

PROPOSED TENANT RENOVATION

PROJECT DATA

APPLICABLE CODES:

2024 INTERNATIONAL BUILDING CODE (IBC)
2024 INTERNATIONAL PLUMBING CODE (IPC)
2024 INTERNATIONAL MECHANICAL CODE (IMC)
2024 INTERNATIONAL FUEL GAS CODE (IFGC)
2023 NEC (NFPA 70)
2018 IECC - COMMERCIAL
2024 INTERNATIONAL FIRE CODE (IFC)
2017 ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

ZONING DISTRICT:

CA

LAND USE:

COMMERCIAL

BUILDING CONSTRUCTION TYPE:

TYPE II - B

FIRE RESISTANCE:

STRUCTURAL FRAME: 0 HR
BEARING WALL - EXTERIOR: 0 HR
BEARING WALL - INTERIOR: 0 HR
NON-BEARING - INTERIOR: 0 HR
FLOOR CONSTRUCTION: 0 HR
ROOF CONSTRUCTION: 0 HR

FIRE PROTECTION:

FULLY PROTECTED WET SPRINKLER SYSTEM
ACROSS ENTIRE BUILDING/ LEASING AREAS
PROVIDED BY SHELL BUILDING DESIGN
TENANT TO MODIFY EXISTING FIRE SUPPRESSION
MAIN LINES CURRENTLY IN SPACE PROVIDED BY
DESIGN BUILD F/S ENG.

PARKING:

N/A - EXISTING SHARED PARKING LOT, MULTI-
TENANT RETAIL CENTER

LIFE SAFETY

* FULL AUTOMATIC FIRE SUPPRESSION SYSTEM

MAXIMUM COMMON PATH OF TRAVEL:

47' - 9"

ALLOWABLE OPT:

100' - 0"

MAXIMUM TRAVEL DISTANCE:

155' - 8"

ALLOWABLE MTD:

300' - 0"

NUMBER OF EXITS REQUIRED:

1

NUMBER OF EXITS PROVIDED:

1

MINIMUM EGRESS WIDTH (DOOR): 32" CLEAR MIN
PER 2024 IBC §1005.1

FIRE EXTINGUISHERS REQUIRED:

EXISTING/ PROVIDED: (COORD w/ F.D.)

SIRENS, STROBES, EMERGENCY LIGHTING, & EXIT
SIGNS PROVIDED PER CODE

FLAME SPREAD & SMOKE DEVELOPMENT

WALLS & CEILING FINISHES:

CLASS A: FLAME SPREAD:

0 - 25

CLASS B: FLAME SPREAD:

26 - 75

CLASS C: FLAME SPREAD:

76 - 200

GROUPINGS:

GROUP

CLASS

EXIT ENCLOSURES/ PATHWAYS:

B

CORRIDORS:

C

ROOMS AND ENCLOSED SPACES:

C

* FINISH REQUIREMENT DERIVED WITH FULLY SPRINKLERED BUILDING EXCEPTIONS

PHYSICAL ADDRESS:

9704 WESTLAND DRIVE
KNOXVILLE,
TN 37922

FLOOR AREA:

EXISTING USEABLE FLOOR AREA (USF)
EXISTING OCC. FLOOR AREA (NO WALLS)

OCCUPANCY TYPE

OCCUPANT LOAD: 13 PEOPLE (1,650 SF ÷ 150
SF/OCC, PER 2024 IBC TABLE 1004.5, BUSINESS
OCCUPANCY)
NUMBER OF EXITS REQUIRED: 1
(OCCUPANT LOAD < 49)
NUMBER OF EXITS PROVIDED: 1

PLUMBING FIXTURES

WATER CLOSET:
MALE REQUIRED
MALE EXISTING/ PROVIDED
FEMALE REQUIRED
FEMALE EXISTING/ PROVIDED

URINALS:
ALLOWABLE EXCHANGED
EXCHANGED

LAVATORIES: (1 PER 40 TO 80, THEN 1 PER 80)
MALE REQUIRED
MALE EXISTING/ PROVIDED
FEMALE REQUIRED
FEMALE EXISTING/ PROVIDED

SERVICE SINK:

REQUIRED
EXISTING/ PROVIDED

NOTES:

** ROANOKE CODE OF ORDINANCES, SECTION 2902, TABLE 2902.1
STATES "DRINKING FOUNTAINS ARE NOT REQUIRED IN M
OCCUPANCIES WITH AN OCCUPANT LOAD OF 100 OR LESS, _H
OCCUPANCIES WITH AN OCCUPANT LOAD OF 25 OR LESS, AND FOOD
AND/OR DRINKING ESTABLISHMENTS.

GENERAL NOTES

1. THESE CONSTRUCTION DOCUMENTS ARE INTENDED TO MEET ALL APPLICABLE CODES AND ORDINANCES. CONTRACTOR TO COMPLY WITH ALL LOCAL CODES, ORDINANCES AND DEED RESTRICTIONS. CONTRACTORS SHALL ALSO REQUIRE ALL SUBCONTRACTORS TO COMPLY WITH THESE REGULATIONS.

2. THE CONTRACTOR IS TO FILE FOR, AND SECURE ALL APPROVALS, PERMITS, TESTS, INSPECTIONS, WARRANTIES, AND CERTIFICATIONS OF COMPLIANCE AS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ASSURING THAT ALL PERMITS NECESSARY TO LEGALLY PERFORM THE WORK HAVE BEEN OBTAINED PRIOR TO COMMENCING CONSTRUCTION.

3. ANY DISCREPANCIES IN THE CONSTRUCTION DOCUMENTS OR NONCOMPLIANCE SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ANY WORK BEING PERFORMED OR MATERIALS BEING ORDERED.

4. BUILDER ACCEPTS FULL RESPONSIBILITY FOR CHECKING PLANS TO ASSURE CONFORMITY TO CURRENT LOCAL BUILDING CODES. SHOULD ANY CHANGES BE MADE TO THESE PLANS BY BUILDER, OR ITS REPRESENTATIVE, WITHOUT CONTACTING THE ARCHITECT, THE BUILDER WILL ACCEPT FULL LIABILITY FOR THE AMENDED PLANS.

5. THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. WHETHER THE PROJECT IS EXECUTED OR NOT, THESE DRAWINGS SHALL NOT BE USED BY THE CLIENT FOR OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT, OR FOR COMPLETION OF THIS PROJECT BY OTHERS WITHOUT PERMISSION OF THE ARCHITECT.

6. THESE DOCUMENTS DO NOT SHOW EVERY CONDITION OF WATER AND WEATHER PROOFING. CONTRACTOR RESPONSIBLE FOR INSTALLING MATERIALS AND COMMENCING CONSTRUCTION TO MATCH THE REQUIREMENTS SET FORTH IN THE OUTLINE SPECIFICATIONS AND PER MANUFACTURERS RECOMMENDATIONS.

7. THE ARCHITECT IS NOT RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION WHICH ARE NOT DETAILED IN THESE CONSTRUCTION DOCUMENTS. CONTRACTOR WILL BE RESPONSIBLE FOR ALL ASPECTS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, ALL WATER AND DAMP PROOFING, LOAD CONNECTIONS AND MECHANICS, ELECTRICAL AND PLUMBING SYSTEMS.

8. ALL MATERIALS AND LABOR TO BE GUARANTEED BY THE CONTRACTOR FOR ONE YEAR FROM THE DATE OF FINAL PAYMENT. IN ADDITION TO ALL MANUFACTURERS AND INDUSTRY STANDARD PRODUCT WARRANTIES, CONTRACTOR TO PROVIDE AND INSTALL ALL EQUIPMENT, LABOR, AND MATERIALS REQUIRED FOR THE COMPLETE APPROVED INSTALLATION OF THE SYSTEMS REQUIRED.

9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS NECESSARY FOR COMPLETION OF WORK.

10. ALL WALL SYSTEMS MUST BE VAPOR PERMEABLE - ABLE TO DRY TO INTERIOR AND EXTERIOR IF MOISTURE PENETRATES THE WEATHER RESISTIVE BARRIER.

11. ALL EXISTING CONDITION DIMENSIONS IN THE DOCUMENT SET ARE FOUND TO BE ACCURATE TO THE BEST KNOWLEDGE OF THE ARCHITECT BUT SHALL BE VERIFIED IN THE FIELD PRIOR TO COMMENCING. NEW CONSTRUCTION DIMENSIONS SHALL BE TAKEN BY EACH SUB-CONTRACTOR TO ENSURE SEAMLESS INSTALL.

12. UNDER NO CIRCUMSTANCES SHALL ANY DIMENSIONS BE SCALED FROM THE DRAWINGS. ANY CRUCIAL DIMENSIONS NOT GIVEN SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR SUPPLYING.

13. ALL DIMENSIONS SHOWN ON THE PLAN ARE TO THE FACE OF STRUCTURAL STUD, U.N.O.

14. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS AND SUPERINTENDENTS OR PERSON IN CHARGE OF UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCING.

15. CONTRACTOR SHALL CLEAN UP THE CONSTRUCTION AREAS AFFECTED BY THE DAILY WORK AND MAINTAIN A CLEAN AND ORDERLY WORK AREA AT ALL TIMES. REMOVE MATERIALS AND TO THE OWNER AND CITY APPROVED DUMP AREAS ONLY.

16. ALL WINDOWS WILL BE DIMENSIONED TO THE CENTERLINE, UNLESS SPECIFICALLY NOTED OTHERWISE. GLASS SIZE SHALL BE VERIFIED AND INSTALLED PER MANUFACTURER'S SPECS. ALL WINDOWS WITHIN 24" OF AN EXTERIOR OR INTERIOR DOOR TO BE TEMPERED GLASS. WINDOW MANUFACTURER TO VERIFY FOR ALL TEMPERED GLASS LOCATIONS PER CODE.

17. WINDOW MANUFACTURER & BUILDER TO VERIFY EGRESSABLE WINDOWS INSTALLED WHERE REQUIRED BY CODE.

18. PROVIDE IN WALL BLOCKING FOR STAIR HANDRAILS, CEILING FANS, MOUNTED TVs, LIGHT KITS, MILLWORK, TOILET ACCESSORIES, TOWEL BARS, MIRRORS, ETC. AS NEEDED PER DRAWINGS.

19. BUILDER TO VERIFY SIZING AND LOCATION OF ALL APPLIANCES AND RELATED COMPONENTS BEFORE COMMENCING CONSTRUCTION ACTIVITIES SURROUNDING OR RELATING TO THE UNITS.

20. PROVIDE CONTRACTION AND EXPANSION JOINTS AS REQUIRED ON MASONRY UNITS PER ASTM SPECIFICATIONS.

21. ALL VISIBLE INTERIOR UTILITY MEMBERS SHALL BE PAINTED, AS ALLOWED BY CODE, TO MATCH BLACK STRUCTURAL MEMBERS, INCLUDING, BUT NOT LIMITED TO FIRE SUPPRESSION LINES, WATER & SANITARY LINES, ELECTRICAL AND DATA CONDUIT, CABLE TRAYS, ETC.

22. CONTRACTOR TO PROVIDE OR CONFIRM EXISTENCE OF ADDRESS NUMBERS AT FRONT OF BUILDING IN ACCORDANCE WITH IBC, SECTION 501.2. NUMBERS SHALL MATCH FONT, STYLE, AND HEIGHT OF ADJACENT TENANT SPACES AS REQUIRED BY BUILDING OWNER, ASSUMING SUCH LETTERS ADHERE TO IBC, SECTION 501.2.

23. ALL WORK PERFORMED MUST ABIDE BY CONSTRUCTION SAFETY PROVISIONS SHOWN IN IBC, SECTION 3306 AND 3309-3313. CONTRACTOR IS FULLY RESPONSIBLE FOR JOB SITE SAFETY. ARCHITECT TAKES NO LIABILITY OF JOB SITE SAFETY.

24. ALL DEMOLITION WORK MUST NOT COMMENCE UNTIL PROPER PEDESTRIAN PROTECTION IS PROVIDED, AS REQUIRED, PER IBC, SECTION 3306.

25. CONTRACTOR TO PROVIDE NOT LESS THAN ONE APPROVED PORTABLE ABC FIRE EXTINGUISHER, SIZED NOT LESS THAN ORDINARY HAZARD PER IBC, SECTION 3309.

26. CONTRACTOR TO MAINTAIN MEANS OF EGRESS OF TENANT AND SHELL BUILDING SPACES THROUGHOUT CONSTRUCTION OF THE PROJECT. TEMPORARY MEANS OF EGRESS CAN BE PROVIDED ONLY IF APPROVED BY CITY OFFICIALS AND FIRE DEPARTMENT, PER IBC, SECTION 3310.

27. AUTOMATIC SPRINKLER SYSTEM MUST BE TESTED AND APPROVED FOR USE PRIOR TO OCCUPANCY OF THE BUILDING. SYSTEM MUST BE TESTED AND RECORDED WITH CITY OFFICIALS. OPERATION OF SPRINKLER CONTROL VALVES SHALL BE PERMITTED ONLY BY PROPERLY AUTHORIZED PERSONNEL AND SHALL BE ACCOMPANIED BY NOTIFICATION OF DULY DESIGNATED PARTIES, PER IBC, SECTION 3312.

28. CONTRACTOR TO PROVIDE AN APPROVED WATER SUPPLY FOR FIRE PROTECTION MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIALS ARRIVE ON SITE, PER IBC, SECTION 3313.1.

ISSUANCE SCHEDULE

ISSUANCE DATE	DRAWING SET



FRONT ELEVATION

CONTEXT PHOTO



SITE LOCATION

SITE LOCATION

AERIAL VIEW

SHEET INDEX

SHEET NUMBER	SHEET NAME	ISSUANCE DATE	CURRENT REVISION	REVISION DATE
AR-00	COVER SHEET			
AR-01	PROPOSED FLOOR PLAN			
AR-02	REFLECTED CEILING PLAN			
AR-03	PARTITION TYPE			
AR-04	INTERIOR ELEVATIONS			
AR-05	INTERIOR ELEVATIONS			
AR-06	INTERIOR ELEVATIONS			
AR-07	ADA RESTROOMS			
AR-08	SECTIONS & DETAILS			
AR-09	FINISH FLOOR PLAN			
AR-10	PROPOSED LIFE SAFETY PLAN			
EL-01	NOTES			
EL-02	LIGHTING & POWER PLANS			
EL-03	PANEL SCHEDULE & SINGLE LINE DIAGRAM			
EL-04	SERVICE LOAD CALCULATIONS			
EL-05	DETAILS			
PL-01	NOTES			
PL-02	DRAINAGE & WATER SUPPLY PLANS			
PL-03	DRAINAGE & WATER SUPPLY SYSTEM RISER DIAGRAMS			
PL-04	DFU & WSFU CALCULATIONS			
PL-05	DETAILS			
PL-06	DETAILS			
ME-01	NOTES			
ME-02	FIRST FLOOR & ROOF HVAC PLANS			
ME-03	VENTILATION & EXHAUST SCHEDULE			
ME-04	HVAC LOAD SUMMARY & DUCT SIZING			
ME-05	DETAILS			

OWNER SIGNATURE

REVISION STATUS

Rev	DATE	DESCRIPTION	DRAWN BY

CLIENT/CONSULTANT APPROVAL STATUS

APPROVED	(A)
APPROVED WITH NOTES	(B)
RESUBMIT	(C)
DISAPPROVED	(D)

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Tune-Up
"The Manly Hair Salon"

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DESIGN CONSULTANT:

TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
EMAIL: NADIF@TS9DESIGNS.COM

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

ARCHITECTURE

PROJECT TITLE:

WESTLAND DRIVE TENANT
RENOVATION

DRAWING TITLE:

COVER SHEET

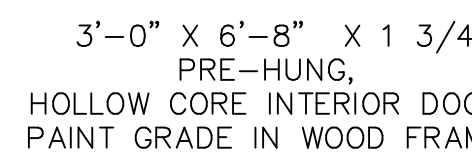
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JOB NO:	SHT NO:	SCALE:
	AR-00	

8. ALL BLOCKING TO BE SOLID FIRE RETARDANT WOOD BLOCKING AND TO BE INSTALLED AT WALL MOUNTED SHELVING, WALL MOUNTED TVS, ETC.

** FIRE TREATED WOOD BLOCKING TO BE
 INSTALLED AT ALL CUT STATION SINK
 LOCATIONS, VIP RACK LOCATIONS AT
 WAITING AREA, ALL WALL MOUNTED TVS,
 AND AT ALL ADA GRAB BARS IN RESTROOMS **

ALL INTERIOR WALL AND CEILING FINISH REQUIREMENTS FOR A
'B' OCCUPANCY (FULLY SPRINKLERED) TO MEET OR EXCEED:
 MINIMUM "B" LEVEL AT EXIT ENCLOSURES
 MINIMUM "C" LEVEL AT CORRIDORS
 MINIMUM "C" LEVEL AT ROOMS AND ENCLOSED SPACES

DOOR #	FROM	TO	HAND	DOOR TYPE	DOOR FINISH	FRAME TYPE	FRAME FINISH	HARDWARE SET
100	EXTERIOR	LOBBY 100	LHR/RHR	EXISTING DOOR, FRAME AND HARDWARE TO REMAIN				
101	HALLWAY	ADA RESTROOM 105	RHR	TYPE A	PAINTED	WOOD	PAINTED	HW SET #1
102	HALLWAY	UTILITY ROOM 106	RH	TYPE A	PAINTED	WOOD	PAINTED	HW SET #2
103	HALLWAY	EXTERIOR	LH	EXISTING DOOR, FRAME AND HARDWARE TO REMAIN				



NEW DOOR INFO

NOT TO SCALE

- HAND SOAK CHAIRS
- HOT TOWEL WARMER
- FOOT SOAK TOWEL WARMER
- STERILIZER
- WASHER
- DRYER
- BACK STORAGE METRO RACKS
- PRODUCT SHELVES
- VIP SHELVEING
- SHUFFLE BOARD
- VIDEO GAMES
- WAITING LOUNGE STOOLS
- SIDE TABLE
- WAITING LOUNGE TOP TABLES



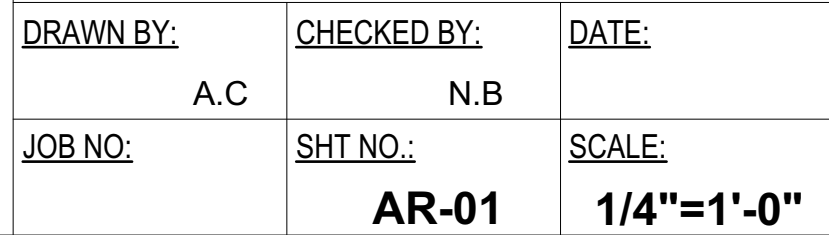
ANY CUPS USED WILL BE ONE TIME USE AND DISPOSED.
THERE WILL BE NO KEGERATORS AND/OR ICE MAKERS INSTALLED.
A SMALL REFRIGERATOR AND/OR COOLER WILL
HOUSE THE SINGLE SERVICE ONE TIME USE BEVERAGES.**

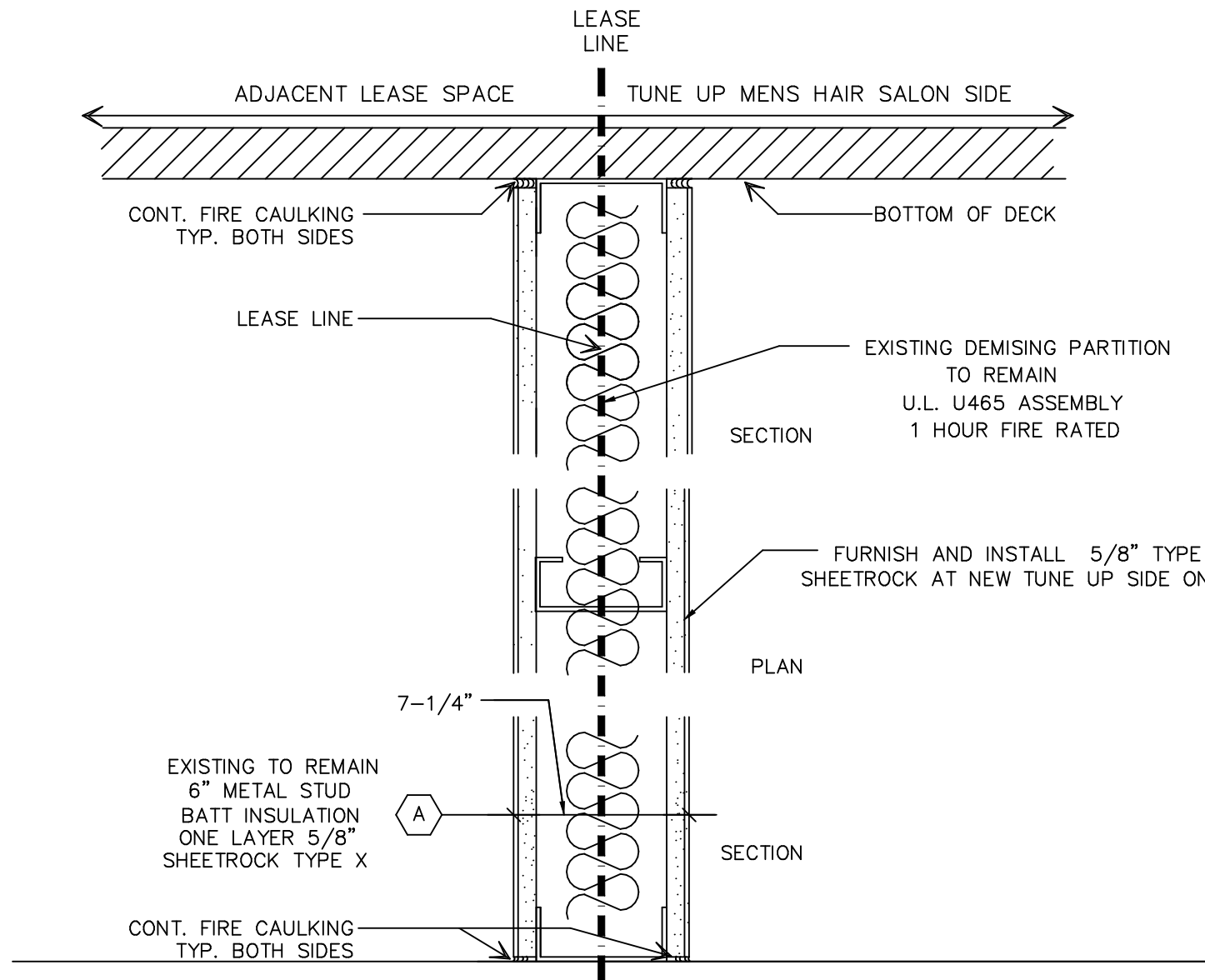
** ALL HARDWARE FINISH TO BE HAGER SATIN
NICKEL FINISH #646 OR EQ. **

** EGRESS DOORS SHALL BE READILY OPERABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT **

** HARDWARE AT ALL EXIT DOORS MAY NOT HAVE KEY OPERATED DEAD BOLTS FROM THE INSIDE. ALL DOORS MUST BE OPERABLE FROM INSIDE WITHOUT KEYS **

NOTE: A readily visible durable sign shall be posted on the egress side on or adjacent to the door(s), with letters 1 inch high on a contrasting background that reads: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" to comply with 2024 IBC § 1010.2.9.5

$$1/4'' = 1'-0''$$




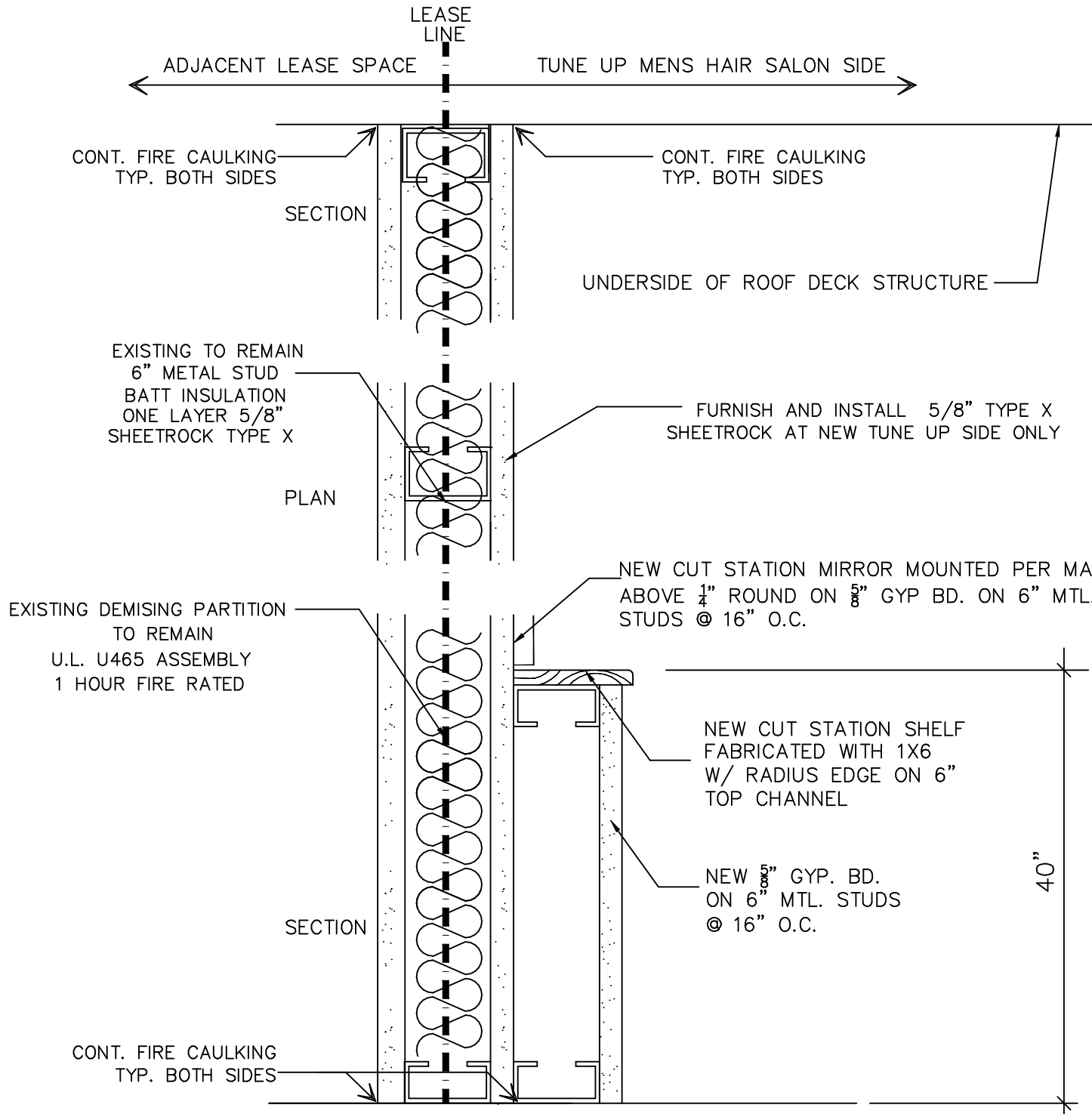
EXISTING TO REMAIN
DEMISING PARTITION
1 HOUR UL RATED (U465)

EXISTING TO REMAIN DEMISING WALL:
NON LOAD BEARING ONE HOUR FIRE RATED DEMISING
WALL, 6" METAL STUDS @ 16" O.C. WITH ONE LAYER OF
5/8" TYPE X SHEETROCK ON ADJACENT TENANT SIDE

GC TO FURNISH AND INSTALL ONE LAYER OF 5/8" TYPE X
SHEETROCK ON THE TUNE UP MENS HAIR SALON SIDE TO
COMPLETE THE ONE HOUR FIRE RATED ASSEMBLY

NOTE: PROVIDE GREEN BOARD AT WET WALLS
INCLUDING ALL SINK STATIONS, RESTROOMS AND UTILITY ROOM

** ANY WOOD BLOCKING IN WALLS TO BE FIRE RESISTANT TREATED WOOD **



EXISTING TO REMAIN DEMISING WALL:
NON LOAD BEARING ONE HOUR FIRE
RATED DEMISING WALL, 6" METAL
STUDS @ 16" O.C. WITH ONE LAYER
OF 5/8" TYPE X SHEETROCK ON
ADJACENT TENANT SIDE

GC TO FURNISH AND INSTALL ONE
LAYER OF 5/8" TYPE X SHEETROCK ON
THE TUNE UP MENS HAIR SALON
SIDE TO COMPLETE THE ONE HOUR
FIRE RATED ASSEMBLY

INSTALL NEW FURR-OUT CHASE
WALL AS SHOWN (FOR PLUMBING
LINES TO CUT STATIONS)

ALL PLUMBING TO BE DONE IN
GROUND SLAB LEAVE OUT AREA.
VERIFY WITH TUNE UP
CONSTRUCTION MANAGER

ALL PLUMBING PIPES, VENTS, ETC.
TO BE DONE WITHIN LEASE LINE OF
SPACE ONLY

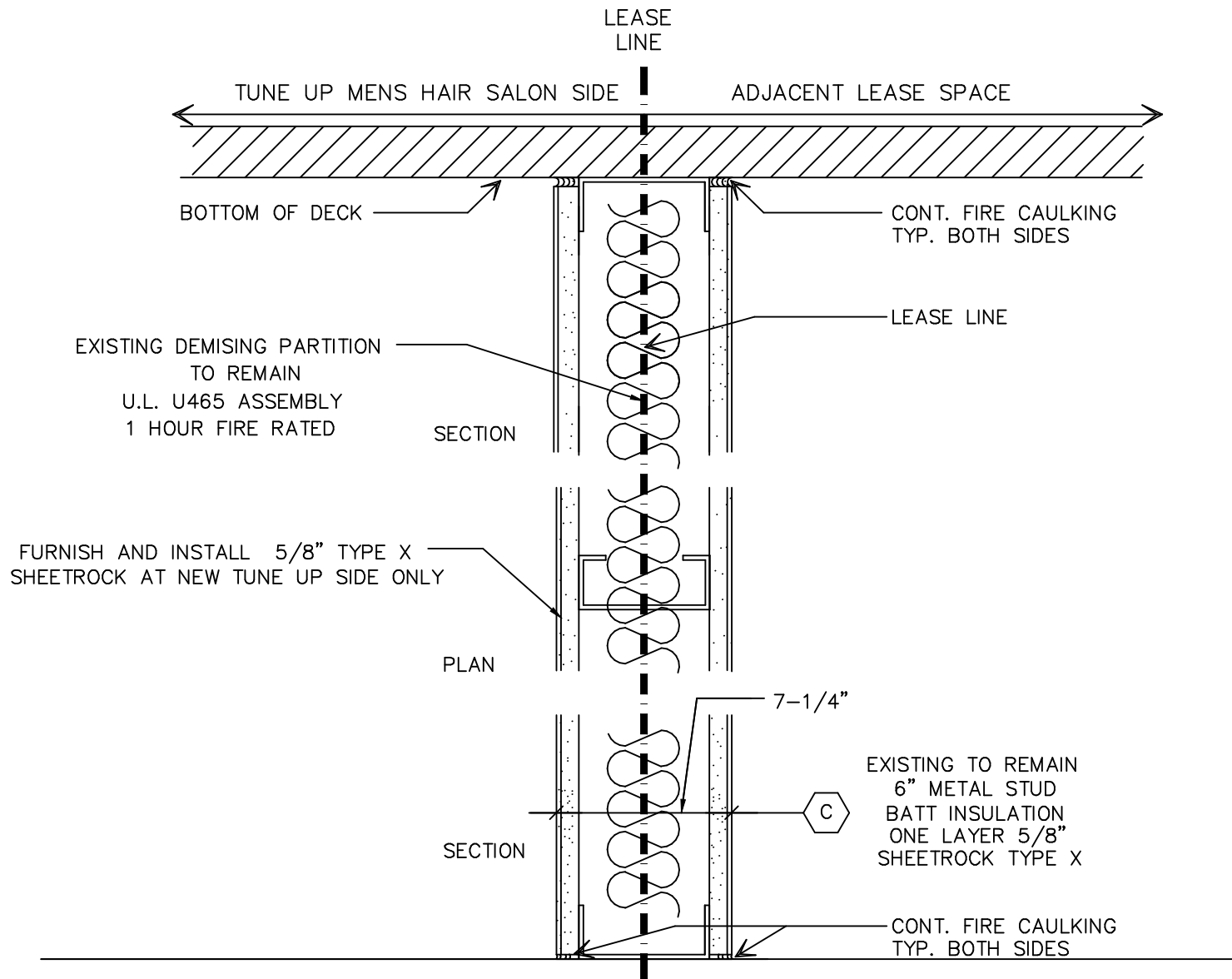
EXISTING TO REMAIN
DEMISING PARTITION
1 HOUR UL RATED (U465)
WITH NEW CUT STATION
WALL CHASE FURR-OUT

PARTITION TYPE A

NOT TO SCALE

PARTITION TYPE B

NOT TO SCALE



EXISTING TO REMAIN DEMISING PARTITION
1 HOUR UL RATED (U465)

EXISTING TO REMAIN DEMISING WALL:
NON LOAD BEARING ONE HOUR FIRE RATED DEMISING WALL, 6" METAL STUDS @ 16"
O.C. WITH ONE LAYER OF 5/8" TYPE X SHEETROCK ON ADJACENT TENANT SIDE

GC TO FURNISH AND INSTALL ONE LAYER OF 5/8" TYPE X SHEETROCK ON THE TUNE UP
MENS HAIR SALON SIDE TO COMPLETE THE ONE HOUR FIRE RATED ASSEMBLY

NOTE: PROVIDE GREEN BOARD AT WET WALLS
INCLUDING ALL SINK STATIONS, RESTROOMS AND UTILITY ROOM

** ANY WOOD BLOCKING IN WALLS TO BE FIRE RESISTANT TREATED WOOD **

EXISTING TO REMAIN DEMISING WALL:
NON LOAD BEARING ONE HOUR FIRE
RATED DEMISING WALL, 6" METAL
STUDS @ 16" O.C. WITH ONE LAYER
OF 5/8" TYPE X SHEETROCK ON
ADJACENT TENANT SIDE

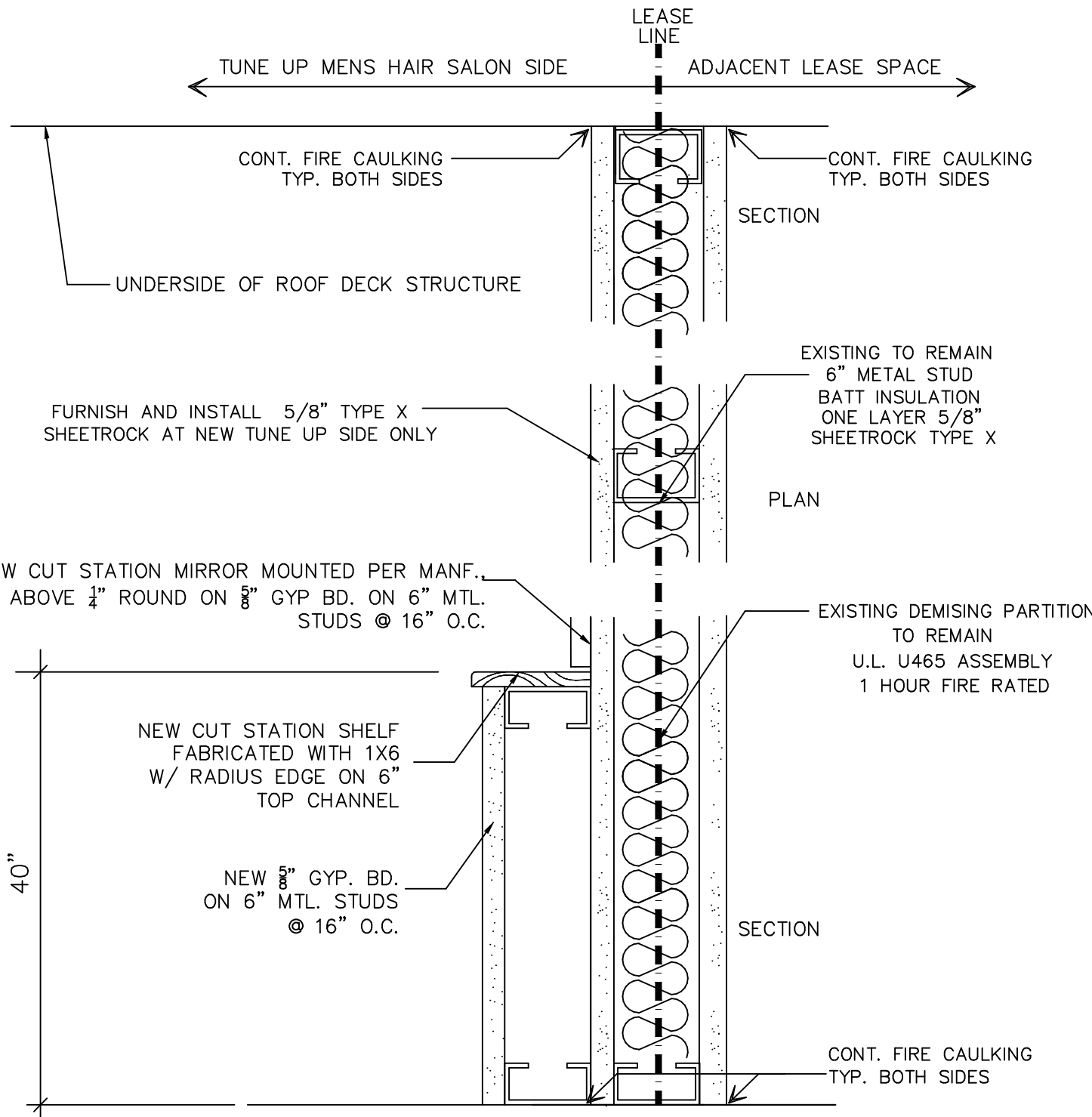
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FIRE RATED ASSEMBLY

INSTALL NEW FURR-OUT CHASE
WALL AS SHOWN (FOR PLUMBING
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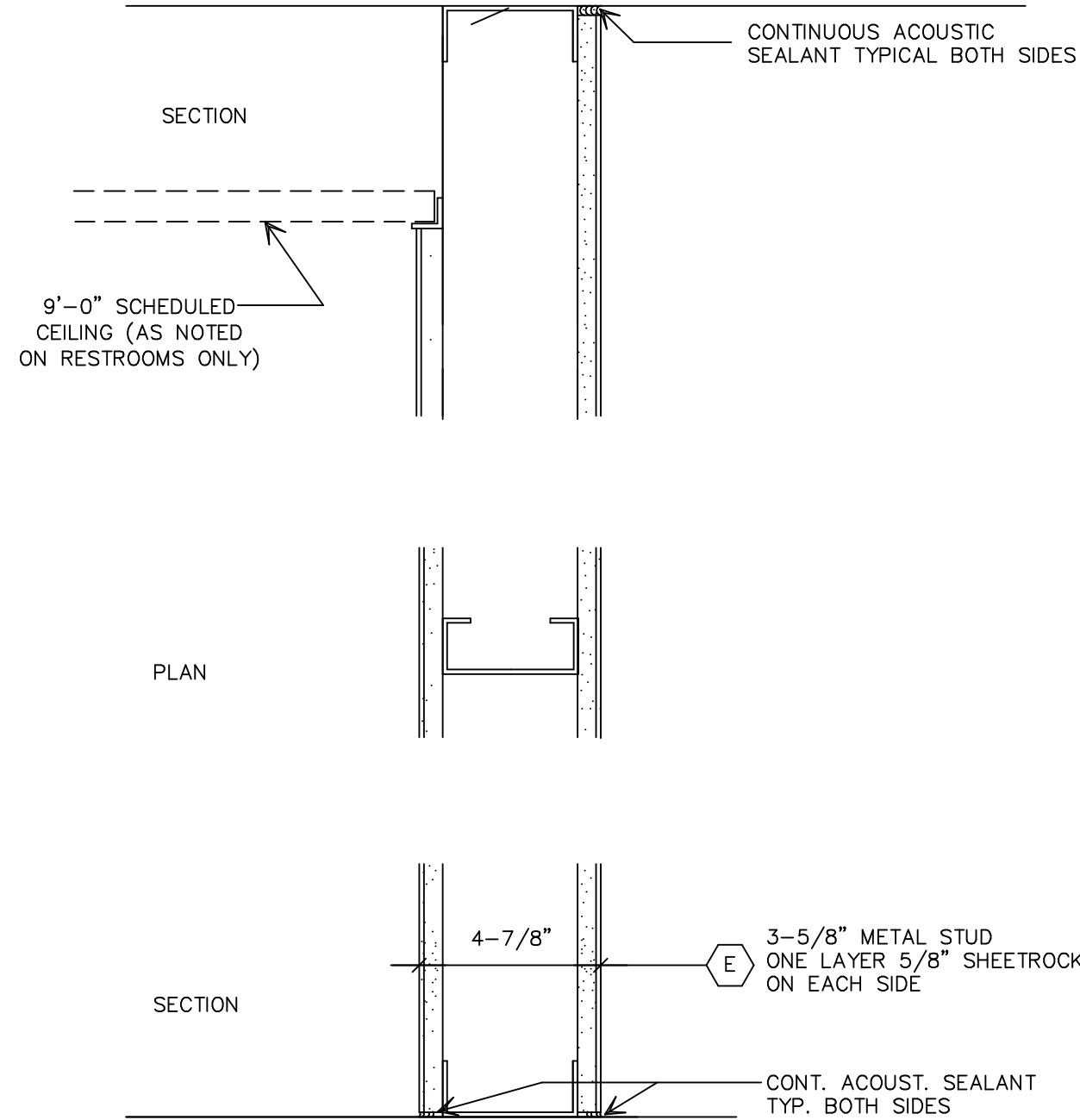
ALL PLUMBING PIPES, VENTS, ETC.
TO BE DONE WITHIN LEASE LINE OF
SPACE ONLY

EXISTING TO REMAIN
DEMISING PARTITION
1 HOUR UL RATED (U465)
WITH NEW CUT STATION
WALL CHASE FURR-OUT



NOTE: PROVIDE GREEN BOARD AT WET WALLS
INCLUDING ALL SINK STATIONS, RESTROOMS AND UTILITY ROOM

** ANY WOOD BLOCKING IN WALLS TO BE FIRE RESISTANT TREATED WOOD **



TYPICAL NON-LOAD BEARING
INTERIOR PARTITION WALL

PARTITION TYPE E: 24 GA. 3-5/8" METAL STUDS
@ 16" O.C. W/ ONE LAYER OF 5/8" SHEETROCK EACH SIDE

NOTE: PROVIDE GREEN BOARD AT WET WALLS
INCLUDING ALL SINK STATIONS, RESTROOMS AND UTILITY ROOM

PARTITION TYPE C

NOT TO SCALE

PARTITION TYPE D

NOT TO SCALE

PARTITION TYPE E

NOT TO SCALE

OWNER SIGNATURE

REVISION STATUS

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PARTITION TYPE

DRAWN BY:

A.C

CHECKED BY:

N.B

DATE:

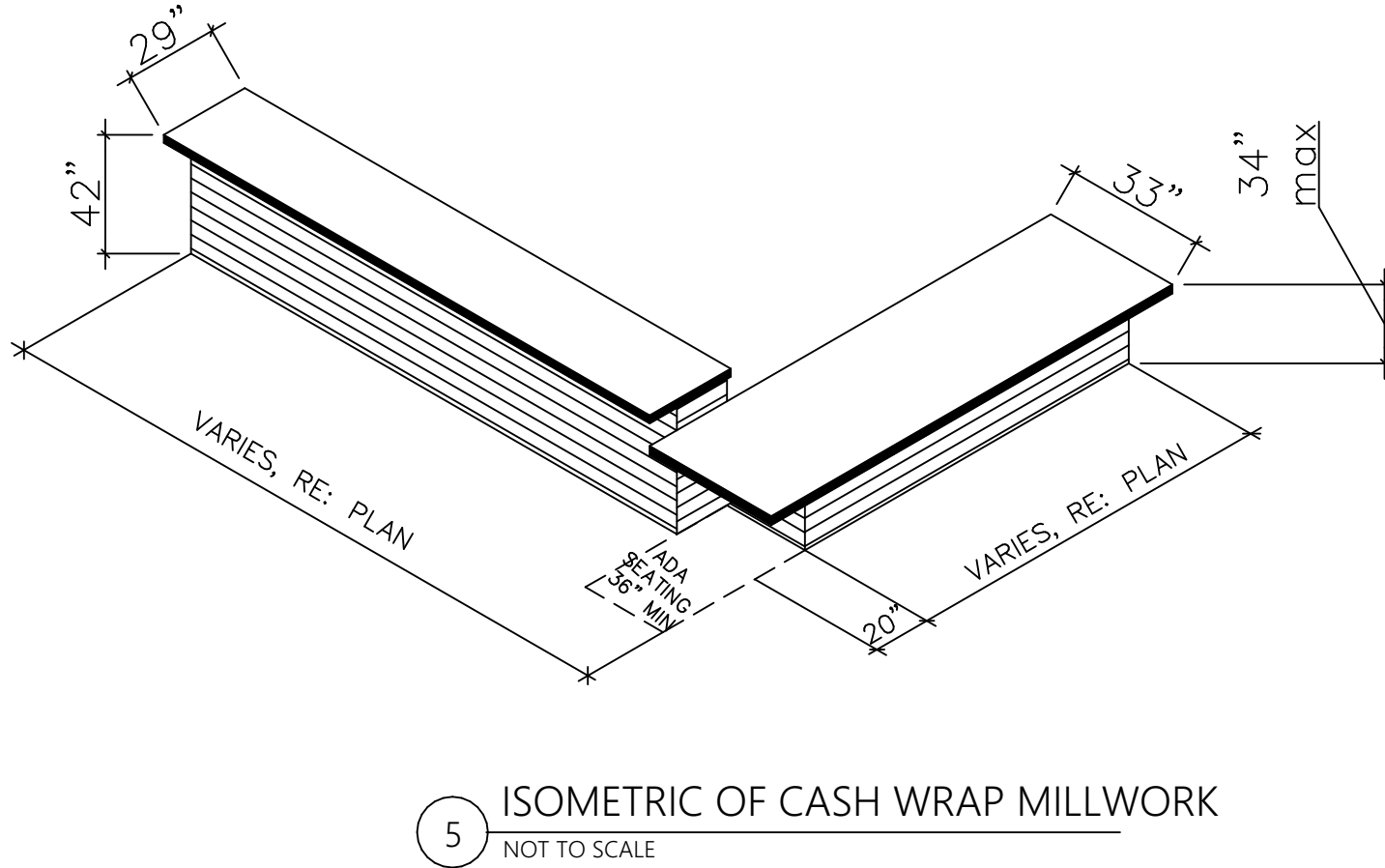
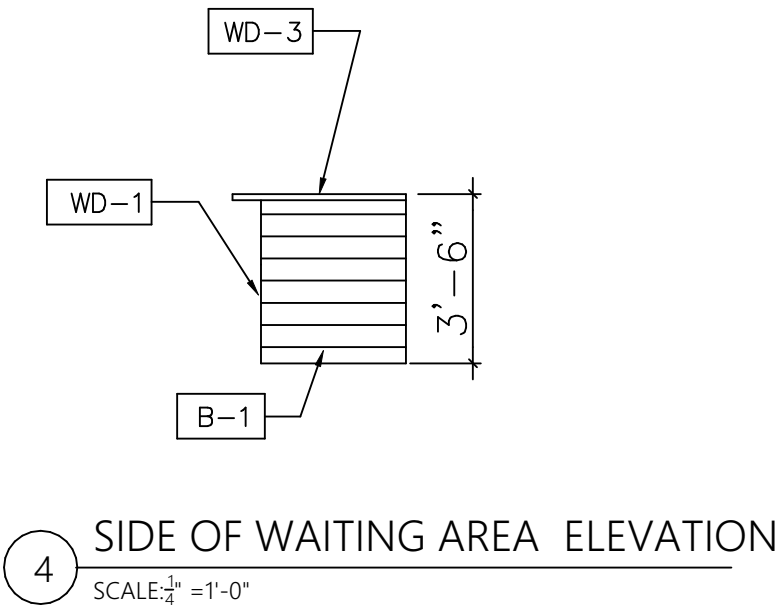
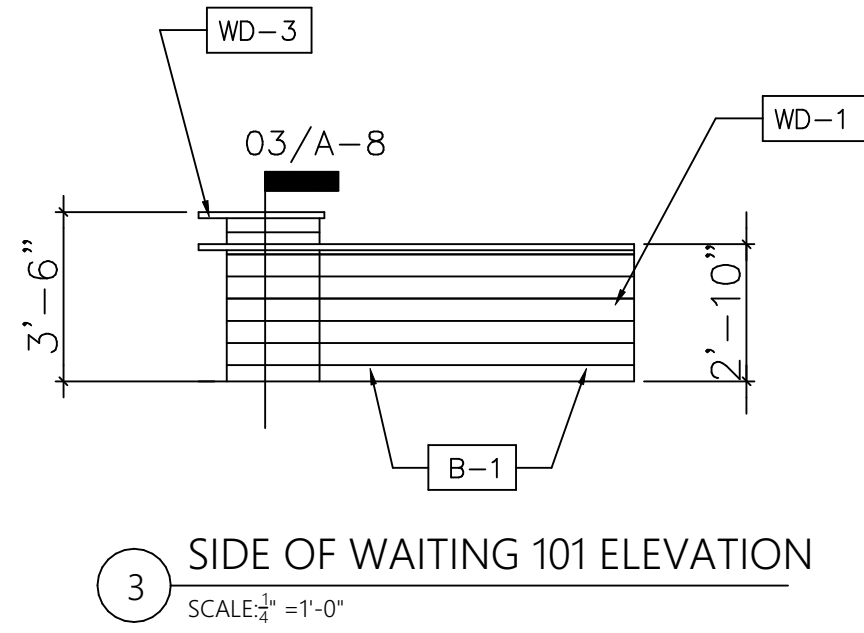
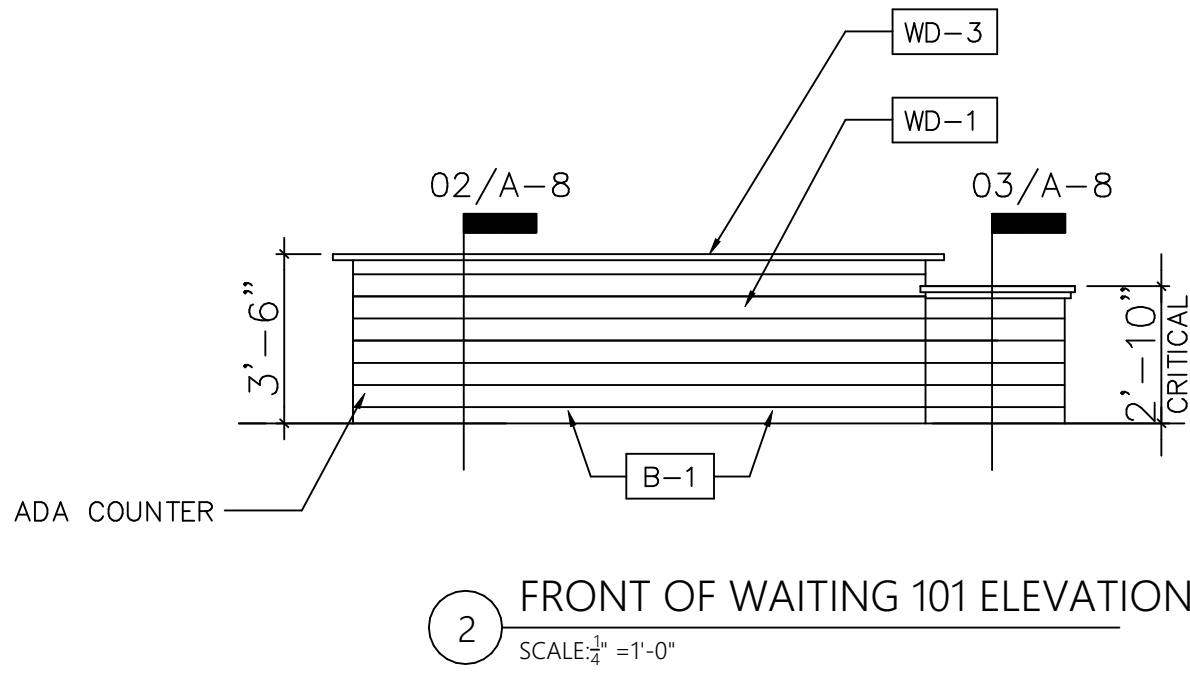
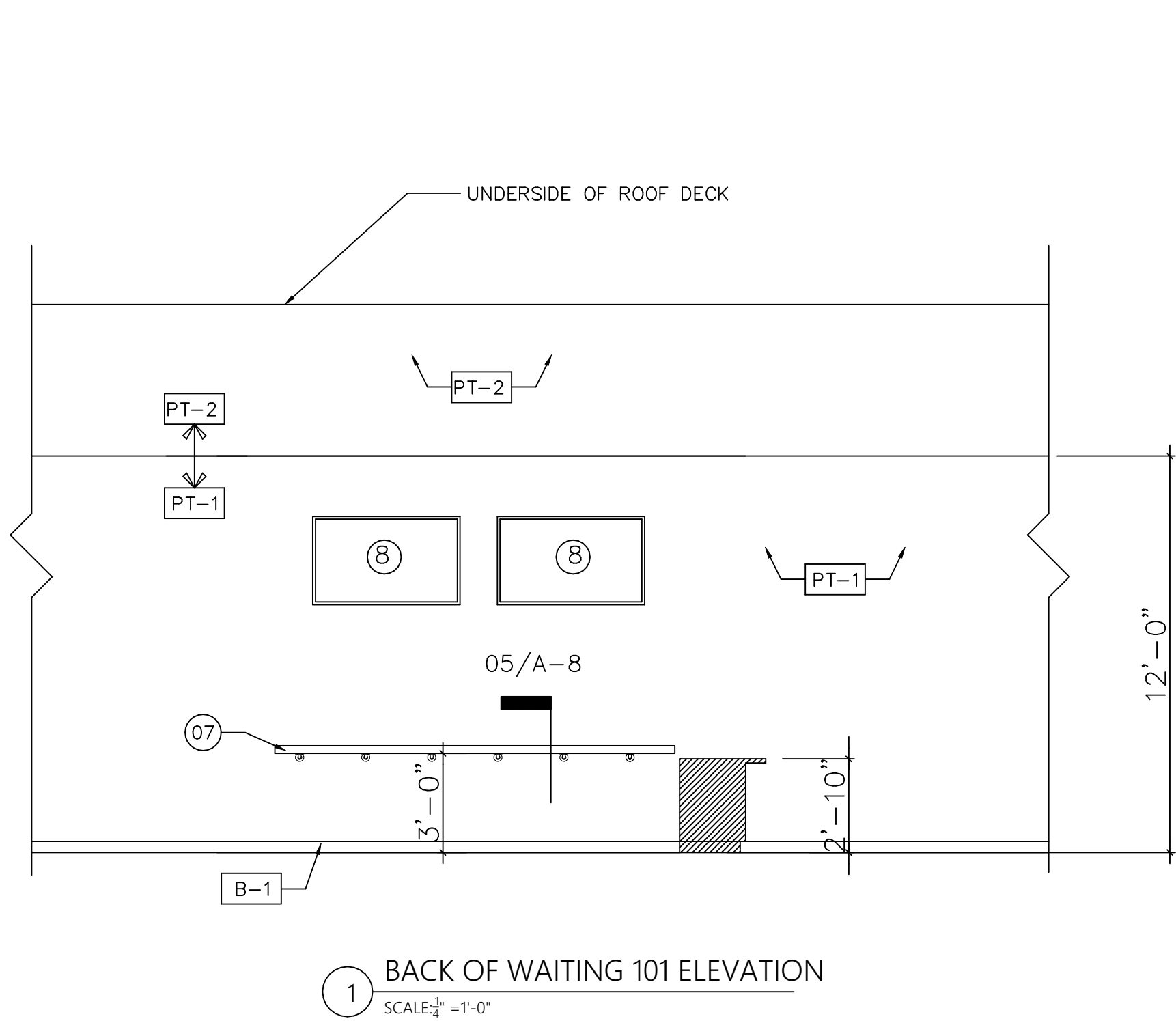
JOB NO:

SHT NO:

SCALE:

As

**AR-03
Indicated**



MISC ITEMS:

THE FOLLOWING ITEMS ARE TO BE FURNISHED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR:

- SHAMPOO BOWLS
- SHAMPOO/ CONDITIONER DISPENSER
- MATS FOR UNDER CHAIRS
- WAITING LOUNGE AREA MAT
- BARBER CHAIRS
- TOOL DRESSERS
- WET TOWEL CONTAINERS
- TRASH CANS FOR CUT STATIONS
- LARGE TRASH CAN AT WAITING LOUNGE AREA
- WAITING AREA TRASH CANS
- LIGHTING FOR HALL
- LIGHTING FOR CUT STATIONS
- FOOT SOAK CHAIRS
- HAND SOAK TABLE
- FOOT SOAK BOWLS
- HAND SOAK CHAIRS
- HOT TOWEL WARMER
- FOOT SOAK TOWEL WARMER
- STERILIZER
- WASHER
- DRYER
- BACK STORAGE METRO RACKS
- PRODUCT SHELVES
- VIP SHELVING
- SHUFFLE BOARD
- VIDEO GAMES
- WAITING LOUNGE STOOLS
- SIDE TABLE
- WAITING LOUNGE TOP TABLES

FINISH SCHEDULE:

FLOORING:
SC-1 = GREY EPOXY FLOORING, LOCATION: ENTIRE SPACE

WALL BASE:
B-1 = WOOD BASE
STAINED 1X4 PINE WITH STAIN ST-1
LOCATION: ENTIRE SPACE UNLESS NOTED OTHERWISE

B-2 = RUBBER BASE
ROPPE, #193 BLACK/BROWN, #700 SERIES
LOCATION: SEE PLAN

PAINT AND STAIN SURFACES
PT-1 = SEMI GLOSS PAINT
SPEC: SHERWIN WILLIAMS, #SW7058, MAGNETIC GREY
LOCATION: ENTIRE SPACE UNLESS NOTED OTHERWISE

PT-2 = MATTE PAINT
SPEC: SHERWIN WILLIAMS, MATTE BLACK #SW6258
LOCATION: ENTIRE EXPOSED CEILING

ST-1 = WOOD STAIN
MANF: MINWAX, #2750
JACOBAN: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

ST-2 = WOOD STAIN
MANF: MINWAX, #209
NATURAL: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

ST-3 = WOOD STAIN
MANF: MINWAX, #SM5153000A, POLY CLEAR GLOSS,
FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

WALL VENEER & EQUIPMENT SURFACES

FRP-1 = FIBERGLAS REINFORCED PANELS
SPEC: CRANE COMPOSITES OR EQ. , ARTIC WHITE
LOCATION: UTILITY ROOM AND RESTROOMS

WD-1 = #2 SOFT PINE, JACO BEAN STAIN WITH CLEAR COAT FINISH

WD-2 = 1x6, HOME DEPOT, COMMON BOARD, JACOBAN STAIN
WITH MATTE LACQUER FINISH

WD-3 = RECLAIMED WOOD, OAK W/ ST-1 , CLEAR COAT LACQUER

WD-4 = PLYWOOD W/ ST-1 , 5/8" THICK

WD-5 = WOOD, PINE, W/ ST-1 ,1" X4"

DP-1 = DIAMOND PLATE, STANDARD, 1/8" THICK,
INSTALL AT BACK OF CUT STATION EQUIPMENT CART ONLY,
RE: DETAILS

CEILING

CLG-1 = EXPOSED STRUCTURE, BLACK PT-2, MATTE

CLG-2 = 2X4 LAY-IN CEILING GRID WITH TEE, WHITE

KEY NOTES LEGEND:

- 1 WALL MOUNTED LIGHT FIXTURE, RE: ELEC.
- 2 SHAMPOO BOWL, RE: PLUMBING
- 3 CUT STATION EQUIPMENT CART, RE: 01/A-8
- 4 CUT STATION MIRROR
- 5 CONTINUOUS CUT STATION WOOD SHELF, RE: A-3
- 6 DOOR AS SCHEDULED
- 7 MERCH. DISPLAY SHELVES, RE: 5/A-8
- 8 PROJECTOR SCREEN, VERIFY HEIGHT WITH OWNER
- 9 3'W X 6'-8" H CASSED OPENING
- 10 24" DEEP WOOD STORAGE SHELVING,
GC. TO FURNISH AND INSTALL
- 11 FOOT SOAK BOWL, RE: PLUMBING
- 12 FOOT SOAK STATION PLATFORM, RE: 06/A-8
- 13 SUSPENDED AREA LIGHT FIXTURE, RE: EL1.0

OWNER SIGNATURE

REVISION STATUS

Rev	DATE	DESCRIPTION	DRAWN BY

CLIENT/CONSULTANT APPROVAL STATUS

APPROVED	(A)
APPROVED WITH NOTES	(B)
RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

**Tune-Up
"The Manly Hair Salon"**

ADDRESS:

**9704 WESTLAND DRIVE
KNOXVILLE, TN 37922**

DESIGN CONSULTANT:

TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
EMAIL: NADIF@TS9DESIGNS.COM

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

ARCHITECTURE

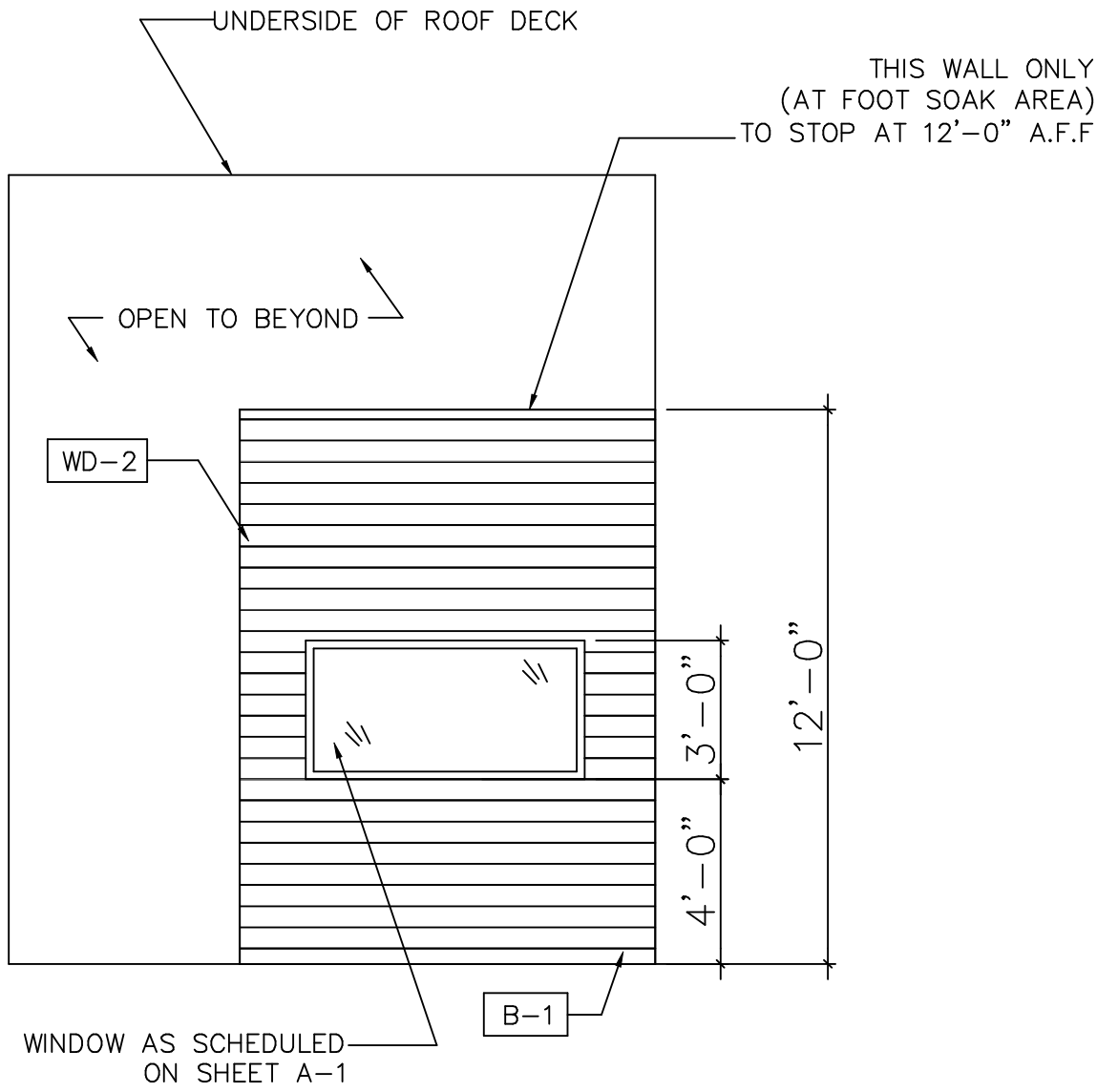
PROJECT TITLE:

**WESTLAND DRIVE TENANT
RENOVATION**

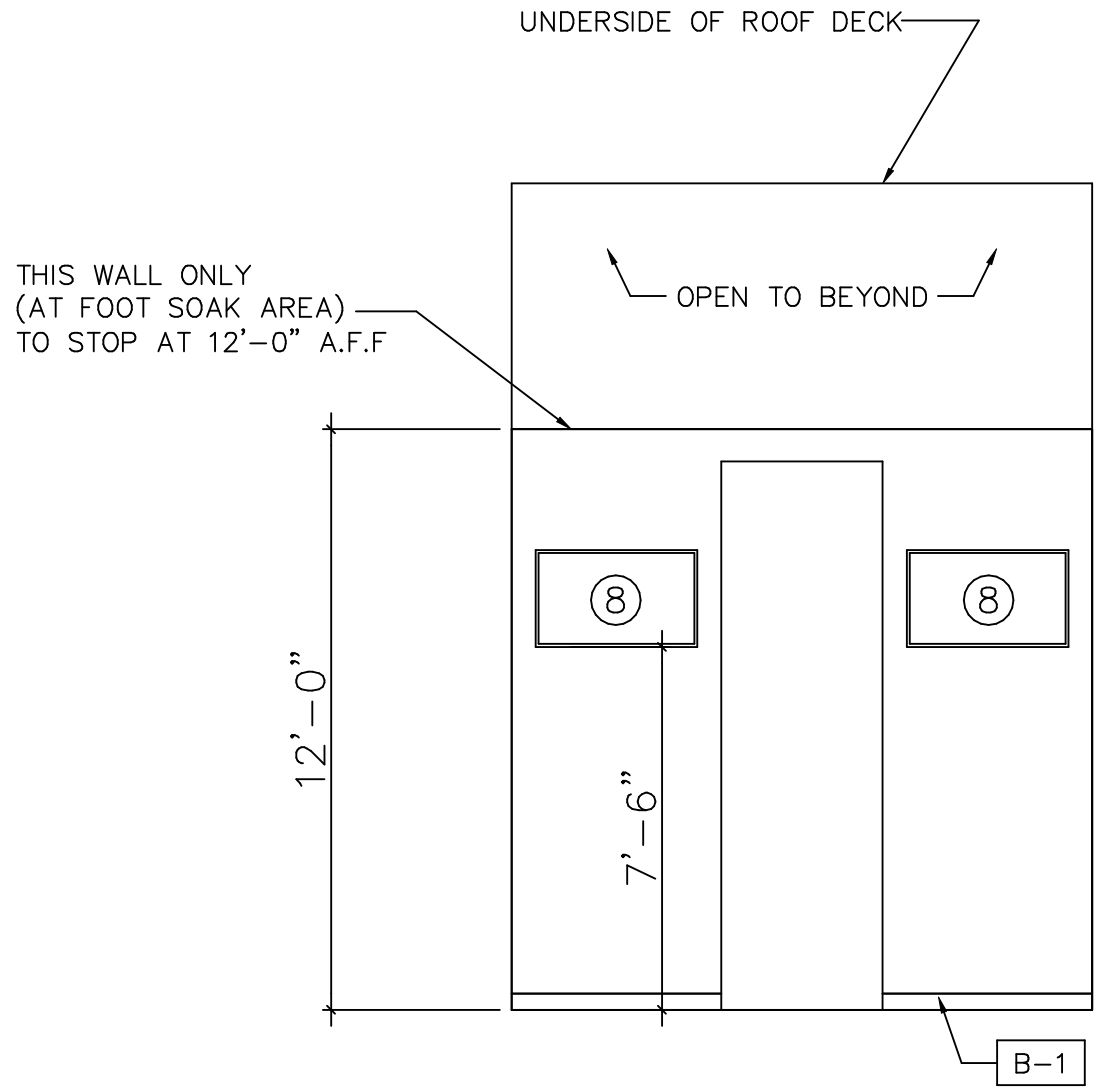
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INTERIOR ELEVATIONS

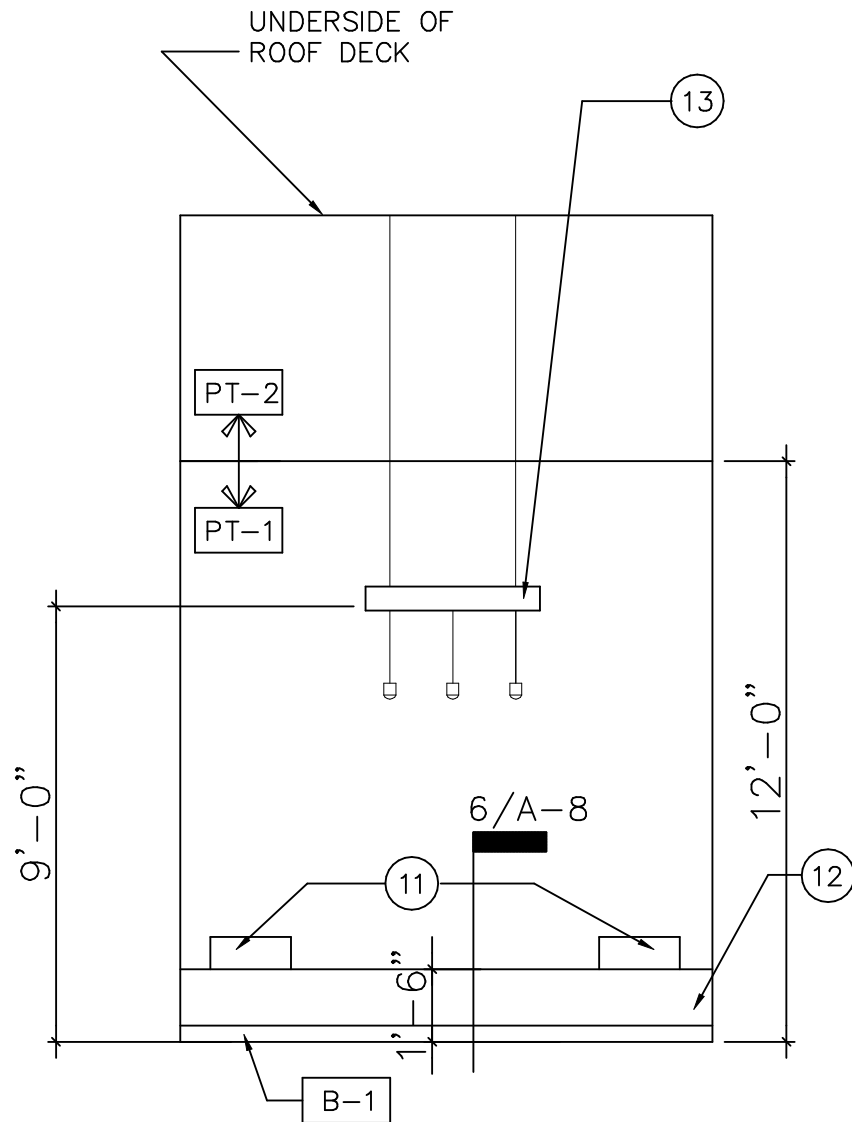
DRAWN BY:	CHECKED BY:	DATE:
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JOB NO:	SHT NO:	SCALE:
	AR-04	As Indicated



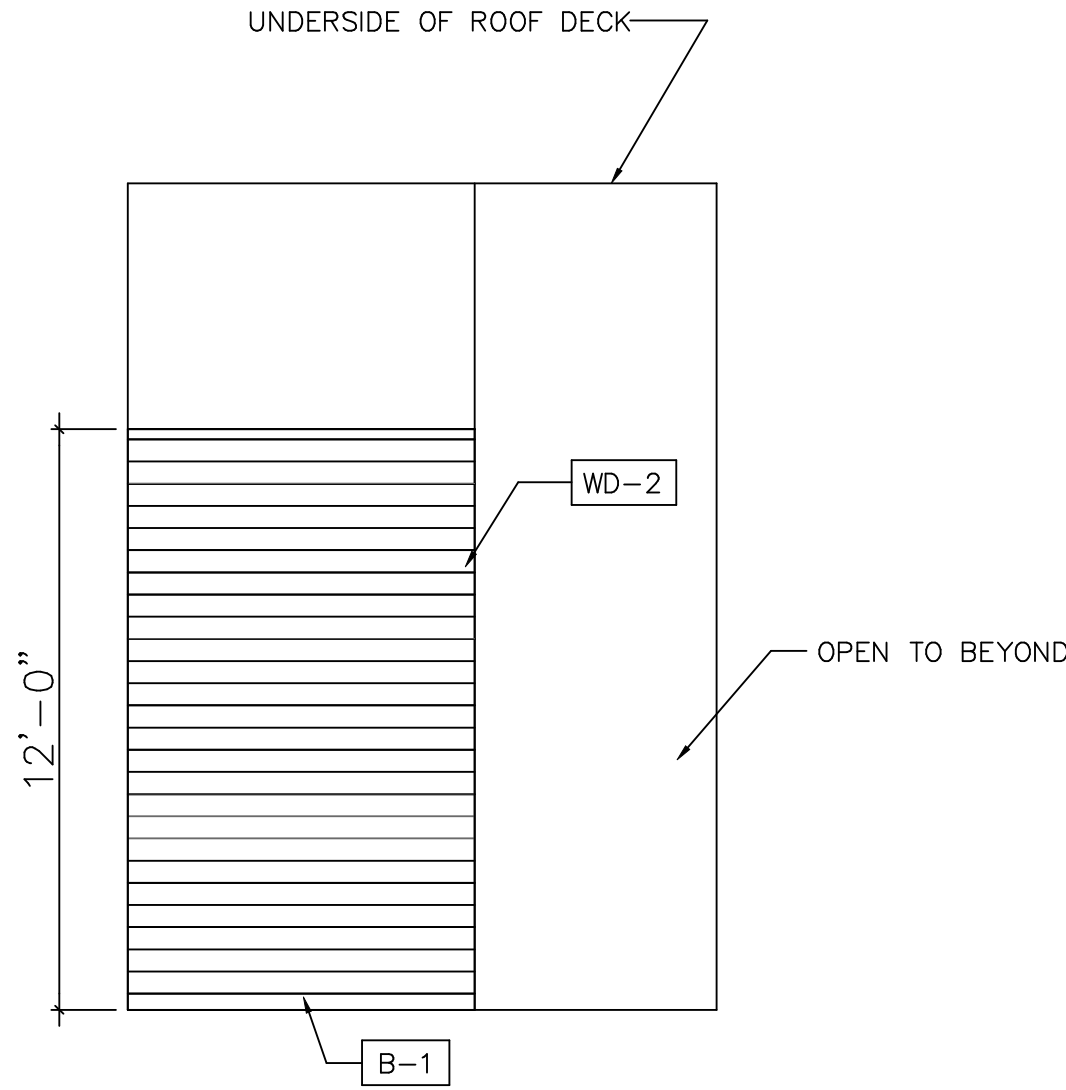
1 ACCENT WOOD WALL ELEVATION
SCALE: $\frac{3}{4}$ " = 1'-0"



2 FOOT SOAK AREA 104 ELEVATION
SCALE: $\frac{3}{4}$ " = 1'-0"



3 FOOT SOAK AREA 104 ELEVATION
SCALE: $\frac{3}{4}$ " = 1'-0"



4 ACCENT WOOD WALL ELEVATION
SCALE: $\frac{3}{4}$ " = 1'-0"

MISC ITEMS:

THE FOLLOWING ITEMS ARE TO BE FURNISHED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR:

- SHAMPOO BOWLS
- SHAMPOO/ CONDITIONER DISPENSER
- MATS FOR UNDER CHAIRS
- WAITING LOUNGE AREA MAT
- BARBER CHAIRS
- TOOL DRESSERS
- WET TOWEL CONTAINERS
- TRASH CANS FOR CUT STATIONS
- LARGE TRASH CAN AT WAITING LOUNGE AREA
- WAITING AREA TRASH CANS
- LIGHTING FOR HALL
- LIGHTING FOR CUT STATIONS
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- HOT TOWEL WARMER
- FOOT SOAK TOWEL WARMER
- STERILIZER
- WASHER
- DRYER
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- PRODUCT SHELVES
- VIP SHELVING
- SHUFFLE BOARD
- VIDEO GAMES
- WAITING LOUNGE STOOLS
- SIDE TABLE
- WAITING LOUNGE TOP TABLES

FINISH SCHEDULE:

FLOORING:
SC-1 = GREY EPOXY FLOORING, LOCATION: ENTIRE SPACE

WALL BASE:
B-1 = WOOD BASE
STAINED 1X4 PINE WITH STAIN ST-1
LOCATION: ENTIRE SPACE UNLESS NOTED OTHERWISE

B-2 = RUBBER BASE
ROPPE, #193 BLACK/BROWN, #700 SERIES
LOCATION: SEE PLAN

PAINT AND STAIN SURFACES
PT-1 = SEMI GLOSS PAINT
SPEC: SHERWIN WILLIAMS, #SW7058, MAGNETIC GREY
LOCATION: ENTIRE SPACE UNLESS NOTED OTHERWISE

PT-2 = MATTE PAINT
SPEC: SHERWIN WILLIAMS, MATTE BLACK #SW6258
LOCATION: ENTIRE EXPOSED CEILING

ST-1 = WOOD STAIN
MANF: MINWAX, #2750
JACOBEBAN: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

ST-2 = WOOD STAIN
MANF: MINWAX, #209
NATURAL: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

ST-3 = WOOD STAIN
MANF: MINWAX, #SM5153000A, POLY CLEAR GLOSS,
FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

WALL VENEER & EQUIPMENT SURFACES

FRP-1 = FIBERGLAS REINFORCED PANELS
SPEC: CRANE COMPOSITES OR EQ. , ARTIC WHITE
LOCATION: UTILITY ROOM AND RESTROOMS

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RE: DETAILS

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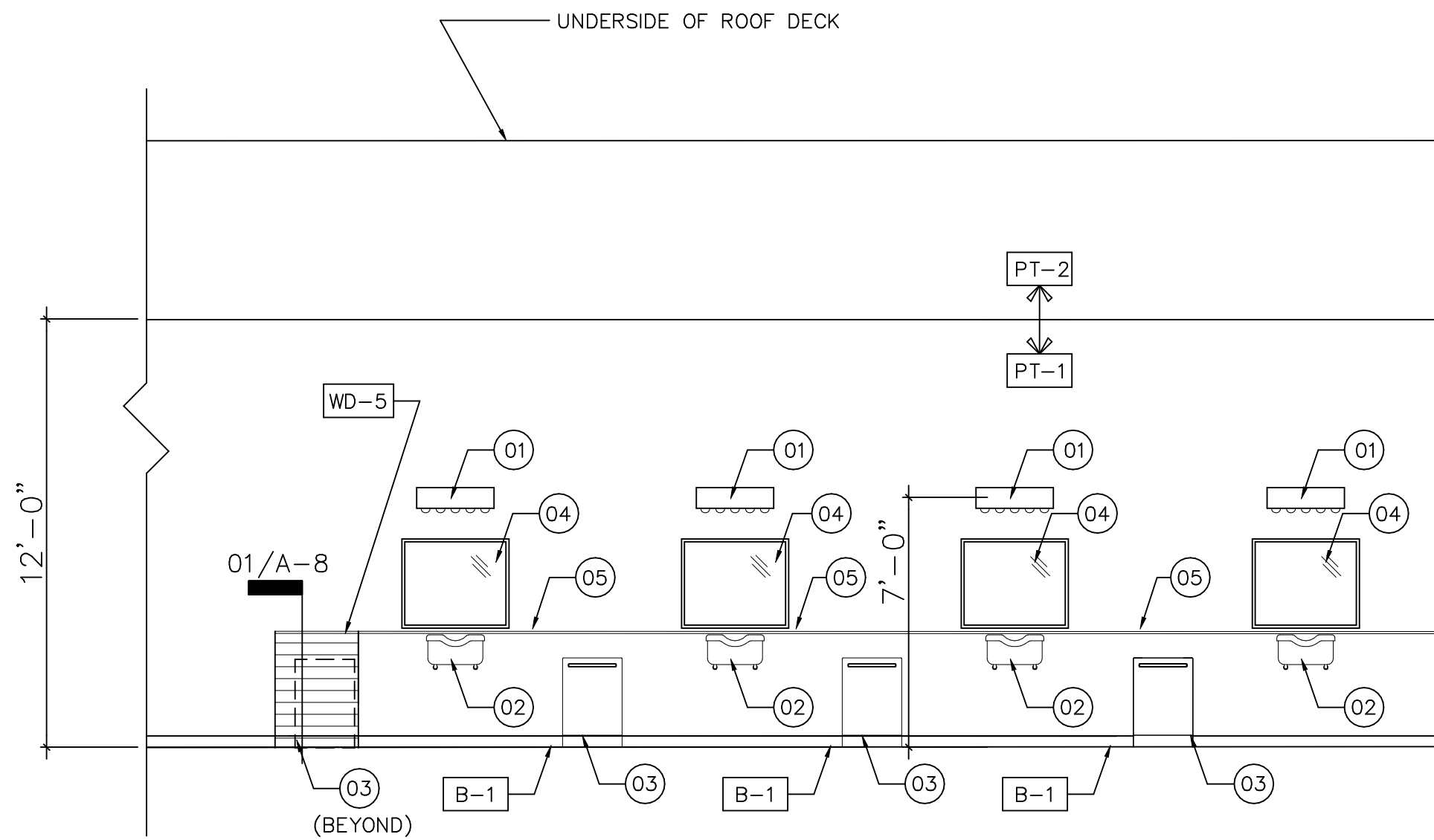
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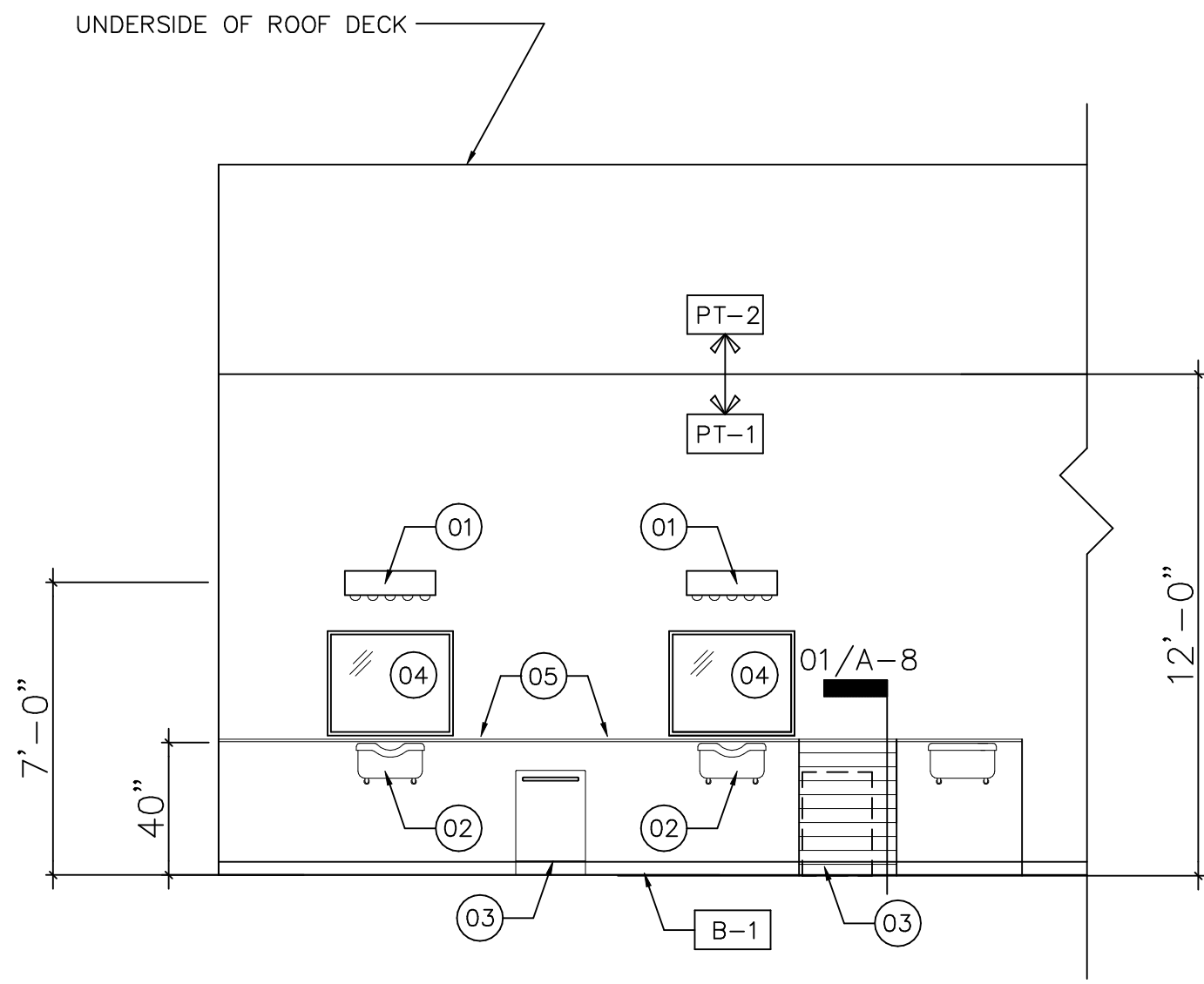
DRAWING TITLE:

INTERIOR ELEVATIONS

DRAWN BY:	CHECKED BY:	DATE:
A.C	N.B	
JOB NO:	SHT NO:	SCALE:
	AR-05	As Indicated



1 CUT STATION ELEVATION
SCALE: $\frac{1}{4}$ " = 1'-0"



2 CUT STATION ELEVATION
SCALE: $\frac{1}{4}$ " = 1'-0"

MISC ITEMS:

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LOCATION: SEE PLAN

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SPEC: SHERWIN WILLIAMS, MATTE BLACK #SW6258
LOCATION: ENTIRE EXPOSED CEILING

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JACOBAN: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

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MANF: MINWAX, #209
NATURAL: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

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MANF: MINWAX, #SM5153000A, POLY CLEAR GLOSS,
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RE: DETAILS

CEILING

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KEY NOTES LEGEND:

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OWNER SIGNATURE

REVISION STATUS

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APPROVED WITH NOTES	(B)
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"The Manly Hair Salon"**

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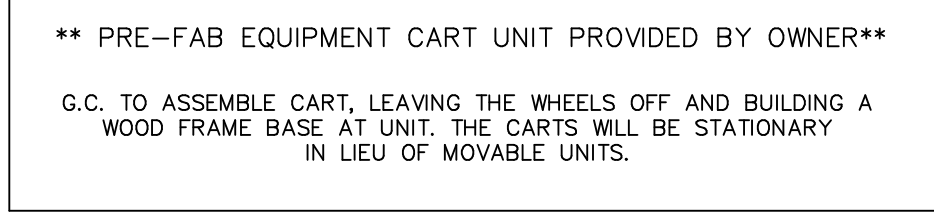
PROJECT TITLE:

**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:

INTERIOR ELEVATIONS

DRAWN BY:	CHECKED BY:	DATE:
A.C	N.B	
JOB NO:	SHT NO:	SCALE:
	AR-06	As Indicated



OWNER SIGNATURE			
REVISION STATUS			
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DISAPPROVED		(D)	
OWNER:			
Tune-Up "The Manly Hair Salon"			
ADDRESS:			
9704 WESTLAND DRIVE KNOXVILLE, TN 37922			
DESIGN CONSULTANT:			
TSABA CORP NADIF BRACEY 254 CHAPMAN RD. STE 208 #13130 NEWARK, DELAWARE 19702 EMAIL: NADIF@TS9DESIGNS.COM			
DRAWING STATUS:			
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DISCIPLINE:			
ARCHITECTURE			
PROJECT TITLE:			
WESTLAND DRIVE TENANT RENOVATION			
DRAWING TITLE:			
SECTIONS & DETAILS			
DRAWN BY:		CHECKED BY:	DATE:
A.C		N.B	
JOB NO.:	SHT NO.:		SCALE: As Indicated
	AR-08		

FINISH SCHEDULE:

FLOORING:

SC-1 = GREY EPOXY FLOORING, LOCATION: ENTIRE SPACE

WALL BASE:

B-1 = WOOD BASE
STAINED 1X4 PINE WITH STAIN ST-1
LOCATION: ENTIRE SPACE UNLESS NOTED OTHERWISE

B-2 = RUBBER BASE
ROPPE, #193 BLACK/BROWN, #700 SERIES
LOCATION: UTILITY ROOM, ADA RESTROOMS

PAINT AND STAIN SURFACES

PT-1 = SEMI GLOSS PAINT
SPEC: SHERWIN WILLIAMS, #SW7058, MAGNETIC GREY
LOCATION: ENTIRE SPACE UNLESS NOTED OTHERWISE

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LOCATION: ENTIRE EXPOSED CEILING

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JACOBAN: FIELD VERIFY & COORDINATE WITH OWNER
FOR NUMBER OF COATS TO ACHIEVE FINAL FINISH

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NATURAL: FIELD VERIFY & COORDINATE WITH OWNER
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WD-3 = RECLAIMED WOOD, OAK W/ ST-1, CLEAR COAT LACQUER

WD-4 = PLYWOOD W/ ST-1, 5/8" THICK

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DP-1 = DIAMOND PLATE, STANDARD, 1/8" THICK,
INSTALL AT BACK OF CUT STATION EQUIPMENT CART ONLY,
RE: DETAILS

CEILING

CLG-1 = EXPOSED STRUCTURE, BLACK PT-2, MATTE

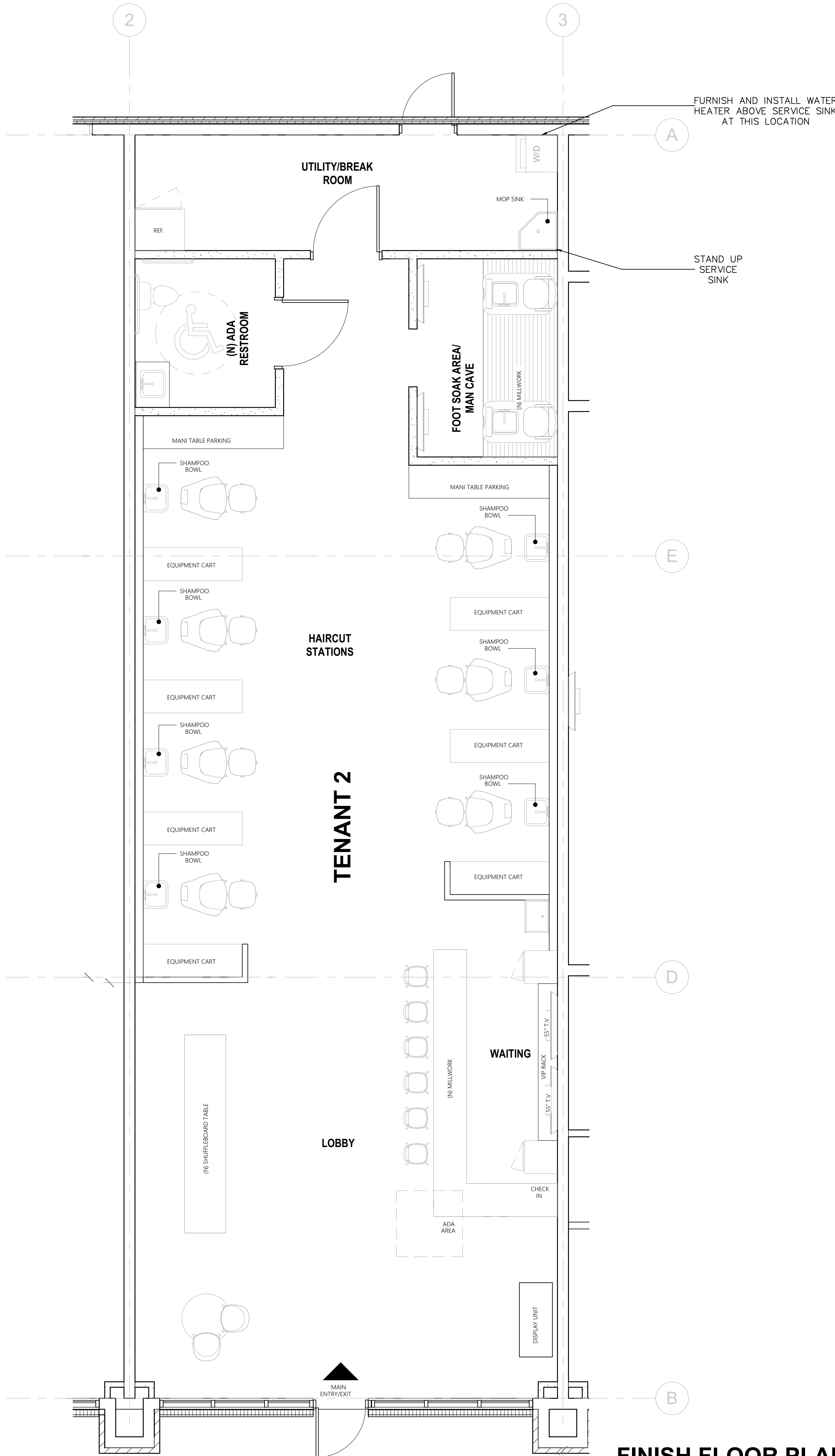
CLG-2 = 2X4 LAY-IN CEILING GRID WITH TEE, WHITE

MISC ITEMS:

THE FOLLOWING ITEMS ARE TO BE FURNISHED BY OWNER
AND INSTALLED BY GENERAL CONTRACTOR:

- SHAMPOO BOWLS
- SHAMPOO/ CONDITIONER DISPENSER
- MATS FOR UNDER CHAIRS
- WAITING LOUNGE AREA MAT
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- TOOL DRESSERS
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- SIDE TABLE
- WAITING LOUNGE TOP TABLES

IBC 2024 TABLE 803.13
ALL INTERIOR WALL AND CEILING FINISH REQUIREMENTS FOR A
'B' OCCUPANCY (FULLY SPRINKLERED) TO MEET OR EXCEED:
MINIMUM "B" LEVEL AT EXIT ENCLOSURES
MINIMUM "C" LEVEL AT CORRIDORS
MINIMUM "C" LEVEL AT ROOMS AND ENCLOSED SPACES



OWNER SIGNATURE

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PROJECT TITLE:
**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:
FINISH FLOOR PLAN

DRAWN BY:	CHECKED BY:	DATE:
A.C	N.B	
JOB NO:	SHT NO:	SCALE:
	AR-09	1/4"=1'-0"

1 FINISH FLOOR PLAN
SCALE 1/4" = 1'-0"

LIFE SAFETY DATA

OCCUPANCY CLASSIFICATION	GROUP B - BUSINESS (PERSONAL SERVICES / SALON)
CONSTRUCTION TYPE	TYPE II-B, UNPROTECTED NON-COMBUSTIBLE, FULLY SPRINKLED
SUITE AREA	1, 650 SF
OCCUPANT LOAD	13 PERSONS (SEE BREAKDOWN TABLE BELOW)
EXITS REQUIRED	1 (PER 2024 IBC §1006.3.2 - OCC. LOAD ≤ 49)
EXITS PROVIDED	1 - MAIN ENTRY/EXIT, FRONT OF SUITE
SPRINKLER SYSTEM	EXISTING - PROVIDED BY SHELL BUILDING DESIGN. NOT MODIFIED BY THIS PERMIT.
FIRE ALARM / STROBE	NOT PROVIDED - BUILDING DOES NOT HAVE A DEDICATED FIRE ALARM SYSTEM.
EMERGENCY LIGHTING	NEW - PROVIDED PER 2024 IBC §1008.3
EXIT SIGNAGE	NEW - PROVIDED PER 2024 IBC §1008.3

OCCUPANT LOAD CALCULATION PER 2024 IBC TABLE 1004.5

FUNCTIONAL AREA	SF	IBC USE	LOAD FACTOR	OCC. LOAD
HAIRCUT STATIONS / SALES FLOOR	820 SF*	BUSINESS	1:150	6
WAITING / LOBBY	180 SF*	BUSINESS	1:150	2
FOOT SOAK / MAN CAVE	250 SF*	BUSINESS	1:150	2
SHAMPOO BOWL AREA	210 SF*	BUSINESS	1:150	2
UTILITY / BREAK ROOM	110 SF*	STORAGE/UTILITY	1:300	1
ADA RESTROOM (ROOM 105)	80 SF*	ACCESSORY - NOT COUNTED	-	-
TOTAL	1,650 SF*			13

EGRESS ANALYSIS

EXIT ACCESS TRAVEL DISTANCE

ALLOWED: 300'-0" (2024 IBC TABLE 1017.2, GROUP B, SPRINKLERED)
PROVIDED: 155'-8" - COMPLIANT

COMMON PATH OF EGRESS TRAVEL

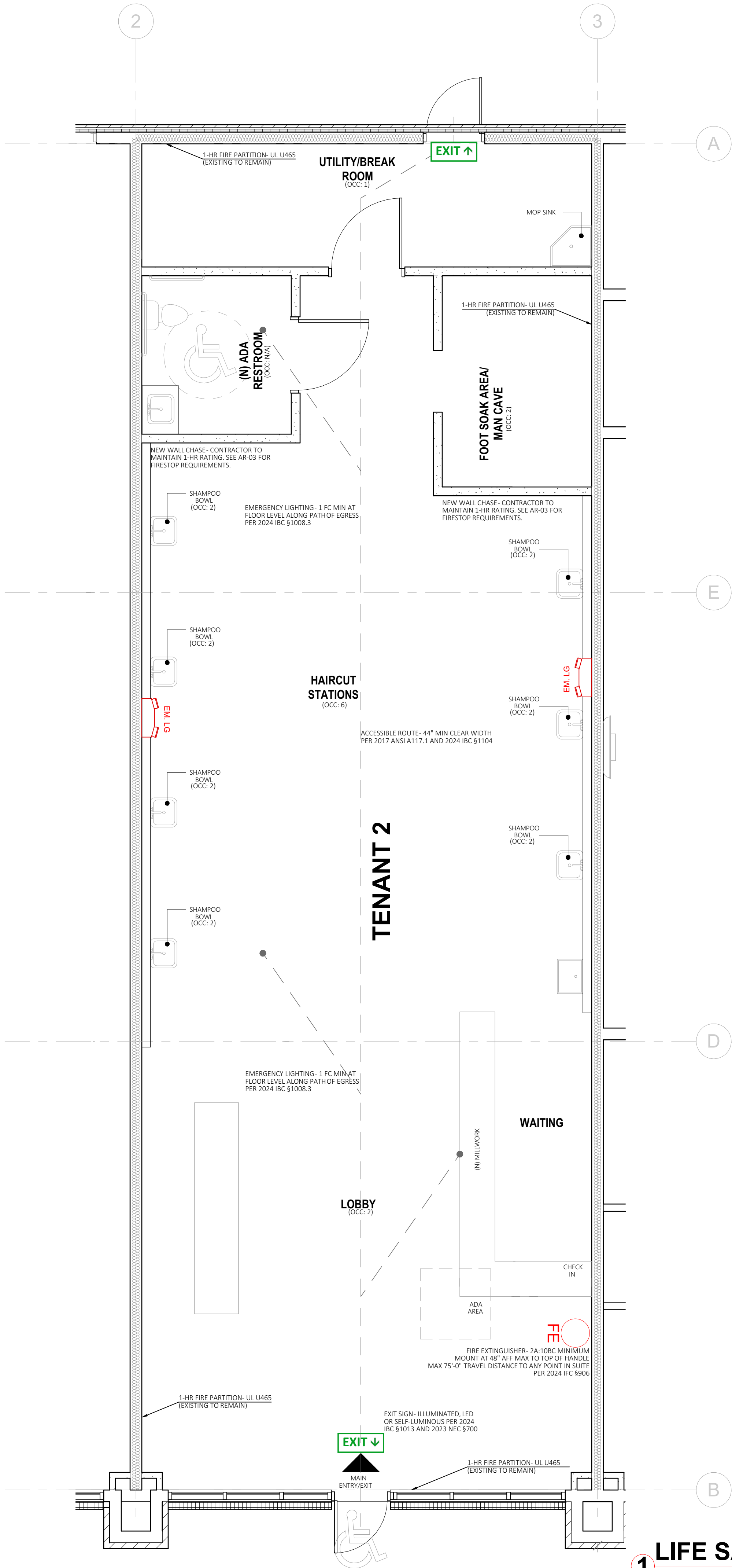
ALLOWED: 100'-0" (2024 IBC §1006.2.1, SPRINKLERED)
PROVIDED: 47'-9" - COMPLIANT

EXIT DOOR CLEAR OPENING WIDTH

REQUIRED: 32" CLEAR MIN (2024 IBC §1005.1)
PROVIDED: 32" CLEAR (3'-0" DOOR LEAF WITH HARDWARE DEDUCTIONS)

GENERAL NOTES

- OCCUPANCY: GROUP B - BUSINESS (PERSONAL SERVICES). PER 2024 IBC §303.
- CONSTRUCTION TYPE: TYPE II-B, UNPROTECTED NON-COMBUSTIBLE. FULLY SPRINKLERED. PER 2024 IBC TABLE 601.
- SPRINKLER SYSTEM IS EXISTING, PROVIDED BY SHELL BUILDING DESIGN. THIS PERMIT DOES NOT MODIFY THE SPRINKLER SYSTEM.
- BUILDING DOES NOT HAVE A DEDICATED FIRE ALARM OR STROBE SYSTEM. DO NOT SHOW THESE DEVICES.
- ALL PENETRATIONS THROUGH 1-HR RATED ASSEMBLIES SHALL BE FIRESTOPPED PER 2024 IBC §714. SEE AR-03 FOR COMPLETE FIRESTOP REQUIREMENTS.
- EMERGENCY LIGHTING AND EXIT SIGNS SHALL BE ON DEDICATED CIRCUIT WITH BATTERY BACKUP PER 2023 NEC §700 AND 2024 IBC §1008.
- ACCESSIBLE ROUTE SHALL COMPLY WITH 2017 ANSI A117.1 AND 2024 IBC §1104 THROUGHOUT.



1 LIFE SAFETY PLAN
SCALE 1/4" = 1'-0"

- For rated wall assembly details: SEE AR-03
- For ADA restroom details and grab bar heights: SEE AR-07
- For mechanical exhaust layout: SEE M1.01
- For electrical panel and circuit info: SEE EP1
- For emergency lighting circuit: SEE E1.01

LEGEND

- EXIT ↓ EXIT SIGN SYMBOL
- EMERGENCY LIGHTING SYMBOL
- FIRE EXTINGUISHER SYMBOL
- ACCESSIBLE ROUTE LINE
- 1-HR RATED WALL HATCH

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DRAWING TITLE:

PRPOSED LIFE SAFETY
PLAN

DRAWN BY:	CHECKED BY:	DATE:
A.C	N.B	
JOB NO:	SHT NO:	SCALE:
	AR-10	1/4"=1'-0"

BASIC ELECTRICAL REQUIREMENTS:

1. GENERAL: ALL ELECTRICAL WORK SHALL CONFIRM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) STANDARDS UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED. ALL ELECTRICAL WORK SHALL COMPLY WITH ADA RECOMMENDATIONS. ALL ELECTRICAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMAN LIKE MANNER BY A LICENSED ELECTRICIAN, OR A CERTIFIED APPRENTICE WORKING UNDER THE DIRECT SUPERVISION OF A LICENSED ELECTRICIAN, USING THE BEST METHODS KNOWN TO THE TRADE AND SHALL PRESENT A NEAT AND PROFESSIONAL APPEARANCE WHEN COMPLETED. THE OWNER RESERVES THE RIGHT TO CHANGE, WITHOUT ADDITIONAL COST, THE LOCATION OF ANY APPARATUS OR OUTLET, PROVIDED SUCH CHANGE DOES NOT ADD MORE THAN 10 FT TO THE FEEDER AND IS ORDERED BEFORE INSTALLATION OF THE AFFECTED PORTION OF THE WORK IS COMMENCED. CONTRACTOR SHALL BRING ALL CONFLICTS ON THE DRAWINGS TO THE OWNERS ATTENTION FOR HIS RESOLUTION PRIOR TO PERFORMING THAT WORK.
2. THE CONTRACTOR SHALL SURVEY THE PROJECT SITE PRIOR TO THE BID TO ASSESS ACTUAL FIELD CONDITIONS, FAILURE TO PERFORM THIS INSPECTION BINDS THE CONTRACTOR TO PERFORM THE WORK WITHOUT EXTRA CHARGES DESPITE THE IGNORANCE OF REASONABLY ANTICIPATED CONDITIONS.
3. ROUGH-IN'S: THE CONTRACTOR SHALL VERIFY AND COORDINATE THE ROUGH-IN REQUIREMENTS OF EACH ITEM OF EQUIPMENT WITH THE CONTRACTOR SUPPLYING THE EQUIPMENT.
4. INSTALLATION: THE ELECTRICAL DRAWINGS INDICATE THE EXTENT AND GENERAL LOCATION AND ARRANGEMENT OF EQUIPMENT AND MATERIALS. THE CONTRACTOR SHALL BECOME FAMILIAR WITH ALL DETAILS OF THE WORK AND VERIFY ALL DIMENSIONS IN THE FIELD, SO THAT EQUIPMENTS AND MATERIALS WILL BE PROPERLY LOCATED AND READILY ACCESSIBLE. THE CONTRACTOR SHALL SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS, COMPLY WITH THE FOLLOWING REQUIREMENTS:
- A. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.

B. COORDINATE ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS AND TRADES.

C. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR INSTALLATION OF ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS.

D. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATION OF ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS FOR EFFICIENT FLOW OF THE WORK.

E. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, INSTALL ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS TO PROVIDE MAXIMUM HEADROOM POSSIBLE.

- F. INSTALL ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS TO CONFORM WITH APPROVED SUBMITTAL DATA TO THE GREATEST EXTENT POSSIBLE, CONFORM TO THE ARRANGEMENTS INDICATED ON THE ELECTRICAL DRAWINGS, RECOGNIZING THAT PORTIONS OF THE WORK ARE SHOWN ONLY IN DIAGRAMMATIC FORM. WHERE COORDINATION REQUIREMENTS CONFLICT WITH INDIVIDUAL SYSTEM REQUIREMENTS, REFER CONFLICT TO THE ARCHITECT/ENGINEER OR OWNER'S REPRESENTATIVE FOR RESOLUTION.
- G. IN GENERAL, INSTALL ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO BUILDING LINES AND/OR FEATURES AND/OR OTHER BUILDING SYSTEMS.
- H. INSTALL ELECTRICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT AND COMPONENT PARTS, AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
- I. INSTALL ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS GIVING RIGHT-OF-WAY PRIORITY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SPECIFIC SLOPE (INCL. SPRINKLER SYSTEMS).
5. CUTTING AND PATCHING: ALL ELECTRICAL WORK SHALL BE CAREFULLY LAID OUT IN ADVANCE, AND WHERE CUTTING, CHANNELING, CHASING, OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS, OR OTHER SURFACES IS NECESSARY FOR THE PROPER INSTALLATION, SUPPORT, OR ANCHORAGE OF CONDUIT OR OTHER ELECTRICAL WORK, THIS WORK SHALL BE CAREFULLY DONE, ANY RESULTING DAMAGE TO THE BUILDING OR OTHER SYSTEMS, EQUIPMENT, OR MATERIALS SHALL BE REQUIRED BY SKILLED MECHANICS OF THE TRADES INVOLVED, AT NO ADDITIONAL COST TO THE OWNER.
6. PRODUCTS: SYSTEMS, EQUIPMENT, AND MATERIALS DESCRIBED ON THE ELECTRICAL DRAWINGS ESTABLISH THE MINIMUM STANDARDS FOR QUALITY AND STYLE AND SHALL BE THE BASIS OF THE BID. ALL SYSTEMS, EQUIPMENT, AND MATERIALS SHALL BE NEW AND SHALL BEAR THE UL LABEL OR BE UL LISTED, WHERE APPLICABLE, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND NEMA STANDARDS.

7. SUBSTITUTIONS: WHERE SYSTEMS, EQUIPMENT, OR MATERIALS ARE SPECIFIED BY MANUFACTURER OR BRAND NAME AND CATALOG NUMBER, SUCH SPECIFICATION SHALL ESTABLISH THE MINIMUM STANDARDS FOR QUALITY AND STYLE AND SHALL BE THE BASIS OF THE BID. SYSTEMS, EQUIPMENT, AND MATERIALS SO SPECIFIED SHALL BE FURNISHED UNDER THE CONTRACT UNLESS CHANGED BY WRITTEN AGREEMENT. SHOULD THE CONTRACTOR PROPOSE TO FURNISH PRODUCTS OTHER THAN THOSE SPECIFIED, AS PERMITTED BY "OR APPROVED EQUAL" CLAUSES, HE SHALL SUBMIT A WRITTEN REQUEST FOR SAID SUBSTITUTIONS THROUGH EXPANSIVE CHANNELS TO THE ARCHITECT/ENGINEER FOR HIS REVIEW. SUCH REQUEST SHALL BE ACCOMPANIED WITH COMPLETE DESCRIPTIVE LITERATURE, INCLUDING, BUT NOT LIMITED TO, CATALOG CUT SHEETS, BROCHURES, CIRCULARS, SPECIFICATIONS, PERFORMANCE DATA, INSTALLATION INSTRUCTIONS, SHOP DRAWINGS, AND OTHER PRINTED INFORMATION IN SUFFICIENT DETAIL AND SCOPE TO VERIFY COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT. DESCRIPTIVE LITERATURE ON PROPOSED SUBSTITUTIONS SHALL BE CLEAR, CONCISE, AND LOGICALLY ARRANGED. ALL DATA WHICH IS, AND IS NOT, APPLICABLE SHALL BE CLEARLY IDENTIFIED AS SUCH. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT SAMPLES OF BOTH SPECIFIED AND PROPOSED ITEMS FOR INSPECTION. DESCRIPTIVE LITERATURE ON PROPOSED SUBSTITUTIONS SHALL BE RETURNED WITHOUT REVIEW IF NOT PROPERLY PREPARED. THE FOLLOWING SYSTEMS, EQUIPMENT, AND MATERIALS, AS A MINIMUM, REQUIRE SUBMITTALS:
- A. ANY PROPOSED SUBSTITUTIONS:

B. WIRING DEVICES.

C. PANELBOARDS.

D. DISCONNECT SWITCHES.

E. CIRCUIT BREAKERS.

F. LIGHTING FIXTURES INCLUDING BALLASTS.

9. RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AT THE SITE A CLEAN, UNDAMAGED SET OF BLUE- OR BLACK-LINE WHITE PRINTS OF CONTRACT DRAWINGS. THIS RECORD SET OF CONTRACT DRAWINGS SHALL BE MARKED TO SHOW THE ACTUAL INSTALLATION AND WHERE THE ACTUAL INSTALLATION VARIES SUBSTANTIALLY FROM THE ELECTRICAL WORK AS ORIGINALLY SHOWN, MARK WHICHEVER DRAWINGS ARE MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE. MARK RECORD DRAWINGS WITH A RED ERASABLE PENCIL IN BOLD LETTERS OR COLORS TO DISTINGUISH BETWEEN VARIATIONS IN SEPARATE CATEGORIES OF THE ELECTRICAL WORK. NOTE CONTRACT MODIFICATIONS AND APPROVED SUBSTITUTIONS WHERE APPLICABLE.
10. PROTECTION OF INSTALLED SYSTEMS, EQUIPMENT, AND MATERIALS: PROTECT INSTALLED SYSTEMS, EQUIPMENT, AND MATERIALS FROM DAMAGE UNTIL FINAL ACCEPTANCE BY THE OWNER. REPAIR OR REPLACE, AT NO ADDITIONAL COST TO THE OWNER, DAMAGED SYSTEMS, EQUIPMENT, AND MATERIALS TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND/OR OWNER.
11. CLEANING: UPON COMPLETION OF INSTALLATION, INSPECT INTERIOR AND EXTERIOR OF ALL ELECTRICAL EQUIPMENT. REMOVE PAINT SPLATTERS AND OTHER SPOTS, DIRT, AND DEBRIS. TOUCH-UP SCRATCHES AND MARKS OF FINISH TO MATCH ORIGINAL FINISH.
12. CERTIFICATIONS: THE FOLLOWING SHALL BE OBTAINED AND SUBMITTED TO THE OWNER PRIOR TO FINAL PAYMENT:
- A. ELECTRICAL SYSTEMS: A CERTIFICATE OF FINAL INSPECTION AND APPROVAL BY THE AUTHORITIES HAVING JURISDICTION
13. GUARANTEE: THE CONTRACTOR SHALL SUBMIT A WRITTEN GUARANTEE TO THE OWNER, PRIOR TO FINAL PAYMENT, THAT WARRANTS THE INSTALLATION SHALL REMAIN FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE BY THE OWNER. THE GUARANTEE SHALL STATE THAT THE OWNER IS NOT LIABLE FOR PARTS AND LABOR COSTS INCURRED BY THE CONTRACTOR IN THE REPAIR OF ACTUAL PRODUCT OR INSTALLATION DEFECTS. THE GUARANTEE SHALL STATE THAT THE ONE-SITE RESPONSE TIME TO REQUESTS FOR ASSISTANCE WILL BE 24 HOURS FOR NON-EMERGENCY CONDITIONS AND 2 HOURS FOR EMERGENCY CONDITIONS.

ELECTRICAL MATERIALS:

1. RACEWAYS:
- A. RIGID GALVANIZED STEEL (RGS) CONDUIT: ANSI C80.1.

B. ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS: ANSI C80.3 WITH COMPRESSION TYPE FITTINGS.

C. LIQUID-TIGHT FLEXIBLE METAL CONDUIT: UL 360. FLEXIBLE STEEL CONDUIT WITH PVC JACKET.

D. NONMETALLIC CONDUIT AND TUBING (ENT): NEMA TC 13
2. BOXES:
- A. SHEET METAL: NEMA OS 1.

B. CAST METAL: NEMA FB 1, TYPE FD, CAST FRAILLY BOX WITH CASKETED COVER.

C. HINGED COVER ENCLOSURES: NEMA 250, GALVANIZED STEEL ENCLOSURE WITH CONTINUOUS HINGE COVER, QUICK RELEASE TYPE LATCHES, REMOVABLE INTERIOR PANEL, AND MANUFACTURER'S STANDARD GRAY ENAMEL INSIDE AND OUT.
3. WIRES AND CABLES:
- A. CONDUCTOR MATERIAL: ANNEALED COPPER.

B. INSULATION: THHN/THWN CONFORMING TO WC 5.

C. CONDUCTORS #16 AWG AND SMALLER SHALL BE SOLID; CONDUCTORS #14 AWG AND LARGER SHALL BE STRANDED. MC CABLE IS PERMITTED FOR BRANCH CIRCUITRY, AND SHALL UTILIZE SOLID CONDUCTORS.

D. GROUND CONDUCTORS #10 AWG AND SMALLER SHALL HAVE GREEN THHN/THWN INSULATION.
4. WIRING DEVICES:
- A. GENERAL: COMPLY WITH NEMA WD 1, "GENERAL PURPOSE WIRING DEVICES," COLOR: WHITE, BLACK, GRAY, IVORY, OR BROWN TO BE AS SELECTED BY THE ARCHITECT/ENGINEER AND/OR THE OWNER.

B. RECEPTACLES: COMPLY WITH UL 498, "ELECTRICAL ATTACHMENT PLUGS AND RECEPTACLES,"

C. "HEAVY DUTY SPECIFICATION GRADE EXCEPT AS OTHERWISE INDICATED. GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLES SHALL COMPLY WITH UL 943, "GROUND FAULT CIRCUIT INTERRUPTERS," WITH INTEGRAL NEMA 5-20R DUPLEX RECEPTACLE DESIGNED FOR INSTALLATION IN A 2-3/4" DEED DEVICE BOX WITHOUT ADAPTER.

D. TOGGLE SWITCHES: 20A, 120-277V AC, QUIET TYPE, SPECIFICATION GRADE AND SHALL COMPLY WITH UL 20, "GENERAL USE SNAP SWITCHES," SINGLE-POLE, TWO-POLE, THREE-WAY, AND FOUR-WAY AS INDICATED AND/OR REQUIRED.

E. DEVICE PLATES: SINGLE AND COMBINATION TYPES WHICH MATE AND MATCH WITH CORRESPONDING WIRING DEVICES.

F. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS AS MANUFACTURED BY HUBBELL INC. OR APPROVED EQUAL BY LEVITON.
5. GROUNDING:
- A. GROUNDING AND BONDING PRODUCTS: OF TYPES INDICATED AND/OR OF SIZES AND RATINGS.

B. TO COMPLY WITH THE NEC, WHERE TYPES, SIZES, RATINGS, AND QUANTITIES ARE IN EXCESS OF NEC REQUIREMENTS, THE MORE STRINGENT REQUIREMENTS AND THE GREATER SIZE, RATING, AND QUANTITY INDICATIONS SHALL GOVERN, WITHOUT MATCHING NYLON IN ALL AREAS.

C. CONDUCTOR MATERIAL: COPPER.

D. WIRE AND CABLE CONDUCTORS: CONFIRM TO NEC TABLE 8, EXCEPT AS OTHERWISE INDICATED, FOR CONDUCTOR PROPERTIES, INCLUDING STRANDING.

E. CONNECTOR PRODUCTS: UL LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED.
6. PANELBOARDS:
- A. CIRCUIT BREAKERS: PROVIDE TYPE, RATING, AND FEATURES INDICATED. BOLT-ON EXCEPT WHERE PLUG-IN FOR USE ON EXISTING PANELBOARDS (NOT BEING UPGRADED) TANDEM CIRCUIT BREAKERS SHALL NOT BE USED. MULTIPLE CIRCUIT BREAKERS SHALL HAVE AN INTERNAL COMMON TRIP AND A SINGLE HANDLE.

B. ENCLOSURES: NEMA TYPE 1, UNLESS OTHERWISE INDICATED.

C. FRONT: SECURED TO BOX WITH CONCEALED TRIM CLAMPS EXCEPT AS INDICATED. FRONT FOR SURFACE MOUNTED PANELBOARDS SHALL BE SAME DIMENSIONS AS BOX.

D. DIRECTORY FRAME: METAL WITH CLEAR PLASTIC COVER MOUNTED ON INSIDE OF PANELBOARD DOOR.

E. BUS WORK: HARD DRAWN COPPER OF 98% CONDUCTIVITY.

F. MAIN AND BRANCH PLUGS: COMPRESSION TYPE.

G. EQUIPMENT GROUND BUS: ADEQUATE FOR FEEDER AND BRANCH CIRCUIT EQUIPMENT GROUND TO BOX.

H. PROVISIONS FOR FUTURE DEVICES: EQUIP WITH MOUNTING BREAKETS, BUS CONNECTION, AND NECESSARY APPURTENANCES, FOR THE CIRCUIT BREAKER AMPERE RATING INDICATED FOR FUTURE INSTALLATION OF DEVICES.

I. MAIN AND SUFFERED LUGS: PROVIDE WHERE INDICATED.

J. NAMEPLATE: CUSTOM ENGRAVED PLASTIC LAMINATE, WHITE LETTERS ON BLACK FIELD, FOR EACH PANELBOARD MOUNTED WITH EPOXY OR INDUSTRIAL CEMENT OR ADHESIVE.

K. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS AS MANUFACTURED BY SQUARE-D, SIEMENS OR CUTLER HAMMER CO.

L. 7. DISCONNECTS AND CIRCUIT BREAKERS:

A. FUSIBLE SWITCH, 800A AND SMALLER: NEMA KS 1, TYPE HD, CLIPS TO ACCOMMODATE SPECIFIED FUSES, ENCLOSURE SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED, HANDLE LOCKABLE WITH TWO (2) PAD LOCKS, AND INTERLOCKED WITH COVER IN "CLOSED" POSITION. ENCLOSURES SHALL COMPLY WITH NEMA KS 1, TYPE 1 INDOOR DRY LOCATIONS.

B. MOLDED CASE CIRCUIT BREAKER: NEWMAN AB 1, HANDLE LOCKABLE WITH TWO (2) PADLOCKS.

C. FRAME SIZE, TRIP RATING NUMBER OF POLES, AND AUXILIARY DEVICES AS INDICATED. ENCLOSURES SHALL COMPLY WITH NEWMAN AB 1, TYPE 1, INDOOR DRY LOCATIONS. CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING CAPACITY AS FOLLOWS:

D. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS AS SUITABLE FOR INSTALLATION IN EXISTING PANELS. DISCONNECTS SHALL BE BY SQUARE-D.

STANDARD MOUNTING HEIGHTS (UNLESS OTHERWISE NOTED)

9" below finish ceiling		wall-mounted clocks, program bells, (or as shown on architectural details)
6" above fire hose cabinet		blue signal light
10'-0"		battery lighting units and remote wall mounted light heads (or 1'-0" below finished ceiling of top of unit).
8'-6"		pendant-hung industrial and strip lighting fixtures.
centered above door or window opening		warning and signal fixtures/signs.
6'-8"-to bottom of device		or 6" below finished ceiling whichever is lower. fire alarm signal devices and illuminated fire signals
6'-6"		top of flush and surface mounted electrical lighting or power panelboards and telephone cabinets.
6'-3"		top of back-mounted wall exit fixtures not mounted above doors).
6'-0"		top of highest electrical safety disconnect switches, magnetic starters, contactors.
3'-8"		wall mounted electrical device, lighting switches, manual motor starters, thermostats, wall-mounted wiremold and g.f.c.i. receptacles in toilet rooms or for separate sinks (maximum side reach height ADA)
3'-6"		fire alarm pull stations, ADA compliant device rough in
18"		electrical receptacles, telephone & data outlets
00"		finished floor

MOUNTING HEIGHT NOTES:

1. STANDARD MOUNTING HEIGHTS: (COORDINATE WITH ARCH DRAWINGS) ALL MOUNTING HEIGHTS SHALL BE AS INDICATED BY ARCHITECT. IF NOT INDICATED BY ARCHITECT THEN PROVIDE AS NOTED ABOVE.
2. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY CONSTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
3. THE ABOVE MOUNTING HEIGHT SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWING OR SPECIFICATIONS.
4. INDICATION (+) NEXT TO A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE A COUNTER OR CASEWORK. COORDINATE WITH ARCHITECTURAL DETAIL AND CASEWORK CONTRACTOR.
5. 3'-6" FOR ADA COMPLIANT DEVICES VERIFY EXACT HEIGHT PRIOR TO ROUGH IN.

ELECTRICAL NOTES:

1. WIRING METHODS: WIRING SHALL CONSIST NO ROME (NON-METALLIC) OR CABLES AND WIRES INSTALLED IN RGS CONDUIT, EMT, LIQUIDATING FLEXIBLE METAL CONDUIT AND MC CABLES. RACEWAYS SHALL BE CONCEALED WITHIN FINISHED WALLS AND CEILINGS UNLESS OTHERWISE INDICATED, OTHER THAN ROOF PENETRATIONS REQUIRED TO FEED ROOF MOUNTED EQUIPMENT, RACEWAYS WILL NOT BE ROUTED EXPOSED OUTSIDE OF THE BUILDING.
2. RACEWAYS: RACEWAYS SHALL BE PROVIDED WHERE INDICATED AND REQUIRED AND SHALL BE INSTALLED AS SPECIFIED BELOW, UNLESS OTHERWISE INDICATED. MINIMUM RACEWAY SIZE SHALL BE 3/4 IN. RGS CONDUIT SHALL BE USED FOR ALL OUTDOOR INSTALLATIONS. EMT SHALL BE USED FOR ALL INDOOR INSTALLATIONS. LIQUIDATING FLEXIBLE METAL CONDUIT, 6 FT MAXIMUM LENGTH, SHALL BE USED FOR ALL CONDUIT TERMINATIONS AT EQUIPMENT SUBJECT TO VIBRATION. BUSHINGS, MANUFACTURED FITTINGS, OR BOXES PROVIDING EQUIVALENT MEANS OF PROTECTION SHALL BE INSTALLED ON THE ENDS OF ALL CONDUITS AND SHALL BE OF THE INSULATING TYPE WHERE REQUIRED BY THE N.E.C. ONLY LISTED ADAPTERS SHALL BE USED TO CONNECT EMT TO RGS CONDUIT AND CAST METAL BOXES AND CONDUIT BODIES. PENETRATIONS OF SLABS AND FIRE RATED WALLS SHALL BE FIRESTONE.
- KEEP RACEWAYS AT LEAST 6 IN. AWAY FROM PARALLEL RUNS OF FLUES AND STEAM OR HOT WATER PIPING. INSTALL HORIZONTAL RACEWAY RUNS HIGHER THAN WATER AND STEAM PIPING. RACEWAYS CROSSING STRUCTURAL EXPANSION JOINTS SHALL BE PROVIDED WITH A CONDUIT WITH A GROUNDING CONNECT OR OTHER SUITABLE MEANS TO COMPENSATE FOR THE BUILDING EXPANSION AND CONTRACTION. RACEWAYS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS AND FEATURES, MECHANICAL DUCT AND PIPING SYSTEMS, OR INTERSECTIONS OF VERTICAL PLANES AND CEILINGS. CHANGES IN DIRECTION OF RUNS SHALL BE ACCOMPLISHED WITH SYMMETRICAL BENDS OR CAST METAL FITTINGS. FLED-MADE ELBOWS AND OFFSETS SHALL BE MADE WITH AN APPROVED HICKEY OR CONDUIT BENDING MACHINE. CRUSHED OR DEFORMED RACEWAY SHALL NOT BE INSTALLED. CARE SHALL BE TAKEN TO PREVENT THE LOOSEMENT OF DIRT, AND CONSTRUCTION MATERIALS AND DEBRIS IN RACEWAYS DURING THE COURSE OF CONSTRUCTION. CLOGGED RACEWAYS SHALL BE ENTIRELY FREED OF OBSTRUCTIONS OR SHALL BE REPLACED.
- RGS CONDUIT AND EMT SHALL BE SECURELY AND RIGIDLY FASTENED IN PLACE AT INTERVALS OF NOT MORE THAN 10 FT AND WITHIN 3 FT OF FITTINGS AND BOXES WITH APPROVED PIPE STRAPS, WALL BRACKETS, CONDUIT CLAMPS, CONDUIT HANGERS, THREADED C-CLAMPS, OR CEILING TRAPEZE. C-CLAMPS OR BEAM CLAMPS SHALL HAVE STRAP OR ROD TYPE RETAINERS. LOADS AN SUPPORTS SHALL BE COORDINATED WITH SUPPORTING STRUCTURES TO PREVENT DEFORMATION OR DAMAGE TO STRUCTURES, BUT NO LOAD SHALL BE APPLIED TO JOIST BRIDGING. FASTENINGS SHALL BE BY WOOD SCREWS OR SCREW TYPE NAILS TO WOOD; BY TOGGLE BOLTS ON HOLLOW CMU; BY EXPANSION BOLTS ON CONCRETE OR BRICK; AND BY MACHINE SCREWS, WELDED THREADED STUDS, HEAT TREATED OR SPRING STEEL TENSION CLAMPS ON STEEL WORK. WOOD NAILS OR THREADED STUDS DRIVEN INTO FORMWORK SHALL BE PROTECTED BY LOCKWASHERS AND NUTS, OR NAIL TYPE NYLON ANCHORS MAY BE USED IN LIEU OF EXPANSION SHIELDS OR MACHINE SCREWS. RACEWAYS OR PIPE STRAPS SHALL NOT BE WELDED TO STEEL STRUCTURES. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, SHEET METAL SCREWS MAY BE USED. CONDUIT SHALL NOT BE SUPPORTED USING WIRE OR NYLON TIES. RACEWAYS SHALL BE INSTALLED AS A COMPLETE SYSTEM AND BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE. UPPER RACEWAYS SHALL NOT BE THE SUPPORT OF LOWER RACEWAYS. SUPPORTING MAINS WILL NOT BE SHARED BETWEEN ELECTRICAL RACEWAYS AND MECHANICAL DUCTS OR PIPING. MOUNTING HARDWARE SHALL NOT PRESENT SHARP EDGES WHERE PERSONNEL CONTACT IS POSSIBLE. IN MECHANICAL SPACES, "MINERALS" SUPPORTS SHALL NOT BE USED BELOW 10' A.F.F.
3. BOXES: BOXES SHALL BE PROVIDE IN RACEWAY SYSTEMS WHEREVER REQUIRED FOR PULLING OF WIRES, MAKING CONNECTIONS, AND MOUNTING OF DEVICES OR LIGHTING FIXTURES. IN GENERAL, BOXES SHALL BE CONSTRUCTED OF HOT-DIPPED GALVANIZED FINISHED SHEET STEEL. BOXES FOR METALLIC RACEWAYS, 4 IN. BY 4 IN. NOMINAL SIZE AND SMALLER, SHALL BE OF THE CAST METAL HUB TYPE AND CASKETED WHEN LOCATED OUTSIDE OF THE BUILDING. BOXES SHALL BE LISTED AS SUITABLE FOR THE ENVIRONMENTAL CONDITIONS OF THE LOCATION THEY ARE INSTALLED. BOXES FOR MOUNTING OF LIGHTING FIXTURES SHALL BE NOT LESS THAN 4 IN. SQUARE EXCEPT SMALLER BOXES SHALL BE INSTALLED WHERE REQUIRED BY FIXTURE CONFIGURATION. UNLESS OTHERWISE INDICATED, DEVICE BOXES FOR RECEPTACLES SHALL BE MOUNTED WITH THE CENTER OF THE DEVICE BOX APPROXIMATELY 18 IN. AFF. INDICATED, DEVICE BOXES FOR TOGGLE SWITCHES SHALL BE MOUNTED WITH THE CENTER OF THE DEVICE BOX APPROXIMATELY 48 IN. AFF. BOXES AND BOX SUPPORTS SHALL BE FASTENED TO WOOD WITH WOOD SCREWS OR SCREW TYPE NAILS OF EQUAL HOLDING STRENGTH, WITH BOLTS AND METAL EXPANSION SHIELDS ON CONCRETE AND BRICK, WITH TOGGLE BOLTS ON HOLLOW CMU, AND WITH MACHINE SCREWS OR WELDED STUDS ON STEEL WORK. THREADED STUDS DRIVEN IN BY POWDER CHARGE AND PROVIDED WITH LOCKWASHERS AND NUTS, OR NAIL TYPE NYLON ANCHORS MAY BE USED IN LIEU OF EXPANSION SHIELDS OR MACHINE SCREWS. HANGERS SHALL NOT BE FASTENED OR SUPPORTED FROM JOIST BRIDGING.
4. WIRES AND CABLES: EXAMINE RACEWAYS AND BUILDING FINISHES TO RECEIVE WIRES AND CABLES FOR COMPLIANCE WITH INSTALLATION TOLERANCES AND OTHER CONDITIONS. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. PULL WIRES AND CABLES INTO RACEWAY SIMULTANEOUSLY WHERE MORE THAN ONE IS BEING INSTALLED IN THE SAME RACEWAY. USE PULLING COMPOUND OR LUBRICANT WHERE NECESSARY. COMPOUND USED MUST NOT DETERIORATE CONDUCTORS OR INSULATION. USE PULLING MEANS, INCLUDING FISH TAPE, CABLE, ROPE, AND BASKET-WEAVE WIRE/CABLE GRIPS THAT WILL NOT DAMAGE WIRES/CABLES OR RACEWAY. INSTALL EXPOSED CABLE, PARALLEL AND PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS AND FEATURES, MECHANICAL DUCT AND PIPING SYSTEMS, OR INTERSECTIONS OF VERTICAL PLANES AND CEILING. HORIZONTAL RUNS OF MC CABLE SHALL BE SUPPORTED ON 3 FT MAXIMUM CENTERS. VERTICAL RUNS OF MC CABLES SHALL BE SUPPORTED ON 6 FT MAXIMUM CENTERS EXPOSED PLENUM CABLE SHALL BE SUPPORTED ON 3 FT MAXIMUM CENTERS. THE NUMBER OF SPLICES SHALL BE KEPT TO AN ABSOLUTE MINIMUM. WIRING AT EACH OUTLET SHALL BE INSTALLED WITH AT LEAST 8 IN. SLACK.

5. WIRING DEVICES: INSTALL WIRING DEVICES WHERE INDICATED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION, INSTRUCTION AND APPLICABLE REQUIREMENTS OF THE NEC, AND RECOGNIZED INDUSTRY PRACTICES. INSTALL WIRING DEVICES IN DEVICE BOXES WHICH ARE CLEAN AND FREE FROM DIRT AND CONSTRUCTION MATERIALS AND DEBRIS. INSTALL WIRING DEVICES AFTER WIRING WORK IS COMPLETE. INSTALL DEVICE PLATES AFTER PAINTING WORK IS COMPLETE. TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. PRIOR TO ENERGIZING CIRCUITS, TEST WIRING FOR ELECTRICAL CONTINUITY AND SHORTS. ENSURE PROPER POLARITY OF CONNECTIONS IS MAINTAINED. SUBSEQUENT TO EMERGING, TEST WIRING DEVICES AND DEMONSTRATE COMPLIANCE WITH REQUIREMENTS.
6. GROUNDING: ELECTRICAL SYSTEMS AND EQUIPMENT, METALLIC RACEWAYS AND BOXES, CABLE SHIELDS, METALLIC CABLE SHEATHS AND ARMOR, AND OTHER NON-CURRENT CARRYING METALLIC PARTS OF EQUIPMENT SHALL BE GROUNDED IN CONFORMANCE WITH THE NEC. EQUIPMENT GROUND CONDUCTORS SHALL COMPLY WITH NEC ARTICLE 250 FOR SIZES AND QUANTITIES, EXCEPT WHERE LARGER SIZES AND/OR MORE CONDUCTORS ARE INDICATED. PROVIDE SEPARATE INSULATED GROUND CONDUCTOR IN ALL RACEWAYS, REGARDLESS OF RACEWAY TYPE. SEPARATELY DERIVED SYSTEMS AS DEFINED BY THE NEC SHALL BE GROUNDED IN CONFORMANCE WITH NEC ARTICLE 250 PARA. 26. TERMINATE EQUIPMENT GROUND WIRES FOR FEEDERS AND BRANCH CIRCUITS WITH PRESSURE-TYPE GROUND LUGS, WHERE METALLIC CONDUITS TERMINATE AT METALLIC HOUSINGS WITHOUT MECHANICAL AND ELECTRICAL CONNECTION TO EACH OTHER. PROVIDE NEATLY TYPED AND ACCURATE CIRCUIT DIRECTORIES IN EACH PANELBOARD, REFLECTIVE OF FINAL CIRCUIT CONFIGURATION. PROVIDE FILLER PLATES IN ALL UNUSED SPACES. TRAIN WIRES IN PANELBOARDS GUTTERS NEATLY IN GROUPS, BUNDLE, AND WRAP WITH WIRE TIES. GROUND PANELBOARD IN CONFORMANCE WITH THE NEC. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, INCLUDING GROUNDING CONNECTIONS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. PERFORM INSULATION RESISTANCE TESTS OF PANELBOARD BUSES, COMPONENTS, AND FEEDER AND BRANCH CIRCUIT WIRING; INSULATION RESISTANCE LESS THAN 100 MEGOHM IS UNACCEPTABLE.
7. PANELBOARDS: INSTALL PANELBOARDS AND ACCESSORY ITEMS IN ACCORDANCE WITH NEMA PB 1.1, "GENERAL INSTRUCTIONS FOR PROPER INSTALLATION, OPERATION, AND MAINTENANCE OF PANELBOARDS RATED 600 VOLTS OR LESS," AND MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. MOUNT PANELBOARDS PLUMB AND RIGID WITHOUT DISTORTION OF BOX AND WITH THE TOP OF THE TRIM AT 78 IN. AFF. UNLESS OTHERWISE INDICATED. PROVIDE NEATLY TYPED AND ACCURATE CIRCUIT DIRECTORIES IN EACH PANELBOARD, REFLECTIVE OF FINAL CIRCUIT CONFIGURATION. PROVIDE FILLER PLATES IN ALL UNUSED SPACES. TRAIN WIRES IN PANELBOARDS GUTTERS NEATLY IN GROUPS, BUNDLE, AND WRAP WITH WIRE TIES. GROUND PANELBOARD IN CONFORMANCE WITH THE NEC. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, INCLUDING GROUNDING CONNECTIONS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. PERFORM INSULATION RESISTANCE TESTS OF PANELBOARD BUSES, COMPONENTS, AND FEEDER AND BRANCH CIRCUIT WIRING; INSULATION RESISTANCE LESS THAN 100 MEGOHM IS UNACCEPTABLE.
8. DISCONNECTS AND CIRCUIT BREAKERS: PROVIDE DISCONNECTS AND CIRCUIT BREAKERS WHERE INDICATED ON THE ELECTRICAL DRAWINGS AND/OR WHERE REQUIRED BY THE NEC, WHETHER INDICATED ON THE ELECTRICAL DRAWINGS OR NOT. INSTALL DISCONNECTS AND CIRCUIT BREAKERS PLUMB AND LEVEL AND IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. UPON COMPLETION OF INSTALLATION OF DISCONNECTS AND CIRCUIT BREAKERS, ENERGIZE CIRCUITS AND DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS. EXCEPT AS OTHERWISE INDICATED, DO NOT DEMONSTRATE DISCONNECTS AND CIRCUIT BREAKERS BY OPERATING THEM UNDER LOAD; HOWEVER, DEMONSTRATE DISCONNECT AND CIRCUIT BREAKERS OPERATION THROUGH SIX OPENING/CLOSING CYCLES WITH CIRCUIT UNLOADED. OPEN DISCONNECT AND CIRCUIT BREAKER ENCLOSURES FOR INSPECTION OF INTERIOR MECHANICAL AND ELECTRICAL CONNECTIONS, FUSE INSTALLATION IF APPLICABLE, AND FOR VERIFICATION OF TYPE AND RATING OF FUSES INSTALLED IN APPLICABLE. CORRECT DEFICIENCIES THEN RETEST TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS. REMOVE AND REPLACE DEFECTIVE UNITS WITH NEW UNITS AND RETEST.
9. LIGHTING FIXTURES: INSTALL FIXTURES WHERE, AND AT HEIGHTS, INDICATED IN ACCORDANCE WITH FIXTURE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, REQUIREMENTS OF THE NEC, AND RECOGNIZED INDUSTRY PRACTICES. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, INCLUDING GROUND CONNECTIONS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. RECESSED OR SEMI-RECESSED FIXTURES MAY BE SUPPORTED BY CEILING SUPPORT SYSTEM. INSTALL CEILING SUPPORT SYSTEM RODS OR WIRES AT A MINIMUM OF FOUR (4) RODS OR WIRES PER FIXTURE LOCATED NOT MORE THAN 6 IN. FROM FIXTURE CORNERS. FIXTURES WHICH ARE SMALLER THAN CEILING GRID SHALL BE CENTERED IN ACoustical CEILING PANEL AND SUPPORTED BY AT LEAST TWO (2) 3/4 IN. METAL CHANNELS SPANNING AND SECURED TO CEILING SYSTEM GRID. Tees: FIXTURES WHICH LAY-IN CEILING GRID SYSTEM SHALL BE SECURED IN PLACE BY INSTALLATION OF CLIPS WHICH SECURELY FASTEN FIXTURE TO CEILING GRID Tees: SUPPORT SURFACE MOUNT FIXTURES GREATER THAN 2 FT IN LENGTH AT A POINT IN ADDITION TO THE OUTLET BOX FIXTURE STUD. UPON COMPLETION OF INSTALLATION AND JUST PRIOR TO DEMONSTRATION CLEAN AND RELAMP FIXTURES. LAMP FIXTURES WITH SPECIFIED LAMPS IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS. UPON COMPLETION OF INSTALLATION, DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS. WHERE POSSIBLE, CORRECT MALFUNCTIONING FIXTURES AT THE SITE, THEN RETEST TO DEMONSTRATE COMPLIANCE; OTHERWISE, REMOVE MALFUNCTIONING UNITS AND REPLACE WITH NEW UNITS AND PROCEED WITH RETESTING.
10. ALL WORK SHALL COMPLY WITH NEC 2023 AND FLORIDA BUILDING CODE. CONDUCTORS SHALL BE COPPER THHN/THWN UNLESS NOTED OTHERWISE. ALL RECEPTACLES IN BATHROOMS, KITCHENS AND WITHIN 6 FT OF SINKS SHALL BE GFI PROTECTED. PROVIDE ARC FLASH LABELS PER NEC 110.16. PROVIDE AVAILABLE FAULT CURRENT LABEL AT SERVICE EQUIPMENT.

OWNER SIGNATURE

REVISION STATUS

Rev	DATE	DESCRIPTION	DRAWN BY
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CLIENT/CONSULTANT APPROVAL STATUS

APPROVED	(A)
APPROVED WITH NOTES	(B)
RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

**Tune-Up
"The Manly Hair Salon"**

ADDRESS:

**9704 WESTLAND DRIVE
KNOXVILLE, TN 37922**

DESIGN CONSULTANT:

**TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
EMAIL: NADIF@TSDESIGNS.COM**

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

ELECTRICAL

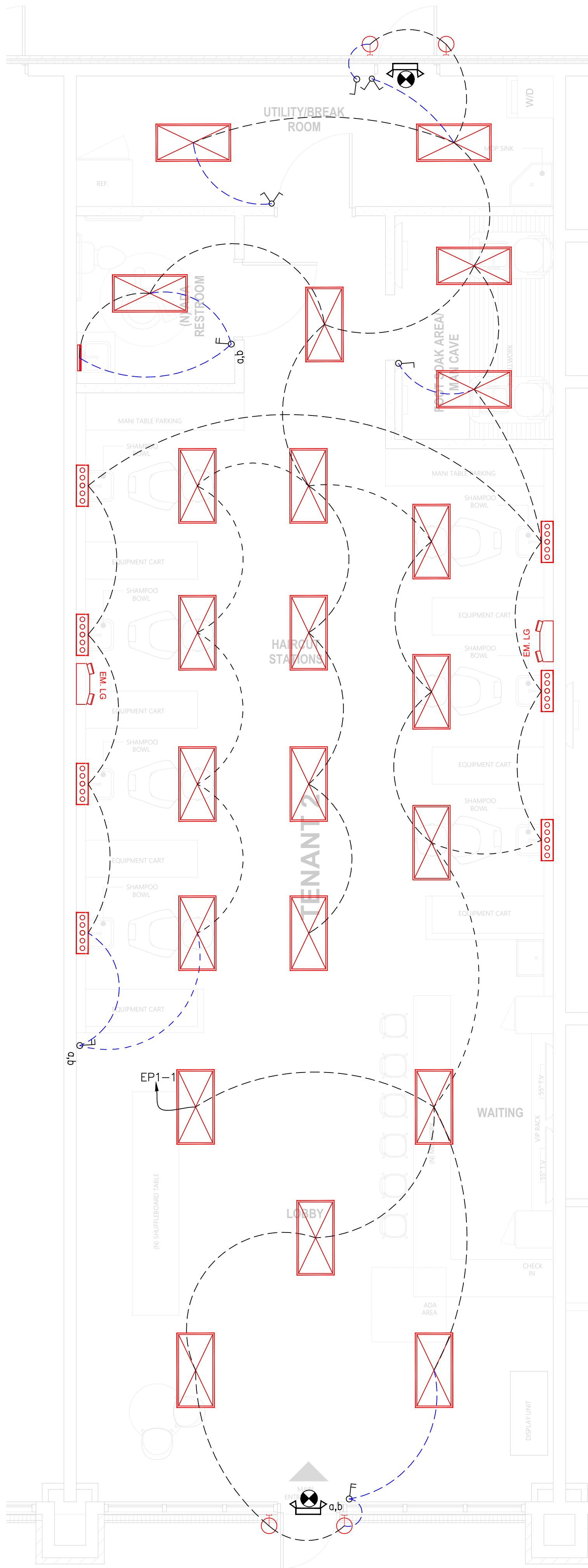
PROJECT TITLE:

**WESTLAND DRIVE TENANT
RENOVATION**

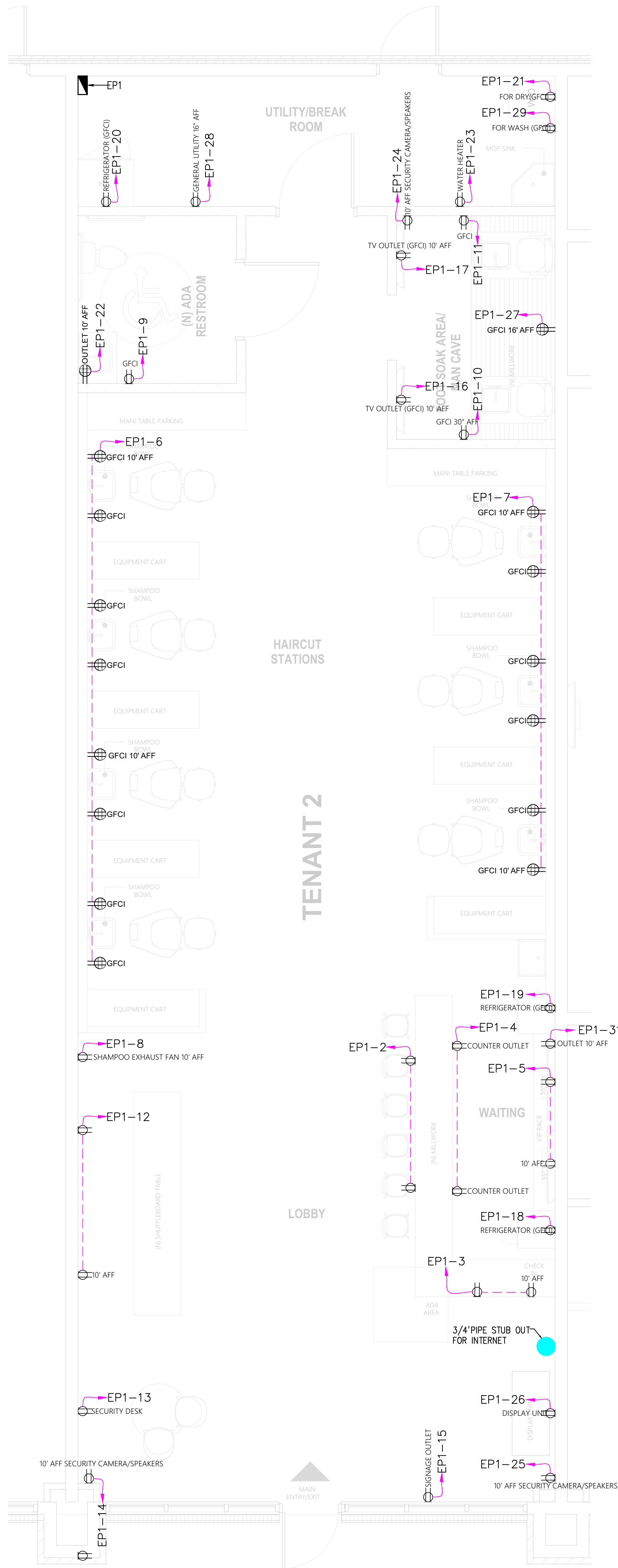
DRAWING TITLE:

NOTES

DRAWN BY:	CHECKED BY:	DATE:
G.M	N.B	
JOB NO:	SHT NO:	SCALE:
	EL-01	



EL 02 SCALE 1/4" = 1'-0"



EL 03 SCALE 1/4" = 1'-0"

- GENERAL ELECTRICAL NOTES
- 1- ELECTRICAL CONTRACTOR TO VERIFY ALL EXISTING SITE CONDITIONS & MAKE ANY NECESSARY ADJUSTMENTS.
 - 2- SMALLEST WIRE & SIZE TO BE 14-2
 - 3- ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE & ANY OTHER APPLICABLE REGULATIONS OR CODES, AT THE SITE.
 - 4- CONTRACTOR TO LOCATE PHONE, CABLE, ETC. AS PER OWNER'S SPECIFICATIONS.
 - 5- NEC MOUNTING HEIGHTS UNLESS OTHERWISE NOTED:
SWITCHES AT 48" AFF.
RECEPTACLES AT 12" AFF.

- LEGEND NOTES:
- VERIFY ALL MOUNTING HEIGHTS OF WALL MOUNTED LIGHT FIXTURES
 - TYPICAL MOUNTING HEIGHTS FOR
OUTLETS - CENTERLINE 16" AFF
(EXCEPT WHERE NOTED OTHERWISE)
 - MAXIMUM HEIGHT FOR ALL SWITCHES IS 48" AFF
ROCKER STYLE SWITCHES
ALL SWITCHES /OUTLETS /COVER PLATES- WHITE FINISH
 - VENT FANS SIZED FOR ROOM VOLUME
FAN SOUND LEVEL NOT TO EXCEED 1.0 SONES

: LEGEND :	
SYMBOL	DESCRIPTION
	SINGLE SOCKET OUTLET, 13A, 230V, GROUNDING TYPE, MOUNT AT 42" A.F.F. UNLESS NOTED OTHERWISE.
	DUPLEX SOCKET OUTLET, 13A, 230V, GROUNDING TYPE, MOUNT AT 18" A.F.F. UNLESS NOTED OTHERWISE.
	GFCI DUPLEX SOCKET OUTLET, WEATHER PROOF, 13A, 230V, GROUNDING TYPE, MOUNT AT 42" A.F.F. UNLESS NOTED OTHERWISE.
	POINT FOR KITCHEN HOT PLATE, 32A, GROUNDING TYPE, MOUNT AT 42" A.F.F. UNLESS NOTED OTHERWISE.
	TV SOCKET HEIGHT AS PER LCD ON LOCATION
	TELECOMMUNICATION OUTLET, PROVIDE SINGLE GANG JUNCTION BOX WITH PLASTER RING, STUB UP 1" E.C. WITH PULL STRING INTO ACCESSIBLE CEILING SPACE, MOUNT AT 18" A.F.F. UNLESS NOTED OTHERWISE.
	DATA OUTLET, PROVIDE SINGLE GANG JUNCTION BOX WITH PLASTER RING, STUB UP 1" E.C. WITH PULL STRING INTO ACCESSIBLE CEILING SPACE, MOUNT AT 18" A.F.F. UNLESS NOTED OTHERWISE.
EP	ELECTRICAL PANEL

: LEGEND :	
SYMBOL	DESCRIPTION
	WALL MOUNTED LIGHT FIXTURE
	2' X 4' ACRYLIC LENS LIGHT FIXTURE
	EXIT LIGHT
	EMERGENCY LIGHT
	MIRROR LIGHT 1X18W FLUORESCENT LIGHT
	EXTERIOR WALL SCONCE LAMP
	EMERGENCY EGRESS LIGHT WITH INTEGRAL BATTERY BACKUP
	ONE WAY ONE GANG SWITCH
	ONE WAY TWO GANG SWITCH
	ONE WAY THREE GANG SWITCH
	TWO WAY ONE GANG SWITCH
	TWO WAY TWO GANG SWITCH
	SPAN ELECTRICAL PANEL, TYPE INDICATED.

OWNER SIGNATURE

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RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

**Tune-Up
"The Manly Hair Salon"**

ADDRESS:

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KNOXVILLE, TN 37922**

DESIGN CONSULTANT:

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NADIF BRACEY
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NEWARK, DELAWARE 19702
EMAIL: NADIF@TS9DESIGNS.COM

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

ELECTRICAL

PROJECT TITLE:

**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:

**FIRST FLOOR LIGHTING &
POWER PLANS**

DRAWN BY:

G.M

CHECKED BY:

N.B

DATE:

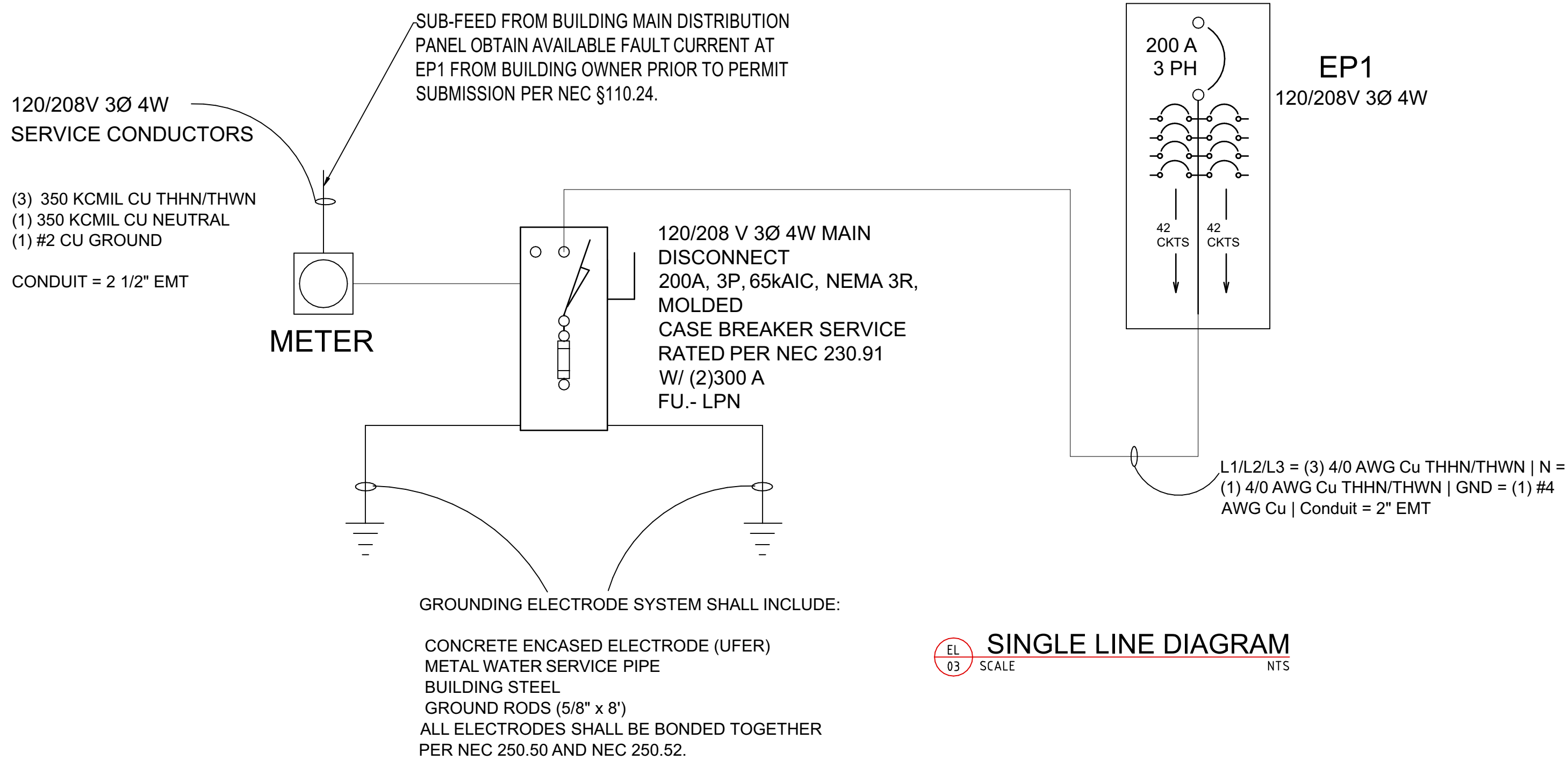
JOB NO:

EL-02

SHT NO.:

SCALE:

1/4"=1'-0"



PANELBOARD SCHEDULE

PANEL TAG:	EP1	MAINS:										400A T/250AF, 120/208V, 3P,60HZ					NEUTRAL: YES		
LOCATION:	FLOOR PLAN	MOUNTING:										SURFACE MOUNTED					GROUND: YES		
ENCLOSURE:	IP42	VOLTAGE:										120/208V,3P,4W							
FEEDER ENTRANCE:	TOP																		
LOAD SERVED	Romex Wire Size (Inch)	LOAD (VA)			C B	P O L E	C K T N O.	R	Y	B	C K T N O.	P O L E	C B	LOAD (VA)			WIRE & CONDUIT SIZE (INCH)	LOAD SERVED	
		ØA	ØB	ØC										ØA	ØB	ØC			
LIGHTING	2#12, 1#12(G), 3/4"C	800.00			20	1P	1				2	1P	15	1200.00			2#14, 1#14(G), 3/4"C	RECEPTACLE - MILLWORK	
RECEPTACLE - CHEK IN	2#14, 1#14(G), 3/4"C		1200.00		15	1P	3				4	1P	15		1200.00		2#14, 1#14(G), 3/4"C	RECEPTACLE - MILLWORK	
RECEPTACLE - TV AREA	2#14, 1#14(G), 3/4"C			1200.00	15	1P	5				6	1P	15			1200.00	2#14, 1#14(G), 3/4"C	RECEPTACLE - SHAMPOO BOWL	
RECEPTACLE - SHAMPOO BOWL	2#14, 1#14(G), 3/4"C		1200.00		15	1P	7				8	1P	15		300.00		#14 AWG Cu, 3/4" EMT	SHAMPOO EXHAUST FAN	
GFCI - RESTROOM	2#14, 1#14(G), 3/4"C	1200.00			15	1P	9				10	1P	15	1200.00			2#14, 1#14(G), 3/4"C	RECEPTACLE - FOOT SOAK AREA	
RECEPTACLE - FOOT SOAK AREA	2#14, 1#14(G), 3/4"C		1200.00		15	1P	11				12	1P	15		1200.00		2#14, 1#14(G), 3/4"C	RECEPTACLE - SHUFFLE AREA	
SECURITY DESK	2#14, 1#14(G), 3/4"C			1200.00	15	1P	13				14	1P	15			1200.00	2#14, 1#14(G), 3/4"C	SECURITY CAMERA/SPEAKERS	
SIGNAGE OUTLET	2#14, 1#14(G), 3/4"C		1200.00		15	1P	15				16	1P	15		1200.00		2#14, 1#14(G), 3/4"C	TV OUTLET	
TV OUTLET	2#14, 1#14(G), 3/4"C	1200.00			15	1P	17				18	1P	20	1500.00			2#12, 1#12(G), 3/4"C	REFRIGERATOR (GFCI)	
REFRIGERATOR (GFCI)	2#12, 1#12(G), 3/4"C		1500.00		20	1P	19				20	1P	20		1500.00		2#12, 1#12(G), 3/4"C	REFRIGERATOR (GFCI)	
DRYER/WASHER	2#10, 1#10(G), 3/4"C			2500.00	30	2P	21				22	1P	15			1200.00	2#14, 1#14(G), 3/4"C	POWER OUTLET	
WATER HEATER	(3) #3, 1#6(G),1-1/4"C		5000.00		90	3P	23				24	1P	15		300.00		2#14, 1#14(G), 3/4"C	SECURITY CAMERA/SPEAKERS	
SECURITY CAMERA/SPEAKERS	2#14, 1#14(G), 3/4"C	1200.00			15	1P	25				26	1P	15	1200.00			2#14, 1#14(G), 3/4"C	DISPLAY UNIT	
SPARE					20	1P	27				28	1P	20					SPARE	
SPARE					20	1P	29				30	1P	20					SPARE	
		4400.00	11300.00	4900.00										5100.00	5700.00	3600.00			
	ØA =		9500.00		TOTAL CONNECTED LOAD		=		35000.00		I (AMP) =		83.09						
	ØB =		17000.00		DEMAND FACTOR =		1												
	ØC =		8500.00		TOTAL CONNECTED LOAD +25% SPARE=		43750.00												

OWNER SIGNATURE

REVISION STATUS		
Rev	DATE	DESCRIPTION
		DRAWN BY

CLIENT/CONSULTANT APPROVAL STATUS	
APPROVED	(A)
APPROVED WITH NOTES	(B)
RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

Tune-Up
"The Manly Hair Salon"

ADDRESS:

9704 WESTLAND DRIVE
KNOXVILLE, TN 37922

DESIGN CONSULTANT:

TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
EMAIL: NADIF@TS9DESIGNS.COM

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

ELECTRICAL

PROJECT TITLE:

WESTLAND DRIVE TENANT RENOVATION

DRAWING TITLE:

PANEL SCHEDULE & SINGLE LINE DIAGRAM

DRAWN BY:	CHECKED BY:	DATE:
G.M	N.B	
JOB NO:	SHT NO:	SCALE:
	EL-03	As Indicated

CALC F — ELECTRICAL SERVICE LOAD CALCULATION (COMMERCIAL, NEC ART. 220)									
Code: 2023 NEC (NFPA 70-2023, City of Knoxville adopted per local ordinance) §220.40–220.44 (commercial feeder/service) 120/208V 3Ø 4W Ref: the electrical sheets & panel EP1 schedule, single line diagram Ref: the electrical sheets									
9704 Westland Drive, Knoxville, TN 37922 Knox County, TN TSABACorp /TS9 Designs — 254 Chapman Rd, Ste 208 #13130, Newark, DE 19702 Owner: Nadif Bracey Per Stamped Design Set dtd 9/07/2026 (G.M./N.B.) Commercial Tenant Renovation — Men's Salon (B Occupancy) — Westland Drive Retail Center, 1st floor									
SERVICE INFORMATION — PER THE ELECTRICAL SHEETS SINGLE LINE DIAGRAM									
Parameter		Value				Notes / Action			
Service voltage		120/208V, 3Ø, 4W				Commercial 3-phase service; per the electrical sheets single line diagram			
Panel EP1 (main)		200A/250AF, 120/208V, 3Ø, 4W, surface mounted, IP42 enclosure, 42 circuits				Neutral: Yes Ground: Yes Feeder entrance: Top Per the electrical sheets			
Upstream supply — building main distribution panel (sub-panel arrangement)		distribution panel, "PP" on single line = building Power Panel, 400A/3P MCCB is tenant disconnect upstream of				EP1 is a tenant sub-panel. Sub-feeder from building main distribution panel to EP1. Available fault current at EP1 to be confirmed with building owner per 2023 NEC §110.24.			
Building main service conductors (context — not tenant feeder)		KCMIL N = (1) #2 Cu GND, 2-1/2" EMT — shown for reference; this is building-level wiring, not the tenant				Building main conductors shown for reference. Tenant sub-feeder sized in row below.			
Tenant sub-feeder — building distribution panel to EP1		L1/L2/L3 = (3) 4/0 AWG Cu THHN/THWN N = (1) 4/0 AWG Cu THHN/THWN GND = (1) #4 AWG Cu Conduit = 2" EMT				Per 2023 NEC Table 310.16: 4/0 AWG Cu THHN/THWN @ 75°C = 230A ampacity — adequate for 200A/250AF EP1 per NEC §215.2. GND: #4 AWG Cu per NEC Table 250.122 (min. #6 for 200A OCPD; upsized to #4). Conduit: 2" EMT per NEC Ch. 9 Table 1, 4 conductors at 40% fill.			
Grounding electrode system		service pipe + building steel + (2) ground rods 5/8"x8" all bonded per NEC §250.50/250.52				Per the electrical sheets single line grounding notes			
CONNECTED LOAD SUMMARY — PANEL EP1 SCHEDULE (FROM THE ELECTRICAL SHEETS)									
Load Served		ØA (VA)	ØB (VA)	ØC (VA)	Total VA	Circuit / CB		Notes	
Lighting (CB 1)		800	0	0	800	CKT 1, 1P/20A		2#12, 1#12(G), 3/4"C — per EP1 schedule	
Receptacle — Check-in (CB 3)		1200	0	0	1200	CKT 3, 1P/15A		2#14, 1#14(G), 3/4"C	
Receptacle — TV Area (CB 5)		0	1200	0	1200	CKT 5, 1P/15A		2#14, 1#14(G), 3/4"C	
Receptacle — Shampoo Bowl #1 (CB 7)		1200	0	0	1200	CKT 7, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Shampoo Bowl #2 (CB 9)		0	0	1200	1200	CKT 9, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Shampoo Bowl #3 (CB 11)		1200	0	0	1200	CKT 11, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
GFCI — Restroom (CB 13)		0	1200	0	1200	CKT 13, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Foot Soak Area (CB 15)		1200	0	0	1200	CKT 15, 1P/15A		2#14, 1#14(G), 3/4"C	
Refrigerator — GFCI (CB 17)		0	1500	0	1500	CKT 17, 1P/20A		2#12, 1#12(G), 3/4"C — GFCI; per EP1	
Dryer/Washer — 208V-rated commercial units, CKT 19		2500	0	0	2500	CKT 19, 2P/30A		2P/30A (single-phase 208V L-L). Wire: (2) #10 AWG Cu THHN + #10 AWG N + #10 AWG GND, 3/4" EMT. #10 AWG Cu @ 60°C = 30A per NEC Table 310.16. 208V-rated commercial washer/dryer required (standard 240V residential units incompatible with 120/208V 3Ø system). Speed Queen STES20 dryer + SWF521 washer or approved 208V commercial equivalent.	
Water Heater — Rinnai CU1991N x2 cascade, natural gas, CKT 21		240	0	0	240	CKT 21, 1P/20A		Rinnai CU1991N x2 cascade, natural gas, 199,000 BTU/hr each. Electrical: 120V, 4A FLA per unit (controls/ignition only). Two units on one 1P/20A circuit: 8A total draw, within 20A OCPD per NEC §210.20. Wire: #12 AWG Cu THHN, 3/4" EMT. Gas: 3/4" NPT per unit, 1" natural gas branch. IFGC permit required separately.	
Receptacle — Millwork (CB 2)		0	1200	0	1200	CKT 2, 1P/15A		2#14, 1#14(G), 3/4"C	
Receptacle — Millwork (CB 4)		0	0	1200	1200	CKT 4, 1P/15A		2#14, 1#14(G), 3/4"C	
Receptacle — Shampoo Bowl #4 (CB 6)		1200	0	0	1200	CKT 6, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Shampoo Bowl #5 (CB 8)		0	1200	0	1200	CKT 8, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Shampoo Bowl #6 (CB 10)		0	0	1200	1200	CKT 10, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Shampoo Bowl #7 (CB 12)		1200	0	0	1200	CKT 12, 1P/15A		2#14, 1#14(G), 3/4"C — GFCI	
Receptacle — Foot Soak (CB 14)		0	1500	0	1500	CKT 14, 1P/20A		2#12, 1#12(G), 3/4"C	
Refrigerator — GFCI (CB 16)		0	0	1500	1500	CKT 16, 1P/20A		2#12, 1#12(G), 3/4"C — GFCI	
Recirculation Pump (CKT 18) — removed		0	0	0	0	CKT 18 — SPARE		Recirculation pump removed. CKT 18 (1P/20A) is spare. See Observations and Suggestions tab.	
Display Unit (CKT 20)		0	0	5000	5000	CKT 20, 1P/20A		Display unit per the electrical sheets. 5,000 VA, 1P/20A.	
Shampoo Bowl Exhaust Fan (Fantech FG 200) — CKT 25		84	0	0	84	CKT 25, 1P/15A (NEW)		Fantech FG 200 inline centrifugal fan: 120V, 0.7A FLA, 84 VA. 1P/15A breaker, #14 AWG Cu THHN, 3/4" EMT.	
Spare (CB 22)		0	0	0	84	CKT 22, 1P/20A		Spare — no load	
Spare (CB 23)		0	0	0	0	CKT 23, 1P/20A		Spare — no load	
Spare (CB 24)		0	0	0	0	CKT 24, 1P/20A		Spare — no load	
TOTAL CONNECTED LOAD (EP1):		10824	7800	10100	28808	Total connected; per panel EP1 schedule from the electrical sheets			
NEC §220.40–220.44 COMMERCIAL FEEDER/SERVICE LOAD CALCULATION									
Load Category		Connected VA		Demand Factor	Demand VA	NEC Reference			
General Lighting — 2023 NEC §220.12 (1,650 SF × 3.5 VA/SF)		5775		1.00	5775	2023 NEC Table 220.12: Business (B occ.) = 3.5 VA/SF, 1,650 SF (confirmed) × 3.5 = 5,775 VA.			
Receptacle loads — 2023 NEC §220.44 (first 10 kVA @ 100%; remainder @ 50%)		per panel		per §220.44	9300	2023 NEC §220.44: general receptacle loads, 9,300 VA per panel schedule.			
Dryer / Washer — 2023 NEC §220.54 minimum		5000		1.00	5000	2023 NEC §220.54: electric dryer demand = nameplate OR 5,000 VA minimum, whichever larger. Nameplate 2,500 VA; 5,000 VA minimum controls.			
Fixed appliances — display unit (5,000 VA) + refrigerators (3,000 VA) @ 100%		8000		100%	8000	2023 NEC §220.53 applies to 4 or more fixed appliances. Fixed appliances on this system: display unit (5,000 VA) + refrigerators (3,000 VA) = 2 appliances. §220.53 demand factor does not apply with fewer than 4 appliances. 100% of connected load per NEC §220.40.			
HVAC — RTU-1, 5-ton, 208/230V 3ph (Trane Precedent WCD060 or equal) — 2023 NEC §220.60		18000		1.00	18000	2023 NEC §220.60: larger of heating or cooling only. 18,000 VA used as conservative nameplate-basis. Trane Precedent WCD060A3S MCA 27.2A × √3 × 208V = 9,800 VA actual equipment draw. Substitute actual RTU nameplate MCA × √3 × 208V before permit submission.			
TOTAL DEMAND LOAD:					46075	Lighting 5,775 + Receptacles 9,300 + Dryer 5,000 + Fixed appliances 8,000 + HVAC 18,000 = 46,075 VA. Gas tankless WH controls (240 VA) within service margin — not separately listed.			
Service current (3Ø) — I = Total Demand VA ÷ (√3 × 208V)					127.9	Ampères I = 46,075 VA ÷ (√3 × 208V) = 127.9A. Service current within 200A panel rating. Margin: 72.1A.			
Specified service rating		200A/250AF, 120/208V, 3Ø 4W — panel EP1							
SERVICE STATUS:		COMPLIES — 127.9A calculated demand < 200A panel				Total demand 46,075 VA → 127.9A. 200A/250AF panel — 72.1A margin. Gas tankless WH load under separate IFGC permit.			
2023 NEC COMPLIANCE CHECKS — GFCI / AFCI / WIRING METHODS									
Item		2023 NEC Requirement		As Shown on Electrical	Status	Notes			
GFCI protection (commercial)		NEC §210.8(B): GFCI required in commercial occupancies at all receptacles		GFCI shown at restroom,	COMPLIES	All near-water receptacles GFCI-protected per the electrical sheets. White cover plates, 12" AFF mounting per general notes.			
AFCI protection		2023 NEC §210.12(D): AFCI required for dormitory/dwelling branch circuits		No AFCI shown on commercial	COMPLIES	2023 NEC §210.12 AFCI requirements apply to dwelling units; this B occupancy tenant renovation is not subject to mandatory AFCI on general commercial circuits			
Smallest wire / conductor		2023 NEC §210.19: min #14 AWG for 15A circuits; #12 AWG for 20A circuits		Smallest wire: #14 AWG per	COMPLIES	Consistent with the electrical sheets general note: 'smallest wire & size to be 14-2'			
Receptacle mounting height		NEC §404.8 / §406.4 (ADA): see architectural drawings for ADA outlet height		Centerline 16" AFF per the	COMPLIES — VERIFY ADA	16" AFF outlet height is below the 48" max and above 15" min per 2017 ANSI A117.1 §308. ADA coordination with architectural drawings required.			
Panel grounding / bonding		2023 NEC §250.28 (main bonding jumper) / §250.50 (GES)		Grounding electrode system	COMPLIES	Verify UFER electrode continuity at foundation pour with electrical contractor			
Cover plates / finish		NEC §406.6: all receptacles require plates; all plates same finish		White finish on all switches	COMPLIES				
Rocker switches		NEC §404.2 (general)		Rocker-style switches per	COMPLIES				
Vent fans — sound level									
NOTE: Load calculation per 2023 NEC §220.40 (commercial service/feeder). All values derived from panel EP1 schedule per the electrical sheets and cross-referenced to the single line diagram. Panel EP1 is a 200A/250AF 3-phase 4-wire 120/208V panel; the project drawing set shows the panel as 42-circuit, 3-phase. The 3-phase service requires confirmation that all 3P circuits (water heater, dryer/washer) are wired as 3P/208V or 2P/240V as appropriate — verify pole configuration with the electrical contractor prior to rough-in (see observations tab). HVAC load uses a preliminary 5-ton estimate — replace with RTU nameplate values × 1.25 per 2023 NEC §440.22 once equipment is selected. 2023 NEC adopted by City of Knoxville per local ordinance (eff. 2024). Minimum wire: #14 AWG per the electrical sheets note, consistent with 15A branch circuits; #12 AWG for 20A circuits									

OWNER SIGNATURE

REVISION STATUS

Rev	DATE	DESCRIPTION	DRAWN BY

CLIENT/CONSULTANT APPROVAL STATUS

APPROVED	(A)
APPROVED WITH NOTES	(B)
RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

Tune-Up

"The Manly Hair Salon"

ADDRESS:

9704 WESTLAND DRIVE
KNOXVILLE, TN 37922

DESIGN CONSULTANT:

TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
EMAIL: NADIF@TS9DESIGNS.COM

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

ELECTRICAL

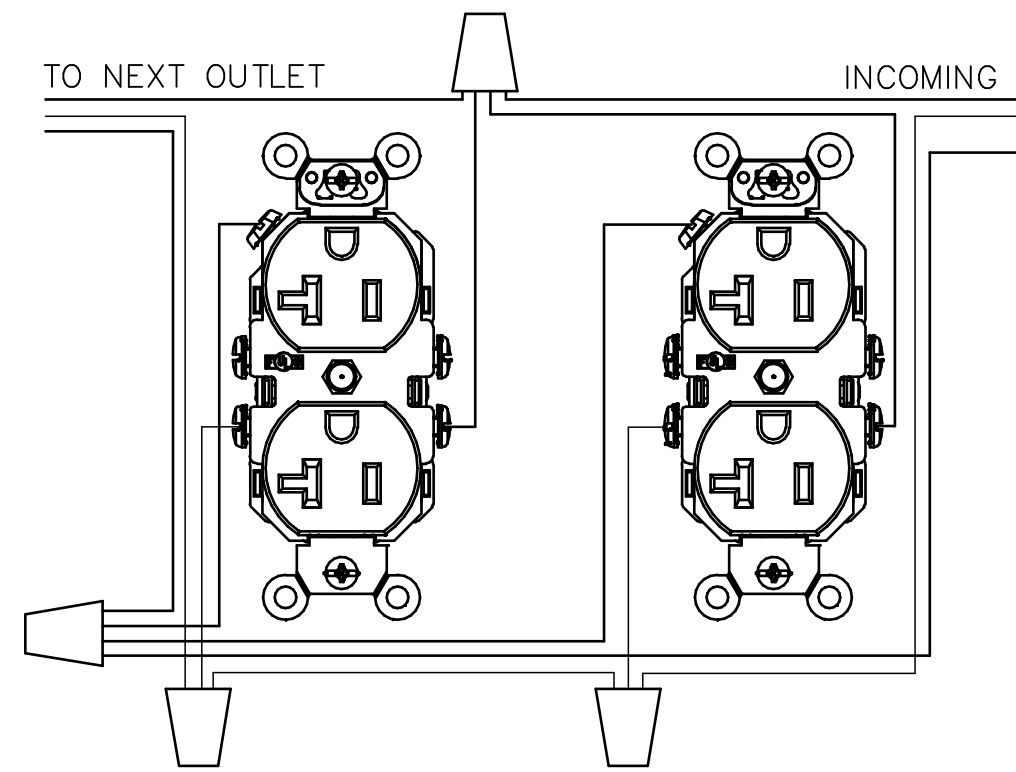
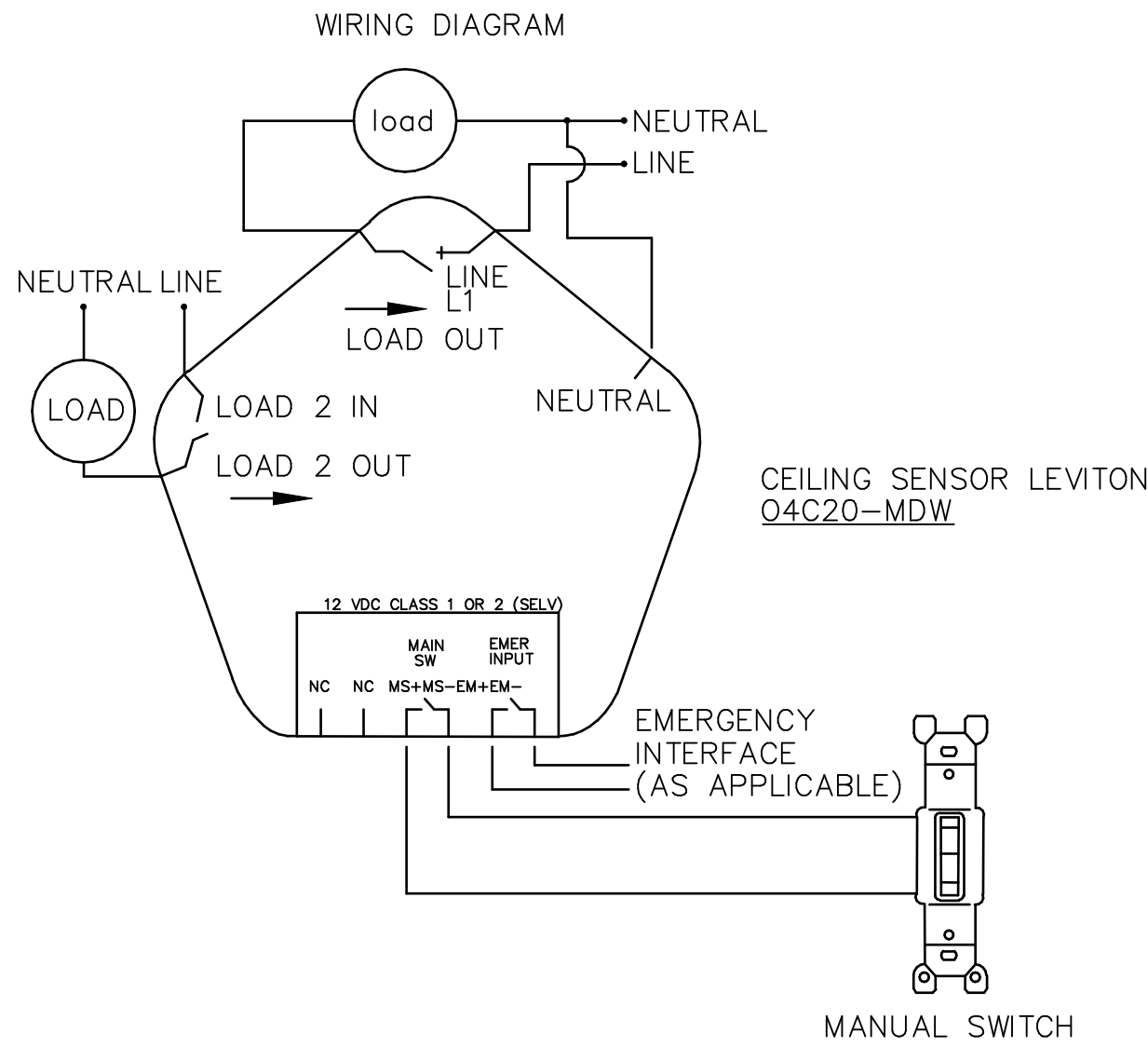
PROJECT TITLE:

WESTLAND DRIVE TENANT
RENOVATION

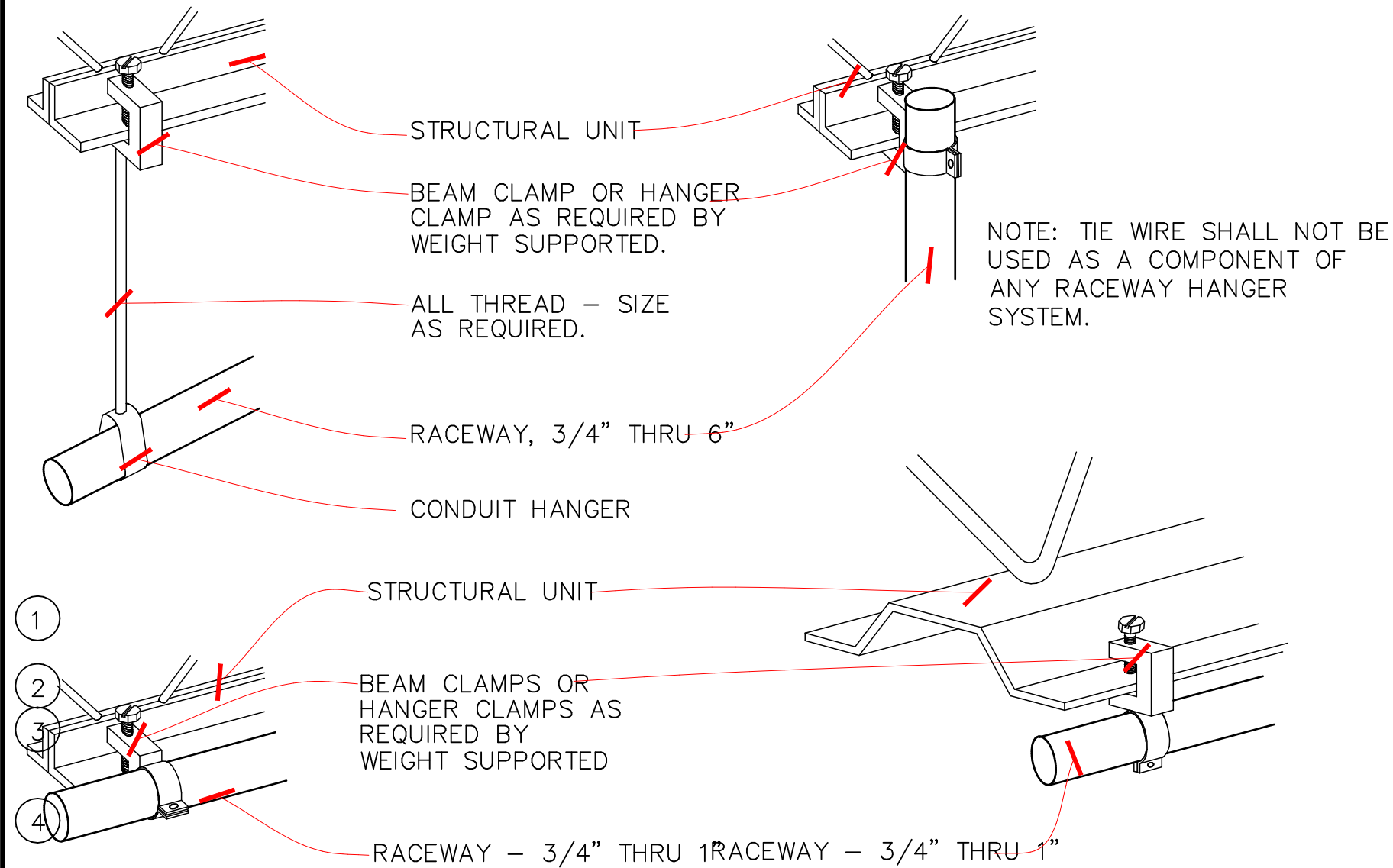
DRAWING TITLE:

ELECTRICAL SERVICE LOAD
CALCULATIONS

DRAWN BY:	CHECKED BY:	DATE:
G.M	N.B	
JOB NO:	SHT NO:	SCALE:
	EL-04	



- NOTES:
- CIRCUITING TO ALL NON DEDICATED ELECTRICAL RECEPTACLES AND SWITCHES ARE REQUIRED TO UTILIZE PARALLEL CIRCUITING BY THE USE OF "PIG TAILS" TO EACH DEVICE SO THAT IF AN OUTLET IS REMOVED OR FAILS ELECTRICAL CONTINUITY THE CIRCUIT WILL NOT BE COMPROMISED.
 - ALL ELECTRICAL WIRING MUST BE PROPERLY SPLICED BY TWISTING THE WIRES TOGETHER AND USE OF APPROVED AND LISTED COMPRESSION WIRE NUTS FOR ANY WIRING.



E 01 SCALE NTS

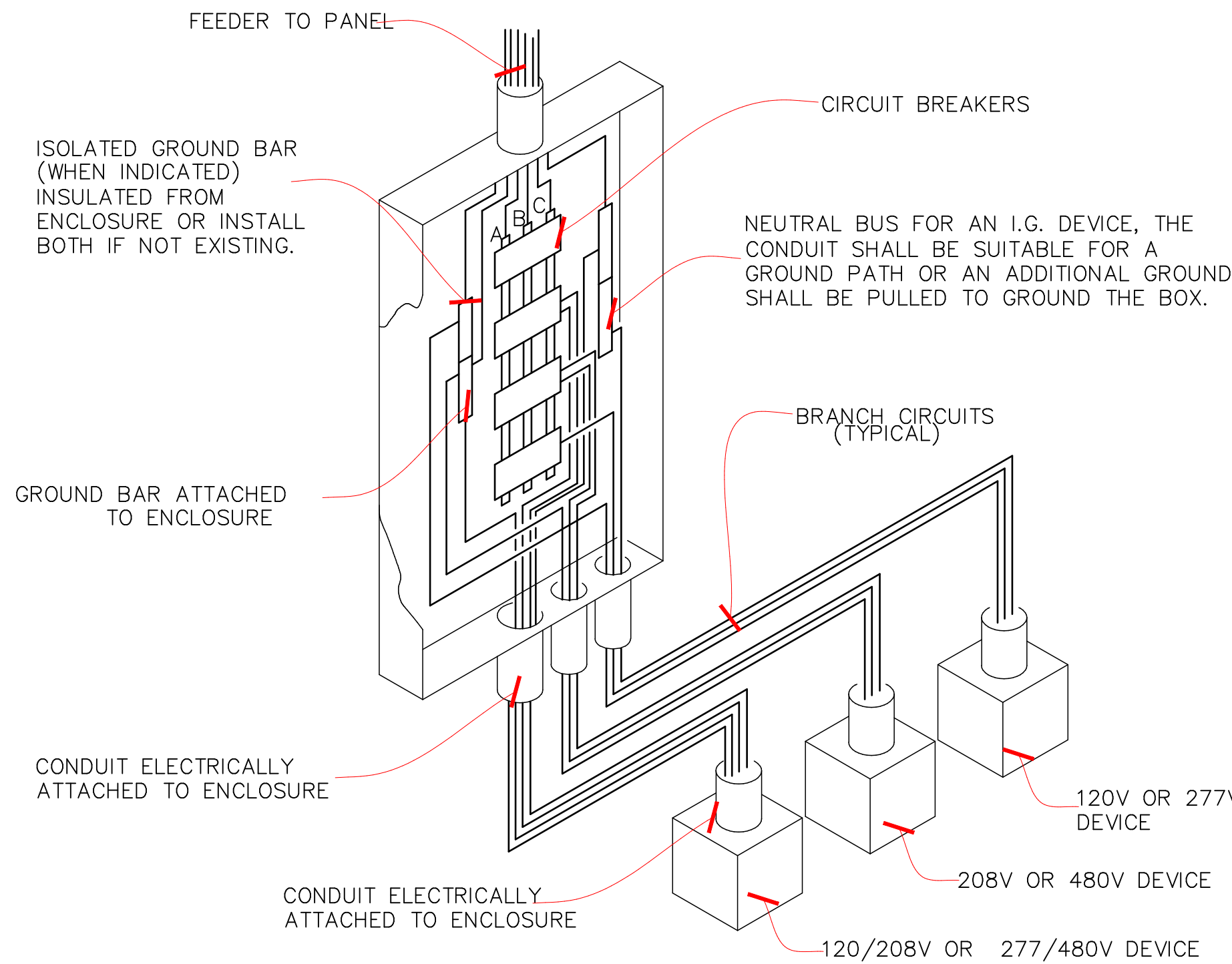
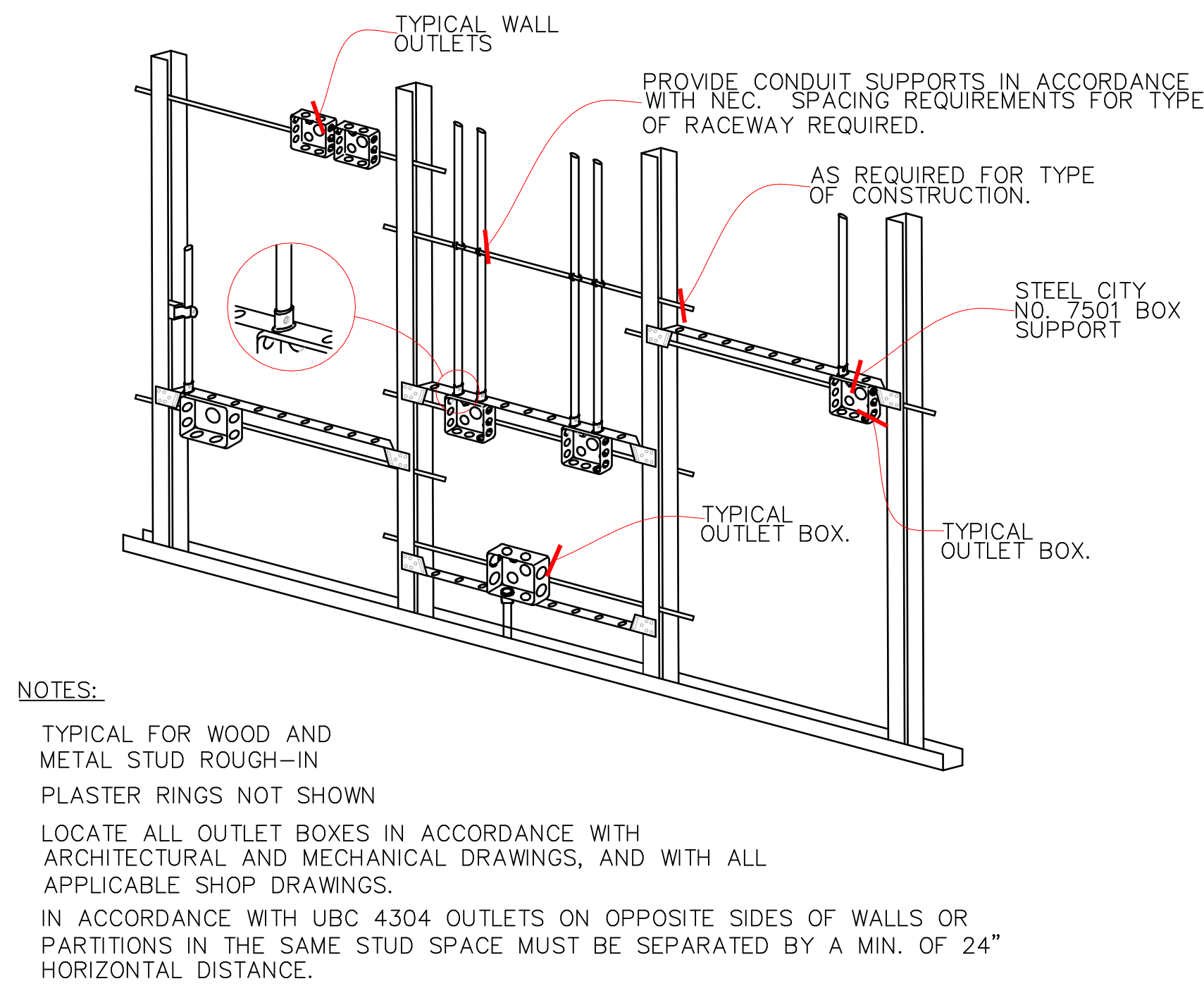
CEILING OCCUPANCY/VACANCY SENSOR

E 02 SCALE NTS

RECEPTACLE INSTALLATION - PIG TAIL

E 03 SCALE NTS

TYPICAL RACEWAY SUPPORT METHODS



E 04 SCALE NTS

RECEPTACLE MOUNTING

E 05 SCALE NTS

PANEL GROUNDING

OWNER SIGNATURE

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PROJECT TITLE:

**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:

DETAILS

DRAWN BY:	CHECKED BY:	DATE:
G.M	N.B	
JOB NO:	SHT NO:	SCALE:
	EL-05	As Indicated

GENERAL PLUMBING NOTES:

1. LOCATION AND SIZES OF ALL EXISTING SERVICES ARE APPROXIMATE. VERIFY ALL UTILITIES PRIOR TO COMMENCING WORK.

2. FOR EXACT LOCATION OF PLUMBING FIXTURES, DRAINS AND EQUIPMENT SEE ARCHITECTURAL DRAWINGS.

3. ALL DOMESTIC WATER AND VENT PIPING SHOWN TO BE RUN ABOVE CEILING UNLESS OTHERWISE NOTED.

4. ALL SANITARY PIPING SHOWN TO BE RUN BELOW FLOOR UNLESS OTHERWISE NOTED.

5. ENTIRE INSTALLATION INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL CONFIRM WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF MUNICIPAL, STATE AND FEDERAL AUTHORITIES, ALSO THE PLUMBING CODE 2012 IPC, AND OTHER REGULATORY BODIES HAVING JURISDICTION OVER THE CLASS OF WORK.

6. THE CONTRACTOR SHALL MAKE TESTS FOR ACCEPTANCE AND APPROVAL AS REQUIRED BY THE CODE. REQUIRED TESTS SHALL BE PERFORMED IN THE PRESENCE OF OWNER’S REPRESENTATIVE UNLESS WAIVED IN WRITING.

7. THE CONTRACTOR SHALL FIELD COORDINATE THE WORK WITH THAT OF ALL OTHER TRADES.

8. ALL DOMESTIC WATER PIPING SHALL BE INSULATED AS REQUIRED.

9. DOMESTIC WATER PIPING MATERIAL: ASTM B88 TYPE L OR M COPPER TUBE WITH WROUGHT OR CAST COPPER FITTINGS AND LEAD–FREE SOLDERED JOINTS. INSTALL DOMESTIC WATER PIPING LEVEL WITHOUT PITCH AND PLUMB.

THE PEXA PIPING SHALL CONFORM TO THE REQUIREMENTS OF ASTM F876–XX FOR CROSSLINKED POLYETHYLENE (PEXA) TUBING, WITH A MINIMUM PRESSURE RATING OF 200 PSI AT 73.4°F (23°C).

DRAIN, WASTE, STORM, AND VENT PIPING MATERIAL: FOR BELOW GROUND SOIL, WASTE AND BENT PIPING SHOULD BE SERVICE WEIGHT HUB AND SPIGOT CAST IRON CONFORMING TO ASTM A74, WITH LEAD AND OAKUM JOINTS AS ALLOWED BY PLUMBING CODE; FOR ABOVE GROUND SOIL, WASTE AND VENT PIPING SHOULD BE HUBLESS CAST-IRON. PVC DWV PIPING MAY ALSO BE USED FOR DRAINING APPLICATIONS.

PVC DWV PIPE SHALL BE MADE FROM TYPE 1, GRADE 1, PVC COMPOUND AS SPECIFIED IN ASTM D1784.

THE PVC DWV PIPE SHALL HAVE A NOMINAL INSIDE DIAMETER (ID) OF 4 INCHES (101.6 MM).

THE PIPE SHALL CONFORM TO THE STANDARD DIMENSIONS FOR 4–INCH PVC DWV PIPE AS SPECIFIED IN ASTM D2665. EACH LENGTH OF PVC DWV PIPE SHALL BE CLEARLY MARKED WITH THE MANUFACTURER’S NAME OR TRADEMARK, PIPE SIZE, MATERIAL DESIGNATION (E.G., PVC), AND THE ASTM STANDARD DESIGNATION (E.G., ASTM D2665).

10. ANY ITEM OF MATERIALS NOT INDICATED ON THE DRAWINGS OR NOT SPECIFIED AND WHICH ARE REQUIRED FOR THE COMPLETE INSTALLATION OF ANY PART OF THE WORK DESCRIBED, SHALL BE FURNISHED AS CODE REQUIRED.

11. INSTALL CLEANOUT AT OR NEAR THE BOTTOM OF SANITARY/WASTE STACK.

12. PROVIDE PROPER ACCESS PANELS AS SPECIFIED IN WALLS AND CEILINGS FOR ANY EQUIPMENT, DEVICES, VALVES, SHOCK ABSORBERS, TRAP PRIMERS, CLEANOUTS ETC. REQUIRING ACCESS.

PLUMBING FIXTURE AND FAUCETS REFERENCED STANDARDS		
MARK	DESCRIPTION	STANDARD
WC–1	WATER CLOSET	WATER CLOSETS SHALL CONFIRM TO THE WATER CONSUMPTION REQUIREMENTS OF SECTION 604.4 AND SHALL CONFIRM TO ANSI Z124.4, ASME A112.19.2M, CSA B45.1, CSA B45.4 OR CSA B45.5. WATER CLOSETS SHALL CONFIRM TO THE HYDRAULIC PERFORMANCE REQUIREMENTS OF ASME A112.19.19.9M, CSA B45.1, CSA B45.4 OR CSA B45.5. ELECTRO HYDRAULIC WATER CLOSETS SHALL COMPLY WITH ASME A112.19.13.
L–1	LAVATORY	LAVATORIES SHALL CONFIRM TO ANSI Z124.3, ASME A112.19.1M, ASME A112.19.2M, ASME A112.19.3M, ASME A112.19.4M, ASME A112.19.9M, CSA B45.2, CSA B45.3, CSA B45.4, ROUP WASH UP EQUIPMENT SHALL CONFIRM TO THE REQUIREMENTS OF SECTION 402. EVERY 20 INCHES (608MM) OF RIM SPACE SHALL BE CONSIDERED AS ONE LAVATORY.
KS–1	KITCHEN SINK	SINKS SHALL CONFIRM TO ANSI Z124.6, ASME A112.19.1M, ASME A112.19.2M, ASME A112.19.3M, ASME A112.19.4M, ASME A112.19.9M, CSA B45.1, CSA B45.2, CSA B45.3, OR CSA B45.4.
	FAUCETS AND FIXTURE FITTINGS	FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1 OR CSA B125. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN INGESTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FLEXIBLE WATER CONNECTORS EXPOSED TO CONTINUOUS PRESSURE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 605.6 HAND HELD SHOWERS SHALL CONFORM TO ASSE 1014 OR CSA B125. SHOWER AND TUB SHOWER COMBINATION VALVES SHALL BE BALANCED PRESSURE, THERMOSTATIC OR COMBINATION BALANCED PRESSURE/THERMOSTATIC VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE 1016 OR CSA B125. MULTIPLE (GANG) SHOWERS SUPPLIED WITH A SINGLE TEMPERED WATER SUPPLY PIPE SHALL HAVE THE WATER SUPPLY FOR SUCH SHOWERS CONTROLLED BY A MASTER THERMOSTATIC MIXING VALVE COMPLYING WITH ASSE 1017. SHOWER AND TUB SHOWER COMBINATION VALVES AND MASTER THERMOSTATIC MIXING VALVES REQUIRED BY THIS SECTION SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUM SETTING OF THE VALVE TO 120°F (49°C), WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER’S INSTRUCTIONS. FAUCETS AND FIXTURE FITTINGS WITH HOSE CONNECTED OUTLETS SHALL CONFORM TO ASME A112.18.3M. TEMPERATURE ACTUATED, FLOW REDUCTION DEVICES. WHERE INSTALLED FOR INDIVIDUAL FIXTURE FITTINGS, SHALL CONFORM TO ASSE 1062. SUCH VALVES SHALL NOT BE USED ALONE AS A SUBSTITUTE FOR THE BALANCED PRESSURE. THERMOSTATIC OR COMBINATION SHOWER VALVES REQUIRED IN SECTION 424.3 PEX PIPING MAY ALSO BE ALLOWED AND SHALL CONSIST OF CROSSLINKED POLYETHYLENE (PEXA) PIPE AND ASSOCIATED COMPONENTS, COMPLYING WITH THE SPECIFICATIONS DETAILED HEREIN.

PLUMBING NOTES:

- ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
- ALL PLUMBING INSTALLATIONS SHALL CONFIRM WITH THE REQUIREMENTS OF MANUFACTURER RECOMMENDATION AND OR 2012 InPC (2006 IPC W/AMENDMENTS).
- ALL PLUMBING MATERIALS SHALL BE AS SPECIFIED IN THE CONTRACT SPECS AND BOQ.
- ALL PIPE SIZES SHOWN ARE NOMINAL DIAMETER IN INCHES. UNLESS OTHERWISE MENTIONED.
- INSTALLER SHOULD NOT SCALE THE DRAWING.
- ALL PIPE PENETRATIONS IN WALL & SLABS SHALL BE THROUGH PIPE SLEEVES.
- IF ANY ERROR OR OMISSION IS FOUND IN DRAWING THIS OFFICE MAY BE CONSULTED FOR RECTIFICATION.

TABLE 604.4 MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS	
PLUMBING FIXTURE R FIXTURE FITTING	MAXIMUM FLOW RATE OR QUANTITY b
LAVATORY, PRIVATE	1.5 gpm at 60 psi
SINK FAUCET	1.5 gpm at 60 psi
WATER CLOSET	1.28 GALLONS PER FLUSHING CYCLE
FOR SI: 1 GALLON = 3.785 L, 1 GALLON PER MINUTE = 3.785 L/M, 1 POUND PER SQUARE INCH = 6.895 KPA.	
A. A HAND HELD SHOWER SPRAY IS A SHOWER HEAD. B. CONSUMPTION TOLERANCES SHALL BE DETERMINED FROM REFERENCED STANDARDS. C. WATER FACTOR IN GALLONS PER CYCLE CUBIC FOOT. ALL PLUMBING FIXTURES SHALL CONTRIBUTE TO A LEEDS SOLUTION AND SHALL MEET EPA CRITERIA AND BEEN CONSIDERED AS WATER EFFICIENT PRODUCTS AS STIPULATED BY THE LEEDS TA 2009 REFERENCE GUIDE (20% REDUCTION REQUIRED).	

13. SANITARY: SCHEDULE 40 PVC OR CAST IRON.
SUPPLY: COPPER OR PEX (IF ALLOWED LOCALLY).
VENT: EXTEND MIN. 6” ABOVE ROOF.

PLUMBING FIXTURES												
MARK	ITEM	MAKE	NAME	MODEL	TRIM	TRAP	STOPS	CONNECTIONS				REMARKS
								SAN	VENT	HW	CW	
WC-1	WATER CLOSET	AMERICAN STANDARD	CADET 3 1.6 GPF	2386.012	WITH UNIT	INTEGRAL	NOTE #4	4"	2"	-	1/2"	FLOOR MOUNTED. TANK TYPE WITH FLUSH RIGHT SYSTEM. FLUSH HANDLE ON WIDE SIDE OF STALL. SEAT:CHURCH NO. 9500C WHITE WITH CONCEALED CHECK.
L-1	LAVATORY	AMERICAN STANDARD	LUCERNE	0355.012 4" CENTERS	2385.003 (0.5 GPM)	NOTE #3	NOTE #4	1 1/2"	1 1/2"	1/2"	1/2"	WITH FLOOR MOUNTED CONCEALED ARM WALL CARRIER. GRID DRAIN & SINGLE HANDLE FAUCET

OCCUPANT LOAD SHALL BE USED TO DETERMINE ALL FIXTURE COUNTS PER THE 2012 InPC (2006 IPC W/AMENDMENTS MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES ASSEMBLY – AUDITORIUMS WITHOUT PERMANENT SEATING, ART GALLERIES, EXHIBITION HALLS, MUSEUMS, LECTURE HALLS, LIBRARIES, ARCADES AND GYMNASIUMS (NOTE D)

607.2 HOT OR TEMPERED WATER SUPPLY TO FIXTURES. THE DEVELOPED LENGTH OF HOT OR TEMPERED WATER PIPING, FROM THE SOURCE OF HOT WATER TO THE FIXTURES THAT REQUIRE HOT OR TEMPERED WATER, SHALL NOT EXCEED 50 FEET (15 240 MM). RECIRCULATING SYSTEM PIPING AND HEAT–TRACED PIPING SHALL BE CONSIDERED TO BE SOURCES OF HOT OR TEMPERED WATER.

607.1.1 TEMPERATURE LIMITING MEANS. A THERMOSTAT CONTROL FOR A WATER HEATER SHALL NOT SERVE AS THE TEMPERATURE LIMITING MEANS FOR THE PURPOSES OF COMPLYING WITH THE REQUIREMENTS OF THIS CODE FOR MAXIMUM ALLOWABLE HOT OR TEMPERED WATER DELIVERY TEMPERATURE AT FIXTURES.

607.1.2 TEMPERED WATER TEMPERATURE CONTROL. TEMPERED WATER SHALL BE SUPPLIED THROUGH A WATER TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070/ASME A112.1070/CSA B125.70 AND SHALL LIMIT THE TEMPERED WATER TO NOT GREATER THAN 110°F (43°C). THIS PROVISION SHALL NOT SUPERSEDE THE REQUIREMENT FOR PROTECTIVE SHOWER VALVES IN ACCORDANCE WITH SECTION 412.3.

607.3 THERMAL EXPANSION CONTROL. WHERE A STORAGE WATER HEATER IS SUPPLIED WITH COLD WATER THAT PASSES THROUGH A CHECK VALVE, PRESSURE REDUCING VALVE OR BACKFLOW PREVENTER, A THERMAL EXPANSION CONTROL DEVICE SHALL BE CONNECTED TO THE WATER HEATER COLD WATER SUPPLY PIPE AT A POINT THAT IS DOWNSTREAM OF ALL CHECK VALVES, PRESSURE REDUCING VALVES AND BACKFLOW PREVENTERS. THERMAL EXPANSION TANKS SHALL BE SIZED IN ACCORDANCE WITH THE TANK MANUFACTURER’S INSTRUCTIONS AND SHALL BE SIZED SUCH THAT THE PRESSURE IN THE WATER DISTRIBUTION SYSTEMSHALL NOT EXCEED THAT REQUIRED BY SECTION 604.8.

OWNER SIGNATURE

REVISION STATUS

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CLIENT/CONSULTANT APPROVAL STATUS

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OWNER:

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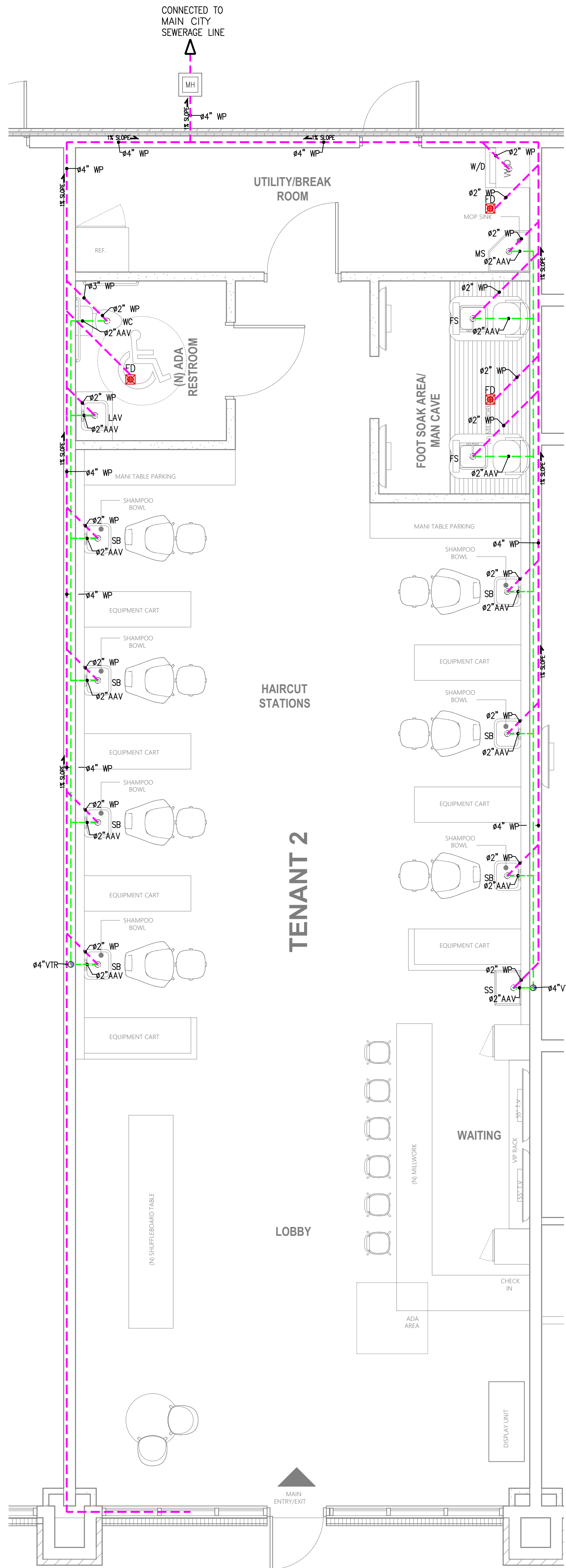
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DISCIPLINE: PLUMBING

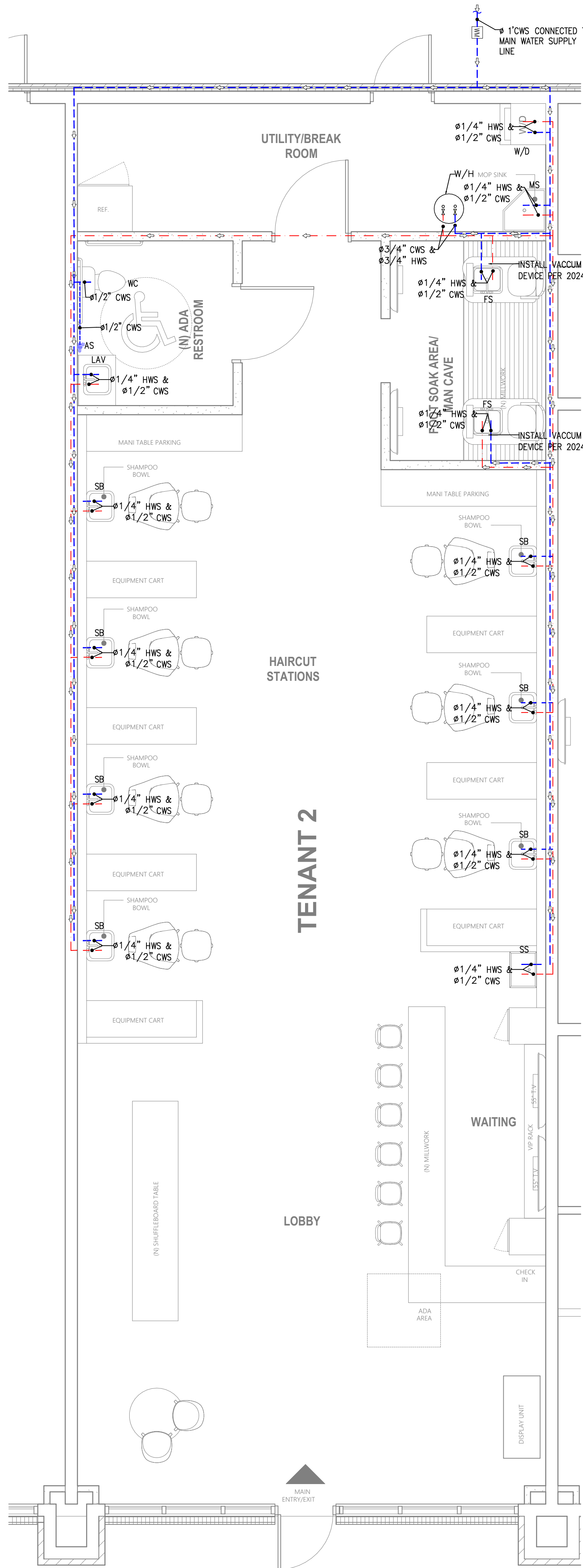
PROJECT TITLE:
**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:
NOTES

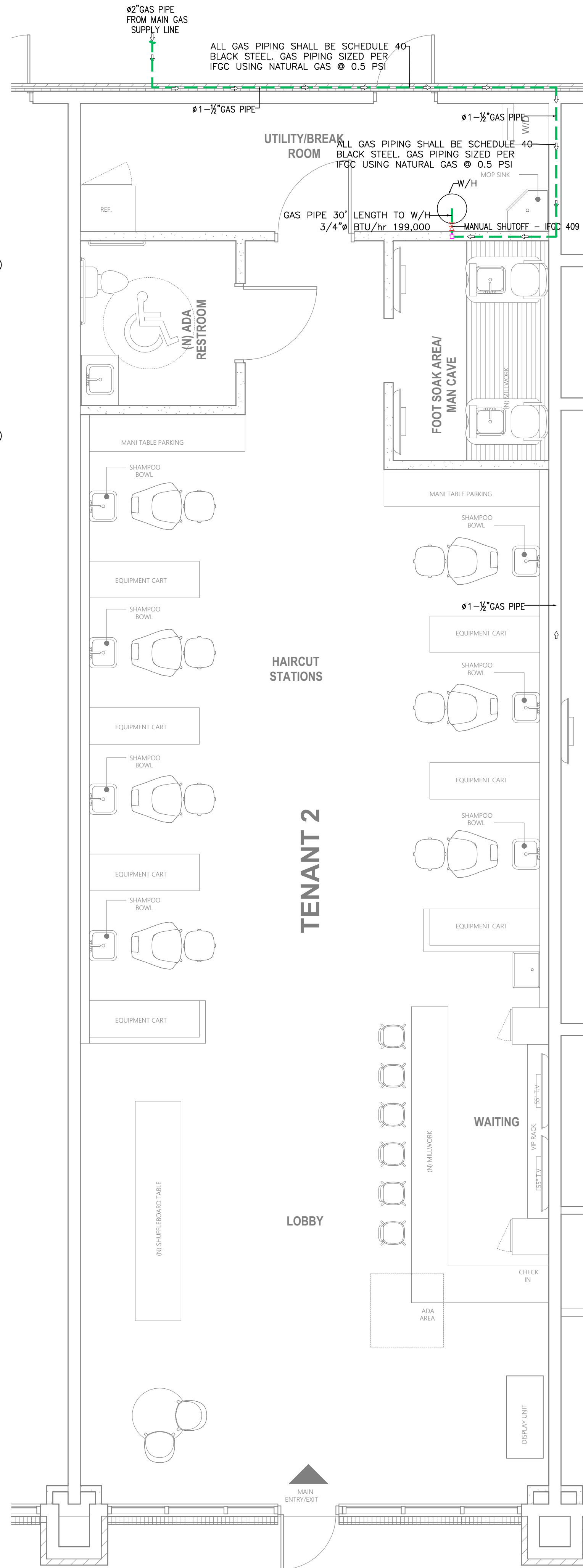
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G.M	N.B	
JOB NO:	SHT NO.:	SCALE:
	PL-01	



PL 02 SCALE
FIRST FLOOR DRAINAGE PLAN
1/4" = 1'-0"



PL 02 SCALE
FIRST FLOOR WATER SUPPLY PLAN
1/4" = 1'-0"



PL 02 SCALE
FIRST FLOOR GAS SUPPLY PLAN
1/4" = 1'-0"

PLUMBING LEGEND:	
SYMBOL	DESCRIPTION
---	HWS - HOT WATER SUPPLY
---	CWS - COLD WATER SUPPLY
---	SP-SOIL PIPE
---	WP-WASTE PIPE
---	SHUT OFF VALVE
---	GATE VALVE
WH	WATER HEATER
GT	GREASE TRAP
WC	WATER CLOSET
KS	KITCHEN SINK
AS	ABLUTION SPRAY
SHR	SHOWER
BT	BATH TUB
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
LAV	LAVATORY
URL	URINAL
US	UTILITY SINK
SS	SINGLE SINK
DS	DOUBLE SINK
FS	FOOT SOAK SINK
SB	SHAMPOO BOWL SINK
AAV	STUDER VENT

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DESIGN DRAWING

DISCIPLINE:

PLUMBING

PROJECT TITLE:

**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:

**FIRST FLOOR DRAINAGE &
WATER SUPPLY PLANS**

DRAWN BY:	CHECKED BY:	DATE:
G.M	N.B	
JOB NO:	SHT NO.:	SCALE:
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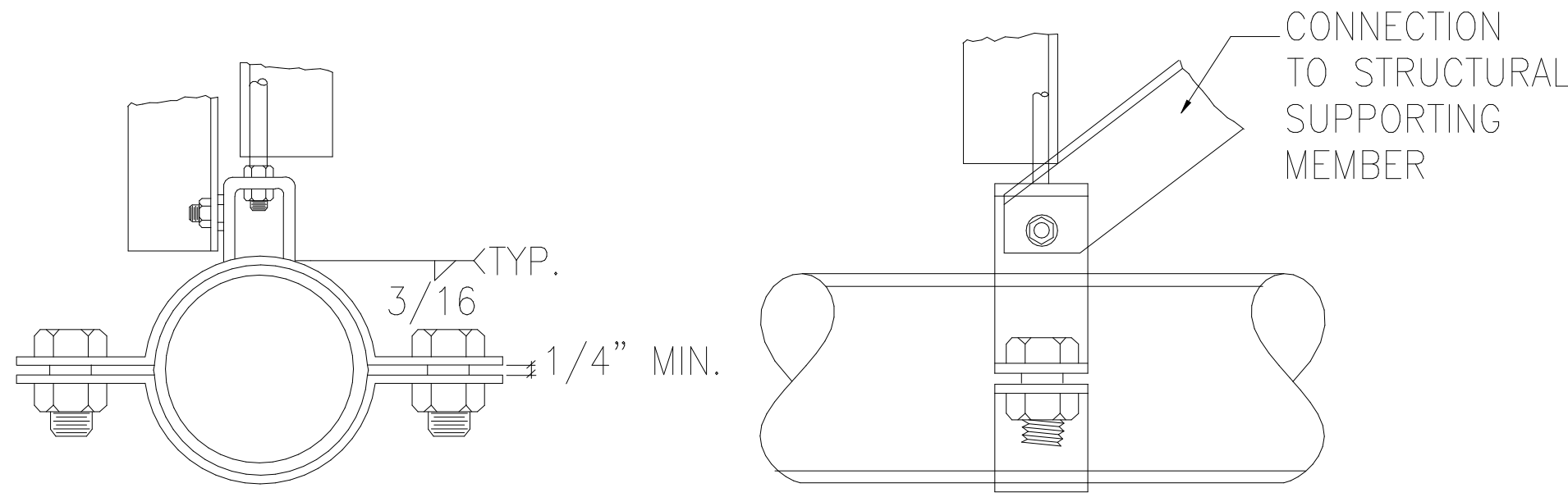


<u>JOB NO:</u>	<u>SHT NO.:</u> PL-03	<u>SCALE:</u> A Indicate
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CALC B — DRAINAGE FIXTURE UNITS (DFU)						
Code: 2024 IPC Table 709.1 (fixture DFU) Pipe Sizing: 2024 IPC Table 710.1(1) COMMERCIAL B Occupancy — Men's Salon, Single Story Ref: the plumbing sheets						
9704 Westland Drive, Knoxville, TN 37922 Knox County, TN TSABA Corp / TS9 Designs — 254 Chapman Rd, Ste 208 #13130, Newark, DE 19702 Owner: Nadif Bracey Per Stamped Design Set dtd 9/07/2026 (G.M / N.B.) Commercial Tenant Renovation — Men's Salon (B Occupancy) — Westland Drive Retail Center, 1st Floor						
DFU SCHEDULE — FIRST FLOOR (ALL FIXTURES)						
Fixture Type	Qty	DFU Ea.	Total DFU	Floor	2024 IPC Table 709.1	Notes
Water closet (ADA, 1.6 gpf)	1	4	4	1F	WC flush-tank 4 DFU	ADA restroom per the plumbing sheets
Lavatory (wall-hung, 0.5 gpm)	1	1	1	1F	Lavatory 1 DFU	ADA restroom per the plumbing sheets
Shampoo bowl sink	7	1	7	1F	Sink (shampoo bowl) 1 DFU	7 stations per the plumbing sheets
Foot soak basin (utility sink)	4	2	8	1F	Utility/floor sink 2 DFU ea.	4 basins, foot soak area per the plumbing sheets
Mop sink (service sink)	1	3	3	1F	Service sink 3 DFU	Utility/break room per the plumbing sheets
Clothes washer standpipe	1	3	3	1F	Clothes washer standpipe	W/D utility room per the plumbing sheets
BUILDING TOTAL DFU:			26			Total DFU — all fixtures, 1F only (commercial single-story tenant)
DRAINAGE PIPE SIZING — 2024 IPC TABLE 710.1(1)						
Pipe Segment	DFU Served	Min Pipe Size	Min Slope	Design Size	Material	Notes
WC branch (ADA restroom water closet)	4	3" min (WC)	1/4"/ft	3" PVC DWV	PVC Sch. 40 DWV	2024 IPC §710.1: no pipe conveying WC discharge < 3"; 4 DFU well within 3" capacity
Lav branch (ADA restroom)	1	1-1/2" min	1/4"/ft	2" PVC DWV	PVC Sch. 40 DWV	1 DFU; 2" upsized to accommodate trap arm length
Shampoo bowl branch (7 stations grouped)	7	2" min	1/4"/ft	3" PVC DWV	PVC Sch. 40 DWV	7 DFU; 3" provides capacity per Table 710.1(1); ≤42 DFU @ 1/4"/ft
Foot soak area branch (4 basins)	8	2" min	1/4"/ft	3" PVC DWV	PVC Sch. 40 DWV	8 DFU; 3" branch per Table 710.1(1)
Utility room branch (mop sink + washer)	6	2" min	1/4"/ft	3" PVC DWV	PVC Sch. 40 DWV	3+3=6 DFU combined branch; 3" per Table 710.1(1)
Building horizontal main (all fixtures, 1F)	24	3" min	1/4"/ft	4" PVC DWV	PVC Sch. 40 DWV	24 DFU total (sum); 4" provides ≤216 DFU @ 1/4"/ft capacity — WC on system requires 4" min building
Building drain / lateral to public sewer	24	4" REQUIRED	1/8"/ft min	4" PVC (Sch. 40 or SDR 35)	PVC Sch. 40 or SDR 35	2024 IPC §710.1: building drain with WC discharge — 4" minimum; 24 DFU within Table 710.1(1) capacity.
NOTE: DFU per 2024 IPC Table 709.1; pipe sizing per 2024 IPC Table 710.1(1). Building total: 24 DFU on a single-story commercial tenant floor. Horizontal branches at minimum 1/4"/ft slope; building drain/lateral at minimum 1/8"/ft per IPC §704.1. PVC Schedule 40 DWV above grade; below grade use PVC SDR 35 or approved equivalent. 4" VTR per the plumbing sheets riser diagram (4" vent through roof). No grease interceptor is required for a men's salon (no food service/cooking waste); verify with Knox County Health Dept. and KUB if any food-preparation equipment is later added. Verify sewer lateral connection elevation and location with KUB prior to rough-in. 2024 IPC adopted by City of Knoxville per local ordinance.						

CALC C — WATER SUPPLY FIXTURE UNITS (WSFU) & WATER SUPPLY SIZING						
Code: 2024 IPC Table 604.3 (WSFU) + Appendix E (demand/pipe sizing) Ref: the plumbing sheets Ref: the plumbing sheets						
9704 Westland Drive, Knoxville, TN 37922 Knox County, TN TSABA Corp / TS9 Designs — 254 Chapman Rd, Ste 208 #13130, Newark, DE 19702 Owner: Nadif Bracey Per Stamped Design Set dtd 9/07/2026 (G.M / N.B.) Commercial Tenant Renovation — Men's Salon (B Occupancy) — Westland Drive Retail Center, 1st Floor						
WSFU SCHEDULE — FIRST FLOOR (MEN'S SALON TENANT)						
Fixture Type	Qty	WSFU Ea.	Total WSFU	Hot?	Cold?	2024 IPC Table 604.3 Reference
Water closet (ADA, 1.6 gpf)	1	2.5	2.5	No	Yes	WC flush-tank 2.5 WSFU
Lavatory (0.5 gpm)	1	1	1	Yes	Yes	Lavatory 1.0 WSFU
Shampoo bowl sink (x7)	7	1.5	10.5	Yes	Yes	Sink 1.5 WSFU ea. — requires both HWS & CWS per the plumbing sheets supply plan
Foot soak basin (x4)	4	1.5	6	Yes	Yes	Utility sink 1.5 WSFU ea.
Mop sink (service sink)	1	1.5	1.5	Yes	Yes	Service sink 1.5 WSFU
Clothes washer	1	1.5	1.5	Yes	Yes	Clothes washer 1.5 WSFU
BUILDING TOTAL WSFU:			23			Total WSFU — sets water service and branch sizing
WATER SUPPLY PIPE SIZING — 2024 IPC APPENDIX E (ASSUMED 45–65 PSI STATIC — VERIFY WITH KUB)						
Supply System	Total WSFU	Min Size	Max Dev. Length	Design Size	Material	Notes
CWS branch — ADA restroom (WC + lav)	3.5	1/2" min	40 ft max	3/4" Cu-L or PEX-A	Copper Type L or PEX-A (ASTM F876)	Per IPC App. E; ADA restroom per the plumbing sheets
HWS/CWS branch — shampoo bowl stations (7 ea.)	10.5	3/4" min	60 ft max	1" Cu-L or PEX-A	Copper Type L or PEX-A	High demand zone; 10.5 WSFU combined — 1" branch recommended for concurrent use at all 7 stations
HWS/CWS branch — foot soak area (4 basins)	6	1/2" min	50 ft max	3/4" Cu-L or PEX-A	Copper Type L or PEX-A	4 basins @ 1.5 WSFU ea. = 6.0 WSFU
HWS/CWS branch — utility room (mop sink + washer)	3	1/2" min	40 ft max	3/4" Cu-L or PEX-A	Copper Type L or PEX-A	Combined utility room branch
CWS main riser — full building combined	26	1" min	100 ft max	1-1/4" Cu-L or PEX-A	Copper Type L	26 WSFU building total; 1-1/4" riser provides adequate flow per App. E at typical commercial pressures — verify with KUB
HWS main from water heater — all hot fixtures	16.5	3/4" min	80 ft max	1" Cu-L or PEX-A	Copper Type L or PEX-A	Sum of all hot WSFU (shampoos+foot soak+mop+lav+washer = approx. 16.5 WSFU)
Building water service from KUB meter	26	1" min	—	1-1/4" Cu-L (min.)	Copper Type L	2024 IPC App. E: 26 WSFU → 1" min service; upsize to 1-1/4" recommended given simultaneous shampoo bowl loads. Confirm static pressure and available flow with KUB prior to design finalization
Water heater supply — Rinnai CU199iN cascade	N/A	Per WH manufacturer	N/A	1" Cu-L	Copper Type L	Rinnai CU199iN x2 cascade, natural gas tankless. No storage tank. Cold water supply: 3/4" Cu-L or PEX-A to each unit. Hot water supply out: 3/4" Cu-L main. Condensate drain: 1/2" PVC to floor drain per Rinnai installation manual. Inlet water pressure: 15–150 psi
PRV at service entry	N/A	Req. if >80 psi	N/A	Bronze body PRV	N/A	Required if static pressure >80 psi per 2024 IPC §604.8 — verify static with KUB
NOTE: WSFU per 2024 IPC Table 604.3; total 26 WSFU for salon operations. Shampoo bowl demand is the dominant driver — simultaneous use of all 7 stations is a realistic design scenario for a busy men's salon; 1" supply branches and 1-1/4" service are recommended to accommodate this diversity. 2024 IPC App. E pipe-sizing method used at assumed 45–65 PSI static; verify actual static pressure and residual flow with Knoxville Utilities Board (KUB) prior to final design. Copper Type L per the plumbing sheets material schedule; PEX-A (ASTM F876/F877) is an acceptable alternate — confirm with City of Knoxville AHJ. Water heater: 50-gal. electric per the plumbing sheets and panel schedule EP1 circuit 21 (50A/3P). Recirculation pump (display unit) is a closed loop — no WSFU assigned.						

OWNER SIGNATURE			
REVISION STATUS			
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CLIENT/CONSULTANT APPROVAL STATUS			
APPROVED		(A)	
APPROVED WITH NOTES		(B)	
RESUBMIT		(C)	
DISAPPROVED		(D)	
OWNER:			
Tune-Up "The Manly Hair Salon"			
ADDRESS:			
9704 WESTLAND DRIVE KNOXVILLE, TN 37922			
DESIGN CONSULTANT:			
TSABA CORP NADIF BRACEY 254 CHAPMAN RD, STE 208 #13130 NEWARK, DELAWARE 19702 EMAIL: NADIF@TS9DESIGNS.COM			
DRAWING STATUS:			
DESIGN DRAWING			
DISCIPLINE:			
PLUMBING			
PROJECT TITLE:			
WESTLAND DRIVE TENANT RENOVATION			
DRAWING TITLE:			
DRAINAGE FIXTURE UNITS (DFU) & WATER SUPPLY FIXTURE UNITS (WSFU) CALCULATIONS			
DRAWN BY:		CHECKED BY:	DATE:
G.M		N.B	
JOB NO:		SHT NO.:	SCALE:
		PL-04	

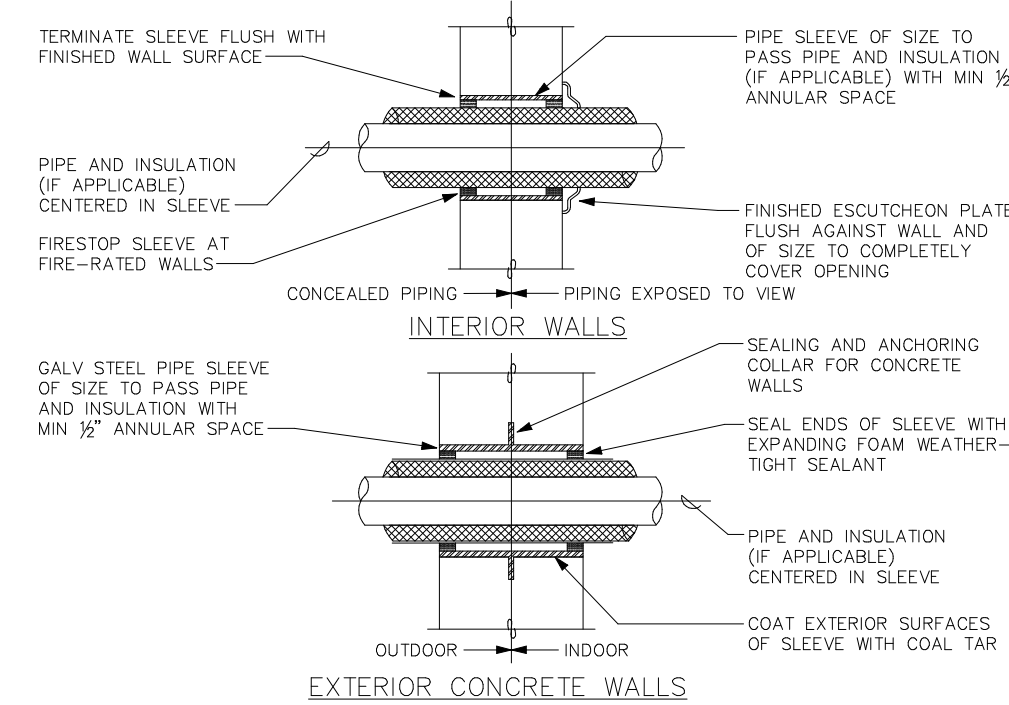


⑧ TYPICAL LONGITUDINAL PIPE BRACING
NTS SCALE

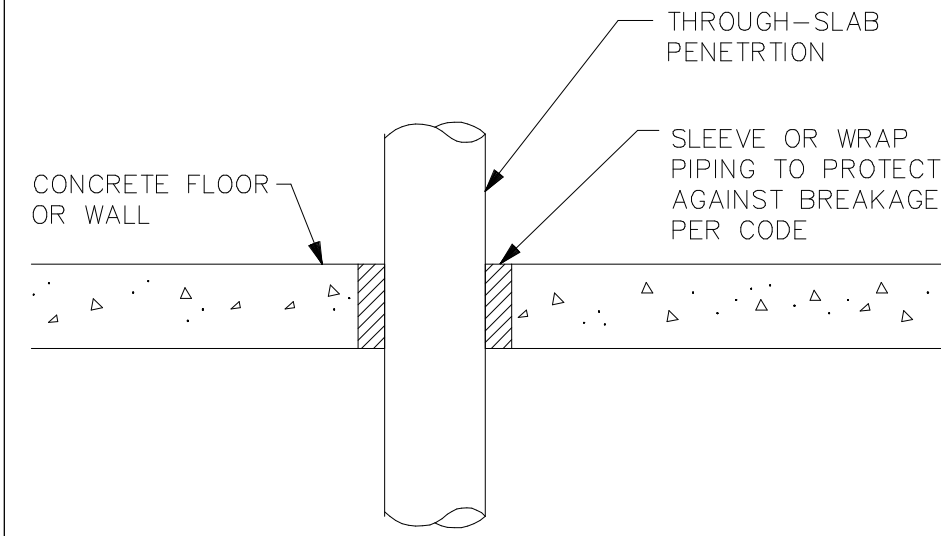
1. THIS BRACING DETAIL APPLIES ONLY FOR COLD WATER PIPE AND GAS PIPE WHERE MOVEMENT OF THE PIPE DUE TO TEMPERATURE DIFFERENTIAL IS NEGLIGIBLE

2. IT IS THE RESPONSIBILITY OF THE USER OF THIS GUIDELINE TO ASCERTAIN THAT AN ADEQUATE BRACING AND ANCHORAGE DEVICE BE DESIGNED FOR PIPE WHENEVER THE MOVEMENT DUE TO THERMAL DIFFERENTIAL EXISTS. PROVIDE ONE ANCHOR POINT IN ONE PIPE RUN. ALLOW FOR LONGITUDINAL PIPE MOVEMENT AT THE OPPOSITE END OF THE ANCHOR POINT.

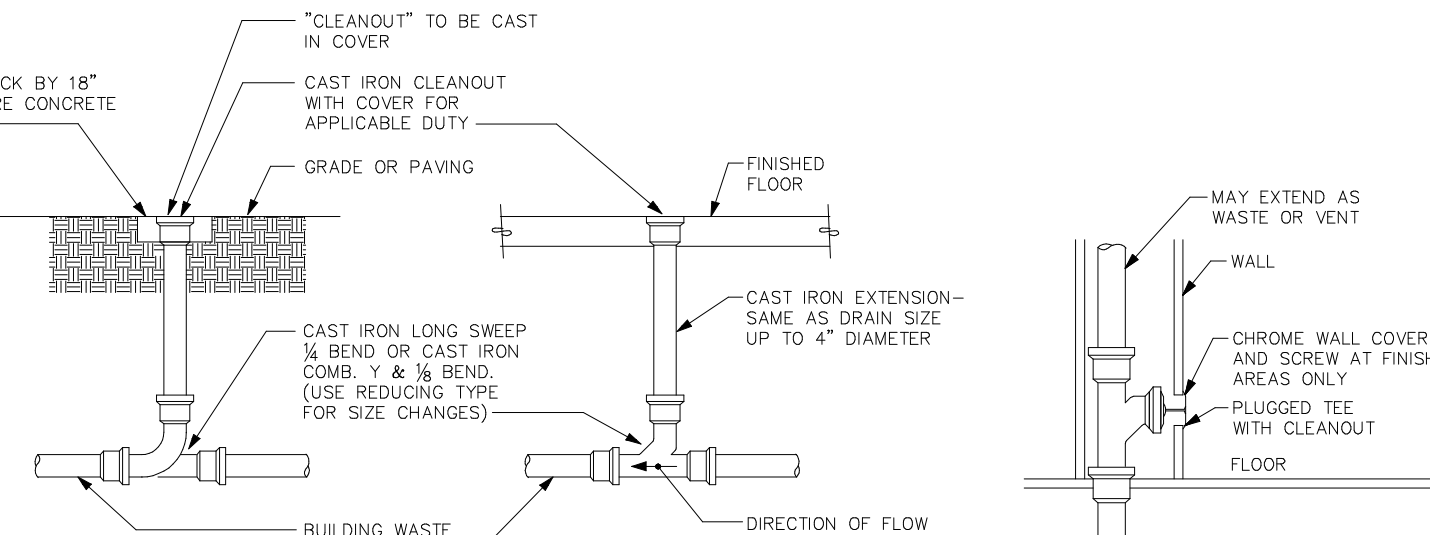
⑧ LONGITUDINAL PIPE BRACING
NTS SCALE



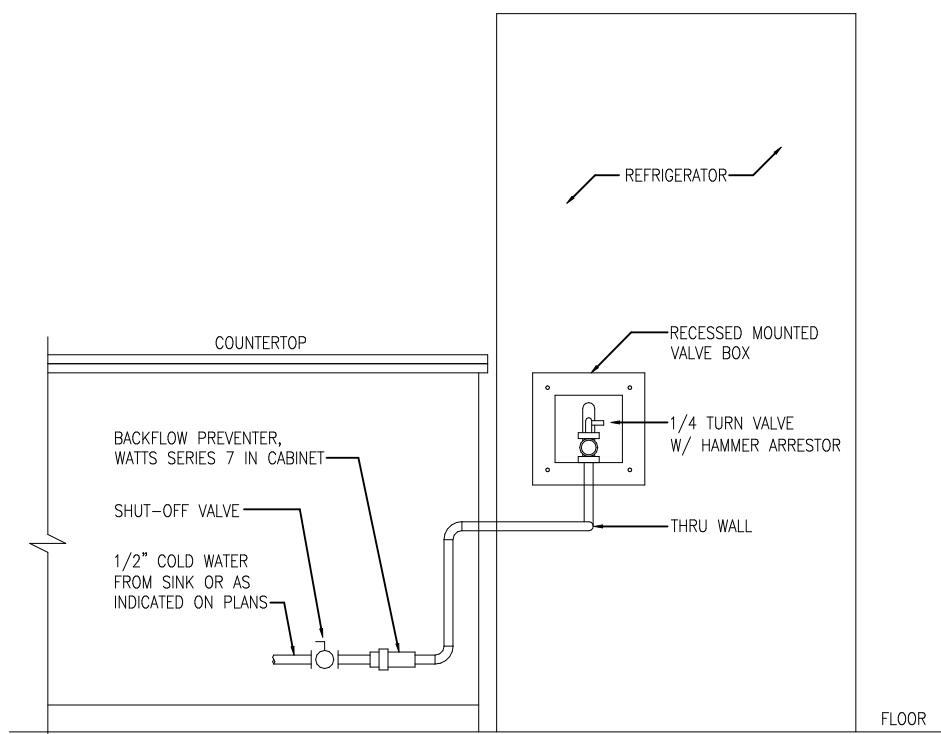
⑧ PIPE SLEEVES THROUGH WALLS
NTS SCALE



⑧ PIPE SLAB PENETRATION
NTS SCALE



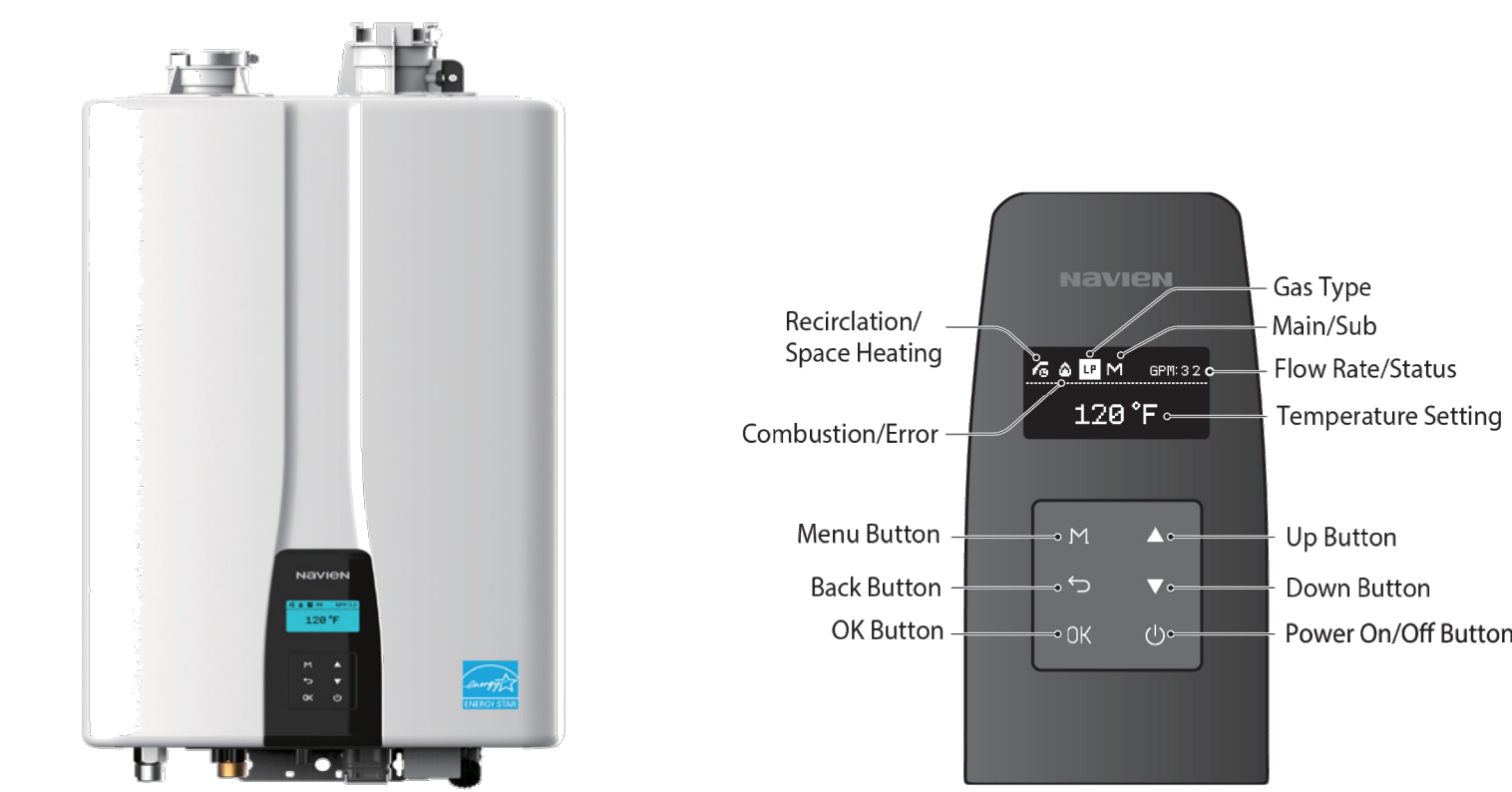
⑧ CLEANOUT DETAILS
NTS SCALE



⑧ REFRIGERATOR WATER CONNECTION DETAIL
NTS SCALE

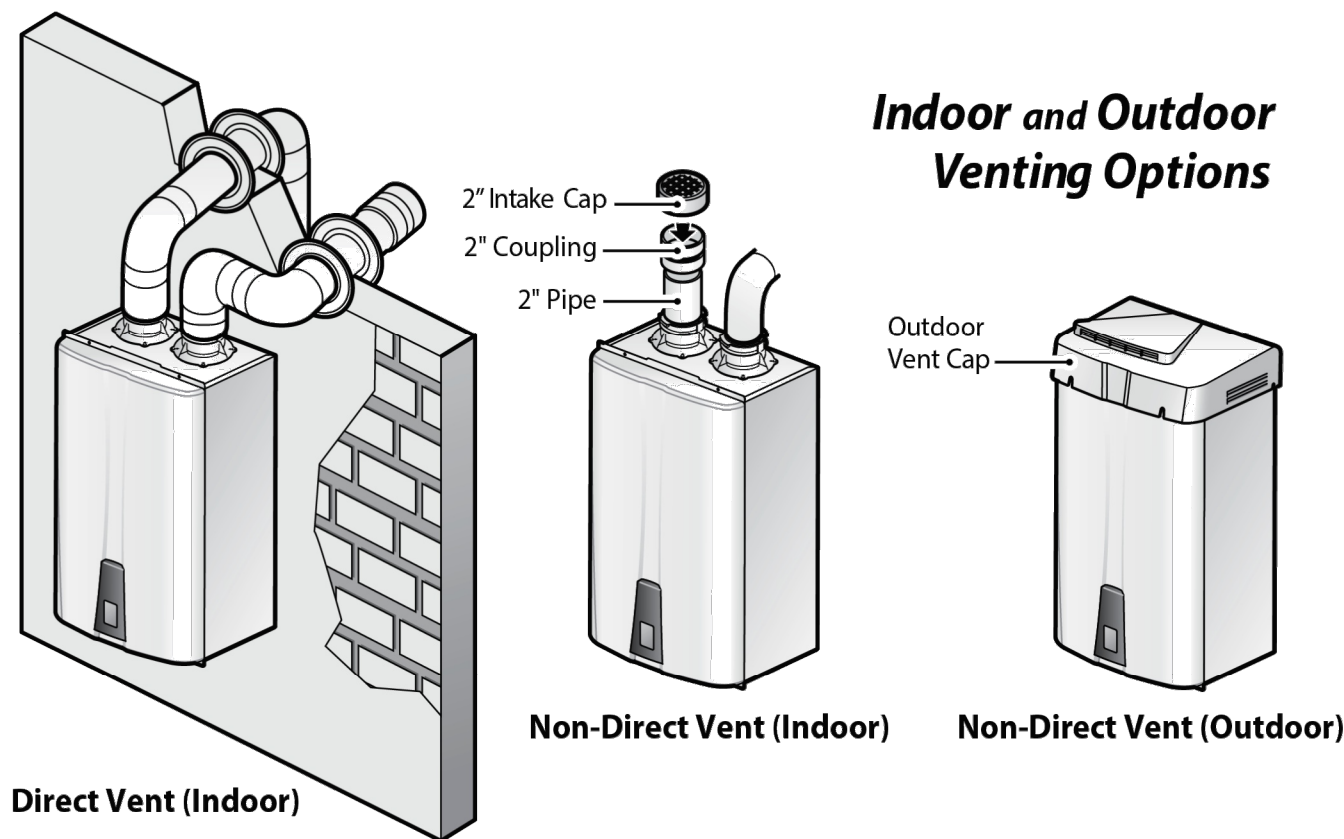
MATERIAL	PIPE OR TUBE SIZE (inches)	MAXIMUM VELOCITY (feet per second)
All pipe and tube material	1/2 and smaller	5
Brass pipe	3/8 and larger	8
Copper or copper-alloy pipe and tubing (hot water systems)	1/2 and larger	5
Copper or copper-alloy pipe and tubing (cold water systems)	3/8 and larger	8
Chlorinated polyvinyl (CPVC) plastic pipe	3/8 - 1 1/2 and larger	8 10
Cross-linked polyethylene (PEX) plastic tubing	3/8 and larger	8
Cross-linked polyethylene/ aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	3/8 and larger	8
Galvanized steel pipe	3/8 - 1 1/2 and larger	8 2 - 4 12
PE-AL-PE	3/8 and larger	8

⑧ WATER DISTRIBUTION PIPE SIZING AND WATER SERVICE PIPE SIZING
NTS SCALE

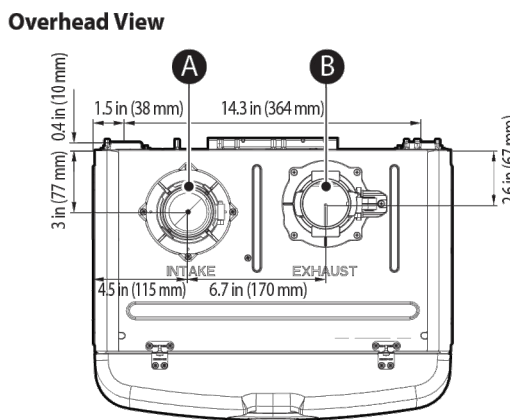
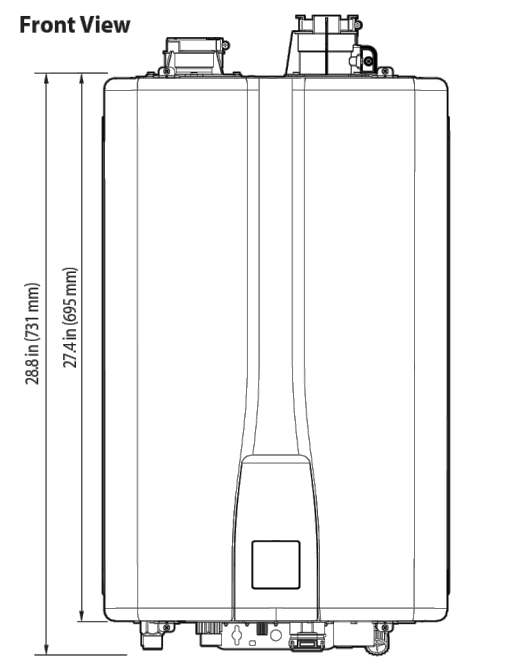


Certified Design Compatible with
2" PVC and 1/2" Gas Pipe

Multi-Line Control
Panel with Diagnostics

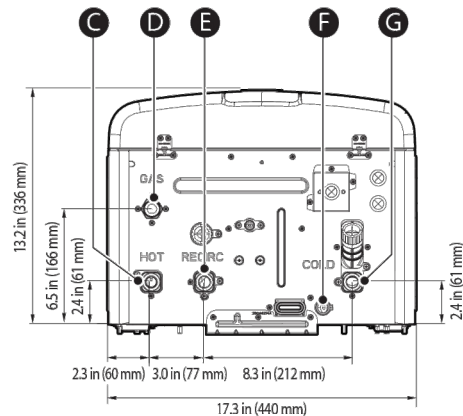


⑧ TANKLESS GAS WATER HEATER DETAILS
NTS SCALE



Supply Connections

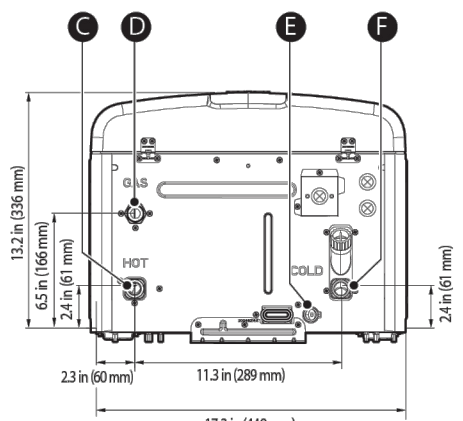
Description	Diameter
A Air Intake	2 in
B Exhaust Gas Vent	2 in
C Hot Water Outlet	1/2 in
D Gas Inlet	1/2 in
E Recirculation Inlet	1/2 in
F Condensate Outlet	1/2 in
G Cold Water Inlet	1/2 in



NPE-180A2 / 210A2 / 240A2

Supply Connections

Description	Diameter
A Air Intake	2 in
B Exhaust Gas Vent	2 in
C Hot Water Outlet	1/2 in
D Gas Inlet	1/2 in
E Condensate Outlet	1/2 in
F Cold Water Inlet	1/2 in



NPE-150S2 / 180S2 / 210S2 / 240S2

⑧ TANKLESS GAS WATER HEATER DETAILS
NTS SCALE

OWNER SIGNATURE

REVISION STATUS

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RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

**Tune-Up
"The Manly Hair Salon"**

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KNOXVILLE, TN 37922**

DESIGN CONSULTANT:

**TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
EMAIL: NADIF@TS9DESIGNS.COM**

DRAWING STATUS:

DESIGN DRAWING

DISCIPLINE:

PLUMBING

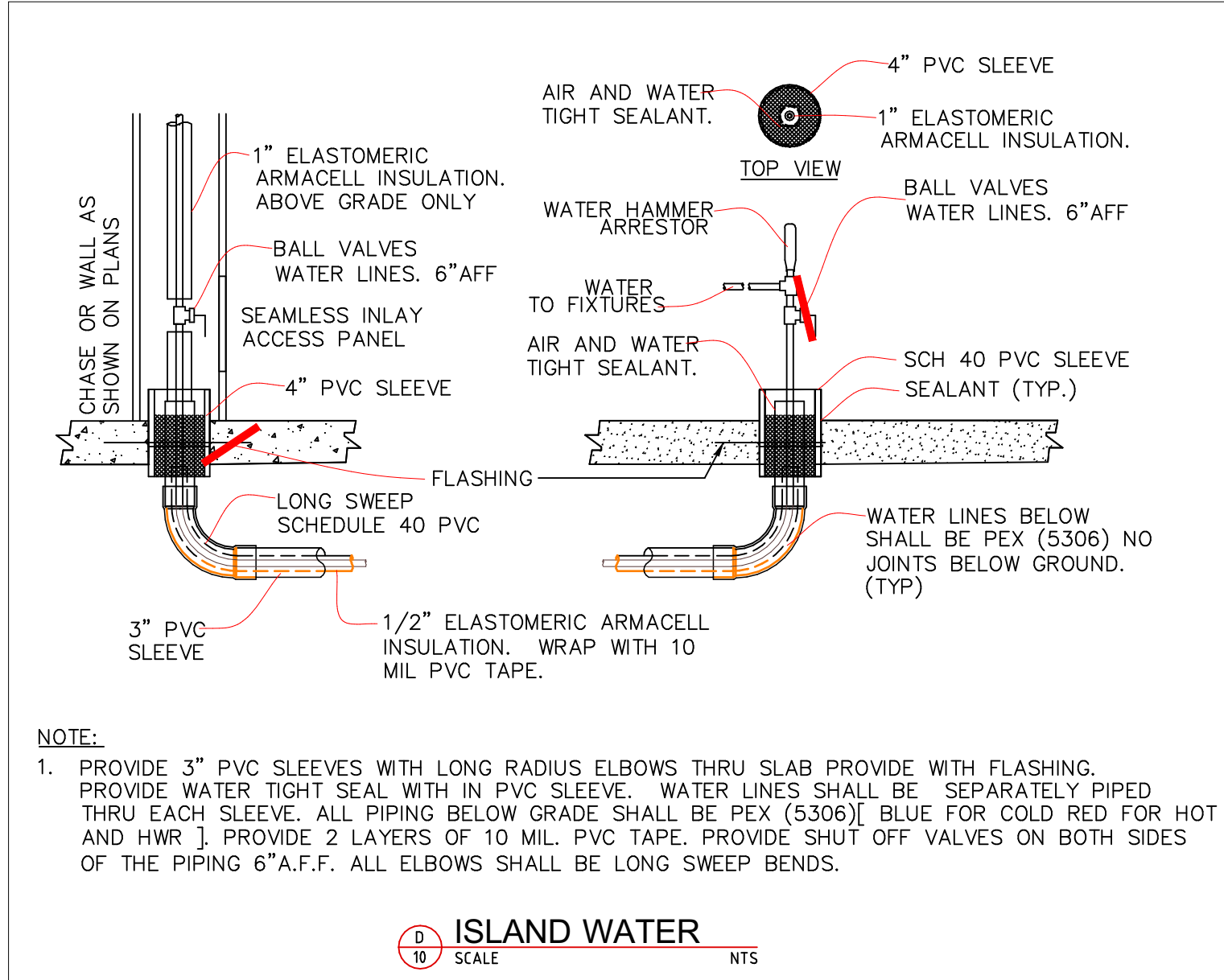
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**WESTLAND DRIVE TENANT
RENOVATION**

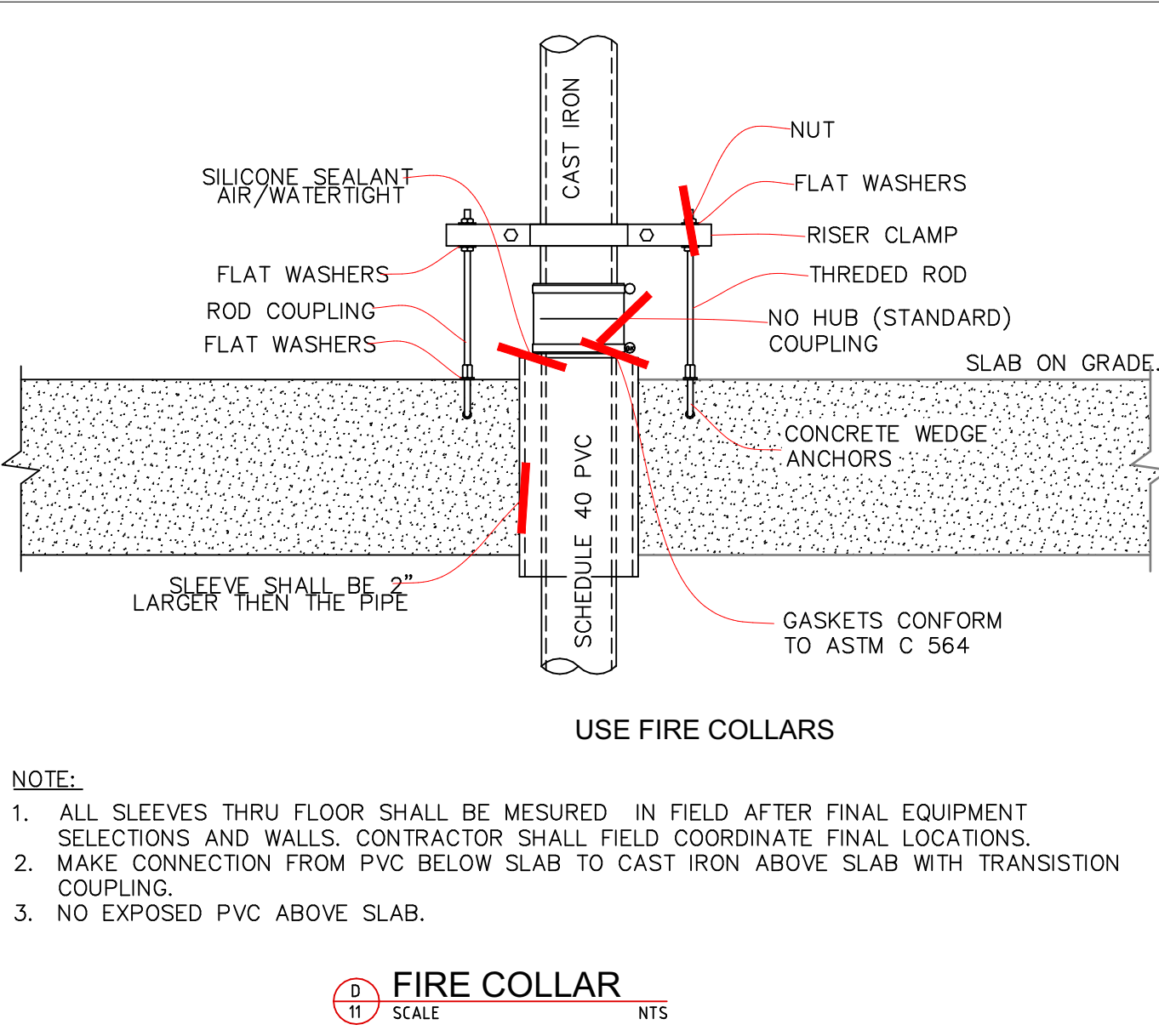
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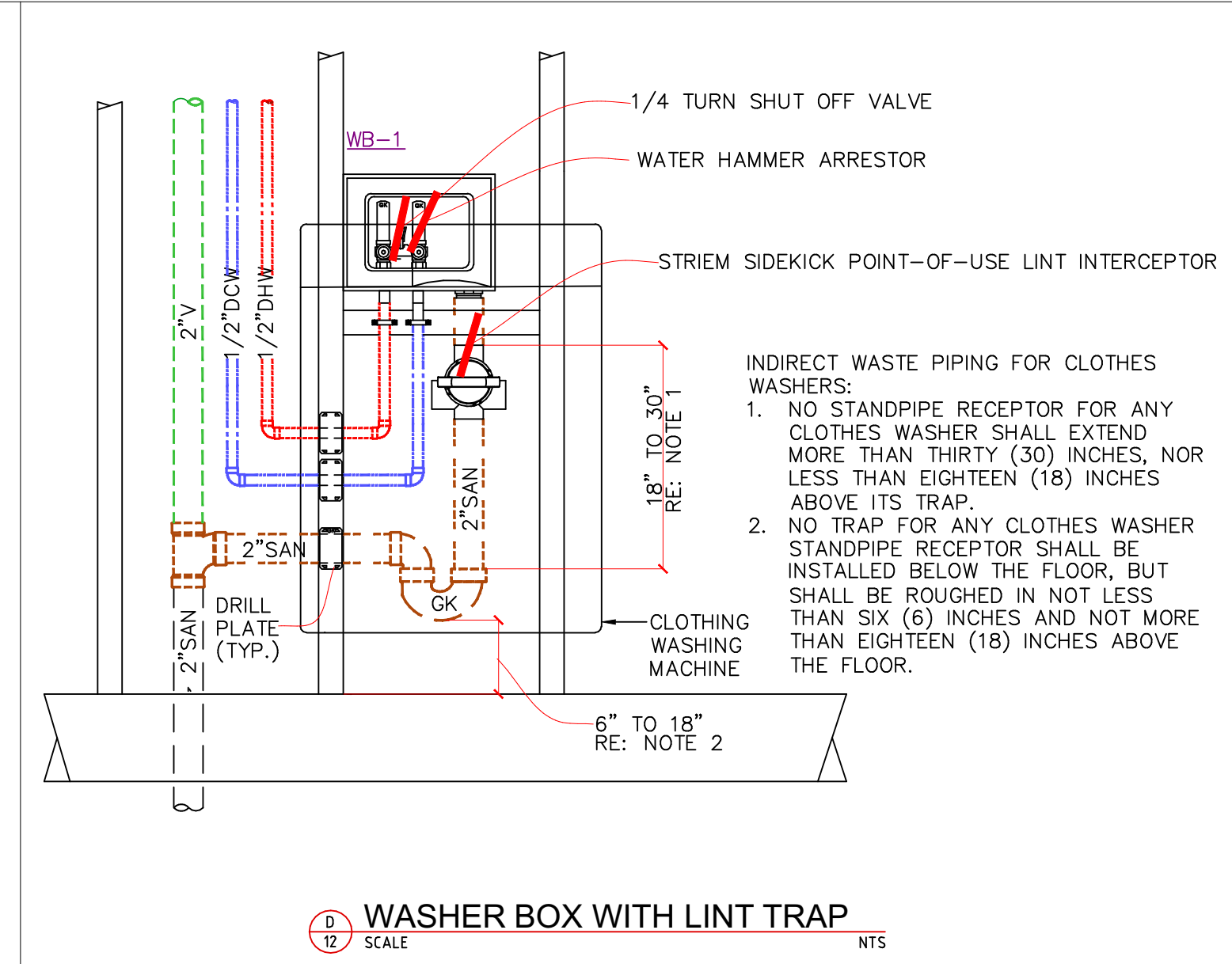
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JOB NO:	SHT NO:	SCALE:
	PL-05	As Indicated



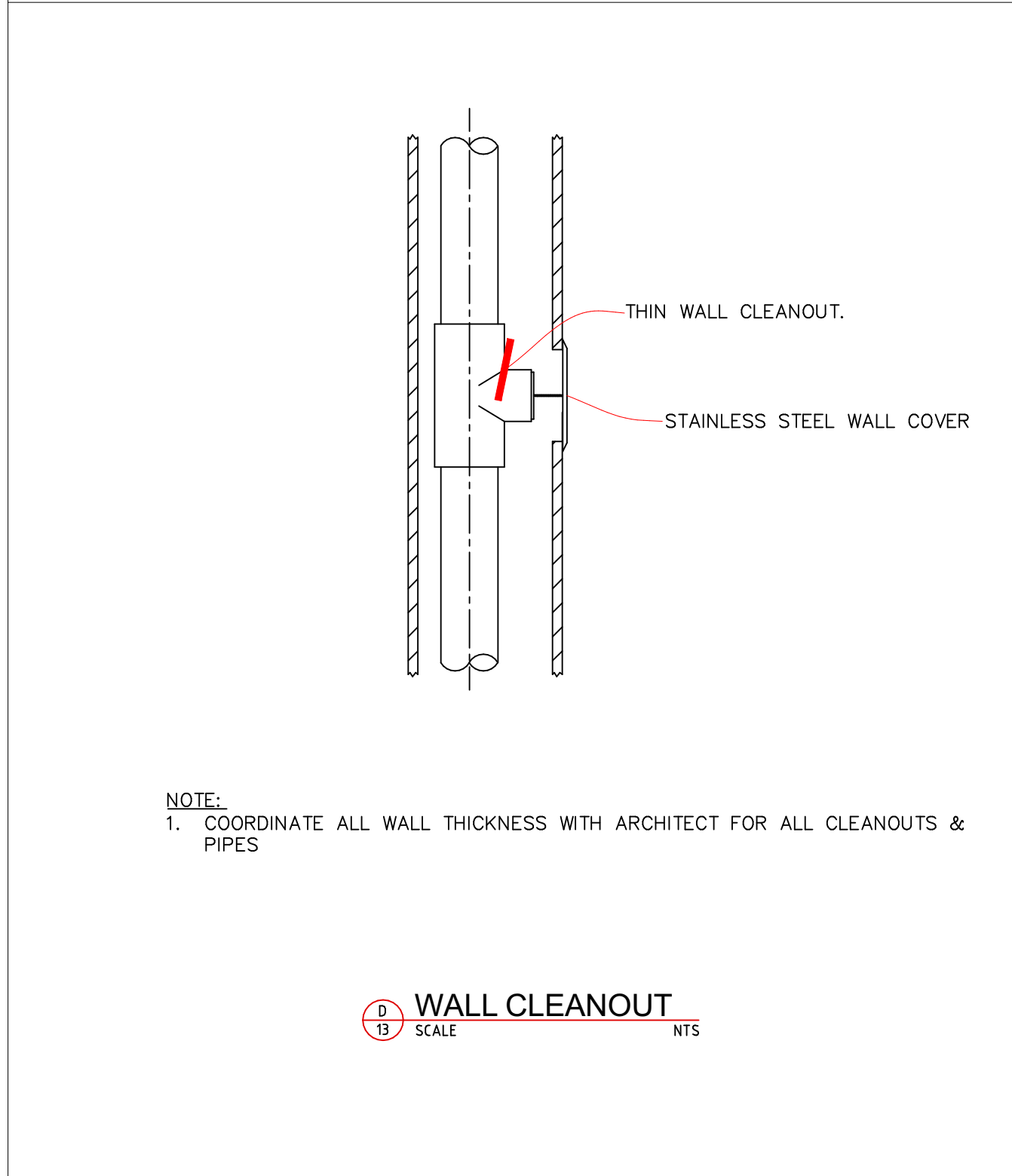
ISLAND WATER
SCALE NTS



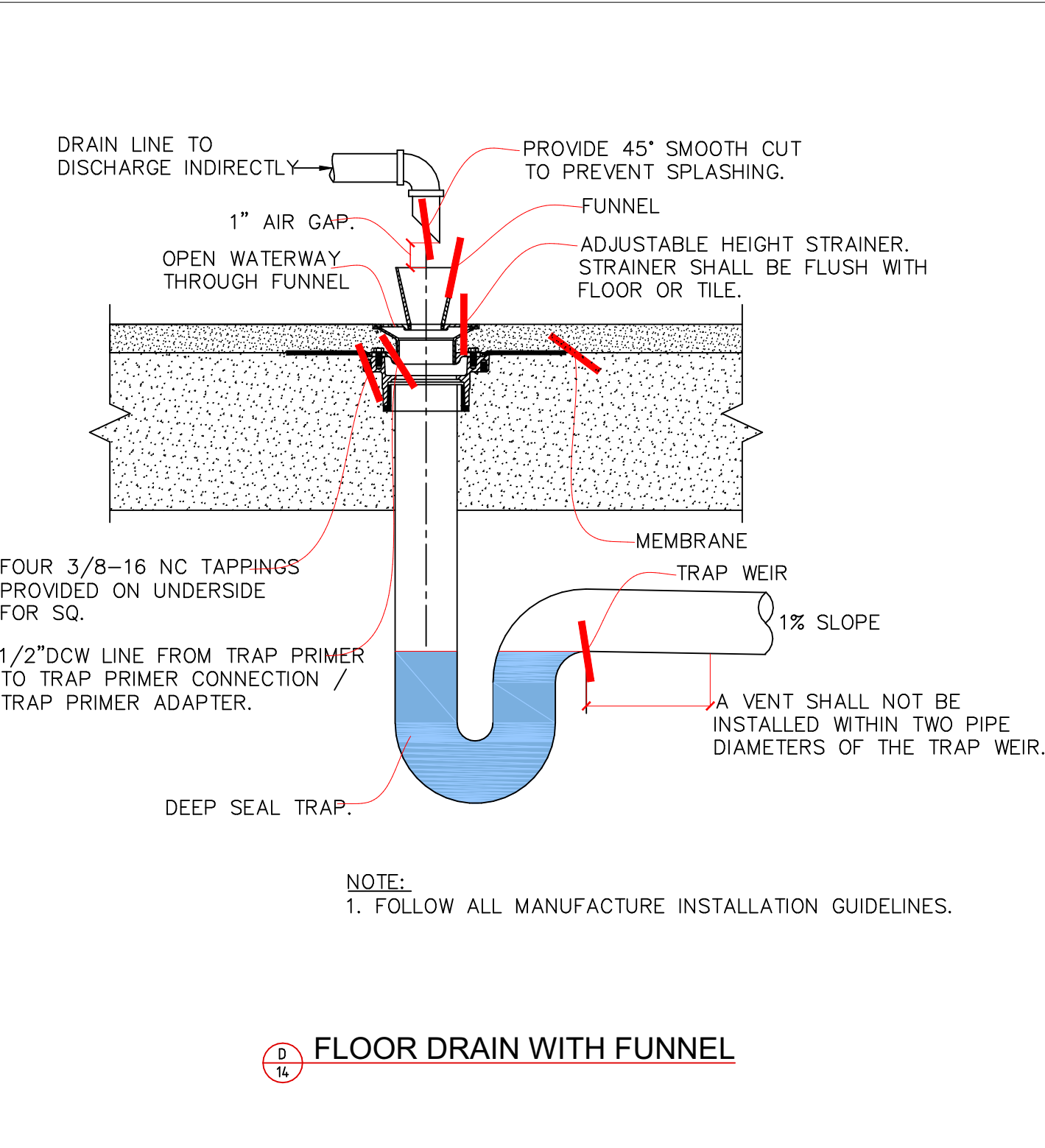
FIRE COLLAR
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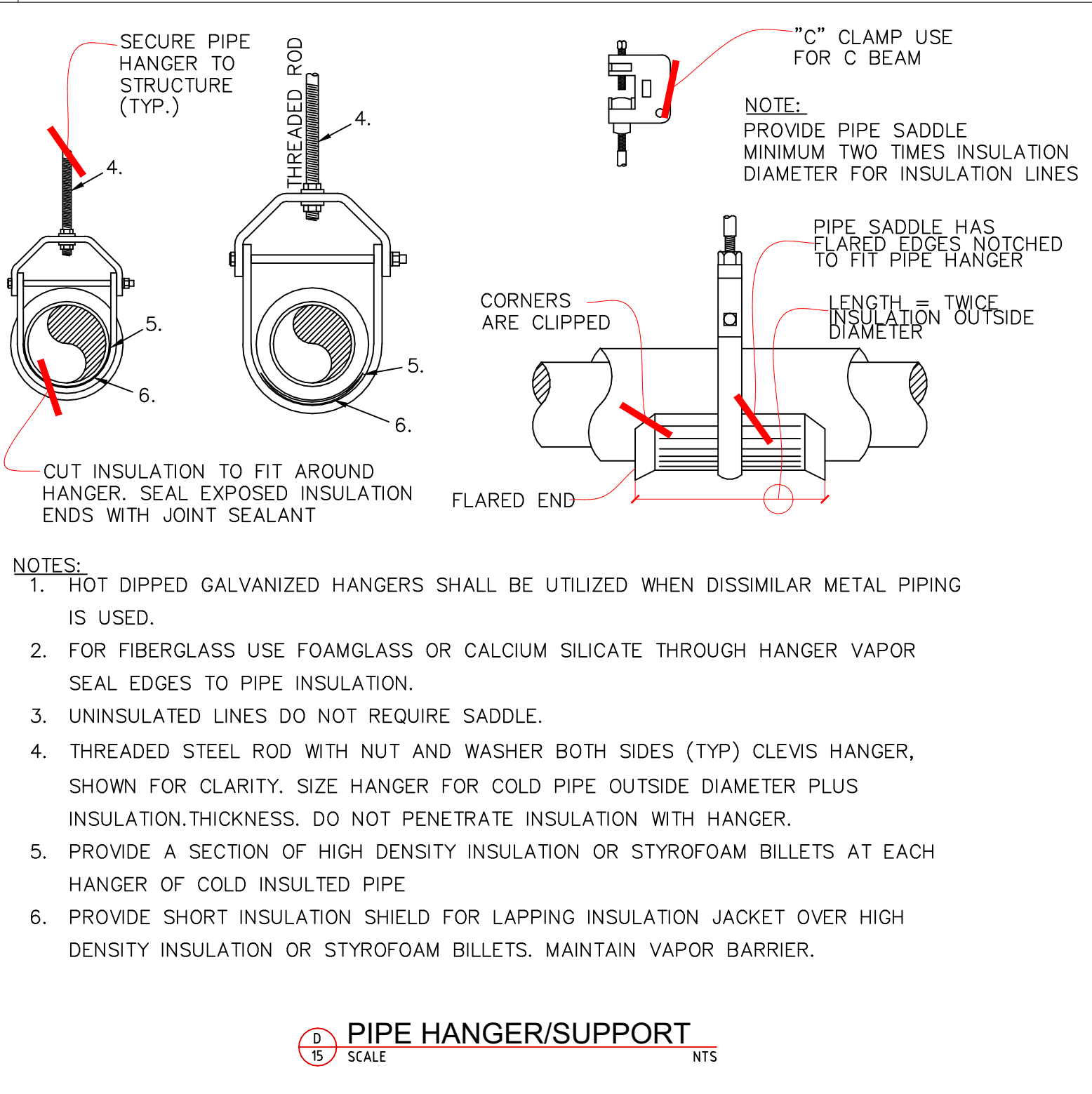
WASHER BOX WITH LINT TRAP
SCALE NTS



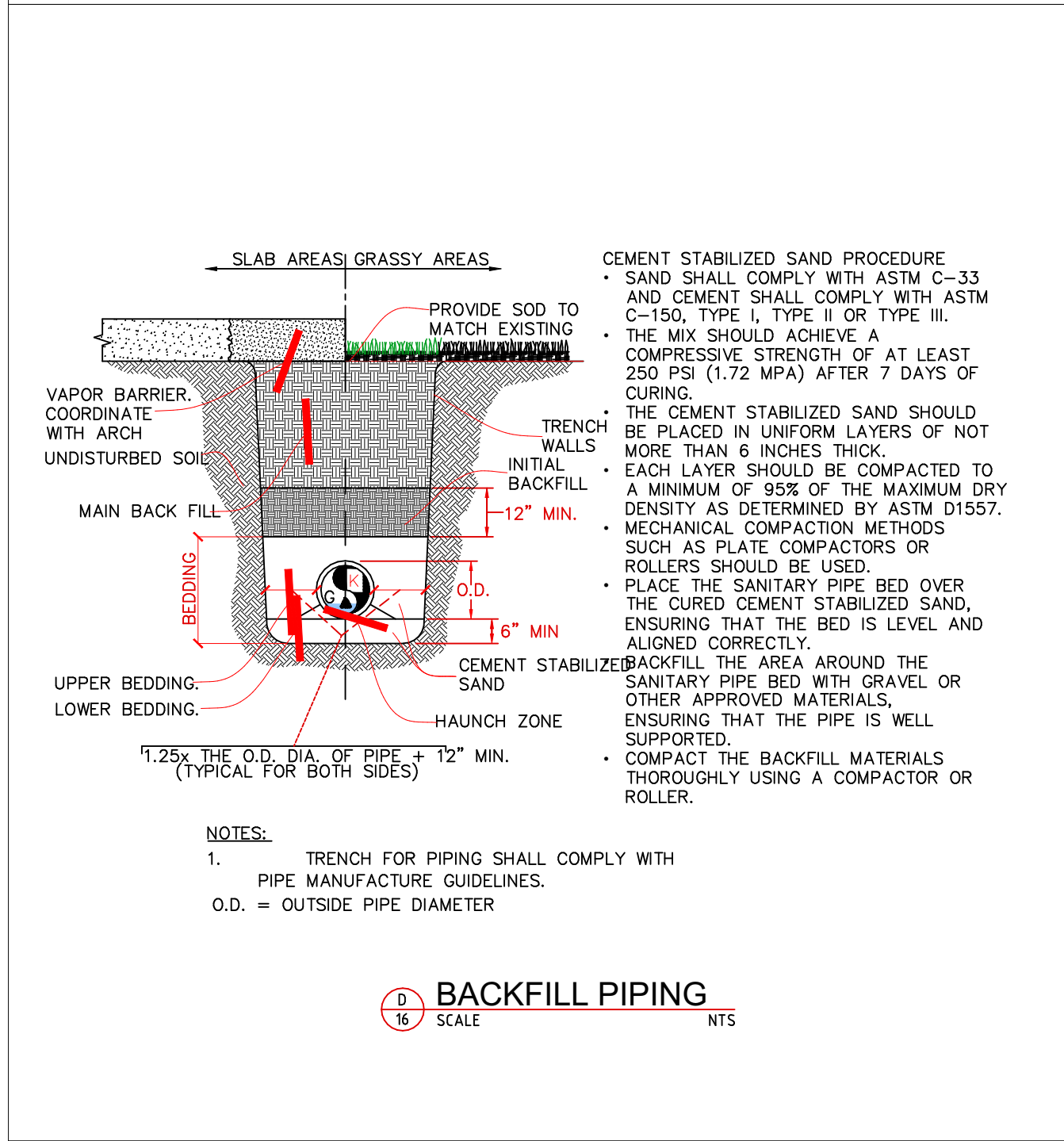
WALL CLEANOUT
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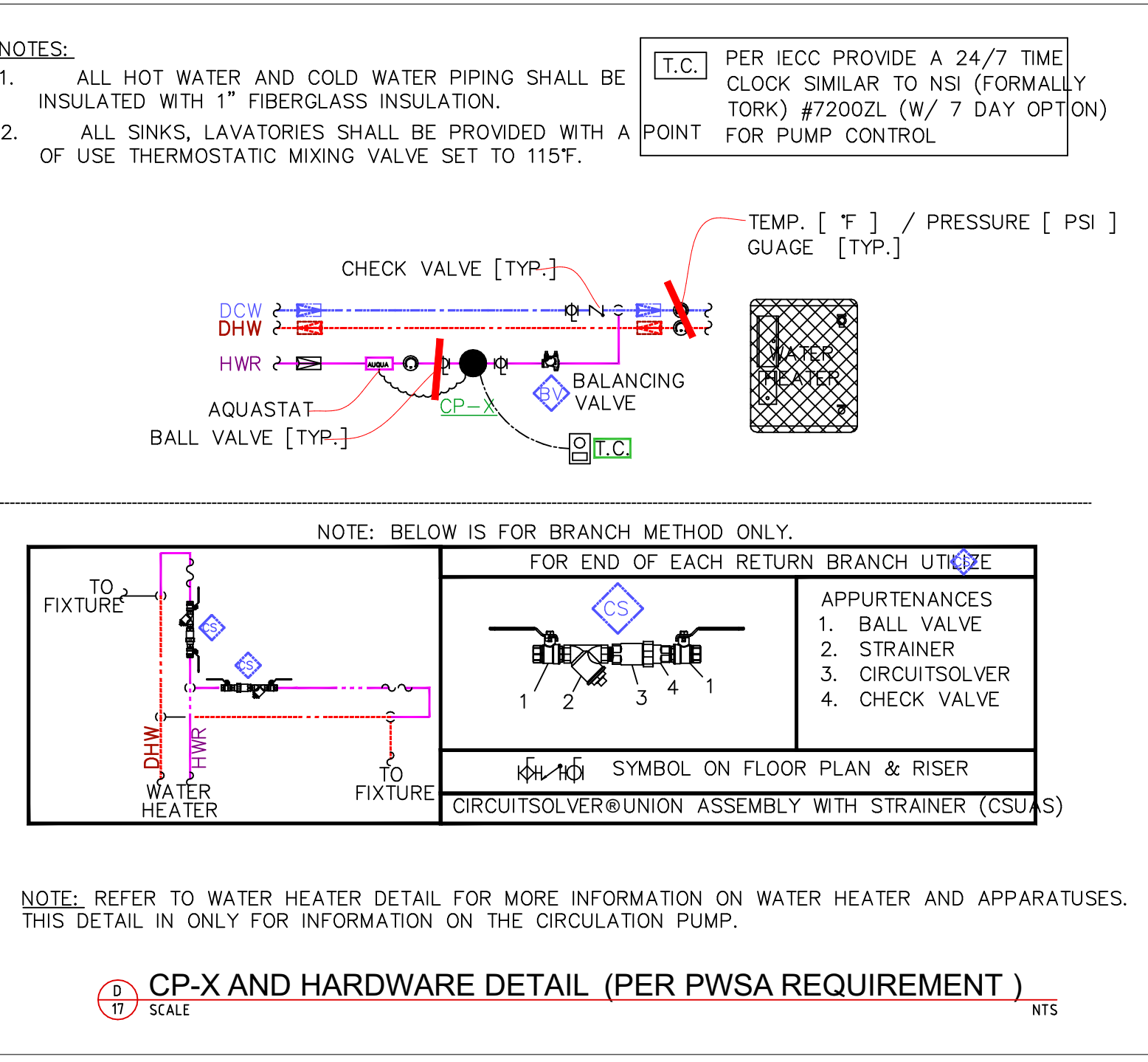
FLOOR DRAIN WITH FUNNEL
SCALE NTS



PIPE HANGER/SUPPORT
SCALE NTS



BACKFILL PIPING
SCALE NTS



CP-X AND HARDWARE DETAIL (PER PWSA REQUIREMENT)
SCALE NTS

OWNER SIGNATURE

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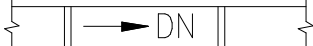
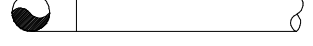
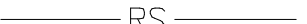
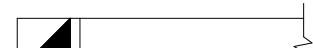
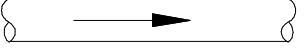
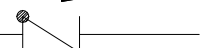
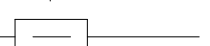
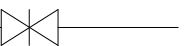
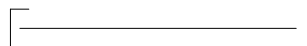
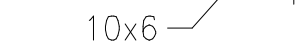
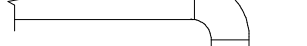
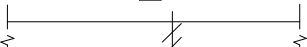
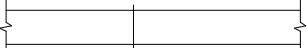
DISCIPLINE:
PLUMBING

PROJECT TITLE:
**WESTLAND DRIVE TENANT
RENOVATION**

DRAWING TITLE:

DETAILS

DRAWN BY:	CHECKED BY:	DATE:
G.M	N.B	
JOB NO:	SHT NO:	SCALE:
	PL-06	As Indicated

MECHANICAL LEGEND					
SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
		COORDINATE WITH ELECTRICAL			LINED DUCTWORK (OR PLENUM)
	CD	CONDENSATE DRAIN (A.C)			DUCT RISE IN DIRECTION OF FLOW
	D	DRAIN			DUCT DROP IN DIRECTION OF FLOW
	RD	REFRIGERANT DISCHARGE			ROUND DUCT UP
	RL	REFRIGERANT LIQUID			ROUND DUCT DOWN
	RS	REFRIGERANT SUCTION			SUPPLY DUCT UP
		PIPE DOWN			SUPPLY DUCT DOWN
		PIPE UP		RA/OA	RETURN AIR DUCT/OUTSIDE AIR DUCT UP
		PIPE RISE (OR DN. FOR DROP)			RETURN AIR DUCT/OUTSIDE AIR DUCT DOWN
		DIRECTION OF FLOW IN PIPE			EXHAUST AIR DUCT UP
	AV	AIR VENT (VALVE)			EXHAUST AIR DUCT DOWN
	CHV	CHECK VALVE			DUCT TRANSITION
	CV (2W)	CONTROL VALVE (2-WAY)		CD	CEILING DIFFUSER
	CV (3W)	CONTROL VALVE (3-WAY)		RR	RETURN REGISTER
	FCD	AUTOMATIC FLOW CONTROL DEVICE		ER	EXHAUST REGISTER
	SOV	SHUT OFF VALVE		T'STAT	THERMOSTAT OR TEMPERATURE SENSOR (NUMBER INDICATES EQUIPMENTOR ZONE SERVED)
		GLOBE/BALL/BUTTERFLY VALVE		H'STAT	HUMIDISTAT
	BV	COMBINATION BALANCING & SHUT-OFF VALVE			CARBON DIOXIDE SENSOR
	FEV	FLOW ELEMENT VENTURI		CFM	CUBIC FEET PER MINUTE
		VALVE ON RISE OR DROP			SYMBOL, SEE EQUIPMENT SCHEDULE
	STR.	STRAINER			
	CL	CAPPED LINE			
	DN.	DOWN OR DROP			
	UP	RISE OR RISER			
	RV	PRESSURE RELIEF VALVE			
	PG	PRESSURE GAUGE WITH BALL VALVE			
	R.	ECCENTRIC REDUCER			
	R.	CONCENTRIC REDUCER			
	FC	FLEXIBLE CONNECTION (PIPE)			
	PA	PIPE ANCHOR			
	U	UNION			
		DUCTWORK (1ST NUMBER INDICATES WIDTH SHOWN), NET INSIDE DIMENSION			
	TV	SQUARE ELBOW WITH TURNING VANES			
		RADIUS ELBOW			
	MVD	MANUAL VOLUME DAMPER			
	MOD	MOTOR OPERATED DAMPER			
	BDD	BACKDRAFT DAMPER			
	FD	FIRE DAMPER			
	SD	DUCT MOUNTED SMOKE DETECTOR			
	SFD	AUTOMATIC SMOKE AND FIRE DAMPER			
	FLEX	FLEXIBLE CONNECTION (DUCTWORK)			
	FLEX	FLEXIBLE CONNECTION OR SEISMIC JOINT			

HVAC ABBREVIATIONS			
A	AMPERES	HZ	FREQUENCY
AC	AIR CONDITIONING	IN	INCH OR INCHES
AD	ACCESS DOOR	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR	LG	LENGTH
AL	ACOUSTICAL LINING	LAT	LEAVING AIR TEMPERATURE
BHP	BRAKE HORSEPOWER	LBS	POUNDS
BTU	BRITISH THERMAL UNIT	LDB	LEAVING DRY BULB TEMPERATURE
BTUH	BTU PER HOUR	LIN FT	LINEAR FEET
CD	CEILING DIFFUSER	LWB	LEAVING WET BULB TEMPERATURE
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM
CG	CEILING GRILLE	MBH	THOUSAND BTU PER HOUR
CLG	CEILING	MHP	MOTOR HORSEPOWER
COMPR	COMPRESSOR	MIN	MINIMUM
CR	CEILING REGISTER	NIC	NOT IN CONTRACT
DB	DRY BULB	NO.	NUMBER
DIAM	DIAMETER	NTS	NOT TO SCALE
DN	DOWN	RA	RETURN AIR
DWG	DRAWING	RM	ROOM
DX	DIRECT EXPANSION	RPM	REVOLUTIONS PER MINUTE
EAT	ENTERING AIR TEMPERATURE	SP	STATIC PRESSURE
EDB	ENTERING DRY BULB TEMPERATURE	SPEC	SPECIFICATION
EF	EXHAUST FAN	TEMP	TEMPERATURE
EWB	ENTERING WET BULB	TG	TOP GRILLE
EWT	ENTERING WATER TEMPERATURE	TV	TURNING VANES
°F	DEGREES FAHRENHEIT	TYP	TYPICAL
FC	FLEXIBLE CONNECTION	W	WIDTH
FD	FIRE DAMPER	W/	WITH
FIN FL	FINISHED FLOOR	W/O	WITHOUT
FLA	FULL LOAD AMPERES	WB	WET BULB
FPM	FEET PER MINUTE	WMS	WIRE MESH SCREEN
FT	FEET	SG	SUPPLY GRILLE
HD	HEAD	RG	RETURN GRILLE
HR	HOUR	SP	SMOKE PURGE
MAU	MAKE UP AIR UNIT		

OWNER SIGNATURE

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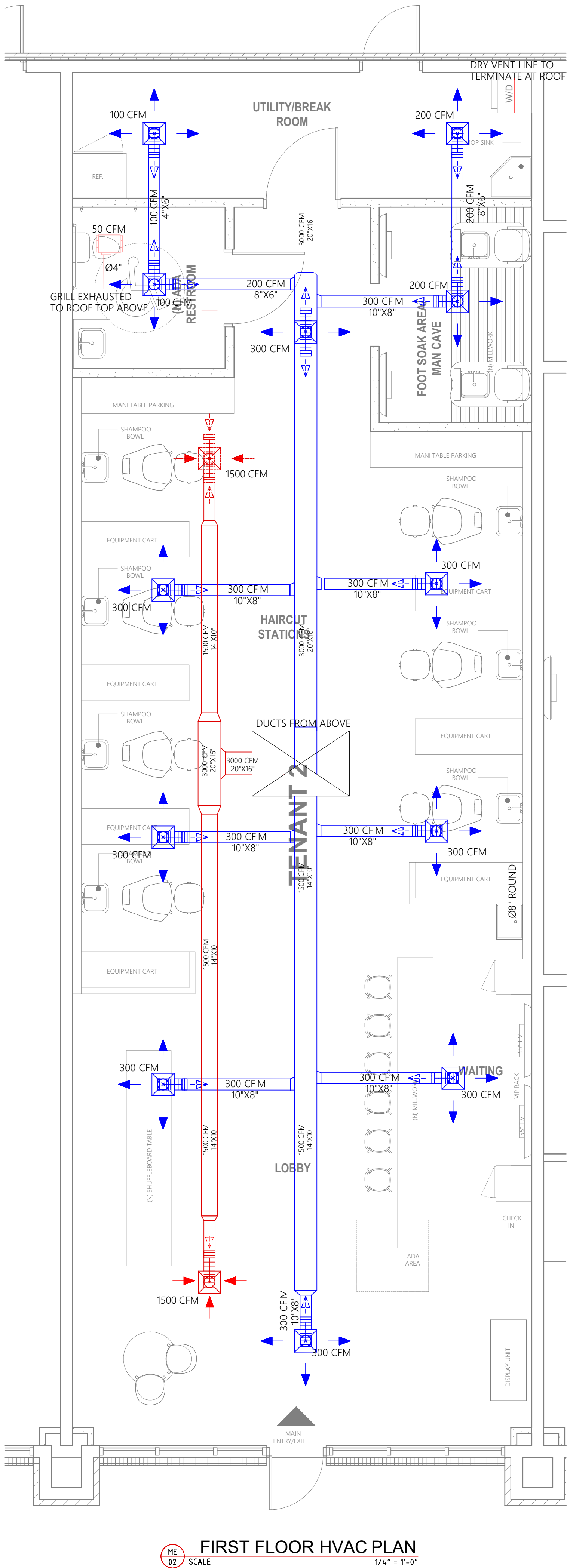
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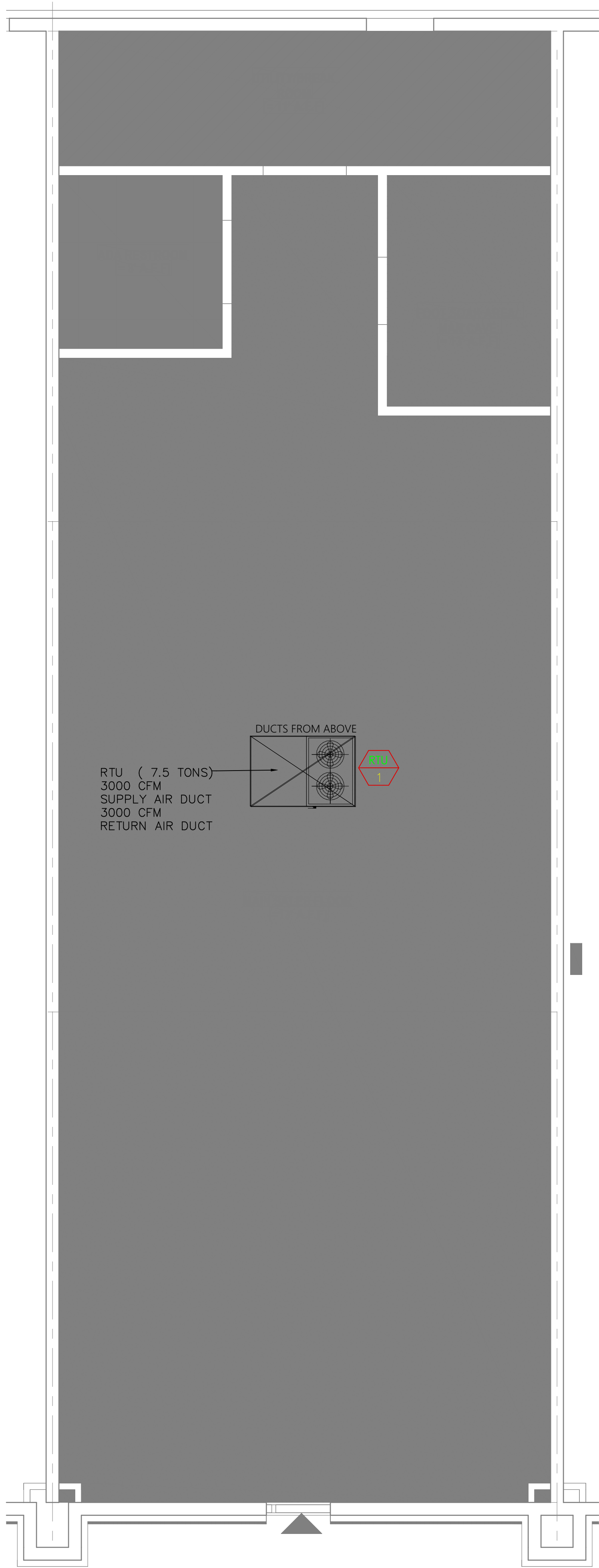
PROJECT TITLE:
**WESTLAND DRIVE TENANT
RENOVATION**

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NOTES

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JOB NO:	SHT NO:	SCALE:
	ME-01	



ME 02 FIRST FLOOR HVAC PLAN
SCALE 1/4" = 1'-0"



ME 02 HVAC ROOF PLAN
SCALE 1/4" = 1'-0"

: LEGEND :	
SYMBOL	DESCRIPTION
	AIR SUPPLY DUCTS
	AIR RETURN DUCTS
	AIR SUPPLY GRILL
	AIR RETURN GRILL
EF	EXHAUST FAN

OWNER SIGNATURE

REVISION STATUS

Rev	DATE	DESCRIPTION	DRAWN BY

CLIENT/CONSULTANT APPROVAL STATUS

APPROVED	(A)
APPROVED WITH NOTES	(B)
RESUBMIT	(C)
DISAPPROVED	(D)

OWNER:

**Tune-Up
"The Manly Hair Salon"**

ADDRESS:

**9704 WESTLAND DRIVE
KNOXVILLE, TN 37922**

DESIGN CONSULTANT:
TSABA CORP
NADIF BRACEY
254 CHAPMAN RD, STE 208 #13130
NEWARK, DELAWARE 19702
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DRAWING STATUS: DESIGN DRAWING

DISCIPLINE: MECHANICAL

PROJECT TITLE:
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RENOVATION**

DRAWING TITLE:
**FIRST FLOOR & ROOF
HVAC PLANS**

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JOB NO:	SHT NO:	SCALE:
	ME-02	1/4"=1'-0"

Code: 2024 IMC Ch. 4 / Table 403.3.1.1 (outdoor air rates) ASHRAE 62.1-2022 (referenced by 2024 IMC §403.3) 2024 IMC §502–503 (local exhaust) Ref: the mechanical sheets Ref: the mechanical sheets, the electrical sheets						
9704 Westland Drive, Knoxville, TN 37922 Knox County, TN TSABA Corp / TS9 Designs — 254 Chapman Rd, Ste 208 #13130, Newark, DE 19702 Owner: Nadif Bracey Per Stamped Design Set dtd 9/07/2026 (G.M/N.B.) Commercial Tenant Renovation — Men's Salon (B Occupancy) — Westland Drive Retail Center, 1st Floor						
OUTDOOR AIR VENTILATION — 2024 IMC TABLE 403.3.1.1 (ASHRAE 62.1-2022)						
Space / Zone	Area (SF)	Occupant Load	OA Rate (CFM/person + CFM/SF)	Required OA CFM	Provided CFM	Code Ref. / Notes
Main Sales Floor (haircut stations, check-in, waiting, VIP, lobby) — RTU serves this zone	1400	area ÷ 30 per Table 403.3.1.1 (barbershop/beauty salon: 0.12 CFM/SF + 7.5 CFM/person @ 1 person/30 SF = 47 persons)	0.12 CFM/SF + 7.5 CFM/person	1400×0.12 + 47×7.5 = 168 + 353 = 521 CFM min. OA	2,000 CFM total supply (RTU) — OA fraction to be set ≥ 521/2,000 = 26% minimum; verify via RTU controls	2024 IMC Table 403.3.1.1: Beauty salons/barbershops — 0.12 CFM/SF + 7.5 CFM/person. Occupant load: 1/30 SF per Table 1004.1 of 2024 IBC.
Foot Soak Area / Man Cave — separate zone exhaust required (chemical fumes)	250	250/30 ≈ 9 persons	0.12 CFM/SF + 7.5 CFM/person	250×0.12 + 9×7.5 = 30 + 68 = 98 CFM min.	300 CFM exhaust shown on the mechanical sheets (10"×8" exhaust grille, per mechanical plan note, exhausted to rooftop) — COMPLIES	2024 IMC §502.14: nail/foot-soak areas require local exhaust (see §502 schedule below). Also serves ventilation requirement. RTU return handles makeup air.
Utility/Break Room (W/D, ref., mop sink) [11' AFF per mechanical sheets]	200	5 (staff estimate)	0.12 CFM/SF + 7.5 CFM/person (break room)	200×0.12 + 5×7.5 = 24 + 37.5 = 62 CFM	200 CFM exhaust per the mechanical sheets (break room branch) — COMPLIES	Break room/utility occupancy. 200 CFM supply/exhaust noted on mechanical plan
ADA Restroom [8' AFF per mechanical sheets]	100	1-2 (restroom)	Per 2024 IMC §502.3 local exhaust (not OA rate driven)	50 CFM intermittent or 20 CFM continuous per §502.3	Exhaust fan, ducted to roof per the mechanical sheets (Ø4" grill exhausted to rooftop) — COMPLIES	2024 IMC §502.3: restroom exhaust — 50 CFM intermittent or 20 CFM continuous; not counted toward general ventilation OA
LOCAL EXHAUST SCHEDULE — 2024 IMC §502 (COMMERCIAL SPECIAL-OCCUPANCY EXHAUST)						
Space	Required Exhaust	Provided	Method / Sone Req.	Code Reference	Status	Notes
ADA Restroom	50 CFM intermittent or 20 CFM continuous	Exhaust fan, ducted to rooftop per the mechanical sheets	≤1.0 sone per the elect	2024 IMC §502.3	COMPLIES	Fan sized per room volume; sone limit per the electrical sheets general note
Shampoo Bowl / Hair-Chemical Area (male)	0.10 CFM/SF (hair salon) = 1,400 × 0.10 = 140 CFM	Return air from RTU (2,000 CFM supply/return) — no dedicated exhaust	Ducted return to RTU; C	2024 IMC §502.14 / Table 403.3.1.1 (beauty salons)	INSUFFICIENT — see Observations and Suggest	Per 2024 IMC §502.14, beauty salon chemical service areas require local exhaust at 0.20 CFM/SF minimum at point of use. RTU return air alone does not satisfy this requirement. Dedicated low-wall exhaust system required at shampoo stations — see Calc E and Observations and Suggestions tab for full
Foot Soak Area / Man Cave (spa basin ch	0.20 CFM/SF = 250 × 0.20 = 50 CFM min. dedicated	300 CFM grill exhausted to rooftop (Ø4" × 2 per the mecha	Dedicated exhaust duc	2024 IMC §502.14 (nail/foot-soak chemical exhaust	COMPLIES	300 CFM > 50 CFM required; excess provides margin for odor/fume dilution
Utility/Break Room	Minimum 20 CFM continuous or 100 CFM intermit	200 CFM exhaust per the mechanical sheets branch duct	Ducted to RTU or roof p	2024 IMC §502 (general ventilation)	COMPLIES	Clothes dryer: 4" rigid metal exhaust duct per 2024 IMC §504.4. Max equivalent duct length 35 ft (25 ft straight + 2.5 ft per 45° elbow). No flexible vinyl; no screws in airstream; no concealed connections.
Clothes Dryer (W/D utility room)	Per 2024 IMC §504.4: 4" Ø rigid metal duct, max. eq	4" metal duct, ducted to exterior per the mechanical sheet	4" rigid metal — no fle	2024 IMC §504.4	PER DETAIL — VERIFY FINAL RUN LENGTH	Per 2024 IMC §504.4: 4" Ø rigid metal duct to exterior. Max equivalent length 35 ft. Screwless airstream connections only. Verify final run length against 35 ft equivalent before rough-in.
NOTE: Outdoor air rates per 2024 IMC Table 403.3.1.1 using ASHRAE 62.1-2022 default values for barbershop/beauty salon occupancy. Total floor area assumed 1,650 SF (confirmed by owner) — verify against architectural floor-area take-off; recalculate required OA CFM if actual area differs materially. RTU provides 2,000 CFM total supply at 90° transitions per the mechanical sheets; OA fraction must be set ≥ 26% at the RTU controls (minimum economizer or OA damper setting) to meet ventilation requirements for the main sales floor. The foot soak area is the highest exhaust-intensity zone per 2024 IMC §502.14 (nail/foot-soak fume control); dedicated Ø4" grill × 2 shown on the mechanical roof plan exhausting to rooftop above. Dryer exhaust per 2024 IMC §504.4 — verify equivalent duct length with mechanical contractor. 2024 IMC adopted by City of Knoxville per local ordinance.						

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PROJECT TITLE: WESTLAND DRIVE TENANT RENOVATION		
DRAWING TITLE: VENTILATION & EXHAUST SCHEDULE		
DRAWN BY: G.M	CHECKED BY: N.B	DATE:
JOB NO:	SHT NO: ME-03	SCALE:

CALC E — HVAC LOAD SUMMARY & DUCT SIZING						
Code: 2024 IMC Ch. 4 / §603 (duct sizing) ASHRAE Fundamentals (Manual J/equivalent method) 2018 IECC Commercial (TN adopted) Ref: the mechanical sheets Ref: the mechanical sheets						
9704 Westland Drive, Knoxville, TN 37922 Knox County, TN TSABA Corp / TS9 Designs — 254 Chapman Rd, Ste 208 #13130, Newark, DE 19702 Owner: Nadif Bracey Per Stamped Design Set dtd 9/07/2026 (G.M / N.B.) Commercial Tenant Renovation — Men's Salon (B Occupancy) — Westland Drive Retail Center, 1st Floor						
HVAC EQUIPMENT SUMMARY — PER THE MECHANICAL SHEETS						
Parameter	Value	Unit		Notes / Source		
RTU designation	RTU-1 (shown on the mechanical sheets roof plan)					Single rooftop unit serving main tenant space; per the mechanical sheets
Total supply air (RTU)	2000	CFM				Per the mechanical sheets: 2,000 CFM supply trunk 16"x14" on roof plan; RTU-1
Main trunk size (supply)	16"x14"					Per the mechanical sheets supply duct schedule — 16"x14" main trunk at 2,000 CFM
Duct velocity (main trunk assumed)	1,286	FPM				$V = 2,000 \text{ CFM} \div (16" \times 14" \div 144) = 2,000 \div 1.556 \text{ SF} = 1,286 \text{ FPM}$. Within SMACNA low-velocity limit of 2,000 FPM for main supply trunks.
Exhaust — foot soak area	300	CFM				Per the mechanical sheets: floor plan annotation shows 300 CFM / 10"x8" grille; roof plan shows (2) Ø4" grills at 200 CFM each = 400 CFM. Design basis: 300 CFM used per floor plan annotation. 2024 IMC §502.14 minimum: 50 CFM. Design provides 300 CFM — complies.
Exhaust — restroom	50	CFM				50 CFM intermittent per 2024 IMC §502.3. Code minimum for single-occupant restroom: 50 CFM intermittent or 20 CFM continuous.
Cooling design conditions (Knoxville, TN)	95°F DB / 75°F WB outdoor; 75°F DB / 50% RH indoor					ASHRAE Fundamentals 2021 — Knoxville, TN design conditions (0.4% cooling); verify with HVAC contractor
Heating design conditions (Knoxville, TN)	18°F DB outdoor; 70°F DB indoor					ASHRAE Fundamentals 2021 — Knoxville, TN 99% heating design; verify with HVAC contractor
Estimated cooling load (preliminary)	≈ 5 tons (60,000 BTU/hr)					1,650 SF (confirmed) × 30 BTU/SF/hr = 49,500 BTU/hr = 4.1 tons. Design selection: 5-ton RTU — appropriate given high internal loads (7 shampoo stations, 4 foot-soak basins, high occupancy density). Formal Manual J load calculation required per 2024 IMC §302.1 and 2018 IECC C403.3 before equipment order.
Estimated heating load (preliminary)	≈ 29,700 BTU/hr					1,650 SF (confirmed) × 18 BTU/SF/hr = 29,700 BTU/hr. Electric heat strip on RTU. Formal heating load calculation required per 2024 IMC §302.1 before equipment order.
DUCT SIZING SCHEDULE — 2024 IMC §603 / SMACNA HVAC Duct Construction Standards						
Duct / Branch	Flow (CFM)	Size (per drawings)	Velocity (FPM)	Max Vel. per §603	Friction (in. w.g./100ft)	Notes
Main supply trunk (RTU to first split)	2000	16"x14"	1286	≤2,000 FPM — COMPLIES	0.08 in. w.g./100 ft (target)	1,286 FPM. $2,000 \text{ CFM} \div (16 \times 14 \div 144) = 1,286 \text{ FPM}$. Within SMACNA limit of 2,000 FPM ✓
Branch — main sales floor (RTU supply)	2000	16"x14"	1286	≤2,000 FPM — COMPLIES	0.08	1,286 FPM. Same trunk section — main sales floor primary distribution. Within SMACNA limit ✓
Branch duct — shampoo bowl area	200	8"x6"	600	≤1,500 FPM — COMPLIES	0.08	600 FPM. $200 \text{ CFM} \div (8" \times 6" \div 144 \text{ SF}) = 600 \text{ FPM}$. Within 1,500 FPM SMACNA branch limit ✓
Branch duct — foot soak area	200	8"x6"	600	≤1,500 FPM — COMPLIES	0.08	600 FPM. $200 \text{ CFM} \div (8" \times 6" \div 144 \text{ SF}) = 600 \text{ FPM}$. Within SMACNA limit ✓
Branch duct — lobby / waiting area	300	10"x8"	540	≤1,500 FPM — COMPLIES	0.08	540 FPM. $300 \text{ CFM} \div (10" \times 8" \div 144 \text{ SF}) = 540 \text{ FPM}$. Within SMACNA limit ✓
Branch duct — break room / utility	200	8"x6"	600	≤1,500 FPM — COMPLIES	0.08	600 FPM. $200 \text{ CFM} \div (8" \times 6" \div 144 \text{ SF}) = 600 \text{ FPM}$. Within SMACNA limit ✓
Exhaust duct — foot soak (×2 Ø4" grills, 200 CFM each)	200	Ø4" (each)	2292	≤2,000 FPM — EXCEEDS	Per IMC §502	Ø4" at 200 CFM = 2,292 FPM — exceeds SMACNA 2,000 FPM low-velocity limit. Per 2024 IMC §502 and SMACNA: minimum Ø6" duct required for 200 CFM at ≤1,200 FPM (Ø6": $200 \text{ CFM} \div \pi \times (3"/12)^2 = 1,019 \text{ FPM} \checkmark$). Additionally: floor plan annotates 300 CFM/10"x8" grille; roof plan shows 2× Ø4" at 200 CFM each. See Observations and Suggestions tab.
Exhaust duct — ADA restroom (Ø4" grill), 50 CFM intermittent	50	Ø4"	573	≤2,000 FPM — COMPLIES	Per IMC §502	50 CFM intermittent per 2024 IMC §502.3. $50 \text{ CFM} \div \pi \times (2"/12)^2 = 573 \text{ FPM}$. Ø4" duct adequate at this flow rate. Per 2024 IMC §502.3: 50 CFM intermittent or 20 CFM continuous minimum.
SHAMPOO BOWL CHEMICAL EXHAUST — 2024 IMC §502.14 (NEW — REQUIRED, NOT SHOWN ON CURRENT DRAWINGS)						
Parameter / Item	Value	Unit		Notes / Code Reference		
Code requirement	Local exhaust ventilation required at chemical service areas					2024 IMC §502.14: beauty salons/barbershops with chemical services require dedicated local exhaust at point of chemical use. RTU return air do
Chemical service area (shampoo bowl zone)	350	SF				Estimated from floor plan: 7 stations × approx. 50 SF each (bowl + chair + operator clearance + circulation) = 350 SF design basis. Verify against fi
Required exhaust rate — 2024 IMC §502.14	0.20	CFM/SF				2024 IMC §502.14: beauty/barber chemical service areas — 0.20 CFM/SF minimum.
MINIMUM REQUIRED EXHAUST CFM	70	CFM min.				$350 \text{ SF} \times 0.20 \text{ CFM/SF} = 70 \text{ CFM}$ absolute minimum. Design provides 210 CFM (3× minimum) — recommended for a 7-station salon with concurrent chemical use.
Low-wall exhaust grilles — quantity	7	EA				One grille per shampoo station. Grilles mounted 12"—18" AFF directly behind each shampoo bowl. Chemical fumes concentrate at low level — low-wall placement captures fumes at source. Per TN Admin. Code Ch. 0440-02 (Board of Cosmetology).
Grille size (each)	6"x6"	low-wall exhaust grille				Standard 6"x6" low-wall exhaust grille. 75% free area = 27 in² net free area. At 30 CFM per grille: face velocity = 160 FPM — within 500 FPM limit. Titus 350FL series or approved equal.
CFM per grille	30	CFM each				$30 \text{ CFM} \times 7 \text{ grilles} = 210 \text{ CFM}$ total system exhaust. Exceeds 70 CFM code minimum by 3×. Adequate for concurrent operation of all 7 stations.
TOTAL SYSTEM EXHAUST CFM	210	CFM				7 grilles × 30 CFM each = 210 CFM total. All exhausted to rooftop — no recirculation.
Duct — Group A: left station bank (4 stations)	120	CFM				4 stations × 30 CFM = 120 CFM. Duct: Ø6" round galvanized at 1,000 FPM target. Actual velocity: $120 \text{ CFM} \div \pi \times (3"/12)^2 = 611 \text{ FPM} \checkmark$ (limit 2,000 FPM). Connect individual grille takeoffs via Ø4" flex to Ø6" trunk.
Duct — Group B: right station bank (3 stations)	90	CFM				3 stations × 30 CFM = 90 CFM. Duct: Ø6" round galvanized at 1,000 FPM target. Actual velocity: $90 \text{ CFM} \div \pi \times (3"/12)^2 = 459 \text{ FPM} \checkmark$ (limit 2,000 FPM).
Main combined exhaust duct to rooftop	210	CFM				Groups A + B combined. Duct: Ø8" round galvanized. Velocity: $210 \text{ CFM} \div \pi \times (4"/12)^2 = 602 \text{ FPM} \checkmark$ (limit 2,000 FPM). Route to rooftop through existing plenum — coordinate with structural above ceiling.
Inline exhaust fan — specification	250	CFM rated				Single inline exhaust fan on combined Ø8" main duct to rooftop. Fantech FG 200 inline centrifugal fan (247 CFM @ 0.25" ESP, 8" duct connection) or approved equal. Mount in accessible ceiling space. Control: ON/OFF switch at manager station.
Exhaust fan electrical circuit — CKT 25, EP1	1	Circuit — 1P/15A				Fantech FG 200: 120V, 0.7A FLA. Circuit: 1P/15A breaker, #14 AWG Cu THHN, 3/4" EMT.
Grille mounting height	12"—18"	AFF				Low-wall grilles mounted 12"—18" AFF directly behind shampoo bowl. Chemical fumes (heavier than air) concentrate at low level — capture at source before rising into breathing zone per ASHRAE 62.1 guidance.
TN Board of Cosmetology requirement	Required	Independent of building permit				TN Admin. Code Ch. 0440-02 (Board of Cosmetology): ventilation required at all chemical service stations. Cosmetology inspector verifies exhaust during salon license inspection, independent of the building permit.

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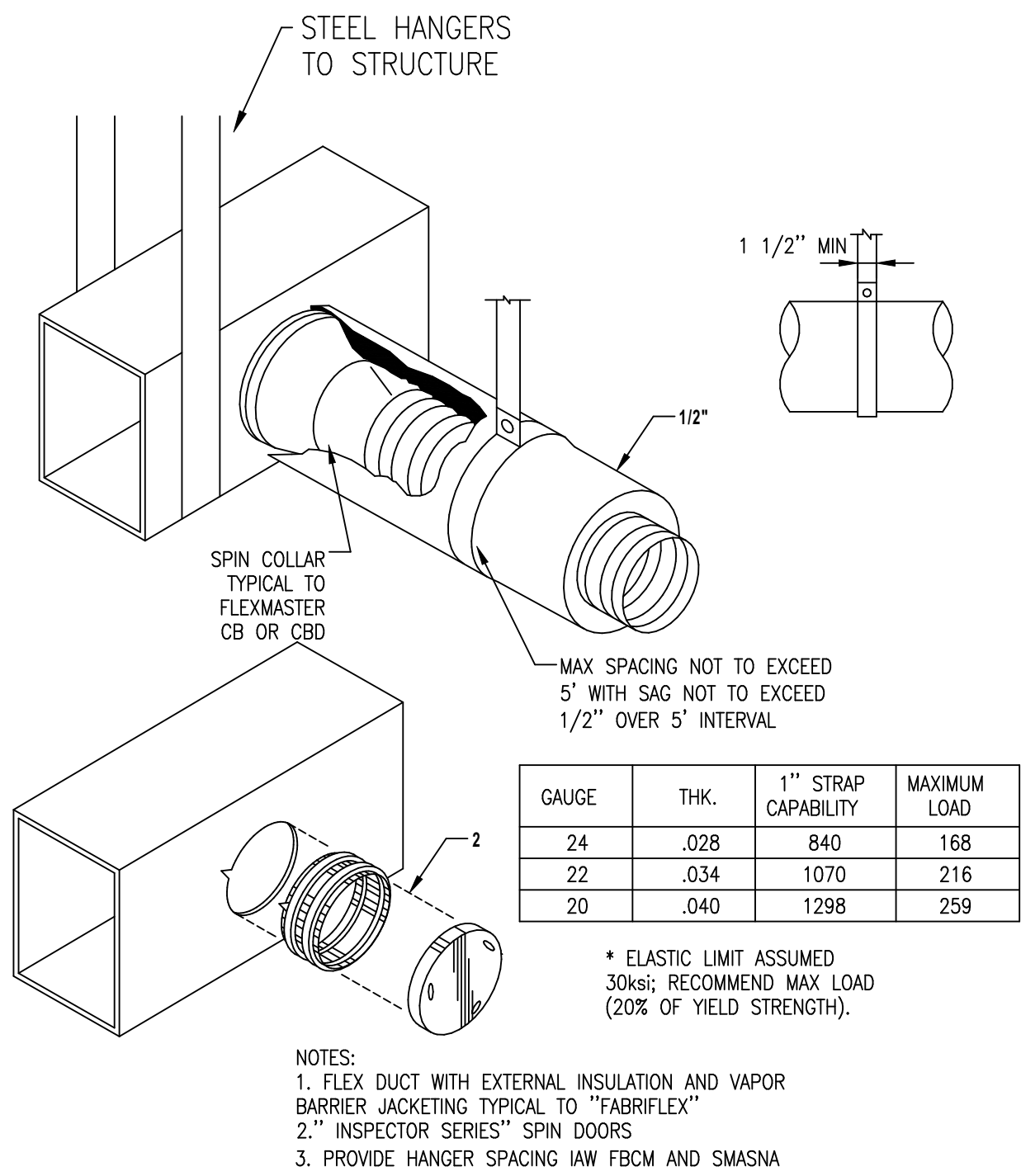
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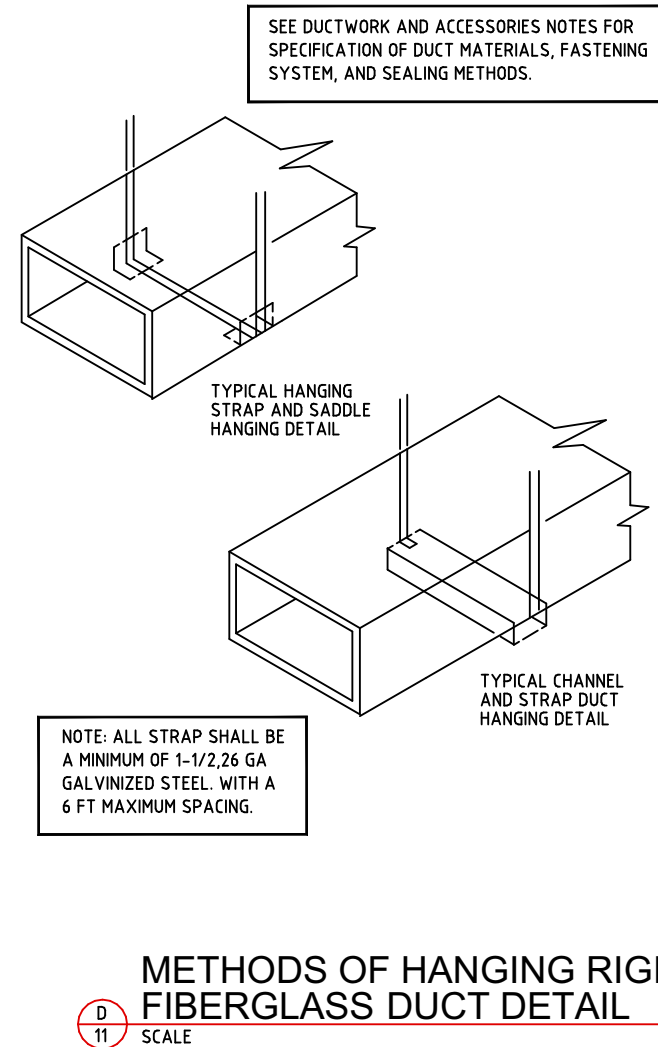
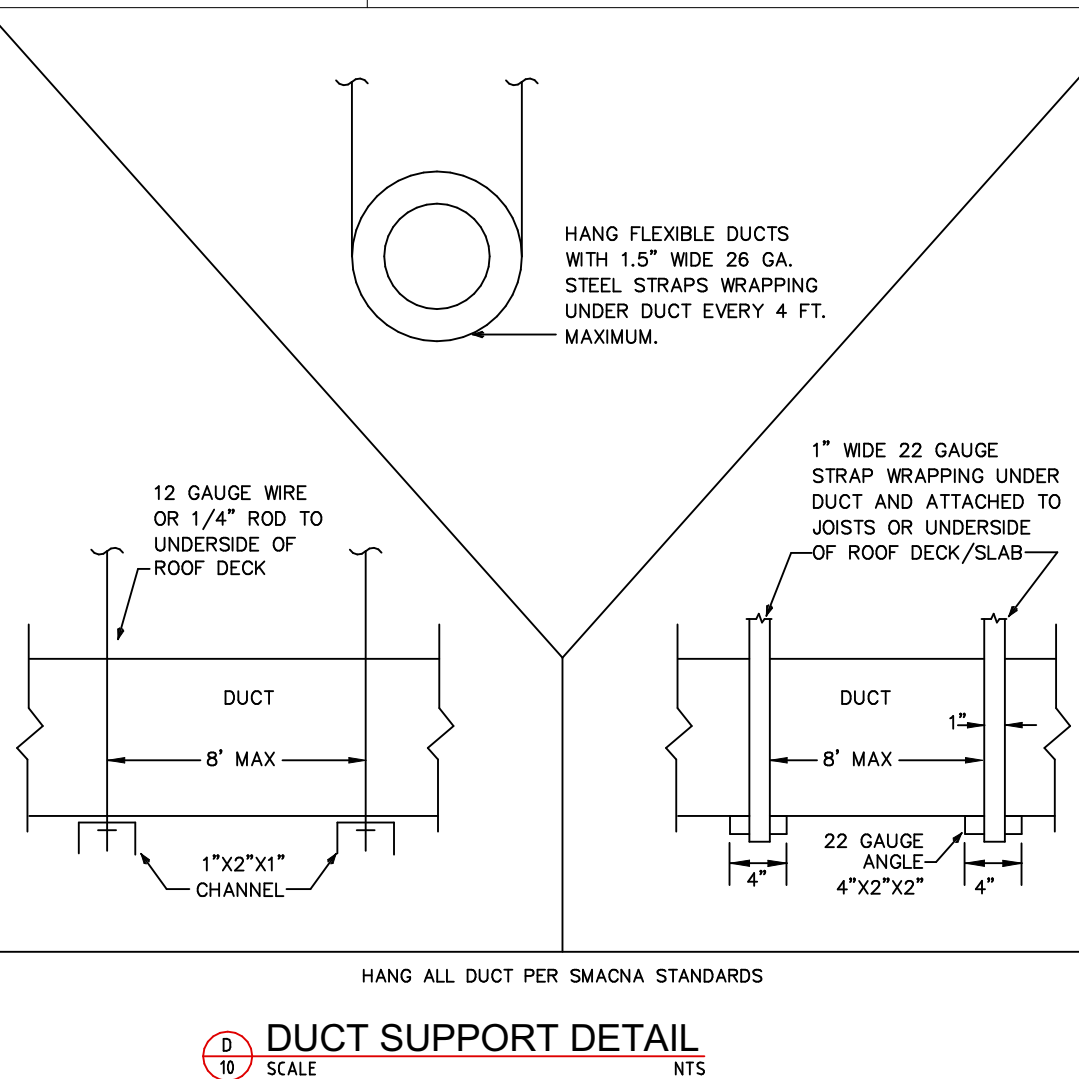
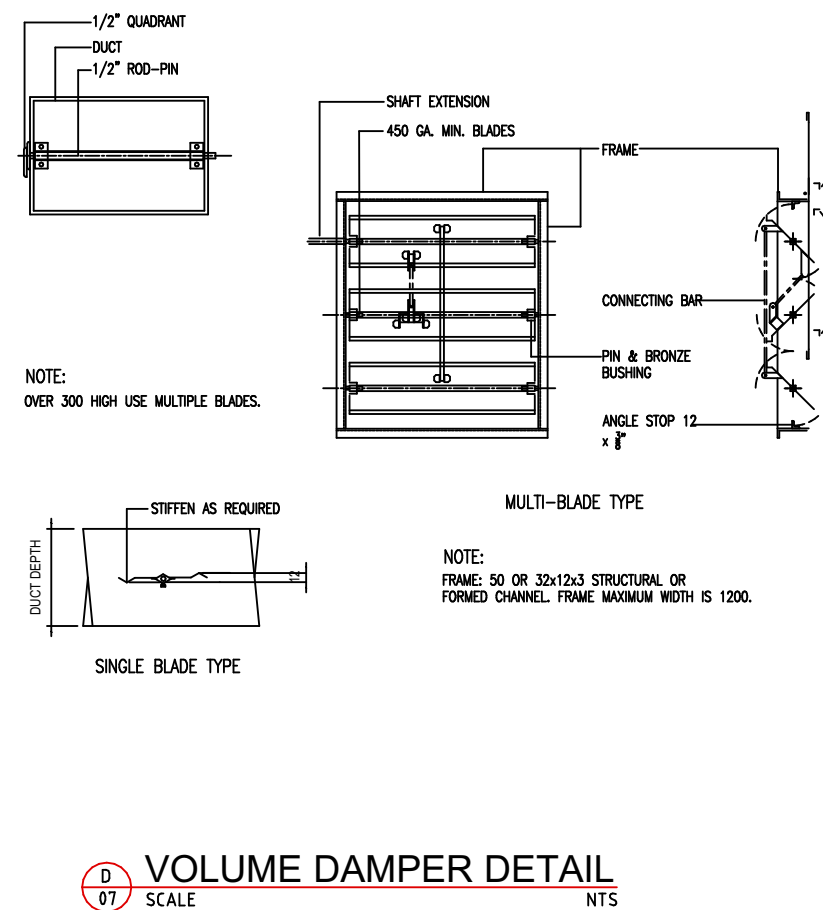
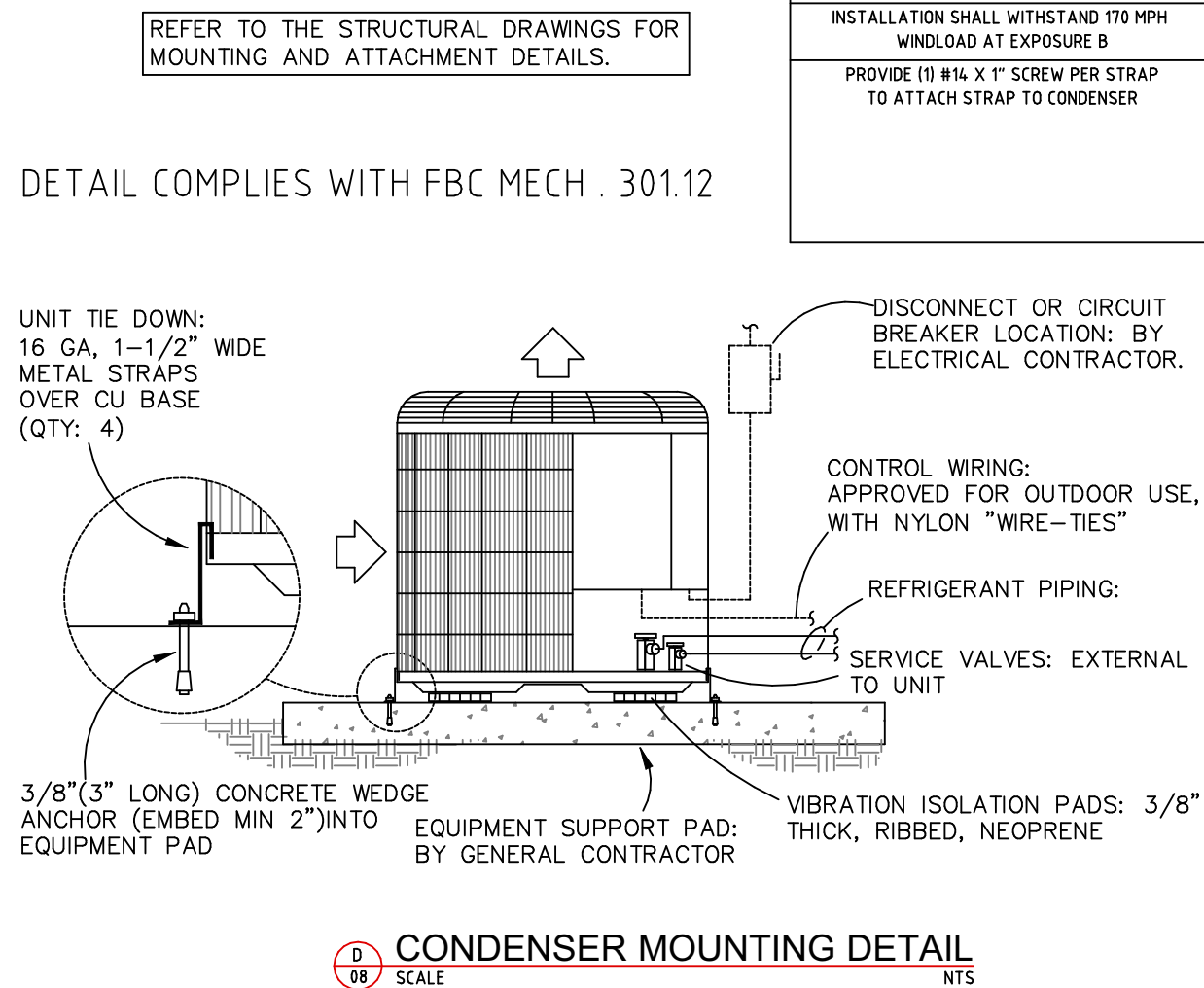
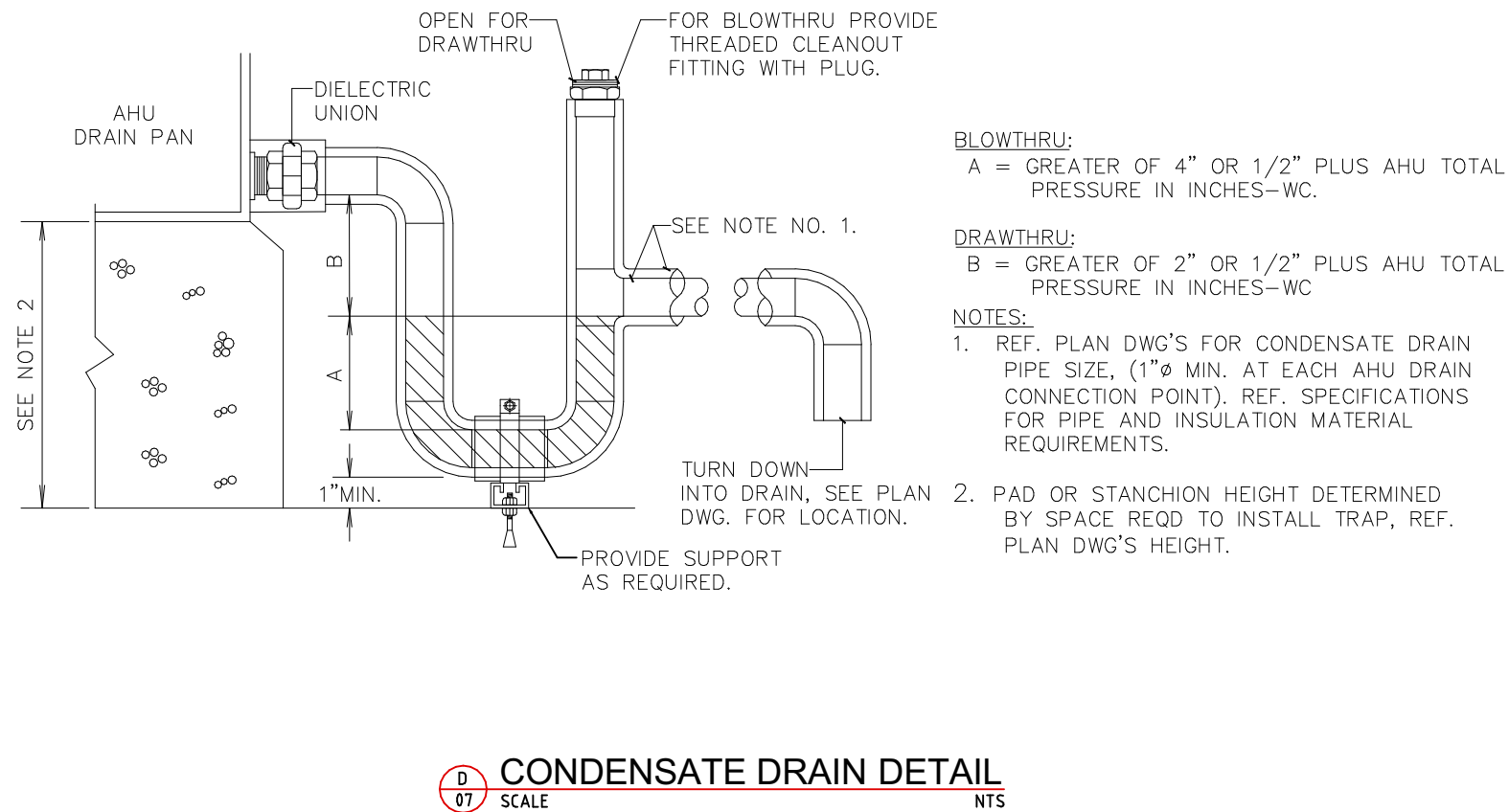
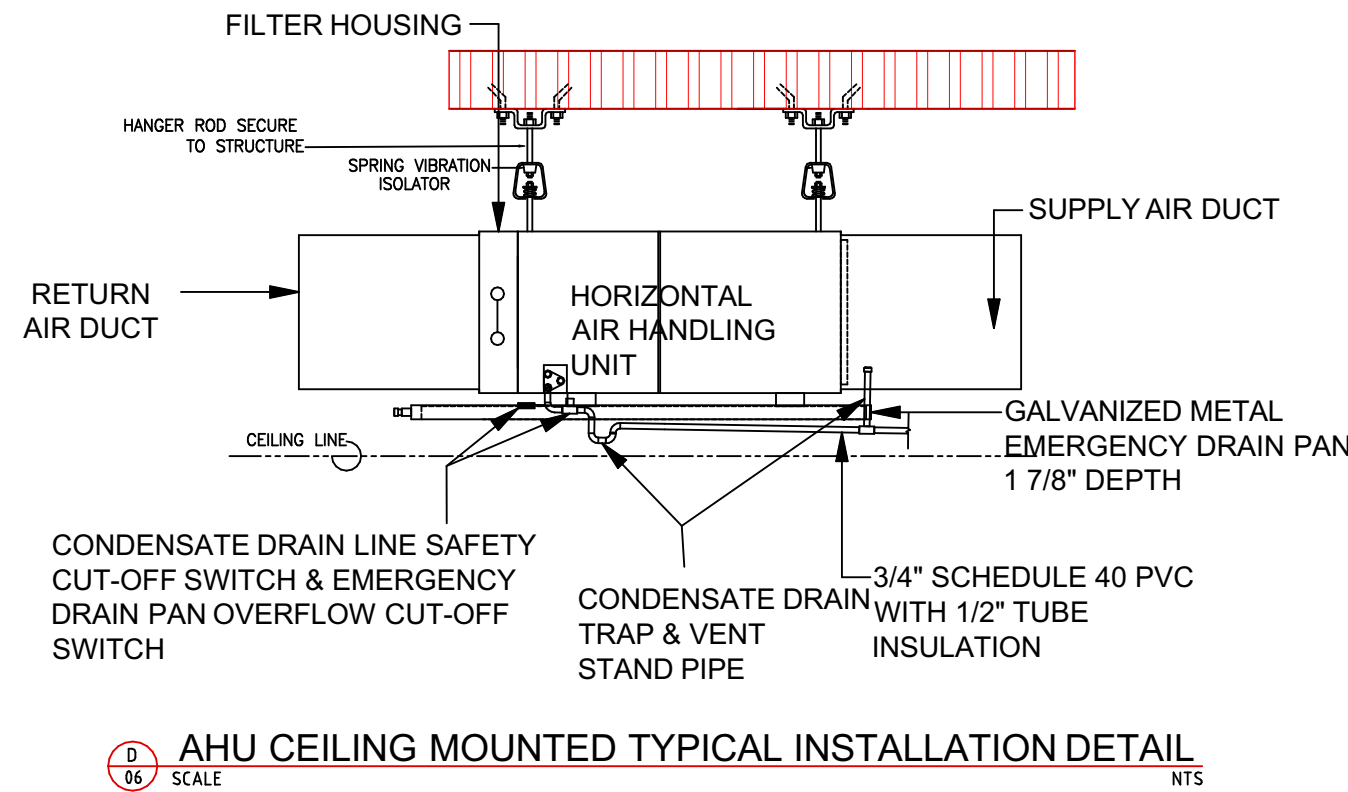
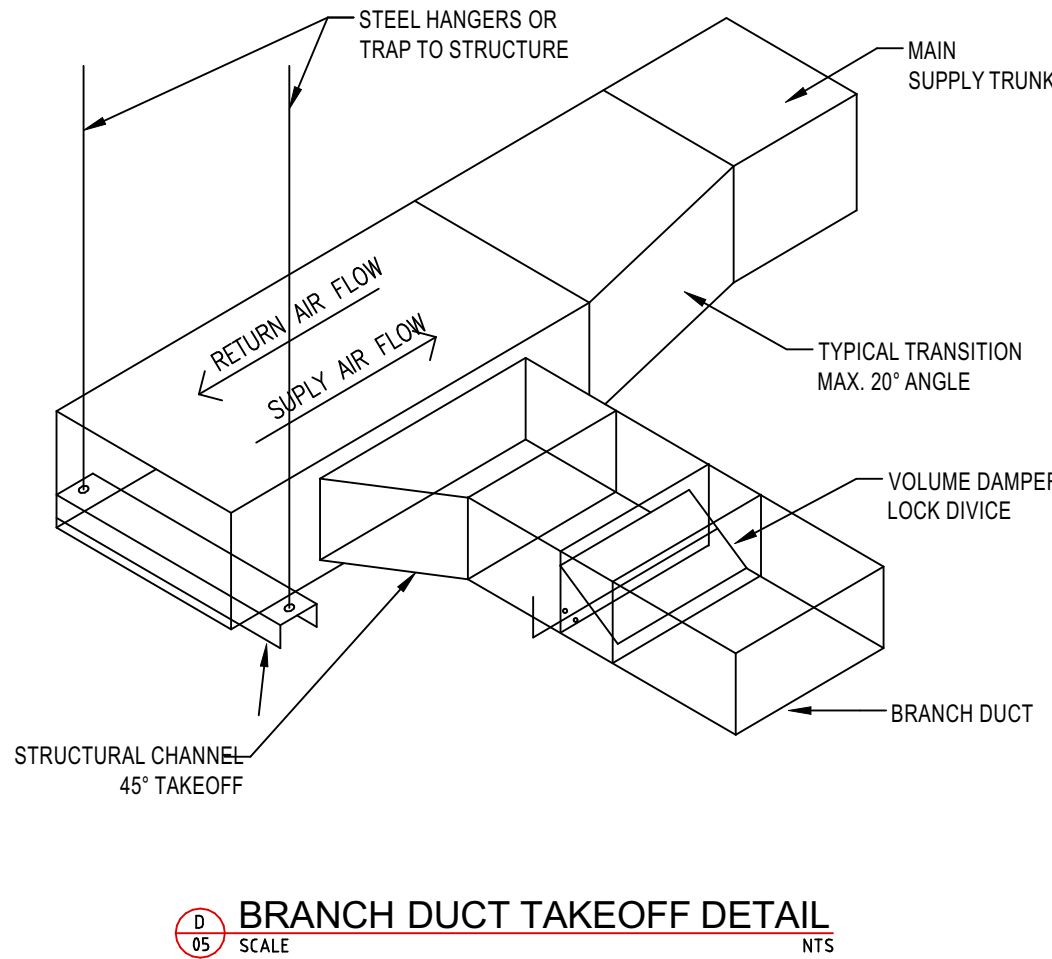
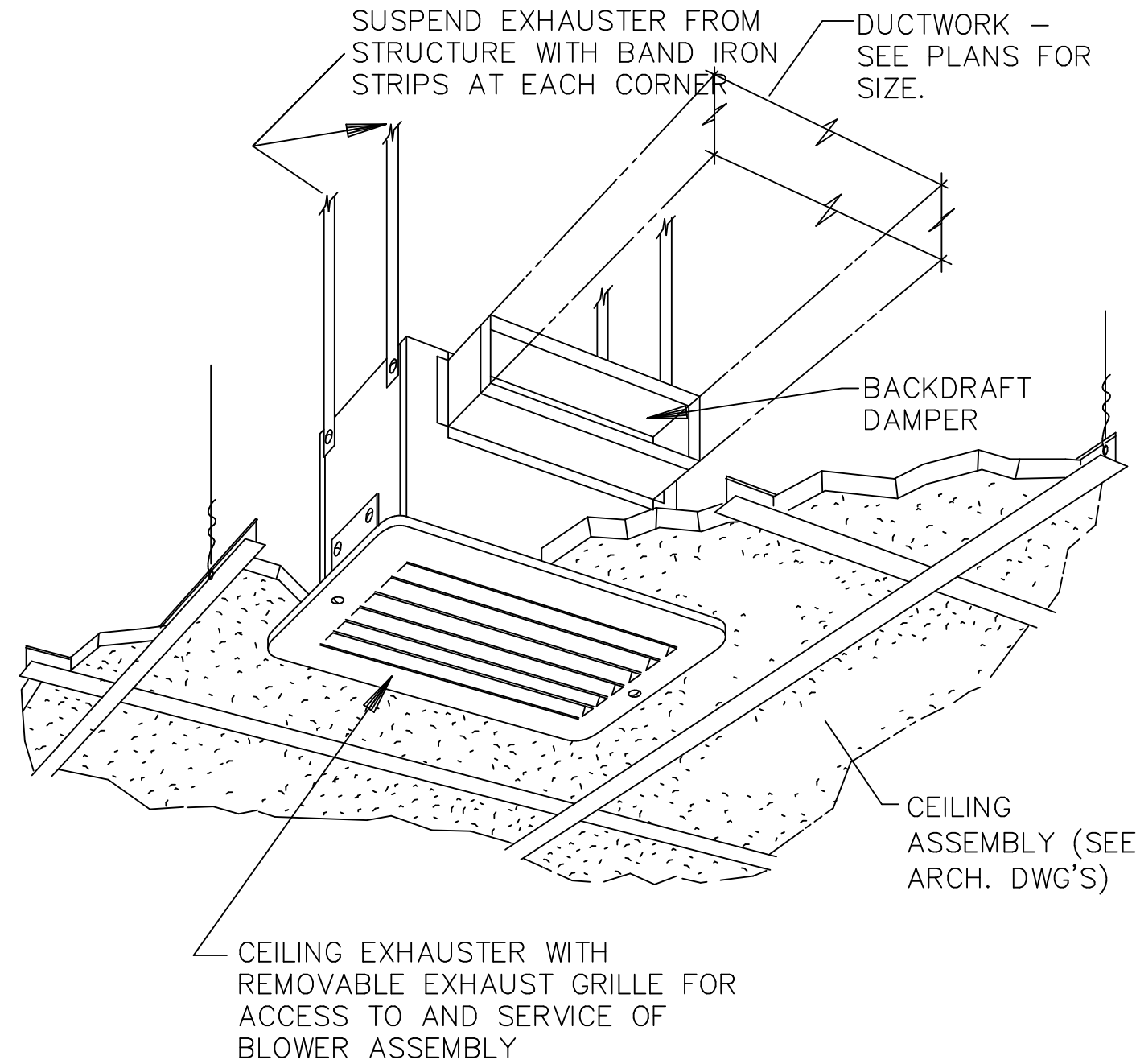
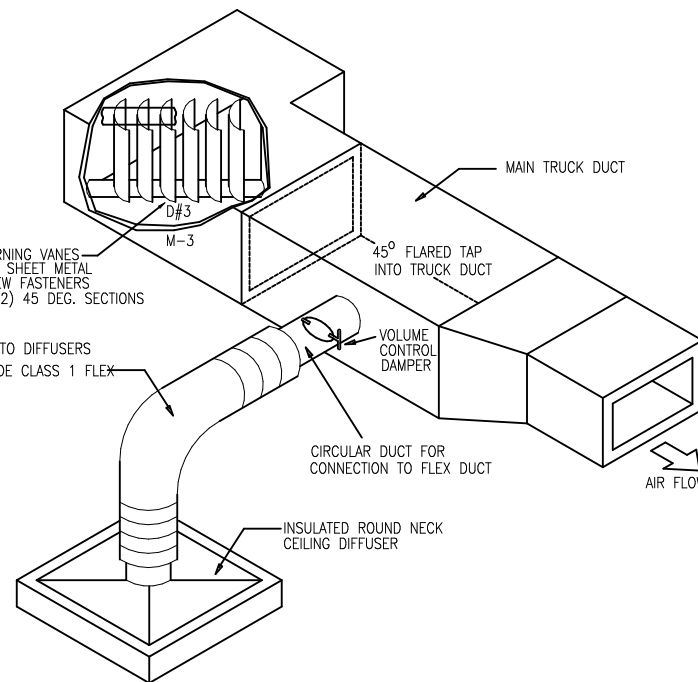
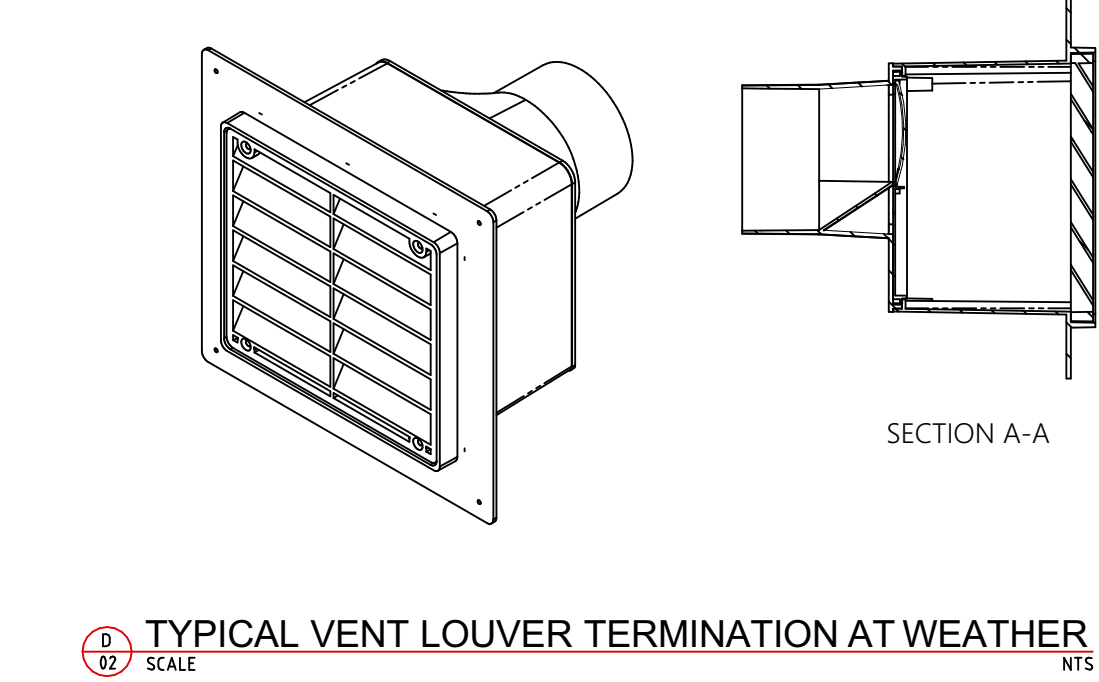
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HVAC LOAD SUMMARY & DUCT
SIZING

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	ME-04	



01 SUPPORT REQUIREMENTS FOR DUCT NTS SCALE

- NOTES:
1. PROVIDE XVENT OR EQUAL NON-COORROSIVE WALL LOUVER W/ INTEGRAL NON-RETURN DAMPER RATED FOR MIAMI-DADE SERVICE.
 2. MOUNT FLUSH WITH STRUCTURE AND SECURE W/ MASONARY ANCORS.
 3. APPLY FINISHED WALL SURFACE TO LOUVER FLANGE.
 4. PAINT TO SUIT ARCHITECTURAL FINISH.



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