GENERAL NOTES

GENERAL REQUIREMENTS:

- A. DRAWINGS. THE DRAWINGS ARE INTENDED TO DESCRIBE THE OVERALL SCOPE OF WORK. CONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND ALERT ARCHITECT TO ANY UNFORESEEN CONSTRUCTION DIFFICULTIES BEFORE BEGINNING WORK. IN-FIELD REVISIONS SHALL NOT OCCUR WITHOUT ARCHITECT'S APPROVAL.
- B. PRE-CONSTRUCTION MEETING. PRIOR TO ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, THE CONTRACTOR SHALL SCHEDULE, WITH OWNERS APPROVAL, A PRE-CONSTRUCTION MEETING WITH THE LOCAL BUILDING DEPT. OR LOCAL PUBLIC WORKS DEPT. VERIFY WHICH AGENCY WOULD BE INVOLVED. THE CONTRACTOR SHALL PROVIDE LOCAL INSPECTOR WITH 24 HOURS NOTICE PRIOR TO INSPECTION
- C. TYPICAL WALL SECTIONS, FINISHES, AND DETAILS ARE NOT INDICATED EVERYWHERE THEY OCCUR ON PLANS. ELEVATIONS AND SECTIONS. REFER TO DETAILED DRAWINGS. CONTRACTOR TO PROVIDE AS IF DRAWN IN FULL.
- D. CODES / PERMITS / REGULATIONS. ALL EXTERIOR SIGNAGE MUST BE SUBMITTED AND REVIEWED UNDER SEPARATE PERMIT APPLICATION.

CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NECESSARY OTHER THAN THE BUILDING PERMIT. CONTRACTOR SHALL ALSO PAY FOR ALL OTHER CHARGES. FEES OR COSTS CHARGED BY THE BUILDING AND CONSTRUCTION DEPARTMENTS. UTILITY AGENCIES OR PRIVATE COMPANIES WHICH REQUIRE SUCH COSTS FOR OR PRIOR TO INSTALLATIONS.

NOTHING IN THE DRAWINGS SHALL BE CONSTRUCTED TO PERMIT AN INSTALLATION IN VIOLATION OF APPLICABLE CODES AND/OR RESTRICTIONS. SHOULD ANY CHANGE IN THE DRAWINGS BE NECESSARY IN ORDER TO COMPLY WITH APPLICABLE CODES AND/OR REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AT ONCE AND CEASE WORK. ALL PARTS PERFORMED UNDER THIS CONTRACT SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES, REGULATIONS, RESTRICTIONS, REQUIREMENTS AND CODES.

AMENDED BY GOVERNING CITY & ALL JURISDICTION RULES AND REGULATIONS. DIMENSIONS ARE SHOWN TO FACE OF MASONRY OR CENTERLINE OF OPENING, UNLESS DETAILED OTHERWISE ON DRAWINGS.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL USE DIMENSIONS SHOWN ON THE DRAWINGS AND ACTUAL FIELD MEASUREMENTS. NOTIFY THE ARCHITECT IF ANY DISCREPANCIES ARE FOUND.

THE CONTRACTOR SHALL VERIFY ALL ROUGH-IN DIMENSIONS FOR THE EQUIPMENT FURNISHED AND INSTALLED BY HIMSELF/HERSELF OR OTHERS.

THE CONTRACTOR SHALL CONSULT THE PLANS OF ALL TRADES FOR OPENINGS THROUGH SLABS, WALLS, CEILINGS AND ROOFS.

- SHOP DRAWINGS REVIEW. PROVIDE SHOP DRAWINGS FOR THE ARCHITECTS/OWNERS AND AS REQUIRED BY THE CITY PRIOR TO CONSTRUCTION.
- G. CONTRACTOR TO FRAME OPENINGS IN WALLS, CEILINGS AND FLOORS FOR H.V.A.C. AND OTHER MECHANICAL OR ELECTRICAL WORK WHERE REQUIRED AND NOT OTHERWISE SHOWN ON THE PLANS.
- H. COMPLY WITH APPLICABLE REGULATIONS FOR BARRIER-FREE FACILITIES **INCLUDING:**
 - 1). MAXIMUM THRESHOLD HEIGHT TO BE ONE HALF INCH (1/2") ALONG ACCESSIBLE ROUTE OF TRAVEL.
 - 2). STAIR NOSINGS TO BE FLUSH, SLIP RESISTANT AND ROUNDED TO RADIUS OF ONE HALF INCH (1/2")MAXIMUM.

DOORS/WINDOWS

A. GLAZING. PROVIDE GLAZING PER CITY CODES: INSULATED UNITS SHALL BE CLASS 40 GLAZING WITH LOW ARGON GAS.

GLAZING IN LOCATIONS SUBJECT TO HUMAN IMPACT SUCH AS PANES IN DOORS. GLAZING WITHIN A 24" ARC OF A DOOR OPENING, GLAZING WITHIN 18" OF THE FLOOR (AND IS OVER 9 SQ. FT. PER PANEL) SHALL BE TEMPERED GLASS OR LAMINATED SAFETY GLASS PER CODE.

GLAZING U-VALUE (AMMA TESTED) U-40 MAXIMUM

FIRE PROTECTION

A. CC TO EXTEND THE EXISTING AUTOMATIC FIRE SPRINKLER SYSTEM AS REQUIRED. GET SYSTEM DESIGN APPROVED BY GOVERNING CITY'S BUILDING DEPARTMENT AND FIRE DEPARTMENT PRIOR TO INSTALLATION (IF APPLICABLE). NOTE: GC TO PROVIDE LIFE SAFETY MANAGEMENT IN THEIR BIDDING PROCESS

B. PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY INTERNATIONAL BUILDING CODE AND LOCATE PER FIRE MARSHAL'S DIRECTION. 1 FIRE EXTINGUISHER PER 3,000 S.F.

C. MAINTAIN STRUCTURAL AND FIRE RESISTIVE INTEGRITY AT EXTERIOR AND RATED INTERIOR WALL PENETRATIONS FOR ELECTRICAL, MECHANICAL, PLUMBING AND COMMUNICATIONS CONDUITS, PIPED AND SIMILAR SYSTEMS PER CITY'S CODE.

OF BUILDING AREA WITHIN 75'-0" TRAVEL DISTANCE BETWEEN EXTINGUISHERS.

A. OPENINGS. ALL OPENINGS TO BE CAULKED, SEALED OR WEATHER-STRIPPED.

ALL FLASHING AND ARCHITECTURAL SHEET METAL TO BE 24 GAUGE GALVANIZED STEEL, FACTORY PRIMED AND FIELD PAINTED. 10'-0" LENGTHS, PER SMACNA MANUAL UNLESS OTHERWISE NOTED.

- CAULKING AND SEALANTS. USE PRIMERS AS REQUIRED BY MANUFACTURER. BACKING RODS OR TAPE AS RECOMMENDED BY MANUFACTURER. USE POLYURETHANE SEALANTS AT CONCRETE FLOOR AND SIDEWALK JOINTS. ALL OTHER LOCATIONS USE POLYSULFIDE OR SILICONE.
- VAPOR BARRIERS. CONTINUOUS APPROVED VAPOR BARRIERS SHALL BE INSTALLED ON THE HEATED SIDE OF ALL THERMAL INSULATION INSTALLED.
- D. INSULATION. PROVIDE INSULATION PER LOCAL CODE, COMPONENT PERFORMANCE

THE GC MUST SUBMIT SEPARATE DRAWINGS FOR SPRINKLER AND FIRE ALARM WORK AND SHALL BE UNDER SEPARATE PERMIT - WHEN APPLICABLE.

GENERAL NOTES:

- 1. PRIOR TO DEMOLITION, VERIFY IN FIELD EXISTING WALLS AND IF ANY STRUCTURAL COLUMNS EXIST IF SO, CONTACT ARCHITECT IMMEDIATELY
- 2. CONTRACTOR TO MAINTAIN PROPER LIGHTING, SANITATION AND VENTILATION AT ALL TIMES.
- ALL WORK MUST BE APPROVED BY BUILDING INSPECTOR PRIOR TO COVERING WORK
- 4. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN A WATER AND WEATHER TIGHT
- ALL WORK TO BE PERFORMED TO CODE BY LICENSE CONTRACTORS PERFORMING WORK IN THEIR SPECIFIC TRADE ONLY.
- 6. ALL DESIGN, DRAWINGS, AND DETAILS REPRESENT COMPLETE WORK IN PLACE. ARCHITECT SHALL
- INTERIOR PARTITIONS NOTED ON PLANS MAY BE SHOWN AS NOMINAL DIMENSIONS, SUCH AS 5" INTERIOR WALL REFERS TO GYPSUM BOARD EACH OVER 3-5/8" STUDS. STUD SPACING IS 24" O.C.

HAVE NO CONTROL OR CHANGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION.

- 8. ALL DEBRIS GENERATED FROM CONSTRUCTION MUST BE KEPT ON THE SITE IN EITHER AN ENCLOSED AREA OR HAULED AWAY DAILY, AND DISPOSED OF LEGALLY OFF-SITE.
- EXTERIOR SIGNAGE IS NOT PART OF THIS CONTRACT OR PERMIT EXCEPT ELECTRICAL ROUGH-IN AND BLOCKING. SIGN CONTRACTOR SHALL MAKE SEPARATE SUBMITTAL TO THE CITY FOR REVIEW AND PERMIT.
- 10. KEEP ALL PIPING AND CONDUIT AS CLOSE TO WALLS AND ROOF DECK AS POSSIBLE AND ALL DUCTWORK AS CLOSE TO ROOF AS POSSIBLE. WHERE EXPOSED, ALL PIPING CONDUIT AND DUCTWORK SHALL BE PAINTED UNLESS NOTED. ALL PIPING CONDUIT SHALL BE ORGANIZED IN A NEAT MANNER RUNNING PARALLEL OR PERPENDICULAR TO ROOF FRAMING MEMBERS.
- 11. MAXIMUM FLAME SPREAD CLASSIFICATION OF FINISH MATERIALS USED ON INTERIOR WALLS AND CEILING SHALL NOT EXCEED THAT SET FORTH IN FLAME SPREAD TABLE OF THE BUILDING CODE.
- 12. VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION AND COORDINATE WITH ARCHITECT ANY CONFLICTS WITH THE PLANS.
- 13. PERFORM THE REMOVAL, CUTTING, AND DRILLING WITH THE CARE USE OF THE SMALLEST TOOLS SO AS TO NOT DAMAGE THE STRUCTURAL INTEGRITY OF THE BUILDING.
- 14. TO SAW CUT AT EXISTING RESTROOM LOCATION, USE SAWS AND COREDRILLS. DO NOT USE JACKHAMMER UNDER ANY CIRCUMSTANCES.
- 15. GC TO COORDINATE FIRE ALARM INSTALL WITH LANDLORD, IF REQUIRED BY CITY.

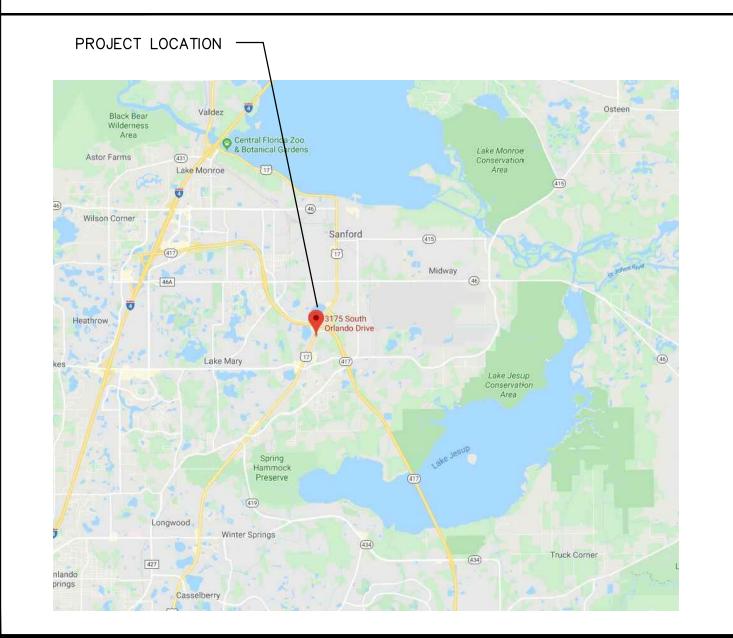
INTERIOR TENANT IMPROVEMENT OF A REMODELED VACANT SPACE TO A NEW TROPICAL SMOOTHIE CAFE LOCATED WITHIN A RETAIL CENTER'S SHELL BUILDING. THE TRASH DUMPSTER SHALL BE PROVIDED BY THE LANDLORD.

CONSTRUCTION DUMPSTER PROVIDED BY TENANT'S GC

- 2017 FLORIDA BUILDING CODE (6th EDITION) FLORIDA BUILDING CODE EXISTING BUILDING (6th EDITION)
 - FLORIDA BUILDING CODE ACCESSIBILITY (6th EDITION)
 - FLORIDA BUILDING CODE ENERGY CONSERVATION (6th EDITION)
 - FLORIDA BUILDING CODE FUEL GAS (6th EDITION) FLORIDA BUILDING CODE MECHANICAL (6th EDITION)
 - FLORIDA BUILDING CODE PLUMBING (6th EDITION)
 - FLORIDA FIRE PREVENTION CODE (6th EDITION)
 - NATIONAL ELECTRICAL CODE (2014)
 - FLORIDA FIRE PREVENTION CODE (5TH EDITION)

NOTE: THIS IS A LEVEL 2 ALTERATION PER THE FLORIDA BUILDING CODE 6TH EDITION (2017 EXISTING) ARCHITECT'S STATEMENT: TO THE BEST OF MY KNOWLEDGE THIS PROJECT COMPLIES WITH THE 2017 FLORIDA FIRE PREVENTION CODE 6TH EDITION AS STATED WITHIN CODE SUMMARY.

SITE MAP



AN INTERIOR TENANT IMPROVEMENT

tropical CAFE

eat better. of feel better.

SEMINOLE CENTRE 3175 SOUTH ORLANDO DRIVE #400 SANFORD, FL 32773 STORE (FL-278)

REFERENCE SYMBOLS

 $\frac{1}{A4}$

FLASH

FOIC

GΑ

GL

GALV

GWB

НМ

HOR

HWT

LAV

MAT'I

MAX

MTL

MIN

MO

MUL

N/A

NIC

NO

NOM

NTS

OC

OD

PT

CONTACT INFORMATION

REFERENCE

WALL SECTION

REFERENCE

EQUIPMENT

FLASHING

PANELS

GAUGE

GLASS

HEIGHT

GALVANIZED

HOLLOW METAL

HORIZONTAL

HOT WATER

LAVATORY

MATERIAL

MAXIMUM

MINIMUM

MULLION

NUMBER

NOMINAL

PAINT

TROPICAL SMOOTHIE CAFE

1117 Perimeter Center W W200,

C/O RD MANAGEMENT LLC

810 SEVENTH AVE - 10TH FLOOR

Atlanta, GA 30338

RB SEMINOLE LLC

NEW YORK NY 10019

212-265-6600

7400 S. 28th Street

Fort Smith, AR 72908

| 1081 | DRIVE, SUITE 2

(214) 826-0011 EXT: 7013

PLAND, TX 75093

(469) 331-6232

leah@umi-inc.com

ALLISON GRABER

(214) 826-0011 (469) 331-6236

contactus@qualservcorp.com

ULTERIOR MOTIVES INTERNATIONAL, INC.

(800) 643-2980

REFERENCE

FURNISHED BY OWNER

GYPSUM WALLBOARD

HOT WATER HEATER

HOT WATER TANK

MASONRY OPENING

NOT IN THIS CONTRACT

OUTSIDE DIMENSION

NOT APPLICABLE

NOT TO SCALE

ON CENTER

FINISH OPENING

INSTALLED BY CONTRACTOR

FIBERGLASS REINFORCED

FIRE RETARDANT TREATED

PLAM

PLYWD

REBAR

RM, RMS

REF

REV

S & V

SHT

ST

STOR

SUSP

SS

TB

TD

STRUCT

THRESH

UNFIN

UR

VCT

VERT

VST

WC

WD

SPECS

SCHED

PLASTIC LAMINATE

REINFORCING BAR

RISER, RADIUS

PLYWOOD

REFERENCE

ROOM, ROOMS

SOLID CORE

SCHEDULE

SHEET

STEEL

STORAGE

STRUCTURAL

SUSPENDED

SHEET VINYL

TRENCH DRAIN

THRESHOLD

UNFINISHED

TYPICAL

URINAL

WIDTH

WOOD

<u>BUILDING DEPARTMENT</u>

CONSUMER SERVICES

3125 CORNER BLVD., STE D

TALLAHASSEE, FL 92399

ONLINE SUBMITTAL REQUIRED

FLORIDA DEPARTMENT OF AGRICULTURE AND

CITY OF SANFORD

SANFORD, FL 32771

300 N. PARK AVE

407-688-5000

850-245-5595

garrett.stom@oracle.com

MUZAK, MOOD MEDIA CO.

FENTON, MD 63026

(POS INSTALLER)

Amy Kubala

Clint Hatmaker

RETAIL TECHNOLOGY GROUP

1663 FENTON BUSINESS PARK COURT

MICROS/ORACLE

(POS PROVIDER)

(561) 248-9040

WINDOW WATERPROOF

VERTICAL

STAINLESS STEEL

TELEPHONE MOUNTING BOARD

VINYL COMPOSITION TILE

VINYL SAFETY TILE

WATER CLOSET

ROUGH OPENING

SPECIFICATIONS

SQUARE FEET

SATIN AND VARNISH

REVISION

DOOR TAG

ROOM TAG

REVISION

ACT

ALUM

ARCH

BLDG

BLKG

BR

CT

CMU

CONC

CONT

CW

DTL

DIA

DIM

DN

DR

DS

ELEV

OR EX

EXT

FDN

FIN

FD

DETAIL REFERENCE

ABBREVIATIONS

ACOUSTICAL CLG. PANEL

ACOUSTICAL CLG. TILE

ALUMINUM

ALUMINUM

AVERAGE

BUILDING

BRICK

BLOCKING

ARCHITECTURAL

CONCRETE BLOCK

CUBIC FEET PER MINUTE

CERAMIC TILE

CENTER LINE

CONTINUOUS

COLD WATER

DRINKING FOUNTAIN

CEILING

DETAIL

DOWN

DOOR

EACH

CONCRETE

DIAMETER

DIMENSION

DOWNSPOUT

DRAWING

ELEVATION

EXISTING

EXTERIOR

FINISH

FLOOR

R&R TROPICS NO. 2 LL

710 W CRANES CIRLCE

ALTAMONTE SPRINGS, FL 32701

6501 E. Greenway Pkwy #103-707

RICHARD PETTINGILL

PROJECT MANAGER

SCOTTSDALE, AZ 85254

FOODSERVICE EQUIPMENT &

3650 ANNAPOLIS LANE, N.

PLYMOUTH, MN 55447

markc@hockenbergs.com

BROOKFIELD, WI 53045

nick@howardcompany.com

lauren@howardcompany.com

1375 N. BARKER ROAD

NICHOLAS STAUFF, CDT (262) 317-7751

THE HOWARD COMPANY, INC.

cneal@neptunedg.com

GRAND RESTAURANT

HOCKENBERGS

MARK COX, CFSP

(763) 746-3410

(262) 317-7702

ATTN: CHRIS NEAL

410-430-9732

P: 480.297.5577

FOUNDATION

FLOOR DRAIN

PROJECT DATA

PROJECT NAME:

PROJECT ADDRESS:

SANFORD, FL 32773 LOCAL JURISDICTION: **BUILDING & SAFETY - CITY OF SANFORD**

HEALTH: FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES DIVISION OF FOOD SAFETY

TROPICAL SMOOTHIE CAFE

3175 SOUTH ORLANDO DRIVE #400

CODES UTILIZED: 2017 FLORIDA BUILDING CODES (6TH EDITION)

PROPOSED USE: RESTAURANT

CONSTRUCTION TYPE: IIB- NOT SPRINKLERED

OCCUPANCY GROUP:

1,268 S.F. PER LEASE TOTAL S.F.:

> DINING AREA 320 S.F. / 15 = 22 KITCHEN/SERVICE AREA 320 S.F. / 200 = 2 HALLWAY/ RESTROOM 140 S.F. / 0 = 0

ACTUAL INTERIOR SEATING: 19 SEATS TOTAL OCCUPANT LOAD: 24- SEE SHEET A1.

1 EXIT(S) REQUIRED, 1 EXIT(S) PROVIDED (OCCUPANT LOAD < 50) 2 RESTROOMS REQUIRED, 2 RESTROOMS PROVIDED

NO STRUCTURAL WORK IS TO BE PERFORMED UNDER THIS PERMIT NO SITE WORK IS TO BE PERFORMED UNDER THIS PERMIT.

(3) EMPLOYEES MAXIMUM

EXTERIOR SIGN UNDER SEPARATE PERMIT BY SIGN COMPANY - INSTALLED BY SIGN COMPANY

(OCCUPANT LOAD UNDER 50 PERSONS SHALL BE CLASSIFIED AS A GROUP M)

NOTE: NO COOKING ON PREMISES WITH THE EXCEPTION OF ITEMS 25, 27 & 57 SHOWN ON A5.0 -PER MFG HOODS ARE NOT REQUIRED

INDEX OF SHEETS

TITLE SHEET

EGRESS / EXIT PLAN AND RESPONSIBILITY SCHEDULE ACCESSIBILITY AND SPECIFICATIONS

EXISTING SITE PLAN / DEMO PLAN

FLOOR PLAN

FINISH PLAN LOW VOLTAGE PLAN

WALL BACKING PLAN REFLECTED CEILING PLAN

ELEVATIONS

ELEVATIONS

EQUIPMENT / EQUIPMENT PLAN

DETAILS DETAILS

DETAILS **SPECIFICATIONS**

SPECIFICATIONS

MECHANICAL FLOOR PLAN MECHANICAL DETAILS

MECHANICAL SPECIFICATIONS

PLUMBING SYMBOLS & SCHEDULES

PLUMBING PLANS

PLUMBING DETAILS

SPECIFICATIONS

ELECTRICAL NOTES

ELECTRICAL LIGHTING -ROOF PLAN

POWER PLAN-SINGLE-LINE DIAGRAM, & PANEL

SET DATED: 1.3.2020

M S TE H Z

ERVICE AND AS SUCH SHALL REMAINE PROPERTY OF ND ENTERPRISES THE ARCHITECT IS PROHIBITED. T SHALL NOT BE USED FOR OTHER LOCATIONS . COPYRIGHT 2019.

TSC: FL-278

REVISION LANDLORD 1.3.2020

DATE: 12.26.2019

REVIEW SET NOT FOR PERMIT

COVER SHEET

GENERAL NOTES

- ALL ROUGH-INS AND CONNECTIONS SHOWN ON THESE PLANS ARE FOR FOOD SERVICE FIXTURES AND EQUIPMENT PROVIDED BY THE EQUIPMENT VENDOR OR BY OUTSIDE PARTIES LISTED AS 'VENDOR' OR 'BY OTHERS'. ALL INFORMATION PROVIDED ON THESE PLANS ARE TO BE VERIFIED BY THE GENERAL CONTRACTOR THRU THE SPECIFICATIONS MANUAL PROVIDED BY THE EQUIPMENT VENDOR OR BY CONSULTING THE APPROPRIATE OUTSIDE PARTIES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL ROUGH-IN LOCATIONS AS NEEDED BY FIELD CONDITIONS FOR EQUIPMENT UTILITY CONNECTION(S) PER MANUFACTURER'S CURRENT SPECIFICATION SHEETS.
- . SERVICE ROUGH-INS AND EQUIPMENT CONNECTIONS MUST BE MADE BY APPROPRIATE TRADES.
- ALL BUILDING PENETRATIONS REQUIRED FOR FOOD SERVICE EQUIPMENT INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND SEALED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
- ALL WALL SUPPORT (BLOCKING) FOR WALL HUNG EQUIPMENT SHALL BE PROVIDED BY GENERAL CONTRACTOR PER PLAN.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER WORKING CONDITION AND MEETING CURRENT LOCAL CODE REQUIREMENTS FOR ANY / ALL EQUIPMENT LISTED ON THESE PLANS AS 'EXISTING'.
- GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND WALL LOCATIONS. ALL DIMENSIONS ARE TO FINISHED WALL AND/OR CENTER LINES OF COLUMNS.
- ANY DIMENSIONS LABELED "HOLD" OR "CRITICAL" MUST MAINTAIN THAT FINISHED DIMENSION. ALL CORNERS TO BE 90° OR AS SPECIFIED. ANY DISCREPANCIES WITH SPECIFIED DIMENSIONS REQUIRING TRIM OR EQUIPMENT MODIFICATION IS TO BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR AT THEIR EXPENSE.
- GENERAL CONTRACTOR / OWNER SHALL BE RESPONSIBLE FOR INSURING THAT ALL ADDENDA AND CHANGES TO BUILDING PLANS WHICH ARE MADE PRIOR TO AND DURING CONSTRUCTION ARE PROVIDED TO TROPICAL SMOOTHIE CAFE.
- 10. THESE DRAWINGS ARE NOT MEANT TO REPLACE ARCHITECTURAL OR ENGINEERING PLANS. IF DISCREPANCIES EXIST, REFER TO THE ARCHITECTS CONSTRUCTION DOCUMENTS.
- 11. THE LATEST DATED REVISION SUPERSEDES AND VOIDS ALL PREVIOUS DRAWINGS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COLLECTING ALL OLD COPIES OF THE PLAN SET & DISTRIBUTING CURRENT COPIES TO ALL SUBCONTRACTORS.
- 12. REFER TO THE EQUIPMENT VENDOR WITH ANY CONCERNS OR QUESTIONS REGARDING DELIVERY AND STORAGE OF EQUIPMENT.
- 13. FOLLOWING FINAL FIXTURES INSTALLATION THE GENERAL CONTRACTOR SHALL CLEAN-UP AND DISPOSE OF ALL TRASH, CARTONS, CREATES, DEBRIS, ETC.
- 14. GENERAL CONTRACTOR TO REPLACE ALL HVAC FILTERS ONCE CONSTRUCTION IS COMPLETE
- 15. GC MUST LOCATE THE EXISTING MAIN SEWER WASTE LINE PRIOR TO ISSUANCE OF PERMIT. GC TO INCLUDE CAMERA / X-RAY OF SLAB FOR LOCATION OF WASTE LINE WITHIN BID. GC MUST PROVIDE SKETCH TO PLUMBING ENGINEER PRIOR TO PERMIT ISSUANCE. IF RECEIVED AFTER PERMIT ISSUANCE ANY COST TO REVISE PLANS WILL BE BILLED TO THE GENERAL CONTRACTOR.

SPS | SEE PLUMBING SCHEDULE

| REVISE PLANS WILL BE BILLED TO THE GENERAL CONTRACTOR. | | | | | | | |
|--|--------------------------------|--|--|--|--|--|--|
| | | | | | | | |
| ABBREVIATION KEY | | | | | | | |
| ABBR. | ABBREVIATION DESCRIPTION | | | | | | |
| F | FRANCHISEE | | | | | | |
| EV | EQUIPMENT VENDOR | | | | | | |
| GC | GENERAL CONTRACTOR | | | | | | |
| EC | ELECTRICAL CONTRACTOR | | | | | | |
| PC | PLUMBING CONTRACTOR | | | | | | |
| CC | CONTRACTOR'S CHOICE | | | | | | |
| LJ | LOCAL JURISDICTION | | | | | | |
| SC | SIGN COMPANY | | | | | | |
| VLL | VERIFY WITH LANDLORD | | | | | | |
| V | VENDOR | | | | | | |
| М | MICROS | | | | | | |
| RTG | RETAIL TECHNOLOGY GROUP | | | | | | |
| UMI | ULTERIOR MOTIVES INTERNATIONAL | | | | | | |
| HL | HERMITAGE LIGHTING | | | | | | |
| MMM | MUZAK (MOOD MEDIA) | | | | | | |
| С | CINTAS | | | | | | |
| UC | UTILITY COMPANY | | | | | | |
| SFS | SEE FINISH SCHEDULE | | | | | | |
| | | | | | | | |

| | GENERAL REQUIREMENTS (DIVISION 1) | | | |
|--|--|--|---|---|
| <u> </u> | | | | |
| | BUILDING PERMIT PERMIT FEES | F | LJ LJ | |
| | UTILITIES | F | UC | |
| | FIELD VERIFY ALL EXISTING CONDITIONS | GC | GC | |
| | TEMPORARY FACILITIES | GC | CC | GC |
| | TRASH REMOVAL / CLEAN UP | GC | CC | GC |
| | CONCRETE (DIVISION 3) NEW PATIO POUR AT EXISTING SIDEWALK | GC | CC | GC |
| | SLAB - NEW POUR / EXISTING | GC | CC | GC |
| | FLOOR/SLAB MOISTURE TEST | GC | СС | GC |
| | METALS, WOOD & PLASTICS (DIVISION 5 & 6) | | | |
| | KNEE WALLS | GC | GC | GC |
| | WALLS / BULKHEADS | GC | CC | GC |
| | RAILINGS, SUPPORTS, BRACKETS | GC | CC | GC |
| | STRUCTURAL STEEL, SUPPORTS, BRACES, ETC FRAMING / CARPENTRY | GC GC | CC | GC GC |
| + | WALL CABINETS | F | EV | EV |
| | SOLID SURFACE COUNTER TOP | F | EV | EV |
| | BUTCHER BLOCK COUNTER TOP | F | EV | EV |
| | MILLWORK SOFFIT | F | EV | EV |
| | THERMAL & MOISTURE PROTECTION (DIVISION 7) | | | |
| + | ROOF PENETRATIONS | GC | СС | GC |
| 1 | EXHAUST FAN CURB ON ROOF | GC | CC | GC |
| + | DOORS & WINDOWS (DIVISION 8) | | | |
| | NEW DOORS, FRAMES & HARDWARE | GC | CC | GC |
| <u> </u> | NEW GLASS STOREFRONT | GC | CC | GC |
| | FINISHES (DIVISION 9) | | | |
| | | 0.5 | | |
| | WALL FINISHES (GYPSUM BOARD & FRP PER PLAN) WALL FINISHES (PAINT, TILE, SPECIALTY) | GC GC | CC SFS | GC GC |
| | CEILING AND SUSPENSION GRID | GC | SFS | GC |
| | WOOD TRIM / FINISHES | GC | SFS | GC |
| | FLOORING FINISHES | GC | SFS | GC |
| | WALL BASE | GC | SFS | GC |
| | FIRE RATED PENETRATIONS CAULK & SEALANTS | GC | CC | GC |
| | SPECIALTIES (DIVISION 10) | | | |
| | SIGNAGE PERMIT (EXTERIOR) & INSTALL | F | SC | SC |
| | INTERIOR SIGNS | F | EV | EV |
| | RESTROOM ACCESSORIES FIRE EXTINGUISHERS | GC GC | GC | GC GC |
| | EQUIPMENT (DIVISION 11) | | | |
| | | | | |
| | EQUIFMENT (DIVISION 11) | | | |
| | ALL KITCHEN EQUIPMENT (UNLESS NOTED) | F | EV | EV RTG |
| | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS | F F | EV M | EV RTG |
| | ALL KITCHEN EQUIPMENT (UNLESS NOTED) | 1 | | |
| | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) | F | M EV | RTG EV |
| | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET | F F | EV EV | EV EV |
| 1 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS | F F F | EV EV EV | EV EV EV |
| _ | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO | F F | EV EV EV EV | EV EV EV GC |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS | F F F | EV EV EV | EV EV EV |
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| 3 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO | F F F F F | EV EV EV EV EV EV | EV EV EV GC GC GC |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO | F F F F F F | EV EV EV EV EV EV | EV EV EV GC GC GC GC |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT | F F F F F F | EV EV EV EV EV EV | EV EV EV GC GC GC GC |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) | F F F F F F | EV EV EV EV EV C | EV EV EV GC GC GC GC |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT | F F F F F F F F F F F F F | EV EV EV EV EV EV C VLL MMM | EV EV EV GC GC GC C V V |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER | F F F F F F F F GC | EV EV EV EV EV EV EV VLL VLL MMMM VLL | EV EV EV GC GC GC C V V V GC |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM | F F F F F F F F F F F F F | EV EV EV EV EV EV C VLL MMM | EV EV EV GC GC GC C V V |
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| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM MECHANICAL (DIVISION 15) PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION RESTROOMS TOILETS AND SINKS WATER HEATER | F F F F F F GC GC GC GC GC | EV EV EV EV EV EV C C VLL VLL MMM VLL VLL CC SPS SPS | EV EV EV GC GC GC C C V V V GC GC GC GC GC GC |
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| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM MECHANICAL (DIVISION 15) PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION RESTROOMS TOILETS AND SINKS WATER HEATER WALK-IN COOLER & FREEZER BOX NEW HVAC IF APPLICABLE | F F F F F GC | EV EV EV EV EV EV EV C C VLL VLL MMMM VLL VLL VLL SPS SPS EV CC | RTG EV EV EV GC GC GC GC GC GC GC G |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM MECHANICAL (DIVISION 15) PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION RESTROOMS TOILETS AND SINKS WATER HEATER WALK-IN COOLER & FREEZER BOX | F F F F F GC GC GC GC GC F | EV EV EV EV EV EV EV C C VLL VLL MMMM VLL VLL VLL SPS SPS EV | RTG |
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| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM MECHANICAL (DIVISION 15) PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION RESTROOMS TOILETS AND SINKS WATER HEATER WALK-IN COOLER & FREEZER BOX NEW HVAC IF APPLICABLE MECH CONNECTIONS/DUCT/DIFFUSERS/CONTROLS TEST & BALANCE | F F F F F GC | EV EV EV EV EV EV EV CC | RTG EV EV EV GC GC GC GC GC GC GC G |
| 1 2 3 4 4 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM MECHANICAL (DIVISION 15) PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION RESTROOMS TOILETS AND SINKS WATER HEATER WALK-IN COOLER & FREEZER BOX NEW HVAC IF APPLICABLE MECH CONNECTIONS/DUCT/DIFFUSERS/CONTROLS TEST & BALANCE PLUMBING CERTS & WATER TESTS ELECTRICAL (DIVISION 16) | F F F F F GC | M | RTG |
| 2 | ALL KITCHEN EQUIPMENT (UNLESS NOTED) POS SYSTEMS AND MONITORS FURNISHINGS (DIVISION 12) FURNISHINGS (TABLES, CHAIRS, STOOLS) MARKET PLACE CABINET MENU BOARDS FOOD MONTAGE PHOTO DOCK PHOTO BEACH HUT PHOTO SURF BOARD PHOTO WARE WASHING DETERGENT SPECIAL CONSTRUCTION (DIVISION 13) SURVEILLANCE SYSTEM SECURITY SYSTEM MUSIC/ENTERTAINMENT FIRE SPRINKLER FIRE ALARM MECHANICAL (DIVISION 15) PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION RESTROOMS TOILETS AND SINKS WATER HEATER WALK-IN COOLER & FREEZER BOX NEW HVAC IF APPLICABLE MECH CONNECTIONS/DUCT/DIFFUSERS/CONTROLS TEST & BALANCE PLUMBING CERTS & WATER TESTS | F F F F F GC | EV EV EV EV EV EV EV CC | RTG EV EV EV GC GC GC GC GC GC GC G |
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RESPONSIBILITY MATRIX

- * PROVIDED BY FRANCHISEE VIA PROJECT COORDINATOR
- ** LOCATION TO BE DETERMINED BY LOCAL FIRE JURISDICTION AUTHORITY
- *** PREFERRED VENDOR

CONSTRUCTION NOTES

ARCHITECT'S DESIGN WITHOUT CONSTRUCTION PHASE SERVICES

SINCE DIRECT CONSTRUCTION OBSERVATIONS AND REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INCLUDED AS PART OF THE ARCHITECT'S BASIC SERVICES, IT IS UNDERSTOOD THAT SUCH RESPONSIBILITIES WILL BE ASSUMED BY OTHERS. FM GROUP INC AVAILS ITSELF TO THE CLIENT, THE CONTRACTOR, AND ANY OTHER PARTIES AS NECESSARY (VIA TELEPHONE, FAX, AND EMAIL) IN ORDER TO ASSIST IN PROVIDING CLARIFICATIONS OR RESOLVING ISSUES AND PROBLEMS THAT MAY ARISE. ALTHOUGH MANY ISSUES CAN BE EASILY ADDRESSED WITHOUT THE ARCHITECTS INVOLVEMENT, THERE ARE TIMES WHEN PARTICIPATION IS ADVISABLE. DETERMINATION OF WHEN INVOLVEMENT IS APPROPRIATE IS LEFT TO THE PROFESSIONAL DISCRETION OF THE CONTRACTOR. IT IS UNDERSTOOD THAT THE CLIENT AND/OR THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THE DRAWINGS, AND ANY OTHER SUPPLEMENTAL INFORMATION, AND WHEN THE ARCHITECT IS DENIED THE OPPORTUNITY TO PROVIDE CLARIFICATIONS OR PARTICIPATE IN CHANGES TO THE DESIGN OR THE RESOLUTION OF ISSUES OR PROBLEMS, ALL PARTIES WAIVE ANY CLAIMS AGAINST THE ARCHITECT THAT MAY BE IN ANY WAY CONNECTED THERETO. FM GROUP INC IS HELD HARMLESS FROM LOSS, CLAIM, OR COSTS ARISING OR RESULTING FROM MODIFICATIONS OR CHANGES MADE TO THE DESIGN (WITHOUT THE KNOWLEDGE OF THE ARCHITECT) DUE TO CONDITIONS OR CIRCUMSTANCES (ANTICIPATED OR NOT) BEYOND THE ARCHITECT'S CONTROL.

MECHANICAL, PLUMBING AND ELECTRICAL NOTES

. THE RELATIONSHIP BETWEEN FLOOR SINKS AND NEW WALLS IS CRITICAL TO THE FINAL FIXTURE / EQUIPMENT LAYOUT. FLOOR SINKS AS SHOWN ON THE PLUMBING PLANS ARE DIMENSIONALLY LOCATED OFF OF NEW PARTITIONS, AND THEREFORE THE CONTRACTOR MUST COMPLETE PLAN LAYOUT ON SLAB PRIOR TO FINAL LOCATION OF FLOOR SINKS FOR ACCURATE FINAL PLACEMENT.

G.C. COMPLIANCE:

OWNER'S GENERAL CONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND SHALL REPORT ALL DISCREPANCIES TO TENANT'S ARCHITECT. TENANT'S GENERAL CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS REGARDING CONSTRUCTION PROCEDURES, INSURANCE, ETC., AS SEAT FORTH BY THE LANDLORD.

AREAS

OWNER'S SIGNAGE CONTRACTOR SHALL PREPARE SIGNAGE SHOP DRAWINGS AND SUBMIT TO BUILDING DEPT. & LANDLORD FOR APPROVAL. ALL SIGNAGE IS UNDER SEPARATE PERMIT.

KITCHEN/ SERVICE AREA TOTAL SF: 320 SF / 200 = 2 OCCUPANTS RESTROOM / HALLWAY TOTAL SF: 140 SF / 0 = 0 OCCUPANTS DINING AREAS TOTAL SF: 320 SF / 15 = 22 TOTAL OCCUPANT LOAD: 24 OCCUPANTS LESS THAN 50 = 1 EXIT REQUIRED. **ACTUAL SEATING: 19** NOTE: ALL NON FIXED SEATS SHOWN

- COMMON PATH OF

36" MIN CLEAR SPACE

DISTANCE: 50'

REQUIRED

TRAVEL

EGRESS / OCCUPANCY PLAN

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

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TSC: FL-278

REVISION

DATE: 12.26.2019

REVIEW SET NOT FOR PERMIT

SCHEDULE **EGRESS PLAN**

GENERAL NOTES:

- DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY OWNER'S CONSTRUCTION MANAGER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE OWNER'S CONSTRUCTION MANAGER REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.
- PROVIDE TO THE OWNER'S CONSTRUCTION MANAGER A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
- INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD. OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.
- 5. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- 6. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF
- CONNECTION BEFORE START OF PIPING INSTALLATION. 7. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND
- MOUNTING HEIGHTS OF PLUMBING FIXTURES. 8. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
- 10. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- 11. PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED: EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
- 12. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- 13. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
- 14. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- 15. PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.

WITH THE ARCHITECT AND / OR OWNER.

- 16. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- 17. PAINT ALL EXPOSED GAS AND WATER PIPING USING RUST INHIBITOR PAINT. PAINT AND COLOR SHALL BE COORDINATED
- 18. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES.
- MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT. 19. INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH

MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.

- 20. EXAMINE THE CONTRACT DRAWINGS AND ALL AVAILABLE INFORMATION CONCERNING EXISTING INSTALLATION, STRUCTURE, AND LOCAL CONDITIONS. VISIT THE SITE TO UNDERSTAND THE NATURE AND SCOPE OF ALL WORK TO BE PERFORMED AND VERIFY EXISTING CONDITIONS. THE SUBMISSION OF A BID WILL BE TAKEN AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND THAT ALL EXISTING CONDITIONS HAVE BEEN CONSIDERED. NO ALLOWANCES WILL BE MADE AFTER THE PROJECT HAS BEEN AWARDED FOR FAILURE TO VERIFY EXISTING CONDITIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THAT
- 21. PLUMBING CONTRACTOR MUST PROVIDE CAMERA VERIFICATION OF EXACT LOCATION OF WASTE LINE TO GC DURING BID. VERIFICATION MUST BE MADE PRIOR TO ISSUANCE OF PERMIT AND AFTER ACCEPTANCE OF CONTRACT TO PROCEED.

OF THESE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.

22. CONTRACTOR TO FIELD VERIFY EXISTING DOMESTIC WATER SYSTEM IS PROVIDED WITH A REDUCED PRESSURE BACKFLOW PREVENTER (RPBP). IF NOT EXISTING, PROVIDE AN APPROVED RPBP ASSEMBLY SIZED TO MATCH BUILDING WATER METER. INSTALL NEW RPBP BETWEEN THE WATER METER AND THE BUILDING PER LOCAL JURISDICTION'S REQUIREMENTS.

KITCHEN GENERAL NOTES:

- 1. REFERENCE THE KITCHEN EQUIPMENT PLUMBING CONNECTION SCHEDULE FOR ITEMS TO BE FURNISHED AND / OR INSTALLED AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS FOR KITCHEN EQUIPMENT. REFERENCE KITCHEN EQUIPMENT DRAWINGS FOR THE EXACT LOCATION OF EQUIPMENT AND ROUGH-IN. REFERENCE THE KITCHEN EQUIPMENT SHOP DRAWINGS AND COORDINATE WITH THE OWNER FOR EXACT REQUIREMENTS PRIOR TO THE START OF INSTALLATION.
- 2. PROVIDE ITEMS AND WORK AS REQUIRED FOR A COMPLETE AND WORKING PLUMBING INSTALLATION FOR EACH PIECE OF KITCHEN EQUIPMENT. PROVIDE ROUGH-INS AND CONNECT TO THE KITCHEN EQUIPMENT WITH TRAPS, SUPPLIES, SHUTOFF VALVES, PIPES TO THE WALL, ESCUTCHEONS, ETC AS SHOWN, SPECIFIED AND
- VERIFY GAS LOADS AND GAS ROUGH-IN OF KITCHEN EQUIPMENT WITH THE KITCHEN EQUIPMENT SHOP DRAWINGS PRIOR TO INSTALLING GAS PIPING. PROVIDE GAS COCKS, UNIONS, ETC. AS SPECIFIED AND REQUIRED. INSTALL GAS QUICK DISCONNECTS WHERE FURNISHED WITH THE KITCHEN EQUIPMENT.
- 4. PROVIDE INDIRECT WASTE LINES OF SAME SIZE AS CONNECTION TO EQUIPMENT WITH 3/4" BEING MINIMUM SIZE. ROUTE FROM EQUIPMENT CONNECTION POINTS INDICATED TO FLOOR DRAIN OR FLOOR SINK. PROVIDE AIR GAP OF TWO PIPE DIAMETERS MINIMUM PER CODE.
- 5. COMPLY WITH HEALTH DEPARTMENT REGULATIONS. PROVIDE CLEARANCE FOR CLEANING BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HEALTH DEPARTMENT. CONFORM TO HEALTH DEPARTMENT REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.
- 6. PROVIDE AIRTIGHT SEAL AROUND PIPING PENETRATIONS THROUGH WALK-IN COOLER OR FREEZER WALLS OR CEILINGS.
- 7. DO NOT INSTALL PIPING IN COOLER OR FREEZER WALLS. INSTALL EXPOSED PIPING IN A NEAT APPEARING MANNER.
- 8. COORDINATE FLOOR DRAIN LOCATION AND FLOOR SLOPE REQUIREMENTS WITH THE ARCHITECT.
- 9. INSTALL RIM OF FLOOR DRAINS AND FLOOR SINKS BELOW FINISHED FLOOR LEVEL. SLOPE FLOOR TO DRAINS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
- 10. COORDINATE LOCATION OF VENT, WATER, AND GAS PIPING TO AVOID CONFLICT WITH OTHER TRADES.
- 11. CLEAN INSTALLED PLUMBING FIXTURES AND EQUIPMENT.
- 12. PROVIDE WALL BACKING OR SPECIFIED CARRIERS FOR THE PROPER SUPPORT OF INSTALLED WALL HUNG FIXTURES AND EQUIPMENT.
- 13. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR 3-COMPARTMENT SINKS, PRE-RINSE UNITS, JANITOR SINKS, MIXING HOSE BIBBS & MIXING WALL HYDRANTS DOWNSTREAM OF SHUTOFF VALVES.
- 14. SEAL AROUND INSTALLED FIXTURES AND KITCHEN EQUIPMENT
- 15. PROVIDE APPROPRIATE BACKFLOW PREVENTION DEVICES FOR KITCHEN EQUIPMENT REQUIRING THEM PER LOCAL AUTHORITIES REQUIREMENTS. INSTALL BACKFLOW PREVENTION DEVICES FURNISHED WITH KITCHEN EQUIPMENT.

| EQUIPMENT SCHEDULE | | | MECHANICAL SCHEDULE | | | | | | | | |
|---|-----------|----------|---------------------|----------|--------|------------|----------|------|------|----------|--|
| ITEM | | WA | TER | ROUGH-IN | WA | STE | ROUGH-IN | G | AS | ROUGH-IN | |
| NO QTY EQUIPMENT CATEGORY | REMARKS | HOT | COLD | HIEGHT | DIRECT | INDIRECT | HIEGHT | SIZE | MBTU | HIEGHT | REMARKS |
| 4 1 THREE COMPARTMENT SINK | | | | | | (3) 1-1/2" | REMARKS | | | | RUN I.W. TO FLOOR SINK; MANIFOLD DRAINS |
| 5 1 PRE-RINSE FAUCET | | 1/2" | 1/2" | 22" | | | | | | | |
| 7 1 MOP SINK | BY OTHERS | | | | 2" | | 3" | | | | VERIFY REQUIREMENTS W/LOCAL JURISDICTION |
| 8 1 SERVICE FAUCET | | 1/2" | 1/2" | 42" | | | | | | | |
| 21 1 ICE MAKER W/BIN | | | 1/2" | REMARKS | | (2) 3/4" | REMARKS | | | | RUN I.W. TO FLOOR SINK; FILTERED CW FROM #22 |
| 22 1 WATER FILTER, 3-STAGE | | | 1/2" | 84" | | | | | | | P.C. TO RUN CW TO ITEM #21 |
| 24 1 PREP SINK | | 1/2" | 1/2" | 22" | | 1-1/2" | REMARKS | | | | P.C. TO RUN I.W. TO FLOOR SINK |
| 31 1 WORK TABLE W/HAND SINK & DUMP SINK | | (2) 1/2" | (2) 1/2" | 22" | 1-1/2" | 1-1/2" | 18" | | | | P.C. TO RUN I.W. TO FLOOR SINK |
| 36B 1 FILTERED WATER SPIGOT | | | 1/2" | REMARKS | | | | | | | FILTERED CW FROM #36C |
| 36C 1 WATER FILTER, 2-STAGE | | | 1/2" | 22" | | | | | | | P.C. TO RUN CW TO ITEM #36B |
| 38 1 ICE BIN, DROP-IN | | _ | | | | 1" | REMARKS | | | | P.C. TO RUN I.W. TO HUB DRAIN |
| 39 1 HAND SINK | | 1/2" | 1/2" | 22" | 1-1/2" | | 18" | | | | |
| 62 1 DRAIN BOARD | | | | | | 1" | REMARKS | | | | P.C. TO RUN I.W. TO HUB DRAIN |

EXTENSIONS AS NEEDED

| | | PLUMBING EQUIPMENT SCHEDULE | |
|------|--|--|--|
| REF. | ITEM DESCRIPTION | MANUFACTURER OR CAT. # | REMARKS |
| AGF | AIR GAP FITTING | ZURN Z - 1024-4 OR EQUAL | 3/4" X 1 1/2" |
| FD | FLOOR DRAIN | ZURN FD-2320-NH3-ST-P | PUSH-ON JOINT OF OUTLET SIZE |
| FS | FLOOR SINK — INSTALLED FLUSH WITH FINISH FLOOR | WADE W-9140-16-1, 12"X12" OR EQUAL, NICKEL-BRONZE STRAINER 3/4" GRADE | PROVIDE INTERNAL STRAINER |
| WHA | WATER HAMMER ARRESTOR | PRECISION PLUMBING PRODUCTS TYPE SC OR EQUAL | PROVIDE ACCESS PANEL |
| FCO | FLOOR CLEAN OUT | ZURN Z1400 OR EQUAL | FLUSH WITH FINISH FLOOR |
| wco | WALL CLEAN OUT | ZURN Z1441 OR EQUAL | |
| TMV | UNDER SINK THERMOSTATIC MIXING VALVE | WATTS LFMMV SERIES OR EQUAL; LEAD FREE | UP TO 1" HW & CW ROUGH—IN VALVE SHALL HAVE INTEGRAL CHE STOPS. CONCEAL IN WALL CAVITY |
| BFP | BACK FLOW PREVENTION ASSEMBLY FOR ICE MAKER | WATTS SERIES 9D DUAL CHECK VALVE ASSEMBLY WITH ATMOSPHERIC PORT, OR EQUAL | MIN. WORKING PRESSURE: 25 PS MAX. WORKING PRESSURE: 175 PSI |
| RPZ | REDUCED PRESSURE ZONE-DOUBLE CHECK BACK FLOW PREVENTER | WATTS SERIES LF009, LEAD FREE DOUBLE CHECK VALVE ASSEMBLY, OR EQUAL | LEAD FREE CAST COPPER SILICON ALLOY (1/2" TO 2") MAX. WORKIN PRESSURE: 175 PSI |
| TP | TRAP PRIMER | PRECISION PLUMBING PRODUCTS # PR-500 "PRIME RITE". CORROSION RESISTANT BRASS BODY, "O" RING SEALS, 1/2" INLET AND OUTLET, AND INTEGRAL VACUUM BREAKER. | INSTALL THE VALVE AT A MINIMUM OF 12" ABOVE FINISHED FLOOR. |
| AP | ACCESS PANEL | JAY R. SMITH # 4762-12"x12" -CL, TYPE 304 STAINLESS STEEL PANEL AND FRAME WITH CONCEALED HINGE, KEY OPERATED CYLINDER LOCK. | PROVIDE WITH NAILER SLOTS FOR INSTALLATION IN STUD WALLS AND ANCHOR STRAPS FOR INSTALLATION IN MASONRY CONSTRUCTION. |
| HD | HUB DRAIN | | |
| TR | TRENCH DRAIN 5" PRO SERIES CHANNEL DRAIN KIT WITH METAL GRATE | NDS 864GMTL (OR EQUAL) CLASS B. LOADS WITH 61-175 PSI WITH MECHANICAL INTERLOCKING JOINTS AND UV INHIBITORS | USE WITH 3" HUB AND 4" SPIGOT SEWER AND PIPE DRAIN. #4 REBA TIE CLIPS FOR EASIER INSTALLATION |
| GT | INTERIOR GREASE TRAP | SCHIER GB2 35 GPM, 130 LBS GREASE CAPACITY | PDI CERTIFIED- PROVIDE |

ELECTRIC WATER HEATER SCHEDULE

| MARK | MANUFACTURER/ MODEL# | AREA SERVED | ENERGY SOURCE | TANK SIZE (GALLONS) | 5,14.05 | INPUT | 1011 | RECOVERY 80F DEGREE RISE |
|------|-------------------------|------------------|------------------------------|------------------------|------------|-------|------|-----------------------------|
| WH-1 | STATE CSB 52 6 IFE | KITCHEN/RESTROOM | ELECTRIC | 50 | PHASE 1 | 208 | 6.0 | 31 |
| | | | ar asserts and first desired | | | | | |

80F TEMP RISE WITH 140F OPERATING TEMPERATURE PROVIDE UL LISTED CONVERSION KIT FOR SIMULTANEOUS HEATER ELEMENT OPERATION

GREASE TRAP SIZING Count all contributing fixtures, measure and calculate capacities as follows: W x 10 L x 5 D cu. in / 231 = 3.0 gallons cu. in / 231 = 0.0 gallons Pot Sinks: cu. in / 231 = 46.3 gallons cu. in / 231 = 19.4 gallons Service Sinks: cu, in / 231 = 21.0 gallons 1-A TOTAL = 89.7 gallons 89.7 Total Gallons from 1-A x 0.75 (fill factors) / 2 minute drain down period = 33.6 GPM Number of Floor Sinks or Drains (Except Indirect Wastes from Above) x 0.8 = 0.6 GPM 6-A TOTAL 34.2 GPM ___34 __GPM Adjusted Total GPM

| WATER PIPE SIZING CHART | | | | | | | | | |
|---|---------------------------------|--------------|--------------|---------|-----------------------------------|------------|------|--|--|
| | FIXTURE UNITS VS. PRESSURE LOSS | | | | | | | | |
| | | IN PSI / 10 | 0 FEET FOR I | YPE "L" | COPPER TUBE | | | | |
| COLD WATER @ 5 PSI / 100' HOT WATER @ 5.0 PSI / 100 | | | | | | | | | |
| PIPE | FLUSH TANK | FLUSH VALVE | VELOCITY | FLOW | FLUSH TANK | VELOCITY | FLOW | | |
| SIZE | SFU | SFU | FEET / SEC | GPM | SFU | FEET / SEC | GPM | | |
| 1/2" | 1.6 | N/A | 3.1 | 2.4 | * | * | * | | |
| 3/4" | 6.9 | N/A | 3.9 | 6.3 | * | * | * | | |
| 1" | 16 | N/A | 4.9 | * | * | * | | | |
| 1-1/4" | 32 | 4 | 5.4 | 22.0 | 29.2 | 5 | 19.5 | | |
| 1-1/2" | 59.6 | 15.8 | 5.9 | 35.0 | 47.5 | 5 | 27.5 | | |
| 2" | 2" 214 116 7.5 72.0 120 5 48.2 | | | | | | | | |
| SIZED WI | TH HAZEN WIL | LIAMS CONSTA | NT "C = 135" | · | * UTILIZE COLD WATER SIZING CHART | | | | |

| WATER & WASTE FIXTURE CALC | | | | | | | | | |
|--|-----|--------|--------|--------|--------|----------|--------|--------|-------|
| | | D.F.U. | TOTAL | НОТ | COLD | COMBINED | TOTAL | TOTAL | TOTA |
| FIXTURE TYPE | QTY | (EA) | D.F.U. | S.F.U. | S.F.U. | S.F.U. | S.F.U. | S.F.U. | SERVI |
| | | | | (EA) | (EA) | (EA) | (HOT) | (COLD) | S.F.L |
| PUBLIC LAVATORY | 2 | 2.0 | 4.0 | 1.50 | 1.50 | 2.00 | 3 | 3 | 4.0 |
| SERVICE SINK (MOP BASIN) | 1 | 3.0 | 3.0 | 2.25 | 2.25 | 3.00 | 2.25 | 2.25 | 3.0 |
| FLOOR DRAIN | 1 | 2.0 | 2.0 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0.0 |
| PUBLIC WATER CLOSET (1.6 GPF FLUSH TANK) | 2 | 4.0 | 8.0 | 0.00 | 5.00 | 5.00 | 0 | 10 | 10.0 |
| SPECIALTY KITCHEN EQUIP. | | | | | | | | | |
| SINK (HAND OR DUMP) | 4 | 2.0 | 8.0 | 1.50 | 1.50 | 2.00 | 6 | 6 | 8.0 |
| PREP SINK | 1 | 3.0 | 3.0 | 1.50 | 1.50 | 2.00 | 1.5 | 1.5 | 2.0 |
| SINK (3 COMPARTMENT) | 1 | 3.0 | 3.0 | 3.00 | 3.00 | 4.00 | 3 | 3 | 4.0 |
| ICE MACHINE | 1 | 0.5 | 0.5 | 0.00 | 1.00 | 1.00 | 0 | 1 | 1.0 |
| WATER SPIGOT | 1 | 0.5 | 0.5 | 0.00 | 0.50 | 0.50 | 0 | 0.5 | 0.5 |
| TOTAL UNITS: | 14 | | 32.5 | | | | 15.75 | 27.25 | 33.5 |

PLUMBING FIXTURE SCHEDULE PROVIDE AS SPECIFIED OR EQUAL PRODUCT

| | THOUSE HE OF LOWIED ON EQUIL THOSE OF | | | | | | | | |
|-----------------------------|---|---|----------------------------------|------|-----------|----------|--------|---------|-------|
| REF | ITEM | MFR & | CAT. I | NO. | WASTE | TRAP | VENT | H.W. | C.W. |
| FIXTURES | PROVIDED AND INSTALLED BY THE PLUMBING C | ONTRACTOR | (REUSE | E EX | ISTING IF | PRESENT | AND IN | WORKING | ORDER |
| LV SEE NOTE 1. | WALL HUNG LAVATORY - ADA: VITREOUS CHINA, 20" X 18" PERFORATED STRAINER WITH 1 1/4" OFFSET TAILPIECE. CHROME PLATED 3/8" SUPPLY W/ANGLE STOP & WROT ESCUTCHEON OFFSET, CHROME BRASS P-TRAP, 17 GA. WITH ESCUTCHEON WALL MTD. CARRIER W/HANGER PLATE, CONCEALED ARMS. FAUCET WITH AERATOR, 6" HANDLE 0.5 GPM FLOW, ON 4" CENTERS | AMERICAN 0124.024 McGUIRE McGUIRE McGUIRE JOSAM OF SYMMONS S-20-2- | 155-W 158WC 8902 R ZURN | C | 2 | 2 | 2 | 1/2 | 1/2 |
| 7 8 SEE NOTE 1. | MOP BASIN ONE-PIECE CONSTRUCTION, 24" X 24" X 10" FLOOR MOUNTED TYPE. FAUCET WITH PAIL HOOK AND HOSE END, VACUUM BREAKER, INTEGRAL STOPS HOSE AND HOSE BRACKET MOP HANGER, 24" X 3", 18 GA. VINYL BUMPER GUARD SILICONE SEALANT | FIAT MSB- FIAT 830- FIAT 832- FIAT 889- FIAT E-73 FIAT 833- | -AA -AA -CC 7-AA | | 3 | 3 | 2 | 3/4 | 3/4 |
| WC SEE NOTE 2. | WATER CLOSET — ADA: VITREOUS CHINA, FLUSH TANK, SIPHON JET, ELONGATED BOWL, 12" ROUGHING, FLOOR MOUNTED, WATER SAVER TYPE, SEAT 19" A.F.F., WHITE SOLID PLASTIC SEAT, OPEN FRONT CHECK HINGE, CHROME PLATED 3/8" SUPPLY W/ANGLE STOP AND WROT. ESCUT. | AMERICAN 2108.408 OLSONITE McGUIRE | 95 166 | | | INT. | 2 | _ | 3/4 |
| | FIXTURES PROVIDED BY EQUIPMENT SUPPLIER | AND INSTA | LLED B | Y TH | HE PLUMB | ING CONT | RACTOR | | |
| 4 5 SEF | 3-COMPARTMENT SERVICE SINK: ONE-PIECE CONSTRUCT., 97-1/2"X29-1/2" FLOOR MOUNTED TYPE W/ FOUR LEGS (1) FAUCETS WITH 12" SWING NOZZLE VACUUM BREAKER. INTEGRAL STOPS | ELKAY SE3C18X10 T&S B-0 | | | 3 | 3 | 2 | 3/4 | 3/4 |

| VACUUM BREAKER, INTEGRAL STOPS T&S NOTE PERFORATED STRAINER WITH 1 1/4" OFFSET TAILPIECE. BRASS 3/4" SUPPLY W/ANGLE T&S STOP & WROT ESCUTCHEON OFFSET, BRASS P-TRAP, 17 GA. WITH ESCUTCHEON ATMOSPHERIC BACK-FLOW PREVENTOR T&S B-0970-FEZ 1-COMPARTMENT PREP SINK: ONE-PIECE CONSTRUCT., 97-1/2"X29-1/2" | 14-1C16X20-L-18X SEE FLOOR MOUNTED TYPE W/ FOUR LEGS NOTE (1) SINK MIXING FAUCET T&S B-0231 TWIST WASTE VALVE T&S B-3952 PERFORATED STRAINER WITH 1 1/4" T&S OFFSET TAILPIECE. BRASS 3/4" SUPPLY W/ANGLE T&S STOP & WROT ESCUTCHEON OFFSET BRASS P-TRAP, 17 GA. WITH ESCUTCHEON T&S WALL MOUNTED HAND SINK 2 | 2 | 2 | 1/2 | 1/2 SEHS-17X STAINLESS STEEL 14"x10"x5" BOWL PERFORATED STRAINER INCLUDED NOTE McGUIRE 158WC CHROME PLATED 3/8" SUPPLY W/ANGLE STOP & WROT ESCUTCHEON OFFSET, CHROME BRASS P-TRAP, 17 GA. WITH McGUIRE 8902 **ESCUTCHEON** INCLUDED FAUCET WITH AERATOR, 6" HANDLE 0.5 GPM FLOW, ON 4" CENTERS HANDICAP ACCESSIBILITY NOTES:

1. ALL FAUCET OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE

PLUMBING PIPE MATERIAL SCHEDULE

5 POUNDS MAXIMUM.

INDIRECT DRAIN - 1-1/4" & LARGER

2. WATER CLOSET FLUSH CONTROLS SHALL BE HAND OPERATED. HAND OPERATED FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET.

REFER TO SPECIFICATIONS FOR FITTINGS. INSTALLATION REQUIREMENTS AND FURTHER INFORMATION

PIPING SYSTEM ABBREVIATION PIPING MATERIAL SANITARY DRAINAGE & VENT (ABOVE GRADE) S, W OR V HUBLESS CAST IRON (PVC DWV OPTIONAL) SANITARY DRAINAGE & VENT (BELOW GRADE) S. W OR V SERVICE WEIGHT CAST IRON (PVC DWV OPTIONAL) POTABLE WATER (ABOVE GRADE) CW, HW OR HWR TYPE L HARD DRAWN COPPER WITH SOLDERED JOIUNTS POTABLE WATER - 2" & SMALLER (BELOW GRADE) CW. HW OR HWR TYPE K SOFT ANNEALED COPPER NATURAL GAS (ABOVE GRADE & ON ROOF) G SCHEDULE 40 BLACK STEEL G APPROVED 'PE' PIPE FOR GAS NATURAL GAS (BELOW GRADE) CD CONDENSATE DRAIN - 1" & SMALLER TYPE M HARD DRAWN COPPER (PVC DWV OPTIONAL) CONDENSATE DRAIN - 1-1/4" & LARGER CD TYPE DWV HARD DRAWN COPPER (PVC DWV OPTIONAL) TYPE M HARD DRAWN COPPER INDIRECT DRAIN - 1"& SMALLER ID

TYPE DWV HARD DRAWN COPPER

ID

PLUMBING SYMBOLS

ANNOTATION

(1) PLUMBING PLAN NOTE CALLOUT

PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT X

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OLE RLAI RD,

EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED, SEE KITCHEN EQUIPMENT SCHEDULE FOR

SPECIFICATIONS) MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED

CONNECTION POINT OF NEW WORK TO EXISTING

AND INSTALLED UNLESS NOTED OTHERWISE)

DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER

ABBREVIATIONS

| AFF | ABOVE FINISHED FLOOR | мн | MANHOLE |
|---------|------------------------------|--------|------------------------------|
| AFG | ABOVE FINISHED GRADE | MIN | MINIMUM |
| AHU | AIR HANDLING UNIT | N/C | NORMALLY CLOSED |
| BFF | BELOW FINISHED FLOOR | N/0 | NORMALLY OPEN |
| BFG | BELOW FINISHED GRADE | ORD | |
| BOP | BOTTOM OF PIPE | PDI | PLUMBING DRAINAGE INSTITUTE |
| BOS | BOTTOM OF STRUCTURE | PVC | POLYVINYL CHLORIDE |
| BTU | BRITISH THERMAL UNIT | PRV | PRESSURE REDUCING VALVE |
| CPVC | CHLORINATED POLYVINYL | RD | ROOF DRAIN |
| CHLORIE | DE | RPM | REVOLUTIONS PER MINUTE |
| DN | DOWN | RTU | ROOFTOP UNIT |
| DFU | DRAINAGE FIXTURE UNIT | SF | SQUARE FEET, SUPPLY FAN |
| DS | = - ::: :=: : | SP | SUMP PUMP |
| ETR | | SS | STAINLESS STEEL, SANITARY |
| EWC | | SEWER, | SOIL STACK |
| FD | . = | TDH | TOTAL DYNAMIC HEAD |
| FFA | | TFA | TO FLOOR ABOVE |
| FFB | | TFB | TO FLOOR BELOW |
| FF | FINISHED FLOOR | TYP | TYPICAL |
| FL | | UL | UNDERWRITERS LABORATORIES, |
| FLA | | INC. | |
| FLR | FLOOR | UNO | UNLESS NOTED OTHERWISE |
| GPM | GALLONS PER MINUTE | UPS | UNINTERRUPTIBLE POWER SUPPLY |
| HD | HEAD, HUB DRAIN | ٧ | VOLT(S) |
| IE | INVERT ELEVATION | VCP | VITRIFIED CLAY PIPE |
| IN WC | | VS | VENT STACK |
| JB | | VTR | VENT THROUGH ROOF |
| | JUNCTION BOX | W/ | WITH |
| kW | | W/0 | WITHOUT |
| MAU | | WC | WATER COLUMN |
| MAX | MAXIMUM 1000 BTU PER HOUR | ws | WASTE STACK |
| MBH | IOOO BIO PER HOUR | WSFU | WATER SUPPLY FIXTURE UNIT |

WSFU WATER SUPPLY FIXTURE UNIT —— - — DOMESTIC COLD WATER (CW) —— -- DOMESTIC HOT WATER (HW) TRAP PRIMER LINE (T) SOIL PIPING - ABOVE FLOOR (S) GREASE WASTE - ABOVE FLOOR (GW) GREASE WASTE - BELOW FLOOR (GW) -- -VBG-- - VENT BELOW GRADE (VBG) ---VBF--- VENT BELOW FLOOR (VBF) CONDENSATE DRAIN (CD) ————— G———— NATURAL GAS (G) EXISTING PIPING TO REMAIN ----V---VENT PIPING (V) SQUARE FLOOR DRAIN (FS), SIZE & TYPE ROUND FLOOR DRAIN (FD), SIZE & TYPE ————— BALL VALVE ────────── CONTROL VALVE ───────── SHUTOFF VALVE CHECK VALVE ─────────── UNION WALL CLEANOUT (WCO) FLOOR CLEANOUT (FCO) EXTERIOR CLEANOUT (ECO) ELBOW UP ELBOW DOWN TEE UP — TEE DOWN ELBOW UP WITH SHUT-OFF VALVE (SOV) ELBOW DOWN WITH SHUT-OFF VALVE (SOV) —— TEE UP WITH SHUT-OFF VALVE (SOV) —— TEE DOWN WITH SHUT-OFF VALVE (SOV) WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E) —————— GAS COCK ———— TRAP PRIMER

TSC: FL-278 REVISION —————— TRAP PRIMER WITH DISTRIBUTION UNIT

DATE: 12.26.2019

PLUMBING **SCHEDULES**

DATE: 12.26.2019

NOTE:
GC TO PROVIDE CAMERA TEST OR

X-RAY OF SLAB TO LOCATE EXISTING

WASTE LINES UNDER SLAB. NO SHELL PLANS PROVIDED. CONFIRM WITH P

SHEETS AND CONTACT DESIGN TEAM IF MODIFICATIONS ARE NEEDED. CONFIRMATION REQUIRED PRIOR TO ISSUANCE OF PERMIT ISSUANCE.

PLUMBING PLAN NOTES:

6 NOT USED

PROVIDE 1" CONDENSATE LINE FROM ROOFTOP UNITS AND ROUTE TO MOP SINK. RON CONDENSATE LINE DOWN WALL AND DISCHARGE OVER MOP SINK WITH AIR GAP PER CODE.

2 ROUTE NEW 1 1/4" COLD WATER LINE FROM EXISTING 2" WATER LINE STUB LOCATED ABOVE THE CEILING. GC MUST FIELD VERIFY PRIOR TO PERMIT AND ALERT ENG/ ARCH IMMEDIATELY IF NOT

3 LOCATE GREASE TRAP UNDER FLOOR- SEE 6/P3- SEE MFG SPECS

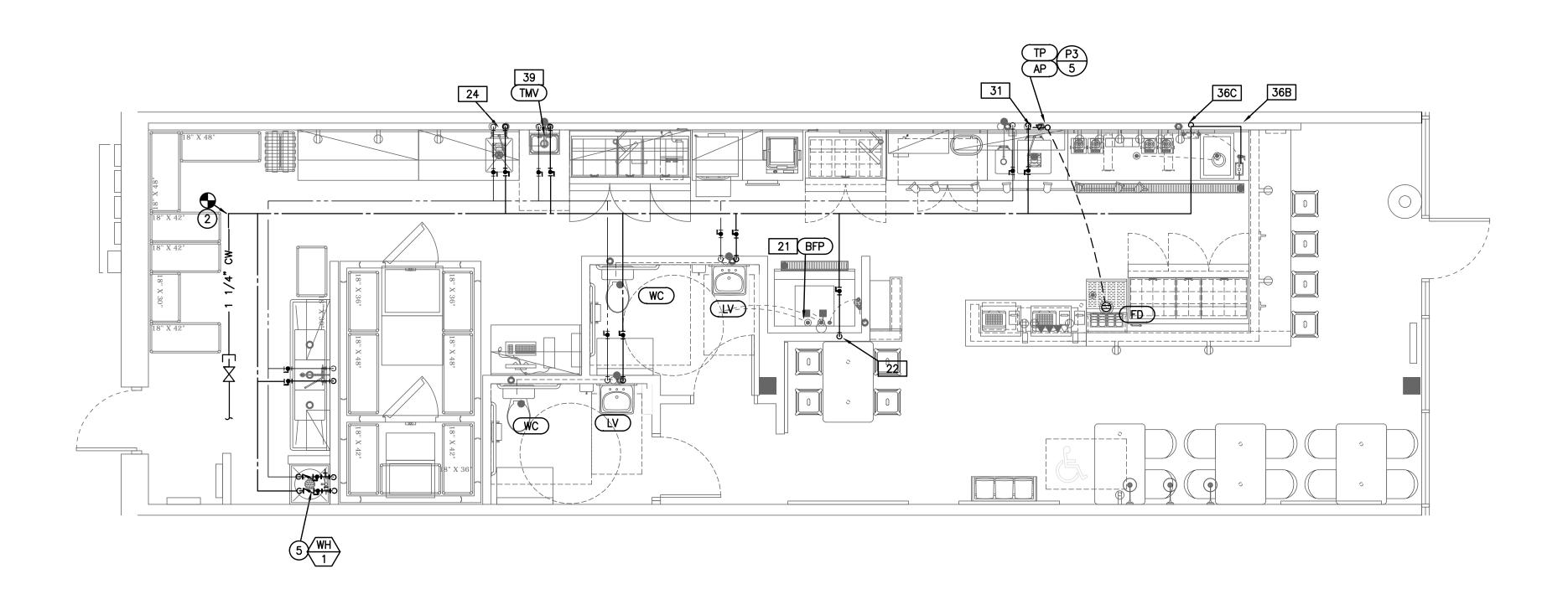
5 ELEC WATER HEATER ABOVE MOP SINK, PROVIDE 1" COLD & HOT WATER LINES TO WATER HEATER - SEE MFG SPECS

GC TO LOCATE EXACT LOCATION AND DEPTH OF WASTE LINE PRIOR TO START OF WORK. PROVIDE CAMERA OR XRAY IN BID

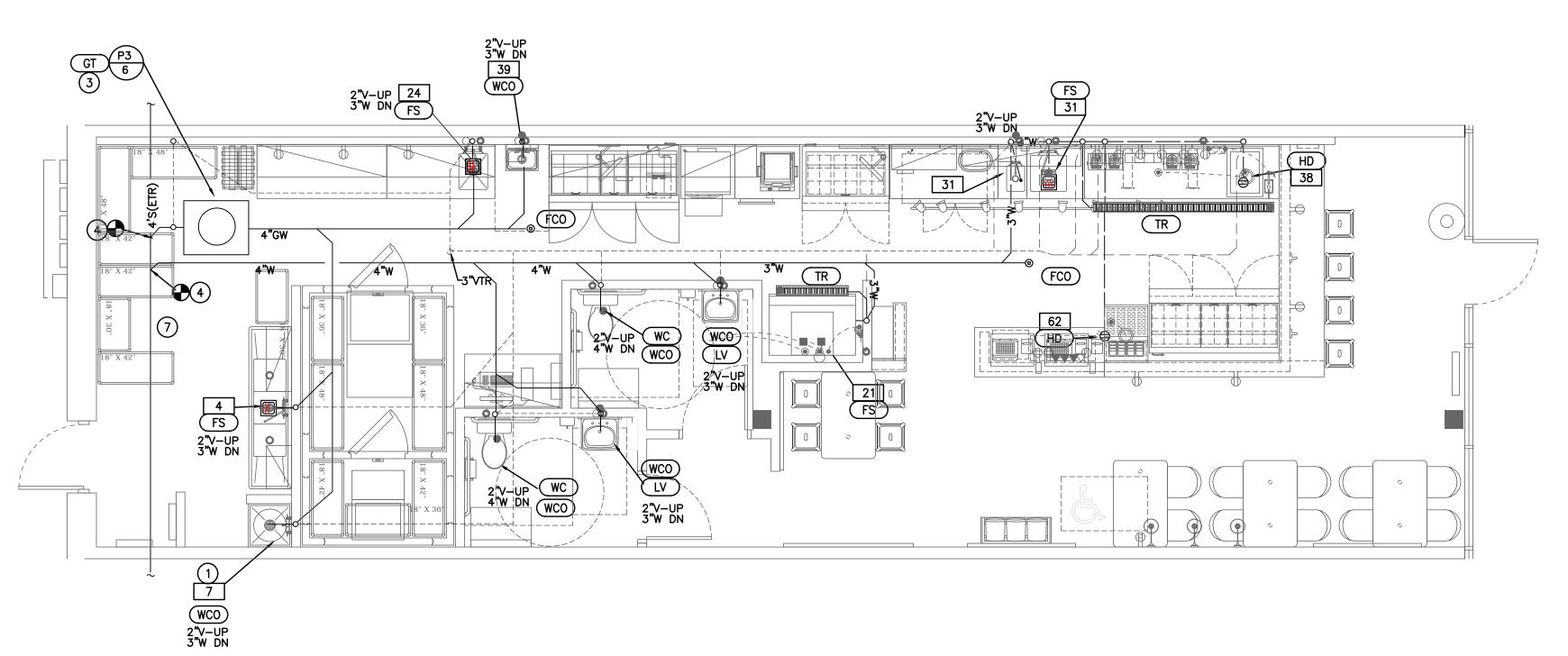
CONNECT NEW 4" SANITARY WASTE LINE TO EXISTING 4" SANITARY WASTE LINE. VERIFY EXACT SIZE, LOCATION AND INVERT PRIOR TO INSTALLATION. XRAY OR CAMERA TO LOCATE MUST BE IN BID

PROVIDED 2"CW LINE AND METER BY LANDLORD.

PLUMBING FLOOF PLAN & DETAILS



WATER & GAS PIPING PLAN 1/4" = 1'-0"



SANITARY & VENT PIPING PLAN
1/4" = 1'-0"

REFER TO SPECIFICATIONS FOR INSULATION TYPES, INSULATION THICKNESSES, HANGER TYPES, HANGER ROD CONNECTIONS TO SRUCTURE AND HANGER SPACING.

INSULATED PIPE HANGER DETAIL ∠ / NO SCALE

AND/OR SUSPEND FROM PAN PIPE SEPARATELY TO STRUCTURE ABOVE, MINIMUM DISCHARGE INTO RECEPTOR 6" CLEAR OF CEILING, IF ANY-1_/ SHOWN ON PLAN, WITH AIR GAP PER LOCAL CODE REFER TO SPECIFICATIONS, SCHEDULES AND NOTES FOR MORE INFORMATION. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. VERIFY CONNECTION SIZES AND LOCATIONS PER MANUFACTURER'S REQUIREMENTS. REFER TO FLOOR PLANS FOR PIPE SIZES. PROVIDE SEISMIC STRAP OR BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES AND/OR SEPARATE DETAIL. INSTALL WITH BOTTOM MINIMUM 6'-6" ABOVE FLOOR IF ABOVE JANITOR'S SINK; OTHERWISE HIGH AS POSSIBLE. PLATFORM SHALL BE PLYWOOD ON UNISTRUT FRAME BRACKETED AND ANCHORED TO WALL, AND/OR SUSPENDED FROM STRUCTURE ABOVE WITH THREADED ROD. POWER WIRING AND DISCONNECT SWITCH ARE SPECIFIED BY ELECTRICAL. INTERLOCK OF AQUASTAT WITH RECIRCULATION PUMP IS SPECIFIED BY ELECTRICAL IF REQUIRED. ELECTRIC WATER HEATER OVERHEAD NO SCALE

PROVIDE AUTOMATIC

-SHUT-OFF VALVE

CHECK VALVE

─ 3/4" BRANCH TO

PROVIDE 12"WIDE x

IF SHOWN ELSEWHERE

FOR CONNECTION OF

- ROUTE RELIEF VALVE

+----- 12"DEEP HEAT TRAP AT

EXPANSION TANK

VACUUM RELIEF VALVE

ABOVE TOP OF HEATER

-COLD WATER SUPPLY

- HOT WATER TO FIXTURES

INLET AND OUTLET (TYPICAL)

- FROM RECIRCULATION PUMP

PROVIDE DIELECTRIC PIPE

UNION AT TANK CONNECTIONS

DISSIMILAR METALS (TYPICAL)

DISCHARGE PIPE AND DRAIN

INSTALL WITH MINIMUM 6"

CLEARANCE TO BUILDING

REFER TO SPECIFICATIONS

PROVIDE A HARD COPPER

SPECIFICATIONS AND/OR

DRAIN VALVE WITH HOSE

BIBB BY WATER HEATER

WATER-TIGHT PAN UNDER

HEATER, WITH DRAIN PIPE-

ATTACH TO BACKBOARD

PROVIDE PLATFORM.

RELIEF VALVE DISCHARGE PIPE

FULL SIZE OF VALVE OUTLET-

ELECTRIC WATER HEATER PER

INSTALL ASME TEMPERATURE

AND PRESSURE RELIEF VALVE FURNISHED WITH WATER

STRUCTURE ABOVE-

HEATER-

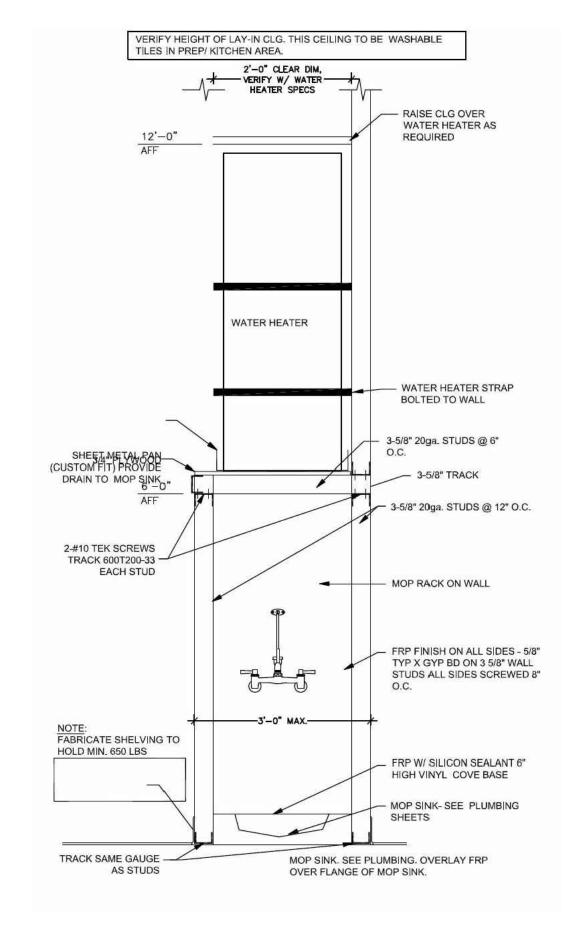
THERMOMETER-

SCHEDULE -

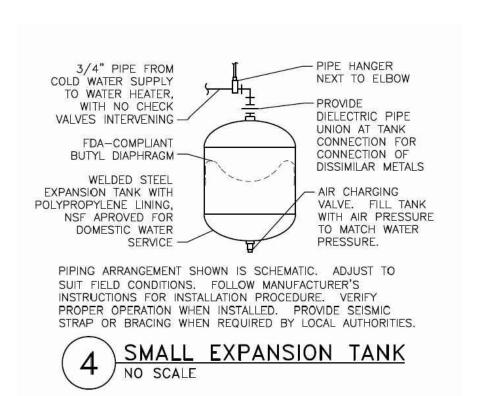
MANUFACTURER -

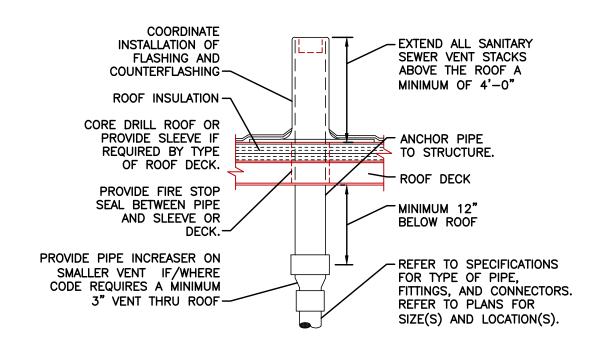
RUST-PROOF

PROVIDE 6" DEEP



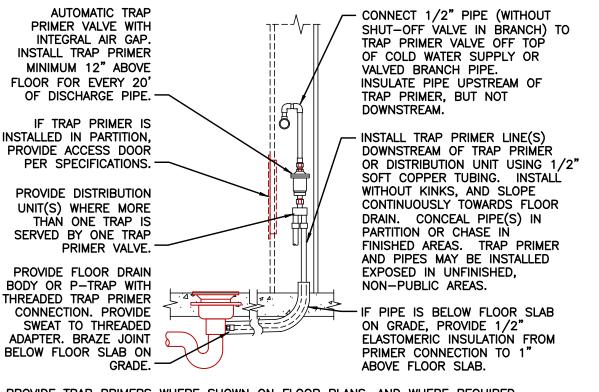
NOT USED NO SCALE





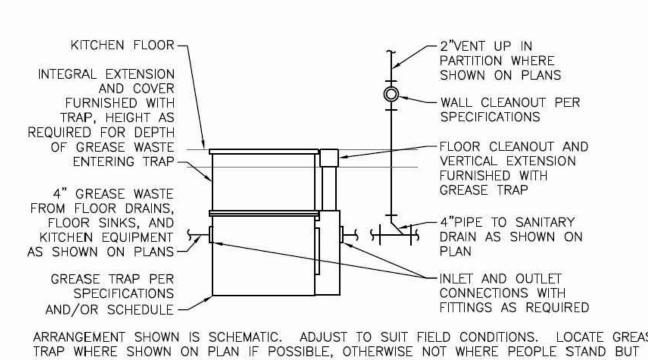
LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, TWENTY FIVE FEET FROM ANY OPENING OR FRESH AIR INTAKE IN MEDICAL FACILITIES AND ONE FOOT FROM ANY VERTICAL SURFACE. REFER TO LOCAL CODES FOR OTHER VENT TERMINATION REQUIREMENTS. LOCATE VTR MINIMUM 18" FROM ADJACENT WALL, PARAPET, EXPANSION JOINT, ROOF DRAIN, EQUIPMENT CURB, OR OTHER ROOF FEATURE. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS. INSULATE LAST SIX FEET OF VENT PIPE INSIDE BUILDING PER SPECIFICATIONS.

VENT THRU ROOF ("VTR" NO SCALE



PROVIDE TRAP PRIMERS WHERE SHOWN ON FLOOR PLANS, AND WHERE REQUIRED BY LOCAL AUTHORITIES. PIPING ARRANGEMENT SHOWN IS SCHEMATIC: ADJUST TO SUIT FIELD CONDITIONS. REFER TO SPECIFICATIONS AND PLUMBING FIXTURE SCHEDULE FOR MORE INFORMATION. INSTALL TRAP PRIMER VALVE AND DISTRIBUTION UNIT PER MANUFACTURER'S RECOMMENDATIONS.

TRAP PRIMER IN/OUT WALL NO SCALE



ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. LOCATE GREASE WHERE COVER CAN BE EASILY REMOVED (FOR CLEANING). DETAIL IS FOR SLAB ON GRADE INSTALLATION; IF FLOOR SLAB IS NOT ON GRADE, COORDINATE INSTALLATION WITH STRUCTURE: REFER TO STRUCTURAL DRAWINGS. PROVIDE SUPPORTS HUNG FROM SLAB PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE ANCHOR FLANGE WITH FLASHING CLAMP FOR SEALING WATER PROOF FLOOR MEMBRANE. REFER TO ARCHITECTURAL DRAWINGS.

GREASE TRAP INSTALLATION NO SCALE



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REVISION

DATE: 12.26.2019

PLUMBING DETAILS

CONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT THREE COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AT THE TERMINATION OF THE WORK PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF MECHANICAL SYSTEMS INSTALLED UNDER THIS CONTRACT WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS RECEIVED AND DEEMED COMPLETE BY THE ARCHITECT AND ENGINEER. INSTRUCT WORKMEN TO SAVE REQUIRED LITERATURE SHIPPED WITH THE EQUIPMENT ITSELF, FOR INCLUSION IN THIS BROCHURE.

PROVIDE "AS-BUILT" DRAWINGS (SEE SPECIAL CONDITIONS).

15B TRAINING

AT A TIME MUTUALLY AGREED UPON BETWEEN THE OWNER AND CONTRACTOR, PROVIDE THE SERVICES OF A FACTORY TRAINED AND AUTHORIZED REPRESENTATIVE TO TRAIN OWNER'S DESIGNATED PERSONNEL ON THE OPERATION AND MAINTENANCE OF THE EQUIPMENT PROVIDED FOR THIS PROJECT.

PROVIDE TRAINING TO INCLUDE BUT NOT BE LIMITED TO AN OVERVIEW OF THE SYSTEM AND/OR EQUIPMENT AS IT RELATES TO THE FACILITY AS A WHOLE; OPERATION AND MAINTENANCE PROCEDURES AND SCHEDULES RELATED TO STARTUP AND SHUTDOWN, TROUBLESHOOTING, SERVICING, PREVENTIVE MAINTENANCE AND APPROPRIATE OPERATOR INTERVENTION: AND REVIEW OF DATA INCLUDED IN THE OPERATION AND MAINTENANCE MANUALS.

SUBMIT A CERTIFICATION LETTER TO THE ARCHITECT STATING THAT THE OWNER'S DESIGNATED REPRESENTATIVE HAS BEEN TRAINED AS SPECIFIED HEREIN. LETTER SHALL INCLUDE DATE, TIME, ATTENDEES AND SUBJECT OF TRAINING. THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL SIGN THE CERTIFICATION LETTER INDICATING AGREEMENT THAT THE TRAINING HAS BEEN

SCHEDULE TRAINING WITH OWNER WITH AT LEAST 7 DAYS' ADVANCE NOTICE.

COORDINATE WITH DIVISION 1 AND GENERAL CONDITIONS TO

DETERMINE WHAT THE ACTUAL REQUIREMENTS ARE, AND MODIFY

<u>15B WARRANTIES</u>

THE FOLLOWING AS REQUIRED SO AS TO NOT CONTRADICT THEM. WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL

CONDITIONS AND DIVISION 1. WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES. IN WRITING AND PROPERLY EXECUTED. INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

15B SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE SPARE PARTS TO INCLUDE FAUCET WASHERS AND O-RINGS, FLUSHOMETER REPAIR KITS AND WATER CLOSET TANK REPAIR KITS FOR THE FIXTURES FURNISHED FOR THIS PROJECT.

15B EXCAVATION AND BACKFILLING

PERFORM EXCAVATION AND BACKFILL REQUIRED FOR INSTALLATION OF UNDERGROUND WORK UNDER THIS CONTRACT. TRENCHES SHALL BE OF SUFFICIENT WIDTH. CRIB OR BRACE TRENCHES TO PREVENT CAVE-IN OR SETTLEMENT. DO NOT EXCAVATE TRENCHES CLOSE TO COLUMNS AND WALLS OF NEW BUILDING WITHOUT PRIOR CONSULTATION WITH THE ARCHITECT. USE PUMPING EQUIPMENT IF REQUIRED TO KEEP TRENCHES FREE OF WATER. BACKFILL TRENCHES IN MAXIMUM 6" LAYERS OF WELL-TAMPED DRY EARTH IN A MANNER TO PREVENT FUTURE SETTLEMENT.

EXCAVATION AS HEREIN SPECIFIED SHALL BE CLASSIFIED AS COMMON EXCAVATION. COMMON EXCAVATION SHALL COMPRISE THE SATISFACTORY REMOVAL AND DISPOSITION OF MATERIAL OF WHATEVER SUBSTANCES AND OF EVERY DESCRIPTION ENCOUNTERED, INCLUDING ROCK, IF ANY, WITHIN THE LIMITS OF THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS. EXCAVATION SHALL BE PERFORMED TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. EXCAVATED MATERIALS WHICH ARE CONSIDERED UNSUITABLE FOR BACKFILL, AND SURPLUS OF EXCAVATED MATERIAL WHICH IS NOT REQUIRED FOR BACKFILL, SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE AND RESPONSIBILITY, AND TO THE SATISFACTION OF THE ARCHITECT.

15B COINCIDENTAL DAMAGE

CONTRACTOR SHALL REPAIR STREETS, SIDEWALKS, DRIVES, PAVING, WALLS AND FINISHES ETC. THAT HE DAMAGES IN THE COURSE OF THIS PROJECT. REPAIR MATERIALS SHALL MATCH EXISTING CONSTRUCTION. REPAIR WORK SHALL MEET REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION AND MEET THE SATISFACTION OF THE ARCHITECT.

15B CUTTING AND PATCHING

OBTAIN PERMISSION FROM THE ARCHITECT BEFORE CUTTING WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED BY THE PROJECT. DO NOT DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION PATCHING SHALL MATCH ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

15B ROUGH-IN

BEFORE STARTING CONSTRUCTION, COORDINATE WITH OTHER CONTRACTORS REGARDING ROUGH-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING, CONDUIT AND ROUGH-IN EXCEPT IN UNFINISHED AREAS AND WHERE OTHERWISE SHOWN.

15B ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGES. SCREWDRIVER-TYPE LOCK. ANCHOR STRAPS; MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

15B PENETRATIONS

PROVIDE SLEEVES FOR PIPES PASSING THROUGH ABOVE GRADE CONCRETE OR MASONRY WALLS, CONCRETE FLOOR OR ROOF SLABS. SLEEVES ARE NOT REQUIRED FOR CORE DRILLED HOLES IN EXISTING MASONRY WALLS, CONCRETE FLOORS OR ROOFS. PROVIDE 10 GAUGE GALVANIZED STEEL SLEEVES FOR SLEEVES 6" AND SMALLER. PROVIDE GALVANIZED SHEET METAL SLEEVES FOR LARGER THAN 6". SCHEDULE 40 PVC SLEEVES ARE ACCEPTABLE FOR INSTALLATION IN AREAS WITHOUT RETURN AIR

SEAL ELEVATED FLOOR. EXTERIOR WALL AND ROOF PENETRATIONS WATERTIGHT AND WEATHERTIGHT WITH NON-SHRINK, NON-HARDENING COMMERCIAL SEALANT. PACK WITH MINERAL WOOL AND SEAL BOTH ENDS WITH MINIMUM OF 1/2" OF

SEAL AROUND PENETRATIONS OF FIRE RATED ASSEMBLIES. COORDINATE FIRE RATINGS AND LOCATIONS WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIRE STOPPINGS. PROVIDE A PRODUCT SCHEDULE FOR UL LISTING, LOCATION, WALL OR FLOOR RATING AND INSTALLATION DRAWING FOR EACH PENETRATION FIRE STOP

EXTEND PIPE INSULATION FOR INSULATED PIPE THROUGH FLOOR, WALL AND ROOF PENETRATIONS, INCLUDING FIRE RATED WALLS AND FLOORS. THE VAPOR BARRIER SHALL BE MAINTAINED. SIZE SLEEVE FOR A MINIMUM OF 1" ANNULAR CLEAR SPACE BETWEEN INSIDE OF SLEEVE AND OUTSIDE OF INSULATION.

SEAL CONCRETE OR MASONRY EXTERIOR WALL PENETRATIONS BELOW GRADE WITH "WALL PIPES" AND MECHANICAL SLEEVE SEALS. PROVIDE CAST IRON "WALL PIPES" WITH INTEGRAL WATERSTOP RING MANUFACTURED BY JOSAM, JAY R. SMITH, WADE, WATTS OR ZURN. PROVIDE MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE / LINK SEAL, CALPICO, INC. AND METRAFLEX.

SEAL ELEVATED CONCRETE SLAB WITH WATER PROOF MEMBRANE PENETRATIONS WITH "WALL PIPES" AND WATER PROOF SEALANT. SECURE WATERPROOF MEMBRANE FLASHING BETWEEN "WALL PIPE" CLAMPING FLANGE AND CLAMPING RING. PROVIDE CAST IRON "WALL PIPES" WITH INTEGRAL WATERSTOP RING MANUFACTURED BY JOSAM, JAY R. SMITH, WADE, WATTS OR

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED.

PROVIDE SCHEDULE 40 PVC PIPE SLEEVES FOR VERTICAL PRESSURE PIPE PASSING THROUGH CONCRETE SLAB ON GRADE SLEEVES SHALL BE ONE NOMINAL PIPE SIZE LARGER THAN THE PIPE SERVED AND TWO PIPE SIZES LARGER THAN PIPE SERVED FOR DUCTILE IRON PIPES WITH RESTRAINING RODS. SEAL WATER-TIGHT WITH SILICONE CAULK.

PROVIDE 1/2" THICK CELLULAR FOAM INSULATION AROUND PERIMETER OF NON-PRESSURE PIPE PASSING THRU CONCRETE SLAB ON GRADE. INSULATION SHALL EXTEND TO 2" ABOVE AND BELOW THE CONCRETE SLAB.

15B ELECTRICAL WIRING

PROPER INSTALLATION.

LINE VOLTAGE WIRING SHALL BE PROVIDED BY DIVISION 16. LINE VOLTAGE CONTROL AND INTERLOCK WIRING FOR PLUMBING SYSTEMS SHALL ALSO BE PROVIDED BY DIVISION 16 CONTRACTOR. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE DIVISION 15 CONTRACTOR. FURNISH WIRING DIAGRAMS TO THE DIVISION 16 CONTRACTOR AS REQUIRED FOR PROPER EQUIPMENT HOOKUP. COORDINATE WITH THE DIVISION 16 CONTRACTOR THE ACTUAL WIRE SIZING AMPS FOR PLUMBING EQUIPMENT (FROM THE EQUIPMENT NAMEPLATE) TO ENSURE

15B EQUIPMENT FURNISHED BY OTHERS

FURNISH AND INSTALL ROUGHED-IN WASTES. VENTS AND WATER SERVICES. PROVIDE FINAL CONNECTION TO KITCHEN EQUIPMENT. FURNISHED BY OTHERS, IN LOCATIONS AS INDICATED ON THE DRAWINGS. PROVIDE ACCESSORY ITEMS THAT ARE REQUIRED BUT NOT FURNISHED WITH THE EQUIPMENT. INCLUDING TRAPS STOP VALVES. PRV'S. INDIRECT DRAIN FROM EQUIPMENT TO FLOOR DRAINS, AND ACCESSORY ITEMS INDICATED OR REQUIRED FOR THE PROPER OPERATION OF THE COMPLETE SYSTEM AT THE TERMINATION OF THE WORK.

DIVISION 15 CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT ROUGH-IN DIMENSIONS, AND SHALL VERIFY SAME WITH ARCHITECT AND/OR EQUIPMENT SUPPLIER PRIOR TO SERVICE INSTALLATIONS.

15B UTILITY CONNECTIONS

PROVIDE UTILITY CONNECTIONS REQUIRED AND INDICATED ON THE DRAWINGS. INSTALL INTERIOR AND EXTERIOR CONNECTIONS TO "MAINS" AND EXISTING SERVICE LINES COMPLETE AND FUNCTIONING, IN COMPLIANCE WITH THE REQUIREMENTS OF THE CODES HAVING JURISDICTION AND THE SERVING UTILITY INVOLVED. VERIFY THE EXACT LOCATION OF UTILITY MAINS SERVICE LINES, AND CONNECTION POINTS REQUIRING CONNECTION IN THE FIELD PRIOR TO INSTALLATION. WORK II CONJUNCTION WITH THE UTILITY INVOLVED IN THE INSTALLATION OF SERVICES. VERIFY THAT INSTALLATION WILL TIE INTO THE EXISTING UTILITY MAINS, SERVICE LINES, AND CONNECTION POINTS AT THE INDICATED INVERT ELEVATION POINT PRIOR TO INSTALLATION. IF THE INSTALLATION WILL NOT TIE INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FALL, NOTIFY THE ARCHITECT AND THE ENGINEER SO THAT AN ALTERNATIVE MAY BE DETERMINED.

PROVIDE SERVICE PIPING AND ACCESSORIES REQUIRED TO COMPLETE UTILITY CONNECTIONS THAT ARE NOT FURNISHED BY THE SERVING UTILITY. COORDINATE WITH THE SERVING UTILITY COMPANY REGARDING ITEMS FURNISHED, WORK PERFORMED, AND PERMITS AND INSPECTIONS REQUIRED. PAY ASSOCIATED FEES OR CHARGES.

15B MISCELLANEOUS REMODELING WORK

PROVIDE ITEMS OF PLUMBING SYSTEMS MODIFICATION REQUIRED BECAUSE OF BUILDING REMODELING, AS NOTED ON THE DRAWINGS. OR NECESSARY FOR PROPER OPERATION. MATCH EXISTING MATERIALS AND CONSTRUCTION TECHNIQUES WHEN MODIFYING EXISTING SYSTEMS. COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR AND ARCHITECT.

NEW FLOOR DRAINS SHALL BE CONNECTED TO THE EXISTING SANITARY DRAINAGE SYSTEM AS SHOWN ON THE DRAWINGS OR AS REQUIRED. SAW-CUT EXISTING CONCRETE FLOOR AS REQUIRED TO INSTALL NEW UNDERFLOOR LINES, AND PATCH TO MATCH EXISTING SUB-FLOOR. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FINISH FLOOR PATCHING REQUIREMENTS.

EXISTING PLUMBING FIXTURES WHERE INDICATED ON THE DRAWINGS TO BE REUSED SHALL BE CLEANED, REPAIRED. PROVIDED WITH NEW WASHERS, ETC. AS REQUIRED TO PUT THEM INTO GOOD OPERATING CONDITION.

MAKE CONNECTION OF NEW PIPE TO SIMILAR EXISTING WASTE, WATER AND GAS PIPE USING STANDARD FITTINGS AND JOINING PRACTICES.

15B BUILDING OPERATION

COMPLY WITH THE SCHEDULE OF OPERATIONS AS OUTLINED IN THE ARCHITECTURAL PORTIONS OF THIS SPECIFICATION. BUILDING WILL BE IN OPERATION DURING NORMAL WORK-DAY HOURS. ACCOMPLISH WORK REQUIRING INTERRUPTION OF BUILDING OPERATION AT A TIME WHEN THE BUILDING IS NOT IN OPERATION, AND ONLY WITH WRITTEN APPROVAL OF BUILDING OWNER AND/OR TENANT. COORDINATE INTERRUPTION OF BUILDING OPERATION WITH THE OWNER AND/OR TENANT A MINIMUM OF SEVEN DAYS IN ADVANCE OF WORK.

15B SYSTEM TESTING AND ADJUSTING

UPON COMPLETION OF EACH PHASE OF THE INSTALLATION, TEST EACH SYSTEM IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS AND AS NOTED BELOW. FURNISH LABOR AND EQUIPMENT REQUIRED TO TEST PLUMBING WORK INSTALLED UNDER THIS CONTRACT, AND ASSUME COSTS INVOLVED IN MAKING THE TESTS, AND REPAIRING AND/OR REPLACING DAMAGE RESULTING THEREFROM.

NOTIFY THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION, THREE (3) WORKING DAYS PRIOR TO MAKING PLUMBING SYSTEM TESTS. LEAVE CONCEALED WORK UNCOVERED UNTIL THE REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF NECESSARY DUE TO CONSTRUCTION PROCEDURE, TESTS ON PORTIONS OF THE WORK MAY BE MADE, AND WHEN SATISFACTORY, THE WORK MAY BE CONCEALED. TEST PIPING BEFORE INSULATION IS INSTALLED, AND BEFORE BACKFILL. PIPES, JOINTS, FLANGES, VALVE STEMS, ETC., SHALL BE LEAK TIGHT. REPAIR OR REPLACE SYSTEM DEFECTS WITH NEW MATERIALS. CAULKING OF DEFECTIVE JOINTS, CRACKS OR HOLES WILL NOT BE PERMITTED. REPEAT TESTS AFTER DEFECTS HAVE BEEN ELIMINATED. MAKE TESTS IN THE PRESENCE OF THE ADMINISTRATIVE AUTHORITY AND/OR THE OWNER'S AUTHORIZED

UPON COMPLETION OF THE SYSTEMS INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE ARCHITECT AND ENGINEER, MAKE GENERAL OPERATING TESTS TO DEMONSTRATE THAT EQUIPMENT AND SYSTEMS ARE IN PROPER WORKING ORDER, AND ARE FUNCTIONING IN CONFORMANCE WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. AS A PART OF THESE TESTS OPEN EVERY WATER OUTLET TO ENSURE COMPLETE SYSTEM FLUSHING, REMOVE AND CLEAN FAUCET AERATORS, CLEAN STRAINERS, LIGHT PILOT LIGHTS, AND OPERATE EVERY PIECE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT TO DEMONSTRATE PROPER FUNCTIONING.

TEST THE DRAINAGE AND VENT SYSTEM BY PLUGGING OPENINGS WITH TEST PLUGS, EXCEPT THOSE AT THE TOP OF THE STACKS. FILL THE SYSTEM WITH WATER: TEST RESULTS WILL BE SATISFACTORY IF THE WATER LEVEL REMAINS STATIONARY FOR NOT LESS THAN ONE (1) HOUR. SUBJECT THE DRAINAGE AND VENT SYSTEM TO A PRESSURE OF AT LEAST TEN (10) FEET OF WATER. IF LEAKS DEVELOP, REPAIR THEM AND REPEAT THE

TEST THE DOMESTIC WATER SYSTEM BY FILLING IT WITH WATER AND THEN ISOLATING THE SYSTEM FROM ITS SOURCE. KEEP THE SYSTEM CLOSED FOR A PERIOD OF TWENTY-FOUR HOURS, WITH NO FIXTURE BEING USED. THE PRESSURE DIFFERENTIAL FOR THIS TEST PERIOD SHALL NOT EXCEED 10 PSIG. TEST WATER PIPING TO A 125 PSI HYDROSTATIC PRESSURE.

FOR LOW PRESSURE NATURAL GAS SYSTEMS, SUBJECT THE PIPE TO 10 PSIG AIR PRESSURE FOR A PERIOD OF ONE HOUR. THE RESULTANT PRESSURE DIFFERENTIAL FOR THIS PERIOD SHALL BE O PSIG. TEST PER GAS COMPANY REQUIREMENTS WHERE

THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLATION, AND CONNECTION OF PLUMBING SYSTEMS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. BY SIGNING THE CONTRACT. THE CONTRACTOR ACKNOWLEDGES THAT HE HAS ACQUAINTED HIMSELF WITH THE SITE AND THE EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. AND THE DRAWINGS AND SPECIFICATIONS PERTAINING THERETO, AND HE INDICATES THAT HE WILL COMPLY WITH THE REQUIREMENTS AND INTENT OF PERTINENT DOCUMENTS IN THE PERFORMANCE OF THE WORK.

GUARANTEE THAT THE PLUMBING INSTALLED UNDER THIS CONTRACT IS FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF JOB ACCEPTANCE BY THE OWNER. THIS SHALL INCLUDE A GUARANTEE OF FREE CIRCULATION OF LIQUIDS THROUGHOUT THE SYSTEM AS INTENDED WITHOUT LEAKS, EXCESSIVE NOISE, OR

IF DEFECTS OCCUR DURING THE ONE YEAR GUARANTEE PERIOD REPAIR OR REPLACE SUCH DEFECTS AT NO EXPENSE TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER, ARCHITECT AND ENGINEER.

15B PLUMBING PIPING

15B PIPING MATERIALS

MATERIALS SPECIFIED OR NOTED ON THE DRAWINGS ARE SUBJECT TO THE APPROVAL OF LOCAL CODE AUTHORITIES. VERIFY APPROVAL BEFORE INSTALLING ANY MATERIAL OR JOINING METHOD.

DOMESTIC WATER (COLD, HOT): DOMESTIC WATER PIPING INSTALLED ABOVE THE FLOOR SLAB INSIDE THE BUILDING SHALL BE TYPE "L" HARD TEMPER COPPER TUBE WITH WROUGHT COPPER FITTINGS AND SOLDERED CONNECTIONS MADE UP WITH 95/5 SOLDER. BRAZED MECHANICALLY FORMED TEE CONNECTIONS (T-DRILL) MAY BE USED IN COPPER LINES WHERE APPROVED BY CODE: CONNECTION SHALL BE MADE WITH BRAZED SILVER SOLDER (SILFOS) JOINTS IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.

UNDERGROUND DOMESTIC WATER PIPING 2" AND SMALLER SHALL BE TYPE "K" SOFT TEMPER COPPER TUBING WITH FLARED COPPER ALLOY FITTINGS AND CONNECTIONS, OR TYPE "K" HARD TEMPER COPPER TUBING WITH CONVENTIONAL WROUGHT COPPER FITTINGS AND SILVER SOLDER (SILFOS) JOINTS. INSTALL AS FEW UNDERGROUND COPPER PIPING JOINTS AS POSSIBLE. AT BUILDING SERVICE ENTRANCE, NO JOINTS SHALL BE INSTALLED UNDER OR WITHIN 5 FEET OF THE BUILDING. INSTALL DOMESTIC WATER PIPING BELOW GRADE OUTSIDE BUILDING AT ADEQUATE DEPTH TO PREVENT FREEZING.

INTERIOR WASTE AND VENT BELOW SLAB: WASTE AND VENT PIPE BELOW SLAB INSIDE BUILDING SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE WITH HUB AND SPIGOT FITTINGS WITH NEOPRENE GASKET JOINTS. MEETING ASTM A74. MANUFACTURED BY AB & I FOUNDRY, CHARLOTTE OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CISPI AND NSF. HUBLESS WASTE AND VENT PIPE IS NOT PERMITTED BELOW BASE SLAB. PVC SCHEDULE 40 DWV ASTM D2665 PIPE WITH PVC MEETING ASTM B1784, "SOLID WALL" CELL CLASS 12454-B WITH ASTM 2665 SOCKET OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE A FITTINGS WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE.

INTERIOR WASTE AND VENT ABOVE SLAB: WASTE AND VENT PIPE ABOVE SLAB INSIDE BUILDING SHALL BE HUBLESS CAST IRON SOIL PIPE AND FITTINGS, MEETING ASTM A888 AND CISPI 301, MANUFACTURED BY AB & I FOUNDRY. CHARLOTTE OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CISPI AND NSF. PVC SCHEDULE 40 DWV ASTM D2665 PIPE WITH PVC MEETING ASTM B1784, "SOLID WALL" CELL CLASS 12454-B WITH ASTM 2665 SOCKET COPPER TUBE: ADJUSTABLE BAND HANGERS FOR BARE COPPER FITTINGS WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS)

NATURAL GAS: GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON SCREWED FITTINGS, OR STANDARD WELDED FITTINGS.

CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT: 1-1/4" AND LARGER WASTE CONNECTIONS FROM FIXTURE TRAPS TO CAST IRON PIPE SHALL BE "DWV" COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS WITH COPPER SWEAT OR COMPRESSION JOINTS AT FIXTURE TRAP CONNECTIONS AND THREADED JOINTS AT CONNECTIONS TO CAST IRON PIPE.

INDIRECT AND CONDENSATE DRAIN INSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED INSIDE THE BUILDING SHALL BE TYPE SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHERE ALLOWED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS.) INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

INDIRECT AND CONDENSATE DRAIN OUTSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED OUTSIDE THE BUILDING ABOVE GROUND SHALL BE SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHERE ALLOWED BY CODE. TERMINATE CONDENSATE AT THE MOP SINK AND THE INDIRECT DRAINS WHERE INDICATED ON THE PLANS. INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

15B PIPING AND EQUIPMENT INSULATION

DOMESTIC COLD WATER, HOT WATER, INDIRECT AND CONDENSATE DRAIN PIPE (WITHIN BUILDING) 1" ONE-PIECE FIBERGLASS COVERING WITH FIRE—RESISTANT JACKET WITH SELF— SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING OR ARMSTRONG. FOR HOT PIPING, PROVIDE PIPE HANGERS AND RISER CLAMPS SIZED FOR THE OUTSIDE DIAMETER OF PIPING. BUTT INSULATION TO HANGER OR RISER CLAMP FOR VERTICAL PIPE. SEAL EXPOSED INSULATION WITH INSULATION SEALER. EXCEPTION FOR VERTICAL PIPING: PROVIDE CLAMPS SIZED FOR THE OUTSIDE DIAMETER OF THE VERTICAL PIPE AND EXTEND CLAMP THROUGH INSULATION. SEAL PENETRATIONS OF INSULATION AND VAPOR BARRIER WITH WET COAT OF VAPOR BARRIER LAP CEMENT. FOR COLD PIPING AT HANGERS PROVIDE 8" LONG SECTIONS OF HIGH DENSITY, HIGH FEMPERATURE CALCIUM SILICATE BY JOHNS-MANVILLE, FIBERGLASS BY KNAUF, OR 8" LONG STYROFOAM BILLETS BY DOW OR FLEXIBLE UNICELLULAR PIPING INSULATION MEETING ASTM C 534-01A, TYPE I WITH INTEGRAL HIGH DENSITY PIPE SUPPORTS AND ENCASED IN STEEL INSULATION SHIELD BY COOPER B-LINE / ARMACELL OR APPROVED EQUAL. INSULATION SHALL BE CONTINUOUS ALONG THE PIPE SURFACE, EXCEPT AT VALVES. UNIONS. AND WHERE PIPING IS EXPOSED AT FIXTURES. PROVIDE 1" FIBERGLASS INSULATION ON VENT PIPING WITHIN SIX FEET OF VENT THROUGH THE OF ROOF. PROVIDE FIBERGLASS INSULATION ON DOMESTIC COLD AND HOT WATER PIPES INSTALLED IN WALLS AND CHASES. PROVIDE FIBERGLASS INSULATION ON DOMESTIC COLD AND HOT WATER PIPES INSTALLED IN WALLS AND CHASES, PROVIDE INSULATION PROTECTION SHIELD AT EACH HANGER FOR INSULATED PIPING.

COVER FITTINGS WITH ZESTON, KNAUF, OR EQUAL ONE-PIECE PVC PREMOLDED INSULATING COVERS. FITTING COVERS, JACKETS AND ADHESIVES SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT RATING OF 50 PER ASTM E84. AT ALL ELBOWS AND TEES, FILL VOIDS BETWEEN COVERS AND PIPING WITH FIBERGLASS INSULATION AND TAPE JOINTS. INSTALL PIPE INSULATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. WHERE PREMOLDED INSULATING FITTINGS ARE NOT APPROVED BY LOCAL AUTHORITIES, MITER INSULATION AT FITTINGS.

15B PIPING JOINTS

COPPER TUBING: JOINTS IN HARD TEMPER TUBING SHALL BE SOLDERED JOINTS USING LEAD-FREE 95/5 SOLDER EXCEPT WHERE TUBING IS INSTALLED BELOW GRADE OR BELOW THE BASE SLAB, IN WHICH CASE JOINTS SHALL BE SOLDERED WITH SILVER SOLDER (SILFOS). JOINTS IN SOFT TEMPER COPPER TUBING SHALL BÈ OF THE FLARED TYPE INSTALLED IN COMPLIANCE WITH THE FITTING MANUFACTURER'S

THREADED STEEL PIPE: THREADED JOINTS SHALL BE FULL AND CLEAN, CUT WITH NOT MORE THAN THREE (3) THREADS EXPOSED BEYOND THE FITTINGS. MAKE JOINTS TIGHT WITH GRAPHITE BASE PIPE JOINT COMPOUND AND PAINT EXPOSED THREADS OF FERROUS PIPE WITH ACID-RESISTING PAINT AFTER PIPING HAS BEEN TESTED AND PROVEN TIGHT. NO CAULKING, LAMP-WICK OR OTHER MATERIAL WILL BE PERMITTED FOR CORRECTION OF

CAST IRON PIPE BELOW GRADE: JOINTS IN BELL AND SPIGOT CAST IRON WASTE AND VENT PIPE SHALL BE NEOPRENE COMPRESSION GASKETS, TYSEAL OR EQUAL.

CAST IRON PIPE ABOVE GRADE: JOINTS IN HUBLESS PIPE SHALL BE STANDARD CISPI 310 NSF CERTIFIED BY ANACO, IDEAL, MISSON OR TYLER. JOINTS IN STORM PIPING, INCLUDING CONNECTIONS TO ROOF DRAINS, SHALL BE HEAVY DUTY COUPLINGS MEETING ASTM C1540 AND FM 1680, ANACO HUSKY #SD-4000 OR CLAMP-ALL "HI TORQUE" 125 IN. LB.

PVC PIPE: CLEAN JOINTS FREE FROM DEBRIS AND MOISTURE. APPLY PVC PRIMER MEETING ASTM F656 TO EACH JOINT. APPLY SOLVENT CEMENT MEETING ASTM D2564 AND MAKE JOINT WHILE WET AND IN ACCORDANCE WITH ASTM D2855.

PIPE ADAPTERS: MAKE CONNECTION OF NEW WASTE PIPE TO NEW OR EXISTING DISSIMILAR WASTE PIPE USING ADAPTER COUPLINGS. PROVIDE FERNCO, PROFLEX 3000 SERIES OR MISSION FLEXSEAL MR56 SERIES WITH NEOPRENE ADAPTER GASKET WITH STAINLESS STEEL SHIELD AND HOSE CLAMPS FOR CONNECTING DISSIMILAR PIPES ABOVE GRADE. PROVIDE FERNCO, 1056 SERIES OR MISSION SEWER COUPLINGS WITH NEOPRENE ADAPTER GASKET AND HOSE CLAMPS FOR CONNECTING DISSIMILAR PIPES BELOW GRADE AND COAT STAINLESS STEEL BANDS WITH MASTIC.

15B PIPING INSTALLATION

GENERAL: CLEAN PIPE THOROUGHLY PRIOR TO INSTALLATION. REAM ENDS OF PIPE TO REMOVE BURRS. CUT PIPE ACCURATELY TO MEASUREMENTS TAKEN ON THE JOB. INSTALL WITH ADEQUATE CLEARANCE FOR INSTALLATION OF COVERINGS WHERE REQUIRED. PIPE SHALL NOT BE SPRUNG OR BENT. NEATLY ALIGN PIPE, CONNECT IT SECURELY, AND SUPPORT IT FROM THE BUILDING STRUCTURE WITH HANGERS AS SPECIFIED BELOW. PROVIDE CHROME-PLATED ESCUTCHEONS ON PIPES PASSING THROUGH CEILINGS, FLOORS OR WALLS OF FINISHED SPACES. RUN PIPES FREELY THROUGH FLOOR AND WALL PENETRATIONS USING PIPE SLEEVES. DO NOT GROUT IN PLACE UNLESS REQUIRED FOR STRUCTURAL FIRE INTEGRITY. INSTALL PIPE CONCEALED IN FINISHED SPACES WHEREVER POSSIBLE. USE A DIELECTRIC UNION WHERE FERROUS AND COPPER PIPE CONNECT. DIELECTRIC UNION SHALL HAVE A ZINC-PLATED STEEL BODY, A THREADED NYLON INSERT, AND INSULATING PRESSURE GASKET. NO FERROUS METAL-TO-COPPER CONNECTION MADE WITHOUT INSULATING UNIONS WILL BE ALLOWED.

HANGER & SUPPORTS: PIPE HANGERS SHALL BE AS DESCRIBED IN THE SPECIFICATIONS BY B-LINE OR EQUAL BY ANVIL, MICHIGAN, TRUSCON, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH SIDE BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND RIGID HANGING INSTALLATION. DO NOT HANG PIPES FROM OTHER PIPES, CONDUIT OR DUCTWORK. PROVIDE HANGER RODS AND SPACE HANGERS AT INTERVALS AS SPECIFIED IN "HANGER SPACING". PROVIDE SUPPORT WITHIN 1' OF EACH ELBOW AND TEE. PROVIDE SUPPORTS WITHIN 1' OF EACH EQUIPMENT CONNECTION. PROVIDE TWO NUTS ON THREADED SUPPORTS TO SECURELY FASTEN THE SUPPORT. INSTALL HANGER TYPES OR SUPPORTS FOR VARIOUS PIPING AS FOLLOWS:

TUBE 3" AND SMALLER SHALL BE B-LINE #B3170 CT COPPER PLATED ADJUSTABLE BAND SWIVEL RING TYPE. ADJUSTABLE BAND HANGERS FOR INSULATED COPPER TUBE AND 3" SMALLER SHALL BE B-LINE #B3170 NF ADJUSTABLE BAND SWIVEL RING TYPE. SUPPORT EXPOSED COPPER TUBE 2" AND SMALLER TO WALLS OR IN CHASES WITH B-LINE #B3198RCT COPPER COATED EXTENSION SPLIT RING PIPE CLAMPS, 3/8" THREADED ROD AND B-LINE #B3199CT CEILING FLANGES. SUPPORT COPPER TUBE IN CHASËS AND WALLS AT PLUMBING FIXTURES WITH PLASTIC OR COPPER BRACKETS SECURED TO STRUCTURE AND U-BOLTS SIZED TO BARE ON THE PIPE. RISER CLAMPS TO SUPPORT VERTICAL COPPER TUBE SHALL BE B-LINE #B3373CT COPPER COATED STEEL, CUT INSULATION, SEAL VAPOR BARRIER, AND

STEEL PIPE: ADJUSTABLE BAND HANGERS FOR 2" AND SMALLER SHALL BE B-LINE #B3170 NF ADJUSTABLE BAND SWIVEL RING TYPE. RISER CLAMPS TO SUPPORT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED STEEL.

CAST IRON PIPE: ADJUSTABLE BAND HANGERS FOR 2" AND SMALLER. CLEVIS HANGERS FOR 3" AND LARGER SHALL BE B-LINE #B3100 GALVANIZED STEEL CLEVIS TYPE. RISER CLAMPS TO SUPPÖRT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED

PVC PIPE: ADJUSTABLE BAND HANGERS FOR 3" AND SMALLER. RISER CLAMPS TO SUPPORT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED STEEL.

INSULATION PROTECTION SHIELDS: B-LINE #B3151 OF 18 GAUGE GALVANIZED SHEET METAL. SHIELD SHALL COVER HALF OF THE CIRCUMFERENCE OF THE PIPE AND SHALL BE OF LENGTH INDICATED BY MANUFACTURER FOR PIPE SIZE AND THICKNESS OF

HANGER SPACING, ROD SIZES & CONNECTORS: CONNECT RODS TO STEEL BEAMS OR JOISTS WITH B-LINE #B3031 OR #B3033BEAM CLAMPS AS REQUIRED. CONNECT RODS TO CONCRETE WITH B-LINE #3014 MALLEABLE IRON SINGLE TYPE INSERTS WITH MALLEABLE IRON NUT. CONNECT RODS IN WOOD CONSTRUCTION WITH B-LINE #B3058 SIDE BEAM CONNECTORS. HANG AND SUPPORT PIPING WITH SPACING AND ROD SIZES AS FOLLOWS:

COPPER TUBE: 1-1/2" AND SMALLER - EVERY 6' WITH 3/8" HANGER CLEANING DESIGN. FULL "S" TRAPS OR TRAP STANDARDS SHALL RODS. SUPPORT VERTICAL COPPER TUBE EVERY 10'.

SUPPORTS ON FLOOR: SUPPORT PIPING FROM THE FLOOR WHERE REQUIRED FOR FERROUS PIPE OR INSULATED COPPER TUBE, SHALL BE B-LINE B3093 GALVANIZED STEEL WITH PIPE SADDLE. THREADED SHANK FOR HEIGHT ADJUSTMENT AND FLOOR STAND SECURED TO THE FLOOR.

BELOW GROUND INSTALLATION FOR SOIL, WASTE AND STORM: INSTALL SOIL AND WASTE PIPING TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. LAY PIPE AT UNIFORM SLOPE, FREE FROM SAGS, WITH HUB END UPSTREAM. MAKE CHANGES IN DIRECTION FROM HORIZONTAL TO /ERTICAL, AT FIXTURE BRANCHES AND OTHER BRANCH CONNECTIONS WITH SANITARY "TEFS" OR SHORT SWEEP "FILS" MAKE CHANGES IN DIRECTION FROM VERTICAL TO HORIZONTAL OR HORIZONTAL TO HORIZONTAL WITH LONG RADIUS FITTINGS. LONG SWEEPING "ELLS", COMBINATION "Y AND 1/8 BEND" FITTINGS, OR 45 DEGREE "ELLS" (1/8 BEND FITTINGS), 1/6 BEND OR 1/16 BEND AND "Y" FITTINGS. INSTALL PIPE WITH THE BARREL OF THE PIPE ON FIRM, SOLID EARTH FOR ITS ENTIRE LENGTH, AND EXCAVATE HOLES FOR THE PIPE BELLS. LAY PIPE IN A STRAIGHT LINE AND INSTALL WITH UNIFORM GRADE TO LINE WITH BATTEN BOARDS SET NOT MORE THAN 24'-0" APART. CLOSE OPEN ENDS OF PIPE WITH A STOPPER WHEN PIPE LAYING IS NOT IN PROGRESS. CENTER SPIGOTS ACCURATELY IN BELLS FOR UNIFORM CAULKING. PROVIDE A SMOOTH AND UNIFORM INVERT IN THE SYSTEM DRILLING OR TAPPING OF SOIL AND WASTE LINES, AND SADDLE HUBS AND BANDS ARE NOT PERMITTED. LOCATE AND INSTALL SOIL AND WASTE LINES AS INDICATED ON THE DRAWINGS. DETERMINE EXACT LOCATIONS IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCE. PRIOR TO INSTALLATION OF ANY BUILDING DRAIN PIPE. VERIFY ELEVATION OF CONNECTION POINT OF EXISTING SEWER, SERVICE LINE OR EXISTING TENANT CONNECTIONS INDICATED ON THE DRAWINGS. IF THE INSTALLATION WILL NOT TIE INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FALL, NOTIFY

ABOVE GROUND INSTALLATION FOR SOIL, WASTE AND STORM: INSTALL SOIL AND WASTE PIPING TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. LAY PIPE AT UNIFORM SLOPE FREE FROM SAGS. SUPPORT PIPE WITHIN 12" OF EACH JOINT. MAKE CHANGES IN DIRECTION FROM HORIZONTAL TO VERTICAL, AT FIXTURE BRANCHES AND OTHER BRANCH CONNECTIONS WITH SANITARY "TEES" OR SHORT SWEEP "ELLS" MAKE CHANGES IN DIRECTION FROM VERTICAL TO HORIZONTAL OR HORIZONTAL TO HORIZONTAL WITH LONG RADIUS FITTINGS, LONG SWEEPING "ELLS", COMBINATION "Y AND 1/8 BEND" FITTINGS, OF 45 DEGREE "ELLS" (1/8 BEND FITTINGS), 1/6 BEND OR 1/16 BEND AND "Y" FITTINGS. PROVIDE A SMOOTH AND UNIFORM INVERT IN THE SYSTEM. DRILLING OR TAPPING OF SOIL AND WASTE LINES, AND SADDLE HUBS AND BANDS ARE NOT PERMITTED. LOCATE AND INSTALL SOIL AND WASTE LINES AS INDICATED ON THE DRAWINGS. DETERMINE EXACT LOCATIONS IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCE.

ARCHITECT SO THAT AN ALTERNATIVE MAY BE DETERMINED.

PLUMBING VENT: CONNECT PLUMBING VENT PIPES TO FIXTURE DRAIN PIPES AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE INSTALLATION PRACTICES ADOPTED AND ENFORCED BY LOCAL CODES OFFICIAL, AND EXTEND VENT PIPES FULL SIZE THROUGH THE ROOF LINE. GRADE PIPE TO A UNIFORM SLOPE SO AS TO DRAIN BACK BY GRAVITY TO THE DRAINAGE PIPING SYSTEM. TURN FLASHING DOWN INTO STACKS AT LEAST 2", AND EXTEND FLASHING 24" IN ALL DIRECTIONS FROM THE PIPE AT THE ROOF LINE. APPLY WHITE LEAD PIPE DOPE ON MALE STEEL PIPE THREADS. VENT LINES SHALL BE AIR AND WATER TIGHT. VENT FLOOR DRAINS INDIVIDUALLY OR CONNECT THEM TO A HORIZONTALLY VENTED LINE AS SHOWN ON THE DRAWINGS.

DOMESTIC WATER: ARRANGE COLD & HOT WATER RECIRCULATION PIPING TO DRAIN AT THE LOWEST POINT IN EACH SYSTEM. INSTALL AT LEAST ONE PIPE UNION ADJACENT TO ALL SHUTOFF VALVES, AT CONNECTION POINTS OF EACH PIECE OF EQUIPMENT. AND ELSEWHERE IN THE SYSTEM WHERE REQUIRED TO ALLOW PROPER MAINTENANCE. PROVIDE UNIONS OF THE GROUND JOINT TYPE. MAKE ALLOWANCE FOR EXPANSION AND CONTRACTION WHERE REQUIRED BY THE INSTALLATION. WHERE WATER PIPING OCCURS IN EXTERIOR WALLS, HOLD PIPE AS CLOSE AS POSSIBLE TO THE INTERIOR FACE OF WALL AND INSTALL INSULATION BATT OR OTHER INSULATION (MINIMUM R8) BETWEEN PIPING AND THE EXTERIOR WALL FACE.

NATURAL GAS: PITCH NATURAL GAS PIPING, AND PROVIDE ACCESSIBLE DIRT LEGS AT THE LOW POINTS. TAKE BRANCH PIPES OFF THE TOP OR SIDES OF MAIN PIPES. TO PREVENT ACCUMULATION OF WATER IN THE BRANCHES. INSTALL GAS PIPING VALVES AND UNIONS ONLY IN ACCESSIBLE LOCATIONS. DO NOT INSTALL GAS PIPE BELOW THE BASE SLAB.

15B PIPING SANITIZATION

COMPLYING WITH ANSI A13.1.

SANITIZE THE ENTIRE DOMESTIC WATER PIPING SYSTEM (COLD. HOT, AND HOT WATER RETURN) WITH A SOLUTION CONTAINING NOT LESS THAN 50 PPM AVAILABLE CHLORINE. KEEP SOLUTION IN THE SYSTEM FOR A MINIMUM OF 24 HOURS. WITH EACH VALVE BEING OPERATED SEVERAL TIMES DURING THE PERIOD. AFTER COMPLETION, FLUSH SYSTEM WITH CITY WATER UNTIL CHLORINE RESIDUAL IS LOWERED TO INCOMING CITY WATER LEVEL.

15B PIPE AND VALVE MARKERS PROVIDE MANUFACTURER'S STANDARD PRE-PRINTED, SEMI-RIGID SNAP-ON OR PERMANENT ADHESIVE, PRESSURE-SENSITIVE VINYL PIPE MARKERS. PIPE MARKERS SHALL BE COLOR-CODED

INCLUDE ARROWS TO SHOW NORMAL DIRECTION OF FLOW. LOCATE PIPE MARKERS AND COLOR BANDS WHEREVER PIPING IS EXPOSED TO VIEW IN OCCUPIED SPACES, MACHINE ROOMS, ACCESSIBLE MAINTENANCE SPACES (SHAFTS, TUNNELS, PLENUMS) AND EXTERIOR NON-CONCEALED LOCATIONS.

INSTALL PIPE MARKERS ON EACH PLUMBING PIPING SYSTEM AND

PROVIDE PLASTIC LAMINATE OR BRASS VALVE TAG ON EVERY VALVE, COCK AND CONTROL DEVICE IN EACH PLUMBING PIPING SYSTEM; EXCLUDE CHECK VALVES, VALVES WITHIN FACTORY-FABRICATED EQUIPMENT UNITS, PLUMBING FIXTURE FAUCETS CONVENIENCE AND LAWN—WATERING HOSE RIBBS, AND SHUT—OFF VALVES AT PLUMBING FIXTURES AND SIMILAR ROUGH-IN CONNECTIONS OF END-USE FIXTURES AND UNITS.

15B PLUMBING SPECIALTIES

15B WATER HAMMER ARRESTORS AND TRAPS

PROVIDE WATER HAMMER ARRESTORS AT VALVES OR BATTERIES OF FIXTURES AS INDICATED ON THE DRAWINGS TO PREVENT WATER HAMMER. ARRESTORS SHALL BE JOSAM, SMITH, PRECISION PLUMBING PRODUCTS, PROFLO, SIOUX CHIEF, WADE, WATTS, OR ZURN, STAINLESS STEEL BELLOWS TYPE, OR O-RING SEALED AND LUBRICATED ACETAL PISTON. INSTALL WATER HAMMER ARRESTORS PER THE PLUMBING AND DRAINAGE INSTITUTE PDI WH-201 INSTALLATION INSTRUCTIONS. INSTALLATION OF ARRESTORS AT BATTERIES OF FIXTURES PRECLUDES THE REQUIREMENT FOR INDIVIDUAL AIR CHAMBERS AT EACH BATTERY FIXTURE.

PROVIDE WATER-SEAL TRAPS ON FLOOR DRAINS, FIXTURES AND EQUIPMENT WITH DRAIN CONNECTIONS, INCLUDING TRAPS NOT FURNISHED IN COMBINATION WITH FIXTURES AND EQUIPMENT. PLACE TRAP AS CLOSE TO THE FIXTURE OR DRAIN AS POSSIBLE. EXPOSED TRAPS IN FINISHED SPACES SHALL BE CHROME-PLATED BRASS.

PROVIDE CONVENTIONAL "P" TYPE TRAP, WATER-SEALED SELF-BE USED ONLY WHERE SPECIFICALLY CALLED FOR ON THE DRAWINGS OR ELSEWHERE IN THIS SPECIFICATION. TRAP WATER SEALS SHALL NOT BE LESS THAN 2", AND DEEP SEAL TRAPS SHALL BE PROVIDED WHERE SPECIFIED OR INDICATED. EACH TRAP NOT INTEGRAL WITH THE FIXTURE OR FLOOR DRAIN OR INSTALLED BELOW THE BASE SLAB SHALL BE PROVIDED WITH AN ACCESSIBLE CLEANOUT OF ADEQUATE SIZE. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE AND WHERE INDICATED ON THE DRAWINGS.

15B CLEANOUTS & FLOOR DRAINS

CLEANOUTS & FLOOR DRAINS SHALL BE AS SPECIFIED ON THE DRAWINGS. PROVIDE LONG SWEEP FITTINGS FOR CLEANOUT EXTENSIONS; SHORT SWEEPS AT START OF RUNS OR CHANGE IN DIRECTION AND COMBINATION WYE AND EIGHT BEND FITTINGS IN HORIZONTAL RUNS. INSTALL CLEANOUTS WITH A MINIMUM OF 18" CLEAR ALL AROUND, CONSULT LOCAL CODES FOR OTHER REQUIREMENTS, FOR EASY SYSTEM MAINTENANCE. INSTALL PLUG WITH TEFLON JOINT COMPOUND.

FLOOR DRAINS: SHALL BE AS SCHEDULED ON THE DRAWINGS. FLOOR CLEANOUTS: SHALL BE AS SCHEDULED ON THE DRAWINGS. INSTALL CLEANOUTS AT POINTS AS NOTED ON THE

DRAWINGS, AT THE BUILDING EXIT; AT A MINIMUM OF EVERY 50 FEET IN HORIZONTAL SOIL AND WASTE LINES; AND AT TURNS OF PIPE GREATER THAN 45 DEGREES CLEANOUTS SHALL BE FULL SIZE OF THE PIPE UP TO 4", AND 4" SIZE FOR PIPES LARGER THAN 4". DETERMINE THE TYPE OF FLOOR COVERING TO BE USED AT EACH FLOOR CLEANOUT LOCATION AND PROVIDE TOP WITH VARIATIONS SUITABLE FOR FLOOR COVERING (CARPET MARKERS RECESSED FOR TILE AND SCORIATED FOR UNFINISHED FLOOR). ROUGH-IN AND INSTALL EACH FLOOR CLEANOUT FLUSH WITH THE FINISHED FLOOR CONSTRUCTION.

WALL CLEANOUTS: SHALL BE AS SCHEDULED ON THE DRAWINGS. INSTALL WALL CLEANOUTS AT POINTS AS NOTED ON THE DRAWINGS; AT THE FOOT OF EACH SOIL, WASTE OR INTERIOR DOWNSPOUT STACK: AT HORIZONTAL SOIL AND WASTE BRANCHES LONGER THAN FIVE FEET NOT SERVED BY A FLOOR CLEANOUT: CONSULT LOCAL CODES FOR INSTALLATION AT SPECIFIC FIXTURE TYPES. INSTALL WALL CLEANOUTS ABOVE THE FLOOD RIM OF THE FIXTURE SERVED WITHIN FOUR FEET OF THE FLOOR AND INSTALL EXTENSIONS FROM THE CLEANOUT TEE TO THE WALL TO LOCATE THE PLUG WITHIN 2" OF THE WALL WHERE REQUIRED. INSTALL CLEANOUTS ON URINALS AND SINKS WHERE REQUIRED

PLUMBING SYSTEM VALVES SHALL BE CRANE COMPANY OR NIBCO OF MODELS HEREIN SPECIFIED, OR APPROVED EQUAL BY HAMMOND, MILWAUKEE, STOCKHAM OR MUELLER VALVES. VALVES SHALL BE OF THE BEST QUALITY, DESIGNED FOR 125 PSI STEAM WORKING PRESSURE. INSTALL VALVES ON THE HOT AND COLD WATER LINES AT THE WATER HEATER CONNECTIONS AND OTHER ITEMS OF EQUIPMENT, AT BRANCHES FROM MAINS SERVING GROUPS OF FIXTURES, AND AT OTHER PLACES INDICATED OR REQUIRED BY THE INSTALLATION TO ALLOW EASE OF FUTURE MAINTENANCE.

BALL VALVES (MAY BE USED IN LIEU OF GATE VALVES UP TO 2"): 2" AND SMALLER, NIBCO #T580; TWO PIECE BRONZE BODY, WITH SOLDERED ENDS, CHROME PLATED BRONZE BALL WITH CONVENTIONAL PORT, 600 PSI, BLOW-OUT PROOF STEM.

CHECK VALVES: CHECK VALVES SHALL BE CLASS 125. CHECK VALVES FOR INSTALLATION IN HORIZONTAL PIPE RUNS SHALL BE OF THE "SWING DISC" DESIGN. HORIZONTAL CHECK VALVES 2" AND SMALLER SHALL BE CRANE #137 OR NIBCO #T-413 WITH SOLDERED BRONZE BODY AND BRONZE DISC. HORIZONTAL CHECK VALVES 2-1/2" AND LARGER SHALL BE CRANE #373 OR NIBCO F-918 IRON BODY FLANGED VALVE WITH BRASS TRIM. CHECK VALVES FOR INSTALLATION IN VERTICAL PIPE RUNS SHALL BE OF THE "VERTICAL LIFT" SPRING LOADED DESIGN. VERTICAL CHECK VALVES 2" AND SMALLER SHALL BE CRANE #29 OR NIBCO FT-480 WITH SOLDERED BRONZE BODY AND BRONZE DISC. VERTICAL CHECK VALVES 3" AND LARGER SHALL BE CENTER

GAS COCKS: GAS COCKS 2" AND SMALLER SHALL BE HOMESTEAD #611, SCREWED IRON BODY WITH BRASS TRIM AND FLAT HEAD. APPROVED EQUAL ARE FLOWSERVE-NORDSTROM OR RM ENERGY SYSTEMS "HERCULES".

THERMOSTATIC MIXING VALVES: THERMOSTATIC MIXING VALVES SHALL BE POWERS AS DESCRIBED ON THE DRAWINGS OR EQUAL BRADLEY, LEONARD, LAWLER, SYMMONS OR WATTS MEETING ASSE 1070 WITH BRASS BODY, NON-CORROSIVE INTERNAL PARTS, TAMPER RESISTANT TEMPERATURE ADJUSTMENT, UNION INLETS AND CHECK STOPS WITH STRAINERS. SET TEMPERATURE AS SCHEDULED ON THE DRAWINGS.

GAS LINE PRESSURE REGULATORS: GAS LINE PRESSURE REGULATORS SHALL BE BY AMERICAN METER COMPANY, FISHER, ITRON, MAXITROL OR SENSUS WITH CAPACITIES AS SCHEDULED ON THE DRAWINGS. REGULATORS SHALL BE SINGLE STAGE, STEEL JACKETED, CORROSION-RESISTANT TYPE WITH INTERSTITIAL RELIEF VALVE WITH ATMOSPHERIC VENT, ELEVATION COMPENSATOR; WITH THREADED ENDS, FOR INLET AND OUTLET.

UNIONS: FERROUS UNIONS SHALL BE CRANE OR EQUAL, COMBINATION IRON AND BRASS, GROUND JOINT WITH SCREWED ENDS. COPPER UNIONS SHALL BE STREAMLINE OR EQUAL, CAST BRONZE SWEAT TYPE WITH GROUND JOINT. FERROUS TO COPPER UNIONS SHALL BE UNIVERSAL CONTROLS OR EQUAL,

BACKFLOW PREVENTERS: SHALL BE OF THE TYPE AS SCHEDULED AND INDICATED ON THE DRAWINGS BY WATTS, CONBRACO, FEBCO OR WILKINS.

DIELECTRIC TYPE WITH THREADED NYLON INSERT.

15B GREASE TRAPS AND INTERCEPTORS

GREASE TRAPS SHALL BE JOSAM, MIFAB, SMITH, WADE, WATTS, OR ZURN ABOVE-FLOOR OR RECESSED TYPE AS SCHEDULED ON THE DRAWINGS, OF WELDED STEEL CONSTRUCTION WITH ENAMELED INTERIOR, FLOW CONTROL VALVE, SHUT-OFF VALVE ON OUTLET, AND AUTOMATIC GREASE DRAW-OFF PIPING AS SCHEDULED ON THE DRAWINGS. PROVIDE VENT PIPES FOR FLOW CONTROL FITTING AND FOR TRAP ITSELF AS SHOWN ON THE DRAWINGS.

GREASE INTERCEPTORS SHALL BE PRECAST CONCRETE OF LOCAL MANUFACTURE SIMILAR TO DETAIL ON THE DRAWINGS. CONFORMING TO REQUIREMENTS OF THE LOCAL SEWER DISTRICT FOR CONFIGURATION AND CAPACITY. PROVIDE SAMPLING PORT AND VENT FOR GREASE INTERCEPTOR AS SHOWN ON THE

15B SYSTEM ACCESSORIES

THERMOMETERS SHALL BE AMERICAN 3" BI-METAL DIAL TYPE WITH SEPARABLE SOCKET, AND SHALL BE INSTALLED WHERE INDICATED OR REQUIRED.

PRESSURE GAUGES SHALL BE ASHCROFT 3" DIAL TYPE WITH SHUT-OFF COCK, AND SHALL BE INSTALLED WHERE INDICATED OR

TRAP PRIMERS SHALL BE AS SPECIFIED ON THE DRAWINGS, PRECISION PLUMBING PRODUCTS "PRIME RITE" OR EQUAL BY MIFAB OR SIOUX CHIEF WITH BRASS BODY AND INTEGRAL VACUUM BREAKER. PROVIDE DISTRIBUTION BOX WHERE MORE THAN ONE TRAP IS INDICATED TO BE PRIMED ON THE DRAWINGS. PROVIDE ACCESS PANEL WHERE REQUIRED.

15B PLUMBING FIXTURES AND EQUIPMENT

15B PLUMBING FIXTURES

FURNISH AND INSTALL COMMERCIAL GRADE PLUMBING FIXTURES, SEE THE DRAWINGS FOR QUANTITIES AND DESCRIPTIONS. PROVIDE CHINA FIXTURES AS SCHEDULED BY ON THE DRAWINGS. PROVIDE STAINLESS STEEL SINKS AS SCHEDULED ON THE DRAWINGS. PROVIDE MOP SINKS AS SCHEDULED ON THE

FIXTURES SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN SHALL BE FURNISHED AND INSTALLED, SET FIRM AND TRUE, CONNECTED TO REQUIRED PIPING SERVICES, THOROUGHLY CLEANED, LEFT CLEAN AND READY FOR USE. EXPOSED FITTINGS AND PIPING AT THE FIXTURES SHALL BE CHROME-PLATED, AND WATER SUPPLY PIPING SHALL BE VALVED AT EACH FIXTURE.

VITREOUS CHINA FIXTURES SHALL BE OF THE BEST GRADE VITREOUS WARE, WITHOUT PIT HOLES OR BLEMISHES, AND THE OUTLINES SHALL BE GENERALLY TRUE. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY PIECES WHICH, IN HIS OPINION, ARE FAULTY. FIXTURES SET AGAINST WALLS SHALL HAVE GROUND BACKS AND SHALL BE CAULKED WITH SILICONE SEALANT OF A MATCHING COLOR.

15B PLUMBING FIXTURE TRIM

FAUCETS AND TRIM IN CONTACT WITH DRINKING WATER SHALL MEET OR EXCEED THE SAFE WATER DRINKING ACT (SWDA) LEAD-FREE STANDARDS OF ANSI/NSF STANDARD 61, SECTION 9.

FIXTURE TRIM SHALL HAVE THE MANUFACTURER'S NAME

STAMPED CLEARLY AND VISIBLY ON EACH ITEM. PROVIDE FAUCETS AS SCHEDULED ON DRAWINGS.

FIXTURE P-TRAPS SHALL BE 17 GAUGE BRASS BODY WITH CLEANOUT. 17 GAUGE SEAMLESS TUBULAR WALL BEND WITH CAST BRASS SLIP NUT, SHALLOW STEEL FLANGE, ALL CHROME PLATED: BY MCGUIRE, BRASS CRAFT, DEARBORN BRASS, EBC, PROFLO, WATTS BRASS AND TUBULAR OR ZURN.

LAVATORY, SINK AND WATER CLOSET SUPPLIES SHALL BE SOLID BRASS ANGLE OR STRAIGHT TYPE WITH FULL TURN BRASS STEM. WHEEL HANDLE OR LOOSE KEY TYPES AS NOTED ON DRAWINGS. SHALLOW STEEL FLANGE, 3/8" COPPER RISER FLANGE, ALL CHROME PLATED, FINAL CONNECTION AS REQUIRED: BY MCGUIRE, BRASS CRAFT, EBC, PROFLO OR ZURN.

LAVATORY DRAINS SHALL BE GRID TYPE CHROME PLATED 17 GAUGE BRASS OPEN GRID WITH 1-1/4" X 6" LONG SEAMLESS BRASS TAILPIECE AND BRASS LOCKNUT WITH HEAVY RUBBER BASIN WASHER AND FIBER FRICTION WASHER, BY MCGUIRE. BRASS CRAFT, DEARBORN BRASS, EBC, PROFLO, WATTS BRASS AND TUBULAR OR ZURN.

SINK DRAINS SHALL BE BASKET TYPE WITH CHROME PLATED FORGED BRASS BASKET STRAINER AND STRAINER BODY WITH 1-1/2" X 4" LONG SEAMLESS BRASS TAILPIECE AND CAST BRASS LOCK AND COUPLING NUTS BY MCGUIRE, BRASS CRAFT, DEARBORN BRASS, EBC, PROFLO OR ZURN..

ON EXPOSED WATER AND WASTE PIPES AND FITTINGS, INCLUDING OFFSET DRAIN AND CONTINUOUS WASTE COVERS WHERE REQUIRED: BY BROCAR, MCGUIRE, PLUMBEREX "PRO-2000", PROFLO, TRAP-WRAP OR TRU-BRO.

PROVIDE HANDICAP INSULATION KITS FOR LAVATORIES AND SINKS

PROVIDE SMITH, JOSAM, WADE, WATTS, OR ZURN CHAIR CARRIERS FOR MOUNTING WALL MOUNTED LAVATORIES AS DESCRIBED ON THE DRAWINGS. SECURELY FASTEN CARRIERS TO FLOOR AND TEST PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION OF PARTITIONS.

15B WATER HEATER WATER HEATER SHALL BE AS SCHEDULED ON THE DRAWINGS. UNIT SHALL BE GAS-FIRED TANK TYPE WITH SUBMERGED COMBUSTION CHAMBER, FAN ASSISTED COMBUSTION AND GLASS LINED HEAT EXCHANGER COIL, COMPLETE WITH GLASSLINED TANK, HOT SURFACE IGNITION SYSTEM WITH FLAME MONITORING SYSTEM, STEEL JACKET, FIBERGLASS INSULATION, MAGNESIUM ANODE, INTEGRAL THERMOSTATS AND CONTROLS, AND TEMPERATURE & PRESSURE RELIEF VALVE. WATER HEATER SHALL BE AGA APPROVED AND MEET ASHRAE 90.1B STANDARDS

RELIEF VALVE: WATER HEATER RELIEF VALVE SHALL BE OF THE TEST LEVER TYPE, WITH AUTOMATIC RESET, COMBINATION TEMPERATURE AND PRESSURE RELIEF, APPROVED AND STAMPED BY THE AMERICAN GAS ASSOCIATION. IT SHALL BE INSTALLED DIRECTLY ON THE HEATER TANK, OR IN THE HOT WATER OUTLET, NOT MORE THAN 3" FROM THE TANK. THE TEMPERATURE SHALL BE NORMALLY SET TO RELIEVE AT 210øF AND THE PRESSURE RELIEF SHALL BE AT 125 PSI. THE RELIEF VALVE DISCHARGE LINE SHALL BE PIPED DOWN AND TERMINATE 6" ABOVE A FLOOR DRAIN.

VACUUM RELIEF VALVE: WATTS #N36 OR WILKINS #VR-10 WITH

BRONZE BODY AND SILICON DISC. VALVE SHALL OPEN AT 0.5"HG

VACUUM AND BE RATED FOR 200 PSIG WORKING PRESSURE AND

250F TEMPERATURE. INSTALL IN COLD WATER SUPPLY TO EACH

WATER HEATER DOWNSTREAM OF THE SHUTOFF AND CHECK

FOR THERMAL EFFICIENCY AND STANDBY HEAT LOSS.

REVISION

PLUMBING

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SPECIFICATIONS