NON-RESIDENTIAL PLUMBING CALGREEN NOTES:

1. ALL PLUMBING FIXTURES SHALL BE HIGH EFFICIENCY TYPE FIXTURES AND NOT EXCEED THE FOLLOWING FLOW RATES AS SET FORTH IN 2019 CALGREEN CODE SECTION 5.302.3.:
   A. WATER CLOSETS = 1.28 GPF
   B. WALL MOUNTED URINALS = 0.125 GPF
   C. FLOOR MOUNTED URINALS = 0.5 GPF
   D. SINGLE SHOWER HEAD OR MULTIPLE COMBINED HEADS = 1.8 GPM
   E. LAVATORY FAUCETS = 0.5 GPM
   F. METERING FAUCETS = 0.2 GPM PER CYCLE
   G. KITCHEN FAUCETS = 1.8 GPM
2. ALL FOOD WASTE DISPOSERS SHALL EITHER MODULATE THE USE OF WATER TO NO MORE THAN 1 GPM WHEN NOT IN USE OR SHALL AUTOMATICALLY SHUT OFF AFTER NO MORE THAN 10 MINUTES OF INACTIVITY. DISPOSERS SHALL NOT USE MORE THAN 8 GPM OF WATER AS SET FORTH IN 2019 CALGREEN CODE SECTION 5.303.4.
3. ALL PLUMBING FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE AND MEET THE STANDARDS AS SET FORTH IN TABLE 1701.1 OF THE 2019 CALIFORNIA PLUMBING CODE.
4. ALL LANDSCAPE IRRIGATION SHALL COMPLY WITH 2019 CALGREEN CODE SECTION 5.304.

GENERAL NOTES:

1. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.
2. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. 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 THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
3. PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
4. 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.
9. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE.
10. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
11. INSTALL EXPOSED PIPING, WHERE NECESSARY, IN FINISHED AREAS TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. INSTALL PIPING PARALLEL AND / OR PERPENDICULAR TO WALLS.
12. INSTALL VALVES AND APPURTENANCES A MAXIMUM OF 24" ABOVE CEILING IN ACCESSIBLE LOCATION WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES. PROVIDE PIPE AND FITTINGS TO INSTALL VALVES AND APPURTENANCES AT REQUIRED HEIGHT AND WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES.
13. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
14. 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.
15. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
16. PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
17. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
18. PAINT ALL EXPOSED GAS PIPING USING RUST INHBITOR PAINT. PAINT AND COLOR SHALL BE COORDINATED WITH THE ARCHITECT AND / OR OWNER.
19. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
20. INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.
21. PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON STORM PIPING, INCLUDING CONNECTIONS TO ROOF DRAINS AND SANITARY PIPING 3" AND LARGER. SEE DIVISION 22 SPECIFICATIONS FOR MORE INFORMATION.
22. PROVIDE TRANSITION ADAPTER COUPLINGS FOR CONNECTION OF PVC DWV TO CAST IRON AT SLAB ON GRADE. SEE DIVISION 22 SPECIFICATION FOR MORE INFORMATION.
23. FLOW CONTROL VALVES SHALL BE SIZE 1/2" AND SET AT 0.5 GPM UNLESS NOTED OTHERWISE.
24. WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE.
25. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR MOP SINK FAUCETS DOWNSTREAM OF SHUTOFF VALVES.
26. VERIFY EXISTING EQUIPMENT, INCLUDING ACCESSORIES, IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE ARCHITECT.

Sheet List - Plumbing

Sheet Number	Sheet Name	Sheet Order
G3.60	PLUMBING SPECIFICATIONS	
G3.61	PLUMBING SPECIFICATIONS	
P0.00	PLUMBING GENERAL NOTES AND LEGEND	
P1.01	PLUMBING SCHEDULES AND CALCULATIONS	
P2.01	PLUMBING WASTE & VENT LEVEL 1 PLAN	
P2.02	PLUMBING WATER & GAS LEVEL 1 PLAN	
P2.03	PLUMBING SITE PLAN	
P3.01	PLUMBING ROOF PLAN	
P4.01	PLUMBING DETAILS	

Grand total: 9

SCOPE OF WORK
1. PROVIDE NEW PLUMBING FIXTURES FOR AN EXISTING FIRE STATION.
2. PROVIDE NEW GAS FIRED WATER HEATER.

PLUMBING SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.02

STANDARD MOUNTING HEIGHTS

CLINIC SERVICE SINKS (RIM)	30"
HOSE BIBB (CENTERLINE)	36"
ICE MAKER OUTLET BOX (CENTER OF BOX)	24"
JANITOR'S SINK FAUCET FITTINGS (CENTERLINE)	42"
LAVATORY OR SINK	
STANDARD HEIGHT (RIM)	31"
ADA ACCESSIBLE (RIM)	34"
CHILD HEIGHT (RIM)	24"
NON FREEZE WALL HYDRANT (AFG TO CENTERLINE)	18"
SHOWER HEAD	
MEN (CENTERLINE)	78"
WOMEN (CENTERLINE)	72"
SHOWER VALVE	
STANDARD HEIGHT - MEN (CENTERLINE)	48"
STANDARD HEIGHT - WOMEN (CENTERLINE)	42"
ADA ACCESSIBLE (CENTERLINE)	38" TO 48"
SURGEON'S SCRUB-UP SINK (FRONT RIM)	35"
TUB VALVE	
STANDARD HEIGHT (CENTERLINE)	32"
ADA ACCESSIBLE	CENTER BETWEEN GRAB BAR AND TUB RIM
URINAL	
STANDARD HEIGHT (RIM)	24"
ADA ACCESSIBLE (RIM)	17"
CHILD HEIGHT (RIM)	14"
WASHING MACHINE OUTLET BOX (RIM)	42"
WATER CLOSET	
STANDARD HEIGHT (RIM)	15"
ADA ACCESSIBLE (TOP OF SEAT)	17" TO 19"
CHILD HEIGHT (RIM)	10"
WATER COOLER OR DRINKING FOUNTAIN	
STANDARD HEIGHT (SPOUT)	41"
ADA ACCESSIBLE (SPOUT)	36"
CHILD HEIGHT (SPOUT)	30"

INSTALL PLUMBING FIXTURES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE ARCHITECTURAL DRAWINGS OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS. FINAL APPROVAL OF LOCATIONS BY ARCHITECT. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF, UNO, ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ANNOTATION

- (1) PLUMBING PLAN NOTE CALLOUT
- (1) PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- [1] EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CU / 1 MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / P1 DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / P1 SECTION CUT DESIGNATION
- DEDICATED EQUIPMENT ACCESS TILE
- ACCESS PANEL

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CP	CONDENSATE PUMP
CPVC	CHLORINATED POLYVINYL CHLORIDE
CU	COPPER
DI	DUCTILE IRON
DN	DOWN
DFU	DRAINAGE FIXTURE UNIT
DS	DOWNSPOUT
(E)	EXISTING
EMS	ENERGY MANAGEMENT SYSTEM
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FF	FINISHED FLOOR
FL	FLOW LINE
FLA	FULL LOAD AMPS
FLR	FLOOR
GPM	GALLONS PER MINUTE
HD	HEAD, HUB DRAIN
HZ	HERTZ
IE	INVERT ELEVATION
IN WC	INCHES OF WATER COLUMN
JB	JUNCTION BOX
J-BOX	JUNCTION BOX
KW	KILOWATT
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MH	MANHOLE
MIN	MINIMUM
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NIC	NOT IN CONTRACT
ORD	OVERFLOW ROOF DRAIN
PDI	PLUMBING DRAINAGE INSTITUTE
PH/Ø	PHASE
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SF	SQUARE FEET
SP	SUMP
SS	STAINLESS STEEL
	SANITARY SEWER, SOIL STACK
TDH	TOTAL DYNAMIC HEAD
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VCP	VITRIFIED CLAY PIPE
VFD	VARIABLE FREQUENCY DRIVE
VS	VENT STACK
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNIT
WVS	WASTE VENT STACK

PIPING SYMBOLS

- OXYGEN OUTLET
- NITROUS OXIDE OUTLET
- MEDICAL AIR OUTLET
- NITROGEN OUTLET
- MEDICAL VACUUM INLET
- FLOOR SINK (FS), SIZE & TYPE
- FLOOR DRAIN (FD), SIZE & TYPE
- ROOF DRAIN (RD), SIZE & TYPE
- BALL VALVE
- CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- WATER METER
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF/SAFETY VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS PRESSURE REGULATOR
- THERMOSTATIC MIXING VALVE
- PA PIPE ANCHOR
- EXPANSION JOINT
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- UNION
- FLANGE CONNECTION
- HOSE BIBB (HB)
- NON-FREEZING WALL HYDRANT (NW)
- MANUAL / AUTOMATIC AIR VENT OR VACUUM RELIEF VALVE
- PRESSURE / VACUUM SWITCH
- CLEANOUT
- CAP
- 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)
- "A" WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
- RECIRCULATION PUMP
- P-TRAP
- GAS COCK
- TRAP PRIMER
- TRAP PRIMER WITH DISTRIBUTION UNIT

PIPING LINETYPES

- CW DOMESTIC COLD WATER (CW)
- SCW SOFTENED COLD WATER (SCW)
- HW DOMESTIC HOT WATER (HW)
- HWR DOMESTIC HOT WATER RECIRC. (HWR)
- 140° DOMESTIC HOT WATER (140°)
- T TRAP PRIMER LINE (T)
- S SOIL PIPING - ABOVE FLOOR (S)
- S SOIL PIPING - BELOW FLOOR (S)
- W WASTE PIPING - ABOVE FLOOR (W)
- W WASTE PIPING - BELOW FLOOR (W)
- GW GREASE WASTE - ABOVE FLOOR (GW)
- GW GREASE WASTE - BELOW FLOOR (GW)
- CGWV COMBINATION GREASE WASTE AND VENT (CGWV)
- CWV COMBINATION WASTE AND VENT (CWV)
- ST STORM DRAIN - ABOVE FLOOR (ST)
- ST STORM DRAIN - BELOW FLOOR (ST)
- OST OVERFLOW STORM DRAIN - ABOVE FLOOR (OST)
- VBG VENT BELOW GRADE (VBG)
- VBF VENT BELOW FLOOR (VBF)
- ID INDIRECT DRAIN (ID)
- CDH CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
- CD CONDENSATE DRAIN (CD)
- ACD AUXILIARY CONDENSATE DRAIN (ACD)
- SPD SUMP OR SEWAGE PUMP DISCHARGE (SPD)
- G NATURAL GAS (G)
- G NATURAL GAS ON ROOF (G)
- MPG MEDIUM PRESSURE NATURAL GAS (MPG)
- MPG MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
- NPW NON-POTABLE WATER (NPW)
- LPG LIQUEFIED PETROLEUM GAS (LPG)
- WS WATER SERVICE (WS)
- DFP FIRE PROTECTION SPRINKLER DRY (DFP)
- FP FIRE PROTECTION SPRINKLER WET (FP)
- DSP FIRE PROTECTION STANDPIPE DRY (DSP)
- WSP FIRE PROTECTION STANDPIPE WET (WSP)
- PD CONDENSATE PUMP DISCHARGE (PD)
- V VENT PIPING (V)
- AW ACID WASTE - ABOVE FLOOR (AW)
- AW ACID WASTE - BELOW FLOOR (AW)
- AV ACID VENT (AV)
- GWS GRAY WATER (GWS)
- CA COMPRESSED AIR (CA)
- MA MEDICAL AIR (MA)
- MV MEDICAL VACUUM (VE)
- HE HELIUM (HE)
- IA INSTRUMENT AIR (IA)
- IV INSTRUMENT VACUUM (IV)
- N2 NITROGEN (N2)
- N2O NITROUS OXIDE (N20)
- O2 OXYGEN (O2)
- EV EVAC/WAGD (EV)
- CO2 CARBON DIOXIDE (CO2)
- AI MEDICAL AIR INTAKE (AI)
- VE MEDICAL VACUUM EXHAUST (VE)
- DA DENTAL AIR (DA)
- DV DENTAL VACUUM (DV)
- FW1 FILTERED WATER (FW1)
- FW2 FILTERED WATER W/ SCALE INHIBITOR (FW2)
- RO REVERSE OSMOSIS (RO)
- ROR REVERSE OSMOSIS REMINERALIZATION (ROR)

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

- EXISTING
- DEMOLISH
- NEW
- FUTURE

CALL OUTS

- ENLARGED PLAN CALLOUT
- NOT IN SCOPE

AHJ STAMP APPROVAL

BIDDING SET

REVISIONS

ISSUED FOR PERMIT

04/21/2023

LICENSED PROFESSIONAL ENGINEER — BRYAN JIMENEZ — M 38619 — EXPIRES: 09/30/2027 — MECHANICAL — STATE OF CALIFORNIA

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5004 FX 913.742.5001
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LOS ANGELES COUNTY FIRE DEPARTMENT
FIRE STATION 163
6320 PINE AVENUE, BELL, CA 90201

NAC ARCHITECTURE
nacarchitecture.com
1203 WEST RIVERSIDE AVE
SPOKANE WA 99201
P:509.838.8240

NAC NO	161-21001
DRAWN	R La Vonda
CHECKED	W Rosenbrook
DATE	10/05/2026

PLUMBING GENERAL NOTES AND LEGEND

CD

P0.00

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BRYAN JIMENEZ

UPC FIXTURE LOADING

FIXTURE TYPE	QTY	D.F.U. (EA)	TOTAL D.F.U.	HOT S.F.U. (EA)	COLD S.F.U. (EA)	COMBINED S.F.U. (EA)	TOTAL S.F.U. (HOT)	TOTAL S.F.U. (COLD)	TOTAL SERVICE S.F.U.
RESIDENTIAL CLOTHESWASHER	2	3.0	6.0	4.00	4.00	4.00	8	8	8.0
LAVATORY	4	1.0	4.0	1.00	1.00	1.00	4	4	4.0
SERVICE SINK (MOP BASIN)	1	3.0	3.0	3.00	3.00	3.00	3	3	3.0
LAUNDRY TUB	1	2.0	2.0	2.00	2.00	2.00	2	2	2.0
FLOOR DRAIN (2" TRAP)	9	2.0	18.0	0.00	0.00	0.00	0	0	0.0
SHOWER (INDIVIDUAL- ONE HEAD)	4	2.0	8.0	2.00	2.00	2.00	8	8	8.0
WALL HYDRANT	6	0.0	0.0	0.00	2.50	2.50	0	15	15.0
WATER CLOSET (1.6 GPF FLUSH TANK)	4	4.0	16.0	0.00	5.00	5.00	0	20	20.0
SPECIALTY KITCHEN EQUIP.									
ICE MACHINE (3/4" IW)	1	0.5	0.5	0.00	1.00	1.00	0	1	1.0
TOTAL UNITS:	32		57.5				25.0	61.0	61.0
Total...			31.2				16.7	32.5	32.5

PLUMBING PIPE MATERIAL SCHEDULE

PIPING SYSTEM	ABBREVIATION	PIPING MATERIAL
SANITARY DRAINAGE & VENT (ABOVE GRADE)	S, W OR V	HUBLESS CAST IRON
STORM DRAINAGE (ABOVE GRADE)	ST OR OST	HUBLESS CAST IRON
SANITARY DRAINAGE & VENT (BELOW GRADE)	S, W OR V	SERVICE WEIGHT CAST IRON (HUB & SPIGOT)
STORM DRAINAGE (BELOW GRADE)	ST	SERVICE WEIGHT CAST IRON (HUB & SPIGOT)
POTABLE WATER (ABOVE GRADE)	CW, HW OR HWR	TYPE L HARD DRAWN COPPER
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
NATURAL GAS (BELOW GRADE)	G	APPROVED 'PE' PIPE FOR GAS
CONDENSATE DRAIN - 1" & SMALLER	CD	TYPE M HARD DRAWN COPPER
CONDENSATE DRAIN - 1-1/4" & LARGER	CD	TYPE DWV HARD DRAWN COPPER
REFER TO SPECIFICATIONS FOR FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION		

PLUMBING FIXTURE CONNECTION SCHEDULE

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (TANK)	3/4"	--	4"	2"
LAVATORY/ HAND SINK	3/4"	3/4"	2"	1-1/2"
JANITOR'S SINK	3/4"	3/4"	3"	2"
FLOOR DRAIN	--	--	2"	2"
FLOOR SINK	--	--	2"	2"
SINK	1/2"	1/2"	2"	1-1/2"
CLOTHES WASHER	3/4"	3/4"	2"	2"

NOTES:

PIPE SIZES SHOWN ARE MINIMUM, AND ARE FOR INDIVIUAL SERVICE PIPE SIZES

GAS STORAGE WATER HEATER SCHEDULE

MARK	MANUFACTURER/ MODEL#	AREA SERVED	TANK SIZE (GALLONS)	INPUT MBH	ELECTRICAL DATA VOLTS	PHASE	FLA	RECOVERY (GPH)	OPERATING WEIGHT (LBS)	NOTES
WHG-1	A.O. SMITH # BTH-199	FIRE STATION	100	199	120	1	5	348	1375	A-D

NOTES:

A. 80° TEMPERATURE RISE WITH 140°F OPERATING TEMPERATURE.
B. FURNISH WITH A. O. SMITH # 9003910105 CONCENTRIC COMBUSTION AIR INTAKE AND EXHAUST KIT.
C. ULTRA LOW NOx TYPE - RESIDUAL NOx IS LESS THAN 14 ng / joule. COMPLIES WITH SCAQMD RULE 1146.2
D. FURNISH WITH CONDENSATE NEUTRALIZATION KIT TO MATCH HEATER INPUT, AO SMITH # CNS SERIES

RECIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER / MODEL#	LOCATION	GPM	HEAD (FT.)	CONNECTION SIZE	IMPELLER SIZE (IN.)	ELECTR... VOLTS	PHASE	HP	NOTES
RP-1	BELL & GOSSETT # NBF-9U	UTILITY ROOM	1	7	3/4"	N/A	120	1	1/18	A, B, C

NOTES:

A. ALL LEAD FREE CAST BRONZE BOOSTER.
B. PROVIDE WITH STRAINER UPSTREAM OF PUMP
C. PROVIDE ADJUSTABLE, SURFACE MOUNTED AQUASTAT - HONEYWELL L6006C

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER / MODEL #	TANK SIZE (GALLONS)	MIN. ACCEPTANCE VOLUME (GALLONS)	AIR PRESSURE SETTING (PSI)	SERVICE	WEIGHT (LBS)	NOTES
ET-1	AMTROL ST-12	4.4	1.98	A.	WHG-1	46	A

NOTES:

A. CHARGE TANK WITH AIR TO IDENTICAL PRESSURE AS STATIC DOMESTIC WATER PRESSURE.

WATER PIPE SIZING CHART (UPC)

FIXTURE UNITS VS. PRESSURE LOSS
IN PSI / 100 FEET FOR TYPE "L" COPPER TUBE

PIPE SIZE	INTERNAL DIAMETER	COLD WATER @ 1.50 PSI / 100' FLUSH TANK SFU	FLUSH VALVE SFU	VELOCITY FEET / SEC	FLOW GPM	HOT WATER @ 1.5 PSI / 100' FLUSH TANK SFU	VELOCITY FEET / SEC	FLOW GPM
1/2"	0.545	0.2	N/A	1.7	1.2	*	*	*
3/4"	0.785	3.2	N/A	2.2	3.2	*	*	*
1"	1.025	7.5	N/A	2.6	6.5	*	*	*
1-1/4"	1.265	15.4	N/A	2.9	11.4	*	*	*
1-1/2"	1.505	26.1	N/A	3.3	18.0	*	*	*
2"	1.985	75.7	23.8	3.9	37.4	*	*	*
2-1/2"	2.465	205.9	95.6	4.5	66.1	*	*	*
3"	2.945	409.4	273.4	5.0	105.6	*	*	*
4"	3.905	1107.1	1107.1	5.9	221.9	851.1	5	186.6
6"	5.845	4850.6	4850.6	7.7	641.1	2843.9	5	418.1
8"	7.725	10143.1	10143.1	8.0	1168.6	5653.3	5	730.3
SIZED WITH HAZEN WILLIAMS CONSTANT "C" = 135						*UTILIZE COLD WATER SIZING CHART		

WATER CALCULATIONS

PROJECT:	Fire Station 163
LOCATION:	Bell, CA
CLIENT:	NAC Architecture
JOB NUMBER:	2050003751
DATE:	44763
CALCULATED BY:	BJP

WATER PRESSURE: HIGH: **50** DEVELOPED LENGTH: **250** FT
(STREET MAIN) LOW: **50** EQUIVALENT LENGTH: **313** FT
CALCULATED FLOW: **50** GPM

SYSTEM COMPONENTS

BUILDING PIPE MATERIAL	SCH 40 PVC
BACKFLOW PREVENTION DEVICE	ZURN WILKINS 375

TOTAL PRESSURE LOSS CALCULATIONS

A. MINIMUM PRESSURE AT CITY MAIN		= 50	PSI
B. TAP LOSSES FROM STREET TO METER: MATERIAL = SCH 40 PVC, SIZE = 3", LENGTH = 20		= 0.61	PSI
C. SERVICE METER LOSS		= 5	PSI
D. SERVICE LINE LOSS FROM METER TO BUILDING: MATERIAL = SCH 40 PVC, SIZE = 3", LENGTH = 115		= 0.30	PSI
E. BACKFLOW PREVENTER		= 12	PSI
F. SOFTENER / MISC. EQUIPMENT		= 0	PSI
G. ELEVATION CHANGE	3 FT x 0.433	= 1.30	PSI
H. SUB-METER		= 0	PSI
I. SAFETY FACTOR		= 0.00	PSI
J. RESIDUAL PRESSURE		= 25.00	PSI
K. TOTAL PRESSURE LOSS		= 44.21	PSI
L. AVAILABLE PRESSURE FOR FRICTION LOSS		= 5.79	PSI
M. TOLERABLE FRICTION PRESSURE LOSS		= **1.85**	PSI/100FT

PLUMBING FIXTURE SCHEDULE

PLUMBING PLAN MARK	DESCRIPTION
DCV-1L	DOUBLE CHECK VALVE BACKFLOW PREVENTER: WATTS # LF007QT-S, MEETING ASSE 1015, LEAD FREE CAST BRONZE BODY, SCREW DRIVER SLOTTED TEST COCKS, QUARTER TURN BALL VALVES, AND STRAINER.
ECO	EXTERIOR CLEANOUT: JAY R. SMITH # 4261L SERIES DUCO CAST IRON DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE AND CLEANOUT BODY WITH ABS PLASTIC PLUG WITH GASKET SEAL AND PUSH-ON JOINT, REFER TO SPECIFICATIONS FOR INSTALLATION.
EL1	EXPANSION LOOP - DOMESTIC WATER (FOR COPPER PIPE SIZES 3" AND SMALLER): METRAFLEX # MLSUPC8 COPPER, REFER TO PLANS FOR PIPE SIZE. LOOPS 2" AND LARGER INSTALLED IN ANY ORIENTATION OTHER THAN HANGING DOWN MUST HAVE THE 180° RETURN SUPPORTED. INSTALL PER MANUFACTURER RECOMMENDATIONS.
EL2	EXPANSION LOOP - DOMESTIC WATER (FOR COPPER PIPE SIZES 3" AND SMALLER): METRAFLEX # DLVRF8 COPPER, REFER TO PLANS FOR PIPE SIZE. LOOPS 2" AND LARGER INSTALLED IN ANY ORIENTATION OTHER THAN HANGING DOWN MUST HAVE THE 180° RETURN SUPPORTED. INSTALL PER MANUFACTURER RECOMMENDATIONS.
FCO	FLOOR CLEANOUT: JAY R. SMITH; CAST IRON BODY, FLASHING FLANGE WITH CLAMPING COLLAR, ABS PLUG, AND ADJUSTABLE, ROUND, SECURED, NICKEL BRONZE, TOP. # 4031L (-F-C), SCORIATED TOP FOR EXPOSED, FLUSH WITH FINISHED FLOOR, APPLICATION(S), # 4031L (-F-C-Y), STAINLESS STEEL MARKER FOR INSTALLATION IN CARPETED FLOOR AREA(S), # 4151 (-F-C), 1/8" RECESS FOR INSTALLATION IN TILED FLOOR AREA(S), # 4191 (-F-C), 1/2" RECESS FOR INSTALLATION IN TERRAZZO AND SIMILAR POURED FLOOR AREA(S). REFER TO SPECIFICATIONS FOR INSTALLATION.
FD-1	FLOOR DRAIN: "ZURN" #Z453B-C DURA-COATED CAST IRON BODY WITH CLAMP COLLAR WITH 2" OUTLET AND ADJUSTABLE NICKEL BRONZE STRAINER.
FD-2	FLOOR DRAIN: "JAY R. SMITH" # 2110Y-SB MEDIUM DUTY, DUCO CAST IRON BODY WITH CLAMP COLLAR, WITH 2" OUTLET AND ADJUSTABLE NICKEL BRONZE STRAINER. PROVIDE TRAP PRIMER CONNECTION.
FS-1	FLOOR SINK: JAY R. SMITH # 3121L (-12), 8" DEEP CAST IRON BODY WITH ACID RESISTING ENAMELED INTERIOR, ANCHOR FLANGE WITH SEEPAGE HOLES, CLAMP COLLAR, ALUMINUM SEDIMENT BUCKET, AND 12" SQUARE NICKEL BRONZE RIM AND HALF GRATE. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS. PROVIDE TP CONNECTION.
FS-2	FLOOR SINK: JAY R. SMITH # 3041C (-12), 6" DEEP CAST IRON BODY WITH ACID RESISTING ENAMELED INTERIOR, ANCHOR FLANGE WITH SEEPAGE HOLES, CLAMP COLLAR, ALUMINUM SEDIMENT BUCKET, AND 8-1/2" ROUND NICKEL BRONZE RIM AND HALF GRATE. USE CAULK JOINT OF OUTLET SIZE AS SHOWN ON PLANS. PROVIDE TP CONNECTION.
HB-1	HOSE BIBB: ACORN MODEL #8126-LF WITH VACUUM BREAKER.
JS-1	JANITOR'S SINK: STERN-WILLIAMS # MTB-2424, 24" x 24" x 10" HIGH TERRAZZO BASIN WITH INTEGRAL STAINLESS STEEL DRAIN BODY. FAUCET: CHICAGO FAUCET # 897-CP FAUCET WITH WALL BRACE, INTEGRAL VACUUM BREAKER, PAIL HOOK, AND 3/4" MALE HOSE THREADED OUTLET. SECURE FAUCET IN WALL WITH BACKBOARD. TRIM: # BP TYPE 304, 20 GAUGE, STAINLESS STEEL WALL SURROUNDS, # T-35 THREE FOOT LONG REINFORCED HOSE WITH 3/4" CHROME COUPLING AND WALL HOOK, # V-70 EXTRUDED VINYL BUMPER GUARD, AND # T-40 24" STAINLESS STEEL MOP HANGER.
LAV-1	LAVATORY (ADA): "AMERICAN STANDARD" ESTEEM #0483.600 UNDERCOUNTER LAVATORY WITH "CHICAGO" #802-VE39VP317ABCP MANUAL FAUCET WITH WRIST BLADE HANDELS, LOW LEAD COMPLIANT, 0.50 GPM,TRIM: McGUIRE # 155A GRID DRAIN WITH TAILPIECE, McGUIRE # LF2165CCLK LEAD FREE BRASS LOOSE KEY COMPRESSION ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, McGUIRE # B8872CF 1-1/4" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, PLUMBEREX "PRO-EXTREME" # X-4222 INSULATION KIT FOR WATER AND WASTE PIPES.
LS-1	LAUNDRY SINK: FIAT # DL-1, 22" X 21-1/2" X 14" SINGLE-COMPARTMENT COUNTER TOP MOUNTED COMPRESSION MOLDED FIBERGLASS SINK WITH FAUCET LEDGE. FAUCET: CHICAGO FAUCET # 895-E3VP-VPH 4" CENTERSET FAUCET WITH LEVER HANDLES AND VANDAL PROOF AERATOR,WITH 1.5 GPM CHICAGO FLOW INSERT. TRIM: McGUIRE # LF2165CCLK LEAD FREE BRASS LOOSE KEY ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, McGUIRE # B8912CF 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE 1-1/2" X 1-1/2" P-TRAP WITH CLEANOUT AND ESCUTCHEON. INSTALL "WCO" UNDERNEATH WASTE CONNECTION.
RD-3	ROOF DRAIN: JAY R. SMITH # 1330Y (-C-R-CID), 8-1/2" DIAMETER CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, SUMP RECEIVER, HUBLESS OUTLET, AND CAST IRON DOME BOLTED OR LOCKED DOWN. PROVIDE OUTLET SIZE AS SHOWN ON PLANS.
RH-2	ROOF NON-FREEZE POST HYDRANT: MAPA PRODUCTS # MPH-24FP FREEZE PROOF POST HYDRANT MEETING ASSE #1057 WITH BLACK POWDER COATED CAST ALUMINUM WEATHER-GUARD DOME HANDLE, STAINLESS STEEL SHROUD WITH WELDED STAINLESS STEEL FLANGE, UNDER DECK CLAMP, BRONZE GLOBE ANGLE VALVE, 3/4" HOSE CONNECTION, QUICK DISCONNECT WITH BUILT-IN VACUUM BREAKER, STAINLESS STEEL RESERVOIR.
RPZ-1	REDUCED PRESSURE ZONE BACKFLOW PREVENTER: WATTS # LF009AQT, MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TEST COCKS, 90°D SWIVEL UNIONS, QUARTER TURN BALL VALVES AND # 909AG AIR GAP FITTING.
SV-1	SHOWER (ADA): "SYMMONS" TEMPTROL SHOWER SYSTEM MODEL C-96-500-B30-V, WITH PRESSURE BALANCING MIXING VALVE SET AT 120F MAX AND 1.5 GPM MAX FLOW ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN, CLEAR-FLO SHOWER HEAD WITH ARM AND FLANGE. ALL COMPONENTS PER ARCHITECTURAL INTERIOR ELEVATION. FOR SHOWER WALLS, SEE ARCHITECTURAL DRAWINGS.
TMV-1	THERMOSTATIC MIXING VALVE: "BRADLEY" S59-4016 POINT OF USE THERMOSTATIC MIXING VALVE, LEAD FREE.
TP-1	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. PROVIDE WITH DISTRIBUTION # DU-2 FOR TWO, # DU-3 FOR THREE, OR # DU-4 FOR FOUR DRAIN CONNECTIONS.
TP-2	TRAP PRIMER: PRECISION PLUMBING PRODUCTS # MPB-500-115V "MIN PRIME ELECTRONIC", CORROSION RESISTANT BRASS BODY, "O" RING SEALS, 1/2" INLET AND OUTLET, SOLENOID VALVE ACTUATOR AND INTEGRAL VACUUM BREAKER. CONTROL PANEL WITH INTEGRAL TIMER, INSTALL THE VALVE AND CONTROL PANEL ABOVE CEILING. ELECTRICAL REQUIREMENTS: 120V 1PH AT 1 FLA
WC-1	FLOOR-MOUNTED WATER CLOSET (ADA ACCESSIBLE): AMERICAN STANDARD # 215AA.104 "CHAMPION PRO" TANK TYPE WHITE VITREOUS CHINA FIXTURE WITH ELONGATED BOWL, 1.28 GALLON PER FLUSH, AND SIPHON FLUSH ACTION WITH 3" OVERSIZED FLAPPER VALVE, MaP SCORE OF 1,000g AND CLOSE-COUPLED TANK WITH LEFT HAND TRIP LEVER. INSTALL TRIP LEVER ON THE WIDE SIDE OF THE STALL. BOWL # 3517A.101 AND RIGHT HAND TRIP LEVER TANK # 4188A.104, REFERENCE DRAWINGS FOR EXACT NUMBER OF RIGHT AND LEFT HAND TRIP LEVER TANKS REQUIRED. TRIM: CHURCH # 9500SSCT WHITE OPEN-FRONT CONTOURED, SOLID PLASTIC, HEAVY DUTY, SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGES AND STAINLESS STEEL BOLTS, McGUIRE # LF2166CC LEAD FREE BRASS ANGLE STOP VALVE WITH RISER AND CHROME-PLATED ESCUTCHEON.
WCO	WALL CLEANOUT: JAY R. SMITH # 4530S, CAST IRON CLEANOUT TEE, COUNTER SUNK PLUG, STAINLESS STEEL, ROUND COVER AND SCREW, AND IRON PLUG WITH GASKET SEAL. REFER TO SPECIFICATIONS FOR INSTALLATION.
WHA	WATER HAMMER ARRESTER: PRECISION PLUMBING PRODUCTS, HARD DRAWN COPPER BODY WITH WROUGHT COPPER FITTINGS, PISTON TYPE WITH LUBRICATED EPDM "O" RING SEALS, MEETING ASSE 1010 OR PDI WH-201. PROVIDE PDI SIZES "A" THROUGH "F" AS SHOWN ON PLANS. PROVIDE SIZE "A" UNLESS SHOWN OTHERWISE ON THE PLANS. SIZE "AA" WATER HAMMER ARRESTERS ARE NOT ALLOWED.
WMB-1	WASHING MACHINE BOX: GUY GRAY MODEL # B200TS, 20 GAUGE GALVANIZED STEEL BOX, 18 GAUGE STEEL FACEPLATE, TOP INLET WATER SUPPLIES WITH ANGLED WHEEL HANDLE 3/4" HOSE BIBBS, AND 2" BOTTOM OUTLET DRAIN. TRIM: PROVIDE 24" LONG TAIL PIECE AND 2" DIAMETER P-TRAP.

AHJ STAMP APPROVAL

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NAC NO 161-21001
DRAWN R La Vonda
CHECKED W Rosenbrook
DATE 10/05/2026

PLUMBING SCHEDULES AND CALCULATIONS

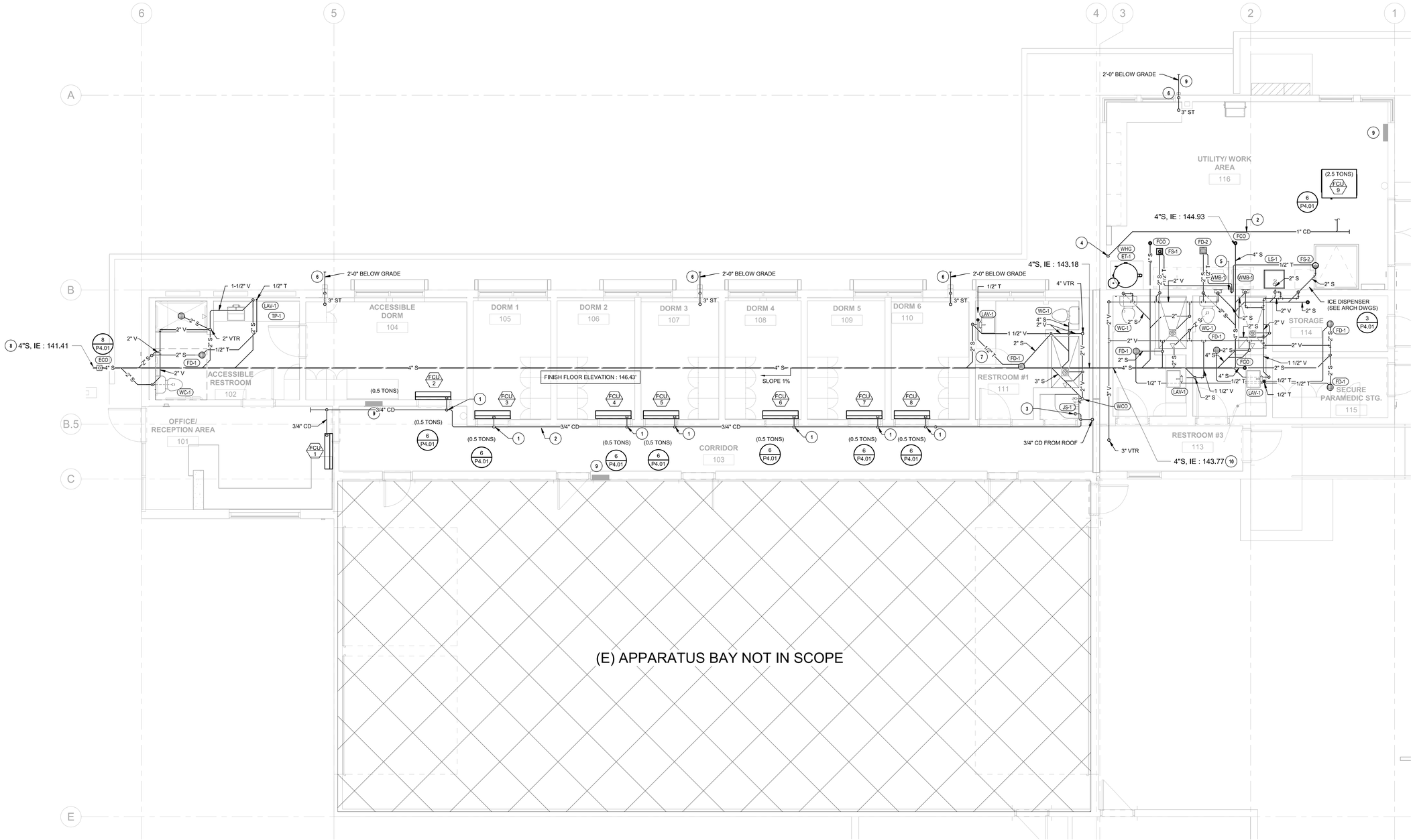
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PLUMBING PLAN NOTES:

1. CONNECT TUBING FROM PUMP AND POC TO 3/4" CD MAIN IN SOFFIT (TYP).
2. 3/4" CD LINE FULL-SIZE ABOVE CEILING.
3. 3/4" CD DN ALONG WALL. DISCHARGE TO JAN SINK WITH AIR GAP.
4. 3/4" CD DN ALONG WALL. DISCHARGE TO FLOOR SINK WITH AIR GAP.
5. RUN (5) 1/2" TP LINES FROM TP-2 TO (5) FD/FS.
6. 3" STORM DRAIN BELOW GRADE. SEE CIVIL FOR CONTINUATION.
7. 1/2" TP LINE BELOW FLOOR.
8. SEE CIVIL DRAWINGS FOR CONTINUATION.
9. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
10. 4" SANITARY SEWER PIPING TO DROP/ OFFSET AT STRUCTURAL MAT SLAB FOUNDATION TRANSITION.



PLAN NORTH TRUE NORTH

1 PLUMBING WASTE & VENT LEVEL 1 PLAN

Scale: 1/4" = 1'-0"

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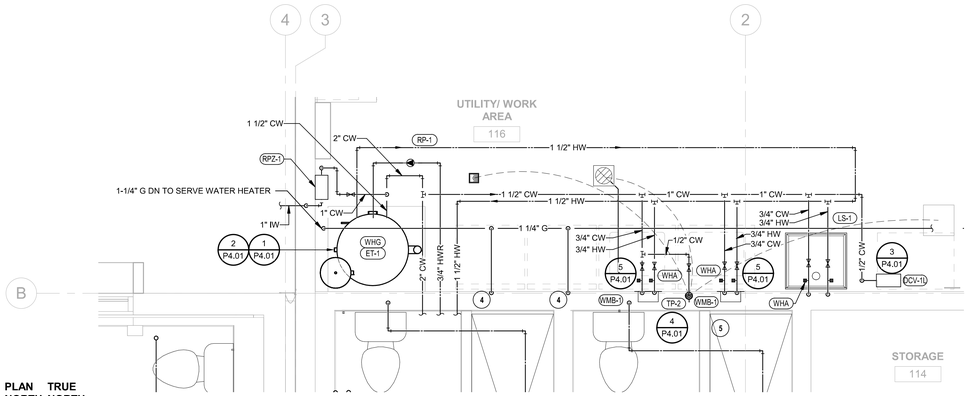
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PLUMBING WASTE & VENT LEVEL 1 PLAN

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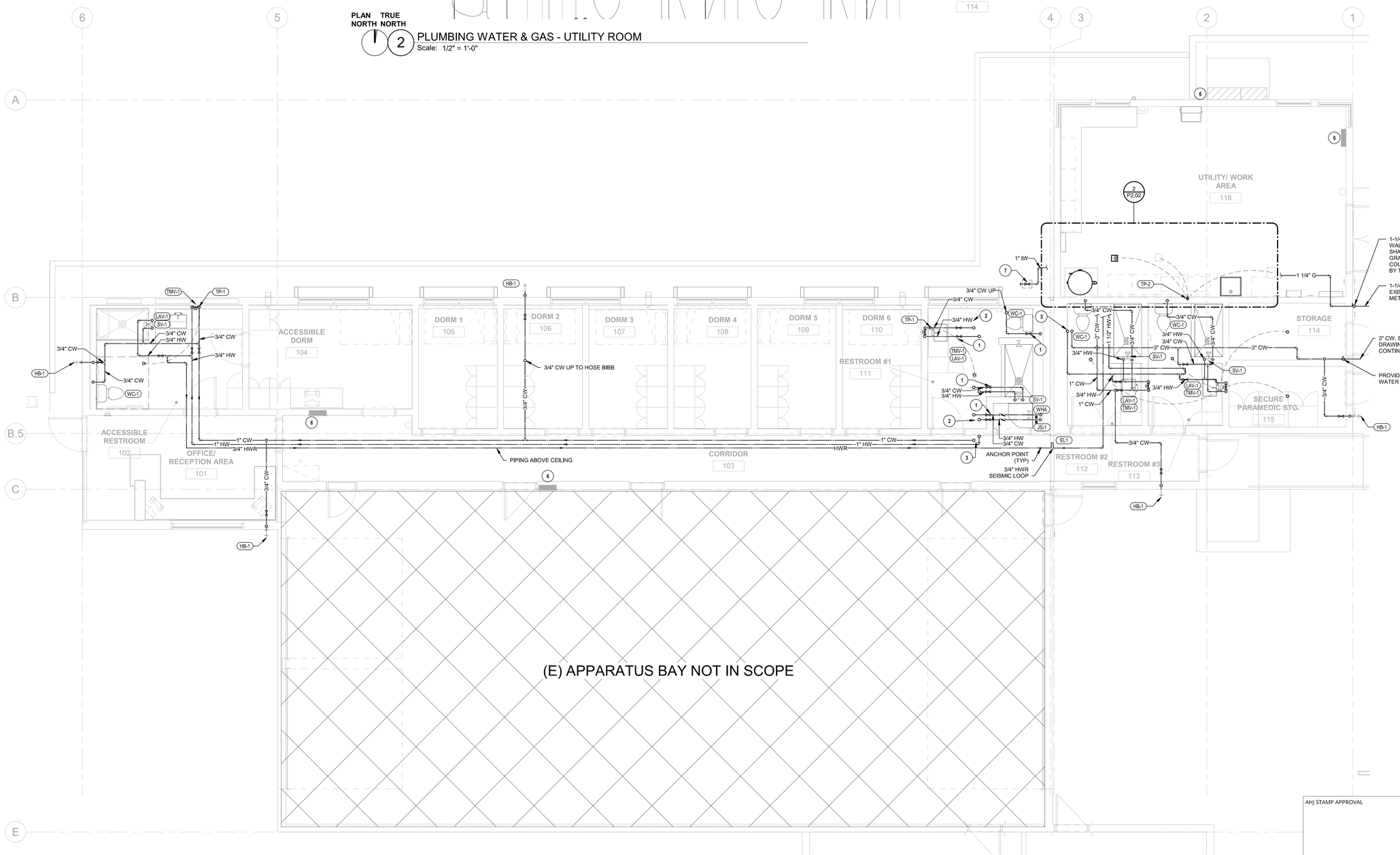
PLAN NORTH TRUE NORTH

2 PLUMBING WATER & GAS - UTILITY ROOM

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

PLUMBING PLAN NOTES:

1. INSTALL BALL VALVE ABOVE CEILING. PROVIDE CEILING ACCESS PANEL (SEE ARCH DRAWINGS).
2. 3/4" HW AND 3/4" CW UP TO ROOF.
3. 1-1/4" COLD AND 1" HOT UP TO ROOF.
4. 1" GAS DN TO SERVE GAS DRYER. PROVIDE GAS SOV AND DIRT LEG.
5. MOUNT TP-2 ON WALL 2'-0" ABOVE WASHER.
6. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
7. POC TO IRRIGATION WATER METER, SHUT OFF VALVE IN YARD BOX. IRRIGATION CONTRACTOR TO CONFIRM EXACT LOCATION & TIE-IN SIZE.



PLAN NORTH TRUE NORTH

1 PLUMBING WATER & GAS LEVEL 1 PLAN

Scale: 1/4" = 1'-0"

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PLUMBING WATER & GAS LEVEL 1 PLAN

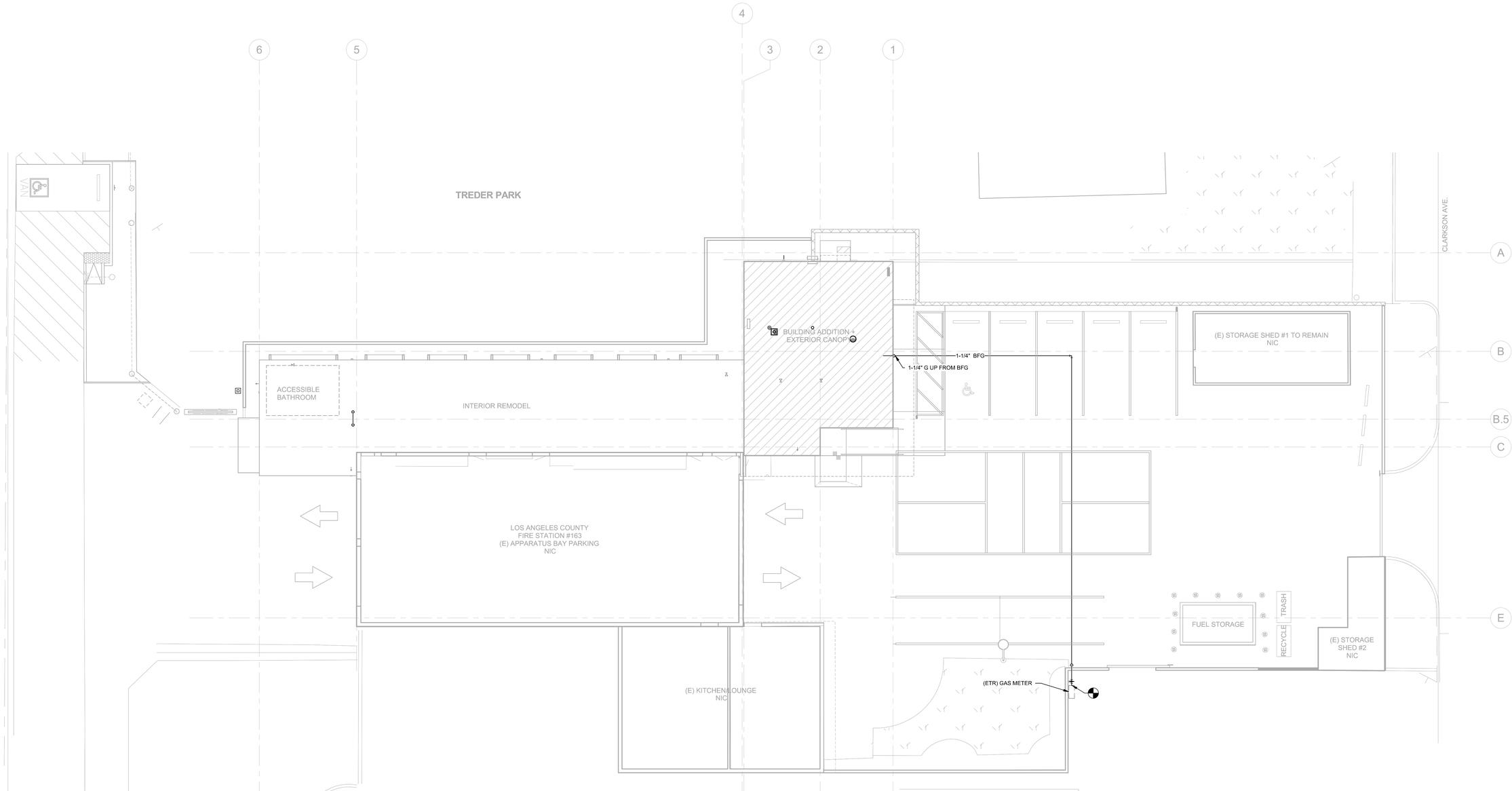
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PLAN NORTH TRUE NORTH

1 PLUMBING SITE PLAN
Scale: 1/8" = 1'-0"

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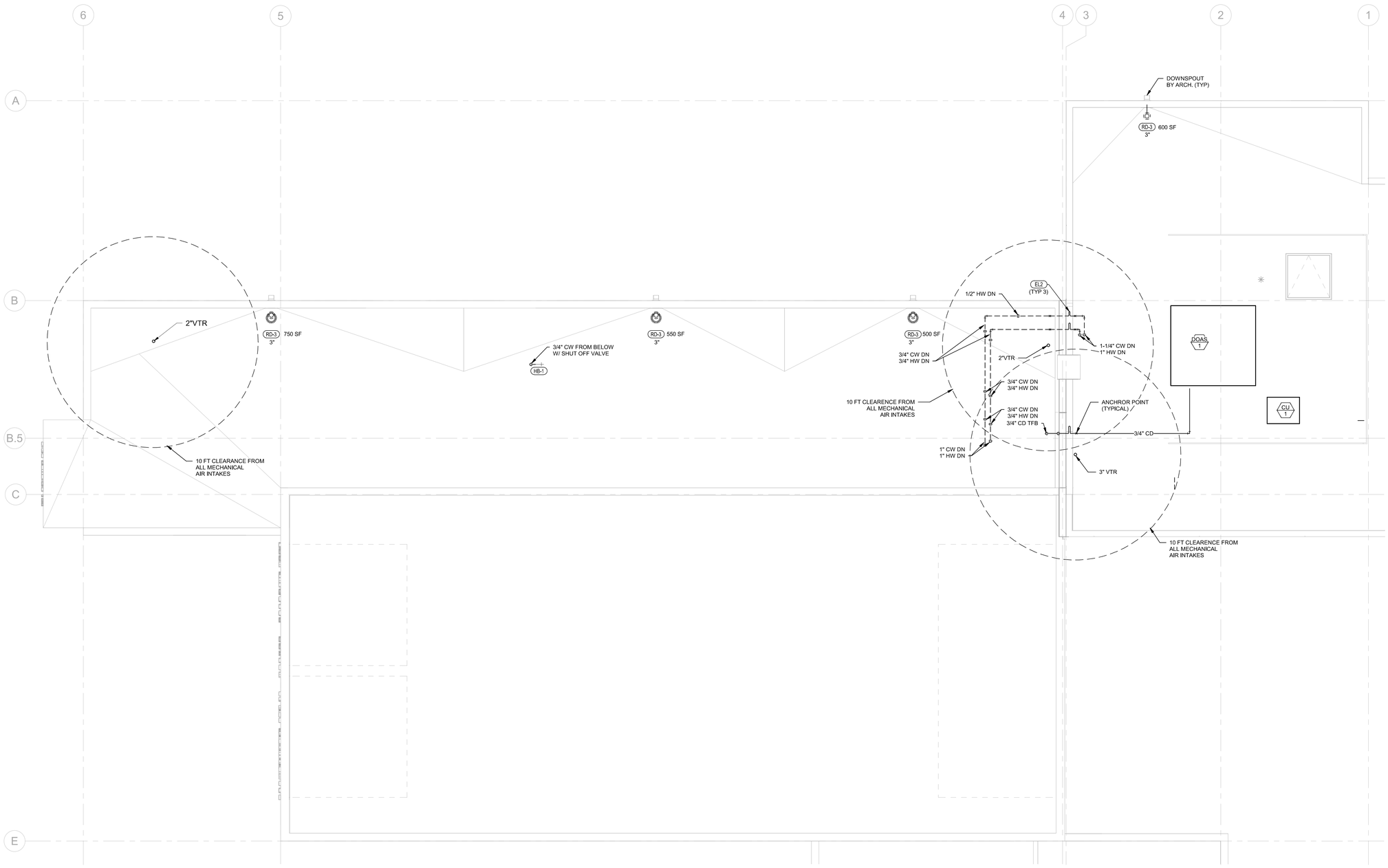
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PLUMBING SITE PLAN

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PLAN NORTH TRUE NORTH

1 PLUMBING ROOF PLAN

Scale: 1/4" = 1'-0"

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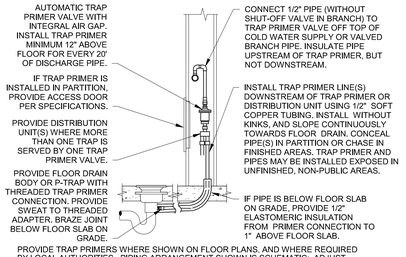
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PLUMBING ROOF PLAN

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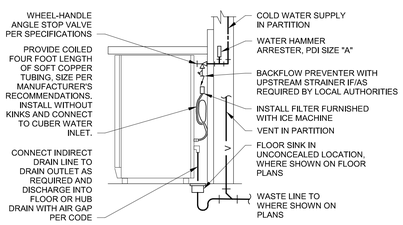
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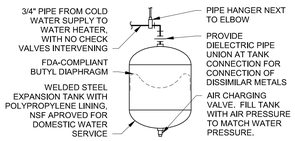
PROVIDE TRAP PRIMERS WHERE SHOWN ON FLOOR PLANS, AND WHERE REQUIRED BY LOCAL AUTHORITIES. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO SPECIFICATIONS AND PLUMBING FIXTURE CONNECT FOR MORE INFORMATION. INSTALL TRAP PRIMER VALVE AND DISTRIBUTION UNIT PER MANUFACTURER'S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

4 TRAP PRIMER IN/ON WALL
NTS



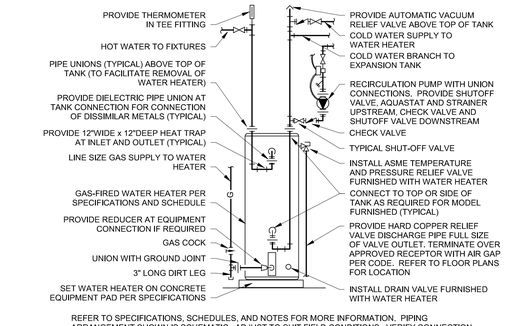
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. IF WATER FILTER IS PROVIDED, INSTALL IT IN ACCESSIBLE LOCATION. PROVIDE CONNECTIONS AND INSTALL EQUIPMENT AS RECOMMENDED BY EQUIPMENT MANUFACTURER. AIR GAP ON INTERNAL WATER FILL DEVICE PROVIDES BACKFLOW PREVENTION. VERIFY IF LOCAL AUTHORITIES REQUIRE SUPPLEMENTAL PROTECTION.

3 UNDER COUNTER ICE MACHINE
NTS



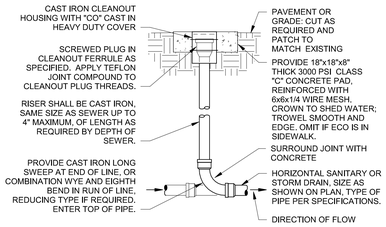
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED. PROVIDE SEISMIC STRAP OR BRACING WHEN REQUIRED BY LOCAL AUTHORITIES.

2 SMALL EXPANSION TANK
NTS



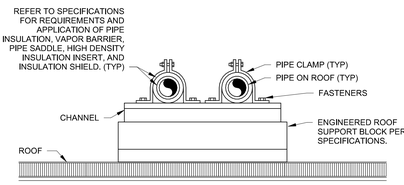
REFER TO SPECIFICATIONS, SCHEDULES, AND NOTES FOR MORE INFORMATION. PIPING ARRANGEMENT SHOWN IS SCHEMATIC; ADJUST TO SUIT FIELD CONDITIONS. VERIFY CONNECTION SIZES AND LOCATIONS WITH WATER HEATER FURNISHED. REFER TO FLOOR PLANS FOR PIPE SIZES AND CONTINUATIONS. PROVIDE SEISMIC STRAP OR BRACING AND FLEXIBLE CONNECTORS ON PIPE WHEN REQUIRED BY LOCAL AUTHORITIES. PROVIDE HEAT TRAP ON COLD WATER SUPPLY WHEN REQUIRED BY LOCAL AUTHORITIES. POWER WIRING AND DISCONNECT SWITCH ARE SPECIFIED BY ELECTRICAL. INTERLOCK OF AQUASTAT WITH RECIRCULATION PUMP IS SPECIFIED BY ELECTRICAL.

1 GAS FIRED WATER HEATER AND PUMP
NTS



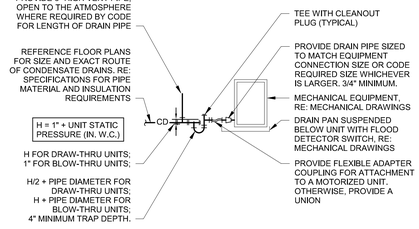
LOCATE EXTERIOR CLEANOUTS AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT MINIMUM 75 FOOT INTERVALS ON STRAIGHT RUNS, AND WHERE SHOWN ON PLANS. PROVIDE EARTH BACKFILL AND COMPACTION PER ARCHITECTURAL SPECIFICATIONS. REFER TO SPECIFICATIONS AND SCHEDULES FOR MORE INFORMATION.

8 EXTERIOR CLEANOUT
NTS



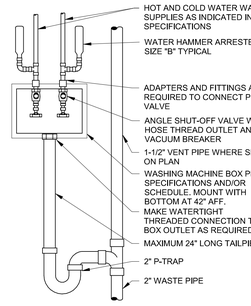
NOTES
1. PROVIDE PIPING SUPPORT SPACING AS REQUIRED BY LOCAL AUTHORITY.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR PIPING SUPPORTS, ANCHORING, AND SEISMIC/WIND RESISTANCE.
3. STAGGER PIPE CLAMPS ON SUPPORTS AS REQUIRED TO FIT PIPES WITH INSULATION PER LAYOUT ON PLANS.

7 ROOF PIPE SUPPORT BLOCK DETAIL
NTS



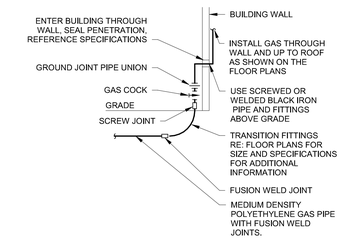
PIPING ARRANGEMENT SHOWN IS SCHEMATIC: ADJUST AS REQUIRED TO SUIT ACTUAL INSTALLATION CONDITIONS. REFER TO LOCAL CODE FOR INDIRECT DRAIN REQUIREMENTS. REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT OPERATING PRESSURE.

6 FAN COIL UNIT WITH CONDNESATE DRAIN AND DRAIN PAN
NTS



PIPING ARRANGEMENT SHOWN IS SCHEMATIC: ADJUST TO SUIT FIELD CONDITIONS. PROVIDE CONNECTIONS AS RECOMMENDED BY EQUIPMENT MANUFACTURER.

5 WASHING MACHINE BOX
NTS



PIPING ARRANGMENT SHOW IS SCHEMATIC. ADJUST TO SUIT FILED CONDITIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

9 NATURAL GAS ENTRY
NTS

AHJ STAMP APPROVAL

BIDDING SET

REVISIONS

ISSUED FOR PERMIT

04/21/2023

LICENSED PROFESSIONAL ENGINEER — BRYAN JIMENEZ — M 38619 — EXPIRES: 09/30/2027 — MECHANICAL — STATE OF CALIFORNIA

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LOS ANGELES COUNTY FIRE DEPARTMENT

FIRE STATION 163

6320 PINE AVENUE, BELL, CA 90201

NAC ARCHITECTURE
nacarchitecture.com
1203 WEST RIVERSIDE AVE
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NAC NO	161-21001
DRAWN	R La Vonda
CHECKED	W Rosenbrook
DATE	10/05/2026

PLUMBING DETAILS

CD

P4.01

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BRYAN JIMENEZ

TELECOMMUNICATIONS SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

V2.00

STANDARD MOUNTING HEIGHTS

TELECOM BACKBOARD (BOTTOM OF BACKBOARD)	4"
LADDER RACK IN TELECOM ROOMS (BOTTOM OF DEVICE)	90"
CABLE TRAY / CONDUIT AFC (BOTTOM OF PATHWAY)	3"(MIN)
LIGHT FIXTURE IN TELECOM ROOMS (BOTTOM OF DEVICE)	108"(MIN)
TELEPHONE WALL OUTLET (CENTERLINE)	48"
DATA WALL OUTLET	SAME AS ADJACENT DEVICE, UNO
TELEVISION OUTLET	REFER TO ARCH DRAWINGS
TMGB/TGB (CENTERLINE)	84"
WALL CLOCK (CENTERLINE)	84"
INTERCOM (CENTERLINE)	48"

USE THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG) TO BOTTOM OF OUTLET BOX. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACCESS POINT
AV	AUDIO-VIDEO
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BBC	BACKBONE BONDING CONDUCTOR
BD	BUILDING DISTRIBUTOR
BDF	BUILDING DISTRIBUTION FRAME
BFC	BELOW FINISHED CEILING
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CD	CAMPUS DISTRIBUTOR
CMP	COMMUNICATIONS PLENUM JACKET
CMR	COMMUNICATIONS RISER JACKET
DAS	DISTRIBUTED ANTENNA SYSTEM
dB	DECIBELS
DEMO	DEMOLITION
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
ECIA	ELECTRONIC COMPONENTS INDUSTRY ASSOCIATION
EMI	ELECTROMAGNETIC INTERFERENCE
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ER	EQUIPMENT ROOM
ETR	EXISTING TO REMAIN
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FD	FLOOR DISTRIBUTOR
FMC	FLEXIBLE METAL CONDUIT
FS	FIRE STOP SYSTEM
FLR	FLOOR
F/UTP	SCREEN TWISTED PAIR (SHIELDED)
GC	GENERAL CONTRACTOR
GYP	GYPSUM BOARD
HC	HORIZONTAL CROSS-CONNECT
HCM	HORIZONTAL CABLE MANAGER
HH	HAND HOLE
Hz	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
IP	INTERNET PROTOCOL
ISP	INTERNET SERVICE PROVIDER
ISP	INSIDE PLANT CABLE
JB	JUNCTION BOX
J-BOX	JUNCTION BOX
LAN	LOCAL AREA NETWORK
LCC	LIMITED COMBUSTIBLE CABLE
LEC	LOCAL EXCHANGE CARRIER
LED	LIGHT-EMITTING DIODE
LF	LINEAR FEET
MAN	METROPOLITAN AREA NETWORK
MATV	MASTER ANTENNA TELEVISION
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MH	MAINTENANCE HOLE
MM	MULTIMODE
MPOE	MAIN POINT OF ENTRANCE
MPOP	MAIN POINT OF PRESENCE
MTD	MOUNTED
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
nm	NANOMETER
NRTL	NATIONALLY RECOGNIZED TESTING LAB
OC	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OSP	OUTSIDE PLANT
PBB	PRIMARY BONDING BUSBAR
PBX	PRIVATE BRANCH EXCHANGE
POE	POWER OVER ETHERNET
PON	PASSIVE OPTICAL NETWORK
POTS	PLAIN OLD TELEPHONE SERVICE
PSTN	PUBLIC SWITCHED TELEPHONE NETWORK
QTY	QUANTITY
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RMC	RIGID METAL CONDUIT
RU	RACK UNIT
SBB	SECONDARY BONDING BUSBAR
SCS	STRUCTURED CABLING SYSTEM
SF	SQUARE FEET
SM	SINGLEMODE
SPECS	SPECIFICATIONS
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TR	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITER LABORATORIES, INC.
UPS	UNINTERRUPTIBLE POWER SUPPLY
U/UTP	UNSHIELDED TWISTED PAIR
V	VOLT(S)
VCM	VERTICAL CABLE MANAGER
W	WIRE
WAN	WIDE AREA NETWORK
WAO	WORK AREA OUTLET
WAP	WIRELESS ACCESS POINT
WP	WEATHER PROOF
WR	WEATHER RESISTANT
WT	WATERTIGHT
XP	EXPLOSION-PROOF

ANNOTATION

- (1) TECHNOLOGY PLAN CALLOUT
- [1] EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CONNECTION POINT OF NEW WORK TO EXISTING
- (1 / T1) DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER. LOWER NUMBER INDICATES SHEET NUMBER
- (1 / T1) SECTION CUT DESIGNATION
- DEDICATED EQUIPMENT ACCESS TILE
- ACCESS PANEL

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINE-TYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF THE NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE

CABLE TYPES

A	CATEGORY 6A CABLE (BLUE COLOR EXCEPT OTHERWISE INDICATED)
B	CATEGORY 6A CABLE (WHITE COLOR)
C	RG6 COAXIAL CABLE

PATHWAYS

- W"xH" — WIRE MESH CABLE TRAY (W"=WIDTH, "H"=HEIGHT)
- VERTICAL CABLE TRAY
- (#) D" — UNDERGROUND CONDUIT ("#"=QUANTITY, "D"=CONDUIT DIAMETER)
- (#) D" — CONDUIT ("#"=QUANTITY, "D"=CONDUIT DIAMETER)
- CABLE SUPPORTS OR J-HOOKS
- (#) D" / FS — CONDUIT SLEEVE ("#"=QUANTITY, "D"=CONDUIT DIAMETER); UL FIRESTOP SYSTEM ASSEMBLY
- PB L"XW"XH" — PULL BOX ("L"=LENGTH, "W"=WIDTH, "H"=HEIGHT)
- SC — SPLICE

RISER DIAGRAMS

- FIBER OPTIC CROSS CONNECT
- COPPER UTP CROSS CONNECT
- 'P' — 110-TYPE PROTECTOR BLOCK
- PATCH PANEL — PATCH PANEL
- SBB — SECONDARY BONDING BUSBAR (SBB)
- PBB — PRIMARY BONDING BUSBAR (PBB)
- TELECOMMUNICATIONS BACKBONE CABLING (REFER TO RISER DIAGRAM FOR MORE INFORMATION)

TELECOMMUNICATIONS ROOM

- LADDER RACK
- PBB — PRIMARY BONDING BUSBAR (PBB) - WALL ELEVATION VIEW
- SBB — SECONDARY BONDING BUSBAR (SBB) - WALL ELEVATION VIEW
- PBB/SBB - PLAN VIEW
- TELECOM BACKBOARD
- TWO-POST EQUIPMENT RACK
- FOUR-POST EQUIPMENT RACK
- EQUIPMENT CABINET (REFER TO PLAN NOTES ON ENLARGED PLANS FOR MORE INFORMATION)

TELECOMMUNICATIONS OUTLETS

SYMBOL	DESCRIPTION	CABLE(S) A	B	C	DETAIL
▼ 1V	ANALOG/VOICE WALL OUTLET	1	0	0	3/TN7.01
▽ 1D	DATA WALL OUTLET	1	0	0	1/TN7.01
▽ 2D	DATA WALL OUTLET	2	0	0	1/TN7.01
▽ 3D	DATA WALL OUTLET	3	0	0	2/TN7.01
▽ 4D	DATA WALL OUTLET	4	0	0	1/TN7.01
▽ 6D	DATA WALL OUTLET	6	0	0	NA
▽ 8D	DATA WALL OUTLET	8	0	0	NA
▽ 2D	DATA WALL OUTLET, ABOVE COUNTER	2	0	0	1/TN7.01
▽ 4D	DATA WALL OUTLET, ABOVE COUNTER	4	0	0	1/TN7.01
▽ 1D	SYSTEMS FURNITURE DATA OUTLET	1	0	0	NA
▽ 2D	SYSTEMS FURNITURE DATA OUTLET	2	0	0	NA
▽ 3D	SYSTEMS FURNITURE DATA OUTLET	3	0	0	NA
▼ W,1V	ANALOG/VOICE WALL OUTLET FOR WALL MOUNTED TELEPHONE SET	1	0	0	3/TN7.01
◢ 2D, TYPE "X"	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR FLOOR BOX TYPE	2	0	0	NA
◢ 4D, TYPE "X"	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR FLOOR BOX TYPE	4	0	0	NA
◢ 6D, TYPE "X"	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR FLOOR BOX TYPE	6	0	0	NA
◢ 8D, TYPE "X"	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR FLOOR BOX TYPE	8	0	0	NA
◉ 2D, TYPE "X"	MULTI-SERVICE POKE THROUGH WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR POKE THROUGH TYPE	2	0	0	NA
◉ 4D, TYPE "X"	MULTI-SERVICE POKE THROUGH WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR POKE THROUGH TYPE	4	0	0	NA
◉ 6D, TYPE "X"	MULTI-SERVICE POKE THROUGH WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR POKE THROUGH TYPE	6	0	0	NA
◉ 8D, TYPE "X"	MULTI-SERVICE POKE THROUGH WITH DATA AND POWER OUTLETS, REFER TO SPECS FOR POKE THROUGH TYPE	8	0	0	NA
◈ 1D	DATA CEILING OUTLET	0	1	0	7/TN7.01
◈ 2D	DATA CEILING OUTLET	0	2	0	7/TN7.01
◈ 3D	DATA CEILING OUTLET	0	3	0	7/TN7.01
▼ W,2V	TELEPHONE, ANALOG WALL OUTLET	2	0	0	NA
▽ W,1D	TELEPHONE, VoIP WALL OUTLET	1	0	0	NA

TELECOMMUNICATIONS END-POINT DEVICES

DEVICE SCHEDULE

SYMBOL	DESCRIPTION	CABLE(S) A	B	C	DETAIL
(D)	DAS ANTENNA, CEILING MOUNT	1	0	0	
(C) D	CLOCK, ANALOG DUAL SIDED, WALL MOUNT	1	0	0	
(C) D	CLOCK, ANALOG DUAL SIDED, CEILING MOUNT	1	0	0	
(C) S	CLOCK, ANALOG SINGLE SIDED, WALL MOUNT	1	0	0	
(C) WIRE GUARD	CLOCK, ANALOG SINGLE SIDED, WALL MOUNT WITH WIREGUARD	1	0	0	
(DC) D	CLOCK, DIGITAL DUAL SIDED, WALL MOUNT	1	0	0	
(DC) D	CLOCK, DIGITAL DUAL SIDED, CEILING MOUNT	1	0	0	
(DC) S	CLOCK, DIGITAL SINGLE SIDED, WALL MOUNT	1	0	0	
(DC) WIRE GUARD	CLOCK, DIGITAL SINGLE SIDED, WALL MOUNT WITH WIREGUARD	1	0	0	
(ES)	PAGING EMERGENCY STROBE, WALL MOUNT	1	0	0	
(ES)	PAGING EMERGENCY STROBE, CEILING MOUNT	1	0	0	
(A) AMP	PAGING AMPLIFIER	1	0	0	
(CB)	PAGING CALL BUTTON, WALL MOUNT	1	0	0	
(S) HRN	PAGING HORN SPEAKER, RECESSED WALL MOUNT	0	0	0	1/TN7.03
(S) HRN	PAGING HORN SPEAKER, SURFACE CEILING MOUNT	1	0	0	
(S) R	PAGING SPEAKER, RECESSED WALL MOUNT	1	0	0	
(S) SCS	PAGING SPEAKER WITH CLOCK AND STROBE, WALL MOUNT	1	0	0	
(S) SCS	PAGING SPEAKER WITH CLOCK AND STROBE, CEILING MOUNT	1	0	0	
(S) S	PAGING SPEAKER, SURFACE WALL MOUNT	1	0	0	
(S) RC	PAGING SPEAKER, RECESSED CAN CEILING MOUNT	0	0	0	1/TN7.03
(S) RT	PAGING SPEAKER, RECESSED CEILING TILE MOUNT	1	0	0	
(S) S	PAGING SPEAKER, SURFACE CEILING MOUNT	1	0	0	
(P)	PAGING SPEAKER, PENDANT CEILING MOUNT	1	0	0	
(VC)	PAGING VOLUME CONTROL, WALL MOUNT	0	0	0	1/TN7.03
(IC)	CLASSROOM INTERCOM, WALL MOUNT	1	0	0	

SECURITY IP END-POINT DEVICES

SYMBOL	DESCRIPTION	CABLE(S) A	B	C	DETAIL
(EL)	ACCESS CONTROL DOOR	1	0	0	
(CR)	CARD READER	1	0	0	
	CEILING SECURITY CAMERA	1	0	0	
	WALL SECURITY CAMERA	1	0	0	

DOOR BUZZER SYSTEM

SYMBOL	DESCRIPTION	DETAIL
(DC)	DOOR CONTACT	3/TN6.01
(DR)	DOOR RELEASE BUTTON AND ON/OFF SWITCH FOR DOOR CONTACT ONLY	
(DB)	24V DOOR BUZZER	
(DB) HP	24V DOOR BUZZER HIGH POWER	
DB-CP	DOOR BUZZER CONTROL PANEL WITH POWER SUPPLY AND BATTERY	
(DB) WP	24V DOOR BUZZER , WEATHER PROOF	
(PB) WP	PUSH BUTTON, WEATHER PROOF	

AUDIO-VIDEO IP END-POINT DEVICES

SYMBOL	DESCRIPTION	CABLE(S) A	B	C	DETAIL
(T#) 1D	TELEVISION CEILING OUTLET	1	0	1	
(T#)	TELEVISION WALL OUTLET	1	0	1	4/TN7.01
(P#) 1D	PROJECTOR CEILING OUTLET	1	0	1	

TELECOMMUNICATIONS RESPONSIBILITY MATRIX

Description	Furnished: Part of Bid	Furnished: 3rd Party	Furnished: General Contractor	Furnished: Client	Installed: Part of Bid	Installed: 3rd Party	Installed: General Contractor	Installed: Client	Comments
IT&S Data/Unified Communication/Telephone Networks									
Horizontal cabling (Faceplates, patch panels, ,6A cables, jacks, inserts, and all associated pathways)	■				■				
Fiber Optic cable linked to the Existing Building									
Patch cables and fiber cords				■				■	
Conduit for outside plant fiber cable	■				■				
End devices (PC's, network printers, network scanners, faxes, copiers, proximity cabinets, etc.)				■				■	
Telephony Systems(Servers, VOIP hardware and software , ISP circuits and interfaces , Desk/Wall telephone sets)				■				■	
TV Distribution System									
Faceplates, patch panels, Cat 6A and coax cables, and associated pathways	■				■				
Splitters, amplifiers , TV head end equipment		■				■			By TV system provider
Network Switches				■				■	
IT&S Wireless Data Networks									
Faceplates, patch panels, Cat 6A cables, and associated pathways	■				■				
IT&S wireless survey after doors and ceilings are installed								■	
Relocating cables and installing Wireless Access Points following IT&S Wireless Survey	■				■				
Wireless Access Points and Ceiling Enclosures				■				■	
Network Switches									
Fire Station Signalling and Paging System (Refer to sheet TN7.03)									
Low Voltage cables and associated pathways, conduits with weatherheads,power supply,	■				■				
Devices and Equipment (Speakers, Volume control,on/off switch for exterior speaksrs, paging system rack with amplifiers, Roof antennas , SCU wall box,etc.) and backboxes as shown on sheet TN7.03 detail 1,	■				■				
Special equipment (White and Blue SCU, SCU stations)				■	■				Relocation of existing or Install new devices (Coordinate with Fire Station)
Video Surveillance System									
Cat 6A and associated pathways for cameras	■				■				
Video Surveillance (Cameras , monitors, NVR hardware abd software, licenses)		■				■			
Video Surveillance (Network Switches)				■				■	
Door Buzzer System									
24V DC cabling and associated pathways for door buzzers, door contact, push button, release button, etc.)	■				■				
Devices and Equipment (Door Buzzers, door contact,push button, release button with on/off switch) including backboxes as shown on sheet TN6.01 detail 3,)	■				■				
Door Buzzer System Control panel with 24V Power supply	■				■				
Access Control System									
Cabling and associated pathways for access control system	■				■				
Door access control (Door hardware and intergation: transfer hinges, electrified handsets, magnetic lock,)			■				■		
Equipment (card readers,request to exit, motion detectors)		■				■			
Main Equipment (Controllers, Power supllies with batteries, linking to the existing system, interface with Fire alarm system)		■				■			
Utility Room -Space for Telecom, Paging , Security Systems									
Telecom backboard, Main bonding busbar	■				■				
Conduits with bushing,	■				■				
Wall mounted IDF									
UPS and Power Distribution Unit				■				■	
Core switches,Routers									

Note: Filled black cell on table mean scope in that row is to be completed by entity...

GENERAL NEW WORK NOTES

1. READ THE SPECIFICATIONS AND REVIEW DRAWINGS OF ALL DIVISIONS OF WORK. COORDINATE THIS WORK WITH ALL OTHER DIVISIONS OF WORK AND ALL SUBCONTRACTORS.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS (DIVISION 26, DIVISION 27, DIVISION 28, ETC.) AND THE CUSTOMER PRE-ESTABLISHED STRUCTURED CABLING STANDARDS; SHOULD DIFFERENCES EXIST IN THE SPECIFICATIONS RELATING TO TECHNOLOGY AND THE CLIENT'S PRE-ESTABLISHED STANDARDS THE CONTRACTOR SHALL CONTACT THE LOW VOLTAGE ENGINEER FOR CLARIFICATION THROUGH THE RFI PROCESS.
3. FULLY COORDINATE ALL CABLE TRAY, FIRE STOP CONDUITS / SLEEVES, AND CONDUIT ROUTING WITH STRUCTURAL ELEMENTS. COORDINATE CABLE TRAY AND CONDUIT INSTALLATIONS WITH ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR, AND GENERAL CONTRACTOR PRIOR TO INSTALLATION. ROUTING IN CONCRETE SLAB OR UNDER SLAB (WHERE CONDUIT WOULD BE ON GRADE) REQUIRES THE USE OF WET LOCATION RATED CABLES.
4. ALL TELECOMMUNICATIONS CONTINUOUS PATHWAYS SHALL BE BONDED TO THE TELECOMMUNICATIONS BONDING BACKBONE; FOR CONDUITS, INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT THE FARTHEST AWAY FROM THE SERVING TR; A BONDING BUSHING SHALL BE USED AT THE END CLOSEST TO THE SERVING TR. CONTRACTOR TO REFER TO THE ANSI-STD-J 607 STANDARD FOR ADDITIONAL INFORMATION AS TO THE INSTALLATION OF THE TELECOMMUNICATIONS BONDING BACKBONE.
5. ALL FIRE RATED WALL / FLOOR ASSEMBLIES PENETRATED FOR TELECOMMUNICATIONS CABLING PATHWAYS SHALL BE FIRE STOPPED WITH THE APPROVED FIRE STOP SYSTEMS (F/S). ALL FIRESTOP SYSTEMS SHALL BE INSTALLED AS DIRECTED BY THE MANUFACTURER AND AS SPECIFIED IN DIVISION 07 07 84.00 - "FIRESTOPPING". FIRE STOP ASSEMBLY LOCATIONS ARE TO BE COORDINATED WITH CABLE TRAY PATHWAY TO TELECOMMUNICATIONS ROOM.
6. BACK BOXES AND CONDUIT LOCATIONS IN PRECAST CONCRETE WALLS SHALL BE COORDINATED WITH ARCHITECT, STRUCTURAL ENGINEER, AND GC PRIOR TO ORDERING THE PRECAST WALLS.
7. ROUTING OF CABLES SHALL BE CONCEALED. CABLES SHALL BE ROUTED IN CONDUIT IN EXPOSED AREAS. MINIMIZE AMOUNT OF EXPOSED CONDUIT BY EMBEDDING CONDUIT IN SLAB WHEN POSSIBLE. EMBEDDED CONDUITS AND PENETRATIONS OF STRUCTURE SHALL FOLLOW DETAILS IN STRUCTURAL DRAWINGS. WHEN CONDUITS CAN ONLY BE INSTALLED EXPOSED, NOTIFY ARCHITECT PRIOR TO START OF INSTALLATION OF CONDUITS. CABLES SHALL BE ROUTED IN CONDUIT WHEN ABOVE HARD CEILINGS. CONDUITS FOR ELEVATOR PHONES AND FIRE ALARM CONTROL PANEL SHALL BE CONTINUOUS (HOMERUN) FROM THE TELECOMMUNICATIONS ROOM TO THE APPLICABLE BOX / CABINET. CONTRACTOR SHALL SIZE AND PROVIDE CONDUITS TO MEET TIA-569.
8. TELECOMMUNICATIONS SPACE SHALL BE DEDICATED FOR INFORMATION TECHNOLOGY USE (I.E. NO SHARED SPACE WITH A JANITOR, FIRE ALARM SYSTEM, ETC.) NO SERVICES SHALL PASS THROUGH THE SPACE UNLESS DEDICATED TO THE SPACE (NO PLUMBING, MECHANICAL, ELECTRICAL, FIRE, ETC.)

CALL OUTS

- ENLARGED PLAN CALLOUT
- NOT IN SCOPE

Sheet List - Technology

Sheet Number	Sheet Name	Sheet Order
TN0.00	TECHNOLOGY GENERAL NOTES AND LEGEND	
TN1.01	TECHNOLOGY FLOOR PLAN	
TN2.01	TECHNOLOGY CEILING PLAN	
TN6.01	TECHNOLOGY RISER DIAGRAMS	
TN7.01	TECHNOLOGY DETAILS - 1	
TN7.02	TECHNOLOGY DETAILS - 2	
TN7.03	TECHNOLOGY DETAILS AND WIRING DIAGRAM FOR SIGNALLING SYSTEM	
G3.70	TECHNOLOGY SPECIFICATION	
G3.71	TECHNOLOGY SPECIFICATION	
G3.72	TECHNOLOGY SPECIFICATION	

Grand total: 10

AHJ STAMP APPROVAL

REVISIONS

ISSUED FOR PERMIT

REGISTERED PROFESSIONAL ENGINEER — OMID MOTTAHED No. E-19488 — EXPIRES: 06/30/2024 — ELECTRICAL — STATE OF CALIFORNIA

02/10/2023

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2050003751

LOS ANGELES COUNTY FIRE DEPARTMENT
FIRE STATION 163
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NAC NO	161-21001
DRAWN	Author
CHECKED	Checker
DATE	10/05/2026

TECHNOLOGY GENERAL NOTES AND LEGEND

CD

TN0.00

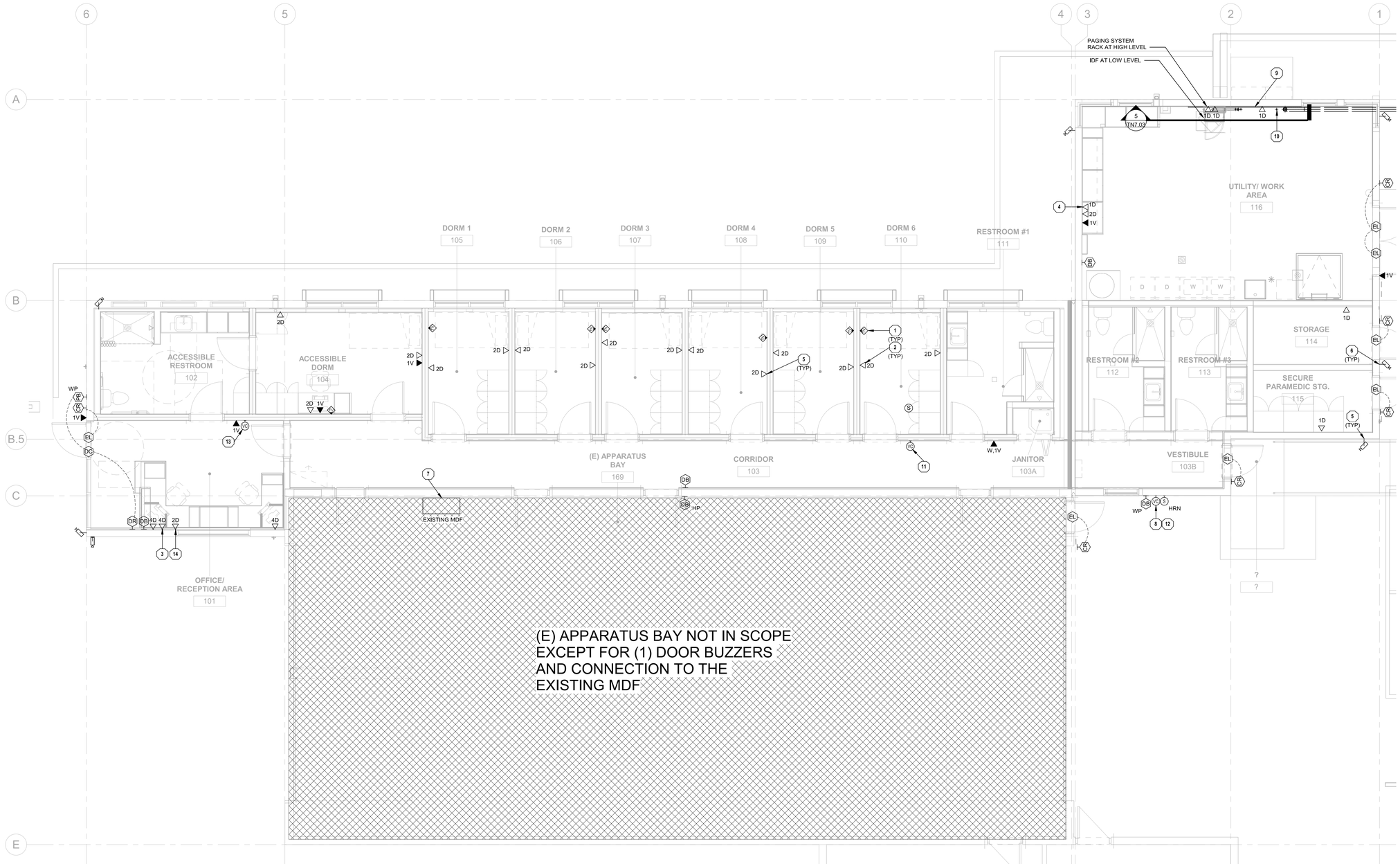
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TECHNOLOGY PLAN NOTES:

1. REFER TO DETAIL 4 ON SHEET TN7.01.
2. REFER TO DETAIL 1 ON SHEET TN7.01.
3. FOR SCU SUPERVISOR COMPUTER .PROVIDE QUAD RJ45 CAT6A DATA OUTLET FOR FIRE STATION SIGNALING SYSTEM WITH (1) GREEN, (1) RED, (1) BLUE AND (1) GREY JACKS AND CABLING AS SHOWN ON SHEET TN7.03 DETAIL 3.
4. FOR 2ND SCU MONITOR. PROVIDE RJ45 CAT6A OUTLET WITH GREEN JACK FOR FIRE STATION SIGNALING SYSTEM
5. PROVIDE LABELING FOR ALL HORIZONTAL COPPER CABLING AT BOTH CABLE ENDS . REFER TO DETAIL 8 ON SHEET TN7.01.
6. BASED ON THE MODEL SUPPLIED BY CLIENT FIELD TERMINATION MIGHT BE REQUIRED FOR WAP AND CAMERAS. REFER TO DETAIL 6 AND 10 ON SHEET TN7.01.
7. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING MDF . REFER TO THE SITE PICTURE OF MDF ON SHEET TN6.01.
8. ON/OFF SWITCH FOR EXTERIOR SPEAKERS. VERIFY EXACT LOCATION WITH FIRE DEPARTMENT
9. UTILITY ROOM BACKBOARD " URB" FOR MOUNTING OF CATV , PAGING EQUIPMENT "WSCU WHITE BOX", SECURITY EQUIPMENT, ALARM LIGHT CONTROL PANEL AND WALL MOUNTING SWIVEL CABINET FOR PATCHING OF DATA FIBER OPTIC CABLING "IDF".
10. PROVIDE (1) 2" CONDUITS WITH COAX CABLING AND (1) WEATHER HEAD FOR TV DISTRIBUTION SYSTEM. REFER TO DETAIL 2 ON SHEET TN7.03.
11. TO CONTROL HALL SPEAKERS ONLY.
12. TO CONTROL EXTERIOR SPEAKER ONLY.
13. TO CONTROL OFFICE SPEAKER ONLY.
14. FOR CALL SYSTEM MONITOR AND PRINTER.



PLAN NORTH TRUE NORTH

1 TECHNOLOGY - LEVEL 1
Scale: 1/4" = 1'-0"

0 2' 4' 6'
SCALE: 1/4"=1'-0"

AHJ STAMP APPROVAL

BIDDING SET

REVISIONS

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DATE	10/05/2026

TECHNOLOGY FLOOR PLAN

CD

TN1.01

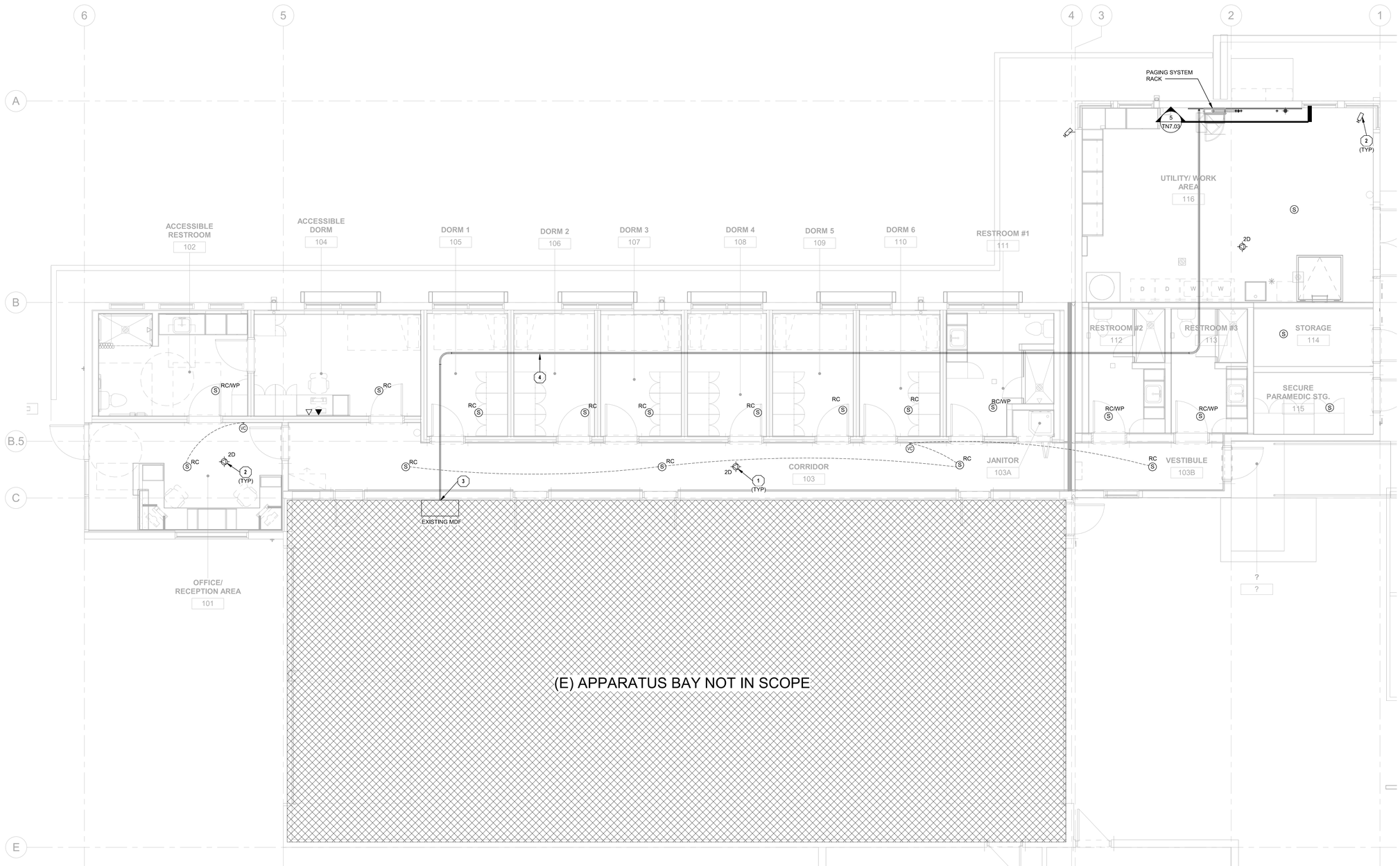
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TECHNOLOGY PLAN NOTES:

1. REFER TO DETAIL 7 ON SHEET TN7.01.
2. BASED ON THE MODEL SUPPLIED BY CLIENT FIELD TERMINATION MIGHT BE REQUIRED FOR WAP AND CAMERAS. REFER TO DETAIL 6 AND 10 ON SHEET TN7.01.
3. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING MDF . REFER TO THE SITE PICTURE OF MDF ON SHEET TN6.01.
4. FIBER CABLE BETWEEN IDF AND EXISTING MDF SHALL RUN INSIDE 1-1/2 EMT CONDUIT . COORDINATE CABLE ROUTING WITH OTHER SERVICES INSTALLED ABOVE CEILING. NO SECTION OF CONDUIT SHALL CONTAIN MORE THAN TWO 90 DEGREE BENDS BETWEEN PULL POINTS. FOR PULL BOX REFER TO DETAIL 2 ON SHEET TN7.02 . THE INSIDE RADIUS OF A BEND IN CONDUIT SHALL BE AT LEAST 6 TIMES THE INTERNAL DIAMETER.



PLAN NORTH TRUE NORTH

1 TECHNOLOGY CEILING PLAN

Scale: 1/4" = 1'-0"

0 2' 4' 6'

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

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DATE	10/05/2026

TECHNOLOGY CEILING PLAN

CD

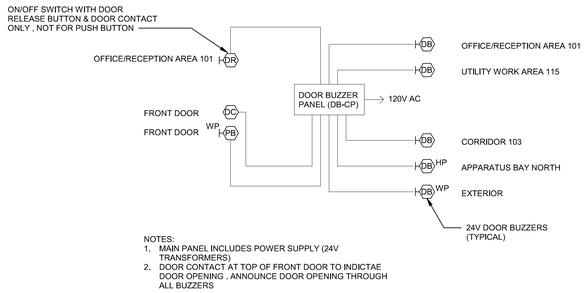
TN2.01

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1 RISER DIAGRAM - BACKBONE CABLES
NTS



3 DOOR BUZZER SYSTEM ONE LINE DIAGRAM
NTS



2 PICTURE OF EXISTING MDF
NTS

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TECHNOLOGY RISER DIAGRAMS

CD

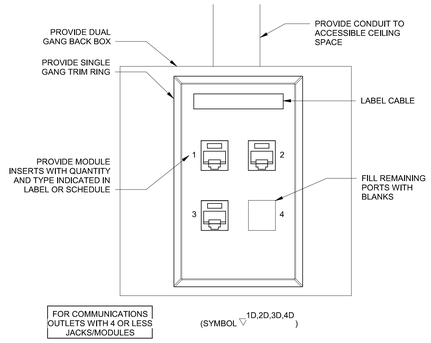
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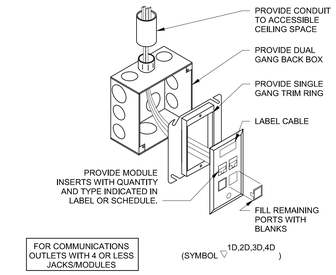
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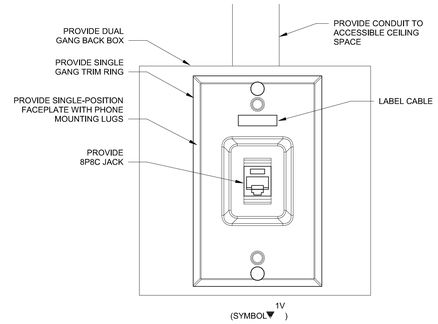
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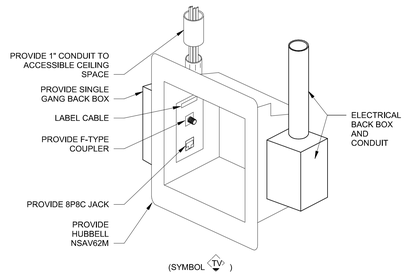
1 SINGLE , DUPLEX, TRIPLEX, QUAD GANG COMM OUTLET
NTS



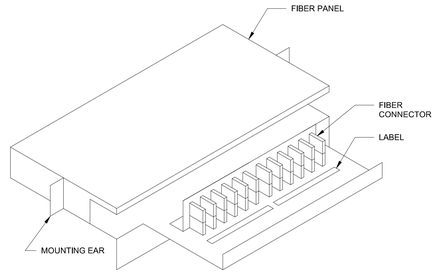
2 SINGLE GANG COMM OUTLET (3D)
NTS



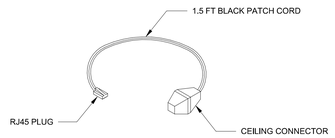
3 WALL PHONE OUTLET (2D)
NTS



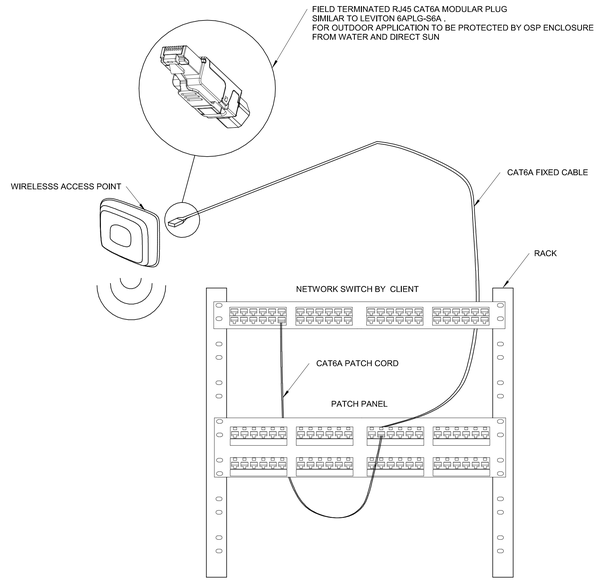
4 HUBBLE NSAV62M COMM OUTLET FOR DISPLAY
NTS



5 FIBER PANEL
NTS



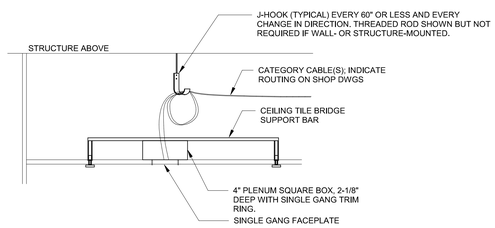
6 ACCESS POINT CONNECTOR ASSEMBLY
NTS



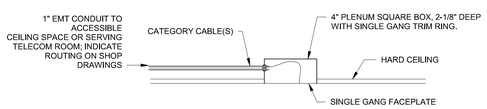
NOTE :
MODULAR PLUG TERMINATION LINK FOR REMOTE DEVICES (WAP, CAMERAS , ETC.) TO BE TESTED ACCORDING TO ANSI-TIA568.2-D ANNEX F , LINK SHALL NOT EXCEED 295 FEET.

10 FIELD TERMINATION FOR WAP AND CAMERAS
NTS

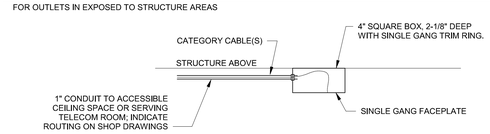
FOR OUTLETS IN SUSPENDED CEILING TILES (ACCESIBLE CEILING ONLY)



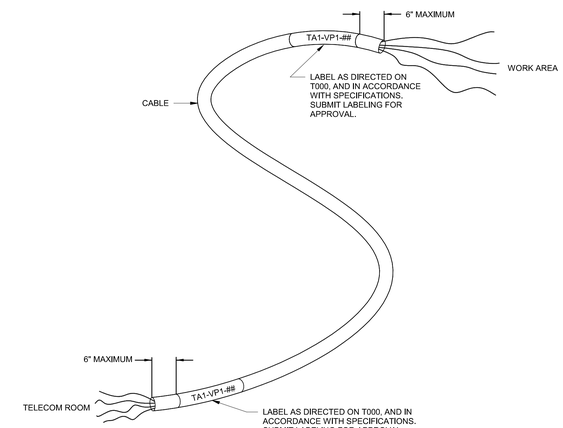
FOR OUTLETS IN GYPSUM BOARD CEILINGS



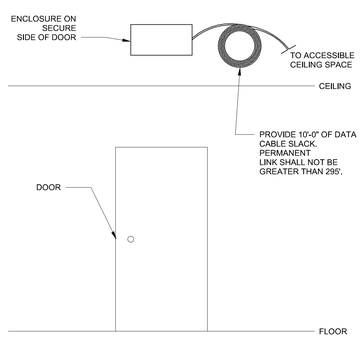
FOR OUTLETS IN EXPOSED TO STRUCTURE AREAS



7 CEILING COMM OUTLET 2D
NTS



8 LABELING OF HORIZONTAL CABLE
NTS



9 POWER OVER ETHERNET FOR ACCESS CONTRL SYSTEM
NTS

AHJ STAMP APPROVAL

REVISIONS

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TECHNOLOGY DETAILS - 1

CD

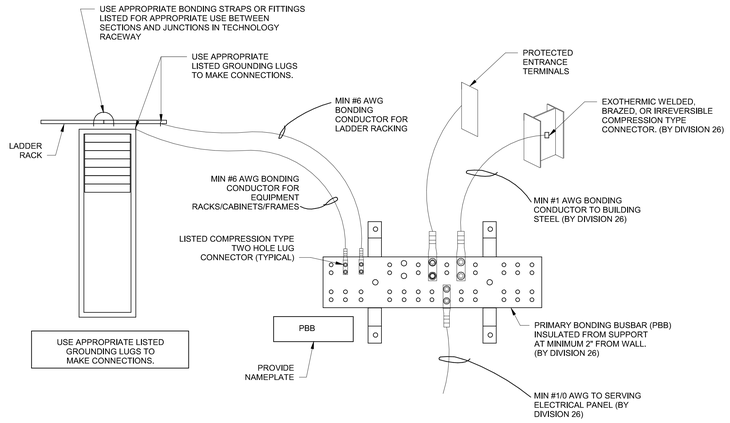
TN7.01

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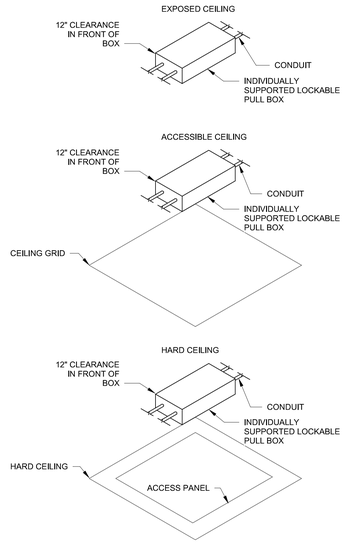
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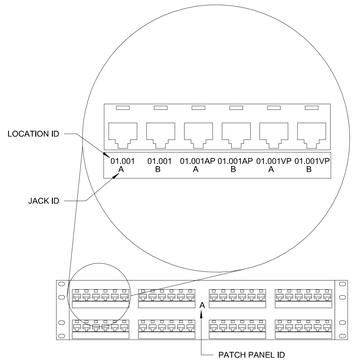
BIDDING SET



1 PBB CONNECTIONS DIAGRAM
NTS



2 PULL BOX
NTS



3 TYPICAL PATCH PANEL LABELING DETAIL
NTS

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TECHNOLOGY DETAILS - 2

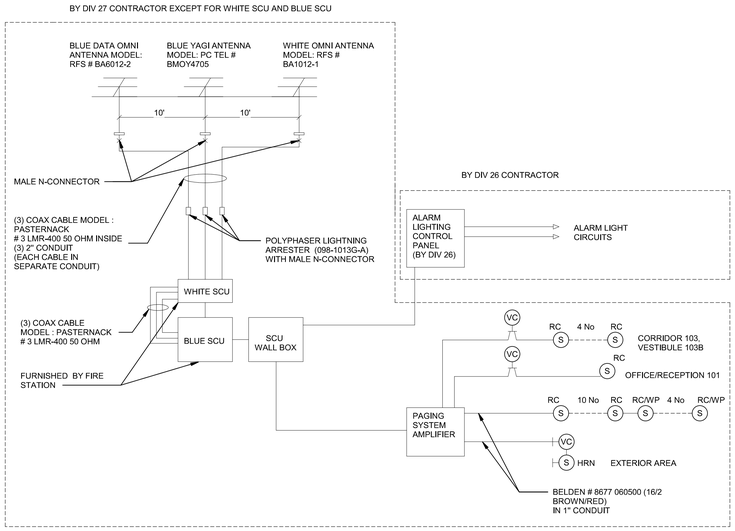
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TN7.02

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VC — ON/OFF SPEAKER SWITCH, STAINLESSSTEEL FINISH , WEATHER RESISTANT

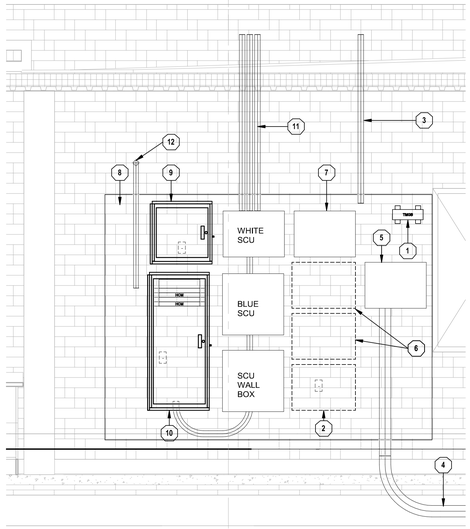
BLUE SCU : SIGNALLING SYSTEM CONTROL UNIT SENIOR (UHF)
WHITE SCU : SIGNALLING SYSTEM CONTROL UNIT JUNIOR (VHF)
SCU WALL BOX : SIGNALLING SYSTEM TERMINAL WALL BOX

RC — S — SPEAKER MODEL # S86T725PG8VVK

RC/WP — S — DITTO AS ABOVE BUT SUITABLE FOR WET LOCATION

HRN — S — 70VAC HORN SPEAKER MODEL # SPT5A

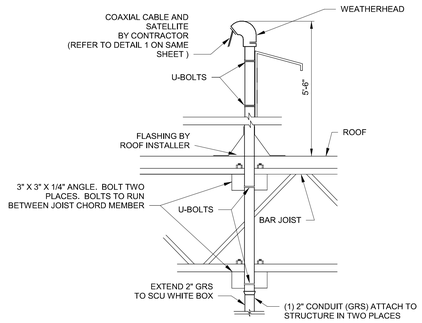
1 SIGNALLING SYSTEM SCOPE OF WORK
NTS



PLAN NORTH TRUE NORTH

5 NORTH ELEVATION
Scale: 1/2" = 1'-0"

0 1' 2' 3'
SCALE: 1/2"=1'-0"



1. GALVINISED STEEL PIPE LENGTH TO BE MINIMUM 4' ABOVE FINISH ROOF FLOOR , INSTALLED ON SIDE OF ROOF NOT VISIBLE FROM STREET
2. OBTAIN FIRE STATION APPROVAL ON THE PROPOSED LOCATION PRIOR TO INSTALL.

2 ROOF WEATHERHEAD DETAIL
NTS

TECHNOLOGY PLAN NOTES:

1 PROVIDE TELECOMMUNICATIONS PRIMARY BONDING BUS BAR (PBB) MOUNTED AT 7'-0" AFF. REFER TO DETAIL 1 ON SHEET TN7.02 AND TELECOMMUNICATIONS DIVISION 27 SPECIFICATIONS FOR FURTHER DETAILS.

2 SPACE RESERVED FOR NVR FURNISHED AND INSTALLED BY CLIENT.

3 PROVIDE (1) 2" CONDUITS WITH COAX CABLING AND (1) WEATHER HEAD FOR TV DISTRIBUTION SYSTEM. REFER TO DETAIL 2 ON SHEET TN7.03.

4 PROVIDE (2) 4" UNDERGROUND CONDUITS FOR ISP FIBER OPTIC CABLE BY INTERNET SERVICE PROVIDER.

5 SPACE RESERVED FOR INTERNET SERVICE AND TV' PROVIDER EQUIPMENT, COAXIAL CABLING/CONDUITS TO STUB IN THIS LOCATION.

6 SPACE RESERVED FOR ACCESS CONTROL FURNISHED AND INSTALLED BY CLIENT.

7 DOOR BUZZER SYSTEM CONTROL PANEL BY DIV 27 CONTRACTOR.

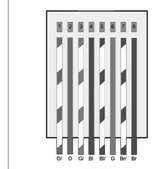
8 PROVIDE TELECOMMUNICATIONS BACKBOARD. GRADE A/C 3/4" PLYWOOD BACKBOARD FIRE RATED (UNPAINTED) STARTING AT 4" AFF AND EXTEND UPWARDS 8'-0" ON ALL WALLS AS INDICATED ON DRAWINGS. THE A SIDE SHALL BE EXPOSED TO THE INTERIOR OF THE ROOM AND THE C SIDE PLACED AGAINST THE BUILDING STRUCTURE. SEE TELECOMMUNICATIONS SPECS FOR FURTHER DETAILS.

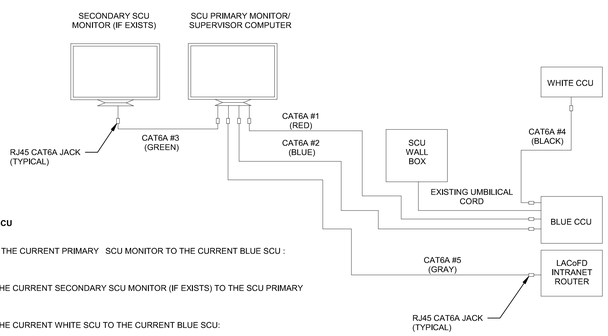
9 PROVIDE PAGING SYSTEM RACK , WALL MOUNTED : SWING WALL RACK , AMPLIFIERS, POWER SUPPLY AND INTERFACE WITH FIRE STATION SIGNALING SYSTEM.

10 PROVIDE WALL MOUNTED IDF : SWING WALL RACK , CAT6A PATCH PANELS, VERTICAL CABLE MANAGERS AND FIBER PATCH PANEL. FOR FIBER PANEL REFER TO DETAIL 5 ON SHEET TN7.01 . PROVIDE LABELING , REFER TO DETAIL 3 ON SHEET TN7.02.

11 PROVIDE (3) 2" CONDUITS WITH COAX CABLING AND (3) WEATHER HEADS, REFER TO DETAIL 1 & 2 ON SHEET TN7.03.

12 FIBER CABLE BETWEEN IDF AND EXISTING MDF SHALL RUN INSIDE 1-1/2 EMT CONDUIT . COORDINATE CABLE ROUTING WITH OTHER SERVICES INSTALLED ABOVE CEILING. NO SECTION OF CONDUIT SHALL CONTAIN MORE THAN TWO 90 DEGREE BENDS BETWEEN PULL POINTS, FOR PULL BOX REFER TO DETAIL 2 ON SHEET TN7.02 . THE INSIDE RADIUS OF A BEND IN CONDUIT SHALL BE AT LEAST 6 TIMES THE INTERNAL DIAMETER.





CABLE INSTALLTION FOR NEW SCU

A. TWO CAT6A RUNS FROM THE CURRENT PRIMARY SCU MONITOR TO THE CURRENT BLUE SCU :
1) CAT6A #1 (RED)
2) CAT6A #2 (BLUE).

B. ONE CAT6A RUN FROM THE CURRENT SECONDARY SCU MONITOR (IF EXISTS) TO THE SCU PRIMARY MONITOR:
3) CAT6A #3 (GREEN)

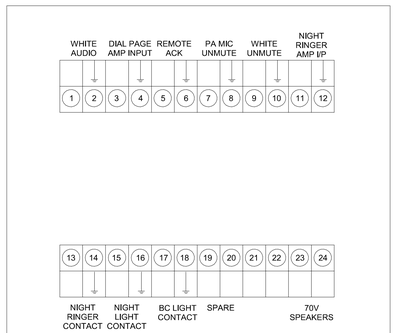
C. ONE CAT6A RUN FROM THE CURRENT WHITE SCU TO THE CURRENT BLUE SCU:
4) CAT6A #4 (BLACK)

D. ONE CAT6A RUN FROM CURRENT PRIMARY MONITOR TO THE LACoFD INTRANET ROUTER :
5) CAT6A #5 (GRAY)

E. TERMINATE ALL CAT6A RUNS WITH RJ45 CONNECTOR IN T568B WIRING FORMAT.

F. LEAVE 5 FT SLACK EACH SIDE AND WRAP EACH CABLE END WITH RED TAPE.

3 SIGNALLING SYSTEM WIRING DIAGRAM
NTS



24" X 24" X 6" STEEL, FLUSH WALL MOUNTED BOX WITH 24" X 24" WOODEN BOARD INSIDE

4 SIGNALLING SYSTEM TERMINAL CABINET (SCU WALL BOX)
NTS

DATA DROPS PER IDF

DEVICE TYPE	NUMBER OF CAT6A (BLUE COLOR)	NUMBER OF CAT6A (WHITE COLOR)	Count
Device - Ceiling - Distributed AV: Clock, Analog Dual Sided	0	0	1
Device - Ceiling - Distributed AV: Paging, Speaker, Recessed Can	0	0	15
Device - Ceiling - Distributed AV: Paging, Speaker, Recessed Can Wet Proof	0	0	4
Device - Wall - Distributed AV: Paging, Horn Speaker, Recessed	0	0	1
Device - Wall - Distributed AV: Paging, Volume Control	0	0	3
	0	0	24
Device - Ceiling - Data: 2D	0	6	3
Device - Hospital Rough-in: Television Outlet, Wall, High	7	0	7
Device - Wall - Data: 1D	6	0	6
Device - Wall - Data: 1V	6	0	6
Device - Wall - Data: 1V, Wall Phone, Analog	1	0	1
Device - Wall - Data: 2D	34	0	17
Device - Wall - Data: 4D	12	0	3
IDF	66	6	43

AHJ STAMP APPROVAL

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CHECKED Checker
DATE 10/05/2026

TECHNOLOGY DETAILS AND WIRING DIAGRAM FOR SIGNALLING SYSTEM

CD

TN7.03

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OMID M. MOTTAHED