MOUNT DIABLO UNIFIED SCHOOL DISTRICT
TECHNOLOGY INFRASTRUCTURE UPGRADE AT
WILLOW CREEK CENTER

12-16-2024

CONSTRUCTION DOCUMENT

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AGENCY APPROVAL

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PROFESSIONAL STAMP

REVISIONS

# NO.	DATE	DESCRIPTION

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.

PROJECT OWNER & TITLE

MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

COVER SHEET

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

G-000

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

ABBREVIATIONS:

REVISED: 09/20/2023

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANN	ANNUNCIATOR
AP	ACCESS POINT
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSTRUCTION SERVICE INTERNATIONAL
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CAT	CATEGORY
CATV	CABLE TELEVISION
CD	CANDELA
CFCI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CL	CENTER LINE
CO	CARBON MONOXIDE
DN	DOWN
(E)	EXISTING
EMT	ELECTRICAL METALLIC TUBING
EOL	END OF LINE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FTC	FIRE TERMINAL CABINET
GRC	GALVANIZED RIGID CONDUIT
G OR GB	GROUND BOX
IACP	INTRUSION ALARM CONTROL PANEL
IDF	INTERMEDIATE DISTRIBUTION FRAME
IMC	INTERMEDIATE METAL CONDUIT
J OR JB	JUNCTION BOX
MEP	MECHANICAL / ELECTRICAL / PLUMBING
MDF	MAIN DISTRIBUTION FRAME
MPOE	MINIMUM PONT OF ENTRY
(N)	NEW
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
OFE	OWNER FURNISHED EQUIPMENT
OFCI	OWNER FURNISHED/CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED/OWNER INSTALLED
OSP	OUTSIDE PLANT
PVC	POLYVINYL CHLORIDE
RCDD	REGISTERED COMMUNICATION DISTRIBUTION DESIGNER
RCWY	RACEWAY
RM	ROOM
SR	SURFACE RACEWAY
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRIGHTERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
W	WATT
WP	WEATHERPROOF

TECHNOLOGY SHEET INDEX:

SHEET	DESCRIPTION
T-000	TECHNOLOGY INFRASTRUCTURE COVER SHEET
T-010	TECHNOLOGY INFRASTRUCTURE SITE PLAN DEMO
T-020	TECHNOLOGY INFRASTRUCTURE FLOOR PLANS DEMO
T-021	TECHNOLOGY INFRASTRUCTURE FLOOR PLANS DEMO
T-022	TECHNOLOGY INFRASTRUCTURE FLOOR PLANS DEMO
T-100	TECHNOLOGY INFRASTRUCTURE SITE PLAN NEW
T-101	TECHNOLOGY INFRASTRUCTURE SITE PLAN - EXTERIOR INTERCOM SPEAKERS
T-102	TECHNOLOGY INFRASTRUCTURE SITE PLAN - EXTERIOR CCTV
T-200	TECHNOLOGY INFRASTRUCTURE FLOOR PLANS NEW
T-201	TECHNOLOGY INFRASTRUCTURE RCP NEW
T-202	TECHNOLOGY INFRASTRUCTURE FLOOR PLANS NEW
T-203	TECHNOLOGY INFRASTRUCTURE RCP NEW
T-204	TECHNOLOGY INFRASTRUCTURE FLOOR PLANS NEW
T-205	TECHNOLOGY INFRASTRUCTURE RCP NEW
T-700	TECHNOLOGY INFRASTRUCTURE SINGLE LINES
T-701	TECHNOLOGY INFRASTRUCTURE SINGLE LINES
T-800	TECHNOLOGY INFRASTRUCTURE DETAILS
T-801	TECHNOLOGY INFRASTRUCTURE DETAILS
T-802	TECHNOLOGY INFRASTRUCTURE DETAILS

PROJECT PHASING AND MILESTONES:

1. THE FOLLOWING REPRESENTS A GENERAL OVERVIEW OF THE PROJECT PHASING REQUIREMENTS AND ORDERING OF OPERATIONS REQUIRED TO ACHIEVE THE REQUIRED PROJECT OUTCOMES. THE DETAILED PROJECT SCHEDULE WILL BE DEVELOPED BY THE CONTRACTOR IN ACCORDANCE WITH THE DIVISION 01 REQUIREMENTS.
2. THE CONTRACTOR WILL BUILD OUT THE (N) MDF AND IDF LOCATIONS (WITH THE EXCEPTION OF IDF 1.06), AND INSTALL THE (N) BACKBONE PATHWAY, FIBER, AND ELECTRICAL. THE FIBER SHALL BE FULLY TERMINATED AND CERTIFIED PRIOR TO PROCEEDING.
3. THE CONTRACTOR WILL INSTALL THE (N) CORE SWITCH IN THE (N) MDF AND RELOCATE THE SERVICE PROVIDER EQUIPMENT TO THE (N) MDF. THE CONTRACTOR WILL PROVIDE A TEMPORARY FIBER LINK FROM THE (N) CORE SWITCH TO THE (E) CORE SWITCH, TO SERVE THE CAMPUS DURING THE REMAINDER OF CONSTRUCTION.
4. THE CONTRACTOR WILL INSTALL THE (N) IDF SWITCHES IN THE (N) IDFS. FIBER LINKS AND DATA CONNECTIVITY TO ALL OF THE NEW SWITCHES WILL BE VERIFIED BY THE DISTRICT REPRESENTATIVE.
5. THE CONTRACTOR WILL INSTALL NEW INTERIOR PATHWAY AND ROUGH IN THE NEW CABLING. EXISTING DATA DROPS AND ANALOG PHONES IN USE MUST BE MAINTAINED OPERATIONAL UNTIL CUTOVER.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT SWITCH PORT LAYOUTS IN ADVANCE OF CUTOVER, TO FACILITATE PRE-PROGRAMMING OF THE SWITCHES BY THE DISTRICT.
7. NEW DATA CABLING SHALL BE FULLY TERMINATED, LABELED, DRESSED, AND CERTIFIED PRIOR TO CUTOVER.
8. CUTOVERS SHALL OCCUR ON A ROOM BY ROOM OR IDF BY IDF BASIS. CUTOVERS WILL BE SCHEDULED IN ADVANCE AND ONLY WILL ONLY PROCEED WITH THE APPROVAL OF THE DISTRICT REPRESENTATIVE. CUTOVERS WILL TAKE PLACE EXCLUSIVELY AFTER HOURS, WEEKENDS, HOLIDAYS, OR WHEN THE SITE IS NOT BEING UTILIZED. CUTOVER INCREMENTS SHALL BE PLANNED SO THAT THE CUTOVER AREA WILL BE FULLY OPERATIONAL FOR THE NEXT BUSINESS DAY.
9. THE CONTRACTOR SHALL INSTALL (N) OWNER-FURNISHED IP PHONES AT ALL (E) ANALOG PHONE LOCATIONS DURING CUTOVER. WHERE PHONES ARE CURRENTLY WALL MOUNTED, THEY SHALL BE PLACED ON THE INSTRUCTOR'S DESK.
10. THE IDF 1.06 AREA (P1, P2) WILL REQUIRE A SPECIALIZED CUTOVER STRATEGY. THE (E) FIBER WILL HAVE TO BE REMOVED AT THE SAME TIME THE (N) FIBER IS PULLED IN. CUTOVER FOR THIS AREA WILL NEED TO BE SCHEDULED OVER A WEEKEND OR OTHER TIME APPROVED BY THE DISTRICT.

TECHNOLOGY SYMBOL LEGEND:

ALL EQUIPMENT AND MATERIALS ARE CONTRACTOR FURNISHED, INSTALLED AND CONFIGURED (UNO)

SYMBOL	DESCRIPTION	MFG/MODEL	PART NUMBER	NOTES / DETAIL REFERENCES
R	DATA RACK	PANDUIT	SEE 27 10 00	SEE SINGLE LINE (2 T-800) (4 T-800)
G	GROUND BOX	EXISTING	EXISTING	N/A
J	JUNCTION BOX	COMMERCIAL GENERIC	N/A	GREY = EXISTING
	UNDERGROUND CONDUIT	EXISTING	EXISTING	N/A
	CONDUIT (EMT & GRC)	COMMERCIAL GENERIC	N/A	GREY = EXISTING (8 T-800) (9 T-800)
E	CONDUIT STUB	COMMERCIAL GENERIC	N/A	GREY = EXISTING (7 T-800)
2300	SURFACE RACEWAY	WIREMOLD	WM2300	N/A (1 T-801)
	J-HOOK (SINGLE/STACKED)	SEE SPECS	SEE SPEC	N/A (3 T-800)
5400	SURFACE RACEWAY	WIREMOLD	WM5400	GREY = (E) (1 T-801)
5500	SURFACE RACEWAY	WIREMOLD	WM5500	GREY = (E) (1 T-801)
	DATA POLE	LEGRAND	30TC-4**V	**=HEIGHT AS REQ'D (13 T-801)
#	DATA PERMANENT LINK, CAT6A JACK / CABLE # = QTY., NO # = 1	PANDUIT	SEE 27 10 00	N/A (8 T-801)
AP	DATA LOCATION, CAT6A JACK/CABLE, CEILING, QTY-2	PANDUIT	SEE 27 10 00	N/A
	INTERIOR WIRELESS ACCESS POINT	ARUBA	OFCI	OFCI
	MOUNT (T-BAR)	ARUBA	S0J40A	N/A (4 T-801) (6 T-801)
	MOUNT (BEAM)	OBERON	1006-ARAP635	N/A (9 T-801)
W	DATA LOCATION, CAT6A JACK / CABLE	PANDUIT	SEE 27 10 00	+48 AFF, PHONE PLATE (10 T-800)
	PHONE HANDSET EQUIPMENT	POLY	OFCI	OFCI
	WALL MOUNT FOR PHONE HANDSET	POLY	OFCI	OFCI
	CAT6A DATA DROP LOCATION (QTY = 1) - NETWORK CAMERA	PANDUIT	SEE 27 15 00	N/A
	NETWORK CAMERA	AXIS	OFCI	OFCI (10 T-801) (14 T-801)
	MOUNT	AXIS	SEE 28 20 00	N/A
	CAT6A DATA DROP LOCATION (QTY = 1) - NETWORK CAMERA	PANDUIT	SEE 27 15 00	N/A (5 T-800)
	NETWORK CAMERA	AXIS	OFCI	OFCI (10 T-801)
	MOUNT	AXIS	SEE 28 20 00	N/A
	MULTI-SENSOR EXTERIOR NETWORK CAMERA (2-SENSOR)	PANDUIT	SEE 27 15 00	N/A (5 T-800)
	NETWORK CAMERA	AXIS	OFCI	OFCI (13 T-801)
	MOUNT	AXIS	SEE 28 20 00	N/A
NVR	NETWORK VIDEO RECORDER	EXISTING	EXISTING	N/A
STC	SIGNAL TERMINAL CABINET	EXISTING	EXISTING	N/A
TGB	GROUND BUS BAR	PANDUIT	SEE 27 10 00	N/A (11 T-801) (12 T-801)
CD	CAT6A DATA DROP LOCATION (QTY = 1) - IP CLOCK/SPEAKER/IP MODULE COMBO BOX	BOGEN	SEE SHEET T701	N/A (7 T-801)
WP	CAT6A DATA DROP LOCATION - EXTERIOR INTERCOM SPEAKER/IP MODULE	BOGEN	SEE SHEET T701	N/A (6 T-800)
TEL	PHONE HANDSET EQUIPMENT	POLY	OFCI	OFCI
IACP	INTRUSION ALARM CONTROL PANEL	EXISTING	EXISTING	N/A
FACP	FIRE ALARM CONTROL PANEL	EXISTING	EXISTING	N/A
NQ-CON	INTERCOM CONSOLE	BOGEN	SEE SHEET T701	N/A
MPOE	MINIMUM POINT OF ENTRY	EXISTING	EXISTING	N/A
	LADDER RACK	CHATSWORTH PRODUCTS	11275-712	(11 T-800) (12 T-800) (13 T-800) (14 T-800) (15 T-800) (16 T-800)

TECHNOLOGY SCOPE OF WORK:

1. THE CONTRACTOR SHALL FULLY RE-CABLE THE DATA NETWORK, COPPER AND FIBER, UTILIZING A COMBINATION OF NEW AND EXISTING PATHWAY.
2. THE CONTRACTOR WILL ESTABLISH (N) MDF AND IDF LOCATIONS AS INDICATED ON THE PLANS, INCLUDING THE INSTALLATION OF DATA RACKS, PATHWAY.
3. THE CONTRACTOR SHALL PROVIDE (N) DEDICATED ELECTRICAL CIRCUITS AS NOTED TO SUPPORT THE NEW DATA NETWORK INFRASTRUCTURE. ALL ELECTRICAL MODIFICATIONS SHALL BE PERFORMED BY A LICENSED C10 ELECTRICIAN. THE CONTRACTOR SHALL REVIEW THE ADEQUACY OF THE EXISTING ELECTRICAL INFRASTRUCTURE PRIOR TO BID.
4. THE CONTRACTOR SHALL PROVIDE A (N) BOGEN NYQUIST INTERCOM SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
5. SYSTEMS ON THIS PROJECT REQUIRE CERTIFIED INSTALLERS. CONTRACTOR SHALL COMPLY WITH ALL CERTIFICATION REQUIREMENTS AS A CONDITION OF BID.
6. ALL EQUIPMENT SHALL BE NEW AND CONTRACTOR FURNISHED, UNO.
7. THE CONTRACTOR SHALL INSTALL CERTAIN OWNER-FURNISHED EQUIPMENT, AS NOTED.
8. AFTER CUTOVER TO NEW SYSTEMS, THE CONTRACTOR SHALL REMOVE OLD OR ABANDONED DATA NETWORK, AUDIOVISUAL, ANALOG TELEPHONE, ANALOG INTERCOM, ANALOG CLOCK, AND COAX CABLING AND DEVICES AS NOTED.
9. THE PROJECT WILL REQUIRE SWING AND/OR GRAVEYARD AND/OR WEEKEND AND/OR HOLIDAY WORK SCHEDULES IN ORDER TO MEET THE PROJECT REQUIREMENTS AND MINIMIZE DISRUPTION TO THE ACTIVE USE OF THE SITE. THE CONTRACTOR SHALL FULLY REVIEW THE PROJECT SCHEDULE AND PHASING PLAN PRIOR TO BID.
10. THE CONTRACTOR SHALL CAREFULLY COORDINATE CUTOVERS AND ACTIVATION/COMMISSIONING OF NEW SYSTEMS WITH THE DISTRICT REPRESENTATIVE.

ANCHORAGE AND BRACING NOTES:

APPLICABLE CODE: 2022 CBC REVISED: 03/19/2024

MEP COMPONENT ANCHORAGE NOTE:

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 THRU 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVEABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVEABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENTS.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

PIPING, DUCTWORK AND ELECTRICAL SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTIONS 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5,13.6.6, 13.6.7, 13.6.8 AND 2019 CBC SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTIONS SYSTEM ARE A NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPES (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☐ E ☒ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #)

PAINT SCOPE OF WORK:

1. CONTRACTOR SHALL PATCH AND PAINT ALL WALL AND CEILING SURFACES DISTURBED OR EXPOSED AS A RESULT OF DEMO TO MATCH THE ADJACENT EXISTING SURFACE.
2. CONTRACTOR SHALL CLEAN, PRIME, AND PAINT ALL (N) CONDUIT AND J-BOXES, AND OTHER UNFINISHED METALWORK. WHERE CONDUIT RUNS AGAINST FINISHED WALL, IT SHALL BE PAINTED TO MATCH THE ADJACENT WALL SURFACE. WHERE CONDUIT RUNS ALONG EXPOSED WOODWORK/BEAMS (NON-PAINTED), IT SHALL BE PAINTED TO THE SITE STANDARD EXPOSED METALWORK COLOR. ALL (N) CONDUIT WILL BE PAINTED REGARDLESS OF LOCATION.
3. CONTRACTOR SHALL COORDINATE WITH DISTRICT REPRESENTATIVE FOR PAINT COLORS AND SPECIFICATIONS.

PROJECT CODES AND STANDARDS

PARTIAL LIST OF APPLICABLE CODES AND STANDARDS EFFECTIVE JANUARY 1, 2022:
2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), CCR, TITLE 24, PART 1
2022 CALIFORNIA BUILDING CODE (CBC), CCR, TITLE 24, PART 2 (2018 INTERNATIONAL BUILDING CODE WITH CALIFORNIA AMENDMENTS)
2022 CALIFORNIA ELECTRICAL CODE (CEC), CCR, TITLE 24, PART 3 (2017 NATIONAL ELECTRICAL CODE WITH CALIFORNIA AMENDMENTS)
2022 CALIFORNIA MECHANICAL CODE (CMC), CCR, TITLE 24, PART 4 (2018 UNIFORM MECHANICAL CODE, WITH CALIFORNIA AMENDMENTS)
2022 CALIFORNIA PLUMBING CODE (CPC), CCR, TITLE 24, PART 5 (2018 UNIFORM PLUMBING CODE, WITH CALIFORNIA AMENDMENTS)
2022 CALIFORNIA ENERGY CODE, CCR, TITLE 24, PART 6
2022 CALIFORNIA FIRE CODE (CFC), CCR, TITLE 24, PART 9 (2018 INTERNATIONAL FIRE CODE WITH CALIFORNIA AMENDMENTS)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, CCR, TITLE 24, PART 11
2022 CALIFORNIA REFERENCED STANDARDS CODE, CCR, TITLE 24, PART 12
2022 NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE, NATIONAL FIRE PROTECTION ASSOCIATION

PROJECT NOTES:

PRODUCT ORDERING
1. ANY PRODUCTS WITH LONG LEAD TIMES SHALL BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION.
2. PRODUCT ORDERING SHALL ONLY OCCUR AFTER APPROVED PRODUCT SUBMITTALS, APPROVED SUBSTITUTION REQUEST (IF ANY) AND APPROVED SHOP DRAWINGS.

INSTALLATION
1. ANY DISCREPANCIES BETWEEN THE DESIGN DOCUMENTS AND GOVERNING CODE / STANDARDS SHALL BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION.
2. A STAMPED SET OF APPROVED DESIGN DOCUMENTS AND SHOP DRAWINGS SHALL BE ONSITE AT ALL TIMES.
3. CONTRACTOR SHALL CONSTANTLY MAINTAIN ONSITE REDLINE DRAWINGS AND BE AVAILABLE FOR INSPECTION BY THE INSPECTOR OF RECORD.
4. ANY PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRE MATERIALS / EQUIPMENT APPROVED TO MAINTAIN THE RATING OF THE ASSEMBLY.
5. ALL WIRING SHALL BE CONNECTED TO DEVICES, NO SPLICING IS ALLOWED.
6. ALL LOW-VOLTAGE CABLING SHALL BE IN CONDUIT, RACEWAY OR OPEN AIR ON J-HOOKS / CABLE TRAY FOR ABOVE CEILINGS.
7. POWER FOR LOW-VOLTAGE SYSTEMS TO BE DEDICATED TO EACH SYSTEM AND WORK TO BE PERFORMED BY A LICENSED ELECTRICIAN.
8. LOW VOLTAGE EQUIPMENT, CABINETS AND ACCESSORIES TO BE MOUNTED PER MANUFACTURER'S INSTRUCTIONS. NO SINGLE DEVICE SHALL EXCEED 20 POUNDS IN WEIGHT WITHOUT SPECIAL MOUNTING DETAILS.
9. CONTRACTOR SHALL REQUEST A PUNCH WALK INSPECTION 10 WORKING DAYS PRIOR TO FINAL INSPECTION.
10. PRIOR TO FINAL INSPECTION CONTRACTOR SHALL PROVIDE PRINTED REDLINES FOR USE BY THE INSPECTORS.
11. AT THE FINAL INSPECTION THE CONTRACTOR SHALL PROVIDE A SATISFACTORY TEST OF THE ENTIRE SYSTEM(S) IN PRESENCE OF THE DESIGNER/ENGINEER, INSPECTOR OF RECORD, THE OWNER OR THE OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL PROVIDE OWNER WITH SYSTEM OPERATION TRAINING.

CONTRACTOR FURNISHED DOCUMENTS:

SEE SECTION 27 00 00 FOR MORE INFORMATION / REQUIREMENTS

PRODUCT SUBMITTALS
1. SUBMIT PRODUCT MATERIALS SUBMITTALS PER 27 00 00 REQUIREMENTS
2. ANY PROPOSED ALTERNATIVE PRODUCTS REQUIRE A WRITTEN PRODUCT SUBSTITUTION REQUEST.

SHOP DRAWINGS
1. SUBMIT SHOP DRAWINGS PER 27 00 00 REQUIREMENTS
2. SHOP DRAWINGS ARE REQUIRED FOR MDF/IDF DATA RACK LAYOUTS, MDF/IDF WALL ELEVATIONS, AUDIO-VISUAL SYSTEMS AND INTERCOM SYSTEMS.
3. DESIGN DOCUMENTS ARE AS ACCURATE AS POSSIBLE, BUT SHALL BE CONSIDERED AS DIAGRAMMATIC.
4. SHOP DRAWINGS SHALL PRESENT A LEVEL OF DETAIL FOR A COMPLETE, BUILDABLE AND OPERABLE SYSTEM.
5. SHOP DRAWINGS ALLOW THE CONTRACTOR TO MAKE CORRECTIONS FOR ERRORS/OMISSIONS IN DESIGN DOCUMENTS.
6. IN CASE OF DOUBT OF WORK INTENDED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REQUEST INSTRUCTIONS FROM THE PROJECT MANAGER.
7. APPROVED SHOP DRAWINGS ARE REQUIRED PRIOR TO START OF WORK. ANY WORK STARTED PRIOR TO SHOP DRAWING APPROVAL SHALL BE AT CONTRACTOR'S OWN RISK.
8. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE AND OPERABLE SYSTEM AND ANY COMPONENT(S) NEEDED FOR A COMPLETE AND OPERABLE SYSTEM AFTER SHOP DRAWING APPROVAL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

CONTRACTOR CERTIFICATION
1. STRUCTURED DATA CABLING AND INTERCOM SYSTEMS REQUIRE CERTIFIED INSTALLERS. CONTRACTOR TO PROVIDE CERTIFICATIONS PRIOR TO START OF WORK.
2. CONTRACTOR SHALL ONLY PROVIDE WORK FOR SYSTEMS THAT THEY POSSESS CURRENT AND VALID CERTIFICATIONS.

CLOSEOUT DOCUMENTS
1. DOCUMENTS PER 27 00 00 REQUIREMENTS
2. UPDATED PRINTED AS-BUILT DRAWINGS
3. TYPED RECORD OF COMPLETION

PRE-CON MEETING REQUIREMENTS:

1. PRIOR TO BEGINNING ANY SITE WORK, INCLUDING DEMO, AN ON-SITE PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE LOW VOLTAGE DESIGNER. ANY SITE WORK COMMENCED PRIOR TO THIS MEETING SHALL BE AT THE CONTRACTOR'S SOLE RISK.

JOB SPECIFIC STANDARDS FOR LOW VOLTAGE:

SEE SPECIFICATIONS DIVISION 27 AND 28 FOR COMPLETE REQUIREMENTS.

1. CONDUIT BODIES, CONDULETS, PULLING ELBOWS, AND/OR "LB" FITTINGS ARE PROHIBITED IN ANY PATHWAY CONTAINING DATA CABLING (COPPER OR FIBER).
2. SINGLE HOLE CONDUIT STRAPS ARE PROHIBITED.
3. ALL WIRE AND CABLE PASSING THROUGH METALWORK SHALL BE SLEEVED WITH AN APPROPRIATE GROMMET OR BUSHING.

AGENCY APPROVAL

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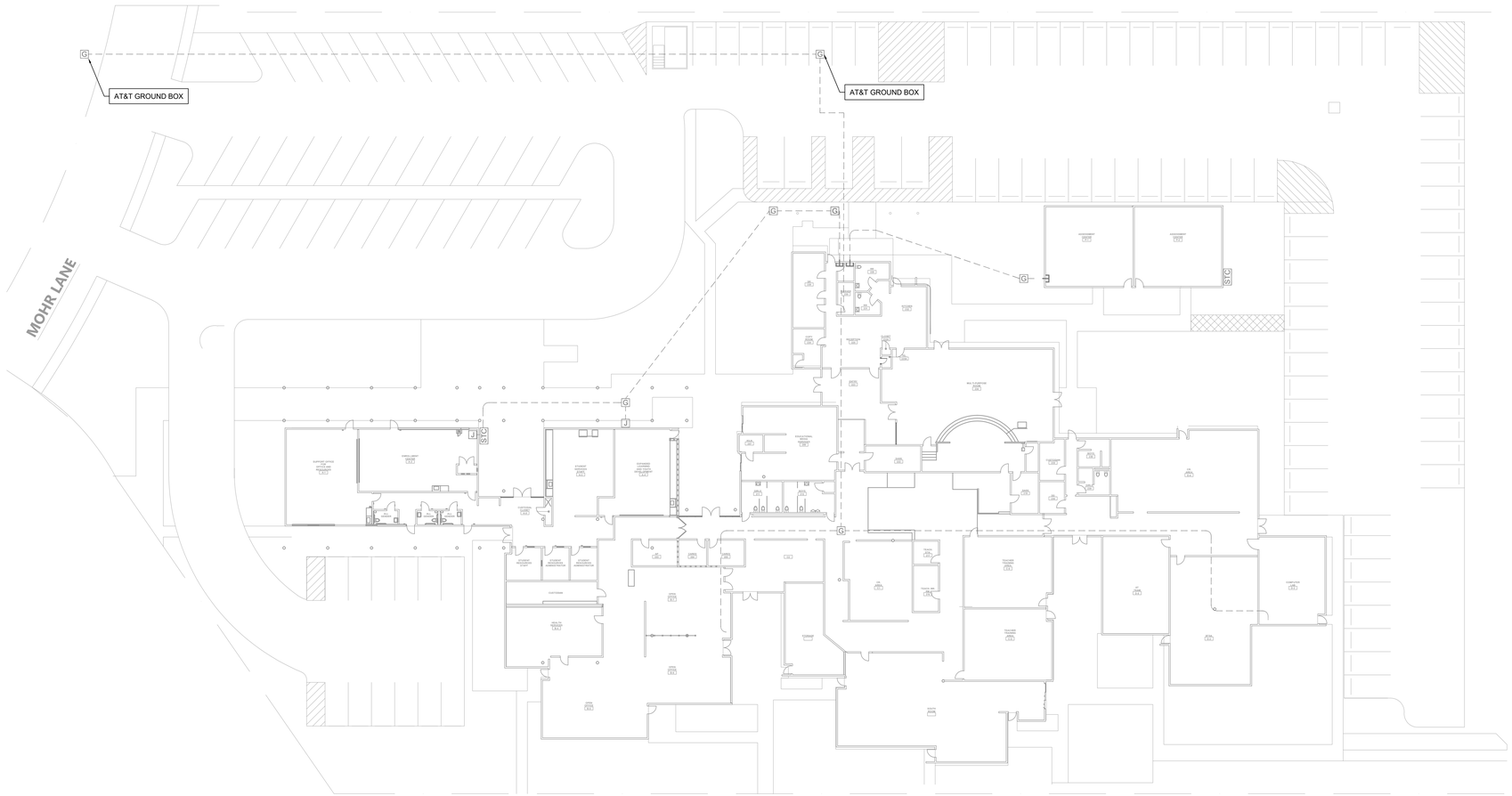
PICTURE DETAIL - OPEN RUN CABLING ON BEAM (TYP.)

GENERAL NOTES:

1. CONTRACTOR SHALL PATCH AND PAINT ALL WALL AND CEILING SURFACES DISTURBED OR EXPOSED AS A RESULT OF DEMO TO MATCH THE ADJACENT EXISTING SURFACE. COORDINATE WITH DISTRICT REPRESENTATIVE FOR PAINT SPECIFICATIONS.
2. AFTER CUTOVER TO NEW SYSTEMS, CONTRACTOR TO REMOVE AND DISPOSE OF ALL (E) DATA NETWORK COPPER AND FIBER CABLING, INCLUDING WITHIN CONDUITS AND PULL BOXES. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE ACTIVE SYSTEMS. COORDINATE WITH DISTRICT REPRESENTATIVE PRIOR TO DEMO.
3. AFTER CUTOVER TO IP PHONE SYSTEM, CONTRACTOR TO REMOVE AND DISPOSE OF ALL (E) ANALOG TELEPHONE CABLING FROM MDF TO DISTRIBUTION BLOCKS AND TO PHONE LOCATIONS, INCLUDING WITHIN CONDUITS AND PULL BOXES. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE ACTIVE SYSTEMS AT THE MDF. COORDINATE WITH DISTRICT REPRESENTATIVE PRIOR TO DEMO.
4. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNUSED OR ABANDONED SURFACE RACEWAY, INCLUDING RACEWAY ABANDONED AS A RESULT OF DEMO.
5. CONTRACTOR TO PROVIDE (N) BLANKING PLATES AND/OR (N) CHANNEL COVERS FOR (E) DATA LOCATIONS REMOVED FROM SURFACE RACEWAY AS A RESULT OF DEMO.
6. AFTER CUTOVER TO NEW SYSTEMS, CONTRACTOR TO REMOVE AND RETURN TO DISTRICT ALL (E) WIRELESS APS AND MOUNTS.
7. AFTER CUTOVER TO NEW INTERCOM SYSTEM, CONTRACTOR TO REMOVE AND DISPOSE OF ALL (E) ANALOG INTERCOM AND CLOCK CABLING FROM ENDPOINT TO ENDPOINT, INCLUDING WITHIN CONDUITS AND PULL BOXES. CONTRACTOR TO REMOVE AND RETURN TO DISTRICT ALL (E) ANALOG CLOCKS, SPEAKERS, AND SURFACE BACKBOXES.
8. CONTRACTOR TO REMOVE AND DISPOSE OF ALL ABANDONED OPEN-RUN TELEPHONE AND INTRUSION SYSTEM CABLING STAPLED TO SURFACES ON BUILDING INTERIOR. SEE PICTURE DETAIL.
9. ALL DEMOED EQUIPMENT SHALL BE STORED ONSITE, IN GOOD CONDITION, FOR MDUSD SALVAGE. CARE SHALL BE TAKEN NOT TO DAMAGE REMOVED EQUIPMENT. ALL EQUIPMENT NOT SALVAGED BY MDUSD SHALL BE RESPONSIBLY DISPOSED OF BY THE CONTRACTOR. COORDINATE WITH DISTRICT REPRESENTATIVE FOR SALVAGE PROCEDURES.



TECHNOLOGY INFRASTRUCTURE SITE PLAN DEMO

SCALE: 1"=20'

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DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044_MTUSD_IT Network Design 13 Sites_A22_dvargasTH8BX.rvt

AGENCY APPROVAL

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CONSULTANTS
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI
TONNY KAGSTROM
Signature
EXPIRES 10/31/2027
Regis. No.163629

PROFESSIONAL STAMP

REVISIONS

# NO.	DATE	DESCRIPTION

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PROJECT OWNER & TITLE

MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE SITE PLAN DEMO

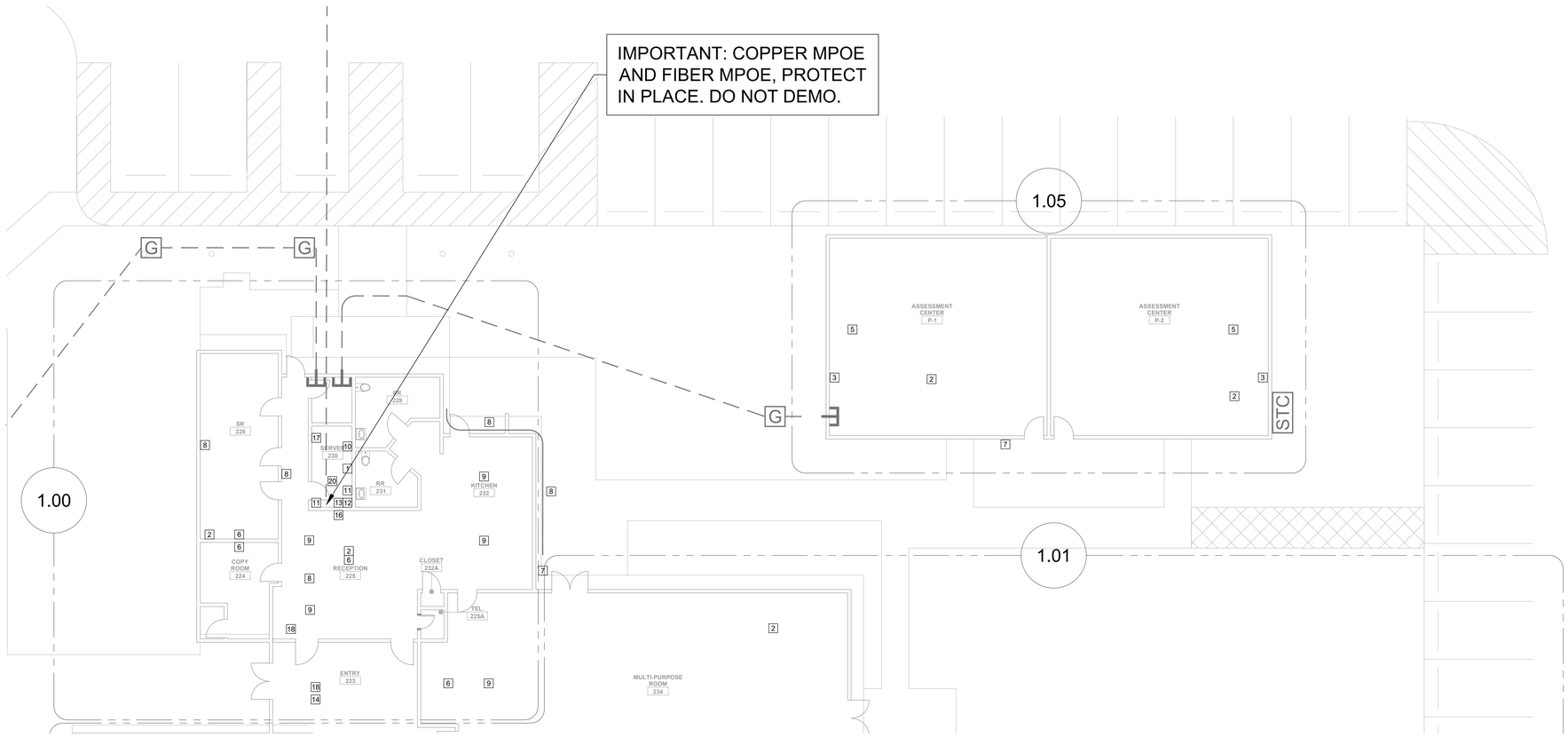
DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-010

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT



TECHNOLOGY INFRA. FLOOR PLANS DEMO - MDF 1.00 AND IDF 1.05

SCALE: 1/8"=1'

0 4 8 12 16

GENERAL NOTES:

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2. AFTER CUTOVER TO NEW SYSTEMS, CONTRACTOR TO REMOVE AND DISPOSE OF ALL (E) DATA NETWORK COPPER AND FIBER CABLING, INCLUDING WITHIN CONDUITS AND PULL BOXES. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE ACTIVE SYSTEMS. COORDINATE WITH DISTRICT REPRESENTATIVE PRIOR TO DEMO.
3. AFTER CUTOVER TO IP PHONE SYSTEM, CONTRACTOR TO REMOVE AND DISPOSE OF ALL (E) ANALOG TELEPHONE CABLING FROM MDF TO DISTRIBUTION BLOCKS AND TO PHONE LOCATIONS, INCLUDING WITHIN CONDUITS AND PULL BOXES. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE ACTIVE SYSTEMS AT THE MDF. COORDINATE WITH DISTRICT REPRESENTATIVE PRIOR TO DEMO.
4. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNUSED OR ABANDONED SURFACE RACEWAY, INCLUDING RACEWAY ABANDONED AS A RESULT OF DEMO.
5. CONTRACTOR TO PROVIDE (N) BLANKING PLATES AND/OR (N) CHANNEL COVERS FOR (E) DATA LOCATIONS REMOVED FROM SURFACE RACEWAY AS A RESULT OF DEMO.
6. AFTER CUTOVER TO NEW SYSTEMS, CONTRACTOR TO REMOVE AND RETURN TO DISTRICT ALL (E) WIRELESS APS AND MOUNTS.
7. AFTER CUTOVER TO NEW INTERCOM SYSTEM, CONTRACTOR TO REMOVE AND DISPOSE OF ALL (E) ANALOG INTERCOM AND CLOCK CABLING FROM ENDPOINT TO ENDPOINT, INCLUDING WITHIN CONDUITS AND PULL BOXES. CONTRACTOR TO REMOVE AND RETURN TO DISTRICT ALL (E) ANALOG CLOCKS, SPEAKERS, AND SURFACE BACKBOXES.
8. CONTRACTOR TO REMOVE AND DISPOSE OF ALL ABANDONED OPEN-RUN TELEPHONE AND INTRUSION SYSTEM CABLING STAPLED TO SURFACES ON BUILDING INTERIOR. SEE PICTURE DETAIL.
9. ALL EQUIPMENT SHALL BE RETURNED TO MDUSD IN GOOD CONDITION. CARE SHALL BE TAKEN NOT TO DAMAGE REMOVED EQUIPMENT. COORDINATE WITH DISTRICT REPRESENTATIVE FOR RETURN PROCEDURE.

SHEET NOTES:

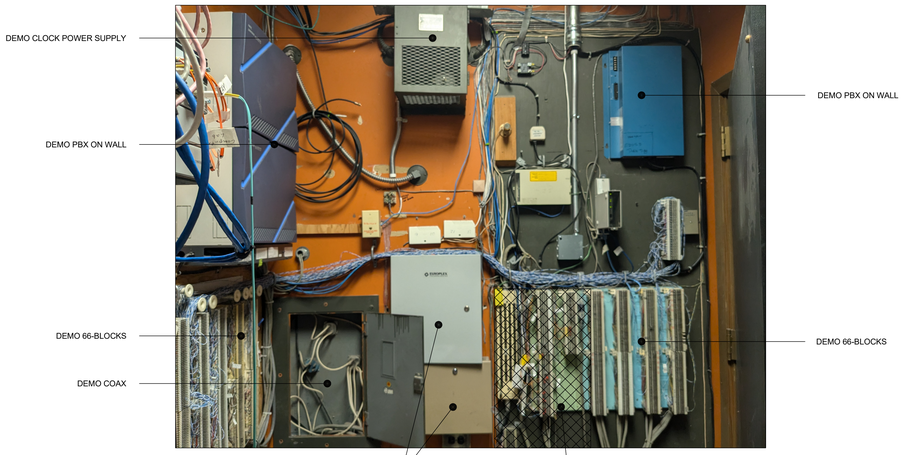
1. AFTER CUTOVER TO NEW SYSTEMS, DEMO (E) IDF CABINET, BACKBOARD, AND OTHER DATA EQUIP. ON WALL, AS OCCURS. DEMO ALL (E) DATA DROPS AND FIBER TERMINATING AT THIS IDF.
2. AFTER CUTOVER TO NEW SYSTEMS, DEMO (E) WIRELESS AP, MOUNT, CABLING, AND SURFACE RACEWAY OR CONDUIT.
3. AFTER CUTOVER TO NEW SYSTEMS, DEMO (E) ANALOG TELEPHONE, WALL PLATE, AND WIRING TO SOURCE. PROVIDE (N) BLANK WALL PLATE.
4. AFTER CUTOVER TO NEW SYSTEMS, DEMO (E) NETWORK SWITCH ON SHELF OR WALL BRACKET, AS OCCURS. DEMO ALL (E) DATA DROPS TERMINATING AT THIS NETWORK SWITCH.
5. DEMO (E) CLOCK/SPEAKER COMBO, BACKBOX, AND CABLING TO SOURCE.
6. DEMO (E) CLOCK AND CABLE TO SOURCE. PROVIDE FLUSH BLANKING PLATE OVER CLOCK LOCATION. PAINT TO MATCH ADJACENT WALL SURFACE.
7. DEMO (E) SPEAKER AND CABLE TO SOURCE. PROVIDE FLUSH BLANKING PLATE OVER SPEAKER LOCATION. PAINT TO MATCH ADJACENT WALL SURFACE.
8. DEMO ABANDONED CONDUIT ON WALL.
9. DEMO ABANDONED SENSOR ON BEAM AND WIRING TO SOURCE. SEE PICTURE DETAIL.
10. AFTER CUTOVER TO NEW SYSTEMS, DEMO (E) BOGEN INTERCOM HEADEND, 66-BLOCKS, AND CABLING.
11. AFTER CUTOVER TO NEW SYSTEMS, DEMO ANALOG PHONE PBX ON WALL, 66-BLOCKS, AND CABLING.
12. AFTER CUTOVER TO NEW SYSTEMS, DEMO CLOCK POWER SUPPLY AND CABLING. SAFE OFF POWER AS REQ'D.
13. DEMO ABANDONED INTRUSION SYSTEM CABINETS ON WALL.
14. DEMO CABLE TROUGH ALONG BEAM.
15. REMOVE UNISTRUT SHELF SUPPORTS ALONG WALL. REWORK (E) SURFACE RACEWAY FLUSH TO WALL.
16. IDENTIFY ANALOG PHONE LINES ON MPOE 66-BLOCK SERVING FACP. PROVIDE (N) 4-PAIR COPPER FEEDER BETWEEN MPOE AND FACP.
17. IDENTIFY ANALOG PHONE LINE ON MPOE SERVING IACP. PROVIDE (N) 4-PAIR COPPER FEEDER BETWEEN MPOE AND IACP.
18. DEMO OPEN RUN CABLE STAPLED TO BEAMS OR WALL, TYP., THIS AREA.
19. DEMO COAX PLATE AND CABLE TO SOURCE, AND PROVIDE (N) BLANK COVER PLATE.
20. SEE DEMO TAG INDEX FOR NOTED TAG NUMBER. DEMO TAGGED CABLES FROM ENDPOINT TO ENDPOINT, INCLUDING WITHIN CONDUITS AND PULL BOXES. TAKE PRECAUTIONS NOT TO DAMAGE ACTIVE SYSTEMS.
21. AFTER CUTOVER TO NEW SYSTEMS, DEMO ALL ANALOG INTERCOM, CLOCK, AND PHONE CABLING IN STC. DEMO FROM ENDPOINT TO ENDPOINT, INCLUDING WITHIN CONDUITS AND PULL BOXES.
22. DEMO WIREMOLD RACEWAY ALONG WALL AND CONDUIT BACK TO IDF.
23. DEMO ABANDONED CONTROL CABINET ON WALL. SAFE OFF POWER AS REQ'D.
24. DEMO TERMINAL BLOCK ON WALL AND CABLING TO SOURCE.

SHEET T-020 DEMO TAG NOTES:

LOCATION	TAG ID	DESCRIPTION
ROOM 230	234778	10 EA. 25-PAIR
	234779	11 EA. CAT5E
	234780	4 EA. 15-PAIR
	234785	4 EA. 15-PAIR
	234786	1 EA. 15-PAIR, 3 EA 25-PAIR
	234787	1 EA. 25-PAIR
	234788	1 EA. CAT5
	234789	3 EA. CAT5, 17 EA. CAT3
	234790	5 EA. CAT5
	232901	1 EA. CAT5
	232902	1 EA. CAT5
	232903	4 EA. RG59
	232904	3 EA. 15-PAIR, 3 EA CAT3
	232905	4 EA. 15-PAIR
	232906	3 EA. RG59
	232907	5 EA. RG59
	232908	2 EA. RG59
	232909	20 EA. 18/3



PICTURE DETAIL - SENSOR ON BEAM (TYP.) - DEMO AS OCCURS



PICTURE DETAIL - MDF

AGENCY APPROVAL

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SHEET TITLE
TECHNOLOGY INFRASTRUCTURE FLOOR PLANS DEMO

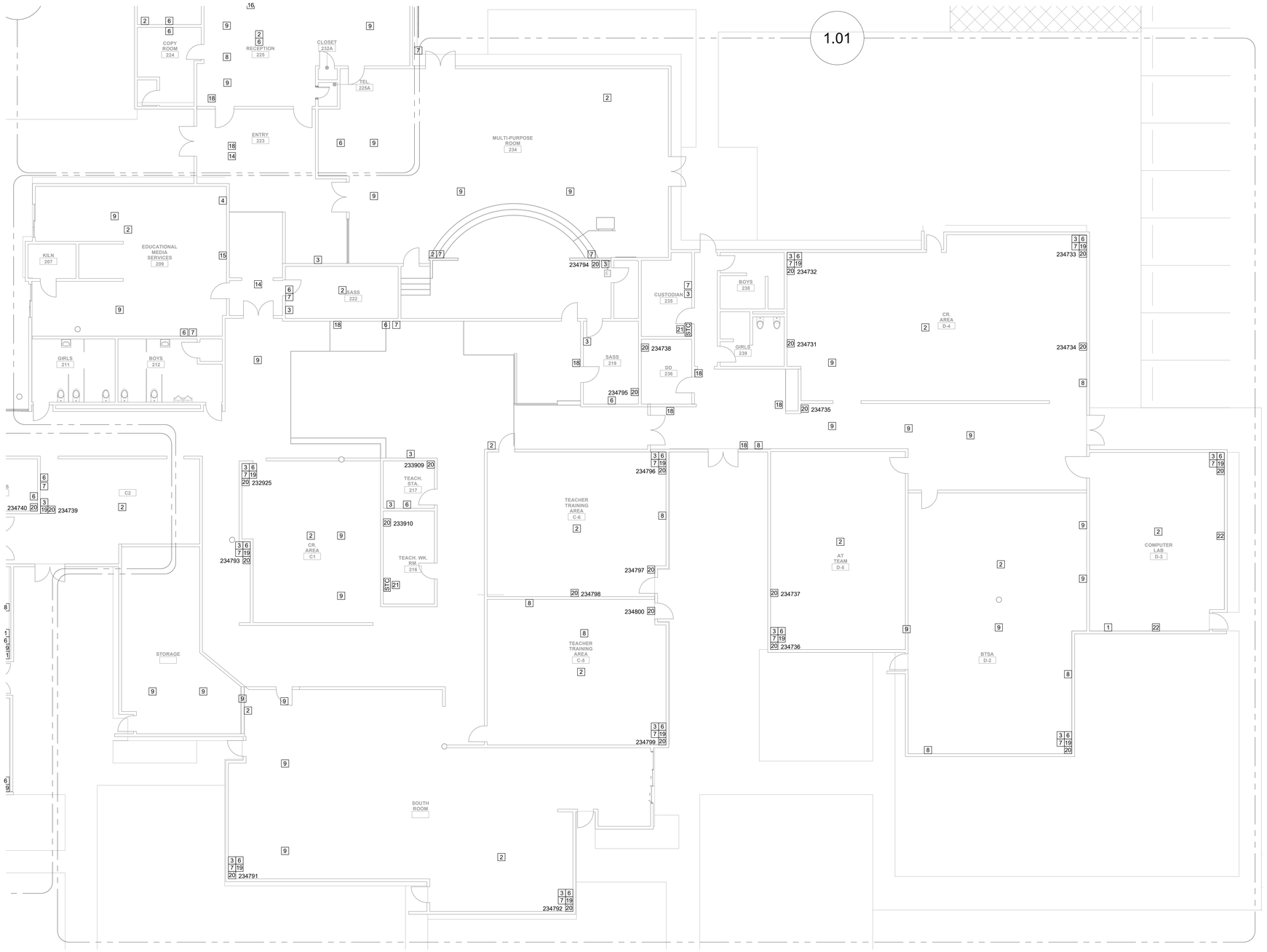
DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.
T-020

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044_MTUSD_ IT Network Design 13 Sites_A22_dvargasTH8BX.rvt



TECHNOLOGY INFRA. FLOOR PLANS DEMO - IDF 1.01

SCALE: 1/8"=1'

0 4 8 12 16

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14. DEMO CABLE TROUGH ALONG BEAM.
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16. IDENTIFY ANALOG PHONE LINES ON MPOE 66-BLOCK SERVING FACP. PROVIDE (N) 4-PAIR COPPER FEEDER BETWEEN MPOE AND FACP.
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18. DEMO OPEN RUN CABLE STAPLED TO BEAMS OR WALL, TYP., THIS AREA.
19. DEMO COAX PLATE AND CABLE TO SOURCE, AND PROVIDE (N) BLANK COVER PLATE.
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22. DEMO WIREMOLD RACEWAY ALONG WALL AND CONDUIT BACK TO IDF.
23. DEMO ABANDONED CONTROL CABINET ON WALL. SAFE OFF POWER AS REQ'D.
24. DEMO TERMINAL BLOCK ON WALL AND CABLING TO SOURCE.

SHEET T-021 DEMO TAG NOTES:

LOCATION	TAG ID	DESCRIPTION
STAGE	234794	1 EA. CAT3
ROOM 219	234795	1 EA. 15-PAIR
ROOM 236	234738	1 EA. CAT3
D-4	234731	1 EA. CAT3
	234732	1 EA. 25-PAIR, 2 EA. 15-PAIR, 2 EA. CAT5, 1 EA. CAT3, TERMINAL BLOCK
	234733	2 EA. 25-PAIR, 1 EA. 15-PAIR, TERMINAL BLOCK
	234734	1 EA. 15-PAIR
	234735	1 EA. 15-PAIR
D-3	NO TAG	2 EA. 25-PAIR, TERMINAL BLOCK
D-2	NO TAG	2 EA. 25-PAIR, TERMINAL BLOCK
D-5	234736	1 EA. 25-PAIR, TERMINAL BLOCK
	234737	1 EA. CAT3
C-4	234796	2 EA. 15-PAIR, TERMINAL BLOCK
	234797	1 EA. CAT5
	234798	1 EA. CAT5
C-5	234799	1 EA. 25-PAIR, TERMINAL BLOCK
	234800	1 EA. CAT3
SOUTH	234791	2 EA. 15-PAIR, 2 EA. CAT3, TERMINAL BLOCK
	234792	1 EA. 25-PAIR, 1 EA. CAT3, TERMINAL BLOCK
C-1	234793	1 EA. 15-PAIR, TERMINAL BLOCK
	232925	1 EA. 15-PAIR, 1 EA. CAT3, TERMINAL BLOCK
ROOM 216	232910	1 EA. CAT5 AND SURFACE BOX
ROOM 217	233909	1 EA. CAT3

AGENCY APPROVAL

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SHEET TITLE

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DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-021

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

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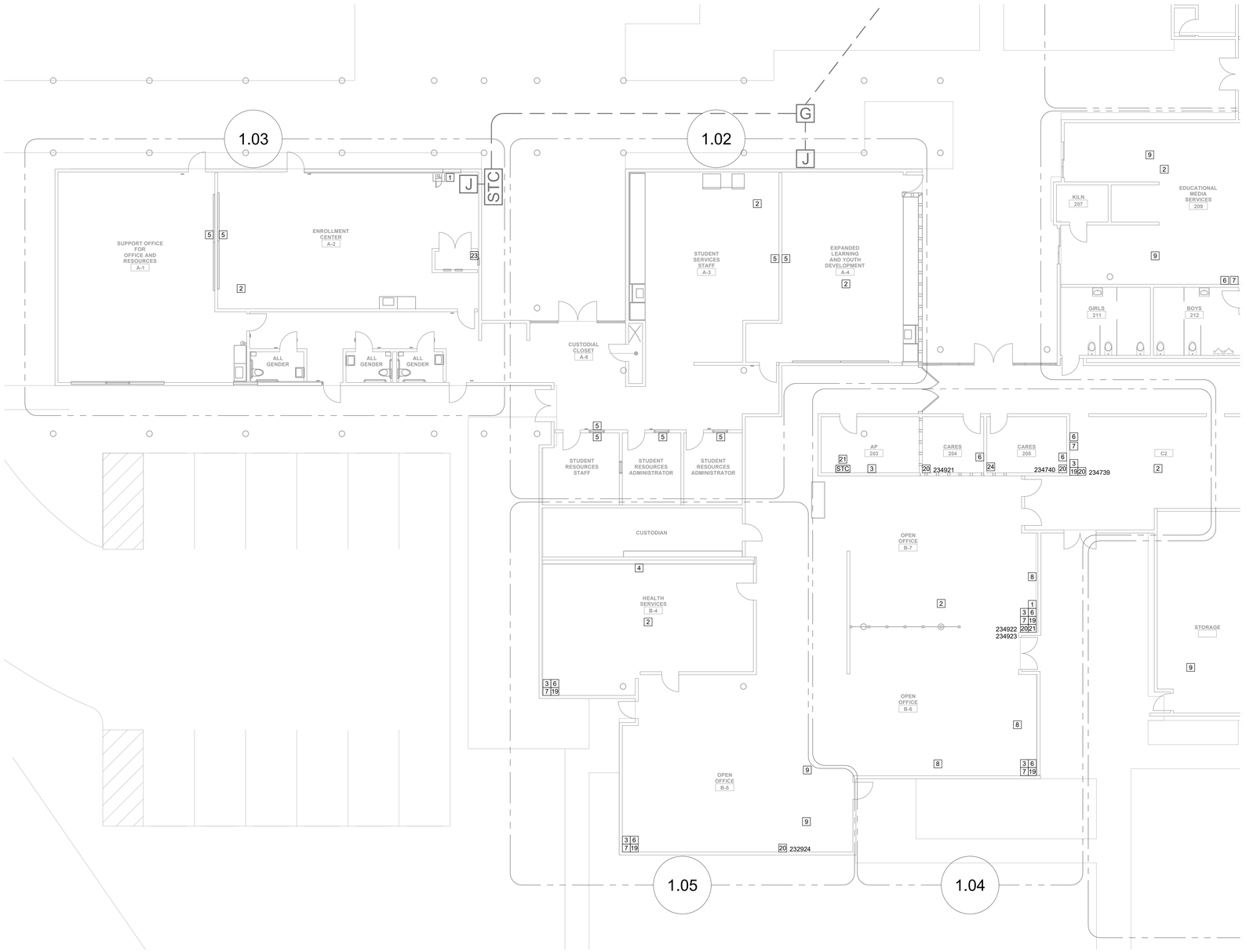

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14. DEMO CABLE TROUGH ALONG BEAM.
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16. IDENTIFY ANALOG PHONE LINES ON MPOE 66-BLOCK SERVING FACP. PROVIDE (N) 4-PAIR COPPER FEEDER BETWEEN MPOE AND FACP.
17. IDENTIFY ANALOG PHONE LINE ON MPOE SERVING IACP. PROVIDE (N) 4-PAIR COPPER FEEDER BETWEEN MPOE AND IACP.
18. DEMO OPEN RUN CABLE STAPLED TO BEAMS OR WALL, TYP., THIS AREA.
19. DEMO COAX PLATE AND CABLE TO SOURCE, AND PROVIDE (N) BLANK COVER PLATE.
20. SEE DEMO TAG INDEX FOR NOTED TAG NUMBER. DEMO TAGGED CABLES FROM ENDPOINT TO ENDPOINT, INCLUDING WITHIN CONDUITS AND PULL BOXES. TAKE PRECAUTIONS NOT TO DAMAGE ACTIVE SYSTEMS.
21. AFTER CUTOVER TO NEW SYSTEMS, DEMO ALL ANALOG INTERCOM, CLOCK, AND PHONE CABLING IN STC. DEMO FROM ENDPOINT TO ENDPOINT, INCLUDING WITHIN CONDUITS AND PULL BOXES.
22. DEMO WIREMOLD RACEWAY ALONG WALL AND CONDUIT BACK TO IDF.
23. DEMO ABANDONED CONTROL CABINET ON WALL. SAFE OFF POWER AS REQ'D.
24. DEMO TERMINAL BLOCK ON WALL AND CABLING TO SOURCE.

SHEET T-022 DEMO TAG NOTES:

LOCATION	TAG ID	DESCRIPTION
C-2	234739	1 EA. CAT3, 1 EA. RG59
ROOM 204	234921	1 EA. 15-PAIR
ROOM 205	234740	2 EA. 15-PAIR
B-7	232922	11 EA. 15-PAIR, 3 EA. CAT3, 66-BLOCKS
	232923	10 EA. CAT5, 66-BLOCKS
B-5	232924	1 EA. CAT5

TECHNOLOGY INFRA. FLOOR PLANS DEMO - IDF 1.02,1.03,1.04, AND 1.05

SCALE: 1/8"=1'

0 4 8 12 16

AGENCY APPROVAL

196 ARCHITECTS
991 W. HEDDING STREET, SUITE 101
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Signature
EXPIRES 12/31/2027
Regis. No.163629

PROFESSIONAL STAMP

REVISIONS

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PROJECT OWNER & TITLE

MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE FLOOR PLANS DEMO

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-022

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

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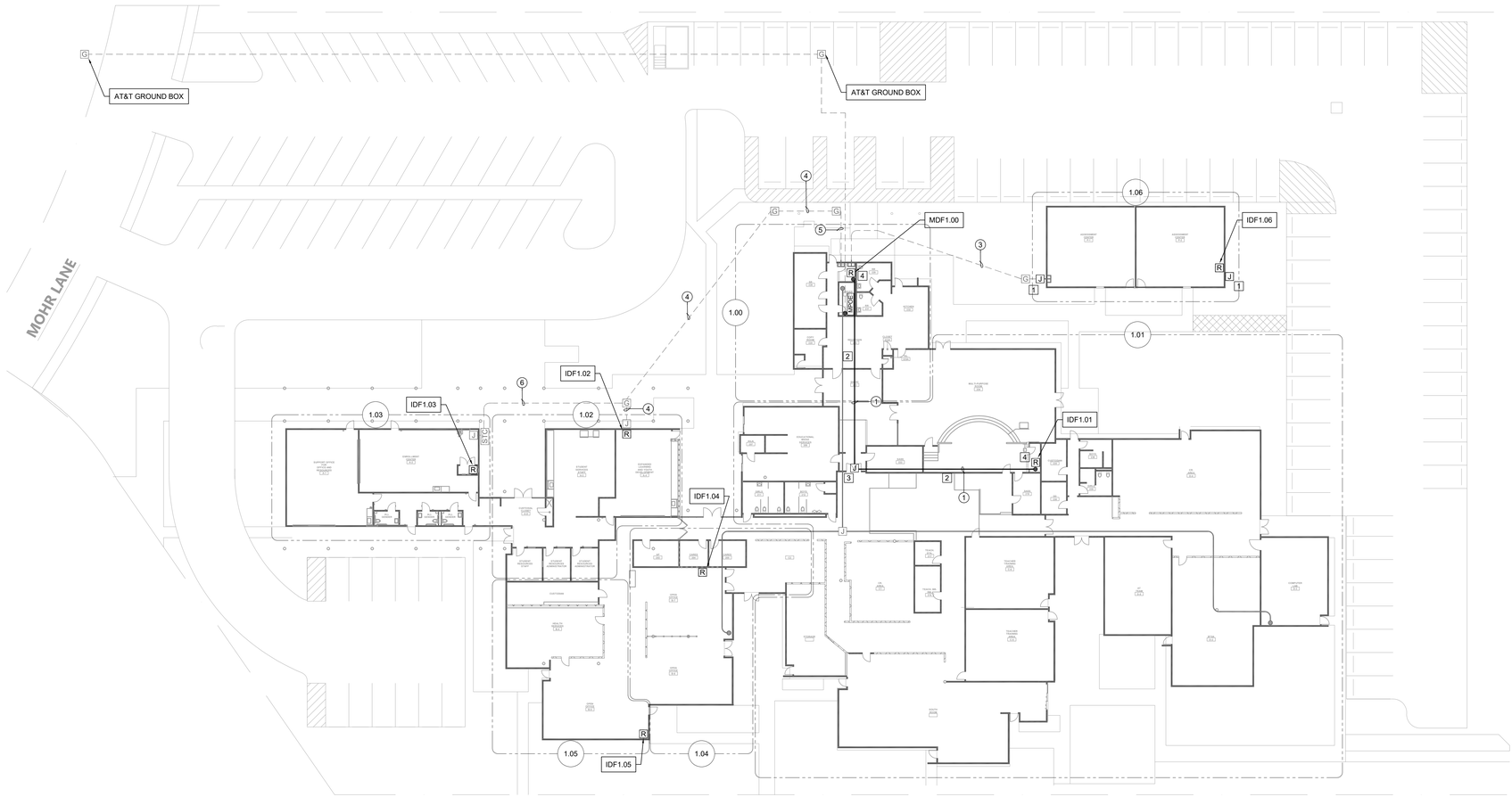

CONDUIT QTY. AND SIZE:

1. (N) 1 EA. 2" CONDUITS.
2. (N) 2 EA. 2" CONDUITS.
3. (E) 2 EA. 2" CONDUITS.
4. (E) 4 EA. 2" CONDUITS.
5. (E) 4 EA. 2" CONDUITS AND 2 EA. 1" CONDUITS.
6. (E) 8 EA. 2" CONDUITS.

GENERAL NOTES:

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5. CONTRACTOR SHALL CLEAN, PRIME, AND PAINT ALL (N) CONDUIT AND J-BOXES. SEE PAINT SCOPE SHEET T-000 FOR COMPLETE REQUIREMENTS.

SHEET NOTES:

1. INTERCEPT (E) DATA CONDUIT AND PROVIDE NEW WALL MOUNTED 8"x8"x4" NEMA 3R BOX TO ELIMINATE CONDULET AT THIS LOCATION.
2. PROVIDE (N) GRC CONDUIT ON ROOF, QUANTITY AS INDICATED.
3. PROVIDE (N) NEMA 4 J-BOX ON DURA BLOKS.
4. PROVIDE (N) ROOF PENETRATION TO INTERIOR. ROOF PENETRATION TO BE MADE AND WATERPROOFED IN STRICT ACCORDANCE WITH DIVISION 07 SPECS.

TECHNOLOGY INFRASTRUCTURE SITE PLAN NEW

SCALE: 1"=20'

0 20 40

N

AGENCY APPROVAL

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SHEET TITLE

TECHNOLOGY INFRASTRUCTURE SITE PLAN NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-100

DATE: DECEMBER 13, 2024

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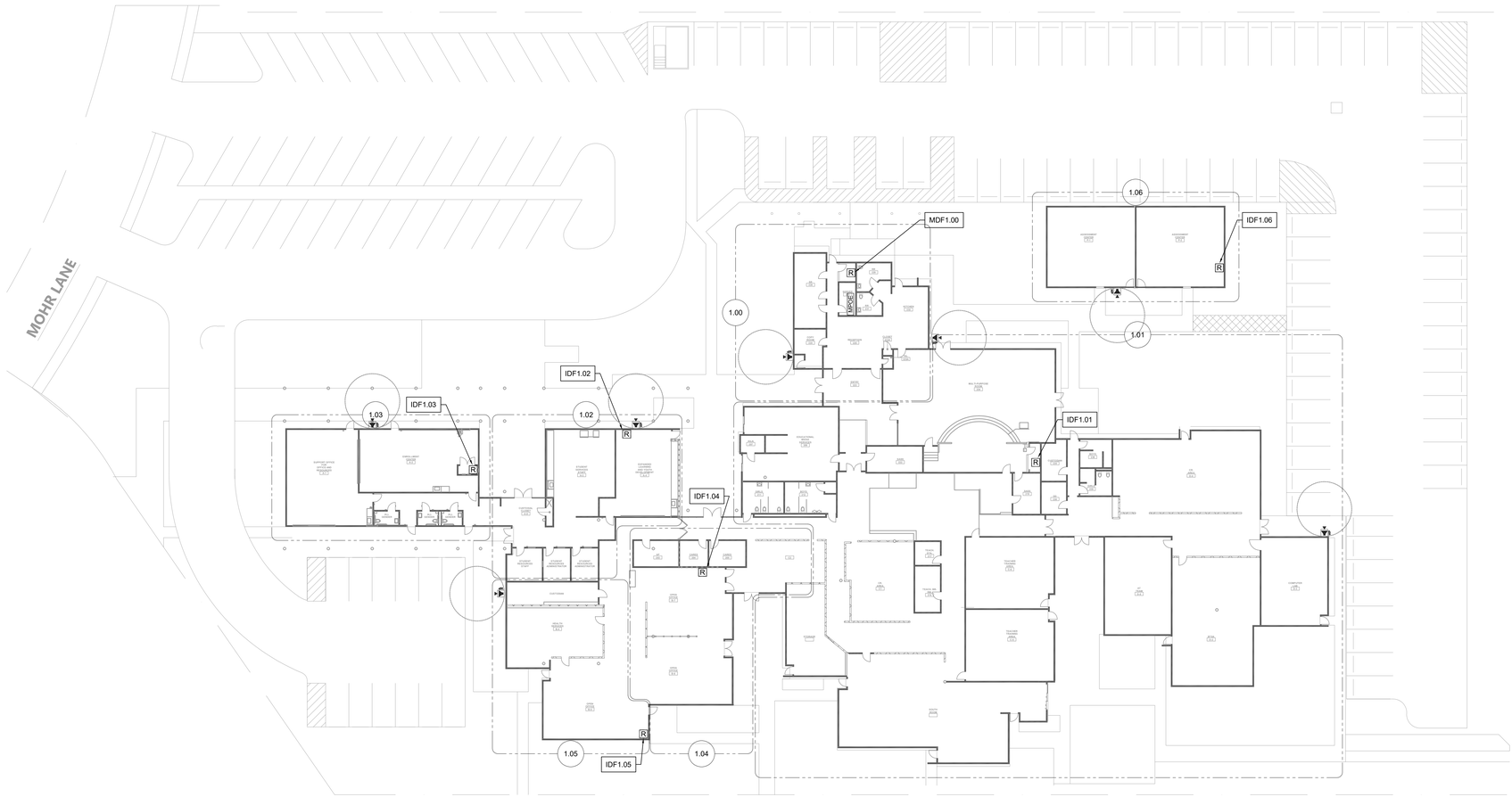

SHEET FOR REFERENCE ONLY

TECHNOLOGY INFRASTRUCTURE SITE PLAN - EXTERIOR INTERCOM SPEAKERS

SCALE: 1"=20'

0 20 40

N

AGENCY APPROVAL

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Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE SITE PLAN - EXTERIOR INTERCOM SPEAKERS

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-101

DATE: DECEMBER 13, 2024

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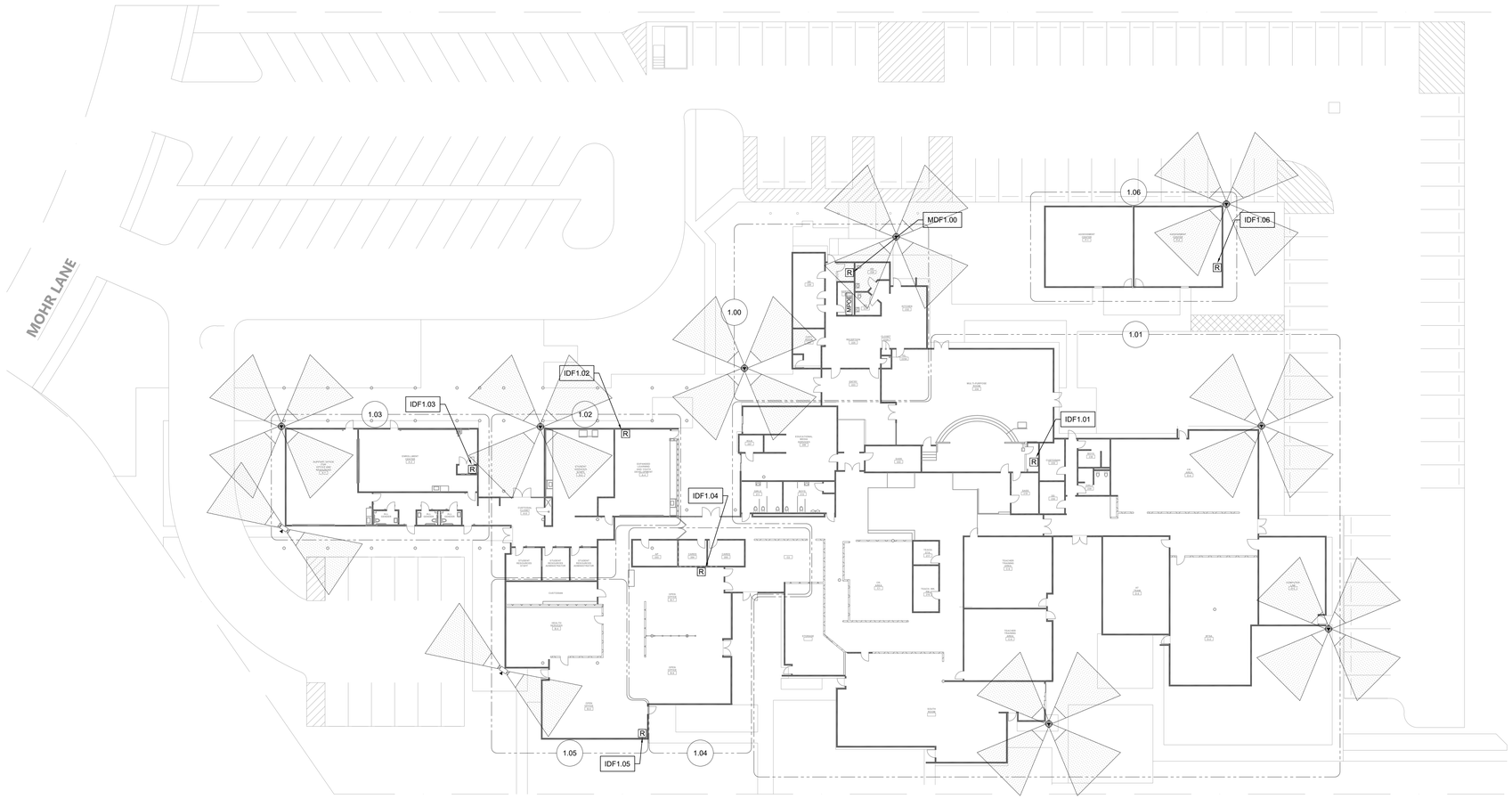

SHEET FOR REFERENCE ONLY

TECHNOLOGY INFRASTRUCTURE SITE PLAN - EXTERIOR CCTV

SCALE: 1"=20'

0 20 40

N

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044 _MTUSD_ IT Network Design 13 Sites_A22_dvargasTH8BX.rvt

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SHEET TITLE

TECHNOLOGY INFRASTRUCTURE SITE PLAN - EXTERIOR CCTV

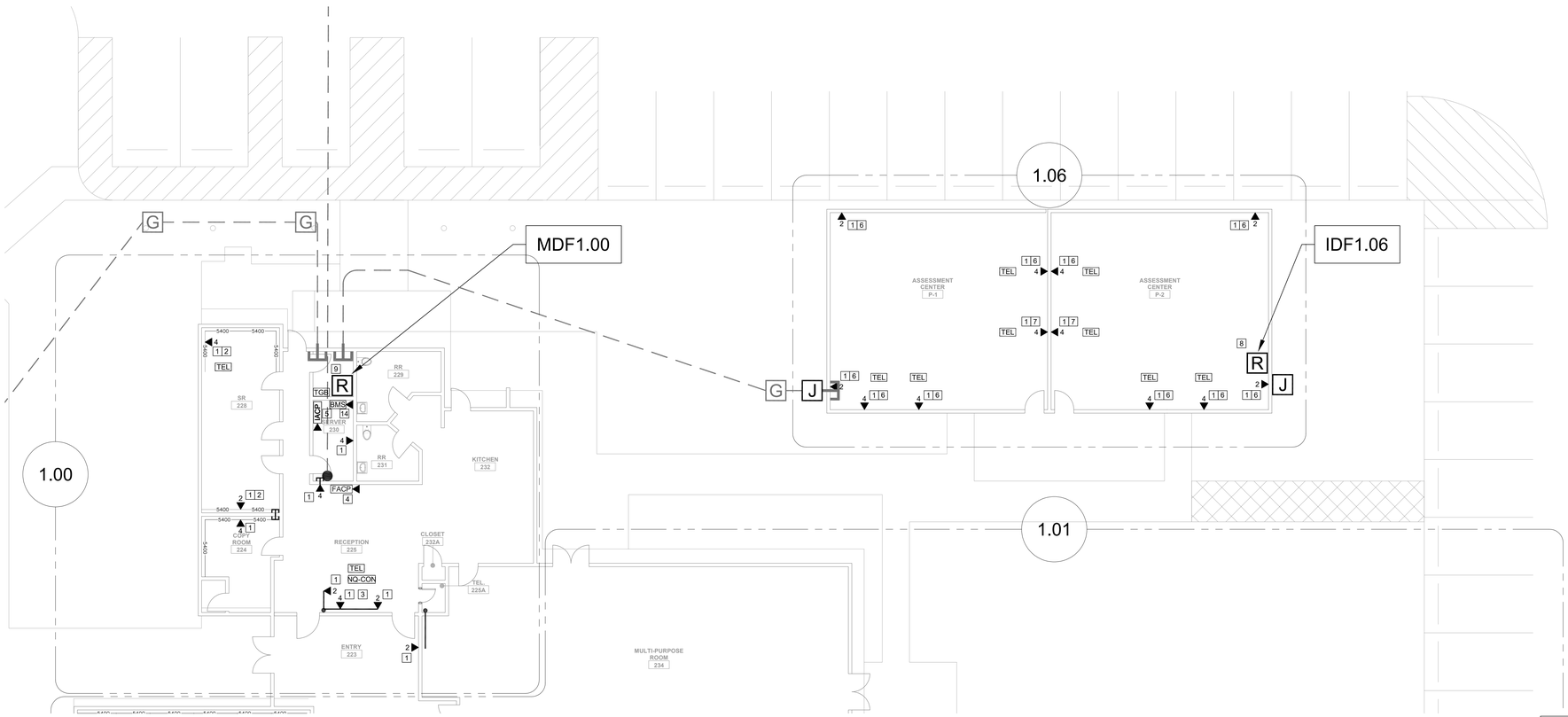
DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-102

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT



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5. CONTRACTOR SHALL CLEAN, PRIME, AND PAINT ALL (N) CONDUIT AND J-BOXES. SEE PAINT SCOPE SHEET T-000 FOR COMPLETE REQUIREMENTS.

SHEET NOTES:

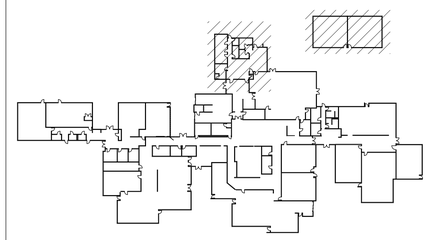
1. PROVIDE (N) CAT6A DATA DROP, QUANTITY INDICATED. ROUTE CABLING VIA (N) OR (E) PATHWAY, AS INDICATED.
2. PROVIDE (N) DATA PLATE(S) AND DATA PLATE RACEWAY ADAPTERS IN (E) WM5400 SURFACE RACEWAY.
3. PROVIDE (N) 1.25" CONDUIT WITHIN CASEWORK WITH SURFACE BOXES AT DATA LOCATIONS. STUB UP TO (N) DATA J-BOX ON CEILING.
4. PROVIDE (N) CAT6A DATA DROP AT FACP WITH (N) .75" CONDUIT TO (N) MDF.
5. PROVIDE (N) CAT6A DATA DROP AT IACP WITH (N) .75" CONDUIT TO MDF.
6. ROUTE (N) CABLING VIA (E) DATA BACKBOX AND CONDUIT TO ACCESSIBLE CEILING.
7. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB TO ACCESSIBLE CEILING.
8. PROVIDE (N) IDF ENCLOSURE. SEE SINGLE LINE FOR BUILD OUT REQUIREMENTS. VERIFY PRECISE LOCATION WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH IN.
9. PROVIDE (N) 4-POST RACK FOR MDF/IDF. SEE SINGLE LINE FOR BUILD OUT REQUIREMENTS. VERIFY PRECISE SITING WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH IN.
10. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB TO SURFACE RACEWAY ON OPPOSITE SIDE OF WALL.
11. PROVIDE (N) 1 EA. CAT6A DATA DROP FOR WALL MOUNTED VOIP PHONE WITH PHONE HANGER WALL PLATE. ROUTE THROUGH FURRED WALL TO (E) PHONE BACKBOX. PROVIDE (N) WALL MOUNT BRACKET FOR OWNER-PROVIDED VOIP PHONE. MOUNT OWNER-PROVIDED VOIP PHONE HANDSET ON WALL HANGER PLATE.
12. PROVIDE (N) LARGE CAPACITY DATA POLE. SECURE TO BEAM AT CEILING AND ANCHOR TO FLOOR. PROVIDE ALL REQUIRED FITTINGS, PLATES, AND ACCESSORIES FOR A COMPLETE INSTALLATION. PROVIDE CONDUIT TO NEAREST DATA J-BOX.
13. PROVIDE (N) DEEP SURFACE BOX ON CONCRETE POLE WITH CONDUIT UP POLE TO NEAREST DATA J-BOX.
14. PROVIDE (N) CAT6A DATA DROP AT BUILDING MANAGEMENT DEVICE.
15. PROVIDE (N) J-BOX ON INTERIOR WALL, ALIGNED WITH (E) J-BOX ON EXTERIOR. CORE WALL AND PROVIDE 2 EA. 2" CONDUIT SLEEVES THROUGH THE WALL.
16. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB THROUGH FURRED WALL TO NEAREST DATA J-BOX.

TECHNOLOGY INFRA. FLOOR PLANS NEW - MDF 1.00 AND IDF 1.06

SCALE: 1/8"=1'

0 4 8 12 16

KEY PLAN



AGENCY APPROVAL

196 ARCHITECTS
991 W. HEDDING STREET, SUITE 101
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JOHNNY KAGSTROM
Signature
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PROFESSIONAL STAMP

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PROJECT OWNER & TITLE

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1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE FLOOR PLANS NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-200

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

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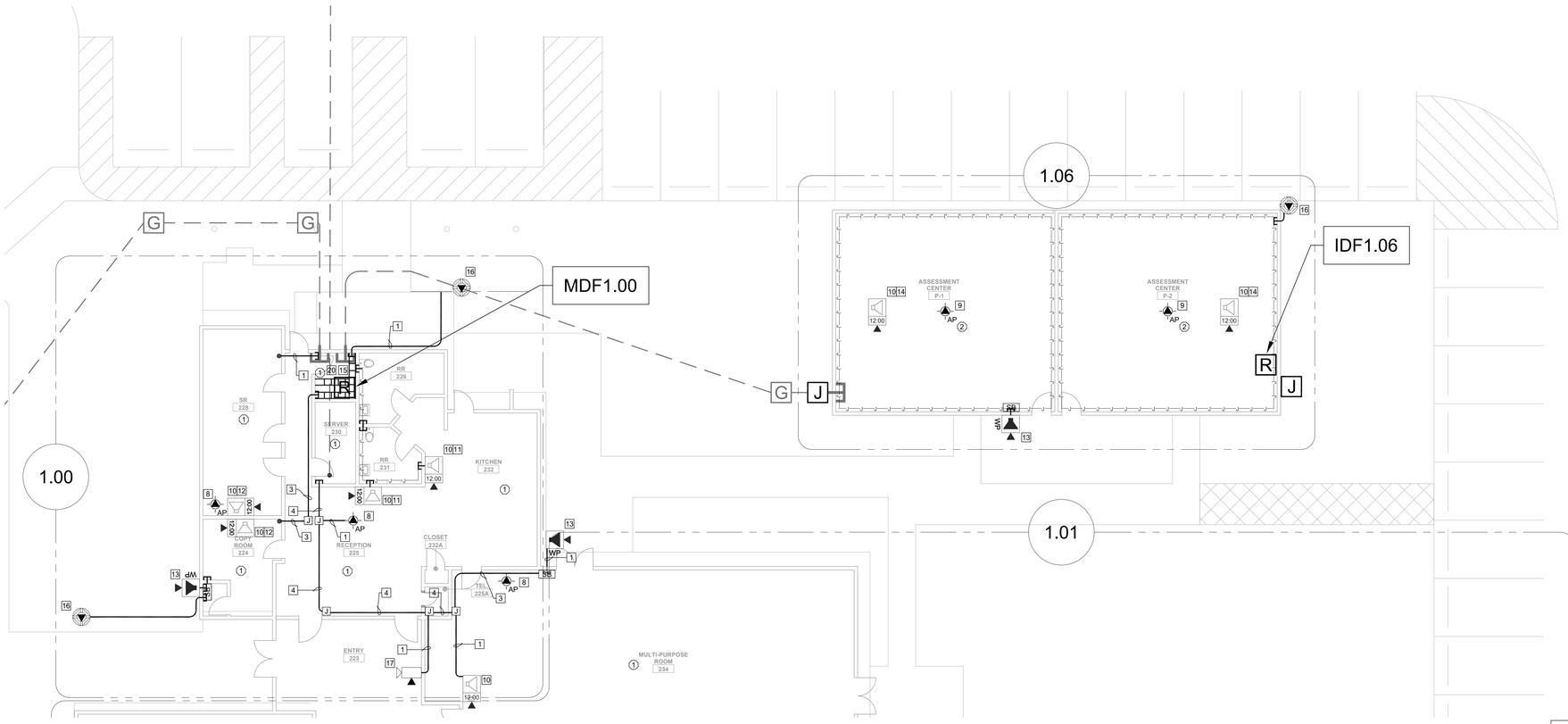

CEILING CONDITION CHART:

1. HARD LID
2. T-BAR

GENERAL NOTES:

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5. CONTRACTOR SHALL CLEAN, PRIME, AND PAINT ALL (N) CONDUIT AND J-BOXES. SEE PAINT SCOPE SHEET T-000 FOR COMPLETE REQUIREMENTS.

SHEET NOTES:

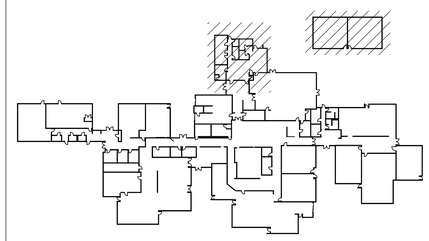
1. (N) 1 EA. 3/4" EMT CONDUIT.
2. (N) 1 EA. 1" EMT CONDUIT.
3. (N) 1 EA. 1.25" EMT CONDUIT.
4. (N) 1 EA. 2" EMT CONDUIT.
5. (N) 2 EA. 2" EMT CONDUITS.
6. (N) 3 EA. 2" EMT CONDUITS.
7. (N) 4 EA. 2" EMT CONDUITS.
8. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP IN DEEP 4-SQUARE BOX ON BEAM OR WALL. PROVIDE 3/4" CONDUIT TO NEAREST DATA J-BOX. PROVIDE (N) RIGHT ANGLE MOUNT ON BEAM OR WALL. INSTALL OWNER-PROVIDED AP. SEE DETAIL 9/T-801.
9. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP AT ACCESSIBLE CEILING. PROVIDE (N) T-BAR MOUNT FOR AP. INSTALL OWNER-PROVIDED AP. SEE DETAIL 4/T-801.
10. PROVIDE (N) IP CLOCK/SPEAKER COMBO AND SURFACE BACKBOX WITH (N) 1 EA. CAT6A DATA DROP. TERMINATE DATA DROP IN BISCUIT BLOCK MOUNTED IN SURFACE BACKBOX.
11. PROVIDE (N) CONDUIT STUB THROUGH WALL TO ACCESSIBLE CEILING.
12. FISH CABLE THROUGH HOLLOW WALL FROM DEVICE LOCATION TO SURFACE RACEWAY BELOW.
13. PROVIDE (N) WALL MOUNTED EXTERIOR BACKBOX AND (N) EXTERIOR SPEAKER. PROVIDE (N) INTERIOR ENCLOSURE WITH (N) IP MODULE. PROVIDE (N) 1 EA. CAT6A DATA DROP AT INTERIOR ENCLOSURE.
14. PROVIDE (N) 1/8" SHEET METAL COVER AT (E) COMBO CLOCK/SPEAKER BACKBOX LOCATION. PAINT TO MATCH ADJACENT WALL SURFACE. MOUNT (N) CLOCK/SPEAKER UNIT ON TOP.
15. PROVIDE (N) LADDER RACKING, INCLUDING ALL MOUNTING, FITTINGS, AND TRANSITIONS FOR A COMPLETE CABLE MANAGEMENT SYSTEM BETWEEN THE CONDUIT PENETRATIONS AND THE MDF/IDF RACK.
16. PROVIDE (N) CAT6A DATA DROP FOR CAMERA VIA (N) PATHWAY, (N) 2-GANG SURFACE BOX, AND (N) FLEX CONDUIT. SEE DETAIL 10/T-801.
17. PROVIDE (N) CAT6A DATA DROP FOR OWNER-PROVIDED DOME CAMERA. INSTALL OWNER-PROVIDED CAMERA AND AIM IN PRESENCE OF DISTRICT REPRESENTATIVE.
18. ROUTE THROUGH FURRED WALL INTO (E) CLOCK BACKBOX. PLACE (N) CLOCK/SPEAKER UNIT OVER (E) CLOCK BACKBOX.
19. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP IN SURFACE BOX ON HARD LID CEILING. PROVIDE WM2300 TO NEAREST DATA RACEWAY. PROVIDE (N) J-BOX MOUNT FOR AP. INSTALL OWNER-PROVIDED AP. SEE DETAIL 6/T-801.
20. IDENTIFY THE DATA CONDUITS AND INTERCEPT THEM WHERE THEY ENTER THE ROOM FROM THE EXTERIOR. REMOVE THE REMAINDER OF THE CONDUIT ACROSS THE CEILING TO THE J-BOX IN ROOM 230. PROVIDE A CLEAN TRANSITION FROM THE CONDUIT ENTRY TO THE (N) LADDER RACKING.

TECHNOLOGY INFRA. RCP NEW - MDF 1.00 AND IDF 1.06

SCALE: 1/8"=1'

0 4 8 12 16

KEY PLAN



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1936 Carlotta Dr.
Concord, CA 94519

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1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE RCP NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-201

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

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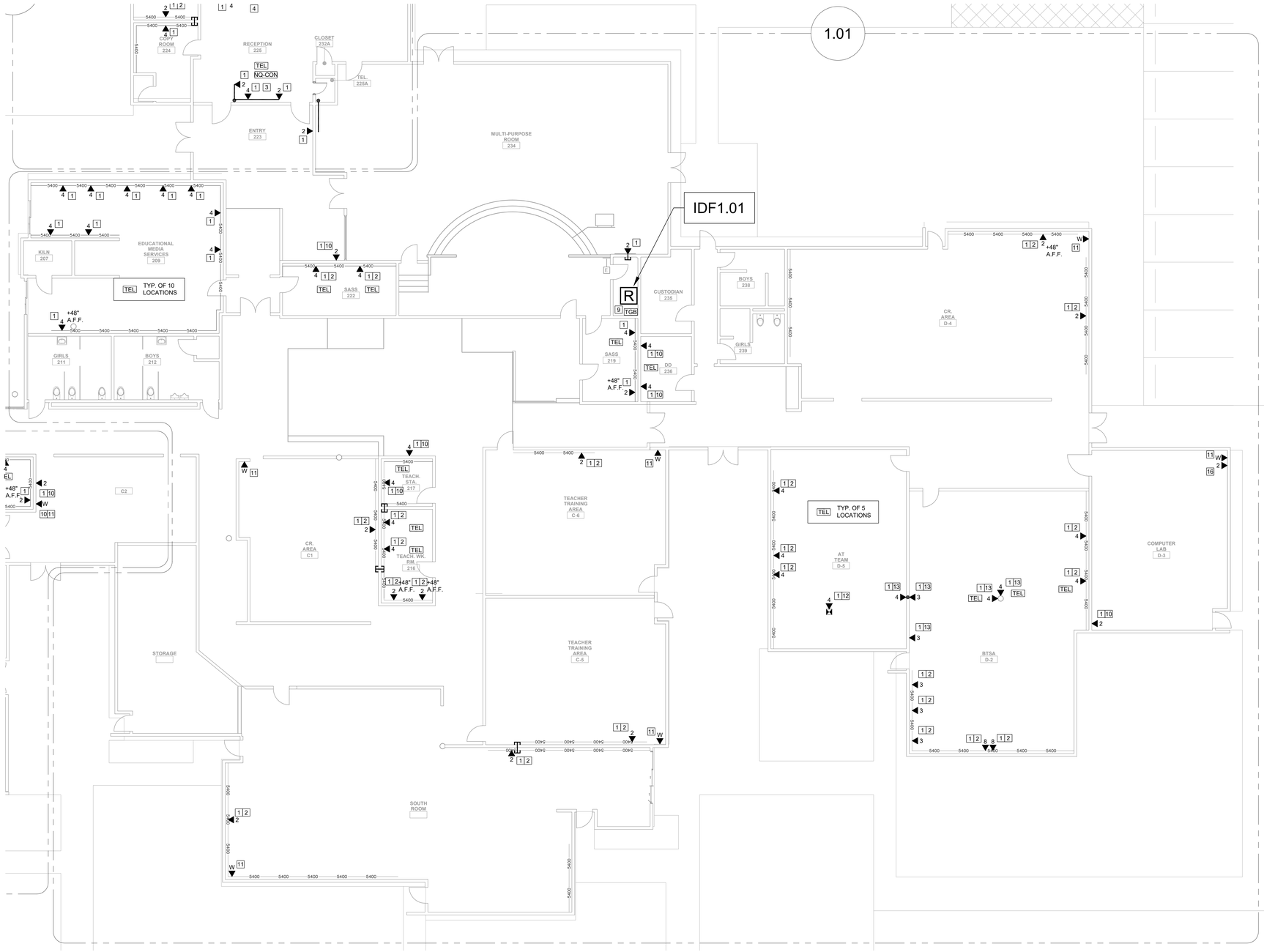

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4. PROVIDE (N) CAT6A DATA DROP AT FACP WITH (N) .75" CONDUIT TO (N) MDF.
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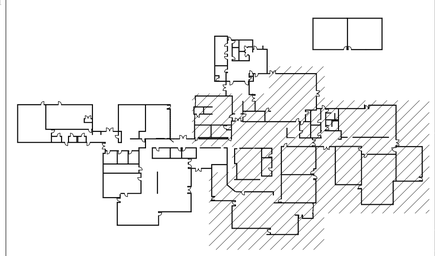
6. ROUTE (N) CABLING VIA (E) DATA BACKBOX AND CONDUIT TO ACCESSIBLE CEILING.
7. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB TO ACCESSIBLE CEILING.
8. PROVIDE (N) IDF ENCLOSURE. SEE SINGLE LINE FOR BUILD OUT REQUIREMENTS. VERIFY PRECISE LOCATION WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH IN.
9. PROVIDE (N) 4-POST RACK FOR MDF/IDF. SEE SINGLE LINE FOR BUILD OUT REQUIREMENTS. VERIFY PRECISE SITING WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH IN.
10. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB TO SURFACE RACEWAY ON OPPOSITE SIDE OF WALL.
11. PROVIDE (N) 1 EA. CAT6A DATA DROP FOR WALL MOUNTED VOIP PHONE WITH PHONE HANGER WALL PLATE. ROUTE THROUGH FURRED WALL TO (E) PHONE BACKBOX. PROVIDE (N) WALL MOUNT BRACKET FOR OWNER-PROVIDED VOIP PHONE. MOUNT OWNER-PROVIDED VOIP PHONE HANDSET ON WALL HANGER PLATE.
12. PROVIDE (N) LARGE CAPACITY DATA POLE. SECURE TO BEAM AT CEILING AND ANCHOR TO FLOOR. PROVIDE ALL REQUIRED FITTINGS, PLATES, AND ACCESSORIES FOR A COMPLETE INSTALLATION. PROVIDE CONDUIT TO NEAREST DATA J-BOX.
13. PROVIDE (N) DEEP SURFACE BOX ON CONCRETE POLE WITH CONDUIT UP POLE TO NEAREST DATA J-BOX.
14. PROVIDE (N) CAT6A DATA DROP AT BUILDING MANAGEMENT DEVICE.
15. PROVIDE (N) J-BOX ON INTERIOR WALL, ALIGNED WITH (E) J-BOX ON EXTERIOR. CORE WALL AND PROVIDE 2 EA. 2" CONDUIT SLEEVES THROUGH THE WALL.
16. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB THROUGH FURRED WALL TO NEAREST DATA J-BOX.

TECHNOLOGY INFRA. FLOOR PLANS NEW - IDF 1.01

SCALE: 1/8"=1'

0 4 8 12 16

KEY PLAN



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CONSULTANTS
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI
TONNY KAGSTROM
Signature
EXPIRES 10/31/2027
Regis. No.163629

AGENCY APPROVAL

PROFESSIONAL STAMP

REVISIONS

NO.	DATE	DESCRIPTION

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PROJECT OWNER & TITLE

MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE FLOOR PLANS NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

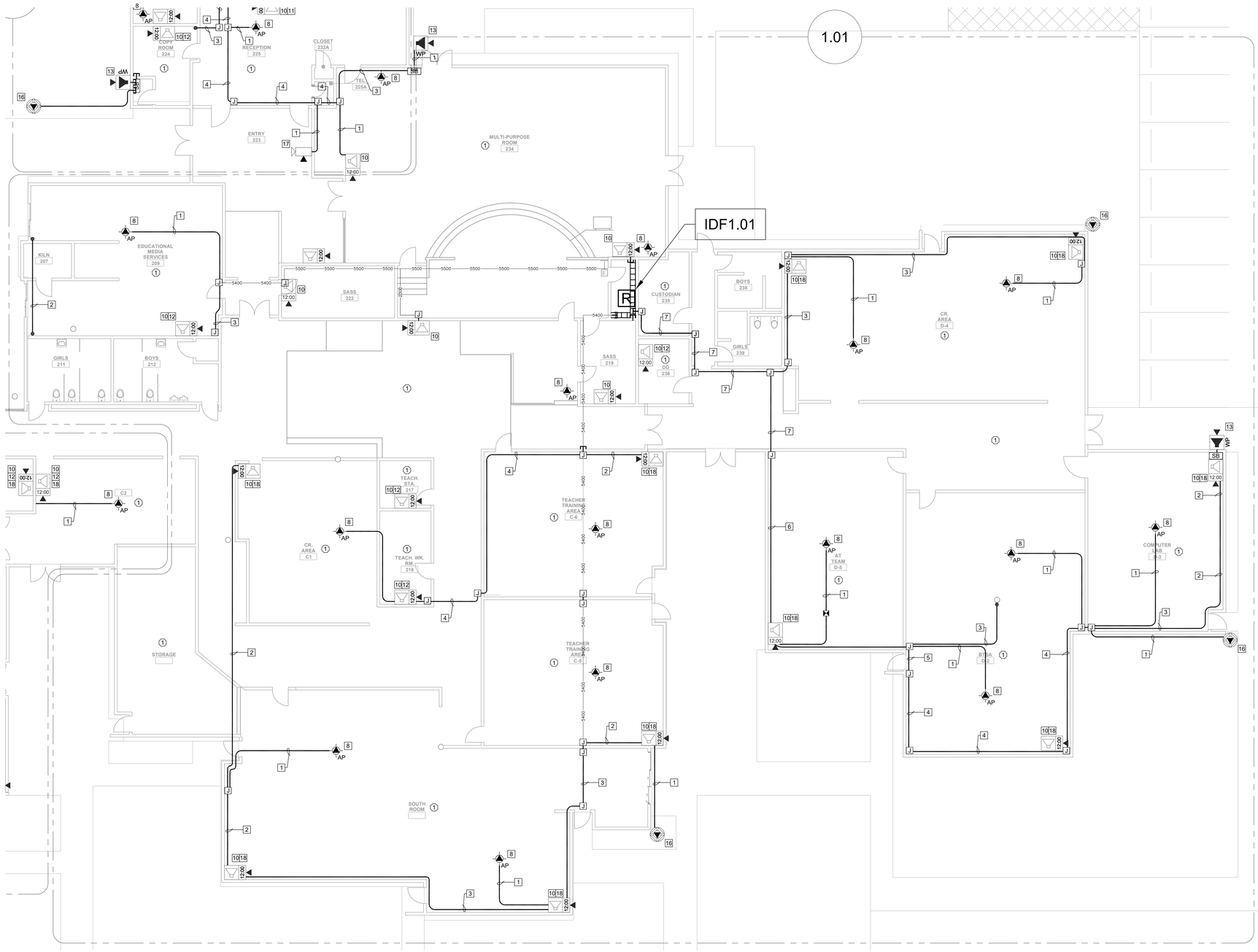
SHEET NO.

T-202

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044_MTUSD_IT Network Design 13 Sites_A22_dvargasTH8BX.rvt



CEILING CONDITION CHART:

1. HARD LID
2. T-BAR

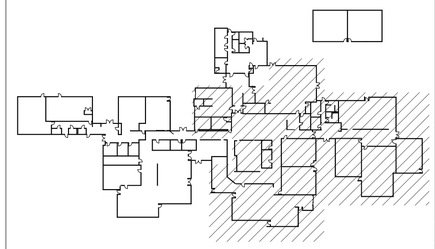
GENERAL NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL ALL PATHWAY, CABLING, ENCLOSURES, MOUNTS, TERMINATIONS, AND ACCESSORIES REQUIRED FOR COMPLETE AND FULLY OPERATIONAL TECHNOLOGY SYSTEMS.
2. CONTRACTOR TO INSTALL AND MAKE OPERATIONAL ALL OWNER-FURNISHED ACTIVE EQUIPMENT AS NOTED IN THE PLANS AND SPECIFICATIONS.
3. ALL ACTIVE EQUIPMENT FURNISHED BY THE OWNER WILL BE PROGRAMMED BY THE OWNER.
4. NO STRUCTURAL BEAMS SHALL BE PENETRATED OR ALTERED.
5. CONTRACTOR SHALL CLEAN, PRIME, AND PAINT ALL (N) CONDUIT AND J-BOXES. SEE PAINT SCOPE SHEET T-000 FOR COMPLETE REQUIREMENTS.

SHEET NOTES:

1. (N) 1 EA. 3/4" EMT CONDUIT.
2. (N) 1 EA. 1" EMT CONDUIT.
3. (N) 1 EA. 1.25" EMT CONDUIT.
4. (N) 1 EA. 2" EMT CONDUIT.
5. (N) 2 EA. 2" EMT CONDUITS.
6. (N) 3 EA. 2" EMT CONDUITS.
7. (N) 4 EA. 2" EMT CONDUITS.
8. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP IN DEEP 4-SQUARE BOX ON BEAM OR WALL. PROVIDE 3/4" CONDUIT TO NEAREST DATA J-BOX. PROVIDE (N) RIGHT ANGLE MOUNT ON BEAM OR WALL. INSTALL OWNER-PROVIDED AP. SEE DETAIL 9/T-801.
9. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP AT ACCESSIBLE CEILING. PROVIDE (N) T-BAR MOUNT FOR AP. INSTALL OWNER-PROVIDED AP. SEE DETAIL 4/T-801.
10. PROVIDE (N) IP CLOCK/SPEAKER COMBO AND SURFACE BACKBOX WITH (N) 1 EA. CAT6A DATA DROP. TERMINATE DATA DROP IN BISCUIT BLOCK MOUNTED IN SURFACE BACKBOX.
11. PROVIDE (N) CONDUIT STUB THROUGH WALL TO ACCESSIBLE CEILING.
12. FISH CABLE THROUGH HOLLOW WALL FROM DEVICE LOCATION TO SURFACE RACEWAY BELOW.
13. PROVIDE (N) WALL MOUNTED EXTERIOR BACKBOX AND (N) EXTERIOR SPEAKER. PROVIDE (N) INTERIOR ENCLOSURE WITH (N) IP MODULE. PROVIDE (N) 1 EA. CAT6A DATA DROP AT INTERIOR ENCLOSURE.
14. PROVIDE (N) 1/8" SHEET METAL COVER AT (E) COMBO CLOCK/SPEAKER BACKBOX LOCATION. PAINT TO MATCH ADJACENT WALL SURFACE. MOUNT (N) CLOCK/SPEAKER UNIT ON TOP.
15. PROVIDE (N) LADDER RACKING, INCLUDING ALL MOUNTING, FITTINGS, AND TRANSITIONS FOR A COMPLETE CABLE MANAGEMENT SYSTEM BETWEEN THE CONDUIT PENETRATIONS AND THE MDF/IDF RACK.
16. PROVIDE (N) CAT6A DATA DROP FOR CAMERA VIA (N) PATHWAY, (N) 2-GANG SURFACE BOX, AND (N) FLEX CONDUIT. SEE DETAIL 10/T-801.
17. PROVIDE (N) CAT6A DATA DROP FOR OWNER-PROVIDED DOME CAMERA. INSTALL OWNER-PROVIDED CAMERA AND AIM IN PRESENCE OF DISTRICT REPRESENTATIVE.
18. ROUTE THROUGH FURRED WALL INTO (E) CLOCK BACKBOX. PLACE (N) CLOCK/SPEAKER UNIT OVER (E) CLOCK BACKBOX.
19. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP IN SURFACE BOX ON HARD LID CEILING. PROVIDE WM2300 TO NEAREST DATA RACEWAY. PROVIDE (N) J-BOX MOUNT FOR AP. INSTALL OWNER-PROVIDED AP. SEE DETAIL 6/T-801.
20. IDENTIFY THE DATA CONDUITS AND INTERCEPT THEM WHERE THEY ENTER THE ROOM FROM THE EXTERIOR. REMOVE THE REMAINDER OF THE CONDUIT ACROSS THE CEILING TO THE J-BOX IN ROOM 230. PROVIDE A CLEAN TRANSITION FROM THE CONDUIT ENTRY TO THE (N) LADDER RACKING.

KEY PLAN



TECHNOLOGY INFRA. RCP NEW - IDF 1.01

SCALE: 1/8"=1'

0 4 8 12 16

AGENCY APPROVAL

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JOHNNY KAGSTROM
Signature
EXPIRES 12/31/2027
Regis. No.163629

PROFESSIONAL STAMP

REVISIONS

# NO.	DATE	DESCRIPTION

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1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE RCP NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

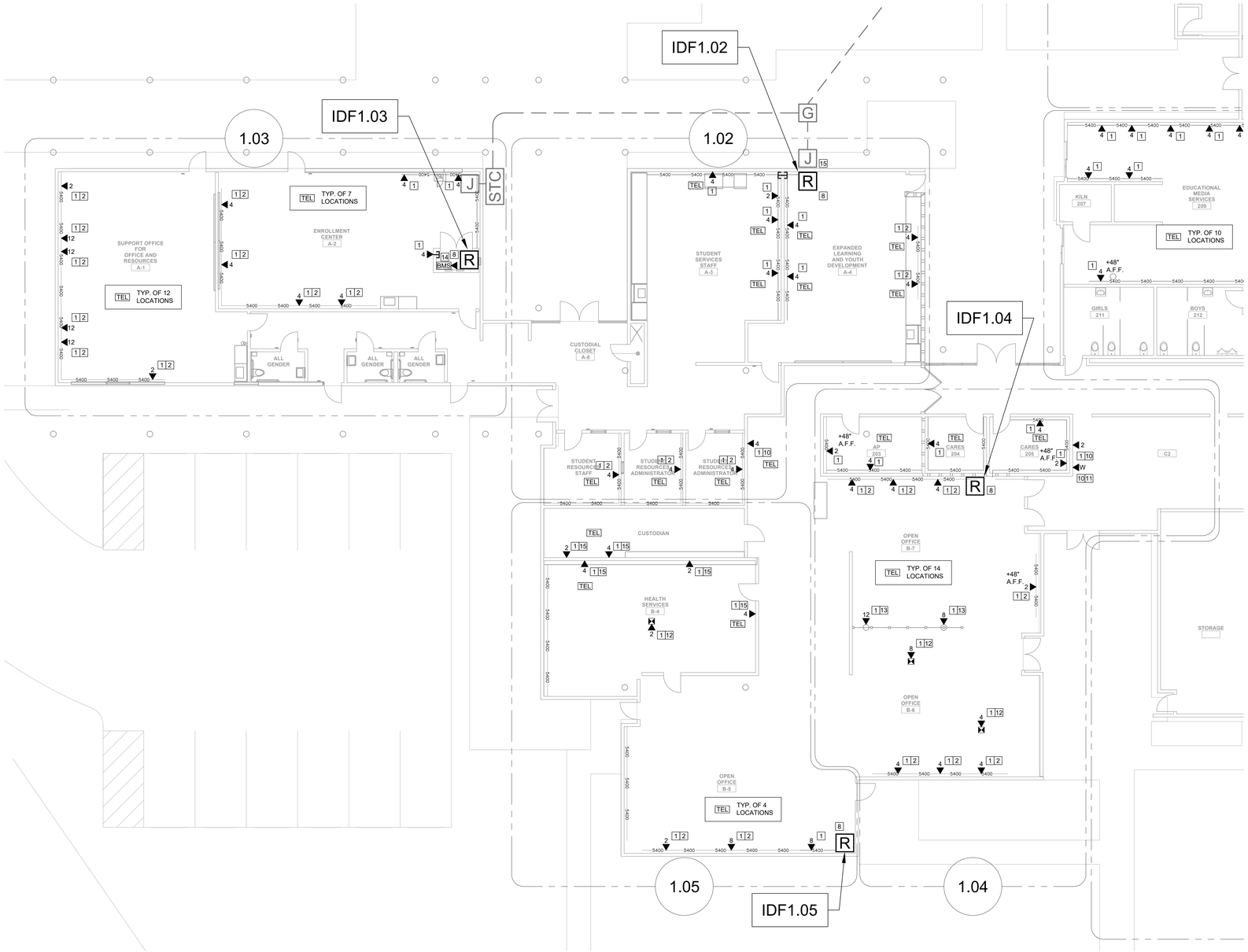
SHEET NO.

T-203

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\230044_MTUSD_IT Network Design 13 Sites_A22_dvargasTH8BX.rvt



TECHNOLOGY INFRA. FLOOR PLANS NEW - IDF 1.02,1.03,1.04, AND 1.05

SCALE: 1/8"=1'

0 4 8 12 16

GENERAL NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL ALL PATHWAY, CABLING, ENCLOSURES, MOUNTS, TERMINATIONS, AND ACCESSORIES REQUIRED FOR COMPLETE AND FULLY OPERATIONAL TECHNOLOGY SYSTEMS.
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5. CONTRACTOR SHALL CLEAN, PRIME, AND PAINT ALL (N) CONDUIT AND J-BOXES. SEE PAINT SCOPE SHEET T-000 FOR COMPLETE REQUIREMENTS.

SHEET NOTES:

1. PROVIDE (N) CAT6A DATA DROP, QUANTITY INDICATED. ROUTE CABLING VIA (N) OR (E) PATHWAY, AS INDICATED.
2. PROVIDE (N) DATA PLATE(S) AND DATA PLATE RACEWAY ADAPTERS IN (E) WM5400 SURFACE RACEWAY.
3. PROVIDE (N) 1.25" CONDUIT WITHIN CASEWORK WITH SURFACE BOXES AT DATA LOCATIONS. STUB UP TO (N) DATA J-BOX ON CEILING.
4. PROVIDE (N) CAT6A DATA DROP AT FACP WITH (N) .75" CONDUIT TO (N) MDF.
5. PROVIDE (N) CAT6A DATA DROP AT IACP WITH (N) .75" CONDUIT TO MDF.
6. ROUTE (N) CABLING VIA (E) DATA BACKBOX AND CONDUIT TO ACCESSIBLE CEILING.
7. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB TO ACCESSIBLE CEILING.
8. PROVIDE (N) IDF ENCLOSURE. SEE SINGLE LINE FOR BUILD OUT REQUIREMENTS. VERIFY PRECISE LOCATION WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH IN.
9. PROVIDE (N) 4-POST RACK FOR MDF/IDF. SEE SINGLE LINE FOR BUILD OUT REQUIREMENTS. VERIFY PRECISE SITING WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH IN.
10. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB TO SURFACE RACEWAY ON OPPOSITE SIDE OF WALL.
11. PROVIDE (N) 1 EA. CAT6A DATA DROP FOR WALL MOUNTED VOIP PHONE WITH PHONE HANGER WALL PLATE. ROUTE THROUGH FURRED WALL TO (E) PHONE BACKBOX. PROVIDE (N) WALL MOUNT BRACKET FOR OWNER-PROVIDED VOIP PHONE. MOUNT OWNER-PROVIDED VOIP PHONE HANDSET ON WALL HANGER PLATE.
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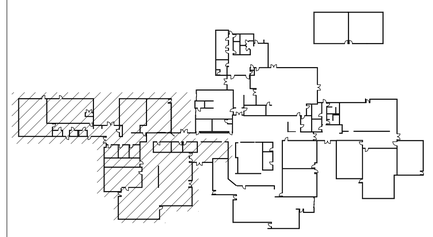
13. PROVIDE (N) DEEP SURFACE BOX ON CONCRETE POLE WITH CONDUIT UP POLE TO NEAREST DATA J-BOX.
14. PROVIDE (N) CAT6A DATA DROP AT BUILDING MANAGEMENT DEVICE.
15. PROVIDE (N) J-BOX ON INTERIOR WALL, ALIGNED WITH (E) J-BOX ON EXTERIOR. CORE WALL AND PROVIDE 2 EA. 2" CONDUIT SLEEVES THROUGH THE WALL.
16. PROVIDE (N) CUT-IN BOX WITH CONDUIT STUB THROUGH FURRED WALL TO NEAREST DATA J-BOX.

KEY PLAN



AGENCY APPROVAL

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CONSULTANTS
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Signature
JOHNNY KAGSTROM
EXPIRES 12/31/2027
Regis. No.163629

PROFESSIONAL STAMP

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PROJECT OWNER & TITLE

MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE FLOOR PLANS NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

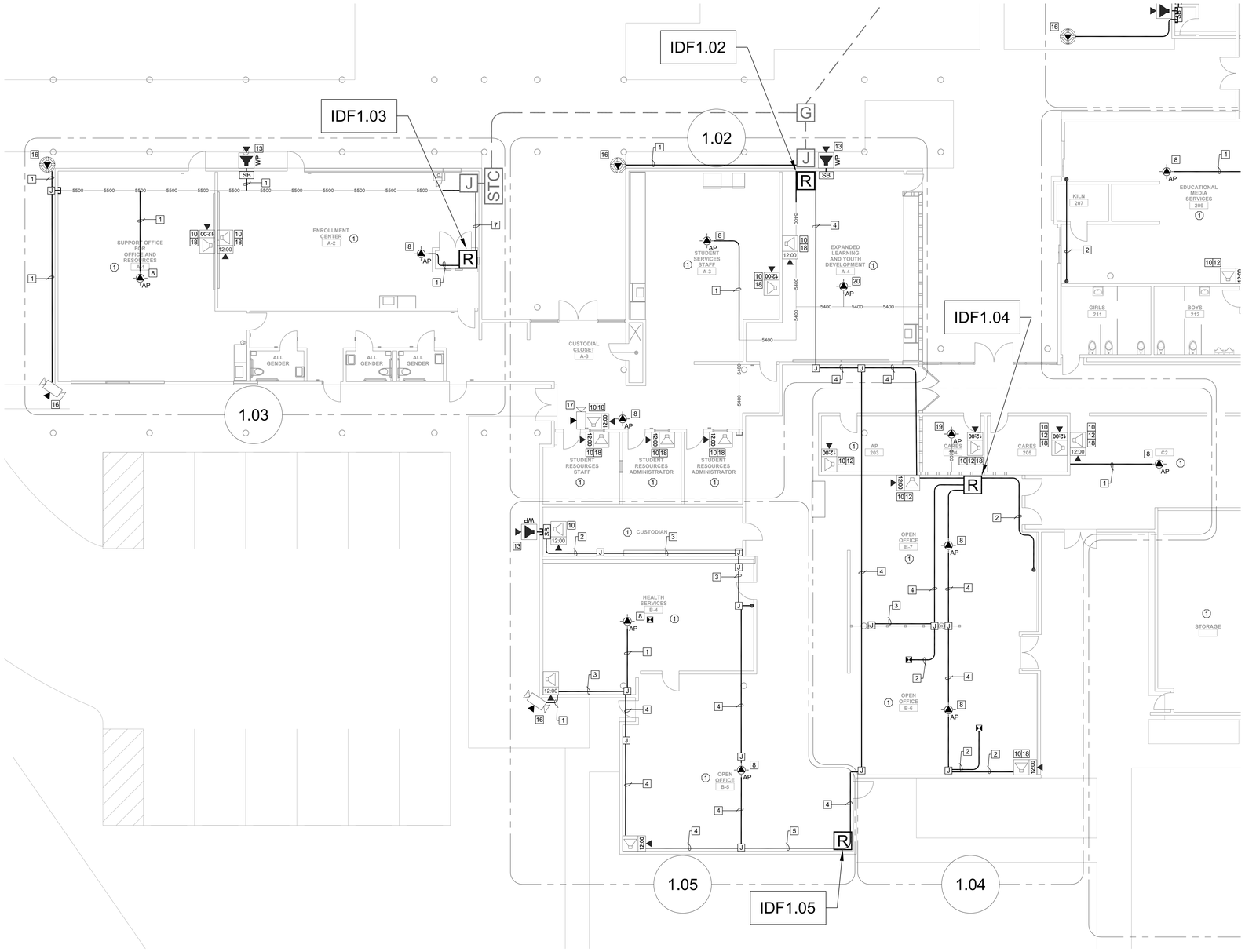
SHEET NO.

T-204

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044 _MTUSD_ IT Network Design 13 Sites_A22_dvargasTH8BX.rvt



TECHNOLOGY INFRA. RCP NEW - IDF 1.02, 1.03, 1.04, AND 1.05

SCALE: 1/8"=1'

0 4 8 12 16

CEILING CONDITION CHART:

1. HARD LID
2. T-BAR

GENERAL NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL ALL PATHWAY, CABLING, ENCLOSURES, MOUNTS, TERMINATIONS, AND ACCESSORIES REQUIRED FOR COMPLETE AND FULLY OPERATIONAL TECHNOLOGY SYSTEMS.
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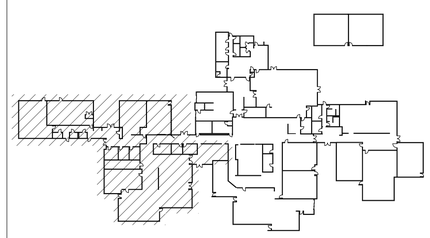
SHEET NOTES:

1. (N) 1 EA. 3/4" EMT CONDUIT.
2. (N) 1 EA. 1" EMT CONDUIT.
3. (N) 1 EA. 1.25" EMT CONDUIT.
4. (N) 1 EA. 2" EMT CONDUIT.
5. (N) 2 EA. 2" EMT CONDUITS.
6. (N) 3 EA. 2" EMT CONDUITS.
7. (N) 4 EA. 2" EMT CONDUITS.
8. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP IN DEEP 4-SQUARE BOX ON BEAM OR WALL. PROVIDE 3/4" CONDUIT TO NEAREST DATA J-BOX. PROVIDE (N) RIGHT ANGLE MOUNT ON BEAM OR WALL. INSTALL OWNER-PROVIDED AP. SEE DETAIL 9/T-801.
9. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP AT ACCESSIBLE CEILING. PROVIDE (N) T-BAR MOUNT FOR AP. INSTALL OWNER-PROVIDED AP. SEE DETAIL 4/T-801.
10. PROVIDE (N) IP CLOCK/SPEAKER COMBO AND SURFACE BACKBOX WITH (N) 1 EA. CAT6A DATA DROP IN BISCUIT BLOCK MOUNTED IN SURFACE BACKBOX.
11. PROVIDE (N) CONDUIT STUB THROUGH WALL TO ACCESSIBLE CEILING.
12. FISH CABLE THROUGH HOLLOW WALL FROM DEVICE LOCATION TO SURFACE RACEWAY BELOW.
13. PROVIDE (N) WALL MOUNTED EXTERIOR BACKBOX AND (N) EXTERIOR SPEAKER. PROVIDE (N) INTERIOR ENCLOSURE WITH (N) IP MODULE. PROVIDE (N) 1 EA. CAT6A DATA DROP AT INTERIOR ENCLOSURE.
14. PROVIDE (N) 1/8" SHEET METAL COVER AT (E) COMBO CLOCK/SPEAKER BACKBOX LOCATION. PAINT TO MATCH ADJACENT WALL SURFACE. MOUNT (N) CLOCK/SPEAKER UNIT ON TOP.
15. PROVIDE (N) LADDER RACKING, INCLUDING ALL MOUNTING, FITTINGS, AND TRANSITIONS FOR A COMPLETE CABLE MANAGEMENT SYSTEM BETWEEN THE CONDUIT PENETRATIONS AND THE MDF/IDF RACK.
16. PROVIDE (N) CAT6A DATA DROP FOR CAMERA VIA (N) PATHWAY, (N) 2-GANG SURFACE BOX, AND (N) FLEX CONDUIT. SEE DETAIL 10/T-801.
17. PROVIDE (N) CAT6A DATA DROP FOR OWNER-PROVIDED DOME CAMERA. INSTALL OWNER-PROVIDED CAMERA AND AIM IN PRESENCE OF DISTRICT REPRESENTATIVE.
18. ROUTE THROUGH FURRED WALL INTO (E) CLOCK BACKBOX. PLACE (N) CLOCK/SPEAKER UNIT OVER (E) CLOCK BACKBOX.
19. PROVIDE (N) 2 EA. CAT6A DATA DROP FOR WIRELESS AP IN SURFACE BOX ON HARD LID CEILING. PROVIDE WM2300 TO NEAREST DATA RACEWAY. PROVIDE (N) J-BOX MOUNT FOR AP. INSTALL OWNER-PROVIDED AP. SEE DETAIL 6/T-801.
20. IDENTIFY THE DATA CONDUITS AND INTERCEPT THEM WHERE THEY ENTER THE ROOM FROM THE EXTERIOR. REMOVE THE REMAINDER OF THE CONDUIT ACROSS THE CEILING TO THE J-BOX IN ROOM 230. PROVIDE A CLEAN TRANSITION FROM THE CONDUIT ENTRY TO THE (N) LADDER RACKING.

KEY PLAN



AGENCY APPROVAL

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1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE RCP NEW

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

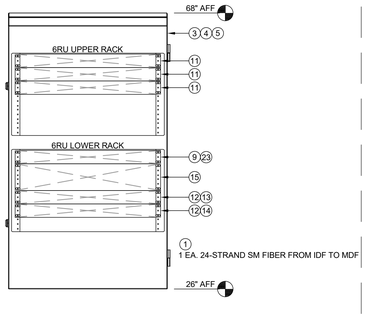
SHEET NO.

T-205

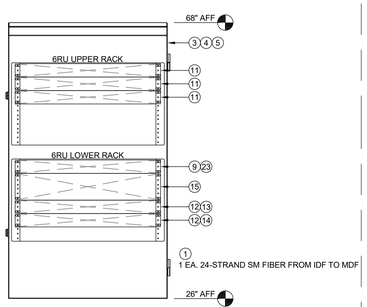
DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

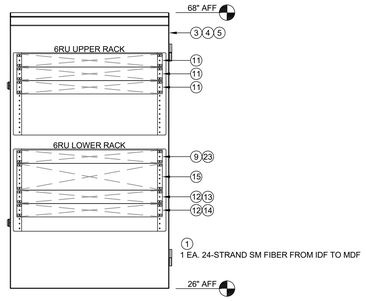
DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044_MTUSD_ IT Network Design 13 Sites_A22_dvargasTH8BX.rvt



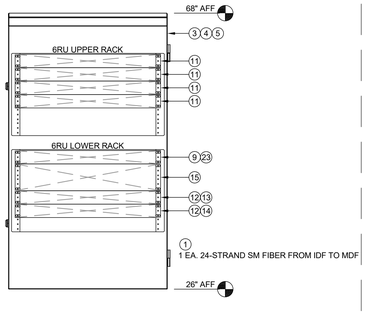
7 IDF 1.06 - ROOM P-2



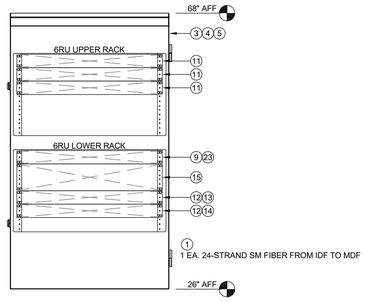
6 IDF 1.05 - ROOM B-5



5 IDF 1.04 - ROOM B-7



4 IDF 1.03 - ROOM A-2 (CLOSET)



3 IDF 1.02 - ROOM A-4

IDF 1.02, 1.03, 1.04, 1.05, 1.06 GENERAL NOTES:

1. PROVIDE 1 EA. (N) 208V/20A (L6-20R) DEDICATED CIRCUIT IN QUAD BOX ON REAR PAN OF RACK.
2. SET RACK RAIL DEPTH SO THAT THE FRONT DOOR WILL BE ABLE TO CLOSE AND LATCH AFTER EQUIPMENT AND PATCH CABLES ARE INSTALLED.
3. PROVIDE ALL (N) EQUIPMENT CALLED FOR IN THE ELEVATION.
4. INSTALL ALL OWNER-FURNISHED EQUIPMENT CALLED FOR IN THE ELEVATION.
5. ROUTE POWER FOR ALL EQUIPMENT SO THAT IT IS PROTECTED BY THE UNINTERRUPTIBLE POWER SUPPLY.
6. PROVIDE (N) 6" SLIMLINE CAT6A PATCH CABLES FOR ALL (N) DATA DROPS.
7. PROVIDE (N) LC/LC FIBER PATCH CABLES AS REQUIRED.

MDF GENERAL NOTES:

1. THE PROJECT INVOLVES A COMPLETE REPLACEMENT OF THE (E) MDF.
2. THE (E) MDF MUST BE PROTECTED AND KEPT OPERATIONAL UNTIL THE (N) MDF CAN BE BROUGHT ONLINE.
3. ANY DOWNTIME OR CUTOVERS MUST BE SCHEDULED IN ADVANCE AND APPROVED BY THE DISTRICT REPRESENTATIVE. CAREFUL COORDINATION WILL BE REQUIRED TO MINIMIZE DOWNTIME AND SO THAT NORMAL CAMPUS OPERATIONS WILL NOT BE AFFECTED.
4. PROVIDE 1 EA. (N) 120V/20A DEDICATED CIRCUITS IN QUAD BOX AT TOP OF RACK, AND 2 EA. (N) 208V/20A DEDICATED CIRCUIT (L6-20R RECEPTACLE) AT TOP OF RACK.
5. PROVIDE ALL (N) EQUIPMENT CALLED FOR IN THE ELEVATION.
6. INSTALL ALL OWNER-FURNISHED EQUIPMENT CALLED FOR IN THE ELEVATION.
7. RELOCATE AND REINSTALL ALL (E) EQUIPMENT NOTED FOR REUSE IN THE ELEVATION.
8. ROUTE POWER FOR ALL EQUIPMENT SO THAT IT IS EVENLY DISTRIBUTED BETWEEN AND FULLY PROTECTED BY THE UNINTERRUPTIBLE POWER SUPPLIES.
9. REMOVE ALL (E) EQUIPMENT NOT NOTED FOR REUSE AND DELIVER TO DISTRICT WAREHOUSE IN GOOD CONDITION.
10. PROVIDE (N) 6" SLIMLINE CAT6A PATCH CABLES FOR ALL (N) DATA DROPS.
11. PROVIDE (N) LC/LC FIBER PATCH CABLES AS REQUIRED.

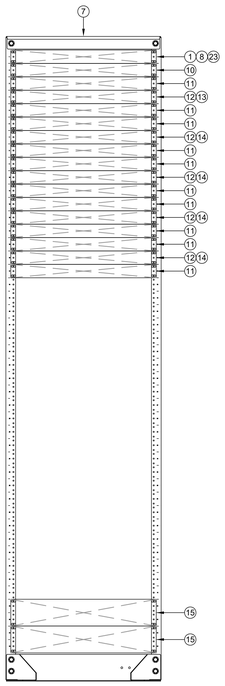
IDF 1.01 GENERAL NOTES:

1. PROVIDE 2 EA. (N) 208V/20A (L6-20R) DEDICATED CIRCUITS AT TOP OF RACK.
2. PROVIDE ALL (N) EQUIPMENT CALLED FOR IN THE ELEVATION.
3. INSTALL ALL OWNER-FURNISHED EQUIPMENT CALLED FOR IN THE ELEVATION.
4. ROUTE POWER FOR ALL EQUIPMENT SO THAT IT IS EVENLY DISTRIBUTED BETWEEN AND FULLY PROTECTED BY THE UNINTERRUPTIBLE POWER SUPPLIES.
5. PROVIDE (N) 6" SLIMLINE CAT6A PATCH CABLES FOR ALL (N) DATA DROPS.
6. PROVIDE (N) LC/LC FIBER PATCH CABLES AS REQUIRED.

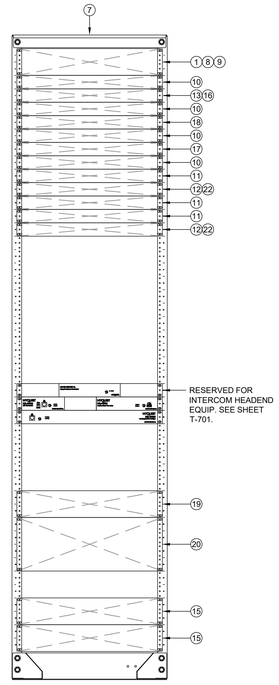
EQUIPMENT SCHEDULE:

ALL EQUIPMENT AND MATERIALS ARE CONTRACTOR FURNISHED, INSTALLED AND CONFIGURED (UNO)

SYMBOL	DESCRIPTION	MFG/MODEL	PART NUMBER	NOTES / DETAIL REFERENCES
1	24-STRAND SINGLE MODE FIBER, ARMORED	PANDUIT	FSLP924	N/A
2	TELECOMMUNICATIONS RACK, WALL VERTICAL 3U/3U	PANDUIT	WME3BL	N/A
3	TELECOMMUNICATIONS RACK, WALL VERTICAL 6U/6U	PANDUIT	WME6BL	N/A
4	FAN KIT FOR WALL VERTICAL RACK	PANDUIT	PZAEFAN	N/A
5	GROUND KIT FOR WALL VERTICAL RACK	PANDUIT	WMEGK	N/A
6	FIBER ENCLOSURE BRACKET FOR VERTICAL RACK	PANDUIT	FWME1BL	N/A
7	TELECOMMUNICATIONS RACK, 4 POST 45RU	PANDUIT	AR4PCN	N/A
	CONCRETE FLOOR ANCHOR KIT		RFAKIT	N/A
	VERTICAL CABLE MANAGER		PR2VFD06	N/A
8	FIBER TRAY LIU, 2U	PANDUIT	FRME2U	N/A
	BLANK FIBER ADAPTER PANEL		FAPB	PROVIDE AT ALL UNUSED BULKHEAD LOCATIONS
9	FIBER ADAPTER PANEL 12 PAIR	PANDUIT	FAP12WBUDLCZ	N/A
10	1U HORIZONTAL CABLE MANAGER	PANDUIT	NCMHF1	N/A
11	1U 24 PORT PATCH PANEL	PANDUIT	CPPL24M6BLY	N/A
	STRAIN RELIEF BAR FOR PATCH PANEL		SRB19BLY	N/A
12	48 PORT SWITCH	ARUBA	R8S90A	OFCI
	POWER SUPPLY		JL670A	OFCI
13	SFP+ MODULE	ARUBA	J9151E	OFCI
14	STACK CABLE	ARUBA	R0M46A	OFCI
15	UNINTERRUPTIBLE POWER SUPPLY	N1C	N1C.L3000G	OFCI
16	CORE SWITCH	ARUBA	JL479A	OFCI
17	AP CONTROLLER	ARUBA	EXISTING	RELOCATE FROM (E) MDF RACK
18	SERVICE PROVIDER EQUIPMENT	CIENA	EXISTING	RELOCATE FROM (E) MDF RACK
19	2U NVR SERVER	EXISTING	EXISTING	RELOCATE FROM (E) MDF RACK
20	4U NVR SERVER	EXISTING	EXISTING	RELOCATE FROM (E) MDF RACK
21	1U RACK MOUNT MONITOR	TRIPP LITE	B021-000-19-HD2	N/A
22	DAC CABLE	ARUBA	J9281D	OFCI
23	FIBER TRAY LIU, 1U	PANDUIT	FRME1U	N/A
	BLANK FIBER ADAPTER PANEL		FAPB	PROVIDE AT ALL UNUSED BULKHEAD LOCATIONS



2 IDF 1.01 - ROOM 234B (STAGE)



1 MDF 1.00 - ROOM 230A

AGENCY APPROVAL

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CONSULTANTS

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PROJECT OWNER & TITLE

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1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE SINGLE LINES

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

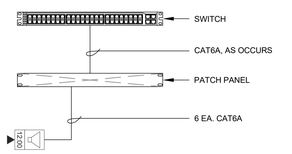
SHEET NO.

T-700

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044 _MTUSD_ IT Network Design 13 Sites_A22_dvargasTH8BX.rvt



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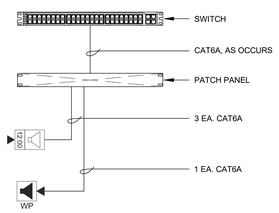

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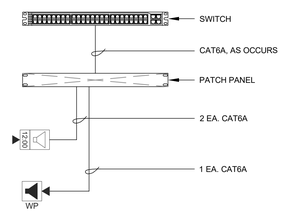
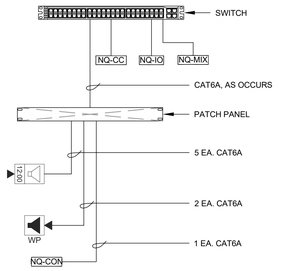
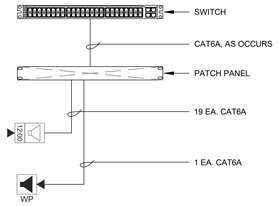


G IDF 1.06
SCALE: NONE

EQUIPMENT INTERCOM SCHEDULE: ALL EQUIPMENT AND MATERIALS ARE CONTRACTOR FURNISHED, INSTALLED AND CONFIGURED (UNO)				
SYMBOL	DESCRIPTION	MODEL	PART NUMBER	NOTES / DETAIL REFERENCES
	IP CLOCK/SPEAKER COMBO	BOGEN	NQ-S1810WBC	N/A
	SURFACE BACKBOX		N/A	N/A
WP	IP SPEAKER (EXTERIOR)	LOWELL	VRG-LUH15TX	N/A
	SURFACE BACKBOX		CB84-SGVPO	N/A
	IP MODULE	BOGEN	NQ-GA10	MOUNT IN SB
SB	INTERIOR ENCLOSURE	FSR	SMWB-4G-W	MOUNT INSIDE BUILDING
NQ-CON	IP CONSOLE PHONE	BOGEN	NQ-T1100	N/A
NQ-CC	NYQUIST SYSTEM CONTROLLER	BOGEN	NQ-SYSCTRL	N/A
	NYQUIST 1RU-2RU RACK MOUNT KIT		NQ-RMK03	N/A
NQ-IO	NYQUIST INPUT/OUTPUT CONTROLLER	BOGEN	NQ-E7010	N/A
NQ-MIX	NYQUIST MATRIX MIXER PRE-AMP		NQ-P0100	N/A
	NYQUIST 1RU RACK MOUNT KIT, TYPE 1		NQ-RMK01	N/A



A MDF 1.00
SCALE: NONE



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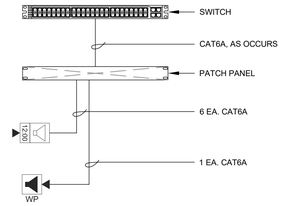

C IDF 1.02
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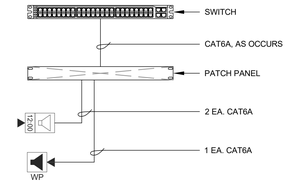
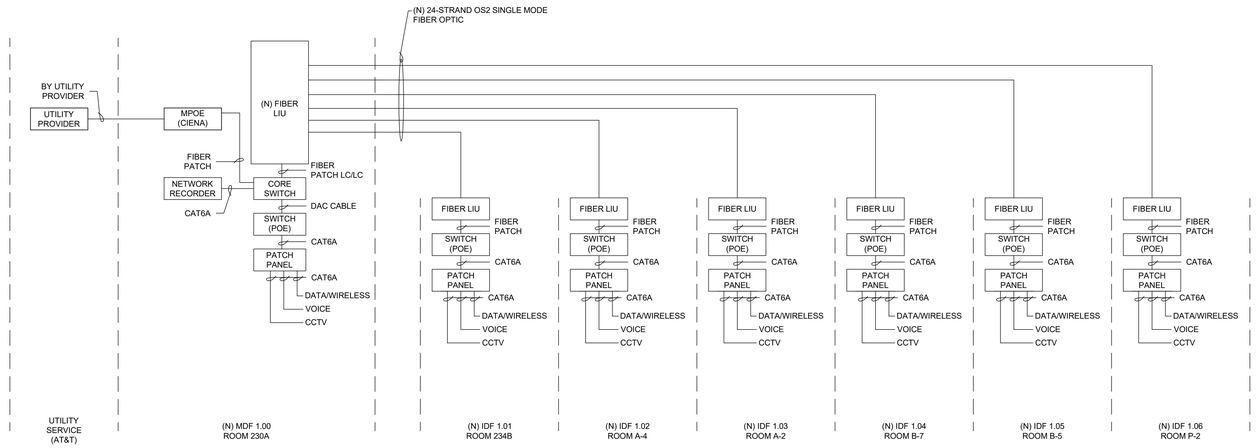


D IDF 1.03
SCALE: NONE

2 INTERCOM NETWORK SINGLE LINE DIAGRAM
SCALE: NONE



1 DATA/VOICE/CCTV NETWORK SINGLE LINE DIAGRAM
SCALE: NONE

AGENCY APPROVAL

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SHEET TITLE

TECHNOLOGY INFRASTRUCTURE SINGLE LINES

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

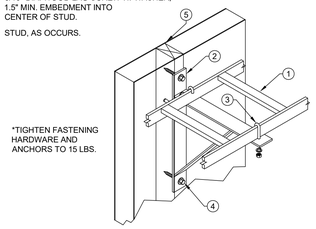
T-701

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

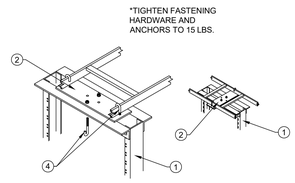
DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044 _MTUSD_ IT Network Design 13 Sites_A22_dvargasTH8BX.rvt

1. CHATSWORTH 11275-712 LADDER RACK ASSEMBLY, PER DRAWINGS.
2. MOUNTING BRACKET. 60" OC MAXIMUM SPACING BETWEEN BRACKETS.
3. MFR. INCLUDED MOUNTING BRACKET J-HOOK HARDWARE
4. 3/16" DIA. WOOD LAG SCREW W/ WASHER, 1.5" MIN. EMBEDMENT INTO CENTER OF STUD.
5. STUD, AS OCCURS.

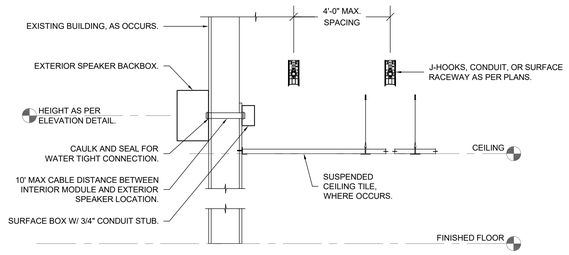


16 RUNWAY SIDE WALL SUPPORT DETAIL
SCALE: NONE

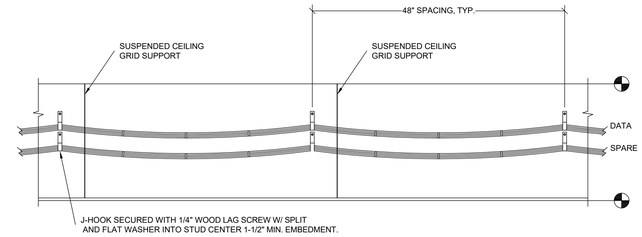
1. DATA RACK ASSEMBLIES
2. TOP PLATE MOUNTING BRACKET
3. MFR. INCLUDED TOP PLATE MOUNTING BRACKET, J-HOOK HARDWARE.



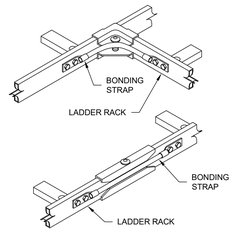
11 RUNWAY SUPPORT KIT FOR RACK DETAIL
SCALE: NONE



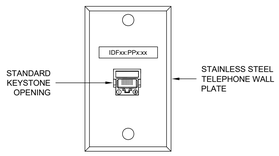
6 EXTERIOR INTERCOM SPEAKER MOUNTING DETAIL
SCALE: NONE



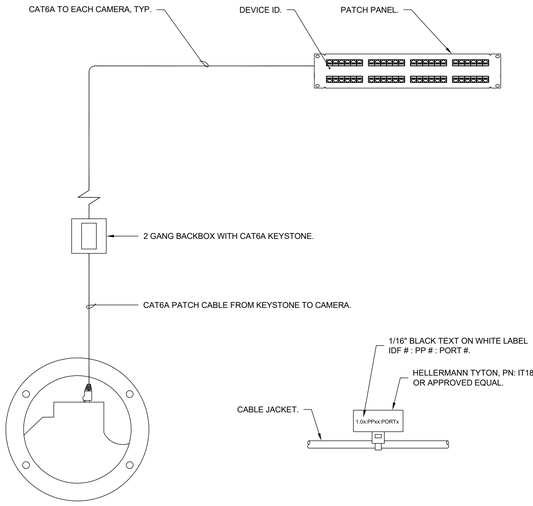
3 J-HOOK PATHWAY ABOVE CEILING DETAIL
SCALE: NONE



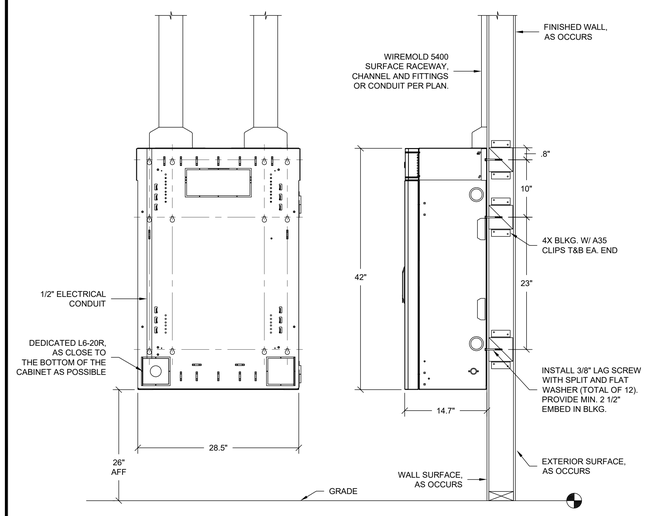
15 LADDER RACK BONDING DETAIL
SCALE: NONE



10 TELEPHONE WALL PLATE DETAIL
SCALE: NONE



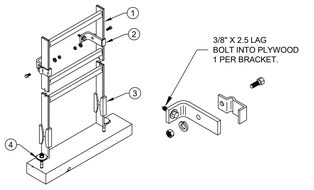
5 CCTV NETWORK SEGMENT DETAIL
SCALE: NONE



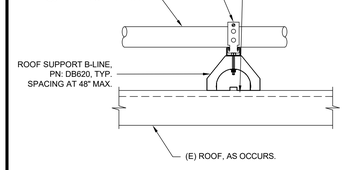
NOTES:
1. 3RU TOTAL LOAD CAPACITY = 200 LBS.

2 TELECOMMUNICATIONS WALL CABINET, 3RU
SCALE: NONE

1. CABLE LADDER PER DRAWINGS.
2. VERTICAL WALL BRACKETS, CHATSWORTH PN 10608-001 OR EQUAL
3. VERT. LADDER FLOOR BRACKET, CHATSWORTH PN 11309-000 OR EQUAL
4. 3/8" DIA. HILTI KB-TZ2 316 WEDGE ANCHOR, 2" EMBED (2-TOTAL)

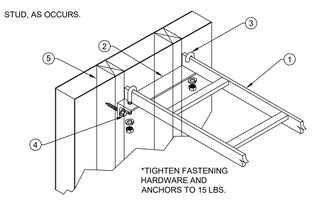


14 VERTICAL LADDER SUPPORT DETAIL
SCALE: NONE

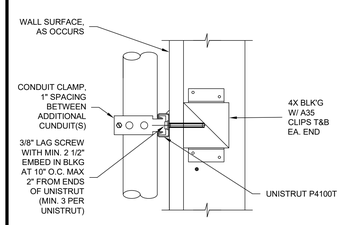


9 CONDUIT ON ROOF DETAIL
SCALE: NONE

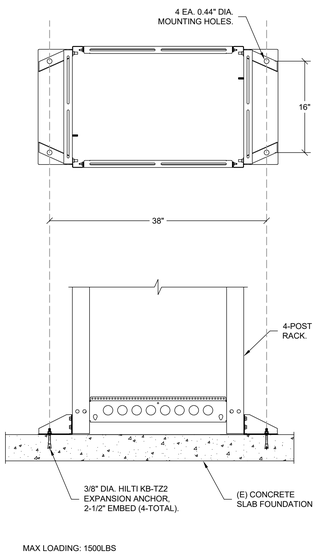
1. LADDER RACK ASSEMBLY PER DRAWINGS.
2. MOUNTING BRACKET FOR WALL
3. MFR. INCLUDED MOUNTING BRACKET J-HOOK HARDWARE
4. 3/16" DIA. WOOD LAG SCREW W/ WASHER, 1.5" MIN. EMBEDMENT INTO CENTER OF STUD.
5. STUD, AS OCCURS.



13 RUNWAY END WALL SUPPORT DETAIL
SCALE: NONE

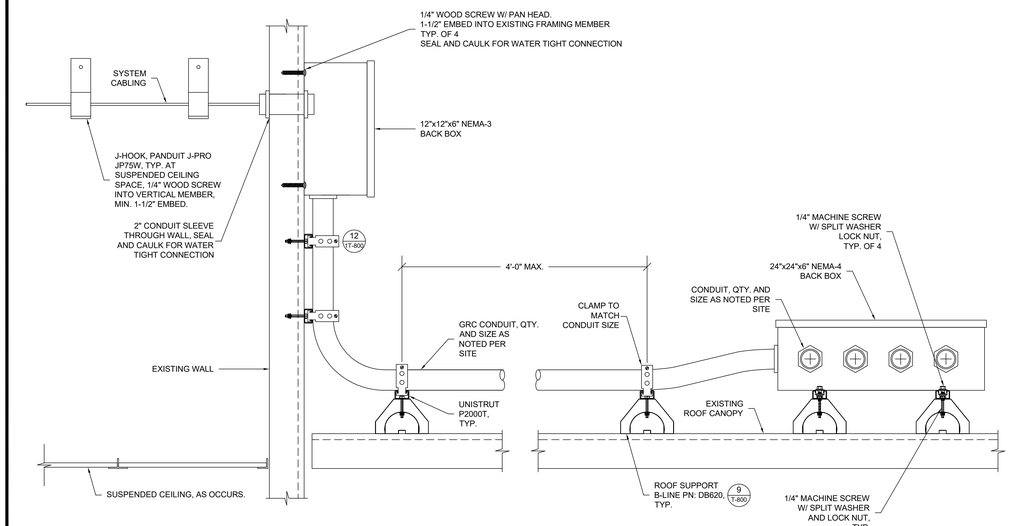


8 CONDUIT SUPPORT DETAIL - VERTICAL
SCALE: NONE



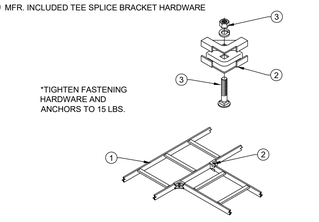
MAX LOADING: 1500LBS

4 FLOOR MOUNTED 4-POST RACK DETAIL
SCALE: NONE



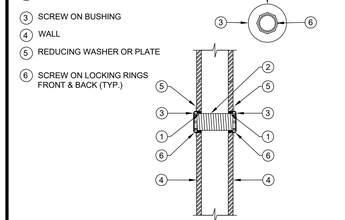
1 EXTERIOR CANOPY CONDUIT AND BACK BOX MOUNTING DETAIL
SCALE: NONE

1. (N) 18" LADDER RACK ASSEMBLY
2. MOUNTING BRACKET FOR 90 DEGREE ATTACHMENT
3. MFR. INCLUDED TEE SPLICE BRACKET HARDWARE



12 HORIZONTAL TEE SPLICE KIT DETAIL
SCALE: NONE

1. DRAFT STOP OR FIRE CAULK ACCORDING TO WALL PENETRATION DETAILS
2. ALL THREAD CONDUIT
3. SCREW ON BUSHING
4. WALL
5. REDUCING WASHER OR PLATE
6. SCREW ON LOCKING RINGS FRONT & BACK (TYP.)



7 CONDUIT SLEEVE PENETRATION DETAIL
SCALE: NONE

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DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

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T-800

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CONSTRUCTION DOCUMENT

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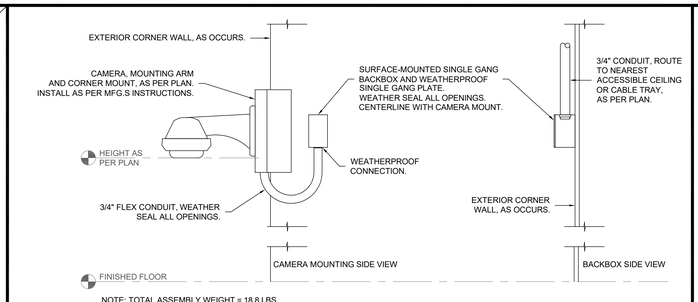
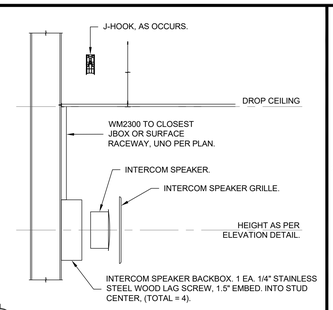
NOT USED

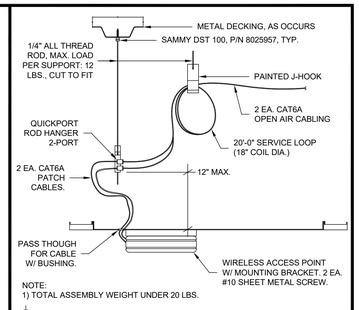


NOTE: TOTAL ASSEMBLY WEIGHT = 18.8 LBS.

10 MULTI-VIEW CCTV EXTERIOR CORNER MOUNTING DETAIL
SCALE: NONE

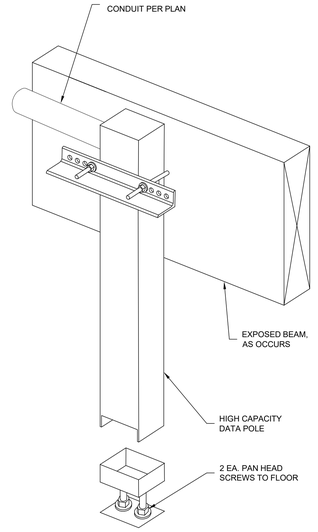


5 SURFACE MOUNTED INTERIOR INTERCOM SPEAKER DETAIL
SCALE: NONE



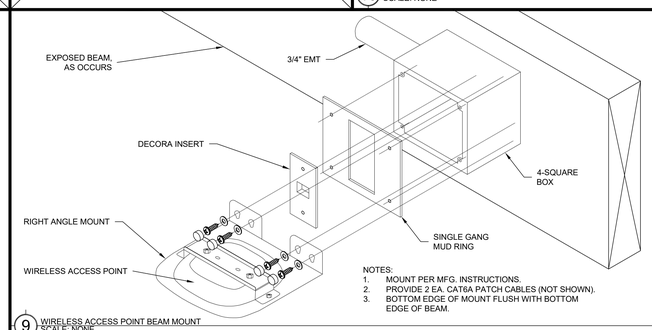
NOTE:
1) TOTAL ASSEMBLY WEIGHT UNDER 20 LBS.

4 WIRELESS ACCESS POINT ON METAL T-BAR CEILING MOUNTING DETAIL
SCALE: NONE



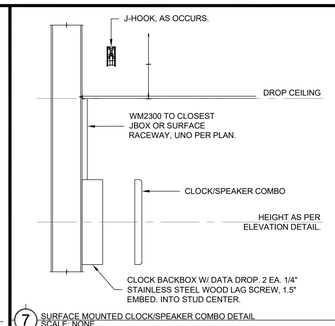
NOTES:
1. MOUNT PER MFG. INSTRUCTIONS.

13 DATA POLE DETAIL
SCALE: NONE

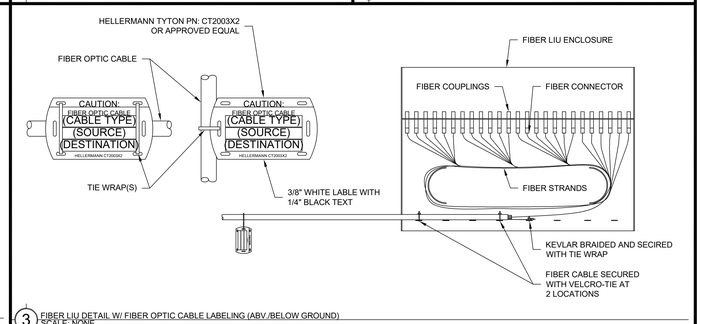


NOTES:
1. MOUNT PER MFG. INSTRUCTIONS.
2. PROVIDE 2 EA. CAT6A PATCH CABLES (NOT SHOWN).
3. BOTTOM EDGE OF MOUNT FLUSH WITH BOTTOM EDGE OF BEAM.

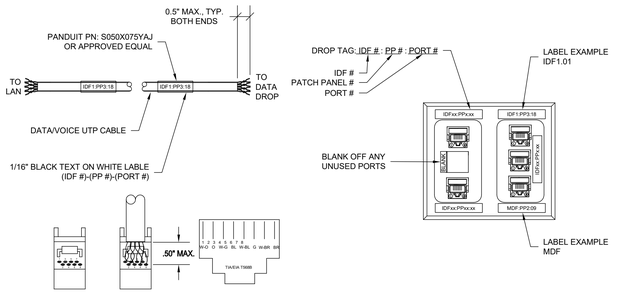
9 WIRELESS ACCESS POINT BEAM MOUNT
SCALE: NONE



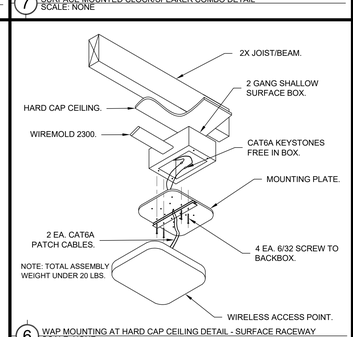
7 SURFACE MOUNTED CLOCK/SPEAKER COMBO DETAIL
SCALE: NONE



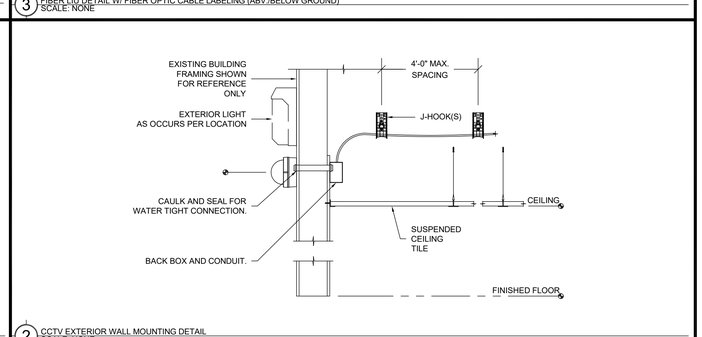
3 FIBER LIU DETAIL W/ FIBER OPTIC CABLE LABELING (ABV./BELOW GROUND)
SCALE: NONE



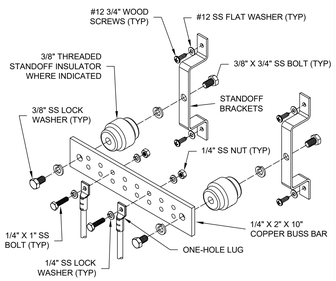
DATA CABLE LABELING DETAIL - AT PATCH PANEL / END POINT



6 WAP MOUNTING AT HARD CAP CEILING DETAIL - SURFACE RACEWAY
SCALE: NONE

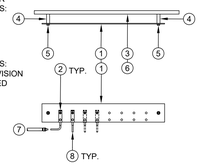


2 CCTV EXTERIOR WALL MOUNTING DETAIL
SCALE: NONE

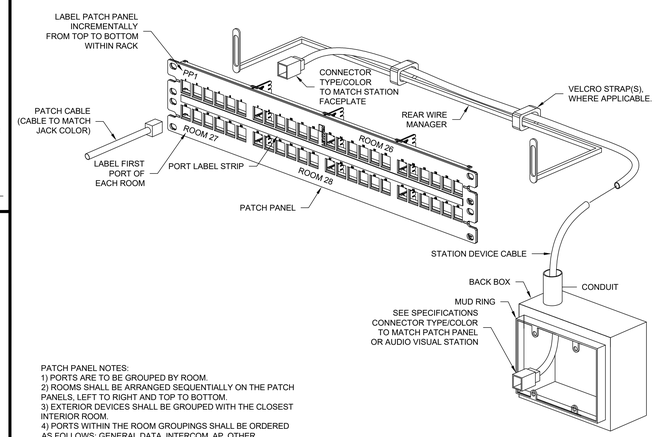


12 MAIN GROUND BAR DETAIL
SCALE: NONE

1. BARE COPPER GROUND BUS BAR
2. TYPICAL 2 HOLE LUGS, SECURE TO BAR WITH 2-5/6" BOLTS,WITH NAMEPLATES MOUNTED ABOVE. PROVIDE NUMBER OF LUGS AS REQUIRED
3. 1" FIRE RATED PLYWOOD BACKBOARD
4. PROVIDE ISOLATION SUPPORT SPACERS AS REQUIRED
5. 3/8" WOOD LAG SCREW, 1" MIN. EMBED
6. MOUNTING LOCATION PER PLAN
7. MAIN BONDING CONDUCTOR FOR TELECOMMUNICATIONS: #4 AWG TO GROUNDING ELECTRODE SYSTEM (PER ELECTRICAL)
8. BONDING CONDUCTOR(S) FOR TELECOMMUNICATIONS: #6 AWG TO DIVISION 27, DIVISION 28 EQUIPMENT AS REQUIRED



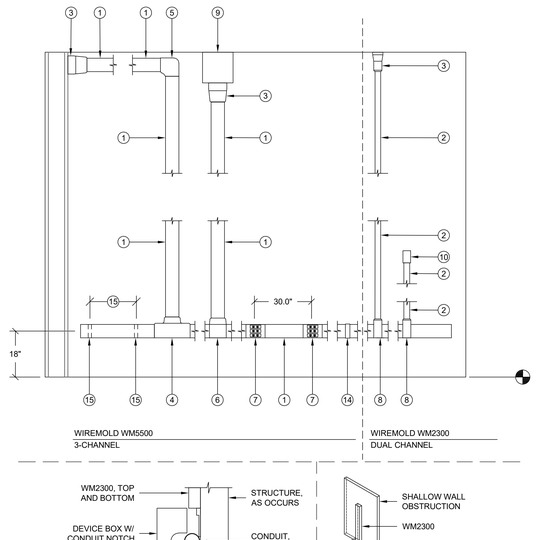
11 GROUND BUS BAR DETAIL
SCALE: NONE



PATCH PANEL NOTES:
1) PORTS ARE TO BE GROUPED BY ROOM.
2) ROOMS SHALL BE ARRANGED SEQUENTIALLY ON THE PATCH PANELS, LEFT TO RIGHT AND TOP TO BOTTOM.
3) EXTERIOR DEVICES SHALL BE GROUPED WITH THE CLOSEST INTERIOR ROOM.
4) PORTS WITHIN THE ROOM GROUPINGS SHALL BE ORDERED AS FOLLOWS: GENERAL DATA, INTERCOM, AP, OTHER.
5) DO NOT SEGREGATE PATCH PANELS BY DEVICE TYPE UNLESS SPECIFICALLY DIRECTED ON THE IDF ELEVATION.

8 PATCH PANEL CONNECTION DETAIL - 2RU
SCALE: NONE

DATA/ VOICE BACKBOX AND FACE PLATE DETAIL



1 TYPICAL SURFACE MOUNTED RACEWAY W/ ASSEMBLY COMPONENTS DETAIL
SCALE: NONE

WIREMOLD SURFACE RACEWAY

SYMBOL	DESCRIPTION	WM5500 PART NUMBER	WM2300 PART NUMBER
1	WIREMOLD WM5500	5500	N/A
2	WIREMOLD WM2300	N/A	2300
3	ENTRANCE END FITTING	5510D	2310A
4	FULL CAPACITY TEE (FIBER READY)	N/A	N/A
5	FULL CAPACITY FLAT ELBOW 90°	5511F0	2311DFO
6	TEE	5515	2315
7	DEVICE BRACKET W/ DUAL RJ FACEPLATE. DUPLEX FACEPLATE OR BLACK FACEPLATE AS NEEDED	5550 / 5507FRJ / 5507D / 5507B	5474 / 5574
8	TRANSITION FITTING FOR WM2300	5574	2348
9	WALL MOUNTED PULL BOX SIZE AS NOTED PER PLAN	N/A	2300
10	DEVICE BOX	N/A	2348
11	END CAP	5510	2310B
12	INTERNAL ELBOW	5517FO	2317DFO
13	EXTERNAL ELBOW	5518FO	2318DFO
14	BASE SEAM COVER	5506	2306
15	WIRE CLIP	5500WC (INSTALL CLIPS AT 48" O.C. ENTIRE LENGTH OF WIREMOLD)	2300WC (INSTALL CLIPS AT 48" O.C. ENTIRE LENGTH OF WIREMOLD)
16	TRANSITION FITTING FOR WM5500 TO WM5400	5574A	N/A

NOTE:
1) DEVICE BOX (10) TO BE USED TO TRANSITION OVER CONDUIT AND SHALLOW WALL OBSTRUCTIONS (I.E. BULLETIN BOARD, TRIM, CASEWORK, ETC.) WHERE REQUIRED. UNDER NO CIRCUMSTANCES SHOULD SURFACE RACEWAY BE BENT OVER OBSTRUCTIONS.

AGENCY APPROVAL

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CONSULTANTS
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI
JOHNNY KAGSTROM
Signature
EXPIRES 12/31/2027
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PROFESSIONAL STAMP

REVISIONS

# NO.	DATE	DESCRIPTION

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PROJECT OWNER & TITLE

MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE

TECHNOLOGY INFRASTRUCTURE DETAILS

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.

T-801

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

DATE PLOTTED: 10/1/2024 5:02:54 PM FILE LOCATION: C:\Users\dvargas\Documents\23044_MTUSD_IT Network Design 13 Sites_A22_dvargasTH8BX.rvt

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814)
and ANSI/UL263 (ASTM E119)

CLIV.R14288
Wall-opening Protective Materials

SpecSeal Power Shield Box Inserts, for use with flush device UL Listed Metallic Outlet Boxes without internal clamps installed with steel mud rings in framed wall assemblies. When protective material is used in outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the boxes are not installed back-to-back. Installation shall comply with the National Electrical Code (NFPA 70). The max outlet box dimensions, hourly rating, type of stud, use of stud cavity insulation and type of faceplate are tabulated below. Additional general construction features shall comply as follows:

A. Studs - Unless otherwise specified, the minimum stud width is 3-1/2 in. (89 mm).

B. Stud Cavity Insulation - Where indicated in the table below, stud cavity insulation to consist of min 3-1/2 in. (89 mm) thick fiberglass (min 0.5 pcf or 8 kg/m3) or mineral fiber (min 4 pcf or 64 kg/m3). Unless indicated as required, stud cavity insulation is optional.

C. Wall Design - Stud composition is indicated in the table below. Wall construction shall comply with the individual U300, U400 or V400 Series Wall and Partition Design in the Fire Resistance Directory.

D. Pad Dimensions - The minimum dimensions of the insert pad are shown in the table below. Pads may be cut to achieve dimensions shown in table and partial insert pads may be utilized.

Product	Max Outlet Box Size, in. (mm)	Outlet Box Type	Outlet Box Mfr	Pad Size, in. (mm)	Rating, hr	Stud	Cavity Insulation	Face Plate Type	Putty Ball
EP 23	2 x 3 x 2-1/4 (51 x 76 x 57) deep	-	-	1-7/8 x 2-3/4 (48 x 70)	2	Steel	No	Steel	-
EP 23	2 x 3 x 2-1/4 (51 x 76 x 57) deep	-	-	1-7/8 x 2-3/4 (48 x 70)	2	Steel	Yes	Plastic	-
EP 23	2 x 3 x 2-1/4 (51 x 76 x 57) deep	-	-	1-7/8 x 2-3/4 (48 x 70)	1	Steel or Wood	Yes	Plastic or Steel	-
EP 24	2-1/8 x 4 x 2-1/8 (54 x 102 x 54) deep	-	-	1-7/8 x 3-3/4 (48 x 95)	2	Steel	No	Steel	-
EP 24	2-1/8 x 4 x 2-1/8 (54 x 102 x 54) deep	-	-	1-7/8 x 3-3/4 (48 x 95)	2	Steel	Yes	Plastic	-
EP 24	2-1/8 x 4 x 2-1/8 (54 x 102 x 54) deep	-	-	1-7/8 x 3-3/4 (48 x 95)	1	Steel or Wood	Yes	Plastic or Steel	-
EP 44	4 x 4 x 2-1/8 (102 x 102 x 54) deep	-	-	3-3/4 x 3-3/4 (95 x 95)	2	Steel	No	Steel	-
EP 44	4 x 4 x 2-1/8 (102 x 102 x 54) deep	-	-	3-3/4 x 3-3/4 (95 x 95)	2	Steel	Yes	Plastic	-
EP 44	4 x 4 x 2-1/8 (102 x 102 x 54) deep	-	-	3-3/4 x 3-3/4 (95 x 95)	1	Steel or Wood	Yes	Plastic or Steel	-
EP 45	4-11/16 x 4-11/16 x 2-1/8 (119 x 119 x 54) deep	-	-	4-1/2 x 4-1/2 (114 x 114)	1 or 2	Steel or Wood	Yes	Plastic or Steel	-
EP 45	4-1/2 x 4 x 2-3/8 (114 x 127 x 60) deep	-	-	4-1/2 x 4-1/2 (114 x 114)	1 or 2	Steel or Wood	Yes	Plastic or Steel	-
EP 45	4-1/2 x 14 x 2-1/2 (114 x 356 x 64) deep	-	-	4-1/2 x 13-3/4 (114 x 349)	1 or 2	Steel or Wood	Yes	Plastic or Steel	-

SpecSeal Putty Pads, for use with flush device UL Listed Metallic Outlet Boxes installed with steel mud rings or UL Listed Nonmetallic Outlet Boxes in framed wall assemblies. When protective material is used on outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the boxes are not installed back-to-back. Installation shall comply with the National Electrical Code (NFPA 70). Min 3/16 in. (5 mm) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the stud within the stud cavity. Adjoining pieces of moldable putty pads to be overlapped approx 1/2 in. (13 mm) at the seam. An additional 3/16 in. (5 mm) thickness of putty to be formed around the connector securing the end of each Type MC cable, electrical metallic tube (EMT) or conduit to the box. When nonmetallic box is used with Type NM cable, a 3/16 in. (5 mm) thickness of putty shall be formed around the cable at its connection to the box and extending a min of 1 in. (25 mm). The box composition, max device dimensions, hourly rating, type of stud and type of faceplate are tabulated below. Additional general construction features shall comply as follows:

A. Studs - Unless otherwise specified, the minimum stud width is 3-1/2 in. (89 mm).

B. Stud Cavity Insulation - Unless indicated as required, stud cavity insulation is optional and may consist of min 3-1/2 in. (89 mm) thick fiberglass (min 0.5 pcf or 8 kg/m3) or mineral fiber (min 4 pcf or 64 kg/m3).

C. Wall Design - Stud composition is indicated in the table below. Wall construction shall comply with the individual U300, U400 or V400 Series Wall and Partition Design in the Fire Resistance Directory.

D. Metallic Outlet Boxes - Except as indicated in the table below, when steel outlet boxes are used and the boxes are interconnected by means of electrical metallic tube or conduit, a ball of putty is to be installed to plug the open end of each electrical metallic tube (EMT) or conduit within the outlet box. When MC cable is used and/or when the outlet boxes are not interconnected, the ball of putty is not required.

E. Nonmetallic Outlet Boxes - The box manufacturer is indicated in the table below. Boxes shall bear a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory.

Model	Max Outlet Box in. (mm)	Outlet Box Type	Outlet Box Mfr	Pad Size in. (mm)	Rating, hr	Stud	Cavity Insulation	Face Plate Type	Putty Ball
-	4 x 4 x 2-1/8 (102 x 102 x 54) deep	Steel	N.A.	-	1	Steel or Wood	-	Steel	No
-	4 x 4 x 2-1/8 (102 x 102 x 54) deep	Steel	N.A.	-	1	Steel or Wood	-	Plastic	Yes
-	4-11/16 x 4-11/16 x 2-1/8 (119 x 119 x 54) deep	Steel	N.A.	-	1 or 2	Steel or Wood	-	Steel	Yes
-	4-1/2 x 5 x 2-3/8 (114 x 127 x 60) deep	Steel	N.A.	-	1 or 2	Steel or Wood	-	Steel	Yes
-	4-1/2 x 14 x 2-1/2 (114 x 127 x 60) deep	Steel	N.A.	-	1 or 2	Steel or Wood	-	Steel	Yes
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Polyvinyl Chloride	Lamson & Sessions or Carlon	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Phenolic	Allied Moulded Prods	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Polycarbonate	Thomas & Betts	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	3-3/4 x 4 x 3 (95 x 102 x 76) deep	Phenolic	Thomas & Betts	-	1 or 2	Wood	-	Plastic or Steel	N.A.
-	2-1/4 x 3-3/4 x 2-3/4 (57 x 95 x 70) deep	Polyvinyl Chloride	Pass & Seymour	-	1 or 2	Wood	-	Plastic or Steel	N.A.

SpecSeal Putty Pads , for use with maximum 4 by 4 by 2-1/8 in. (102 by 102 by 54 mm) deep flush device UL Listed Metallic Outlet Boxes installed with steel mud rings and with steel faceplates in 1 hr or 2 hr fire rated gypsum board wall assemblies constructed with min 5-1/2 in. (140 mm) wide wood or steel studs and with stud cavities filled with fiberglass (nom 0.5 pcf or 8 kg/m3) or mineral fiber (nom 4 pcf or 64 kg/m3) insulation. When protective material is used on outlet boxes on both sides of the wall as directed, the boxes may be installed back-to-back provided that the boxes on opposite sides of the wall are not interconnected with conduit or, when interconnected, the open end of the conduit within the outlet box is filled with a ball of putty. Installation shall comply with the National Electrical Code (NFPA 70). Min 3/16 in. (5 mm) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the stud within the stud cavity. Adjoining pieces of moldable putty pads to be overlapped approx 1/2 in. (13 mm) at the seam. An additional 3/16 in. (5 mm) thickness of putty to be formed around the connector securing the end of each Type MC cable, electrical metallic tube (EMT) or conduit to the box.

SpecSeal EP23, EP24 and EP44 Power Shield Box Inserts and SpecSeal Putty Pads, for use with maximum 4 by 4 by 1-1/2 or 2-1/8 in. (102 by 102 by 38 or 54 mm) deep flush device UL Listed Metallic Outlet Boxes installed with steel mud rings and with steel or plastic faceplates in 1 hr or 2 hr fire rated gypsum board wall assemblies constructed with min 3-1/2 in. (89 mm) wide wood or steel studs. When both protective materials are used with outlet boxes on both sides of the wall as directed, the boxes may be installed back-to-back provided that the backs of the boxes are minimum 1/2 in. (13 mm) apart and provided that the boxes are not interconnected. Installation shall comply with the National Electrical Code (NFPA 70). Min 3/16 in. (5 mm) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the stud within the stud cavity. Adjoining pieces of moldable putty pads to be overlapped approx 1/2 in. (13 mm) at the seam. An additional 3/16 in. (5 mm) thickness of putty to be formed around the connector securing the end of each Type MC cable, electrical metallic tube (EMT) or conduit to the box. An insert pad shall be installed to completely cover the back inside surface of each outlet box.

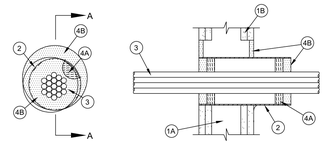
SpecSeal Putty Pads, for use with max 5 by 5 by 2 7/8 in. (127 by 127 by 73 mm) deep flush device UL Listed Metallic Outlet Boxes or UL Listed Nonmetallic Outlet Boxes in framed wall assemblies by Randl Industries Inc for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. (92 mm) wide wood or steel studs and constructed as specified in the individual U300, U400, or V400 or W400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with UL Listed Signal Appliance with steel cover plate manufactured by Cooper Wheelock Inc. Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud unless otherwise noted) including nailing tabs and to completely seal against the stud within the stud cavity. Multiple moldable putty pads may be installed on an outlet box to attain the required minimum thickness of putty material. Additional putty material used to seal around each conduit and/or cable fitting on the exterior of each box. A min 3/16 in. (4.8 mm) thickness of putty material is required on the exterior surfaces of flush device boxes in 1 and 2 hr fire rated Wall and Partition Designs. When the moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the outlet boxes are not installed back to back, except as noted.

SpecSeal EPS5 Power Shield Box Inserts, for use with max 5 by 5 by 2 7/8 in. (127 by 127 by 73 mm) deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications-Circuit Accessories manufactured by Randl Industries Inc for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. (92 mm) wide wood or steel studs and constructed as specified in the individual U300, U400, or V400 or W400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with UL Listed Signal Appliance with steel cover plate manufactured by Cooper Wheelock Inc. Power Shield Box Insert is to be applied to the back surface of the box and may be slit to accommodate communications-circuit accessories. When the Power Shield Box Insert is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. (610 mm) provided that the outlet boxes are not installed back to back, except as noted.

STI PENETRATION DETAIL
SCALE: NONE

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 System No. W-L-3210

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 3/4 Hr	FT Rating - 3/4 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 3/4 Hr



1. Wall Assembly - The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (76 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* - Thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400 , V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 6-1/2 in. (165 mm) when sleeve (Item 2) is installed. Max diam of opening is 4 in. (102 mm) when sleeve is not used.
      The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve - (Optional) - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT), steel conduit, Schedule 5 (or heavier) steel pipe sleeve or min 0.016 in. thick (0.41 mm, No. 28 ga) galv steel sleeve installed flush with wall surfaces. The annular space between the steel sleeve and periphery of opening shall be min 0 in. (continuous point contact) to max 2 in. (51 mm). When Schedule 5 steel pipe or EMT is used, sleeve may be installed flush with or extend up to 18 in. (46 cm) beyond one or both wall surfaces. Steel sleeve may be installed at an angle not greater than 45 degrees from perpendicular. Schedule 5 steel pipe or EMT sleeves may extend continuously beyond one wall surface. Sleeve to be rigidly supported when extending from the wall surfaces.

3. Cables - Aggregate cross-sectional area of cables in steel sleeve to be max 48 percent of the aggregate cross-sectional area of the opening or sleeve. Cables to be bundled and rigidly supported on both sides of wall assembly. When the sleeve (Item 2) is installed, the annular space between the cables and the sleeve shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). When the sleeve (Item 2) is not used, the annular space between the cables and the opening shall be min 0 in. (point contact) to a max 1/2 in. (13 mm). Cable bundle, using cables described below, may penetrate the wall at an angle not greater than 45 degrees. Any combination of the following types and sizes of copper conductor cable may be used:
   A. Max 200 pair No. AWG (or smaller) copper conductor cable with polyvinyl chloride (PVC) or plenum-rated jacketing and insulation.
   B. Max 3/C No. 2/0 AWG (or smaller) aluminum or copper conductor service entrance cable with PVC insulation and jacket.
   C. Max 3/C No. 8 AWG (or smaller) nonmetallic sheathed (Romex) cable with copper conductors, PVC insulation and jacket.
   D. Max 7/C No. 2/0 AWG (or smaller) multiconductor power and control cables with XLPE or PVC insulation and XLPE or PVC jacket.
   E. Max RG/U (or smaller) coaxial cable with fluorinated ethylene or plenum-rated insulation and jacketing.
   F. Max 62.5/48 fiber optic cable with PVC or plenum-rated insulation and jacketing.
   G. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with PVC or plenum-rated insulation and jacket.
   H. Max 4/C No. 2/0 aluminum or copper conductor aluminum or steel Metal-Clad® or Armored-Clad® cable.
   I. Max ¾-in. (19 mm) copper ground cable with or without a PVC jacket.
4. Firestop System - The firestop system shall consist of the following:
   A. Packing Material - When required (See table in Item 4B), min 1 in. (25 mm) thickness of min 4.0 pcf (64 kg/m3) mineral wool batt insulation firmly packed into each end of sleeve as a permanent form. Packing material to be recessed from each end of sleeve as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* - Sealant or Putty - Fill material applied to appropriate thickness within steel sleeve, flush with edges of steel sleeve on both surfaces of wall. Min 1/2 in. (13 mm) thickness of fill material installed into annular space between sleeve and wall flush with both surfaces of the wall. Min 1/2 in. (13 mm) diam bead of sealant or "rope" of putty shall be applied around the perimeter of the sleeve on each side of the wall when sleeve extends beyond surface of wall and is installed at continuous point contact. See table below for fill material thickness requirements around cables.

Sealant or Putty Type	Thickness, In. (mm)	Packing Material Required
SpecSeal Series SSS Sealant or LCI Sealant	1/2 in. (13)	Yes
SpecSeal Series SSS Sealant or LCI Sealant	1 in. (25)	No
SpecSeal Putty	1 in. (25)	No

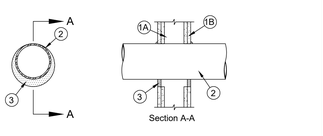
SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or SpecSeal Putty

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

2 STI PENETRATION DETAIL
SCALE: NONE

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 System No. W-L-1049

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Rating - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
      The hourly F and FH Ratings of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

1A. Metallic Sleeve - (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) to max 0.105 in. (2.7 mm) thick sheet steel. Length of steel sleeve to be equal to the thickness of wall. Longitudinal seam of sleeve welded or overlapped min 1 in. (25 mm). The ends of the steel sleeve shall be flush or recessed max 1/4 in. (6 mm) from wall surfaces.

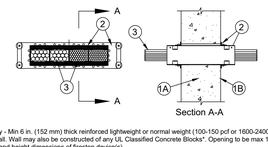
2. Through Penetrant - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (point contact) to max 2 in. (51 mm). For maximum 16 in. (406 mm) diam (or smaller) pipes, annular space shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 36 in. (914 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe - Nom 36 in. (914 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.
   D. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At the point contact location between through penetrant and gypsum board, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the gypsum board/through penetrant interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

3 STI PENETRATION DETAIL
SCALE: NONE

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 System No. W-J-3098

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 2 and 4 Hr (See Item 3)	F Ratings - 2 and 4 Hr (See Item 3)
T Ratings - 3/4 and 1 Hr (See Item 3)	FT Ratings - 3/4 and 1 Hr (See Item 3)
L Rating At Ambient - Less Than 1, 1:3, 4 or 7 CFM/Device Module (See Item 3)	FH Ratings - 2 and 4 Hr (See Item 3)
L Rating At 400 F - Less Than 1, 2 or 3 CFM/Device Module (See Item 3)	FTH Ratings - 3/4 and 1 Hr (See Item 3)
	L Rating At Ambient - Less Than 1, 1:3, 4 or 7 CFM/Device Module (See Item 3)
	L Rating At 400 F - Less Than 1, 2 or 3 CFM/Device Module (See Item 3)



1. Wall Assembly - Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Opening to be max 1/4 in. (6 mm) larger than width and height dimensions of firestop device(s).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Firestop Device* - One, two, three, four or seven firestop device modules ganged together. Each firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device modules to be installed in accordance with the accompanying installation instructions. The space between the firestop device module(s) and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3.2 mm). In round openings, the space between the firestop device and the periphery of the opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with each device. Each firestop device module is to be installed with ends projecting an equal distance beyond each surface of the wall assembly. As an option, devices may be cast or grouted into wall assembly. When device is cast or grouted in place, the steel wall plates are optional.
   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 33 Fire Rated Pathway

2A. Firestop Device* - Extension Module - (Optional, Not Shown) - Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (Item 3) to increase its length to facilitate installation in thicker walls. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (Item 2) and extension module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device or extension module(s) by means of steel set screws provided with wall plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
   SPECIFIED TECHNOLOGIES INC - EZ PATH Extension

3. Cables - Cables may represent a 0 to 100 percent visual fill within the loading area for each firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:
   A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.
   B. Max 350 kcmil single copper conductor power cable with XLPE jacket and insulation
   C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.
   D. Max 3/C No. 10 AWG metal clad or armored cable with steel or aluminum jacket.
   E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.
   F. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.
   G. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.
   H. Optical fiber cable with PVC or polyethylene (PE) jacket and insulation and having a max diam of 5/8 in. (16 mm).
      When Item 3A, 3B, 3C, 3D or 3E is used, the F and FH Ratings are 2 hr and the T, FT and FTH Ratings are 3/4 hr. When max 200 pair No. 24 AWG telecommunication cable is used or when Item 3F, 3G or 3H is used, the F and FH Ratings are 4 hr and the T, FT and FTH Ratings are 1 hr.
      The L Rating for each empty firestop device module is less than 1 cfm at ambient and at 400F. When Item 3A is used, the L Rating for each firestop device module with 100 percent visual fill is 4 cfm at ambient and 3 cfm at 400F. When Item 3F is used, the L Rating for each firestop device module with 100 percent visual fill is 1.3 cfm at ambient and less than 1 cfm at 400F.When Item 3G or 3H is used, the L Rating for each firestop device module with 100 percent visual fill is 7 cfm at ambient and 2 cfm at 400F.
      * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

4 STI PENETRATION DETAIL
SCALE: NONE

AGENCY APPROVAL

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REVISIONS

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PROJECT OWNER & TITLE
MOUNT DIABLO UNIFIED SCHOOL DISTRICT
1936 Carlotta Dr.
Concord, CA 94519

TECHNOLOGY INFRASTRUCTURE UPGRADE AT WILLOW CREEK CENTER
1026 Mohr Lane
Concord, CA 94519

SHEET TITLE
TECHNOLOGY INFRASTRUCTURE DETAILS

DRAWN BY: CS/SD JOB NUMBER: XXXXX.XX

SHEET NO.
T-802

DATE: DECEMBER 13, 2024

CONSTRUCTION DOCUMENT

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