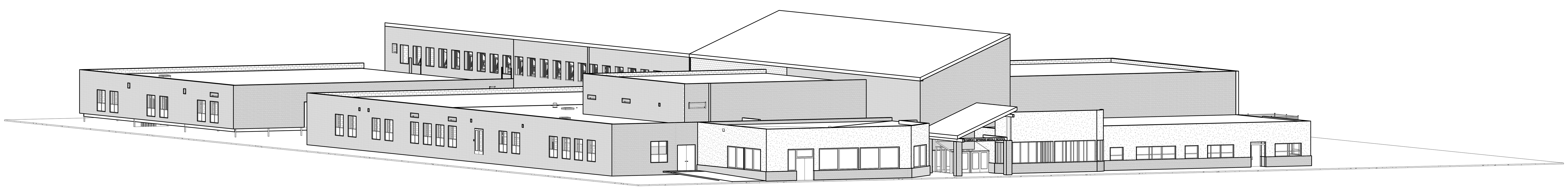
STEAMBOAT SPRINGS MIDDLE SCHOOL

CAFETERIA ADDITION

39610 AMETHYST DR
STEAMBOAT SPRINGS, CO 80487



CONSTRUCTION DOCUMENTS
04/07/20

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Electrical Engineer
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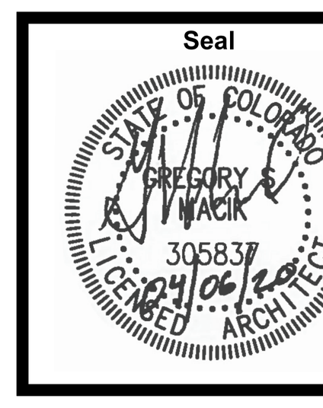
Seal



Steamboat Springs Middle School
39610 Amethyst Dr
Steamboat Springs, CO 80487

Revisions:

No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Cover

Project No:
1935.03

Sheet No:
A0.00

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GENERAL NOTES

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. USE GIVEN DIMENSIONS. IMMEDIATELY NOTIFY ARCHITECT IF ADDITIONAL INFORMATION IS REQUIRED. ALL DIMENSIONS ARE GIVEN TO FACE OF WALL FRAMING. SEE WALL SECTIONS AND WALL TYPES FOR EXACT CONSTRUCTION
2. SEE SHEET A0.03 FOR WALL TYPES INDICATED ON FLOOR PLANS
3. PROVIDE ALL NECCESSARY BLOCKING, FOR PROPER ATTACHEMENT OF WORK, IN WALLS AND CEILINGS. LOCATIONS INCLUDE, BUT NOT LIMITED TO, TOILET AND BATH ACCESSORIES, WALL AND CEILING MOUNTED ELECTRICAL EQUIPMENT, WINDOW TREATMENTS, CASEWORK, COUNTERTOPS, ETC.
4. WHERE WALL PARTITIONS ARE A CONTINUTATION OF EXISTING ONES, NEW FINISH SURFACES MUST BE FLUSH AND CONTINOUTS WITH EXISTING SURFACES ON BOTH SIDES. INFILL OPEINGS IN EXISTING WALLS WITH MATERIAL TO MATCH EXISTING WALL THICKNESS, TEXTURE AND FINISH.
5. REFERENCE S-SERIES DRAWINGS FOR STRUCTURAL NOTES AND DETAILS AND COORDINATE.
6. EXISTING BUILDING DIMENSIONS AND ELEVATIONS ARE BASED UPON EXISTING SURVEY INFORMATION AND EXISTING AS BUILT DOCUMENTS PROVIDED BY OWNER. IMMEDIATELY NOTIFY ARCHITECT IF CONDITIONS ARE ENCOUNTERED THAT DO NOT AGREE WITH DIMENSIONS AND/OR ELEVATIONS SHOWN.
7. VERIFY ALL PITCHED FLOOR AREAS SHOWN WITH PITCH LINES WITH THE ARCHITECT. PROVIDE A SLAB DEPRESSION AT ALL FLOOR DRAINS WHERE PITCH LINES ARE NOT SHOWN ON DRAWINGS.
8. PRVOIDE 4" RETURN FROM FACE OF ADJACENT WALL FOR ANY DOORS NOT DIMENSIONED.
9. SEE MECHANICAL, PLUBMING AND ELECTRICAL DRAWINGS FOR ITEMS NOT SHOWN ON ARCHITECTURAL DRAWINGS AND COORDINATE.
10. ALL INTERIOR WALLS SHALL EXTEND TO UNDERSIDE OF ROOF DECK AND STEEL STRUCTURE (BEAM) UNLESS NOTED OTHERWISE. SEE PARTITION WALL TYPES ON SHEET A0.03.
11. DATUM 100'-0" INDICATED ON ALL DRAWINGS, OTHER THAN CIVIL SERIES, EQUALS 6849.23 ON CIVIL SERIES DRAWINGS.
12. ALL STEEL LOCATED BELOW AND EXPOSED TO GRADE TO BE COATED WITH BITUMINOUS DAMPROOFING.
13. CONTRACTOR TO COMPLY WITH ALL REQUIREMENTS FOR SPECIAL INSPECTIONS, 2015 IBC - 1704.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	HORZ	HORIZONTAL
APC	ACOUSTIC CEILING TILE	HP	HORSE POWER
ALT	ALTERNATE	HW	HOT WATER
ALUM	ALUMINUM	HWC	HOT WATER CIRCULATION
A,	AMPERE	HR	HOUR
AB	ANCHOR BOLT		
ARCH	ARCHITECT (URAL)	INSUL	INSULATION, INSULATING
BKG	BACKGROUND	JT	JOINT
BM	BEAM		
BRG	BEARING	KV	KILOVOLT
BRD	BOARD	KVA	KILOVOLT AMPERE
BO	BOTTOM OF		
BOT	BOTTOM	MH	MANHOLE
BRKR	BREAKER	MFR	MANUFACTURE(R)
BTU	BRITISH THERMAL UNIT	MAX	MAXIMUM
BTUH	BTU PER HOUR	MECH	MECHANICAL
BLDG	BUILDING	MTL	METAL
BUR	BUILT UP ROOFING	MIN	MINIMUM
CLG	CEILING		
CL	CENTER LINE	N	NORTH
C/C	CENTER TO CENTER	NO	NUMBER
CO	CLEAN OUT		
C	CONDUIT	OC	ON CENTER
CW	COLD WATER	OPP	OPPOSITE
COL	COLUMN	OZ	OUNCE(S)
CONC	CONCRETE	OD	OUTSIDE DIAMETER
CONT	CONTINOUS, CONTINUE	OSF	OUTSIDE FACE
CJ	CONTROL JOINT		
CORR	CORRUGATED	PERF	PERFORATED
CMP	CORRUGATED METAL PIPE	PL	PLATE
X	CROSS	P	POLE
CFM	CUBIC FEET PER MINUTE	POLY	POLYETHYLENE
		POLYST	POLYSTYRENE
D,	DEEP/DEPTH	PVC	POLYVINYL CHLORIDE
DTL	DETAIL	PW	POTABLE WATER
DIAG	DIAGONAL	PSF	PRESSURE PER SQUARE FOOT
DIA	DIAMETER	PSI	PRESSURE PER SQUARE INCH
DIAPH	DIAPHRAM	PRV	PRESSURE RELIEVE VALVE
DHW	DOMESTIC HOT WATER	PRO	PROJECTION
DWG	DRAWING	PL	PROPERTY LINE
		PLAM	PLASTIC LAMINATE
EA	EACH		
ELEC	ELECTRIC	REINF	REIFNFORCE(D), (ING)
EWC	ELECTRIC WATER COOLER	RCP	REFLECTED CEILING PLAN
ADA LIFT	ELEVATION, ELEVATOR	RM	ROOM
EMBED	EMBEDMENT	SCH	SCHEDULE
EM	EMERGENCY	SHT	SHEET
EX	EXISTING	SIM	SIMILAR
EXIST	EXISTING	SLH	SPRING LOADED HINGES
EXP	EXPANSION	SPEC	SPECIFICATION(S)
EXT	EXTERIOR, EXTRUDED	SF	SQUARE FOOT (FEET)
		STL	STEEL
FD	FLOOR DRAIN	STIFF	STIFFENER
FE	FIRE EXTINGUISHER	STN	STONE
FEC	FIRE EXTENGUISHER CABINET	SD	STORM DRAIN
FT	FEET	STRUCT	STRUCTURAL
FG	FIBERGLASS	SUSP	SUSPENDED
FF	FINISH FLOOR		
FH	FIRE HYDRANT	T&G	TOUNGE & GROOVE
FLG	FLANGE	TC	TEMPERATURE CONTROL
FLOUR	FLOURESCENT	THK	THICKNESS
FP	FIREPLACE	THRU	THROUGH
FTG	FOOTING	TO	TOP OF
FS	FLOOR SINK	TRANSV	TRANSVERSE
		TS	TUBE STEEL
GA	GAUGE	TYP	TYPICAL
GAL	GALLON		
GALV	GALVANIZED	UG	UNDERGROUND
GI	GALVANIZED IRON	UNO	UNLESS NOTED OTHERWISE
G	GAS		
GMNU	GLASS MESH MORTAR UNIT(S)	VB	VAPOR BARRIER
GND	GROUND	VERT	VERTICAL
GR	GRADE, GRADING	VEST	VESTIBULE
GYP	GYPSUM	V	VOLT
GWB	GYPSUM WALL BOARD		
H&V	HEATING & VENTILATING	WC	WATER CLOSET/WATER COLUMN
HDO	HIGH DENSITY OVERLAY	WD	WOOD
HDPE	HIGH DENSITY POLYETHYLENE	WWF	WELDED WIRE FABRIC
HGT	HEIGHT	W	WEST/WATER/WIDE/WIDTH
HK	HOOK(S)	W/	WITH
HM	HOLLOW METAL	W/O	WITHOUT

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DRAWING INDEX

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A0.05	Room Finish Schedule
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C2.0	Grading and Drainage
C2.1	Grading and Drainage
C3.0	Utility Plan
C4.0	Grading and Drainage Details
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L1.0	Existing Conditions and Demolition Plans
L2.0	Layout Plan
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L4.0	Landscape Plan
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MPD2.1	First Level Area A Demo Plumbing Plan
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MATERIALS LEGEND

ALUMINUM
ACT
BATT INSULATION
BRICK
CONCRETE
GRAVEL
CMU
EARTH
EARTH FILL
GYPSUM BOARD
METAL STUD
ASPHALT
PLYWOOD
RIGID INSULATION
STEEL
WOOD FINISH
WOOD ROUGH
STONE VENEER

SYMBOLS

1 / A101 — View Name — 1/8" = 1'-0" — DRAWING TITLE & SCALE

Ref / 1 / A101 — EXTERIOR ELEVATION

1 / 1 A101 1 / 1 — INTERIOR ELEVATION

SIM / 1 / A101 — WALL SECTION & PARTIAL SECTION

1 / A101 SIM — DETAIL SECTION

AREA ENLARGEMENT

1| — PARTITION OR WALL TYPE

101 — DOOR TAG
SIZE AS DESIGNATED ON DOOR SCHDULE

1| — WINDOW TAG
ALL WINDOWS ARE TO BE HINGED PER EXTERIOR ELEVATION DRAWINGS

1 — REVISION NUMBER

? — KEYNOTE TAG

LEVEL 1 / 124' - 0" — ELEVATION

+124' - 0" — SPOT ELEVATION

ALTERNATES

GENERAL ALTERNATES LIST:

ALTERNATE #1 ARCADE
1) REPLACEMENT OF BRICK FLOORING

ALTERNATE #2 BATHROOMS
1) REPLACE WALL TILE, FLOOR TILE, REPAINT CMU, NEW PARTITIONS, FITTINGS, VALVES, MIRRORS, AND HAND DRYERS IN SHARED BATHROOMS

ALTERNATE #3 FIRE SUPPRESSION
1) PROVIDE FULL FIRE SUPPRESSION TO BALANCE OF BUILDING NOT CURRENTLY SPRINKLED

ALTERNATE #4 BATHROOM VANITIES
1) REPLACE COUNTERTOP AND SINKS WITH WALL MOUNTED SINKS

ALTERNATE #5 GIRLS SHOWER LOCKERS
1) INFILL OF SHOWER TRENCH DRAIN
2) NEW LOCKERS ON TOP OF INFILLED TRENCH DRAIN

DATUM REFERENCE

DATUM REFERENCE FOR THIS PROJECT IS THE MAIN FINISH FLOOR LEVEL
T.O. GYPCRETE = EL. 100'-0" ON ALL OTHER DRAWINGS EQUALS 6849.23' ON SITE PLAN

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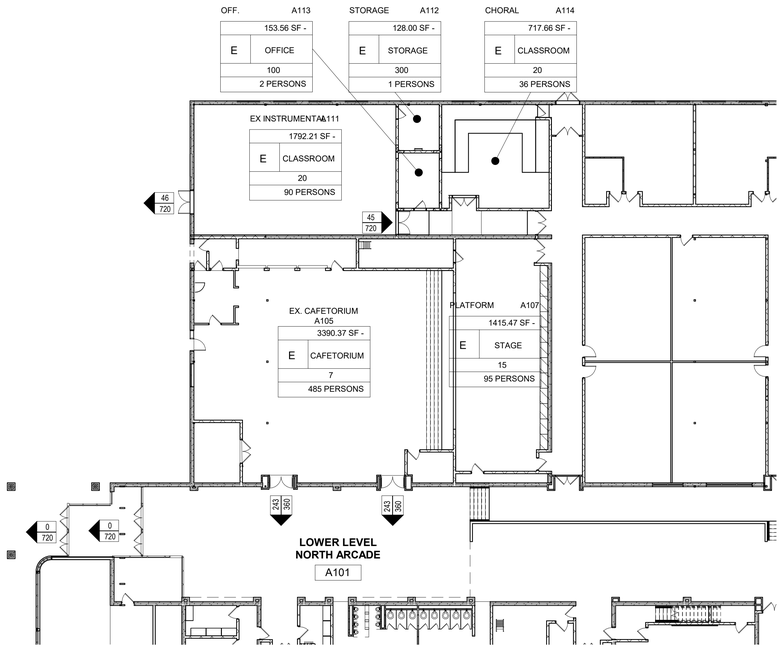
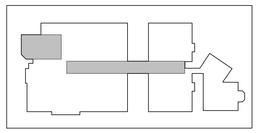


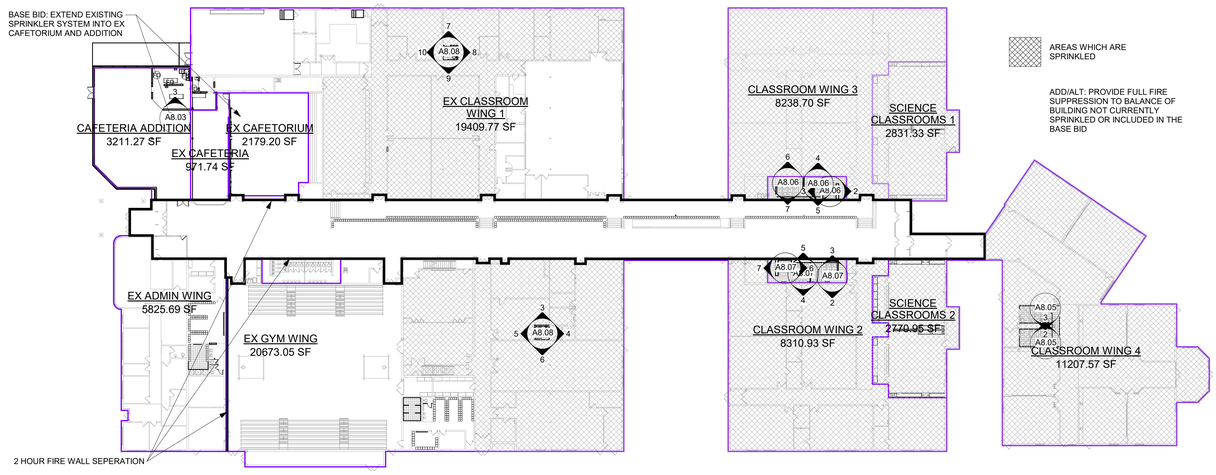
1 A0.02 EX. EGRESS PLAN AREA A
1/16" = 1'-0"

3 A0.02 LEVEL 1 - EX. FIRE WALL SEPERATION PLAN
1/32" = 1'-0"

2 A0.02 LEVEL 1 - EGRESS PLAN AREA A
1/16" = 1'-0"

KEYNOTE PLAN





4 A0.02 LEVEL 1 - FIRE WALL SEPERATION PLAN
1/32" = 1'-0"

AREAS WHICH ARE SPRINKLED

ADD/ALT: PROVIDE FULL FIRE SUPPRESSION TO BALANCE OF BUILDING NOT CURRENTLY SPRINKLED OR INCLUDED IN THE BASE BID

EXISTING BUILDING INFORMATION

BUILDING	OCCUPANCY	OCCUPANTS	EXISTING AREA	NEW AREA	ALLOWABLE AREA	EXISTING CONST. TYPE	FIRE SUPPRESSION	BUILDING HEIGHT
ADMIN WING ADDITION 2007	B		5,826 SF	-	58,000 SF	TYPE 2B (IIB)	YES	EX
GYM +STAGE WING ORIGINAL BLDG 1980	A1/A3/E		20,674 SF	-	58,000 SF	TYPE 2B (IIB)	YES	EX
CLASSROOM WING 1 ORINGAL BLDG 1980	E		18,148 SF	-	58,000 SF	TYPE 2B (IIB)	YES	EX
CLASSRROM WING 2 ORIGINAL BLDG 1980	E		11,082 SF	-	58,000 SF	TYPE 2B (IIB)	YES	EX
CLASSROOM WING 3 ORIGINAL BLDG 1980	E		11,071 SF	-	58,000 SF	TYPE 2B (IIB)	YES	EX
CLASSROOM WING 4 ADDITION 2003	E		11,208 SF	-	58,000 SF	TYPE 2B (IIB)	YES	EX
NEW CAFETERIA WING EXISTING CAFETORIUM + PROPOSED CAFETERIA ADDED TO CLASSROOM WING 1	A2		4,434 SF	2,608 SF	58,000 SF	TYPE 2B (IIB)	PROPOSED EXISTING CAFETORIUM TO BE SPRINKLED	16'-8" MATCHING ADJACENT
TOTAL OCCUPANTS		NO ADDITIONAL OCCUPANTS						
TOTAL NEW AREA		2,608 SF						
TOTAL AREA		85,051 SF						

EGRESS NARRATIVE

CAFETERIA - ACCESSORY USE
EXTERIOR DOOR IS SIZED TO ALLOW FULL OCCUPANCY EGRESS

CAFETORIUM - ACCESSORY USE
EGRESS DOORS INTO ARCADE ARE HAVING THE PANELS REPLACED BUT THE FRAMES AND EGRESS WIDTH STAY THE SAME. THE CAFETORIUM HAS BEEN REDUCED IN SIZE FROM 485 TO 312 PERSONS

EX. INSTRUMENTAL - NO CHANGE IN OCCUPANCY OR EGRESS

EX. CHORAL - NO CHANGE IN OCCUPANCY OR EGRESS

SCIENCE ROOMS - NO CHANGE IN OCCUPANCY OR EGRESS

VARIOUS BATHS - ACCESSORY USE, REF PLANS FOR INCREASED OCCUPANTS

EGRESS DOORS
ALL EGRESS DOORS TO THE EXTERIOR WILL HAVE FREE EGRESS WITH PANIC DEVICES. DOORS WITH NOTED OCCUPANT LOAD OF 50 OR OVER WILL ALSO HAVE FREE EGRESS WITH PANIC DEVICE ELECTRONIC DOOR LOCKS DO NOT HAMPER EGRESS

PROJECT CODES

2015 International Building Code (IBC)
2015 International Energy Conservation Code (IECC)
2015 International Mechanical Code (IMC)
2015 International Plumbing Code (IPC)
2015 International Fuel Gas Code (IFGC)
2015 International Fire Code (IFC)
2017 National Electric Code (NEC)

IECC Info/Requirements
CLIMATE ZONE 7
Roof Insulation above deck min R-35
Metal Framed Wall Insulation R-13+R-7.5ci
Below Grade Wall R-10c
Unheated Slabs R-15 for 24" Below

NEW CAFETERIA AREA IS AN ACCESSORY USE FOR THE SCHOOL PER 2015 IBC 303.1.3

WORK IN SCIENCE CLASSROOMS DOES NOT IMPACT/CHANGE OCCUPANCY, SQUARE FOOTAGE, CONSTRUCTION TYPE, OR EGRESS

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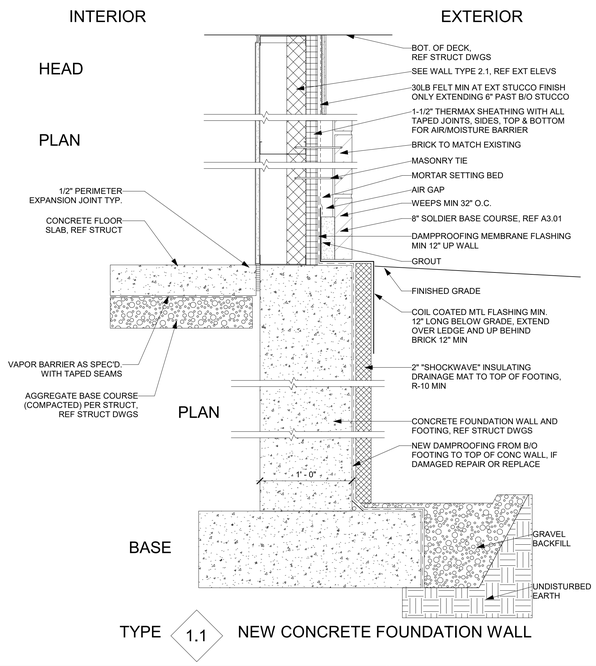
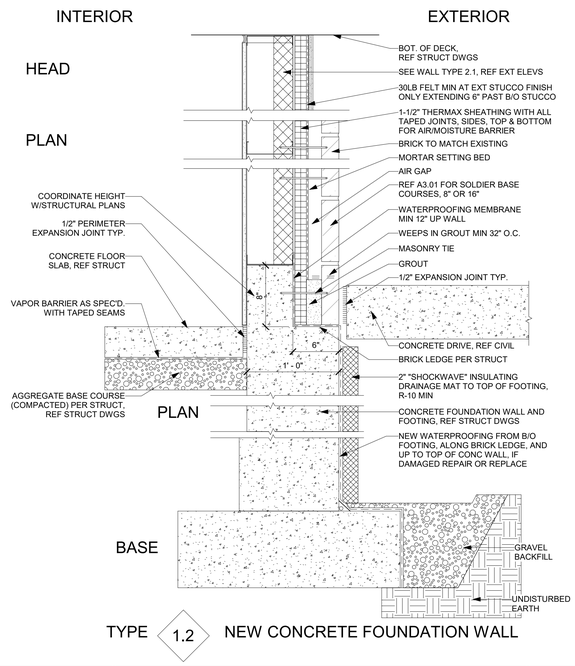


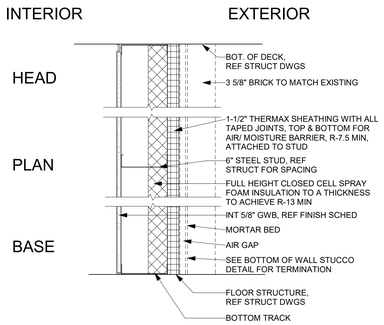
TYPE 1.1 NEW CONCRETE FOUNDATION WALL



TYPE 1.2 NEW CONCRETE FOUNDATION WALL

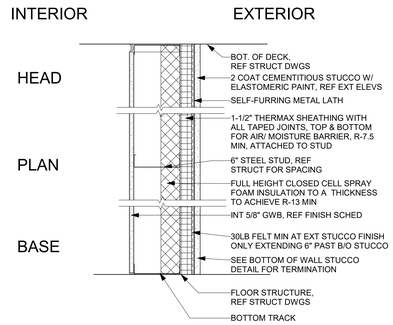
GENERAL SOUND ISOLATION NOTES AND SPECIFICATIONS:

1. SEALANTS SHOULD BE SIMILAR TO PECORA AIS-919 OR AC-20 FTR (FIRE RATED WALLS)
2. SHARED CLASSROOM WALLS OR OTHER SOUNDS WALL TYPES: ALL GAPS AROUND ELECTRICAL BOXES SHOULD BE CAULKED AIRTIGHT. ALL ELECTRICAL BOXES (INCLUDING LOW VOLTAGE BOXES) AND ANY FLOOR BOXES IN A SOUND ISOLATING PARTITION SHOULD BE BACKED WITH PUTTY PADS SUCH AS HILTI CP 617 FIRESTOP PUTTY PADS OR EQUIVALENT.
3. SOUND ISOLATING GYPSUM BOARD PARTITIONS SHOULD BE INSTALLED PER ASTM C919-12, STANDARD PRACTICE FOR USE OF SEALANTS IN ACOUSTICAL APPLICATIONS.

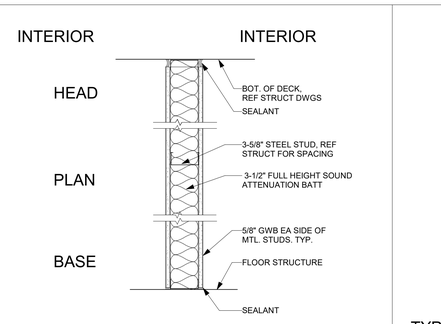


TYPE 2.1 EXTERIOR WALL TYPE

TYPE 2.1G SIM TO TYPE 2, EXCEPT SUBSTITUTE MOISTURE RESISTANT 5/8" GYP BOARD AT WET AREAS BEHIND TILE, WITH 5-1/2" SOUND ATTENUATION BATT



TYPE 2.2 EXTERIOR WALL TYPE

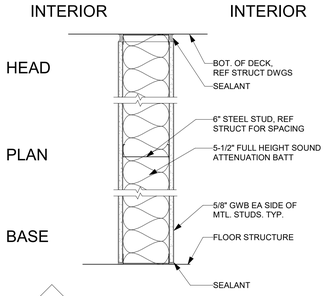


TYPE 4.1 INTERIOR PARTITION

TYPE 4.1G SIM TO TYPE 4, EXCEPT SUBSTITUTE MOISTURE RESISTANT 5/8" GYP BOARD AT WET AREAS BEHIND TILE

TYPE 4.1R SIM TO TYPE 4, EXCEPT SUBSTITUTE 5/8" TYP "X" GYP BOARD BOTH SIDES OF WALL FROM FLOOR TO UNDERSIDE OF STRUCTURE, TO PROVIDE 1 HOUR FIRE RATING PER UL U465

TYPE 4.1P SIM TO TYPE 4, EXCEPT SUBSTITUTE FRP WITH INTEGRAL BACKING AT NOTED SIDE OF WALL, REF FRAMING PLANS

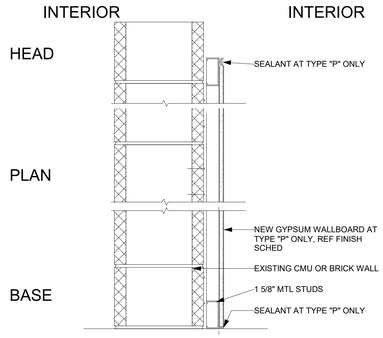


TYPE 5.1 TYPICAL INTERIOR PARTITION

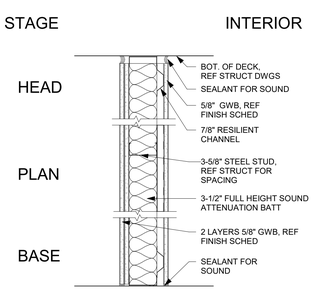
TYPE 5.1G SIM TO TYPE 5, EXCEPT SUBSTITUTE MOISTURE RESISTANT 5/8" GYP BOARD AT WET AREAS BEHIND TILE

TYPE 5.1R SIM TO TYPE 5, EXCEPT SUBSTITUTE 5/8" TYPE "X" GYP BOARD BOTH SIDES OF WALL FROM FLOOR TO UNDERSIDE OF STRUCTURE, TO PROVIDE 1 HOUR FIRE RATING PER UL U465

TYPE 5.1P SIM TO TYPE 5, EXCEPT SUBSTITUTE FRP WITH INTEGRAL BACKING AT NOTED SIDE OF WALL, REF FRAMING PLANS

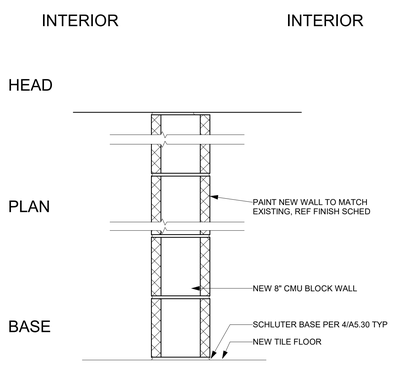


TYPE 6.1 FURRING WALL

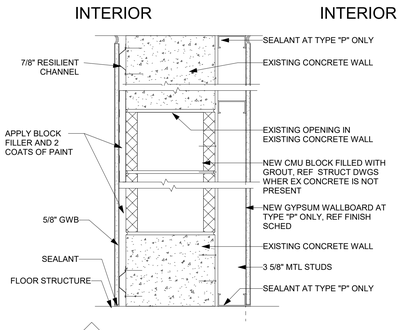


TYPE 7.1 SOUND WALL

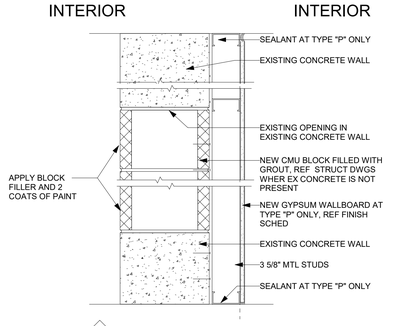
TYPE 7.1R SIM TO TYPE 14, EXCEPT SUBSTITUTE 5/8" TYP "X" GYP BOARD BOTH SIDES OF WALL FROM FLOOR TO UNDERSIDE OF STRUCTURE, TO PROVIDE 1 HOUR FIRE RATING PER UL U465



TYPE 8.1 8" CMU BATH WALL



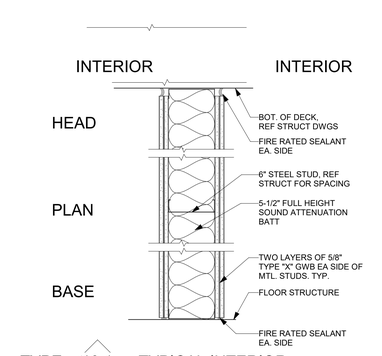
TYPE 9.1 NEW INT CMU INFILL WALL W/ GWB



TYPE 9.2 NEW INT CMU INFILL WALL

TYPE 9.2P SIM TO TYPE 21, EXCEPT WITH NEW GYPSUM WALLBOARD FURRED OUT AS SHOWN IN DETAIL AND NOTES ABOVE. SE PLANS FOR FRP LOCATIONS.

TYPE 9.2E EXISTING SIM WALL - NEW FRP



TYPE 10.1 TYPICAL INTERIOR PARTITION

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Revisions:

No	Description	Date

Issue Dates:
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SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Wall Types

Project No:
1935.03

Sheet No:
A0.03

DOOR SCHEDULE

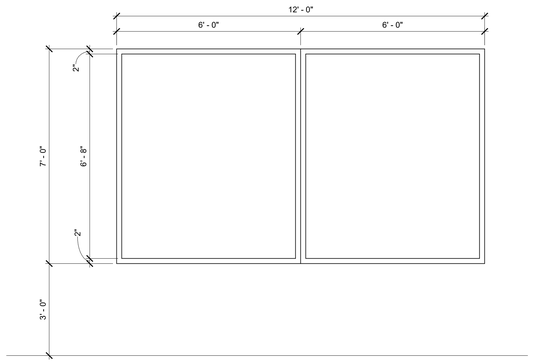
DOOR NO.	LOCATION FROM ROOM	LOCATION TO ROOM	WIDTH	HEIGHT	THICKNESS	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME DEPTH	FRAME FINISH	GLASS TYPE	HEAD	JAMB	SILL	FIRE RATING	HDWR	REMARKS
A103A	CAFETERIA ADDITION	LOWER LEVEL NORTH ARCADE	6' - 0"	7' - 0"	1 3/4"	6	WD	ST	5	HM	1' - 1 5/8"	PT	TEMPERED	14/A5.60	14/A5.60	6/A5.60	---	02	MAG LOCKS, HOLD OPEN + CLOSERS, NO MULLION OR ASTRIGAL, KEYCARD ACCESS
A103C	CAFETERIA ADDITION		6' - 0"	7' - 0"	1 3/4"	7 SIM	SF	MFG	2 SIM	SF	6' - 6"	MFG	TEMPERED, INSULATED	9/A5.60	13/A5.60	7/A5.60	---	AL-01	KEYCARD ACCESS, NO WIRING IN REMOVABLE MULLION, REF WINDOW TYPE 3 FOR SIZING
A103D	EX. CAFETORIUM	CAFETERIA CONVERSION	3' - 0"	7' - 0"	1 3/4"	1	WD	ST	1	HM	8 1/4"	PT	TEMPERED	4/A5.60	4/A5.60	6/A5.60	---	04	
A105C		EX. CAFETORIUM	12' - 0"	8' - 0"	2 1/8"	9	SF	MFG	EXTRUDED	SF	6 1/2"	MFG	TEMPERED	2/A5.60 SIM	2/A5.60	-	---	OH-01	GARAGE DOOR, GLASS, STRAIGHT UP TRACK, ANODIZED DARK BRONZE FRAME
A105D		EX. CAFETORIUM	14' - 6"	8' - 0"	2 1/8"	9	SF	MFG	EXTRUDED	SF	6 1/2"	MFG	TEMPERED	2/A5.60 SIM	2/A5.60	-	---	OH-01	GARAGE DOOR, GLASS, STRAIGHT UP TRACK, ANODIZED DARK BRONZE FRAME
A105E		EX. CAFETORIUM	14' - 6"	8' - 0"	2 1/8"	9	SF	MFG	EXTRUDED	SF	6 1/2"	MFG	TEMPERED	2/A5.60 SIM	2/A5.60	-	---	OH-01	GARAGE DOOR, GLASS, STRAIGHT UP TRACK, ANODIZED DARK BRONZE FRAME
A109A	SERVING	CAFETERIA ADDITION	3' - 0"	2' - 6"	2"	8	WD	ST	-	-		-		-	-	-	---	05	HALF HEIGHT
A111A	INSTRUMENTAL		6' - 2"	8' - 2"	1 3/4"	1	HM	PT	EX	EX		PT		EX.	EX.	EX.	---	01.01	REPLACE DOOR, DOOR HARDWARE, AND RETROFIT FOR HINGE LOCKSET
B109A	SPED	SPED BATH	3' - 0"	7' - 0"	1 3/4"	1	WD	ST	1	HM	8 1/4"	PT		4/A5.60	4/A5.60		---		SPED BATH, PASSAGE HARDWARE W/NO LOCKS
C106A	GREENHOUSE		3' - 0"	7' - 0"	1 3/4"	1	HM	PT	3	HM		PT		8/A5.60	13/A5.60	7/A5.60	---	01	
C107D	7TH GRADE SCIENCE	7TH GRADE SCIENCE	12' - 0"	8' - 6"	3' - 6"	-	MFR	WB	EXTRUDED	MFR	8 1/4"	MFG		12/A5.60	10/A5.60	-	---	SL-01	FOLDING PARTITION
C107E			15' - 0"	5' - 6"	2"	-	MFR	NA	EXTRUDED	MFR	8 1/4"	MFG		15/A5.60	10/A5.60	-	---	SL-01	ACORDION COUNTERTOP DOOR
EA105E	SPED		3' - 0"	7' - 0"	1 3/4"	1	WD	ST	1	HM	8 1/4"	PT		4/A5.60	4/A5.60		---		SPED BATH, PASSAGE HARDWARE W/NO LOCKS
EA111B	INSTRUMENTAL		6' - 0"	8' - 0"	1 3/4"	EX	EX	EX	EX	EX		EX	EX.	EX.	EX.	EX.	---	EX-02	DOOR HOLD OPEN TO RECIEVE NEW THINNER MAG HOLD

ABBREVIATIONS:

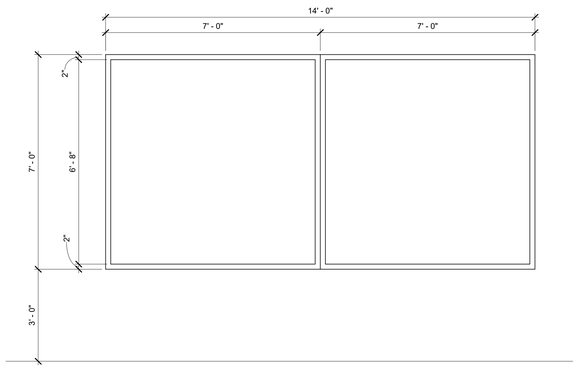
MFG	MANUFACTURER
EHM	EX HOLLOW METAL
EWD	EX WOOD
ESF	EX STORE FRONT
EAL	EX ALUMINUM
HM	HOLLOW METAL
WD	WOOD
SF	STORE FRONT
AL	ALUMINUM
EST	EX STAIN
EPT	EX PAINT
MILL	FACTORY MILL FINISH
PT	PAINT
ST	STAIN
TEMP	TEMPERED
EX	EXISTING
SS	STAINLESS STEEL FINISH
VS	VINYL STICKER FINISH BY MFG

WINDOW SCHEDULE

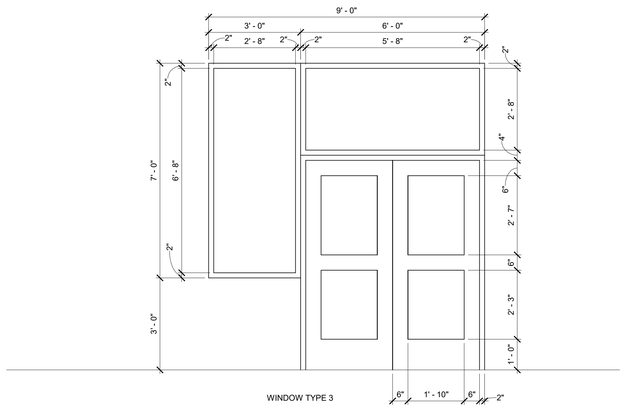
Window No.	DESCRIPTION	WIDTH	HEIGHT	FINISH	COMMENTS
1	STOREFRONT	12'-0"	7'-0"	STOREFRONT	TYPE 1, REF A0.04
2	STOREFRONT	14'-0"	7'-0"	STOREFRONT	TYPE 2, REF A0.04
3	STOREFRONT	PER ELEV	PER ELEV	STOREFRONT	TYPE 3, REF WINDOW TYPE 3 ON A0.04 FOR DIMENSIONS



WINDOW TYPE 1

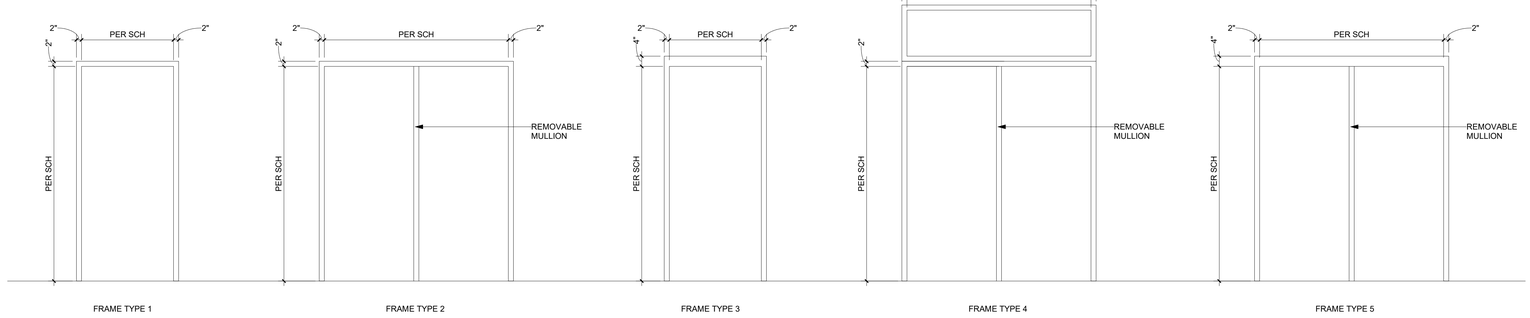


WINDOW TYPE 2

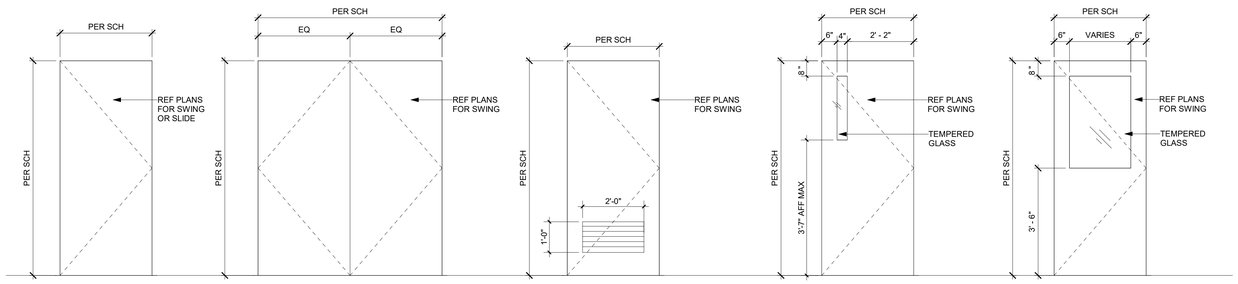


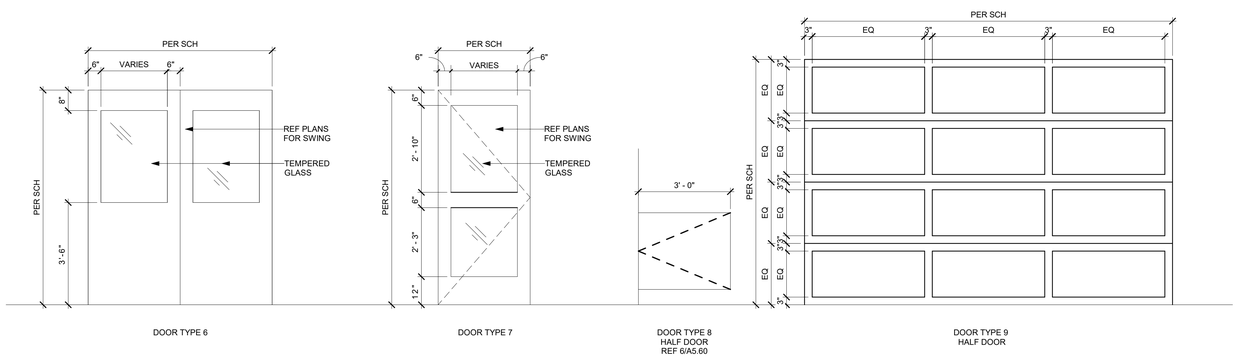
WINDOW TYPE 3

WINDOWS
1/2" = 1'-0"



DOOR FRAME TYPES
1/2" = 1'-0"





DOOR TYPES
1/2" = 1'-0"

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Sheet Title:
Door and Window Schedules

Project No:
1935.03

Sheet No:
A0.04

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COLOR AND MATERIALS SCHEDULE - BASIS OF DESIGN

SYMBOL	GENERAL_ LOCATION	MANUFACTURER	PRODUCT NAME	COLOR / FINISH	SIZE	REMARKS	HEADER
ACOUSTIC PANEL CEILING							
APC-1	CLASSROOMS/CAFETERIA	ARMSTRONG	FINE FISSURED-HIGH ACOUSTICS SQUARE LAY-IN - 1714	WHITE W/ WHITE GRID	24" x 48"x3/4"	NRC: .55	ACOUSTIC PANEL CEILING
APC-2	LEARNING COMMONS CLOUDS	ARMSTRONG	FINE FISSURED-HIGH ACOUSTICS SQUARE LAY-IN - 1714	WHITE W/ WHITE GRID	24" x 48"x3/4"	CLOUD EDGE - 6" AXIOM	ACOUSTIC PANEL CEILING
ACOUSTIC WALL PANEL							
AWP-1	CAFETORIUM	KINETICS	HARDSIDE	TBD		GUILFORD OF MAINE FABRIC	ACOUSTIC WALL PANEL
BASE							
B-1	GENERAL WALL BASE	ROPPE	VINYL - TYPE TP - 700 SERIES	100 BLACK	4" H		BASE
CARPET							
CPT-1	FIELD	TANDUS CENTIVA	APPLAUSE III	QUINCE	TILES	UNIDIRECTIONAL	CARPET
CORNER GUARD							
CG-1		INPRO CORP	TAPE ONCORNER GUARDS	SILVER WHITE 0105	WIDTH- 1.5" HEIGHT- 4'-0"	INSTALL AT TOP OF BASE	CORNER GUARD
DOORS							
DR-1	INTERIOR DOORS	VT INDUSTRIES	MATCH EX.	MATCH EX.			DOORS
FIBRE-REINFORCED PLASTIC							
FRP-1	MOP SINKS	MARLITE	STANDARD-PEBBLE SURFACE	P199 BRIGHT WHITE			FIBRE-REINFORCED PLASTIC
GROUT							
G-1	FOR WALL TILE T-1, T-3	MAPEI	EPOXY	CHARCOAL 47			GROUT
G-2	FOR FLOOR TILE T-2	MAPEI	EPOXY	CHARCOAL 47			GROUT
LUXURY VINYL TILE							
LVT-1	CAFTERIA/CAFETORIUM	TARKETT	CONTOUR MODERN WOOD	OAKHURST 3824	6X36		LUXURY VINYL TILE
PAINT							
P-1	FIELD PAINT	SHERWIN WILLIAMS	KWALL PAINT, DISTRICT STANDARD				PAINT
P-3	INTERIOR DOOR AND WINDOW FRAMES	SHERWIN WILLIAMS	MATCH EX.	MATCH EX.			PAINT
PLASTIC LAMINATE							
PL-1	CASEWORK - VERTICAL SURFACES	WILSONART	PLASTIC LAMINATE	BRONZE LEGACY 4656-60			PLASTIC LAMINATE
SEALED CONCRETE FLOORING							
SC-1		-	CONCRETE, SEALED		-		SEALED CONCRETE FLOORING
SOLID SURFACE							
SS-1	COUNTERTOPS AND WINDOW SILLS	CORIAN	SOLID SURFACING 13MM	DEEP ANTHRACITE	13MM		SOLID SURFACE
TACKBOARD							
TBD-1	GENERAL TACKBOARD	FORBO	BULLETIN BOARD	2182 - POTATO SKIN	48"X72"	SATIN ANODIZED ALUMINUM TRIM, SEE PLAN FOR SIZE	TACKBOARD
TILING							
T-1	RESTROOM WALL TILE	AMERICAN OLEAN	NEOCONCRETE	BEIGE NEII-MATTE	24X24	INSTALL IN ALL RESTROOMS	TILING
T-2	RESTROOM FLOOR TILE	DALTILE	CHORD	ALLEGRO BEIGE CH21-UNPOLISHED	24X24	INSTALL IN ALL RESTROOMS	TILING
T-3	KITCHEN WALL TILE	DALTILE	COLOR WHEEL LINEAR	K175 GLOSS BISCUIT	6X18	INSTALL IN KITCHEN	TILING
T-4	RESTROOM WALL TILE	AMERICAN OLEAN	NEOCONCRETE	BEIGE NEII-MATTE	6X24	CMU WALLS IN ALL RESTROOMS	TILING
T-5	MOSAIC AT FLOOR DRAINS	DALTILE	CHORD	ALLEGRO BEIGE CH21-UNPOLISHED	12X12	MOSAIC SHEET AT FLOOR DRAINS	TILING
TOILET PARTITIONS							
TP-1	TOILET ROOMS	BOBRICK	HDPL	DESERT ZEPHYR 4841-60			TOILET PARTITIONS
TRANSITIONS							
TR-1	RESTROOM WALL TILE EDGE TRIM	SCHLUTER	DILEX-AHK	SATIN ANODIZED ALUMINUM	HEIGHT TO MATCH TILE AND SETTING BED THICKNESS		TRANSITIONS
TR-2	CARPET TO LVT	JOHNSONITE	CTA--XXX-H	BLACK 40	INSTALLER TO VERIFY SIZE		TRANSITIONS
TR-3	TILE TO LVT	SCHLUTER	RENO-TK	AE	INSTALLER TO VERIFY SIZE		TRANSITIONS
TR-4	CARPET TO CARPET	JOHNSONITE	CTA-XX-N	BLACK 40	INSTALLER TO VERIFY SIZE		TRANSITIONS
WALK OFF CARPET							
WOC-1		TANDUS CENTIVA	ASSERTIVE ACTION 04837	CHROMIUM 26201	24X24 MODULAR		WALK OFF CARPET
WINDOW SHADE							
WS-1	WINDOW SHADES	HUNTER DOUGLAS	GLACIER SCREEN HD1005	WHITE/SAND			WINDOW SHADE
WOOD							
WD-1		-	FURNITURE GRADE PLYWOOD	MATCH EX.	SEE ELEVATION FOR SIZE	-	WOOD
WD-2			FURNITURE GRADE PLYWOOD	MATCH EX.	SEE ELEVATION FOR SIZE	EACH HOUSE (4 TOTAL) TO RECEIVE A DIFFERNT COLOR STAIN. SEE ELEVATION FOR COLOR	WOOD

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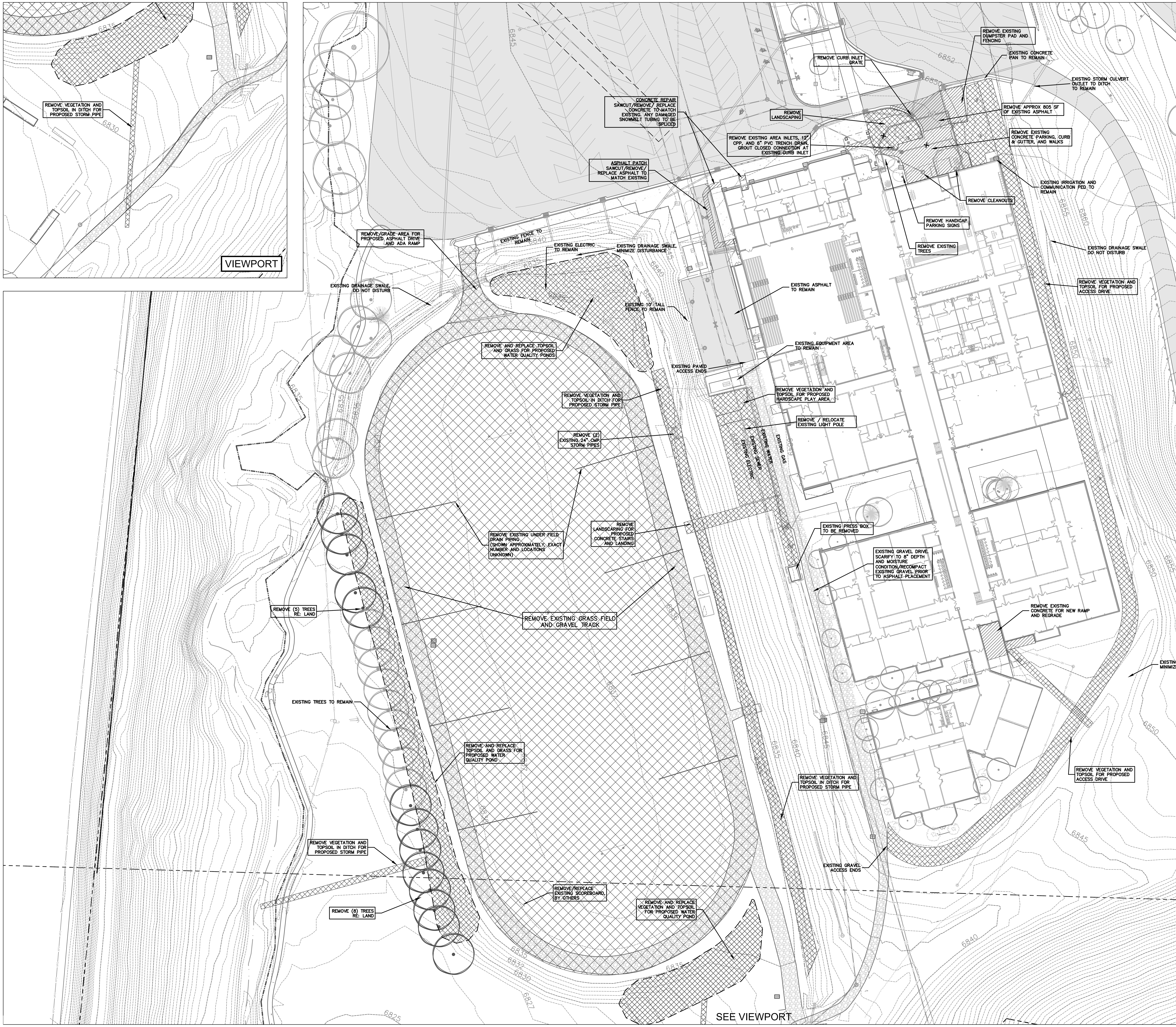
Sheet Title:
Room Finish Schedule

Project No:
1935.03

Sheet No:
A0.05


VIEWPORT
REMOVE VEGETATION AND TOPSOIL IN DITCH FOR PROPOSED STORM PIPE
REMOVE/GRADE AREA FOR PROPOSED ASPHALT DRIVE AND ADA RAMP
EXISTING FENCE TO REMAIN
EXISTING ELECTRIC TO REMAIN
EXISTING DRAINAGE SWALE, MINIMIZE DISTURBANCE
EXISTING DRAINAGE SWALE DO NOT DISTURB
CONCRETE REPAIR SAWCUT/REMOVE/ REPLACE CONCRETE TO MATCH EXISTING. ANY DAMAGED SNOWMELT TUBING TO BE SPLICED
ASPHALT PATCH SAWCUT/REMOVE/ REPLACE ASPHALT TO MATCH EXISTING
REMOVE LANDSCAPING
REMOVE EXISTING AREA INLETS, 12" CPP, AND 6" PVC TRENCH DRAIN, GROUT CLOSED CONNECTION AT EXISTING CURB INLET
REMOVE CURB INLET GRATE
REMOVE EXISTING DUMPSTER PAD AND FENCING
EXISTING CONCRETE PAN TO REMAIN
EXISTING STORM CULVERT OUTLET TO DITCH TO REMAIN
REMOVE APPROX 805 SF OF EXISTING ASPHALT
REMOVE EXISTING CONCRETE PARKING, CURB & GUTTER, AND WALKS
EXISTING IRRIGATION AND COMMUNICATION PED TO REMAIN
REMOVE CLEANOUTS
REMOVE HANDICAP PARKING SIGNS
REMOVE EXISTING TREES
EXISTING DRAINAGE SWALE DO NOT DISTURB
REMOVE VEGETATION AND TOPSOIL FOR PROPOSED ACCESS DRIVE
EXISTING 10' TALL FENCE TO REMAIN
EXISTING ASPHALT TO REMAIN
REMOVE AND REPLACE TOPSOIL AND GRASS FOR PROPOSED WATER QUALITY PONDS
EXISTING EQUIPMENT AREA TO REMAIN
EXISTING PAVED ACCESS ENDS
REMOVE VEGETATION AND TOPSOIL IN DITCH FOR PROPOSED STORM PIPE
REMOVE VEGETATION AND TOPSOIL FOR PROPOSED HARDSCAPE PLAY AREA
REMOVE / RELOCATE EXISTING LIGHT POLE
REMOVE (2) EXISTING 24" CMP STORM PIPES
EXISTING SEWER
EXISTING ELECTRIC
EXISTING WATER
EXISTING GAS
PROPERTY LINE
REMOVE EXISTING UNDER FIELD DRAIN PIPING (SHOWN APPROXIMATELY, EXACT NUMBER AND LOCATIONS UNKNOWN)
REMOVE LANDSCAPING FOR PROPOSED CONCRETE STAIRS AND LANDING
EXISTING PRESS BOX TO BE REMOVED
EXISTING GRAVEL DRIVE, SCARIFY TO 8" DEPTH AND MOISTURE CONDITION/RECOMPACT EXISTING GRAVEL PRIOR TO ASPHALT PLACEMENT
REMOVE (5) TREES RE: LAND
REMOVE EXISTING GRASS FIELD AND GRAVEL TRACK
REMOVE EXISTING CONCRETE FOR NEW RAMP AND REGRADE
EXISTING DRAINAGE SWALE, MINIMIZE DISTURBANCE
EXISTING TREES TO REMAIN
REMOVE AND REPLACE TOPSOIL AND GRASS FOR PROPOSED WATER QUALITY POND
REMOVE VEGETATION AND TOPSOIL IN DITCH FOR PROPOSED STORM PIPE
REMOVE VEGETATION AND TOPSOIL FOR PROPOSED ACCESS DRIVE
REMOVE VEGETATION AND TOPSOIL IN DITCH FOR PROPOSED STORM PIPE
REMOVE/REPLACE EXISTING SCOREBOARD, BY OTHERS
REMOVE AND REPLACE VEGETATION AND TOPSOIL FOR PROPOSED WATER QUALITY POND
EXISTING GRAVEL ACCESS ENDS
REMOVE (8) TREES RE: LAND
SEE VIEWPORT
GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

TOPOGRAPHIC INFORMATION PROVIDED BY LANDMARK CONSULTANTS INC.

LEGEND

—— ——	PROPERTY LINE
— 8110 —	EXISTING CONTOUR
— — —	EASEMENT
(crosshatch)	DEMO LANDSCAPE
(hatch)	DEMO HARDSCAPE
▬ ▬ ▬	STORM SEWER

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Revisions:

No	Description	Date

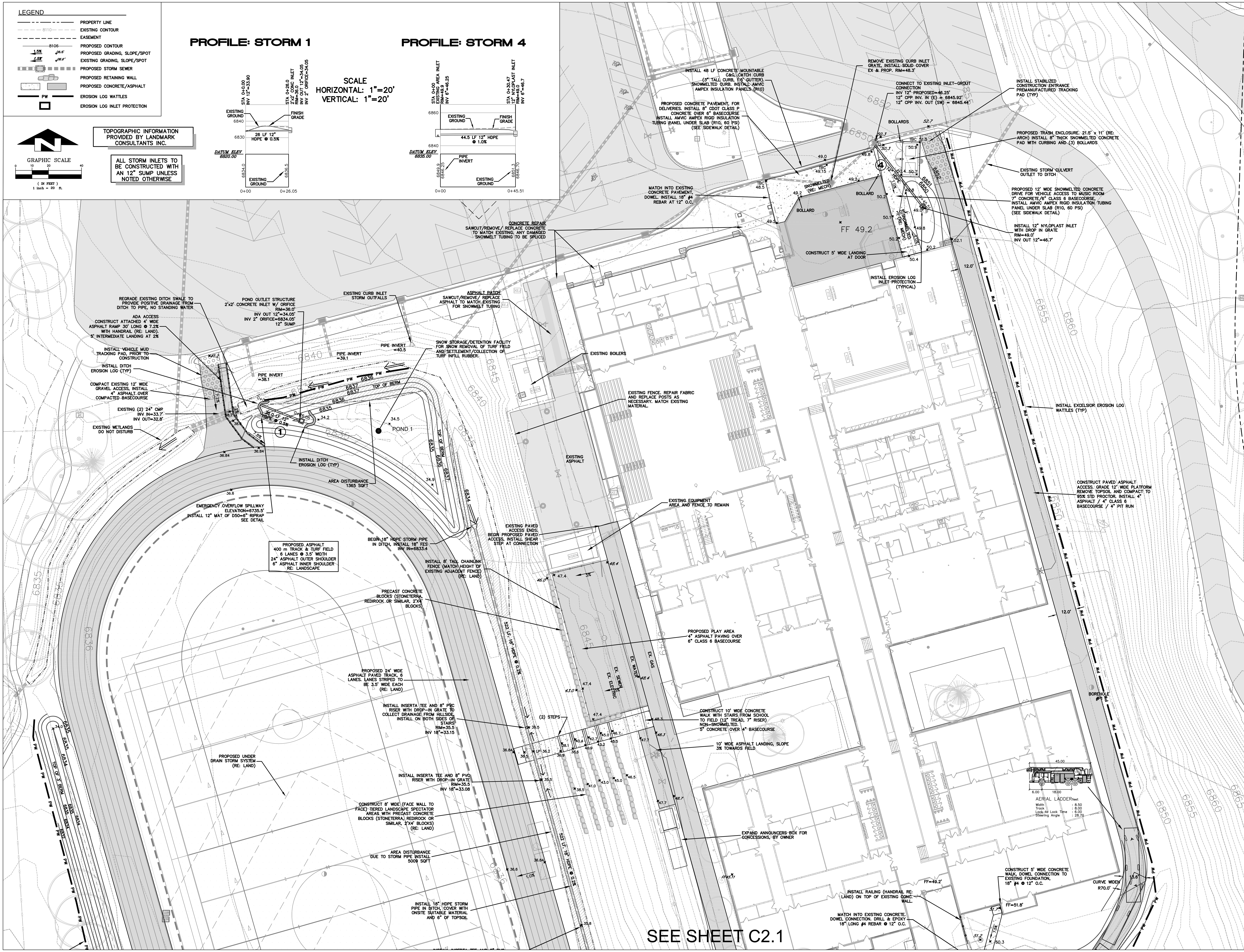
Issue Dates:
SD - 1/15/19
DD - 2/21/20
95 %CD - 3/30/20
100% CD - 4/6/20

Sheet Title:
Demolition Plan

ALPINE ENGINEERING INC.

Project No:
1935.03

Sheet No:
C1.1



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Sheet Title:
Grading & Drainage

ALPINE AEI ENGINEERING INC.

Project No:
1935.03

Sheet No:
C2.0

City of Steamboat Springs Standard Construction Plan Notes

General Notes

1. vertical datum is NAVD 88 and horizontal datum is state plane. see Topographic and existing conditions mapped by Landmark Consultants, Inc. on December 6, 2019.
2. City of Steamboat Springs plan review and approval is only for general conformance with City design criteria and the City code. The City is not responsible for the completeness, accuracy and adequacy of the drawings. Design, dimensions, and elevations shall be confirmed and correlated at the job site.
3. One copy of the approved construction plans and specifications shall be kept on the job site at all times. Prior to the start of construction, contractor to verify with project engineer the latest revision date of the approved construction plans.
4. Contractor shall verify the location of all utilities. Call the Utility Notification Center of Colorado (UNCC) at 1-800-922-1987 and any necessary private utility to perform locates prior to conducting any site work.
5. All infrastructure construction and related work shall conform to the City of Steamboat Springs standard specifications, latest revision.
6. All water and sanitary sewer construction and related work shall conform to the City of Steamboat Springs Standard Specifications for Water and Wastewater utilities, current edition.
7. Contractor shall obtain all necessary permits and approvals required to perform the work such as Right-of-Way permit, grading and excavation permit, construction dewatering permit, storm water quality permit, Army Corp of Engineer permit, etc. It is the contractor's responsibility to obtain a copy of all applicable codes, licenses, specifications, and standards necessary to perform the work, and be familiar with their contents prior to commencing any work.
8. Prior to start of construction Contractor shall coordinate with Project Engineer to identify project inspection and testing requirements. Contractor shall provide for inspections and testing at an adequate frequency for the Project Engineer to document that project is constructed in conformance with the approved plans and specifications.
9. Contractor is responsible for all necessary traffic control. Traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition.
10. Contractor shall provide all necessary traffic control (signs, barricades, flagmen, lights, etc) in accordance with the MUTCD, current edition.
11. Contractor must submit a Construction Site Management Plan (CSMP) for review and approval by the City Construction Services Foreman prior to start of construction. The CSM must be maintained on-site and updated as needed to reflect current conditions.

Grading

1. Grading shall occur within the property limits. Where off-site work is approved, written permission of the adjacent property owner must be obtained prior to any off-site grading or construction.
2. No work shall occur in wetlands or floodplains without appropriate permits. Any work shall be in accordance with the issued permits.
3. Vegetated slopes greater than 2:1 require soil stabilization.

Erosion Control

Refer to sheet C4.1

Paving

1. Paving of public streets shall not start until sub grade compaction and material tests are taken and accepted by the Public Works Director.
2. Existing asphalt pavement shall be straight saw cut when adjoining with new asphalt pavement or when access to underground utilities is required. Tack coat shall be applied to all exposed surfaces including saw cuts, potholes, trenches, and asphalt overlay. Asphalt patches in the Right-of-Way shall be per City specifications.
3. Adjust rims of cleanouts, manholes, valve covers to final grade.
4. Contractor to contact City Streets Superintendent at (970)879-1807 to schedule installation of public street signs. All other traffic control signs are the responsibility of the contractor.

GRAPHIC SCALE

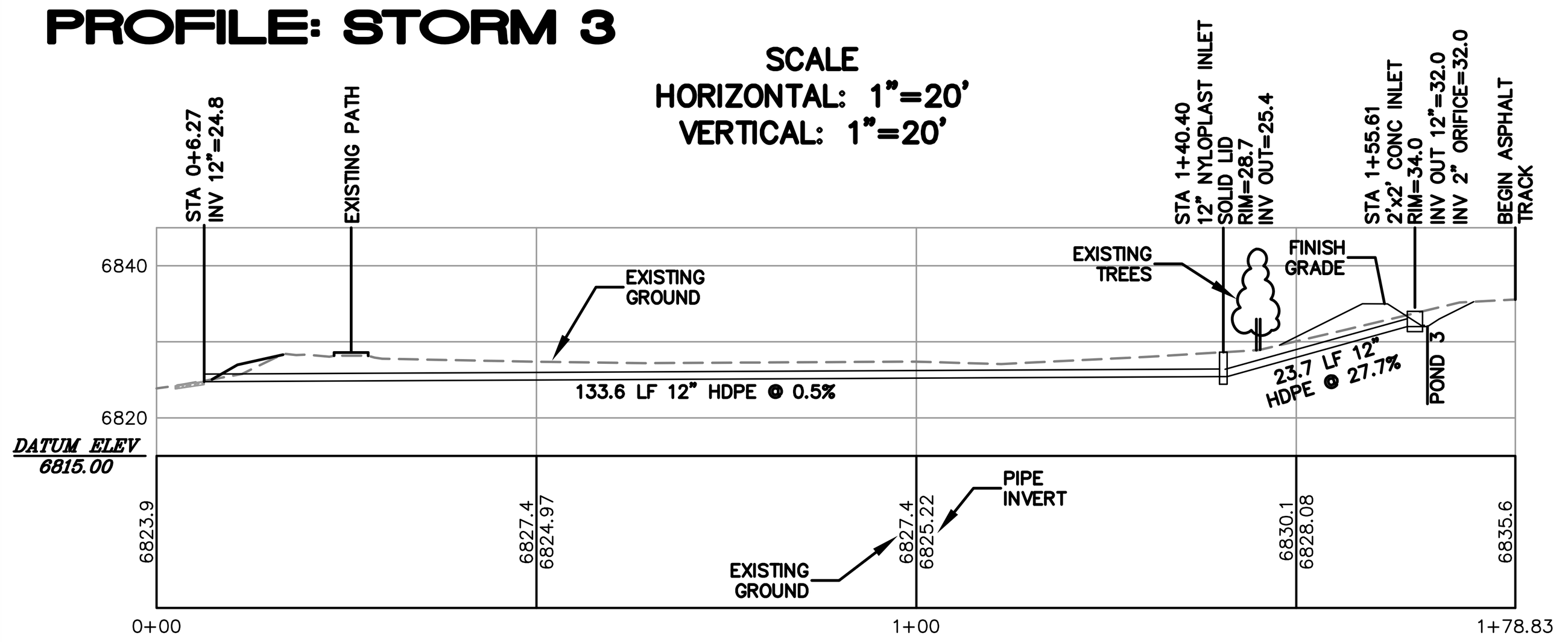
(IN FEET)
1 inch = 20 ft.

TOPOGRAPHIC INFORMATION PROVIDED BY LANDMARK CONSULTANTS INC.

ALL STORM INLETS TO BE CONSTRUCTED WITH AN 12" SUMP UNLESS NOTED OTHERWISE

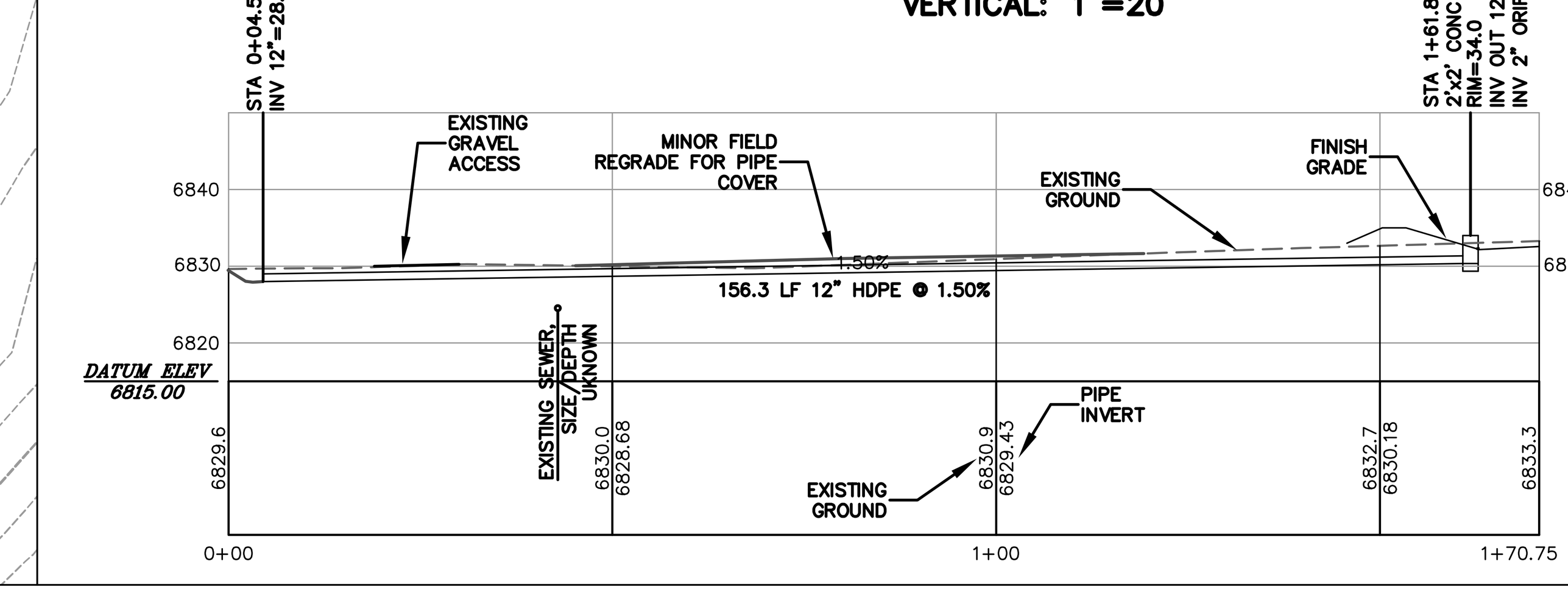
PROFILE: STORM 3

SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=20'



PROFILE: STORM 2

SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=20'



LEGEND

	PROPERTY LINE
6110	EXISTING CONTOUR
	EASEMENT
6106	PROPOSED CONTOUR
1.5% / 26.5'	PROPOSED GRADING, SLOPE/SPOT
1.5% / 26.5'	EXISTING GRADING, SLOPE/SPOT
	PROPOSED STORM SEWER
	PROPOSED RETAINING WALL
	PROPOSED CONCRETE/ASPHALT
PW	EROSION LOG WATTLES
	EROSION LOG INLET PROTECTION

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Sheet Title:
Grading & Drainage

ALPINE ENGINEERING INC.
WWW.ALPINECIVIL.COM

Project No:
1935.03

Sheet No:
C2.1

O:\Steamboat\School Renovations - 2019\DWG\Master\Steamboat Springs MS\Grading-SSM.dwg, 4/3/2020 9:35:08 AM, wadey

UTILITY PROVIDERS
WATER: CITY OF STEAMBOAT
SEWER: CITY OF STEAMBOAT
ELECTRIC: YAMPA VALLEY ELEC.
GAS: ATMOS ENERGY
INTERNET/PHONE: CENTURY LINK /MAMMOTH NETWORKS

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

LEGEND

XE	EXISTING ELECTRIC
XTV	EXISTING COMM. SERVICE
XG	EXISITNG GAS
XW	EXISTING WATER
XS	EXISTING SEWER
HYD	FIRE HYDRANT W/GV
	STORM SEWER
PSL	PROP. SNOWMELT LINES
PC	PROP. CONDUIT

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Sheet Title:
Utility Plan

ALPINE ENGINEERING INC.
34510 HWY 6 / UNIT A9 / PO BOX 97
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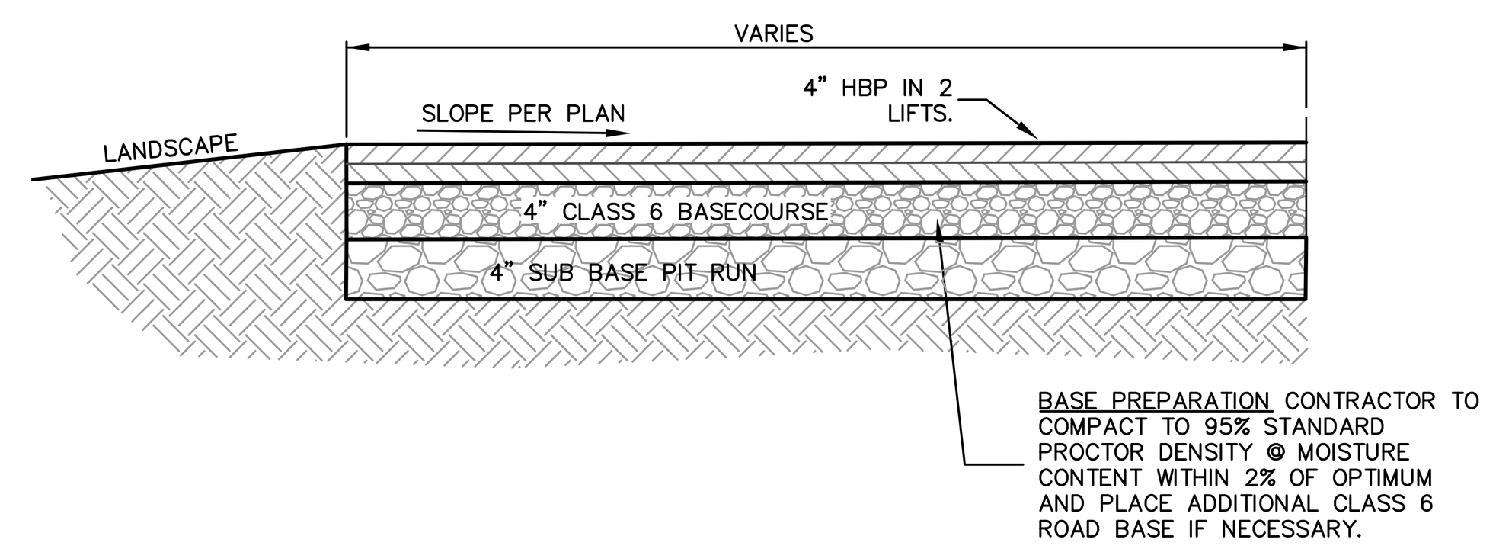
WWW.ALPINECIVIL.COM

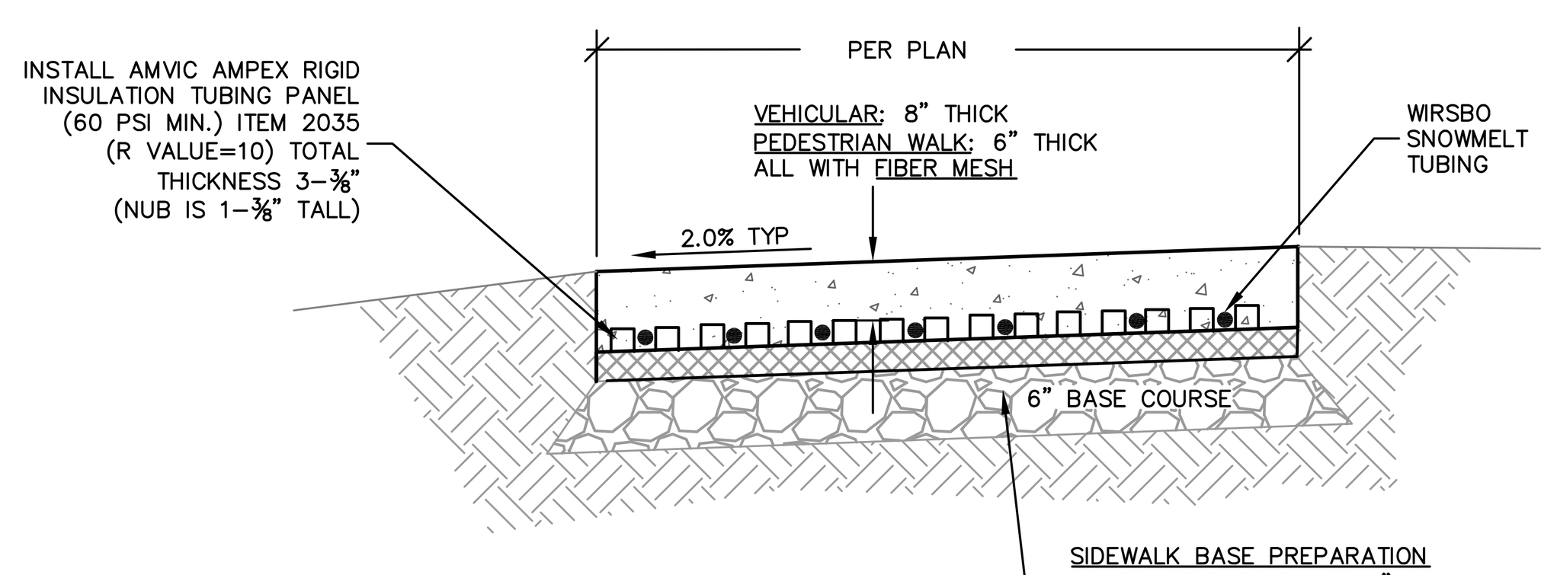
Project No:
1935.03

Sheet No:
C3.0



ASPHALT DRIVE/PARKING SECTION

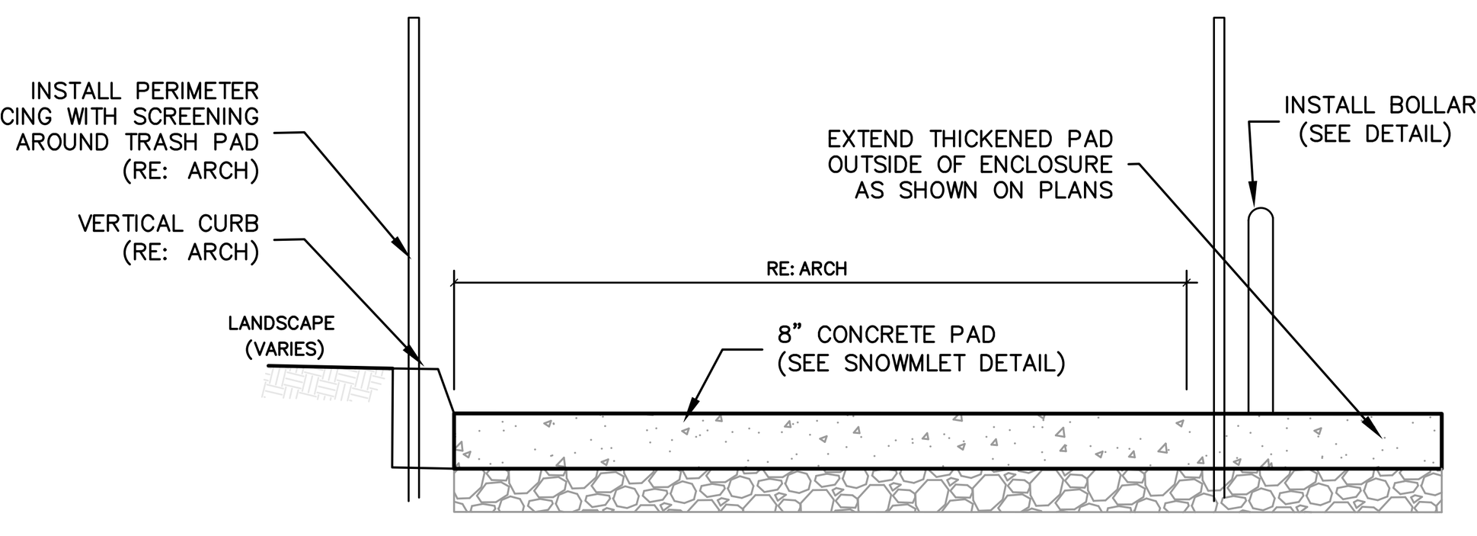
NTS



CONCRETE SHALL BE CDOT CLASS P, WITH FIBER MESH

SIDEWALK CONTRACTION JOINT SPACING TO MATCH WALK WIDTH OR 6' MAX. WHICHEVER IS THE SMALLER DIMENSION.

SNOWMELTED CONCRETE

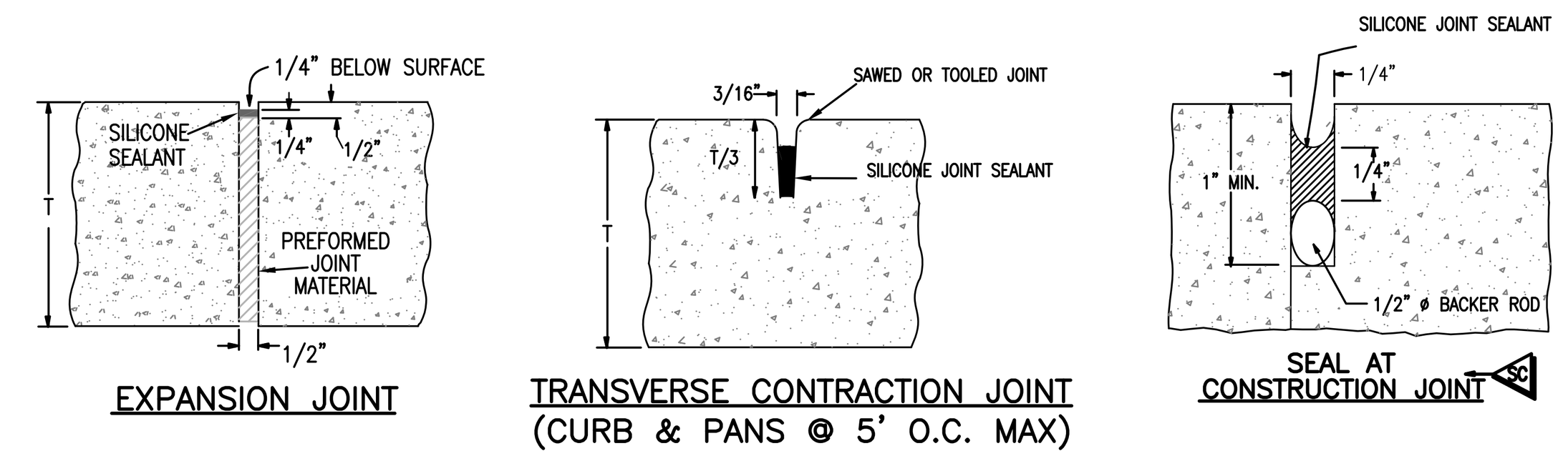


CONCRETE SHALL BE CDOT CLASS P.

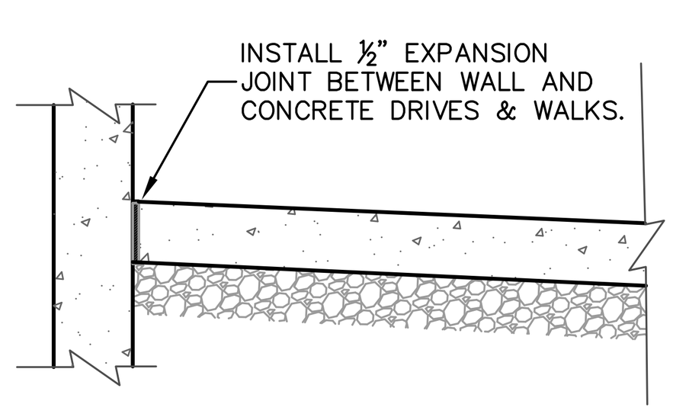
CONTRACTION JOINT SPACING TO BE 10' O.C. MAX. SAWED IN UNIFORM SQUARE PATTERN

CONTRACTOR TO PROTECT CONCRETE FROM TRAFFIC UNTIL COMPRESSIVE STRENGTH REACHES 4500 PSI

CONCRETE DUMPSTER PAD

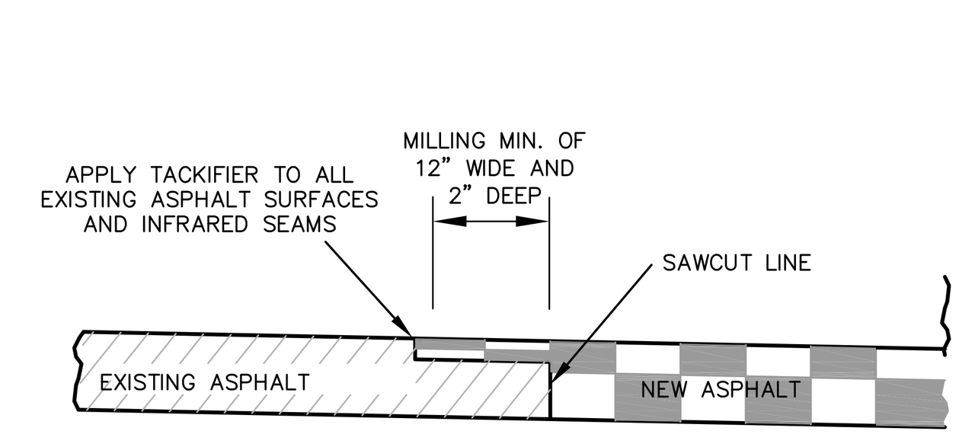


CONCRETE JOINTING

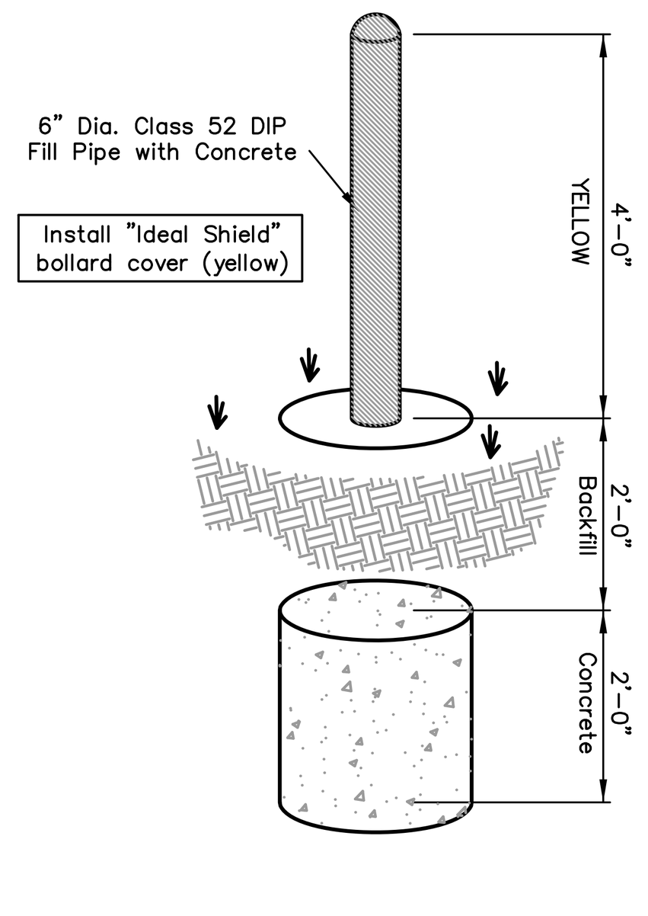


EXPANSION JOINT AT BUILDING

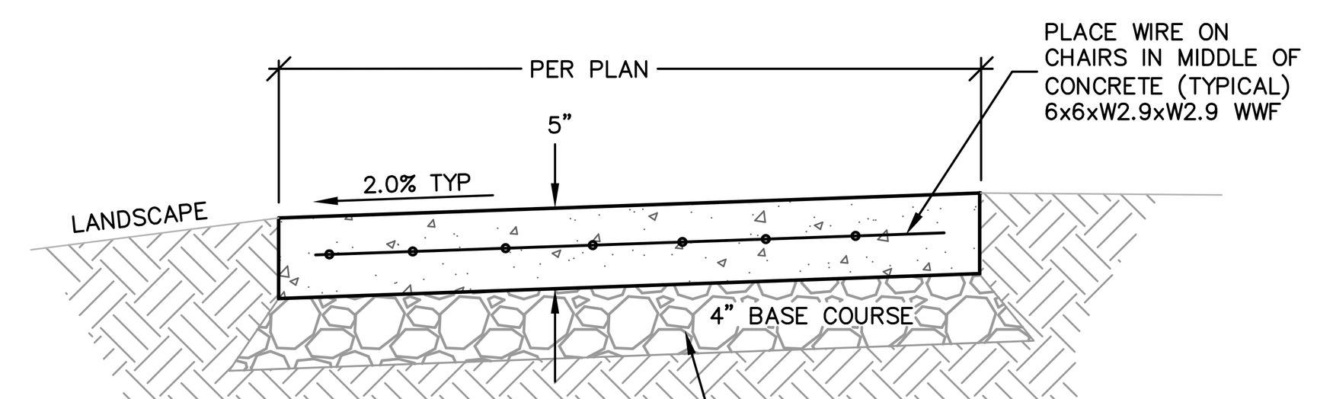
N.T.S.



SAWCUT SHEAR STEP JOINT



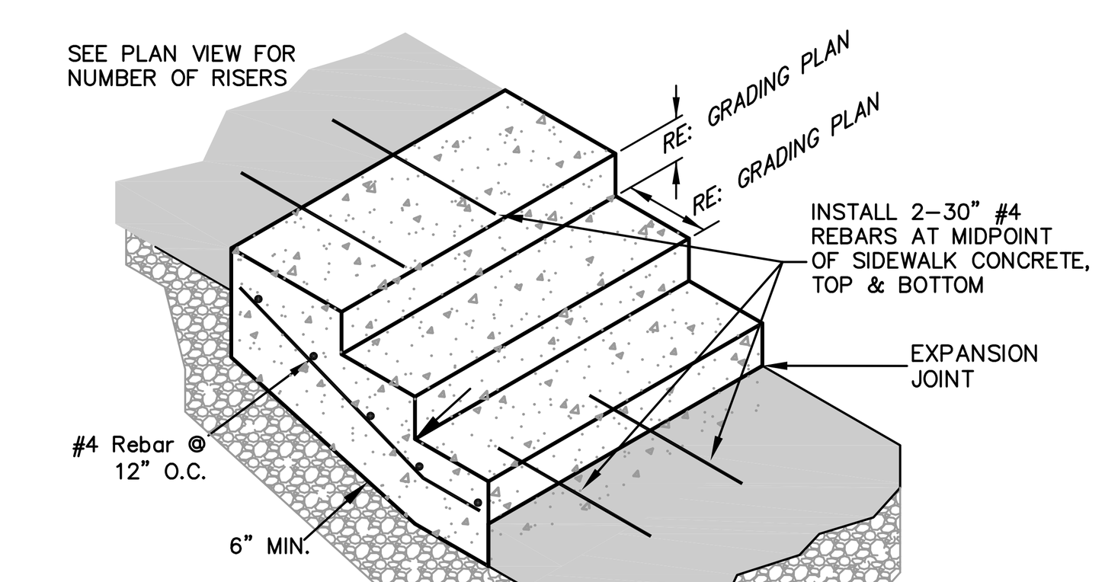
BOLLARD



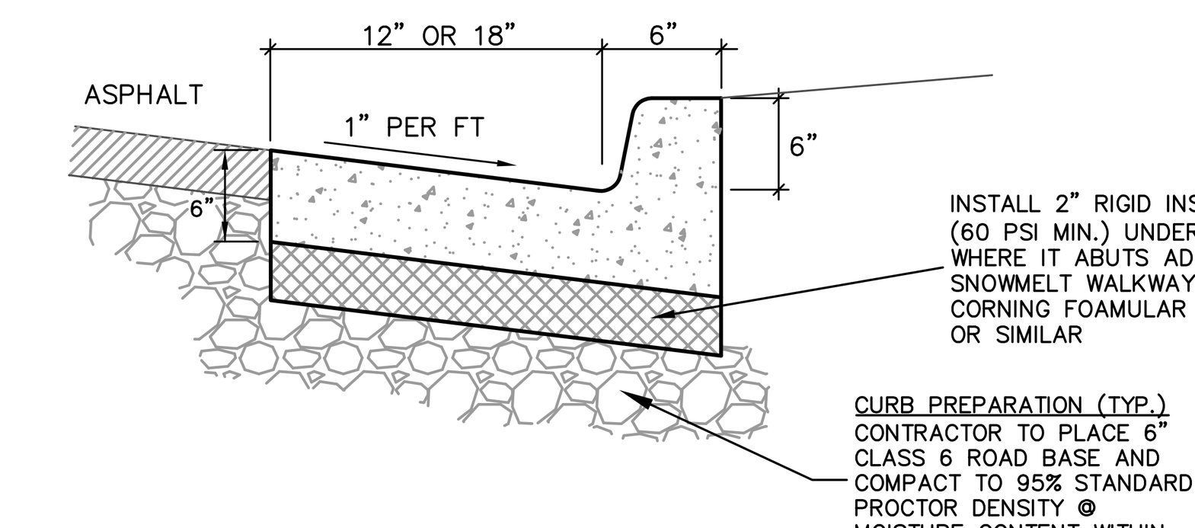
CONCRETE SHALL BE CDOT CLASS P.

SIDEWALK CONTRACTION JOINT SPACING TO MATCH WALK WIDTH OR 6' MAX. WHICHEVER IS THE SMALLER DIMENSION.

CONCRETE (NON SNOWMELT) SIDEWALK SECTION



CONCRETE STAIRS



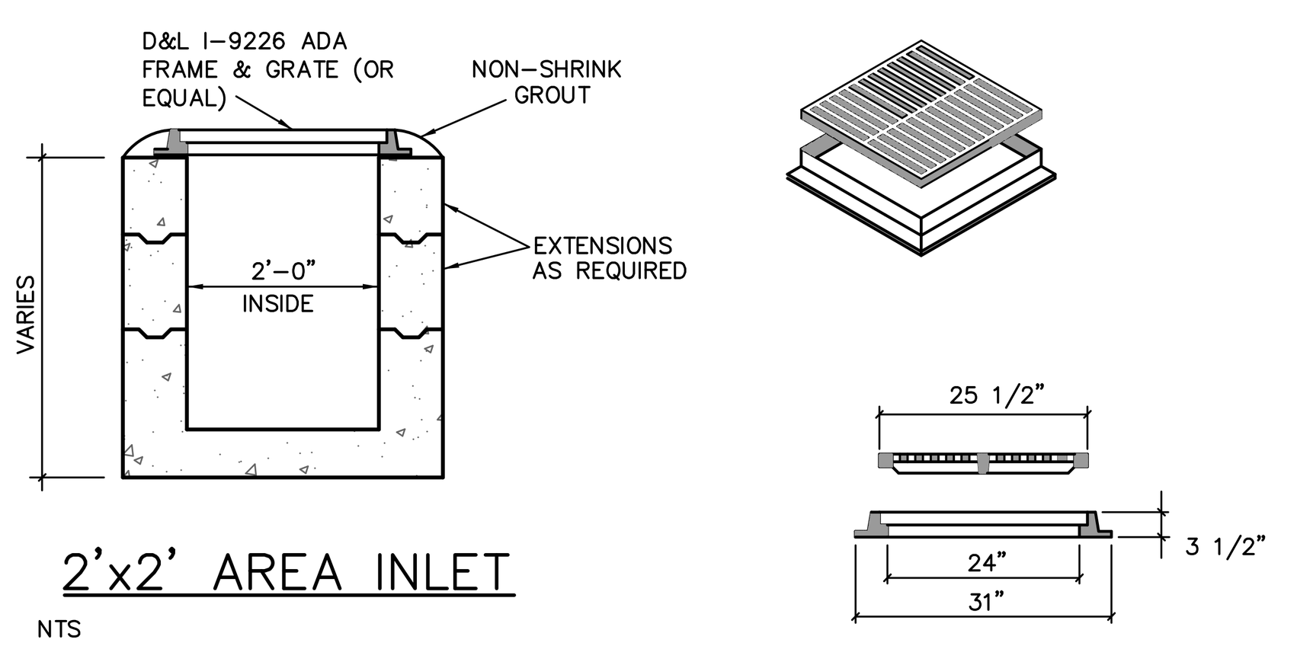
(CATCH CURB SHOWN)

ALL CONCRETE TO BE CDOT CLASS P OR B
CONSTRUCT CURB AND GUTTER PER COLORADO D.O.T. STANDARD M-609-1

PROVIDE CONTRACTION JOINTS 5' O.C. MAXIMUM

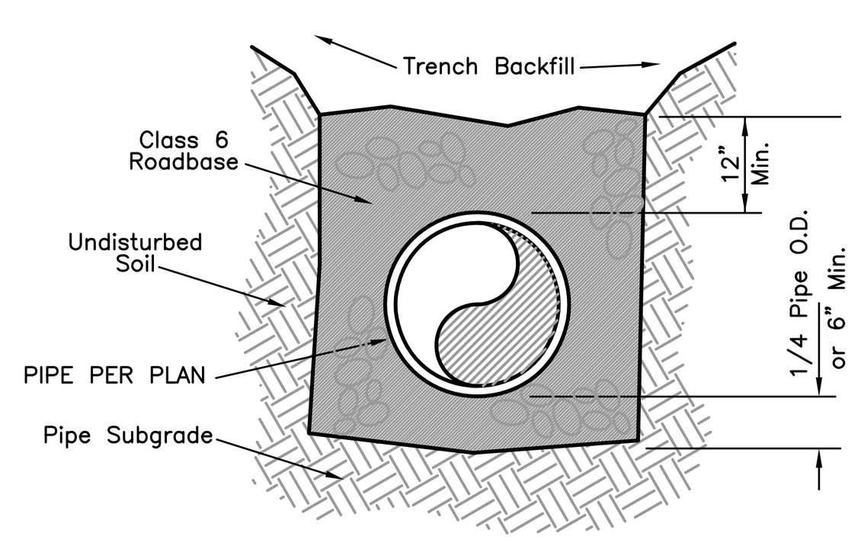
6" VERTICAL CURB AND GUTTER

NTS

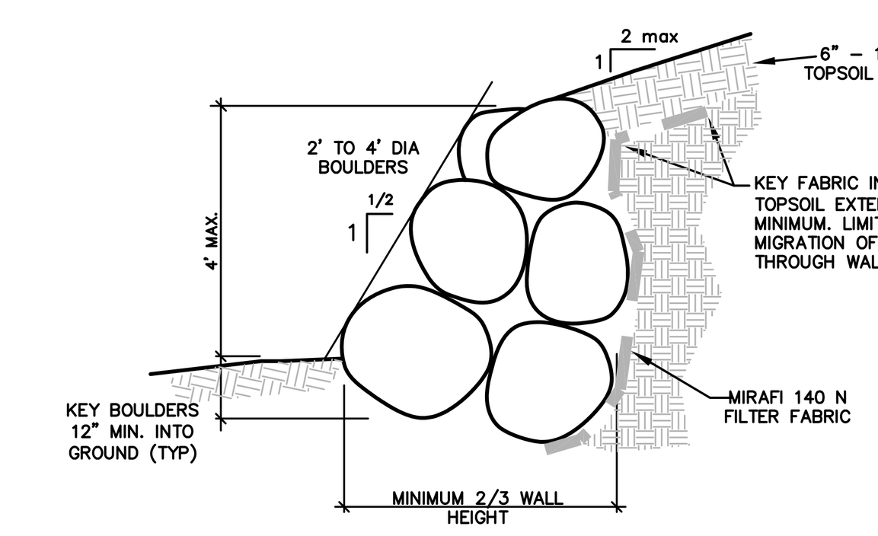


2'x2' AREA INLET

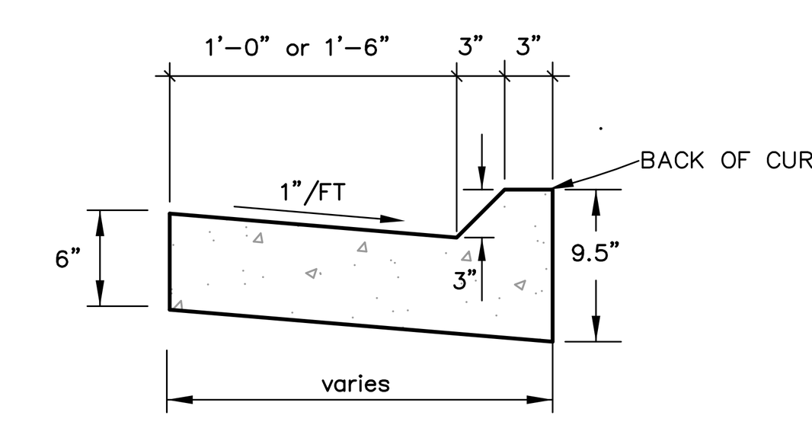
NTS



STORM SEWER BEDDING



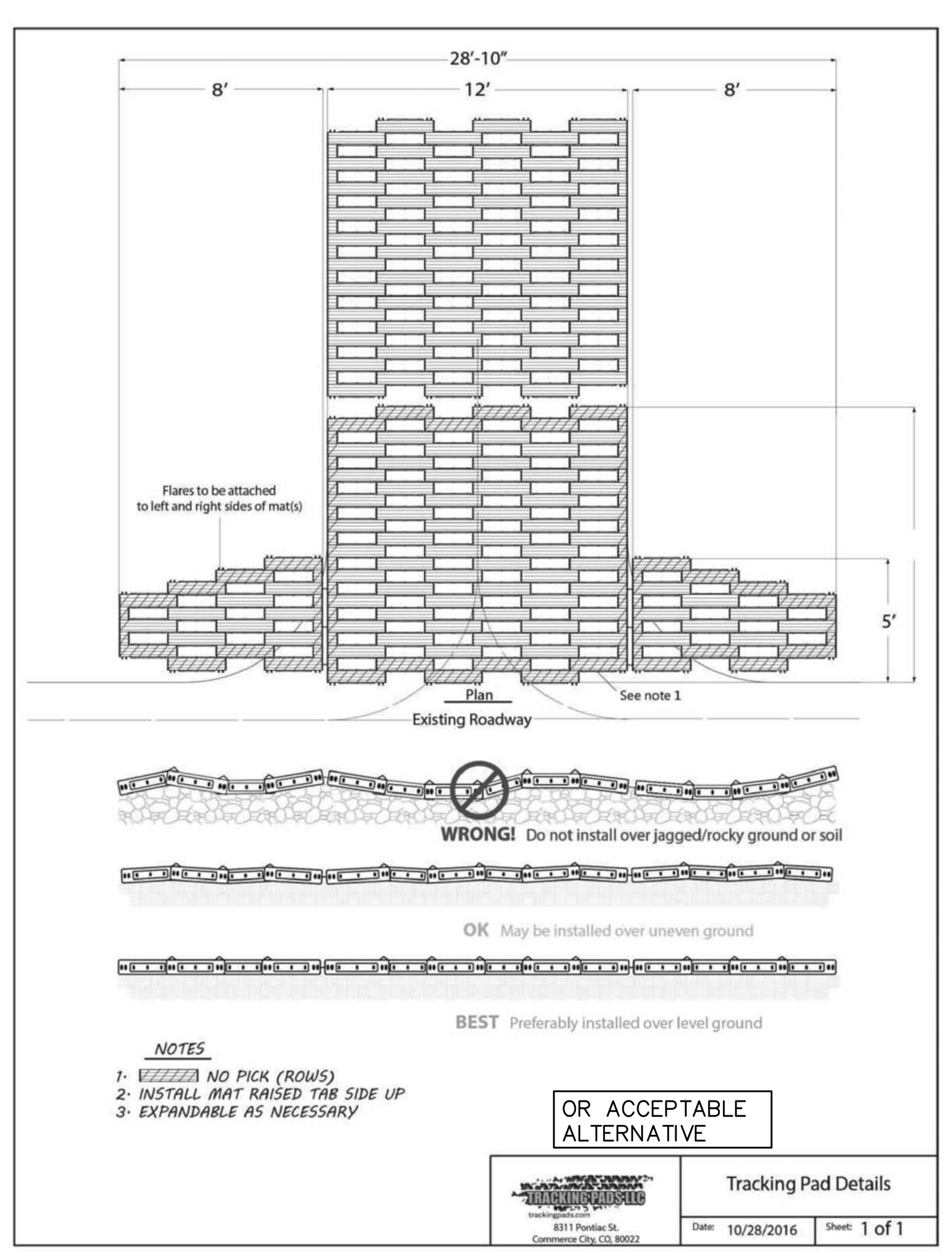
BOULDER WALL

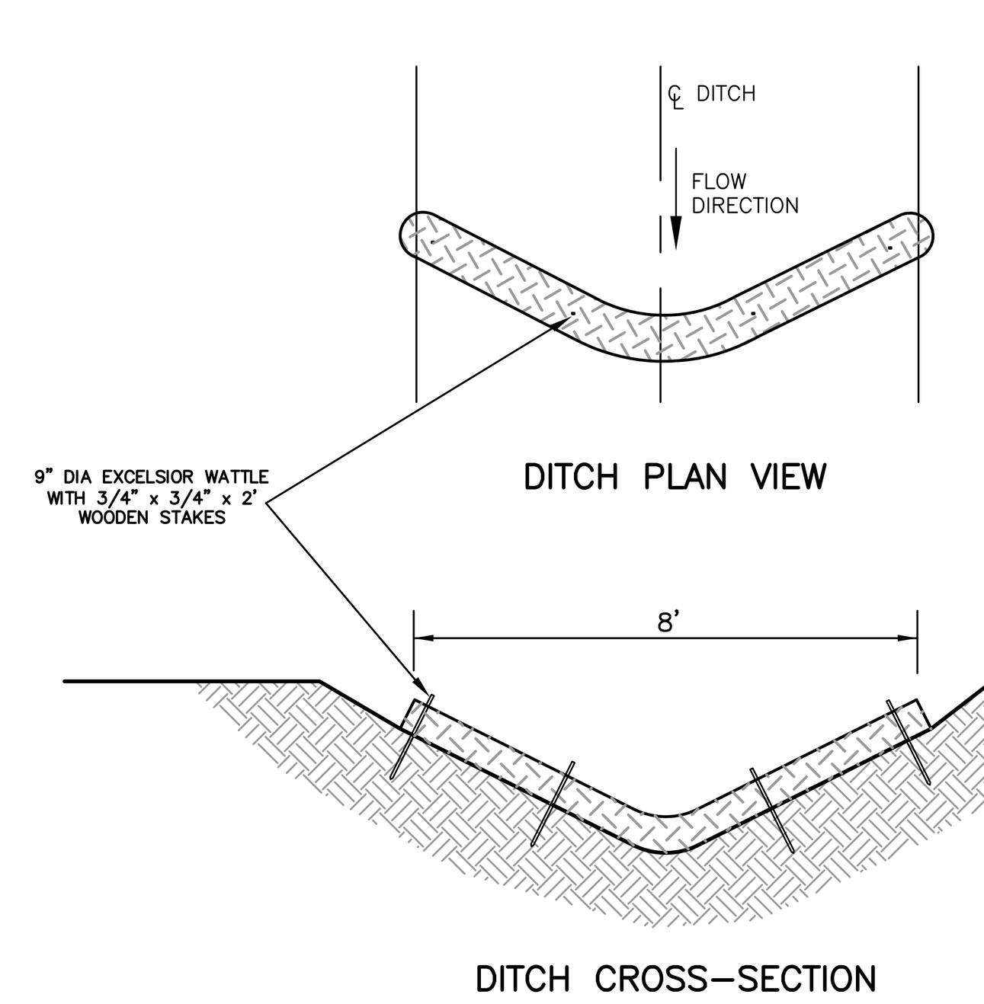


TYPE II: MOUNTABLE CURB (CATCH)

CONSTRUCT CURB AND GUTTER PER COLORADO D.O.T. STANDARD M-609-1 TYPE 2 SECTION IIM (NOTE 2'-0" WIDTH NOT 2'-6" & 3" CURB HEIGHT NOT 6")

MOUNTABLE CURB DETAIL



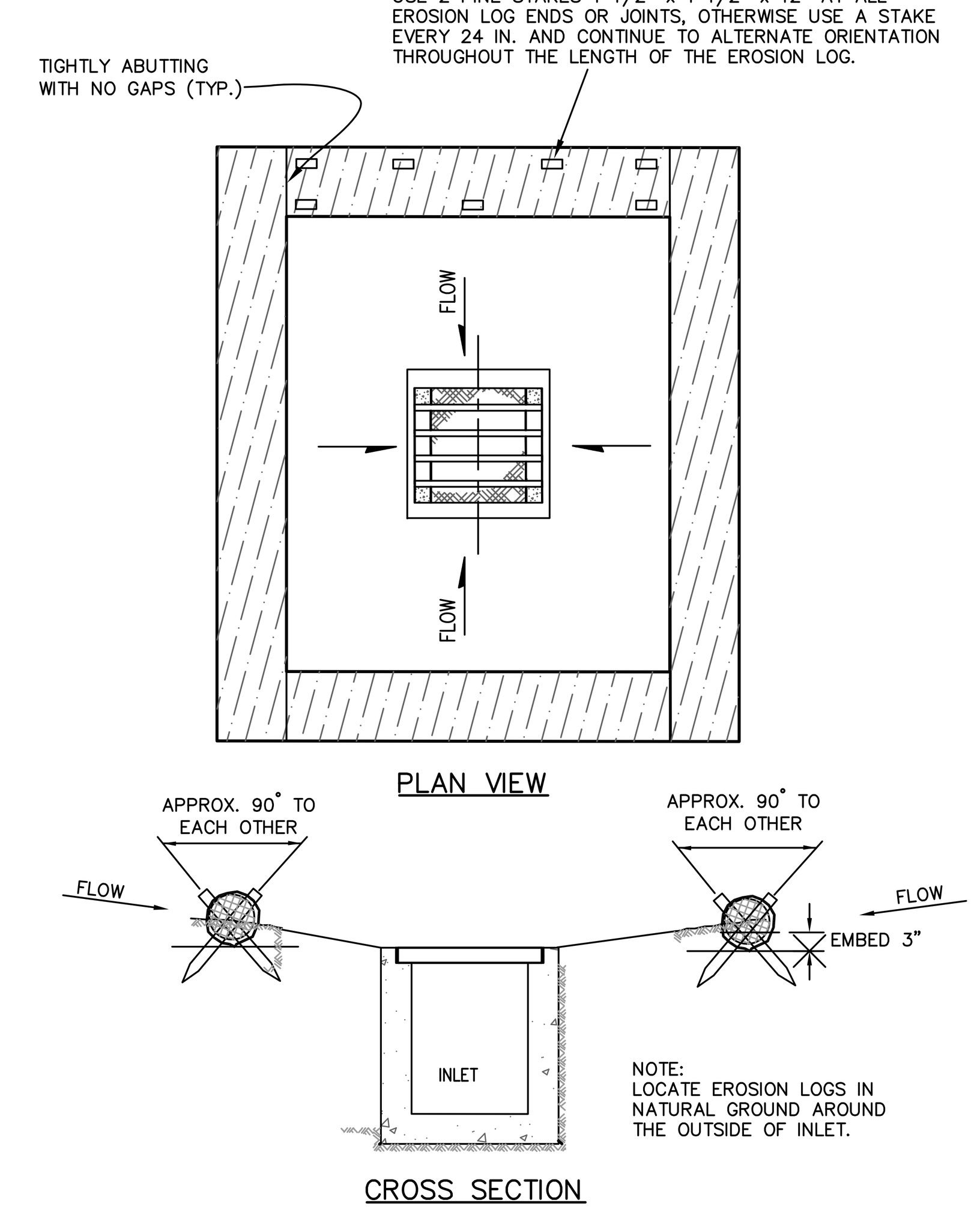


1. THE HEIGHT OF A STRAW WATTLE IS 9 IN. THE INSTALLED HEIGHT IS APPROXIMATELY 5 -7 IN..
2. STRAW WATTLES SHOULD BE INSTALLED IN SHALLOW TRENCHES, 2 - 4 IN. DEEP, DEPENDING ON SOIL TYPE AND SLOPE STEEPNESS. DIG THE TRENCH DEEPER FOR SOFT, LOAMY SOILS AND STEEPER SLOPES; DIG THE TRENCH SHALLOWER FOR HARD, ROCKY SOILS AND GENTLER SLOPES.
3. INSTALL WATTLE IN DRAINAGE DITCH PERPENDICULAR TO FLOW DIRECTION.

DITCH EROSION LOG DETAIL

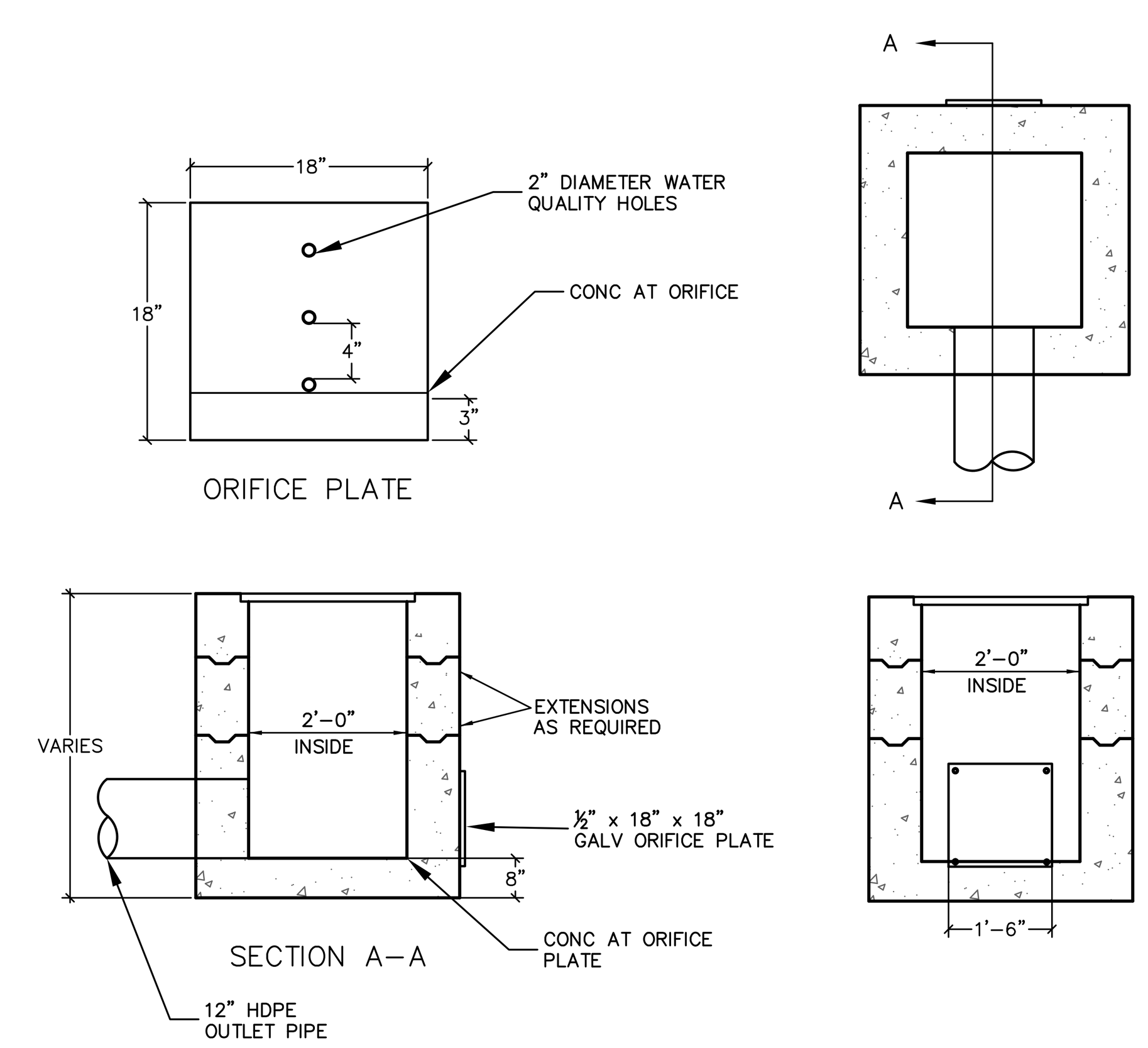
N.T.S.

USE 2 PINE STAKES 1 1/2" x 1 1/2" x 12" AT ALL EROSION LOG ENDS OR JOINTS, OTHERWISE USE A STAKE EVERY 24 IN. AND CONTINUE TO ALTERNATE ORIENTATION THROUGHOUT THE LENGTH OF THE EROSION LOG.



NOTE:
LOCATE EROSION LOGS IN NATURAL GROUND AROUND THE OUTSIDE OF INLET.

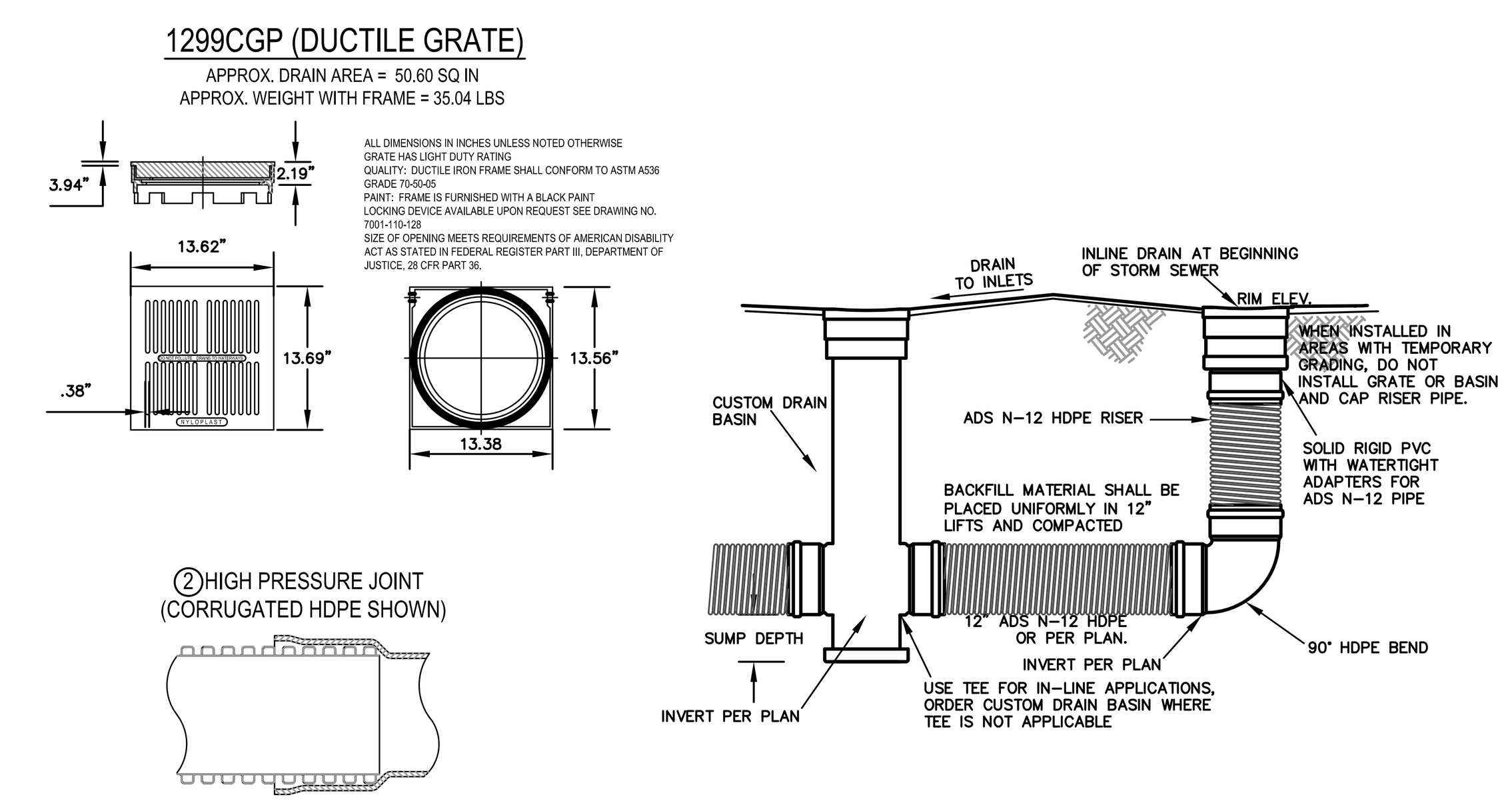
EROSION LOG INLET PROTECTION



1. CONCRETE SHALL BE CDOT CLASS B OR P.
2. ALL WALLS AND BASE SHALL BE REINFORCED WITH #4's @ 8" OC EACH WAY REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2" MINIMUM CLEARANCE.
3. ALL GRATE AND FRAME COMPONENTS SHALL BE GALVANIZED INLET GRATING SHALL BE McNICHOLS GW-125 GRATING OR EQUIVALENT.
4. INLET GRATING SHALL HAVE McNICHOLS TYPE C TIE-DOWN FASTENERS OR EQUAL AT ALL CORNERS.
5. SEE PLAN DETAILS FOR LOCATION, SIZE, AND INVERT OF PIPE AND OUTLET STRUCTURE.

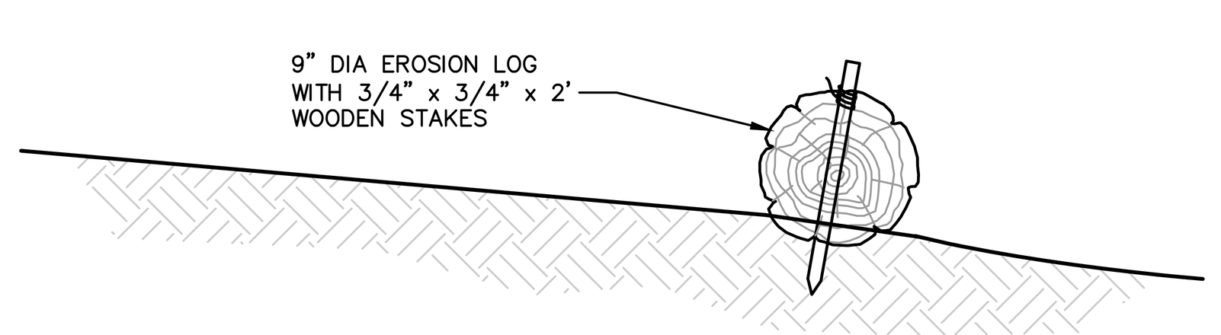
OUTLET STRUCTURE DETAIL

NTS



NYLOPLAST DRAIN BASINS

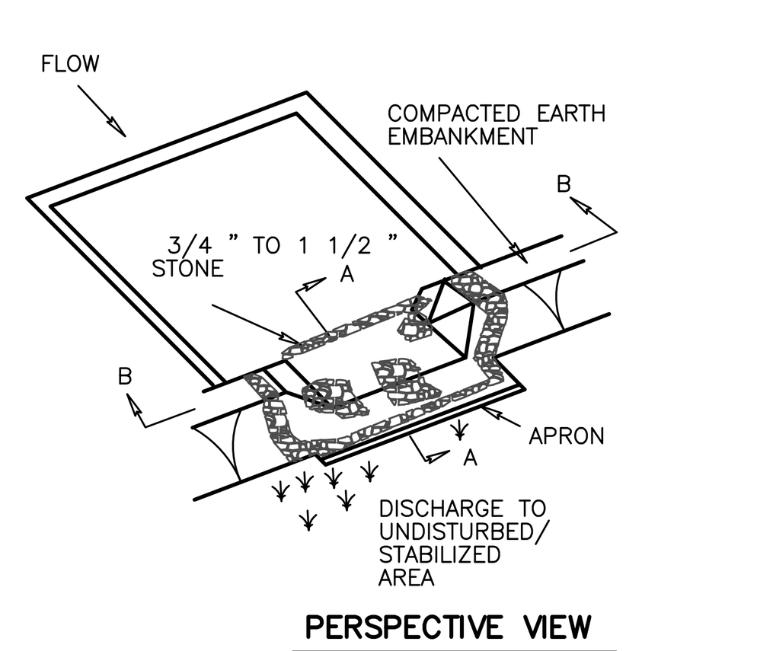
N.T.S.

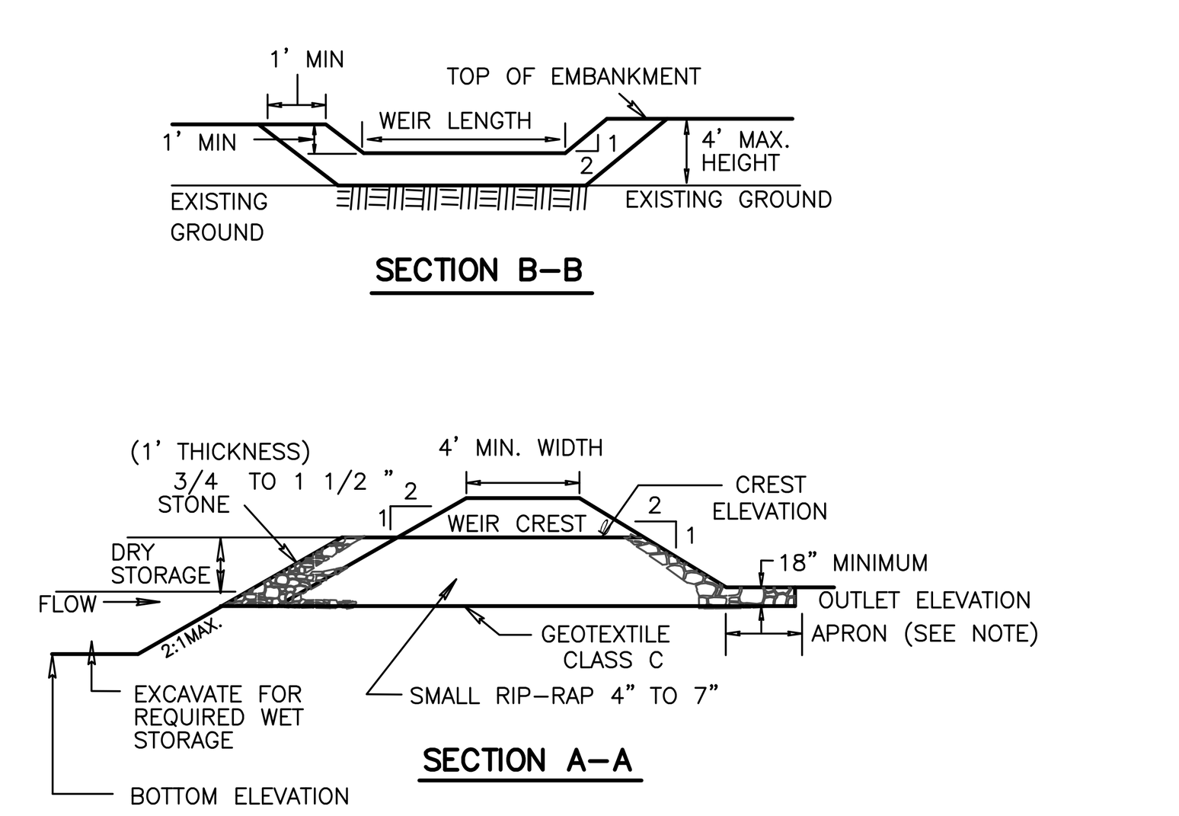


- THE HEIGHT OF A STRAW WATTLE IS 9 IN.
- THE INSTALLED HEIGHT IS APPROXIMATELY 7-9 IN.
- STAKE WATTLES AT 6' O.C.

EROSION LOG WATTLE DETAIL

N.T.S.

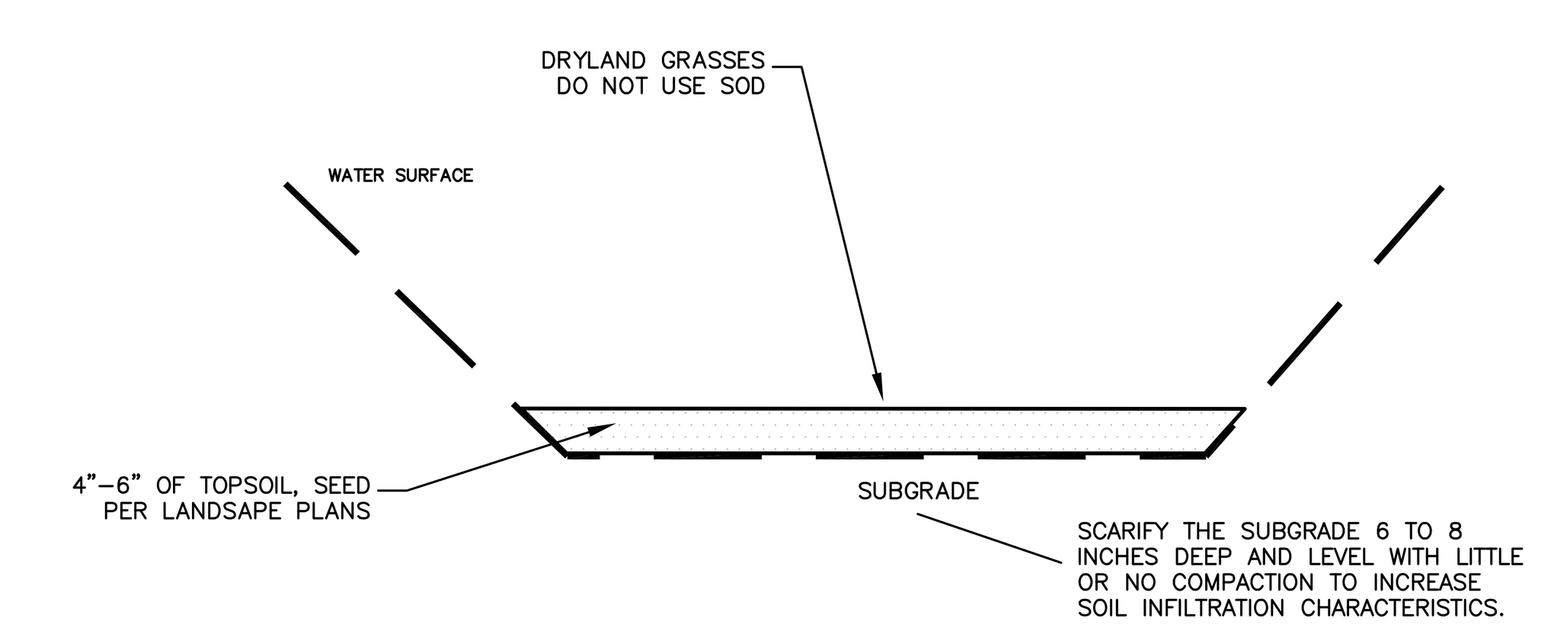




CONSTRUCTION SPECIFICATIONS

1. THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF EMBANKMENT SHALL BE 4', MEASURED AT CENTERLINE OF EMBANKMENT.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST EQUAL OR EXCEED THE HEIGHT OF TRAP EMBANKMENT.
5. STORAGE AREA PROVIDED SHALL BE FIGURED BY COMPUTING THE VOLUME MEASURED FROM TOP OF EXCAVATION.
6. GEOTEXTILE SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO PLACEMENT OF STONE. SECTION OF FABRIC MUST OVERLAP AT LEAST 1' WITH SECTION NEAREST THE ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST 6" INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
7. 4" - 7" STONE SHALL BE USED TO CONSTRUCT THE WEIR AND 4" - 12" RIP-RAP SHALL BE USED TO CONSTRUCT THE OUTLET CHANNEL.
8. OUTLET - AN OUTLET SHALL INCLUDE A MEANS OF CONVEYING THE DISCHARGE IN AN EROSION THE DISCHARGE POINT SHALL BE PROVIDED AS NECESSARY.
9. OUTLET CHANNEL MUST HAVE POSITIVE DRAINAGE FROM THE TRAP.
10. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 OF THE WET STORAGE DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
11. THE STRUCTURE SHALL BE INSPECTED PERIODICALLY AFTER EACH RAIN AND REPAIRED AS NEEDED.
12. CONSTRUCTION OF TRAPS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT POLLUTION IS ABATED. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH. POINTS OF CONCENTRATED INFLOW SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMAINDER OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED EROSION FREE DURING THE LIFE OF THE TRAP.
13. THE STRUCTURE SHALL BE DEWATERED BY APPROVED METHODS, REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

EMERGENCY SPILLWAY DETAIL



GENERAL NOTES:

1. GRADING OF THE POND SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. WIDE TRACKED VEHICLES SUCH AS BACK HOES, SMALL DOZERS AND BOBCATS ARE RECOMMENDED.
2. EXCAVATE THE POND TO THE SPECIFIED DEPTH (ELEVATION). ALL SUB MATERIAL BELOW THE SPECIFIED ELEVATION SHALL BE LEFT UNDISTURBED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

SNOW STORAGE/DETENTION POND

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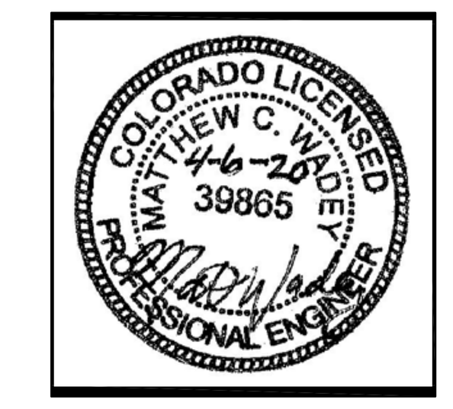

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39610 Amethyst Drive
Steamboat Springs, CO 80487

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No	Description	Date

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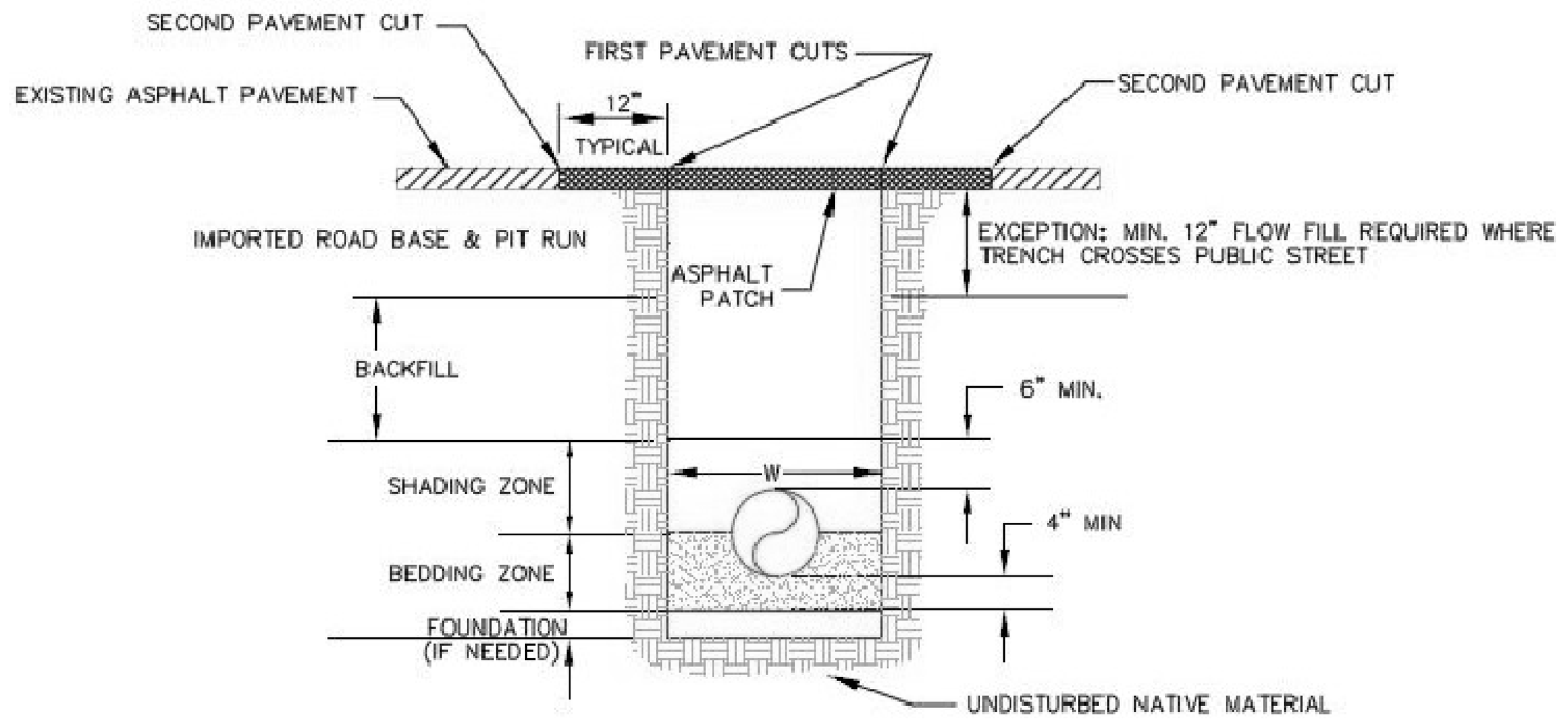
Sheet Title:
Grading & Drainage Details

ALPINE ENGINEERING INC.
WWW.ALPINECIVIL.COM

Project No: 1935.03

Sheet No: C4.0



NOTES:

A GUIDE FOR DESIRABLE TRENCH WIDTH (W) AT THE TOP OF THE PIPE SHALL BE THE NOMINAL DIAMETER OF THE PIPE PLUS 12-INCHES ON EACH SIDE OF THE PIPE.

A SECOND PAVEMENT CUT SHALL BE REQUIRED PRIOR TO PLACING THE ASPHALT PATCH. REMOVE ALL IRREGULAR ASPHALT EDGES A MINIMUM OF 12-INCHES BEYOND ANY DAMAGED SURFACE TO A CLEAN VERTICAL EDGE. APPLY A BITUMINOUS TACK COAT PRIOR TO PLACING THE ASPHALT PATCH.

THE ASPHALT PATCH SHALL BE PLACED IN TWO 2-INCH LIFTS AND ROLLER COMPACTED TO MATCH THE ADJACENT ASPHALT EDGES.

SUB-BASE MATERIALS SHALL CONSIST OF 4-INCHES OF ROAD BASE ON 8-INCHES OF PIT-RUN. COMPACTION REQUIREMENTS SHALL EXCEED 95% MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 TEST PROCEDURES.

TRENCH CROSS SECTION

NTS

City Of
Steamboat Springs
Water & Sewer

PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851

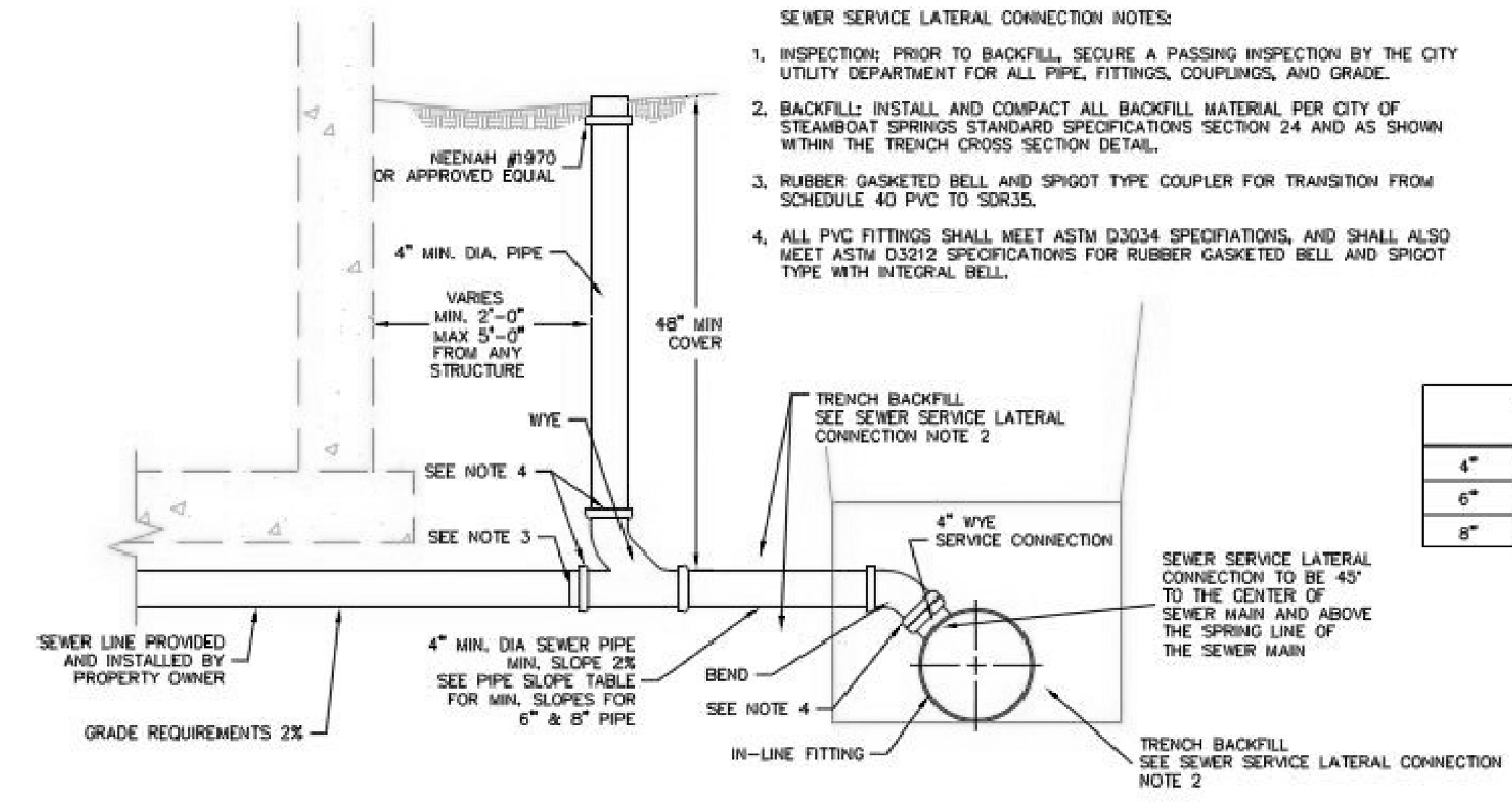
STANDARD DETAILS

Drawn by: JS

Scale: N.T.S. Date: 3/01/10

Revision description:

Sheet number 1 of 17



SEWER SERVICE LATERAL CONNECTION NOTES:

1. INSPECTION: PRIOR TO BACKFILL, SECURE A PASSING INSPECTION BY THE CITY UTILITY DEPARTMENT FOR ALL PIPE, FITTINGS, COUPLINGS, AND GRADE.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER CITY OF STEAMBOAT SPRINGS STANDARD SPECIFICATIONS SECTION 24 AND AS SHOWN WITHIN THE TRENCH CROSS SECTION DETAIL.
3. RUBBER GASKETED BELL AND SPIGOT TYPE COUPLER FOR TRANSITION FROM SCHEDULE 40 PVC TO SDR35.
4. ALL PVC FITTINGS SHALL MEET ASTM D3034 SPECIFIATIONS, AND SHALL ALSO MEET ASTM D3212 SPECIFICATIONS FOR RUBBER GASKETED BELL AND SPIGOT TYPE WITH INTEGRAL BELL.

MINIMUM PIPE SLOPES FOR SEWER SERVICES		
4"	1/4" PER FOOT	2%
6"	1/8" PER FOOT	1%
8"	1/16" PER FOOT	0.5%

SECTION

SEWER SERVICE LATERAL CONNECTION DETAIL

NTS

City Of
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STANDARD DETAILS

Drawn by: GLB

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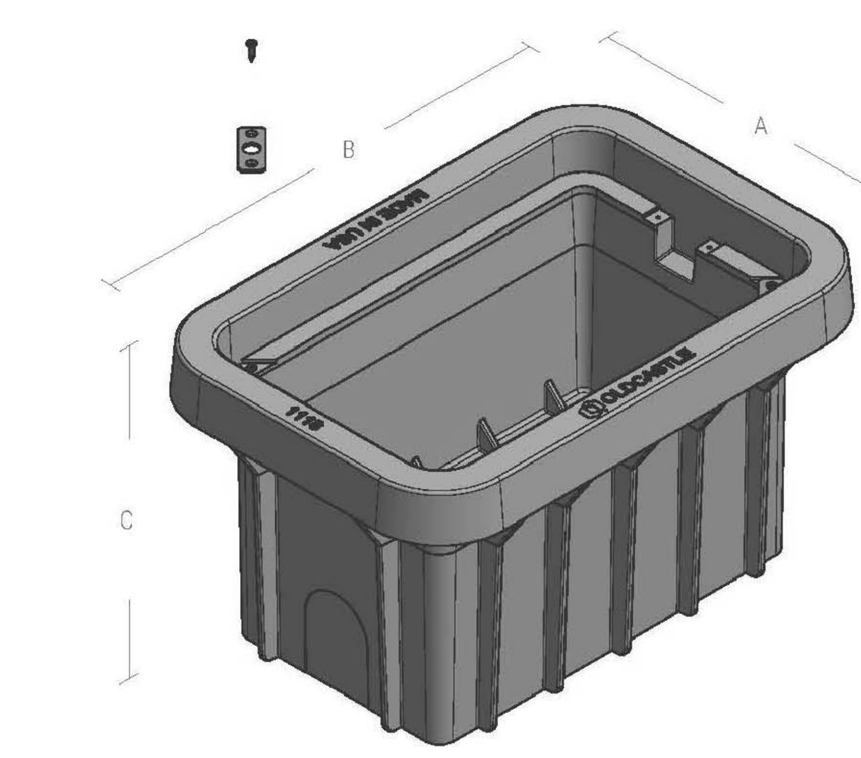
Revision description:

Sheet number 3 of 17

Oldcastle Infrastructure
A CRH COMPANY

DURALITE™
1118



MATERIAL & STYLE

Polyolefin Blend
Straight Wall

1118-12

ANSI/SCTE-77, Tier 15
12.6 lbs

ANSI/SCTE-77, Tier 22
12.6 lbs

1118-18

ANSI/SCTE-77, Tier 15
16.3 lbs

ANSI/SCTE-77, Tier 22
16.3 lbs

	A	B	C
1118-12	14 1/4	21 1/8	12
1118-18	14 1/4	21 1/8	18

MEDIUM DUTY
ANSI/SCTE TIER 15

HEAVY DUTY
ANSI/SCTE TIER 22

For use in non-vehicular traffic situations only. Weights and dimensions may vary slightly. Actual load rating is determined by the box and cover combination.

Cover comes standard with permanent markings for manufacturer, load rating, model size and manufacturing location.
*Based upon lid and body combination, this unit can be Tier 15 or Tier 22. T22 rating when paired with T22 polymer concrete lid.

Revision 10/30/19

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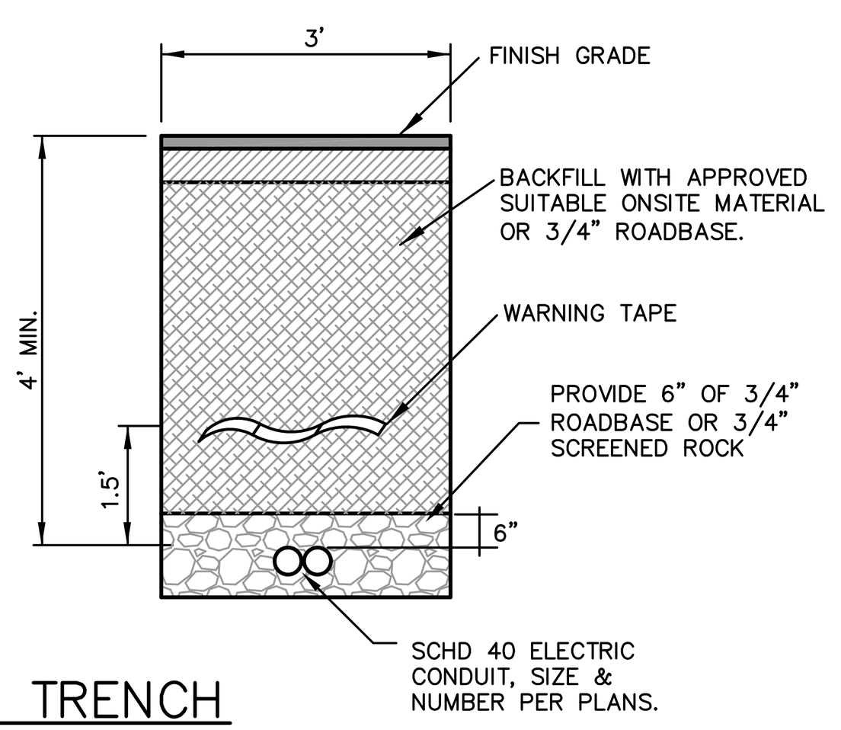
CONTRACTOR MAY BE REQUIRED TO INSTALL SHALLOW UTILITIES BELOW STORM SEWER OR OTHER UTILITIES TO MAINTAIN MINIMUM COVER AND AVOID CONFLICTS



ELECTRIC TRENCH

N.T.S.

REFER TO CITY OF STEAMBOAT'S STANDARD SPECIFICTIONS FOR WATER AND WASTEWATER UTILITIES

EROSION/SEDIMENT CONTROL

GENERAL NOTES FOR SEDIMENT CONTROL

1. CONTRACTOR SHALL SUBMIT A CONSTRUCTION STAGING & MANAGEMENT PLAN IDENTIFYING CONSTRUCTION FENCING, STAGING, STORAGE & CONSTRUCTION TRAILER LOCATION PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. INSTALL AND MAINTAIN SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THESE PLANS AND AS NEEDED TO PREVENT SEDIMENT FROM DISCHARGING OFF-SITE.
3. ALL PROPOSED SEDIMENT CONTROL MEASURES ARE TEMPORARY MEASURES UNLESS SPECIFIED OTHERWISE ON PLANS.
4. SEDIMENT CONTROL MEASURES MAY REQUIRE FIELD ADJUSTMENTS AT THE TIME OF CONSTRUCTION TO INSURE THAT THEIR INTENDED PURPOSE IS ACCOMPLISHED.
5. PROVIDE REGULAR INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES TO INSURE THAT SEDIMENT CONTROL EFFICIENCY IS OBTAINED UNTIL FINAL STABILIZATION OF SITE HAS TAKEN PLACE.
6. INSTALL SEDIMENT CONTROL MEASURES AT THE ONSET OF GRADING OPERATIONS SO THAT EFFECTIVE SEDIMENT CONTROL CAN BE ACHIEVED DURING THE ENTIRE CONSTRUCTION PERIOD.
7. STABILIZE ALL POINTS OF INGRESS AND EGRESS WITH TRACKING PAD DURING CONSTRUCTION TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS.
8. FOR TEMPORARY STOCKPILES APPLY SEED, HYDROMULCH AND TACKIFIER IMMEDIATELY AFTER THEY ARE CONSTRUCTED FOR STABILIZATION. IF EROSION OCCURS AFTER APPLICATION OF THE TACKIFIER, USE EXCELSIOR C2 EROSION CONTROL FABRIC. INSTALL SILT FENCE BELOW STOCKPILES TO CAPTURE SEDIMENT.
9. THE TERM 'REVEGETATION' ON THIS PLAN MEANS THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF FERTILIZER IN ACCORDANCE WITH APPLICABLE 'STANDARDS AND SPECIFICATIONS'. REFER TO LANDSCAPE PLANS FOR SEED MIX, FERTILIZER TYPE, MULCH, TACKIFIER AND APPLICATION RATES.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE APPROPRIATE MEASURES TO INSURE THAT NO SEDIMENT LADEN WATER IS DISCHARGED FROM THE SITE.
11. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES BEFORE REMOVAL OF SEDIMENT CONTROLS.
12. CONTRACTOR SHALL OBTAIN AND CONFORM TO STORMWATER DISCHARGE PERMIT AND AND ALL ENVIRONMENTAL PERMITS AND KEEP STREETS CLEAN AND FREE OF SEDIMENT.
13. REMOVAL AND CLEANUP OF ANY SEDIMENT THAT LEAVES THE SITE IS THE RESPONSIBILITY OF THE CONTRACTOR

FUGITIVE DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE TO CONTROL FUGITIVE DUST AND TO INCORPORATE THE FOLLOWING:

1. ALL UNPAVED ROADS AND OTHER DISTURBED AREAS ON SITE SHALL BE WATERED TO MINIMIZE FUGITIVE DUST.
2. HAUL ROADS SHALL BE TREATED WITH MAGNESIUM CHLORIDE IF WATER IS NOT CONTROLLING THE DUST.
3. ALL DISTURBED SURFACE AREAS SHALL BE REVEGETATED OR SURFACED PER THE LANDSCAPE PLAN AS SOON AS POSSIBLE.
4. MUD AND DIRT CARRYOUT ONTO PAVED SURFACES SHALL BE PREVENTED. ANY MUD AND DIRT CARRYOUT ONTO PAVED SURFACES SHALL BE CLEANED UP DAILY.

CONSTRUCTION SEQUENCE OF EROSION/SEDIMENT CONTROL MEASURES

BEFORE COMMENCING GRADING OR CONSTRUCTION

1. CONSTRUCT STABLIZED CONSTRUCTION ENTRANCES AT ALL POINTS OF INGRESS AND EGRESS.
2. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ASSURE THAT NO SEDIMENT LEAVES THE SITE.
3. CONSTRUCT SILT FENCE AND WATTLES AND ALL SEDIMENT CONTROL DEVICES.
4. BEGIN DEMOLITION, EXCAVATION AND CONSTRUCTION.
5. INSTALL EROSION CONTROL MEASURES AFTER DITCHES AND SWALES HAVE BEEN CONSTRUCTED AND TOPSOIL AND SEED HAVE BEEN PLACED. INSTALL INLET PROTECTION IN ALL INLETS AS THEY ARE CONSTRUCTED.
6. TOPSOIL AND REVEGETATE ALL DISTURBED AREAS WITH APPROVED SEED MIX PER LANDSCAPE PLAN.
7. CONTRACTOR SHALL REMOVE SEDIMENT CONTROL FACILITIES AFTER FINAL STABILIZATION.

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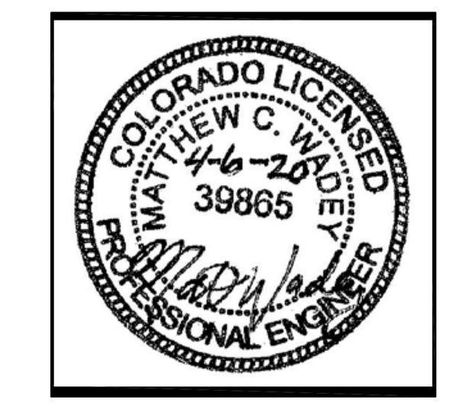

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Revisions:		
No	Description	Date

Issue Dates:
SD - 1/15/19
DD - 2/21/20
95 %CD - 3/30/20
100% CD - 4/6/20

Sheet Title:
Utility Details

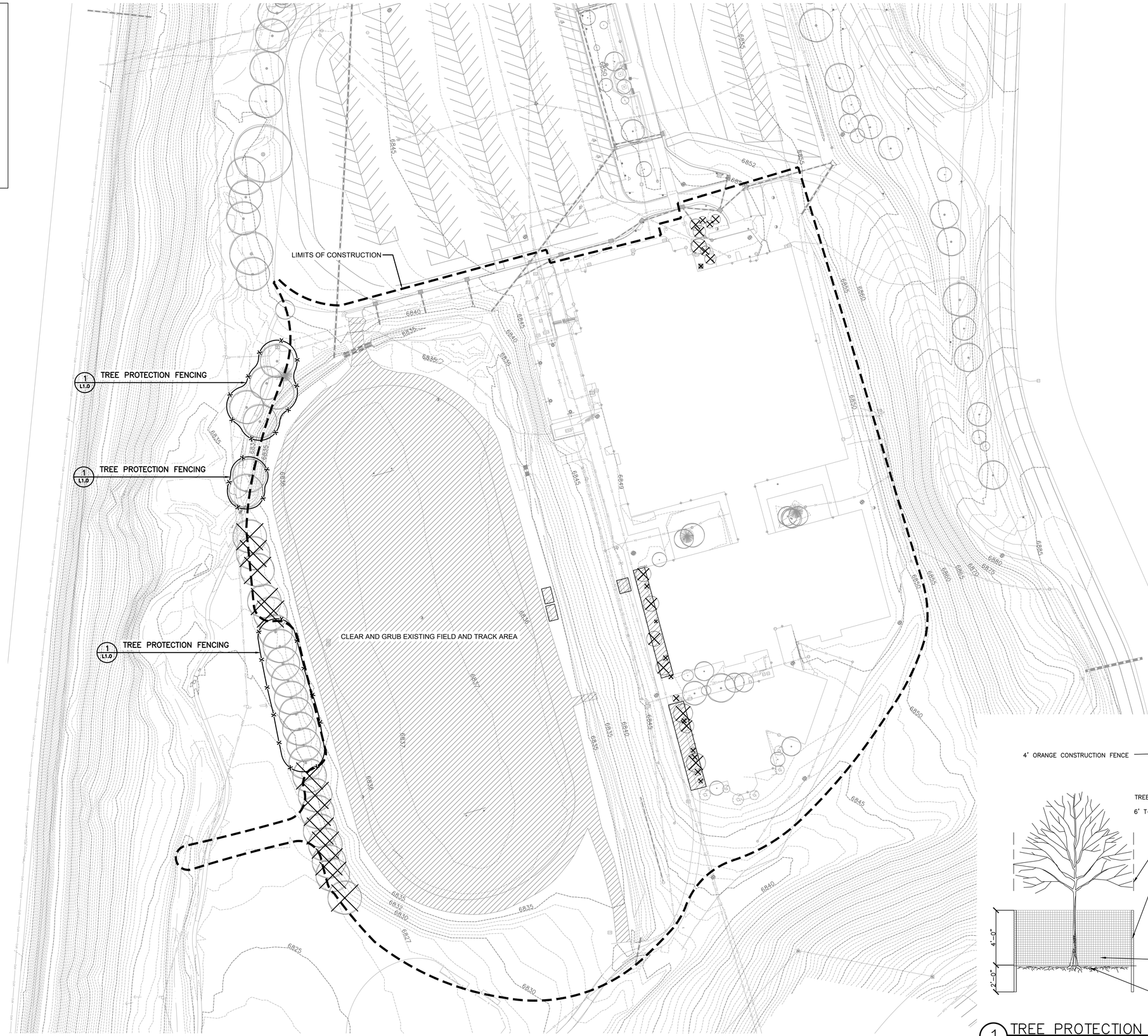
ALPINE ENGINEERING INC.
WWW.ALPINECIVIL.COM

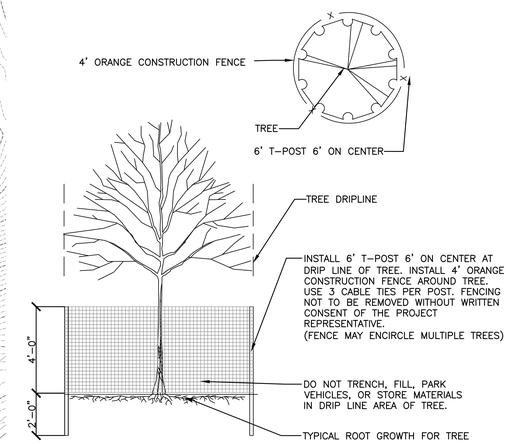
Project No:
1935.03

Sheet No:
C4.1

LEGEND

- TREE PROTECTION FENCING
- TREES TO BE REMOVED
- LIMITS OF REMOVALS
- LIMITS OF CONSTRUCTION





1 TREE PROTECTION FENCING

SCALE: NTS

1 L1.0 EXISTING CONDITIONS AND DEMOLITION PLANS

1" = 40' - 0"

0 20 80
10 40
SCALE: 1"=40'-0"

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Seal

MARK WILCOX 204 Expiration Date of License LICENSED LANDSCAPE ARCHITECT STATE OF COLORADO 04.06.2020

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Steamboat Springs, CO

Revisions:

No	Description	Date

Issue Dates:
01/13/20 - SD
02/21/20 - DD
03/30/20 - CD
04/06/20 - CD

Sheet Title:
EXISTING CONDITIONS AND DEMOLITION PLANS

Project No:
1935.01

Sheet No:
L1.0

LEGEND

SYNTHETIC TURF

LIMITS OF CONSTRUCTION

LIMITS OF CONSTRUCTION

3 / L5.0 CHAINLINK FENCE – 10' HT.

1 / L5.3 FOOTBALL UPRIGHTS

195'-0"

6'-9"

6'-9"

REDI–ROCK BOULDER SEATING 1 / L5.1

TURF EDGE 1 / L5.0

SYNTHETIC TURF 4 / L5.0

RAILING 5 / L5.0

TYPICAL TRACK SECTION AND PLAN 1&2 / L5.0

LACROSSE FIELD (180'x330')

SOCCER FIELD (195'x350')

FOOTBALL FIELD (360'x160')

1 / L5.3 FOOTBALL UPRIGHTS

1 / L5.4 DAKTRONICS FB–2020 FOOTBALL/TRACK SCOREBOARD

LONG JUMP PIT 1 / L5.2
WITH COVER

CONCRETE PAD
RE: CIVIL

1 / L2.0 LAYOUT PLAN
1" = 40' - 0"

0 20 80
10 40
SCALE: 1"=40'-0"

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MARK WILCOX
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Expiration
Original Date of Licensure
STATE OF COLORADO
REGISTERED LANDSCAPE ARCHITECT
04.06.2020

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Issue Dates:
01/13/20 - SD
02/21/20 - DD
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04/06/20 - CD

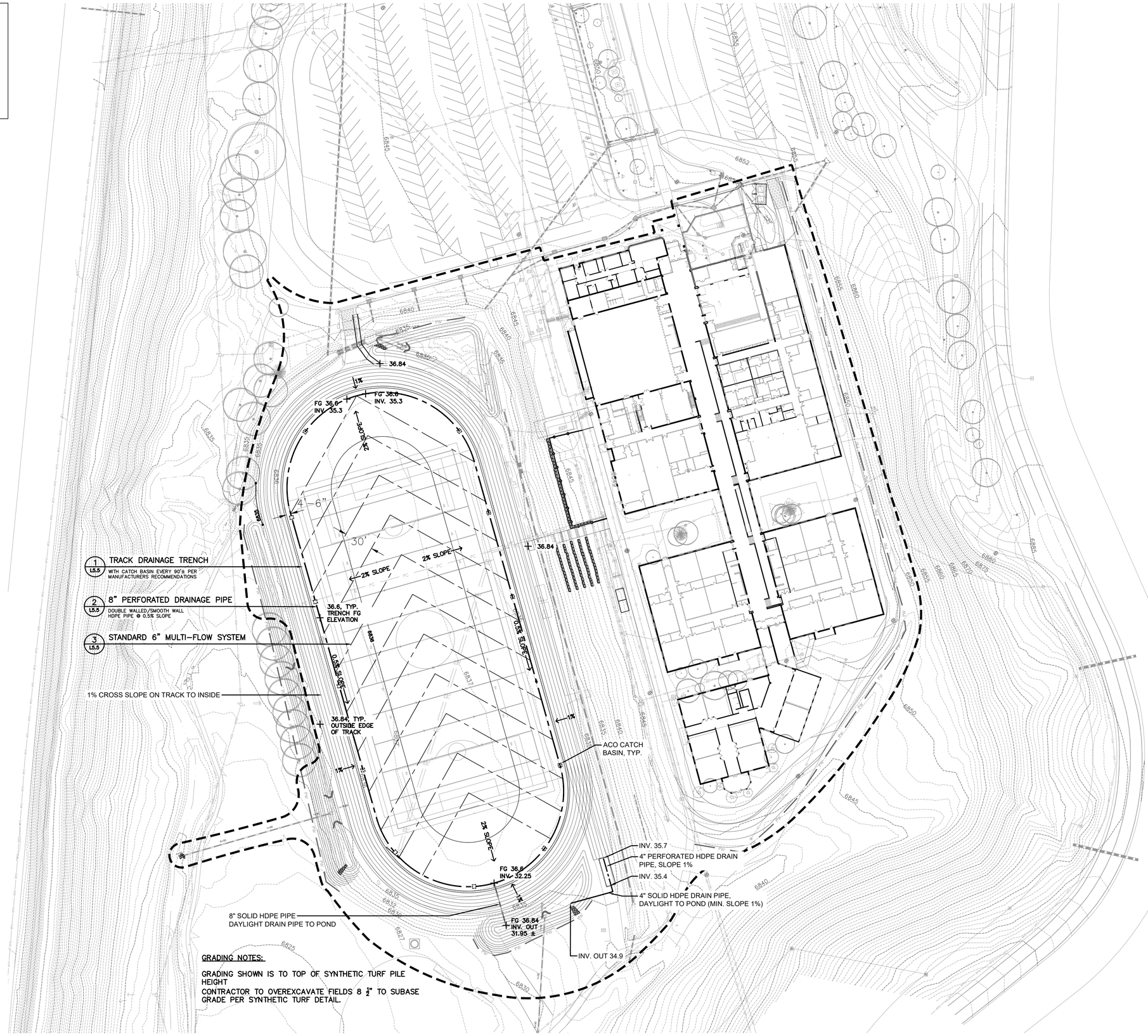
Sheet Title:
LAYOUT PLAN

Project No:
1935.01

Sheet No:
L2.0

LEGEND

- EXISTING CONTOUR
- ACO CATCH BASIN
- TRENCH DRAIN PIPE
- 00 PROPOSED CONTOUR - MAJOR
- 01 PROPOSED CONTOUR - MINOR



1 L5.5 TRACK DRAINAGE TRENCH
WITH CATCH BASIN EVERY 90'± PER MANUFACTURERS RECOMMENDATIONS

2 L5.5 8" PERFORATED DRAINAGE PIPE
DOUBLE WALLED/SMOOTH WALL HDPE PIPE @ 0.5% SLOPE

3 L5.5 STANDARD 6" MULTI-FLOW SYSTEM

36.6, TYP. TRENCH FG ELEVATION

GRADING NOTES:

GRADING SHOWN IS TO TOP OF SYNTHETIC TURF PILE HEIGHT

CONTRACTOR TO OVEREXCAVATE FIELDS 8 ½" TO SUBASE GRADE PER SYNTHETIC TURF DETAIL.

1 L3.0 GRADING AND DRAINAGE PLAN
1" = 40' - 0"

0 20 80
10 40
SCALE: 1"=40'-0"

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Sheet Title:
GRADING AND DRAINAGE PLAN

Project No:
1935.01

Sheet No:
L3.0

LEGEND

- NATIVE SEED
- ROCK MULCH
- DECIDUOUS TREE
- DECIDUOUS SHRUBS
- EVERGREEN SHRUBS
- ORNAMENTAL GRASSES
- LIMITS OF CONSTRUCTION
- MATCHLINE

LIMITS OF CONSTRUCTION

RESEED AREAS DISTURBED BY CONSTRUCTION

EXISTING TREES TO REMAIN, SAVE AND PROTECT CONTRACTOR TO INSTALL 4' HT. ORANGE PLASTIC FENCE WITH METAL T POSTS IN AREAS INDICATED FOR TREE AND WETLAND PROTECTION

ENLARGEMENT – SEE SHEET L4.1

EXISTING LANDSCAPE (NATIVE SEED) DISTURBED BY CONSTRUCTION TO BE REPAIRED.

6 - QUAKING ASPEN

RESEED AREAS DISTURBED BY CONSTRUCTION

1 L4.0 LANDSCAPE PLAN
1" = 40' - 0"

0 20 80
10 40
SCALE: 1"=40'-0"

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01/13/20 - SD
02/21/20 - DD
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04/06/20 - CD

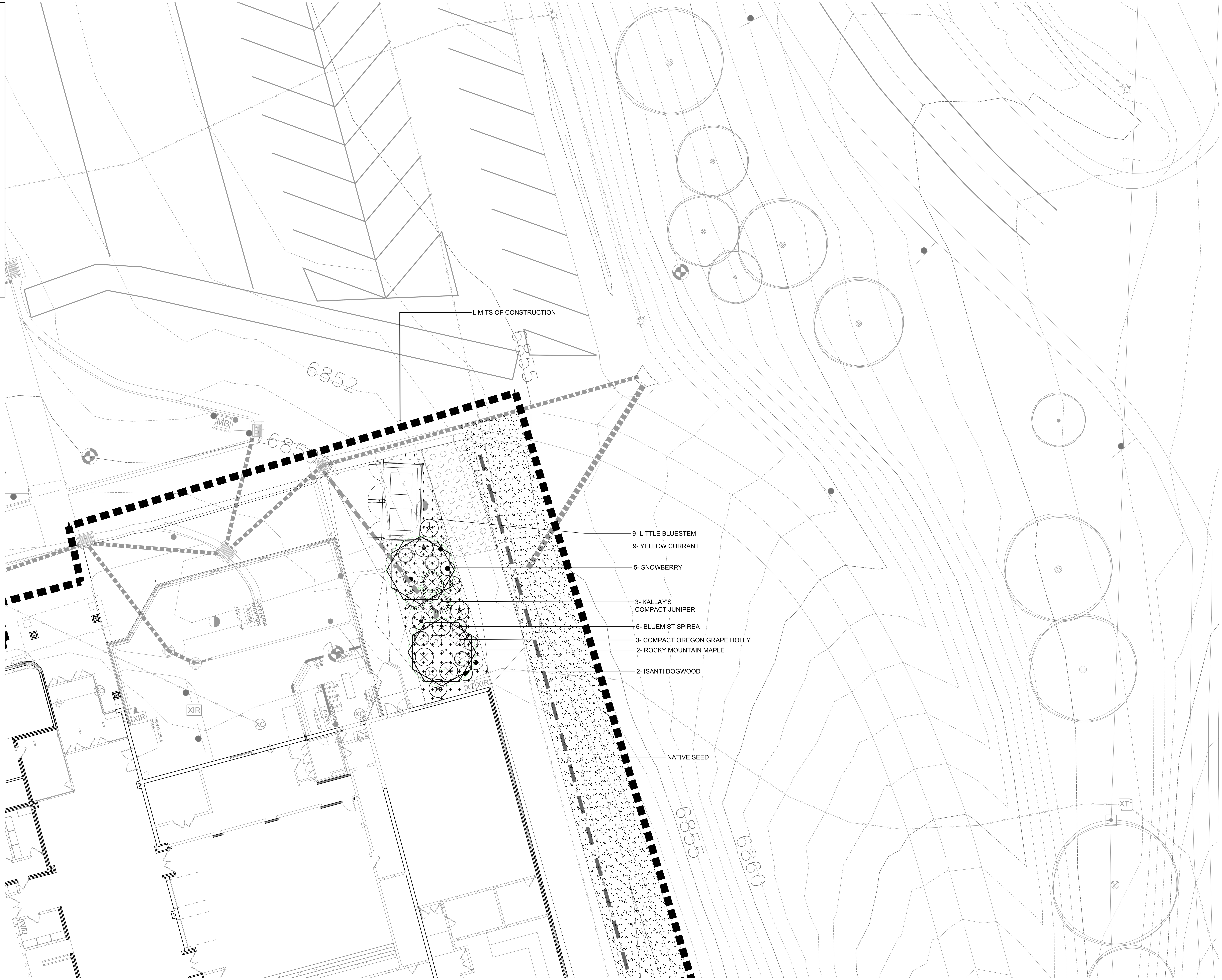
Sheet Title:
LANDSCAPE PLAN

Project No:
1935.01

Sheet No:
L4.0

LEGEND

- NATIVE SEED
- ROCK MULCH
- DECIDUOUS TREE
- DECIDUOUS SHRUBS
- EVERGREEN SHRUBS
- ORNAMENTAL GRASSES
- LIMITS OF CONSTRUCTION



1/L4.1 LANDSCAPE ENLARGEMENT PLAN
1" = 10' - 0"

SCALE: 1"=10'-0"

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04/06/20 - CD

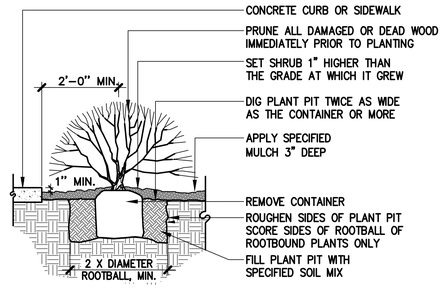
Sheet Title:
LANDSCAPE ENLARGEMENT PLAN

Project No:
1935.01

Sheet No:
L4.1

LANDSCAPE NOTES:

1. ALL PLANT MATERIALS SHALL MEET OR EXCEED CURRENT AMERICAN STANDARD FOR NURSERY STOCK ANSI 260.1 AND THE COLORADO NURSERY ACT AND ACCOMPANYING RULES AND REGULATIONS.
2. ALL APPROVED WORK WITHIN TREE PROTECTION ZONE/CRITICAL ROOT ZONE MUST BE ACCOMPLISHED WITH HAND TOOLS ONLY.
3. ALL PLANT MATERIAL ARE TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
4. NO SUBSTANTIAL CHANGE FROM THE APPROVED LANDSCAPE PLAN MAY OCCUR WITHOUT PRIOR REVIEW & APPROVAL BY THE OWNER'S REPRESENTATIVE WHICH MAY REQUIRE ADDITIONAL IRRIGATION TAPS FOR CHANGES DUE TO MORE WATER INTENSIVE LANDSCAPING.
5. ALL TREES IN SEEDED AREAS WILL HAVE A MULCH RING WITH NATURAL CEDAR FIBER MULCH AT A 3"-4" DEPTH AND AT LEAST 3'-4' DIAMETER. NO MULCH WILL BE PLACED AGAINST THE TRUNK OF THE TREE.
6. ANY TREE SUBSTITUTIONS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO DELIVERY AND INSTALLATION.
7. ALL UTILITY EASEMENT SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT ENTRY.
8. THE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED. THE CONTRACTOR SHALL REMOVE REQUIRED DEPTH OF SOIL ALONG WALKWAYS TO ACCOMMODATE SOD OR MULCH DEPTH.
9. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES AND WALKWAYS. HAVE ALL FINE GRADING APPROVED PRIOR TO SEEDING.
10. ALL SHRUB BEDS TO BE MULCHED WITH 1 ½" WASHED RIVER ROCK, 3" DEPTH, OVER FILTER FABRIC UNLESS OTHERWISE NOTED. SUBMIT SAMPLE FOR APPROVAL.
11. PRIOR TO SEEDING OR PLANTING, CONTRACTOR TO APPLY HERBICIDE TO ELIMINATE ALL WEED GROWTH WITHIN LANDSCAPE AREAS, PER SPECIFICATION.

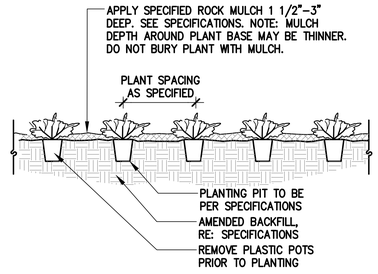


GENERAL NOTES

- HOLD GRADE 1" BELOW EDGE OF WALK OR CURB
- SHRUB PLANTING – REFER TO SHRUB BED LAYOUT FOR PLACEMENT OF SHRUBS.
- FOR GROUPINGS OF SHRUBS, MULCH ENTIRE PLANTING AREA. FOR INDIVIDUAL SHRUBS, MULCH PLANTING PIT AREA ONLY.
- GRADE EDGE OF PLANTING AREAS TO RETAIN MULCH.
- ANY BROKEN OR CRUMBLING ROOTBALL WILL BE REJECTED. REMOVING THE CONTAINERS WILL NOT BE AN EXCUSE FOR DAMAGED ROOTBALLS.

1 SHRUB PLANTING

NOT TO SCALE

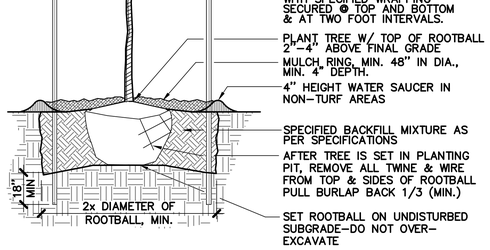


2 ORNAMENTAL GRASSES & PERENNIALS

NOT TO SCALE

PLANT LIST

COMMON NAME	BOTANICAL NAME	SIZE	COMMENTS
DECIDUOUS TREE			
Quaking Aspen	Populus tremuloides	8'-10' HT. Clump Form	B&B, specimen quality
Rocky Mountain Maple	Acer glabrum	2 1/2" cal	B&B, specimen quality
DECIDUOUS SHRUBS			
Bluemist Spirea	Caryopteris x clandonensis 'Dark Knight'	5 gal.	cont., 5 canes min., 12"-18" ht.
Mountain Snowberry	Symphoricarpos oreophilus	5 gal.	cont., 5 canes min., 18"-24" ht.
Yellow Flowering Currant	Ribes aureum	5 gal.	cont., 5 canes min., 18"-24" ht.
Isanti Dogwood	Cornus sericea 'Isanti'	5 gal.	cont., 5 canes min., 18"-24" ht.
CONIFEROUS/EVERGREEN SHRUBS			
Compact Oregon Grape Holly	Mahonia repens 'Compacta'	5 gal.	cont., 5 canes min., 18"-24" ht.
Kallay's Compact Juniper	Juniperus × pfitzeriana 'Kallay's Compact'	5 gal.	cont., 5 canes min., 18"-24" ht.
ORNAMENTAL GRASSES			
Little Bluestem	Schizachyrium Scoparium 'Blaze'	1 gal.	Container, Well established



3 DECIDUOUS TREE PLANTING

NOT TO SCALE

1 L4.2 LANDSCAPE NOTES AND DETAILS

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Mechanical Engineer
BG BuildingWorks
970-949-6108
Electrical Engineer
BG BuildingWorks
970-949-6108

Seal

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO

Revisions:

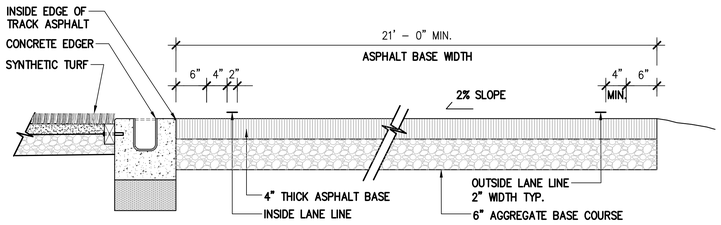
No	Description	Date

Issue Dates:
01/13/20 - SD
02/21/20 - DD
03/30/20 - CD
04/06/20 - CD

Sheet Title:
LANDSCAPE NOTES AND DETAILS

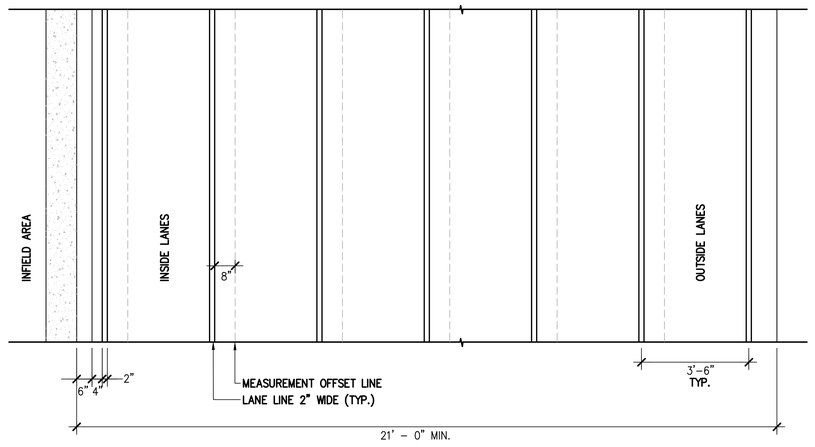
Project No:
1935.01

Sheet No:
L4.2



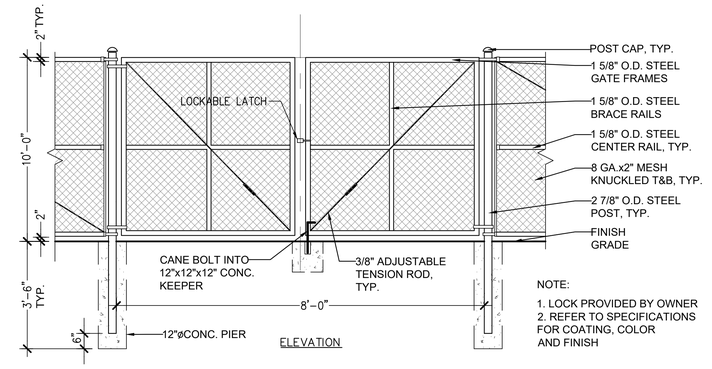
1 TYPICAL TRACK SECTION

SCALE: 1" = 1'-0"



2 TYPICAL TRACK PLAN

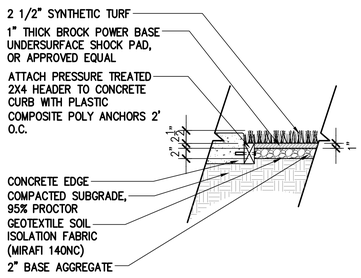
SCALE: 1/2" = 1'-0"



3 CHAIN LINK FENCE - 10' HT.

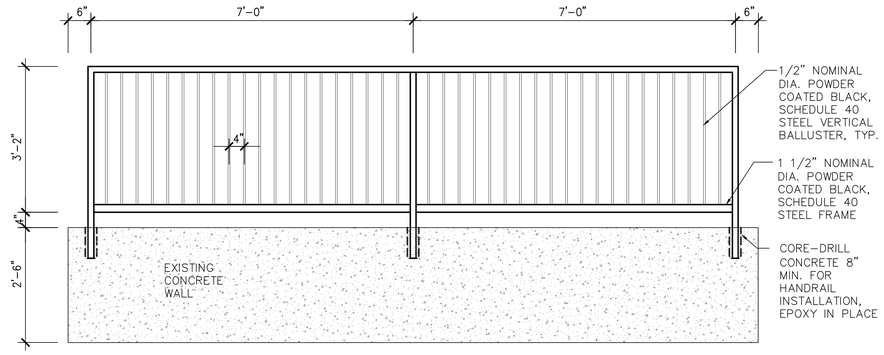
COLOR: GREEN

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



4 SYNTHETIC TURF

SCALE: 1" = 1'-0"



5 RAILING

SCALE: 3/4" = 1'-0"

1 / L5.0 SITE DETAILS

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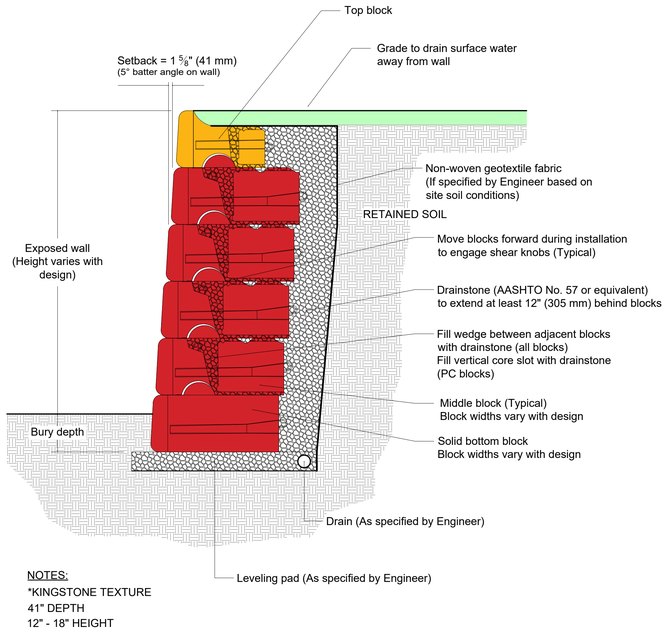
SITE DETAILS

Project No:
1935.01

Sheet No:
L5.0

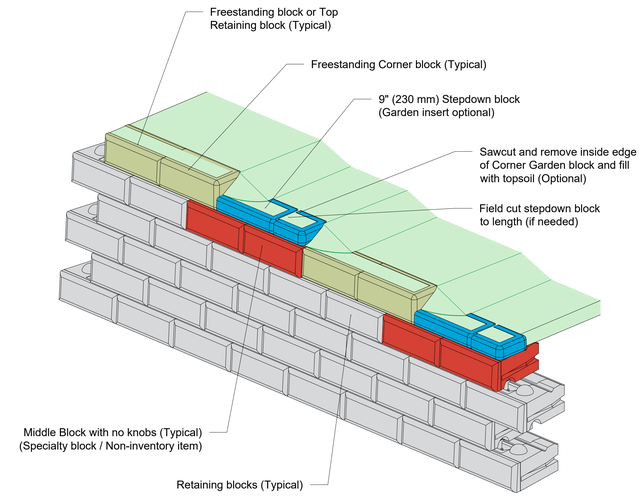


NOTES:
*KINGSTONE TEXTURE
41" DEPTH
12" - 18" HEIGHT

DRAWN BY:	JRJ	TITLE:	Typical Gravity Wall Detail
APPROVED BY:	JRJ		
DATE:	17MAR2016		
SHEET:	1 of 1	FILE:	1 Typical Gravity Wall Detail 031716.dwg

REDI-ROCK
05481 US 31 SOUTH, CHARLEVOIX, MI 49720
(866) 222-8400 ext 3010 • engineering@redi-rock.com
www.redi-rock.com

1 REDI-ROCK BOULDER SEATING
TYPICAL GRAVITY WALL DETAIL N.T.S.



DRAWN BY:	JRJ	TITLE:	Top of Wall, 9" Stepdown Blocks
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE:	2 Top of Wall 9in Stepdown Blocks 062215.dwg

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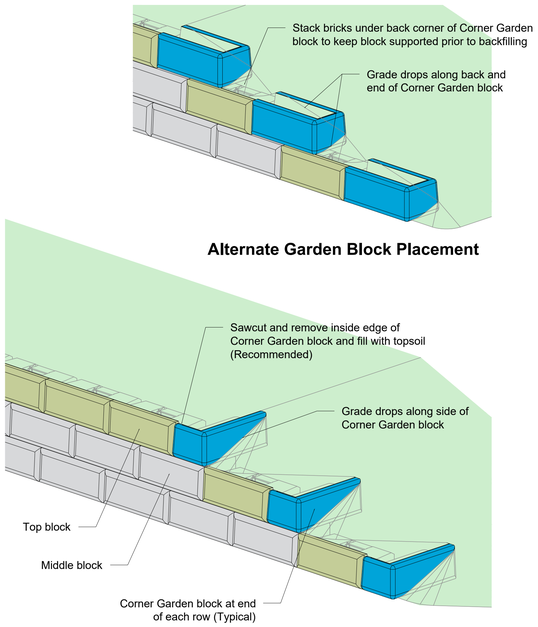
1 REDI-ROCK BOULDER SEATING
TOP OF WALL, 9" STEPDOWN BLOCKS N.T.S.

Top of Wall Step Options



DRAWN BY:	JRJ	TITLE:	Top of Wall Step Options
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE:	1 Top of Wall Step Options 062215.dwg

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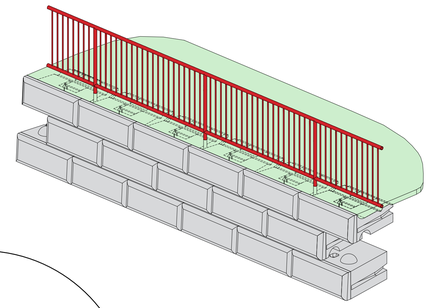
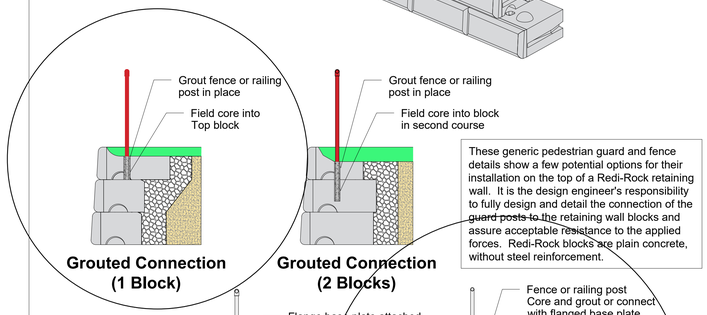
1 REDI-ROCK BOULDER SEATING
TOP OF WALL STEP OPTIONS N.T.S.

Fence or Pedestrian Guard Connection Options





These generic pedestrian guard and fence details show a few potential options for their installation on the top of a Redi-Rock retaining wall. It is the design engineer's responsibility to fully design and detail the connection of the guard posts to the retaining wall blocks and assure acceptable resistance to the applied forces. Redi-Rock blocks are plain concrete, without steel reinforcement.

DRAWN BY:	JRJ	TITLE:	Fence or Pedestrian Guard Connection Options
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE:	5 Fence or Pedestrian Guard Connection Options 062215.dwg

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1 REDI-ROCK BOULDER SEATING
FENCE OR PEDESTIRAN GUARD CONNECTION OPTIONS N.T.S.

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MARK WILCOX
204
Expiration Date of License
STATE OF COLORADO
REGISTERED LANDSCAPE ARCHITECT
04-15-2020

Steamboat Springs Middle School
39610 Amethyst Drive
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SITE DETAILS

1 L5.1 SITE DETAILS

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Project No:
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Sheet No:
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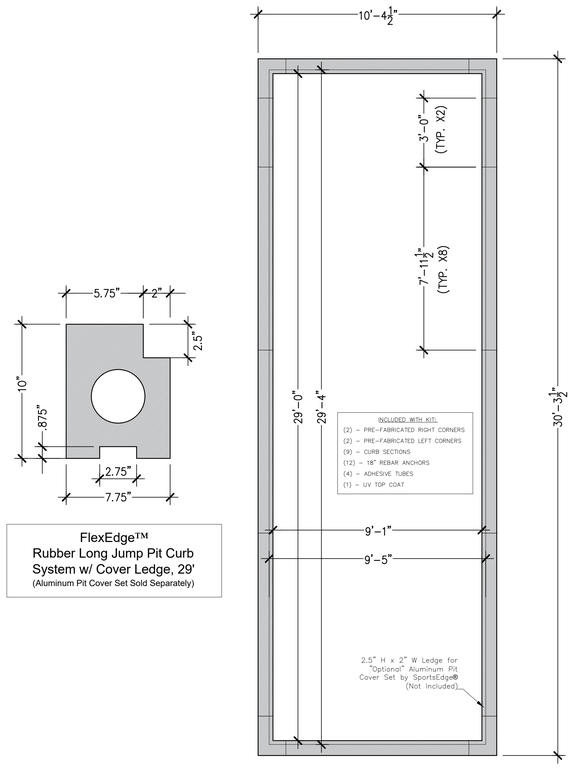
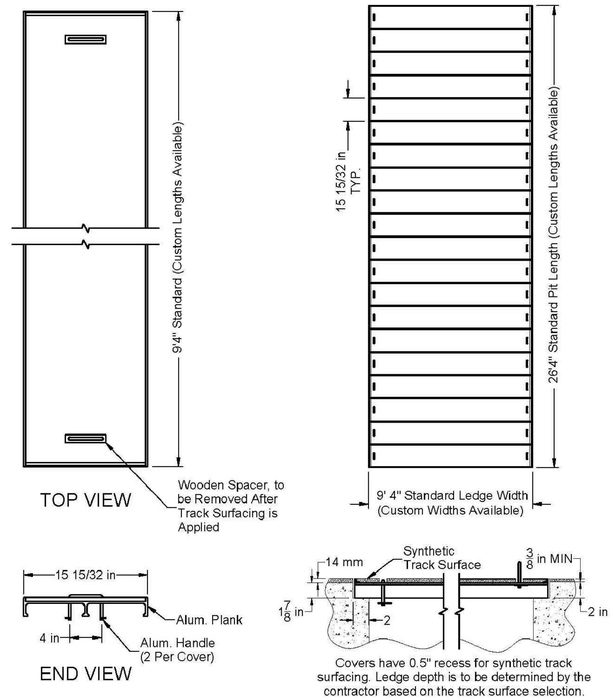


FlexEdge™
Rubber Long Jump Pit Curb System w/ Cover Ledge, 29'
(Aluminum Pit Cover Set Sold Separately)



SportsEdge
A Division of ABT, Inc.
P.O. Box 837 * 259 Murdock Road
Troutman, NC 28166
800-334-6057

TITLE: FlexEdge™ LJ/TJ Sand Pit System With Cover Ledge, 29'

DRAWN BY:	B.W.M.	CHECKED BY:	
SCALE:	NONE	DATE:	11/14/19

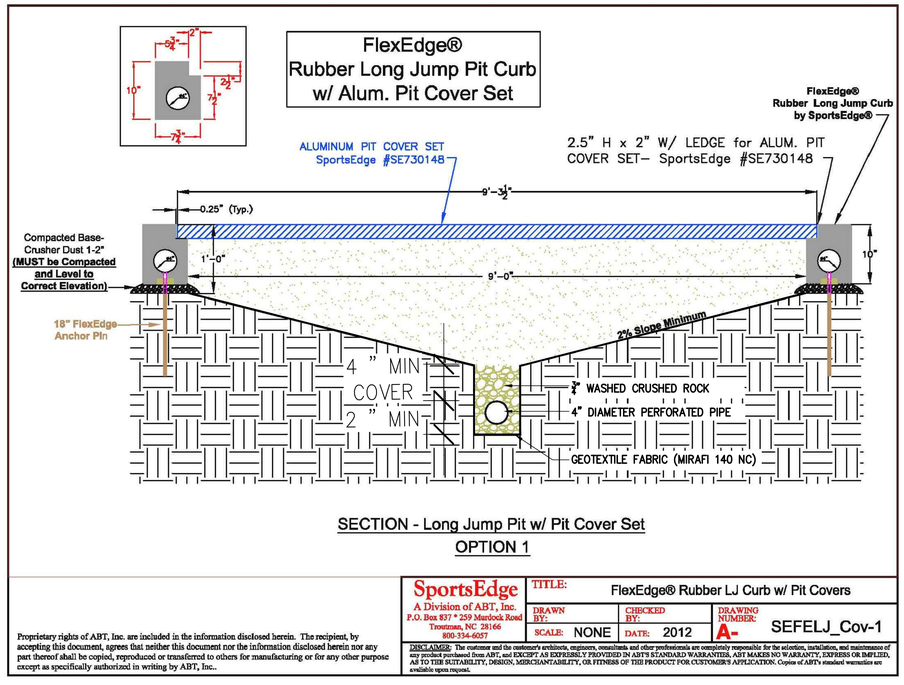
DRAWING NUMBER: A- SEFLEXLJ2K29

SportsEdge
A Division of ABT, Inc.
P.O. Box 837 / 259 Murdock Road
Troutman, NC 28166
(800) 334-6057

PRODUCT DETAIL

LONG AND TRIPLE JUMP SAND PIT COVER

PART: SEPC.RL REV: 2/27/2019



SportsEdge
A Division of ABT, Inc.
P.O. Box 837 * 259 Murdock Road
Troutman, NC 28166
800-334-6057

TITLE: FlexEdge® Rubber LJ Curb w/ Pit Covers

DRAWN BY:		CHECKED BY:	
SCALE:	NONE	DATE:	2012

DRAWING NUMBER: A- SEFELJ_Cov-1

1 LONG JUMP PIT WITH COVER

N.T.S.

1 / L5.2 SITE DETAILS

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MARK WILCOX 204 Expiration Date of License 10/31/2020 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT 07.15.2020

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO

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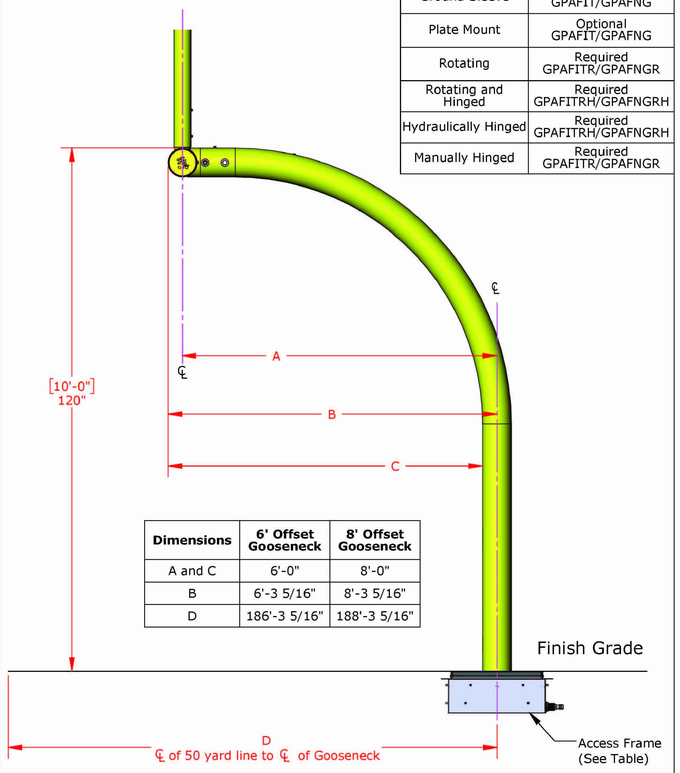
www.dhmdesign.com

Project No: 1935.01

Sheet No: L5.2

Goal Post Version	Access Frames
Ground Sleeve	Optional GPAFIT/GPAFNG
Plate Mount	Optional GPAFIT/GPAFNG
Rotating	Required GPAFITR/GPAFNGR
Rotating and Hinged	Required GPAFITRH/GPAFNGRH
Hydraulically Hinged	Required GPAFITRH/GPAFNGRH
Manually Hinged	Required GPAFITR/GPAFNGR

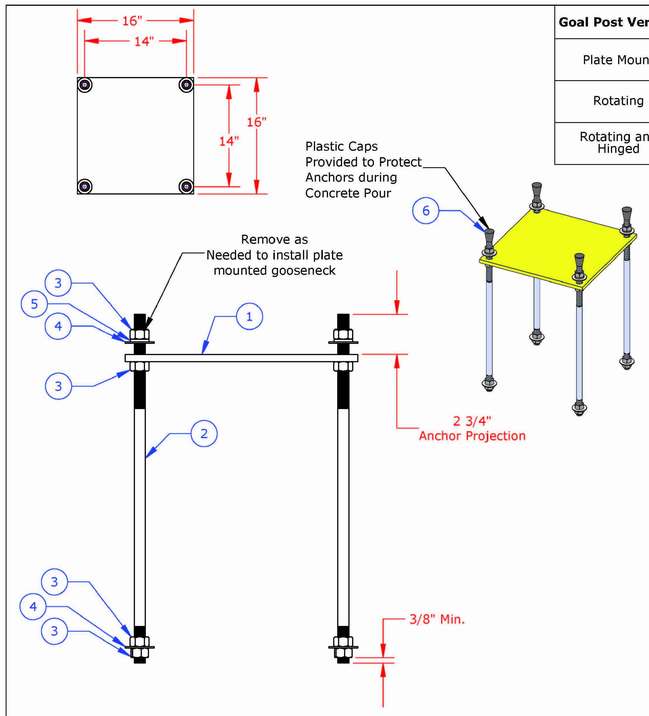


Dimensions	6' Offset Gooseneck	8' Offset Gooseneck
A and C	6'-0"	8'-0"
B	6'-3 5/16"	8'-3 5/16"
D	186'-3 5/16"	188'-3 5/16"

TITLE: Football Goal Post Field Placement

DWG NO: ID-00001

COLOR – YELLOW | SHEET 1 OF 1



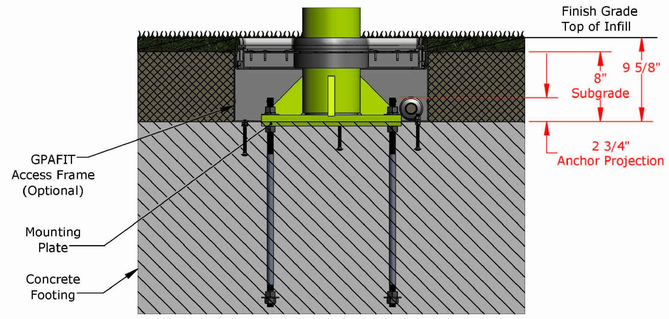
Goal Post Version
Plate Mount
Rotating
Rotating and Hinged

ITEM NO.	QTY.	SAP Part Number	DESCRIPTION
1	1	E-0003-0002	1/2" Steel Ground Plate
2	4	PURCHP-0680	3/4-10X24" ANCHOR BOLT, Galvanized
3	16	108-HXN-0003	3/4-10 Galvanized Hex Nut
4	8	111-FLW-0003	3/4 Galv. FLAT WASHER
5	4	111-SLW-0003	3/4-10 Galvanized Lock Washer
6	4	PURCHP-0282	CAP, THREAD PLASTIC

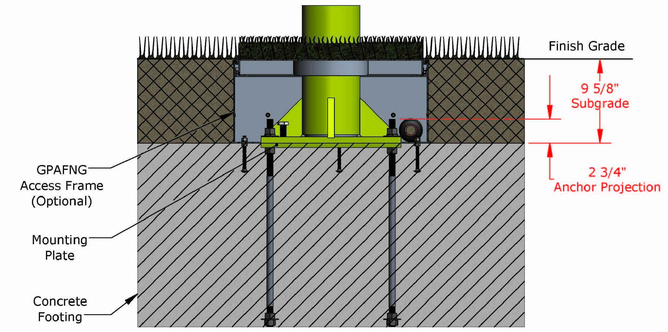
TITLE: Base Plate Mounting Kit

DWG NO: ID-00020

SHEET 1 OF 1



Synthetic Infill Turf Application



Natural Grass Application

TITLE: Football Goal Post Elevation Plate Mount

DWG NO: ID-00003

SHEET 1 OF 1

1 FOOTBALL UPRIGHTS

MANUFACTURER: SPORTSFIELD SPECIALITIES
COLOR: YELLOW

N.T.S.

1 L5.3 SITE DETAILS

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MARK WILCOX 204 Expiration Date of Licensure STATE OF COLORADO REGISTERED LANDSCAPE ARCHITECT 04.06.2020

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Project No:
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Sheet No:
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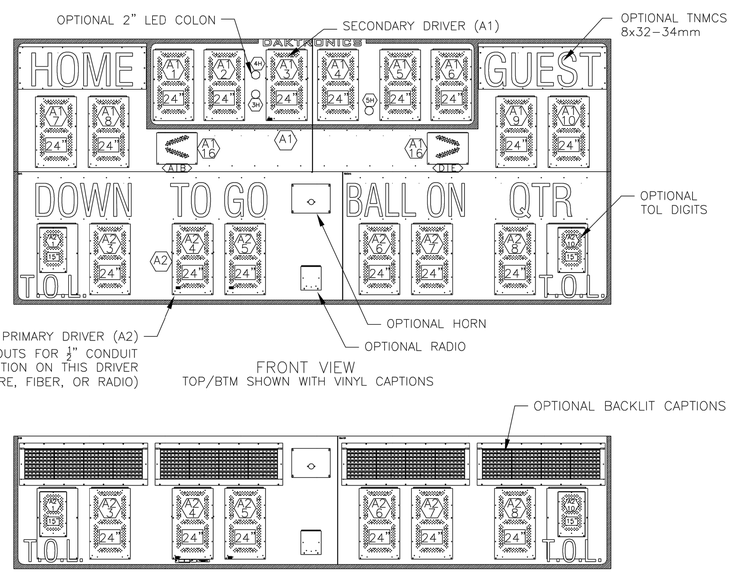
FB-2020-R/A



FRONT VIEW
TOP/BTM SHOWN WITH VINYL CAPTIONS

FRONT VIEW
BTM SHOWN WITH 8X32-34mm
ELECTRONIC CAPTIONS AND VINYL TOL

NOTES:

- A1 / 1 = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- 24" = DIGIT SIZE
- A | B | C = SEGMENT DESIGNATIONS
- A1 = DRIVER NUMBER

REV	DATE:		BY:
03	30 OCT 18	PER CN-67119, UPDATED LOCATION OF DAKTRONICS LOGO	KDM
02	20 FEB 15	PER EC-17119, REMOVED DETAIL A AND B ADDED SIGNAL OPTION NOTE CHANGED SLAVE AND MASTER DRIVER NAME	KDB
01	23 APR 13	PER EC-9747, UPDATED FB INDICATOR	KDD

THIRD ANGLE PROJECTION

PROJECT:	OUTDOOR LED SCOREBOARDS		
TITLE:	COMPONENT LOCATION; FB-2020-R/A		
DATE:	3 FEB 12	DIM UNITS: INCHES [MILLIMETERS]	SHEET / REV
SCALE:	1=40	DO NOT SCALE DRAWING	03
DESIGN:	DOPPELT	JOB NO. P1647	FUNC - TYPE - SIZE R - 08 - A
DRAWN:	JVANAAR		1068296

1 DAKTRONICS FB-2020 FOOTBALL/TRACK SCOREBOARD

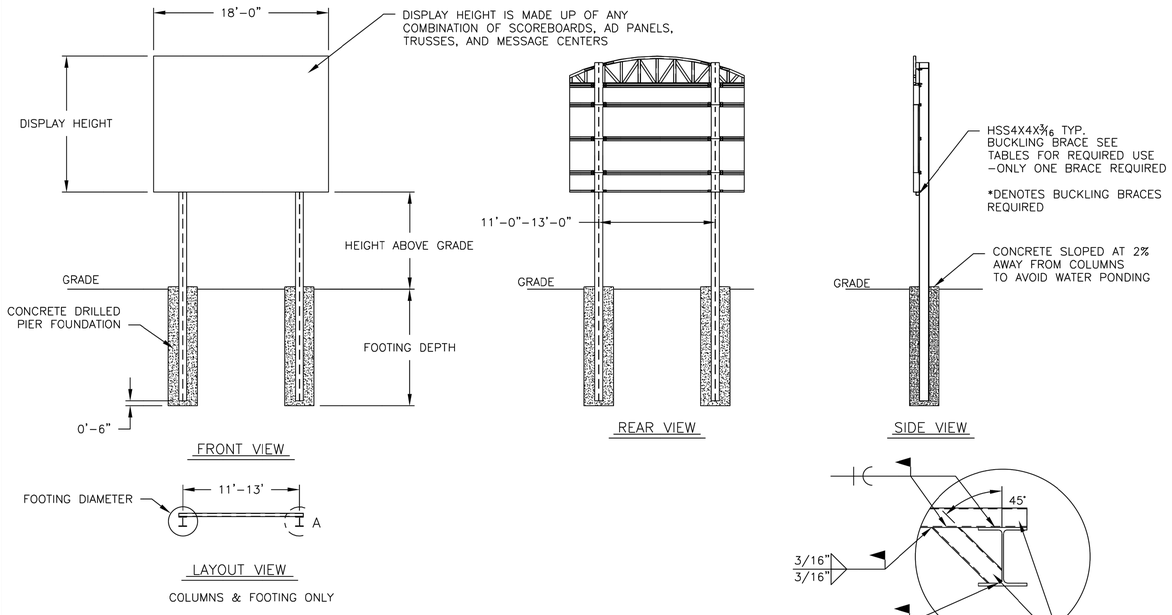


TABLE A – MOUNTING

EXPOSURE B

HEIGHT ABOVE GRADE = 10'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY 115 MPH	130 MPH	150 MPH	170 MPH
8	COLUMN FOOTING	W8X24 2.0'X8.0'	W12X26 2.0'X9.0'	W10X30 2.0'X10.0'	W10X33 3.0'X9.5'
10	COLUMN FOOTING	W8X28 2.0'X9.0'	W8X31 2.0'X10.0'	W12X26* 3.0'X9.5'	W14X30* 3.0'X11.0'
12	COLUMN FOOTING	W8X31 2.0'X10.0'	W10X39 3.0'X9.5'	W12X30* 3.0'X11.0'	W14X34* 3.0'X12.0'
14	COLUMN FOOTING	W10X39 3.0'X9.5'	W12X30* 3.0'X10.0'	W14X34* 3.0'X12.0'	W16X40* 3.0'X13.0'
16	COLUMN FOOTING	W12X30* 3.0'X10.0'	W14X34* 3.0'X11.0'	W16X40* 3.0'X12.0'	W21X44* 3.0'X14.0'
18	COLUMN FOOTING	W14X30* 3.0'X10.5'	W16X36* 3.0'X12.0'	W21X44* 3.0'X14.0'	W21X48* 3.0'X16.0'

HEIGHT ABOVE GRADE = 15'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY 115 MPH	130 MPH	150 MPH	170 MPH
8	COLUMN FOOTING	W8X31 2.0'X9.0'	W10X33 3.0'X8.5'	W10X39 3.0'X9.5'	W16X36 3.0'X10.5'
10	COLUMN FOOTING	W12X26* 3.0'X8.5'	W14X30* 3.0'X9.5'	W12X40 3.0'X11.0'	W14X48 3.0'X12.0'
12	COLUMN FOOTING	W14X30* 3.0'X9.5'	W16X36* 3.0'X11.0'	W14X43* 3.0'X12.0'	W21X48* 3.0'X13.0'
14	COLUMN FOOTING	W16X36* 3.0'X10.0'	W16X40* 3.0'X11.0'	W14X48* 3.0'X13.0'	W18X55* 3.0'X15.0'
16	COLUMN FOOTING	W12X40* 3.0'X11.0'	W14X48* 3.0'X12.0'	W18X55* 3.0'X14.0'	W21X62* 3.0'X16.0'
18	COLUMN FOOTING	W14X43* 3.0'X12.0'	W21X48* 3.0'X13.0'	W18X60* 3.0'X15.0'	W21X68* 3.0'X18.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACE REQUIRED

EXPOSURE C

HEIGHT ABOVE GRADE = 10'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY 115 MPH	140 MPH		
8	COLUMN FOOTING	W12X26 3.0'X8.0'	W10X33 3.0'X9.5'		
10	COLUMN FOOTING	W10X33 3.0'X9.0'	W12X30* 3.0'X10.5'		
12	COLUMN FOOTING	W12X26* 3.0'X10.0'	W14X34* 3.0'X12.0'		
14	COLUMN FOOTING	W14X30* 3.0'X10.5'	W16X40* 3.0'X12.0'		
16	COLUMN FOOTING	W14X34* 3.0'X11.5'	W21X44* 3.0'X14.0'		
18	COLUMN FOOTING	W16X40* 3.0'X12.0'	W21X48* 3.0'X15.0'		

HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY 115 MPH	140 MPH
8	COLUMN FOOTING	W8X35 2.0'X11.0'	W16X36* 3.0'X11.0'
10	COLUMN FOOTING	W14X34* 3.0'X10.0'	W14X43* 3.0'X12.0'
12	COLUMN FOOTING	W14X38* 3.0'X11.0'	W14X48* 3.0'X13.0'
14	COLUMN FOOTING	W14X43* 3.0'X12.0'	W18X55* 3.0'X14.0'
16	COLUMN FOOTING	W14X48* 3.0'X13.0'	W21X62* 3.0'X16.0'
18	COLUMN FOOTING	W18X55* 3.0'X14.0'	W16X67* 3.0'X17.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACE REQUIRED

NOTE:
–REFER TO NOTE 7 FOR EXPOSURE CATEGORY DEFINITIONS.

NOTES:

1. FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION Or ERECTION.

2. INTERNATIONAL BUILDING CODE 2012 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH, IMPORTANCE FACTOR=1, Kzt=1.0, Kd=0.85, G=0.85. SEISMIC DESIGN WAS NOT CONSIDERED.

3. FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).

4. STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.

5. THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.

6. DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

7. LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORY C IS DEFINED AS:

EXPOSURE B – URBAN AND SUBURBAN AREAS, OR OTHER TERRAIN WITH NUMEROUS SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 ft OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER

EXPOSURE C – OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.

8. FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

REV	DATE:		BY:
02	27 OCT 15	UPDATED WIDE FLANGE AND FOUNDATION VALUES	AMP
01	23 JUL 14	UPDATED CLAMPS IN REAR AND SIDE VIEWS AND ADDED 170 MPH WIND SPEC COLUMN	TJT

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ:	OUTDOOR SCOREBOARD INSTALLATION		
TITLE:	18' WIDTH SCOREBOARD INSTALLATION SPECS		
DESIGN:	RSCHWAR	DRAWN: RSCHWAR	DATE: 27 NOV 13
SCALE:	1/16"=1'		

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	02	P1647	E-10-A	1157189

N.T.S.

1 / L5.4 SITE DETAILS

TAB Associates
The Architectural Balance
0056 Edwards Village Blvd.
Suite 210
Edwards, CO 8132
(970) 766-1470
fax: (970) 766-1471
email: tab@vail.net
www.tabassociates.com
Civil Engineer
Alpine Engineering
970-926-3373
Structural Engineer
Jirsa-Hedrick
303-839-1963
Mechanical Engineer
BG BuildingWorks
970-949-6108
Electrical Engineer
BG BuildingWorks
970-949-6108

Seal

MARK WILCOX 204 Number Original Date of Licensure STATE OF COLORADO REGISTERED LANDSCAPE ARCHITECT 04.08.2020

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO

Revisions:		
No	Description	Date

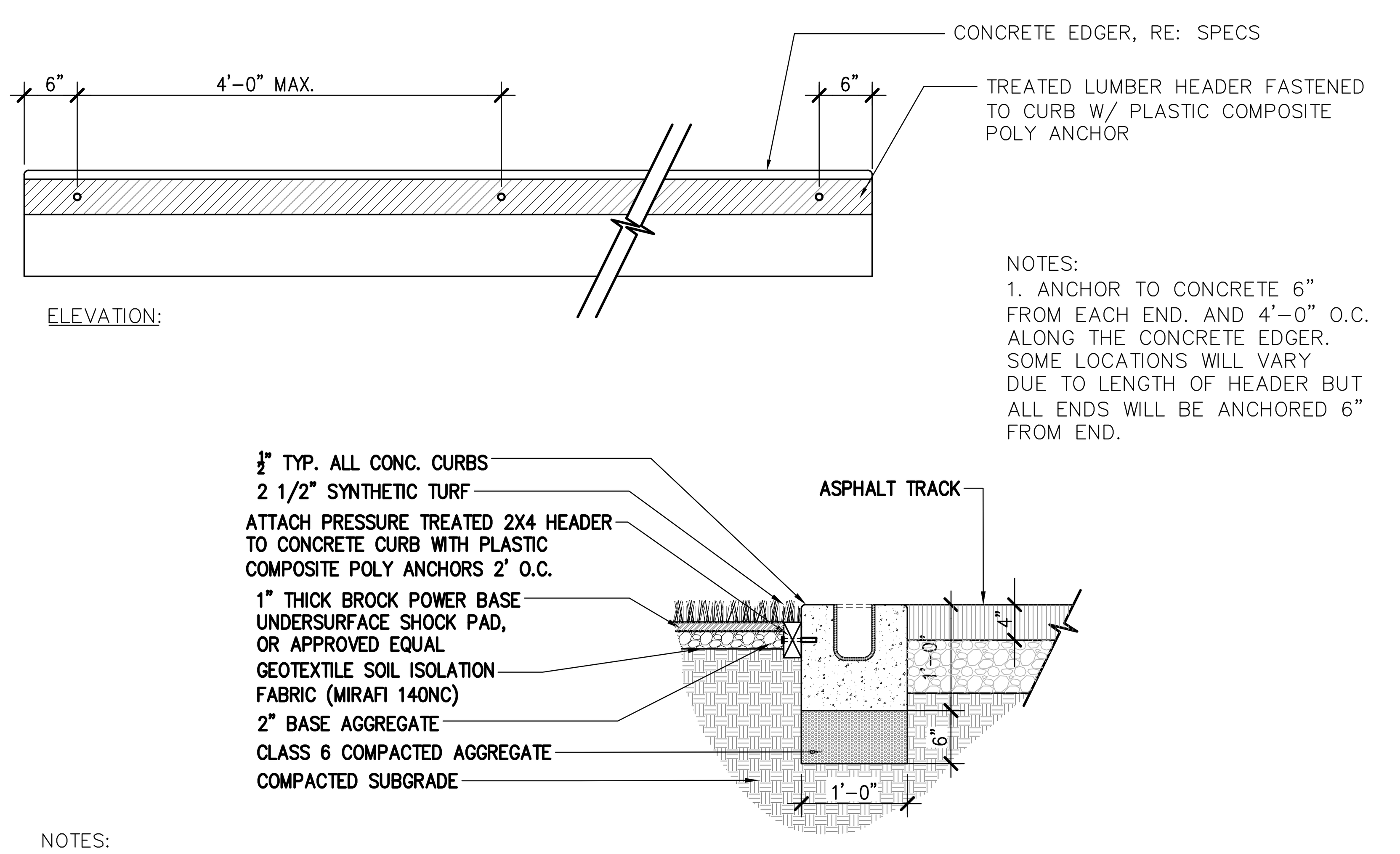
Issue Dates:
01/13/20 - SD
02/21/20 - DD
03/30/20 - CD
04/06/20 - CD

Sheet Title:
SITE DETAILS

DHM DESIGN
900 S. Broadway
Suite 300
Denver, CO. 80209
303.892.5566
www.dhmdesign.com

Project No:
1935.01

Sheet No:
L5.4

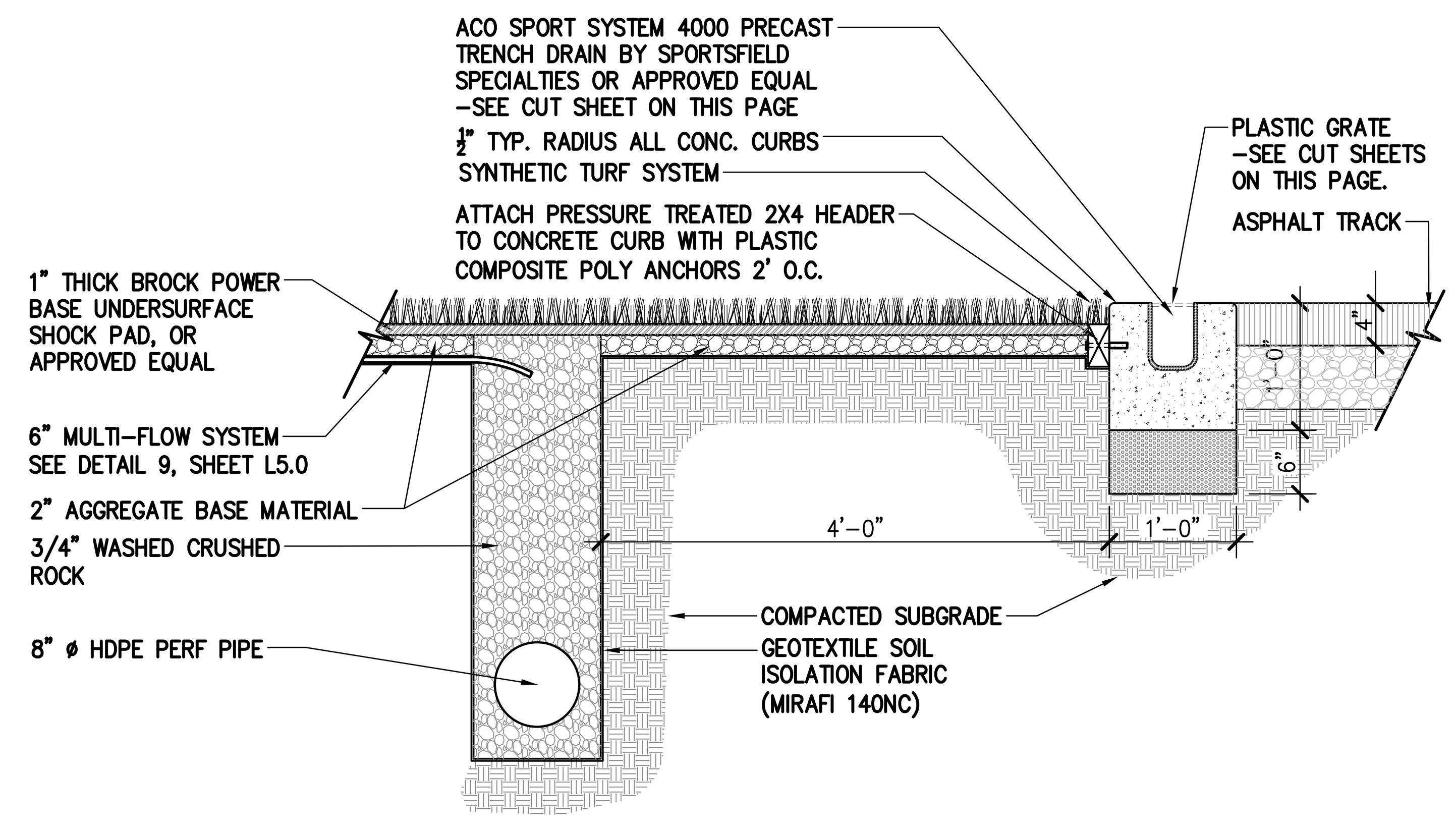


NOTES:
1. ANCHOR TO CONCRETE 6" FROM EACH END, AND 4'-0" O.C. ALONG THE CONCRETE EDGER. SOME LOCATIONS WILL VARY DUE TO LENGTH OF HEADER BUT ALL ENDS WILL BE ANCHORED 6" FROM END.

NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR FINAL SYNTHETIC TURF STRIPING, LAYOUT, SEAMS. RE: SPECS.
2. HEADER SHALL BE TREATED LUMBER.
3. CATCH BASINS EVERY 90' +/- PER MANUFACTURER'S RECOMMENDATION. SEE CUT SHEET ON THIS PAGE.

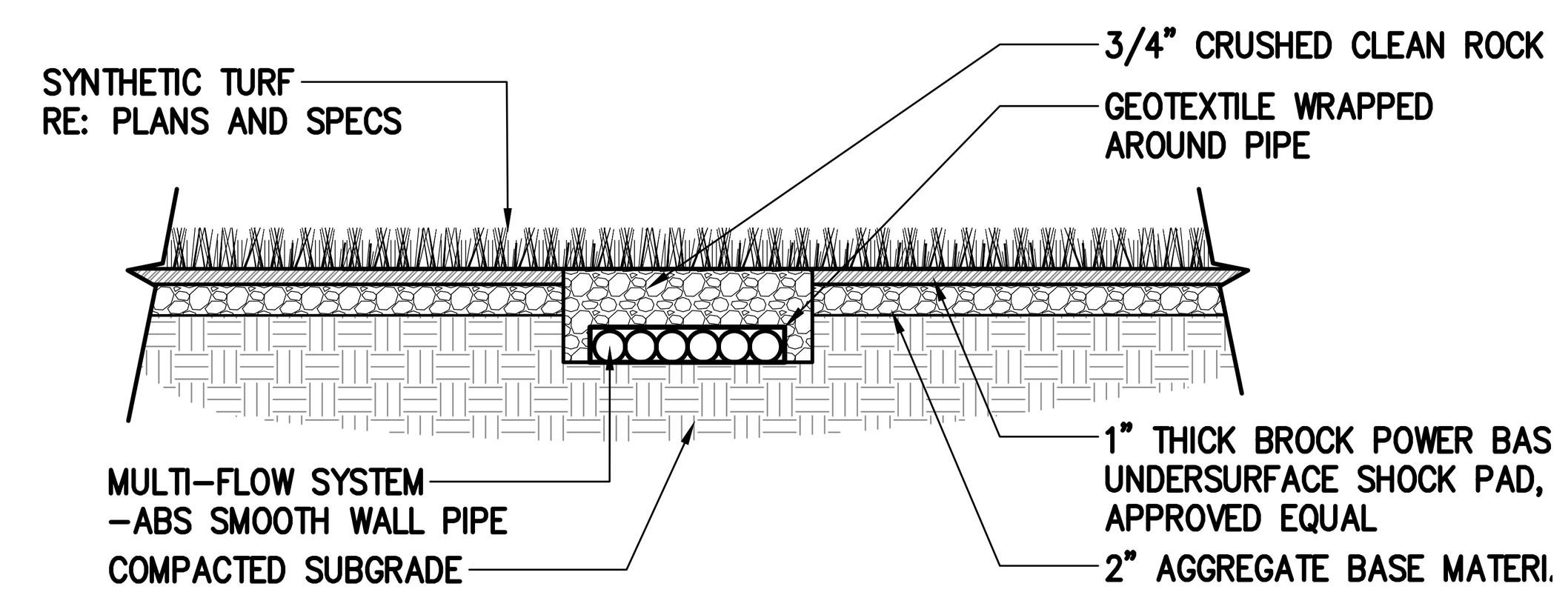
1 TRACK DRAINAGE TRENCH

SCALE: 1" = 1'-0"



2 8" PERFORATED DRAINAGE PIPE

SCALE: 1" = 1'-0"

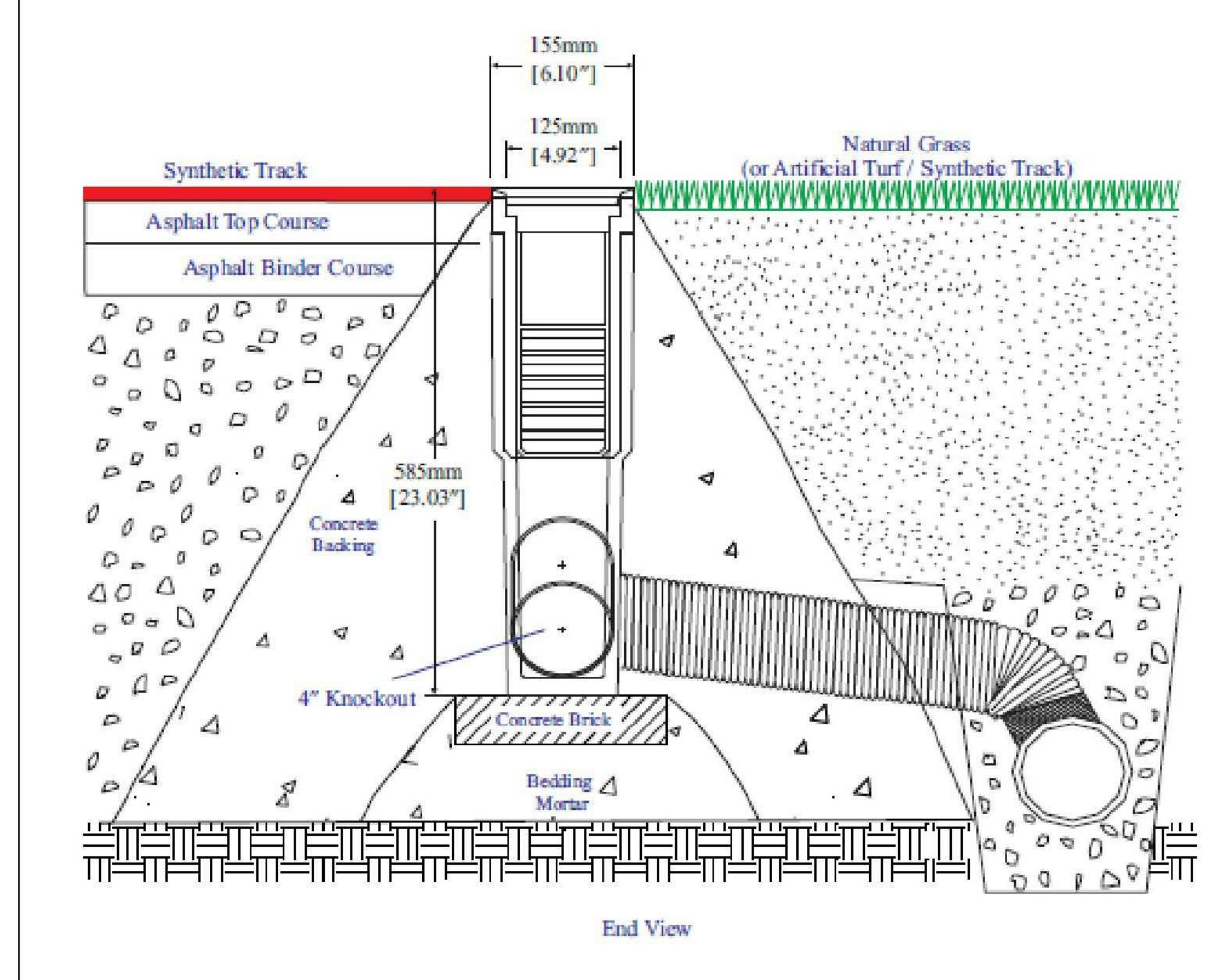


3 STANDARD 6" MULTI-FLOW SYSTEM

SCALE: 1" = 1'-0"

SPORTSFIELD SPECIALTIES — Excellence from Design to Installation

ACO SPORT



PROPRIETARY AND CONFIDENTIAL
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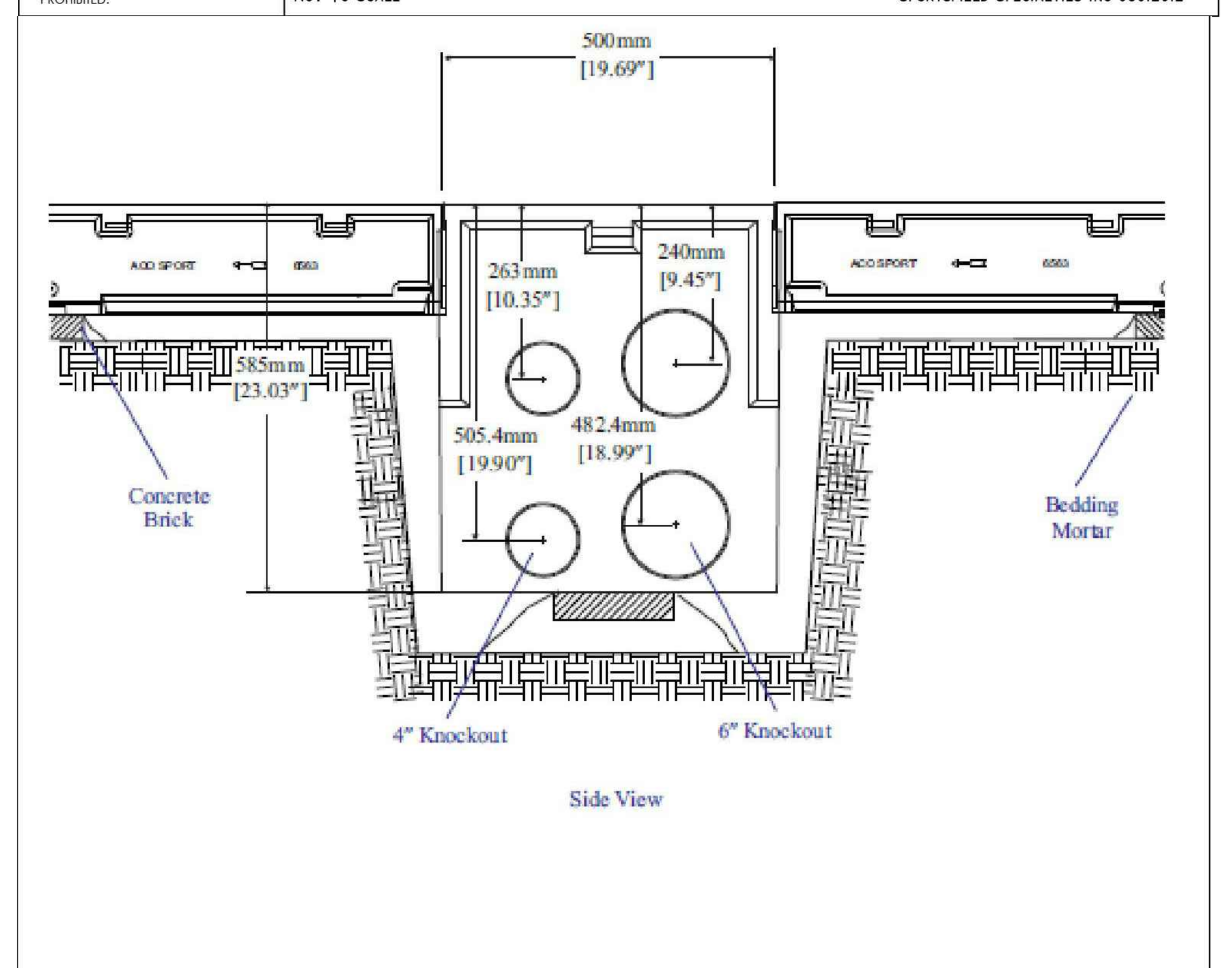
ACO SPORT SYSTEM 4000
CATCH BASIN - END VIEW
NOT TO SCALE
SPORTSFIELD SPECIALTIES INC 08012012



PROPRIETARY AND CONFIDENTIAL
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ACO SPORT SYSTEM 4000
CATCH BASIN - SIDE VIEW
NOT TO SCALE
SPORTSFIELD SPECIALTIES INC 08012012

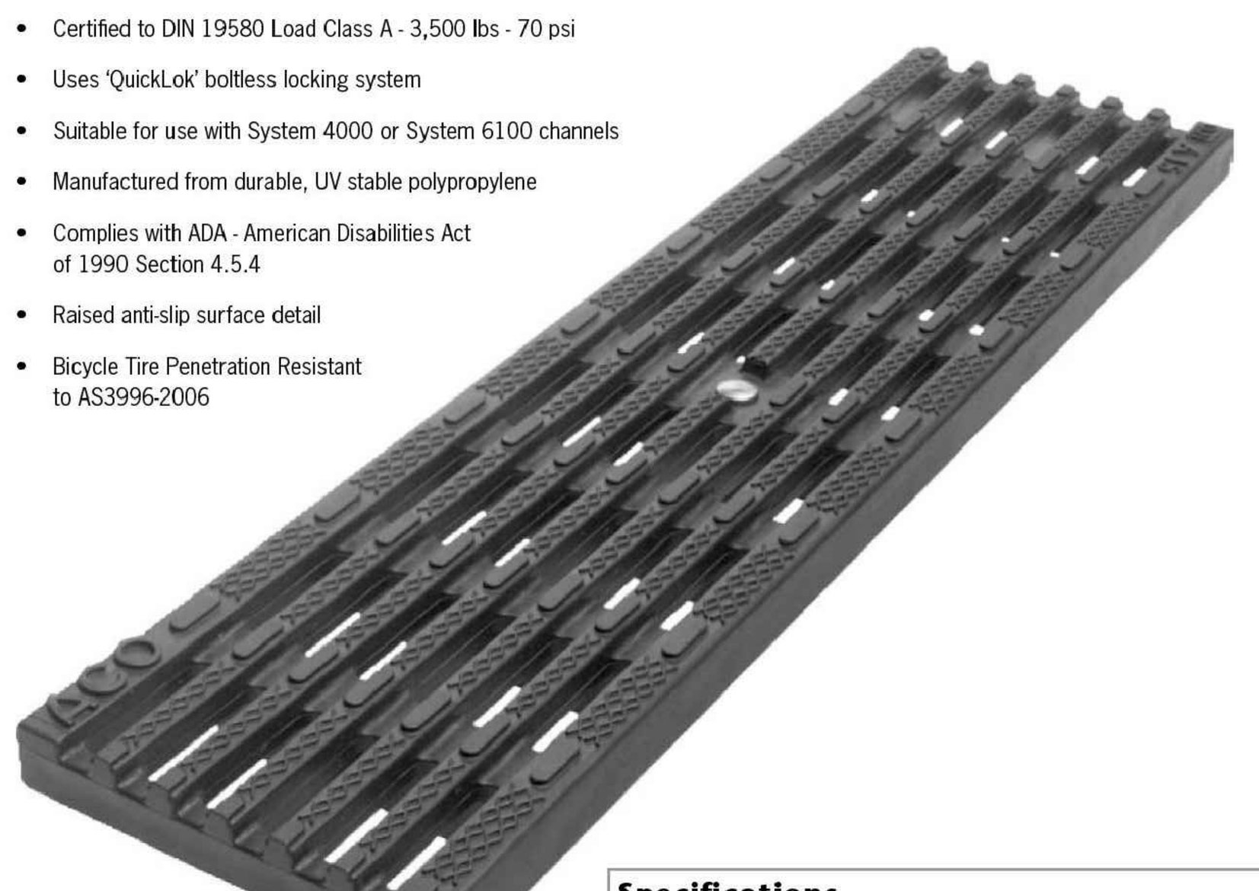
ACO SPORT — Dec 07

ADA Plastic

ADA black plastic

Product Features

- Certified to DIN 19580 Load Class A - 3,500 lbs - 70 psi
- Uses 'QuickLok' boltless locking system
- Suitable for use with System 4000 or System 6100 channels
- Manufactured from durable, UV stable polypropylene
- Complies with ADA - American Disabilities Act of 1990 Section 4.5.4
- Raised anti-slip surface detail
- Bicycle Tire Penetration Resistant to AS3996-2006



Specifications

General
The surface drainage system shall be ACO Sport System 4000 or 6100 channels* complete with ACO ADA plastic grate with 'QuickLok' locking as manufactured by ACO Polymer Products, Inc. or similar approved.

Materials
The covers shall be manufactured from polypropylene and have ***minimum*** properties as follows:

- ***Independently certified to meet Load Class A to DIN 19580 - 3,500 lbs - 70 psi***
- ***UV stable polypropylene***
- ***Intake area of 27.4 sq. in. (176.8 cm²) per half meter of grate***

The overall width of 4.84" (123mm) and overall length of 19.69" (500mm). Slots measure 0.33" (8mm) by 1.74" (44mm).

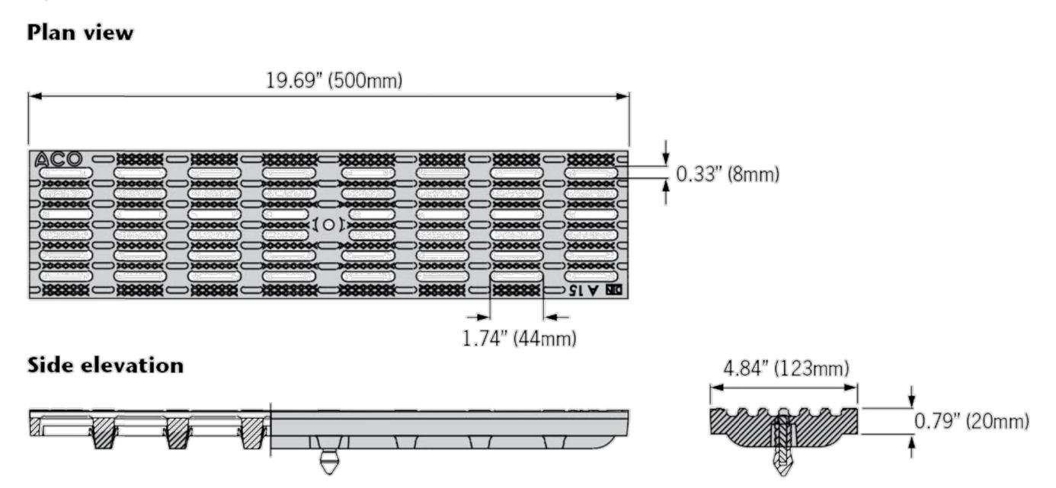
Installation
The trench drain system and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations.

* delete as appropriate

ACO Specification Information

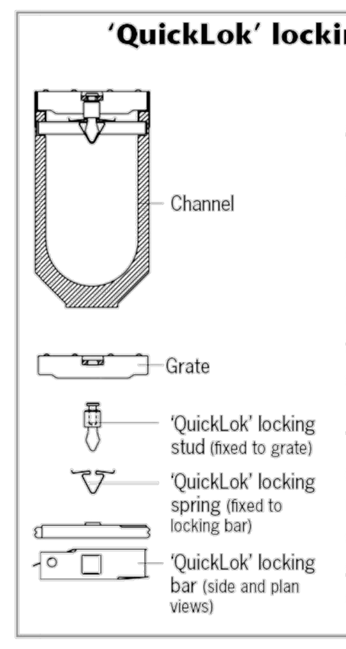
ACO SPORT

ADA plastic grate details



Description	Part No.	Length inches (mm)	Width inches (mm)	Weight lbs.
QuickLok grates				
ADA black plastic grate	97393	19.69 (500)	4.84 (123)	1.8
ADA gray plastic grate	97385	19.69 (500)	4.84 (123)	1.8
ADA green plastic grate	97398	19.69 (500)	4.84 (123)	1.8
ADA brick plastic grate	97386	19.69 (500)	4.84 (123)	1.8
QuickLok locking bar	02899	-	-	0.2
QuickLok grate removal hook	01318	-	-	0.6

'QuickLok' locking mechanism



ACO 'QuickLok' is a patented boltless locking system, grates are removed and replaced with the minimum time and effort for ease of maintenance. The unique design provides a positive 'snap down' fit into the locking bar. A stud is fixed to the grate which 'locks' into the spring clip in the locking bar.

The 'QuickLok' stud is made from stainless steel and high density nylon, the locking bar and clip are stainless steel, for use in both general purpose and corrosive environments.

ACO Polymer Products, Inc.

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Toll Free: (888) 490-9552
Fax: (520) 421-9899

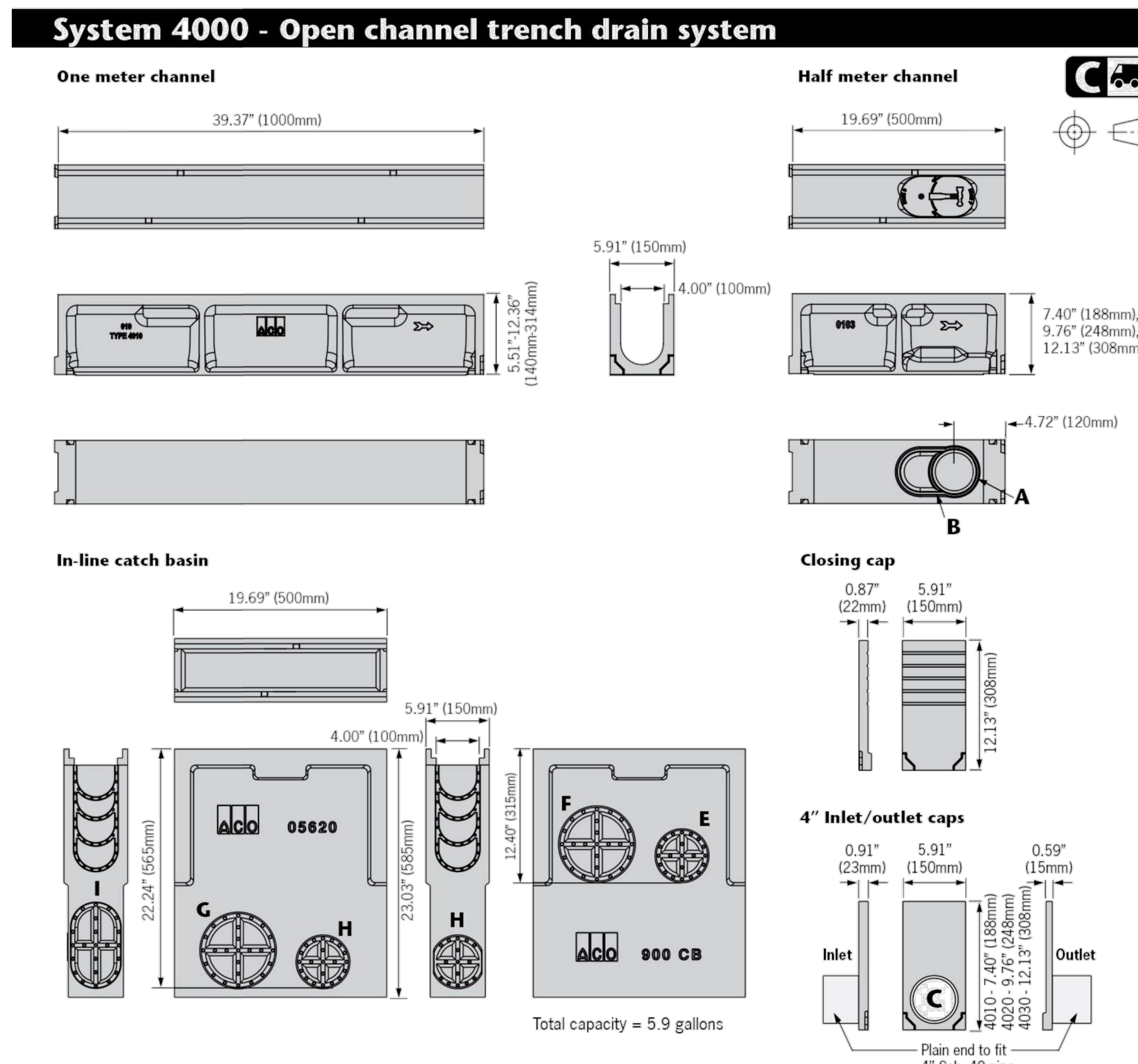
Electronic Contact:
info@acousa.com
www.acousa.com

SPEC INFO ACO

ACO Specification Information

ACO SPORT

System 4000 - Open channel trench drain system



Outlet flow rates

Outlet	Product	Outlet size (Sch. 40)	Invert Depth	GPM	CFS
A	Bottom outlet - 40103	4" round	6.50	117	0.26
A	Bottom outlet - 40303	4" round	11.22	185	0.41
B	Bottom outlet - 40103	6" oval	6.50	183	0.40
B	Bottom outlet - 40303	6" oval	11.22	288	0.64
C	Outlet cap - 4010	4" round	6.50	119	0.27
C	Outlet cap - 4030	4" round	11.22	168	0.39
D	Outlet cap - 4020	6" oval	8.86	220	0.50
D	Outlet cap - 4030	6" oval	11.22	248	0.57
E	In-line catch basin*	4" round	12.40	175	0.40
F	In-line catch basin*	6" round	12.40	379	0.87
G	In-line catch basin*	6" round	22.24	530	1.22
H	In-line catch basin*	4" round	22.24	242	0.54
I	In-line catch basin*	6" oval	22.24	372	0.86

* In-line catch basin flow rate without trash bucket - using trash bucket reduces flow

ACO Specification Information

ACO SPORT

System 4000 Open channel trench drain system

Description	Part No	Invert Depth inches	Invert Depth mm	Overall Depth inches	Overall Depth mm	Wgt lbs
4000-1 Sloped channel - 39.37" (1meter)	138001	4.61	117	5.51	140	32.0
4002 Constant depth channel - 39.37" (1meter)	**06562**	**4.61**	**117**	**5.51**	**140**	**32.9**
4000-2 Sloped channel - 39.37" (1meter)	138002	4.84	123	5.75	146	32.9
4000-3 Sloped channel - 39.37" (1meter)	138003	5.08	129	5.98	152	33.8
4000-4 Sloped channel - 39.37" (1meter)	138004	5.31	135	6.22	158	34.7
4000-5 Sloped channel - 39.37" (1meter)	138005	5.55	141	6.46	164	35.6
4000-6 Sloped channel - 39.37" (1meter)	138006	5.79	147	6.69	170	36.5
4000-7 Sloped channel - 39.37" (1meter)	138007	6.02	153	6.93	176	37.4
4000-8 Sloped channel - 39.37" (1meter)	138008	6.26	159	7.17	182	38.3
4000-9 Sloped channel - 39.37" (1meter)	138009	6.50	165	7.40	188	39.2
4010 Constant depth channel - 39.37" (1meter)	**06561**	**6.50**	**165**	**7.40**	**188**	**40.1**
40103 Constant depth channel - 19.69" (0.5meter)	**138033**	**6.50**	**165**	**7.40**	**188**	**23.0**
4000-10 Sloped channel - 39.37" (1meter)	138010	6.73	171	7.64	194	40.1
4000-11 Sloped channel - 39.37" (1meter)	138011	6.97	177	7.87	200	41.0
4000-12 Sloped channel - 39.37" (1meter)	138012	7.20	183	8.11	206	41.9
4000-13 Sloped channel - 39.37" (1meter)	138013	7.44	189	8.35	212	42.8
4000-14 Sloped channel - 39.37" (1meter)	138014	7.68	195	8.58	218	43.7
4000-15 Sloped channel - 39.37" (1meter)	138015	7.91	201	8.82	224	44.6
4000-16 Sloped channel - 39.37" (1meter)	138016	8.15	207	9.06	230	45.5
4000-17 Sloped channel - 39.37" (1meter)	138017	8.39	213	9.29	236	46.4
4000-18 Sloped channel - 39.37" (1meter)	138018	8.62	219	9.53	242	47.3
4000-19 Sloped channel - 39.37" (1meter)	138019	8.86	225	9.76	248	48.2
4020 Constant depth channel - 39.37" (1meter)	**06563**	**8.86**	**225**	**9.76**	**248**	**49.1**
40203 Constant depth channel - 19.69" (0.5meter)	**138035**	**8.86**	**225**	**9.76**	**248**	**26.0**
4000-20 Sloped channel - 39.37" (1meter)	138020	9.09	231	10.00	254	49.1
4000-21 Sloped channel - 39.37" (1meter)	138021	9.33	237	10.24	260	50.0
4000-22 Sloped channel - 39.37" (1meter)	138022	9.57	243	10.47	266	50.9
4000-23 Sloped channel - 39.37" (1meter)	138023	9.80	249	10.71	272	51.8
4000-24 Sloped channel - 39.37" (1meter)	138024	10.04	255	10.94	278	52.7
4000-25 Sloped channel - 39.37" (1meter)	138025	10.28	261	11.18	284	53.6
4000-26 Sloped channel - 39.37" (1meter)	138026	10.51	267	11.42	290	54.5
4000-27 Sloped channel - 39.37" (1meter)	138027	10.75	273	11.65	296	55.6
4000-28 Sloped channel - 39.37" (1meter)	138028	10.98	279	11.89	302	56.5
4000-29 Sloped channel - 39.37" (1meter)	138029	11.22	285	12.13	308	57.4
4030 Constant depth channel - 39.37" (1meter)	**138036**	**11.22**	**285**	**12.13**	**308**	**58.3**
40303 Constant depth channel - 19.69" (0.5meter)	**138037**	**11.22**	**285**	**12.13**	**308**	**31.0**
4000-30 Sloped channel - 39.37" (1meter)	138030	11.46	291	12.36	314	59.2
Catch basin						
In-line catch basin - 19.69" (0.5m)	05620	22.13	562	23.03	585	62.0
QuickLok bar (removable)	98717	-	-	-	-	0.1
Series 900 plastic trash bucket	01498	-	-	-	-	1.1
6" oval to round adapter (fits outlets B & I)	95140	-	-	-	-	1.1
Accessories						
Debris strainer for 4" bottom knockout (fits outlet A)	93488	-	-	-	-	0.2
Universal closing end cap	137090	-	-	12.13	308	4.5
104-4 Inlet cap with 4" schedule 40 pipe	137091	6.50	165	7.40	188	2.6
108-4 Outlet cap with 4" schedule 40 pipe	137092	6.50	165	7.40	188	2.0
204-4 Inlet cap with 4" schedule 40 pipe	137093	8.86	225	9.76	248	3.7
208-4 Outlet cap with 4" schedule 40 pipe	137094	8.86	225	9.76	248	2.6
204-6 Inlet end cap with 6" schedule 35 pipe	137099	8.86	225	9.76	248	3.3
208-6 Outlet end cap with 6" schedule 35 pipe	137095	8.86	225	9.76	248	2.6
304-4 Inlet cap with 4" schedule 40 pipe	137096	11.22	285	12.13	308	4.6
308-4 Outlet cap with 4" schedule 40 pipe	137097	11.22	285	12.13	308	3.3
304-6 Inlet end cap with 6" schedule 35 pipe	137100	11.22	285	12.13	308	4.4
308-6 Outlet end cap with 6" schedule 35 pipe	137098	11.22	285	12.13	308	3.3

Notes:
1. Preformed 4" dia. & 6" flumed drill-out outlet cast on underside of half meter channels only.
2. Closing cap can be cut down to suit all channels.
3. Invert depths are at the male (downstream) end - subtract 0.24" (6mm) for female invert depth **EXCEPT** constant depth channels where the invert is the same both ends.

Part I - General
1.1 **Related Work** - Work specified in other sections includes: Excavation and backfill, cast-in-place concrete, and mechanical equipment.
1.2 **System Description** - Interconnecting, polymer concrete modular trench drainage system.
1.3 **Submittals** - On request, shop drawings showing schematic plan of total drainage system listing all parts with center-line dimensions. Copies of manufacturer's recommended installation instructions.
1.4 **Project History** - Manufacturer to provide list of installed projects, if required.
1.5 **Warranty** - Limited one year product warranty based on installation according to manufacturer's installation instructions (see below).

Part II - Product
2.1 **Products** - Manufactured by ACO Polymer Products, Inc.
2.2 **Physical & Mechanical Characteristics**
- Overall width - 5.91 inches (150mm)
- Internal width - 4.00 inches (100mm)
- Unit depth - varies - see Product Table
- Unit length - 39.37 inches (1000mm), or 19.69" (500mm)
- Compressive strength - 14,000 psi
- Flexural strength - 4,000 psi
- Water absorption rate - <0.1% by weight.
- ADA compliant to American Disabilities Act of 1990 Section 4.5.4 with appropriate grate (494Q/495Q)

2.3 **Channel Profile** - Each unit features a full radius in trench bottom, and male to female interconnecting ends. Horizontal cast-in anchoring features on outside walls to ensure maximum mechanical bond to surrounding bedding material.
2.4 **Catch Basins** - Manufactured from polymer concrete, be one half meter (19.69") in length and include a trash bucket (optional).
2.5 **Grates** - A choice of QuickLok grates are available. See separate Spec Info sheets for details.

Part III - Installation
3.1 **Site Preparation** - Excavate area to accommodate ACO SPORT System 4000 channel and to allow a minimum of 4 inches (100mm) concrete encasement (recommended 4,000psi) on 3 sides to provide necessary support. Top of channel must be evenly aligned to surface of surrounding slab. See installation section for haunch details for different loadings & pavement materials.
3.2 **Installation** - Start at outlet or catch basin. Insert channels from above to allow ends to interconnect. Channel sections shall be placed on brick, rebar basket, install device, or low slump concrete slurry to obtain correct finished elevation. Cutting will be made, if required, by masonry or concrete saw. Protect channel from concrete splash during concrete pour. Place concrete in a manner that will not dislodge channels.
3.3 **Finishing and Clean-up** - Following final set of concrete, remove channel protection and thoroughly flush system to remove debris.
3.4 Install in strict accordance with manufacturer's recommendations and drawings. Full details available at **www.ACOSport.us.**

ACO Polymer Products, Inc.

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Casa Grande, AZ 85122

Northeast Sales Office
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Mentor, OH 44060

Southeast Sales Office
4211 Pleasant Road
Fort Mill, SC 29708

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info@ACOSport.us
www.ACOSport.us

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SPEC INFO ACO

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Structural Engineer: Jirsa-Hedrick 303-839-1963
Mechanical Engineer: BG BuildingWorks 970-949-6108
Electrical Engineer: BG BuildingWorks 970-949-6108

Seal

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO

Revisions:

No	Description	Date

Issue Dates:
01/13/20 - SD
02/21/20 - DD
03/30/20 - CD
04/06/20 - CD

Sheet Title: SITE DETAILS

Project No: 1935.01

Sheet No: L5.5

1 L5.5 SITE DETAILS

DHM DESIGN
900 S. Broadway
Suite 300
Denver, CO 80209
303.892.5566
www.dhmdesign.com

LEGEND

- NATIVE SEED
- ROCK MULCH
- DECIDUOUS TREE (HWM)
- DECIDUOUS SHRUBS
- EVERGREEN SHRUBS
- ORNAMENTAL GRASSES
- LIMITS OF CONSTRUCTION
- MATCHLINE

A REMOVAL OF THE EXISTING IRRIGATION CONTROL VALVES, WIRES AND MAINLINE.
CONTRACTOR SHALL LOCATE ALL OF THE EXISTING CONTROL VALVES (WITHIN TRACK AREA) REMOVE DOWN TO THE MAINLINE AND RETURN TO THE SCHOOL'S STAFF. IF EXISTING PIPING AND WIRES ARE EXPOSED DURING DEMO, THE CONTRACTOR SHALL REMOVE ANY EXPOSED PVC MAINLINE / WIRES AND WILL BE RESPONSIBLE TO DISPOSED OF THEM.

B REMOVAL OF THE EXISTING IRRIGATION SPRAY HEADS AND LATERAL LINES
CONTRACTOR SHALL LOCATE ALL OF THE EXISTING ROTOR SPRAY HEADS REMOVE AND RETURN TO THE SCHOOL'S STAFF. IF EXISTING PIPING AND WIRES ARE EXPOSED DURING DEMO, THE CONTRACTOR SHALL REMOVE ANY EXPOSED PVC MAINLINE / WIRES AND WILL BE RESPONSIBLE TO DISPOSED OF THEM.

REFER TO SHEET

IR2.0	IRRIGATION PLANS
IR2.1	IRRIGATION NOTES
IR2.1	IRRIGATION SCHEDULE
IR2.1 - IR2.2	IRRIGATION DETAILS

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

HydroSystems KDI
Irrigation Consulting & Water Management
860 Tabor Street, Suite 200 Lakewood, Colorado 80401
o: 303.980.5327 www.hydrosystemskdi.com

1 IRRIGATION PLAN (L4.0)
1" = 40' - 0"

0 20 80
10 40
SCALE: 1"=40'-0"

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Alpine Engineering
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Structural Engineer:
Jirsa-Hedrick
303-839-1963
Mechanical Engineer:
BG BuildingWorks
970-949-6108
Electrical Engineer:
BG BuildingWorks
970-949-6108

Seal

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO

Revisions:

No	Description	Date

Issue Dates:
01/13/20 - SD
02/21/20 - DD
04/06/20 - CD

Sheet Title:
IRRIGATION PLAN

Project No:
1935.01

Sheet No:
IR2.0

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	DETAIL NO.
#6 #6 #6 #6	HUNTER	I-20-12 WITH # STANDARD NOZZLE (BLUE)	HI-POP GEAR STREAM DRIVEN ROTOR	1
▼	RAIN BIRD	44-LRC	QUICK COUPLING VALVE	3
N/S	MATCO	201X	MANUAL DRAIN VALVE	4
⋈		LINE SIZE - 3" AND LARGER	GATE VALVE	5
◐	HUNTER	ICV-FS-R-AS-ADJ	ELECTRIC CONTROL VALVE	2
N/S			THRUST BLOCKS	7
▬ · ▬ · ▬		CLASS 200 RT - 3" & LARGER	PVC MAINLINE	6
────		CLASS 200 BE	PVC LATERAL	6
═══		CLASS 160	PVC SLEEVING	8
⌒‿⌒‿	TORO	BLUE STRIPE	POLY DRIP TUBING -3/4" MIN. WIDTH	9
N/S	RAIN BIRD	XERI-BUG	DRIP EMITTERS	9
▸			DRIP LINE BLOW-OUT STUB	10
N/S			WIRE SPLICES	11
◐			EXISTING CONTROL VALVE	
⊕			EXISTING DRIP VALVE	
▬ · ▬ · ▬			EXISTING MAINLINE	
────			EXISTING LATERAL LINE	
═══			EXISTING SLEEVING	
⊞			EXISTING DRIP VALVE	

GPM — CONTROLLER & STATION NO. / CONTROL VALVE SIZE

A (controller) — NUMBER OF SPARE WIRES - 2 CONTROL AND 1 SPARE WIRES TO WHICH CONTROLLER - SEE CONSTRUCTION NOTES

IRRIGATION CONSTRUCTION NOTES

1. DRAWINGS AND BASE INFORMATION – ALL BASE AND PLANTING INFORMATION HAVE BEEN PROVIDED BY DHM DESIGN. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY HYDROSYSTEMS*KDI OF ANY DISCREPANCIES BETWEEN THE UTILITY OR PLANTING PLANS AND THE IRRIGATION PLAN. IF CONTRACTOR FAILS TO NOTIFY HYDROSYSTEMS*KDI AND MAKES CHANGES TO THE IRRIGATION SYSTEM DESIGN, HE ASSUMES ALL COSTS AND LIABILITIES ASSOCIATED WITH THOSE FIELD CHANGES. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS. CONTACT IRRIGATION CONSULTANT FOR CURRENT SPECIFICATIONS IF NOT PROVIDED.

2. SYSTEM PRESSURE - HYDROSYSTEMS*KDI HAS TOLD, BY SCHOOL STAFF, THAT THE STATIC WATER PRESSURE IN THIS AREA SHOULD BE **70** PSI. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PRESSURE PRIOR TO COMMENCING ANY CONSTRUCTION AND NOTIFY HYDROSYSTEMS*KDI OF ANY VARIANCE FROM THE STATED PRESSURE IMMEDIATELY. WRITTEN DOCUMENTATION OF PRESSURE TEST AND RESULTS SHALL BE PROVIDED TO HYDROSYSTEMS*KDI AT CONSTRUCTION ONSET. IF CONTRACTOR FAILS TO FIELD VERIFY PRESSURE AND/OR NOTIFY HYDROSYSTEMS*KDI OR ANY VARIATIONS FROM THIS PRESSURE, THEN HE ASSUMES ALL CONSTRUCTION AND ENGINEERING COSTS ASSOCIATED WITH SYSTEM MODIFICATIONS REQUIRED TO ACCOMMODATE ACTUAL SITE PRESSURE. THIS SYSTEM HAS BEEN DESIGNED FOR A REQUIRED STATIC PRESSURE OF **70** PSI MINIMUM.

3. IRRIGATION SYSTEM OPERATION INTENT - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO IRRIGATE THE ESTABLISHED LANDSCAPE WITHIN A SIX NIGHT PER WEEK, EIGHT HOUR PER NIGHT WATERING WINDOW. ESTABLISHMENT WATERING WILL REQUIRE UP TO TWICE AS MUCH IRRIGATION FOR A FOUR TO SIX WEEK PERIOD. THE DESIGN IS BASED ON THE FOLLOWING PROJECTED WEEKLY APPLICATION RATES AFTER ESTABLISHMENT. THESE FIGURES ARE BASED ON A 30-YEAR AVERAGE WEATHER DATA AND WILL NEED TO BE ADJUSTED DUE TO SEASONAL CHANGES AND WEATHER CONDITIONS ABOVE AND BELOW THE AVERAGE VALUES UTILIZED.

BLUEGRASS TURF	2.23" PER WEEK PEAK SEASON
ORNAMENTAL PLANTINGS	0.89" PER WEEK PEAK SEASON
NATIVE SEED MIXES	0.74" PER WEEK PEAK SEASON (TWO SEASONS)

NOTE: IT IS THE INTENT OF THIS DESIGN THAT NATIVE AREAS WOULD ONLY BE IRRIGATED FOR ESTABLISHMENT. SYSTEM WILL REMAIN FOR USE DURING YEARS WITH LESS THAN NORMAL RAINFALL.

4. EQUIPMENT INSTALLATION - IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED WITHIN PROPERTY LIMITS AND WITHIN LANDSCAPED AREAS. ANY EQUIPMENT OTHER THAN VALVE BOXES OR SLEEVING THAT CONTAINS PIPE OR WIRES SHOWN OUTSIDE OF THESE LIMITS IS SHOWN IN THAT LOCATION FOR GRAPHICAL CLARITY ONLY. ALL VALVE BOXES SHALL BE INSTALLED A MINIMUM OF 2'-0" FROM EDGE OF ANY PAVED SURFACES UNLESS SPECIFICALLY INDICATED ON PLANS. BOXES INSTALLED IN OPEN TURF AREAS SHALL BE KEPT TO EDGES AND STAKED FOR REVIEW IF ALONG HIGH TRAFFIC AREAS. ALL VALVE BOXES SHALL BE PLACED A MINIMUM OF 3'-0" FROM THE CENTERLINE OF ANY DRAINAGE SWALE. ALL VALVE BOXES WITHIN PAVEMENT SHALL BE TIER 15 RATED BOXES FOR HEAVY DUTY NON-DELIBERATE TRAFFIC. BOX LID COLOR SHALL MATCH ADJACENT MATERIALS, I.E. GREEN IN TURF, TAN IN WOOD MULCH, GRAY IN STONE MULCH, PURPLE FOR RECLAIMED WATER SYSTEMS (IF REQUIRED). REFER TO LANDSCAPE PLANS FOR MATERIAL COLORS AND TYPES. ALL BOXES SHALL BE INSTALLED TO BE FLUSH WITH GRADE AND IN AN ORDERLY MANNER.

5. PIPING INSTALLATION – IRRIGATION PIPING SHALL MAINTAIN A MINIMUM DISTANCE FROM BUILDING FOUNDATIONS OF 5 FEET OR AS DESCRIBED IN SOILS REPORT, WHICHEVER IS GREATER. NO SPRAY IRRIGATION SHALL OCCUR WITHIN 10 FEET OF THE FOUNDATION. NO DRIP IRRIGATION SHALL OCCUR WITHIN 5 FEET OF THE FOUNDATION UNLESS SOIL MOISTURE SENSORS ARE INSTALLED ON VALVES SERVICING THESE AREAS. ALL IRRIGATION PIPING AND EMISSION DEVICES LOCATED ON TOP OF OR WITHIN BUILDING STRUCTURE SHALL CONFORM TO WATERPROOFING CONSULTANT REQUIREMENTS. PIPE ROUTING MAY BE SHOWN WITHIN THESE DISTANCES FOR GRAPHICAL CLARITY ONLY.

6. MANUAL DRAIN VALVES - CONTRACTOR TO INSTALL ONE MANUAL DRAIN VALVE ON PRESSURE SUPPLY LINE DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER AND AT ALL LOW POINTS AND DEAD ENDS OF PRESSURE SUPPLY PIPING TO ENSURE COMPLETE DRAINAGE OF SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE LOCATIONS IN-FIELD AND INSTALLATION LOCATIONS SHALL BE NOTED ON AS-BUILTS.

7. UNLABELED PIPING - ALL UNLABELED LATERAL PIPING SHALL BE 1" MINIMUM UNLESS OTHERWISE NOTED.

8. SLEEVING - ALL SLEEVING UNDER PAVED SURFACES SHOWN ON PLANS IS BY CONTRACTOR UNLESS OTHERWISE NOTED. SLEEVING SHALL BE INSTALLED IN THE SIZES AND QUANTITIES SHOWN ON PLANS OR BASED ON THE SCHEDULE BELOW. WHERE SLEEVES ARE SHOWN, BUT NOT LABELED, FOLLOW THE SCHEDULE BELOW. ALL MAINLINE, CONTROL WIRES AND DRIP LINES UNDER PAVED SURFACES ARE TO BE INSTALLED IN SLEEVING. ALL MAINLINE SLEEVE LOCATIONS TO INCLUDE A SEPARATE WIRE SLEEVE.

SLEEVED PIPE SIZE/WIRE QUANTITY	REQUIRED SLEEVE SIZE & (QUANTITY)
3/4" - 1 1/4" PIPING	2" PVC (1)
1 1/2" - 2" PIPING	4" PVC (1)
2 1/2" - 3" PIPING	6" PVC (1)
4" PIPING	8" PVC (1)
1-25 CONTROL WIRES	2" PVC (1)
26-50 CONTROL WIRES	3" PVC (1)

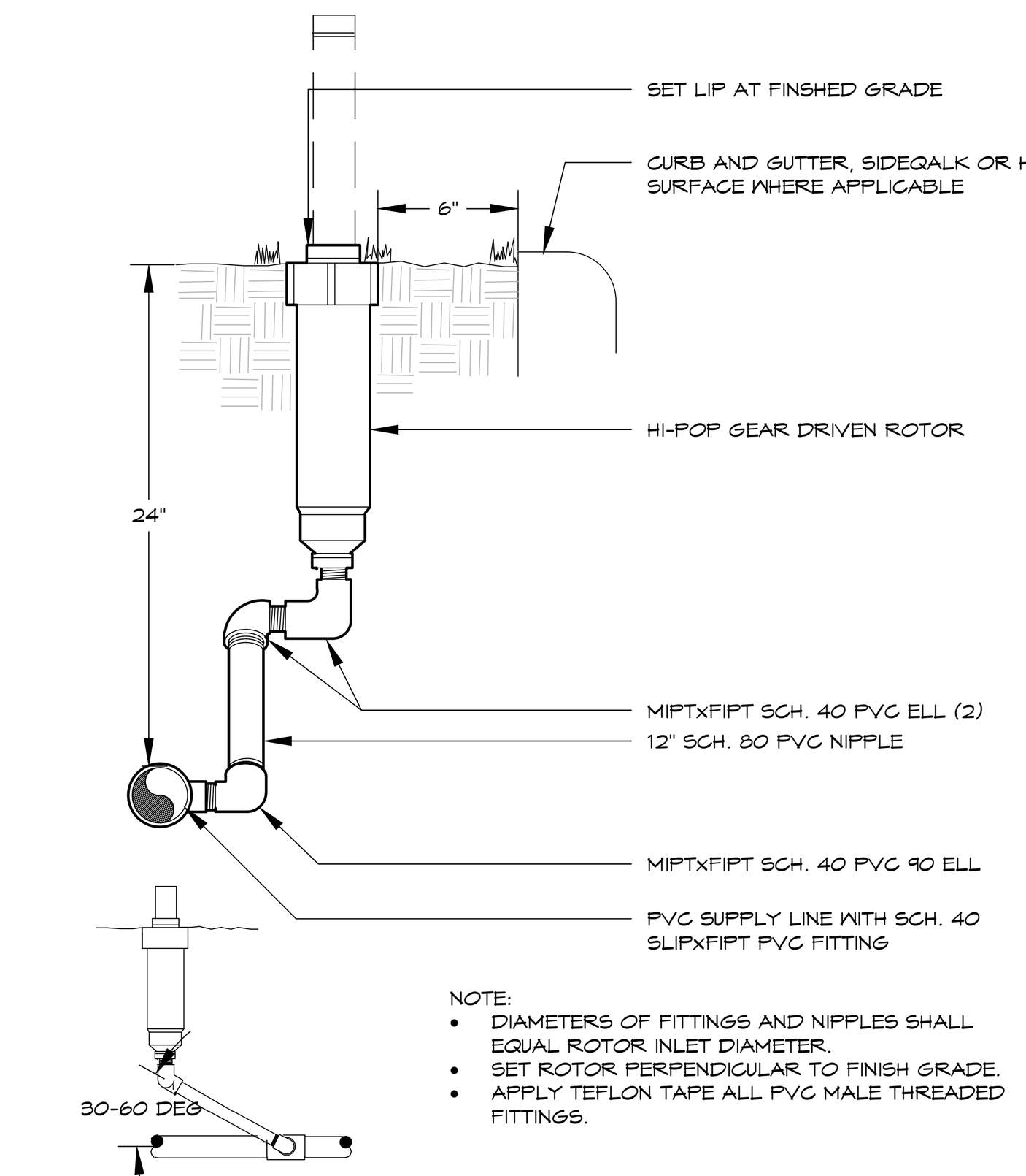
9. SPARE CONTROL WIRES - CONTRACTOR SHALL EXTEND THREE SPARE WIRES (ONE COMMON AND 2 CONTROL WIRES) FROM EACH CONTROLLER TO THE END OF THE MAINLINE SERVING THAT CONTROLLER OR AS SHOWN ON THE PLANS. INSTALL SPARE WIRES IN 10" ROUND VALVE BOX WITH QUICK COUPLING VALVE. REFER TO SPECIFICATIONS FOR WIRE COLOR. SEE IRRIGATION SCHEDULE FOR ADDITIONAL INFORMATION.

10. ADJUSTMENT - CONTRACTOR SHALL FINE TUNE/ADJUST THE IRRIGATION SYSTEM TO REDUCE/AVOID OVERSPRAY ONTO HARD SURFACES BY ADJUSTING NOZZLE DIRECTION AND NOZZLE RADIUS.

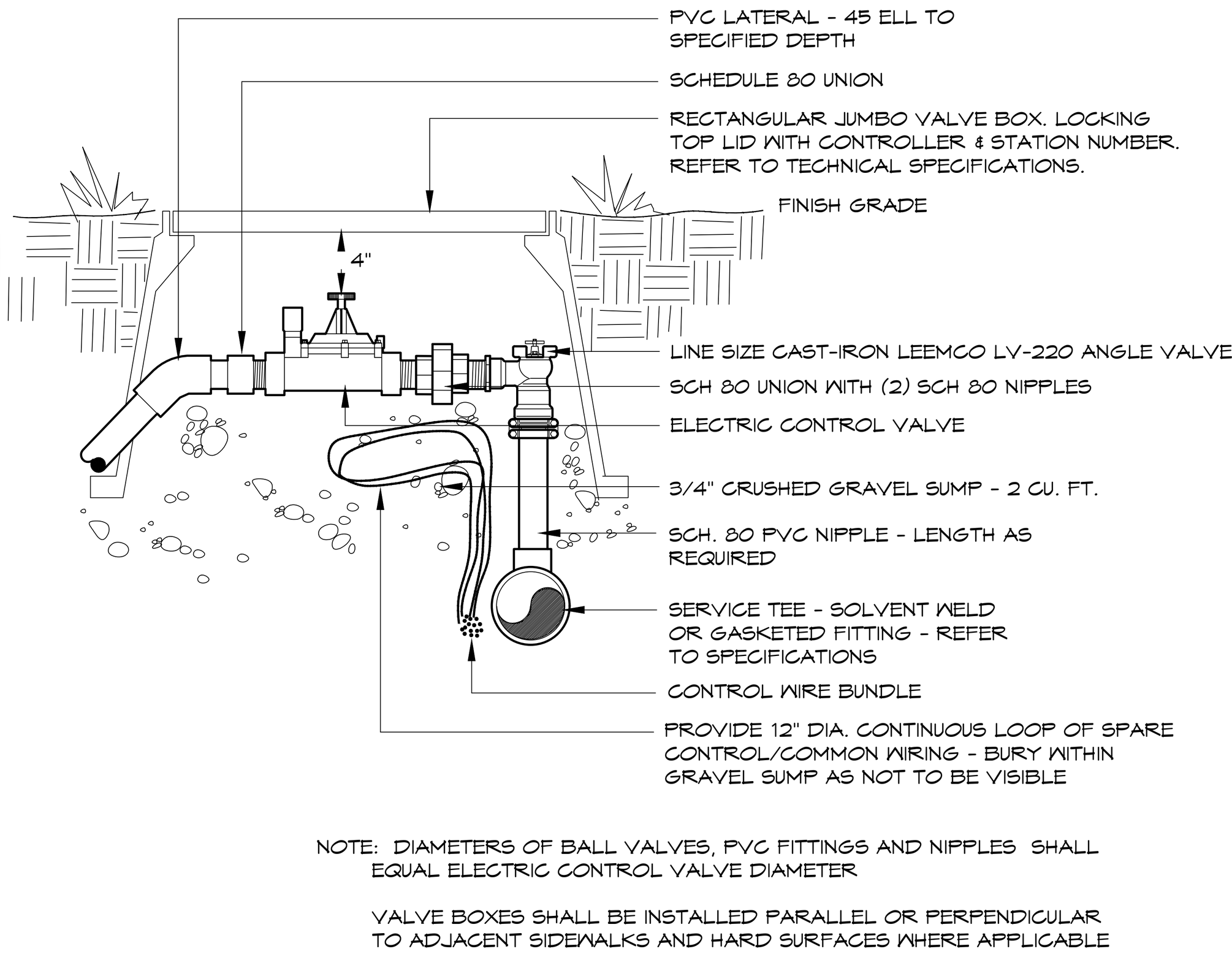
11. PLANS AND SPECIFICATIONS - CONTRACTOR RESPONSIBLE TO ENSURE WORK CONFORMS TO PLANS AND SPECIFICATIONS. AT ONSET OF CONSTRUCTION, VERIFY PLANS ARE CURRENT. WHERE REQUIRED BY CITY OR TOWN, CONTRACTOR SHALL CONSTRUCT ONLY OFF CITY OR TOWN STAMPED PLANS. REVISIONS TO CITY OR TOWN STAMPED PLANS SHALL CONFORM TO CITY OR TOWN FIELD CHANGE PROCEDURES AND DOCUMENTATION.

12. EXISTING IRRIGATION DAMAGE - CONTRACTOR SHALL REPAIR OR REPLACE ANY EXISTING IRRIGATION SYSTEMS DAMAGED DURING NEW INSTALLATION AND CONSTRUCTION. REPAIR OR REPLACEMENT SHALL BE DETERMINED BY OWNER OR OWNER'S REPRESENTATIVE AND PAID FOR BY THE LANDSCAPE CONTRACTOR.

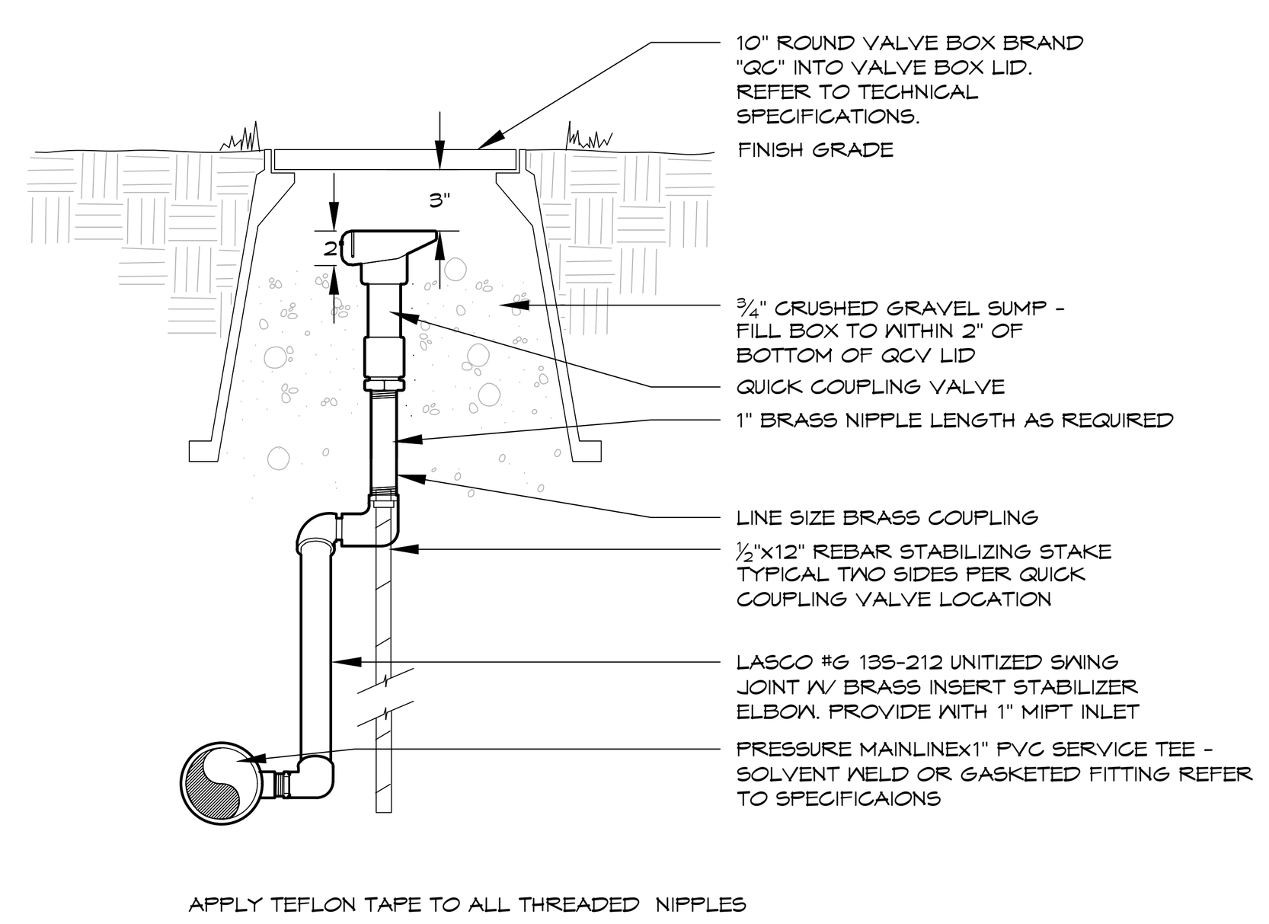
13. EXISTING IRRIGATION COORDINATION - EXISTING IRRIGATION SYSTEM SHALL NOT BE TURNED OFF FOR MORE THAN 24 HOURS MAXIMUM. CONTRACTOR SHALL COORDINATE TURN OFF OF SYSTEM WITH OWNER OR MAINTENANCE STAFF 72 HOURS PRIOR TO ANY NEW CONSTRUCTION.



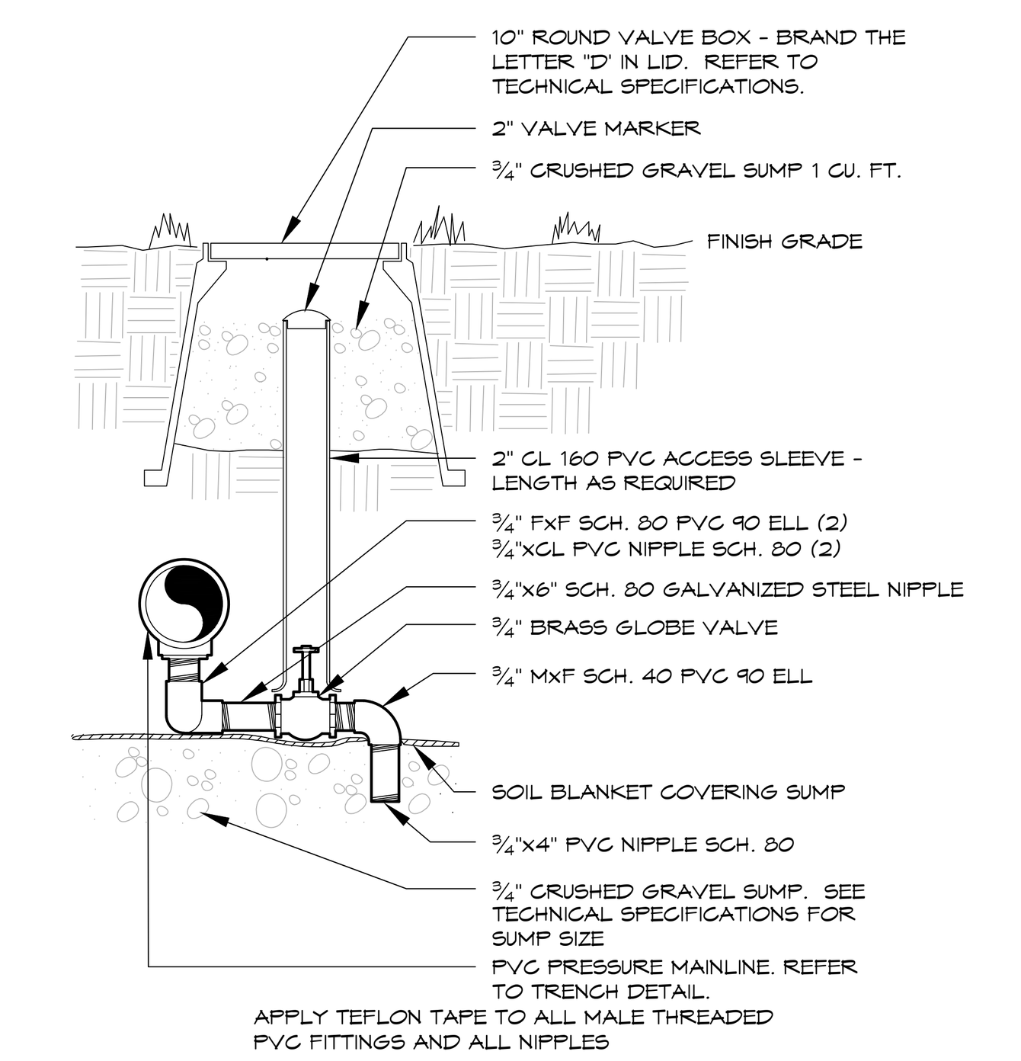
HI-POP GEAR DRIVEN ROTOR — 1



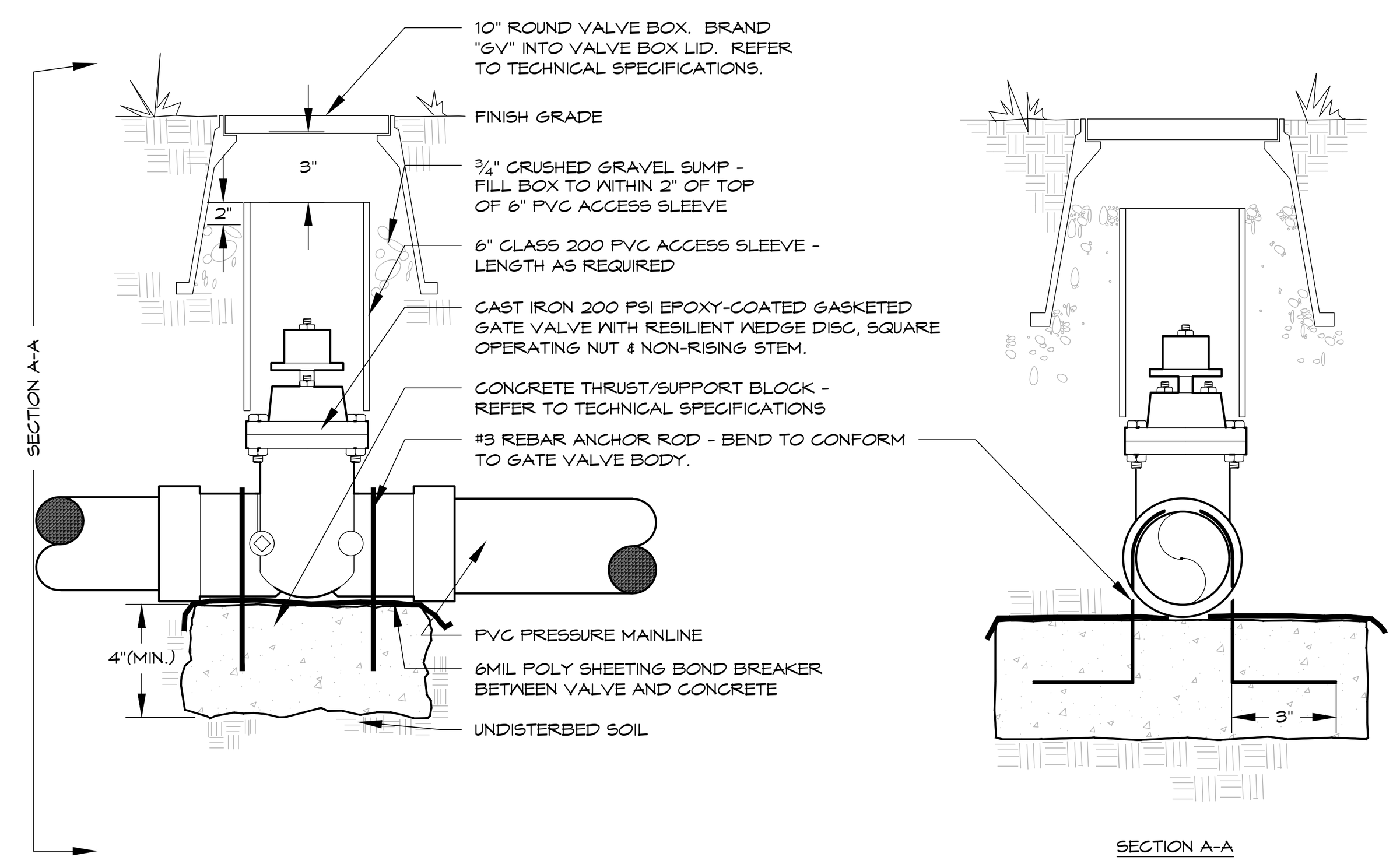
ELECTRIC CONTROL VALVE — 2



QUICK COUPLING VALVE — 3

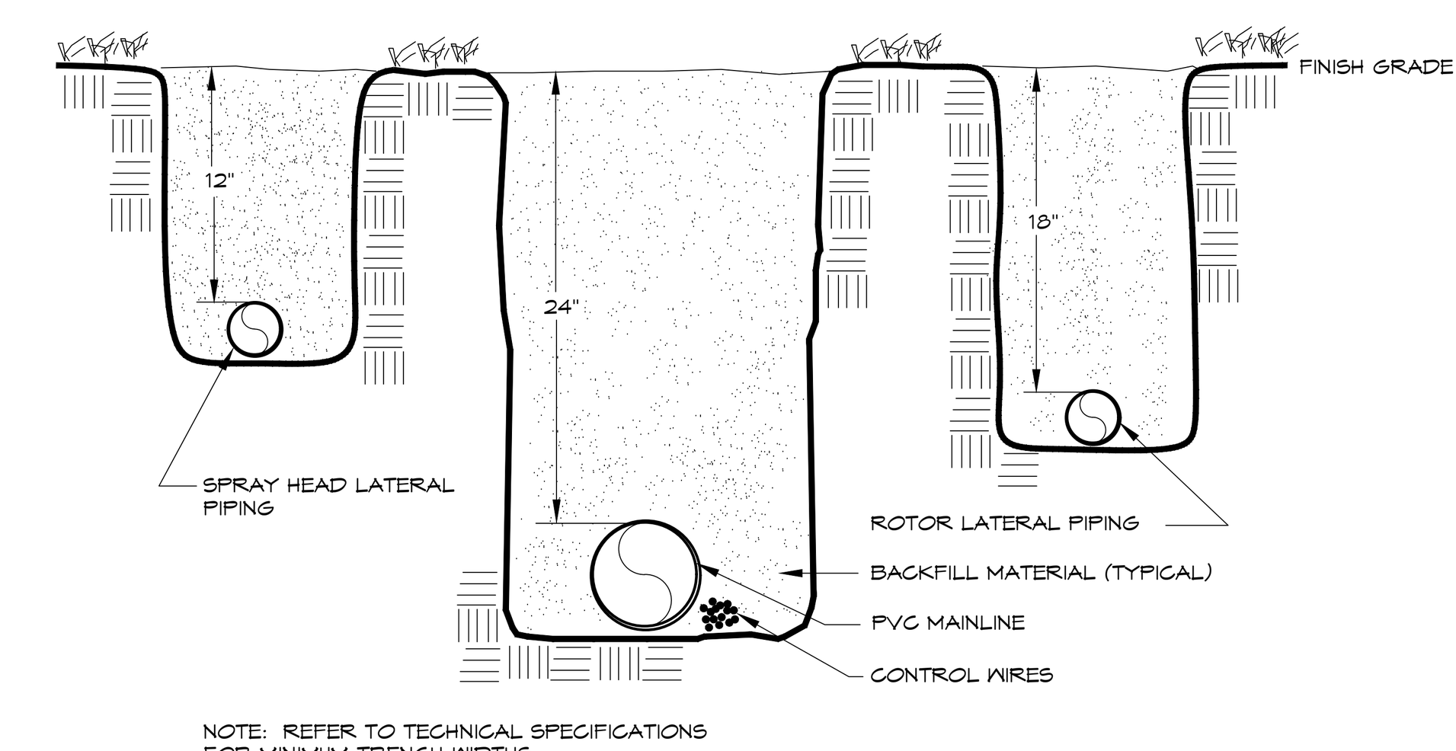


MANUAL DRAIN VALVE — 4



GATE VALVE — 5

3" & LARGER - REBARANCHOR



TRENCH — 6

REFER TO SHEET

IR2.0	IRRIGATION PLANS
IR2.1	IRRIGATION NOTES
IR2.1	IRRIGATION SCHEDULE
IR2.1 - IR2.2	IRRIGATION DETAILS

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Irrigation Consulting & Water Management
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Suite 300
Denver, CO 80209
303.892.5566
www.dhmdesign.com

TAB Associates
The Architectural Balance
0056 Edwards Village Blvd. Suite 210
Edwards, CO 81632
(970) 766-1470
www.tabassociates.com

Civil Engineer: Alpine Engineering 970-926-3373
Structural Engineer: Jirsa-Hedrick 303-839-1963
Mechanical Engineer: BG BuildingWorks 970-949-6108
Electrical Engineer: BG BuildingWorks 970-949-6108

Seal

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39610 Amethyst Drive
Steamboat Springs, CO

Revisions:

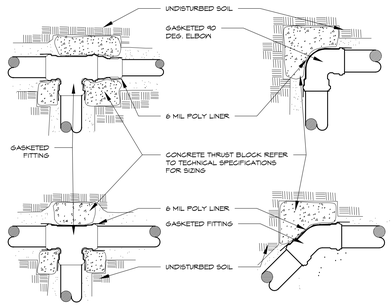
No	Description	Date

Issue Dates:
01/13/20 - SD
02/21/20 - DD
04/06/20 - CD

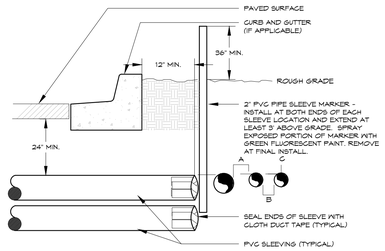
Sheet Title:
IRRIGATION NOTES, SCHEDULE AND DETAILS

Project No: 1935.01

Sheet No: IR2.1

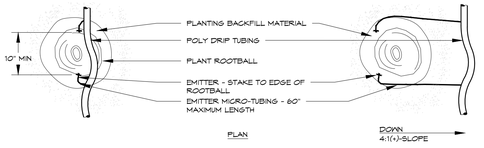


THRUST BLOCKS 7

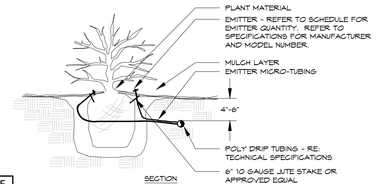


NOTE:
- ALL SLEEVE MATERIAL PER IRRIGATION SCHEDULE, SIZE AS NOTED ON PLAN.
- INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.
- CONTRACTOR TO COORDINATE WITH FLATWORK INSTALLER TO BRAND A "V" IN SIDEWALK OR CURB AT BOTH ENDS OF SLEEVE CROSSING.
- SLEEVING THROUGH OR UNDER RETAINING WALLS, PLANTER WALLS, POND LINING, OR WATER QUALITY AREAS SHALL BE COORDINATED WITH CIVIL WORK AT APPROXIMATE LOCATIONS SHOWN.

IRRIGATION SLEEVING 8

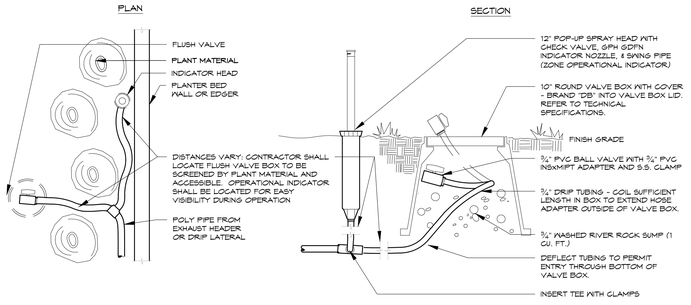


PLANT SIZE	EMITTER FLOW RATE	EMITTER QTY. AT MULCHED BED LOCATIONS	EMITTER QTY. AT NATIVE SEED LOCATIONS
1 - 2 GALLON MATERIAL	0.5 GPH	ONE EACH	ONE EACH
5 GALLON MATERIAL	0.5 GPH	TWO EACH	TWO EACH
1½" CALIPER TREE	1.0 GPH	THREE EACH	FOUR EACH
2" CALIPER TREE	1.0 GPH	FOUR EACH	SIX EACH
2½" CALIPER TREE	1.0 GPH	SIX EACH	EIGHT EACH
3" CALIPER TREE	1.0 GPH	EIGHT EACH	TEN EACH
3½" CALIPER TREE	1.0 GPH	NINE EACH	ELEVEN EACH
4" CALIPER TREE	1.0 GPH	TEN EACH	TWELVE EACH
6 FT. CONIFEROUS TREE	1.0 GPH	FOUR EACH	SIX EACH
8 FT. CONIFEROUS TREE	1.0 GPH	SIX EACH	NINE EACH
10 FT. CONIFEROUS TREE	1.0 GPH	EIGHT EACH	TWELVE EACH
12 FT. CONIFEROUS TREE	1.0 GPH	TEN EACH	FOURTEEN EACH

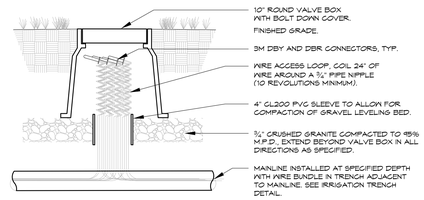


NOTES:
- INSTALL EMITTERS ON OPPOSING SIDES OF ROOTBALL. THREE OR MORE EMITTERS SHALL BE EQUALLY SPACED AROUND ROOT BALL.
- EMITTERS ARE TO BE INSTALLED TO CLEAR SURFACE BY A MINIMUM OF 1" AND A MAXIMUM OF 2".
- FLUSH ALL LINES THOROUGHLY, NCLUDING EMITTER MICRO-TUBINS PRIOR TO EMITTER INSTALLATION.
- IF PLANTING ON A 4:1 SLOPE OR STEEPER, INSTALL BOTH EMITTERS ON UPHILL SIDE OF ROOT BALL.
- EMITTERS SHALL BE SELF-FLUSHING, PRESSURE COMPENSATING-TYPE UNLESS NOTED OTHERWISE WITHIN TECHNICAL SPECIFICATIONS.
- DRIP VALVE ZONES ARE DESIGNED TO ACCOUNT FOR DIFFERENCES IN PLANT REQUIREMENTS (HYDROZONES) AND SUN EXPOSURE.
- CONTRACTOR SHALL ENSURE HYDROZONES ARE VALVED SEPARATELY AS SHOWN ON PLAN.
- SITE CONDITIONS MAY DICTATE THAT MULTIPLE SUN EXPOSURES ARE VALVED TOGETHER DURING THE DESIGN PROGESS. CONTRACTOR SHALL ADJUST EMITTER SCHEDULE AS FOLLOWS:
  - EMITTER QUANTITIES SHALL REMAIN THE SAME BUT EMITTER GALLONAGES SHALL BE DOUBLED FOR PLANTS WITH SOUTH AND WEST EXPOSURES.
  - EMITTER QUANTITIES AND GALLONAGE SHALL BE AS SHOWN IN SCHEDULE FOR PLANTS WITH NORTH AND EAST EXPOSURES.
  - PLANTINGS WITH NORTH AND EAST EXPOSURE SHALL DICTATE VALVE RUN-TIMES AND CONTRACTOR SHALL ADJUST SCHEDULING ACCORDINGLY.

DRIP EMITTER
BELOW GRADE 9



DRIP FLUSH VALVE
WITH OPERATIONAL INDICATOR 10



NOTE:
1. SET TOP OF BOX LEVEL WITH FINISHED GRADE IN TURF AREAS AND LEVEL WITH TOP OF MULCH IN SHRUB BEDS.
2. USE STANDARD RECTANGULAR VALVE BOX WITH BOLT DOWN LID FOR SPLICES OF MORE THAN TWENTY (20) WIRES.

WIRE SPLICE BOX 11

REFER TO SHEET

IR2.0	IRRIGATION PLANS
IR2.1	IRRIGATION NOTES
IR2.1	IRRIGATION SCHEDULE
IR2.1 - IR2.2	IRRIGATION DETAILS

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Mechanical Engineer:
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Steamboat Springs, CO

Revisions:

No	Description	Date

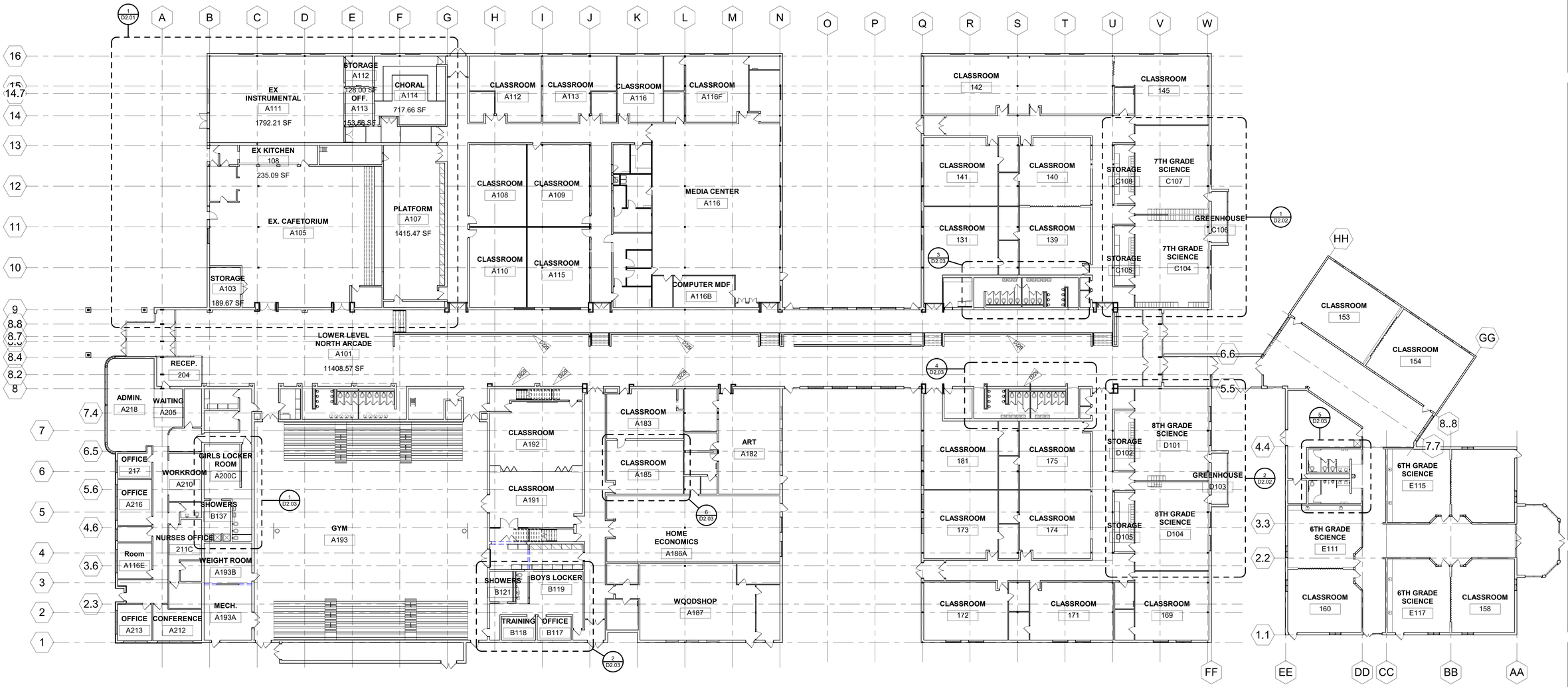
Issue Dates:
01/13/20 - SD
02/21/20 - DD
04/06/20 - CD

Sheet Title:
IRRIGATION DETAILS

Project No:
1935.01

Sheet No:
IR2.2

Keynote Legend	
Key Value	Keynote Text
D229	REMOVE EXISTING LOCKERS AND CONCRETE CURB TO FLUSH OUT WITH T.O. BRICK FLOORING



1 D2.00 OVERALL EXISTING PLAN DEMO
1/16" = 1'-0"

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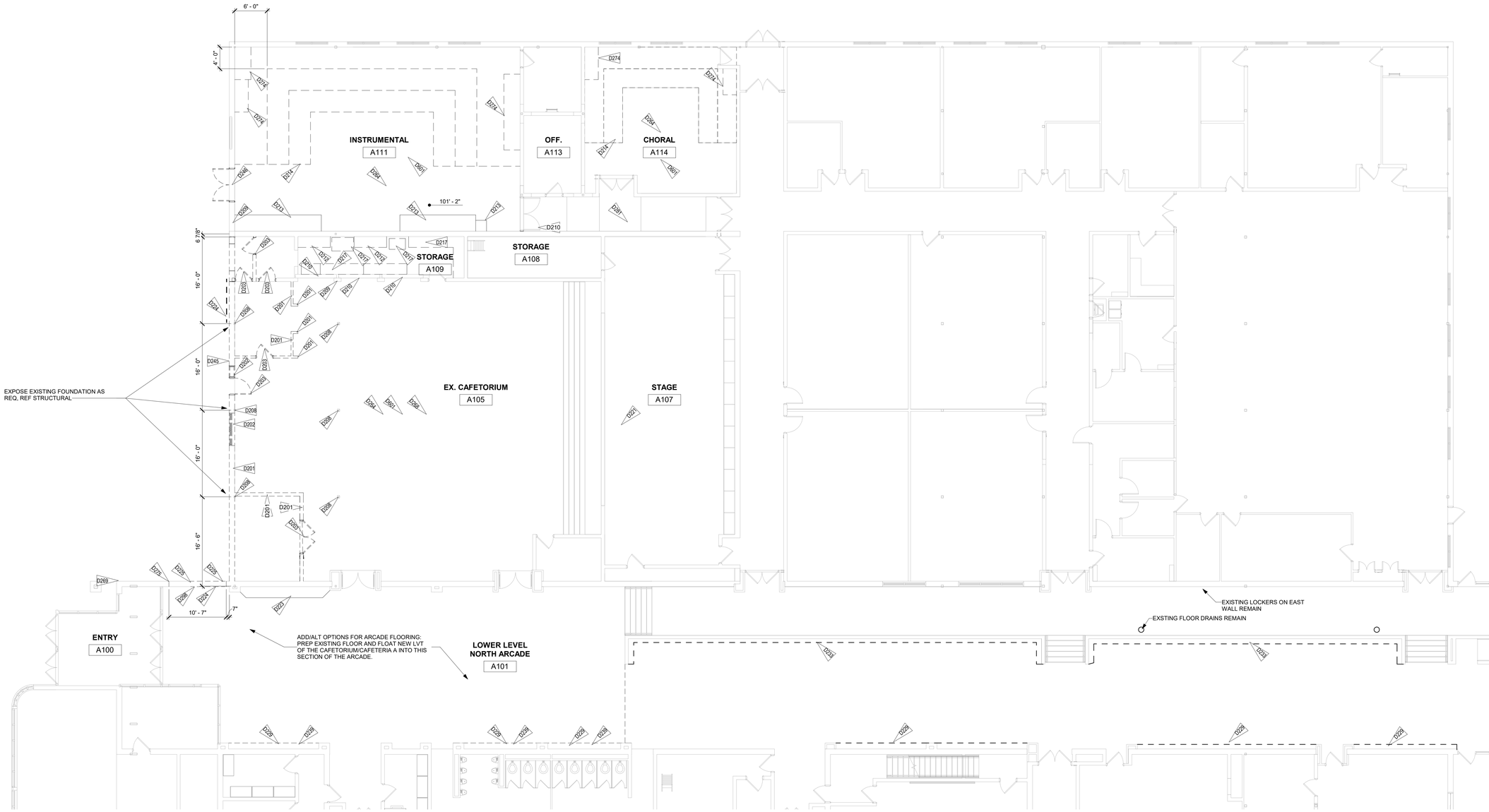
Revisions:		
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Demo Overall Floor Plan

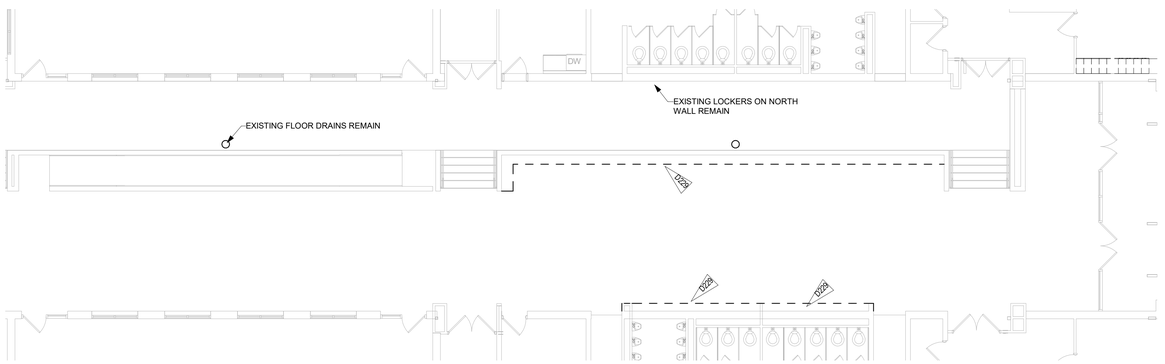
Project No:
1935.03

Sheet No:
D2.00



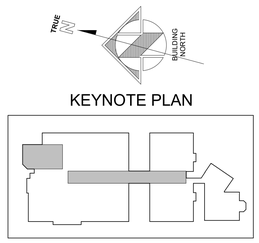
1 D2.01 DEMO ARCH PLAN AREA A

1/8" = 1'-0"



2 D2.01 DEMO ARCH PLAN AREA A Arcade

1/8" = 1'-0"



KEYNOTE PLAN

NOTES:

GENERAL DEMOLITION NOTES:

1. DEMOLITION GENERAL NOTES APPLY TO ALL DEMOLITION SHEETS.
2. COORDINATE DEMOLITION AND PHASING EFFORTS WITH ARCHITECT AND OWNER'S REPRESENTATIVES. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS AND TO PROVIDE BUILDING USER'S SAFETY. EXCESSIVE NOISE AND VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH OWNER'S REPRESENTATION.
3. COORDINATE DEMOLITION WITH OWNER'S REPRESENTATIVE AND ASBESTOS ABATEMENT. PRIMARY ASBESTOS ABATEMENT DEMOLITION WILL INCLUDE BUT IS NOT LIMITED TO THE REMOVAL OF CEILINGS, LIGHTING, CASEWORK, DOORS, WALL FINISHES, INTERIOR WALL FRAMING, ASBESTOS FLOOR TILE AND MASTIC REMOVAL.
4. COORDINATE DISRUPTION OF UTILITY SERVICES WITH OWNER AND AS SATISFIED.
5. VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS AND NOTIFY ARCHITECT OF DISCREPANCIES.
6. ITEMS NOT SHOWN DASHED ARE TO REMAIN. ALL DASHED ITEMS REPRESENT ITEMS TO BE REMOVED. COORDINATE REMOVAL WITH NEW ITEMS SHOWN IN DRAWINGS.
7. REMOVE EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, ETC. IN THEIR ENTIRETY AND AS REQUIRED TO EXECUTE DEMOLITION AND CONSTRUCTION WORK AS DESCRIBED ON THE DRAWINGS.
8. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
9. PROVIDE PROTECTIONS FOR EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PREFORMED UNDER THIS CONTRACT.
10. REFER TO MEP AND STRUCTURAL DRAWINGS FOR ADDITIONAL ITEMS TO BE REMOVED, CAPPED OR ALTERED.
11. IF NEW CONSTRUCTION IS SHOWN ON OTHER DRAWINGS IT IS ASSUMED DEMOLITION IS REQUIRED IF EXISTING WALLS, FINISHES AND ETC. ARE CURRENTLY PRESENT.
12. CONTRACTOR TO COORDINATE REMOVAL OF EXISTING ITEMS WITH INSTALLATIONS OF NEW ITEMS.
13. COORDINATE NEW STRUCTURAL ITEMS WITH REMOVAL OF EXISTING ITEMS. REFER TO STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL WORK TO EXISTING STRUCTURE.
14. IT IS ASSUMED ITEMS NOT TAGGED AS REMOVED OR SALVAGED WILL BE REMOVED IF ATTACHED TO WALL, CABINET, OR OTHER ITEMS. THIS INCLUDES ITEMS ON WALLS, CEILINGS AND FLOORS.
15. ALL PLUMBING SHOWN AS DASHED AND NOT SPECIFICALLY NOTED WILL BE REMOVED. ALL PLUMBING NEEDS TO BE MODIFIED TO MATCH NEW LAYOUT. REFER TO PLUMBING PLANS FOR EXTENT OF WORK.
16. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS, BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE. WHEN CONFLICTS ARE FOUND CONTACT ARCHITECT FOR DIRECTION.
17. REFER TO DEMO REFLECTED CEILING PLANS FOR ADDITIONAL WORK
18. ALL HARDWARE TO BE SALVAGED FOR OWNER OR REUSE FOR NEW CONSTRUCTIONS.
19. SALVAGE AND STORE ALL EXISTING FURNISHINGS AND EQUIPMENT IN EXISTING SPACES NOTED FOR RENOVATION.
20. NOT ALL ITEMS TAGGED FOR CLARITY. ASSUME REMOVE IF DASHED.

DEMOLITION DEFINITIONS:

1. REMOVE: DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF SITE, UNLESS OTHERWISE INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND REINSTALLED.
2. SALVAGE: DETACH ITEMS FROM EXISTING CONDITIONS AND RETURN TO OWNER READY FOR REUSE.
3. REMOVE AND REINSTALL: DETACH ITEMS FROM EXISTING CONDITIONS, PREPARE THEM FOR REUSE, TEMPORARY STORE AS REQUIRED AND REINSTALL THEM AS INDICATED.
4. EXISTING: EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, SALVAGED, OR REMOVED AND REINSTALLED.
5. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS. BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE.

DEMOLITION LEGEND

EXISTING CONSTRUCTION TO BE REMOVED

EXISTING CONSTRUCTION TO REMAIN

EXISTING SLAB AREA TO BE DEMO'ED FOR NEW PLUMBING AND/OR SANITARY LINES

Keynote Legend

Key Value	Keynote Text
D201	REMOVE EXISTING WALL
D202	REMOVE EXISTING WINDOW
D203	REMOVE EXISTING DOOR AND DOOR FRAME
D208	EXISTING STRUCTURE TO REMAIN, REF STRUCTURE DWGS
D209	EXISTING WALL TO REMAIN
D210	EXISTING DOOR TO REMAIN
D212	REMOVE EXISTING CASEWORK
D213	EXISTING CASEWORK TO REMAIN
D214	REMOVE FLOOR RISERS
D217	REMOVE EXSITING KITCHEN EQUIPMENT, REF KITCHEN DWGS AND OWNER FOR REUSE
D221	EXISTING STAGE TO REMAIN
D223	EXISTING CLIMBING WALL TO REMAIN
D224	SALVAGE SIGN FOR RELOCATION
D225	REMOVE PORTION OF EXISTING WALL FOR NEW DOOR
D229	REMOVE EXISTING LOCKERS AND CONCRETE CURB TO FLUSH OUT WITH T.O. BRICK FLOORING
D233	SALVAGE SINK FOR REINSTALLATION
D239	REMOVE EXISTING TROPHY CASE
D245	COORDINATE REMOVAL OF EXISTING HOSE BIB
D246	REMOVE DOOR AND DOOR HARDWARE, EXISTING FRAME TO REMAIN
D264	REMOVE FLOORING, PREP FLOOR FOR NEW FLOORING REF FLOOR FINISH PLANS
D268	EXISTING CARPET ON WALLS TO REMAIN
D269	EXISTING ELECTRICAL, GUTTER, AND DOWNSPOUT TO REMAIN
D274	SALVAGE EXISTING CABINETS FOR REINSTALLATION IN THE SAME FOOTPRINT LOCATION ON THE NEW FLOOR ELEVATION
D275	RELOCATE WIRING AROUND NEW DOOR OPENING AND WITHIN NEW FURRING WALL
D281	EXISTING FLOORING TO REMAIN
D298	SALVAGE TRACK AND FIELD RECORDS FOR REINSTALLATION BY SCHOOL, ALTERNATE FOR CONTRACTOR TO REINSTALL RECORDS ABOVE NEW DOORS BETWEEN ARCADE AND CAFETERIA
D601	REMOVE EXISTING ACT CEILING

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Revisions:

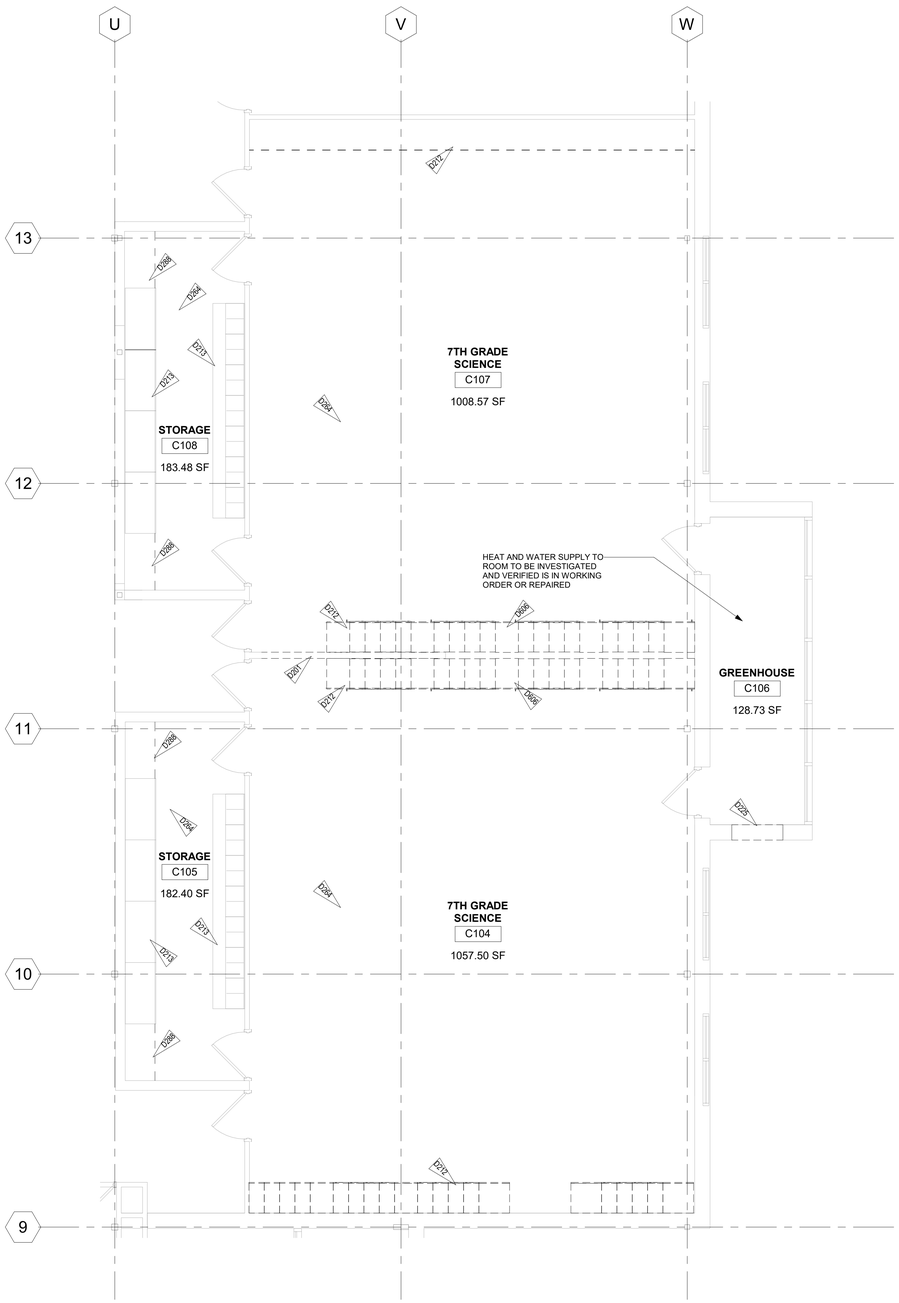
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

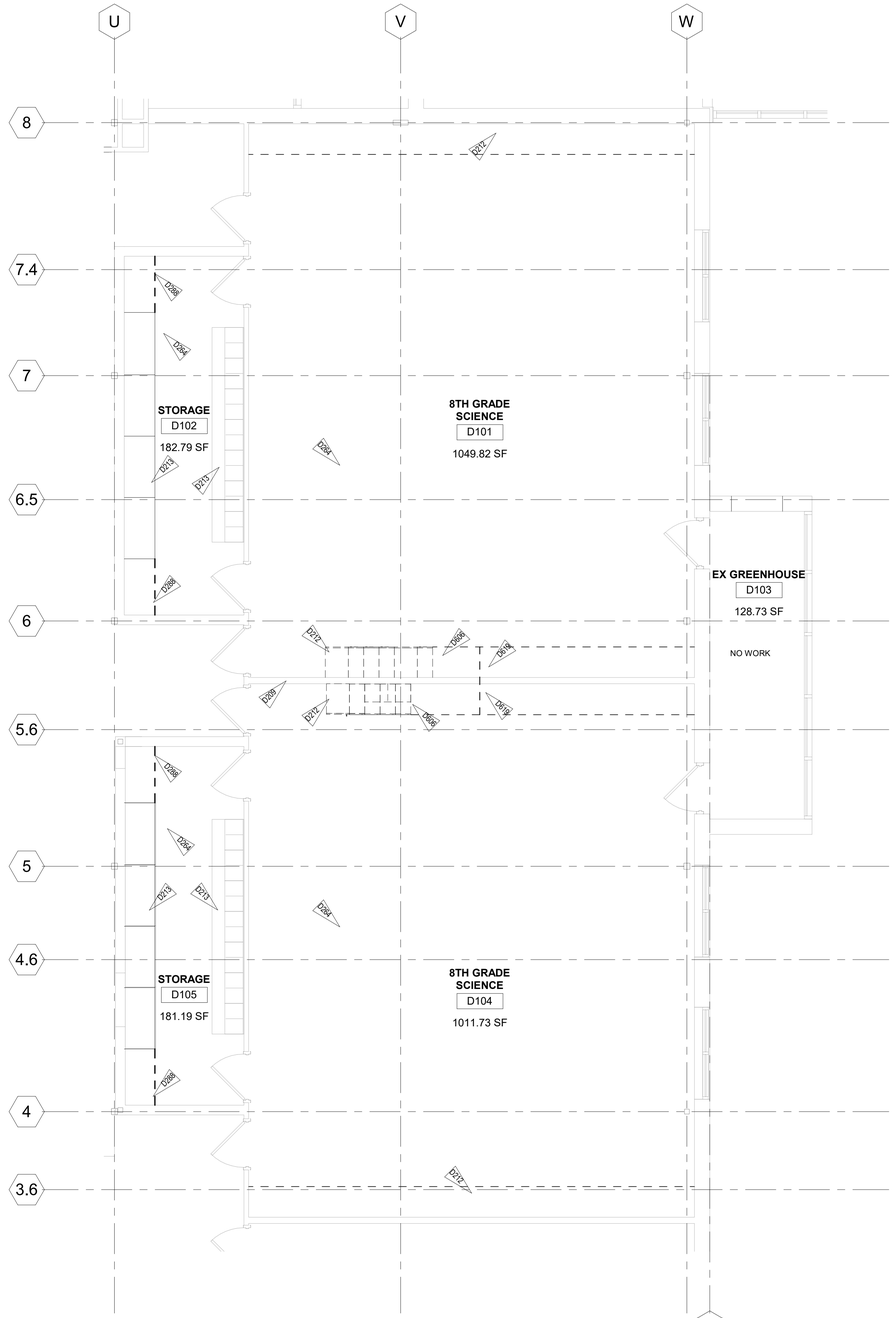
Sheet Title:
Demo Main Level Plan

Project No:
1935.03

Sheet No:
D2.01



1 D2.02 DEMO ARCH PLAN - SCIENCE RM - 7TH GRADE
1/4" = 1'-0"



2 D2.02 DEMO ARCH PLAN - SCIENCE RM - 8TH GRADE
1/4" = 1'-0"

NOTES:

GENERAL DEMOLITION NOTES:

1. DEMOLITION GENERAL NOTES APPLY TO ALL DEMOLITION SHEETS.
2. COORDINATE DEMOLITION AND PHASING EFFORTS WITH ARCHITECT AND OWNER'S REPRESENTATIVES. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS AND TO PROVIDE BUILDING USER'S SAFETY. EXCESSIVE NOISE AND VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH OWNER'S REPRESENTATION.
3. COORDINATE DEMOLITION WITH OWNER'S REPRESENTATIVE AND ASBESTOS ABATEMENT. PRIMARY ASBESTOS ABATEMENT DEMOLITION WILL INCLUDE BUT IS NOT LIMITED TO THE REMOVAL OF CEILINGS, LIGHTING, CASEWORK, DOORS, WALL FINISHES, INTERIOR WALL FRAMING, ASBESTOS FLOOR TILE AND MASTIC REMOVAL.
4. COORDINATE DISRUPTION OF UTILITY SERVICES WITH OWNER AND AS SATISFIED.
5. VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS AND NOTIFY ARCHITECT OF DISCREPANCIES.
6. ITEMS NOT SHOWN DASHED ARE TO REMAIN. ALL DASHED ITEMS REPRESENT ITEMS TO BE REMOVED. COORDINATE REMOVAL WITH NEW ITEMS SHOWN IN DRAWINGS.
7. REMOVE EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, ETC. IN THEIR ENTIRETY AND AS REQUIRED TO EXECUTE DEMOLITION AND CONSTRUCTION WORK AS DESCRIBED ON THE DRAWINGS.
8. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
9. PROVIDE PROTECTIONS FOR EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PREFORMED UNDER THIS CONTRACT.
10. REFER TO MEP AND STRUCTURAL DRAWINGS FOR ADDITIONAL ITEMS TO BE REMOVED, CAPPED OR ALTERED.
11. IF NEW CONSTRUCTION IS SHOWN ON OTHER DRAWINGS IT IS ASSUMED DEMOLITION IS REQUIRED IF EXISTING WALLS, FINISHES AND ETC. ARE CURRENTLY PRESENT.
12. CONTRACTOR TO COORDINATE REMOVAL OF EXISTING ITEMS WITH INSTALLATIONS OF NEW ITEMS.
13. COORDINATE NEW STRUCTURAL ITEMS WITH REMOVAL OF EXISTING ITEMS. REFER TO STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL WORK TO EXISTING STRUCTURE.
14. IT IS ASSUMED ITEMS NOT TAGGED AS REMOVED OR SALVAGED WILL BE REMOVED IF ATTACHED TO WALL, CABINET, OR OTHER ITEMS. THIS INCLUDES ITEMS ON WALLS, CEILINGS AND FLOORS.
15. ALL PLUMBING SHOWN AS DASHED AND NOT SPECIFICALLY NOTED WILL BE REMOVED. ALL PLUMBING NEEDS TO BE MODIFIED TO MATCH NEW LAYOUT. REFER TO PLUMBING PLANS FOR EXTENT OF WORK.
16. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS. BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE. WHEN CONFLICTS ARE FOUND CONTACT ARCHITECT FOR DIRECTION.
17. REFER TO DEMO REFLECTED CEILING PLANS FOR ADDITIONAL WORK
18. ALL HARDWARE TO BE SALVAGED FOR OWNER OR REUSE FOR NEW CONSTRUCTIONS.
19. SALVAGE AND STORE ALL EXISTING FURNISHINGS AND EQUIPMENT IN EXISTING SPACES NOTED FOR RENOVATION.
20. NOT ALL ITEMS TAGGED FOR CLARITY. ASSUME REMOVE IF DASHED.

DEMOLITION DEFINITIONS:

1. REMOVE: DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF SITE, UNLESS OTHERWISE INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND REINSTALLED.
2. SALVAGE: DETACH ITEMS FROM EXISTING CONDITIONS AND RETURN TO OWNER READY FOR REUSE.
3. REMOVE AND REINSTALL: DETACH ITEMS FROM EXISTING CONDITIONS, PREPARE THEM FOR REUSE, TEMPORARY STORE AS REQUIRED AND REINSTALL THEM AS INDICATED.
4. EXISTING: EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, SALVAGED, OR REMOVED AND REINSTALLED.
5. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS. BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE.

DEMOLITION LEGEND

EXISTING CONSTRUCTION TO BE REMOVED

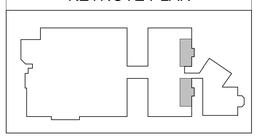
EXISTING CONSTRUCTION TO REMAIN

EXISTING SLAB AREA TO BE DEMO'ED FOR NEW PLUMBING AND/OR SANITARY LINES

Keynote Legend

Key Value	Keynote Text
D201	REMOVE EXISTING WALL
D209	EXISTING WALL TO REMAIN
D212	REMOVE EXISTING CASEWORK
D213	EXISTING CASEWORK TO REMAIN
D225	REMOVE PORTION OF EXISTING WALL FOR NEW DOOR
D264	REMOVE FLOORING, PREP FLOOR FOR NEW FLOORING REF FLOOR FINISH PLANS
D288	REMOVE EXISITNG COUNTERTOP AND SHELVING
D606	REMOVE EXISTING SOFFIT
D619	EXISTING SOFFIT TO REMAIN

KEYNOTE PLAN



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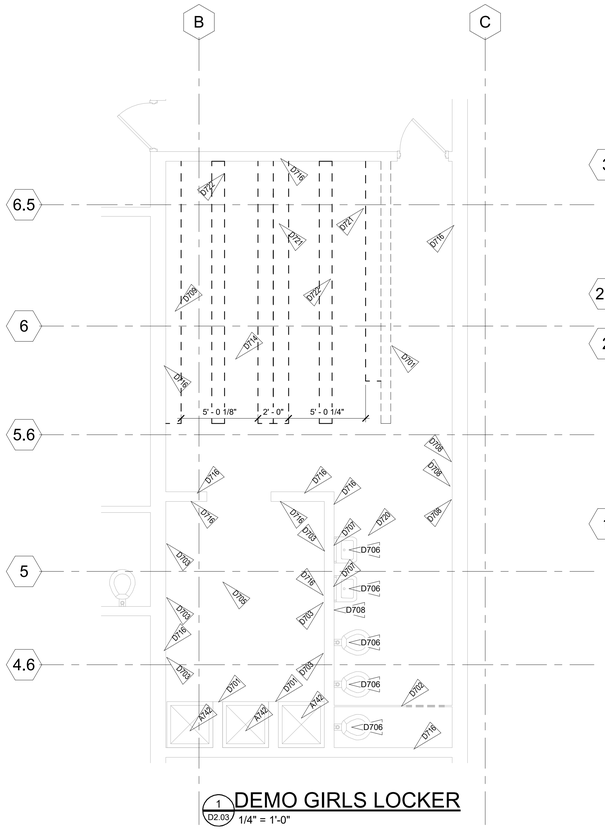
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

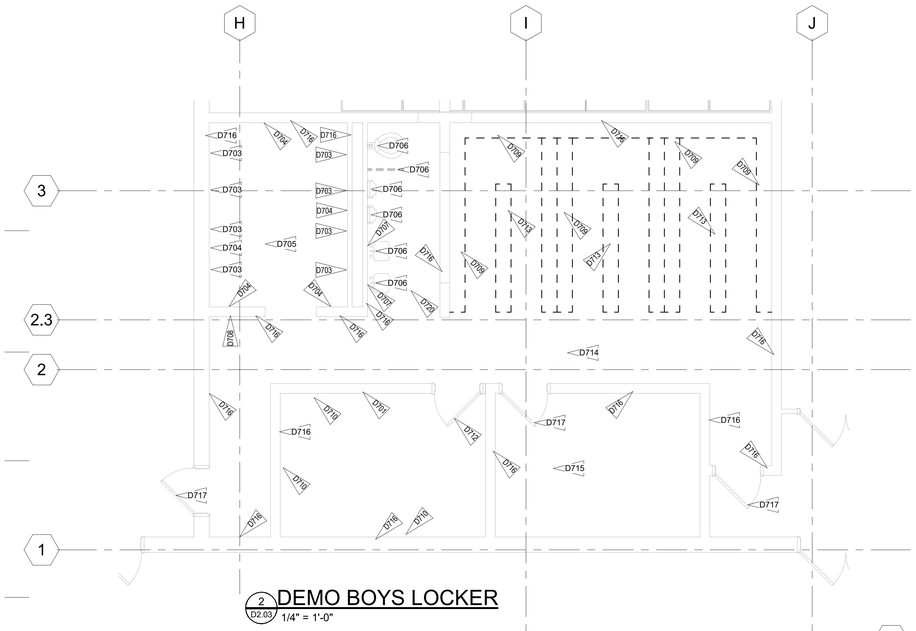
Sheet Title:
Demo Science Classrooms Plan

Project No:
1935.03

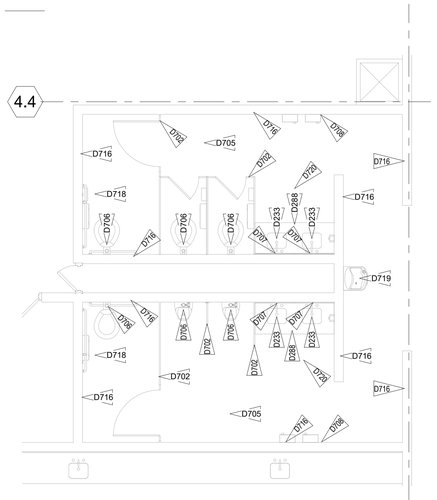
Sheet No:
D2.02



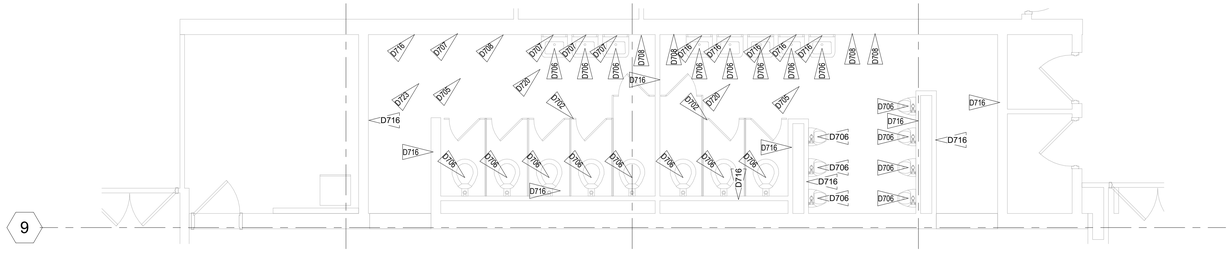
1 D2.03 DEMO GIRLS LOCKER
1/4" = 1'-0"



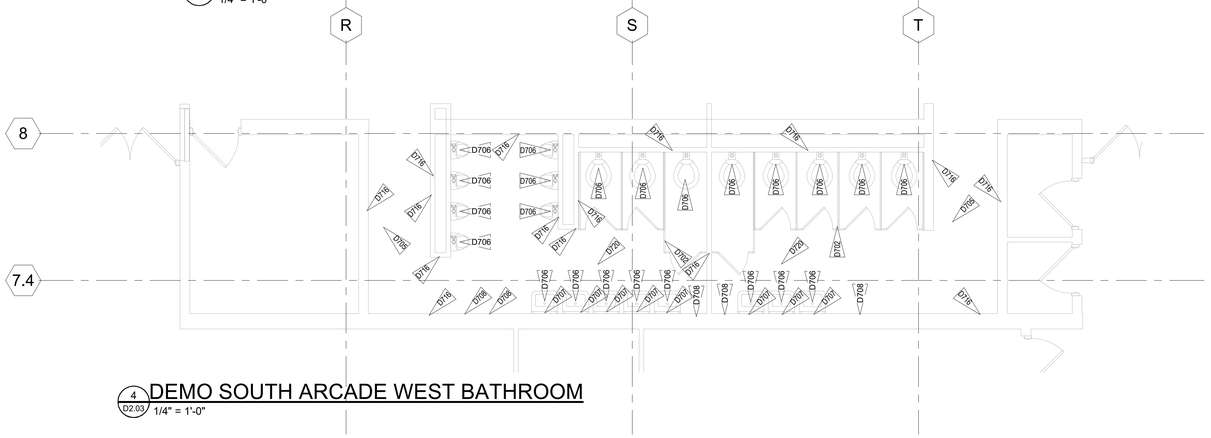
2 D2.03 DEMO BOYS LOCKER
1/4" = 1'-0"



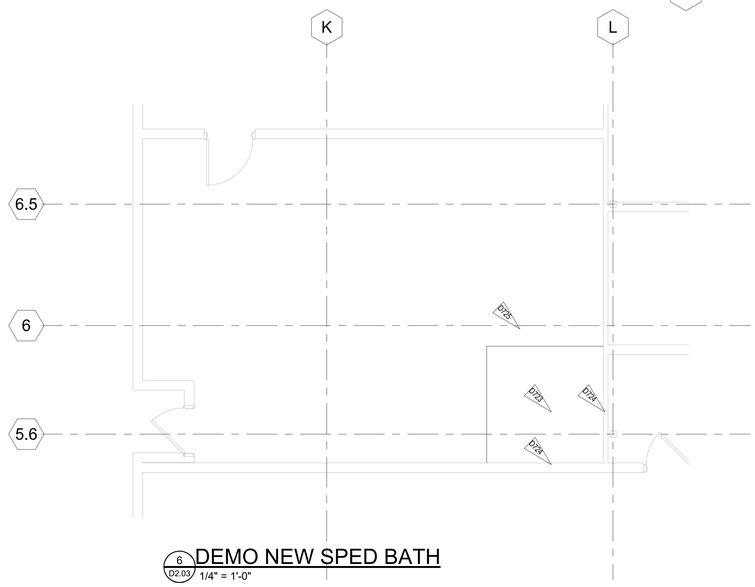
5 D2.03 DEMO 6TH GRADE BATHROOM
1/4" = 1'-0"



3 D2.03 DEMO SOUTH ARCADE EAST BATH
1/4" = 1'-0"



4 D2.03 DEMO SOUTH ARCADE WEST BATHROOM
1/4" = 1'-0"



6 D2.03 DEMO NEW SPED BATH
1/4" = 1'-0"

NOTES:

Keynote Legend	
Key Value	Keynote Text
A742	EXISTING SHOWER TO REMAIN
D233	SALVAGE SINK FOR REINSTALLATION
D288	REMOVE EXISITNG COUNTERTOP AND SHELVING
D701	REMOVE WALL DOWN TO FLUSH WITH ADJACENT FLOORS
D702	REMOVE PARTITIONS AND PARTITION DOOR
D703	REMOVE/RELOCATE SHOWER HEADS
D704	REMOVE WALL TILE
D705	REMOVE FLOOR TILE
D706	REMOVE FITTINGS AND VALVES
D707	REMOVE MIRRORS
D708	REMOVE HAND DRYER
D709	REMOVE LOCKERS, CONC CURB TO REMAIN
D710	SALVAGE STORAGE SHELVING SYSTEM AND GIVE TO DISTRICT
D712	REMOVE DOOR
D713	REMOVE BENCH, CONCRETE CURB TO REMAIN
D714	PREP FLOOR FOR NEW TILE D7
D715	NO WORK IN AREA
D716	EXISTING WALL TO REMAIN, DEMO WALL FINISH DOWN TO GWB OR CMU
D717	EXISTING DOOR TO REMAIN
D718	EXISTING GRAB BARS TO REMAIN
D719	EXISTING WATER FOUNTAIN TO REMAIN
D720	DEMO SOAP DISPENSOR
D721	REMOVE LOCKERS AND CONC CURB
D722	REMOVE BENCH AND CONC CURB
D723	REMOVE FLOOR FINISH
D724	REMOVE WALL FINISH DOWN TO STUDS
D725	EXISTING FLOOR TO REMAIN

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Revisions:

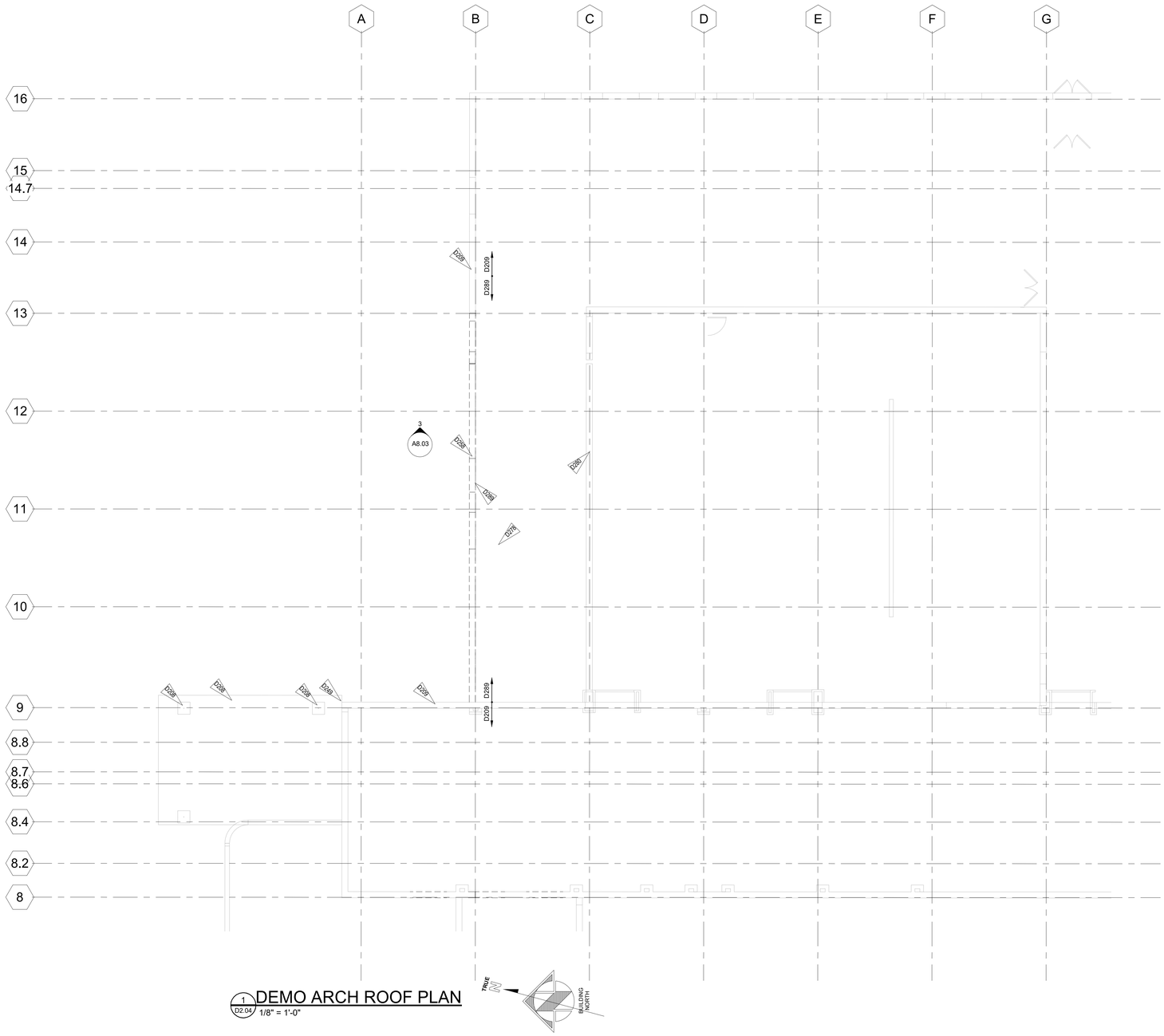
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Demo Bathroom Plans

Project No:
1935.03

Sheet No:
D2.03



1 D2.04 DEMO ARCH ROOF PLAN

1/8" = 1'-0"

NOTES:

GENERAL DEMOLITION NOTES:

1. DEMOLITION GENERAL NOTES APPLY TO ALL DEMOLITION SHEETS.
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4. COORDINATE DISRUPTION OF UTILITY SERVICES WITH OWNER AND AS SATISFIED.
5. VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS AND NOTIFY ARCHITECT OF DISCREPANCIES.
6. ITEMS NOT SHOWN DASHED ARE TO REMAIN. ALL DASHED ITEMS REPRESENT ITEMS TO BE REMOVED. COORDINATE REMOVAL WITH NEW ITEMS SHOWN IN DRAWINGS.
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8. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
9. PROVIDE PROTECTIONS FOR EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PREFORMED UNDER THIS CONTRACT.
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11. IF NEW CONSTRUCTION IS SHOWN ON OTHER DRAWINGS IT IS ASSUMED DEMOLITION IS REQUIRED IF EXISTING WALLS, FINISHES AND ETC. ARE CURRENTLY PRESENT.
12. CONTRACTOR TO COORDINATE REMOVAL OF EXISTING ITEMS WITH INSTALLATIONS OF NEW ITEMS.
13. COORDINATE NEW STRUCTURAL ITEMS WITH REMOVAL OF EXISTING ITEMS. REFER TO STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL WORK TO EXISTING STRUCTURE.
14. IT IS ASSUMED ITEMS NOT TAGGED AS REMOVED OR SALVAGED WILL BE REMOVED IF ATTACHED TO WALL, CABINET, OR OTHER ITEMS. THIS INCLUDES ITEMS ON WALLS, CEILINGS AND FLOORS.
15. ALL PLUMBING SHOWN AS DASHED AND NOT SPECIFICALLY NOTED WILL BE REMOVED. ALL PLUMBING NEEDS TO BE MODIFIED TO MATCH NEW LAYOUT. REFER TO PLUMBING PLANS FOR EXTENT OF WORK.
16. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS. BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE. WHEN CONFLICTS ARE FOUND CONTACT ARCHITECT FOR DIRECTION.
17. REFER TO DEMO REFLECTED CEILING PLANS FOR ADDITIONAL WORK
18. ALL HARDWARE TO BE SALVAGED FOR OWNER OR REUSE FOR NEW CONSTRUCTIONS.
19. SALVAGE AND STORE ALL EXISTING FURNISHINGS AND EQUIPMENT IN EXISTING SPACES NOTED FOR RENOVATION.
20. NOT ALL ITEMS TAGGED FOR CLARITY. ASSUME REMOVE IF DASHED.

DEMOLITION DEFINITIONS:

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3. REMOVE AND REINSTALL: DETACH ITEMS FROM EXISTING CONDITIONS, PREPARE THEM FOR REUSE, TEMPORARY STORE AS REQUIRED AND REINSTALL THEM AS INDICATED.
4. EXISTING: EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, SALVAGED, OR REMOVED AND REINSTALLED.
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DEMOLITION LEGEND

EXISTING CONSTRUCTION TO BE REMOVED

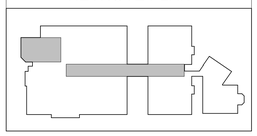
EXISTING CONSTRUCTION TO REMAIN

EXISTING SLAB AREA TO BE DEMO'ED FOR NEW PLUMBING AND/OR SANITARY LINES

Keynote Legend

Key Value	Keynote Text
D208	EXISTING STRUCTURE TO REMAIN, REF STRUCTURE DWGS
D209	EXISTING WALL TO REMAIN
D249	EXISTING GUTTER, DOWNSPOUT, AND HEAT TAPE TO REMAIN
D258	EXISTING WALL FRAMING ABOVE BEAM TO REMAIN
D278	EXISTING EPDM ROOFING AND EXISTING ROOF INSULATION TO REMAIN
D280	EXISTING PARAPET WALL TO REMAIN
D289	REMOVE EXISTING PARAPET CAP

KEYNOTE PLAN



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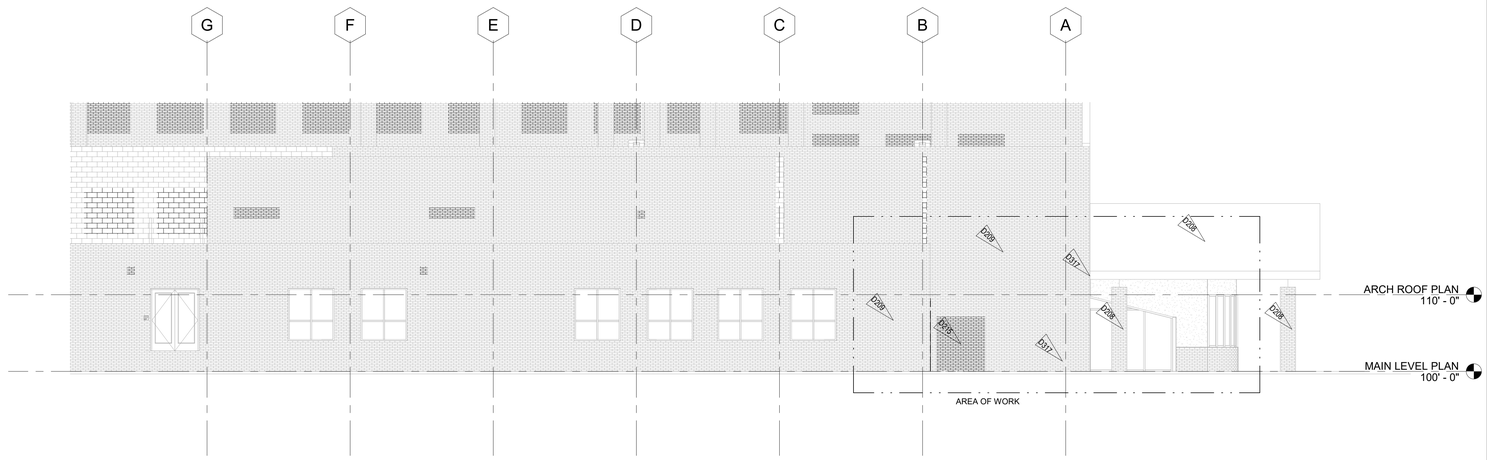
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Demo Roof Plan

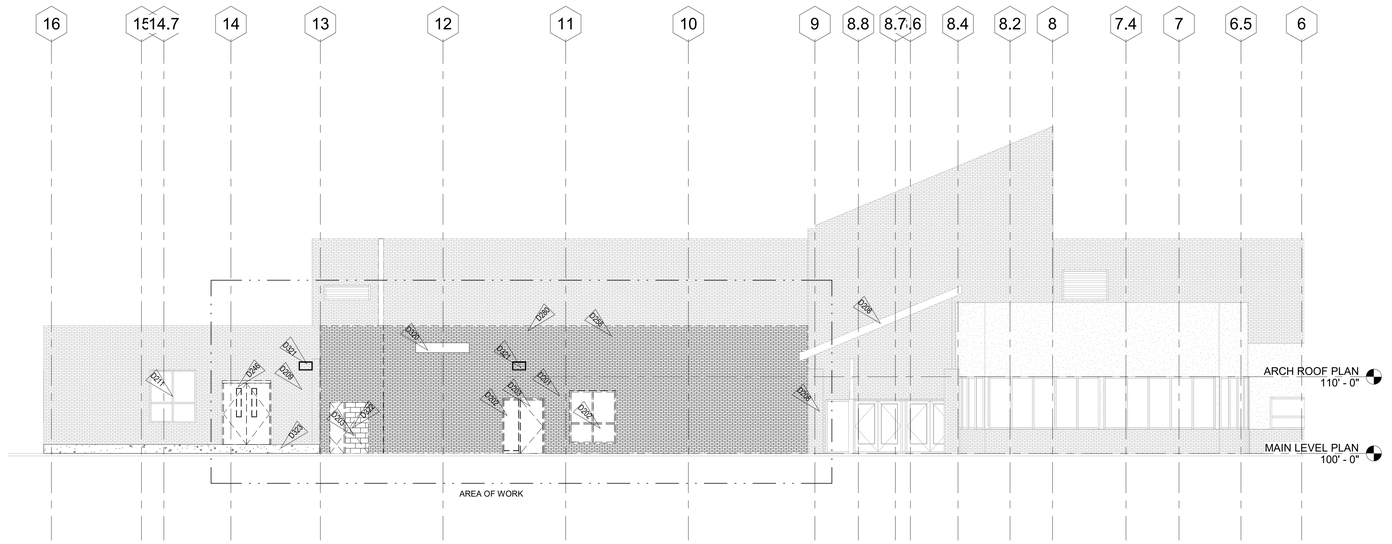
Project No:
1935.03

Sheet No:
D2.04



1 D3.01 DEMO EAST ELEVATION

1/8" = 1'-0"



2 D3.01 DEMO NORTH ELEVATION

1/8" = 1'-0"

NOTES:

GENERAL DEMOLITION NOTES:

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3. COORDINATE DEMOLITION WITH OWNER'S REPRESENTATIVE AND ASBESTOS ABATEMENT. PRIMARY ASBESTOS ABATEMENT DEMOLITION WILL INCLUDE BUT IS NOT LIMITED TO THE REMOVAL OF ALL THE EXISTING FLOOR VINYL TILE, EXSITING CORRIDOR CARPETS, EXISTING DRYWALL TEXTURE AND GWB, AND EXISTING ROOFING MATERIALS.
4. VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS AND NOTIFY ARCHITECT OF DISCREPANCIES.
5. ITEMS NOT SHOWN DASHED ARE TO REMAIN. ALL DASHED ITEMS REPRESENT ITEMS TO BE REMOVED. COORDINATE REMOVAL WITH NEW ITEMS SHOWN IN DRAWINGS.
6. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
7. PROVIDE PROTECTIONS FOR EXISTING BUIDLING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PREFORMED UNDER THIS CONTRACT.
8. REFER TO MEP AND STRUCTURAL DRAWINGS FOR ADDITIONAL ITEMS TO BE REMOVED, CAPPED OR ALTERED.
9. CONTRACTOR TO COORDINATE REMOVAL OF EXISTING ITEMS WITH INSTALLATIONS OF NEW ITEMS.
10. COORDINATE NEW STRUCTURAL ITEMS WITH REMOVAL OF EXISTING ITEMS. REFER TO STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL WORK TO EXISTING STRUCTURE.
11. IT IS ASSUMED ITEMS NOT TAGGED AS REMOVED OR SALVAGED WILL BE REMOVED IF ATTACHED TO WALL, CABINET, OR OTHER ITEMS. THIS INCLUDES ITEMS ON WALLS, CEILINGS AND FLOORS.
12. ALL PLUMBING SHOWN AS DASHED AND NOT SPECIFICALLY NOTED WILL BE REMOVED. ALL PLUMBING NEEDS TO BE MODIFIED TO MATCH NEW LAYOUT. REFER TO PLUMBING PLANS FOR EXTENT OF WORK.
13. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS. BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE. WHEN CONFLICTS ARE FOUND CONTACT ARCHITECT FOR DIRECTION.

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2. SALVAGE: DETACH ITEMS FROM EXISTING CONDITIONS AND RETURN TO OWNER READY FOR REUSE.
3. REMOVE AND REINSTALL: DETACH ITEMS FROM EXISTING CONDITIONS, PREPARE THEM FOR REUSE, TEMPORARY STORE AS REQUIRED AND REINSTALL THEM AS INDICATED.
4. EXISTING: EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, SALVAGED, OR REMOVED AND REINSTALLED.
5. DRAWINGS ATTEMPT TO SHOW EXISTING CONDITIONS. BUT, ALL EXISTING CONDITIONS MAY NOT BE SHOWN OR VISIBLE ON SITE. CARE MUST BE TAKEN TO ABANDON, TURNOFF OR OTHERWISE SECURE EXISTING ELEMENTS THAT NEED TO BE REMOVED WITH REMOVED STRUCTURE.

DEMOLITION LEGEND

- EXISTING CONSTRUCTION TO BE REMOVED
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING SLAB AREA TO BE DEMO'ED FOR NEW PLUMBING AND/OR SANITARY LINES

Keynote Legend	
Key Value	Keynote Text
D201	REMOVE EXISTING WALL
D202	REMOVE EXISTING WINDOW
D203	REMOVE EXISTING DOOR AND DOOR FRAME
D208	EXISTING STRUCTURE TO REMAIN, REF STRUCTURE DWGS
D209	EXISTING WALL TO REMAIN
D211	EXISTING WINDOW TO REMAIN
D215	REMOVE PORTION OF EXISTING WALL
D246	REMOVE DOOR AND DOOR HARDWARE, EXISTING FRAME TO REMAIN
D258	EXISTING WALL FRAMING ABOVE BEAM TO REMAIN
D280	EXISTING PARAPET WALL TO REMAIN
D317	EXISTING ELECTRICAL CONDUIT TO REMAIN
D320	SALVAGE EXISTING SIGN FOR REINSTALLATION ON ADDITION
D321	SALVAGE EXISTING LIGHT
D322	SALVAGE DOOR CARD READER
D323	DEMO CONCRETE LANDING AND STAIRS, REF CIVIL

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Revisions:		
No	Description	Date

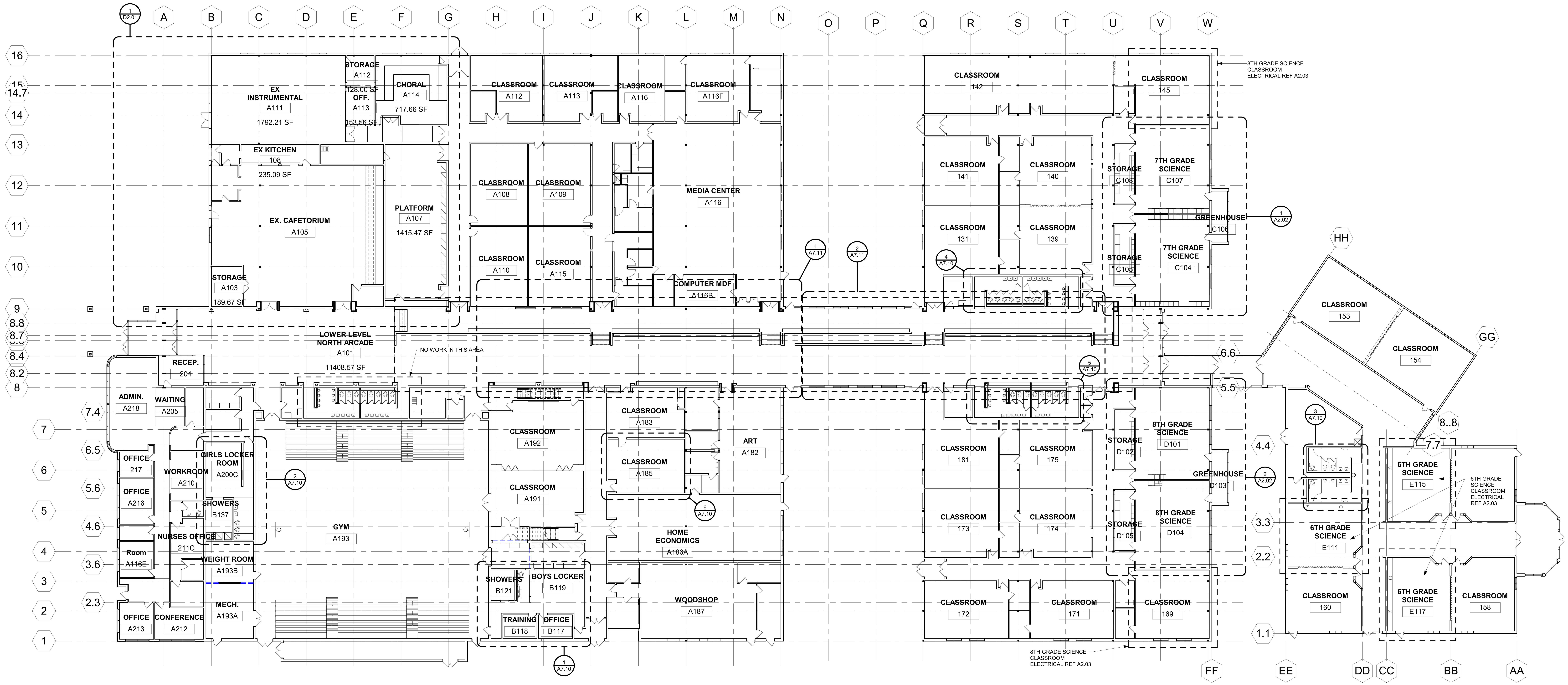
Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Demo Exterior Elevations

Project No:
1935.03

Sheet No:
D3.01

Keynote Legend	
Key Value	Keynote Text



1 A2.00 OVERALL EXISTING PLAN

1/16" = 1'-0"

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DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Existing Building Floor Plans

Project No:
1935.03

Sheet No:
A2.00

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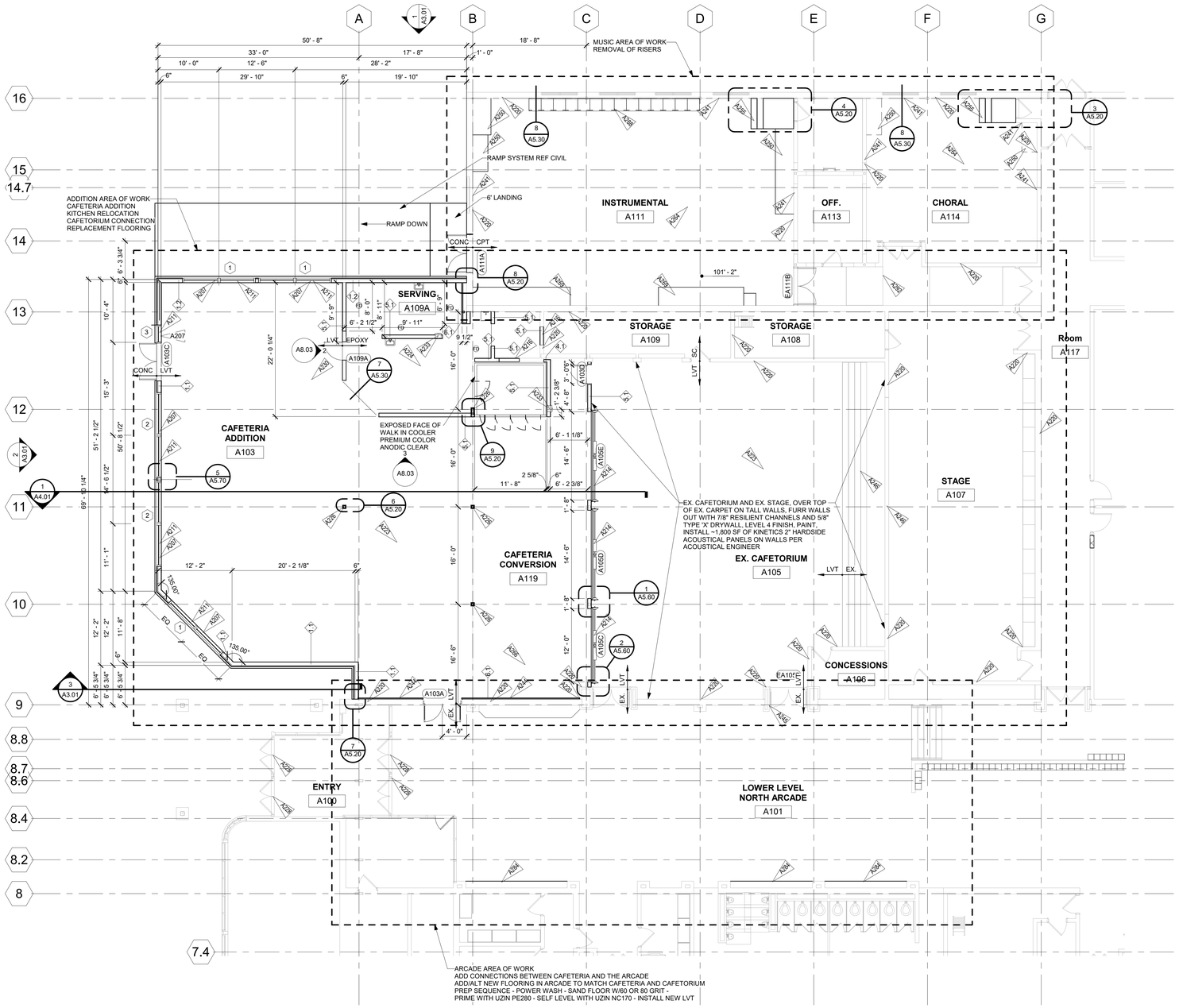


1 A2.01 MAIN LEVEL PLAN

1/8" = 1'-0"

NOTES:

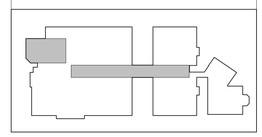
FLOOR PLAN GENERAL NOTES:

1. PATCH EXISTING CONSTRUCTION SCHEDULED TO REMAIN. REPAIRED SURFACES TO BE FLUSH WITH ADJACENT FINISH SURFACES. TO SAME QUALITY AS NEW CONSTRUCTION PRIOR TO INSTALLING NEW FINISHES. REFER TO THE FINISH MANUFACTURER'S GUIDELINES FOR INSTALLATION.
2. PATCH EXISTING FIRE-RATED WALLS, FLOOR CEILINGS, ETC. SO AS TO MAINTAIN THE FIRE-RADIATING. ADD FIRE-SMOKE DAMPERS WHERE NEW DUCTS CROSS. ADD FIRE STOP AT ALL.
3. PATCH WALLS AT REMOVED RECEPTACLE OPENINGS SO AS TO RECEIVE SUBSEQUENT WORK.
4. PATCH AND LEVEL FLOOR SUBSTRATES TO RECEIVE NEW WORK AS SCHEDULED.
5. COORDINATE ALL FLOOR CORE DRILLING WITH EXISTING.
6. DO NOT SCALE DRAWINGS.
7. ALL SPOT ELEVATIONS SHOWN ON THE FLOOR PLANS OUTSIDE THE BUILDING RELATE TO USGS ELEVATIONS. ALL SPOT ELEVATIONS INSIDE THE BUILDING REFER TO BUILDING REFERENCE ELEVATIONS. NOTIFY ARCHITECT IMMEDIATELY SHOULD CONDITIONS BE FOUND CONTRADICTORY TO THESE DRAWINGS.
8. ALL ANGLES SHOWN ON THE FLOOR PLANS ARE 90 DEGREES UNLESS OTHERWISE NOTED.
9. ALL DIMENSIONS ARE TO GRID LINE, FACE OF CONCRETE OR MASONRY, OR FACE OF GYPSUM BOARD, UNLESS OTHERWISE NOTED.
10. ALL FLOOR PLAN DIMENSIONS TO MASONRY ARE NOMINAL DIMENSIONS, UNLESS NOTED AS ACTUAL.
11. "TB" NEW CORK TACKBOARDS OR "MB" NEW MARKERBOARDS
12. ALL SIGNAGE BY OWNER, EXIT DOOR NUMBERS PER DOOR SIGNAGE SHEET AT ALL EXIT DOORS.

Keynote Legend

Key Value	Keynote Text
A207	INSTALL NEW ROLLER BLINDS ON WINDOW OR DOOR GLAZING PER SPEC
A211	NEW WINDOW SOLID SURFACE SILLS
A214	INSTALL NEW SECTIONAL GARAGE DOOR REF DOOR SCHEDULE
A216	INFILL WALL WHERE EXISTING WINDOWS AND DOORS ARE TO BE REMOVED, REF WALL TAG
A220	EXISTING WALL TO REMAIN
A223	INSTALL NEW LVT FLOORING
A224	INSTALL NEW EPOXY FLOORING
A226	INSTALL DRYWALL WRAP ON STRUCT COLUMN, SIM TO 6/A5.20
A228	EXISTING WINDOW OR DOOR TO REMAIN
A230	NEW CEILING MOUNTED DROP DOWN ELECTRICAL POWER OUTLET ON RETRACTABLE CORD, REF ELEC DRAWINGS
A233	INSTALL NEW SEMI RECESSED FIRE EXTINGUISHER CABINET, NO MORE THAN 75' APART, FULLY RECESSED CABINET IN GYM
A241	PATCH/INSTALL NEW DRYWALL ON WALLS WHERE RISERS/CABINETS WERE REMOVED
A244	INSTALL NEW WALL FURRING, REF WALL TYPE OR FRAMING PLAN
A245	REPAIR/REPLACE EXISTING DOOR HOLD OPEN
A246	NO WORK IN AREA
A250	REINSTALL SALVAGED CABINETS
A255	NEW STAIRS TO BE INSTALLED WITH GUARDRAILS AND HANDRAILS
A264	INSTALL NEW CARPET
A266	FLUSH OUT FLOOR WITH EXISTING ADJACENT SPACES, IF REQ
A269	EXISTING CABINETS TO REMAIN
A284	PATCH/STAIN/POLISH CONCRETE TO MATCH EXISTING, NEW FFE SEATING
A288	INSTALL NEW BASE CABINETS
A292	EXISTING CARPET TO REMAIN

KEYNOTE PLAN



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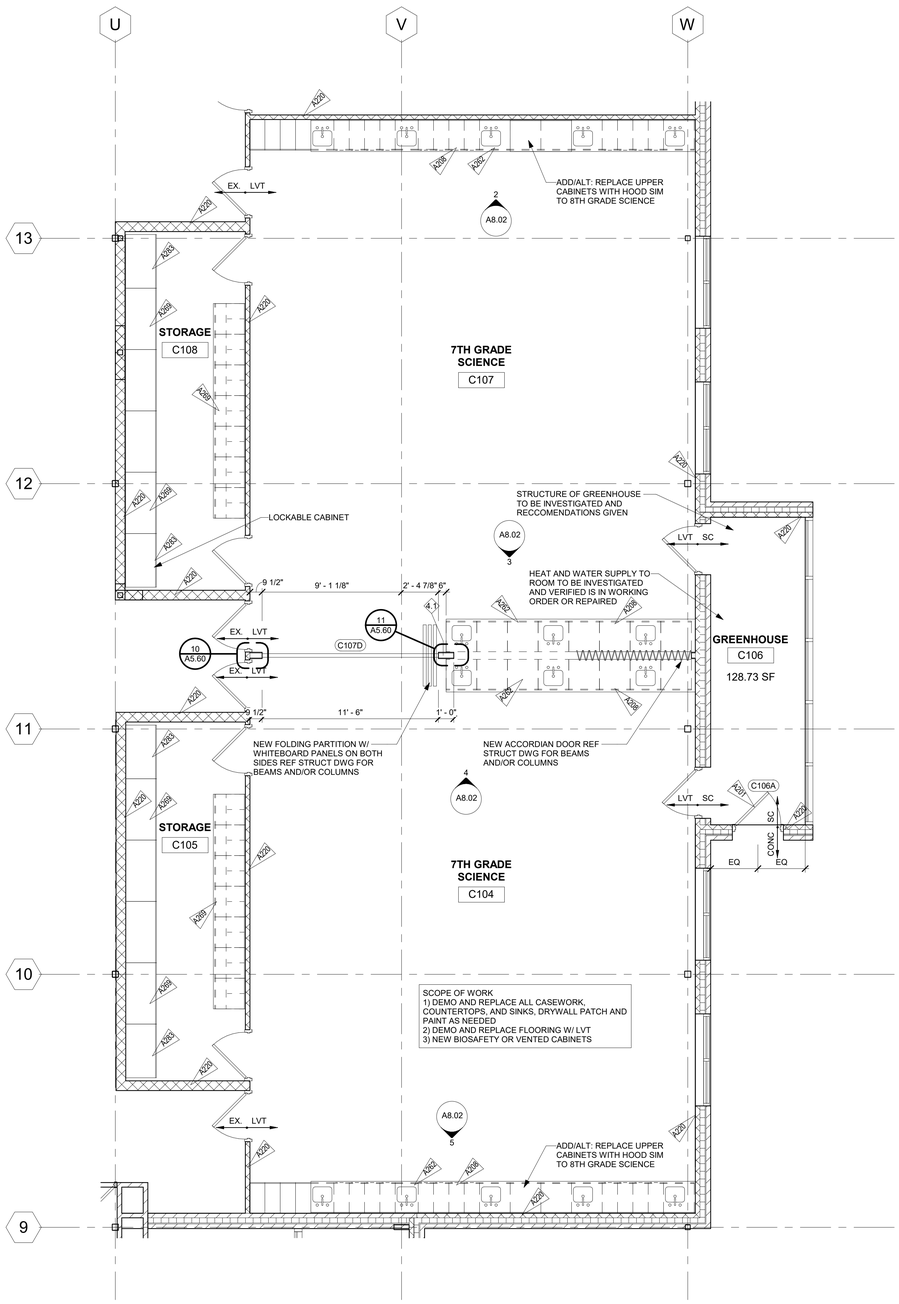
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Main Level Floor Plan

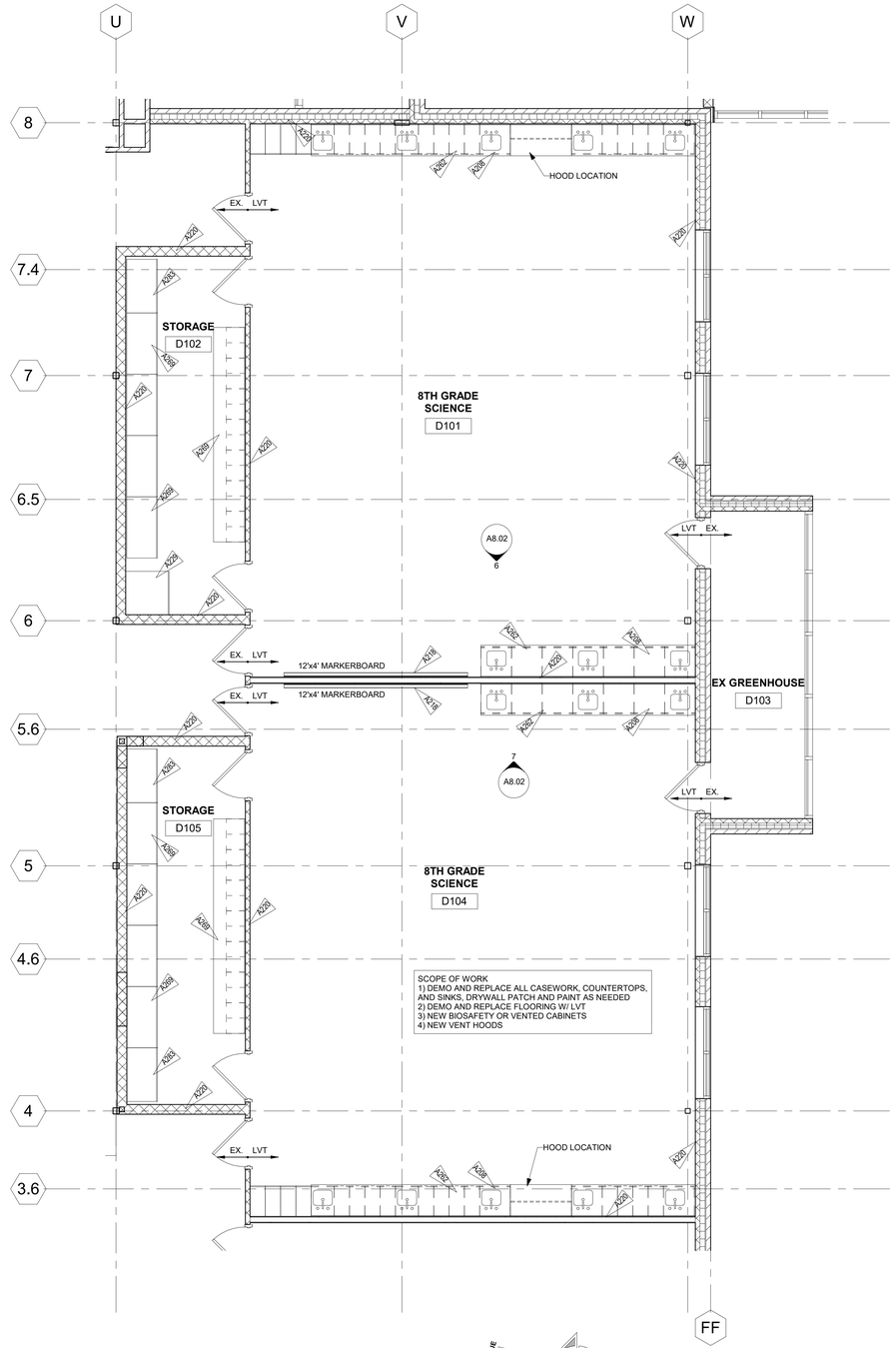
Project No:
1935.03

Sheet No:
A2.01



1 A2.02 7th GRADE SCIENCE ROOMS

1/4" = 1'-0"



2 A2.02 8TH GRADE SCIENCE ROOMS

1/4" = 1'-0"

TRUE NORTH
BUILDING NORTH

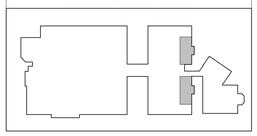
NOTES:

FLOOR PLAN GENERAL NOTES:

1. PATCH EXISTING CONSTRUCTION SCHEDULED TO REMAIN. REPAIRED SURFACES TO BE FLUSH WITH ADJACENT FINISH SURFACES. TO SAME QUALITY AS NEW CONSTRUCTION PRIOR TO INSTALLING NEW FINISHES. REFER TO THE FINISH MANUFACTURER'S GUIDELINES FOR INSTALLATION.
2. PATCH EXISTING FIRE-RATED WALLS, FLOOR CEILINGS, ETC. SO AS TO MAINTAIN THE FIRE-RADIATING. ADD FIRE-SMOKE DAMPERS WHERE NEW DUCTS CROSS. ADD FIRE STOP AT ALL
3. PATCH WALLS AT REMOVED RECEPTACLE OPENINGS SO AS TO RECEIVE SUBSEQUENT WORK.
4. PATCH AND LEVEL FLOOR SUBSTRATES TO RECEIVE NEW WORK AS SCHEDULED.
5. COORDINATE ALL FLOOR CORE DRILLING WITH EXISTING.
6. DO NOT SCALE DRAWINGS.
7. ALL SPOT ELEVATIONS SHOWN ON THE FLOOR PLANS OUTSIDE THE BUILDING RELATE TO USGS ELEVATIONS. ALL SPOT ELEVATIONS INSIDE THE BUILDING REFER TO BUILDING REFERENCE ELEVATIONS. NOTIFY ARCHITECT IMMEDIATELY SHOULD CONDITIONS BE FOUND CONTRADICTORY TO THESE DRAWINGS.
8. ALL ANGLES SHOWN ON THE FLOOR PLANS ARE 90 DEGREES UNLESS OTHERWISE NOTED.
9. ALL DIMENSIONS ARE TO GRID LINE, FACE OF CONCRETE OR MASONRY, OR FACE OF GYPSUM BOARD, UNLESS OTHERWISE NOTED.
10. ALL FLOOR PLAN DIMENSIONS TO MASONRY ARE NOMINAL DIMENSIONS, UNLESS NOTED AS ACTUAL.
11. "TB" NEW CORK TACKBOARDS OR "MB" NEW MARKERBOARDS
12. ALL SIGNAGE BY OWNER, EXIT DOOR NUMBERS PER DOOR SIGNAGE SHEET AT ALL EXIT DOORS.

Keynote Legend	
Key Value	Keynote Text
A201	INSTALL NEW DOOR, REF DOOR DETAILS
A208	INSTALL NEW CASEWORK WITH UPPER/LOWER CABINETS, SINKS REF INTERIOR ELEVATIONS
A218	INSTALL NEW TACKBOARDS WITH PROJECTABLE/MAGNETIC WHITEBOARD ON TEACHING WALL. REF DETAIL 2/A5.20 AND SEE PLANS FOR SIZES
A220	EXISTING WALL TO REMAIN
A229	NEW FLAME/CHEM STORAGE CABINET 34Wx34Dx65T
A262	NEW EPOXY COUNTERTOPS WITH INTEGRAL EPOXY SINKS
A269	EXISTING CABINETS TO REMAIN
A283	INSTALL NEW FULL HEIGHT CABINET TO MATCH ADJACENT

KEYNOTE PLAN



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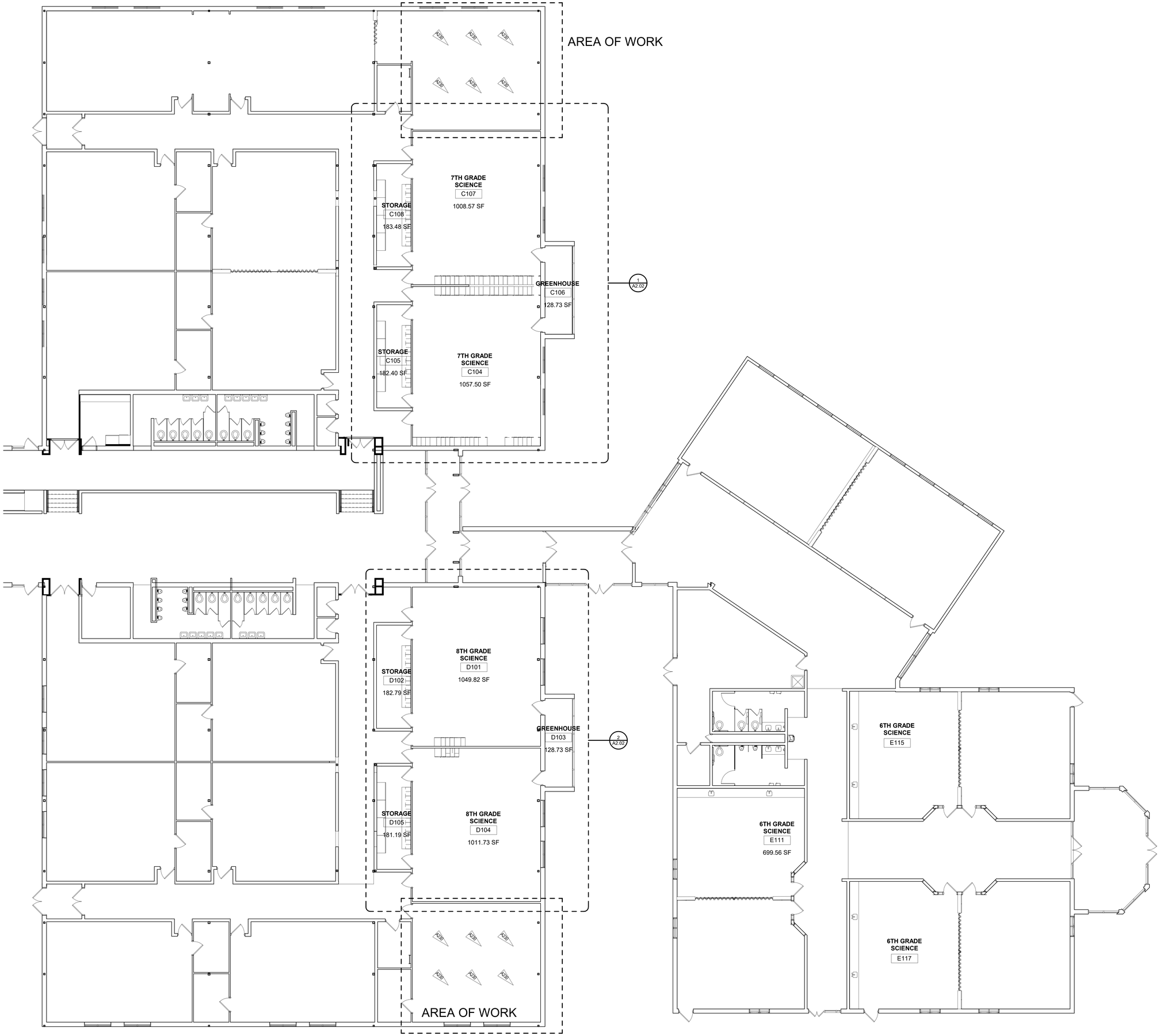
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Science Classroom Floor Plans

Project No:
1935.03

Sheet No:
A2.02



NOTES:

FLOOR PLAN GENERAL NOTES:

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10. ALL FLOOR PLAN DIMENSIONS TO MASONRY ARE NOMINAL DIMENSIONS, UNLESS NOTED AS ACTUAL.
11. "TB" NEW CORK TACKBOARDS OR "MB" NEW MARKERBOARDS
12. ALL SIGNAGE BY OWNER, EXIT DOOR NUMBERS PER DOOR SIGNAGE SHEET AT ALL EXIT DOORS.

Keynote Legend	
Key Value	Keynote Text
A230	NEW CEILING MOUNTED DROP DOWN ELECTRICAL POWER OUTLET ON RETRACTABLE CORD, REF ELEC DRAWINGS

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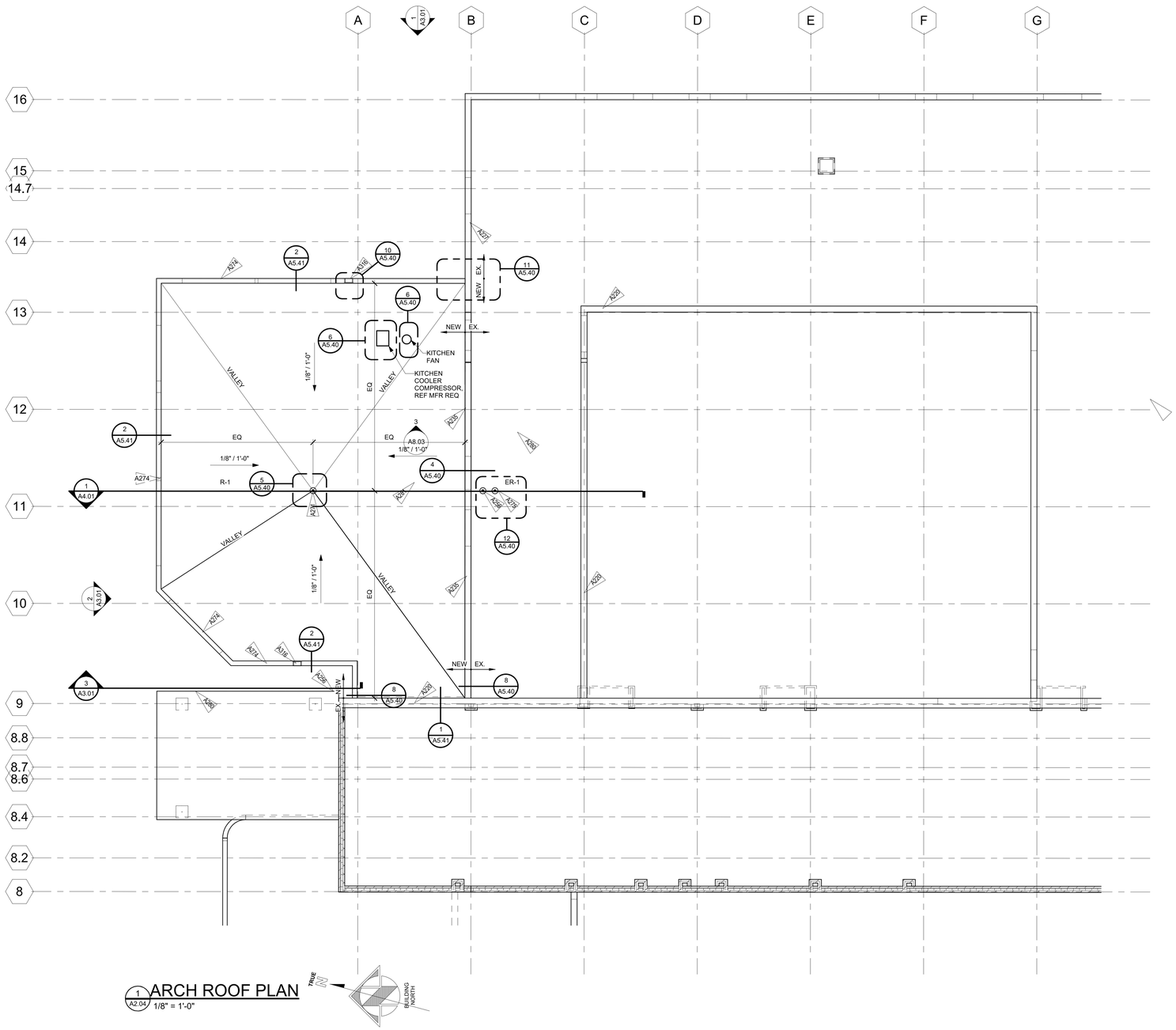
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
6th Grade Science Rooms

Project No:
1935.03

Sheet No:
A2.03



1 A2.04 ARCH ROOF PLAN
1/8" = 1'-0"

TRUE NORTH
BUILDING NORTH

NOTES:

ROOF FINISH LEGEND

R-1 90 MIL BLACK EPDM

METAL FLASHING PAINTED TO MATCH EXISTING

NOTES:
1. HATCHED AREAS INDICATE OVERBUILT ROOF & CRICKETS, RE: STRUCTURAL
2. ALL DRAINS TO RECEIVE HEAT TAPE FOR ENTIRE LENGTH, RE: DIAGRAM ON ELECTRICAL PLANS

ROOF PLAN GENERAL NOTES:

1. ALL EXISTING ROOFING IN DEMO AREAS TO BE REMOVED AND REPLACED WITH FULLY ADHERED 90 MIL EPDM ON 1/2" PROTECTION BOARD ON R-30 MIN CONTINUOUS INSULATION.
2. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SCOPE.

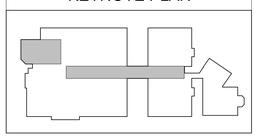
EXTERIOR MATERIAL LEGEND:

EX-1	EXISTING BRICK
X-1	NEW BRICK TO MATCH EXISTING
X-2	NEW STUCCO TO MATCH EXISTING
ER-1	EXISTING EPDM
R-1	NEW 90 MIL FULLY ADHERED REINFORCED EPDM ROOF ON SINGLE LAYER OF DENSDECK ON RIGID INSULATION ON ONE LAYER OF DENSDECK INSTALLED ON TOP OF MTL ROOF DECK
CJ	STUCCO CONTROL JOINT

Keynote Legend

Key Value	Keynote Text
A220	EXISTING WALL TO REMAIN
A227	EXISTING ROOF PARAPET TO REMAIN
A235	INSTALL NEW EPDM ROOFING UP, OVER, AND DOWN PARAPET 6" MIN, INSTALL NEW PARAPET CAP
A256	EXISTING ROOF DRAIN OR GUTTER AND DOWNSPOUT TO REMAIN
A271	NEW ROOF DRAIN, REF MEP DWGS
A274	INSTALL NEW PARAPET
A275	INSTALL NEW ROOF OVERFLOW DRAIN, REF MEP DWGS
A280	EXISTING ROOF TO REMAIN
A281	INSTALL NEW 90 MIL REINFORCED EPDM ROOF WITH TAPERED R-35 MIN RIGID INSULATION
A316	LAMBS TOUNGE ROOF DRAIN AND SCUPPER, REF DETAIL 10/A5.40

KEYNOTE PLAN



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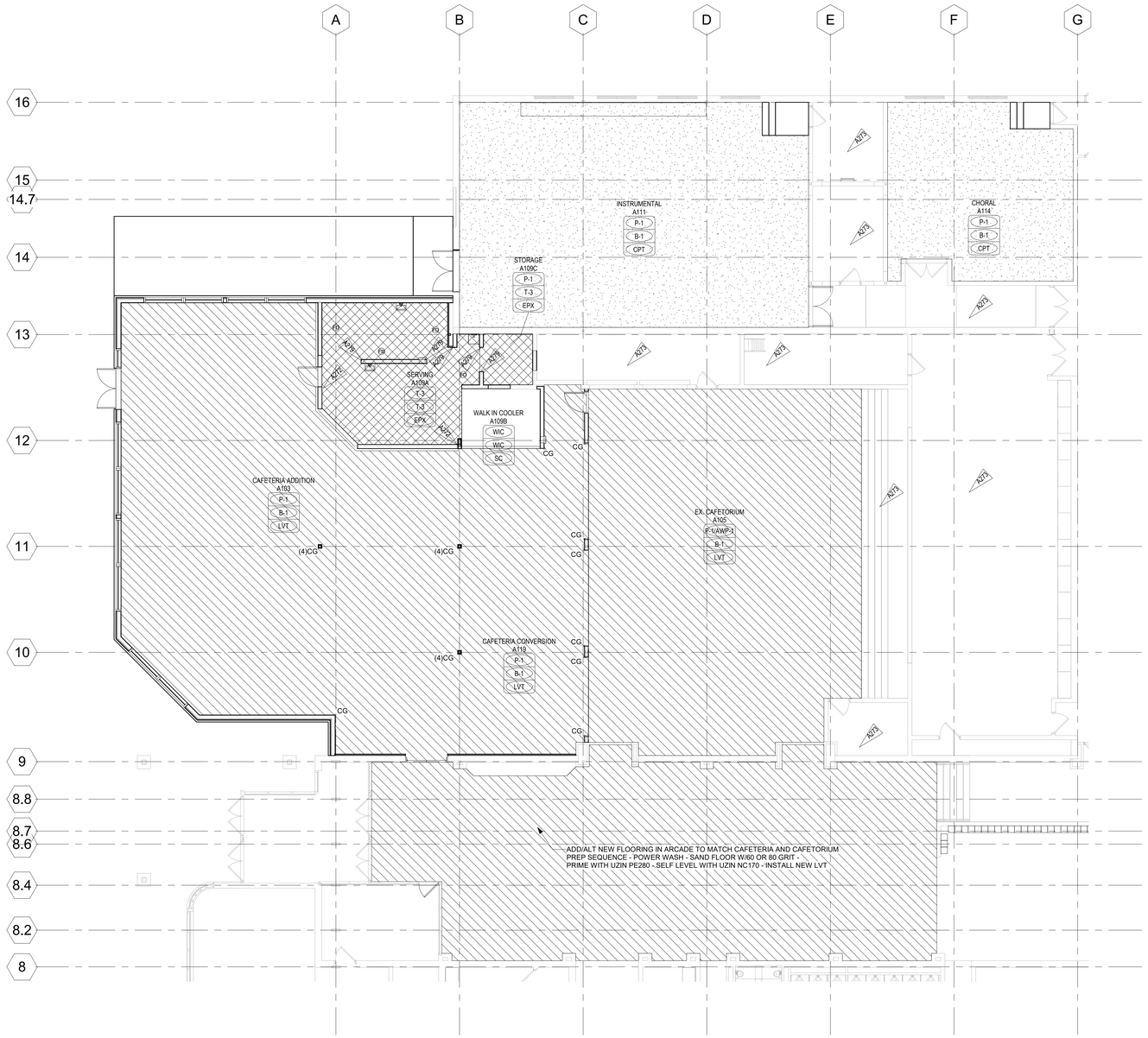
CD's - 04/07/20

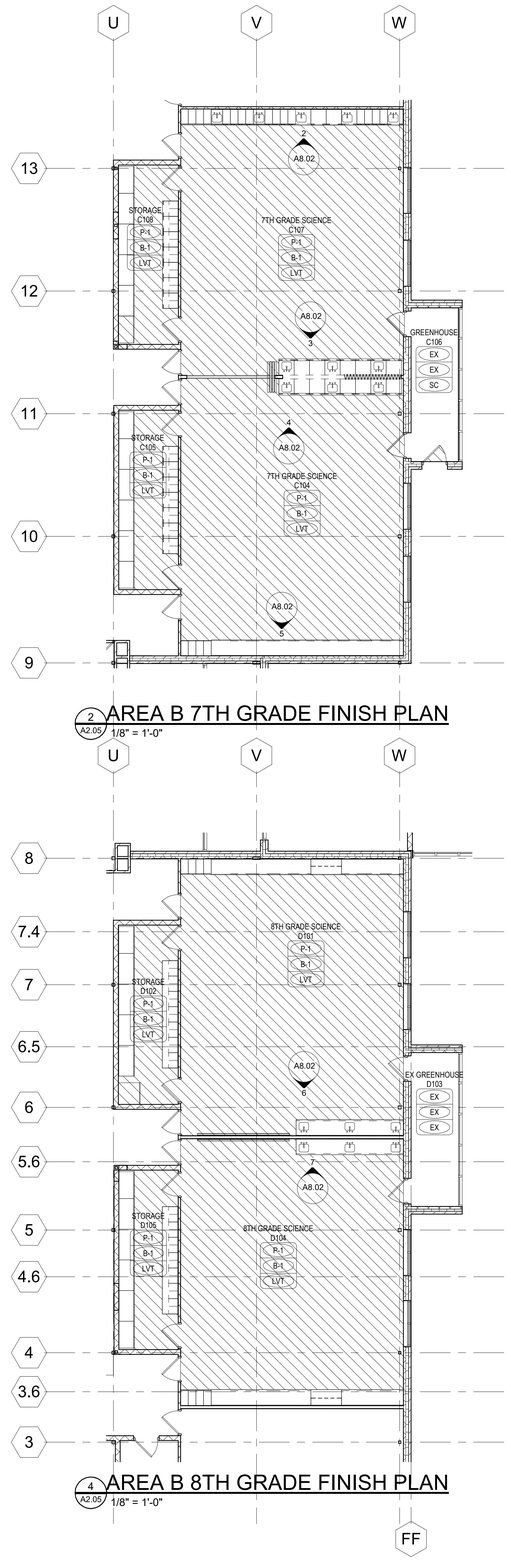
Sheet Title:
Roof Plan

Project No:
1935.03

Sheet No:
A2.04



1 A2.05 AREA A FINISH PLAN
1/8" = 1'-0"



2 A2.05 AREA B 7TH GRADE FINISH PLAN
1/8" = 1'-0"

4 A2.05 AREA B 8TH GRADE FINISH PLAN
1/8" = 1'-0"

NOTES:

SYMBOL LEGEND

ROOM #
WALL
BASE
FLOOR

SEE ENLARGED FLOOR PLANS AND INTERIOR ELEVATIONS FOR EXTENT OF WALL TILE ON WET WALLS ONLY.

FLOOR MATERIAL LEGEND

- LVT
- CARPET
- WALK-OFF CARPET
- SEALED CONCRETE
- EPOXY

Keynote Legend	
Key Value	Keynote Text
A272	WALL TILE TO STOP AT EDGE OF COUNTER
A273	EXISTING FLOOR TO REMAIN
A279	USE SCHLUTER CORNER TRIM, SIM 2/A5.3

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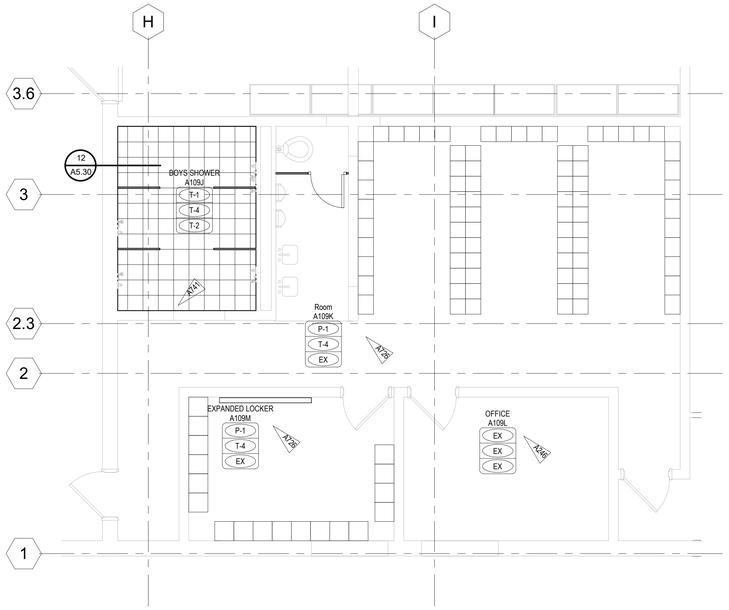
95% CD - 03/30/20
CD's - 04/07/20

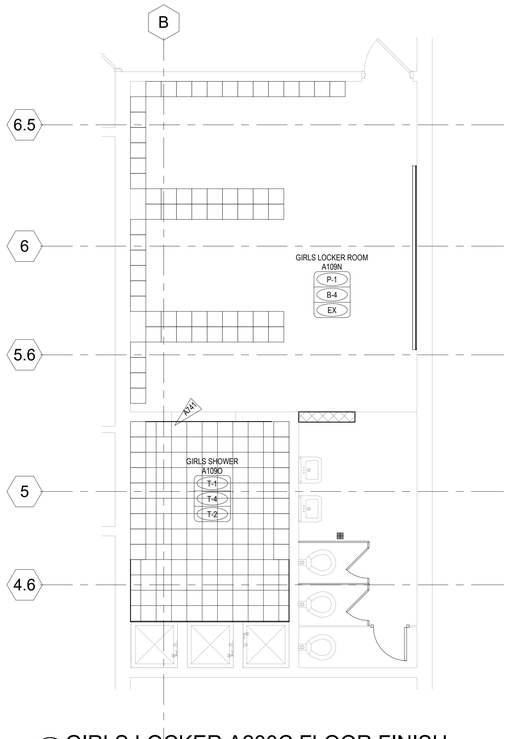
Sheet Title:
Floor Finish Plans Cafe and Classrooms

Project No:
1935.03

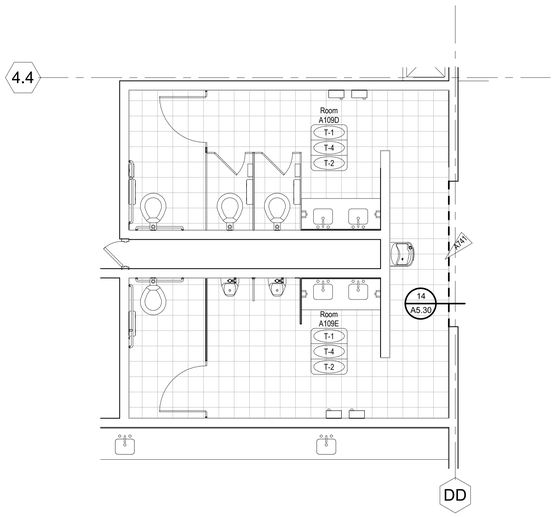
Sheet No:
A2.05



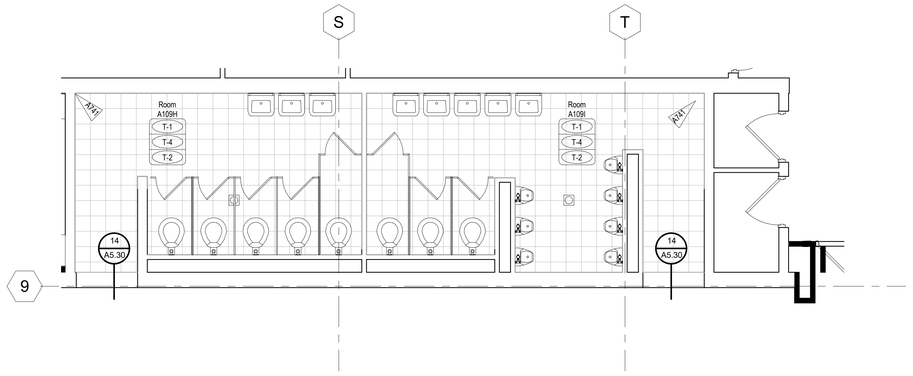
6 A2.06 BOYS LOCKER B119 FLOOR FINISH
1/4" = 1'-0"



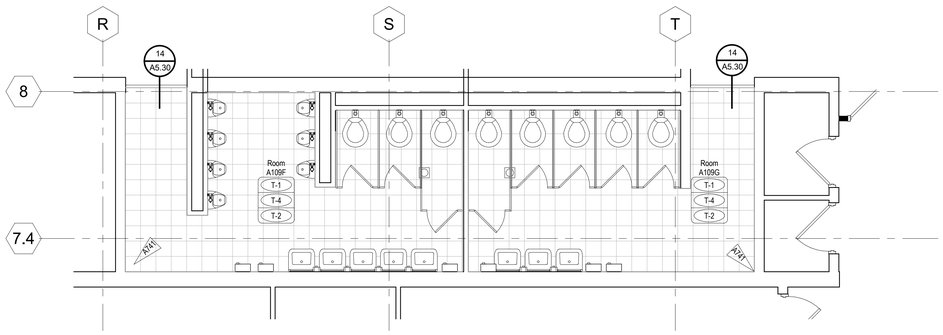
8 A2.06 GIRLS LOCKER A200C FLOOR FINISH
1/4" = 1'-0"



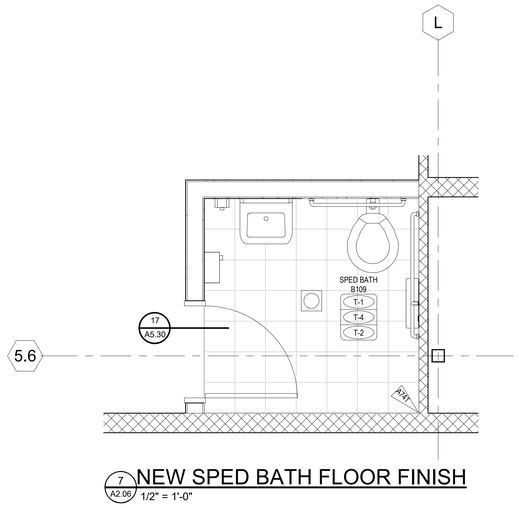
3 A2.06 6TH GRADE BATHS FLOOR FINISH
1/4" = 1'-0"



4 A2.06 SOUTH ARCADE EAST BATHS FLOOR FINISH
1/4" = 1'-0"



5 A2.06 SOUTH ARCADE WEST BATHS FLOOR FINISH
1/4" = 1'-0"



7 A2.06 NEW SPED BATH FLOOR FINISH
1/2" = 1'-0"

NOTES:

FLOOR MATERIAL LEGEND

- LVT
- CARPET
- WALK-OFF CARPET
- TILE

Keynote Legend	
Key Value	Keynote Text
A246	NO WORK IN AREA
A726	EXISTING SEALED CONCRETE FLOOR TO REMAIN
A741	STARTER TILE

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Revisions:

No	Description	Date

Issue Dates:
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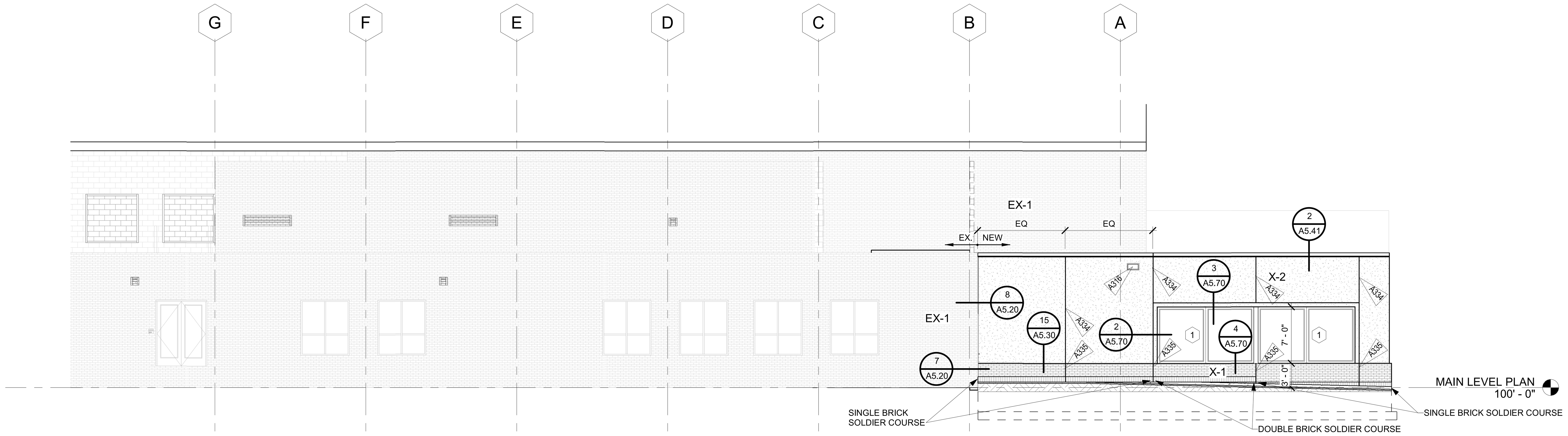
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

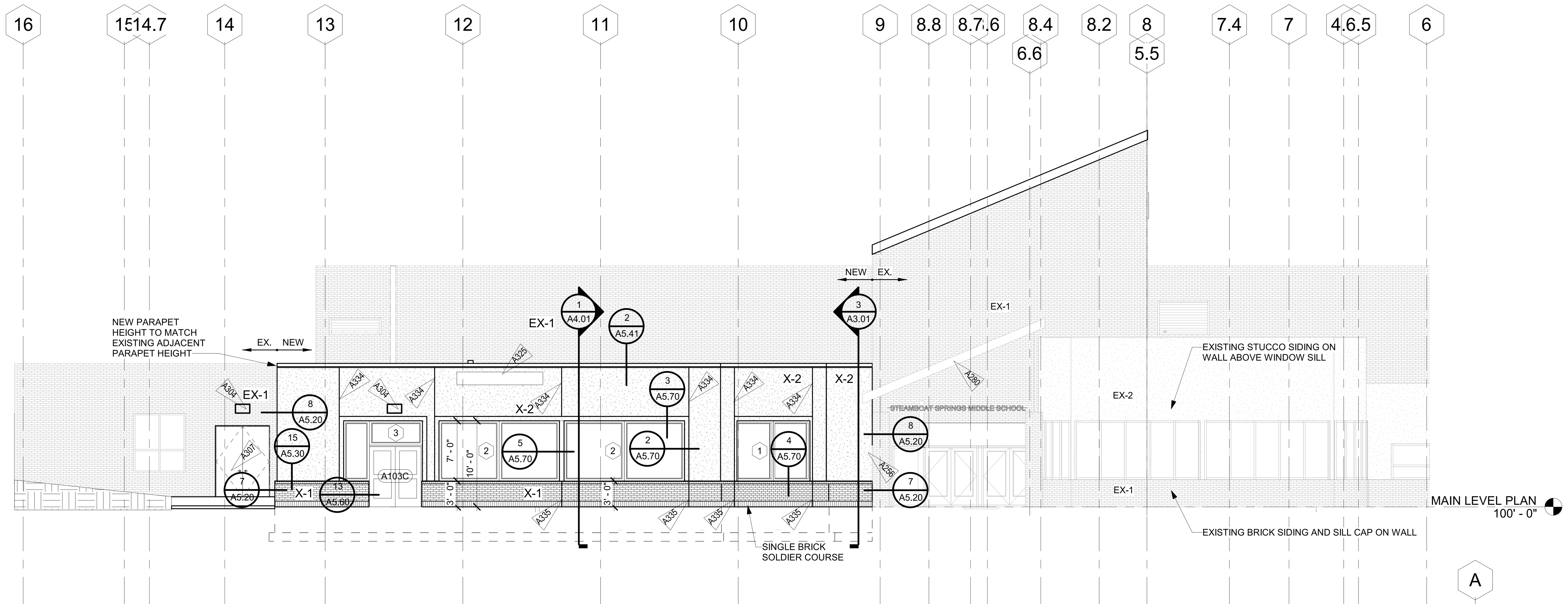
Sheet Title:
Finish Floor Plans Bathrooms

Project No:
1935.03

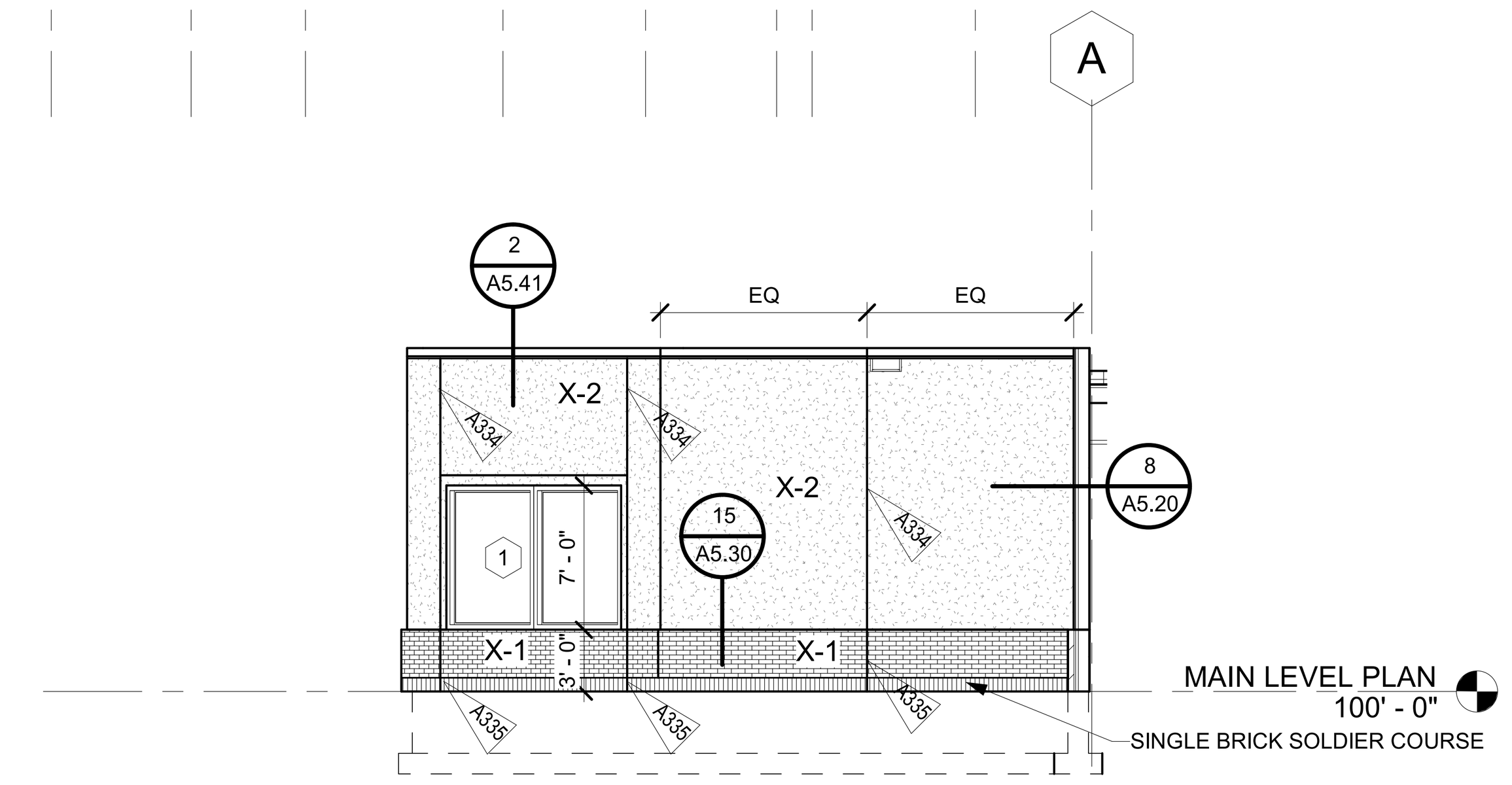
Sheet No:
A2.06



1 A3.01 EAST
1/8" = 1'-0"



2 A3.01 NORTH
1/8" = 1'-0"



3 A3.01 CAFETERIA ADDITION ALCOVE
1/8" = 1'-0"

NOTES:

EXTERIOR ELEVATION GENERAL NOTES:

1. EXTERIOR FINISHES INDICATED ON ELEVATIONS SEE "EXTERIOR MATERIAL LEGEND" FOR MATERIALS.
2. REFERENCE ROOF PLAN FOR LOCATIONS OF ROOF COMPONENETS NOT INDICATED ON EXTERIOR ELEVATIONS.
3. REFER TO MEP AND STRUCTURAL DRAWINGS FOR ANY ADDITIONAL WORK.
4. ASSUME ALL PAINTED SURFACES IN AREA OF WORK WILL BE REPAINTED. THIS INCLUDES BUT IS NOT LIMITED TO: DOORS, DOOR FRAMES, WINDOW FRAMES, AND HEADERS, CEILINGS, HANDRAILS, EXPOSED MECHANICAL, CMU ACCENTS, SOFFITS, STRUCTURAL BEAMS, AND ETC.
5. PROVIDE ALLOWANCE TO SEAL AND CAULK VARIOUS WALL PENERTRATIONS AND HOLES AROUND EXTERIOR PERIMETER OF BUIDLING, SIMILAR AREAS SUCH AS HOSE BIBS, PIPES, ETC.
6. PROVIDE ALLOWANCE TO REVIEW ALL EXPOSED ELECTRICAL CONDUIT TO DETERMINE FEASIBILITY TO REMOVE OR RELOCATE. INCLUDE IN ALLOWANCE LABOR AND MATERIALS TO REMOVE OR RELOCATE.
7. SEE CIVIL PLANS FOR NOTE TO RESEAL ALL HORIZONTAL CONCRETE AND ASPHALT JOINTS AT BUILDING.
8. WHEN A PORTION OF A WALL IS PAINTED ASSUME THE ENTIRE WALL IS PAINTED TO INSIDE OR OUTSIDE CORNERS.
9. DO NOT SCALE DRAWINGS.
10. ALL ANGLES SHOWN ON THE FLOOR PLANS ARE 90 DEGREES UNLESS NOTED OTHERWISE.

EXTERIOR MATERIAL LEGEND:

EX-1 EXISTING BRICK

X-1 NEW BRICK TO MATCH EXISTING

X-2 NEW STUCCO TO MATCH EXISTING

ER-1 EXISTING EPDM

R-1 NEW 90 MIL FULLY ADHERED REINFORCED EPDM ROOF ON SINGLE LAYER OF DENSDECK ON RIGID INSULATION ON ONE LAYER OF DENSDECK INSTALLED ON TOP OF MTL ROOF DECK

CJ STUCCO CONTROL JOINT

Keynote Legend

Key Value	Keynote Text
A256	EXISTING ROOF DRAIN OR GUTTER AND DOWNSPOUT TO REMAIN
A280	EXISTING ROOF TO REMAIN
A304	REINSTALL SALVAGED EXTERIOR LIGHT CENTERED ABOVE DOOR BELOW
A307	INSTALL NEW DOORS, REF DOOR SCHEDULE
A316	LAMBS TOUNGE ROOF DRAIN AND SCUPPER, REF DETAIL 10/A5.40
A325	INSTALL SALVAGED ELECTRIC SIGN
A334	STUCCO CONTROL JOINT, REF 11/A5.30
A335	MASONRY CONTROL JOINT
EX-1	EXISTING BRICK
X-1	NEW BRICK TO MATCH EXISTING
X-2	NEW STUCCO WITH INTERGRAL COLOR FINISH COAT

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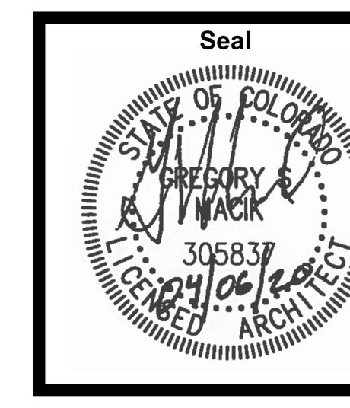

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No	Description	Date

Issue Dates:
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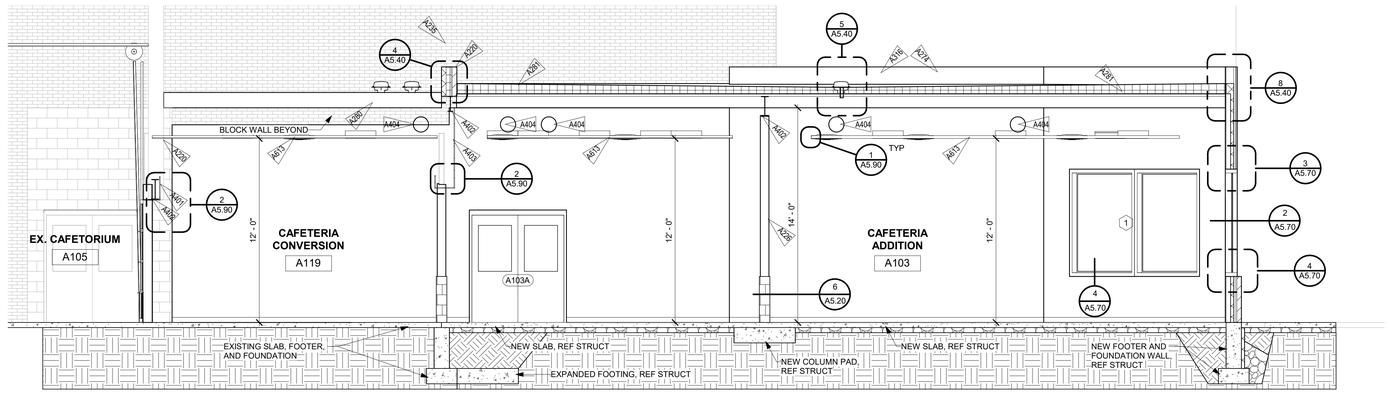
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Exterior Elevations

Project No:
1935.03

Sheet No:
A3.01



1 A4.01 CAFETERIA ADDITION SECTION

1/4" = 1'-0"

NOTES:

EXTERIOR MATERIAL LEGEND:

EX-1	EXISTING BRICK
X-1	NEW BRICK TO MATCH EXISTING
X-2	NEW STUCCO TO MATCH EXISTING
ER-1	EXISTING EPDM
R-1	NEW 90 MIL FULLY ADHERED REINFORCED EPDM ROOF ON SINGLE LAYER OF DENSDECK ON RIGID INSULATION ON ONE LAYER OF DENSDECK INSTALLED ON TOP OF MTL ROOF DECK
CJ	STUCCO CONTROL JOINT

Keynote Legend

Key Value	Keynote Text
A220	EXISTING WALL TO REMAIN
A226	INSTALL DRYWALL WRAP ON STRUCT COLUMN, SIM TO 6/A5.20
A235	INSTALL NEW EPDM ROOFING UP, OVER, AND DOWN PARAPET 6" MIN, INSTALL NEW PARAPET CAP
A274	INSTALL NEW PARAPET
A280	EXISTING ROOF TO REMAIN
A281	INSTALL NEW 90 MIL REINFORCED EPDM ROOF WITH TAPERED R-35 MIN RIGID INSULATION
A316	LAMBS TOUNGE ROOF DRAIN AND SCUPPER, REF DETAIL 10/A5.40
A401	DRYWALL WRAP STEEL BEAM
A402	STEEL BEAM, REF STRUCTURAL DRAWINGS
A403	NEW STEEL STUD WALL UP TO B.O. ROOF JOISTS WITH 5/8" GWB ON ROOM SIDE
A404	NEW MECH DUCT, REF MECH DRAWINGS
A613	NEW 2X4 SUSPENDED ACOUSTIC CEILING TILE CLOUD

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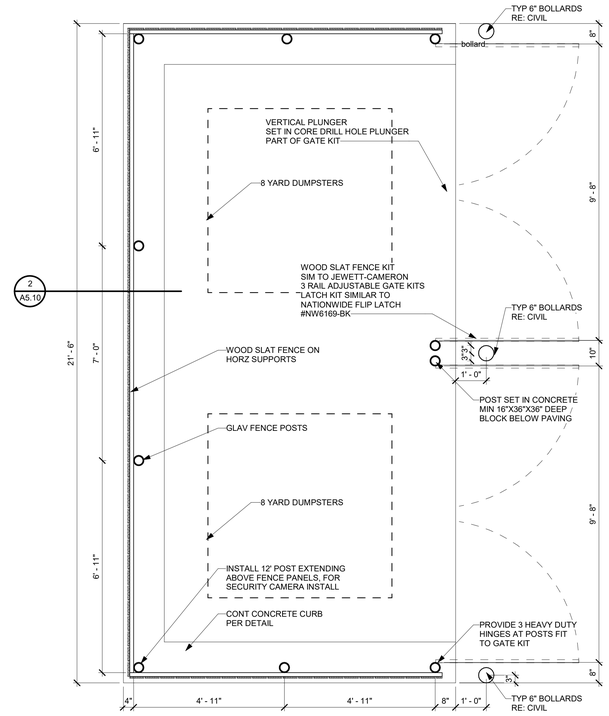
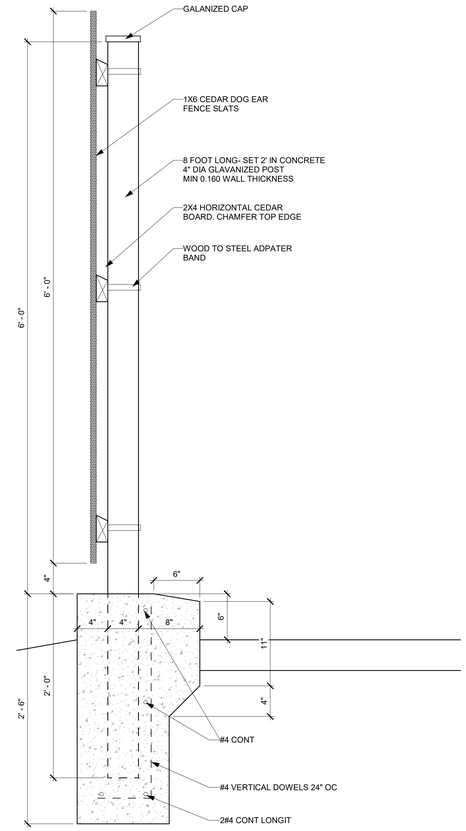
Sheet Title:
Building Sections

Project No:
1935.03

Sheet No:
A4.01



1 A5.10 TRASH ENCLOSURE PLAN
1/2" = 1'-0"



2 A5.10 FENCE SECTION
1 1/2" = 1'-0"

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95% CD - 03/30/20
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Sheet Title:
Foundation /Site Details

Project No:
1935.03

Sheet No:
A5.10

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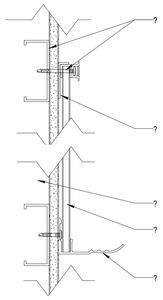
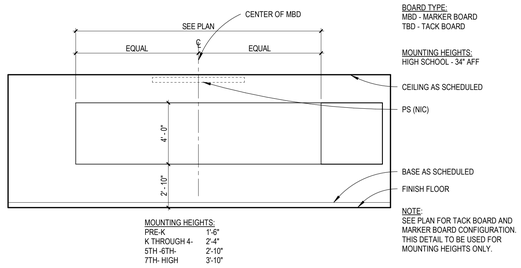
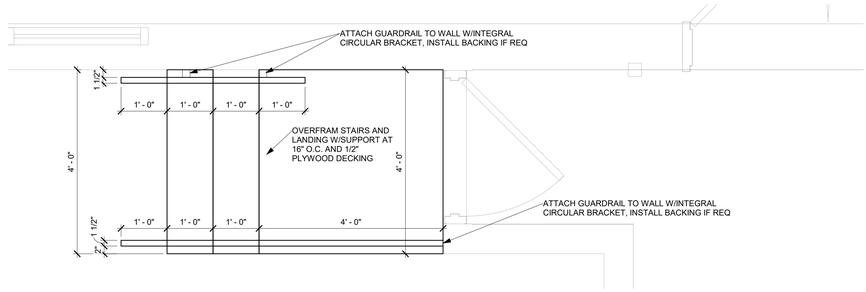


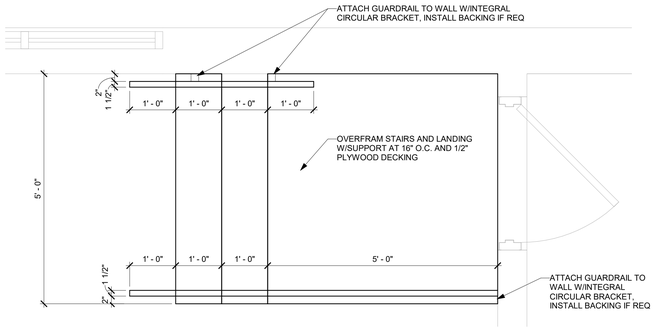
1 A5.20 MARKERBOARD ATTACHMENT
3" = 1'-0"



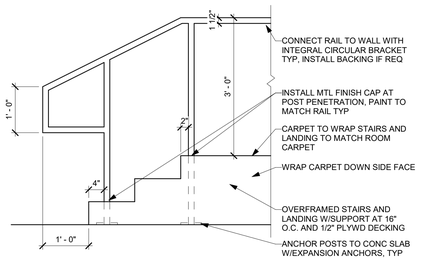
2 A5.20 MBD / TBD / TV ELEVATION
1/4" = 1'-0"



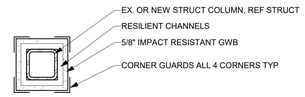
3 A5.20 CHORAL A114 STAIR
3/4" = 1'-0"



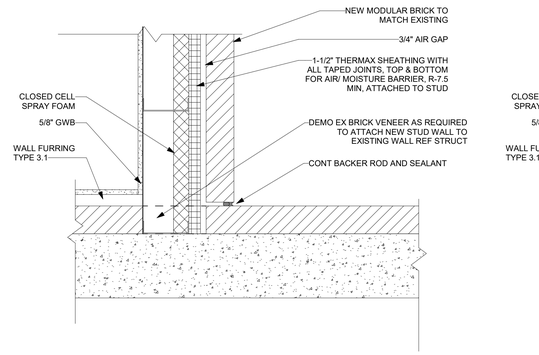
4 A5.20 INSTRUMENTAL A111 STAIR
3/4" = 1'-0"



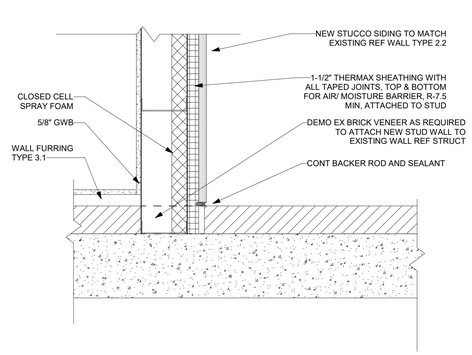
5 A5.20 TYP HANDRAIL
3/4" = 1'-0"



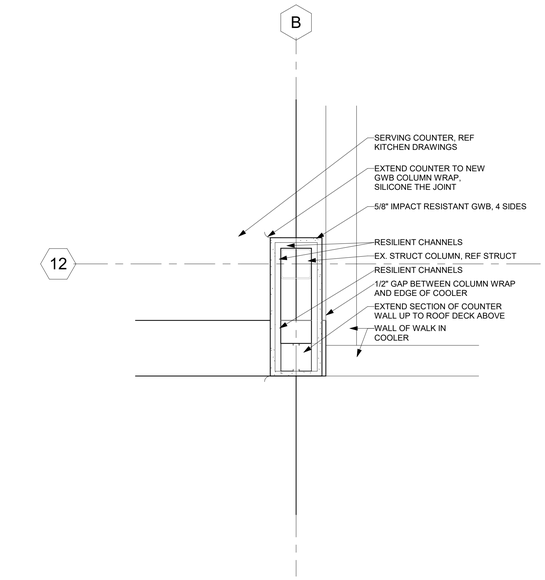
6 A5.20 TYP STL COLUMN WRAP
1 1/2" = 1'-0"



7 A5.26 NEW BRICK WALL TO EX MASONRY
1 1/2" = 1'-0"



8 A5.20 NEW STUCCO WALL TO EX MASONRY
1 1/2" = 1'-0"



9 A5.20 SERVING LINE COLUMN WRAP
1 1/2" = 1'-0"

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Sheet Title:
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1935.03

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A5.20

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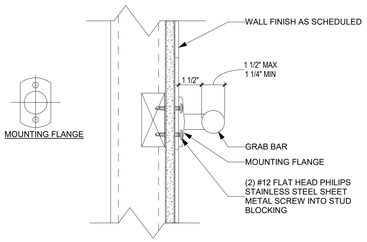
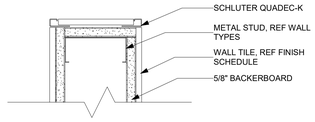
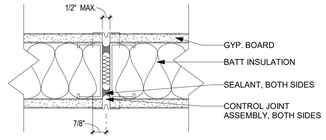


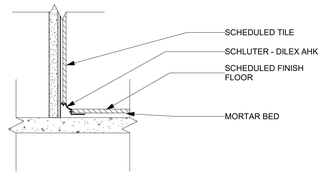
1 A5.30 GRAB BAR ATTACHMENT DETAIL
3" = 1'-0"



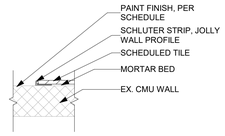
2 A5.30 TILE CORNER EDGE - TYP
3" = 1'-0"



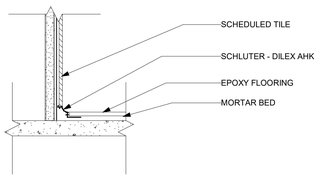
3 A5.30 CONTROL JOINT @ WALL
3" = 1'-0"



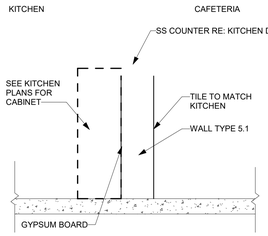
4 A5.30 RESTROOM WALL BASE TRANSITION
3" = 1'-0"



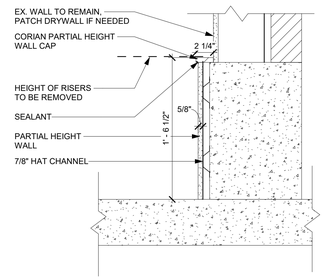
5 A5.30 TILE END - SCHLUTER
3" = 1'-0"



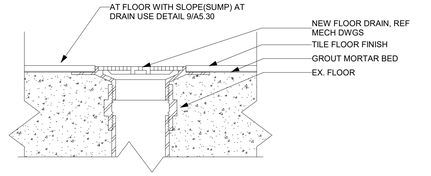
6 A5.30 TILE/EPOXY FLOORING
3" = 1'-0"



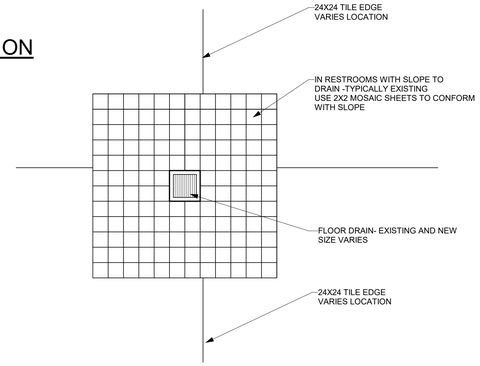
7 A5.30 TYP KITCHEN SERVING COUNTER
3/4" = 1'-0"



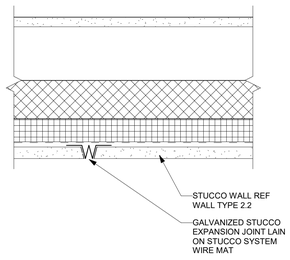
8 A5.30 TYP EX. RISER WALL PATCH
1 1/2" = 1'-0"



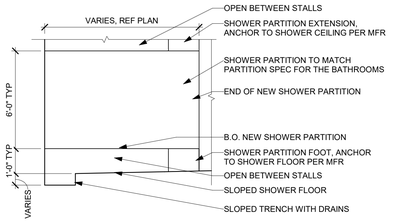
9 A5.30 TYP TILE @ DRAIN SECTION
3" = 1'-0"



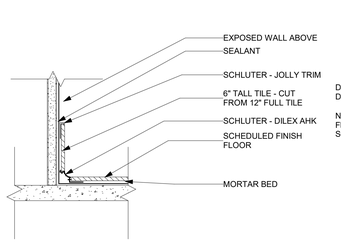
10 A5.30 TYP TILE @ DRAIN PLAN
1 1/2" = 1'-0"



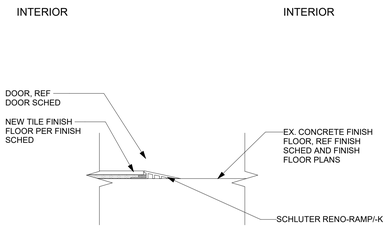
11 A5.30 STUCCO CONTROL JOINT
3" = 1'-0"



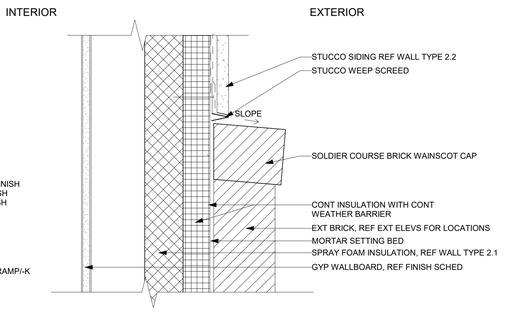
12 A5.30 TYP SHOWER PARTITION
1 1/2" = 1'-0"



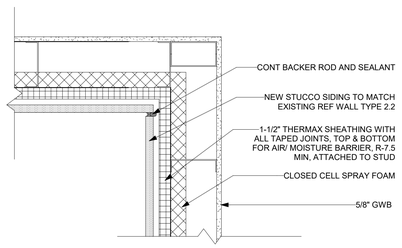
13 A5.30 RESTROOM WALL BASE
3" = 1'-0"



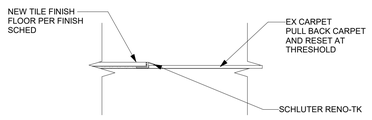
14 A5.30 TILE TO CONCRETE FLOOR
3" = 1'-0"



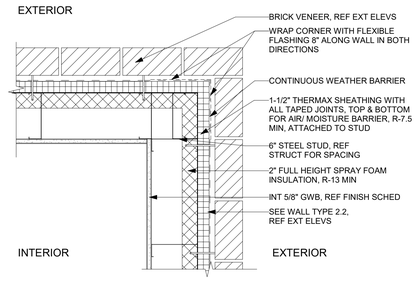
15 A5.30 TYP BRICK WAINSCOT CAP
3" = 1'-0"



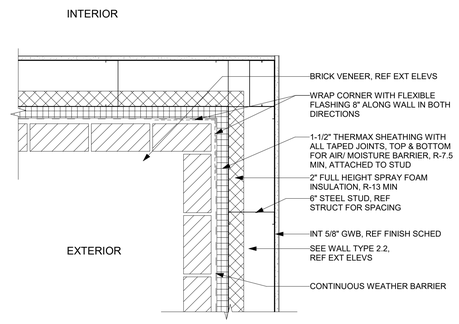
16 A5.30 STUCCO WALL INTERIOR CORNER
1 1/2" = 1'-0"



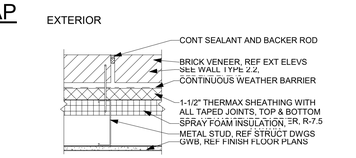
17 A5.30 INTERIOR DOOR THRESHOLD - CPT/TILE
3" = 1'-0"



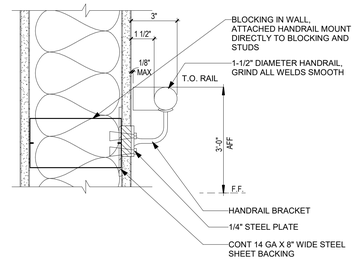
18 A5.30 BRICK OUTSIDE CORNER
1 1/2" = 1'-0"



19 A5.30 BRICK INSIDE CORNER
1 1/2" = 1'-0"



20 A5.30 BRICK CONTROL JOINT
1 1/2" = 1'-0"



21 A5.30 HANDRAIL TO WALL
3" = 1'-0"

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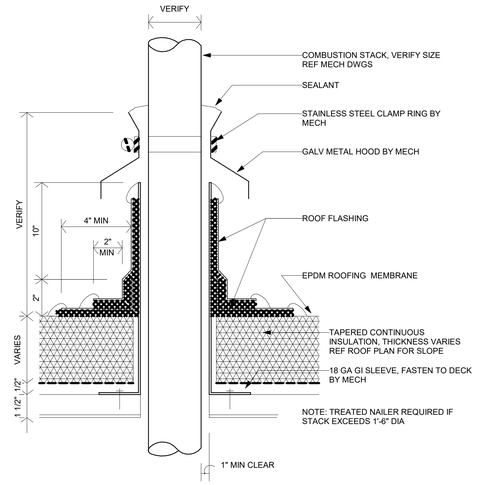
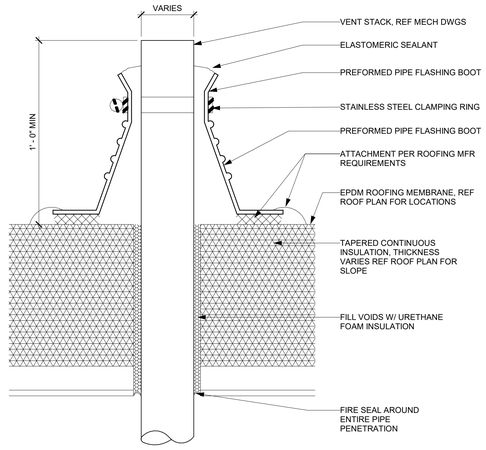
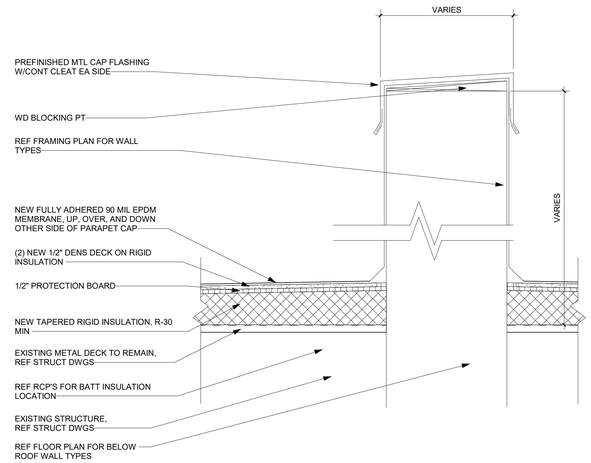


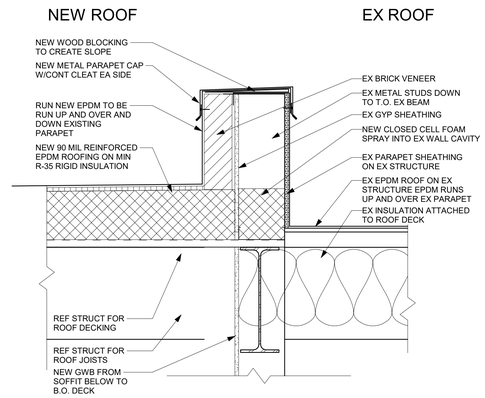
1 A5.40 BOILER FLUE ROOF PENETRATION
3" = 1'-0"



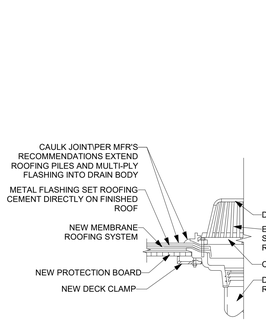
2 A5.40 PIPE PENETRATION AT MEMBRANE ROOFING
3" = 1'-0"



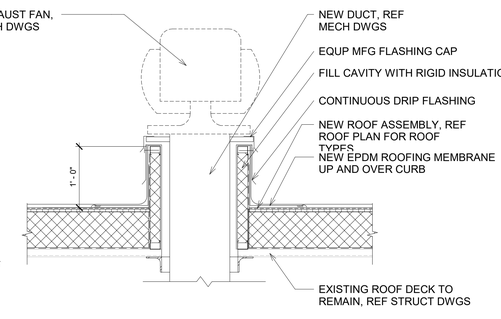
3 A5.40 STANDARD OFFSET PARAPET
1 1/2" = 1'-0"



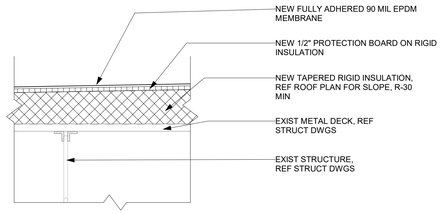
4 A5.40 EX ROOF TO NEW ROOF
1 1/2" = 1'-0"



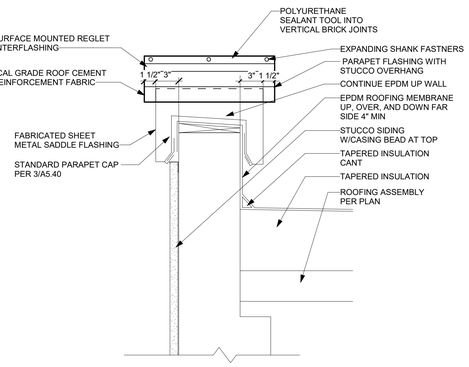
5 A5.40 NEW ROOF DRAIN DETAIL
1 1/2" = 1'-0"



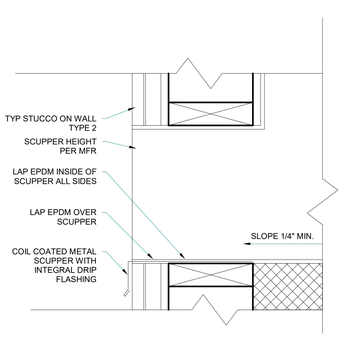
6 A5.40 TYP EXHAUST FAN DETAIL
1" = 1'-0"



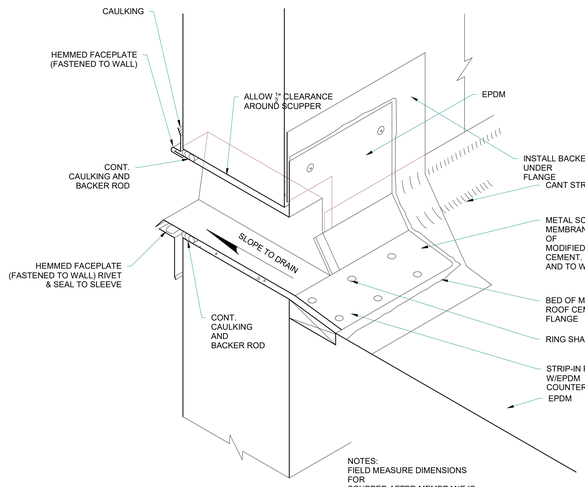
7 A5.40 TYPICAL EPDM ROOF ASSEMBLY
1 1/2" = 1'-0"



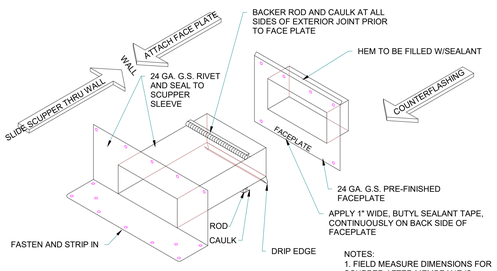
8 A5.40 PARAPET CAP @ STUCCO
1 1/2" = 1'-0"



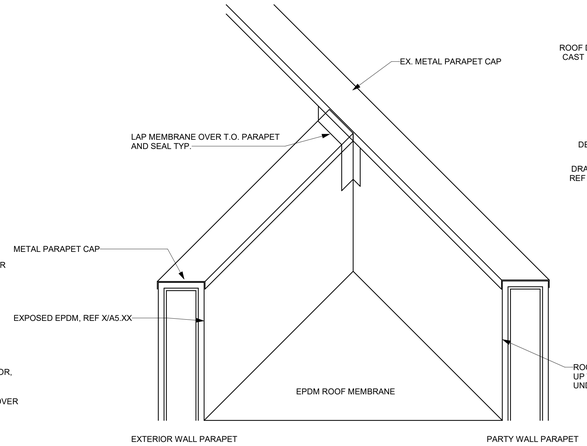
9 A5.40 SCUPPER DETAIL - STUCCO
3" = 1'-0"



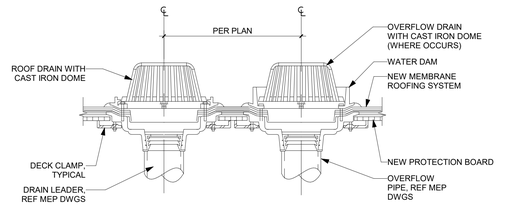
10 A5.40 SCUPPER
1 1/2" = 1'-0"



11 A5.40 EX PARAPET TO NEW PARAPET
3/4" = 1'-0"



12 A5.40 ROOF AND OVERFLOW DRAINS
1 1/2" = 1'-0"



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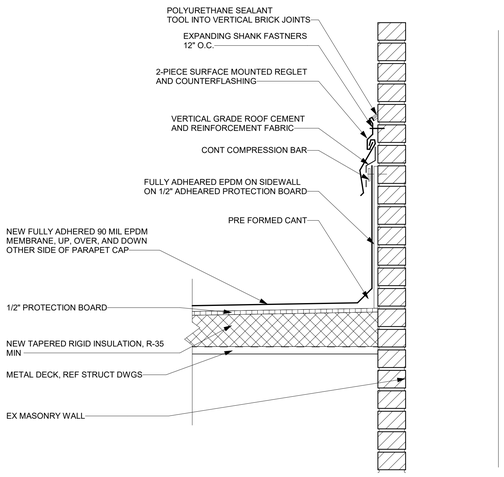
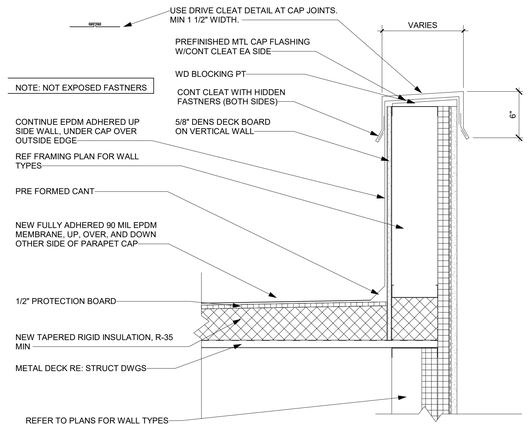


1 A5.41 TYPICAL EPDM TO SIDEWALL

1 1/2" = 1'-0"



2 A5.41 TYPICAL PARAPET

1 1/2" = 1'-0"

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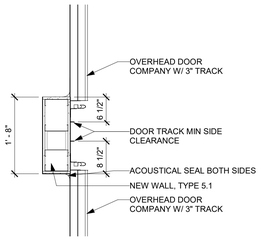
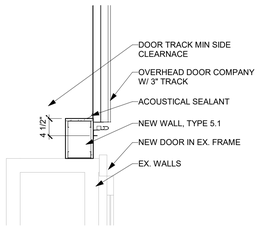
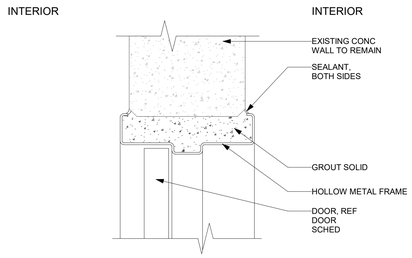


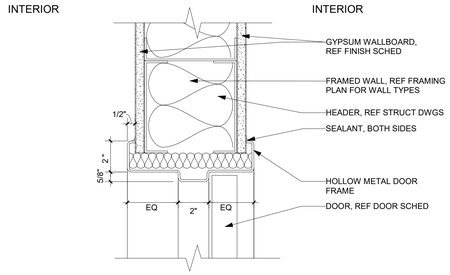
1 A5.60 OVERHEAD DOOR SIDE TO SIDE
3/4" = 1'-0"



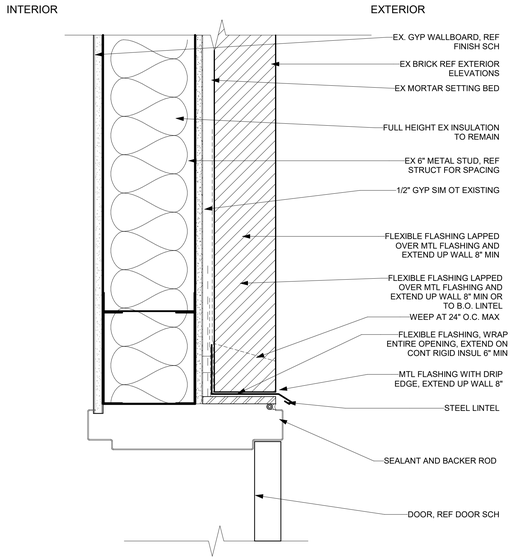
2 A5.60 OVERHEAD DOOR SIDE
3/4" = 1'-0"



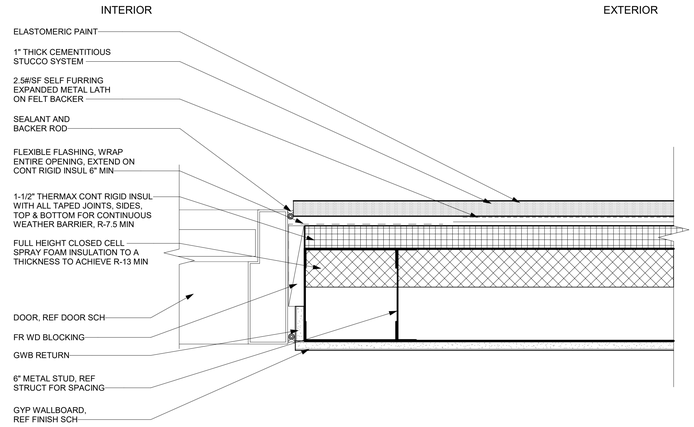
3 A5.60 INTERIOR DOOR HEAD/ JAMB AT CONC
3" = 1'-0"



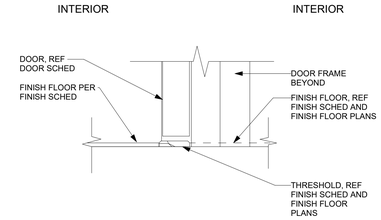
4 A5.60 TYP INTERIOR DOOR HEAD/ JAMB DETAIL
3" = 1'-0"



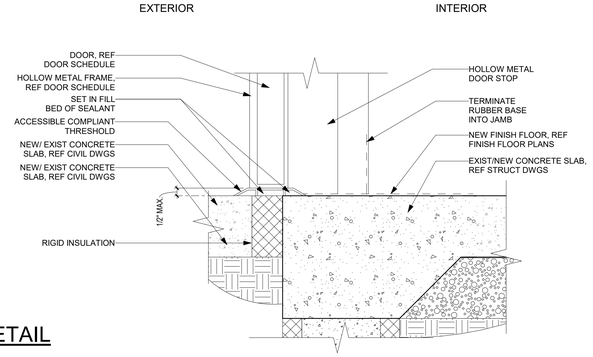
8 A5.60 HM EXT DOOR
3" = 1'-0"



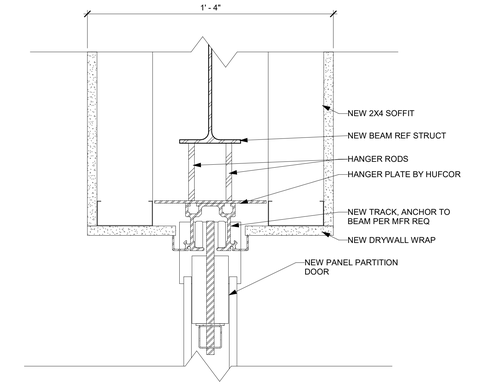
5 A5.60 SF DOOR JAMB AT STUCCO
3" = 1'-0"



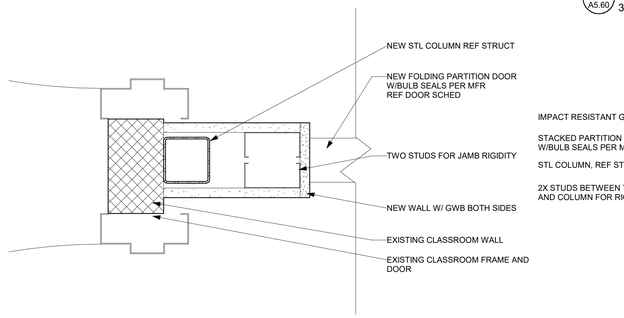
6 A5.60 TYP INTERIOR DOOR THERSHOLD DETAIL
3" = 1'-0"



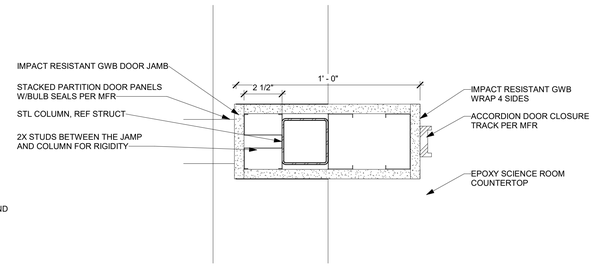
7 A5.60 TYP DOOR SILL
3" = 1'-0"



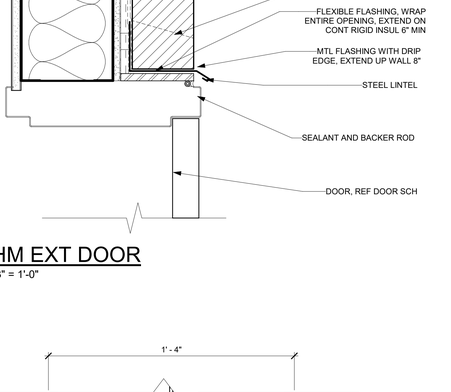
12 A5.60 PANEL PARTITION DOOR HEAD
3" = 1'-0"



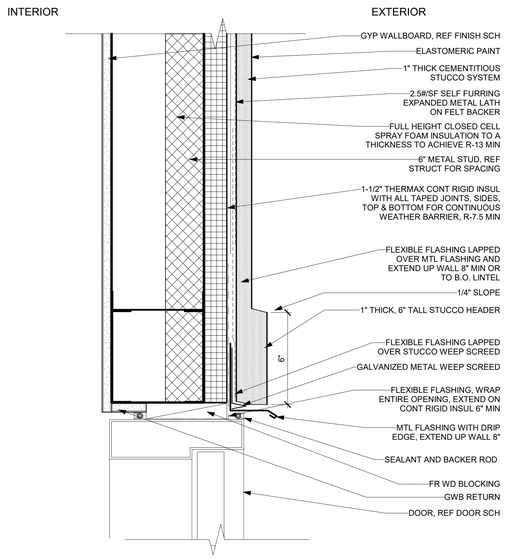
10 A5.60 PARTITION DOOR JAMB OPEN SIDE
3" = 1'-0"



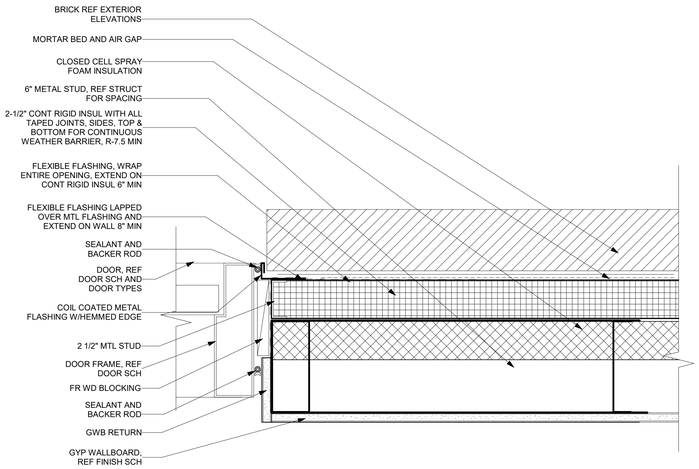
11 A5.60 7th GRADE SCIENCE DOOR JAMBS
3" = 1'-0"



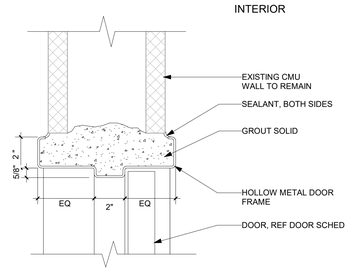
15 A5.60 ACCORDION PARTITION DOOR HEAD
3" = 1'-0"



9 A5.60 SF DOOR HEAD AT STUCCO
3" = 1'-0"



13 A5.60 SF DOOR JAMB AT BRICK
3" = 1'-0"



14 A5.60 TYP CMU INTERIOR DOOR HEAD/JAMB DETAIL
3" = 1'-0"

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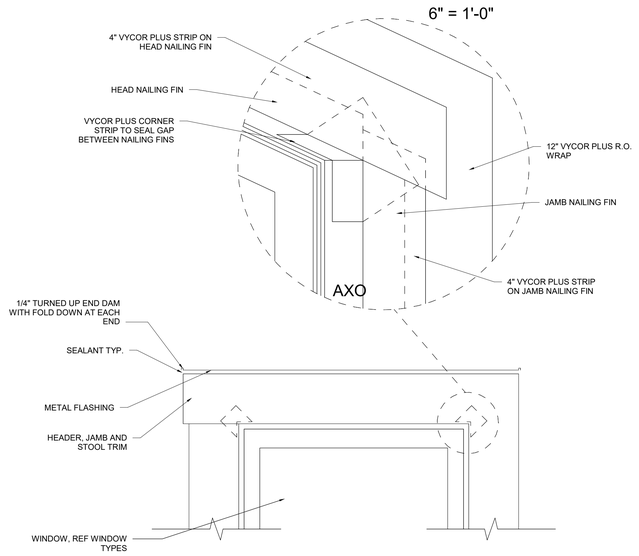
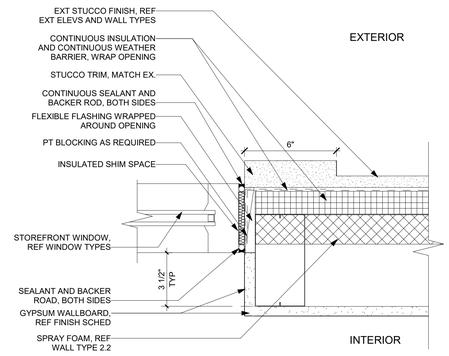
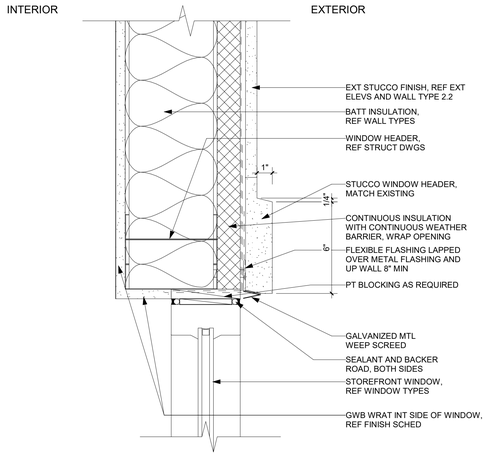


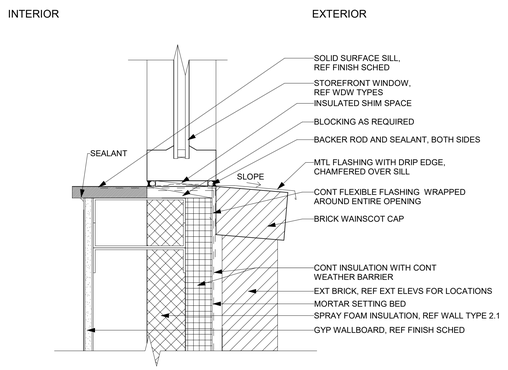
1 A5.70 TYP WINDOW FLASHING DETAIL
1 1/2" = 1'-0"



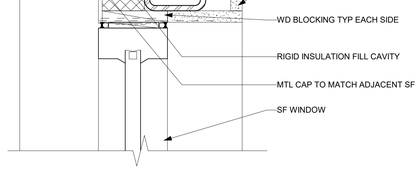
2 A5.70 TYP WINDOW JAMB AT STUCCO
3" = 1'-0"



3 A5.70 TYP WINDOW HEAD AT STUCCO
3" = 1'-0"



4 A5.70 TYP WINDOW SILL AT BRICK
3" = 1'-0"



5 A5.70 EXTERIOR WALL COLUMN BETWEEN WINDOWS
3" = 1'-0"

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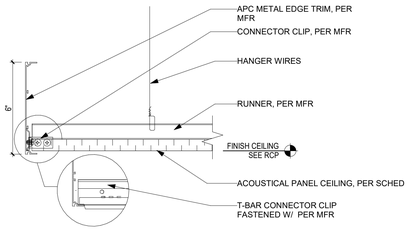
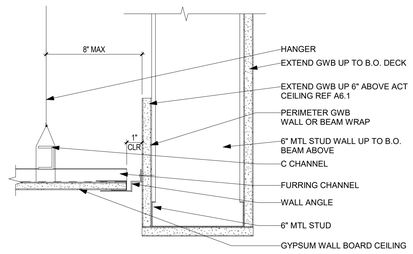
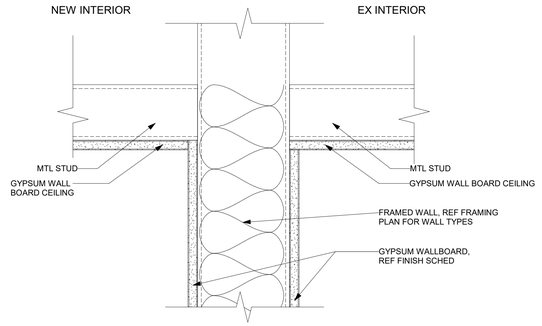


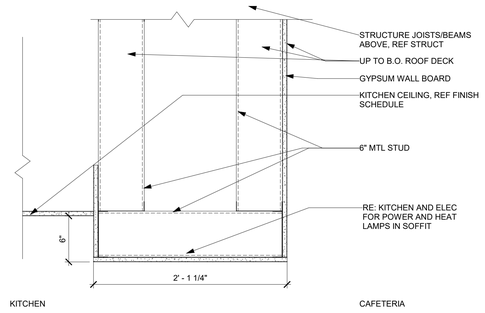
1 A5.90 APC CLOUD
3" = 1'-0"



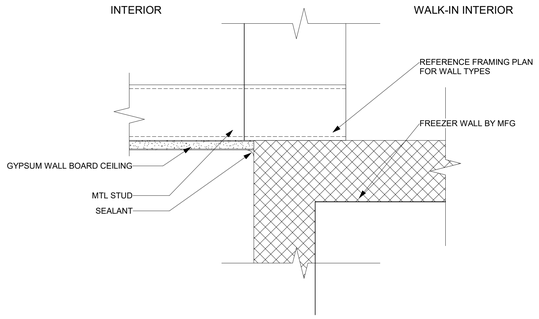
2 A5.90 GWB CEILING AT PERIMETER GWB
3" = 1'-0"



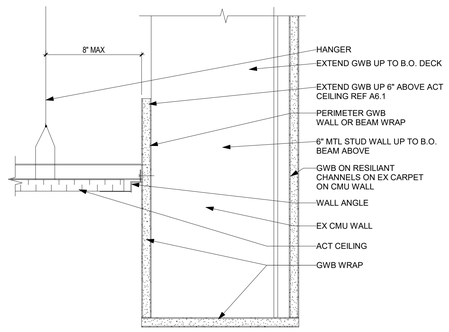
3 A5.90 SOFFIT AT NEW & EXISTING
3" = 1'-0"



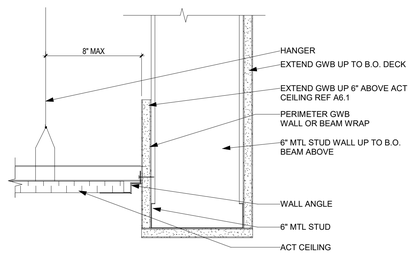
4 A5.90 SOFFIT AT SERVING LINE
1 1/2" = 1'-0"



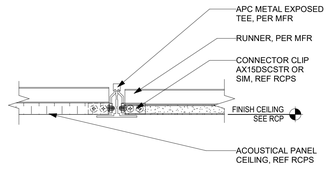
5 A5.90 SOFFIT AT WALK-IN
3" = 1'-0"



6 A5.90 ACT CEILING AT CMU WALL
3" = 1'-0"



7 A5.90 ACT CEILING AT PERIMETER GWB
3" = 1'-0"



8 A5.90 ACT CEILING EXPANSION JOINT
3" = 1'-0"

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Revisions:

No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Ceiling Details

Project No:
1935.03

Sheet No:
A5.90

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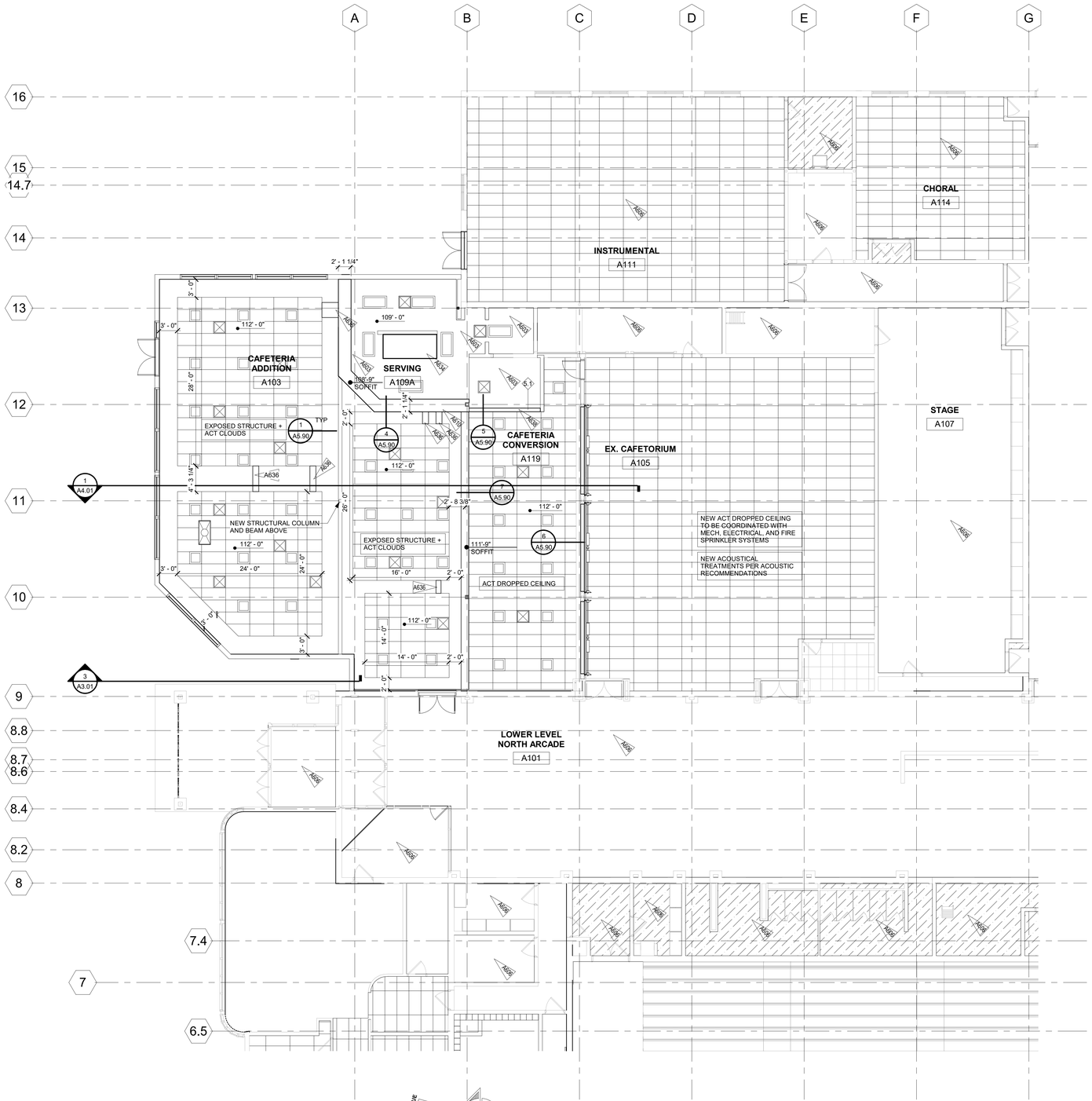
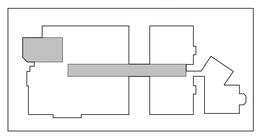
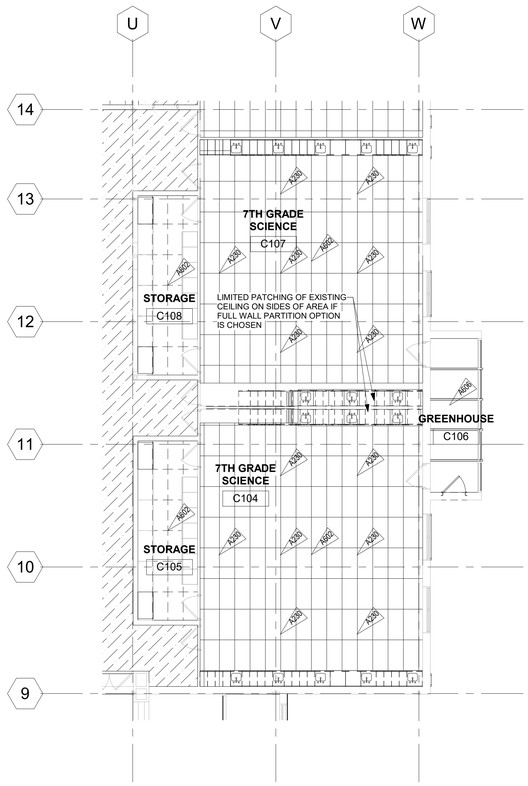
4/5/2020 9:01:25 AM



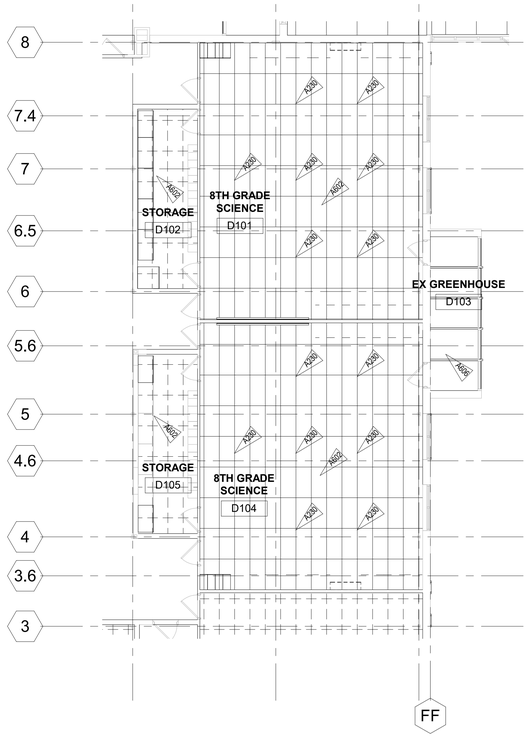
1 A6.01 MAIN LEVEL PLAN
1/8" = 1'-0"

KEYNOTE PLAN



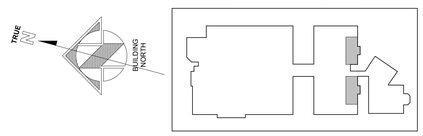


2 A6.01 7TH GRADE SCIENCE CLASSROOM RCP
1/8" = 1'-0"



3 A6.01 8TH SCIENCE CLASSROOM RCP
1/8" = 1'-0"

KEYNOTE PLAN



NOTES:

RCP NOTES:

1. REFER TO FIRE PROTECTION DRAWINGS FOR LOCATIONS OF FIRE SPRINKLER HEADS. CENTER FIRE SPRINKLER HEADS BOTH DIRECTIONS IN CEILING TILES.
2. SUBMIT LAYOUT OF ALL GYPSUM BOARD CEILING CONTROL JOINTS FORE REVIEW.
3. ALL CEILINGS SHALL BE AS NOTED ON PLANS.
4. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS WHERE NO CEILINGS IS REQUIRED OR INDICATED.
5. LIGHTS, DIFFUSERS, EXIT SIGNS, SMOKE DETECTORS, AND FIRE ALARMS SPEAKERS/STROBES SHALL BE CENTERED IN THE CEILING TILES IN WHICH THEY OCCUR, UNLESS NOTED OTHERWISE.
6. CENTER ALL CEILING GRIDS IN EACH ROOM OR SPACE UNLESS OTHERWISE INDICATED WITH A GRID ORIGIN OR DIMENSION.
7. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR NEW LIGHTS AND REGISTERS.
8. EXPOSED STRUCTURE PAINTED W/ DRYFALL.MEP COMPONENTS NOT TO BE PAINTED.

Keynote Legend	
Key Value	Keynote Text
A230	NEW CEILING MOUNTED DROP DOWN ELECTRICAL POWER OUTLET ON RETRACTABLE CORD, REF ELEC DRAWINGS
A602	EX 2X4 ACT CEILING TO REMAIN
A603	NEW GYPSUM CEILING
A606	EX CEILING TO REMAIN
A610	NEW PENDANT LIGHT, REF KITCHEN DRAWINGS
A634	NEW KITCHEN HOOD REF KITCHEN AND MECHANICAL DRAWINGS
A636	NEW MECHANICAL DUCT, REF MECH DRAWINGS
A638	NEW CLOSURE WALL ABOVE REFRIGERATOR UNIT

RCP LEGEND:

AIR SUPPLY, REF MECHANICAL

LIGHT FIXTURE, REF ELECTRICAL

APC-1 2X4 ACOUSTICAL LAY-IN CEILING WITH 6" AXIOM TRIM (HIGH NRC PANEL) HEIGHT AS NOTED.

GYPSUM WALL BOARD CEILING HEIGHT AS NOTED.

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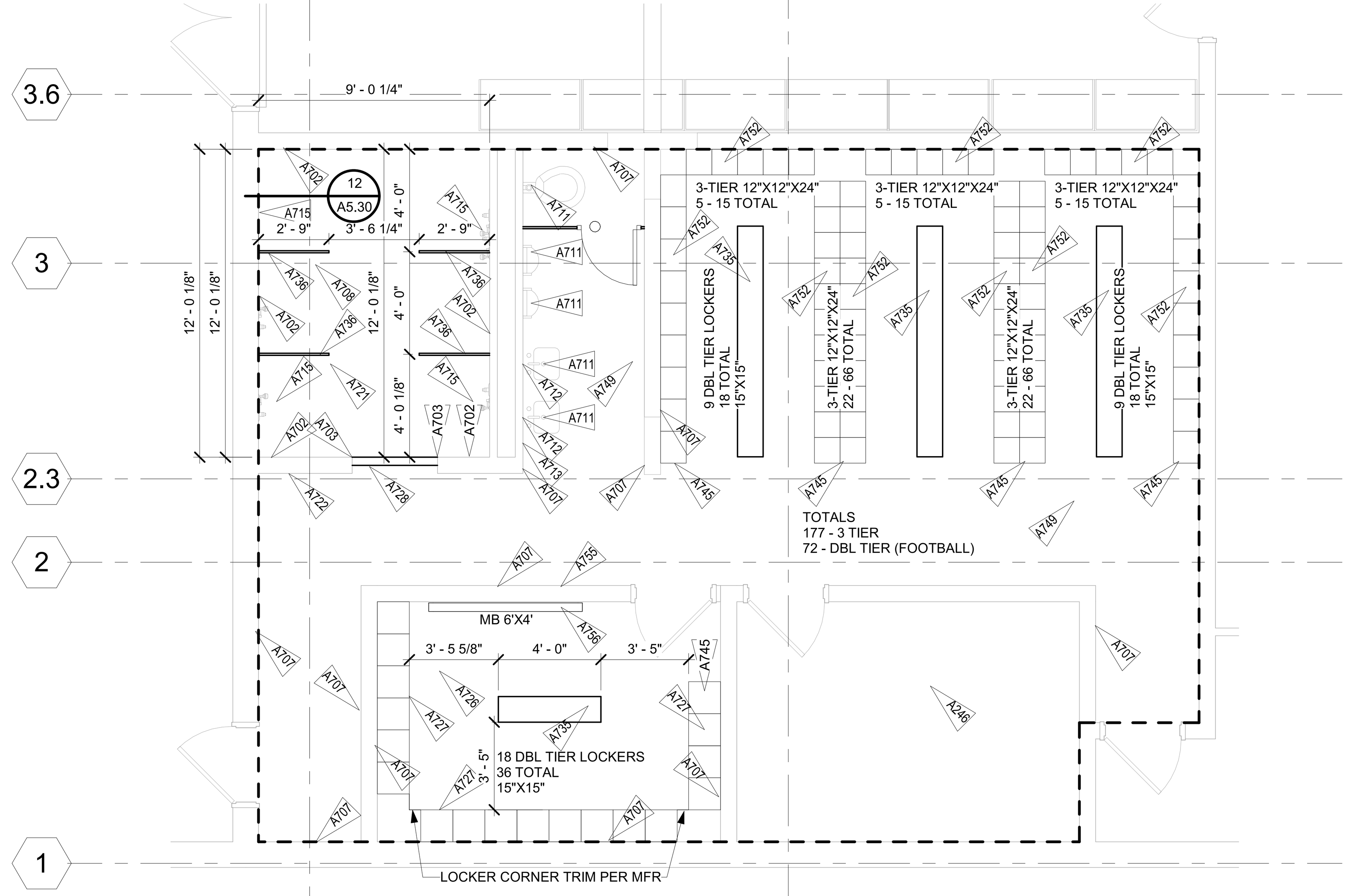
95% CD - 03/30/20
CD's - 04/07/20

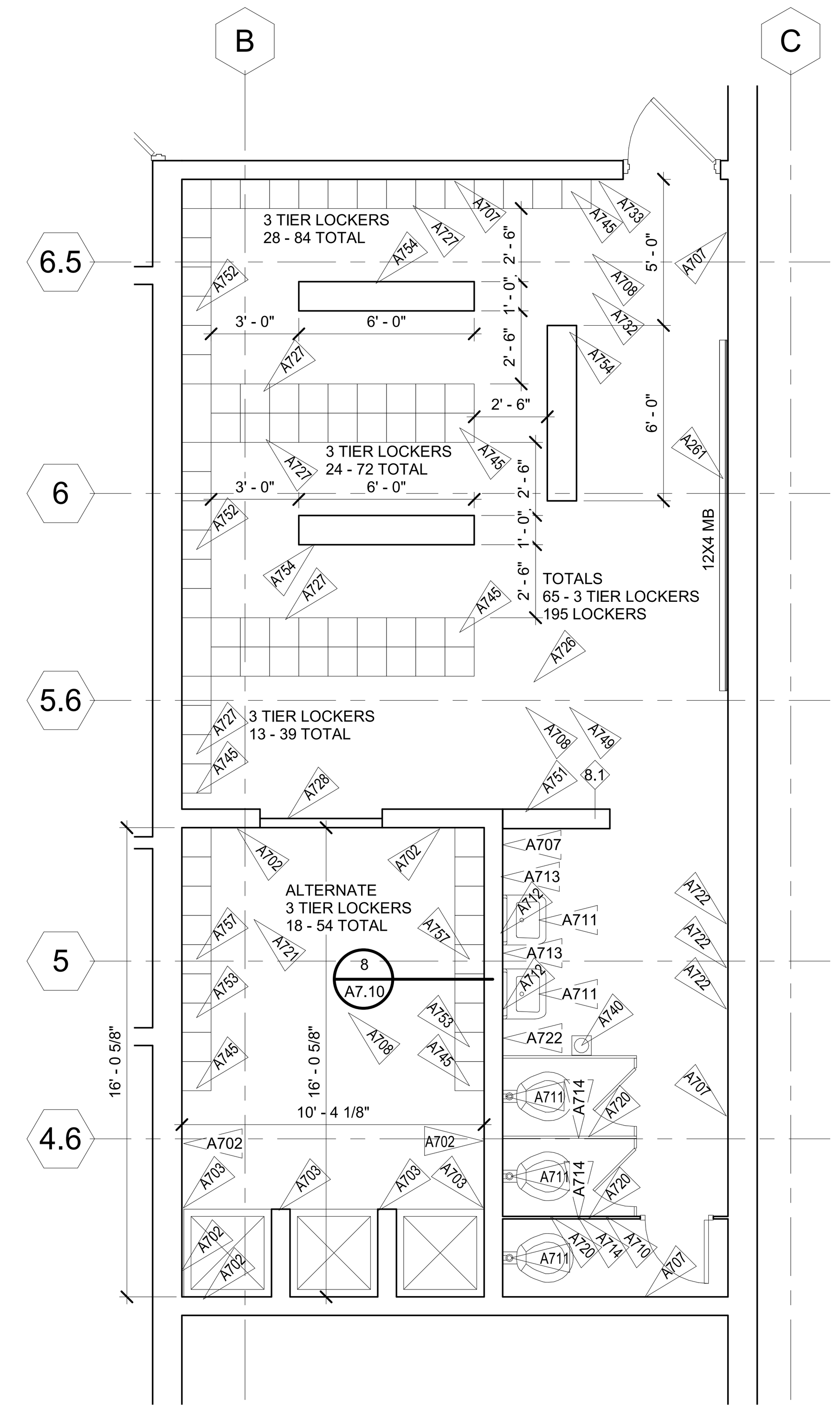
Sheet Title:
Reflected Ceiling Plan

Project No:
1935.03

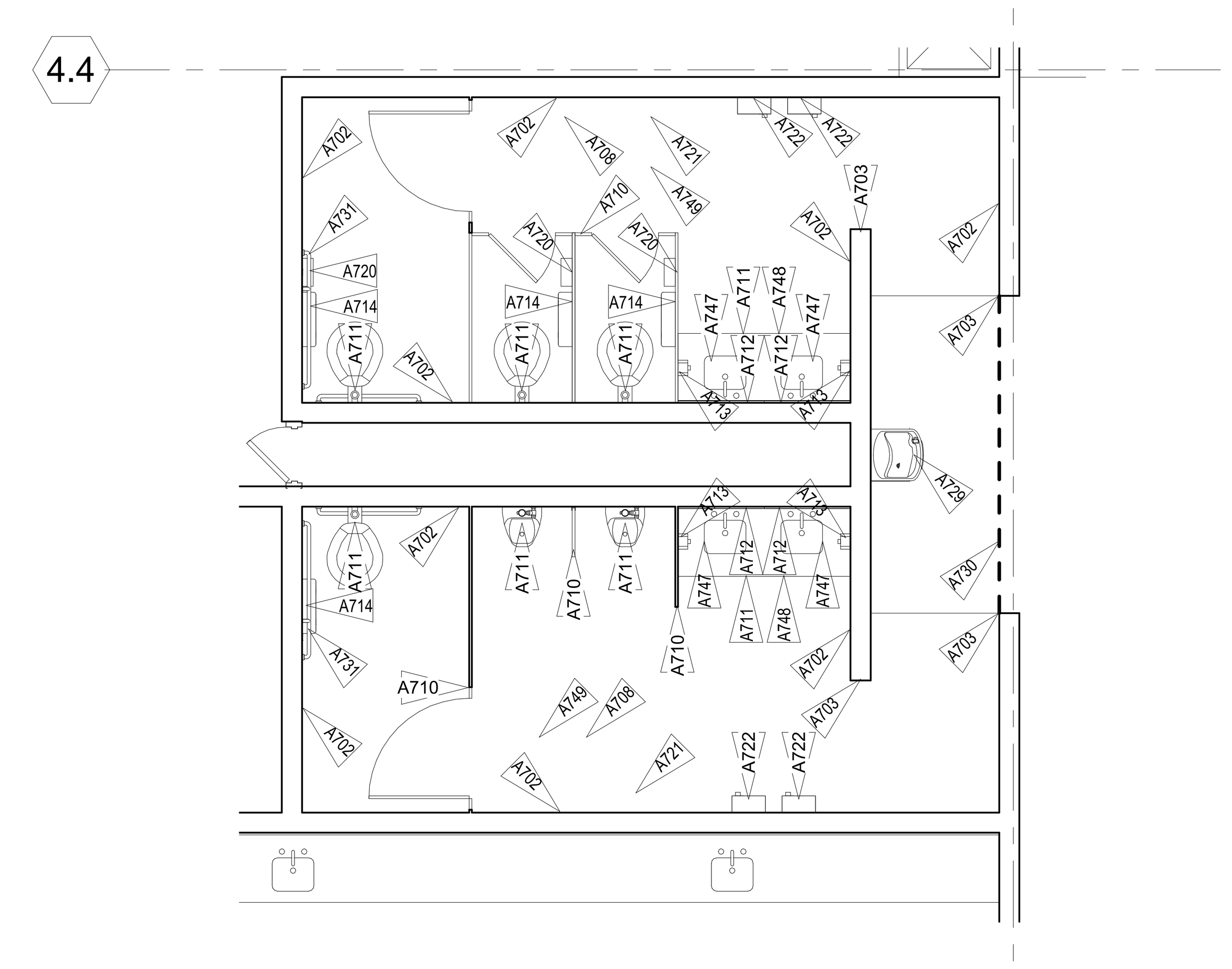
Sheet No:
A6.01



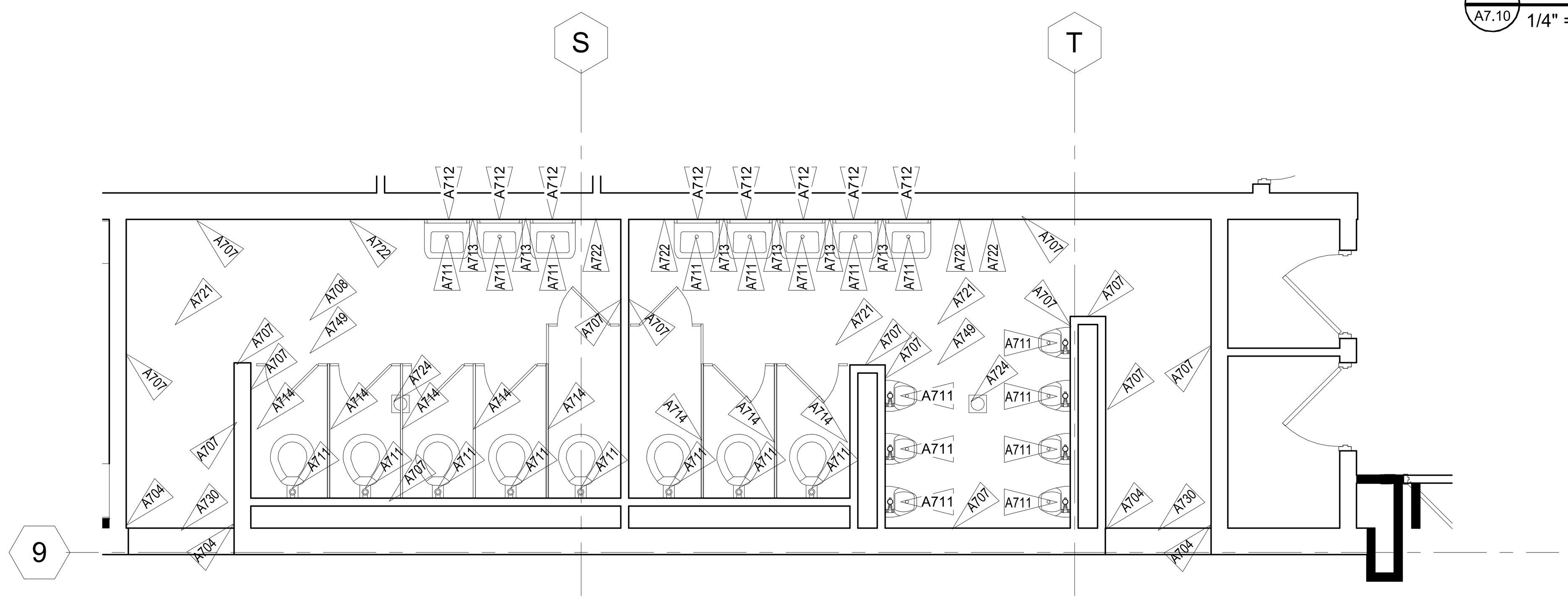
1/A7.10 BOYS LOCKER B119
1/4" = 1'-0"



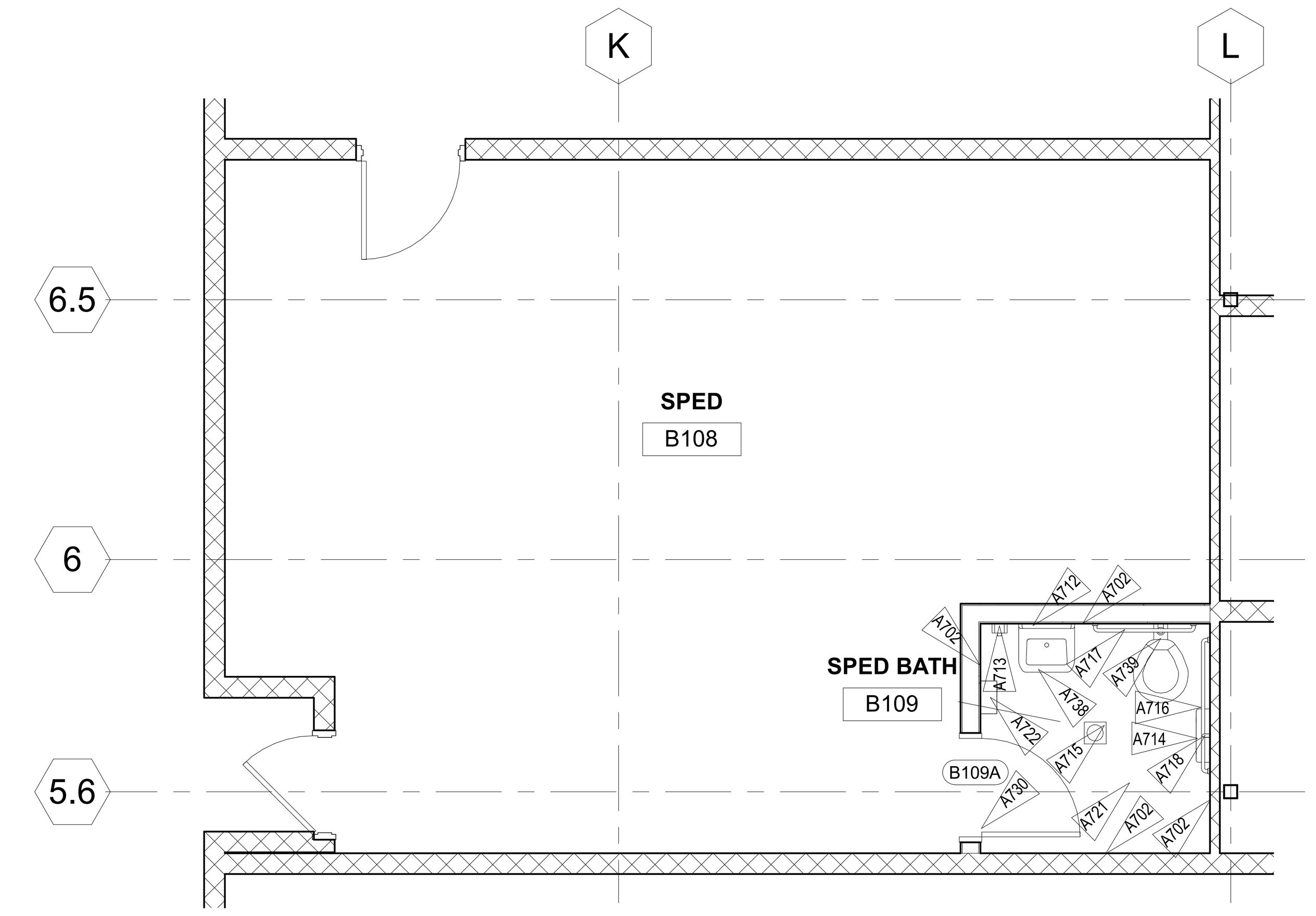
2/A7.10 GIRLS LOCKER A200C
1/4" = 1'-0"



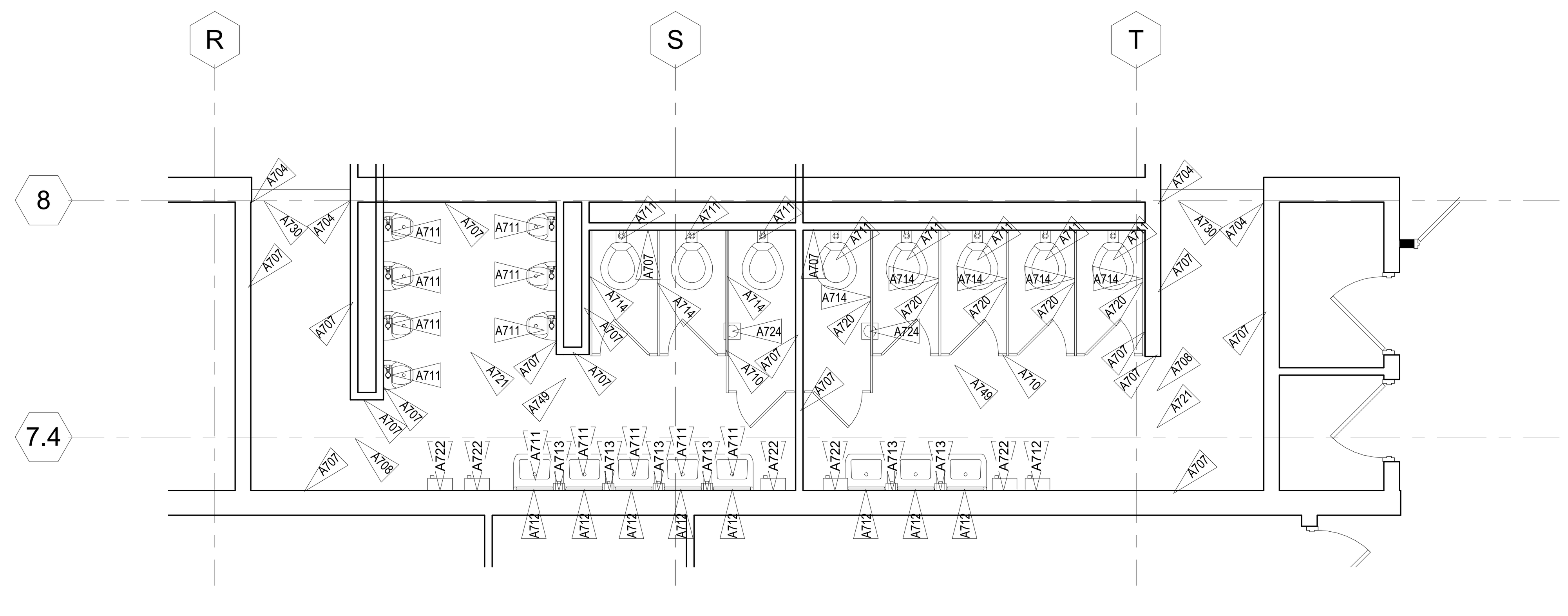
3/A7.10 6TH GRADE BATHS
1/4" = 1'-0"



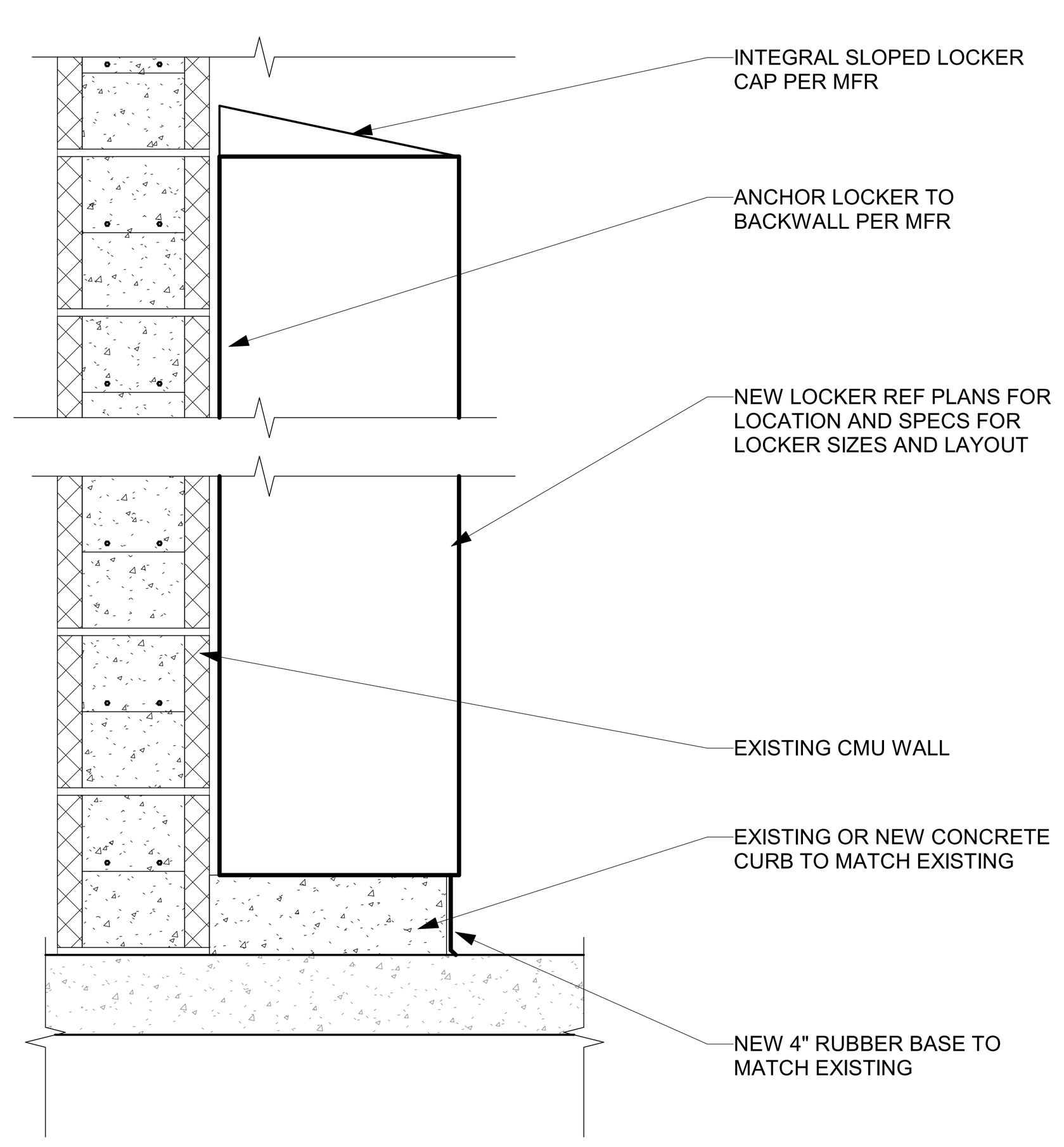
4/A7.10 SOUTH ARCADE EAST BATHS
1/4" = 1'-0"



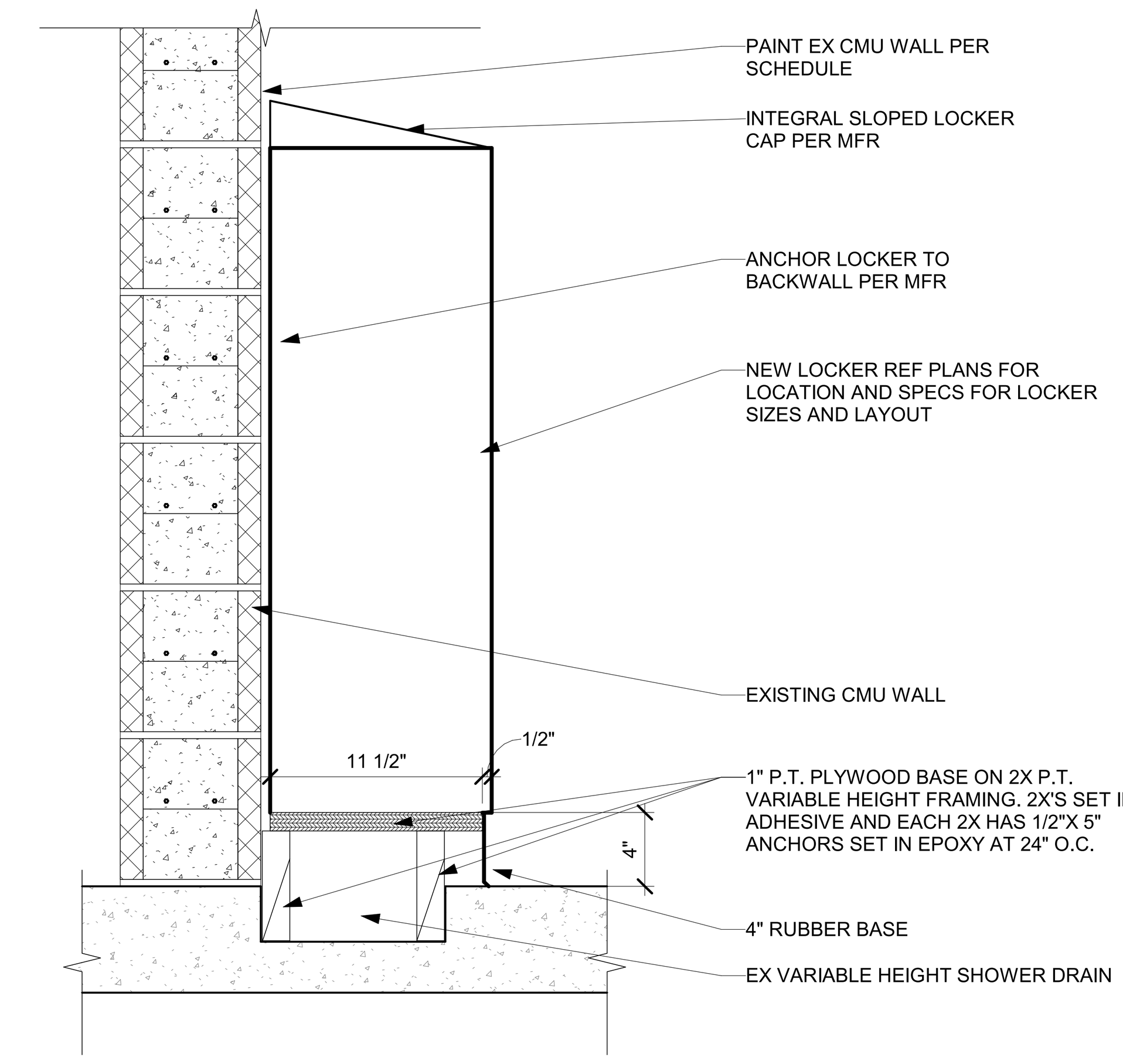
6/A7.10 ARCH PLAN - SPED BATH 2
1/4" = 1'-0"



5/A7.10 SOUTH ARCADE WEST BATHS
1/4" = 1'-0"



7/A7.10 LOCKERROOM LOCKERS
1 1/2" = 1'-0"



8/A7.10 SHOWER LOCKERS
1 1/2" = 1'-0"

NOTES:

BATHROOMS REPAIR/MAINTENANCE SCOPE OF WORK:
NO CHANGE TO LAYOUTS, FIXTURES, AND LIGHTING.
UNLESS NOTED OTHERWISE.

ITEMS BEING REPLACED WILL BE THE SAME SIZE AND INSTALLED IN THE SAME LOCATION.
UNLESS NOTED OTHERWISE.

1. REPLACE WALL TILE
2. REPLACE FLOOR TILE
3. REPAINT EXISTING CMU WALLS AND CEILING
4. NEW PARTITIONS IN SAME SIZE/LOCATION AS EX.
5. NEW PLUMBING FITTINGS
6. NEW PLUMBING VALVES
7. NEW MIRRORS
8. NEW HAND DRYERS

Keynote Legend

Key Value	Keynote Text
A246	NO WORK IN AREA
A261	INSTALL (2) NEW 4'x 4' TACKBOARDS WITH A 8'x 4' MAGNETIC WHITEBOARD AND A 6' X 4' PROJECTABLE MARKER BOARD WITH MUSIC STAFF, ON TEACHING WALL, REF DETAIL 3/A7.04
A702	FULL HEIGHT WALL TILE
A703	FULL HEIGHT TILE ON END FACE. TERMINATE TILE ON OUTSIDE EDGE, RE: SIM DETAIL 2/A5.30
A704	FULL HEIGHT TILE ON END FACE. RE: DETAIL 5/A5.30
A707	EXISTING CMU, PAINT (EPOXY PAINT) W/NEW TILE BASE SIM TO 13/A5.30
A708	PATCH AND PAINT EXISTING GYP BD CEILING (EPOXY PAINT)
A710	INSTALL NEW BATHROOM PARTITIONS. OVERHEAD BRACED PER SPECS. PROVIDE ONSITE MEASURMENTS TO CONFIRM EXACT SIZES PER EACH RESTROOM. NEW PARTITIONS TO MATCH EXISTING LAYOUT
A711	EXISTING FIXTURES WITH NEW FAUCETS AND FLUSH VALVES, RE MEP. INSTALL NEW PIPE PROTECTION COVERS AT EXPOSED SINK PIPES
A712	INSTALL NEW WALL MIRROR PER SPECS
A713	GC TO INSTALL OWNER SUPPLIED SOAP DISPENSER
A714	GC TO INSTALL OWNER SUPPLIED TOILET PAPER DISPENSER
A715	EXISTING FLOOR DRAIN - INSTALL TILE PER DETAILS 9-10/A5.30
A716	INSTALL SIDE WALL GRAB BAR GB-2- 42"
A717	INSTALL BACK WALL GRAB BAR GB-1- 36"
A718	INSTALL SIDE WALL VERTICAL GRAB BAR GB-3- 18". IN DRYWALL LOCATIONS ADDITIONAL BACKING MAY BE NECESSARY
A720	INSTALL OWNER PROVIDED SANITARY NAPKIN DISPOSAL UNIT
A721	INSTALL NEW FLOOR TILE
A722	NEW WALL MOUNTED ELECTRIC HANDDRYER
A724	INSTALL NEW FLOOR DRAIN FLUSH WITH TOP OF TILE PER DETAIL
A726	EXISTING SEALED CONCRETE FLOOR TO REMAIN
A727	NEW LOCKERS ON NEW CURBS
A728	EXISTING CONC CURB TO REMAIN, WRAP W/ FLOOR TILE
A729	EXISTING DRINKING FOUNTAIN TO REMAIN
A730	END FLOOR TILE, RE: SIM 14/A5.30
A731	EXISTING GRAB BARS TO REMAIN, REMOVE AND REINSTALL IF REQ FOR TILE INSTALLATION
A732	PATCH FLOOR WHERE WALL WAS REMOVED TO MATCH ADJACENT, SEAL CONC TO MATCH ADJ AS REQ
A733	PATCH CMU WHERE WALL WAS REMOVED
A735	NEW BENCH INSTALLED ON EX CONC CURB, SIM TO EXISTING
A736	NEW SHOWER PARTITION WALL. OVERHEAD BRACED PER SPECS
A738	INSTALL NEW SINK
A739	INSTALL NEW TOILET
A740	EX FLOOR DRAIN
A745	END OF LOCKERS - EXPOSED EDGE. PROVIDE END PANEL
A747	REINSTALL SALVAGED UNDERMOUNT SINK
A748	NEW CORIAN COUNTERTOP AND 6" BACKSPLASH
A749	REPLACE ALL SURFACE MOUNTED LIGHT FIXTURES, REF ELECT
A751	NEW CMU WALL TO MATCH ADJACENT
A752	NEW LOCKERS ON EX CURBS
A753	NEW LOCKERS ON NEW FRAMED CURB
A754	NEW BENCH ON NEW CONC CURB
A755	EXISTING WINDOWS TO REMAIN
A756	MARKERBOARD TO BE MOUNTED OVERTOP OF WINDOWS
A757	ALTERNATE #5

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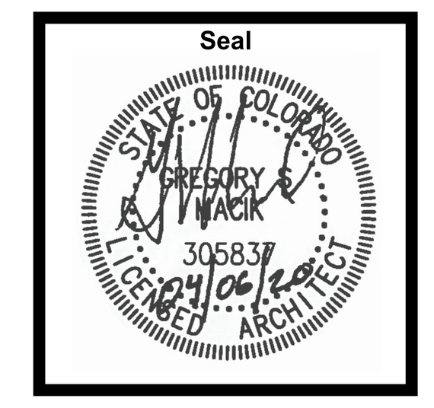

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Revisions:

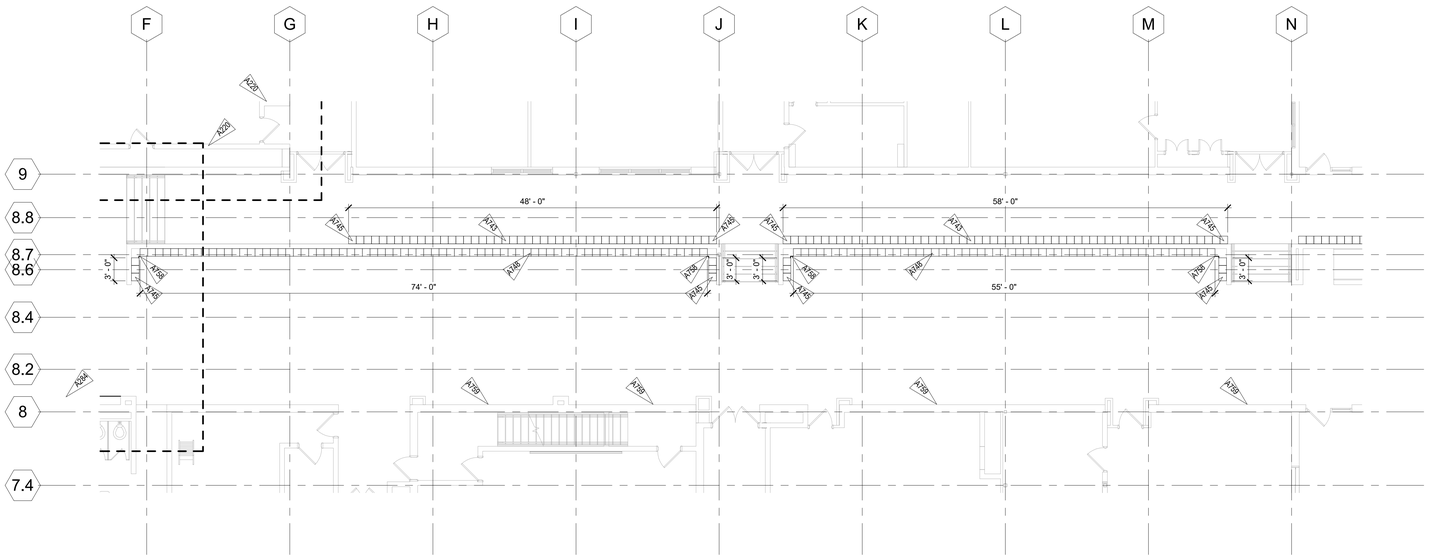
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

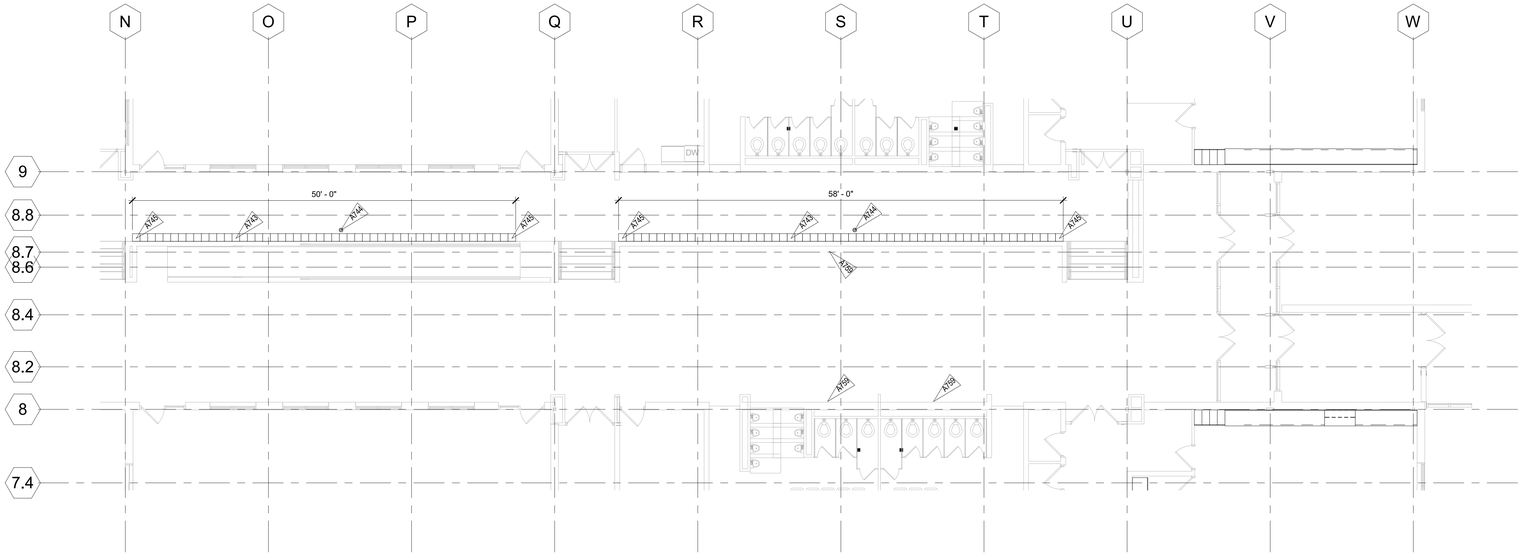
Sheet Title:
Enlarged Floor Plans

Project No:
1935.03

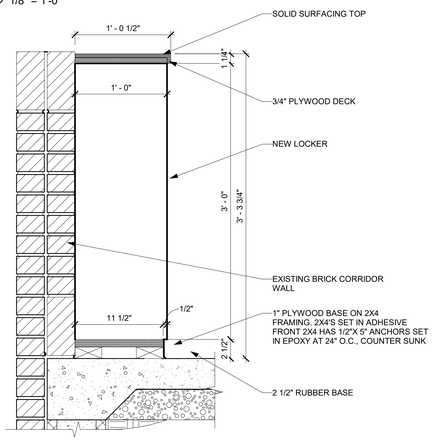
Sheet No:
A7.10



1 A7.11 MAIN LEVEL PLAN LOCKERS - NORTH
1/8" = 1'-0"



2 A7.11 MAIN LEVEL PLAN LOCKERS - SOUTH
1/8" = 1'-0"



3 A7.11 CORRIDOR LOCKERS
1 1/2" = 1'-0"

NOTES:

Keynote Legend	
Key Value	Keynote Text
A220	EXISTING WALL TO REMAIN
A284	PATCH/STAIN/POLISH CONCRETE TO MATCH EXISTING. NEW FFE SEATING
A743	NEW SINGLE TIER LOCKERS
A744	EXISTING FLOOR DRAIN
A745	END OF LOCKERS - EXPOSED EDGE. PROVIDE END PANEL
A748	NEW CORIAN COUNTERTOP AND 6" BACKSPLASH
A758	PROVIDE FILLERS AT INSIDE CORNER
A759	GRIND SMOOTH AT REMOVED CONCRETE CURB. OWNER TO PROVIDE CARPET AT FUTURE DATE

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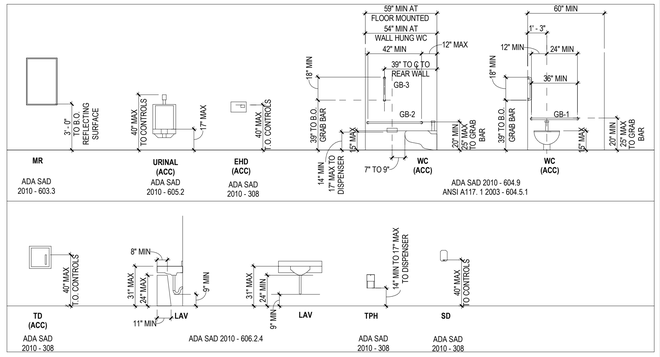
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Corridor Lockers

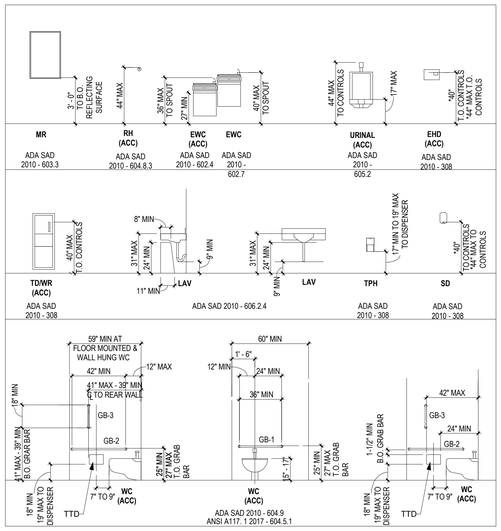
Project No:
1935.03

Sheet No:
A7.11

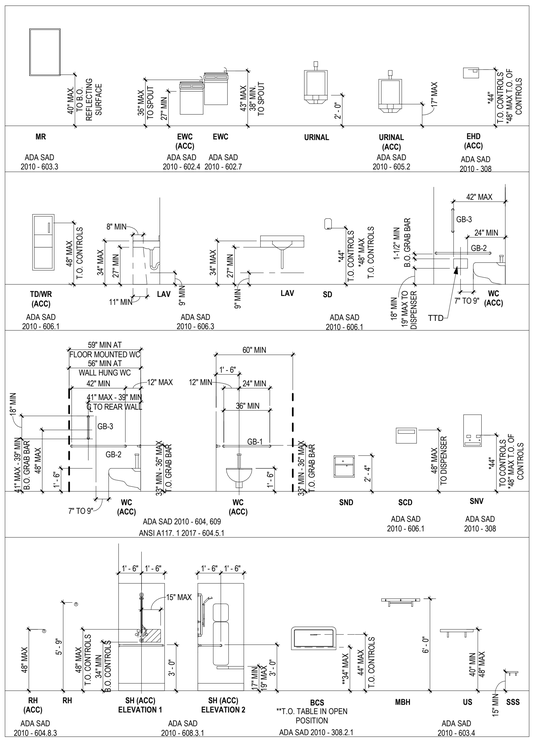
CHILDREN MOUNTING HEIGHTS (AGES 5 THROUGH 8)



CHILDREN MOUNTING HEIGHTS (AGES 9 THROUGH 12)



ADULT MOUNTING HEIGHTS



RE: INT. ELEV.

RE: INTERIOR ELEVATIONS

AP3 USED AT SINK LOCATIONS WITH A GARBAGE DISPOSAL (xx / xx)

AP2 (xx / xx)

AP1 (xx / xx)

1'-6"

CLOSET SHELF AND POLE

CLOSET SHELF 16" DEEP WITH CLOAK POLE

SPECIALTY CABINET AND APRONS

AWI_425 AWI_402 AWI_401 AWI_400

AWI_4xx

AWI_441 AWI_350 AWI_312 AWI_311 AWI_310 AWI_302 AWI_301 AWI_300

AWI_3xx

FILE DRAWER

AWI_291 AWI_290 AWI_254 AWI_253 AWI_250 AWI_231 AWI_230 AWI_224 AWI_223 AWI_222 AWI_212 AWI_211

AWI_2xx

AWI_170 AWI_162 AWI_161 AWI_151 AWI_142 AWI_130 AWI_120 AWI_110 AWI_102 AWI_101 AWI_100

AWI_1xx

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STATE OF COLORADO TIMOTHY J. MACK 30583 LICENSED ARCHITECT

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Issue Dates:
Initial SD - 12/20/19
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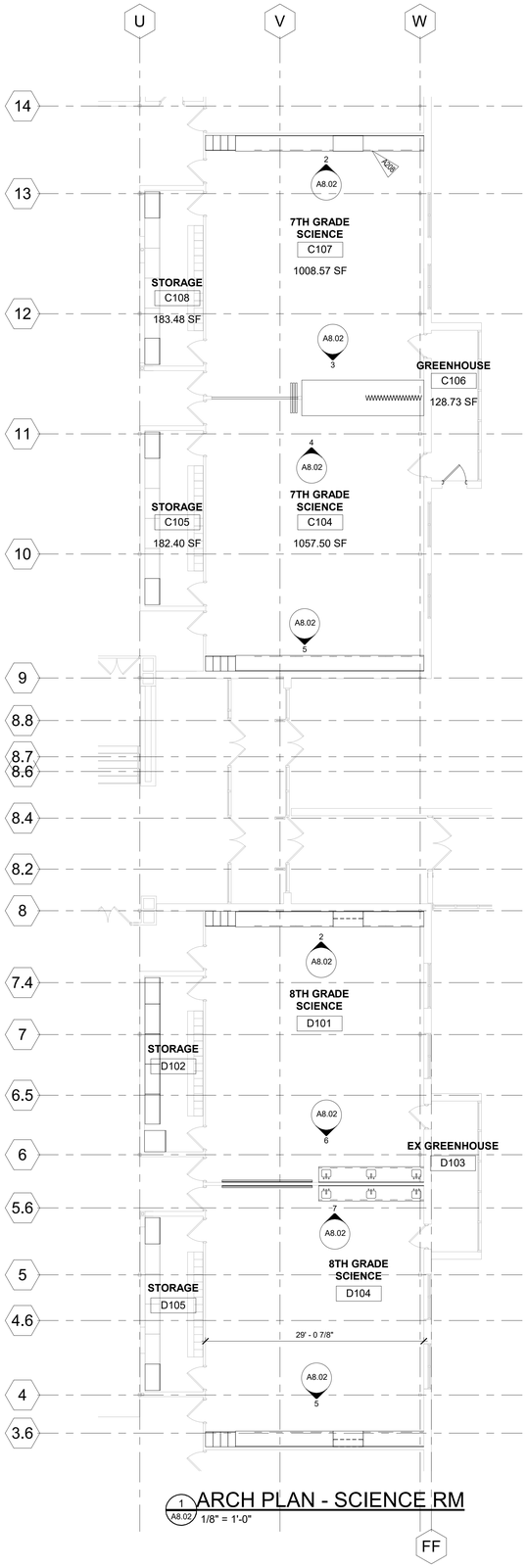
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

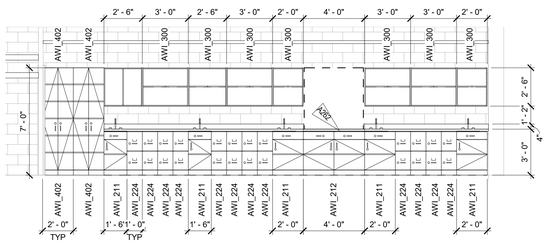
Sheet Title:
Restroom and Typ Cabinet Elevations

Project No: 1935.03

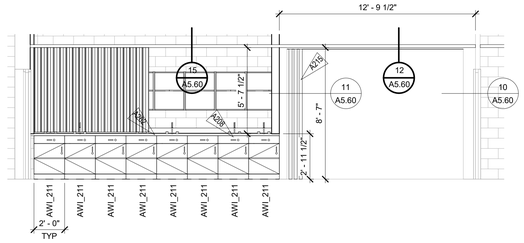
Sheet No: A8.01



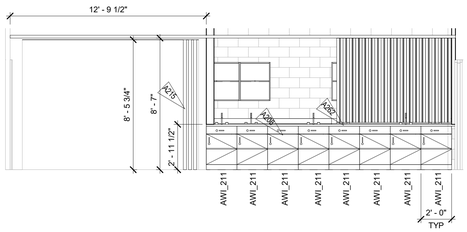
1 A8.02 ARCH PLAN - SCIENCE RM
1/8" = 1'-0"



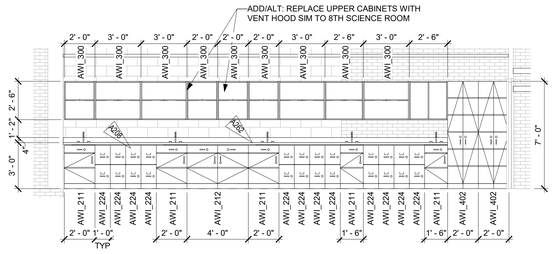
2 A8.02 C107 7TH GRADE SCIENCE NORTH
1/4" = 1'-0"



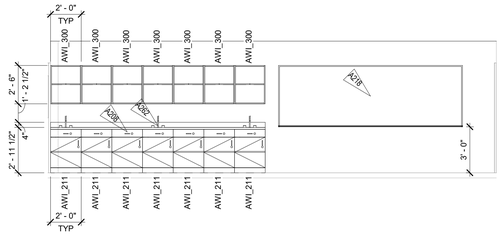
3 A8.02 C107 7TH GRADE SCIENCE SOUTH
1/4" = 1'-0"



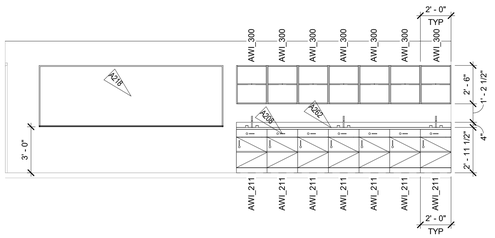
4 A8.02 C104 7TH GRADE SCIENCE NORTH
1/4" = 1'-0"



5 A8.02 C104 7TH SCIENCE SOUTH
1/4" = 1'-0"



6 A8.02 D101 8TH GRADE SCIENCE SOUTH
1/4" = 1'-0"



7 A8.02 D104 8TH GRADE SCIENCE NORTH
1/4" = 1'-0"

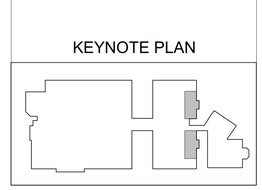
NOTES:

INTERIOR ELEVATION NOTES:

1. DO NOT SCALE DRAWINGS.
2. VERIFY EQUIPMENT ROUGH IN DIMENSIONS WITH MANUFACTURER
3. ALL DIMENSIONS ARE TO FACE OF CONCRETE, MASONRY, OR FACE OF GYPSUM BOARD, UNLESS OTHERWISE NOTED.
4. EQUIPMENT (SHOWN DASHED) SHOWN FOR COORDINATION ONLY. REFER TO EQUIPMENT DRAWINGS OR SPECIFICATIONS AND DIMENSIONS.
5. REFER TO SHEET A0.10 FOR TYPICAL MOUNTING HEIGHTS.

Keynote Legend	
Key Value	Keynote Text
A208	INSTALL NEW CASEWORK WITH UPPER/LOWER CABINETS, SINKS REF INTERIOR ELEVATIONS
A215	INSTALL NEW SOUND PROOF PARTITION WALL SYSTEM
A218	INSTALL NEW TACKBOARDS WITH PROJECTABLE/MAGNETIC WHITEBOARD ON TEACHING WALL. REF DETAIL 2/A5.20 AND SEE PLANS FOR SIZES
A262	NEW EPOXY COUNTERTOPS WITH INTEGRAL EPOXY SINKS

KEYNOTE PLAN



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Steamboat Springs, CO 80487

Revisions:

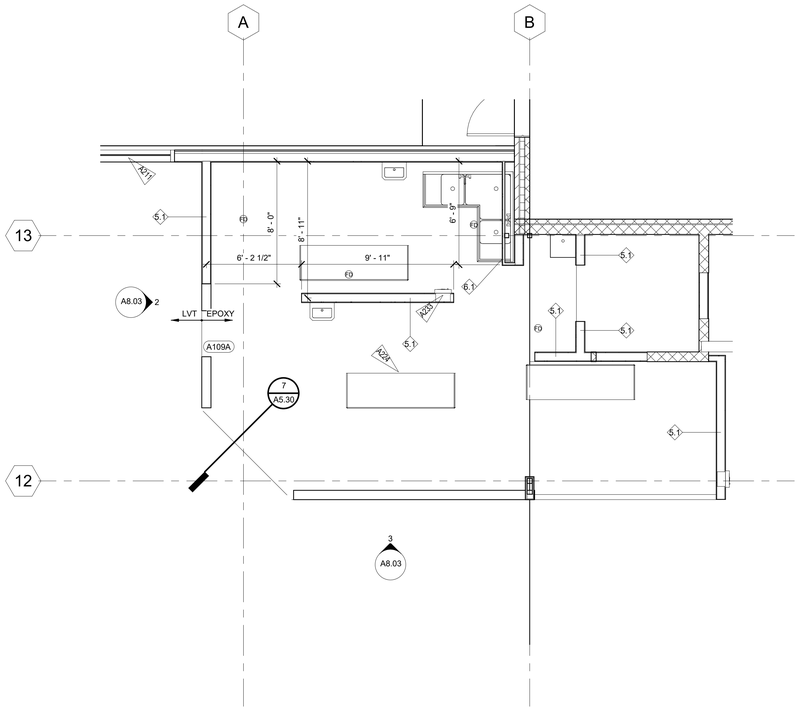
No	Description	Date

Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Science Classroom Interior Elevations

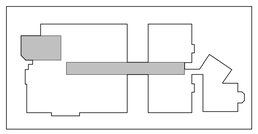
Project No:
1935.03

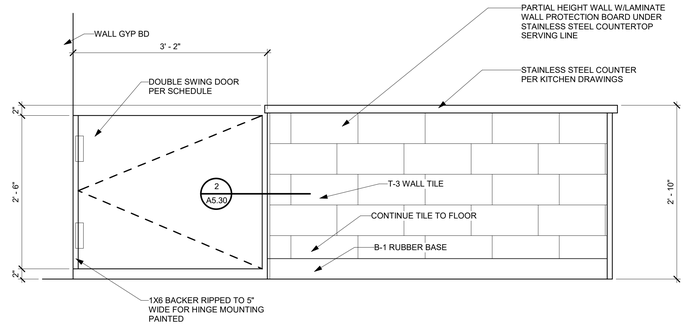
Sheet No:
A8.02



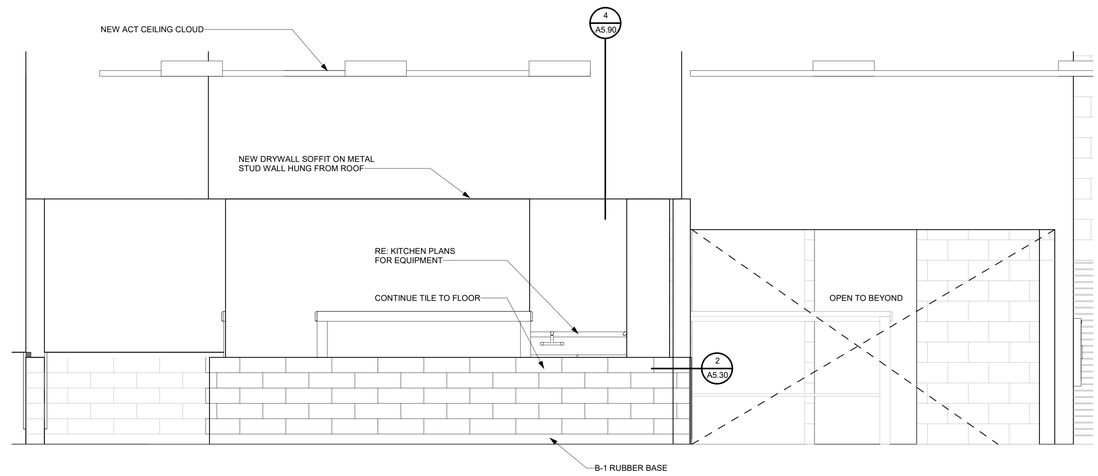
1 A8.03 CAFETORIUM PLAN
1/4" = 1'-0"

KEYNOTE PLAN





2 A8.03 SERVING LINE SWING DOOR
1" = 1'-0"



3 A8.03 SERVING LINE INE BASE
1/2" = 1'-0"

NOTES:

INTERIOR ELEVATION NOTES:

1. DO NOT SCALE DRAWINGS.
2. VERIFY EQUIPMENT ROUGH IN DIMENSIONS WITH MANUFACTURER
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5. REFER TO SHEET A0.10 FOR TYPICAL MOUNTING HEIGHTS.

Keynote Legend	
Key Value	Keynote Text
A211	NEW WINDOW SOLID SURFACE SILLS
A224	INSTALL NEW EPOXY FLOORING
A233	INSTALL NEW SEMI RECESSED FIRE EXTINGUISHER CABINET, NO MORE THAN 75' APART, FULLY RECESSED CABINET IN GYM

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Revisions:		
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Issue Dates:
Initial SD - 12/20/19
SD - 01/14/20
DD - 02/21/20
95% CD - 03/30/20
CD's - 04/07/20

Sheet Title:
Cafeteria Interior Elevations

Project No:
1935.03

Sheet No:
A8.03

STANDARD ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
APA	AMERICAN PLYWOOD ASSOCIATION
ARCH	ARCHITECT / ARCHITECTURAL
B	BOTTOM
BETW	BETWEEN
BF	BOTTOM OF FOOTING
BL	BRICK LEDGE
BLDG	BUILDING
BLKG	BLOCKING
BRG	BEARING
BW	BOTTOM OF WALL
CFS/CFMF	COLD FORMED STEEL/COLD FORMED METAL FRAMING
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT, CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
DAS	DEFORMED ANCHOR STUD
DL	DEAD LOAD
DN	DOWN
DT	DIAG TRUSS
DWG	DRAWING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EL EV	ELEVATOR
EQ	EQUAL
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
(E)	EXISTING
FD	FLOOR DRAIN
FDN	FINISHED FLOOR
FF	FOUNDATION
FTG	FOOTING
FV	FIELD VERIFY
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GET	GABLE END TRUSS
GL	GLULAM BEAM OR COLUMN
GT	GIRDER TRUSS
HAS	HEADED ANCHOR STUD
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HGT	HEIGHT
HT	HIP TRUSS
IBC	INTERNATIONAL BUILDING CODE
IF	INSIDE FACE
JT	JOINT
k	KIPS
LL	LIVE LOAD
LLBB	LONG LEG BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LVL	LAMINATED VENEER LUMBER
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON-CENTER
OH	OPPOSITE HAND
OPNG	OPENING
PAF	POWDER ACTUATED FASTENER
PC	PRECAST
PEWRT	PRE-ENGINEERED WOOD ROOF TRUSS
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLWD	PLYWOOD
QTY	QUANTITY
R	RADIUS
RD	ROOF DRAIN
REINF	REINFORCING
REQD	REQUIRED
RO	ROUGH OPENING
SCHED	SCHEDULE
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SL	STONE LEDGE
SLBB	SHORT LEGS BACK-TO-BACK
SOG	SLAB-ON-GRADE
SP	SPACE(S)
SPECS	SPECIFICATIONS
STD	STANDARD
STFR	STIFFENER
STL	STRUCTURAL
SYM	SYMMETRICAL
TC	TOP OF CONRETE
TF	TOP OF FOOTING
THK	THICKNESS
TL	TOP OF LEDGE
TM	TOP OF MASONRY
TP	TOP OF PLATE
TS	TOP OF STEEL
TW	TOP OF WALL
T&B	TOP AND BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VT	VALLEY TRUSS
W/	WITH
WD	WOOD
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCEMENT
#	POUNDS

DEFERRED SUBMITTALS

THE DESIGN OF THE FOLLOWING BUILDING COMPONENTS SHALL BE TREATED AS DEFERRED SUBMITTALS. ALL ASSOCIATED DRAWINGS AND CALCULATIONS SHALL BE STAMPED AND SIGNED BY THE ENGINEER RESPONSIBLE FOR THEIR PREPARATION. AFTER REVIEW, THE ENGINEER-OF-RECORD SHALL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE BUILDING DEPARTMENT. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL:

1. STEEL BAR JOISTS.
2. COLD FORMED METAL FRAMING.
3. CURTAIN WALL SYSTEMS

GENERAL NOTES

GENERAL NOTES:

1. All work shall conform to the minimum standards of the International Building Code, 2015 edition with Routt County Amendments.
2. Design Loads
   Dead Loads
   Roof superimposed dead load 20 psf
   Mechanical equipment actual weight

   Roof Snow Load
   Snow Criteria:
   Pg = 90 psf, Pf = 72 psf, Ce = 1.0, Ct = 1.0, Is = 1.1

   Occupancy Category III

   Wind Criteria:
   120 mph (3 second gust, Ultimate) 90 mph (Nominal), Exposure C
   Building Category = Enclosed
   Internal Pressure Coefficient = ± 0.18

COMPONENTS AND CLADDING WIND PRESSURES[1,2]

	Effective Area			
Zones[3]	10 sf	20 sf	50 sf	100 sf
Zone 1 - Roof Interior	32.1 (19.3)	31.3 (18.8)	30.2 (18.1)	29.4 (17.7)
Zone 2 - Roof Edge	53.9 (32.3)	48.2 (28.9)	40.6 (24.4)	34.8 (20.9)
Zone 3 - Roof Corner	81.1 (48.7)	67.2 (40.3)	48.7 (29.2)	34.8 (20.9)
Zone 4 - Wall Typical	34.8 (20.9)	33.3 (20.0)	31.5 (18.9)	30.0 (18.0)
Zone 5 - Wall Corner	43.1 (25.8)	40.1 (24.1)	36.3 (21.8)	33.3 (20.0)
Parapet	108 (65)	100 (60)	91 (55)	83 (50)

Footnotes:
1. Pressures shown are determined using ASCE 7-10 and are ultimate with service level pressures shown in parentheses.
2. Refer to details for wind loading on miscellaneous rooftop structures, etc. Roof overhangs shall be designed for applicable component and cladding loads per Figure 30.10-1.
3. Refer to Figure 30.4-1 through 30.6-1 in ASCE 7-10 for description of each zone.

Seismic Criteria
Site Class D, Design Category B, Equivalent Lateral Force Procedure
Seismic Force Resisting System = Steel Ordinary Concentrically Braced Frames
R = 3 1/4, Fa = 1.6, Fv = 2.4, Ss = 0.27, S1 = 0.074, SDS = 0.285, SD1 = 0.118, Cs = .088, Ie = 1.25, V = 58 kips

3. The frost depth is 48 inches. All foundations shall be deeper than this.
4. All omissions or conflicts between various elements of the working drawings and/or specifications shall be brought to the attention of the Architect/Engineer before proceeding with any work so involved.
5. Contractor must check all dimensions, framing conditions, and site conditions before starting work. Architect/Engineer shall be notified immediately of any discrepancies or possible deficiencies.
6. A detail, section, elevation, etc. reference may be indicated only once on a structural construction drawing, but is to be used at all like and similar construction conditions.
7. No modification shall be made to any structural member without the approval of the Architect/Engineer. This also applies to any openings for plumbing, electrical and mechanical trades.
8. Stability of the structural frame during construction is the responsibility of the General Contractor. The structural frame is not complete until all connections to lateral force resisting elements have been made, inspected as required by the building official and accepted by the SER. This includes all diaphragm elements such as metal deck, plywood and gypsum board sheathing, metal straps, concrete topping, tie rods and the like. All concrete elements must have reached their required strength. Temporary bracing of the structure during construction should be provided by the General Contractor and their Sub-Contractors as necessary.
9. Design, materials, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained for the Owner, Architect/Engineer, and the applicable governing code authority.
10. Nothing contained within the contract documents shall relieve the general contractor and the subcontractors of:
    a. the responsibility to determine any aspect of how the work is to be performed
    b. dealing with matters of safety of personnel
    c. safety of property
    d. superintending of the work
    e. construction means and methods
11. The Contractor shall be responsible for all excavation procedures and protection of adjacent property, structures, utilities, etc. in accordance with all national, state and local ordinances.
12. The Contractor shall coordinate, review and submit shop drawings that identify all penetrations for all trades through structural walls, slabs, beams and columns. A single drawing of each portion of the structure identifying locations and sizes of all sleeves and blockouts shall be submitted for review and approval four weeks prior to placing concrete in these structural elements. Penetrations not shown on the approved shop drawings will not be permitted in the field.
13. Shop drawings and calculations where applicable shall be submitted to the Architect/Engineer for approval prior to fabrication or construction of all structural items including the following: concrete and masonry reinforcement, embedded steel items, structural steel, metal decking, shear stud layout, stairs, pre-engineered wood and pre-engineered cold-formed steel. Approved shop drawings shall be submitted to the local building department by the contractor for record only. Allow 2 weeks for review of shop drawings.
14. Special inspection, in accordance with the International Building Code or as required by the construction documents, shall be performed by a qualified inspector from an approved agency. Reports shall be issued to the Architect/Engineer and the Building Department at the completion of each type of work stating whether the work was performed in conformance with the approved plans and specifications. See inspection schedules for specific requirements.
15. Do not place backfill against basement walls until basement and first floors are in place or wall has been adequately shored. Forces due to hydrostatic pressure have not been included in the design of foundation walls.
16. All mechanical and electrical equipment purchases shall be coordinated with the structural drawings by the General Contractor. This includes equipment size, weight, openings, required support, etc. Any discrepancies shall be brought to the architect's and engineer's attention prior to equipment purchase.
17. The structural drawings have been completed using the available information regarding existing conditions. The structural engineer has not field verified any existing conditions. It is the responsibility of the general contractor to field verify the existing conditions and notify the architect and engineer of any discrepancies before proceeding with work.
18. The general contractor shall submit any substitution request to the architect and engineer prior to making any changes. The request shall include all information required for the engineer to fully evaluate the substitution and determine any required compensation for the evaluation.
19. Any item that is listed as a discrepancy by the independent testing agency shall be kept in a log by the general contractor throughout the project. the log shall include the discrepancy number, date of discrepancy, and description of discrepancy. The general contractor shall contact the engineer in a timely manner to address each discrepancy and keep a record of the required corrections, The letter of substantial completion provided by the engineer cannot be released until every item listed in the discrepancy log has been addressed and resolved.
20. For any item that requires a change or correction due to contractor error or deficiency in construction, the contractor shall submit plans, details, and calculations for the proposed solution. These shall be reviewed by the architect and engineer prior to completion of the work. Some corrections may require submitted documentation to be stamped and signed by a professional engineer who is registered in the project jurisdiction.
21. The contractor shall not stockpile any building materials or equipment in a manner that will exceed the load carrying capacity, cause damage, or create excessive deflection to any structural element. The contractor shall contact the engineer for evaluation of locations where it may be necessary for heavy equipment or building material stockpiles prior to placement of these items on any structural element.

SPREAD FOOTING FOUNDATIONS

1. All foundation design and construction shall be accomplished and performed in accordance with the Soils Report as prepared by NWCC, report number 19-11673 dated 12/12/2019. This Soils Report is hereby made a part of these General Notes and all recommendations therein shall be considered as minimums.
2. All foundation excavations, compaction, fill material, testing and inspection of foundation bearing strata shall be performed under supervision of a licensed Geotechnical Engineer. Inspections shall be performed prior to placement of reinforcement and pouring of concrete.
3. Contractor shall provide for de-watering of excavations to remove water from any source prior to pouring concrete.
4. Do not place concrete for foundation on frozen soil.
5. Allowable bearing pressure used in design is 2500 psf.
6. Lateral earth pressure used in the design of retaining walls backfilled with on site soils:
   Active 45 psf/ft
   At rest 55 psf/ft
   Coefficient of Friction 0.4

CONCRETE:

1. Concrete work shall conform to all requirements of the International Building Code and ACI 318, Building Code Requirements for Structural Concrete, latest approved editions.
2. Design mixes shall provide concrete with the following properties as indicated on drawings and schedules:

CONCRETE MIX MATRIX

Mix Type	Intended Use of Concrete	Compressive Strength (28 days)	Max. W/C Ratio	Max. Agg. Size[2]	Slump Limits[3]	Cement Type	Air Content[1]	Required Admixtures
A	Foundation walls, grade beams & footings	4500 psi	0.53	1"	3-5"	I / II	4%-7%	AEA[1]
B	Interior slab-on-grade	3000 psi	0.53	3/4"	3-5"	I / II		
C	Exterior slab-on-grade and parking slab-on-grade	4500 psi	0.45	3/4"	3-5"	I / II	4%-7%	AEA[1]
D	Other concrete	3000 psi	0.50	3/4"	3-5"	I / II	4%-7%	AEA[1]

Footnotes:
1. Air entraining admixture
2. Normal weight aggregate unless noted otherwise
3. Range indicates minimum and maximum limits

3. Use accelerating admixtures in cold weather only when approved by Architect/Engineer. Use of admixtures will not relax cold weather placement requirements. Do not use calcium chloride. Use set retarding admixtures during hot weather only when approved by Architect/Engineer.
4. Prepare concrete mix designs for each type and strength of concrete, using either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method is used, use an independent testing facility acceptable to Engineer for preparing and reporting of proposed mix designs.
5. Submit written reports to Engineer of each proposed mix design at least 15 days prior to start of work. Do not begin concrete production until Engineer has reviewed mix designs.
6. Portland Cement shall conform to ASTM C150, Type I / II, Aggregate for normal weight concrete shall conform to all requirements and tests of ASTM C33. Aggregate for lightweight concrete shall conform to all requirements and tests of ASTM C330. Concrete mixing operations, etc., shall conform to ASTM C94 and ACI 304.
7. Clear concrete coverage for reinforcing bars shall be as follows unless noted otherwise:
   Concrete exposed to earth without forms ..... 3"
   Concrete poured in forms but exposed to earth or weather:
   #5 bars or smaller ..... 1 1/2"
   Bars larger than #5 ..... 2"
   Concrete not exposed to earth or weather:
   Slabs, walls and joists ..... 3/4"
   Beams and column bars ..... 1 1/2"
   (principal reinf., ties and stirrups)
8. All top reinforcing shall terminate with standard hooks at ends of slabs, construction joints, beams, walls, and foundations unless noted otherwise.
9. Non-shrink grout shall conform to ASTM C1107.
10. Water-reducing admixtures shall conform to ASTM C494, and be used in strict accordance with the manufacturer's recommendations. An air-entraining agent conforming to the ASTM C260 shall be used in all concrete mixes for work which is exposed to weather.
11. Cracking of concrete slabs due to shrinkage is expected. The general contractor shall anticipate repairing cracks in all slabs but particularly at the parking levels. Rout and seal all cracks 0.01 inch wide and greater as described in the specifications.
12. Embedded conduits, pipes, and sleeves in concrete:
    a. Any and all conduits, pipes, and sleeves embedded in structural concrete shall be shown in plan or thoroughly described in writing and provided to the Structural Engineer for written approval a minimum of four weeks prior to installation.
    b. All embedded items shall be located as to not impair the strength of the construction of the concrete member.
    c. Contractor shall coordinate the installation of all embedded items and penetrations. Cost of additional reinforcement or where conduit is to be provided with Schedule 40 uncoated or galvanized steel pipe (ASTM 53) shall be borne by the contractor.
    d. All embedded items shall conform to the following, unless otherwise directed by the Structural Engineer or shown on the structural drawings:
       1. Concrete slabs on grade:
          A. Horizontal conduit shall not be embedded within a slab on grade.
       2. Concrete walls:
          A. Conduits shall not be embedded horizontally in any wall, length wise.
          B. Conduits shall not be embedded vertically in any wall less than 8" thick.
          C. For other conditions, proposed conduits less than or equal to 1 1/2" outside diameter shall conform to the following:
             a. No embedment shall disrupt the placement of the reinforcing steel.
             b. The conduit shall be placed between vertical reinforcement layers. The conduit shall be placed in the middle third of the wall for single layer vertical reinforcement.
13. All blockouts in foundation walls and footings must be approved by the Structural Engineer prior to construction.
14. All concrete shall be consolidated by vibration, spading, rodding, or forking so that concrete is thoroughly worked around the reinforcement and embedded items and into corners of forms without segregation of materials.
15. Provide 3/4" chamfers at all exposed corners.
16. Provide 2- #5 bars (1 each face) with 2'-0" projection around all openings greater than 10" in any dimension in concrete slabs and walls, unless noted otherwise.
17. Provide 2- #5 bars at all reentrant and opening corners.
18. Control joints in concrete
    a. Control joints shall be provided in all slabs-on-grade at a maximum spacing of 10'-0" OC for 4" slabs and 12'-0" OC for 5" slabs, unless noted otherwise. Joints shall be 1/8" wide x (thickness/4)" deep continuous sawed joint or pre-molded joint. Joints shall be provided at all column centerlines, corners and ends of walls, re-entrant corners and any other areas with high crack potential. Proposed joint locations shall be submitted to the architect for approval prior to completion of work.
19. Slabs, walls, footings and beams shall not have joints in a horizontal plane. Any stop in concrete work must be made at quarter point of span with vertical bulkheads and horizontal keys, unless otherwise shown. All construction joints shall be as detailed or as approved by the Engineer.
20. Refer to Architectural drawings for reveals, areas of textured concrete or special finishes, items required to be cast into the concrete, curbs and slab depressions.
21. Concrete tolerances shall be as specified in ACI 117 and as follows:
    Tops of walls and columns ..... -3/4", +0"
    Plumbness ..... 1/4" in 10 feet, 1" maximum total
    Plan alignment ..... 1/2" in 20 feet, 1" maximum total
    Cross-sectional dimension ..... -1/4", +1/2"
    Size and location of sleeves and blockouts ..... ±1/4"
    Slab and beam soffits ..... 1/4" in 10 feet, 3/4" maximum total
21. The Contractor shall design all forms and supporting shores in conformance with ACI 347. Design shall include rate and method of placing concrete and construction loads, including vertical, horizontal, and impact loads. Forms shall be substantial and sufficiently tight to prevent leakage of mortar and properly braced or tied to maintain position and shape.
22. Forms shall be removed in such a manner as not to impair safety and serviceability of the structure. All concrete to be exposed by form removal shall have sufficient strength not to be damaged thereby. Reshore until 28 days after placement , and for full duration where construction loads exceed specified service loads. Reshoring shall conform to ACI 347.

REINFORCING STEEL

1. Reinforcing steel shall conform to ASTM A615, Grade 60. Reinforcing to be welded or field bent shall be ASTM A706, Grade 60.
2. Welded wire reinforcement (WWR) shall conform to ASTM A185, Fy=65 ksi. WWR must lap one full mesh plus 2" at side and end laps, but not less than 6" and shall be wired together. WWR shall be placed in the center of slabs-on-grade or in the center of the concrete thickness above the deck for slabs on form deck.
3. Welding of reinforcing steel shall conform to AWS D1.4, using proper low hydrogen electrodes. All bars to be welded shall conform to ASTM A706.
4. All bars in concrete shall be lapped in accordance with the "Concrete Reinforcing Tension Lap Splice Length (Class B)" schedule provided in these drawings unless specifically noted otherwise.
5. Dowels for walls and columns shall be the same size and spacing as the wall/column reinforcing, unless noted otherwise.
6. All reinforcing bar bends shall be made cold with a bar bender at the ACI 318 specified minimum radius.
7. Extend and anchor all horizontal bars at corners and intersections to fully develop the bar.
8. Detail bars in accordance with the latest editions of the ACI Detailing Manual and ACI Building Code Requirements for Structural Concrete.
9. Provide all accessories necessary to support reinforcing at positions shown on the plan.
10. All stirrups shall have a minimum of 2- #4 horizontal reinforcing bars provided as spacers when no other horizontal reinforcing is provided.

STRUCTURAL STEEL:

1. All fabrication and erection shall conform to the latest edition of the AISC Manual of Steel Construction.
2. A Certified Welder approved by the authority having jurisdiction in accordance with AWS, Structural Welding Code D1.1, shall perform all welding.
3. Wide flange shapes shall be ASTM A572, Grade 50, ASTM A36 / A572-50, or ASTM A992.
4. Round hollow structural sections shall be ASTM A500 Grade B (42 ksi).
5. Square and rectangular hollow structural sections (HSS) shall be ASTM A500 Grade B (46 ksi).
6. Pipe sections shall be ASTM A53 Grade B (35 ksi).
7. Miscellaneous structural steel such as plates, angles and channels shall conform to multigrade steel (Angles and Plates 36 ksi, Channels 50 ksi).
8. All welding electrodes shall conform to ASTM E70XX. The minimum fillet weld size shall be 3/16".
9. Headed anchor studs shall conform to ASTM A108 (60 ksi).
10. Anchor rods and unfinished rods shall conform to ASTM F1554, Grade 36.
11. Bolted connections are to be of high-strength ASTM A325-N bolts, unless noted otherwise. A minimum of two bolts is required for all beam connections. Minimum required connection capacity is 12 kips LRFD factored load unless noted otherwise.
12. High-strength bolts shall conform to the provisions of the "Specification for Structural Joints Using ASTM A325 or A490 Bolts", latest edition, as approved by the Research Council on Riveted and Bolted Structural Joints.
13. All high-strength bolts in bearing type connections shall be snug tight. The snug tight condition is defined as the tightness that exists when all plies in a joint are in firm contact. A few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench may attain this. All high-strength bolts shown on the drawings as slip critical or subject to tension loads shall be tightened to a bolt tension not less than that given in Table 8.1 for the RCSC Specification for Structural Joints using ASTM A325 or A490 bolts. Tightening shall be done by the turn-of-nut method, by a direct tension indicator, or by properly calibrated wrenches. Provide hardened washers under the nut or bolt head, whichever is the element turned in tightening. Bolts not indicated as slip critical shall not be pre-tensioned.
14. Shop drawings for all structural steel indicated on the structural drawings shall be submitted for review to the Structural Engineer prior to fabrication.
15. All structural steel exposed to weather shall be hot-dip galvanized, unless noted otherwise.
16. All structural steel shall be shop coated with an approved rust inhibitive primer. Do not prime beams that are to receive fireproofing. See specifications for additional galvanizing information.
17. No holes other than those specifically detailed shall be allowed through structural steel members. No cutting or burning of structural steel shall be permitted without written consent from the Architect/Engineer.
18. All welding of reinforcing steel bars to structural steel members will require continuous inspection by a qualified Inspector.
19. All members are to be erected with natural mill camber or induced camber up, unless noted otherwise on the plans.
20. Steel joists shall be designed, fabricated and erected in accordance with Steel Joist Institute (SJI) Specification. Where steel joists bear on structural steel framing the joist nearest each column on each side of the beam shall be bolted to the beam. Joist bridging shall conform to SJI specifications unless otherwise shown on plans. Joist supplier shall verify that the metal deck, joists, and joist girders meet any size, spacing, support, and/or bridging restrictions imposed by Underwriters Laboratories designated floor or roof systems listed in the architectural drawings.
21. Joist Supplier shall submit calculations for all non-uniformly loaded joists.
22. Install all required bridging and miscellaneous steel prior to installing deck.
23. Connections shall be as shown in schedules and sections in the drawings. Any changes to the connections proposed by the contractor shall be submitted with the structural steel shop drawings. This connection submittal shall include calculations stamped and signed by the contractor's engineer.
24. Miscellaneous Structural steel
    a. Miscellaneous structural steel includes any steel that is not specifically included in the framing of the building superstructure. Superstructure steel may include beams, columns, trusses, girders, joists, braces and frames.
    b. The structural steel supplier shall supply all necessary steel items, whether indicated on the drawings or not, that fulfill the structural design and architectural design intent for the structure. These items may include edge angles, closure angles, deck support, miscellaneous plates, etc.
    c. Openings in roof or floor decks with concrete may be as shown on structural, architectural, or MEP drawings. If openings are not dimensioned on structural plans, refer to architectural or MEP drawings. Unless noted otherwise, openings in decks 24"x24" or less shall be reinforced with 1- #5 in concrete above flutes on all four sides of opening. Reinforcement shall extend 2'-0" minimum beyond edge of opening or have a standard hook. All openings shall have 2'-0" minimum clear between them. For any opening that does not meet this requirement, refer to plans and details for required reinforcing.
    d. Openings in metal roof deck without concrete may be as shown on structural, architectural, or MEP drawings. If openings are not dimensioned on structural plans, refer to architectural or MEP drawings.

METAL DECKING:

1. All metal decking shall conform to ASTM 1008 or ASTM A653 and have minimum yield strength of 33 ksi. All composite deck and any deck permanently exposed to weather or moisture shall be galvanized. The galvanized coating shall conform to ASTM A653, G60 or G90.
2. Minimum deck gages are shown on plans and are based on 3-span, unshored conditions. Heavier deck gage may be required for conditions other than these, depending on manufacturer's layout.
3. Deck welding shall be in accordance with AWS D1.3, "Structural Welding Code-Sheet Steel".
4. Contractor shall provide closure plates, flashing and all miscellaneous light gage metal shapes necessary to complete the work. Deck supplier shall provide closures to match adjacent deck gage as required to complete all diaphragm connections.
5. Minimum bearing of decking on supports shall be 1 1/2".
6. Sheets shall be attached to all supporting steel members by welding as indicated on the drawing and in accordance with manufacturer's recommendations.
7. See plans for deck type, gage and fastening. Steel deck shall be fastened to develop a minimum diaphragm shear of 450 plf.
8. Do not suspend hangers for conduit, sprinklers, light fixtures, etc. from the metal decking.
9. Metal decking shall be continuous on main roof below all overframed areas.

COLD-FORMED STEEL FRAMING:

1. All metallic coated metal studs 16 gage and heavier shall be formed from steel that corresponds to the minimum requirements of ASTM A1003, Grade 50 Type H. All metallic coated 16 gage tracks and heavier shall be formed from steel that corresponds to the requirements of ASTM A570 or A611, Grade 33.
2. All metallic coated 18 gage studs and lighter, all painted track, bridging, end closures and accessories shall be formed from steel that corresponds to the requirements of ASTM A1003, Grade 33, Type H.
3. All galvanized metal studs 16 gage and heavier shall be formed from steel that corresponds to the minimum requirements of ASTM A653, Grade 50. All galvanized 16 gage and heavier tracks shall be formed from steel that corresponds to the requirements of ASTM A653, Grade 33.
4. All galvanized 18 gage studs and lighter, all painted track, bridging, end closures, and accessories shall be formed from steel that corresponds to the requirements of ASTM A653, Grade 33.
5. All painted material and accessories shall be primed with rust inhibitive paint meeting the performance requirements of TT-P-636C.
6. Provide bridging as required by the manufacturer's recommendations.
7. Splices in metal studs, joists, and headers will not be permitted.
8. All corners shall be framed with a minimum of 3 studs of the same gage as wall studs, unless noted otherwise.
9. Multiple studs shall be secured together with either #10 screws at 18" OC staggered or 1⅛" of weld at each flange @18"OC
10. No holes shall be cut in structural studs, joist or headers without written approval from structural engineer.
11. Web stiffeners shall be constructed of unpunched studs or track, gage to match stud below, unless noted otherwise. No holes are allowed in web stiffeners.
12. Holes in studs are not allowed within 12" of the top or bottom of the stud.
13. Do not bend or cut flanges of studs, joist or headers. Any damaged members shall be replaced.
14. The joist web shall be located directly above the stud web unless noted otherwise.
15. Bracing straps shall be flat with no bows or splices. They shall be attached to all intermediate studs with 3-#10 screws.
16. Coordinate joist locations with plumbing and mechanical penetrations. Provide additional joists as required to maintain joist spacing.
17. Minimum effective section properties of metal studs shall be as shown in the current Steel Stud Manufacturer's Association (SSMA) Publication: Fy=50 ksi for 16 gage and heavier section, Fy=33 ksi for 18 gage and lighter sections.
18. Metal stud contractor shall submit structural calculations and drawings for all framing members and connections to the Engineer prior to fabrication.

CONCRETE UNIT MASONRY:

1. Fabrication and placement of all Concrete Masonry Units and reinforcing shall be in accordance with ACI 530 and ACI 530.1 unless noted otherwise.
2. All masonry shall develop a minimum compressive strength, f'm of 1750 psi at 28 days.
3. Concrete block shall be hollow, load-bearing concrete masonry units conforming to ASTM C90 lightweight units, unless noted otherwise.
4. All masonry shall be reinforced grouted masonry. Grout solid all cells specified on plans. As a minimum, grout all cells which contain rebar, bolts, etc. Grout solid all cells below grade. Grouting shall be stopped 1 1/2" below top of course to as to form a key at the pour joint.
5. Mortar shall conform to ASTM C270 Type S with a minimum compressive strength of 1800 psi at 28 days for exterior walls and interior bearing walls, Type M for foundation walls or walls exposed to earth, and Type O or Type N for interior non-bearing walls.
6. Grout shall be self-consolidating and conform to ASTM C476 with a minimum compressive strength of 2000 psi at 28 days.
7. Grout strength test shall be as set forth in ASTM C1019.
8. Aggregates for mortar and grout shall be natural sand and rock conforming to ASTM C144 (mortar) and C404 (grout).
9. Cement shall be Portland Cement conforming to ASTM C150, Type I or II, low alkali.
10. All reinforcement, bolts, etc. shall have minimum grout coverage of 3/4". Reinforcing shall be centered in the cell unless noted otherwise. Reinforcing steel shall be secured in place and inspected prior to grouting.
11. Unless otherwise noted, place continuous bond beam at top of all walls, at suspended floors and at roofs. Reinforce bond beam with 2- #5 bars. At floor and roof levels, bond beam reinforcing shall be continuous through control joints. Elsewhere, bond beam reinforcing shall be discontinuous at control joints. Hook reinforcing at end of wall and make continuous around corners. Step bond beam as required to align with floors and roofs. Lap bond beam 4'-0" at vertical steps.
12. Unless otherwise noted, CMU wall reinforcing shall be as follows:
    a. All walls shall be reinforced with #5 @48" OC vertical maximum
    b. Provide 1- #5 around openings greater than 12" in any dimension and each side of control joints. Extend reinforcing 2'-0" past edge of opening.
    c. Provide 2- #5 vertical at all wall ends
    d. Provide #5 vertical at all wall corners
    e. Horizontal joint reinforcing in all masonry walls shall be 9 gage minimum ladder type spaced @16" OC. Joint reinforcing shall be lapped 8" keeping cell clear of crossing wires.
13. Unless noted otherwise, place continuous bond beam at tops of walls, at suspended floors and roofs, and top course of parapets.
14. See the architectural drawings for finish surface, height of units, laying pattern and joint types. Unless specifically shown otherwise, all concrete block shall be laid in running bond.
15. Cleanouts shall be provided for all grout pours over 5 feet in height. All grout pours greater than 12" require internal mechanical vibration and reconsolidation. Grout pours 12" or less shall be mechanically vibrated or puddled.
16. High lift grouted construction may be used in conformance with IBC requirements.
17. Continuous special inspection shall be provided during preparation and taking of any required prisms or test specimens, at the start of laying of masonry units, after the placement of reinforcement, grout space prior to each grouting operation, and during all grouting operations.
18. Concrete block shall have attained full design compressive strength prior to placement. Date of manufacture shall be stapled to pallets.
19. Concrete block shall be dry at time of placement. Wet or frozen masonry units shall not be placed.
20. Provide 1" soft joint between CMU partitions and all vertical concrete surfaces. See architectural drawings for caulking and fire safing requirements of soft joints.
21. Anchored Brick/Stone Veneer:
    Unless noted otherwise, brick and/or stone veneer shall be anchored as follows:
    a. Anchors for veneer shall be two-piece, adjustable anchors with minimum W1.7 wire size. Anchors shall be submitted to architect for approval prior to installation.
    b. Anchor spacing
       1. Maximum spacing shall be 24" OC vertical and 16" OC horizontal
       2. For seismic design categories D, E and F, maximum spacing shall be 16" OC vertical and 16" OC horizontal. See general section for seismic design category.
    c. Backing of brick/stone veneer shall be spaced @16" OC maximum. Cold-formed steel backing shall be 18 ga minimum and galvanized. All backing shall be fastened to structural framing with minimum #10 screws.
    d. Loose lintels shall be as specified in the Loose Lintel Schedule. All lintels and relief angles shall be galvanized. Provide a 3/8" minimum gap between bottom of relief angle and top of veneer below.

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Revisions:

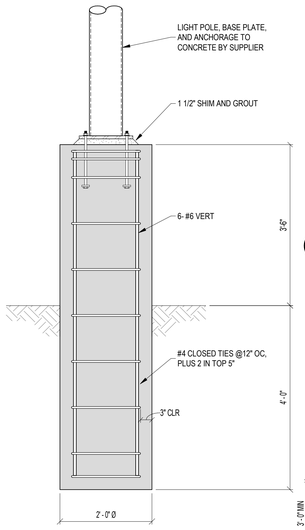
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

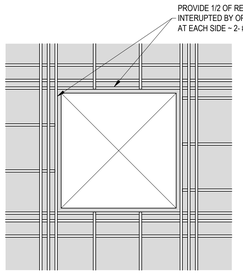
Sheet Title:
General Notes

Project No:
TAB-1935.01
JH-20191103

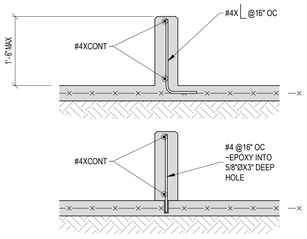
Sheet No:
S1.0



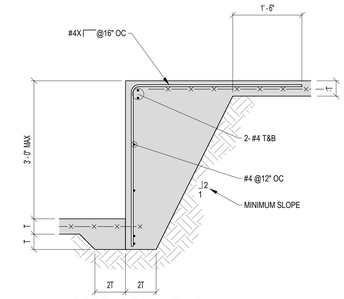
20 LIGHT POLE BASE
3/4" = 1'-0"



16 CONCRETE WALL AT OPENINGS 12" - 48"
3/4" = 1'-0"



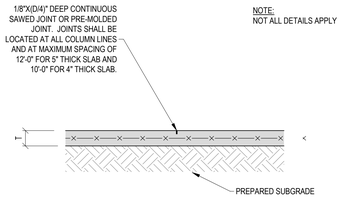
11 CURBS / MONOLITHIC & POST-INSTALLED
3/4" = 1'-0"



6 LARGE SLAB STEP - TYPE 1
3/4" = 1'-0"

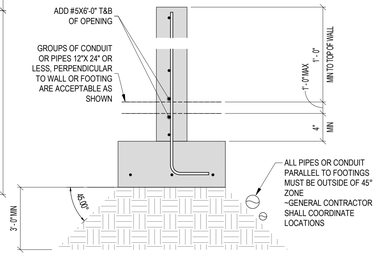
BOXED NOTES INDICATE A TYPICAL CONDITION EXISTS UNLESS NOTED OTHERWISE

NOTE:
NOT ALL DETAILS APPLY

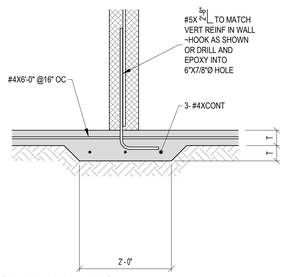


NOTE:
JOINTS MUST BE CUT AS SOON AS POSSIBLE AFTER POUR

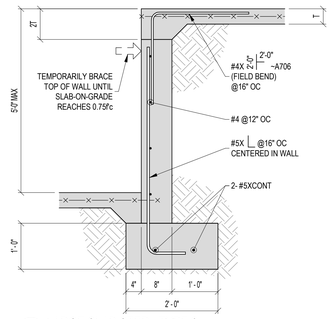
1 CONTROL JOINT
3/4" = 1'-0"



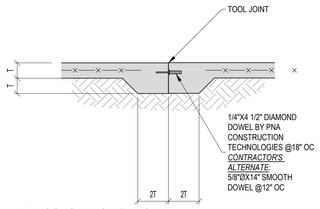
17 PIPE/CONDUIT ADJACENT TO FOOTINGS
3/4" = 1'-0"



12 CMU WALL BEARING
3/4" = 1'-0"



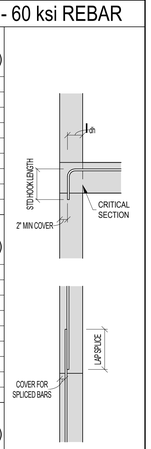
7 LARGE SLAB STEP - TYPE 2
3/4" = 1'-0"



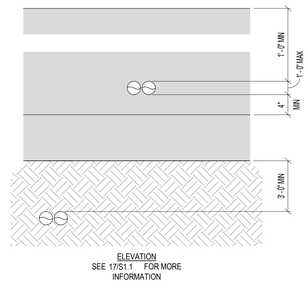
2 CONSTRUCTION JOINT
3/4" = 1'-0"

CONCRETE REINFORCING TENSION LAP SPLICE LENGTH (CLASS B) - 60 ksi REBAR								
BAR SIZE ENGLISH (METRIC)	f'c=3000 psi (3/4" COVER)		f'c=3000 psi (1 1/2" COVER)		f'c=3000 psi (2" COVER)		STD HOOK LENGTH	l dh (f'c = 3000psi)
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS		
#3 (10)	17	13	17	13	17	13	6	6
#4 (13)	29	22	23	17	23	17	8	8
#5 (16)	42	32	28	22	28	22	10	10
#6 (19)	56	43	34	26	34	26	12	12
#7 (22)	90	69	55	43	49	38	14	14
#8 (25)	112	86	70	54	56	43	16	16
#9 (29)	135	104	86	66	69	53	19	18
#10 (32)	163	125	105	81	85	66	22	20
#11 (36)	190	146	126	97	102	79	24	22
BAR SIZE ENGLISH (METRIC)	f'c=4000 psi (3/4" COVER)		f'c=4000 psi (1 1/2" COVER)		f'c=4000 psi (2" COVER)		STD HOOK LENGTH	l dh (f'c = 4000psi)
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS		
#3 (10)	16	12	15	12	15	12	6	6
#4 (13)	25	19	20	15	20	15	8	7
#5 (16)	36	28	24	19	24	19	10	9
#6 (19)	48	37	29	23	29	23	12	10
#7 (22)	78	60	48	37	42	33	14	12
#8 (25)	96	74	61	47	49	37	16	14
#9 (29)	117	90	75	57	60	46	19	15
#10 (32)	140	108	91	70	74	57	22	17
#11 (36)	165	127	109	84	89	68	24	19
BAR SIZE ENGLISH (METRIC)	f'c=5000 psi (3/4" COVER)		f'c=5000 psi (1 1/2" COVER)		f'c=5000 psi (2" COVER)		STD HOOK LENGTH	l dh (f'c = 5000psi)
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS		
#3 (10)	16	12	13	12	13	12	6	6
#4 (13)	22	17	18	14	18	14	8	6
#5 (16)	33	25	22	17	22	17	10	8
#6 (19)	44	34	26	20	26	20	12	9
#7 (22)	70	54	43	33	38	29	14	11
#8 (25)	87	67	54	42	43	33	16	12
#9 (29)	105	81	67	51	54	41	19	14
#10 (32)	126	97	82	63	66	51	22	16
#11 (36)	148	114	97	75	79	61	24	17

NOTES:
1. TABULATED VALUES ARE BASED ON NON-EPOXY COATED GRADE 60 REINFORCING BARS AND NORMAL WEIGHT CONCRETE. LENGTHS ARE IN INCHES.
2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-14.
3. CLEAR SPACING OF BARS MUST BE AT LEAST DOUBLE THE CONCRETE COVER.
4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
5. FOR LIGHT WEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.33.
6. DEVELOPMENT LENGTH (ld) = TENSION LAP SPLICE LENGTH DIVIDED BY 1.3 BUT NOT LESS THAN 12" MINIMUM.
7. MINIMUM COVER FOR ldh IS 2 1/2" MEASURED NORMAL TO THE PLANE OF THE HOOKED BAR (SIDE COVER).
8. SEE CONCRETE COLUMN SCHEDULE FOR COMPRESSION LAP SPLICE LENGTHS.

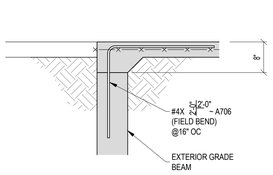


TYPICAL DETAILS

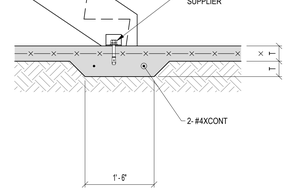


ELEVATION
SEE 17/S1.1 FOR MORE INFORMATION

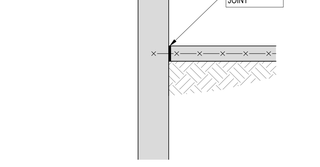
18 PIPE/CONDUIT ADJACENT TO FOOTINGS
3/4" = 1'-0"



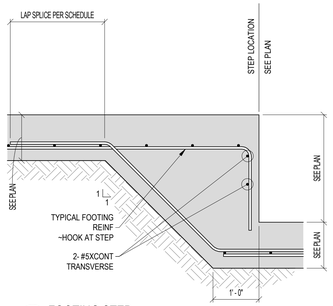
13 THRESHOLD
3/4" = 1'-0"



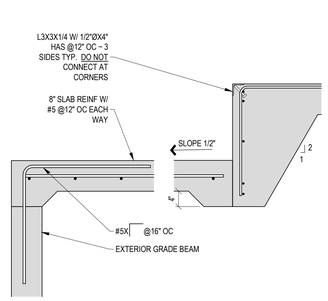
8 THICKENED SLAB AT STAIR BASE
3/4" = 1'-0"



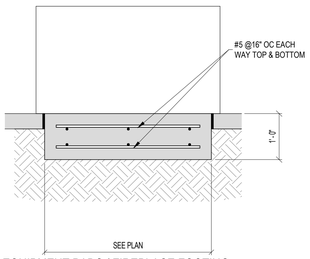
3 SLAB-ON-GRADE ABUTTING VERTICAL CONCRETE
3/4" = 1'-0"



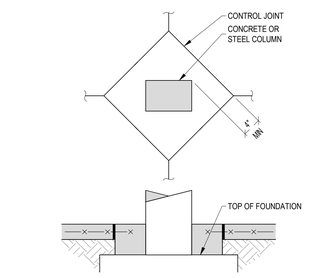
19 FOOTING STEP
3/4" = 1'-0"



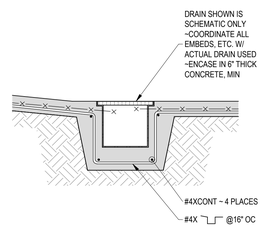
14 DOCK LEVELER
3/4" = 1'-0"



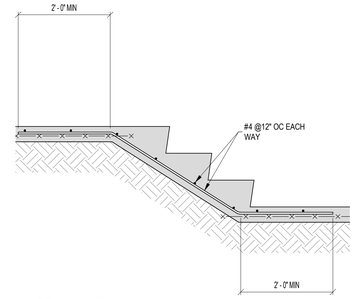
9 EQUIPMENT PADS / FIREPLACE FOOTING
3/4" = 1'-0"



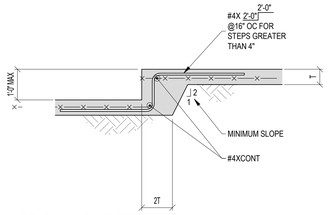
4 DIAMOND BLOCKOUT AROUND COLUMNS
3/4" = 1'-0"



15 TRENCH DRAIN
3/4" = 1'-0"



10 STAIR ON GRADE
3/4" = 1'-0"



5 SMALL SLAB STEP
3/4" = 1'-0"

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PROFESSIONAL ENGINEER
4/6/20

Steamboat Springs Middle School
39610 Amethyst Dr

Revisions:		
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Typical Concrete Details

Project No:
TAB-1935.01
JH-20191103

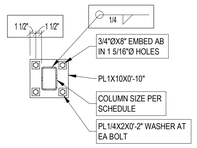
Sheet No:
S1.1

STEEL COLUMN SCHEDULE

MARK	SIZE	BASEPLATE TYPE
1	HSS4X4X5/16	1
2	HSS5X5X5/16	1
3	HSS5X5X1/2	1

NOTES:
1. PROVIDE 1 1/2" NON-SHRINK GROUT UNDER ALL BASE PLATES BEARING ON CONCRETE

BASE PLATE SCHEDULE

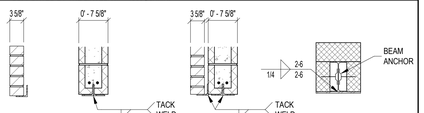


TYPE 1

LOOSE LINTEL SCHEDULE

OPENING SIZE	LOOSE LINTEL		COMMENTS
	LINTEL	BEARING EACH END	
4'-0" OR LESS	L3 1/2X3X1/4 LLH	6"	
4'-0" TO 6'-8"	L3 1/2X3 1/2X1/4	6"	
6'-8" TO 8'-4"	L5X3 1/2X1/4 LLV	6"	
8'-4" TO 10'-0"	L6X3 1/2X5/16 LLV	6"	
10'-0" TO 11'-4"	W8X15 WITH 1/4" PLATE BOTTOM	8"	
11'-4" TO 19'-4"	SEE PLANS		

NOTES:
1. PROVIDE 1 STEEL ANGLE FOR EACH 4" WIDTH OR LESS OF MASONRY.
2. PROVIDE 1 STEEL BEAM FOR MASONRY WIDTH OF 8" TO 12".
3. FOR OPENINGS 8'-0" WIDE OR LESS, BLOCKS AT BEARING MUST BE SOLID OR HAVE CELLS GROUTED SOLID FOR A HEIGHT OF 16" BELOW BEARING ELEVATION.
4. FOR OPENINGS OVER 8'-0" WIDE, REINFORCE WITH 1- #5 AND GROUT THE MASONRY CELL UNDER LINTEL BEARING SOLID ON EACH SIDE OF THE OPENING.
5. FOR OPENINGS OVER 10'-0", PROVIDE 2- 3/4"ØX1'-0" ANCHOR BOLTS EACH END OF LINTEL. SLOT HOLES IN BEAM.
6. JAMB CELLS SHALL BE SOLID GROUTED AND REINFORCED IN ACCORDANCE WITH GENERAL NOTES, PLANS AND DETAILS.
7. DESIGN ASSUMES A 60 DEGREE LOADING TRIANGLE AND NO LEDGER LOADS OR CONCENTRATED LOADS SUPPORTED BY THE LINTEL. fm = 1350 psi MIN.

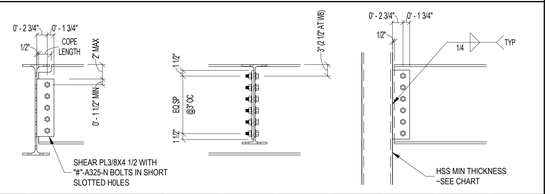


ANGLE 2 ANGLE 3 ANGLE BEAM WITH PLATE

SINGLE PLATE W/ 3/4"Ø A325-N BOLTS - LRFD

BEAM TO GIRDER OR COLUMN CONNECTION

UNCOPED AND TOP COPED



"#"- 3/4"Ø A325-N BOLTS	BEAM SIZES	MIN BEAM WEB THICKNESS	UNCOPED CAPACITY (KIPS)	3" COPE CAPACITY (KIPS)	4" COPE CAPACITY (KIPS)	5" COPE CAPACITY (KIPS)	6" COPE CAPACITY (KIPS)	8" COPE CAPACITY (KIPS)
2	MC8's, MC10's, MC12's, W8×10, W10×12	0.170	29	25	20	16	14	11
2	C8's, C10's, W8×13 AND HEAVIER, W10×15 AND HEAVIER, W10's, W12's	0.230 (W12's≥0.20)	31	31	28	23	19	15
3	W12×14, W12×16	0.200	47	42	42	38	32	22
3	W12×19 AND HEAVIER, C12's, C15's, W14's, W16's, W18's	0.230	47	47	47	47	42	32
4	W16's, W18's, W21's, W24's, C18's	0.250	63	63	63	63	63	58
5	W18's, W21's, W24's, W27's, W30's	0.300	79	-	79	79	79	79
6	W21's, W24's, W30's, W33's, W36's	0.350	95	-	95	95	95	95
7	W24's, W27's, W30's, W33's, W36's, W40's	0.395	111	-	-	111	111	111
8	W27's, W30's, W33's, W36's, W40's	0.460	127	-	-	-	127	127
9	W33's, W36's, W40's	0.550	143	-	-	-	143	143
10	W36's, W40's	0.630	159	-	-	-	159	159

HSS MIN WIDTH	MIN WALL THICKNESS
HSS3× - HSS6×	0.1875
HSS7× - HSS8×	0.25
HSS10×	0.3125
HSS12×	0.375
HSS14× - HSS16×	0.50
IF WALL THICKNESS < REQ'D FOR HSS10 AND UP, USE ANGLE CONNECTIONS	

NOTES:
1. LRFD CAPACITIES ARE BASED ON THE AISC MANUAL FOR STEEL CONSTRUCTION - THIRTEENTH EDITION FOR STRENGTH (LRFD) LOADS.
2. Fy OF BEAMS AND GIRDERS = 50 ksi.
   Fy OF CONNECTION ANGLES = 36 ksi.
3. GIRDER WEB THICKNESS MUST BE ≥ BEAM WEB THICKNESS.
4. INTERPOLATION BETWEEN WEB THICKNESSES GIVEN IS NOT PERMITTED.
5. BEAMS MAY BE SKEWED UP TO 15°.

SINGLE PLATE W/ 3/4"Ø A325-N BOLTS - LRFD

BEAM TO GIRDER OR COLUMN CONNECTION

DOUBLE COPED

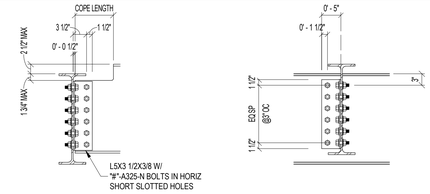
"#"- 3/4"Ø A325-N BOLTS	BEAM SIZES	MIN BEAM WEB THICKNESS	3" COPE CAPACITY (KIPS)	4" COPE CAPACITY (KIPS)	5" COPE CAPACITY (KIPS)	6" COPE CAPACITY (KIPS)	8" COPE CAPACITY (KIPS)
2	W8's, MC10's, MC12's	0.170	12	9	8	6	5
2	W10's[5], C10's[5]	0.190	19	14	12	10	7
3	W12×14[3], W12×16	0.200	33	26	21	18	13
3	W12×19 AND HEAVIER[2] C12's, C15's, W14's, W16's, W18's	0.230	42	33	27	22	17
4	W16's, W18's, W21's, W24's, C18's	0.250	63	62	50	42	32
5	W18's[4], W21's, W24's, W27's, W30's	0.300	79	79	79	74	57
6	W21's, W24's, W27's, W30's, W33's, W36's	0.350	95	95	95	95	95
7	W24's, W27's[5], W30's, W33's, W36's	0.395	-	111	111	111	111
8	W27's[5], W30's, W33's, W36's, W40's	0.460	-	-	127	127	127
9	W30's[5], W33's, W36's, W40's	0.470	-	-	143	143	143
10	W33's[5], W36's, W40's	0.550	-	-	-	159	159
11	W36's[5], W40's	0.600	-	-	-	175	175

NOTES:
1. LRFD CAPACITIES ARE BASED ON THE AISC MANUAL FOR STEEL CONSTRUCTION - THIRTEENTH EDITION FOR STRENGTH (LRFD) LOADS.
2. Fy OF BEAMS AND GIRDERS = 50 ksi.
   Fy OF CONNECTION PLATES = 36 ksi.
3. GIRDER WEB THICKNESS MUST BE ≥ BEAM WEB THICKNESS.
4. INTERPOLATION BETWEEN WEB THICKNESSES GIVEN IS NOT PERMITTED.
5. 1 1/2" COPE DEPTH.
6. BEAMS MAY BE SKEWED UP TO 30° FROM PERPENDICULAR WITH NO REDUCTION IN CAPACITY OR INCREASE IN WELD SIZE.

SINGLE ANGLE W/ 3/4"Ø A325-N BOLTS - LRFD

BEAM TO GIRDER CONNECTION

TOP COPED ONLY - BEAM UPSET 2 1/2"



"#"- 3/4"Ø A325-N BOLTS	BEAM SIZES	MIN BEAM WEB THICKNESS	MAX COPE LENGTH	LRFD CAPACITY (KIPS)
2	W12's	0.200	6"	11
3	W14's, W16's, W18's	0.230	6"	23
4	W18's, W21's, W24's, C18's	0.300	6"	38
5	W21's, W24's, W27's, W30's	0.350	10"	54
6	W24's, W27's, W30's, W33's, W36's	0.395	10"	71
7	W27's, W30's, W33's, W36's, W40's	0.460	10"	88
8	W30's, W33's, W36's, W40's	0.470	10"	105
9	W33's, W36's, W40's	0.550	10"	122
10	W36's, W40's	0.600	10"	139
11	W40's	0.630	10"	156

NOTES:
1. LRFD CAPACITIES ARE BASED ON THE AISC MANUAL FOR STEEL CONSTRUCTION - THIRTEENTH EDITION FOR STRENGTH (LRFD) LOADS.
2. Fy OF BEAMS AND GIRDERS = 50 ksi.
   Fy OF CONNECTION ANGLES = 36 ksi.
3. GIRDER WEB THICKNESS MUST BE ≥ BEAM WEB THICKNESS.
4. INTERPOLATION BETWEEN WEB THICKNESSES GIVEN IS NOT PERMITTED.

SINGLE ANGLE W/ 3/4"Ø A325-N BOLTS - LRFD

BEAM TO GIRDER CONNECTION

DOUBLE COPED

"#"- 3/4"Ø A325-N BOLTS	BEAM SIZES	MIN BEAM WEB THICKNESS	3" COPE CAPACITY (KIPS)	4" COPE CAPACITY (KIPS)	5" COPE CAPACITY (KIPS)	6" COPE CAPACITY (KIPS)	8" COPE CAPACITY (KIPS)
2	W8's, MC10's, MC12's	0.170	12	9	8	6	5
2	W10's, C10's	0.190	11	11	10	8	6
3	W12×14, W12×16	0.200	23	23	19	16	12
3	W12×19 AND HEAVIER, C12's, C15's, W14's, W16's, W18's	0.230	23	23	23	21	16
4	W16's, W18's, W21's, W24's, C18's	0.250	38	38	38	38	32
5	W18's, W21's, W24's, W27's, W30's	0.300	54	54	54	54	54
6	W21's, W24's, W27's, W30's, W33's, W36's	0.350	71	71	71	71	71
7	W24's, W27's, W30's, W33's, W36's	0.395	-	88	88	88	88
8	W27's, W30's, W33's, W36's, W40's	0.460	-	-	105	105	105
9	W30's, W33's, W36's, W40's	0.550	-	-	-	122	122
10	W33's, W36's, W40's	0.600	-	-	-	139	139
11	W36's, W40's	0.630	-	-	-	156	156

NOTES:
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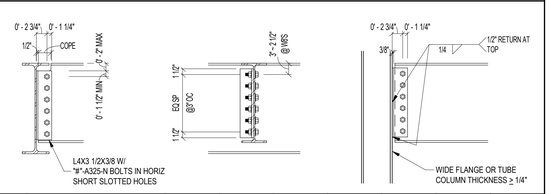
SINGLE ANGLE W/ 3/4"Ø A325-N BOLTS - LRFD

BEAM TO GIRDER OR COLUMN CONNECTION

UNCOPED AND TOP COPED



"#"- 3/4"Ø A325-N BOLTS	BEAM SIZES	MIN BEAM WEB THICKNESS	UNCOPED CAPACITY (KIPS)	3" COPE CAPACITY (KIPS)	4" COPE CAPACITY (KIPS)	5" COPE CAPACITY (KIPS)	6" COPE CAPACITY (KIPS)	8" COPE CAPACITY (KIPS)
2	MC8's, MC10's, MC12's, W8X10, W10X12	0.170	29	25	20	17	14	11
2	C8's, C10's, W8×13 AND HEAVIER, W10X15 AND HEAVIER, W12's	0.230 (W12's≥0.20)	31	31	28	23	19	15
3	W12X14, W12X16	0.200	47	44	44	40	34	23
3	W12X19 AND HEAVIER, C12's, C15's, W14's, W16's, W18's	0.230	47	-	-	47	44	33
4	W16's, W18's, W21's, W24's, C18's	0.250	63	-	-	-	63	60
5	W18's, W21's, W24's, W27's, W30's	0.300	79	-	-	-	-	79
6	W21's, W24's, W30's, W33's, W36's	0.350	95	-	-	-	-	95
7	W24's, W27's, W30's, W33's, W36's, W40's	0.395	111	-	-	-	-	111
8	W27's, W30's, W33's, W36's, W40's	0.460	127	-	-	-	-	127
9	W30's, W33's, W36's, W40's	0.470	143	-	-	-	-	143
10	W33's, W36's, W40's	0.550	159	-	-	-	-	159
11	W36's, W40's	0.600	175	-	-	-	-	175

NOTES:
1. LRFD CAPACITIES ARE BASED ON THE AISC MANUAL FOR STEEL CONSTRUCTION - THIRTEENTH EDITION.
2. Fy OF BEAMS AND GIRDERS = 50 ksi.
   Fy OF CONNECTION ANGLES = 36 ksi.
3. GIRDER WEB, COLUMN WEB OR FLANGE THICKNESS MUST BE ≥ BEAM WEB THICKNESS.
4. INTERPOLATION BETWEEN WEB THICKNESSES GIVEN IS NOT PERMITTED.

SINGLE ANGLE W/ 3/4"Ø A325-N BOLTS - LRFD

BEAM TO GIRDER OR COLUMN CONNECTION

UNCOPED AND TOP COPED ONLY

"#"-3/4"Ø A325-N BOLTS	BEAM SIZES	MIN BEAM WEB THICKNESS	0" TO 6" COPE CAPACITY (KIPS)
2	W8's, W10's, W12's, C8's, C10's, MC8's, MC10's, MC12's,	0.170	11
3	W12's, W14's, W16's, W18's, C15's	0.200	23
4	W16's, W18's, W21's, W24's, C18's	0.250	38
5	W18's, W21's, W24's, W27's, W30's	0.300	54
6	W21's, W24's, W30's, W33's, W36's	0.350	71
7	W24's, W27's, W30's, W33's, W36's, W40's	0.395	88
8	W27's, W30's, W33's, W36's, W40's	0.460	105
9	W33's, W36's, W40's	0.550	122
10	W36's, W40's	0.600	139
11	W40's	0.630	156

NOTES:
1. LRFD CAPACITIES ARE BASED ON THE AISC MANUAL FOR STEEL CONSTRUCTION - THIRTEENTH EDITION FOR STRENGTH (LRFD) LOADS
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3. GIRDER WEB, COLUMN WEB OR FLANGE THICKNESS MUST BE ≥ BEAM WEB THICKNESS.
4. INTERPOLATION BETWEEN WEB THICKNESSES GIVEN IS NOT PERMITTED.

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Electrical Engineer
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Seal
COLORADO LICENSED
MATTHEW OLIVER HEDRICK
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Steamboat Springs Middle School
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Revisions:

No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
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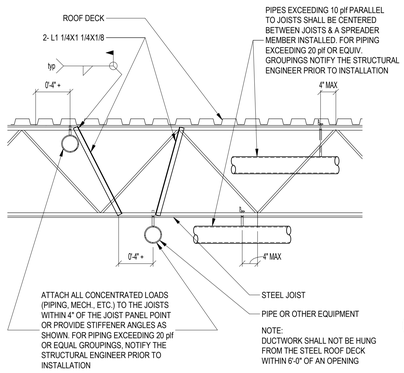
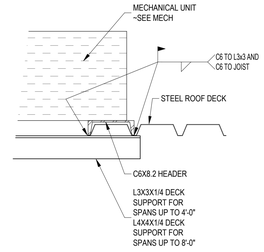
Sheet Title:
Steel Connection Schedules

Project No:
TAB-1935.01
JH-20191103

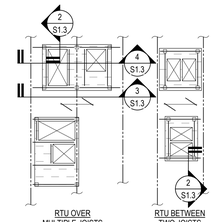
Sheet No:
S1.2



11 JOIST REINFORCEMENT AT PIPING
3/4" = 1'-0"

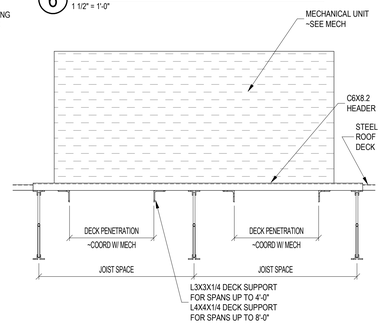


6 STEEL CHANNEL MECHANICAL UNIT SUPPORT
1 1/2" = 1'-0"

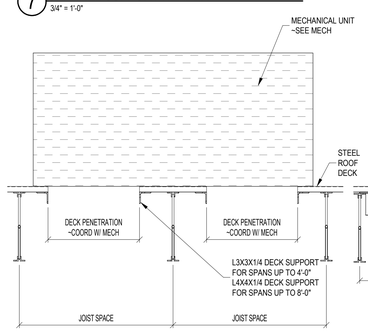


1. COORDINATE OPENING DIMENSIONS WITH MECHANICAL UNIT REQUIREMENTS.
2. ONLY REMOVE DECK REQUIRED FOR DUCT PENETRATIONS.

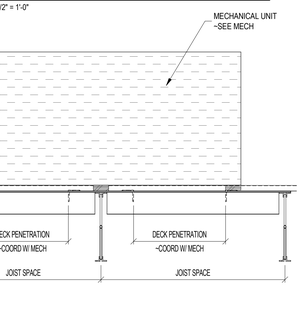
1 MECHANICAL RTU - ANGLE SUPPORT
3/16" = 1'-0"



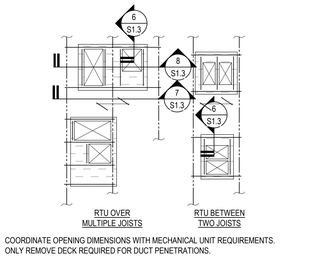
7 CHANNEL SUPPORT HEADER
3/4" = 1'-0"



8 CHANNEL HEADER AND DECK SUPPORT
3/4" = 1'-0"

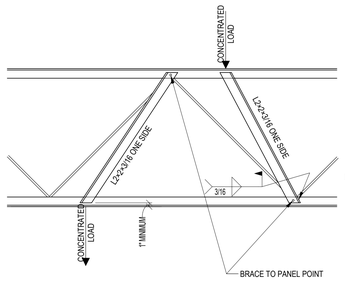


2 STEEL ANGLE MECHANICAL UNIT SUPPORT
1 1/2" = 1'-0"

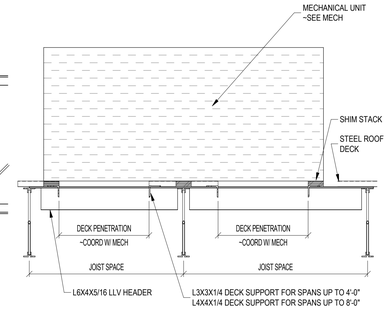


1. COORDINATE OPENING DIMENSIONS WITH MECHANICAL UNIT REQUIREMENTS.
2. ONLY REMOVE DECK REQUIRED FOR DUCT PENETRATIONS.

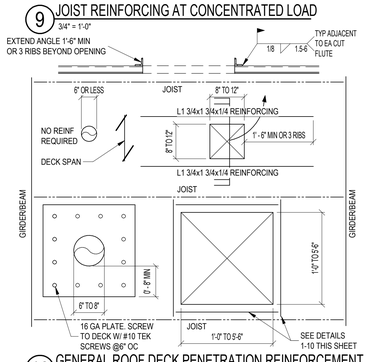
5 MECHANICAL RTU PLANS - CHANNEL SUPPORT
3/16" = 1'-0"



9 JOIST REINFORCING AT CONCENTRATED LOAD
3/4" = 1'-0"



4 ANGLE HEADER AND DECK SUPPORT
3/4" = 1'-0"



10 GENERAL ROOF DECK PENETRATION REINFORCEMENT
3/4" = 1'-0"

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Revisions:

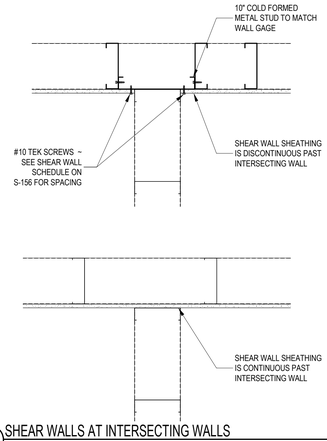
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

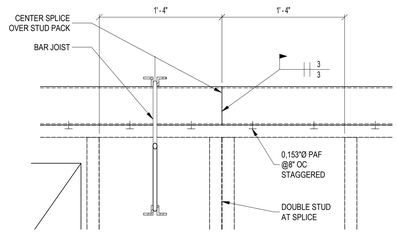
Sheet Title:
Steel Bar Joist Roof Typical Details

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S1.3

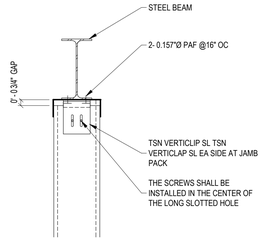


12 SHEAR WALLS AT INTERSECTING WALLS
1 1/2" = 1'-0"

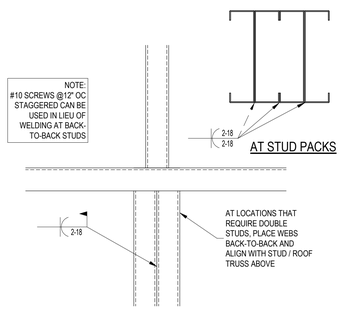


NOTES:
1. DISTRIBUTION HEADER SHALL BE 10'-0" MIN LENGTH UNLESS WALL IS < 10'-0" LONG.
2. DISTRIBUTION HEADER SPLICE SHALL OCCUR ≥ 16" PAST OPENINGS.
3. NO HOLES CAN BE CUT IN DISTRIBUTION HEADER. PLUMBING, ELECTRICAL, ETC. MUST BE RUN IN NON-BEARING WALLS.
4. DOUBLE STUDS ARE REQUIRED AT ALL DISTRIBUTION HEADER SPLICES.

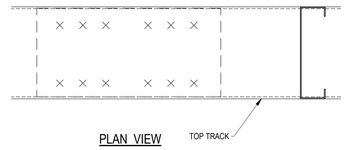
13 DISTRIBUTION HEADER SPLICE
1 1/2" = 1'-0"

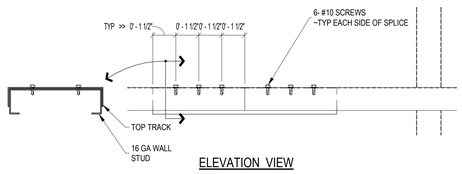


8 TYPICAL DEFLECTION CONNECTION AT STEEL
1 1/2" = 1'-0"

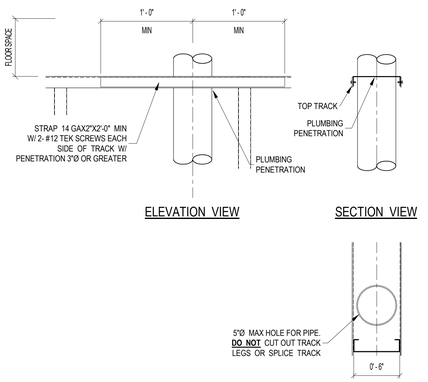


9 MULTIPLE STUDS
3" = 1'-0"

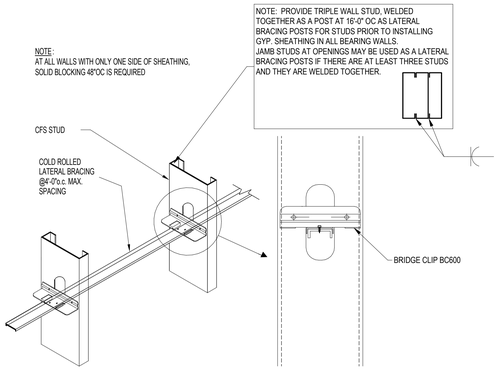




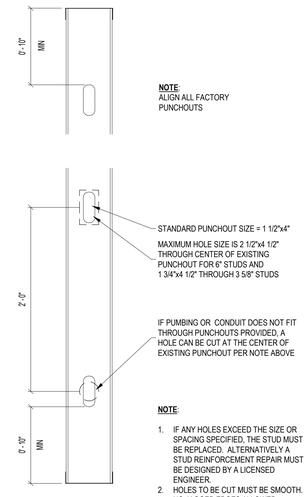
10 TYPICAL TOP TRACK SPLICE
3" = 1'-0"



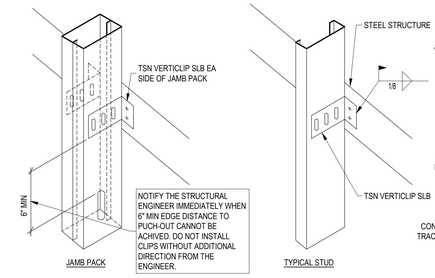
11 VERTICAL PLUMBING PENETRATIONS THRU TRACK
1 1/2" = 1'-0"



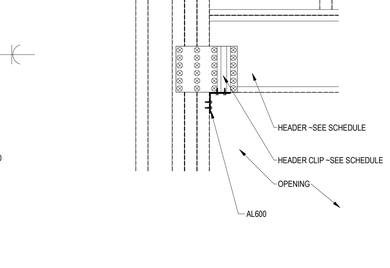
5 CONSTRUCTION BRIDGING
1 1/2" = 1'-0"



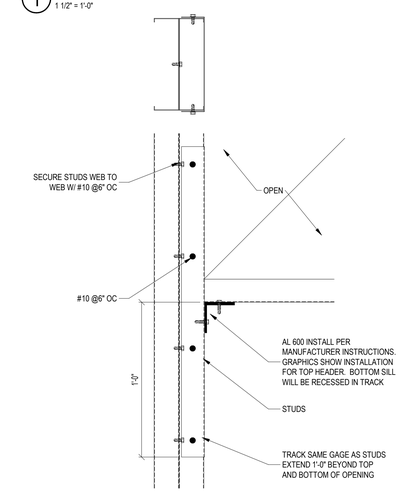
6 ALLOWABLE HOLES FOR CFS STUDS
1 1/2" = 1'-0"



7 TYPICAL DEFLECTION BYPASS CONNECTION
1 1/2" = 1'-0"

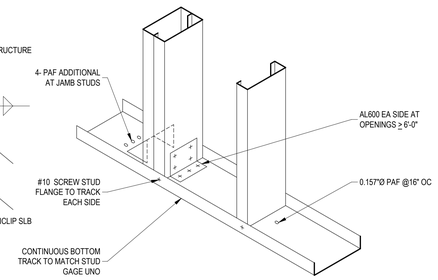


1 TYP DROPPED HEADER CONNECTION
1 1/2" = 1'-0"

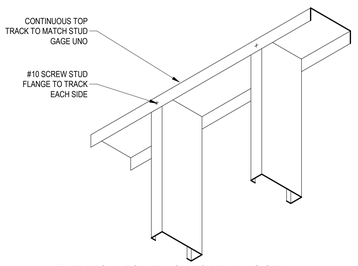


2 WIND HEADER OR SILL CONNECTION
3" = 1'-0"

~STUD SHALL BEAR ON TOP AND BOTTOM OF TRACK. MAX GAP ALLOWED IS 1/8".
~PROVIDE SHIMS UNDER BOTTOM TRACK OF WALL PANELS AT STUDS & CONNECTIONS TO SLAB TO PROVIDE FULL BEARING ON SLAB.
~IF REQUIRED MAX SHIM OF 1/2".
~SHIMS SHALL BE KOROLATH PLASTIC SHIMS OR APPROVED EQUAL.
~PROVIDE STEEL SHIMS AT LOCATIONS WHERE WELDING IS REQUIRED.



3 TYPICAL BOTTOM TRACK TO BEARING STUD
1 1/2" = 1'-0"



4 TYPICAL TOP TRACK TO BEARING STUD
1 1/2" = 1'-0"

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Revisions:		
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Typical CFS Details

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S1.4

REQUIRED THIRD PARTY SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION - 2015 IBC

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1. Inspect reinforcment, including prestressing tendons, and verify placement.	-	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. Reinforcing bar welding:	-	-	AWS D1.4 ACI 318: 26.6.4	-
a. Verify weldability of reinforcing bars other than ASTM A706.	-	x	AWS D1.4 ACI 318: 26.6.4	-
b. Inspect single-pass fillet welds, maximum 5/16"; and	-	x	AWS D1.4 ACI 318: 26.6.4	-
c. Inspect all other welds.	X	-	AWS D1.4 ACI 318: 26.6.4	-
3. Inspect anchors cast in concrete.	-	X	ACI 318: 17.8.2	-
4. Inspect anchors post-installed in hardened concrete members.	-	-		-
a. Adhesive anchors installed in horizontally or upwardly inclined orientatations to resist sustained tension loads.	X	-	ACI 318: 17.8.2.4	-
b. Mechanical anchors and adhesive anchors not defined in 4.a.	-	X	ACI 318: 17.8.2	-
5. Verifying use of required design mix.	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.4, 26.12	1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspect prestressed concrete for:	-	-		-
a. Application of prestressing forces; and	X	-	ACI 318: 26.10	-
b. Grouting of bonded prestressing tendons.	X	-	ACI 318: 26.10	-
10. Inspect erection of precast concrete members.	-	X	ACI 318: Ch. 26.8	-
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 26.11.2	-
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	X	ACI 318: 26.11.1.2 (b)	-

REQUIRED THIRD PARTY SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS - 2015 IBC

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD
1. Installation of open-web steel joists and joist girders.	-	-	
a. End connections - welding or bolted.	-	X	SJI specifications listed in Section 2207.1.
b. Bridging - horizontal or diagonal.	-	-	
1. Standard bridging.	-	X	SJI specifications listed in Section 2207.1.
2. Bridging that differs from the SJI specifications listed in section 2207.1.	-	X	

THIRD PARTY LEVEL B QUALITY ASSURANCE FOR MASONRY CONSTRUCTION - 2015 IBC

INSPECTION TASK	FREQUENCY		REFERENCE FOR CRITERIA	
	CONTINUOUS	PERIODIC	TMS 402	TMS 602
1. Verify compliance with the approved submittals	-	X	-	Art. 1.5
2. As masonry construction begins, verify that the following are in compliance:				
a. Proportions of site-prepared mortar	-	-	X	Art. 2.1, 2.6 A
b. Construction of mortar joints	-	X	-	Art. 3.3 B
c. Grade and size of prestressing tendons and anchorages.	-	X	-	Art. 2.4 B, 2.4 H
d. Location of reinforcement, connectors, and prestressing tendons and anchorages.	-	X	-	Art. 3.4, 3.6 A
e. Prestressing technique	-	X	-	Art. 3.6 B
f. Properties of thin-bed mortar for AAC masonry	X	X	-	Art. 2.1 C
3. Prior to grouting, verify that the following are in compliance:				
a. Grout space	-	X	-	Art. 3.2 D, 3.2F
b. Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	-	X	Sec. 6.1	Art. 2.4, 3.4
c. Placement of reinforcement, connectors, and prestressing tendons and anchorages	-	X	Sec. 6.1, 6.2.1, 6.2.6, 6.2.7	Art. 3.2 E, 3.4 3.6 A
d. Proportions of site-prepared grout and prestressing grout for bonded tendons	-	X	-	Art. 2.6 B, 2.4 G.1.b
e. Construction of mortar joints	-	X	-	Art. 3.3 B
4. Verify during construction:				
a. Size and location of structural elements	-	X	-	Art. 3.3 F
b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	-	X	Sec. 1.2.1(e), 6.1.4.3, 6.2.1	-
c. Welding of reinforcement	X	-	Sec. 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4 (b)	-
d. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C))	-	X	-	Art. 1.8 C, 1.8 D
e. Application and measurement of prestressing force	X	-	-	Art. 3.6 B
f. Placement of grout and prestressing grout for bonded tendons is in compliance	X	-	-	Art. 3.5, 3.6 C
g. Placement of AAC masonry units and construction of thin-bed mortar joints	X	X	-	Art. 3.3 B.9, 3.3 F.1.b
5. Observe preparation of grout specimens, mortar specimens, and / or prisms	-	X	-	Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4

REQUIRED THIRD PARTY SPECIAL INSPECTIONS AND TESTS OF SOILS - 2015 IBC

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of compacted fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	-
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	-	X

REQUIRED THIRD PARTY VERIFICATION AND INSPECTIONS FOR COLD-FORMED STEEL CONSTRUCTION - 2015 IBC

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. Pre-fabricated cold-formed steel structural elements and assemblies.			-	Sec. 1704.2.5.1, 1705.11.2., 1705.12.3
a. size, spacing	-	X		
b. connections and welds	-	X		
2. Site built assemblies			-	Sec. 1705.11.2, 1705.12.3
a. grade, size, spacing	-	X		
b. connections and welds	-	X		
c. blocking	-	X		
3. Diaphragms			-	Sec. 1705.11.2, 1705.12.3
a. member size at panel edges	-	X		
b. fastener diameter and length	-	X		
c. fastener spacing	-	X		

STATEMENT OF SPECIAL INSPECTIONS - 2015 IBC

1. SPECIAL INSPECTIONS AND STRUCTURAL TESTING SHALL BE PROVIDED BY A THIRD PARTY AGENCY EMPLOYED BY THE OWNER. SPECIAL INSPECTIONS AND TESTING SHALL BE PROVIDED AS REQUIRED IN CHAPTER 17 OF THE IBC AND BY THE ENGINEER OF RECORD. REQUIREMENTS ARE NOTED IN CHARTS PROVIDED ON THE CONSTRUCTION DOCUMENTS, AS WELL AS IN THE SPECIFICATIONS.
2. THE NAMES AND CREDENTIALS OF THE SPECIAL INSPECTORS TO BE USED SHALL BE SUBMITTED TO THE BUILDING OFFICIAL.
   A. ALL SPECIAL INSPECTORS SHALL BE QUALIFIED TO INSPECT MATERIALS BASED ON CERTIFICATION, TRANING OR EXPERIENCE AS REQUIRED, AND MUST MEET SPECIFICATION STANDARDS.
3. SPECIAL INSPECTOR DUTIES:
   A. SPECIAL INSPECTOR SHALL REVIEW ALL WORK REQUIRED ON THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
   B. SPECIAL INSPECTOR SHALL FURNISH SPECIAL INSPECTION REPORTS TO THE ENGINEER OF RECORD, ARCHITECT, CONTRACTOR, OWNER, AND BUILDING OFFICIAL ON A WEEKLY BASIS OR MORE FREQUENTLY. ALL ITEMS NOT IN COMPLIANCE SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF UNCORRECTED, THEY SHALL BE REPORTED TO THE EOR.
   C. SPECIAL INSPECTOR SHALL KEEP A LOG OF ALL NON-COMPLIANCE ITEMS, INCLUDING THOSE NOTED ON STRUCTURAL OBSERVATION REPORTS.
   D. SPECIAL INSPECTOR SHALL REINSPECT ALL NON-COMPLIANCE ITEMS UPON REPAIR BY THE CONTRACTOR TO MEET THE CONSTRUCTION DOCUMENTS OR REPAIR BASED ON ENGINEER OF RECORD DIRECTIVES.
   E. SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT.
   F. SPECIAL INSPECTOR SHALL FURNISH A FINAL LETTER TO THE EOR AT THE COMPLETION OF THE PROJECT STATING THAT ALL INSPECTIONS HAVE BEEN COMPLETED AND ALL DISCREPANCIES HAVE BEEN RESOLVED.
4. CONTRACTOR DUTIES:
   A. CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK. THE STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF THE SPECIAL INSPECTION REQUIREMENTS ON THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
   B. CONTRACTOR SHALL NOTIFY THE RESPONSIBLE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION A MINIMUM OF 24 HOURS BEFORE SUCH INSPECTION IS REQUIRED.
   C. ALL WORK, INCLUDING REPAIRS, SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED BY THE SPECIAL INSPECTOR.
   D. CONTRACTOR SHALL PROVIDE CURRENT DRAWINGS AND SPECIFICATIONS TO THE SPECIAL INSPECTOR. THIS INCLUDES ALL STRUCTURAL OBSERVATIONS, REPORTS, AND REPAIR DOCUMENTATION.
   E. ALL REPAIRS SHALL BE INSPECTED AT THE COST OF THE CONTRACTOR. NON-COMPLIANCE ITEMS SHALL BE RESOLVED IN A TIMELY MANNER.

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REQUIRED THIRD PARTY VERIFICATION AND INSPECTION FOR STEEL CONSTRUCTION - 2015 IBC

	CONTINUOUS	PERIODIC	REFERENCED STANDARD
INSPECTION TASKS PRIOR TO WELDING			
Welder qualification records and continuity records	-	X	
WPS available	X	-	
Manufacturer certifications for welding consumables available	X	-	
Material identification (type/grade)	-	X	
Welder identification system [1]	-	X	
Fit-up of groove welds (including joint geometry)	-	X	AISC 360 TABLE N5.4-1
Fit-up of CJP groove welds of HSS T-, Y- and K-joints without backing (including joint geometry)	-	X	AISC 360 TABLE N5.4-1
Configuration and finish of access holes	-	X	
Fit-up of fillet welds	-	X	AISC 360 TABLE N5.4-1
INSPECTION TASKS DURING WELDING			
Control and handling of welding consumables	-	X	AISC 360 TABLE N5.4-2
No welding over cracked tack welds	-	X	
Environmental conditions	-	X	AISC 360 TABLE N5.4-2
WPS followed	-	X	AISC 360 TABLE N5.4-2
Welding techniques	-	X	AISC 360 TABLE N5.4-2
Placement and installation of steel headed stud anchors	X	-	
INSPECTION TASKS AFTER WELDING			
Welds cleaned	-	X	
Size, length and location of welds	X	-	
Welds meet visual acceptance criteria	X	-	AISC 360 TABLE N5.4-3
Arc strikes	X	-	
k-area [2]	X	-	
Weld access holes in rolled heavy shapes and built-up heavy shapes [3]	X	-	
Backing removed and weld tabs removed (if required)	X	-	
Repair activities	X	-	
Document acceptance or rejection of welded joint or member	X	-	
No prohibited welds have been added without the approval of the EOR	-	X	
INSPECTION TASKS PRIOR TO BOLTING			
Manufacturer's certifications available for fastener materials	X	-	
Fasteners marked in accordance with ASTM requirements	-	X	
Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	-	X	
Correct bolting procedure selected for joint detail	-	X	
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	-	X	
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	-	X	
Protected storage provided for bolts, nuts, washers and other fastener components	-	X	
INSPECTION TASKS DURING BOLTING			
Fastener assemblies placed in all holes and washers and nuts are positioned as required	-	X	
Joint brought to the snug-tight condition prior to the pretensioning operation	-	X	
Fastener component not turned by the wrench prevented from rotating	-	X	
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	-	X	
INSPECTION TASKS AFTER BOLTING			
Document acceptance or rejection of bolted connections	X	-	
INSPECTION OF STEEL FRAME, DECK AND JOINT DETAILS FOR COMPLIANCE			
Placement and installation of steel deck	-	X	
Details such as bracing and stiffening	-	X	
Member locations	-	X	
Application of joint details at each connection	-	X	

NOTES:
1. THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.
2. WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" OF THE WELD.
3. AFTER ROLLED HEAVY SHAPES (PER AISC 360 SECTION A3.1c) AND BUILT-UP HEAVY SHAPES (PER AISC 360 SECTION A3.1d) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLES FOR CRACKS.

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Revisions:		
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Inspection Schedules 2015 IBC

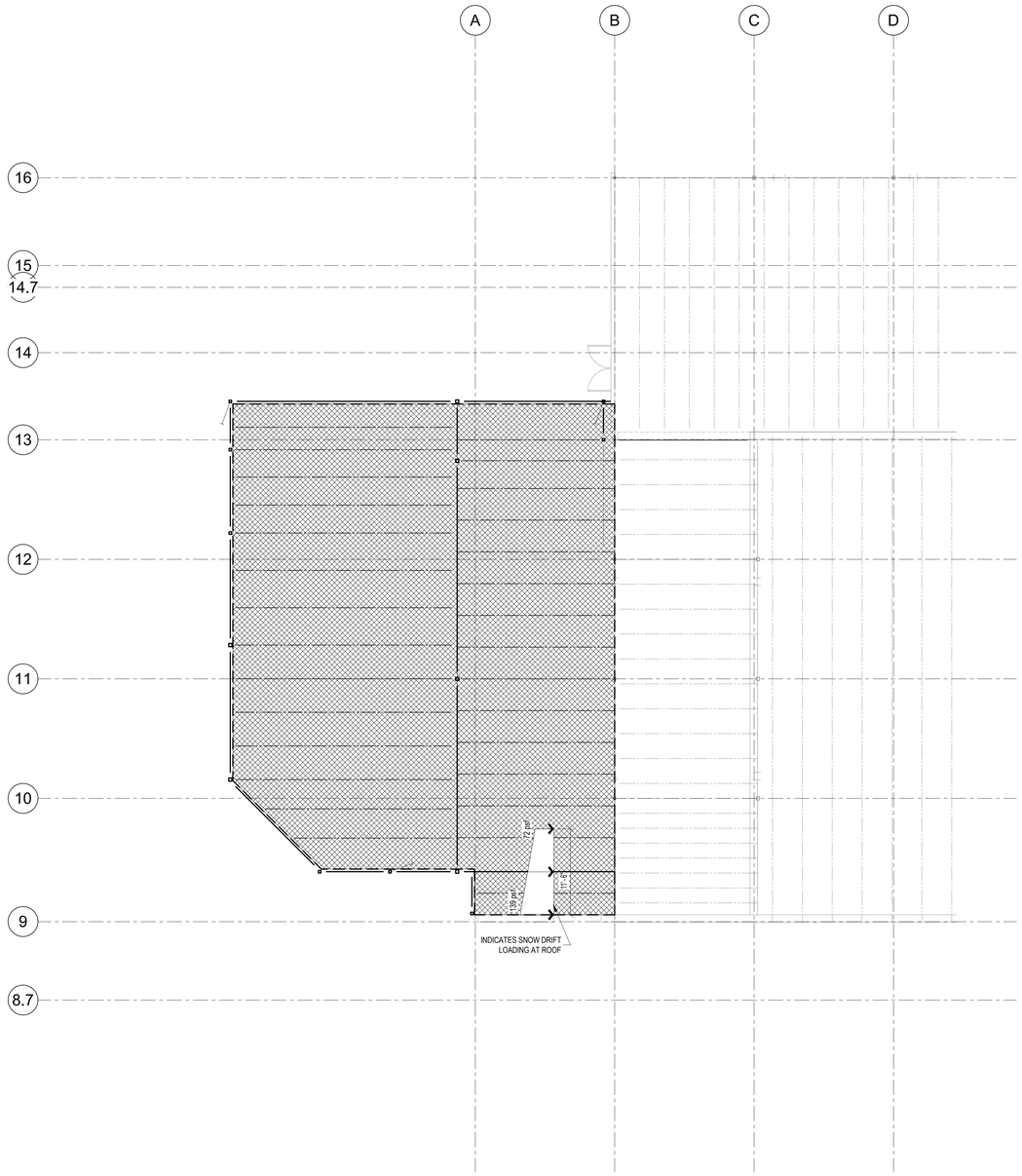
Project No:
TAB-1935.01
JH-20191103

Sheet No:
S1.5

LOADING DIAGRAM KEY

PATTERN	AREA	TOTAL DEAD LOAD	LIVE LOAD	NOTES
	ROOF	25 psf	72 psf SNOW + DRIFT (non-reducible)	

NOTES:
1. ROOF JOIST DEAD LOAD INCLUDES THE WEIGHT OF THE JOISTS.
2. SNOW DRIFT DIAGRAMS INCLUDE THE 72 psf BASE SNOW LOAD.
3. DESIGN ROOF JOISTS FOR 10 psf NET UPLIFT.
4. ROOF JOIST BRIDGING SHALL BE PROVIDED IN ACCORDANCE WITH SJI SPECIFICATIONS.



1 ROOF LOADING PLAN
1/8" = 1'-0"

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Revisions:

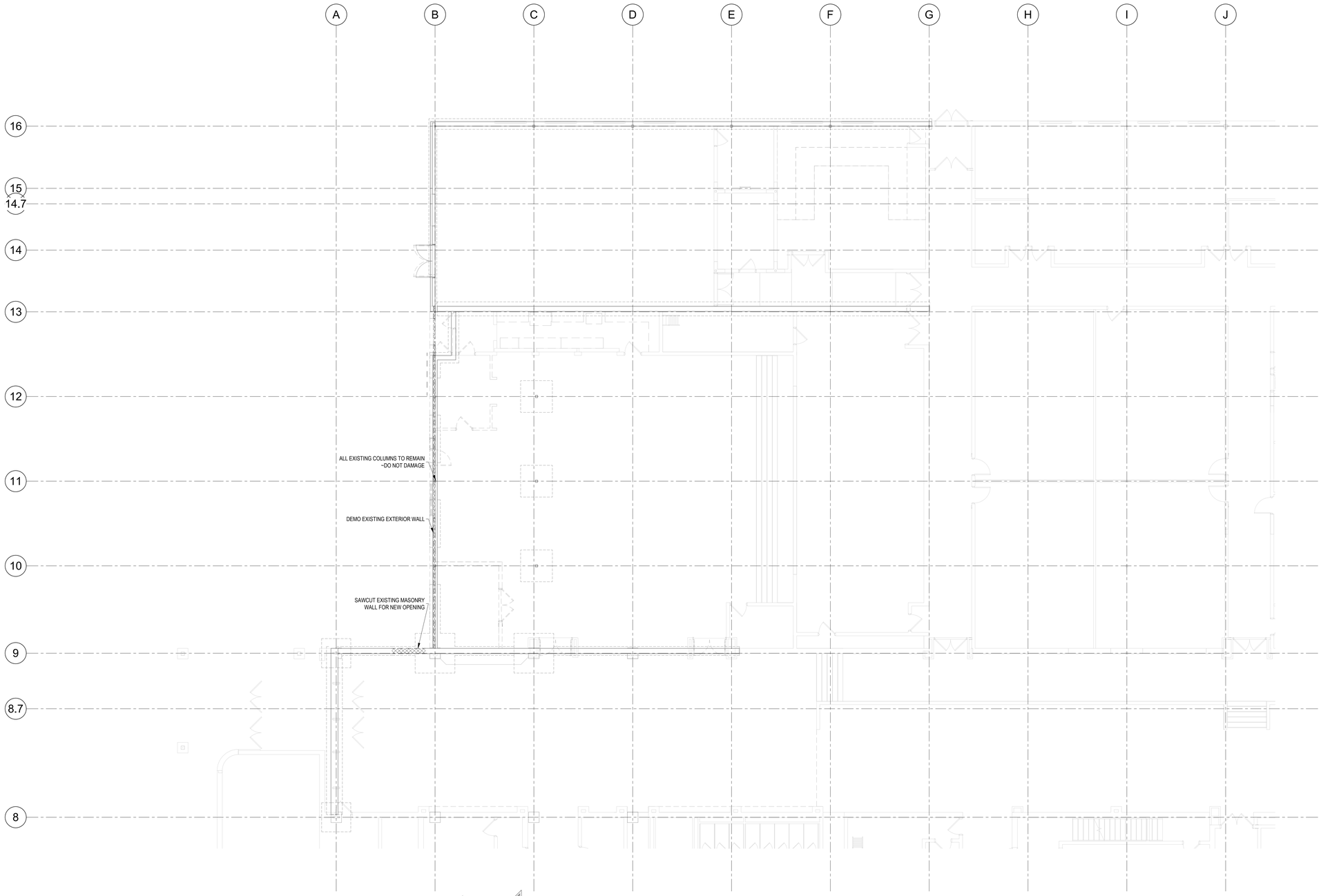
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Loading Plan

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S1.6



1 MAIN LEVEL DEMO PLAN
1/8" = 1'-0"

TRUE N
BUILDING NORTH

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Revisions:

No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Main Level Demo Plan

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S2.01

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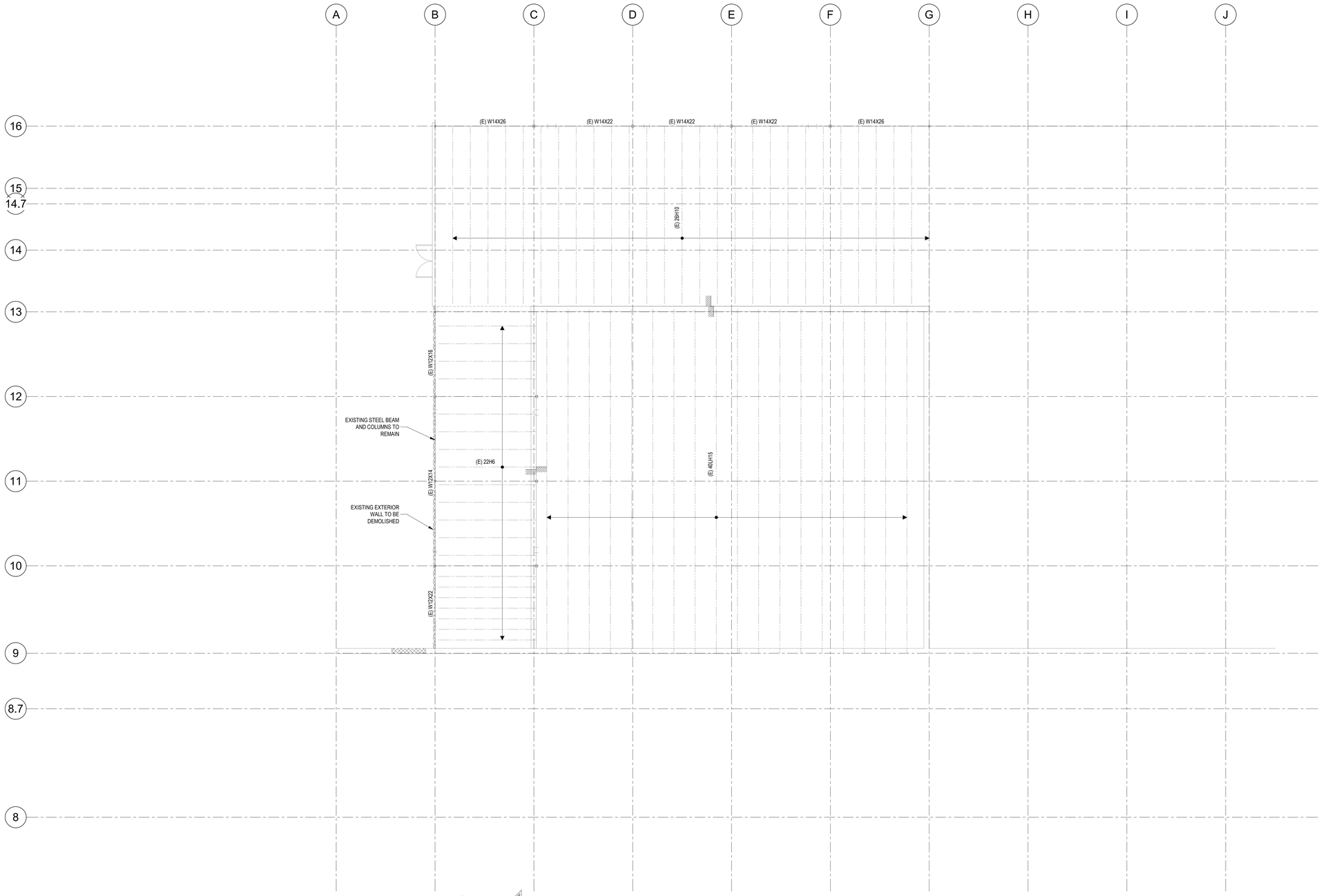

1 ROOF DEMO PLAN
1/8" = 1'-0"

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Revisions:

No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Roof Demo Plan

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S2.02

D:\Revit Local Files\20191103 - Steamboat Shools - Steamboat Springs Middle - R16_mhood@jirsahedrick.com.rvt
4/3/2020 11:48:23 AM

1 MAIN LEVEL FOUNDATION PLAN
1/8" = 1'-0"

TRUE N
BUILDING NORTH

KEYNOTES

0.1	BOXED NOTES INDICATE A TYPICAL CONDITION UNLESS NOTED OTHERWISE.
0.6	TOP OF SLAB UNLESS NOTED OTHERWISE.
3.1	INDICATES CONCRETE PAD FOOTING. SEE SCHEDULE FOR FOOTING TYPE AND REINFORCING.
3.9	4" CONCRETE SLAB-ON-GRADE REINF W/ 6x6-W2.1xW2.1 WWR AT MID HEIGHT.
3.11	CONTROL JOINTS AT ALL COLUMN LINES AND BALANCE OF SLAB NOT TO EXCEED 10'-0" OC EACH WAY.
3.13	PLACE SLAB OVER GRADE BEAM AT THRESHOLD. SEE DETAILS.
5.1	INDICATES STEEL COLUMN TYPE. SEE SCHEDULE.
5.9	INDICATES BRACE FRAMING.

SPREAD FOOTING SCHEDULE

TYPE	WIDTH	LENGTH	THICKNESS	REINFORCING
F3	3' - 0"	3' - 0"	1' - 0"	#5 @12" OC EW BOT
F3X9	3' - 0"	9' - 0"	2' - 0"	#7 @10" OC EW T&B
F4	4' - 0"	4' - 0"	1' - 0"	#5 @12" OC EW BOT
F5X10	5' - 0"	10' - 0"	2' - 0"	#7 @10" OC EW T&B
F5X14	5' - 0"	14' - 0"	2' - 0"	#7 @10" OC EW T&B
F6	6' - 0"	6' - 0"	1' - 0"	#5 @12" OC EW BOT
F7X9	7' - 0"	9' - 0"	1' - 0"	#5 @10" OC EW T&B

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Revisions:

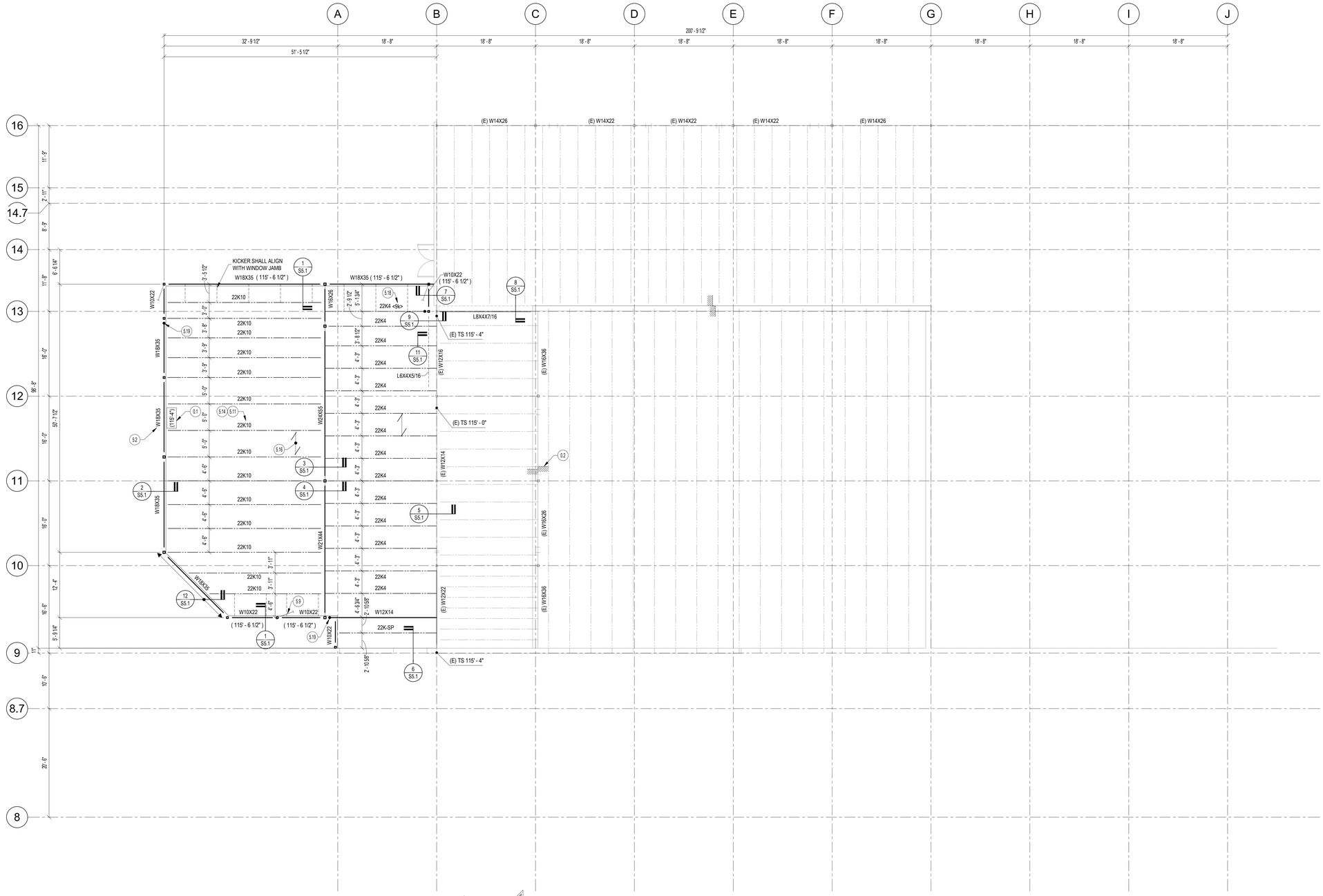
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Main Level Plan

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S2.11



1 ROOF FRAMING PLAN
1/8" = 1'-0"

TRUE N
BUILDING NORTH

KEYNOTES

0.1	BOXED NOTES INDICATE A TYPICAL CONDITION UNLESS NOTED OTHERWISE.
0.2	INDICATES CHANGE IN ELEVATION.
5.2	INDICATES STEEL BEAM SIZE AND TOP OF STEEL ELEVATION.
5.9	INDICATES BRACE FRAMING.
5.11	JOIST DESIGN FOR 20psf DEAD LOAD AND 72psf UNIFORM SNOW LOAD PLUS WEIGHT OF MECHANICAL UNITS WHERE APPLICABLE. SPACING AS SHOWN ON PLAN. SEE LOADING PLAN FOR ADDITIONAL SNOW LOADS DUE TO DRIFTING. DESIGN ROOF JOIST FOR A NET UPLIFT OF 10psf.
5.14	JOIST BRIDGING PER SJI SPECIFICATIONS BY JOIST SUPPLIER.
5.16	1 1/2" TYPE "B"x18GA METAL ROOF DECK, 3 SPAN MINIMUM. ATTACH DECK WITH HILTI X-ENP19 FASTENERS IN A 36/4 PATTERN AND #10 SCREW SIDELAP CONNECTION @12" OC TO DEVELOP A DIAPHRAGM SHEAR CAPACITY OF 450 plf.
5.18	JOIST SHALL BE DESIGNED FOR <XXk> SERVICE LEVEL DRAG WIND LOAD WHERE INDICATED ON PLAN.
5.19	INDICATES DRAG CONNECTION. SEE DETAILS.

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Sheet Title:
Roof Framing Plan

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S2.12

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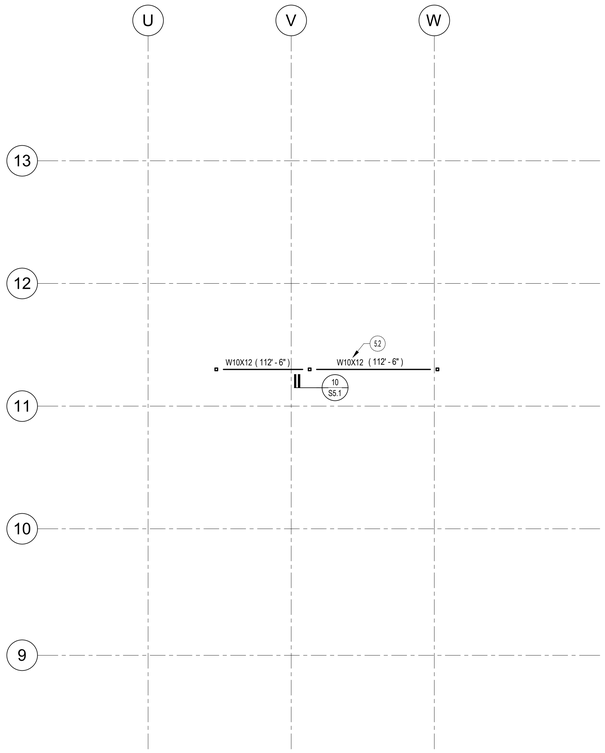
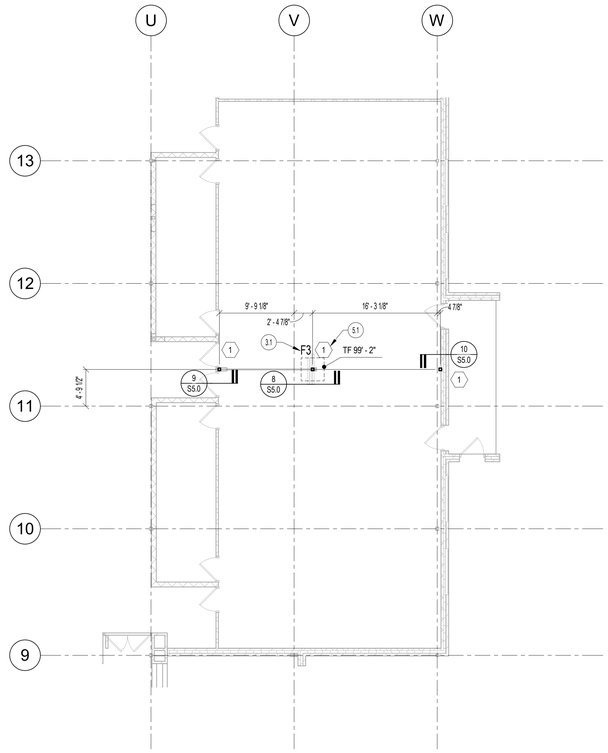


2 SCIENCE CLASSROOM FRAMING
1/8" = 1'-0"



1 SCIENCE CLASSROOM FOUNDATION
1/8" = 1'-0"

KEYNOTES

3.1	INDICATES CONCRETE PAD FOOTING. SEE SCHEDULE FOR FOOTING TYPE AND REINFORCING.
5.1	INDICATES STEEL COLUMN TYPE. SEE SCHEDULE.
5.2	INDICATES STEEL BEAM SIZE AND TOP OF STEEL ELEVATION.

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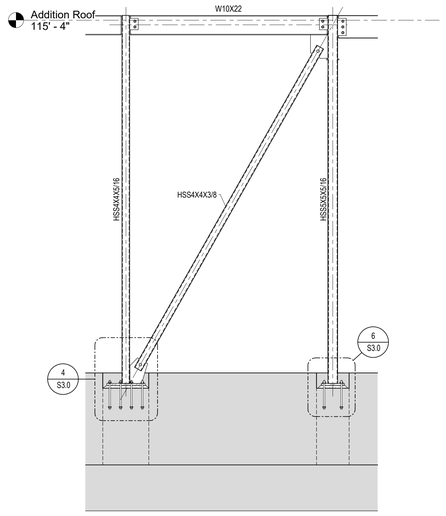
Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

Sheet Title:
Science Classroom

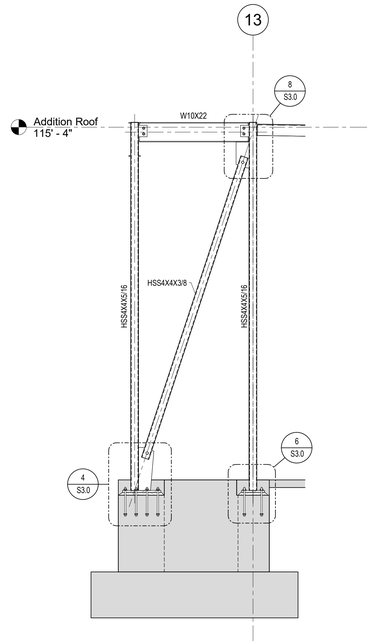
Project No:
TAB-1935.01
JH-20191103

Sheet No:
S2.21

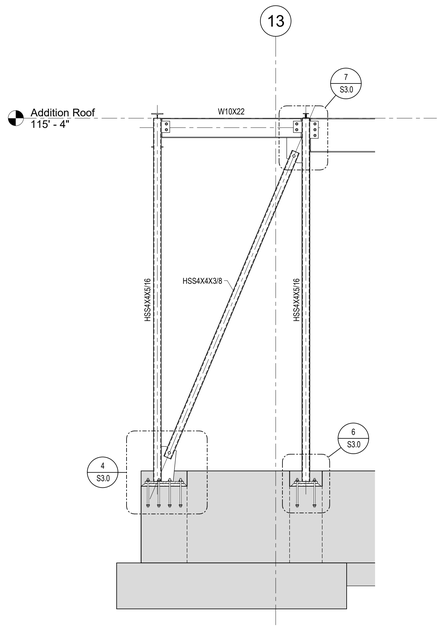
BOXED NOTES INDICATE A TYPICAL CONDITION EXISTS UNLESS NOTED OTHERWISE



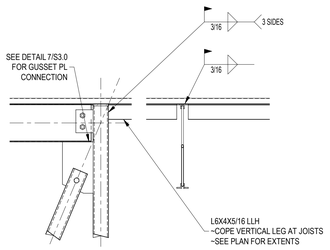
3 WEST FRAME
3/8" = 1'-0"



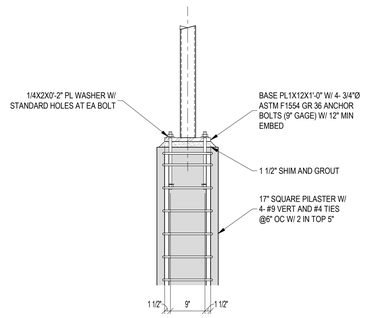
2 SOUTH FRAME
3/8" = 1'-0"



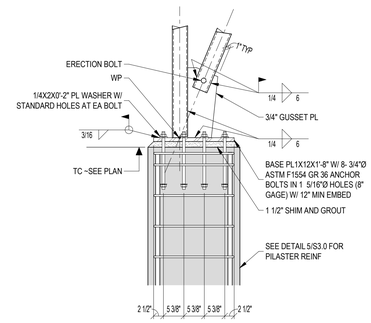
1 NORTH FRAME
3/8" = 1'-0"



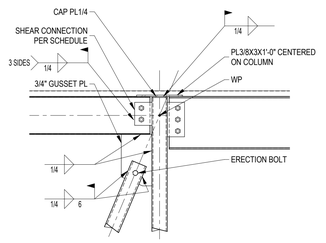
8 DRAG ANGLE AT STEEL COLUMN
3/4" = 1'-0"



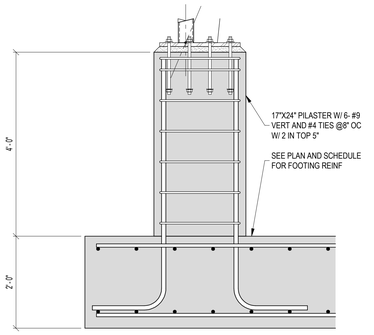
6 BRACED FRAME COLUMN BASE PLATE
3/4" = 1'-0"



4 BRACED FRAME GUSSET BASE PLATE
3/4" = 1'-0"



7 BRACED FRAME GUSSET PLATE
3/4" = 1'-0"



5 BRACED FRAME PILASTER AND FOOTING
3/4" = 1'-0"

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DD's - 02/21/20
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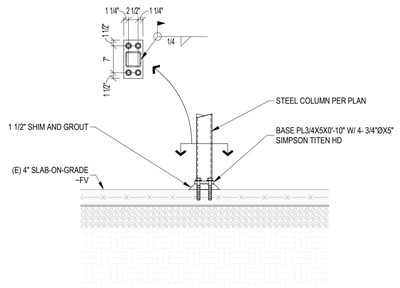
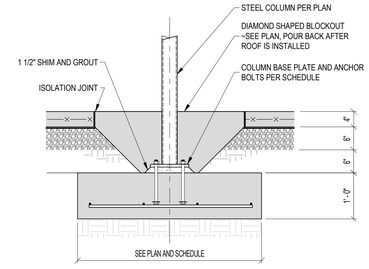
Sheet Title:
Braced Frame Elevations & Details

Project No:
TAB-1935.01
JH-20191103

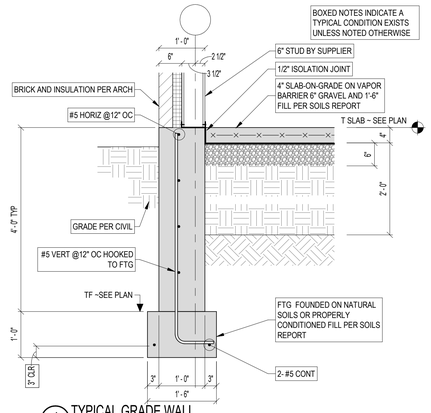
Sheet No:
S3.0



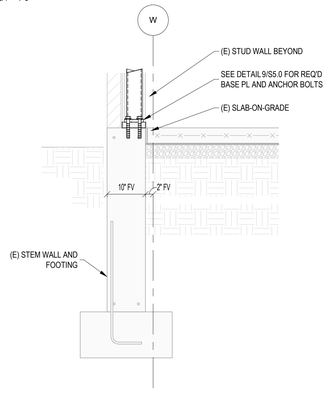
9 STEEL COLUMN AT SLAB-ON-GRADE
3/4" = 1'-0"



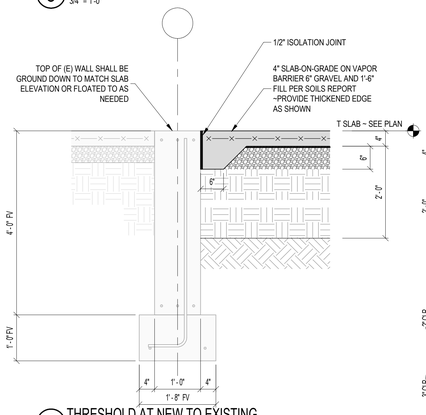
5 STEEL COLUMN FOUNDATION
3/4" = 1'-0"



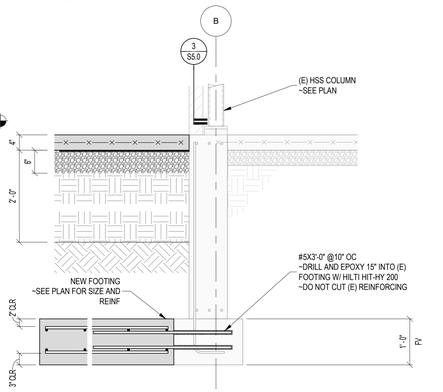
1 TYPICAL GRADE WALL
3/4" = 1'-0"



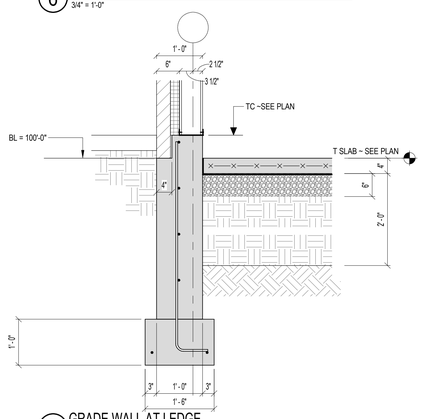
10 NEW STEEL COLUMN AT (E) STEM WALL
3/4" = 1'-0"



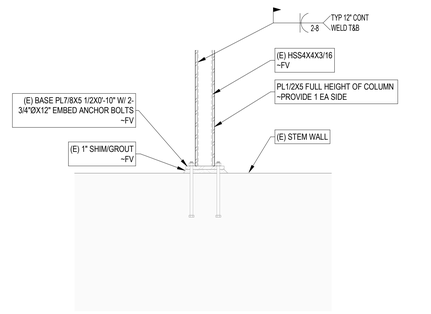
6 THRESHOLD AT NEW TO EXISTING
3/4" = 1'-0"



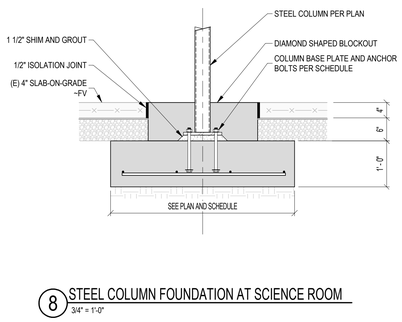
2 EXPANDED FOOTING
3/4" = 1'-0"



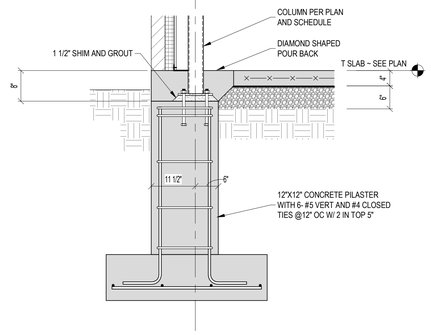
7 GRADE WALL AT LEDGE
3/4" = 1'-0"



3 (E) COLUMN STIFFENER AT GRID B
3/4" = 1'-0"



8 STEEL COLUMN FOUNDATION AT SCIENCE ROOM
3/4" = 1'-0"



4 COLUMN PILASTER
3/4" = 1'-0"

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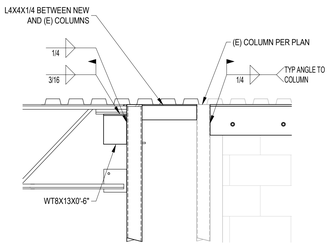
Revisions:		
No	Description	Date

Issue Dates:
DD's - 02/21/20
95% - 03/30/20
CD's - 04/06/20

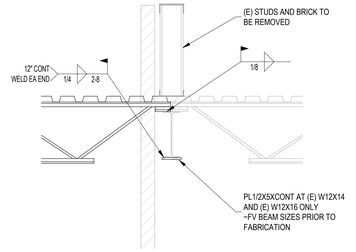
Sheet Title:
Foundation Details

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S5.0

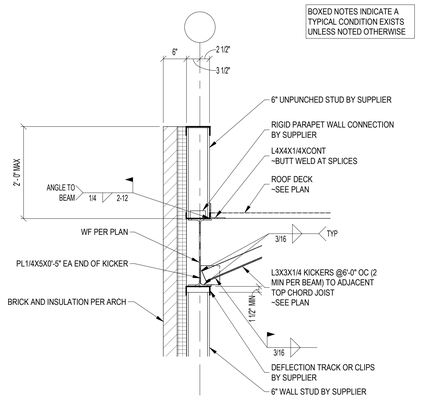


9 ANGLE CONNECTION AT COLUMNS
3/4" = 1'-0"

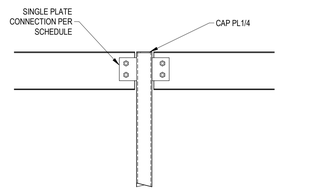


5 JOIST FRAIMNG AT EXISTING GIRDER
3/4" = 1'-0"

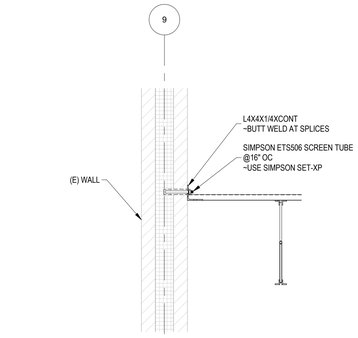
BOXED NOTES INDICATE A TYPICAL CONDITION EXISTS UNLESS NOTED OTHERWISE



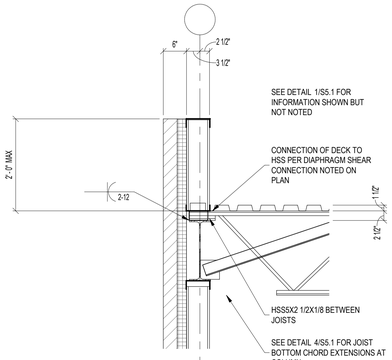
1 ROOF BEAM AT DECK BEARING
3/4" = 1'-0"



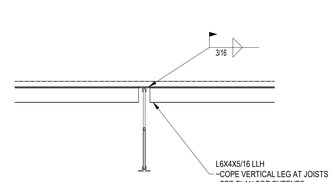
10 PARTITION BEAM AT COLUMN
3/4" = 1'-0"



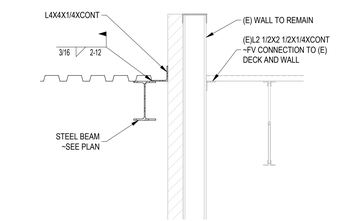
6 ANGLE CONNECTION AT GRID 9 WALL
3/4" = 1'-0"



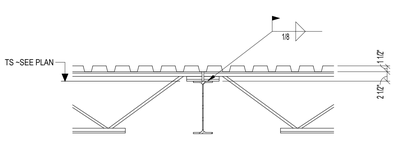
2 ROOF BEAM AT JOIST BEARING
3/4" = 1'-0"



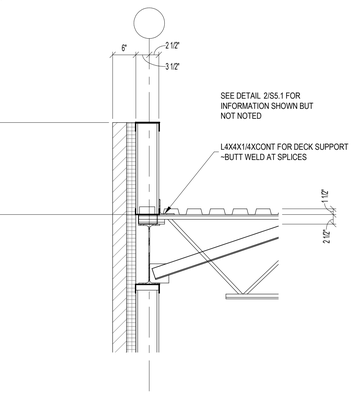
11 DRAG ANGLE AT JOISTS
3/4" = 1'-0"



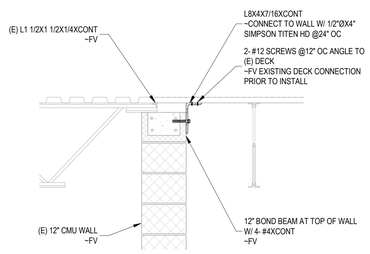
7 SOUTH FRAMING AT (E) WALL
3/4" = 1'-0"



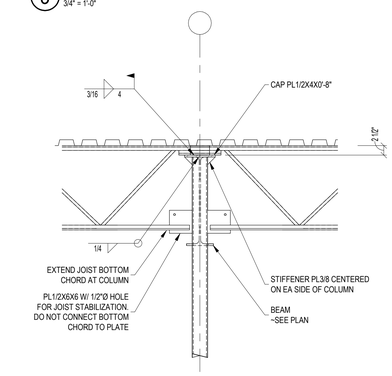
3 BEAM AT JOIST BEARING
3/4" = 1'-0"



12 DECK SUPPORT AT DIAGONAL EDGE
3/4" = 1'-0"



8 ANGLE CONNECTION AT (E) WALL
3/4" = 1'-0"



4 JOIST BEARING AT STEEL COLUMN
3/4" = 1'-0"

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4/6/20

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Revisions:

No	Description	Date

Issue Dates:
DD's - 02/21/20
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CD's - 04/06/20

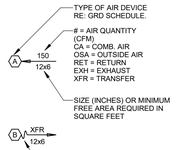
Sheet Title:
Roof Details

Project No:
TAB-1935.01
JH-20191103

Sheet No:
S5.1

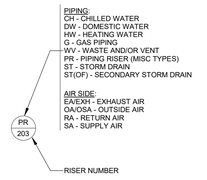
MECHANICAL SYSTEMS LEGEND

AIR DEVICE DESIGNATION KEY

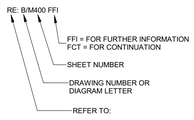


NOTE:
FOR STANDARD MODULE SIZE REGISTERS, SIZE GIVEN IS NECK SIZE. REFER TO GRD SCHEDULE FOR MODULE SIZE.

DUCT/PIPE RISER DESIGNATION KEY



REFERENCE SAMPLE



NOTES

1. ALL SYMBOLS, ABBREVIATIONS, AND DESIGNATIONS ON LEGEND SHEET ARE NOT NECESSARILY USED ON THIS PROJECT.
2. THIS DRAWING SET CONSISTS OF DATA GENERATED, IN PART, BY OTHER PARTIES. NOT ALL SYMBOLOGIES AND NOTATION CONVENTIONS OCCURRING IN THIS DRAWING SET ARE NECESSARILY DEFINED ON THESE LEGENDS. CONSULT THE ENGINEER IN THE EVENT SYMBOLOGY OR NOTATION INTERPRETATION IS REQUIRED.

DUCTWORK LEGEND

ROUND 3D	ROUND PLAN	DESCRIPTION	RECTANGULAR PLAN	RECTANGULAR 3D
		DUCT RISER		
		DUCT DROP		
		90° ELBOW DN. (NEGATIVE PRESSURE)		
		90° ELBOW DN. (POSITIVE PRESSURE)		
		90° ELBOW UP (NEGATIVE PRESSURE)		
		90° ELBOW UP (POSITIVE PRESSURE)		
		SIZE OR SHAPE TRANSITION		
		ROUND FLEXIBLE DUCT CONNECTION		
		90° RADIUS ELBOW		
-	-	90° MITERED ELBOW W/ TURNING VANES		
		90° STRAIGHT TEE		
		90° CONICAL TEE		
		45° BRANCH		
		45° CONICAL BRANCH		
	F/S	COMBINATION FIRE AND SMOKE DAMPER	F/S	
		FIRE DAMPER		
		SMOKE DAMPER		
		MANUAL BALANCING DAMPER		
		MOTORIZED DAMPER		
	BDD	BACKDRAFT DAMPER	BDD	
	D	OFFSET TO CHANGE ELEVATION D = DROP R=RISE	R	
-	14ø	DUCT SIZE TAG; FIRST NUMBER = PLAN WIDTH	14x12	-

FIXTURE CONNECTION SCHEDULE

DESCRIPTION	TAG	HW	CW	WASTE	VENT
WATER CLOSET (FLUSH VALVE)	WC	-	1"	4"	2"
WATER CLOSET (FLUSH TANK)	WC	-	1/2"	4"	2"
URINAL (BLOWOUT)	UR	-	1"	2"	1-1/2"
URINAL (WASHDOWN)	UR	-	3/4"	2"	1-1/2"
URINAL (WATERLESS)	UR	-	-	2"	1-1/2"
LAVATORY	LAV	1/2"	1/2"	1-1/2"	1-1/2"
HAND SINK	HS	1/2"	1/2"	1-1/2"	1-1/2"
SERVICE SINK	SS	1/2"	1/2"	3"	2"
MOP SERVICE BASIN	MSB	3/4"	3/4"	3"	2"
DRINKING FOUNTAIN/WATER COOLER	DF	-	1/2"	1-1/2"	1-1/2"
KITCHEN SINK W/ OR W/O DISPOSAL	KS	1/2"	1/2"	2"	1-1/2"
SHOWER	SH/SHWR	3/4"	3/4"	2"	1-1/2"
SHOWER/BATHTUB	SH/TUB	3/4"	3/4"	2"	1-1/2"
BATHTUB	TUB	3/4"	3/4"	2"	1-1/2"
CLOTHES WASHER OUTLET BOX	CW	1/2"	1/2"	2"	1-1/2"
DISH MACHINE ROUGH-IN	DM	3/4"	3/4"	2"	1-1/2"
DISHWASHER ROUGH-IN	DW	1/2"	-	2"	1-1/2"
BAR SINK	BS	1/2"	1/2"	1-1/2"	1-1/2"
FLOOR SINK	FS	-	-	2"	1-1/2"
REFRIG/ICE MAKER BOX	FRIG	-	1/2"	-	-
FLOOR DRAIN	FD	-	-	2"	1-1/2"
TRENCH DRAIN	TD	-	-	3"	2"
WORK SINK	WS	3/4"	3/4"	2"	1-1/2"
HOSE BIB	HB	-	3/4"	-	-

NOTES:
1. SIZES SHOWN ARE MINIMUM PIPE SIZES TO A SINGLE FIXTURE. LARGER SIZES MAY BE INDICATED ON PLANS WHERE REQUIRED.
2. MINIMUM DOMESTIC PIPE SIZE TO 2 OR MORE FIXTURES IS 3/4".
3. RE: MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR INDIRECT WASTE SIZES.
4. WASTE AND VENT SIZES SHOWN ABOVE APPLY TO INDIVIDUAL VENTING ONLY. WHERE ALLOWED, INDIVIDUAL VENT CONNECTIONS MAY BE OMITTED OR SIZES MAY VARY WHEN CIRCUIT VENTS, COMMON VENTS, WASTE STACK VENTS, WET VENTS, OR COMBINATION DRAIN AND VENT SYSTEMS ARE USED. PRIOR APPROVAL FROM THE ENGINEER IS REQUIRED TO USE THESE ALTERNATIVE VENTING METHODS.
5. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS AND FLOOR SINKS NOT LOCATED IN FOOD SERVICE AREAS.
6. MINIMUM SIZE FOR WASTE AND VENT PIPING BENEATH SLAB IS 2".
7. ALL FIXTURES LISTED ARE NOT NECESSARILY USED ON THIS PROJECT.
8. REFER TO APPLIANCE SCHEDULES (BY OTHERS) FOR ADDITIONAL PLUMBING FIXTURE CONNECTIONS SUCH AS INSTA-HOTS, COFFEE MAKERS, AND GARBAGE DISPOSALS.
9. PROVIDE ICE MAKER BOX ROUGH IN W/ 1/2"CW CONNECTION FOR ALL REFRIGERATOR LOCATIONS.
10. DESIGNER TO CONFIRM FLOW RATE OF FLOOR DRAINS, FLOOR SINKS, ETC. WITH ACTUAL SIZE REQUIRED.

EQUIPMENT ABBREVIATIONS

AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER (HOT WATER)
BB	BASE BOARD
BT	BUFFER TANK
CC	COOLING COIL
CH	CHILLER
CP OR P	CIRC PUMP
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME BOX
DC	DUCT COIL
DEF	DISHWASHER EXHAUST FAN
EBH	ELECTRIC BASEBOARD HEATER
ECU	EVAPORATIVE COOLING UNIT
EF	EXHAUST FAN
ERU	ENERGY RECOVERY UNIT
ET	EXPANSION TANK
EWH	ELECTRIC WATER HEATER
F	FURNACE
FC	FAN COIL
FP	FAN POWERED BOX
GF	GLYCOL FEEDER
H	HUMIDIFIER
HC	HEATING COIL
HP	HEAT PUMP
HX	HEAT EXCHANGER
KEF	KITCHEN EXHAUST FAN
MAU	MAKE-UP AIR UNIT
MCC	MOTOR CONTROL CENTER
MV	MIXING VALVE
P	PUMP (SEE PIPING LEGEND FOR DETAILS)
RF	RETURN (OR RELIEF) AIR FAN
RZ	RADIANT ZONE
SA	SNOWMELT AREA
SB	SUMP BASIN
SF	SUPPLY FAN
ST	STORAGE TANK
TMV	THERMOSTATIC MIXING VALVE
UH	UNIT HEATER
VR	VARIABLE VOLUME BOX W/ REHEAT
VV	VARIABLE VOLUME BOX
WH	WATER HEATER

PIPING SYMBOLS

	90° ELBOW DN
	90° ELBOW UP
	TEE DOWN
	TEE UP
	BUTTERFLY VALVE
	SHUT OFF (BALL, GATE, BUTTERFLY)
	GLOBE VALVE
	CHECK VALVE
	FLOW CONTROL VALVE
	BALL VALVE
	PLUG OR BALANCING VALVE
	FLOW BALANCING VALVE
	PLUG VALVE IN RISER
	GATE OR GLOBE VALVE IN RISER
	DRAIN VALVE W/ HOSE END
	TEMPERATURE CONTROL VALVE (2-WAY)
	TEMPERATURE CONTROL VALVE (3-WAY)
	PRESSURE REDUCING VALVE
	SOLENOID VALVE
	VENTURI/FLOW INDICATOR
	PUMP & EQUIPMENT CONNECTOR
	PIPE UNION
	DOUBLE CHECK BACKFLOW PREVENTER
	PIPE ANCHOR
	PIPE EXPANSION JOINT
	FLEXIBLE CONNECTOR
	SAFETY RELIEF VALVE
	AIR VENT
	PRESSURE - TEMP. TAP
	PRESSURE GAUGE W/ PIG TAIL & COCK
	THERMOMETER
	VACUUM BREAKER
	HORIZONTAL CLEANOUT
	VERTICAL CLEANOUT
	FLOOR DRAIN
	FLOOR SINK
	ROOF DRAIN
	STRAINER W/ BLOW-OFF VALVE
	SHOCK ABSORBER
	FLOW SWITCH
H B W H	HOSE BIBB or WALL HYDRANT
	STEAM TRAP: FT-FLOAT & THERMOSTATIC TD-THERMODYNAMIC IB-INVERTED BUCKET TS-THERMOSTATIC BP-BALANCED PRESSURE
	STEAM TRAP TEST CHAMBER
TC	TEMPERATURE CONTROLLER OR SENSOR

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AUTO	AUTOMATIC
ABV	ABOVE
BCS	BUILDING CONTROL SYSTEM
BDD	BACK DRAFT DAMPER
BLDG	BUILDING
BFG	BELOW FINISHED GRADE
BOP	BOTTOM OF PIPE FROM FINISHED FLOOR
B/N	BETWEEN
C	COMMON
CA	COMBUSTION AIR
CC	CONTROLS CONTRACTOR
CFM	CUBIC FEET PER MINUTE (AIR FLOW RATE)
CIP	CAST IN PLACE
CLG	CEILING (OR COOLING)
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECT (OR CONNECTION)
CONTR'R	CONTRACTOR
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CW	DOMESTIC COLD WATER
DN	DOWN
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EXH	EXHAUST
EWT	ENTERING WATER TEMPERATURE
FA	FREE AREA
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OWNER
FCO	FLOOR CLEANOUT
FCT	FOR CONTINUATION
FFI	FOR FURTHER INFORMATION
FSD	COMBINATION FIRE/SMOKE DAMPER
GC	GENERAL CONTRACTOR
GHX	GROUND HEAT EXCHANGER
GPM	GALLONS PER MINUTE (WATER FLOW RATE)
HP	HORSE POWER
HW	DOMESTIC HOT WATER
HWC	HOT WATER RECIRCULATION
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LF	LINEAR FOOT
LWT	LEAVING WATER TEMPERATURE
MC	MECHANICAL CONTRACTOR
MFR	MANUFACTURER
MOD	MOTOR OPERATED DAMPER
(N)	NEW
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OBD	OPPOSED BLADE VOLUME DAMPER
OC	ON CENTER
OSA	OUTSIDE AIR
RA	RETURN AIR
REQ'D	REQUIRED
RE:	REFER TO:
REQ'MTS	REQUIREMENTS
SA	SUPPLY AIR
SF	SQUARE FOOT (FEET)
SP	STATIC PRESSURE
SS	STAINLESS STEEL
TA	THROW-AWAY (OR TRANSFER AIR)
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WCO	WALL CLEANOUT
XFR	TRANSFER

PLAN SYMBOLS

	CONTROL PANEL/RADIANT MANIFOLD
CO2	CARBON DIOXIDE SENSOR
	CARBON MONOXIDE SENSOR
T	THERMOSTAT
S	REMOTE TEMPERATURE SENSOR
H	HUMIDISTAT
DP	DUCT STATIC PRESSURE SENSOR
P	ROOM PRESSURE SENSOR
EPO	EMERGENCY POWER OFF SWITCH
	PLUMBING RISER
	HEATING WATER RISER
	FIRE RISER
	HVAC RISER
	DIAGRAM CONTINUATION REFERENCE
	SECTION CUT LETTER/SHEET SHOWN ON
	POINT OF DISCONNECTION
	POINT OF NEW CONNECTION
	ACCESS PANEL
	SNOWMELT MANIFOLD

PIPING DESIGNATIONS

HYDRONIC PIPING	
CS	CONDENSER SUPPLY
CR	CONDENSER RETURN
CHS	CHILLED WATER SUPPLY
CHS	CHILLED WATER SUPPLY
CCS	CLOSED CONDENSER SUPPLY
CCR	CLOSED CONDENSER RETURN
FCS	FLOOR COOLING SUPPLY
FCR	FLOOR COOLING RETURN
GF	GLYCOL FEED
GLS	GEOTHERMAL (OR GROUND) LOOP SUPPLY
GLR	GEOTHERMAL (OR GROUND) LOOP RETURN
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
HWS(LT)	HEATING WATER SUPPLY (LOW TEMP)
HWR(LT)	HEATING WATER RETURN (LOW TEMP)
HWS(HT)	HEATING WATER SUPPLY (HIGH TEMP)
HWR(HT)	HEATING WATER RETURN (HIGH TEMP)
HWS(HP)	HEATING WATER SUPPLY (HEAT PUMP)
HWR(HP)	HEATING WATER RETURN (HEAT PUMP)
RFS	RADIANT FLOOR SUPPLY
RFR	RADIANT FLOOR RETURN
SHWS	SOLAR HEATING WATER SUPPLY
SHWR	SOLAR HEATING WATER RETURN
SMS	SNOWMELT SUPPLY
SMR	SNOWMELT RETURN
STEAM & CONDENSATE PIPING	
HPS	HIGH PRESURE STEAM
HPR	HIGH PRESURE CONDENSATE RETURN
LPS	LOW PRESURE STEAM
LPR	LOW PRESURE CONDENSATE RETURN
MPS	MEDIUM PRESURE STEAM
MPR	MEDIUM PRESURE CONDENSATE RETURN
PC	PUMPED CONDENSATE
PLUMBING PIPING	
G	NATURAL GAS
MG	MEDIUM PRESSURE GAS
PG	PROPANE GAS
LPG	LIQUID PROPANE GAS
PD	PROPANE DRAIN
D	DRAIN PIPE
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
FOF	FUEL OIL FILL
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
CW	DOMESTIC COLD WATER (CW)
HW	DOMESTIC HOT WATER (HW)
HWC	HOT WATER RECIRCULATION (HWC)
NS	NON-SOFTENED DOMESTIC WATER
F	FIRE LINE
AW	ACID WASTE
AV	ACID VENT
GW	GREASE WASTE
GV	GREASE VENT
PW	PUMPED WASTE
W	WASTE
V	VENT
SD	SECONDARY DRAIN
SO	SAND AND OIL WASTE
ST	STORM DRAIN
ST(OF)	STORM DRAIN OVERFLOW
CA	COMPRESSED AIR
MA	MEDICAL AIR
O2	OXGEN
VAC	VACUUM
CO2	CARBON DIOXIDE
N2O	NITROUS OXIDE
N2	NITROGEN
IA	INSTRUMENT AIR
WAGD	WASTE ANESTHETIC GAS DISPOSAL

PROJECT ALTITUDE
6733' ABOVE SEA LEVEL

MECHANICAL SHEET INDEX

#	TITLE	ISSUE LOG 100% DD - 02.21.2020	95% CD - 03.26.2020	95% CD - 03.30.2020	PERMIT - 04.06.2020
M0.0	MECH COVER SHEET	√	√	√	√
M0.1	MECHANICAL SCHEDULES	√	√	√	√
M1.0	MECHANICAL SITE PLAN		√	√	√
M1.1	MECHANICAL OVERALL PLAN		√	√	√
M1.2	ENLARGED RESTROOM MECHANICAL PLANS				
M2.0.1	FIRST LEVEL AREA A DEMO MECH PLAN	√	√	√	√
M2.0.2	SCIENCE ROOMS DEMO MECH PLANS	√	√	√	√
M2.0.3	ROOF AREA A DEMO MECH PLAN	√	√	√	√
M2.1	FIRST LEVEL AREA A MECH PLAN	√	√	√	√
M2.2	SCIENCE ROOMS MECH PLANS		√	√	√
M2.3	SCIENCE ROOMS ENLARGED MECH PLANS	√	√	√	√
M2.4	ROOF AREA A MECHANICAL PLAN	√	√	√	√
MC2.1	FIRST LEVEL AREA A MECHANICAL COORDINATION CEILING PLAN		√	√	√
MPD2.1	FIRST LEVEL AREA A DEMO PLUMBING PLAN	√	√	√	√
MPD2.2	SCIENCE ROOMS DEMO PLUMBING PLAN	√	√	√	√
MP2.1	FIRST LEVEL AREA A PLUMBING PLAN	√	√	√	√
MP2.2	SCIENCE ROOMS PLUMBING PLANS		√	√	√
MP2.3	SCIENCE ROOMS ENLARGED PLUMBING PLANS	√	√	√	√
MP2.4	ROOF AREA A PLUMBING PLAN		√	√	√
M3.1	MECHANICAL DIAGRAMS	√	√	√	√
M3.2	MECHANICAL DIAGRAMS	√	√	√	√

ISSUE LOG KEY:
'√': ISSUED AS PART OF SET
' ': NOT PART OF SET
'**': ISSUED FOR INFORMATION ONLY

REMODEL/RENOVATION NOTE:

CONTRACTOR MUST KEEP IN MIND THAT THIS IS A REMODEL PROJECT. READ GENERAL NOTES CAREFULLY. CONTRACTORS MUST COORDINATE NEW AND EXISTING CONDITIONS FOR INSTALLATION OF THE WORK.

CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF FIELD CONDITIONS DISCOVERED DURING DEMOLITION THAT VARY FROM THOSE INDICATED HEREIN.

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
MECH COVER SHEET

Project No:
10183.00

Sheet No:
M0.0

HYDRONIC VAV AIR HANDLING UNIT SCHEDULE W/ ENERGY RECOVERY

NOTES:
A. HEATING COIL CAPACITY SIZED AT A MINIMUM FOR MORNING WARMUP. COIL TO TAKE HEATING CFM FROM 70 TO 90 °F.
B. SEE HEAT WHEEL SCHEDULE FOR INFORMATION ON INTEGRAL HEAT WHEEL
G. REFER TO CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION.

				SUPPLY FAN							RELIEF FAN							COOLING							HEATING							ELECTRICAL								
MARK	SERVICE	TYPE	MIN. OUTSIDE AIR (CFM)	CFM	MIN. CFM	ESP @ SL (IN WC)	ESP @ ALT (IN WC)	RPM	BHP	HP	CFM	MIN. CFM	ESP @ SL (IN WC)	ESP @ ALT (IN WC)	RPM	BHP	HP	EAT DB/WB (°F)	LAT DB/WB (°F)	SENSIBLE MBH	TOTAL MBH	EWT (°F)	LWT (°F)	GPM	MAX WTR PD (FT HEAD)	EAT DB (°F)	LAT DB (°F)	SENSIBLE MBH	EWT (°F)	LWT (°F)	GPM	MAX WTR PD (FT HEAD)	FILTER	VOLTAGE	PHASE	FLA	MCA	MOCP	OPER. WEIGHT (LBS)	MANUFACTURER & MODEL #	REMARKS
(E) RTU-1	CAFETERIA/ CAFTORIUM/ STORAGE	ROOFTOP W/ INTEGRAL ERV	6000	10500	5700	1.92	1.60	1750	9.39	10	10500	5700	0.90	0.75	1750	1.46	2	77.0	55.0	171	171	45	55	36	12.50	35	90	365	150	120	26	4.00	2" PLEATED	480	3	19.0	22.0	30.0	5,295	AAON RN	NOTES A,B; UPSIZING SUPPLY FAN MOTOR FROM 7.5 TO 10HP ON EXISTING RTU.

ENERGY RECOVERY WHEEL SCHEDULE (INTEGRAL TO RTU-1)

		HEAT RECOVERY WHEEL DESIGN CONDITIONS					
		OUTDOOR AIR		INDOOR AIR		SUPPLY LAT	
MARK	SERVICE	DB/WB (°F) (SUM)	DB/WB (°F) (WINT)	DB/WB (°F) (SUM)	DB/WB (°F) (WINT)	DB/WB (°F) (SUM)	DB/WB (°F) (WINT)
(E) RTU-1	CAFETERIA/ CAFTORIUM/ STORAGE	91/55	19	80/51	49	78/53	57/49

TERMINAL BOX WITH REHEAT SCHEDULE

NOTES:
A: RADIATED AND DISCHARGE SOUND LEVELS SHALL NOT EXCEED NC 35 AT 1.5" INLET STATIC PRESSURE WHEN TESTED PER ARI STANDARD 885-98.
B: TOTAL AIR PRESSURE DROP OF TAB AND REHEAT COIL SHALL NOT EXCEED 0.5" CW.
C: WATER PRESSURE DROP OF REHEAT COILS SHALL NOT EXCEED 5 FT. PROVIDE REHEAT COILS SEPARATE FROM BOXES IF REQUIRED TO MEET WATER PRESSURE DROP REQUIREMENTS.

						HEATING COIL (HYDRONIC)										
MARK	SERVICE	INLET DIA. (IN.)	COOLING CFM	HEATING CFM	MIN. INLET S.P. @ S.L. (IN. W.C.)	EAT DB (°F)	LAT DB (°F)	SENSIBLE MBH	EWT (°F)	LWT (°F)	GPM	MAX. WATER P.D. (FT.)	MAX. AIR P.D. (IN. WC)	MANUFACTURER & MODEL #	CONTROL TYPE	ACCESSORIES	REMARKS
VAV-01	CAFETORIUM	14	2000	700	1.0	55	80	43	140	120	4.8	3.00	0.40	TITUS DESV	DDC	THERMOSTAT AND CO2 SENSOR	-
VAV-02	CAFETORIUM/ STAGE	16	3000	1000	1.0	55	80	64	140	120	6.7	3.00	0.40	TITUS DESV	DDC	THERMOSTAT AND CO2 SENSOR	-
VAV-03	CAFETERIA	24X16	4600	1400	1.0	55	85	119	140	115	10.0	3.00	0.40	TITUS DESV	DDC	THERMOSTAT AND CO2 SENSOR	-
VAV-04	KITCHEN	8	900	150	1.0	55	85	19	140	115	2.0	3.00	0.30	TITUS DESV	DDC	THERMOSTAT AND CO2 SENSOR	-

EXHAUST FAN SCHEDULE

NOTES:
A: PROVIDE DIRECT DRIVE FANS WITH FAN SPEED CONTROL.
B: NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAMEPLATE RATING.
C: PROVIDE ROOF CURB WITH INTEGRAL DAMPER.

			FAN				MOTOR					
					ESP							
MARK	SERVICE	TYPE	CFM	SONES	@ SL (IN WC)	@ ALT (IN WC)	MHP	VOLT	PHASE	MANUFACTURER & MODEL #	ACCESSORIES	REMARKS
EF-1	SPED BATHROOM	CEILING	80	3.8	0.17	0.15	13 W	120	1	GREENHECK SP-A90	INTEGRAL BACKDRAFT DAMPER	-
KEF-1	TYPE I DISH HOOD	UPBLAST	1500	10	0.60	0.40	1/4	120	1	GREENHECK CUBE-141	INTEGRAL BACKDRAFT DAMPER	-
KEF-2	TYPE II KITCHEN HOOD	UPBLAST	600	8.1	0.60	0.30	1/8	120	1	GREENHECK CUE-095-D	INTEGRAL BACKDRAFT DAMPER	-

PLUMBING FIXTURE SCHEDULE

MARK	TYPE	ADA	FINISH	MANUFACTURER* & MODEL #	FAUCET TRIM MFR* & MODEL #	ACCESSORIES	REMARKS
P1	FLOOR SINK	N/A	ACID RESISTANT CAST IRON	ZURN Z1902	-	-	-
P2	ROOF DRAIN	N/A	DURA-COATED CAST IRON	ZURN Z125	-	DECK CLAMP	-
P3	SCIENCE CLASSROOM	N/A	RESIN; RE: ARCH		CHICAGO #930-VPH	PROVIDE VACUUM BREAKER, UNDER COUNTER PROTECTION, QUARTER TURN ANGLE STOPS, SUPPLIES AND ACID WASTE TAIL PIECE. PROVIDE AND INSTALL POINT OF USE STRIEM UNDER COUNTER ACID NEUTRALIZATION TANK, MODEL LB2.	INSTALL PER MANUFACTUERR'S REQUIREMENTS
P4	DOWNSPOUT NOZZLE	N/A	RE: ARCH	ZURN Z199	-	-	-
P5	MOP BASIN	N/A	TERRAZO	FLORESTONE #92 36X36	T & S BRASS #B-0665-BSTP	FLOOR MOUNT, 36"X36" DROP FRONT MOP RECEPTOR	-
P6	URINAL FLUSH VALVE ONLY	EXISTING	CHROME	-	SLOAN G2 8111-1.6 3250400	EXISTING URINAL TO REMAIN. REPLACE FLUSH VALVE ONLY	-
P7	WATER CLOSET FLUSH VALVE ONLY	EXISTING	CHROME	-	SLOAN G2 8111-1.6 3250400	EXISTING WATER CLOSET TO REMAIN. REPLACE FLUSH VALVE ONLY	-
P8	LAVATORY FAUCET ONLY	EXISTING	CHROME		DELTA 2529LF-HDF	EXISTING SINK BASIN AND DRAIN TO REMAIN. REPLACE FAUCET ONLY.	-

GRILLE, REGISTER, DIFFUSER & LOUVER SCHEDULE

MARK	USE	PATTERN	FINISH	MANUFACTURER* & MODEL#	ACCESSORIES	REMARKS
(E)	VARIES	-	-	-	-	EXISTING DIFFUSER TO REMAIN
A	LAY-IN CEILING SUPPLY	4-WAY	WHITE	TITUS TDC-AA	-	-
B	SIDEWALL RETURN	STATIONARY	RE: ARCH	TITUS 350RL	-	-

MULTI ZONE VENTILATION SCHEDULE

VENTILATION EQUATION VARIABLE DEFINITIONS:
BREATHING ZONE OUTDOOR AIRFLOW, Vbz
ZONE FLOOR AREA, Az
ZONE POPULATION, Pz
AREA OUTDOOR AIR RATE, Ra
PEOPLE OUTDOOR AIR RATE, Rp
ZONE AIR DISTRIBUTION EFFECTIVENESS, Ez
ZONE OUTDOOR AIRFLOW, Voz
SYSTEM OUTDOOR AIR INTAKE FLOW RATE, Vot
ZONE PRIMARY OUTDOOR AIR FRACTION, Zp
ZONE PRIMARY AIRFLOW, Vpz
SYSTEM VENTILATION EFFICIENCY, SYSTEM Ev
ZONE VENITALION EFFICIENCY, ZONE Ev

VENTILATION EQUATIONS:
Vbz = Rp * Pz + Ra * Az (EQUATION 4-1)
Voz = Vbz / Ez (EQUATION 4-2)
Zp = Voz / Vpz (EQUATION 4-5)
Ev = (Table 403.3.1.1.2.3.2)
Vou = ∑ (Vbz), ASSUMING D=1 (EQUATION 4-6)
Vot = Vou /(SYSTEM Ev) (EQUATION 4-8)

VAV-01 SUMMARY

SPACE NAME	SPACE TYPE	Az [SQ.FT.]	Rp [CFM/ PERSON]	Ra [CMF/SQ.FT.]	PEOPLE DENSITY [#/1000SQ.F...	Pz [PEOPLE]	Vbz [CFM]	Ez	Voz [CFM]	Vpz [CFM]	ZONE Zp
CAFETORIUM	EDUCATION - MULTIUSE ASSEMBLY	1400	7.5	0.06	100	124	1014	1	1014	2000	51%

VAV-02 SUMMARY

SPACE NAME	SPACE TYPE	Az [SQ.FT.]	Rp [CFM/ PERSON]	Ra [CMF/SQ.FT.]	PEOPLE DENSITY [#/1000SQ.F...	Pz [PEOPLE]	Vbz [CFM]	Ez	Voz [CFM]	Vpz [CFM]	ZONE Zp
CAFETORIUM AND STAGE	EDUCATION - MULTIUSE...	2470	7.5	0.06	100	186	1544	1	1544	3000	51%

VAV-03 SUMMARY

SPACE NAME	SPACE TYPE	Az [SQ.FT.]	Rp [CFM/ PERSON]	Ra [CMF/SQ.FT.]	PEOPLE DENSITY [#/1000SQ.F...	Pz [PEOPLE]	Vbz [CFM]	Ez	Voz [CFM]	Vpz [CFM]	ZONE Zp
CAFETERIA	F&B - CAFETERIA,...	3400	7.5	0.18	100	220	2262	1	2262	3600	63%

VAV-04 SUMMARY

SPACE NAME	SPACE TYPE	Az [SQ.FT.]	Rp [CFM/ PERSON]	Ra [CMF/SQ.FT.]	PEOPLE DENSITY...	Pz [PEOPLE]	Vbz [CFM]	Ez	Voz [CFM]	Vpz [CFM]	ZONE Zp
KITCHEN AND SERVING	F&B - KITCHEN (COOKING)	700	-	-	-	-	-	0.8	0	600	0%

TOTAL SYSTEM SUMMARY

SYSTEM Ev	52%
SYSTEM Vot	6000

GENERAL NOTES:
A: -
B: -
Comments

NOTES:

1. ALL STARTERS FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED UNDER THIS CONTRACT AND SET IN PLACE AND WIRED BY EC. VFD'S NOT INCLUDED AS PART OF THE EQUIPMENT WIRING PACKAGE SHALL BE FURNISHED BY THE MC, AND SET IN PLACE AND WIRED BY THE EC, U.N.O.
2. NOT ALL EQUIPMENT REQUIRED UNDER THIS CONTRACT IS NECESSARILY SPECIFIED ON THE SCHEDULE SHEETS. PLAN & DIAGRAM NOTATIONS AND PROJECT MANUAL CONTAIN EQUIPMENT SPECIFICATIONS AS WELL.
3. (ASHRAE 90.1-2004 & 2007) MECHANICAL EQUIPMENT THAT IS NOT COVERED BY THE U.S. NATIONAL APPLIANCE ENERGY CONSERVATION ACT (NAECA) OF 1987 SHALL CARRY A PERMANENT LABEL, INSTALLED BY THE MANUFACTURER STATING THAT THE EQUIPMENT COMPLIES WITH THE REQUIREMENTS OF STANDARD 90.1.
4. (ASHRAE 62.1) ALL AIR MOVING EQUIPMENT SUBJECT TO THE SCOPE OF ASHRAE 62.1 AND SHALL COMPLY WITH CONSTRUCTION REQ'MTS THEREIN.
5. NOT ALL CAPACITIES, CHARACTERISTICS, AND CONSTRUCTION FEATURES REQUIRED ARE NECESSARILY INDICATED IN THE EQUIPMENT SCHEDULES. RE: PLANS AND SPECIFICATIONS FOR ADDITIONAL REQ'MTS.
6. CAPACITIES, CHARACTERISTICS, AND CONSTRUCTION FEATURES OF THE SCHEDULED EQUIPMENT ARE HEREBY INCORPORATED INTO THE PROJECT REQUIREMENTS. EQUIVALENT PRODUCTS PERFORMANCE AND CONSTRUCTION FEATURES SHALL MEET OR EXCEED THAT OF THE SPECIFIED EQUIPMENT WHETHER SCHEDULED OR NOT.
7. NOT ALL EQUIPMENT AVAILABLE FROM LISTED "EQUIVALENT" MANUFACTURERS LISTED IS NECESSARILY EQUIVALENT TO THE BASIS OF DESIGN EQUIPMENT SPECIFIED. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY COSTS, RESULTANT CHANGES TO OTHER DIVISIONS, AND SPATIAL REQ'MTS FOR EQUIPMENT OTHER THAN SCHEDULED.
8. ALL MANUFACTURERS REPRESENTATIVES SHALL READ AND UNDERSTAND THE CONTROL DIAGRAMS AND COORDINATE WITH TCC TO PROVIDE A FULLY FUNCTIONING SYSTEM AS DESCRIBED IN THE CONTROL DIAGRAMS.

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
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Sheet Title:
MECHANICAL SCHEDULES

Project No:
10183.00

Sheet No:
M0.1

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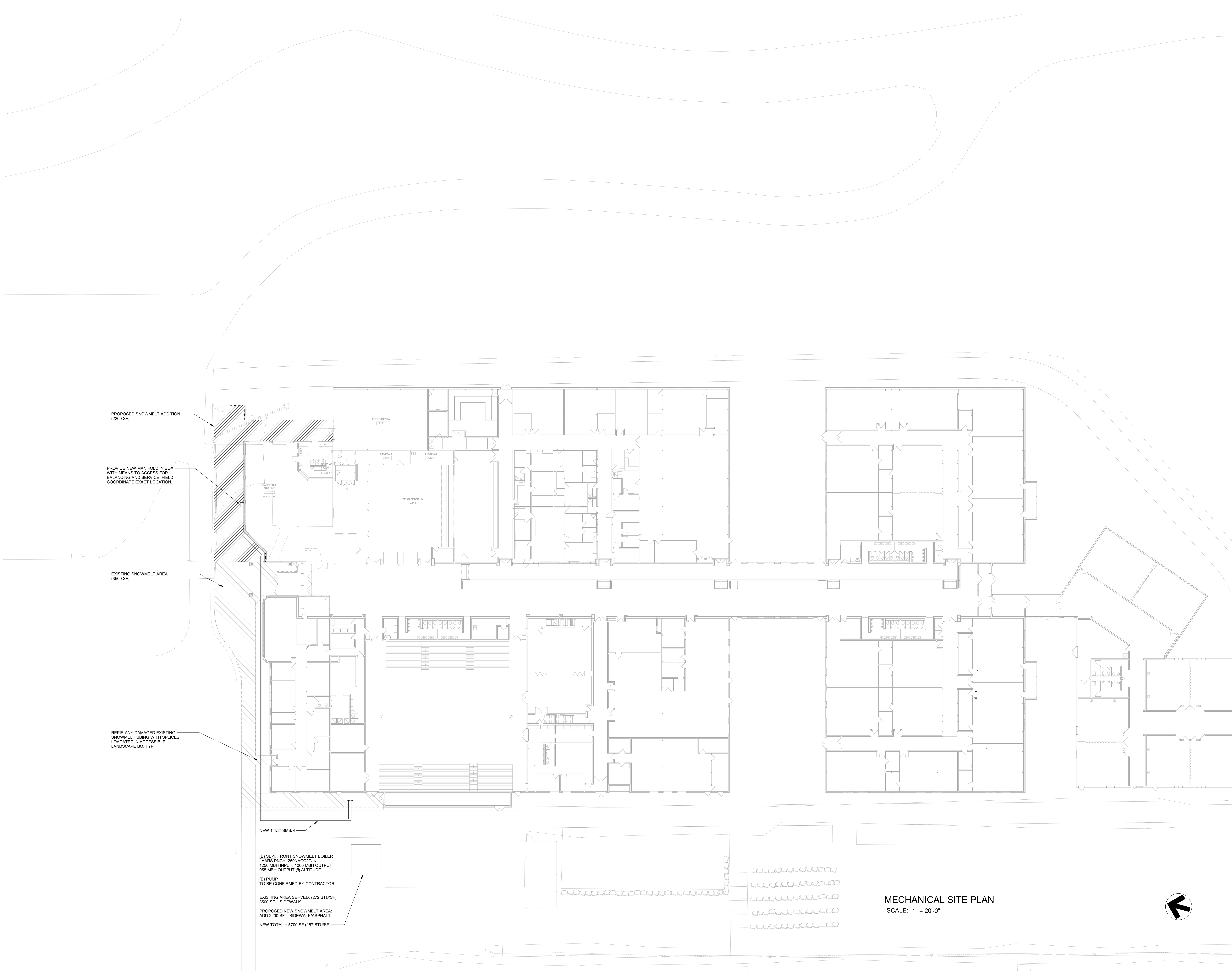

MECHANICAL SITE PLAN
SCALE: 1" = 20'-0"

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DAVID A. LYLE
34666
4/6/2020
PROFESSIONAL ENGINEER

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Revisions:

No	Description	Date

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04.06.2020
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Sheet Title:
MECHANICAL
SITE PLAN

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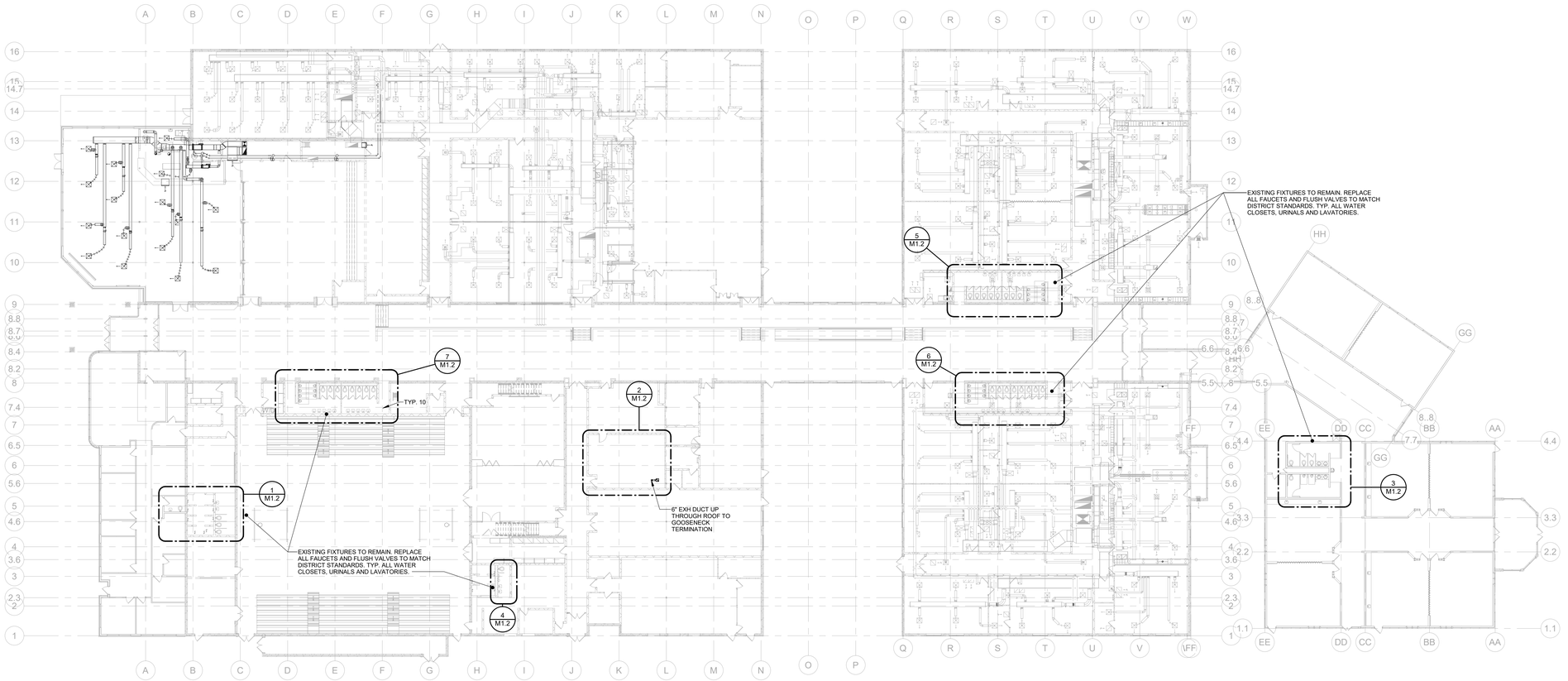
M1.0



MECHANICAL OVERALL PLAN
SCALE: 1" = 20'-0"

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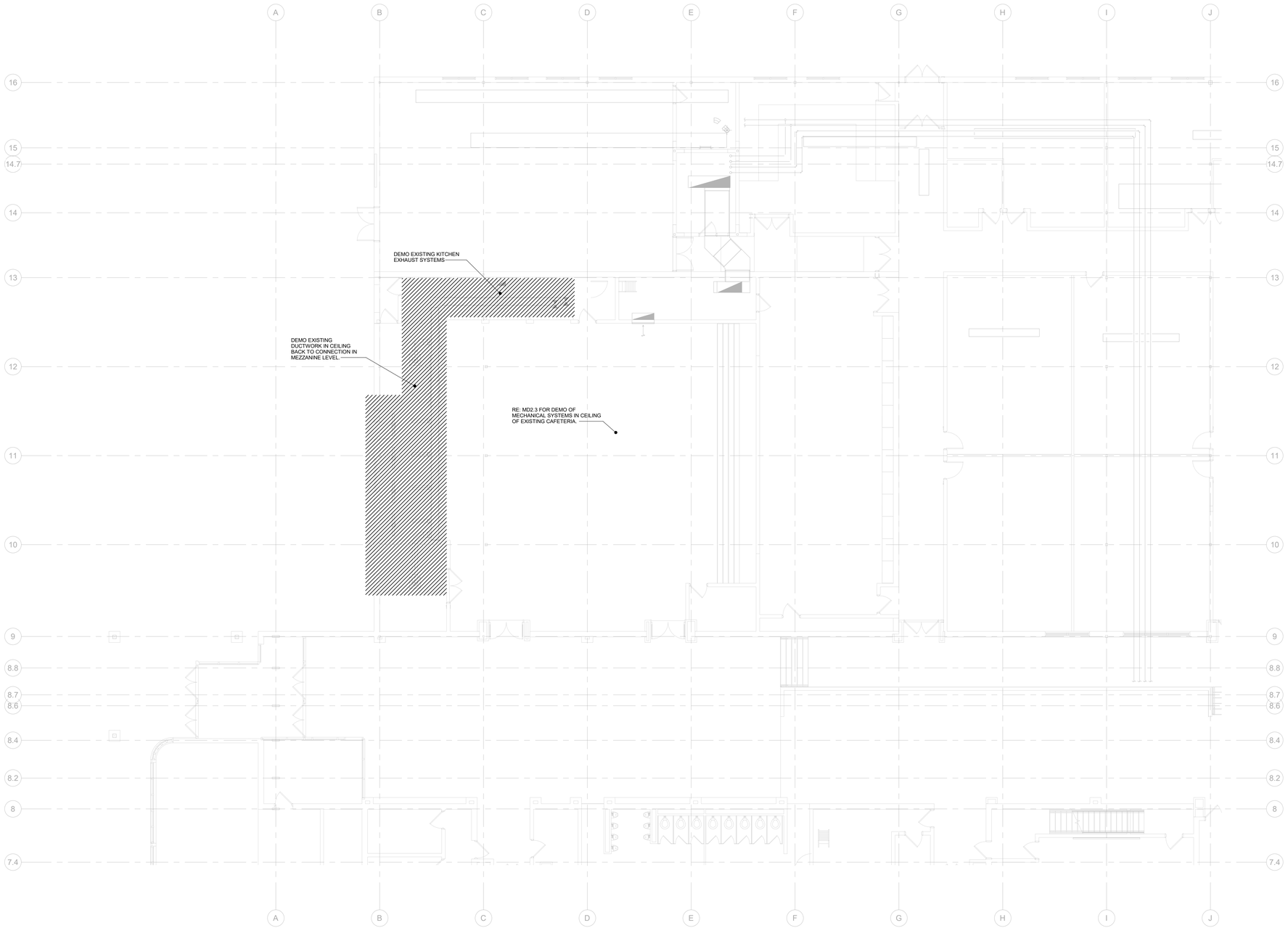

1 FIRST LEVEL AREA A DEMO MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES:

1. ADDITIONAL STORM, HYDRONIC, DOMESTIC, WASTE AND VENT PIPING MAY BE ROUTED IN SPACE THAT IS NOT REPRESENTED, BUT IS TO REMAIN. OTHER SYSTEMS MAY EXIST WITHIN THE SPACE THAT ARE NOT REPRESENTED ON THESE DRAWINGS; MODIFICATIONS TO THESE SYSTEMS ARE NOT ANTICIPATED.
2. FIELD VERIFY ALL COMPONENTS PRIOR TO DEMOLITION. THE INFORMATION ON THIS SHEET WAS OBTAINED, IN PART, FROM HISTORIC DESIGN DRAWINGS. ONLY PORTIONS OF THE SYSTEMS WERE ACCESSIBLE FOR VISUAL CONFIRMATION DURING DESIGN PROCESS.
3. PROVIDE PRELIMINARY TESTING OF EXISTING HYDRONIC SYSTEMS. MEASURE CURRENT FLUID FLOW RATE THROUGH ALL EXISTING COILS, RADIANT, AND SNOWMELT ZONES FOR THE CURRENTLY INSTALLED SYSTEMS. SUBMIT REPORT OF MEASURED VALUES TO ENGINEER FOR REVIEW AND CONFIRMATION OF SYSTEM DESIGN ASSUMPTIONS PRIOR TO DEMOLITION.
4. PROVIDE PRELIMINARY TESTING OF EXISTING HVAC DUCTWORK SYSTEMS. MEASURE CURRENT AIR FLOW RATES AT ALL EXISTING SUPPLY, RETURN, AND EXHAUST REGISTERS. MEASURE TOTAL AIR FLOWS AT MAIN DUCT BRANCHES AND ALL FAN SYSTEMS. SUBMIT REPORT OF MEASURED VALUES TO ENGINEER FOR REVIEW AND CONFIRMATION OF SYSTEM DESIGN ASSUMPTIONS PRIOR TO DEMOLITION.
5. (E) WASTE SYSTEM SERVING SPACE IS LOCATED IN THE CEILING OF THE SPACE BELOW.
6. REMOVE ALL MECHANICAL ITEMS INDICATED.
7. TEMPORARILY SEAL OR CAP PIPING TO BE RE-USED FOR LATER CONNECTION.
8. SEAL ALL OPEN DUCTS DURING CONSTRUCTION TO MITIGATE DUST AND DEBRIS FROM SYSTEM. CAP DUCTWORK IN LOCATIONS THAT ARE NOT BEING RECONNECTED.
9. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OF INFORMATION REPRESENTED IN THE DOCUMENTS VERSUS WHAT IS FOUND IN THE FIELD.
10. COORDINATE PATCHING AND REPAIRS OF WALLS, CEILINGS AND FLOORS WITH ARCHITECT.
11. PATCH STRUCTURAL OPENINGS IN FLOORS, WALLS AND ROOFS THAT WERE PREVIOUSLY OCCUPIED BY SYSTEMS AND EQUIPMENT DEMOLISHED UNDER THIS CONTRACT IN ACCORDANCE WITH STRUCTURAL ENGINEER'S REQUIREMENTS.

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Revisions:		
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Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A DEMO MECH PLAN

KEY PLAN

Project No:
10183.00

Sheet No:
MD2.1

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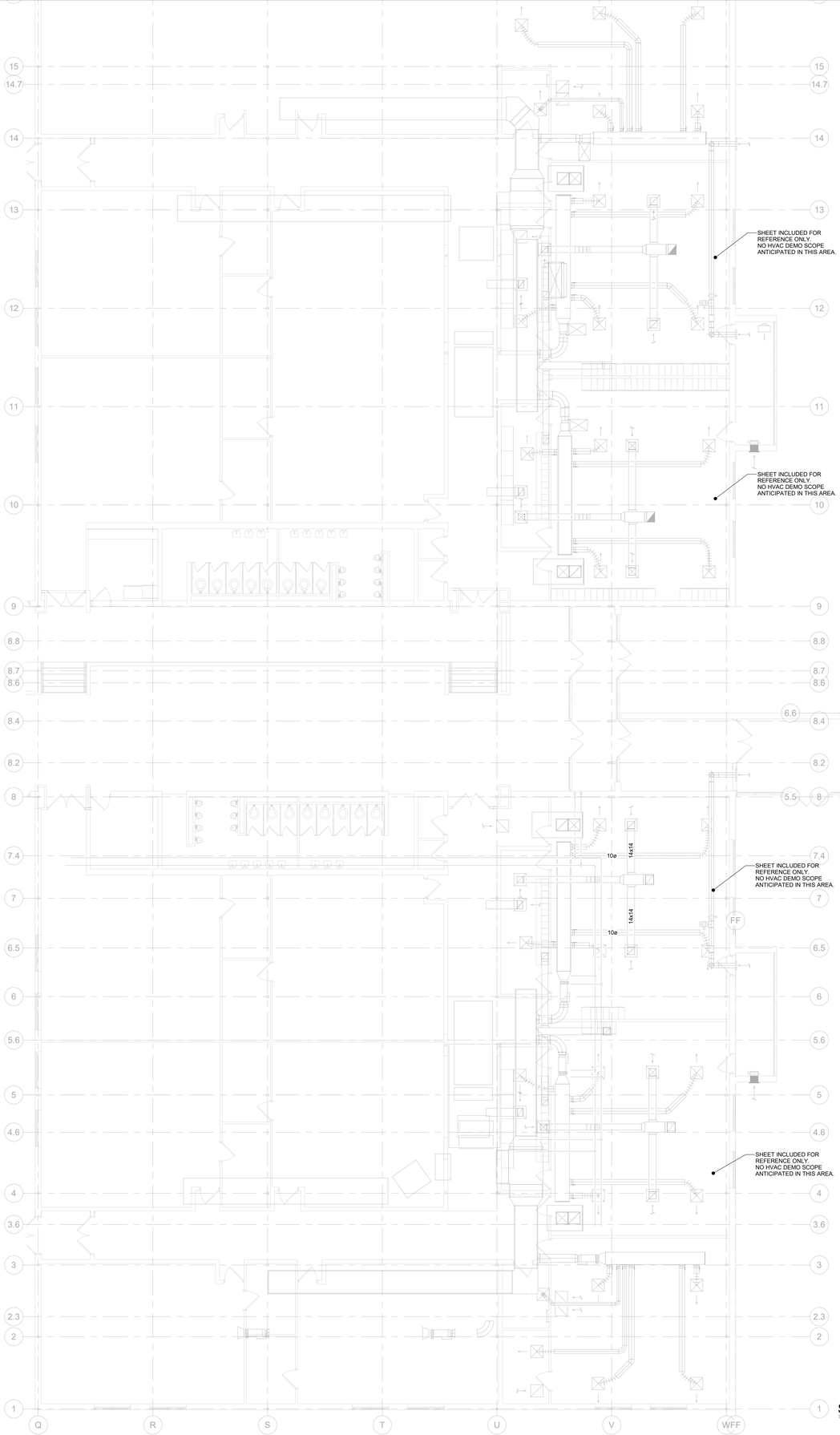

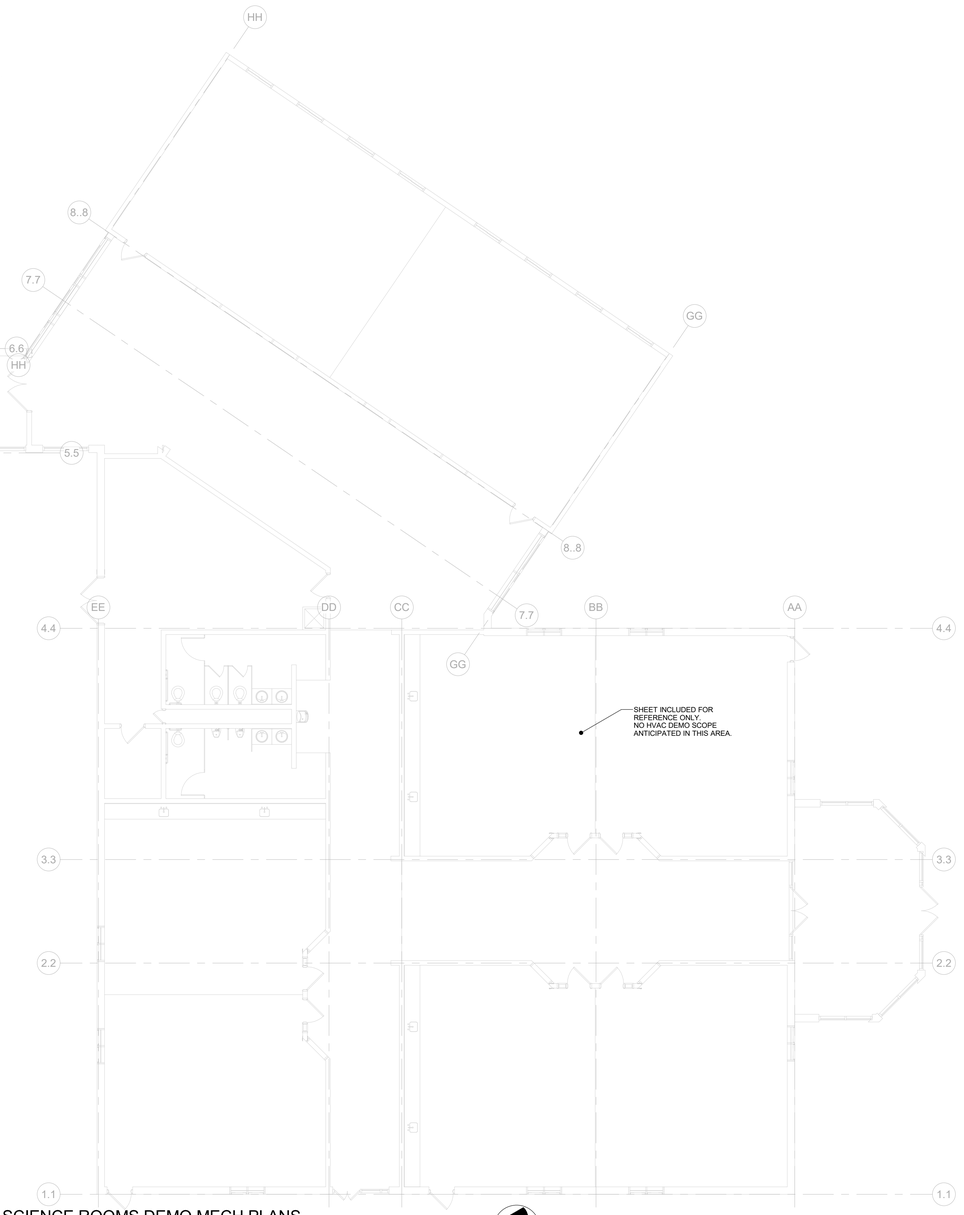

SCIENCE ROOMS DEMO MECH PLANS

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

DEMOLITION NOTES:

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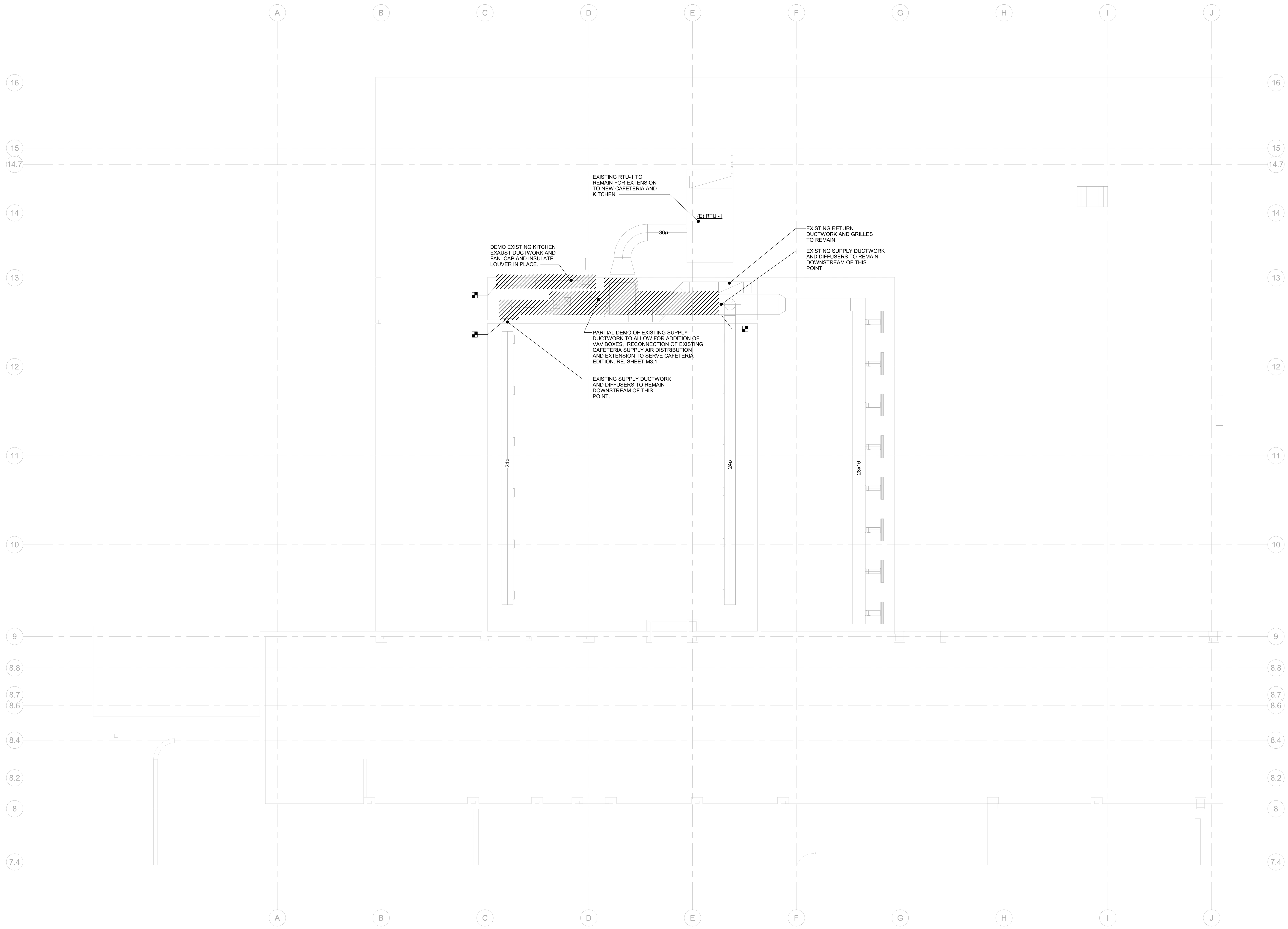
Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
SCIENCE ROOMS DEMO MECH PLANS

Project No:
10183.00

Sheet No:
MD2.2



ROOF AREA A DEMO MECHANICAL PLAN

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

DEMOLITION NOTES:

1. ADDITIONAL STORM, HYDRONIC, DOMESTIC, WASTE AND VENT PIPING MAY BE ROUTED IN SPACE THAT IS NOT REPRESENTED, BUT IS TO REMAIN. OTHER SYSTEMS MAY EXIST WITHIN THE SPACE THAT ARE NOT REPRESENTED ON THESE DRAWINGS; MODIFICATIONS TO THESE SYSTEMS ARE NOT ANTICIPATED.
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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
ROOF AREA A DEMO MECH PLAN

Project No:
10183.00

Sheet No:
MD2.3

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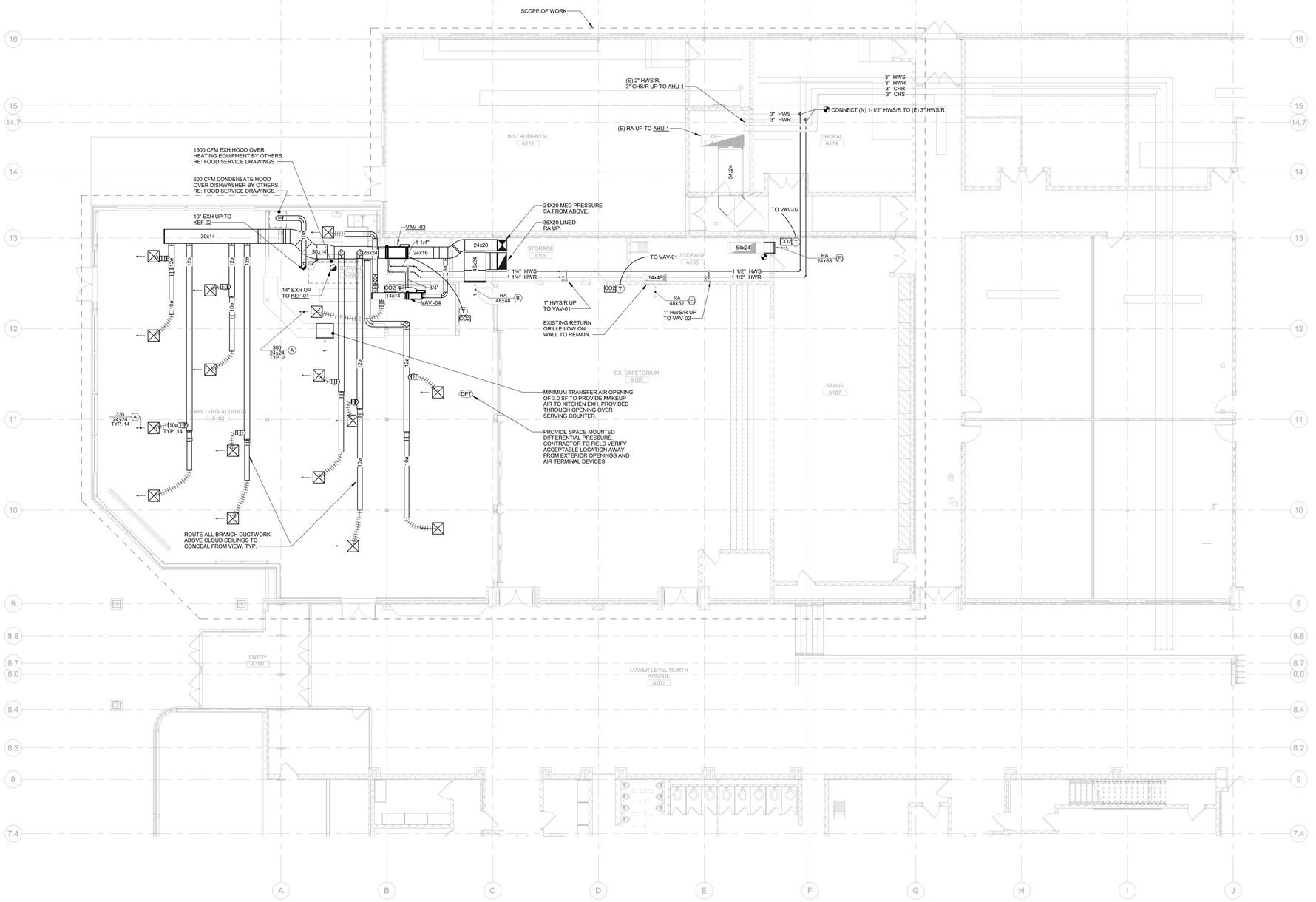
NOTES:

1. RE: M3.0 SERIES FOR MECHANICAL DIAGRAMS.
2. CEILING COORDINATION OF ALL MEP SYSTEMS (LIGHTING, DUCTWORK, DIFFUSERS, ELECTRICAL, FIRE PROTECTION, ETC.) MUST BE COMPLETED BY THE CONTRACTOR PRIOR TO THE START OF ANY INSTALLATIONS.
3. DO NOT ROUTE DUCTWORK OVER ELECTRICAL ROOMS OR ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTINGS WITH DIV. 16 CONTRACTOR.
4. PROVIDE FLEXIBLE DUCT AND PIPE CONNECTIONS TO ALL MOTORIZED EQUIPMENT.
5. ALL DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE IN THE CEILING SPACE. UTILIZE JOIST SPACE WHEN POSSIBLE, ESPECIALLY WHERE CROSSING OTHER DUCTS, PIPES, AND ELECTRICAL.
6. MAINTAIN MIN. 3 FT BETWEEN ENVIRONMENTAL EXH TERMINATIONS AND OPENINGS INTO BUILDING.



1 FIRST LEVEL AREA A MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

KEY PLAN

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Sheet Title:
FIRST LEVEL AREA A MECH PLAN

Project No:
10183.00

Sheet No:
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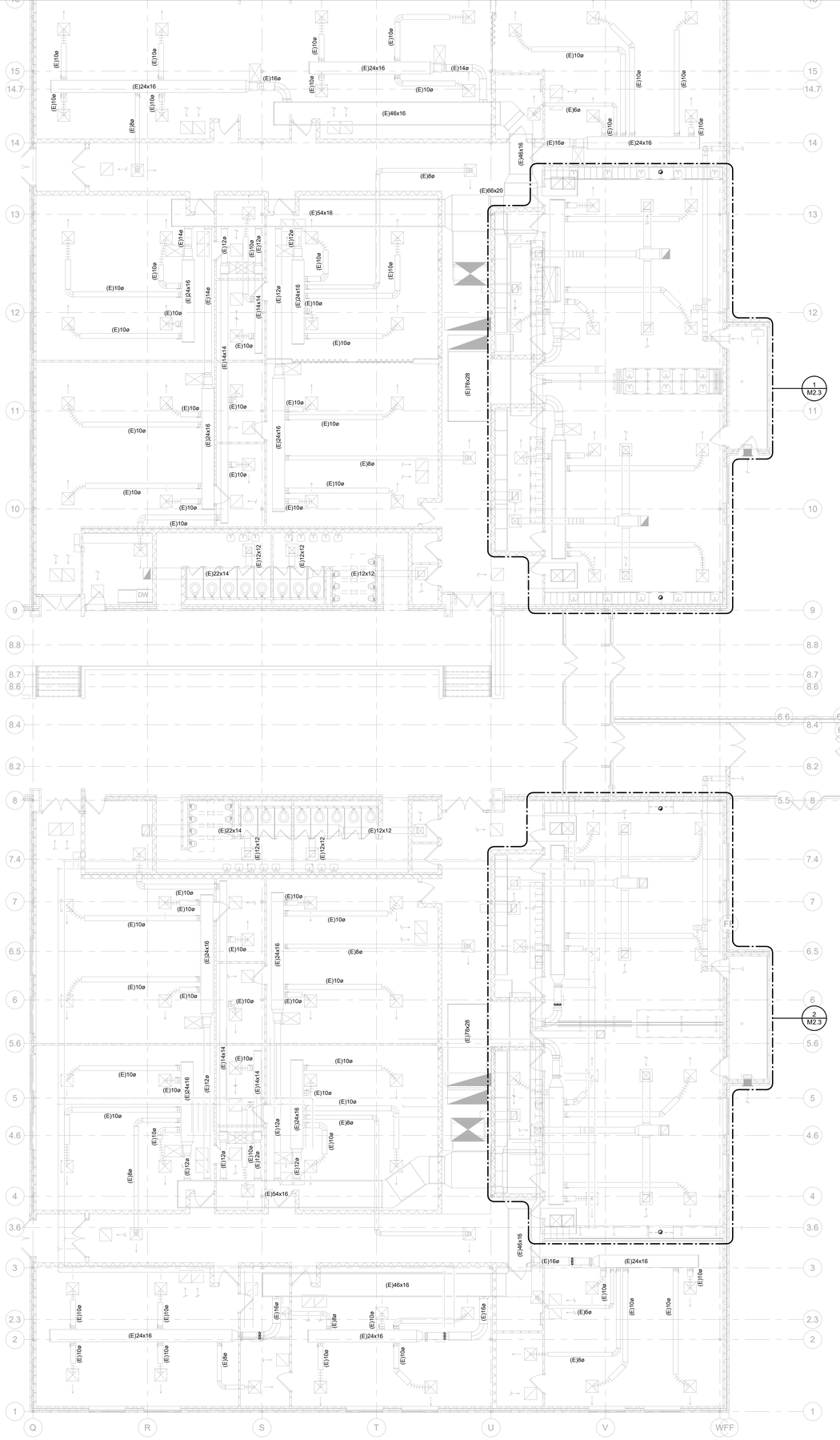

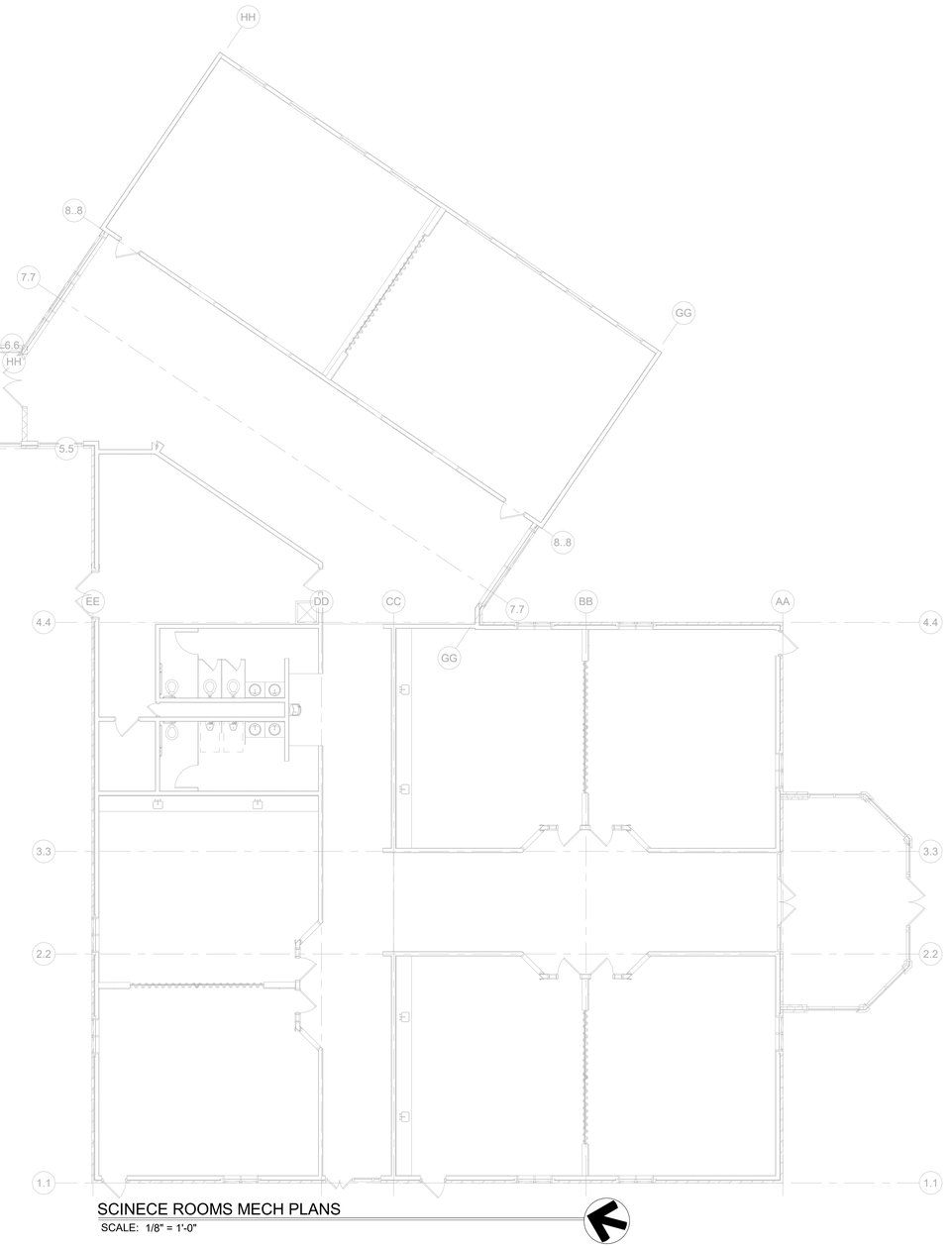

SCINECE ROOMS MECH PLANS

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

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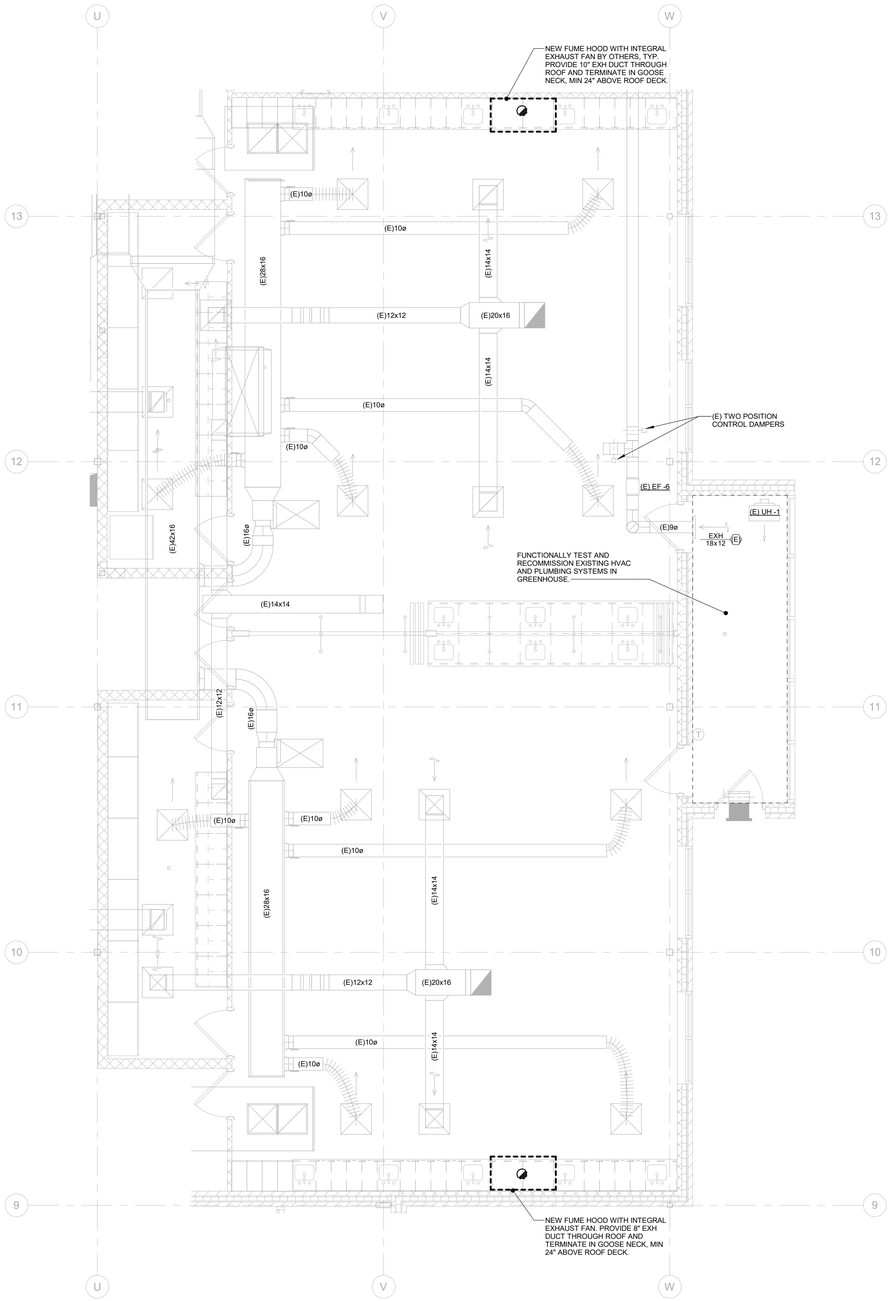
PERMIT SET

Sheet Title:
SCIENCE ROOMS MECH PLANS

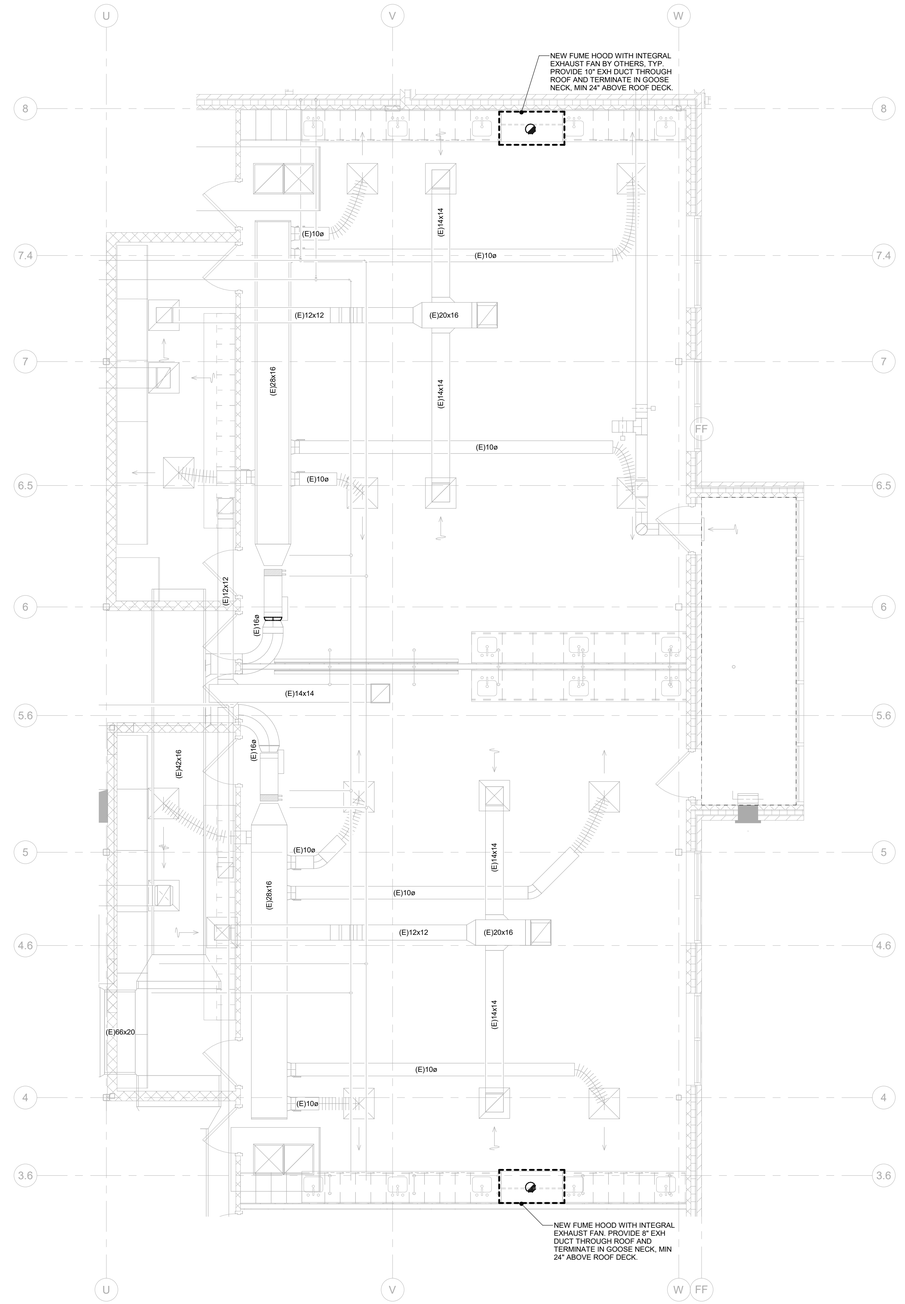
Project No:
10183.00

Sheet No:
M2.2



7TH GRADE SCIENCE ROOMS MECHANICAL PLAN

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



8TH GRADE SCIENCE ROOMS MECHANICAL PLAN

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

NOTES:

1. RE: M3.0 SERIES FOR MECHANICAL DIAGRAMS.
2. CEILING COORDINATION OF ALL MEP SYSTEMS (LIGHTING, DUCTWORK, DIFFUSERS, ELECTRICAL, FIRE PROTECTION, ETC.) MUST BE COMPLETED BY THE CONTRACTOR PRIOR TO THE START OF ANY INSTALLATIONS.
3. DO NOT ROUTE DUCTWORK OVER ELECTRICAL ROOMS OR ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTINGS WITH DIV. 16 CONTRACTOR.
4. PROVIDE FLEXIBLE DUCT AND PIPE CONNECTIONS TO ALL MOTORIZED EQUIPMENT.
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6. MAINTAIN MIN. 3 FT BETWEEN ENVIRONMENTAL EXH TERMINATIONS AND OPENINGS INTO BUILDING.

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04.06.2020
PERMIT SET

Sheet Title:
SCIENCE ROOMS ENLARGED MECH PLANS

Project No:
10183.00

Sheet No:
M2.3

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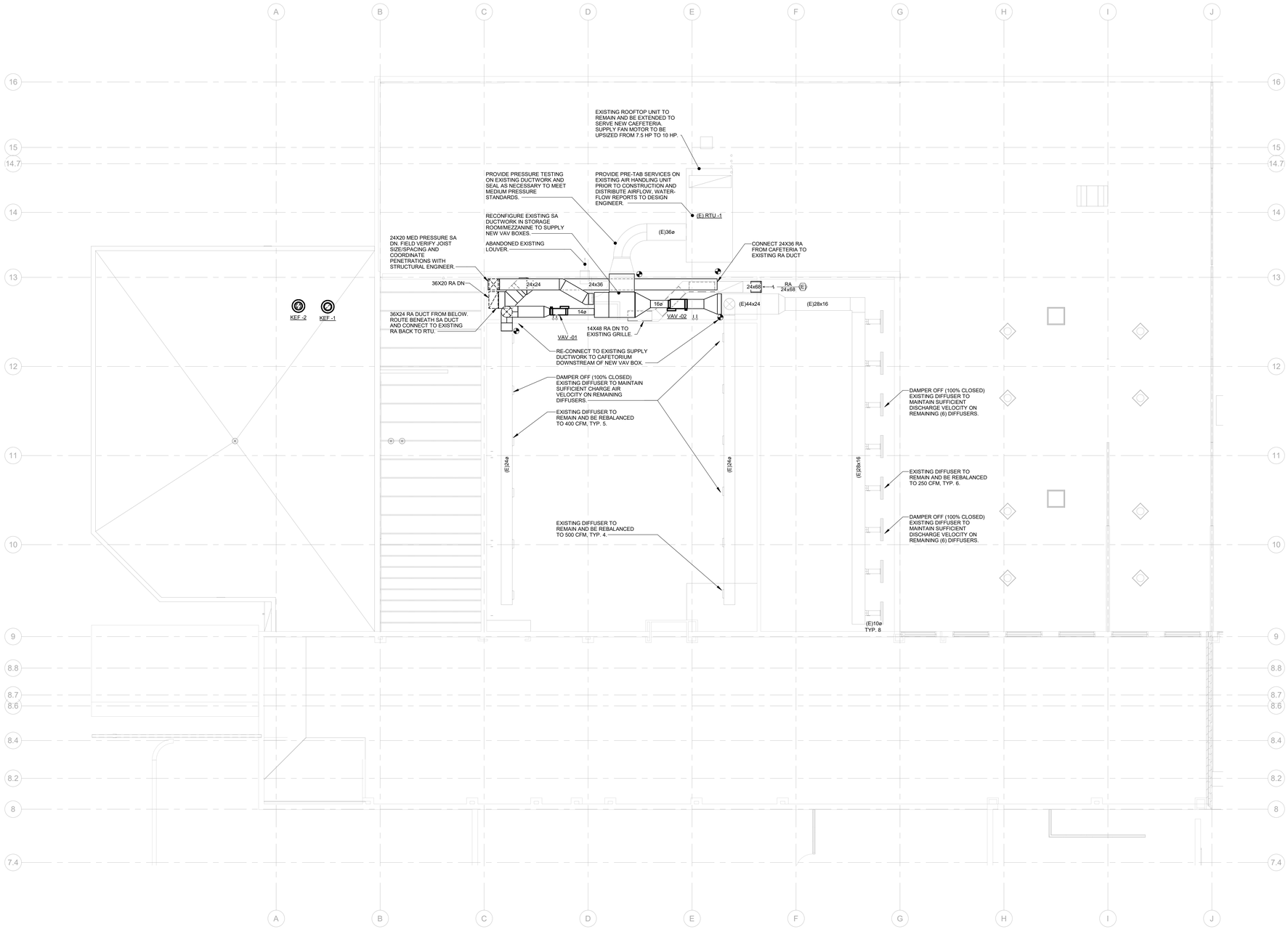

ROOF AREA A MECHANICAL PLAN

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

NOTES:

1. RE: M3.0 SERIES FOR MECHANICAL DIAGRAMS.
2. CEILING COORDINATION OF ALL MEP SYSTEMS (LIGHTING, DUCTWORK, DIFFUSERS, ELECTRICAL, FIRE PROTECTION, ETC.) MUST BE COMPLETED BY THE CONTRACTOR PRIOR TO THE START OF ANY INSTALLATIONS.
3. DO NOT ROUTE DUCTWORK OVER ELECTRICAL ROOMS OR ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTINGS WITH DIV. 16 CONTRACTOR.
4. PROVIDE FLEXIBLE DUCT AND PIPE CONNECTIONS TO ALL MOTORIZED EQUIPMENT.
5. ALL DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE IN THE CEILING SPACE. UTILIZE JOIST SPACE WHEN POSSIBLE, ESPECIALLY WHERE CROSSING OTHER DUCTS, PIPES, AND ELECTRICAL.
6. MAINTAIN MIN. 3 FT BETWEEN ENVIRONMENTAL EXH TERMINATIONS AND OPENINGS INTO BUILDING.

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Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO 80487

Revisions:

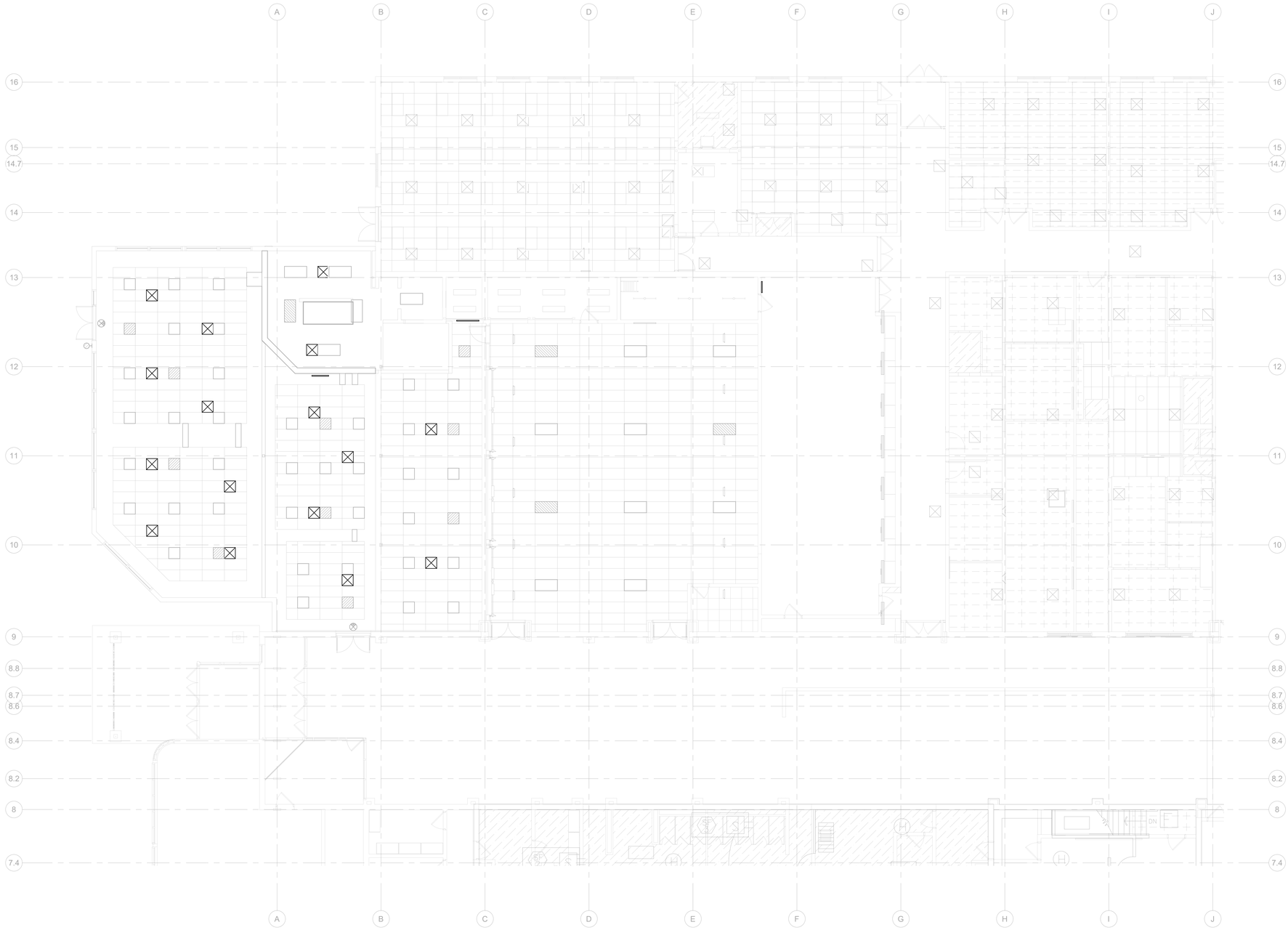
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

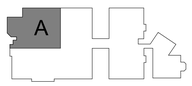
Sheet Title:
ROOF AREA A MECHANICAL PLAN

Project No:
10183.00

Sheet No:
M2.4



1 FIRST LEVEL MECHANICAL COORDINATION CEILING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

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Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A MECHANICAL COORDINATION CEILING PLAN

Project No:
10183.00

Sheet No:
MC2.1

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Project No. 10183.00

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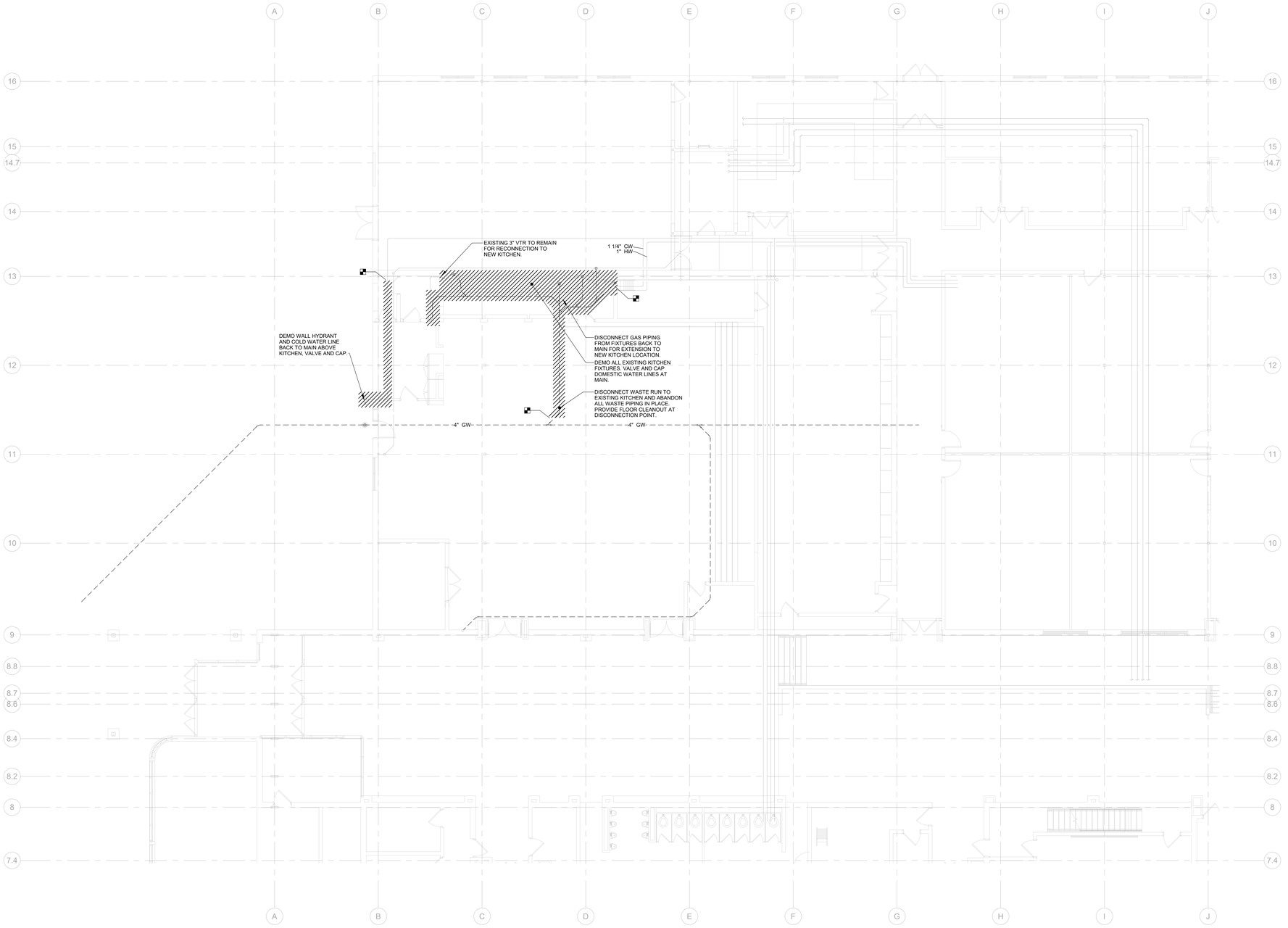

FIRST LEVEL AREA A DEMO PLUMBING PLAN

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

DEMOLITION NOTES:

1. ADDITIONAL STORM, HYDRONIC, DOMESTIC, WASTE AND VENT PIPING MAY BE ROUTED IN SPACE THAT IS NOT REPRESENTED, BUT IS TO REMAIN. OTHER SYSTEMS MAY EXIST WITHIN THE SPACE THAT ARE NOT REPRESENTED ON THESE DRAWINGS; MODIFICATIONS TO THESE SYSTEMS ARE NOT ANTICIPATED.
2. FIELD VERIFY ALL COMPONENTS PRIOR TO DEMOLITION. THE INFORMATION ON THIS SHEET WAS OBTAINED, IN PART, FROM HISTORIC DESIGN DRAWINGS. ONLY PORTIONS OF THE SYSTEMS WERE ACCESSIBLE FOR VISUAL CONFIRMATION DURING DESIGN PROCESS.
3. PROVIDE PRELIMINARY TESTING OF EXISTING HYDRONIC SYSTEMS. MEASURE CURRENT FLUID FLOW RATE THROUGH ALL EXISTING COILS, RADIANT, AND SNOWMELT ZONES FOR THE CURRENTLY INSTALLED SYSTEMS. SUBMIT REPORT OF MEASURED VALUES TO ENGINEER FOR REVIEW AND CONFIRMATION OF SYSTEM DESIGN ASSUMPTIONS PRIOR TO DEMOLITION.
4. PROVIDE PRELIMINARY TESTING OF EXISTING HVAC DUCTWORK SYSTEMS. MEASURE CURRENT AIR FLOW RATES AT ALL EXISTING SUPPLY, RETURN, AND EXHAUST REGISTERS. MEASURE TOTAL AIR FLOWS AT MAIN DUCT BRANCHES AND ALL FAN SYSTEMS. SUBMIT REPORT OF MEASURED VALUES TO ENGINEER FOR REVIEW AND CONFIRMATION OF SYSTEM DESIGN ASSUMPTIONS PRIOR TO DEMOLITION.
5. (E) WASTE SYSTEM SERVING SPACE IS LOCATED IN THE CEILING OF THE SPACE BELOW.
6. REMOVE ALL MECHANICAL ITEMS INDICATED.
7. TEMPORARILY SEAL OR CAP PIPING TO BE RE-USED FOR LATER CONNECTION.
8. SEAL ALL OPEN DUCTS DURING CONSTRUCTION TO MITIGATE DUST AND DEBRIS FROM SYSTEM. CAP DUCTWORK IN LOCATIONS THAT ARE NOT BEING RECONNECTED.
9. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OF INFORMATION REPRESENTED IN THE DOCUMENTS VERSUS WHAT IS FOUND IN THE FIELD.
10. COORDINATE PATCHING AND REPAIRS OF WALLS, CEILINGS AND FLOORS WITH ARCHITECT.
11. PATCH STRUCTURAL OPENINGS IN FLOORS, WALLS AND ROOFS THAT WERE PREVIOUSLY OCCUPIED BY SYSTEMS AND EQUIPMENT DEMOLISHED UNDER THIS CONTRACT IN ACCORDANCE WITH STRUCTURAL ENGINEER'S REQUIREMENTS.

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A DEMO PLUMBING PLAN

KEY PLAN

Project No:
10183.00

Sheet No:
MPD2.1

BG BUILDINGWORKS
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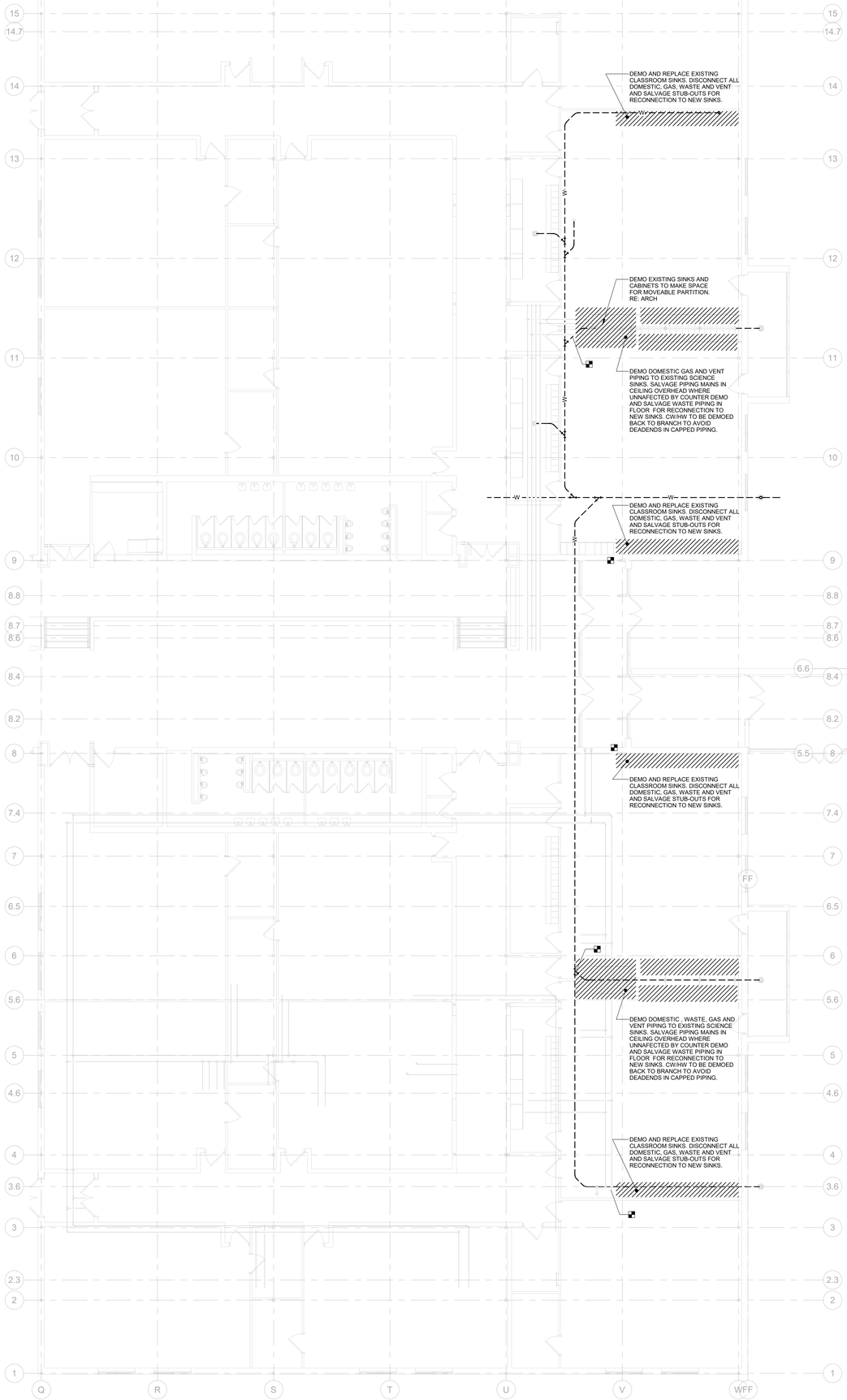
Project No. 10183.00



SCIENCE ROOMS DEMO PLUMBING PLAN

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

DEMOLITION NOTES:

1. ADDITIONAL STORM, HYDRONIC, DOMESTIC, WASTE AND VENT PIPING MAY BE ROUTED IN SPACE THAT IS NOT REPRESENTED, BUT IS TO REMAIN. OTHER SYSTEMS MAY EXIST WITHIN THE SPACE THAT ARE NOT REPRESENTED ON THESE DRAWINGS. MODIFICATIONS TO THESE SYSTEMS ARE NOT ANTICIPATED.
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8. SEAL ALL OPEN DUCTS DURING CONSTRUCTION TO MITIGATE DUST AND DEBRIS FROM SYSTEM. CAP DUCTWORK IN LOCATIONS THAT ARE NOT BEING RECONNECTED.
9. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OF INFORMATION REPRESENTED IN THE DOCUMENTS VERSUS WHAT IS FOUND IN THE FIELD.
10. COORDINATE PATCHING AND REPAIRS OF WALLS, CEILINGS AND FLOORS WITH ARCHITECT.
11. PATCH STRUCTURAL OPENINGS IN FLOORS, WALLS AND ROOFS THAT WERE PREVIOUSLY OCCUPIED BY SYSTEMS AND EQUIPMENT DEMOLISHED UNDER THIS CONTRACT IN ACCORDANCE WITH STRUCTURAL ENGINEER'S REQUIREMENTS.

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Revisions:

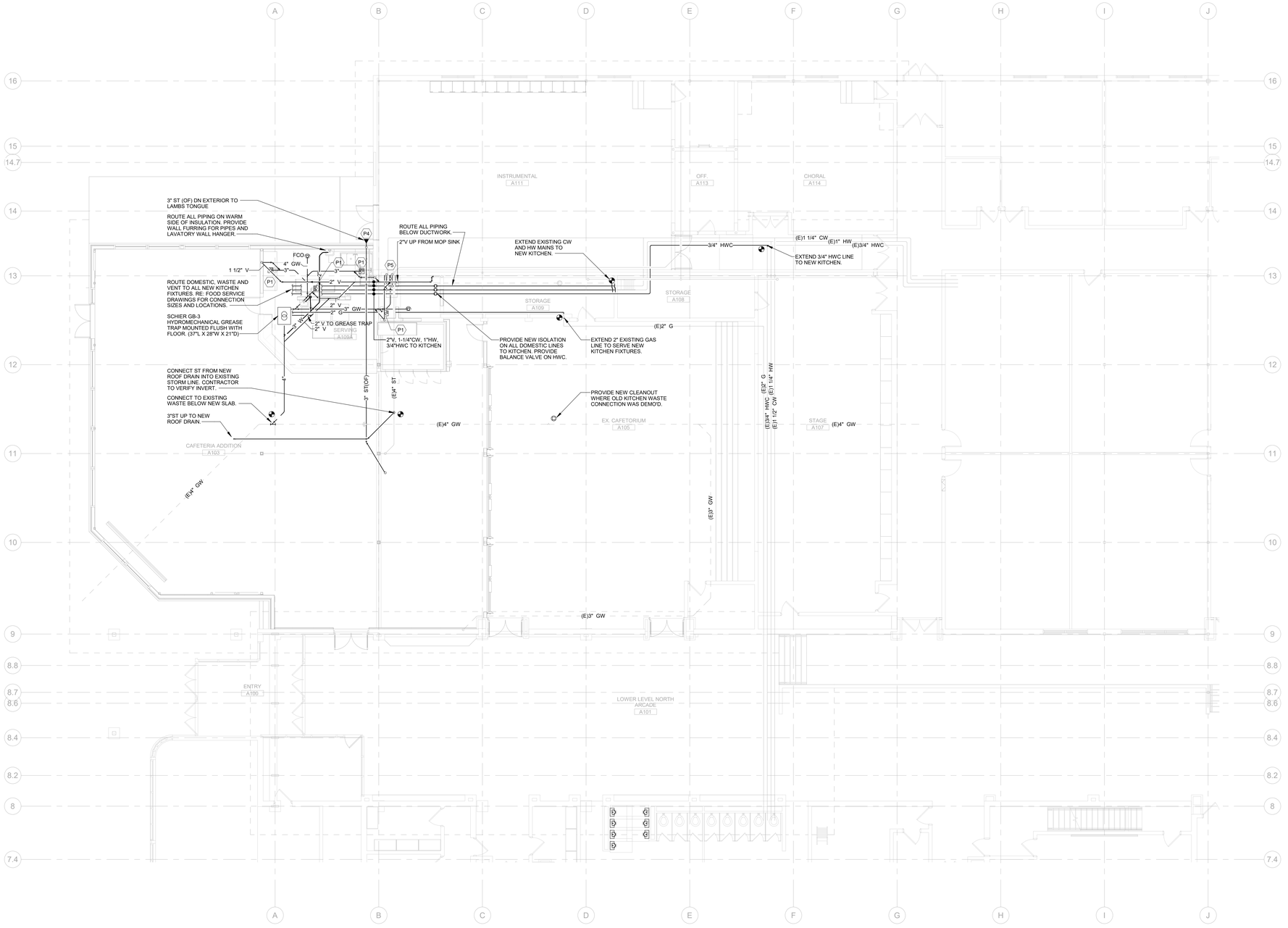
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
SCIENCE ROOMS DEMO PLUMBING PLAN

Project No:
10183.00

Sheet No:
MPD2.2



FIRST LEVEL AREA A PLUMBING PLAN

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

NOTES:

1. RE: M3.0 SERIES FOR MECHANICAL DIAGRAMS.
2. REFER TO THE PLUMBING FIXTURE CONNECTION SCHEDULE FOR PIPE SIZES TO INDIVIDUAL FIXTURES.
3. NOT ALL REQUIRED CLEANOUTS ARE NECESSARILY SHOWN ON THESE PLANS. PROVIDE CLEANOUTS ON WASTE, VENT AND STORM PIPING AS REQUIRED BY CODE AND FOR REASONABLE MAINTENANCE BASED ON ACTUAL FIELD INSTALLATION. COORDINATE LOCATIONS WITH ARCHITECT/ENGINEER.
4. COORDINATE ROUTING OF CONDENSATE DRAIN LINES WITH ARCHITECT PRIOR TO INSTALLATION.
5. PIPING ON EXTERIOR WALLS OR PRE-CAST CONCRETE WALLS TO BE ROUTED IN FRAMED WALL ON INTERIOR SIDE OF INSULATION.
6. ST AND ST(OF) PIPING 3", U.N.O.
7. INSTALL THERMOSTATIC MIXING VALVES, ASSE 1070 LISTED, AT EACH PUBLIC HANDWASHING LAVATORY/SINK. SIZE TO MATCH HW PIPE SIZE.
8. ROOF OVERFLOW DRAINAGE STRATEGY TO BE DETERMINED OR VIA ARCHITECTURAL SCUPPERS U.N.O.
9. TERMINATE PLUMBING VENTS NOT LESS THAN 12" ABOVE ROOF.
10. DO NOT ROUTE PIPING OVER ELECTRICAL ROOMS OR ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTINGS WITH DIV. 16 CONTRACTOR.
11. CONTRACTOR TO MAINTAIN 8'-6" CLEAR HEAD HEIGHT IN GARAGE AND INFORM THE ENGINEER AND ARCHITECT OF ANY AREAS THAT MAY NOT MEET 8'-6" PRIOR TO INSTALLATION. MINIMUM 8'-2" CLEAR HEAD HEIGHT MUST BE MAINTAINED IN ACCESSIBLE VEHICLE AREAS.
12. PROVIDE FLEXIBLE PIPE CONNECTIONS TO ALL MOTORIZED EQUIPMENT.
13. ROUTE DOMESTIC HOT WATER RECIRC TO WITHIN 10 FEET OF ALL HOT WATER FIXTURES. CONNECT WITHIN 2 FEET OF PUBLIC LAVATORY FAUCETS.
14. VERIFY ALL EQUIPMENT ACCESS PANELS WITH MANUFACTURER AND ARCHITECT.
15. PROTECT PIPING ROUTED ALONG COLUMNS, WALLS, ETC. FROM DAMAGE AS NECESSARY WITH CAGES. COORDINATE WITH ARCHITECT.
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18. ALL PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE IN THE CEILING SPACE. UTILIZE JOIST SPACE WHEN POSSIBLE, ESPECIALLY WHERE CROSSING OTHER PIPES, DUCTS, AND ELECTRICAL.
19. ACCESS PANELS SHALL BE 24x24, U.N.O. LOCATIONS SHOWN ARE APPROXIMATE; EXACT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTS DRAWINGS AND WITH THE LOCATIONS OF THE EQUIPMENT OR APPARATUS THAT THEY SERVE.
20. SEAL ALL PIPING PENETRATIONS THROUGH ACOUSTIC PARTITIONS.
21. EXPOSED SOIL OR WASTE PIPING SHALL NOT BE INSTALLED ABOVE ANY WORKING, STORAGE, OR EATING SURFACES IN FOOD SERVICE ESTABLISHMENTS.

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COLORADO REGISTERED 34668 PROFESSIONAL ENGINEER

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO 80487

Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A PLUMBING PLAN

KEY PLAN

Project No:
10183.00

Sheet No:
MP2.1

BG BUILDINGWORKS
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Project No. 10183.00

SCIENCE ROOMS PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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PERMIT SET

Sheet Title:
SCIENCE ROOMS PLUMBING PLANS

Project No:
10183.00

Sheet No:
MP2.2

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Project No. 10183.00
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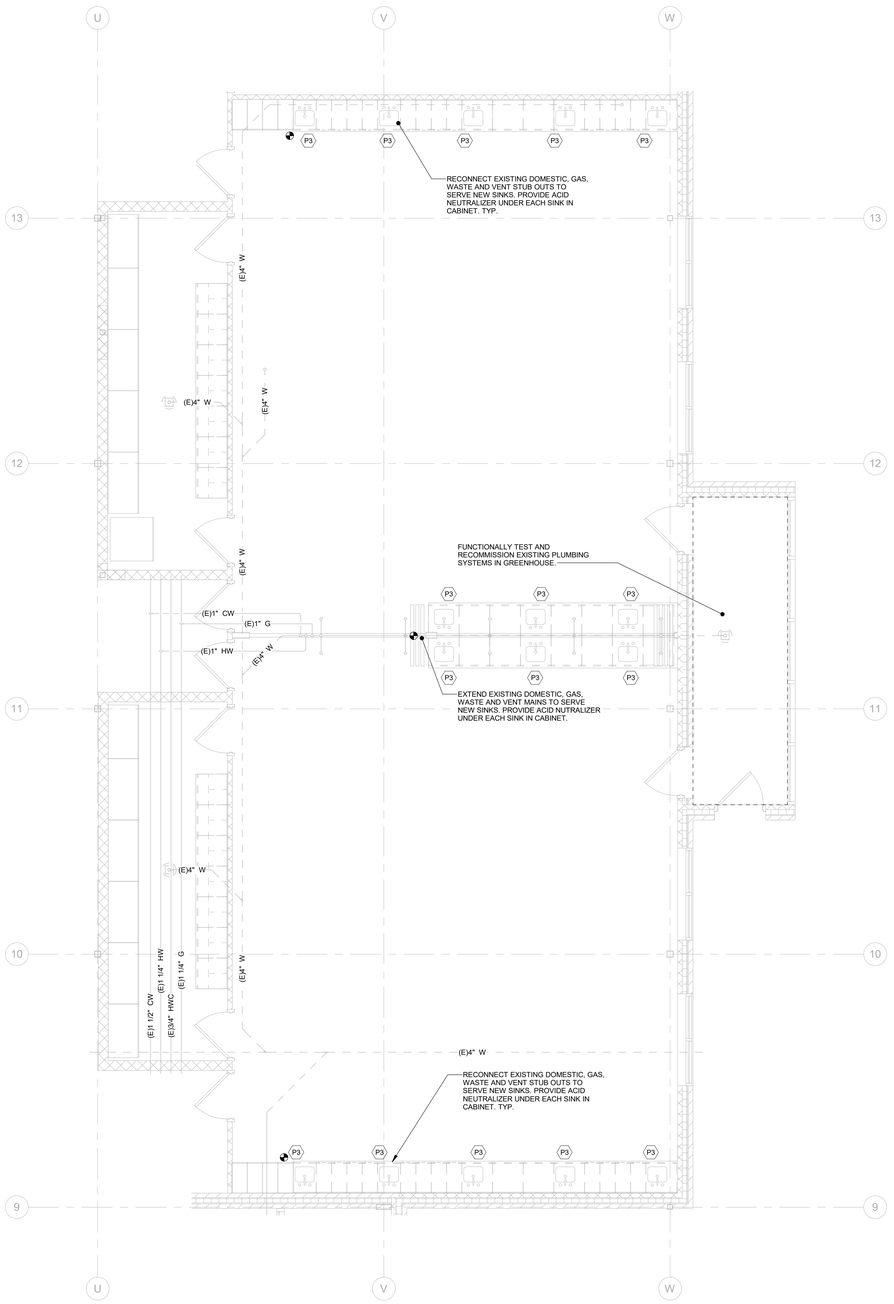
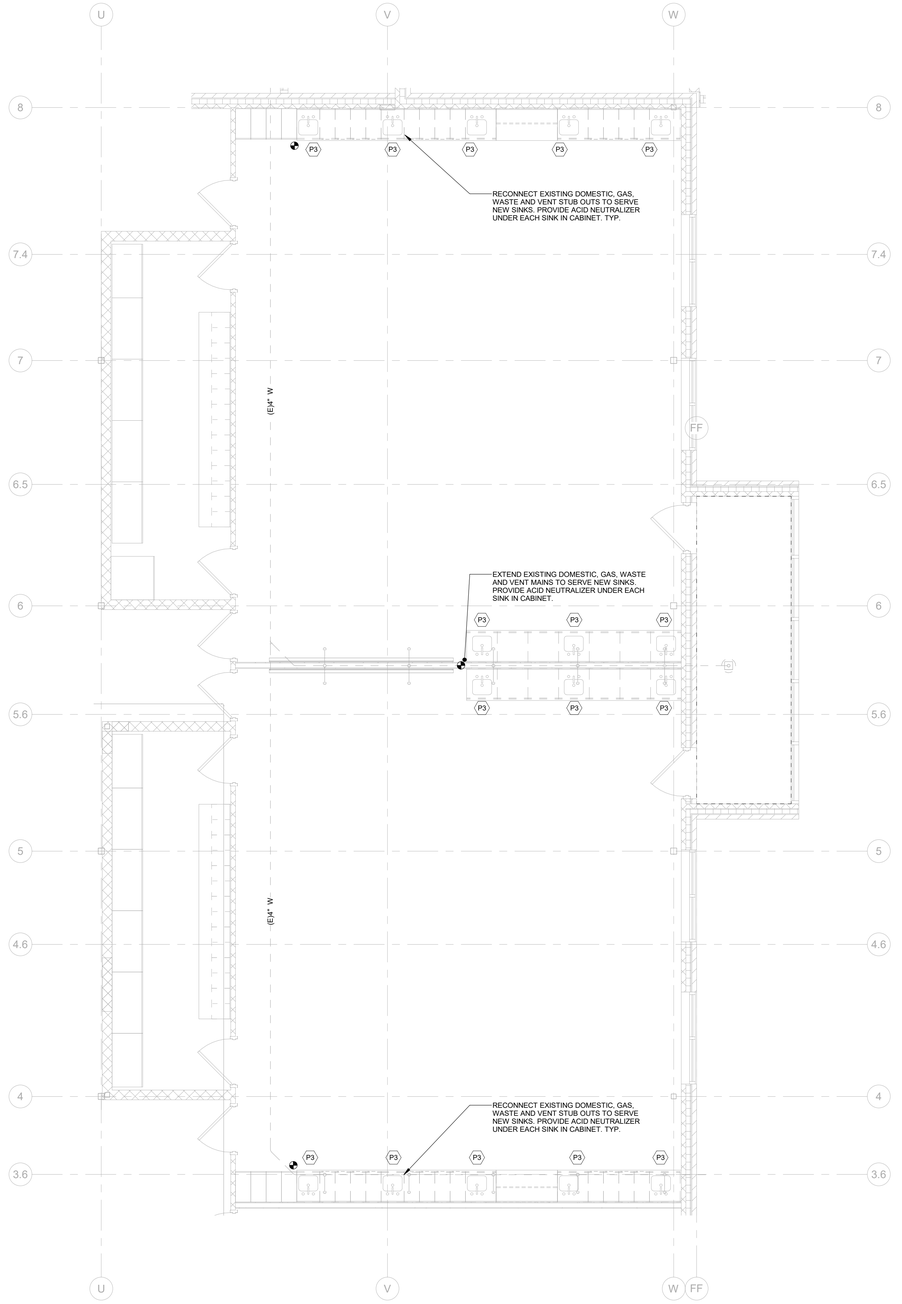


7TH GRADE SCIENCE ROOMS PLUMBING PLAN

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



8TH GRADE SCIENCE ROOMS PLUMBING PLAN

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

NOTES:

1. RE: M3.0 SERIES FOR MECHANICAL DIAGRAMS.
2. REFER TO THE PLUMBING FIXTURE CONNECTION SCHEDULE FOR PIPE SIZES TO INDIVIDUAL FIXTURES.
3. NOT ALL REQUIRED CLEANOUTS ARE NECESSARILY SHOWN ON THESE PLANS. PROVIDE CLEANOUTS ON WASTE, VENT AND STORM PIPING AS REQUIRED BY CODE AND FOR REASONABLE MAINTENANCE BASED ON ACTUAL FIELD INSTALLATION. COORDINATE LOCATIONS WITH ARCHITECT/ENGINEER.
4. COORDINATE ROUTING OF CONDENSATE DRAIN LINES WITH ARCHITECT PRIOR TO INSTALLATION.
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7. INSTALL THERMOSTATIC MIXING VALVES, ASSE 1070 LISTED, AT EACH PUBLIC HANDWASHING LAVATORY/SINK. SIZE TO MATCH HW PIPE SIZE.
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COLORADO REGISTERED 34668 PROFESSIONAL ENGINEER

Steamboat Springs Middle School
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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
SCIENCE ROOMS ENLARGED PLUMBING PLANS

Project No:
10183.00

Sheet No:
MP2.3

BG BUILDINGWORKS
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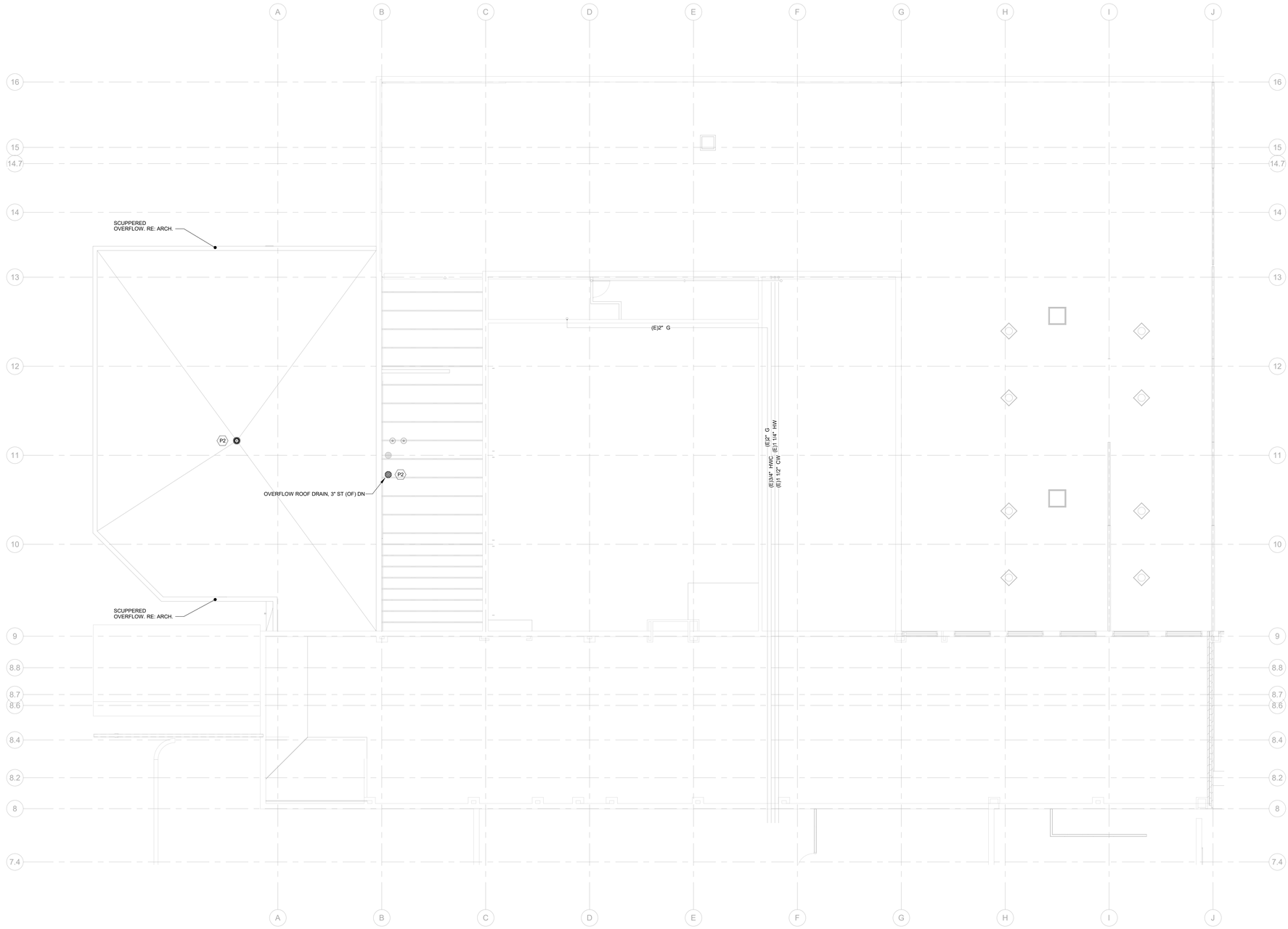
Project No. 10183.00



ROOF AREA A PLUMBING PLAN

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

NOTES:

1. RE: M3.0 SERIES FOR MECHANICAL DIAGRAMS.
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COLORADO REGISTERED 34668 ARCHITECT

Steamboat Springs Middle School
39610 Amethyst Drive
Steamboat Springs, CO 80487

Revisions:

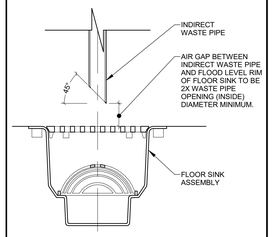
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
ROOF AREA A PLUMBING PLAN

Project No:
10183.00

Sheet No:
MP2.4



INDIRECT WASTE LINE TERMINATION DETAIL

NO SCALE

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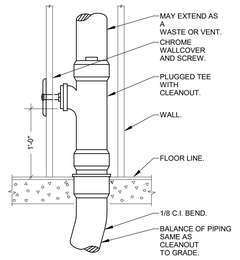

WALL CLEANOUT DIAGRAM

NO SCALE

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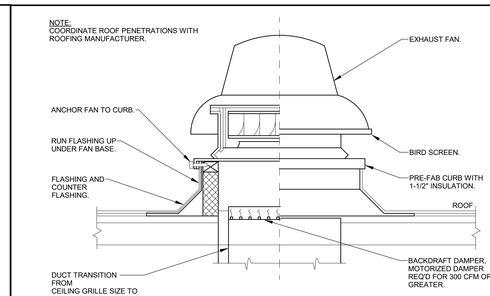

ROOF EXHAUST FAN DIAGRAM

NO SCALE

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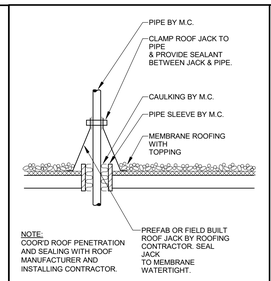
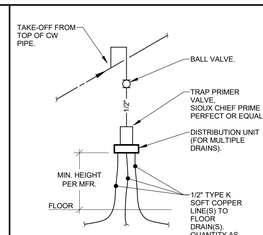


PIPE THRU ROOF DIAGRAM

NO SCALE

(MEMBRANE ROOF)

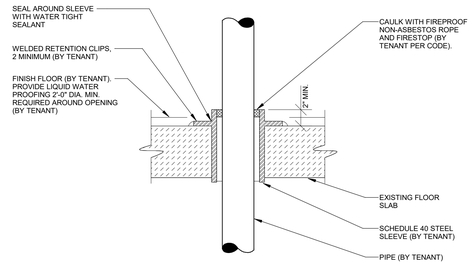
G



TRAP PRIMER CONNECTION DIAGRAM

NO SCALE

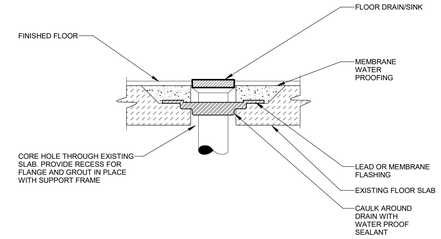
F



TYPICAL PIPE PENETRATION DIAGRAM

NO SCALE

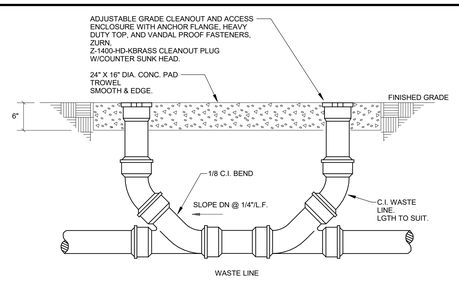
A



TYPICAL FLOOR DRAIN/SINK AT EXISTING FLOOR DIAGRAM

NO SCALE

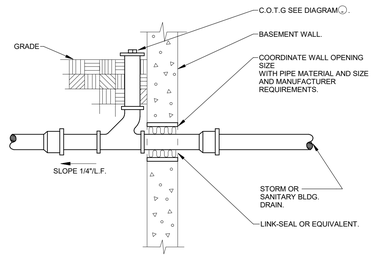
R



TWO-WAY CLEANOUT TO GRADE DIAGRAMS

NO SCALE

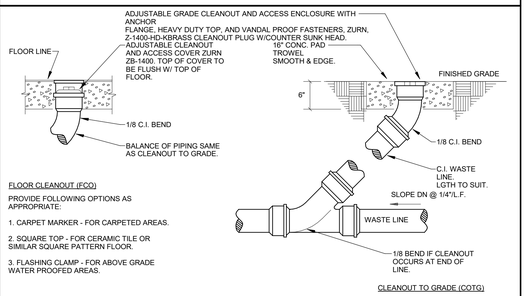
L



SANITARY OR STORM BLDG. DRAIN THRU WALL DIAGRAM

NO SCALE

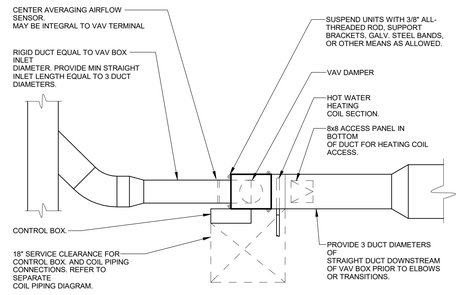
H



CLEANOUT DIAGRAMS

NO SCALE

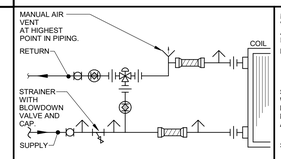
B



VAV BOX DIAGRAM (PRESSURE INDEPENDENT)

NO SCALE

S

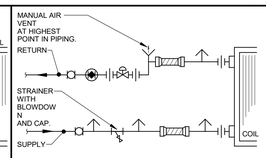


NOTES:
1. FLEXIBLE PIPE CONNECTOR REQ'D FOR EQUIPMENT CONTAINING FANS OR COMPRESSORS, NOT REQ'D FOR EQUIPMENT SUCH AS DUCT COILS.
2. PIPE ALL MULTI-ROW COILS FOR COUNTERFLOW (WATER ENTERS MOST DOWNSTREAM COIL, LEAVES MOST UPSTREAM COIL).
3. REFER TO CONTROLS DRAWINGS FOR ADDITIONAL INFORMATION.
4. 3-WAY VALVE WITH COIL RETURN PIPED TO NORMALLY OPEN PORT FOR HEATING AND NORMALLY CLOSED PORT FOR COOLING.

3-WAY (DIVERTING VALVE) COIL PIPING DIAGRAM

NO SCALE

N

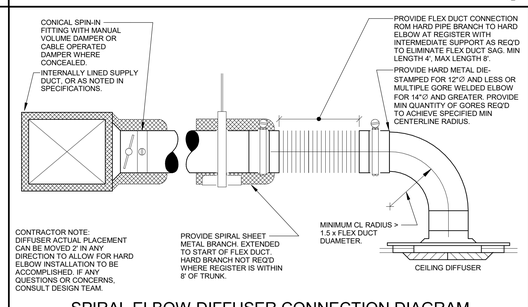


NOTES:
1. FLEXIBLE PIPE CONNECTOR REQ'D FOR EQUIPMENT CONTAINING FANS OR COMPRESSORS, NOT REQ'D FOR EQUIPMENT SUCH AS DUCT COILS.
2. PIPE ALL MULTI-ROW COILS FOR COUNTERFLOW (WATER ENTERS MOST DOWNSTREAM COIL, LEAVES MOST UPSTREAM COIL).
3. REFER TO CONTROLS DRAWINGS FOR ADDITIONAL INFORMATION.
4. 2-WAY VALVE NORMALLY OPEN FOR HEATING AND NORMALLY CLOSED FOR COOLING.

2-WAY COIL PIPING DIAGRAM

NO SCALE

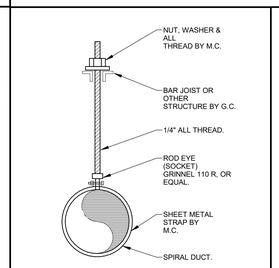
M



SPIRAL ELBOW DIFFUSER CONNECTION DIAGRAM

NO SCALE

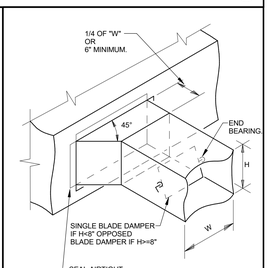
J



DUCT HANGER DIAGRAM

NO SCALE

D



45° DUCT TAKE-OFF DIAGRAM

NO SCALE

C

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Revisions:

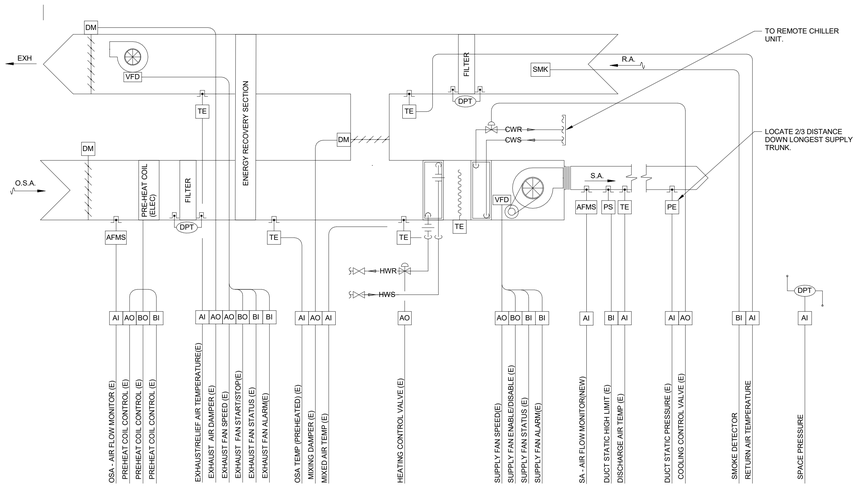
No	Description	Date

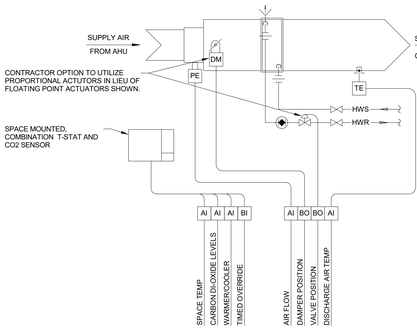
Issue Dates:
04.06.2020
PERMIT SET

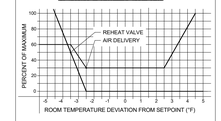
Sheet Title:
MECHANICAL DIAGRAMS

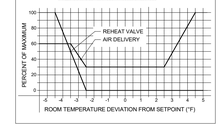
Project No:
10183.00

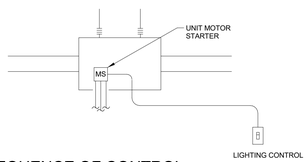
Sheet No:
M3.1

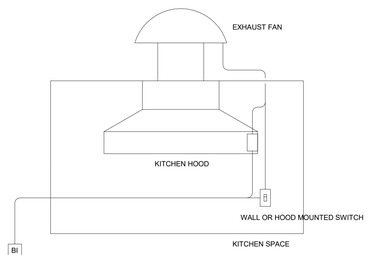


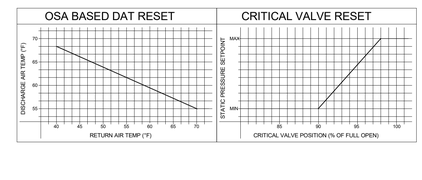












OSA BASED DAT RESET

CRITICAL VALVE RESET

CONTROLS POINTS LIST

				ANALOG										BINARY																SYSTEM FEATURE											
				INPUT									OUTPUT	INPUT							OUTPUT									ALARMS					PROGRAMS						
	POINT DESCRIPTION-	GRAPHIC SCREEN	ANIMATED POINT ON GRAPHIC	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	CO2 - OUTSIDE AIR REFERENCE	AFMS - OSA	AFMS - SA	GPM	PERCENT	CFM	DDC (4-20 ma, 0-10 vdc)	STATUS	STATUS ON/OFF	FILTER STATUS	STATUS OPEN/CLSD.	TIMED OVERRIDE	HEAT/COOL	ALARM	STOP/START	OPEN/CLOSED	LOCK OUT	ENABLE/DISABLE	HIGH/LOW SPEED	FLOATING CONTROL	OCCUPIED/UNOCC	FAULT RESET	HEAT/COOL	HIGH OR LOW VALUE	OUT OF RANGE	STATUS DIFF. FROM CMD	FREEZESTAT	ALARM	TREND VALUE	TREND STATUS	LEAD/LAG	ROTATIONALLY SEQUNCE	CRITICAL VALVE RESET	ITEMIZED FAULT CODE	PERIODIC HEAT TREATMENT
AIR HANDLER UNIT CONTROLS	EXHAUST AIR DAMPER	X											X																												
	EXHAUST FAN SPEED	X											X																												
	EXHAUST FAN ENABLE/DISABLE	X																						X																	
	EXHAUST FAN STATUS	X	X											X																		X									
	EXHAUST FAN ALARM	X																		X														X							
	MIXING DAMPER POSITION	X											X																												
	MIXED AIR TEMPERATURE	X		X																										X	X				X						
	FILTER DIFFERENTIAL PRESSURE	X			X																													X	X						
	CO2 - OUTDOOR REFERENCE	X					X																																		
	HEATING CONTROL VALVE	X											X																												
	SUPPLY FAN SPEED	X											X																												
	SUPPLY FAN ENABLE/DISABLE	X																						X																	
	SUPPLY FAN STATUS	X	X											X																		X									
	SUPPLY FAN ALARM	X																		X														X							
	DUCT STATIC HIGH LIMIT	X																		X														X							
	DISCHARGE AIR TEMPERATURE	X		X																										X	X				X						
	AFMS - OSA	X						X																																	
	DUCT STATIC PRESSURE	X			X																														X						
	-	X											X																												
	-	X																						X																	
	-	X	X											X																		X									
	SMOKE DETECTOR	X																		X														X							
	RETURN AIR TEMPERATURE	X		X																										X	X				X						
	AFMS - SA	X							X																																
	SPACE PRESSURE	X			X																																				

GENERAL NOTES:

DUPLICATE POINTS MAY EXIST. REFER TO FLOW DIAGRAMS AND PLANS FOR QUANTITIES.

4 RTU-1: EXISTING ROOFTOP UNIT CONTROL DIAGRAM

SCALE: NONE

SEQUENCE OF CONTROL:

DDC SYSTEM WILL MONITOR KITCHEN HOOD ON/OFF STATUS.

THE HOOD EXHAUST FAN WILL BE ACTIVATED BY A SWITCH IN THE ROOM. UPON DETECTION OF HOOD FAN ACTIVATION DDC SYSTEM WILL SEND SIGNAL TO OVERRIDE VAV BOX OPERATION TO CONSTANT VOLUME OPERATION PER VAV SEQUENCE.

5 KEF-1 AND KEF-2 - KITCHEN HOOD EXHAUST CONTROL DIAGRAM

SCALE: NONE

SEQUENCE OF CONTROL:

DESCRIPTION - THE SYSTEM CONSISTS OF AN EXISTING, SINGLE ZONE, LOW PRESSURE ROOF TOP AIR HANDLER UNIT THAT WILL BE CONVERTED TO A MEDIUM PRESSURE MULTI-ZONE VARIABLE AIR VOLUMEN UNIT. THE EXISTING DDC CONTROL POINTS WILL BE RE-USES AND NEW POINTS ADDED TO ACHIEVE THE NEW SEQUENCE OF OPERATION. THE DIAGRAM SHOWS EXISTING AND NEW CONTROL POINTS.

ALL PROGRAMMING, CONTROLS, DAMPERS, ACTUATORS, SENSOR, ETC REQUIRED FOR THE CONVERSION OF THE RTU TO BE PROVIDED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR.

GENERAL SECTION:
OUTSIDE AIR, MIXED AIR, BYPASS, AND EXHAUST AIR DAMPERS ARE PROVIDED WITH THE ENERGY RECOVERY UNIT. THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE WHENEVER THE SUPPLY FAN STOPS UNDER ANY CONDITION. THE MIXED AIR DAMPER SHALL OPEN.

ALL CONTROL POINTS SHOWN SHALL REPORT TO THE DDC SYSTEM.

PROVIDE ALARM AT DDC WORKSTATION IF THE DISCHARGE AIR TEMPERATURE FALLS BELOW 45 DEG F, OR ABOVE 110 DEG F.

PROVIDE MANUFACTURE'S RECOMMENDED FROST PROTECTION SEQUENCE FOR THE HEAT WHEEL UTILIZING THE ELECTRIC PREHEATER. MODULATE PREHEATER AS REQUIRED. ELECTRIC HEAT IS TO BE ENABLED AND MODULATE BELOW NEGATIVE (-) 5 DEG. F.

PROVIDE ALL ALARMS AT DDC WORKSTATION.

LIFE SAFETY SECTION: SHOULD THE SMOKE DETECTOR, FREEZE STAT, OR DOOR SWITCH ACTIVATE, THE SUPPLY FAN AND EXHAUST FANS SHALL STOP IN BOTH THE MANUAL OR AUTOMATIC MODE, INDEPENDENT OF THE CONTROL SYSTEM. AN ALARM SIGNAL SHALL BE INDICATED AT THE DDC CONTROL PANEL.

THE DISCHARGE AIR TEMPERATURE SHALL BE LIMITED TO A MINIMUM OF 55 DEG F, AND A MAXIMUM OF 90 DEG F. SHOULD THE SUPPLY FAN OR EXHAUST FAN FAIL TO START OR FAIL DURING OPERATION FOR ANY REASON, AN ALARM SHALL BE INDICATED AT THE DDC CONTROL PANEL. VALVES SHALL OPEN UPON UNIT FAILURE, LOSS OF POWER OR IF THE UNIT IS SHUTDOWN DURING NORMAL OPERATION. DAMPERS SHALL CLOSE UPON A UNIT FAILURE, LOSS OF POWER OR IF THE UNIT IS SHUTDOWN DURING NORMAL OPERATION.

UNIT START / STOP CONTROL: THE DDC SYSTEM TIME AND OPTIMUM START/STOP PROGRAMS SHALL CONTROL THE SYSTEM IN THE FOLLOWING CONTROL CYCLES (INITIALLY START AT 6:30 A.M. AND INITIALLY STOP AT 4:30 P.M.) (ADJ).
WARM UP / COOL DOWN CYCLE: AS CALCULATED BY THE DDC OPTIMUM START PROGRAM, THE WARM UP / COOL DOWN CYCLE SHALL START AS LATE AS POSSIBLE TO BRING THE SPACE TO ITS PROGRAMMED SETPOINT BY THE PROGRAMMED OCCUPIED TIME.
WARM UP: DURING THE WARM UP CYCLE, THE SUPPLY FAN SHALL BE ON, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL BE 100% CLOSED AND THE MIXED AIR DAMPER SHALL BE 100% OPEN. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED SETPOINT, THE SYSTEM SHALL GO TO THE OCCUPIED CYCLE.
COOL DOWN: THE COOL DOWN CYCLE SHALL BE THE SAME AS THE OCCUPIED CYCLE.
SCHEDULING: THE RTU SHALL BE SCHEDULED IN EITHER OCCUPIED OR UNOCCUPIED MODE BASED ON FEEDBACK STATUS FROM THE RESPECTIVE TERMINAL BOX ZONES SERVED BY THE RTU. WHEN ALL RESPECTIVE ZONES SERVED ARE IN UNOCCUPIED MODE, THE RTU OPERATIONAL MODE SHALL BE UNOCCUPIED. WHEN ANY OF THE RESPECTIVE ZONES ARE IN OCCUPIED MODE, THE RTU OPERATIONAL MODE SHALL BE OCCUPIED. WHEN IN OCCUPIED MODE, BOTH FANS SHALL OPERATE AND CONTROLLED DEVICES SHALL POSITION WITH RESEPCT TO THEIR PI CONTROL LOOP. WHEN IN UNOCCUPIED MODE, FANS SHALL SHUT OFF, RETURN DAMPER FULL OPEN, RELIEF AND OUTSIDE AIR DAMPERS CLOSED, HOT WATER VALVE 5% OPEN (ADJ) TO COIL.

OCCUPIED CYCLE: THE SUPPLY AND EXHAUST FANS SHALL START AT MINIMUM SPEED AND RUN CONTINUOUSLY. DEMAND CONTROL VENTILATION SHALL BE THE FIRST STAGE OF CONTROL FOR THE OUTSIDE AIR DAMPER AND MIXED AIR DAMPER. EXHAUST AIR DAMPER SHALL BE 100% OPEN.
SUPPLY FAN CONTROL: THE SUPPLY FAN VFD SHALL RUN AND MODULATED BASED ON DUCT STATIC PRESSURE FEEDBACK TO MAINTAIN DUCT STATIC PRESSURE AT SETPOINT. EMPLOY CRITICAL VALVE RESET LOGIC TO MAINTAIN THE MOST OPEN PRIMARY AIR VALVE IN THE SYSTEM AT 90% OR GREATER. POLL ALL VALVE POSITIONS TO DETERMINE MOST OPEN (CRITICAL) VALVE. RESET STATIC PRESSURE SETPOINT PER THE SCHEDULE BELOW.

EXHAUST/RELIEF SYSTEMS CONTROL: THE EXHAUST DAMPER AND EXHAUST/RELIEF FAN SHALL OPERATE IN OCCUPIED MODE AND BE CONTROLLED BASED ON SPACE PRESSURE REFERENCED AGAINST OUTSIDE AIR PRESSURE. VALUES INDICATED BELOW ARE DIFFERENTIAL PRESSURES BETWEEN THE TWO MEASUREMENTS. UPON A RISE IN SPACE PRESSURE TO +0.02”WC, OPEN THE EXHAUST DAMPER AND STAGE ON EXHAUST/RELIEF FAN VFD FROM MINIMUM TO FULL SPEED AS BUILDING SPACE PRESSURE RISES FROM +0.02”WC TO +0.08” WC.

DEMAND CONTROL VENTILATION (DCV): DURING OCCUPIED MODE THE BUILDING AUTOMATION SYSTEM WILL MONITOR CARBON MONOXIDE CO2 AT EACH ZONE AND FROM OUTSIDE TO DETERMINE OCCUPANCY LEVELS IN EACH ZONE. BASED ON OCCUPANCY, THE DCV PROGRAM WILL RESET THE VAV BOX MINIMUM VENTILATION CFM TO MAINTAIN CODE REQUIRED VENTILATION TO EACH ZONE. AS VAV BOX MINIMUM CFM'S CHANGE, DCV PROGRAM WILL CALCULATE NEW VENTILATION FRACTION FOR RTU AND RESET OSA CFM.
THE EXHAUST FAN SPEED SHALL BE PROVIDED WITH AN OFFSET BASED ON SUPPLY FAN SPEED TO MAINTAIN PLENUM STATIC PRESSURE OF 0.05 IN.W. C. (ADJUSTABLE).

DISCHARGE AIR TEMPERATURE (DAT) CONTROL: DAT SETPOINT SHALL BE BASED ON O.S.A. TEMP RESET SCHEDULE BELOW. THE DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED BY:

1ST STAGE OF HEATING: ENABLING THE HEAT WHEEL.
2ND STAGE OF HEATING: WHEN THE 1ST STAGE OF HEATING CANNOT MAINTAIN THE SPACE TEMPERATURE FOR TEN MINUTES (ADJ) THEN THE HEATING WATER CONTROL VALVE SHALL OPEN AND MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.
LESS HEATING SHALL BE OPPOSITE OF ABOVE.
1ST STAGE COOLING. MODULATING THE MIXED AIR DAMPER, BYPASS DAMPERS, AND OUTSIDE AIR DAMPER FOR ECONOMIZER COOLING WITH THE HEAT WHEEL OFF. (SEE BELOW FOR ECONOMIZER COOLING)
2ND STAGE OF COOLING: WHEN THE 1ST STAGE OF COOLING CANNOT MAINTAIN THE SPACE TEMPERATURE FOR TEN MINUTES (ADJ) THEN THE HEAT WHEEL SHALL BE ENABLED.
3RD STAGE OF COOLING: WHEN THE 2ND STAGE OF COOLING CANNOT MAINTAIN THE SUPPLY AIR TEMPERATURE FOR TEN MINUTES (ADJ) THE CHILLED WATER COIL CONTROL VALVE SHALL OPEN AND MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE.
LESS COOLING SHALL BE OPPOSITE OF ABOVE.
ECONOMIZER COOLING IS ENABLED WHENEVER THE OUTSIDE AIR DRY-BULB TEMPERATURE IS LESS THAN THE RETURN AIR DRY-BULB TEMPERATURE PLUS DEADBAND. WHEN THE OUTSIDE AIR DRY-BULB TEMPERATURE IS GREATER THAN THE RETURN AIR DRY-BULB TEMPERATURE, ECONOMIZER COOLING IS DISABLED ECONOMIZER COOLING IS DISABLED AND THE OUTSIDE AIR DAMPER SHALL RETURN TO MINIMUM POSITION. THE OUTSIDE AIR DAMPERS SHALL MODULATE IN RESPONSE TO THE GREATER OF THE ECONOMIZER AND THE DEMAND CONTROLLED VENTILATION SEQUENCE.
ELECTRIC PREHEAT COIL: ELECTRIC PREHEAT COIL TO BE ENABLED AND MODULATED TO MAINTAIN A PREHEAT ELECTRIC COIL LEAVING AIR TEMPERATURE (EHT) OF 19 DEG. F.
OUTSIDE AIR DAMPER CONTROL: THE OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM POSITION IN EITHER THE COOLING OR HEATING MODE USING THE OA FLOW MEASURING STATION. THE OUTSIDE DAMPER SHALL BE PROVIDED WITH A LINEAR RESET FOR HEATING TO COOLING BASED ON OUTSIDE AIR TEMPERATURE. OUTSIDE AIR DAMPER SHALL BE SET AT THE HEATING OUTSIDE AIR POSITION AT 30 DEG. F. AND RESET TO COOLING POSITION AT 70 DEG. F. OUTSIDE AIR.

FEATURES -
1. DISCHARGE AIR TEMPERATURE SHALL BE TRENDED HOURLY.
2. GENERATE AN ALARM SHOULD DISCHARGE AIR TEMPERATURE STRAY FROM DISCHARGE AIR TEMPERATURE SETPOINT BY 5 DEG OR MORE.
3. GENERATE FILTER CHANGE ALARM SHOULD FILTER DIFFERENTIAL PRESSURE EXCEED FILTER CHANGE SETPOINT (ADJUSTABLE AT THE OPERATOR INTERFACE).
4. GENERATE AN ALARM SHOULD ANY FAN STATUS NOT MATCH FAN COMMAND.
5. GENERATE AN ALARM AND OPEN HEATING VALVE TO 100% SHOULD FREEZE STAT TRIP AND DAMPERS SHALL GO TO UNOCCUPIED MODE POSITION.
6. GENERATE AN ALARM SHOULD SMOKE DETECTOR TRIP AND SHUT UNIT DOWN, VALVES AND DAMPERS SHALL GO TO UNOCCUPIED MODE.
7. DISABLE SUPPLY FAN AND GENERATE ALARM SHOULD DUCT HIGH STATIC PRESSURE SWITCH TRIP.
8. HOURLY TREND ITEMS INDICATED IN THE POINTS LIST TO BE TRENDED. STORE DATA FOR 1 YEAR PRIOR TO PURGING.
9. GENERATE ALARMS AS INDICATED IN THE POINTS LIST AND IN THE SEQUENCE OF CONTROL ABOVE.

SEQUENCE OF CONTROL:

EXHAUST FAN SYSTEM TO BE INDEPENDENT OF DDC CONTROL..

FAN SHALL BE INTERLOCKED TO RUN WITH RESTROOM LIGHTING CONTROL. WHEN LIGHTING IS ON, FAN WILL RUN. WHEN LIGHTING IS OFF, FAN WILL BE OFF.

3 SPED RESTROOM EXHAUST CONTROL DIAGRAM

SCALE: NONE

SYSTEM POINTS LIST -- VAV BOX WITH HW REHEAT

			ANALOG										BINARY											SYSTEM FEATURE							
			INPUT									OUTPUT	INPUT					OUTPUT						ALARMS			PROGRAMS				
SYSTEM POINT DESCRIPTION	GRAPHIC SCREEN	ANIMATED POINT ON GRAPHIC	TEMPERATURE	CARBON DI-OXIDE	RELATIVE HUMIDITY	KW	KWH	BTU HR	GPM	PERCENT	CFM	DDC (4-20 ma, 0-10 vdc)	STATUS	STATUS ON/OFF	FILTER STATUS	STATUS OPEN/CLSD.	TIMED OVERRIDE	STOP/START	OPEN/CLOSED	LOCK OUT	ENABLE/DISABLE	HIGH/LOW SPEED	FLOATING CONTROL	HIGH OR LOW VALUE	OUT OF RANGE	STATUS DIFF. FROM CMD	TREND VALUE	TREND STATUS	LEAD/LAG	ROTATIONALLY SEQUNCE	NOTES
SPACE TEMP	X		X																					X	X		X				
WAMER/COOLER	X		X																												
TIMED OVERRIDE																	X														
CO2 LEVEL	X			X																				X			X				
AIRFLOW	X										X													X	X		X				
DAMPER POSITION	X											X											X				X				
VALVE POSITION	X											X															X				
																							X								
DISCHG AIR TEMP	X		X																					X	X		X				

GENERAL NOTES:

SEQUENCE OF CONTROL:

DESCRIPTION - THE NEW SYSTEMS CONSIST OF A PRESSURE INDEPENDENT VARIABLE AIR VOLUME BOX COMPLETE WITH MOTORIZED DAMPER, HOT WATER REHEAT COIL, FLOATING POINT OR PROPORTIONAL CONTROL VALVE, AND AIR FLOW PRESSURE TRANSDUCER.

SCHEDULING - OCCUPIED/UNOCUPIED SCHEDULING APPLIES TO THESE SYSTEMS. SCHEDULES TO BE DETERMINED BY OWNER AND SHALL BE AVAILABLE THROUGH THE OPERATOR WORKSTATION INTERFACE.

SCHEDULING CONTROLS SPACE SETPOINT TEMPERATURE. DURING OCCUPIED MODE, TERMINAL UNIT SHALL MAINTAIN SPACE TEMPERATURE AT SETPOINT DICTATED BY SPACE MOUNTED THERMOSTAT (I.E. 68-72°F HEATING, 76-80°F COOLING). DURING UNOCCUPIED MODE, TERMINAL UNIT SHALL MAINTAIN SPACE TEMPERATURE AT SETBACK TEMPERATURE SETPOINT (I.E. 60°F HEATING, N/A COOLING)

OCCUPIED/UNOCCUPIED SCHEDULING ALSO CONTROLS VENTILATION. WHEN SCHEDULED IN THE OCCUPIED MODE, TERMINAL UNIT SHALL PROVIDE MINIMUM VENTILATION CFM CALCULATED BY THE DEMAND CONTROL VENTILATION PROGRAM. WHEN SCHEDULED IN THE UNOCCUPIED MODE, DAMPER SHALL BE SHUT. TERMINAL BOX SHALL BE PERMITTED TO OPEN AS REQUIRED ON DEMAND FOR HEATING ONLY, DURING UNOCCUPIED PERIODS.

TIMED OVERRIDE - SHOULD THE TIMED OVERRIDE BE SWITCHED TO OCCUPIED DURING UNOCCUPIED MODE, OCCUPIED MODE OPERATION SHALL APPLY FOR THE TIMED OCCUPANCY DURATION.

CONTROL - THE AIRFLOW PRESSURE TRANSDUCER SHALL INDICATE TO THE UNIT MOUNTED DDC CONTROLLER MEASURED AIRFLOW. THE DDC CONTROLLER SHALL MODULATE THE VAV BOX DAMPER TO MAINTAIN AIRFLOW AT SETPOINT. AIRFLOW SETPOINT AND REHEAT VALVE SHALL BE MODULATED BASED ON SPACE TEMPERATURE DEVIATION FROM SETPOINT PER THE SAMPLE RESET SCHEDULES BELOW INDICATING DEADBAND, HEATING AND COOLING RAMP-UP RANGES, AND MINIMUM AIRFLOWS.

NOTES:
1. THE ADJACENT GRAPHICS ARE PROVIDED FOR REFERENCE ONLY.
2. EACH TERMINAL BOX IS UNIQUE AND MAY HAVE REQ'MTS THAT VARY FROM THOSE DEPICTED ABOVE.
3. INCLUDE LOGIC TO OPERATE REHEAT VALVE TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT (I.E. 85°F MAX AT -2°F AND GREATER DEVIATION FROM SETPOINT)
4. REFER TO EQUIPMENT SCHEDULES FOR INITIAL AIR DELIVERY (CFM) SETTINGS.

THE SPACE MOUNTED TEMPERATURE SENSOR SHALL INCORPORATE A WARMER/COOLER ADJUSTMENT ALLOWING ZONE OCCUPANTS TO BIAS THE SPACE TEMPERATURE SETPOINT BY A FIXED AMOUNT IN EITHER DIRECTION.

FEATURES -
1. COOPERATION WITH NIGHT VENT COOLING, MORNING WARMUP, AND DCV LOGIC WHERE SPECIFIED IN RESPECTIVE AHU SEQUENCES.
2. SPACE TEMPERATURE SHALL BE TRENDED HOURLY.
3. GENERATE AN ALARM SHOULD DISCHARGE AIR TEMPERATURE STRAY FROM DISCHARGE AIR TEMPERATURE SETPOINT BY 5 DEG OR MORE.
4. HOURLY TREND ITEMS INDICATED IN THE POINTS LIST TO BE TRENDED. STORE DATA FOR 1 YEAR PRIOR TO PURGING.

TERMINAL CONTROL

HEATING CFM = VENT CFM

HEATING CFM > MIN CFM

1 VAV WITH REHEAT CONTROL DIAGRAM

SCALE: NONE

SYSTEM POINTS LIST -- VAV BOX WITH HW REHEAT

			ANALOG										BINARY											SYSTEM FEATURE							
			INPUT									OUTPUT	INPUT					OUTPUT						ALARMS			PROGRAMS				
SYSTEM POINT DESCRIPTION	GRAPHIC SCREEN	ANIMATED POINT ON GRAPHIC	TEMPERATURE	CARBON DI-OXIDE	RELATIVE HUMIDITY	KW	KWH	BTU HR	GPM	PERCENT	CFM	DDC (4-20 ma, 0-10 vdc)	STATUS	STATUS ON/OFF	FILTER STATUS	STATUS OPEN/CLSD.	TIMED OVERRIDE	STOP/START	OPEN/CLOSED	LOCK OUT	ENABLE/DISABLE	HIGH/LOW SPEED	FLOATING CONTROL	HIGH OR LOW VALUE	OUT OF RANGE	STATUS DIFF. FROM CMD	TREND VALUE	TREND STATUS	LEAD/LAG	ROTATIONALLY SEQUNCE	NOTES
SPACE TEMP	X		X																					X	X		X				
WAMER/COOLER	X		X																												
TIMED OVERRIDE																	X														
CO2 LEVEL	X			X																				X			X				
AIRFLOW	X										X													X	X		X				
DAMPER POSITION	X											X											X				X				
VALVE POSITION	X											X															X				
																							X								
DISCHG AIR TEMP	X		X																					X	X		X				

GENERAL NOTES:

SEQUENCE OF CONTROL:

DESCRIPTION - THE NEW SYSTEMS CONSIST OF A PRESSURE INDEPENDENT VARIABLE AIR VOLUME BOX COMPLETE WITH MOTORIZED DAMPER, HOT WATER REHEAT COIL, FLOATING POINT OR PROPORTIONAL CONTROL VALVE, AND AIR FLOW PRESSURE TRANSDUCER.

SCHEDULING - OCCUPIED/UNOCUPIED SCHEDULING APPLIES TO THESE SYSTEMS. SCHEDULES TO BE DETERMINED BY OWNER AND SHALL BE AVAILABLE THROUGH THE OPERATOR WORKSTATION INTERFACE.

SCHEDULING CONTROLS SPACE SETPOINT TEMPERATURE. DURING OCCUPIED MODE, TERMINAL UNIT SHALL MAINTAIN SPACE TEMPERATURE AT SETPOINT DICTATED BY SPACE MOUNTED THERMOSTAT (I.E. 68-72°F HEATING, 76-80°F COOLING). DURING UNOCCUPIED MODE, TERMINAL UNIT SHALL MAINTAIN SPACE TEMPERATURE AT SETBACK TEMPERATURE SETPOINT (I.E. 60°F HEATING, N/A COOLING)

OCCUPIED/UNOCCUPIED SCHEDULING ALSO CONTROLS VENTILATION. WHEN SCHEDULED IN THE OCCUPIED MODE, TERMINAL UNIT SHALL PROVIDE MINIMUM VENTILATION CFM CALCULATED BY THE DEMAND CONTROL VENTILATION PROGRAM. WHEN SCHEDULED IN THE UNOCCUPIED MODE, DAMPER SHALL BE SHUT. TERMINAL BOX SHALL BE PERMITTED TO OPEN AS REQUIRED ON DEMAND FOR HEATING ONLY, DURING UNOCCUPIED PERIODS.

TIMED OVERRIDE - SHOULD THE TIMED OVERRIDE BE SWITCHED TO OCCUPIED DURING UNOCCUPIED MODE, OCCUPIED MODE OPERATION SHALL APPLY FOR THE TIMED OCCUPANCY DURATION.

KITCHEN HOOD VENTILATION MODE. WHEN KITCHEN EXHAUST HOOD IS ACTIVATED, VAV WILL BE OVERRIDDEN TO OCCUPIED MODE AND MAX DESIGN CFM. WHEN KITCHEN EXHAUST IS OFF, VAV WILL RETURN TO NORMAL OPERATION.

CONTROL - THE AIRFLOW PRESSURE TRANSDUCER SHALL INDICATE TO THE UNIT MOUNTED DDC CONTROLLER MEASURED AIRFLOW. THE DDC CONTROLLER SHALL MODULATE THE VAV BOX DAMPER TO MAINTAIN AIRFLOW AT SETPOINT. AIRFLOW SETPOINT AND REHEAT VALVE SHALL BE MODULATED BASED ON SPACE TEMPERATURE DEVIATION FROM SETPOINT PER THE SAMPLE RESET SCHEDULES BELOW INDICATING DEADBAND, HEATING AND COOLING RAMP-UP RANGES, AND MINIMUM AIRFLOWS.

WHEN KITCHEN VENTILATION MODE IS ACTIVATED, THE DDC CONTROLLER SHALL DRIVE THE AIRFLOW TO CONSTANT VOLUME AT MAXIMUM CFM, AND MODULATE THE REHEAT VALVE TO MAINTAIN SPACE TEMPERATURE SETPOINT.

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3. INCLUDE LOGIC TO OPERATE REHEAT VALVE TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT (I.E. 85°F MAX AT -2°F AND GREATER DEVIATION FROM SETPOINT)
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1. COOPERATION WITH NIGHT VENT COOLING, MORNING WARMUP, AND DCV LOGIC WHERE SPECIFIED IN RESPECTIVE AHU SEQUENCES.
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TERMINAL CONTROL

HEATING CFM = VENT CFM

HEATING CFM > MIN CFM

2 KITCHEN AND CAFETERIA SPACE VAV

SCALE: NONE

CONTROLS GENERAL NOTES:

1. CONTROLS CONTRACTOR TO COVER ALL COSTS OF ELECTRICAL POWER REQUIREMENTS, IF ANY, AND LINE VOLTAGE WIRING, IF ANY, BY LICENSED ELECTRICIAN.
2. SEQUENCES OF OPERATION DEFINED HEREIN DESCRIBE GENERAL INTENT AND DO NOT INCLUDE ALL NECESSARY PROCEDURES/STEPS REQUIRED. ANTICIPATE FINE TUNING OF SEQUENCES (INCLUDING, BUT NOT LIMITED TO, SETPOINT ADJUSTMENTS, DEADBAND REFINEMENT, RESET CURVES ENDPOINTS, TIME DELAYS, OFFSETS, AND ACTUAL SEQUENCING OF EQUIPMENT), MAY BE REQUIRED AND SHALL BE PERFORMED AS REQUIRED DURING FUNCTIONAL PERFORMANCE TESTING OF THE SYSTEMS. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY AND ALL FINE TUNING ADJUSTMENTS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
3. CONTROLS SHALL BE FIELD INSTALLED. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING AND INSTALLING ALL DEVICES REQUIRED FOR A FULLY FUNCTIONAL CONTROL SYSTEM FOR THIS PROJECT, REGARDLESS OF VOLTAGE. IF THE CONTRACTOR CANNOT SELF-PERFORM WORK REQUIRING LINE VOLTAGE THEN THE CONTRACTOR SHALL COORDINATE WITH AND COMPENSATE THE ELECTRICAL CONTRACTOR AS REQUIRED. CONTROLS CONTRACTOR SHALL COORDINATE WITH EQUIPMENT SUPPLIERS TO ENSURE THAT ALL DEVICES ARE COMPATIBLE WITH THE EXISTING CONTROLS SYSTEM AND EXISTING MECHANICAL EQUIPMENT.
4. ALL CONTROL WIRING TO BE INSTALLED IN PLENUM RATED CONDUIT.
5. NO NETWORKED CONTROL POINTS ARE ALLOWED. ALL SENSORS TO BE HARDWIRED DIRECTLY TO CONTROLLING MODULE.
6. DESCRIPTION - THE BUILDING CONTROL SYSTEM (BCS) SHALL CONSIST OF AN ASHRAE STANDARD 135 COMPLIANT (BACNET COMPATIBLE) DEVICES AND PROTOCOL FOR CONTROL OF HVAC & PLUMBING SYSTEMS. MAJOR COMPONENTS, INCLUDING BOILERS, PUMPS, RTU'S, VAV BOXES, FAN POWERED BOXES, VFDS, WATER HEATERS, AND COMPUTER ROOM COOLING SYSTEMS SHALL BE PROVIDED BY MANUFACTURER WITH BACNET COMPATIBLE CONTROLLERS WITH ALL AVAILABLE INFORMATION WITHIN COMMUNICATED TO AND GRAPHICALLY REPRESENTED IN THE BCS.
7. REMOTE ACCESS - PROVIDE REMOTE ACCESS VIA WEB BASED INTERFACE (WEB ACCESS ITSELF IS NOT PART OF THIS CONTRACT).
8. BUILDING OCCUPANCY - IN ADDITION TO THE OCCUPANCY SCHEDULING FEATURES AVAILABLE THROUGH THE BCS SOFTWARE, PROVIDE MANUAL CONTROLLABILITY OF OCCUPANCY STATUS. MANUAL CONTROL OF OCCUPANCY STATUS SHALL BE ADJUSTABLE THROUGH THE OPERATOR INTERFACE. MANUAL OCCUPANCY OVERRIDE DURATION SHALL BE ADJUSTABLE.
9. GRAPHICS - ALL BCS POINTS SHALL BE REPRESENTED BY GRAPHIC DISPLAY ON THE WEB BASED INTERFACE. ITEMS SUCH AS PUMPS, FANS, CONTROL VALVES, AND DAMPER MOTORS SHALL BE REPRESENTED BY GRAPHIC DISPLAYS. GRAPHICAL FLOOR PLANS SHALL INDICATE ANIMATED ZONE DESIGNATIONS AS WELL AS THEIR SPACE TEMPERATURE SETPOINT, SPACE TEMPERATURE, AND MODE OF OPERATION “HEATING,” "COOLING" OR “INACTIVE”. BACKGROUND COLOR OF ZONES SHALL BE CHANGED AS FOLLOWS: GREEN - SPACE TEMPERATURE WITHIN 3°F OF SETPOINT; RED - SPACE TEMPERATURE GREATER THAN 3°F ABOVE SETPOINT; BLUE -SPACE TEMPERATURE LOWER THAN 3°F BELOW SETPOINT.
10. GRAPHICAL FLOOR PLANS SHALL ALSO INDICATE CENTRALIZED PLANT EQUIPMENT, VAV'S, AHU'S, RTU'S, AND DISTRIBUTED IT ROOM COOLING SYSTEM BY LOCATION. ANIMATED GRAPHICS ARE NOT REQUIRED ON THE GRAPHICAL FLOOR PLAN SCREEN. ADDITIONAL INFORMATION FOR THE EQUIPMENT INDICATED ON THE GRAPHICAL FLOOR PLANS SHALL BE EASILY ACCESSED BY DOUBLE-CLICKING THE ASSOCIATED FLOOR PLAN GRAPHIC. ADDITIONAL INFORMATION FOR THE CENTRAL PLANT AS A WHOLE SHALL BE ACCESSIBLE IN THE SAME MANNER.
11. LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE LOCATIONS ONLY. INDICATE EXACT LOCATION OF ALL DEVICES IN THE FIELD WITH CLEARLY MARKED IDENTIFIERS AND OBTAIN ARCHITECT'S AND ENGINEER'S APPROVAL PRIOR TO ROUTING CONDUIT AND PULLING WIRE.
12. VARIABLE FREQUENCY DRIVES (VFDS) TO BE PROVIDED WITH BACNET COMPATIBLE INTERFACE TO MONITOR CURRENT VFD STATUS AND OPERATING CONDITIONS THROUGH ITS COMMUNICATION PORT.
13. ALARMS - PROVIDE THE FOLLOWING SPECIFIC DIAL-OUT ALARMS TO DESTINATION DETERMINED BY THE OWNER: SPACE TEMPERATURE LOW LIMIT; IT (MDF & IDFS) ROOM TEMPERATURE HIGH LIMIT; GENERALIZED EQUIPMENT FAILURE ALARM (FOR EQUIPMENT SUCH AS PUMPS, WATER HEATERS, RTU'S, ERVS, VFDS, ETC)
14. ADJUSTABILITY - WITH THE EXCEPTION OF DESIGN TEMPERATURES, ALL SETPOINTS, TIME DELAYS, DURATIONS, RESET SCHEDULES, AND OTHER CONTROL VARIABLES SHALL BE ADJUSTABLE. VARIABLES REQUIRED FOR CONTROLS IMPLEMENTATION THAT ARE NOT DEFINED IN THE SEQUENCES OF CONTROL SHALL BE DEFINED BY CONTROLS CONTRACTOR IN THEIR SHOP DRAWING SUBMITTAL. CONTRACTOR'S SUGGESTED ADJUSTMENTS TO VARIABLES DEFINED IN THE SEQUENCES OF CONTROL, IF ANY, SHALL BE SUBMITTED IN THE CONTROLS DRAWINGS.
15. RESET CURVE GRAPHICS - CERTAIN CONTROLS SEQUENCES IN THIS DRAWING SET CONTAIN RESET CURVES DESCRIPTIONS THAT ARE PROVIDED GRAPHICALLY. THOUGH THESE CURVES REPRESENT PROPORTIONAL CONTROL ONLY IN THE SIMPLEST INTERPRETATION, THE CONTROLS SYSTEM INTENT IS TO UTILIZE PROPORTIONAL-INTEGRAL (PI) AND/OR PROPORTIONAL-INTEGRAL-DERIVATIVE (PID) LOOPS TO PERMIT TUNING OF CONTROLS SYSTEMS RESPONSE, LIMIT OVERSHOOT/UNDERSHOOT, AND IMPROVE SYSTEM STABILITY. RESET CURVE GRAPHICS ARE PROVIDED AS SUGGESTED STARTING POINTS FOR THE PROPORTIONAL COMPONENT ONLY; ALL ENDPOINTS, OFFSETS, SLOPES, ETC ARE FLEXIBLE.
16. CONTROLS RECORD DRAWINGS REQUIRED - CONTRACTOR SHALL MAINTAIN, THROUGH THE COURSE OF THE PROJECT, A COMPREHENSIVE RECORD OF MECHANICAL EQUIPMENT AND CONTROLS RELATED ADDENDA (ASI'S, RFI'S, AND CCD'S), ADJUSTMENTS TO SETPOINTS DEFINED HEREIN, INITIAL SETPOINTS NOT DEFINED HEREIN. ANY SUGGESTIONS FOR ADJUSTMENTS AND/OR MODIFICATION TO THE APPROVED CONTROL SHOP DRAWINGS THAT ARISE DURING THE COURSE OF CONSTRUCTION, STARTUP, AND COMMISSIONING SHALL BE REVIEWED BY THE ENGINEER. APPROVED CHANGES SHALL BE RECORDED ON THE CONTROLS SHOP DRAWINGS BEING USED AS CONTROLS RECORD DRAWINGS. ALL SUCH CHANGES SHALL BE UPDATED ELECTRONICALLY AND SUBMITTED TO THE OWNER DURING PROJECT CLOSEOUT.
17. TRENDING - TREND HOURLY WITH MINIMUM ONE YEAR STORAGE THE FOLLOWING:SPACE TEMPERATURE FOR EACH ZONE; CO2 LEVEL FOR EACH ZONE EQUIPPED WITH DEMAND CONTROL VENTILATION; ADDITIONAL 15% STORAGE AVAILABILITY FOR OTHER POINTS THAT MAY REQUIRE FUTURE TRENDING FOR TROUBLE SHOOTING, COMMISSIONING, ETC.
18. POINTS LISTS - CONTROLS DRAWING SUBMITTAL SHALL PROVIDE COMPLETE POINTS LISTS AND NAME/ADDRESS OF EACH POINT OCCURRENCE WITHIN THE PROJECT.
19. SPARE CAPACITY - PROVIDE SYSTEM ARCHITECTURE/INFRASTRUCTURE WITH MINIMUM 10% SPARE CAPACITY FOR FUTURE ADDITIONAL POINTS EVENLY DISTRIBUTED ACROSS THE FACILITY.

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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
MECHANICAL DIAGRAMS

Project No:
10183.00

Sheet No:
M3.2

ELECTRICAL SYSTEMS LEGEND

NOTE:
ALL SYMBOLS SHOWN ON LEGEND ARE NOT NECESSARILY USED.

LIGHTING FIXTURE SYMBOLS

	RECESSED FIXTURE
	RECESSED WALL WASHER
	RECESSED ADJUSTABLE ACCENT
	RECESSED INGRADE UPLIGHT
	SURFACED MOUNTED LINEAR TROFFER
	RECESSED LINEAR TROFFER
	RECESSED LINEAR WALL WASH/GRAZE
	RECESSED INGRADE LINEAR UPLIGHT
	RECESSED INGRADE LINEAR WALL WASH/GRAZE
	LINEAR PENDANT MOUNTED LIGHT
	STRIP LIGHT
	SURFACE MOUNTED LED PANEL
	SURFACE MOUNTED LIGHT
	PENDANT MOUNTED LIGHT
	WALL MOUNTED LIGHT
	WALL MOUNTED DECORATIVE SCONCE
	WALL MOUNTED ADJUSTABLE LIGHT
	WALL MOUNTED UPLIGHT
	WALL MOUNTED READING LIGHT
	WALL MOUNTED SWING ARM LIGHT
	WALL MOUNTED LINEAR LIGHT
	CEILING/PENDANT MOUNTED TRACK WITH ADJUSTABLE TRACK HEAD
	LINEAR TAPELIGHT OR COVE LIGHT
	LINEAR CLOSET ROD FIXTURE
	LINEAR LIGHTING (VERTICAL)
	RECESSED STEP LIGHT
	MONO-POINT LIGHTING FIXTURE
	MONO-POINT STAKE MOUNT ACCENT
	TABLE LAMP
	FLOOR LAMP
	CEILING MOUNTED EXIT SIGN W/ FACES & ARROWS AS SHOWN
	WALL MOUNTED EXIT SIGN W/ FACES & ARROWS AS SHOWN
	WALL MOUNTED COMBO EXIT SIGN / EGRESS LIGHT
	EMERGENCY LIGHTS
	EXTERIOR POLE MOUNTED LIGHT
	EXTERIOR POST (BOLLARD) MOUNTED LIGHT
	FIXTURE WITH EMERGENCY BACKUP OR ON EM CIRCUIT

LIGHTING CONTROL SYMBOLS

$	WALL MOUNTED SWITCH
$3	THREE-WAY SWITCH
$4	FOUR-WAY SWITCH
$J	DOOR JAMB SWITCH
$K	KEY SWITCH
$D	DIMMER SWITCH
XXX	WALL MOUNTED DEVICE
RA	ROOM CONTROLLER
RL	PLUG LOAD CONTROLLER
	OCCUPANCY/VACANCY PROGRAMMED SENSOR - CEILING MOUNTED
	DAYLIGHT PHOTO SENSOR

LIGHTING DRAWING SYMBOLS

	ALIGNMENT LINE
CL OBJECT	CENTER LINE DESIGNATION
	DAYLIGHT ZONE

NOTE: SEE CONTROLS SCHEDULE FOR FURTHER SPECIFICATION INFORMATION

POWER SYMBOLS

	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
C	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
	DOUBLE DUPLEX RECEPTACLE
	GFCI DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE; HALF SWITCHED
	ISOLATED GROUND DUPLEX RECEPTACLE
	MULTI-OUTLET PLUG STRIP
	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE
	FLUSH FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE
	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE; HALF SWITCHED
	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE AND TELECOM
	WALL MOUNTED SPECIAL OUTLET AS NOTED
	SPECIAL OUTLET AS NOTED
J	JUNCTION BOX
J	WALL MOUNTED JUNCTION BOX
J	FLOOR MOUNTED JUNCTION BOX
	MECHANICAL EQUIPMENT POWER CONNECTION
TS	TIMER SWITCH
	FUSED DISCONNECT
N	NON FUSED DISCONNECT
M	MOTOR STARTER
EB	ENCLOSED CIRCUIT BREAKER
PB	PULL BOX
	PUSH BUTTON
TC	TIME CLOCK
PC	PHOTO-CELL
T	TRANSFORMER
	PANELBOARD OR LOADCENTER
C	CONTACTOR
	ELECTRIC MOTOR
	METER
	THERMOSTAT
ATS	AUTOMATIC TRANSFER SWITCH
	CIRCUIT HOMERUN
	CONDUIT RUN
	CONDUIT RUN BELOW GRADE
	CONDUIT UP
	CONDUIT DOWN
$	SWITCH
$T	THERMAL OVERLOAD SWITCH
$V	VARIABLE SPEED SWITCH
$K	KEY SWITCH

ONE-LINE DIAGRAM SYMBOLS

	DISCONNECT SWITCH
	FUSE
	CIRCUIT BREAKER
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
M	METER
V	VOLT-METER
A	AMP-METER
SPD	SURGE PROTECTION DEVICE
	SELECTOR SWITCH
GF	GROUND FAULT PROTECTION
ST	SHUNT TRIP
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	GROUND
	COLD WATER GROUND CONNECTION
	BUILDING STEEL GROUND CONNECTION

ABBREVIATIONS

AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ALUMINUM
AP	ACCESS POINT
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BFG	BELOW FINISH GRADE
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CATV	COMMUNITY (CABLE) ANTENNA TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CPU	CENTRAL PROCESSING UNIT
CT	CURRENT TRANSFORMER
DISP	GARBAGE DISPOSAL
DW	DISHWASHER
(E)	EXISTING
EM	EMERGENCY
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
IAW	IN ACCORDANCE WITH
IC	INTERMEDIATE CROSS-CONNECT
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
IR	INFRARED
LAN	LOCAL AREA NETWORK
MDF	MAIN DISTRIBUTION FRAME
(N)	NEW
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PA	PUBLIC ADDRESS
REF	REFRIGERATOR
SPD	SURGE PROTECTION DEVICE
TTB	TELECOMMUNICATIONS TERMINAL BOARD
TVTB	TELEVISION TERMINAL BOARD
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WAP	WIRELESS ACCESS POINT
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
XP	EXPLOSIONPROOF
+18"	MOUNTING HEIGHT TO CENTERLINE OF DEVICE ABOVE FINISH FLOOR (VERIFY W/ ARCH ELEVATIONS)

NOTES:

- LIGHT LINEWEIGHT INDICATES EXISTING.
- HATCHED AREAS INDICATE DEMOLITION.
- 'C' ADJACENT TO A DEVICE INDICATES MOUNTING ABOVE COUNTERTOP.

MECHANICAL EQUIPMENT WIRING AND CONNECTIONS

	ITEM	FURNISHED UNDER	SET IN PLACE OR MTD. UNDER	WIRED/ CONNECTED UNDER
1	EQUIPMENT MOTORS AND THERMAL OVERLOADS, RESISTANCE HEATERS.	MD	MD	ED
2	VFD'S, MOTOR CONTROLLERS, MAGNETIC STARTERS, REDUCED VOLTAGE STARTERS AND OVERLOAD RELAYS.	MD	ED(a)	ED
3	DISCONNECT SWITCHES (FUSED OR NON-FUSED), HP RATED SWITCHES, THERMAL OVERLOAD SWITCHES AND FUSES AND MANUAL OPERATING SWITCHES.	ED(a)	ED(a)	ED
4	PUSHBUTTON STATIONS, PILOT LIGHTS, MULTI-SPEED SWITCHES, FLOAT SWITCHES, THERMOSTATS, CONTROL RELAYS, TIMECLOCKS, CONTROL TRANSFORMERS, CONTROL PANELS, MOTOR VALVES, DAMPER ACTUATORS, SOLENOID VALVES, EP AND PE SWITCHES AND INTERLOCKS.	MD	MD	MD(b)
5	120 VOLT POWER FOR BAS PANELS, FIRE PROTECTION AND BOILER CONTROLS.	ED	ED	ED
6	FIRE/SMOKE DAMPERS AND ELEVATOR VENT DAMPERS.	MD	MD	ED(c)

MD = MECHANICAL DIVISION

ED = ELECTRICAL DIVISION

NOTES:

(a) IF FURNISHED AS PART OF FACTORY-WIRED EQUIPMENT, THEN WIRING AND CONNECTIONS ONLY BY ED

(b) IF ANY OF THESE DEVICES CARRY THE FULL LOAD CURRENT TO ANY MOTOR THEY SHALL BE CONNECTED BY ED. CONTROL DEVICES CARRYING FULL LOAD CURRENT FURNISHED BY MD AND WIRED BY ED SHALL BE LOCATED AT THE DEVICE BEING CONTROLLED, UNLESS SHOWN ON DRAWINGS OR MUTUAL AGREEMENT IS MADE BETWEEN THE CONTRACTORS WITH NO CHANGE IN THE CONTRACT PRICE.

(c) WIRING FROM ALARM CONTACTS TO ALARM SYSTEM BY ED; ALL CONTROL FUNCTION WIRING BY MD. DUCT DETECTORS FURNISHED BY ED, SET IN PLACE BY MD.

GENERAL NOTES: THE ABOVE LIST DOES NOT ATTEMPT TO INCLUDE ALL COMPONENTS. ALL ITEMS NECESSARY FOR A COMPLETE SYSTEM SHALL BE INCLUDED IN THE BASE CONTRACT.

ELECTRICAL SHEET INDEX

#	TITLE	Issued Graphic Check Mark	DD - 02.21.2020	CD PROGRESS SET - 03.16.2020	95% CD SET - 03.30.2020	PERMIT SET - 04.06.2020			
			ISSUE LOG						
E0.0	ELEC COVER SHEET	√	√	√	√				
E0.1	ELECTRICAL SCHEDULES	√	√	√	√				
E0.2	ELECTRICAL SCHEDULES	√	√	√	√				
E1.0	ELECTRICAL SITE PLAN	√		√	√	√			
E02.1	FIRST LEVEL AREA A DEMO ELEC PLAN	√	√	√	√				
E02.2	6TH GRADE SCIENCE ROOMS DEMO ELECTRICAL PLAN	√	√	√	√	√			
E2.1	FIRST LEVEL AREA A ELEC PLAN	√	√	√	√	√			
E2.2	SCIENCE CLASSROOMS ELEC PLANS	√	√	√	√	√			
E2.3	6TH GRADE SCIENCE ROOMS ELEC PLAN	√	√	√	√	√			
E2.4	ROOF AREA A ELECTRICAL PLAN	√			√	√			
E2.11	FIRST LEVEL AREA A LIGHTING PLAN	√	√	√	√	√			
E3.1	ELECTRICAL DIAGRAMS	√	√	√	√	√			

ISSUE LOG KEY:
'√' ISSUED AS PART OF SET
' ' NOT PART OF SET
'*' ISSUED FOR INFORMATION ONLY

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWINGS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. SIZES AND LOCATION OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT MAY BE DISTORTED FOR CLARITY ON THE DRAWINGS. FINAL LOCATION OF OUTLETS AND EQUIPMENT SHALL BE AS APPROVED BY THE ARCHITECT. IT IS NOT WITHIN THE SCOPE OF DRAWINGS TO SHOW ALL NECESSARY BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO THE STRUCTURE, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.
2. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT 'AS-BUILT' CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
3. SYSTEM OUTAGES SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER – IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE (BEYOND BRANCH CIRCUITS) SHALL BE PERFORMED WITH THE OWNER'S MAINTENANCE PERSONNEL ADVISED OF SUCH WORK.
4. SERVICE SHALL BE MAINTAINED TO EXISTING AREAS DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE PORTABLE GENERATORS, CABLES, OUTLETS, ETC. AS REQUIRED TO MAINTAIN CONTINUITY OF SERVICE. PLACEMENT OF SUCH PORTABLE EQUIPMENT SHALL BE SUBJECT TO OWNER APPROVAL.
5. REVIEW ARCHITECTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH ALL TRADES AND ELECTRICAL REFERENCES ON ARCHITECTURAL DRAWINGS. COORDINATE EXACT COLOR, LOCATION AND MOUNTING HEIGHT OF ALL LIGHT FIXTURES AND DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.
6. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWING SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS.
7. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.
8. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES.
9. SECURE AND PAY FOR ALL PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK. FURNISH TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.
10. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
11. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 90 PERCENT COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS. ELECTRICAL CONTRACTOR IS TO SUBMIT A COMPLETE CONSTRUCTION DRAWING SET TO THE ELECTRICAL UTILITY COMPANY WITH-IN 10 DAYS OF AWARD OF CONTRACT. COORDINATE TIMELINE OF THEIR REVIEW, APPROVAL, CONSTRUCTION SCHEDULING AND INSTALLATION OF THE UTILITY TRANSFORMER WITH THE UTILITY COMPANY. NOTIFY OWNER OF ANY SCHEDULING CONFLICTS.
12. EXISTING SYSTEMS AND CONDITIONS SHOWN ON DRAWINGS FOR EXISTING BUILDINGS ARE TO BE NOTED "FOR GUIDANCE ONLY". THE ELECTRICAL CONTRACTOR TO FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING AND TO INCLUDE IN HIS BID AN ALLOWANCE FOR REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, WIRES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEM TO ALL OTHER WORK AS REQUIRED.
13. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR PARTITIONS SHALL BE SEALED TO PREVENT THE SPREAD OF SMOKE AND FIRE THROUGH THEM. THE FIRE RATING OF THE PENETRATION SEAL SHALL AT A MINIMUM BE THE SAME RATING AS THAT OF THE FLOOR OR WALL. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
14. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL WITH OR AT RIGHT ANGLES TO THE BUILDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE.
15. PROVIDE A SEPARATE CODE SIZED GREEN EQUIPMENT GROUND CONDUCTOR IN ALL CONDUITS AND RACEWAYS CONTAINING LINE VOLTAGE CIRCUITS. FOR ALL 20A CIRCUITS, EQUIPMENT GROUND CONDUCTOR SIZE SHALL MATCH PHASE CONDUCTOR SIZE. FOR CIRCUITS UPSIZED FOR VOLTAGE DROP INCREASE EQUIPMENT GROUNDING CONDUCTOR SIZE PER CODE.
16. PROVIDE ELECTRICAL DEMOLITION REQUIRED. REFER TO ARCHITECTURAL AND ELECTRICAL DEMOLITION DRAWINGS FOR LOCATION AND EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXTENT OF WORK INVOLVED.
17. PROVIDE ALL NECESSARY DEMOLITION TO REMOVE EXISTING UNUSED CONDUIT, WIRE, CABLE, J-BOXES, RECEPTACLES, SWITCHES, LIGHTS, FIRE ALARMS DEVICES, ETC. COMPLETE WITH ASSOCIATED CIRCUITING TO SOURCE. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, WIRE REMOVED, AND BLANK COVER PLATES PROVIDED.
18. THE CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF THE EXISTING CONSTRUCTION WORK WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF THE ELECTRICAL WORK. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH AS, AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK.
19. ALL (E) EQUIPMENT, LAMPS, BALLASTS, ETC. BEING REMOVED SHALL BE DISCARDED IN ACCORDANCE WITH APPLICABLE EPA REQUIREMENTS.
20. EXISTING LIGHT FIXTURES, ELECTRICAL EQUIPMENT, ETC. BEING REMOVED SHALL BE RETURNED TO THE OWNER, EXCEPT FOR THOSE ITEMS BEING RELOCATED.
21. VERIFY LOCATIONS FOR ALL ELECTRICAL EQUIPMENT WITH ARCHITECTURAL DRAWINGS FOR INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILING AND LIKE, AND CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
22. INSTALL ALL MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION PRIOR TO INSTALLATION.
23. FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION, OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
25. UPON COMPLETION OF ALL ELECTRICAL WORK, ELECTRICAL CONTRACTOR SHALL ADJUST AND TEST ALL CIRCUITS, OUTLETS, SWITCHES, LIGHTS, MOTORS, AND ANY OTHER ELECTRICAL ITEMS SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH ALL NEW EQUIPMENT AND THAT PART OF THE SYSTEM SHALL THEN BE RETESTED. ALL SUCH REPLACEMENT OR REPAIR SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
26. AFTER COMPLETION OF WORK UNDER THIS SECTION, CLEAN-UP ALL RESULTANT DEBRIS FROM THIS WORK AND REMOVE FROM THE SITE.
27. ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITY.
28. WIRING DEVICES SHALL BE SPECIFICATION GRADE AND RATED AT 20 AMPERES FOR LIGHT SWITCHES, AND 20 AMPERES FOR DUPLEX RECEPTACLES. THE COLOR OF THE DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY ARCHITECT.
29. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS, UNLESS NOTED OTHERWISE. CONNECTORS SHALL BE INSULATED THROAT TYPE. MINIMUM RACEWAY SIZE IS 3/4". ALL FEEDERS SHALL BE INSTALLED IN RACEWAY CONFIGURATIONS SHOWN ON ONE-LINE. BRANCH CIRCUITS 25A AND LARGER SHALL BE INSTALLED IN INDIVIDUAL RACEWAYS. BRANCH CIRCUITS 20A AND SMALLER MAY BE GROUPED INTO RACEWAYS AS TO NOT EXCEED 6 CURRENT-CARRYING 75-DEGREE CONDUCTORS, OR 9 CURRENT-CARRYING 90-DEGREE CONDUCTORS, IN A SINGLE RACEWAY. METAL CLAD CABLE IS PERMITTED.
30. ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A 200LB NYLON PULL STRING OR EQUAL, AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION, AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.
31. WIRE SHALL BE COPPER, 75 DEGREE CELSIUS RATED FOR GENERAL USE. WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER, MINIMUM 90 DEGREE CELSIUS RATED, SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREE CELSIUS AMBIENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS.
32. PROVIDE NEW UPDATED PANELBOARD DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF PROJECT.
33. PANEL DIRECTORIES SHALL BE REMOVABLE. ROOM NAMES AND NUMBERS SHALL BE AS DIRECTED BY OWNER. DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS.
34. FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT SHALL BE SEAL TITE FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
35. REFER TO FOOD SERVICE DRAWINGS FOR ADDITIONAL ROUGH-IN REQUIREMENTS NOT INDICATED WITHIN THIS SERIES. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL FOOD SERVICE ROUGH-IN WITH EQUIPMENT INSTALLER PRIOR TO WORK.
36. ALL REMOTE POWER SUPPLIES FOR LIGHTING SHALL BE LOCATED WHERE ACCESSIBLE AND CONCEALED FROM PUBLIC VIEW. LABEL POWER SUPPLY WITH CIRCUIT, LOAD SERVED, AND ROOM WHERE LOAD IS SERVED. WHERE APPLICABLE AND/OR INDICATED ON DRAWINGS, LOCATE REMOTE EQUIPMENT ON WALL AREA ABOVE DOORWAYS FOR CONSISTENCY IN FACILITY MANAGEMENT.
37. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
38. SYSTEMS SHALL BE COMPLETE, OPERABLE, AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE.

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
ELEC COVER SHEET

Project No:
10183.00

Sheet No:
E0.0

LUMINAIRE SCHEDULE

GENERAL NOTES:

BOF = BOTTOM OF FIXTURE, RFD = RECESSED FIXTURE DEPTH, OFD = OVERALL FIXTURE DEPTH, OFH = OVERALL FIXTURE HEIGHT, TOP = TOP OF POLE, AFF = ABOVE FINISHED FLOOR.

A. THE LUMINAIRE SCHEDULE CAN NOT BE USED INDEPENDENTLY OF THE DRAWINGS AND SPECIFICATIONS TO OBTAIN LUMINAIRE COSTS. THE INDIVIDUAL ESTABLISHING LUMINAIRE COSTS SHALL NOT QUOTE PRICING WITHOUT FIRST SEEING APPLICABLE ELECTRICAL DRAWINGS AND ELECTRICAL DIVISION SPECIFICATIONS. THE CONTRACTOR IS REPONSIBLE FOR PROVIDING NECESSARY DRAWINGS AND SPECIFICATIONS TO THE INDIVIDUAL QUOTING LUMINAIRE PRICING.

B. REFER TO DRAWINGS FOR FIXTURES REQUIRING EMERGENCY BATTERY BACKUP OPTION (SHOWN BY HATCH INCOVER SYMBOL). MINIMUM LIGHT OUTPUT FOR EM BALLAST SHALL BE 600 LUMENS. BATTERY SHALL OPERATE FOR A MINIMUM OF 90 MINUTES.

C. INTERRUPT POWER SUPPLY TO DEMONSTRATE PROPER OPERATION OF ALL EMERGENCY LIGHTING PRIOR TO JOB COMPLETION.

D. MINIMUM CRI FOR FRONT OF HOUSE LIGHT FIXTURES SHALL BE 80.

E. ALL FINISHES TO BE REVIEWED AND VERIFIED BY ARCHITECT PRIOR TO PURCHASE.

F. PROVIDE ALL PARTS, PIECES, AND COMPONENTS NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM. ELECTRICAL CONTRACTOR TO CONFIRM ALL MOUNTING ACCESSORIES PRIOR TO ORDER.

G. CONFIRM DIMMING PROTOCOL WITH FINAL CONTROLS SPECIFICATIONS AND SHOP DRAWINGS. ALL FRONT OF HOUSE LIGHT FIXTURES TO BE PROVIDED WITH 1% MINIMUM DIMMING RANGE. ELECTRICAL CONTRACTOR TO VERIFY PRIOR TO ORDER.

H. ELECTRICAL CONTRACTOR TO COORDINATE ALL ACCESS PANELS, DRIVER LOCATIONS, AND TRANSFORMER LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

I. ELECTRICAL CONTRACTOR TO CONFIRM FIXTURE COMPATIBILITY WITH CEILING TYPE AND CEILING THICKNESS PRIOR TO FINAL FIXTURE ORDER.

J. FOR ALL LINEAR FIXTURES, ELECTRICAL CONTRACTOR TO VERIFY EXACT FIXTURE LENGTHS PER FIELD MEASUREMENTS OR MILLWORK SHOP DRAWINGS, AS APPLICABLE.

K. ELECTRICAL CONTRACTOR TO VERIFY FEED AND LENGTH OF LEAD WIRES REQUIRED AND REVISE AS NECESSARY.

L. PROVIDE EXIT SIGN MOUNTING, FACES AND CHEVRONS PER PLANS.

M.FOR ALL DECORATIVE LIGHTING, REFER TO INTERIOR DESIGN DOCUMENTATION FOR FIXTURE MOUNTING HEIGHT.

SPECIFIC NOTES:

1. [MOUNT PER PLANS. PENDANT MOUNT AS REQUIRED BELOW DUCTWORK FOR MAXIMMUM ILLUMINATION OF ROOM SURFACES.]
2. REMOTE DRIVER/TRANSFORMER REQUIRED. DRIVER/TRANSFORMER TO BE LOCATED IN ACCESSIBLE, VENTILATED LOCATION.
3. SEE PLANS FOR CIRCUITING AND [EMERGENCY INVERTER] INFORMATION.
4. COORDINATE AIMING IN FIELD WITH [ARCHITECT AND/OR LIGHTING DESIGNER].
5. [ELECTRICAL CONTRACTOR TO REVIEW FIXTURE WEIGHT AND PROVIDE J-BOX SUITABLE FOR FIXTURE GREATER THAN 50LBS, AS REQUIRED.]
6. [NO MORE THAN 30 TRACK HEADS MAY BE MOUNTED PER TRACK PER CIRCUIT.]

TYPE	DESCRIPTION	MOUNTING	LAMP / LIGHT SOURCE QTY	TYPE	LUMENS	CRI	CCT	INPUT WATTS	DIMMING	VOLTAGE	MANUFACTURER	CATALOG NUMBER	SPECIFIC NOTES
R1	2'x4' RECESSED VOLUMETRIC TROFFER, GASKETED	RECESSED	1	LED	6218 lm	80	3500	49	0	277	LITHONIA	2GTL-4-60L-GZ10-LP835	-
R1E	2'x4' RECESSED VOLUMETRIC TROFFER, GASKETED	RECESSED	1	LED	6218 lm	80	3500	49	0	277	LITHONIA	2GTL-4-60L-GZ10-LP835	-
R2	2X4 RECESSED VOLUMETRIC TROFFER, GRID	RECESSED	1	LED	12000 lm	82	3500	100	0	277	LITHONIA	2BLT4 120L ADSM EZ1 LP835	-
R2E	2X4 RECESSED VOLUMETRIC TROFFER, GRID	RECESSED	1	LED	12000 lm	82	3500	100	0	277	LITHONIA	2BLT4 120L ADSM EZ1 LP835	-
R3	2'x2' RECESSED VOLUMETRIC TROFFED, GRID	RECESSED	1	LED	3332 lm	80	3500	27	0	277	LITHONIA	2BLT2 33L ADSM EZ1 LP835	-
R3E	2'x2' RECESSED VOLUMETRIC TROFFED, GRID	RECESSED	1	LED	3332 lm	80	3500	27	0	277	LITHONIA	2BLT2 33L ADSM EZ1 LP835	-
S1	1'X4' LED FLAT PANEL	SURFACE	1	LED	3300 lm	80	3500	28	0	277	LITHONIA	CPANL 1X4 33LM 35 K M4	-
X1	THERMOPLASTIC EXIT SIGN, BATTERY POWERED WITH NICKLE CADMIUM BATTERY, WHITE FINISH WITH GREEN LETTERS	SURFACE	1	LED		0		1	NA	277	LITHONIA	LQM S W 3 G 120/277 EL N	-
ZW1E	EXTERIOR LED WALL PACK	SURFACE	1	LED	4300 lm	75	5000	44	NA	277	LITHONIA	OLW-31	-

LIGHTING CONTROL DEVICES

TYPE	DESCRIPTION	PROGRAMMING REQUIREMENTS	COMMENTS	NOTES
		STAND ALONE SWITCH DEVICES		
$	LINE VOLTAGE TOGGLE SWITCH, SINGLE POLE	MANUAL ON, MANUAL OFF		
		AUTOMATIC STAND ALONE CONTROL DEVICES		
SO1	CEILING MOUNTED, DUAL TECH OCCUPANCY SENSOR	AUTOMATIC ON, AUTOMATIC OFF AFTER 15 MINUTES OF UNOCCUPIED SPACE. LOCAL ON/OFF OVERRIDE BUTTON (SEE DEVICES BELOW).	EC SHALL COORDINATE MOUNTING SUCH THAT SENSOR IS NOT WITHIN 6' OF AIR RETURN SYSTEMS. MANUAL ON SWITCHES TO BE LOW VOLATE AND COMPATIBLE WITH CEILING SENSOR.	1
SK1	KEYED LOW VOLTAGE PUSH BUTTON WALL STATION, TWO BUTTON	KEYED. MANUAL ON OPERATION WHEN KEY ENGAGED. AUTOMATIC OFF VIA ROOM SENSOR (SEE ADDITIONAL DEVICES ABOVE)		
		ROOM CONTROLLER SYSTEMS		
RO1	ROOM CONTROLLER CEILING MOUNTED OCCUPANCY SENSOR, DUAL TECH, LOW VOLTAGE	MANUAL ON VIA LOCAL PUSH BUTTON, OFF AFTER 15 MINUTES OF UNOCCUPIED SPACE	EC SHALL COORDINATE MOUNTING SUCH THAT SENSOR IS NOT WITHIN 6' OF AIR RETURN SYSTEMS	1
RP1	ROOM CONTROLLER CLOSED LOOP DAYLIGHT SENSOR	LIGHT-LEVEL MONITORING RANGE: 10 TO 100 FC WITH AN ADJUSTMENT TO TURN-ON AND TURN-OFF LIGHTS AT FOOTCANDLE LEVELS WITHIN THAT RANGE. TIME DELAY: FIFTEEN SECOND MINIMUM, TO PREVENT FALSE OPERATION. MAINTAIN 30 FC AT WORKING SURFACE. PHOTOCELL MUST DIM LIGHTS CONTINUOUSLY TO AT LEAST 15% MINIMUM	AND A DIRECTIONAL LENS IN FRONT OF THE PHOTOCELL TO PREVENT FIXED LIGHT SOURCES FROM CAUSING UNINTENTIONAL SHUT-OFF. SENSOR SHALL NOT BE LOCATED IN CLOSE PROXIMITY TO INDIRECT LIGHTING OR WHERE SUBJECT TO VEILING REFLECTIONS FROM GLASS OR WATER SURFACES	1
RK1	ROOM CONTROLLER, TWO ZONE, MANUAL LOW VOLTAGE PUSH BUTTON KEYPAD WITH RAISE LOWER	MANUAL ON. SHALL BE COMPATIBLE FOR 1% SMOOTH DIMMING UNLESS OTHERWISE NOTED. 0-10V DIMMING		
RA	ROOM CONTROLLER DEVICE		PROVIDE QUANTITIES AS REQUIRED PER MANUFACTURER.	

GENERAL NOTES:

A. APPROVED STANDALONE LIGHTING CONTROLS TO BE PROVIDED BY ONE OF THE FOLLOWING PRE-APPROVED MANUFACTURERS.
a. LUTRON
b. WATTSTOPPER
c. SENSOR SWITCH
d. LEVITON
e. NLIGHT
f. CRESTRON
g. EATON

B. ALL MANUALLY DIMMED LIGHTING LOADS SHALL BE CAPABLE OF DIMMING LIGHTS TO OFF SETTING. DIMMING COMPATIBILITY BETWEEN THE CONTROLS AND LIGHT FIXTURES SHALL BE COORDINATED BY THE EC TO ENSURE THAT LIGHTING IS ABLE TO DIM, WITH NO VISIBLE FLICKER, TO THE LEVEL NOTED ON THE LIGHTING FIXTURE SCHEDULE.

C. FINAL OCCUPANCY AND DAYLIGHT SENSOR LOCATIONS SHALL BE PROVIDED BY MANUFACTURER AND LOCATED PER APPROVED SHOP DRAWINGS. LOCATIONS INDICATED IN THERE DRAWING SHALL BE REVIEWED AND ALTERED AS NECESSARY FOR CORRECT OPERATION BY MANUFACTURER. IF OPERATION OF SENSOR DOES NOT MEET THE INTENT OUTLINED IN THESE DOCUMENTS, THE MANUFACTURER REPRESENTATIVE SHALL PROVIDE FIELD RECTIFICATION SERVICES AS NECESSARY IN ORDER TO RECONFIGURE SYSTEM TO MEET THE DESIGN INTENT.

D. ALL DEVICE FINISHES TO BE REVIEWED AND APPROVED BY ARCHITECT AND/OR INTERIOR DESIGNER PRIOR TO PURCHASE.

E. REFER TO DRAWINGS FOR SWITCH TYPE QUANTITIES AND LOCATIONS.

F. PROVIDE POWER PACKS AND ROOM CONTROLLERS AS NECESSARY

G. PLANS WITHIN DRAWINGS ARE PROVIDED TO COMMUNICATE DESIGN INTENT. SYSTEM SHALL BE WIRED AND PROGRAMMED ACCORDING TO APPROVED SHOP DRAWINGS

H. SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY BG BUILDINGWORKS PRIOR TO PURCHASE

I. CONGREGATE ADJACENT DEVICES UNDER A SINGLE FACEPLATE. ACCOUNT FOR WATTAGE RESTRICTIONS WHERE REQUIRED

J. ALL CALIBRATION DEVICES SHALL BE READILY ACCESSIBLE

K. LIGHT LEVEL SETTINGS/PROGRAMMING SHALL BE REVIEWED AND ADJUSTED WITH OWNER SUPERVISION IN FIELD AFTER INSTALLATION AND PRIOR TO COMMISSIONING AS REQUIRED

L. COMMISSIONING SHALL BE PROVIDED IN ACCORDANCE WITH SCHOOL DISTRICT REQUIREMENTS AND THE ECC.

M. REFER TO LOW VOLTAGE DEVICE SCHEDULE FOR INITIAL PROGRAM SETTINGS AND SCENE SELECTION

N. ALL AUTOMATIC SENSING DEVICES SHALL BE SELF LEARNING TO MITIGATE NUISANCE TRIPPING

O. PROVIDE CLEANING AND MAINTAINENCE OVERRIDES PER THE REQUIREMENTS OF IECC. PROVIDE TWO HOUR OVERRIDE FOR KEYPAD DEVICES

SPECIFIC NOTES:

1. MOUNT PER MANUFACTURER RECOMMENDATIONS TO ENSURE PROPER PERFORMANCE.

WIRING SCHEDULE - COPPER

AMPS	(2WG) 1Ø, 2 WIRE, GROUND	(3WG) 1Ø, 3 WIRE, GROUND OR 3Ø, 3 WIRE, GROUND	(4WG) 3Ø, 4 WIRE, GROUND
20	(2#12 & 1#12 G) 3/4"C	(3#12 & 1#12 G) 3/4"C	(4#12 & 1#12 G) 3/4"C
30	(2#10 & 1#10 G) 3/4"C	(3#10 & 1#10 G) 3/4"C	(4#10 & 1#10 G) 3/4"C
40	(2#8 & 1#10 G) 3/4"C	(3#8 & 1#10 G) 3/4"C	(4#8 & 1#10 G) 3/4"C
50	(2#6 & 1#10 G) 3/4"C	(3#6 & 1#10 G) 3/4"C	(4#6 & 1#10 G) 1"C
60	(2#4 & 1#10 G) 3/4"C	(3#4 & 1#10 G) 1"C	(4#4 & 1#10 G) 1 1/4"C
70	(2#4 & 1#8 G) 3/4"C	(3#4 & 1#8 G) 1"C	(4#4 & 1#8 G) 1 1/4"C
80	(2#3 & 1#8 G) 1"C	(3#3 & 1#8 G) 1"C	(4#3 & 1#8 G) 1 1/4"C
90	(2#2 & 1#8 G) 1"C	(3#2 & 1#8 G) 1 1/4"C	(4#2 & 1#8 G) 1 1/4"C
100	(2#3 & 1#8 G) 1"C	(3#3 & 1#8 G) 1 1/4"C	(4#3 & 1#8 G) 1 1/4"C

CONDUCTOR SIZES ARE BASED ON 60° TERMINATIONS LESS THAN 100A AND 75° TERMINATIONS GREATER THAN OR EQUAL TO 100A, NEC TABLE 310.12(B)(16).

CONDUIT SIZES ARE BASED ON NEC TABLE 4 (EMT) AND TABLE 5 (THHN INSULATION).

KITCHEN EQUIPMENT SCHEDULE

MARK	DESCRIPTION	VOLT / PHASE	HP / WATTS	AMPS	CONNECTION HARDWIRED	CONNECTION RECEPTACLE	CONNECTION DISCONNECT	CONNECTION HEIGHT	FEEDER	CIRCUIT	SPECIFIC NOTES
K-5	DISPOSAL	208/1	2 HP	9	X	-	-	12"	20(3WG)	LANE-19,21	
K-6	HIGH TEMP DISH MACHINE	208/3	-	40	X	-	-	24"	40(3WG)	LANE-14,16,18	
K-8	BOOSTER HEATER	208/3	7000W	-	X	-	-	12"	20(3WG)	LANE-20,22,24	
K-24	EXHAUST HOOD TYPE 2	120/1	-	15	X	-	-	CLG	20(2WG)	K-1	
K-26	10 PAN STEAMER	120/1	-	5	X	-	-	24"	20(2WG)	K-3	
K-27	DOUBLE STACKED CONVECTION OVEN	120/1	-	20	-	5-20R	-	24", 48"	20(2WG)	K-5	
K-31	HEATED CABINET	120/1	-	20	X	-	-	24"	20(2WG)	K-7	
K-33	HEAT LAMPS	120/1	375W	-	X	-	-	CLG	20(2WG)	SEE PLANS	
K-41	ICE MACHINE WITH BIN	120/1	-	20	-	5-20R	-	60"	20(2WG)	LANE-33	
K-43	WALK IN COOLER	120/1	-	10	X	-	-	CLG	20(2WG)	LANE-35	
K-44	WALK IN COOLER EVAP COIL	120/1	-	3	X	-	-	CLG	20(2WG)	LANE-37	
K-45	WALK IN COOLER CONDENSER	208/3	-	12	X	-	-	-	20(3WG)	LANE-26,28,30	(1)
K-47	GLASS DOORS WITH INTEGRAL LED LIGHTING	120/1	-	3	X	-	-	CLG	20(2WG)	LANE-32	

GENERAL NOTES:

A. FIELD VERIFY ALL EQUIPMENT POWER AND CONNECTION REQUIREMENTS WITH KITCHEN CONTRACTOR AND MANUFACTURER'S INFORMATION.
B. HARD WIRED EQUIPMENT CONNECTIONS SHALL BE SEALTIGHT.
C. E.C. SHALL COORDINATE ALL CONNECTION POINT LOCATIONS AND RECEPTACLE CONFIGURATIONS WITH THE KITCHEN CONSULTANT. VERIFY EQUIPMENT DISCONNECT REQUIREMENTS PRIOR TO INSTALLATION.
D. ANY EQUIPMENT UNDER HOOD TIES INTO FIRE SUPPRESSION SYSTEM. PROVIDE SHUNT TRIP CIRCUIT BREAKER TO TURN EQUIPMENT OFF WHEN FIRE SUPPRESSION SYSTEM IS ACTIVATED.
E. PROVIDE ALL EQUIPMENT DISCONNECTS IN KITCHEN WITH NEMA 3R RATING.
F. COORDINATE CONTROLS WITH KITCHEN EQUIPMENT VENDOR.

SPECIFIC NOTES:

(1) WALK IN COOLER CONDESER LOCATED ON ROOF. COORDINATE EXACT LOCATION WITH KITCHEN CONSULTANT.
(2)
(3)
(4)

SHORT CIRCUIT / VOLTAGE DROP CALCULATION SUMMARY

POINT	TAG	VOLTAGE / PHASE	LENGTH (FT)	COPPER / ALUMINUM	CONDUIT	WIRE SIZE	# OF SETS	FEEDER VOLTAGE DROP (%)	TOTAL VOLTAGE DROP (%)	Isc AVAILABLE UPSTREAM	Isc (FAULT)
F1	(E) MSB	480V, 3Ø	210	C	N	400	5	0.7%	0.7%	15,707	14,305
F2	(E) HDSW	480V, 3Ø	265	C	S	2X	1	1.3%	2.0%	14,305	6,297
F3	(N) DISC LDSW2	480V, 3Ø	80	C	S	10	1	0.6%	2.6%	6,297	2,207
F4	(N) PRI-LDSW2	480V, 3Ø	5	C	S	10	1	0.0%	2.7%	2,207	2,121
F5	(N) SEC-LDSW2	208V, 3Ø						0.0%	0.0%	1,773	1,773
F6	(N) PANEL LDSW2	208V, 3Ø	5	C	S	4	1	0.1%	0.1%	1,773	1,739
F7	(E) HCSE	480V, 3Ø	265	C	S	3X	1	1.2%	1.9%	14,305	6,927
F8	(N) DISC LCSE2	480V, 3Ø	80	C	S	10	1	0.6%	2.5%	6,927	2,280
F9	(N) PRI-LCSE2	480V, 3Ø	5	C	S	10	1	0.0%	2.6%	2,280	2,188
F10	(N) SEC-LCSE2	208V, 3Ø						0.0%	0.0%	1,792	1,792
F11	(N) PANEL LCSE2	208V, 3Ø	5	C	S	4	1	0.1%	0.1%	1,792	1,758
F12	(E) HBSW2	480V, 3Ø	15	C	S	300	3	0.1%	0.7%	14,305	14,105
F13	(E) HANE2	480V, 3Ø	120	C	S	3X	2	0.6%	1.3%	14,105	11,395
F14	(E) PRI-LANE2	480V, 3Ø	5	C	S	1	1	0.0%	1.3%	11,395	11,083
F15	(E) SEC-LANE2	208V, 3Ø						0.0%	0.0%	9,004	9,004
F16	(E) LANE2	208V, 3Ø	5	C	S	250	1	0.0%	0.0%	9,004	8,804
F17	(N) PANEL K	208V, 1Ø	5	C	S	6	1	0.1%	0.1%	8,804	7,496

** PER THE UTILITY, THE MAXIMUM AVAILABLE (SYMMETRICAL) FAULT AT THE SECONDARY SIDE OF THE SERVICE TRANSFORMER IS 15,707 AMPS, ASSUMING A 750 KVA TRANSFORMER. SHORT CIRCUIT CALCULATIONS ARE FURNISHED FOR ALL FAULT LEVELS ABOVE 10,000 AMPS @ 208 VOLT (14,000 AT 480 VOLT). ANY FAULT CURRENT BELOW THIS LEVEL IS CONSIDERED SAFE FOR THE ELECTRICAL SYSTEM TO CLEAR OR EQUIPMENT IS BUILT TO WITHSTAND THIS LEVEL OF FAULT SAFELY.

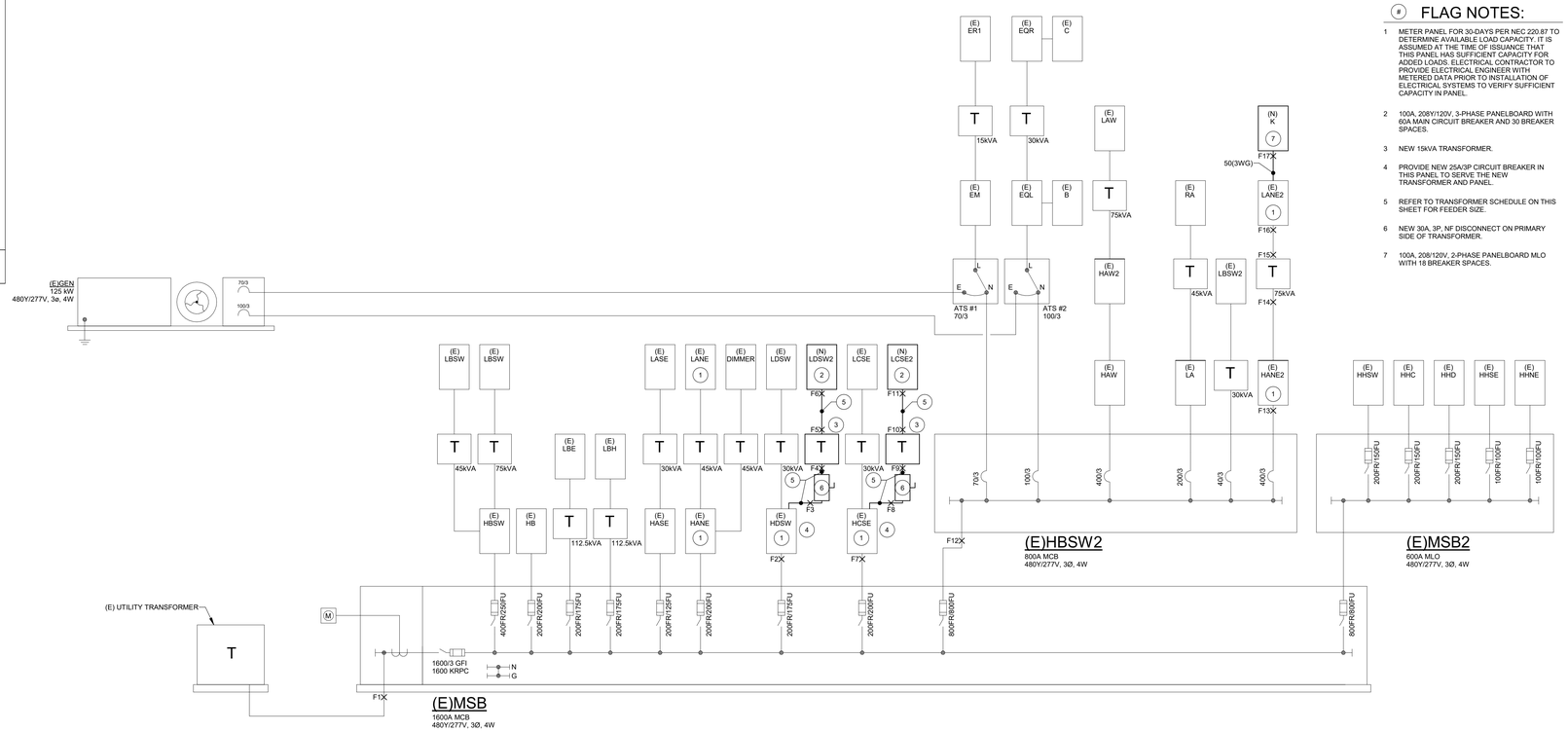
TRANSFORMER SCHEDULE

SIZE (KVA)	PRIMARY (480V, 3Ø, 3W) FLA	PRIMARY OCPD	PRIMARY FEEDER	SECONDARY (208V, 3Ø, 4W) FLA	SECONDARY OCPD	SECONDARY FEEDER COPPER	SECONDARY FEEDER ALUMINUM	GROUNDING ELECTRODE CONDUCTOR	DIMENSIONS (IN.) HEIGHT	DIMENSIONS (IN.) WIDTH	DIMENSIONS (IN.) DEPTH	HEAT LOSS (W)	WEIGHT (LBS.)
15	18	25A3P	3(0)WG	42	60A3P	(4#4 & 1#8G) 1-1/4"C	(4#4 & 1#6 G) 1-1/4"C	1-#8	27	20.5	17.25	567	250

GENERAL NOTES:
A. PRIMARY OVERCURRENT PROTECTION PER N.E.C. TABLE 450.3(B).
B. SECONDARY OVERCURRENT PROTECTION PER N.E.C. TABLE 450.3(B).
C. BONDING AND GROUNDING CONDUCTOR PER N.E.C. TABLE 250.66.
D. GROUNDING ELECTRODE CONDUCTORS ARE SIZED BASED ON COPPER CONDUCTORS.
E. SEE PLANS FOR INCREASED CONDUCTOR SIZES DUE TO VOLTAGE DROP.
F. CONDUIT SIZES ARE BASED ON NEC TABLE 4 (EMT) AND TABLE 5 (THWN INSULATION).
G. DIMENSIONS AND WEIGHT FOR 19KVA TRANSFORMERS AND LARGER ARE BASED ON SQUARE D 2016 DOE ENERGY EFFICIENT TYPE, 150 DEGREE C RISE, WITH COPPER WINDINGS.

MECHANICAL EQUIPMENT SCHEDULE

UNIT	MARK	ELECTRICAL INFORMATION VOLTAGE	POLES	HP	FLA	MCA	MOCP	STARTER	DISCONNECT	FEEDER	NOTES
EF	1										
KEF	1	120 V	1	3/4	13.8	-	20A	-	1P MOTOR RATED SWITCH	20(2WG)	-
KEF	2	120 V	1	1/4	5.8	-	20A	-	1P MOTOR RATED SWITCH	20(2WG)	-
VAV	01	120 V	1	-	-	-	20A	-	1P MOTOR RATED SWITCH	20(2WG)	-
VAV	02	120 V	1	-	-	-	20A	-	1P MOTOR RATED SWITCH	20(2WG)	-
VAV	03	120 V	1	-	-	-	20A	-	1P MOTOR RATED SWITCH	20(2WG)	-
VAV	04	120 V	1	-	-	-	20A	-	1P MOTOR RATED SWITCH	20(2WG)	-



1 ELECTRICAL ONE-LINE DIAGRAM
SCALE: NONE

FLAG NOTES:

1 METER PANEL FOR 30-DAYS PER NEC 220.87 TO DETERMINE AVAILABLE LOAD CAPACITY. IT IS ASSUMED AT THE TIME OF ISSUANCE THAT THIS PANEL HAS SUFFICIENT CAPACITY FOR ADDED LOADS. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL ENGINEER WITH METERED DATA PRIOR TO INSTALLATION OF ELECTRICAL SYSTEMS TO VERIFY SUFFICIENT CAPACITY IN PANEL.

2 100A, 208Y/120V, 3-PHASE PANELBOARD WITH 60A MAIN CIRCUIT BREAKER AND 30 BREAKER SPACES.

3 NEW 15kVA TRANSFORMER.

4 PROVIDE NEW 25A/3P CIRCUIT BREAKER IN THIS PANEL TO SERVE THE NEW TRANSFORMER AND PANEL.

5 REFER TO TRANSFORMER SCHEDULE ON THIS SHEET FOR FEEDER SIZE.

6 NEW 30A, 3P, NF DISCONNECT ON PRIMARY SIDE OF TRANSFORMER.

7 100A, 208/120V, 2-PHASE PANELBOARD MLO WITH 18 BREAKER SPACES.

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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
ELECTRICAL SCHEDULES

Project No:
10183.00

Sheet No:
E0.1

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PANEL:	(E) LANE 2
LOCATION:	STORAGE A108
MOUNTING:	SURFACE

VOLTAGE:	120/208V, 3PH, 4W
MINIMUM BUS:	250
MAIN:	250/3 CB
MINIMUM AIC:	EXISTING

NO.	LOAD A	LOAD B	LOAD C	TYPE	LOAD DESCRIPTION	BREAKER POLE	BREAKER TRIP	BUS A	BUS B	BUS C	BREAKER TRIP	BREAKER POLE	TYPE	LOAD DESCRIPTION	LOAD A	LOAD B	LOAD C	NO.
1				E	(E) LOAD	3	40	+			40	3	E	(E) LOAD				2
3				E	-	-	-		+		-	-	E	-				4
5				E	-	-	20			+	-	-	E	-				6
7				E	(E) LOAD	1	20	+			20	1	E	(E) LOAD				8
9				E	(E) LOAD	1	20		+		20	1	E	(E) LOAD				10
11				E	(E) LOAD	1	20			+	20	1	E	(E) LOAD				12
13				E	(E) LOAD	1	20	+			20	1	E	(E) LOAD				14
15				E	(E) LOAD	1	20		+		20	1	E	(E) LOAD				16
17				E	(E) LOAD	2	20			+	20	1	E	(E) LOAD				18
19				E	(E) LOAD	-	-	+			50	2	S	**(2) PANEL 'K'**	3120			20
21				E	-	2	60		+		-	-	S	-		3120		22
23				E	(E) LOAD	-	-			+	-	-		**SHUNT TRIP**			-	24
25				E	-	2	30	+			20	3	E	(E) LOAD				26
27				E	(E) LOAD	-	-		+		-	-	E	-				28
29				E	-	-	-			+	-	-	E	-				30
31	540			R	**(1) KITCH RCPT**	1	20	+			20	1	E	**CAFETERIA TV'S**	1000			32
33		180		R	**(1) KITCH POS**	1	20		+		20	3	E	**GARAGE DOORS**		1000		34
35			990	R	**(1) CAFETERIA RCPT**	1	20			+	-	-	E	-			1000	36
37	720			R	**(1) CAFETERIA RCPT**	1	20	+			-	-	E	-	1000			38
39				E	(E) LOAD	1	20		+		20	1	E	(E) LOAD				40
41				E	(E) LOAD	1	20			+	20	1	E	(E) LOAD				42

LOAD TYPE	PANEL TOTAL	FEED THRU TOTAL	SUBFEED TOTAL	FEEDER SUBTOTAL	DEMAND	FEEDER TOTAL
(L) LIGHTING	0			0	125%	0
(R) RECEPTACLES	2250			2250	NEC 220	2250
(LM) LARGEST MOTOR	0			0	25%	0
(M) MOTORS (ALL)	0			0	100%	0
(E) EQUIPMENT	4180		6240	10420	100%	10420
(A) APPLIANCES	0			0	0	0
				PANEL TOTAL (KVA):		**12.7**
				PANEL TOTAL (A):		**35**

GENERAL NOTES:

A.	
B.	
C.	
D.	
E.	

SPECIFIC NOTES:

(1)	NEW LOAD ON NEW BREAKER.
(2)	NEW LOAD ON NEW SHUNT TRIP BREAKER.
(3)	
(4)	
(5)	

PANEL:	(E) LANE
LOCATION:	PLATFORM A107
MOUNTING:	SURFACE

VOLTAGE:	120/208V, 3PH, 4W
MINIMUM BUS:	225
MAIN:	175/3 CB
MINIMUM AIC:	EXISTING

NO.	LOAD A	LOAD B	LOAD C	TYPE	LOAD DESCRIPTION	BREAKER POLE	BREAKER TRIP	BUS A	BUS B	BUS C	BREAKER TRIP	BREAKER POLE	TYPE	LOAD DESCRIPTION	LOAD A	LOAD B	LOAD C	NO.
1					EXISTING LOAD	1	20	+			20	1		EXISTING LOAD				2
3					EXISTING LOAD	1	20		+		20	1		EXISTING LOAD				4
5					EXISTING LOAD	1	20			+	20	1		EXISTING LOAD				6
7					EXISTING LOAD	1	20	+			20	1		EXISTING LOAD				8
9					EXISTING LOAD	1	20		+		20	1		EXISTING LOAD				10
11					EXISTING LOAD	1	20			+	20	1		EXISTING LOAD				12
13	750			E	**(1) HEAT LAMP**	1	20	+			50	3	E	**(1) DISH MACHINE**	8320			14
15					EXISTING LOAD	1	20		+		-	-	E	-		8320		16
17					EXISTING LOAD	1	20			+	-	-	E	-			8320	18
19	936			E	**(1) DISPOSAL**	2	20	+			30	3	E	**(1) BOOSTER HEATER**	2333			20
21		936		E	-	-	-		+		-	-	E	-		2333		22
23					EXISTING LOAD	1	20			+	-	-	E	-			2333	24
25	500			E	**GARAGE DOORS**	3	20	+			30	3	E	**(1) WALK IN CONDENS**	2496			26
27		500		E	-	-	-		+		-	-	E	-		2496		28
29			500	E	-	-	-			+	-	-	E	-			2496	30
31	540				**(1) KITCH RCPT**	1	20	+			20	1	E	**(1) KITCHEN DOOR LTG**	1440			32
33		1926		E	**(1) ICE MACHINE**	2	20		+		20	1	E	**(1) HEAT LAMP**		1125		34
35			1200	E	**(1) WALK IN COOLER**	1	20			+	20	1	E	**(1) HEAT LAMP**			750	36
37	360			E	**(1) WALK IN EVAP COIL**	1	20	+			20	1		**SPARE**				38
39		180		R	**(1) KITCH RCPT**	1	20		+		20	1	E	**(1) PROJ AND SCREEN**	727			40
41			360	R	**(1) KITCH RCPT**	1	20			+	20	1	E	**(1) DOOR HOLD**			360	42

LOAD TYPE	PANEL TOTAL	FEED THRU TOTAL	SUBFEED TOTAL	FEEDER SUBTOTAL	DEMAND	FEEDER TOTAL
(L) LIGHTING	0			0	125%	0
(R) RECEPTACLES	540			540	NEC 220	540
(LM) LARGEST MOTOR	0			0	25%	0
(M) MOTORS (ALL)	0			0	100%	0
(E) EQUIPMENT	51451			51451	100%	51451
(A) APPLIANCES	0			0	0	0
				PANEL TOTAL (KVA):		**52.0**
				PANEL TOTAL (A):		**144**

GENERAL NOTES:

A.	
B.	
C.	
D.	
E.	

SPECIFIC NOTES:

(1)	NEW LOAD ON NEW BREAKER.
(2)	NEW LOAD ON SHUNT TRIP BREAKER
(3)	
(4)	
(5)	

PANEL:	(NEW) K
LOCATION:	STORAGE A108
MOUNTING:	SURFACE

VOLTAGE:	120/208V, 1PH, 3W
MINIMUM BUS:	100
MAIN:	50/2 CB
MINIMUM AIC:	10,000

NO.	LOAD A	LOAD B	TYPE	LOAD DESCRIPTION	BREAKER POLE	BREAKER TRIP	BUS A	BUS B	BREAKER TRIP	BREAKER POLE	TYPE	LOAD DESCRIPTION	LOAD A	LOAD B	NO.
1	1440		E	EXHAUST HOOD	1	20	+					SPACE			2
3		600	E	PAN STEAMER	1	20		+				SPACE			4
5	1920		E	CONVECTION OVEN	1	20	+					SPACE			6
7		1920	E	HEATED CABINET	1	20		+				SPACE			8
9	1500		R	KITCHEN RCPT	1	20	+					SPACE			10
11		180	R	KITCHEN RCPT	1	20		+				SPACE			12
13				SPARE	1	20	+					SPACE			14
15				SPARE	1	20		+				SPACE			16
17				SPARE	1	20	+					SPACE			18

LOAD TYPE	PANEL TOTAL	FEED THRU TOTAL	SUBFEED TOTAL	FEEDER SUBTOTAL	DEMAND	FEEDER TOTAL
(L) LIGHTING	0			0	125%	0
(R) RECEPTACLES	360			360	NEC 220	360
(LM) LRG. MOTOR	0			0	25%	0
(M) MOTORS (ALL)	0			0	100%	0
(E) EQUIPMENT	5880			5880	100%	5880
(A) APPLIANCES	0			0	0	0
				PANEL TOTAL (KVA):		**6.2**
				PANEL TOTAL (A):		**30**

GENERAL NOTES:

A.	
B.	
C.	
D.	
E.	

SPECIFIC NOTES:

(1)	
(2)	
(3)	
(4)	
(5)	

Branch Panel: LCSE2

Location: SOUTHEAST IT ROOM
Supply From: XFMR-LCSE2
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Bus Rating 100A
MLO or MCB: MCB
MCB Rating: 60 A

NO.	LOAD DESCRIPTION	TYPE	POLE	TRIP	A	B	C	TRIP	POLE	TYPE	LOAD DESCRIPTION	NO.
1	CEILING RCPT	R	1	20 A	360	360		20 A	1	R	CEILING RCPT	2
3	SHUNT TRIP	--	--	--			0	--	--	--	SHUNT TRIP	4
5	CEILING RCPT	R	1	20 A				360	360	20 A	1 R CEILING RCPT	6
7	SHUNT TRIP	--	--	--	0	0		--	--	--	SHUNT TRIP	8
9	CEILING RCPT	R	1	20 A			540	540		20 A	1 R CEILING RCPT	10
11	SHUNT TRIP	--	--	--				0	0	--	-- -- SHUNT TRIP	12
13	CEILING RCPT	R	1	20 A	360	0				20 A	1 -- Spare	14
15	SHUNT TRIP	--	--	--			0	0		--	-- -- Spare	16
17	CEILING RCPT	R	1	20 A				360	0	20 A	1 -- Spare	18
19	SHUNT TRIP	--	--	--	0	0				--	-- -- Space	20
21	CEILING RCPT	R	1	20 A			540	0		--	-- -- Space	22
23	SHUNT TRIP	--	--	--				0	0	--	-- -- Space	24
25	Space	--	--	--	0	0				--	-- -- Space	26
27	Space	--	--	--			0	0		--	-- -- Space	28
29	Space	--	--	--				0	0	--	-- -- Space	30
					A			**B**			**C**	
				Total Load:	1080 VA			1620 VA			1080 VA	
				Total Amps:	9 A			14 A			9 A	

LOAD CLASSIFICATION	FEEDER SUBTOTAL	DEMAND FACTOR	FEEDER TOTAL
Lighting	0 VA	125%	0 VA
Receptacles	3780 VA	Per Nec 220	3780 VA
Motors	0 VA	Per NEC 430.24	0 VA
Equipment	0 VA	100%	0 VA
Appliances	0 VA	Per NEC 220.56	0 VA

PANEL TOTALS	
TOTAL LOAD:	3.8 kVA
TOTAL CURRENT:	10 A

Notes:

Branch Panel: LDSW2

Location: SOUTHWEST IT...
Supply From: XFMR-LDSW2
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Bus Rating 100A
MLO or MCB: MCB
MCB Rating: 60 A

NO.	LOAD DESCRIPTION	TYPE	POLE	TRIP	A	B	C	TRIP	POLE	TYPE	LOAD DESCRIPTION	NO.
1	CEILING RCPT	R	1	20 A	360	360		20 A	1	R	CEILING RCPT	2
3	SHUNT TRIP	--	--	--			0	--	--	--	SHUNT TRIP	4
5	CEILING RCPT	R	1	20 A				360	360	20 A	1 R CEILING RCPT	6
7	SHUNT TRIP	--	--	--	0	0		--	--	--	SHUNT TRIP	8
9	CEILING RCPT	R	1	20 A			540	540		20 A	1 R CEILING RCPT	10
11	SHUNT TRIP	--	--	--				0	0	--	-- -- SHUNT TRIP	12
13	CEILING RCPT	R	1	20 A	360	0				20 A	1 -- Spare	14
15	SHUNT TRIP	--	--	--			0	0		--	-- -- Spare	16
17	CEILING RCPT	R	1	20 A				360	0	20 A	1 -- Spare	18
19	SHUNT TRIP	--	--	--	0	0				--	-- -- Space	20
21	CEILING RCPT	R	1	20 A			540	0		--	-- -- Space	22
23	SHUNT TRIP	--	--	--				0	0	--	-- -- Space	24
25	Space	--	--	--	0	0				--	-- -- Space	26
27	Space	--	--	--			0	0		--	-- -- Space	28
29	Space	--	--	--				0	0	--	-- -- Space	30
					A			**B**			**C**	
				Total Load:	1080 VA			1620 VA			1080 VA	
				Total Amps:	9 A			14 A			9 A	

LOAD CLASSIFICATION	FEEDER SUBTOTAL	DEMAND FACTOR	FEEDER TOTAL
Lighting	0 VA	125%	0 VA
Receptacles	3780 VA	Per Nec 220	3780 VA
Motors	0 VA	Per NEC 430.24	0 VA
Equipment	0 VA	100%	0 VA
Appliances	0 VA	Per NEC 220.56	0 VA

PANEL TOTALS	
TOTAL LOAD:	3.8 kVA
TOTAL CURRENT:	10 A

Notes:

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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
ELECTRICAL SCHEDULES

Project No:
10183.00

Sheet No:
E0.2

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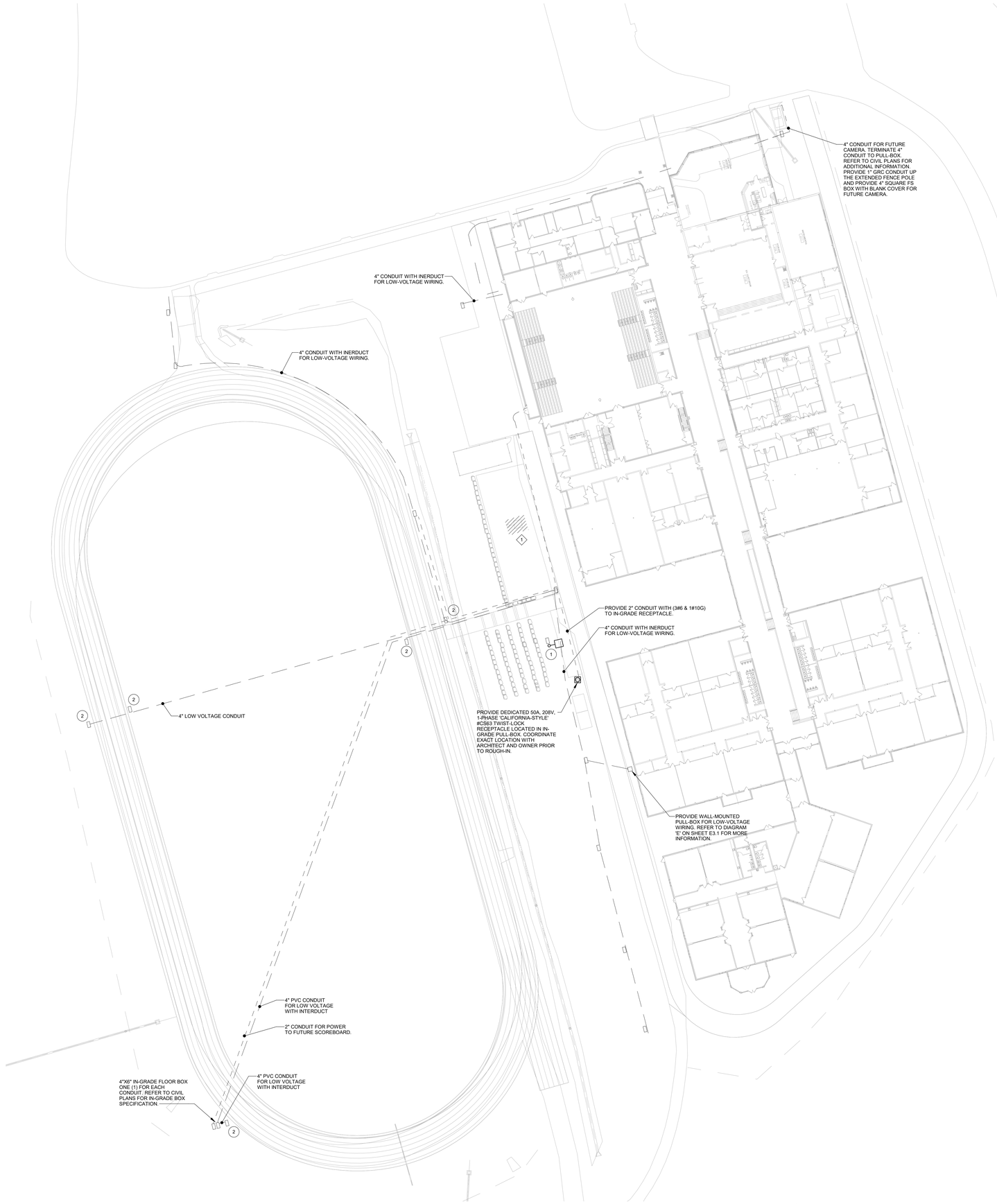

1 ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

NOTES:

1. REFER TO CIVIL PLANS FOR ADDITIONAL INFORMATION AND IN GRADE PULL BOX SPECIFICATION.

⟨#⟩ DEMO NOTES

1 REMOVE AND SALVAGE EXISTING LIGHT POLE FOR RELOCATION.

(#) FLAG NOTES:

1 RELOCATED EXISTING LIGHT POLE. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.

2 PROVIDE LINE ITEM PRICING FOR CAT6 CABLE TO PULL BOX.

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Revisions:		
No	Description	Date

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04.06.2020
PERMIT SET

Sheet Title:
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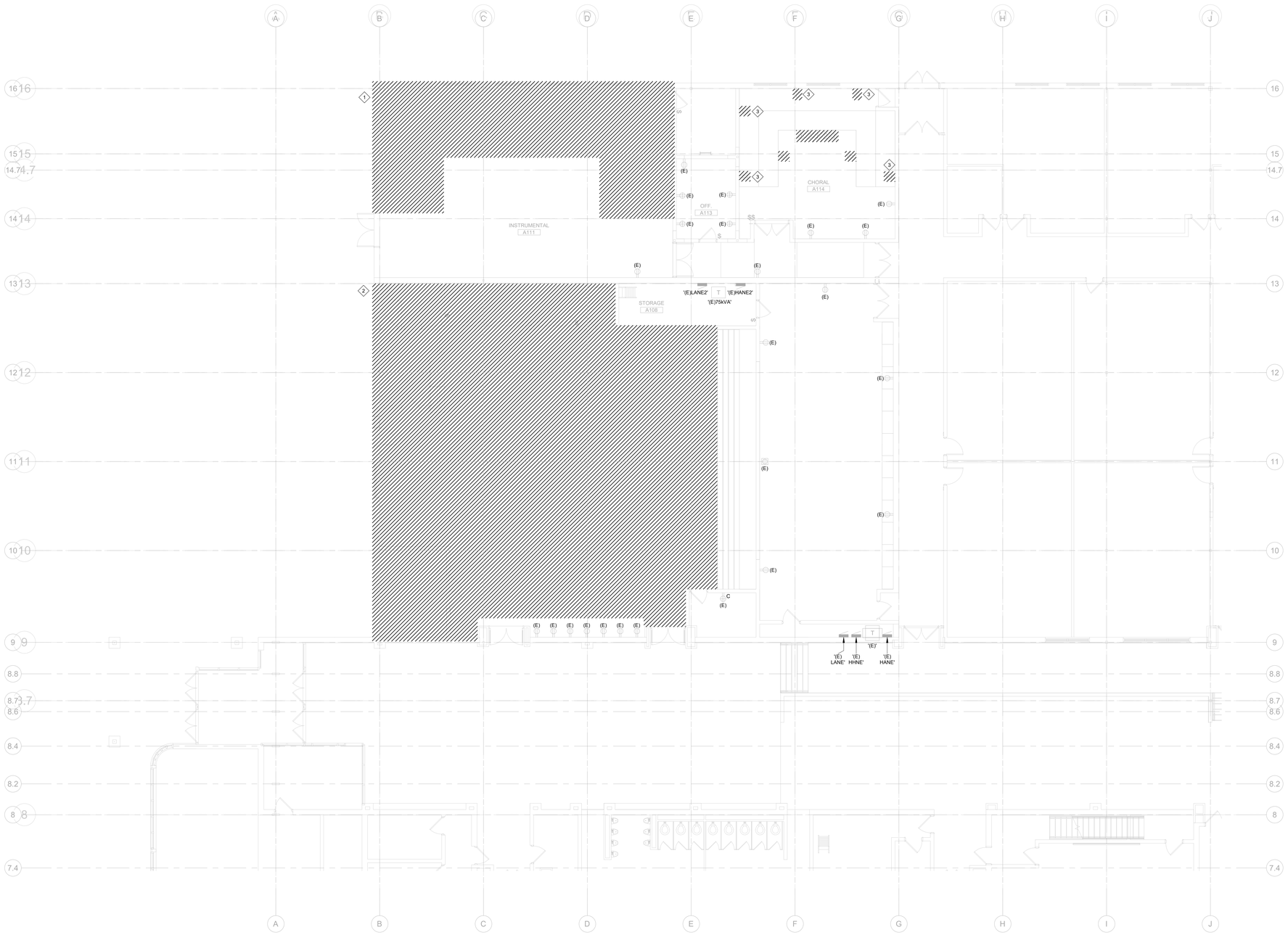
E1.0



1 FIRST LEVEL AREA A DEMO ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

NOTES:

1. DEMOLITION PLAN INDICATES A DESIRED SCOPE OF WORK; THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IN FIELD PRIOR TO START OF WORK.
2. CONDITIONS MAY EXIST WHERE (E) CABLING AND/OR EQUIPMENT IS INSTALLED WITHIN AN AREA OF DEMOLITION THAT IS INTENDED TO REMAIN IN ORDER TO KEEP SYSTEMS OUTSIDE OF THE AREA OF DEMOLITION IN OPERABLE CONDITION. CONTRACTOR SHALL PROVIDE APPROPRIATE PROTECTION AND EXERCISE CARE WHEN PERFROMING DEMOLITION AROUND SUCH CABLING AND EQUIPMENT.
3. ALL SYSTEMS LOCATED OUTSIDE THE AREA OF DEMOLITION ARE INTENDED TO REMAIN OPERABLE.
4. FOR ALL ITEMS TO BE DEMOLISHED REMOVE CIRCUIT BACK TO POINT OF CONNECTION. MAKE BRANCH CIRCUIT WITH REMAINING DEVICES CONTINUOUS.
5. ELECTRICAL CONTRACTOR SHALL REMOVE ALL DEMOLISHED ITEMS FROM SITE UNLESS OWNER WISHES TO RETAIN. ITEMS REMOVED FROM SITE SHALL BE DISPOSED OF IN A LEGAL MANNER.
6. EVERY ATTEMPT WAS MADE TO LOCATE ALL ITEMS TO BE INCLUDED IN THE DEMOLITION SCOPE IN THIS OCCUPIED SPACE. ELECTRICAL CONTRACTOR SHALL PROVIDE A REASONABLE ALLOWANCE TO INCLUDE THE REMOVAL OF ITEMS NOT INDICATED ON THE ELECTRICAL DEMOLITION PLAN.

DEMO NOTES

1 DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL DEVICES IN EXISTING RISERS.

2 DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL FIXTURES AND EQUIPMENT.

3 DISCONNECT AND REMOVE RECEPTACLE. STORE AND PROTECT TO BE RELOCATED IN SAME LOCATION AT 18" AFF.

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

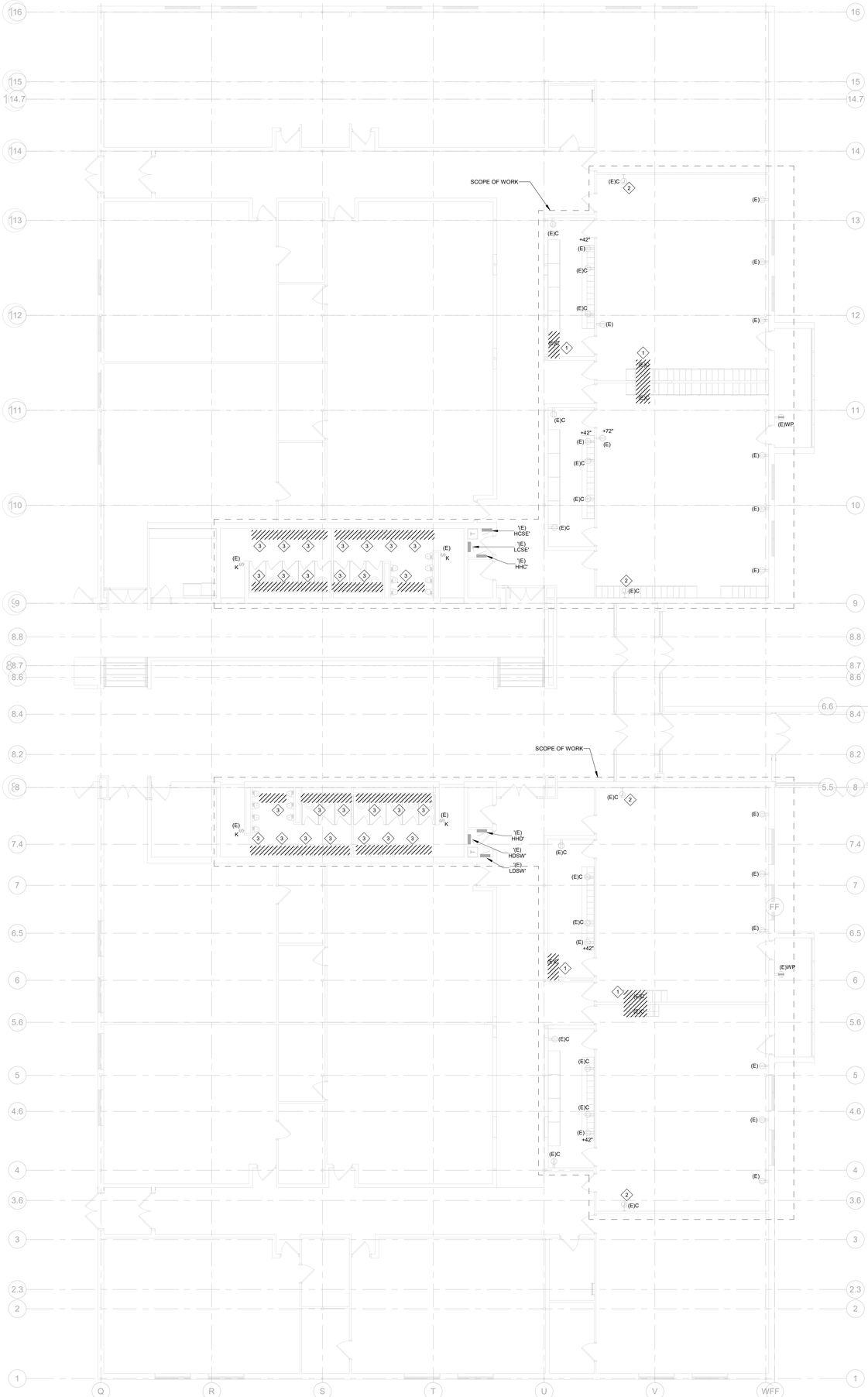
Sheet Title:
FIRST LEVEL AREA A DEMO ELEC PLAN

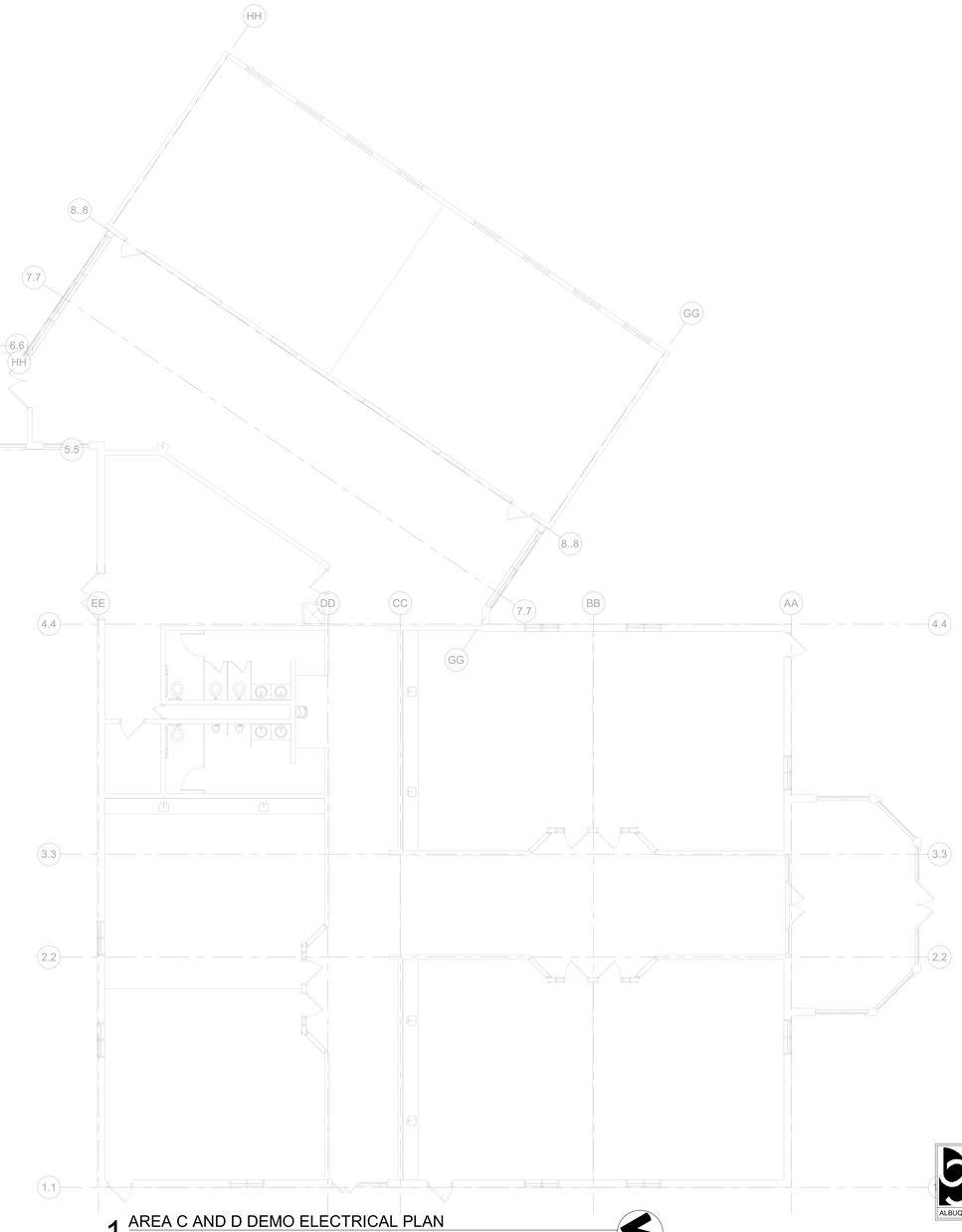
KEY PLAN

Project No:
10183.00

Sheet No:
ED2.1

BG BUILDINGWORKS
systems fulfilled
303.278.3820 www.bgbuildingworks.com
Project No. 10183.00





1 AREA C AND D DEMO ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

NOTES:

1. DEMOLITION PLAN INDICATES A DESIRED SCOPE OF WORK; THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IN FIELD PRIOR TO START OF WORK.
2. CONDITIONS MAY EXIST WHERE (E) CABLING AND/OR EQUIPMENT IS INSTALLED WITHIN AN AREA OF DEMOLITION THAT IS INTENDED TO REMAIN IN ORDER TO KEEP SYSTEMS OUTSIDE OF THE AREA OF DEMOLITION IN OPERABLE CONDITION. CONTRACTOR SHALL PROVIDE APPROPRIATE PROTECTION AND EXERCISE CARE WHEN PERFROMING DEMOLITION AROUND SUCH CABLING AND EQUIPMENT.
3. ALL SYSTEMS LOCATED OUTSIDE THE AREA OF DEMOLITION ARE INTENDED TO REMAIN OPERABLE.
4. FOR ALL ITEMS TO BE DEMOLISHED REMOVE CIRCUIT BACK TO POINT OF CONNECTION. MAKE BRANCH CIRCUIT WITH REMAINING DEVICES CONTINUOUS.
5. ELECTRICAL CONTRACTOR SHALL REMOVE ALL DEMOLISHED ITEMS FROM SITE UNLESS OWNER WISHES TO RETAIN. ITEMS REMOVED FROM SITE SHALL BE DISPOSED OF IN A LEGAL MANNER.
6. EVERY ATTEMPT WAS MADE TO LOCATE ALL ITEMS TO BE INCLUDED IN THE DEMOLITION SCOPE IN THIS OCCUPIED SPACE. ELECTRICAL CONTRACTOR SHALL PROVIDE A REASONABLE ALLOWANCE TO INCLUDE THE REMOVAL OF ITEMS NOT INDICATED ON THE ELECTRICAL DEMOLITION PLAN.

DEMO NOTES

1 DEMO EXISTING RECEPTACLE.

2 SALVAGE EXISTING PLUGMOLD ROUTED ALONG THIS WALL FOR REUSE.

3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE. EXISTING CIRCUIT TO BE REUSED FOR NEW LIGHT FIXTURE.

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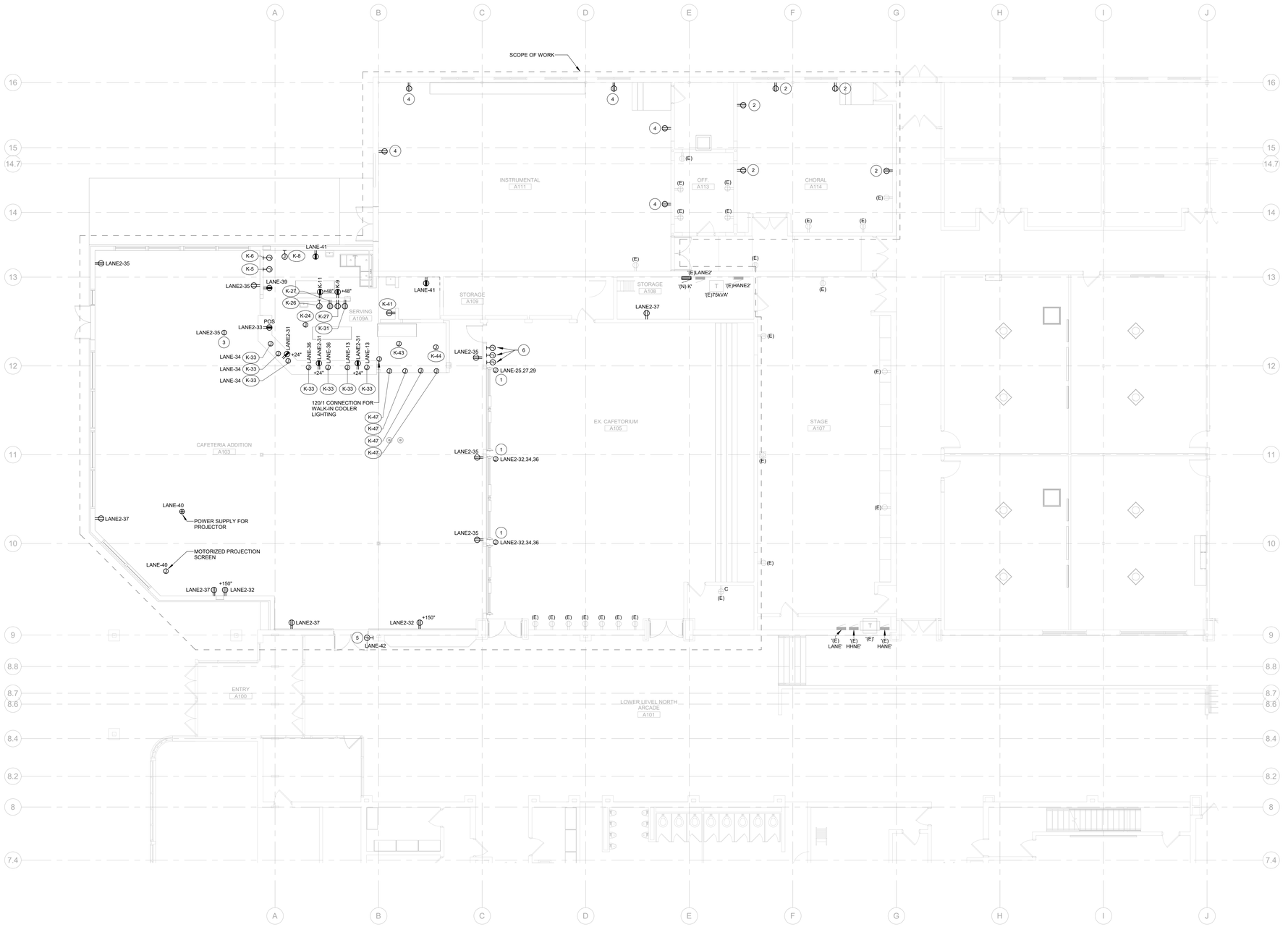
Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
AREA C AND D DEMO ELECTRICAL PLAN

Project No:
10183.00

Sheet No:
ED2.2



1 FIRST LEVEL AREA A ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

NOTES:

1. REFER TO ARCHITECTURAL PLANS AND INTERIOR ELEVATIONS FOR FINAL RECEPTACLE AND DEVICE PLACEMENT. COORDINATE ALL RECEPTACLE MOUNTING LOCATIONS WITH FIXTURES, APPLIANCES, FURNITURE, CABINETRY, AND OTHER EQUIPMENT PRIOR TO ROUGH-IN.
2. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR CIRCUIT, DISCONNECT, AND CONDUCTORS FOR MECHANICAL EQUIPMENT.
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATING THE LOCATION OF ELECTRICAL EQUIPMENT, JUNCTION BOXES, DISCONNECTS, ETC. EC SHALL BE RESPONSIBLE FOR COORDINATION AND THE ROUTING OF FEEDERS, AND BRANCH CIRCUITS.
4. COORDINATE POWER CONNECTIONS FOR OWNER PROVIDED EQUIPMENT AND APPLIANCES, AND ALL OTHER EQUIPMENT PROVIDED BY OTHER DIVISIONS WITH SUBMITTAL DATA CUT SHEETS, WIRING DIAGRAMS, AND MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. FIELD COORDINATE FINAL LOCATIONS OF EQUIPMENT AND POWER CONNECTIONS WITH GENERAL CONTRACTOR AND OTHER DIVISIONS/CONTRACTORS PRIOR TO ROUGH-IN.

(#) FLAG NOTES:

1 PROVIDE 3#12, 1#12 G, 3/4"C TO NEW OVERHEAD GARAGE DOORS.

2 NEW LOCATION, AT 18" AFF, FOR STORED RECEPTACLE. REUSE EXISTING POWER CIRCUIT.

3 PROVIDE SIMPLEX RECEPTACLE FOR HUBBELL #ACA12345-DR20 PULL-DOWN RECEPTACLE OR EQUIVALENT. COORDINATE EXACT LOCATION OF RECEPTACLE WITH ARCHITECT PRIOR TO ROUGH-IN.

4 RESUSE EXISTING POWER CIRCUIT FOR NEW RECEPTACLE.

5 PROVIDE (2#12, 1#12G) 3/4"C TO JUNCTION BOX FOR MAGNETIC DOOR HOLD.

6 PROVIDE 1" CONDUIT WITH PULL STRING FROM GARAGE DOOR MOTOR. COORDINATE CONTROL WITH REVIEWED MANUFACTURER SUBMITTAL BEFORE INSTALLATION.

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Revisions:

No	Description	Date

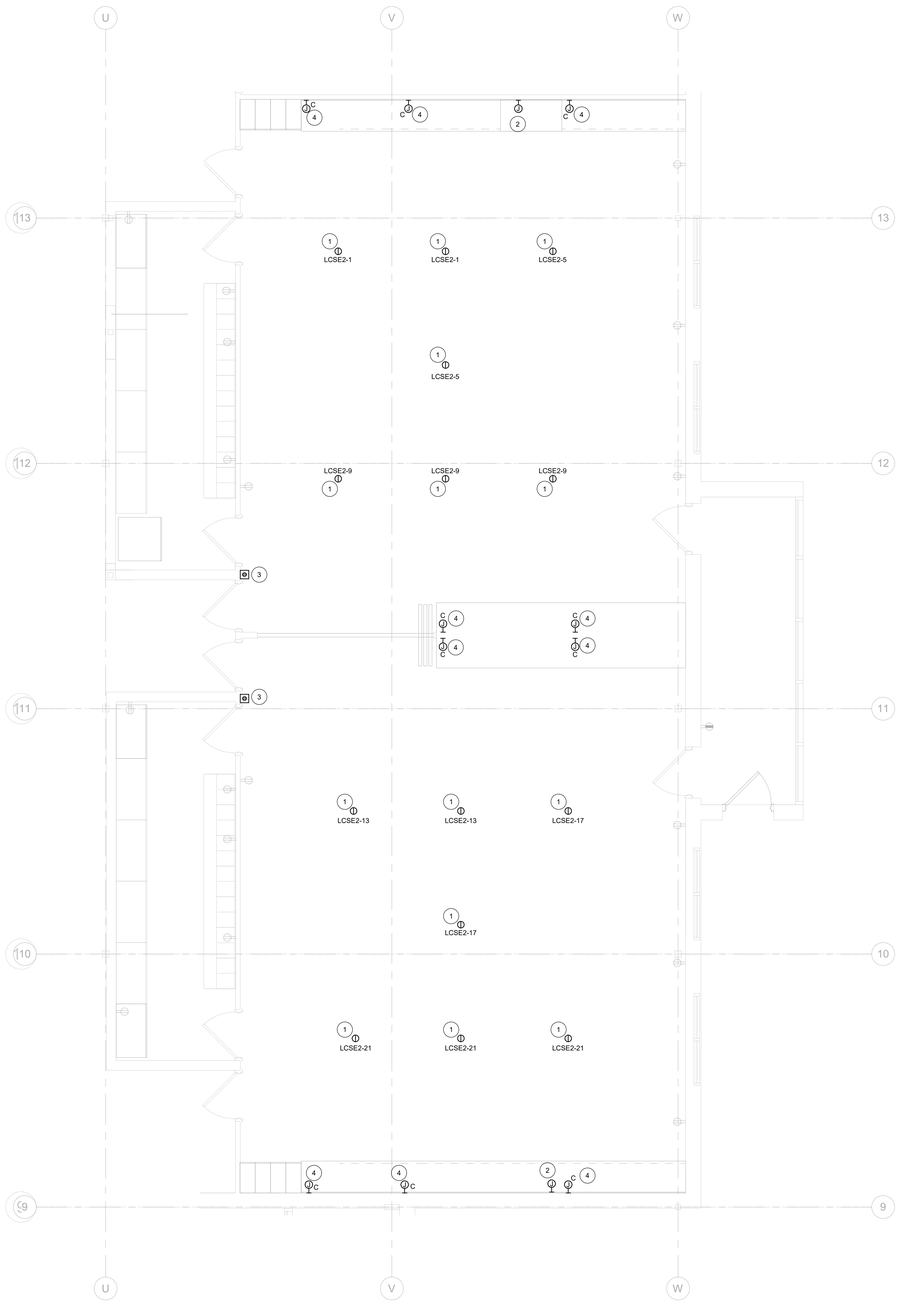
Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A ELEC PLAN

KEY PLAN

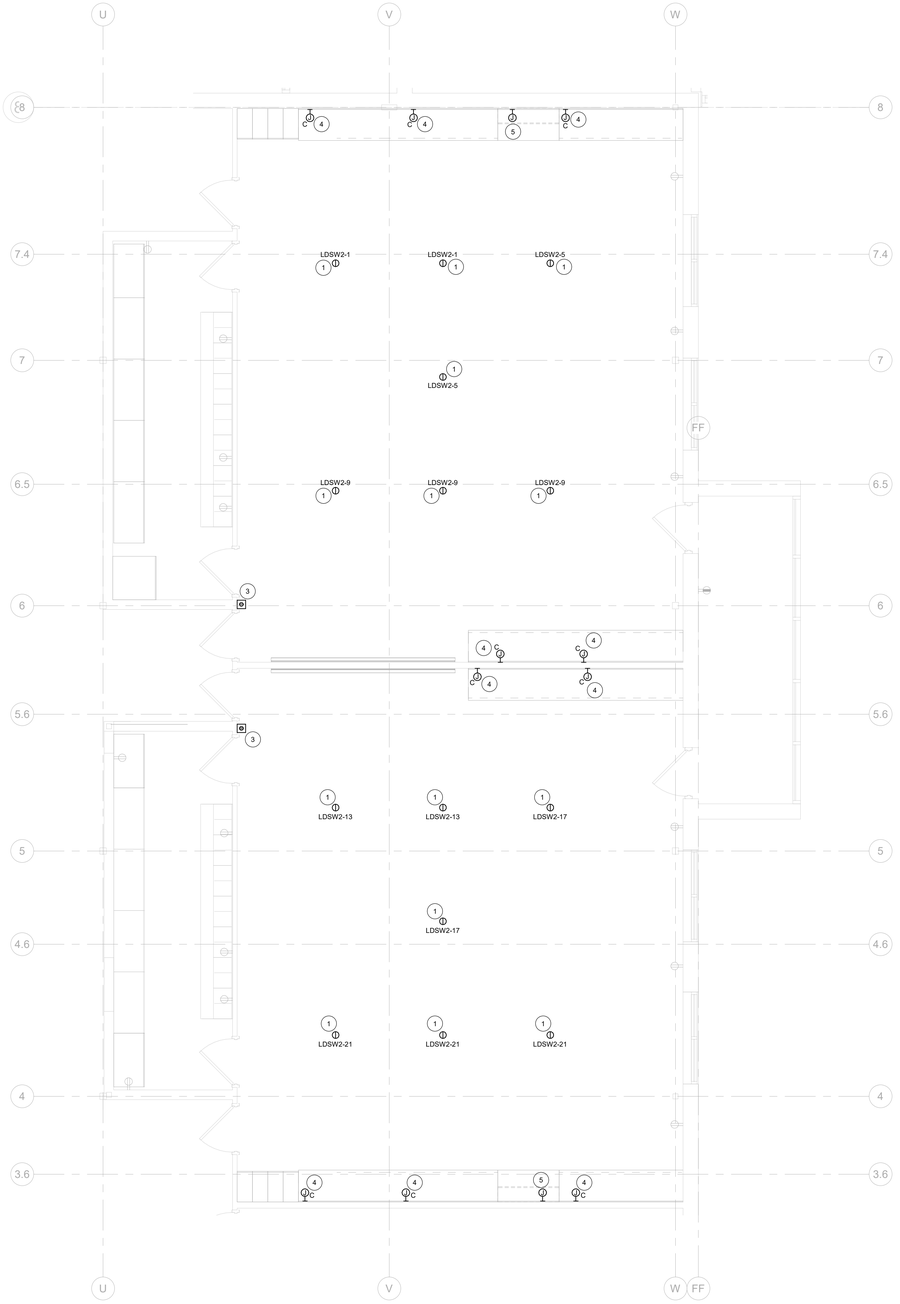
Project No:
10183.00

Sheet No:
E2.1



7TH GRADE SCIENCE ROOMS ELECTRICAL PLAN

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



8TH GRADE SCIENCE ROOMS ELECTRICAL PLAN

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

NOTES:

1. REFER TO ARCHITECTURAL PLANS AND INTERIOR ELEVATIONS FOR FINAL RECEPTACLE AND DEVICE PLACEMENT. COORDINATE ALL RECEPTACLE MOUNTING LOCATIONS WITH FIXTURES, APPLIANCES, FURNITURE, CABINETRY, AND OTHER EQUIPMENT PRIOR TO ROUGH-IN.
2. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR CIRCUIT, DISCONNECT, AND CONDUCTORS FOR MECHANICAL EQUIPMENT.
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATING THE LOCATION OF ELECTRICAL EQUIPMENT, JUNCTION BOXES, DISCONNECTS, ETC. EC SHALL BE RESPONSIBLE FOR COORDINATION AND THE ROUTING OF FEEDERS, AND BRANCH CIRCUITS.
4. COORDINATE POWER CONNECTIONS FOR OWNER PROVIDED EQUIPMENT AND APPLIANCES, AND ALL OTHER EQUIPMENT PROVIDED BY OTHER DIVISIONS WITH SUBMITTAL DATA CUT SHEETS, WIRING DIAGRAMS, AND MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. FIELD COORDINATE FINAL LOCATIONS OF EQUIPMENT AND POWER CONNECTIONS WITH GENERAL CONTRACTOR AND OTHER DIVISIONS/CONTRACTORS PRIOR TO ROUGH-IN.

(#) FLAG NOTES:

1 PROVIDE SIMPLEX RECEPTACLE FOR HUBBELL #ACA12345-DR20 PULL-DOWN RECEPTACLE OR EQUIVALENT. COORDINATE EXACT LOCATION OF RECEPTACLE WITH ARCHITECT PRIOR TO ROUGH-IN.

2 PROVIDE ADD ALTERNATE PRICE TO PROVIDE ELECTRICAL CIRCUIT FOR NEW FUME HOOD.

3 PROVIDE EMERGENCY SHUT-OFF FOR ALL RECEPTACLES IN CLASSROOM. REPLACE EXISTING CIRCUIT BREAKERS SERVING EXISTING RECEPTACLES IN CLASSROOM WITH SHUNT TRIP TYPE CIRCUIT BREAKERS. ADD ALTERNATE PRICE TO INCLUDE ALL COMPONENTS TO PROVIDE AN OPERABLE EM SHUTOFF SYSTEM.

4 PROVIDE NEW LEGRAND #X20GB618 PLUGMOLD OR EQUIVALENT. REUSE EXISTING ELECTRICAL CIRCUIT SERVING DEMO'D PLUGMOLD. REPLACE EXISTING CIRCUIT BREAKER WITH SHUNT TRIP BREAKER.

5 PROVIDE (2#12, 1#12G) 3/4"C TO JUNCTION BOX FOR NEW FUME HOOD.

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Revisions:

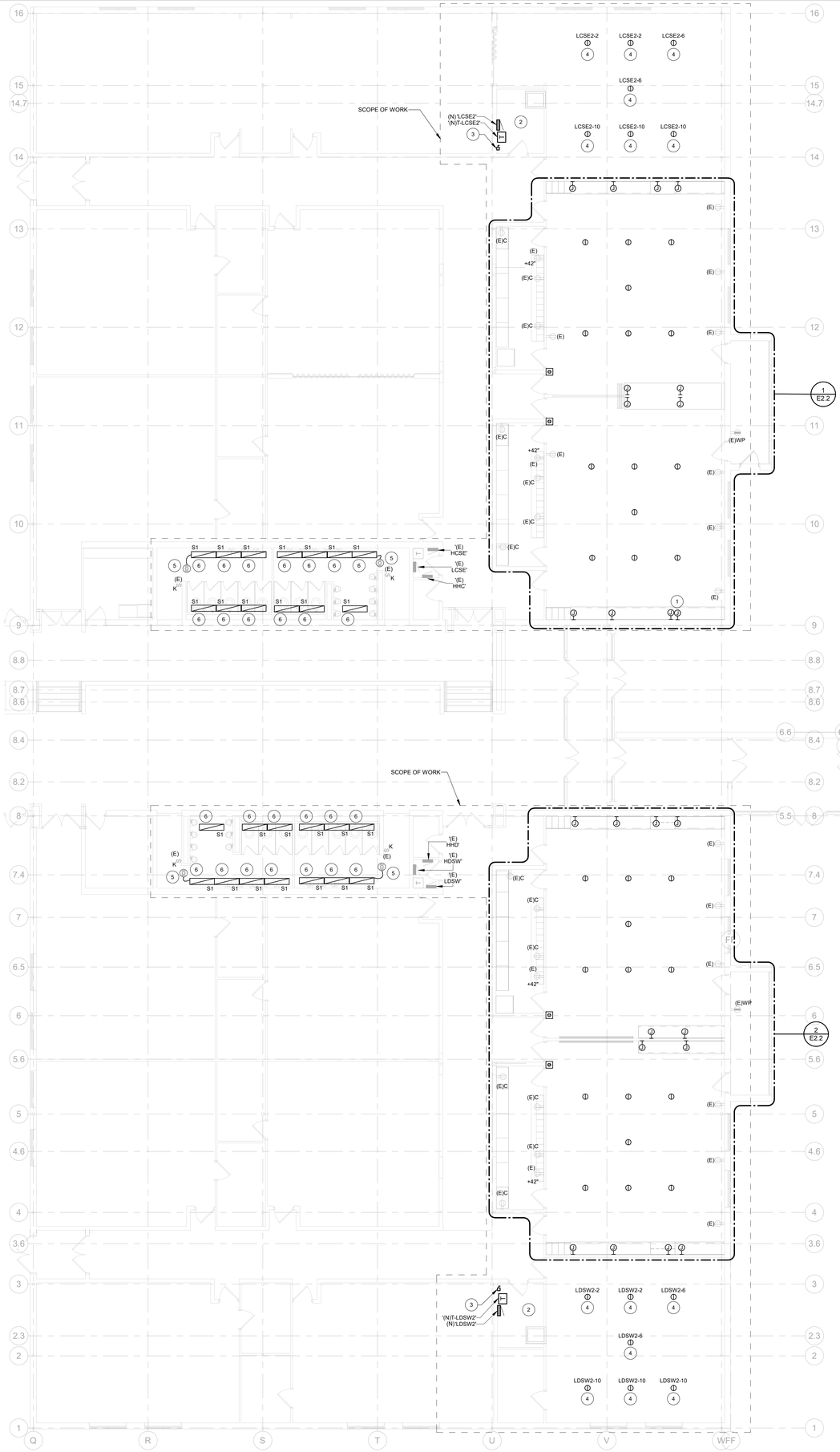
No	Description	Date

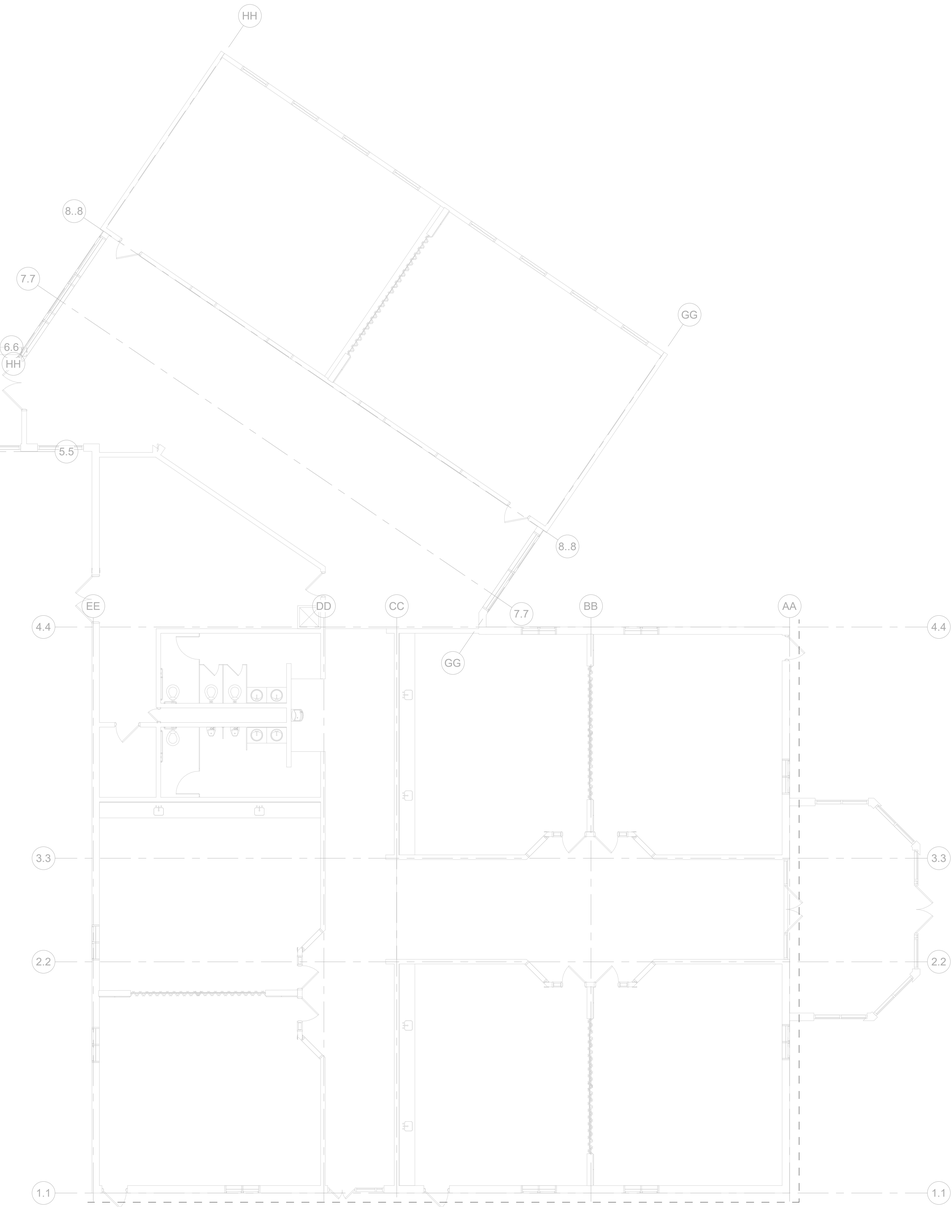
Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
SCIENCE CLASSROOMS ELEC PLANS

Project No:
10183.00

Sheet No:
E2.2





AREA C AND D ELEC PLAN
SCALE: 1/8" = 1'-0"

NOTES:

1. REFER TO ARCHITECTURAL PLANS AND INTERIOR ELEVATIONS FOR FINAL RECEPTACLE AND DEVICE PLACEMENT. COORDINATE ALL RECEPTACLE MOUNTING LOCATIONS WITH FIXTURES, APPLIANCES, FURNITURE, CABINETRY, AND OTHER EQUIPMENT PRIOR TO ROUGH-IN.
2. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR CIRCUIT, DISCONNECT, AND CONDUCTORS FOR MECHANICAL EQUIPMENT.
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATING THE LOCATION OF ELECTRICAL EQUIPMENT, JUNCTION BOXES, DISCONNECTS, ETC. EC SHALL BE RESPONSIBLE FOR COORDINATION AND THE ROUTING OF FEEDERS, AND BRANCH CIRCUITS.
4. COORDINATE POWER CONNECTIONS FOR OWNER PROVIDED EQUIPMENT AND APPLIANCES, AND ALL OTHER EQUIPMENT PROVIDED BY OTHER DIVISIONS WITH SUBMITTAL DATA CUT SHEETS, WIRING DIAGRAMS, AND MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. FIELD COORDINATE FINAL LOCATIONS OF EQUIPMENT AND POWER CONNECTIONS WITH GENERAL CONTRACTOR AND OTHER DIVISIONS/CONTRACTORS PRIOR TO ROUGH-IN.

(#) FLAG NOTES:

1 PROVIDE SIMPLEX RECEPTACLE FOR HUBBELL #ACA12345-0R20 PULL-DOWN RECEPTACLE OR EQUIVALENT. COORDINATE EXACT LOCATION OF RECEPTACLE WITH ARCHITECT PRIOR TO ROUGH-IN.

2 DISCONNECT EXISTING LIGHTING CIRCUIT TO PANEL 'EL' LOCATED IN ELECTRICAL ROOM MEZZANINE.

3 NEW 30A, 3P, NF DISCONNECT ON PRIMARY SIDE OF TRANSFORMER.

4 PROVIDE SIMPLEX RECEPTACLE FOR HUBBELL #ACA12345-0R20 PULL-DOWN RECEPTACLE OR EQUIVALENT. COORDINATE EXACT LOCATION OF RECEPTACLE WITH ARCHITECT PRIOR TO ROUGH-IN.

5 CONNECT LINE-VOLTAGE OCCUPANCY SENSOR TO EXISTING LIGHTING CIRCUIT. LIGHTING TO BE AUTOMATIC FULL ON UPON DETECTION OF OCCUPANCY. LIGHTING TO TURN OFF AUTOMATICALLY AFTER 30 MINUTES OF UNOCCUPIED SPACE. MANUAL OFF VIA EXISTING KEYED SWITCH.

6 CIRCUIT NEW LIGHT FIXTURE TO EXISTING LIGHING CIRCUIT.

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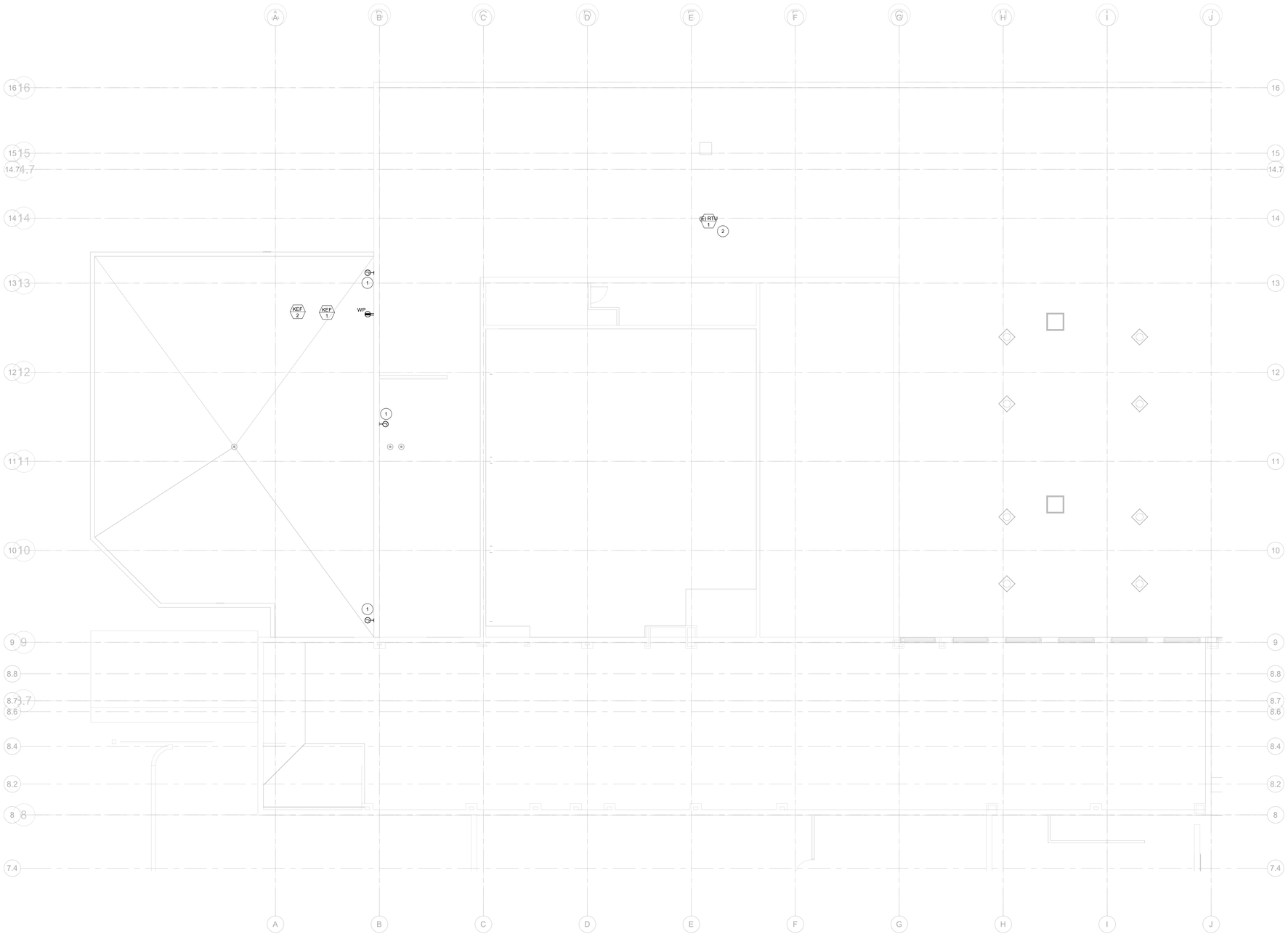
Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
AREA C AND D ELEC PLAN

Project No:
10183.00

Sheet No:
E2.3



ROOF AREA A ELECTRICAL PLAN

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

ROOF HEAT TRACE NOTES:

1. PROVIDE 12W/FT , 208 VOLT ELECTRICAL, SELF REGULATING, HEATING CABLE IN ALL GUTTERS AND DOWNSPOUTS. ELECTRIC HEATING CABLE SHALL BE UL AND CSA LISTED SPECIFICALLY AS ELECTRIC ROOF AND GUTTER DE-ICING AND SNOWMELTING EQUIPMENT. CABLE BE QUALIFIED FOR PROLONGED UV EXPOSURE TO THE SUN PER IEEE 515-1997 AND TO WITHSTAND CONTINUOUS SUBMERSION IN WATER PER IEEE 515.1-1997. PROVIDE ALL ELECTRICAL CONNECTION KITS, SUPPORTS, DOWNSPOUT HANGERS, CONTROLS, AND OTHER APPERTENANCES FOR A COMPLETE AND OPERABLE SYSTEM IN COMPLIANCE WITH MANUFACTURER'S RECOMENDATIONS.
2. OVERCURRENT PROTECTION FOR ELECTRIC HEATING CABLE CIRCUITS SHALL BE 30-mA-TRIP GROUND FAULT TYPE CIRCUIT BREAKERS.
3. PROVIDE ELECTRIC HEATING CABLE IN DRAINAGE VALLEYS, AS SHOWN ON PLAN. ROUTE ELECTRIC HEATING CABLE A MINIMUM OF 6" INTO ROOF DRAIN.
4. CONTRACTOR SHALL PROVIDE COMPLETE AND OPERABLE CONTROL SYSTEM. SYSTEM SHALL CONSIST OF AMBIENT THERMOSTAT AND MOISTURE SENSOR WITH CONTACTOR(S).
5. CONTRACTOR SHALL SUBMIT SHOP DRAWING SUBMITTAL WITH ALL EQUIPMENT, CONTROLS, CONTACTORS AND ACCESSORY DATA SHEETS. DATA SHEETS SHALL BE MARKED INDICATING THE ACTUAL MODEL, VOLTAGE, RATINGS, AND ACCESORIES BEING PROPOSED TO BE PROVIDED. SHOP DRAWING SHALL INCLUDE LAYOUT PLAN INDICATING ZONING, CONTROL INTENT, AND ESTIMATED CIRCUIT LENGHTS. PARTIAL OR INCOMPLETE SUBMITTALS WILL NOT BE ACCEPTED.
6. ACTUAL INSTALLED HEAT TRACE CIRCUIT LENGTH MAY VARY FROM DESIGN OR PLANNED FOR CIRCUIT LENGTHS. CONTRACTOR SHALL MEASURE AND RECORD ACTUAL CIRCUIT LENGTHS AND PROVIDE THE CIRCUIT LENGTHS AS PART OF TEST REPORTS. CIRCUIT LENGTH SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDED LENGTH FOR THE OVERCURRENT PROTECTION RATING. CONTACT ARCHITECT/ENGINEER IF ACTUAL INSTALLED ELECTRIC HEATING CABLE LENGTHS EXCEED THE MANUFACTURER'S RECOMMENDED LENGTH FOR THE OVERCURRENT PROTECTION RATING.
7. CONTRACTOR SHALL PROVIDE ALL TESTING AND FIELD QUALITY CONTROL MEASURES RECOMMENDED BY MANUFACTER, INCLUDING, BUT NOT LIMITED TO, MEGER TEST ALL ELECTRIC HEATING CABLE CIRCUITS. AFTER INSTALLATION ALL HEATING CABLE CIRCUITS SHALL BE TESTED WITH A 2500 VDC MEGOHMMETER, INSULATION RESISTANCE FROM THE CONDUCTORS TO THE SHIELD SHALL BE GREATER THAN 1000 MEGOHMS. CONTRACTOR SHALL RECORD ALL TESTS AND PROVIDE TEST REPORTS TO ARCHITECT/ENGINEER, PRIOR TO PROJECT CLOSEOUT OR FINAL PUNCH REQUESTS, AS PART OF THE PROJECT CLOSEOUT DOCUMENTS.

(#) FLAG NOTES:

1 PROVIDE 3/4"C WITH PULLSTRING FROM PANEL "LANE" TO WEATHERPROOF JUNCTION BOX FOR FUTURE SELF-REGULATING HEATING CABLE.

2 DISCONNECT AND REMOVE CIRCUIT. REPLACE EXISTING FEED TO RTU-1 WITH (4 #8, #10G) IN EXISTING 3/4" CONDUIT. REPLACE EXISTING 30A/3P CIRCUIT BREAKER IN PANEL "HANE2" WITH 40A/3P CIRCUIT BREAKER.

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
ROOF AREA A ELECTRICAL PLAN

Project No:
10183.00

Sheet No:
E2.4

NOTES:

1. EXIT SIGNS SHALL BE CIRCUITED TO THE EMERGENCY BRANCH CIRCUIT SERVING THE EMERGENCY LIGHTING IN THE SAME SPACE.
2. SPACES WITH NORMAL AND EMERGENCY LIGHTING SHALL HAVE AN AUTOMATIC LOAD CONTROL RELAY. EMERGENCY LIGHTING IS TO BE CONTROLLED WITH THE NORMAL LIGHTING UNDER NORMAL POWER CONDITIONS. EMERGENCY LIGHTING TO AUTOMATICALLY RETURN TO FULL-BRIGHT IN THE EVENT OF EMERGENCY POWER OPERATION.

(#) FLAG NOTES:

1 HATCHED AREA REPRESENTS DAYLIGHT ZONE. FIXTURES SHALL AUTOMATICALLY DIM PER IECC 2015. SEE CONTROL SCHEDULE FOR ADDITIONAL INFORMATION.

2 EXTERIOR LIGHTING TO BE TIED INTO EXISTING BUILDING PHOTOCELL AND TIMECLOCK CONTROL.

3 REUSE EXISTING EMERGENCY LIGHTING CIRCUIT FOR NEW LIGHT FIXTURES.

4 REUSE EXISTING LIGHTING CIRCUIT FOR NEW LIGHT FIXTURES.

5 CIRCUIT LIGHT FIXTURES TO HANE-13. PROVIDE NEW 20A/1P BREAKER.

6 CIRCUIT EMERGENCY LIGHTING TO EM-14. PROVIDE NEW 20A/1P BREAKER.

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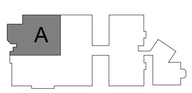
Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A LIGHTING PLAN

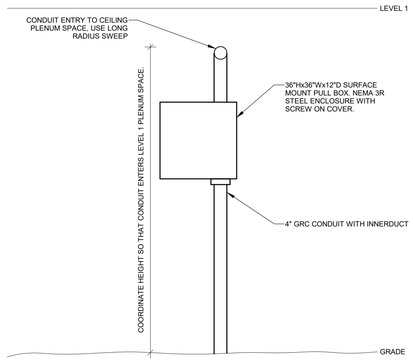


KEY PLAN

Project No:
10183.00

Sheet No:
E2.11

1 FIRST LEVEL AREA A LIGHTING RCP
SCALE: 1/8" = 1'-0"

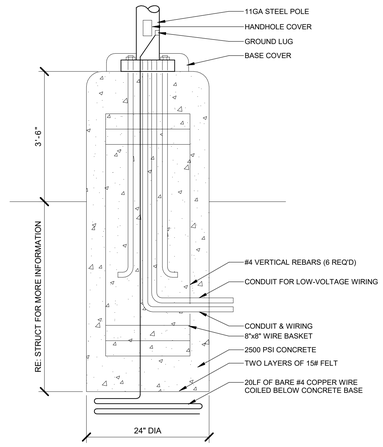


SITE CONDUIT BUILDING ENTRY DIAGRAM
NO SCALE

D

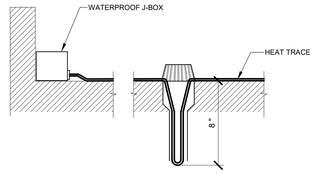
NOTES:

1. REFER TO DIVISION 03 SPEC FOR CONCRETE BASE REQUIREMENTS.



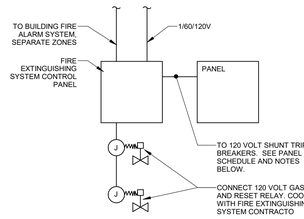
POLE BASE DIAGRAM
NO SCALE

A



ROOF DRAIN HEAT TRACE DIAGRAM
NO SCALE

B

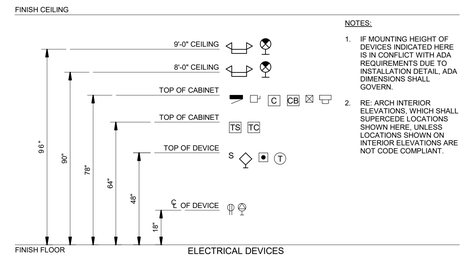


NOTE:
OPERATION OF EXTINGUISHING SYSTEM SHALL:

1. CLOSE GAS VALVES SERVING TO ALL GAS FIRED EQUIPMENT LOCATED UNDER COOKING EXHAUST HOODS.
2. TRIP ALL CIRCUIT BREAKER TO VAV-04 AND ALL CIRCUIT BREAKERS SERVING POWER TO ALL ELECTRIC EQUIPMENT LOCATED UNDER COOKING EXHAUST HOODS.
3. ALARM FROM EITHER FIRE SUPPRESSION SYSTEM SHALL STOP VAV-04 AND OUTLETS AND VALVES UNDER BOTH HOODS.

TYP KITCHEN HOOD FIRE EXTINGUISHING SYSTEM CONTROL DIAGRAM
NO SCALE

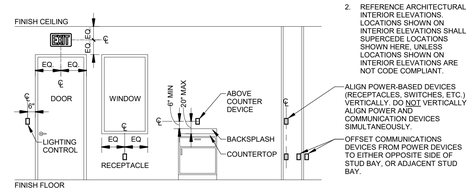
C



NOTES:

1. IF MOUNTING HEIGHT OF DEVICES INDICATED HERE IS IN CONFLICT WITH ADA REQUIREMENTS DUE TO INSTALLATION DETAIL, ADA DIMENSIONS SHALL GOVERN.
2. RE: ARCH INTERIOR ELEVATIONS, WHICH SHALL SUPERCEDE LOCATIONS SHOWN HERE, UNLESS LOCATIONS SHOWN ON INTERIOR ELEVATIONS ARE NOT CODE COMPLIANT.

TYPICAL DEVICE MOUNTING HEIGHTS
SCALE: NONE



NOTES:

1. IF ALIGNMENT OF DEVICES INDICATED HERE IS IN CONFLICT WITH ADA REQUIREMENTS DUE TO INSTALLATION DETAIL, ADA DIMENSIONS SHALL GOVERN.
2. REFERENCE ARCHITECTURAL INTERIOR ELEVATIONS. LOCATIONS SHOWN ON INTERIOR ELEVATIONS SHALL SUPERCEDE LOCATIONS SHOWN HERE, UNLESS LOCATIONS SHOWN ON INTERIOR ELEVATIONS ARE NOT CODE COMPLIANT.

ALIGN POWER-BASED DEVICES (RECEPTACLES, SWITCHES, ETC.) VERTICALLY. DO NOT VERTICALLY ALIGN POWER AND COMMUNICATION DEVICES SIMULTANEOUSLY.

OFFSET COMMUNICATIONS DEVICES FROM POWER DEVICES TO EITHER OPPOSITE SIDE OF STUD BAY, OR ADJACENT STUD BAY.

TYPICAL DEVICE ALIGNMENT
SCALE: NONE

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Seal

COLORADO LICENSED
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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

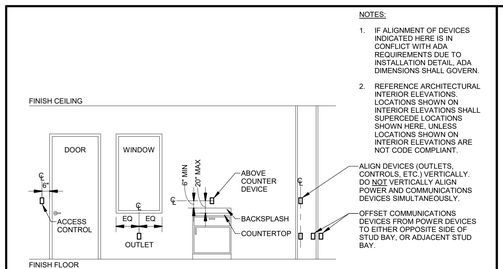
Sheet Title:
ELECTRICAL DIAGRAMS

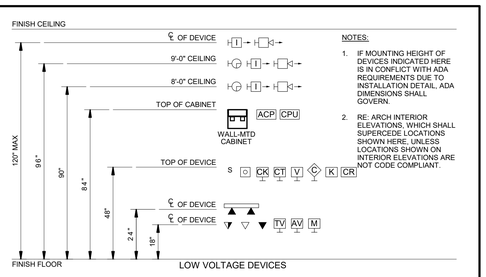
Project No:
10183.00

Sheet No:
E3.1

BG BUILDINGWORKS
systems fulfilled
303.278.3820 www.bgbuildingworks.com
Project No. 10183.00

ALBUQUERQUE | AVON | DENVER | FORT COLLINS





SSSD TECHNOLOGY SYSTEMS RESPONSIBILITY MATRIX

COMPONENT	ENTITY FURNISH	ENTITY INSTALL	SPECIFIC NOTES
COMMON WORK			
CABLE PATHWAY FIRE STOPPING DEVICE	E	E	
CONDUIT SLEEVES	E	E	
FIRE RATED FLOOR PENETRATION ASSEMBLY	E	E	
HANGER SUPPORTS FOR CABLE SUPPORTS	T	T	
HANGER SUPPORTS FOR CONDUITS	E	E	
MISCELLANEOUS FIRE STOPPING MATERIAL	GC	GC	
PENETRATION	GC	GC	
STRAPS/SLINGS	T	T	
WIDE BASE CABLE SUPPORTS (J-HOOKS)	T	T	
ELECTRICAL FOR COMMUNICATIONS			
BACKBOXES	E	E	
CABLE TRAY	E	E	
CABLE TRAY ELECTRICAL GROUNDING AND BONDING	E	E	
CONDUIT, FITTINGS, PULL STRINGS	E	E	
EXCAVATION, TRENCHING, BASE, BEDDING, BACKFILL	GC	GC	
FLOOR BOXES	E	E	
BONDING BUSBAR	E	E	
BONDING RISER CONDUCTORS	E	E	
HANGERS AND SUPPORTS FOR CABLE TRAY	E	E	
INNERDUCTS	E	E	
JUNCTION BOXES	E	E	
HANDHOLES, VAULTS, MANHOLES	GC	GC	
PLENUM ENCLOSURES	E	E	
POKE-THROUGHS	E	E	
PULL BOXES	E	E	
SURFACE RACEWAY	E	E	
WALL BOXES (AV)	E	E	
TELECOMMUNICATIONS (STRUCTURED CABLING SYSTEM)			
BACKBOARDS	GC	GC	COORDINATE WITH EC AND TC.
CABLE MANAGEMENT	T	T	
CABLE RUNWAY AND ACCESSORIES	T	T	
CONNECTORS (BACKBONE / HORIZONTAL CABLE)	T	T	
EQUIPMENT FRAMES AND ACCESSORIES	T	T	
EQUIPMENT RACKS AND ACCESSORIES	T	T	
FACEPLATES AND CONNECTORS	T	T	
HORIZONTAL CABLING	T	T	
IDENTIFICATION (LABELING)	T	T	
INSIDE PLANT BACKBONE CABLING	T	T	
OUTSIDE PLANT BACKBONE CABLING	T	T	
PATCH CORDS	O	O	
PATCH PANELS	T	T	
POWER DISTRIBUTION UNITS (PDU)	T	T	
SPLICE ENCLOSURES	T	T	
TELECOM ROOM EQUIPMENT GROUNDING AND BONDING	E	E	
TERMINATION BLOCKS	T	T	
AUDIOVISUAL SYSTEMS			
CLASSROOM			
AUDIO ENHANCEMENT SYSTEM	O	AV	
AUDIO ENHANCEMENT SYSTEM CABLING	O	AV	
INTERACTIVE SCREEN / SMART BOARD	O	O	GC TO PROVIDE BLOCKING TO SUPPORT DISPLAYS
EQUIPMENT ENCLOSURE (IN-CEILING, IN-WALL)	AV	AV	COORDINATE POWER INSTALLATION WITH EC
AV INTERFACE PLATES	AV	AV	
AV CABLING	O	AV	
HANGER WIRE SUPPORTS FOR AV EQUIP IN LAY-IN CEILINGS	AV	AV	
COMMON AREAS			
SOUND REINFORCEMENT LOUDSPEAKERS	AV	AV	
MICROPHONES	AV	AV	
GENERAL			
NETWORK HORIZONTAL CABLING FOR AV	T	T	
NETWORK PATCH CORDS (AT DEVICE)	O	O	
NETWORK SWITCHES AND POE	O	O	
LOW VOLTAGE CABLING	AV	AV	
SCHOOL SYSTEMS			
PUBLIC ADDRESS (PA) SYSTEM	O	O	
BELL / PROGRAM SYSTEM	O	O	
CLOCKS	O	O	
PA/PAGING LOUDSPEAKERS	O	AV	
CABLING FOR PA SYSTEM	AV	AV	
DISTRIBUTED ANTENNA SYSTEM (PUBLIC SAFETY)	GC	GC	
ELECTRONIC SAFETY & SECURITY			
ACCESS CONTROL SYSTEM			
ACCESS CONTROL SOFTWARE	O	O	
ACCESS CONTROL SYSTEM CABLING TERMINATION	S	S	
ACCESS CONTROL SYSTEM CABLING	S	S	
ACCESS CONTROL SYSTEM NETWORK CABLING	T	T	
CREDENTIAL READERS	S	S	COORDINATE WITH GC AND ARCH.
DOOR HARDWARE	GC	GC	COORDINATE WITH ARCH.
ELEVATOR INTEGRATION REQUIREMENTS	GC	GC	
HEAD END SERVER EQUIPMENT	O	O	
LOCKING MECHANISMS	S	S	COORDINATE WITH GC AND ARCH.
DOOR POSITION SWITCHES	S	S	COORDINATE WITH GC AND ARCH.
NETWORK BASED PATCH CORDS (AT DEVICE)	S	S	
NETWORK SERVER FOR ACCESS CONTROL SYSTEM	O	O	
NETWORK SWITCHES AND POE	O	O	
VIDEO SURVEILLANCE SYSTEM			
CAMERAS AND MOUNTING HARDWARE	O	O	
NETWORK BASED HORIZONTAL CABLING FOR CAMERAS	T	T	
NETWORK BASED PATCH CORDS FOR CAMERAS (AT DEVICE)	O	O	
NETWORK SWITCHES AND POE	O	O	
NETWORK VIDEO RECORDER, WORKSTATIONS AND SERVER	O	O	
SURGE PROTECTION DEVICES FOR CAMERAS	O	O	
VIDEO MANAGEMENT SOFTWARE	O	O	
END-USER EQUIPMENT			
NETWORK EQUIPMENT			
SWITCHES	O	O	
SERVERS	O	O	
FIBER PATCH CORDS - MDF/IDF	O	O	
COPPER PATCH CORDS - MDF/IDF	O	O	
COPPER PATCH CORDS - WORKSTATIONS/ROOMS	O	O	
MDF/IDF UPS	O	O	
WIRELESS ACCESS POINTS AND SYSTEM			
WI-FI SYSTEM	O	O	
ACCESS POINTS	O	O	
SERVICES			
TELEPHONE	O	O	
CATV	O	O	
DATA	O	O	

LEGEND

GC = GENERAL CONTRACTOR
E = ELECTRICAL CONTRACTOR
T = TELECOMMUNICATIONS CONTRACTOR
AV = AUDIOVISUAL CONTRACTOR
S = SECURITY CONTRACTOR
O = OWNER

TECHNOLOGY SYSTEMS LEGEND

NOTE:
ALL SYMBOLS SHOWN ON LEGEND ARE NOT NECESSARILY USED.

ABBREVIATIONS

AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ALUMINUM
AP	ACCESS POINT
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BFG	BELOW FINISH GRADE
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CATV	COMMUNITY (CABLE) ANTENNA TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CPU	CENTRAL PROCESSING UNIT
CT	CURRENT TRANSFORMER
DISP	GARBAGE DISPOSAL
DW	DISHWASHER
(E)	EXISTING
EM	EMERGENCY
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
IAW	IN ACCORDANCE WITH
IC	INTERMEDIATE CROSS-CONNECT
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
IR	INFRARED
LAN	LOCAL AREA NETWORK
MDF	MAIN DISTRIBUTION FRAME
(N)	NEW
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PA	PUBLIC ADDRESS
REF	REFRIGERATOR
SPD	SURGE PROTECTION DEVICE
TTB	TELECOMMUNICATIONS TERMINAL BOARD
TVTB	TELEVISION TERMINAL BOARD
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WAP	WIRELESS ACCESS POINT
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
XP	EXPLOSIONPROOF
+18"	MOUNTING HEIGHT TO CENTERLINE OF DEVICE ABOVE FINISH FLOOR (VERIFY W/ ARCH ELEVATIONS)

NOTES:

- LIGHT LINEWEIGHT INDICATES EXISTING ―――
- HATCHED AREAS INDICATE DEMOLITION ▨

VOICE/DATA SYMBOLS

▷	COMMUNICATIONS WALL OUTLET
▶	ANALOG WALL OUTLET
▶	COMBO ANALOG/COMMUNICATIONS WALL OUTLET
⊳	COMMUNICATIONS FLOOR OUTLET
▶	ANALOG FLOOR OUTLET
▶	COMBO ANALOG/COMMUNICATIONS FLOOR OUTLET
▷	WIRELESS LAN (WI-FI) ACCESS POINT OUTLET - CEILING
▷⊣	WIRELESS LAN (WI-FI) ACCESS POINT OUTLET - WALL
◧	POWER/TELECOM POLE
▭	MULTI-OUTLET WIREWAY

NUMBER OF DATA JACKS
NUMBER OF VOICE JACKS
NUMBER OF FIBER JACKS
#D/#V/#F
XX ▷
OUTLET DESIGNATIONS (XX)

POS - POINT-OF-SALE	
C - MOUNT ABOVE COUNTER	W - WALL PHONE PLATE WITH LUGS
E - ELEVATOR	EM - EMERGENCY SERVICES

INTERCOM/PROGRAM/BELL/CLOCK SYMBOLS

◷⊣	ANALOG CLOCK - WALL MOUNTED
◷	ANALOG CLOCK - CEILING MOUNTED
D◷⊣	DIGITAL CLOCK - WALL MOUNTED
D◷	DIGITAL CLOCK - CEILING MOUNTED
◇C⊣	CALL IN SWITCH
M◇IC	MASTER INTERCOM STATION
◇IC	INTERCOM STATION
CH	CHIME
B	BUZZER
(B)	BELL
◇S	INTERCOM LOUDSPEAKER - CEILING MOUNTED
◇S⊣	INTERCOM LOUDSPEAKER - WALL MOUNTED
MIC ◇S	TWO-WAY COMM SPEAKER - CEILING MOUNTED
MIC ◇S⊣	TWO-WAY COMM SPEAKER - WALL MOUNTED

ELECTRONIC SAFETY & SECURITY SYMBOLS

←▷□	CEILING MOUNTED CAMERA
←▷□⊣	WALL MOUNTED CAMERA
←▷□<	CORNER MOUNTED CAMERA
MS ←▷□	MULTISENSOR DOME CAMERA
FE ←▷□	HEMISPHERIC DOME FISHEYE CAMERA
V ◇IC	INTERCOM - VIDEO DOOR STATION
◇EC	TWO-WAY EMERGENCY COMMUNICATION SYSTEM - CALL BOX
M ◇EC	TWO-WAY EMERGENCY COMMUNICATION SYSTEM - COMMAND CENTER
INT	INTRUSION DETECTION MAIN PANEL
ACP	ACCESS CONTROL MAIN PANEL
C REX	REQUEST-TO-EXIT - PANIC/CRASH BAR SENSOR
M REX	REQUEST-TO-EXIT - MOTION DETECTOR (PIR)
P REX	REQUEST-TO-EXIT - PUSH BUTTON
E CR (L)	CARD READER LOCKSET COMBO - POWER OVER ETHERNET
W CR (L)	CARD READER LOCKSET COMBO - WIRELESS (BATTERY POWERED)
CR	CARD READER - STANDALONE
Q (L)	ELECTRIC LOCK - LATCH RETRACTOR
R (L)	ELECTRIC LOCK - ROD RETRACTOR
S (L)	ELECTRIC LOCK - STRIKE
M (L)	ELECTRIC LOCK - MAGNETIC HOLD
◓⊣	DOOR POSITION SWITCH - MAGNETIC CONTACT
W ◓⊣	DOOR POSITION SWITCH - WIRELESS
M ◓⊣	DOOR POSITION SWITCH - LATCHBOLT MONITOR
OH ◓⊣	DOOR POSITION SWITCH - OVERHEAD DOOR
RF	RF GATEWAY - WIRELESS LOCKSETS/DOOR POSITION SWITCHES
D ▣	DOOR RELEASE BUTTON
P ▣	PANIC BUTTON
ADA ▣	ADA ACCESS CONTROL ACTUATOR
←I⊣	INTRUSION MOTION SENSOR - WALL MOUNT
←I→	INTRUSION MOTION SENSOR - CEILING MOUNT
K⊣	SECURITY KEYPAD

GENERAL SYMBOLS

(J)	JUNCTION BOX
(J)⊣	WALL MOUNTED JUNCTION BOX
[J]	FLOOR MOUNTED JUNCTION BOX
――	CONDUIT RUN
――	CONDUIT RUN BELOW GRADE
―○	CONDUIT UP
―●	CONDUIT DOWN
╥╥╥	CABLE RUNWAY
– CT12/4 –	CABLETRAY (PREMISES; NUMBER INDICATES WIDTH/DEPTH)
▲▲	GROUNDING BUSBAR (TGB/TMGB)
◪	DEMARCATION POINT
▭	WALL-MOUNT CABINET
⊟	EQUIPMENT RACK
⊔	WALL-MOUNTED EQUIPMENT RACK

AUDIOVISUAL SYMBOLS

TV⊣	TELEVISION OUTLET - WALL MOUNTED
TV	TELEVISON OUTLET - CEILING MOUNTED
TV	TELEVISION OUTLET - FLOORBOX
DS TV⊣	DIGITAL SIGNAGE
AV⊣	AUDIOVISUAL OUTLET - WALL MOUNTED
AV	AUDIOVISUAL OUTLET - CEILING MOUNTED
AV	AUDIOVISUAL OUTLET - FLOORBOX
(S)	LOUDSPEAKER - CEILING MOUNTED
(S)⊣	LOUDSPEAKER - WALL MOUNTED
SPK ○⊣	LOUDSPEAKER OUTLET
M⊣	MICROPHONE OUTLET - WALL MOUNTED
M	MICROPHONE OUTLET - CEILING MOUNTED
M	MICROPHONE OUTLET - FLOORBOX
◁	POINT SOURCE LOUDSPEAKER
▭	PROJECTION SCREEN, TV, OR OTHER DISPLAY EQPT
□<	VIDEO PROJECTOR
―►	SPEAKER ZONE HOMERUN

CONTROL SYMBOLS

S	SWITCH - 120V
S^K	SWITCH - 120V KEYED
LV	SWITCH - LOW VOLTAGE
CK⊣	CONTROL KEYPAD
CT⊣	CONTROL TOUCHSCREEN (WALL MOUNT)
(((CT	CONTROL TOUCHSCREEN (WIRELESS)
V⊣	VOLUME CONTROL
HH	CONTROL - HANDHELD REMOTE
◎	OCC SENSOR - CEILING MOUNTED
FT	CONTROL TOUCHSCREEN FLIP TOP TABLE BOX

SCHEMATIC/FUNCTIONAL SYMBOLS

⊠	STRUCTURED CABLING CROSS-CONNECT FIELD
◪	SERVICE PROVIDER DEMARCATION POINT
▷	AMPLIFIER
―○≡	CATV SPLITTER
―⊖―	CATV DIRECTIONAL COUPLER
―⊞―	CATV 4-WAY TAP
―⊕―	CATV 8-WAY TAP
□	EQUIPMENT (AS INDICATED)
}{	POTENTIAL TRANSFORMER (CONSTANT VOLTAGE AUDIO)
◁	LOUDSPEAKER
V	VOLUME CONTROL
□	VIDEO PROJECTOR
―●―	CONNECTION
(M)	METER
⊣⊢	NORMALLY OPEN CONTACT
⊣/⊢	NORMALLY CLOSED CONTACT
⏚	GROUND
◐	COLD WATER GROUND CONNECTION
I	BUILDING STEEL GROUND CONNECTION

TECHNOLOGY SHEET INDEX

#	TITLE	ISSUE LOG: DD - 02.21.2020	CD PROGRESS SET	95% CD - 03.30.2020	PERMIT SET - 04.06.20					
T0.0	TECH COVER SHEET	√	√	√	√					
TD2.1	FIRST LEVEL AREA A DEMO TECH PLAN	√	√	√	√					
T2.1	FIRST LEVEL AREA A TECH PLAN	√	√	√	√					
T3.1	TECHNOLOGY SYSTEMS DIAGRAMS	√	√	√	√					
T3.2	AV FUNCTIONAL DIAGRAMS			√	√					
T4.1	TECHNOLOGY DIAGRAMS	√	√	√	√					
T4.2	TECHNOLOGY DIAGRAMS			√	√					

ISSUE LOG KEY:
'√' ISSUED AS PART OF SET
' ' NOT PART OF SET
'*' ISSUED FOR INFORMATION ONLY

GENERAL NOTES:

1. THESE DRAWINGS ACCOMPANY THE PUBLISHED CONSTRUCTION DOCUMENT SPECIFICATION BOOK (PROJECT MANUAL).
2. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWINGS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.
3. WORK ASSOCIATED WITH TECHNOLOGY SYSTEMS REQUIRES CAREFUL, DETAILED COORDINATION, BOTH PREPARTORY AND ON-SITE, BETWEEN THE GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, AND THE TECHNOLOGY SYSTEMS CONTRACTOR(S). LACK OF PLANNING, COORDINATION, OR SKILL ON PART OF ANY PARTY ASSOCIATED WITH THE SCOPE OF WORK INDICATED WILL NOT BE ACCEPTED AS REASON FOR INSTALLATION THAT DOES NOT MEET SPECIFICATIONS OR INDUSTRY STANDARDS.
4. VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL INCLUDE IN HIS BID COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.
5. IF WORK ON LIVE NETWORKS OR SYSTEMS IS TO BE DONE, SYSTEM DOWNTIME SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER – IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE SHALL BE PERFORMED WITH THE OWNER'S IT/IS STAFF AND/OR MAINTENANCE PERSONNEL ADVISED AND AWARE OF SUCH WORK.
6. COMMUNICATIONS SERVICES SHALL BE MAINTAINED TO EXISTING AREAS DURING CONSTRUCTION IF SUCH AREAS ARE TO REMAIN LIVE. CONTRACTOR SHALL PROVIDE NECESSARY MEANS AND PROTECTION TO ENSURE UPTIME.
7. REVIEW ENTIRE CONTRACT DOCUMENT PACKAGE (INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND OTHER DRAWINGS AND SPECIFICATIONS) PRIOR TO BID.
8. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.
9. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL AND STATE ADOPTED CODES AND ORDINANCES. 2014 EDITION OF NFPA 70 – NATIONAL ELECTRICAL CODE SHALL BE MET AT A MINIMUM. APPLICABLE VOLUMES OF NFPA (NFPA 72, NFPA 75, NFPA 76, NFPA 99, NFPA 101, ETC.) SHALL BE ADHERED TO AT A MINIMUM.
10. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST APPLICABLE STANDARDS AND RECOMMENDATIONS AS PUBLISHED BY AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA), ELECTRONIC INDUSTRIES ALLIANCE (EIA), INSULATED CABLE ENGINEERS ASSOCIATION (ICEA), INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE), SECURITY INDUSTRY ASSOCIATION (SIA), BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (BICSI), AND INFOCOMM INTERNATIONAL.
11. PROVIDE WITH SHOP DRAWING SUBMITTAL, 1/4" SCALE LAYOUT DRAWINGS OF ROOMS WITH COMMUNICATIONS, AUDIOVISUAL, AND SECURITY DISTRIBUTION OR HEAD-END EQUIPMENT. LAYOUTS SHALL SHOW LOCATIONS OF, AND SHALL BE COORDINATED WITH ELECTRICAL AND MECHANICAL EQUIPMENT. ALL EQUIPMENT SHALL BE DRAWN TO SCALE.
12. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
13. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING, AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, BACKBONES/SERVICE ENTRANCES (CONDUIT AND/OR CABLING), PULLBOXES, HANDHOLES, MANHOLES, PEDESTALS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 90 PERCENT COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT SERVICE PROVIDER DRAWINGS AND REQUIREMENTS. CONTRACTOR IS TO SUBMIT A COMPLETE CONSTRUCTION DRAWING SET TO THE SERVICE PROVIDERS WITHIN 10 DAYS OF AWARD OF CONTRACT. COORDINATE TIMELINE OF THEIR REVIEW, APPROVAL, CONSTRUCTION SCHEDULING AND INSTALLATION OF THE PEDESTALS OR PROVIDER-OWNED MANHOLES WITH THE SERVICE PROVIDER. NOTIFY OWNER OF ANY SCHEDULING CONFLICTS.
14. FIELD-VERIFY EXISTING INFRASTRUCTURE TO BE RECONNECTED TO NEW OR EXISTING DISTRIBUTION (PATCHPANELS, WIRING BLOCKS, ETC.). PROVIDE ADDITIONAL MATERIAL AS NECESSARY TO COMPLETE.
15. EXISTING SYSTEMS AND CONDITIONS SHOWN ON DRAWINGS FOR EXISTING BUILDINGS ARE TO BE NOTED "FOR GUIDANCE ONLY." CONTRACTOR SHALL FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL INCLUDE IN THEIR BID AN ALLOWANCE FOR REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, CABLES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING TECHNOLOGY SYSTEMS TO ALL OTHER WORK AS REQUIRED.
16. PROVIDE TECHNOLOGY SYSTEMS DEMOLITION REQUIRED. REFER TO ARCHITECTURAL, TECHNOLOGY SYSTEMS AND ELECTRICAL DEMOLITION DRAWINGS FOR LOCATION AND EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXTENT OF WORK INVOLVED. PROVIDE LABOR AND MATERIALS REQUIRED TO MAINTAIN AND/OR RESTORE CONTINUITY OF SERVICE TO EXISTING DEVICES.
17. PROVIDE ALL NECESSARY DEMOLITION TO REMOVE EXISTING UNUSED CONDUIT, CABLE, J-BOXES, OUTLETS, DEVICES, AND THE LIKE, COMPLETE WITH ASSOCIATED CABLING TO DISTRIBUTION LOCATION. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, CABLE REMOVED, AND BLANK COVER PLATES PROVIDED.
18. ALL (E) EQUIPMENT BEING REMOVED SHALL BE RECYCLED IN ACCORDANCE WITH APPLICABLE EPA AND LOCAL REQUIREMENTS.]
19. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
20. INSTALL ALL MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION PRIOR TO INSTALLATION.
21. FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
23. WHERE THE RE-USE OF EXISTING EQUIPMENT, CONDUITS, CABLES, AND DEVICES IS PERMISSIBLE, MAKE CERTAIN THAT THESE COMPONENTS COMPRISE A COMPLETE AND OPERABLE SYSTEM. PROVIDE ADDITIONAL MATERIAL AS NECESSARY TO (RE) ESTABLISH OPERATION.
24. WHERE EXISTING PATHWAYS (CONDUIT AND BOXES) ARE TO BE REUSED, ENSURE CABLING PASSES THROUGH NO OUTLET OR JUNCTION BOX WHICH MAY BE RENDERED INACCESSIBLE BY THE ARCHITECTURAL OR STRUCTURAL CHANGES TO BE MADE TO THE BUILDING.
25. EXISTING CONDUITS, CABLE, AND DEVICES WHICH ARE NOT INDICATED FOR REUSE SHALL BECOME THE PROPERTY OF CONTRACTOR. EQUIPMENT AND DISTRIBUTION EQUIPMENT (PATCHPANELS, WIRING BLOCKS, ETC.) SHALL BE RETURNED TO THE OWNER UNLESS OTHERWISE EXPLICITLY STATED BY OWNER IN WRITING.
26. ALL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITY.
27. SYSTEMS SHALL BE TESTED AND VERIFIED UPON COMPLETION OF INSTALLATION. SYSTEMS THAT DO NOT PASS INDUSTRY STANDARD TESTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER.
28. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
29. PROVIDE SOLUTION-BASED EXTENDED WARRANTIES FOR STRUCTURED CABLING SYSTEMS. PROVIDE ALL NECESSARY DOCUMENTATION TO OWNER PRIOR TURNOVER.
30. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF AS-BUILT RECORD DRAWINGS ON-SITE WHICH SHALL BE AVAILABLE FOR REVIEW DURING ENGINEER'S SITE OBSERVATIONS. UPON COMPLETION, PROVIDE OFFICIAL SET OF RECORD DRAWINGS TO ARCHITECT, IN FORMAT AS REQUESTED BY OWNER. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, FIELD ALTERATIONS, REROUTINGS, ETC.
31. CONDUITS FOR TECHNOLOGY SYSTEMS LARGER THAN TRADE SIZE 1 (1") SHALL HAVE LONG-RADIUS SWEEPS AT ALL CHANGES IN DIRECTION. LONG-RADIUS SWEEPS SHALL BE MINIMUM 12X CONDUIT DIAMETER.
32. OUTLET BOXES SHALL BE MINIMUM 4-11/16"x4-11/16"x2-1/8", METALLIC OR NONMETALLIC AS PROJECT REQUIREMENTS DICTATE.
33. FLEXIBLE METAL CONDUIT SHALL NOT BE USED AS CABLE PATHWAY. ONLY SMOOTH-WALLED METALLIC CONDUIT OR TUBING MAY BE USED. ALTERNATELY, PLASTIC-TYPE (ENT AND/OR PVC) TUBING MAY BE USED.
34. ALL METALLIC SUPPORT COMPONENTS (CONDUITS, SLEEVES, PATHWAYS, CABLETRAY, J-HOOKS OR OTHER SUPPORT, RACKS, CABINETS, ETC.) SHALL BE BONDED WITH NO SMALLER THAN #6AWG INSULATED (GREEN) COPPER BONDING CONDUCTORS. ALL COMPONENTS SHALL BE BONDED TO TELECOMMUNICATIONS GROUNDING BUS. REFERENCE DRAWINGS AND ANSI J-STD-607-A STANDARD.
35. ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A NYLON PULLTAPE INSTALLED. PULLTAPE SHALL HAVE PHYSICAL LENGTH MARKINGS AND BE RATED FOR 200-LB STRENGTH. EMPTY PATHWAYS SHALL BE IDENTIFIED AS SUCH AT ALL JUNCTION BOXES, PULLBOXES, AND OUTLET/DEVICE BOXES, USING PERMANENT LABELING. LABELING TAG SHALL INDICATE INTENDED USE OF CONDUIT, LOCATION OF PATHWAY ORIGINATION, AND LOCATION OF TERMINATION OF EACH INDIVIDUAL CONDUIT.
36. ALL CABLING SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL ELEMENTS. CABLING IS NOT ALLOWED TO COME IN CONTACT WITH PIPING, ELECTRICAL CIRCUITS/CONDUITS, LIGHTING FIXTURES, DUCTWORK, OR ANY OTHER INSTALLED SYSTEM. CABLING SHALL NOT USE STRUCTURAL MEMBERS ALONE AS SUPPORT; APPROPRIATE J-HOOKS, BRIDLE RINGS, OR SIMILAR SHALL BE USED. CABLING SHALL BE INSTALLED WITH SUPPORTS NO GREATER THAN 5'-0" SPACING.
37. ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL ELEMENTS.
38. PROVIDE PULLBOXES ALONG CONDUIT RUNS AT 100 FEET INTERVALS OR EVERY 180-DEGREES OF BENDS, OR BOTH.
39. CONDUITS MAY NOT CHANGE DIRECTION MORE THAN 90 DEGREES AT ANY SINGLE BEND.
40. CONDULETTE FITTINGS MAY NOT BE USED TO CHANGE PATHWAY DIRECTION AT ANY TIME.

SITE PATHWAY NOTE:

REFER TO ELECTICAL SITE PLAN AND CIVIL DRAWINGS FOR LOW VOLTAGE AND COMMUNICATIONS RACEWAY ROUTING AND LOCATIONS OF VAULTS AND HANDHOLES.

FIRE ALARM NOTE:

FIRE ALARM IS BY DESIGN-BUILD CONTRACTOR. REQUIREMENTS OR CODE AMENDMENTS BY THE AUTHORITY HAVING JURISDICTION (AHJ) SHALL DICTATE SYSTEM REQUIREMENTS.

FIRE ALARM SHOP DRAWINGS SHALL BE PROVIDED BY THE FIRE ALARM SYSTEM CONTRACTOR AS A DEFERRED SUBMITTAL PER IBC 107.3.4.1.

REMODEL/RENOVATION NOTE:

CONTRACTOR MUST KEEP IN MIND THAT THIS IS A REMODEL PROJECT. READ GENERAL NOTES CAREFULLY. CONTRACTORS MUST COORDINATE NEW AND EXISTING CONDITIONS FOR INSTALLATION OF THE WORK.

CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF FIELD CONDITIONS DISCOVERED DURING DEMOLITION THAT VARY FROM THOSE INDICATED HEREIN.

PATHWAY COMPLIANCE NOTE:

THIS PROJECT REQUIRES INSTALLATION OF PATHWAYS MORE STRINGENT THAN NFPA 70 REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND AND INSTALL TO ANSI/TIA-569-B PATHWAY STANDARDS.

UNFAMILIARITY WITH THESE SPECIFIED STANDARDS DOES NOT RELIEVE THE CONTRACTOR FROM THE PROJECT REQUIREMENTS AND SPECIFICATIONS. NON-COMPLIANT PATHWAYS WILL NOT BE ACCEPTED.

DEVICE COORDINATION NOTE:

CONTRACTOR SHALL NOT SCALE THESE DRAWINGS TO DETERMINE LOCATIONS OF DEVICES SHOWN. IF EXACT DIMENSIONS ARE NECESSARY TO BE ADHERED TO, DIMENSIONS ARE INDICATED WITH CONSTRUCTION DOCUMENTS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFER TO THE ARCHITECTURAL INTERIOR ELEVATIONS, DETAILS AND REFLECTED CEILING PLANS TO DETERMINE EXACT LOCATIONS OF COMPONENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFER TO THE ARCHITECTURAL INTERIOR.

ALIGN DEVICES (OUTLETS, CONTROLS, ETC.) VERTICALLY. DO NOT VERTICALLY ALIGN POWER AND COMMUNICATIONS DEVICES SIMULTANEOUSLY.

OFFSET COMMUNICATIONS DEVICES FROM POWER DEVICES TO EITHER OPPOSITE SIDE OF STUD BAY, OR ADJACENT STUD BAY.

NOTES:

1. IF ALIGNMENT OF DEVICES INDICATED HERE IS IN CONFLICT WITH ADA REQUIREMENTS DUE TO INSTALLATION DETAIL, ADA DIMENSIONS SHALL GOVERN.
2. REFERENCE ARCHITECTURAL INTERIOR ELEVATIONS. LOCATIONS SHOWN ON INTERIOR ELEVATIONS SHALL SUPERCEDE LOCATIONS SHOWN HERE, UNLESS LOCATIONS SHOWN ON INTERIOR ELEVATIONS ARE NOT CODE COMPLIANT.

TYPICAL DEVICE ALIGNMENT

SCALE: NONE

NOTES:

1. IF MOUNTING HEIGHT OF DEVICES INDICATED HERE IS IN CONFLICT WITH ADA REQUIREMENTS DUE TO INSTALLATION DETAIL, ADA DIMENSIONS SHALL GOVERN.
2. RE: ARCH INTERIOR ELEVATIONS, WHICH SHALL SUPERCEDE LOCATIONS SHOWN HERE, UNLESS LOCATIONS SHOWN ON INTERIOR ELEVATIONS ARE NOT CODE COMPLIANT.

TYPICAL DEVICE MOUNTING HEIGHTS

SCALE: NONE

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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
TECH COVER SHEET

Project No:
10183.00

Sheet No:
T0.0

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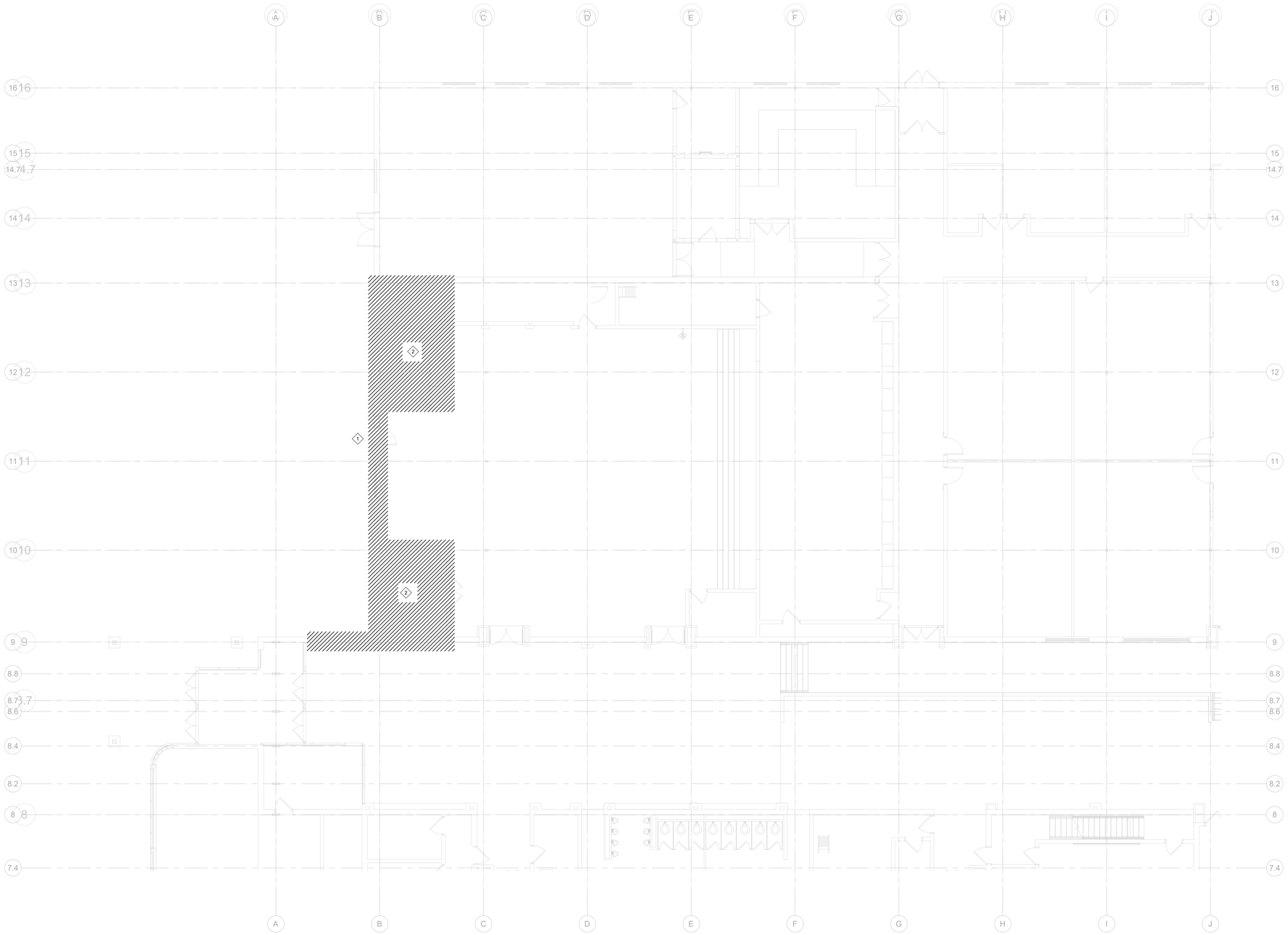

NOTES:

1. INFORMATION REGARDING EXISTING DEVICE LOCATIONS AND CABLE ROUTING IS NOT AVAILABLE. DEMOLITION PLAN INDICATES A DESIRED SCOPE OF WORK; THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IN FIELD PRIOR TO START OF WORK.
2. ALL SYSTEMS LOCATED OUTSIDE THE AREA OF DEMOLITION ARE INTENDED TO REMAIN OPERABLE.
3. CONTRACTOR SHALL COORDINATE WITH OWNER AND ENSURE ALL EQUIPMENT TO BE RETAINED BY OWNER HAS BEEN REMOVED PRIOR TO DEMOLITION WORK, INCLUDING COMPUTER EQUIPMENT, WIRELESS CLOCKS, PROJECTION SCREENS, INTERACTIVE WHITEBOARDS, ETC.

DEMO NOTES

1 (E) ACCESS CONTROLLED ENTRANCE. REMOVE CARD READER AND ELECTRIFIED DOOR HARDWARE FOR POSSIBLE RE-USE. IF DOOR CONTROLLER AND PSU ARE LOCATED AT DOOR, REMOVE AND PRESERVE FOR REUSE.

2 GENERAL DEMOLITION AREA. REMOVE COMMUICATIONS AND LOW VOLTAGE OUTLETS AND EQUIPMENT.

1 FIRST LEVEL AREA A DEMO TECHNOLOGY PLAN
SCALE: 1/8" = 1'-0"

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Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A DEMO TECH PLAN

KEY PLAN

Project No:
10183.00

Sheet No:
TD2.1

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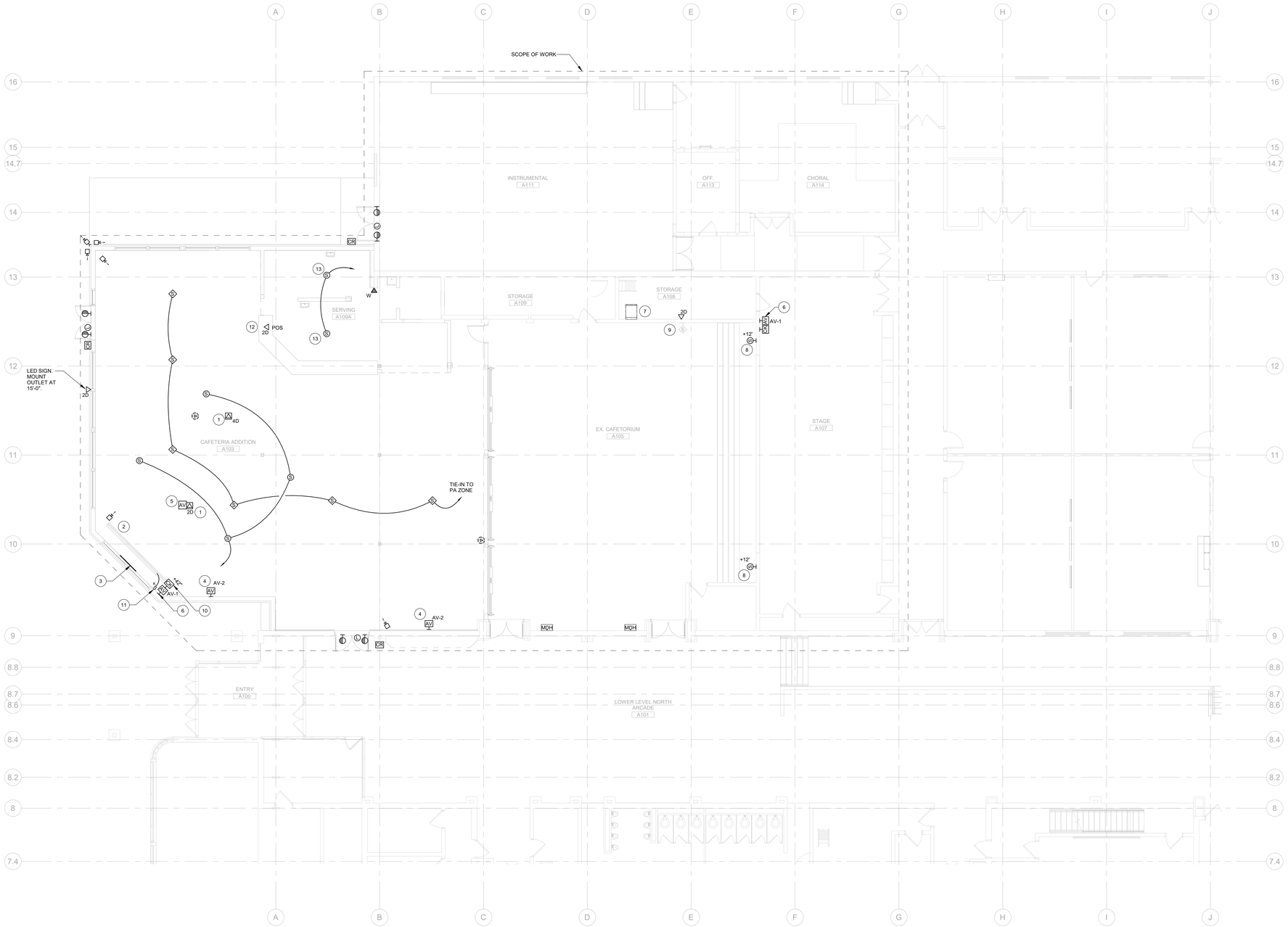

1 FIRST LEVEL AREA A TECHNOLOGY PLAN
SCALE: 1/8" = 1'-0"

NOTES:

1. PROVIDE CONDUIT SLEEVES THROUGH WALLS TO FACILITATE CABLING. PROVIDE FIRESTOPPING AS REQUIRED.
2. ALL LOW VOLTAGE CONDUIT STUBBED OUT ABOVE FINISHED CEILINGS SHALL HAVE LONG RADIUS SWEEPS.
3. CABLE TIES SHALL BE RELEASABLE AND COMPOSED OF HOOK AND LOOP. RUBBER OR SOFT POLYMER. ZIP-TIES OR EQUAL SHALL NOT BE USED.
4. ACCESS CONTROL CABLING SHALL BE ROUTED VIA CONDUIT FROM OUTLET BOX TO ABOVE ACCESSIBLE CEILING.
5. COMMUNICATIONS CABLING SHALL BE ROUTED 'WILD' FROM OUTLET BOX TO ABOVE ACCESSIBLE CEILING.
6. HOMERUN CABLING TO SERVING DISTRIBUTION FRAME. USE J-HOOKS FOR PATHWAYS ABOVE ACCESSIBLE CEILING.
7. CABLING SHALL NOT RUN UNSUPPORTED FOR LENGTHS GREATER THAN 5'-0". ALL VOICE/DATA CABLING SHALL BE TERMINATED ON RACK MOUNTED PATCH PANELS.
8. ALL INFRASTRUCTURE SUPPORTING VOICE/DATA STRUCTURED CABLING SYSTEMS (RACKING, GROUNDING, PATHWAYS, ETC.) SHALL MEET BICSI STANDARDS.
9. CONTRACTOR TO PROVIDE BLOCKING AT PROJECTOR AND DISPLAY LOCATIONS TO SUPPORT 100LBS.
10. REFER TO SHEETS T3.X AND T4.X FOR SYSTEM DIAGRAMS AND INSTALLATION DIAGRAMS.

(#) FLAG NOTES:

1 DATA CABLING TERMINATED TO SURFACE MOUNT BISCUIT JACK AND COILED ABOVE CEILING. PROVIDE 15' SERVICE LOOP. PORT QUANTITY AS INDICATED.

2 MOTORIZED PROJECTION SCREEN - 189" DIAGONAL 16:10. PROVIDE DA-LITE OR EQUAL. PROVIDE KEY SWITCH ON ADJACENT WALL.

3 PLYWOOD BACKBOARD - 24"H X 48"W X 3/4"D. MOUNT BOTTOM AT 12'-0"

4 AV CABLING TERMINATION. PROVIDE LOW VOLTAGE RING IN WALL - FIELD COORDINATE MOUNTING HEIGHT W/ OWNER. PROVIDE J-HOOK ABOVE CEILING FOR CABLE SLACK.

5 PROJECTOR LOCATION. PROVIDE 2-PORT BISCUIT JACK WITH TWO (2) CAT5E HOMERUN TO SERVING IDF AND AV CONNECTIVITY TO AV INPUT WALLPLATE.

6 AV INPUT PLATE. PROVIDE 2-GANG LOW VOLTAGE RING.

7 12U WALL MOUNT RACK. MIDDLE ATLANTIC DWR OR EQUAL.

8 SURFACE MOUNT LOUDSPEAKER. PROVIDE QSC AD-S12 OR EQUAL.

9 (E) PAGING HORN. RELOCATE DEVICE TO LOCATION FIELD COORDINATED W/ OWNER. PROVIDE NEW CABLING.

10 AV CONTROL KEYPAD. PROVIDE 1-GANG LOW VOLTAGE RING @ 42"AFF. ROUTE CAT5E CABLE TO AV EQUIPMENT RACK IN STORAGE A108.

11 LOW VOLTAGE SWITCH W/ KEYLOCK COVER FOR PROJECTION SCREEN.

12 PROVIDE GROMMET IN WORK SURFACE FOR CABLE ROUTING.

13 COORDINATE LOUDSPEAKER LOCATIONS W/ OWNER. VERIFY HOMERUN LOCATION.

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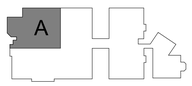
Revisions:

No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
FIRST LEVEL AREA A TECH PLAN



KEY PLAN

Project No:
10183.00

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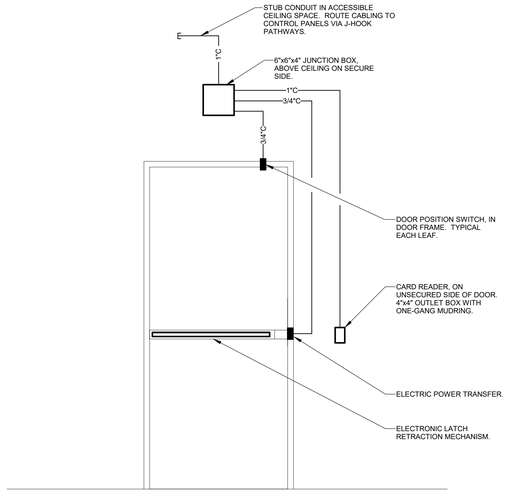
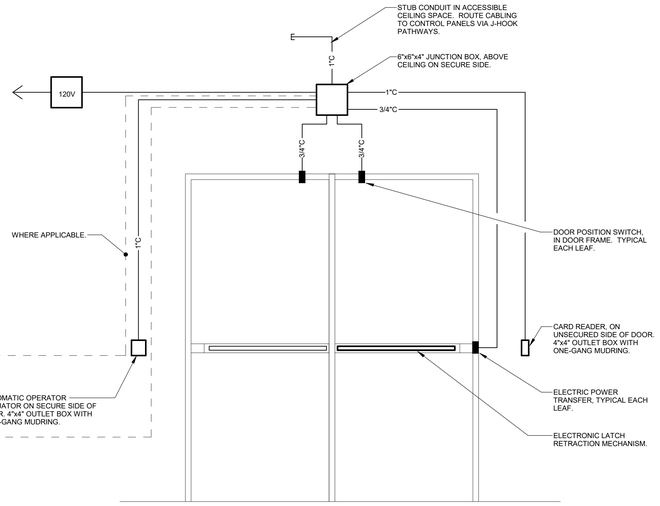
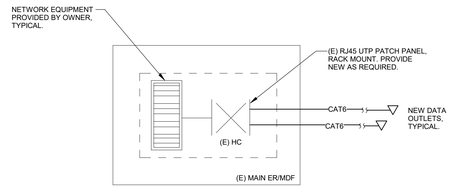


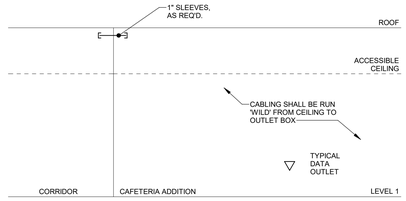
3 ELECTRONIC SECURITY - SINGLE LEAF DOOR
SCALE: NONE



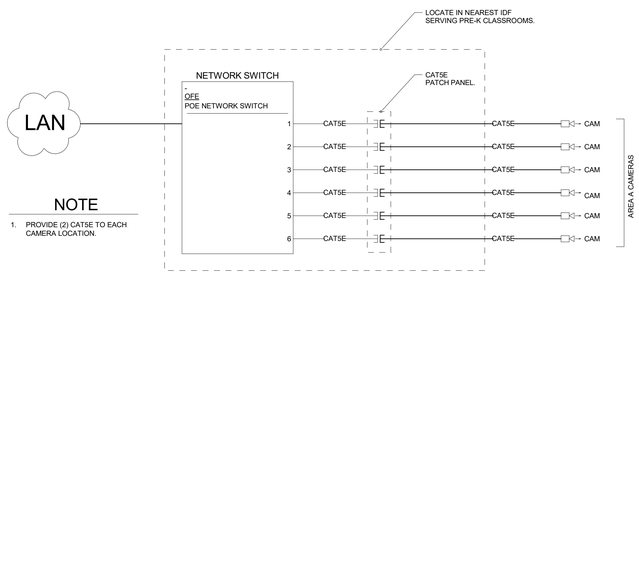
4 ACCESS CONTROL DOOR DIAGRAM - TWO LEAF
SCALE: NONE



1 COMMUNICATIONS RISER DIAGRAM
SCALE: NONE

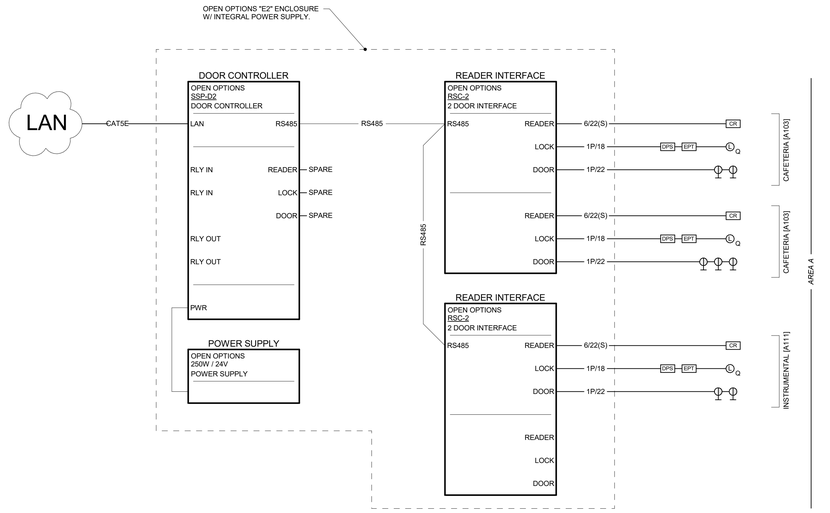


2 COMMUNICATIONS PATHWAYS AND SPACES
SCALE: NONE



NOTE

1. PROVIDE (2) CAT5E TO EACH CAMERA LOCATION.



5 ELECTRONIC SECURITY FUNCTIONAL DIAGRAM
SCALE: NONE

NOTES:

1. LIGHT LINEWEIGHT INDICATES EXISTING OR OWNER PROVIDED EQUIPMENT.
2. FIELD-COORDINATE EXACT LOCATION OF ALL PANELS AND HARDWARE WITH OWNER.
3. PROVIDE ALL NECESSARY ACCESSORIES AND APPURTENANCES TO COMPRISE A COMPLETE AND OPERABLE SYSTEM.
4. INCREASE WIRE GAUGE FOR LOCK CIRCUITS LONGER THAN 300 FEET.
5. REFERENCE PROJECT MANUAL / SPECIFICATION FOR CABLING REQUIREMENTS.
6. ALL ACCESS CONTROLLED DOORS SHALL ALLOW FREE EGRESS AT ALL TIMES.

LINETYPE LEGEND:

- 6/22(S) — SECURITY - CARD READER
- 1P/18 — SECURITY - ELECTRIC DOOR HARDWARE
- 1P/22 — SECURITY - DOOR CONTACT
- RS485 — CONTROL (SERIAL)
- CAT5E — CATEGORY 6 - 4PR UTP

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
TECHNOLOGY SYSTEMS DIAGRAMS

Project No:
10183.00

Sheet No:
T3.1

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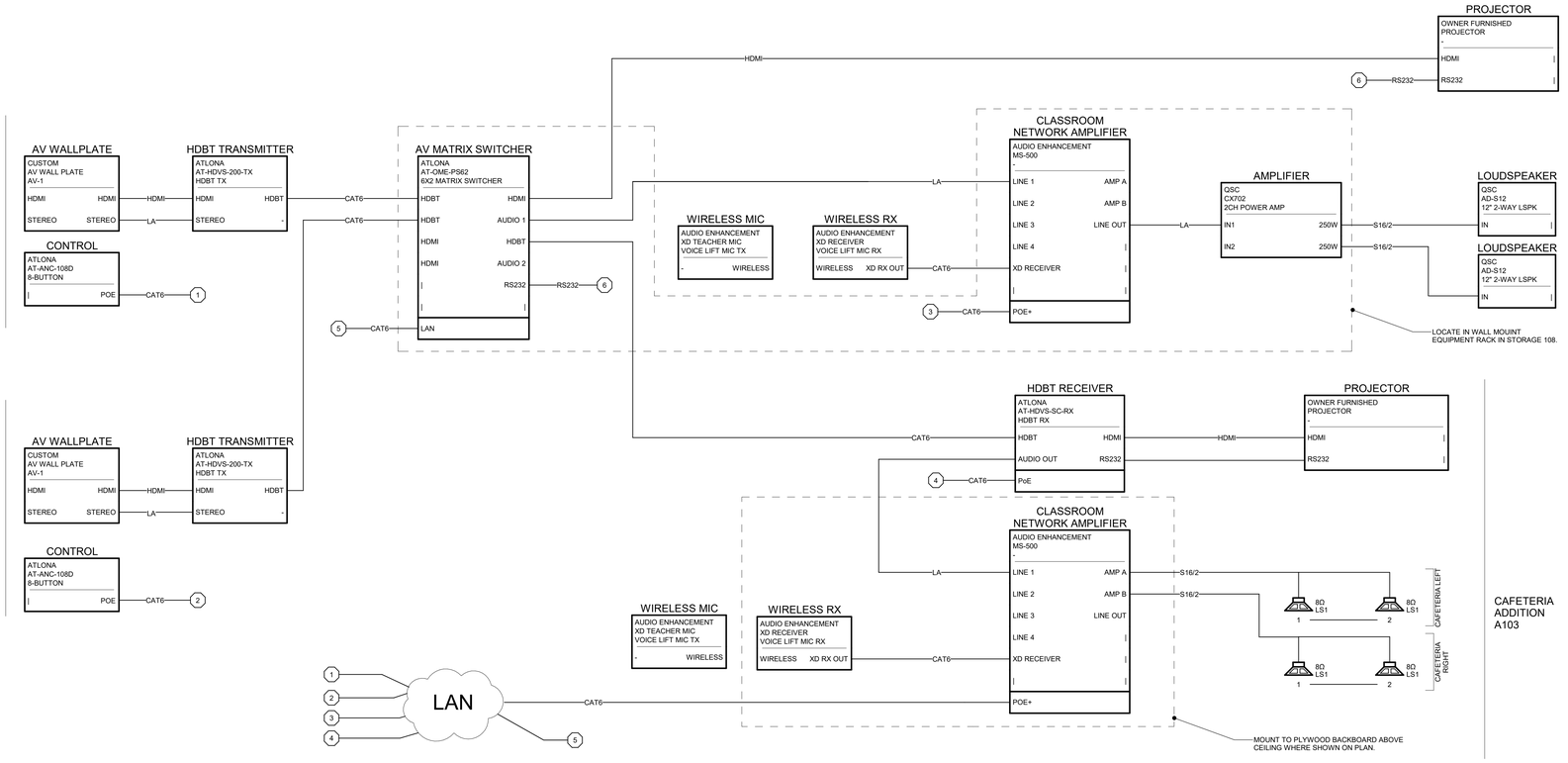

1 CAFETERIA AV FUNCTIONAL DIAGRAM

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

NOTES:

1. INSTALLERS SHALL HOLD CURRENT CERTIFICATION BY INFOCOMM INTERNATIONAL AS CTS AND /OR CTS-I AND HOLD MANUFACTURER CERTIFICATIONS FOR PRODUCTS BEING INSTALLED.
2. CONTROL SYSTEM PROGRAMMERS SHALL BE CERTIFIED BY MANUFACTURER. MINIMUM: CRESTRON LEVEL 3 OR HIGHER, AMX HCCP-P OR HIGHER.
3. CONTRACTOR TO PROVIDE NECESSARY APPURTENANCES TO ENSURE A FULLY FUNCTIONING SYSTEM.
4. CONTRACTOR SHALL PROVIDE EQUIPMENT RACK RACKING, RACK MOUNT POWER, MOUNTING ACCESSORIES AND VENTILATION EQUIPMENT FOR AV SYSTEM.
5. LIGHT LINE WEIGHT INDICATES EXISTING OR OFCI EQUIPMENT.

AV SYSTEM NOTES:

1. 1. THE AV SYSTEM CONSISIT OF TWO SEPARATE SYSTEM THAT MAY BE COMBINED BY WAY OF THE AV MATRIX SWITCHER.
2. SIGNAL PICKUP IN THE CAFETERIA IS ACHIEVED VIA HDBASE-T TRANSMITTERS THAT SEND SIGNAL TO THE MATRIX SWITCHER IN THE EQUIPMENT RACK IN STORAGE A108. THE SIGNAL IS PROCESSED IN THE MATRIX SWITCHER AND ROUTED TO DISPLAY DEVICES IN EACH SPACE. AUDIO SHALL FOLLOW THE VIDEO SOURCE.
3. SYSTEM CONTROL IS VIA WALL MOUNT KEYPADS. CONTROL INCLUDES SOURCE SELECTION, AUDIO LEVEL AND ON/OFF.

LINETYPE LEGEND:

- HDMI — PREFAB HDMI CABLE
- LA — LINE-LEVEL AUDIO (22/2C-SH)
- S16/2 — SPEAKER (GAUGE/QTY)
- IR — CONTROL (SERIAL/INFRARED)
- CAT6 — CATEGORY 6 - 4PR UTP
- MMOF — MULTIMODE OPTICAL FIBER
- R18/2 — CONTROL RELAY (GAUGE/QTY)

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
AV FUNCTIONAL DIAGRAMS

Project No:
10183.00

Sheet No:
T3.2

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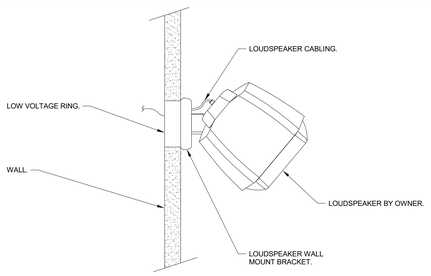
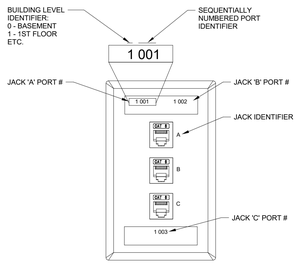


SURFACE MOUNT LOUDSPEAKER MOUNTING DIAGRAM

NO SCALE — PLAN SYMBOL: (S) (S)

(S)

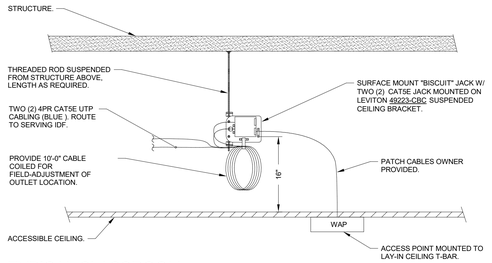


NOTES:
1. ALL LABELS SHALL BE MACHINE PRINTED.
2. LABELING CONVENTION APPLIES TO BOTH FACEPLATE AND CABLING.
3. PROVIDE COLOR CODED JACK FOR INTENDED USE.

TYPICAL OUTLET & CABLING LABELING CONVENTION

NO SCALE

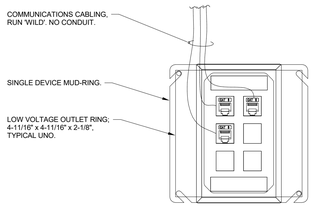
(M)



TYPICAL CLASSROOM WIRELESS ACCESS POINT OUTLET DIAGRAM

NO SCALE — PLAN SYMBOL: (F)

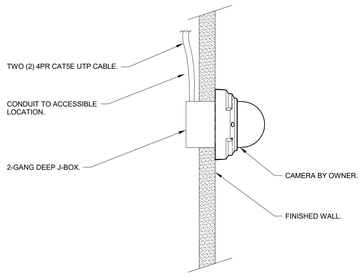
(F)



COMMUNICATIONS OUTLET BOX DIAGRAM

NO SCALE

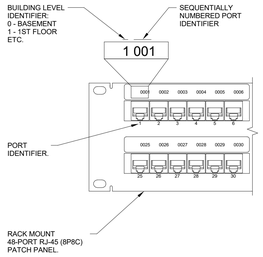
(A)



WALL MOUNT CAMERA DIAGRAM

NO SCALE — PLAN SYMBOL: (T)

(T)

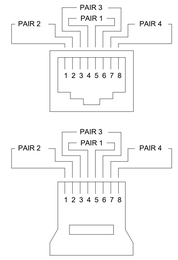


NOTES:
1. ALL LABELS SHALL BE MACHINE PRINTED.
2. LABELING CONVENTION APPLIES TO BOTH PATCH PANEL AND HORIZONTAL CABLING.
3. MULTIPLE PATCHPANELS CONTINUE SEQUENTIALLY NUMBERED PORT IDENTIFIER, I.E. PORT 1 ON SECOND PATCHPANEL WILL BE IDENTIFIED AS '0049', ETC.

TYPICAL PATCH PANEL LABELING CONVENTION

NO SCALE

(N)

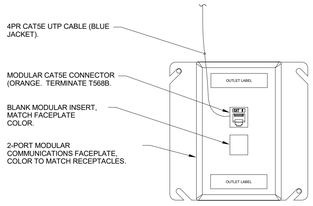


MODULAR CONNECTOR PINOUTS		
PAIR	PIN	COLOR CODE
1	4	BLUE
1	5	WHITE/BLUE
2	1	WHITE/ORANGE
2	2	ORANGE
3	3	WHITE/GREEN
3	6	GREEN
4	7	WHITE/BROWN
4	8	BROWN

T568B STANDARD 8-POSITION / 8-CONDUCTOR DEVICE WIRING DIAGRAM

NO SCALE

(G)

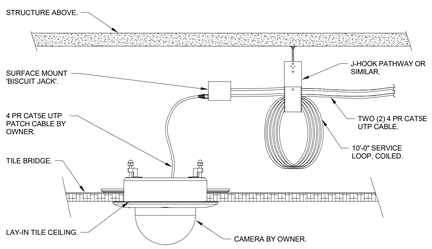


NOTES:
1. PROVIDE LEVEL 1 ADMINISTRATION PER ANSI/TIA/EIA-606.
2. PROVIDE LABEL ON FRONT OF FACEPLATE.

DATA OUTLET DIAGRAM

NO SCALE — PLAN SYMBOL: 1D

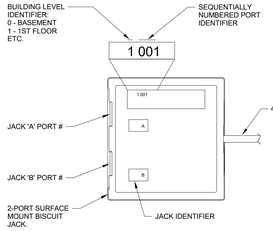
(B)



FLUSH CEILING MOUNT CAMERA DIAGRAM

NO SCALE — PLAN SYMBOL: (U)

(U)

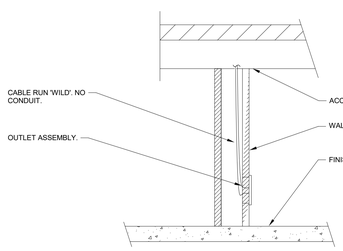


NOTES:
1. ALL LABELS SHALL BE MACHINE PRINTED.
2. LABELING CONVENTION APPLIES TO BOTH FACEPLATE AND CABLING.
3. PROVIDE COLOR CODED JACK FOR INTENDED USE.

TYPICAL BISCUIT JACK LABELING CONVENTION

NO SCALE

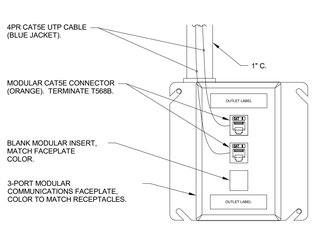
(P)



OUTLET PATHWAY DIAGRAM - DRYWALL PARTITION

NO SCALE

(H)

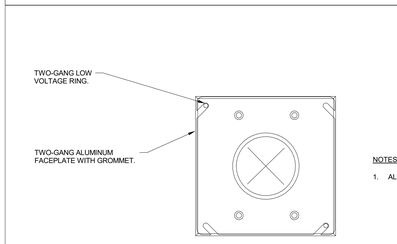


NOTES:
1. PROVIDE LEVEL 1 ADMINISTRATION PER ANSI/TIA/EIA-606.
2. PROVIDE LABEL ON FRONT OF FACEPLATE.

VOICE/DATA OUTLET DIAGRAM

NO SCALE — PLAN SYMBOL: 2D

(C)

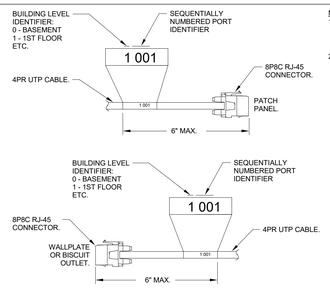


NOTES:
1. ALL AV CABLING RUN 'WILD'.

AV OUTLET WALL PLATE DIAGRAM

NO SCALE — PLAN SYMBOL: AV AV-2

(V)

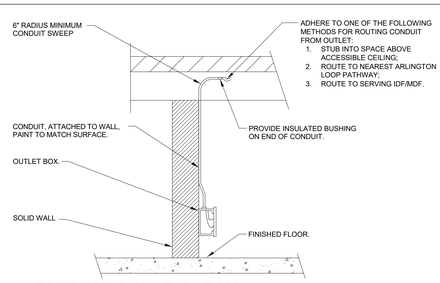


NOTES:
1. ALL LABELS SHALL BE MACHINE PRINTED AND SHALL WRAP COMPLETELY AROUND CABLE.
2. LABELING SHALL BE PAPER WITH THERMOPLASTIC WRAP.

HORIZONTAL CABLE LABELING CONVENTION

NO SCALE

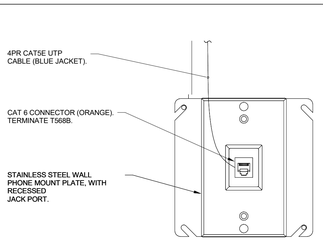
(Q)



OUTLET PATHWAY DIAGRAM SOLID PARTITION (SURFACE MOUNT)

NO SCALE

(J)

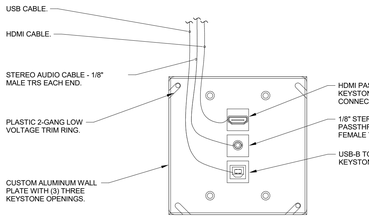


NOTES:
1. PROVIDE LEVEL 1 ADMINISTRATION PER ANSI/TIA/EIA-606.
2. PROVIDE LABEL ON FRONT OF FACEPLATE.

WALL PHONE OUTLET DIAGRAM

NO SCALE — PLAN SYMBOL: W

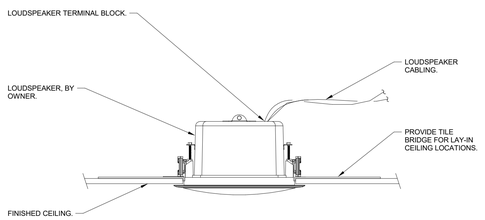
(D)



AV WALL PLATE DIAGRAM

NO SCALE — PLAN SYMBOL: AV AV-1

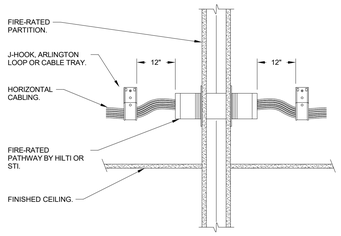
(W)



CEILING SPEAKER MOUNTING DIAGRAM

NO SCALE — PLAN SYMBOL: (S)

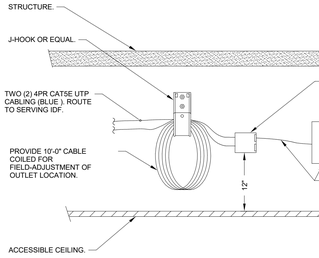
(R)



FIRE-RATED PATHWAY DIAGRAM

NO SCALE

(K)



WIRELESS ACCESS POINT OUTLET DIAGRAM

NO SCALE — PLAN SYMBOL: (E)

(E)

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Seal

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MARC A. SACCONI
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4-10-20

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
TECHNOLOGY DIAGRAMS

Project No:
10183.00

Sheet No:
T4.1

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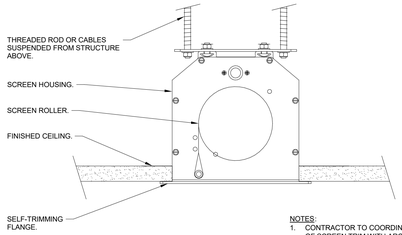
systems fulfilled
303.278.3820 www.bgbuildingworks.com

ALBUQUERQUE | AVON | DENVER | FORT COLLINS

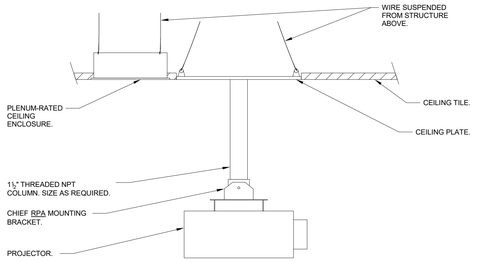


NOTES:
1. CONTRACTOR TO COORDINATE COLOR/FINISH OF SCREEN TRIM WITH ARCHITECT OR I.D. PRIOR TO ORDERING EQUIPMENT.
2. E.C. SHALL PROVIDE DUPLEX RECEPTACLE AT PROJECTOR LOCATION.

PROJECTION SCREEN MOUNTING DETAIL

NO SCALE

A

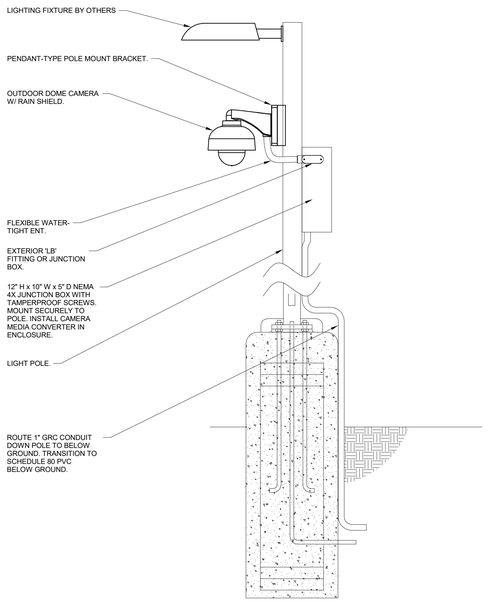


PROJECTOR MOUNT DIAGRAM - TILE CEILING

NO SCALE

PLAN SYMBOL: AV

B



LIGHT POLE CAMERA MOUNT DIAGRAM

NO SCALE

PLAN SYMBOL:

C

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Revisions:		
No	Description	Date

Issue Dates:
04.06.2020
PERMIT SET

Sheet Title:
TECHNOLOGY DIAGRAMS

Project No:
10183.00

Sheet No:
T4.2

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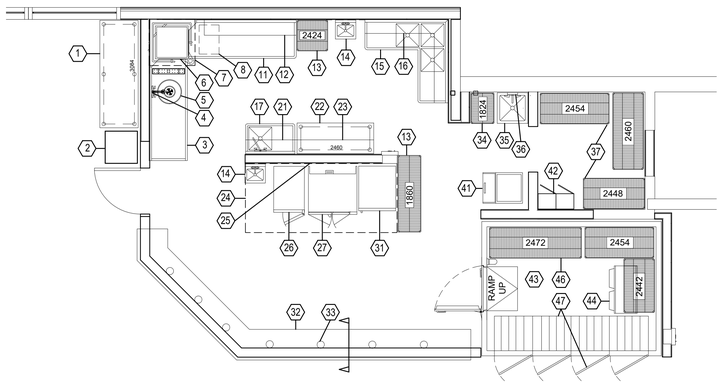
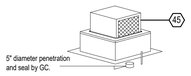


EQUIPMENT SCHEDULE				
ITEM #	QTY.	DESCRIPTION	NOTES	PROVIDED BY
1	1	TRAY RETURN TABLE	UNDER SHELF	KEC
2	1	POS / CASHIER CART, MOBILE	CASTERS	KEC
3	1	DISH TABLE, SOILED		KEC
4	1	PRE RINSE SPRAYER		KEC
5	1	DISPOSAL, 2 HP		KEC
6	NIC	DISH MACHINE, HIGH TEMP		EXISTING
7	1	CONDENSATE HOOD		KEC
8	1	BOOSTER HEATER		KEC
9	NIC	SPARE NUMBER		
10	NIC	SPARE NUMBER		
11	1	DISH TABLE, CLEAN		KEC
12	2	WALL SHELVES	STAINLESS STEEL	KEC
13	2	CLEAN UTENSIL STORAGE	METRO MAX I	KEC
14	2	HAND SINK W/ SPLASH GUARDS		KEC
15	1	SINK, 3 COMPARTMENT, CORNER	OVERFLOWS AND LEVER DRAINS	KEC
16	2	WALL SHELVES	STAINLESS STEEL	KEC
17	1	SINK, VEG PREP	OVERFLOW AND LEVER DRAIN	KEC
18	NIC	SPARE NUMBER		
19	NIC	SPARE NUMBER		
20	NIC	SPARE NUMBER		
21	2	WALL SHELVES	STAINLESS STEEL	KEC
22	1	WORK TABLE	UNDER SHELF	KEC
23	2	WALL SHELVES	STAINLESS STEEL	KEC
24	1	EXHAUST HOOD, TYPE 2	SSSD STATES, NO COOKING WILL OCCUR	KEC
25	1 LOT	WALL FLASHING BELOW HOOD	STAINLESS STEEL	KEC
26	1	STEAMER, 10 PAN		KEC
27	1	CONVECTION OVEN, DOUBLE STACKED	CASTERS	KEC
28	NIC	SPARE NUMBER		
29	NIC	SPARE NUMBER		
30	NIC	SPARE NUMBER		
31	NIC	CABINET, HEATED		EXISTING
32	1	SERVING LINE, W/ BASE CABINET	STAINLESS STEEL TOP AND BASE	KEC
33	7	HEAT LAMPS		KEC
34	1	CLEANING SUPPLIES STORAGE	METRO MAX I	KEC
35	NIC	MOP SINK		GC
36	NIC	HOSE BIB FOR CHEM DISPENSER		GC
37	3	DRY STORAGE SHELVING	METRO MAX I	KEC
38	NIC	SPARE NUMBER		
39	NIC	SPARE NUMBER		
40	NIC	SPARE NUMBER		
41	1	ICE MACHINE W/ BIN	300 LBS / 24 HOURS	KEC
42	NIC	EMPLOYEE LOCKERS		GC
43	1	WALK IN COOLER	INTEGRAL FLOOR W /RAMP	KEC
44	1	WALK IN COOLER EVAP COIL		KEC
45	1	WALK IN COOLER CONDENSER	REMOTE, ON BUILDING ROOF	KEC
46	3	WALK IN COOLER SHELVING	METRO MAX I	KEC
47	4	GLASS DOORS W/ LED LIGHTING	27" DEEP INTERNAL SHELVING	KEC
END	OF	ITEMS		

LEGEND:
KEC = Kitchen Equipment Contractor NIC = Not In kitchen Contract GC = General Contractor

NOTE: KEC / GC shall disconnect, remove and store all equipment that will be reused in the new kitchen. Eequipment shall be store in an environmentally controlled area and protected from freezing.

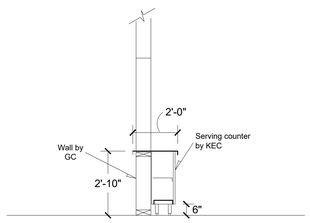
Walk in cooler / freezer compressors and weather cover by KEC.
Crane/lift to roof by GC. Roof curb by GC.



Roof curb, electrical stub up, refrigeration line roof penetration, crane lift to roof by G.C. Roof curb penetration, install, flash, seal, trim, finish by G.C.
Verify location w/ Architect, within 20 feet (vertical and horizontal) of corresponding cooler / freezer.

Curb size: 24" x 30" x 12" (verify)

Walk in compressor / roof curb



SERVING LINE SECTION
See sheet FS-501 for details

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Revisions:

No	Description	Date

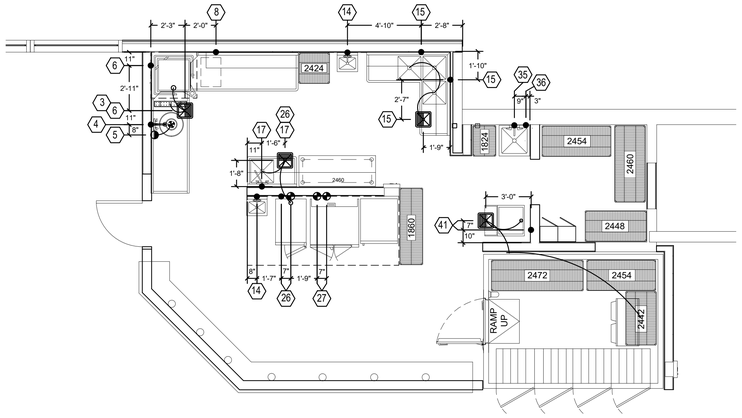
Issue Dates:
CD - 04/07/20

Sheet Title:
Kitchen Equipment Plan

Project No:
1935.03

Sheet No:
FS101

KITCHEN TECH
Foodservice Design and Consulting
356 Monte Vista Street, Brighton, Colorado, 80601
Phone: 303-835-2018 brian@kitchentech.biz



Plumbing Legend

Gas location:	◕
Water location:	●
Direct waste:	◑
Floor sink:	▤
Waste extention:	⌒

EQUIPMENT PLUMBING SCHEDULE

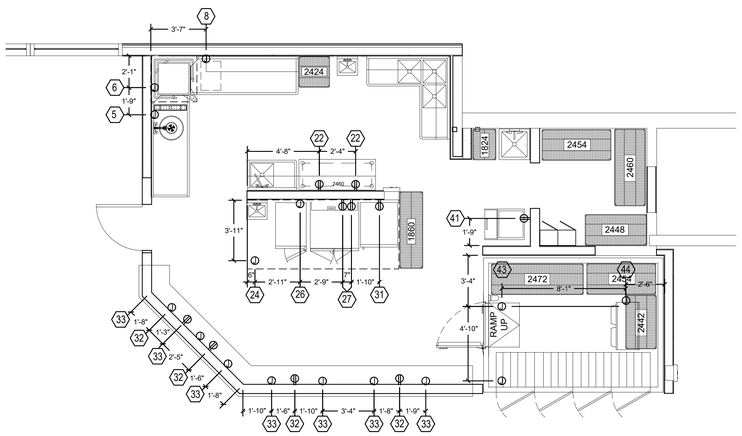
ITEM #	QTY.	DESCRIPTION	AFF	HOT WATER	COLD WATER	INDIRECT WASTE	DIRECT WASTE	FLOOR SINK	GAS	BTU	NOTES
1	1	TRAY RETURN TABLE	-								
2	1	POS / CASHIER CART, MOBILE	-								
3	1	DISH TABLE, SOILED	OOF			2		3			EXTEND INDIRECT DRAIN TO FLOOR SINK
4	1	PRE RINSE SPRAYER	15	1/2	1/2						
5	1	DISPOSAL, 2 HP	12				2				TAP WATER SUPPLY FROM ITEM #4
6	NIC	DISH MACHINE, HIGH TEMP	OOF			2		3			EXTEND INDIRECT DRAIN TO FLOOR SINK
7	1	CONDENSATE HOOD	-								
8	1	BOOSTER HEATER	12	3/4							EXTEND BOOSTER OUTPUT TO DISH MACHINE
9	NIC	SPARE NUMBER	-								
10	NIC	SPARE NUMBER	-								
11	1	DISH TABLE, CLEAN	-								
12	2	WALL SHELVES	-								
13	2	CLEAN UTENSIL STORAGE	-								
14	2	HAND SINK W/ SPLASH GUARDS	STND	1/2	1/2		2				
15	1	SINK, 3 COMPARTMENT, CORNER	15	1/2	1/2	2		3			EXTEND INDIRECT DRAIN TO FLOOR SINK
16	2	WALL SHELVES	-								
17	1	SINK, VEG PREP	15	1/2	1/2	2		3			EXTEND INDIRECT DRAIN TO FLOOR SINK
18	NIC	SPARE NUMBER	-								
19	NIC	SPARE NUMBER	-								
20	NIC	SPARE NUMBER	-								
21	2	WALL SHELVES	-								
22	1	WORK TABLE	-								
23	2	WALL SHELVES	-								
24	1	EXHAUST HOOD, TYPE 2	-								
25	1 LOT	WALL FLASHING BELOW HOOD	-								
26	1	STEAMER, 10 PAN	24		1/2	2		3	3/4	105K	FLEX GAS LINE BY KEC
27	1	CONVECTION OVEN, DOUBLE STACKED	24-48						3/4	75K ea	FLEX GAS LINE BY KEC
28	NIC	SPARE NUMBER	-								
29	NIC	SPARE NUMBER	-								
30	NIC	SPARE NUMBER	-								
31	NIC	CABINET, HEATED	-								
32	1	SERVING LINE, W/ BASE CABINET	-								
33	7	HEAT LAMPS	-								
34	1	CLEANING SUPPLIES STORAGE									
35	NIC	MOP SINK	STND	1/2	1/2		2				
36	NIC	HOSE BIB FOR CHEM DISPENSER	STND	1/2	1/2						
37	3	DRY STORAGE SHELVING	-								
38	NIC	SPARE NUMBER	-								
39	NIC	SPARE NUMBER	-								
40	NIC	SPARE NUMBER	-								
41	1	ICE MACHINE W/ BIN	60		1/2	2		3			EXTEND INDIRECT DRAIN TO FLOOR SINK
42	NIC	EMPLOYEE LOCKERS	-								
43	1	WALK IN COOLER	OOF	1/2		1		2			EXTEND INDIRECT WASTE TO FLOOR SINK
44	1	WALK IN COOLER EVAP COIL	-								
45	1	WALK IN COOLER CONDENSER	-								
46	3	WALK IN COOLER SHELVING	-								
47	4	GLASS DOORS W/ LED LIGHTING	-								
END	OF	ITEMS									

LEGEND:
OOF = Out Of Floor AFF = Above Finished Floor OOC = Out Of Ceiling NIC = Not In kitchen Contract KEC = Kitchen Equipment Contractor GC = General Contractor
STND = Standard Height

EXHAUST HOOD SCHEDULE

ITEM #	HOOD SIZE: L x W x D	HOOD TYPE	CFM	EXHAUST COLLAR(S)	COLLAR OPENING	S.P. / COLLAR	GLOBE LIGHTS	LIGHT / FAN SWITCHES	NOTES
7	42x 42 x 24	2	600	1	6 x 6	0.50"	NA	NA	CONNECT FAN CONTROL RELAY TO DISH MACHINE
									TRIGGER, ADD DELAY CIRCUIT IF DESIRED
24									SEE CAPTIVE AIRE DRAWINGS
END OF	ITEMS								THE HOOD RECOMMENDATION IS BASED ON INFO
									SUPPLIED TO KITCHEN TECH BY SSSD. STATING
									THERE WOULD BE NO COOKING OCCURRING IN THE
									KITCHEN, ONLY REHEATING OF PREVIOUSLY COOKED
									ITEMS.

KITCHEN PLUMBING - MECHANICAL



Electrical Legend

Duplex outlet:	⏚
Junction box:	⏚
Special power outlet:	⏚

EQUIPMENT ELECTRICAL SCHEDULE

ITEM #	QTY.	DESCRIPTION	AFF	VOLT	AMP	PHASE	KW	NOTES
1	1	TRAY RETURN TABLE	-					
2	1	POS / CASHIER CART, MOBILE	-					
3	1	DISH TABLE, SOILED	-					
4	1	PRE RINSE SPRAYER	-					
5	1	DISPOSAL, 2 HP	12	208	9	1		
6	NIC	DISH MACHINE, HIGH TEMP	24	208	40	3		
7	1	CONDENSATE HOOD	-					
8	1	BOOSTER HEATER	12	208		3	7	
9	NIC	SPARE NUMBER	-					
10	NIC	SPARE NUMBER	-					
11	1	DISH TABLE, CLEAN	-					
12	2	WALL SHELVES	-					
13	2	CLEAN UTENSIL STORAGE	-					
14	2	HAND SINK W/ SPLASH GUARDS	-					
15	1	SINK, 3 COMPARTMENT, CORNER	-					
16	2	WALL SHELVES	-					
17	1	SINK, VEG PREP	-					
18	NIC	SPARE NUMBER	-					
19	NIC	SPARE NUMBER	-					
20	NIC	SPARE NUMBER	-					
21	2	WALL SHELVES	-					
22	1	WORK TABLE	48	115	20	1		UTILITY OUTLET
23	2	WALL SHELVES	-					
24	1	EXHAUST HOOD, TYPE 2	OOC	115	15	1		HOOD LIGHTS AND CONTROLS ONLY
25	1 LOT	WALL FLASHING BELOW HOOD	-					
26	1	STEAMER, 10 PAN	24	115	5	1		DIRECT CONNECT, NO GFCI
27	1	CONVECTION OVEN, DOUBLE STACKED	24-48	115	20	1		UNIT SUPPLIED WITH CORD AND PLUG
28	NIC	SPARE NUMBER	-					
29	NIC	SPARE NUMBER	-					
30	NIC	SPARE NUMBER	-					
31	NIC	CABINET, HEATED	24	115	20	1		UNIT SUPPLIED WITH CORD AND PLUG
32	1	SERVING LINE, W/ BASE CABINET	24	115	20	1		UTILITY OUTLET
33	7	HEAT LAMPS	OOC	115	7	1		
34	1	CLEANING SUPPLIES STORAGE	-					
35	NIC	MOP SINK	-					
36	NIC	HOSE BIB FOR CHEM DISPENSER	-					
37	3	DRY STORAGE SHELVING	-					
38	NIC	SPARE NUMBER	-					
39	NIC	SPARE NUMBER	-					
40	NIC	SPARE NUMBER	-					
41	1	ICE MACHINE W/ BIN	60	115	20	1		
42	NIC	EMPLOYEE LOCKERS	-					
43	1	WALK IN COOLER	OOC	115	10	1		LIGHTS ONLY
44	1	WALK IN COOLER EVAP COIL	OOC	115	3	1		
45	1	WALK IN COOLER CONDENSER	ROOF	208	12	3		
46	3	WALK IN COOLER SHELVING	-					
47	4	GLASS DOORS W/ LED LIGHTING	OOC	115	3	1		
END	OF	ITEMS						

LEGEND:
OOF = Out Of Floor AFF = Above Finished Floor OOC = Out Of Ceiling NIC = Not In kitchen Contract KEC = Kitchen Equipment Contractor
GC = General Contractor ROOF = Exterior roof of building EXT = Exterior of building

KITCHEN ELECTRICAL

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Seal

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Revisions:

No	Description	Date

Issue Dates:
CD - 04/07/20

Sheet Title:
Kitchen Plumbing, Mech and Electrical

Project No:
1935.03

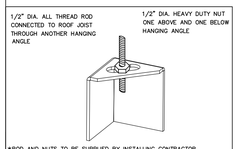
Sheet No:
FS102

HOOD INFORMATION – Job#4213819

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TYPE	APPLIANCE DUTY	DESIGN CFM/ft	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW	SWITCHES QUANTITY	LOCATION
1		5424 VHB-G-ND	10' 0"	700 Deg.	II	N/A	150	1500			4"	12"	1500	1910	-0.249"	430 SS 100%	ALONE	ALONE	1 FAN	

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1							4	Recessed	NO							NO	325 LBS



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE DETAILS

HOOD STYLE / MODEL	45° DEGREES cfm/ft.	60° DEGREES cfm/ft.	70° DEGREES cfm/ft.
CANOPY ND2	150	200	250
WITH END PANELS (15% reduction)	127.5	170	212.5
SLOPED SND-2	228	294	–
ISLAND ND-2WI	269	300	350
NDI	346	422	475

ETL HOOD LISTING DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)

SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED

TOTAL DUCT AREA=144 X $\frac{\text{CFM}}{\text{FPM(*)}}$

DUCT LENGTH= $\frac{\text{TOTAL DUCT AREA}}{\text{DUCT DEPTH}}$

*CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM.

CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

ETL LISTED & 3054804-001 & 3054804-002 · UL STANDARD 710 · ETL Intertek · BUILT IN ACCORDANCE WITH NFPA No. 96

Listed under ETL File number 3054804-001/002

BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
4. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
5. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
7. ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
9. SEISMIC RESTAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
10. INSTALLING CONTRACTORS ASSUME ALL RELATED REPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

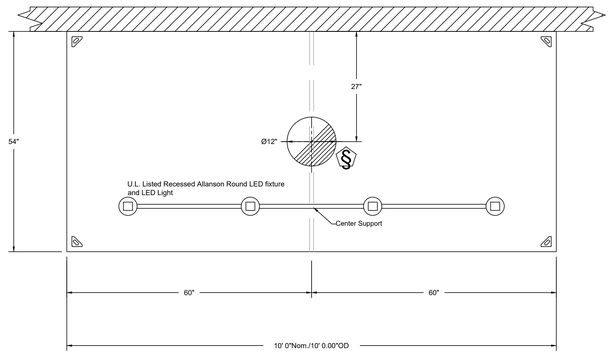
BALANCE

11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

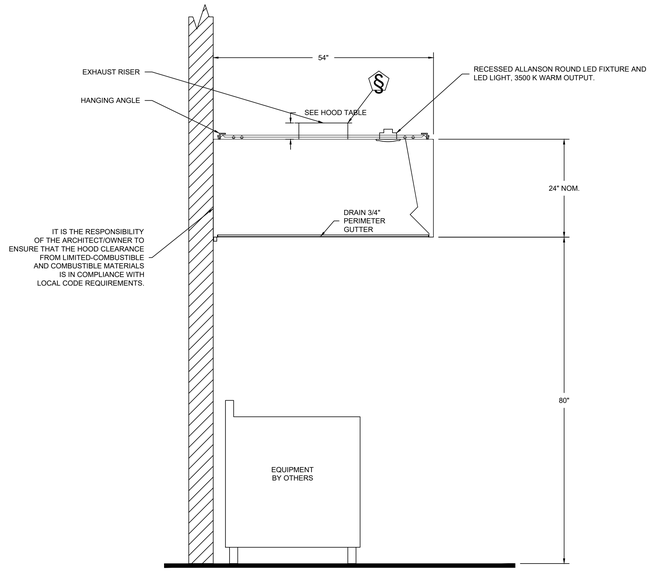
ADDITIONAL

14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

GENERAL NOTES



PLAN VIEW – Hood #1
10' 0.00" LONG 5424VHB-G-ND



SECTION VIEW – MODEL 5424VHB-G-ND
HOOD – #1

System Design Verification (SDV)

If ordered, CAS Service will perform a System Design Verification (SDV) once all equipment has had a complete start up per the Operation and Installation Manual. Typically, the SDV will be performed after all inspections are complete.

Any field related discrepancies that are discovered during the SDV will be brought to the attention of the general contractor and corresponding trades on site. These issues will be documented and forwarded to the appropriate sales office. If CAS Service has to resolve a discrepancy that is a field issue, the general contractor will be notified and billed for the work. Should a return trip be required due to any field related discrepancy that cannot be resolved during the SDV, there will be additional trip charges.

During the SDV, CAS Service will address any discrepancy that is the fault of the manufacturer. Should a return trip be required, the general contractor and appropriate sales office will be notified. There will be no additional charges for manufacturer discrepancies.

FOR QUESTIONS, CALL THE
COLORADO REGIONAL SALES OFFICE
7300 S. Alton Way, #5B, Centennial, CO 80112
PHONE: (720) 570-0981
FAX: (919) 227-5999

REVISIONS

	DESCRIPTION	DATE:
△		
△		
△		
△		

CAPTIVE-AIRE
Denver Office
7300 S Alton Way Building 5, Suite B, Centennial, CO, 80112 PHONE: (720) 570-0981 FAX: (919) 227-5999 EMAIL: regv2@captiveaire.com
www.captiveaire.com

Steamboat Springs MS - Steamboat Springs, CO
STEAMBOAT SPRINGS, CO, 80487

DATE: 2/14/2020

DWG.#: 4213819

DRAWN BY: MAR-42

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1

TAB Associates
The Architectural Balance
0056 Edwards Village Blvd. Suite 210
Edwards, CO 81632
(970) 766-1470
fax: (970) 766-1471
email: tab@vail.net
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Civil Engineer
ALPINE ENGINEERING
(970) 926-3373
Structural Engineer
JIRSA, HEDRICK
(303) 839-1963
Mechanical Engineer
BG BUILDINGWORKS
(970) 949-6108
Electrical Engineer
BG BUILDINGWORKS
(970) 949-6108

Seal

Steamboat Springs Middle School
39610 Amethyst Dr
Steamboat Springs, CO 80487

Revisions: No	Description	Date

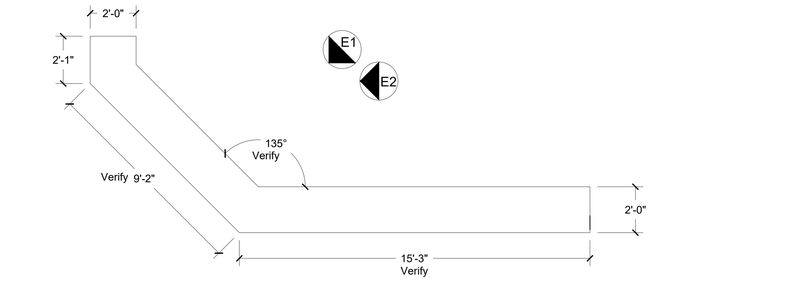
Issue Dates:
CD - 04/07/20

Sheet Title:
Exhaust Hood

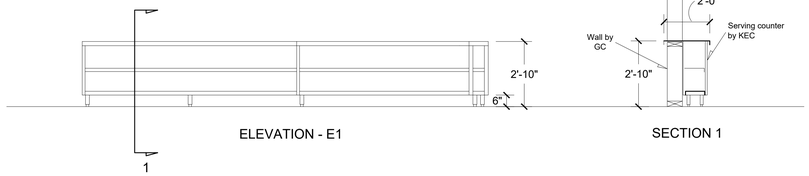
Project No:
1935.03

Sheet No:
FS103

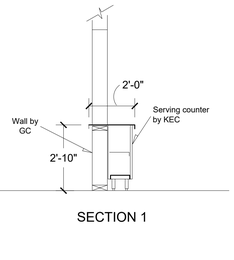
KITCHEN TECH
Foodservice Design and Consulting
356 Monte Vista Street, Brighton, Colorado, 80601
Phone: 303-835-2018 brian@kitchentech.biz



PLAN

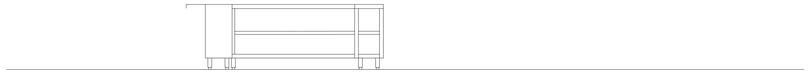


ELEVATION - E1



SECTION 1

1



ELEVATION - E2

ITEM # 32: SERVING LINE:
Top and under counter base

General Specification:
Top shall be 14 gauge 300 series stainless steel, base and shelves shall be 16 gauge fully welded and polished 300 series stainless steel, reinforced to create a structurally sound unit. Support legs to be 1-5/8" round stainless steel tubing w/ adjustable S/S bullet feet. Base cabinet shall include a stainless steel intermediate shelf, mounted inside the cabinet with equal distance above and below. KEC to coordinate all custom fabrication work with construction progress and field dimensions for exact length, width and height. KEC to field cut openings in base to allow access to plumbing, electrical rough in and cords.

GENERAL NOTES

Certain items are listed in the Itemized Equipment Specification as supplied by KEC and installed by G.C. Failure to observe / include these specifications in the G.C. bid does NOT obsolve the G.C. of responsibility to fulfill / perform to these specifications. Not all portions of the following information apply to all projects. Please request clarification, if questions arise.

It shall be the responsibility of the G.C. and all trades to inspect the job site, review and familiarize themselves with the relevant kitchen equipment drawings, health department requirements, schematics, cut sheets, specification documents, contract documents, etc. The submission of proposals by the G.C. and subcontractors will be construed as evidence that they have familiarized themselves with the kitchen project in total. Claims made subsequent to the proposals for additional materials and labor because of difficulties encountered, will not be recognized if they could have been foreseen had proper examination been made.

The KEC food service drawings are provided for reference and are the opinion of Kitchen Tech only. All items are to be verified with the Architect, Interior Designers, Engineers and or Ownership as required. At no time are the KEC Food Service drawings to be used for construction purposes or referenced as construction documents.

PLUMBING:
All utility points shown on these drawing shall be roughed in at the designated location and shall be concealed behind / inside the walls. All drain lines to be run 6" AFF with no open Uni-strut, supports, wire ties, etc. Flex gas disconnect and restraint cables supplied by the KEC are installed by G.C. Hand sinks supplied by the KEC are installed by G.C. The G.C. is responsible to flush / sanitize all debris/metal filings from the water supply lines prior to installation of faucets, potkettle fillers, hand sinks, etc. All damage due to foreign material entering fixture seats and washers is the responsibility of the G.C. G.C. and or plumbing contractor shall provide all required back flow prevention devices as required by code and health dept. All floor sinks must be located as to allow access for cleaning / clean out and ½ exposure of floor sink from equipment edge, without causing a trip hazard. All floor sink grates are to be flush with the finished floor. All floor sinks should be 12"x12"x8" porcelain or stainless steel, to allow for proper capture of large quantities of discharge water from dish machines and 3 compartment sinks. All hand sinks should be located as not to interfere with adjacent equipment placement. Some municipalities now require solids interceptors to be installed downstream of garbage disposal units. This interceptor shall be specified by the mechanical engineers, furnished and installed by the mechanical contractor. Relocation of hand sinks due to improper placement is the responsibility of the plumbing contractor. It is the responsibility of the plumbing engineer(s) to determine size and location of the grease interceptor and which kitchen drains, hand sinks, floor sinks, etc., must drain to it as per code. It is the responsibility of the plumbing contractor and or engineer(s) to obtain Health Department approval for existing floor drains, floor sinks, etc, which they intend to reuse and may not comply with current codes. The KEC supplies only items called out in the equipment purchase contract. Commercial dish machines require a 140 degree hot water supply. It is the responsibility of the plumbing engineer to ensure 140 degree water is available to the dish machine when activated. The KEC does not supply plumbing parts, fittings, brackets, mounts, escutions, sleeves, supplies, etc. unless specified. When the KEC supplies a range mounted salamander broiler, the plumber is responsible to hard pipe both gas supplies to a common connection point, with individual gas regulators run to each unit. In this installation configuration, only one flex gas line is needed. All gas fired equipment will require the manufacturers supplied gas regulator, to be installed by the GC. GC to supply any alternate, high pressure, and gas regulators required to make the equipment operational. Alternate regulator installation may void manufactures warranty, please consult with the manufacturer for specific details. All gas lines are to be run concealed inside walls w/ stub out for connection to equipment. Commercial food service equipment manufacturers reserve the right to make periodic changes to their products, regarding gas volume and pressure requirements, without changing their specification sheets and without notifying the food service consultant or the end user. While every effort is made to ensure accurate utility information, at no time will Kitchen Tech be responsible for equipment manufacturer changes to utility service requirements. All drain and condensate lines shall be copper, no plastic drain lines will be accepted.

ELECTRICAL:
All utility points shown on these drawing shall be roughed in at the designated location and electrical runs shall be concealed behind / inside the walls. All above and below ceiling electrical must be complete prior to equipment installation. This includes but is not limited to pulling of wire, outlet installation and trimming of outlets. Direct connect wire must be pulled to the j-box and ready for connection to equipment. All locations and cabling requirements for Point of Sale, telephone service, CAT-5e, etc, is the responsibility of the electrical engineer / contractor to coordinate with with the operator / owner. The KEC does not supply any electrical parts or supplies. GFCI's are required as per code. It is the responsibility of the electrical engineer and or electrical contractor to coordinate the specific electrical requirements of all owner supplied equipment and or existing equipment. Commercial foodservice equipment manufacturers reserve the right to make periodic changes to their products, regarding voltage and amperage requirements, without changing their specification sheets and without notifying the foodservice consultant or the end user. While every effort is made to ensure accurate utility information, at no time will Kitchen Tech be responsible for equipment manufacturer changes to utility service requirements. All cord reels shall be Hubbell model number HLBC25163C, unless unacceptable due to code. GC shall submit alternate cord reels for review and approval.

WALK IN COOLER / FREEZER:
The walk in cooler and freezer is supplied with temperature monitoring system, adjacent to the entry door. This system may be connected to the building monitoring system in the event of temperature rise inside the cooler / freezer. Interconnection of the supplied monitoring system and any related items or equipment to make it operational, is the responsibility of the GC. Refrigerant leak detection and or alarm equipment as required be code, is the responsibility of the GC. All mechanical, electrical or plumbing connections are the responsibility of the GC. The only items which will be provided by the KEC are specifically called out in the contract documents and or equipment specification.

GARAGE DOORS / LARGE COILING DOORS:
Any doors which open from a cafeteria or eating area to the exterior of the building (outside) may require an air curtain, in order to meet health dept. requirements. This should be coordinated with mechanical and health dept. requirements.

ELECTRICAL CONTROL PANEL:
When the Electrical Control Panel (ECP) is not provided by the KEC, the GC shall provide the ECP. Please refer to the project specification documents pertaining to the exhaust hood and ECP. The ECP controls exhaust fans, MUA, electrical below the hood, etc, in the event the fire suppression system is triggered. No electrical disconnects, relays, shunt trip breakers, etc, supplied by the KEC or fire suppression contractor. The coordinated function and wiring of the ECP is the responsibility of the electrical engineer, electrical contractor and GC. The fire suppression control cabinet is not the ECP and is not a suitable enclosure for the ECP. This system must be operational for the final Building / Fire Dept. inspection, prior to final health department inspection. It is recommended that the electrical engineer complete a schematic showing the interconnect system as part of the electrical engineering drawings.

FIRE SUPPRESSION SYSTEM:
When the KEC supplies the fire suppression system it will include the fire suppression control cabinet w/ dry contactors (microswitches), piping of the exhaust hood w/ nozzles and chrome sleeves, plenum piping, manual gas valve, manual pull station adjacent to kitchen exit as per code, one K class fire extinguisher and one final inspection. Installer shall provide written plans detailing the location of the control cabinet and pull station locations. This inspection will be conducted after the ECP interconnection system is fully operational. The GC is responsible to provide any additional electrical contactors as needed for additional connections. The conduit and j-box for the manual pull station shall be supplied by GC and location coordinated with the fire suppression installer. The manual gas valve will be supplied to the plumber during construction for installation in the gas supply line prior to the equipment. This valve shall be installed above ceiling (with suitable inspection access panels), within 10' of the exhaust hood and in a place easily accessible for regulatory inspections.

CONDENSATE HOOD:
When a condensate hood is specified for the project, the exhaust fan shall be controlled by either a manual wall mounted switch or by the dish machine operation via internal electrical contacts provided by the dish machine manufacturer. If a "delayed fan off" function is desired, the electrical engineer shall specify the correct delay device for the project.

LIGHTING IN KITCHEN AREA:
Health department Foot Candle (F.C.) lighting requirements are as follows:
Kitchen and Bar areas:
Min. of 50 F. C. at work surface or at 36" AFF.
Utensil / equipment storage and lav:
Min. of 30 F.C.
Walk in cooler / freezer:
Min. of 30 F.C.

KITCHEN FINISHES: (recommended)
Wall below exhaust hood: Shall be finished with 20 gauge stainless steel wall paneling, extending from the top of the tile or floor finish; to behind the exhaust hood. SS wall paneling shall extend 18" to the left and 18" to the right of the exhaust hood and shall extend from the top of the finished floor to the ceiling.
Walls: FRP (fiberglass reinforced plastic) panels installed from floor to ceiling are recommended, in a light color or white which will easily show dirt or soil. Walls consisting of finished drywall with a painted surface (epoxy or otherwise) are not recommended due ease of damage from long term cleaning, scrubbing or chipping of wall surface.
Ceilings: White, vinyl coating gypsum panels are recommenced above all foodservice and bar areas.
Floors: Quarry tile (non slip, sealed and sealed grout) is recommended. Epoxy flooring below heat generating equipment (ovens, ranges, steamers, etc.) is NOT RECOMMENDED. Heat in these areas can exceed 200 degrees Fahrenheit and exceed the auto-ignition levels of the epoxy flooring.
Any variation from these recommendations may require samples be submitted to the health department for approval. It is the responsibility of the general contractor and or architect to supply the KEC with alternate samples for submittal.

HVAC:
All hanging of hoods, ductwork runs, welding, fire wrap, etc, must be complete prior to equipment installation. When the KEC's contract includes supplying the exhaust hoods and or condensate hoods, it does NOT include installation, hanging, fans, switches, controls, ductwork, welding, roof penetrations, fire wrap, Electrical Control Panel, shunt trip breakers, interlock, or other items to make those systems operational; unless specifically called out in the KEC contract documents.

WALL SHELVES AND WALL MOUNTED EQUIPMENT :
Unless detailed / noted otherwise, all wall mounted equipment / shelving will be mounted directly to the wall studs and does not require internal wall backing. Heavy gauge metal wall studs will be required to ensure proper load handling.

KITCHEN EQUIPMENT INSTALLATION:
Installation is defined as equipment delivery to job site, assemble / setup, move in to place and make ready for final connection by the G.C. It does not include any type of mechanical, electrical, plumbing work or instruction how to perform.

Prior to the kitchen equipment installation all construction, mechanical, electrical, plumbing and HVAC must be 100% complete, other than equipment needing only final connection. Ceiling tiles and light fixtures installed with all above ceiling work/inspections complete. Walls to be completely finished as per architectural specifications (epoxy or FRP paneling), see finishes section for wall below exhaust hood. Floor to be set, sealed, cured and ready for heavy use. All floor sink covers/grates shall be in place prior to equipment being set in place to avoid an unsafe work environment. Health Department construction inspection has been completed. Under the above stated conditions the install process will take approximately 10-15 working days to complete prior to final health department inspection. Weekend, holiday and or after hours work is not included unless specifically called out in the installation contract. Significant delays should be anticipated/scheduled when the above noted conditions are not complete at the time of KEC installation.

The G.C. shall provide a dumpster suitable for all trash removal generated by the kitchen equipment installation process. All exterior paving and concrete work providing access to the kitchen area must be complete, prior to equipment installation or G.C. shall provide alternate unimpeded access. The G.C. shall provide finished floor/carpet protection to facilitate moving heavy kitchen equipment from the nearest street level entrance to the kitchen area. GC shall provide clear, unobstructed ingress and egress from the kitchen area. In the event the kitchen is located above or below street level and the elevators / lifts are not yet operational or certified for use, the GC shall provide at their cost, all lifts, attended elevator access, additional manpower, etc. to facilitate movement of the kitchen equipment from street level to the kitchen location. Stairs are not considered acceptable ingress and egress from the kitchen area.

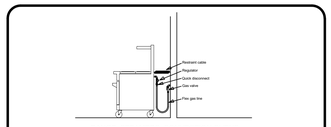
USED OR OWNER SUPPLIED EQUIPMENT:
When the owner supplies any new or used equipment outside the KEC equipment purchase contract and or the commercial kitchen is being remodeled where existing equipment will be reused in the new design, the owner is fully responsible for disconnecting, moving, storage, staging, delivery, repair, modification, cleaning, refurbishment, installation, final connection, start up, calibration, health department and regulatory compliance of those items, unless specifically called out in the equipment purchase contract. It is the responsibility of the electrical engineer and or electrical contractor to coordinate the specific electrical requirements of all owner supplied equipment and or existing equipment.

All dimensions referenced or shown are measured from finished surfaces.

All kitchen equipment is strictly prohibited from being used as a work surface by any and all trades. Failure to observe this restriction will result in all damages being charged back to the respective subcontractor / trade. All equipment will be set in place once as per kitchen design schematic for connection by the respective trades. Equipment which is moved for any reason must be returned to its original location.

COMPLIANCE TO NOTES:
The KEC equipment contract and all notes contained herein supersede any and all verbal conversation with the KEC regarding responsibility to perform work or supply any part or item. Any issues which contradict these notes are to be submitted in writing to the architect, KEC and owner for review. An approval or denial will be supplied in writing to the GC or the respective trade making the request. At no time will any on site request of the KEC be construed as an obligation on the part of the KEC. Requests made of the KEC which are outside the scope of the KEC contract will not be accepted as cause for work delays. All trades are responsible for taking whatever steps are necessary to complete their scope of work in a timely manner.

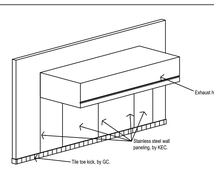
WARRANTY:
All warranties are provided and serviced by the respective manufacturers and or warranty repair service agents. This information can be found in the Operation & Maintenance documents provided by the KEC. Projects in outlying, rural or in areas outside the service agents service area, should be aware that most warranties will NOT cover additional fees for travel outside their standard service area. The end user / customer will be fully responsible for any and all "out of area" travel expenses. It is recommended the end user / customer ask about additional travel fees not covered by the factory warranty, BEFORE engaging a service agent .



RANGE, STEAMERS, CONVECTION OVENS

Install all gas related items in accordance with manufacturers specifications and local codes. Note the gas flow direction imprinted on the regulator. Gas regulator and gas flex line w/ quick disconnect and restraint cable supplied, by KEC. Hard gas piping, gas valves, couplings, assembly, connection (interconnection of range with salamander) and installation / adjustment of restraint cable, etc by GC.

Gas connection schematic

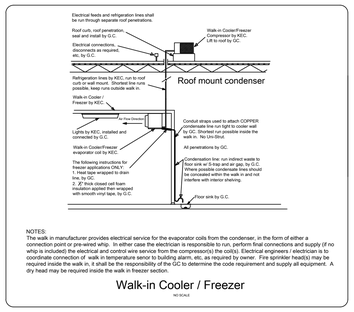


UL listed exhaust hood enclosure provided as specified.

Wall paneling shall shall consist of 20 gauge stainless steel, w/ chrome joiner strips and capped edges, by KEC.

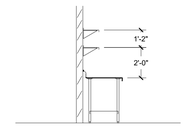
Wall preparation beneath hood: fire taped, smooth, flat, primed drywall, by G.C. Any irregularities in the wall surface prior to application of S/S wall paneling will result in those irregularities very visibly being transferred to the S/S wall paneling. The tile toe kick must be level and straight to avoid horizontal gaps where the S/S wall panel contacts the tile, as the vertical edges of the S/S wall panels must be kept level.

Exhaust Hood / Wall Paneling



NOTES:
The walk in manufacturer provides electrical service for the evaporator coils from the condenser, in the form of either a connection point or pre-wired whip. In either case the electrician is responsible to run, perform final connections and supply (if no whip is included) the electrical and control wire service from the compressor(s) the coil(s). Electrical engineers / electrician is to coordinate connection of walk in temperature senor to building alarm, etc, as required by owner. Fire sprinkler head(s) may be required inside the walk in, it shall be the responsibility of the GC to determine the code requirement and supply all equipment. A dry head may be required inside the walk in freezer section.

Walk-in Cooler / Freezer
NO SCALE



WALL SHELF MOUNTING DETAIL

TAB Associates
The Architectural Balance
0056 Edwards Village Blvd.
Suite 210
Edwards, CO 81632
(970) 766-1470
fax: (970) 766-1471
email: tab@vail.net
www.tabassociates.com

Civil Engineer
ALPINE ENGINEERING
(970) 926-3373
Structural Engineer
JIRSA HEDRICK
(303) 839-1963
Mechanical Engineer
BG BUILDINGWORKS
(970) 949-6108
Electrical Engineer
BG BUILDINGWORKS
(970) 949-6108

Seal

Steamboat Springs Middle School
39610 Amethyst Dr
Steamboat Springs, CO 80487

Revisions:

No	Description	Date

Issue Dates:
CD - 04/07/20

Sheet Title:
General Notes

Project No:
1935.03

Sheet No:
FS501

KITCHEN TECH
Foodservice Design and Consulting
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Phone: 303-835-2018 brian@kitchentech.biz