

Building Addition for :
SEBASTIAN RIVER MIDDLE SCHOOL

9400 CR 512
Sebastian, Florida 32958

SCHOOL DISTRICT OF INDIAN RIVER COUNTY

ARCHITECT'S PROJECT NO. 18-026
CONSTRUCTION DOCUMENTS

ARCHITECT:

Claren Architecture + Design, Inc.

6400 Congress Ave, Suite 2150
Boca Raton, Florida 33487
Phone: 561-961-4884

CIVIL ENGINEER:

MBV Engineering, Inc.

1835 20th Street
Vero Beach, Florida 32950
Phone: 772-569-0035
Fax: 772-778-3617

STRUCTURAL ENGINEER:

M L Engineering, Inc.

2030 37th Ave.
Vero Beach, Florida 32960
Phone: 772-569-1257
Fax: 772-569-4041

MEP ENGINEER:

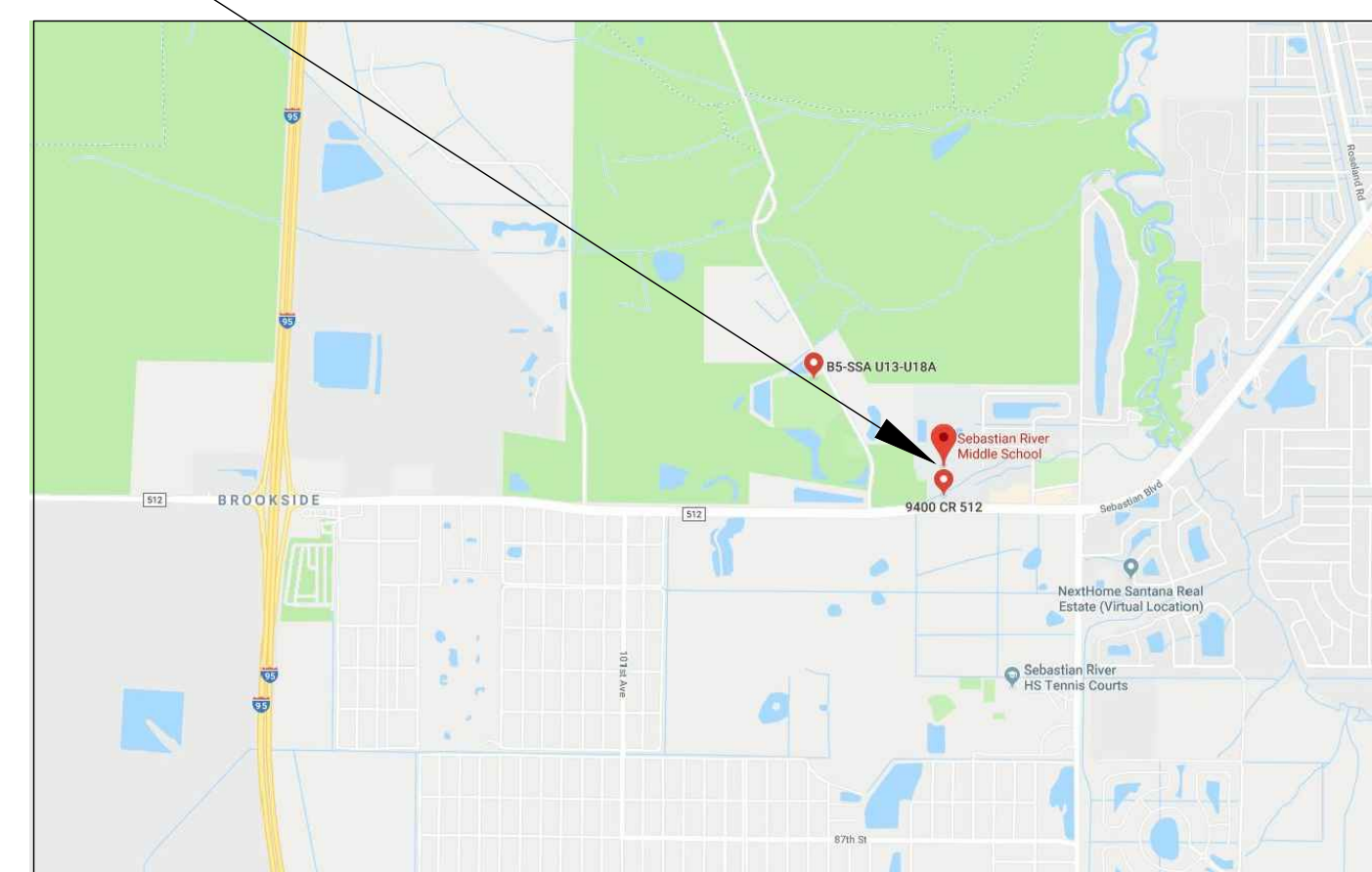
RGD Consulting Engineers

2151 Alt. AIA, Suite 2000
Jupiter, Florida 33477
Phone: 561-743-0165
Fax: 561-743-0193



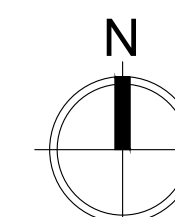
TO THE BEST OF OUR KNOWLEDGE, THESE DRAWINGS
AND THE PROJECT MANUAL ARE COMPLETE AND
COMPLY WITH THE FLORIDA BUILDING CODE, THE FLORIDA
FIRE PREVENTION CODE, STATE REQUIREMENTS FOR
EDUCATIONAL FACILITIES AND ALL OTHER APPLICABLE
CODES AND REGULATIONS.

SITE LOCATION



SITE LOCATION MAP

NOT TO SCALE



BOARD MEMBERS

Shawn Frost, District 1, Chairman

Dale Simchick, District 2

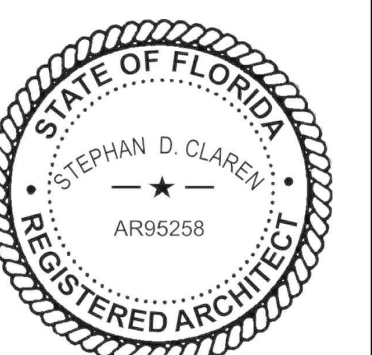
Laura Zorc, District 3

Charles G. Searcy, District 4, Vice Chairman

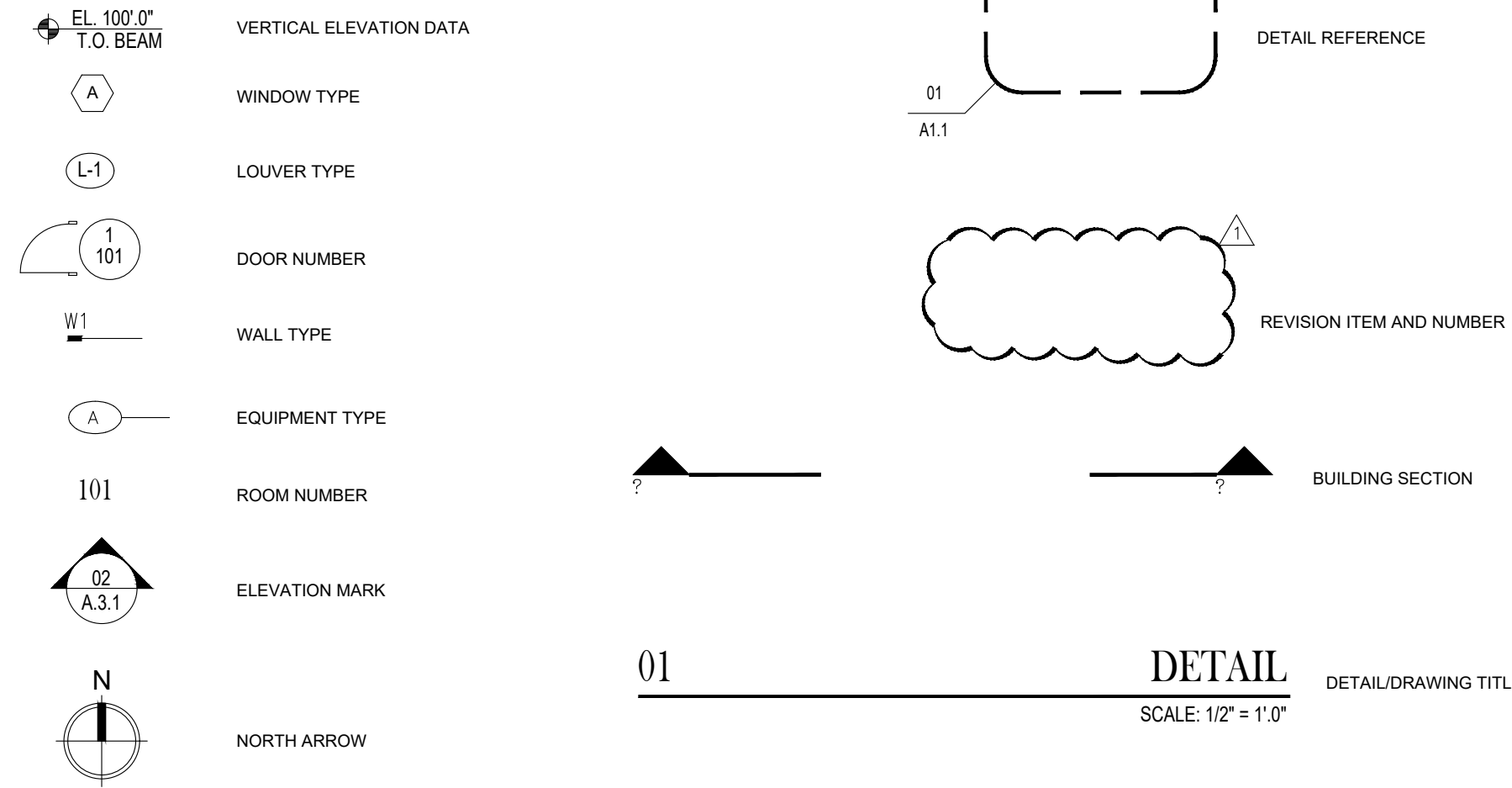
Tiffany M. Justice, District 5

Suzanne D'agresta, Board Attorney

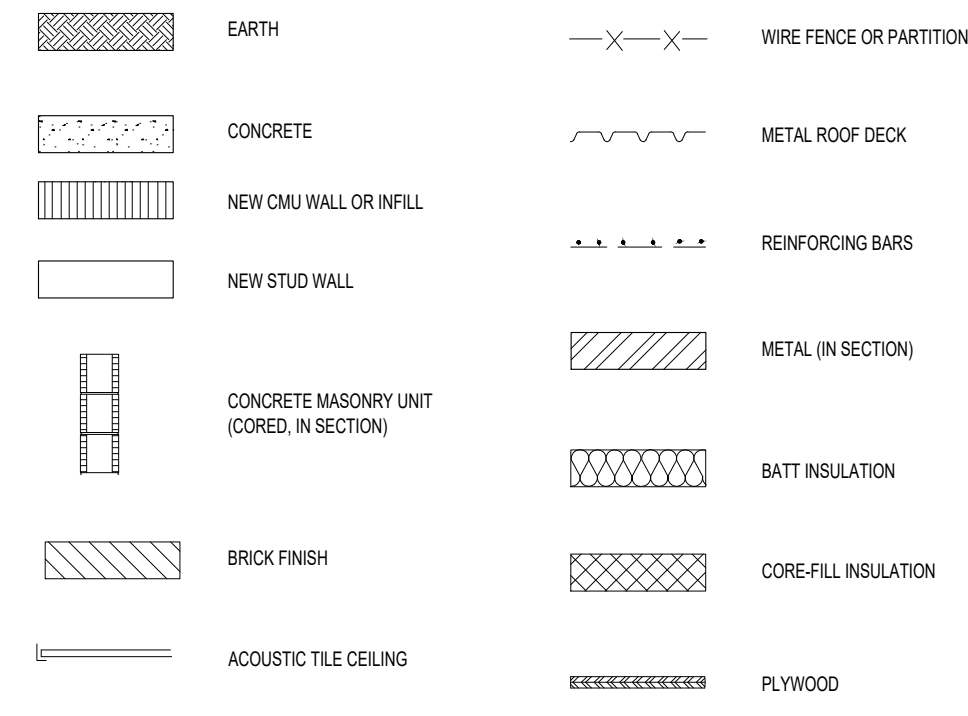
Dr. Mark J. Rendell, Superintendent



ARCHITECTURAL DRAWING SYMBOLS LEGEND



ARCHITECTURAL MATERIAL SYMBOL LEGEND



ARCHITECTURAL AND STRUCTURAL ABBREVIATIONS

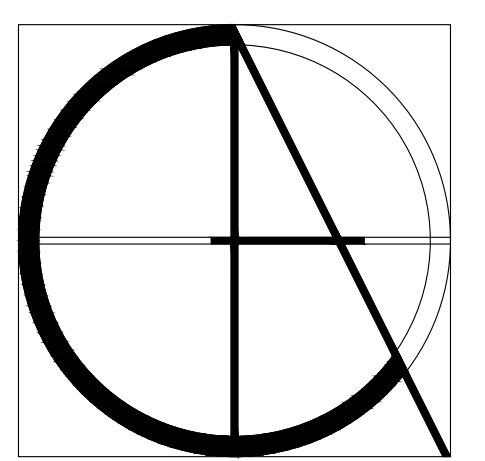
ABBREVIATIONS USED ON DRAWINGS IN GENERAL ARE LISTED BELOW. REFER TO CS DOCUMENT 24 DATED NOVEMBER 1986 FOR ANY ABBREVIATION USED ON THE DRAWINGS BUT ARE NOT LISTED BELOW.

AT	AIR CONDITIONING	d	PENNY (NAILS ETC)	HS	HIGH STRENGTH	PA	PUBLIC ADDRESS	T	TREAD
AC	ACOUSTICAL CEILING TILE	DEPT	DEPTH/DEEP	HTG	HEATING	PERF	PERFORATED	T&B	TOP AND BOTTOM
AD	AREA DRAIN	D	DEGREE	HVAC	HEATING/VENTILATING/AIR CONDITIONING	PL	PLATE/PROPERTY LINE	TA	TONGUE AND GROOVE
ADJ	ADJUSTABLE	DC	DISPLAY CASE	HW	HOT WATER	PLAS	PLASTER	TAG	TOILET ACCESSORIES
AF	ABOVE FINISHED FLOOR	DEPT	DEPARTMENT	HWY	HIGHWAY	PLAS LAM	PLASTIC LAMINATE	TB	TACKBOARD
AFP	ACCORDION FOLDING PARTITION	DET	DETAIL	ID	INSIDE DIAMETER	PLB	PLUMBING	TC	TOP OF CURB
AGG	AGGREGATE	DIAM	DIAMETER	INCH	INCH	PLYWD	PLYWOOD	TEL	TELEPHONE
ALT	ALTERNATIVE	DM	DIMENSION	INCL	INCLUDED (ING)	PREFAB	PREFABRICATED	TER	TERRAZZO
ALUM	ALUMINUM	DIV	DIVISION	INFO	INFORMATION	PS	PROJECTION SCREEN	TOC	TOP OF CONCRETE
AP	ACCESS PANEL	DL	DEAD LOAD	INSUL	INSULATION/INSULATE	PSF	POUNDS PER SQUARE FOOT	TOF	TOP OF FOOTING
APPROX	APPROXIMATE	DWG	DRAWING	INTR	INTERIOR	PSI	POUNDS PER SQUARE INCH	TOM	TOP OF MASONRY
AR	ARCHITECTURAL	DWS	DOWNSPOUT	INVT	INVERT	PSS	PENCIL SHARPENER SUPPORT	TOS	TOP OF STEEL
ARCH	ARCHITECTURAL	EWC	DRINKING WATER COOLER	JS	JOIST SUBSTITUTE	PVC	POLYVINYL CHLORIDE	TV	TELEVISION
ASPH	ASPHALT	E	EAST	JST	JOIST	PVMT	PAVEMENT	TYP	TYPICAL
AV	AUDIO VISUAL	EA	EACH	JT	JOINT	QT	QUARRY TILE	TWS	TACKABLE WALL SURFACE
AWG	AMERICAN WIRE GAUGE	EF	EACH FACE	KIT	KITCHEN	R	RISER	UNO	UNLESS OTHERWISE NOTED
AWT	ACOUSTICAL WALL TREATMENT	EJ	EXPANSION JOINT	L	LENGTH	RA	RETURN AIR	UV	UNIT VENTILATOR
L	ANGLE	EL	ELEVATION	LAM	LAMINATED	RADR	RADIUS	UR	URINAL
&	AND	ELEC	ELECTRICAL	LAV	LAVATORY	RB	RESILIENT BASE	VCT	VINYL COMPOSITION TILE
BIT	BITUMINOUS	ELEV	ELEVATION	LBM	POUND	RCP	REINFORCED CONCRETE PIPE	VCGWB	VINYL COVERED GYPSUM WALLBOARD
BLDG	BUILDING	EP	ELECTRICAL PANELBOARD	LK	LOCKER	RD	ROOF DRAIN	VERT	VERTICAL
BLKG	BLOCKING	EQ	EQUAL	LL	LIVE LOAD	REFR	REFRIGERATOR	VF	VERIFY IN FIELD
BM	BENCH MARK/BEAM	EQUIP	EQUIPMENT	LLH	LONG LEG HORIZONTAL	REINP	REINFORCING	VT	VITREOUS
BOS	BOTTOM OF STEEL	EW	EACH WAY	LLV	LONG LEG VERTICAL	REQD	REQUIRED	VOL	VOLUME
BOT	BOTTOM	EFS	EXTERIOR INSULATION AND FINISH SYSTEM	LVR	LOUVER	REV	REVISION(S)	VR	VAPOR RETARDER
BRG	BEARING	EFS	EXTERIOR FINISH SYSTEM	LW	LONG WAY	RM	ROOM	VRS	VENTED RESILIENT BASE
BRK	BRICK	EXH	EXHAUST	M	METER/THOUSAND	RO	ROUGH OPENING	VS	VENT STACK
BUR	BUILT UP ROOF	EXIST	EXISTING	MAT	MATERIAL	ROW	RIGHT OF WAY	VT	VINYL TILE
CAB	CABINET	EXP	EXPANSION	MAS	MASONRY	S	SOUTH	W	WEST/WIDEWIDTH
CAR	CARPET	EXT	EXTERIOR	MAT	MATERIAL	SA	SUPPLY AIR	W	WITH
CAT	CATALOG	EXTN	EXTENSION	MAS	MASONRY	SAN	SANITARY	WO	WITHOUT
CB	CHALKBOARD/CATCH BASIN	EX	EXTERIOR	MAT	MATERIAL	SCHD	SCHEDULE	WA	WAREHOUSE ACCESSORIES
CFM	CUBIC FEET PER MINUTE	EX	EXTERIOR	MAT	MATERIAL	SD	STORM DRAIN/SMOKE DETECTOR	WB	WOOD BASE
CH	CABINET HEATER	FD	FLOOR DRAIN	MCP	MASTER CONTROL POINT	SECT	SECTION	WC	WATER CLOSET/WIND COLUMN
CJ	CAST IRON	FHC	FIRE HOSE CABINET	MB	MARKER BOARD	SEW	SEWER	WH	WATER HEATER
CI	CONTROL JOINT	FIN	FINISH	MECH	MECHANICAL	SGFT	STRUCTURAL GLAZED FACING TILE	WP	WORKING POINT
CL	CENTERLINE	FIN FL	FINISH FLOOR	MEZZ	MEZZANINE	SHT	SHEET	WSSK	WALL SERVICE SINK
CLR	CLEAR	FLR	FLOOR	MFR	MANUFACTURER	SM	SMILAR	WWF	WELODED WIRE FABRIC
CLG	CEILING	FLR	FLOOR	MH	MANHOLE	SP	SPACE	YD	YARD/YARD DRAIN
CMP	CORRUGATED METAL PIPE	FDN	FOUNDATION	MN	MINIMUM	SPEC(S)	SPECIFICATION(S)		
CMT	CERAMIC MOSAIC TILE	FSR	FLEXIBLE SHEET ROOFING	MISC	MISCELLANEOUS	SPKR	SPEAKER		
CMU	CONCRETE MASONRY UNIT	FSK	FLOOR SERVICE SINK	MM	MILLIMETER	SQ	SQUARE		
CO	CLEANOUT	FT	FEET	MSC	MISCELLANEOUS	SQ FT	SQUARE FEET		
COL	COLUMN	FTG	FOOTING	MO	MASONRY OPENING	SQ INCH	SQUARE INCHES		
COMP	COMPACTED	FE	FIRE EXTINGUISHER	MTL	METAL	SQ YD	SQUARE YARDS		
CONC	CONCRETE	FEC	FIRE EXTINGUISHER CABINET	N	NORTH	SST	STAINLESS STEEL		
CONSTR	CONSTRUCTION	GA	GAUGE	NC	NOT IN CONTRACT	ST	STANDARD		
CONT	CONTINUOUS/CONTINUE	GALV	GALVANIZED	NO#	NUMBER	STL	STEEL		
CONTR	CONTRACTOR	GB	GRAB BAR	NOM	NOMINAL	STRUC	STRUCTURAL		
CORR	CORRUGATED	GL	GLASS	NTS	NOT TO SCALE	SUSP	SUSPENDED		
CT	CERAMIC TILE	GWB	GYPSUM WALLBOARD	OC	ON CENTER	SW	SHORT WAY/SIDEWAY		
C TO C	CENTER TO CENTER	GWB B	GYPSUM WALLBOARD BULKHEAD	OD	OUTSIDE DIAMETER	SYMM	SYMMETRICAL		
CSK	COUNTER SINK	H	HEIGHT/HIGH	OPNG	OPENING	SYNTH	SYNTHETIC		
CU FT/D	CUBIC FEET	HB	HOSE BIBB	OPP	OPPOSITE				
CU INCH	CUBIC INCH	HDWE	HARDWARE	OPP 1/2	OPPOSITE HAND				
CU YD/DY	CUBIC YARD	HM	HOLLOW METAL	O TO O	OUT TO OUT				
CLSP	CLOSPOR	HORIZ	HORIZONTAL	OW	OPERABLE WALL				
CW	COLD WATER	HPT	HIGH POINT	OZ	OUNCE				
CWF	CEMENTITIOUS WOOD FIBER								

A. CODES & STANDARDS: SCHOOL DISTRICT OF INDIAN RIVER COUNTY, FLORIDA PROJECTS SHALL COMPLY WITH APPLICABLE LAWS, CODES, STANDARDS & REGULATIONS OF GOVERNING BODIES HAVING JURISDICTION OVER SUCH PROJECTS. THIS INCLUDES THE SITE AND ANY WORK TO THE SITE. THE WORK SHALL COMPLY W/ CURRENT EDITIONS AND ANY APPROVED REVISIONS OF THE FOLLOWING CODES & STANDARDS AND SPECIFIED IN THE PLANS & SPECIFICATIONS.

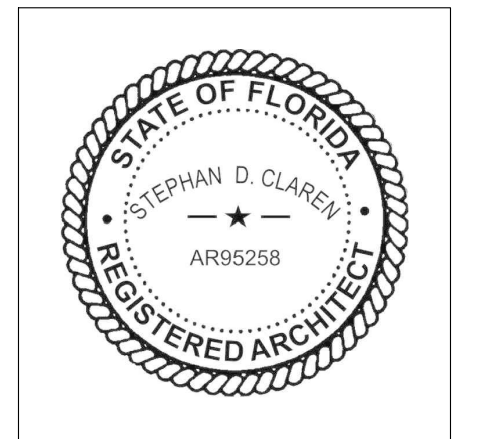
- FLORIDA BUILDING CODE, 6TH EDITION 2017.
 - ALL LAWS, CODES, STANDARDS & REGULATIONS CITED OR INCORPORATED BY REFERENCE THROUGHOUT THE FLORIDA BUILDING CODE.
- FLORIDA FIRE PREVENTION CODE, 6TH EDITION.
 - ALL LAWS, CODES, STANDARDS AND REGULATIONS CITED OR INCORPORATED BY REFERENCE IN THE FLORIDA FIRE PREVENTION CODE.
- STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES - SREF 2014.
 - ALL LAWS, CODES, STANDARDS & REGULATIONS CITED OR INCORPORATED BY REFERENCE IN SREF 2014 SHALL APPLY UNLESS SUPERSEDED BY ITEMS 1 OR 2 ABOVE.
- IF THERE SHOULD BE A CONFLICTING REQUIREMENTS BETWEEN ABOVE REFERENCED CODES, THEN THE FOLLOWING RULES SHALL APPLY:
 - THE CODE THAT AFFORDS THE GREATEST DEGREE OF LIFE SAFETY SHALL TAKE PRECEDENT.
 - SCHOOL DISTRICT BUILDING OFFICIAL SHALL PROVIDE FINAL CODE INTERPRETATIONS AND RESOLUTIONS OF CONFLICTS.
- A PERMIT ISSUED BY THE SCHOOL BOARD BUILDING DEPARTMENT SHALL BE CONSTRUED AS PERMISSION TO PROCEED WITH CONSTRUCTION, AND NOT AS AN AUTHORITY TO VIOLATE, CANCEL, ALTER, OR SET ASIDE ANY OF THE PROVISIONS OF ANY CODES, NOR SHALL ISSUANCE OF A PERMIT PREVENT THE BUILDING OFFICIAL FROM THEREAFTER REQUIRING A CORRECTION OF ERRORS IN PLANS, CONSTRUCTION, OR VIOLATION OF ANY CODE.
- CONTRACTOR SHALL REFER TO THE ARCHITECT/ENGINEER ANY PART OF THE CONTRACT DOCUMENTS WHICH MAY BE IN CONFLICT WITH THE ABOVE CODES AND REGULATIONS. THE CONTRACTOR SHALL PREPARE PROPOSED CHANGES FOR REVIEW AND APPROVAL BY THE ARCHITECT/ENGINEER. BASE BIDS SHALL INCLUDE THE MORE STRINGENT OF THE CONFLICTING METHODS.

SHEET NO.	SHEET TITLE
CS	COVER SHEET
T-1	SHEET INDEX, NOTES, LEGENDS & ABBREVIATIONS
	CIVIL/ LANDSCAPE
C1	SITE PLAN, DEMOLITION AND CONCRETE REPLACEMENT PLAN, DETAILS & NOTES
C2	LANDSCAPE & IRRIGATION PLANS, DETAILS, NOTES AND LANDSCAPE SCHEDULE
C3	GENERAL LANDSCAPE SPECIFICATIONS AND NOTES
C4	GENERAL IRRIGATION SPECIFICATIONS AND NOTES
	ARCHITECTURAL
A-0	OVERALL SITE PLAN
AD-1	DEMOLITION PLAN & NOTES
LS-1	LIFE SAFETY PLAN, NOTES & LEGEND
A-1.1	PROPOSED FLOOR PLAN & LEGEND
A-1.2	EXISTING MEZZANINE PLAN, DETAILS, NOTES & LEGEND
A-2	ROOF PLAN, LEGEND & DETAILS
A-3	BUILDING ELEVATIONS
A-4	BUILDING SECTIONS
A-5	WALL SECTIONS
A-6	DOOR & WINDOW ELEVATIONS & DETAILS
A-7.1	EQUIPMENT PLAN, CASEWORK ELEVATIONS & DETAILS
A-7.2	CASEWORK DETAILS & RESTROOM DETAILS
A-8	REFLECTED CEILING PLAN, DETAILS & LEGEND
	STRUCTURAL
S-1	FOUNDATION AND ROOF FRAMING PLANS & NOTES
S-2	FOOTING AND ROOF DETAILS
S-3	GENERAL NOTES, COMPONENTS AND CLADDING PRESSURE ZONES AND DETAILS
	MECHANICAL
M-1	MECHANICAL NOTES, LEGEND, SCHEDULE & SHEET INDEX
M-2	MECHANICAL FLOOR PLAN & NOTES
M-3	MECHANICAL MEZZANINE PLAN & NOTES
M-4	MECHANICAL ROOF PLAN & NOTES
M-5	DETAILS, SCHEDULES & NOTES
	ELECTRICAL
E-1	ELECTRICAL NOTES, LEGENDS & SHEET INDEX
E-2	ELECTRICAL POWER PLAN & NOTES
E-3	ELECTRICAL POWER PLAN - NW MEZZANINE
E-4	ELECTRICAL LIGHTING PLAN, LEGEND & NOTES
E-5	ELECTRICAL ROOF PLAN
E-6	ELECTRICAL RISER, NOTES, SCHEDULE & DETAILS
	PLUMBING
P-1	PLUMBING NOTES, LEGENDS, NOTES & SHEET INDEX
P-2	SANITARY FLOOR PLAN, ISOMETRIC & NOTES
P-3	DOMESTIC WATER FLOOR PLAN, ISOMETRIC & NOTES
P-4	PLUMBING SCHEDULES & DETAILS
	FIRE ALARM
FA-1	FIRE ALARM NOTES, LEGENDS & SHEET INDEX
FA-2	FIRE ALARM FLOOR PLAN & FIRE ALARM RISER
	FIRE PROTECTION
FP-1	FIRE PROTECTION NOTES, LEGENDS, & SHEET INDEX
FP-2	FIRE PROTECTION OCCUPANCY HAZARD ZONE MAP & NOTES

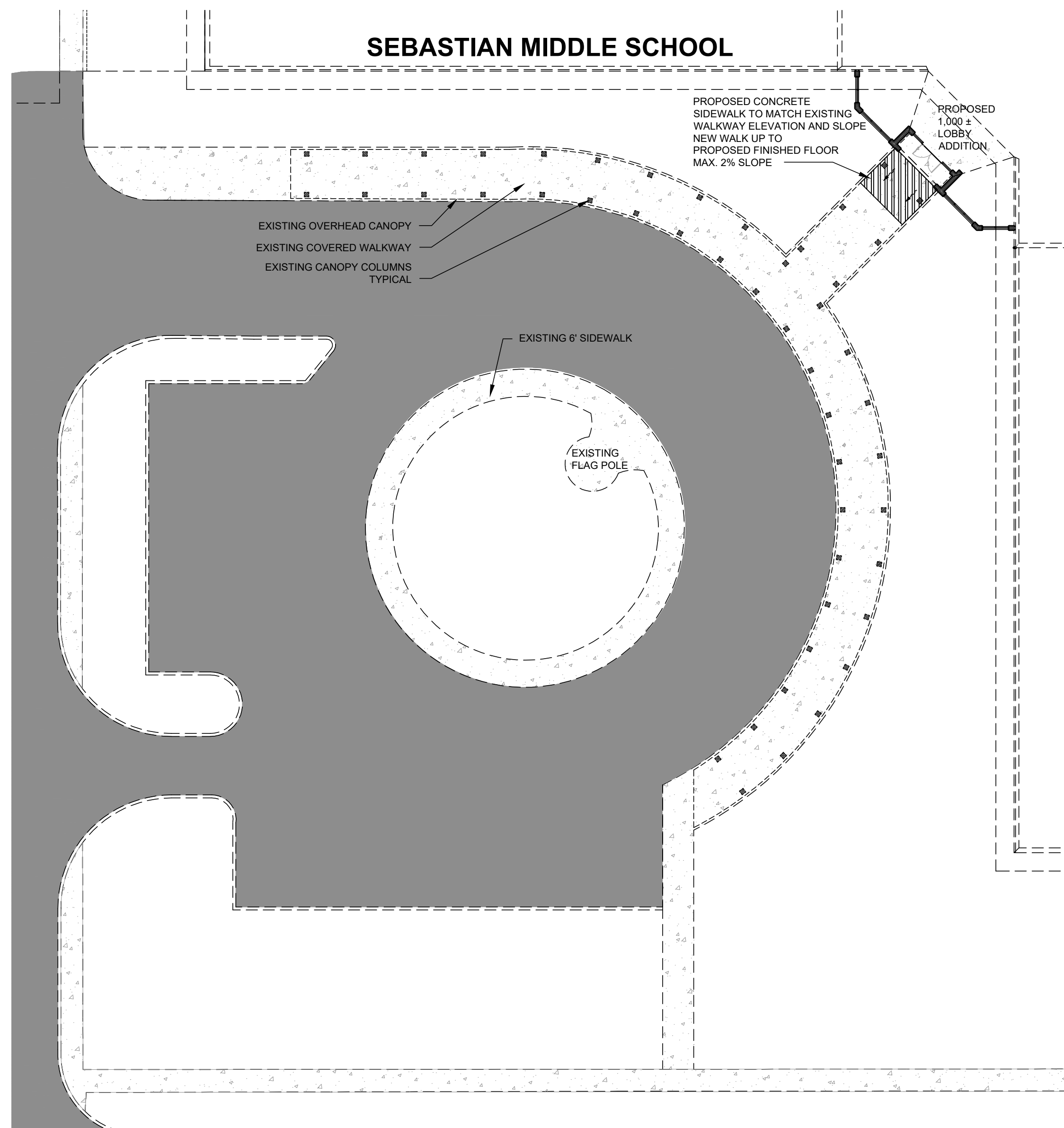


Claren Architecture + Design, Inc.
 AA26002865
 6400 CONGRESS AVE, SUITE 2150
 BOCA RATON, FL 33487
 561.961.4884

Building Addition for:
Sebastian River Middle School
 9400 CR 512
 SEBASTIAN, FL 32958

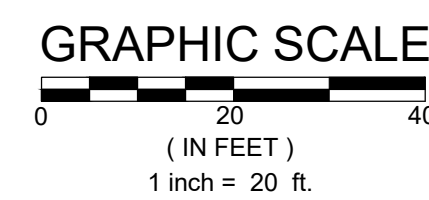
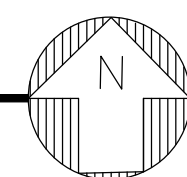


PROJECT #	18-026
DATE	10-17-2018
REV #	DATE
1	
2	
3	
4	
5	
SHEET #	



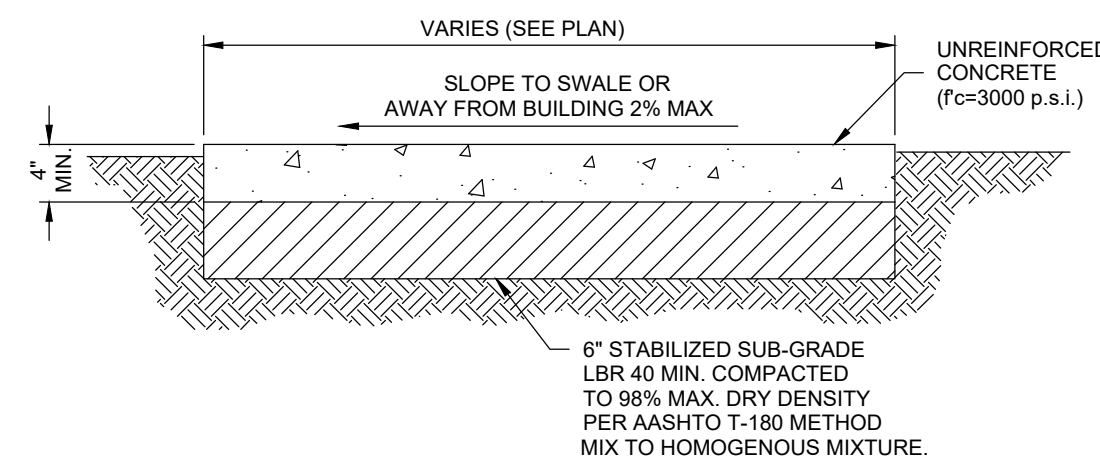
SITE PLAN

SCALE: 1" = 20'



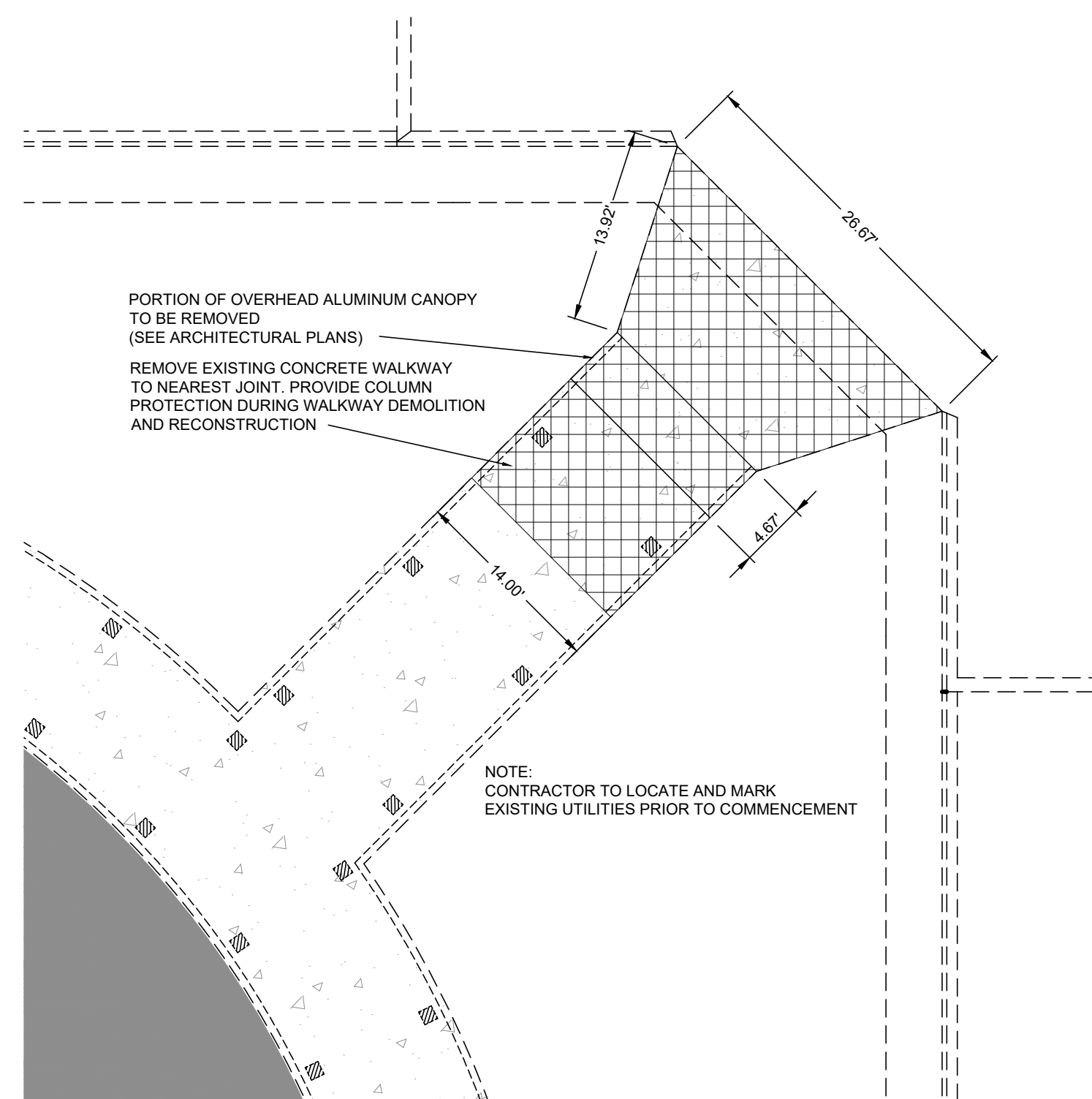
GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
3. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE COMMENCING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
5. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
6. ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTION.
7. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. BACK FILL MATERIAL SHALL BE COMPACTED TO 98% OF ITS MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180.
8. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
9. SOD ALL DISTURBED AREAS
10. CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT, THESE PLANS AND SPECIFICATIONS, AND ALL LOCAL, STATE AND FEDERAL AGENCY REQUIREMENTS FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
12. ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
13. CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
14. CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
15. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY, COUNTY, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
16. MINIMUM COVER OF ALL UTILITIES SHALL BE 36" UNLESS STATED OTHERWISE.
17. CONTRACTOR SHALL WARRANTY ALL PARTS, EQUIPMENT AND LABOR FOR A PERIOD OF 1 YEAR FROM FINAL CERTIFICATION BY ENGINEER.



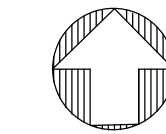
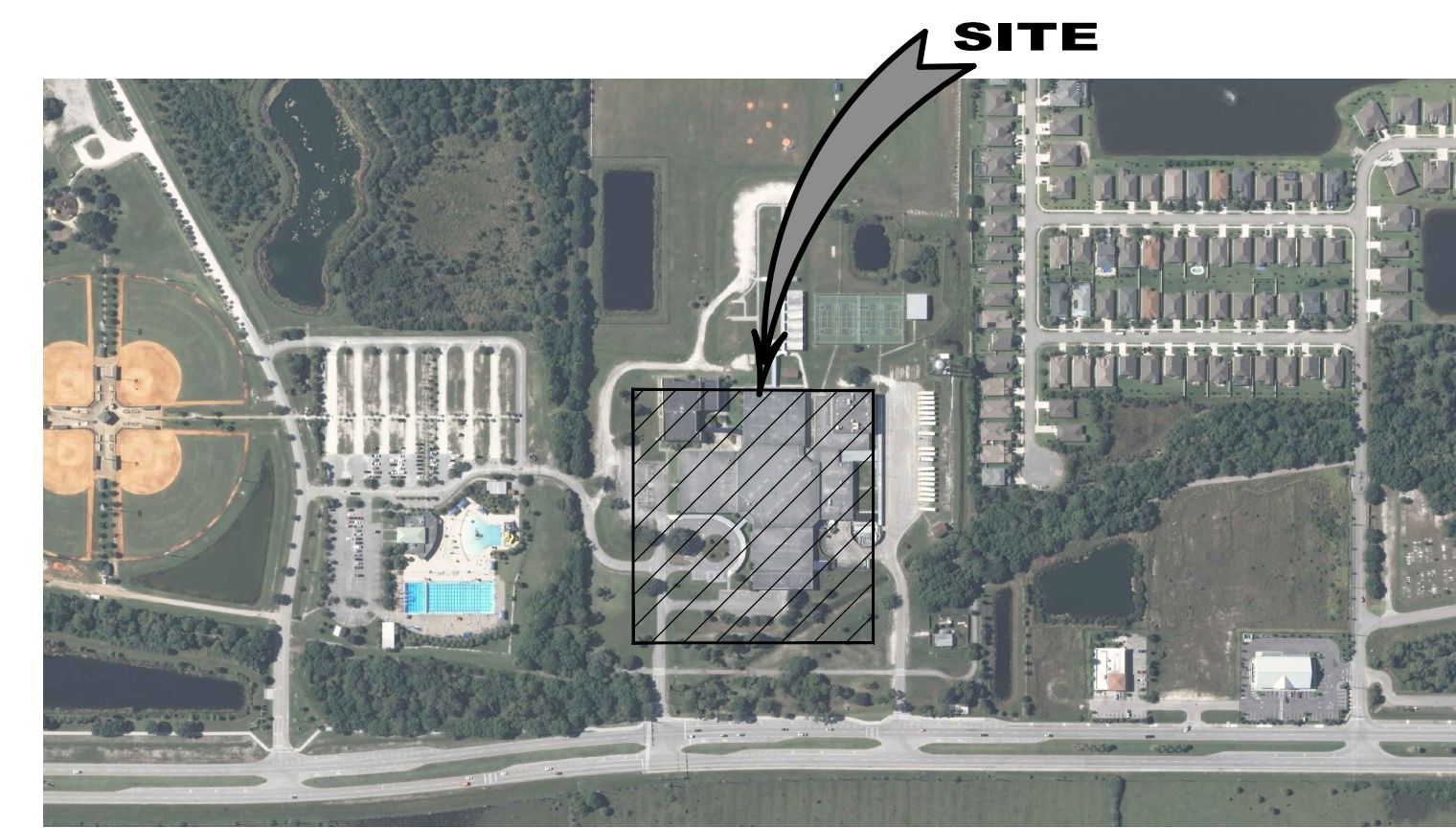
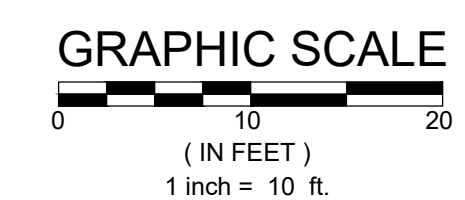
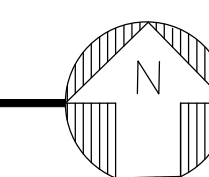
ON-SITE CONCRETE SIDEWALK DETAIL

N.T.S.



DEMOLITION AND CONCRETE REPLACEMENT PLAN

SCALE: 1" = 10'



LOCATION MAP

SCALE: N.T.S.

SITE INFORMATION

SITE ADDRESS

9400 FELLSMERE ROAD
SEBASTIAN, FLORIDA 32958

ARCHITECT

CLAREN ARCHITECTURE & DESIGN, INC.
6400 CONGRESS AVENUE, SUITE 2150
BOCA RATON, FLORIDA 33487
PHONE (561) 961-4884

ENGINEER

MBV ENGINEERING, INC.
1835 20TH STREET
VERO BEACH, FLORIDA 32960
PHONE (772) 569-0035

OWNER/APPLICANT

SCHOOL DISTRICT OF INDIAN RIVER COUNTY
6500 57TH STREET
VERO BEACH, FLORIDA 32967
PHONE: 772-564-3000

TAX PARCEL ID

31-38-22-00000-1000-00002.1

PROJECT DESCRIPTION

THIS PROJECT PROPOSES THE CONSTRUCTION OF A 1,000± SF SECURITY ENTRANCE LOBBY AND ALL NECESSARY IMPROVEMENTS TO WALKWAYS AND LANDSCAPE.

SITE DATA

	SF	AC	%
DEVELOPMENT AREA	1,000± SF	0.23 AC	100%

CONSTRUCTION SCHEDULE

START DATE: OCTOBER 2018
END DATE: MARCH 2019

HATCH LEGEND

	EXISTING CONCRETE
	AREA TO BE DEMOLISHED
	EXISTING ASPHALT PAVEMENT

NO.	DATE	BY	REVISIONS
00	18-0112	SJS	DESIGNED
01	09-21-2018	SJS	DRAWN
02		BP	CHECKED
03	10-17-2018		DATE ISSUED

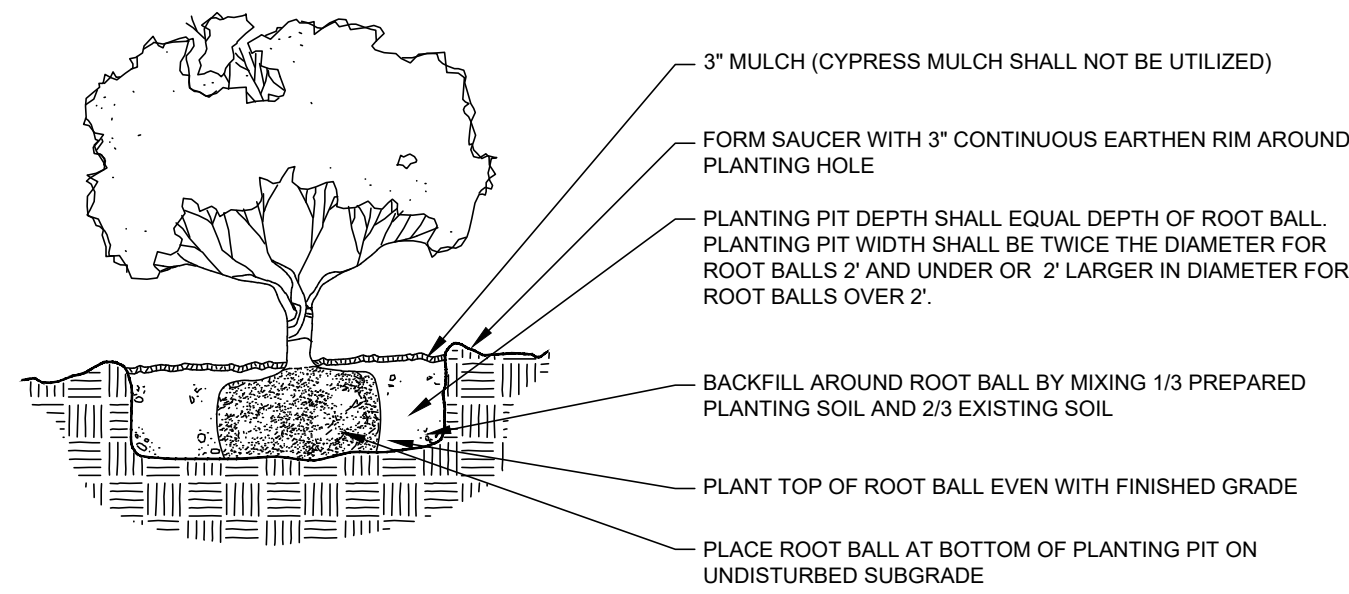
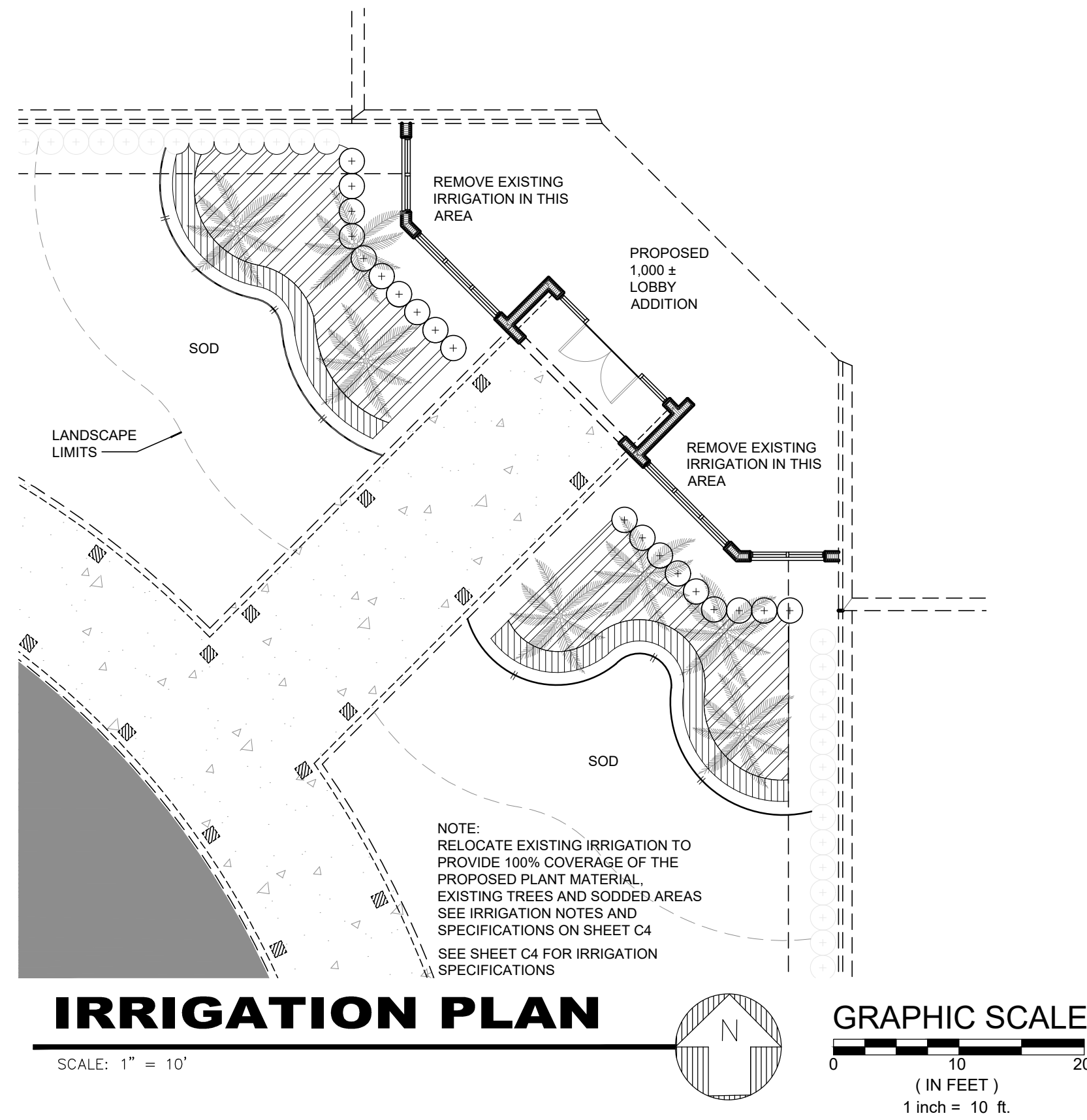
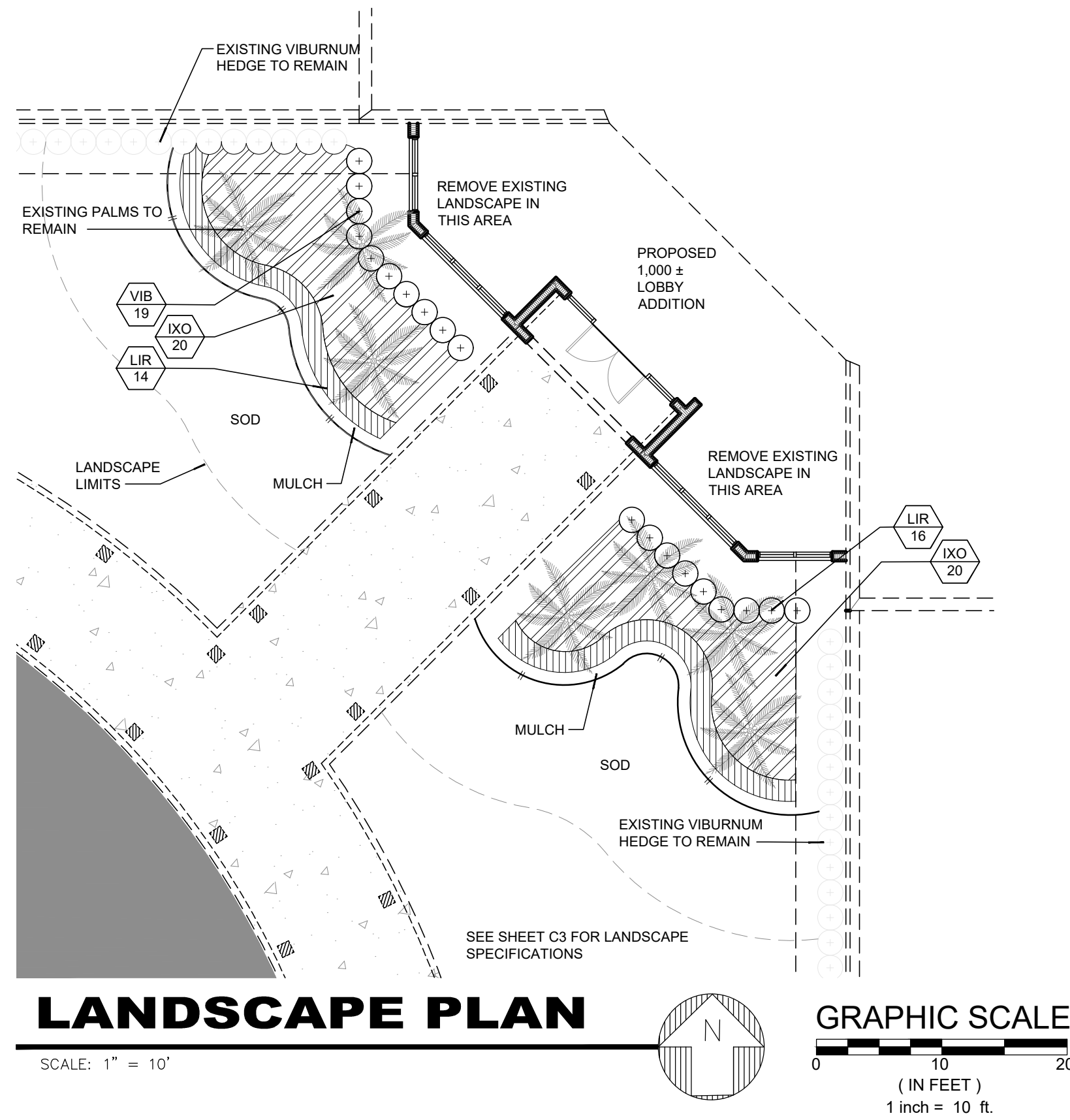
MBV ENGINEERING, INC.
AARON J. BOWLES, P.E. LICENSE #55313
1835 20TH STREET, VERO BEACH, FLORIDA 32960
PHONE: (772) 569-0035

SITE AND DEMOLITION PLANS

SEBASTIAN RIVER MIDDLE SCHOOL SECURITY ADDITION

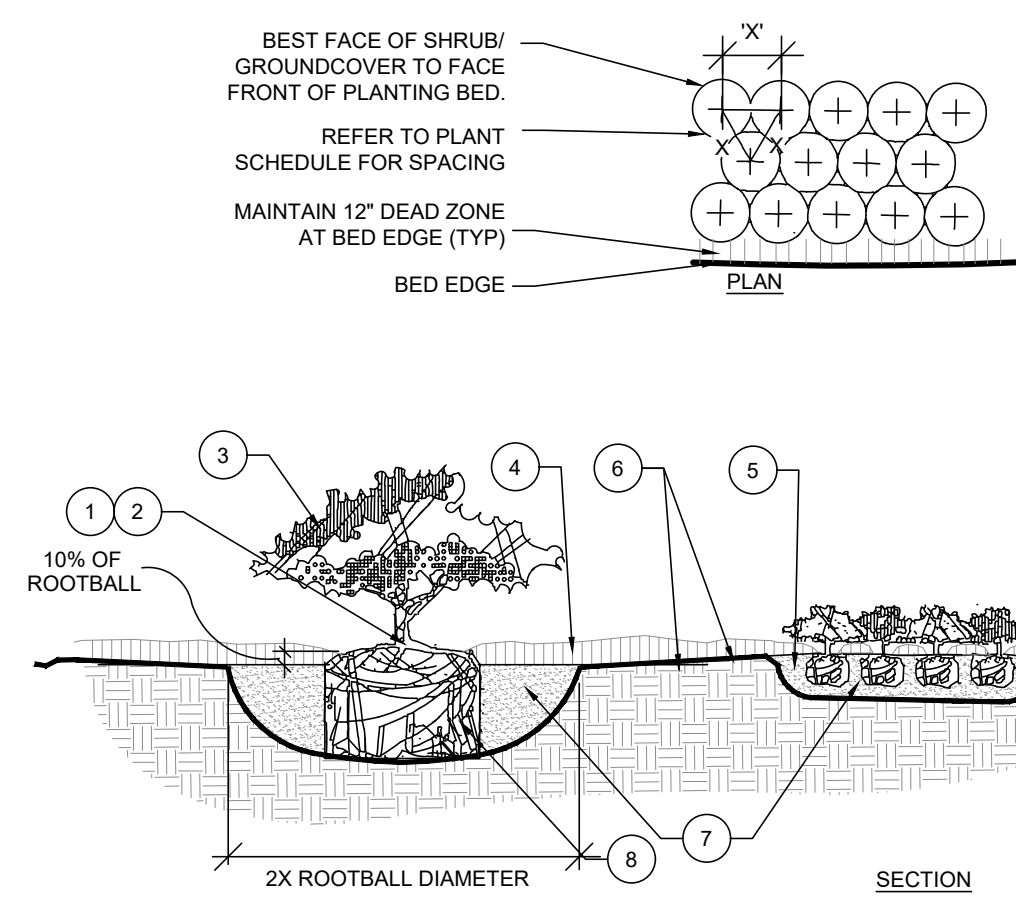
AARON J. BOWLES
FL. P.E. #55313
DATE: _____





Shrub / Groundcover Planting Detail

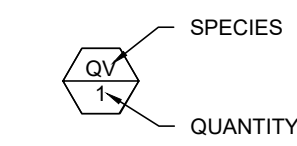
SCALE: N.T.S.



- FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2' OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
- TOP 10% OF SHRUB AND GROUNDCOVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
- PRUNE ALL LIVE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS HEIGHT.
- 3" MINIMUM MULCH AS SPECIFIED - DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE "WATER RINGS" ONLY COVER SIDES OF ROOTBALL WITH MULCH
- EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
- FINISHED GRADE (SEE GRADING PLAN).
- PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND-COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
- SCARIFY ROOTBALL SIDES AND BOTTOM.

Shrub / Groundcover Planting
PLAN / SECTION - SCALE: N.T.S.

Symbol Legend



Landscape Schedule

LANDSCAPE MATERIAL SCHEDULE									
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HGT	OTHER	NATIVE	DROUGHT TOLERANCE	MISCELLANEOUS
SHRUBS									
LIR	30	Liriodendron muscari 'Super Blue'	Blue Lily Turf	-	-	12" w. x 12" h., FULL, 24" O.C.	NO	MODERATE	
IXO	40	Ixora maui	Dwarf Ixora	-	-	12" w. x 36" h., FULL, 36" O.C.	NO	MODERATE	
VIB	19	Viburnum obtusifolium	Water Viburnum	-	-	24" x 36" w. x 36" h., FULL, 24" O.C.	YES	HIGH	
GROUNDCOVER									
MULCH	TBD	'FLORIMULCH'	-	-	-	Shredded, Grade B	-	-	
SOD	TBD	Paspalum notatum	Bahia Grass	-	-	100% Insect/Disease Free	-	-	

Planting Notes

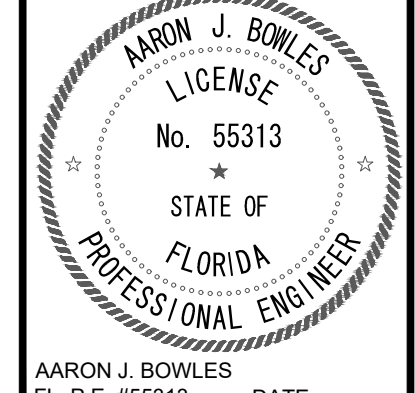
- PLANT MATERIAL SHALL BE GRADED FLORIDA NO. 1 OR BETTER AS OUTLINED UNDER GRADES AND STANDARDS FOR NURSERY PLANTS 2015 OR CURRENT ADDITION, FLORIDA DEPARTMENT OF AGRICULTURE UNLESS OTHERWISE NOTED.
- SOIL TO BE USED FOR PLANTING (PLANTING MIX) SHALL CONSIST OF 60% PEAT HUMUS, 30% WOOD CHIPS AND SAW DUST, 10% SAND AND 2LB STARTER FERTILIZER PER CUBIC YARD. SOIL MIXTURE USED TO BACKFILL PLANTING PITS SHALL CONSIST OF TWO PARTS EXISTING TOP SOIL FROM ON-SITE AND ONE PART PLANTING MIX. DOLOMITE AS NEEDED TO CORRECT SOIL PH TO 6.0-6.5.
- PLANTS SHALL BE ARRANGED IN BEDS USING TRIANGULAR SPACING.
- ALL PLANT BEDS SHALL BE DRESSED WITH CLEAN CYPRESS BARK MULCH.
- MULCH SHALL BE APPLIED WITHIN ONE WEEK AFTER PLANTING AND SHALL BE UNIFORMLY APPLIED AND MAINTAINED CONTINUOUSLY IN PLACE UNTIL INSPECTED BY THE COUNTY. THE MULCH MUST BE A MINIMUM OF 4" THICK TO BE ACCEPTED BY THE CITY ALTHOUGH 4" MINIMUM IS PREFERRED.
- SOD SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND SOD MUST BE STRONGLY ROOTED AND FREE OF WEEDS.
- SODDING SHALL BE DONE AS SOON AS PRACTICAL FOLLOWING FINISHED GRADING.
- GROUND SHALL BE LEVELED WITH THE BACK OF A RAKE AND SOD LAID WITH JOINTS CLOSELY BUTTED SO THAT NO VOIDS ARE VISIBLE, KEEPING SOD FLUSH WITH ANY ADJOINING SEEDED AREA AND/OR PAVEMENTS.
- LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD STRIPS; DO NOT OVERLAP.
- HAND TAMP SOD TO ENSURE CONTACT WITH SUBGRADE AND THOROUGHLY WATER WITH A FINE SPRAY IMMEDIATELY AFTER LAYING.
- AFTER SOD IS IN PLACE, IT SHALL BE TOP DRESSED WITH SUFFICIENT SHARP, CLEAN 60% SAND/40% MUCK SOIL MIX TO FILL ALL VOIDS REMAINING AND THOROUGHLY WATERED TO WASH THE TOP DRESSING INTO THE SODDED SURFACE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP THE NEW SOD PROPERLY WATERED UNTIL THE COMPLETION OF THE LANDSCAPE INSTALLATION CONTRACT AND THE IRRIGATION SYSTEM IS FULLY OPERATIONAL.
- NO SOD OR SEEDED AREAS SHALL BE FERTILIZED AFTER THE FIRST 30 DAYS OF SOD INSTALLATION OR SEEDING. THEREAFTER TURF FERTILIZERS SHALL BE APPLIED IN ACCORDANCE PER RULE SE 1.003 (2) F.A.C. FOR URBAN TURF FERTILIZERS, AS WELL, THE NITROGEN CONTENT SHALL BE SLOW RELEASE, CONTROLLED RELEASE, TIMED RELEASE OR WATER INSOLUBLE OF NOT LESS THAN 50%.
- ALL STARTER PLANT MATERIAL FERTILIZER SHALL BE "NO PHOSPHATE FERTILIZER" AS DEFINED IN RULE ED 1.003 (2) F.A.C. THE NITROGEN CONTENT SHALL BE SLOW RELEASE, CONTROLLED RELEASE, TIMED RELEASE OR WATER INSOLUBLE OF NO LESS THAN 50%.
- FERTILIZER SHALL NOT BE APPLIED WITHIN 15' OF ANY PONDS, STREAMS, WATER COURSES, LAKES, CANALS, OR WETLANDS NOR SHALL ANY FERTILIZER BE WASHED, SWEEPED, OR BLOWN INTO ANY WATERBODIES AS DESCRIBED ABOVE. HOWEVER, FERTILIZER MAY BE ADMINISTERED IN THE ABOVE DESCRIBED 15' AREA UP TO 90 DAYS AFTER INITIAL PLANT INSTALLATION TO ALLOW PLANTS TO BECOME WELL ESTABLISHED.
- NO FERTILIZERS CONTAINING NITROGEN OR PHOSPHORUS SHALL BE APPLIED FROM JUNE 1ST THROUGH SEPTEMBER 3RD OR AT OTHER PERIODS OF THE CALENDAR YEAR WHEN THE GROUND IS SATURATED, WHEN HEAVY RAIN IS LIKELY, THERE IS A FLOOD, TROPICAL STORM, HURRICANE WATCH OR WARNING ISSUED BY THE NATIONAL WEATHER SERVICE FOR ANY PORTION OF THE COUNTY.
- FERTILIZER SHALL NOT BE SPILLED ONTO ANY IMPERVIOUS SURFACE. IF SPILLED OR DEPOSITED ON ANY IMPERVIOUS SURFACE THE FERTILIZER BE IMMEDIATELY AND COMPLETELY REMOVED AND APPLIED TO THE TURF OR PLANT AREA OR RETURNED TO THE ORIGINAL AND/OR APPROPRIATE CONTAINER.
- SPREADER DEFLECTOR SHIELDS ARE REQUIRED WHEN FERTILIZING VIA ROTATING BROADCAST SPREADERS. DEFLECTORS MUST BE POSITIONED SO THAT FERTILIZER IS DEFLECTED AWAY FROM ALL IMPERVIOUS SURFACES, FERTILIZER FREES ZONES, SURFACE WATERS, WATER BODIES AND WETLANDS.

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LANDSCAPE AND IRRIGATION PLANS

SEBASTIAN RIVER MIDDLE SCHOOL SECURITY ADDITION

INDIAN RIVER COUNTY, FLORIDA



General Landscape Specifications And Notes

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.
2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPE AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS (\$100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL
MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON SAMPLES' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.
MATERIAL SAMPLE SIZE
MULCH ONE (1) CUBIC FOOT
TOPSOIL MIX ONE (1) CUBIC FOOT
PLANTS ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)
2. PLANT MATERIALS
 - a. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION, ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRASSES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS. INSECT EGGS AND LARVAE AND OTHER HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER, WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE DELIVERED PRIOR TO DELIVERY ONLY TO APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.
 - b. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL, EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.
 - c. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER. FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

1. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW.
2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRISIBLE, AND OF A LOW ACIDITY. REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER. FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 7.0. - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY THE OWNER.
4. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT ENGINEER TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.
5. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC., IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.
***WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.**

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY DERIVED. APPLICATION IS TO BE IN ACCORDANCE WITH FLORIDA GREEN INDUSTRIES BEST MANAGEMENT PRACTICES.
***FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.**

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF 3 INCHES. CLEAR MULCH FROM EACH PLANTS CROWN (BASE). SEE PLANT LIST FOR TYPE OF MATERIAL (*FLORIMULCH, EUCALYPTUS MULCH, OR PINE STRAW) AND GRADE.

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTI-TRANSPIRANT PRODUCT ("WILTFRUIT" OR EQUAL) TO MINIMIZE TRANSPORTATION WATER LOSS.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRASSES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.
4. PROTECTION OF PALMS (IF APPLICABLE). ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.
5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER.
3. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
4. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
5. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE ENGINEER OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLOUSED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ONLY WITH MULCH. ALL BURLAP ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS. BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6". REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" OF THE PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E, THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE ENGINEER IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE ENGINEER IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER (AS ALLOWED BY JURISDICTIONAL AUTHORITY).

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
4. SODDING
 - a. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
 - b. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETY TYPE, AND FREE FROM WEEDS, FUNGI, INSECTS AND DISEASES OF ANY KIND.
 - c. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.
 - d. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
6. LAWN MAINTENANCE:
 - a. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING RE-GRADING IF NECESSARY).
 - b. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND OTHER OPERATIONS AS NECESSARY FOR THE PROTECTING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND HARDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

S. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY AS SPECIFIED BY THE ENGINEER OR OWNER IN WRITING. BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL 7 GALLON AND LARGER PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING". AT NO ADDITIONAL COST TO THE OWNER, WARRANTY IS TO EXCLUDE DAMAGE CAUSED BY FLOODS, LIGHTING STRIKES, FREEZING, WINDS OVER 45 MPH, FIRE, VANDALISM, HERBIVORE ANIMALS, DISEASE, INSECTS, WATER RESTRICTIONS, GOVERNMENT ACTIONS OR ACTS OF NEGLIGENCE BY THE OWNER OR OTHERS.
4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

V. SUBMITTALS

1. FOR ALL LANDSCAPE INSTALLATIONS, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA IN THE FORM OF MANUFACTURERS' CUT SHEETS AND CATALOG DATA FOR ALL PRODUCTS, MATERIAL AND EQUIPMENT CLEARLY INDICATING THE SPECIFIC PART OR PRODUCT CATALOG NUMBER(S) FOR APPROVAL AND SUBMIT A MATERIALS LIST INDICATING ALL PLANT SPECIES, QUALITY AND SIZE.
2. SUBMIT 6 COPIES OF REQUESTED INFORMATION, NEATLY BOUND AND INDEXED PER CATEGORY.
3. THE CONTRACTOR SHALL SUBMIT A LANDSCAPE COORDINATION DRAWING, INDICATING CONTRACTOR'S PROPOSED LOCATION OF TREES, SHRUBS, GROUNDCOVERS AND MULCH. THIS DRAWING SHOULD BE PREPARED ON A COPY OF THE LANDSCAPE PLAN PROVIDED IN THESE DRAWINGS AND SHALL CLEARLY DEPICT ADJUSTMENTS OR CHANGES THE CONTRACTOR PROPOSES TO THE PLANT SPECIES, SIZE OR LOCATION. THE DRAWINGS SHALL INDICATE ALL PROPOSED SUBSTITUTIONS OF SIZE, AND/OR MATERIAL.
4. ALLOW TWO WEEKS FOR THE ENGINEER TO COMPLETE REVIEW AND APPROVAL OF PRODUCT DATA, AND COORDINATION DRAWINGS. ENGINEER WILL NOT BE RESPONSIBLE FOR PROJECT DELAYS RELATED TO DELIVERY AND TRANSMISSION OF THE INFORMATION AND DOCUMENTATION ONCE INFORMATION HAS LEFT ENGINEER'S OFFICE. ITEMS REQUIRING A LONG LEAD TIME SHOULD BE SUBMITTED AS SOON AS POSSIBLE.
5. WARRANTY: CONTRACTOR SHALL SUBMIT A WARRANTY LETTER TO OWNER, INDICATING THE WARRANTY PERIOD, WARRANTY REQUIREMENTS AS SPECIFIED IN THESE DRAWING AND SPECIFICATIONS), AND DATES OF WARRANTY PERIOD, WHICH SHALL BEGIN AT THE DATE OF ISSUANCE OF PROJECT CERTIFICATE OF OCCUPANCY, AND END TWELVE (12) MONTHS AFTER.
6. CERTIFICATION: CONTRACTOR SHALL SUBMIT CERTIFICATION STATING THAT: PLANT SPECIES AND SIZE CONFORM TO THOSE INDICATED ON THE DRAWINGS. ALL NURSERY STOCK IS IN ACCORDANCE WITH GRASSES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS ARE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS ARE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS ARE UNIFORM IN SIZE AND SHAPE. THIS CERTIFICATION IS NECESSARY PRIOR TO ACCEPTANCE OF WORK BY THE OWNER.

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED	REVISIONS	DATE
18-0112	SJS	SJS	09-21-2018	BP	10-17-2018		
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04							
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06							
07							

MBV ENGINEERING, INC.
 1604 N. WHEELS WILLOWAR & ASSOCIATES
 CONSULTING ENGINEERING CA #57228
 VERO BEACH, FL 33490
 TEL: (772) 779-3317 FAX: (772) 779-3317
 REGISTRATION NO. #PH1201033103
 PROFESSIONAL ENGINEER

LANDSCAPE SPECIFICATIONS AND NOTES

SEBASTIAN RIVER MIDDLE SCHOOL SECURITY ADDITION

FLORIDA INDIAN RIVER COUNTY

AARON J. BOWLES
 LICENSE No. 55313
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

AARON J. BOWLES FL. P.E. #55313 DATE:

SHEET

C3
OF 4

18-0112

72 HOURS BEFORE DIGGING
 CALL TOLL FREE
811
 Know what's below.
 Call before you dig.

General Irrigation Specifications And Notes

A. EXTENT:
INCLUDES FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT FOR THE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING: (1) TRENCHING AND BACKFILL, (2) AUTOMATICALLY CONTROLLED IRRIGATION SYSTEM, (3) TEST ALL SYSTEMS AND MAKE OPERATIVE, (4) "AS-BUILT" DRAWINGS.

B. GENERAL:
1. PERMITS AND FEES: OBTAIN ALL PERMITS AND PAY REQUIRED FEES TO ANY GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THE WORK. INSPECTIONS REQUIRED BY LOCAL ORDINANCES DURING THE COURSE OF CONSTRUCTION SHALL BE ARRANGED AS REQUIRED. ON COMPLETION OF THE WORK, SATISFACTORY EVIDENCE SHALL BE FURNISHED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE TO SHOW THAT ALL WORK HAS BEEN INSTALLED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE - PLUMBING / APPENDIX "F" AND CODE REQUIREMENTS.

2. APPROVAL: WHEREVER THE TERMS "APPROVE" OR "APPROVED" ARE USED IN THE SPECIFICATIONS, THEY SHALL MEAN THE APPROVAL OF THE OWNER'S CONSTRUCTION REPRESENTATIVE IN WRITING.

3. BEFORE ANY WORK IS STARTED, A CONFERENCE SHALL BE HELD BETWEEN THE CONTRACTOR AND THE OWNER'S CONSTRUCTION REPRESENTATIVE CONCERNING THE WORK UNDER THIS CONTRACT.

4. COORDINATION: COORDINATE AND COOPERATE WITH OTHER CONTRACTORS TO ENABLE THE WORK TO PROCEED AS RAPIDLY AND EFFICIENTLY AS POSSIBLE

5. INSPECTION OF SITE:
A. CONTRACTOR SHALL ACQUAINT HIMSELF WITH ALL SITE CONDITIONS. SUBMISSION OF HIS PROPOSAL SHALL BE CONSIDERED EVIDENCE THAT THE EXAMINATION HAS BEEN CONDUCTED. SHOULD UTILITIES NOT SHOWN ON THE PLANS BE FOUND DURING EXCAVATIONS, CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S CONSTRUCTION REPRESENTATIVE FOR INSTRUCTIONS AS TO FURTHER ACTION. FAILURE TO DO SO WILL MAKE CONTRACTOR LIABLE FOR ANY AND ALL DAMAGE THERE TO ARISING FROM HIS OPERATIONS SUBSEQUENT TO DISCOVERY OF SUCH UTILITIES NOT SHOWN IN PLANS.
B. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS IN THE LAYOUT AS MAY BE REQUIRED TO CONNECT TO EXISTING SUB-UTILITIES. SHOULD THESE UTILITIES BE LOCATED EXACTLY AS SHOWN, AND AS MAY BE REQUIRED TO WORK AROUND EXISTING WORK AT NO INCREASE IN COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.

6. PROTECTION OF EXISTING PLANTS AND SITE CONDITIONS: THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS TO REMAIN. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

7. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE, ADD, OR DELETE ANY MATERIAL OR WORK AS THE WORK PROGRESSES. ADJUSTMENTS TO THE CONTRACT PRICE SHALL BE NEGOTIATED IF DEEMED NECESSARY BY THE OWNER ON A PER DIEM BASIS.

8. THE OWNER RESERVES THE RIGHT TO REJECT MATERIAL OR WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. REJECTED WORK SHALL BE REMOVED OR CORRECTED AT THE EARLIEST TIME POSSIBLE.

9. WORK SCHEDULE: WITHIN 10 DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A WORK SCHEDULE.

10. "AS-BUILT" IRRIGATION DRAWINGS: PREPARE AN "AS-BUILT" DRAWING ON A BLUEPRINT WHICH SHALL SHOW DEVIATIONS FROM THE BID DOCUMENTS MADE DURING CONSTRUCTION AFFECTING THE MAIN LINE PIPE, CONTROL VALVE LOCATIONS, REMOTE CONTROL VALVES AND QUICK COUPLING VALVES. THE DRAWINGS SHALL ALSO INDICATE AND SHOW APPROVED SUBSTITUTIONS OF SIZE, MATERIAL AND MANUFACTURER'S NAME AND CATALOG NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE DELIVERED TO THE TENANT'S CONSTRUCTION REPRESENTATIVE BEFORE FINAL ACCEPTANCE OF WORK.

11. FINAL ACCEPTANCE: FINAL ACCEPTANCE OF THE WORK MAY BE OBTAINED FROM THE OWNER'S CONSTRUCTION REPRESENTATIVE UPON THE SATISFACTORY COMPLETION OF ALL WORK.

12. GUARANTEE: THE CONTRACTOR SHALL PROVIDE ALL WARRANTIES, CERTIFICATIONS, GUARANTEES, AND WARRANTY BONDS AS SPECIFIED IN THE CONTRACT DOCUMENTS AND PERMIT CONDITIONS. ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP. GUARANTEE SHALL ALSO COVER REPAIR OF DAMAGE TO ANY PART OF THE PREMISES RESULTING FROM LEAKS OR OTHER DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP TO THE SATISFACTORY OF THE OWNER'S CONSTRUCTION REPRESENTATIVE. REPAIRS, IF REQUIRED, SHALL BE DONE PROMPTLY AT NO COST TO THE OWNER.

C. MATERIALS:
1. GENERAL: ALL MATERIALS THROUGHOUT THE SYSTEM SHALL BE NEW AND IN PERFECT CONDITION.
2. PLASTIC PIPING: ALL MAIN LINES AND LATERAL LINES SHALL BE CLASS 200 O-RING POLYVINYL CHLORIDE (PVC) PIPE AND SHALL COMPLY WITH ONE OF THE FOLLOWING STANDARDS: ASTM D 1785, ASTM D-2241, AWWA C-900, OR AWWA C-905. SDR-PR PIPE SHALL HAVE A MINIMUM WALL THICKNESS AS REQUIRED BY SDR 26. PVC GASKETS/FITTINGS SHALL CONFORM TO ASTM D 3139. GASKETS SHALL CONFORM TO ASTM F 477. SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2468. THREADED PVC PIPE/FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2464. CONFORMING TO ASTM D-1784 AND D-2241.
3. PLASTIC FITTINGS: ALL SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2468. SCHEDULE 40 SOLVENT-WELD POLYVINYL CHLORIDE (PVC) STANDARD WEIGHT AS MANUFACTURED BY SLOAN, LASCO, OR APPROVED EQUAL.
4. SOLVENT CEMENT: PVC CEMENT SHALL MEET ASTM D 2564 AND PVC CLEANER-TYPE ALL MEET ASTM F 656.
5. SPRINKLER HEAD RISERS: SCHEDULE 40 PVC FOR RISERS. PIPE SHALL BE CUT WITH A STANDARD PIPE CUTTING TOOL WITH SHARP CUTTERS. REAM ONLY TO FULL DIAMETER OF PIPE AND CLEAN ALL ROUGH EDGES OR BURRS. CUT ALL THREADS ACCURATELY WITH SHARP DIES. NOT MORE THAN THREE(3) FULL THREADS SHALL SHOW BEYOND FITTINGS WHEN PIPE IS MADE UP. ASSEMBLIES SHALL BE AS DETAILED.
6. AUTOMATIC CONTROLLERS: SEE LEGEND
7. REMOTE CONTROL VALVES: SEE LEGEND
8. CONTROL WIRING: 24 VOLT SOLID UL APPROVED FOR DIRECT BURIAL IN GROUND. MINIMUM WIRE SIZE: 14 GAUGE. ALL SPLICES SHALL BE MADE WITHIN VALVE BOX.
9. SLEEVES FOR CONTROL WIRING: UNDER ALL WALKS AND PAVED AREAS AND WHERE INDICATED ON DRAWINGS. MINIMUM PVC 1220-200 PSI PLASTIC PIPE.
10. SPRINKLER HEADS: SEE LEGEND
11. QUICK COUPLING VALVES: SHALL BE NOTED ON DRAWINGS.

D. WORKMANSHIP:
1. LAY OUT WORK AS ACCURATELY AS POSSIBLE TO THE DRAWINGS. THE DRAWINGS, THOUGH CAREFULLY DRAWN, ARE GENERALLY DIAGRAMMATIC TO THE EXTENT THAT SWING JOINTS, OFFSETS, AND ALL FITTINGS ARE NOT SHOWN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL AND COMPLETE COVERAGE OF ALL IRRIGATED AREAS AND SHALL MAKE ANY NECESSARY MINOR ADJUSTMENTS AT NO ADDITIONAL COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.
3. ANY MAJOR REVISIONS TO THE IRRIGATION SYSTEM MUST BE SUBMITTED AND ANSWERED IN WRITTEN FORM, ALONG WITH ANY CHANGE IN CONTRACT PRICE.

E. INSTALLATION:
1. EXCAVATION AND TRENCHING:
A. PERFORM ALL EXCAVATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK INCLUDING UNDER THIS SECTION, INCLUDING SHORING OF EARTH BANKS TO PREVENT CAVE-INS, RESTORE ALL SURFACES, EXISTING UNDERGROUND INSTALLATIONS, ETC., DAMAGED OR CUT AS RESULT OF THE EXCAVATIONS TO AND IN A MANNER APPROVED BY THE OWNER.
B. TRENCHES SHALL BE MADE WIDE ENOUGH TO ALLOW A MINIMUM OF 6 INCHES BETWEEN PARALLEL PIPE LINES. TRENCHES FOR PIPE LINES SHALL BE MADE OF SUFFICIENT DEPTHS TO PROVIDE THE MINIMUM COVER FROM FINISH GRADE AS FOLLOWS:
1) 18" MINIMUM COVER OVER IRRIGATION LINES FOR VEHICLE TRAFFIC AREAS.
2) MINIMUM COVER OVER IRRIGATION LINES TO HEADS EXCEPT VEHICLE TRAFFIC AREAS ARE AS FOLLOWS:
1'-1" = 6" COVER
2'-3" = 12" COVER
4'-6" = 18" COVER
24" COVER
C. MAINTAIN ALL WARNING SIGNS, SHORING, BARRICADES, FLARES AND RED LANTERNS AS REQUIRED BY THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY AND LOCAL ORDINANCES.

2. PIPE LINE ASSEMBLY:
A. INSTALL REMOTE CONTROL VALVES WHERE SHOWN AND GROUP TOGETHER WHERE PRACTICAL. PLACE NO CLOSER THAN 12 INCHES TO WALK EDGES, BUILDINGS AND WALLS.
B. PLASTIC PIPE AND FITTINGS SHALL BE SOLVENT WELDED USING SOLVENTS AND METHODS RECOMMENDED BY MANUFACTURER OF THE PIPE. EXCEPT WHERE SCREWED CONNECTIONS ARE REQUIRED. PIPE AND FITTINGS SHALL BE THOROUGHLY CLEANED OF DIRT, DUST AND MOISTURE BEFORE APPLYING SOLVENT WITH A NON-SYNTHETIC BRISTLE BRUSH.
C. PIPE MAY BE ASSEMBLED AND WELDED ON THE SURFACE. SNAKE PIPE FROM SIDE TO SIDE OF TRENCH BOTTOM TO ALLOW FOR EXPANSION AND CONTRACTION.
D. MAKE ALL CONNECTIONS BETWEEN PLASTIC PIPE AND METAL VALVES OR STEEL PIPE WITH THREADED FITTINGS USING PLASTIC MALE ADAPTERS.

3. SPRINKLER HEADS:
A. INSTALL ALL SPRINKLERS AS DETAILED ON DRAWINGS.
B. DO NOT SCALE PLANS FOR EXACT HEAD LOCATION.
C. PROVIDE A MINIMUM OF 12" BETWEEN SPRINKLERS AND PAVEMENT AND 12 INCHES BETWEEN SPRINKLERS AND BUILDINGS.

4. CLOSING OF PIPE AND FLUSHING LINES:
A. CAP OR PLUG ALL OPENINGS AS SOON AS LINES HAVE BEEN INSTALLED TO PREVENT THE ENTRANCE OF MATERIALS THAT WOULD OBSTRUCT THE PIPE. LEAVE IN PLACE UNTIL REMOVAL IS NECESSARY FOR COMPLETION OF INSTALLATION.
B. THOROUGHLY FLUSH OUT ALL WATER LINES BEFORE INSTALLING HEADS, VALVES AND OTHER HYDRANTS.
C. TEST IN ACCORDANCE WITH PARAGRAPH ON HYDROSTATIC TESTS.
D. UPON COMPLETION OF THE TESTING, THE CONTRACTOR SHALL COMPLETE ASSEMBLY AND ADJUST SPRINKLER HEADS FOR PROPER DISTRIBUTION.

5. INSPECTIONS:
A. SPRINKLER LAYOUT AND SPACING INSPECTION: VERIFICATION THAT THE IRRIGATION DESIGN IS ACCURATELY INSTALLED IN THE FIELD. IT WILL ALSO PROVIDE FOR ALTERATION OR MODIFICATION OF THE SYSTEM TO MEET FIELD CONDITIONS. SPACING SHOULD BE WITHIN 5% OF THE DESIGN SPACING.
B. PIPE INSTALLATION DEPTH INSPECTION: ALL PIPES IN THE SYSTEM SHALL BE INSTALLED TO DEPTHS AS PREVIOUSLY DESCRIBED IN SECTION 'E' OF THESE SPECIFICATIONS.
C. OPEN TRENCH INSPECTION: THE TRENCH AND ALL JOINTS AND EVERY TRANSITION IN PIPE SIZE, WILL BE OPEN WHERE OPEN TRENCH INSPECTION IS REQUIRED. INSPECTIONS WILL BE PERFORMED THROUGHOUT THE DURATION OF THE INSTALLATION AND WILL BE MADE BY THE GOVERNING AGENCY AND/OR THE OWNER AND ENGINEERS TO ENSURE COMPLIANCE WITH DESIGN INTENT, SPECIFICATIONS, AND THE IRRIGATION CODES.

6. HYDROSTATIC TESTS:
A. REQUEST THE PRESENCE OF THE OWNER AND ENGINEER IN WRITING AT LEAST 48 HOURS IN ADVANCE OF TESTING.
B. TESTING TO BE ACCOMPLISHED AT THE EXPENSE OF THE CONTRACTOR AND IN THE PRESENCE OF THE OWNER AND ENGINEER.
C. CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE.
D. APPLYING A CONTINUOUS AND STATIC WATER PRESSURE OF 125 PSI WHEN WELDED PLASTIC JOINTS HAVE CURED AT LEAST 3 HOURS AND WITH THE RISERS CAPPED AS FOLLOWS:
1) MAIN LINES AND SUB-MAINS TO BE TESTED FOR 2 HOURS.
E. FOR PVC AND O-RING GASKET PIPE THE ALLOWABLE LEAKAGE SHALL NOT EXCEED THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:
$$L = \frac{ND(P)}{7400}$$

IN WHICH: L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
N = NUMBER OF JOINTS
D = PIPE DIAMETER IN INCHES
P = AVERAGE TEST PRESSURE IN PSI GAUGE
F. REPAIR LEAKS RESULTING FROM TESTS.

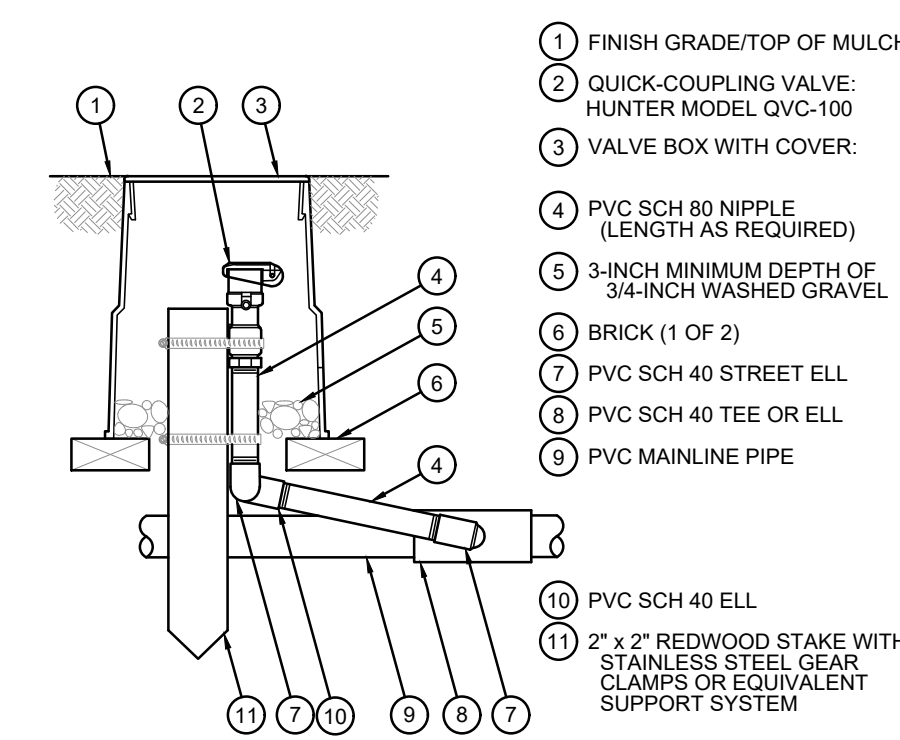
7. AUTOMATIC CONTROLLERS:
A. CONNECT REMOTE CONTROL VALVES TO CONTROLLER IN A CLOCKWISE SEQUENCE TO CORRESPOND WITH STATION SETTING BEGINNING WITH STATIONS 1, 2, 3, ETC.

8. AUTOMATIC CONTROL WIRING:
A. INSTALL CONTROL WIRING, SPRINKLER MAINS AND LATERALS IN COMMON TRENCHES WHEREVER POSSIBLE.
B. INSTALL CONTROL WIRES AT LEAST 18" BELOW FINISH GRADE AND LAY TO THE SIDE AND BELOW THE MAIN LINE. PROVIDE LOOSED SLACK AT VALVES AND SNAKE WIRES IN TRENCH TO ALLOW FOR CONTRACTION OF WIRES TIE WIRES IN BUNDLES AT INTERVALS.
C. CONTROL WIRE SPLICES WILL BE ALLOWED ONLY RUNS OVER 1000 FT. CONNECTIONS SHALL BE AS DETAILED.
D. ALL WIRING PASSING UNDER EXISTING OR FUTURE PAVING, CONSTRUCTION, ETC., SHALL BE ENCASED IN PLASTIC OR GALVANIZED STEEL CONDUIT EXTENDING AT LEAST 12" BEYOND EDGES OF PAVING OR CONSTRUCTION.

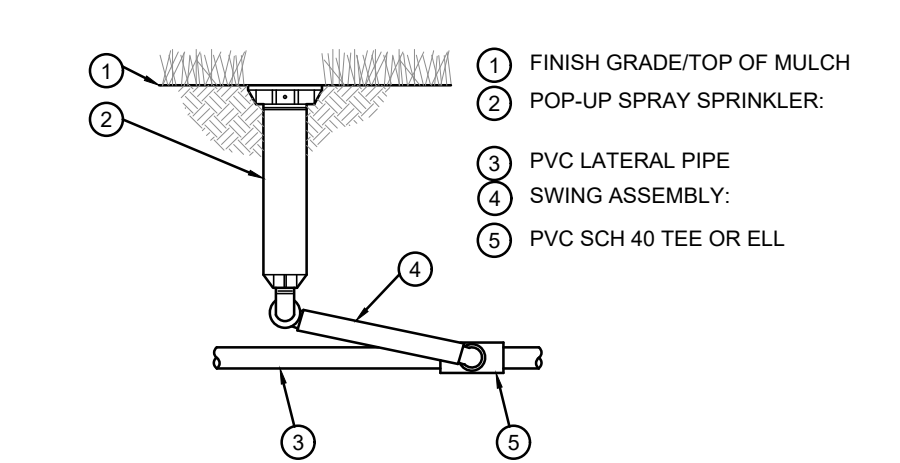
9. BACKFILL AND COMPACTING:
A. AFTER SYSTEM IS OPERATING AND REQUIRED TESTS AND INSPECTIONS HAVE BEEN MADE, BACKFILL EXCAVATIONS AND TRENCHES WITH CLEAN SOIL. FREE OF RUBBISH. INITIAL BACKFILL MATERIAL TO 6 INCHES ABOVE THE TOP OF PIPE SHALL BE FREE OF ROCKS OR STONES LARGER THAN ONE INCH IN DIAMETER. FINAL BACKFILL MATERIAL SHALL BE FREE OF ROCKS OR STONES LARGER THAN 3 INCHES IN DIAMETER.
B. BACKFILL FOR ALL TRENCHES, REGARDLESS OF THE TYPE OF PIPE COVERED, SHALL BE COMPACTED TO MINIMUM 95% DENSITY.
C. COMPACT TRENCHES IN AREAS TO BE PLANTED BY THOROUGHLY FLOODING THE BACKFILL. JETTING PROCESS MAY BE USED IN THOSE AREAS.
D. DRESS OFF ALL AREAS TO FINISH GRADES.

F. CLEAN-UP:
1. REMOVE FROM THE SITE ALL DEBRIS RESULTING FROM WORK OF THIS SECTION.

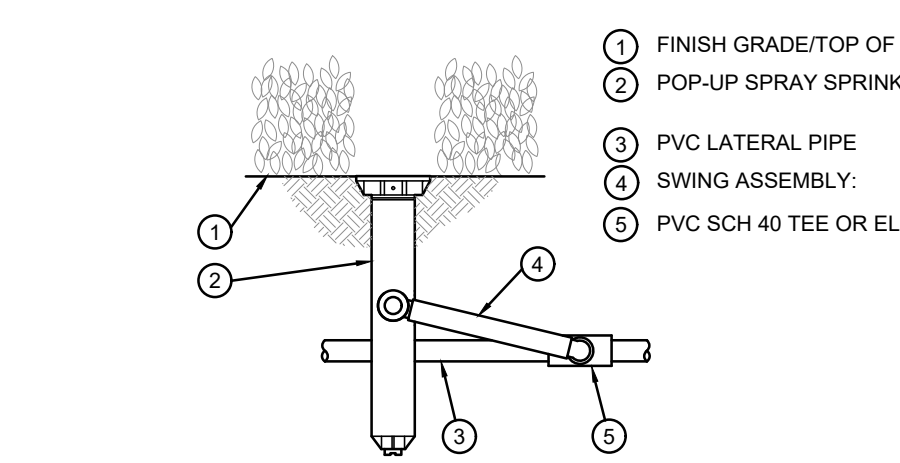
G. SUBMITTALS:
1. FOR ALL SITE WORK CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA IN THE FORM OF MANUFACTURERS' CUT SHEETS AND CATALOG DATA FOR ALL PRODUCTS, MATERIAL AND EQUIPMENT CLEARLY INDICATING THE SPECIFIC PART OR PRODUCT CATALOG NUMBER(S) FOR APPROVAL.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PRODUCTS, MATERIALS AND EQUIPMENT REQUIRED TO BE FABRICATED, OR WHEN STANDARD PUBLISHED PRODUCT DATA IS NOT SUITABLE FOR USE.
3. SUBMIT 6 COPIES OF REQUESTED INFORMATION, NEATLY BOUND AND INDEXED PER CATEGORY FOR THE FOLLOWING:
IRRIGATION:
ALL LINES, SYSTEM EQUIPMENT COMPONENTS, MATERIALS INCLUDING PIPES, VALVES, FITTINGS, SPRINKLER HEADS, AND MISCELLANEOUS APPURTENANCES.
4. ALLOW TWO WEEKS FOR THE ENGINEER TO COMPLETE REVIEW AND APPROVAL OF PRODUCT DATA, COORDINATION DRAWINGS AND SHOP DRAWINGS. ENGINEER WILL NOT BE RESPONSIBLE FOR PROJECT DELAYS RELATED TO DELIVERY AND TRANSMISSION OF THE INFORMATION AND DOCUMENTATION WHICH HAS LEFT ENGINEERS OFFICE. ITEMS REQUIRING A LONG LEAD TIME SHOULD BE SUBMITTED AS SOON AS POSSIBLE.
5. CONTRACTOR SHALL PROVIDE THE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR ALL OPERABLE EQUIPMENT (PUMP STATIONS AND CONTROLS, AUTOMATIC CONTROLLERS, CONTROL VALVES, AND ALL OTHER IRRIGATION SYSTEM COMPONENTS ETC.).
6. OPERATION AND MAINTENANCE MANUALS SHALL BE SUBMITTED AS A PRE-REQUISITE TO THE PROJECT BEING DEEMED SUBSTANTIALLY COMPLETE.



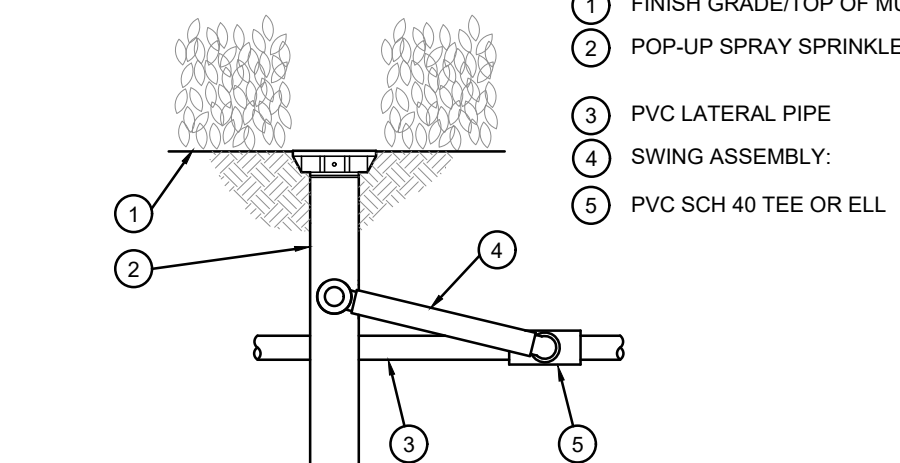
HUNTER QCV-100 QUICK-COUPLING VALVE
OPTIONAL



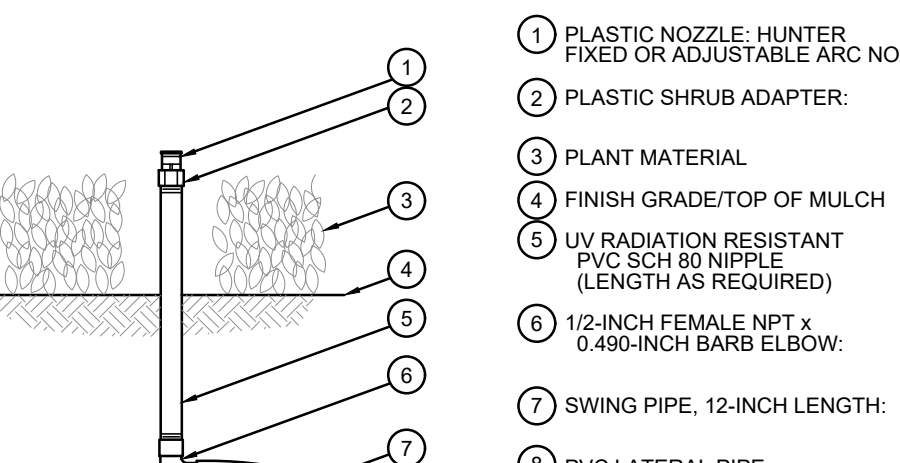
HUNTER PROS-42 4" POP-UP



HUNTER PROS-62 6" POP-UP



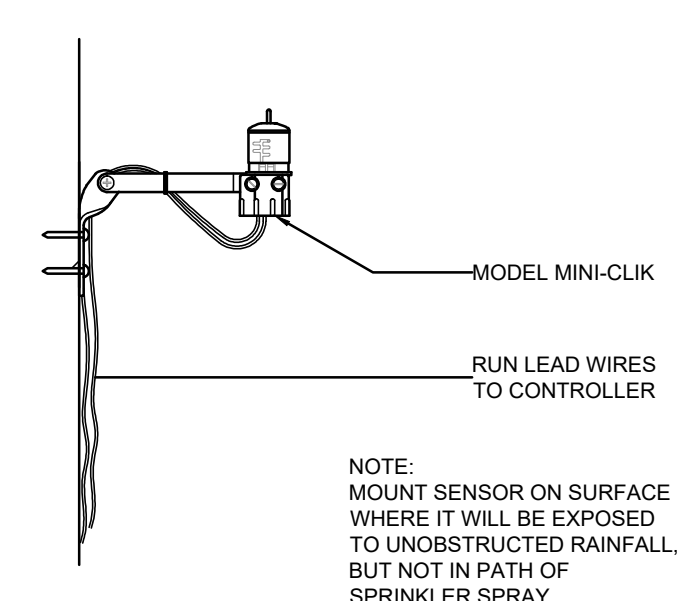
HUNTER PROS-12Z 12" POP-UP



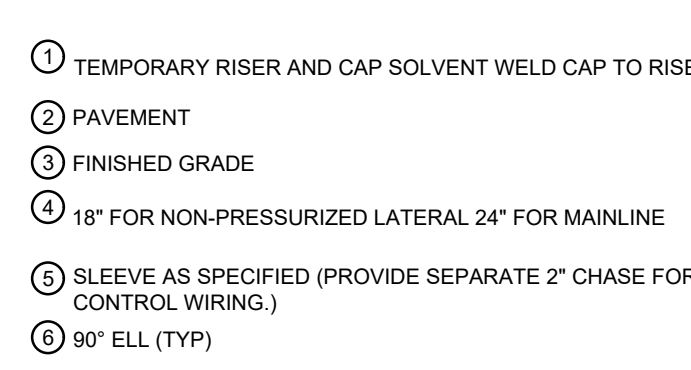
HUNTER PGV ZONE VALVE



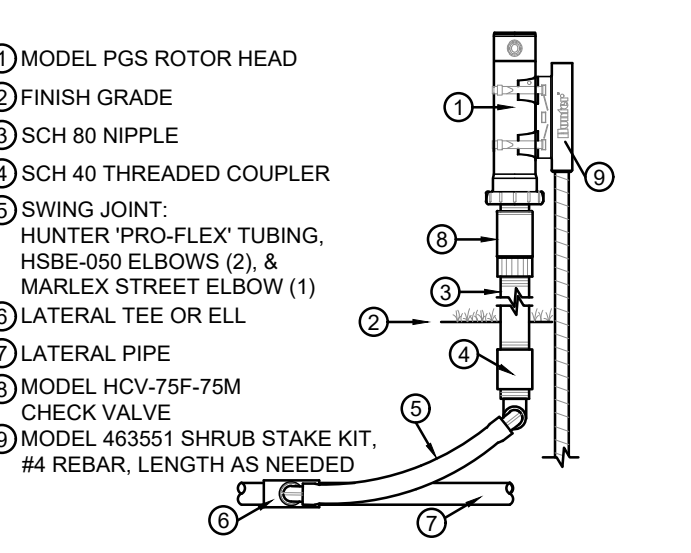
FLOOD BUBBLER
OPTIONAL



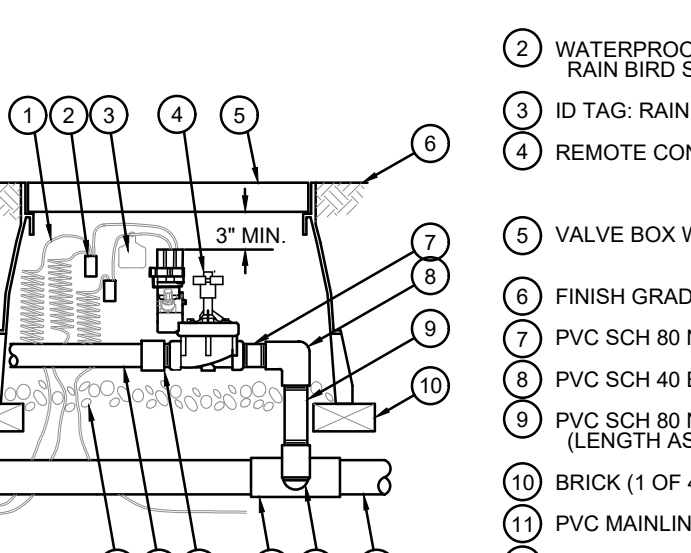
MINI-CLICK



SLEEVE INSTALLATION



PGS ROTOR HEAD



HUNTER PGV VALVE

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
2"	4"
2-1/2"	6"
3, 4"	6"

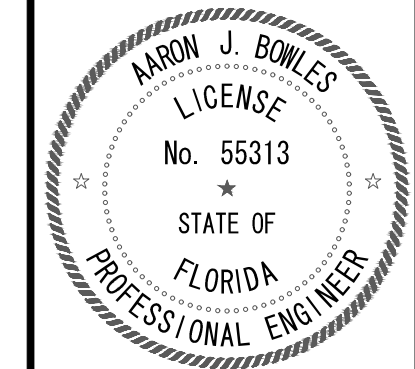


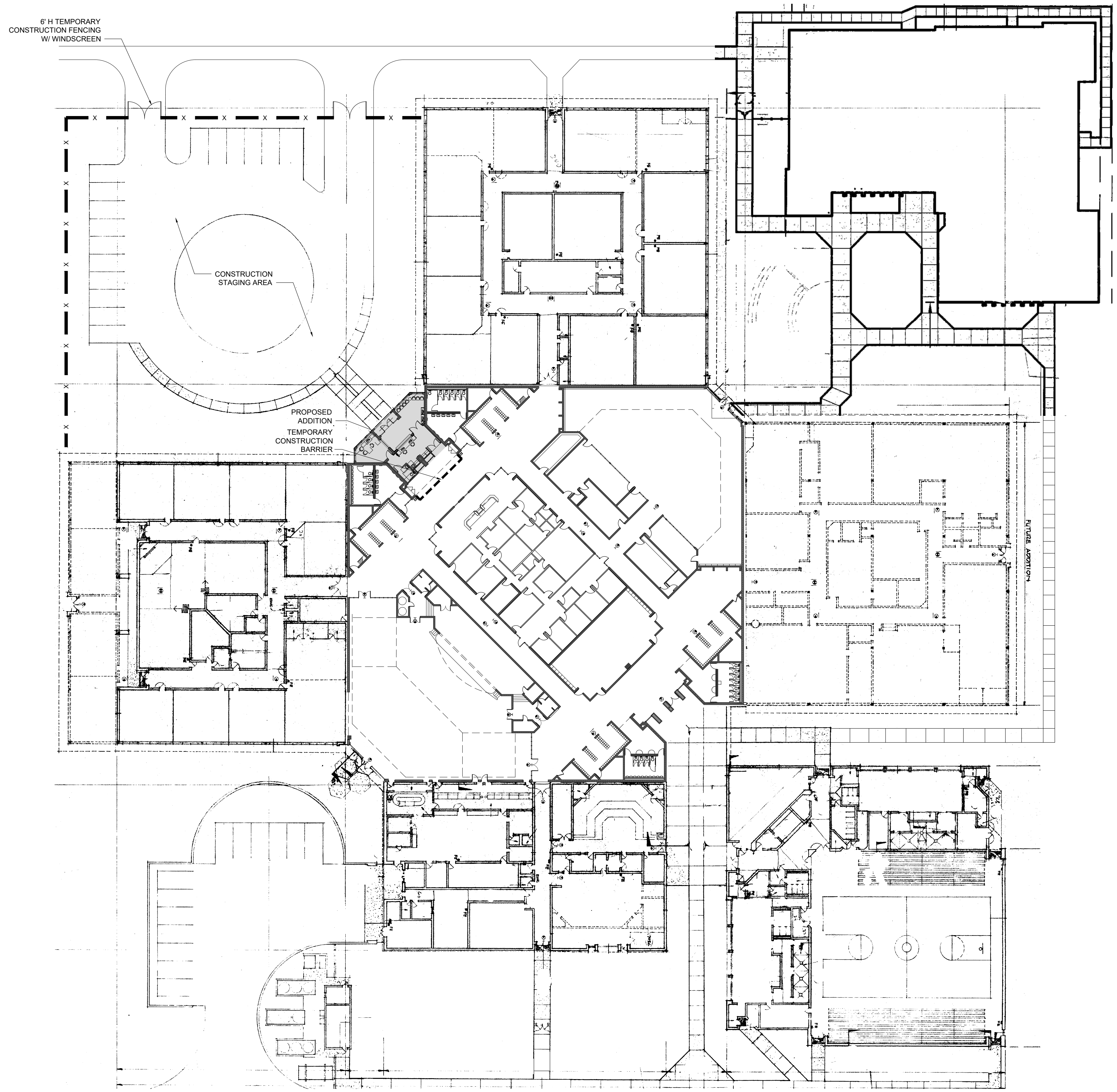
JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED
18-0112	SUS	SUS	09-21-2018	BP	10-17-2018

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MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1600 BAYVIEW BLVD, SUITE 200
HERNDON, VA 20186
FL PROJECT: PH 0791 481808
FL PROJECT: PH 0791 481808

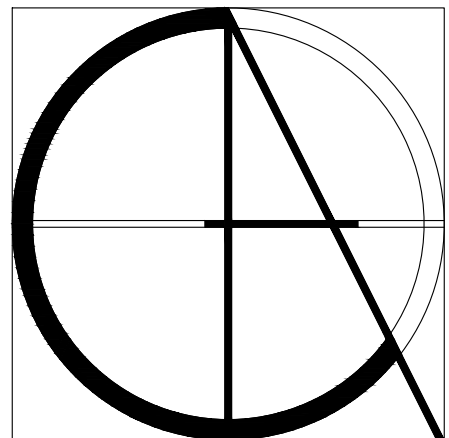
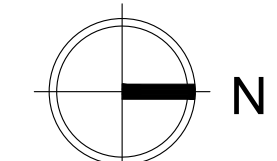
IRRIGATION SPECIFICATIONS AND NOTES

SEBASTIAN RIVER MIDDLE SCHOOL SECURITY ADDITION
FLORIDA
INDIAN RIVER COUNTY





01 OVERALL FLOOR PLAN
SCALE: 1"=30'-0"



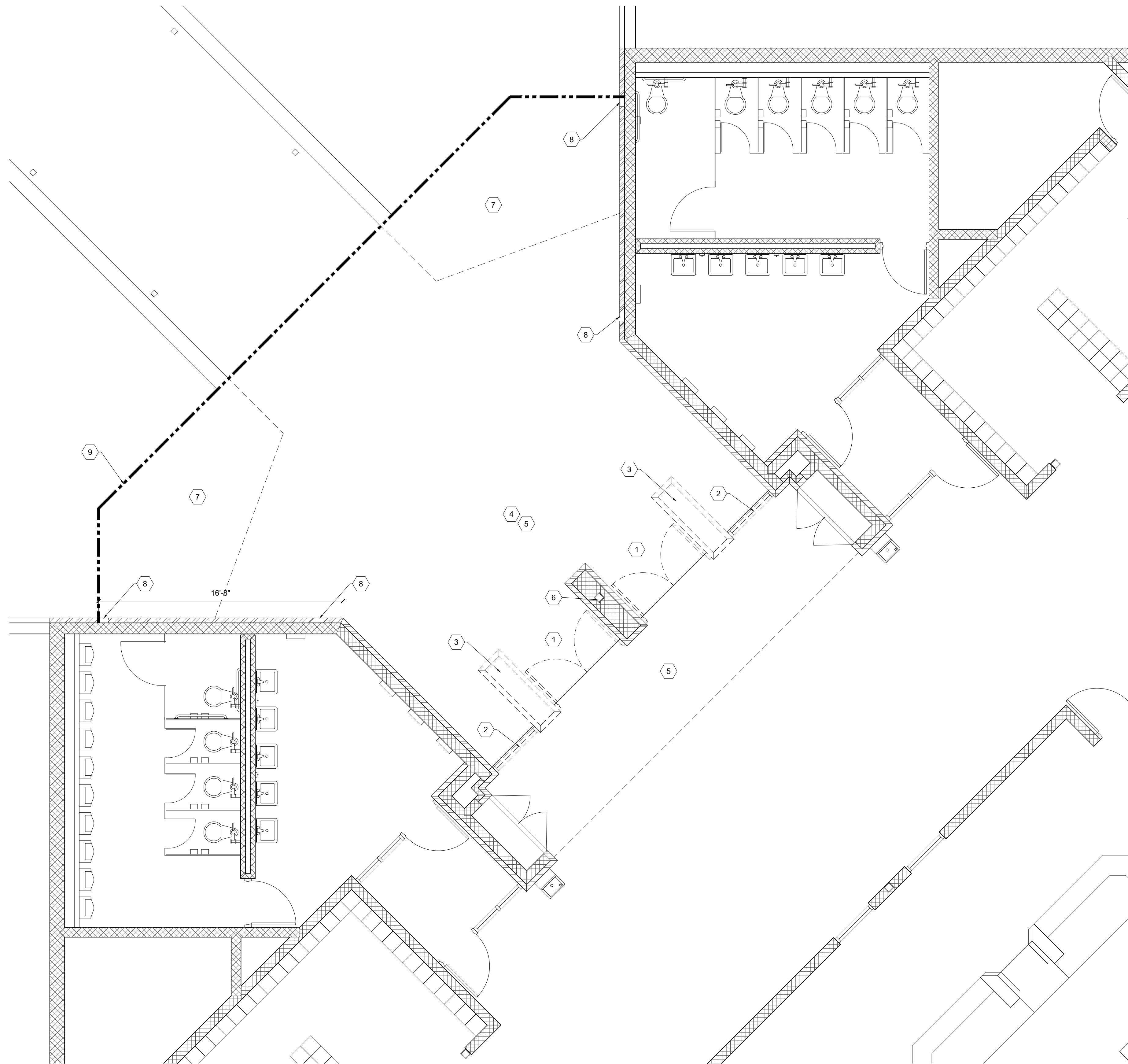
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AA26002865
6400 CONGRESS AVE. SUITE 2150
BOCA RATON, FL 33487
561.961.4884

Building Addition for:
Sebastian River Middle School
9400 CR 512
SEBASTIAN, FL 32958



PROJECT #	18-026
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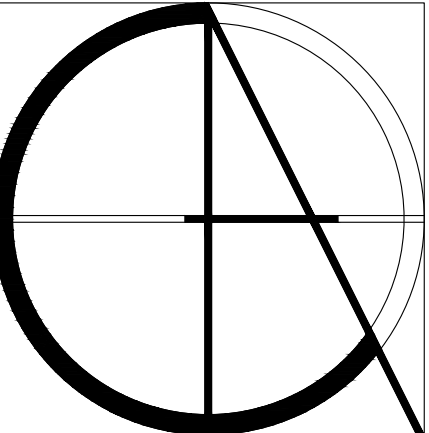
A-0



01 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

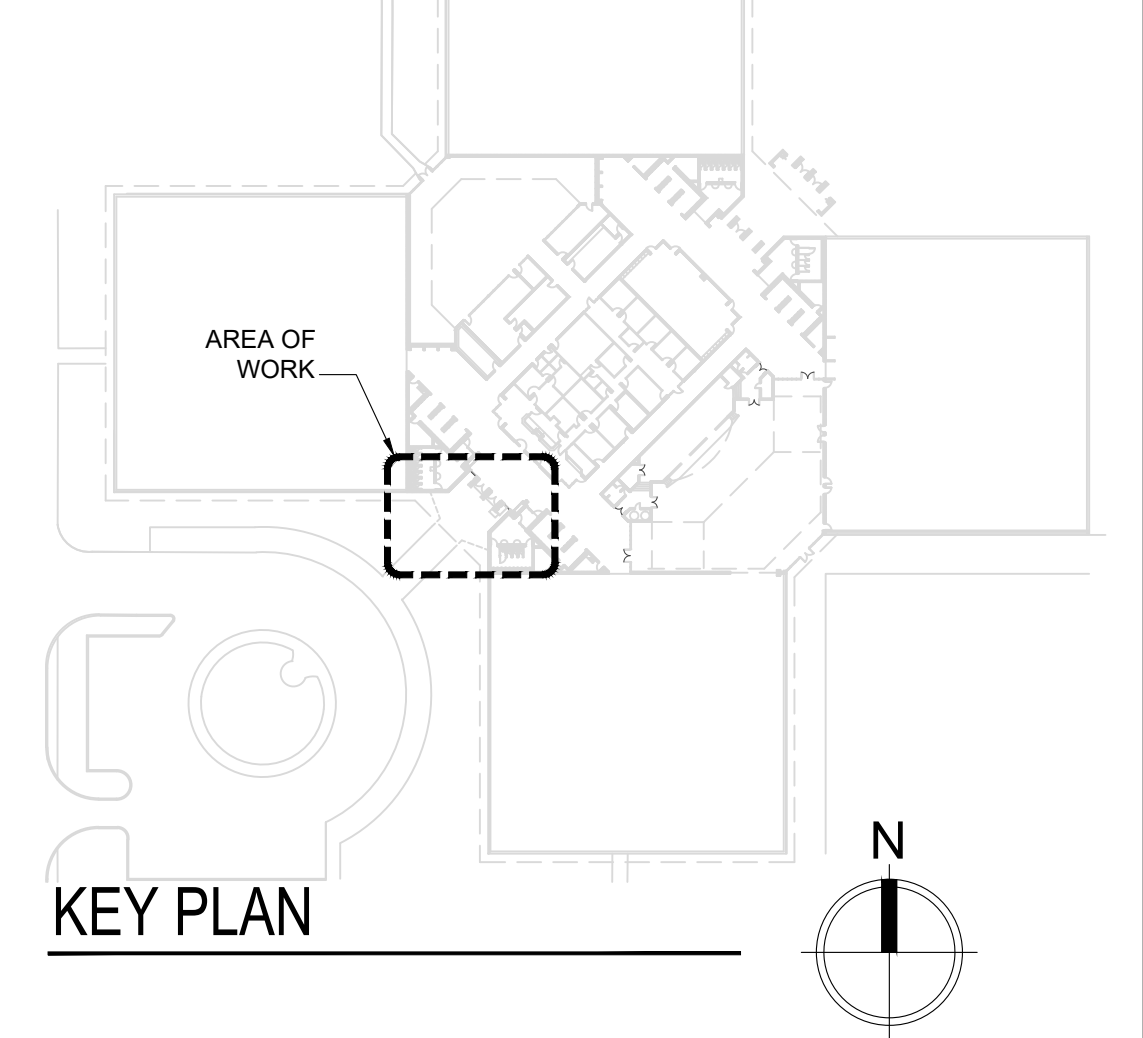
DEMOLITION PLAN KEY NOTES	
	EXISTING TO BE REMOVED
	EXISTING DOOR TO BE REMOVED
	EXISTING TO REMAIN
1	REMOVE EXISTING DOOR, FRAME AND ASSOCIATED HARDWARE.
2	REMOVE EXISTING STOREFRONT WINDOW
3	REMOVE EXISTING CMU WALL (REFER TO STRUCTURAL DWGS.)
4	REMOVE EXISTING CONCRETE SIDEWALK & PREP AS REQUIRED TO RECEIVE NEW FLOORING (REFER TO CIVIL DWGS.)
5	REMOVE EXISTING CEILING AND LIGHTING FIXTURES (SEE PROPOSED CEILING PLAN SHEET A-9)
6	EXISTING STEEL COLUMN TO REMAIN
7	REMOVE EXISTING LANDSCAPING & REPAIR AS REQUIRED
8	REMOVE PORTION OF EXISTING BRICK TO ACCOMMODATE NEW CMU WALL & REPAIR AS REQUIRED (REFER TO STRUCTURAL DWGS.)
9	OUTLINE OF PROPOSED ADDITION. (REFER TO PROPOSED PLAN SHEET A-1)

DEMOLITION PLAN GENERAL NOTES	
1.	DEMOLITION CONSISTS OF THE COMPLETE DISASSEMBLING, REMOVAL AND DISPOSAL OFF-SITE OF PORTIONS OF THE EXISTING BUILDING AS INDICATED.
2.	IF HAZARDOUS MATERIAL (LEAD PAINT, ETC.) OR MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE ENCOUNTERED DURING THE DEMOLITION WORK, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND OWNER IMMEDIATELY. ASBESTOS CONTAINING MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE OWNER.
3.	CONDITIONS OF STRUCTURES: THE OWNER AND ARCHITECT ASSUME NO RESPONSIBILITY FOR THE ACTUAL CONDITION OF STRUCTURES TO BE DEMOLISHED.
A.	CONDITIONS EXISTING AT THE TIME OF INSPECTION, FOR BIDDING PURPOSES WILL BE MAINTAINED BY THE OWNER IN SO FAR AS PRACTICAL.
B.	THE OWNER WILL REMOVE DESIRED ITEMS, NOT SCHEDULED OR SELECTED TO BE SALVAGED BY THE CONTRACTOR, FROM THE BUILDING PRIOR TO START OF DEMOLITION.
4.	SALVAGING
A.	THE OWNER SHALL DETERMINE WHICH ITEMS ARE TO BE REMOVED BY THIS CONTRACTOR AND TURNED OVER TO THE OWNER TO BE REINSTALLED. THE CONTRACTOR SHALL INQUIRE AT BID TIME WHICH ITEMS SHOULD BE INCLUDED.
B.	OTHER ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF-SITE.
5.	STORAGE OR SALE OF REMOVED ITEMS AND MATERIALS WILL NOT BE PERMITTED ON THE OWNER'S PROPERTY.
6.	UTILITIES SHALL BE DISCONNECTED BY THE GENERAL CONTRACTOR PRIOR TO THE START OF DEMOLITION
7.	PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING OR SUPPORT TO PREVENT MOVEMENT OR SETTLEMENT OR COLLAPSE OF STRUCTURES TO BE DEMOLISHED AND ADJACENT FACILITIES TO REMAIN AS REQUIRED.
8.	BUILDING DEMOLITION: DEMOLISH THOSE PORTIONS OF THE EXISTING BUILDING DENOTED ON THE DRAWINGS AS BEING TOTALLY DEMOLISHED. USE SUCH METHODS AS REQUIRED TO COMPLETE THE WORK WITHIN THE LIMITATIONS OF GOVERNING REGULATIONS.
A.	PROCEED WITH DEMOLITION IN A SYSTEMATIC MANNER FROM THE TOP OF THE STRUCTURE TO THE GROUND.
B.	LOCATE DEMOLITION EQUIPMENT THROUGHOUT THE STRUCTURE AND REMOVE MATERIALS SO AS TO NOT IMPOSE EXCESSIVE WALLS TO SUPPORTING WALLS, FLOOR, OR FRAMING.
D.	CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ADJACENT AREAS AS A RESULT OF DEMOLITION WORK PERFORMED BY THE CONTRACTOR.
9.	DISPOSAL OF DEMOLISHED MATERIAL
A.	STORAGE OF REMOVED MATERIALS ON THE SITE WILL NOT BE PERMITTED.
B.	REMOVE AND LEGALLY DISPOSE OF OFF-SITE METAL ITEMS, DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS AT CONTRACTOR EXPENSE.
C.	GENERAL CONTRACTOR SHALL PROVIDE A DUMPSTER FOR DEMOLISHED ITEMS. THE BUILDING DUMPSTER SHALL NOT BE USED.
10.	PROTECT FROM DAMAGE, WHEN AND AS DIRECTED, EXISTING FINISH WORK THAT IS TO REMAIN IN PLACE AND BECOME EXPOSED DURING DEMOLITION OPERATIONS.
11.	PROVIDE TEMPORARY WEATHER PROTECTION DURING INTERVALS BETWEEN DEMOLITION AND REMOVAL OF EXISTING CONSTRUCTION ON EXTERIOR SURFACES AND INSTALLATION OF NEW CONSTRUCTION TO INSURE THAT NO WATER LEAKAGE OR DAMAGE OCCURS TO STRUCTURE OF INTERIOR AREAS OF EXISTING BUILDING.
12.	UTILITY SERVICES: MAINTAIN ALL EXISTING UTILITIES NOT INDICATED TO BE DEMOLISHED, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. COORDINATE WITH THE OWNER.
	THE GENERAL CONTRACTOR SHALL TAKE CARE TO ENSURE THAT ALL ELECTRICAL POWER IS TURNED OFF PRIOR TO DEMOLITION OF ELECTRICAL COMPONENTS. ALL WIRING SHALL BE PROPERLY TERMINATED TO COMPLY W/ APPLICABLE CODES AND AVOID UNSAFE CONDITIONS.
13.	TRAFFIC: CONDUCT DEMOLITION OPERATIONS AND THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES.
A.	DO NOT CLOSE OR OBSTRUCT STREETS, WALKS AND OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY GOVERNING REGULATIONS.
14.	CEASE OPERATIONS AND NOTIFY ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS TO BE ENDANGERED. TAKE PRECAUTIONS TO SUPPORT STRUCTURE UNTIL DETERMINATION IS MADE FOR CONTINUING OPERATIONS.
15.	COVER AND PROTECT EQUIPMENT, AND FIXTURES TO REMAIN FROM SOILING OR DAMAGE WHEN DEMOLITION WORK IS PERFORMED IN ROOMS OR AREAS FROM WHICH SUCH ITEMS HAVE NOT BEEN REMOVED.
16.	LOCATE, IDENTIFY, STUB-OFF, AND DISCONNECT UTILITY SERVICES THAT ARE NOT INDICATED TO REMAIN.
A.	PROVIDE BYPASS CONNECTIONS AS NECESSARY TO MAINTAIN CONTINUITY OF SERVICE TO BE OCCUPIED AREAS OF BUILDING. PROVIDE MINIMUM 72 HOURS ADVANCE NOTICE TO OWNER IF SHUTDOWN OF SERVICE IS NECESSARY DURING CHANGEOVER.
B.	IF UNANTICIPATED, MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS WHICH CONFLICT WITH INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, INVESTIGATE AND ACCESS BOTH NATURE AND EXTENT OF THE CONFLICT. SUBMIT REPORT TO THE ARCHITECT IN WRITTEN, ACCURATE DETAIL. PENDING RECEIPT OF DIRECTIVE FROM ARCHITECT, REARRANGE SELECTIVE DEMOLITION SCHEDULE AS NECESSARY TO CONTINUE OVERALL JOB PROGRESS WITHOUT DELAY.
17.	CONTRACTOR TO COORDINATE TEMPORARY SAFE STORAGE WITH OWNER.
18.	DEMOLITION AND CONSTRUCTION SHALL NOT INTERFERE WITH BUILDING OPERATIONS.
19.	ALL BUILDING LIFE SAFETY EQUIPMENT, I.E. FIRE ALARMS, ETC. SHALL REMAIN FULLY OPERATIONAL DURING DEMOLITION AND CONSTRUCTION.
20.	ALL PLUMBING LINES BEING REMOVED SHALL RECEIVE SHUT OFF VALVE AND BE CAPPED. VENTS SHALL BE CAPPED AND SEALED OFF ON ROOF.
21.	REMOVE EACH ITEM SHOWN WITH DASHED LINES ON THIS DRAWING WHETHER OR NOT EACH ITEM IS SPECIFICALLY NOTED TO BE REMOVED.
22.	AFTER THE DEMOLITION OF MATERIALS, THE RESULTING EXPOSED SURFACE SHALL BE SMOOTH AND FLUSH WITH EXISTING CONDITIONS.
23.	MAINTAIN THE EGRESS REQUIRED IN ALL AREAS PER ALL APPLICABLE CODES AND STANDARDS DURING CONSTRUCTION.
24.	ALL CONSTRUCTION AND DEMOLITION PROCEDURES SHALL COMPLY W/ NFPA 241.

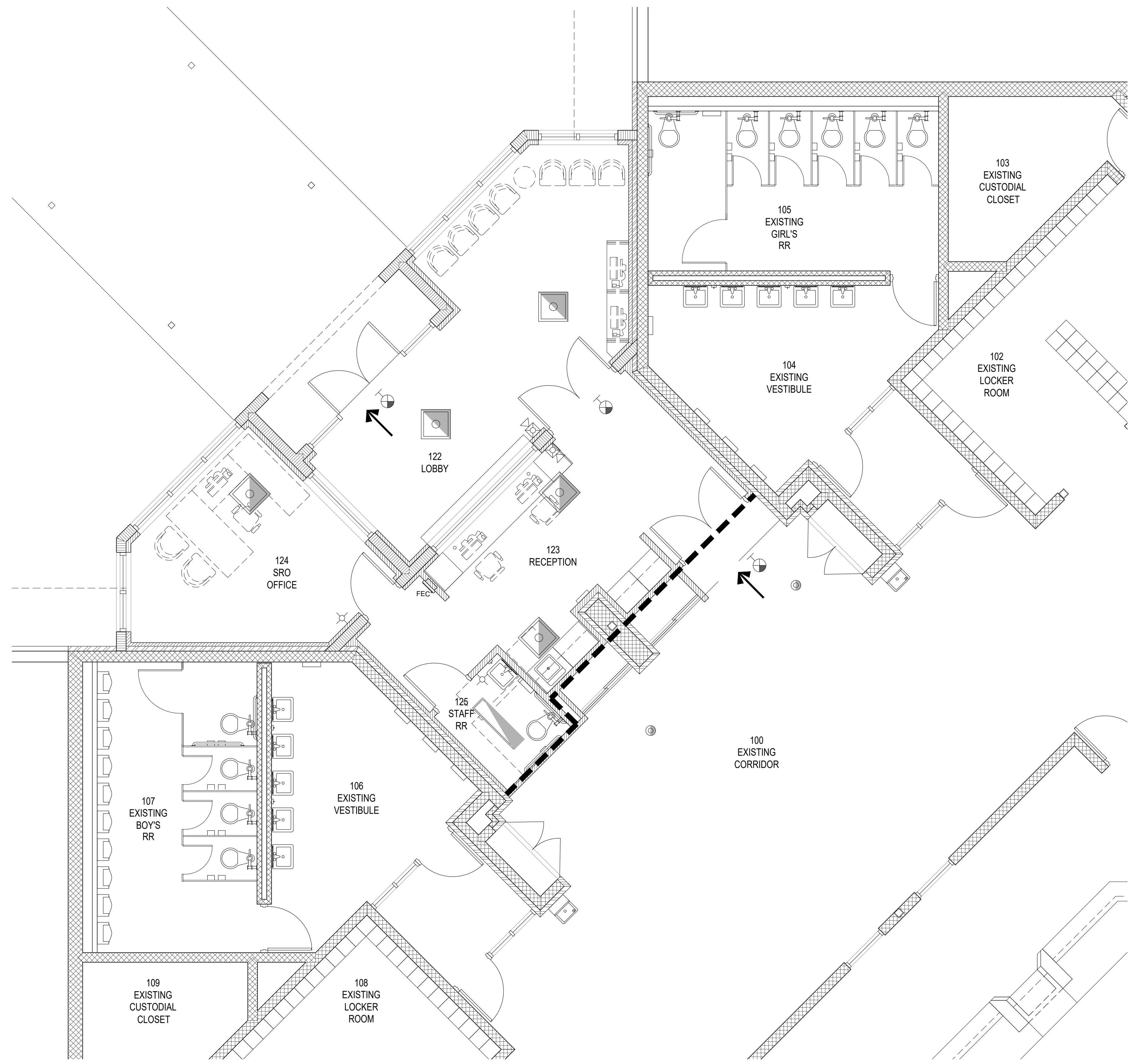


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AA26002865
6400 CONGRESS AVE, SUITE 2150
BOCA RATON, FL 33487
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9400 CR 512
SEBASTIAN, FL 32958



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

LIFE SAFETY NOTES

- OCCUPANCY TYPE SHALL BE EDUCATIONAL GROUP "E".
- FIRE STOPPING AND DRAFT STOPPING SHALL BE PROVIDED AT ANY CONCEALED SPACE IN WHICH EXPOSED MATERIAL HAS A FLAME-SPREAD RATING LESS THAN CLASS-A.
RATED ASSEMBLIES
- FIRE RATED WALL ASSEMBLIES SHALL EXTEND FULLY FROM THE FLOOR TO THE STRUCTURE & DECK ABOVE. ALL PENETRATIONS OF RATED ASSEMBLIES SHALL BE PROTECTED PER NFPA 101, BY FIRE DAMPERS, SLEEVES OR FIRE CAULKING BY A U.L. APPROVED METHOD.
- PROVIDE UL RATED SYSTEM AT ALL PIPE, DUCTWORK, STRUCTURAL STEEL AND METAL JOIST PENETRATION OF FIRE-RATED WALLS.
- BUILDING EXIT DOORS REQUIRED BY CODE SHALL HAVE PANIC DEVICES AND SWING IN THE DIRECTION OF EGRESS.
REQUIREMENTS
- ALL CORRIDORS AND NORMALLY OCCUPIED ROOMS SHALL BE EQUIPPED WITH EMERGENCY LIGHTING.
- FIRE EXTINGUISHERS SHALL BE PLACED AT INTERVAL NOT EXCEEDING A TRAVEL DISTANCE OF 75'.
- APPROVED AUTOMATIC FIRE ALARM SYSTEM WITH MANUAL OPERATION CAPABILITIES SHALL BE INCORPORATED WITHIN THE DESIGN.
- CONTRACTOR TO PROVIDE COMPLETED CONTRACTOR'S INSTALLATION AFFIDAVIT/CERTIFICATION FORM PER THE REQUIREMENTS OF NFPA 24-95-9.2.

BUILDING CODE INFORMATION
BASED ON FLORIDA BUILDING CODE 6TH EDITION (2017)

TYPE IIB-CONSTRUCTION
ONE STORY BUILDING
SPRINKLERED
OCCUPANCY: EDUCATIONAL (E)

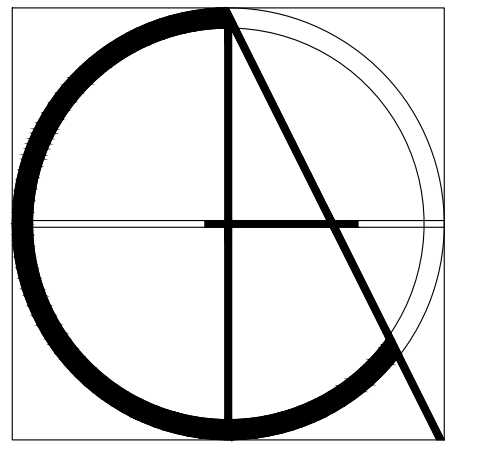
LIFE SAFETY SYSTEM
EMERGENCY LIGHTING AND EXIT SIGNS YES NO
FIRE ALARM AND SMOKE DETECTION SYSTEMS YES NO
PANIC HARDWARE YES NO

EXIT REQUIREMENTS:
DEAD END LIMIT MAX CONDITION 50 FT
TRVL. DISTANCE TO EXIT MAX CONDITION 250 FT
COMMON PATH OF TRAVEL 75 FT

LIFE SAFETY SYMBOLS LEGEND

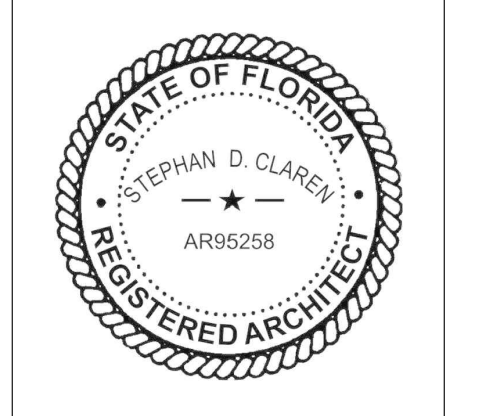
- SMOKE PARTITION CONSTRUCTED WALL. ALL OPENINGS AND MECHANICAL PENETRATIONS SHALL BE PROTECTED TO MAINTAIN THE INTEGRITY OF THE SMOKE PARTITION CONSTRUCTION FOR THE WALL. REFER TO WALL TYPES FOR UL NUMBERS
- PRIMARY MEANS OF EGRESS
- EMERGENCY EXIT LIGHT (WALL MTD.) TWO SIDED W/ DIRECTION ARROW
- EMERGENCY LIGHTS
- FIRE ALARM HORN/STROBE
- FIRE ALARM STROBE DEVICE
- FIRE EXTINGUISHER CABINET

NOTES:
1. PROVIDE STENCILING ON WALLS ABOVE CEILING FOR PROTECTED WALLS STATING "FIRE OR SMOKE BARRIER, PROTECT ALL OPENINGS (TYPICAL FOR ALL RATED PARTITIONS)"
2. ALL PENETRATIONS OF RATED WALLS, WALL EXTENSIONS, FLOOR AND ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH A UL SYSTEM. ALTERNATE OR ADDITIONAL PENETRATION PROTECTION SYSTEMS MUST BE TEST CERTIFIED AND SUBMITTED AS A SHOP DRAWING.

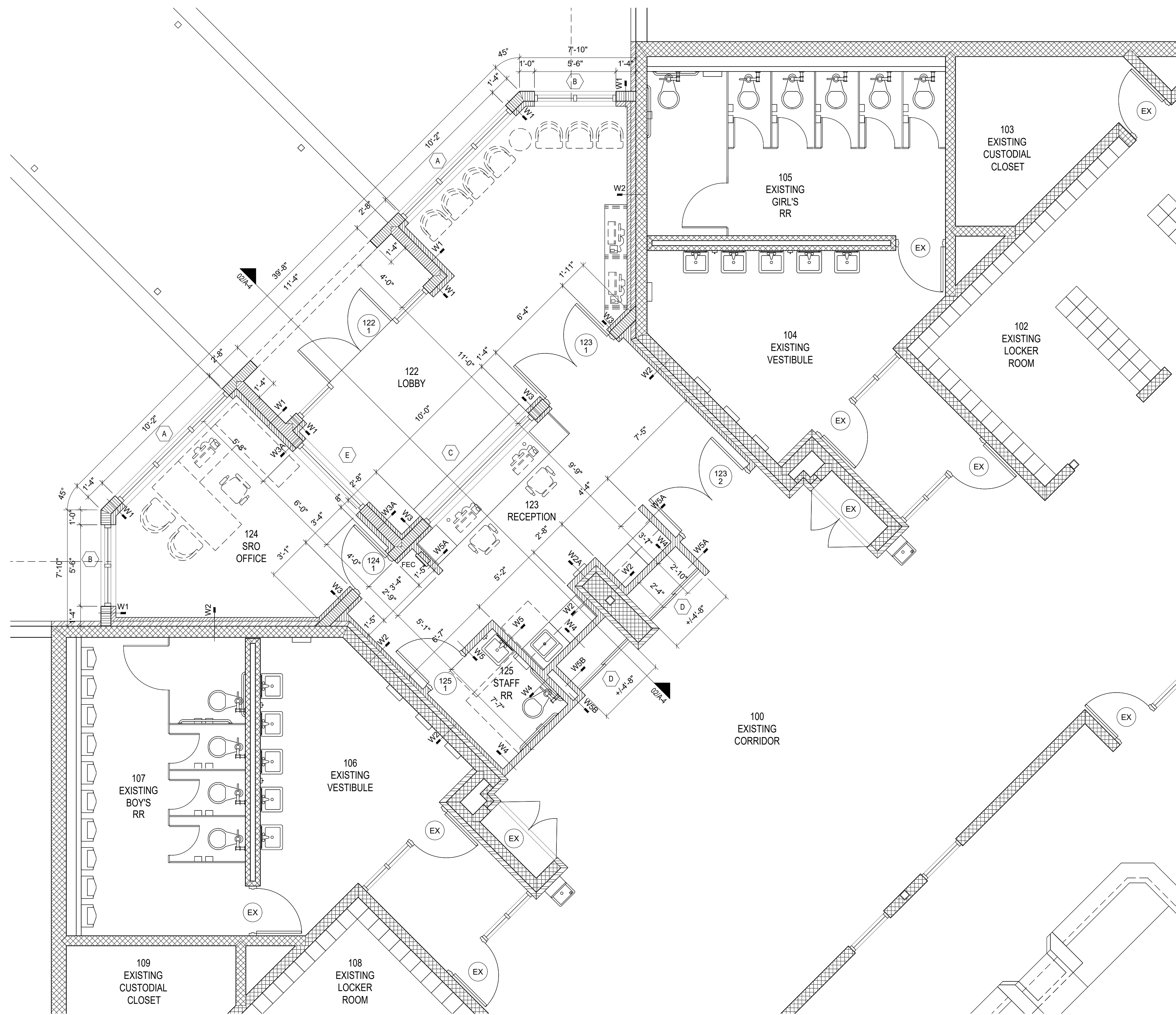


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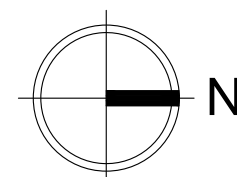
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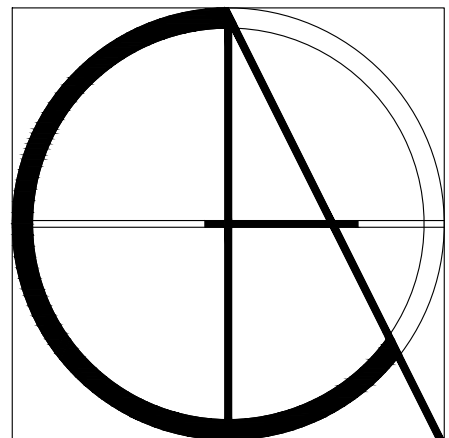
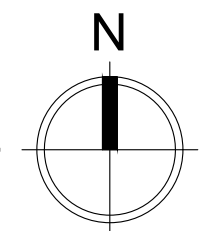
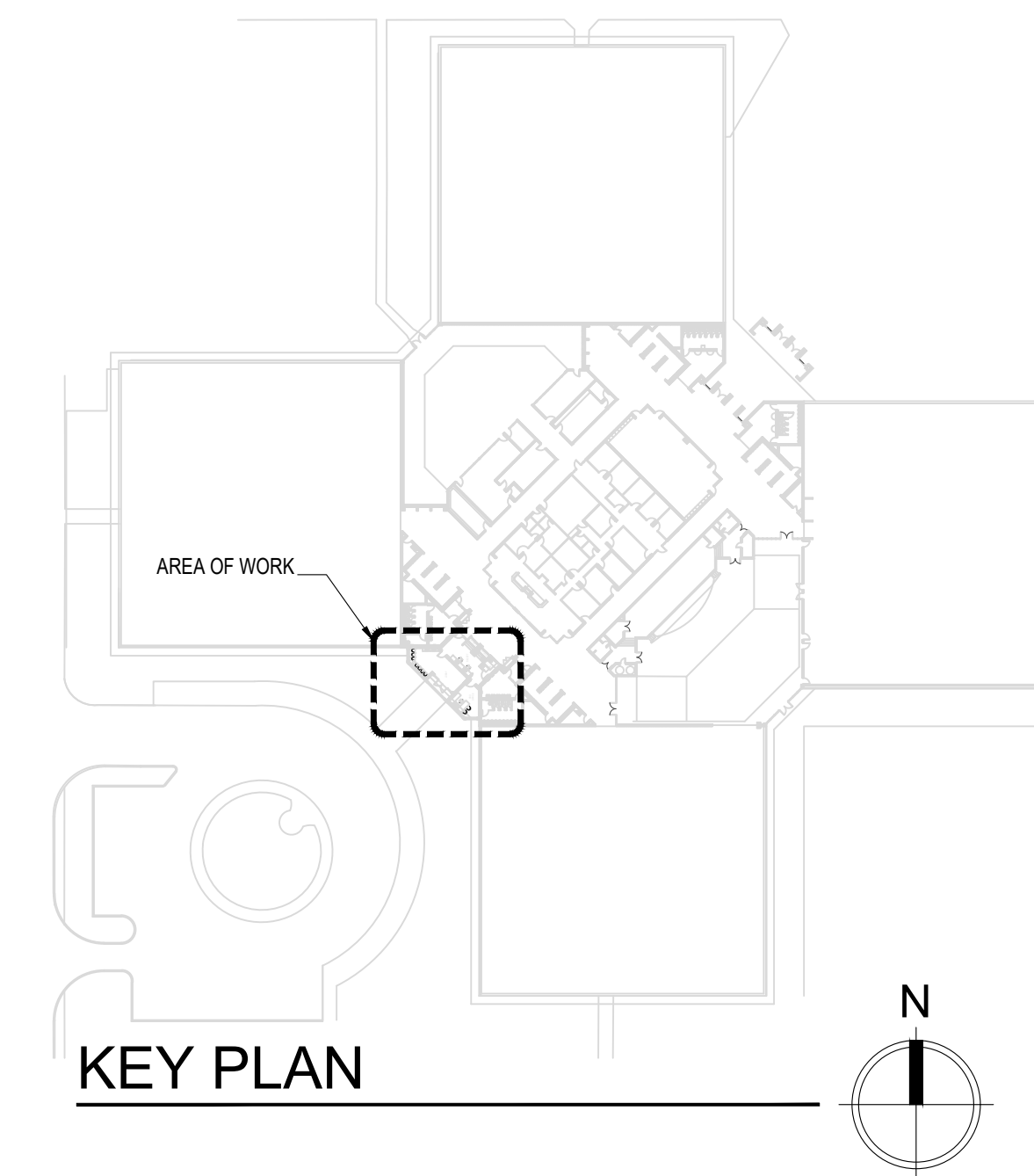
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SHEET #	



01 PROPOSED FLOOR PLAN
SCALE: 1/4" = 1'-0"



WALL LEGEND	
	EXISTING CMU WALL
	EXISTING BRICK VENEER
	EXISTING FRAMED WALL
	NEW CMU WALL
	NEW FRAMED WALL



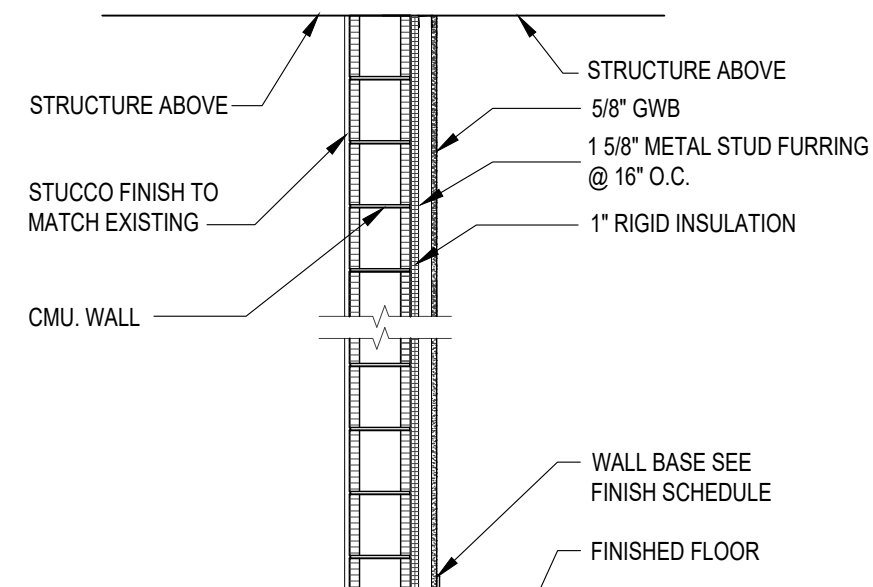
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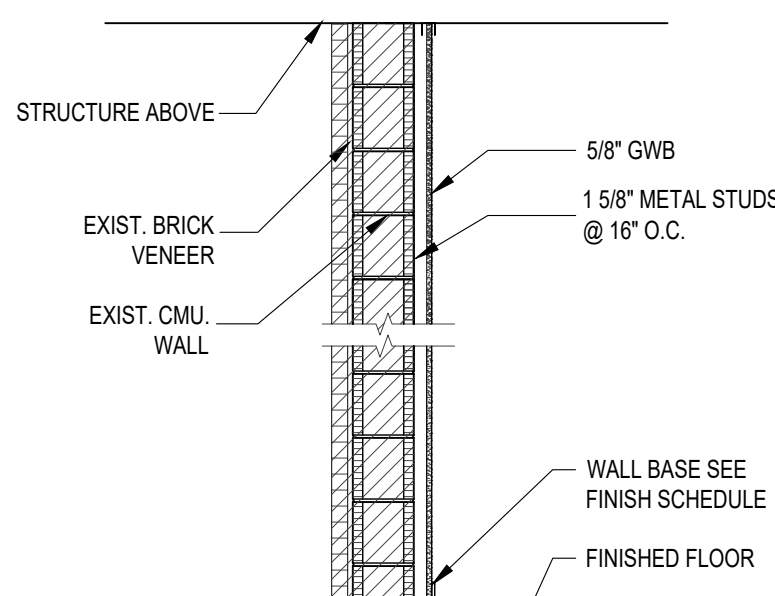


NOTE: USE MOISTURE RESISTANT GWB IN WET AREAS AND CEMENTITIOUS BD. IN ALL & AREAS TO RECEIVE TILE

W1 - WALL TYPE

04

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

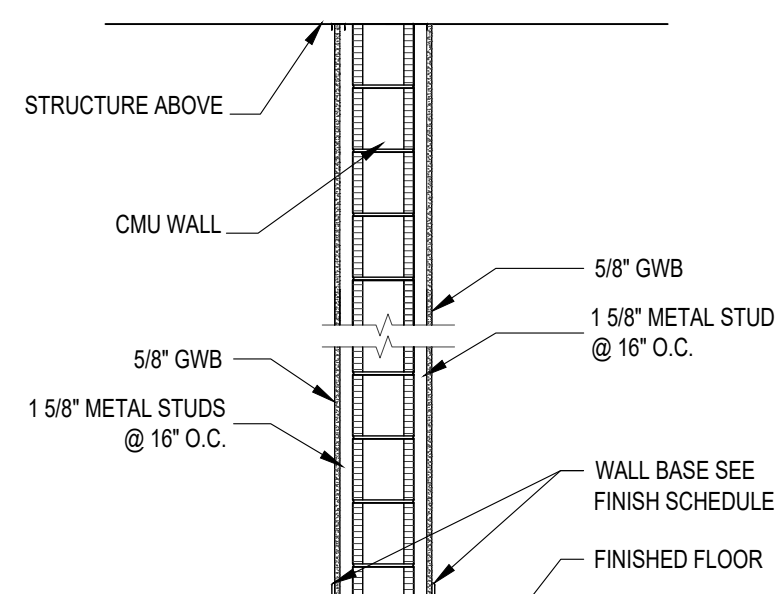


NOTE: USE MOISTURE RESISTANT GWB IN WET AREAS AND CEMENTITIOUS BD. IN ALL & AREAS TO RECEIVE TILE

W2 - WALL TYPE

05

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



NOTE: USE MOISTURE RESISTANT GWB IN WET AREAS AND CEMENTITIOUS BD. IN ALL & AREAS TO RECEIVE TILE

W3 - WALL TYPE

06

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

NOTE:

- SEE FINISH SCHEDULE FOR ALL FINISHES ON FLOORS, WALLS & CEILINGS.
- PROVIDE ABUSE RESISTANT GWB TO 5'-0" AFF IN ALL CORRIDORS.
- INSTALL MOISTURE RESISTANT GYPSUM WALLBOARD SUBSTRATE ON ALL WET AREAS AND CEMENTITIOUS BD. ON ALL WALLS TO RECEIVE CERAMIC TILE.
- PROVIDE SCREENS FOR ALL NEW OPERABLE WINDOWS ON THE PROJECT FOLLOW THE DISTRICT STANDARDS FOR THE SCREENS.
- SEE LIFE SAFETY PLANS FOR WALL FIRE RATINGS AND SMOKE PARTITIONS.
- INSTALL CORNERGUARDS ON ALL EXPOSED CORNERS. SEE SPECS.
- THE 1" RIGID INSULATION BOARD ON THE WALL TYPES IS TO BE THERMAX SHEATHING BY DOW, OR APPROVED EQUAL THAT MEETS THE FLORIDA BUILDING CODE.
- COORDINATE ALL TYPES OF GWB TO BE USED ON EACH WALL TYPE WITH ROOM USE AND THE FINISH SCHEDULE.
- PER THE SCHOOL DISTRICT THE FOLLOWING STC RATINGS ARE TO BE MET ON EACH NEW DOOR:
 - A. MECHANICAL/ELECTRICAL DOORS TO THE CORRIDOR MUST MEET A 30 STC PROVIDE ACCORDINGLY TO MEET THE STC REQUIRED

NOTES:

- ALL METAL STUDS SHALL BE 16" O.C. UNLESS OTHERWISE NOTED.
- ALL METAL STUDS TO 15'-0" AFF. SHALL BE 20 GA. TYPE "DWS"
- 6" 20 GA. TYPE "DWS" METAL STUDS TO 24'-0" AFF. DO NOT REQUIRE ADDITIONAL BRACING.
- ALL 6" 20 GA. TYPE "DWS" METAL STUD WALLS ABOVE 24'-0" WHICH ARE NOT ABUTTED BY A HARD CEILING ON ONE SIDE. SHALL BE BRACED AS PER STRUCTURAL DRAWING DETAILS.
- STC RATINGS INDICATED ARE PER THE GYPSUM ASSOCIATION "FIRE RESISTANCE DESIGN MANUAL" 21TH EDITION.
- STC RATINGS INDICATED FOR MASONRY ARE PER THE NATIONAL CONCRETE MASONRY ASSOCIATION TEK 13-1A 2000.
- 1" RIGID INSULATION BOARD IS NOT TO BE PENETRATED FOR SYSTEMS INSTALLATION.

WALL TYPE NOTES:

-SEE FINISH SCHEDULE FOR ALL FINISHES ON WALLS
 -FOR ALL FIRE RATED WALLS PROVIDE STENCILING ABOVE CLNG. TILES STATING FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS.

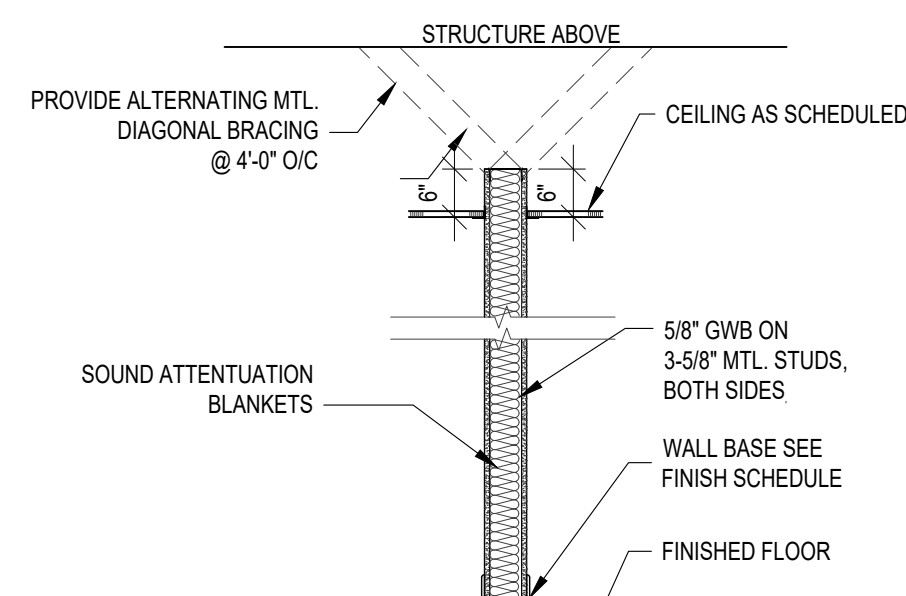
-REFER TO LIFE SAFETY PLANS FOR LOCATIONS OF RATED WALL ASSEMBLIES; CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NOTED RATINGS.

-WALL BOARD AND SURFACE FINISH MATERIAL SHALL EXTEND A MINIMUM OF 6" ABOVE NEAREST ADJACENT CEILING, UNLESS NOTED OTHERWISE.

-ALL PENETRATIONS OF RATED STEEL STUD PARTITION WALLS AND WALL EXTENSIONS, FLOOR AND ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH ONE OF THE FOLLOWING UL SYSTEMS:

- SYSTEM NO. C-AJ-2218
- SYSTEM NO. C-AJ-1014
- SYSTEM NO. W-L-1054
- SYSTEM NO. W-L-1176
- SYSTEM NO. W-L-2154
- SYSTEM NO. W-L-2148

ALTERNATE PENETRATION PROTECTION SYSTEMS MUST BE TEST CERTIFIED AND SUBMITTED FOR REVIEW.

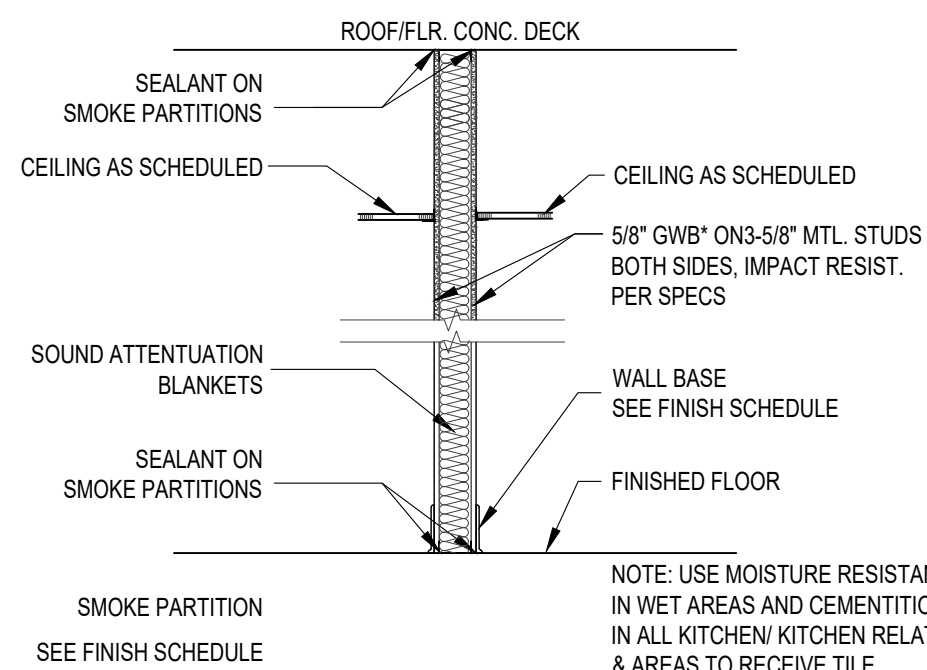


NOTE: USE MOISTURE RESISTANT GWB IN WET AREAS AND CEMENTITIOUS BD. IN ALL & AREAS TO RECEIVE TILE

W5 - WALL TYPE

02

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

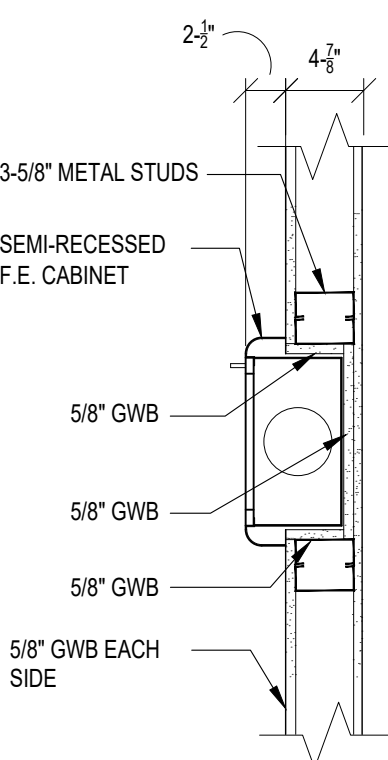


NOTE: USE MOISTURE RESISTANT GWB IN WET AREAS AND CEMENTITIOUS BD. IN ALL KITCHEN/ KITCHEN RELATED SPACES & AREAS TO RECEIVE TILE

W4 - WALL TYPE

07

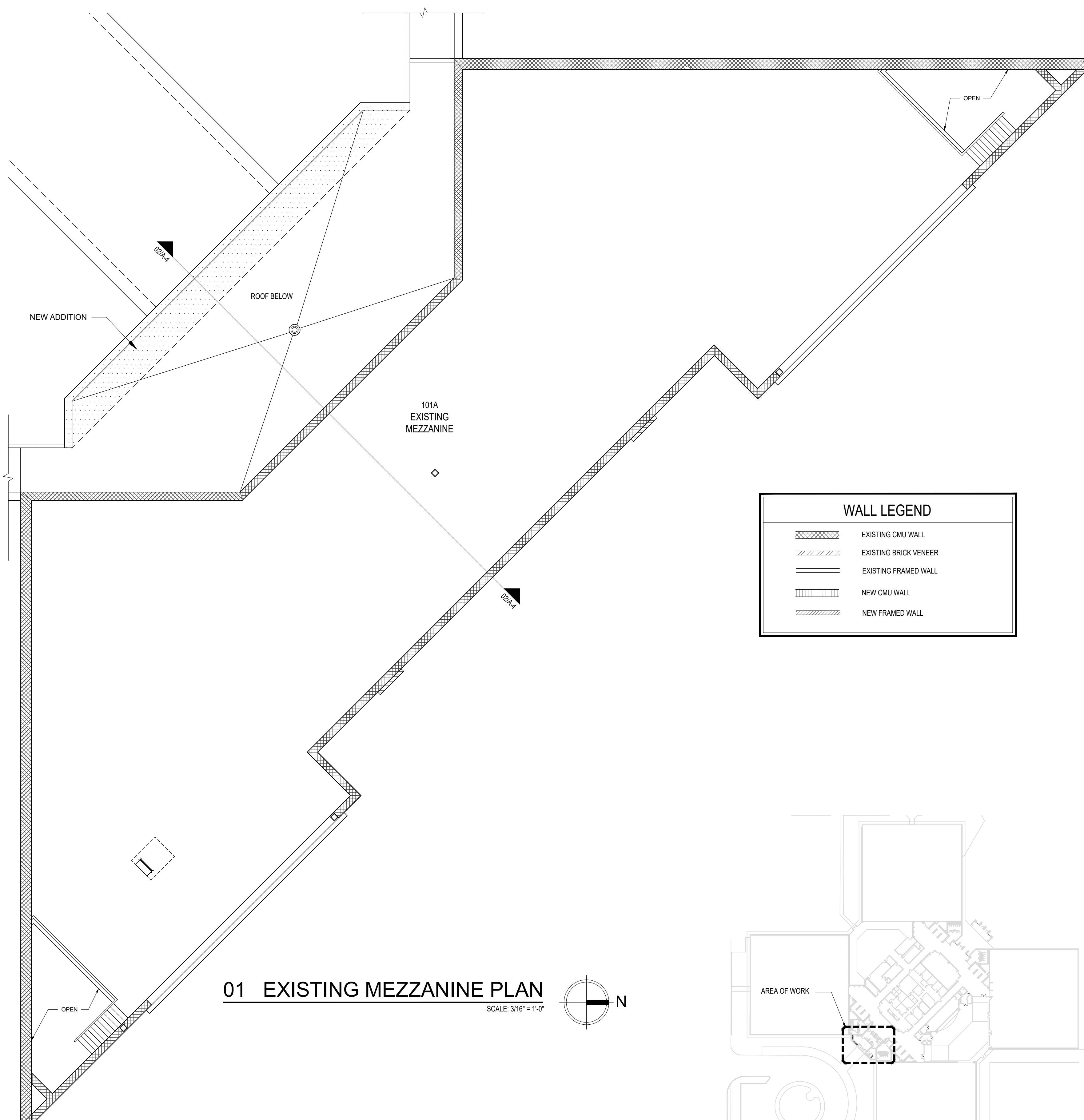
SCALE: 1/2" = 1'-0"



TYP. FIRE EXTINGUISHER DETAIL

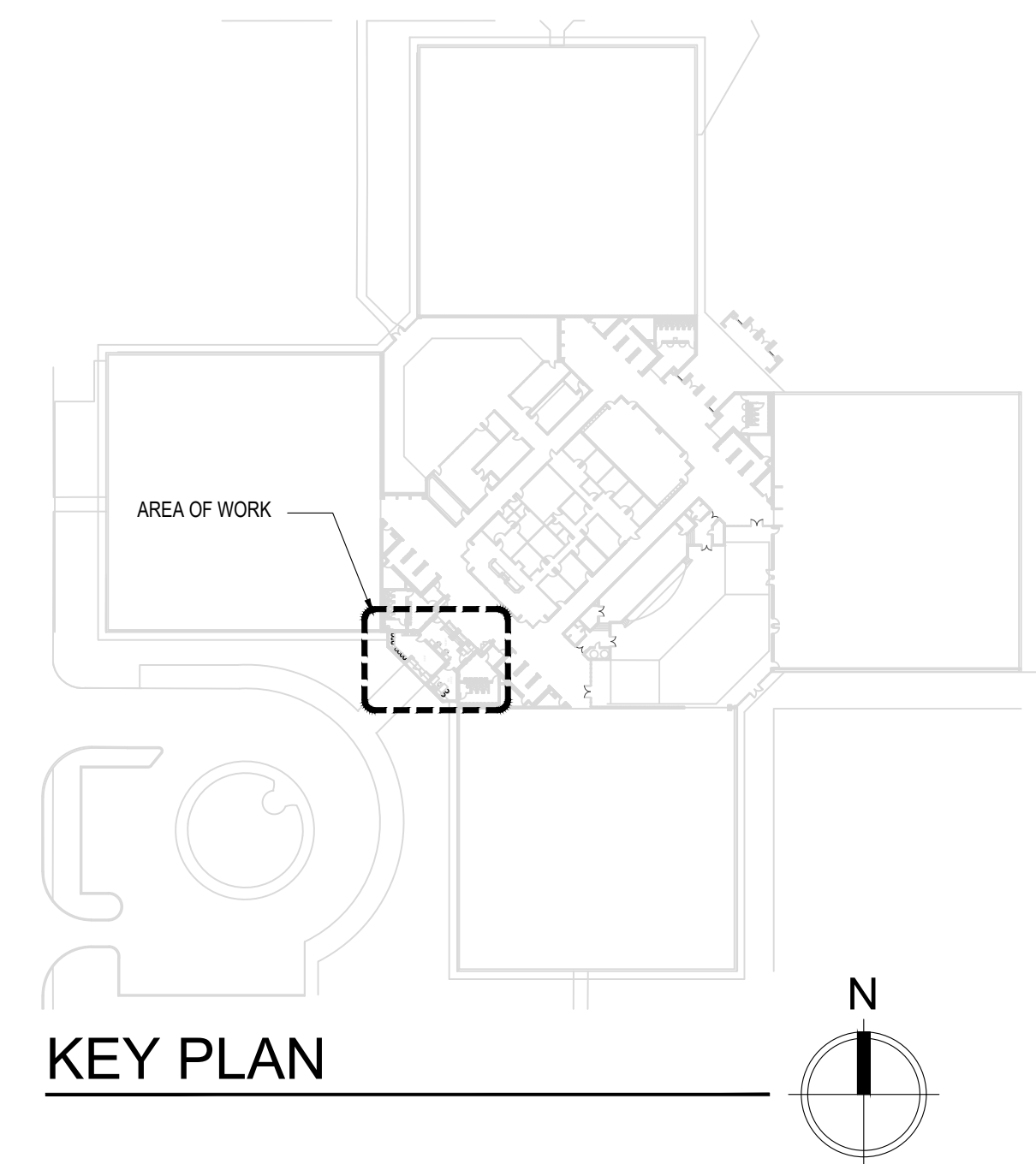
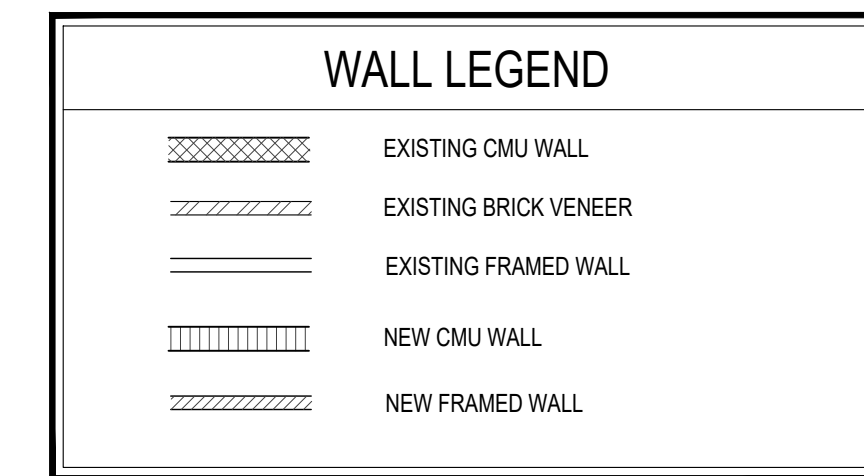
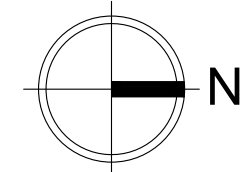
03

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

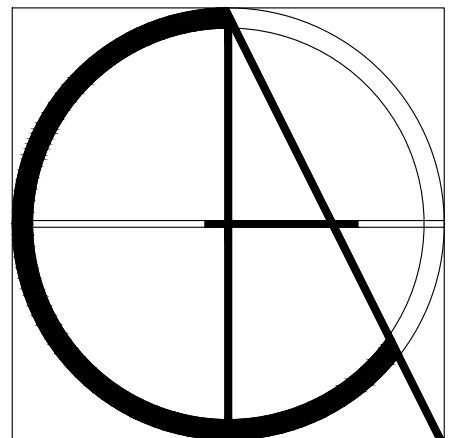


01 EXISTING MEZZANINE PLAN

SCALE: 3/16" = 1'-0"



KEY PLAN

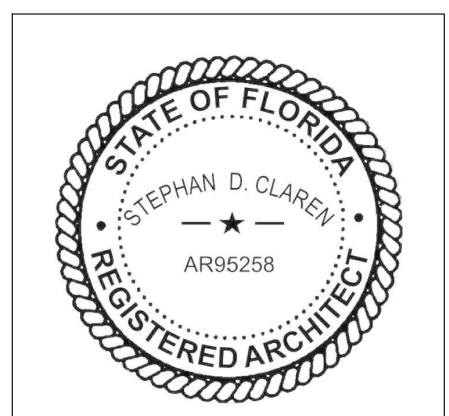


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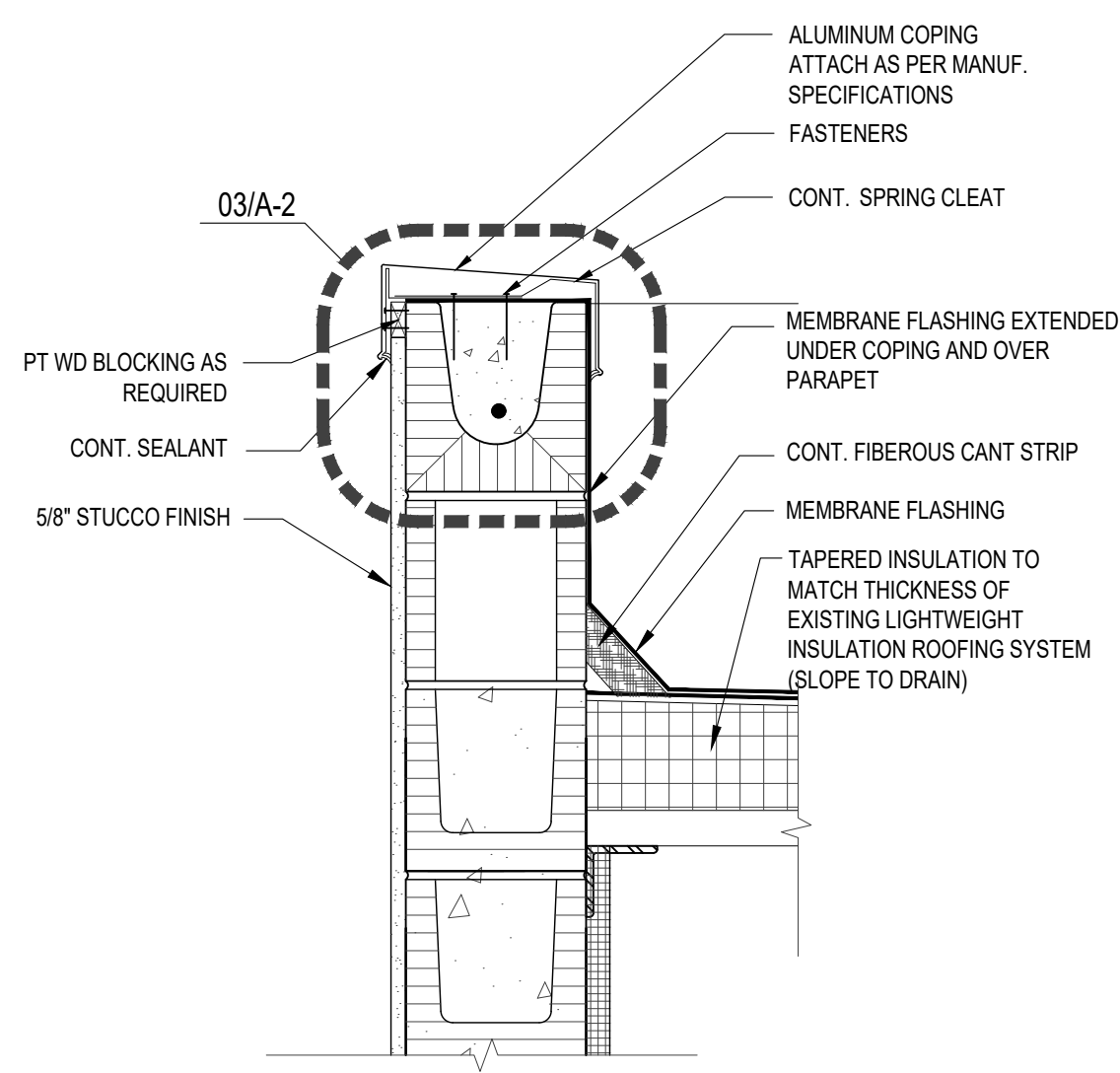
Building Addition for:
 Sebastian River Middle School

9400 CR 512
 SEBASTIAN, FL 32958

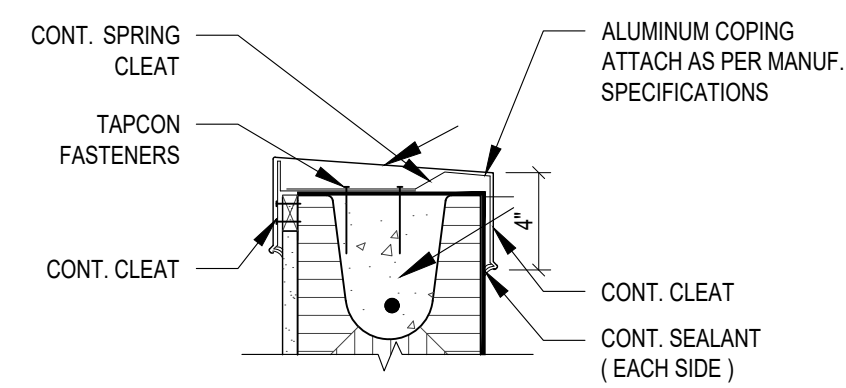


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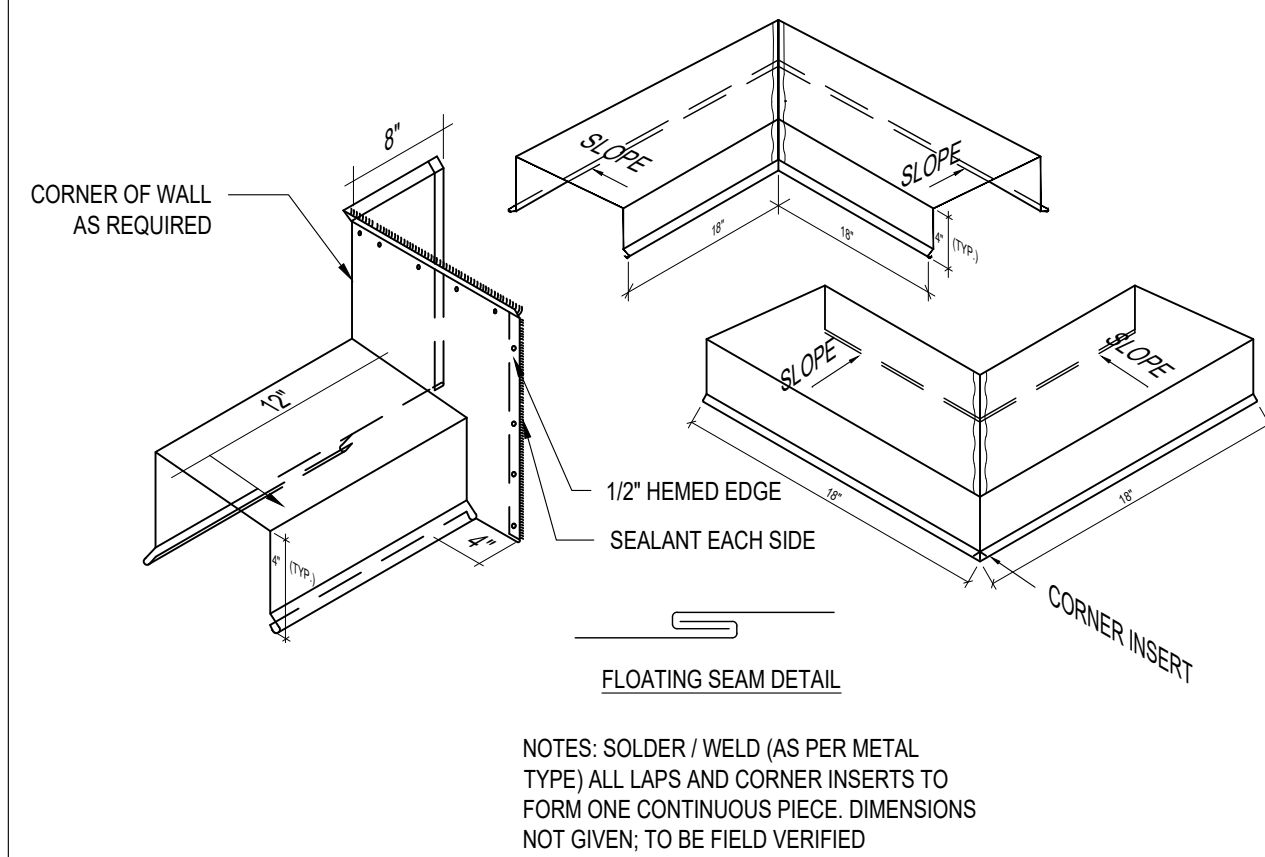
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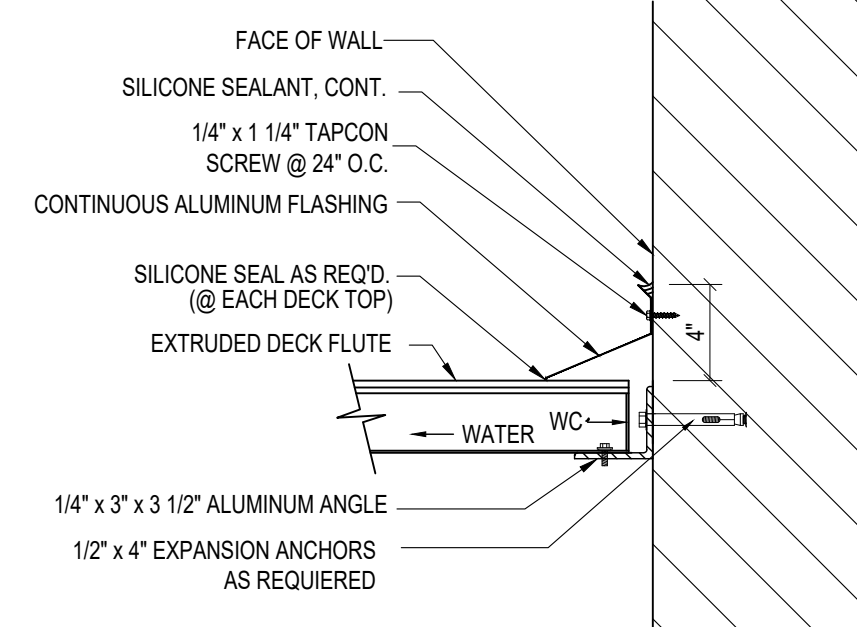
02 PARAPET DETAIL
SCALE: 1/12" = 1'-0"



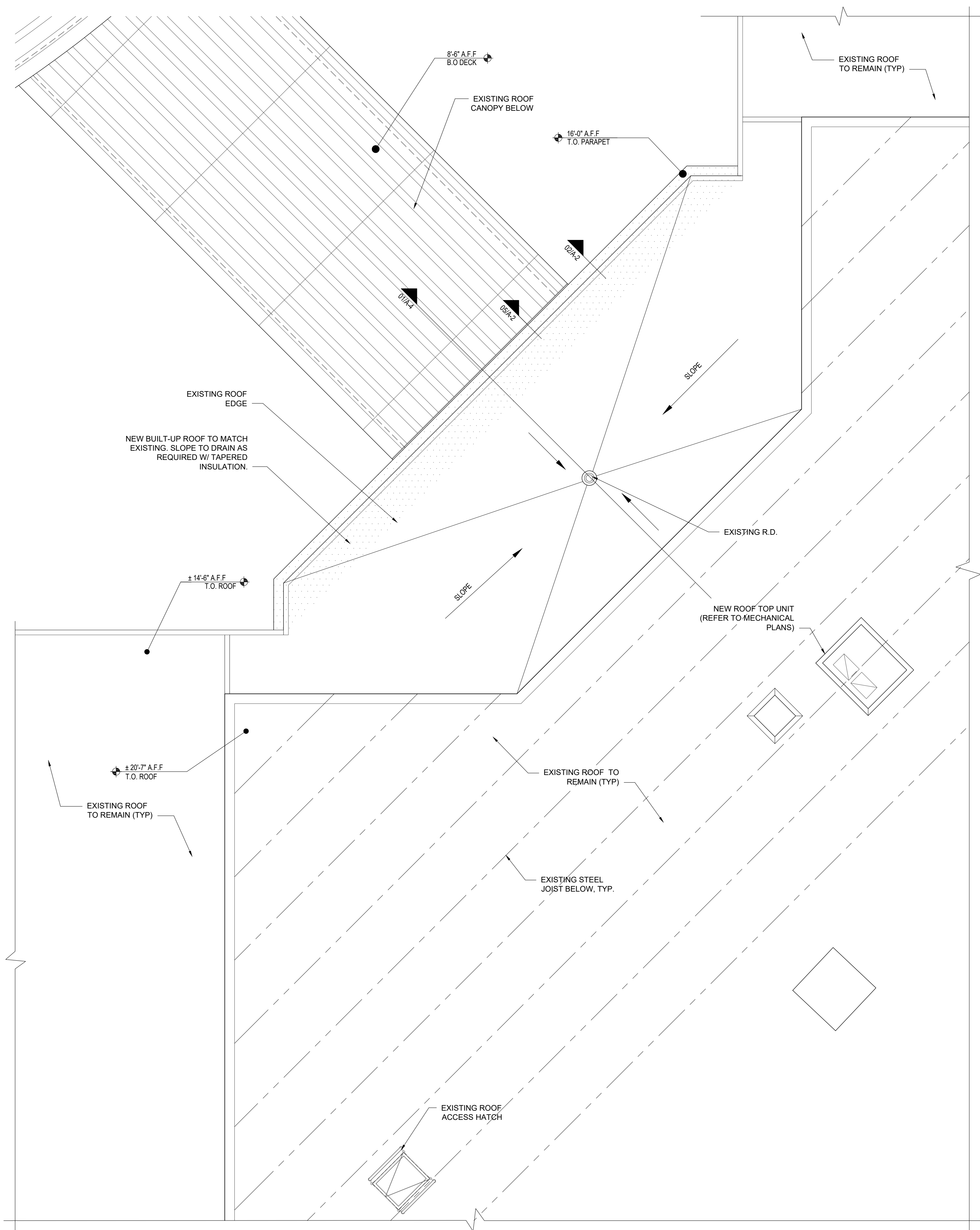
03 TYP. COPING DETAILS
SCALE: 1/12" = 1'-0"



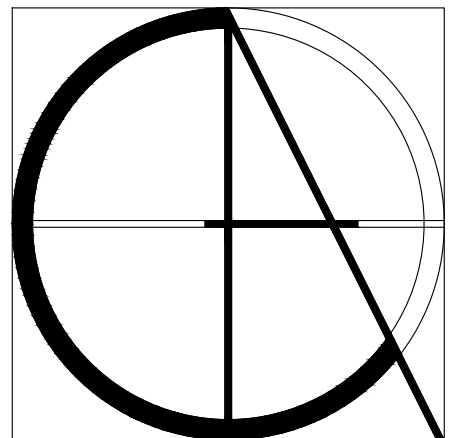
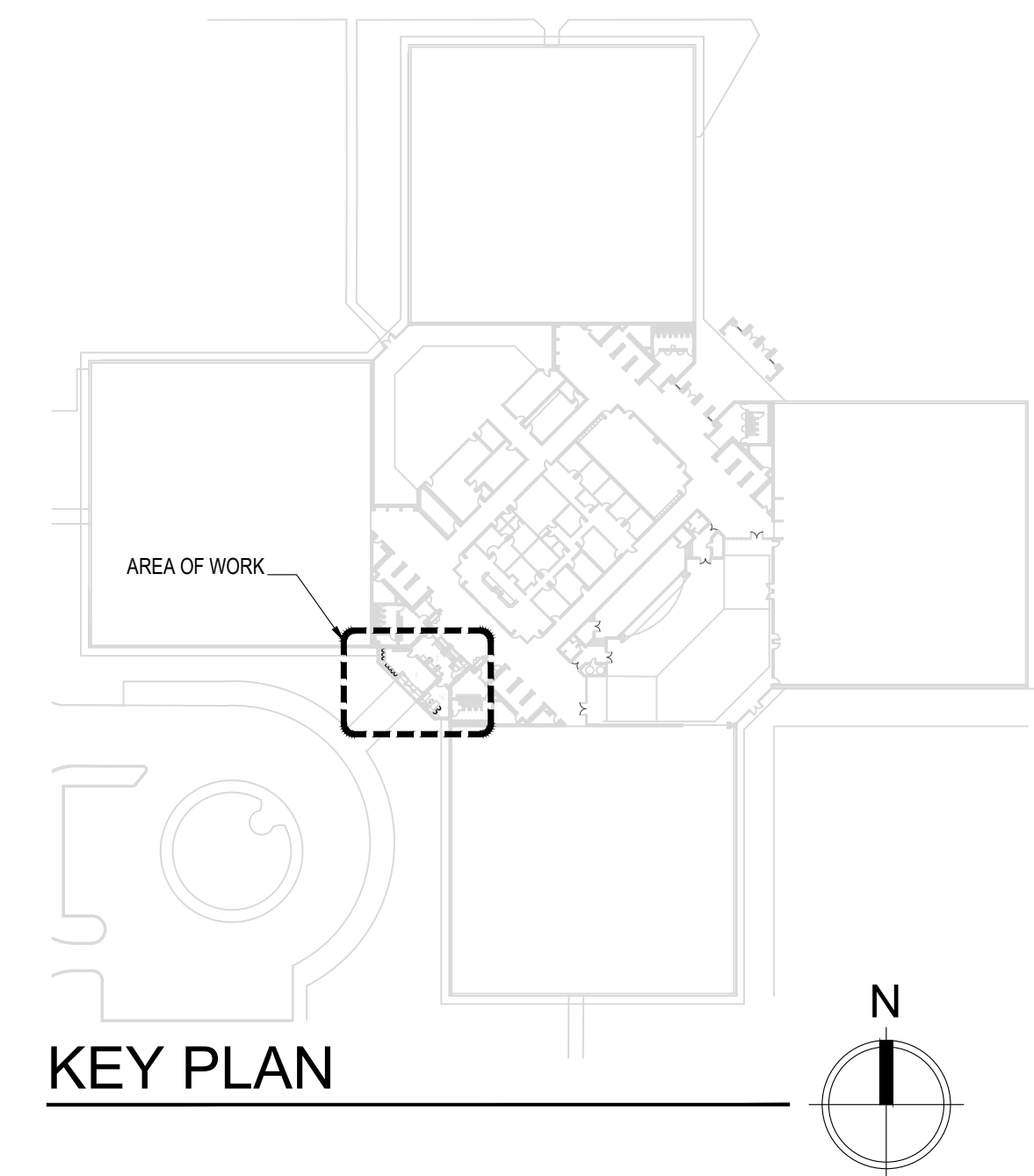
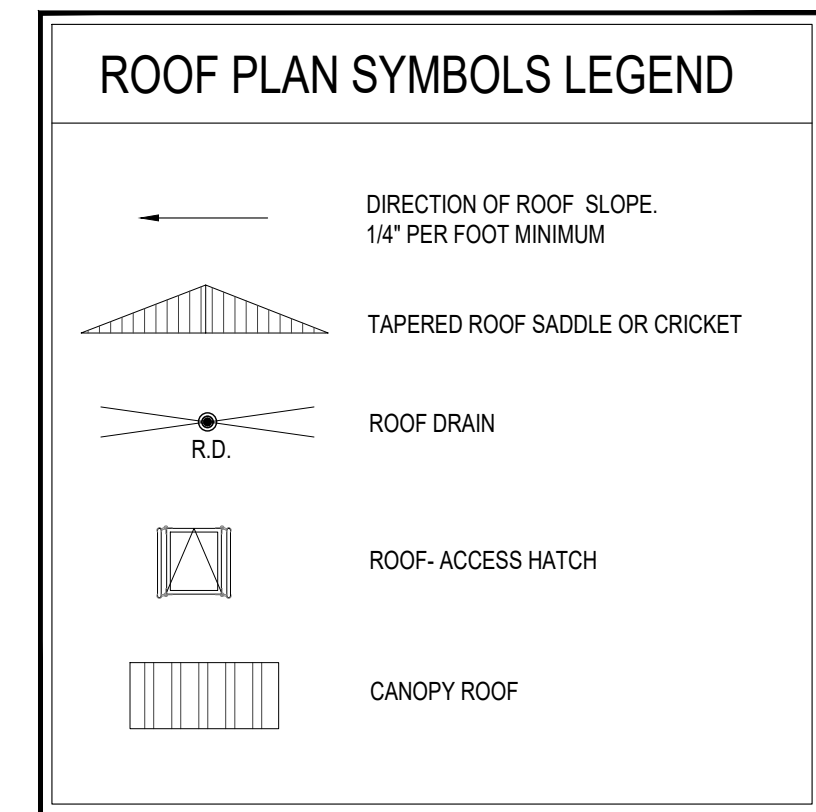
04 TYP. ROOF COPING DETAILS
SCALE: 1/12" = 1'-0"



05 CANOPY DETAIL
TYP. EDGE DETAIL @ WALL
SCALE: 1/12" = 1'-0"

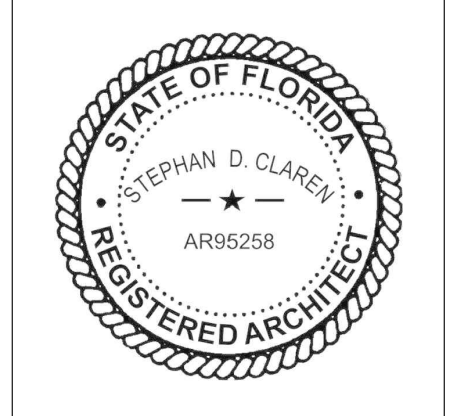


01 ROOF PLAN
SCALE: 1/4" = 1'-0"

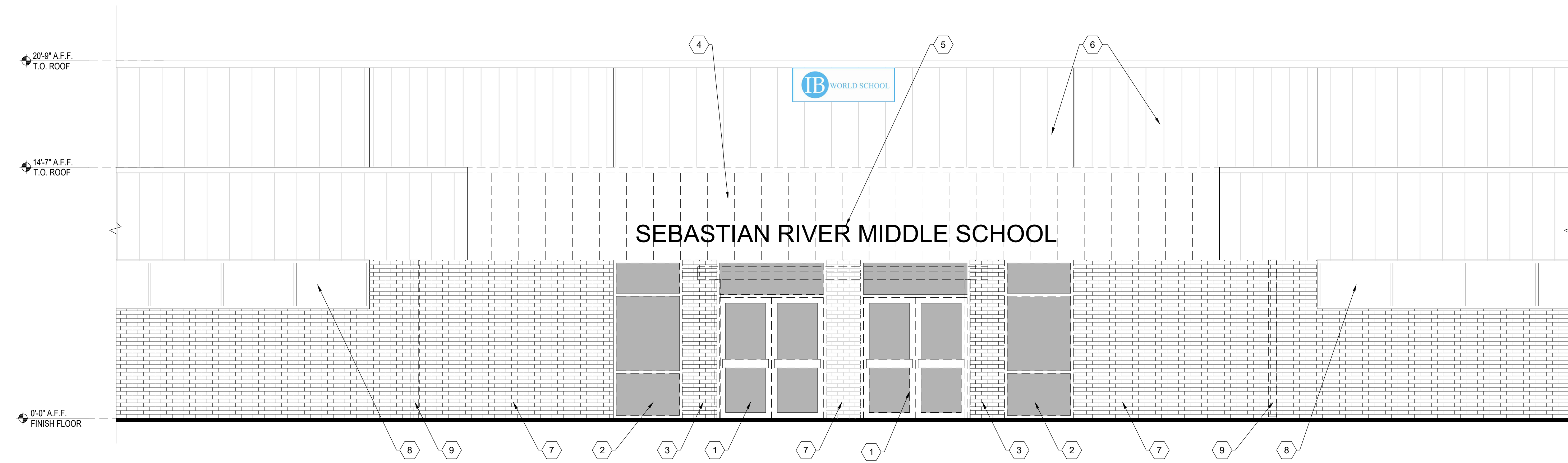


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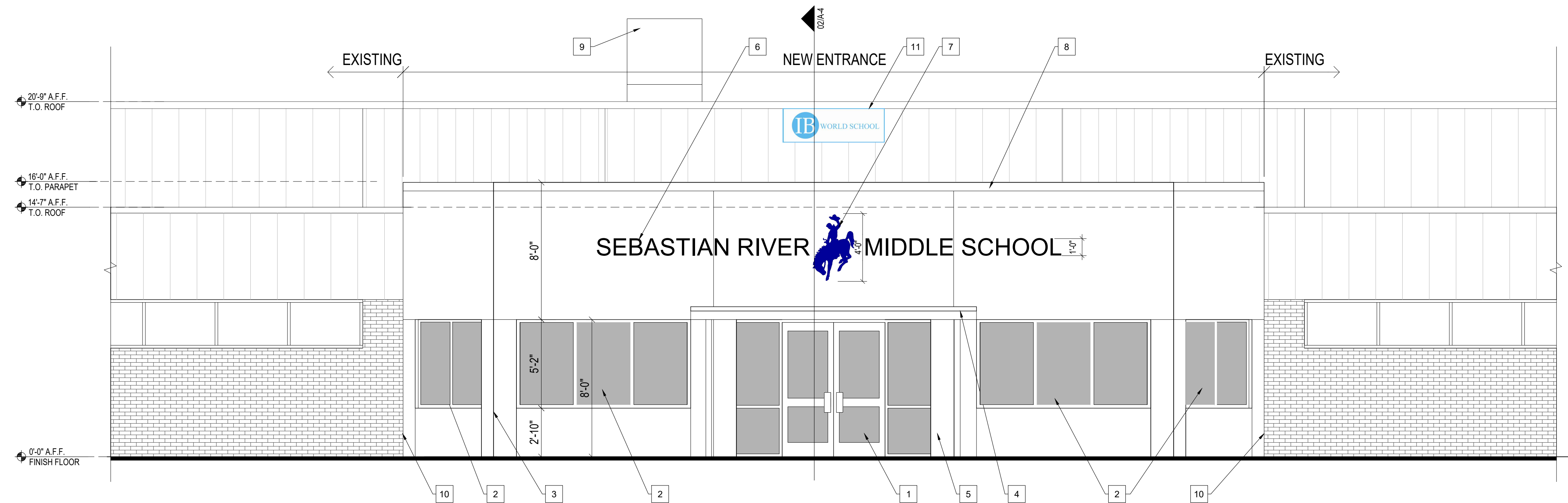
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01 EXISTING ELEVATION

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

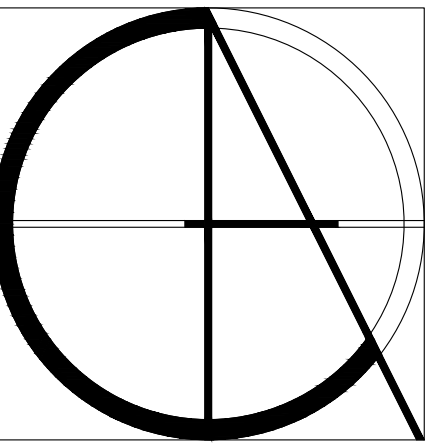
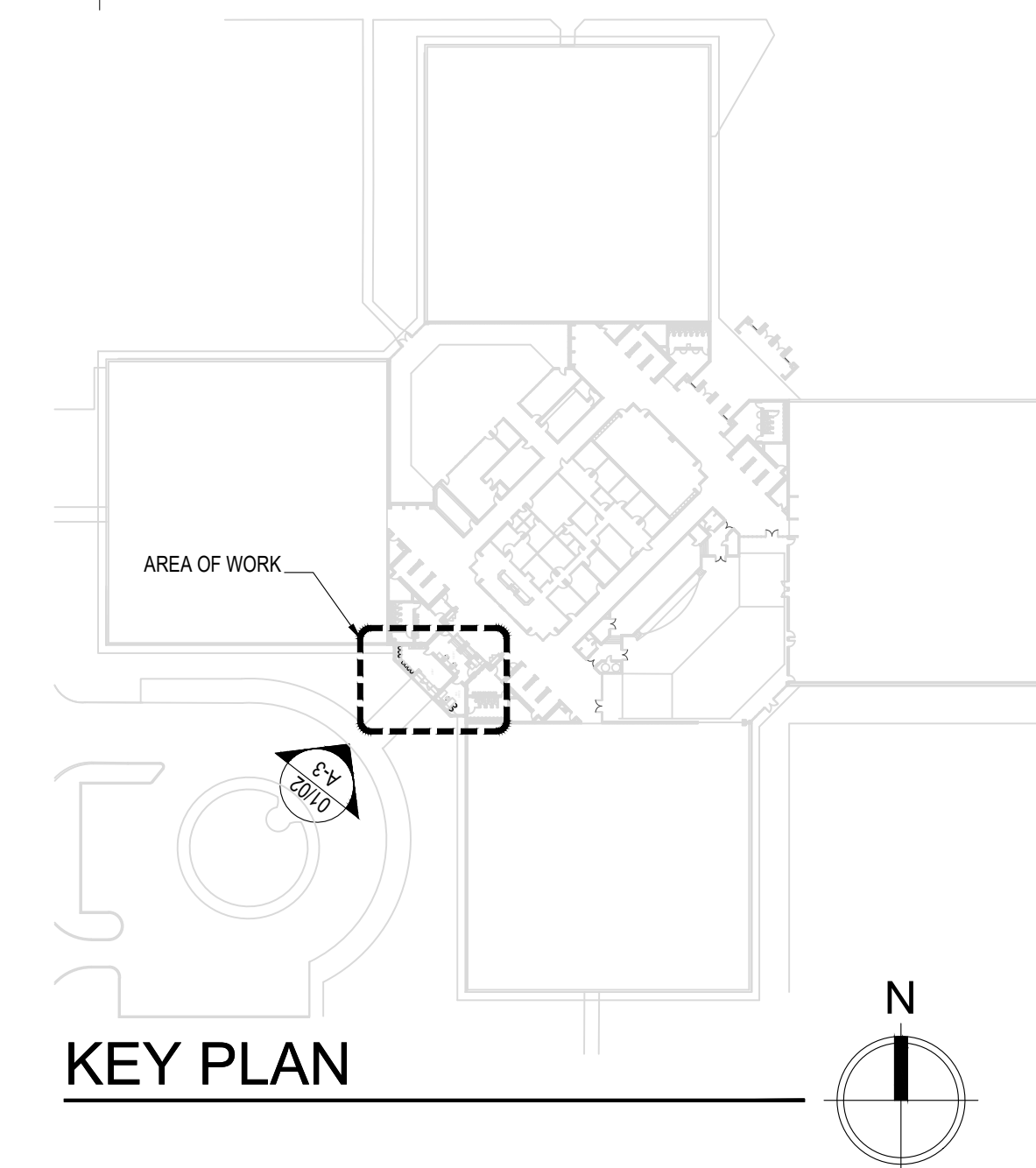
DEMOLITION KEY NOTES	
---	EXISTING TO BE REMOVED
—	EXISTING TO REMAIN
1	REMOVE EXISTING DOOR, FRAME AND ASSOCIATED HARDWARE.
2	REMOVE EXISTING WINDOW
3	REMOVE EXISTING CONCRETE BLOCK / BRICK VENEER WALL (REFER TO STRUCTURAL)
4	REMOVE PORTION OF EXISTING FACADE TO ACCOMMODATE NEW ENTRANCE
5	REMOVE EXISTING SCHOOL SIGN
6	EXISTING ROOF AND STRUCTURE TO REMAIN
7	EXISTING WALL TO REMAIN
8	EXISTING WINDOWS TO REMAIN
9	REMOVE PORTION OF EXISTING BRICK TO ACCOMMODATE NEW CMU WALL & REPAIR AS REQUIRED (REFER TO STRUCTURAL)



02 PROPOSED ELEVATION

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

ELEVATION KEY NOTES	
1	NEW IMPACT RATED ALUMINUM STOREFRONT DOOR (DARK BRONZE)
2	NEW IMPACT RATED ALUMINUM STOREFRONT WINDOW (DARK BRONZE)
3	STUCCO CONTROL JOINT
4	EXISTING ALUMINUM CANOPY
5	SMOOTH STUCCO FINISH
6	NEW SCHOOL SIGN WITH 12" RAISED ALUMINUM LETTER
7	NEW RAISED ALUMINUM SCHOOL LOGO (COORDINATE FINAL DESIGN WITH OWNER)
8	ALUMINUM COPING CAP
9	NEW ROOF TOP UNIT (REFER TO MECHANICAL DWGS.)
10	SEALANT
11	EXISTING SCHOOL LOGO TO REMAIN



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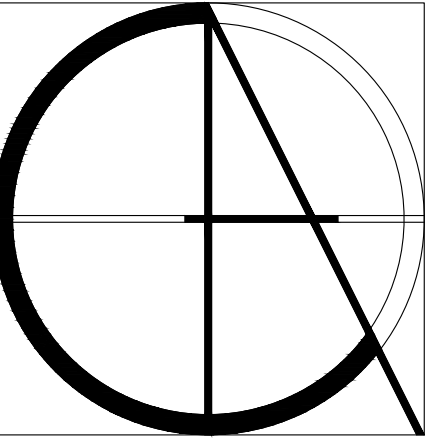
Sebastian River Middle School

9400 CR 512
SEBASTIAN, FL 32958



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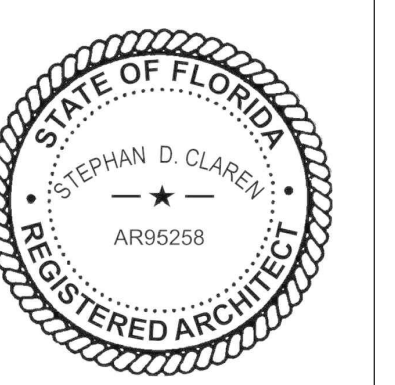
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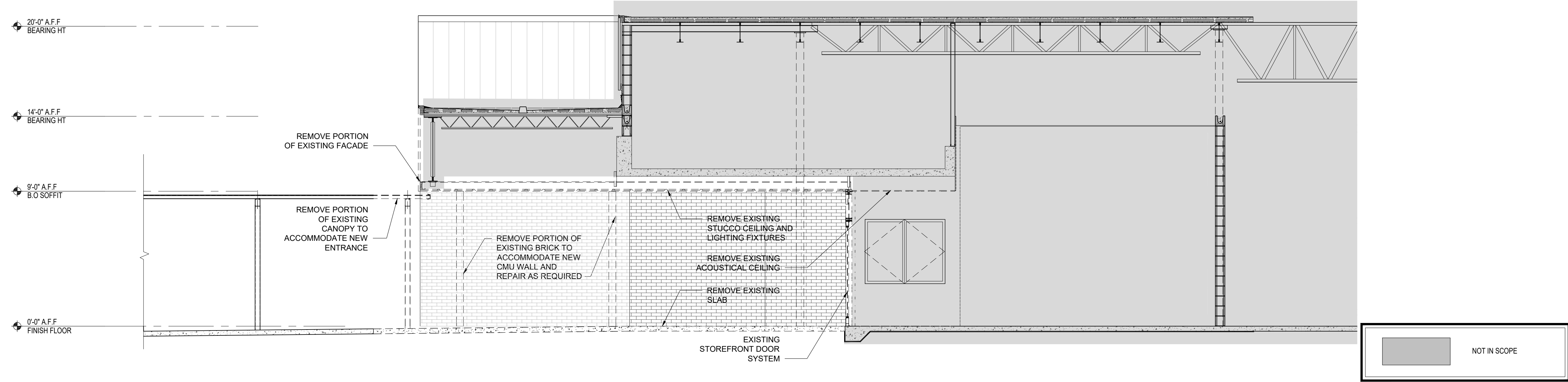
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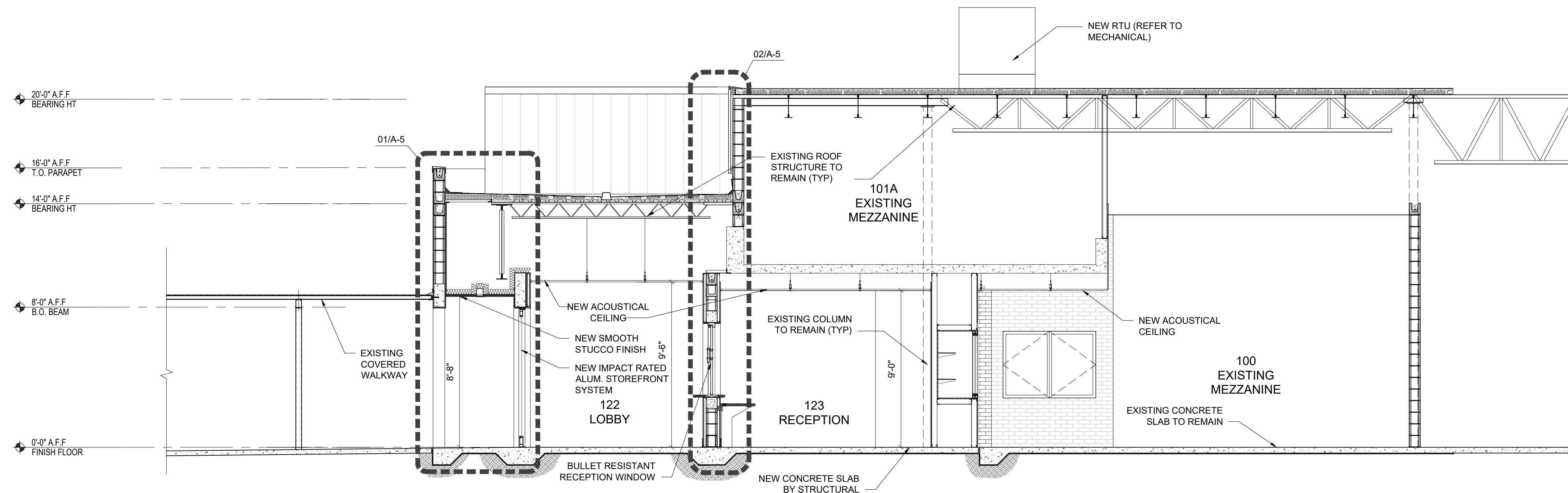
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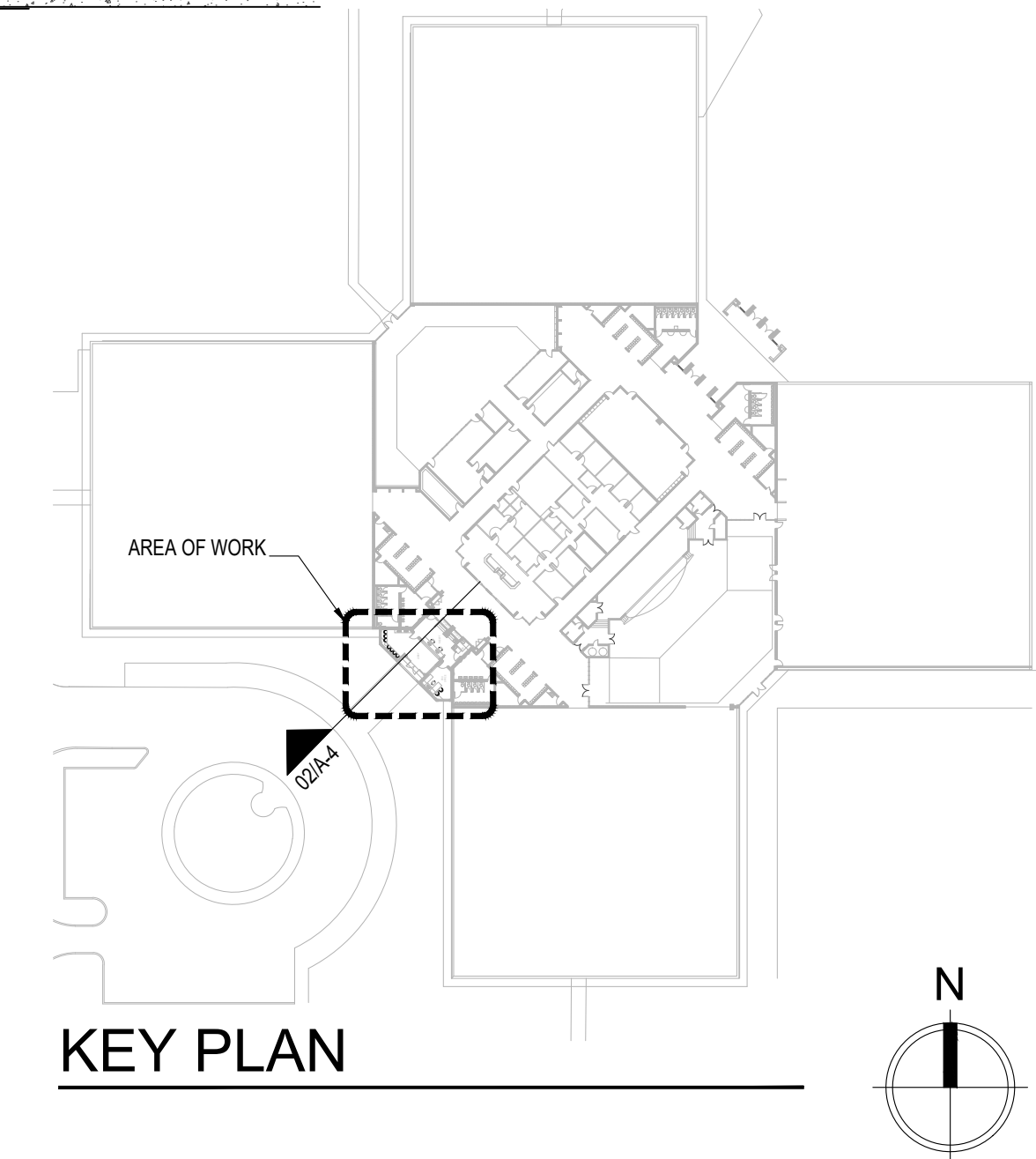
01 EXISTING/DEMO SECTION

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

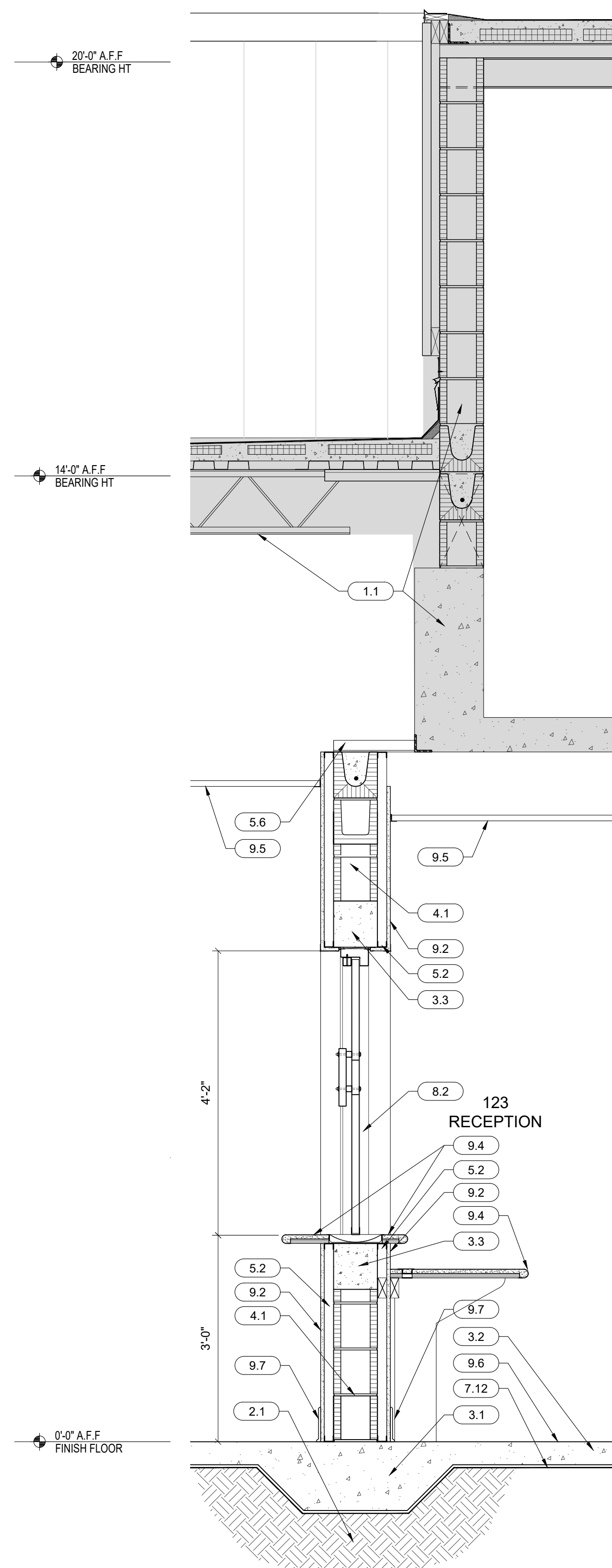


02 PROPOSED SECTION

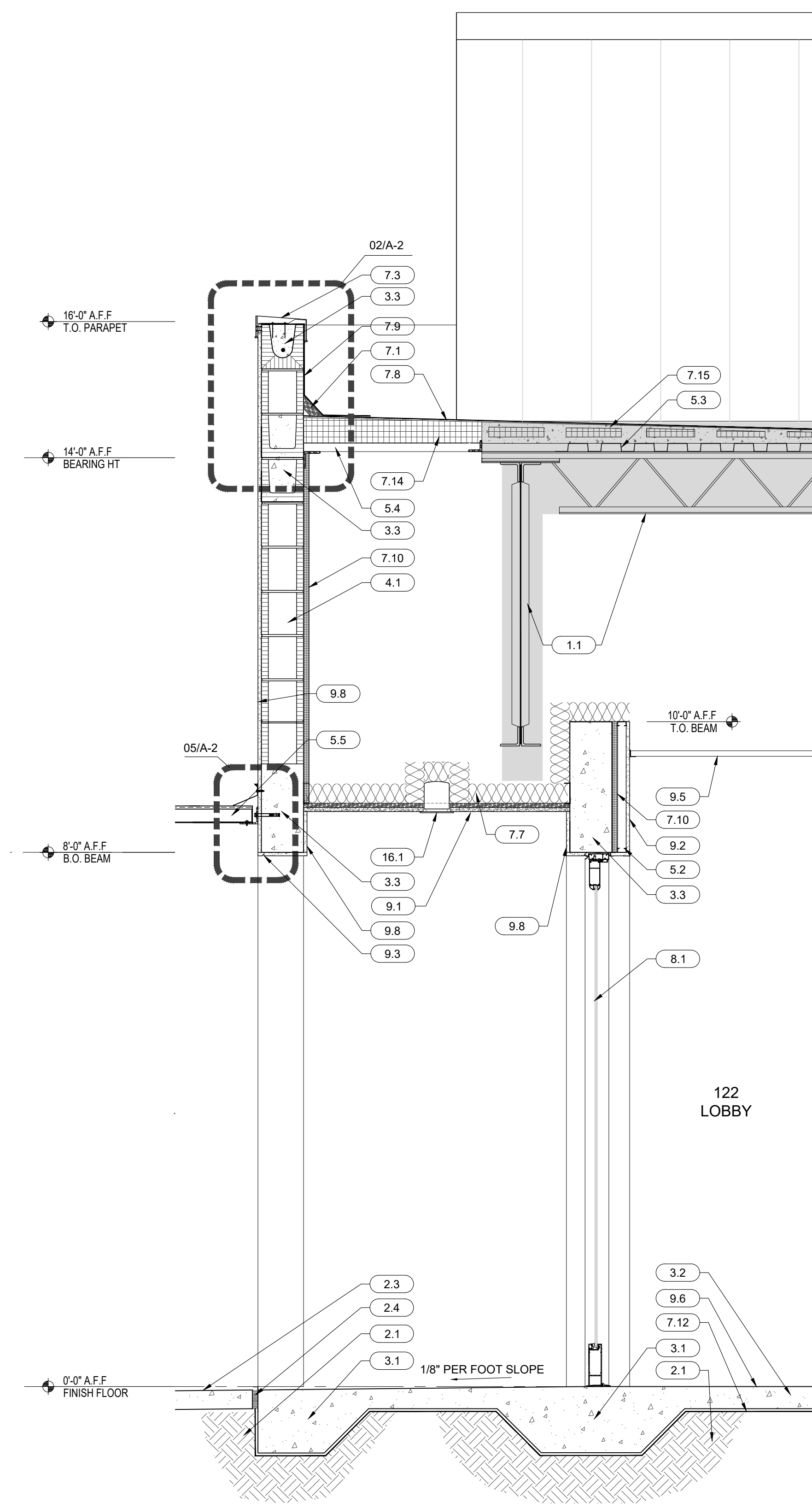
SCALE: 1/4"=1'-0"



KEY PLAN



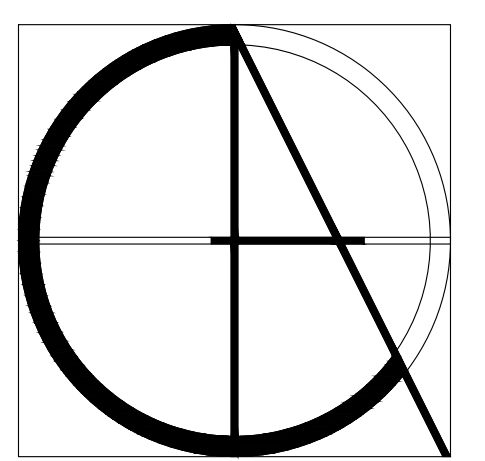
02 WALL SECTION
SCALE: 3/4"=1'-0"



01 WALL SECTION
SCALE: 3/4"=1'-0"

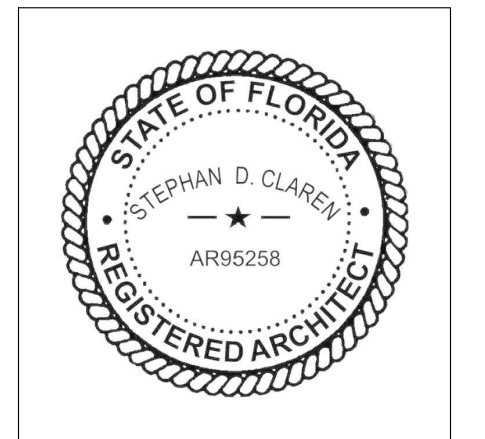
KEY NOTES - SECTIONS	
NOTE: NOT ALL KEY NOTES MAY APPLY	
1.1	EXISTING STRUCTURE/BUILDING TO REMAIN
2.1	TERMITE TREATED COMPACTED SOIL (REFER TO STRUCTURAL DWGS.)
2.2	APPROXIMATE LINE OF GRADE (REFER TO CIVIL DWGS. BY OTHERS)
2.3	NEW CONCRETE SIDEWALK (REFER TO CIVIL DWGS. BY OTHERS)
2.4	PRE-MOLDED EXPANSION JOINT
3.1	CAST IN PLACE CONCRETE FOUNDATION (REFER TO STRUCTURAL DWGS.)
3.2	CONCRETE SLAB ON GRADE (REFER TO STRUCTURAL DWGS.)
3.3	CONCRETE BEAM OR BOND BEAM (REFER TO STRUCTURAL DWGS.)
3.4	CONCRETE PANEL (REFER TO STRUCTURAL DWGS.)
4.1	CONCRETE UNIT MASONRY (REFER TO STRUCTURAL)
5.1	3/4" METAL STUDS @ 16" O.C.
5.2	1 1/2" METAL STUDS @ 16" O.C.
5.3	EXISTING METAL DECK
5.4	METAL DECK (REFER TO STRUCTURAL)
5.5	EXISTING ALUMINUM CANOPY
5.6	STEEL ANGLE BRACING (REFER TO STRUCTURAL)
6.1	2x P.T. WOOD BLOCKING
6.2	1X P.T. WOOD BLOCKING
7.1	CONTINUOUS FIBEROUS CANT STRIP SET IN FULL BED OF MASTIC
7.2	PRE-FINISHED ALUMINUM METAL FLASHING
7.3	PRE-FINISHED ALUMINUM COPING
7.4	PRE-FINISHED ALUMINUM CAP FLASHING
7.5	TWO PIECE REGLET ALUMINUM COUNTER FLASHING
7.6	CONTINUOUS CUT-IN REGLET FLASHING W/ SEALANT
7.7	BATT INSULATION R-20 MIN.
7.8	BUILT UP ROOFING SYSTEM TO MATCH EXISTING
7.9	FULLY ADHERED MEMBRANE UP AND OVER TOP OF PARAPET FLASHING
7.10	1" RIGID INSULATION
7.11	FOUNDATION WALL WATERPROOFING
7.12	10 MIL VAPOR BARRIER ON COMPACTED SOIL
7.13	CONTINUOUS SEALANT
7.14	TAPERED INSULATION TO MATCH THICKNESS OF EXISTING
7.15	LIGHTWEIGHT INSULATION ROOFING SYSTEM & TO PROVIDE POSITIVE DRAINAGE
8.1	PRE-FINISHED ALUMINUM IMPACT RATED DOOR (SEE DOOR SCHEDULE)
8.2	BULLET RESISTANT WINDOW
9.1	5/8" SMOOTH STUCCO FINISH OVER PAPER BACKED METAL LATH ON 5/8" FIBERGLASS WATER RESISTANT GYPSUM PANEL SHEATHING EQUAL TO DENSGLOSS
9.2	1/2" GYPSUM BOARD FASTENED TO METAL FRAMING
9.3	TOOLED DRIP EDGE
9.4	CORIAN SOLID SURFACE COUNTERTOP OR EQUAL
9.5	SUSPENDED ACOUSTICAL TILE WITH SUSPENDED CEILING GRID SYSTEM
9.6	FLOORING (SEE FINISH SCHEDULE)
9.7	WALL BASE (SEE SCHEDULE)
9.8	5/8" SMOOTH STUCCO FINISH
16.1	RECESSED LIGHT FIXTURE

EXISTING TO REMAIN



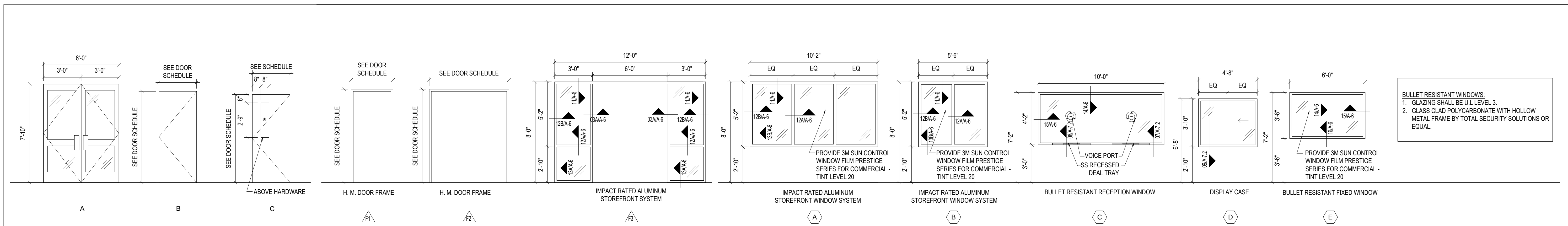
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9400 CR 512
SEBASTIAN, FL 32958



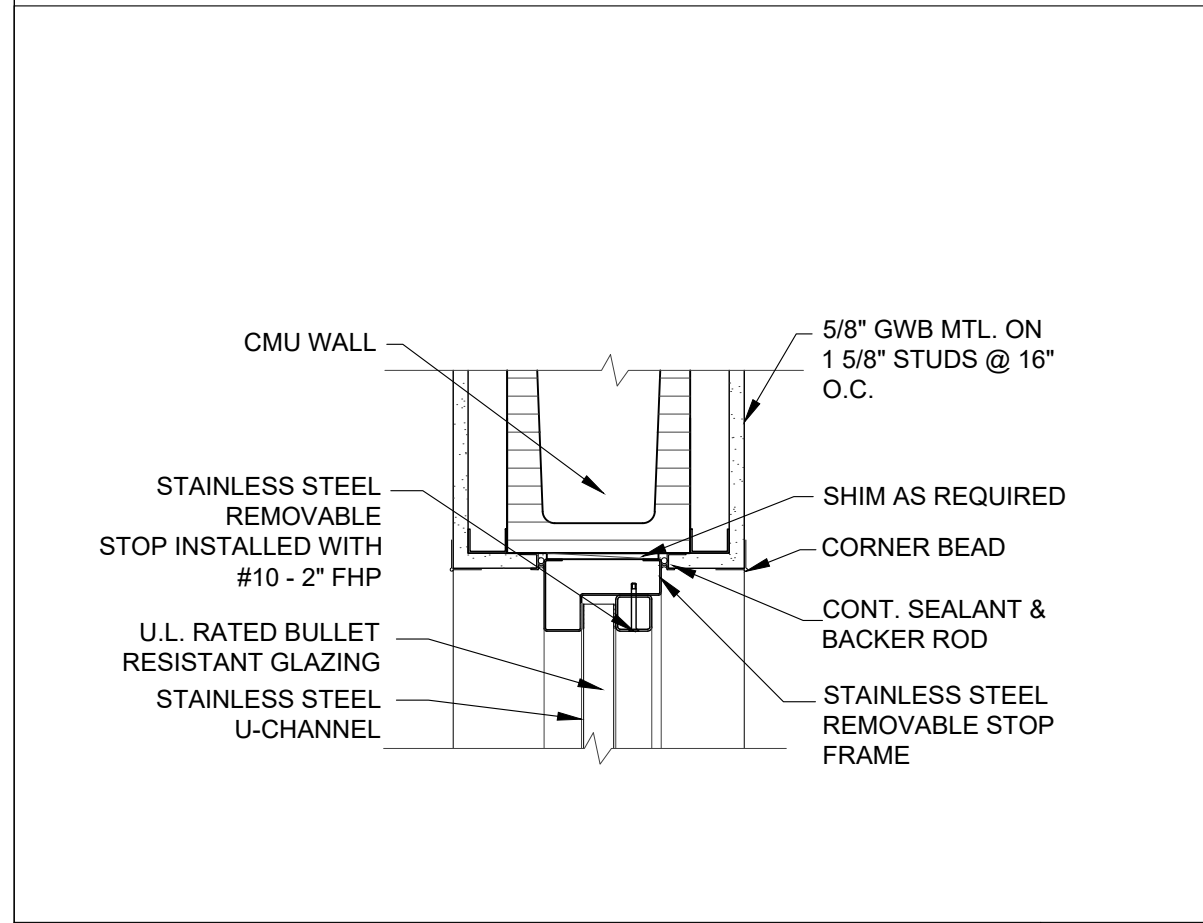
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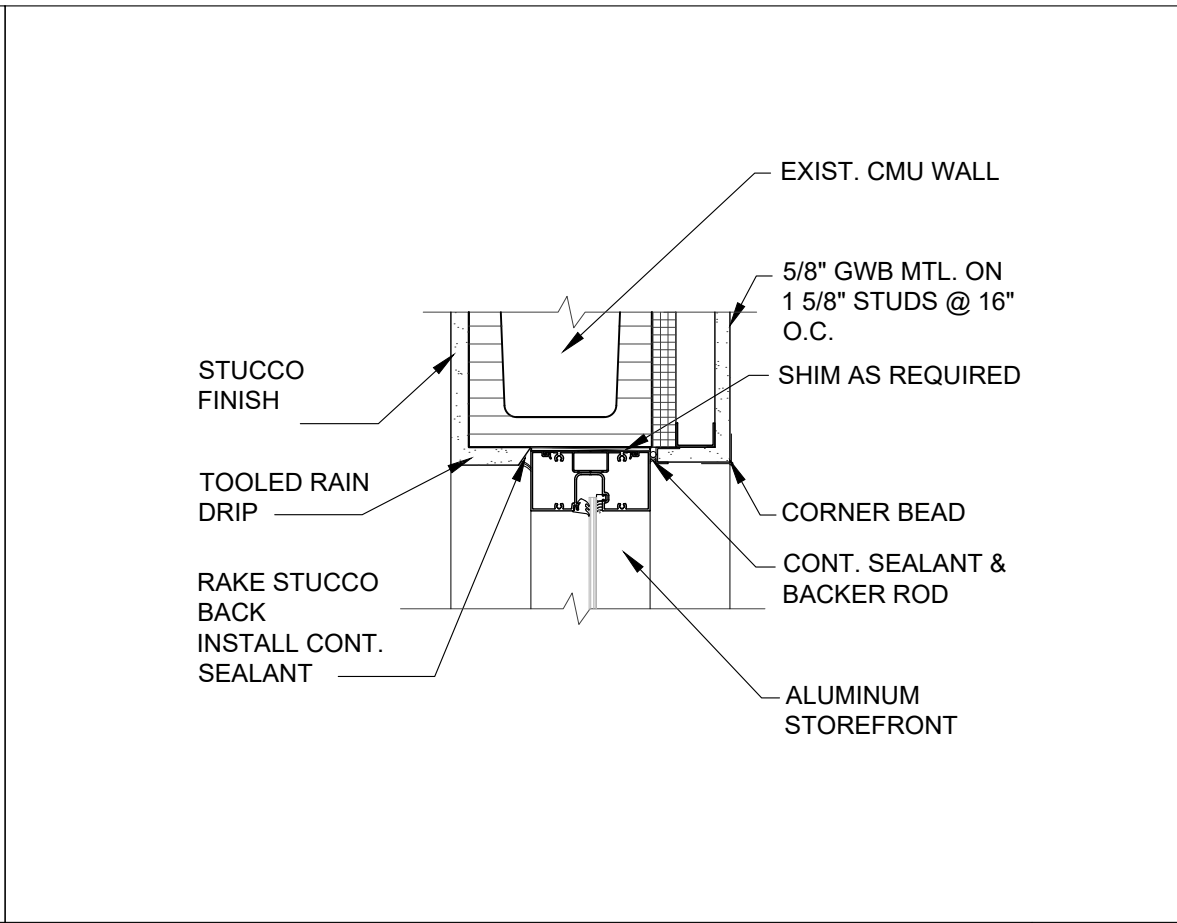


DOOR & WINDOW ELEVATIONS

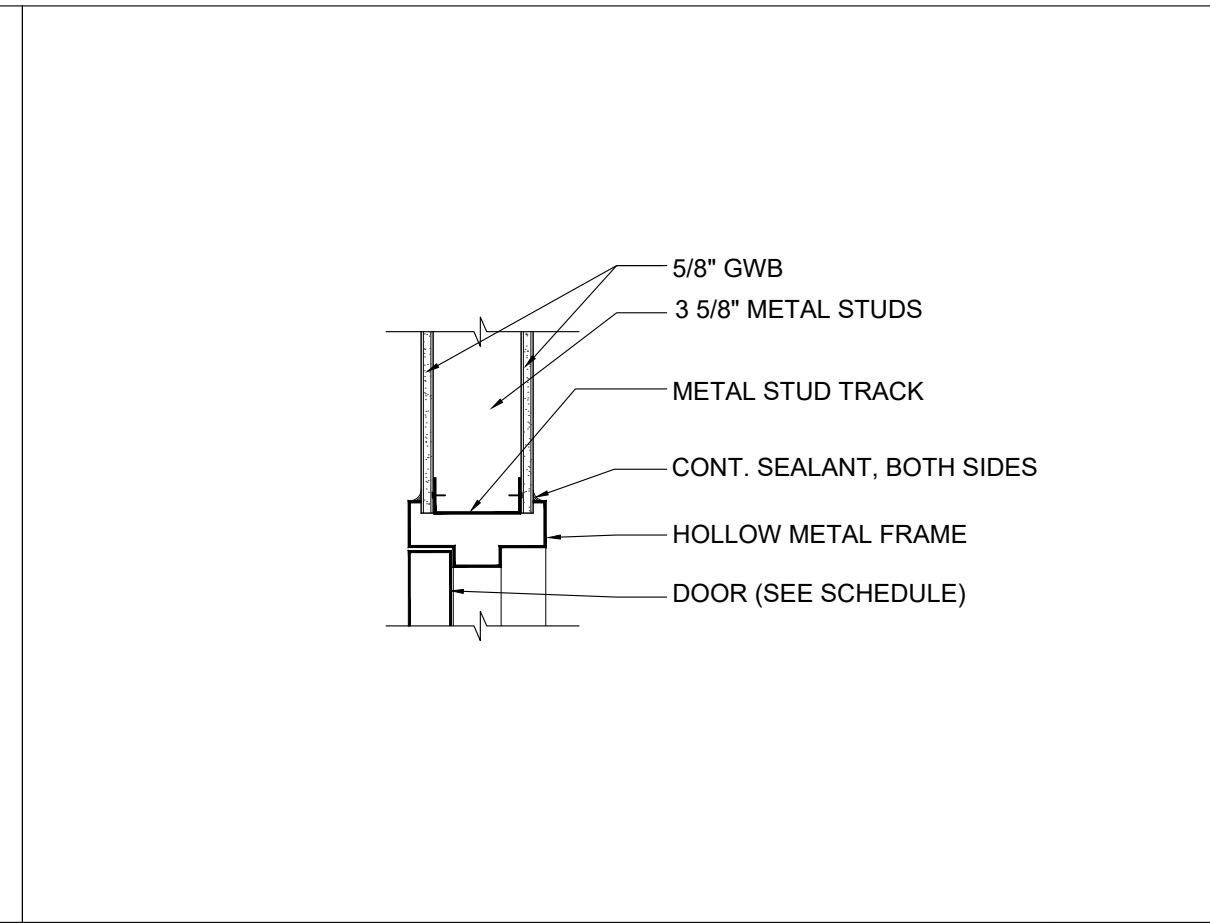
01
SCALE:
1/4" = 1'-0"



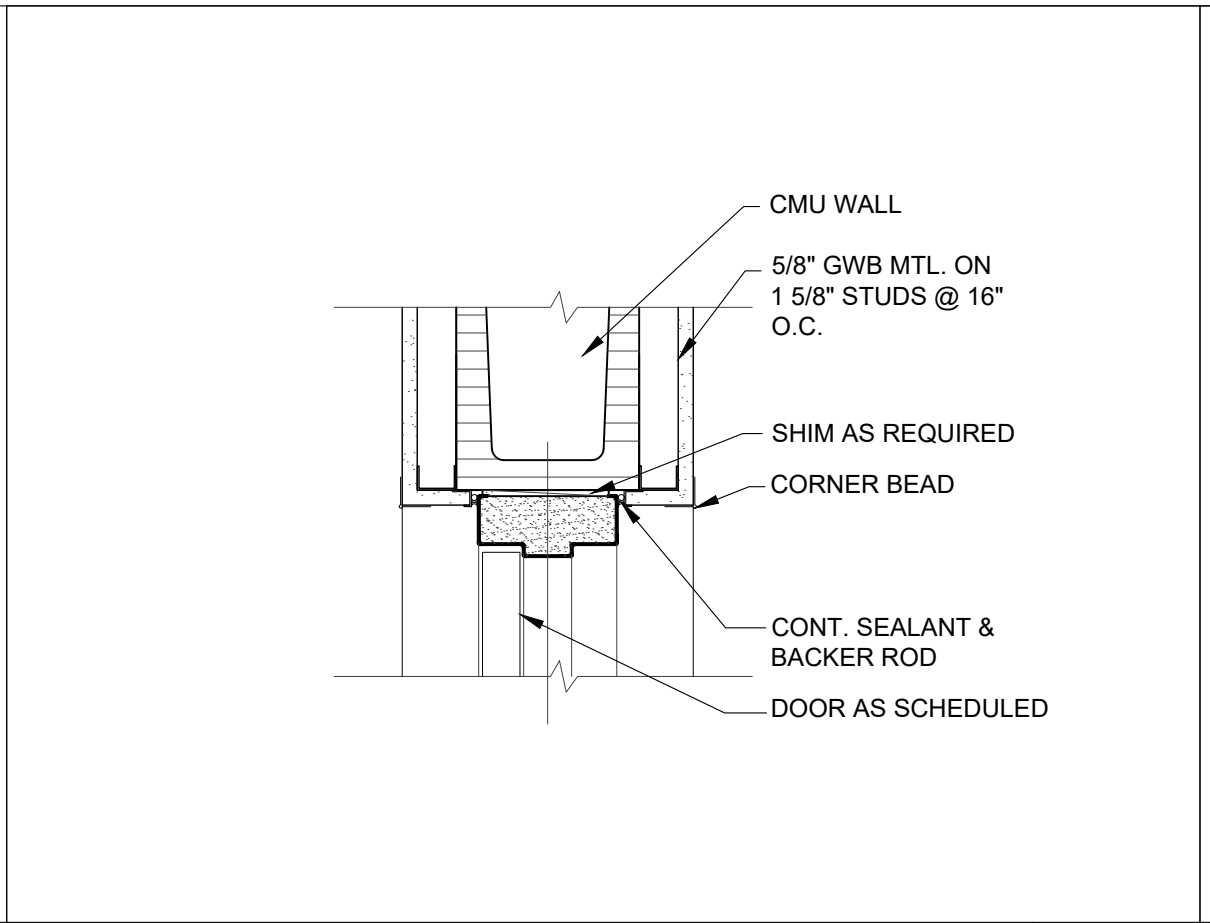
WINDOW HEAD DETAIL 14
SCALE:
1 1/2" = 1'-0"



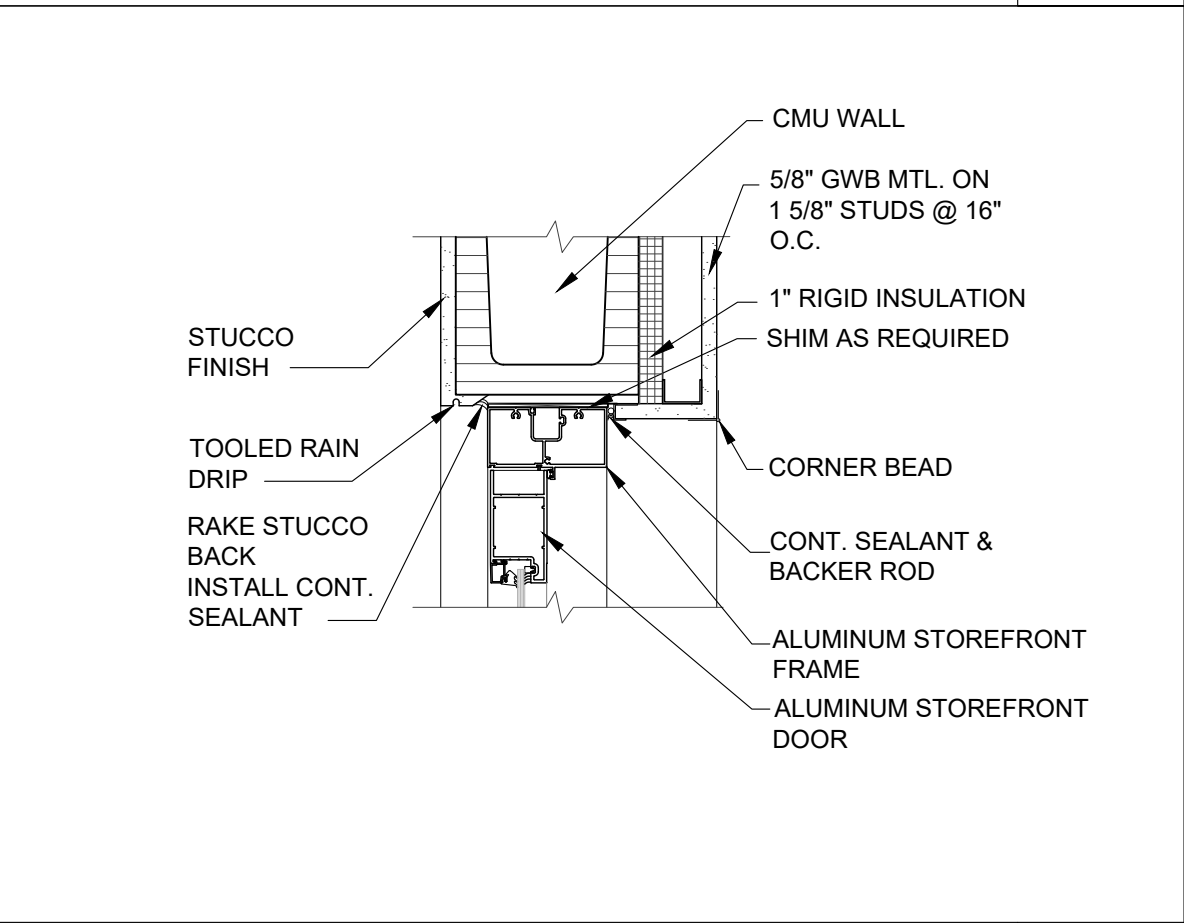
WINDOW HEAD DETAIL 11
SCALE:
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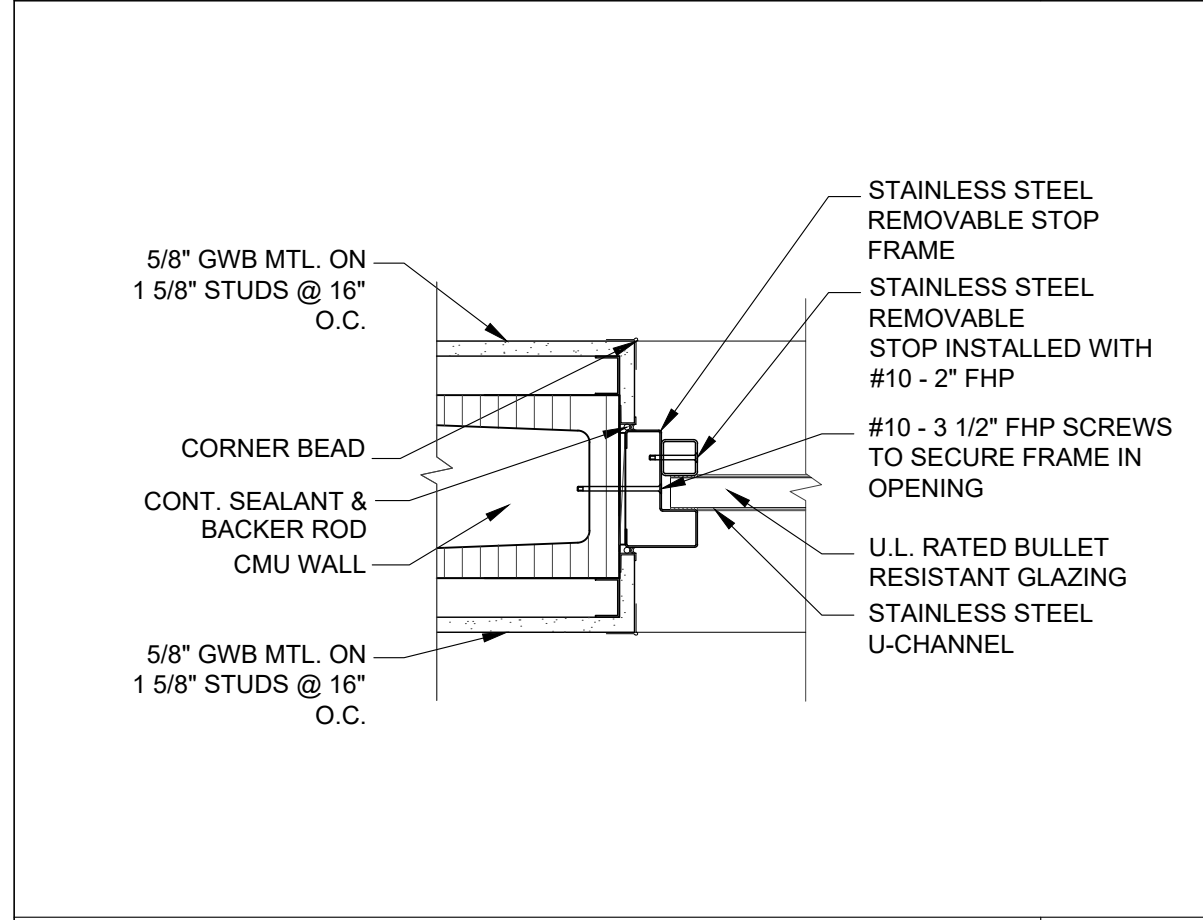
DOOR HEAD DETAIL 08
SCALE:
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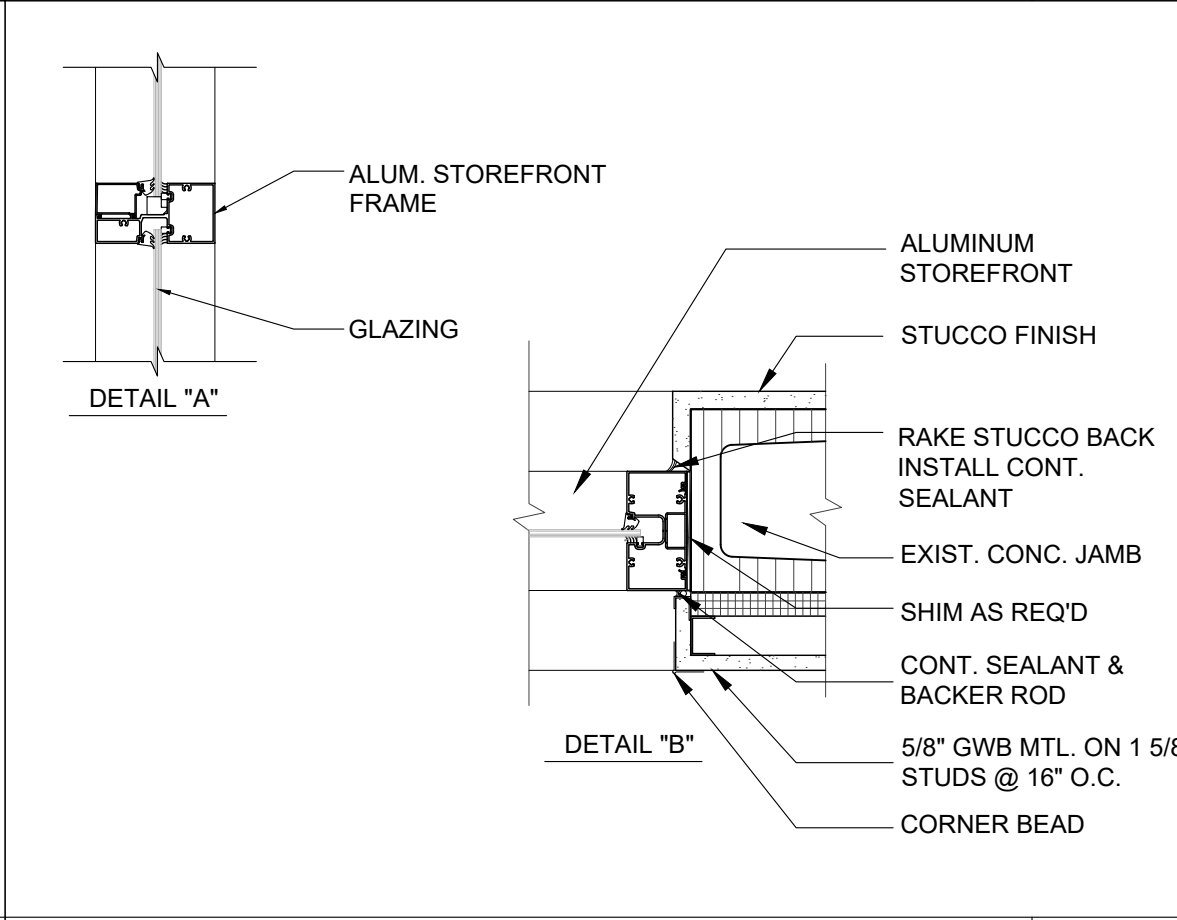
DOOR HEAD DETAIL 05
SCALE:
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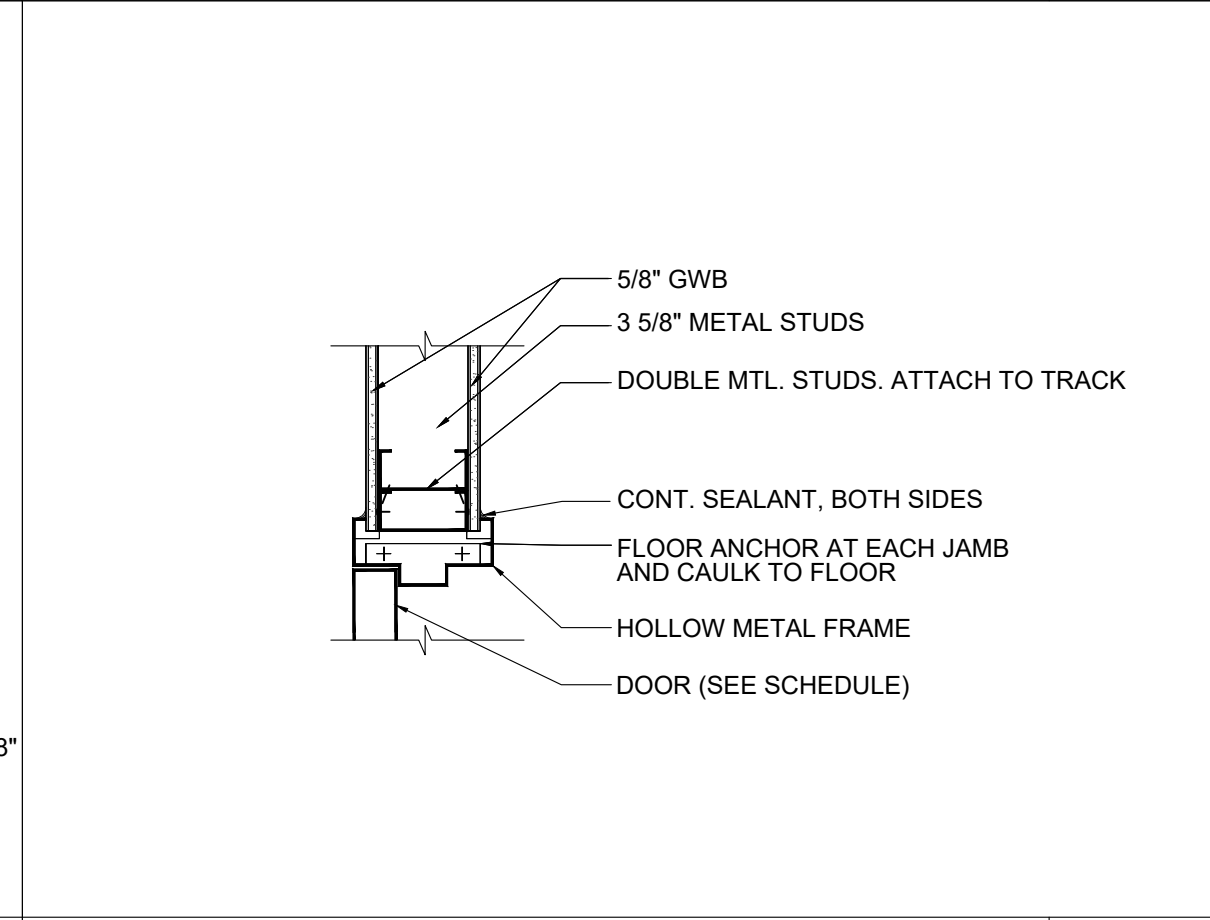
STOREFRONT DOOR HEAD DETAIL 02
SCALE:
1 1/2" = 1'-0"



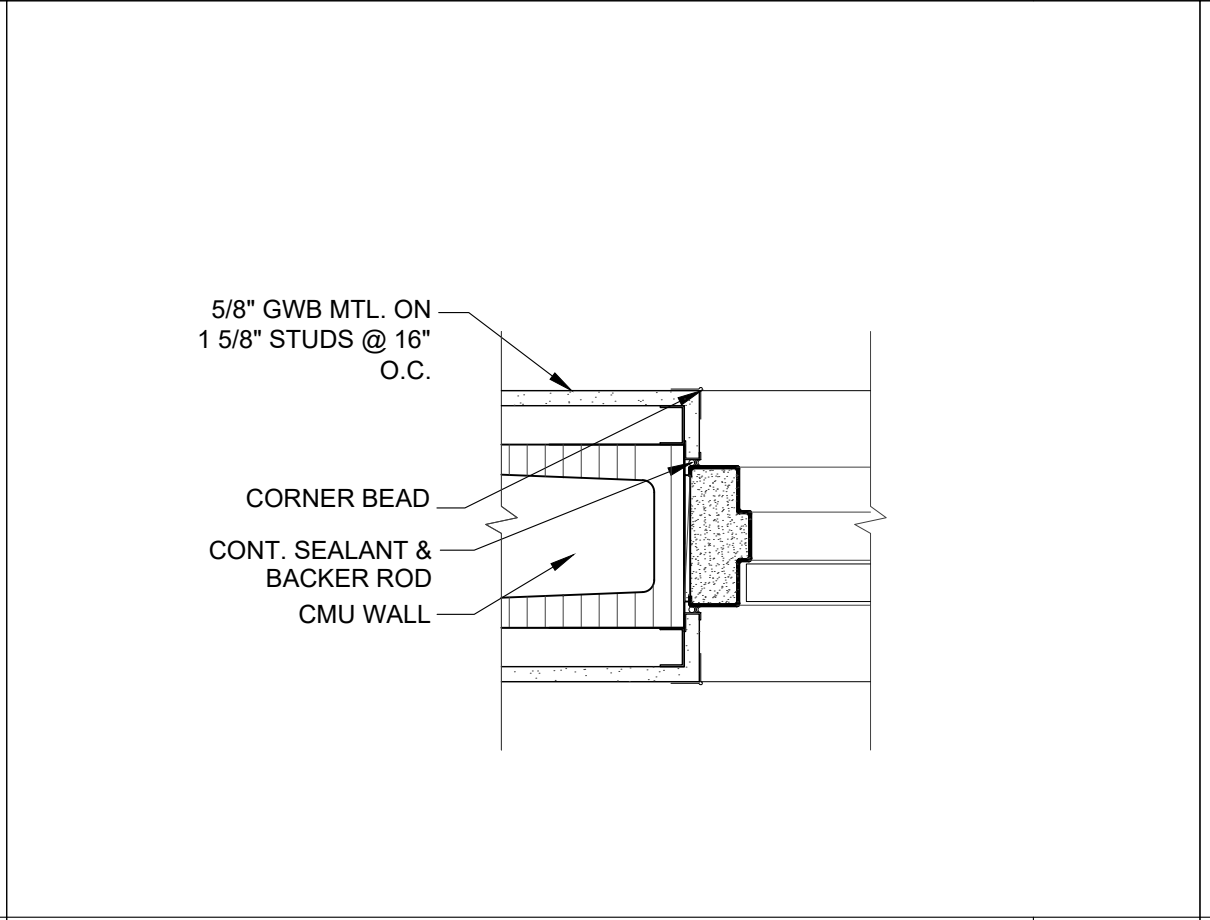
WINDOW JAMB DETAIL 15
SCALE:
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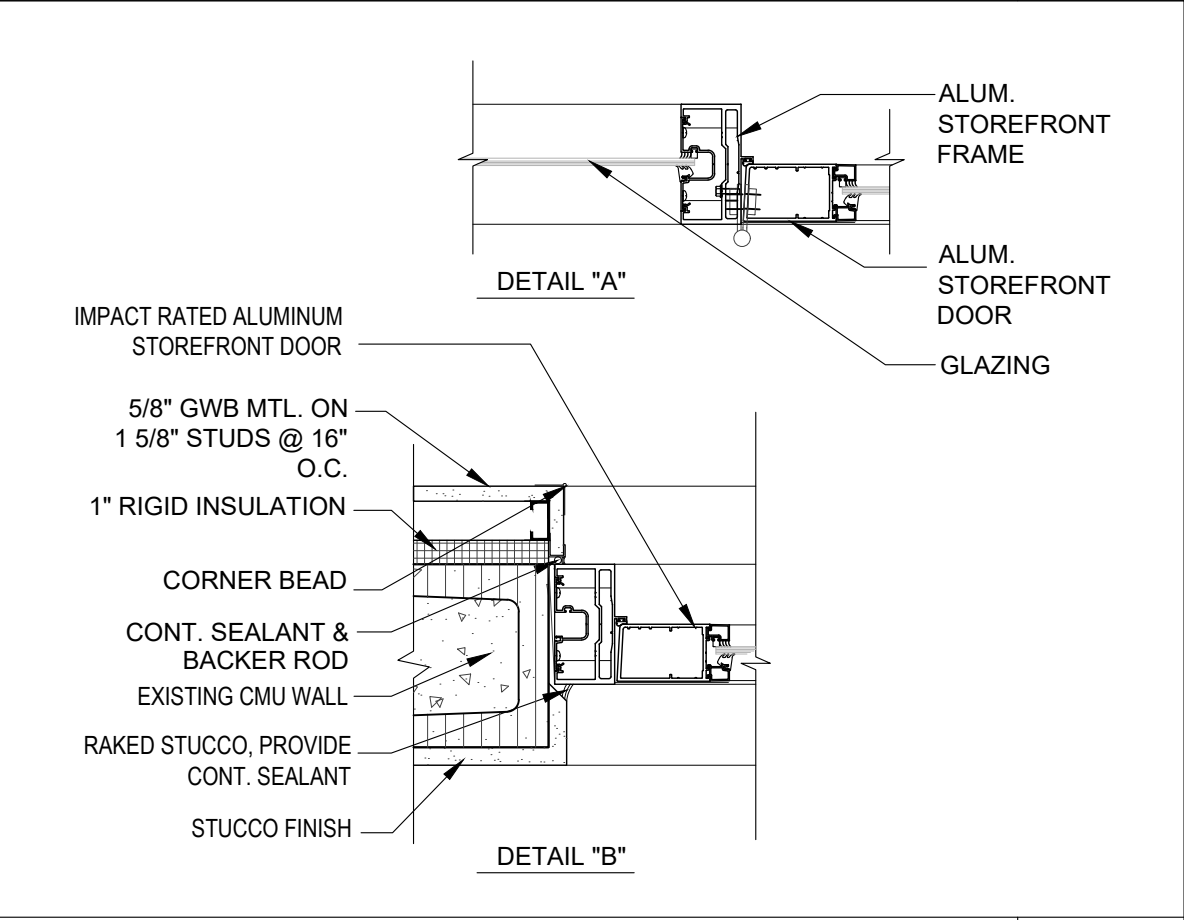
WINDOW JAMB DETAIL MULLION DETAIL 12
SCALE:
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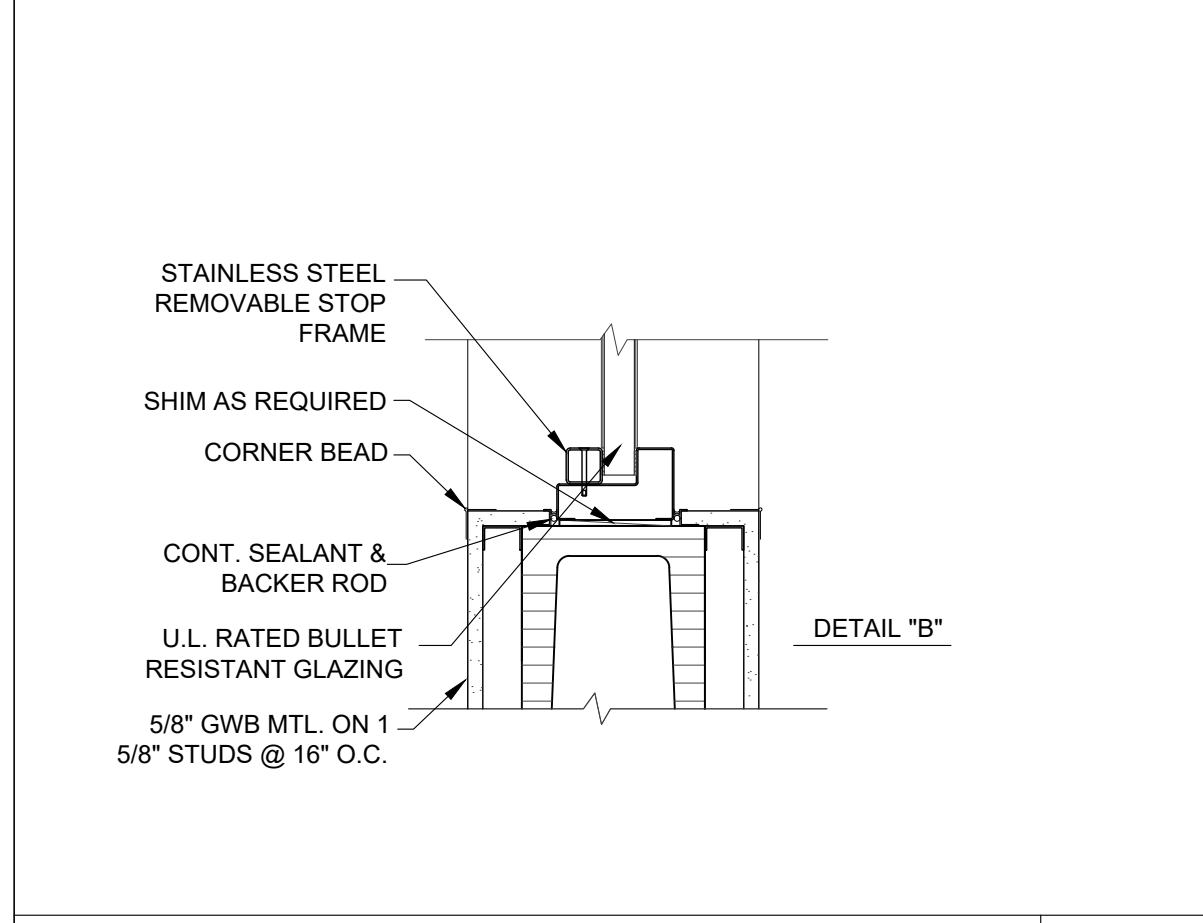
DOOR JAMB DETAIL 09
SCALE:
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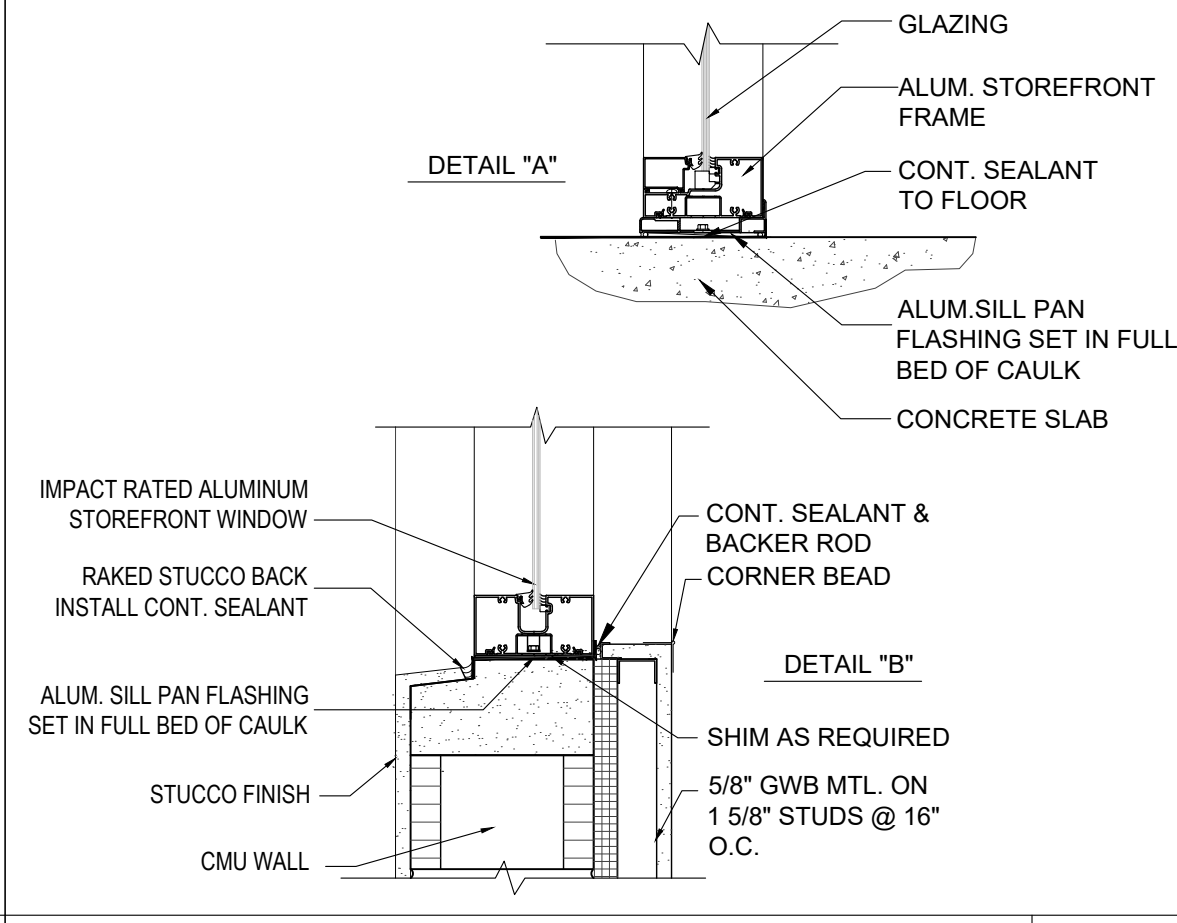
DOOR JAMB DETAIL 06
SCALE:
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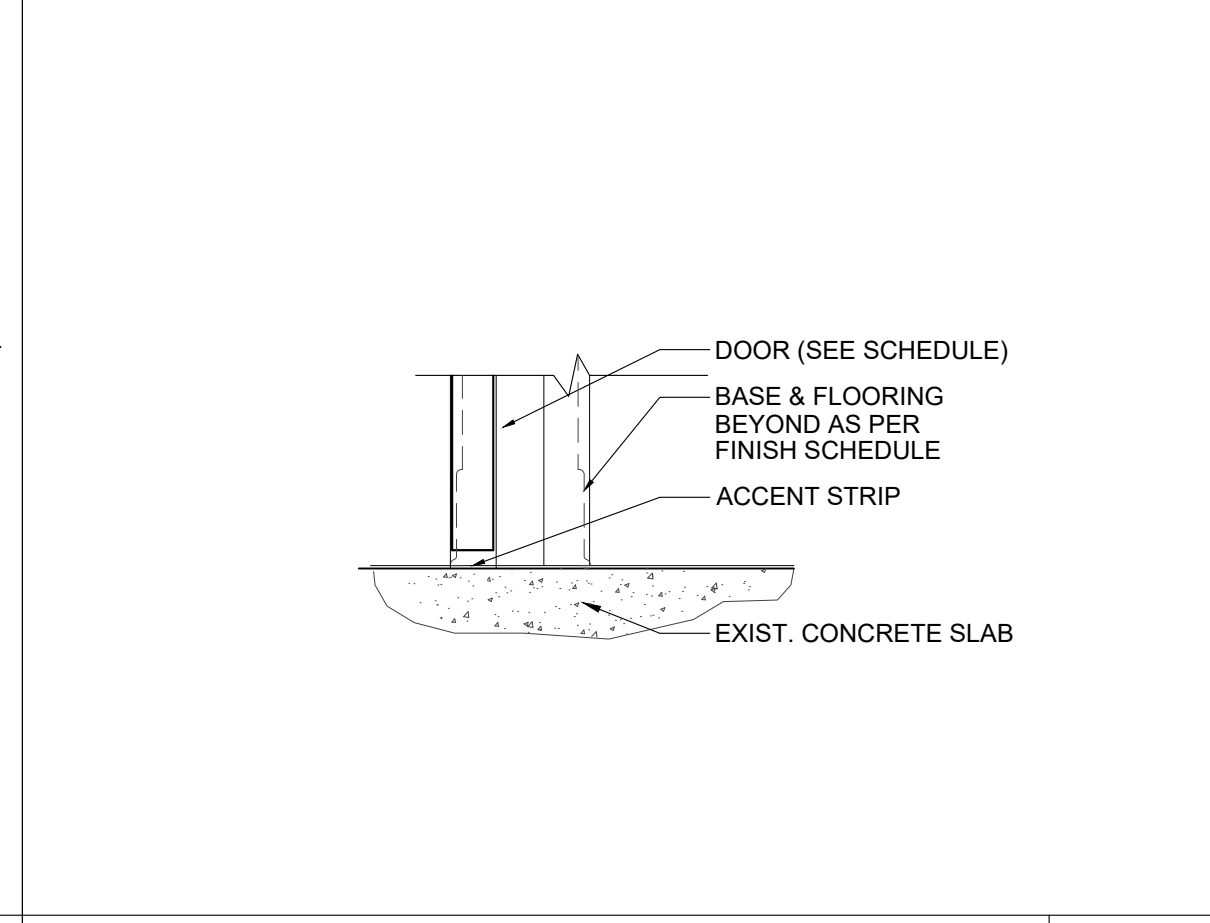
STOREFRONT DOOR JAMB DETAIL 03
SCALE:
1 1/2" = 1'-0"



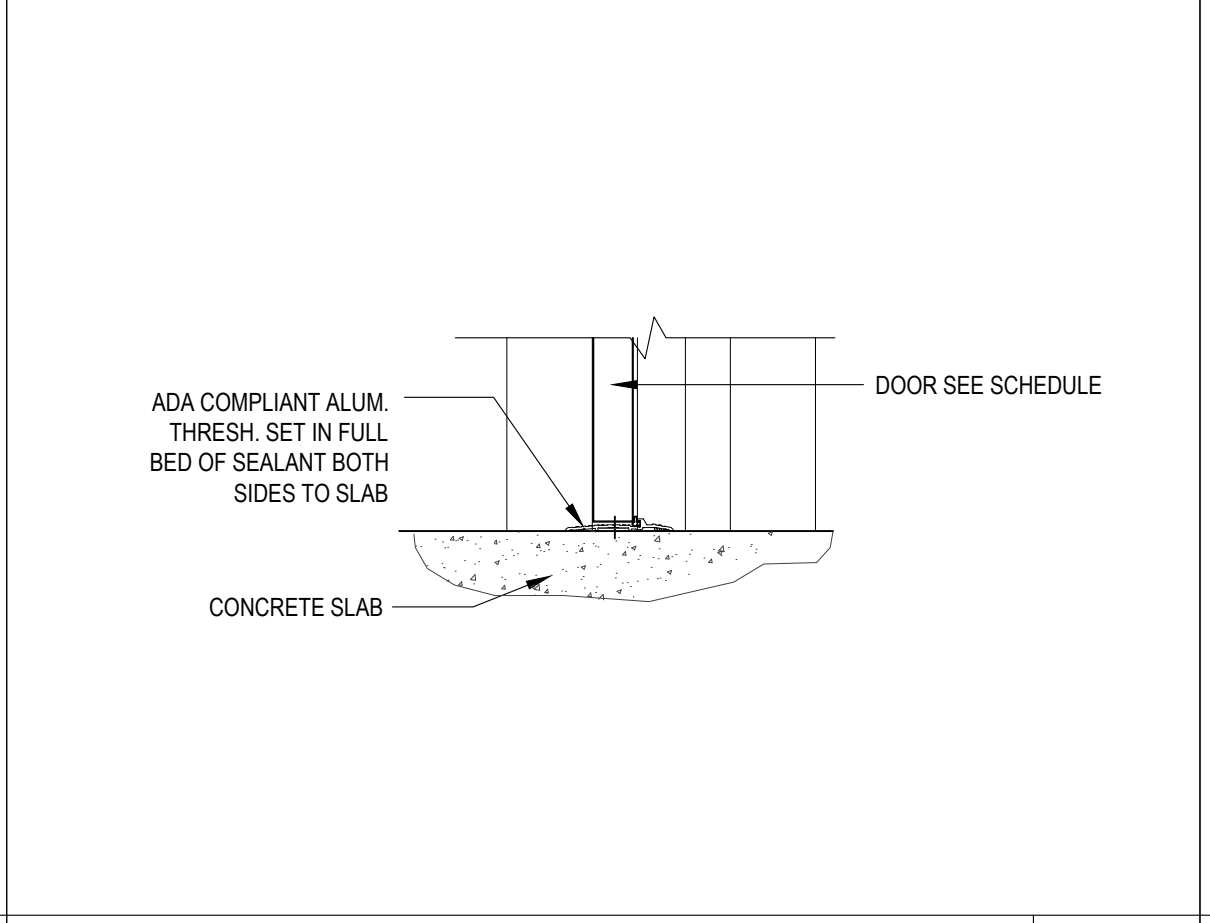
WINDOW SILL DETAIL 16
SCALE:
1 1/2" = 1'-0"



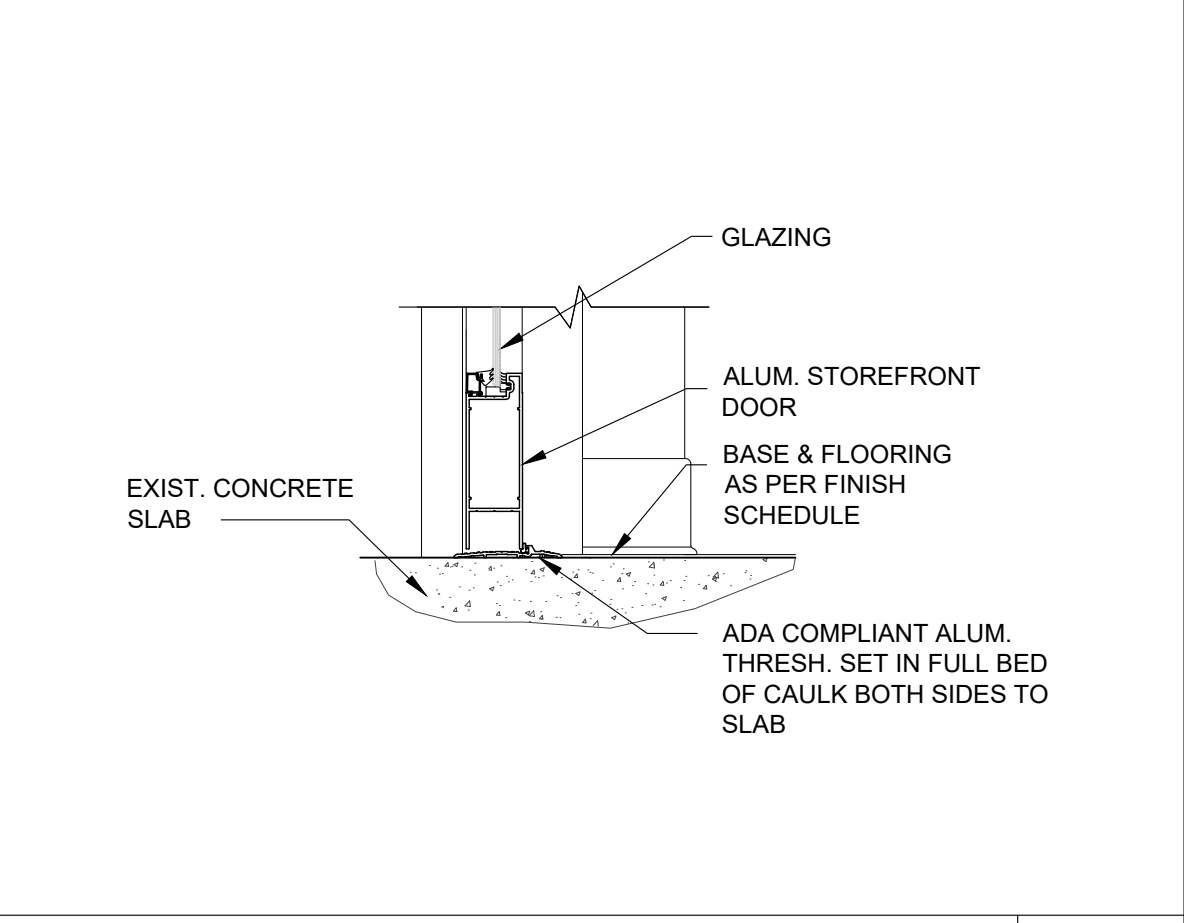
WINDOW SILL DETAIL 13
SCALE:
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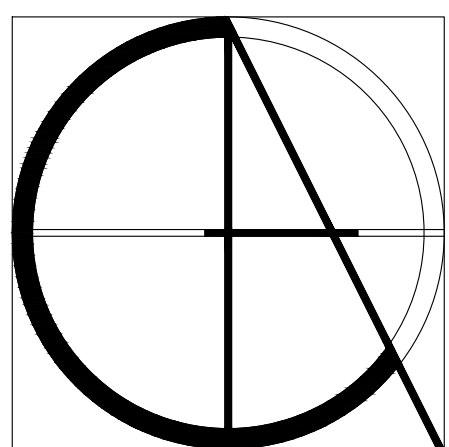
DOOR SILL DETAIL 10
SCALE:
1 1/2" = 1'-0"



DOOR SILL DETAIL 07
SCALE:
1 1/2" = 1'-0"

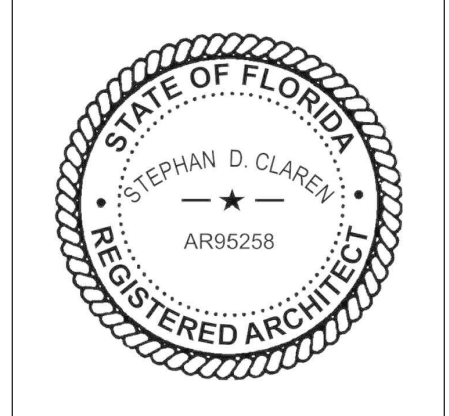


STOREFRONT DOOR SILL DETAIL 04
SCALE:
1 1/2" = 1'-0"



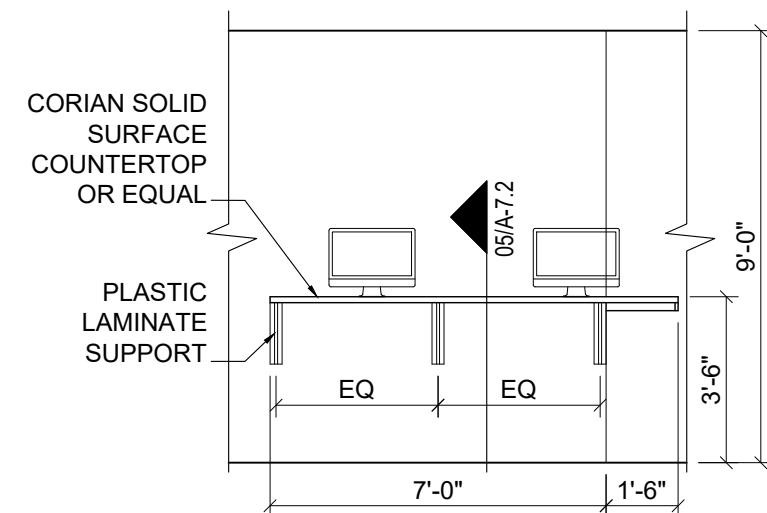
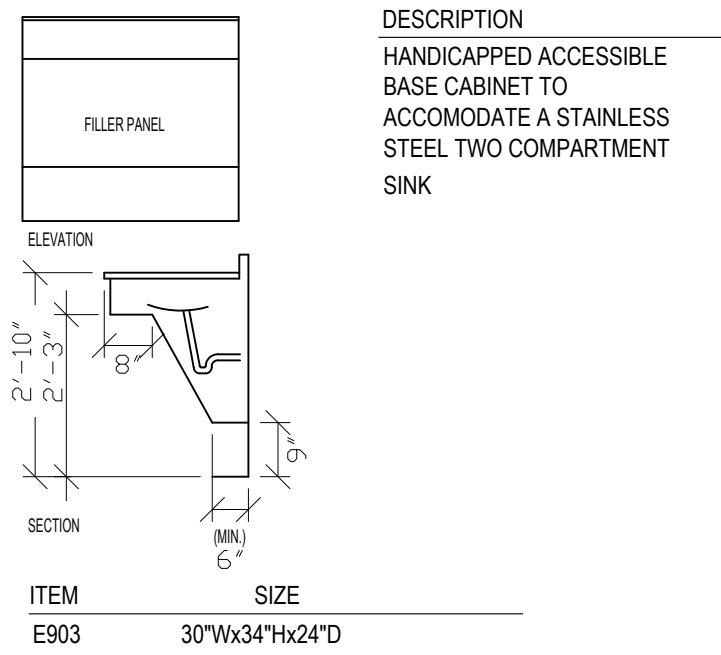
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SEBASTIAN, FL 32958

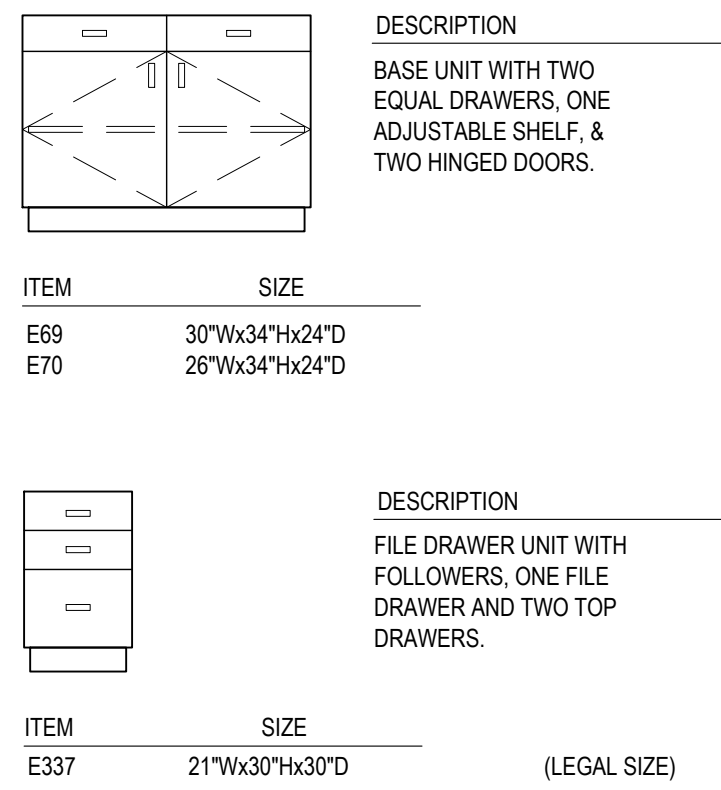


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SINK BASE CABINETS



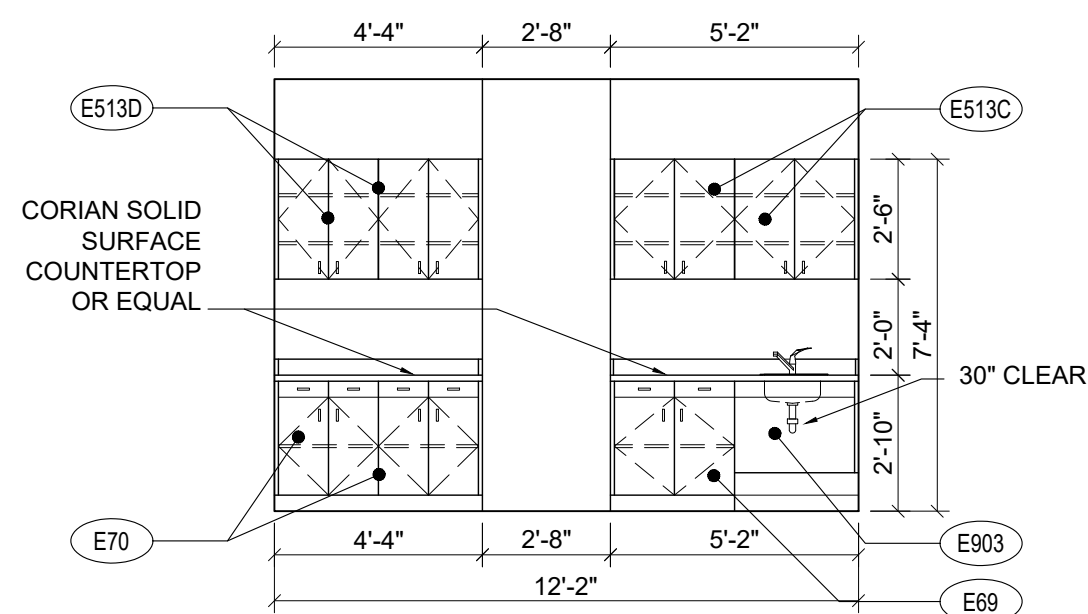
BASE CABINETS



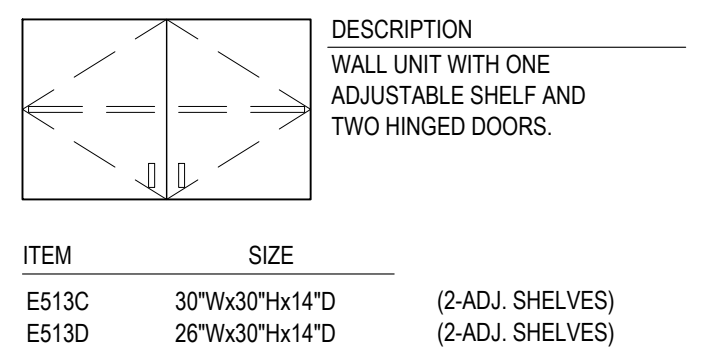
CASEWORK ELEVATION

02

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



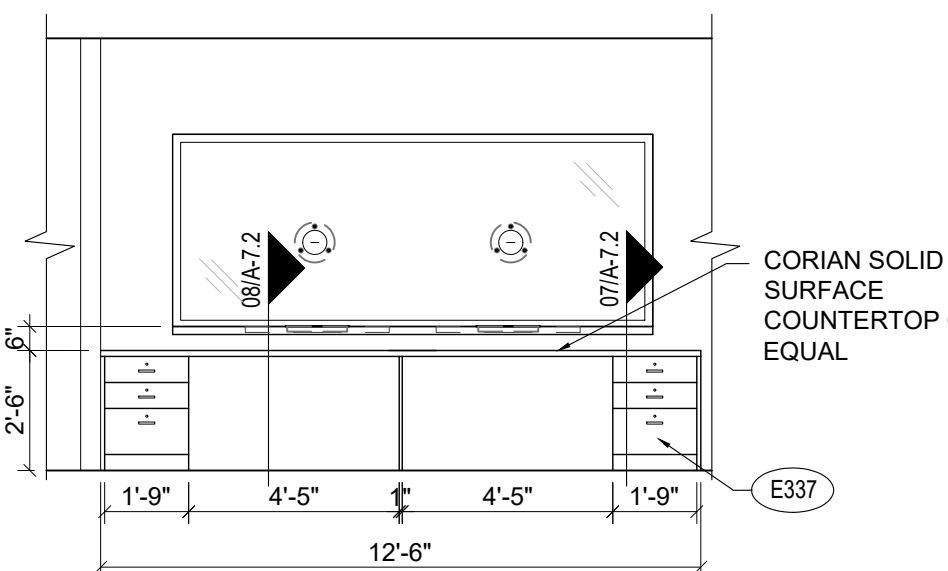
WALL CABINETS



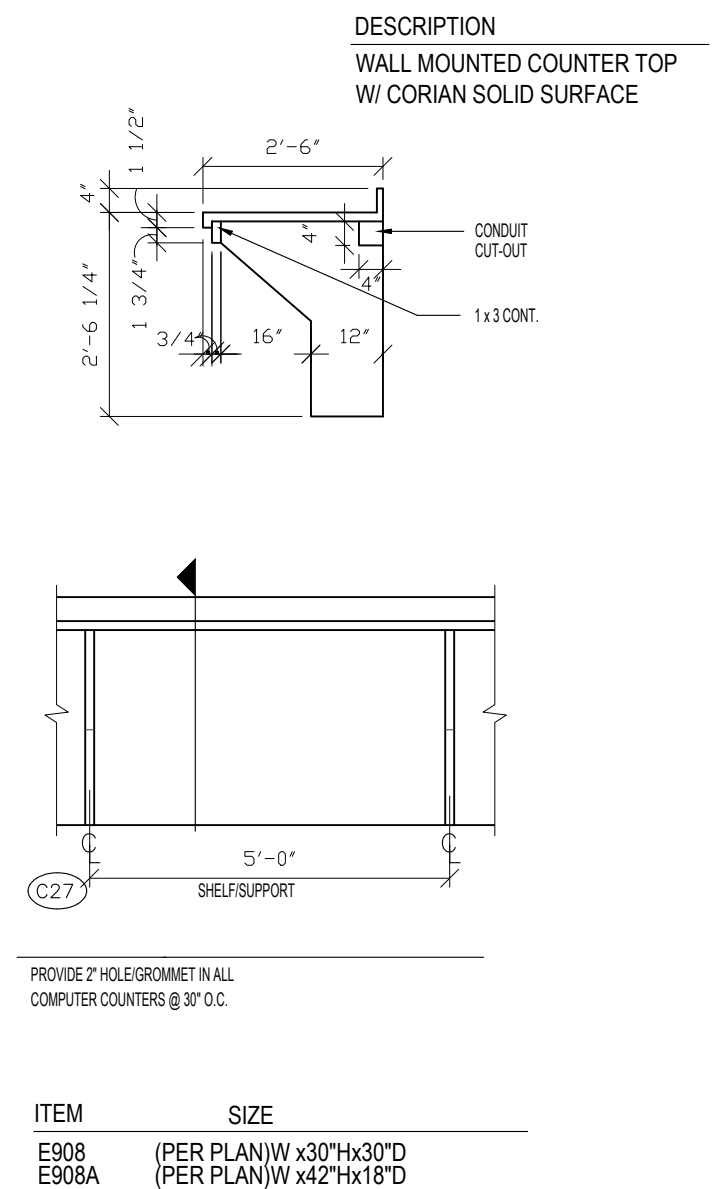
CASEWORK ELEVATION

03

SCALE:
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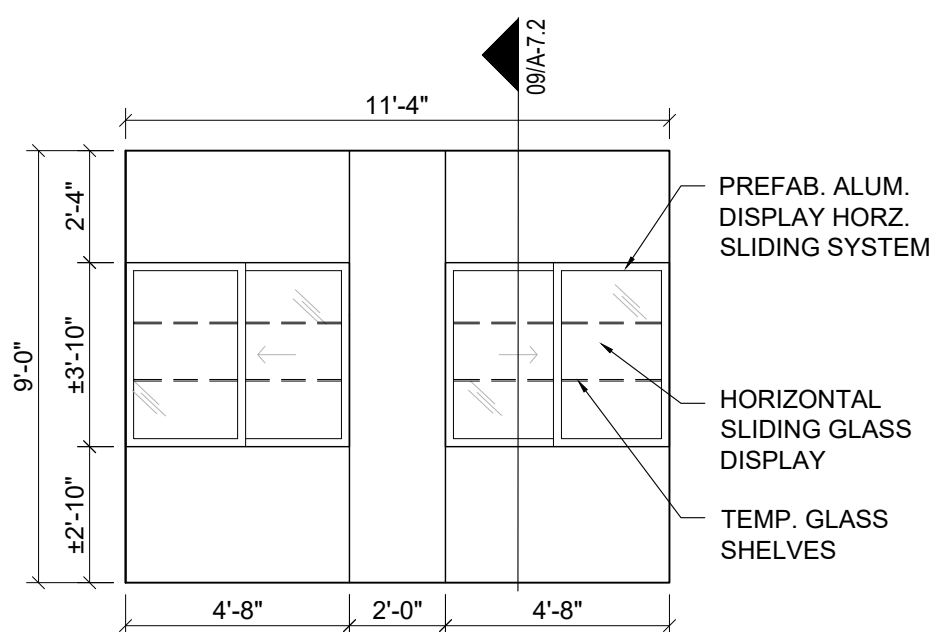
MISCELLANEOUS CABINETS



CASEWORK ELEVATION

04

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



CASEWORK ELEVATION

05

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

MISC. ACCESSORIES & EQUIPMENT

(SEE SPECIFICATIONS FOR MORE INFO.)

- GB1 36" STAINLESS STEEL GRAB BAR - SEE SPECS
- GB2 42" STAINLESS STEEL GRAB BAR - SEE SPECS
- MST 18" x 30" MIRROR
- ND SANITARY NAPKIN DISPOSAL
- TW ROLL PAPER TOWEL DISPENSER - NOT IN CONTRACT
- SD1 WALL MOUNTED LIQUID SOAP DISPENSER - NOT IN CONTRACT
- RH SINGLE 12" JUMBO ROLL SURFACE MOUNTED TOILET PAPER DISPENSER - NOT IN CONTRACT

- NOTES:
1. IN ALL ACCESSIBLE RESTROOMS INSTALL A SIGN WITH THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
 2. ALL PAPER TOWEL, TOILET PAPER AND SOAP DISPENSERS WILL BE SUPPLIED BY SDIRC AND INSTALLED BY CONTRACTORS AT LOCATIONS SHOWN.
 3. PROVIDE BACKING AS REQUIRED FOR MOUNTING OF ACCESSORIES

MISC. ACCESSORIES & EQUIPMENT

(SEE SPECIFICATIONS FOR ADDITIONAL INFO.)

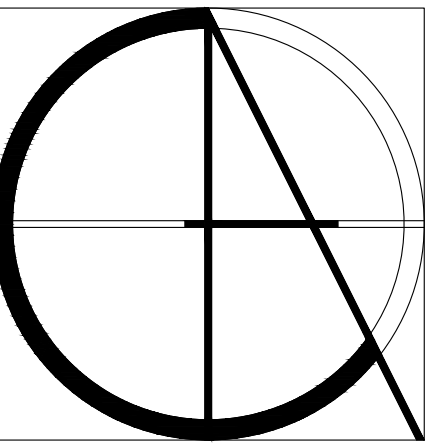
- TB-1 TACK BOARD 4' X 4'
- IPC IBSM IP COMPLIANT CLOCK LOUDSPEAKER SYSTEM WITH LED DISPLAY AND MICROPHONE BY ATLAS IED OR EQUAL WITH FEST-IBSC FLUSH MOUNT STRAIGHT ENCLOSURE FOR IBSM RECLAIMED POWDER COAT FINISH.

** CASEWORK AS PROVIDED BY FLEETWOOD GROUP



01 EQUIPMENT PLAN

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



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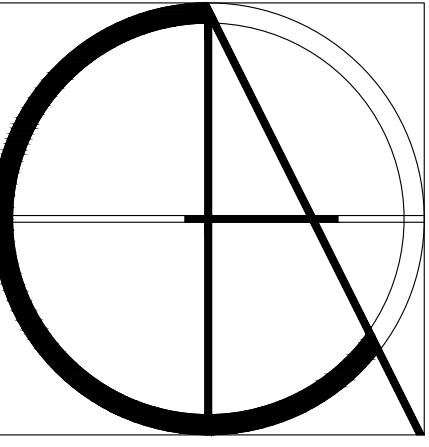
Building Addition for:

Sebastian River Middle School
9400 CR 512
SEBASTIAN, FL 32958



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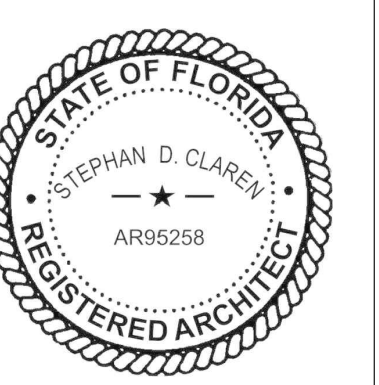
A-7.1



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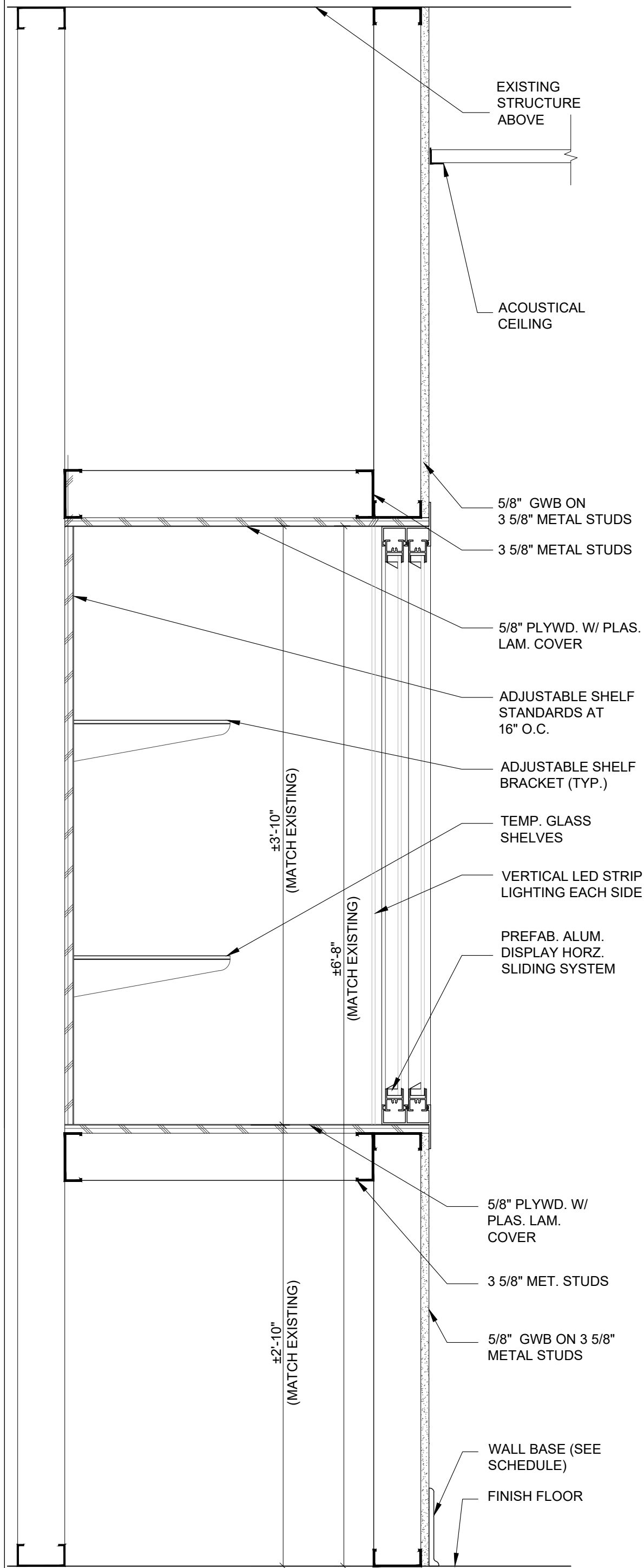
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REV # DATE

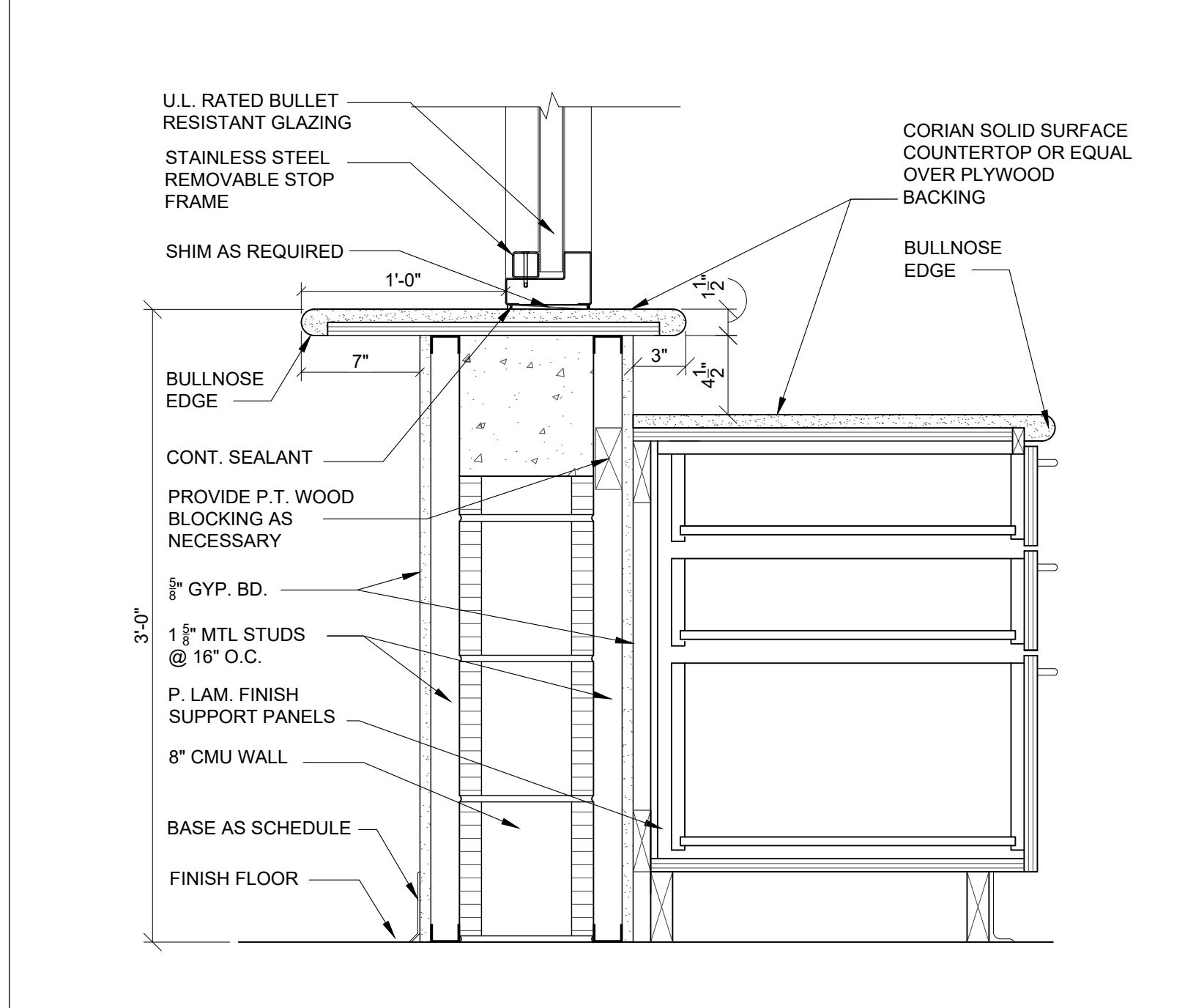
SHEET #

A-7.2

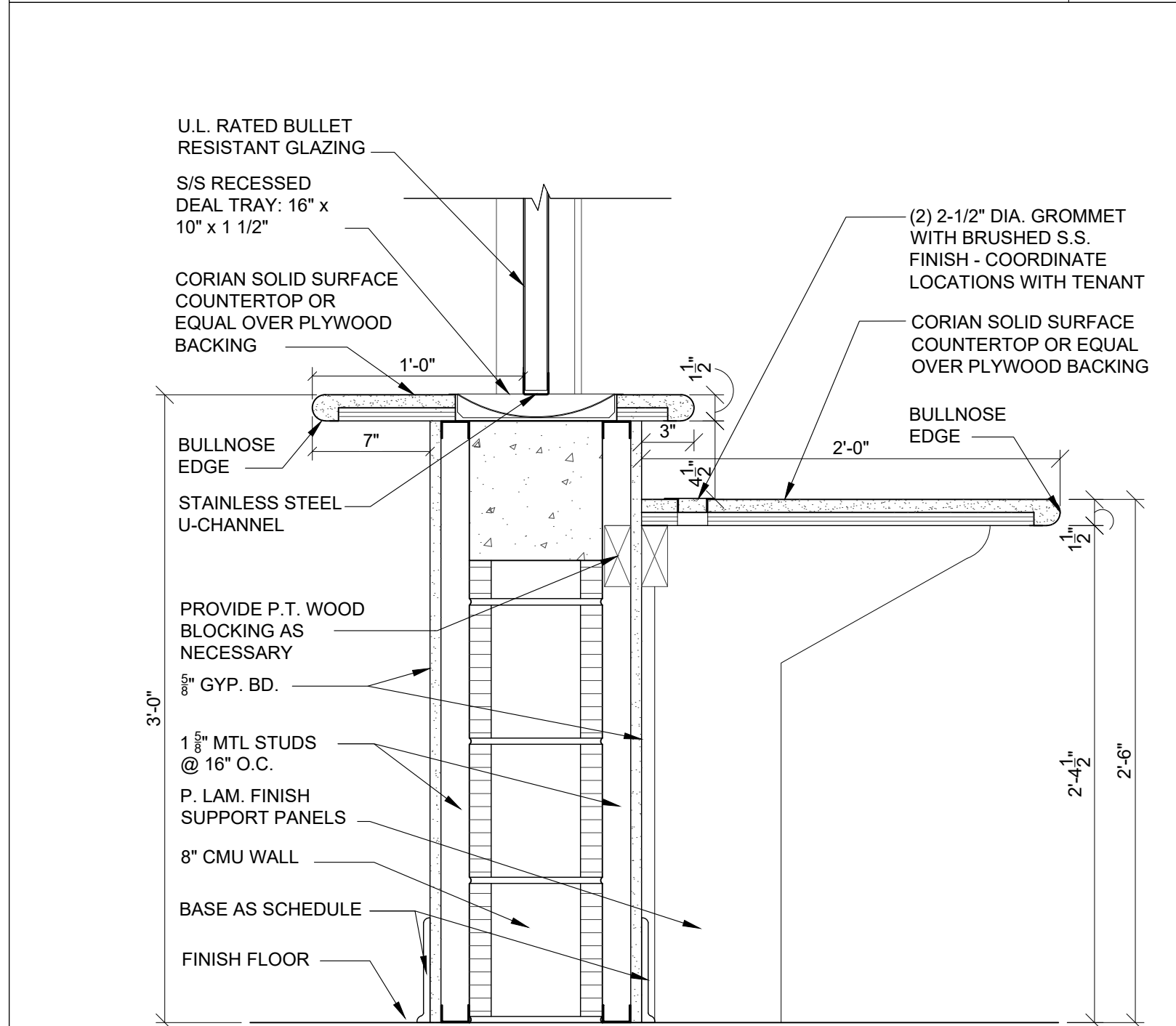
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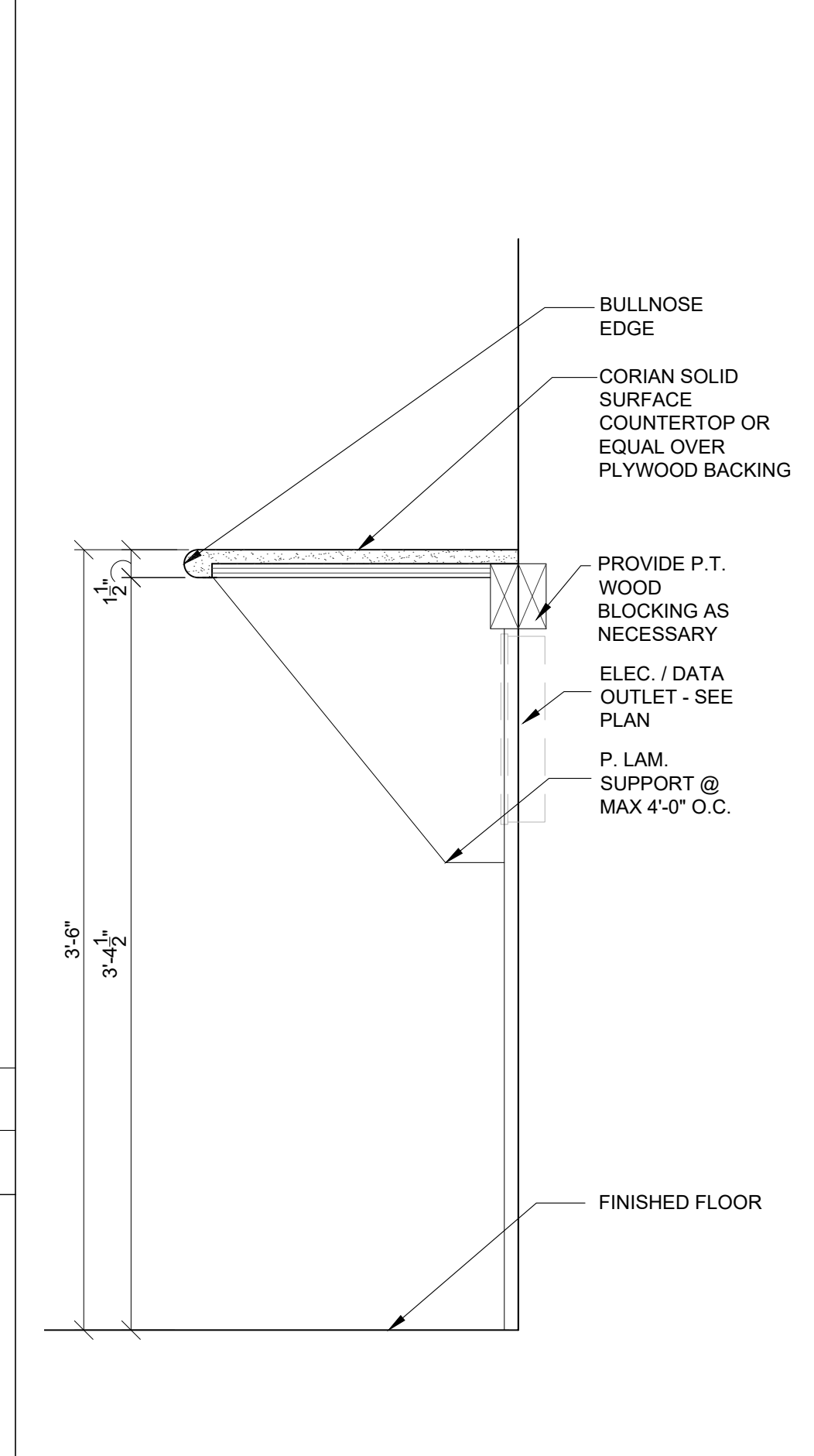
CASEWORK DETAIL 09
SCALE: 1 1/2" = 1'-0"



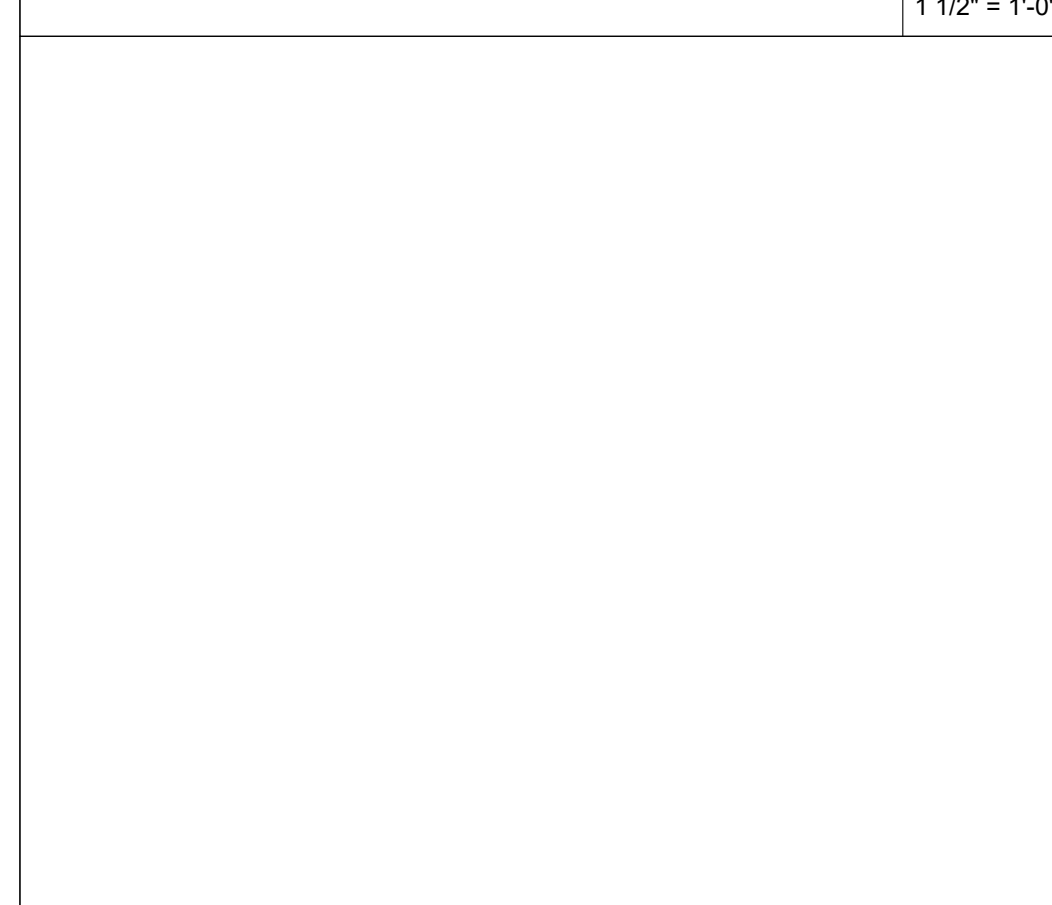
CASEWORK DETAIL 07
SCALE: 1/4" = 1'-0"



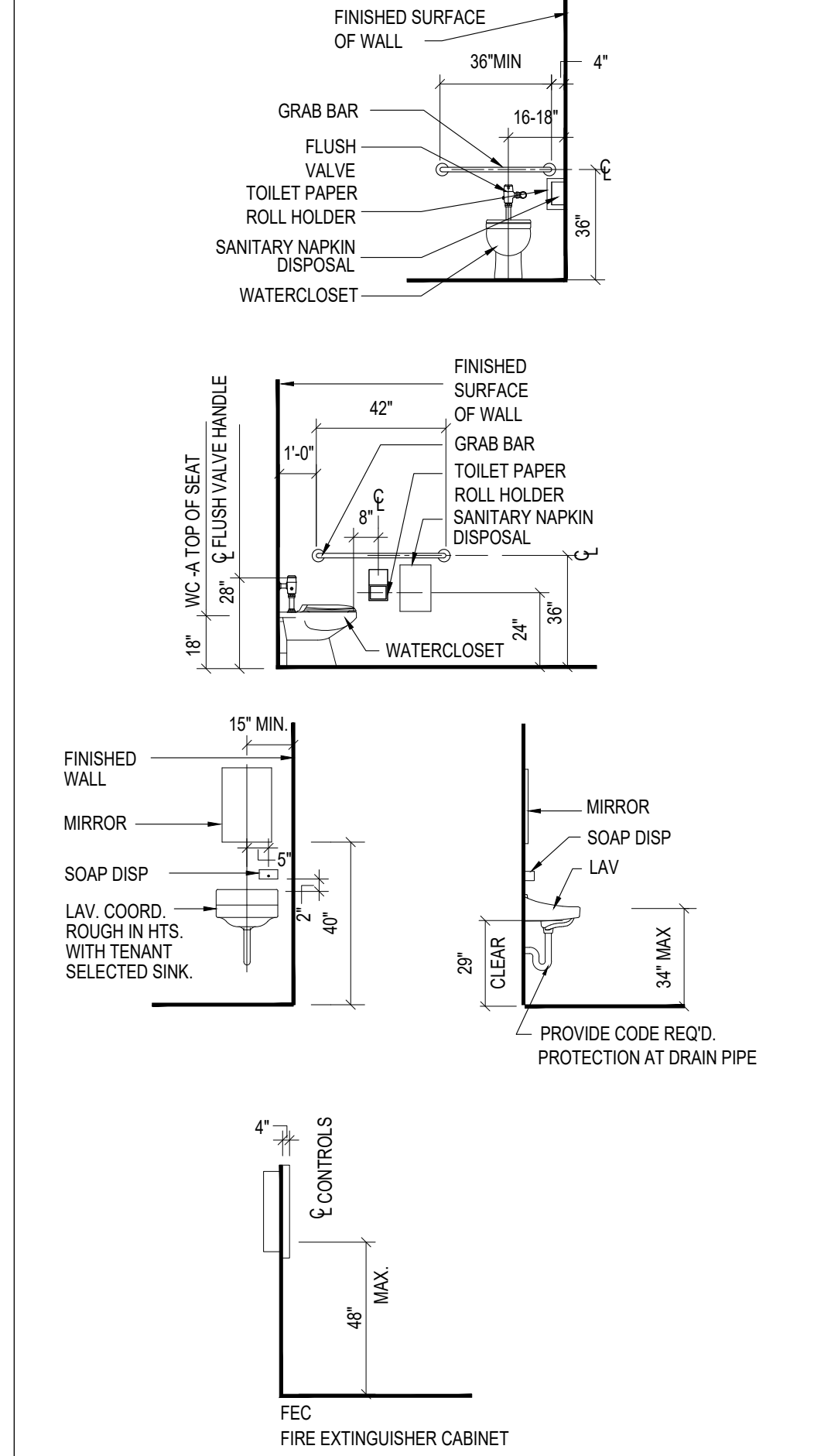
CASEWORK DETAIL 08
SCALE: 1/4" = 1'-0"



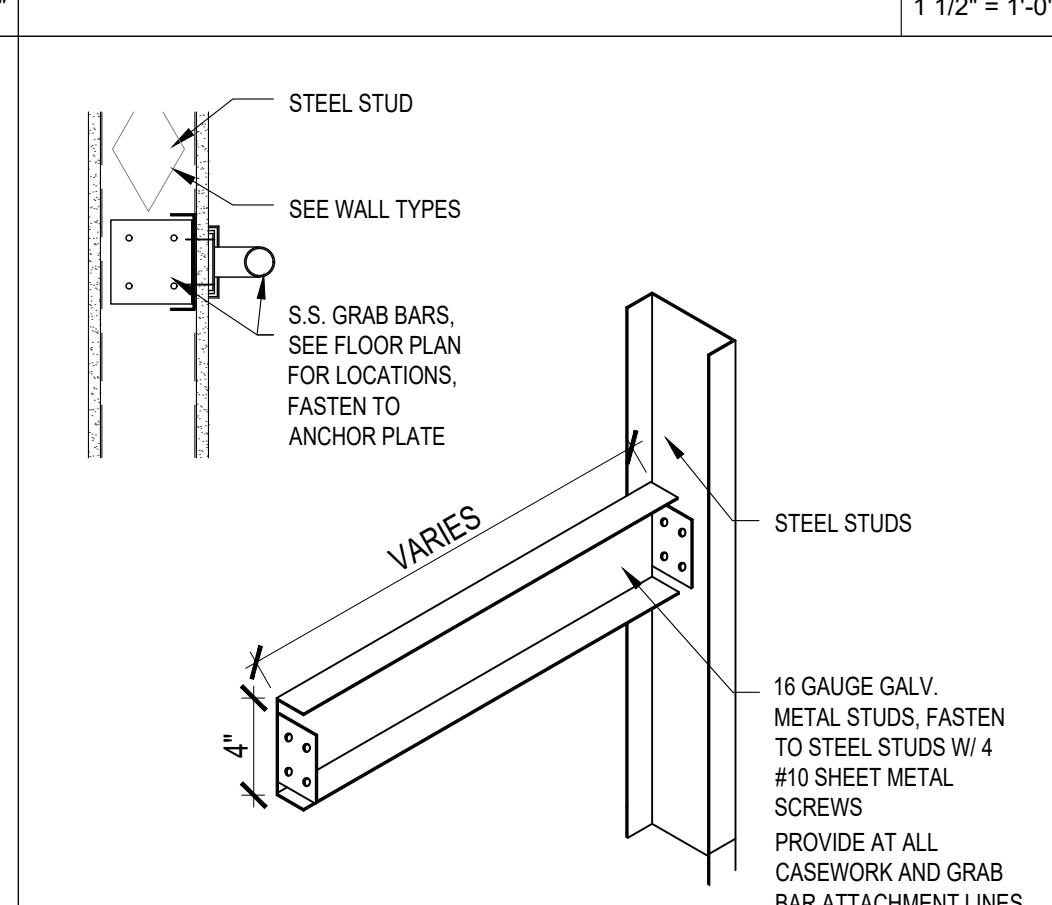
CASEWORK DETAIL 05
SCALE: 1 1/2" = 1'-0"



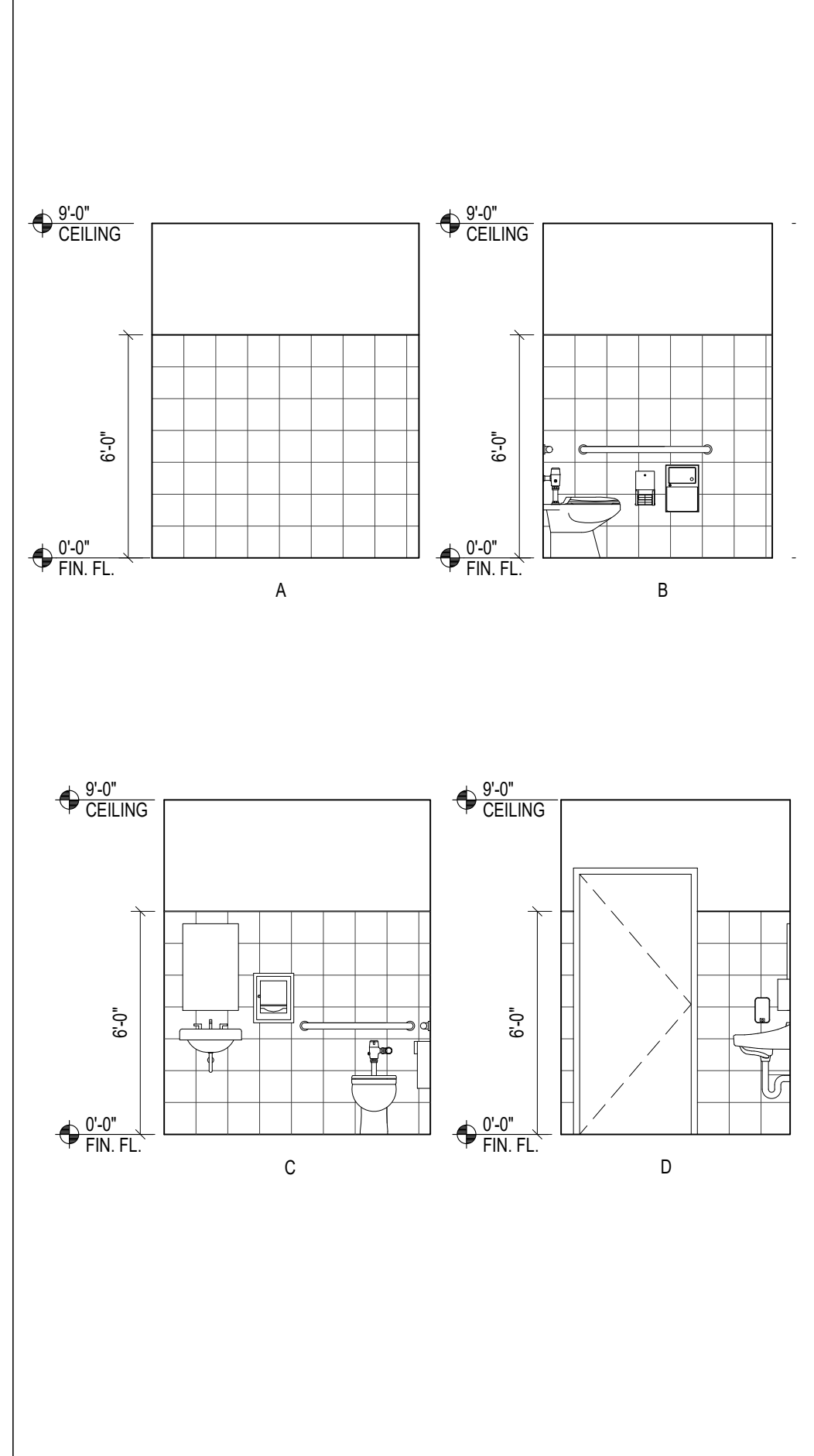
NOT USED 06
SCALE: 1 1/2" = 1'-0"



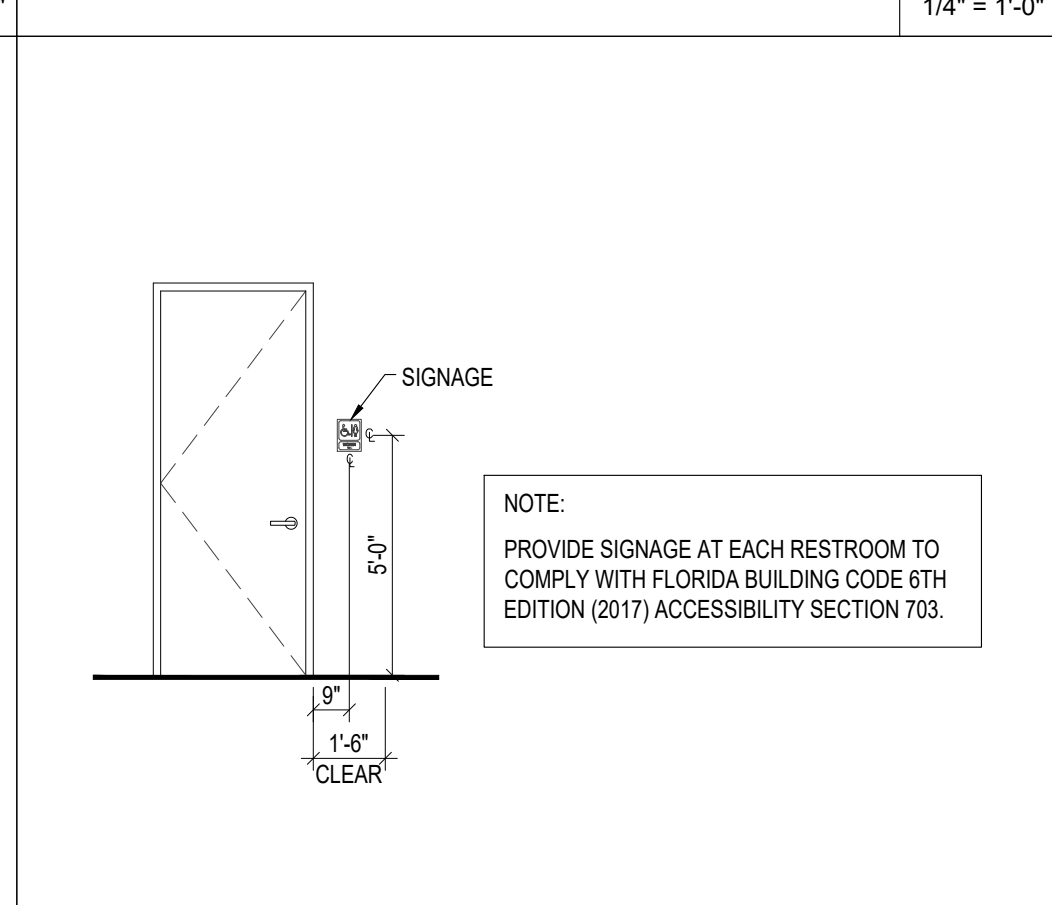
TYPICAL MOUNTING HEIGHTS 03
SCALE: 1 1/2" = 1'-0"



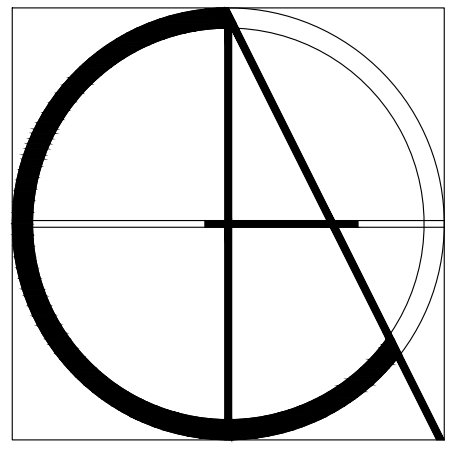
TYP. GRAB BAR DETAILS 04
SCALE: 1 1/2" = 1'-0"



INTERIOR ELEVATION 01
SCALE: 1/4" = 1'-0"



TYPICAL RESTROOM SIGNAGE DETAIL 02
SCALE: 1/4" = 1'-0"

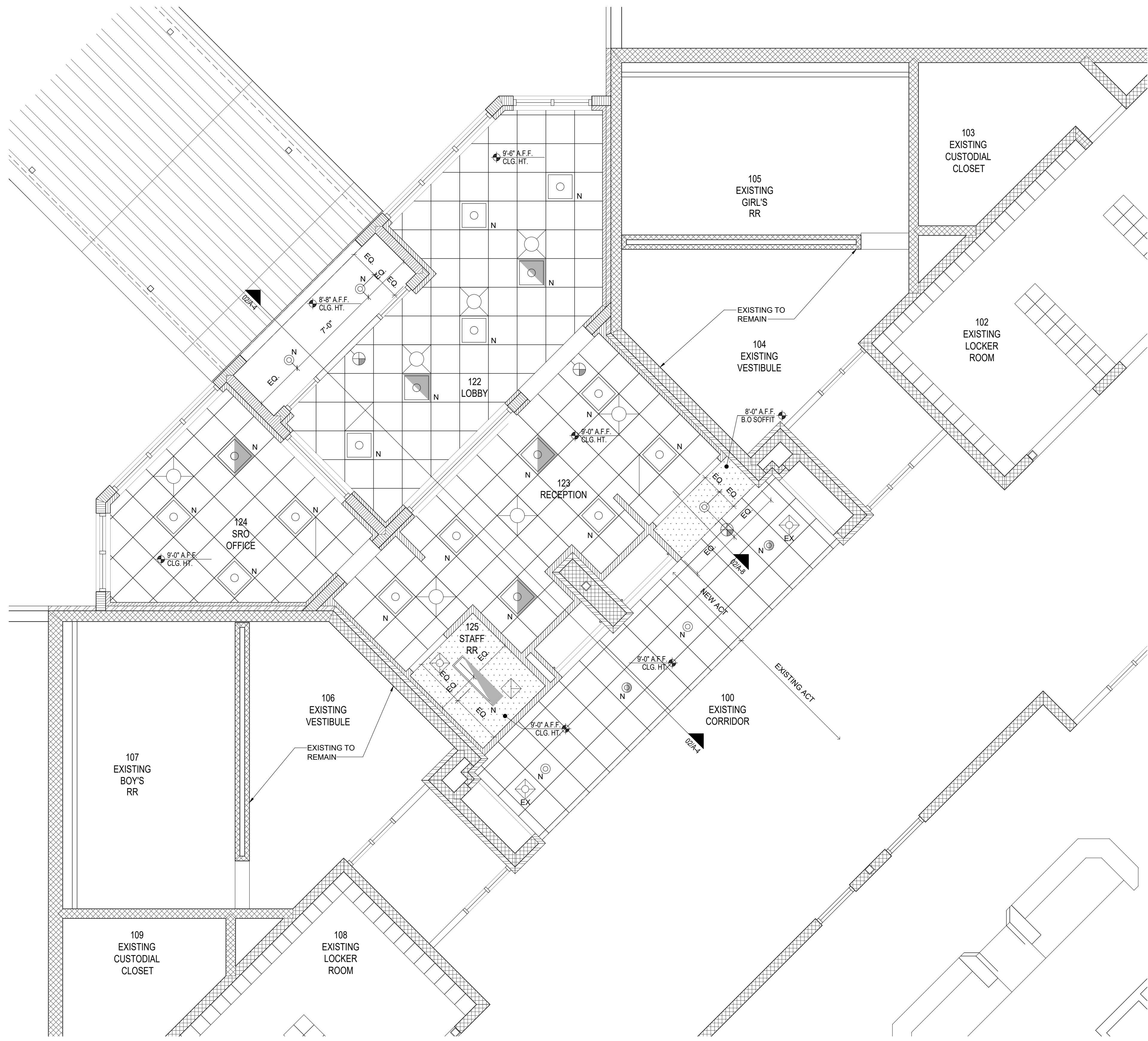


Claren Architecture + Design, Inc.
 AA26002865
 6400 CONGRESS AVE, SUITE 2150
 BOCA RATON, FL 33487
 561.961.4884

Building Addition for:
Sebastian River Middle School
 9400 CR 512
 SEBASTIAN, FL 32958



PROJECT #	18-026
DATE	10-17-2018
REV #	DATE
SHEET #	A-8

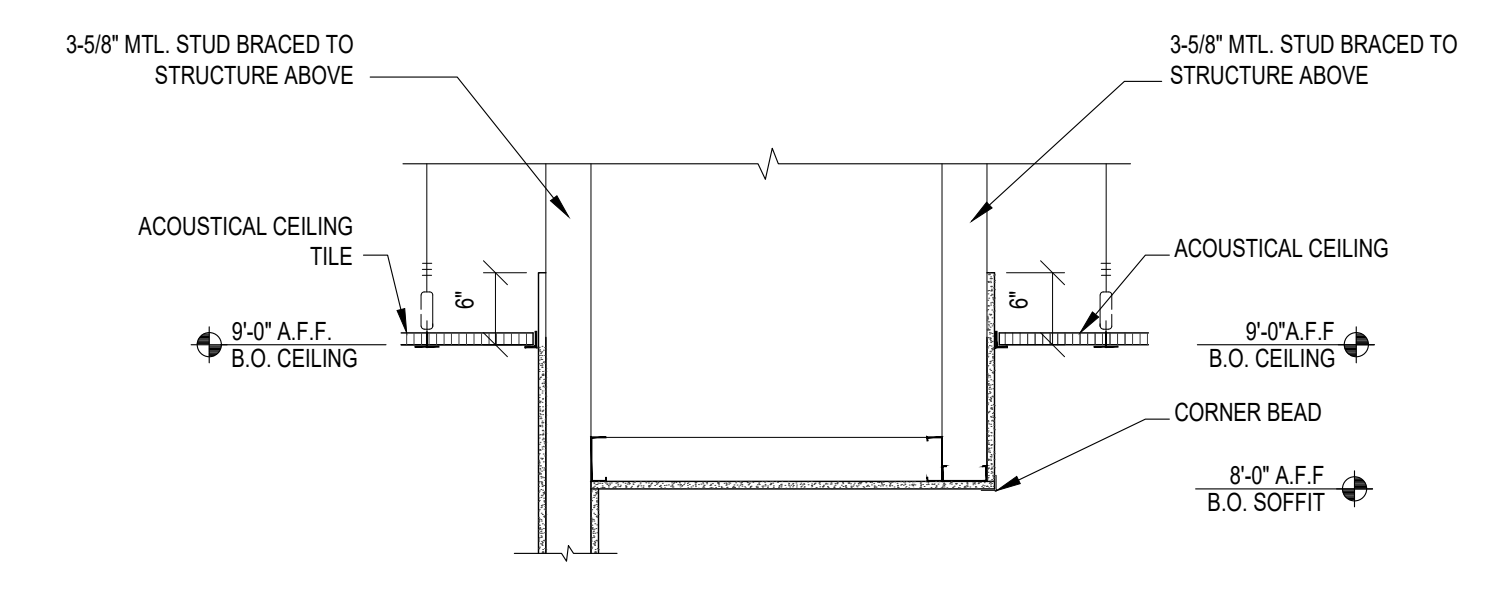


01 REFLECTED CEILING PLAN
 SCALE: 1/4" = 1'-0"

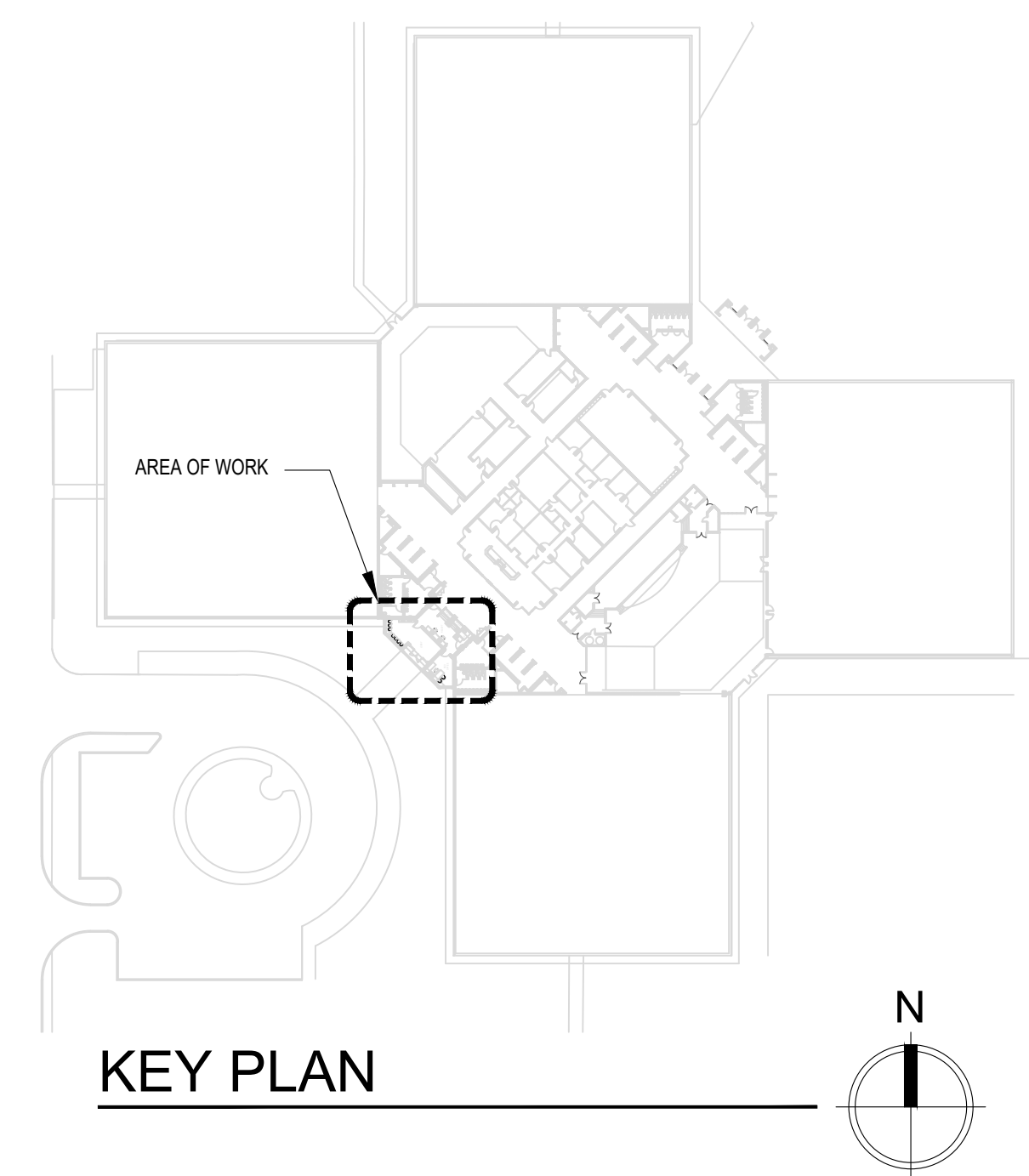
CEILING PLAN SYMBOLS LEGEND

	NEW 24" x 24" SUSPENDED ACOUSTICAL CEILING W/ GRID
	GYPSUM BOARD CEILING
	24" x 24" LAY-IN FIXTURE
	24 x 24 EMERGENCY LIGHT FIXTURE
	FLUORESCENT FIXTURE
	EMERGENCY LIGHT FIXTURE
	RECESSED CAN FIXTURE
	EMERGENCY LIGHT FIXTURE
	LED LIGHT STRIP
	EXIT SIGN
	SUPPLY DIFFUSER
	RETURN GRILLE
	CEILING EXHAUST FAN
N	NEW
EX	EXISTING

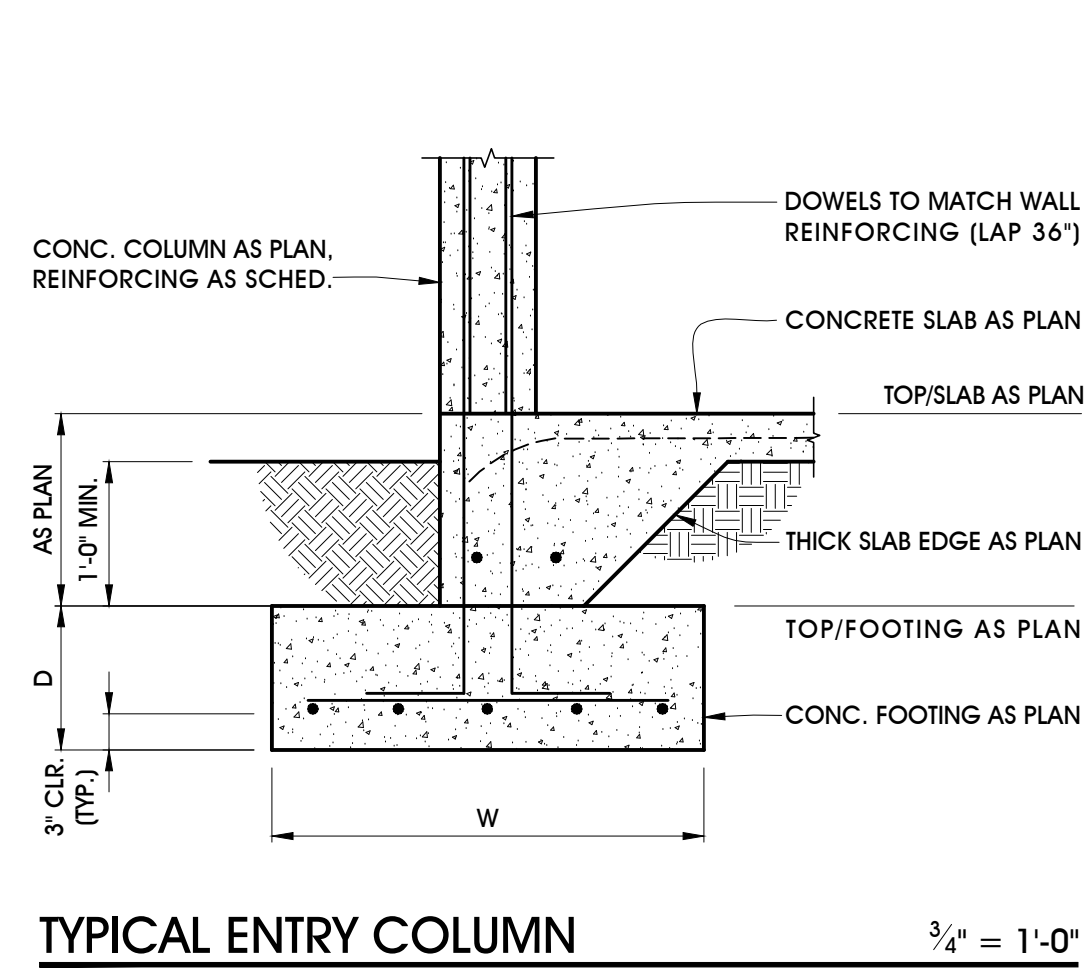
NOTE: REFER TO MECHANICAL & ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.



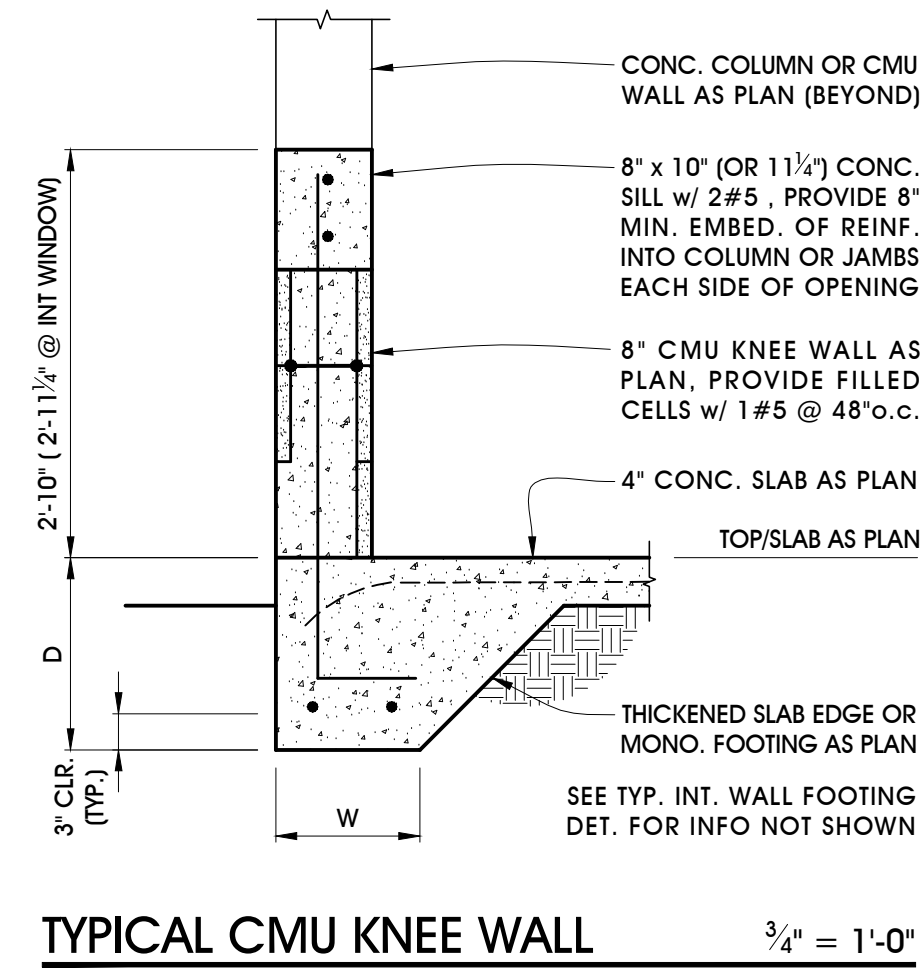
02 CEILING DETAIL
 SCALE: 3/4" = 1'-0"



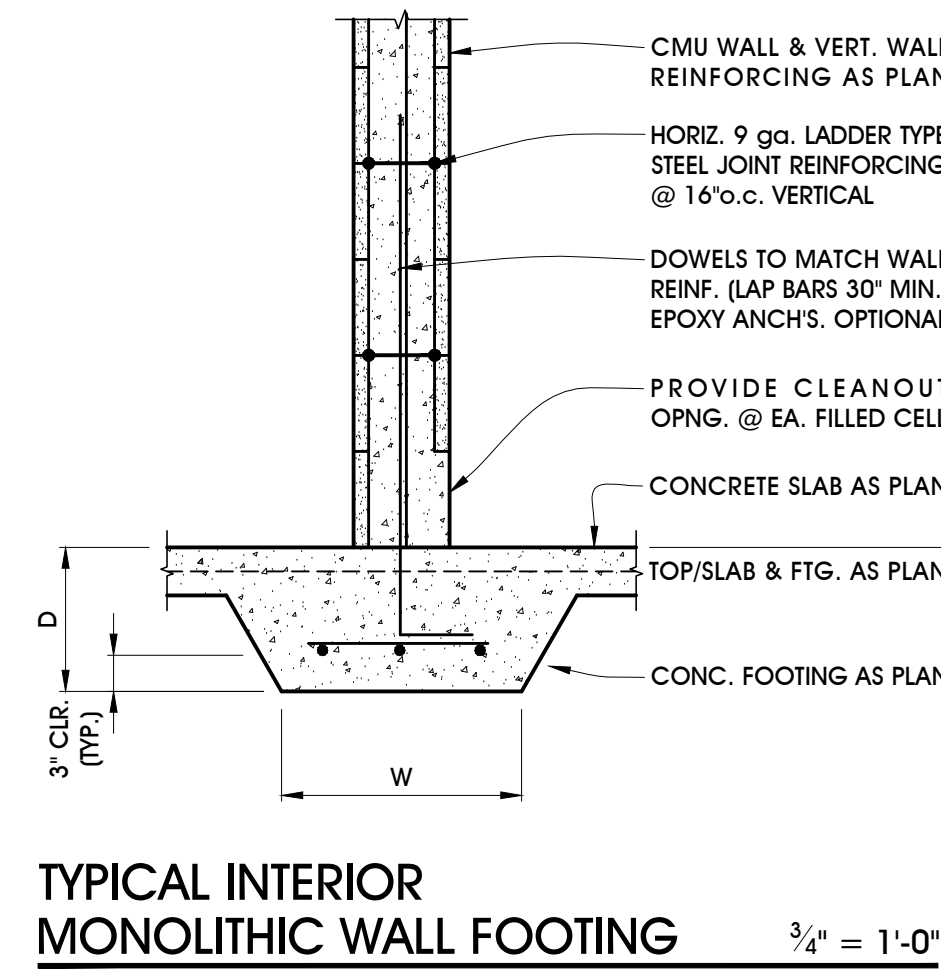
KEY PLAN



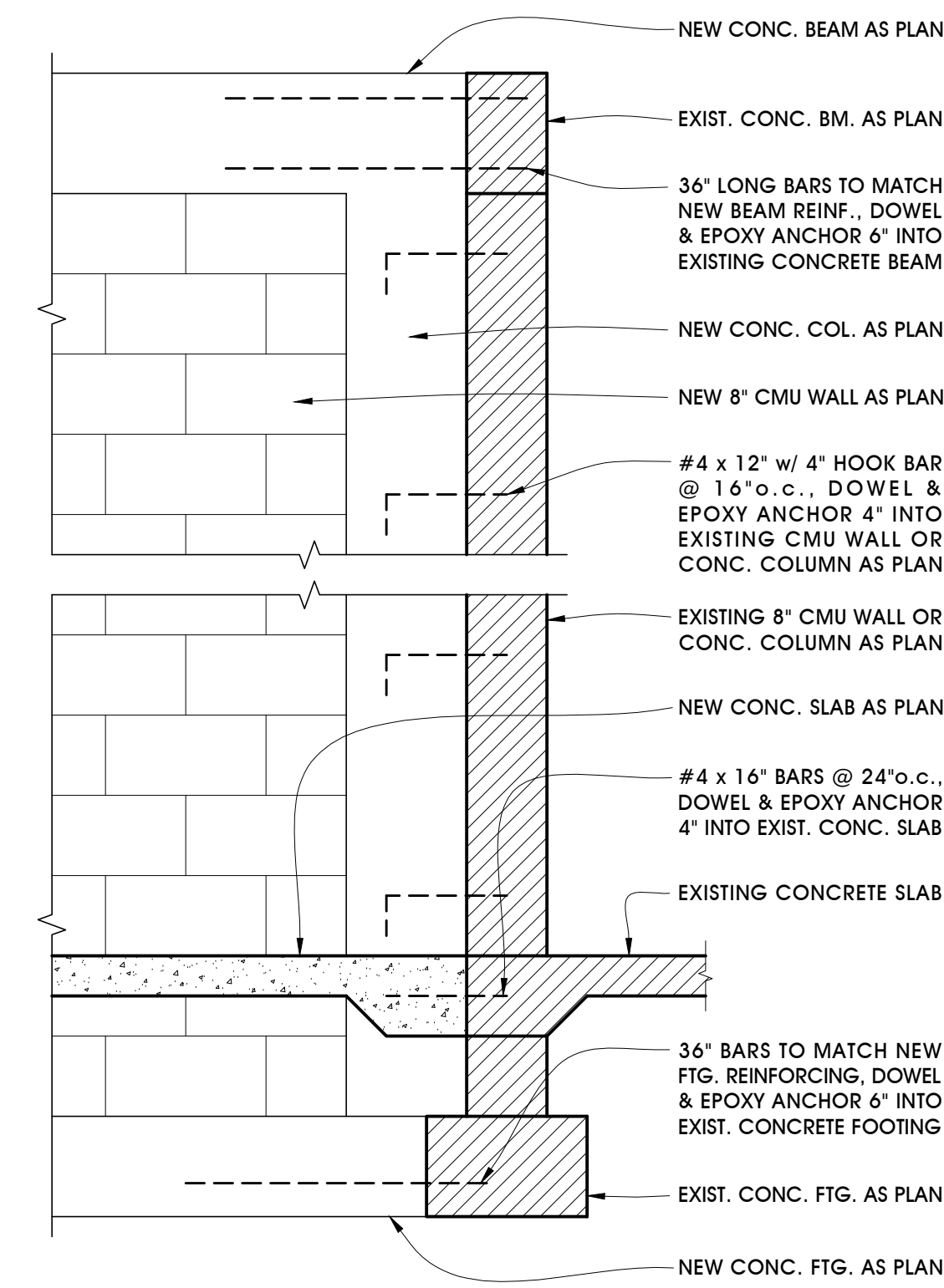
TYPICAL ENTRY COLUMN $\frac{3}{4}" = 1'-0"$



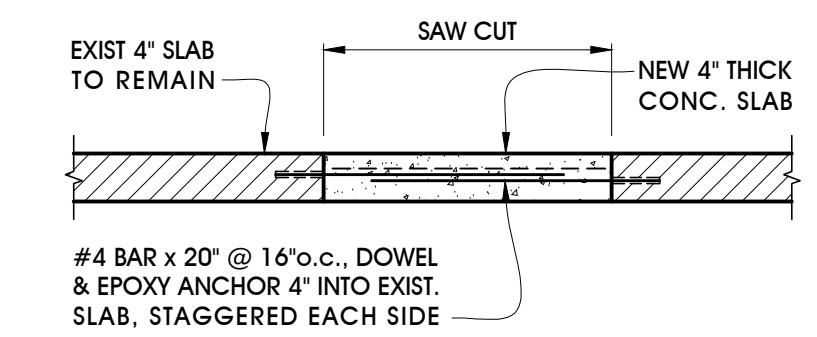
TYPICAL CMU KNEE WALL $\frac{3}{4}" = 1'-0"$



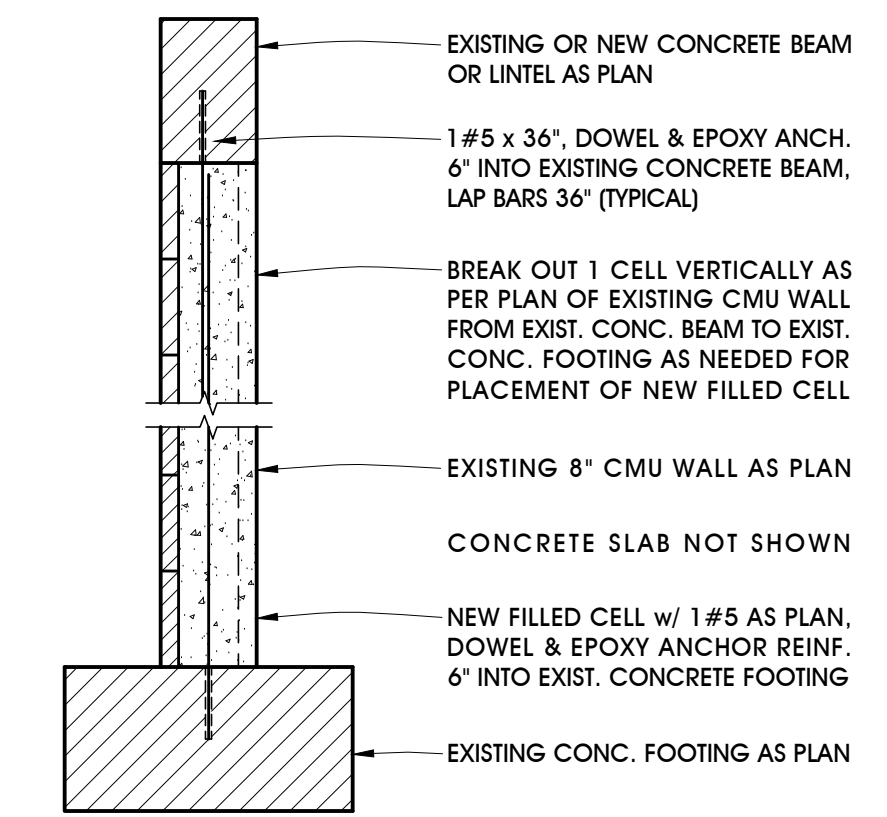
TYPICAL INTERIOR MONOLITHIC WALL FOOTING $\frac{3}{4}" = 1'-0"$



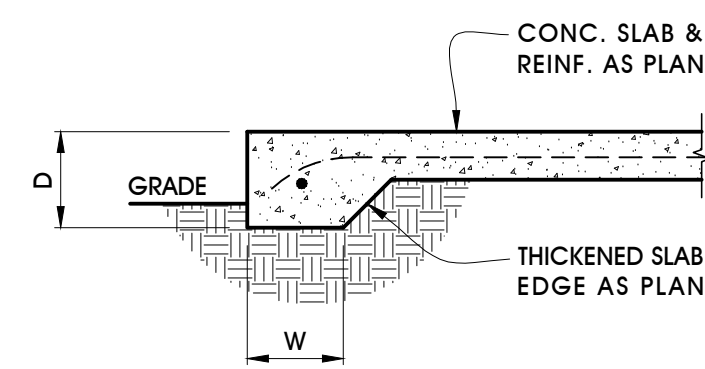
TYPICAL TIE-IN DETAILS $\frac{3}{4}" = 1'-0"$



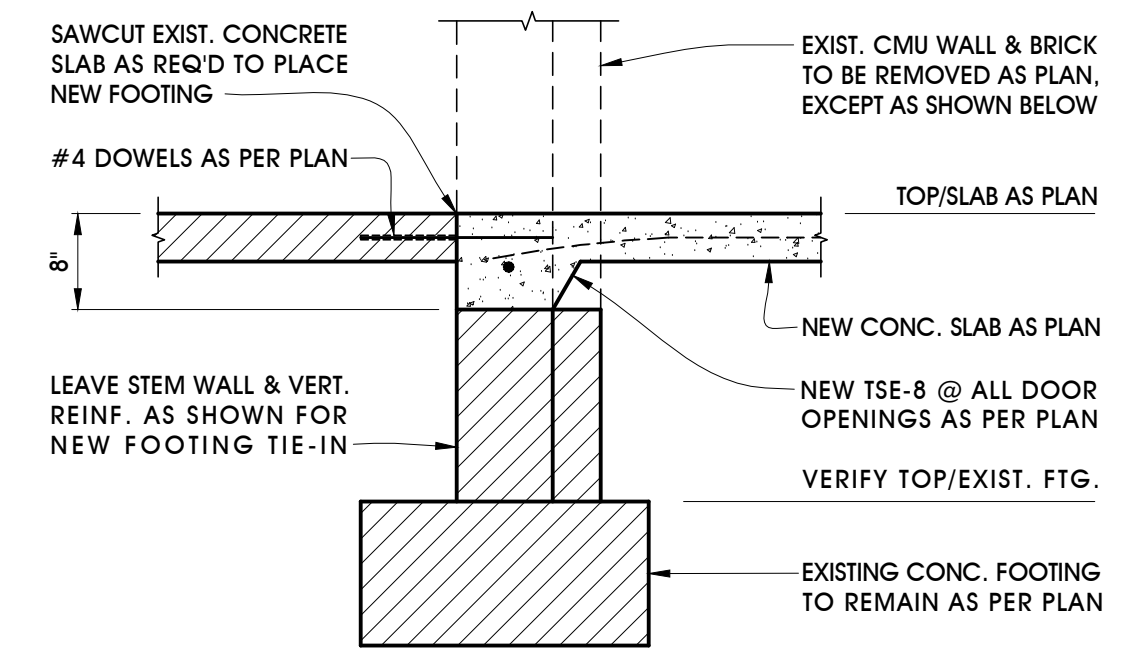
TYPICAL SLAB REPAIR DETAIL $\frac{3}{4}" = 1'-0"$
 NEW CONC. SLABS SHALL BE 4" MIN. w/ 6x6 W1.4 x W1.4 W.W.M. ON 10 MIL VAPOR BARRIER ON TREATED COMPACTED SOILS.



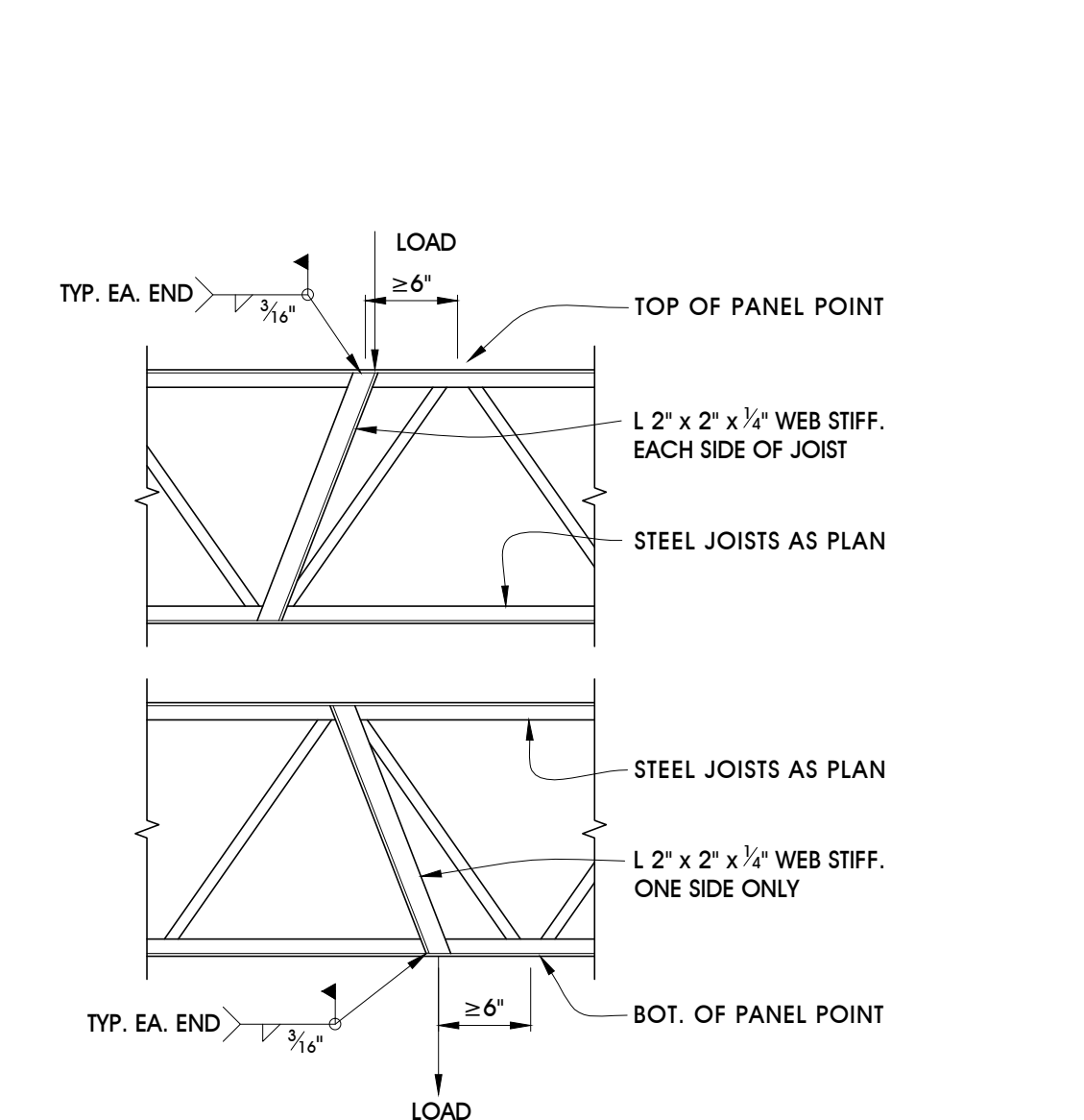
TYPICAL FC TIE-IN DETAIL $\frac{3}{4}" = 1'-0"$



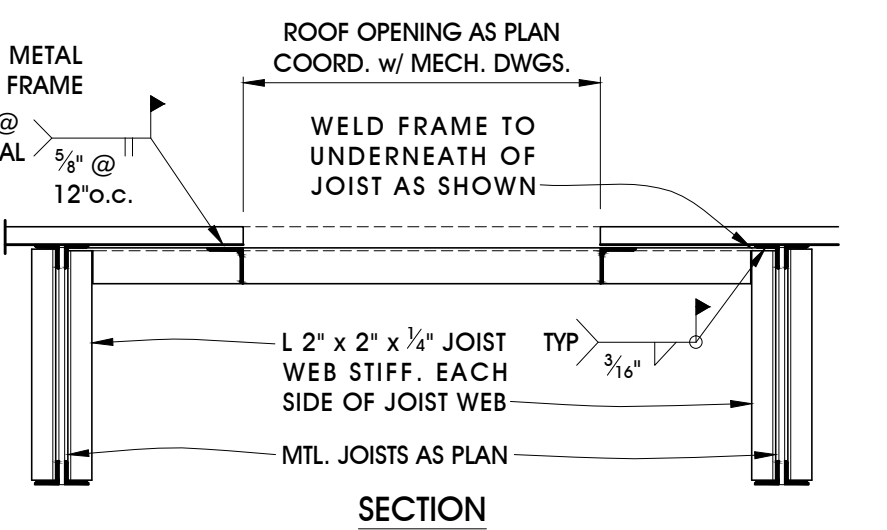
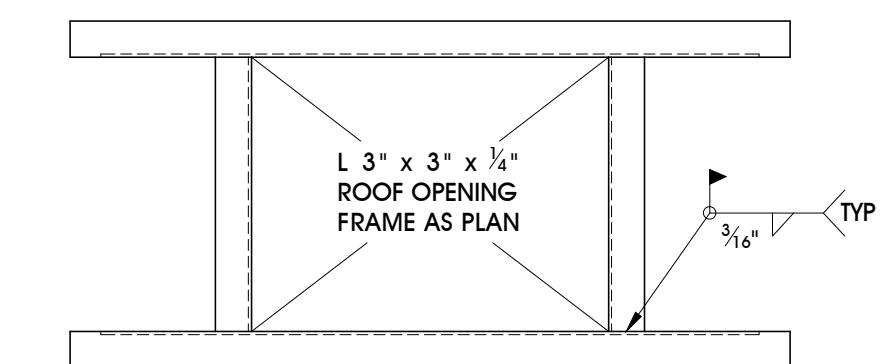
TYPICAL TSE THICKENED SLAB EDGE $\frac{3}{4}" = 1'-0"$



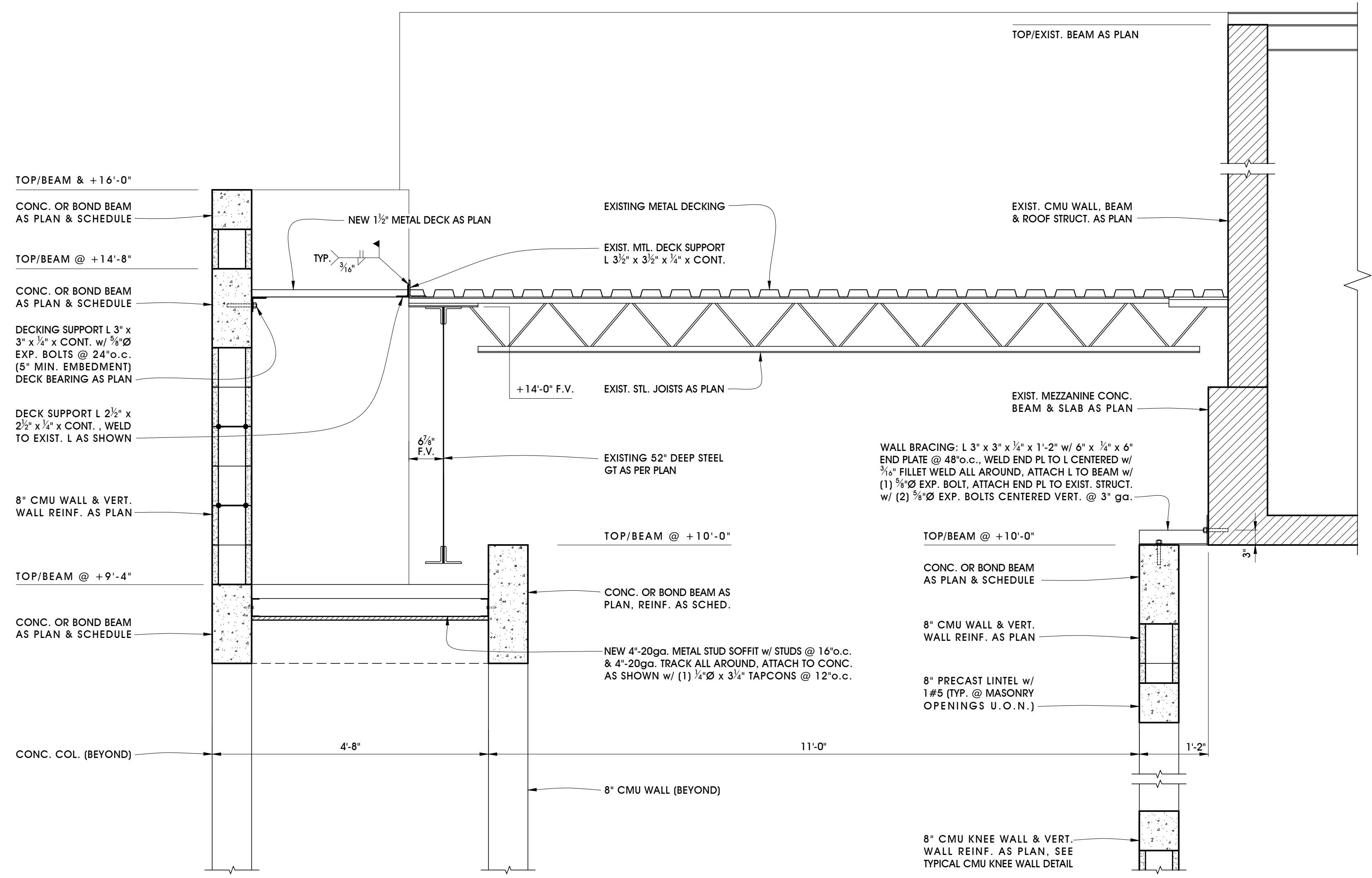
TYPICAL TSE @ DOOR OPENING $\frac{3}{4}" = 1'-0"$



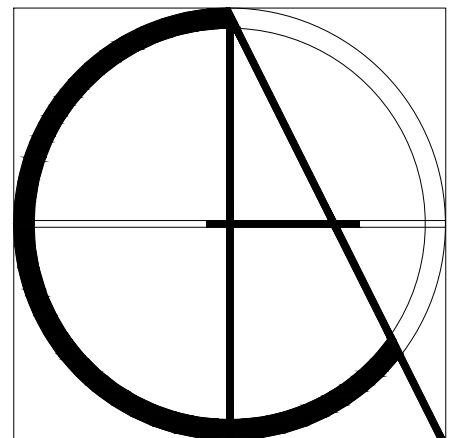
TYPICAL WEB STIFFENER DETAILS $\frac{3}{4}" = 1'-0"$



TYP. ROOF OPENING FRAME DETAILS $\frac{3}{4}" = 1'-0"$



SECTION A-S2 $\frac{3}{4}" = 1'-0"$



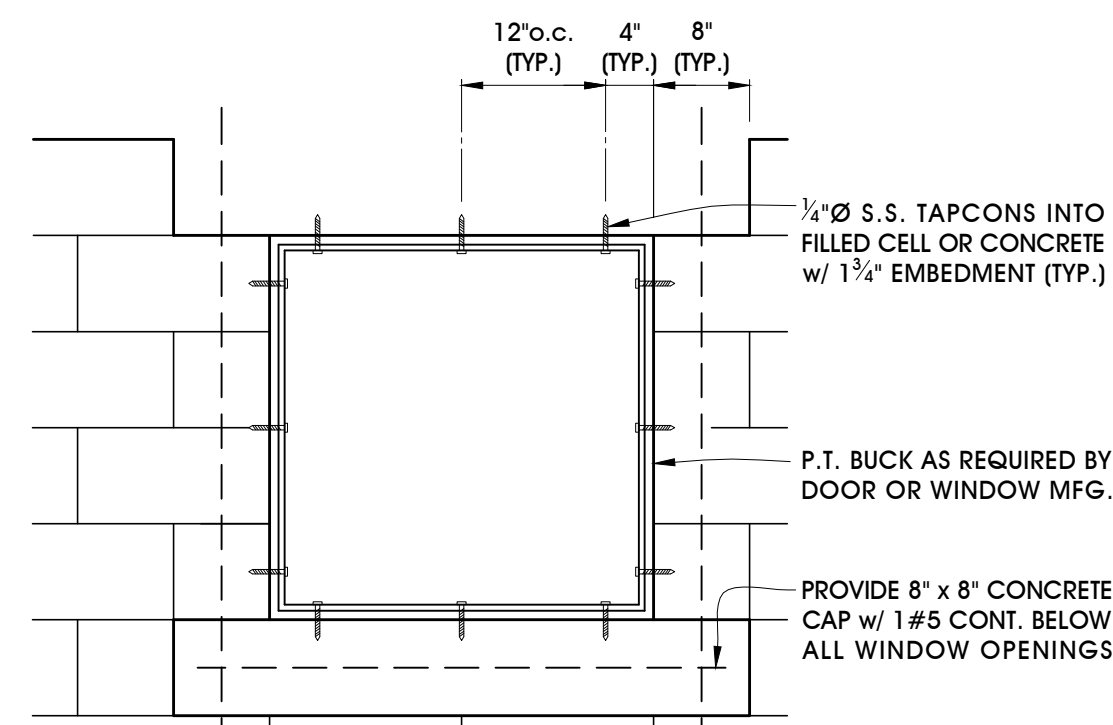
Claren Architecture + Design, Inc.
 AA26002865
 6400 CONGRESS AVE, SUITE 2150
 BOCA RATON, FL 33487
 561.961.4884

Building Addition for:
Sebastian River Middle School
 9400 CR 512
 Sebastian, FL 32958

C.A. License No.: 8662
 FL P.E. No.: 47520

PROJECT #	18-195B
DATE	10-17-2018
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ML ENGINEERING, INC.
 Consulting Structural Engineer
 2030 37th Avenue
 Vero Beach, Florida 32960
 Phone: 772.569.1257 Fax: 772.569.4041



TYPICAL WINDOW & DOOR ATTACHMENT TO CMU DETAIL

3/4" = 1'-0"

- NOTES:
- DOORS & WINDOWS SHALL BE DESIGNED, MANUFACTURED, INSTALLED & CERTIFIED TO WITHSTAND THE MINIMUM DESIGN WIND PRESSURES AS NOTED IN PLAN & SHALL BE IMPACT RATED.
 - WATERPROOF ALL DOOR & WINDOW PERIMETERS WITH APPLICABLE WATER-PROOFING. (1) COAT BEFORE INSTALLING BUCKS & (1) COAT AFTER BUCK INSTALLATION.

BUILDING ROOF PITCH 1/4:12 < 1:12

ZONE	EFFECTIVE AREA (SQUARE FEET)			
	0 < 10	11 < 20	21 < 50	51 < 100
1	+16	-40	+15	-40
2	+16	-68	+15	-61
3	+16	-102	+15	-84
4	+40	-44	+39	-42
5	+40	-54	+39	-50

NET UPLIFT ON ROOF STEEL BAR JOISTS

ZONES	UPLIFT
①	-25 PSF
②	-32 PSF
③	-32 PSF

COMPONENT AND CLADDING PRESSURE ZONES

NO SCALE

- NOTES:
- PRESSURES ARE IN ALLOWABLE STRESS DESIGN (ASD) FOR WINDOWS, DOORS, ROOFING, ROOF TRUSSES AND ALL OTHER BUILDING COMPONENTS AND CLADDING.
 - POSITIVE PRESSURES INDICATE PRESSURES ACTING TOWARD A PROJECTED SURFACE. NEGATIVE PRESSURES INDICATED PRESSURES ACTING AWAY FROM A PROJECTED SURFACE.
 - NET DESIGN ROOF PRESSURES SHALL BE CALCULATED USING SELF WEIGHT OF MATERIAL. HOWEVER, THE APPLIED DEAD LOADS SHALL NOT EXCEED 12 PSF (U.O.N.) FOR THE ROOFS OF THE MAIN STRUCTURES.
 - END ZONE "e" = 8 FEET.

MARK	SIZE D x W x L	REINFORCING				REMARKS
		BOT. REINF.		TOP REINF.		
		L.W.	S.W.	L.W.	S.W.	
TSE-8	8" x 8" x CONT.	1#5				THICKENED SLAB EDGE
TSE-12	16" x 12" x CONT.	2#5				THICKENED SLAB EDGE
MWF-24	12" x 24" x CONT.	3#5	#5@24"			MONOLITHIC WALL FOOTING
F-1	16" x 36" x 36"	4#5	4#5	4#5	4#5	ISOLATED COLUMN PAD
F-2	16" x 48" x 48"	5#5	5#5	5#5	5#5	ISOLATED COLUMN PAD

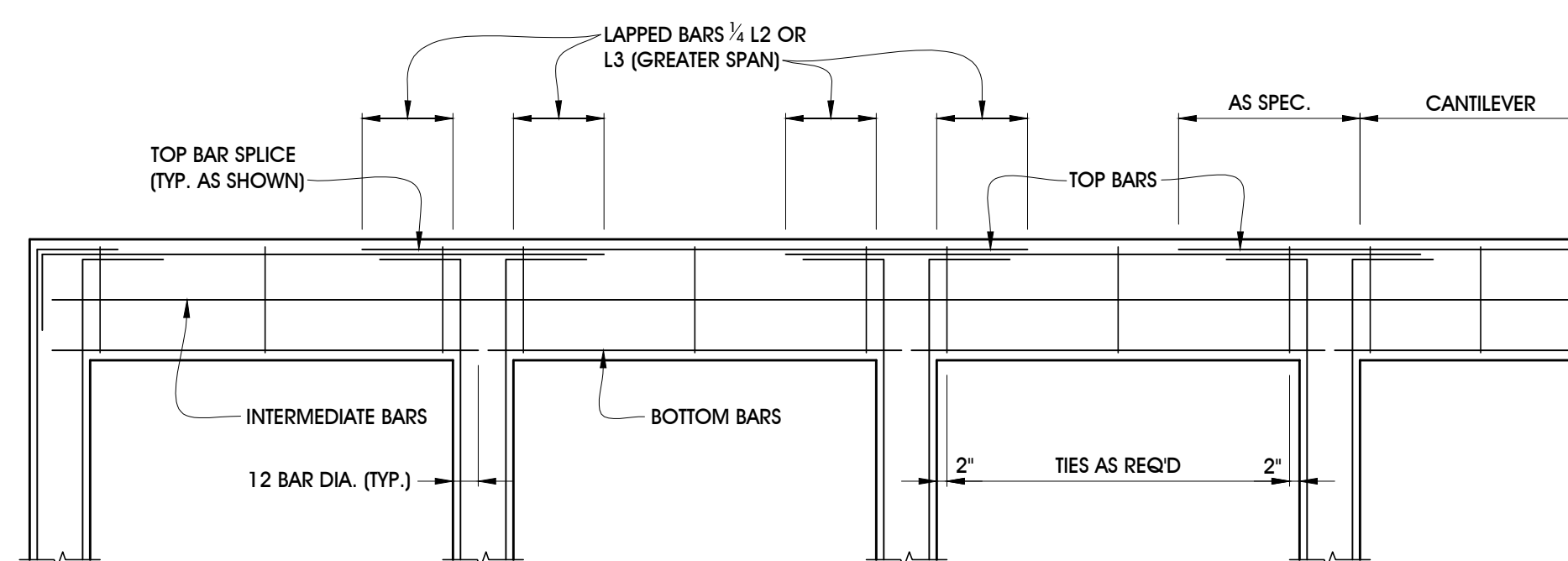
MARK	SIZE W x D	REINF.	#3 TIES	#3 HAIRPINS	REMARKS
C2	8" x 12" x 16"	4#6	2 @ 8"o.c.		POURED CONCRETE COLUMN
C3	8" x 32"	4#6	@ 8"o.c.	2 @ 8"o.c.	POURED CONCRETE COLUMN
C4	8" x 12" x 20"	4#6	@ 8"o.c.		POURED CONCRETE COLUMN

MARK	ELEV. @ TOP	SIZE W" x D"	REINFORCING			TIES SIZE & SPACING	REMARKS
			TOP	MID	BOT		
B-1	AS PLAN	8 x 8	1#5				1 COURSE U-BOND BLOCK
B-2	AS PLAN	8 x 16	1#5		1#5		2 COURSE U-BOND BLOCK
B-3	AS PLAN	8 x 16	2#5		2#5	#3 TIES @ 12" O.C.	POURED CONCRETE
B-4	AS PLAN	8 x 24	2#5	2#5	2#5	#3 TIES @ 12" O.C.	POURED CONCRETE

- NOTES:
- PROVIDE STANDARD HOOK ON TOP BARS AT DISCONTINUOUS BEAM ENDS. PROVIDE CORNER BARS AT BEAM CORNERS & INTERSECTIONS TO MATCH BEAM REINFORCING.
 - PROVIDE PRECAST LINTELS 6" x 16" x 18" w/ 1#5 BAR EA COURSE @ ALL WINDOW & DOOR OPENINGS w/ 8" MINIMUM BEARING EACH END (TYPICAL U.O.N.)

BAR SIZE (#)	ACI STANDARD HOOK LENGTHS						
	3	4	5	6	7	8	9
LENGTH (INCH)	6	8	10	12	14	16	19

BAR SIZE (#)	LAP SPlice LENGTHS (3000 PSI)						
	3	4	5	6	7	8	9
TOP BARS	28"	37"	47"	56"	81"	93"	105"
ALL OTHER BARS	18"	24"	30"	36"	42"	48"	54"



TYPICAL CONCRETE BEAM REINFORCING DIAGRAM

NO SCALE

DESIGN CRITERIA

- DESIGN AS PER THE FLORIDA BUILDING CODE, 2017 6th EDITION
- ENCLOSED STRUCTURE BUILDING CATEGORY III
- ROOF LOADS BUILDING DESIGN HEIGHT < 20 FT. < 1/4:12
- DEAD 20 PSF (REDUCIBLE) 30 PSF
- LIVE 25 PSF (REDUCIBLE) 25 PSF
- RAIN 25 PSF
- WIND LOADS PER ASCE 7 WIND SPEED REGION 170 MPH (ULT) 132 MPH (ASD)
- INTERNAL PRESSURE COEFF ± 0.18
- EXPOSURE C
- HEIGHT & EXPOSURE COEFF 1.29
- WIND BORNE DEBRIS REGION

STRUCTURAL NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION SHALL BE BRACED AND SHORED BY THE CONTRACTOR AS REQUIRED TO SAFELY PERFORM THE WORK.
- THE MINIMUM STRUCTURAL SUBMITTALS SHALL BE AS FOLLOWS:
 - CONCRETE MIX DESIGNS
 - MASONRY
 - REINFORCING
 - STRUCTURAL STEEL
 - METAL ROOF DECK
 - LIGHT GAGE METAL FRAMING

FOUNDATION

- FOUNDATIONS ARE DESIGNED BASED ON A PRESUMPTIVE SAFE ALLOWABLE BEARING PRESSURE OF 2,000 PSF.
- CONTRACTOR SHALL VERIFY THAT THE MINIMUM COMPACTION OF 95% OF ITS MODIFIED PROCTOR IN ACCORDANCE WITH ASTM D1557 IS OBTAINED PRIOR TO FOOTING PLACEMENT.
- FOOTINGS SHALL BE PLACED ON COMPACTED SOIL FREE OF ORGANIC DEBRIS.
- REFER TO SOILS INVESTIGATIVE REPORT FOR ALL SITE PREPARATION REQUIREMENTS.

CONCRETE

- CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF A.C.I. 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND A.C.I. 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- CONCRETE 28 DAY COMPRESSIVE STRENGTHS SHALL BE AS FOLLOWS:

FOUNDATIONS	3000 PSI	SLUMP 5"±1"	W/C=0.5
SLAB ON GRADE	3000 PSI	SLUMP 5"±1"	W/C=0.5
MASONRY GROUT	3000 PSI	SLUMP 10"±1"	
- REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60.
- WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ASTM A185 AND SHALL BE ADEQUATELY SUPPORTED AT 36"o.c. E.W.
- THE MINIMUM CONCRETE COVERAGES SHALL BE AS FOLLOWS:

CAST AGAINST EARTH...3"	EXPOSED TO WEATHER... 1-1/2"	FORMED SURFACES...1"
-------------------------	------------------------------	----------------------
- PROVIDE 90° CORNER LAP SPLICES AT ALL INTERSECTIONS.
- THE MINIMUM LAP SPICE SHALL BE 30 BAR DIAMETERS.
- CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH ASTM C39. A MINIMUM OF (5) TEST CYLINDERS SHALL BE TAKEN FOR EACH POUR, AND ADDITIONAL SETS FOR EVERY 50 CUBIC YARDS OF POUR. CYLINDERS SHALL BE TESTED AS FOLLOWS:

1 AT 3 DAYS, 1 AT 7 DAYS, 1 AT 14 DAYS, 1 AT 28 DAYS & 1 AT 56 DAYS (IF THE MIN. STRENGTH IS NOT MET IN 28 DAYS)
--

CONCRETE MASONRY

- CONCRETE MASONRY WORK SHALL BE IN ACCORDANCE WITH ACI 530.1/ASCE 6/TMS 602, SPECIFICATION FOR CONCRETE MASONRY STRUCTURES AND ACI 530/ASCE 5/TMS 402, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
- CONCRETE MASONRY UNITS SHALL BE IN CONFORMANCE WITH ASTM C90, GRADE N, TYPE II. MASONRY UNITS SHALL BE TESTED IN ACCORDANCE WITH ASTM C140 AND SHALL HAVE A MINIMUM Fm = 1900 PSI.
- GROUT SHALL BE IN CONFORMANCE WITH ASTM C476, COARSE TYPE WITH A 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND A SLUMP OF 9" - 11".
- MORTAR SHALL BE IN ACCORDANCE WITH ASTM C270, TYPE S.
- AT EXPOSED MASONRY WALLS ALL VERTICAL AND HORIZONTAL JOINTS SHALL BE CONCAVE TOOLED.
- PROVIDE CLEANOUTS FOR ALL GROUTED CONSTRUCTION AND LIMIT MORTAR PROTRUSIONS TO 1/2" MAX. IN GROUTED CELLS.
- ALL MASONRY WALLS SHALL BE CONSTRUCTED IN RUNNING BOND WITH 9 GA. LADDER TYPE JOINT REINFORCING SPACED 16"o.c. VERTICALLY. LAP 8" MINIMUM AT ALL CORNERS & SPLICES.
- PROVIDE 8" PRECAST CONCRETE LINTEL WITH 1#5 HORIZONTAL BAR GROUTED SOLID WITH 8" MIN. BEARING AT ALL MASONRY OPENINGS (TYPICAL UNLESS OTHERWISE NOTED).

STRUCTURAL STEEL

- STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
- THE MINIMUM STRUCTURAL STEEL GRADES SHALL BE AS FOLLOWS:

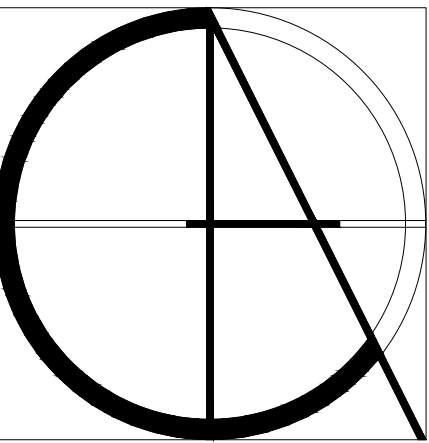
PLATES & ANGLES	ASTM A36	Fy = 36 KSI
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- STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE A.I.S.C. "CODE OF STANDARD PRACTICE", LATEST EDITION.
- WELDING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH A.W.S. D1.1 WITH E70XX ELECTRODES. FILLET WELDS SHALL BE A MINIMUM OF 3/16" UNLESS OTHERWISE NOTED.
- HIGH STRENGTH BOLTS SHALL BE IN ACCORDANCE WITH ASTM A325 & SHALL BE DESIGNED AS BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE SHEAR PLANE.
- ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH ASTM A307.
- ALL MEMBERS SHALL BE POWER TOOL CLEANED AND PAINTED WITH A RUST INHIBITIVE SHOP PRIMER WITH A MIN. THICKNESS OF 1.5 MILS.
- ALL FIELD WELDS SHALL BE WIRE BRUSH CLEANED AND PRIMED WITH A RUST INHIBITIVE PRIMER.

METAL ROOF DECK

- METAL ROOF DECK SHALL BE 1/2" - 22 GA. WIDE RIB GALVANIZED PAINTED NON-VENTED DECK AS PER PLAN.
- WELDING OF METAL DECKS SHALL BE IN ACCORDANCE WITH A.W.S. D1.3 WITH E70XX ELECTRODES USING A MINIMUM OF 5/8" DIAMETER PUDDLE WELDS.
- METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTS WITH (5) 5/8" PUDDLE WELDS PER SHEET PER SUPPORT & WITH (2) #12 SIDE LAP SCREWS @ 36" POINTS. PROVIDE 5/8" PUDDLE WELDS @ 12" o.c. (TYPICAL @ PERIMETERS).
- METAL ROOF SHALL BE IN ACCORDANCE WITH S.D.I. (STEEL DECK INSTITUTE) SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK AS CONTAINED IN THE S.D.I. DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS, S.D.I. PUBLICATION NO. 25, LATEST EDITION. ATTACHMENT AND DIAPHRAGM DESIGN SHALL BE IN ACCORDANCE WITH S.D.I. DIAPHRAGM DESIGN, LATEST EDITION.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.

COLD FORMED METAL FRAMING

- ALL MEMBERS SHALL BE DESIGNED, MFG'D AND INSTALLED IN ACCORDANCE WITH (A.I.S.I.) LATEST EDITION " SPECIFICATION FOR THE DESIGN OF COLD FORMED STRUCTURAL MEMBERS".
- ALL MATERIAL SHALL BE THE MINIMUM TYPE, SIZE, GAUGE AND SPACING AS SPECIFIED ON PLANS.
- THE LIGHT GAGE STEEL FRAMING SHALL BE DESIGNED BY A SPECIALTY ENGINEER AND SIGNED AND SEALED SHOP DRAWINGS SIGNED AND SEALED SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.
- STRUCTURAL PROPERTIES OF METAL STUDS SHALL BE IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (A.I.S.I.) "SPECIFICATION FOR DESIGN OF COLD FORMED STRUCTURAL MEMBERS".
- METAL FRAMING COMPONENTS TO BE OF STRUCTURAL QUALITY STEEL SHEET WITH A MINIMUM YIELD OF 33,000 PSI OR 40,000 PSI; ASTM A 446, A 570, OR A611, WITH A GALVANIZED FINISH COMPLYING WITH ASTM A525 FOR MINIMUM G60 COATING.
- CONCRETE THREADED FASTENERS SHALL BE CORROSION RESISTANT AND INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
- SCREWS FOR METAL FRAMING CONNECTORS SHALL BE A MINIMUM OF #10 x 3/4" CORROSION RESISTANT HEX HEAD SELF DRILLING, SELF TAPPING DRILLING, CADMIUM PLATED TYPICAL U.N.O. OR OF OTHER SIZE AND TYPE INDICATED ON DRAWINGS. PROVIDE A MINIMUM OF (3) SCREWS EACH CONNECTION.
- ALL FRAMING SHALL BE PLUMBED & SECURELY FASTENED TO FLANGES OF ALL UPPER AND LOWER TRACKS WHERE APPLICABLE.
- VERTICAL HANGERS, DIAGONAL AND HORIZONTAL BRACING SHALL BE PROVIDED AS REQUIRED TO KEEP ALL MEMBERS PLUMB AND STRAIGHT



Claren Architecture + Design, Inc.

AA26002865
6400 CONGRESS AVE, SUITE 2150
BOCA RATON, FL 33487
561.961.4884

Building Addition for:

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9400 CR 512
Sebastian, FL 32958

C.A. License No.: 8662
FL P.E. No.: 47520

PROJECT # 18-195B

DATE 10-17-2018

REV # DATE

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ML ENGINEERING, INC.
Consulting Structural Engineer
2030 37th Avenue
Vero Beach, Florida 32960
Phone: 772.569.1257 Fax: 772.569.4041

GENERAL MECHANICAL NOTES

- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH THESE DOCUMENTS, THE APPLICABLE BUILDING CODES AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS: FLORIDA BUILDING CODE-MECHANICAL, SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1 MECHANICAL REFRIGERATION.
 - THE MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN DUCTWORK SIZE AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING, FIRE SPRINKLER AND ARCHITECTURAL BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IN WRITING IF MECHANICAL SYSTEMS WILL NOT FIT IN AREA ALLOTTED.
 - ALL INSTALLATIONS LOCATED WITHIN 3,000 FT OF THE OCEAN SHALL UTILIZE NON-FERROUS MATERIALS FOR ALL OUTDOOR EXPOSED SUPPORTS, STANDS, FASTENERS, STRAPS, TIE-DOWNS, CABLES, ANCHORS, SCREWS, ETC.
 - THE CONTRACTOR SHALL BE HELD TO HAVE VERIFIED ALL EXISTING CONDITIONS, INCLUDING REVIEW OF AS BUILT DOCUMENTATION IF APPLICABLE, PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT ON THIS PROJECT.
 - THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
 - THE GENERAL CONTRACTOR AND ALL OTHER SUBCONTRACTORS SHALL BE LICENSED IN THE STATE OF FLORIDA. GENERAL CONTRACTOR SHALL CONSIDER THE PROJECT AS ONE SET OF DOCUMENTS. GENERAL CONTRACTOR SHALL PROVIDE AN ENTIRE SET OF DOCUMENTS SHOWING ALL TRADES TO EACH CONTRACTOR PRIOR TO BIDDING AND CONSTRUCTION. GENERAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER CONTRACTORS TO INFORM ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR POSSIBLE CONFLICTS ON THE DOCUMENTS PRIOR TO SUBMITTING FINAL BID AND COMMENCING ANY WORK. CONTRACTOR SHALL MAKE HIMSELF AVAILABLE FOR REVIEWING DOCUMENTS WITH ARCHITECT/ENGINEER UPON REQUEST.
 - THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
 - THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH "AS-BUILT" REDLINE DRAWINGS UPON COMPLETION OF THE PROJECT AND AUTOCAD SHOP DRAWING FILES (IF APPLICABLE).
 - CONTRACTOR SHALL SUBMIT FOR APPROVAL ELECTRONIC PDF COPIES OF MANUFACTURER DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT. ALL MATERIAL SHALL BE NEW AND OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED TRADESMEN.
 - THE GENERAL CONTRACTOR SHALL PROVIDE IN WRITING AND ON COMPANY LETTERHEAD ALL ITEMS VALUE ENGINEERED OR OMITTED FROM PROJECT BIDS. THIS DOCUMENT SHALL HAVE DETAILED DESCRIPTION AND TRANSPARENCY OF ALL ITEMS IN EACH DISCIPLINE AND FOR EACH TRADE. INFORMATION SHALL BE PROVIDED TO ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO SUBMITTING FINAL BID. CONTRACTOR SHALL MAKE HIMSELF AVAILABLE FOR REVIEWING DOCUMENTS WITH ARCHITECT/ENGINEER/OWNER UPON REQUEST.
 - THE MECHANICAL CONTRACTOR SHALL PROVIDE THE ELECTRICAL CONTRACTOR THE REVIEWED MECHANICAL EQUIPMENT SUBMISSIONS TO ENSURE THAT ALL BREAKER SIZES ARE CORRECT AND MATCH THE SUBMISSIONS. IN THE EVENT THAT ALTERNATE EQUIPMENT IS PROVIDED, THE OWNER SHALL NOT INCUR ANY ADDITIONAL COSTS ASSOCIATED WITH DIFFERENT BREAKER OR CHANGES TO WIRE SIZES.
- DUCTWORK:**
- ALL SUPPLY & RETURN DUCT WORK SHALL BE CONSTRUCTED OF RIGID GLASS-FIBER BOARDS WITH EDGE TREATMENT, FACTORY MOLDED AND FACED ON ONE SIDE WITH FIRE RETARDING, REINFORCED, FOIL-SCRIM-KRAFT BARRIER EQUAL TO JOHNS MANVILLE MICRO-AIRE™ Duct Board. THE BOARD SHALL BE UL LISTED AND LABELED AS COMPLYING WITH UL 181 CLASS 1. THE FLEXURAL RIGIDITY (EI) SHALL BE 475, STANDARD DUTY, 1" (R-4.3) FOR USE IN CONDITIONED SPACE AND 800 1-1/2" (R-6) FOR USE IN UNCONDITIONED SPACE. INSTALL DUCTS AND FITTINGS IN ACCORDANCE WITH NAIMA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS" OR SMACNA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS".
 - FIBROUS GLASS DUCTS SHALL BE CONSTRUCTED OF RIGID GLASS-FIBER BOARDS WITH EDGE TREATMENT, FACTORY MOLDED AND FACED ON ONE SIDE WITH FIRE RETARDING, REINFORCED, FOIL-SCRIM-KRAFT BARRIER. THE INSIDE OF THE DUCT SHALL BE COATED WITH A SMOOTH ACRYLIC COATING EQUAL TO JOHNS MANVILLE "SUPERDUCT RC" OR KNAUF "ECLIPSE". THE BOARD SHALL BE UL LISTED AND LABELED AS COMPLYING WITH UL 181 CLASS 1. THE FLEXURAL RIGIDITY (EI) SHALL BE 475, STANDARD DUTY, 1" (R-4.3) FOR USE IN CONDITIONED SPACE AND 800 1-1/2" (R-6) FOR USE IN UNCONDITIONED SPACE. INSTALL DUCTS AND FITTINGS IN ACCORDANCE WITH NAIMA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS" OR SMACNA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS".
 - INTERIOR METAL DUCT SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL. LOCK-FORMING QUALITY; ASTM A653/A 653M, G90 COATING DESIGNATION; MIL-PHOSPHATIZED FINISH FOR SURFACES OF DUCT EXPOSED TO VIEW. FABRICATE DUCTS, ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS AND OTHER CONSTRUCTIONS ACCORDING TO SMACNA'S "METAL DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE". COMPLY WITH REQUIREMENTS FOR METAL THICKNESS, REINFORCING TYPES AND INTERVALS, TIE-ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS.
 - FLEXIBLE DUCT SHALL COMPLY UL 181 CLASS 1. FACTORY FABRICATED, INSULATED, ROUND DUCT, WITH A POLYETHYLENE FILM OUTER JACKET ENCLOSING GLASS FIBER INSULATION (R-6) AROUND A CONTINUOUS POLYETHYLENE INNER LINER. THE INNER LINER SHALL HAVE AN ENCAPSULATED STEEL WIRE HELIX. FLEXIBLE DUCT SHALL BE INSTALLED IN ACCORDANCE WITH NAIMA'S "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS". INSULATION SHALL BE 1" (R-4.3) FOR USE IN CONDITIONED SPACE AND 1 1/2" (R-6) FOR USE IN UNCONDITIONED SPACE. LIMIT FLEXIBLE DUCT RUNS TO 8 FEET. PROVIDE TRANSITION BOXES AS NEEDED.
 - LAVATORY EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL DUCT WITH SEALED SEAMS AND JOINTS. ALL OUTSIDE AIR AND EXHAUST AIR DUCTS SHALL BE INSULATED WITH EXTERNAL BLANKET INSULATIONS WITH A MINIMUM OF R-6.
 - ALL OUTSIDE AIR DUCT INTAKES SHALL BE LOCATED BEYOND 10'-0" OF ANY VENTILATION OUTLET OR SANITARY VENT PIPE AND SHALL BE SCREENED WITH A CORROSION RESISTANT MATERIAL NOT LARGER THAN 1/2" MESH PER FMC 2014, 401.4 AND 401.5. ALL OUTSIDE AIR INTAKES SHALL BE MARKED WITH A PERMANENT PLATE TITLED "INTAKE FOR UNIT NUMBER(R)" (E.G. "INTAKE FOR AHU-1", "INTAKE FOR FCU-1-1", ETC.)
 - ALL EXHAUST AIR FANS AND VENTS SHALL BE LOCATED BEYOND 10'-0" OF ANY OUTSIDE AIR INTAKE OR FAN. ALL EXHAUST AIR FANS SHALL BE MARKED WITH A PERMANENT PLATE TITLED "EXHAUST FAN FOR UNIT NUMBER(R) OR AREA". (E.G. "EF-1 FOR LOCKER ROOM", "EF-1-1 FOR GRD FL TOILET", ETC.)
 - ALL DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
 - ALL AIR DEVICES (E.G., DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. PROVIDE STEEL GRILLES FOR FIRE RATED DIFFUSERS IN FIRE RATED CEILINGS. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS. PROVIDE REMOTE CABLE OPERATED VOLUME DAMPERS IN INACCESSIBLE AND HARD CEILING AREAS. "YOUNG REGULATOR" OR EQUAL. COMPLY WITH FMC 2014, 601.5 AND 603.16 FOR BALANCED AIR FLOW.
 - PROVIDE OPTIONAL MOLDED INSULATION BLANKET WITH R-6 RATING ON ALL LAY-IN STYLE DIFFUSERS. MOUNTING FRAMES SHALL BE PROVIDED FOR ALL STANDARD 24" X 24" LAY-IN STYLE DIFFUSERS LOCATED IN HARD CEILINGS, & FOR ALL 12" X 12" LAY-IN STYLE DIFFUSERS - REGARDSLESS OF THE LOCATION. FAILURE TO INCLUDE THESE ITEMS DURING PRICING SHALL NOT INCUR ANY ADDITIONAL COSTS TO THE OWNER A/O/R DESIGN ENGINEER.
 - ALL BRANCH TAKE-OFFS TO BE PROVIDED W/ MANUAL VOLUME DAMPERS. ALL ELBOWS AND TEE'S MUST BE FURNISHED WITH TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS.
- THERMOSTATS/CONTROLS:**
- UNLESS OTHERWISE SPECIFIED, THERMOSTATS SHALL BE A PROGRAMMABLE TYPE WITH A COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES WITH TAMPER PROOF COVER. THERMOSTAT SHALL BE INSTALLED AT 48" AFF PER ADA REQUIREMENTS WHERE APPLICABLE. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL REQUIREMENTS FOR JUNCTIONS BOXES, CONDUITS, POWER WIRING, CONTROL WIRING, ETC. FINAL LOCATION OF THERMOSTATS SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION, UNLESS OTHERWISE SHOWN ON THE PLAN. APPROVED MANUFACTURERS: HONEYWELL, UNIT MANUFACTURER SUPPLIED, OR AS PER THE BUILDING STANDARD.
 - THERMOSTATS FOR VAV BOXES SHALL BE DDC, PROVIDE ROOM THERMOSTAT/SENSOR WITH OVERRIDE.
 - PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. PROVIDE ONE FOR CONSTRUCTION, ONE FOR TEST & BALANCE, ONE FOR FINAL ACCEPTANCE BY OWNER, AND ONE SPARE. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
 - ALL CONDENSATE DRAIN PIPING SHALL BE TYPE "L" HARD COPPER WITH 1/2" THICK ARMAFLEX INSULATION. PVC PIPING SHALL NOT BE ALLOWED. SEE PLUMBING SHEETS FOR SIZE AND LOCATION OF PIPING. FINAL CONNECTION AND P-TRAP BY MECHANICAL CONTRACTOR - ALL OTHER CONDENSATE PIPING BY PLUMBING CONTRACTOR.
 - FOR ELECTRICAL OR CONTROL PANELS PROVIDE A MINIMUM OF 30" CLEARANCE IN FRONT OF ALL 120-240 VOLT PANELS AND 40" CLEARANCE IN FRONT OF ANY 480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC. DUCTS, PIPES, AND OTHER EQUIPMENT ARE NOT ALLOWED TO RUN OVER PANELS PER NEC.
 - NO COMBUSTIBLE MATERIALS ARE ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILINGS USED AS RETURN AIR PLENUM.
 - ALL ROOF CURBS SHALL BE A MIN OF 8" ABOVE FINISHED ROOFING SURFACE UNLESS OTHERWISE SPECIFIED ON DRAWINGS. MECHANICAL EQUIPMENT ON ELEVATED STRUCTURES OR ROOFS SHALL COMPLY WITH FBC 2014 SEC. 306.5 IF INSTALLED HIGHER THAN 16 FEET AFF. ROOF MOUNTED MECHANICAL EQUIPMENT INSTALLED WITHIN 10'-0" OF A ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE 30" AFF SHALL BE PROVIDED WITH A GUARD COMPLYING WITH 2014 FBC-MECH, SECTION 304.11. MECHANICAL EQUIPMENT INSTALLED IN ATTIC SHALL MEET THE REQUIREMENTS OF FBC 2014 SEC. 308.3 IF THE EQUIPMENT CAN NOT BE SERVICED/REMOVED THROUGH REQUIRED OPENING. MECHANICAL EQUIPMENT SHALL BE PROTECTED WITH MECHANICAL BARRIERS IF EXPOSED TO MECH. DAMAGE. ALL EQUIPMENT AT GRADE LEVEL SHALL BE INSTALLED ON 6" AFG CONCRETE PAD OR ON RAILS.
 - ALL WIND LOAD AND OTHER COMPLIANCE CALCULATIONS AND/OR INSTALLATION DETAILS FOR ROOF MOUNTED EQUIPMENT REQUIRED BY FBC 5TH EDITION, SEC. 1509, 1522 AND CHAPTER 16 SHALL BE PROVIDED BY STRUCTURAL ENGINEER, ARCHITECT, OR EQUIPMENT MANUFACTURER'S ENGINEER.
 - MECHANICAL CONTRACTOR TO COORDINATE REQUIREMENTS OF FMC 2017 306.3 FOR ATTIC ACCESS OPENINGS AND PASSAGEWAYS WITH GENERAL CONTRACTOR. GENERAL CONTRACTOR TO PROVIDE CONTINUOUS SOLID FLOORING FOR SAME. THE NOTE FOR PLACEMENT INSIDE ELECTRICAL PANEL WILL BE COORDINATED WITH ELECTRICAL CONTRACTOR.

MECHANICAL SYMBOL LEGEND

	NEW RIGID DUCT METAL OR FIBER (REF. KEY NOTES)
	SUPPLY DUCT VERTICAL TAPS
	NEW RETURN DUCT
	NEW FLEXIBLE DUCT
	METAL EXHAUST DUCT
	OUTSIDE AIR DUCT
	CHILLED WATER RETURN - BLACK STEEL/COPPER
	CHILLED WATER SUPPLY - BLACK STEEL/COPPER
	CONDENSER WATER RETURN - BLACK STEEL/COPPER
	CONDENSER WATER SUPPLY - BLACK STEEL/COPPER
	REFRIGERANT LINE - COPPER
	CONDENSATE LINE
	MANUAL VOLUME DAMPER
	MOTORIZED VOLUME DAMPER
	FIRE DAMPER
	BACK DRAFT DAMPER
	FIRE SMOKE DAMPER
	SMOKE DAMPER
	SUPPLY DIFFUSER, SEE GRILL REGISTER AND DIFFUSER SCHEDULE FOR DESCRIPTION.
	T-BAR DROP IN SUPPLY DIFFUSER, SEE GRILL REGISTER AND DIFFUSER SCHEDULE FOR DESCRIPTION.
	RETURN GRILLE, SEE GRILLE REGISTER AND DIFFUSER SCHEDULE FOR DESCRIPTION.
	THERMOSTAT
	HUMIDISTAT
	EXHAUST FAN
	AIR HANDLER UNIT
	CONDENSING UNIT
	SMOKE DETECTOR/ CUTOFF
	DIFFUSER/GRILLE SYMBOL
	CONNECT TO EXISTING
	POINT OF DEMO
	VARIABLE FREQUENCY DRIVE CONTROL PANEL
	EQUIPMENT TAG
	EQUIPMENT NUMBER
	EQUIPMENT FLOOR/LOCATION
	ACCESS PANEL
	SUPPLY AIR
	RETURN AIR
	DOOR UNDER CUT

NOTE: NOT ALL SYMBOLS MAY APPLY TO PLANS

EXISTING MEP INSTALLATIONS

EXISTING MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SPRINKLER INFORMATION SHOWN ON PLANS ARE BASED ON EXISTING MEP PLANS BY RALPH HAHN AND ASSOCIATES, INC. DATED 02-14-1997.

CONTRACTOR IS SOLELY RESPONSIBLE TO FIELD VERIFY AND COORDINATE ALL EXISTING INFORMATION, COORDINATE ALL NEW TIE INS WITH EXISTING SITE CONDITIONS AND EXISTING MEP, COORDINATE WITH EXISTING STRUCTURE.

CONTRACTOR SHALL SCOPE, X-RAY, AND TEST AS NECESSARY TO CONFIRM EXISTING MEP INFORMATION, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER WITH ADEQUATE TIME TO ALLOW FOR WRITTEN RESPONSE. ANY DISCREPANCIES THAT COULD CAUSE A SHUT DOWN OR A SERVICE DISRUPTION OF THE BUILDING SHALL BE FULLY COORDINATED WITH THE GENERAL CONTRACTOR, ARCHITECT, AND BUILDING OWNER PRIOR TO COMMENCING ANY WORK.

MECHANICAL ABBREVIATIONS

ACCH	AIR-COOLED CHILLER	HV	HEATING & VENTILATION UNIT
AFF	ABOVE FINISHED FLOOR	HOA	HAND OFF AUTOMATIC
AFG	ABOVE FINISHED GRADE	MAU	MAKE UP AIR UNIT
AHU	AIR HANDLING UNIT	NTS	NOT TO SCALE
BD	BACK DRAFT DAMPER	OA	OUTSIDE AIR
CC	COOLING COIL	PUX	PUMP/HEAT EXCHANGER
CHP	CHILLED WATER PUMP	RA	RETURN AIR
CH	CHILLER	RD	RELIEF DAMPER
CT	COOLING TOWER	RE	RELOCATE EXISTING
CWP	CONDENSER WATER PUMP	REF	REFERENCE
DHC	DUCT RE-HEAT COIL	REF	REFRIGERANT
EDH	ELECTRIC DUCT HEATER	RHC	REHEAT COIL
E	EXISTING	SD	SUPPLY DIFFUSER
E/A	EXHAUST AIR	SA	SUPPLY AIR
EF	EXHAUST FAN	SF	SUPPLY FAN
ERV	ENERGY RECOVERY O/A PRECONDITIONER UNIT	VAV	VARIABLE AIR VOLUME TERMINAL
EX	EXISTING	VIF	VERIFY IN FIELD
EXH	EXHAUST	VFD	VARIABLE FREQUENCY DRIVE
FCU	FAN COIL UNIT	WCCH	WATER-COOLED CHILLER
HC	HEATING COIL		

NOTE: NOT ALL ABBREVIATIONS MAY APPLY TO PLANS

PACKAGED ROOF TOP SCHEDULE

UNIT NO. / ZONE	RTU-1
NOM. TONS	2.5
EEER / SEER	14.0
MANUFACTURER	TRANE
MODEL	4TCY4030
CFM	900
OUTDOOR AIR CFM	110
M.B.T.U./H. UNIT PERFORMANCE	T.C. 30.0 S.C. 25.4
ENTERING TEMPERATURE	DB (°F) 75.0 WB (°F) 63.0
LEAVING TEMPERATURE	DB (°F) 54.0 WB (°F) 54.0
COMPRESSOR	QTY 1 RLA / LRA 4.3 / 4.3
COND. FAN	QTY 1 FLA / LRA 0.9 / 1.7
EVAPORATOR	HP 1/6 FLA 0.9 ESP 0.0 V 208
UNIT POWER	PH 1 HZ 60
ELECTRIC HEAT	KW 5.0
BR. CIR. AMPACITY	MCA 29 MOCP 35
DIMENSIONS (IN)	H X D X W / # 46 X 44.5 X 52.5 / 348
NOTES:	1-7

- SPECIAL NOTES:**
- ALL EQUIPMENT SHALL BE EQUAL TO THE EQUIPMENT LISTED IN ALL RESPECTS.
 - ELECTRICAL SPECIFICATIONS LISTED ARE CONSISTENT WITH THE EQUIPMENT LISTED. ALTERNATE EQUIPMENT MAY VARY. COORDINATE VARIANCES WITH THE ELECTRICAL CONTRACTOR.
 - UNITS SHALL BE PROVIDED WITH ELECTRIC HEAT AS SPECIFIED.
 - CONSULT MANUFACTURER DOCUMENTATION TO SET EQUIPMENT TO MEET AIRFLOW REQUIREMENTS AS SHOWN.
 - SPECIFY WITH FACTORY INSTALLED POWERED CONVENIENCE OUTLET, SUPPLY & RETURN AIR SMOKE DETECTORS (IF PROVIDING AIR TO COMMON SPACE WITH OVER 2000 CFM), AND THROUGH THE BASE ELECTRICAL.
 - PROVIDE FACTORY CORROSION PROTECTIVE COATING ON CONDENSING COILS.
 - ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT.

APPROVED ALTERNATES: CARRIER, YORK, DAIKIN

MECHANICAL SHEET INDEX

M-1	MECHANICAL NOTES, LEGENDS, & SHEET INDEX
M-2	MECHANICAL FLOOR PLAN
M-3	MECHANICAL MEZZANINE PLAN
M-4	MECHANICAL ROOF PLAN
M-5	MECHANICAL SCHEDULES & DETAILS

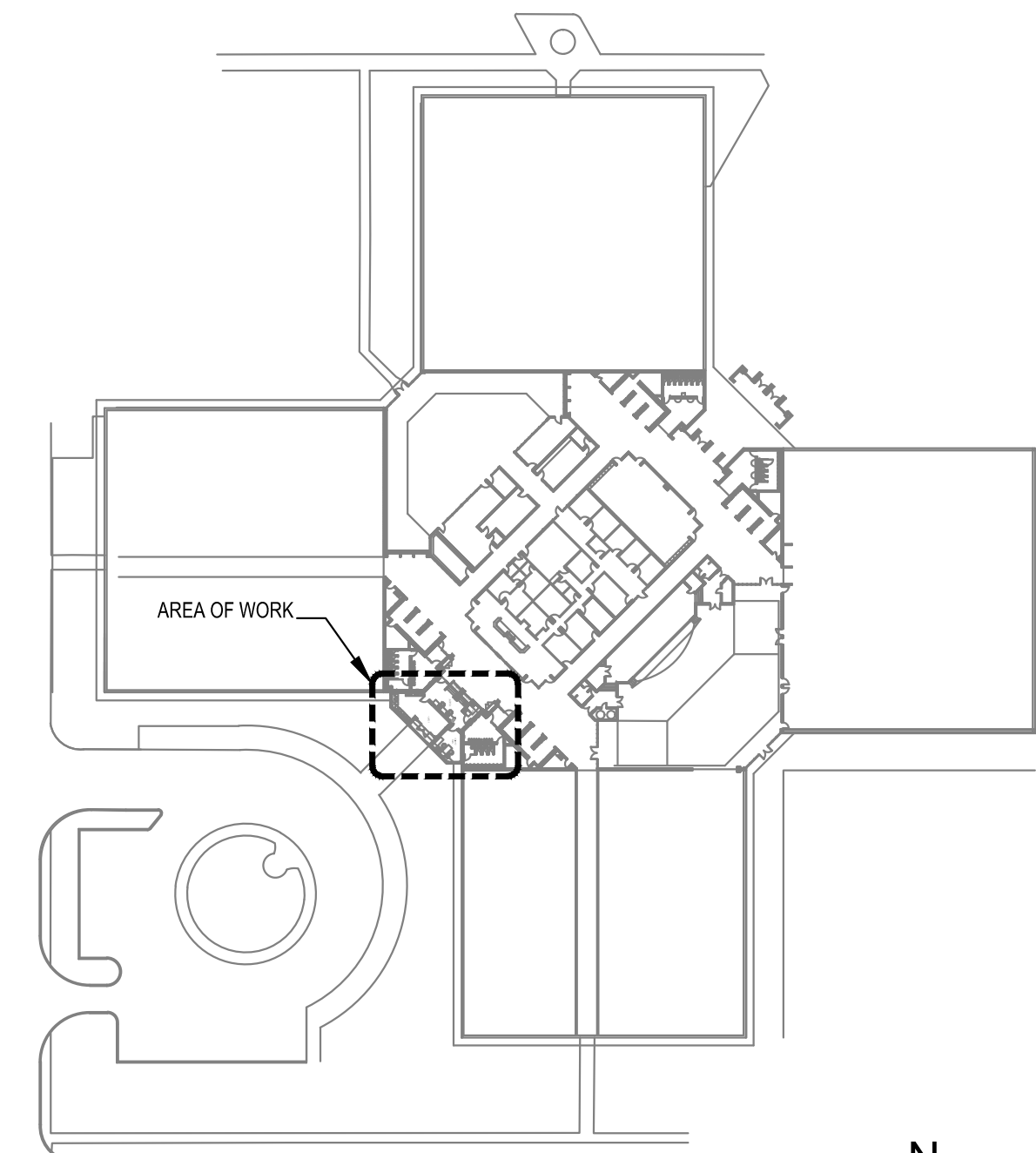
APPLICABLE BUILDING CODES

FLORIDA BUILDING CODE, 6TH EDITION (2017)
FLORIDA BUILDING CODE MECHANICAL, 6TH EDITION (2017)
FLORIDA FIRE PREVENTION CODE, 6TH EDITION (2017)
FLORIDA ENERGY CONSERVATION CODE, 6TH EDITION (2017)
NFPA 90A, 2015 EDITION
NFPA 91, 2010 EDITION
ANSI/ASHRAE 15, 2013 MECHANICAL REFRIGERATION
ASHRAE 62.1, 2013 EDITION

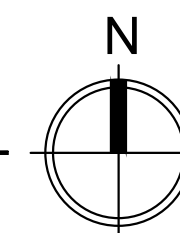
MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES IN THEIR LATEST REVISIONS.

CONTRACTOR TO COORDINATE SPECIFIC REQUIREMENTS OF EQUIPMENT WITH MANUFACTURERS' SHOP DRAWINGS.

ALL EQUIPMENT SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.



KEY PLAN



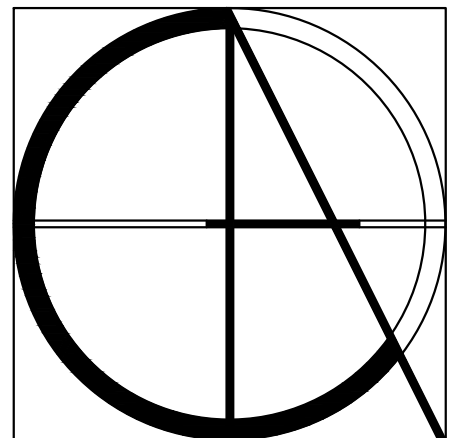
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RAUL S. MASTRAPA
FLORIDA P.E. NO. 40182
MECHANICAL ENGINEER
CERT. OF AUTH. 5454
DATE 10.26.2018

PROJECT #: 18-1153



Claren Architecture + Design, Inc.
AA26002865

6400 CONGRESS AVE., SUITE 2150
BOCA RATON, FL 33487
561.961.4884

Building Addition for:
Sebastian River Middle School

9400 CR 512
SEBASTIAN, FL 32958

PROJECT # 18-026

DATE 10-17-2018

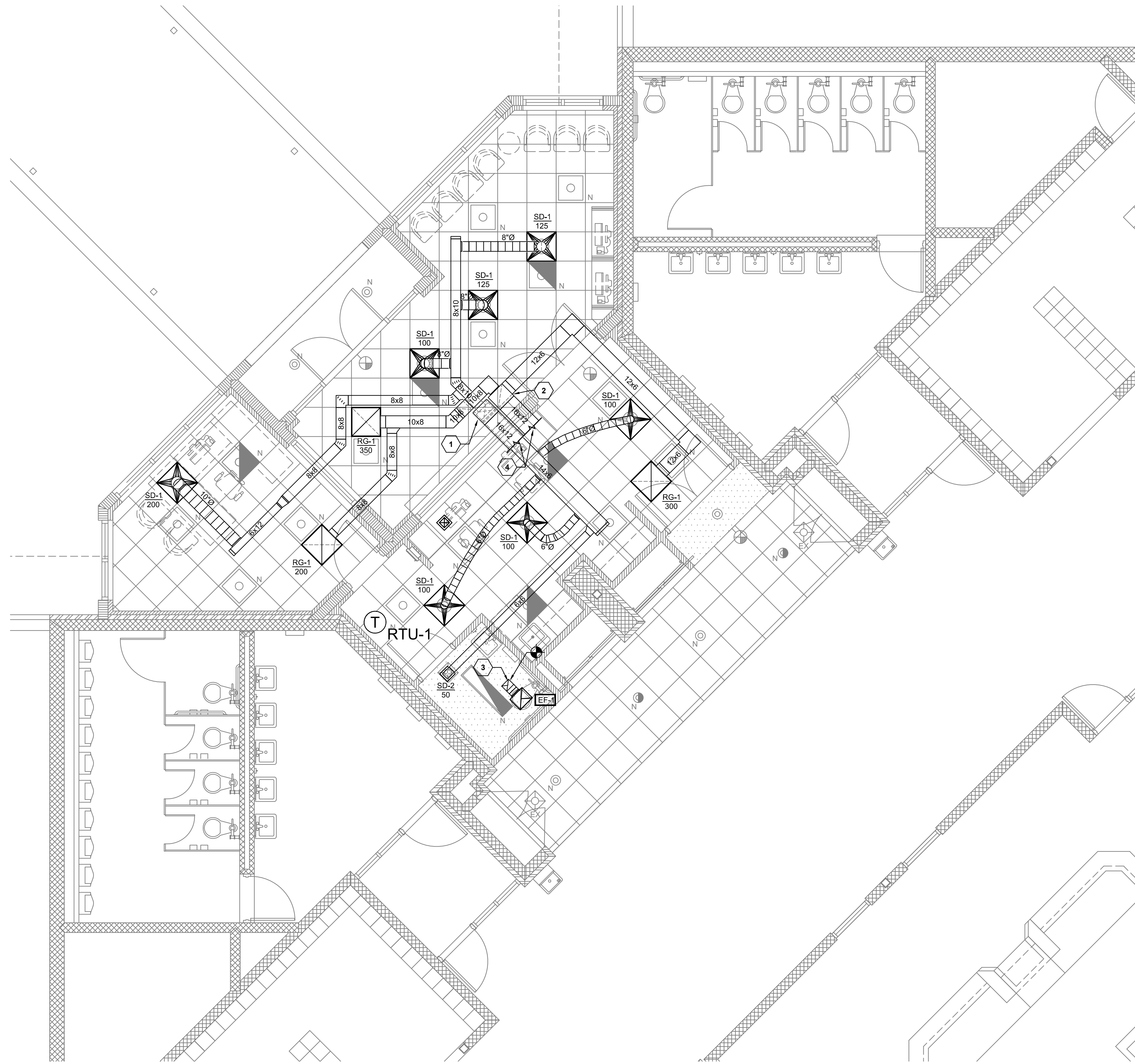
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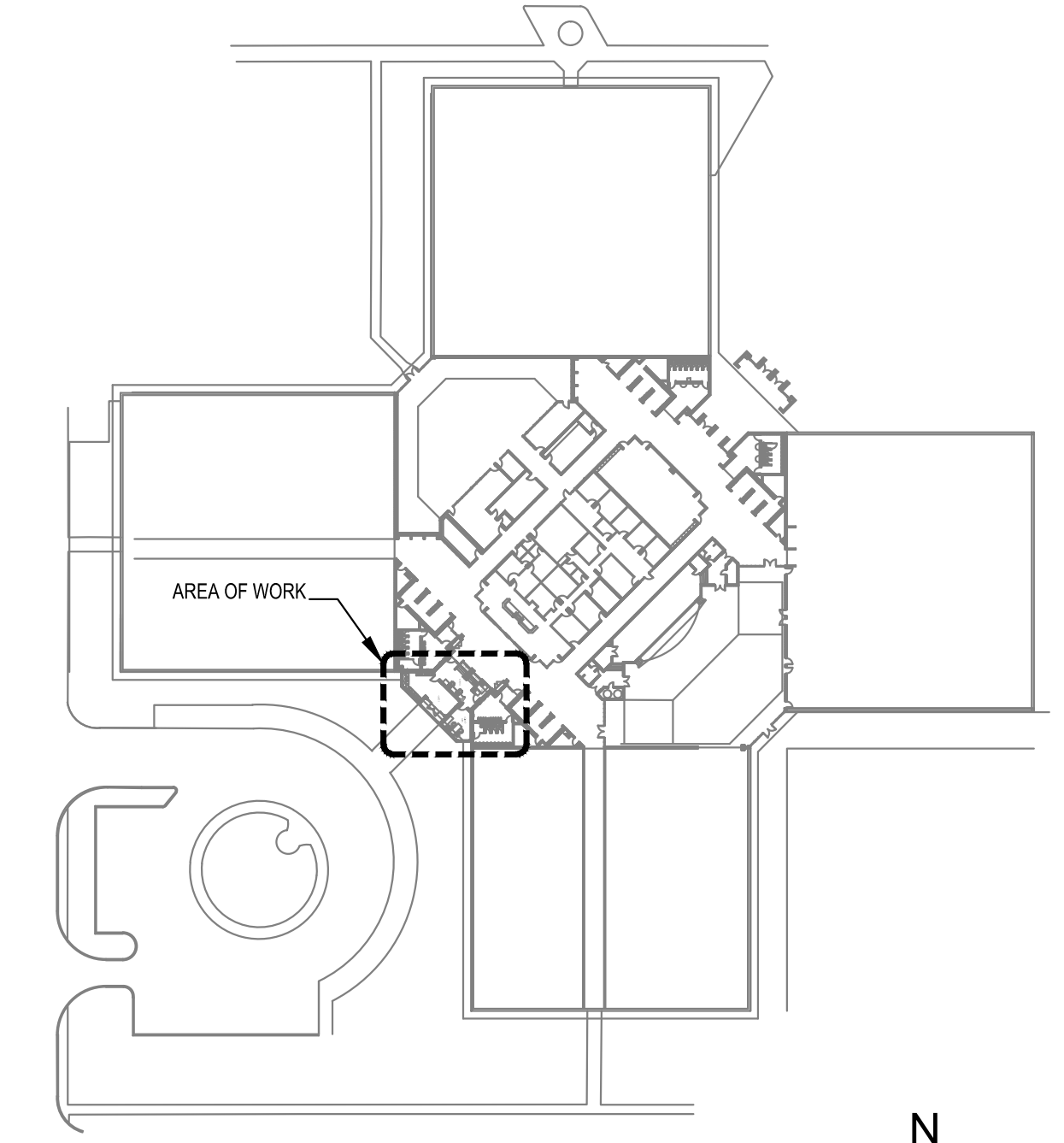
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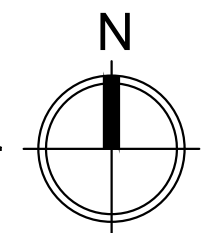


1 MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

- # MECHANICAL KEY NOTES:**
1. TURN UP SUPPLY AIR DUCT AND ROUTE TO MECHANICAL MEZZANINE, CONNECT TO 16x12 RISER FROM RTU.
 2. TURN UP RETURN AIR DUCT AND ROUTE TO MECHANICAL MEZZANINE, CONNECT TO 16x12 RISER FROM RTU.
 3. TURN UP AND CONNECT NEW EXHAUST DUCT TO EXISTING EXHAUST DUCT IN MECHANICAL MEZZANINE.
 4. REFERENCE SHEET M-3 FOR CONTINUATION.



KEY PLAN

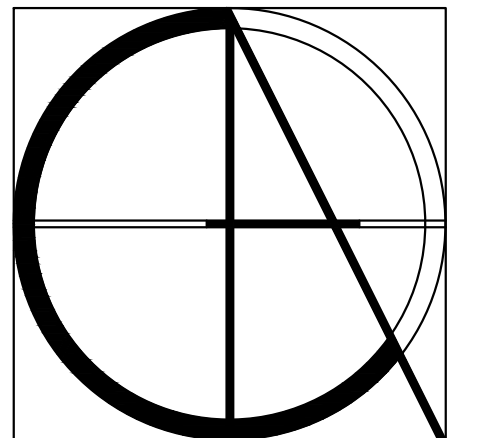


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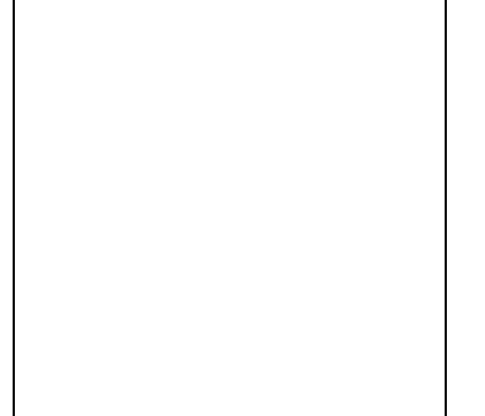
RAUL S. MASTRAPPA
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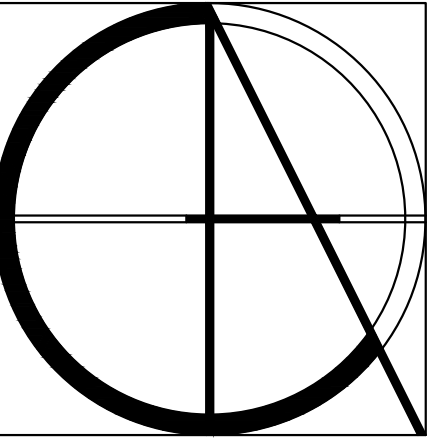
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AA26002865
6400 CONGRESS AVE., SUITE 2150
BOCA RATON, FL 33487
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SEBASTIAN, FL 32958



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BOCA RATON, FL 33487
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PROJECT # 18-026

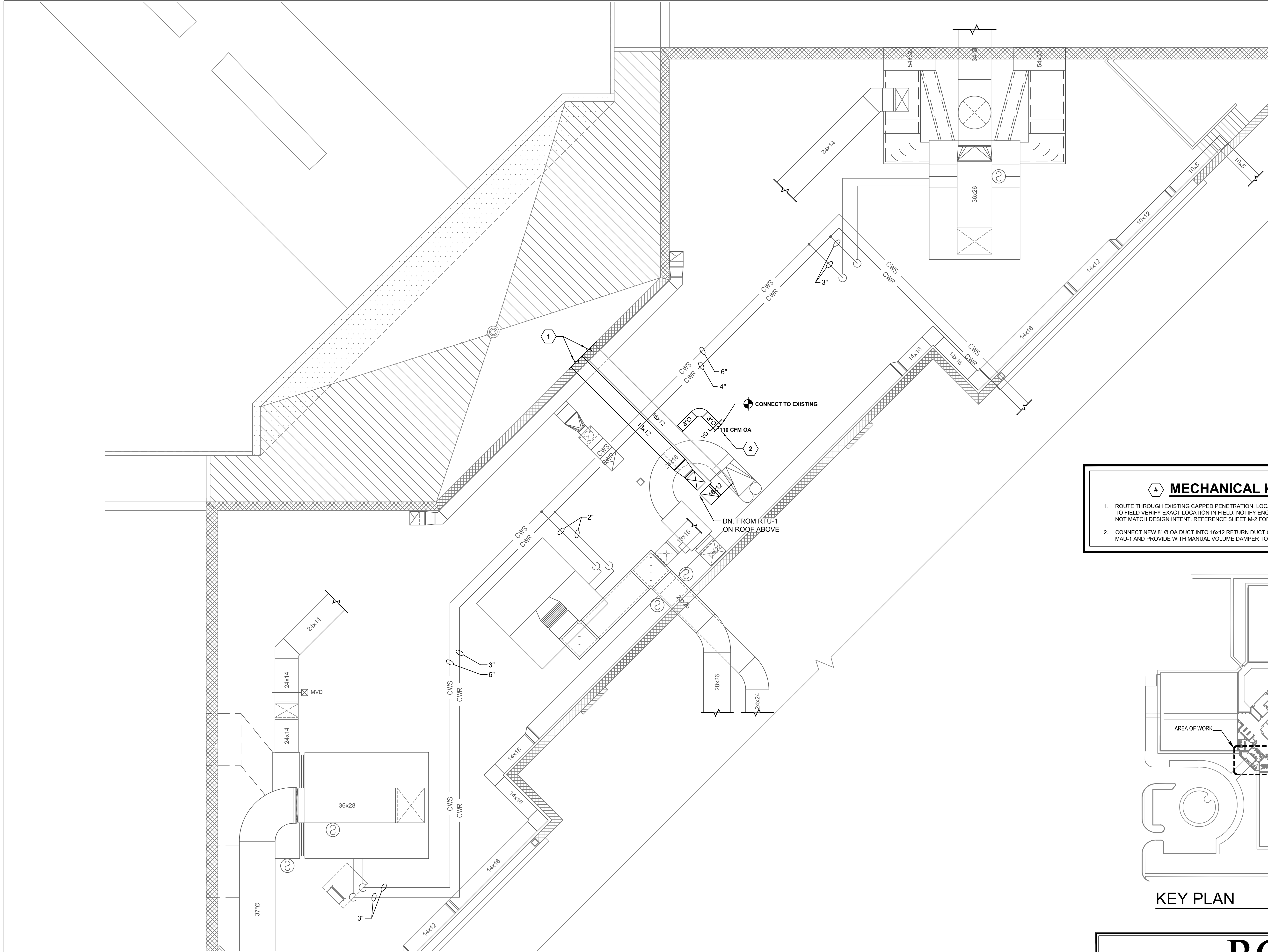
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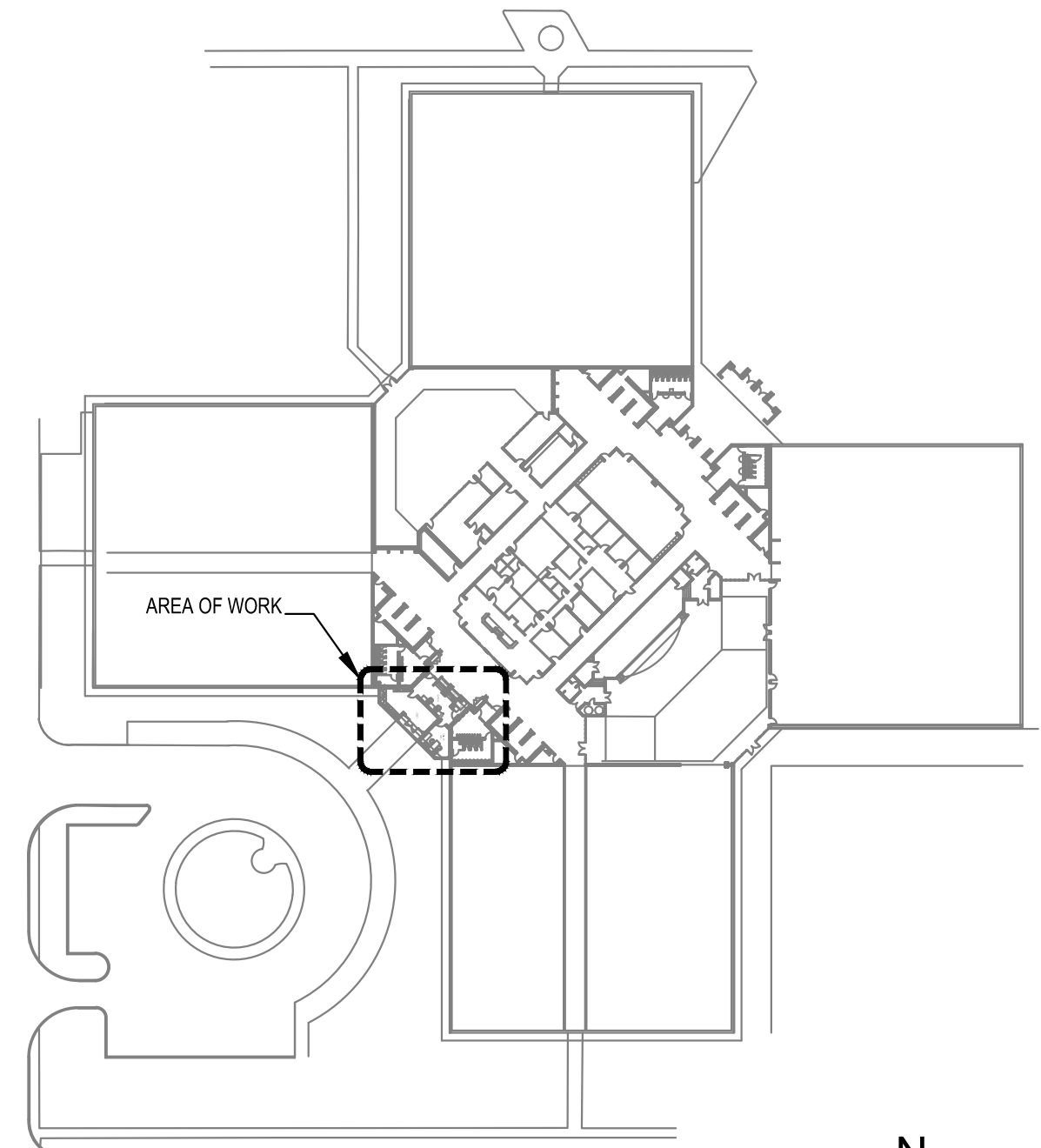
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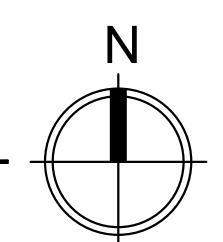


MECHANICAL KEY NOTES:

- ROUTE THROUGH EXISTING CAPPED PENETRATION. LOCATION SHOWN IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION IN FIELD. NOTIFY ENGINEER OF RECORD IF FIELD CONDITIONS DO NOT MATCH DESIGN INTENT. REFERENCE SHEET M-2 FOR CONTINUATION.
- CONNECT NEW 8" Ø OA DUCT INTO 18x12 RETURN DUCT OF NEW RTU-1 FROM EXISTING DUCTWORK OF MAU-1 AND PROVIDE WITH MANUAL VOLUME DAMPER TO SUPPLY 110 CFM OA FROM MAU-1 TO RTU-1.

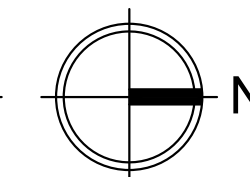


KEY PLAN



1

MECHANICAL MEZZANINE PLAN
SCALE: 1/4" = 1'-0"

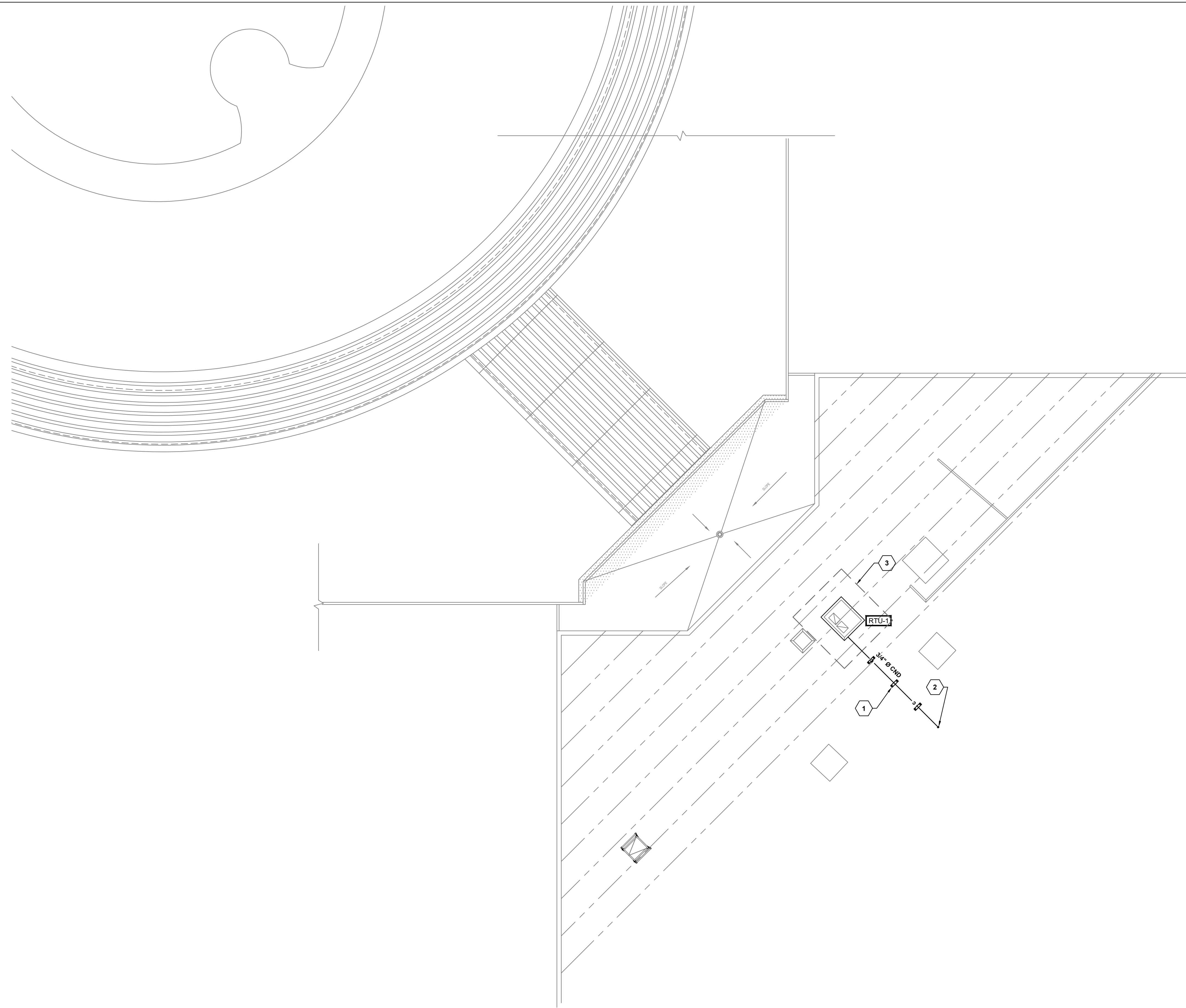


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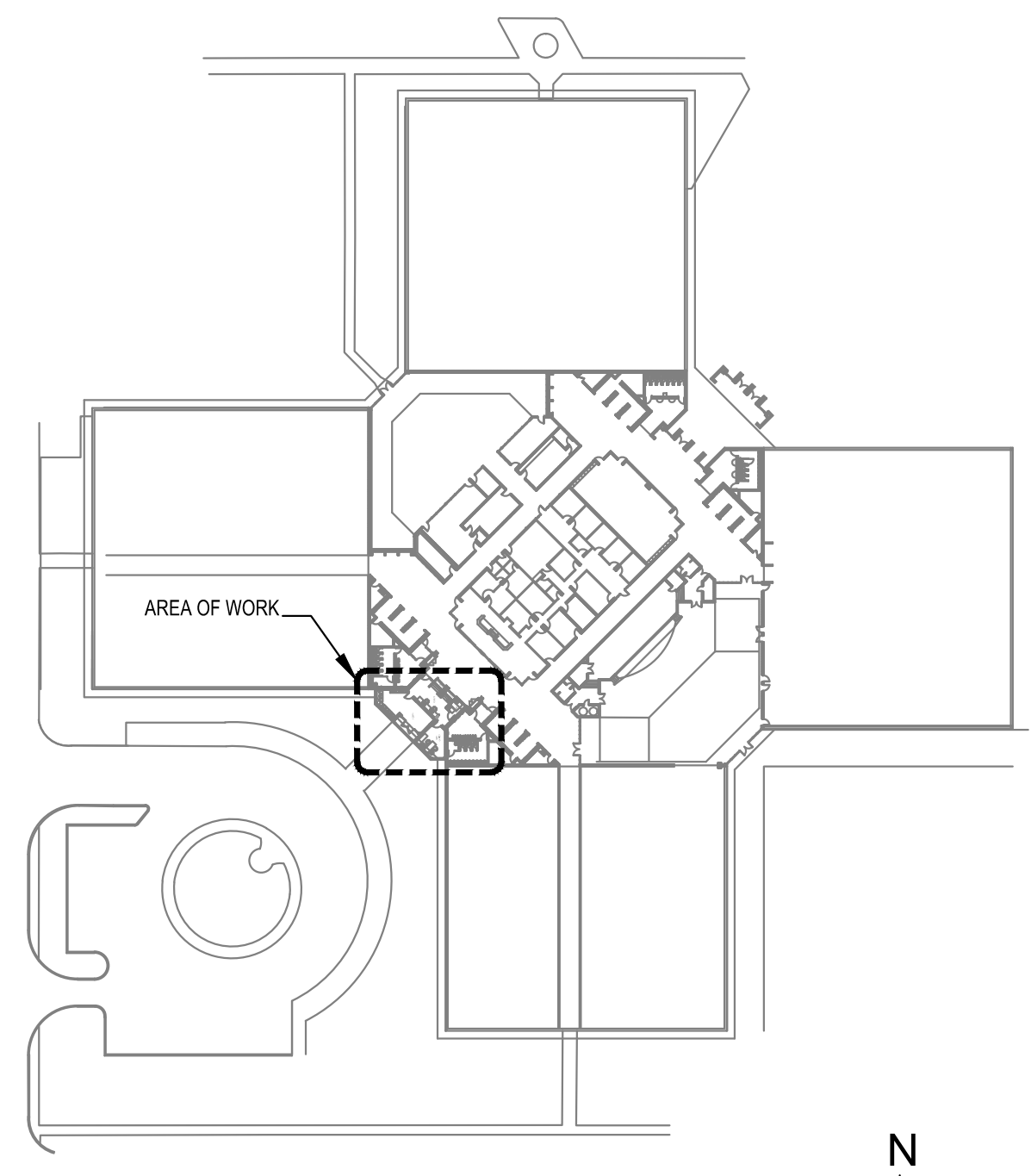
2151 S. ALT A1A, SUITE 2000, JUPITER, FL 33477 (561) 743-0165
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RAUL S. MASTRAPPA
FLORIDA P.E. NO. 40182
MECHANICAL ENGINEER
CERT. OF AUTH. 5454
DATE 10.26.2018

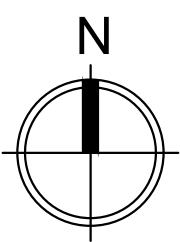
PROJECT #: 18-1153



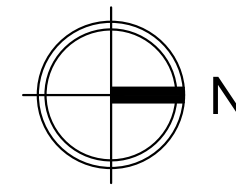
- # MECHANICAL KEY NOTES:**
1. EVERY 5 FEET PROVIDE ROOFTOP PIPE SUPPORTS EQUAL TO COPPER B-LINE DURA BLOCK CAT. NO. DBS. (TYPICAL FOR ALL ROOFTOP CONDENSATE PIPING).
 2. TURN DOWN AND TERMINATE PIPE. DRAIN TO NEAREST STORM DRAIN. CONTRACTOR TO FIELD VERIFY EXACT LOCATION. NOTIFY ENGINEER OF RECORD IF FIELD CONDITIONS DO NOT MATCH DESIGN INTENT.
 3. 36" SERVICE CLEARANCE REQUIRED.



KEY PLAN



1 MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"



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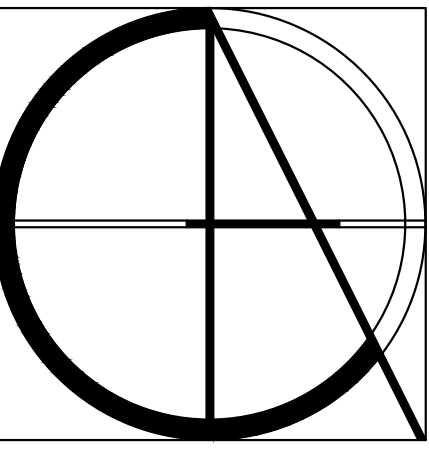
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DATE **10.26.2018**

PROJECT #: 18-1153



Claren Architecture + Design, Inc.
AA26002865
6400 CONGRESS AVE, SUITE 2150
BOCA RATON, FL 33487
561.961.4884

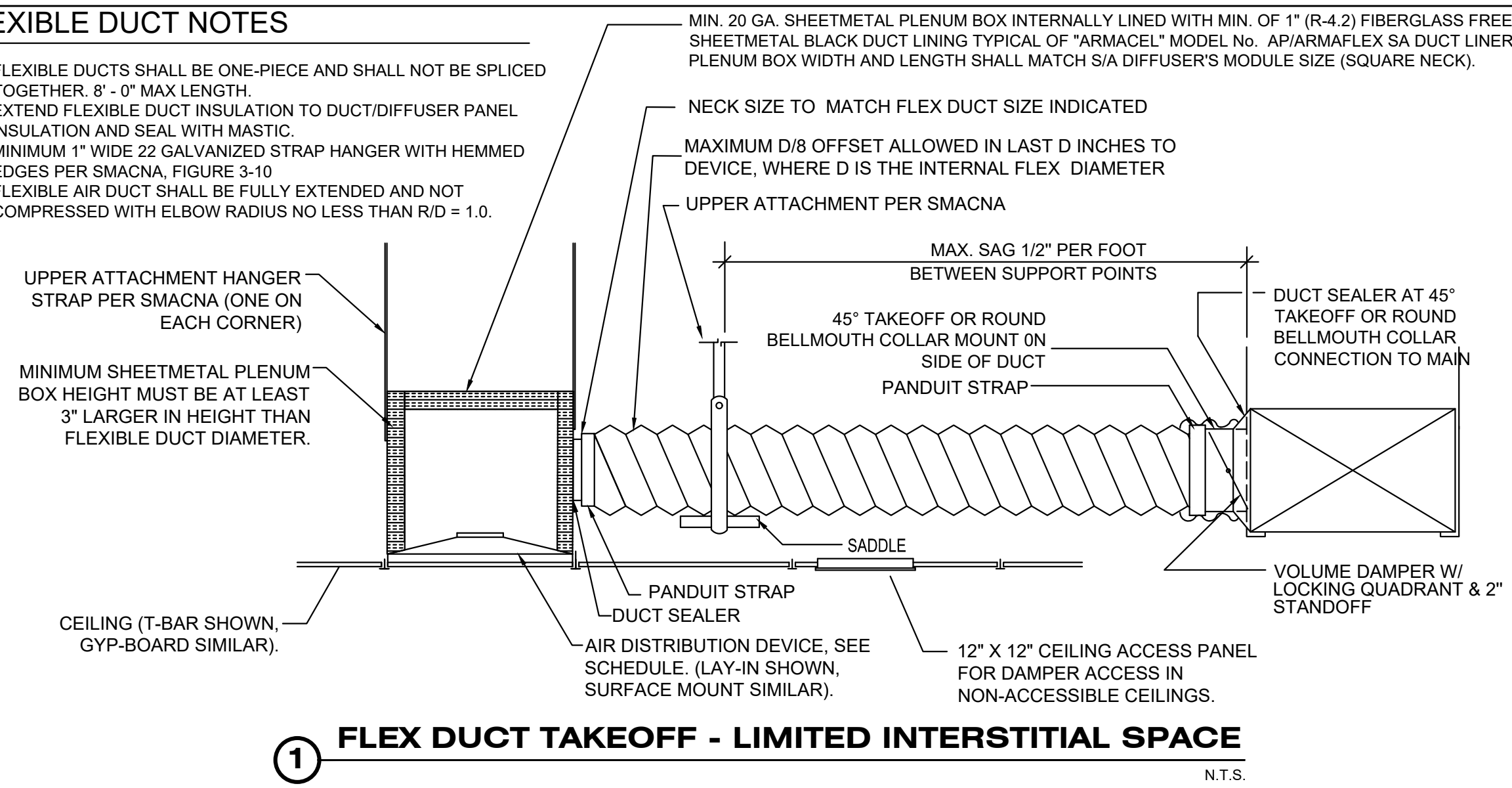
Building Addition for:
Sebastian River Middle School
9400 CR 512
SEBASTIAN, FL 32958

PROJECT #	18-026
DATE	10-17-2018
REV #	DATE
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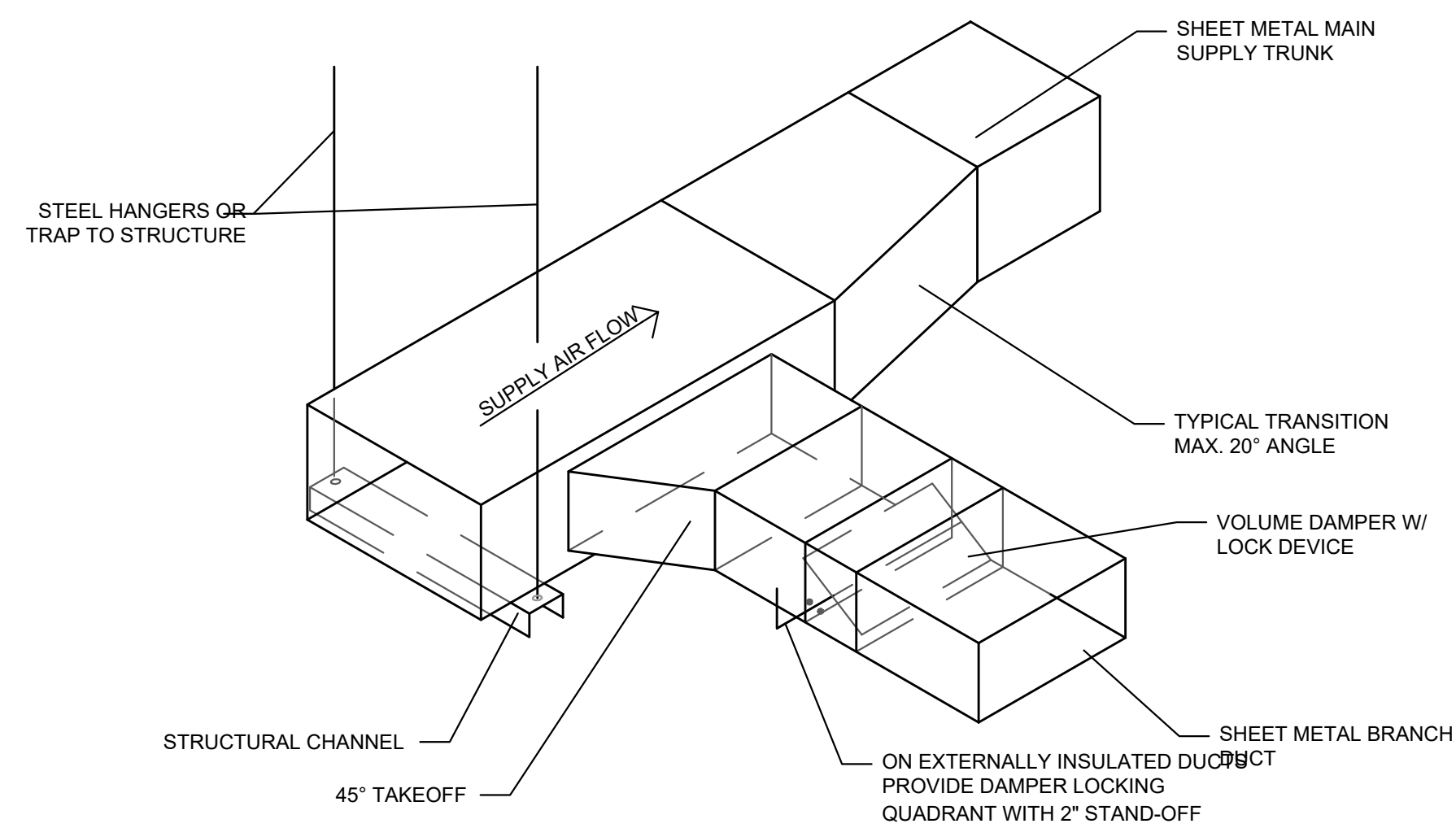
M-4

FLEXIBLE DUCT NOTES

1. FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER. 6' - 0" MAX LENGTH.
2. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
3. MINIMUM 1" WIDE 22 GALVANIZED STRAP HANGER WITH HEMMED EDGES PER SMACNA, FIGURE 3-10
4. FLEXIBLE AIR DUCT SHALL BE FULLY EXTENDED AND NOT COMPRESSED WITH ELBOW RADIUS NO LESS THAN R/D = 1.0.

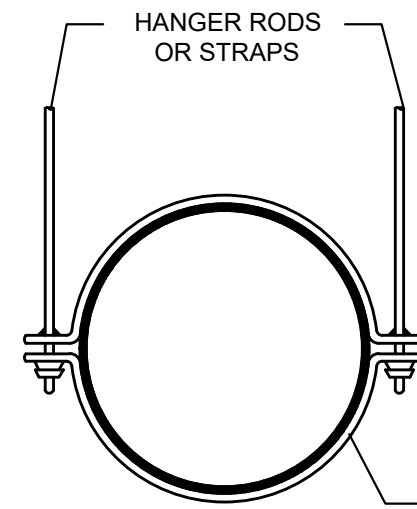
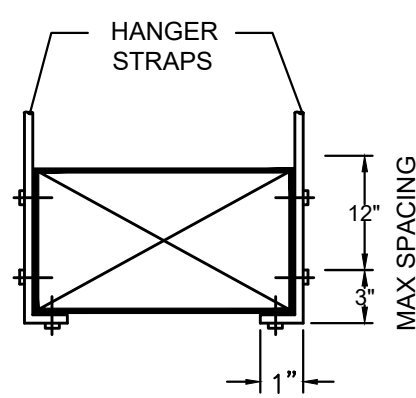


1 FLEX DUCT TAKEOFF - LIMITED INTERSTITIAL SPACE
N.T.S.

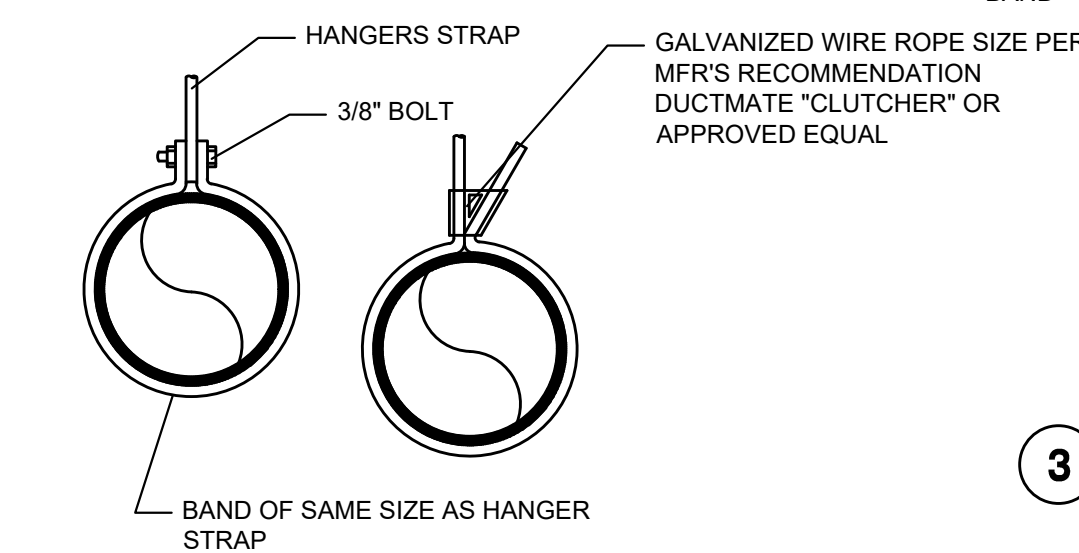
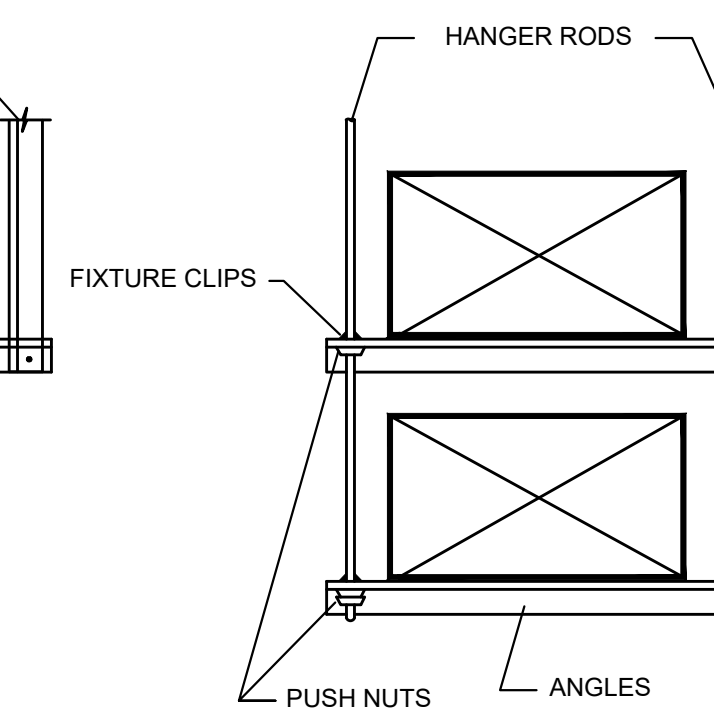
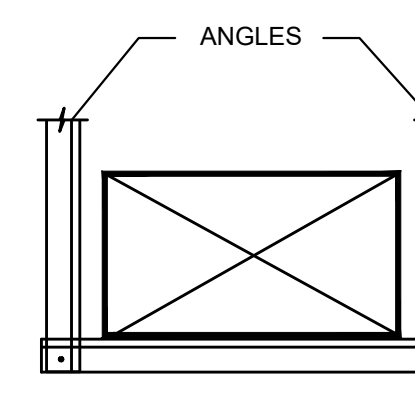


2 BRANCH DUCT TAKEOFF DETAIL
N.T.S.

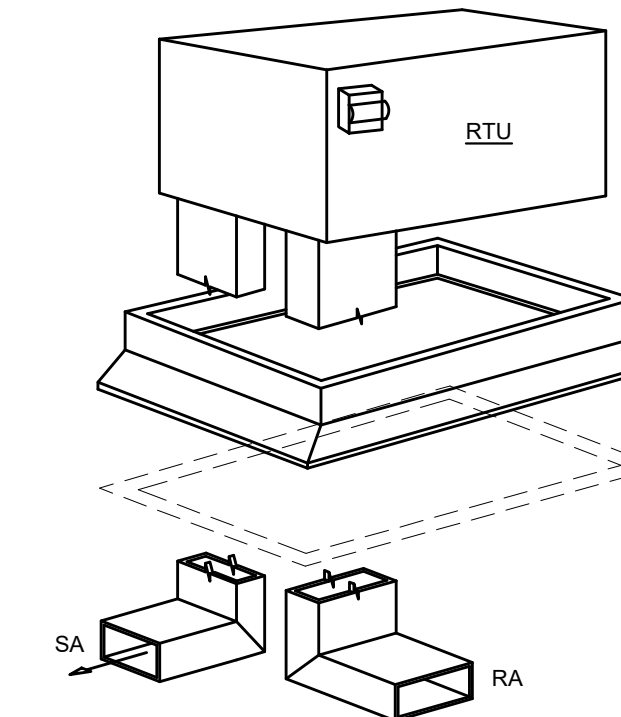
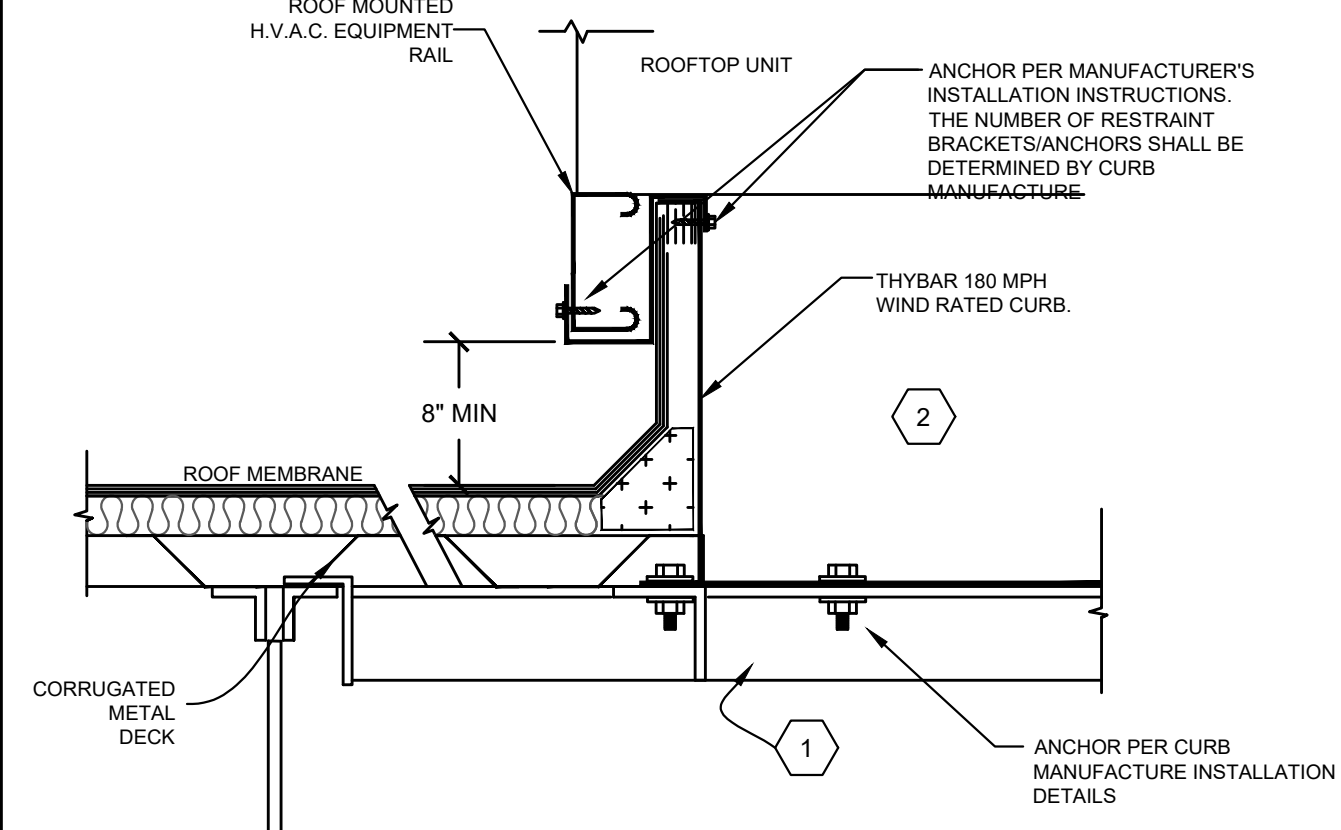
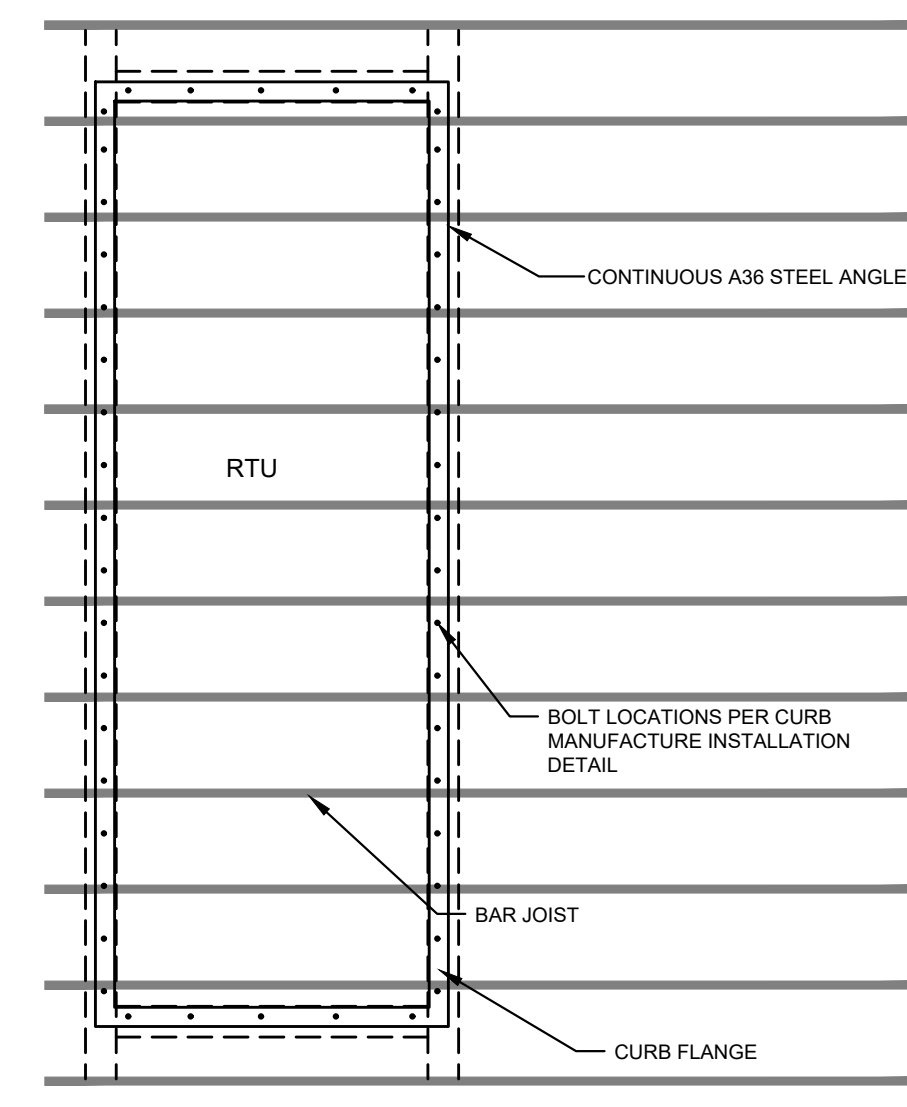
STRAP HANGERS



TRAPEZE HANGERS



3 DUCT HANGERS
N.T.S.



DESIGN CRITERIA:
ULTIMATE DESIGN WIND SPEED - 180 MPH
RISK CATEGORY - C
EXPOSURE CATEGORY - D

KEYNOTES

1. PROVIDE A36 STEEL ANGLE BRIDGING BETWEEN JOISTS AND AS REQUIRED TO SUPPORT THE CURB CONTINUOUS AROUND THE PERIMETER. ALL STRUCTURAL STEEL FABRICATION REQUIRED FOR THE SUPPORT STRUCTURE SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE SPECIFICATIONS PROVIDED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL REFER TO STRUCTURAL DETAILS FOR SIZE OF ANGLE AND LOCATIONS.
2. ROOF CURB SHALL BE PROVIDED BY THYBAR AND MATCHED TO THE RTU. INSTALLED CURB SHALL EXTEND 8" MIN ABOVE THE ROOF MEMBRANE. A WIND ANALYSIS SHALL BE PROVIDED BY THE CONNECTION OF THE RTU TO THE CURB.
3. THE DUCT SIZES SHOWN ON THE PLAN MAY BE LARGER THAN THE OPENING PROVIDED ON THE RTU. THE CONTRACTOR SHALL PROVIDE TRANSITIONS AS REQUIRED AS SOON AS POSSIBLE AFTER LEAVING THE RTU.
4. *IMPORTANT* RTU MUST BE LEVEL TO INSURE PROPER CONDENSATE REMOVAL.

4 RTU MOUNTING DETAIL

GRILLE, REGISTER, & DIFFUSER SCHEDULE

MARK	MANUF.	MODEL NO.	FACE SIZE	NECK SIZE / LENGTH	THROW / SLOTS	FRAME TYPE	FINISH	VOLUME DAMPER	FIRE DAMPER	NOTES
SD-1	TITUS	OMNI-AA	24" X 24"	PER PLANS	PER PLANS	LAY-IN	NOTE 1	NOTE 2	N/A	1,2,3,4,7
SD-2	TITUS	3FL	6" X 6"	PER PLANS	PER PLANS	SURFACE	NOTE 1	NOTE 2	N/A	1,2,3,4,7
RG-1	TITUS	350FL	24" X 24"	-	FIXED	LAY-IN	NOTE 1	NOTE 2	N/A	1,2,3

SPECIAL NOTES: ** ALL DIFFUSERS SELECTED WITH NC RATINGS < 20 **

1. COORDINATE COLOR WITH ARCHITECT
2. PROVIDE VOLUME DAMPER AT THE FLEX TAP. PROVIDE YOUNG REGULATOR FOR VOLUME DAMPERS IN INACCESSIBLE AREAS.
3. PROVIDE TITUS RAPID MOUNT FRAME FOR STANDARD 24" X 24" LAY-IN STYLE DIFFUSERS MOUNTED IN HARD CEILINGS, & FOR ALL 12" X 12" SUPPLY DIFFUSERS - REGARDLESS OF THE MOUNTING LOCATION.
4. PROVIDE OPTIONAL R-6 MOLDED INSULATION BLANKET FOR ALL LAY-IN STYLE DIFFUSERS.
5. PROVIDE TITUS MPI INSULATED PLENUM.
6. PROVIDE WITH OPPOSED BLADE DAMPER. FOR CT DIFFUSERS LESS THAN 3" WIDE, PROVIDE WITH SINGLE BLADE DAMPER.
7. THROW IS ASSUMED TO BE 4-WAY UNLESS SPECIFIED OTHERWISE ON PLANS.

APPROVED ALTERNATES: PRICE, NALOR, TUTTLE & BAILEY, KRUEGER

VENTILATION CALCULATIONS

(BASED ON FBCM 6TH EDITION TABLE 403.3)

OCCUPANCY CATEGORY	SQ FT	SF/P	P	CFM/P	CFM/SF	CFM (P)	CFM (AREA)	TOTAL CFM	NOTES
Offices									
Office Spaces	171	200	1	5	0.06	4	10	15	
Reception Areas	287	33	9	5	0.06	43	17	60	
Main Entry Lobbies	321	100	3	5	0.06	16	19	35	
TOTAL CFM REQUIRED:								110	
TOTAL CFM PROVIDED:								110	

NOTES:
FOR ALL CATEGORIES: OCCUPANCY CATEGORY AND DENSITY FROM TABLE 403.3 FBCM 6TH EDITION.

FAN SCHEDULE

MARK	EF-1
LOCATION	PER PLANS
DUCT SIZE	4" OVAL
MOUNTING	CEILING / WALL
MANUFACTURER	PANASONIC
MODEL NUMBER	FV-05V51
STATIC PRESSURE	IN. WG. 0.1 - 0.25
AIRFLOW	CFM 50 - 37
RPM	759 - 948
MOTOR INFORMATION	POWER (W) 18.1 - 17.8
	CURRENT (A) 0.04
	V 120
	PH 1
	Hz 60
NOTES:	1,2,3

NOTES:
1. PROVIDE WITH BACKDRAFT DAMPER.
2. PROVIDE WITH SPEED CONTROLLER.
3. INTERLOCK WITH ROOM LIGHTS.
4. PROVIDE WITH INDEPENDENT WALL SWITCH.
5. CONTROLLED BY ROOM THERMOSTAT.
6. PROVIDE INTEGRAL MOTION SENSOR, DELAYED TIMER, & VARIABLE SPEED CONTROLS.

APPROVED ALTERNATES: NUTONE, GREENHECK, FANTECH, PANASONIC

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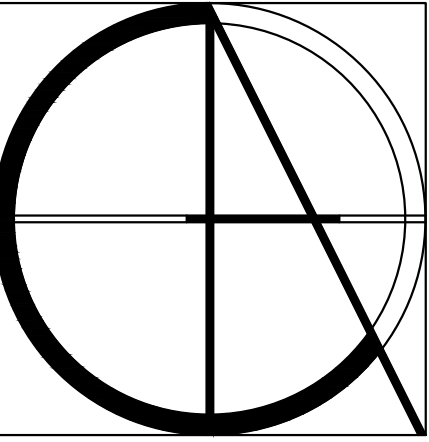
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DATE 10-17-2018

REV # DATE

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SHEET #

M-5

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ELECTRICAL NOTES

- THE CONTRACT DOCUMENTS CONSIST OF DRAWINGS, SPECIFICATIONS AND DESIGN INFORMATION PREPARED BY MULTIPLE DISCIPLINES AND MUST BE USED AS A WHOLE AND IN COORDINATION WITH EACH OTHER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY APPARENT DISCREPANCIES OR OMISSION OF INFORMATION NOT SHOWN ON THE ELECTRICAL DRAWINGS. SHOP DRAWINGS SHALL BE PROVIDED WHERE NECESSARY FOR COORDINATION. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING ERRORS RESULTING FROM LACK OF COORDINATION OF DOCUMENTS.
- THE WORK SHALL BE IN ACCORDANCE WITH THE 2014 NATIONAL ELECTRICAL CODE (NFPA 70); FLORIDA BUILDING CODE 6TH EDITION 2017; 2013 NFPA 72, FLORIDA FIRE PREVENTION CODE 6TH EDITION, FAC, AND ANY OTHER LOCAL JURISDICTIONAL REQUIREMENTS. IN ADDITION, ANY BASE BUILDING OR TENANT GENERAL CONDITIONS SHALL GOVERN ACCEPTABLE MATERIALS AND WORK.
- THE CONTRACTOR SHALL BRING ANY CONFLICTS OR DISCREPANCIES TO THE ATTENTION OF THE ENGINEER IN WRITING PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL FIELD VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH THE SCOPE OF WORK.
- ALL WORK SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER BY A LICENSED ELECTRICAL CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SAFE, CLEANLY, AND UNDISRUPTIVE JOB SITE THAT DOES NOT IMPEDE EGRESS PATHS OR OTHER TENANTS. DISRUPTIONS TO POWER AFFECTING OTHER TENANTS OR AREAS OUTSIDE THE SCOPE OF WORK SHALL BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF HIS WORK. WHEN THE WORK IS COMPLETE, ALL ELECTRICAL DEVICES SHALL BE VACUUMED CLEAN. THE FINAL PRODUCT SHALL BE A FULLY FUNCTIONAL SYSTEM MEETING THE INTENT OF THE DRAWINGS/DOCUMENTS. WORKMANSHIP AND ALL MATERIALS AND EQUIPMENT SHALL BE GUARANTEED FOR A MINIMUM OF ONE YEAR IN WRITING COMMENCING UPON ACCEPTANCE OF INSTALLATION BY OWNER.
- WITHIN 30 DAYS AFTER THE DATE OF THE SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION. ADDITIONALLY, AN OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER INCLUDING THE EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE INCLUDING CLEARLY IDENTIFIED ROUTINE MAINTENANCE ACTIONS, AND NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
- UNLESS PROVIDED WITH DIMENSIONS OR NOTED OTHERWISE, ELECTRICAL PLANS ARE STRICTLY DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, MOUNTING HEIGHTS, ETC. EFFORT HAS BEEN MADE TO PROPERLY ACCOUNT FOR ALL SPACE REQUIREMENTS, CLEARANCES, ETC. BUT SITE CONDITIONS AND PRODUCTS SELECTED MAY VARY AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN PROPER ARRANGEMENTS AND CLEARANCES. DRAWINGS SHALL NOT BE SCALED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PAYING ALL ASSOCIATED FEES, AND DOCUMENTING AND FILING ALL PAPERWORK ASSOCIATED WITH THIS SCOPE OF WORK. WHEN THE WORK IS COMPLETE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CERTIFICATES OF INSPECTION.
- UNLESS NOTED OTHERWISE ALL EXISTING ELECTRICAL DEVICES INSTALLED UNDER PREVIOUS CONTRACTS SHALL REMAIN. CONTRACTOR SHALL EXTEND AND RELOCATE EXISTING DEVICES INTO NEW TENANT SPACE AND MOUNT TO PARTITIONS, CEILING, OR FINISHES AS REQUIRED.
- THE CONTRACTOR IS EXPECTED TO HAVE A FULL FUNCTIONAL KNOWLEDGE OF ELECTRICAL SYSTEMS AND WHETHER INDICATED ON THE DRAWINGS OR NOT SHALL PROVIDE THE CORRECT NUMBER OF WIRES, AT NO ADDITIONAL CHARGE, TO FACILITATE PROPER OPERATION OF ALL EQUIPMENT. QUANTITY OF WIRES WILL ONLY BE INDICATED WHERE NECESSARY FOR CLARIFICATION.
- THE INSTALLATION SHALL BE IN COMPLIANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA); UNLESS INSTALLED FOR SPECIFIC USES EXEMPT FROM ADA OR IN AREAS NOT NORMALLY ACCESSED BY BUILDING OCCUPANTS.
- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT. PRIOR TO ORDERING ELECTRICAL EQUIPMENT SERVING MECHANICAL & PLUMBING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL CONFIRM THE EQUIPMENT BEING ORDERED BY THE HVAC OR PLUMBING CONTRACTORS AND PROVIDE WIRING, CONDUIT, AND OVERCURRENT PROTECTION MEETING THE REQUIREMENTS AT NO ADDITIONAL COST. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND COORDINATING WITH THE HVAC CONTRACTOR FOR PROVIDING ANY NECESSARY LINE AND LOW VOLTAGE WIRING. FINAL TERMINATION TO BE MADE BY THE HVAC CONTRACTOR. ALL BREAKERS SUPPLYING HVAC LOADS SHALL BE HACR TYPE.
- THE CONTRACTOR SHALL DETERMINE THE EXACT SCOPE OF WORK REQUIRED TO MODIFY THE EXISTING FIRE ALARM SYSTEM PRIOR TO PRICING AND BIDDING. THE BID SHALL INCLUDE ALL MODIFICATIONS NECESSARY INCLUDING DEVICES, WIRING, SOFTWARE, CALCULATIONS, ETC. WHETHER INDICATED ON THE DRAWINGS OR NOT. THIS SHALL INCLUDE WIRING REQUIRED TO INTERFACE WITH SECURITY LOCKS, WIRING REQUIRED FOR KITCHEN ANSUL SYSTEMS, ETC. FIRE ALARM STROBES SHALL BE INSTALLED 80" A.F.F. OR BELOW THE CEILING, WHICHEVER IS LOWER. STROBES SHALL INCLUDE MULTIPLE CANDLES AND SHALL BE FULLY SYNCHRONIZED THROUGHOUT THE SPACE. MANUAL STATIONS SHALL BE INSTALLED AT BETWEEN 42" TO 54" A.F.F. AND WITHIN 6" OF EACH CODE REQUIRED EXIT. AUDIBLE ALARMS SHALL MEET AN OUTPUT OF AT LEAST 15 dbA ABOVE THE AMBIENT NOISE LEVEL AND SHALL INCLUDE MULTIPLE VOLUME WATTAGE TAP. SMOKE DETECTORS, LIGHT SMOKE DETECTORS, NEW AND EXISTING SHALL BE COVERED AND PROTECTED DURING CONSTRUCTION. IF EMERGENCY CIRCUITS ARE AVAILABLE, ANY FIRE ALARM EQUIPMENT REQUIRING POWER SHALL BE CONNECTED TO THE EMERGENCY STANDBY SYSTEM. BATTERY CALCULATIONS SHALL BE PROVIDED TO DETERMINE IF EXTRA EQUIPMENT SHALL BE REQUIRED. THE CONTRACTOR SHALL SUBMIT A DETAILED SET OF SHOP DRAWINGS, WIRING DIAGRAMS, FLOOR PLAN DRAWINGS WITH ALL DEVICE LOCATIONS, AND ALL CALCULATIONS AT THE TIME OF SUBMITTAL FOR PERMIT. AN INSTALLATION AND USER MANUAL SHALL BE MOUNTED AT THE MAIN FIRE ALARM CONTROL PANEL.
- ALL EXISTING CIRCUITS INDICATED AS SPARE SHALL BE TRACED AND VERIFIED BY THE CONTRACTOR. IF A CIRCUIT IS LABELED AS SPARE OR INDICATED FOR RE-USE BUT UTILIZED BY AN ADJACENT TENANT OR OCCUPIED SPACE, THE ENGINEER SHALL BE NOTIFIED AND A NEW CIRCUIT SHALL BE ASSIGNED.
- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW UNLESS NOTED OTHERWISE AND BEAR THE U.L. LISTING FOR THEIR INTENDED USE. MATCH BUILDING STANDARDS FOR MANUFACTURER AND TYPE OF EQUIPMENT FOR LIGHTS, EXIT SIGNS, FIRE ALARM DEVICES, WIRING DEVICES, AND ELECTRICAL DISTRIBUTION EQUIPMENT. WHERE NO BUILDING STANDARD EXISTS FOR ELECTRICAL EQUIPMENT, EQUIPMENT SHALL BE MANUFACTURED BY G.E., SQUARE D, Eaton CUTLER-HAMMER OR SIEMENS. INSTALL A PLASTIC LAMINATE SIGN ON EACH NEW UNIT OF ELECTRICAL EQUIPMENT WITH 1/2" ENGRAVED LETTERING FOR IDENTIFICATION. IDENTIFICATION SHALL MATCH CONTRACT DOCUMENTS, SHALL INCLUDE SOURCE FEED PER NEC 408.4(B); AND SHALL INDICATE ARC-FLASH HAZARD PER NEC 110.16.
- THE FAULT CURRENT RATING OF ALL EQUIPMENT ADDED TO THE ELECTRICAL DISTRIBUTION SHALL MEET THE AVAILABLE FAULT CURRENT. EQUIPMENT ADDED TO THE EMERGENCY SYSTEM SHALL BE SELECTIVELY COORDINATED. EQUIPMENT SHALL BE FULLY RATED UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL GIVE PERMISSION FOR THE AHJ, ENGINEER, ARCHITECT, INSPECTOR, ETC. TO PERFORM TESTS OF THE ELECTRICAL SYSTEM AS REQUIRED.
- SWITCH OUTLETS SHALL NOT BE OBSTRUCTED BY DOORSWINGS AND OCCUPANCY SENSORS SHALL HAVE FULL VIEW OF THE INTENDED SPACE.
- SWITCH AND RECEPTACLES INDICATED IN THE SAME LOCATION SHALL BE MOUNTED UNDER A COMMON COVERPLATE UNLESS OTHERWISE NOTED.
- EVEN IF THE PLANS INDICATE, OUTLETS SHALL NOT BE INSTALLED PRECISELY BACK TO BACK ON COMMON WALLS. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING METHODS AND LOCATIONS.
- JUNCTION AND PULL BOXES ARE ONLY INDICATED WHERE REQUIRED FOR LARGE SCALE COORDINATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING JUNCTION AND PULL BOXES AS REQUIRED BY THE CODE AND PER A STANDARD INSTALLATION, AND SHALL INCLUDE THIS IN HIS BID. BOXES SHALL BE STEEL AND INCLUDE EARS INSIDE TO ATTACH COVERS. OUTLET BOXES SHALL BE FOUR INCH SQUARE DEEP TYPE. OUTLET BOXES FOR 120V OR HIGHER CIRCUITS SHALL INCLUDE A #12 AWG SOLID COPPER PIGTAIL. OUTLET BOXES LOCATED OUTDOOR OR EXPOSED TO WET CONDITIONS SHALL INCLUDE GASKETED COVERS. THE MAXIMUM GAP AROUND BOXES SHALL BE 1/8" OR SMALLER ON ALL EDGES. JUNCTION BOXES SHALL BE COLOR CODED WITH PAINT TO INDICATE THEIR USE AS FOLLOWS: NORMAL POWER - BLACK, STANDBY POWER - ORANGE, FIRE ALARM - RED, TELEPHONE/DATA - YELLOW, HVAC CONTROLS - BLUE.
- CONDUCTORS SHALL BE LOOPED AROUND SCREW POSTS SO THAT ROTATION OF THE SCREW TENDS TO FURTHER WRAP THE CONNECTION. SCREW TERMINALS SHALL BE WRAPPED IN ELECTRICAL TAPE. AT LEAST 6" OF FREE CONDUIT SHALL BE LEFT AT EACH J-BOX, OUTLET AND SWITCH BACK-BOX, ETC FOR FUTURE SPLICING.
- THE CONTRACTOR SHALL MAINTAIN THE FIRE RATING OF ALL FIRE-RATED PARTITIONS, AS INDICATED IN IEEE RED BOOK. IF A DEVICE WILL VOID THE FIRE RATING OF A WALL, IT SHALL BE INSTALLED IN AN ALTERNATE LOCATION PER THE ARCHITECT OR ENGINEER'S DIRECTION. ALL VOIDS AROUND CONDUITS AND/OR CORE DRILLS PENETRATING FIRE RATED PARTITIONS SHALL BE FILLED WITH FIRE-SAFING MATERIAL OR UL APPROVED FIRE RATING DEVICE. THE FIRE RATING OF A PARTITION SHALL NEVER BE COMPROMISED.
- THE CONTRACTOR SHALL MAINTAIN THE INSULATION RATING AND VAPOR BARRIERS ON ALL PERIMETER WALLS. IF A DEVICE WILL DAMAGE OR COMPROMISE THE VAPOR BARRIER OR INSULATION, IT SHALL BE INSTALLED IN AN ALTERNATE LOCATION PER THE ARCHITECT OR ENGINEER'S DIRECTION.
- PRIOR TO PENETRATING STRUCTURE, THE CONTRACTOR SHALL X-RAY THE SLABS, CONCRETE CUTTING, CORE DRILLING, AND ANY OTHER ACTION THAT COULD AFFECT OTHER SPACES BY NOISE OR INTRUSION SHALL BE DONE AFTER HOURS. ALL SLAB/STRUCTURE PENETRATIONS SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER FOR APPROVAL.
- ALL EQUIPMENT REQUIRING ACCESS SUCH AS J-BOXES, PULL BOXES, TRANSFORMERS, DRIVERS, ETC. SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS. EXISTING ELECTRICAL DEVICES WHICH ARE LOCATED BEHIND INACCESSIBLE LOCATIONS DUE TO THE RENOVATION SHALL BE REROUTED AND MADE ACCESSIBLE.
- CONDUITS AND/OR MATERIALS LOCATED IN ENVIRONMENTAL AIR PLENUMS SHALL BE PROPERLY LISTED FOR THE APPLICATION. INTERIOR CONCEALED RACEWAYS MAY BE AC OR MC CABLE IF ALLOWED BY THE AHJ. EXPOSED RACEWAYS, INCLUDING RACEWAYS EXPOSED IN THE BACK OF HOUSING SHALL BE GALVANI-ED STEEL OR ALUMINUM EMT. MOTOR CONNECTIONS SHALL BE FLEXIBLE METAL CONDUIT FOR INTERIOR APPLICATIONS AND LIQUID TIGHT FLEX FOR EXTERIOR APPLICATIONS. ALL OTHER EXTERIOR CONDUITS SHALL BE GALVANI-ED STEEL, ALUMINUM EMT OR RIGID STEEL IF EXPOSED TO STRIKING. EXTERIOR CONDUITS SHALL UTILIZE COMPRESSION CONNECTORS. AC/MC CABLE SHALL NOT TERMINATE AT PANELBOARDS. A GUTTER OUTSIDE THE ELECTRICAL CLOSET SHALL BE PROVIDED WITH CONDUIT FROM THE GUTTER TO THE PANELBOARD.
- CABLE AND CONDUIT ROUTING SHALL BE DONE IN A NEAT AND ORDERLY FASHION. LINES SHALL BE RUN PARALLEL TO ALL BUILDING FEATURES, AND SHALL BE GROUPED TOGETHER TO CREATE AN AESTHETICALLY PLEASING AND EASY TO FOLLOW ROUTE. CABLES SHALL BE PROTECTED TO BE BUNDLED BUT SHALL NOT EXCEED TEN IN QUANTITY. ROUTING SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT.

ELECTRICAL NOTES

- CONDUITS SHALL BE RIGIDLY SUPPORTED TO THE BUILDING STRUCTURE. AC AND MC CABLES SHALL BE SUPPORTED WITHIN 12" OF EVERY BOX, FITTING, ETC. AND SUPPORT SPACINGS SHALL NOT EXCEED 6" INTERVALS. RIGID CONDUIT SUPPORT SPACINGS SHALL NOT EXCEED 10'-0" FOR VERTICAL RUNS AND 8'-0" FOR HORIZONTAL RUNS, HOWEVER ALL SUPPORT SPACINGS FOR ALL CONDUIT TYPES SHALL BE IN ACCORDANCE WITH THE NEC REGARDLESS OF WHAT IS STATED HERE. CONDUITS WITH COMPRESSION OR SET STEEL SCREW CONNECTIONS SHALL BE INSTALLED WITH INSULATED THROAT CONNECTORS FOR CONDUITS 1" AND SMALLER, AND WITH INSULATED BUSHINGS AND LOCKNUTS FOR CONDUITS OVER 1". EMPTY CONDUIT RUNS EXCEEDING 10' SHALL BE PROVIDED WITH PULL WIRES SECURELY FASTENED AT BOTH ENDS. EXPANSION FITTINGS SHALL BE PROVIDED AT ALL BUILDING EXPANSION JOINTS OR WHERE NEEDED TO ALLOW FOR THERMAL EXPANSION.
- CONDUIT SIZES INDICATED IN PANEL SCHEDULES AND ON THE SINGLE LINE ARE BASED ON TYPE THHN IN EMT, AS OTHER TYPES OF CONDUIT AND CONDUCTORS ARE PERMISSIBLE IN THIS PROJECT. THE CONTRACTOR SHALL ADJUST THE DIMENSION OF THE CONDUIT TO COMPLY WITH CHAPTER 9, TABLE 1 IN THE NEC. ADJUSTMENTS TO THE CONDUIT SIZE SHALL BE PART OF THE BID AND SHALL BE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- PROVIDE A 3/4" CONDUIT WITH PULLSTRING FOR ALL TELEPHONE AND A 1" CONDUIT WITH PULLSTRING FOR ALL DATA OUTLETS LOCATED IN INSULATED AND LOW HEIGHT WALLS, TERMINATED ABOVE THE ACCESSIBLE CEILING. GROMMETS SHALL BE PROVIDED AT THE END OF THE CONDUIT AT THE CEILING SPACE. OUTLETS LOCATED IN NON-INSULATED WALLS WILL REQUIRE PULLSTRING ONLY.
- WIRE SIZES INDICATED ARE BASED UPON DIRECT ORTHOGONAL PATHS TO THE PANELBOARD. FEEDERS ARE SIZED FOR A MAXIMUM OF 3% VOLTAGE DROP, AND BRANCH CIRCUITS ARE DESIGNED FOR A MAXIMUM OF 5% VOLTAGE DROP. IF FIELD CONDITIONS DO NOT ALLOW THESE PATHS OR IF THE CONTRACTOR RUNS ADDITIONAL LENGTHS, THEY SHALL BE RESPONSIBLE FOR INCREASING WIRE SIZE TO ACCOUNT FOR VOLTAGE DROP AT NO ADDITIONAL COST. WIRING SMALLER THAN #12 AWG SHALL NOT BE USED FOR ANY INSTALLATIONS.
- THE CONTRACTOR SHALL CIRCUIT PANELBOARDS EXACTLY AS INDICATED IN THE PANEL SCHEDULES. IF ANY DEVIATIONS ARE NECESSARY, THE ENGINEER SHALL BE NOTIFIED. TYPED DIRECTORY CARDS SHALL BE PROVIDED AT EACH PANELBOARD INDICATING THE NUMBER AND LOCATION OF THE FINAL ROOM NUMBERS PER THE NEC. WHEN EXISTING DIRECTORIES ARE REPLACED FOR RENOVATION WORK, EXISTING LOAD INFORMATION SHALL BE DIRECTLY TRANSFERRED TO THE NEW DIRECTORY CARDS.
- NEUTRAL CONDUCTORS SHALL ONLY BE SHARED WHEN INDICATED ON THE DRAWINGS. WHERE NEUTRALS ARE INDICATED TO BE SHARED, THE NEUTRAL SHALL BE A MINIMUM OF #10 AWG.
- THE CONTRACTOR SHALL REMOVE ALL UNUSED AND ABANDONED WIRING AND CABLING FROM THE CEILING PLENUM THAT ISN'T LABELED FOR FUTURE USE, AS REQUIRED BY THE NEC. THIS SHALL INCLUDE BUT IS NOT LIMITED TO FIRE ALARM, POWER, SECURITY, CONTROLS, DATA, TELEPHONE, AV, ETC.
- WHEN A RETURN AIR PLENUM IS UTILIZED, ALL CABLING AND CONDUIT SHALL BE PLENUM RATED OR IN PLENUM RATED CONDUIT. THIS INCLUDES TELEPHONE, DATA, CONTROL CABLES, ETC. AND RESTRICTS THE USE OF PVC.
- ALL BRANCH CIRCUIT CONDUCTORS AND FEEDER CIRCUITS 100A OR SMALLER SHALL BE COPPER. FEEDER CIRCUITS SERVING LOADS LARGER THAN 100A MAY BE EITHER COPPER OR ALUMINUM, HOWEVER THE DESIGN IS BASED AROUND COPPER AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ACCOUNTING FOR INCREASED WIRE SIZE, CONDUIT SIZE, AND SPACE TAKEN BY THE LARGER CONDUIT IF ALUMINUM IS USED. HOWEVER, BRANCH CIRCUITS FEEDING MOTORS SHALL ALWAYS BE COPPER REGARDLESS. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID, AND CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. CONDUCTORS SHALL BE CODED TYPE THW, THHN, THWN, OR XHHW UNLESS OTHERWISE REQUIRED BY THE NEC. CONDUCTORS SHALL BE MARKED WITH INSULATION CODE, VOLTAGE RATING, AWG SIZE, AND MANUFACTURER AND INCLUDE A CONTINUOUS COLOR CODING FROM PANEL TO LOAD SERVED. WHEN CONTINUOUS MARKINGS ARE NOT AVAILABLE, USE COLOR CODED TAPE AT EACH TERMINATION. #8 AWG AND SMALLER CONDUCTORS SHALL BE SPLICED WITH SPRING CONNECTORS. #6 AWG AND LARGER SHALL BE SPLICED WITH BARREL CONNECTORS REQUIRING COMPRESSION ON EACH END.
- ALL EMERGENCY EGRESS, STANDBY LIGHTING, AND EXIT LIGHTING SHALL HAVE A BATTERY BALLAST WITH RUN TIME MEETING OR EXCEEDING 90 MINUTES. THE BATTERY BALLAST SHALL NOT BE CAPABLE OF BEING DISCONNECTED. REGARDLESS OF MODEL NUMBER SPECIFIED, LIGHT FIXTURES SPECIFIED WITH BACKUP BATTERY BALLASTS SHALL HAVE THE TEST BUTTON INTEGRALLY MOUNTED WHERE POSSIBLE. WHERE FIXTURES ARE NOT AVAILABLE WITH INTEGRALLY MOUNTED TEST BUTTONS, THE TEST BUTTONS SHALL BE LOCATED IN A DISCRETE LOCATION AS DETERMINED BY THE ARCHITECT, UP TO 50' AWAY FROM THE FIXTURE.
- NEW LIGHTS AND LAMPS SHALL MATCH EXISTING BUILDING STANDARD, INCLUDING LAMP TEMPERATURE COLOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING BUILDING STANDARDS PRIOR TO PURCHASE. THE CONTRACTOR SHALL PROVIDE THE PROPER FIXTURE TYPE FOR THE CEILING OR WALL TYPE WHICH THE FIXTURE IS TO BE INSTALLED IN INCLUDING, MOUNTING ACCESSORIES ETC. THE CORRECT MOUNTING TYPE SHALL BE PROVIDED. THE CONTRACTOR SHALL REFER TO INTERIOR DESIGNER, ARCHITECTURAL, LANDSCAPE, OR OTHER CONSULTANT PLANS FOR ADDITIONAL INFORMATION AND REQUIREMENTS WHERE THERE IS A DISCREPANCY BETWEEN ELECTRICAL PLANS AND OTHER CONSULTANT PLANS. THE OTHER CONSULTANT PLANS SHALL TAKE PRECEDENCE EXCEPT FOR VOLTAGE AND WATTAGE. FIXTURE TYPES IN THE LIGHT FIXTURE SCHEDULE ARE TO ESTABLISH A TYPE, NOT A METHOD OF MOUNTING. FLUORESCENT FIXTURES THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECT SWITCH FOR EMERGENCY TESTING. ALL BALLASTS SHALL BE ELECTRONIC, LESS THAN 20". THE CREST FACTOR OF 1.7 FOR FLUORESCENTS AND 1.8 FOR METAL HALIDES, HIGH POWER FACTOR, AND RATED FOR THE TYPE OF LAMP IT OPERATES. MANUFACTURERS SHALL BE GE, ADVANCE, MAGNETEC, MOTOROLA, LUTRON, OR OTHER APPROVED EQUIPMENT. LIGHT FIXTURES, BALLASTS, TRANSFORMERS, DRIVERS, ETC. LOCATED IN A WET OR DAMP LOCATION SHALL BE LISTED FOR SAID USE. LIGHT FIXTURES INSTALLED IN AREAS HAVING EXPOSED FOOD OR FOOD PREPARATION AREAS OR KITCHENS SHALL BE PROPERLY LENSED AND HAVE SHATTER PROOF LAMPS.
- ALL LIGHT FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURAL SYSTEM BY SUPPORT WIRES, INDEPENDENT OF CEILING GRID SYSTEMS. TROFFER TYPE FIXTURES SHALL BE SUPPORTED BY WIRES AT ALL FOUR CORNERS. RECESSED DOWNLIGHTS SHALL BE SUPPORTED VIA HANGER BARS SUPPORTED BY WIRES AT ALL FOUR CORNERS. SUPPORT MEANS SHALL BE IN ACCORDANCE WITH LOCAL SEISMIC REQUIREMENTS.
- THE EQUIPMENT GROUNDING SYSTEM SHALL CONSIST OF AN ELECTRICALLY CONTINUOUS METALLIC CONDUIT SYSTEM TOGETHER WITH INSULATED EQUIPMENT GROUNDING CONDUCTORS. EVERY ITEM SERVED BY THE ELECTRICAL SYSTEM SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE RACEWAYS, JUNCTION OUTLET BOXES, MOUNTING FRAMES, ETC. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE A GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR OR GROUND ELECTRODE SIZED IN ACCORDANCE WITH THE NEC. PROVIDE BONDING JUMPERS FOR ALL NON-CURRENT CARRYING CONDUCTORS OF DIFFERENT SYSTEMS TO ENSURE NO VOLTAGE POTENTIAL. METAL GAS PIPING SHALL ONLY BE GROUNDED AT EQUIPMENT HOUSING BOTH ELECTRICAL CIRCUITS AND UTILIZING GAS VIA THE EQUIPMENT GROUND ROUTED WITH THE CIRCUIT. ALL GROUND WIRES SHALL BE COPPER.
- WHERE LIGHTNING PROTECTION SYSTEMS EXIST, OBJECTS INSTALLED ON ROOFTOPS AND EXTERIOR OF BUILDINGS SHALL BE PROPERLY BONDED PER NFPA 780.
- A LIGHTNING PROTECTION SYSTEM SHALL BE PROVIDED. THE SYSTEM SHALL BE CLASS 1, WITH ALUMINUM CONDUCTORS. ELECTROCHEMICALLY DISSIMILAR MATERIALS SHALL NOT BE IN DIRECT CONTACT. DOWN CONDUCTORS, SYSTEM CONDUITS, OTHER CONDUCTORS WITHIN NORMAL VIEW OF EXTERIOR LOCATIONS AT GRADE WITHIN 200' OF THE BUILDING SHALL BE CONCEALED. ALL TERMINALS AND EQUIPMENT SHALL BE SECURED TO THE ROOF MEMBRANE WITH AN ADHESIVE THAT IS COMPATIBLE WITH THE ROOFING MATERIAL.
- SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY, IN PDF FORMAT. THE CONTRACTOR SHALL ALLOW FOR A TOTAL OF 10 BUSINESS DAYS FOR REVIEW BY THE ENGINEER. SUBMITTALS SHALL INCLUDE PANELBOARDS, TRANSFORMERS, DISCONNECTS, WIRING DEVICES, UPS'S, LIGHT FIXTURES, TVSS, AND FIRE ALARM SYSTEM. SUBMITTALS SHALL ONLY INCLUDE DATA RELEVANT TO THIS PROJECT. DATA SHEETS INDICATING SEVERAL PRODUCTS SHALL HAVE THE RELEVANT PRODUCTS HIGHLIGHTED OR CLEARLY IDENTIFIED. SIMILAR EQUIPMENT SHALL BE SUBMITTED IN ONE COMPLETE SUBMITTAL PACKAGE (I.E. ALL PANELBOARDS, ALL LIGHTING FIXTURES, ETC.).
- PROVIDE PAD LOCKING HARDWARE ON CIRCUIT BREAKERS FOR EQUIPMENT WHICH IS HARDWIRED WITHOUT A LOCAL DISCONNECT MEANS THAT ARE NOT WITHIN SIGHT OF THE PANELBOARD.
- MATCH EXISTING RECEPTACLE AND LIGHT SWITCH MANUFACTURER AND STYLE UNLESS OTHERWISE NOTED ON THE PLANS. IF NO STANDARD EXISTS, PROVIDE RECEPTACLES SIMILAR TO PASS & SEYMOUR #R209 SERIES AND LIGHT SWITCHES SIMILAR TO PASS & SEYMOUR #R201 SERIES. COVER PLATES SHALL BE PROVIDED AS SPECIFIED BY THE ARCHITECT OR BUSHINGS STANDARD STEEL. CONFIRM ALL DEVICE COLORS WITH THE ARCHITECT.
- DUPLEX OUTLETS SHALL BE 15A 2-0R WHEN THEY ARE THE ONLY LOAD ON A CIRCUIT.
- WALL MOUNTED OCCUPANCY SENSORS SHALL BE PASSIVE INFRARED, MANUAL-ON, AUTO-OFF SIMILAR TO WATT STOPPER PW-100-W. CEILING MOUNTED OCCUPANCY SENSORS FOR CORRIDORS SHALL BE LOW RANGE PASSIVE INFRARED SIMILAR TO WATT STOPPER CX-100-1. CEILING MOUNTED OCCUPANCY SENSORS FOR CONFERENCE ROOMS, MEETINGS, AND OTHER SMALL MEETING ROOMS SHALL BE CEILING MOUNTED AND UL TRASONIC SIMILAR TO WATT STOPPER DT-300. DEVICES SHALL BE MOUNTED SUCH THAT THE SENSORS HAVE FULL COVERAGE OF THE INTENDED AREAS AND PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL ACCESSORIES NECESSARY FOR A FULLY FUNCTIONING SYSTEM, INCLUDING POWER PACKS, CONTROL AND POWER WIRING, BACKBOXES, ETC. POWER PACKS FOR CEILING MOUNTED SENSORS SHALL BE PROVIDED, SIMILAR TO WATT STOPPER B-150. SENSORS SHALL BE WATT STOPPER, HUBBEL, COOPER, OR LUTRON PROVIDED IT IS EQUIVALENT OR EXCEEDS THE REQUIREMENTS LISTED HEREIN. THE CONTRACTOR SHALL FULLY COMMISSION THE OCCUPANCY SENSORS SYSTEM TO CONFIRM IT IS FUNCTIONING AS INTENDED.
- MAGNETIC MOTOR STARTERS SHALL MATCH THE CHARACTERISTICS OF THE MOTOR IT CONTROLS AND BE CAPABLE OF CYCLING AT THE FREQUENCY DETERMINED BY THE CONTROL DEVICES. MOTOR STARTERS SHALL BE PROVIDED FOR ALL MOTORS NOT HAVING INTEGRALLY MOUNTED STARTERS. ALL INTERNAL WIRING SHALL BE COPPER. THE HORSEPOWER RATING OF EACH STARTER SHALL NOT BE LESS THAN THE MOTOR IT CONTROLS. ENCLOSURES SHALL BE NEMA 1 RATED UNLESS NOTED OTHERWISE AND CAPABLE OF BEING PADLOCKED IN THE OFF POSITION. COILS SHALL BE RATED AT 120V AC CONTROL VOLTAGE. A CONTROL POWER TRANSFORMER WITH PRIMARY FUSES AND ONE FUSE ON THE SECONDARY SIDE, COORDINATED OVERLOAD PROTECTION SHALL BE PROVIDED IN ALL THREE PHASES FOR THREE PHASE APPLICATIONS, AND ONE SINGLE PHASE CONTROLLER SHALL HAVE OVERLOAD PROTECTION IN UNGROUNDING PHASES. EACH CONTROLLER SHALL HAVE A PILOT LIGHT AND TRIP FREE SWITCH. EACH CONTROLLER SHALL HAVE TWO EXTRA INTERLOCK CONTACTS WHICH CAN BE EITHER NORMALLY OPEN OR NORMALLY CLOSED. PROVISIONS FOR REMOTE CONTROL FUNCTION OPERATED BY THE ATC OR FIRE ALARM CONTRACTOR SHALL BE INCLUDED. PROVIDE FUSED SWITCH COMBINATION STARTERS WHEN REQUIRED BY MANUFACTURER OR LOCAL INSPECTING AUTHORITY.
- TRANSFORMERS SHALL BE DRY TYPE, 60 HERTZ, 480V 3 PHASE DELTA TO 120/208V 3 PHASE, 4 WIRE GROUNDING WYE. TEMPERATURE CLASSIFICATION SYSTEM SHALL BE A MINIMUM OF 155°C INSULATION SYSTEM. WINDING TEMPERATURE RISE SHALL NOT EXCEED 150°C. TRANSFORMERS SHALL HAVE FOUR 2-1/2" FULL LOAD TAPS BELOW RATED VOLTAGE AND TWO 2-1/2" FULL LOAD TAPS ABOVE RATED VOLTAGE. INTERNAL VIBRATION ISOLATION MOUNTS SHALL BE PROVIDED.

ELECTRICAL NOTES

- PANELBOARDS SHALL HAVE COPPER FULL SIZE PHASE BUSES, NEUTRAL BUSES, AND BOLTED ON COPPER GROUNDING BUS WITH MAIN LUGS. BUS BAR CONNECTIONS SHALL BE COLUMN CONSECUTIVE PHASE-SEQUENCE TYPE. BUS BARS SHALL BE DRILLED AND EQUIPPED FOR BOLT-ON MOLDED CASE CIRCUIT BREAKERS. SHORT CIRCUIT BRACING AND BREAKER INTERRUPTING CAPACITY SHALL BE AS INDICATED ON THE PANEL SCHEDULES, BUT SHALL NOT BE BELOW 10,000 A.I.C. FOR 120/208V PANELS AND 14,000 A.I.C. FOR 277/480V PANELS. CONSTRUCTION SHALL BE HINGED DOOR IN DOOR COVERS WITH MASTER-KEYED DOOR LOCKS. GALVANI-ED SHEET STEEL CABINETS WITH MULTIPLE KNOCKOUTS, WIRING GUTTERS, AND SPACE FOR A TYPED CIRCUIT DIRECTORY. MAIN BREAKERS OR MAIN LUGS ONLY SHALL BE PROVIDED AS INDICATED IN THE PANEL SCHEDULES. PANELS SHALL BE PROVIDED WITH FEED THRU LUGS UNLESS OTHERWISE NOTED.
- TVSS SHALL BE INSTALLED IN EACH MAIN DISTRIBUTION PANEL. EACH MODE SHALL BE INDIVIDUALLY FUSED. PROVIDE A LOAD SIDE CIRCUIT BREAKER TO DISCONNECT THE TVSS IN THE EVENT OF FAILURE. THE TVSS SHALL PROVIDE 200 KA PER PHASE. THE PEAK SURGE CURRENT SHALL BE THE ARITHMETIC MEAN OF THE RATINGS OF THE INDIVIDUAL MOVES IN A GIVEN MODE. PHYSICAL WIRING LENGTH SHALL NOT EXCEED 6' FROM THE PROTECTED BUS TO THE TVSS.
- MOLDED CASE CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC AND AMBIENT COMPENSATED INVERSE TIME-DELAY OVERLOAD AND INSTANTANEOUS SHORT CIRCUIT PROTECTED. FULL SIZE BOLT-ON WITH A QUICK-MAKE, QUICK-BREAK OVER-CENTER SWITCHING MECHANISM THAT IS MECHANICALLY TRIP-FREE FROM THE HANDLE SUCH THAT THE CONTACTS CAN NOT BE CLOSED AGAINST SHORT CIRCUITS. CONTACTS SHALL BE NON-WELDING SILVER ALLOY. TRIPPING DUE TO OVERLOAD OR SHORT CIRCUIT SHALL BE INDICATED BY THE BREAKER RESTING AT A MID POINT BETWEEN THE ON AND OFF POSITIONS. AMPERE AND FAULT CURRENT RATINGS SHALL BE CLEARLY VISIBLE. BREAKERS SHALL BE LISTED FOR USE WITH 75°C AND 90°C CONDUCTORS. MULTI-POLE BREAKERS SHALL BE OF THE COMMON TRIP TYPE HAVING A SINGLE HANDLE. WHERE NEUTRALS ARE SHARED AMONG CIRCUITS, THE CONTRACTOR SHALL PROVIDE MULTI-POLE BREAKERS TO SIMULTANEOUSLY DISCONNECT ALL CIRCUITS IN THE EVENT OF ONE TRIPPING. IN THIS CASE SINGLE POLE BREAKERS MAY BE CONNECTED BY A COMMON TRIP HANDLE.
- MOLDED CASE CIRCUIT BREAKERS INDICATED FOR SHUNT TRIP SHALL BE 60 HERTZ, FACTORY INSTALLED, AND HAVE A 120 VOLT COIL. CIRCUITRY FROM A 120/208V PANEL PROVIDED BY THE CONTRACTOR. SHUNT TRIP BREAKERS SHALL TAKE ONE POLE SPACE IN PANELBOARDS EITHER LEFT OR RIGHT MOUNTED. THE SHUNT TRIP ACTIVATION DEVICE SHALL BE A MOUNTED CLOSE CONTACT TYPE.
- ALL FUSES SHALL BE DUAL-ELEMENT RK5 FOR MOTORS AND DUAL-ELEMENT RK1 FOR ALL OTHER CONNECTIONS AS MANUFACTURED BY BUSHBMAN. FUSE VOLTAGE RATING SHALL BE 250 VOLT FOR 120/208V VOLT SYSTEM AND 600 VOLT FOR 277/480 VOLT SYSTEM.
- DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, HIGH INT RATED, APPROVED FOR SERVICE ENTRANCE APPLICATIONS. DISCONNECT SWITCHES SPECIFIED FOR 240 VOLT CIRCUITS SHALL BE RATED AT 240 VOLT, AND DISCONNECT SWITCHES SPECIFIED AT 480 VOLT SHALL BE RATED AT 600 VOLT. ALL DISCONNECTS SHALL BE QUICK-MAKE, QUICK-BREAK TYPE AND HAVE PROVISIONS FOR ACCOMMODATING R TYPE FUSES. SWITCHES IN EXTERIOR LOCATIONS SHALL BE NEMA TYPE 4X UNLESS OTHERWISE NOTED, AND INDOOR SWITCHES EXPOSED TO WET OR DAMP CONDITIONS SHALL BE NEMA TYPE 3R. SWITCHES SHALL HAVE PROVISIONS FOR PADLOCKING. SWITCHES SHALL BE PREVENTED FROM OPENING WHILE SWITCH IS ON. FUSED DISCONNECTS SHALL BE PROVIDED WHEN REQUIRED BY THE MANUFACTURER OR BY THE LOCAL INSPECTING AUTHORITY.
- WHERE DIMMING IS INDICATED, THE CONTRACTOR SHALL PROVIDE THE PROPER DIMMING BALLAST AND DIMMER FOR THE FIXTURE SOURCE. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED FOR FLUORESCENT FIXTURES, LED DRIVERS, AND ANY OTHER DIMMED FIXTURE THAT REQUIRES ADDITIONAL WIRING.
- FLOOR OUTLETS SHALL BE LISTED FOR INSTALLATION IN THE INSTALLED FLOOR TYPE. THEY SHALL MEET UL REQUIREMENTS FOR SCRUB WATER, DIRT, AND DEBRIS EXCLUSION TESTS.
- THE CONTRACTOR SHALL PROVIDE THE NECESSARY JUNCTION BOXES AND CONNECTIONS FOR THE UNDERSIDE OF ALL POKE-THRU DEVICES. CORE DRILLS, SLEEVES, ETC SHALL BE PROVIDED AS NECESSARY TO RETURN ALL POKE-THRU HOMERUNS.
- THE RAISED FLOOR SHALL BE GROUNDED PER THE MANUFACTURER'S REQUIREMENTS AND CONNECTED BACK TO THE BUILDING GROUND ELECTRODE. ALL CABLING BELOW THE RAISED FLOOR SHALL BE LIQUID TIGHT OR AC/MC CABLING.
- WHEN ISOLATED GROUNDING IS REQUIRED AND MC OR AC CABLING IS USED, AN ADDITIONAL INSULATED GROUND WIRE SHALL BE PROVIDED FOR EACH HOSPITAL GRADE. THE AC JACKET SHALL BE UL LISTED AS A GROUNDING MEANS.
- PROVIDE A 15A 120 VOLT CIRCUITS FOR ALL SMOKE AND COMBINATION FIRE/SMOKE DAMPERS AND ASSOCIATED SMOKE DETECTOR FOR ALL SMOKE DAMPERS AS SHOWN AND REQUIRED ON THE MECHANICAL DRAWINGS. UPON ACTIVATION, SMOKE DETECTOR SHALL SIGNAL FOR DAMPER TO CLOSE. SYSTEM SHALL BE TIED INTO THE BUILDING FIRE ALARM SYSTEM.
- SMOKE DETECTORS IN COMPUTER ROOM AC UNITS SHALL BE TIED INTO THE BUILDING FIRE ALARM SYSTEM.
- PROVIDE PHOTOELECTRIC TWIST IN TYPE SMOKE DETECTORS WITH ACCESS DOORS IN ALL FANS AND AHU'S SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER, AND SHALL COMPLY WITH UL 268A. LOCATE THE SMOKE DETECTORS IN THE SUPPLY AIR DUCT FOR INSTALLATIONS IN COMPLIANCE WITH THE FLORIDA BUILDING CODE. THE DETECTORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. INSTALLED IN THE DUCT BY THE MECHANICAL CONTRACTOR. ELECTRICAL CONNECTION SHALL BE BY ELECTRICAL CONTRACTOR. UPON SMOKE DETECTION, ALL ASSOCIATED AIR MOVING EQUIPMENT SERVING A COMMON PLENUM WILL BE SHUT DOWN. THE FIRE ALARM DEVICES INTO EXISTING FIRE ALARM SYSTEM IF APPLICABLE.
- ALL 15 AND 20A, 120V RECEPTACLES LOCATED IN KITCHENS, WITHIN 6' OF SINKS, BATHROOMS, IN EXTERIOR LOCATIONS, IN AREAS EXPOSED TO WET CONDITIONS, ROOFTOPS, IN ELEVATOR SHAFTS, AND IN ELEVATOR MACHINE ROOMS SHALL BE GFI TYPE, WITH SELF-TEST FUNCTION. PROVIDE GFI TYPE CIRCUIT BREAKER IF RECEPTACLE IS NOT IN A READILY ACCESSIBLE LOCATION OR IF A SIMPLEX RECEPTACLE IS REQUIRED. ALL BREAKERS THAT SUPPLY TRACE SHALL BE GFI.
- E.C. SHALL BE RESPONSIBLE FOR PROVIDING A JUNCTION BOX AND DIRECT ELECTRICAL CONNECTION TO EACH HVAC CONDENSATE PUMP AS NECESSARY PER MECHANICAL DRAWINGS OR FIELD CONDITIONS. PROVIDE 2#12, #1212, IN 1/2" FROM NEAREST 120V G.P. RECEPTACLE CIRCUIT.

ELECTRICAL ABBREVIATIONS

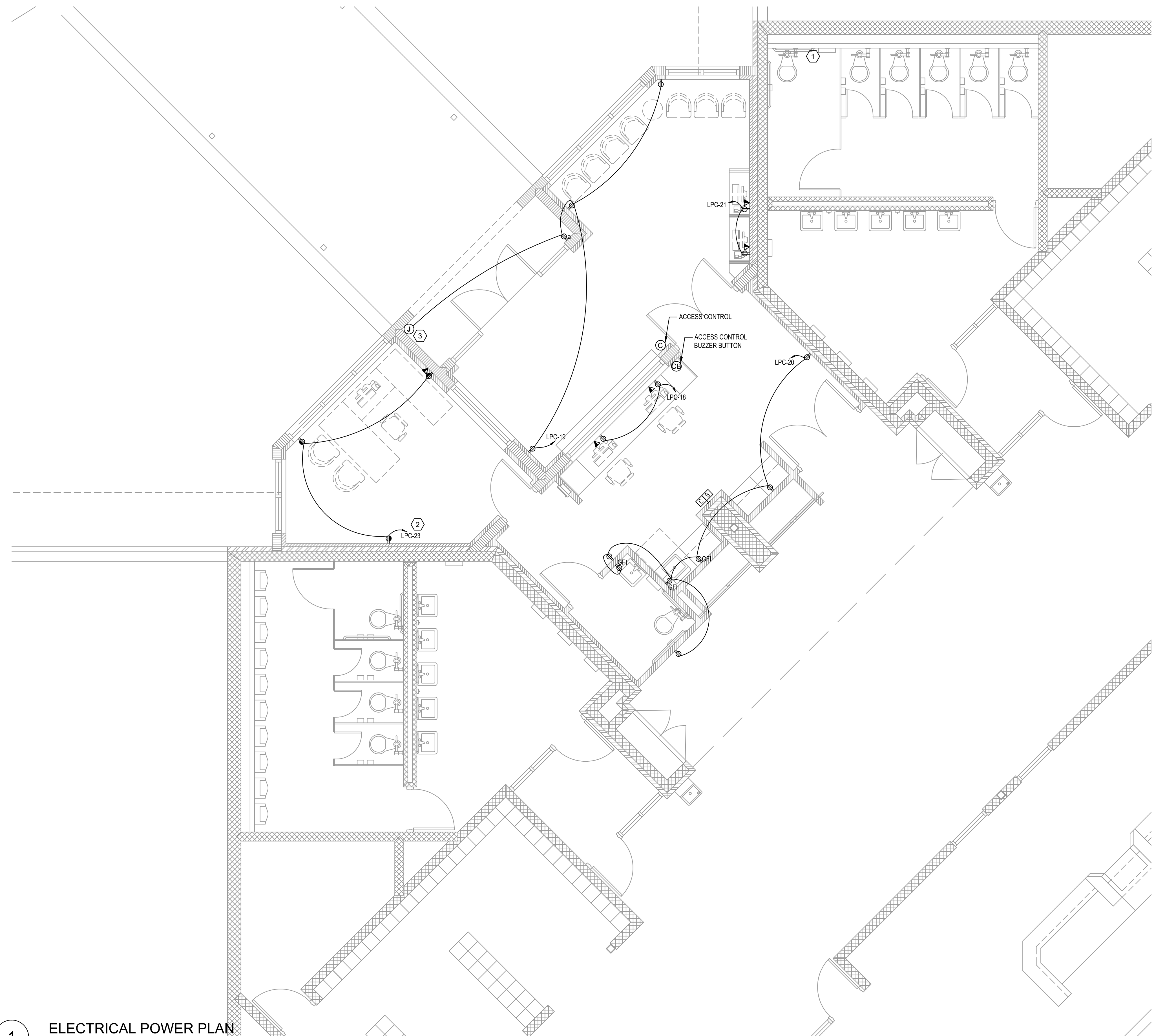
A	-AMPERE	M	-METER
AC	-ALTERNATING CURRENT	MC	-MINIMUM CIRCUIT AMPACITY
AFF	-ABOVE FINISHED FLOOR	MCB	-MAIN CIRCUIT BREAKER
AHJ	-AUTHORITY HAVING JURISDICTION	MCC	-MOTOR CONTROL CENTER
AL	-ALUMINUM	MFR	-MANUFACTURER
ATC,BMS,EMCS	-HVAC CONTROLS	+ MH	-MOUNTING HEIGHT
ATS	-AUTOMATIC TRANSFER SWITCH	MLO	-MAIN LUGS ONLY
ARC	-AMPS INTERRUPTING CAPACITY	MOP, MOCIP	-MAXIMUM OVERCURRENT PROTECTION
BRKR	-BREAKER	MS, MSB	-MAIN SWITCHBOARD
C or COND	-CONDUIT	MTC	-MANUAL TRANSFER SWITCH
CD	-CANDELA	NEC	-NATIONAL ELECTRICAL CODE
CKT	-CIRCUIT	N	-NEW
CT	-CURRENT TRANSFORMER	NA	-NOT APPLICABLE
CU	-COPPER	NC	-NORMALLY CLOSED
DN	-DOWN	NF	-NON-FUSED
DWG	-DRAWING	NFPA	-NATIONAL FIRE PROTECTION ASSOCIATION
DC	-DIRECT CURRENT	NFSS	-NON-FUSED SAFETY SWITCH
IE or EXIST	-EXISTING	NIC	-NOT IN CONTRACT
E.C.	-ELECTRICAL CONTRACTOR	NO	-NORMALLY OPEN
ELEV	-ELEVATOR	OPCD	-OVERCURRENT PROTECTION DEVICE
EMT	-EMERGENCY	P	-PANEL
EMR	-ELECTRIC METALLIC TUBING	PH OR Ø	-PHASE
EWH	-ELECTRIC UNIT HEATER	NEMA	-NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
ELW	-ELECTRIC WATER COOLER		
EWH	-ELECTRIC WATER HEATER	PB	-PULL BOX
F	-FUSE	PC	-PHOTOCELL
FA	-FIRE ALARM	PCL	-PANELBOARD
FCA	-FAULT CURRENT AVAILABLE	R	-RELOCATED
FCC	-FAULT CURRENT RATING	RECEPT	-RECEPTACLE
FSS	-FUSED SAFETY SWITCH	RM	-ROOM
FTL	-FEED THRU LUGS	THD	-TOTAL HARMONIC DISTORTION
G, GND	-GROUND	TVSS	-TRANSIENT VOLTAGE SURGE SUPPRESSION
GFI	-GROUND FAULT INTERRUPT	TYP	-TYPICAL
GFP	-GROUND FAULT PROTECTION	UNO	-UNDERWRITERS LABORATORIES
H	-HERTZ	UNO	-UNLESS NOTED OTHERWISE
HP	-HORSEPOWER	UNP	-UNINTERRUPTIBLE POWER SUPPLY
IGC	-INTERNATIONAL BUILDING CODE	V	-VOLT
IBC	-ISOLATED GROUND	VFD	-VARIABLE FREQUENCY DRIVE
J	-JUNCTION BOX	W	-WATT
KVA	-KILOVOLT-AMPERE	W	-WITH
KW	-KILOWATT	WP	-WEATHERPROOF
LTG	-LIGHTING	XFMR	-TRANSFORMER

ELECTRICAL SHEET INDEX

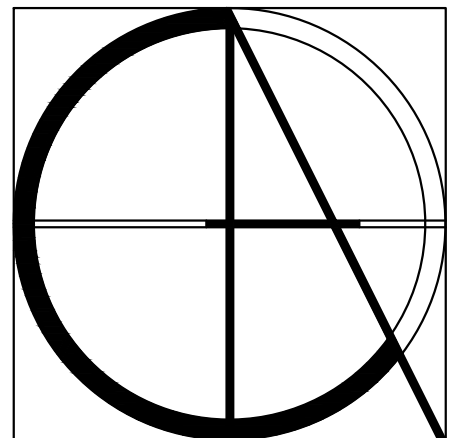
E-1	ELECTRICAL NOTES, LEGENDS & SHEET INDEX
E-2	ELECTRICAL POWER PLAN
E-3	ELECTRICAL POWER PLAN - SW MEDIUM ANINE
E-4	ELECTRICAL LIGHTING PLAN
E-5	ELECTRICAL ROOF PLAN
E-6	ELECTRICAL RISER, SCHEDULES & DETAILS

ELECTRICAL SYMBOL LEGEND

\$	SINGLE POLE, 20 AMP. SWITCH.
\$3	3-WAY, 20 AMP. SWITCH.
\$4	4-WAY, 20 AMP. SWITCH.
\$D	DIMMER SWITCH. USE NTF-10W FOR FLUORESCENT FIXTURES. USE NTF7Y-WH WITH PP-120H FOR LED FIXTURES. CONFIRM COLOR SELECTION WITH ARCHITECT PRIOR TO ORDERING.
\$SW	SINGLE POLE, 20 AMP. SWITCH WITH OCCUPANCY SENSOR.
\$OSR	TIME-CLOCK OVERRIDE SWITCH. REFER TO LIGHTING CONTROL NOTES.
\$T	MANUAL SWITCH MATCHING RATING OF CIRCUIT.
⊖	20 AMP SIMPLEX RECEPTACLE
⊖⊖	20 AMP DUPLEX RECEPTACLE
⊖⊖⊖	20 AMP QUADRUPLX RECEPTACLE
⊖x	RECEPTACLE SUBSCRIPT DEFINITIONS: a. GFI, WP, WR b. GFI, WP, WR c. GFI, TR
⊖⊖	20 AMP DUPLEX RECEPTACLE, TOP HALF SWITCHED.
⊖⊖ GFI	20 AMP DUPLEX RECEPTACLE, WITH SELF-TESTING GROUND FAULT CIRCUIT INTERRUPTER.
⊖⊖ WP	20 AMP DUPLEX RECEPTACLE, WEATHER-PROOF WHILE-IN-USE.
⊖⊖ WR	20 AMP DUPLEX RECEPTACLE, WEATHER-RESISTANT
⊖⊖ IG	20 AMP DUPLEX RECEPTACLE WITH ISOLATED GROUND.
⊖⊖ TR	20 AMP DUPLEX RECEPTACLE, TAMPER-RESISTANT
⊖⊖⊖	WIREMOLD RF84 20 AMP DUPLEX/QUADRUPLX RECEPTACLE, RECESS FLOOR MOUNTED BOX.
⊖⊖⊖	WIREMOLD RF84 20 AMP DUPLEX/QUADRUPLX RECEPTACLE WITH DATA/TELEPHONE, RECESS FLOOR MOUNTED BOX.
⊖⊖⊖	20 AMP DUPLEX RECEPTACLE, CEILING MOUNTED.
⊖⊖⊖	WIREMOLD RC4ATC TYPE 20 AMP QUADRUPLX, DATA/TELEPHONE FLOOR POKE-THRU DEVICE
⊖⊖⊖	SPECIAL-PURPOSE RECEPTACLE, NEMA TYPE AS INDICATED.
⊖⊖⊖	JUNCTION BOX. PROVIDE 3/4" CONDUIT WITH PULL STRING TO ACCESSIBLE LOCATION.
⊖⊖⊖	TELEPHONE OUTLET WITH 3/4" CONDUIT STUBBED OUT FROM WALL 6" ABOVE CEILING.
⊖⊖⊖	DATA OUTLET WITH 1" CONDUIT STUBBED OUT FROM WALL 6" ABOVE CEILING.
⊖⊖⊖	TELEPHONE/DATA OUTLET WITH 1" CONDUIT STUBBED OUT FROM WALL 6" ABOVE CEILING.
⊖⊖⊖	TELEPHONE/DATA OUTLET FLOOR RECESSED.
⊖⊖⊖	EMERGENCY LIGHT
⊖⊖⊖	HATCHED LIGHT FIXTURE - PROVIDED WITH EMERGENCY BATTERY BALLAST
⊖⊖⊖	FUSIBLE DISCONNECT SWITCH NFSS = NON FUSED, F30SS = FUSED
⊖⊖⊖	GROUNDING ELECTRODE & CONDUCTOR SYSTEM

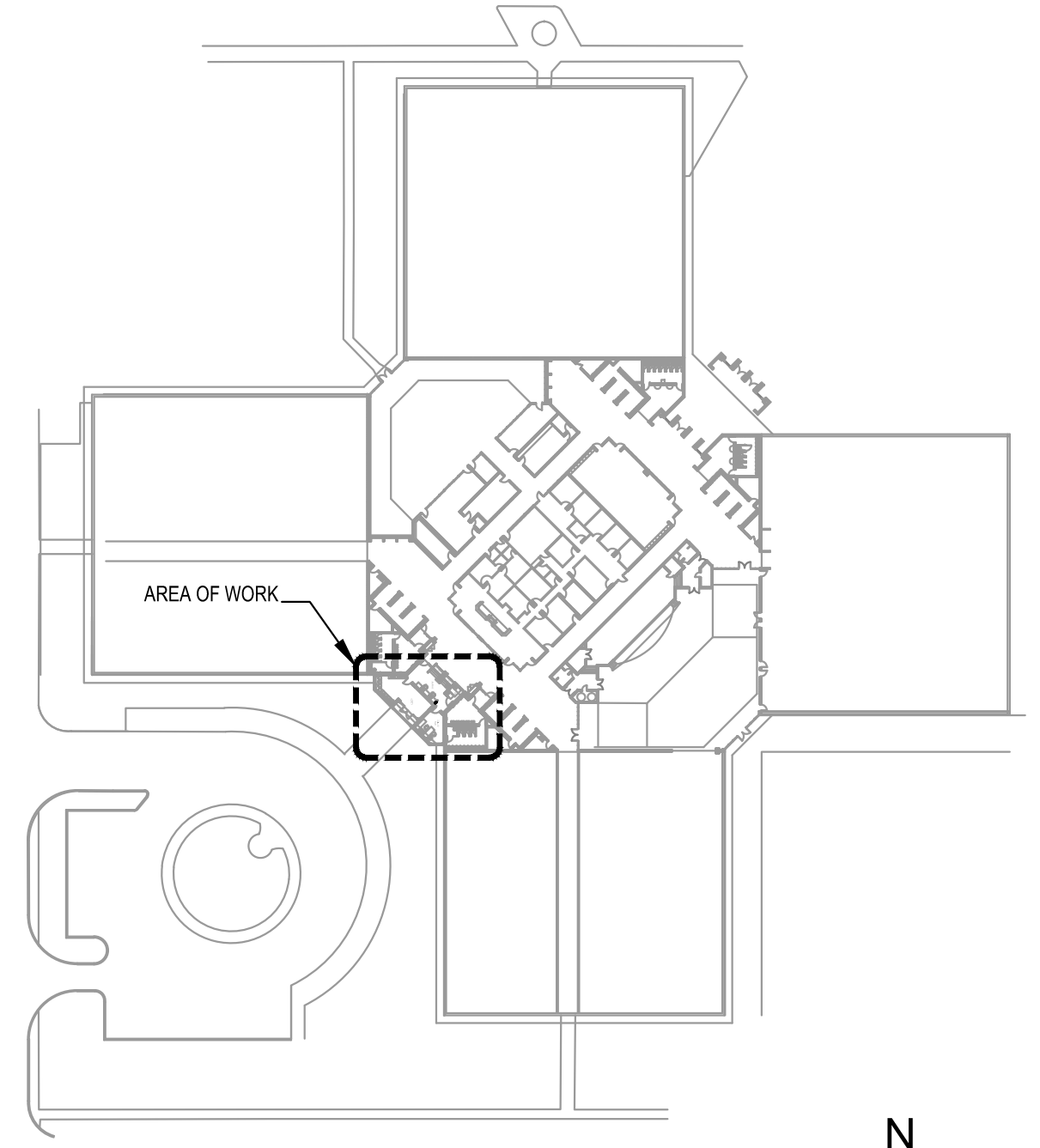


- ### ELECTRICAL KEYNOTES
- PANELS LOCATED ON THE SW MECHANICAL LEVEL. REFER SHEET E-3 FOR EXACT LOCATIONS OF THE PANELS.
 - TOP HALF OF ALL OFFICE, WORKSTATIONS, CONFERENCE ROOMS, CLASSROOMS, PRINTING AND/OR COPYING ROOMS AND BREAK ROOM RECEPTACLES SHALL BE AUTOMATICALLY CONTROLLED BY OCCUPANCY SENSOR IN THE SPACE PER ASHRAE 90.1.
 - ACCESS CONTROL BUZZER SYSTEM SHALL BE AIRPHONE JOS-1X. CONFIRM STYLE, COLOR AND LOCATION WITH ARCHITECT/OWNER.



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 9400 CR 512
 SEBASTIAN, FL 32958



KEY PLAN

1 ELECTRICAL POWER PLAN
 SCALE: 1/4" = 1'-0"

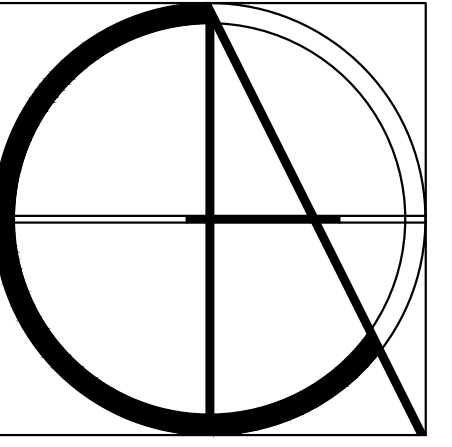
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DAVIS A. FITZGERALD, P.E.
 FLORIDA P.E. NO. 52037
 ELECTRICAL ENGINEER
 CERT. OF AUTH. 5454
 DATE: 10.26.2018

PROJECT #: 18-1153

PROJECT #	18-026
DATE	10-17-2018
REV #	DATE
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SHEET #	

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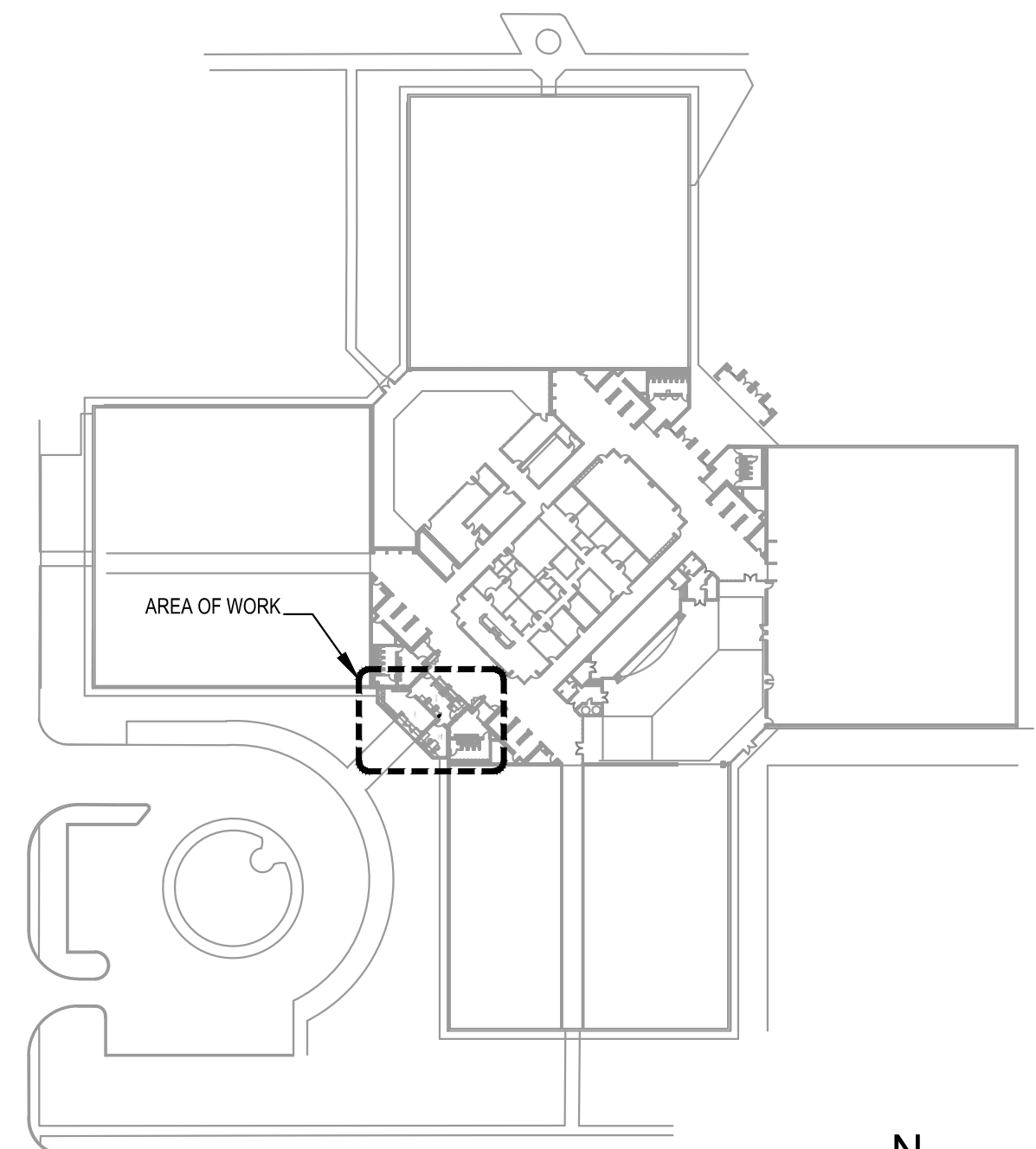
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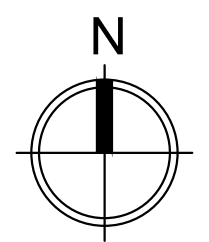
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SWBD 1A (E)	PANEL LPB (E)	PANEL LPC (E)	PANEL LPD (E)
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DATE 10.25.2018

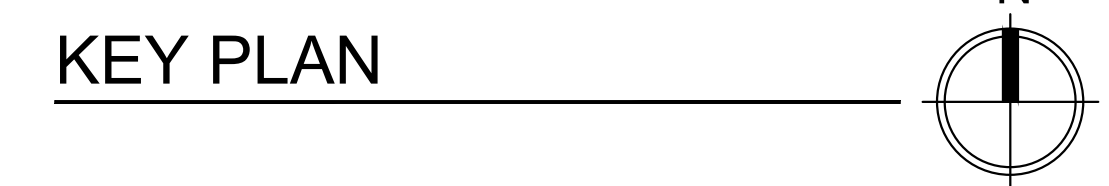
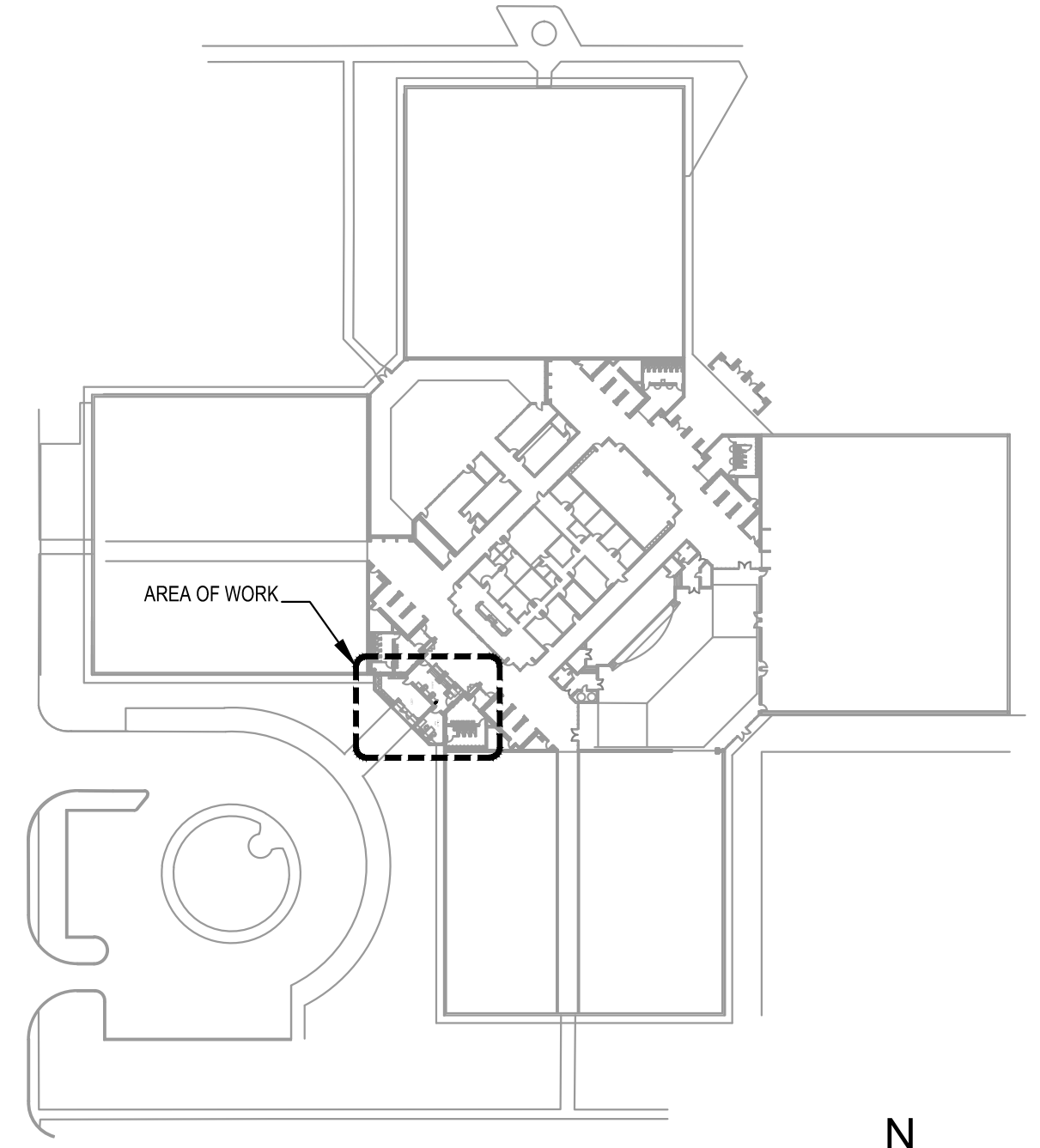
PROJECT #: 18-1153

1 ELECTRICAL POWER PLAN - SW MECHANINE
SCALE: 1/4" = 1'-0"



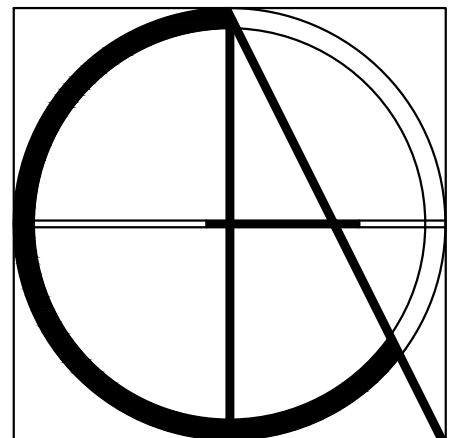
- ### ELECTRICAL KEYNOTES
1. CIRCUIT SHALL BE CONTROLLED VIA ASTRONOMICAL TIME CLOCK. PROVIDE UNSWITCHED HOT CONDUCTOR AS NEEDED FOR NIGHT LIGHTS, EMERGENCY LIGHTS, AND EXIT SIGNS. REFER TO LIGHTING CONTROL NOTES FOR TIME CLOCK OVER RIDE SWITCHES.
 2. CONNECT THE NEW LIGHTS TO THE NEAREST EXISTING EXTERIOR LIGHTS CIRCUITS AND CONTROLS USING 2#12 WIRES.
 3. CONNECT THE NEW LIGHTS TO THE NEAREST EXISTING HALLWAY LIGHTS CIRCUITS AND CONTROLS USING 2#12 WIRES.

SYMBOL	CONTROLS LEGEND
	MODEL/DESCRIPTION OAC-DT-1000 360 DEGREE 1000FT² DT CEILING SENSOR
	SP20-RD4 120/277VAC SINGLE RELAY SWITCHPACK FOR LIGHTING LOADS
	SP20-RD4 120/277VAC SINGLE RELAY SWITCHPACK FOR RECEPTACLE LOADS
	GMDS-W MOMENTARY SWITCH FOR OVERRIDING SENSOR
	DNW-D-1001-MV-W 120/277VAC SINGLE RELAY DT WALL SWITCH SENSOR



KEY PLAN

1 ELECTRICAL LIGHTING PLAN
SCALE: 1/4" = 1'-0"



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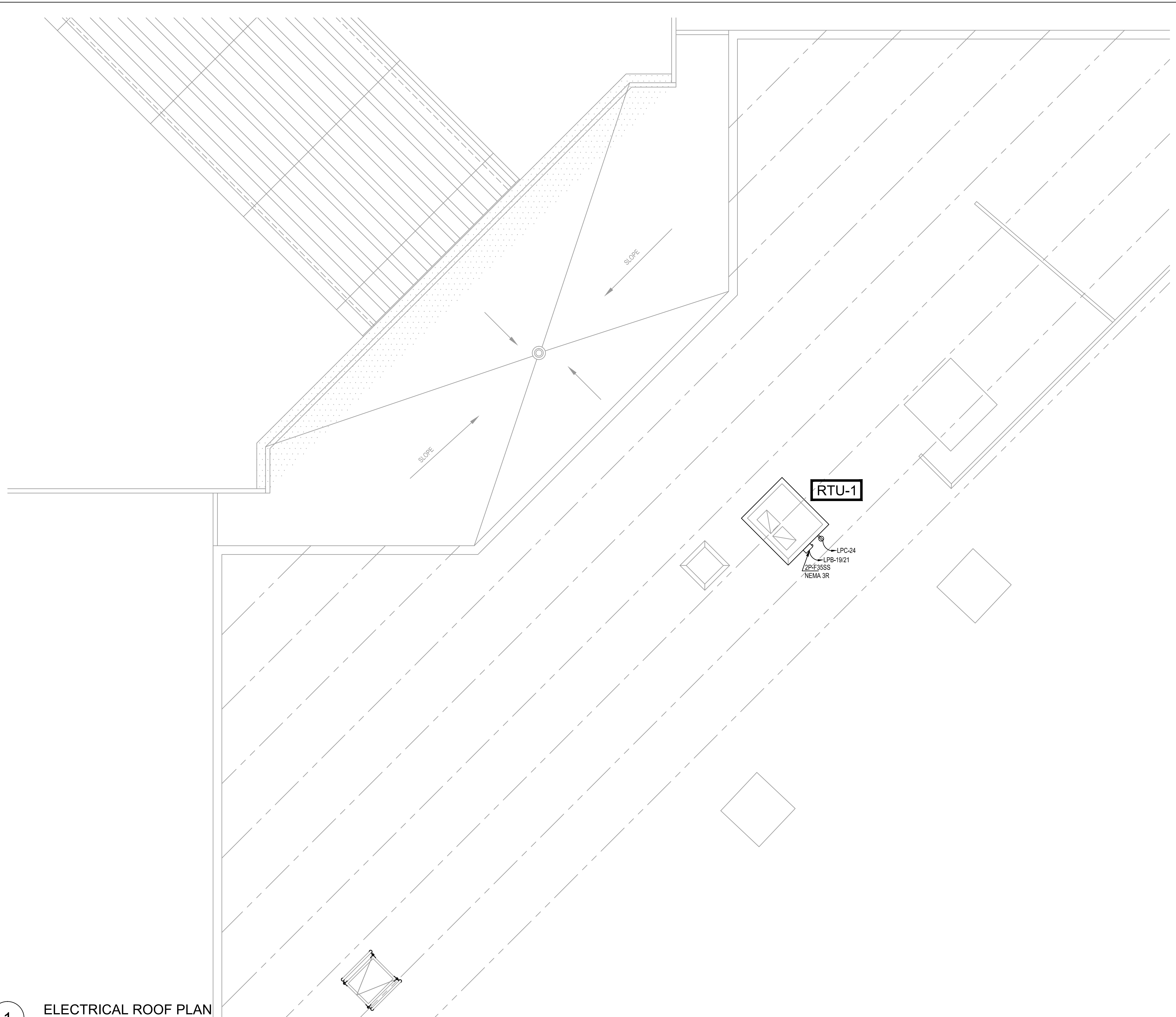
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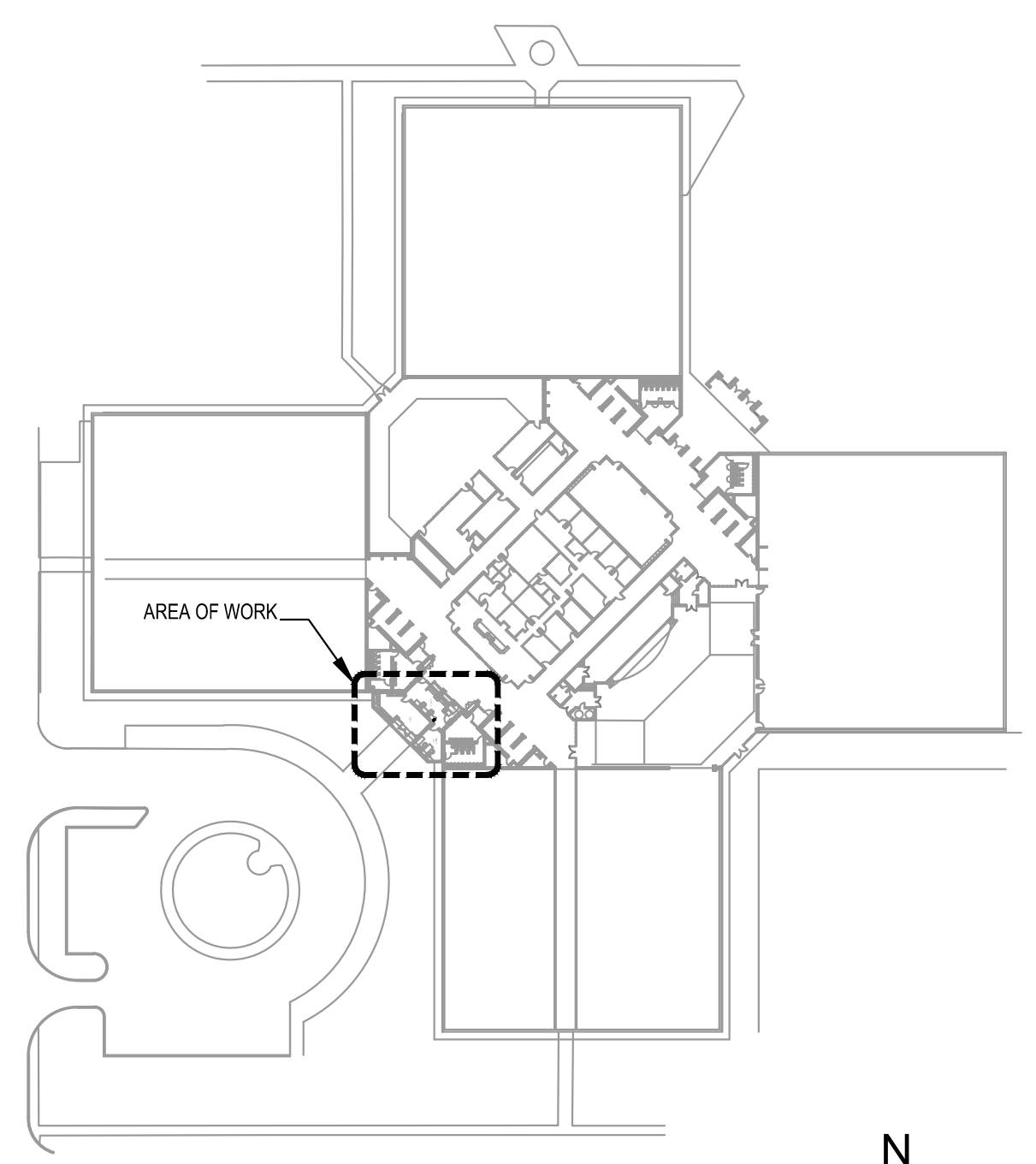
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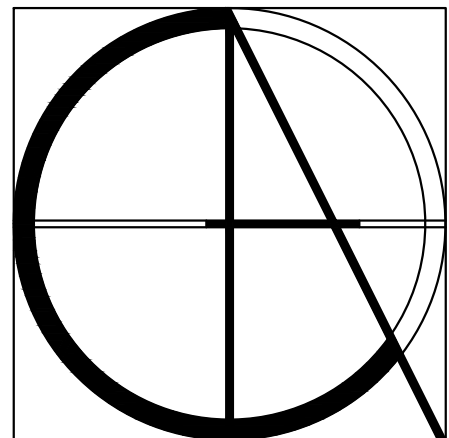
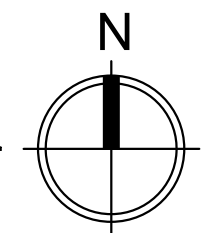
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1 ELECTRICAL ROOF PLAN
SCALE: 1/4" = 1'-0"



KEY PLAN



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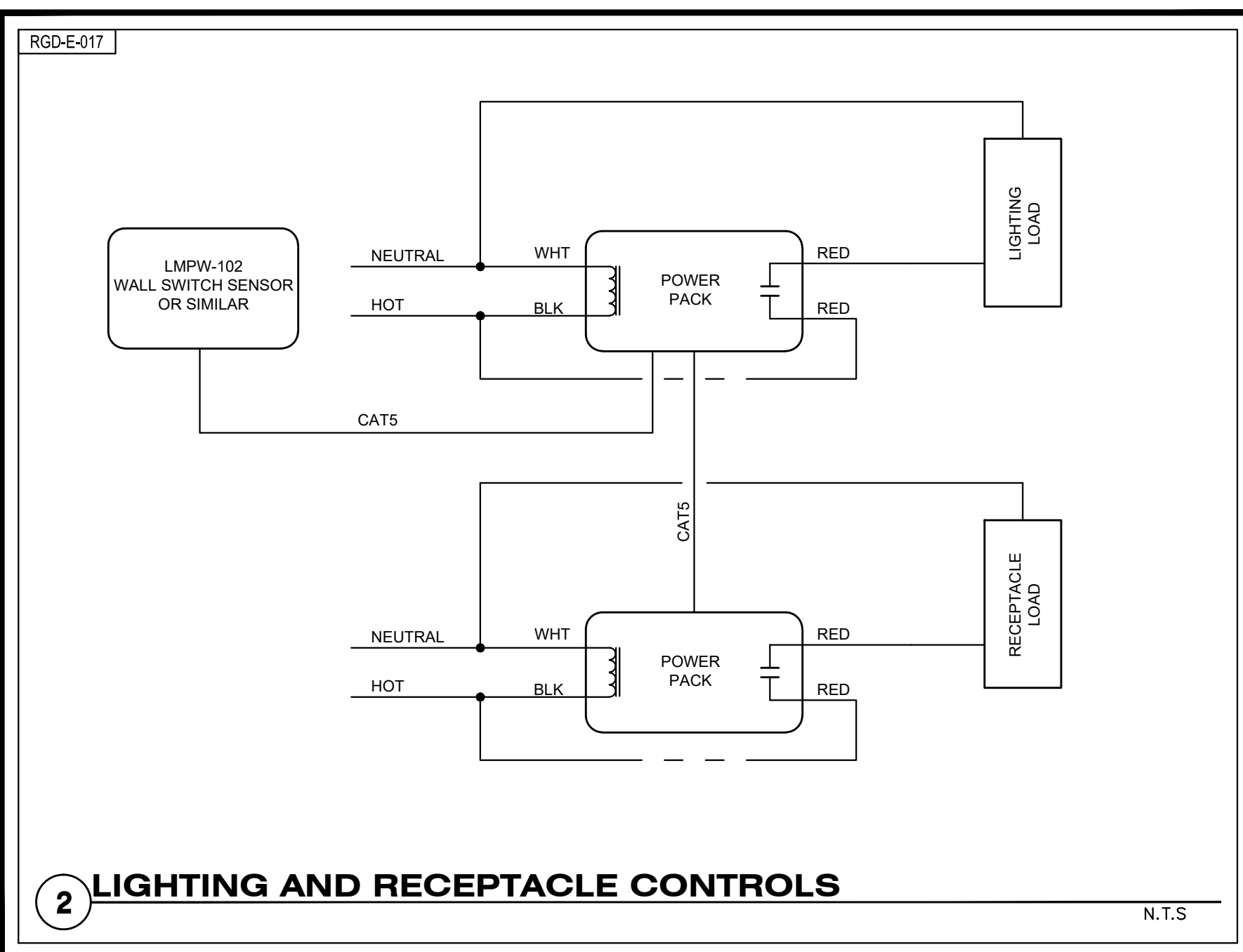
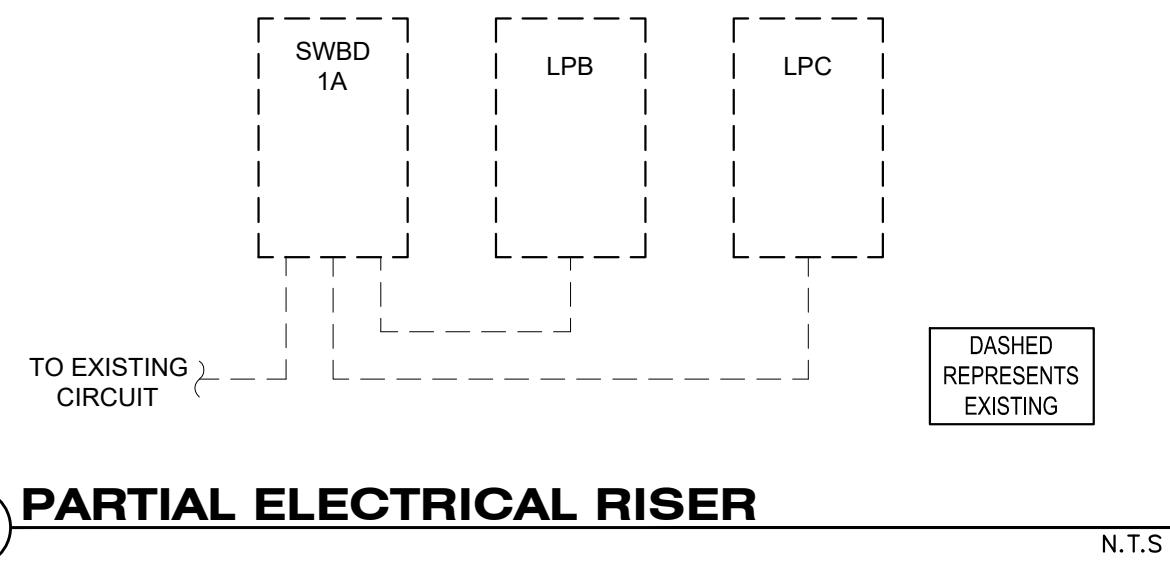
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ELECTRICAL ENGINEER
CERT. OF AUTH. 6494
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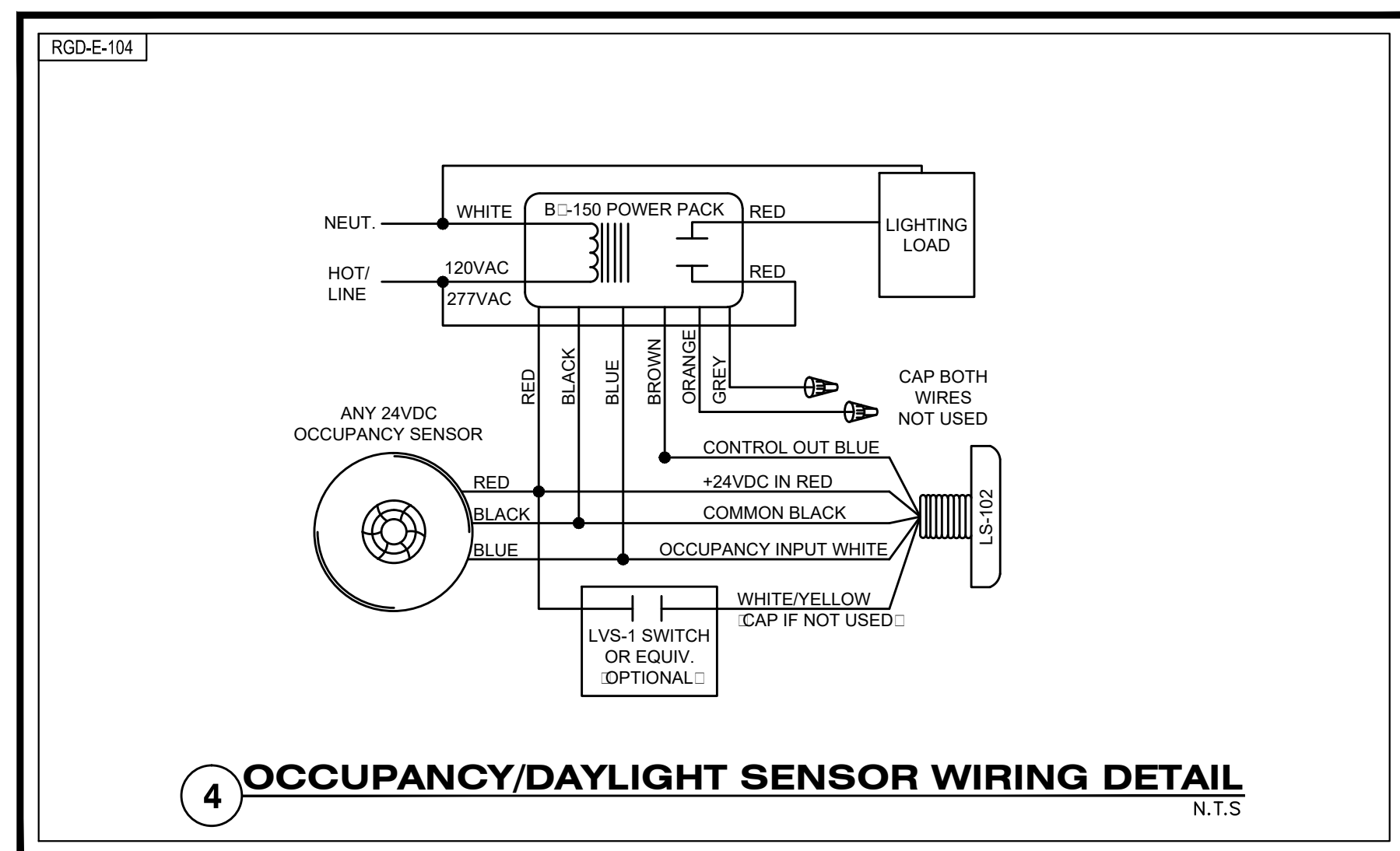
A Ø		14.30		KVA (CONNECTED)				3 Ø		4 W		
B Ø		14.30		KVA (CONNECTED)						120/208 VOLT		
C Ø		12.60		KVA (CONNECTED)						100 AMP BUS		
TOTAL		41.20		KVA (CONNECTED)		114		AMPS		M.L.O.		
TOTAL		28.20		KVA (NEC 220)		78		AMPS		NOTES:		
COND	WIRE	LOAD DESCRIPTION	KVA	KVA	KVA	CKT	CKT	KVA	KVA	KVA	WIRE	COND
SIZE	SIZE		A Ø	B Ø	C Ø	NO.	NO.	A Ø	B Ø	C Ø	SIZE	SIZE
		RECEPTACLES(E)	0.90			1	2	0.90				
		RECEPTACLES(E)		0.90		3	4		0.90			
		RECEPTACLES(E)			0.90	5	6			0.90		
		RECEPTACLES(E)	0.90			7	8	0.90				
		RECEPTACLES(E)		0.90		9	10		0.90			
		RECEPTACLES(E)			0.90	11	12			0.90		
		RECEPTACLES(E)	0.90			13	14	0.90				
		RECEPTACLES(E)		0.90		15	16		0.90			
		RECEPTACLES(E)			0.90	17	18			0.90		
		RECEPTACLES(E)	0.90			19	20	0.90				
		RECEPTACLES(E)		0.90		21	22		0.90			
		RECEPTACLES(E)			0.90	23	24			0.90		
		RECEPTACLES(E)	0.90			25	26	0.90				
		RECEPTACLES(E)		0.90		27	28		0.90			
		RECEPTACLES(E)			0.90	29	30			0.90		
		RECEPTACLES(E)	0.90			31	32	0.90				
		RECEPTACLES(E)		0.90		33	34		0.90			
		RECEPTACLES(E)			0.90	35	36			0.90		
		RECEPTACLES(E)	0.90			37	38	0.90				
		RECEPTACLES(E)		0.90		39	40		0.90			
		RECEPTACLES(E)			0.90	41	42			0.90		
F.T.L. CONNECTED LOAD			-	-	-							

A Ø		11.00		KVA (CONNECTED)				3 Ø		4 W		
B Ø		10.79		KVA (CONNECTED)						120/208 VOLT		
C Ø		9.88		KVA (CONNECTED)						100 AMP BUS		
TOTAL		31.67		KVA (CONNECTED)		88		AMPS		M.L.O.		
TOTAL		27.61		KVA (NEC 220)		77		AMPS		NOTES:		
COND	WIRE	LOAD DESCRIPTION	KVA	KVA	KVA	CKT	CKT	KVA	KVA	KVA	WIRE	COND
SIZE	SIZE		A Ø	B Ø	C Ø	NO.	NO.	A Ø	B Ø	C Ø	SIZE	SIZE
		RECEPTACLES(E)	1.00			1	2	1.00				
		RECEPTACLES(E)		1.00		3	4		1.00			
		RECEPTACLES(E)			1.00	5	6			1.00		
		RECEPTACLES(E)	1.00			7	8	1.00				
		RECEPTACLES(E)		1.00		9	10		1.00			
		RECEPTACLES(E)			1.00	11	12			1.00		
		EXISTING CIRCUIT(E)	4.20			13	14	1.00				
				4.20		15	16			1.00		
					4.20	17	18		0.96		2#12	1/2"
		LOBBY RECEPTACLES	0.72			19	20	1.08			2#12	1/2"
		LOBBY WORK DESK		0.96		21	22		0.63		2#12	1/2"
		OFFICE RECEPTACLES			0.54	23	24			0.18	2#12	1/2"
F.T.L. CONNECTED LOAD			-	-	-							



DEMOLITION NOTES

- THE CONTRACTOR SHALL REMOVE ALL UNUSED AND ABANDONED WIRING AND CABLING FROM THE CEILING PLENUM THAT ISN'T LABELED FOR FUTURE USE, AS REQUIRED BY THE NEC. THIS SHALL INCLUDE BUT IS NOT LIMITED TO FIRE ALARM, POWER, SECURITY, CONTROLS, DATA, TELEPHONE, AV, ETC.
- CIRCUITS MADE SPARE SHALL BE UPDATED ON PANEL SCHEDULES. DIRECTORY CARDS SHALL BE REPLACED WITH NEW TYPED DIRECTORIES, INCLUDING ALL NEW LOADS IN ADDITION TO SPARES. HAND-MARKED NOTES WILL NOT BE ACCEPTED.
- CARE SHALL BE TAKEN TO RELOCATE ALL EXISTING EQUIPMENT THAT IS BEING MOVED BUT REMAINING AFTER COMPLETION OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ALL EXISTING TO REMAIN OR RELOCATED EQUIPMENT AT THE SAME LEVEL OF FUNCTIONALITY FROM THE ACCEPTANCE OF THE CONTRACT TO FINAL COMPLETION. ANY DAMAGE OR LOSS OF FUNCTIONALITY SHALL BE REMEDIATED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- EQUIPMENT INDICATED TO BE REMOVED AND NOT RE-USED SHALL REMAIN THE PROPERTY OF THE OWNER AND RETURNED OR STORED AS DIRECTED.
- CONDUITS AND RACEWAY SYSTEMS MAY BE ABANDONED WHERE CONCEALED HOWEVER SHALL BE REMOVED WHERE EXPOSED. REMOVED OUTLETS SHALL BE PROVIDED WITH BLANK COVERS, COLOR PER THE ARCHITECTS DIRECTION.
- EXISTING RACEWAYS AND WIRING ARE ALLOWED TO BE RE-USED PROVIDED THEY MEET THE SPECIFICATIONS FOR THE NEW SYSTEMS.
- ALL OUTAGES SHALL BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL PLAN AHEAD TO MINIMIZE ALL OUTAGES.
- CIRCUITS SHALL STAY FUNCTIONAL WHERE DEVICES/FIXTURES ARE BEING DEMOLISHED THAT SHARE A COMMON CIRCUIT WITH DEVICES/FIXTURES THAT ARE TO REMAIN. WIRING SHALL BE REMOVED AS FAR AS POSSIBLE WHILE MAINTAINING EXISTING TO REMAIN OPERATION.
- THE CONTRACTORS SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT NOT REUSED OR NOT NECESSARY FOR THE COMPLETION OF THIS PROJECT.



SEBASTIAN MIDDLE SCHOOL								
LIGHTING FIXTURE SCHEDULE								
TYPE	DESCRIPTION	MFR	CATALOG NUMBER	VOLTS	LAMPS	INPUT WATTS	MOUNTING	REMARKS
A	2X2 LED TROFFER	METALUX	22CZ-LD5-34-UNV-L840-CD1-U	UNV	LED	29.4	GRID	SEE NOTE 1.
AE	TYPE A WEM BATTERY	METALUX	22CZ-LD5-34-UNV-L840-CD1-EL14W-U	UNV	LED	29.4	GRID	SEE NOTE 1.
B	6' LED DOWNLIGHT	HALO COMMERCIAL	PD610D010B-PDM6B840-61VH	UNV	LED	10	RECESSED	SEE NOTE 1.
BE	TYPE B WEM BATTERY	HALO COMMERCIAL	PD610D010B-REMV7-PDM6B840-61VH	UNV	LED	10	RECESSED	SEE NOTE 1.
C	TROPHY CASE LIGHT	LUMINII	45-**-HF-SA/(**MC-D2/EC-D3/EC-D4/LL30-40K-SL-NC-**-PSD-**-24	24	LED INCL	2.5W/FT	SURFACE	SEE NOTES 2,3,4.
DE	1X4 SURFACE LED WEM BATTERY	METALUX	4WSL-LD2-40-UNV-L840-CD1-EL14W-U	UNV	LED	35.1	SURFACE	SEE NOTE 1.
F	6' LED OUTDOOR DOWNLIGHT	PORTFOLIO	LD6B10D010-EU6B10208040-6LBWH1-HB26	UNV	LED	10	RECESSED	SEE NOTE 1.
X	LED EXIT SIGN	SURELITES	LPX7	UNV	LED	4	PER PLANS	FACES AND ARROWS PER PLANS

FIXTURE SCHEDULE NOTES

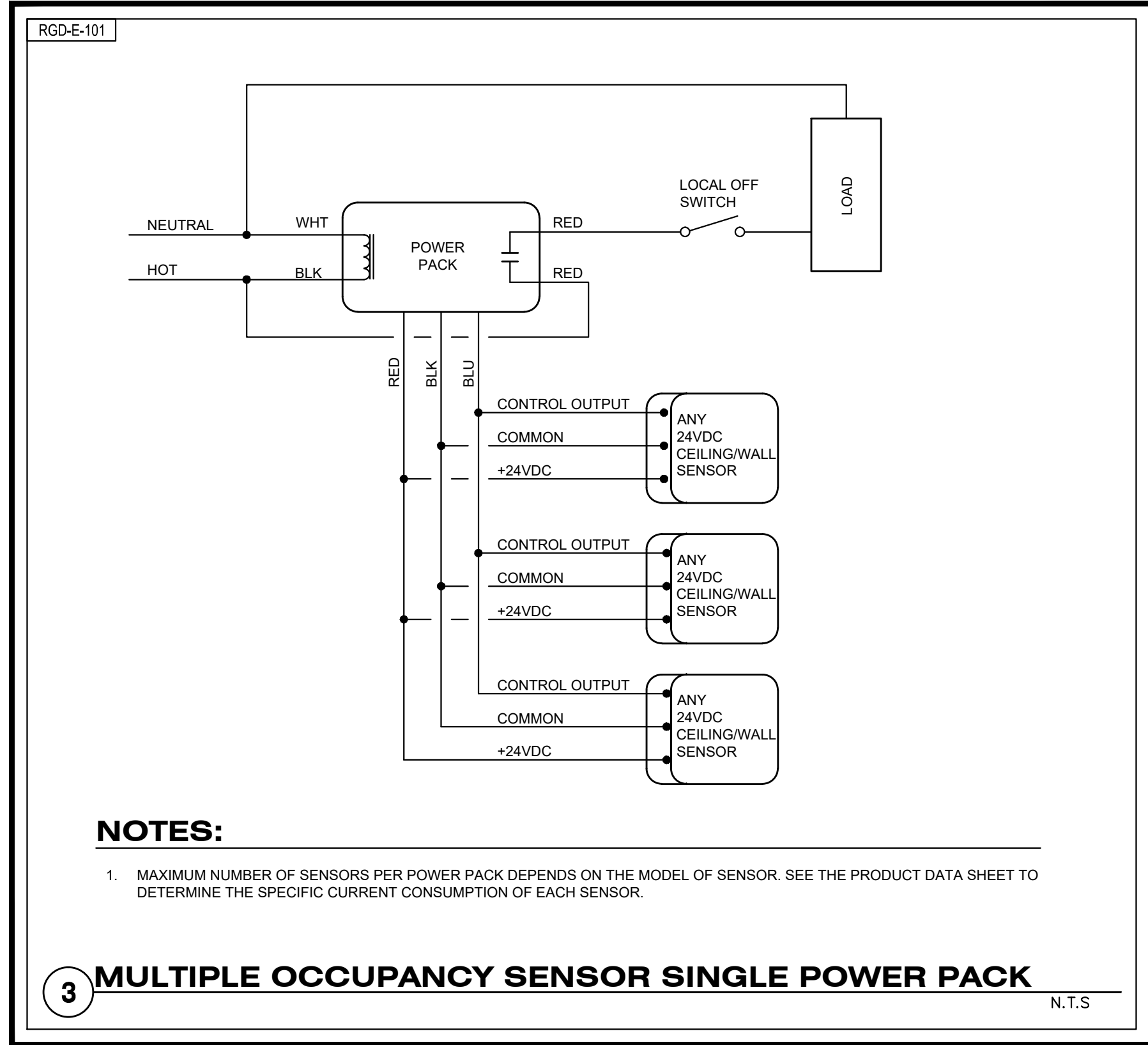
NOTE 1: DIMMABLE WITH 0-10V DIMMING SIGNAL. TWO LOW VOLTAGE CONTROL WIRES REQUIRED.

NOTE 2: REMOTE DRIVER LOCATION TBD. DRIVER SIZE TBD BASED ON RUN LENGTH.

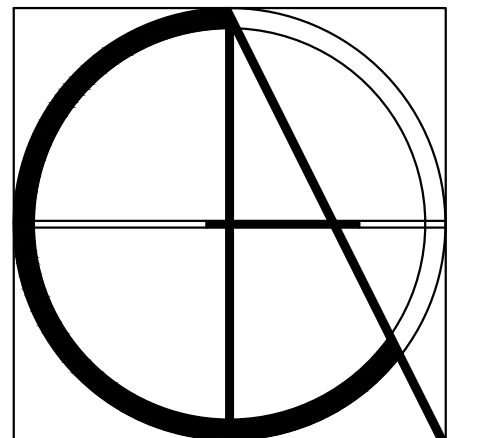
NOTE 3: ** DENOTES LENGTHS/QUANTITIES PER PLANS

NOTE 4: VERTICALLY MOUNT IN CASE. DIMMABLE WITH MLV SIGNAL.

FOR QUESTIONS PERTAINING TO THIS FIXTURE SCHEDULE PLEASE CONTACT TONY PLONNER @ LIGHTING DYNAMICS (561) 718-8917



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REV #	DATE
SHEET #	

GENERAL PLUMBING NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE CODES AS SHOWN.
- THE PLUMBING CONTRACTOR SHALL BE HELD TO HAVE VERIFIED ALL EXISTING CONDITIONS, INCLUDING SITE VISITATION, AND REVIEW OF AS-BUILT DOCUMENTATION AS APPLICABLE PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF ANY MATERIALS OR EQUIPMENT ON THIS PROJECT.
- UNLESS OTHERWISE SPECIFIED, ALL MATERIALS SHALL BE NEW. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACK FILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
- REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS, PLUMBING CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL AND STRUCTURAL DRAWINGS AND ARE CONSIDERED TO BE ONE SET OF DOCUMENTS. BENDS OFFSETS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE AND FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR AT NO ADDITIONAL COST. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
- CONTRACTOR SHALL SUBMIT FOR APPROVAL ELECTRONIC PDF COPIES OF MANUFACTURER DRAWINGS FOR ALL PLUMBING FIXTURES AND EQUIPMENT INCLUDED IN CONTRACT. ALL MATERIAL SHALL BE NEW FROM A U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED TRADESMEN.
- ENGINEER OF RECORD RECOGNIZES THE GENERAL CONTRACTOR AND ALL OTHER CONTRACTORS TO BE LICENSED IN THE STATE OF FLORIDA. GENERAL CONTRACTOR SHALL CONSIDER THE PROJECT AS ONE SET OF DOCUMENTS. GENERAL CONTRACTOR SHALL PROVIDE AN ENTIRE SET OF DOCUMENTS SHOWING ALL TRADES TO EACH SUBCONTRACTOR PRIOR TO BIDDING AND CONSTRUCTION. GENERAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER CONTRACTORS TO INFORM ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONFLICTS ON THE DOCUMENTS PRIOR TO SUBMITTING FINAL BID AND COMMENCING ANY WORK. CONTRACTOR SHALL MAKE HIMSELF AVAILABLE FOR REVIEWING DOCUMENTS WITH ARCHITECT/ENGINEER UPON REQUEST.
- THE GENERAL CONTRACTOR SHALL PROVIDE IN WRITING ON COMPANY LETTER HEAD ALL ITEMS VALUE ENGINEERED OR OMITTED FROM ENTIRE PROJECT. THIS DOCUMENT SHALL HAVE DETAILED DESCRIPTION AND TRANSPARENCY OF ALL ITEMS IN EACH DISCIPLINE AND TRADE. INFORMATION SHALL BE PROVIDED TO ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO SUBMITTING FINAL BID. CONTRACTOR SHALL MAKE HIMSELF AVAILABLE FOR REVIEWING DOCUMENTS WITH ARCHITECT/ENGINEER/OWNER UPON REQUEST.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
- VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
- THE INVERT ELEVATIONS OF DRAINAGE PIPING LEAVING THE BUILDING ARE APPROXIMATE AND MAY VARY DEPENDING ON FIELD CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING CIVIL AS REQUIRED TO ASSURE THAT CONNECTIONS TO THE STORM AND/OR SANITARY SEWER SYSTEM CAN BE COMPLETED. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IN WRITING PRIOR TO COMMENCEMENT OF THE GROUND ROUGH.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE INVERT ELEVATIONS OF EXISTING DRAINAGE PIPING AS REQUIRED TO ASSURE THAT CONNECTIONS TO EXISTING STORM AND/OR SANITARY SYSTEMS CAN BE COMPLETED. THE CONTRACTOR SHALL SCOPE, X-RAY, AND TEST AS NECESSARY TO VERIFY EXISTING INVERT ELEVATIONS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IN WRITING PRIOR TO COMMENCEMENT OF THE GROUND ROUGH.
- WATER DISTRIBUTION PIPING SHALL BE TYPE "L" COPPER.
- ALL PVC SHALL BE SOLID CORE NO CELLULAR CORE.
- UNLESS OTHERWISE INDICATED ON THE PLAN, THE SOIL, WASTE AND STORM WATER PIPING SHALL BE PVC ABOVE SLAB AND PVC BELOW SLAB AND FOR VENT PIPE ABOVE A TRAP. PVC MAY NOT BE USED THROUGH RATED ASSEMBLIES OR IN RETURN AIR PLENUMS. WASTE PIPING FOR WATER DISCHARGED FROM DISHWASHER OR ANY APPLIANCE HANDLING WASTE WATER OVER 140" SHALL HAVE A DRAIN TEMPERING VALVE TO PRIOR TO ITS DISCHARGE ONTO THE MAIN BUILDING WASTE LINE.
- ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. ISOLATION VALVES LOCATED IN CEILING CAVITIES ABOVE HARD CEILINGS SHALL BE SUPPLIED WITH APPROVED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- FURNISH AND INSTALL APPROVED, ENGINEERED PISTON TYPE MECHANICAL WATER HAMMER ARRESTORS AT EACH PLUMBING FIXTURE OR FIXTURE GROUP WITH QUICK CLOSING VALVES. INSTALLATION OF THE ARRESTOR SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, AND SHALL BE IN COMPLIANCE WITH FBC-P 604.9 AND ASSE 1010. THE ARRESTOR SHALL BE LOCATED WITHIN THE EFFECTIVE RANGE OF THE QUICK CLOSING VALVE, WITH ACCESS UNLESS THE ARRESTOR IS DESIGNED FOR CONCEALED APPLICATION AND IS APPROVED BY THE BUILDING DEPARTMENT. PRECISION PLUMBING PRODUCTS, JOSAM OR SOUX CHIEF ARE ACCEPTABLE SUPPLIERS.
- DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS.
- ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
- ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR. SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATINGS AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
- PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED.
- PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND ALL WATER HAMMER ARRESTERS. ACCESS PANELS IN RATED WALLS MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL IN WHICH IT IS INSTALLED.
- PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL WALL CLEAN OUTS.
- ALL CONTROL VALVES SHALL BE TAGGED AND MARKED. A REPRODUCIBLE DIAGRAM LOCATING ALL VALVES SHALL BE PROVIDED FOR OWNER/OPERATOR.
- ALL CONDENSATE DRAIN PIPING SHALL BE TYPE "L" COPPER WITH 1/2" THICK ARMAFLEX INSULATION. ALL CONDENSATE PIPING SHALL BE PROVIDED AND INSTALLED BY THE PLUMBING CONTRACTOR, EXCEPT FOR THE FINAL CONNECTIONS (INCLUDING THE TRAP). THE FINAL CONNECTIONS (INCLUDING TRAP) AND ALL PIPING ON ROOFTOPS SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. COORDINATE FINAL EQUIPMENT LOCATIONS WITH MECHANICAL CONTRACTOR.
- PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
- WATER PIPING INSULATION SHALL BE 1" THICK ARMAFLEX INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR ALL HOT WATER SUPPLY PIPING AND CIRCULATING HOT WATER PIPING. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX INSULATION.
- ALL FLOOR DRAINS NOT OTHERWISE PRIMED WITH INDIRECT WASTE SHALL BE PRIMED FROM THE NEAREST DOMESTIC WATER FIXTURE. REFERENCE FLOOR DRAIN PRIMING DETAIL.
- DRYWELL LOCATIONS INDICATED ON THE CONSTRUCTION DOCUMENTS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT AND THE CIVIL ENGINEER PRIOR TO PLACEMENT AS REQUIRED.
- PLUMBING CONTRACTOR SHALL PROVIDE ENGINEER WITH AS-BUILT DRAWINGS UPON COMPLETION.
- ALL PUBLIC HAND-WASHING SINKS SHALL RECEIVE TEMPERED WATER THROUGH AN APPROVED TEMPERATURE LIMITING DEVICE THAT CONFORMS WITH ASSE 1070.
- TEMPERATURE-ACTUATED MIXING VALVES WHICH ARE INSTALLED TO REDUCE WATER TEMPERATURES TO DEFINED LIMITS, SHALL COMPLY WITH ASSE 1017.
- ALL PIPING TO BE TESTED IN ACCORDANCE WITH SECTION 312 OF THE FLORIDA PLUMBING CODE.

PLUMBING SYMBOL LEGEND

X"Ø SAN	SANITARY DRAIN
X"Ø VNT	SANITARY VENT
X"Ø GW	GREASE WASTE DRAIN
X"Ø STM	STORM WATER DRAIN
X"Ø COND	CONDENSATE DRAIN
X"Ø CW	COLD WATER SUPPLY PIPE
X"Ø HW	HOT WATER SUPPLY PIPE
X"Ø HWR	HOT WATER RECIRCULATION PIPE
X"Ø HW 140	140°F HOT WATER SUPPLY PIPE
---	EXISTING PIPE
----	DEMOLISHED PIPE
—	WATER SUPPLY PIPE WITH CAPPED END
⊖	DOMESTIC WATER DOWN
⊙	DOMESTIC WATER UP
⊕	FULL-OPEN VALVE
⊕	FULL-OPEN VALVE W/ ACCESS DOOR
⊕	CONNECT TO EXISTING AT THIS LOCATION
⊕	POINT OF DEMO

NOTE: NOT ALL SYMBOLS MAY APPLY TO PLANS

PLUMBING ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE	HC	HANDICAP
ACW	AUTOMATIC CLOTHES WASHER	HFU	HOT WATER SUPPLY FIXTURE UNIT
AFF	ABOVE FINISHED FLOOR	HW	HOT WATER
AFG	ABOVE FINISHED GRADE	HWR	HOT WATER RECIRC.
CI	CAST IRON	IE	INVERT ELEVATION
CFU	COLD WATER SUPPLY FIXTURE UNIT	LAV	LAVATORY
CO	CLEANOUT	NTS	NOT TO SCALE
COND	CONDENSATE	OD	ROOF OVERFLOW DRAIN
CTG	CLEANOUT TO GRADE	RD	ROOF DRAIN
CM	COFFEE MAKER	RE	RELOCATE EXISTING
CW	COLD WATER	REF	REFERENCE
DFU	DRAINAGE FIXTURE UNIT	REF	REFRIGERATOR
DW	DISHWASHER	RO	REVERSE OSMOSIS
EFD	EMERGENCY FLOOR DRAIN	SK	SINK
EWC	ELECTRIC WATER COOLER	SH	SHOWER
EWH	ELECTRIC WATER HEATER	SST	STAINLESS STEEL
EX	EXISTING	TFU	TOTAL WATER SUPPLY FIXTURE UNIT
FCO	FLOOR CLEAN OUT	TUB/SH	BATH TUB W/ SHOWER HEAD
FD	FLOOR DRAIN	UR	URINAL
FF	FINISHED FLOOR	VTR	VENT TO ROOF
FLR	FLOOR	WC	WATER CLOSET
GWH	GAS WATER HEATER	WCO	WALL CLEANOUT
HB	HOSE BIBB		

NOTE: NOT ALL ABBREVIATIONS MAY APPLY TO PLANS

PLUMBING SHEET INDEX

P-1	PLUMBING NOTES, LEGENDS, & SHEET INDEX
P-2	SANITARY FLOOR PLAN & ISOMETRIC
P-3	DOMESTIC WATER FLOOR PLAN & ISOMETRIC
P-4	PLUMBING SCHEDULES & DETAILS

APPLICABLE BUILDING CODES

FLORIDA BUILDING CODE, 6TH EDITION (2017)
FLORIDA BUILDING CODE PLUMBING, 6TH EDITION (2017)
FLORIDA FIRE PREVENTION CODE, 6TH EDITION (2017)

MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES IN THEIR LATEST REVISIONS.

CONTRACTOR SHALL COORDINATE SPECIFIC REQUIREMENTS OF EQUIPMENT WITH MANUFACTURER SHOP DRAWINGS.

ALL EQUIPMENT SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.

PLUMBING SCOPE OF WORK:

THE PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SANITARY, VENTING AND DOMESTIC WATER RUNS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF RECORD IF EXISTING CONDITIONS DO NOT SUPPORT THE DESIGN INTENT.

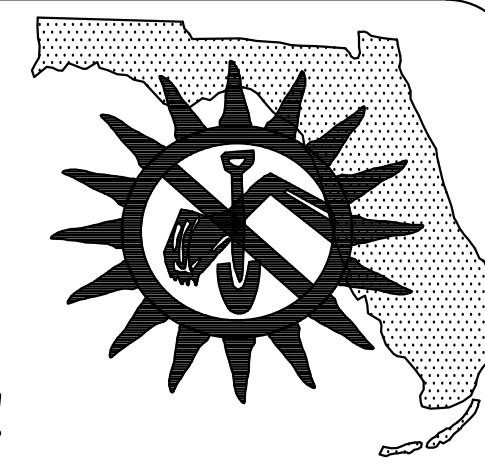
THE PLUMBING SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO:

- THE ADDITION OF A SINK AND AN ADA COMPLIANT RESTROOM TO THE NEW RECEPTION AREA.

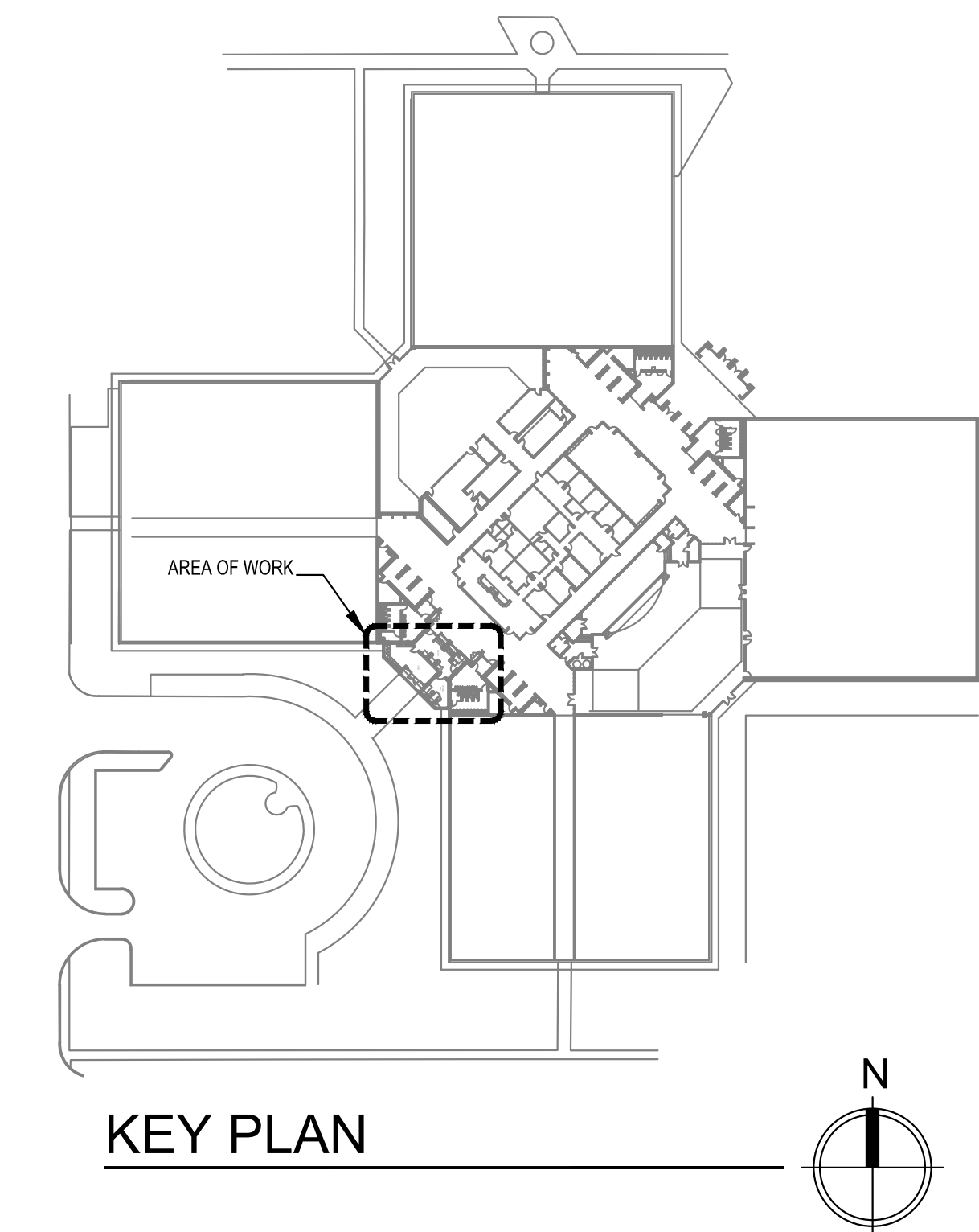
SITE / CIVIL NOTE:

- ALL STORM DRAIN CONNECTIONS ARE SHOWN ON THE SITE / CIVIL DRAWINGS. ALL LOCATIONS OF NEW & EXISTING PIPE ARE APPROXIMATE. COORDINATE UNDER GROUND UTILITIES WITH CIVIL'S DRAWINGS AND UTILITY COMPANY.
- THE INVERT ELEVATIONS OF DRAINAGE PIPING LEAVING THE BUILDING ARE APPROXIMATE AND MAY VARY DEPENDING ON FIELD CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH CIVIL AS REQUIRED TO ASSURE THAT A CONNECTION TO THE SANITARY SEWER SYSTEM CAN BE COMPLETED. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IN WRITING PRIOR TO COMMENCEMENT OF THE GROUND ROUGH.

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KEY PLAN

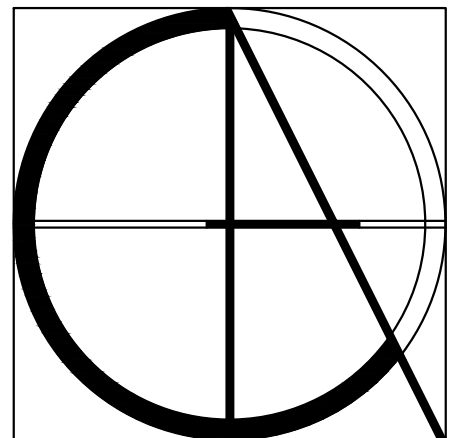
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RAUL S. MASTRAPA
FLORIDA P.E. NO. 40182
MECHANICAL ENGINEER
CERT. OF AUTH. 5454
DATE: 10.26.2018

PROJECT #: 18-1153



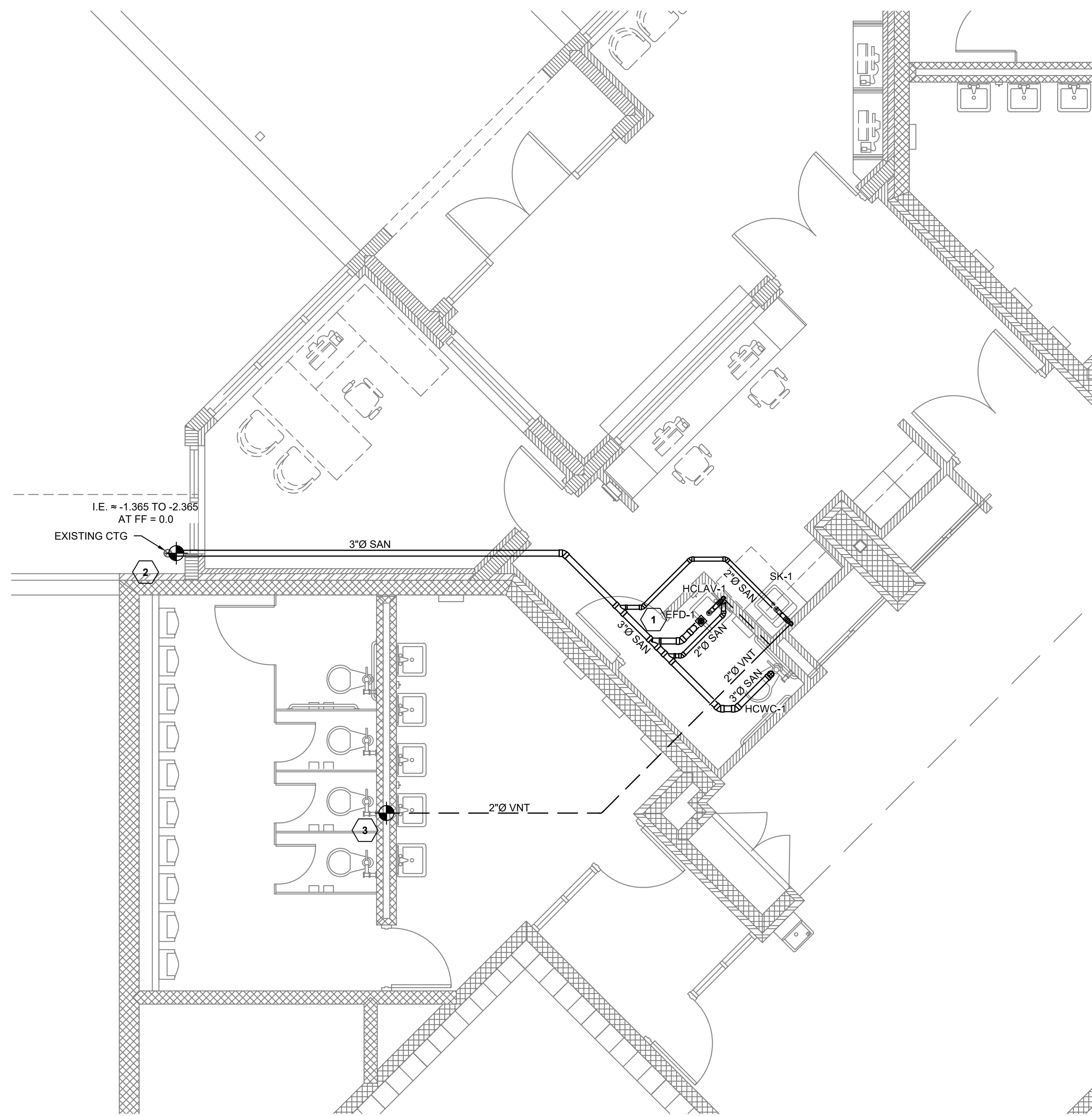
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BOCA RATON, FL 33487
561.961.4884

Building Addition for:
Sebastian River Middle School
9400 CR 512
SEBASTIAN, FL 32958

PROJECT #	18-026
DATE	10-17-2018
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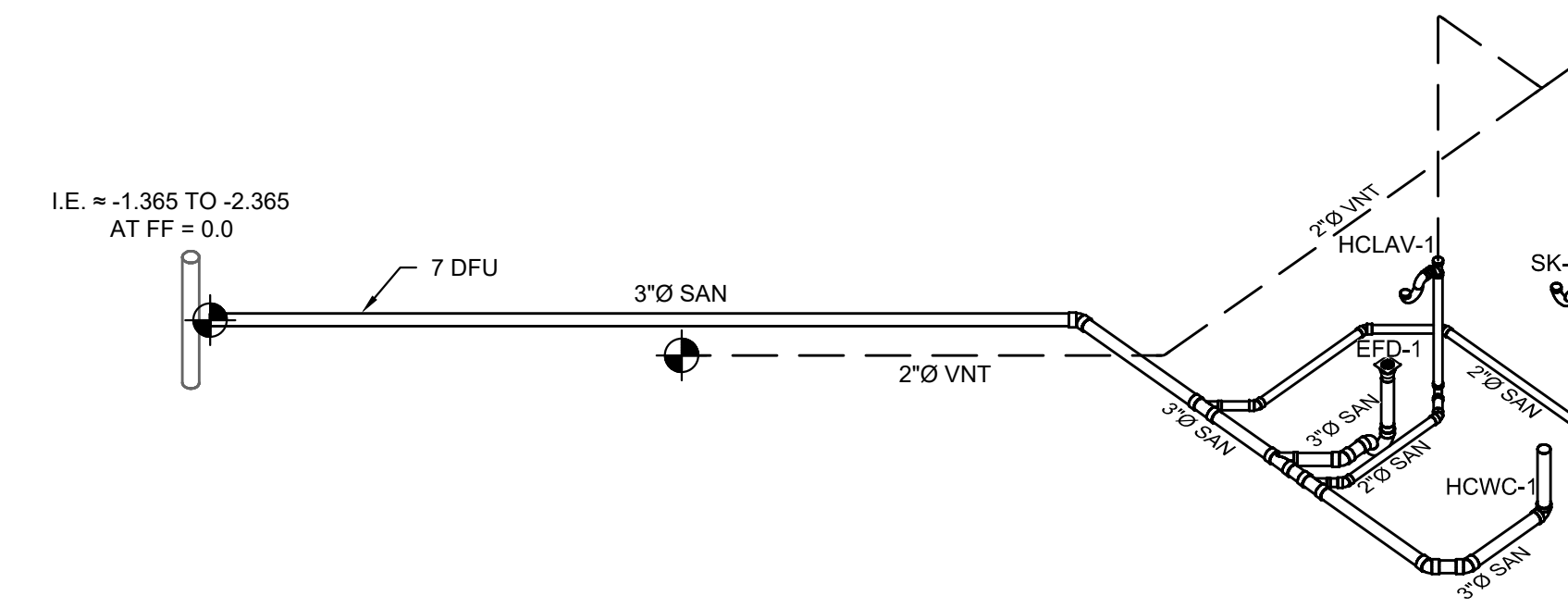
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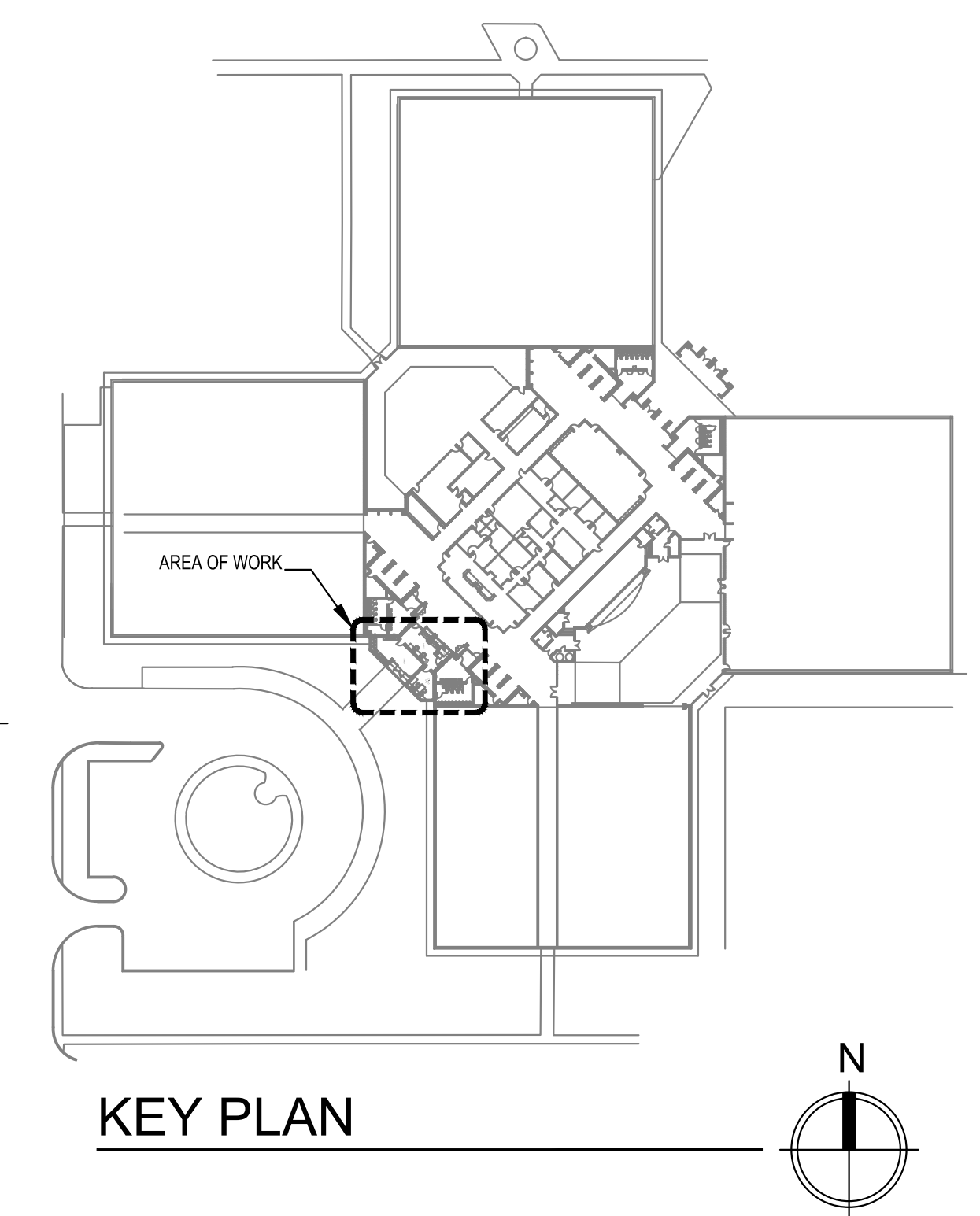


1 SANITARY FLOOR PLAN
SCALE: 1/4" = 1'-0"

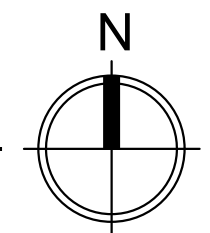
- # SANITARY KEY NOTES:**
1. PROVIDE TRAP SEAL PRIMER FROM NEAREST SINK OR LAVATORY FIXTURE OR COLD WATER SUPPLY LINE.
 2. CONTRACTOR TO VERIFY ACCEPTABLE INVERTS BEFORE PROCEEDING WITH ANY SAW CUTTING.
 3. CONTRACTOR TO VERIFY LOCATION OF EXISTING VENT & VENT TO ROOF. CONNECT ACCORDINGLY. NOTIFY PROJECT ENGINEER IF FIELD CONDITIONS DO NOT MATCH DESIGN INTENT.



2 SANITARY ISOMETRIC



KEY PLAN



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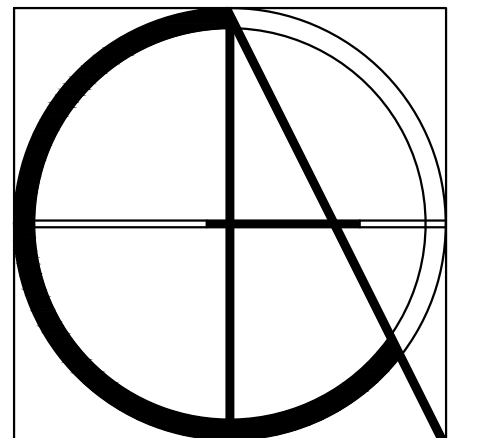
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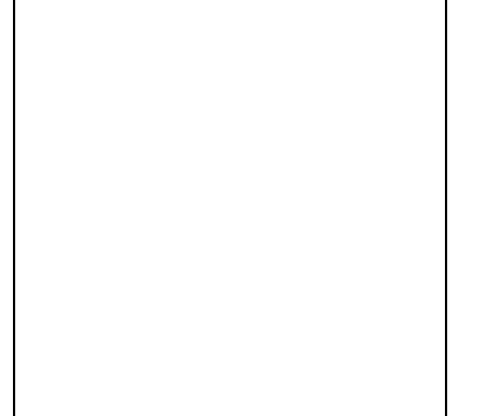
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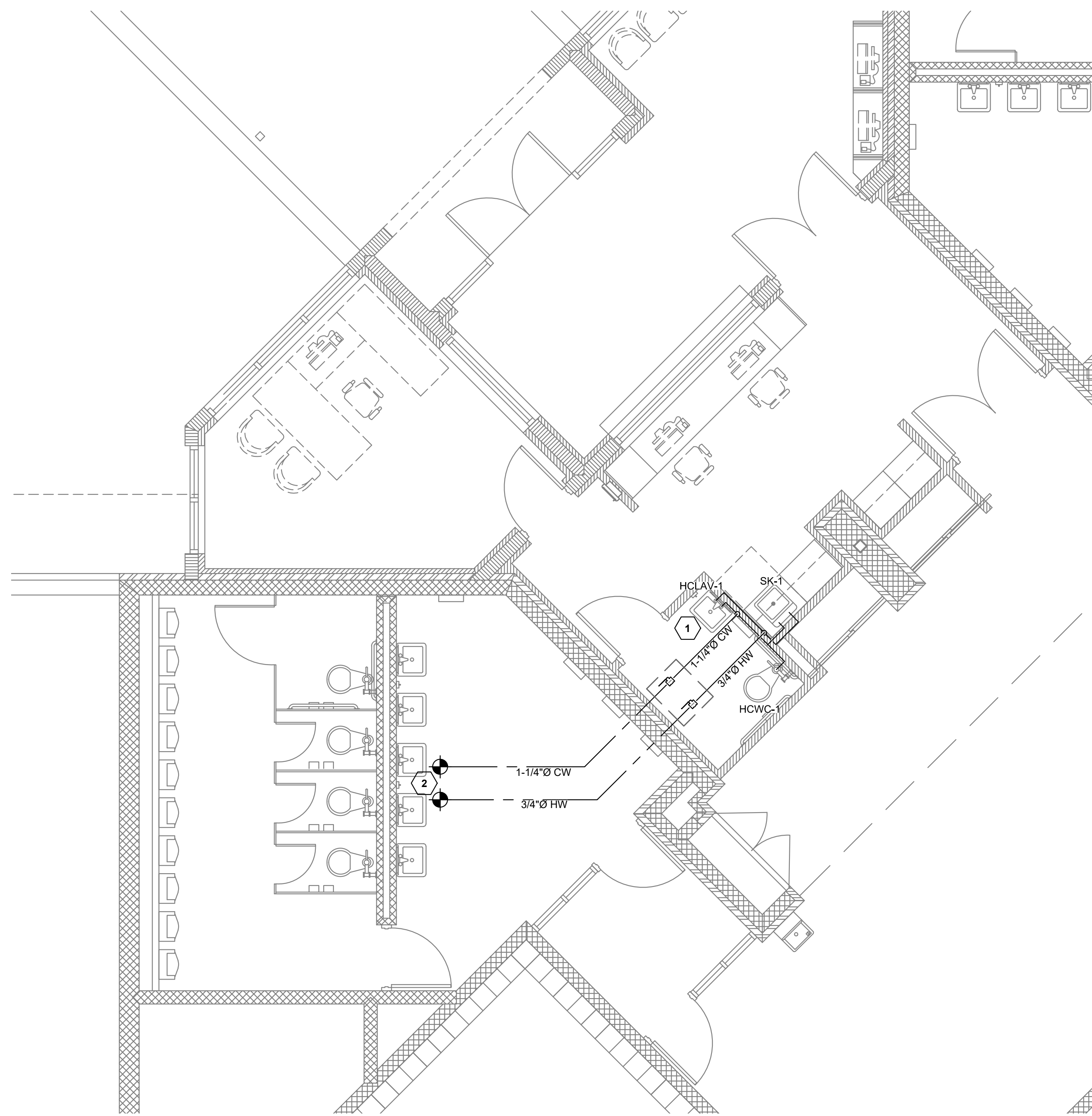


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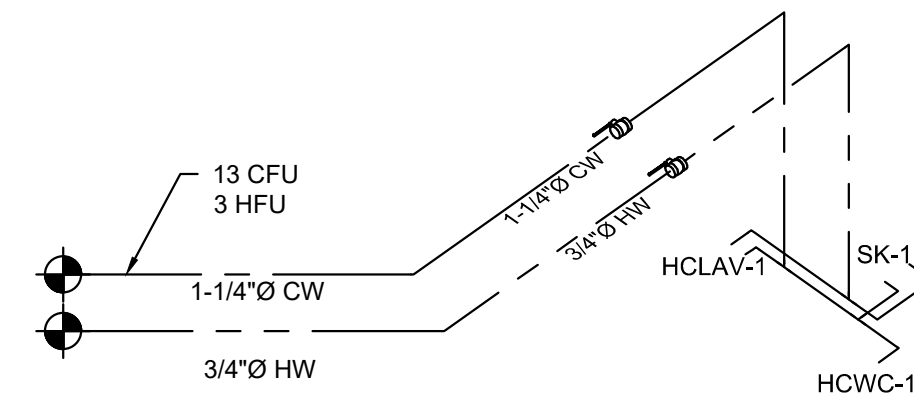
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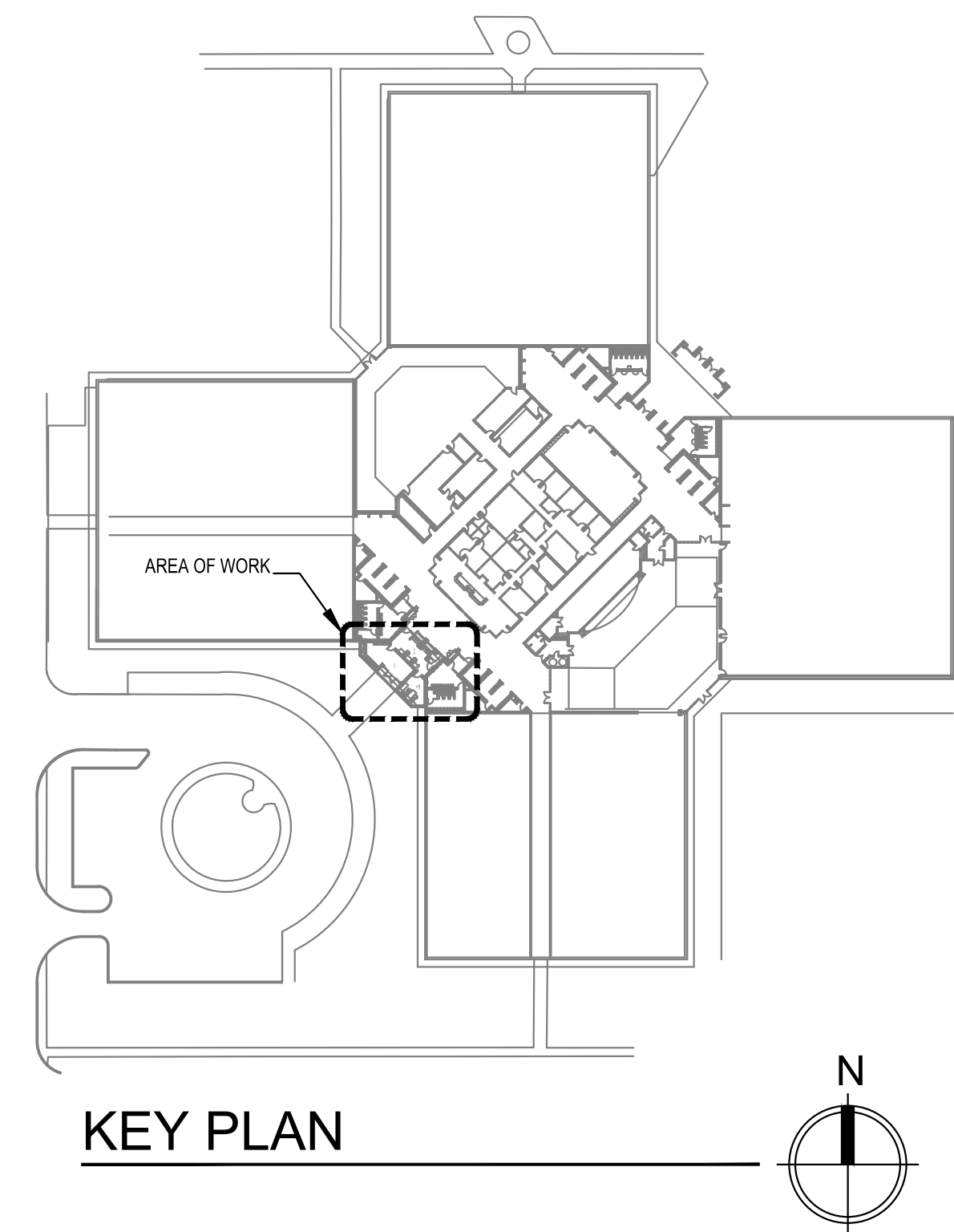
1 DOMESTIC WATER FLOOR PLAN
SCALE: 1/4" = 1'-0"

DOMESTIC WATER KEY NOTES:

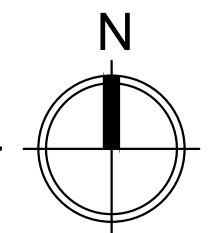
1. PROVIDE LEONARD 270-LF MIXING VALVE OR EQUIVALENT ASSE 1070 COMPLIANT MIXING VALVE.
2. VERIFY CONNECTION SIZE WITH EXISTING PIPE. NOTIFY PROJECT ENGINEER IF FIELD CONDITIONS DO NOT MATCH DESIGN INTENT.



2 DOMESTIC WATER ISOMETRIC



KEY PLAN



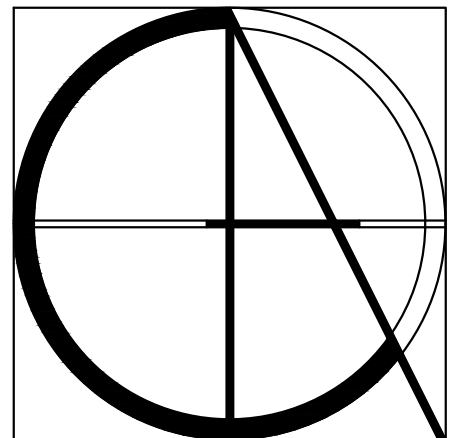
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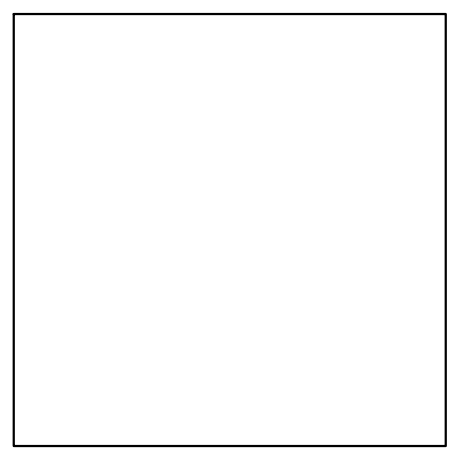
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MECHANICAL ENGINEER
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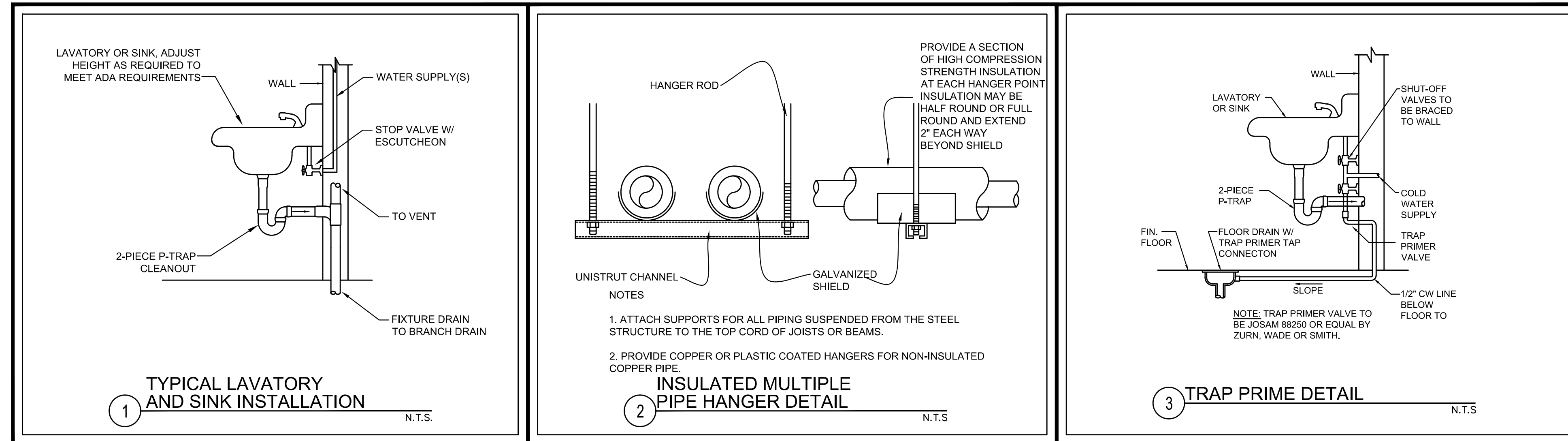
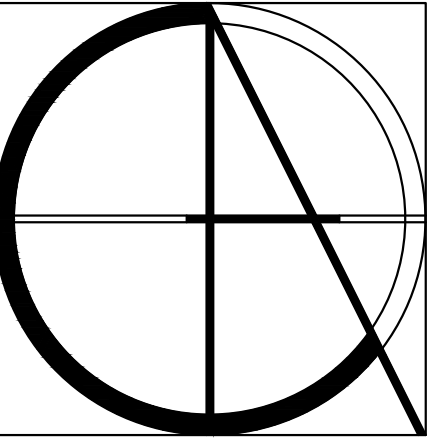
Building Addition for:
Sebastian River Middle School
9400 CR 512
SEBASTIAN, FL 32958



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PLUMBING FIXTURE SCHEDULE							
MARK	ITEM	MANUFACTURER	DESCRIPTION	RIM HEIGHT (AFF)	MOUNTING	TRIM / ACCESSORIES	NOTES
HCLAV-1	ADA LAVATORY	KOHLER	K-1724 CHESAPEAKE WALL-MOUNT LAVATORY; ADA COMPLIANT	34"	WALL-MOUNT	K-15265-4NDRA CORALAIS WIDESPREAD BATHROOM SINK FAUCET WITH ADA COMPLIANT LEVER HANDLES	1,2,3,4
HCWC-1	ADA WATER CLOSET	KOHLER	K-96057-0 HIGHCLIFF ELONGATED BOWL; ADA COMPLIANT; 1.6 GAL/FLUSH	16-5/8"	FLOOR-MOUNT	K-4670-CA LUSTRA OPEN-FRONT SEAT, K-10957-SV-CP TOUCHLESS DC TOILET FLUSHOMETER (1.6 GAL/FLUSH)	1,2,3
SK-1	SINK	ELKAY	ELUHAD1616 GOURMET LUSTERTONE UNDERMOUNT SINGLE BOWL SINK	COUNTER HEIGHT	UNDERMOUNT	ELKAY LKD2432BHC FOOD SERVICE DUAL HANDLE KITCHEN FAUCET W/ 4" BLADE HANDLES; LKAD18 CHROME GRID STRAINER W/ LKAD05 OFFSET TAILPIECE	1,2

NOTES:
 1. MAKE, MODEL, AND COLOR OF FIXTURE AND TRIM SHALL BE SPECIFIED BY THE ARCHITECT.
 2. VERIFY FIXTURE DIMENSIONS & MOUNTING HEIGHTS WITH ARCHITECT'S PLANS & INTERIOR ELEVATIONS.
 3. FIXTURE SHALL BE ADA COMPLIANT. VERIFY REQUIRED MOUNTING HEIGHT & ACCESSIBILITY CLEARANCES WITH LOCAL CODES BEFORE INSTALLING FIXTURE.
 4. CONTRACTOR SHALL VERIFY THAT WALL-MOUNTED FIXTURE AND CARRIER HAS ADEQUATE WALL CLEARANCE. COORDINATE WITH ARCHITECTURAL WALL SECTIONS.
 5. PROVIDE KOHLER 1131881 HARDWARE KIT FOR COUNTERTOPS WITH 2-1/2" THICKNESS OR LESS.

SANITARY DEMAND			
(BASED ON FBC 6TH EDITION (2017) PLUMBING, TABLE 709.1)			
DESCRIPTION	#	DFU EA.	TOTAL DFU
EMERGENCY FLOOR DRAIN	1	0	0.0
LAVATORY	1	1	1.0
SINK	1	2	2.0
WATER CLOSET, PUBLIC (≤ 1.6 GPF)	1	4	4.0
TOTAL =			7.0

MAXIMUM ALLOWABLE BUILDING DRAIN SIZE @ 1/8" / FT: 3"
 FLORIDA BUILDING CODE 6TH EDITION (2017) - PLUMBING, TABLE 710.1(1)
 3" = 36 FU
 4" = 180 FU
 6" = 700 FU

DOMESTIC WATER DEMAND							
PER TABLE E103.3(2), FBC 6TH EDITION (2017) - PLUMBING							
DESCRIPTION	QTY	COLD		HOT		TOTAL WSFU	
		EACH	TOTAL	EACH	TOTAL	EACH	TOTAL
SINK	1	1.5	1.50	1.5	1.50	2.0	2.00
LAVATORY (PUBLIC)	1	1.5	1.50	1.5	1.50	2.0	2.00
WATER CLOSET (FLUSH VALVE, PUBLIC)	1	10.0	10.00	-	-	10.0	10.00
TOTAL	-	-	13.00	-	3.00	-	14.00

VELOCITY 6FT / SEC MAX DEMAND FLOW = 30.2 GPM
 DEMAND FLOW PER TABLE E103.3(3), FBC 6TH EDITION (2017) - PLUMBING SERVICE LINE SIZE = 1-1/4"Ø

PLUMBING FIXTURE CONNECTION SCHEDULE						
DESCRIPTION	WATER SUPPLY				TRAP	VENT
	BRANCH		FIXTURE			
	COLD	HOT	COLD	HOT		
WATER CLOSET (FLUSH VALVE)	1"	-	1"	-	3"	2"
LAVATORY	1/2"	1/2"	3/8"	3/8"	1 1/4"	2"
SINKS (GENERAL)	1/2"	1/2"	3/8"	3/8"	1 1/4"	2"

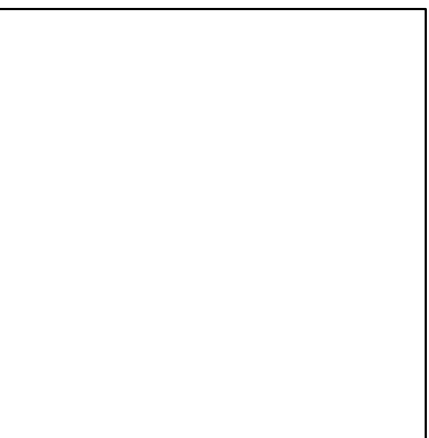
NOTE: WATER SUPPLY SIZES UNDER FIXTURE COLUMN ARE CONNECTION TO FIXTURE OR SUPPLY STOP SIZES.

PLUMBING DRAIN SCHEDULE					
MARK	ITEM	MANUFACTURER	MODEL	STRAINER HEAD (IN)	NOTES
EFD-1	FLOOR DRAIN	ZURN	ZN415SZ	5"	1, 2, 3

NOTES:
 1. COORDINATE FINISH WITH THE ARCHITECT AND/OR OWNER.
 2. PROVIDE A TRAP PRIMER CONNECTION FROM THE FACTORY.
 3. COORDINATE SPECIFIC DRAIN OUTLET SIZE & CONNECTION TYPE WITH CONNECTED PIPE. REFERENCE PLANS FOR DRAIN PIPE DIMENSIONS. PROVIDE TRANSITIONS AS REQUIRED.

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Building Addition for:
 Sebastian River Middle School
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FIRE ALARM GENERAL NOTES

1. **OCCUPANCY CLASSIFICATION [61G15-32.008-4(a)]:**
 - 1.1. EDUCATIONAL (E)
2. **CIRCUIT CLASS AND SURVIVABILITY [61G15-32.008-4(d)]:**
 - 2.1. CLASS B, SURVIVABILITY LEVEL 1
3. **TYPE OF ALARM SYSTEM [61G15-32.008-4(f)]:**
 - 3.1. ADDRESSABLE ALARM SYSTEM
 - 3.2. PRIMARY POWER: 24V-DC OBTAINED FROM 120V AC SERVICE AND POWER SUPPLY MODULE.
 - 3.3. SECONDARY POWER: 24V-DC SUPPLY SYSTEM WITH BATTERIES. AUTOMATIC BATTERY CHARGER, AND AUTOMATIC TRANSFER SWITCH.
4. **FUNCTIONS REQUIRED BY THE ALARM & CONTROL SYSTEM [61G15-32.008-4(e)]:**
 - 4.1. SEE SEQUENCE OF OPERATION BLOCK
 - 4.2. FIRE ALARM SIGNAL INITIATION ACTIVATED BY (ONE OR MORE):
 - 4.2.1. MANUAL STATIONS.
 - 4.2.2. AUTOMATIC SPRINKLER SYSTEM WATER FLOW
 - 4.3. FIRE ALARM SIGNAL SHALL INITIATE THE FOLLOWING ACTIONS:
 - 4.3.1. CONTINUOUSLY OPERATE ALARM NOTIFICATION APPLIANCES.
 - 4.3.2. IDENTIFY ALARM AND SPECIFIC INITIATING DEVICE AT FIRE-ALARM CONTROL UNIT AND REMOTE ANNUNCIATORS.
 - 4.3.3. TRANSMIT AN ALARM SIGNAL TO THE REMOTE ALARM RECEIVING STATION.
 - 4.3.4. SWITCH HEATING, VENTILATING AND AIR-CONDITIONING EQUIPMENT CONTROLS TO FIRE-ALARM MODE.
 - 4.4. SUPERVISORY SIGNAL INITIATION ACTIVATED BY (ONE OR MORE):
 - 4.4.1. VALVE SUPERVISORY SWITCH.
 - 4.5. SYSTEM TROUBLE SIGNAL INITIATION ACTIVATED BY (ONE OR MORE):
 - 4.5.1. OPEN CIRCUITS, SHORTS, AND GROUNDS IN DESIGNATED CIRCUITS.
 - 4.5.2. OPENING, TAMPERING WITH, OR REMOVING ALARM-INITIATING AND SUPERVISORY DEVICES.
 - 4.5.3. LOSS OF COMMUNICATION WITH AN ADDRESSABLE SENSOR, INPUT MODE, RELAY, CONTROL MODULE, REMOTE ANNUNCIATOR, PRINTER INTERFACE, OR ETHERNET MODULE.
 - 4.5.4. LOSS OF PRIMARY POWER AT FIRE-ALARM CONTROL UNIT.
 - 4.5.5. GROUND OR A SINGLE BREAK IN INTERNAL CIRCUITS OF FIRE-ALARM CONTROL UNIT.
 - 4.5.6. ABNORMAL AC VOLTAGE AT FIRE-ALARM CONTROL UNIT.
 - 4.5.7. BREAK IN STANDBY BATTERY CIRCUITRY.
 - 4.5.8. FAILURE OF BATTERY CHARGING.
 - 4.5.9. ABNORMAL POSITION OF ANY SWITCH AT FIRE-ALARM CONTROL UNIT.
 - 4.6. SYSTEM SUPERVISORY SIGNAL ACTIONS
 - 4.6.1. INITIATE NOTIFICATION APPLIANCES
 - 4.6.2. IDENTIFY SPECIFIC DEVICE INITIATING THE EVENT AT FIRE-ALARM CONTROL UNIT AND REMOTE ANNUNCIATORS.
 - 4.6.3. AFTER TIME DELAY OF 200 SECONDS, TRANSMIT A TROUBLE OR SUPERVISORY SIGNAL TO THE REMOTE ALARM RECEIVING STATION..
5. **SYSTEM DEVICES [61G15-32.008-4(h)]:**
 - 5.1. ALL EXTERIOR EQUIPMENT SHALL BE OUTDOOR RATED & WATER RESISTANT.
 - 5.2. STROBES SHALL BE SYNCHRONIZED.
6. **WIRING [61G15-32.008-4(n)]:**
 - 6.1. WIRING METHODS SHALL BE FPLR RATED CABLE AND INSTALLED IN A CONDUIT RACE WAY.
 - 6.2. ANY FIRE ALARM MANUFACTURER SPECIFIC BACK BOX OR PANEL ENCLOSURE SHALL BE SUPPLIED BY THE FIRE ALARM CONTRACTOR. ALL OTHER BACK BOXES AND CONDUIT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
 - 6.3. WIRING SHALL BE PROTECTED FROM PHYSICAL DAMAGE AS REQUIRED BY NFPA70 ARTICLES 300 & 760. WIRE TYPE SHALL BE LISTED FOR ITS INTENDED USE BY AN APPROVAL AGENCY ACCEPTABLE TO THE AHJ AND SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES FROM THE CURRENT APPROVED EDITION OF NFPA 70 - NEC.
 - 6.4. PROVIDE TWO TELEPHONE PORTS AND ONE ETHERNET DROP ADJACENT TO THE FIRE CONTROL PANEL.
 - 6.5. FIRE ALARM CABLES INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
 - 6.6. FIRE ALARM CABLES INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE VL LISTED FOR WET LOCATION.
 - 6.7. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
 - 6.8. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
 - 6.9. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
7. **ADDITIONAL REQUIREMENTS [61G15-32.008-4(o)]:**
 - 7.1. FIRE ALARM WORK, INCLUDING CHANGES, ADDITIONS, RELOCATIONS, IMPROVEMENTS, AND/OR MODIFICATIONS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 72.
 - 7.2. FIRE ALARM CONTRACTOR SHALL SUBMIT SEPARATE PERMIT.
 - 7.3. OWNERS DOCUMENTS, WHICH INCLUDE OPERATION INSTRUCTIONS, MAINTENANCE PROCEDURES, ANY INFORMATION TO ASSIST WITH THE UNDERSTANDING OF THE FIRE ALARM SYSTEM, SHALL BE PROVIDED THE CLOSE OUT DOCUMENTS AT THE COMPLETION OF THE JOB.
8. **TEST, INSPECTION, MAINTENANCE & DOCS. REQUIREMENTS [61G15-32.008-6]:**
 - 8.1. FIELD TEST SHALL BE WITNESSED BY AHJ.
 - 8.2. TEST AND INSPECTIONS TO BE PERFORMED:
 - 8.2.1. VISUAL INSPECTION - CONDUCT INSPECTION BEFORE TESTING
 - 8.2.1.1. INSPECTION SHALL BE BASED ON COMPLETED RECORD DRAWINGS AND SYSTEM DOCUMENTATION REQUIRED BY NFPA 72 SECTION 10.18.
 - 8.2.1.2. COMPLY WITH THE VISUAL INSPECTION FREQUENCIES (NFPA 72, TABLE 14.3.1); RETAIN THE "INITIAL/REACCEPTANCE" COLUMN AND LIST ONLY THE INSTALLED COMPONENTS.
 - 8.2.2. SYSTEM TESTING- COMPLY WITH TEST METHODS (NFPA 72, TABLE 14.4.2.2)
 - 8.2.3. FACTORY-AUTHORIZED SERVICE REPRESENTATIVE SHALL PREPARE DOCUMENTATION FOR THE INSPECTION AND TESTING MENTIONED ABOVE.
 - 8.3. RE-ACCEPTANCE TESTING- PERFORM RE-ACCEPTANCE TESTING TO VERIFY THE PROPER OPERATION OF ADDED OR REPLACED DEVICES AND APPLIANCES.
 - 8.4. FIRE ALARM SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOESN'T PASS TESTS AND INSPECTIONS.
 - 8.5. PREPARE TESTS AND INSPECTIONS REPORTS.
 - 8.6. ANNUAL TEST AND INSPECTION- ONE YEAR AFTER DATE OF SUBSTANTIAL COMPLETION. FIRE-ALARM SYSTEM TEST COMPLYING WITH VISUAL AND TESTING INSPECTIONS REQUIREMENTS IN NFPA 72 SHALL BE PERFORMED. USE FORMS DEVELOPED FOR INITIAL TEST AND INSPECTION.
 - 8.7. INITIAL MAINTENANCE SERVICE- BEGINNING AT SUBSTANTIAL COMPLETION. MAINTENANCE SHALL INCLUDE 12 MONTHS FULL MAINTENANCE BY SKILLED EMPLOYEES OF MANUFACTURER'S DESIGNATED SERVICE ORGANIZATION.
 - 8.7.1. INCLUDE PREVENTIVE MAINTENANCE, REPAIR OR REPLACEMENT OF WORN OR DEFECTIVE COMPONENTS, LUBRICATION CLEANING, AND ADJUSTING AS REQUIRED.
 - 8.7.2. PARTS AND SUPPLIES SHALL BE MANUFACTURER'S AUTHORIZED REPLACEMENT PARTS AND SUPPLIES.
 - 8.7.3. PERFORM INSPECTION AND TESTING IN COMPLIANCE WITH NFPA 72 TABLE 14.3.1 AND TABLE 14.4.2.2 RESPECTIVELY.

SEQUENCE OF OPERATION

[61G15-32.008-4(a)]

ALARM

- THE SYSTEM WILL GENERATE A GENERAL AUDIO/VISUAL EVACUATION SIGNAL.
- ACTIVATION OF AN INITIATING DEVICE WILL CAUSE THE NOTIFICATION DEVICES TO ACTIVATE THROUGH OUT THE BUILDING. AN ALARM SIGNAL SHALL BE SENT TO THE FIRE ALARM CONTROL PANEL (FACP).
- SYSTEM POINT NUMBER AND DESCRIPTION SHALL BE DISPLAYED, POINT ADDRESS, AND MESSAGE ASSOCIATED WITH THE POINT ON TERMINAL.
- A SIGNAL SHALL BE SENT TO THE OWNERS REMOTE STATION VIA DIGITAL ALARM COMMUNICATOR TRANSMITTER (DACT).
- THE DACT SHALL TRANSMIT SEPARATE SIGNALS TO THE OFF SITE MONITORING COMPANY. THEY SHALL BE: ALARM, TROUBLE, SUPERVISORY AND WATER FLOW.

TROUBLE

- TROUBLE CONDITIONS WILL BE ANNUNCIATED AT THE FACP.
- A SIGNAL SHALL BE SENT TO THE OWNER'S REMOTE STATION VIA DACT.
- TROUBLE SIGNAL CAN BE: LOSS OF A/C POWER, BATTERY FAILURE, LOW BATTERY, GROUND FAULT, BREAK IN THE WIRING, DEFECTIVE EQUIPMENT, DISCONNECTED OR REMOVED DEVICES, LOSS OF PHONE LINES, LOSS OF ELEVATOR POWER (WHEN INSTALLED).

SUPERVISORY

- SUPERVISORY CONDITIONS WILL BE ANNUNCIATED AT THE FACP.
- A SIGNAL SHALL BE SENT TO THE OWNER'S REMOTE STATION VIA DACT.
- SUPERVISORY CONDITION CAN BE: SPRINKLER TAMPER SWITCHES, DUCT SMOKE DETECTORS.

INITIATING DEVICES

- ACTIVATION OF A SMOKE DETECTOR (WHEN INSTALLED) WILL CAUSE AN ALARM CONDITION.
- ACTIVATION OF A HEAT DETECTOR (WHEN INSTALLED) WILL CAUSE AN ALARM CONDITION.
- ACTIVATION OF A MANUAL PULL STATION WILL CAUSE AN ALARM CONDITION.
- SPRINKLER FLOW SWITCH (WHEN INSTALLED) WILL CAUSE AN ALARM CONDITION.
- SPRINKLER TAMPER SWITCHES (WHEN INSTALLED) WILL CAUSE A SUPERVISORY CONDITION.
- DUCT SMOKE DETECTORS (WHEN INSTALLED) WILL CAUSE A SUPERVISORY CONDITION.

AUXILIARY CONTROLS (WHEN INSTALLED)

- AIR HANDLERS CONTROLLED BY THE FIRE ALARM SYSTEM SHALL SHUT DOWN BY THEIR RESPECTIVE DUCT DETECTORS.
- SOUND SYSTEMS TO SHUT DOWN UPON AN ALARM CONDITION
- MAGNETIC DOOR HOLDERS TO RELEASE UPON AN ALARM CONDITION.

SCOPE OF WORK

[61G15-32.008-4(a)]

1. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL FIRE ALARM EQUIPMENT DATA SHEETS, VOLTAGE DROP ANALYSIS, BATTERY CALCULATIONS, AND WIRING REQUIREMENTS FOR THEIR PERMIT SUBMISSION.
2. CONTRACTOR TO INSTALL AND CONNECT NEW FIRE ALARM DEVICES TO THE EXISTING FIRE ALARM SYSTEM.
3. CONNECT NEW DEVICES TO THE NEAREST NAC IF POSSIBLE.
4. FIELD VERIFICATION IS REQUIRED BEFORE COMMENCING ANY WORK.
5. COORDINATE THE BEST TIME TO WORK ON THE SYSTEM WITH OWNER.

ALL EQUIPMENT MUST BE UL LISTED AND IN COMPLIANCE WITH APPLICABLE CODES AND AHJ.

FIRE ALARM SYMBOL LEGEND

[61G15-32.008-4(a)]

Ⓟ	PHOTOELECTRIC SMOKE DETECTOR
Ⓧ	DUCT SMOKE DETECTOR
Ⓧ	WALL MOUNTED FIRE ALARM STROBE - CANDELA AS INDICATED
Ⓧ	CEILING MOUNTED FIRE ALARM STROBE - CANDELA AS INDICATED
Ⓧ	FIRE ALARM HORN
Ⓧ	FIRE ALARM COMBINATION HORN/STROBE - CANDELA AS INDICATED
Ⓧ	WATER PROOF FIRE ALARM COMBINATION HORN/STROBE - CANDELA AS INDICATED
Ⓧ	CEILING FIRE ALARM COMBINATION HORN/STROBE - CANDELA AS INDICATED
Ⓧ	CEILING MOUNTED FIRE ALARM SPEAKER ONLY- WATTAGE AS INDICATED
Ⓧ	WALL MOUNTED FIRE ALARM SPEAKER ONLY- WATTAGE AS INDICATED
Ⓧ	FIRE ALARM MANUAL PULL STATION
Ⓧ	SPRINKLER WATER FLOW DETECTOR
Ⓧ	SPRINKLER VALVE TAMPER SWITCH
Ⓧ	FIXED TEMPERATURE HEAT DETECTOR
Ⓧ	FIRE ALARM CONTROL PANEL
Ⓧ	FIRE ALARM ANNUNCIATOR
Ⓧ	FIRE ALARM VOICE EVAC PANEL
Ⓧ	FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
Ⓧ	END OF LINE
Ⓧ	120 AC LINE SURGE PROTECTOR
Ⓧ	RJ31X MODULAR IN/OUT W/ SNEAK CURRENT PROTECTION
Ⓧ	LOW VOLTAGE SURGE PROTECTOR
Ⓧ	CONTROL RELAY MODULE
Ⓧ	SINGLE INPUT MODULE
Ⓧ	DUAL INPUT MODULE

NOTE: NOT ALL SYMBOLS MAY APPLY TO PLANS

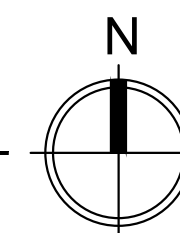
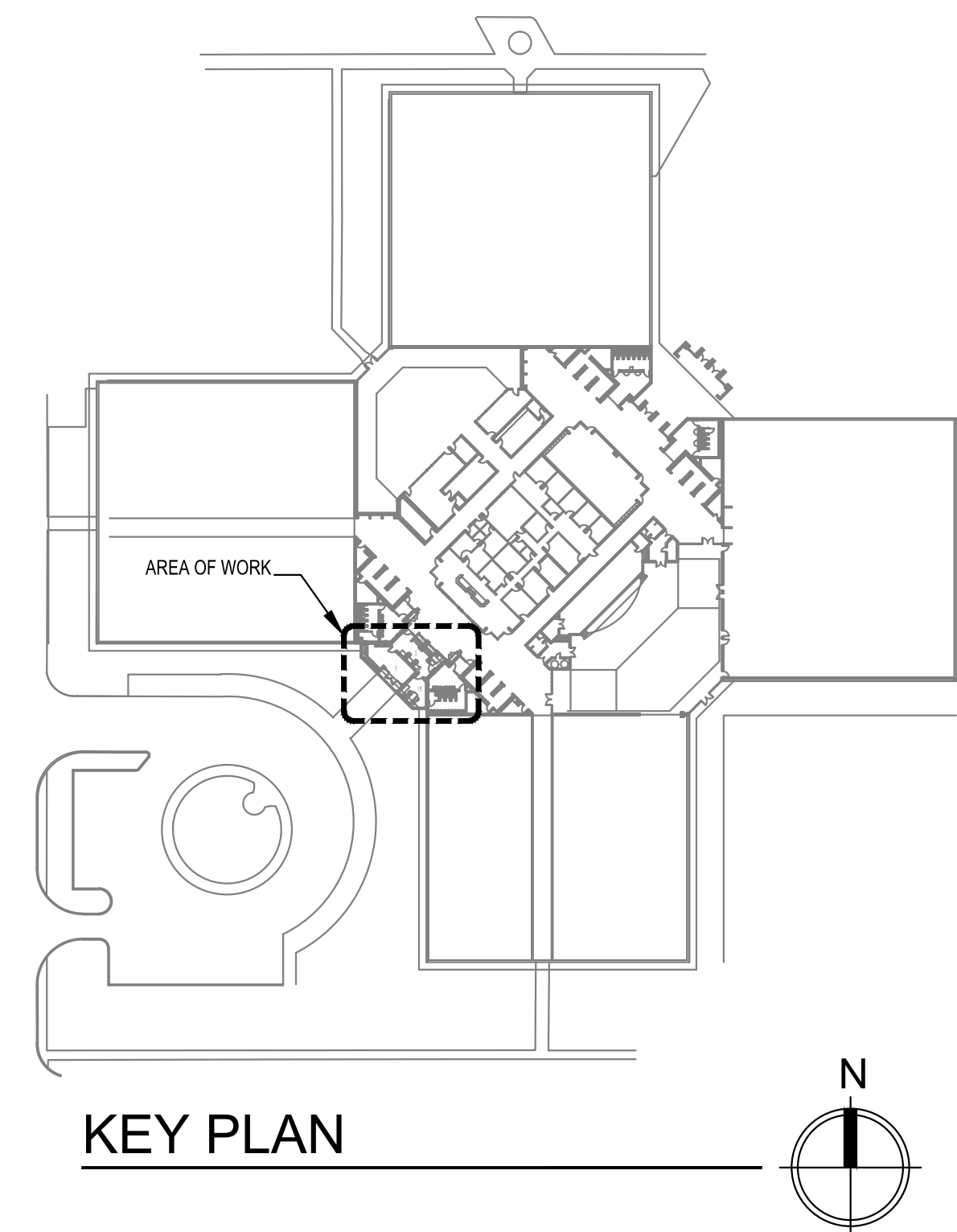
FIRE ALARM SHEET INDEX

FA-1	FIRE ALARM NOTES, LEGEND & SHEET INDEX
FA-2	FIRE ALARM FLOOR PLAN

APPLICABLE BUILDING CODES

[61G15-32.008-2]

FLORIDA BUILDING CODE - 6TH EDITION 2017
FLORIDA FIRE PREVENTION CODE - 6TH EDITION 2017
NFPA 1, FLORIDA 2015 EDITION
NFPA 72, 2013 EDITION
NFPA 70, 2014 EDITION
NFPA 101, FLORIDA 2015 EDITION



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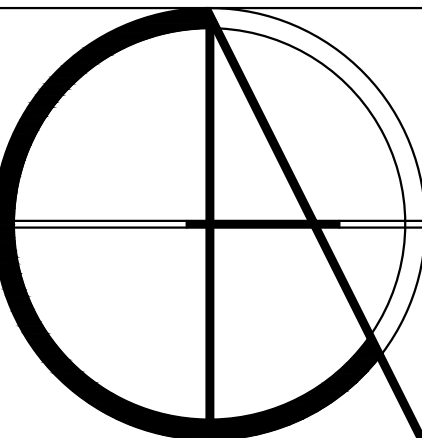
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DAVIS A. FITZGERALD P.E.
FLORIDA P.E. NO. 52057
ELECTRICAL ENGINEER
CERT. OF AUTH. 5454
DATE: 10.26.2018

PROJECT #: 18-1153



Claren Architecture + Design, Inc.

AA26002865
6400 CONGRESS AVE., SUITE 2150
BOCA RATON, FL 33487
561.961.4884

Building Addition for:
Sebastian River Middle School

9400 CR 512
SEBASTIAN, FL 32958

PROJECT # 18-026

DATE 10-17-2018

REV # DATE

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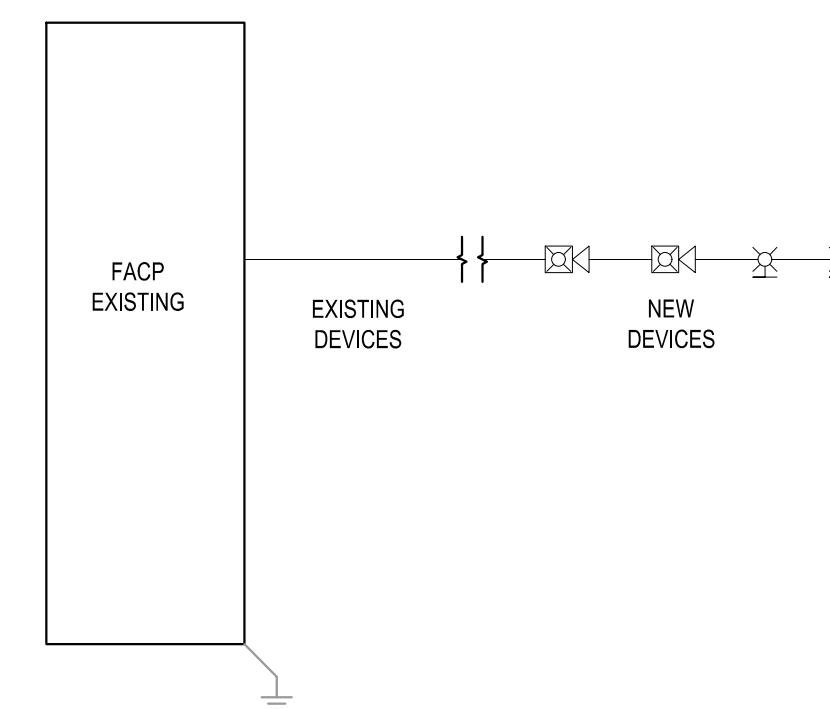
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FA-1

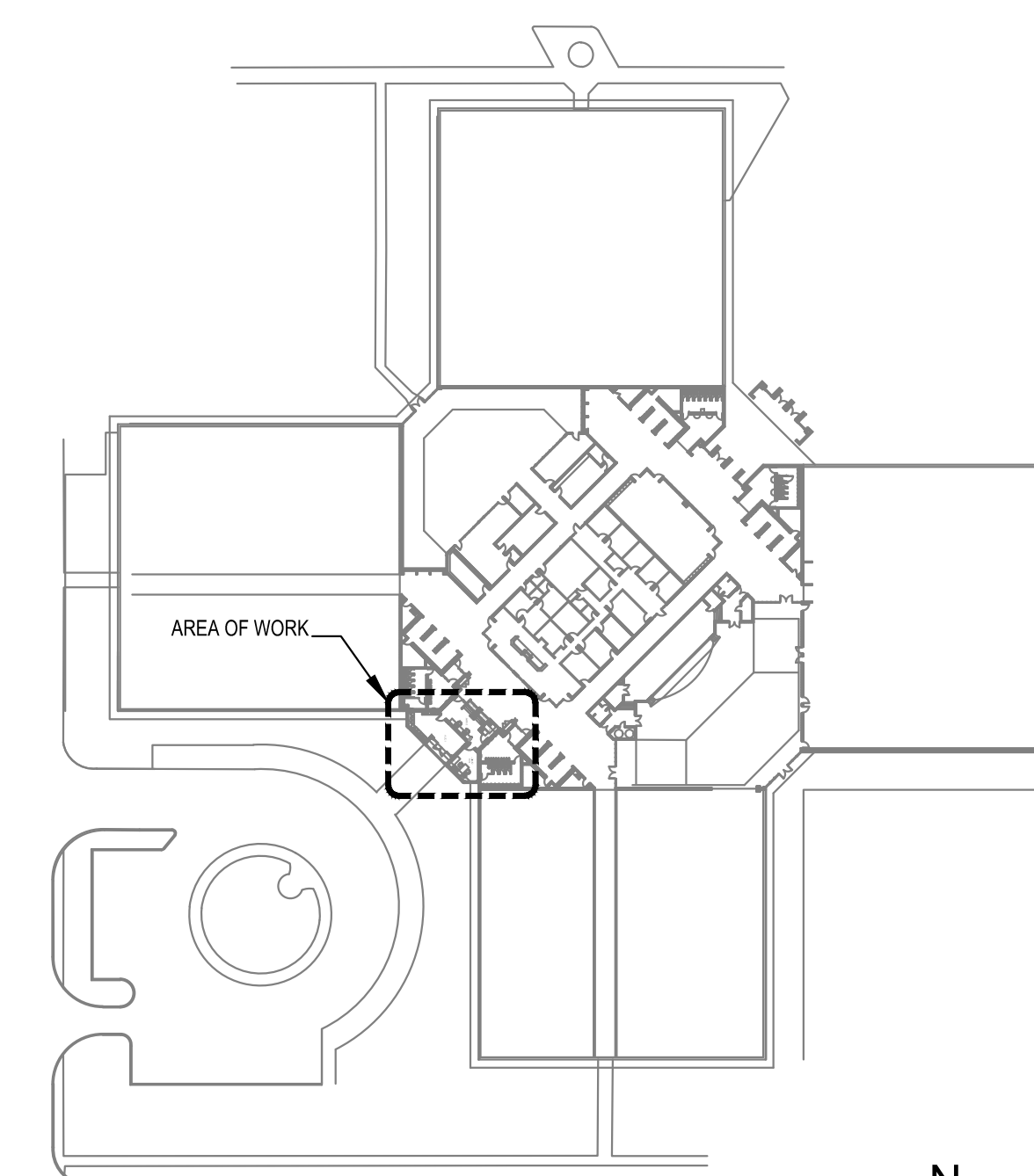
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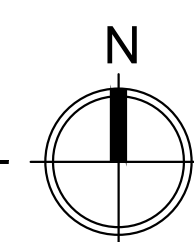
1 FIRE ALARM FLOOR PLAN
SCALE: 1/8" = 1'-0"



2 FIRE ALARM RISER



KEY PLAN



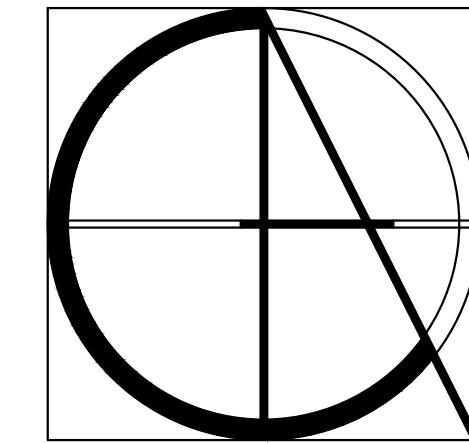
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FLORIDA P.E. NO. 52037
ELECTRICAL ENGINEER
CERT. OF AUTH. 5454
DATE: 10.26.2018

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AA26002865
6400 CONGRESS AVE, SUITE 2150
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FA-2

GENERAL NOTES

- (1) ALL FIRE SPRINKLER WORKS TO BE INSTALLED BY A FIRE SPRINKLER CONTRACTOR CERTIFIED IN THE STATE OF FLORIDA.
- (2) ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH NFPA-13 AND NFPA-24 AND THE APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
- (3) SPRINKLER SYSTEM LAYOUT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO CONSTRUCTION. THEY SHALL INCLUDE BUT NOT LIMITED TO THE FLOW TEST DATA, BACKFLOW AND FLOW SWITCHES, RISER ASSEMBLY, DRAIN AND TEST ASSEMBLY, HEAD LOCATIONS, CUT LENGTHS AND HYDRAULIC CALCULATIONS.
- (4) THE SPRINKLER CONTRACTOR SHALL CONSIDER THE PROJECT AS ONE SET OF DOCUMENTS. THE GENERAL CONTRACTOR SHALL PROVIDE THE SPRINKLER CONTRACTOR A COMPLETE SET OF DOCUMENTS INCLUDING ALL TRADES PRIOR TO BIDDING AND CONSTRUCTION. THE SPRINKLER CONTRACTOR SHALL COORDINATE WITH ALL OTHER CONTRACTORS AS REQUIRED AND WILL INFORM THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR POSSIBLE CONFLICTS ON THE DOCUMENTS PRIOR TO SUBMITTING FINAL BID AND COMMENCING ANY WORK. THE SPRINKLER CONTRACTOR SHALL MAKE HIMSELF AVAILABLE FOR REVIEWING DOCUMENTS WITH ARCHITECT/ENGINEER UPON REQUEST.
- (5) THE FIRE SPRINKLER CONTRACTOR SHALL BE HELD TO HAVE VERIFIED ALL EXISTING CONDITIONS, INCLUDING SITE VISITATION, AND REVIEW OF AS BUILT DOCUMENTATION AS APPLICABLE PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF ANY MATERIALS OR EQUIPMENT ON THIS PROJECT.
- (6) ALL WORK SHALL BE PERFORMED BY A LICENSED FIRE SPRINKLER CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACK FILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
- (7) REQUIRED INSURANCE SHALL BE PROVIDED BY THE FIRE SPRINKLER CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- (8) FIRE SPRINKLER CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTS. FIRE SPRINKLER CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. FIRE SPRINKLER CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
- (9) DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND STRUCTURAL DRAWINGS AND ARE CONSIDERED TO BE ONE SET OF DOCUMENTS. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
- (10) FIRE SPRINKLER CONTRACTOR SHALL SUBMIT FOR APPROVAL A DIGITAL COPY OF THE MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT INCLUDED IN CONTRACT. ALL MATERIAL SHALL BE NEW OF U.S MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED TRADESMEN.
- (11) ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
- (12) AS APPLICABLE THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND SUPPORTING FUNCTIONALITY OF FIRE SPRINKLER SYSTEMS IN UN-REMODELED AREAS DURING CONSTRUCTION AND INSTALLATION
- (13) THE UNDERGROUND CONTRACTOR SHALL COORDINATE THE LOCATION OF THE DDC, FDC, AND PIV WITH THE CIVIL ENGINEER AS REQUIRED.

SPRINKLER LAYOUT DOCUMENTS

61G15-32.003

- (1) THE CONTRACTOR SHALL PROVIDE SYSTEM LAYOUT DOCUMENTS FOR A WET PIPE FIRE PROTECTION SYSTEM CONSISTENT WITH THE REQUIREMENTS OF NFPA 13 .
- (2) THE DOCUMENTS SHALL INCLUDE HEAD LAYOUTS, PIPE CUT LENGTHS, HYDRAULIC CALCULATIONS, CATALOG INFORMATION ON STANDARD PRODUCTS, AND OTHER CONSTRUCTION DATA THAT PROVIDES DETAIL ON THE LOCATION OF RISERS, CROSS MAINS, BRANCH LINES, SPRINKLER HEADS, SIZING OF PIPE, AND HANGER LOCATIONS AND ALSO SERVES AS A GUIDE FOR FABRICATION AND INSTALLATION OF A FIRE PROTECTION SYSTEM.
- (3) THE HYDRAULIC CALCULATIONS SHALL BE COMPUTER GENERATED USING A SOFTWARE EQUAL TO "HYDRACAD " OR SIMILAR APPROVED SOFTWARE AND SHALL INCLUDE A SUMMARY SHEET, GRAPH SHEET, A WATER SUPPLY ANALYSIS, A NODE ANALYSIS AND DETAIL WORK SHEETS CONSISTENT WITH THE REQUIREMENTS OF NFPA 13 SECTION 22.3.5.
- (4) IT IS THE RESPONSIBILITY OF THE SPRINKLER CONTRACTOR TO COORDINATE THE LOCATIONS OF SPRINKLER HEADS WITH REGARD TO ARCHITECTURAL FEATURES AND OTHER SIMILAR OBSTRUCTIONS.
- (5) SPRINKLER HEADS IN ACOUSTICAL CEILING TILE (ACT) SHALL BE LOCATED IN THE CENTER OF THE TILE.

FIRE SPRINKLER SCOPE OF WORK

61G15-32.003 (1)

- (1) THE FIRE SPRINKLER SCOPE OF WORK FOR THIS PROJECT CONSISTS OF RELOCATING AND EXPANDING OFF OF THE EXISTING SPRINKLER SYSTEM FOR THE NEW AREA OF WORK.
- (2) CONCEALED HEADS SHALL BE USED FOR ALL FRONT OF HOUSE AREA, SEMI RECESSED SHALL BE USED FOR BACK OF HOUSE, AND UPRIGHT HEADS SHALL BE SUPPLIED IN THE ATTIC.
- (3) TOTAL SQUARE FOOTAGE OF PROJECT SHALL BE APPROXIMATELY 1,100 FT2.
- (4) THE DDC AND FDC ARE LOCATED ON THE SITE.

ACCEPTANCE TEST CRITERION

61G15-32.003 (2)

- (1) THE SYSTEM SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-13 AND NFPA-24 AS APPLICABLE. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY HAVING JURISDICTION (FIRE DEPARTMENT) AND THE OWNER (OR OWNER'S REPRESENTATIVE) OF THE TIME AND DATE TESTING WILL BE PERFORMED AT LEAST 48 HOURS IN ADVANCE.
- (2) THE INSTALLING CONTRACTOR SHALL COMPLETE THE REQUIRED ACCEPTANCE TESTS. THE FOLLOWING CERTIFICATES SHALL BE COMPLETED WITH ALL APPLICABLE TEST RESULTS:
 - 2.1. NFPA 13, FIGURE 10.10.1, "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING."
 - 2.2. NFPA 13, FIGURE 24.1, "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING."
- (3) SEE NFPA 13 , SYSTEM ACCEPTANCE, AND CHAPTER 10 SECTION 10.10, TESTING AND ACCEPTANCE FOR DETAILS ON APPLICABLE ITEMS.
- (4) THE COMPLETED SYSTEM SHALL BE HYDROSTATICALLY TESTED TO 200 PSIG FOR 2 HOURS WITH NO VISIBLE LOSS OF PRESSURE. THE PRESSURE SHALL BE MEASURED AT THE LOWEST PLACE IN THE BUILDING SYSTEM.
- (5) WATER FLOW DETECTING DEVICES INCLUDING THE ASSOCIATED ALARM CIRCUITS SHALL BE FLOW TESTED THROUGH THE INSPECTOR'S TEST CONNECTION AND SHALL RESULT IN AN AUDIBLE ALARM ON THE PREMISES WITHIN 5 MINUTES AFTER SUCH FLOW BEGINS AND UNTIL SUCH FLOW STOPS.
- (6) ALL UNDERGROUND PIPING SHALL BE FLUSHED AND TESTED IN ACCORDANCE WITH NFPA-24 AND CHAPTER 10 OF NFPA-13 PRIOR TO CONNECTION WITH THE BUILDING SPRINKLER SYSTEM.

STRUCTURAL SUPPORT AND OPENINGS

61G15-32.003 (5)

THE STRUCTURE OF THE BUILDING SHALL INCLUDE THE WEIGHT OF THE SPRINKLER SYSTEM. THIS SHALL INCLUDE A DEAD LOAD OF 5 LBS/SF AND A LIVE LOAD OF 250 LBS AT THE POINT OF HANGING AS PER NFPA 13 9.2.1.3.1. THE DESIGN OF THE REINFORCEMENT SHALL BE PREPARED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. THE REINFORCEMENT, IF REQUIRED, SHALL BE SHOWN ON THE STRUCTURAL CONSTRUCTION DOCUMENTS. THE STRUCTURAL DOCUMENTS, ALONG WITH THE FIRE SPRINKLER SHOP DRAWINGS, SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER FOR REVIEW PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL ENGINEER.

61G15-32.004 (2)

- (A) POINT OF SERVICE - NOT REQUIRED FOR THIS PROJECT
- (B) APPLICABLE NFPA CODES AND STANDARDS - REFERENCE SHEET FP-1, APPLICABLE BUILDING CODES BLOCK.
- (C) CLASSIFICATION OF HAZARD OCCUPANCY FOR EACH ROOM OR AREA - REFERENCE SHEET FP-2, OCCUPANCY CLASSIFICATIONS BLOCK AND VIEW NUMBER 1.
- (D) DESIGN APPROACH - REFERENCE SHEET FP-2, DESIGN APPROACH BLOCK.
- (E) SITE WATER CHARACTERISTICS - BASED ON EXISTING DATA, THE WATER SUPPLY HAS BEEN IDENTIFIED AND LOCATED ON THE SITE. THE BUILDING TYPE AND FLOW REQUIREMENTS REMAIN THE SAME AS PRIOR TO RENOVATION. REF PREVIOUS FIRE SPRINKLER PLANS.
- (F) FLOW TEST DATA - EXISTING SYSTEM WILL NOT REQUIRE A NEW FLOW TEST.
- (G) VALVING AND ALARM REQUIREMENTS - ITS NOT ANTICIPATED THAT THE SYSTEM WILL REQUIRE NEW VALVES. SHOULD THEY BE REQUIRED, ALL NEW VALVES SHALL BE OF DOMESTIC MANUFACTURE, UL LISTED FOR THE FIRE PROTECTION SERVICE AND RATED FOR 175 PSI WORKING PRESSURE.
- (H) MIC INFORMATION - THE WATER PURVEYOR TO THIS PROJECT, IS A PUBLIC WATER SUPPLY COMPANY. ACCORDING TO THE FEDERAL SAFE DRINKING WATER ACT, THE STATE OF FLORIDA HAS ADOPTED THESE STANDARDS IN CHAPTER 62-550 OF THE FLORIDA ADMINISTRATIVE CODE, WHICH STATES THAT ALL PUBLIC WATER SUPPLIES SHALL MEET THE REQUIREMENTS FOR ACCEPTABLE BACTERIAL LEVELS IN THE SUPPLY BY FOLLOWING THE TESTING PROGRAMS AND CONTROL GUIDELINES DEVELOPED. IN ADDITION, NFPA-13, SUPPLEMENT 3, "MICROBIOLOGICALLY INFLUENCED CORROSION IN FIRE SPRINKLER SYSTEMS," DISCUSSES THAT THE PERCENTAGE OF CORROSION FROM MIC CANNOT BE NUMERICALLY DEFINED DUE TO THE MANY OTHER FACTORS THAT CAUSE CORROSION. THOUGH THE EXISTENCE OF MIC IS WELL KNOWN, BASED UPON THE STANDARDS SET FORTH BY THE STATE OF FLORIDA, AS WELL AS THE PREVIOUS HISTORY OF THIS WATER SUPPLY IN THIS AREA, THIS ENGINEER IDENTIFIES THIS WATER SUPPLY TO BE OF A QUALITY THAT WOULD NOT BE REASONABLY EXPECTED TO LEAD TO MIC.
- (I) BACKFLOW PREVENTION AND METERING SPECIFICATIONS - THE BACKFLOW PREVENTION ASSEMBLY AND METERING EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE LOCAL WATER PURVEYOR. A PRESSURE LOSS OF NOT MORE THAN 8 PSI SHALL BE INCLUDED IN THE CALCULATIONS.
- (J) QUALITY AND PERFORMANCE SPECIFICATIONS OF YARD AND INTERIOR FIRE PROTECTION COMPONENTS - ALL INTERIOR FIRE PROTECTION EQUIPMENT SHALL CONFORM TO NFPA-13 AND ALL UNDERGROUND FIRE PROTECTION EQUIPMENT SHALL CONFORM TO NFPA-24. ALL INTERIOR AND UNDERGROUND FIRE PROTECTION EQUIPMENT SHALL BE UL OR FM LISTED.
- (K) FIRE PUMP REQUIREMENT - THERE IS NO FIRE PUMP REQUIRED FOR THIS PROJECT.
- (L) FIREWATER STORAGE TANK REQUIREMENT -THERE IS NO STORAGE TANK REQUIRED FOR THIS PROJECT.
- (M) OWNER'S CERTIFICATE OF INFORMATION - WILL BE PROVIDED BY THE OWNER.

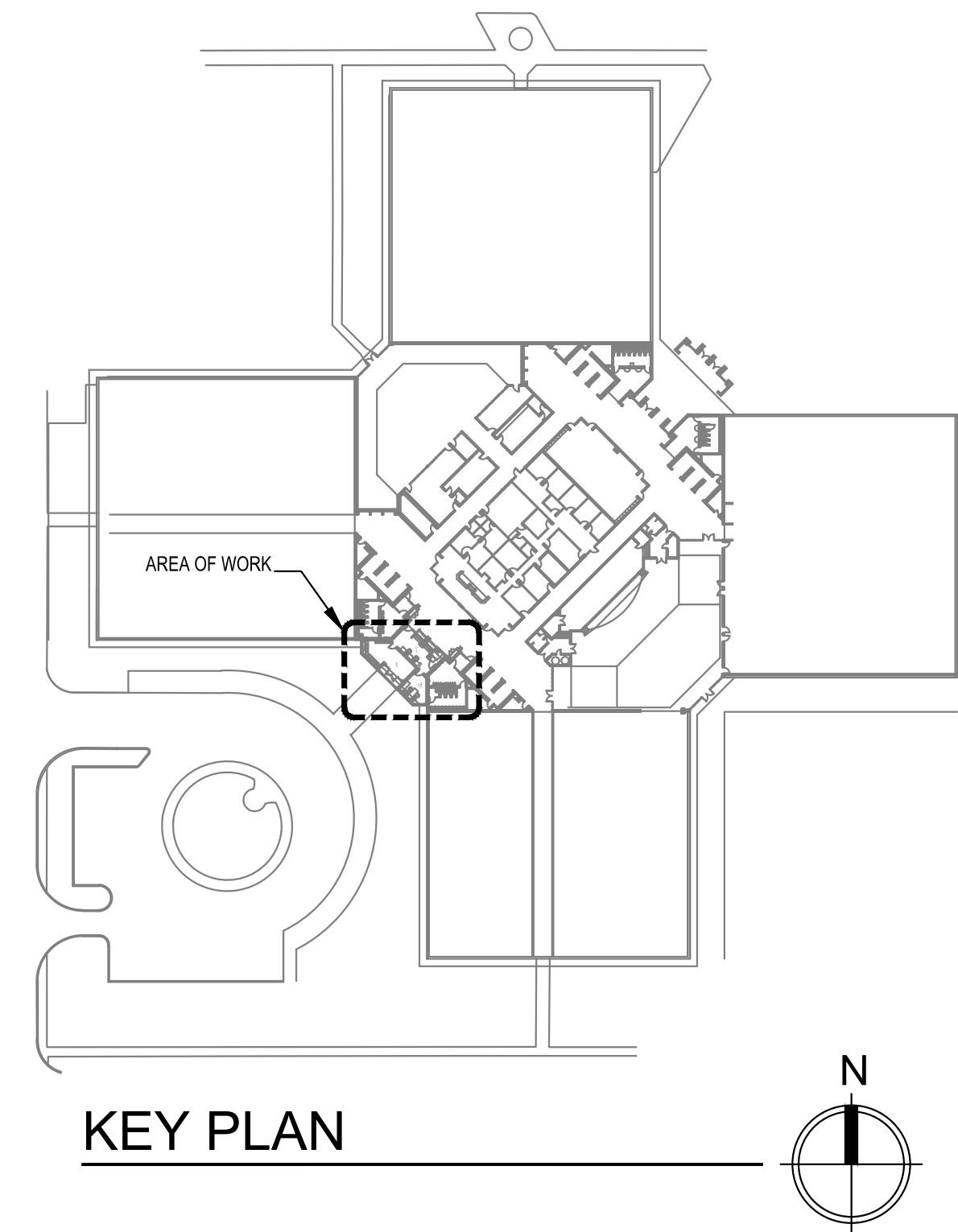
FIRE PROTECTION SHEET INDEX

FP-1	FIRE PROTECTION NOTES, LEGEND & SHEET INDEX
FP-2	FIRE PROTECTION OCCUPANCY HAZARD ZONE MAP

APPLICABLE BUILDING CODES

61G15-32.004 (2) (b)

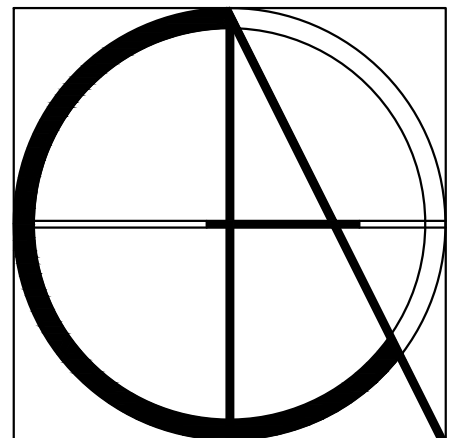
FLORIDA BUILDING CODE - 6TH EDITION 2017
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NFPA 1, FLORIDA 2015 EDITION
NFPA 13, 2013 EDITION
NFPA 24, 2013 EDITION
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These Drawings are NOT VALID for any purpose which requires the original signature and seal of the engineer unless the original signature and seal are affixed. Drawings not signed and sealed by the engineer shall not be submitted to any authority or used for any purpose where signed and sealed documents are required.

RAUL S. MASTRAPA
FLORIDA P.E. NO. 40182
MECHANICAL ENGINEER
CERT. OF AUTH. 5454
DATE 10.26.2018

PROJECT #: 18-1153



Claren Architecture + Design, Inc.
AA26002865
6400 CONGRESS AVE, SUITE 2150
BOCA RATON, FL 33487
561.961.4884

Building Addition for:
Sebastian River Middle School
9400 CR 512
SEBASTIAN, FL 32958

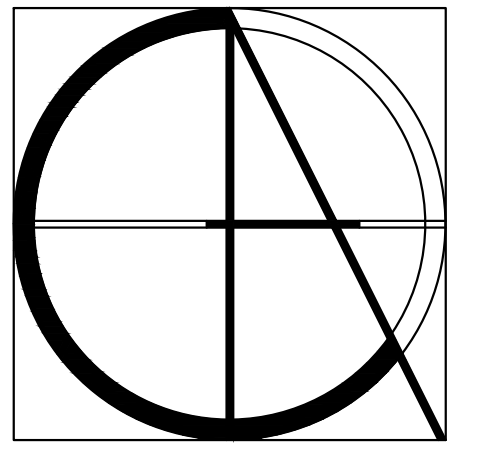
PROJECT #	18-026
DATE	10-17-2018
REV #	DATE
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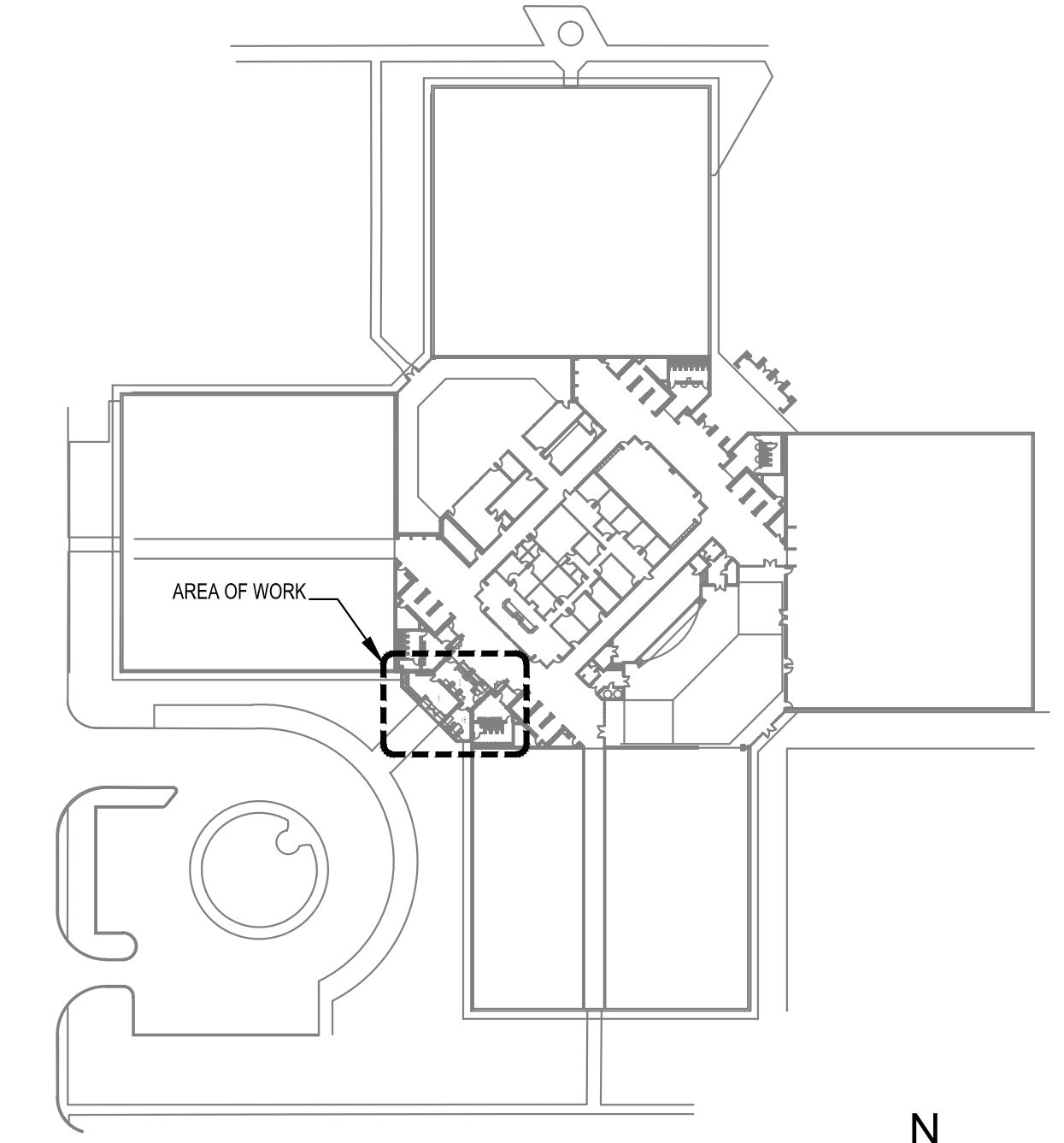
1 FIRE PROTECTION OCCUPANCY HAZARD ZONE MAP
SCALE: 1/8" = 1'-0"

OCCUPANCY CLASSIFICATIONS 61G15-32.004 (2) (c) LIGHT HAZARD - LOBBY, RECEPTION, OFFICE, RESTROOM
DESIGN APPROACH 61G15-32.004 (2) (d) LOBBY, RECEPTION, OFFICE, RESTROOM FIRE PROTECTION SHALL BE PROVIDED BY A WET PIPE AUTOMATIC SPRINKLER SYSTEM UTILIZING STEEL SUPPLY PIPING. PROVIDE PIPE DROPS/SPRINGS OFF THE SUPPLY PIPING TO QUICK-RESPONSE PENDENT HEADS LOCATED BELOW THE CEILING. DENSITY IS TO BE HYDRAULICALLY CALCULATED TO BE AT LEAST 0.10 GPM/SQ. FT. A MAXIMUM SPACING OF 15 FEET AND A MAXIMUM PROTECTION AREA OF 225 SQUARE FEET PER HEAD SHALL BE UTILIZED FOR STANDARD SPACING HEADS. A MAXIMUM SPACING OF 20 FT. AND A MAXIMUM PROTECTION AREA OF 400 SQ. FT. PER HEAD SHALL BE UTILIZED FOR EXTENDED COVERAGE HEADS. SMALL ROOM RULE APPLIES. A DESIGN AREA REDUCTION MAY BE TAKEN PER NFPA-13, 2013 EDITION, SECTION 11.2.3.2.3. HEAD TEMPERATURE RATING FOR PENDANTS IS TO BE ORDINARY (135 - 170 °F) AS DEFINED IN NFPA-13, 2013 EDITION, TABLE 6.2.5.1, "TEMPERATURE RATINGS, CLASSIFICATIONS, AND COLOR CODINGS."

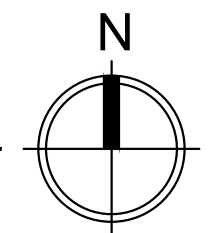


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KEY PLAN



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