-	BUILDING CODES R 3 - OCCUPANCY CLASSIFICATION	2017 (6th Ed)
802.1	CLASSIFICATION	M (MERCANTILE)
	XISTING	
03	R 4 - PRESCRIPTIVE COMPLIANCE M ALTERATIONS	ETHOD NEW CONSTRUCTION TO MEET FBC, BUILDING
BC, B	UILDING (NEW CONSTRUC	TION)
<b>HAPTE</b> 504.3 506.2	ALLOWABLE BUILDING AREA:	75 FEET
	GROUPMALLOWABLE SF50,0PROVIDED SF20,0	00 (II-B, S1)
	R 6 - TYPE OF CONSTRUCTION UCTION TYPE	II-B, SPRINKLERED
<b>HAPTE</b> 05.2.1	R 7 - FIRE RESISTANT RATED CONS EXTERIOR PROJECTIONS	TRUCTION NONCOMBUSTIBLE
'05.5 '05.8	EXTERIOR WALLS RATED PROTECTED OPENINGS	NOT REQUIRED PER T601
705.8 706	FIRE WALLS	OPENINGS MEET REQUIREMENTS NONE REQUIRED
'07 '08	FIRE BARRIERS SHAFT ENCLOSURE	NONE REQUIRED NONE REQUIRED
<b>'</b> 09	FIRE PARTITIONS	NONE REQUIRED
'09 '11	SMOKE BARRIERS SMOKE PARTITIONS	NONE REQUIRED NONE REQUIRED
'12	HORIZONTAL ASSEMBLIES	NONE REQUIRED
'15 '17	OPENING PROTECTIVES ATTIC DRAFT STOPPING	NONE REQUIRED N/A
	R 8 - INTERIOR FINISHES	
Г803.9	CORRIDORS	CLASS C MIN
Нарте	ROOMS	CLASS C MIN
03.2.7	GROUP M	SPRINKLER REQUIRED (> 12,000 SF)
	R 10 - MEANS OF EGRESS 2 OCCUPANT LOAD	
	MAIN SALES AREA	16,110 GSF / 60 GSF = 269 OCCUPANTS
	GARDEN CENTER (STOCK) GREENHOUSE (STOCK)	10,200 GSF / 300 GSF = 34 OCCUPANTS 4,320 GSF / 300 GSF = 14 OCCUPANTS
	FUTURE GARDEN (STOCK)	5,200 GSF / 300 GSF = 17 OCCUPANTS
	TOTAL MERCANTILE	35,830 GSF 334 OCCUPANTS
	STORAGE/BACK-OF-HOUSE OUTDOOR STORAGE	1,686 GSF / 300 GSF = 6 OCCUPANTS 8,500 GSF / 300 GSF = 28 OCCUPANTS
	OFFICE AREA	880 GSF / 100 GSF = 9 OCCUPANTS
	TOTAL NON-SALES	11,066 GSF 15 OCCUPANTS
005.1	GRAND TOTALS EGRESS WIDTH	46,896 GSF 377 OCCUPANTS 0.02"/OCC (SEE 1017.2, MIN. WIDTH TO BE 36")
Г1006	EMERGENCY LIGHTING	PROVIDED
006.3 010.2	EXIT SIGNS RAMP SLOPES	PROVIDED MAX 1:12
010.8	RAMP HANDRAILS	NONE, CURB RAMPS ONLY
014.2		
HAPTE	R 11 - ACCESSIBILITY R 12 - INTERIOR ENVIRONMENT	SEE THE ACCESSIBILITY CODE SUMMARY BELOW
/ENTILA <sup>-</sup> ATTIC	TION:	MECHANICAL NONE
CHAPTE	R 16 - STRUCTURAL	SEE WIND DESIGN DATA ON THIS SHEET
	SIBILITY CODE SUMMARY ACCESSIBILITY CODE	2017 (6th Ed)
СНАРТЕ	R 2 - SCOPING REQUIREMENTS	
201.1 202.3	VERTICAL ACCESSIBILITY ALTERATIONS	N/A EACH ALTERED SPACE HAS BEEN UPDATED
203.9	EMPLOYEE WORK AREAS	ACCESS FOR APPROACH, ENTRY & EXIT
206 207	ACCESSIBLE ROUTES ACCESSIBLE EGRESS	AN ACCESSIBLE ROUTE IS PROVIDED ACCESSIBLE EGRESS IS PROVIDED
208	ACCESSIBLE PARKING	PROVIDED, SEE SITE PLAN, SHEET A1.1
209 210	PASSENGER LOADING STAIRWAYS	N/A N/A
11	DRINKING FOUNTAINS	PROVIDED, HI/LO
212 213.2	KITCHENS AND SINKS TOILET AND BATHING ROOMS	ACCESSIBLE (SIDE ACCESS TO SINK, 34" MAX HT) ALL ARE ACCESSIBLE
216	SIGNS	SIGNS SHALL BE PROVIDED WHERE REQD
17 26.1	TELEPHONES WORK SURFACES	N/A 36" MAX HT, SIDE APPROACH PROVIDED
<b>CHAPTE</b> 603	R 3 - BUILDING BLOCKS CHANGES IN LEVEL	ACCESSIBLE ROUTE MEETS CODE
	R 4 - ACCESSIBLE ROUTES	
104	DOORS R 7 - COMMUNICATION ELEMENTS A	ALL ON ACCESSIBLE ROUTE MEET CODE

## FLORIDA BUILDING CODE, PLUMBING FLORIDA PLUMBING CODE 2017 (6th Ed)

CHAPTER 4 - FIXTURES, FAUCETS AND FIXTURE FITTINGS 403.1 MIN NO. OF FIXTURES - MERCANTILE OCCUPANCY

		0	CCUP	
	BUILDING	:	377	
T403.1	W/C			1/5
	LAVS			1/7
	FOUNTAIN	S		1/1
	SERVICE S	SINKS		1
REQUIRE	D	W/C	LAV	s
	MEN	1	1	<u> </u>
	WOMEN	1	1	
	TOTALS	2	2	
PROVIDE	D	W/C	URIN	L
	MEN	1	1	
	WOMEN	2	-	
	UNISEX	-	-	
	TOTALS	3	0	
403.2	SEPARATE	FACIL	ITIES	
403.4.1	DIRECTION			

## FLORIDA FIRE PREVENTION CODE SUMMARY

### FLORIDA FIRE PREVENTION CODE, 2017 (6th EDITION) "1:" SIGNIFIES NFPA 1 & "101:" SIGNIFIES NFPA 101, AS AMENDED BY FLORIDA

"1:" SIGNIFIES	NFPA 1 & "101:" SIGNIFIES NFPA	101, AS AMEND
1:CHAPTER 6 6.1.10	- CLASSIFICATION OF OCCUPAN CLASSIF. OF OCCUPANCY	
13.3.2.23	<b>3 - FIRE PROTECTION SYSTEMS</b> NEW MERCANTILE OCCUPANCI REQUIRED IF SUPERVISION	ES > 12,000 SF REQUIRED IN C
1:CHAPTER 20 20.12	0 - OCCUPANCY FIRE SAFETY MERCANTILE OCCUPANCIES	
	7 - MEANS OF EGRESS KEY-OPERATED LOCK	PERMITTED PE
T7.3.1.2	SEE BUILDING CODE SUMMARY	<u> - CHAPTER 10</u>
7.3.4.1(2) 7.5.4.1.2 7.8.1.2	MIN. EXIT WIDTH ACCESSIBLE EGRESS EXIT ILLUMINATION	36" 1 ALLOWED FR( REQUIRED DUR
36.1.2.2.1 36.1.5 36.1.6 36.1.7 36.2.4.1 36.2.4.2 36.2.5.2.1 36.2.5.3 (2) 36.2.5.5 36.2.5.6 36.2.5.6 36.2.5.8 36.2.5.10 36.2.6.2 36.2.8 36.2.9 36.2.10 36.3.2.1.2 36.3.4 36.3.5.1 36.3.5.3 36.3.6 36.3.7	36 - NEW MERCANTILE OCCUPA SUBCLASSIFICATION CLASS OF HAZARD MIN. CONSTR. REQMTS OCCUPANT LOAD NUMBER OF EXITS SINGLE MEANS OF EXIT DEAD-END CORRIDORS COMMON PATH OF TRAVEL AISLE FOR EXITING MAIN AISLE WIDTH NO CHECKOUT EXIT WHEELED CARTS TRAVEL DISTANCE EXIT LIGHTING EMERGENCY LIGHTING EXIT MARKINGS PROTECTION FROM HAZARDS INT. WALL & CLG FINISH FIRE DETECTION & ALARM EXTINGUISHMENT PORTABLE EXTINGUISHERS CORRIDORS SUBDIVISION OF SPACES	CLASS A (>30,0 ORDINARY NO SPECIAL RE <u>SEE T7.3.1.2 AB</u> 2 MIN PERMITTED PEI 50' MAX 100' MAX 36" MIN 60" MIN 1/2 OF EXIT REC PROVIDE PARK 250' MAX PROVIDE PARK 250' MAX PROVIDED PROVIDED PROVIDED PROVIDED PROVIDED PROVIDED PROVIDED PER SPRINKLER SYS PROVIDED NONE NOT REQUIRED
36.4.3.1 36.4.3.3	OPEN-AIR OPERATIONS ROOFED-OVER OPEN-AIR	EXITING PROVI

# NFPA 10 - STANDARDS FOR PORTABLE FIRE EXTINGUISHERS

**CHAPTER 5 - DISTRIBUTION OF FIRE EX** 

209	PASSENGER LUADING	N/A			
210	STAIRWAYS	N/A			
211	DRINKING FOUNTAINS	PROVIDED, HI/LO		CLASS A HAZARDS	ORDINARY (MODERATE)
212	KITCHENS AND SINKS	ACCESSIBLE (SIDE ACCESS TO SINK, 34" MAX HT)	T5.2.1	MIN RATED SINGLE EXTING	2-A
213.2	TOILET AND BATHING ROOMS	ALL ARE ACCESSIBLE		MIN FLR AREA/UNIT A	1,500 SF
216	SIGNS	SIGNS SHALL BE PROVIDED WHERE REQD		MAX FLR AREA FOR EXTING	11,250 SF
217	TELEPHONES	N/A		MAX TRAVEL DIST TO EXTING	75 FT
226.1	WORK SURFACES	36" MAX HT, SIDE APPROACH PROVIDED			
				CLASS B HAZARDS	ORDINARY (MODERATE)
CHAPTER	R 3 - BUILDING BLOCKS				
303	CHANGES IN LEVEL	ACCESSIBLE ROUTE MEETS CODE	T5.3.1	MIN EXIT RATING	MAX TRAVEL DISTANCE TO EXTINGUISHER
				10-B	30 FT
CHAPTER	R 4 - ACCESSIBLE ROUTES			20-B	50 FT
404	DOORS	ALL ON ACCESSIBLE ROUTE MEET CODE			
	Deente		5.5	CLASS C HAZARDS	LOCATE BASED ON CLASS A OR CLASS B
	R 7 - COMMUNICATION ELEMENTS A		5.6.2	CLASS D HAZARDS	NOT MORE THAN 75 FT TRAVEL DISTANCE
703	SIGNS	WHERE REQUIRED, SIGNS SHALL COMPLY	5.7.2	CLASS K HAZARDS	NOT MORE THAN 30 FT TRAVEL DISTANCE
103	0000	WHERE REQUIRED, SIGNS SHALL COMPLY		-	

# NEW PROTOTYPE BUILDING FOR HAGAN ACE YULEE 86000 MINER RD, YULEE, FL 32097

189 189

500 '50 ,000,

FOUNT SVC SINKS

\_\_\_\_\_1

LAVS FOUNT SVC SINKS - -- -2

REQUIRED REQUIRED AT ENTRY

CCUPANCY (NOTE: 101, CHAPTER 6 IDENTICAL AS BELOW)

# STEMS

REQUIRED IN CLASS A MERCANTILE (SEE 101:36.1.2.2.1 BELOW)

#### FETY NCIES

PERMITTED PER 36.2.2.2.2

# UMMARY - CHAPTER 10

1 ALLOWED FROM AREAS PERMITTED (SEE CHAPTER 37 BELOW) REQUIRED DURING TIMES OF OCCUP.

# OCCUPANCIES CLASS A (>30,000 SF) PER 36.1.2.2.2.3 ORDINARY

	ORDINARY
	NO SPECIAL REQUIREMENTS
	SEE T7.3.1.2 ABOVE
	2 MIN
	PERMITTED PER COM PATH OF TRAVEL DIST (FOR OFFICE AREA)
	50' MAX
/EL	100' MAX
	36" MIN
	60" MIN
	1/2 OF EXIT REQUIREMENT THROUGH EXITS NOT AT CHECKOUT
	PROVIDE PARKING OUT OF EXIT PATH
	250' MAX
	PROVIDED
	PROVIDED
	PROVIDED
ARDS	GENERAL STOCK AREAS EXEMPT FROM 8.7.1.2 (HAZARDOUS AREAS)
	CLASS C MIN
RM	PROVIDED PER 9.6
	SPRINKLER SYSTEM PROVIDED PER 9.7.1.1 (1) [NFPA 13]
ERS	PROVIDED
-	NONE
S	
-	
R	TREAT AS MERCANTILE, BUT NOT BLDG

XTINGUISHERS	

# **BASIC PROJECT INFORMATION**

PROJECT DESCRIPTION PROPERTY OWNER

STREET ADDRESS PARCEL/RE NUMBER

ZONING DESIGNATION SETBACKS: MAXIMUM HEIGHT

LOT AREA MAX. LOT COVERAGE

BUILDING AREA

# NEW PRE-ENG, PRE-FAB METAL BUILDING

HAGAN ACE HARDWARE OF YULEE 1022 BLANDING BLVD, ORANGE PARK, FL 32065 86000 MINER RD, YULEE, FL 32097 (MINER CORNERS PL) 42-2N-27-1330-0003-0000 CG FRONT = 25 FT; SIDE = 20 FT(30 AT RESIDENTIAL); REAR = 20 FT 40 FT

3.67 AC 50%

19,952 GSF

# WIND DESIGN DATA (PER FBC)

BUILDING CODE

WIND EXPOSURE

FLORIDA BLDG CODE, 2017 (6th Ed) BASIC WIND SPEED (3-sec gust) 126 mph BUILDING IMPORTANCE CATEGORY II 1.0 R

WIND-BORNE DEBRIS REGION NO (< 130 mph, > 8 miles from coast)

WIND IMPORTANCE FACTOR

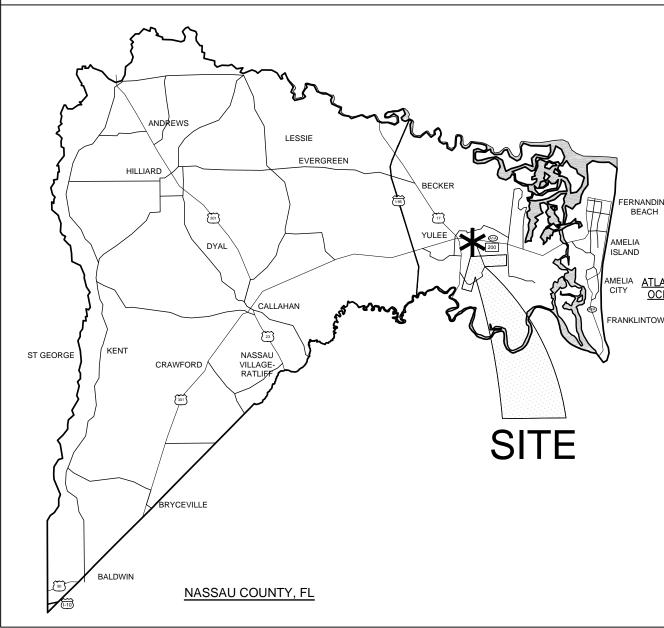
INTERNAL PRESSURE COEFFICIENT ± 0.18 (ENCLOSED)

# LEGAL DESCRIPTION

PARCELS 1 AND 3, MINER CORNERS, ACCORDING TO THE MAP OR PLAT THEREOF, AS RECORDED IN PLAT BOOK 8, PAGE(S) 56 AND 57, OF THE PUBLIC RECORDS OF NASSAU COUNTY.

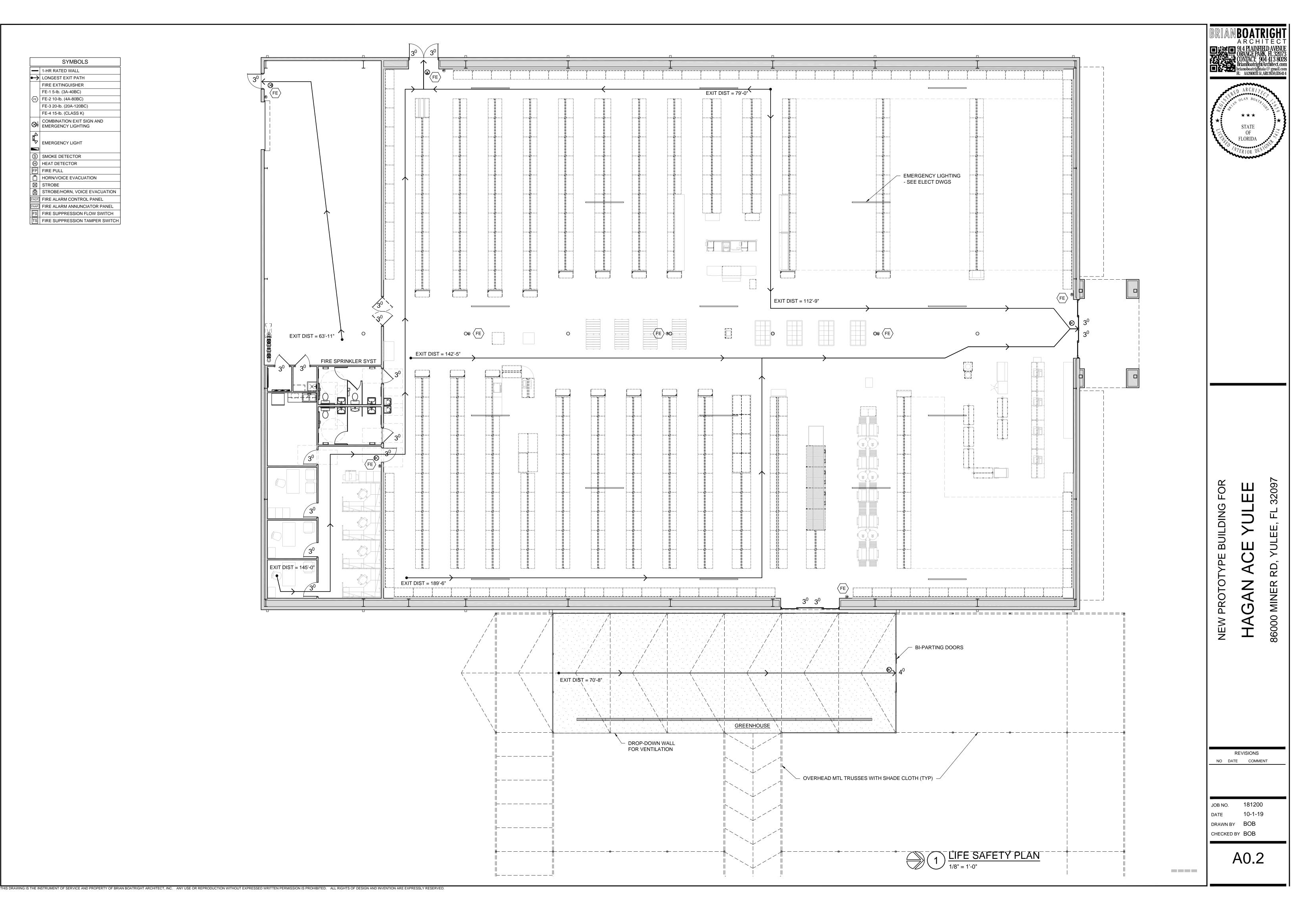
# VICINITY MAP

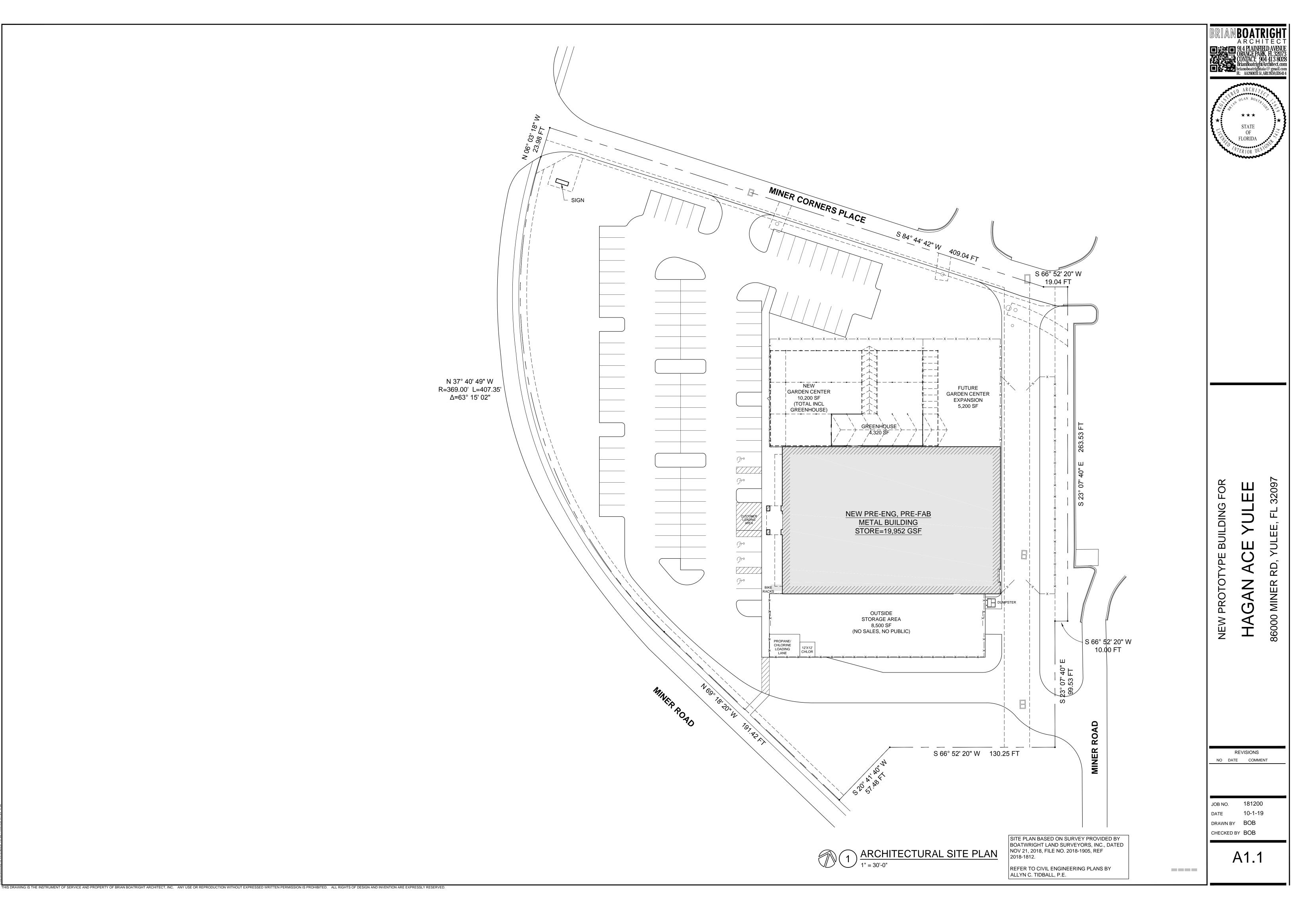
★ INDICATES PROJECT LOCATION

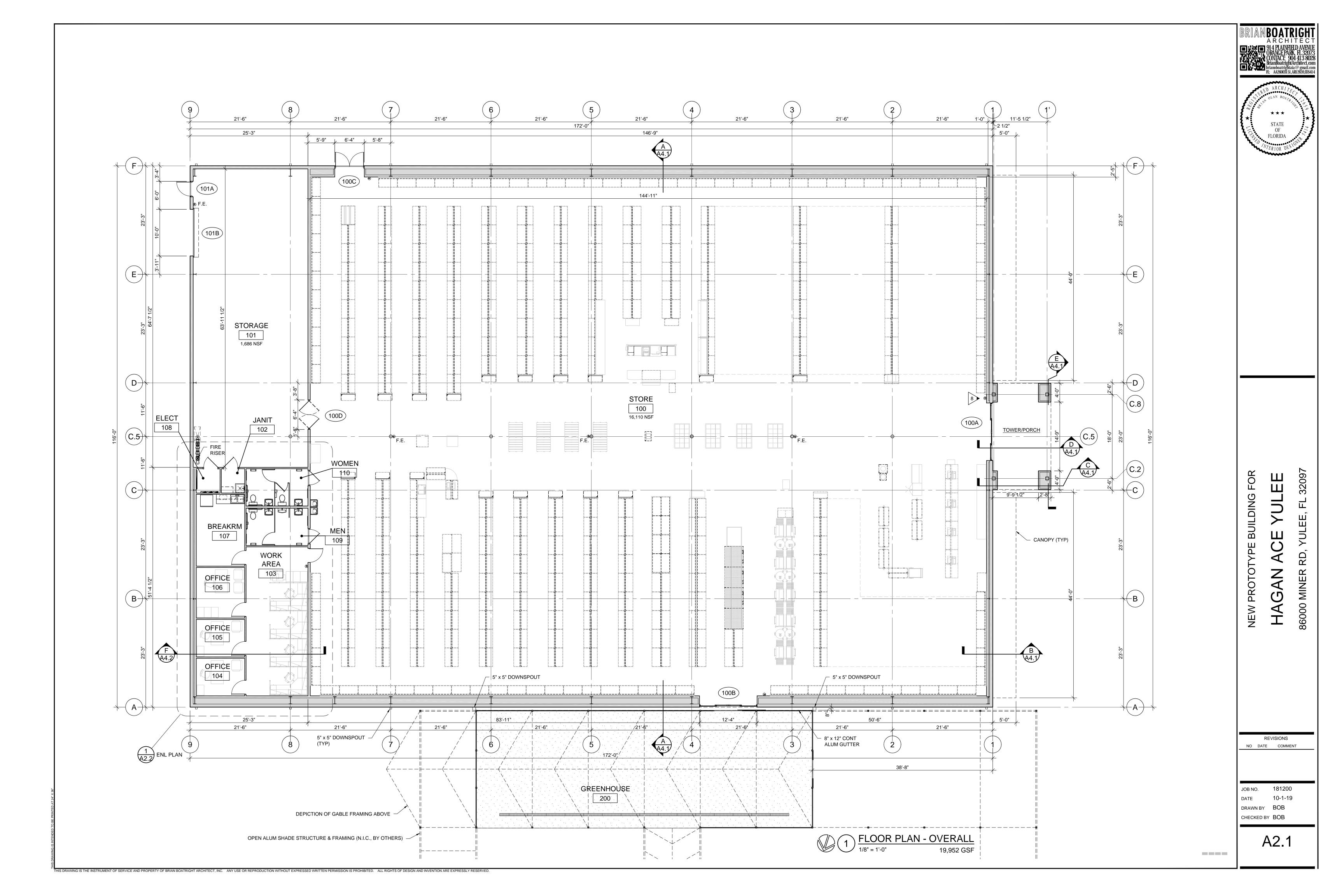


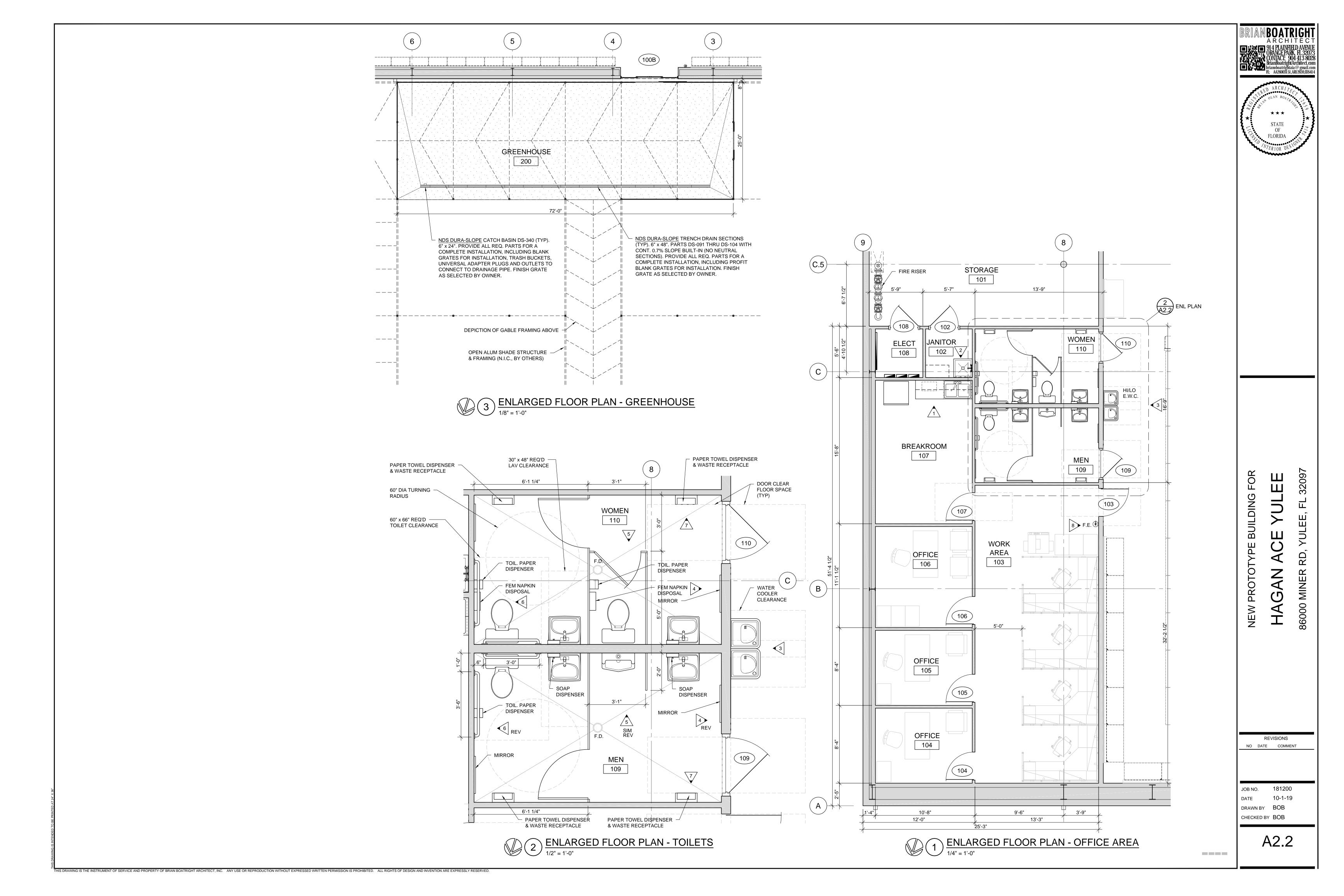
A0.1       CC         A0.2       LIF         A1.1       AF         A2.1       FL         A2.2       FL         A3.1       EX         A4.1       BL         A11.1       GF         A11.1       GF         A11.1       GF         C-1       GF         C-1       GF         C-1       GF         C-2       GF         C-3       SF         C-4       SF         C-5       DF         C-6       SF         EC-1       EF         EC-2       ST         L3.01       LA         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       ST	OF DRAWINGS   WER SHEET   E SAFETY PLAN   ICHITECTURAL SITE PLAN   OOR PLAN - OVERALL   OOR PLAN - ENLARGED PLANS   TERIOR ELEVATIONS   ILDING SECTIONS   ILDING & WALL SECTIONS   HEDULES   FLECTED CEILING PLAN   INERAL NOTES   ECIFICATIONS   ECIFICATION   ECIFICATION   ECIFICATION   ECIFICATION		NTERIOR DES	
A0.2       LIF         A1.1       AF         A2.1       FL         A2.2       FL         A3.1       EX         A4.1       BL         A4.2       BL         A7.1       SC         A4.2       BL         A10.1       GE         A11.1       SF         A11.2       SF         C-1       SI         C-2       GI         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       SI         C-5       DF         C-6       SI         S1.0       GE         S1.1       GE         S.2       FC         S.3       RC         S.4       FC         S.5       SI         S.5       SI	E SAFETY PLAN CHITECTURAL SITE PLAN OOR PLAN - OVERALL OOR PLAN - ENLARGED PLANS TERIOR ELEVATIONS ILDING SECTIONS ILDING SECTIONS ILDING & WALL SECTIONS HEDULES FLECTED CEILING PLAN INTERAL NOTES ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS EXPROLECT INFO & STANDARD NOTES TE PLAN TADING & DRAINAGE PLAN TE DETAILS ECIFICIES ECIFICIES ECIFICATIONS			
A1.1       AF         A2.1       FL         A2.2       FL         A3.1       EX         A4.1       BL         A4.2       BL         A7.1       SC         A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         C-1       SI         C-2       GI         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GI         S1.1       GI         S.2       FC         S.3       RC         S.4       FC         S.5       SI	CHITECTURAL SITE PLAN OOR PLAN - OVERALL OOR PLAN - ENLARGED PLANS TERIOR ELEVATIONS ILDING & WALL SECTIONS ILDING & THE OTHER SECTIONS ILDING & THE OTHER SECTIONS ILDING & STANDARD NOTES IE PLAN INFRAL PROJECT INFO & STANDARD NOTES IE PLAN INFRAL NOTES PLAN IE DETAILS INFRAL NOTES INFR			
A2.1       FL         A2.2       FL         A3.1       EX         A4.1       BL         A4.2       BL         A4.2       BL         A4.1       SC         A4.1       SC         A4.2       BL         A4.1       SC         A4.2       BL         A4.1       SC         A10.1       GE         A11.1       SF         A11.2       SF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S.1       GF         S.3       RC         S.4       FC         S.5       SI	DOR PLAN - OVERALL DOR PLAN - OVERALL DOR PLAN - ENLARGED PLANS TERIOR ELEVATIONS ILDING SECTIONS ILDING SECTIONS ILDING & WALL SECTIONS ILDING & STANDARD INERAL NOTES ECIFICATIONS ECIFI			
A2.2       FL         A3.1       EX         A4.1       BL         A4.2       BL         A7.1       SC         A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         C-1       SI         C-2       GE         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GE         S1.1       GE         S.2       FC         S.3       RC         S.4       FC         S.5       SI	COR PLAN - ENLARGED PLANS TERIOR ELEVATIONS IILDING SECTIONS IILDING & WALL SECTIONS IILDING & UTILITIES IILTING & DETAILS INTERAL PROJECT INFO & STANDARD NOTES ITE PLAN RADING & DRAINAGE PLAN ITE UTILITIES PLAN ITE UTILITIES PLAN ITE UTILITIES PLAN ITE UTILITIES DETAILS IOSION CONTROL PLAN INGRAL DRAWINGS INCOMTROL PLAN INGRAL NOTES INTERAL NOTES CONT. & LEGEND INTATION PLAN INTATION PLAN INTATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS INTERAL NOTES			
A3.1       EX         A4.1       BL         A4.2       BL         A7.1       SC         A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         C-1       SI         C-2       GI         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GI         S1.1       GI         S.2       FC         S.3       RC         S.4       FC         S.5       SI	TERIOR ELEVATIONS ILDING SECTIONS ILDING SECTIONS ILDING & WALL SECTIONS ILDING & WALL SECTIONS IEDULES FLECTED CEILING PLAN INERAL NOTES ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ENERAL PROJECT INFO & STANDARD NOTES TE PLAN RADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE DETAILS EXAINAGE DETAILS EXAINAGE DETAILS EXISTS ENTROPOLUTION PREVENTION PLAN (SWPPP) INDSCAPE PLAN ENTROPOLUTION PLAN INDATION PLAN INDATION PLAN INDATION PLAN INDATION PLAN INDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS ENTROPOLUTION PLANING PLAN INDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS ENTROPOLUTION PLANING PLAN ENTROPOLUTION PLANING P			
A4.1       BL         A4.2       BL         A7.1       SC         A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       ST         L3.01       LA         S1.0       GF         S.1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       ST	ILDING SECTIONS ILDING SECTIONS ILDING & WALL SECTIONS ILDING & WALL SECTIONS ILDING & WALL SECTIONS INERAL NOTES ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ENERAL PROJECT INFO & STANDARD NOTES TE PLAN TADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE UTILITIES DETAILS ECIFICATION PREVENTION PLAN (SWPPP) INDSCAPE PLAN ENTRY POLLUTION PLAN (SWPP) INDATION PLAN ENTRY POLLUTION PLAN (SWPP) INDATION PLAN ENTRY POLLUTION PLAN (STEEL DETAILS ENTRY POLLUTION PLAN (SWPP) INDATION PLAN ENTRY POLLUTION PLAN (SWPP) ENTRY POLU			
A4.2       BL         A7.1       SC         A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         CIVIL       SF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       ST         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       ST	ILDING & WALL SECTIONS IHEDULES IHEDULES IHEDULES IFLECTED CEILING PLAN INERAL NOTES ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ENERAL PROJECT INFO & STANDARD NOTES EF PLAN ENERAL PROJECT INFO & STANDARD NOTES EF PLAN ENERAL PROJECT INFO & STANDARD NOTES EF PLAN ENTRE PLAN ET UTILITIES PLAN EF DETAILS EXINAGE DETAILS			
A7.1       SC         A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         CIVIL       SF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       ST	HEDULES FLECTED CEILING PLAN FEITORS FLECTIONS FLECT			
A8.1       RE         A10.1       GE         A11.1       SF         A11.2       SF         CIVIL       SF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S.2       FC         S.3       RC         S.4       FC         S.5       SI         FIRE       FF	FLECTED CEILING PLAN INERAL NOTES ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS EXERAL PROJECT INFO & STANDARD NOTES EXERAL NOTES EXERAL NOTES EXERAL NOTES CONT. & LEGEND EXERCICL PROVING SCHEDULE, MASONRY & STEEL DETAILS EXERCICL PROVING SCHEDULE, MASONRY & STEEL DETAILS EXERCICL PROVINCES EXERCICL PROVIN			
A10.1       GE         A11.1       SF         A11.2       SF         CIVIL       SF         C-1       SF         C-2       GF         C-3       SF         C-4       SF         C-5       DF         C-6       SF         EC-1       EF         EC-2       ST         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       ST	INERAL NOTES ECIFICATIONS ECIFICATIONS ECIFICATIONS  RAWINGS RAWINGS RAUNAGE PLAN RERAL PROJECT INFO & STANDARD NOTES TE PLAN RADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE DETAILS COSION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN  FURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND UNDATION PLAN OF FRAMING PLAN UNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
A11.1       SF         A11.2       SF         CIVIL       SI         C-1       SI         C-2       GI         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       S1         L3.01       LA         S1.0       GI         S1.1       GI         S.2       FC         S.3       RC         S.4       FC         S.5       S1	ECIFICATIONS ECIFICATIONS ECIFICATIONS ECIFICATIONS  RAWINGS RAWINGS ENERAL PROJECT INFO & STANDARD NOTES ENERAL PROJECT INFO & STANDARD NOTES EVERT PROJECT INFO & STANDARD NOTES EVERT POLITICIES PLAN EVERT POLITICIES PLAN EVERT POLITICIES EVET			
A11.2       SF         CIVIL       GI         T-1       GI         C-1       SI         C-2       GI         C-2       GI         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GI         S1.1       GI         S.2       FC         S.3       RC         S.4       FC         S.5       SI	ECIFICATIONS  RAWINGS  NERAL PROJECT INFO & STANDARD NOTES  FE PLAN  RADING & DRAINAGE PLAN  FE UTILITIES PLAN  FE UTILITIES PLAN  FE UTILITIES DETAILS  ROSION CONTROL PLAN  ORMWATER POLLUTION PREVENTION PLAN (SWPPP)  NDSCAPE PLAN  FURAL DRAWINGS  NERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND  DUNDATION PLAN  OF FRAMING PLAN  UNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
CIVIL         T-1         GI         C-1         SI         C-2         GI         C-3         C-4         SI         C-5         C-6         EC-1         EC-2         L3.01         L4         S1.0         S1.1         S.2         S.3         RC         S.4         FIRE	RAWINGS ENERAL PROJECT INFO & STANDARD NOTES TE PLAN RADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE DETAILS TAINAGE DETAILS TOSION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND DUNDATION PLAN OF FRAMING PLAN UNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
T-1       GF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       S1	ENERAL PROJECT INFO & STANDARD NOTES TE PLAN RADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE DETAILS RAINAGE DETAILS TE UTILITIES DETAILS ROSION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND UNDATION PLAN OOF FRAMING PLAN UNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
T-1       GF         C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       S1	ENERAL PROJECT INFO & STANDARD NOTES TE PLAN RADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE DETAILS RAINAGE DETAILS TE UTILITIES DETAILS ROSION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND UNDATION PLAN OOF FRAMING PLAN UNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
C-1       SI         C-2       GF         C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       SI	TE PLAN RADING & DRAINAGE PLAN RADING & DRAINAGE PLAN TE UTILITIES PLAN TE UTILITIES PLAN TE DETAILS RAINAGE DETAILS ROSION CONTROL PLAN OORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND DUNDATION PLAN DOF FRAMING PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
C-3       SI         C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       SI	TE UTILITIES PLAN TE DETAILS TE DETAILS TE UTILITIES DETAILS TE UTILITIES DETAILS TOSION CONTROL PLAN TORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND PUNDATION PLAN TOF FRAMING PLAN TOF FRAMING PLAN TOF FRAMING PLAN TOT TO DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
C-4       SI         C-5       DF         C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       SI	TE DETAILS TE DETAILS TE UTILITIES DETAILS TO SION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND PUNDATION PLAN DOF FRAMING PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
C-5       DF         C-6       SI         EC-1       EF         EC-2       S1         L3.01       LA         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       S1	AAINAGE DETAILS TE UTILITIES DETAILS COSION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND DUNDATION PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
C-6       SI         EC-1       EF         EC-2       SI         L3.01       LA         STRUC       SI         S1.0       GF         S1.1       GF         S.2       FC         S.3       RC         S.4       FC         S.5       SI	TE UTILITIES DETAILS COSION CONTROL PLAN CORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND PUNDATION PLAN DOF FRAMING PLAN PUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
EC-1 EF EC-2 ST L3.01 LA STRUC S1.0 GF S1.1 GF S.2 FC S.3 RC S.4 FC S.5 ST FIRE PF	COSION CONTROL PLAN ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN TURAL DRAWINGS ENERAL NOTES ENERAL NOTES ENERAL NOTES CONT. & LEGEND PUNDATION PLAN DOF FRAMING PLAN PUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
EC-2 ST L3.01 LA STRUC S1.0 GE S1.1 GE S.2 FC S.3 RC S.4 FC S.5 ST FIRE PF	ORMWATER POLLUTION PREVENTION PLAN (SWPPP) NDSCAPE PLAN  FURAL DRAWINGS ENERAL NOTES ENERAL NOTES CONT. & LEGEND PUNDATION PLAN DOF FRAMING PLAN PUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
STRUC         S1.0       GI         S1.1       GI         S.2       FC         S.3       RC         S.4       FC         S.5       ST	FURAL DRAWINGS         ENERAL NOTES         ENERAL NOTES CONT. & LEGEND         PUNDATION PLAN         POF FRAMING PLAN         PUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
S1.0     GI       S1.1     GI       S.2     FC       S.3     RC       S.4     FC       S.5     S1	ENERAL NOTES ENERAL NOTES CONT. & LEGEND DUNDATION PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
S1.0     GI       S1.1     GI       S.2     FC       S.3     RC       S.4     FC       S.5     S1	ENERAL NOTES ENERAL NOTES CONT. & LEGEND DUNDATION PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
S1.1     GI       S.2     FC       S.3     RC       S.4     FC       S.5     ST	ENERAL NOTES CONT. & LEGEND DUNDATION PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
S.2     FC       S.3     RC       S.4     FC       S.5     ST	DUNDATION PLAN DOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
S.3 RC S.4 FC S.5 ST FIRE PF	OOF FRAMING PLAN DUNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
S.4         FC           S.5         S1           FIRE PF	UNDATION DETAILS, FOOTING SCHEDULE, MASONRY & STEEL DETAILS			
s.5 si				
FIRE PF				76
		L OF		200
	ROTECTION DRAWINGS		Щ	.32
FP1.1 FI	RE PROTECTION DESIGN CRITERIA			
I		BUILDING	YUL	ш́
PLUMB	NG DRAWINGS			Ш
P1.1 PL	UMBING PLAN - WASTE/VENT		Щ	N N
P1.2 PL	UMBING PLAN - POTABLE WATER		Q	ć
P2.1 PL	UMBING FIXTURE SCHEDULE, RISER, DETAILS, DEMAND TABULATION		$\triangleleft$	RD, YULEE
			7	Ŕ
	NICAL DRAWINGS	15	$\overline{\triangleleft}$	ШZ
				M
	ECHANICAL SCHEDULE		۲ ۲	0
	ECHANICAL DETAILS	NEW PROTOTYPE	HAGAN AC	86000 MINER
I		Z	<b></b>	86
ELECTF	RICAL DRAWINGS			
E1.1 LE	GEND, GENERAL & ENERGY NOTES, LIGHT FIXTURE SCHEDULE, PANEL SCHEDULES			
E2.1 EL	ECTRICAL SITE PLAN			
	ECTRICAL LIGHTING PLAN - MAIN STORE			
	ECTRICAL LIGHTING PLAN - GREENHOUSE			
	ECTRICAL POWER/SYSTEMS PLAN - MAIN STORE ECTRICAL POWER/SYSTEMS PLAN - GREENHOUSE			
	ECTRICAL SPRINKLER ALARM & LIGHTING CONTROL RISER DIAGRAMS & CONTROL DETAILS			
	ECTRICAL POWER RISER & TELEPHONE/TV DIAGRAMS & DETAILS			
	ECTRICAL SPECIFICATIONS			
E5.2 EL	ECTRICAL SPECIFICATIONS CONT.		REVISIONS	
		NO DA	TE COMMEN	ІТ
			191200	
		JOB NO. DATE	181200 10-1-19	
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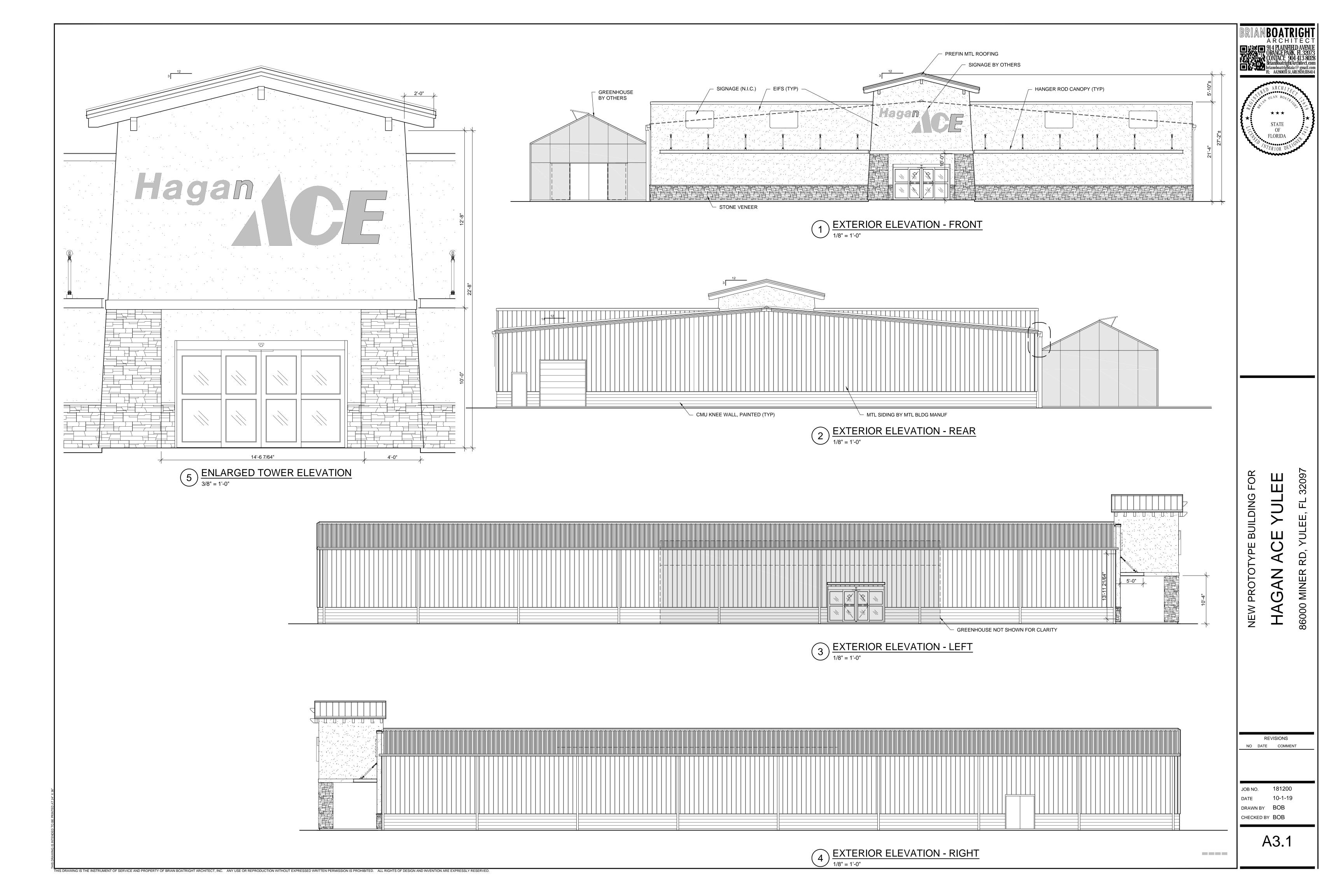
	SYMBOLS
—	1-HR RATED WALL
ightarrow	LONGEST EXIT PATH
	FIRE EXTINGUISHER
	FE-1 5-lb. (3A-40BC)
(FE)	FE-2 10-lb. (4A-80BC)
	FE-3 20-lb. (20A-120BC)
	FE-4 15-lb. (CLASS K)
$\otimes$	COMBINATION EXIT SIGN AND
0	EMERGENCY LIGHTING
<b>F</b>	
7	EMERGENCY LIGHT
S	SMOKE DETECTOR
Θ	HEAT DETECTOR
FP	FIRE PULL
Ď	HORN/VOICE EVACUATION
$\boxtimes$	STROBE
ğ	STROBE/HORN, VOICE EVACUATION
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FS	FIRE SUPPRESSION FLOW SWITCH
TS	FIRE SUPPRESSION TAMPER SWITC

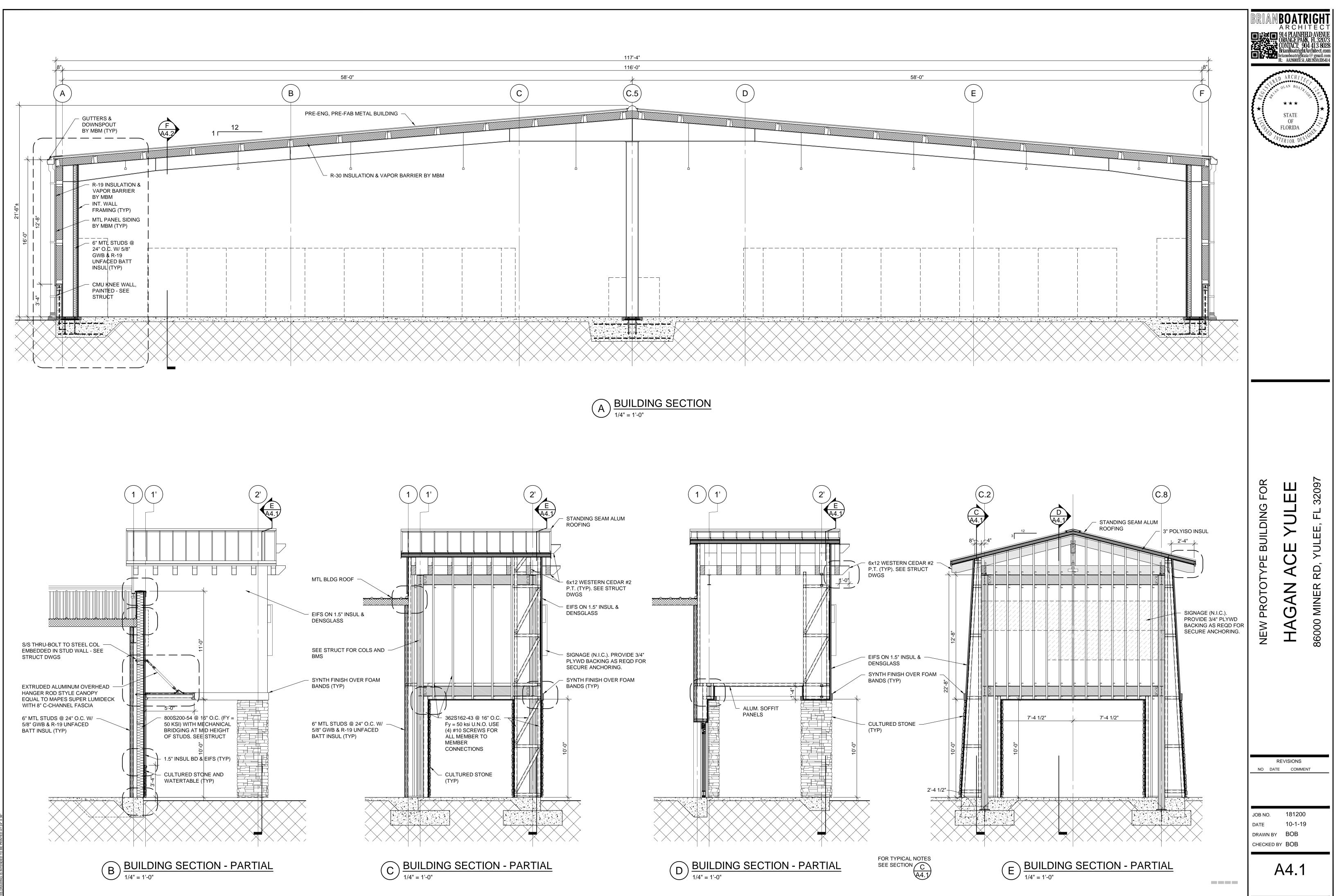




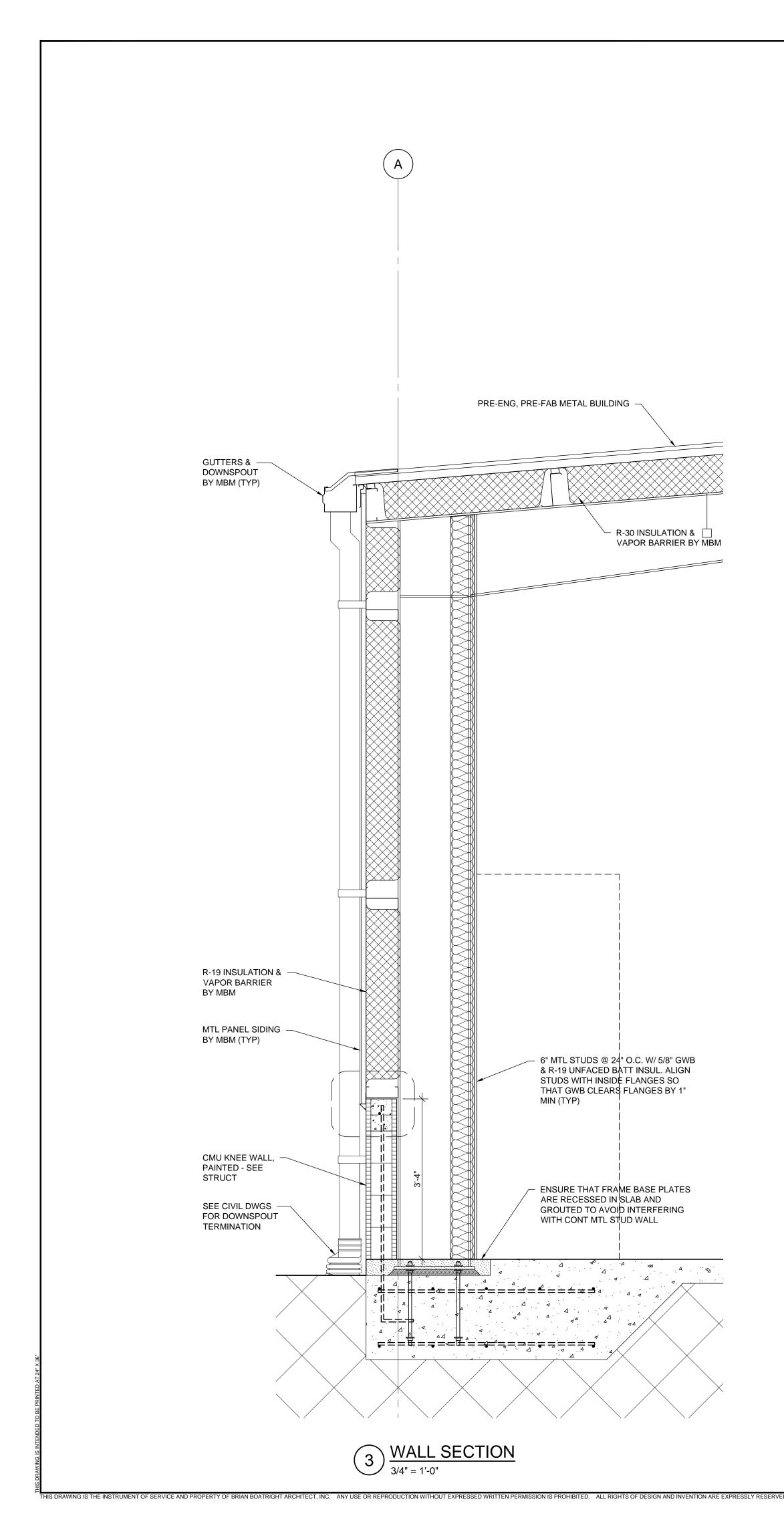


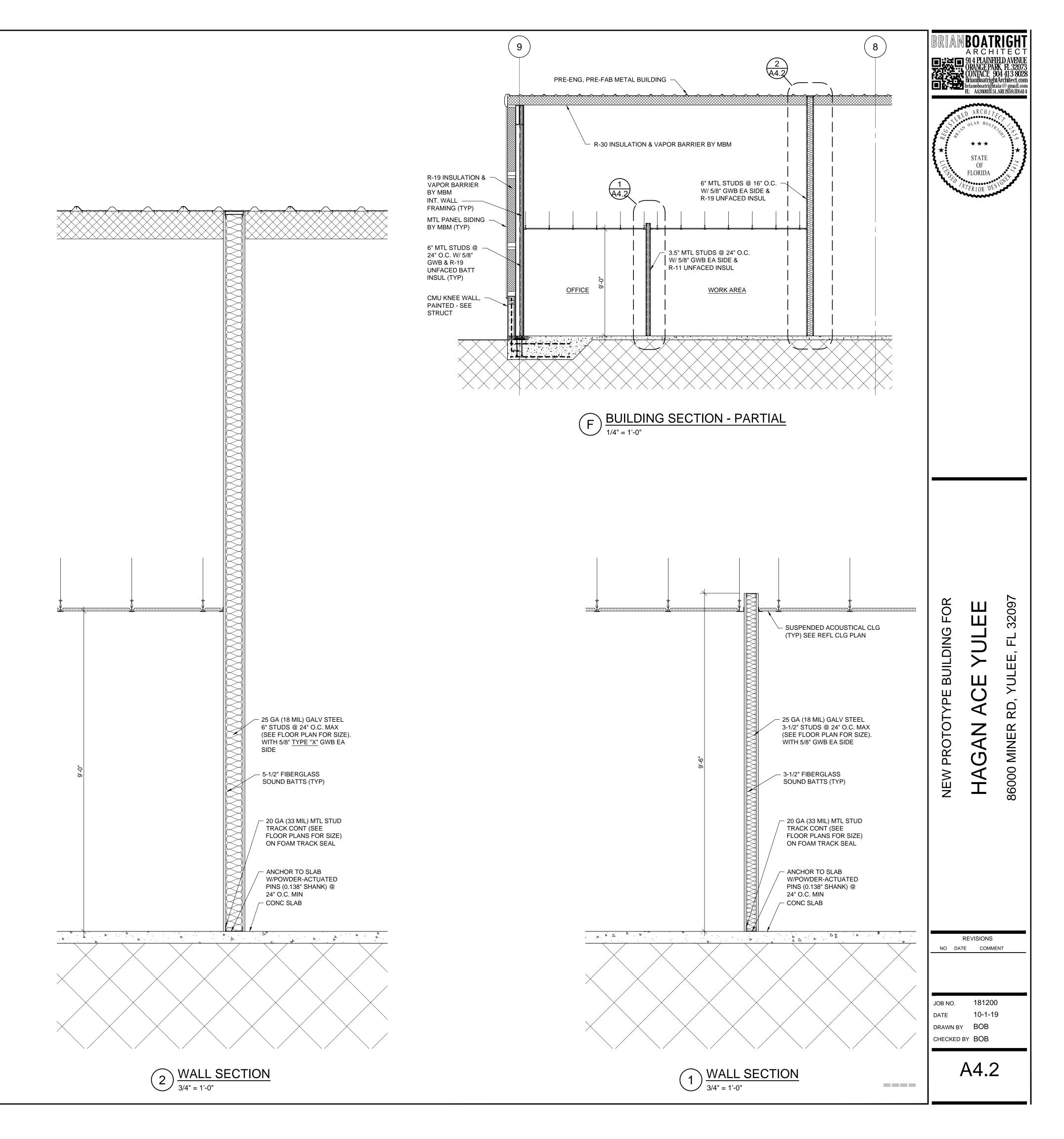






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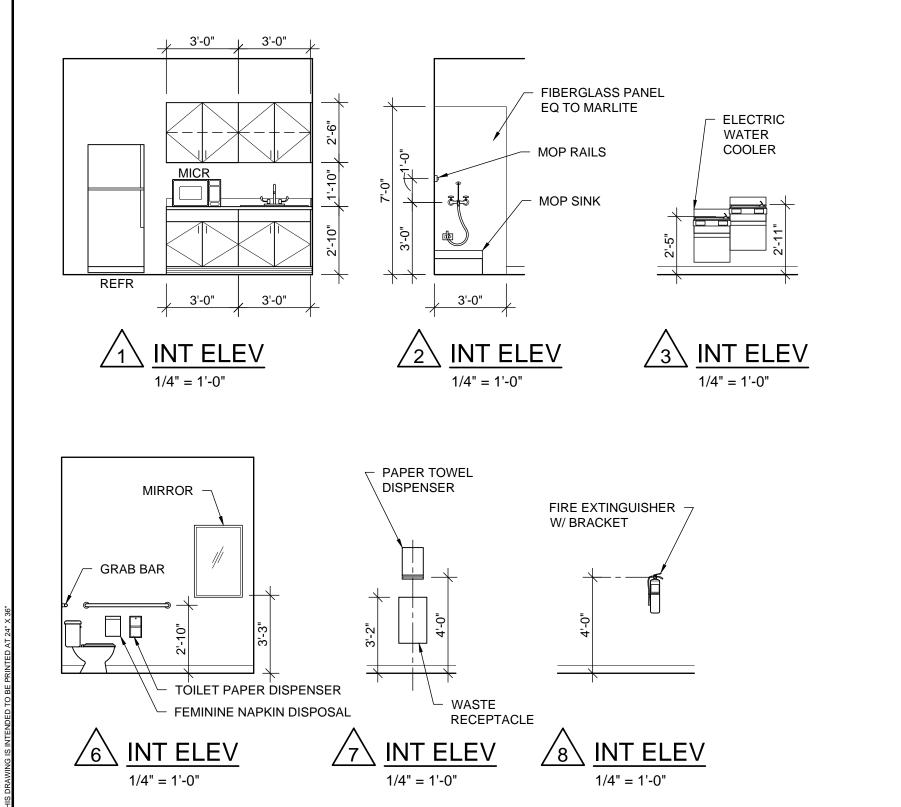




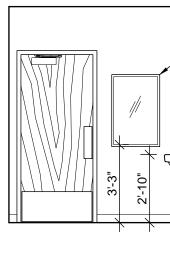
		FLOOR		BASE			WALLS			CEILING							
NO	ROOM NAME	SEALED CONCRETE	CARPET	CER. TILE	BROOM-FINISH CONCRETE	RUBBER	CER. TILE		GWB	M.R. GWB	ACRYLIC PAINT	LATEX PAINT	ACOUST TILE	GWB	OPEN	CLG HT	NOTES
100	STORE	•				•			•			●			•	OPEN	1
101	STORAGE	•				•			•			•			•	OPEN	1
102	JANITOR	•				•			•			٠			•	OPEN	1
103	WORK AREA		٠			•			•			•	•			9'-0"	
104	OFFICE		٠			•			•			•	•			9'-0"	
105	OFFICE		٠			•			•			•	•			9'-0"	
106	OFFICE		٠			•			•			•	•			9'-0"	
107	BREAK ROOM		٠			•			•			●	•			9'-0"	
108	ELECT/SERVER ROOM	•				•			•			●	•			OPEN	1
109	MEN'S RESTROOM			•		•				•	•			•		9'-0"	
110	WOMEN'S RESTROOM			•		•				•	•			•		VAULT	
200	GREENHOUSE				•										•	OPEN	

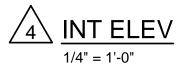
NOTES:

1. SEALED CONCRETE TO BE DENSIFIED, POLISHED CONCRETE PER SPEC.

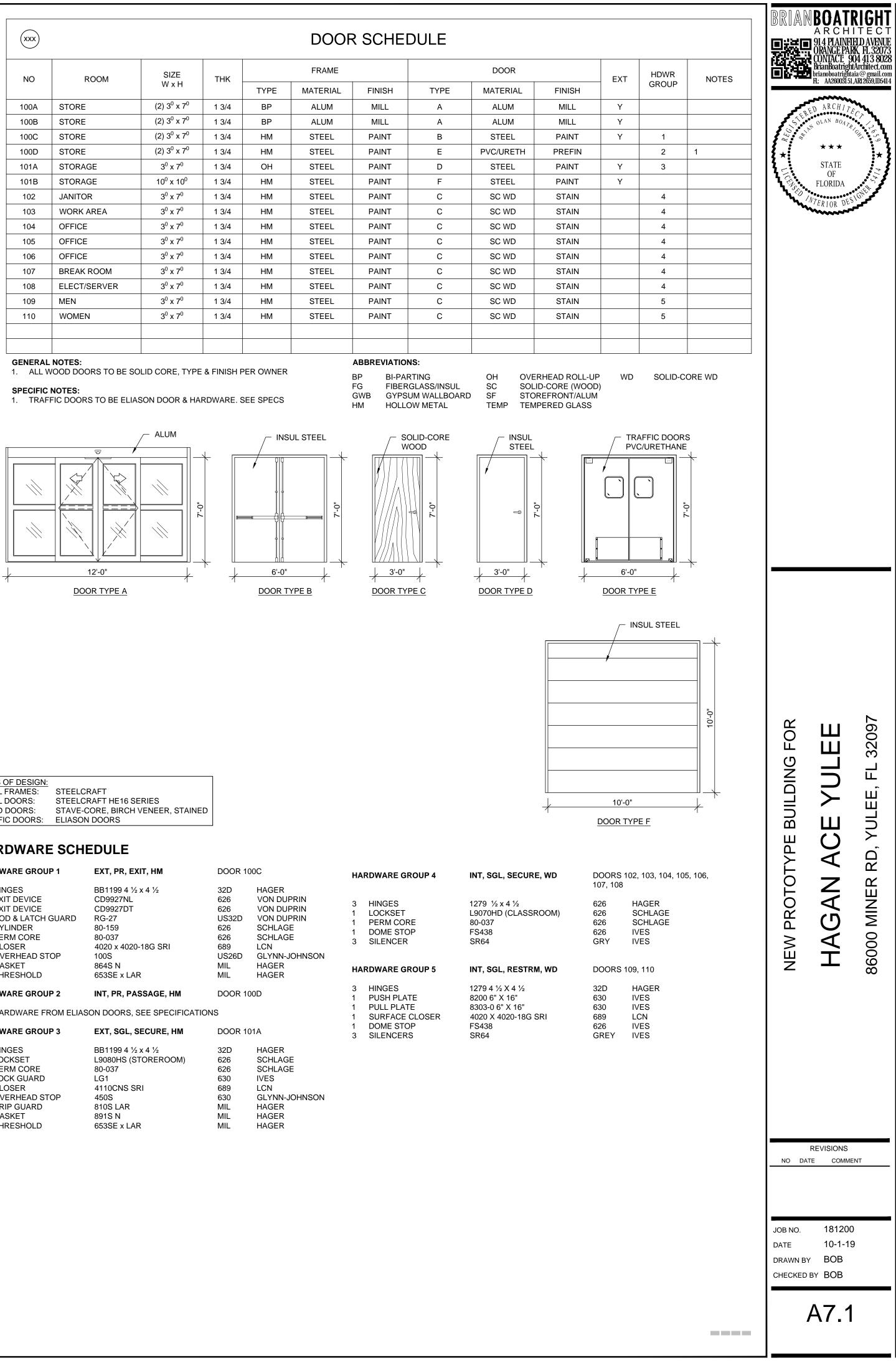


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xxx				
NO	ROOM	SIZE W x H	тнк	TYPE
100A	STORE	(2) 3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	BP
100B	STORE	(2) $3^0 \times 7^0$	1 3/4	BP
100C	STORE	(2) 3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
100D	STORE	(2) 3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
101A	STORAGE	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	ОН
101B	STORAGE	10 <sup>0</sup> x 10 <sup>0</sup>	1 3/4	HM
102	JANITOR	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	HM
103	WORK AREA	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
104	OFFICE	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
105	OFFICE	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
106	OFFICE	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
107	BREAK ROOM	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
108	ELECT/SERVER	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
109	MEN	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ
110	WOMEN	3 <sup>0</sup> x 7 <sup>0</sup>	1 3/4	НМ

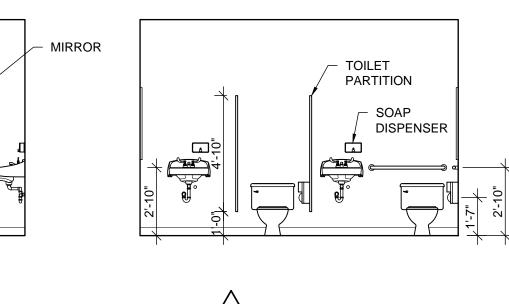


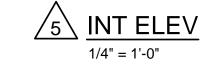
BASIS OF DESI	GN:
STEEL FRAMES	STEELCRAFT
STEEL DOORS:	STEELCRAFT HE16 SERIES
WOOD DOORS	STAVE-CORE, BIRCH VENEER, STAINED
TRAFFIC DOOR	S: ELIASON DOORS

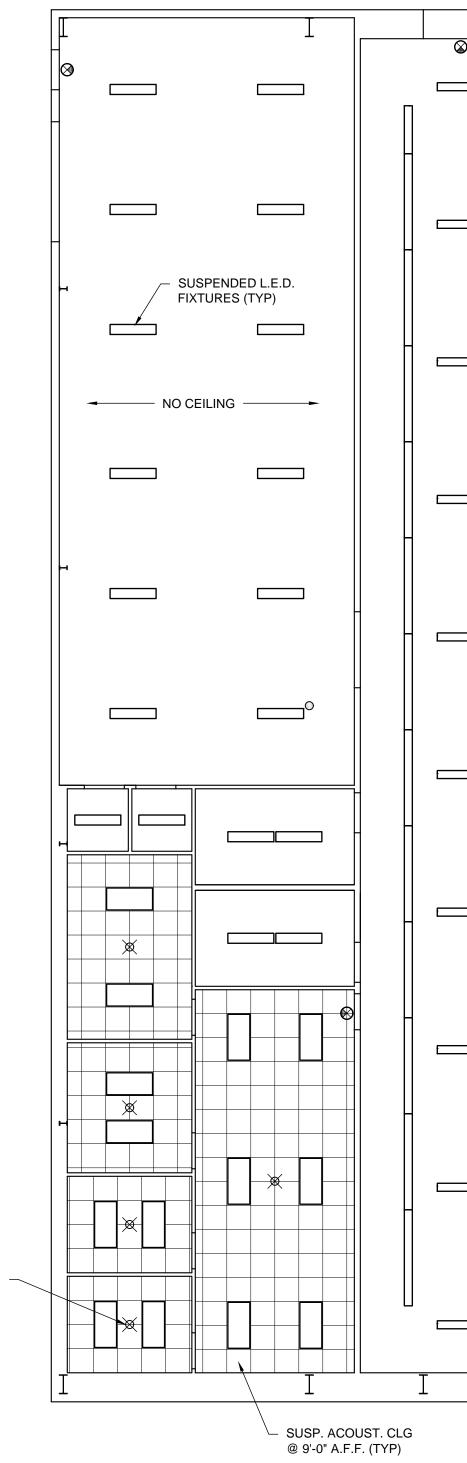
## HARDWARE SCHEDULE

HAF	RDWARE GROUP 1	EXT, PR, EXIT, HM	DOOR 10	00C				
6 1 2 1 2 2 1	HINGES EXIT DEVICE EXIT DEVICE ROD & LATCH GUARD CYLINDER PERM CORE CLOSER OVERHEAD STOP GASKET	BB1199 4 ½ x 4 ½ CD9927NL CD9927DT RG-27 80-159 80-037 4020 x 4020-18G SRI 100S 864S N	32D 626 026 US32D 626 626 689 US26D MIL	HAGE VON I VON I SCHL SCHL LCN GLYN HAGE				
1	THRESHOLD	653SE x LAR	MIL	HAGE				
HAF	RDWARE GROUP 2	INT, PR, PASSAGE, HM	DOOR 100D					
HARDWARE FROM ELIASON DOORS, SEE SPECIFICATIONS								
HAF	RDWARE GROUP 3	EXT, SGL, SECURE, HM	DOOR 101A					

		, , ,		-
3	HINGES	BB1199 4 ½ x 4 ½	32D	HAGE
1	LOCKSET	L9080HS (STOREROOM)	626	SCHL
1	PERM CORE	80-037	626	SCHL
1	LOCK GUARD	LG1	630	IVES
1	CLOSER	4110CNS SRI	689	LCN
1	OVERHEAD STOP	450S	630	GLYN
1	DRIP GUARD	810S LAR	MIL	HAGE
1	GASKET	891S N	MIL	HAGE
1	THRESHOLD	653SE x LAR	MIL	HAGE





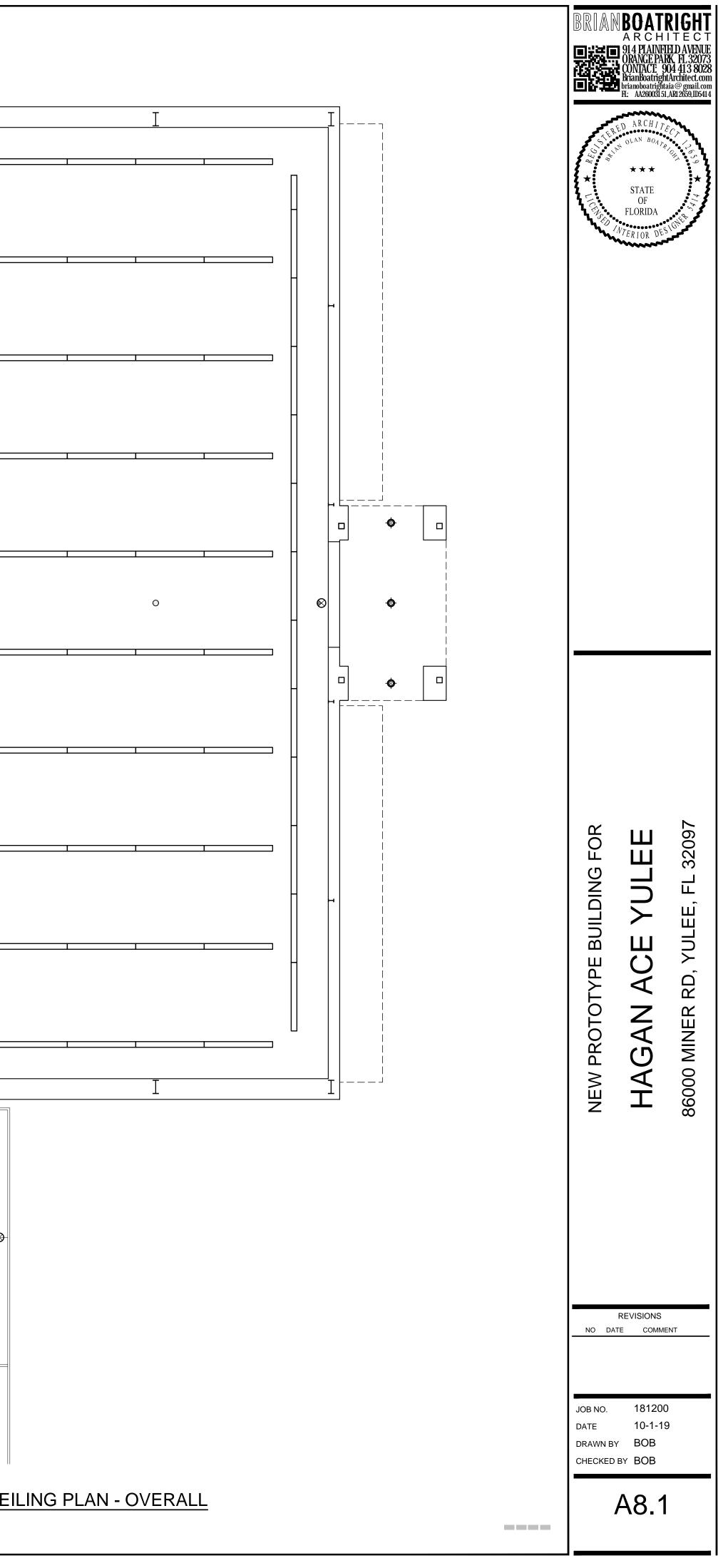


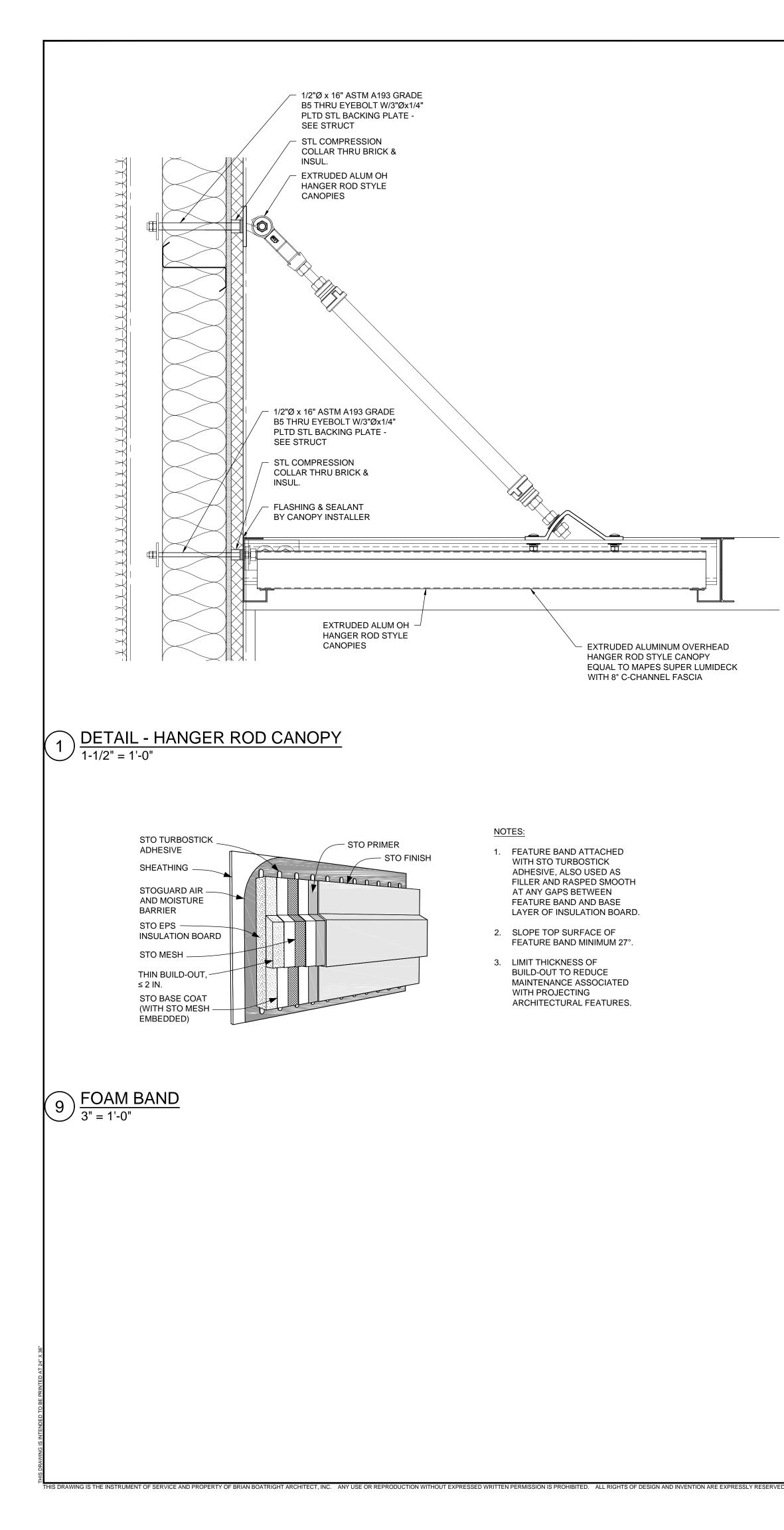
INDICATES CENTER -----OF ROOM TO AID IN GRID LAYOUT

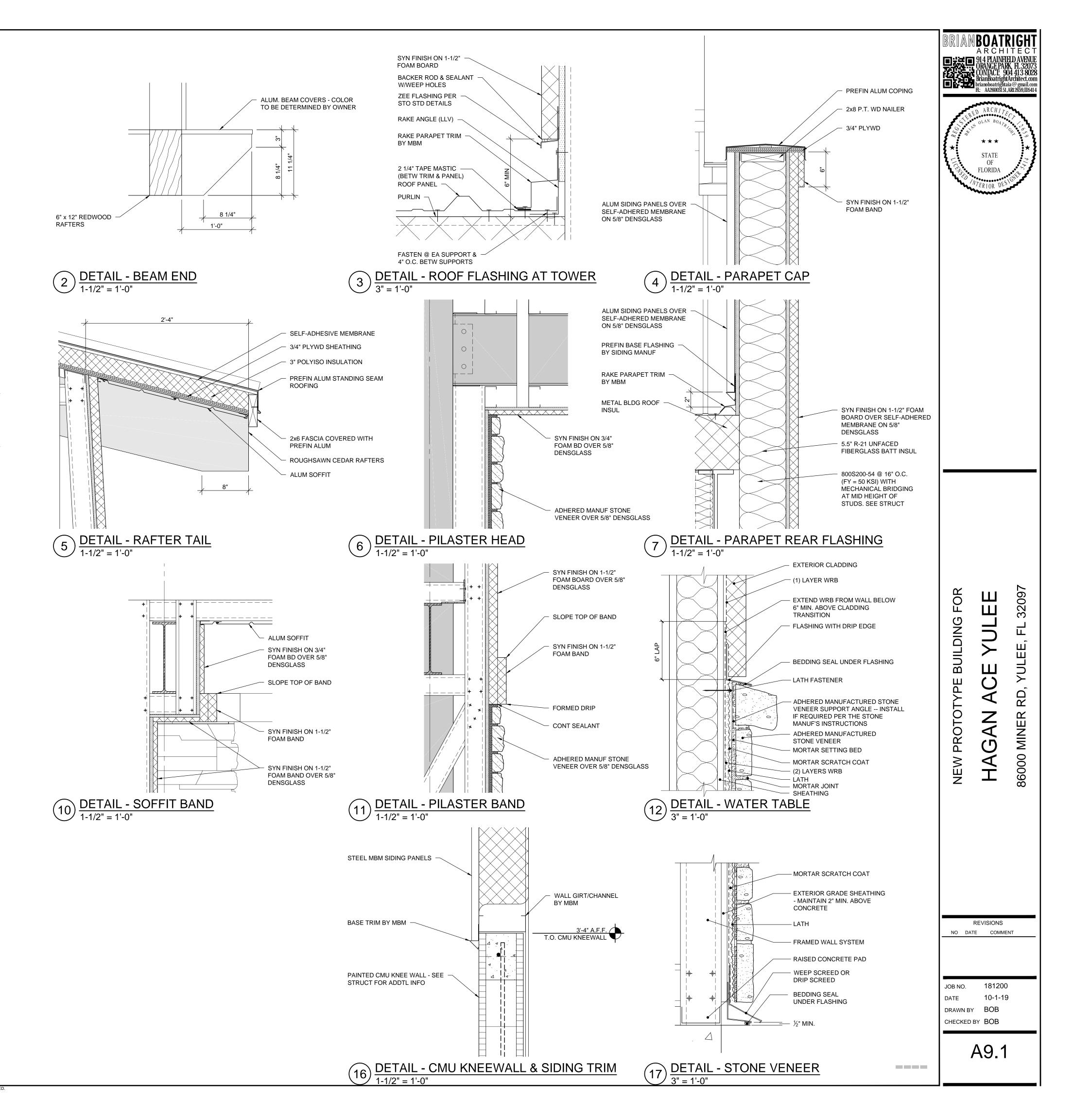
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VTENDED TO BE PRINTED AT 24" X 36"

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### **GENERAL NOTES AND INSTRUCTIONS**

- 1. THESE DRAWINGS ARE THE PROPERTY OF THE ARCHITECT AND MAY BE REPRODUCED ONLY WITH THE WRITTEN PERMISSION OF THE ARCHITECT. AUTHORIZED REPRODUCTIONS MUST BEAR THE NAME OF THE ARCHITECT. THESE DRAWINGS ARE FULLY PROTECTED BY FEDERAL AND STATE COPYRIGHT LAWS. ANY INFRINGEMENT WILL BE VIGOROUSLY PROSECUTED.
- 2. DRAWINGS AND NOTES ARE NOT EXHAUSTIVE AND ALL WORK SHALL ADHERE TO THE APPLICABLE CODES AND STANDARDS WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS. THE CONTRACT DOCUMENTS HAVE BEEN PREPARED WITH DUE CARE AND DILIGENCE, HOWEVER THE ARCHITECT CANNOT GUARANTEE PERFECTION. FAILURE TO NOTIFY THE ARCHITECT OF DISCREPANCIES AND CHANGES WITHOUT THE WRITTEN CONSENT OF THE DESIGN TEAM RELIEVES THE ARCHITECT OF THE RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING FROM SUCH CHANGES OR DISCREPANCIES. MINOR DETAILS OR MEANS AND METHODS NOT USUALLY SHOWN OR SPECIFIED BUT REQUIRED FOR PROPER COMPLETION OF THE WORK ARE INCORPORATED INTO THE CONTRACT DOCUMENTS AS IF THEY WERE SHOWN.
- 3. THE ARCHITECT SHALL NOT BE RESPONSIBLE WHERE CONSTRUCTION DEVIATES FROM THESE DRAWINGS OR FROM WRITTEN RECOMMENDATIONS. CHANGES TO THE PLANS BY THE OWNER AND/OR CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE PERSONS MAKING SUCH CHANGES. THE OWNER AND/OR CONTRACTOR SHALL HOLD THE ARCHITECT HARMLESS FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING, BUT NOT LIMITED TO, ATTORNEY'S FEES ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE WORK BY THE CONTRACTOR. THE ARCHITECT SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, FOR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 4. THE ARCHITECT SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, PRESENCE, HANDLING, REMOVAL, DISPOSAL OR EXPOSE OF PEOPLE TO HAZARDOUS MATERIALS IN ANY FORM INCLUDING, BUT NOT LIMITED TO, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES. NO ASBESTOS CONTAINING PRODUCTS ARE TO BE INSTALLED IN THE PROJECT.
- 5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL GOVERNMENTAL PERMITS, FEES, LICENSES, AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK. CONTRACTOR IS ALSO RESPONSIBLE FOR ARRANGING ALL OTHER WORK REQUIRED TO MAKE THE BUILDING OCCUPIABLE, OPERATIVE, AND IN AGREEMENT WITH THE DESIGN INTENT DOCUMENTED IN THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF SUBCONTRACTORS, INSPECTIONS, TRADES AND THE MAINTENANCE OF THE PROJECT SCHEDULE.
- 6. NOTIFY THE ARCHITECT IF THE PROPOSED USE IS NOT IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS AND PROVIDE THE ARCHITECT WITH ANY NECESSARY DOCUMENTATION INCLUDING ZONING, SETBACKS, ENVIRONMENTAL REGULATIONS, OR ANY SIMILAR CONSTRAINTS WHICH MAY AFFECT THE PROJECT. HOWEVER, IN NO CASE SHALL ANY PART OF THE DWELLING OR ANY OTHER STRUCTURE BE LOCATION WITHIN 3'-0" OF A PROPERTY LINE WITHOUT APPROVAL OF THE ARCHITECT.
- 7. INCLUDED ENGINEERS' DRAWINGS TAKE PRECEDENCE OVER ARCHITECTURAL IN REGARD TO CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL ENGINEERING CONTENT. HOWEVER CONFLICTS ARE TO BE RESOLVED BY THE ARCHITECT AFTER WRITTEN NOTIFICATION BY THE CONTRACTOR AND IN CONSIDERATION OF THE RELEVANT ARCHITECTURAL DETAILS.
- 8. WHEN NOT PROVIDED IN THE CONTRACT DOCUMENTS, THE DESIGN OF HEATING, VENTILATION AND AIR CONDITIONING, PLUMBING, GAS AND ELECTRICAL SYSTEMS ARE TO BE PROVIDED BY THE CONTRACTOR, INCLUDING THE PREPARATION OF REQUIRED DRAWINGS AND COORDINATION WITH THE ARCHITECTURAL DRAWINGS. THE ARCHITECTURAL DRAWINGS SHOW THE GENERAL ARRANGEMENT, EXTENT AND INTENT OF THE WORK.
- 9. INSTALL ALL WORK PLUMB, TRUE, LEVEL AND WITH GOOD WORKMANSHIP. THE ARCHITECT RESERVES THE RIGHT TO REJECT INFERIOR WORK. INFERIOR WORK SHALL BE REPLACED AS DIRECTED WITHOUT ADDITIONAL COST TO THE OWNER.
- 10. INSTALL ALL MATERIALS, PRODUCTS AND EQUIPMENT TO THE MANUFACTURERS' INSTRUCTIONS, RECOMMENDATIONS AND THE STANDARD OF RECOGNIZED AGENCIES AND ASSOCIATIONS. PROVIDE ADEQUATE BLOCKING/SUPPORT FOR ALL EQUIPMENT. CABINETS, ETC. PROVIDE ALL ANCHORS, FASTENERS AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION, ALLOW FOR THERMAL EXPANSION, CONTRACTION AND BUILDING MOVEMENT. SEPARATE INCOMPATIBLE MATERIALS WITH SUITABLE MATERIALS OR SPACING. PREVENT CATHODIC CORROSION. PROTECT BETWEEN MATERIALS/STRUCTURE AS INDICATED AND AS REQUIRED BY THE MANUFACTURER OR RECOGNIZED INDUSTRY STANDARDS. INSTALL PRODUCTS UNDER APPROPRIATE ENVIRONMENTAL CONDITIONS (AIR TEMPERATURE, SURFACE TEMPERATURE, RELATIVE HUMIDITY, ETC.) TO ENSURE QUALITY AND DURABILITY. MAINTAIN PROPER PROTECTION DURING DRYING/CURING.
- 11. WHERE SIZE, CAPACITY, MODEL, STYLE OR OTHER PERTINENT INFORMATION IS NOT SHOWN, FURNISH WORK IN THE FASHION THAT WILL MEET APPLICABLE CODE AND RESULT IN AN OPERABLE BUILDING MEETING THE DESIGN INTENT AND OBTAIN THE ARCHITECT'S WRITTEN APPROVAL PRIOR TO PROCEEDING. WHERE THE COMPLETE SIZES OR DIMENSIONS OF MEMBERS, CONNECTIONS OR FASTENERS OF ANY ITEM ARE NOT INDICATED, DESIGN THE ITEM TO PRODUCE THE STRENGTH APPROPRIATE TO THE USE INTENDED.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS AND CONDITIONS RELIED UPON FOR THE INSTALLATION OF SHOP-FABRICATED OR OTHER FIELD-INSTALLED MATERIALS.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A CONSTRUCTION WASTE RECYCLING PROGRAM FOR WOOD, METALS AND CARDBOARD IN ADDITION TO REMOVING ALL RUBBISH AND DEBRIS AND KEEPING A CLEAN SITE. THE CONTRACTOR IS RESPONSIBLE FOR A THOROUGH AND PROFESSIONAL CLEANING PRIOR TO OWNER OCCUPANCY AND COORDINATION OF A FINAL PUNCH LIST PROCESS.
- 14. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH FULL WARRANTY INFORMATION ON ALL PRODUCTS AND EQUIPMENT, AS WELL AS MAINTENANCE AND OPERATION MANUALS INCLUDING MANUFACTURERS' INSTRUCTIONS AND OTHER RELEVANT MATERIAL.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND CONTINUOUS MAINTENANCE OF ALL WORK FROM DAMAGE AND SHALL PROTECT THE OWNER'S PROPERTY FROM DAMAGE OR LOSS BY DUST, DIRT, WATER, THEFT, FIRE OR ANY OTHER PHYSICAL DAMAGE IN CONNECTION WITH THE CONSTRUCTION CONTRACT.
- 16. DIMENSIONS SHALL GOVERN. DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON THE SITE BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES, OMISSIONS AND/OR CONFLICTS BEFORE PROCEEDING WITH THE PORTION OF THE WORK IN QUESTION. CONTRACTOR SHALL HAVE ALL DIMENSIONS FIELD VERIFIED PRIOR TO ORDERING MATERIALS.
- 17. CHECK DETAILS FOR APPROPRIATE LOCATION OF ALL ITEMS NOT DIMENSIONED ON THE DRAWINGS. ALL DOORS ARE LOCATED BY THE FLOOR PLAN DIMENSIONS AND/OR JAMB DETAIL RELATIVE TO THE ADJACENT WALLS AND PARTITIONS. DOORS AND CASED OPENINGS WITHOUT DIMENSIONS ARE TO BE 4" FROM THE FACE OF THE ADJACENT WALL OR CENTERED BETWEEN THE WALLS, UNLESS NOTED OTHERWISE.
- 18. UNLESS NOTED OTHERWISE, ALL WALLS AND PARTITIONS ARE DIMENSIONED TO THE FACE OF THE STUD OR FACE OF THE BLOCK. "ALIGN" MEANS TO ACCURATELY LOCATE FINISHED FACES IN THE SAME PLANE. WHERE SPECIFIC DIMENSIONS, DETAILS AND DESIGN INTENT CANNOT BE DETERMINED, NOTIFY THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH ANY WORK IN QUESTION.

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19. FOR STRUCTURAL WORK THE CONTRACTOR SHALL REVIEW ALL STRUCTURAL DIMENSIONS AND STRUCTURAL MEMBER SIZES PRIOR TO THE CONSTRUCTION. CONTRACTOR SHALL INFORM ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS OR IN CONFLICT WITH THE CODES. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE OWNER, ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. PROVIDE ADEQUATE TIME (10 WORKING DAYS MINIMUM) TO REVIEW PROPOSED CHANGES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED SAFETY PRECAUTIONS AND: METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK. ALL STRUCTURAL SYSTEMS SUCH AS WOOD PRESSED-PLATE TRUSSES WHICH HAVE COMPONENTS TO BE FIELD-ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S PRINTED INSTRUCTIONS. CONTRACTOR TO COORDINATE STRUCTURAL FRAMING WITH ELECTRICAL, PLUMBING AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR THE PROPER OPERATION OF ALL SYSTEMS AND THE COORDINATION OF ALL SYSTEMS AND TRADES. CONTRACTOR TO NOTIFY ARCHITECT AND ENGINEER FOR RESOLUTION OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION.

- 20. ALL WINDOW AND DOOR SIZES AND DIMENSIONS ARE NOMINAL AND THE CONTRACTOR OR SUBCONTRACTOR/INSTALLER IS CHARGED WITH PROVIDING THE CORRECT ROUGH OPENING AS REQUIRED FOR THE CORRECT INSTALLATION OF THE PRODUCT.
- 21. THROUGHOUT THE PLANS ARE ABBREVIATIONS WHICH ARE IN COMMON USE. THE ARCHITECT WILL DEFINE THE INTENT OF ANY IN QUESTION.
- 22. TYPICAL WALL SECTIONS, FINISHES AND DETAILS ARE NOT DUPLICATED EVERYWHERE THEY OCCUR ON PLANS, ELEVATIONS, AND SECTIONS. REFER TO DETAILED DRAWINGS. CONTRACTOR TO PROVIDE AS IF DRAWN IN FULL. REPETITIVE FEATURES NOT INDICATED IN THE DRAWINGS EVERY PLACE THAT THEY OCCUR SHALL BE PROVIDED AS IF DRAWN IN FULL. DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED FOR THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE DETAILED.
- 23. THE CONTRACTOR AND SUBCONTRACTORS SHALL CONSULT THE COMPLETE SET OF PLANS FOR COORDINATION OF WORK. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL.
- 24. EACH SUBCONTRACTOR SHALL VISIT THE SITE AND BECOME KNOWLEDGEABLE OF CONDITIONS THEREIN. EACH TRADE CONTRACTOR SHALL INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL THEIR REQUIREMENTS IN THE PROJECT AND SHALL NOTIFY THE ARCHITECT AND OWNER OF ANY CONDITIONS REQUIRING INFORMATION BEFORE PROCEEDING WITH THEIR WORK. THE SUBCONTRACTORS SHALL PROTECT ALL EXISTING SITE ELEMENTS FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS AND REPAIR OR REPLACE ELEMENTS DAMAGED DURING THE PROJECT.
- 25. UNLESS NOTED OTHERWISE, ALL FASTENERS AND FASTENING DEVICES ARE TO BE CONCEALED IN ALL FINISHED SPACES. FASTENER SIZE AND SPACING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND FBC TABLE 2304.9.1. ALL FASTENERS FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER IN ACCORDANCE WITH FRC R317.3.
- 26. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER BY GASKETS OR COATINGS OR BOTH TO AVOID GALVANIC CORROSION ACTION.
- 27. ALL WOOD EXPOSED TO THE WEATHER SUCH AS DECKS, RAILINGS, JOISTS, BEAMS AND POSTS SHALL BE PRESSURE-TREATED. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED.
- 28. EXPOSED SEALANTS SHALL BE CONSTRUCTED WITH A BOND BREAKER OR BACKER ROD. UNLESS NOTED OTHERWISE ALL EXTERIOR JOINTS SHALL BE SEALED WITH DOW CORNING 795 SILICONE SEALANT. HIDDEN SEALANT JOINTS NOT EXPOSED TO THE EXTERIOR SHALL BE BUTYL SEALANT.
- 29. PROVIDE BLOCKING AT ALL EXTERIOR WALL PENETRATIONS (HOSE BIBS, ELECTRICAL RECEPTACLES, FIXTURES, ETC.). PROVIDE A HEAD FLASHING OVER THE BLOCKING AT PENETRATIONS OVER 9" IN LENGTH.
- 30. PROVIDE BLOCKING FOR ALL CASEWORK, TOILET ACCESSORIES AND OTHER ELEMENTS MOUNTED TO OR BRACED AGAINST THE WALLS PRIOR TO INSTALLING WALL BOARD.

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#### **OUTLINE ARCHITECTURAL SPECIFICATIONS**

#### **02 SITEWORK & DEMOLITION**

SITEWORK: REFER TO CIVIL ENGINEERING DRAWINGS BY ALLYN C. TIDBALL, P.E.

THE OWNER IS PROVIDING A SPECIFIC SCOPE OF SITEWORK UNDER A SEPARATE CONTRACTOR. PROVIDE ALL REMAINING SITEWORK ITEMS THAT ARE NOT INCLUDED IN THE FOLLOWING SCOPE:

MOBILIZATION

- SURVEYOR SET CONTROL POINTS LAYOUT AND STAKING
- SOIL COMPACTION AND GEOTECH SOIL TESTING
- INSTALLATION OF SILT FENCING CONSTRUCTION ENTRANCE
- ANY CLEARING/GRUBBING
- STRIPPING OF 4" TOPSOIL COMPACT STRIPPED AREA
- 10. REPLACE 4" OF TOPSOIL IN LANDSCAPE AREAS
- 11. EXPORT EXCESS TOPSOIL
- 12. IMPORT FILL 13. SPREAD AND COMPACT IMPORTED FILL
- 14. GRADE AND COMPACT BUILDING PAD WITHIN PLUS OR MINUS ONE TENTH OF THE PROPOSED DESIGNED SUBGRADE ELEVATION
- 15. GRADE AND COMPACT OUTSIDE STORAGE, GARDEN CENTER, NEW GREENHOUSE STRUCTURE, PROPANE TANK PAD, DUMPSTER PAD, TO WITHIN PLUS OR MINUS ONE TENTH OF THE PROPOSED DESIGNED SUBGRADE ELEVATION GRADE AND COMPACT CONCRETE SIDEWALKS AND WALKWAYS TO PLUS OR MINUS
- ONE TENTH OF THE PROPOSED DESIGNED SUBGRADE ELEVATION. 17. CONCRETE CURBING (CITY) 18. CONCRETE SIDEWALKS THAT TIE INTO EXISTING SIDEWALKS ALONG EXISTING
- ROADWAY 19. 12" OF LBR-40 STABILIZATION UNDER THE APPROPRIATE PARKING AND DRIVE
- LANES PER DESIGN.
- 20. LIMEROCK BASE MATERIAL AS DESIGNED (6" LIMEROCK BASE)

SOIL POISONING: ALL SOIL POISONING SHALL BE PERFORMED BY A COMPANY OR INDIVIDUAL LICENSED IN FLORIDA AS A CERTIFIED PEST CONTROL OPERATOR UNDER THE BUREAU OF ENTOMOLOGY AND PEST CONTROL AND THE FLORIDA DEPARTMENT OF AGRICULTURE AND SHALL HAVE A MINIMUM OF FIVE (5) YEARS OF PROVEN EXPERIENCE IN THE PEST CONTROL BUSINESS. THE CONTRACTOR SHALL BE BONDED AND INSURED. UPON COMPLETION OF SOIL TREATMENT, AND AS A CONDITION OF FINAL ACCEPTANCE, FURNISH THE OWNER A WRITTEN CERTIFICATION STATING THE CHEMICALS USED FOR TREATMENT, THE PERCENTAGE OF THE SOLUTION, AND THE COVERAGE RATES APPLIED FOR EACH INDIVIDUAL BUILDING IN THE PROJECT GUARANTEEING THE EFFECTIVENESS OF THE TREATMENT AGAINST TERMITE INFESTATION FOR A PERIOD NOT LESS THAN FIVE (5) YEARS FROM THE DATE OF TREATMENT. RE-TREATMENT, UPON EVIDENCE OF SUBTERRANEAN TERMITE ACTIVITY, SHALL BE PROVIDED AT NO COST TO THE OWNER, WITHIN THE WARRANTY PERIOD. CHEMICALS SHALL BE WATER-BASED EMULSION SOIL CHEMICALS ONLY AND CONTAINING THE MINIMUM CONCENTRATIONS OF STATE-APPROVED PESTICIDES, TYPICALLY 0.5%. CHEMICAL PRODUCTS AND SOLUTIONS SHALL BE MIXED ACCORDING TO THE MANUFACTURER'S SUGGESTED INSTRUCTIONS AND SHALL CONFORM TO FLORIDA DEPARTMENT OF AGRICULTURE REGULATIONS. DO NOT BEGIN SOIL POISONING WORK UNTIL ALL PRECAUTIONS FOR SLAB PLACEMENT HAVE BEEN COMPLETED. SOIL POISONING SHALL BE COMPLETED PRIOR TO PLACEMENT OF MEMBRANE DAMPPROOFING. CARE MUST BE TAKEN NOT TO DISTURB THE SUBGRADE. DO NOT APPLY SOIL POISON WHEN SURFACE WATER IS PRESENT, WHEN THE SOIL OR FILL IS EXCESSIVELY WET, OR IMMEDIATELY AFTER OR BEFORE HEAVY RAINS. A SECOND APPLICATION OF TERMITICIDE SHALL BE MADE TO THE OUTSIDE OF THE FOUNDATION WALL AFTER THE FINISH GRADING IS COMPLETE AND THE LANDSCAPING IS IN PLACE. APPLY SOIL TREATMENT TO ALL AREAS BENEATH CONCRETE FLOOR SLABS. THE FOLLOWING RATES OF APPLICATION ARE MINIMUM RATES. IF THE MANUFACTURER'S INSTRUCTION INDICATE A MORE CONCENTRATED RATE, THEN THE MOST CONCENTRATED RATE SHALL APPLY. HOWEVER, IN NO CASE SHALL THE APPLICATION RATES EXCEED THOSE PERMISSIBLE UNDER FLORIDA LAW. HORIZONTAL BARRIERS: APPLY TERMITICIDE AT THE MINIMUM RATE OF ONE (1) GALLON OF DILUTION TO EACH TEN (10) SQUARE FOOT OF AREA UNDER SLABS ON GRADE WITHIN THE BUILDING LINES. VERTICAL BARRIERS: APPLY TERMITICIDE AT THE MINIMUM RATE OF FOUR (4) GALLONS OF DILUTION PER TEN (10) LINEAL FEET PER FOOT OF DEPTH, AT OR NEAR TOP OF THE FOOTINGS.

CUTTING AND PATCHING: EMPLOY SKILLED AND EXPERIENCED INSTALLER TO PERFORM CUTTING AND PATCHING NEW WORK; RESTORE WORK WITH NEW PRODUCTS. SUBMI WRITTEN REQUEST IN ADVANCE OF CUTTING OR ALTERING STRUCTURAL OR BUILDING ENCLOSURE ELEMENTS. EXECUTE CUTTING, FITTING, AND PATCHING TO COMPLETE WORK, AND TO:

- FIT SEVERAL PARTS TOGETHER, TO INTEGRATE WITH OTHER WORK. UNCOVER WORK TO INSTALL OR CORRECT ILL-TIMED WORK.
- REMOVE AND REPLACE DEFECTIVE AND NON-CONFORMING WORK.
- REMOVE SAMPLES OF INSTALLED WORK FOR TESTING.
- PROVIDE OPENINGS IN ELEMENTS OF WORK FOR PENETRATIONS OF MECHANICAL 5. AND ELECTRICAL WORK.

CUT MASONRY AND CONCRETE MATERIALS USING MASONRY SAW OR CORE DRILL. RESTORE WORK WITH NEW PRODUCTS IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS. FIT WORK TIGHT TO ADJACENT ELEMENTS. MAINTAIN INTEGRITY OF WALL, CEILING, OR FLOOR CONSTRUCTION; COMPLETELY SEAL VOIDS. FIT WORK TIGHT TO PIPES, SLEEVES, DUCTS, CONDUIT, AND OTHER PENETRATIONS THROUGH SURFACES. REFINISH SURFACES TO MATCH ADJACENT FINISHES.

#### **03 CONCRETE**

CONCRETE: REFER TO STRUCTURAL DRAWINGS FOR CONCRETE SPECIFICATIONS.

SOIL POISONING: ALL SOIL POISONING SHALL BE PERFORMED BY A COMPANY OR INDIVIDUAL LICENSED IN FLORIDA AS A CERTIFIED PEST CONTROL OPERATOR UNDER THE BUREAU OF ENTOMOLOGY AND PEST CONTROL AND THE FLORIDA DEPARTMENT OF AGRICULTURE AND SHALL HAVE A MINIMUM OF FIVE (5) YEARS OF PROVEN EXPERIENCE IN THE PEST CONTROL BUSINESS. THE CONTRACTOR SHALL BE BONDED AND INSURED. UPON COMPLETION OF SOIL TREATMENT, AND AS A CONDITION OF FINAL ACCEPTANCE, FURNISH THE OWNER A WRITTEN CERTIFICATION STATING THE CHEMICALS USED FOR TREATMENT, THE PERCENTAGE OF THE SOLUTION, AND THE COVERAGE RATES APPLIED FOR EACH INDIVIDUAL BUILDING IN THE PROJECT GUARANTEEING THE EFFECTIVENESS OF THE TREATMENT AGAINST TERMITE INFESTATION FOR A PERIOD NOT LESS THAN FIVE (5) YEARS FROM THE DATE OF TREATMENT. RE-TREATMENT, UPON EVIDENCE OF SUBTERRANEAN TERMITE ACTIVITY, SHALL BE PROVIDED AT NO COST TO THE OWNER WITHIN THE WARRANTY PERIOD. CHEMICALS SHALL BE WATER-BASED EMULSION SOIL CHEMICALS ONLY AND CONTAINING THE MINIMUM CONCENTRATIONS OF STATE-APPROVED PESTICIDES, TYPICALLY 0.5%. CHEMICAL PRODUCTS AND SOLUTIONS SHALL BE MIXED ACCORDING TO THE MANUFACTURER'S SUGGESTED INSTRUCTIONS AND SHALL CONFORM TO FLORIDA DEPARTMENT OF AGRICULTURE REGULATIONS. DO NOT BEGIN SOIL POISONING WORK UNTIL ALL PRECAUTIONS FOR SLAB PLACEMENT HAVE BEEN COMPLETED. SOIL POISONING SHALL BE COMPLETED PRIOR TO PLACEMENT OF MEMBRANE DAMPPROOFING. CARE MUST BE TAKEN NOT TO DISTURB THE SUBGRADE. DO NOT APPLY SOIL POISON WHEN SURFACE WATER IS PRESENT, WHEN THE SOIL OR FILL IS EXCESSIVELY WET, OR IMMEDIATELY AFTER OR BEFORE HEAVY RAINS. A SECOND APPLICATION OF TERMITICIDE SHALL BE MADE TO THE OUTSIDE OF THE FOUNDATION WALL AFTER THE FINISH GRADING IS COMPLETE AND THE LANDSCAPING IS IN PLACE. APPLY SOIL TREATMENT TO ALL AREAS BENEATH CONCRETE FLOOR SLABS. THE FOLLOWING RATES OF APPLICATION ARE MINIMUM RATES. IF THE MANUFACTURER'S INSTRUCTION INDICATE A MORE CONCENTRATED RATE, THEN THE MOST CONCENTRATED RATE SHALL APPLY. HOWEVER, IN NO CASE SHALL THE APPLICATION RATES EXCEED THOSE PERMISSIBLE UNDER FLORIDA LAW. HORIZONTAL BARRIERS: APPLY TERMITICIDE AT THE MINIMUM RATE OF ONE (1) GALLON OF DILUTION TO EACH TEN (10) SQUARE FOOT OF AREA UNDER SLABS ON GRADE WITHIN THE BUILDING LINES. VERTICAL BARRIERS: APPLY TERMITICIDE AT THE MINIMUM RATE OF FOUR (4) GALLONS OF DILUTION PER TEN (10) LINEAL FEET PER FOOT OF DEPTH, AT OR NEAR TOP OF THE FOOTINGS.

UNDER-SLAB VAPOR BARRIER: VAPOR BARRIER MUST HAVE ALL OF THE FOLLOWING QUALITIES: PERMEANCE OF LESS THAN 0.01 PERMS AS TESTED IN ACCORDANCE WITH ASTM E1745 SECTION 7; ASTM E1745 CLASS A STRENGTH; 15 MILS MINIMUM THICKNESS. THE BASIS OF DESIGN IS STEGO WRAP VAPOR BARRIER (15-MIL). PROVIDE REQUIRED ACCESSORIES INCLUDING SEAM TAPE AND VAPOR-PROOFING MASTIC. ENSURE THAT THE BASE MATERIAL IS APPROVED BY ARCHITECT, LEVEL AND COMPACT BASE MATERIAL, INSTALL VAPOR BARRIER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ASTM E1643. UNROLL VAPOR BARRIER WITH THE LONGEST DIMENSION PARALLEL WITH THE DIRECTION OF THE CONCRETE PLACEMENT. LAP VAPOR BARRIER OVER FOOTINGS AND/OR SEAL TO FOUNDATION WALLS. OVERLAP JOINTS 6

INCHES AND SEAL WITH MANUFACTURER'S TAPE. SEAL ALL PENETRATIONS (INCLUDING PIPES) PER MANUFACTURER'S INSTRUCTIONS. NO PENETRATION OF THE VAPOR BARRIER IS ALLOWED EXCEPT FOR REINFORCING STEEL AND PERMANENT UTILITIES. REPAIR DAMAGED AREAS BY CUTTING PATCHES OF VAPOR BARRIER, OVERLAPPING DAMAGED AREA 6 INCHES AND TAPING ALL SIDES WITH TAPE.

#### 04 MASONRY AND STONE

CONCRETE MASONRY UNITS: REFER TO STRUCTURAL DRAWINGS FOR CMU SPECIFICATIONS.

SIMULATED STONE VENEER: PROVIDE SIMULATED STONE VENEERS FOR EXTERIOR APPLICATIONS. CONSTRUCT STONE WALL AT JOB SITE 3 FEET X 4 FEET IN SIZE, INCLUDING MORTAR, SPECIAL SHAPES, BONDING, JOINT WORK, REINFORCEMENT, MOISTURE BARRIER, GROUTING, CORBELLING, MORTAR COLOR, EXPANSION, CONTROL JOINTS, AND ACCESSORIES. OBTAIN ARCHITECT'S APPROVAL BEFORE BEGINNING WORK. PROTECT AND RETAIN SAMPLE AS A BASIS ON WHICH THE QUALITY OF THE WORK WILL BE JUDGED. DO NOT REMOVE UNTIL SUBSTANTIAL COMPLETION. ACCEPTED FIELD SAMPLE MAY REMAIN AS PART OF COMPLETED WORK. INSTALLER SHALL HAVE A MINIMUM 5 YEARS' EXPERIENCE IN SIMILAR TYPES OF WORK OF SIMILAR SCOPE AND BE ABLE TO FURNISH LIST OF PREVIOUS JOBS AND REFERENCES IF REQUESTED BY ARCHITECT. PROVIDE EXPANSION JOINTS AS INDICATED ON DRAWINGS OR, IF NOT INDICATED, INSTALL AT FREQUENCY AND IN ACCORDANCE WITH DETAILS AND AS RECOMMENDED BY MANUFACTURER. CONFIRM LOCATIONS AND FREQUENCY WITH ARCHITECT BEFORE BEGINNING WORK. ENVIRONMENTAL REQUIREMENTS SHALL BE A MINIMUM AIR TEMPERATURE OF 40° F PRIOR TO, DURING, AND FOR 48 HOURS AFTER COMPLETION OF WORK; AND IMIAC (INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL) - RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION. STORE MORTAR MATERIALS ON PALLETS IN DRY PLACE. PROTECT MATERIALS FROM RAIN, MOISTURE, AND FREEZING TEMPERATURES. PROTECT REINFORCEMENT AND ACCESSORIES FROM ELEMENTS. PREPARE AND SUBMIT A 50-YEAR LIMITED WARRANTY AGAINST MANUFACTURING DEFECTS IN MANUFACTURED STONE PRODUCTS. MANUFACTURER SHALL BE BORAL STONE PRODUCTS. BORAL PRODUCT SHALL BE **ASPEN COUNTRY LEDGE STONE**. SIMULATED STONE SHALL CONSIST OF PRECAST SIMULATED STONE. PROVIDE THE ACCESSORY AND ACCENT STONE WALL CAPS AS SHOWN ON THE DRAWINGS. MOISTURE BARRIER TO BE ASTM D 226, NO. 15 NON-PERFORATED ASPHALT SATURATED ORGANIC FELT. METAL LATH TO BE ASTM C 847; 18 GAGE, GALVANIZED, FLAT DIAMOND MESH, SELF-FURRING, STAMPED SHEET. ATTACHMENT SHALL BE GALVANIZED NAILS, SCREWS AND OTHER METAL SUPPORTS, OF TYPE AND SIZE TO SUIT APPLICATIONS; TO RIGIDLY SECURE MATERIALS IN PLACE. FASTENERS SHALL BE COATED 1-1/2 INCH NAILS, STAPLES, OR SCREWS OF TYPE AND FOR SPACING AS RECOMMENDED BY SIMULATED STONE MANUFACTURER. CLEANER SHALL BE NON-ACID CLEANER AS RECOMMENDED BY SIMULATED STONE MANUFACTURER. SEALER SHALL BE BREATHABLE TYPE, NON-FILM FORMING, NON-YELLOWING. EXAMINE CONDITIONS AND PROCEED WITH WORK IN ACCORDANCE WITH SECTION 01400. VERIFY THAT FIELD CONDITIONS ARE ACCEPTABLE AND ARE READY TO RECEIVE WORK. VERIFY ITEMS PROVIDED BY OTHER SECTIONS OF WORK ARE PROPERLY SIZED AND LOCATED. VERIFY THAT BUILT IN ITEMS ARE IN PROPER LOCATION AND READY FOR ROUGHING INTO MASONRY WORK. VERIFY CORRECT PRODUCT PRIOR TO INSTALLATION. CONSULT ARCHITECT AND MANUFACTURER IF DEFICIENCIES EXIST. CORRECT DEFICIENCIES IN ACCORDANCE WITH STONE MANUFACTURER'S RECOMMENDATIONS. PROTECT SURROUNDING AREA FROM POSSIBLE DAMAGE DURING INSTALLATION WORK. INITIATING INSTALLATION CONSTITUTES INSTALLER'S ACCEPTANCE OF EXISTING SURFACES AND SUBSTRATE. APPLY MOISTURE BARRIER SHEETS HORIZONTALLY, STARTING AT THE BASE OF THE WALL, AND LAPPING EACH SUCCESSIVE UPPER SHEET OVER THE PREVIOUS LOWER SHEET. LAP HORIZONTAL AND VERTICAL JOINTS 6 INCHES. CUT AND SEAL JOINTS, PENETRATIONS, OPENINGS, AND PROJECTIONS WITH MANUFACTURER'S RECOMMENDED TAPE. INSTALL WITH CORROSION-RESISTANT STAPLES. APPLY METAL LATH TAUT, WITH LONG DIMENSION PERPENDICULAR TO SUPPORTS. LAP ENDS MINIMUM 1 INCH. SECURE END LAPS WITH TIE WIRE WHERE THEY OCCUR BETWEEN SUPPORTS. LAP SIDES OF LATH MINIMUM 1-1/2 INCHES. ATTACH METAL LATH TO FRAMING USING NAILS OR SCREWS OF TYPE, SIZE, AND SPACING AS RECOMMENDED BY SYSTEM MANUFACTURER. CONTINUOUSLY REINFORCE INTERNAL ANGLES WITH CORNER MESH, EXCEPT WHERE THE METAL LATH RETURNS 3 INCHES FROM CORNER TO FORM THE ANGLE REINFORCEMENT; FASTEN AT PERIMETER EDGES ONLY. PLACE 4 INCH WIDE STRIPS OF METAL LATH CENTERED OVER JUNCTIONS OF DISSIMILAR BACKING MATERIALS, SECURE RIGIDLY IN PLACE, APPLY 3/8 INCH SCRATCH COAT OF MORTAR TO LATH AND ALLOW TO DRY 48 HOURS. INSTALL SIMULATED STONE VENEER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EASTERN MOUNTAIN LEDGE: DO NOT INSTALL STONES VERTICALLY. BLEND THE STONE ON THE WALL FROM SEVERAL DIFFERENT BOXES TO ENSURE PROPER COLOR AND SIZE VARIATION. APPLY 3/8 TO 1/2 INCH OF MORTAR COVERING TO BACK OF EACH STONE. PRESS UNITS FIRMLY INTO POSITION, WIGGLE EACH PIECE SLIGHTLY AND APPLY LIGHT PRESSURE TO UNIT TO ENSURE FIRM BONDING, CAUSING MORTAR TO EXTRUDE SLIGHTLY AROUND EDGES OF UNITS AND TO LEAVE A JOINT WIDTH OF 1/2 INCH MAXIMUM. PLACE UNITS WITH UNIFORM MORTAR JOINTS FULL SMOOTH TOOLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL OUTSIDE CORNER RETURN UNITS WITH SHORT AND LONG LENGTHS ALTERNATED. INSTALL ACCESSORY PIECES (QUOINS, CAPS, SILLS, MOLDINGS) AS WORK PROGRESSES, USING SAME TECHNIQUES AS UNITS IN FIELD OF WALL. PLAN WORK TO MINIMIZE JOBSITE CUTTING. PERFORM NECESSARY CUTTING WITH PROPER TOOLS TO PROVIDE UNIFORM EDGES; TAKE CARE TO PREVENT BREAKING UNIT CORNERS OR EDGES. REMOVE EXCESS MORTAR; DO NOT ALLOW MORTAR TO DRY ON FACE OF UNITS. POINT AND TOOL JOINTS BEFORE MORTAR HAS SET CLEAN AND FINISH JOINTS IN ACCORDANCE WITH ARCHITECT'S AND MANUFACTURER'S INSTRUCTIONS. SIZE CONTROL JOINTS IN ACCORDANCE WITH SEALANT PERFORMANCE REQUIREMENTS, BUT IN NO CASE LARGER THAN ADJACENT MORTAR JOINTS IN EXPOSED STONE UNITS. PROVIDE EXPANSION JOINTS WHERE INDICATED ON DRAWINGS OR AS RECOMMENDED BY SYSTEM MANUFACTURER. AS WORK PROGRESSES, BUILD IN DOOR AND WINDOW FRAMES, NAILING STRIPS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS SPECIFIED IN VARIOUS SECTIONS. BUILD IN ITEMS PLUMB AND LEVEL. BED ANCHORS OF METAL DOOR AND GLAZED FRAMES IN MORTAR JOINTS. FILL FRAME VOIDS SOLID WITH MORTAR. DO NOT BUILD IN ORGANIC MATERIALS SUBJECT TO DETERIORATION. CUT AND FIT FOR CHASES, PIPES, CONDUIT, SLEEVES, AND GROUNDS. COOPERATE WITH OTHER SECTIONS OF WORK TO PROVIDE CORRECT SIZE, SHAPE, AND LOCATION. OBTAIN APPROVAL PRIOR TO CUTTING OR FITTING ANY AREA NOT INDICATED OR WHERE APPEARANCE OR STRENGTH OF MASONRY WORK MAY BE IMPAIRED. REMOVE EXCESS MORTAR AND SMEARS USING BRUSH OR STEEL WOOL. REPLACE DEFECTIVE MORTAR. MATCH ADJACENT WORK. CLEAN SOILED SURFACES WITH NON-ACIDIC SOLUTION, ACCEPTABLE TO THE STONE MANUFACTURER, WHICH WILL NOT HARM MASONRY OR ADJACENT MATERIALS. LEAVE SURFACES THOROUGHLY CLEAN AND FREE OF MORTAR AND OTHER SOILING. USE NONMETALLIC TOOLS IN CLEANING OPERATIONS. APPLY SEALER TO COMPLETED SURFACE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS

#### 05 METALS

COLD-FORMED METAL FRAMING: PROVIDE GALVANIZED, C-SHAPED FRAMING MEMBERS AS NOTED AND REQUIRED. WITH EACH TYPE OF METAL FRAMING REQUIRED, PROVIDE STEEL RUNNERS (TRACKS), BLOCKING, LINTELS, CLIP ANGLES, SHOES, REINFORCEMENTS, FASTENERS, ANCHORAGES, ACCESSORIES AND OTHER COMPONENTS AS RECOMMENDED BY MANUFACTURER AND AS INDICATED ON THE CONTRACT DRAWINGS FOR APPLICATIONS INDICATED, AS NEEDED TO PROVIDE A COMPLETE METAL FRAMING SYSTEM. INSTALL METAL FRAMING SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. INSTALL CONTINUOUS TRACKS SIZED TO MATCH STUDS. ALIGN TRACKS ACCURATELY TO LAYOUT AT BASE AND TOPS OF STUDS. WHERE STUD SYSTEM ABUTS STRUCTURAL COLUMNS OR WALLS, ANCHOR ENDS OF STIFFENERS TO SUPPORTING STRUCTURE. INSTALL SUPPLEMENTARY FRAMING, BLOCKING, BRACING AND SPACING BARS IN METAL FRAMING SYSTEM WHEREVER WALLS OR PARTITIONS ARE INDICATED TO SUPPORT FIXTURES, EQUIPMENT, SERVICES, CASEWORK, HEAVY TRIM AND FURNISHINGS, AND SIMILAR WORK REQUIRING ATTACHMENT TO THE WALL OR PARTITION. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL SPECIFICATIONS.

### 07 THERMAL AND MOISTURE PROTECTION

EXTERIOR INSULATION AND FINISH SYSTEM (EIFS): TYPES OF EXTERIOR INSULATION AND FINISH SYSTEM APPLICATION INCLUDE APPLICATIONS OVER STUCCO ON METAL LATH AND RIGID HIGH-DENSITY STYROFOAM BANDING. PROVIDE SYSTEM COMPLYING WITH THE FOLLOWING PERFORMANCE REQUIREMENTS: FREE FROM BOND FAILURE WITHIN SYSTEM COMPONENTS OR BETWEEN SYSTEM AND SUPPORTING WALL CONSTRUCTION, RESULTING FROM EXPOSURE TO FIRE, WIND LOADS, WEATHER, OR OTHER IN-SERVICE CONDITIONS; RESISTANT TO WATER PENETRATION FROM EXTERIOR INTO SYSTEM AND ASSEMBLIES BEHIND IT OR THROUGH THEM INTO INTERIOR OF BUILDING WHICH RESULTS IN DETERIORATION OF SYSTEM AND ASSEMBLIES BEHIND SYSTEM INCLUDING SUBSTRATES, SUPPORTING WALL CONSTRUCTION, AND INTERIOR FINISH. ENGAGE AN INSTALLER THAT IS CERTIFIED IN WRITING BY SYSTEM MANUFACTURER AS QUALIFIED FOR INSTALLATION OF SYSTEMS INDICATED. OBTAIN MATERIALS FOR SYSTEM FROM EITHER A SINGLE MANUFACTURER OR FROM MANUFACTURERS APPROVED BY THE SYSTEM MANUFACTURER AS COMPATIBLE WITH

OTHER SYSTEM COMPONENTS. STORE MATERIALS INSIDE AND UNDER COVER; KEEP THEM DRY, PROTECTED FROM THE WEATHER, DIRECT SUNLIGHT, SURFACE CONTAMINATION, AGING, CORROSION, DAMAGING TEMPERATURES, DAMAGE FROM CONSTRUCTION TRAFFIC AND OTHER CAUSES. STACK INSULATION BOARD FLAT AND OFF THE GROUND. DO NOT INSTALL SYSTEM WHEN AMBIENT OUTDOOR TEMPERATURES ARE 40° F AND FALLING UNLESS TEMPORARY PROTECTION AND HEAT IS PROVIDED TO MAINTAIN AMBIENT TEMPERATURES ABOVE 40° F DURING INSTALLATION OF WET MATERIALS AND FOR 24 HOURS AFTER INSTALLATION OR LONGER TO ALLOW THEM TO BECOME THOROUGHLY DRY AND WEATHER RESISTANT. SEQUENCE INSTALLATION OF SYSTEM WITH RELATED WORK SPECIFIED IN OTHER SECTIONS TO ENSURE THAT WALL ASSEMBLIES, INCLUDING FLASHING, TRIM, AND JOINT SEALERS, ARE PROTECTED AGAINST DAMAGE FROM WEATHER, AGING, CORROSION, OR OTHER CAUSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY WORK DEEMED DAMAGED OR UNACCEPTABLE BY THE ARCHITECT DUE TO DAMAGE OR CONTACT WITH THE WORK IN THIS SECTION. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE CLASS PB TYPE A SYSTEM. METAL LATH TO BE 3.4 LB. GALVANIZED STEEL EXPANDED LATH. MOISTURE BARRIER TO BE SELF-ADHERED BITUMINOUS MEMBRANE, SEE OTHER **SPECIFICATIONS.** PORTLAND CEMENT TO BE TYPE I OR II MEETING ASTM C-150. SAND TO BE ASTM C35 CLEAN WHITE SAND. EXPANSION AND CONTROL JOINTS TO BE PVC 'W' TYPE WITH INTEGRAL GROUND. REFER TO DRAWINGS FOR EXACT LOCATIONS, OTHERWISE SPACE JOINTS NO FURTHER THAN 75 FEET APART. THE ARCHITECT IS TO DETERMINE THE FINAL LOCATION OF ALL JOINTS. CORNER BEAD TO BE PVC WITH INTEGRAL GROUNDING. PROVIDE ADHESIVE, BOARD INSULATION, REINFORCING FABRICS, BASE AND FINISH COAT MATERIALS, SEALANTS, AND ACCESSORIES WHICH ARE COMPATIBLE WITH ONE ANOTHER AND APPROVED FOR USE BY SYSTEM MANUFACTURER. SURFACE SEALER SHALL BE SYSTEM MANUFACTURER'S STANDARD ADHESION INTERMEDIARY DESIGNED TO IMPROVE BOND BETWEEN SUBSTRATES OF TYPE INDICATED AND ADHESIVE FOR APPLICATION OF INSULATION. PROVIDE APPROPRIATE MECHANICAL FASTENERS AS APPROVED BY THE SYSTEM MANUFACTURER FOR RESISTING WIND LOADS. ADHESIVE FOR APPLICATION OF INSULATION SHALL BE SYSTEM MANUFACTURER'S STANDARD FORMULATION DESIGNED FOR INDICATED USE, COMPATIBLE WITH SUBSTRATE AND COMPLYING WITH THE JOB-MIXED FORMULATION OF PORTLAND CEMENT COMPLYING WITH ASTM C150, TYPE 1, AND POLYMER-BASED ADHESIVE SPECIFIED FOR BASE COAT. MOLDED POLYSTYRENE BOARD INSULATION SHALL BE RIGID, CELLULAR THERMAL INSULATION FORMED BY THE EXPANSION OF POLYSTYRENE RESIN BEDS OR GRANULES IN A CLOSED MOLD TO COMPLY WITH ASTM C578 FOR TYPE I; AGED IN BLOCK FORM PRIOR TO CUTTING AND SHIPPING BY AIR DRYING FOR NOT LESS THAN 6 WEEKS OR BY ANOTHER METHOD APPROVED BY SYSTEM MANUFACTURER AND PRODUCING EQUIVALENT RESULTS. SIZES AND CONFIGURATIONS AS INDICATED BUT NOT LESS THAN THE MINIMUM THICKNESS ALLOWED BY SYSTEM MANUFACTURER, AND COMPLYING WITH REQUIREMENTS OF SYSTEM MANUFACTURER FOR CORNER SQUARENESS AND OTHER DIMENSIONAL TOLERANCES. REINFORCING FABRIC SHALL BE BALANCED, ALKALI-RESISTANT OPEN WEAVE GLASS FIBER FABRIC TREATED FOR COMPATIBILITY WITH OTHER SYSTEM MATERIALS; MADE FROM CONTINUOUS MULTI-END STRANDS. WEIGHT OF STRIP REINFORCING FABRIC SHALL NOT BE LESS THAN 3.75 OZ. PER SQUARE YARD. BASE COAT MATERIALS SHALL BE SYSTEM MANUFACTURER'S STANDARD, JOB-MIXED FORMULATION OF PORTLAND CEMENT COMPLYING WITH ASTM C150, TYPE I, WHITE OR NATURAL COLOR; AND SYSTEM MANUFACTURER'S STANDARD POLYMER-BASED ADHESIVE DESIGNED FOR USE INDICATED. FINISH COAT MATERIALS SHALL BE SYSTEM MANUFACTURER'S STANDARD MIXTURE COMPLYING WITH THE FOLLOWING REQUIREMENTS FOR MATERIAL COMPOSITION AND METHOD OF COMBINING MATERIALS. COLORS AND FINISH SELECTED BY THE ARCHITECT. PROVIDE A MINIMUM OF TWO COLORS, A "BASE" COLOR AND AN "ACCENT" COLOR. EXAMINE SUBSTRATES, WITH INSTALLER PRESENT, TO DETERMINE IF THEY ARE IN SATISFACTORY CONDITION FOR INSTALLATION OF SYSTEM. DO NOT PROCEED WITH INSTALLATION OF SYSTEM UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. PROTECT CONTIGUOUS WORK FROM MOISTURE DETERIORATION AND SOILING RESULTING FROM APPLICATION OF SYSTEMS. PROVIDE TEMPORARY COVERING AND OTHER PROTECTION NEEDED TO PREVENT SPATTERING OF EXTERIOR FINISH COATINGS ON OTHER WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY WORK DAMAGED BY THE APPLICATION OF THE EIFS SYSTEM. PROTECT SYSTEM, SUBSTRATES, AND WALL CONSTRUCTION BEHIND THEM FROM INCLEMENT WEATHER DURING INSTALLATION. PREVENT INFILTRATION OF MOISTURE BEHIND SYSTEM AND DETERIORATION OF SUBSTRATES. PREPARE AND CLEAN SUBSTRATES TO COMPLY WITH SYSTEM MANUFACTURER'S REQUIREMENTS TO OBTAIN OPTIMUM BOND BETWEEN SUBSTRATE AND ADHESIVE FOR INSULATION. SUFFICIENT SCAFFOLDING, MANPOWER AND TOOLS SHALL BE PROVIDED TO PREVENT COLD JOINTS. FLASHINGS SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND BY THE SYSTEM MANUFACTURER'S DETAILS IN A MANNER TO PREVENT INTRUSION OF WATER BEHIND THE INSULATION BOARD. ALL FLASHING MATERIALS SHALL DIRECT THE WATER TO THE EXTERIOR FACE OF THE FINISHED SYSTEM. COMPLY WITH SYSTEM MANUFACTURER'S CURRENT PUBLISHED INSTRUCTIONS FOR INSTALLATION OF SYSTEM AS APPLICABLE TO EACH TYPE OF SUBSTRATE INDICATED. INSTALL PORTLAND CEMENT STUCCO ACCORDING TO PORTLAND CEMENT PLASTER (STUCCO) MANUAL TO A MINIMUM THICKNESS OF 3/4". ADHESIVELY AND MECHANICALLY ATTACH INSULATION. ALLOW ADHERED INSULATION TO REMAIN UNDISTURBED FOR PERIOD PRESCRIBED BY SYSTEM MANUFACTURER BUT NOT LESS THAN 24 HOURS, PRIOR TO BEGINNING RASPING AND SANDING INSULATION OF APPLICATION OF BASE COAT AND REINFORCING FABRIC. ABUT BOARDS TIGHTLY AT JOINTS WITHIN AND BETWEEN EACH COURSE TO PRODUCE FLUSH, CONTINUOUSLY EVEN SURFACES WITHOUT GAPS OR RAISED EDGES BETWEEN INSULATION BOARDS. IF GAPS OCCUR, FILL WITH INSULATION CUT TO FIT GAPS EXACTLY; INSERT WITHOUT USE OF ADHESIVE. RASP OR SAND FLUSH ANY IRREGULARITIES PROJECTING MORE THAN 1/32" FROM SURFACE OF INSULATION; DO NOT CREATE DEPRESSIONS DEEPER THAN 1/16". CUT INSULATION TO FIT OPENINGS, CORNERS, AND PROJECTIONS PRECISELY AND TO PRODUCE EDGES AND SHAPES CONFORMING TO DETAILS INDICATED. COORDINATE FLASHING INSTALLATION WITH INSTALLATION OF INSULATION TO PRODUCE A WALL SYSTEM WHICH DOES NOT ALLOW WATER TO PENETRATE BEHIND PROTECTIVE COATING. INSULATION BOARDS SHALL BE INTERLOCKED AT THE INSIDE AND OUTSIDE CORNERS. INSULATION BOARDS SHALL BE INSTALLED IN A RUNNING BOND PATTERN WITH STAGGERED VERTICAL JOINTS. OFFSET INSULATION BOARD JOINTS A MINIMUM OF 6" FROM SHEATHING JOINTS. ALLOW FOR PROPER SPACING AT WINDOWS, DOORS, PENETRATION AND OTHER OPENINGS SO THAT THE SEALANTS CAN BE PROPERLY APPLIED PER THE DRAWINGS AND MANUFACTURER'S STANDARD DETAILS, PROVIDE A PROPER JOINT THROUGH INSULATION WHERE EXPANSION AND CONTROL JOINTS OCCUR IN SUBSTRATES AND WHERE REQUIRED IN THE SYSTEM. APPLY BASE COAT TO EXPOSED SURFACES OF INSULATION IN MINIMUM THICKNESS SPECIFIED BY SYSTEM MANUFACTURER. FULLY EMBED REINFORCING FABRIC OF WEIGHT INDICATED BELOW IN WET BASE COAT TO PRODUCE WRINKLE-FREE INSTALLATION WITH FABRIC CONTINUOUS AT CORNERS AND LAPPED OR OTHERWISE TREATED AT JOINTS TO COMPLY WITH SYSTEM MANUFACTURER'S REQUIREMENTS. BACKWRAPPING: TACK OR ADHESIVELY FASTEN REINFORCING FABRIC TO THE SUBSTRATE, POSITIONED SO THAT A MINIMUM OF 2 1/2" OF THE MESH IS ONTO THE SUBSTRATE. THE REINFORCING FABRIC SHALL BE WIDE ENOUGH TO ENCAPSULATE THE EDGE OF THE INSULATION BOARD AND COVER BOTH THE SUBSTRATE AND THE FACE OF THE INSULATION BOARD A MINIMUM OF 2 1/2". APPLY FINISH COAT OVER DRY BASE COAT IN THICKNESS REQUIRED BY SYSTEM MANUFACTURER TO PRODUCE A UNIFORM FINISH OF TEXTURE AND COLOR MATCHING APPROVED SAMPLE. PREPARE JOINTS AND APPLY SEALANTS, OF TYPE AND AT LOCATIONS INDICATED, TO COMPLY WITH APPLICABLE REQUIREMENTS. REMOVE TEMPORARY COVERING AND PROTECTION OF OTHER WORK. PROMPTLY REMOVE PROTECTIVE COATINGS FROM WINDOW AND DOOR FRAMES, AND ANY OTHER SURFACES OUTSIDE AREAS INDICATED TO RECEIVE PROTECTIVE COATING. PROVIDE FINAL PROTECTION AND MAINTAIN CONDITIONS, IN A MANNER ACCEPTABLE TO INSTALLER AND SYSTEM MANUFACTURER, WHICH ENSURES SYSTEM BEING WITHOUT DAMAGE OR DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION. FINISH SHALL BE

METAL ROOFING, FASCIA AND SOFFIT: PROVIDE FACTORY-FORMED METAL PANELS WITH A MINIMUM 1" HIGH STANDING SEAM, CONTINUOUS INTERLOCK AND CONCEALED FASTENER CLIP SYSTEM. PROVIDE SHEET METAL ROOFING THAT HAS BEEN MANUFACTURED, FABRICATED AND INSTALLED TO WITHSTAND STRUCTURAL AND THERMAL MOVEMENT, WIND LOADING AND WEATHER EXPOSURE TO MAINTAIN MANUFACTURER'S PERFORMANCE CRITERIA WITHOUT DEFECTS, DAMAGE, FAILURE OF INFILTRATION OF WATER. ROOF PANEL ASSEMBLY SHALL COMPLY WITH UL CLASSIFICATION 580 FOR UL CLASSIFIED 90 RATED ASSEMBLIES AND MEET THE REQUIRED WIND LOADS LISTED ON THE STRUCTURAL DRAWINGS. COMPLETED ROOF SYSTEM SHALL HAVE A MAXIMUM OF .06 CFM/SF WITH 6.24 KPA AIR PRESSURE DIFFERENTIAL AS PER ASTM E283/1680. NO EVIDENCE OF WATER PENETRATION AT AN INWARD STATIC AIR PRESSURE DIFFERENTIAL OF NOT LESS THAN 6.24 PSF AND NOT MORE THAN 12.0 PSF AS PER ASTM E331/1646. SUBMIT PRODUCT DATA, INCLUDING MANUFACTURER'S PRODUCT SHEET, FOR SPECIFIED PRODUCTS. SUBMIT COMPLETE SHOP DRAWINGS AND ERECTION DETAILS, APPROVED BY THE METAL ROOFING MANUFACTURER, TO THE ARCHITECT FOR REVIEW. DO NOT PROCEED WITH MANUFACTURER OF ROOFING MATERIALS PRIOR TO REVIEW OF SHOP DRAWINGS AND FIELD VERIFICATION OF ALL DIMENSIONS. DO NOT USE DRAWINGS PREPARED BY THE ARCHITECT FOR SHOP OR ERECTION DRAWINGS. SHOP DRAWINGS SHALL SHOW ROOF PLANS, ELEVATIONS, METHODS OF ERECTION, AND FLASHING DETAILS. SUBMIT CERTIFIED TEST RESULTS BY A RECOGNIZED TESTING LABORATORY IN ACCORDANCE WITH SPECIFIED TEST METHODS FOR EACH PANEL SYSTEM. SUBMIT SELECTION AND

STANDARD IN MANUFACTURER'S STANDARD COLOR RANGE. ACTUAL COLOR AND

TEXTURE SHALL BE SELECTED BY THE ARCHITECT.

VERIFICATION SAMPLES FOR FINISHES, COLORS AND TEXTURES, SUBMIT PRODUCT CERTIFICATES SIGNED BY MANUFACTURER CERTIFYING MATERIALS COMPLY WITH SPECIFIED PERFORMANCE CHARACTERISTICS AND PHYSICAL REQUIREMENTS; MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUBMIT CALCULATIONS AND ATTACHMENT REQUIREMENTS DESIGNED BY A REGISTERED STRUCTURAL ENGINEER LICENSED BY THE STATE OF FLORIDA. CALCULATIONS SHALL JOB SPECIFIC AND INDICATE AREA OF ROOF DESIGN WAS PERFORMED, ALONG WITH ANCHORS, SIZES AND SPACING. SUBMIT, FOR OWNER'S ACCEPTANCE, MANUFACTURER'S STANDARD WARRANTY DOCUMENT EXECUTED BY AUTHORIZED COMPANY OFFICIAL. MANUFACTURER'S WARRANTY IS IN ADDITION TO AND NOT LIMITED OF, OTHER RIGHTS THE OWNER MAY HAVE UNDER THE CONTRACT DOCUMENTS. PROVIDE A NON-PRORATED WARRANTY COVERING THE FINISH, INCLUDING COLOR, FADE, CHALKING AND FILM INTEGRITY. WARRANTY PERIOD SHALL BE 20 YEARS COMMENCING ON DATE OF SUBSTANTIAL COMPLETION. INSTALLER SHALL BE EXPERIENCED IN PERFORMING WORK OF THIS SECTION WHO HAS SPECIALIZED IN THE INSTALLATION OF WORK SIMILAR TO THAT REQUIRED FOR THIS PROJECT. WHEN REQUESTED, SUBMIT CERTIFICATE INDICATING QUALIFICATIONS. COMPLY WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) ARCHITECTURAL SHEET METAL MANUAL. COMPLY WITH MANUFACTURER'S ORDERING INSTRUCTIONS AND LEAD-TIME REQUIREMENTS TO AVOID CONSTRUCTION DELAYS DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL, UNOPENED, UNDAMAGED CONTAINERS WITH IDENTIFICATION LABELS INTACT. IDENTIFY FABRICATED COMPONENTS WITH UL 90 CLASSIFIED LABEL WHERE APPROPRIATE. STORE MATERIALS PROTECTED FROM EXPOSURE TO HARMFUL CONDITIONS. STORE MATERIAL IN DRY, ABOVE GROUND LOCATION. STACK PREFINISHED MATERIAL TO PREVENT TWISTING, BENDING, ABRASION, SCRATCHING AND DENTING. ELEVATE ONE END OF EACH SKID TO ALLOW FOR MOISTURE TO RUN OFF. PREVENT CONTACT WITH MATERIAL THAT MAY CAUSE CORROSION, DISCOLORATION OR STAINING. DO NOT EXPOSE TO DIRECT SUNLIGHT OR EXTREME HEAT TRIM MATERIAL WITH FACTORY-APPLIED STRIPPABLE FILM. VERIFY ACTUAL MEASUREMENTS/OPENINGS BY FIELD MEASUREMENTS BEFORE FABRICATION; SHOW RECORDED MEASUREMENTS ON SHOP DRAWINGS. COORDINATE FIELD MEASUREMENTS, FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVOID CONSTRUCTION DELAYS. THIS PROJECT IS DETAILED AROUND THE ROOFING PRODUCTS OF PETERSEN ALUMINUM CORPORATION. STANDING SEAM METAL ROOF PANELS SHALL BE TITE-LOC PLUS WITH 2" HIGH SEAMS THAT ARE MECHANICALLY SEAMED TOGETHER @ 180 DEGREES. PANELS TO BE PRODUCED WITH FACTORY-SUPPLIED HOT MELT MASTIC IN THE SEAMS. MATERIAL SHALL BE 0.040" GAUGE, 3105-H14 ALUMINUM ALLOY, RIBS 12" ON CENTER, SMOOTH FINISH, UL CLASSIFIED 90 RATED (WIND UPLIFT) PANEL ASSEMBLY. FLASHING AND TRIM SHALL BE 0.040" GAUGE ALUMINUM. FASTENERS SHALL BE CONCEALED FASTENER CLIPS, SPACED AS REQUIRED BY THE MANUFACTURER TO PROVIDE FOR BOTH POSITIVE AND NEGATIVE DESIGN LOADS, WHILE ALLOWING FOR THE EXPANSION AND CONTRACTION OF THE ENTIRE ROOF SYSTEM RESULTING FROM VARIATIONS IN TEMPERATURE. COLOR AND FINISH TO BE SELECTED FROM MANUF STANDARD COLORS. INCLUDE BEARING PLATES FOR DIRECT BEARING ON RIGID INSULATION. PROVIDE FACTORY-APPLIED SEALANT BEAD. USE CONTINUOUS END ROLLING METHOD. NO END LAPS ON PANELS. NO PORTABLE ROLL-FORMING MACHINES WILL BE PERMITTED ON THIS PROJECT, NO INSTALLER-OWNED OR INSTALLER-RENTED MACHINES WILL BE PERMITTED. IT IS THE INTENT OF THE ARCHITECT TO PROVIDE FACTORY-MANUFACTURED PANEL SYSTEMS ONLY FOR THIS PROJECT. SOFFIT PANELS SHALL BE PAC-750 IN 0.032" GAUGE, 3105-H14 ALUMINUM ALLOY. PANEL DIMENSION SHALL BE 12" ON CENTER, V GROOVED PANELS WITH SMOOTH TEXTURE, HALF-VENTED. PROVIDE MANUFACTURER'S STANDARD FLASHING AND TRIM PROFILES, FACTORY-FORMED, GAUGE AS RECOMMENDED BY MANUFACTURER (IN NO CASE LESS THAN 0.32), COLOR AND FINISH FROM MANUF STANDARD COLORS. VERTICAL WALL PANELS (BACKSIDE OF PARAPET) SHALL BE R-36 PANEL IN 0.040" GAUGE, 3105-H14 ALUMINUM ALLOY, COLOR AND FINISH TO BE SELECTED FROM MANUF STANDARD COLORS. COORDINATE USE OF RELATED MATERIALS INCLUDING, BUT NOT LIMITED TO, UNDERLAYMENT OF 40 MIL SELF-ADHESIVE BITUMINOUS RUBBER MEMBRANE RATED FOR HIGH TEMPERATURE (HT); RIGID INSULATION OF POLYISOCYANURATE FOAMED PLASTIC. REFER TO SECTION 07920, SEALANTS. FABRICATE PANELS 55 FEET AND LESS IN ONE CONTINUOUS LENGTH. FABRICATE TRIM AND FLASHINGS FROM SAME MATERIAL AS ROOF SYSTEM MATERIAL. PANELS FABRICATED BY PORTABLE ROLL FORMER SHALL NOT BE APPROVED. FACTORY-APPLIED FINISH SHALL BE FULL-STRENGTH FLUOROPOLYMER (70% KYNAR 500 OR HYLAR RESIN) SYSTEM OF 1.0 MIL TOTAL DRY FILM THICKNESS. UNDERSIDE SHALL BE A WASH COAT OF 0.3 - 0.4 MIL DRY FILM THICKNESS. TEXTURE SHALL BE A SMOOTH TEXTURE, DULL MATTE SPECULAR GLOSS 25 - 35% AT 60. PROVIDE A PROTECTIVE FILM TO BE A STRIPPABLE VINYL FILM APPLIED DURING PANEL FABRICATION AND FINISHING. COLOR TO BE SELECTED FROM THE MANUFACTURER'S STANDARD COLOR LINE. ROOF, FASCIA AND SOFFIT PANELS MAY BE OF DIFFERENT COLORS, AT THE ARCHITECT'S DISCRETION. COMPLY WITH MANUFACTURER'S PRODUCT DATA, RECOMMENDATIONS AND INSTALLATIONS INSTRUCTIONS FOR SUBSTRATE VERIFICATION, PREPARATION REQUIREMENTS AND INSTALLATION. REMOVE MANUFACTURER'S PROTECTIVE FILM, IF ANY, FROM SURFACES OF ROOFING PANELS. VERIFY SUBSTRATE CONDITIONS, WHICH HAVE BEEN PREVIOUSLY INSTALLED UNDER OTHER SECTIONS, ARE ACCEPTABLE FOR PROJECT INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE METAL ROOFING WITH OTHER WORK (DRAINAGE, FLASHING AND TRIM, DECK SUBSTRATES, PARAPETS, COPINGS, WALLS) AND OTHER ADJOINING WORK TO PROVIDE A NON-CORROSIVE AND LEAK-PROOF INSTALLATION. PREVENT GALVANIC ACTION OF DISSIMILAR METALS. INSTALL METAL ROOFING PANELS TO PROFILES, PATTERNS AND DRAINAGE INDICATED AND REQUIRED FOR LEAK-PROOF INSTALLATION. PROVIDE FOR STRUCTURAL AND THERMAL MOVEMENT AT WORK. SEAL JOINTS FOR LEAK-PROOF INSTALLATION. PROVIDE UNIFORM, NEAT SEAMS. CONCEAL FASTENERS WHERE POSSIBLE IN EXPOSED WORK. COVER AND SEAL FASTENERS AND ANCHORS FOR WATERTIGHT AND LEAK-PROOF INSTALLATION. PROVIDE SEALANT-TYPE JOINT WHERE INDICATED. FORM JOINTS TO CONCEAL SEALANT. OWNER RESERVES RIGHT TO PERFORM POST INSTALLATION TESTING OF INSTALLED SHEET METAL ROOFING. UPON OWNER'S REQUEST, PROVIDE MANUFACTURER'S FIELD SERVICE CONSISTING OF PRODUCT USE RECOMMENDATIONS AND PERIODIC SITE VISIT FOR INSPECTION OF PRODUCT INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE TEMPORARY COVERINGS AND PROTECTION OF ADJACENT WORK AREAS. REPAIR OR REPLACE DAMAGED INSTALLED PRODUCTS. CLEAN INSTALLED PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS PRIOR TO OWNER'S ACCEPTANCE. REMOVE CONSTRUCTION DEBRIS FROM PROJECT SITE AND LEGALLY DISPOSE OF DEBRIS. PROTECT INSTALLED PRODUCT FROM DAMAGE DURING CONSTRUCTION. DISPOSE OF ALL DEBRIS MATERIAL IN APPROPRIATE CONTAINERS.

CAULKING AND SEALANTS: PROVIDE INTERIOR AND EXTERIOR CAULKING AND SEALANTS FOR WINDOWS, DOORS, AND JUNCTION OF DISSIMILAR MATERIALS, INTERIOR TRIM, OR OTHER AREAS AS INDICATED BY THE DRAWINGS. JOINT PACKING SHALL BE SYNTHETIC MATERIAL THAT WILL BE NON-REACTIVE WITH SEALANT, AND NON-OILY. USE NO ASPHALT OR BITUMEN-IMPREGNATED FIBER WITH SEALANTS. BACKER ROD PACKING SHALL BE CLOSED-CELL EXPANDED POLYETHYLENE CORD. BOND BREAKER TAPE SHALL BE POLYETHYLENE TAPE APPROVED BY THE SEALANT MANUFACTURER. PRIMER, WHERE REQUIRED BY SEALANT MANUFACTURER, SHALL BE SOLUTION OR COMPOUND DESIGNED TO INSURE ADHESION OF SEALANT. MATERIAL SHALL BE PROVIDED BY THE SEALANT OR CAULKING MANUFACTURER, AND SHALL BE SELECTED FOR COMPATIBILITY WITH OTHER SEALANT, WITH SUBSTRATE, AND BE NON-STAINING. CAULKING FOR INTERIOR JOINTS, OTHER THAN LOCATIONS WHERE SEALANT IS CALLED FOR, SHALL BE ONE-PART PAINTABLE ACRYLIC LATEX CAULK, AS MANUFACTURED BY DAP OR APPROVED SUBSTITUTES.

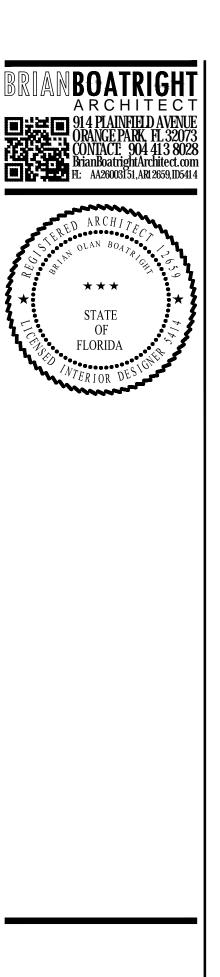
### **08 DOORS & WINDOWS**

EXTERIOR DOORS: STEEL ENTRY DOOR UNITS, 1<sup>3</sup>/<sup>4</sup> THICKNESS. REFER TO SCHEDULE DRAWING.

SLIDING AUTOMATIC ENTRANCES: PROVIDE EXTERIOR SLIDING AUTOMATIC ENTRANCES AS NOTED BELOW. COMPLY WITH ANSI/BHMA A156.10 AMERICAN NATIONAL STANDARD FOR POWER OPERATED PEDESTRIAN DOORS, AND UL 325. AUTOMATIC DOOR EQUIPMENT ACCOMMODATES MEDIUM TO HEAVY PEDESTRIAN TRAFFIC. ENTRAPMENT FORCE REQUIREMENTS: POWER-OPERATED SLIDING DOORS SHALL REQUIRE NOT MORE THAN 30 LBF TO PREVENT STOPPED DOOR FROM CLOSING; SLIDING DOORS SHALL BE PROVIDED WITH A BREAKAWAY DEVICE SHALL REQUIRE NO MORE THAN 50 LBF APPLIED 1 INCH FROM THE LEADING EDGE OF THE LOCK STILE FOR THE BREAKOUT PANEL TO OPEN. PROVIDE MANUFACTURER'S PRODUCT DATA SHEETS INCLUDING INSTALLATION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, FABRICATION, OPERATIONAL DESCRIPTIONS AND FINISHES. SUBMIT MANUFACTURER'S SHOP DRAWINGS, INCLUDING ELEVATIONS, SECTIONS AND DETAILS, INDICATING DIMENSIONS, MATERIALS, AND FABRICATION OF DOORS, FRAMES, SIDELITES, OPERATOR, MOTION /PRESENCE SENSOR CONTROL DEVICE, ANCHORS, HARDWARE, FINISH, OPTIONS AND ACCESSORIES. SUBMIT MANUFACTURER'S SAMPLES OF ALUMINUM FINISH. ENGAGE QUALIFIED MANUFACTURERS WITH A MINIMUM 10 YEARS OF DOCUMENTED EXPERIENCE IN MANUFACTURING OF DOORS AND EQUIPMENT OF SIMILAR TO THAT INDICATED FOR THIS PROJECT AND THAT HAVE A PROVEN RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE. MANUFACTURER TO HAVE A COMPANY CERTIFICATE ISSUED BY AAADM. INSTALLERS. TRAINED BY THE PRIMARY PRODUCT MANUFACTURERS, SHALL HAVE A MINIMUM 3 YEARS DOCUMENTED EXPERIENCE INSTALLING AND MAINTENANCE OF UNITS SIMILAR IN MATERIAL, DESIGN, AND EXTENT

TO THAT INDICATED FOR THIS PROJECT AND WHOSE WORK HAS RESULTED IN CONSTRUCTION WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR AUTOMATIC ENTRANCE DOORS SERVING AS A REQUIRED MEANS OF EGRESS. VERIFY ACTUAL DIMENSIONS OF OPENINGS TO RECEIVE AUTOMATIC ENTRANCES BY FIELD MEASUREMENTS BEFORE FABRICATION AND INDICATE ON SHOP DRAWINGS COORDINATE SIZES AND LOCATIONS OF RECESSES IN CONCRETE FLOORS FOR RECESSED TRACKS AND THRESHOLDS IF APPLICABLE. COORDINATE LAYOUT AND INSTALLATION OF AUTOMATIC ENTRANCES WITH CONNECTIONS TO POWER SUPPLIES AND ACCESS CONTROL SYSTEM AS APPLICABLE. PROVIDE MANUFACTURER'S GENERAL WARRANTY AND THE FOLLOWING SPECIAL WARRANTIES. SPECIAL WARRANTIES SPECIFIED IN THIS ARTICLE SHALL NOT DEPRIVE OWNER OF OTHER RIGHTS OWNER MAY HAVE UNDER OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AND SHALL BE IN ADDITION TO, AND RUN CONCURRENT WITH, OTHER WARRANTIES MADE BY CONTRACTOR UNDER REQUIREMENTS OF THE CONTRACT DOCUMENTS. AUTOMATIC ENTRANCE DOORS SHALL BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. DURING THE WARRANTY PERIOD A FACTORY-TRAINED TECHNICIAN SHALL PERFORM SERVICE AND AFFECT REPAIRS. AN INSPECTION SHALL BE PERFORMED AFTER EACH ADJUSTMENT OR REPAIR. DURING THE WARRANTY PERIOD ALL WARRANTY WORK, INCLUDING BUT NOT LIMITED TO EMERGENCY SERVICE, SHALL BE PERFORMED DURING NORMAL BUSINESS HOURS. MANUFACTURER SHALL HAVE IN PLACE A DISPATCH PROCEDURE THAT SHALL BE AVAILABLE 24 HOURS A DAY, 7 DAYS A WEEK FOR EMERGENCY CALL BACK SERVICE. MANUFACTURER SHALL BE STANLEY ACCESS TECHNOLOGIES, 1900 AIRPORT ROAD, MONROE, NC 28110, OR OWNER-APPROVED EQUAL. PROVIDE DURA-GLIDE 3000 (BASIS OF DESIGN) AUTOMATIC BI-PARTING ENTRANCE WITH STILE AND RAIL PANELS. BI-PARTING, FOUR EQUAL PANEL UNIT WITH TWO OPERABLE LEAVES AND TWO SIDELITES. TRAFFIC PATTERN TO BE TWO-WAY. PROVIDE FULL EMERGENCY BREAKAWAY CAPABILITY IN SLIDING LEAVES AND SIDELITES. STILE AND RAIL SLIDING PANELS AND SIDELITES SHALL BE EXTRUDED ALUMINUM, ALLOY 6063-T5. DOOR PANELS SHALL HAVE A MINIMUM .125 INCH STRUCTURAL WALL THICKNESS INCLUDING ADJOINING HORIZONTAL MEMBERS AND PERIMETER FRAMES WHERE APPLICABLE. DOOR CONSTRUCTION SHALL BE BY MEANS OF AN INTEGRATED CORNER BLOCK WITH 3/8 INCH ALL-THREAD THROUGH BOLT FROM EACH STILE. GLASS STOPS SHALL BE .062 INCH WALL THICKNESS AND SHALL PROVIDE SECURITY FUNCTION AS A STANDARD BY MEANS OF A FIXED NON-REMOVABLE EXTERIOR SECTION WITH GLAZING TO BE PERFORMED FROM THE INTERIOR ONLY. FULL BREAKOUT SLIDING ENTRANCES SHALL INCLUDE TWO INTERLOCKS PER MOVING PANEL SECURING THE LEADING STILE OF THE SIDELITE AND THE BUTT STILE OF THE SLIDING DOOR PANEL TOGETHER. VERTICAL STILES SHALL BE MEDIUM STILE 4 INCH. BOTTOM RAILS SHALL BE 7 INCH. INTERMEDIATE MUNTIN SHALL BE 4 INCH. WEATHER-STRIPPING SHALL BE SLIDE-IN TYPE, REPLACEABLE PILE MOHAIR SEALS RETAINED BY THE ALUMINUM EXTRUSIONS. THE FOLLOWING TYPES OF WEATHER-STRIPPING ARE REQUIRED: COMPLEMENTING WEATHER-STRIPPING ON THE JOINING VERTICAL STILES OF THE SIDELITE AND SLIDING DOOR PANELS, COMPLEMENTING WEATHER-STRIPPING ON THE LEAD EDGE OF THE LOCK STILES OF BI-PARTING DOORS, SINGLE PILE WEATHER-STRIPPING BETWEEN THE CARRIER AND THE HEADER, SINGLE PILE WEATHER-STRIPPING ON THE LEAD EDGE STILE OF SINGLE SLIDE DOOR PANELS, DUAL PILE WEATHER-STRIPPING ON THE PIVOT STILE OF BREAKOUT SIDELITE PANELS, AND DUAL PILE WEATHER-STRIPPING ON THE BUTT STILE OF FIXED SIDELITE PANELS. BOTTOM RAILS SHALL BE PROVIDED WITH AN ADJUSTABLE NYLON SWEEP. GLAZING SHALL COMPLY WITH ANSI Z97.1, THICKNESS AS INDICATED. GLAZING SLIDING PANELS AND SIDELITE PANELS SHALL BE 5/8" CLEAR INSULATED GLASS WITH TEMPERED PANES. GLAZING TRANSOM PANEL SHALL BE 5/8" CLEAR INSULATED SAFETY GLASS. TRANSOM GLAZING SHALL MEET THE COLOR, CLARITY, SOLAR COATING AND PERFORMANCE REQUIREMENTS OF THE ENTRANCE GLAZING. PROVIDE MANUFACTURER'S STANDARD DOOR CARRIER ASSEMBLY THAT ALLOWS VERTICAL ADJUSTMENT. CARRIAGE ASSEMBLY SHALL INCLUDE A CARRIAGE BAR WITH 2-WHEEL ASSEMBLIES. EACH ASSEMBLY SHALL HAVE TANDEM ROLLER WHEELS. ROLLER WHEELS SHALL BE 2 HEAVY DUTY DELRIN ROLLER WHEELS PER WHEEL ASSEMBLY, FOR A TOTAL OF FOUR (4) ROLLER WHEELS, 1-7/16 INCH DIAMETER, PER ACTIVE DOOR LEAF FOR OPERATION OVER A REPLACEABLE ALUMINUM TRACK. SINGLE JOURNAL WITH SEALED OIL IMPREGNATED BEARINGS. INCLUDE 2 HEAVY DUTY SELF-ALIGNING ANTI-RISERS PER LEAF. PROVIDE AUTOMATIC ENTRANCES AS COMPLETE ASSEMBLIES. MANUFACTURER'S STANDARD EXTRUDED ALUMINUM FRAMING REINFORCED AS REQUIRED TO SUPPORT LOADS. PROVIDE SLIDING ENTRANCE FRAMING MEMBERS AS REQUIRED FOR THE PROJECT, 4-1/2 INCH JAMBS IS THE STANDARD WIDTH FOR SINGLE SLIDE AND BI-PARTING ENTRANCES. PROVIDE MANUFACTURER'S STANDARD EXTRUDED ALUMINUM HEADER WITH A REPLACEABLE ALUMINUM TRACK EXTENDING FULL WIDTH OF ENTRANCE UNIT. HEADER TO CONCEAL DOOR OPERATORS, CARRIER ASSEMBLIES, AND ROLLER TRACK; COMPLETE WITH HINGED ACCESS PANEL FOR SERVICE OF DOOR OPERATOR, AND CONTROLS. HEADER SHALL BE CAPABLE OF SUPPORTING ACTIVE BREAKOUT LEAFS UP TO MAXIMUM OF 300 LB (136 KG) PER LEAF WHEN HEADER IS SUPPORTED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE CONTINUOUS HINGE AT TOP OF HEADER ALLOWS COVER TO SWING AND ALLOW COMPLETE ACCESS TO OPERATOR AND INTERNAL ELECTRONIC AND MECHANICAL ASSEMBLIES. PROVIDE MANUFACTURER'S STANDARD HARDWARE AS REQUIRED FOR OPERATION INDICATED. BREAKAWAY ARMS AND BOTTOM PIVOT ASSEMBLIES SHALL BE SUPPLIED BY THE MANUFACTURER AND SHALL BE ADJUSTABLE TO COMPLY WITH APPLICABLE CODES. INCLUDE MAGNETIC CATCH(S) TO RETAIN BREAKOUT DOOR AND SIDELITE PANELS IN THE CLOSED POSITION AND TO AUTOMATICALLY RE-LATCH BREAKOUT PANELS AFTER PANELS ARE RETURNED TO THE CLOSED POSITION LOCKING HARDWARE SHALL BE INCLUDE AN ELECTRIFIED SLIDE LOCK OPTION TO LOCK THE SLIDING FUNCTION OF THE ENTRANCE. PROVIDE EXTERIOR JAMB MOUNTED KEY SWITCH TO UNLOCK SLIDING DOOR OPERATION. INTERIOR SIDE TO HAVE KEYED CYLINDER. EXTERIOR SIDE TO HAVE KEYED CYLINDER. EXIT DEVICES SHALL LOCK THE BREAKOUT FUNCTION WHILE ALLOWING EMERGENCY EGRESS AT ALL TIMES. EXIT DEVICES IN COMBINATION WITH THE AUTOMATIC SLIDE LOCKING HARDWARE TO BE PROVIDED ON SECURED DOORS. AUTOMATIC LOCKING FOR THE SLIDING DOOR WHEN THE DOOR CONTROL SWITCH IS IN THE CLOSED POSITION. PROVIDE ADAMS-RITE 8600 SERIES, CONCEALED VERTICAL ROD EXIT DEVICE MOUNTED TO THE LEADING SLIDING PANELS. GUIDE TRACK/THRESHOLD SHALL BE FULL BREAKOUT ENTRANCE GUIDE TRACK: RECESSED FLOOR MOUNTED ALUMINUM GUIDE TRACK(S) ADJACENT TO THE SIDELITE PORTION OF THE SLIDING AUTOMATIC DOOR ASSEMBLY. DOOR OPERATOR AND CONTROLLER SHALL BE AN ELECTRO-MECHANICAL CONTROLLED UNIT UTILIZING A HIGH-EFFICIENCY, ENERGY EFFICIENT. DC MOTOR REQUIRING A MAXIMUM OF 3 AMP CURRENT DRAW. ALLOWING 5 OPERATORS ON ONE 20 AMP CIRCUIT. THE SUPPLIED SYSTEM SHALL HAVE THE CAPABILITY TO OPERATE AT FULL PERFORMANCE WELL BEYOND A BROWN OUT AND HIGH LINE VOLTAGE CONDITIONS (85V - 265V) SENSING CHANGES AND ADJUSTING AUTOMATICALLY. THE OPERATOR SHALL ALLOW AN ADJUSTABLE HOLD OPEN TIME DELAY OF 0 TO 60 SECONDS AND HAVE INTERNAL SOFTWARE TO INCORPORATE A SELF-DIAGNOSTIC SYSTEM. PROVIDE THE TYPES OF ACTIVATION AND SAFETY DEVICES SPECIFIED IN ACCORDANCE WITH ANSI/BHMA STANDARDS, FOR THE CONDITION OF EXPOSURE AND FOR LONG-TERM, MAINTENANCE-FREE OPERATION UNDER NORMAL TRAFFIC LOAD FOR TYPE OF OCCUPANCY INDICATED. COORDINATE ACTIVATION AND SAFETY DEVICES WITH DOOR OPERATION AND DOOR OPERATOR MECHANISMS. COMBINATION ACTIVATION MOTION SENSOR/SAFETY PRESENCE SENSOR SHALL BE A SLIDING DOOR SENSOR UTILIZING K-BAND MICROWAVE TECHNOLOGY TO DETECT MOTION AND FOCUSED ACTIVE INFRARED TECHNOLOGY TO DETECT PRESENCE, COMBINED IN A SINGLE HOUSING SURFACE MOUNTED ON EACH SIDE OF THE HEADER. PRESENCE SENSOR SHALL REMAIN ACTIVE AT ALL TIMES. THE SENSOR SHALL COMMUNICATE WITH THE AUTOMATIC DOOR OPERATOR THROUGH A SELF-MONITORING CONNECTION THAT ALLOWS THE DOOR TO GO INTO A FAIL-SAFE MODE PREVENTING THE DOOR FROM CLOSING IN THE EVENT OF A SENSOR FAILURE. PROVIDE HIGH-EFFICIENCY DC MOTOR WITH A MAXIMUM OF 3 AMP CURRENT DRAW, ALLOWING 5 OPERATORS TO RUN ON ONE 20 AMP CIRCUIT.POWER TO BE SELF-DETECTING LINE VOLTAGE CAPABLE CONTROL. 120 VAC THROUGH 240 VAC, 50/60 HZ, 3 AMP MINIMUM INCOMING POWER WITH SOLID EARTH GROUND CONNECTION FOR EACH DOOR SYSTEM. PROVIDE A SEPARATE INTERNAL WIRING CHANNEL RACEWAY FREE FROM MOVING PARTS. FINISH SHALL COMPLY WITH NAAMM'S "METAL FINISHES MANUAL FOR ARCHITECTURAL AND METAL PRODUCTS" FOR RECOMMENDATIONS FOR APPLYING AND DESIGNATING FINISHES. PROVIDE ANODIZED FINISH AAMA 611, CLEAR, AA- M12C22A41, CLASS I, 0.018 MM. EXAMINE DOORS AND FRAMES, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES, WALL AND FLOOR CONSTRUCTION, AND OTHER CONDITIONS AFFECTING PERFORMANCE. EXAMINE ROUGHING-IN FOR ELECTRICAL SOURCE POWER TO VERIFY ACTUAL LOCATIONS OF WIRING CONNECTIONS. PROCEED ONLY AFTER SUCH DISCREPANCIES OR CONFLICTS HAVE BEEN RESOLVED. DO NOT INSTALL DAMAGED COMPONENTS. FIT FRAME JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION. RIGIDLY SECURE NON-MOVEMENT JOINTS. INSTALL AUTOMATIC ENTRANCES PLUMB AND TRUE IN ALIGNMENT WITH ESTABLISHED LINES AND GRADES WITHOUT WARP OR RACK OF FRAMING MEMBERS AND DOORS. ANCHOR SECURELY IN PLACE. INSTALL SURFACE-MOUNTED HARDWARE USING CONCEALED FASTENERS TO GREATEST EXTENT POSSIBLE. SET HEADERS, CARRIER ASSEMBLIES, TRACKS, OPERATING BRACKETS AND GUIDES LEVEL AND TRUE TO LOCATION WITH ANCHORAGE FOR PERMANENT SUPPORT. CONNECT DOOR OPERATORS TO ELECTRICAL POWER DISTRIBUTION SYSTEM AS SPECIFIED IN DIVISION 26 SECTIONS. GLAZE SLIDING AUTOMATIC ENTRANCE DOOR PANELS IN ACCORDANCE WITH THE GLASS ASSOCIATION OF NORTH AMERICA (GANA) GLAZING MANUAL, PUBLISHED

(CONTINUED ON FOLLOWING SHEET)



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RECOMMENDATIONS OF GLASS PRODUCT MANUFACTURER, AND PUBLISHED INSTRUCTIONS OF AUTOMATIC ENTRANCE SYSTEM MANUFACTURER. COMPLY WITH REQUIREMENTS SPECIFIED IN "SEALANTS" TO PROVIDE A WEATHER TIGHT INSTALLATION. SET THRESHOLDS, BOTTOM GUIDE AND TRACK SYSTEMS AND FRAMING MEMBERS IN FULL BED OF SEALANT. SEAL PERIMETER OF FRAMING MEMBERS WITH SEALANT. APPLY SIGNAGE ON BOTH SIDES OF EACH DOOR AND SIDELITE AS REQUIRED BY ANSI/BHMA A156.10 AND MANUFACTURERS INSTALLATION INSTRUCTIONS. ADJUST DOOR OPERATORS, CONTROLS AND HARDWARE FOR SMOOTH AND SAFE OPERATION AND FOR WEATHER TIGHT CLOSURE. ADJUST DOORS IN COMPLIANCE WITH ANSI/BHMA A156.10. VERIFY INSTALLATION AND ALIGNMENT OF ALL ENTRANCE WEATHER-STRIPPING AS REQUIRED FOR COMPLIANCE WITH SPECIFIED AIR INFILTRATION REQUIREMENTS. BEFORE PLACING DOORS INTO OPERATION, AAADM CERTIFIED TECHNICIAN SHALL INSPECT AND APPROVE DOORS FOR COMPLIANCE WITH ANSI/BHMA A156.10. CERTIFIED TECHNICIAN SHALL BE APPROVED BY THE MANUFACTURER. CLEAN ADJACENT SURFACES SOILED BY DOOR INSTALLATION. CLEAN GLASS AND METAL SURFACES PROMPTLY AFTER INSTALLATION. REMOVE EXCESS SEALANTS, COMPOUNDS, DIRT AND OTHER SUBSTANCES. REPAIR DAMAGES TO MATCH ORIGINAL FINISH. ENGAGE A FACTORY-AUTHORIZED REPRESENTATIVE TO TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN SAFE OPERATION OF THE DOOR.

## **INTERIOR DOORS:** STAIN-GRADE BIRCH VENEER SOLID-CORE DOORS, 1%" THICKNESS.

**TRAFFIC DOORS:** PROVIDE HIGH IMPACT TRAFFIC DOORS, HARDWARE AND ACCESSORIES. SHOW FABRICATION AND INSTALLATION DETAILS; INCLUDE DOOR ELEVATIONS, HEAD, JAMB, AND MEETING STILE DETAILS INCLUDING FULL OR PARTIAL GASKETS. STORE PRODUCTS IN MANUFACTURER'S UNOPENED PACKAGING UNTIL READY FOR INSTALLATION. MAINTAIN ENVIRONMENTAL CONDITIONS (TEMPERATURE HUMIDITY, AND VENTILATION) WITHIN LIMITS RECOMMENDED BY MANUFACTURER FOR OPTIMUM RESULTS. DO NOT INSTALL PRODUCTS UNDER ENVIRONMENTAL CONDITIONS OUTSIDE MANUFACTURER'S ABSOLUTE LIMITS. PROVIDE MANUFACTURER'S STANDARD TWO-YEAR WARRANTY THAT PRODUCTS ARE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP, GUARANTEEING TO REPLACE (EXCLUSIVE OF FREIGHT AND LABOR) PARTS PROVEN DEFECTIVE WITHIN TWO YEARS AFTER DATE OF SHIPMENT TO PURCHASER. DOORS SHALL BE ELIASON CORPORATION; TEL: (800) 828-3655. WWW.ELIASONCORP.COM. HEAVY IMPACT TRAFFIC DOORS TO BE HIGH STRENGTH POLYMER CELL CORE, 0.125 INCH THICK THERMOPLASTIC FACING ON BOTH SIDES; TOTAL DOOR THICKNESS 1-1/2 INCHES; MOUNTING SCREWS INCLUDED. ELIASON MODEL HCP-10. INCLUDE WINDOWS 14 INCHES WIDE BY 16 INCHES HIGH WITH BLACK RUBBER MOLDING. GLAZING TO BE CLEAR DOUBLE GLAZED ACRYLIC. THERMOPLASTIC FACING COLOR TO BE AS SELECTED FROM MANUFACTURER'S STANDARD SELECTION. PROVIDE EASY SPRING BUMPERS, 0.25 INCH THICK HIGH IMPACT RESISTANT THERMOPLASTIC, HEIGHT OF 18 INCHES, COLOR AS SELECTED FROM MANUFACTURER'S STANDARD SELECTION. HARDWARE AND ACCESSORIES: HINGES: DOUBLE ACTION EASY SWING(R) PROPRIETARY HINGES. FINISH: ZINC COATED. DO NOT BEGIN INSTALLATION UNTIL SUBSTRATES HAVE BEEN PROPERLY PREPARED. VERIFY JAMBS PLUMB AND SQUARE. IF SUBSTRATE PREPARATION IS THE RESPONSIBILITY OF ANOTHER INSTALLER, NOTIFY ARCHITECT OF UNSATISFACTORY PREPARATION BEFORE PROCEEDING. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION. PREPARE SURFACES USING THE METHODS RECOMMENDED BY THE MANUFACTURER FOR ACHIEVING THE BEST RESULT FOR THE SUBSTRATE UNDER THE PROJECT CONDITIONS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REINFORCE HOLLOW METAL JAMBS AT HARDWARE LOCATIONS. STEEL CHANNEL JAMBS ARE REQUIRED FOR HEAVY DUTY TRAFFIC DOORS. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT. TOUCH-UP, REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.

GLASS AND GLAZING: SHALL COMPLY WITH THE STANDARD BUILDING CODE AND MUST BE TEMPERED WHERE REQUIRED.

MISCELLANEOUS HARDWARE: THE CONTRACTOR SHALL PROVIDE ALL NECESSARY WEATHER-STRIPPING, THRESHOLDS, DOOR STOPS, AND MISCELLANEOUS HARDWARE AS REQUIRED. ALL DOOR HARDWARE SHALL BE AS MANUFACTURED BY SCHLAGE, PEMKO, STANLEY, JOHNSON, OR APPROVED EQUAL. FINISH TO MATCH LOCKSETS.

FINISH HARDWARE: LOCKSETS SHALL BE SCHLAGE, OR APPROVED EQUAL. STYLE AND FINISH AS SELECTED BY THE OWNER. ALL EXTERIOR LOCKSETS SHALL BE KEYED IDENTICALLY. DOORS WITH GLAZING SHALL HAVE DOUBLE-KEYED DEADBOLTS. NON-REMOVABLE PINS WILL BE PROVIDED FOR OUTWARD OPENING DOORS. ALL LOCK AND PASSAGE SETS SHALL HAVE 2<sup>3</sup>/<sub>4</sub>" BACKSET. ALL OTHER MISCELLANEOUS HARDWARE SHALL BE FURNISHED BY GENERAL CONTRACTOR.

**OVERHEAD DOORS:** PROVIDE AND INSTALL MANUALLY OPERATED OVERHEAD DOOR. SIZE AS INDICATED ON THE DRAWINGS. AND ALL RELATED ITEMS NECESSARY TO COMPLETE THE WORK. INSTALL UNIT IN LOCATIONS SPECIFIED ON DRAWINGS, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL CLIPS, ANCHORS, BRACKETS, TRIM AND ACCESSORIES NECESSARY FOR A COMPLETE INSTALLATION. VERIFY THAT ACCESSORIES REQUIRED FOR EACH UNIT HAVE BEEN PROPERLY INSTALLED AND THAT OPERATING UNITS FUNCTION PROPERLY AND EASILY. CLEAN UNITS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PAINT TO MATCH EXTERIOR SIDING.

#### 09 FINISHES

GYPSUM WALL BOARD: PROVIDE 1/2" THICKNESS WHERE SUPPORTS ARE 16" ON CENTER, 5/8" THICKNESS WHERE SUPPORTS ARE 24" ON CENTER. WALLS ARE TO BE EXTENDED TO THE UNDERSIDE OF THE ROOF DECK FOR SOUND ATTENUATION. ALL GYPSUM WALLBOARD FINISHING SHALL BE PERFORMED IN ACCORDANCE WITH THE GYPSUM ASSOCIATION. WALLBOARD CEILINGS (WHERE INDICATED ON THE PLANS) SHALL RECEIVE A TEXTURED FINISH, WHICH SHALL BE ROLLED-ON AND TROWELED TO A KNOCK-DOWN FINISH.

FIBERGLASS-FACED GYPSUM SHEATHING: PROVIDE 5/8" DENS-GLASS GOLD, GEORGIA-PACIFIC CORPORATION. DO NOT USE FIBERGLASS-FACED GYPSUM SHEATHING AS A BASE FOR NAILING OR MECHANICAL FASTENING. DO NOT LAMINATE FIBERGLASS-FACED GYPSUM SHEATHING TO MASONRY SURFACES, USE FURRING STRIPS OR FRAMING SPACED AT MANUFACTURER'S SPECIFICATIONS. PROVIDE SHEATHING MANUFACTURER'S STANDARD WARRANTY COVERING SHEATHING MATERIALS FOR FIVE (5) YEARS COMMENCING ON DATE OF SUBSTANTIAL COMPLETION. PROVIDE SHEATHING MANUFACTURER'S STANDARD WARRANTY COVERING IN PLACE EXPOSURE DAMAGE TO SHEATHING FOR SIX (6) MONTHS COMMENCING ON DATE OF PURCHASE BY CONTRACTOR. NOMINAL SIZES ARE 5/8" (16MM) THICK BY 4', 8', 9' OR 10'. GYPSUM SHEATHING BOARD CORE SHALL BE IN ACCORDANCE WITH ASTM C1177 WITH FIBERGLASS MATS BOTH SIDES AND LONG EDGES. BOARDS SHALL BE NONCOMBUSTIBLE WHEN TESTED IN ACCORDANCE WITH ASTM E136, AND WITH FLAME SPREAD 0, SMOKE DEVELOPED 0, WHEN TESTED IN ACCORDANCE WITH ASTM E84. EXTERIOR BUILDING AIR-AND VAPOR-BARRIER SHALL BE SELF-ADHERED BITUMINOUS MEMBRANE, SEE SPECIFICATIONS. PROVIDE ALL REQUIRED ACCESSORIES FOR A COMPLETE INSTALLATION INCLUDE, BUT NOT LIMITED TO, 2" WIDE, 10 BY 10 FIBERGLASS MESH TAPE, SETTING-TYPE JOINT COMPOUND. SCREWS SHALL BE TYPE S-12, BUGLE HEAD, SELF-TAPING, RUST-RESISTANT, FINE THREAD FOR HEAVY STEEL GAUGE (12 TO 22); TYPE S, BUGLE HEAD, RUST-RESISTANT SHARP POINT, FINE THREAD FOR LIGHT GAUGE METAL FRAMING OR FURRING; WAFER HEAD, RUST-RESISTANT, TYPE S-12 DRILL OR HI-LO, MIN 1-1/4" LENGTH. PROVIDE TRIM FABRICATED OF MATERIALS FOR EXTERIOR EXPOSURE IN ACCORDANCE WITH ASTM D1784. PRIOR TO INSTALLATION EXAMINE SUB-FRAMING: VERIFY THAT SURFACE OF FRAMING AND FURRING MEMBERS TO RECEIVE SHEATHING DOES NOT VARY MORE THAN 1/4" FROM THE PLACE OF FACES OF ADJACENT MEMBERS. PROVIDE FIBERGLASS-FACED GYPSUM SHEATHING WHERE INDICATED ON DRAWINGS. INSTALL SHEATHING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE INSTRUCTIONS IN GA-253. INSTALL FIBERGLASS-FACED GYPSUM SHEATHING WITH PRIMED FIBERGLASS FACE SIDE OUT. USE MAXIMUM LENGTHS POSSIBLE TO MINIMIZE NUMBER OF JOINTS. LOCATE EDGE JOINTS PARALLEL TO AND WITH VERTICAL ORIENTATIONS ON FRAMING. STAGGER INTERMEDIATE END JOINTS OF ADJACENT LENGTHS OF SHEATHING. ATTACH DENS-GLASS GOLD TO METAL FRAMING WITH SCREWS SPACED 8" O.C. AT PERIMETER AND 8" O.C. IN FIELD. DRIVE FASTENERS TO BEAR TIGHT AGAINST AND FLUSH WITH SURFACE OF SHEATHING. DO NOT COUNTERSINK. LOCATE FASTENERS MINIMUM 3/8" FROM EDGES AND ENDS OF SHEATHING PANELS. JOINT TREATMENT AND FINISH PREPARATION: FOR VENEER SYSTEMS, WHERE REQUIRED, PROVIDE JOINT TREATMENT IN ACCORDANCE WITH SHEATHING MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS OF LOCAL GOVERNING AUTHORITIES; FOR PAINTED CEILINGS AND SOFFITS APPLY JOINT TAPE OVER JOINTS AND EMBED IN SETTING TYPE JOINT

FINISH. INSTALL BUILDING PAPER OR EQUAL WITH FLASHING AROUND OPENINGS. SELF-ADHERING AIR AND VAPOR BARRIER: PROVIDE A WATER-RESISTANT SELF-ADHERING SHEET AIR AND VAPOR BARRIER IN EXTERIOR WALL ASSEMBLIES. MATERIALS SHALL HAVE AN AIR PERMEANCE NOT TO EXCEED 0.004 CUBIC FEET PER

MINUTE PER SQUARE FOOT UNDER A PRESSURE DIFFERENTIAL OF 0.3 IN. WATER (1.57

COMPOUND SPECIFIED AND SKIM COAT SURFACE WITH JOINT COMPOUND FOR SMOOTH

POUNDS PER SQUARE FOOT) WHEN TESTED ACCORDING TO ASTM E 2178. AND A VAPOR PERMEANCE OF 0.1 PERMS OR LESS WHEN TESTED ACCORDING TO ASTM E 96. PROVIDE A CONTINUOUS AIR AND VAPOR BARRIER ASSEMBLY THAT HAS AN AIR LEAKAGE NOT TO EXCEED 0.040 CUBIC FEET PER SQUARE FOOT PER MINUTE UNDER A PRESSURE DIFFERENTIAL OF 0.3 IN. WATER (1.57 POUNDS PER SQUARE FOOT) WHEN TESTED IN ACCORDANCE WITH ASTM E 2357. ASSEMBLY SHALL PERFORM AS A LIQUID DRAINAGE PLANE FLASHED TO DISCHARGE CONDENSATION OR WATER PENETRATION TO THE EXTERIOR. ASSEMBLY SHALL ACCOMMODATE MOVEMENTS OF BUILDING MATERIALS BY PROVIDING EXPANSION AND CONTROL JOINTS AS REQUIRED, WITH ACCESSORY AIR AND VAPOR SEAL MATERIALS AT SUCH LOCATIONS, CHANGES IN SUBSTRATE AND PERIMETER CONDITIONS. ASSEMBLY SHALL BE CAPABLE OF WITHSTANDING POSITIVE AND NEGATIVE COMBINED DESIGN WIND, FAN AND STACK PRESSURES ON THE ENVELOPE WITHOUT DAMAGE OR DISPLACEMENT, AND SHALL TRANSFER THE LOAD TO THE STRUCTURE.ASSEMBLY SHALL NOT DISPLACE ADJACENT MATERIALS UNDER FULL LOAD.ASSEMBLY SHALL BE JOINED IN AN AIRTIGHT AND FLEXIBLE MANNER TO THE AIR BARRIER MATERIAL OF ADJACENT ASSEMBLIES, ALLOWING FOR THE RELATIVE MOVEMENT OF ASSEMBLIES DUE TO THERMAL AND MOISTURE VARIATIONS AND CREEP, AND ANTICIPATED SEISMIC MOVEMENT. PROVIDE CONNECTIONS TO PREVENT AIR LEAKAGE AND VAPOR MIGRATION AT THE FOLLOWING LOCATIONS: FOUNDATION AND WALLS, INCLUDING PENETRATIONS, TIES AND ANCHORS; WALLS, WINDOWS, CURTAIN WALLS, STOREFRONTS, LOUVERS OR DOORS; DIFFERENT WALL ASSEMBLIES, AND FIXED OPENINGS WITHIN THOSE ASSEMBLIES; WALL AND ROOF CONNECTIONS; FLOORS OVER UNCONDITIONED SPACE; WALLS, FLOOR AND ROOF ACROSS CONSTRUCTION, CONTROL AND EXPANSION JOINTS; WALLS, FLOORS AND ROOF TO UTILITY, PIPE AND DUCT PENETRATIONS; SEISMIC AND EXPANSION JOINTS; ALL OTHER LEAKAGE PATHWAYS IN THE BUILDING ENVELOPE. SUBMIT LETTER FROM MANUFACTURER STATING THAT MATERIALS PROPOSED FOR USE ARE PERMANENTLY CHEMICALLY COMPATIBLE AND ADHESIVELY COMPATIBLE WITH ADJACENT MATERIALS PROPOSED FOR USE. SUBMIT LETTER FROM MANUFACTURER STATING THAT CLEANING MATERIALS USED DURING INSTALLATION ARE CHEMICALLY COMPATIBLE WITH ADJACENT MATERIALS PROPOSED FOR USE. DELIVER MATERIALS TO PROJECT SITE IN ORIGINAL PACKAGES WITH SEALS UNBROKEN, LABELED WITH MANUFACTURER'S NAME, PRODUCT, DATE OF MANUFACTURE, AND DIRECTIONS FOR STORAGE. STORE MATERIALS IN THEIR ORIGINAL UNDAMAGED PACKAGES IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN TEMPERATURE RANGE REQUIRED BY AIR AND VAPOR BARRIER MEMBRANE MANUFACTURER. PROTECT STORED MATERIALS FROM DIRECT SUNLIGHT. HANDLE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSTALL AIR AND VAPOR BARRIER WITHIN RANGE OF AMBIENT AND SUBSTRATE TEMPERATURES RECOMMENDED BY AIR AND VAPOR BARRIER MANUFACTURER. DO NOT APPLY AIR AND VAPOR BARRIER TO A DAMP OR WET SUBSTRATE. DO NOT INSTALL AIR AND VAPOR BARRIER IN SNOW, RAIN, FOG, OR MIST. DO NOT INSTALL AIR AND VAPOR BARRIER WHEN THE TEMPERATURE OF SUBSTRATE SURFACES AND SURROUNDING AIR TEMPERATURES ARE BELOW THOSE RECOMMENDED BY THE MANUFACTURER. PROVIDE MANUFACTURER'S STANDARD PRODUCT WARRANTY, FOR A MINIMUM 3 YEARS FROM DATE OF SUBSTANTIAL COMPLETION. PROVIDE INSTALLER'S 2 YEAR WARRANTY FROM DATE OF SUBSTANTIAL COMPLETION, INCLUDING ALL COMPONENTS OF THE AIR AND VAPOR BARRIER ASSEMBLY, AGAINST FAILURES INCLUDING LOSS OF AIR TIGHT SEAL. LOSS OF WATERTIGHT SEAL, LOSS OF ADHESION, LOSS OF COHESION, FAILURE TO CURE PROPERLY. SELF-ADHERING MEMBRANE SHALL BE COMPOSED OF FLEXIBLE FACING MATERIAL COATED COMPLETELY AND UNIFORMLY ON ONE SIDE WITH ADHESIVE MATERIAL, FORMED INTO UNIFORM, FLEXIBLE SHEETS, INTERLEAVED WITH DISPOSABLE RELEASE LINER THAT IS REMOVED PRIOR TO APPLICATION. USE REGULAR OR LOW-TEMPERATURE FORMULATION DEPENDING ON SITE CONDITIONS, WITHIN TEMPERATURE RANGES SPECIFIED BY MANUFACTURER. PROVIDE RELATED ACCESSORIES INCLUDING PRIMER, SEAM TAPE, MASTIC, FLUID AND SEALANT RECOMMENDED BY MANUFACTURER. PROVIDE GRACE CONSTRUCTION PRODUCTS PERM-A-BARRIER, 40 MILS THICK. WATER-BASED PRIMER TO BE PERM-A-BARRIER WB PRIMER. SOLVENT-BASED PRIMER SHALL BE BITUTHENE PRIMER B-2. COUNTERFLASHING FOR MASONRY THROUGH-WALL FLASHINGS TO BE **PERM-A-BARRIER** FLASHING. MASTICS, ADHESIVES AND TAPES SHALL BE AS RECOMMENDED BY MANUFACTURER.PROVIDE SEALANT AT TRANSITIONS IN SUBSTRATE AND CONNECTIONS TO ADJACENT ELEMENTS THAT IS A LOW-MODULUS PRE-CURED SILICONE EXTRUSION AND SEALANT FOR BONDING EXTRUSIONS TO SUBSTRATES EQUAL TO TREMCO SILICONE EXTRUDED SHEET BY TREMCO, SPECTREM EZ SEAL BY TREMCO, OR BONDAFLEX SILBRIDGE 300 BY MAY NATIONAL ASSOCIATES. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS UNDER WHICH AIR AND VAPOR BARRIER ASSEMBLIES WILL BE APPLIED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS. VERIFY THAT SURFACES AND CONDITIONS ARE SUITABLE PRIOR TO COMMENCING WORK OF THIS SECTION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. DO NOT PROCEED WITH INSTALLATION UNTIL AFTER MINIMUM CONCRETE CURING PERIOD RECOMMENDED BY AIR AND VAPOR BARRIER MANUFACTURER, ENSURE THAT THE SURFACES ARE SOUND, DRY, EVEN, AND FREE OF OIL, GREASE, DIRT, EXCESS MORTAR OR OTHER CONTAMINANTS; CONCRETE SURFACES ARE CURED AND DRY, SMOOTH WITHOUT LARGE VOIDS, SPALLED AREAS OR SHARP PROTRUSIONS; MASONRY JOINTS ARE FLUSH AND COMPLETELY FILLED WITH MORTAR, AND ALL EXCESS MORTAR SITTING ON MASONRY TIES HAS BEEN REMOVED. VERIFY SUBSTRATE IS VISIBLY DRY AND FREE OF MOISTURE. TEST FOR CAPILLARY MOISTURE BY PLASTIC SHEET METHOD ACCORDING TO ASTM D 4263 AND TAKE SUITABLE MEASURES UNTIL SUBSTRATE PASSES MOISTURE TEST. VERIFY SEALANTS USED IN SHEATHING ARE COMPATIBLE WITH MEMBRANE PROPOSED FOR USE. PERFORM FIELD PEEL-ADHESION TEST ON MATERIALS TO WHICH SEALANTS ARE ADHERED. NOTIFY ARCHITECT IN WRITING OF ANTICIPATED PROBLEMS USING AIR AND VAPOR BARRIER OVER SUBSTRATE PRIOR TO PROCEEDING. CLEAN, PREPARE, AND TREAT SUBSTRATE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL MEMBRANE TO PROVIDE CONTINUITY THROUGHOUT THE BUILDING ENVELOPE. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROTECT AIR AND VAPOR BARRIER ASSEMBLIES FROM DAMAGE DURING APPLICATION AND REMAINDER OF CONSTRUCTION PERIOD, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. COORDINATE WITH INSTALLATION OF MATERIALS WHICH COVER AIR AND VAPOR MEMBRANE. TO ENSURE EXPOSURE PERIOD DOES NOT EXCEED THAT RECOMMENDED BY THE AIR AND VAPOR BARRIER MANUFACTURER. CLEAN SPILLAGE AND SOILING FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION AND ACCEPTABLE TO THE PRIMARY MATERIAL MANUFACTURER.

ACOUSTICAL CEILINGS: PROVIDE 24" X 24" X 3/4" THICK MINERAL TILES EQUAL TO **ARMSTRONG CIRRUS 584**. GRID SHALL BE INTERMEDIATE DUTY, HOT-DIPPED GALVANIZED STEEL, 15/16" WIDE, ALUMINUM-CAPPED, AND WITH A WHITE BAKED POLYESTER PAINT FINISH. PROVIDE ALL NECESSARY WALL ANGLE AND HARDWARE AS REQUIRED FOR COMPLETE INSTALLATION. SUSPENSION SYSTEM COMPONENTS SHALL BE DESIGNED TO SUPPORT THE CEILING ASSEMBLY INDICATED ON DRAWINGS, WITH MAXIMUM DEFLECTION OF 1/360 OF THE SPAN, INCLUDING APPROPRIATE LOAD-CARRYING CAPACITY FOR ACOUSTICAL PANELS, LIGHT FIXTURES, AND HVAC ELEMENTS. MINIMUM OF 12 PSF. PULL-OUT TENSION VALUES SHALL BE RATED IN EXCESS OF 300 LBS. INSTALLER SHALL VERIFY ACTUAL FIELD DIMENSION PRIOR TO INSTALLATION, AND PROVIDE ALL MATERIALS AND LABOR NECESSARY TO INSURE PROPER INSTALLATION. HANGER WIRE SHALL BE PRE-STRETCHED NON-CORROSIVE 12-GAUGE HANGER WIRE WITH A YIELD STRENGTH OF 394 LBS. HANGER WIRES SHALL BE INSTALLED AT EACH CORNER OF EACH LIGHT FIXTURE AND AIR BOOT. SCRIBE, CUT AND ROUTE PANELS TO FIT ACCURATELY AT WALLS AND PENETRATIONS AND PROVIDE MOLDINGS OR TRIM AS INDICATED. IF A CONDITION EXISTS WHERE PANELS OF LESS THAN 6" WOULD BE INSTALLED AT EDGE CONDITIONS, CUT CEILING PANELS FROM 24" X 48" PANELS TO MATCH FIELD OF CEILING AND EXTEND TO PARTITION ON EDGE CONDITION. DO NOT INSTALL PANELS OF LESS THAN 6" WIDTH UNLESS ACCEPTABLE TO THE ARCHITECT. CLEAN EXPOSED SURFACES OF ACOUSTICAL CEILINGS, INCLUDING TRIM, EDGE MOLDINGS AND SUSPENSION MEMBERS; COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR CLEANING AND TOUCH-UP OF MINOR FINISH DAMAGE. REMOVE AND REPLACE WORK WHICH CANNOT BE SUCCESSFULLY CLEANED AND REPAIRED TO PERMANENTLY ELIMINATE EVIDENCE OF DAMAGE.

FLOORING: FLOORS TO BE POLISHED AND SEALED CONCRETE. CONCRETE FINISHING IS TO BE A QUALITY FINISH SUITABLE FOR POLISHING. ROUGH AREAS SHALL BE GROUND AS NEEDED TO PROVIDE A SUITABLE STARTING FINISH. EIGHT-STEP FINISH SYSTEM BASED ON EUCLID PRODUCTS, OR EQUAL. ALL APPLICATORS MUST BE CERTIFIED BY THE MANUFACTURER USED. CUT, CLEAN OUT, PREP AND FILL CONCRETE FLOOR JOINTS THROUGHOUT WITH EUCLID QWIKJOINT UVR POLYUREA JOINT FILLER, OR EQUAL. GRIND CONCRETE FLOOR WITH A COMBO SET OF 60 GRIT RESIN BOND DIAMOND AND 100 GRIT RESIN BOND DIAMOND PLATES. THOROUGHLY CLEAN THE CONCRETE FLOOR AND APPLY EUCLID DIAMOND HARD LIQUID DENSIFIER AND SEALER AT 225 SF PER GALLON. POLISH CONCRETE FLOOR WITH A COMBO SET OF 100 GRIT RESIN BOND DIAMOND AND 200 GRIT RESIN BOND DIAMOND PLATES. POLISH CONCRETE FLOOR WITH 400 GRIT RESIN BOND DIAMOND PLATES. THOROUGHLY CLEAN CONCRETE FLOOR AND APPLY EUCLID DIAMOND HARD LIQUID DENSIFIER AND SEALER AT 700 SF PER GALLON AS A SPIFF COAT. BURNISH/POLISH CONCRETE FLOOR WITH 800 GRIT DIAMOND-IMPREGNATED TWISTER PADS. BURNISH/POLISH CONCRETE FLOOR WITH 1500 GRIT DIAMOND-IMPREGNATED TWISTER PADS.

WALL BASE: BASE MATERIALS SHALL BE EQUAL TO ARMSTRONG WORLD INDUSTRIES TOP SET WALL BASE 1/8 IN. THICK, 4 IN. HIGH ARMSTRONG COLOR-INTEGRATED WALL

BASE WITH A MATTE FINISH, CONFORMING TO ASTM F 1861, TYPE TP - RUBBER, THERMOPLASTIC, GROUP 1 - SOLID, STYLE B - COVE. PROVIDE **ARMSTRONG S-725 WALL** BASE ADHESIVE AT THE WALL BASE AS RECOMMENDED BY THE FLOORING MANUFACTURER. APPLY TOP SET WALL BASE TO WALLS, COLUMNS, CASEWORK, AND OTHER PERMANENT FIXTURES IN AREAS WHERE TOP-SET BASE IS REQUIRED. INSTALL BASE IN LENGTHS AS LONG AS PRACTICAL, WITH INSIDE CORNERS FABRICATED FROM BASE MATERIALS THAT ARE MITERED OR COPED. TIGHTLY BOND BASE TO VERTICAL SUBSTRATE WITH CONTINUOUS CONTACT AT HORIZONTAL AND VERTICAL SURFACES. FILL VOIDS WITH PLASTIC FILLER ALONG THE TOP EDGE OF THE RESILIENT WALL BASE OR INTEGRAL COVE CAP ON MASONRY SURFACES OR OTHER SIMILAR IRREGULAR SUBSTRATES

**PAINTING:** ALL INTERIOR PAINT SHALL BE ACRYLIC LATEX OR ACRYLIC ENAMEL AS MANUFACTURED BY BENJAMIN MOORE OR SHERWIN-WILLIAMS. COLOR TO BE SELECTED BY OWNER.

# EXTERIOR PAINTING:

- 1. FERROUS METAL: XIM PRIMER AND TWO COATS REGAL SELECT EXTERIOR HIGH BUILD NON-FERROUS METAL: XIM PRIMER AND TWO COATS REGAL SELECT EXTERIOR
- 2. HIGH BUILD CMU MASONRY: PRIME WITH SUPER SPEC 100% ACRYLIC MASONRY PRIMER AND
- PROVIDE TWO COATS OF SUPER SPEC 100% ACRYLIC EXTERIOR SATIN FINISH. COLOR TO BE AS SELECTED BY OWNER. 4. PAINTED WOOD: ONE COAT OIL BASE PRIMER MOOREWHITE AND TWO COATS AURA INTERIOR PAINT, LOW LUSTRE, BRUSH-APPLIED.

ALL SURFACES THAT HAVE BEEN LEFT UNFINISHED BY THE WORK OF OTHER TRADES SHALL BE PAINTED AS SCHEDULED ABOVE. ALL PAINT APPLICATIONS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDED METHODS OF APPLICATION. ALL WORK WHICH DOES NOT CONFORM TO THESE SPECIFICATIONS OR DOES NOT MEET THE APPROVAL OF THE ARCHITECT SHALL BE REMOVED OR REPAINTED AS DIRECTED. THE PAINTING CONTRACTOR SHALL INSPECT SUBSTRATE BEFORE BEGINNING HIS WORK AND REPORT TO THE CONTRACTOR ANY DEFECTS IN GYPSUM WALLBOARD AND WOODWORK WHICH WOULD PREVENT PROPER EXECUTION OF HIS WORK. THE PAINTER IS RESPONSIBLE FOR CAULKING AROUND WINDOWS, JUNCTION OF TRIM, AND OTHER AREAS DEEMED NECESSARY BY THE ARCHITECT.

# 10 SPECIALTIES

HANGER ROD CANOPIES: FURNISH AND INSTALL EXTRUDED ALUMINUM OVERHEAD HANGER ROD STYLE CANOPIES AS MANUFACTURED BY MAPES CANOPIES, LINCOLN, NEBRASKA, PHONE: 1-888-273-1132. FLASHING OF VARIOUS DESIGNS MAY BE REQUIRED. SUPPLIED BY THE INSTALLER. DETERMINE WALL CONSTRUCTION, MAKE-UP AND THICKNESS AND ENSURE ADEQUATE WALL CONDITION TO CARRY CANOPY LOADS WHERE REQUIRED. CONSIDER WATER DRAINAGE AWAY FROM CANOPY WHERE NECESSARY. INCLUDE ANY NECESSARY REMOVAL OR RELOCATION OF EXISTING STRUCTURES, OBSTRUCTIONS OR MATERIALS. ERECTOR SHALL HAVE A MINIMUM OF 3 YEARS' EXPERIENCE IN ERECTING, INSTALLING AND ASSEMBLING CANOPIES. ALL CANOPY MATERIALS AND COMPONENTS TO INCLUDE, BUT NOT BE LIMITED TO, ROOF PANELS AND HANGER RODS, SHALL BE MANUFACTURED AND PRODUCED BY AND UNDER THE CONTROL OF A SINGLE SOURCE MANUFACTURER. SUBMIT SHOP DRAWINGS, PRODUCT DATA AND ENGINEERING CALCULATIONS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE. SHOP DRAWINGS SHALL SHOW ERECTION TECHNIQUES AND DETAILS OF CANOPY ASSEMBLIES. SHOW ALL ANCHORAGE AND ACCESSORY ITEMS AND DETAILS. SHOW LAYOUT OF ALL COLUMNS, IDENTIFYING THOSE COLUMNS WHERE DRAINAGE SHALL OCCUR. SHOW THAT CANOPIES CONFORM TO THE FLORIDA BUILDING CODE, LATEST EDITION, TO INCLUDE, BUT NOT BE LIMITED TO, UPLIFT, WIND LOADS AND ROOF LIVE LOADS. SUBMIT CALCULATIONS MANUALLY SIGNED, DATED AND IMPRESSION-SEALED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF FLORIDA. THE CANOPY MUST HANDLE A MINIMUM OF 30 PSF LIVE LOAD. ALL CANOPY COMPONENTS SHALL BE DELIVERED IN MANUFACTURER'S ORIGINAL, UNOPENED STANDARD CONTAINERS AND PACKING WITH LABELS AND SEALS INTACT. PROVIDE ALL NECESSARY PROTECTION TO PREVENT DAMAGE TO, BUT NOT LIMITED TO, ALL COMPONENTS AND FINISHES. CONTRACTOR IS RESPONSIBLE FOR AND MAKE ALL REPAIRS AND REPLACEMENTS OF DAMAGED OR DEFECTIVE MATERIALS, COMPONENTS AND FINISHES OR POOR INSTALLATION AT NO ADDITIONAL COST TO OWNER. PROCEED WITH WORK ONLY WHEN WEATHER CONDITIONS WILL PERMIT INSTALLATION OF MATERIALS AND COMPONENTS WITHOUT HARM OR DAMAGE. PROVIDE TEMPORARY PROTECTION OF ALL MATERIALS. STORED OR INSTALLED. COMPONENTS AND INSTALLED WORK IN EVENT OF UNSUITABLE WEATHER CONDITIONS WHICH MAY CAUSE DAMAGE. CONTRACTOR IS RESPONSIBLE FOR REPAIRING AND REPLACING ALL MATERIALS. STORED OR INSTALLED, DAMAGED BY UNSUITABLE WEATHER CONDITIONS. PROVIDE PROTECTION FOR ALL EXISTING WORK TO REMAIN OR TO BE RE-INSTALLED. WHETHER STORED OR INSTALLED OR IN-PLACE, FROM DAMAGE, TO INCLUDE, BUT NOT BE LIMITED TO, WEATHER CONDITIONS, ABUSE OR DEFACING BY WORK OPERATIONS AND LACK OF PROTECTION. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD MEASUREMENTS PRIOR TO FABRICATION. DISTANCES AND MEASUREMENTS SHOWN ON DRAWINGS ARE FOR ILLUSTRATION OR APPROXIMATE EXTENT OF WORK AND ARE NOT EXACT. FLAT ROOF DECKING SHALL BE 3" X 6" INTERLOCKING FLAT SOFFIT "SUPER LUMIDECK" PANELS, 6063-T6 EXTRUDED ALUMINUM, WITH A DECK GAUGE OF 0.078" AND A FINISH OF DARK **BRONZE**. DECKING SHALL BE DESIGNED WITH INTERLOCKING EXTRUDED ALUMINUM MEMBERS WITH MECHANICAL FASTENERS FIELD APPLIED TO PROVIDE STRUCTURAL INTEGRITY FOR THE COMPLETED ASSEMBLY. FASCIA/GUTTER SHALL BE 8" EXTRUDED "C" CHANNEL STYLE, 6063-T6 EXTRUDED ALUMINUM, AND SHALL SERVE AS A BUILT-IN GUTTER FOR ROOF DRAINAGE WITH A GUTTER WIDTH OF 2-3/4" MINIMUM, AND A GUTTER-FASCIA HEIGHT OF 8". GUTTER/FASCIA SHALL SERVE AS A STRUCTURAL FRAME MEMBER AND SUPPORT A LIVE LOAD OF 30 PSF MINIMUM. THE GAUGE SHALL BE A MINIMUM OF 0.125". FINISH SHALL BE **DARK BRONZE**. HANGER RODS ARE TO BE 1" Ø X SCHEDULE 40 HANGER PIPE ASSEMBLY WITH EXTRUDED ALUMINUM CLIPS, AND THREADED ADJUSTMENT RODS. PROVIDE ALL NUTS, WASHERS, CLEVIS, AND BOLTS ARE REQUIRED FOR A COMPLETE ASSEMBLY. ALL CONNECTIONS SHALL BE MECHANICALLY ASSEMBLED UTILIZING 3/16" FASTENERS WITH A MINIMUM SHEAR STRESS OF 350 LB. PRE-WELDED OR FACTORY-WELDED CONNECTIONS ARE NOT ACCEPTABLE. WATER SHALL DRAIN FROM COVERED SURFACES INTO INTEGRAL FASCIA GUTTER AND DIRECTED TO THE REAR FOR GROUND LEVEL DISCHARGE VIA ONE OR MORE DESIGNATED DOWNSPOUTS. ANCHORAGE IS THROUGH THE EIFS WALL SYSTEM. PROVIDE 1/2" Ø ASTM A193 GRADE B8 CLASS 2 STAINLESS STEEL THROUGH-EYEBOLT THROUGH COMPRESSION SLEEVES WITH 3" DIAM X 0.25" PLATED STEEL WASHERS EXTERIOR AND 4" SQUARE X 0.25" INTERIOR STEEL BACKING PLATES. EMBED ALL WALL ANCHOR WASHERS IN SEALANT TO PROVIDE WATERTIGHT SEAL AT THE WALL. PROVIDE CLIP ANGLES, SUPPORT I-BEAMS AND OTHER NECESSARY COMPONENTS OF SIMILAR MATERIALS AND FINISHES TO MATCH PRIME COMPONENTS. FINISH SHALL BE 2-COAT KYNAR. APPLY FINISH IN ACCORDANCE WITH THE "QUALITY STANDARDS" SPECIFIED BY THE ALUMINUM ASSOCIATION. PRIOR TO INSTALLATION EXAMINE ALL SURFACES FOR ANY DEVIATIONS BEYOND ALLOWABLE TOLERANCES FOR INSTALLATION OF WORK. INSTALLER SHALL CONFIRM DIMENSIONS AND ELEVATIONS TO BE AS SHOWN ON THE DRAWINGS PROVIDED. CORRECT ANY CONDITIONS DEEMED AS UNACCEPTABLE AND WHICH WOULD ADVERSELY AFFECT WORKMANSHIP OF NEW WORK INSTALLATION. STARTING OF WORK CONSTITUTES ACCEPTANCE OF SURFACES AS SATISFACTORY AND SUITABLE FOR INSTALLATION OF NEW WORK, AND THE INSTALLER/ERECTOR SHALL BE HELD RESPONSIBLE FOR GOOD WORKMANSHIP, TO INCLUDE, BUT NOT BE LIMITED TO, PROPER FITTING OF NEW AND EXISTING COMPONENTS, INSTALLATION OF ACCESSORIES, WATERTIGHT INSTALLATION, AND OTHER DEFECTS. ENSURE PROPER ANCHORAGE TO STRUCTURE BEHIND EIFS FINISH. EIFS SHALL BE CRUSHED BY ANCHORAGE, ENSURE THE CORRECT LENGTH OF COMPRESSION SLEEVES. ANCHOR BEAMS AND SUPPORTS SECURELY BY BOLTING OR WELDING. PERFORM ALL CUTTING, DRILLING AND FITTING REQUIRED FOR INSTALLATION. FIT EXPOSED CONNECTIONS ACCURATELY TOGETHER TO FORM TIGHT HAIRLINE JOINTS. INSTALL AND SECURE ROOF PANELS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS. SPACE FASTENINGS AND BRACKETS AS REQUIRED AND SECURE TO BACK-UP STRUCTURE OR ADDITIONAL SUPPORT WHERE NECESSARY TO PREVENT METAL DISTORTION. CONCEAL ALL FASTENERS FROM EXTERIOR VIEW. SEPARATE DISSIMILAR METALS WITH APPROVED COATING. INSTALL SEALANTS WHERE SHOWN OR RECOMMENDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR WATERTIGHT INSTALLATIONS. TOUCH-UP MARRED FINISHES. REMOVE AND REPLACE DAMAGED COMPONENTS OR SURFACES DEEMED AS UNACCEPTABLE BY ARCHITECT. PERFORM ALL CLEANING AS DIRECTED INCLUDING, BUT NOT BE LIMITED TO, REMOVING STAINS, SCRAPES AND CUTTING, AND CLEANING ALL SURFACES, NEW AND EXISTING. DISPOSE OF ALL DEBRIS MATERIAL IN APPROPRIATE CONTAINERS.

13 SPECIAL CONSTRUCTION

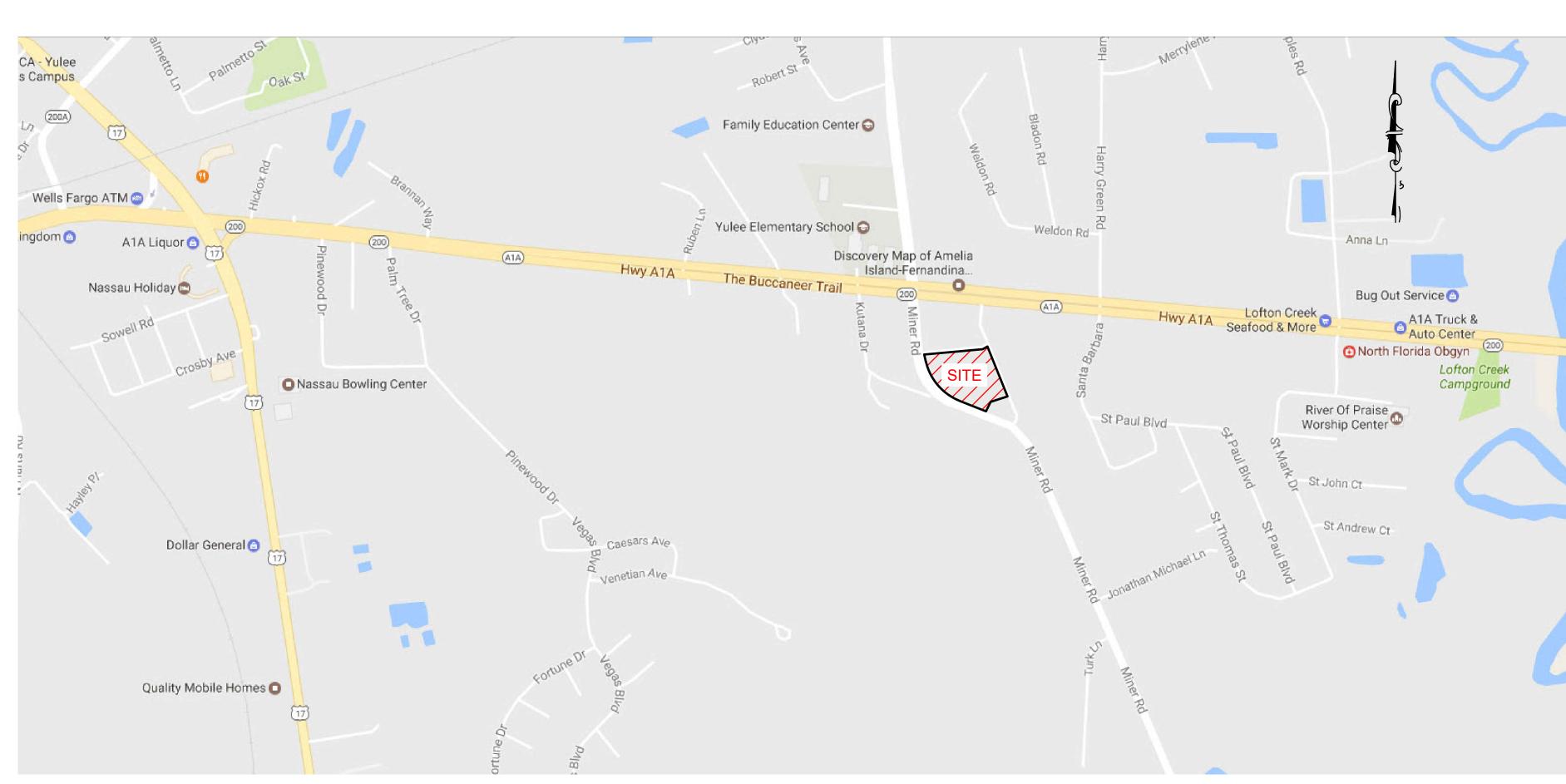
PRE-ENGINEERED, PRE-FABRICATED METAL BUILDING: THE EXTENT OF WORK AS SPECIFIED UNDER THIS SECTION SHALL GENERALLY INCLUDE, BUT NOT BE LIMITED TO, THE FURNISHING OF ALL LABOR AND MATERIALS REQUIRED TO PROVIDE A COMPLETE PRE-ENGINEERED METAL BUILDING SYSTEM INCLUDING ENGINEERING, FRAMING, SUPPORTS, FASTENERS, AND ACCESSORIES. DESIGN PRIMARY AND SECONDARY STRUCTURAL MEMBERS AND EXTERIOR COVERING MATERIALS FOR APPLICABLE LOADS

AND COMBINATIONS OF LOADS IN ACCORDANCE WITH THE METAL BUILDING TO LINE, LEVEL AND PLUMB, RIGID AND SECURE. LEVEL BASE PLATES TO A TRUE EVEN MANUFACTURERS ASSOCIATION'S (MBMA) "DESIGN PRACTICES MANUAL" AND "LOW RISE PLANE WITH FULL BEARING TO SUPPORTING STRUCTURES, SET WITH DOUBLE-NUTTED ANCHOR BOLTS. USE A NON-SHRINKING GROUT TO OBTAIN UNIFORM BEARING AND TO BUILDING SYSTEMS MANUAL, 1996 EDITION". PROVIDE SYSTEMS WHICH HAVE BEEN MAINTAIN A LEVEL BASE LINE ELEVATION. MOIST CURE GROUT FOR NOT LESS THAN 7 TESTED AND LISTED BY UL FOR UL 90 RATING FOR WIND UPLIFT RESISTANCE. BASIC DESIGN LOADS, AS WELL AS AUXILIARY AND COLLATERAL LOADS, ARE INDICATED ON DAYS AFTER PLACEMENT. PROVIDE RAKE OR GABLE PURLINS WITH TIGHT FITTING THE DRAWINGS. WIND LOADS SHALL BE BASED UPON WIND LOADS SPECIFIED ON THE CLOSURE CHANNELS AND FASCIAS. SECURE PURLINS AND GIRTS TO STRUCTURAL COVER SHEET, OR IN THE STRUCTURAL DRAWINGS, WHICHEVER IS MORE STRINGENT FRAMING AND HOLD RIGIDLY TO A STRAIGHT LINE BY SAG RODS. PROVIDE DIAGONAL ROD OR ANGLE BRACING IN ROOF AS REQUIRED BY DESIGN, USE OF CABLES WILL NOT BASIC DESIGN LOADS INCLUDE LIVE LOAD AND WIND LOAD IN ADDITION TO THE DEAD LOAD. AUXILIARY LOADS INCLUDE DYNAMIC LIVE LOADS SUCH AS THOSE GENERATED BY BE ACCEPTED. APPLY ROOF PANELS AND ASSOCIATED ITEMS FOR NEAT AND AIR CONDITIONING AND AIR HANDLING EQUIPMENT. COLLATERAL LOADS INCLUDE WEATHERTIGHT ENCLOSURE. AVOID "PANEL CREEP" OR APPLICATION NOT TRUE TO ADDITIONAL DEAD LOADS OVER AND ABOVE THE WEIGHT OF THE METAL BUILDING LINE. PROTECT FACTORY FINISHES FROM DAMAGE. PROVIDE SEALANT TAPE AT LAPPED SYSTEM SUCH AS SPRINKLER SYSTEMS AND MECHANICAL SYSTEMS. DESIGN EACH JOINTS OF RIBBED OR FLUTED ROOF SHEETS, AND BETWEEN ROOF SHEETING AND MEMBER TO WITHSTAND STRESSES RESULTING FROM COMBINATIONS OF LOADS THAT PROTRUDING EQUIPMENT, AND ACCESSORIES. APPLY CONTINUOUS RIBBON OF PRODUCE THE MAXIMUM ALLOWABLE STRESSES IN THAT MEMBER AS PRESCRIBED IN SEALANT TAPE TO CLEAN, DRY SURFACE OF WEATHER SIDE OF FASTENINGS ON END MBMA'S "DESIGN PRACTICES MANUAL". THE PRE-ENGINEERED PORTION OF THIS LAPS, AND ELSEWHERE AS NECESSARY TO MAKE ROOF SHEETS WEATHERPROOF TO DRIVING RAINS. FASTEN ROOF PANELS TO PURLINS WITH MECHANICAL FASTENERS IN PROJECT SHALL NOT UTILIZE OR RELY ON ANY PORTION OF THE PROJECTS' FIELD-BUILT STRUCTURE FOR LATERAL STABILITY. THE PRE-ENGINEERED STRUCTURE SHALL BE ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. INSTALL GUTTERS, DESIGNED AS AN INDEPENDENT, FREE-STANDING BUILDING. PROVIDE EACH DOWNSPOUTS, VENTILATORS, LOUVERS, AND OTHER SHEET METAL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR POSITIVE ANCHORAGE PRE-ENGINEERED BUILDING SYSTEM AS A COMPLETE SYSTEM PROVIDED BY ONE TO BUILDING AND WEATHERTIGHT MOUNTING. ADJUST OPERATING MECHANISM FOR MANUFACTURER, INCLUDING ACCESSORY COMPONENTS AND OPTIONAL FEATURES SPECIFIED OR REQUIRED. PROVIDE PRE-ENGINEERED BUILDING SYSTEMS AND METAL PRECISE OPERATIONS. ROOF SYSTEMS BY ONE MANUFACTURER FOR THE ENTIRE PROJECT. BASIS OF DESIGN IS NUCOR BUILDING INDUSTRIES, CONTACT IS JEFF WHITE, 229-225-7983, 15 FIRE PROTECTION (AUTOMATIC SPRINKLER SYSTEM) JWHITE@NBSSC.COM. ALL WARRANTIES ARE TO BE INCLUDED IN THE CLOSE-OUT DOCUMENTS AND TO TAKE EFFECT FROM THE OFFICIAL DATE OF SUBSTANTIAL SEE FIRE PROTECTION SHEETS FOR SPECIFICATIONS COMPLETION. THE FOLLOWING WARRANTIES ARE REQUIRED AND ARE THE MINIMUM ACCEPTABLE DURATION. MANUFACTURER SHALL PROVIDE A MATERIAL WARRANTY OF 15 PLUMBING NOT LESS THAN THREE (3) YEARS. ERECTOR SHALL PROVIDE A WORKMANSHIP WARRANTY OF NOT LESS THAN ONE (1) YEAR. MANUFACTURER SHALL PROVIDE A PANEL SEE PLUMBING SHEETS FOR SPECIFICATIONS. MATERIAL WARRANTY AGAINST RUPTURE, PERFORATION, AND STRUCTURAL FAILURE OF NOT LESS THAN TWENTY (20) YEARS. MANUFACTURER SHALL PROVIDE A **15 MECHANICAL** WEATHERTIGHTNESS WARRANTY OF NOT LESS THAN TWENTY (20) YEARS. MANUFACTURER'S SHALL PROVIDE A PAINT WARRANTY FOR PRE-FINISHED SURFACES SEE MECHANICAL SHEETS FOR SPECIFICATIONS TO COVER THE COLOR COAT AGAINST CHIPPING, CRACKING, CRAZING, BLISTERING, 16 ELECTRICAL PEELING, CHALKING, OR FADING FOR A PERIOD NOT LESS THAN TWENTY (20) YEARS. AS SOON AS PRACTICAL IN THE PROJECT SCHEDULE, SUBMIT A DETAILED REACTION SEE ELECTRICAL SHEETS FOR SPECIFICATIONS. REPORT USING THE COLUMN LINE DESIGNATIONS AS SHOWN IN THE STRUCTURAL DRAWINGS. PROVIDE DETAILED LOAD ANALYSIS AND BREAKDOWN OF MULTIPLIERS AND FACTORS USED IN CALCULATING THE REACTIONS. PROVIDE RIGID FRAME STRUCTURE WITH PITCH ROOF SLOPE AS SHOWN ON THE DRAWINGS. PROVIDE X-BRACING IN ANY OF THE WALLS. FOUNDATION SHALL BE DESIGNED IN ACCORDANCE TO DESIGN CRITERIA RELATING TO THE BUILDING SYSTEM. MINIMUM SLAB THICKNESS SHALL BE 4-INCH WITH THICKENED EDGE AT EACH CONTROL JOINT. THE BUILDING DESIGN IS NOT COMPLETE WITHOUT THE METAL BUILDING DESIGN FROM THE METAL BUILDING MANUFACTURER. THEREFORE, THE METAL BUILDING DESIGN MUST TAKE INTO ACCOUNT CLEARANCES FOR ALL EQUIPMENT, DUCTWORK, PIPING, FIXTURES, DOORS, WINDOWS, LOUVERS, ETC. SO THAT THE DESIGN OF THESE ELEMENTS IS NOT ADVERSELY AFFECTED BY THE METAL BUILDING MEMBER SIZES. THE METAL BUILDING MANUFACTURER IS THEREBY CHARGED WITH INCORPORATING INFORMATION FROM THE COMPLETE SET OF CONTRACT DOCUMENTS, AND NOT JUST TO RELY ON THE STRUCTURAL DRAWINGS. ANY AND ALL CONFLICTS, OR POTENTIAL CONFLICTS, SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION DURING THE SHOP DRAWING SUBMITTAL PHASE AND PRIOR TO FABRICATION SO THAT MODIFICATIONS TO THE METAL BUILDING CAN BE MADE TO ACCOMMODATE THE OTHER BUILDING SYSTEMS. FAILURE TO BRING THESE CONFLICTS TO THE ARCHITECT'S ATTENTION SHALL RESULT IN THE REDESIGN AND/OR RE-FABRICATION OF METAL BUILDING COMPONENTS AT THE CONTRACTOR'S COST. THE DETERMINATION OF RESPONSIBILITY AND NEED FOR REDESIGN OR RE-FABRICATION SHALL REST SOLELY WITH THE ARCHITECT. THE BASE BID INCLUDES ROOFING PANELS OVER OPEN PURLINS; THEREFORE, THE METAL BUILDING DESIGN SHOULD NOT RELY ON ROOFING PANELS FOR DIAPHRAGM ACTION. THE CONTRACTOR SHALL BE PREPARED TO PROVIDE ADDITIONAL PURLINS AT EDGE CONDITIONS AS NECESSARY TO MEET THE FASTENING REQUIREMENTS OF THE METAL ROOFING PANEL DESIGN, ADDITIONAL PURLINS SHALL BE AT NO COST TO THE OWNER, BOLTS AND ANCHOR BOLTS FOR STRUCTURAL FRAMING: PROVIDE ASTM A307 OR A325 AS NECESSARY FOR DESIGN LOADS AND CONNECTION DETAILS. THE CONTRACTOR SHALL HAVE THE ANCHOR BOLTS DESIGNED, EITHER BY THE METAL BUILDING MANUFACTURER OR ANOTHER FLORIDA-LICENSED STRUCTURAL ENGINEER, TO MEET THE FOOTINGS DESIGNED IN THE BID DOCUMENTS. THE PROJECT STRUCTURAL ENGINEER WILL NOT ASSUME ANY RESPONSIBILITY FOR THE METAL BUILDING ANCHOR BOLTS. PROVIDE ALL STRUCTURAL BENTS WITH HOT DIPPED GALVANIZED COATING ALL OTHER MATERIAL SHALL BE PREFINISHED OR SHOP-PRIMED AND SHOP-FINISH COATED AS SCHEDULED HEREIN: FINISH OF ANY COMPONENTS NOT SCHEDULED OR OTHERWISE IDENTIFIED SHALL RECEIVE CUSTOM-COLORED PREFINISHED COATING. PROVIDE FACTORY OR PREFINISHED ROLL STOCK COLOR AS SELECTED DURING SUBMITTALS FROM THE MANUFACTURER'S STANDARD COLORS, GUTTERS, DOWNSPOUTS, FASCIA AND TRIM SHALL BE FACTORY OR PREFINISHED COLOR IN A CONTRASTING COLOR, AS SELECTED FROM THE MANUFACTURER'S STANDARD COLORS. RIGID FRAMES SHALL BE FABRICATED FROM HOT-ROLLED STRUCTURAL STEEL. PROVIDE BUILT-UP "I-BEAM" SHAPE TYPE RIGID FRAMES CONSISTING OF PARALLEL FLANGE OR TAPERED BEAMS AND COLUMNS. PROVIDE FRAMES FACTORY WELDED AND HOT DIPPED GALVANIZED. FURNISH FRAMES COMPLETE WITH ATTACHMENT PLATES, BEARING PLATES AND SPLICE MEMBERS. FACTORY DRILL FRAMES FOR BOLTED FIELD ASSEMBLY. PROVIDE LENGTH OF SPAN AND SPACING OF FRAMES INDICATED. PROVIDE RIGID FRAMES AT ENDWALLS AND OTHER LOCATIONS INDICATED OR WHERE REQUIRED BY DESIGN TO PROVIDE LATERAL BRACING FOR THE BUILDING. PROVIDE SHOP PAINTED BOLTS, EXCEPT WHEN STRUCTURAL FRAMING COMPONENTS ARE IN DIRECT CONTACT WITH ROOFING AND SIDING PANELS. PROVIDE ZINC-PLATED OR CADMIUM-PLATED BOLTS WHEN STRUCTURAL FRAMING COMPONENTS ARE IN DIRECT CONTACT WITH ROOFING AND SIDING PANELS. CLEAN SURFACES TO BE PRIMED OF LOOSE MILL SCALE, RUST, DIRT, OIL, GREASE, AND OTHER MATTER PRECLUDING PAINT BOND. FOLLOW PROCEDURES OF SSPC-SP3 FOR POWER TOOL CLEANING, SSPC-SP7 FOR BRUSH-OFF BLAST CLEANING, AND SSPC-SP1 FOR SOLVENT CLEANING. PROVIDE MANUFACTURER'S STANDARD PRE-FINISHED METAL ROOF SYSTEM, COLOR TO BE SELECTED FROM THE MANUFACTURER'S STANDARD COLORS. PROVIDE SHEET METAL ACCESSORIES FACTORY FORMED OF THE SAME MATERIAL AND CUSTOM PAINT COLOR FINISH AS THE ROOFING. FORM GUTTERS IN SECTIONS NOT LESS THAN 8 FEET IN LENGTH, COMPLETE WITH END PIECES, OUTLET TUBES AND OTHER SPECIAL PIECES AS MAY BE REQUIRED. JOIN SECTIONS WITH RIVETED AND SOLDERED OR SEALED JOINTS. PROVIDE EXPANSION-TYPE SLIP JOINT AT CENTER OF RUNS. FURNISH GUTTER SUPPORTS SPACED AT 36 IN. O.C., CONSTRUCTED OF SAME METAL AS GUTTERS. PROVIDE BRONZE, COPPER, OR ALUMINUM WIRE BALL STRAINERS AT EACH OUTLET. FINISH TO MATCH ROOF FASCIA AND RAKE. FORM DOWNSPOUTS IN SECTIONS APPROXIMATELY 12 FEET LONG, COMPLETE WITH ELBOWS AND OFFSETS. JOIN SECTIONS WITH NOT LESS THAN 1½ IN. TELESCOPING JOINTS. PROVIDE FASTENERS, DESIGNED TO SECURELY HOLD DOWN-SPOUTS NOT LESS THAN 1 IN. AWAY FROM WALLS; LOCATE FASTENERS AT TOP AND BOTTOM AND AT APPROXIMATELY 5 FEET ON CENTER IN BETWEEN. FINISH TO BE AS SELECTED BY THE ARCHITECT. PRE-FINISHED SHEET METAL OF SAME MATERIAL AS ADJACENT PANELS, FOR WEATHERPROOFING JOINTS AND PENETRATIONS. PROVIDE ALL MANUFACTURER'S AVAILABLE OPTIONS FOR CLOSURES AND TRIM. DESIGN PREFABRICATED COMPONENTS AND NECESSARY FIELD CONNECTIONS REQUIRED FOR ERECTION TO PERMIT EASY ASSEMBLY AND DISASSEMBLY. FABRICATE COMPONENTS IN SUCH A MANNER THAT ONCE ASSEMBLED, THEY MAY BE DISASSEMBLED, REPACKAGED AND REASSEMBLED WITH A MINIMUM AMOUNT OF LABOR. SHOP-FABRICATE STRUCTURAL FRAMING COMPONENTS TO THE INDICATED SIZE AND SECTION COMPLETE WITH BASE PLATES, BEARING PLATES AND OTHER PLATES REQUIRED FOR ERECTION, WELDED IN PLACE. PROVIDE REQUIRED HOLES FOR ANCHORING OR CONNECTIONS EITHER SHOP DRILLED OR PUNCHED TO TEMPLATE DIMENSIONS. SHOP CONNECTIONS: PROVIDE POWER-RIVETED, BOLTED OR WELDED SHOP CONNECTIONS. FIELD CONNECTIONS: PROVIDE BOLTED FIELD CONNECTIONS. APPLY STRIPPABLE PLASTIC PROTECTIVE FILM ON FINISH FACE OF METAL SHEET FOR PROTECTION DURING FABRICATION, SHIPPING, AND INSTALLATION. INSULATION SHALL BE BLANKET-TYPE, FIBERGLASS WITH VAPOR BARRIER FACING, SUITABLE FOR APPLICATION TO THE ROOF OF METAL BUILDINGS. THE INSULATION SHALL BE MADE OF LONG AND FINE FIBERGLASS, EVENLY DISTRIBUTED AND OF UNIFORM DENSITY, BONDED WITH PHENOLIC THERMO-SETTING RESINS. PRODUCT SHALL BE TIMA 202 MBI, STANDARD METAL BUILDING INSULATION, WITH A UL FIRE HAZARD CLASSIFICATION OF 20/50. STANDARD INSULATION DESIGNATIONS, NOMINAL THICKNESSES, AND THERMAL RESISTANCE (R) FACTORS ARE R19. STANDARD WIDTH OF FIBERGLASS BLANKET IS 72 INCHES. VAPOR BARRIER FACING SHALL BE A VINYL FILM (3.2 MIL THICKNESS), AND SHALL HAVE A UL FLAME SPREAD RATE OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS. WATER VAPOR TRANSMISSION VALUE SHALL BE 1.00 PERMS FOR THE VINYL FILM FACING. COLOR OF FACING MATERIAL SHALL BE WHITE, AND WIDTH SHALL BE 78 INCHES SO AS TO PROVIDE A 3-INCH TAB PROJECTING BEYOND EACH SIDE OF THE FIBERGLASS BLANKET. BLANKET TYPE INSULATION SHALL BE INSTALLED ON ROOF BETWEEN EXTERIOR PANELS AND SECONDARY FRAMING MEMBERS (PURLINS). TABS ON FACING MATERIAL SHALL BE LAPPED, FOLDED, AND STAPLED AT SIDE JOINTS TO PROVIDE CONTINUITY OF THE VAPOR BARRIER. SHOULD TEARS IN THE VINYL FACING OCCUR DURING INSTALLATION, THEY SHALL BE IMMEDIATELY REPAIRED USING A 2-1/2" WIDE

TAPE SUITABLE FOR REPAIRING THE VINYL FACING. ERECT STRUCTURAL FRAMING TRUE

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NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
NO DAT JOB NO. DATE DRAWN BY CHECKED	181200 10-1-1 7 BOB	0

# New Hardware Store for HAGAN ACE HARDWARE OF YULEE, INC. Miner Corners Yulee, FL



CONTRACTOR NOTE: CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR COMPLYING WITH STATE AND FEDERAL SAFETY LAWS.

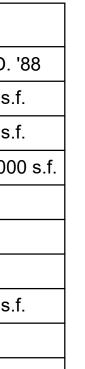
HIS DRAWING IS THE INSTRUMENT OF SERVICE AND PROPERTY OF ALLYN C. TIDBALL, P.E. ANY USE OR REPRODUCTION WITHOUT EXPRESSED WRITTEN PERMISSION OF THIS PROPRIETOR IS PROHIBITED. ALL RIGHTS OF DESIGN AND INVENTION ARE EXPRESSLY RESERVED

GENERAL NOTE: ALL WORK AND MATERIALS SHALL MEET NASSAU COUNTY STANDARDS

# Engineering Data

Vertical Datam	N.A.V.D.
Total Building Area	19,952 s.
Total Parking Area	57,571 s.
Parking Ratio	5.2 / 1,00
Surface Area of Pond	none
Jurisdictional Wetlands	none
Submerged Areas	none
Total Landscape Area	60,055 s.
Floor Area Ratio	12.5%
Impervious Surface Ratio	62.5%





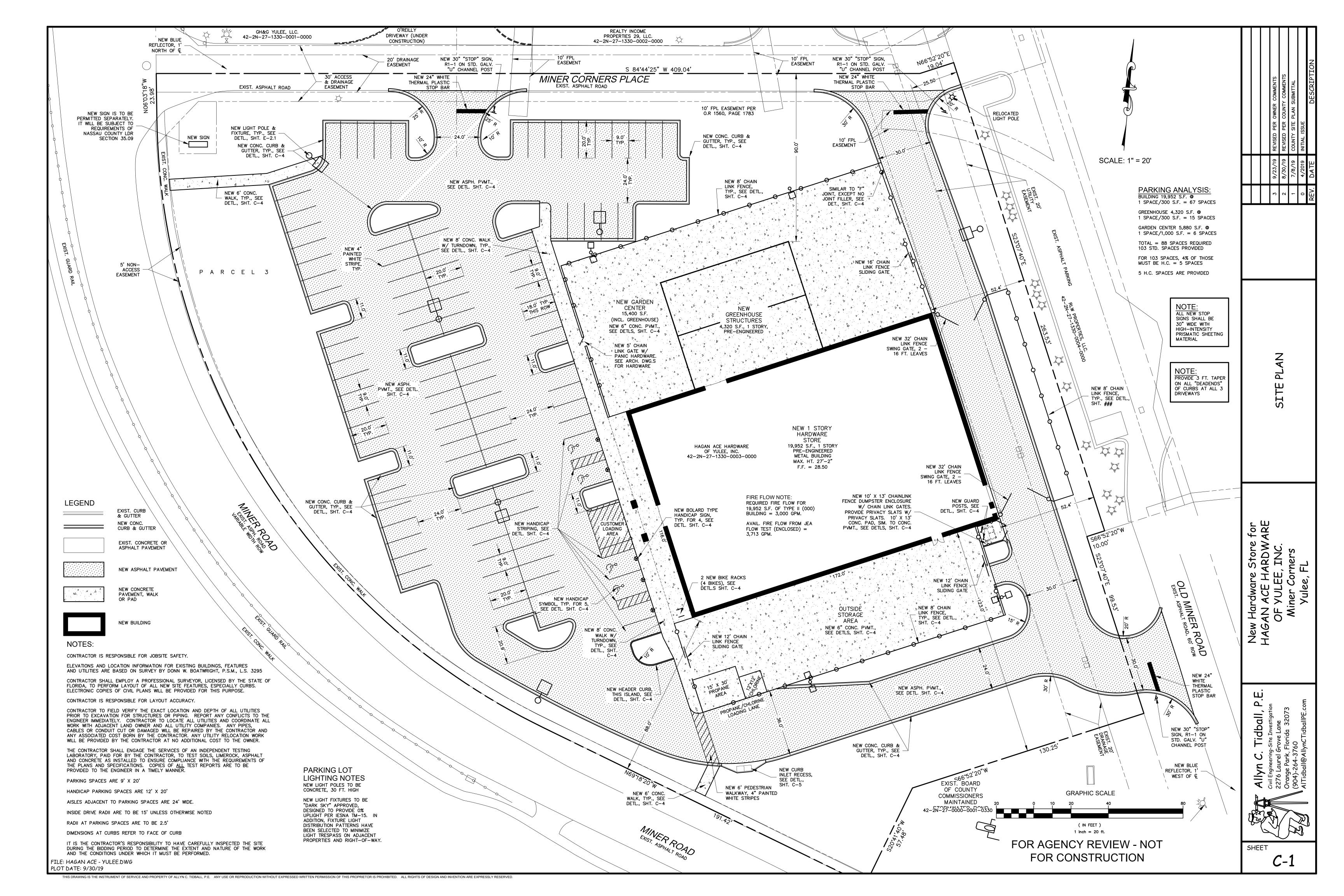


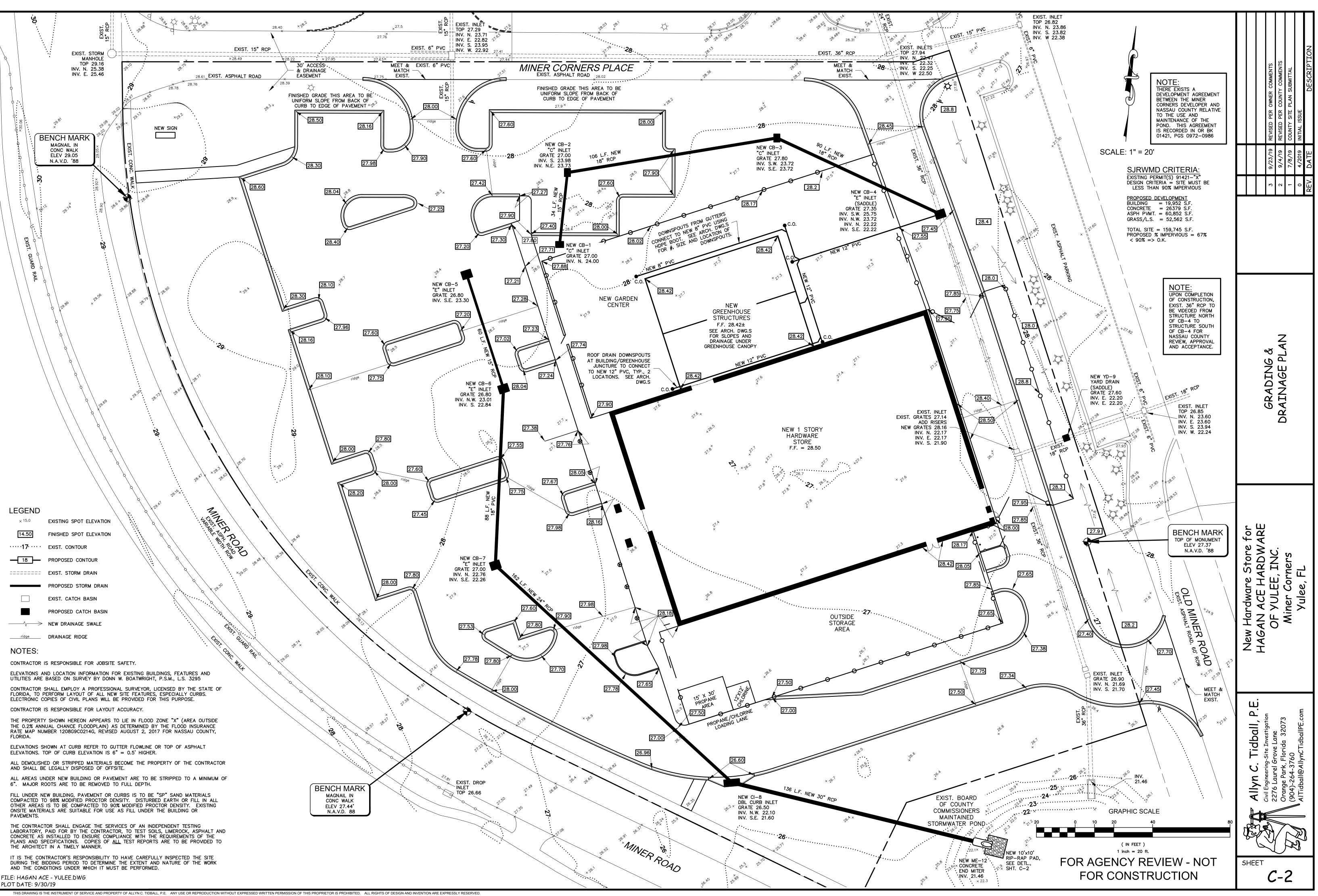
Sheet List Table							
Sheet Number Sheet Title							
T-1	Cover Sheet						
C-1	Site Plan						
C-2	Grading & Drainage Plan						
C-3	Site Utilities Plan						
C-4	Site Details						
C-5	Drainage Details						
C-6	Site Utilities Details						
EC-1	Erosion Control Plan						
EC-2	SWPPP						
L3.01	Landscape Plan						
L3.02	General Notes & Details						
L4.01	Irrigation Plan						
L4.02	Irrigation Details						
E2.1	Electrical Site Plan						

PROJEC OWNER/DEVE Mr. Donald W. Hagan Ace Ha 1022 Blanding Orange Park, F (904) 272-1414 bhagan@haga	ELOPER Hagan rdware of Yulee, Inc. Boulevard FL 32065 4x207	D PER COUNTY COMMENTS V SITE PLAN SUBMITTAL D PER JEA COMMENTS D PER JEA COMMENTS ISSUE DESCRIPTION				
Mr. Al Tidball Allyn C. Tidbal 2276 Laurel Gi Orange Park, F (904) 264-3760	rove Lane FL 32073 ) nCTidballPE.com	<ul> <li>3 9/7/19 REVISED PER</li> <li>3 9/7/19 REVISED PER</li> <li>2 7/8/19 COUNTY SITE</li> <li>1 4/20/19 REVISED PER</li> <li>0 4/2019 INITIAL ISSUE</li> <li>REV. DATE</li> </ul>				
ARCHITECT Mr. Brian Boatt 914 Plainfield A Orange Park, F (904) 413-8028 BrianOBoatrigh FL R.A. #12659	Avenue FL 32073 3 htAIA@gmail.com					
LANDSCAPE / Mr. Jonathan E 134 Riberia Str St. Augustine, (904) 386-937- jonathan@cas FL L.A. #6667	Daniels reet FL 32084 9641 tlebaydesign.com	SHEET				
Mr. Bryan Shaf Shaffer Engine 12058 San Jos Jacksonville, F Phone - 904-23 bshaffer@shaf	<u>ELECTRICAL ENGINEER</u> Mr. Bryan Shaffer Shaffer Engineering Group, LLC 12058 San Jose Blvd, Suite 502 Jacksonville, FL 32223 Phone - 904-239-3621, Ext. 101 bshaffer@shaffereg.com FL P.E. #58168					
SURVEYOR Mr. Donn Boat Boatwright Lan 1500 Roberts I Jacksonville Be (904) 241-8550 donn@boatwri FL P.S.M., L.S	nd Surveyors Drive each, FL 32250 ) ghtland.com					
CURRENT 201	St.	New Hardware Store for HAGAN ACE HARDWARE OF YULEE, INC. Miner Corners Yulee, FL				
(904) 665-5385 fostgm@jea.co <b>Tabulations</b> Gross Site Acreage	5 om 3.67 Ac.	New F HAGAN				
Total Building Area Total Parking Area Parking Ratio Surface Area of Pond Jurisdictional Wetland		<b>Tidball, P.E.</b> -Site Investigation Brove Lane Florida 32073 60 ynCTidballPE.com				
Submerged Areas Total Landscape Area Floor Area Ratio Impervious Surface R	12.5%	Allyn C. Tidbo Civil Engineering-Site Invest 2276 Laurel Grove Lane Orange Park, Florida 33 (904)-264-3760 AlTidball@AllynCTidbal				
Open Space per LDC 37.05 C 3						

FOR CONSTRUCTION

1-1





NOTES:

EXIST. 8"

PVC SAN.

EXIST. SAN.

INV. E. 22.57

INV. W.. 22.64'

MANHOLE

TOP 29.42

CONTRACTOR IS RESPONSIBLE FOR JOBSITE SAFETY.

ELEVATIONS AND LOCATION INFORMATION FOR EXISTING BUILDINGS, FEATURES AND UTILITIES ARE BASED ON SURVEY BY DONN W. BOATWRIGHT, P.S.M., L.S. 3295. SEE BENCHMARK, SHT. ###.

MINER ROAD

EXIST. 8" PVC SAN.

30' ACCESS & DRAINAGE EASEMENT

Å

EXIST.

FIRE HYDRANT

NEW SIGN

EXIST. ASPHALT ROAD

CONTRACTOR TO LOCATE ALL UTILITIES AND COORDINATE ALL WORK WITH ALL UTILITY COMPANIES. ANY PIPES, CABLES OR CONDUIT CUT OR DAMAGED WILL BE REPAIRED BY THE CONTRACTOR AND ANY ASSOCIATED COST BORN BY THE CONTRACTOR. ANY UTILITY RELOCATION WORK WILL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

CONTRACTOR TO COORDINATE W/ CITY INSPECTORS FOR ALL WORK IN CITY RIGHT-OF-WAY.

CONTACT CHRIS BARRINGTON, JEA DEVELOPMENT, 665-4081 TO SCHEDULE PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING CONSTRUCTION.

<u>ALL</u> WATER PIPING 4" AND LARGER TO BE CLASS 235, DR 18, MECHANICALLY RESTRAINED. <u>ALL</u> WATER PIPING 2" AND SMALLER TO BE SDR 9 HDPE. ALL GRAVITY SEWER PIPING TO BE SDR 26 WITH GASKETED JOINTS.

ALL NEW WATER LINES IN R.O.W. TO HAVE 36<sup>°</sup> <u>MIN.</u> COVER. ALL NEW WATER LINES ON SITE TO HAVE 18<sup>°</sup> <u>MIN.</u> COVER.

BACKFILL IN TRENCHES TO BE COMPACTED TO 98% MODIFIED PROCTOR UNDER PAVEMENT, WALKS AND CURBS AND 90% IN ALL OTHER AREAS.

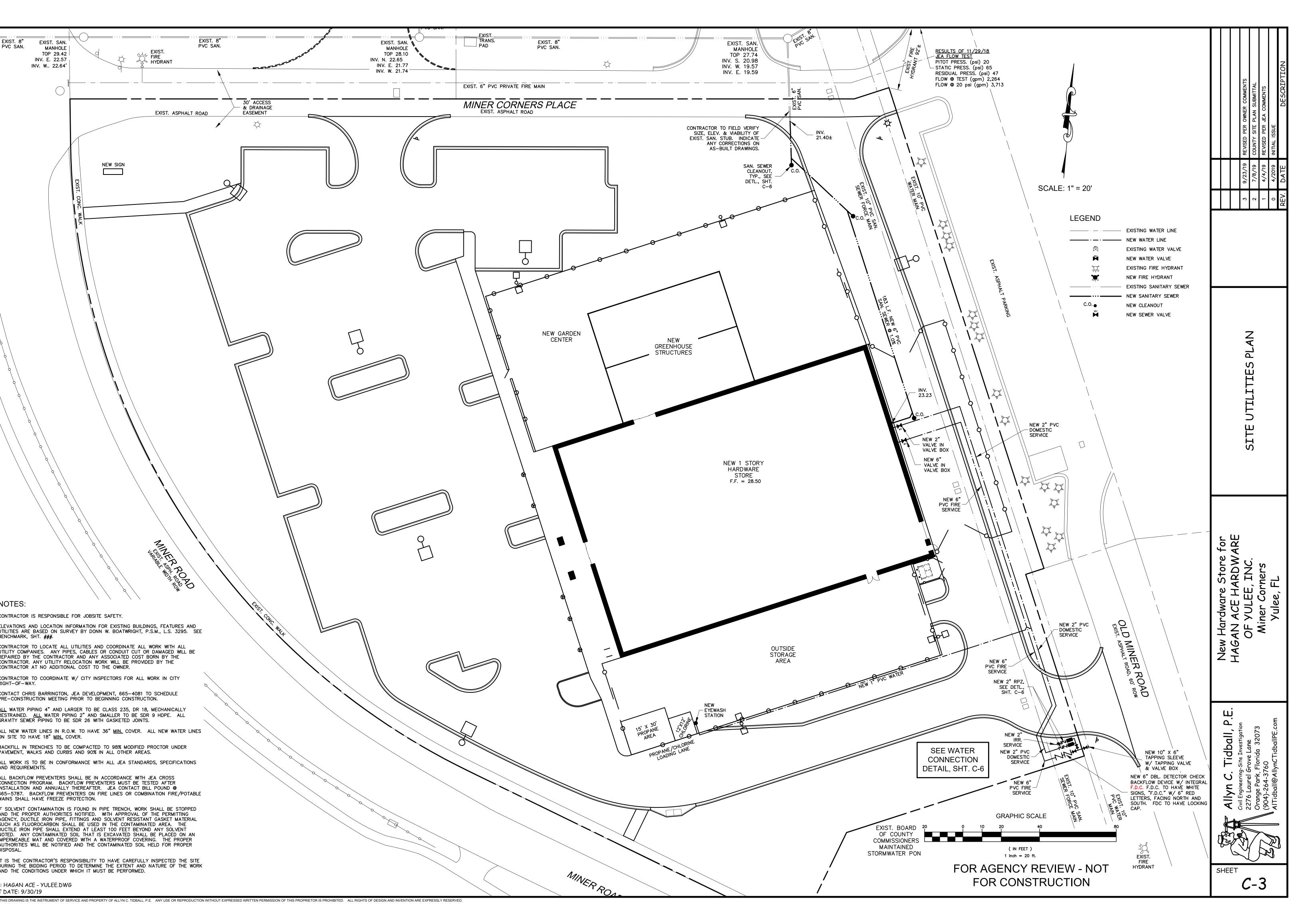
ALL WORK IS TO BE IN CONFORMANCE WITH ALL JEA STANDARDS, SPECIFICATIONS AND REQUIREMENTS.

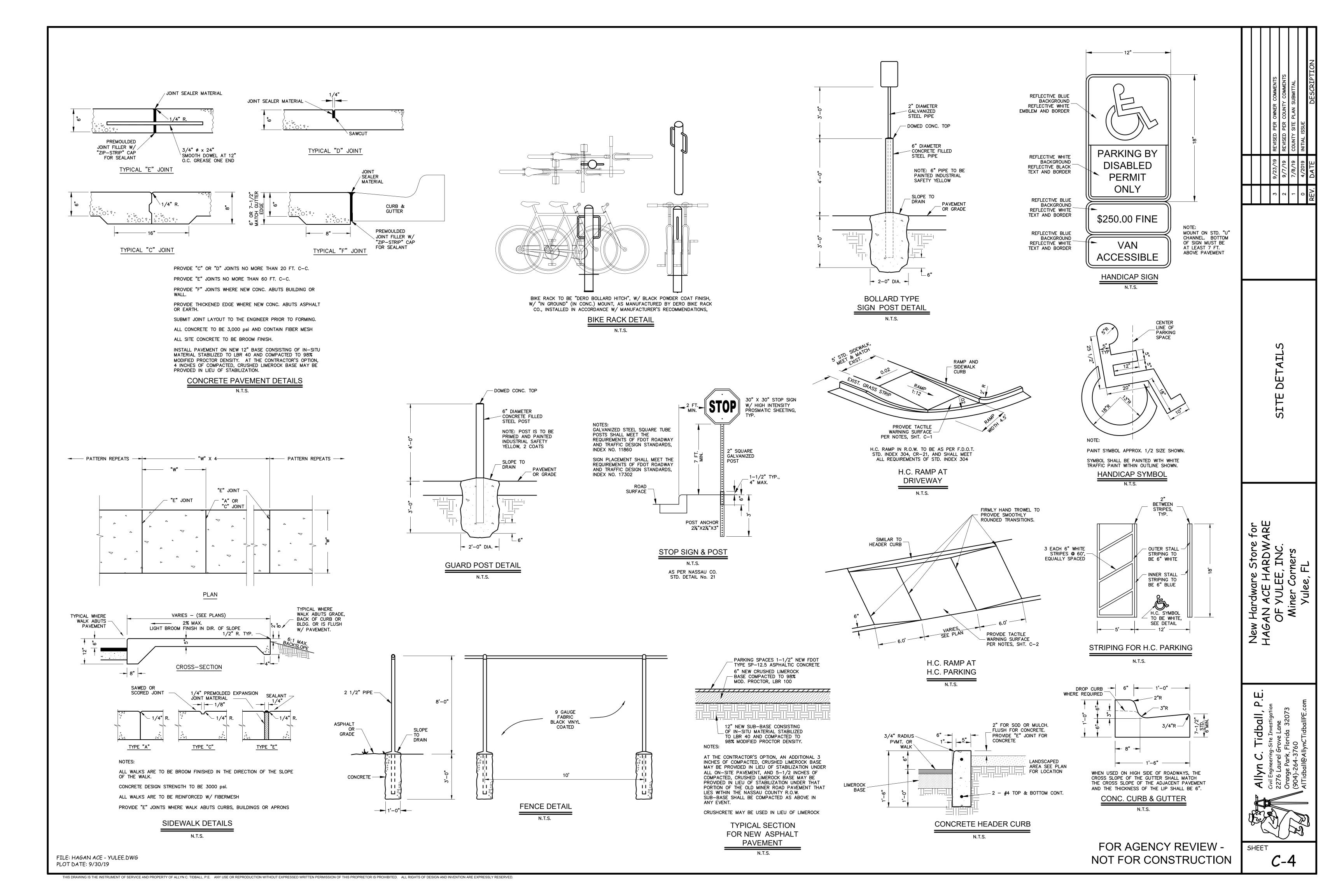
ALL BACKFLOW PREVENTERS SHALL BE IN ACCORDANCE WITH JEA CROSS CONNECTION PROGRAM. BACKFLOW PREVENTERS MUST BE TESTED AFTER INSTALLATION AND ANNUALLY THEREAFTER. JEA CONTACT BILL POUND @ 665-5787. BACKFLOW PREVENTERS ON FIRE LINES OR COMBINATION FIRE/POTABLE MAINS SHALL HAVE FREEZE PROTECTION.

IF SOLVENT CONTAMINATION IS FOUND IN PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SUCH AS FLUOROCARBON SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND ANY SOLVENT NOTED. ANY CONTAMINATED SOIL THAT IS EXCAVATED SHALL BE PLACED ON AN IMPERMEABLE MAT AND COVERED WITH A WATERPROOF COVERING. THE PROPER AUTHORITIES WILL BE NOTIFIED AND THE CONTAMINATED SOIL HELD FOR PROPER DISPOSAL DISPOSAL.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE CAREFULLY INSPECTED THE SITE DURING THE BIDDING PERIOD TO DETERMINE THE EXTENT AND NATURE OF THE WORK AND THE CONDITIONS UNDER WHICH IT MUST BE PERFORMED.

FILE: HAGAN ACE - YULEE.DWG PLOT DATE: 9/30/19

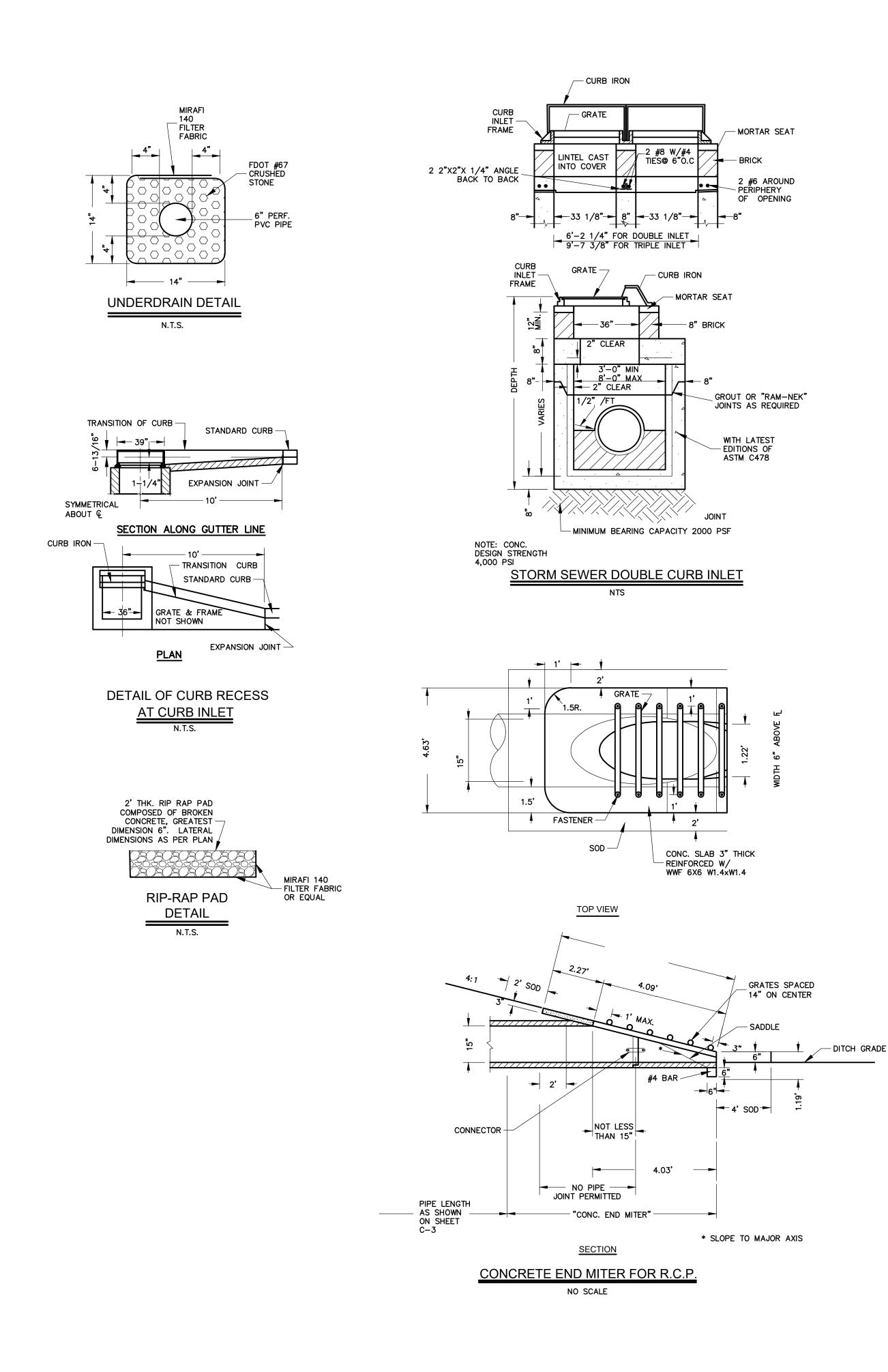




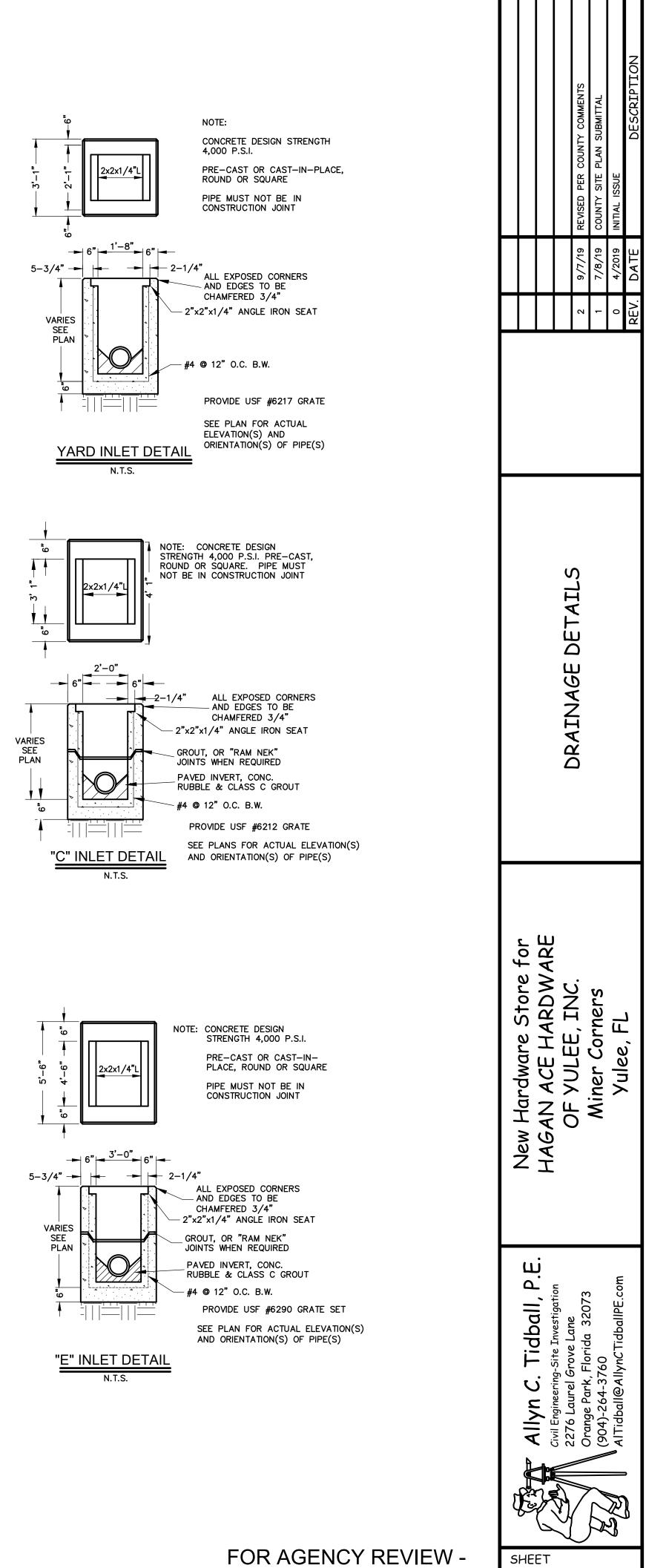
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CROSS-SECTION NORTH FIRE/DOMESTIC WATER/STORM CROSSING (LOOKING NORTH) \_\_\_`\_\_

> SCALE HORIZ. 1" = 10' SCALE VERT. 1" = 1'



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NOT FOR CONSTRUCTION

*C*-5

GENERAL NOTES FOR NON-JEA PROJECTS

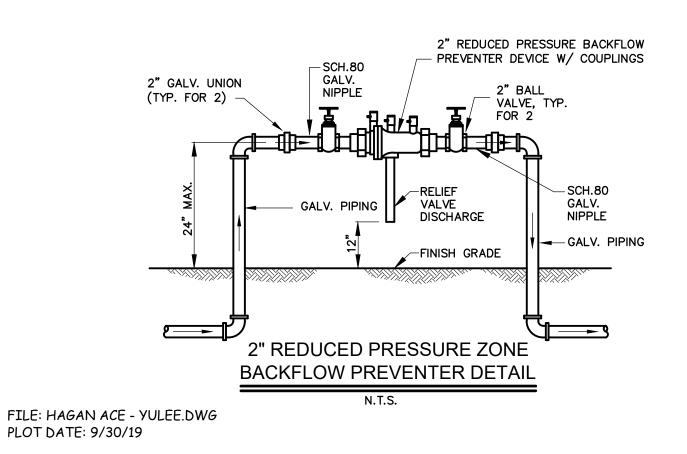
- ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH JEA STANDARDS, DETAILS, AND SPECIFICATIONS AND/OR ALL APPLICABLE STATE AND LOCAL REGULATIONS.
- BOUNDARY AND EXISTING TOPOGRAPHY BY LAND SURVEYOR. SITE PLAN AND HORIZONTAL CONTROL OF DESIGN PLAN BY CIVIL ENGINEER.
- REFERENCE BENCHMARK AS PER SHEET C-2
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BIDDING TO FAMILIARIZE HIMSELF WITH JOB SITE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS FOR WORK WITHIN EXISTING RIGHT-OF-WAY(S) AND/OR DEDICATED EASEMENTS. FOR WORK WITHIN CITY OF JACKSONVILLE AND OR FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAY, THE CONTRACTOR SHALL HOLD A VALID UNDERGROUND UTILITY CONTRACTORS LICENSE IN ACCORDANCE WITH F.S.489. CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED CONSTRUCTION / PERFORMANCE BONDS REQUIRED FOR THE RIGHT-OF-WAY PERMIT(S)
- APPLICATION FOR A PUBLIC DRINKING WATER FACILITY CONSTRUCTION PERMIT, OR NOTIFICATION FOR USE OF THE GENERAL PERMIT FOR CONSTRUCTION OF AN EXTENSION TO A PUBLIC DRINKING WATER DISTRIBUTION SYSTEM PERMIT IS OR SHALL BE APPLIED FOR. CONTRACTOR SHALL CONFIRM PERMITS ARE AVAILABLE, AND SHALL BE FULLY APPRAISED OF ALL PERMIT CONDITIONS, PRIOR TO COMMENCING CONSTRUCTION.
- APPLICATION TO CONSTRUCT DOMESTIC WASTEWATER COLLECTION/TRANSMISSION SYSTEM OR NOTICE OF INTENT TO USE GENERAL PERMIT FOR WASTEWATER COLLECTION/DISTRIBUTION SYSTEM PERMIT IS OR SHALL BE APPLIED FOR. CONTRACTOR SHALL CONFIRM PERMITS ARE AVAILABLE, AND SHALL BE FULLY APPRAISED OF ALL PERMIT CONDITIONS, PRIOR TO COMMENCING CONSTRUCTION. A \$20.00 TAP APPLICATION FEE SHALL BE PAID IN ROOM 101, CITY HALL ANNEX, PRIOR TO CONNECTION TO THE
- JEA SEWAGE COLLECTION SYSTEM. 10. WATER AND /OR SEWER CAPACITY FEES SHALL BE PAID AT TIME OF BUILDING PERMIT APPLICATION BASED ON TOTAL NUMBER OF FIXTURE UNITS. COMMERCIAL PROJECTS SHALL REQUIRE AN APPROVED SET OF CIVIL DESIGN PLANS TO BE
- SUBMITTED WITH BUILDING PERMIT APPLICATION. 11. ALL CONSTRUCTION WITHIN RIGHT-OF-WAY(S) SHALL MEET CITY OF JACKSONVILLE OR FLORIDA DOT STANDARD
- SPECIFICATIONS. 12. ALL WATER AND SEWER CONSTRUCTION MATERIALS TO BE CONSTRUCTED IN CITY RIGHT-OF-WAY OR EASEMENT SHALL BE
- IN CONFORMANCE WITH THE APPROVED MATERIALS MANUAL. ALL ON-SITE PRIVATE WATER AND SEWER CONSTRUCTION REQUIRES A PLUMBING PERMIT WITH SCHEDULED INSPECTION PRIOR TO INSTALLATION. CONTACT CITY CHIEF PLUMING INSPECTOR AT 630-1098.
- 14. SEE LATEST ADDITION CITY OF JACKSONVILLE PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. ALL WORK SHALL BE IN ACCORDANCE WITH CITY OF JACKSONVILLE STANDARD DETAILS AND SPECIFICATIONS AND ALL APPLICABLE STATE AND LOCAL REGULATIONS. 15. SEE JEA WATER AND SEWER STANDARD DETAILS AND SPECIFICATIONS FOR WATER AND SEWER REQUIREMENTS.
- 16. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED FOR ALL WATER AND SEWER PROJECTS REQUIRING MAIN EXTENSIONS AND SHALL BE SCHEDULED THROUGH BILLY STEWARD, TELEPHONE #665–4712, BEEPER #390–8497.
- 17. THE CONTRACTOR SHALL MAINTAIN VERTICAL AND HORIZONTAL CONTROL UNDER SUPERVISION OF A FLORIDA REGISTERED LAND SURVEYOR.

GENERAL NOTES FOR WATER

- THE CONTRACTOR SHALL PROVIDE NO LESS THAN 6" CLEARANCE BETWEEN ALL UTILITIES. MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN PARALLEL WATER MAINS AND SEWER (SANITARY AND STORM) MAINS. WHERE WATER AND SEWER MAINS CROSS, MAINTAIN WATER MAIN A MINIMUM OF 18" ABOVE SEWER MAIN. THE CONTRACTOR SHALL FIELD VERIFY THE VERTICAL AND HORIZONTAL SEPARATION. ALTERNATE METHODS SHALL BE AS DIRECTED BY THE ENGINEER AND SHALL BE APPROVED BY JEA PRIOR TO INSTALLATION.
- WHERE WATER AND SEWER (INCLUDING STORM SEWER) LINES HAVE LESS THAN 10 FOOT HORIZONTAL SEPARATION, FULL UN-CUT LENGTHS OF WATER QUALITY PIPE (I.E. DR 18 AWWA C-900) WILL BE USED WITH THE JOINTS STAGGERED AT 10 FT INTERVALS OR THEY WILL BE PLACED ON AN UNDISTURBED SHELF OR IN A SEPARATE TRENCH WITH A MINIMUM VERTICAL SEPARATION OF AT LEAST 18 INCHES. IT IS PREFERABLE TO HAVE THE WATER MAINS LOCATED ABOVE THE SEWER AND WITH 10 FOOT OF SEPARATION WHERE POSSIBLE.
- WHERE IT IS NOT POSSIBLE FOR WATER AND SEWER (INCLUDING STORM SEWER) LINES TO CROSS WITH A MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE, A FULL UN-CUT LENGTH OF WATER QUALITY PIPE (I.E. DR 18 AWWA C-900 FOR NEWLY INSTALLED SEWER AND DR 25 AWWA C-900 WATER) WHICH IS USUALLY 20 FEET LONG WILL BE CENTERED ON THE POINT OF CROSSING. THE CONTRACTOR WILL FIELD VERIFY THE VERTICAL SEPARATION. THE MINIMUM VERTICAL SEPARATION BETWEEN THE WATER AND SEWER (INCLUDING STORM SEWER) PIPES WHEN 18 INCHES IS NOT POSSIBLE WILL BE 6 INCHES OUTSIDE DIAMETER TO OUTSIDE DIAMETER. IT IS PREFERABLE TO HAVE THE WATER MAIN ABOVE THE SEWER LINES AT LEAST 18 INCHES VERTICAL SEPARATION.
- ALL OFF-SITE WATER MAINS ARE DESIGNED FOR 36" MINIMUM COVER TO FINISH GRADE UNLESS OTHERWISE NOTED AND SHALL BE PROTECTED UNTIL WORK IS COMPLETE. OFF-SITE WATER MAINS 4" AND LARGER SHALL BE PVC, DR18, INTEGRAL BELL AND SPIGOT ("RING-TITE" TYPE AWWA C-900 NSF APPROVED ONLY). FITTINGS SHALL BE CEMENT LINED, CAST IRON, MECHANICAL JOINT. ALL
- FITTINGS SHALL BE PROPERLY RESTRAINED IN ACCORDANCE WITH JEA STANDARD DETAILS. OFF-SITE WATER MAINS 2" IN SIZE SHALL BE SCHEDULE 40, SOLVENT WELD, AWWA C-900, NSF APPROVED ONLY.
- ALL FITTINGS SHALL BE RESTRAINED BY METHOD OF MECHANICAL RESTRAINING DEVICES OR TIE RODDING. THRUST BLOCKING SHALL NOT BE USED FOR METHOD OF RESTRAINT. ALL GATE AND TAPPING VALVES FOR DEDICATION TO JEA SHALL BE RESILIENT SEAT TYPE AND SHALL OPEN BY TURNING
- TO THE LEFT (COUNTERCLOCKWISE) WATER SERVICÈS SHALL BE POLYÉTHYLENE.
- 10. ALL WATER SERVICES BY CONTRACTOR SHALL TERMINATE WITH A NEW CURB STOP IN METER BOX SIZED TO ACCOMMODATE SAME SIZE METER INSTALLATION. CURB STOPS SHALL BE FORD BALL-VALVE B-11 SERIES OR MCDONNELL BALL VALVE #6101.
- CURBS SHALL BE APPROPRIATELY MARKED "W" IN BLUE PAINT TO NOTE LOCATION OF SERVICES OR IF CURBING IS NOT REQUIRED, MARK ENDS OF SERVICES WITH A 4"X 4" P.T. POST. 12. ALL COMMERCIAL WATER METERS SHALL BE INSTALLED BY JEA FORCES REGARDLESS OF SIZE AND SHALL BE APPLIED FOR
- AND PAID FOR IN ROOM 101. CITY HALL ANNEX. ALL WATER METERS 3" AND LARGER SHALL REQUIRE A SPECIAL ESTIMATE. THIS REQUIREMENT MUST BE COMPLETED PRIOR TO SUBMITTAL OF METER APPLICATION. A DESCRIPTION OF THE PROPOSED METER LOCATION (IN FEET FROM THE NEAREST INTERSECTING STREET) SHALL BE INCLUDED WITH THE REQUEST. CONTACT: JEA - WATER SERVICE COUNTER 665–5260. IN ADDITION, AN F.D.E.P. PERMIT SHALL BE REQUIRED BY THE ENGINEER OF RECORD ALONG WITH CLEARANCE
- LETTER FROM JEA OR FDEP PRIOR TO SERVICE ACTIVATION. WATER MAINS SHALL BE PRESSURE TESTED, FLUSHED, AND DISINFECTED IN ACCORDANCE WITH JEA STANDARD SPECIFICATIONS AND REQUIREMENTS. BACTERIAL CLEARANCE SHALL BE OBTAINED FROM JEA OR FDEP BY THE
- WATER/SEWER CONTRACTOR AND COPIES OF THE CLEARANCE SHALL BE PROVIDED TO JEA, ARCHITECT AND ENGINEER PRIOR TO FINAL ACCEPTANCE AND RELEASE OF WATER METERS. WATER MAIN BACTERIOLOGICAL SURVEY SAMPLING POINTS FOR WATER MAIN EXTENSIONS SHALL BE LOCATED AS FOLLOWS A. AT THE POINT OF CONNECTION TO EXISTING MAIN.
- EVERY ONE THOUSAND (1000) FEET AND/OR DEAD END ON THE WATER MAIN ALL WATER MAIN STUBS OVER FORTY (40) FEET IN LENGTH.
- THE CONTRACTOR SHALL COORDINATE BACTERIOLOGICAL SAMPLING WITH THE JEA AS FOLLOWS: A. THE CONTRACTOR SHALL NOTIFY JEA WHEN THE LINE IS READY TO BE SAMPLED. FLORIDA ADMINISTRATIVE 16. CODE REQUIRES TWO CONSECUTIVE DAYS OF SATISFACTORY BACTERIOLOGICAL SAMPLES FROM EACH SAMPLE
- THE JEA INSPECTOR WILL COLLECT THE SAMPLES AND FORWARD THEM TO THE JEA LAB FOR ANALYSIS. THE DESIGN ENGINEER WILL ATTACH A COPY OF THE RESULTS TO HIS SUBMITTAL TO THE JEA OR FDEP REQUEST FOR LETTER OF RELEASE TO PLACE WATER SUPPLY SYSTEM INTO SERVICE. 17. BACKFLOW PREVENTERS ARE REQUIRED, CONTACT TECHNICAL SERVICES BRANCH, TELEPHONE #630-0573 FOR
- APPROVED TYPE AND MODEL.
- SHOP DRAWINGS ON ALL BACKFLOW PREVENTERS SHALL BE SUBMITTED TO JEA WATER AND SEWER FOR APPROVAL PRIOR TO INSTALLATION. CONTACT BILL POUND AT TELEPHONE #665-5787.
   IN THE CASE WHERE SOLVENT CONTAMINATION IS FOUND IN THE TRENCH, WORK WILL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH THE APPROVAL OF THE JEA AND/OR FDEP, DUCTILE IRON PIPE, FITTINGS AND APPROVED SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE WILL EXTEND AT LEAST 100 FEET BEYOND ANY DISCOVERED SOLVENT.

GENERAL NOTES FOR GRAVITY SEWER

- GRAVITY SEWERS SHALL BE PVC, ASTM 3034, SDR 35, INTEGRAL BELL AND SPIGOT ("RING-TITE" TYPE), BELLS POINTING UPSTREAM THROUGHOUT. GRAVITY SEWER IN EXCESS OF FIFTEEN (15) FEET DEEP OR IN EASEMENTS SHALL BE CONSTRUCTED OF SDR 26 PVC PIPE. ALL SERVICES SHALL BE SAME TYPE PIPE AS GRAVITY
- ENDS OF ALL SEWER SERVICES SHALL BE WITHIN THE RANGE OF 30" TO 60" DEPTH FROM FINISHED GRADE. SERVICES CONSTRUCTED OUT OF THIS RANGE SHALL BE NOTED ON AS-BUILTS.
- ALL MANHOLE COVERS/FRAMES SHALL BE TRAFFIC GRADE AND SHALL BE ADJUSTED TO FINISH GRADE.
- CURBS SHALL BE APPROPRIATELY MARKED "S" IN RED PAINT TO MARK LOCATION OF SERVICES OR IF CURBING IS NOT REQUIRED, MARK ENDS OF SERVICES WITH A 4"X 4" P.T. POST. ALL OFF-SITE GRAVITY SEWER IS DESIGNED FOR 36" MINIMUM COVER TO FINISH GRADE UNLESS OTHERWISE NOTED
- AND SHALL BE PROTECTED UNTIL WORK IS COMPLETE. TELEVISION INSPECTION AND LAMPING SHALL BE REQUIRED PER JEA STANDARDS, DETAILS, AND SPECIFICATIONS.
- MINIMUM PIPE SLOPES PROVIDED FOR VELOCITY OF NOT LESS THAN 2 FEET PER SECOND OR DATA JUSTIFYING AN EXEMPTION
- NO PUBLIC DRINKING WATER SUPPLY WELLS SHALL BE WITHIN 100' OF ANY GRAVITY SEWER LINE.



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PAINT COVER AND INSIDE OF BOX BLUE COMPACTED EARTH (TYP) -

VALVE BOX & COVER (TYP) PROVIDE BLUE PAINT TO THE INSIDE OF THE TOP SECTION OF THE BOX (NOTE #5)

6" PVC RISER PIPE -(LENGTH AS REQUIRED) PROVIDE "V" CUT IN TOP OF 6" **RISER PIPE FOR LOCATE WIRE** ACCESS INTO VALVE BOX PLASTIC DEBRIS SHIELD REQUIRED ON ALL VALVES 12" AND SMALLER (SEE NOTE # 9)

JOINT (TYP)

NOTES

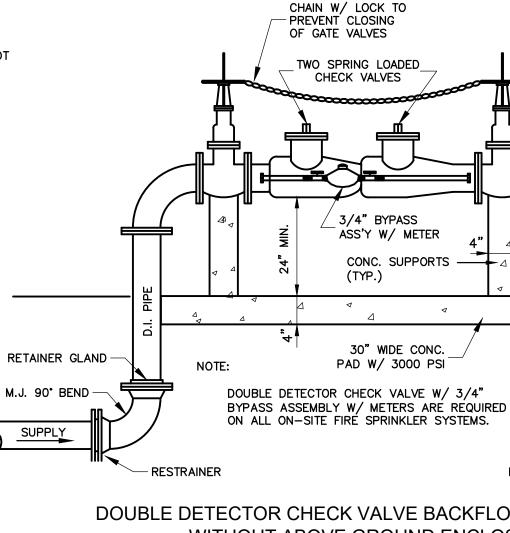
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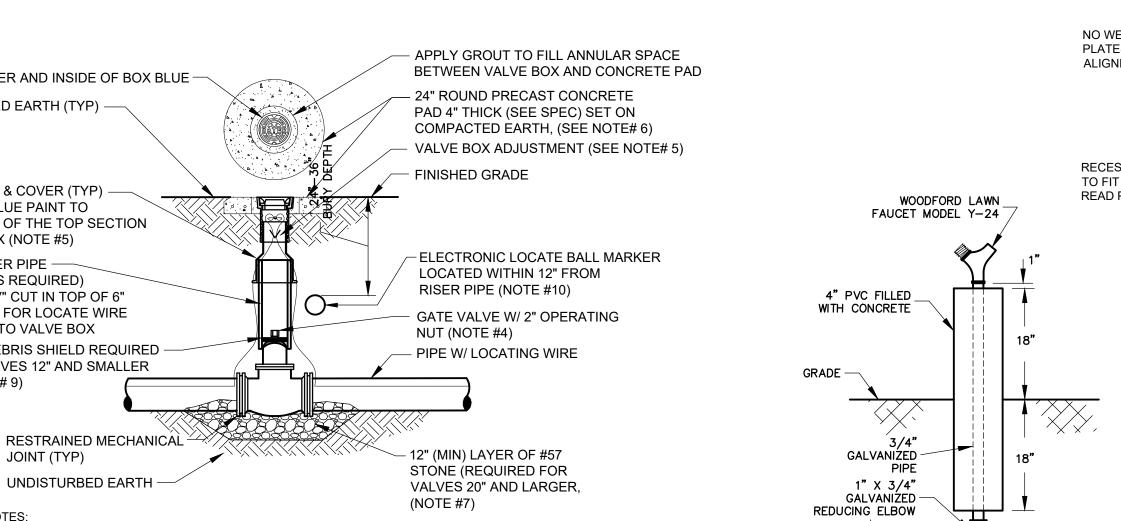
- NUT.

7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.

- THE VALVE.
- WATER

JANUARY 2019





1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.

2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAILW-44).

3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT/( ASPHALT IF NO CURB) TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED BLUE WATER/PURPLE

IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.

FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE

6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A ¼" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.

8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO  $\frac{1}{3}$  THE OVERALL HEIGHT OF

9. FOR VALVES 12 INCH AND SMALLER. PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL

10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER AND 1408XR FOR RECLAIMED

# WATER VALVE INSTALLATION DETAIL PLATE W-18

FIRE DEPT.

CONNECTION

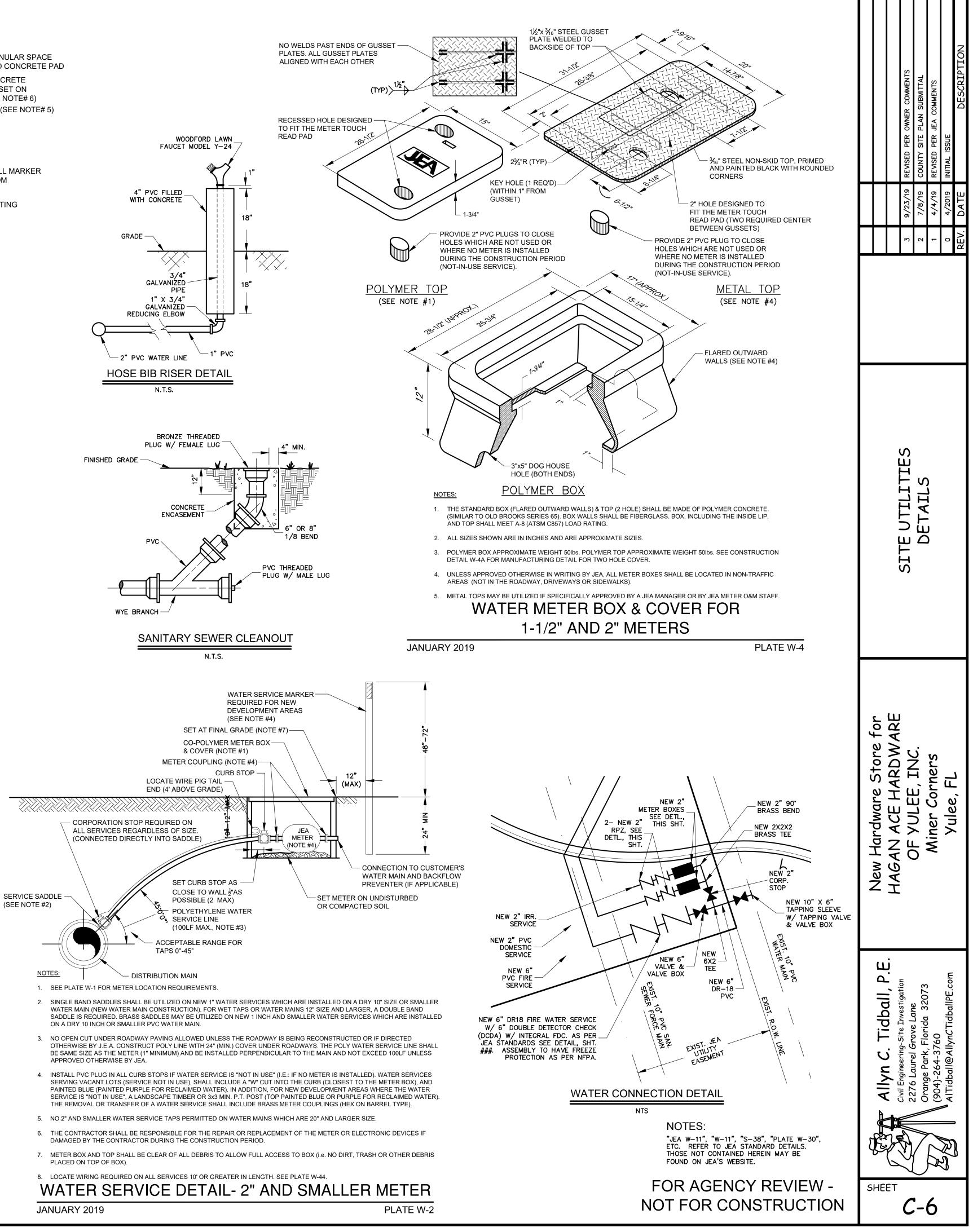
SIAMESE -

CHECK

VALVE

RETAINER

SERVICE



JANUARY 2019



**RESTRAINER** -

N.T.S.

3/4" BYPASS

(TYP.)

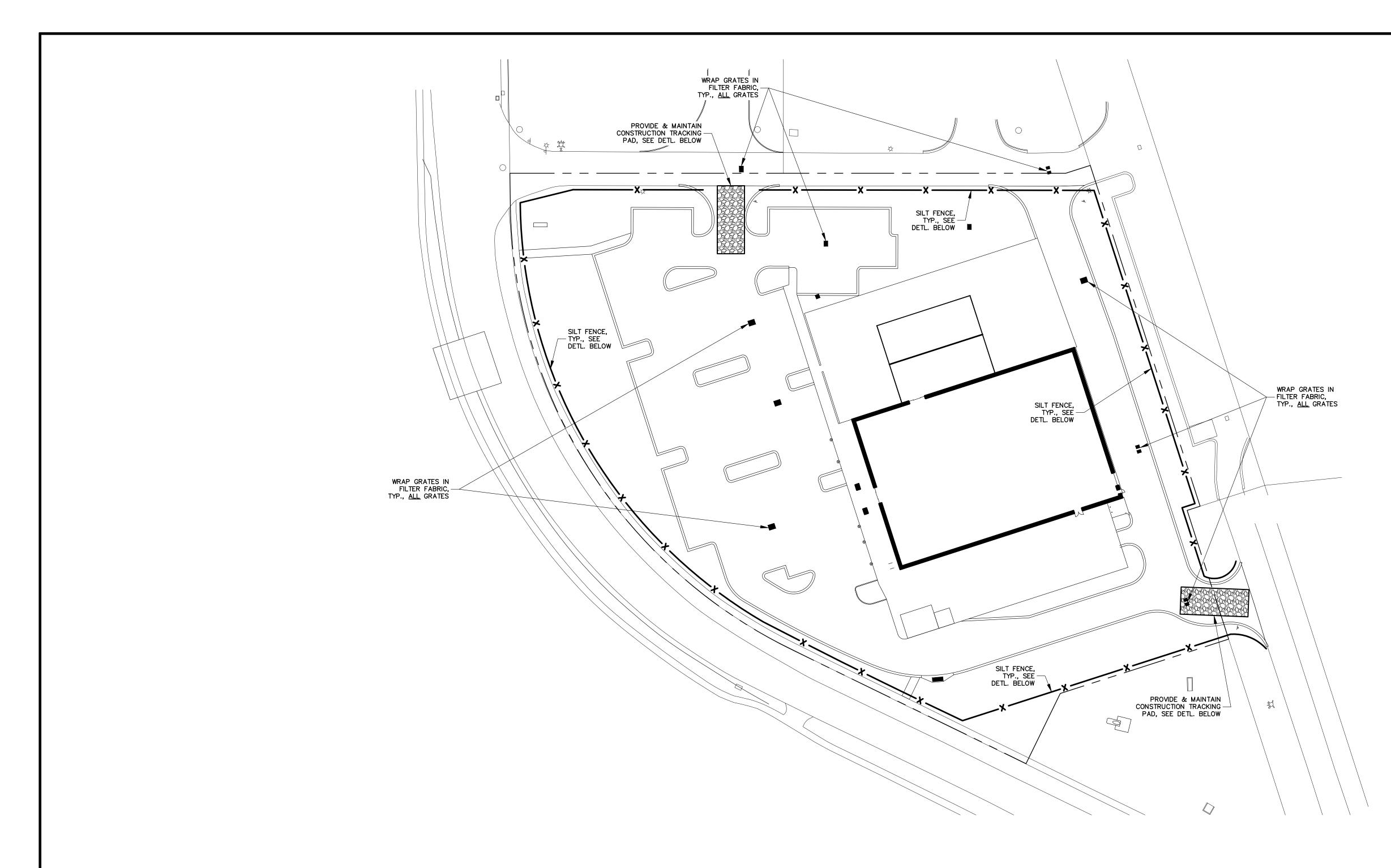
ASS'Y W/ METER

CONC. SUPPORTS -

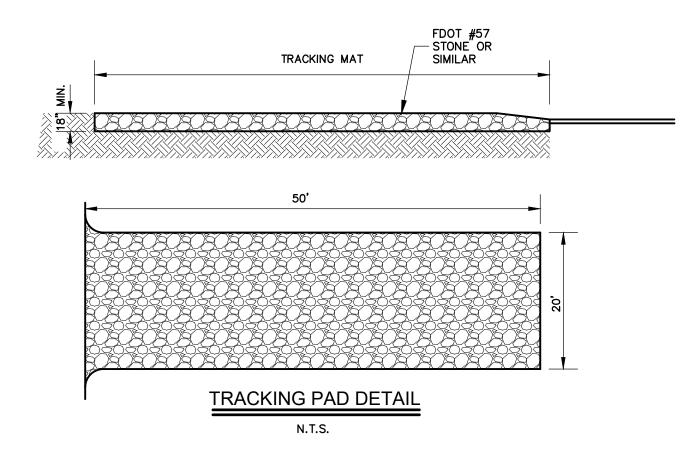
30" WIDE CONC.

PAD W/ 3000 PSI

 $\triangleleft$ 



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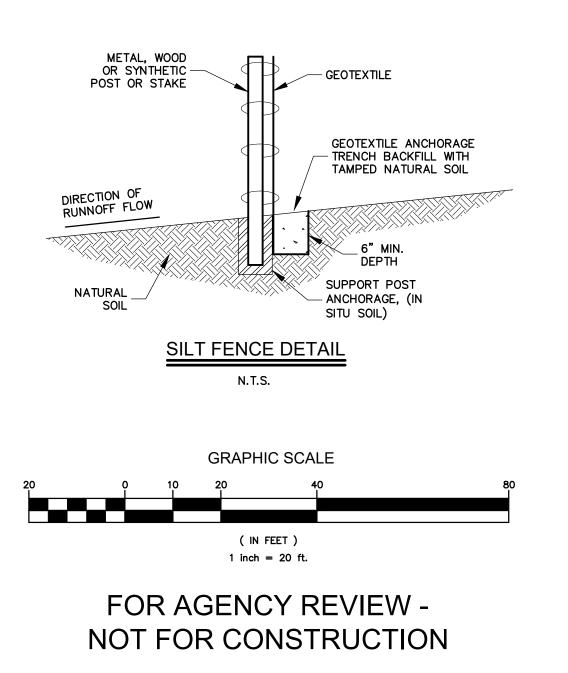
EROSION CONTROL NOTES:

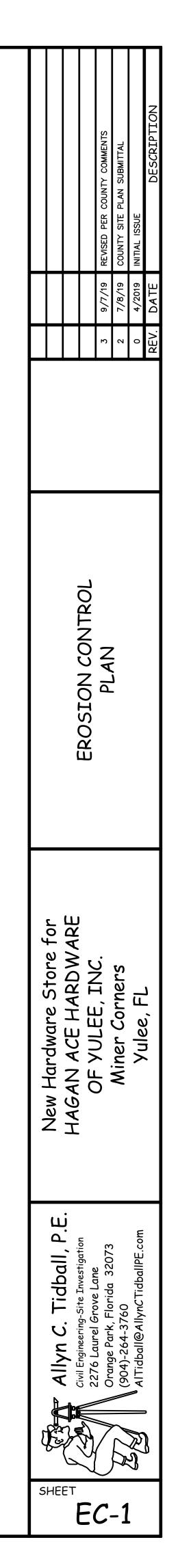
- 1. ALL WORK TO BE IN ACCORDANCE WITH FDEP "FLORIDA LAND DEVELOPMENT MANUAL" "BEST MANAGEMENT PRACTICES"
- 2. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES DAILY, AND IMMEDIATELY AFTER ANY SIGNIFICANT RAINFALL.
- 3. STABILIZE ALL DISTURBED AREAS AND FILL SLOPES WITHIN 48 HOURS OF COMPLETION OF WORK. MAINTAIN NEWLY GRADED AREAS AND REPAIR THOSE AREAS WHERE SETTLING AND EROSION HAVE OCCURRED.
- 4. PROVIDE ALL MATERIALS AND TAKE WHATEVER MEANS NECESSARY TO PREVENT THE EROSION OF AND DEPOSITION OF SEDIMENT ON ADJACENT WETLANDS OR DOWNSTREAM PROPERTIES. IMPLEMENT AND PROVIDE SUITABLE EROSION CONTROL MEASURES (I.E. SEDIMENTATION BARRIERS, HAY BALES, SILTATION CURTAINS, TEMPORARY DETENTION STILLING BASINS, ETC.) TO ENSURE THE CONTROL OF STORMWATER RUNOFF.
- 5. INSTALL TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS. MAINTAIN TURBIDITY BARRIERS IN PLACE AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED, SOILS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
- 6. WITHIN THIRTY DAYS SEED AREAS OPENED BY CONSTRUCTION OPERATIONS THAT ARE NOT ANTICIPATED TO BE DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED. ENSURE THAT THE SPECIES WILL NOT COMPETE WITH PROPOSED PERMANENT GRASSING. SEED AT A RATE OF 30 LB. PER ACRE. SOD ALL SLOPES 6:1 OR STEEPER.
- 7. STOCKPILE EXCAVATED MATERIAL IN A MANNER THAT PREVENTS RUNOFF INTO ADJACENT PROPERTY.
- 8. PROTECT INLETS AND CATCH BASINS FROM SEDIMENT LADEN RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET. PLACE FILTER FABRIC BETWEEN THE INLET GRATES AND FRAMES AS A TEMPORARY PROTECTION MEASURE UNTIL FINAL SURFACING IS COMPLETE.
- 9. ENSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC., ARE CLEANED OUT AND WORKING PROPERLY AT ALL TIMES. THE STRUCTURES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND REPAIRS, AS NEEDED, SHALL BE MADE IMMEDIATELY.

## <u>SWPPP:</u>

THE CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT WHICH TAKES INTO ACCOUNT THE MANNER IN WHICH THE CONTRACTOR INTENDS TO PHASE AND PERFORM ITS WORK. THIS PLAN SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION "FLORIDA LAND DEVELOPMENT MANUAL" "BEST MANAGEMENT PRACTICES".

THE SWPPP SHALL MEET ALL FDEP REQUIREMENTS FOR NPDES PERMIT COMPLIANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING "NOTICE OF INTENT" (NOI) AND "NOTICE OF TERMINATION" (NOT) DOCUMENTS.





			STORM WATER POLLUTIC	<u> </u>
CITY'S REQUIREMENTS			CONTR	A
SITE DESCRIPTION	GENERAL		CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL	
PROJECT NAME AND LOCATION: OWNER NAME AND ADDRESS:	THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACT REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHA ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPL CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING O OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOF	THE EROSION LL UNDERTAKE ICABLE PERMIT N THE NATURE MAY BE	<ul> <li>LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE. LEVEL SPREADER SHALL BE CONSTRUCTED IN ACCORDANCE TO CITY STANDARD DETAIL D-914.</li> <li>5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.</li> </ul>	
DESCRIPTION:	THE SYSTEM INTO OPERATION. SEQUENCE OF MAJOR ACTIVITIES:		6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN	
SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING; EARTHWORK, PAVEMENT AND GRADING; STORM SEWER, UTILITIES, AND PREPARATION FOR FINAL PLANTING AND SEEDING. <b>RUNOFF CURVE NUMBERS:</b> 1. PRE-CONSTRUCTION = 2. DURING CONSTRUCTION = 3. POST-CONSTRUCTION = SOILS: SEE SOIL BORING REPORT FOR SOILS DATA SITE MAPS: * SEE ATTACHED GRADING PLAN FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS. * SEE ATTACHED EROSION & TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS * SEE GENERAL NOTES FOR REQUIRMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.	THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:1.INSTALL STABILIZED9.1.INSTALL UTILITIES, CONSTRUCTION ENTRANCECURBS & GUTTER2.INSTALL SILT FENCES AND HAY10.3.CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENTINSTALL PERMANE SEEDING/SOD AND BASIN4.CONSTRUCT SEDIMENTATION GRUBBING13.5.CONTINUE CLEARING AND GRUBBING14.6.STOCK PILE TOP SOIL IF REQUIRED ON SITE AS REQUIRED14.8.STABILIZE DENUDED AREAS AND STOCKPILES AS SOON AS PRACTICABLESTABILIZE	ROJECT AND NT PLANTING AVING ATED ASINS UCTION LETE AND THE D, REMOVE ANY SION	<ul> <li>EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.</li> <li>7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.</li> <li>8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.</li> <li>9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.</li> <li>10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S)</li> </ul>	
SITE AREA: 1. TOTAL AREA OF SITE = 2. TOTAL AREA TO BE DISTURBED = NAME OF RECEIVING WATERS:	TIMING OF CONTROLS/MEASURES		SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX & AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.	
CONTROLS THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED. STORM WATER MANAGEMENT	AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SE BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHAL INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE V CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTL CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCO WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMEN AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AN IN ACCORDANCE WITH THE EROSION & TURBIDITY CONTROL PLA	OF ANY BE HERE Y IN AN RDANCE T TRAPS ID STABILIZED	<ol> <li>TEMPORARY REGRASSING : IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.</li> <li>MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.</li> <li>PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF</li> </ol>	
STORM WATER DRAINAGE WILL BE PROVIDED BY (DESRIPTION:)	CONTROLS		THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.	
FOR THE PROJECT. AREAS WHICH ARE NOT TO BE CONSTRUCTED ON, BUT WILL BE REGRADED SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE, WHEN CONSTRUCTION IS COMPLETE, A TOTAL OF ACRES WILL HAVE BEEN REGRADED, ACRES LEFT UNDISTURBED. THE SITE DISCHARGES TO A WET DETENTION SYSTEM. WHERE PRACTICAL, TEMPORARY SEDIMENT BASINS WILL BE USED TO INTERCEPT SEDIMENT BEFORE ENTERING THE PERMANENT DETENTION BASIN. THE WET DETENTION SYSTEM IS DESIGNED WITH A DAY MINIMUM RESIDENCE VOLUME. THIS IS IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT FOR THIS TYPE OF DEVELOPMENT AT THE TIME OF PERMITTING.	IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE ERO TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDIT PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSUR CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTION TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE P THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CO ON THE EROSON AND TURBIDITY CONTROL PLAN AND ADD ADDIT MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDEL LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FO MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRA REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED SITE BY THE REGUIN ATORY ASCENDES.	Y CONTROL THESE DNING PROPERLY ROJECT SITE. NTROLS SHOWN IONAL CONTROL RAL, STATE AND DLLOWING BEST CTOR AS AS REQUIRED	<ul> <li>14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.</li> <li>STRUCTURAL PRACTICES</li> <li>1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY. AND IT SHALL BE CONSTRUCTED IN ACCORDANCE TO D-914.</li> </ul>	
TIMING OF CONTROLS/MEASURES	SITE BY THE REGULATORY AGENCIES. EROSION AND SEDIMENT CONTROLS		2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN AN DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.	
CONTROL/MEASURES.	STABILIZATION PRACTICES		THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDANTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION	
IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED. D.E.R. DREDGE/FILL PERMIT # C.O.E. DREDGE/FILL PERMIT # S.J.R.W.M.D. M.S.S.W. PERMIT #	<ol> <li>HAY BALE BARRIER: HAY BALE BARRIERS CAN BE USED BEI DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WI FOLLOWING LIMITATIONS:         <ul> <li>A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33</li> <li>B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2</li> <li>C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 I</li> <li>D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSAF SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSU</li> </ul> </li> </ol>	TH THE PERCENT. ACRES. MONTHS. STRAW BALE S WHERE SY, MEASURES	<ul> <li>DIKE:</li> <li>A. BLOCK &amp; GRAVEL SEDIMENT FILTER - THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE. REFER TO D-902 FOR CONSTRUCTION OF A CURB INLET SEDIMENT FILTER, AND D-904 FOR CONSTRUCTION OF A DROP INLET SEDIMENT FILTER.</li> <li>B. GRAVEL SEDIMENT TRAP - THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES &amp; UNPROTECTED</li> </ul>	м В О С
POLLUTION PREVENTION PLAN CERTIFICATION I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR	AGAINST WASHOUT. REFER TO CITY STANDARD DETAIL D-913 FOR CONSTRUCTING BALE BARRIER. ALSO REFER TO D-901, D-911 AND D-12 FO LOCATION, MATERIAL & USAGE. 2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE U DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WI FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 REFER TO CITY STANDARD DETAIL D-910 FOR PROPER CONS OF THE FILTER FABRIC BARRIER.	OR PROPER SED BELOW TH THE PERCENT. ACRES.	<ul> <li>AREAS. REFER TO D-903 FOR CONSTRUCTION OF CURB INLET &amp; DROP SEDIMENT TRAP.</li> <li>C. DROP INLET SEDIMENT TRAP - THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (S &lt; 5%) AND WHERE SHEET OR OVERLAND FLOWS (Q &lt; 0.5 CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS. REFER TO D-905 FOR CONSTRUCTION OF HAY BALE &amp; FABRIC SEDIMENT FILTER.</li> <li>3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION &amp; SEDIMENT PROBLEM TO THE RECEIVING WATER BODY. SILT FENCES &amp;</li> </ul>	* *
KNOWING VIOLATIONS.	3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL ERO		HAY BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.	*
SIGNED: CITY ENGINEER DATED:	<ul> <li>BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL ERO ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.</li> <li>4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER</li> </ul>	4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE.	*	
NO. BY DATE REVISIONS	SURVEY DATA: BOOK	NO. SURVEY_	DESIGNER.	
6. 5. 4.	SURVEYED		DATE BY DATE DRAWN BY: ALIGNMENT CHECKED DATE:	
3. 2. 1	GRADES CHECKED B.M.'S NOTED		RT. OF WAY CHECKED         CHECKED BY:           STRUCTURE NOTATION CHECKED         DATE:	

## ON PREVENTION PLAN

# CTOR'S REQUIREMENTS

THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL

### WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

## HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

### SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

## OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

	SUBSTANCES LISTED BELOW ARE EXPE JRING CONSTRUCTION:	CTED TO BE
☐ Concrete ☐ Asphalt	Fertilizers     Petroleum Based Products	☐ Wood ☐ Masonry Blocks
Tar Detergents	Cleaning Solvents	Roofing Materials

SPILL PREVENTION

ATERIAL MANAGEMENT PRACTICES

HE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL E USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE F MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

OOD HOUSEKEEPING HE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED NSITE DURING THE CONSTRUCTION PROJECT.

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS HAZARDOUS MATERIALS.

RESEALABLE.

FOLLOWED.

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS

PAINTS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS. CONCRETE TRUCKS

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF

EF	ROSION	AND
		MINIC

- REPORT.

\* BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH

\* PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT

\* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.

\* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE

## PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

## SPILL CONTROL PRACTICES

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE

APPLICABLE, IN THE OFFICE TRAILER ONSITE.

## MAINTENANCE/INSPECTION PROCEDURES

SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

\* NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

\* ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT. THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.

\* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF

- \* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- \* THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.
- \* DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- \* TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- \* A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND
- AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM
- THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
- \* THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
- \* PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE. SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

## NON-STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

- \* WATER FROM WATER LINE FLUSHING
- \* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- \* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

## CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

RESPONSIBLE FOR/DUTIES	GENERAL CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR
BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS					
SIGNATURE					

#### SHEET NO. EC-2 OF PROJECT NO .: STORM WATER POLLUTION **PREVENTION PLAN** drawing no. 304 DATE: DRAWING FILE NOT TO SCALE SCALE: 897304

# GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS Gl AT THE SITE AND SHALL NOTIFY THE ARCHITECT OF DISCREPANCIES BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE COMPLETE DESIGN G2 OF THE STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN, OR OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO BRACING, SHORING FOR EARTH BANKS, FORMS, SCAFFOLDING, PLANKING, SAFETY NETS, SUPPORT AND BRACING FOR CRANES AND GIN POLES.
- G3 THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING OF ALL STRUCTURAL MEMBERS AS REQUIRED FOR STRUCTURAL STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF ANY CONDITION WHICH, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
- G4 CONSTRUCTION MATERIALS SHALL NOT BE STACKED ON FLOORS OR ROOFS IN EXCESS OF THE DESIGN LIVE LOADS WHICH ARE INDICATED IN THE GENERAL NOTES. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO INSURE THAT THE SUBCONTRACTORS ARE INFORMED AND DO NOT VIOLATE THIS IMPORTANT REQUIREMENT. IMPACT SHALL BE AVOIDED WHEN PLACING MATERIALS ON FLOORS OR ROOFS.
- PLANS, SECTIONS AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, G5 LENGTHS, OR FIT OF MATERIALS,
- G6 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR MISCELLANEOUS STEEL ITEMS NOT SHOWN HEREON
- COORDINATE SIZES AND LOCATIONS OF OPENINGS IN FLOORS AND ROOF WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL REQUIREMENTS.
- G8 FOR ACTUAL DATUM ELEVATION OF FIRST FLOOR REFERENCE EL. 100'-0', SEE SITE PLAN.
- SUBMIT WRITTEN REQUEST TO THE ARCHITECT FOR APPROVAL OF ANY PROPOSED CHANGE TO G9 THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, SPLICING, CUTTING, NOTCHING, OR OTHER ALTERATIONS TO STRUCTURAL MEMBERS ARE NOT PERMITTED WITHOUT WRITTEN AUTHORIZATION OF THE STRUCTURAL ENGINEER. ANY UNAUTHORIZED DEVIATION FROM THE CONTRACT DOCUMENTS, AND CORRECTION THEREOF, IS THE RESPONSIBILITY OF THE CONTRACTOR.
- GIØ. STEEL MEMBERS THAT WILL RECEIVE SPRAY-ON FIREPROOFING SHALL NOT BE PAINTED WITH A SHOP COAT OF PRIMER.
- THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE Gll FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS

# DESIGN CRITERIA

DI STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODE (FBC)

130 MPH

THE MOST STRINGENT REQUIREMENTS APPLY IN CASE OF CONFLICT BETWEEN SPECIFICATIONS, D2STANDARDS, CODES AND DRAWINGS.

## D3 DESIGN DATA

- ROOF LIVE LOADS 20 PSF BY METAL BUILDING DESIGNER ROOF DEAD LOADS 2.
- 5. WIND VELOCITY (ASCE 7-10)
  - EXPOSURE C
- 6. DIRECTIONALITY FACTOR Ø.85 INTERNAL PRESSURE COEFFICIENT +/- 0.18

AT ENTRANCE TOWER:

- 8. ALLOWABLE SOIL PRESSURE 2000 PSF (G.C. TO VERIFY WITH SOILS REPORT)
- 9. COMPONENTS AND CLADDING ASD SERVICE WIND PRESSURES:
  - WINDOWS AND DOORS: +/- 32.8 PSF STANDING SEAM ROOF PANELS
    - -57,7 PSF (ALL ZONES)

# REQUIRED SHOP DRAWING SUBMITTALS

- SDI APPROVAL OF SHOP DRAWINGS DOES NOT INDICATE ACCEPTANCE OF DEVIATIONS FROM CONTRACT DOCUMENTS, UNLESS ACCEPTED BY THE ENGINEER IN WRITING PRIOR TO SUBMISSION OF SHOP DRAWINGS. CONFLICTS RESULTING FROM SUCH DEVIATIONS, CONFLICTS BETWEEN THIS WORK AND THE WORK OF OTHER TRADES DUE TO SUCH DEVIATION, AND DIMENSIONAL CONFLICTS AS A RESULT OF SUCH DEVIATIONS SHALL BE DEEMED THE CONTRACTOR'S RESPONSIBILITY.
- SD2 ANY CHANGES TO THE DETAILS SHOWN IN THESE CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING BY RF.I. AND APPROVED BY THE ARCHITECT AND ENGINEER PRIOR TO SUBMITTING SHOP DRAWINGS. ALL SUCH CHANGES SHALL BE 'CLOUDED' ON THE SHOP DRAWINGS AND REFERENCED TO THE PROPER R.F.I.
- SD3 SUBMITTALS SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DRAWINGS. NON-CONFORMING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. SHOP DRAWINGS SHALL BE CHECKED AND MARKED "APPROVED" BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO ARCHITECT.
- SHOP DRAWINGS SHALL NOT CONTAIN REPRODUCTIONS OF THE CONTRACT DRAWINGS. 3. SUBMIT FOR ENGINEER'S REVIEW THE SHOP DRAWINGS FOR THE FOLLOWING ITEMS. SD4 ONCE SHOP DRAWINGS ARE REVIEWED BY THE ENGINEER THE GC MAY USE THE MATERIAL FOR
- CONSTRUCTION. THE G.C. SHALL ALLOW FOR 3 WEEKS OF REVIEW TIME IN THE CONST. SCHEDULE.
- SD5 THE FOLLOWING SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.
  - CMU BLOCK TYPE AND MORTAR MIX DESIGNS.
  - REINFORCING STEEL (FOUNDATIONS)
  - STEEL ROOF DECK
  - CONCRETE MIX DESIGNS (FOUNDATIONS, SLABS, AND CMU GROUT)
  - STRUCTURAL STEEL SHELF ANGLES AND MISC. STEEL

# AUTOMATIC FIRE PROT. SPRINKLERS:

- FSI THE AUTOMATIC SPRINKLER SYSTEM SHALL BE LAID OUT SO THAT LARGE DIAMETER MAIN FEEDER LINES OCCUR NEAR JOIST SUPPORTS IN ORDER TO PREVENT OVERLOADING JOISTS.
- USE TWO JOISTS TO SUPPORT LINES LARGER THAN 3 INCHES IN DIAMETER AND RUNNING FS2
- PARALLEL TO STEEL JOISTS. IN ALL CASES, LOADS SUPPORTED FROM JOISTS AND/OR BEAMS SHALL BE APPLIED IN SUCH A F63
- MANNER SO AS NOT TO EXCEED A 3 PSF ALLOWANCE FOR SPRINKLER DEAD LOAD.

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FS4 LOCATE SUSPENDED CONCENTRATED LOADS AT JOIST PANEL POINTS WHERE POSSIBLE. SEE DETAILS FOR METHODS OF SUPPORTING CONCENTRATED LOADS FROM JOIST CHORDS LOCATED BETWEEN PANEL POINTS.

# SPECIALTY ENGINEERING REQUIREMENTS

- ADMINISTRATIVE CODE SHALL APPLY TO THIS PROJECT.

#### SE3 EXTERIOR CURTAIN WALLS SHALL BE DESIGNED BY THE VENDOR'S SPECIALTY ENGINEER AND SHALL INCLUDE FRAME, GLASS GLAZING, AND CONNECTIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MUST BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT LOCATION. DESIGN LOADINGS SHALL CONFORM TO ALL REQUIREMENTS OF THE BUILDING CODE. (SEE DESIGN CRITERIA FOR APPLICABLE BUILDING CODE). VENDOR SHALL PROVIDE WINDOW WALL REACTIONS TO THE ARCHITECT

- SE4 FLAG POLES AND/OR SITE LIGHTING POLES SHALL BE DESIGNED BY THE POLE VENDOR'S DESIGN LOADS OF METAL FLAGPOLES".

# FOUNDATION NOTES

- SPREAD FOOTING PAD SUB-GRADE.
- F2. REMOVE FREE WATER FROM EXCAVATIONS BEFORE PLACING CONCRETE.
- F3 CLAYEY SOILS OR EXPANSIVE SOILS ARE NOT PRESENT
- F4
- REPORT AND ABSCENTS OF SOILS BORINGS ON THIS SITE.
- ACCEPTABLE MATERIALS, BUT IN NO CASE LESS THAN 6 INCHES.
- LAYER THICKNESS APPROPRIATE FOR THE SIZE OF COMPACTOR BEING USED.
- FIØ AFTER COMPLETION OF DENSIFICATION OF EXISTING SOILS, STRUCTURAL FILL SHALL THEN WITH A UNIFIED SOIL CLASSIFICATION OF SP OR SP-SM.
- FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 2000 PSF. F11 VIBRATORY SLED OR ROLLER COMPACTOR.

# SLAB ON GRADE

#### SOGI UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, COMPACT INTERIOR FILL TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM DI557). SOIL COMPACTION SHALL BE FIELD-CONTROLLED BY A REPRESENTATIVE TECHNICIAN OF A QUALIFIED LABORATORY. EACH LAYER OF FILL SHALL NOT EXCEED 12' THICK AND SHALL BE COMPACTED PRIOR TO PLACEMENT OF NEXT LAYER. SLAB ON GRADE SHALL BE CAST OVER A VAPOR BARRIER.

SQUARE WITH A RATIO OF LONG SIDE TO SHORT SIDE NOT EXCEEDING 1.5 TO 1.

SLAB THICKNESS (IN)	* 3/4" OR LARGER AGGREGATE SPACING (FT)
4	12
5	13
6	۲ <u>ب</u>
Г	18
8	2Ø
9	23
10	25

- WITH ARCHITECTURAL FLOOR FINISHES TO ENSURE SLAB JOINTS DO NOT READ THROUGH.
- OF THE FINAL TROWEL PASS, THE FLOOR SHALL BE CURED WITH EUCLID'S SUPER REZ-SEAL OR APPROVED EQUAL

SEI DELEGATED ENGINEER REQUIREMENTS: THE FLORIDA BOARD OF PROFESSIONAL ENGINEERS HAS ISSUED STATEMENTS ON RESPONSIBILITIES OF PROFESSIONAL ENGINEERS, PURSUANT TO CHAPTERS 61G15-30 AND 61G15-31 OF THE FLORIDA ADMINISTRATIVE CODE. CERTAIN COMPONENTS OF THE STRUCTURE REQUIRE THE WORK OF DELEGATED ENGINEERS FOR THE DESIGN OF THOSE COMPONENTS. ALL RELEVANT PROCEDURES PRESENTED IN THE FLORIDA

#### SE2 AWNINGS SHALL BE DESIGNED BY THE FABRICATOR'S SPECIALTY ENGINEER AND SHALL INCLUDE FRAME, COVERING, AND CONNECTIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MUST BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER IN THE SAME STATE AS THE PROJECT LOCATION. DESIGN LOADINGS SHALL CONFORM TO ALL REQUIREMENTS OF THE BUILDING CODE. (SEE DESIGN CRITERIAL FOR THE APPLICABLE BUILDING CODE).

#### SPECIALTY ENGINEER AND SHALL INCLUDE POLES, FOUNDATIONS AND CONECTIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MUST BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE SAME STATE AS THE POJECT LOCATION. MINIMUM DESIGN LOADS SHALL CONFORM TO ANSI/NAAM FPIØØ 'SPECIFICATIONS FOR THE

SE5 EXTERIOR LIGHTGAGE STEEL FRAMING, INCLUDING BUT NOT LIMITED TO: WALLS, FASCIAS, AND SOFFITS SHALL BE DESIGNED BY A SPECIALTY ENGINEER. STRUCTURAL ELEMENTS HAVE BEEN PROVIDED FOR THE ATTACHMENT OF WALL FRAMING. THE STUD WALL SYSTEM SUPPLIER SHALL DESIGN AND DETAIL ALL CONNECTIONS TO THESE ELEMENTS. ANY FURTHER ELEMENTS REQ'D FOR THE SUPPORT OF STUD WALLS SHALL BE DESIGNED AND SUPPLIED AS PART OF THE STUD WALL SYSTEM, SHOP DRAWINGS SHALL BE SUMITTED FOR REVIEW AND MUST BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT LOCATION. DESIGN LOADINGS SHALL CONFORM TO ALL REQUIREMENTS OF THE BUILDING CODE. (SEE DESIGN CRITERIA FOR THE APPLICABLE BUILDING CODE).

ANY FILL REQUIRED TO BACKFILL EXCAVATED AREA OR ACHIEVE FINISHED GRADE IN STRUCTURAL AREAS SHALL BE INORGANIC, NON-PLASTIC GRANULAR SOIL (CLEAN SANDS). THE FILL SHALL BE PLACED IN LEVEL LIFTS NOT TO EXCEED 12 INCHES LOOSE THICKNESS AND COMPACTED TO A MINIMUM OF 95% OF THE GOIL'S MODIFIED PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM SPECIFICATION D-1557. IN-PLACE DENSITY TESTS SHALL BE PERFORMED ON EACH LIFT BY AN EXPERIENCED ENGINEERING TECHNICIAN TO VERIFY THAT THE REQUIRED DEGREE OF COMPACTION HAS BEEN ACHIEVED. A SOIL COMPACTION TEST SHALL BE PERFORMED IN EVERY

CONTRACTOR ALONG WITH GEOTECHNICAL FIELD REPRESENTATIVE SHALL ENSURE THAT

CONTRACTOR IN CONJUCTION WITH GEOTECHNICAL FIELD REPRESENTATIVE, SHALL DETERMINE IF ANY SOILS OR UNSUITABLE CONDITIONS ARE DISCOVERED DURING EXCAVATION WHICH WOULD PREVENT ATTAINMENT OF THE DESIGN SOIL PRESSURE RECOMMNDED BY THE SOILS REPORT

SOUTHARD ENGINEERING'S FOUNDATION DESIGN ASSUMES IDEAL SOIL CONDITIONS. IT IS THE RESPONSIBILITY OF THE OWNER TO OBTAIN A SOILS REPORT FROM A GEOTECHNICAL ENGINEER TO CONFIRM THE SOILS ARE SUITABLE FOR THE STANDARD SHALLOW FOUNDATION DESIGNS SHOWN ON THE STRUCTURAL DRAWINGS. SOUTHARD ENGINEERING, INC. IS NOT RESPONSIBLE FOR ANY NON IDEAL SOILS OR OTHER UNKNOWN SOIL CONDITIONS DUE TO A LACK OF A SOILS

FOUNDATION DESIGNS ASSUME A NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF. IT IS THE OWNER'S RESPONSIBILITY TO HIRE A GEOTECHNICAL ENGINEER TO CONFIRM THIS.

FI ALL VEGETATION, TOPSOILS, ROOTS AND ORGANIC ZONES SHALL BE STRIPPED AND REMOVED FROM THE CONSTRUCTION AREA FOR A DISTANCE OF AT LEAST 5 FEET BEYOND THE EXTERIOR OF BUILDING FOUNDATION LIMITS. THE DEPTH OF STRIPPING SHALL BE THAT REQUIRED TO REMOVE SIGNIFICANT ROOT ZONES, SMALL TREE STUMPS AND OTHER

F8 EXCAVATIONS FOR LARGE STUMPS, ABANDONED UTILITIES, UNDERGROUND TANKS, ETC. SHALL BE BACKFILLED IN LAYERS WITH COMPACTION AND TESTING OF EACH LAYER AS DESCRIBED FOR PLACEMENT AND COMPACTION OF FILL MATERIAL. USE LOOSE BACKFILL

#### AFTER THE SITE HAS BEEN CLEARED, THE EXPOSED SOILS AT THE STRIPPED SURFACE WITHIN AND TO A POINT 5 FEET OUTSIDE THE BUILDING CONSTRUCTION AREA SHALL BE COMPACTED WITH OVERLAPPING PASSES WITH A LIGHT TO MEDIUM WEIGHT VIBRATION DRUM ROLLER HAVING A TOTAL OPERATION STATIC WEIGHT OF 4 TO 6 TONS. DENSITIES OF AT LEAST 35 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557) SHALL BE UNIFORMLY OBTAINED TO A DEPTH OF AT LEAST 12 INCHES BELOW THE

COMPACTED SURFACE, REGARDLESS OF THE DEGREE OF COMPACTION ACHIEVED, A MINIMUM OF EIGHT COMPLETE COVERAGES SHALL BE MADE WITHIN THE BUILDING AREA. THE ROLLER COVERAGES SHALL BE DIVIDED EVENLY INTO TWO PERPENDICULAR DIRECTIONS.

BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES IN LOOSE THICKNESS WHEN USING THE ROLLER PREVIOUSLY DESCRIBED. EACH LIFT SHALL BE THOROUGHLY COMPACTED WITH THE VIBRATORY ROLLER UNTIL DENSITIES EQUIVALENT TO AT LEAST 35 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY ARE UNIFORMLY OBTAINED STRUCTURAL FILL SHALL CONSIST OF AN INORGANIC, NONPLASTIC, GRANULAR SOIL CONTAINING LESS THAN 10 PERCENT MATERIAL PASSING THE NO. 200 MESH SIEVE, A RELATIVELY CLEAN SAND

#### THE UPPER 12 INCHES OF SANDY BEARING SOILS IN THE FOOTING EXCAVATION BOTTOMS SHALL BE COMPACTED TO DENSITIES EQUIVALENT TO 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY. COMPACTION OR RECOMPACTION OF THE FOOTING EXCAVATION BEARING LEVEL SOILS LOOSENED BY THE EXCAVATION PROCESS, SHALL BE ACHIEVED BY MAKING SEVERAL PASSES WITH A RELATIVELY LIGHTWEIGHT, WALK-BEHIND

FI2 UNLESS NOTED, ALL FOOTINGS SHALL BE CENTERED UNDER COLUMNS, PIERS AND WALLS.

50G2 MAXIMUM SPACING OF CONTROL JOINTS SHALL BE AS SET IN THE TABLE BELOW, OR AS NOTED ON PLANS. THE MORE STRINGENT SHALL APPLY, PATTERNS SHALL BE APPROXIMATELY

#### \* MIX DESIGNS CONTAINING AGGREGATE LESS THAN

3/4" ARE NOT ACCEPTABLE CUT SLAB WITHIN 12 HOURS

# 50G3 GENERAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF SAW JOINTS AND CJ'S

SØG4 WAREHOUSE SLABS SHALL BE POWER-TROWELLED TO A HARD, SMOOTH, BURNISHED FINISH. THE FINAL TROWEL PASS SHALL BE DONE BY MACHINE, NOT BY HAND. WITHIN 30 MINUTES

# CONCRETE AND REINFORCING

- A CERTIFIED TESTING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD TESTING INCLUDING SLUMP TESTS AND CYLINDER BREAKS TO ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). SUBMIT REPORTS TO ARCHITECT AND ENGINEER.
- CONCRETE WORK SHALL CONFORM TO ACI SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS ACI 301 (LATEST EDITION) AND BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14).
- C3 ALL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES.

LOCATION	28 DAY	SLUMP	COURSE AC	COURSE AGGREGATE			
	STRENGTH		MIN.	MAX.			
FOUNDATIONS	3000 PSI	4" +/- 1"	3/4"	1 1/2"			
SLAB ON GRADE: 4" THICK	3000 PSI	4" +/- 1"	3/4"	1 1/2"			
SLAB ON GRADE: 5' & THICKER	4000 PSI (MINIMUM FLEXURAL STRENGTH = 550 PSI.)	4" +/- 1" SEE NOTE 1	3/4"	1 1/2"			
FILLED CELLS, PRECAST LINTELS & BOND BEAM GROUT (ASTM C416) - SEE NOTE 2	3000 PSI	8' TO 11'	SAND	3/8'			
NOTES:							
1. SLUMP FOR RAMPS AND SLOP 2. SEE MASONRY NOTE MID FOR	R TESTING RE						

- C4 CONCRETE MIX DESIGN SUBMITTALS.
  - I. EACH MIX DESIGN SHALL BE LABELED TO INDICATE THE AREA IN WHICH THE CONCRETE IS TO BE PLACED (I.E. FOUNDATIONS, SLAB-ON-GRADE, COLUMNS, ETC). FAILURE TO DO SO WILL CAUSE DELAY AND/OR REJECTION OF SUBMITTALS.
  - 2. PROPOSED MIX DESIGN SHALL BE IN ACCORDANCE WITH METHOD 1 OR METHOD 2 OF ACI 301. PROVIDE SUPPORTING DATA IN TABULAR FORM FOR EACH SEPERATE PROPOSED MIX.
  - 3. SUBMIT CONCRETE MIX DEGIGN FOR EACH PROPOSED CLASS OF CONCRETE.
- C5 NO CALCIUM CHLORIDE SHALL BE USED IN MIX DESIGNS.
- C6 MAXIMUM W/C RATIO OF 0.55 FOR FOOTINGS AND 0.50 FOR OTHER CONCRETE. CMU GROUT SHALL HAVE W/C RATIO OF 0.60 OR HIGHER.
- CT REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60.

USED TO FILL CORES OF CMU.

- CS WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. LAP MINIMUM DISTANCE OF ONE CROSS WIRE SPACING PLUS 2 INCHES.
- C3 SPLICE REINFORCING ONLY WHERE SHOWN ON THE DRAWINGS. WHERE CONTINUOUS REINFORCING IS CALLED OUT, SUCH REINFORCING MAY BE SPLICED WHERE APPROVED BY THE ENGINEER. WHERE SPLICE LENGTHS ARE NOT SPECIFIED, USE 48 BAR DIAMETERS IN MASONRY AND 48 BAR DIAMETERS IN CONCRETE
- CIØ PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED: FOOTINGS

#### SLABS 1-1/2" FROM TOP

- CII AT CHANGES IN DIRECTION OF CONCRETE WALLS AND BEAMS, PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL STEEL.
- CI2 PROVIDE STANDARD HOOKS FOR ALL TOP REINFORCING BARS AT DISCONTINUOUS ENDS. HOOKS MAY BE TILTED FROM VERTICAL TO OBTAIN PROPER CONCRETE COVER.
- CI3 GROUT UNDER BEARING PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 6000 PSI IN SEVEN DAYS. VIBROPRUF #11, BY LAMBERT CORPORATION, OR ACCEPTED SUBSTITUTE
- ALL FORMWORK SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED, AND MAINTAINED Cl4 ACCORDING TO ACI 347, RECOMMENDED STANDARD PRACTICE FOR CONCRETE FORMWORK.
- CI5 RESPONSIBILITY: THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- CIG ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED WHERE SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS.

# STRUCTURAL STEEL NOTES

- STEEL WORK SHALL CONFORM TO THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS- ALLOWABLE STRESS DESIGN AND AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
- MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED: ROLLED SHAPES, PLATES AND BARS: ASTM A36, EXCEPT,
- WIDE FLANGE SECTIONS: ASTM A992, GRADE 50. fy=50ksi. MACHINE BOLTS: ASTM A307.
- PIPE COLUMNS: ASTM ASD, GRADE B. fy=36ksi STRUCTURAL STEEL TUBING, ASTM A500, GRADE B. fy=46ksi HIGH STRENGTH BOLTS: ASTM A 325 UN.O. ANCHOR RODS: ASTM FI554 GRADE 55
- HEADED ANCHOR STUDS: ASTM A108 (ULT TENSILE STR = 60,000 psi)
- 63 CONNECTIONS:
- UNLESS OTHERWISE NOTED, BOLTS SHALL BE HIGH-STRENGTH, BEARING TYPE WITH THREADS INCLUDED IN SHEAR PLANES. TIGHTEN BY THE "TURN-OF-THE-NUT" METHOD
- (SNUG-TIGHT PLUS 1/2 TURN) WELDING ELECTRODES FOR ALL STEEL SHALL BE ETØXX. RETURN FILLET WELDS FOR FRAMED CONNECTIONS 1/2" AT EACH END. SHOP CONNECTIONS SHALL BE WELDED OR BOLTED.
- FIELD CONNECTIONS SHALL BE MADE WITH 3/4" BOLTS, EXCEPT AS NOTED OTHERWISE.
- ALL CAP PLATES AND BASE PLATES SHALL BE CONTINUOUSLY WELDED TO COLUMNS W/ MAX WELD SIZE UNO.
- HIGH-STRENGTH FIELD-BOLTED CONNECTIONS SHALL BE INSTALLED, TIGHTENED, TESTED, AND INSPECTED ACCORDING TO 'SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS' BY RESEARCH COUNCIAL ON STRUCTURAL CONNECTMIONS (RCSC). CONNECTIONS SHALL NOT BE CLASSIFIED AS SLIP-CRITICAL (SC) UNLESS INDICATED ON PLANS AS SUCH. "SNUG-TIGHT", AS DEFINED IN THE SPECIFICATION, IS SUFFICIENT FOR ALL BOLTED CONNECTIONS UNLESS THE BOLTS IN SUCH A CONNECTION ARE INDICATED AS SLIP-CRITICAL (SC). SLIP-CRITICAL BOLTS MUST BE FULLY TENSIONED PER SPECIFICATION.
- <u>65</u> BRACE AND MAINTAIN ALL STEEL IN ALIGNMENT UNTIL OTHER PARTS OF CONSTRUCTION NECESSARY FOR PERMANENT SUPPORT ARE COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TEMPORARY SHORING AS REQUIRED FOR THE STABILITY OF THE STEEL FRAME UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN COMPLETED AND BUILDING IS ENCLOSED.
- ALL WELDING IN THE SHOP OR IN THE FIELD SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. CERTIFICATION DOCUMENT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR HIS REVIEW. ALL WELDS SHALL BE PRE-QUALIFIED PER AWS DI.1-94, WELDED SPLICES OF ROLLED SHAPES MADE IN THE SHOP ARE ACCEPTABLE PROVIDED RADIOGRAPHED NDT EXAMINATION RESULTS ARE IN ACCORDANCE WITH AWS ACCEPTANCE STANDARDS AND WRITTEN REPORTS VERIFYING SUCH RESULTS ARE SUBMITTED TO THE STRUCTURAL ENGINEER FOR HIS APPROVAL MINIMUM FILLET WELDS SHALL BE 3/16 UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- THE STEEL STRUCTURE IS DESIGNED FOR STABILITY IN ITS COMPLETED CONDITION PER THE DRAWINGS, SPECIFICATIONS AND THESE NOTES. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING, GUYING AND OTHER MEANS OF SUPPORT DURING CONSTRUCTION SUFFICIENT TO WITHSTAND WEATHER CONDITIONS AND MEET ALL APPLICABLE SAFETY REQUIREMENTS DURING CONSTRUCTION.
- DETAILING OF STRUCTURAL STEEL AND CONNECTIONS SHALL BE SHOWN ON SHOP AND ERECTION DRAWINGS PREPARED BY THE FABRICATOR FOR THE STRUCTURAL ENGINEER'S REVIEW, PRIOR O FABRICATION.
- 59 ALL STEEL SHALL RECEIVE A SHOP COAT OF PRIMER (COLOR AS DIRECTED BY ARCHITECT) WHERE EXPOSED TO VIEW. ALL OTHER AREAS, INCLUDING THOSE WHICH WILL RECEIVE SPRAY-ON-FIRE PROTECTION, OR WHERE HEADED STUDS ARE TO BE WELDED, SHALL NOT BE.
- HOT DIP GALVANIZE AFTER FABRICATION ALL STRUCTURAL STEEL ITEMS AND THEIR CONNECTIONS PERMANENTLY EXPOSED TO EARTH AND/OR TO WEATHER, GALVANIZING SHALL BE PER ASTM A123 FOR MEMBERS AND ASTM A153 FOR CONNECTION ELEMENTS. (SEE DRAWINGS FOR OTHER STRUCTURAL ITEMS TO BE HOT DIP GALVANIZED).
- PROVIDE CURB ANGLES 3X3X1/4 TO SUPPORT ROOF DECK AT OPENINGS UNO.

# ALT ACI AFF AISC AISI ASTM AWS AB ARCH ASTM AWS B/ BLDG EA EE EXP EXT FBC FL F¥ FLR F D FTG GA GAL∨ GC GLU-L HAS HC HK HORIZ HP HSS INT JT JST ĸο LGTH LLH LL∨ `\_ONG MANUE M B MATL MAX MECH MEZZ MIN MISC MO MTL NW 00 OPNG OPP PAF PL PLY PSF PSI PREFAB PROJ PT þώ REF REINF RCP REQD R U R D SCHED SIM SPC SPECS SPF SQ SΑ S S STD STL STRUC SYM SYP THK THD T # B T # G

# SYMBOLS AND ABBREV

# ALTERNATE/ALTERNATIVE AMERICAN CONCRETE INSTITUTE

ABOVE FINISHED FLOOR AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN IRON AND STEEL INSTITUTE AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WELDING SOCIETY

ANCHOR BOLTS ARCHITECTURE/ARCHITECTURAL AMERICAN SOCIETY OF TESTING MATERIALS AMERICAN WELDING SOCIETY

BOND BEAM BOTTOM FLANGE BRACE BASE PLATE/BEARING PLATE

SEARINC

BLOCK BOTTOM O BUILDING

CANTILEVER CENTERLINE CLEAR/CLEARANCE COLUMN CONCRETE

CONCRETE BEAM CONCRETE COLUMN CONCRETE MASONRY UNIT ONTINUOUS

CONNECTION CONSTRUCTION

CONSTRUCTION JOINT CONTRACTION JOINT / CONTROL JOINT DETAIL DEPARTMENT

DEFORMED BAR ANCHOR DRY FILM THICKNESS DIAMETER

DIMENSION DISTANCE DOWN DRAWING

EACH EACH END EACH FACE EXPANSION JOINT

LEVATION MBEDMENT ENGINEER EDGE OF SLAB EQUAL EACH SIDE EACH WAY

EXISTING EXPANSIO

FLORIDA BUILDING CODE FULL LENGTH WELD. WELD ENTIRE DIST. FIELD VERIFY FINISHED FLOOR

FLOOR FLOOR DRAIN FOOTING GAGE/GAUGE GALVANIZED GENERAL CONTRACTOR GLUE LAMINATED

HEADED ANCHOR STUD HOLLOW CORE HOOK HORIZONTAL

HOLLOW STRUCTURAL SECTION HEIGH

INSIDE DIAMETER INSIDE FACE INTERIOR JOINT JOIST

KIP = 1000 LE KNOCK OUT LENGTH LONG LEG HORIZONTAL

LONG LEG VERTICAL LONGITUDINAL MANUFACTURE/MANUFACTURER MASONRY BEAM MATERIAL

MAXIMUM MECHANICAL MEZZANINNE MINIMUM MISCELLANEOUS MASONRY OPENING METAL

NOT IN CONTRACT TO SCALE NORMAL WEIGH TOPPING

ON CENTER OPENING OPPOSITE

POWER ACTUATED FASTENER YWOOD POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH PC PRECAST CONCRE PRE-ENG PRE-ENGINEERED PRECAST CONCRETE PREFABRICATED

PROJECTION PRESSURE TREATED PANEL WIDTH REFERENCE REINFORCING

REINFORCED CONCRETE PIPE REQUIRED RETAINING WALL ROOF DRAIN

SCHEDULE SIMILAR SPACE/SPACES SPECIFICATIONS SPRUCE PINE FUR SQUARE

STUD ANCHOR STAINLESS STEEL STANDARD STEEL STRUCTURAL SYMMETRICAL

STEPPED FOOTING SOUTHERN YELLOW PINE THICK THREAD/THREADED

TIE BEAM TOP AND BOTTOM TONGUE AND GROOVE TOP OF CONCRETE TRANSVERSE TYPICAL

TUBE STEEL UNLESS NOTED OTHERWISE

1.0.C. 1.0.S.

TYP

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WPF WWF WH

W / O

TRANS

VERTICAL VOLUME WALL FOOTING WATERPROO

WELDED WIRE FABRIC WEEP HOLE WIDE FLANGE UUITI WITHOUT

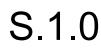
WOOD WORKING POINT



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MBOATRIGH ARCHITEC 914 PLAINFIELD AVENUL ORANGE PARK, FL 3207 ORANGE PARK, FL 320/3 CONTACT: 904 413 8028 BrianBoatrightArchitect.con 🔲 👎 – 🚛 brianoboatrightaia@gmail.co FL: AA26003151,AR12659,ID5414 \*\*\* STATE OF FLORIDA 32097 Ċ Ш Ш Ċ NIC LL BUIL  $\supset$  $\square$  $\overline{\mathbf{N}}$ С Ζ  $\boldsymbol{\mathcal{C}}$ ш PRO MIN < C 86000  $\geq$ ĹШ Z REVISIONS NO DATE COMMENT

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STING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD D ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). TO TO ARCHITECT AND ENGINEER. SUBMITTALS, INCLUDING, BUT NOT LIMITED TO, PLANS, DETAILS AND SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHALL BE SUBMITTALS BE REVIEWED FOR COMPATIBILITY WITH THE RAWINGS FOR THE STEEL TRUSSES BE REVIEWED FOR COMPATIBILITY WITH THE OF THE STRUCTURE PRIOR TO FABRICATION. ANY AND ALL COSTS ASSOCIATED ING TRUSSES FROM SUBMITTALS NOT BEARING OUR SHOP DRAWING STAMP AND L BE THE SOLE RESPONSIBILITY OF THE GC. HALL BE DESIGNED BY A SPECIALTY ENGINEER WITH A MINIUM OF 5 YEARS I SIMILAR TYPE STRUCTURES. HALL BE TEMPORARILY AND PERMANENTLY BRACED AS REQUIRED BY TRUSS LESS FOR TOP CHORD MEMBERS IS IS-GA WITH A MINIMUM FY = 50 KSI. N SHOUN HEREIN IS A GRAPHICAL REPRESENTATION ONLY. REFER TO TRUSS R ACTUAL LAYOUT, TRUSS PROFILES AND HOLD-DOWN REQUIREMENTS AT ALL TS.	МІ M2 M3 M4 M5 M6 M7	DETERY USE THE AND TYI AND SH, EXCEED THE G.C. CONSTR MORTAR GRADE, RESPEC DESIGN HAND M
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R ACTUAL LAYOUT, TRUSS PROFILES AND HOLD-DOWN REQUIREMENTS AT ALL		PIGMEN
	M8	GROUT A
TRUSS CONNECTIONS SHALL BE DESIGNED AND PROVIDED BY TRUSS 2. ALL TRUSS BEARING CONNECTIONS (AT SEATS) TO STEEL SUPPORTS SHALL AND PROVIDED BY TRUSS MANUFACTURER TO RESIST TRUSS UPLIFT REACTIONS.	M9	GROUT F A SLUMF BETWEE MASONF
. BE SHOP FABRICATED, INCLUDING ANY FIELD SPLICE CONNECTION AND SHIPPED TO SITE IN MAXIMUM LENGTHS AND HEIGHTS. FIELD FABRICATION .L. NOT BE PERMITTED.	MIØ	4 TESTEI SAMPLIN
18 RS SHALL BE GALY, METAL STUD STOCK AND GALY, SHEET OF SIZES AND		QUALITY
DETERMINED BY THE MANUFACTURER'S STRUCTURAL ANALYSIS, GALVANIZED AND CONNECTOR SYSTEMS SPECIFICALLY DESIGNED FOR USE IN TRUSSES	MII	THE G.C. ANCHOR
PTABLE.	M12	REINFOR
RECTURAL FLOOR PLANS FOR OPERABLE WALLS THAT ARE SUSPENDED FROM ANALYSIS FOR CLOSED, PARTIDALLY OPEN AND OPEN POSITION LOAD CURVES IS TO WALL MANUFACTURER FOR SPECIAL DEFLECTION CRITERIA.	MI3	
TO WALL MANUFACTURER FOR SPECIAL DEFLECTION CRITERIA. ECTURAL REFLECTED CEILING PLANS AND SECTIONS FOR SPECIAL CEILING CLUDING CEILING SLOPES, TROFFERS, COFFERS, TRAYS, STEPS AND OTHER IRES.		F S U U
	M14	REINFOR
	M15	

## STEEL ROOF DECK NOTES

- RDI DECK SHALL CONFORM TO S.D.I. SPECIFICATIONS. SEE ROOF PLANS AND DETAILS FOR DECK ATTACHMENT PATTERNS.
- RD2 FOR ROOF DECK USE 3'-0' WIDE 1-1/2' 22-GAGE TYPE B G90 GALV. DECK U.N.O., FOR ATTACHMENTS SEE DETAIL. MINIMUM SECTION MODULUS (SP=0.186 IN3 /FT. SN=0.192 IN3 /FT). Min. Fy = 33 ksi.
- RD3 AT PERIMETER SUPPORTS ALL DECK FLUTES MUST BE WELDED WITH 5/8' PUDDLE WELDS AT 6'0.C UN.O. SEE PLAN FOR GAGE.
- RD4 NO PERMANENT SUSPENDED LOADS ARE TO BE SUPPORTED BY THE STEEL DECK
- RD5 STEEL DECK SHALL BE ERECTED CONTINUOUS FOR A MINIMUM OF THREE (3) SPANS AND SHALL LAP AT THE CENTERLINE OF SUPPORTS A MINIMUM OF TWO (2") INCHES. METAL DECK SHALL BE ERECTED AND FASTENED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND ERECTION LAY-OUTS AND AS SHOWN ON DRAWINGS. ALL DECK MUST HAVE AN END BEARING OF AT LEAST 1 1/2."
- RD6 PROVIDE SUPPORTS FOR METAL DECK AS REQUIRED WHERE METAL DECK IS CUT OUT AROUND COLUMNS.RD1 ALL FIELD WELDING OF DECK SHALL BE IN STRICT ACCORDANCE WITH ANSI/AWS DI.3.
- RD8 USE PROPER SIZE WELDING ELECTRODE AND WELDING MACHINE CURRENT, SO THAT WELDS ARE GOOD AND FREE FROM 'BURN-THROUGH'. RD9 BEFORE PLACEMENT OF ROOF INSULATION AND ROOF COVERING, THE DECK SHALL BE INSPECTED
- FOR TEARS, DENTS OR OTHER DAMAGE THAT MAY PREVENT THE DECK FROM ACTING AS A STRUCTURAL DIAPHRAM.
- RDIØ GALVANIZING SHALL CONFORM TO ASTM-A653-94, STRUCTURAL QUALITY, AND FEDERAL SPEC. QQ-5-175.

# METAL BUILDING GENERAL NOTES

- MBI SOUTHARD ENGINEERING, INC. IS ONLY RESPONSIBLE FOR FOUNDATION DESIGN. ALL OTHER STRUCTURAL COMPONENTS ARE TO BE DESIGNED BY THE METAL BUILDING DESIGN ENGINEER INCLUDING BUT NOT LIMITED TO, THE ROOF PURLINS, ROOF PANELS, WALL GIRTS, AND WALL PANELS. .
- MB2 THE METAL BUILDING DESIGN ENGINEER SHALL CONSULT W/ THE M.E.P. ENGINEER TO DETERMINE THE APPROPRIATE DEAD LOADS FOR THE DESIGN OF THE METAL BUILDING SHELL.
- MB3 FLORIDA PRODUCT APPROVAL NUMBERS SHALL BE SUBMITTED FOR THE ROOF PANELS & WALL PANELS.
- MB4 SIGNED AND SEALED METAL BLDG. SHOP DRAWINGS SHALL BE SUBMITTED. SHOP DRAWINGS SHALL INCLUDE ALL COLUMN REACTION LOADS SO THAT THE FOOTINGS MAY BE VERIFIED.

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MB5 MAX LATERAL STORY DRIFT SHALL BE LIMITED TO H/200.

# ACRETE MASONRY UNITS NOTES

CONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF BUILDING DE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13/ASCE 5-13/TMS 402-13) AND ECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602)." REFERRED TO REAFTER AS (SMS).

COMPRESSIVE STRENGTH OF MASONRY (f'm) SHALL BE AT LEAST 1500 psi. THIS SHALL BE "ERMINED BEFORE CONSTRUCTION. THE UNIT STRENGTH METHOD TO DETERMINE f'm. DETERMINE f'm BASED ON STRENGTH OF UNIT

O TYPE OF MORTAR SPECIFIED. UNITS SHALL CONFORM TO ASTM C90, TYPE II, NORMAL WT. O SHALL BE TESTED IN ACCORDANCE WITH ASTM C140 THICKNESS OF BED JOINTS SHALL NOT SEED 5/8 IN. LAID IN RUNNING BOND ONLY. G.C. SHAL SUBMIT MIX DESIGNS AND TEST RESULTS FOR MORTAR AND GROUT BEFORE

ISTRUCTION BEGING. RTAR SHALL COMPLY WITH ASTM C270, TYPE M FOR RETAINING WALLS AND WALLS BELOW

ADE, TYPE & FOR TYPICAL WALLS. (COMPRESSIVE STRENGTH = 2500 PSI AND 1800 PSI PECTIVELY. SITE TESTED MORTAR CUBES SHALL ACHIEVE A MINIMUM OF 80% OF THE DIGN COMPRESSIVE STRENGTH). D MIXING MORTAR IS NOT ALLOWED.

MENTS WILL NOT BE ALLOWED IN MORTAR MIX.

DUT AND MORTAR SHALL BE FIELD TESTED AS DESCRIBED IN SECTION 3.7 (SMS) AND

OUT FOR FILLED CELLS SHALL CONFORM TO ASTM C416, LATEST REVISION, AND SHALL HAVE LUMP OF BETWEEN 8" AND 10". PUMP 4'-0" MAXIMUM GROUT LIFTS WITH 60 MIN. DELAY WEEN LIFTS. GROUT COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS. ALL WONRY BELOW SLAB OR GRADE SHALL BE SOLIDLY GROUTED. GROUT SHALL BE SAMPLED STED ACCORDING TO ASTM C 1019 AT A FREQUENCY OF ONCE PER LIFT.

IPLING AND TESTING WILL BE IN ACCORDANCE W/ SECTION 1.6 - TABLE 4 - LEVEL II LITY ASSURANCE (SMS).

G.C. WILL PROVIDE CERTIFICATION FOR REINFORCING STEEL, JOINT REINFOREMENT, HOR BOLTS, TIES, ANCHORS, METAL ACCESSORIES, AND CMU UNITS TO BE USED. IFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60.

ERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:

PLATE AND BENT BAR ANCHORS: ASTM A572 GRADE 50. SHEET METAL ANCHORS AND TIES: ASTM A366/A366M WIRE MESH TIES: ASTM A 185 OR ASTM A 497. WIRE TIES AND ANCHORS: ASTM A 82, 4 ASTM A167, TYPE 304.

FORCE JOINTS WITH LADDER-TYPE REINFORCEMENT CONFORMING TO ASTM A 951 6' O.C. MEASURED VERTICALLY. LAP ALL JOINT REINFORCEMENT 6' MIN.

REINFORCE MASONRY OPENINGS GREATER THAN 1'-0" WIDE, WITH HRIZ JOINT REINF PLACED IN (2) HORIZ JOINTS APPROXIMATELY 8' APART, IMMEDIATELY ABOVE THE LINTEL AND IMMEDIATELY BELOW THE SILL. EXTEND REINFORCING A MINIMUM OF 2'-0" BEYOND JAMBS OF THE OPENING EXCEPT AT CONTROL JOINTS. SEE PLAN FOR ADDITIONAL REQUIREMENTS.

MIG EXTEND ALL VERTICAL WALL REINFORCEMENT TO WITHIN 2" OF TOP OF WALL OR BEAM U.N.O. TERMINATE REINFORCING WITH STANDARD ACI 30 DEGREE HOOK IF ROOF JOISTS AND/OR TRUSSES BEAR ON TOP OF WALL AND THERE IS NO PARAPET. IF PARAPET EXISTS, HOOK IS NOT REQUIRED.

MAGONRY CONSTRUCTION JOINTS SHALL BE LOCATED AT ALL RETURNS AND SPACED NO GREATER THAN 24'-8'. JOINTS SHALL ALSO BE PLACED AT A MINIMUM OF 2'-8' FROM OPENINGS. ALSO SEE DETAILS.

MI8 JOINT FILLERS SHALL BE A PREMOLDED 3/8' JOINT FILLER.

MП

PAINT

MI3 OPENINGS SHALL HAVE A MINIMUM OF ONE BLOCK CELL AT EACH JAMB GROUTED AND REINFORCED ALSO SEE DETAILS.

M20 IF TEMPRATURE FALLS BELOW 40 DEG F. OR EXCEEDS 100 DEG. F SPECIAL CONSTRUCTION MEASURES SHALL BE TAKEN AS PER FBC 2104.3 AND 2104.4.

M21 AT FILLED CELLS, LAY UNITS WITH FULL BED JOINTS AROUND CELLS. USE PLAIN END TWO CELLED UNIT.

M22 USE CORED HOLES W/ STEEL SLEEVES WHEN OPENINGS ARE REQUIRED FOR DRAIN PIPES. AVOID REINF. CELLS.

M23 TYPICAL VERTICAL REINFORCING SIZE AND SPACING SHALL BE ABOVE AND BELOW ALL WALL OPENINGS.

## COLD FORMED STEEL FRAMING NOTES

CFSI LIGHT GAGE SHALL BE SAME DIMENSIONS AS CALLED ON ARCH DRAWINGS UNLESS NOTED ON STRUCTURAL...

CF32 UNLESS NOTED OTHERWISE, ALL STUDS SHALL BE EQUAL TO A MINIMUM OF 6006200-43 WITH 18-GA TRACKS.

CF63 STUD, TRACK AND ACCESORY DESIGNATIONS ARE BASED UPON THE STEEL STUD MANUFACTURERS ASSOCIATION PRODUCT GUIDE. MINIMUM YIELD STRENGTH FOR ALL STUDS SHALL BE 50 KSI±, ALL TRACK SHALL BE 50 KSI.

CF34 ALL STUDS, TRACK BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING MEETING THE REQUIREMENTS OF A.S.T.M. A525.

CF35 BOTH STUD FLANGES MUST BE WELDED TO TRACK AT TOP AND BOTTOM OR ATTACHED W/ \*10 TEK SCREWS (MIN. 1 SCREW EACH FLANGE). ALL WELDS SHALL BE TOUCHED UP WITH ZINC RICH

CF56 STUDS SHALL HAVE FULL BEARING AGAINST INSIDE TRACK WEB PRIOR TO ATTACHMENT AT BOTH ENDS.

CFST ALL STUD TO STUD CONNECTIONS TO BE (4) #10 TEK SCREWS (MIN.) UNLESS NOTED OTHERWISE.

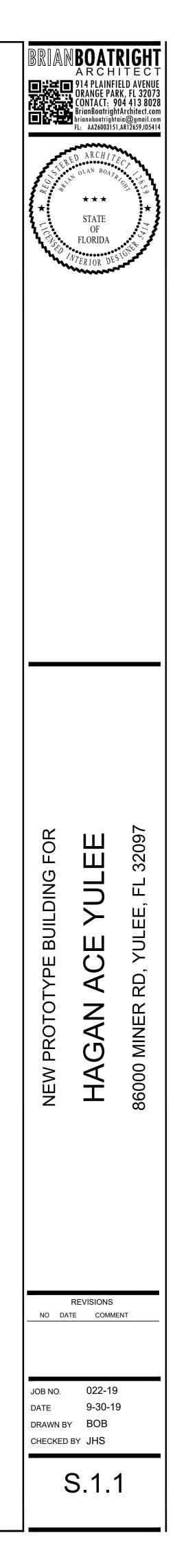
CF38 AT TRACK BUTT JOINTS, ABUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, OR THEY SHALL BE BUTT-WELDED OR SPLICED TOGETHER.

CF33 A MINIMUM OF 10' OF UN-PUNCHED STEEL IS REQUIRED AT BOTH ENDS OF STUDS.

CFSIØ BRIDGING SHALL BE 1.5" CRC PLACED THROUGH PUNCHOUTS AND ATTACHED PER DETAIL 8/65. BRIDGING IS TO BE SPACED AT MIDSPAN OF VERTICAL STUDS ON THE WEST SIDE OF BUILDING. CRC BRIDGING IN 8" STUDS REQUIRES A CLIP ANGLE AT EACH CONNECTION LOCATION.

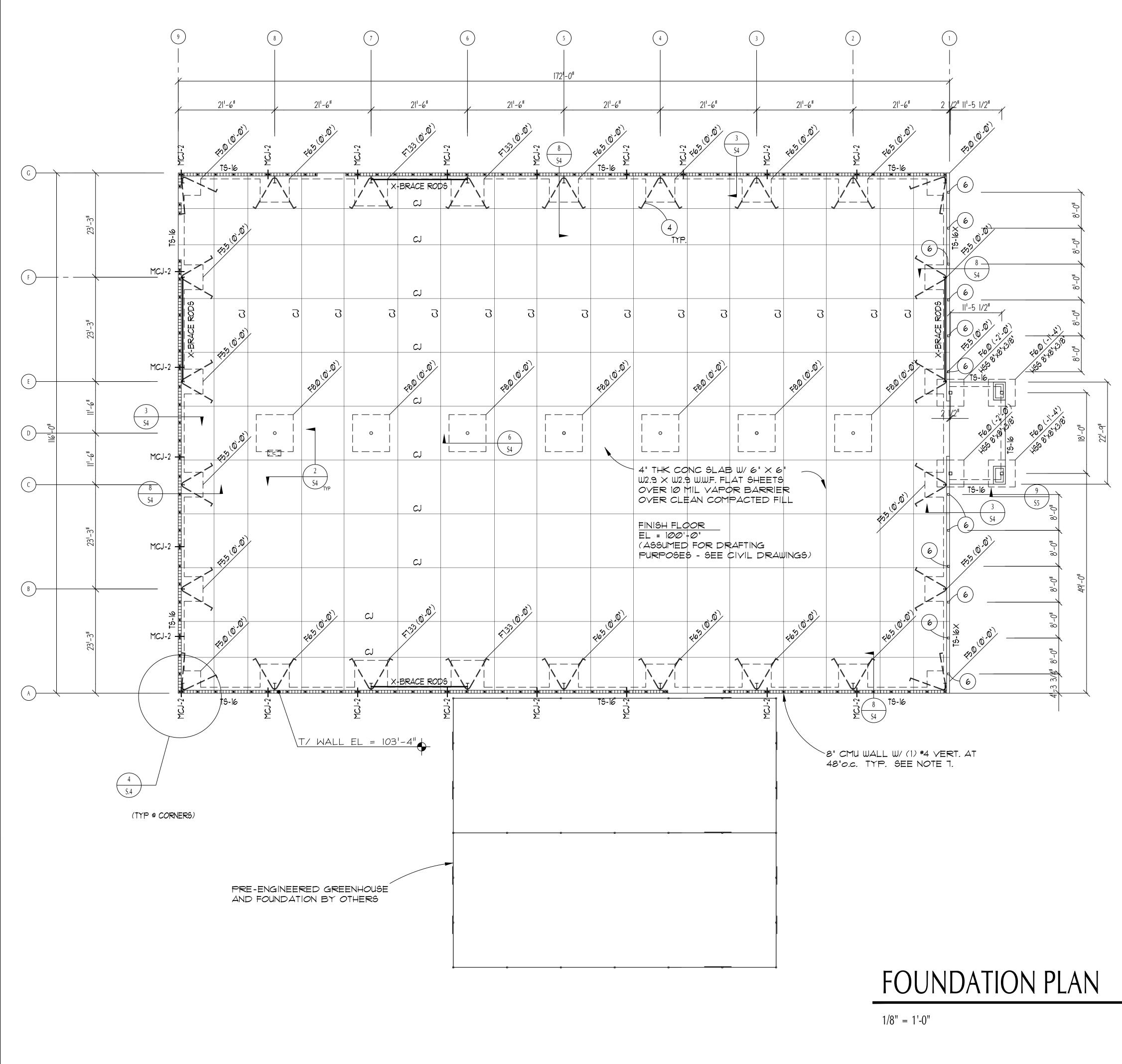
CFSII STUD DIMENSIONS ARE TO THE BACK FACE OF STUD.

CF612 SCREWS MUST MAINTAIN A MINIMUM EDGE AND SPACING DISTANCES OF 3  $\times$  d.

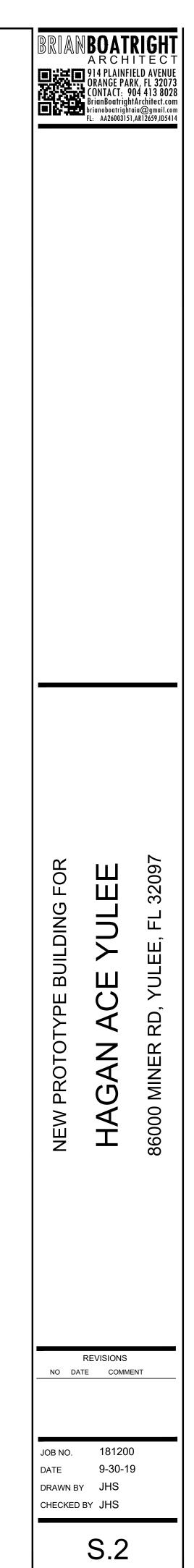




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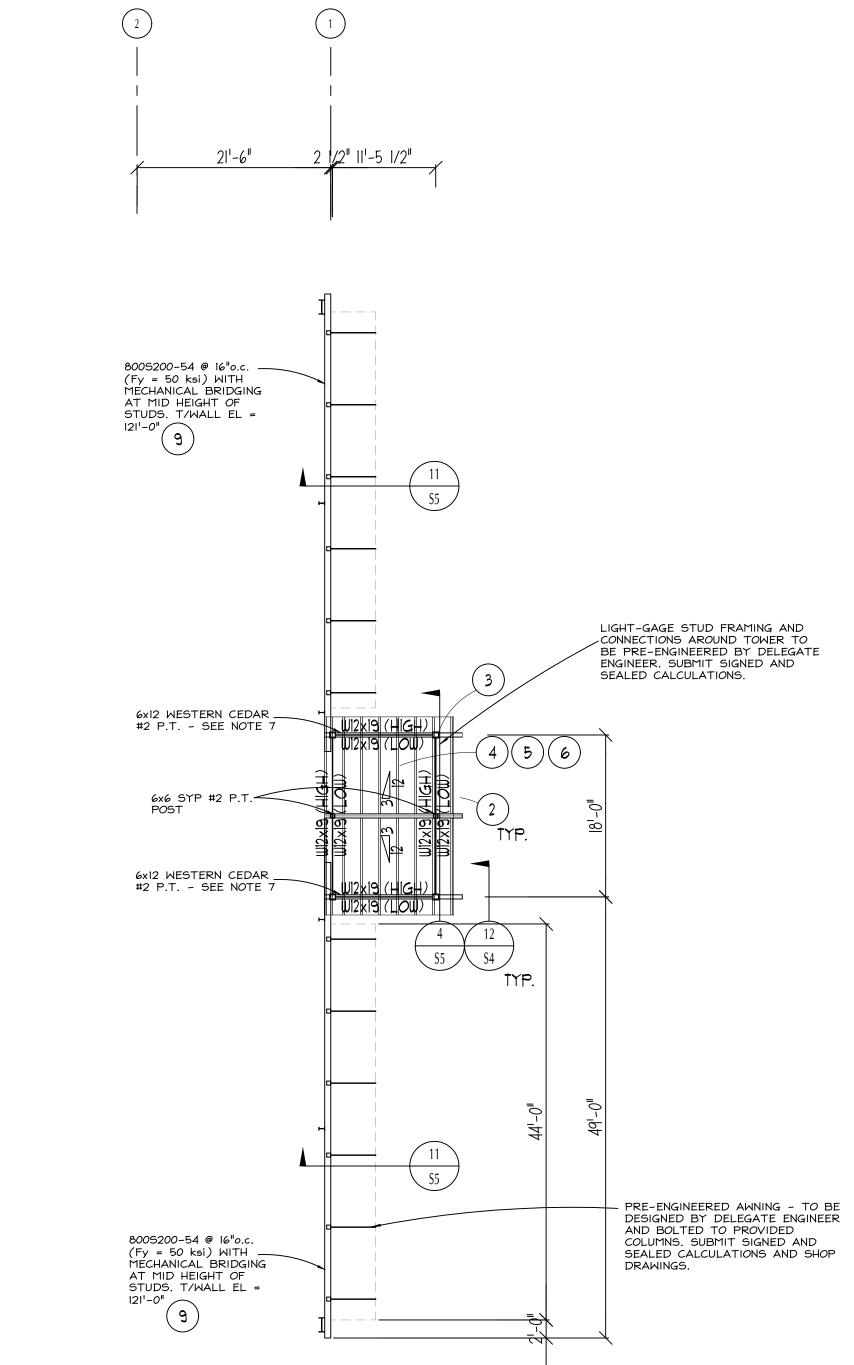
# FOUNDATION PLAN NOTES:

- FOUNDATION SIZES & REINFORCEMENT ARE PRELIMINARY DESIGNS AND SUBJECT TO CHANGE. UPON RECEIPT OF FINAL METAL BUILDING COLUMN LOAD REACTIONS, SOUTHARD ENGINEERING WILL VERIFY THE FOUNDATIONS SIZES SHOWN ON THIS PLAN. DO NOT EXCAVATE FOUNDATIONS PLANS UNTIL FOUNDATION SIZES ARE FINALIZED.
- 2. THE METAL BUILDING DESIGN CRITERIA IS AS FOLLOWS:

ULTIMATE WIND SPEED = 130 MPH EXPOSURE = B DIRECTIONALITY FACTOR = Ø.85 MAXIMUM BUILDING DRIFT LIMIT = H/200

- 3. TOP OF ALL FOUNDATIONS EL. = 100'-0" U.N.O.
- 4. FOR HAIRPIN DETAILS SEE DETAIL 5/6.3.
- 5. SEE DETAIL 9/5.3 FOR MASONRY CONTROL JOINT INFORMATION.
- 6. HSS  $5\frac{1}{2}$ "  $\times 5\frac{1}{2}$ "  $\times \frac{3}{6}$ " COLUMNS FOR AWNING SUPPORT. SEE DETAILS 1/55 AND 2/55.
- 1. TYP. 8" CMU REINF. W/ (1) #4 @48"O.C. VERT. AND WHERE SHOWN. USE LADDER TYPE REINFORCING IN BED JOINTS 16"O.C. PER G.N. UNO. REINF. WITH (1) #4 BAR @ ALL CORNERS & SIDES OF ALL OPENINGS. AT TOP OF WALL REINFORCE HORIZONTALLY WITH (1) #5 × CONT.





# ROOF FRAMING PLAN

1/8" = 1'-0"

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# **ROOF FRAMING PLAN NOTES:**

- ENGINEER.
- ALL W12×19 BEAMS HAVE MOMENT CONNECTIONS.
- BETWEEN COLUMNS AND BEAMS.
- TIES,
- ALL ROOF ZONES.
- 1 SCREWS @ 24"0.c. WITH A 2  $\frac{1}{4}$ " GAGE.
- SLAB WITH  $\frac{1}{4}$ " TAPCONS AT 16"0.c.

AT MAIN BUILDING ROOF PANELS, PURLING ARE TO BE PRE-ENGINEERED BY THE METAL BUILDING DESIGN DELEGATE

2. AT FRONT ENTRANCE FRAMING HIGH BEAMS HAVE A TOP OF BEAM EL = 122'-8" AND LOW BEAMS HAVE A TOP OF BEAM EL = 111'-4".

3. AT FRONT ENTRANCE TOP OF STEEL COLUMN EL = 122'-8  $\frac{3}{4}$ ". COLD FORMED STEEL TRUSS SUPPLIER SHALL ADJUST ELEVATION OF CORNER JACK TRUSS TO ACCOUNT FOR DIFFERENCE IN ELEVATION

4. 4x8 WESTERN CEDAR #2 RAFTERS AT 2'-0"O.C. ATTACH RAFTERS TO EAVE BEAM AND RIDGE BEAM USING (2) SIMPSON H2.5A HURRICANE

5. ROOF DECK SHALL BE  $\frac{3}{4}$ " PLYWOOD WITH A MINIMUM SPAN RATING OF 24/16. ATTACH PLYWOOD WITH 8d COMMON NAILS AT 6"O.C. IN

6. ROOF COVERING SHALL BE PRE-ENGINEERED STANDING SEAM ROOF PANELS. SUBMIT SIGNED AND SEALED CALCULATIONS CONFIRMING ROOF PANEL AND THE ATTACHMENTS TO THE  $\frac{3}{4}$ " PLYWOOD DECK CAN WITHSTAND AN ASD SERVICE UPLIFT LOAD OF -57.7 PSF. ULTIMATE UPLIFT WIND PRESSURE IS 96 PSF.

WOOD TIMBER BEAM IS CENTERED ON STEEL BEAM BELOW AND ATTACHED TO STEEL BEAM WITH (2) #14-13 x 6" DPI CONCEALOR

8. ALL WI2XI9 BEAMS CONNECT TO THE COLUMNS PER DETAIL 12/54.

9. TOP OF STUDS ATTACH TO METAL BUILDING ROOF EAVE BEAM USING 3 <sup>1</sup>/<sub>2</sub> × 14-GA FASTCLIP SLIDE CLIPS. ATTACH SLIDE CLIPS TO CONTINUOUS ANGLE WITH (3) #12-24 TEK/5 SELF DRILLING SCREWS BY BUILDEX. USE (2) USE A 14-GA TRACK X CONT. ATTACHED TO



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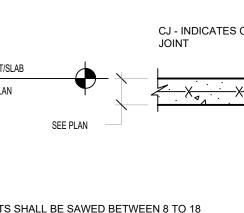
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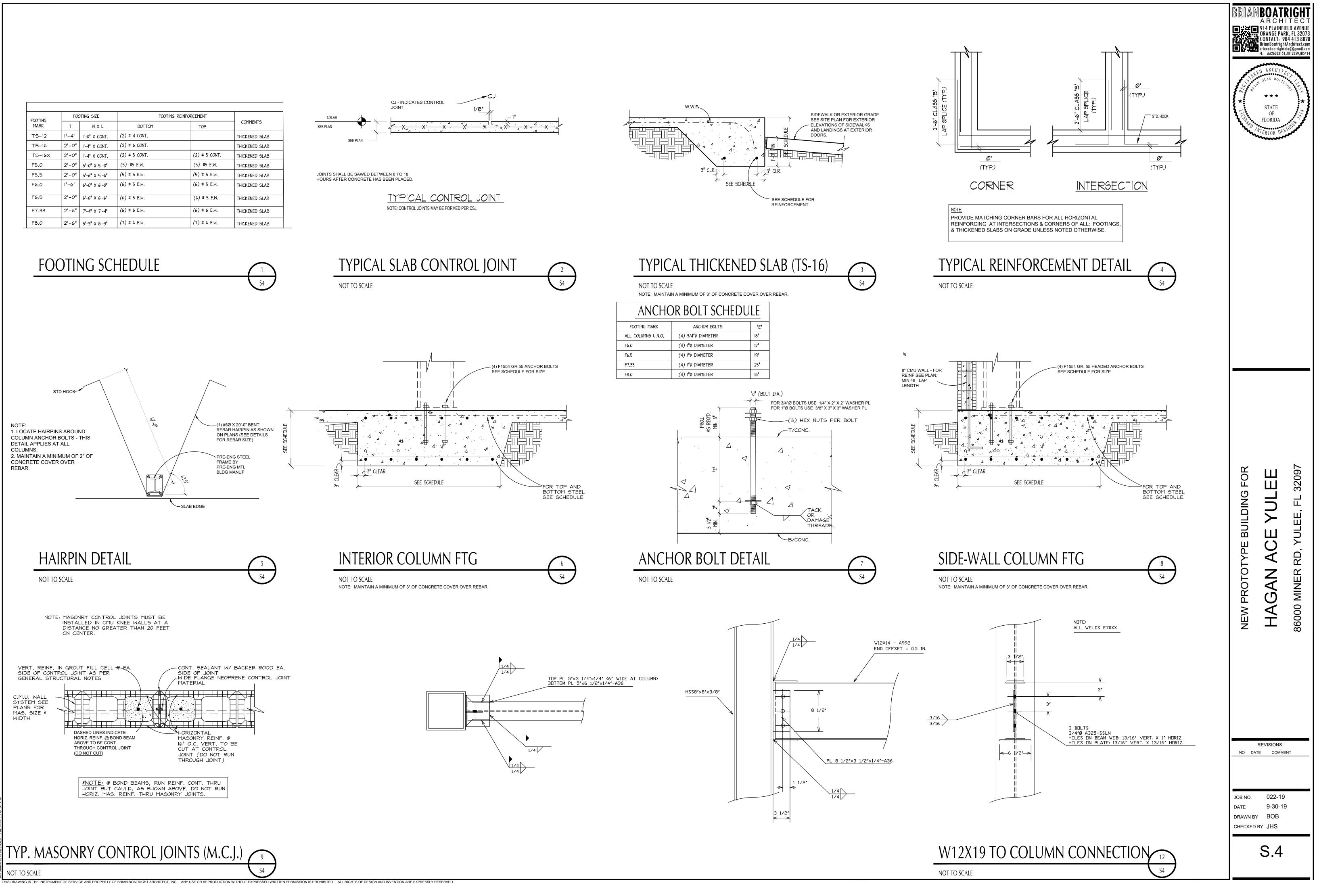
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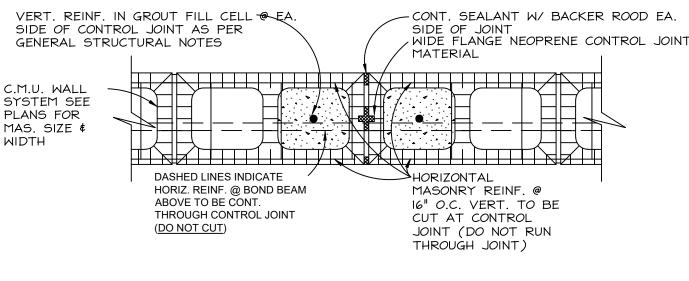
FOOTING	FOC	DTING SIZE	FOOTING	REINFORCEMENT		
MARK	T	WXL	BOTTOM	TOP	COMMENTS	
TS-12	1'-4"	1'-0" X CONT.	(2) # 4 CONT.		THICKENED SLAB	
TS-16	2'-0"	1'-4" X CONT.	(2) # 6 CONT.		THICKENED SLAB	
TS-16X	2'-0"	1'-4" X CONT.	(2) # 5 CONT.	(2) # 5 CONT.	THICKENED SLAB	
F5.0	2'-0"	5'-0" X 5'-0"	(5) #5 E.W.	(5) #5 E.W.	THICKENED SLAB	
F5.5	2'-0"	5'-6" X 5'-6"	(5) # 5 E.W.	(5) # 5 E.W.	THICKENED SLAB	
F6.0	1'-6"	6'-0" X 6'-0"	(6) # 5 E.W.	(6) # 5 E.W.	THICKENED SLAB	
F6.5	2'-0"	6'-6" X 6'-6"	(6) # 5 E.W.	(6) # 5 E.W.	THICKENED SLAB	
F7.33	2'-6"	7'-4" X 7'-4"	(6) # 6 E.W.	(6) # 6 E.W.	THICKENED SLAB	
F8.0	2'-6"	8'-3" X 8'-3"	(7) # 6 E.W.	(7) # 6 E.W.	THICKENED SLAB	



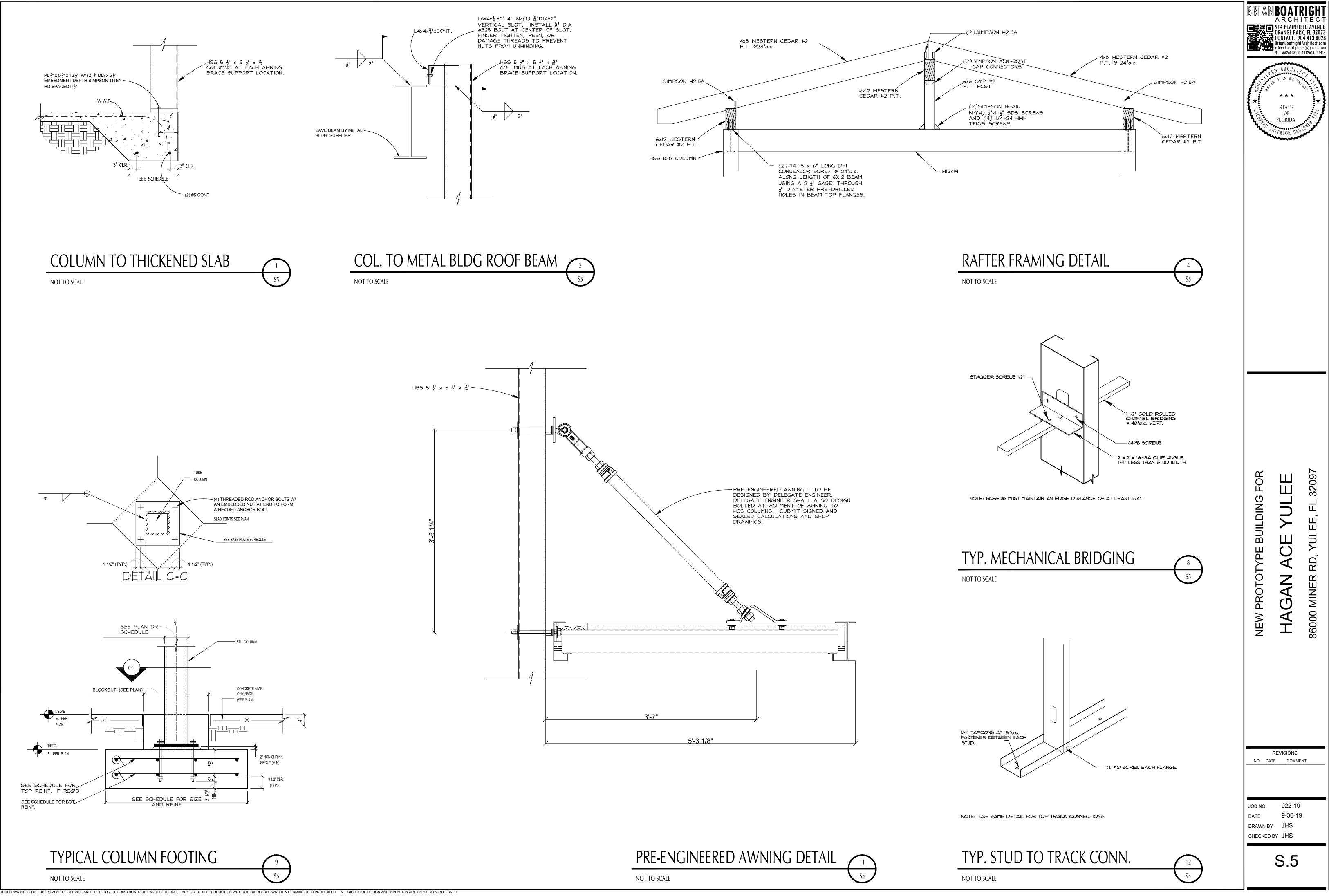




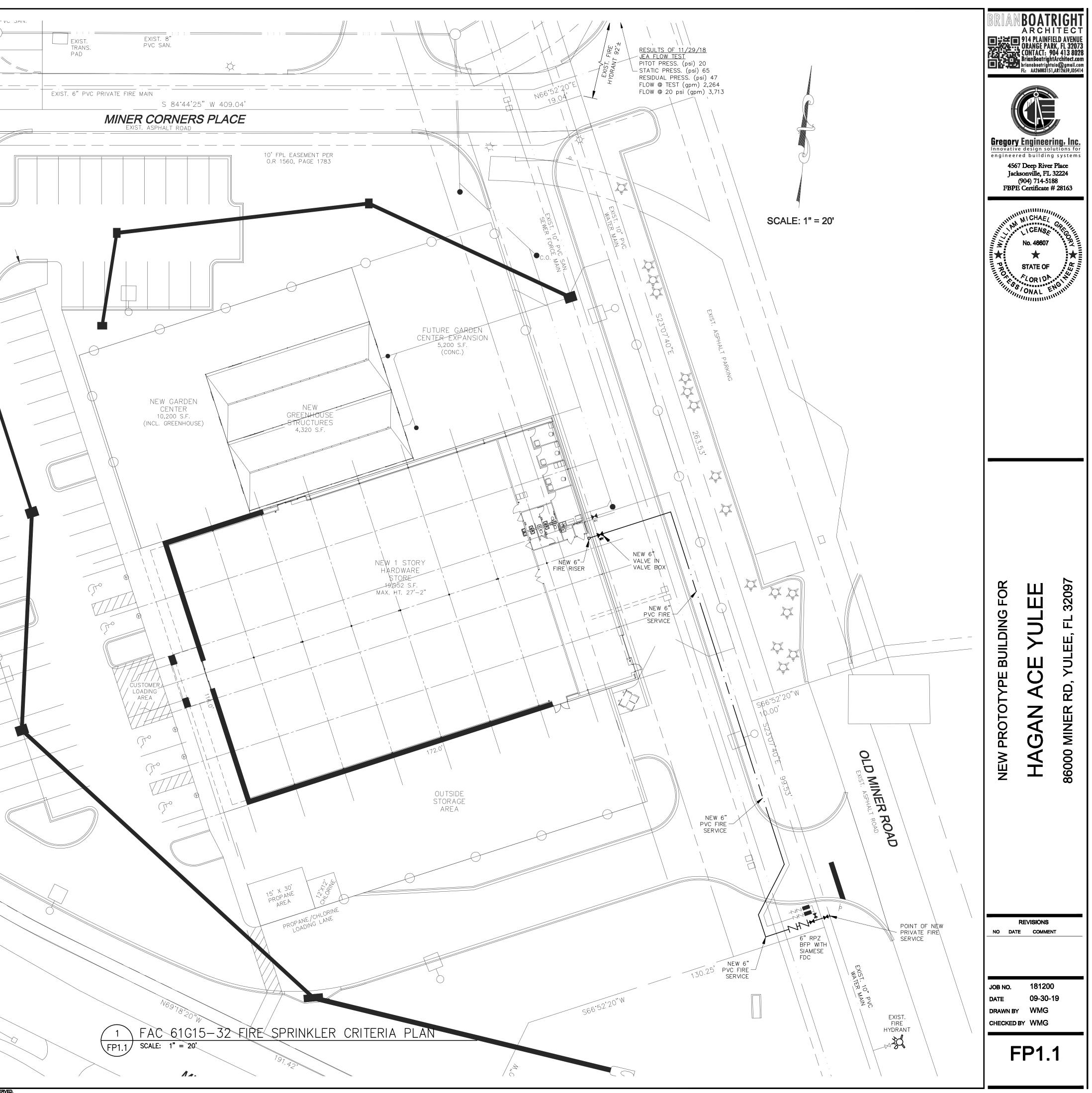


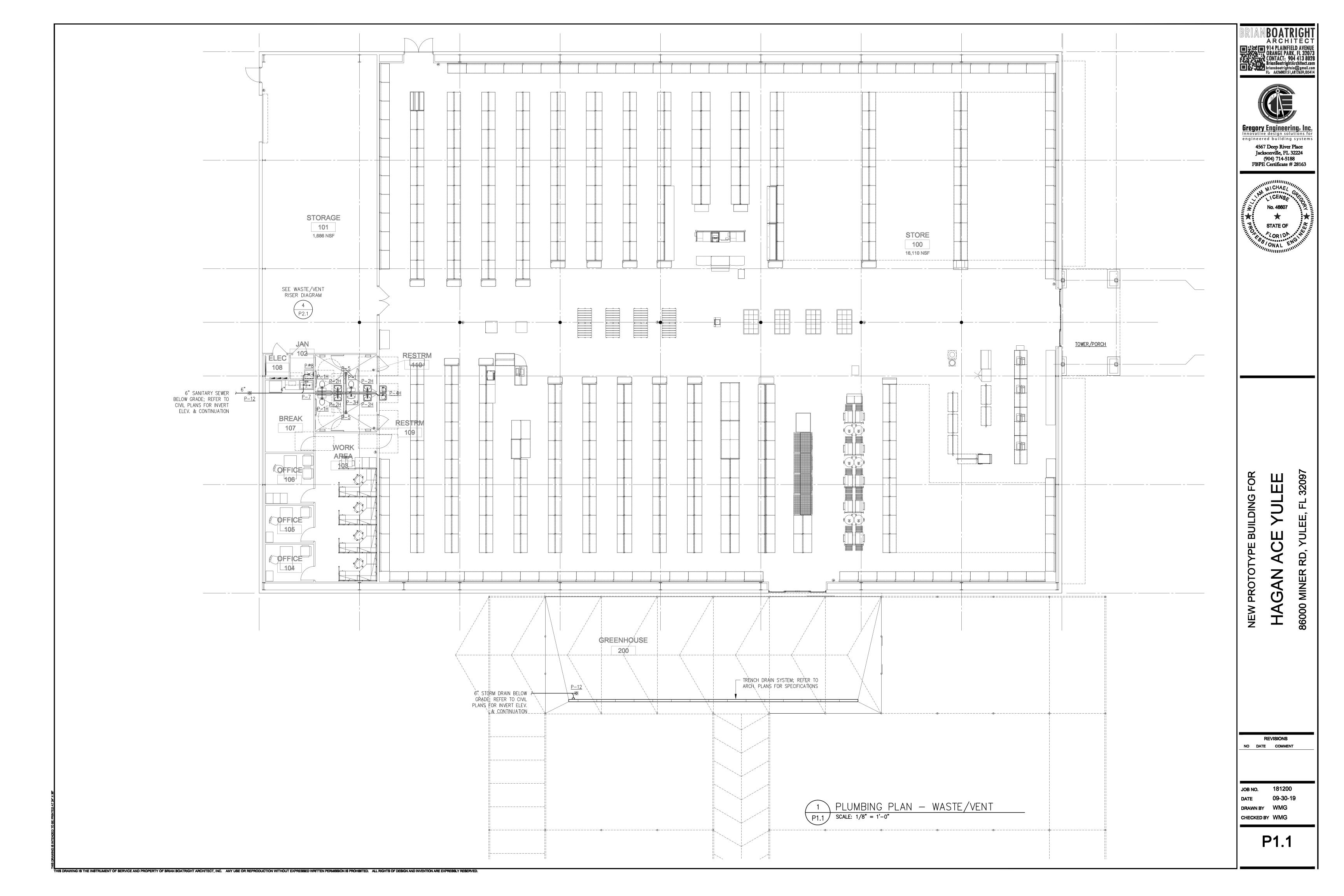


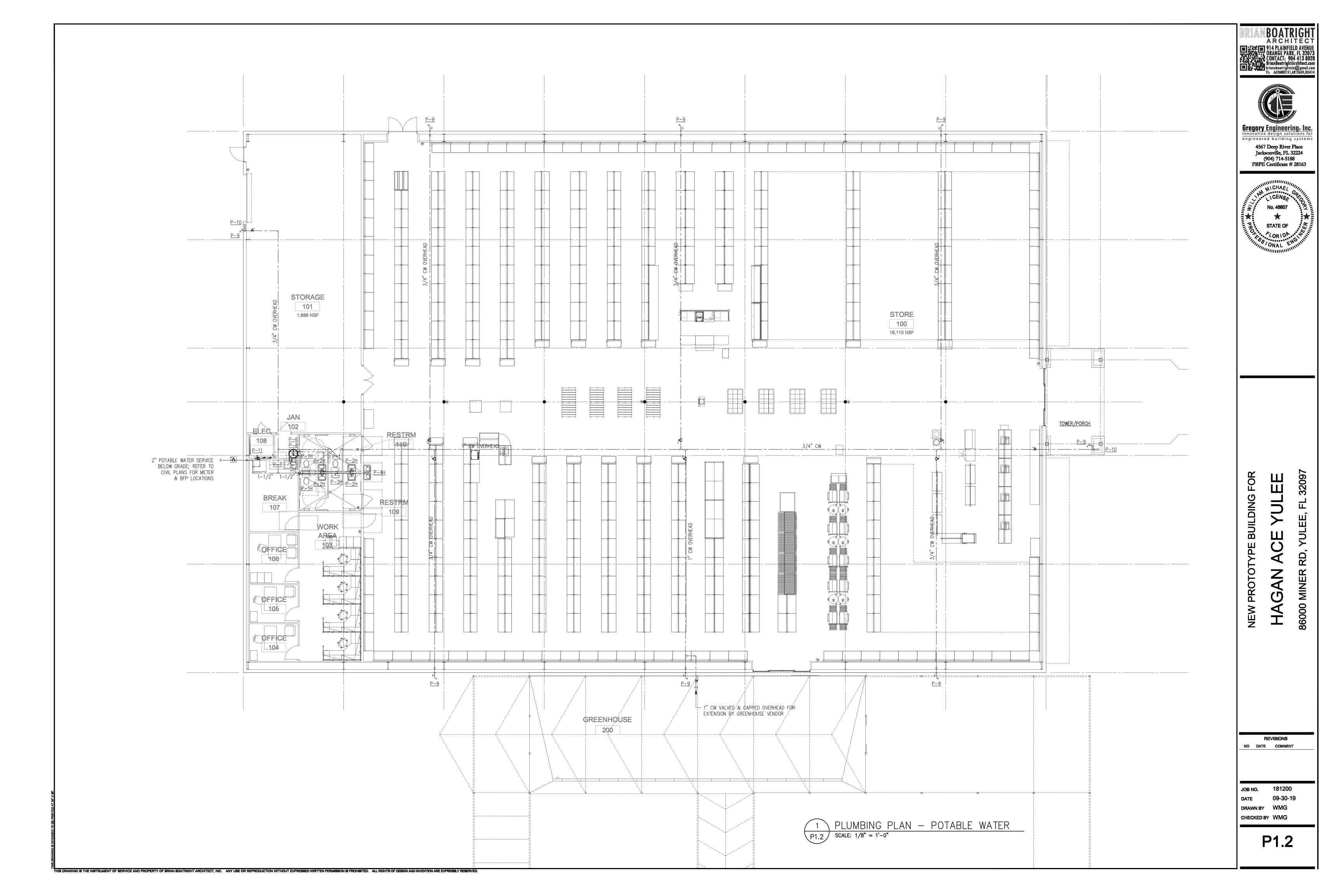
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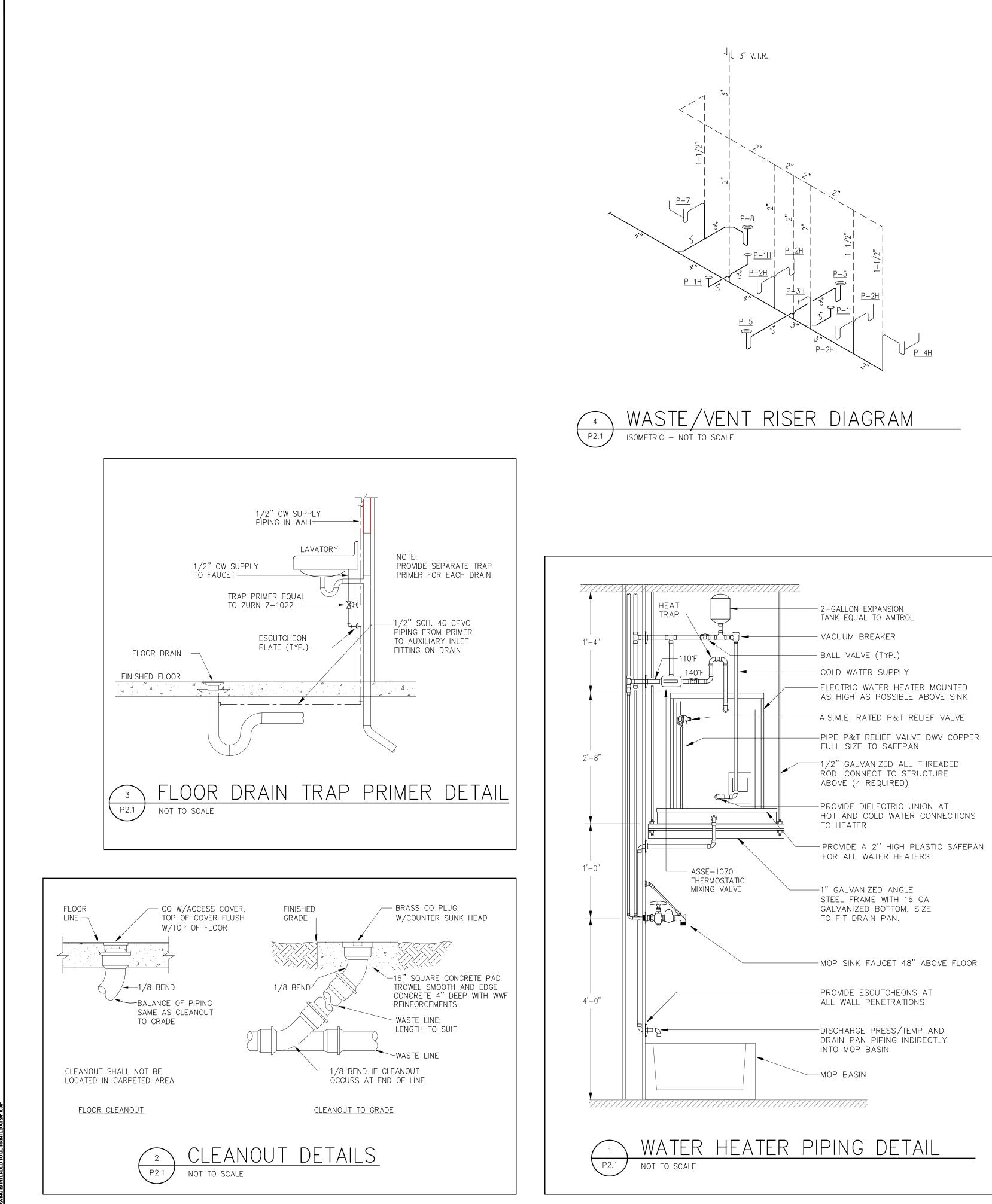


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<text></text>	_	(1) OVERALL DESCRIPTION	
		EQUIPPED WITH A NEW WET PIPE FIRE SPRINKLER SYSTEM DESIGNED PER NFPA-13, 2013 EDITION. A NEW 6" FIRE MAIN WILL TAP INTO AN EXISTING 10" WATER MAIN RUNNING ALONG OLD MINER RD AND THEN RUN UNDERGROUND	
Just Additional of Additional Rest of Park Products (Additional Additional Addi			
<ul> <li>A specific processing and p</li></ul>		THE ENTIRE FACILITY IS NEW CONSTRUCTION. EXCEPT AS NOTE BELOW, THE	-2
<pre>bit control of the second</pre>	)		
<pre>share of the state of the</pre>		DESIGNED PER NFPA 13, 2013 EDITION, FOR ORDINARY GROUP 2 HAZARD CLASS. THE SYSTEM WILL INCLUDE USING LISTED SCHEDULE 10 AND 40 STEEL OR CPVC PIPING LOCATED ABOVE THE CEILING, WITH PIPE DROPS TO RECESSED PENDENT OR SIDEWALL SPRINKLERS COVERING AREAS BELOW THE CEILING. ANY EXPOSED PIPING WILL BE STEEL, SCHEDULE 40.	
MALE POINT OF SECURED         PART POINT OF SECURED INCOMENDATION OF A VERTICAL A PART OF A VERTICAL POINT OF		STRUCTURAL SUPPORT AND STRUCTURAL OPENINGS FOR THE FIRE PROTECTION SYSTEM INCLUDING LIVE AND DEAD LOADS HAVE BEEN COORDINATED WITH THE STRUCTURAL ENGINEER. STEEL SLEEVES WILL BE SET PRIOR TO CONCRETE PLACEMENT, TO PROVIDE FOR PENETRATIONS OF FIRE PROTECTION PIPING THROUGH THE FLOORS OR ROOF STRUCTURE. CORE DRILLING WILL BE ALLOWED FOR CMU WALL PENETRATIONS FOR FIRE PROTECTION PIPING AS MAY BE REQUIRED. ALL PENETRATIONS WILL BE PROPLERLY FIRE—CAULKED, AS REQUIRED.	
<ul> <li>With Different Parties and Liston (PRIMARIA D' Since with a leng of pro- sender and the Parties and Liston Parties and Parties and Parties and Parties and Parties and Parties and Parties and Parties Parties and Parties Parties and Parties Parties and Parties Pa</li></ul>			_
STORE CEREMAND SPILLATION SPILL OWNER WITH 2014 DISK OF VERMENT         AND DESCRIPTION OF A START		POINT OF SERVICE IS AN EXISTING CIRCULATING 10" WATER MAIN. A NEW 6" FIRE SERVICE WILL BE EXTENDED INTO THE SITE TO SERVE THE NEW SPRINKLER SYSTEM.	-
Number 5: 20455110 AG GENERAR: CRUEP 2012 ALLS, DUCKALIGATE, NETHER         STREME PART & CANADA         STREME PART & CANADA <tr< td=""><td></td><td>SYSTEM DESIGN AND INSTALLATION SHALL COMPLY WITH 2013 EDITION OF NFPA-13 AND THE 2013 EDITION OF NFPA-24 AS WELL AS THE 2017 FLORIDA FIRE</td><td></td></tr<>		SYSTEM DESIGN AND INSTALLATION SHALL COMPLY WITH 2013 EDITION OF NFPA-13 AND THE 2013 EDITION OF NFPA-24 AS WELL AS THE 2017 FLORIDA FIRE	
The NALE PLANE OF A DESCRIPTION OF A DES	, <u>,</u>		
Process in the constraint of t	2	2(d) DESIGN APPROACH:	
BOD ARMY MILLINGALE CALLSS AND IN THE ARMANDS IN ADDRESS         BANKIN BITAL SET ALS ALL INFO EXCLOSE IN ADDRESS         MANKIN BITAL SET ALS ALL INFO EXCLOSE IN ADDRESS         MANKIN BITAL SET ALS ALL INFO EXCLOSE IN ADDRESS         MANKIN BITAL SET ALS ALL INFO EXCLOSE IN ADDRESS         MANKIN BITAL SET ALS ALS AND ADDRESS ALL INFO EXCLOSE IN ADDRESS         MANKIN BITAL SET ALS ALS AND ADDRESS ALL INFO EXCLOSE IN ADDRESS         MANKIN BITAL SET ALS ALS AND ADDRESS ALS ALS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS         MANKIN BITAL SET ALS ALS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS         MANKIN BITAL SET ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS ADDRESS         MANKING ADDRESS ADDRE		SYSTEM INSTALLED THROUGHOUT THE ENTIRE BUILDING, EXCEPT PORTIONS OF SYSTEM PROTECTING EXTERIOR CANOPIES SHALL BE PROTECTED FROM FREEZING BY ANY OF THE APPROVED METHODS OUTLINED IN NFPA-13, 2013 EDITION. EXTERIOR CANOPIES THAT ARE SUBJECT TO FREEZING SHALL BE PROTECTED	
AS JOHT HAZAR AND HAST A KINNUM DESKY ETK 2010 GPU/ST CHE TO MICH THANARDE CARL IN CONTUNE THANKING DERV ETK 2017 CF 1010 GPU/ST CHE THE STERE AT STANLE ALL OF CONTUNE THANKING, DAY SHEWEITER, LITHER FRANC STERE STALL & A AND FRANKING CHE ALL PRANKING, DAY SHEWEITER, LITHER FRANC STERE STALL & A AND FAN-13.         20.1 BATE & JERLY CHERARTER STELE STERE STELES AND FAN AND STELES AND STELES FOR SERVICE MAA.         21.1 DATE & JERLY CHERARTER STELE STERE STELES AND FAN AND STELES AND STELES FOR SERVICE MAA.         21.1 DATE STELES AND FAN AND STELES FOR SERVICE MAA.         21.1 DATE STELES AND FAN AND STELES FOR SERVICE MAA.         21.1 DATE STELES AND FAN AND STELES FOR SERVICE MAA.         21.1 DATE STELES AND FAN AND STELES FOR SERVICE MAA.         21.1 DATE STELES AND FAN AND STELES FOR SERVICE MAA.         21.1 DATE STELES AND FAN AND STELES FOR SERVICE MAA.         21.1 DATE STELES FOR SERVICE MAA.         21.1 DATE STELES FOR SERVICE MAA.         21.1 DATE STELES FOR SERVICE FOR SERVICE MAA.         21.1 DATE STELES FOR SERVICE FOR SERVICE MAA.         21.1 DATE STELES FOR SERVICE MAA FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE         21.1 DATE STELES FOR SERVICE MAD FULL TAVE		OCCUPANCY WITH HYDRAULIC CALCULATIONS BASED ON AREA/DENSITY CRITERIA OF 0.20 GPM/SF OVER THE MOST HYDRAULICALLY DEMANDING 1500 SQUARE FEET; MAXIMUM COVERAGE AREA SHALL NOT EXCEED 130 SF PER SPRINKLER;	
THE WATER SUPPLY SHALL BE FROM A NEW OF THE SERVICE MAN. 210 FLOW TEST INFORMATION FLOW TEST INFORMATION FLOW TEST INFORMATION FLOW TEST INFORMATION FLOW TEST INFORMATION FLOW TEST INFORMATION PLOW T		AS LIGHT HAZARD AND HAVE A MINIMUM DESIGN DENSITY OF 0.10 GPM/SF OVER THE MOST DEMANDING 1950 SF; MAXIMUM COVERAGE AREA PER SPRINKLER SHALL NOT EXCEED 225 SF; MAXIMUM SPRINKLER SPACING SHALL NOT EXCEED 15 FEET; SPRINKLERS SHALL BE ORDINARY TEMPERATURE, DRY SPRINKLERS; EXTERIOR PIPING SYSTEM SHALL BE A DRY SYSTEM, OR ALTERNATE METHOD OF FREEZE PROTECTION	
<ul> <li>TOW TEST WAS CONCLUEDE ON TY/29/2015 AT 12 11 A4L.</li> <li>NAMER STOTE OF REFERST 10 WIT: 3 / 2.3</li> <li>RESIDUAL PRESSING: AP P3</li> <li>RESIDUAL PRESSING: AP P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <li>RESIDUAL P4</li> <l< td=""><td></td><td></td><td></td></l<></ul>			
NUMBER/SEC OF PORTS FLOWED: 3 / 2.3         STATUC PRESSURE: 03 FB         RCSUDUAL PRESSURE: 04 FB         PHOTO: REPSSURE: 05 HB         PHOTO		2(f) FLOW TEST INFORMATION:	
RESIDUAL PRESSURE: 47:50         PHOT PRESSURE: 47:50         PHOT PRESSURE: 47:50         PHOT PRESSURE: 37:30 PM         CALULATE: LOW RATE: 2284 CPM         CALULATE: LOW RATE: 35:00 CAST OF MINER RD (\$44649)         PRESSURE: THOMAN: DU MINER RD & MINER SOURCESS PH (\$44649)         PRESSURE: THOMAN: TO MINER RD WEIL REVERSES.         CALULATE: LOW CON IN THE REVERSE AND PUT LAWER         SWITH ON CONTROL VALUE IN INSER WITH LOCAL         AUD BE ALARM REQUIREMENTS.         LINE CHARGE ON EXCILION REQUIREMENTS OFFICE         SWITH ON CONTROL VALUE IN INSER WITH LOCAL         AUD BE ALARM AND CONCENT OFFICE         SWITH ON CONTROL VALUE IN INSER WITH LOCAL         AUD BE ALARM AND CONCENT OFFICE         SWITH ON CONTROL VALUE IN INSER WITH LOCAL         AUD BE ALARM AND CONCENT OFFICE         SWITH ON CONTROL VALUE IN INSER WITH LOCAL         AUD BE ALARM AND CONCENT OFFICE         SWITH ON CONTROL AND CONCENT OFFICE         CALUE EXAMPTION DETERMINE AND CONTROL TO EXAMPTION DETERMINES         SWITH ON DENTROL DETERMINE STATE DOTT THE WOLKROBELLOCAL         PLICAMPY AND ENVERTION DETERMINE STATE DOTT THE WOLKROBELLOCAL         INFOLUCE CONTROLOGY DEVENTION DETERMINES SHALL BE ENVERTIONS OF THE WOLKROBELLOCAL         INFOLUCE CONTROLOGY DETERMINES SHALL DETERMINES SHALL BE ENVERTIONS OF THE WOLKROBEL ON DIAL MARE AND AND PRESSULE <td></td> <td>NUMBER/SIZE OF PORTS FLOWED: 3 / 2.5</td> <td></td>		NUMBER/SIZE OF PORTS FLOWED: 3 / 2.5	
MEASURED FLOW RATE: 2264 GPM         CALCULATED FLOW AT 20 PS: 3713 GPM         FLOW HYDRANT: GLD MIKER RD & MINER RD (#64643)         2(a) VALMME AND ALAEM BEQUIREMENTS:         INSTAL FLOW SWITCH IN FREE REPRINT OF MINER RD (#64643)         2(a) VALMME AND ALAEM BEQUIREMENTS:         INSTAL FLOW SWITCH IN FREE REPRINT OF ANDER         SWITCH ON CONTROL MAY EVINES         SWITCH SHOULD EVINES         SWITCH ON CONTROL MAY EVINES         SWITCH SHOULD EVINES         SWITCH ON CONTROL MAY EVINES         SWITCH SHOULD EVINES         SWITCH AND ALAEM EVINES         SWITCH SHOULD EVINES         SWITCH AND ALAEM EVINES         SWITCH AND ALAEM EVINES         SWITCH AND ALAEM EVINES         SWITCH AND ALAEM EVINES     <		RESIDUAL PRESSURE: 47 PSI	
PRESSURE HYDRANT: SR - 200/AIA 300 EAST OF MINER RD (#64649) 2(g) YAUNG AND ALARM REQUREMENTS: INSTALL ELOW WORK IN REER REAR AND PUT TAMPER SWITCH ON CONTROL YAUYE IN RISER WITH LOCAL ADDBLA ALARM AND CENTRAL SIATION YOUNG THE ASTRONOME - ISOLATION VALVES ON BACK-LOW PREVENTIER OUTSIDE STALL BC ONTO AND CONTROL YAUYE IN RISER WITH LOCAL ADDBLA ALARM AND CENTRAL SIATION YOUNG THE ASTRONOME AND YOUNG WITH 2010 2(h) MIC RESK EVALUATION: IN ACCORDANCE WITH 2010 MIPA-13, 23.1.5: IN ACCORDANCE OF MIRADE CONTROL TO MICROBIO CONTRIBUTE WITHING CONTROL AND CONTROL TO MICROBIO CONTRIBUTE WITHING CONTROL AND CONTROL TO MICROBIO CONTRIBUTE WITHING CONTROL AND CONTROL TO MICROBIO CONTROL IN ACCORDANCE OF MICROBIO SIATION INTO CONTROL TO MICROBIO CONTROL OF MICROBIO AND CONTROL TO MICROBIO IN ACCORDANCE OF MICROBIO SIATION INTO CONTROL TO MICROBIO INTO CONTROL OF THE THAT WITH CONTROL TO MICROBIO IN ACCORD TO THE FUEL THAT WITH THE CONTROL TO MICROBIOSIC I) FISCHI ALL WATER THAT ENTERS THE SYSTEM USING AN APPROVED BIODOC: I) FISCHI ALL WATER THAT ENTERS THE SYSTEM USING AN APPROVED BIODOC: I) FISCHI ALL WATER THAT ENTERS THE SYSTEM USING AN APPROVED BIODOC: I) FISCHI ALL WATER THAT ENTERS THE SYSTEM USING AN APPROVED BIODOC: I) FISCHI ALL WATER ALSO AND THE MICROBIO CONDITIONS OF THE PIPE AT ESTABLISED THE INTERVALS AND LOCATIONS: 2(I) CONTROL PETALS: 2(I) CONTROL MICROTON, MICRO AND AND AND AND AND AND AND AND AND AND		MEASURED FLOW RATE: 2264 GPM	
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SHALL BE CHARED AND LOCKED OPEN.         2(h) MIC RISK EVALUATION:         IN ACCORDANCE WITH 2010 NFPA-13, 231.5:         IN ACCORDANCE WITH 2010 NFPA-13, 2031.5:         IN ACCORDANCE WITH 2010 NFPA-13, 2031.5:         INTLUENCED CORROSON (MC). WHERE CONDITIONS SHALL BE EVALUATED FOR THE EXISTENCE OF MURROBES AND CONDITIONS ARE FOUND THAT CONTRIBUTE TO MICROBED CORCELLY         INTLUENCED CORROSON (MC). WHERE CONDITIONS ARE FOUND THAT CONTRIBUTE TO MICROBED CORCESS.         (1) INSTALL WATER HAPPE THAT WILL NOT BE ATTECTED BY THE MIC MICROBES.         (2) TREAT ALL WATER THAT EVENTS THE AND LOCATIONS.         (2) TREAT ALL WATER THAT EVENTS THE AND LOCATIONS.         (3) MIRLEWENT AN APPROVED FLAN FOR MONITORING THE INTERIOR CONDITIONS OF THE PPE THAT WILL NOT DE ATTECTED BY THE MIC MICROBES.         (4) THE PPE THAT WILL WATER THE STISTEM USTS AND LOCATIONS.         (5) THE PPE THAT BOL MONITORING THE INTERIOR CONDITIONS OF THE BUILDING, REFER TO CIVIL PLANS FOR BACKLOW CHARACTERISTICS.         2(1) CAMPONENTS TO BE UL AND FM LISTED MATERIALS FOR FREM REGETTOR.         ALL INSIDE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER         COMPONENTS TO BE UL AND FAUL BE TRESPECTIVE.         ALL INDERGROUND PIPING VALUES, SWITCHES AND THE MICROBUSTODE OF THE BUILDING.         2(1) COMPONENTS TO BE UL AND FAUL BISTED MISTALLED BY A STATE (F6305.521)         CIEFTED CONTRACTOR, WHO SHALL BE INSTALLED BY A STATE (F6305.521)         CIEFTED CONTRACTOR, WHO SHALL BE INSTALLED FOR THE BUILDING.		SWITCH ON CONTROL VALVE IN RISER WITH LOCAL AUDIBLE ALARM AND CENTRAL STATION MONITORING -	
IN ACCORDANCE WITH 2010 NFPA-13, 23.1.5: WATER SUPPLY AND ENVIRONMENTAL CONDITIONS SHALL BE EVALUATED FOR THE EXISTENCE OF MICROBES AND CONDITIONS THAT CONTRIBUTE TO MICROBOLOGICALLY INFLUENCED CORROSION (M.C.) WHERE CONDITIONS ARE FOUND THAT CONTRIBUTE TO M.C. THE OWNER SHALL NOTEY THE SPRINKLER SYSTEM UNISTALLER AND A PLAN SHALL BE DEVELOPED TO TREAT THE SYSTEM USING ONE OF THE FOLLOWING ETHODS: (1) INSTALL WATER PIEH THAT WILL NOT BE AFFECTE DB THE MIC MICROBES: (2) TREAT ALL WATER THAT THE STISTEM USING AN APPROVED BIOCDE: (3) IMPLEMENT AN APPROVED PLAN FOR MONITORING THE INTERIOR CONDITIONS OF THE PIEL AT ESTABULISHED THE INTERVALS AND LOCATIONS. 2(1) EACKFLOW PREVENTER MEETING LOCAL REQUIREMENTS SHALL BE INSTALLED FOR THE BUILDING, REFER TO CIVIL PLANS FOR BACKFLOW CHARACTERISTICS. 2(1) COMPONENT SPECIFICATIONS: ALL INSIDE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER COMPONENTS TO BE UL AND FM LISTED MATERIALS FOR FIRE PROTECTION. ALL UNDERGROUND PIPING SHALL BE INSTALLED BY A STATE (FG6355521) CERTIFIED CONTRACTOR, WHO SHALL BE INSTALLED BY A STATE (FG6355521) CERTIFIED CONTRACTOR, WHO SHALL BE INSTALLED BY A STATE (FG6355521) CERTIFIED CONTRACTOR, WHO SHALL BE INSTALLED BY A STATE (FG6355521) CERTIFIED CONTRACTOR, WHO SHALL BE INSTALLED BY A STATE (FG6355521) 2(b) FIRE FUMPE: AVAILABLE WATER SUPPLY PRESSURE AND FLOW AT THE SITE SITE APPEAR ADDUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR A FIRE PUMP; REFER TO FLOW TEST DATA ABOVE. 2(1) ONA_SITE WATER SUPPLY TO THE SITE APPEAR ADEQUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR AN MONOTING THE INEED FOR AN ON-SITE WATER STORAGE TANK.	_	SHALL BE CHAINED AND LOCKED OPEN.	
EXISTENCE OF MICROBES AND CONDITIONS THAT CONTRIBUTE TO MICROBIOLOGICALY INFLUENCE ORROROW (MC). WHERE CONDITIONS ARE FOLMO THAT CONTRIBUTE TO MIC, THE OWNER SHALL NOTIFY THE SPRINKLER SYSTEM UNSTALLER AND A PLAN SHALL BE DEVELOPED TO TREAT THE SYSTEM USING ONE OF THE FOLLOWING METHODS: (1) INSTALL WATER PIET HAT WILL NOT BE AFFECTED BY THE MIC MICROBES; (2) IREAT ALL WATER PIET HAT WILL NOT BE AFFECTED BY THE MIC MICROBES; (3) MIPLIKENT NA APPROVED PLAN FOR MONITORING THE INTERIOR CONDITIONS OF THE PIPE AT ESTABLISHED TIME INTERVALS AND LOCATIONS. 2(1) BACKFLOW PREVENTION DETAILS: 6" RPZ BACKFLOW PREVENTER MEETING LOCAL REQUIREMENTS SHALL BE INSTALLED FOR THE BUILDING; REFER TO CIVIL PLANS FOR BACKFLOW CHARACTERISTICS. 2(1) COMPONENT SPECIFICATIONS: 4.1L INDEE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER COMPONENTS TO BE UL AND FM LISTED MATERIALS FOR FIRE PROTECTION. ALL UNDERROUND PIPING SHALL BE INSTALLED BY A STATE (FS85.521) CERTIFIED CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR PIPING OUTSIDE OF THE BUILDING. UPTO ONE FOOT ABOVE FINISHED FLOOR INSIDE THE BUILDING. 2(k), FIRE PUMP: AVAILABLE WATER SUPPLY PRESSURE AND FLOW AT THE SITE SITE APPEAR ADEQUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR A FIRE PUMP; REFER TO FLOW TEST DATA ABOVE. 2(1) ON-SITE WATER SUPPLY PRESSURE TAND FLOW THE SITE SITE APPEAR ADEQUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR A FIRE PUMP; REFER TO FLOW TEST DATA ABOVE. 2(1) ON-SITE WATER STORAGE TANK.		IN ACCORDANCE WITH 2010 NFPA-13, 23.1.5:	
MIC, THE OWNER SHALL NOTEY THE SPRINKLER SYSTEM INSTALER AND A PLAN SHALL         BE DEVELOPED TO TREAT THE SYSTEM USING ANE OF THE FOLLOWING METHODS:         (1) INSTALL WATER THAT ENTERS THE SYSTEM USING AN APPROVED BIOCIDE;         (3) IMPLEMENT AN APPROVED PLAN FOR MONTOMICS THE INTERIOR CONDITIONS OF         THE PIPE AT ESTABLISHED TWE INTERVALS AND LOCATIONS.         2(1) BACKFLOW PREVENTION DETAILS:         6" RP2 BACKFLOW PREVENTER MEETING LOCAL REQUIREMENTS SHALL BE INSTALLED         FOR THE BUILDING; REFER TO CIVIL PLANS FOR BACKFLOW CHARACTERISTICS.         2(1) COMPONENT SPECIFICATIONS:         ALL INSIDE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER         COMPONENTS TO BE UL AND FM LISTED MATERIALS FOR FIRE PROTECTION.         ALL INSIDE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER         COMPONENTS TO BE UL AND FM LISTED MATERIALS FOR FIRE PROTECTION.         ALL INSIDE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER         COMPONENTS TO BE UL AND FM LISTED MATERIALS FOR PIPING OUTSIDE OF THE         BUILDING UPTO ONE FOOT ABOVE FINISHED FLOOR INSIDE THE BUILDING.         2(k) FIRE PUMP:         AVAILABLE WATER SUPPLY PRESSURE AND FLOW AT THE SITE APPEAR         ADOCUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT         THE NEED FOR A FIRE PUMP; REFER TO FLOW TEST DATA ABOVE.         2(1) ON-SITE WATER SUPPLY TO THE SITE APPEAR ADEQUATE TO MEET THE         DEMAND OF THE NEW FIRE SPRINKLER SYST		EXISTENCE OF MICROBES AND CONDITIONS THAT CONTRIBUTE TO MICROBIOLOGICALLY	
<ul> <li>(2) TREAT ALL WATER THAT ENTERS THE SYSTEM USING AN APPROVED BIOCIDE;</li> <li>(3) IMPLEMENT AN APPROVED PLAN FOR MONITORING THE INTERIOR CONDITIONS OF THE PIPE AT ESTABLISHED TIME INTERVALS AND LOCATIONS.</li> <li>2(1) BACKFLOW PREVENTION DETAILS:</li> <li>6" RPZ BACKFLOW PREVENTER MEETING LOCAL REQUIREMENTS SHALL BE INSTALLED FOR THE BUILDING; REFER TO CIVIL PLANS FOR BACKFLOW CHARACTERISTICS.</li> <li>2(1) COMPONENT SPECIFICATIONS: ALL INSIDE AND UNDERGROUND PIPING, VALVES, SWITCHES, AND OTHER COMPONENTS TO BE UL AND THE UNSTALLED BY A STATE (FS635.521) CERTIFIED CONTRACTOR, WHO SHALL BE INSTALLED BY A STATE (FS635.521) CERTIFIED CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR PIPING OUTSIDE OF THE BUILDING UPTO ONE FOOT ABOVE FINISHED FLOOR INSIDE THE BUILDING.</li> <li>2(k) FIRE PUMP: AVAILABLE WATER SUPPLY PRESSURE AND FLOW AT THE SITE SITE APPEAR ADEQUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR A FIRE PUMP; REFER TO FLOW TEST DATA ABOVE.</li> <li>2(1) ON-SITE WATER STORAGE TANK: AVAILABLE WATER SUPPLY TO THE SITE APPEAR ADEQUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR AN ON-SITE WATER STORAGE TANK.</li> </ul>		MIC, THE OWNER SHALL NOTIFY THE SPRINKLER SYSTEM INSTALLER AND A PLAN SHALL BE DEVELOPED TO TREAT THE SYSTEM USING ONE OF THE FOLLOWING METHODS:	
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2(m) NFPA-13 OWNER'S CERTIFICATE:		AVAILABLE WATER SUPPLY TO THE SITE APPEAR ADEQUATE TO MEET THE DEMAND OF THE NEW FIRE SPRINKLER SYSTEM WITHOUT THE NEED FOR AN	
OWNER'S CERTIFICATE HAS BEEN COMPLETED BY THE OWNER AND ACCOMPANIES THIS SUBMITTAL.		OWNER'S CERTIFICATE HAS BEEN COMPLETED BY THE OWNER AND ACCOMPANIES	
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				CON	NECTIO		JULE
MARK	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	WASTE	VENT	CW	н
P-1	AMERICAN STANDARD	"CADET" 215CA.004	15" HIGH VITREOUS CHINA WATER CLOSET W/ ELONGATED BOWL LOW CONSUMPTION FLUSH TANK (1.6 GPF) SEAT (NO LID) - CHURCH MODEL 9500-SSC	3"	2"	1/2"	
P-1H	AMERICAN STANDARD	"CADET" 215AA.004	16-1/2" HIGH VITREOUS CHINA WATER CLOSET W/ ELONGATED BOWL (ADA) LOW CONSUMPTION FLUSH TANK (1.6 GPF) SEAT (NO LID) - CHURCH MODEL 9500-SSC MOUNT FLUSH CONTROL ON WIDE SIDE OF STALL PER ADA	3"	2"	1/2"	
Р-2Н	AMERICAN STANDARD	"LUCERNE" 0355.012	VITREOUS CHINA WALL-HUNG LAVATORY (ADA) ADA FAUCET - T&S BRASS B-0890 (2.2 GPM AERATOR) TRAP - 1 1/4" CAST BRASS WITH C.O. PLUG FURNISH/INSTALL SUITABLE CONCEALED-ARM FIXTURE CARRIER PROVIDE OFFSET TAILPIECE INSULATE TRAP OUTLET & HW SUPPLY TO MEET ADA FURNISH/INSTALL ASSE-1070 THERMOSTATIC MIXING VALVE FOR EACH FAUCET	2"	1 1/4"	1/2"	1/2
P-3H	AMERICAN STANDARD	"ALLBROOK" 6541.132	WALL- HUNG, VITREOUS CHINA, FLUSH VALVE URINAL (ADA) FLUSH VALVE - AMERICAN STANDARD 6045.051.002 (0.5 GPF) MOUNT TOP OF FRONT RIM AT 17" A.F.F. TO MEET ADA PROVIDE SUITABLE FIXTURE CARRIER	2"	1-1/2"	3/4"	
P-4H	ELKAY	EZSTL8C	DUAL-BASIN WATER COOLER (ADA) WITH CANE SHIELD 8.0 GPH CAPACITY, 4.5 F.L.A., 120-1-60.	2"	1 1/4"	1/2"	
P-5	ZURN	Z415B	FLOOR DRAIN W/ 5" ROUND NICKALOY STRAINER TOP PROVIDE 1/2" AUXILLARY INLET FITTING FOR TRAP PRIMER CONNECTION	3"	2"		
P-6	A.O. SMITH	ENL-36	36-GALLON LOW-BOY ELECTRIC WATER HEATER 4.5 KW, 208-1-60, 21.6 AMPS SET TANK TEMP TO 140F; SET MIXING VALVE TEMP TO 110F		-	3/4"	3/4
P-7	ELKAY	LR3321	DOUBLE-COMPARTMENT, STAINLESS STEEL SINK FAUCET - T&S BRASS B-1148 CUP STRAINERS - TWO (2) ELKAY LK-35 SUPPLY - 3/8" ANGLE-TYPE WITH STOPS TRAP - 1 1/2" CAST BRASS WITH C.O. PLUG	2"	1 1/2"	1/2"	1/2
P-8	ZURN	Z1996-24	24"x24" FLOOR-MOUNTED COMPOSITE MOP BASIN FAUCET- T&S BRASS B-0665-BSTR FURNISH WALL- MOUNTED MOP HANGER	3"	2"	1/2"	1/2
P-9	ZURN	Z1321	FROST-PROOF, ANTI-SIPHON WALL HYDRANT			3/4"	-
P-10	ZURN	Z1700 SERIES	WATER HAMMER ARRESTOR. SIZE PER P.D.I. WH-201 VERIFY THAT COMPONENT IS ACCESIBLE.		-		
P-11	SPECIALTY PRODUCTS	OB-819	ICE MAKER BOX WITH INTEGRAL WATER HAMMER ARRESTOR	-	-	3/8"	-
P-12	ZURN	Z1400	FLOOR CLEANOUT - PROVIDE SCREW COVER; MATCH PIPE SIZE				-

		PLUMBING FI	XIUF	RE DEM	AND	IABUL	AHON					
Project Name:	HAGAN ACE HARDWARE, YULEE FL									BU	ILDING TYPE	: NEW
Project No.:	18051									PRE	DOMINANTLY	: FLUSH TANK
Date:	May 14, 2019											
FIXTURE	DESCRIPTION	OCCUPANCY	QTY.	DRAINAGE	SUB-	LOAD VA	LUES IN WATI	ER (EACH)	LOAD VAL	UES IN WATE	ER (TOTAL)	Remarks
				FIXTURE	TOTAL	SUPPLY I	FIXTURE UNI	TS (WSFU)	SUPPLY F	IXTURE UNI	TS (WSFU)	
				UNITS		COLD	HOT	TOTAL	COLD	HOT	TOTAL	
WC	Water Closet, Flush Tank, 1.6 GPF	Public	3	4	12	5.0	-	5.0	15	0	15	
UR	Urinal, 3/4" Flush Valve, 1.0 GPF	Public	1	2	2	5.0	÷	5.0	5	0	5	
LAV	Lavatory	Public	4	1	4	1.5	1.5	2.0	6	6	8	
KS	Kitchen Sink	Private	1	2	2	1.0	1.0	1.4	1	1	1.4	
MS	Mop Sink	Private	1	2	2	2.3	2.3	3.0	2.25	2.25	3	
EWC	Electric Water Cooler (Drinking Fountain)	Public	1	0.5	0.5	0.3	=	0.3	0.25	0	0.25	
IMB	Ice Maker Valve Box - (Refrigerator / Ice Maker)		1	0	0	0.3	=	0.3	0.25	0	0.25	
FD	Floor Drain		2	2	4	0.0	0.0	0.0	0	0	0	
HB	Hose Bibb		6	0	0	2.0	-	2.0	12	0	12	
TOTALS					26.5	DFU			41.75	9.25	44.9	WSFU
DFU = DRAINAG	GE FIXTURE UNITS				EIGHTH	INCH SLOPE	PER FOOT		26.8	13.9	27.7	GPM
WSFU = WATER	SUPPLY FIXTURE UNITS				4	DIAMETER C	F PIPE (INCH	ES)	1-1/2"	3/4"	1-1/2"	INCHES REQ'D.

Gregory Innovativ engineer 456 Jack FBPH	CONTACT: 9 BrianBoatright FL: AA2600315 CENERAL Engineer e design sol e d building 7 Deep River ksonville, FL (904) 714-512 3 Certificare i	ITECT ELD AVENUE K, FL 32073 04 413 8028 tArchitect.com aia@gmail.com AR12659,ID5414
NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
CHECKED	REVISIONS E COMMEN 181200 09-30- ИММС ВY WMC BY WMC	) 19

# PLUMBING SPECIFICATIONS

PART 1 – GENERAL

1.01 INSTRUCTIONS

SCOPE OF WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM IN ACCORDANCE WITH LOCAL AND STATE CODES, AND CONTRACT DRAWINGS AND SPECIFICATIONS.

- 1.02 LOCAL CONDITIONS CONTRACTOR SHALL VISIT THE SITE AND OBSERVE ALL EXISTING LOCAL CONDITIONS WHICH WOULD AFFECT WORK UNDER THIS CONTRACT. CONTRACTOR SHALL EXAMINE ALL PLANS AND SPECIFICATIONS FOR THIS PROJECT AND CONSULT THEM FOR INSTRUCTIONS PERTAINING TO WORK OF THIS SECTION.
- 1.03 PERMITS AND FEES CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED FOR PERTAINING TO WORK UNDER THIS CONTRACT AND PAY ALL CHARGES INCIDENTAL THERETO. DELIVER TO ARCHITECT ALL CERTIFICATES OF INSPECTION ISSUED BY AUTHORITIES HAVING JURISDICTION.
- 1.04 CODES AND STANDARDS A. FURNISH AND INSTALL MECHANICAL SYSTEMS TO MEET ALL CURRENT REQUIREMENTS OF NATIONAL, STATE AND MUNICIPAL CODES, RULES REGULATIONS, LAWS, AND STANDARDS AS THEY ARE ADOPTED BY THE
- GOVERNING AGENCY AND AS THEY MAY APPLY.
- 2017 FLORIDA BUILDING CODE, 6th EDITION;
   2017 FLORIDA MECHANICAL CODE, 6th EDITION;
- 2017 FLORIDA PLUMBING CODE, 6th EDITION;
   2017 FLORIDA FIRE PREVENTION CODE, 6th EDITION.
- 1.05 SUBMITTALS
- A. MATERIAL LIST: WITHIN TWENTY (20) DAYS OF AWARD OF CONTRACT, CONTRACTOR SHALL SUBMIT TO ARCHITECT A COMPLETE LIST OF MATERIALS TO BE PROVIDED FOR THE HVAC WORK. THE LIST SHALL INCLUDE SUPPLIERS' NAMES AND MANUFACTURERS' NAMES AND NUMBER OR SERIES FOR EACH ITEM ON LIST
- B. SHOP DRAWINGS: SUBMIT TO THE ARCHITECT FOR APPROVAL, BEFORE COMMENCING WORK, SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT. THE FOLLOWING APPLIES TO THE SHOP DRAWINGS:
- 1. CONTRACTOR SHALL SUBMIT WITHIN 30-DAYS AFTER AWARD OF CONTRACT, DRAWINGS AND/OR CUT SHEETS OF ALL MATERIALS AND EQUIPMENT, AND 1/4" SCALE EQUIPMENT ROOM DRAWINGS FOR APPROVAL BY ARCHITECT-ENGINEER. SUCH SUBMITTALS MUST CONTAIN OUTLINE DIMENSIONS, OPERATING CLEARANCES, INSTALLATION, OPERATING AND MAINTENANCE INFORMATION AND SUFFICIENT ENGINEERING DATA TO INDICATE SUBSTANTIAL COMPLIANCE WITH SPECIFICATIONS. ALL SHOP DRAWINGS FOR ONE SECTION OF WORK OR ONE MECHANICAL SYSTEM SHALL BE SUBMITTED AT ONE TIME IN LOOSE-LEAF 3-RING BINDERS; NO APPROVAL WILL BE GIVEN IF SUBMITTED PIECEMEAL.
- 2. WHERE CONTRACTOR CONSIDERS ADDITIONAL DETAIL OR SHOP DRAWINGS ESSENTIAL TO PROPER FABRICATION OR INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING HE SHALL PREPARE SUCH CONSISTENT WITH CURRENT INDUSTRY METHODS AND STANDARDS. ENGINEER RESERVES THE RIGHT TO DIRECT REMOVAL AND REPLACEMENT OF ANY ITEMS WHICH, IN HIS OPINION, DO NOT PRESENT AN ORDERLY AND REASONABLY NEAT AND WORKMANLIKE APPEARANCE, PROVIDED SUCH AN ORDERLY INSTALLATION CAN BE MADE USING CUSTOMARY TRADE METHODS. REMOVAL AND REPLACEMENT SHALL BE DONE WHEN DIRECTED IN WRITING BY ENGINEER AT THE CONTRACTOR'S EXPENSE AND WITHOUT ADDITIONAL EXPENSE TO OWNER.
- 3. APPROVAL GRANTED ON SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY AND SHALL NOT BE CONSIDERED AS GUARANTEE OF MEASUREMENTS OF BUILDING CONDITIONS; NOR SHALL IT BE CONSTRUED AS RELIEVING THE MECHANICAL CONTRACTOR OF BASIC RESPONSIBILITIES UNDER THIS CONTRACT.
- 4. CHANGES IN FOUNDATIONS, BASES, CONNECTIONS, PIPING, CONTROLS, STARTERS, ELECTRICAL EQUIPMENT, WIRING AND CONDUIT, SPACE OPENINGS, WALLS AND CEILINGS, AND VIBRATION ISOLATION IN ORDER TO ACCOMMODATE SUBSTITUTE EQUIPMENT SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- 5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND RECEIVE ENGINEER'S APPROVAL BEFORE INSTALLING MATERIALS OR EQUIPMENT. ANY EQUIPMENT OR MATERIALS INSTALLED PRIOR TO RECEIPT OF APPROVED SHOP DRAWINGS FROM ENGINEER SHALL BE SUBJECT TO REMOVAL AND/OR ALTERATION AT THE DISCRETION OF THE MECHANICAL ENGINEER AT NO ADDITIONAL COST.
- 6. APPROVAL OF ANY SUBMITTED DATA OR SHOP DRAWINGS FOR MATERIALS, EQUIPMENT, APPARATUS DEVICES, ARRANGEMENTS AND/OR LAYOUTS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY OF FURNISHING SAME OF PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITIES AND INSTALLATION DETAILS TO EFFICIENTLY PERFORM REQUIREMENTS AND INTENT OF CONTRACT. SUCH APPROVAL SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OF ANY SORT.
- C. ANY ELECTRICAL DEVIATIONS BETWEEN THE CONTRACT DOCUMENTS AND THE FURNISHED EQUIPMENT MUST BE SEPARATELY ACKNOWLEDGED BY A SUBSTITUTION REQUEST AND ADDITIONALLY NOTED ON THE SUBMITTAL.

D. PROVIDE PLUMBING SHOP DRAWINGS FOR: WASTE AND VENT PIPING, DOMESTIC WATER PIPING, VALVES, PLUMBING FIXTURES AND PIPE INSULATION.

- 1.06 CONNECTING TO WORK OF OTHERS A. BEFORE STARTING HIS WORK, AND FROM TIME TO TIME AS WORK PROGRESSES, PLUMBING CONTRACTOR SHALL EXAMINE WORK AND MATERIALS INSTALLED BY OTHERS INSOFAR AS THEY APPLY TO HIS WORK AND SHALL NOTIFY ENGINEER IMMEDIATELY IN WRITING IF CONDITIONS EXIST
  - WHICH WILL. SHOULD CONTRACTOR START HIS WORK WITHOUT SUCH NOTIFICATION, IT SHALL BE CONSTRUED AS.B. AN ACCEPTANCE BY HIM OF ALL CLAIMS OR QUESTIONS AS TO SUITABILITY OR WORK OF OTHERS
- TO RECEIVE HIS WORK. HE SHALL REMOVE AND REPLACE, AT HIS OWN EXPENSE, ALL WORK UNDER THIS CONTRACT WHICH MAY HAVE TO BE REMOVED ON ACCOUNT OF SUCH DEFECTS.
- 1.07 CONTRACT DRAWINGS
- A. IT IS THE INTENT OF DRAWINGS AND SPECIFICATIONS TO OBTAIN A COMPLETE AND FULLY OPERATIONAL, AND SATISFACTORY INSTALLATION. AN ATTEMPT HAS BEEN MADE TO SEPARATE AND COMPLETELY DEFINE WORK UNDER THIS CONTRACT. HOWEVER, SUCH SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS SHALL NOT RELIEVE CONTRACTOR FROM FULL RESPONSIBILITY OF COMPLIANCE WITH WORK OF HIS TRADE WHICH MAX RE INDICATED ON ANY DRAWING OR IN ANY SECTION OF THE SPECIFICATIONS
- WHICH MAY BE INDICATED ON ANY DRAWING OR IN ANY SECTION OF THE SPECIFICATIONS.
  B. CONTRACTOR SHALL CAREFULLY EXAMINE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING BID. CONTRACTOR WILL BE REQUIRED TO FURNISH, INSTALL AND CONNECT WITH APPROPRIATE SERVICES ALL ITEMS SHOWN ON ANY DRAWINGS WITHOUT ADDITIONAL EXPENSE TO OWNER. ARCHITECT SHALL BE NOTIFIED PRIOR TO BID DATE OF ANY DISCREPANCIES, OMISSIONS, CONFLICTS OR INTERFERENCES WHICH OCCUR BETWEEN DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS. IF SUCH NOTIFICATION IS RECEIVED IN ADEQUATE TIME, ADDITIONAL DATA OR CHANGES WILL BE ISSUED BY ADDENDUM TO ALL BIDDERS. SUBMITTAL OF BID BY CONTRACTOR SHALL INDICATES THE CONTRACTOR'S ACKNOWLEDGEMENT AND ACCEPTANCE TO PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS AND LABOR TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IN
- ACCORDANCE WITH ALL CODE REQUIREMENTS. C. ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MECHANICAL DRAWINGS WITH REFERENCE TO BUILDING CONSTRUCTION. PLUMBING DRAWINGS ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION OF BUILDING AND WORK OF OTHER TRADES WILL PERMIT. WHERE LOCATIONS OF EQUIPMENT, DEVICES OR FIXTURES ARE CONTROLLED BY ARCHITECTURAL FEATURES, ESTABLISH SUCH LOCATIONS BY REFERRING TO DIMENSIONS ON ARCHITECTURAL DRAWINGS AND NOT BY SCALING DRAWINGS. CHANGES FROM DRAWINGS NECESSARY TO MAKE WORK OF CONTRACTOR CONFORM WITH BUILDING AS CONSTRUCTED AND TO FIT WORK OF OTHER TRADES OR RULES OF BODIES HAVING JURISDICTION SHALL BE MADE BY CONTRACTOR AT HIS OWN EXPENSE. SOME DRAWINGS MAY HAVE BEEN PREPARED FROM EXISTING DRAWINGS WITH INTENT OF PROVIDING THE CONTRACTOR WITH INFORMATION CONCERNING THE EXISTING CONDITIONS. DATA SHOWN HAS NOT BEEN COMPLETELY VERIFIED BY ARCHITECT/ENGINEER AND NO GUARANTEE OF ACCURACY OF THIS INFORMATION IS GIVEN OR INTENDED. IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS. DATA WHICH IS SHOWN BUT PROVES TO BE INCORRECT SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM INSTALLING HIS WORK WITHIN THE INTENT OF PLANS AND SPECIFICATIONS, NOR SHALL IT CONSTITUTE BASIS FOR A CHANGE
- ORDER UNLESS, IN THE OPINION OF THE ARCHITECT/ENGINEER IT IS DETERMINED TO BE AN EXTRA COST OVER AND ABOVE THE BASIC INTENT OF THESE PLANS AND SPECIFICATIONS.

1.08 DAMAGE TO OTHER WORK

- A. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PROTECTIVE MEASURES WHEN WORKING OVERHEAD OR IN FINISHED AREAS. HE/SHE SHALL REPAIR, REPLACE OR TOUCH-UP ALL FINISHED SURFACES WHICH MAY BE DAMAGED AS A RESULT OF HIS OPERATIONS.
- 1.09 STORAGE AND WORK AREAS A. ALL EQUIPMENT AND MATERIALS SHALL BE PROTECTED FROM THE WEATHER, DAMAGE, MOISTURE, DIRT, DEBRIS, ETC. USE OF CARDBOARD, VISQUEEN, OR OTHER SIMILAR MATERIALS WHILE STORED OUTSIDE IS NOT ACCEPTABLE. DO NOT INSTALL DAMAGED EQUIPMENT.
- 1.10 APPROVAL OF MATERIAL A. EQUIPMENT OTHER THAN SPECIFIED IN THE CONTRACT DOCUMENTS REQUIRES APPROVAL FROM ENGINEER 10
- A. EQUIPMENT OTHER THAN SPECIFIED IN THE CONTRACT DOCOMENTS REQUIRES APPROVAL FROM ENGINEER TO DAYS PRIOR TO BID DATE.
  B. WRITTEN REQUEST FOR PRIOR APPROVAL MUST BE RECEIVED IN ENGINEER'S OFFICE BY CLOSE OF BUSINESS NO LATER THAN 10 DAYS PRIOR TO SCHEDULED BID DATE. REQUEST SHALL CONTAIN DETAILED
- INFORMATION ON THE PROPOSED ITEM. THIS SHALL INCLUDE: 1. CATALOG CUTS SHEETS

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- DETAILED SPECIFICATIONS
   DESCRIPTION OF DEVIATION FROM SPECIFIED ITEM
- C. AN ADDENDA SHALL BE ISSUED LISTING ALL PROSPECTIVE CONTRACTORS LISTING ALL PRIOR APPROVED MANUFACTURERS AND PRODUCTS.

PAR	RT 2 - PRODUCTS		TING OF DRAINAGE AND
	PLUMBING SYSTEMS.	A. IES	T FOR LEAKS AND DEF IN SEGMENTS, SUBMIT OF THE SYSTEM TEST
	PIPE MATERIALS: DWV (DRAIN, WASTE, AND VENT) PIPING:FITTINGS SHALL BE LONG RADIUS FITTINGS, EXCEPT FITTINGS IN VENT PIPING MAY BE SHORT RADIUS FITTINGS. MINIMUM SIZE PIPING SHALL BE 2 INCHES FOR BURIED	B. LEA	VE UNCOVERED AND UN APPROVED. EXPOSE TESTED AND APPROVE
Α.	PIPING AND 1-1/4 INCHES FOR ABOVEGROUND PIPING. ABOVE AND BELOW GRADE: PVC, SCHEDULE 40, MEETING ASTM D1785, WITH SOLVENT WELD JOINTS MEETING ASTM D2564.	C. TES	T PIPING OF PLUMBING INSTALLATION. TIGHT OVERFLOW, BUT NOT
2. A.	DOMESTIC WATER PIPING: BELOW GRADE: SDR PIPE: PVC, SCHEDULE 40, MEETING ASTM 2241.		PERIOD FROM 15 MINU JOINTS FOR LEAKS.
В. 1. 2.	ABOVE GRADE: FLOW GUARD GOLD CPVC, MEETING ASTM D2846 AND F441. PIPING UP TO 1-1/4" SHALL BE SCHEDULE 40. PIPING 1-1/2" AND LARGER SHALL BE SCHEDULE 80; SOLVENT WELD JOINTS.		TEST CONNECTIONS A BUILDING DRAIN WHER PRESSURE OF 1-INCH
3. 4.	FINAL PIPING CONNECTIONS TO FLUSH VALVES AND HOSE BIBBS SHALL BE TYPE L COPPER MEETING ASTM B88. PIPING INSULATION:		WATER CLOSET TO ME
1. A. B.	ELECTRIC WATER COOLER WASTE: 3/4–lB., 1–1/2 INCH BLANKET. FSK JACKET.	D. REP	CONNECTIONS FOR GA AIR LEAKS AND DEFEC SATISFACTORY RESUL
2. A.	DOMESTIC COLD AND HOT WATER MAINS AND RISERS: 1—INCH STANDARD FIBERGLASS. FACTORY JACKET AND FITTING COVERS.	E. PRE 3.04 CLE	PARE REPORTS FOR TE ANING
3.	DOMESTIC WATER PIPING EXPOSED TO EXTERIOR: NITRILE RUBBER BASED ELASTOMERIC SHEET INSULATION; ARMSTRONG "ARMAFLEX 2". MINIMUM INSULATION THICKNESS SHALL BE 3/4-INCH.		PURGE NEW POTABLE USE PURGING AND DI A METHOD IS NOT PR
4.	CPVC WATER PIPING AND PVC WASTE, VENT AND ROOF DRAIN PIPING RUN IN RETURN AIR PLENUMS: WRAP WITH A FIRE PROTECTIVE JACKET WITH A MAXIMUM FLAME SPREAD RATING OR 25 AND A MAXIMUM SMOKE DEVELOPMENT RATING OF 50 IN ACCORDANCE WITH NFPA-90A, PARAGRAPHS		C651 OR AWWA C652 1. FLUSH PIPING S
5.	2-3.3.1 AND 2-3.10.1. PIPING TO BE UNINSULATED: PIPING RUN-OUTS TO FIXTURES (EXCEPT AS NOTED FOR HANDICAP-		OUTLETS. 2. FILL SYSTEM OR PER MILLION OF
C. 1.	ACCESSIBLE FIXTURES). ACCEPTABLE MANUFACTURERS: MANUFACTURERS' MODEL NUMBERS ARE LISTED TO ESTABLISHED A STANDARD OF QUALITY AND LEVEL		PROVIDE PROPER 3. DRAIN SYSTEM C
2.	OF PERFORMANCE. EQUIVALENT ITEMS OF THE FOLLOWING MANUFACTURES ARE ACCEPTABLE:		SOLUTION CONTA STAND FOR 3 H 4. FLUSH SYSTEM V
1.	FIXTURES: SEE FIXTURE SCHEDULE. AMERICAN—STANDARD, ELJER, KOHLER, CRANE, ELKAY, JUST, AND BRIGGS. FIXTURE TRIM: SEE FIXTURE SCHEDULE	С.	FROM SYSTEM FOR SUBMIT WATER SAMPL PROCEDURE IF BIOLOG
2	1. AMERICAN-STANDARD, KOHLER, SPEAKMAN, MOEN, DELTA, T&S BRASS, CHICAGO FAUCET, SYMMONS, BRIGGS. DRAIN AND FIXTURE SPECIALTIES: J.R. SMITH, JOSAM, ZURN.	D. E.	PREPARE AND SUBMIT
2. A. B.	FLOOR AND EXTERIOR CLEANOUTS: ZURN-1440 OR EQUAL WALL CLEANOUT: ZURN-1441 OR EQUAL W/ SMOOTH SECURED COVER.		-BUILT DRAWINGS UPON COMPLETION OF
D. 4.	C. FLOOR DRAINS: SEE SCHEDULE ROOF DRAINS: ZURN-100 OR EQUAL. WATER COOLERS: SEE FIXTURE SCHEDULE, OASIS, ELKAY, HALSEY TAYLOR.	ALL	DRAWINGS, MARKED T MAJOR CHANGES MAD ARCHITECT AND SHAL
5. 6.	WATER HEATERS: SEE FIXURE SCHEDULE, RHEEM, A.O. SMITH, STATE, LOCHINVAR. WATER SYSTEM SPECIALTIES.		DRAWINGS. THE CON THE ARCHITECT. EAC
А. В.	ROOF DRAINS: ZURN-100 OR EQUAL. WATER COOLERS: SEE FIXTURE SCHEDULE, OASIS, ELKAY, HALSEY TAYLOR. WATER HEATERS: SEE FIXURE SCHEDULE, RHEEM, A.O. SMITH, STATE, LOCHINVAR. WATER SYSTEM SPECIALTIES. WATER HAMMER ARRESTORS SHALL CONFORM TO PDI WH201 AND ASSE 1010. ACCEPTABLE: ZURN SHOKTROLS Z-1700 OR EQUAL. WALL HYDRANTS AND HOSE BIBBS: SEE FIXTURE SCHEDULE. 2 PIPING SPECIALTIES A ESCUTCHEONS SHALL BE MANUEACTURED WALL CEILING AND FLOOR PLATES: DEEP-PATTERN TYPE WHERE		CONTRACTOR, DATED ACCURATE DIMENSION BUILDING TO THE CON
2.02	2 PIPING SPECIALTIES A. ESCUTCHEONS SHALL BE MANUFACTURED WALL, CEILING AND FLOOR PLATES; DEEP—PATTERN TYPE WHERE REQUIRED TO CONCEAL PROTRUDING FITTINGS AND SLEEVES. CONSTRUCT OF ONE—PIECE CAST BRASS		SITE AND EACH DAY DRAWINGS. THE CON SIGNED AND DATED A
	WITH POLISHED CHROME PLATE FINISH AND SET-SCREW.		ARANTEE AND SERVICE
2.03 A.	3 PIPE INSULATION FLEXIBLE ELASTOMERIC CELLULAR INSULATION, TYPE I, ASTM C 534, FLEXIBLE EXPANDED CLOSED- CELL STRUCTURE WITH SMOOTH SKIN ON BOTH SIDES. PRODUCT AS MANUFACTURED BY ARMSTRONG OR EQUIVALENT BY RUBATEX OR HALSTEAD. AVERAGE MAXIMUM THERMAL CONDUCTIVITY SHALL BE 0.30 AT 75 DEG F.		SPECIFIED HEREIN, TH BE HELD RESPONSIBLI ADJUSTMENTS AND/O WITHOUT EXPENSE TO
В.	CONDUCTIVITY SHALL BE 0.30 AT 75 DEG F. FLEXIBLE ELASTOMERIC CELLULAR INSULATION ADHESIVE, SOLVENT-BASED, CONTACT ADHESIVE RECOMMENDED BY INSULATION MANUFACTURER.		GUARANTEE AND DAT
	4 HANGERS AND SUPPORTS PROVIDE HANDERS, RODS, AND SUPPORT CLAMPS AS REQUIRED TO PROPERLY SUPPORT PIPING		CONTRACTOR SHALL / RUBBISH GENERATED
	AND FLUSH VALVES FROM STRUCTURE. PROVIDE BUILDING ATTACHMENTS OR CONCRETE INSERTS APPROPRIATE FOR BUILDING MATERIALS.		AVATION, BACKFILLING ALL EXCAVATION, BAC UNDERGROUND PIPING
Α.	5 SLEEVES: WALLS AND PARTITIONS: PIPE SLEEVES 8–INCH DIAMETER AND SMALLER (ABOVE GRADE): SLEEVES SHALL BE MILD		CONTRACTOR. THIS I SECTION OF DIVISION
1.	STEEL PIPE OR PLASTIC SLEEVES BUILT INTO WALL, PARTITION OR BEAM, SIZED TO PASS PIPE AND COVERING, LEAVING A CLEAR SPACE OF 1/4—INCH MINIMUM BETWEEN COVERING		
2.	AND SLEEVE. PENETRATIONS OF FIRE RATED BARRIÈRS SHALL HAVE MILD STEEL SLEEVES. PIPE SLEEVES INSTALLED IN EXTERIOR WALLS BELOW GRADE: SCHEDULE 40 STEEL HOT DIPPED GALVANIZED AFTER FABRICATION OR CAST IRON SLEEVE WITH 1/4–INCH X 3–INCH CENTER		
В.	FLANGE (WATER STOP) AROUND THE OUTSIDE. PIPE SLEEVES IN FLOORS (ABOVE GRADE): SLEEVES SHALL BE 14 GAUGE GALVANIZED SHEET		
	STEEL OR PLASTIC, SET BEFORE FLOOR IS POURED, SIZED TO PASS PIPE AND COVERING, LEAVING A CLEAR SPACE OF 1/4—INCH BETWEEN COVERING AND SLEEVE, AND SHALL EXTEND 1/2—INCH ABOVE FINISHED FLOOR.		
C. 1.	SEALING OF SLEEVES: SLEEVES BELOW GRADE: CAULK ANNULAR SPACE BETWEEN PIPE AND SLEEVE USING OAKUM AND POURED LEAD BOTH SIDES MINIMUM ONE INCH DEEP TO MAKE WALL PENETRATION		
2.	WATER TIGHT. SLEEVES ABOVE GRADE: OPENINGS AROUND PIPES, DUCT, ETC., PASSING THROUGH SLEEVES SHALL BE MADE DRAFT FREE AND VERMIN—PROOF BY PACKING SOLIDLY WITH MINERAL WOOL		
3.	OR FIBERGLASS. SEALING OF SLEEVES THROUGH FIRE RATED BARRIERS: OPENINGS AROUND PIPES, ETC., THROUGH FIRE RATED BARRIERS SHALL BE SEALED USING AN U.L. APPROVED METHOD RATED		
PAR	AT LEAST EQUAL TO THE WALL BEING PENETRATED. RT 3 – EXECUTION		
3.01	I PIPE INSULATION INSTALLATION A. INSTALL ONE INCH THICK PIPE INSULATION ON HOT WATER PIPING. INSTALL ONE INCH THICK PIPE		
	<ul> <li>A. INSTALL ONE INCH THICK PIPE INSULATION ON HOT WATER PIPING. INSTALL ONE INCH THICK PIPE INSULATION ON COLD WATER PIPING THAT IS ABOVE THE ROOF INSULATION.</li> <li>B. INSTALL INSULATION IN STRICT ACCORDANCE WITH MANUFACTURERS WRITTEN RECOMMENDATIONS.</li> </ul>		
3.02	2 TESTING OF WATER DISTRIBUTION SYSTEMS A. TEST FOR LEAKS AND DEFECTS IN NEW WATER DISTRIBUTION PIPING SYSTEMS. IF TESTING IS PERFORMED		
	IN SEGMENTS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF SYSTEM TESTED. B. LEAVE UNCOVERED AND UNCONCEALED NEW WATER DISTRIBUTION PIPING UNTIL IT HAS BEEN TESTED AND		
	APPROVED. EXPOSE WORK THAT HAS BEEN COVERED OR CONCEALED BEFORE IT HAS BEEN TESTED AND APPROVED FOR TESTING. C. CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC WATER PRESSURE OF 50 PSIG ABOVE THE		
	C. CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC WATER PRESSURE OF 50 PSIG ABOVE THE OPERATING PRESSURE WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE		

OPERATING PRESSURE WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR 4 HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED. D. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL

SATISFACTORY RESULTS ARE OBTAINED. E. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION. AND VENT PIPING SYSTEMS DEFECTS IN NEW DRAINAGE AND VENT PIPING SYSTEMS. IF TESTING IS PERFORMED MIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH A DIAGRAM OF THE PORTION ISTED.

D UNCONCEALED NEW DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND DSE FOR TESTING WORK THAT HAS BEEN COVERED OR CONCEALED BEFORE IT HAS BEEN ROVED.

ING DRAINAGE AND VENTING SYSTEMS ON COMPLETION OF ROUGH-IN PIPING GHTLY CLOSE ALL OPENINGS IN PIPING SYSTEM AND FILL WITH WATER TO POINT OF OT LESS THAN 5 FEET HEAD OF WATER. WATER LEVEL SHALL NOT DROP DURING THE MINUTES BEFORE INSPECTION STARTS THROUGH COMPLETION OF INSPECTION. INSPECT 5. AFTER PLUMBING FIXTURES HAVE BEEN SET AND THEIR TRAPS FILLED WITH WATER, S AND PROVE GASTIGHT AND WATERTIGHT. PLUG STACK OPENINGS ON ROOF AND HERE IT LEAVES THE BUILDING AND INTRODUCE AIR INTO THE SYSTEM EQUAL TO NCH WATER COLUMN. USE A U TUBE OR MANOMETER INSERTED IN THE TRAP OF A MEASURE THIS PRESSURE. AIR PRESSURE SHALL REMAIN CONSTANT WITHOUT TIONAL AIR THROUGHOUT PERIOD OF INSPECTION. INSPECT PLUMBING FIXTURE GAS AND WATER LEAKS.

FECTS USING NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL SULTS ARE OBTAINED. R TESTS AND REQUIRED CORRECTIVE ACTION.

BLE WATER DISTRIBUTION PIPING SYSTEMS PRIOR TO USE. DISINFECTING PROCEDURE PRESCRIBED BY AUTHORITY HAVING JURISDICTION OR, IF PRESCRIBED BY THAT AUTHORITY, THE PROCEDURE DESCRIBED IN EITHER AWWA 6520R AS DESCRIBED BELOW: G SYSTEM WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT

OR PART THEREOF WITH WATER/CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS OF CHLORINE. ISOLATE (VALVE OFF) AND ALLOW TO STAND FOR 24 HOURS. OPER SIGNAGE TO PREVENT ACCIDENTAL USE DURING DISINFECTION. M OR PART THERE OF OF PREVIOUS SOLUTION AND REFILL WITH WATER/CHLORINE ONTAINING AT LEAST 200 PARTS PER MILLION OF CHLORINE.ISOLATE AND ALLOW TO

3 HOURS. IM WITH CLEAN, POTABLE WATER UNTIL CHLORINE DOES NOT REMAIN IN WATER COMING M FOLLOWING ALLOWED STANDING TIME.

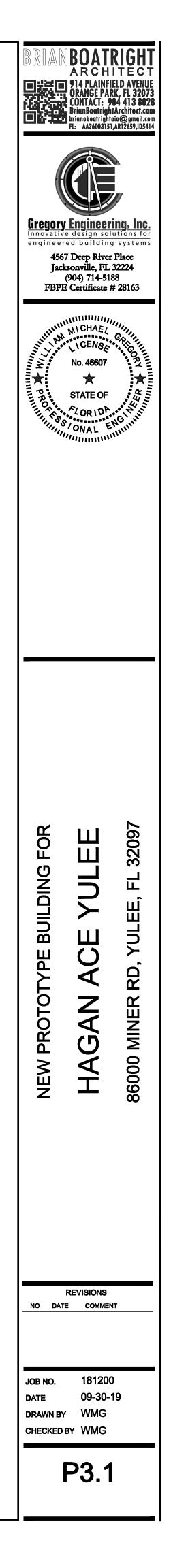
MPLES IN STERILE BOTTLES TO AUTHORITY HAVING JURISDICTION. REPEAT DLOGICAL EXAMINATION MADE BY THE AUTHORITY SHOWS EVIDENCE OF CONTAMINATION. BMIT REPORTS FOR PURGING AND DISINFECTING ACTIVITIES. DF PIPING SYSTEM. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES.

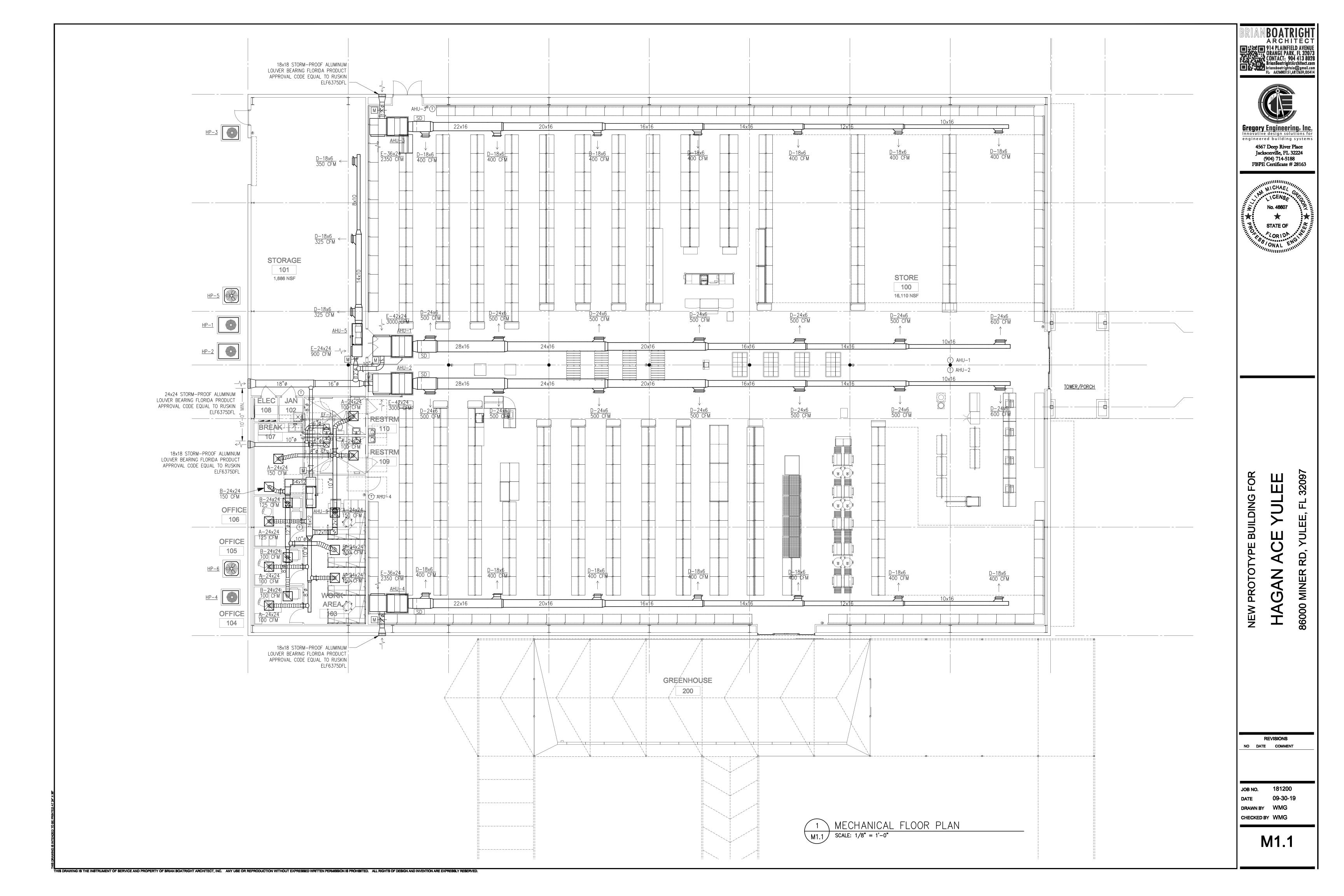
N OF INSTALLATION, THE CONTRACTOR SHALL FURNISH TO THE ARCHITECT A SET OF ID TO SCALE, INDICATING THE SIZE AND LOCATION OF PIPING AND DUCTS, AND NOTING MADE DURING CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN THE DRAWINGS FROM THE HALL BEAR ALL COSTS IN OBTAINING THE DRAWINGS AND PROVIDING THE AS-BUILT CONTRACTOR SHALL DELIVER THE DRAWINGS PLUS TWO SETS OF AS-BUILT DRAWINGS TO EACH SHEET IN EACH SET SHALL BE SIGNED BY A PRINCIPAL REPRESENTATIVE OF THE TED AND HAVE "AS-BUILT" STAMPED NEAR THE SIGNATURE. DRAWINGS SHALL GIVE SIONS MEASURED FROM COLUMNS, WALLS, BEAMS AND OTHER FIXED PARTS OF THE CONCEALED MATERIALS. THE CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE AY SHALL RECORD INSTALLATION OF PIPE, DUCTS, ETC. TO INSURE ACCURATE "AS-BUILT" CONTRACTOR SHALL ALSO FURNISH A SET OF DRAWINGS AND TWO SETS OF CONTRACTOR D AS-BUILT DRAWINGS OF THE CONTROLS.

HE GUARANTEE OF EQUIPMENT BY THE MANUFACTURER OF EACH PIECE OF EQUIPMENT THE MECHANICAL CONTRACTOR SHALL ALSO GUARANTEE SUCH EQUIPMENT AND SHALL SIBLE FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE FOR NECESSARY D/OR REPLACEMENTS OF ALL DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP TO THE OWNER. PROVIDE A LETTER TO THE OWNER STATING THE CONTRACTOR'S DATES OF GUARANTEE COVERAGE.

LL AT ALL TIMES KEEP PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIAL OR ED BY WORK UNDER THIS CONTRACT.

NG AND COMPACTION BACKFILLING, COMPACTION, TESTING, ETC. REQUIRED FOR THE INSTALLATION OF PING IN THIS DIVISION OF THE SPECIFICATIONS SHALL BE DONE BY THE PLUMBING IS WORK SHALL BE DONE IN STRICT ACCORDANCE WITH EXCAVATION AND BACKFILLING ON 2.





EXHAUST FAN SCHEDULE								
DESIGNATION	EF-1							
TYPE	CEILING							
LOCATION	BATHROOM							
AIRFLOW (CFM)	140							
DRIVE TYPE	DIRECT							
EXT. STATIC (in. wg.)	1/4"							
FAN SPEED (RPM)	1161							
MOTOR POWER	95W							
VOLTAGE/PHASE	120/1							
ACCESSORIES	A,B,C							
CONTROL TYPE	SEE NOTE 1.							
MANUFACTURER	LOREN COOK							
MODEL NO.	GC-162							
<u>NOTES:</u>								
CONTROL TYPE:								
1. MOTION SENSOR WITH 15-MINUTE	E TIME-DELAY RELAY.							
ACCESSORIES:								
A. BACK DRAFT DAMPER.								
B. DISCONNECT SWITCH.								
C. SOLID STATE SPEED CONTROLLE	ER.							

	AIR DISTRIBUTION DEVICE SCHEDULE											
TY	PE	DESCRIPTION	NECK	FACE SIZE	MANUF.	NOMINAL CFM RANGE						
			<b>6</b> "Ø	12x12		0-125						
		ALUMINUM, LOUVER-FACED,	<b>6</b> "Ø	24x24		0-125						
	А	CONCENTRIC CONE CEILING SUPPLY	8''Ø	24x24	TITUS	126-225						
PLY		DIFFUSER, MODEL TMS-AA	10''Ø	24x24		226-450						
SUPPLY			12"Ø	24x24		451-650						
			12x6	12x6		0-250						
	D	D ALUMINUM, DOUBLE-DEFLECTION SIDEWALL REGISTER, MODEL 300FS	18x6	18x6	TITUS	0-425						
			24x6	24x6		0-600						
	в		8x8	8x8	- TITUS	0-200						
		ALUMINUM, EGGCRATE CEILING RETURN GRILLE, MODEL 50F	12x12	12x12		0-450						
			16x16	16x16		0-800						
	В		20x20	20x20		0-1250						
			24x24	24x24		0-1800						
N			48x24	48x24		0-3600						
RETURN			8x8	8x8		0-150						
R			12x12	12x12		0-375						
		ALUMINUM, SINGLE-DEFLECTION	16x16	16x16		0-650						
	Е	CEILING RETURN GRILLE, MODEL	18x18	18x18	TITUS	0-850						
		350FL	20x20	20x20		0-1050						
			24x24	24x24		0-1500						
			48x24	48x24		0-3000						

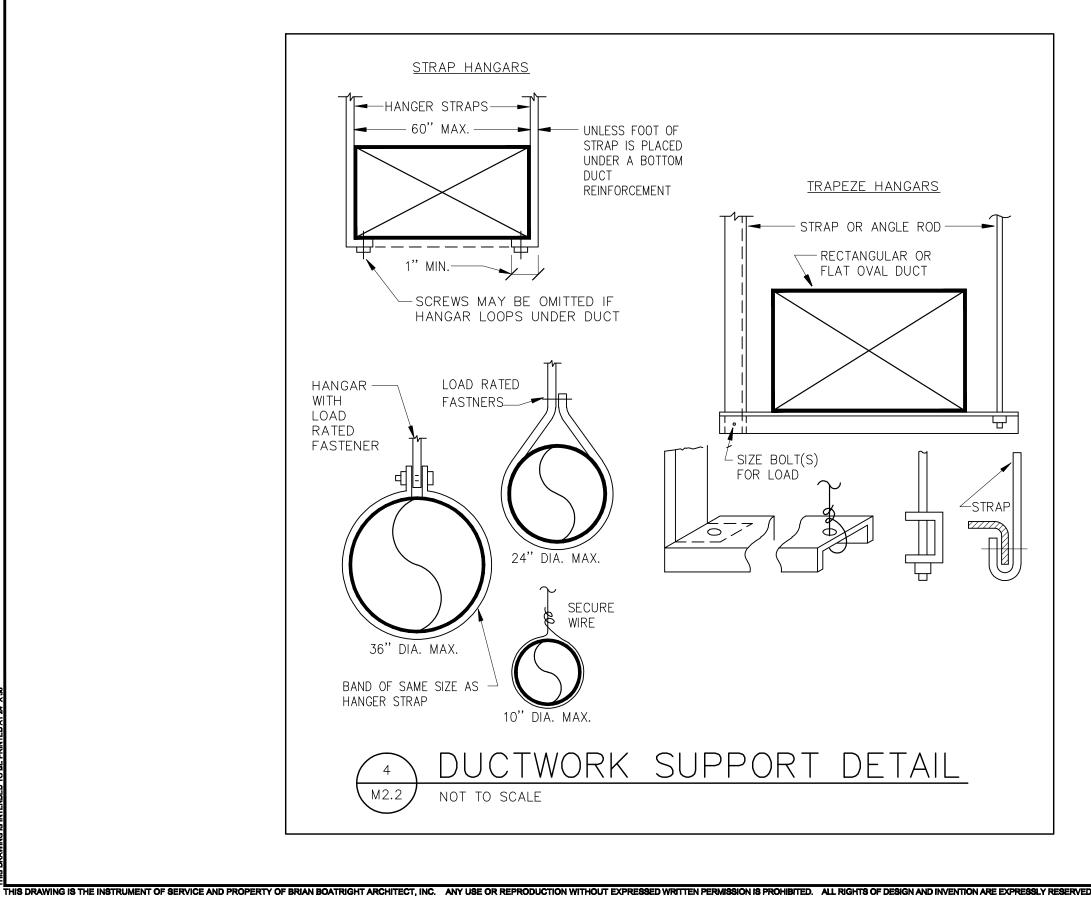
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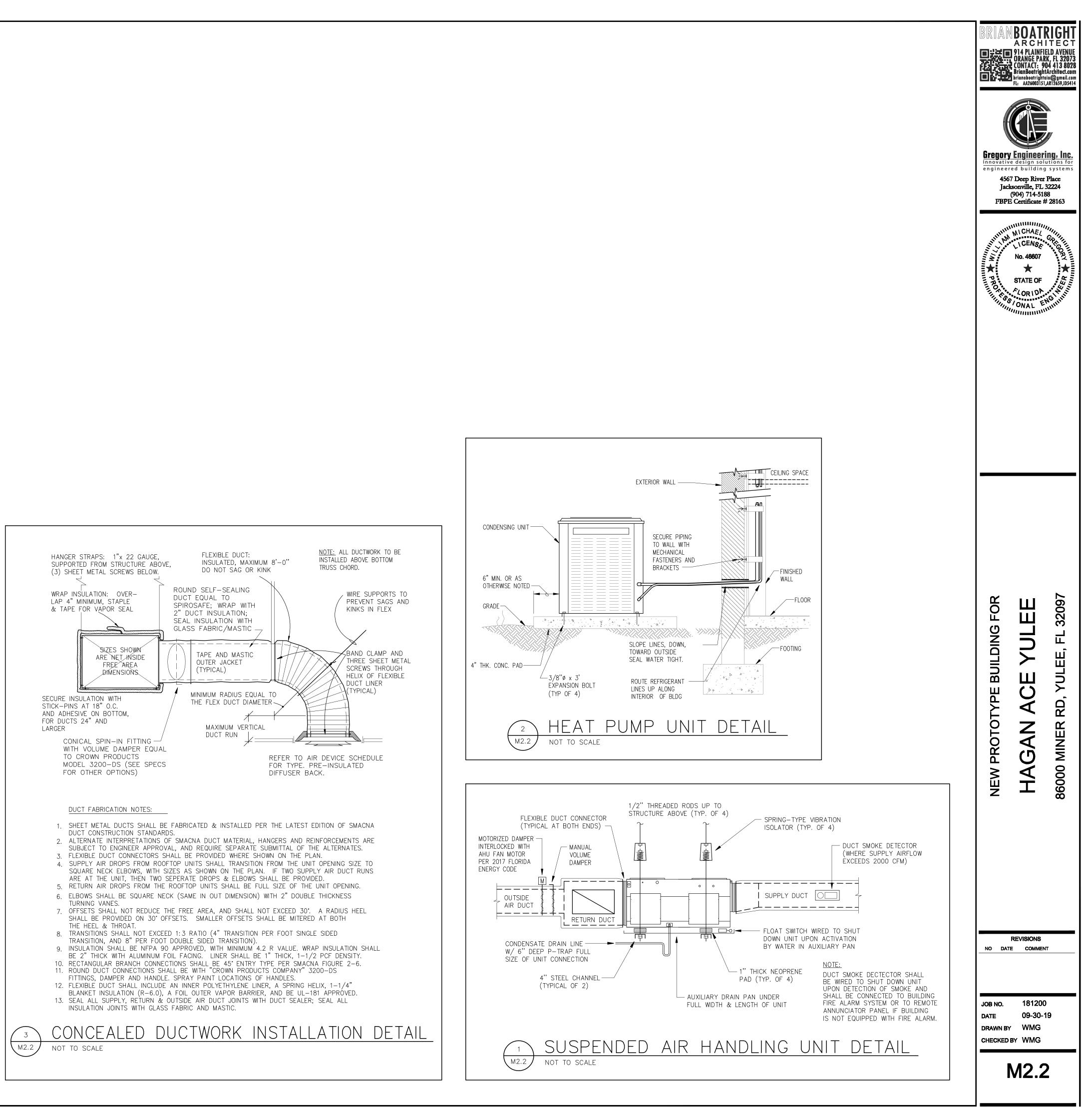
	ASHRAE 62.1-2007 VENTILATION AND AIR BALANCE CALCULATION												
HAGAN ACE HARDWARE - YULEE, FL													
	AREA OR ROOM	AREA	DEFAULT	CALCULATED	Rp VENT. RATE	Vbzp	Ra VENT. RATE	Vbza	VENTILATIION REQUIREMENT Vbz=Vbzp+Vbz		Vbz CORRECTED VENTILATION REQUIREMENT	EXHAUST RATE	
ROOM / ZONE	NO.	(SF)	(QTY/1000 SF)	(PEOPLE)	(CFM / P)	(CFM)	(CFM / SF)	(CFM)	a (CFM)	EFFECTIVENESS	(CFM)	(CFM)	
AHU-1		4035		5	7.5	38	0.12	484	522	1	521		
AHU-2		4035		5	7.5	38	0.12	484	522	1	521		
AHU-3		4035		5	7.5	38	0.12	484	522	1	521		
AHU-4		4035		5	7.5	38	0.12	484	522	1	521		
AHU-5		1572		2	5	10	0.06	94	104	1	104		
AHU-6		1081		8	5	40	0.06	65	105	1	104	280	
				0		0			0	1			
TOTAL		18793		30		200		2096	2296		2292	280	
			•								•		
	TOTAL VENTILATION AIR REQUIREMENT 2292												
	TOTAL EXH. RATE PLUS 5% 294												
	FINAL V	ENT. REC	QUIREMENT (G	reater of Above	2292								
			TION AR PRO		2325								
											04.14 40		

AHU/HP-1       TRANE       10       11.0       3.3       AHU-1       3600       600	AHU/HP-2 TRANE 10 11.0 3.3 AHU-2 3600	AHU/HP-3 TRANE 7.5 11.0 3.3 AHU-3 2800	AHU/HP-4 TRANE 7.5 11.0 3.3 AHU-4	AHU/HP-5 TRANE 2.5 14.0 8.2 AHU-5	AHU/HP-6 TRANE 2.5 14.0 8.2
10 11.0 3.3 AHU-1 3600	10 11.0 3.3 AHU-2	7.5 11.0 3.3 AHU-3	7.5 11.0 3.3	2.5 14.0 8.2	2.5 14.0 8.2
11.0 3.3 AHU-1 3600	11.0 3.3 AHU-2	11.0 3.3 AHU-3	11.0 3.3	14.0 8.2	14.0 8.2
3.3 AHU-1 3600	3.3 AHU-2	3.3 AHU-3	3.3	8.2	8.2
AHU-1 3600	AHU-2	AHU-3	25.551		
3600			AHU-4	AHU-5	1100010100
	3600	2800			AHU-6
600		2800	2800	1000	975
000	600	450	450	100	125
1.25"	1.25"	1"	1"	0.6"	0.6"
2	2	1.5	1.5	1/3	1/3
14.96 / 1	14.96 / 1	14.96 / 1	14.96 / 1	7.68 / 1	7.68 / 1
208/3	208/3	208/3	208/3	208/1	208/1
78 / 63	78 / 63	78 / 63	78 / 63	75/63	75/63
120000	120000	90000	90000	30000	30000
86400	86400	64800	64800	21600	21600
105000	105000	82000	82000	30000	30000
47 / 50	47 / 50	45.7 / 50	45.7 / 50	37 / 40	39.6 / 40
TWE120E3	TWE120E3	TWE090E3	TWE090E3	TAM4A0A30S21SA	TAM4A0A30S21SA
HP-1	HP-2	HP-3	HP-4	HP-5	HP-6
95	95	95	95	95	95
208/3	208/3	208/3	208/3	208-230/1	208-230/1
2 / SCROLL	2 / SCROLL	2 / SCROLL	2 / SCROLL	1 / SCROLL	1/SCROLL
41 / 50	41 / 50	33 / 45	33 / 45	15 / 25	15 /25
TWA120E3	TWA120E3	TWA090E3	TWA090E3	4TWB4030E1	4TWB4030E1
R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
,2,3,4,5,6,7,8,9,10	1,2,3,4,5,6,7,8,9,10	1,2,3,4,5,6,7,8,9,10	1,2,3,4,5,6,7,8,9,10	1,2,3,4,5,6,7,8,9,10	1,2,3,4,5,6,7,8,9,10
	2 14.96 / 1 208/3 78 / 63 120000 86400 105000 47 / 50 TWE120E3 HP-1 95 208/3 2/ SCROLL 41 / 50 TWA120E3 R-410A	2       2         14.96 / 1       14.96 / 1         208/3       208/3         78 / 63       208/3         78 / 63       78 / 63         120000       120000         86400       86400         105000       105000         47 / 50       47 / 50         TWE120E3       TWE120E3         HP-1       HP-2         95       95         208/3       208/3         2 / SCROLL       2 / SCROLL         41 / 50       TWA120E3         R-410A       R-410A         2,3,4,5,6,7,8,9,10       1,2,3,4,5,6,7,8,9,10	2         2         1.5           14.96 / 1         14.96 / 1         14.96 / 1           208/3         208/3         208/3           78 / 63         78 / 63         78 / 63           120000         120000         90000           86400         86400         64800           105000         105000         82000           47 / 50         47 / 50         45.7 / 50           TWE120E3         TWE120E3         TWE090E3           HP-1         HP-2         HP-3           95         95         95           208/3         208/3         208/3           2 / SCROLL         2 / SCROLL         2 / SCROLL           41 / 50         41 / 50         33 / 45           TWA120E3         TWA120E3         TWA090E3           R-410A         R-410A         R-410A           2,3,4,5,6,7,8,9,10         1,2,3,4,5,6,7,8,9,10         1,2,3,4,5,6,7,8,9,10	2         2         1.5         1.5           14.96 / 1         14.96 / 1         14.96 / 1         14.96 / 1         14.96 / 1           208/3         208/3         208/3         208/3         208/3           78 / 63         78 / 63         78 / 63         78 / 63         78 / 63           120000         120000         90000         90000         90000           86400         86400         64800         64800           105000         105000         82000         82000           47 / 50         47 / 50         45.7 / 50         45.7 / 50           TWE120E3         TWE120E3         TWE090E3         TWE090E3           HP-1         HP-2         HP-3         HP-4           95         95         95         95           208/3         208/3         208/3         208/3         208/3           2/SCROLL         2/SCROLL         2/SCROLL         2/SCROLL         2/SCROLL           41 / 50         41 / 50         33 / 45         33 / 45           TWA120E3         TWA120E3         TWA090E3         TWA090E3           R-410A         R-410A         R-410A         R-410A           23,4,5,6,7,8,9,10         1,2,3	2         2         15         15         13           14.96/1         14.96/1         14.96/1         14.96/1         7.68/1           208/3         208/3         208/3         208/3         208/3         208/1           78/63         78/63         78/63         76/63         75/63           120000         120000         90000         90000         30000           86400         86400         64800         64800         21600           105000         105000         82000         82000         30000           47/50         47/50         45.7/50         45.7/50         37/40           TWE120E3         TWE120E3         TWE090E3         TWE090E3         TAM4A0A30S21SA           HP-1         HP-2         HP-3         HP-4         HP-5           95         95         95         95         95           208/3         208/3         208/3         208/3         208/3         208/3           2/ SCROLL         2/ SCROLL         2/ SCROLL         1/ SCROLL         1/ SCROLL           41/50         41/50         33/45         15/75         15/75           TWA120E3         TWA120E3         TWA090E3         TW

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NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
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Date: 21-May-19





### MECHANICAL SPECIFICATIONS

PART 1 – GENERAL 1.01 INSTRUCTIONS

- A. SCOPE OF WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH LOCAL AND STATE CODES, AND CONTRACT DRAWINGS AND SPECIFICATIONS. 1.02 LOCAL CONDITIONS
- CONTRACTOR SHALL VISIT THE SITE AND OBSERVE ALL EXISTING LOCAL CONDITIONS WHICH WOULD AFFECT WORK UNDER THIS CONTRACT. CONTRACTOR SHALL EXAMINE ALL PLANS AND SPECIFICATIONS FOR THIS PROJECT AND CONSULT THEM FOR INSTRUCTIONS PERTAINING TO WORK OF THIS SECTION.
- 1.03 PERMITS AND FEES CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED FOR PERTAINING TO WORK UNDER THIS CONTRACT AND PAY ALL CHARGES INCIDENTAL THERETO. DELIVER TO ARCHITECT ALL CERTIFICATES OF INSPECTION ISSUED BY AUTHORITIES HAVING JURISDICTION.
- 1.04 CODES AND STANDARDS FURNISH AND INSTALL MECHANICAL SYSTEMS TO MEET ALL CURRENT REQUIREMENTS OF NATIONAL. STATE AND MUNICIPAL CODES, RULES REGULATIONS. LAWS. AND STANDARDS AS THEY ARE ADOPTED BY THE
- GOVERNING AGENCY AND AS THEY MAY APPLY. 2017 FLORIDA BUILDING CODE, 6th EDITION; 2017 FLORIDA BUILDING CODE - MECHANICAL, 6th EDITION;
- 2017 FLORIDA BUILDING CODE PLUMBING, 6th EDITION; 2017 FLORIDA FIRE PREVENTION, 6th EDITION;
- STANDARD FOR THE INSTALLATION OF A/C AND VENT SYSTEMS, NFPA 90A (1999 ED.) UNDERWRITERS LABORATORIES
- 1.05 SUBMITTALS A. MATERIAL LIST: WITHIN TWENTY (20) DAYS OF AWARD OF CONTRACT, CONTRACTOR SHALL SUBMIT TO ARCHITECT A COMPLETE LIST OF MATERIALS TO BE PROVIDED FOR THE HVAC WORK. THE LIST SHALL INCLUDE SUPPLIERS' NAMES AND MANUFACTURERS' NAMES AND NUMBER
- OR SERIES FOR EACH ITEM ON LIST. B SHOP DRAWINGS' SUBMIT TO THE ARCHITECT FOR APPROVAL BEFORE COMMENCING WORK, SHOP DRAWINGS FOR ALL MATERIALS AND FOULPMENT TO BE PROVIDED UNDER THIS CONTRACT. THE FOLLOWING APPLIES TO
- THE SHOP DRAWINGS: CONTRACTOR SHALL SUBMIT WITHIN 30-DAYS AFTER AWARD OF CONTRACT. DRAWINGS AND/OR CUT SHEETS OF ALL MATERIALS AND EQUIPMENT. AND 1/4" SCALE EQUIPMENT ROOM DRAWINGS FOR APPROVAL BY ARCHITECT-ENGINEER. SUCH SUBMITTALS MUST CONTAIN OUTLINE DIMENSIONS. OPERATING CLEARANCES. INSTALLATION. OPERATING AND MAINTENANCE INFORMATION AND SUFFICIENT ENGINEERING DATA TO INDICATE SUBSTANTIAL COMPLIANCE WITH SPECIFICATIONS. ALL SHOP DRAWINGS FOR ONE SECTION OF WORK OR ONE MECHANICAL SYSTEM SHALL BE SUBMITTED AT ONE TIME IN LOOSE-LEAF 3-RING BINDERS; NO APPROVAL WILL BE GIVEN IF
- SURMITTED PIECEMEAL WHERE CONTRACTOR CONSIDERS ADDITIONAL DETAIL OR SHOP DRAWINGS ESSENTIAL TO PROPER FABRICATION OR INSTALLATION OF EQUIPMENT JCTWORK, AND PIPING HE SHALL PREPARE SUCH CONSISTENT WITH CURRENT INDUSTRY METHODS AND STANDARDS. ENGINEER RESERVES THE RIGHT TO DIRECT REMOVAL AND REPLACEMENT OF ANY ITEMS WHICH, IN HIS OPINION, DO NOT PRESENT AN ORDERLY AND REASONABLY NEAT AND WORKMANLIKE APPEARANCE, PROVIDED SUCH AN ORDERLY INSTALLATION CAN BE MADE USING CUSTOMARY TRADE METHODS. REMOVAL AND REPLACEMENT SHALL BE DONE WHEN DIRECTED IN WRITING BY ENGINEER AT THE CONTRACTOR'S EXPENSE AND WITHOUT ADDITIONAL EXPENSE TO
- 3. APPROVAL GRANTED ON SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY AND SHALL NOT BE CONSIDERED AS GUARANTEE OF MEASUREMENTS OF BUILDING CONDITIONS: NOR SHALL IT BE CONSTRUED AS RELIEVING THE MECHANICAL CONTRACTOR OF BASIC RESPONSIBILITIES UNDER THIS CONTRACT. CHANGES IN FOUNDATIONS, BASES, CONNECTIONS, PIPING, CONTROLS, STARTERS,
- LECTRICAL EQUIPMENT, WIRING AND CONDUIT, SPACE OPENINGS, WALLS AND CEILINGS, AND VIBRATION ISOLATION IN ORDER TO ACCOMMODATE SUBSTITUTE EQUIPMENT SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND RECEIVE ENGINEER'S APPROVAL BEFORE INSTALLING MATERIALS OR EQUIPMENT. ANY EQUIPMENT OR MATERIALS INSTALLED PRIOR TO RECEIPT OF APPROVED SHOP DRAWINGS FROM
- ENGINEER SHALL BE SUBJECT TO REMOVAL AND/ OR ALTERATION AT THE DISCRETION OF THE MECHANICAL ENGINEER AT NO ADDITIONAL COST. 6. APPROVAL OF ANY SUBMITTED DATA OR SHOP DRAWINGS FOR MATERIALS, EQUIPMENT, APPARATUS DEVICES, ARRANGEMENTS AND/OR LAYOUTS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY OF FURNISHING SAME OF PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITIES AND INSTALLATION DETAILS TO FEFICIENTLY PERFORM REQUIREMENTS AND INTENT OF CONTRACT SUCH
- APPROVAL SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OF ANY SORT. ANY ELECTRICAL DEVIATIONS BETWEEN THE CONTRACT DOCUMENTS AND THE FURNISHED EQUIPMENT MUST BE SEPARATELY ACKNOWLEDGED BY A SUBSTITUTION REQUEST AND ADDITIONALLY NOTED ON THE SUBMITTAL
- PROVIDE MECHANICAL SHOP DRAWINGS FOR: AIR HANDLING UNITS, CONDENSING UNITS VENTILATORS, AIR INLETS AND OUTLETS, DUCT ACCESSORIES, DUCT INSULATION, PIPE INSULATION, TEMPERATURE CONTROLS, DUCT MATERIALS, REFRIGERAN PIPING, CONDENSATE PIPING. 1.06 CONNECTING TO WORK OF OTHERS
- BEFORE STARTING HIS WORK, AND FROM TIME TO TIME AS WORK PROGRESSES, MECHANICAL CONTRACTOR SHALL EXAMINE WORK AND MATERIALS INSTALLED BY OTHERS INSOFAR AS THEY APPLY TO HIS WORK AND SHALL NOTIFY ENGINEER IMMEDIATELY IN WRITING IF CONDITIONS EXIST WHICH WILL . SHOULD CONTRACTOR START HIS WORK WITHOUT SUCH NOTIFICATION, IT SHALL BE CONSTRUED AS AN ACCEPTANCE BY HIM OF ALL CLAIMS OR QUESTIONS AS
- SUITABILITY OR WORK OF OTHERS TO RECEIVE HIS WORK. HE SHALL REMOVE AND REPLACE, AT HIS OWN EXPENSE, ALL WORK UNDER THIS CONTRACT WHICH MAY HAVE TO BE REMOVED ON ACCOUNT OF SUCH DEFECTS. 1.07 CONTRACT DRAWINGS A. IT IS THE INTENT OF DRAWINGS AND SPECIFICATIONS TO OBTAIN A COMPLETE AND FULLY
- OPERATIONAL, AND SATISFACTORY INSTALLATION. AN ATTEMPT HAS BEEN MADE TO SEPARATE AND COMPLETELY DEFINE WORK UNDER THIS CONTRACT. HOWEVER, SUCH SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS SHALL NOT RELIEVE CONTRACTOR FROM FULL RESPONSIBILITY OF COMPLIANCE WITH WORK OF HIS TRADE WHICH MAY BE INDICATED ON ANY DRAWING OR IN ANY SECTION OF THE SPECIFICATIONS. B. CONTRACTOR SHALL CAREFULLY EXAMINE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING BID. CONTRACTOR WILL BE
- REQUIRED TO FURNISH, INSTALL AND CONNECT WITH APPROPRIATE SERVICES ALL ITEMS SHOWN ON ANY DRAWINGS WITHOUT ADDITIONAL EXPENSE TO OWNER. ARCHITECT SHALL BE NOTIFIED PRIOR TO BID DATE OF ANY DISCREPANCIES, OMISSIONS, CONFLICTS OR INTERFERENCES WHICH OCCUR BETWEEN DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS. IF SUCH NOTIFICATION IS RECEIVED IN ADEQUATE TIME, ADDITIONAL DATA OR CHANGES WILL BE ISSUED BY ADDENDUM TO ALL BIDDERS. SUBMITTAL OF BID BY CONTRACTOR SHALL INDICATE THE CONTRACTOR'S ACKNOWLEDGEMENT AND ACCEPTANCE TO PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS AND LABOR TO MEET
- THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IN ACCORDANCE WITH ALL CODE REQUIREMENTS. C. ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MECHANICAL DRAWINGS WITH REFERENCE TO BUILDING CONSTRUCTION. MECHANICAL DRAWINGS ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION OF BUILDING AND WORK OF OTHER TRADES WILL PERMIT. WHERE LOCATIONS OF EQUIPMENT, DEVICES OF FIXTURES ARE CONTROLLED BY ARCHITECTURAL FEATURES, ESTABLISH SUCH LOCATIONS BY REFERRING TO DIMENSIONS ON ARCHITECTURAL DRAWINGS AND NOT BY SCALING DRAWINGS. CHANGES FROM DRAWINGS NECESSARY TO MAKE WORK OF CONTRACTOR CONFORM WITH BUILDING AS CONSTRUCTED AND TO FIT WORK OF OTHER TRADES OR RULES OF BODIES HAVING JURISDICTION SHALL BE MADE BY CONTRACTOR AT HIS OWN EXPENSE. SOME DRAWINGS MAY HAVE BEEN PREPARED FROM EXISTING DRAWINGS WITH INTENT OF PROVIDING THE CONTRACTOR WITH INFORMATION CONCERNING THE EXISTING CONDITIONS. DATA SHOWN HAS NOT BEEN COMPLETELY VERIFIED BY ARCHITECT/ ENGINEER AND NO GUARANTEE OF ACCURACY OF THIS INFORMATION IS GIVEN OF INTENDED. IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS. DATA WHICH IS SHOWN BUT PROVES TO BE INCORRECT SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM INSTALLING HIS WORK WITHIN THE INTENT OF PLANS AND SPECIFICATIONS, NOR SHALL IT CONSTITUTE BASIS FOR A CHANGE ORDER UNLESS, IN THE OPINION OF THE ARCHITECT/ENGINEER IT IS DETERMINED TO BE AN EXTRA COST OVER AND ABOVE THE BASIC INTENT OF THESE PLANS AND
- SPECIFICATIONS. 1.08 DAMAGE TO OTHER WORK A. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PROTECTIVE MEASURES WHEN WORKING OVERHEAD OR IN FINISHED AREAS. HE/SHE SHALL REPAIR. REPLACE OR TOUCH-UP ALL FINISHED SURFACES WHICH MAY BE DAMAGED AS A RESULT OF HIS OPERATIONS.
- 1.09 STORAGE AND WORK AREAS ALL EQUIPMENT AND MATERIALS SHALL BE PROTECTED FROM THE WEATHER, DAMAGE, MOISTURE, DIRT, DEBRIS, ETC. USE OF CARDBOARD, VISQUEEN, OR OTHER SIMILAR MATERIALS WHILE STORED OUTSIDE IS NOT ACCEPTABLE. DO NOT INSTALL DAMAGED EQUIPMENT

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### 1.10 APPROVAL OF MATERIAL EQUIPMENT OTHER THAN SPECIFIED IN THE CONTRACT DOCUMENTS REQUIRES APPROVAL FROM ENGINEER 10 DAYS PRIOR TO BID DATE. WRITTEN REQUEST FOR PRIOR APPROVAL MUST BE RECEIVED IN ENGINEER'S OFFICE BY CLOSE OF BUSINESS NO LATER THAN 10 DAYS PRIOR TO SCHEDULED BID DATE. REQUEST SHALL CONTAIN DETAILED INFORMATION ON THE PROPOSED ITEM THIS SHALL INCLUDE CATALOG CUTS SHEETS DETAILED SPECIFICATIONS

DESCRIPTION OF DEVIATION FROM SPECIFIED ITEM. AN ADDENDA SHALL BE ISSUED LISTING ALL PROSPECTIVE CONTRACTORS LISTING ALL PRIOR APPROVED MANUFACTURERS AND PRODUCTS. 2.01 SPLIT SYSTEM HEAT PUMPS

- A. GENERAL: FURNISH AND INSTALL SPLIT SYSTEM HEAT PUMPS OF THE CAPACITY, OPERATING CHARACTERISTICS, AND ELECTRICAL CHARACTERISTICS INDICATED ON
- HE DRAWINGS AND SPECIFIED HEREIN. MANUFACTURER: TRANE, CARRIER, YORK OR LENNOX MAY BE SUBMITTED FOR APPROVAL PROVIDED THEY CONFORM TO ALL REQUIREMENTS OF THESE SPECIFICATIONS. WARRANTY: CONTRACTOR SHALL INCLUDE IN HIS PRICE THE COST OF ONE YEAR'S WARRANTY ON ENTIRE SYSTEM PLUS AN ADDITIONAL FOUR YEARS WARRANTY O COMPRESSOR. THE CONTRACTOR SHALL WARRANT EACH SYSTEM IN ITS ENTIRETY FOR ONE (1) FULL YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL ALSO PROVIDE AN ADDITIONAL FOUR-YEAR WARRANTY ON EACH COMPRESSOR TO
- INCLUDE PARTS, REFRIGERANT AND OIL, EXCLUSIVE OF LABOR. D. INDOOR UNITS: FAN SECTION: SHALL BE INSULATED AND CONSTRUCTED OF GALVANIZED STEEL, BONDERIZED AND FINISHED WITH BAKED ENAMEL. THE VARIABLE-SPEED FAN MOTOR SHALL BE FACTORY LUBRICATED, HAVE INTERNAL OVERLOAD PROTECTION AND BE RESILIENTLY MOUNTED. FAN-MOTOR ASSEMBLY SHALL SLIDE OUT FOR SERVICE.
- REVERSIBLE FILTER RACK SHALL BE EQUIPPED WITH PERMANENT TYPE FILTER THAT SLIDES OUT FOR SERVICE. 2. COOLING COIL: SHALL BE CONSTRUCTED WITH ALUMINUM PLATE FINS MECHANICALLY BONDED TO NONFERROUS TUBING (FOR UNITS 5 TONS AND SMALLER) OR SEAMLESS COPPER TUBING (FOR UNITS LARGER THAN 5 TONS) WITH ALL JOINTS BRAZED. COILS SHALL HAVE A FACTORY-INSTALLED REFRIGERANT METERING DEVICE AND BE EQUIPPED WITH REFRIGERANT LINE FITTINGS WHICH PERMIT MECHANICAL CONNECTIONS. COIL CASING SHALL BE INSULATED AND CONSTRUCTED OF
- GALVANIZED STEEL, BONDERIZED AND FINISHED WITH BAKED ENAMEL ELECTRIC HEATER: ENCLOSURE SHALL BE INSULATED AND HAVE LARGE FRON SERVICE ACCESS DOOR. HEATING ELEMENTS SHALL BE STAGED AS INDICATED IN THE EQUIPMENT SCHEDULE ON THE MECHANICAL PLANS. HEATER SHALL BE EQUIPPED WITH BOTH THERMAL AND CURRENT OVERLOAD DEVICES, AND THE REQUIRED HEATING AND COOLING SYSTEM CONTROLS, INCLUDING CONTROL CIRCUIT 24-V TRANSFORMER.
- E. OUTDOOR UNIT: GENERAL: HOUSING SHALL BE CONSTRUCTED OF GALVANIZED STEEL, BONDERIZED AND FINISHED WITH BAKED ENAMEL. THE UNIT SHALL BE DESIGNED AND TESTED FOR USE WITH R-410A AND CONTAIN A SUFFICIENT CHARGE FOR THE ENTIRE SYSTEM. BRASS SERVICE VALVES WITH REFRIGERANT LINE FITTINGS AND SERVICE PARTS SHALL BE LOCATED IN EXTERIOR OF UNIT. COIL: SHALL CONSIST OF ALUMINUM FINS MECHANICALLY BONDED TO COPPER TUBING (FOR UNITS LARGER THAN 5 TONS) OR ALUMINUM TUBING (FOR UNITS 5 TONS AND SMALLER) WITH ALL JOINTS BRAZED. FACTORY INSTALLED COIL REFRIGERANT
- METERING DEVICE SHALL BE MOUNTED ON UNIT LIQUID SERVICE VALVE. LIQUID LINE SHALL INCLUDE A BI-FLOW FILTER DRIER 3. FAN: SHALL BE PROPELLER TYPE, DIRECT DRIVEN, AND ARRANGED FOR VERTICAL DISCHARGE. PROVIDE GRILLE OVER DISCHARGE. FAN MOTOR SHALL BE FACTORY LUBRICATED, INHERENTLY PROTECTED AND RESILIENTLY MOUNTED. TWO-SPEED FAN MOTOR SHALL AUTOMATICALLY SWITCH TO HIGH SPEED ABOVE 95 DEGREES F
- AND BELOW 55 DEGREES F OUTDOOR TEMPERATURE. . COMPRESSOR: SHALL BE OF THE WELDED-HERMETIC TYPE WITH INTERNAL VIBRATION ISOLATION AND BE COVERED WITH A SHIELD TO MUFFLE OPERATING SOUND. COMPRESSOR MOTOR SHALL HAVE BOTH THERMAL AND CURRENT SENSITIVE OVERLOAD DEVICE, AND START CAPACITOR AND RELAY. COMPRESSOR SHALL BE EQUIPPED WITH A CRANKCASE HEATER AND HAVE INTERNAL HIGH PRESSURE PROTECTION.
- CONTROLS: SHALL BE FACTORY WIRED AND LOCATED IN A READILY ACCESSIBLE LOCATION ON UNIT SWING-OUT SERVICE DOOR. CONTROLS AND PROTECTIVE DEVICE SHALL INCLUDE A LIQUID LINE LOW-PRESSURE SWITCH, SUCTION LINE ACCUMULATOR AND PRESSURE RELIEF DEVICE. AN AUTOMATIC DEFROST CONTROL SHALL BE INCLUDED TO ACCOMPLISH DEFROSTING (ONLY IF COIL TEMPERATURES) EVERY 9 MINUTES SATURATED SUCTION TEMPERATURE INDICATES FREEZING FOR A PERIOD OF NOT MORE THAN 10 MINUTES. CONTROL WIRING TERMINAL BOARD SHALL BE DESIGNED TO MATCH INDOOR UNIT TERMINAL BOARD FOR STANDARDIZED POINT-TO-POINT CONNECTION. A TIME-DELAY RELAY SHALL PREVENT THE COMPRESSOR FROM SHORT-CYCLING AT LESS THAN 5-MINUTE INTERVALS. SPACE TEMPERATURE CONTROLS: THE INDOOR THERMOSTAT SHALL BE A FULLY-
- PROGRAMMABLE, 7-DAY, 4-EVENT PER DAY WITH BATTERY BACK-UP. 2.02 AIR DISTRIBUTION SYSTEMS
- A. LOW PRESSURE SHEET METAL DUCTWORK: LOW PRESSURE SHEET METAL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL CONSTRUCTION OF JOINT CONNECTIONS CROSS-BREAKING AND BRAC CONFORM TO THE LATEST EDITION OF THE SMACNA "LOW PRESSURE DUCT CONSTRUCTION STANDARDS". NO FIBERGLASS DUCTBOARD IS ALLOWED.
- INSULATED SHEET METAL DUCTWORK: SHEET METAL MATERIALS SHALL BE GALVANIZED SHEET STELL, LOCKFORMING QUALITY, ASTM A 527. AND COATING DESIGNATION G 90. JOINT AN SEAM SEALANT SHALL BE ONE-PART, NONSAG, SOVENT-RELEASE
- CURING, POLYMERIZED BUTYL SEALANT COMPLYING WITH FS TT-S-001657 TYPE I; FORMULATED WITH A MINIMUM OF 75 PERCENT SOLIDS DUCTS ATTACHMENTS SHALL BE SHEET METAL SCREWS, BLIND RIVETS, OR SELF TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS. d. DUCT FABRICATION: CONSTRUCT IN ACCORDANCE WITH SMACNA REQUIREMENTS.
- 2. SOUND-LINED INSULATION: SOUND LINING SHALL BE ARMACELL FIBER FREE LINER MIN. 1.5 LB. DENSISTY, 1" THICKNESS, MAX 0.25 K FACTOR AT 75 DEGREES F. MEAN TEMPERATURE AND MUST HAVE A MAXIMUM WATER VAPOR TRANSIMISSION RATIO OF 0.0 PERM-IN
- (FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 50.) APPLYING LINING WITH ADHESIVE OVER ENTIRE SURFACE AND SECURE WITH WELD PINS SPACED 16" ON CENTERS. COAST EDGES WITH SEALER AND PROVIDES SHEET METAL EDGE PROTECTORS. SEALER SHALL BE IN COMFORMANCE WITH NFPA 90A AND NFPA 90B. PROVIDE 2" SOUND LINING FOR MIXED AIR AND RELIEF AIR PLENUMS AND SUPPLY AIR PLENUMS AT SLOT DIFFUSER. DIMENSIONS SHOWN ARE CLEAR INSIDED DIMENSIONS.
- LOW PRESSURE FLEXIBLE DUCTS: FLEXIBLE DUCT SHALL CONSIST OF A ZINC COATED SPRING METAL INSULATION STAND-OFF, INTEGRAL SHAFT/BLADE ASSEMBLY, SHAFT-MOUNTED STEEL HELIX PERMANENTLY BONDED TO A FULL INTERIOR LINER TO FORM THE DUCT CORE WITH POSITIVE INTERIOR AIR SEAL. CORE SHALL BE COVERED WITH FACTORY APPLIED ONE INCH, ONE POUND PER CUBIC FOOT FIBERGLASS INSULATION OF 0.25 THERMAL SPIRAL DUCT SHALL BE CALIBRATED TO MANUFACTURER'S PUBLISHED DIMENSIONAL CONDUCTANCE SHEATHED IN A SEAMLESS EXTERIOR CLASS 1 VAPOR BARRIER JACKET WITH TOLERANCE STANDARD. ALL SPIRAL DUCT 14" DIAMETER AND LARGER SHALL BE A VAPOR CUFF ON BOTH ENDS. DUCT SHALL BE MADE FOR USE WITH QUADRANT DAMPERED TWIST IN TYPE FITTINGS WITH EXTRACTOR SCOOPS SUITABLE FOR SHEET METAL PREVENTED BY MEANS OF A FLAT SEAM AND A MECHANICALLY FORMED INDENTATION OR FIBROUS GLASS DUCTWORK. DUCT SHALL BE NFPA 90A, CLASS 1 (UL-181). PROVIDE EVENLY SPACED ALONG THE SPIRAL SEAM. N FACTORY FINISHED LENGTHS NOT IN EXCESS OF LENGTHS REQUIRED TO MAKE SUITABLE CONNECTIONS WITH MINIMUM PRESSURE DROP. ACCEPTABLE: GENFLEX TYPE SLR WITH DUCT SYSTEM PERFORMANCE SHALL MEET SMACNA LEAKAGE CLASS 3 REQUIREMENTS STAINLESS STEEL HOSE COUPLINGS AND WITH FACTORY INSTALLED CROWN 3200-DS SPIN IN AT SYSTEM STATIC PRESSURES NOT TO EXCEED -20" W.G. OR +12" W.G. FITTING (FOR GLASS FIBER DUCTWORK), EACH TYPE WITH INTEGRAL VOLUME DAMPER AT
- CONNECTION TO RECTANGULAR MAIN DUCT BRANCH OR EQUIVALENT PRODUCTS OF ATCO. DUCT SYSTEM ACCESSORIES: GENERAL: PROVIDE ALL NECESSARY DUCT SYSTEM ACCESSORIES TO ASSURE PROPER BALANCE, QUIET AND DRAFTLESS DISTRIBUTION AND CONVEYANCE, AND MINIMIZATION OF TURBULENCE, NOISE AND PRESSURE DROP FOR ALL SUPPLY, RETURN, EXHAUST AND VENTILATION AIR QUANTITIES INDICATED. ACCESSORIES SHALL BE RECOMMENDED Y THEIR MANUFACTURER FOR EACH SPECIFIC APPLICATION. FLEXIBLE DUCT CONNECTIONS: PROVIDE WHERE AIR HANDLERS, FANS AND BLOWERS CONNECT TO THEIR DUCTWORK. SHALL BE AT LEAST 4-INCHES LONG CONNECTED ON EACH SIDE TO METAL (EITHER METAL DUCTWORK, AIR HANDLING APPARATUS, OR HEAVY
- GAUGE STEEL SLEEVES), AND BE SUITABLE FOR USE IN MEDIUM AND/OR LOW PRESSURE DUCT SYSTEMS. PROVIDE BRAIDED COPPER BRIDGE STRAP EQUAL TO THOMPSON LIGHTNING PROTECTION, INC. NO. 588 ACROSS EACH CONNECTION ACCEPTABLE: VENTFABRICS, INC. "VENTGLAS METAL- EDGE" OR PRIOR APPROVED LOW PRESSURE METAL TURNING VANES: PROVIDE IN ALL ELBOWS, BENDS AND TEES OF
- ALL LOW VELOCITY SUPPLY AIR DUCTS WHETHER OR NOT SHOWN IN DETAIL; PROVIDE IN ALL ELBOWS, BENDS AND TEES OF ALL OTHER LOW VELOCITY DUCTS WHERE PORTIONS OF SUCH DUCTS CONVEY AIR AT GREATER THAN 700 FPM AVERAGE VELOCITY. UNIT O BE OF THE PERMANENT FIXED TYPE. HAVING ADEQUATE RIGIDITY AND STRENGTH TO BE COMPLETELY FLUTTER-PROOF. ALUMINUM, OR STEEL WITH CORROSION RESISTANT COATING, OR GALVANIZED STEEL. AIRFOIL TYPE IN ALL MITERED ELBOWS, MITERED BENDS AND MITERED TEES. AIR FOIL TYPE MUST BE MANUFACTURED BY TUTTLE & BAILEY, ANEMOSTAT, METALAIRE, BARBER-COLMAN OR OTHER APPROVED MANUFACTURER AND MUST BE EQUAL TO BARBER-COLMAN "AIRTURNS", TUTTLE & BAILEY "DUCTURNS", OR DURA-DYNE "VR" WITH 24-GAUGE RAILS AND HOLLOW VANES. MANUAL VOLUME DAMPERS (OTHER THAN THOSE SPECIFIED AS BEING INTEGRAL WITH EACH REGISTER, DIFFUSER AND OTHER AIR OUTLET OR INLET): PROVIDED IN THE COMPLETE AIR DISTRIBUTION SYSTEM(S) (INCLUDING DUCTWORK, RETURN AIR PLENUMS, ETC.) TO ALLOW COMPLETE BALANCING OF THE AIR SUPPLY, RETURN, VENTILATION AND
- EXHAUST SYSTEM(S). DAMPERS SHALL BE OPPOSED BLADE TYPE WITH 8-INCH MAXIMUM BLADE WIDTH. DAMPERS SHALL BE MADE OF GALVANIZED STEEL, OR STEEL WITH A SPRAYED OR DIPPED ALUMINUM RUST RESISTANT FINISH AND BE FLUTTER-PROOF. USE IN LOW PRESSURE DUCT SYSTEMS ONLY. BASED UPON LOCATION OF THE DUCT IN WHICH THE DAMPER IS TO BE INSTALLED, PROVIDE THE FOLLOWING TYPES OF OPERATORS: DAMPERS IN DUCTS WHICH ARE EXPOSED OR LOCATED ABOVE "LAY-IN" OR "ACCESSIBLE CEILINGS": YOUNG REGULATOR COMPANY MODEL 817. DAMPERS IN DUCTS CONCEALED ABOVE PLASTER CEILINGS OR BEHIND DRY WALL CONSTRUCTION; YOUNG REGULATOR COMPANY MODEL 817A. ACCEPTABLE: PRODUCTS OF TUTTLE & BAILEY, ANEMOSTAT, METALAIRE, KRUEGER, OR BARBER-COLMAN.

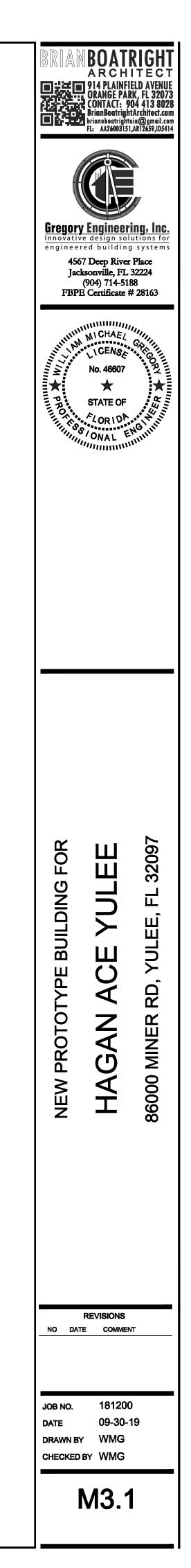
- e. FIRE DAMPERS: PROVIDE FIRE DAMPERS WHERE INDICATED ON DRAWINGS AND/OR WHERE OTHERWISE NECESSARY. FIRE DAMPERS SHALL BE UL LABELED CLUSTERED BLADE TYPE, SPRING ACTUATED, FOR HORIZONTAL OR VERTICAL MOUNTING AS REQUIRED. DAMPER BLADES SHALL BE HELD IN POSITION BY A 165 DEGREE FUSIBLE LINK. DAMPER SLEEVES SHALL BE 14-GAUGE MINIMUM AND ALL OTHER DETAILS OF INSTALLATION SHALL COMPLY WITH THE UL INSTALLATION DATA SHEETS FURNISHED WITH THE DAMPERS. OPENINGS BETWEEN THE FIRE DAMPER SLEEVES AND THE WALL OR FLOOR OPENINGS SHALL BE FILLED WITH FIBERGLASS BATTING TO PREVENT SOUND FLANKING. CLUSTER BLADES SHALL COMPLETELY OUTSIDE AIR STREAM FOR ALL DUCT SYSTEMS (TYPE B). ACCEPTABLE: RUSKIN, AIR BALANCE; AMERICAN WARMING AND VENTILATING; TUTTLE & BAILEY; UNITED SHEET
- METAL; OR APPROVED EQUAL f. LOW PRESSURE DUCT ACCESS DOORS: PROVIDED FOR EACH MANUAL AND MOTORIZED DAMPER; FIRE DAMPER; ELECTRIC DUCT HEATER; AND WHERE ACCESS IS OTHERWISE NECESSARY. FACTORY PREFABRICATED DOUBLE WALL INSULATED TYPE OF 24-GAUGE GALVANIZED STEEL (OF SAME OR THICKER GAUGE THAN DUCTWORK PANEL IN WHICH INSTALLED, WHICHEVER IS GREATER. MINIMUM SIZE SHALL BE AS LARGE AS IS COMPATIBLE WITH DUCT SIZE BUT IN NO CASE LESS THAN THE FOLLOWING (PROVIDE LARGER SIZES IF NECESSARY TO PERMIT PROPER ACCESS OPERATION): MAXIMUM DUCT DIMENSIONS ACCESS DOOR SIZE 11" AND LESS MAXIMUM DUCT DIMENSIONS X 12"
- 12" THROUGH 16" 12 X 16" 17" AND OVER 6 X 24 DOORS SHALL BE PROVIDED WITH HAND OPERATED ADJUSTABLE TENSION CATCHES AND SHALL BE COMPLETELY GASKETED AROUND THEIR PERIMETERS. DOORS SHALL BE VENTLOK "ACCESS DOORS". INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS USING VENTLOK #360 SEALANT.
- AIR DISTRIBUTION DEVICES: SCOPE: PROVIDE ALL AIR DISTRIBUTION DEVICES AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN FOR A COMPLETE AND OPERABLE SYSTEM FREE FROM DRAFTS AND EXCESSIVE NOISE
- RELATION TO OTHER WORK: COORDINATE WITH WORK OF THE CEILING, DRYWALL AND PLASTERING TRADES AS REQUIRED TO INSURE AN ORDERLY PROGRESSION OF WORK AND FIRST CLASS FINISHED SYSTEM WITH RESPECT TO PLACEMENT, ALIGNMENT, FINISH AND GENERAL FIT. DESIGN CONDITIONS
- ACOUSTICAL: COORDINATE AIR DISTRIBUTION DEVICES, SOUND ATTENUATION MEASURES, AND EQUIPMENT ACTUALLY PROVIDED TO INSURE THAT THE DESIGN
- GOALS ARE NOT EXCEEDED BY THE SYSTEM INSTALLED. PRESSURE DROP ACROSS ANY AIR DISTRIBUTION DEVICE SHALL NOT EXCEED 0.15 IN W.G. STATIC PRESSURE UNLESS OTHERWISE INDICATED GUARANTY: AIR DISTRIBUTION EQUIPMENT SHALL BE GUARANTEED BY THE MANUFACTURER TO OPERATE WITHOUT EXCESSIVE NOISE AND WITH VELOCITIES IN HE FIVE FOOT OCCUPANCY ZONE, WHEN HANDLING AIR WITH TEMPERATURE
- DIFFERENTIALS AS HIGH AS 25 DEGREES, NOT TO EXCEED 30 FPM AT A 2 DEGREE DIFFERENCE, 50 FPM AT 1-1/2 DEGREE DIFFERENCE, OR 75 FPM AT A 1 DEGREE FFERENCE WHEN OPERATING WITH AN AVERAGE 75 DEGREE ROOM TEMPERATURE AND MEASURED NO CLOSER THAN 6 INCHES FROM A WALL SURFACE. MANUFACTURER: TITUS, METAL\*AIRE, CARNES, KRUEGER, ANEMOSTAT OR TUTTLE &
- BAILEY. MANUFACTURERS MODEL NUMBERS INDICATED ARE EXAMPLES OF PRODUCTS O BE PROVIDED 5. MANUFACTURERS MUST BE MEMBERS OF THE AIR DISTRIBUTION COUNCIL UNLESS OTHERWISE INDICATED. ALL AIR DISTRIBUTION DEVICES SHALL BE CONSTRUCTED OF EXTRUDED ALUMINUM
- UNLESS OTHERWISE INDICATED. WHERE CONTINUOUS LINEAR SUPPLY AND RETURN DEVICES ARE SHOWN AS ABUTTING ONE ANOTHER IN A SINGLE DIRECTION, THEN THE TOTAL UNBROKEN VISIBLE LENGTH OF THE LINEAR SUPPLY/RETURN DEVICE SHALL EQUAL THE SUM OF THE NOMINAL LENGTHS OF THE ABUTTING DEVICES.
- 8. EACH AIR DISTRIBUTION DEVICE WHICH HAS A PORTION THEREOF (FRAME, CORE, ETC.) EXPOSED TO VIEW IN THE FINISHED AREA SHALL HAVE A FACTORY APPLIED FINISH WHICH MATCHES AND IS COMPATIBLE WITH THE COLOR OF THE SURROUNDING SURFACE ON WHICH THE DEVICE IS INSTALLED. COLORS MUST BE APPROVED BY ARCHITECT PRIOR TO DEVICE FABRICATION.
- ALL DAMPERS, BLANK-OFF BAFFLES AND OTHER COMPANION DEVICES WHICH FORM AN INTEGRAL PART OF AN AIR DISTRIBUTION DEVICE SHALL BE FACTORY MADE ITEMS PRODUCED BY THE MANUFACTURER OF THE AIR DISTRIBUTION DEVICE. 2.06 SELF-SEALING SPIRAL DUCT SYSTEM
- A. ALL ROUND SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE SPIROSAFE AS MANUFACTURED BY LINDAB, INC. OR PRIOR-APPROVED EQUAL PRODUCTS OF OTHER MANUFACTURERS. THE DUCT SYSTEM SHALL CONSIST OF FITTINGS THAT ARE FACTORY FITTED WITH A SEALING GASKET AND SPIRAL DUCT WHICH, WHEN INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS, WILL SEAL THE DUCT JOINTS WITHOUT THE USE OF DUCT SEALER.
- B. THE CONTRACTOR MAY, AT HIS OPTION, CONVERT ANY OF ALL RECTANGULAR DUCTWORK TO ROUND PROVIDED THAT THE PROJECT SPACE LIMITATIONS ARE PROPERLY ADDRESSED, COORDINATION WITH ALL OTHER TRADES IS SUCCESSFUL AND THAT THE OVERALL SYSTEM DESIGN STATIC PRESSURE IS NOT EXCEEDED. UNLESS OTHERWISE NOTED, ALL DUCT AND FITTINGS SHALL BE G-90 GALVANIZED STEEL IN ACCORDANCE WITH ASTM A-653 AND A-924. WHEN SPECIFIED ON CONTRACT
- DOCUMENTS, STAINLESS STEEL TYPE 304 OR TYPE 316 IN ACCORDANCE WITH ASTM A-240 SHALL BE PROVIDED D. UNLESS OTHERWISE NOTED, ALL DUCT AND FITTINGS SHALL BE CONSTRUCTED PER SMACNA DUCT CONSTRUCTION STANDARDS (+10" W.G.) SHOWN IN THE FOLLOWING
- E. ALL FITTING ENDS SHALL COME FACTORY-EQUIPPED WITH A DOUBLE-LIPPED, J-PROFILE, EPDM RUBBER GASKET. GASKET SHALL BE MANUFACTURED TO GAUGE AND FLEXIBILITY SO AS TO INSURE THAT THE SYSTEM WILL MEET ALL OF THE PERFORMANCE CRITERIA SET FORTH IN THE MANUFACTURER'S LITERATURE. GASKET SHALL BE CLASSIFIED BY UL TO CONFORM TO ASTM E84-91A AND NFPA-90A FLAME SPREAD AND SMOKE DEVELOPED RATINGS OF 25/50. ALL FITTING ENDS SHALL BE CALIBRATED TO MANUFACTURER'S PUBLISHED DIMENSIONAL TOLERANCE STANDARD AND ASSOCIATED SPIRAL DUCT. ALL FITTING ENDS SHALL HAVE ROLLED-OVER EDGES FOR ADDED STRENGTH AND RIGIDITY. ALL ELBOWS FROM 3"-12" DIAMETER SHALL BE 2-PIECE D STAMPED AND CONTINUOUSLY STITCH WELDED. ALL ELBOWS 14" DIAMETER AND LARGER SHALL BE STANDING SEAM GORFLOCK CONSTRUCTION AND INTERNALLY SEALED. THE RADIUS OF ALL 90-DEGREE AND 45-DEGREE ELBOWS SHALL BE 1.5 TIMES THE ELBOW DIAMETER; THE RADIUS OF ALL 15-DEGREE, 30-DEGREE AND 60-DEGREE ELBOWS SHALL BE 1.0 TIMES THE ELBOW DIAMETER. ALL FITTINGS THAT ARE SPOT WELDED OR BUTTON PUNCHED CONSTRUCTION SHALL BE INTERNALLY SEALED. WHEN THE CONSTRUCTION DOCUMENTS REQUIRE DIVIDED FLOW FITTINGS, ONLY FULL BODY FITTINGS WILL BE ACCEPTED. THE USE OF DUCT TAPS IS UNACCEPTABLE EXCEPT FOR RETROFT APPLICATIONS. ALL VOLUME DAMPERS SHALL BE SPIROSAFE TYPE DRU. DSU OR DTU OR APPROVED FOLIAL DAMPER SHALL BE FITTING SIZED TO SLIP INTO SPIRAL DUCT DAMPER SHALL HAVE LOCKING QUADRANT WITH BLADE POSITION INDICATOR 2" SHEET
- LOAD BEARING BUSHINGS AND GASKETED SHAFT PENETRATIONS TO MINIMIZE LEAKAGE CORRUGATED FOR ADDED STRENGTH AND RIGIDITY. SPIRAL SEAM SLIPPAGE SHALL BE

### PART 3 - EXECUTION 3.01 METAL DUCTWORK

- APPLICATION: SELECT METAL DUCT FOR EXHAUST AND OUTSIDE AIR DUCTWORK. B. SEAM AND JOINT SEALING: SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS. 3.02 AIR DISTRIBTION SYSTEMS
- A. GENERAL: CONSTRUCT ALL DUCTWORK AND ACCESSORIES IN ACCORDANCE WITH LATEST EDITIONS OF APPLICABLE SMACNA MANUALS. STREAMLINE ALL DUCTWORK TO THE FULL EXTENT PRACTICAL AND EQUIP WITH PROPER AND ADEQUATE DEVICES TO ASSURE PROPER BALANCE AND QUIET DRAFTLESS DISTRIBUTION OF INDICATED AIR QUANTITIES. PROTECT ALL DUCTWORK AND SYSTEM ACCESSORIES FROM DAMAGE DURING CONSTRUCTION UNTIL ARCHITECT'S FINAL ACCEPTANCE OF PROJECT. PRIOR TO DUCTWORK FABRICATION, VERIFY IF ALL DUCTWORK AS DIMENSIONED AND GENERALLY SHOWN WILL SATISFACTORILY FIT ALLOCATED SPACES. TAKE PRECAUTIONS TO AVOID SPACE INTERFERENCE WITH BEAMS, COLUMNS, JOISTS, PIPES, LIGHTS, CONDUIT OTHER DUCTS, EQUIPMENT, ETC. NOTIFY ARCHITECT IF ANY SPATIAL CONFLICTS EXIST AND THEN OBTAIN ARCHITECT'S APPROVAL OF NECESSARY ROUTING. MAKE ANY SUCH NECESSARY REVISIONS WHICH ARE MINOR AT NO ADDITIONAL COST. CAREFULLY CORRELATE ALL DUCT CONNECTIONS TO AIR HANDLING UNITS AND FANS TO PROVIDE PROPER CONNECTIONS, ELBOWS AND BENDS WHICH MINIMIZE NOISE AND PRESSURE DROP. PROVIDE ALL CURVED ELBOWS WITH RADIUS RATIOS OF NOT LESS THAN 1.5 UNLESS OTHERWISE SHOWN OR APPROVED BY ARCHITECT. PROVIDE ALL MITERED ELBOWS WITH TURNING VANES. COORDINATE ANY AND ALL DIMENSIONS AT INTERFACES OF DISSIMILAR TYPE OF DUCTWORK AND AT INTERFACES OF DUCTWORK WITH EQUIPMENT SO THAT PROPER OVERLAPS, INTERFACES, ETC., OF INSULATION AND CONTINUITY OF VAPOR BARRIERS ARE MAINTAINED. IF NECESSARY, WHERE INTERFACING DIFFERENT TYPES OF INSULATION PROVIDE TRANSITIONS SO THAT INTERNAL FREE AREA OF DUCT REMAINS UNCHANGED. INSTALL HORIZONTAL RIGID DUCTWORK AS HIGH AS PRACTICAL ABOVE SUSPENDED CEILINGS SO THAT MOVABLE LIGHT FIXTURES MAY BE RELOCATED WITHOUT

INTERFERENCE TO MEET ANY FUTURE PARTITION RELOCATION REQUIREMENTS.

- HANGERS AND SUPPORTS: SHEET METAL DUCT HANGERS: SUPPORT DUCTS FROM THE BUILDING STRUCTURE WITH GALVANIZED STEEL HANGERS TO EACH SIDE OF THE DUCT. HANGERS FOR DUCT TO 60-IN. SHALL BE 1" X 1/8" GALVANIZED
- STEEL BAND. SPACE HANGERS APPROXIMATELY 8- FT. (8') ALONG THE LENGTH OF DUCT. HANGERS SHALL EXTEND DOWN THE SIDE OF DUCT AND TURN UNDER. SHALL BE SECURED TO DUCT BY TWO OR MORE #14 SHEET METAL SCREWS. WHERE SPRAYED FIRE-PROOFING OCCURS. INSTALL HANGERS BEFORE APPLICATION OF SUCH TREATMENT AND WITHHOLD INSTALLATION OF DUCTS UNTIL AFTER APPLICATION.
- SUPPORTS: VERTICAL RISERS AND OTHER DUCT RUNS WHERE THE METHOD OF SUPPORT SPECIFIED ABOVE IS NOT APPLICABLE SHALL BE SUPPORTED BY SUBSTANTIAL ANGLE BRACKETS DESIGNED TO MEET FIELD CONDITIONS AND INSTALLED TO ALLOW FOR DUCT EXPANSION. . FASTENERS: SECURE HANGERS TO STEEL BEAMS OR METAL DECK WITH BEAM CLAMPS OR DROP THROUGH CONNECTIONS FROM THE METAL OR
- CONCRETE DECK. FLEXIBLE DUCT: INSTALL ALL FLEXIBLE ROUND DUCT WITHOUT KINKS OR SIMILAR OBSTRUCTIONS SO THAT PRESSURE DROP IS MINIMIZED. CUT AND REMOVE EXCESS LENGTHS AS NECESSARY.
- B. CHANGE IN SHAPE OR DIMENSION: WHERE DUCT SIZE OR SHAPE IS CHANGED TO EFFECT A CHANGE IN AREA, THE FOLLOWING SHALL APPLY: WHERE THE AREA AT THE END OF THE TRANSFORMATION RESULTS IN AN NCREASE IN AREA OVER THAT AT THE BEGINNING. THE SLOPE OF THE TRANSFORMATION SHALL NOT EXCEED ONE INCH IN SEVEN INCHES.
- WHERE THE AREA AT THE END OF THE TRANSFORMATION RESULTS IN A DECREASE IN AREA FROM THAT AT THE BEGINNING, THE SLOPE OF THE TRANSFORMATION MAY BE ONE INCH IN FOUR INCHES, BUT ONE INCH IN SEVEN INCHES IS PREFERABLE, SPACE PERMITTING
- 4 THE ANGLE OF TRANSFORMATION AT CONNECTIONS TO HEATING COILS OR OTHER EQUIPMENT SHALL NOT EXCEED THIRTY DEGREES FROM A LINE PARALLEL TO THE AIR FLOW ON THE ENTERING SIDE OF THE EQUIPMENT, NOR FIFTEEN DEGREES ON THE LEAVING SIDE. THE ANGLE OF APPROACH MAY BE INCREASED TO SUIT LIMITED SPACE CONDITIONS WHEN THE TRANSFORMATION IS PROVIDED WITH VANES APPROVED BY THE ARCHITECT.
- 5. ALL CHANGES IN SHAPE OR DIMENSION MUST BE APPROVED BY ENGINEER BEFORE INSTALLATION OF DUCT.
- CHANGES IN DIRECTION: CHANGES IN DIRECTION SHALL BE BASICALLY AS INDICATED ON THE DRAWINGS AND THE FOLLOWING SHALL APPLY SUPPLY DUCT TURNS OF NINETY DEGREES IN LOW PRESSURE DUCT SHALL BE MADE WITH MITERED ELBOWS FITTED WITH CLOSELY SPACED TURNING VANES DESIGNED FOR MAINTAINING A CONSTANT VELOCITY THROUGH THE
- RETURN AND EXHAUST DUCT TURNS OF NINETY DEGREES IN LOW PRESSURE DUCT SHALL BE MADE WITH MITERED ELBOWS, AS SPECIFIED HEREINBEFORE, FOR SUPPLY DUCTS, UNLESS RADIUS ELBOWS ARE INDICATED IN WHICH CASE THEY SHALL BE VANED AND CONSTRUCTED WITH A THROAT RADIUS THREE-QUARTERS THE DUCT WIDTH AND A FULL RADIUS HEEL.
- TEES IN LOW PRESSURE DUCT SHALL CONFORM TO THE DESIGN REQUIREMENTS SPECIFIED HEREINBEFORE FOR ELBOWS. 4. BRANCH TAKE-OFFS IN LOW PRESSURE DUCT SHALL BE MADE WITH SPLITTER DAMPERS, AS INDICATED, IN SQUARE TAKE OFFS.
- 3.03 OPENINGS, CUTTING AND PATCHING GENERAL: CONTRACTOR SHALL SET IN POSITION ALL SLEEVES AND INSERTS REQUIRED IN WALLS, PARTITIONS, CEILINGS, OR FLOORS, AND SHALL HAVE , REPRESENTATIVE ON-SITE DURING POURING OF CONCRETE TO MAINTAIN POSITION OF SLEEVES AND INSERTS UNTIL CONCRETE IS SET. CLOSE COORDINATION IS REQUIRED TO INSURE THAT ALL SLEEVES ARE PROPERLY SET. CORRECTNESS OF SIZE AND LOCATION OF OPENINGS SHALL BE VERIFIED BY CONTRACTOR AFTER FRAMING IS IN PLACE. CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF EXISTING AND/OR NEW BUILDING MATERIALS REQUIRED FOR INSTALLATION OF
- WORK HEREIN SPECIFIED. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT APPROVAL OF STRUCTURAL ENGINEER AND ALL SUCH CUTTING SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER, MEETING WITH APPROVAL OF STRUCTURAL ENGINEER TO MATCH ADJOINING SURFACES AND FINISHES, BY MECHANICS OF PARTICULAR TRADE INVOLVED. SLEEVES AND OPENINGS NOT USED DURING CONSTRUCTION SHALL BE SEALED WITH GROUT BY CONTRACTOR. OPENINGS BETWEEN PIPES AND SLEEVES THROUGH FIRE AND SMOKE WALLS OR FLOORS SHALL BE SEALED TO PREVENT PASSAGE OF SMOKE OR HEAT USING AN UNDERWRITERS' LABORATORIES APPROVED METHOD RATED AT LEAST EQUAL TO THE BARRIER BEING PENETRATED. METHOD OF SEALING SHALL BE SUBMITTED WITH PROOF OF U.L. APPROVAL WITH OTHER SUBMITTALS. ALL OPENINGS REQUIRED IN CONCRETE WHICH WERE OMITTED WHEN CONCRETE WAS POURED
- SHALL BE CAREFULLY MADE BY USE OF CORE BORING OPERATION WITH 5-IN MAXIMUM HOLE SIZE UNLESS LARGER SIZE IS APPROVED BY STRUCTURAL ENGINEER. CUT NO OPENINGS IN PRESTRESSED OR PRECAST MEMBERS WITHOUT APPROVAL OF STRUCTURAL ENGINEER. A. SLEEVES: WALLS AND PARTITIONS:
- PIPE SLEEVES 8-INCH DIAMETER AND SMALLER (ABOVE GRADE) SLEEVES SHALL BE MILD STEEL PIPE OR PLASTIC SLEEVES BUILT INTO WALL, PARTITION OR BEAM, SIZED TO PASS PIPE AND COVERING, LEAVING A CLEAR SPACE OF 1/4-INCH MINIMUM BETWEEN COVERING AND SLEEVE. PENETRATIONS OF FIRE RATED BARRIERS SHALL HAVE MILD STEEL SLEEVES.
- B. PIPE SLEEVES INSTALLED IN EXTERIOR WALLS BELOW GRADE: SCHEDULF 40 STEEL HOT DIPPED GALVANIZED AFTER FABRICATION OR CAST IRON SLEEVE WITH 1/4-INCH X 3-INCH CENTER FLANGE (WATER STOP) AROUND THE OUTSIDE.
- 2. PIPE SLEEVES IN FLOORS (ABOVE GRADE): SLEEVES SHALL BE 14 GAUGE GALVANIZED SHEET STEEL OR PLASTIC, SET BEFORE FLOOR IS POURED, SIZED TO PASS PIPE AND COVERING, LEAVING A CLEAR SPACE OF 1/4-INCH BETWEEN COVERING AND SLEEVE, AND SHALL EXTEND 1/2-INCH ABOVE FINISHED FLOOR.
- 3. DUCT SLEEVES: SLEEVES OR OPENINGS SIZED TO PASS MECHANICAL DUCTS AND COVERING SHALL BE OF FRAMED CONSTRUCTION IN ROOF, WALL, OR PARTITIONS C. SEALING OF SLEEVES:
- SLEEVES BELOW GRADE: CAULK ANNULAR SPACE BETWEEN PIPE AND
- SLEEVE USING OAKUM AND POURED LEAD BOTH SIDES MINIMUM ONE INCH DEEP TO MAKE WALL PENETRATION WATER TIGH SLEEVES ABOVE GRADE: OPENINGS AROUND PIPES, DUCT, ETC., PASSING PACKING SOLIDLY WITH MINERAL WOOL OR FIBERGLASS
- HROUGH SLEEVES SHALL BE MADE DRAFT FREE AND VERMIN-PROOF BY 3. SEALING OF SLEEVES THROUGH FIRE RATED BARRIERS: OPENINGS AROUND
- PIPES, ETC., THROUGH FIRE RATED BARRIERS SHALL BE SEALED USING AN U.L. APPROVED METHOD RATED AT LEAST EQUAL TO THE WALL BEING PENETRATED. CONTRACTOR SHALL AT ALL TIMES KEEP PREMISES FREE FROM ACCUMULATIONS
- 3.04 REMOVAL OF RUBBISH OF WASTE MATERIAL OR RUBBISH GENERATED BY WORK UNDER THIS CONTRACT 3.05 EXCAVATION, BACKFILLING AND COMPACTION
- ALL EXCAVATION, BACKFILLING, COMPACTION, TESTING, ETC. REQUIRED FOR THE INSTALLATION OF UNDERGROUND PIPING IN THIS DIVISION OF THE SPECIFICATIONS SHALL BE DONE BY THE MECHANICAL CONTRACTOR. THIS BACKFILLING SECTION OF DIVISION 2.
- WORK SHALL BE DONE IN STRICT ACCORDANCE WITH EXCAVATION AND 3.06 CLEANING AND ADJUSTMENTS UPON COMPLETION OF WORK, CONTRACTOR SHALL CLEAN, OIL AND GREASE ALL FANS, MOTORS AND OTHER RUNNING EQUIPMENT AND APPARATUS WHICH HE INSTALLS AND MAKE CERTAIN ALL SUCH APPARATUS AND MECHANISMS ARE IN PROPER WORKING ORDER AND READY FOR TEST. REFER TO SECTION ENTITLED "SYSTEMS COMPLETION".
- 3.07 AS-BUILT DRAWINGS UPON COMPLETION OF INSTALLATION, THE CONTRACTOR SHALL FURNISH TO THE ARCHITECT A SET OF DRAWINGS, MARKED TO SCALE, INDICATING THE SIZE AND LOCATION OF PIPING AND DUCTS, AND NOTING ALL MAJOR CHANGES MADE DURING CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN THE DRAWINGS FROM THE ARCHITECT AND SHALL BEAR ALL COSTS IN OBTAINING THE DRAWINGS AND PROVIDING THE AS-BUILT DRAWINGS. THE CONTRACTOR SHALL DELIVER THE DRAWINGS PLUS TWO SETS OF AS-BUILT DRAWINGS TO THE ARCHITECT. EACH SHEET IN EACH SET SHALL BE SIGNED BY A PRINCIPAL REPRESENTATIVE OF THE CONTRACTOR, DATED AND HAVE "AS-BUILT" STAMPED NEAR THE SIGNATURE. DRAWINGS SHALL GIVE ACCURATE DIMENSIONS MEASURED FROM COLUMNS, WALLS, BEAMS AND OTHER FIXED PARTS OF THE BUILDING TO THE
- CONCEALED MATERIALS. THE CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE SITE AND EACH DAY SHALL RECORD INSTALLATION OF PIPE, DUCTS, ETC. TO INSURE ACCURATE "AS-BUILT" DRAWINGS. THE CONTRACTOR SHALL ALSO FURNISH A SET OF DRAWINGS AND TWO SETS OF CONTRACTOR SIGNED AND DATED AS-BUILT DRAWINGS OF THE CONTROLS.



- 3.08 GUARANTEE AND SERVICE A. IN ADDITION TO THE GUARANTEE OF EQUIPMENT BY THE MANUFACTURER OF EACH PIECE OF EQUIPMENT SPECIFIED HEREIN, THE MECHANICAL CONTRACTOR SHALL ALSO GUARANTEE SUCH EQUIPMENT AND SHALL BE HELD RESPONSIBLE FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE FOR NECESSARY ADJUSTMENTS AND/OR REPLACEMENTS OF ALL DEFECTIVE
- EQUIPMENT, MATERIALS AND WORKMANSHIP WITHOUT EXPENSE TO THE OWNER. PROVIDE A LETTER TO THE OWNER STATING THE CONTRACTOR'S GUARANTEE AND DATES OF GUARANTEE COVERAGE. CLEANING OF PERMANENT TYPE FILTERS; LUBRICATION, AND CLEANING OF STRAINERS SHALL BE TO 30-DAYS AFTER THE FINAL ACCEPTANCE.
- C. THE CONTRACTOR SHALL PROVIDE FOR A REPRESENTATIVE OF HIS FIRM. THE CONTROL SYSTEM CONTRACTOR, AND THE OWNER'S REPRESENTATIVE TO RETURN TO THE JOB AT THE CHANGE OF SEASONS, (SUMMER TO WINTER OR WINTER TO SUMMER) FOR THE FIRST YEAR ONLY, TO ADJUST THE AIR CONDITIONING SYSTEMS AND RECHECK OR RECALIBRATE CONTROLS AS MAY BE REQUIRED OF THE SEASON CHANGE FROM COOLING TO HEATING OR VICE VERSA. 3.09 ACCEPTANCE
- A. AS A PREREQUISITE TO REQUESTING FINAL INSPECTION, CONTRACTOR
- 1. TEST AND BALANCE EACH SYSTEM TO ASSURE DESIGN PERFORMANCE AND PROVIDE ARCHITECT AND ENGINEER WITH PRELIMINARY TEST RESULTS. 2. FURNISH LETTER FROM AUTHORIZED REPRESENTATIVE OF CONTROL
- MANUFACTURER THAT ALL CONTROLS HAVE BEEN CHECKED FOR OPERATION AND CALIBRATION AND THAT ALL SYSTEMS ARE OPERATING AS INTENDED.
- ACCEPTANCE WILL BE MADE BY THE ARCHITECT-ENGINEER OR HIS REPRESENTATIVE ON THE BASIS OF TESTS AND INSPECTION OF THE JOB. CONTRACTOR SHALL FURNISH THE NECESSARY MECHANICS TO OPERATE SYSTEMS, MAKE ANY NECESSARY ADJUSTMENTS AND ASSIST WITH THE FINAL INSPECTION.

3.10 TEST & BALANCE OF MECHANICAL SYSTEMS

- A. GENERAL CONTRACTOR SHALL OBTAIN SERVICES OF A TEST AND BALANCE AGENCY THAT SPECIALIZES IN AND WHOSE BUSINESS IS LIMITED TO THE TESTING AND BALANCING OF AIR CONDITIONING SYSTEMS AND IS A TRUE THIRD PARTY OF THE MECHANICAL CONTRACTOR. TEST AND BALANCE AGENCY SHALL NOT BE CONTRACTED BY THE MECHANICAL CONTRACTOR. THE AGENCY SELECTED SHALL BE A FULLY CERTIFIED MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU. (NEBB)
- B. TESTING AND BALANCING SHALL BE PERFORMED IN COMPLETE ACCORDANCE WITH THE LATEST EDITION OF THE AABC STANDARDS FOR FIELD MEASUREMENT & INSTRUMENTATIONS, AS PUBLISHED BY THE ASSOCIATED AIR BALANCE COUNCIL OR LATEST EDITION OF NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS.
- C. INSTRUMENTS USED FOR TESTING AND BALANCING OF SOUND, VIBRATION AND AIR SYSTEMS MUST HAVE BEEN CALIBRATED WITHIN A PERIOD OF SIX MONTHS PRIOR TO BALANCING. ALL FINAL TEST ANALYSIS REPORTS SHALL INCLUDE A LETTER OF CERTIFICATION LISTING INSTRUMENTATION USED AND LAST DATE OF CALIBRATION.
- D. ONE (1) COPY OF THE INITIAL DATA SHALL BE SUBMITTED DIRECTLY TO THE ENGINEER FOR HIS EVALUATION AND APPROVAL. WHEN THIS APPROVAL IS GIVEN, THREE (3) COPIES OF THE COMPLETED TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL INSPECTION OF THE PROJECT. THESE THREE (3) COPIES SHALL BE RETURNED TO THE CONTRACTOR FOR PLACING IN THE PORTFOLIOS OUTLINED IN SECTION 15950 - "SYSTEM COMPLETION". THE REPORT FORMAT SHALL FOLLOW THE STANDARD FORMAT AND INFORMATION AS RECOMMENDED BY AABC.
- E. NAME OF TEST AND BALANCE AGENCY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL WITHIN 20\_DAYS AFTER RECEIPT OF CONTRACT. CONTRACTOR SHALL FURNISH TO BALANCING AGENCY A COMPLETE SET OF PLANS AND SPECIFICATIONS AND AN APPROVED COPY OF ALL EQUIPMENT SUBMITTAL DATA, AND SHOP DRAWINGS. TEST AND BALANCE AGENCY SHALL NOTIFY ENGINEER OF ANY ADDITIONAL REQUIRED TEST COCK LOCATIONS, BALANCING DAMPER LOCATIONS, ETC. WITHIN 30\_DAYS AFTER APPROVAL OF THE AGENCY. ANY ADDITIONAL BALANCING DEVICES REQUIRED BY THE TEST AND BALANCE AGENCY AFTER THIS PERIOD WILL BE INSTALLED AT NO EXPENSE TO THE OWNER BY THE CONTRACTOR.
- F. TEST AND BALANCE AGENCY SHALL INCLUDE AN EXTENDED WARRANTY OF 90\_DAYS, AFTER COMPLETION OF TEST AND BALANCE WORK, DURING WHICH TIME THE ENGINEER, AT HIS DISCRETION, MAY REQUEST A RECHECK OR RESETTING OF ANY ITEMS INCLUDED IN THE AIR DISTRIBUTION SYSTEMS. THE AGENCY SHALL PROVIDE TECHNICIANS TO ASSIST THE ENGINEER IN MAKING ANY TEST HE MAY REQUIRE DURING THIS PERIOD OF TIME.
- G. THE TEST AND BALANCE AGENCY SHALL FURNISH THE ENGINEER AND OWNER A STANDARD "NATIONAL PROJECT CERTIFICATION PERFORMANCE GUARANTY."
- H. SUBCONTRACTOR SHALL PROVIDE SUFFICIENT TIME BEFORE THE SUBSTANTIAL COMPLETION DATE SO THAT TESTS AND BALANCING CAN BE ACCOMPLISHED. TEST AND BALANCE AGENCY SHALL ACCOMPANY THE ENGINEERS ON FOUR (4) SITE VISITS TO INSURE THAT BALANCING DEVICES ARE INSTALLED SO THAT EACH SYSTEM CAN BE PROPERLY BALANCED. 1.02 FINAL TESTS, INSPECTION, AND ACCEPTANCE
- A. CAPACITY AND PERFORMANCE TESTS: MAKE TESTS TO DEMONSTRATE THAT CAPACITIES AND GENERAL PERFORMANCE OF AIR DISTRIBUTION SYSTEMS COMPLY WITH CONTRACT REQUIREMENTS. 1. FINAL INSPECTION: AT THE TIME OF FINAL INSPECTION, THE CONTRACTOR SHALL RECHECK, IN THE PRESENCE OF THE ENGINEER, RANDOM SELECTIONS OF DATA INCLUDING WATER AND AIR QUANTITIES AND FLOW RATES, AIR MOTION AND SOUND LEVELS AS RECORDED IN THE CERTIFIED REPORT.
- 2. MEASUREMENT AND TEST PROCEDURES: AS APPROVED FOR WORK FORMING BASIS OF CERTIFIED REPORT. 3. SELECTIONS FOR RECHECK (SPECIFIC PLUS RANDOM): IN GENERAL, SELECTIONS FOR RECHECK
- WILL NOT EXCEED 25 PERCENT OF THE TOTAL NUMBER TABULATED IN THE REPORT, EXCEPT THAT SPECIAL AIR SYSTEMS MAY REQUIRE A COMPLETE RECHECK FOR SAFETY REASONS. B. RETESTS: IF RANDOM TESTS REVEALS MEASURED FLOW DEVIATION OF TEN PERCENT OR MORE FROM, OR A SOUND LEVEL OF 2 DB OR MORE, GREATER THAN THAT RECORDED IN THE CERTIFIED REPORT LISTINGS, AT TEN PERCENT OR MORE OF THE RECHECKED LOCATIONS, THE REPORT SHALL BE AUTOMATICALLY REJECTED. IN THE EVENT THE REPORT IS REJECTED, ALL SYSTEMS SHALL BE READJUSTED AND TESTED, NEW DATA RECORDED, NEW CERTIFIED REPORTS SUBMITTED, AND NEW
- INSPECTION TESTS MADE. C. MARKING OF SETTINGS: FOLLOWING FINAL ACCEPTANCE OF CERTIFIED REPORTS BY THE ENGINEER, THE SETTINGS OF ALL SPLITTERS, DAMPERS AND OTHER ADJUSTMENT DEVICES SHALL BE PERMANENTLY MARKED BY THE CONTRACTOR, SO THAT ADJUSTMENT CAN BE RESTORED IF
- DISTURBED AT ANY TIME. DO NOT MARK DEVICES UNTIL AFTER FINAL ACCEPTANCE. D. CONTRACTOR TO PROVIDE ADEQUATE CLOSURE FOR ALL TEST HOLES MADE IN DUCTWORK AND EQUIPMENT TO ACCOMPLISH TEST AND BALANCE.
- PART 2 EXECUTION
- 2.01 TEST AND BALANCE PROCEDURE TEST AND BALANCE ENTIRE HVAC SYSTEM IN ACCORDANCE WITH LATEST AABC OR NEBB STANDARDS. THE REPORT SHALL INDICATE THE LOCATION ON A PLAN OF EACH MEASUREMENT AS DOCUMENTED IN THE REPORT.
- A. AIR MOVING EQUIPMENT: DATA SHEETS IN ACCORDANCE WITH AABC SHALL BE SUBMITTED FOR EACH PIECE OF AIR MOVING EQUIPMENT. 1. TOTAL CFM FOR SUPPLY RETURN AND OUTSIDE AIR DUCTS WHERE APPLICABLE SHALL BE
- TESTED BY TRAVERSING EACH DUCT AND RECORD THE DATA ON THE AIR MOVING EQUIPMENT DATA SHEET AND DUCT TRAVERSE DATA SHEET 2. STATIC PRESSURE PROFILE SHALL BE TAKEN AND RECORDED ON THE STATIC PRESSURE PROFILE
- SHEET FOR ALL MODULAR AIR MOVING EQUIPMENT. 3. DIRECT EXPANSION COOLING COIL SHALL BE TESTED AND RECORDED ON THE DIRECT EXPANSION COOLING COIL DATA SHEET
- 4. DIRECT EXPANSION HEATING COIL IN THE HEAT PUMP MODE SHALL BE TESTED AND RECORDED ON THE DIRECT EXPANSION HEATING COIL DATA SHEET.
- 5. ELECTRIC UNIT OR DUCT HEATER SHALL BE TESTED AND RECORDED ON THE ELECTRIC HEATER DATA SHEET. 6. AIR DISTRIBUTION DEVICES SHALL BE TESTED AND RECORDED ON THE AIR DISTRIBUTION DATA
- a. CEILING AIR DEVICES SHALL BE TESTED WITH A CALIBRATED CAPTIVE HOOD WHERE
- POSSIBI F b. AIR DEVICES SUCH AS (SLOT DIFFERS AND BAR GRILLES) MAY BE TESTED WITH A
- CALIBRATED DEFLECTING VANE ANEMOMETER. c. AIR DEVICES SUCH AS SUPPLY / RETURN GRILLES AND HOODS MAY BE TESTED WITH
- ROTATING VANE ANEMOMETER. 7. AIR MOVING EQUIPMENT FAN DATA SHALL BE TESTED AND RECORDED ON THE AIR MOVING
- EQUIPMENT DATA SHEET. a. EACH FAN 5HP OR GREATER SHALL INCLUDE A MANUFACTURES FAN CURVE INDICATING THE FIELD TESTED SYSTEM CURVE.
- b. EACH FAN LESS THAN 5HP SHALL INCLUDE, AT THE MINIMUM, THE FIELD TESTED DATA INDICATED ON THE MANUFACTURES FAN TABLE SHEET. 2.04 SOUND TESTING

THE TEST AND BALANCE AGENCY SHALL DOCUMENT THE SOUND POWER LEVELS THROUGHOUT THE FACILITY INCLUDING EQUIPMENT ROOMS AND OCCUPIED SPACES. SOUND POWER MEASUREMENTS SHALL BE TAKEN ACROSS ALL MAJOR OCTAVE BAND CENTER FREQUENCIES AND RECORDED ON NC CHART.

			LAMP				
TYPE	MANUFACTURER	CATALOG NUMBER	SIZE	QUAN.	VOLTS	MTG. HEIGHT	NOTES
		ZL1N-L96-10000LM-FST-				CHAIN HUNG AT	
A1	LITHONIA	MVOLT-40K-80CRI-WH	68W LED 4000K	NA	120-277	15'-0" A.F.F.	8' LED STRIP - NOTES 3,6
		ZL1N-L48-5000LM-FST-				CHAIN HUNG AT	
A2	LITHONIA	MVOLT-40K-80CRI-WH	34W LED 4000K	NA	120-277	15'-0" A.F.F.	4' LED STRIP - NOTES 3,6
В	LITHONIA	2GTL4-4400LM-LP840	34W LED 4000K	NA	120-277	CEILING	LED TROFFER
		LDN6-40-10-LO6-AR-LSS-					
С	LITHONIA	MVOLT	13W LED 4000K	NA	120-277	CEILING	LED DOWNLIGHT - NOTE 5
		SBL4-3000LM-80CRI-40K-					
D1	LITHONIA	GZT-MVOLT	26W LED 4000K	NA	120-277	CEILING	LED WRAP
_		SBL4-4800LM-80CRI-40K-					
D2	LITHONIA	GZT-MVOLT	41W LED 4000K	NA	120-277	CEILING	LED WRAP
E1	LITHONIA	LHQM-LED-R-HO-RO	INCLUDED	NA	120	NOTE 2	EXIT SIGN
E2	LITHONIA	WTLE-W-1-R-EL-SD	INCLUDED	NA	120	NOTE 2	WET LOCATION EXIT SIGN
		ZL1N-L48-7000LM-FST-				CHAIN HUNG AT	
F	LITHONIA	MVOLT-40K-80CRI-WH-HC	52W LED 4000K	NA	120-277	15'-0" A.F.F.	4' LED STRIP
		DSXW1LED-20C-350-40K-					
G1	LITHONIA	T3M-MVOLT-XX	23W LED 4000K	NA	120-277	10'-0" A.F.G. UNO	LED WALLPACK - NOTE 7
		DSXW1LED-20C-1000-40K-					
G2	LITHONIA	TFM-MVOLT-XX	73W LED 4000K	NA	120-277	15'-0" A.F.G.	LED WALLPACK - NOTE 7
		FEM-L48-6000LM-LPAFL-				BOTTOM OF ROOF	
Н	LITHONIA	WD-MVOLT-GZ10-40K80CRI	45W LED 6000K	NA	120-277	STRUCTURE	LED VAPORTIGHT
		ECF-S-64L-1A-NW-G2-SF-3-					
S1	GARDCO	UNV-BL-SP2-MGY	206W LED 4000K	NA	UNV	30' A.F.G NOTE 8	LED POLE LIGHT
		ECF-S-64L-1A-NW-G2-SF-4-					
S2	GARDCO	UNV-BL-SP2-MGY	206W LED 4000K	NA	UNV	30' A.F.G NOTE 8	LED POLE LIGHT
		ECF-S-64L-1A-NW-G2-SF-5-					
S3	GARDCO	UNV-BL-SP2-MGY	206W LED 4000K	NA	UNV	30' A.F.G NOTE 8	LED POLE LIGHT
		ECF-S-64L-1A-NW-G2-SF-4-					
		UNV-BL-SP2-MGY (2 TYPE					
S4	GARDCO	S2 PER POLE)	412W LED 4000K	NA	UNV	30' A.F.G NOTE 8	LED POLE LIGHT
		ECF-S-64L-1A-NW-G2-SF-3-					
		UNV-BL-SP2-MGY (2 TYPE					
S5	GARDCO	S1 PER POLE)	412W LED 4000K	NA	UNV	30' A.F.G NOTE 8	LED POLE LIGHT
		(1) ECF-S-64L-1A-NW-G2-SF					
		3-UNV-BL-SP2-MGY / (1)					
		ECF-S-64L-1A-NW-G2-SF-4-					
		UNV-BL-SP2-MGY ((1) TYPE					
		S1 AND (1) TYPE S2 PER					
S6	GARDCO	POLE)	412W LED 4000K	NA	UNV	30' A.F.G NOTE 8	LED POLE LIGHT

LIGHTING FIXTURE SCHEDULE NOTES: 1. SEE ARCHITECTURAL CEILING PLAN FOR EXACT LOCATIONS OF LIGHT FIXTURES.

2. SINGLE OR DOUBLE FACED AS INDICATED ON DRAWING. MOUNT TO CEILING UNLESS CEILING EXCEEDS 9'-0", THEN MOUNT ABOVE DOOR. 3. FIXTURES INDICATED TO BE EMERGENCY LIGHTS SHALL CONTAIN A 15W EMERGENCY BATTERY BALLAST.

4. UNLESS NOTED OTHERWISE FIXTURES INDICATED TO BE EMERGENCY LIGHTS SHALL CONTAIN AN EMERGENCY BATTERY BALLAST. BATTERY BALLASTS SHALL PROVIDE MINIMUM 1400 LUMENS FOR LINEAR LAMPS AND 700 LUMENS FOR DOWNLIGHTS.

5. WHERE FIXTURES MAY BE IN CONTACT WITH INSULATION, INSTALL TENMAT #FF135 COVER.

6. CONFRIM MOUNTING METHOD AND HEIGHT WITH ACE DESIGN STANDARDS.

7. FIXTURE FINISH TO BE SELECTED BY ARCHITECT.

8. INSTALL FIXTURE ON 37' DIRECT BURRIED CONCRETE POLE FOR 30' MOUNTING HEIGHT.

# FLORIDA ENERGY CODE NOTES:

C405.6.4 COMPLETION REQUIREMENTS.

C405.6.4.1 DRAWINGS. WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING: 1. A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND

2. FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.

C405.6.4.2 MANUALS. AN OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING: 1. SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING

MAINTENANCE.

2. OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED. 3. NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.

C408.3.1 FUNCTIONAL TESTING. PRIOR TO PASSING FINAL INSPECTION, A REGISTERED DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTIONS C408.3.1.1 AND

C408.3.1.2 OF THE FLORIDA ENERGY EFFICIENCY CODE FOR THE APPLICABLE CONTROL TYPE. CONTRACTOR IS RESPONSIBLE FOR CONTRACT WITH DESIGN PROFESSIONAL FOR REQUIRED FUNCTIONAL TESTING.

## **GENERAL NOTES:**

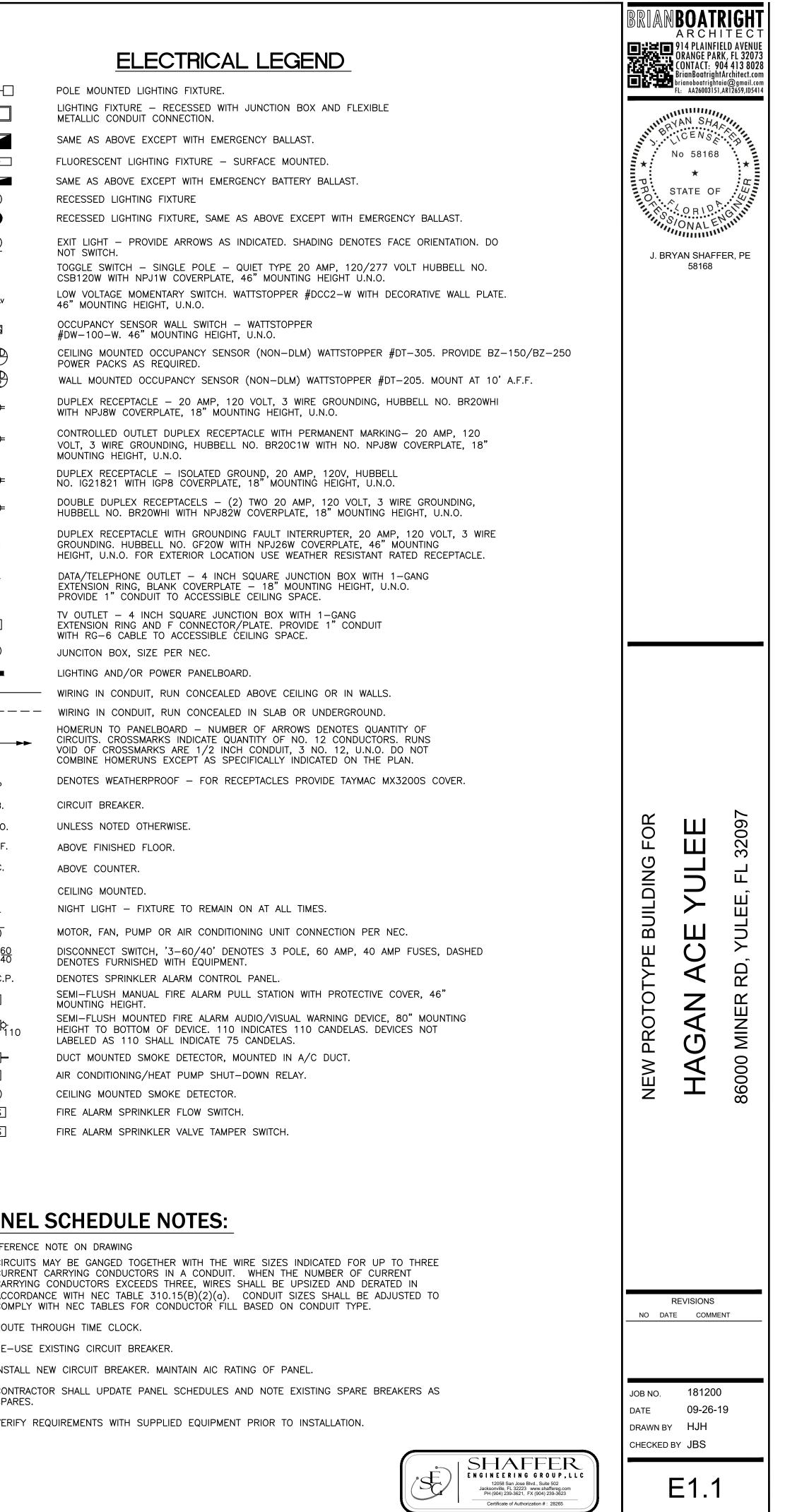
- 1. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FIXTURE LOCATIONS AND MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.
- 2. REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
- 3. SEPARATE GREEN GROUND CONDUCTOR SHALL BE ROUTED IN ALL CONDUITS WITH ALL PHASE CONDUCTORS.
- 4. ALL MECHANICAL EQUIPMENT SHALL BE COMPLETELY CONNECTED BY ELECTRICAL CONTRACTOR INCLUDING BOTH POWER AND CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
- 5. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS FOR CLARITY ONLY, ELECTRICAL CONTRACTOR MAY GROUP SINGLE POLE BRANCH CIRCUITS IN MULTIPLE CIRCUITS HOME RUNS. (2 CIRCUITS MAX @ 120/240V. 10 OR 3 CIRCUITS MAX @ 120/208V. 30). A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL POWER, RECEPTACLE, AND LIGHTING CONDUITS.
- 6. ELECTRICAL CONTRACTOR SHALL PROVIDE AT EACH PANELBOARD A TYPED CIRCUIT DIRECTORY WITH PROTECTIVE PLASTIC SLEEVE.
- 7. ALL CONDUITS SHALL BE CONCEALED IN WALL SPACE, CEILING SPACE OR UNDER FLOOR, NO EXPOSED CONDUITS PERMITTED.
- 8. COMPLETE SYSTEM SHALL BE GROUNDED PER N.E.C ARTICLE 250.
- 9. ALL BRANCH CIRCUIT WIRE SIZE SHALL BE MINIMUM #12 AWG COPPER. PULL EQUIPMENT GROUND IN ALL RACEWAYS. PER N.E.C. ELECTRICAL CONTRACTOR SHALL PROVIDE PROPER NUMBER AND SIZE CONDUCTOR PER N.E.C..
- 10. VERIFY WIRING DEVICE AND FACE PLATE COVER WITH INTERIOR DESIGN PRIOR TO INSTALLATION.

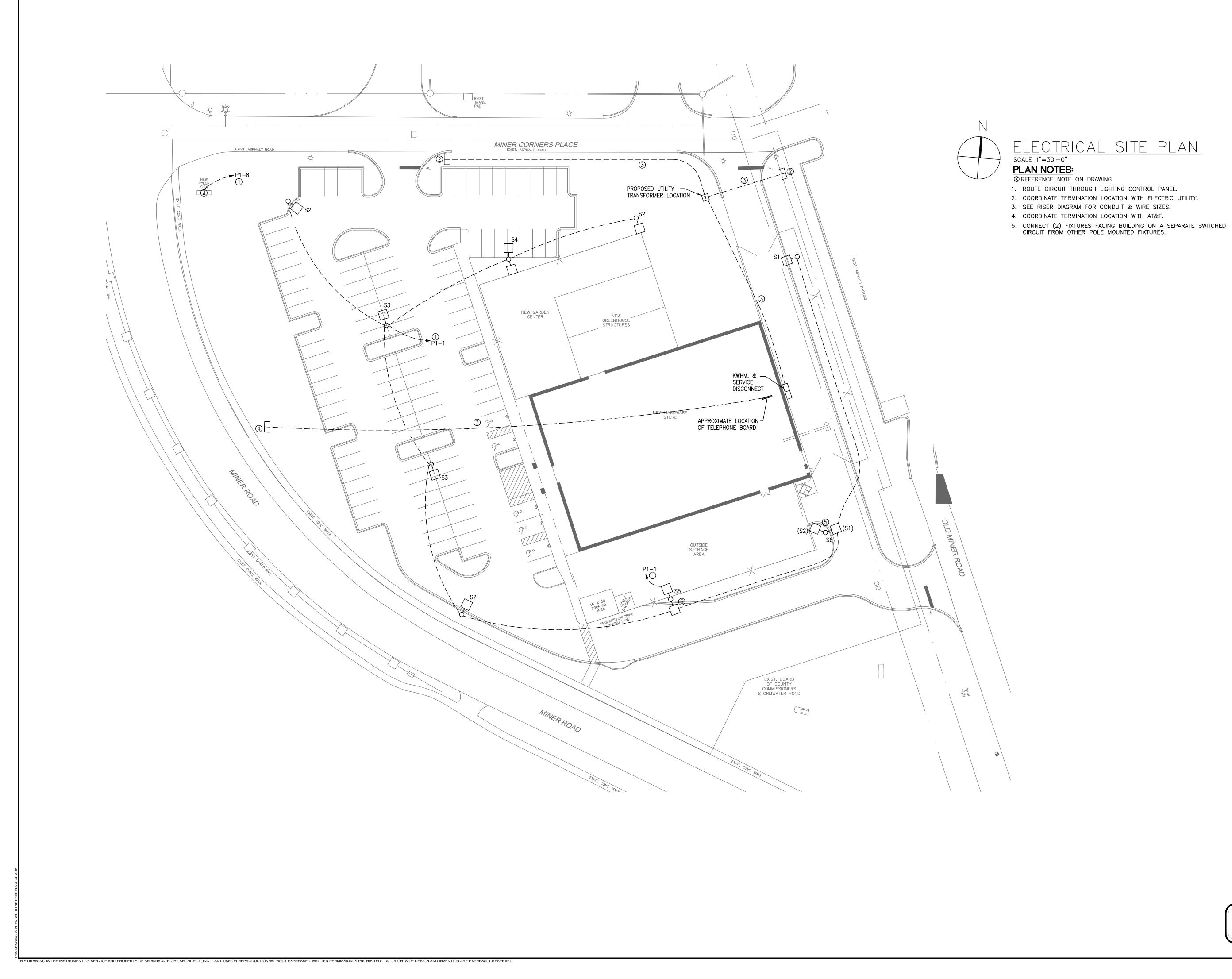
THIS DRAWING IS THE INSTRUMENT OF SERVICE AND PROPERTY OF BRIAN BOATRIGHT ARCHITECT, INC. ANY USE OR REPRODUCTION WITHOUT EXPRESSED WRITTEN PERMISSION IS PROHIBITED. ALL RIGHTS OF DESIGN AND INVENTION ARE EXPRESSLY RESERVI

	MOUNTING: STYLE:	SURFACE SQ D NQ		F		NEI	_ P	1		VOLTS & PHASE: AMPS:	208/120V, 3 PHASE, 4 WIR 60		
	ENCLOSURE TYPE:	NEMA 1								M.C.B. OR M.L.O:	ML	o	
CIR			BRE	AKER	LOAD	PHASE	LOAD	BRE	AKER	AIC RATING	42,000	A CIR	<u>о-</u>
NUM	DESCRIPTION	WIRE/CONDUIT	SIZE	POLE	КVА	ABC			SIZE	-	DESCRIPTION	NUM	
1	SITE LTG	#10, #10G, 1"	20	2	0.9 0.9	x x	8.3 11.7	3	150	(4)#1/0, #6G, 2"	PANEL P2	2	
5	) SPARE		20	1	0.9	x x					)	6	
	AHU-1	#8, #10G, 1"	50	3		x	1.0	2	20	#12, #12G, 1"	SIGN	8	
9 11	)				4.3 4.3	X   X	1.0				) SPACE	10 12	
	, AHU-2	#8, #10G, 1"	50	3		x	9	3	150		PANEL P3	14	Ô
15	)				4.3	X	8.8				)	16	Ø
17 19	) EWH	#10, #10G, 1/2"	30	2	4.3 2.3	x x	8.1 4.0	3	60	#6, #10G, 1"	)  HP-2	18 20	X
21	)				2.3	x	4.0				)	22	
23 25	SPACE AHU-3	#8, #10G, 1"	50	3	4.3	x x	4.0	3	50	#8, #10G, 1"	) HP-3	24 26	\$
27	)	#8, #100, 1	50	5	4.3	x	3.6	5	50	#0, #100, 1	)	28	\$LV
29	)				4.3	x					)	30	R
31 33	AHU-4	#8, #10G, 1"	50	3	4.3 4.3	X X	3.6 3.6	3	50	#8, #10G, 1"	HP-4	32 34	5
35	)				4.3	x					)	36	
-	HP-1	#6, #10G, 1"	60	3		X	3.3	2	40	#8, #10G, 3/4"	AHU-5	38	
39 41	)				4.0 4.0	X   X	3.3 1.5	2	30	#10, #10G, 3/4"	)  HP-5	40	C
-	SPACE					x	1.5				)	44	$\ominus$
45 47	SPACE SPACE					X X	3.3 3.3	2	40	#8, #10G, 3/4"	AHU-6	46	Ð
49	SPACE					x	1.5	2	30	#10, #10G, 3/4"	HP-6	50	
51	SPACE					х	1.5				)	52	÷
53	SPACE					<u> </u>	<u> </u>				SPACE	54	
	PANEL LOAD	KVA	AMPS	5						NOTES:			<b>•</b>
	PHASE A	60.2	501							1			
	PHASE B PHASE C	65.2 52.1	543 434										曲
	TOTAL	177.5	493	@ 20	8V, 3 F	PHASE	-						_
	MOUNTING:	SURFACE		F	ΡΔΓ	NE	P	2		VOLTS & PHASE:	208/120V, 3 PHASE, 4 WIR		▼
	STYLE: ENCLOSURE TYPE:	SQ D NQ NEMA 1		I	/ \1			2		AMPS: M.C.B. OR M.L.O:	22 ML		
			_			-				AIC RATING	42,000		TV
CIR				AKER	-	PHASE	-		AKER			CIR	J
NUM	DESCRIPTION LTG-STORE FRONT	WIRE/CONDUIT #12, #12G, 1/2"	20	POLE 1	KVA 0.9	A B C X	0.5	POLE 1	SIZE	WIRE/CONDUIT #8, #8G, 3/4"	DESCRIPTION REC-SODA/ICE CREAM	NUM 2	
3	LTG-STORE FRONT	#12, #12G, 1/2"	20	1	0.9	x	1.5	1	20	#8, #8G, 3/4"	REC-POPCORN	4	
5	LTG-STORE FRONT	#12, #12G, 1/2"	20	1	1.1	X		1		#8, #8G, 3/4"	REC-FRONT EXTERIOR	6	
7	REC-PAINT REC-HARDWARE	#12, #12G, 1/2" #12, #12G, 1/2"	20 20	1	1.5 0.7	X X	0.2	1			EF'S RESTROOM REC-BACK EXTERIOR	8	
11	REC-STOREFRONT	#10, #10G, 1/2"	20	1	0.9	x		1	20		SPARE	12	
13 15	REC-BREAK COUNTER REC-STORAGE	#12, #12G, 1/2" #12, #12G, 1/2"	20 20	1	0.2	X X		1	20 20		SPARE SPARE	14 16	
17	SPARE	#12, #120, 1/2	20	1	0.9	^x			20		SPACE	18	WP
19	GREENHOUSE FANS	#10, #10G, 1/2"	20	1		x					SPACE	20	C.B.
21	GREENHOUSE ROOF VENTS GREENHOUSE CURTAINS	#8, #8G, 3/4" #8, #8G, 3/4"	20 20	1	1.2 1.2	X   X	0.9	1	20	#12, #12G, 1/2"	REC-BREAKROOM/RR SPACE	22	U.N.C
	REC-PLUMBING	#12, #12G, 1/2"	20	1	1.5	1					SPACE	26	A.F.F
	REC-POOL/STIHL	#10, #10G, 1/2"	20	1	1.1	X	1.3	1			REC-STOREFRONT	28	A.C.
29 31	REC-KEY MACHINE	#12, #12G, 1/2" #8, #8G, 3/4"	20 20+	1	0.2	x x	0.8	1			REC-EWC REC-CLOTHING	30 32	
33	GREENHOUSE REC	#8, #8G, 3/4"	20+	1	1.5	x	1.5	1			REC-PAINT	34	C
35	GREENHOUSE HEATER	#12, #12G, 1/2"	20	1	0.2	X		1	1	#10, #10G, 1/2"		36 38	NL
37 39	SPARE		20 20	1		x x	0.2	1			REC-PAINT REC-PAINT	40	Ø
41	SPARE		20	1		x	0.2	1	20	#10, #10G, 1/2"	REC-PAINT	42	□ 3
	PANEL LOAD	KVA	AMPS	5						NOTES:			S.A.C
	PHASE A	8.3	69	,						1			F
	PHASE B	12.2	101							+ PROVIDE GFCI	PROTECTION		
	PHASE C TOTAL	6.8 27.3	56 75	@ 20	8V, 3 I	PHASE	-						E E E E E E E E E E E E E E E E E E E
L	MOUNTING:	SURFACE						<b>`</b>		VOLTS & PHASE:	208/120V, 3 PHASE, 4 WI	RE	
	STYLE:	SQ D NQ	l	ł	-A	NE	LΥ	3		AMPS:	2	25	R
	ENCLOSURE TYPE:	NEMA 1								M.C.B. OR M.L.O AIC RATING	: M 42,00	LO 0A	 (S)
CIR			BRE	AKER		PHAS	ELOAD	BRE	EAKER		42,00	CIR	
NUM		WIRE/CONDUIT		POLE		АВС			E SIZE			NUM	
1	BLDG SIGN BLDG SIGN	#12, #12G, 1/2" #12, #12G, 1/2"	20 20	1	0.5	X X	0.2	1	20 20	#8, #8G, 3/4" #8, #8G, 3/4"	REC-CHECKOUT REC-CHECKOUT	2	-
5	LTG-GREENHOUSE	#12, #12G, 1/2" #12, #12G, 1/2"	20	1	1.2	-	( 0.2		20	#8, #8G, 3/4"	REC-CHECKOUT	6	-
7	SPARE		20	1		X	0.2		20	#8, #8G, 3/4"	REC-CHECKOUT	8	-
9 11	SPARE SPARE		20 20	1		×	0.2	1	20 20	#8, #8G, 3/4" #8, #8G, 3/4"	REC-CHECKOUT REC-CHECKOUT	10 12	·
13	FRONT SLIDING DOOR	#10, #10G, 1/2"	20	1	1	_x ′	0.7	1	20	#8, #8G, 3/4"	REC-CHECKOUT	12	
15	GARDEN SLIDING DOOR	#10, #10G, 1/2"	20	1	1	X,	1.3		20	#12, #12G, 1/2"	LTG-STORAGE/RR/OFFICES	16	
17 19	LTG-STORE FRONT LTG-STORE FRONT	#12, #12G, 1/2" #12, #12G, 1/2"	20 20	1	1.1	-	( <u>1.1</u> 1.1	1	20	#12, #12G, 1/2" #12, #12G, 1/2"	REC-OFFICE REC-OFFICE	18 20	- 1. CI
21	LTG-STORE FRONT	#12, #12G, 1/2"	20	1	1.1	x						22	
		#12, #12G, 1/2"	20	1	1.1	-	0.5			#12, #12G, 1/2"		24	
25 27	LTG-STORE FRONT	#12, #12G, 1/2" #12, #12G, 1/2"	20 20	1	1.1	X X	1.0 1.0			#12, #12G, 1/2"	SPRINKLER COMPRESSOR	26 28	2. R0
29	LTG-STORE FRONT	#12, #12G, 1/2"	20	1	1.1	-	( 0.7	1		#12, #12G, 1/2"	REC-WORK STATIONS	30	3. RE
31 33	LTG-STORE FRONT LTG-STORE FRONT	#12, #12G, 1/2" #12, #12G, 1/2"	20 20	1	1.1	x x	0.8			#12, #12G, 1/2" #12, #12G, 1/2"	REC-COPIER REC-BREAKROOM REF.	32	_
	SPARE	·····, #····, 1/2	20	1		-	( 0.4			#12, #12G, 1/2" #12, #12G, 1/2"	REC-BREAKROOM REF.	34	4. IN
	SPARE		20	1		x	0.2	1	20	#12, #12G, 1/2"	LCP	38	5. CC SF
39	SPARE SPARE		20 20	1		×   `,	0.5	1	20	#10, #10G, 1/2"	EXTERIOR BLDG LIGHTING	40	6. VE
41					1	·	1		1	1	1		-
41													
41	PANEL LOAD	KVA	AMP:	S						NOTES:			
41		KVA 9 8.8	AMP: 74 73	S						NOTES: 1			
41	PANEL LOAD PHASE A	9	74			PHASE	_						

	SAM
0	FLU
	SAM
0	REC REC
$\bullet$	EXIT
<b>—</b>	NOT TOG
\$	CSE
\$lv	LOW 46"
5	OCC #DV
	CEIL POV
$\mathcal{O}$	WAL
<del>0-</del>	DUF WITH
<b>e</b>	CON
-	VOL MOL
<del>)</del>	DUF NO.
€	DOU HUE
ш	DUF GRC HEK
•	DAT
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TV	TV EXT
J	WITH JUN
-	LIGH
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	WIR HOM
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WP	DEN
с.в.	CIR
N.O.	UNL
.F.F. A.C.	ABC ABC
с.	CEIL
NL	NIG
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3 <u>60</u> 40	DIS( DEN
C.P.	DEN
F	SEM MOU
田\$- 110	SEM HEIC LABI
5-	DUC
R	AIR
S FS]	CEIL FIRE
TS	FIRE

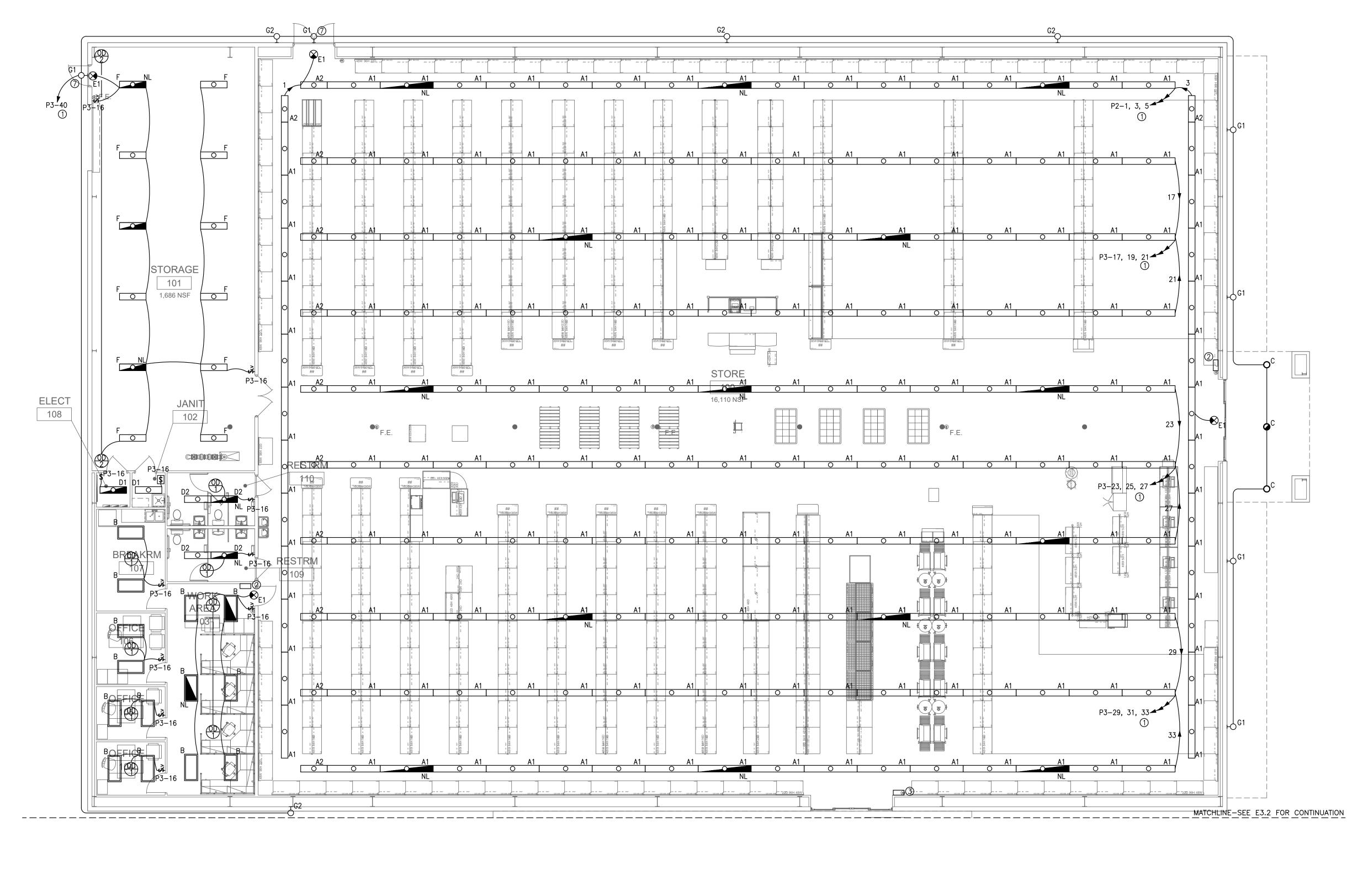
- PARES.





J. BF	YAN SHAFI 58168	FER, PE
NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
NO DA	REVISIONS TE COMM	ENT







# <u>ELECTRICAL LIGHTING PLAN</u>

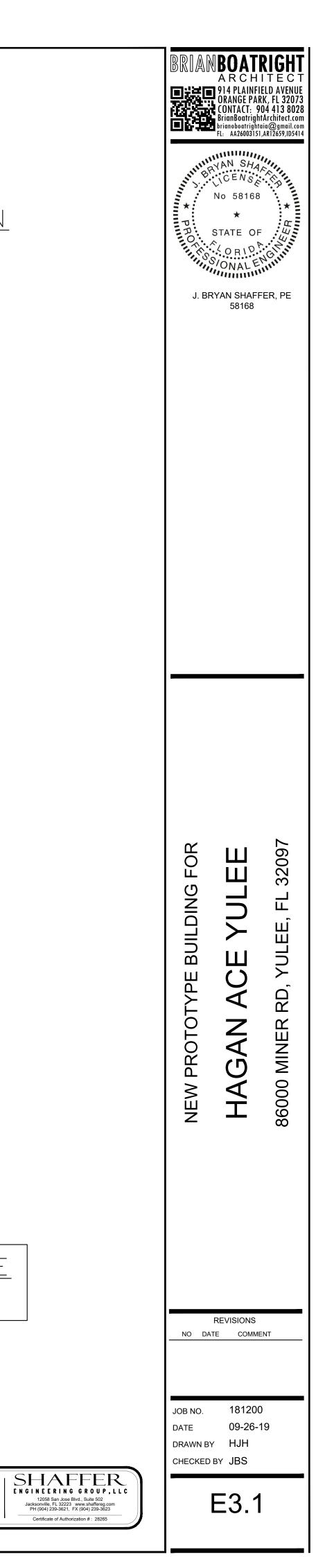
SCALE 1/8"=1'-0" PLAN NOTES:

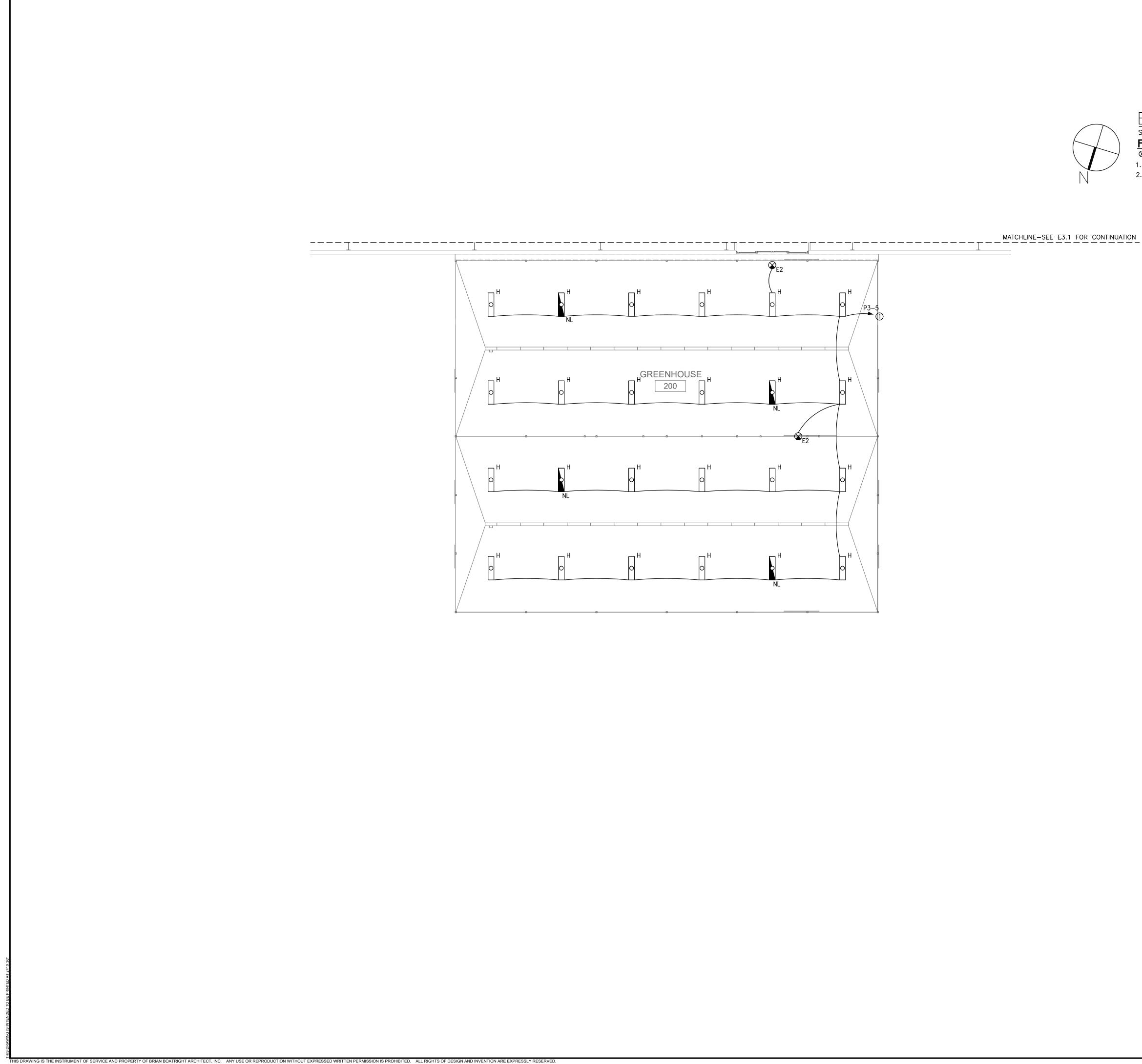
- $\otimes$  REFERENCE NOTE ON DRAWING
- 1. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL.
- 2. LCP OVERRIDE SWITCH FOR STORE FRONT LIGHTING. SEE LCP DETAIL FOR SWITCHING INFORMATION.
- 3. LCP OVERRIDE SWITCH FOR GREENHOUSES. SEE LCP DETAIL FOR SWITCHING INFORMATION.
- CONNECT EMERGENCY AND EXIT LIGHTS TO CONSTANT HOT AND SWITCHED CONDUCTORS.
- 5. INSTALL AT 8'–0" A.F.G.



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Certificate of Authorization #: 28265







# ELECTRICAL LIGHTING PLAN scale 1/8"=1'-0"



PLAN NOTES: © REFERENCE NOTE ON DRAWING

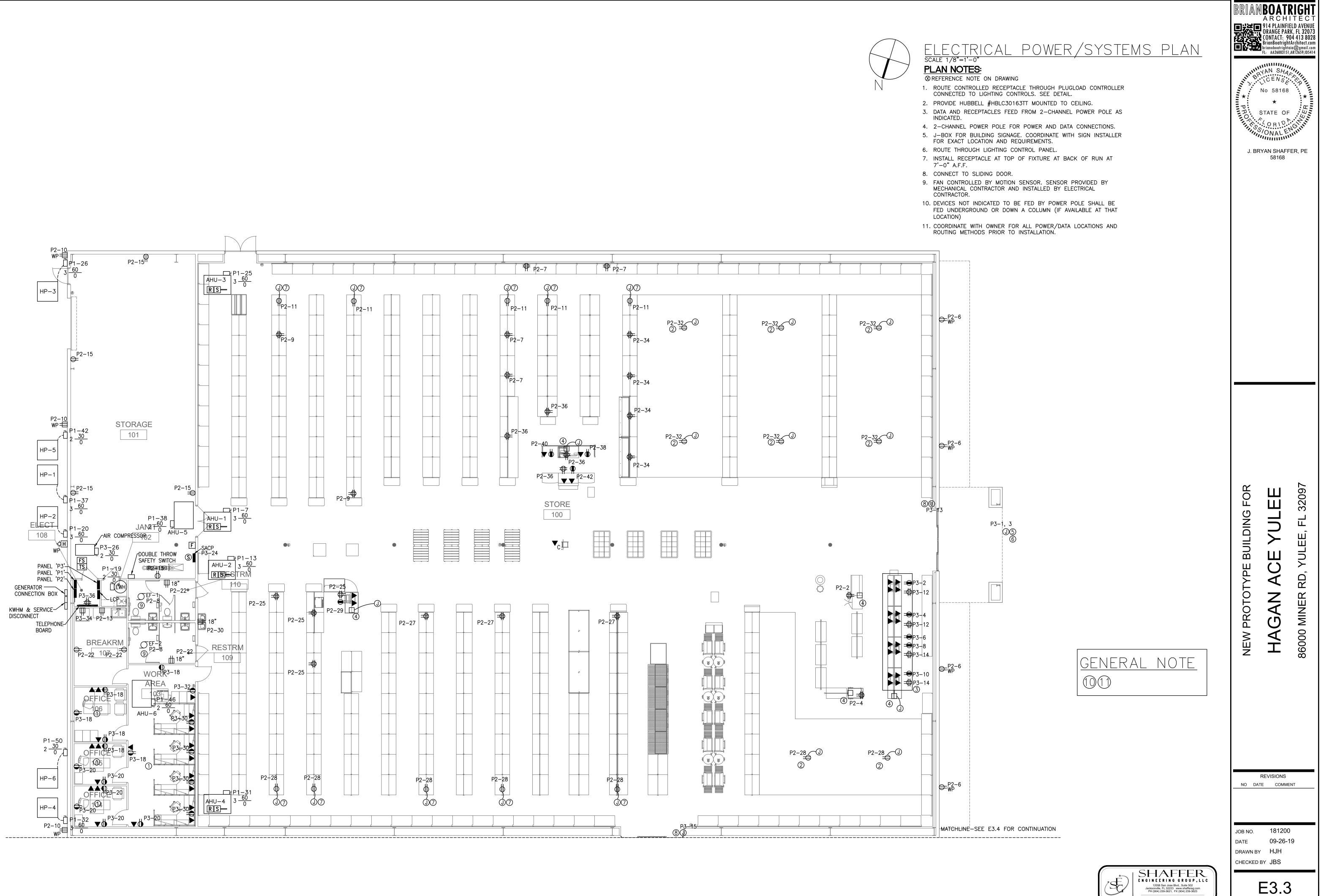
1. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL.

CONNECT EMERGENCY AND EXIT LIGHTS TO CONSTANT HOT AND SWITCHED CONDUCTORS.

	CONTACT: 9 BrianBoatright FL: AA26003151 XAN SHA CENSE No 58168	ITECT ELD AVENUE RK, FL 32073 04 413 8028 tArchitect.com aia@gmail.com .AR12659,ID5414
NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
JOB NO. DATE DRAWN B <sup>Y</sup> CHECKED		) 19

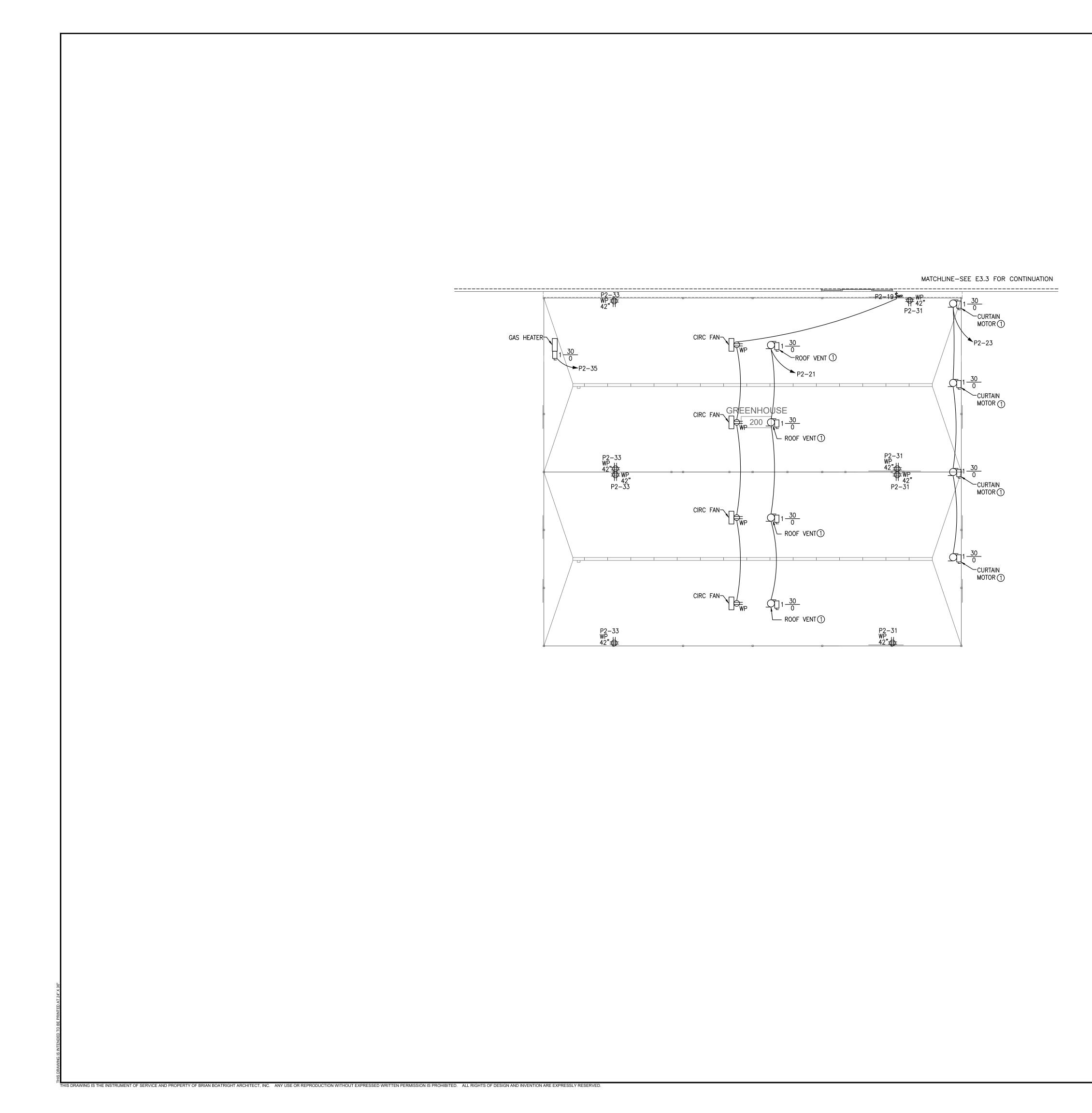








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PLAN NOTES: © REFERENCE NOTE ON DRAWING

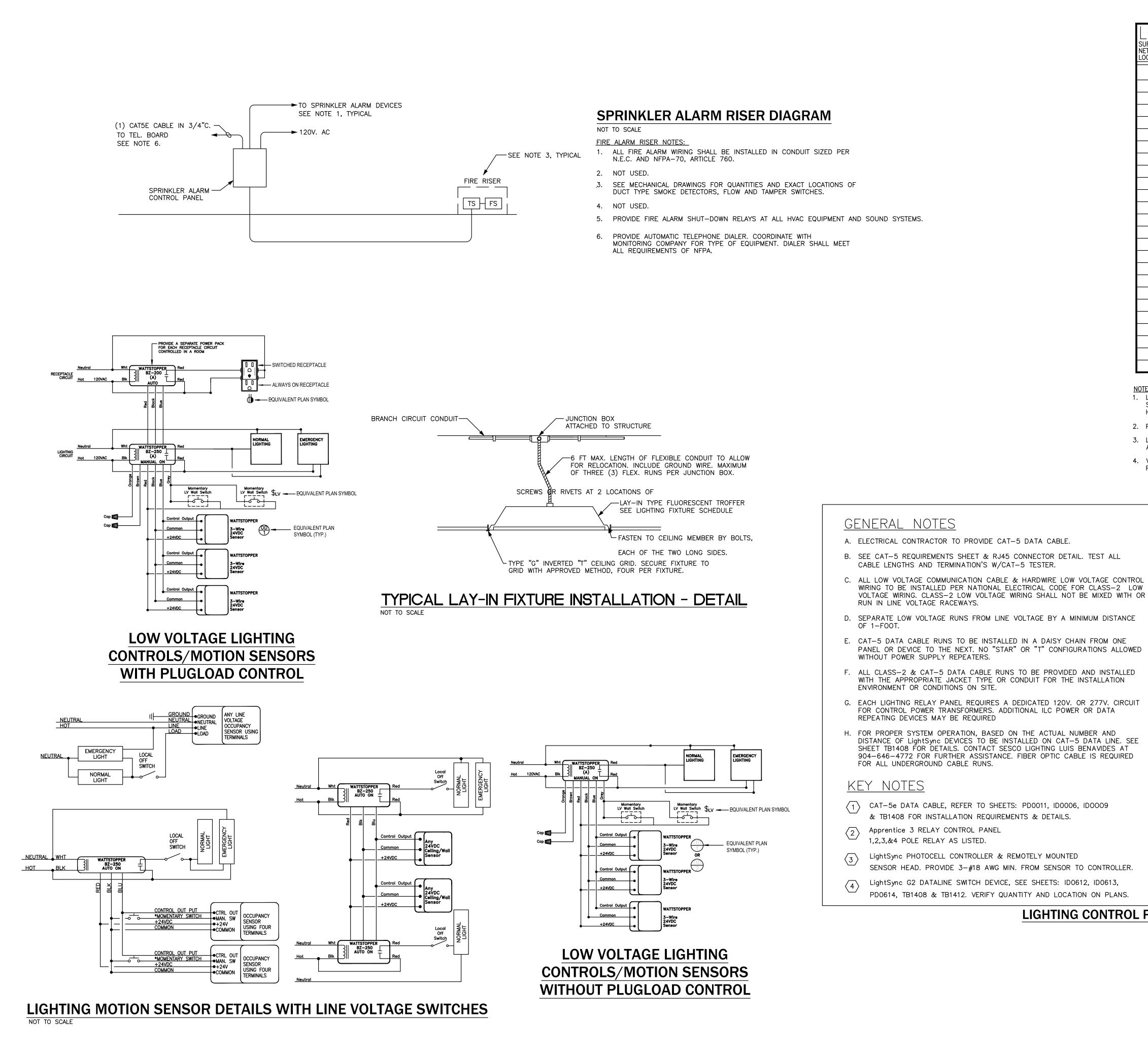
© REFERENCE NOTE ON DRAWING 1. COORDINATE REQUIREMENTS WITH SYSTEM INSTALLER.

2. COORDINATE WITH OWNER FOR ALL POWER/DATA LOCATIONS AND ROUTING METHODS PRIOR TO INSTALLATION.

<u>GENERAL NOTE</u> 2

	BrianBoatrigh Fl: AA2600315 (AN SHA CENSE No 58168	RK, FL 3207 04 413 802 tArchitect.col aia@gmail.co I,AR12659,ID541
NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
JOB NO. DATE DRAWN BY CHECKED		) 19

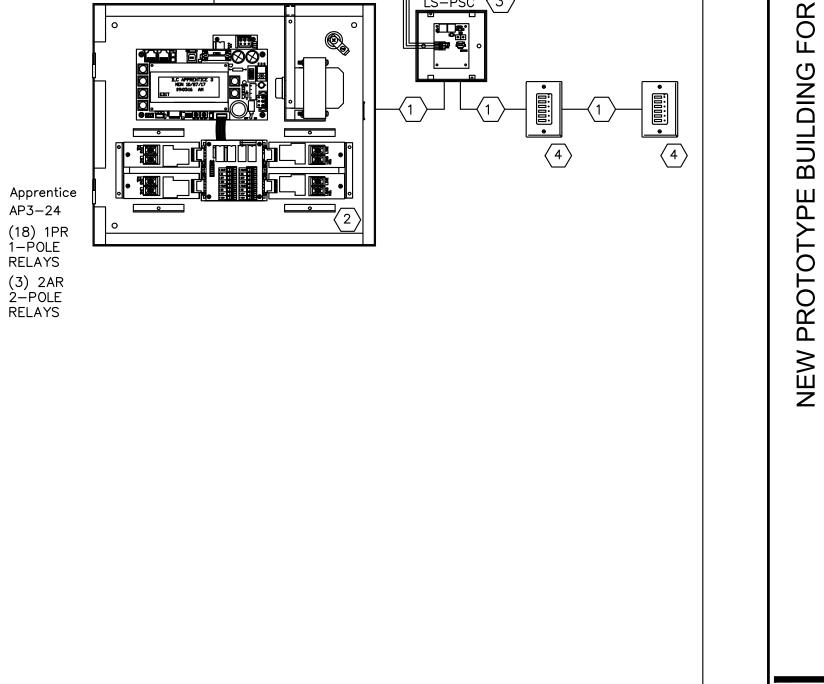




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## LIGHTING CONTROL PANEL RISER DIAGRAM



OUTDOOR

LS-PSC

PHOTO SENSOR

NOTE 4

CONTROL PROGRAM

INPUTS CONTROL

TC & O NOTE

| TC & O | NOTE 1

TC & O | NOTE 1

TC & O NOTE 1

TC & O NOTE

, TC & O | NOTE 1

TC & O NOTE 1

TC & O NOTE 1

TC & O | NOTE 1

TC

TC

TC & P

TC & P

TC & P TC & P

TC & P

CONTROL INPUT LEGEND

TC = TIME CLOCK

P = PHOTOCELL

0 = OVERRIDE

SURFACE MOUNT WITH INTEGRAL TIMECLOCK AND PHOTOCELL

LTG-STOREFRONT

LTG-STOREFRONT

LTG-STOREFRONT

P3–17 | LTG–STOREFRONT

P3–19 LTG–STOREFRONT

P3–21 LTG–STOREFRONT

P3–23 LTG–STOREFRONT

P3–25 LTG–STOREFRONT

P3–27 | LTG–STOREFRONT

P3–29 LTG–STOREFRONT

P3–31 LTG–STOREFRONT

P3–33 LTG–STOREFRONT

P3-40 | LTG-EXTERIOR BLDG

POLE LTG-A

POLE LTG-A

POLE LTG-B

POLE LTG-B

BLDG SIGN

BLDG SIGN

OUTDOOR STORAGE

OUTDOOR STORAGE

SIGN

SPACE

LTG-GREENHOUSE

AREA CONTROLLED

NETWORKABLE

RELAY

No.

2

3

4

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

7

OCATION: ELECTRICAL ROOM

CIRCUIT

No. P2-1

P2-3

P2-5

P3-5

P1-1

P1-3

P1-1

P1-3

P3-1

P3-3

P1-8

P1-1

P1-3

HOURS WITH OWNER.

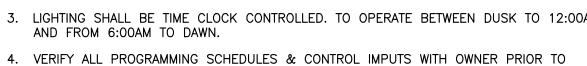
PROGRAMMING PANEL.

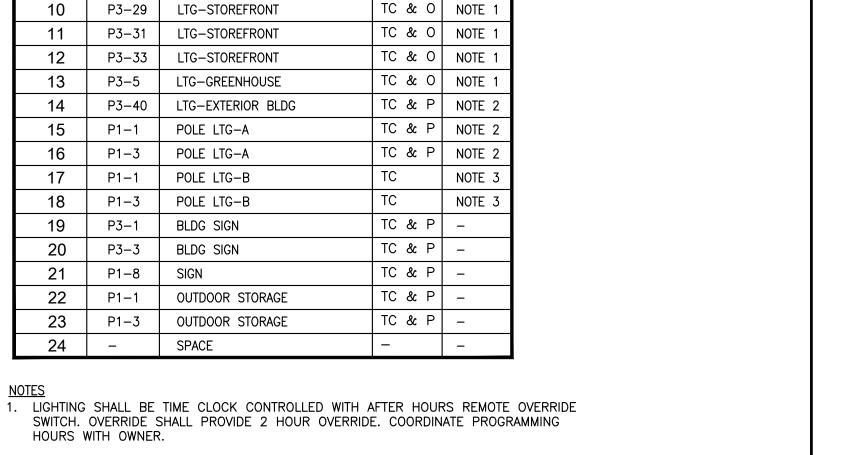
—►P3-38

3. LIGHTING SHALL BE TIME CLOCK CONTROLLED. TO OPERATE BETWEEN DUSK TO 12:00AM

AND FROM 6:00AM TO DAWN.

2. PHOTOCELL ON/OFF FROM DUSK TO DAWN.





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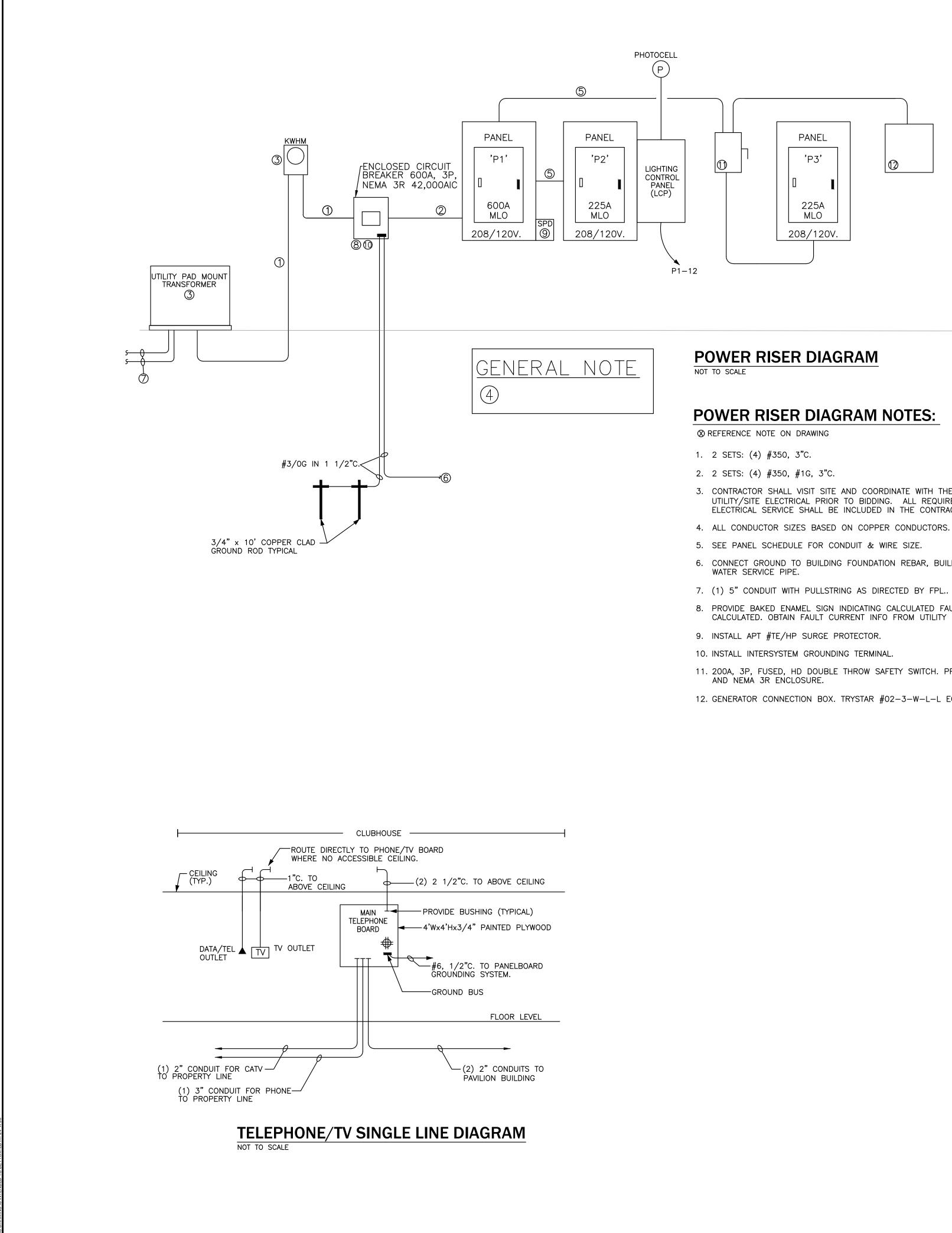
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CHECKED BY JBS

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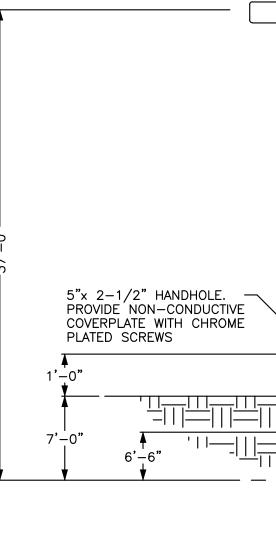
DATE

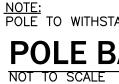


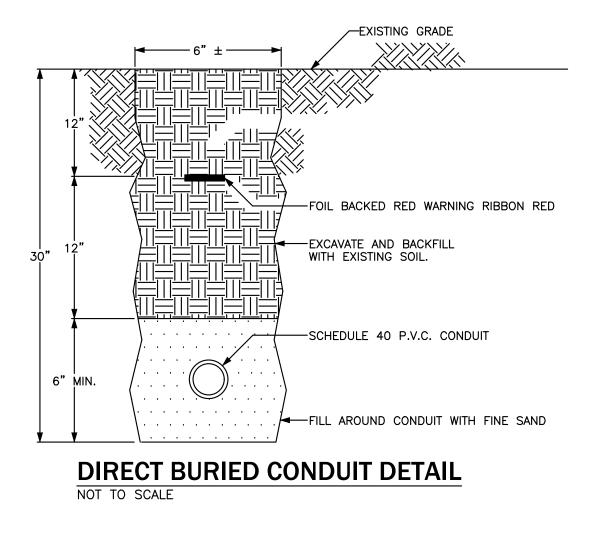
- 3. CONTRACTOR SHALL VISIT SITE AND COORDINATE WITH THE LOCAL ELECTRIC UTILITY/SITE ELECTRICAL PRIOR TO BIDDING. ALL REQUIREMENTS FOR THE NEW ELECTRICAL SERVICE SHALL BE INCLUDED IN THE CONTRACTORS BID.

- 6. CONNECT GROUND TO BUILDING FOUNDATION REBAR, BUILDING STEEL, AND METAL
- 8. PROVIDE BAKED ENAMEL SIGN INDICATING CALCULATED FAULT CURRENT AND DATE CALCULATED. OBTAIN FAULT CURRENT INFO FROM UTILITY COMPANY.

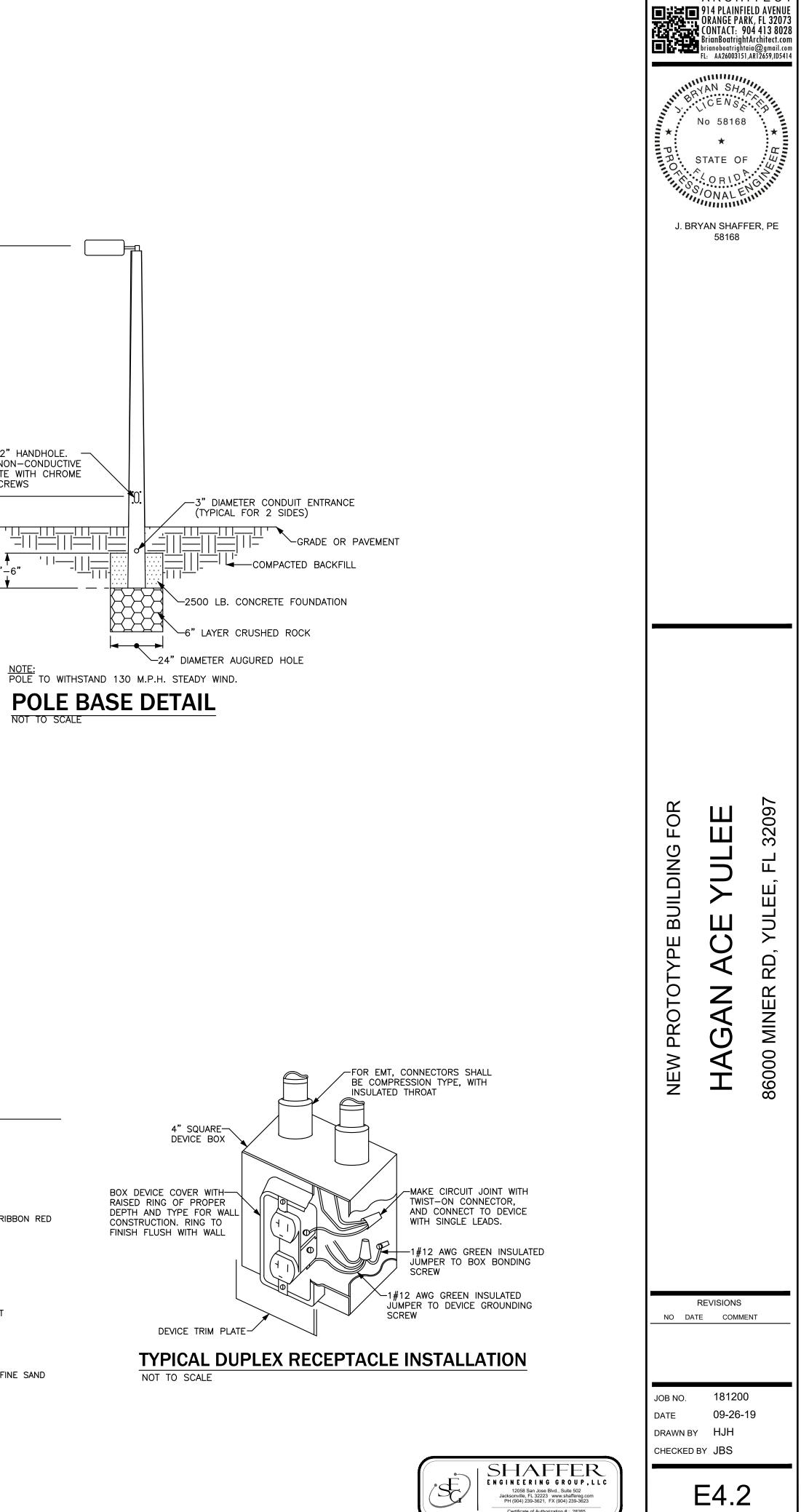
- 11. 200A, 3P, FUSED, HD DOUBLE THROW SAFETY SWITCH. PROVIDE WITH 150A FUSES
- 12. GENERATOR CONNECTION BOX. TRYSTAR #02-3-W-L-L EQUAL.











BOATRIGHT ARCHITEC

ELECTRICAL SPECIFICATIONS SECTION 16050 BASIC ELECTRICAL MATERIALS AND METHODS PART 1 GENERAL 1.1 SUMMAR A. GROUNDING AND BONDING. B. CONNECTION OF UTILIZATION EQUIPMENT. SUPPORTS. D. IDENTIFICATION. 1.2 SUBMITTALS A. PRODUCT DATA: FOR REVIEW; PROVIDE CATALOG DATA FOR GROUNDING AND BONDING DEVICES. 1.3 REGULATORY REQUIREMENTS A. CONFORM TO REQUIREMENTS OF NFPA 70. B. FURNISH PRODUCTS LISTED BY UL OR OTHER TESTING FIRM ACCEPTABLE TO AUTHORITY HAVING JURISDICTION. C. FLORIDA BUILDING CODE

- 1.4 PROJECT CONDITIONS A. VERIFY FIELD MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS SHOWN ON DRAWINGS.
- PART 2 PRODUCTS 2.1 GROUNDING MATERIALS
- A. GROUND ROD: COPPER-CLAD STEEL 3/4-INCH DIAMETER 10 FEET LENGTH. B. MECHANICAL CONNECTORS: BRONZE. ABOVE GRADE ONLY. C. EXOTHERMIC WELDS: BELOW GRADE CONNECTORS.
- 2.2 BASIC MATERIALS
  - A. STEEL CHANNEL: GALVANIZED
  - B. MISCELLANEOUS HARDWARE: TREAT FOR CORROSION RESISTANCE. . NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, BLACK LETTERS ON WHITE BACKGROUND. D. WIRE AND CABLE MARKERS: CLOTH MARKERS, SPLIT SLEEVE OR
  - TUBING TYPE.
- PART 3 EXECUTION
- 3.1 INSTALLATION A. INSTALL WORK ACCORDING TO NECA "STANDARD OF 2.5 BUILDING
  - WIRE AND CABLE INSTALLATION." B. PROVIDE BONDING TO MEET REGULATORY REQUIREMENTS.
  - C. MAKE ELECTRICAL CONNECTIONS TO UTILIZATION EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
  - 1. VERIFY THAT WIRING AND OUTLET ROUGH-IN WORK IS COMPLETE AND THAT UTILIZATION EQUIPMENT IS READY FOR ELECTRICAL CONNECTION, WIRING, AND ENERGIZING.
  - 2. MAKE WIRING CONNECTIONS IN CONTROL PANEL OR IN WIRING COMPARTMENT OF PRE-WIRED EQUIPMENT. PROVIDE INTERCONNECTING WIRING WHERE INDICATED.
  - 3. INSTALL AND CONNECT DISCONNECT SWITCHES, CONTROLLERS, CONTROL STATIONS, AND CONTROL DEVICES AS INDICATED.
  - 4. MAKE CONDUIT CONNECTIONS TO EQUIPMENT USING FLEXIBLE CONDUIT. USE LIQUIDTIGHT FLEXIBLE CONDUIT IN DAMP OR WET
  - 5. INSTALL PRE-FABRICATED CORD SET WHERE CONNECTION WITH ATTACHMENT PLUG IS INDICATED OR SPECIFIED, OR USE ATTACHMENT PLUG WITH SUITABLE STRAIN-RELIEF CLAMPS.
  - 6. PROVIDE SUITABLE STRAIN-RELIEF CLAMPS FOR CORD CONNECTIONS TO OUTLET BOXES AND EQUIPMENT CONNECTION BOXES.
- D. INSTALL SUPPORT SYSTEMS SIZED AND FASTENED TO ACCOMMODATE WEIGHT OF EQUIPMENT AND CONDUIT, INCLUDING WIRING, WHICH THEY
- 3.2 EXAMINATION AND PREPARATION

CONSTRUCTION.

LOCATIONS.

A. SUPPORTS

CARRY

- . FASTEN HANGER RODS, CONDUIT CLAMPS, AND OUTLET AND JUNCTION BOXES TO BUILDINGS STRUCTURE USING PRECAST INSERT SYSTEM BEAM CLAMPS.
- 2. USE TOGGLE BOLTS OR HOLLOW WALL FASTENERS IN HOLLOW MASONRY, PLASTER. OR GYPSUM BOARD PARTITIONS AND WALLS: EXPANSION ANCHORS OR PRESET INSERTS IN SOLID MASONRY WALLS; SELF-DRILLING ANCHORS OR EXPANSION ANCHOR ON CONCRETE SURFACES; SHEET METAL SCREWS IN SHEET METAL STUDS; AND WOOD SCREWS IN WOOD
- 3. DO NOT FASTEN SUPPORTS TO PIPING, CEILING SUPPORT WIRES,
- DUCTWORK, MECHANICAL EQUIPMENT, OR CONDUIT. 4. DO NOT USE POWER-ACTUATED ANCHORS.
- 5. DO NOT DRILL STRUCTURAL STEEL MEMBERS.
- 6. FABRICATE SUPPORTS FROM STRUCTURAL STEEL OR STEEL CHANNEL.
- B. IDENTIFY ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT, AND LOADS SERVED, TO MEET REGULATORY REQUIREMENTS AND AS SCHEDULED.
- 1. DEGREASE AND CLEAN SURFACES TO RECEIVE NAMEPLATES AND TAPE
- 2. SECURE NAMEPLATES TO EQUIPMENT FRONTS USING SCREWS, RIVETS, OR ADHESIVE, WITH EDGES PARALLEL TO EQUIPMENT LINES. SECURE NAMEPLATE TO INSIDE FACE OF RECESSED PANELBOARD DOORS IN FINISHED LOCATIONS.
- 3. USE NAMEPLATES WITH 1/8 INCH LETTERING TO IDENTIFY INDIVIDUAL SWITCHES AND CIRCUIT BREAKERS, RECEPTACLE CIRCUITS, AND LOADS SFRVFD.
- 4. USE NAMEPLATES WITH 1/4 INCH TO IDENTIFY DISTRIBUTION AND CONTROL EQUIPMENT.
- C. INSTALL WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT LOAD CONNECTIONS.
- 1. USE BRANCH CIRCUIT OR FEEDER NUMBER TO IDENTIFY POWER AND LIGHTING CIRCUITS.
- 2. USE CONTROL WIRE NUMBER AS INDICATED ON FROM FOUNDATION WALL: PLASTIC CONDUIT. PROVIDE EQUIPMENT MANUFACTURER'S SHOP DRAWINGS TO IDENTIFY CONTROL WIRING.
- SECTION 16100
- WIRING METHODS
- PART 1 GENERAL
- 1.1 REGULATORY REQUIREMENTS
  - A. CONFORM TO REQUIREMENTS OF NFPA 70. B. FURNISH PRODUCTS LISTED BY UL OR OTHER TESTING FIRM ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.
- PART 2 PRODUCTS 2.1 PRODUCT REQUIREMENTS
  - A. USE ONLY SPECIFIED RACEWAY IN THE FOLLOWING LOCATIONS UNLESS DIRECTED OTHERWISE ON DRAWINGS:
  - 1. INSTALLATIONS IN OR UNDER CONCRETE SLAB, OR UNDERGROUND WITHIN 5 FEET FROM FOUNDATION WALL: PVC SCHEDULE 40 CONDUIT.
  - 2. IN SLAB ABOVE GRADE: PLASTIC CONDUIT.
  - 3. EXPOSED OUTDOOR LOCATIONS: RIGID STEEL CONDUIT OR ELECTRICAL METALLIC TUBING. USE THREADED OR RAINTIGHT FITTINGS.

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- 4. WET INTERIOR LOCATIONS: RIGID STEEL CONDUIT OR ELECTRICAL METALLIC TUBING. USE THREADED OR RAINTIGHT FITTINGS FOR METAL CONDUIT.
- 5. DRY CONCEALED INTERIOR LOCATIONS: RIGID STEEL CONDUIT, ELECTRICAL METALLIC TUBING. BRANCH CIRCUITS FED FROM RGS OR EMT HOMERUNS MAY BE IN HOSPITAL GRADE ARMORED CABLE.
- 6. DRY EXPOSED INTERIOR LOCATIONS: RIGID STEEL CONDUIT, ELECTRICAL METALLIC TUBING.
- B. USE WIRE AND CABLE IN LOCATIONS AS FOLLOWS: 1. ALL POWER WIRES AND CABLES SHALL BE IN RACEWAY
- C. USE NO WIRE SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS, AND NO SMALLER THAN 14 AWG FOR CONTROL WIRING. USE 10 AWG
- CONDUCTOR FOR 20 AMPERE, 120 VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 75 FEET; AND FOR 20 AMPERE.

## 2.2 CONDUIT AND FITTINGS

- A. CONDUIT: 1. METAL CONDUIT AND TUBING: GALVANIZED STEEL.
- 2. FLEXIBLE CONDUIT: STEEL
- 3. LIQUID TIGHT FLEXIBLE CONDUIT: FLEXIBLE CONDUIT WITH PVC JACKET
- 4. PLASTIC CONDUIT AND TUBING: NEMA TC 2, PVC. USE SCHEDULE 40 CONDUIT
- B. CONDUIT FITTINGS:
- 1. METAL FITTINGS AND CONDUIT BODIES: NEMA FB 1 2. PLASTIC FITTINGS AND CONDUIT BODIES: NEMA TC 3. 5. EMT FITTINGS: STEEL COMPRESSION TYPE FOR WET LOCATION. SET
- SCREW FOR DRY LOCATION
- 2.3 ACCESS PANELS
  - A. PROVIDE CEILING ACCESS PANELS FOR EQUIPMENT, DEVICES, BOXES AND OTHER LIKE ITEMS REQUIRING ADJUSTMENT, MAINTENANCE OR ACCESSIBILITY IF THEY ARE NOT LOCATED OVER LAY-IN TYPE CEILING OR ARE NOT OTHERWISE ACCESSIBLE. OBTAIN APPROVAL FROM ARCHITECT FOR TYPE AND LOCATION OF ACCESS PANELS.
- 2.4 ELECTRICAL BOXES
  - A. BOXES I. SHEET METAL: NEMA OS 1, GALVANIZED STEEL. 2. CAST METAL: CAST FERALLOY, DEEP TYPE, GASKETED COVER, THREADED HUBS.
- 2.5 BUILDING WIRE AND CABLE
- A. FEEDERS AND BRANCH CIRCUITS LARGER THAN 6 AWG: COPPER STRANDED CONDUCTOR, 600 VOLT INSULATION, THHN/THWN AND XHHW.
- B. FEEDERS AND BRANCH CIRCUITS 6 AWG AND SMALLER: COPPER CONDUCTOR, 600 VOLT INSULATION, THHN/THWN, XHHW 6 AND 8 AWG, STRANDED CONDUCTOR; SMALLER THAN 8 AWG, SOLID CONDUCTOR.
- C. CONTROL CIRCUITS: COPPER, STRANDED CONDUCTOR, 600 VOLT INSULATION, THW.
- 2.6 REMOTE CONTROL AND SIGNAL CABLE
- A. CONTROL CABLE FOR CLASS 1 REMOTE CONTROL AND SIGNAL CIRCUITS: COPPER CONDUCTOR, 600 VOLT INSULATION, RATED 60 DEGREE C, INDIVIDUAL CONDUCTORS TWISTED TOGETHER, SHIELDED, AND COVERED WITH PVC JACKET. (PLENUM RATED)
- B. CONTROL CABLE FOR CLASS 2 OR CLASS 3 REMOTE CONTROL AND SIGNAL CIRCUITS: COPPER CONDUCTOR, 300 VOLT INSULATION, RATED 60 DEGREE C, INDIVIDUAL CONDUCTORS TWISTED TOGETHER, SHIELDED, AND COVERED WITH PVC JACKET; UL LISTED. (PLENUM RATED)
- PART 3 EXECUTION
- 3.1 EXAMINATION AND PREPARATION
- A. VERIFY THAT INTERIOR OF BUILDING IS PHYSICALLY PROTECTED FROM WEATHER.
- B. VERIFY THAT MECHANICAL WORK THAT IS LIKELY TO DAMAGE CONDUCTORS HAS BEEN COMPLETED.
- C. COMPLETELY AND THOROUGHLY SWAB RACEWAY SYSTEM BEFORE INSTALLING CONDUCTORS.
- D. ELECTRICAL BOXES ARE SHOWN ON DRAWINGS IN APPROXIMATE LOCATIONS UNLESS DIMENSIONED. 1. OBTAIN VERIFICATION FROM ENGINEER OF JUNCTION BOX LOCATIONS
- AND LOCATIONS OF OUTLETS IN OFFICES AND WORK AREAS, PRIOR TO
- 2. IT SHALL BE UNDERSTOOD THAT ANY OUTLET MAY BE RELOCATED A DISTANCE NOT EXCEEDING 5FT FROM THE LOCATION SHOWN ON THE DRAWINGS PRIOR TO OR DURING ROUGH-IN. IF SO DIRECTED BY THE
- 3. LOCAL SWITCHES WHICH ARE SHOWN NEAR DOORS SHALL BE LOCATED AT THE STRIKE SIDE OF THE DOOR AS FINALLY HUNG, REGARDLESS OF
- SWING ON THE DRAWINGS. 3.2 INSTALLATION
- A. PERFORM WORK ACCORDING TO NECA STANDARD OF INSTALLATION. B. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT NEAT APPEARANCE.
  - 1. ROUTE EXPOSED RACEWAY PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING.
  - 2. MAINTAIN MINIMUM 6-INCH CLEARANCE TO PIPING AND 12" CLEARANCE
  - APPLIANCES.
  - PENETRATING WALLS, FLOORS, AND CEILINGS. 4. ROUTE CONDUIT THROUGH ROOF OPENINGS FOR PIPING AND DUCTWORK
  - WHERE POSSIBLE; OTHERWISE, ROUTE THROUGH ROOF JACK WITH PITCH POCKET
  - OF STEEL CHANNEL. MAINTAIN SPACING BETWEEN RACEWAYS OR DERATE CIRCUIT AMPACITIES TO NFPA 70 REQUIREMENTS.
  - 6. USE CONDUIT HANGERS AND CLAMPS; DO NOT FASTEN WITH WIRE OR PERFORATED PIPE STRAPS.
  - 7. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION.
  - 8. TERMINATE CONDUIT STUBS WITH INSULATED BUSHINGS.
- ENTRANCE OF DIRT AND MOISTURE.
- STRING IN EMPTY RACEWAYS, EXCEPT SLEEVES AND NIPPLES.
- 11. INSTALL EXPANSION JOINTS WHERE RACEWAY CROSSES BUILDING EXPANSION OR SEISMIC JOINTS.
- 12. INSTALL PLASTIC CONDUIT AND TUBING ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- 13. USE STEEL COMPRESSION TYPE FITTINGS WITH EMT CONDUITS. C. INSTALL ELECTRICAL BOXES AS SHOWN ON THE DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS AND REGULATORY REQUIREMENTS.

ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.

TO HEAT SURFACES SUCH AS FLUES, STEAM PIPES, AND HEATING

3. MAINTAIN REQUIRED FIRE, ACOUSTIC, AND VAPOR BARRIER RATING WHEN

# 5. GROUP IN PARALLEL RUNS WHERE PRACTICAL. USE RACK CONSTRUCTED

9. USE SUITABLE CAPS TO PROTECT INSTALLED RACEWAY AGAINST

# 10. PROVIDE NO. 12 AWG INSULATED CONDUCTOR OR SUITABLE PULL

- 1. USE CAST OUTLET BOX IN EXTERIOR LOCATIONS EXPOSED TO WEATHER AND WET LOCATIONS.
- 2. USE HINGED COVER ENCLOSURE FOR INTERIOR PULL AND JUNCTION BOX LARGER THAN 12 INCHES IN ANY DIMENSION.
- 3. LOCATE AND INSTALL ELECTRICAL BOXES TO ALLOW ACCESS. PROVIDE ACCESS PANELS IF REQUIRED.
- 4. LOCATE AND INSTALL ELECTRICAL BOXES TO MAINTAIN HEADROOM AND TO PRESENT NEAT MECHANICAL APPEARANCE.
- 5. INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE
- CEILINGS OR IN UNFINISHED AREAS. 6. PROVIDE KNOCKOUT CLOSURES FOR UNUSED OPENINGS.
- 7. ALIGN WALL-MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.
- 8. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS ABOVE COUNTERS AND BACKSPLASHES.
- 9. USE RECESSED OUTLET BOXES IN FINISHED AREAS AND WHERE
- INDICATED. 10. SECURE BOXES TO INTERIOR WALL AND PARTITION STUDS, ACCURATELY
- POSITIONING TO ALLOW FOR SURFACE FINISH THICKNESS. 11. USE STAMPED STEEL STUD BRIDGES FOR FLUSH OUTLETS IN HOLLOW
- STUD WALL, AND ADJUSTABLE STEEL CHANNEL FASTENERS FOR FLUSH CEILING OUTLET BOXES.
- 12. LOCATE BOXES IN MASONRY WALLS TO REQUIRE CUTTING CORNER ONLY. COORDINATE MASONRY CUTTING TO ACHIEVE NEAT OPENINGS FOR BOXES.
- 13. DO NOT INSTALL BOXES BACK-TO-BACK IN WALLS; PROVIDE 6 INCHES SEPARATION, MINIMUM; EXCEPT PROVIDE 24 INCHES SEPARATION, MINIMUM IN ACOUSTIC-RATED WALLS.
- 14. DO NOT DAMAGE INSULATION.
- D. INSTALL CABLE AND WIRE ACCORDING TO MANUFACTURER'S INSTRUCTIONS 1. NEATLY TRAIN AND SECURE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS
- 2. USE WIRE PULLING LUBRICANT FOR PULLING 4 AWG AND LARGER
- 3. SUPPORT CABLES ABOVE ACCESSIBLE CEILINGS TON KEEP THEM FROM RESTING ON CEILING TILES.
- 4. MAKE SPLICES, TAPS, AND TERMINATIONS TO CARRY FULL AMPACITY OF CONDUCTORS WITHOUT PERCEPTIBLE TEMPERATURE RISE. 5. TERMINATE SPARE CONDUCTORS WITH ELECTRICAL TAPE.
- E. INSTALL WIRING DEVICES ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- F. INSTALL WALL PLATES FLUSH AND LEVEL.
- 1. INSTALL PLATES ON SWITCH, RECEPTACLE, AND BLANK OUTLETS IN FINISHED AREAS, USING JUMBO SIZE PLATES FOR OUTLETS INSTALLED IN MASONRY WALLS
- 2. INSTALL GALVANIZED STEEL PLATES ON OUTLET BOXES AND JUNCTION BOXES IN UNFINISHED AREAS, ABOVE ACCESSIBLE CEILINGS, AND ON SURFACE-MOUNTED OUTLETS.
- G. INSTALL SERVICE FITTINGS ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- H. BEFORE INSTALLING RACEWAYS AND PULLING WIRE TO ANY MECHANICAL EQUIPMENT OR PLUMBING EQUIPMENT, VERIFY ELECTRICAL CHARACTERISTICS WITH FINAL SUBMITTAL ON EQUIPMENT TO ASSURE PROPER NUMBER AND AWG OF CONDUCTORS
- I. UNDERGROUND CABLE AND CONDUIT INSTALLATION SHALL CONFORM T( ANSI C2 AND NEC EXCEPT AS OTHERWISE INDICATED. THE CONTRACTOR SHALL PROMPTLY REPAIR ANY UTILITY LINES OR SYSTEM DAMAGED BY HIS OPERATION. THE TOP OF UNDERGROUND CONDUIT SHALL NOT BE LESS THAN 24 INCHES BELOW GRADE. THE BOTTOM OF CONDUITS TRENCI SHALL BE GRADED SMOOTH, WHERE ROCK AND SHARP EDGED MATERIAL ARE ENCOUNTERED, THE BOTTOM SHALL BE EXCAVATED FOR ADDITIONAL 3 INCHES, FILLED AND TAMPED LEVEL TO THE ORIGINAL BOTTOM WITH SAND OR EARTH FREE FROM ROCKS AND SHARP MATERIALS. PROVIDE MAGNETIC YELLOW WARNING TAPE ABOVE THE ENTIRE LENGTH OF UNDERGROUND CONDUITS TAPE SHALL BE BURIED 12" BELOW GRADE.
- J. SURFACES DISTURBED DURING THE INSTALLATION OF UNDERGROUND CONDUITS SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS PROVIDE SOD OF QUALITY EQUAL TO THAT REMOVED. PATCH PAVEMENT SIDEWALK CURB. ETC. EXCAVATED MATERIAL NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED FROM PROJECT SITE. REMOVE WATER FROM EXCAVATION BY PUMPING OR OTHER APPROVED METHOD. BACKFILL SHALL BE FREE FROM LARGE CLODS OF EARTH OR STONES OVER 1 INCH IN SIZE.

SECTION 16400 SERVICE AND DISTRIBUTION

PART 1 GENERAL

1.1 SUBMITTALS

- A. SHOP DRAWINGS: FOR REVIEW; INDICATE CONSTRUCTION DETAILS FOR THE FOLLOWING: 1. PANELBOARDS.
- B. PRODUCT DATA: FOR REVIEW; PROVIDE RATINGS AND COMPONENT DETAILS FOR THE FOLLOWING: 1. ENCLOSED SWITCHES.
- 2. FUSES. 3. CIRCUIT BREAKERS.
- C. TEST REPORTS: FOR INFORMATION.
- D. OPERATING AND MAINTENANCE INSTRUCTIONS: FOR PROJECT CLOSFOUT: INCLUDE THE FOLLOWING: 1. PANELBOARD: SUBMIT NEMA PB 2.1.

1.2 REGULATORY REQUIREMENTS

- A. CONFORM TO REQUIREMENTS OF NFPA 70.
- B. FURNISH PRODUCTS LISTED BY UL OR OTHER TESTING FIRM ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.
- C. CONFORM TO REQUIREMENTS OF UTILITY COMPANY.

PART 2 PRODUCTS

- 2.1 ENCLOSED SWITCHES
  - A. MANUFACTURERS: 1. SQUARE D
  - 2. EATON-CUTLER HAMMER 3. GF
  - B. ENCLOSED SWITCH ASSEMBLIES: NEMA KS 1; TYPE HD. 1. FUSE CLIPS: DESIGNED TO ACCOMMODATE CLASS R OR J FUSES.

- 2.2 FUSES
  - A. MANUFACTURERS: 1. FERRAZ-SHAWMUT 2. BUSSMAN
- B. FUSES 600 AMPERES AND LESS: CURRENT LIMITING, ONE-TIME FUSE, 250 VOLT, UL CLASS RK 1, RK 5 OR J.

2.3 PANELBOARDS

- A. MANUFACTURERS: 1. EATON-CUTLER HAMMER
- 2. SQUARE D 3. GE
- B. DISTRIBUTION PANELBOARDS: NEMA PB 1; CIRCUIT BREAKER TYPE. 1. ENCLOSURE: TYPE 1 2. PROVIDE SURFACE CABINET FRONT WITH SCREW COVER AND
- HINGED DOOR. 3. BUS: COPPER
- 4. GROUND BUS: COPPER. 5. VOLTAGE: AS SHOWN
- 6. MINIMUM INTEGRATED EQUIPMENT RATING: AS INDICATED ON DRAWINGS.
- C. LIGHTING AND APPLIANCE BRANCH CIRCUIT PANELBOARDS: NEMA PB 1: CIRCUIT BREAKER TYPE. . ENCLOSURE: NEMA PB 1; TYPE 1 2. PROVIDE FLUSH OR SURFACE CABINET FRONT WITH LOCKABLE
- DOOR, KEYED ALIKE.
- 3. BUS: COPPER BUS. 4. GROUND BUS: COPPER.
- 5. VOLTAGE: AS SHOWN 6. MINIMUM INTEGRATED EQUIPMENT RATING: AS INDICATED ON DRAWINGS.

PART 3 EXECUTION

- 3.1 EXAMINATION AND PREPARATION A. MAKE ARRANGEMENTS WITH UTILITY COMPANY TO OBTAIN
- PERMANENT ELECTRIC SERVICE TO THE PROJECT. B. PROVIDE CONCRETE PAD FOR UTILITY TRANSFORMER. PROVIDE PAD DIMENSIONS AND DETAILS TO UTILITY REQUIREMENTS.
- 3.2 INSTALLATION
  - A. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. B. INSTALL PROPER FUSES IN EACH FUSED SWITCH.
- C. INSTALL PANELBOARDS AND LOAD CENTERS TO NEMA PB 1.1. 3.3 CLEANING
- A. CLEAN EQUIPMENT FINISHES TO REMOVE PAINT AND CONCRETE SPLATTERS.

A. ANSI C78.379 – ELECTRIC LAMPS – INCANDESCENT AND HIGH

SPECIFIED UNDER REGULATORY REQUIREMENTS.

A. MANUFACTURER: COMPANY SPECIALIZING IN

A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70.

C. FURNISH PRODUCTS LISTED AND CLASSIFIED BY UNDERWRITERS

A. FURNISH PRODUCTS AS SPECIFIED IN SCHEDULE ON DRAWINGS.

B. SUBSTITUTIONS: UNDER PROVISIONS OF SECTION 16000.

D. BALLAST: MANUFACTURER'S STANDARD, MATCHED TO LAMP

. DESCRIPTION: ANSI C82.1, ELECTRONIC BALLAST.

2. PROVIDE BALLAST SUITABLE FOR LAMPS SPECIFIED.

FIXTURES IN CEILINGS REQUIRING FLANGES. FRAMES SHALL BE

B. CONFORM TO REQUIREMENTS OF NFPA 101.

CHARACTERISTICS, RATED 120 VOLTS.

A. FLUORESCENT BALLAST:

2.3 FLANGE MOUNTING FRAME

PART 3 EXECUTION

3.1 EXAMINATION

3. VOLTAGE: 120 VOLTS.

DAY-BRITE FMK OR APPROVED EQUAL

SECTION 16510

INTERIOR LUMINAIRES

PART 1 GENERAL

1.2 REFERENCES

1.3 QUALIFICATIONS

1.4 REGULATORY REQUIREMENTS

SHOWN

PART 2 PRODUCTS

2.1 LUMINARIES

2.2 BALLASTS

B. BALLASTS.

LAMPS.

D. LUMINAIRE ACCESSORIES

PATTERNS.

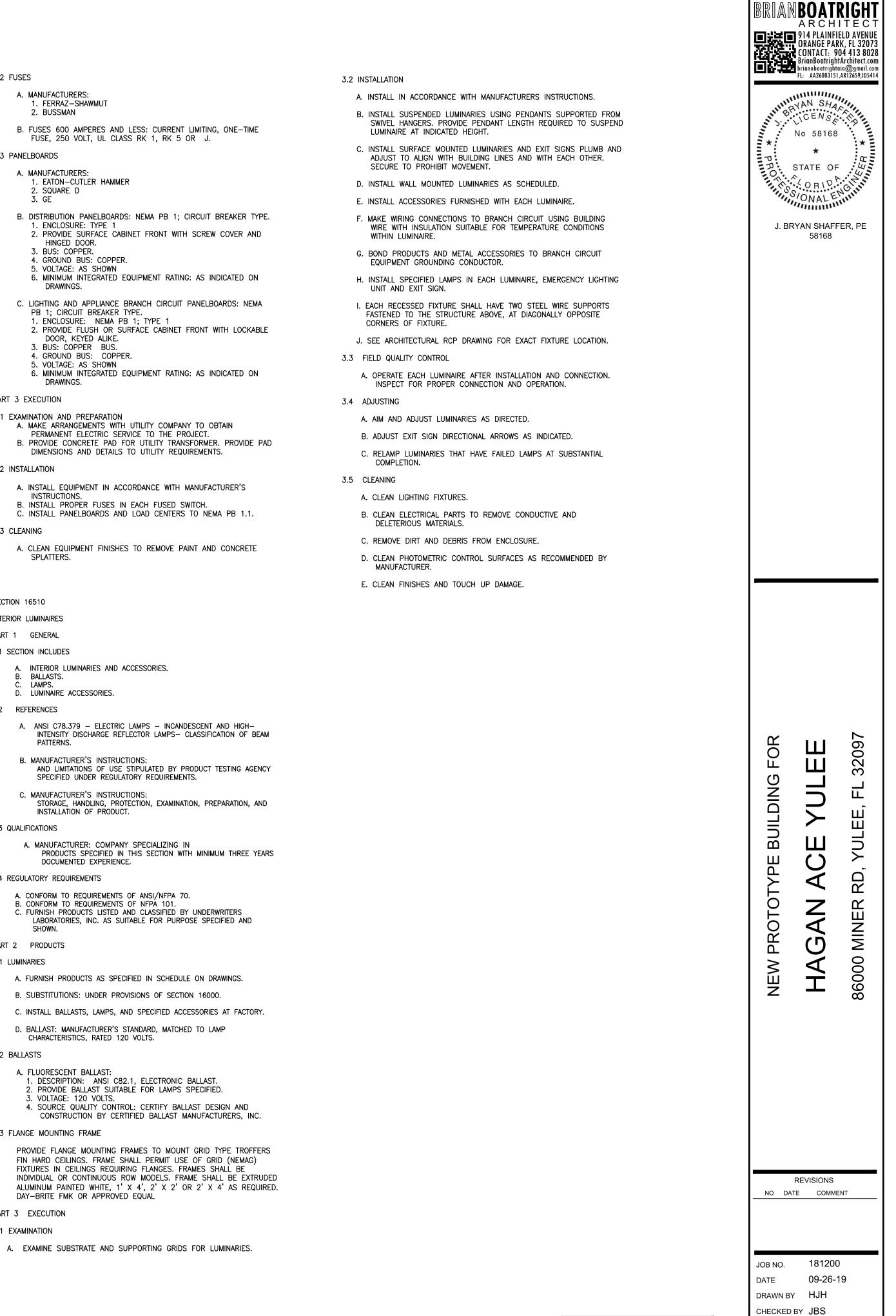
1.1 SECTION INCLUDES A. INTERIOR LUMINARIES AND ACCESSORIES.

B. MANUFACTURER'S INSTRUCTIONS:

C. MANUFACTURER'S INSTRUCTIONS:

INSTALLATION OF PRODUCT.

DOCUMENTED EXPERIENCE.



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### SECTION 16710

- SPRINKLER ALARM CONTROL PANEL
- PART 1 GENERAL
- 1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.
- 1.2 DEFINITIONS
- A. SACP: SPRINKLER ALARM CONTROL PANEL
- B. LED: LIGHT-EMITTING DIODE.
- C. NICET: NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES.
- D. DEFINITIONS IN NFPA 72 APPLY TO FIRE ALARM TERMS USED IN THIS SECTION.
- 1.3 SYSTEM DESCRIPTION
- A. ZONED SYSTEM AND SIGNAL TRANSMISSION DEDICATED TO FIRE ALARM SERVICE ONLY.
- 1.4 PERFORMANCE REQUIREMENTS
- A. COMPLY WITH NFPA 72.
- B. FIRE ALARM SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES: . MANUAL STATIONS.
- HEAT DETECTORS. SMOKE DETECTORS.
- . VERIFIED AUTOMATIC ALARM OPERATION OF SMOKE DETECTORS. 5. HOOD FIRE SUPPRESSION SYSTEM.
- C. FIRE ALARM SIGNAL SHALL INITIATE THE FOLLOWING ACTIONS: ALARM NOTIFICATION APPLIANCES SHALL OPERATE CONTINUOUSLY. IDENTIFY ALARM AT THE FACP.
- 3. SHUTDOWN HEATING, VENTILATING, AND AIR-CONDITIONING EQUIPMENT CONTROLS TO FIRE ALARM MODE. 4. RECORD EVENTS IN THE SYSTEM MEMORY.
- 5. NOTIFY REMOTE STATION.
- D. SUPERVISORY SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES OR ACTIONS: 1. OPERATION OF A FIRE-PROTECTION SYSTEM VALVE TAMPER.
- E. SYSTEM TROUBLE SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES OR ACTIONS: OPEN CIRCUITS, SHORTS AND GROUNDS OF WIRING FOR INITIATING DEVICE, SIGNALING LINE, AND NOTIFICATION-APPLIANCE CIRCUITS.
- 2. OPENING, TAMPERING, OR REMOVAL OF ALARM-INITIATING AND SUPERVISORY SIGNAL-INITIATING DEVICES.
- LOSS OF PRIMARY POWER AT THE FACP. GROUND OR A SINGLE BREAK IN FACP INTERNAL CIRCUITS.
- ABNORMAL AC VOLTAGE AT THE FACP. A BREAK IN STANDBY BATTERY CIRCUITRY.
- FAILURE OF BATTERY CHARGING. 8. ABNORMAL POSITION OF ANY SWITCH AT THE FACP OR
- ANNUNCIATOR.
- F. SYSTEM TROUBLE AND SUPERVISORY SIGNAL ACTIONS: RING TROUBLE BELL, ANNUNCIATE AT THE FACP, AND COMMUNICATE TO REMOTE STATION.
- 1.5 SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. SHOP DRAWINGS: 1. SHOP DRAWINGS SHALL BE PREPARED BY PERSONS WITH THE FOLLOWING QUALIFICATIONS: a. TRAINED AND CERTIFIED BY MANUFACTURER IN FIRE ALARM SYSTEM DESIGN.
- b. FIRE ALARM CERTIFIED BY NICET, MINIMUM LEVEL III. 2. SYSTEM OPERATION DESCRIPTION: DETAILED DESCRIPTION FOR THIS PROJECT, INCLUDING METHOD OF OPERATION AND
- SUPERVISION OF EACH TYPE OF CIRCUIT AND SEQUENCE OF OPERATIONS FOR MANUALLY AND AUTOMATICALLY INITIATED SYSTEM INPUTS AND OUTPUTS. MANUFACTURER'S STANDARD
- DESCRIPTIONS FOR GENERIC SYSTEMS ARE NOT ACCEPTABLE. 3. DEVICE ADDRESS LIST: COORDINATE WITH FINAL SYSTEM
- PROGRAMMING 4. SYSTEM RISER DIAGRAM WITH DEVICE ADDRESSES, CONDUIT SIZES,
- AND CABLE AND WIRE TYPES AND SIZES. 5. WIRING DIAGRAMS: POWER, SIGNAL, AND CONTROL WIRING. INCLUDE DIAGRAMS FOR EQUIPMENT AND FOR SYSTEM WITH ALL TERMINALS AND INTERCONNECTIONS IDENTIFIED. SHOW WIRING COLOR CODE.
- 6. BATTERIES: SIZE CALCULATIONS. 7. FLOOR PLANS: INDICATE FINAL OUTLET LOCATIONS SHOWING ADDRESS OF EACH ADDRESSABLE DEVICE. SHOW SIZE AND ROUTE OF CABLE AND CONDUITS.
- C. QUALIFICATION DATA: FOR INSTALLER.
- D. FIELD QUALITY-CONTROL TEST REPORTS.
- E. OPERATION AND MAINTENANCE DATA: FOR FIRE ALARM SYSTEM TO INCLUDE IN EMERGENCY, OPERATION, AND MAINTENANCE MANUALS. COMPLY WITH NFPA 72, APPENDIX A, RECOMMENDATIONS FOR OWNER'S MANUAL. INCLUDE ABBREVIATED OPERATING INSTRUCTIONS FOR MOUNTING AT THE FACP.
- SUBMITTALS TO AUTHORITIES HAVING JURISDICTION: IN ADDITION TO DISTRIBUTION REQUIREMENTS FOR SUBMITTALS SPECIFIED IN DIVISION 1 SECTION "SUBMITTALS," MAKE AN IDENTICAL SUBMITTAL TO AUTHORITIES HAVING JURISDICTION. TO FACILITATE REVIEW, INCLUDE COPIES OF ANNOTATED CONTRACT DRAWINGS AS NEEDED TO DEPICT COMPONENT LOCATIONS. RESUBMIT IF REQUIRED TO MAKE CLARIFICATIONS OR REVISIONS TO OBTAIN APPROVAL. ON RECEIPT OF COMMENTS FROM AUTHORITIES HAVING JURISDICTION, SUBMIT THEM TO ARCHITECT FOR REVIEW.
- G. DOCUMENTATION: 1. APPROVAL AND ACCEPTANCE: PROVIDE THE "RECORD OF
- COMPLETION" FORM ACCORDING TO NFPA 72 TO OWNER, ARCHITECT, AND AUTHORITIES HAVING JURISDICTION. 2. RECORD OF COMPLETION DOCUMENTS: PROVIDE THE "PERMANENT RECORDS" ACCORDING TO NFPA 72 TO OWNER, ARCHITECT, AND AUTHORITIES HAVING JURISDICTION. FORMAT OF THE WRITTEN SEQUENCE OF OPERATION SHALL BE THE OPTIONAL INPUT/OUTPUT MATRIX
- a. HARD COPIES ON PAPER TO OWNER, ARCHITECT, AND AUTHORITIES HAVING JURISDICTION. b. ELECTRONIC MEDIA SHALL BE PROVIDED TO OWNER.
- 1.6 QUALITY ASSURANCE
- A. INSTALLER QUALIFICATIONS: PERSONNEL SHALL BE TRAINED AND CERTIFIED BY MANUFACTURER FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.

- B. INSTALLER QUALIFICATIONS: WORK OF THIS SECTION BE PERFORMED BY A UL-LISTED COMPANY.
- C. INSTALLER QUALIFICATIONS: PERSONNEL CERTIFIED BY NICET AS FIRE ALARM LEVEL II.
- D. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
- PART 2 PRODUCTS 2.1 MANUFACTURERS

TECHNOLOGIES.

- A. FACP AND EQUIPMENT: SILENT KNIGHT OR EQUAL. B. WIRE AND CABLE
- 1. COMTRAN CORPORATION. HELIX/HITEMP CABLES, INC.; A DRAKA USA COMPANY. ROCKBESTOS-SUPRENANT CABLE CORPORATION; A MARMON
- GROUP COMPANY 4. WEST PENN WIRE/CDT; A DIVISION OF CABLE DESIGN
- 2.2 FACP
- A. GENERAL DESCRIPTION: 1. MODULAR, ZONED, POWER-LIMITED DESIGN WITH ELECTRONIC MODULES, UL 864 LISTED.
- B. CIRCUITS: SIGNALING LINE CIRCUITS: NFPA 72, CLASS A, STYLE 2. SIGNALING LINE CIRCUITS: NFPA 72, CLASS B. NOTIFICATION-APPLIANCE CIRCUITS: NFPA 72, CLASS A, STYLE
- SHALL OCCUR WITHIN 10 SECONDS AFTER THE ACTIVATION OF AN INITIATING DEVICE. 5. ELECTRICAL MONITORING FOR THE INTEGRITY OF WIRING EXTERNAL
- TO THE FACP FOR MECHANICAL EQUIPMENT SHUTDOWN IS NOT REQUIRED, PROVIDED A BREAK IN THE CIRCUIT WILL CAUSE MECHANICAL EQUIPMENT TO SHUT DOWN.
- C. SMOKE-ALARM VERIFICATION: 1. INITIATE AUDIBLE AND VISIBLE INDICATION OF AN "ALARM
- VERIFICATION" SIGNAL AT THE FACP. 2. ACTIVATE A LISTED AND APPROVED "ALARM VERIFICATION" SEQUENCE AT THE FACP AND THE DETECTOR.
- RECORD EVENTS BY THE SYSTEM PRINTER. SOUND GENERAL ALARM IF THE ALARM IS VERIFIED. CANCEL FACP INDICATION AND SYSTEM RESET IF THE ALARM IS NOT VERIFIED.
- D. NOTIFICATION-APPLIANCE CIRCUIT: OPERATION SHALL SOUND IN A TEMPORAL PATTERN, COMPLYING WITH ANSI S3.41.
- E. POWER SUPPLY FOR SUPERVISION EQUIPMENT: SUPPLY FOR AUDIBLE AND VISUAL EQUIPMENT FOR SUPERVISION OF THE AC POWER SHALL BE FROM A DEDICATED DC POWER SUPPLY, AND POWER FOR THE DC COMPONENT SHALL BE FROM THE AC SUPPLY.
- F. ALARM SILENCING, TROUBLE, AND SUPERVISORY ALARM RESET MANUAL RESET AT THE FACP, AFTER INITIATING DEVICES ARE RESTORED TO NORMAL 1. SILENCING-SWITCH OPERATION HALTS ALARM OPERATION OF NOTIFICATION APPLIANCES AND ACTIVATES AN "ALARM SILENCE"
- LIGHT. DISPLAY OF IDENTITY OF THE ALARM ZONE OR DEVICE IS RFTAINFD. SUBSEQUENT ALARM SIGNALS FROM OTHER DEVICES OR ZONES REACTIVATE NOTIFICATION APPLIANCES UNTIL SILENCING SWITCH IS OPERATED AGAIN. 3. WHEN ALARM-INITIATING DEVICES RETURN TO NORMAL AND
- SYSTEM RESET SWITCH IS OPERATED, NOTIFICATION APPLIANCES OPERATE AGAIN UNTIL ALARM SILENCE SWITCH IS RESET.
- G. PRIMARY POWER: 24-V DC OBTAINED FROM 120-V AC SERVICE AND A POWER-SUPPLY MODULE. INITIATING DEVICES, NOTIFICATION APPLIANCES, SIGNALING LINES, TROUBLE SIGNAL, SUPERVISORY SIGNAL SHALL BE POWERED BY THE 24-V DC SOURCE. THE ALARM CURRENT DRAW OF THE ENTIRE FIRE ALARM SYSTEM
- SHALL NOT EXCEED 80 PERCENT OF THE POWER-SUPPLY MODULE RATING 2. POWER SUPPLY SHALL HAVE A DEDICATED FUSED SAFETY SWITCH FOR THIS CONNECTION AT THE SERVICE ENTRANCE EQUIPMENT. PAINT THE SWITCH BOX RED AND IDENTIFY IT WITH "FIRE ALARM SYSTEM POWER."
- H. SECONDARY POWER: 24-V DC SUPPLY SYSTEM WITH BATTERIES AND AUTOMATIC BATTERY CHARGER AND AN AUTOMATIC TRANSFER SWITCH. BATTERIES: SEALED LEAD CALCIUM. 2. BATTERY AND CHARGER CAPACITY: COMPLY WITH NFPA 72.
- I. SURGE PROTECTION: 1. INSTALL SURGE PROTECTION ON NORMAL AC POWER FOR THE FACP AND ITS ACCESSORIES. COMPLY WITH DIVISION 16 SECTION "TRANSIENT VOLTAGE SUPPRESSION" FOR AUXILIARY
- PANEL SUPPRESSORS 2. INSTALL SURGE PROTECTORS RECOMMENDED BY FACP MANUFACTURER. INSTALL ON ALL SYSTEM WIRING EXTERNAL TO THE BUILDING HOUSING THE FACP.
- CARD MOUNTED BEHIND A PLASTIC OR GLASS COVER IN A STAINLESS-STEEL OR ALUMINUM FRAME. INCLUDE INTERPRETATION AND DESCRIBE APPROPRIATE RESPONSE FOR DISPLAYS AND SIGNALS. BRIEFLY DESCRIBE THE FUNCTIONAL OPERATION OF THE SYSTEM UNDER NORMAL, ALARM, AND TROUBLE CONDITIONS.
- 2.3 MANUAL FIRE ALARM BOXES A. DESCRIPTION: UL 38 LISTED; FINISHED IN RED WITH MOLDED, RAISED-LETTER OPERATING INSTRUCTIONS IN CONTRASTING COLOR. STATION SHALL SHOW VISIBLE INDICATION OF OPERATION. MOUNTED ON RECESSED OUTLET BOX. 1. DOUBLE-ACTION MECHANISM REQUIRING TWO ACTIONS TO INITIATE
- MANUAL-STATION STATUS (NORMAL, ALARM, OR TROUBLE) TO THE FACE 2. STATION RESET: KEY- OR WRENCH-OPERATED SWITCH.
- 2.4 SYSTEM SMOKE DETECTORS
- A. GENERAL DESCRIPTION: UL 268 LISTED, OPERATING AT 24-V DC, NOMINAL. PLUG-IN ARRANGEMENT: DETECTOR AND ASSOCIATED ELECTRONIC COMPONENTS SHALL BE MOUNTED IN A PLUG-IN MODULE THAT CONNECTS TO A FIXED BASE. PROVIDE TERMINALS IN THE FIXED BASE FOR CONNECTION OF BUILDING
- 3. SELF-RESTORING: DETECTORS DO NOT REQUIRE RESETTING OR READJUSTMENT AFTER ACTUATION TO RESTORE THEM TO NORMAL OPERATION.
- 4. INTEGRAL VISUAL-INDICATING LIGHT: LED TYPE. INDICATING DETECTOR HAS OPERATED AND POWER-ON STATUS.

- 4. ACTUATION OF ALARM NOTIFICATION APPLIANCES, ANNUNCIATION
- J. INSTRUCTIONS: COMPUTER PRINTOUT OR TYPEWRITTEN INSTRUCTION

  - AN ALARM, PULL-LEVER TYPE., ARRANGED TO COMMUNICATE

- B. PHOTOELECTRIC SMOKE DETECTORS: 1. SENSOR: LED OR INFRARED LIGHT SOURCE WITH MATCHING SILICON-CELL RECEIVER. 2. DETECTOR SENSITIVITY: BETWEEN 2.5 AND 3.5 PERCENT/FOOT (0.008 AND 0.011 PERCENT/MM) SMOKE OBSCURATION WHEN TESTED ACCORDING TO UL 268A.
- C. IONIZATION SMOKE DETECTOR 1. SENSOR: RESPONSIVE TO BOTH VISIBLE AND INVISIBLE PRODUCTS OF COMBUSTION. SELF-COMPENSATING FOR CHANGES IN ENVIRONMENTAL CONDITIONS. 2. DETECTOR SENSITIVITY: BETWEEN 0.5 AND 1.7 PERCENT/FOOT (0.0016 AND 0.0056 PERCENT/MM) SMOKE OBSCURATION WHEN TESTED ACCORDING TO UL 268A.
- 2.5 HEAT DETECTORS
- A. GENERAL: UL 521 LISTED.
- B. HEAT DETECTOR, COMBINATION TYPE: ACTUATED BY EITHER A FIXED TEMPERATURE OF 135 DEG F (57 DEG C) OR RATE-OF-RISE OF TEMPERATURE THAT EXCEEDS 15 DEG F (8 DEG C) PER MINUTE, UNLESS OTHERWISE INDICATED. 1. MOUNTING: ADAPTER PLATE FOR OUTLET BOX MOUNTING.
- 2.6 NOTIFICATION APPLIANCES
- A. DESCRIPTION: EQUIPPED FOR MOUNTING AS INDICATED AND WITH SCREW TERMINALS FOR SYSTEM CONNECTIONS. COMBINATION DEVICES: FACTORY-INTEGRATED AUDIBLE AND VISIBLE DEVICES IN A SINGLE-MOUNTING ASSEMBLY.
- B. HORN: POLARIZED TYPE, 24-V DC: WITH PROVISION FOR HOUSING THE OPERATING MECHANISM BEHIND A GRILLE. SPEAKERS SHALL PRODUCE A SOUND-PRESSURE LEVEL OF 90 DBA, MEASURED 10 FEET (3 M) FROM THE HORN.
- . VISIBLE ALARM DEVICES: XENON STROBE LIGHTS LISTED UNDER UL 1971, WITH CLEAR OR NOMINAL WHITE POLYCARBONATE LENS MOUNTED ON AN ALUMINUM FACEPLATE. THE WORD "FIRE" IS ENGRAVED IN MINIMUM 1-INCH- (25-MM-) HIGH LETTERS ON THE
- . RATED LIGHT OUTPUT: 15-75-110 SELECTABLE 2. STROBE LEADS: FACTORY CONNECTED TO SCREW TERMINALS. 2.7 WIRE AND CABLE
- A. WIRE AND CABLE FOR FIRE ALARM SYSTEMS SHALL BE UL LISTED AND LABELED AS COMPLYING WITH NFPA 70, ARTICLE 760.
- B. SIGNALING LINE CIRCUITS: TWISTED, SHIELDED PAIR, NOT LESS THAN NO. 18 AWG. 1. CIRCUIT INTEGRITY CABLE: TWISTED SHIELDED PAIR, NFPA 70 ARTICLE 760, CLASSIFICATION CI, FOR POWER-LIMITED FIRE ALARM SIGNAL SERVICE. UL LISTED AS TYPE FPL, AND COMPLYING WITH REQUIREMENTS IN UL 1424 AND IN UL 2196 FOR A 2-HOUR RATING.
- NON-POWER-LIMITED CIRCUITS: SOLID-COPPER CONDUCTORS WITH 600-V RATED, 75 DEG C, COLOR-CODED INSULATION. LOW-VOLTAGE CIRCUITS: NO. 16 AWG. MINIMUM. LINE-VOLTAGE CIRCUITS: NO. 12 AWG, MINIMUM.
- MULTICONDUCTOR ARMORED CABLE: NFPA 70 TYPE MC, COPPER CONDUCTORS, TFN/THHN CONDUCTOR INSULATION, COPPER DRAIN WIRE, COPPER ARMOR[ WITH OUTER JACKET] WITH RED IDENTIFIER STRIPE, UL LISTED FOR FIRE ALARM AND CABLE TRAY INSTALLATION, PLENUM RATED, AND COMPLYING WITH REQUIREMENTS IN UL 2196 FOR A 2-HOUR RATING.
- PART 3 EXECUTION 3.1 EQUIPMENT INSTALLATION
- A. SMOKE OR HEAT DETECTOR SPACING:
- 1. SMOOTH CEILING SPACING SHALL NOT EXCEED THE RATING OF THE DETECTOR. 2. SPACING OF HEAT DETECTORS FOR IRREGULAR AREAS, FOR IRREGULAR CEILING CONSTRUCTION, AND FOR HIGH CEILING
- AREAS, SHALL BE DETERMINED ACCORDING TO APPENDIX A IN NFPA 72 3. SPACING OF HEAT DETECTORS SHALL BE DETERMINED BASED ON GUIDELINES AND RECOMMENDATIONS IN NFPA 72.
- B. HVAC: LOCATE DETECTORS NOT CLOSER THAN 3 FEET (1 M) FROM AIR-SUPPLY DIFFUSER OR RETURN-AIR OPENING.
- C. AUDIBLE ALARM-INDICATING DEVICES: INSTALL NOT LESS THAN 6 INCHES (150 MM) BELOW THE CEILING. INSTALL HORNS ON FLUSH-MOUNTED BACK BOXES WITH THE DEVICE-OPERATING MECHANISM CONCEALED BEHIND A GRILLE.
- D. DEVICE LOCATION-INDICATING LIGHTS: LOCATE IN PUBLIC SPACE NEAR THE DEVICE THEY MONITOR.
- E. FACP: SURFACE MOUNT WITH TOPS OF CABINETS NOT MORE THAN 72 INCHES (1830 MM) ABOVE THE FINISHED FLOOR. 3.2 WIRING INSTALLATION
- A. INSTALL WIRING ACCORDING TO THE FOLLOWING: 1. NFCA 1. 2. TIA/EIA 568-A.
- B. WIRING METHOD: INSTALL WIRING IN METAL RACEWAY ACCORDING TO DIVISION 16 SECTION "RACEWAYS AND BOXES." 1. FIRE ALARM CIRCUITS AND EQUIPMENT CONTROL WIRING
  - ASSOCIATED WITH THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. THIS SYSTEM SHALL NOT BE USED FOR ANY OTHER WIRE OR CABLE.
- WIRING METHOD: . RACEWAYS USED FOR FIRE ALARM CIRCUITS, AND EQUIPMENT CONTROL WIRING ASSOCIATED WITH THE FIRE ALARM SYSTEM. MAY NOT CONTAIN ANY OTHER WIRE OR CABLE. 2. SIGNALING LINE CIRCUITS: POWER-LIMITED FIRE ALARM CABLES
- SHALL NOT BE INSTALLED IN THE SAME CABLE OR RACEWAY AS SIGNALING LINE CIRCUITS.
- D. WIRING WITHIN ENCLOSURES: SEPARATE POWER-LIMITED AND NON-POWER-LIMITED CONDUCTORS AS RECOMMENDED BY MANUFACTURER. INSTALL CONDUCTORS PARALLEL WITH OR AT RIGHT ANGLES TO SIDES AND BACK OF THE ENCLOSURE. BUNDLE, LACE, AND TRAIN CONDUCTORS TO TERMINAL POINTS WITH NO EXCESS. CONNECT CONDUCTORS THAT ARE TERMINATED, SPLICED, OR NTERRUPTED IN ANY ENCLOSURE ASSOCIATED WITH THE FIRE ALARM SYSTEM TO TERMINAL BLOCKS. MARK EACH TERMINAL ACCORDING TO THE SYSTEM'S WIRING DIAGRAMS. MAKE ALL CONNECTIONS WITH APPROVED CRIMP-ON TERMINAL SPADE LUGS, PRESSURE-TYPE TERMINAL BLOCKS, OR PLUG CONNECTORS.

- E. CABLE TAPS: USE NUMBERED TERMINAL STRIPS IN JUNCTION, PULL AND OUTLET BOXES, CABINETS, OR EQUIPMENT ENCLOSURES WHERE CIRCUIT CONNECTIONS ARE MADE.
- F. COLOR-CODING: COLOR-CODE FIRE ALARM CONDUCTORS DIFFERENTLY FROM THE NORMAL BUILDING POWER WIRING. USE ONE COLOR-CODE FOR ALARM CIRCUIT WIRING AND A DIFFERENT COLOR-CODE FOR SUPERVISORY CIRCUITS. COLOR-CODE AUDIBLE ALARM-INDICATING CIRCUITS DIFFERENTLY FROM ALARM-INITIATING CIRCUITS. USE DIFFERENT COLORS FOR VISIBLE ALARM-INDICATING DEVICES. PAINT FIRE ALARM SYSTEM JUNCTION BOXES AND COVERS RED.
- WIRING TO REMOTE ALARM TRANSMITTING DEVICE: 1-INCH (25-MM) CONDUIT BETWEEN THE FACP AND THE TRANSMITTER. INSTALL NUMBER OF CONDUCTORS AND ELECTRICAL SUPERVISION FOR CONNECTING WIRING AS NEEDED TO SUIT MONITORING FUNCTION.
- 3.3 IDENTIFICATION
- A. INSTALL INSTRUCTIONS FRAME IN A LOCATION VISIBLE FROM THE
- B. LABEL, DEVICES, PANEL AND PROVIDE A TAG FOR CABLES AT BOTH 3.4 GROUNDING
- A. GROUND THE FACP AND ASSOCIATED CIRCUITS: COMPLY WITH IEEE 1100. INSTALL A GROUND WIRE FROM MAIN SERVICE GROUND TO THE FACP.
- 3.5 FIELD QUALITY CONTROL
- A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT, TEST, AND ADJUST FIELD-ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, INCLUDING CONNECTIONS, AND TO ASSIST IN FIELD TESTING. REPORT RESULTS IN WRITING.
- B. PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS: BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION,
- SUBMIT A WRITTEN STATEMENT USING THE FORM FOR RECORD OF COMPLETION SHOWN IN NFPA 72. PERFORM EACH ELECTRICAL TEST AND VISUAL AND MECHANICAL INSPECTION LISTED IN NFPA 72. CERTIFY COMPLIANCE WITH TEST PARAMETERS. ALL TESTS SHALL BE CONDUCTED UNDER THE DIRECT SUPERVISION OF A NICET TECHNICIAN CERTIFIED UNDER THE FIRE ALARM SYSTEMS PROGRAM AT LEVEL III.
- INCLUDE THE EXISTING SYSTEM IN TESTS AND INSPECTIONS. VISUAL INSPECTION: CONDUCT A VISUAL INSPECTION BEFORE ANY TESTING. USE AS-BUILT DRAWINGS AND SYSTEM DOCUMENTATION FOR THE INSPECTION. IDENTIFY IMPROPERLY LOCATED, DAMAGED, OR NONFUNCTIONAL EQUIPMENT, AND
- CORRECT BEFORE BEGINNING TESTS. TESTING: FOLLOW PROCEDURE AND RECORD RESULTS COMPLYING WITH REQUIREMENTS IN NFPA 72. DETECTORS THAT ARE OUTSIDE THEIR MARKED SENSITIVITY RANGE SHALL BE REPLACED.
- TEST AND INSPECTION RECORDS: PREPARE ACCORDING TO NFPA 5. 72, INCLUDING DEMONSTRATION OF SEQUENCES OF OPERATION BY USING THE MATRIX-STYLE FORM IN APPENDIX A IN NFPA 70. 3.6 ADJUSTING
- A. OCCUPANCY ADJUSTMENTS: WHEN REQUESTED WITHIN 12 MONTHS OF DATE OF SUBSTANTIAL COMPLETION, PROVIDE ON-SITE ASSISTANCE IN ADJUSTING SYSTEM TO SUIT ACTUAL OCCUPIED CONDITIONS. PROVIDE UP TO TWO VISITS TO PROJECT OUTSIDE NORMAL OCCUPANCY HOURS FOR THIS PURPOSE.
- B. FOLLOW-UP TESTS AND INSPECTIONS: AFTER DATE OF SUBSTANTIAL COMPLETION, TEST THE FIRE ALARM SYSTEM COMPLYING WITH TESTING AND VISUAL INSPECTION REQUIREMENTS IN NFPA 72. PERFORM TESTS AND INSPECTIONS LISTED FOR THREE MONTHLY, AND ONE QUARTERLY, PERIODS.
- 3.7 DEMONSTRATION
- A. ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN THE FIRE ALARM SYSTEM, APPLIANCES, AND DEVICES.
- END OF SECTION

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NEW PROTOTYPE BUILDING FOR	HAGAN ACE YULEE	86000 MINER RD, YULEE, FL 32097
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