ABBREVIATIONS

ABV	above
AFF	above finish floor
ASC	above suspended ceiling
ACC	access
ACFL	access floor
AP	access panel
AC	acoustical
ACPL	acoustical plaster
ACT	acoustical tile
ACR	acrylic plastic
ADD	addendum
ADH	adhesive
ADJ	adjacent
ADJT	adjustable
AGG	aggregate
A/C	air conditioning
ALT	alternate
AL	aluminum
ANC	anchor, anchorage
AB	anchor bolt
ANOD	anodized
APX	approximate
ARCH	architect (ural)
AD	area drain
ASB	asbestos
ASPH	asphalt
AT	asphalt tile
AUTO	automatic
BP	back plaster (ed)
BSMT	basement
BRG	bearing
BPL	bearing plate
BJT	bed joint
BM	bench mark
BEL	below
BET	between
BVL	beveled
BIT	bituminous
BLK	block
BLKG	blocking
BD	board
BW	both ways
BOT	bottom
BRK	brick
BRZ	bronze
BLDG	building
BUR	built up roofing
BBD	bulletin board
CAB	cabinet
CAD	cadmium
CPT	carpet (ed)
CSMT	casement
CI	cast iron
CIPC	cast-in-place concrete
CST	cast stone
CB	catch basin
CK	calk (ing) caulk (ing)
CLG	ceiling
CHT	ceiling height
CEM	cement
CPL	cement plaster (portland)
CM	centimeter (s)
CER	ceramic
CT	ceramic tile
CMT	ceramic mosaic (tile)
CKBD	chalkboard
CHAM	chamfer
CR	chromium (plated)
CIR	circle
CIRC	circumference
CLR	clear (ance)
CLS	closure
COL	column
COMB	combination
COMPT	compartment
COMPO	composition (composite)
COMP	compress (ed), (ion), (ible)
CONC	concrete
CMU	concrete masonry unit
CX	connection
CONST	construction
CONT	continuous or continue
CONTR	contract (or)
CLL	contract limit line
CJT	control joint
CPR	copper
CG	corner guard
CORR	corrugated
CTR	counter
CFL	counterflashing
CS	countersink
CTSK	countersunk screw
CRS	course (s)
CRG	cross grain
CFT	cubic foot
CYD	cubic yard
DPR	damper
DP	dampproofing
DL	dead load
DEM	demolish, demolition
DMT	demountable
DEP	depressed
DLT	detail
DIAG	diagonal
DIAM	diameter
DIM	dimension
DPR	dispenser
DIV	division
DR	door
DA	doubleacting
DH	double hung
DTA	dovetail anchor
DTS	dovetail anchor slot
DS	downspout
D	drain
DRB	drainboard
DT	drain tile
DWR	drawer
DWG	drawing
DF	drinking fountain
DW	dumbwaiter
EF	each face
E	east
ELEC	electric (al)
EP	electrical panelboard
EWC	electric water cooler
EL	elevation
ELEV	elevator
EMER	emergency
ENC	enclose (ure)
EQ	equal
EQP	equipment
ESC	escalator
EST	estimate
EXCA	excavate
EXH	exhaust
EXG	existing
EXMP	expanded metal plate
EB	expansion bolt
EXP	exposed
EXT	exterior
EXS	extra strong
FB	face brick
FOC	face of concrete
FOF	face of finish
FOM	face of masonry
FOS	face of studs
FF	factory finish
FAS	fasten fastener
FBD	fiberboard
FN	fence
FGL	fiberglase

FIN	finish (ed)
FFE	finished floor elevation
FFL	finished floor line
FA	fire alarm
FBRK	fire brick
FE	fire extinguisher
FEC	fire extinguisher cabinet
FHS	fire hose station
FPL	fireplace
FP	fireproof
FRC	fire-resistant coating
FRT	fire-retardant
FLG	flashing
FHMS	flathead machine screw
FHWS	flathead wood screw
FLX	flexible
FLR	floor (ing)
FLCO	floor cleanout
FD	floor drain
FPL	floor plate
FLUR	fluorescent
FJT	flush joint
FTG	footing
FRG	forged
FND	foundation
FR	frame (d), (ing)
FRA	fresh air
FS	full size
FBO	furnished by others
FUR	furred (ing)
FUT	future
GA	gage, gauge
GV	galvanized
GI	galvanized iron
GP	galvanized pipe
GSS	galvanized steel sheet
GKT	gasket (ed)
GC	general contract (or)
GL	glass, glazing
GLB	glass block
GLF	glass fiber
GCMU	glazed concrete masonry units
GST	glazed structural tile
GB	grab bar
GD	grade, grading
GRN	granite
GVL	gravel
GF	ground face
GT	grout
GPDW	gypsum dry wall
GPL	gypsum lath
GPPL	gypsum plaster
GPT	gypsum tile
HH	handhold
HBD	hardboard
HDW	hardware
HWD	hardwood
HJT	head joint
HDR	header
HTG	heating
HVAC	heating/ventilation/air conditioning
HD	heavy duty
HT	height
HX	hexagonal
HES	high early-strength
HC	hollow core
HM	hollow metal
HK	hook (s)
HOR	horizontal
HB	hose bibb
HWH	hot water heater
INCIN	incinerator
INCL	include (d), (ing)
ID	inside diameter
INS	insulate (d), (ion)
INSC	insulating concrete
INSF	insulating fill
INT	interior
ILK	interlock
INTM	intermediate
INV	invert
IPS	iron pipe size
JC	janitor's closet
JT	joint
JF	joint filler
J	joist
KCPL	keene's cement plaster
KPL	kickplate
KIT	kitchen
KO	knockout
LBL	label
LAB	laboratory
LAD	ladder
LB	lag bolt
LAM	laminate
LAV	lavatory
LH	left hand
L	length
LT	light
LC	light control
LP	lightproof
LW	lightweight
LWC	lightweight concrete
LMS	limestone
LTL	lintel
LL	live load
LVR	louver
LPT	low point
MB	machine bolt
MI	malleable iron
MH	manhole
MFR	manufacture (er)
MRB	marble
MFR	manufacture (er)
MAS	masonry
MO	masonry opening
MTL	material (s)
MAX	maximum
MECH	mechanic (al)
MC	medicine cabinet
MED	medium
MBR	member
MMB	membrane
MET	metal
MFD	metal floor decking
MTFR	metal furring
MRD	metal roof decking
MTHR	metal threshold
M	meter
MM	millimeter (s)
MWK	millwork
MIN	minimum
MIR	mirror
MISC	miscellaneous
MOD	modular
MLD	molding, moulding
MR	mop receptor
MT	mount (ed), (ing)
MOV	movable
MULL	mullion
NL	nailable
NAT	natural
NI	nickel
NR	noise reduction
NRC	noise reduction coefficient
NOM	nominal
NOM	nonmetallic
N	North
NIC	not in contract
NTS	not to scale

OBS	obscure
OC	on center (s)
OP	opaque
OPG	opening
OJ	open-web joist
OPP	opposite
OPH	opposite hand
OPS	opposite surface
OD	outside diameter
OHMS	ovalhead machine screw
OHWS	ovalhead wood screw
OA	overall
OH	overhead
PNT	paint (ed)
PNL	panel
PB	panic bar
PTD	paper towel dispenser
PTR	paper towel receptor
PAR	parallel
PK	parking
PBD	particle board
PTN	partition
PV	pave (d), (ing)
PVMT	pavement
PED	pedestal
PERF	perforate (d)
PERI	perimeter
PLAS	plaster
PLAM	plastic laminate
PL	plate
PG	plate glass
PWD	plywood
PT	point
PVC	polyvinyl chloride
PE	porcelain enamel
PTC	post-tensioned concrete
PCF	pounds per cubic foot
PFL	pounds per linear foot
PSF	pounds per square foot
PSI	pounds per square inch
PCC	precast concrete
PFB	prefabricate (d)
PFN	prefinished
PRF	preformed
PSC	prestressed concretee
PL	property line
QT	quarry tile
RBT	rabbet, rebate
RAD	radius
RL	rail (ing)
RWC	rainwater conductor
REF	reference
RFL	reflect (ed),(ive)(or)
REFR	refrigerator
REG	register
RE	reinforce (d), (ing)
RCP	reinforced concrete pipe
REM	remove
RES	resilient
RET	return
RA	return air
RVS	reverse (side)
REV	revision (s), revised
RH	right hand
ROW	right of way
R	riser
RVT	rivet
RD	roof drain
RFH	roof hatch
RM	room
RO	rough opening
RB	rubber base
RBT	rubber tile
RBL	rubber stone
SFGL	safety glass
SCH	schedule
SCN	screen
SNT	sealant
STG	seating
SEC	section
SSK	service sink
SHTH	sheating
SHT	sheet
SG	sheet glass
SH	shelf, shelving
SHO	shore (d), (ing)
SIM	similar
SKL	skylight
SL	sleeve
SC	solid core
SP	sound proof
S	south
SPC	spacer
SPK	speaker
SPL	special
SPEC	specification(s)
SQ	square
SST	stainless steel
STD	standard
STA	station
ST	steel
STO	storage
SD	storm drain
STR	structural
SCT	structural clay tile
SUS	suspended
SYM	symmetry (ical)
SYN	synthetic
SYS	system
TKBD	tackboard
TKS	tackstrip
TEl	telephone
TV	television
TC	terra cotta
TZ	terrazo
THK	thick (ness)
THR	threshold
TPTN	toilet partition
TPD	toilet paper dispenser
TOL	tolerance
T&G	tongue and groove
TSL	top of slab
TST	top of steel
TW	top of wall
TB	towel bar
TR	transom
T	tred opening
TYP	typical
UC	undercut
UNF	unfinished
UR	urinal
VJ	v-joint
VB	vapor barrier
VAR	varnish
VNR	veneer
VRM	vermiculite
VERT	vertical
VG	vertical grain
VIN	vinyl
VAT	vinyl asbestos tile
VB	vinyl base
VF	vinyl fabric
VT	vinyl tile
WSCT	wainscot
WTW	wall to wall
WH	wall hung
WC	water closet
WP	waterproofing
WR	water repellent
WS	waterstop
WWF	welded wire fabric
W	west
WHB	wheel bumper
W	width, wide
WIN	window
WG	wired glass
WM	wire mesh
WO	without
WD	wood
WB	wood base
WPT	working point
WI	wrought iron

MATERIALS LEGEND

- CONTINUOUS WOOD BLOCKING
- NON-CONTINUOUS WOOD BLOCKING (SHIM)
- STEEL
- GYPSUM BOARD
- PLYWOOD
- RIGID INSULATION
- BATT INSULATION
- CONCRETE MASONRY UNITS

SYMBOLS

X/AX.X	ELEVATION SYMBOL
X/AX.X	SECTION/DETAIL SYMBOL
X	WALL TYPE SYMBOL
X	WINDOW SYMBOL
ROOM NAME RM # FIN #	ROOM NAME & NUMBER SYMBOL FINISH NUMBER
XX	DOOR SYMBOL

GENERAL NOTES

1. ALL CONSTRUCTION INCLUDING MATERIAL AND WORKMANSHIP, SHALL CONFORM TO THE 2012 INTERNATIONAL BUILDING CODE.

2. ALL ASTM STANDARDS LISTED HERE WITHIN, SHALL BE AS REFERENCED IN THE LATEST ISSUE OF THE ANNUAL BOOK OF STANDARDS OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS

3. THE CONTRACTOR, SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE BEGINNING WORK. THE ARCHITECT AND ENGINEER, SHALL IMMEDIATELY BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
THE CONTRACTOR SHALL CAREFULLY STUDY AND COORDINATE THE MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS WITH THE ARCHITECTURAL WORK PRIOR TO INSTALLATION AND SHALL NOTIFY THE ARCHITECT IN WRITING OF ALL APPARENT INCONSISTENCIES FOR CLARIFICATION.

4. ALL OMISSIONS AND OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER. WORK SHOULD NOT PROCEED UNTIL A SOLUTION IS GIVEN BY THE ARCHITECT OR ENGINEER.

5. IN CASE OF CONFLICTS BETWEEN GENERAL NOTES AND DETAILS, THE DETAILS, SHALL TAKE PRECEDENCE OVER THE GENERAL NOTES. TYPICAL DETAILS, SHALL BE USED WHENEVER APPLICABLE. REFER TO SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE NOTES OR DRAWINGS.

6. IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF WORK, THE CONSTRUCTION, SHALL BE THE SAME AS FOR SIMILAR WORK.

7. COORDINATE FOUNDATION PLANS AND MECHANICAL DRAWINGS, FOR ALL OPENINGS, INSERTS AND OTHER RELATED ITEMS.

8. DIMENSIONS ARE TO FINISH FACE OF WALLS UNLESS NOTED OTHERWISE.

9. ADDITIONAL MISCELLANEOUS STEEL ITEMS NOT SHOWN ON STRUCTURAL DRAWINGS MAY BE REQUIRED. GENERAL CONTRACTOR AND FABRICATOR SHALL COORDINATE ALL REQUIREMENTS AND SHALL NOTIFY THE ARCHITECT IN WRITING OF ALL APPARENT INCONSISTENCIES FOR CLARIFICATION. (SUCH AS SIMPSON STRONG TIES)

10. DO NOT DIMENSION THIS DRAWING. ANY DIMENSIONS, QUESTIONS, SHOULD BE DIRECTED TO THE ARCHITECT OR ENGINEER.

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NEW BUILDING

PROJECT CONTACTS

ARCHITECT:
RUDY MOLINA, A.I.A. — MILNET ARCHITECTURAL SERVICES, 608 S. 12th STREET, Mc ALLEN. TEXAS 78501, (956) 688-5656

CIVIL:
ISAEL POSADAS, PE — SDI ENGINEERING LLC, 5602 IOWA RD, EDINBURG, TEXAS 78542, (956) 287-1818

OWNER:
SWSC — SHARYLAND WATER SUPPLY CORP, 4210 E MAIN AVE, ALTON, TEXAS 78573, (956) 585-6081

STRUCTURAL:
SIMON SOLORIO, PE — SOLORIO, INC, 108 CLEO DAWSON, MISSION, TEXAS 78572, (956) 631-1500

MEP:
LEO MUNOZ, PE — TRINITY MEP ENGINEERING, 3533 E MORELAND DR. WESLACO, TEXAS 78596, (956) 973-0500

GENERAL CONTRACTOR:
T.B.D. — T.B.D.

SITE PLAN/LOCATION MAP

MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT — RUDOLFO R. MOLINA JR. — 14740 — STATE OF TEXAS

OCTOBER 19, 2018

NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

ISSUE FOR COMPETITIVE SEALED PROPOSALS

SHEET NUMBER
A0.0

GENERAL NOTES:

1. OWNER WILL PROVIDE SOIL TESTS PRIOR TO FOUNDATION WORKS.

2. PROVIDE SIDEWALK AS PART OF BASE BID.

3. RE: CIVIL FOR UTILITY CONNECTIONS (U.R. WATER & SEWER.)

4. WARNING:
CONTACT 1-800-DIG-TEST FOR UNDERGROUND ELECTRICAL CABLES IN SITE.

5. ALL CONSTRUCTION AND MATERIALS FOR DRAINAGE, GRADING AND PAVING TO BE IN ACCORD WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".

6. ALL SOIL PLACED ONTO SITE IS TO BE COMPACTED TO 80% DENSITY, EXCEPT UNDER ANY PAVING COMPACTION IS TO BE 95%, BY OWNER. RE: CIVIL FOR ADDT. INFO.

7. CONTRACTOR IS RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL FOR CONSTRUCTION.

8. CONTRACTOR IS RESPONSIBLE FOR PAYING ANY FEES FOR PERMITS AS MAY BE REQUIRED FOR THIS CONSTRUCTION.

9. ALL PIPE SLEEVES SHALL BE SCH. 40 PVC AND FURNISHED IN PLACE BY THE CONTRACTOR BEFORE PAVING.

TUELECTRIC SLEEVES:
6" SLEEVES ARE TO BE DOVE GREY AND PLACED 48" BELOW TOP OF CURB ELEVATIONS. WITH END CONDUIT MARKERS FURNISHED BY TUELECTRIC PLACED ON EACH END OF CONDUIT.
IRRIGATION SLEEVES:
2" & 4" SLEEVES ARE TO BE PLACED 24" BELOW TOP OF CURB.

10. CONTRACTOR TO SET CONTROL GRADES AT 25' INTERVALS ALONG ALL PAVING FLOW LINES.

11. CONTRACTOR TO PROVIDE JOB SIGN. RE: 2/A8.0

12. PROVIDE AND INSTALL PRE-ENGINEERED METAL CANOPY OVER STAFF PARKING. RE: 5/AS1.1, RE: STRUCTURAL FOR ADDITIONAL INFORMATION

13. ALL SIDEWALKS AND COVERED WALKWAYS SHALL HAVE 1:50 MAXIMUM CROSS SLOPE. SIDEWALKS OR COVERED WALKWAYS THAT MUST HAVE SLOPES GREATER THAN 1:20 SHALL HAVE HANDRAILS ON BOTH SIDES WITH 4" HIGH CONC. CURBS ON BOTH SIDES. HANDRAILS SHALL BE 34" TO TOP A.F.F. THERE SHALL BE NO ABRUPT CHANGE IN ELEVATION ALONG ACCESSIBLE ROUTES AT SIDEWALKS AND COVERED WALKWAYS.

14. CURB RAMP SLOPE SHALL BE 1:12 MAXIMUM WITH 1:10 FLARED SIDES AND SHALL BE TEXTURED. PAINT WITH A LIGHT REFLECTIVE PAINT. PARALLEL CURB RAMP SLOPE SHALL BE 1:12 MAXIMUM & TEXTURED. PAINT WITH A LIGHT REFLECTIVE PAINT. ALL CURB RAMPS SHALL HAVE A LANDING AT TOP & BOTTOM. LANDINGS SHALL HAVE A 1:50 MAXIMUM SLOPE IN ANY DIRECTION.

15. STRIPED ACCESS AISLES AND ACCESSIBLE PARKING SHALL HAVE A MAXIMUM CROSS SLOPE IN ALL DIRECTIONS OF 1:50.

16. ALL GRADING SHALL BE DONE TO DRAIN WATER AWAY FROM BUILDINGS.

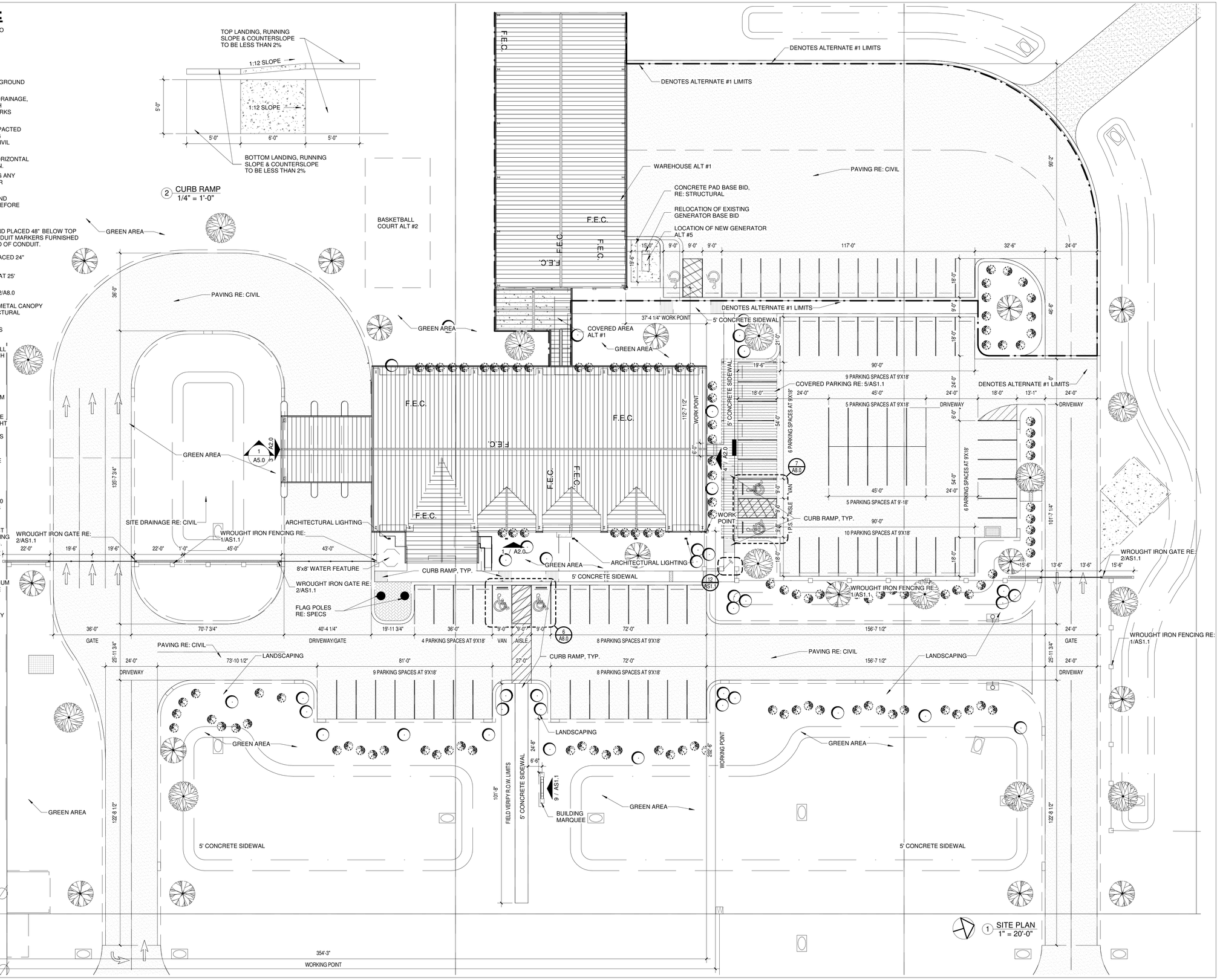
17. ALL EXTERIOR ALCOVES SHALL HAVE A 1:50 MAXIMUM SLOPE AND SHALL HAVE NO DROPS AT DOORS NOR AT CONNECTING SIDEWALKS.

18. REFER TO CIVIL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ARCHITECT IN CASE OF DISCREPANCIES AND COORDINATING WITH CIVIL ENGINEER PRIOR TO PROCEEDING.

19. PROVIDE 2' X 4' CONCRETE SPLASH BLOCK AT DOWNSPOUT LOCATIONS.

20. ALL EXTERIOR DOORS SHALL HAVE A LEVEL AREA WITH A 1:50 MAXIMUM SLOPE IN ALL DIRECTIONS. THE AREA SHALL BE A MINIMUM OF 5 FT. IN THE DIRECTION OF TRAVEL BY THE WIDTH OF THE SIDEWALK.

21. ANY EXISTING CONSTRUCTION THAT IS TO BE REMOVED, SHALL BE REMOVED CAREFULLY SO AS NOT TO DAMAGE ANY EXISTING CONSTRUCTION THAT IS TO REMAIN. PAVING, LANDSCAPING, ETC THAT IS DAMAGED BY CONTRACTOR IS TO BE REPAIRED TO MATCH EXISTING CONDITIONS BEFORE DAMAGE AT NO ADDITIONAL COST TO OWNER



MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT RODOLFO R. MILNET JR. 14740 STATE OF TEXAS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP

ALTON, TX

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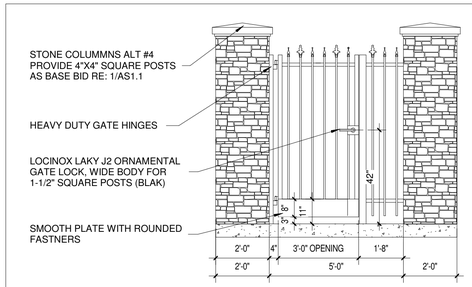
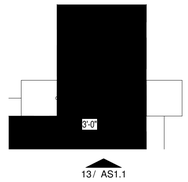
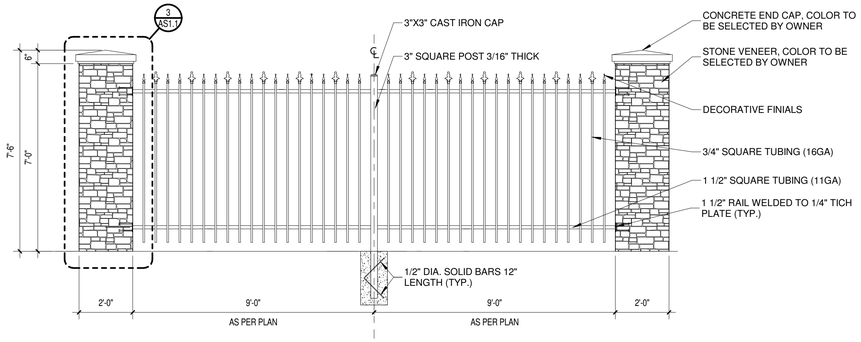


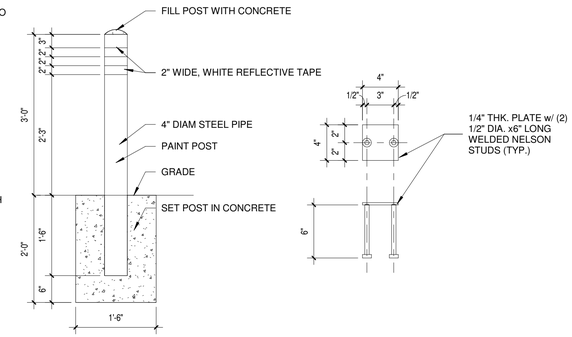
13 FENCE GATE ELEVATION
3/8" = 1'-0"



12 GATE PLAN
1/4" = 1'-0"

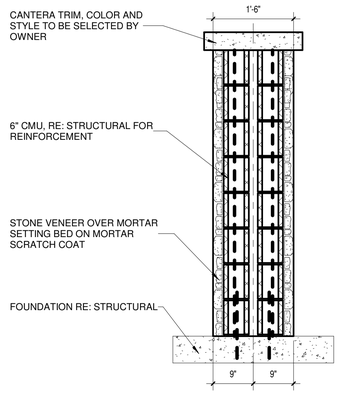


8 ALT #3 FENCE COLUMN
3/8" = 1'-0"

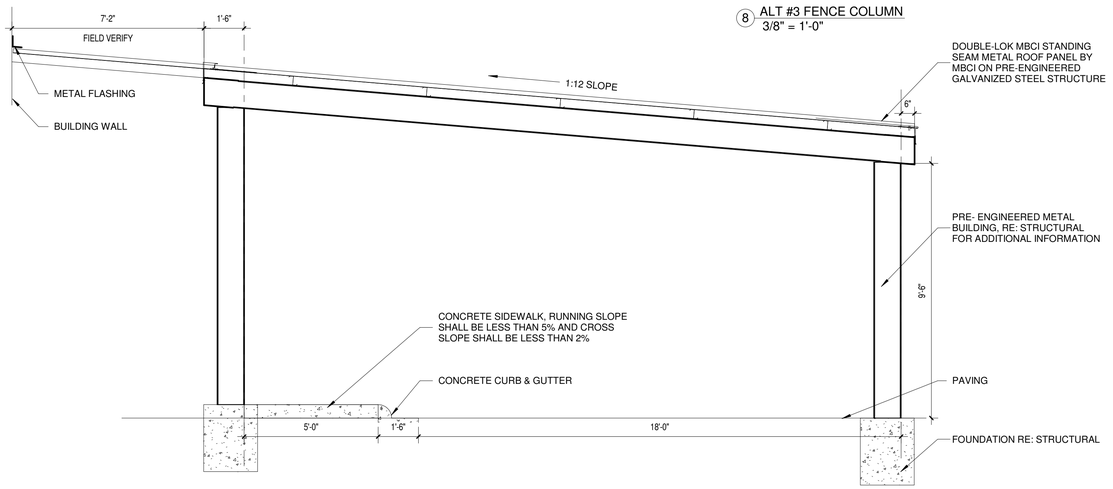


5 BOLLARD DETAIL
3/4" = 1'-0"

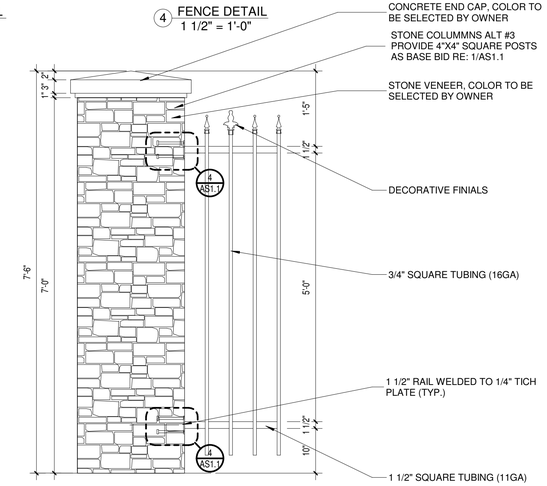
4 FENCE DETAIL
1 1/2" = 1'-0"



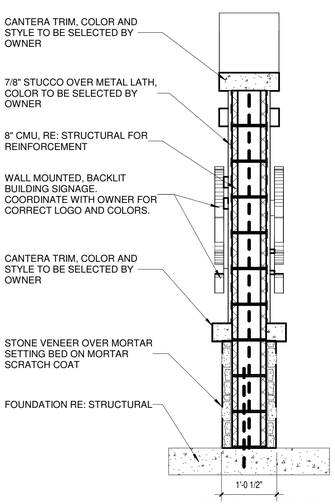
11 SECTION - MARQUEE
3/4" = 1'-0"



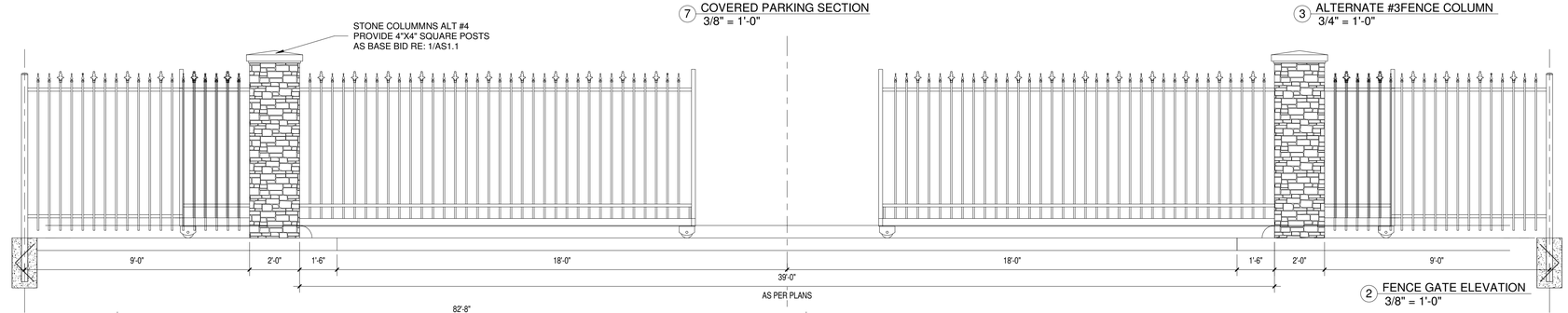
7 COVERED PARKING SECTION
3/8" = 1'-0"



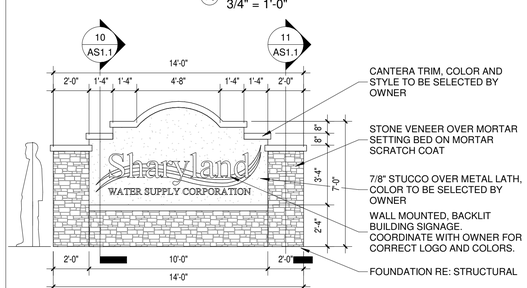
3 ALTERNATE #3FENCE COLUMN
3/4" = 1'-0"



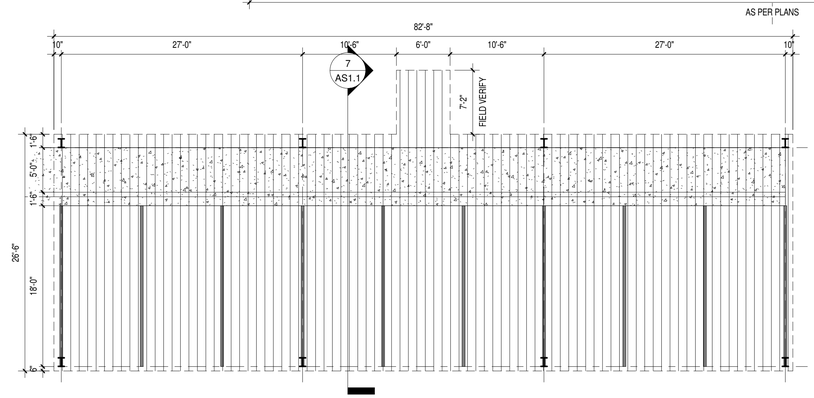
10 SECTION - MARQUEE
3/4" = 1'-0"



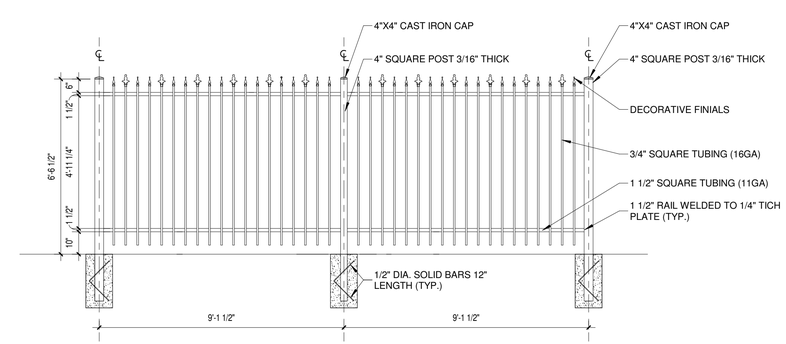
2 FENCE GATE ELEVATION
3/8" = 1'-0"



9 ELEVATION - MARQUEE
1/4" = 1'-0"



6 COVERED PARKING
1/8" = 1'-0"



1 BASE BID FENCE COLUMN
3/8" = 1'-0"

MILNET
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AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNET JR.
14740
STATE OF TEXAS

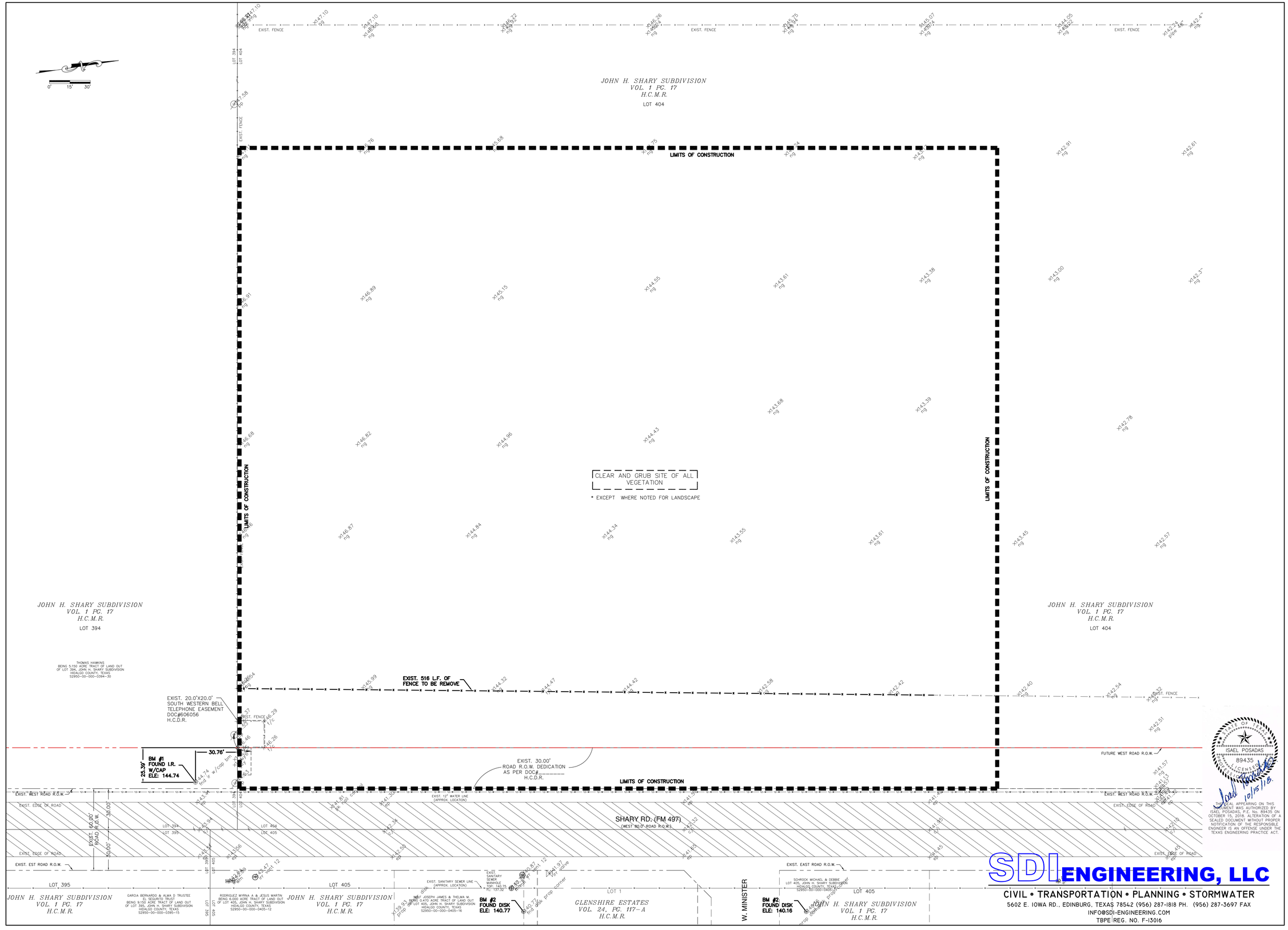
NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

ISSUE FOR
COMPETITIVE SEALED
PROPOSALS

SHEET NUMBER
AS1.1



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AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.

NEW ADMINISTRATION BLDG.

ALTON, TEXAS

PROJECT NUMBER
217017

DATE
October 19, 2018

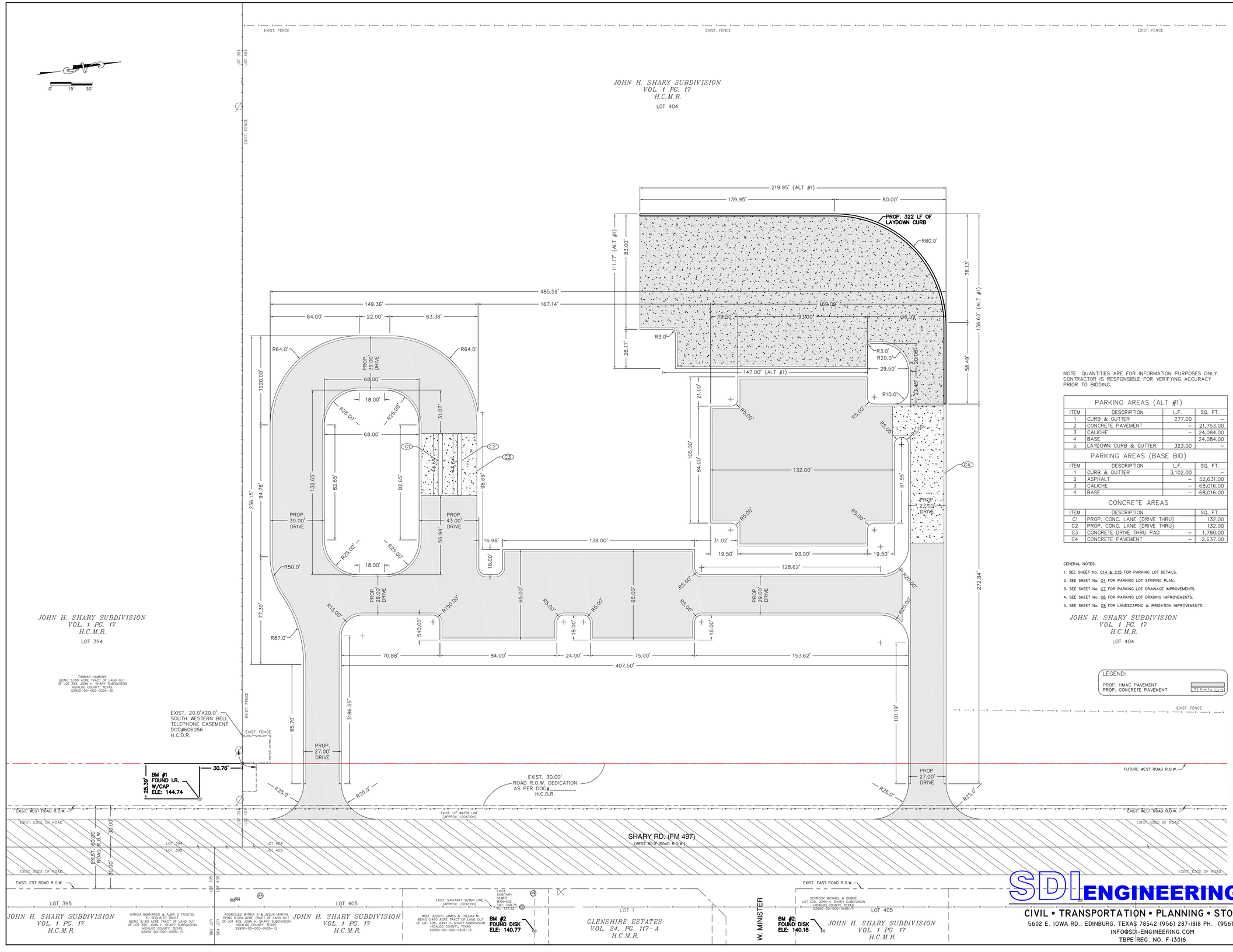
SHEET NUMBER
C1

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

10/15/18

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 15, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

SDI ENGINEERING, LLC
CIVIL • TRANSPORTATION • PLANNING • STORMWATER
5602 E. IOWA RD., EDINBURG, TEXAS 78542 (956) 287-1818 PH. (956) 287-3697 FAX
INFO@SDI-ENGINEERING.COM
TBPE REG. NO. F-13016



NOTE: QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACCURACY PRIOR TO BIDDING.

PARKING AREAS (ALT #1)

ITEM	DESCRIPTION	L.F.	SQ. FT.
1	CURB & GUTTER	277.00	–
2	CONCRETE PAVEMENT	–	21,753.00
3	CALICHE	–	24,084.00
4	BASE		24,084.00
5	LAYDOWN CURB & GUTTER	323.00	–

PARKING AREAS (BASE BID)

ITEM	DESCRIPTION	L.F.	SQ. FT.
1	CURB & GUTTER	3,102.00	–
2	ASPHALT	–	52,631.00
3	CALICHE	–	68,016.00
4	BASE	–	68,016.00

CONCRETE AREAS

ITEM	DESCRIPTION		SQ. FT.
C1	PROP. CONC. LANE (DRIVE THRU)		132.00
C2	PROP. CONC. LANE (DRIVE THRU)		132.00
C3	CONCRETE DRIVE THRU PAD	–	1,790.00
C4	CONCRETE PAVEMENT	–	2,637.00

GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C4 FOR PARKING LOT STRIPING PLAN.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C6 FOR PARKING LOT GRADING IMPROVEMENTS.
5. SEE SHEET No. C9 FOR LANDSCAPING & IRRIGATION IMPROVEMENTS.

LEGEND:

PROP. HMAC PAVEMENT
PROP. CONCRETE PAVEMENT

ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

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SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
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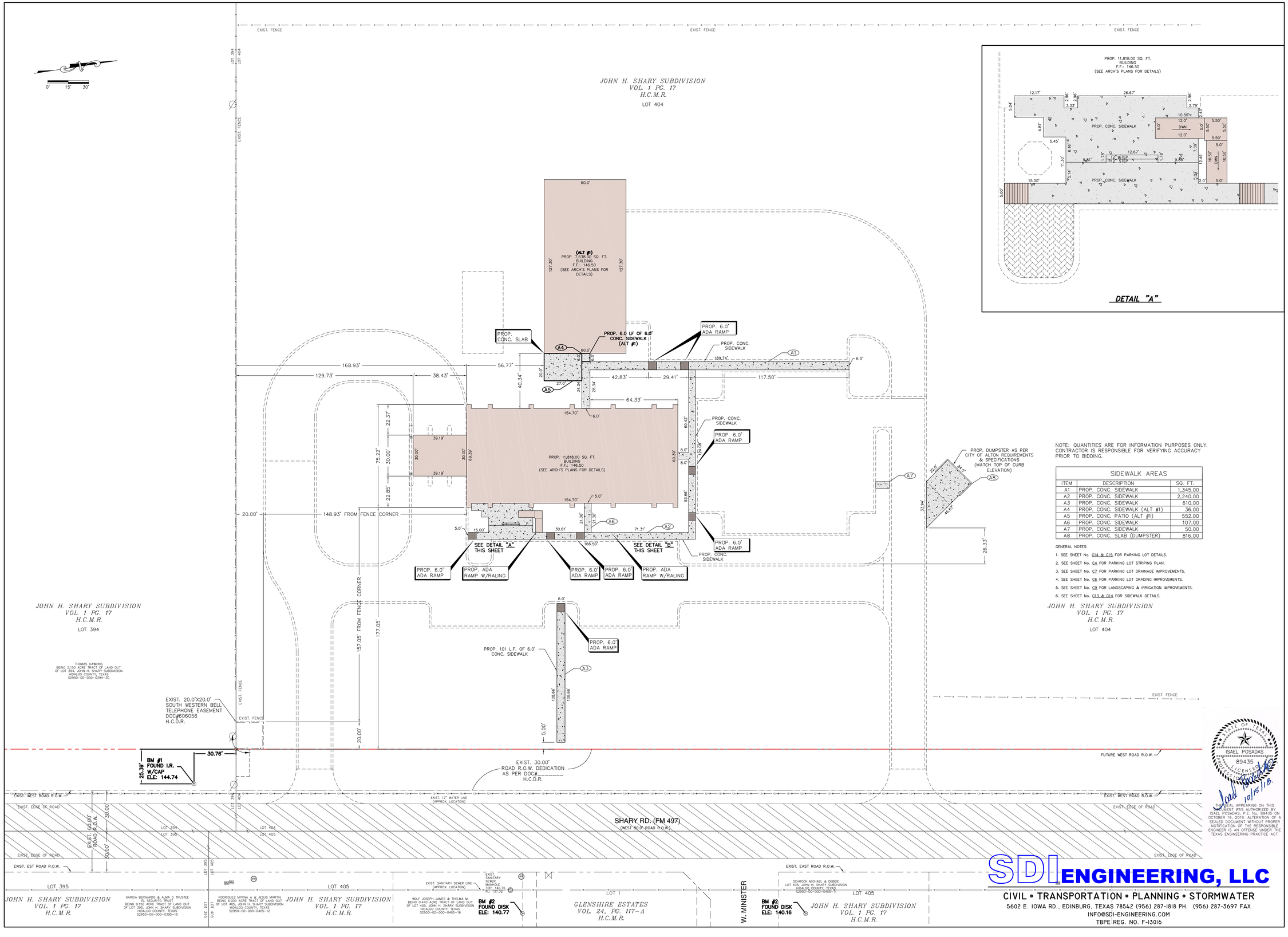
SHEET NUMBER
C2



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SIDEWALK AREAS		
ITEM	DESCRIPTION	SQ. FT.
A1	PROP. CONC. SIDEWALK	1,345.00
A2	PROP. CONC. SIDEWALK	2,240.00
A3	PROP. CONC. SIDEWALK	610.00
A4	PROP. CONC. SIDEWALK (ALT #1)	36.00
A5	PROP. CONC. PATIO (ALT #1)	552.00
A6	PROP. CONC. SIDEWALK	107.00
A7	PROP. CONC. SIDEWALK	50.00
A8	PROP. CONC. SLAB (DUMPSTER)	816.00

GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C4 FOR PARKING LOT STRIPING PLAN.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C6 FOR PARKING LOT GRADING IMPROVEMENTS.
5. SEE SHEET No. C9 FOR LANDSCAPING & IRRIGATION IMPROVEMENTS.
6. SEE SHEET No. C13 & C14 FOR SIDEWALK DETAILS.

STATE OF TEXAS
ISAEL POSADAS
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SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
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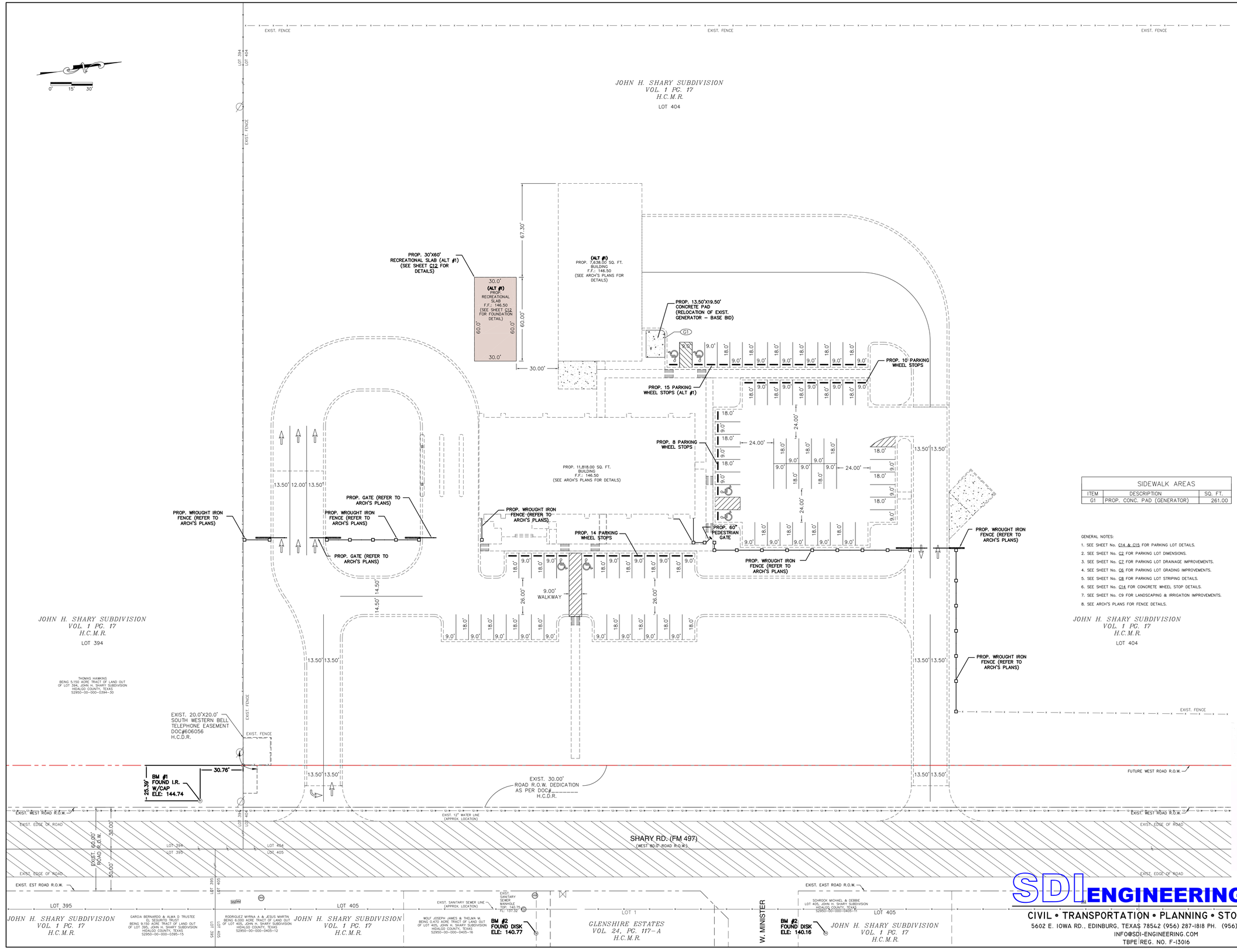
SHEET NUMBER
C3



SIDEWALK AREAS		
ITEM	DESCRIPTION	SQ. FT.
G1	PROP. CONC. PAD (GENERATOR)	261.00

GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C2 FOR PARKING LOT DIMENSIONS.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C6 FOR PARKING LOT GRADING IMPROVEMENTS.
5. SEE SHEET No. C8 FOR PARKING LOT STRIPING DETAILS.
6. SEE SHEET No. C14 FOR CONCRETE WHEEL STOP DETAILS.
7. SEE SHEET No. C9 FOR LANDSCAPING & IRRIGATION IMPROVEMENTS.
8. SEE ARCH'S PLANS FOR FENCE DETAILS.

STATE OF TEXAS
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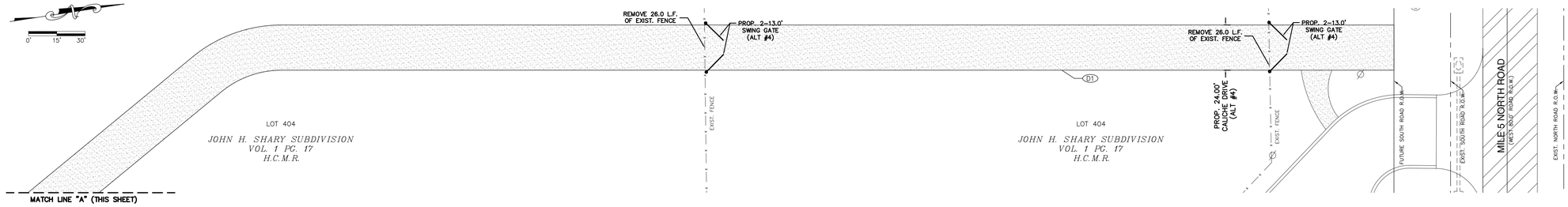
C4



GENERAL NOTES:

1. EXCAVATE UNSUITABLE, UNSTABLE OR UNCONSOLIDATED SUB-GRADE MATERIAL AND COMPACT THE AREA WHICH HAS BEEN CLEARED.

2. WHERE REQUIRED, CUT PAVERS WITH AN APPROVED SAW CUTTER TO FIT ACCURATELY, NEATLY AND WITHOUT DAMAGED EDGES.

3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

4. DO NOT SCALE DETAIL.

5. CONFIRM STANDARD COLOR AND SIZE OF PAVERS WITH OWNER PRIOR TO INSTALLATION.

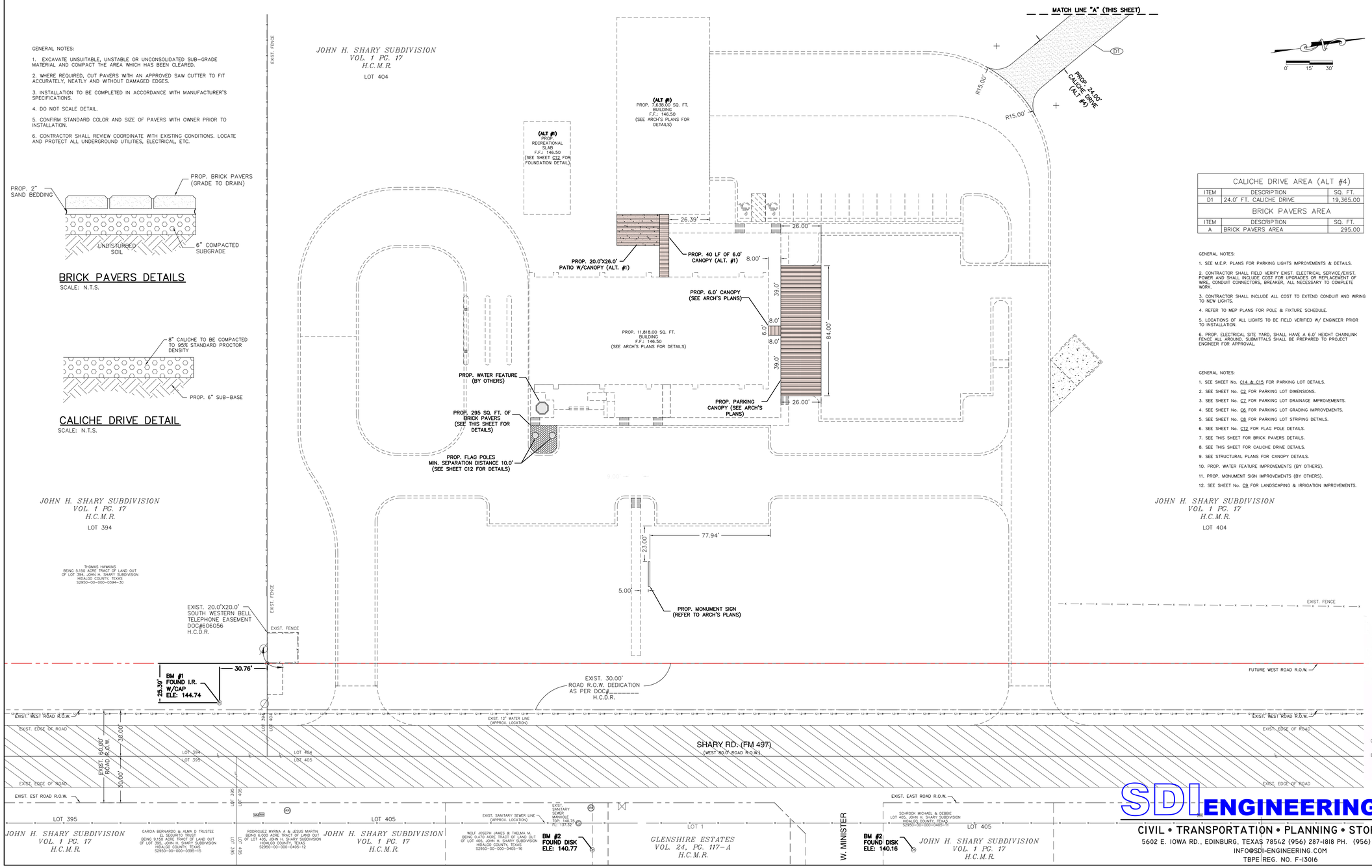
6. CONTRACTOR SHALL REVIEW COORDINATE WITH EXISTING CONDITIONS. LOCATE AND PROTECT ALL UNDERGROUND UTILITIES, ELECTRICAL, ETC.

BRICK PAVERS DETAILS

SCALE: N.T.S.

CALICHE DRIVE DETAIL

SCALE: N.T.S.



CALICHE DRIVE AREA (ALT #4)		
ITEM	DESCRIPTION	SQ. FT.
D1	24.0' FT. CALICHE DRIVE	19,365.00
BRICK PAVERS AREA		
ITEM	DESCRIPTION	SQ. FT.
A	BRICK PAVERS AREA	295.00

GENERAL NOTES:

1. SEE M.E.P. PLANS FOR PARKING LIGHTS IMPROVEMENTS & DETAILS.

2. CONTRACTOR SHALL FIELD VERIFY EXIST. ELECTRICAL SERVICE/EXIST. POWER AND SHALL INCLUDE COST FOR UPGRADES OR REPLACEMENT OF WIRE, CONDUIT CONNECTORS, BREAKER, ALL NECESSARY TO COMPLETE WORK.

3. CONTRACTOR SHALL INCLUDE ALL COST TO EXTEND CONDUIT AND WIRING TO NEW LIGHTS.

4. REFER TO MEP PLANS FOR POLE & FIXTURE SCHEDULE.

5. LOCATIONS OF ALL LIGHTS TO BE FIELD VERIFIED W/ ENGINEER PRIOR TO INSTALLATION.

6. PROP. ELECTRICAL SITE YARD, SHALL HAVE A 6.0' HEIGHT CHAINLINK FENCE ALL AROUND. SUBMITTALS SHALL BE PREPARED TO PROJECT ENGINEER FOR APPROVAL.

GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C2 FOR PARKING LOT DIMENSIONS.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C6 FOR PARKING LOT GRADING IMPROVEMENTS.
5. SEE SHEET No. C8 FOR PARKING LOT STRIPING DETAILS.
6. SEE SHEET No. C12 FOR FLAG POLE DETAILS.
7. SEE THIS SHEET FOR BRICK PAVERS DETAILS.
8. SEE THIS SHEET FOR CALICHE DRIVE DETAILS.
9. SEE STRUCTURAL PLANS FOR CANOPY DETAILS.
10. PROP. WATER FEATURE IMPROVEMENTS (BY OTHERS).
11. PROP. MONUMENT SIGN IMPROVEMENTS (BY OTHERS).
12. SEE SHEET No. C9 FOR LANDSCAPING & IRRIGATION IMPROVEMENTS.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER
10/15/18

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Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

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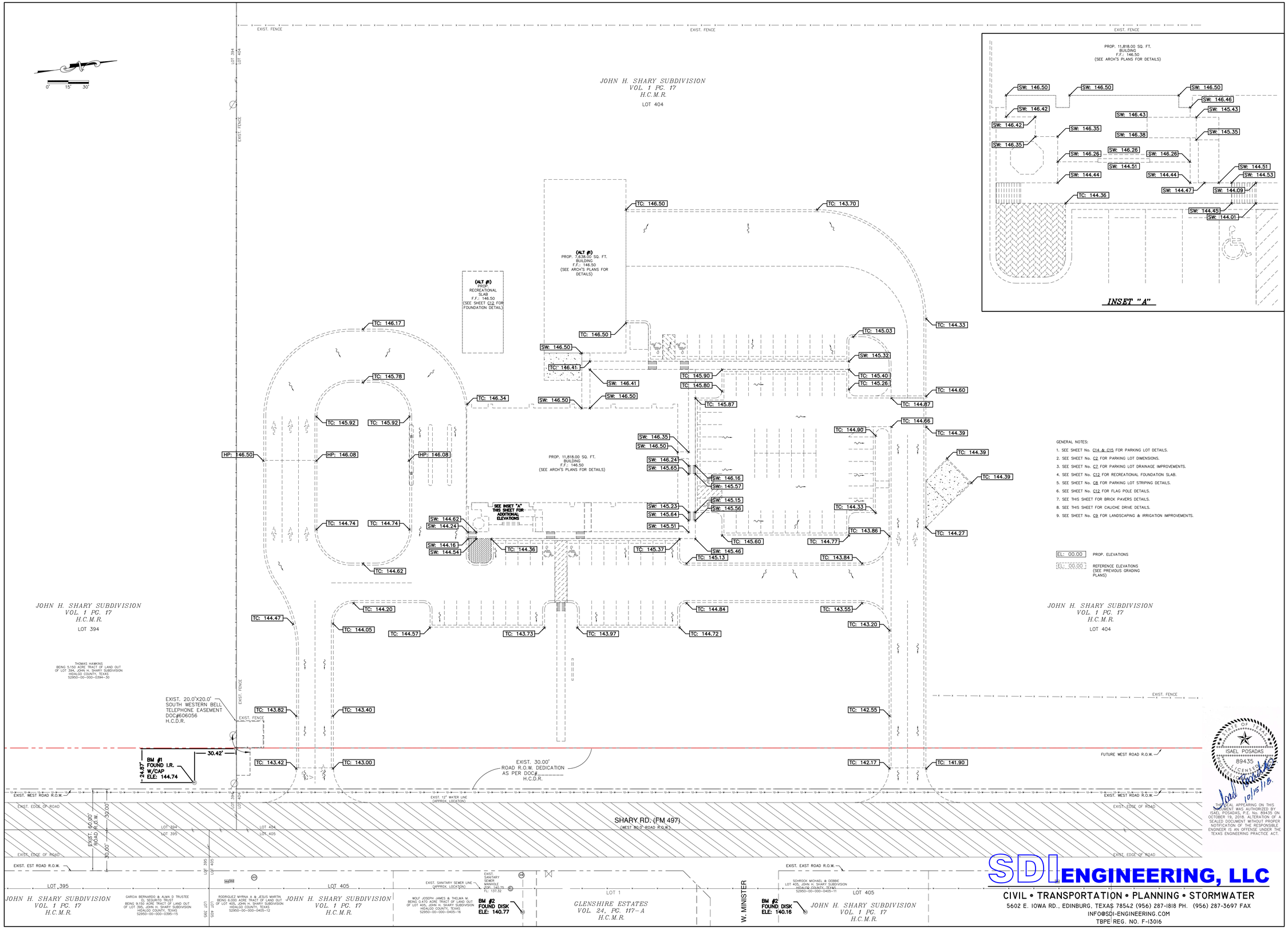
C5



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SHARYLAND WATER SUPPLY CO.
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C6

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PUBLIC OR PRIVATE UTILITIES PRIOR TO CONSTRUCTION. LOCATIONS AND GRADES OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS TO DAMAGED LINES AT NO ADDITIONAL COST TO THE OWNER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THE JOBSITE.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOBSITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS, UNTIL PROJECT COMPLETION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND CONSTRUCTION INSPECTIONS WITH THE PROPER REGULATORY AGENCIES, PRIOR TO BEGINNING CONSTRUCTION. COPIES OF ALL PERMITS SHALL BE SENT TO THE ENGINEER.

5. THE DRAWINGS SHOW AS MUCH INFORMATION AS CAN BE REASONABLY OBTAINED FROM ON THE GROUND OBSERVATION AND EXISTING CONSTRUCTION DRAWINGS REGARDING THE ENTIRE TOPOGRAPHY, CONTOURS, SUB-SURFACE SOILS, AS WELL AS THE LOCATION AND NATURE OF PIPELINES, STORM SEWERS, WATERLINES, NATURAL GAS LINES, UNDERGROUND CABLES, ETC. HOWEVER, THE ACCURACY OF OR COMPLETENESS OF SUCH INFORMATION IS NOT GUARANTEED.

6. CONTRACTOR SHALL COMPLY WITH ALL OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.) REGULATIONS.

7. ALL WORK IS TO BE DONE IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE MUNICIPAL AND LOCAL CODES.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPERVISE AND COORDINATE ALL WORK TO INSURE THE PROPER EXECUTION, ALL WORK IS TO BE ACCOMPLISHED IN A NEAT, WORKMAN LIKE MANNER, AND ALL EXCESS MATERIALS, TRASH AND DEBRIS, ETC., SHALL BE REMOVED FROM THE JOB BY THE CONTRACTOR, AT HIS EXPENSE.

9. THE CONTRACTOR SHALL KEEP ALL STREETS FREE OF DIRT, MUD, ETC. DURING THE COURSE OF CONSTRUCTIONS.

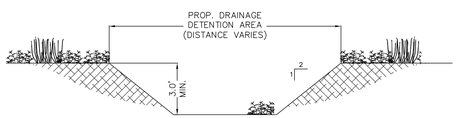
10. EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY STANDARDS.

11. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY, UPON COMPLETION OF JOB, SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK.

12. BACKFILL TO TOP OF NEW PAVEMENT OR CURBS WITH CLEAN SOIL FREE OF CLODS. ALL DISTURBED AREAS AND AREAS REQUIRING GRADING SHALL BE FINE GRADED REMOVE ALL TRASH/DEBRIS AND PROVIDE A SMOOTH SURFACE FOR PROPER TURF MANAGEMENT. HYDROMULCH DISTURBED AREAS NOT NOTED TO BE SOLID SOD OR AS DIRECTED BY THE ENGINEER.

13. CONTRACTOR SHALL EXERCISE CARE IN REMOVING/TRANSPORTING ANY ITEMS DEEMED SALVAGEABLE BY OWNER.

14. ANY ITEM DAMAGED OR UNSUITABLE FOR USE SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

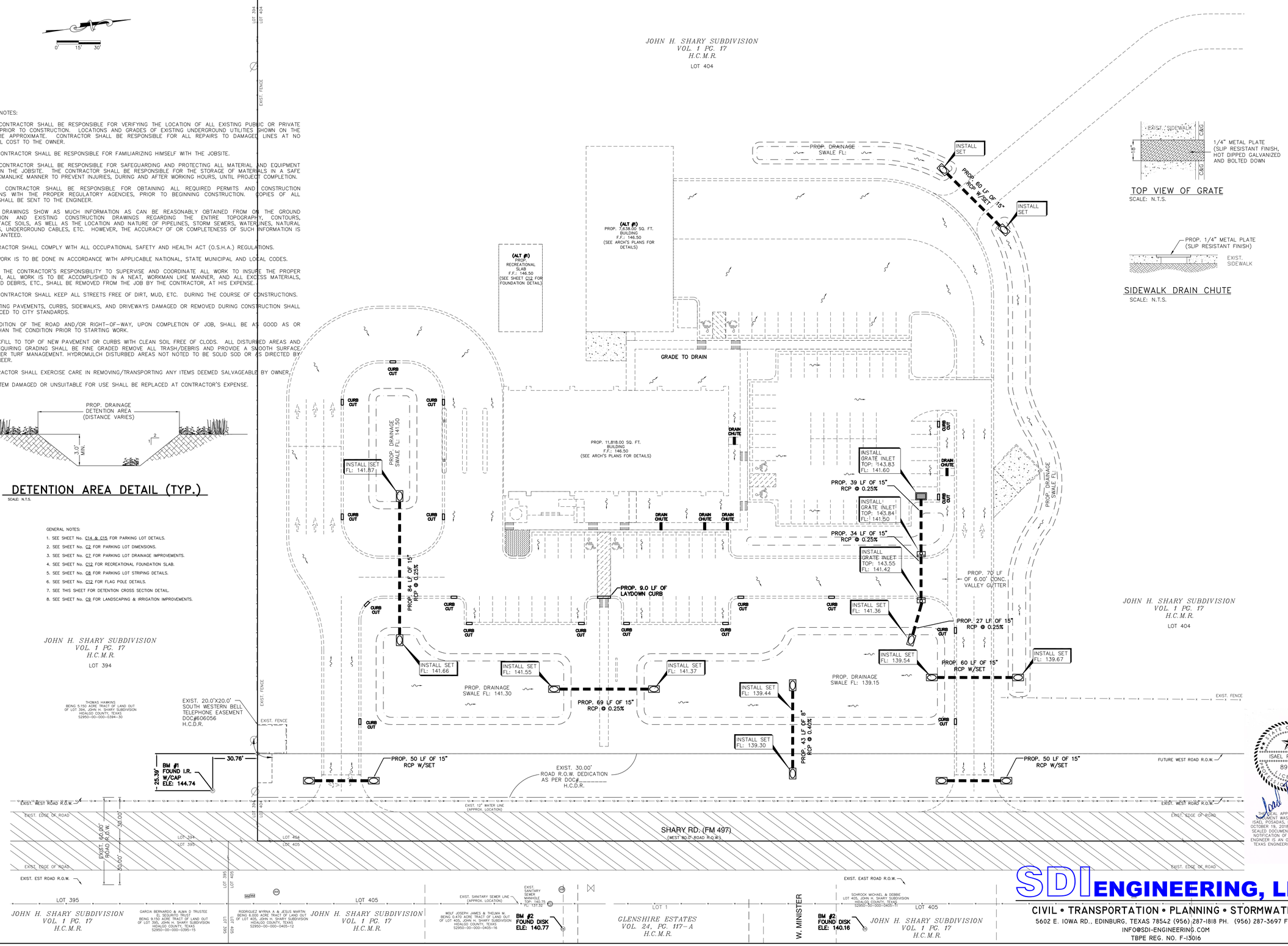


DETENTION AREA DETAIL (TYP.)

SCALE: N.T.S.

GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C2 FOR PARKING LOT DIMENSIONS.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C12 FOR RECREATIONAL FOUNDATION SLAB.
5. SEE SHEET No. C8 FOR PARKING LOT STRIPING DETAILS.
6. SEE SHEET No. C12 FOR FLAG POLE DETAILS.
7. SEE THIS SHEET FOR DETENTION CROSS SECTION DETAIL.
8. SEE SHEET No. C9 FOR LANDSCAPING & IRRIGATION IMPROVEMENTS.



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AMERICAN INSTITUTE OF ARCHITECTS

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NEW ADMINISTRATION BLDG.
ALTON, TEXAS

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DATE
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SHEET NUMBER
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GENERAL NOTES:

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4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND CONSTRUCTION INSPECTIONS WITH THE PROPER REGULATORY AGENCIES, PRIOR TO BEGINNING CONSTRUCTION. COPIES OF ALL PERMITS SHALL BE SENT TO THE ENGINEER.

5. THE DRAWINGS SHOW AS MUCH INFORMATION AS CAN BE REASONABLY OBTAINED FROM ON THE GROUND OBSERVATION AND EXISTING CONSTRUCTION DRAWINGS REGARDING THE ENTIRE TOPOGRAPHY, CONTOURS, SUB-SURFACE SOILS, AS WELL AS THE LOCATION AND NATURE OF PIPELINES, STORM SEWERS, WATERLINES, NATURAL GAS LINES, UNDERGROUND CABLES, ETC. HOWEVER, THE ACCURACY OF OR COMPLETENESS OF SUCH INFORMATION IS NOT GUARANTEED.

6. CONTRACTOR SHALL COMPLY WITH ALL OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.) REGULATIONS.

7. ALL WORK IS TO BE DONE IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE MUNICIPAL AND LOCAL CODES.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPERVISE AND COORDINATE ALL WORK TO INSURE THE PROPER EXECUTION. ALL WORK IS TO BE ACCOMPLISHED IN A NEAT, WORKMAN LIKE MANNER, AND ALL EXCESS MATERIALS, TRASH AND DEBRIS, ETC., SHALL BE REMOVED FROM THE JOB BY THE CONTRACTOR, AT HIS EXPENSE.

9. THE CONTRACTOR SHALL KEEP ALL STREETS FREE OF DIRT, MUD, ETC. DURING THE COURSE OF CONSTRUCTIONS.

10. EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY STANDARDS.

11. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY, UPON COMPLETION OF JOB, SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK.

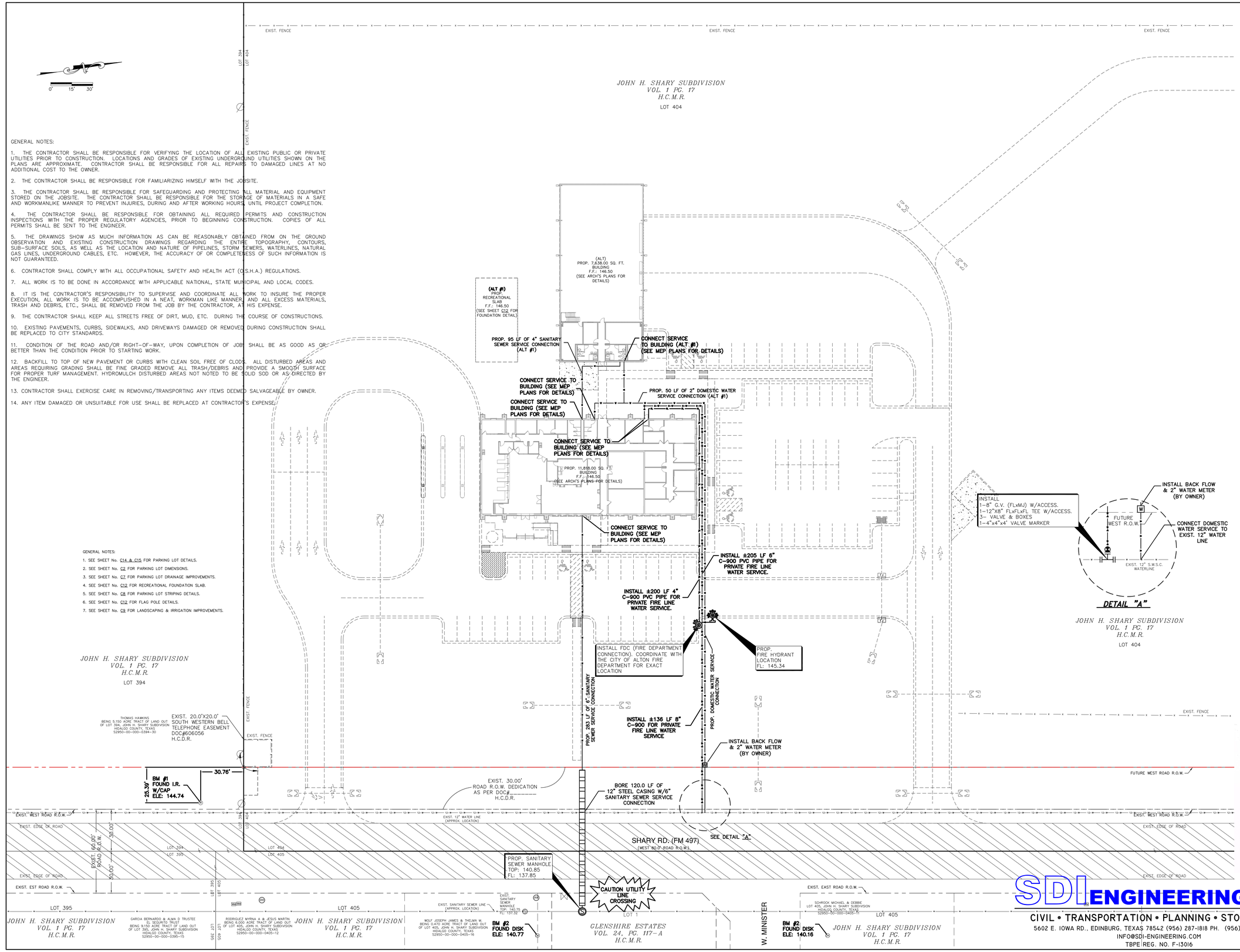
12. BACKFILL TO TOP OF NEW PAVEMENT OR CURBS WITH CLEAN SOIL FREE OF CLODS. ALL DISTURBED AREAS AND AREAS REQUIRING GRADING SHALL BE FINE GRADED REMOVE ALL TRASH/DEBRIS AND PROVIDE A SMOOTH SURFACE FOR PROPER TURF MANAGEMENT. HYDROMULCH DISTURBED AREAS NOT NOTED TO BE SOLID SOD OR AS DIRECTED BY THE ENGINEER.

13. CONTRACTOR SHALL EXERCISE CARE IN REMOVING/TRANSPORTING ANY ITEMS DEEMED SALVAGEABLE BY OWNER.

14. ANY ITEM DAMAGED OR UNSUITABLE FOR USE SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C2 FOR PARKING LOT DIMENSIONS.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C12 FOR RECREATIONAL FOUNDATION SLAB.
5. SEE SHEET No. C8 FOR PARKING LOT STRIPING DETAILS.
6. SEE SHEET No. C12 FOR FLAG POLE DETAILS.
7. SEE SHEET No. C9 FOR LANDSCAPING & IRRIGATION IMPROVEMENTS.



Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
217017

DATE
October 19, 2018

SHEET NUMBER
C8

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER
10/19/18

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

SDI ENGINEERING, LLC
CIVIL • TRANSPORTATION • PLANNING • STORMWATER
5602 E. IOWA RD., EDINBURG, TEXAS 78542 (956) 287-1818 PH. (956) 287-3697 FAX
INFO@SDI-ENGINEERING.COM
TBPE REG. NO. F-13016

0' 15' 30'

GENERAL NOTES:

1. DESIGN IS BASED UPON A MINIMUM FLOW OF 56 GPM AND A MINIMUM PRESSURE OF 52 PSI DOWNSTREAM OF BACKFLOW PREVENTION DEVICE. IF SUFFICIENT PRESSURE IS NOT AVAILABLE AT POINT-OF-CONNECTION INSTALL A BOOSTER PUMP. CONTACT A RAIN BIRD REPRESENTATIVE FOR THE APPROPRIATE PUMP FOR THE SITE.

2. ADDITIONAL LATERALS OUTSIDE DESIGNATED FIELD AREA MAY BE INSTALLED PROVIDED HYDRAULIC CAPABILITY OF SUPPLY IS NOT EXCEEDED.

3. SPRINKLER LOCATIONS ARE TO SCALE. PIPE LOCATIONS ARE DIAGRAMMATIC.

4. PROVIDE #55K-1 KEY (1" MALE OUTLET) AND SH-2 SWIVEL HOSE ELL FOR EACH QUICK COUPLING VALVE.

5. LOCATE IRRIGATION CONTROLLER ON BUILDING (LOCATE TO BE COORDINATED W/OWNER).

6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ELECTRICAL SERVICE AND CONNECTION FROM ELECTRICAL POWER SYSTEM.

7. CONTRACTOR TO PROVIDE A DETAILED SUBMITTAL OF INSTALLATION PREPARED BY A LICENSED IRRIGATOR.

8. CONNECTION TO PUBLIC WATER SUPPLY MUST BE COORDINATED W/N.A.W.S.C. ALL COST FOR PERMITS SHALL BE INCLUDED IN BID.

9. PLANS REPRESENT A SCHEMATIC LAYOUT WITH MIN. PERFORMANCE REQUIREMENTS.

10. SEE SHEET No. 22 FOR IRRIGATION DETAILS.

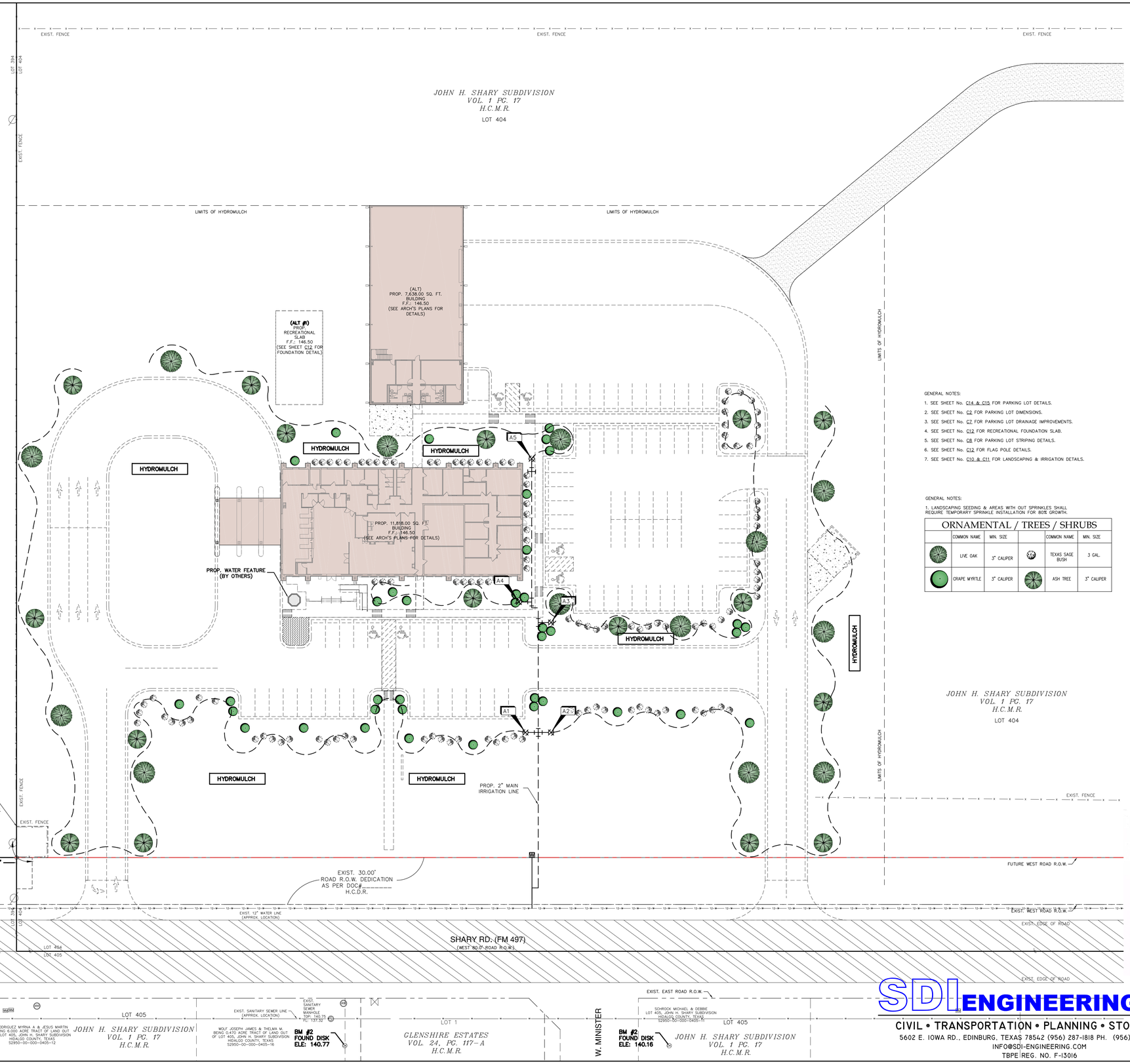
DESCRIPTION

- M — MAIN WATER MTER
- BACKFLOW PREVENTION DEVICE
- MAIN SHUT-OFF VALVE
- RAIN BIRD PGA OR PEB REMOTE CONTROL VALVE (SIZED AS SHOWN)
- RAIN BIRD 5LRC QUICK COUPLING VALVE
- RAIN BIRD FALCON 6504 FC
- QUICK COUPLE
- SPRAYER
- RAIN BIRD FALCON 6504 PC
- A — RAIN BIRD ESP-LX MODULAR IRRIGATION CONTROLLER

A1 — INDICATES CONTROLLER AND CONTROLLER STATION NUMBER
66 — INDICATES LATERAL DISCHARGE IN GPM
2" — INDICATES REMOTE CONTROL VALVE SIZE

MAINLINE PIPE: CLASS 200 PVC (SIZED AS SHOWN)

LATERAL PIPE: CLASS 200 PVC (SIZED AS SHOWN)



GENERAL NOTES:

1. SEE SHEET No. C14 & C15 FOR PARKING LOT DETAILS.
2. SEE SHEET No. C2 FOR PARKING LOT DIMENSIONS.
3. SEE SHEET No. C7 FOR PARKING LOT DRAINAGE IMPROVEMENTS.
4. SEE SHEET No. C12 FOR RECREATIONAL FOUNDATION SLAB.
5. SEE SHEET No. C8 FOR PARKING LOT STRIPING DETAILS.
6. SEE SHEET No. C12 FOR FLAG POLE DETAILS.
7. SEE SHEET No. C10 & C11 FOR LANDSCAPING & IRRIGATION DETAILS.

GENERAL NOTES:

1. LANDSCAPING SEEDING & AREAS WITH OUT SPRINKLES SHALL REQUIRE TEMPORARY SPRINKLE INSTALLATION FOR 80% GROWTH.

ORNAMENTAL / TREES / SHRUBS

	COMMON NAME	MIN. SIZE		COMMON NAME	MIN. SIZE
	LIVE OAK	3" CALIPER		TEXAS SAGE BUSH	3 GAL.
	CRAPE MYRTLE	3" CALIPER		ASH TREE	3" CALIPER

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

Isael Posadas 10/15/18.

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ALTON, TEXAS

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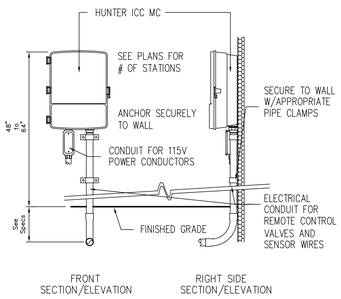
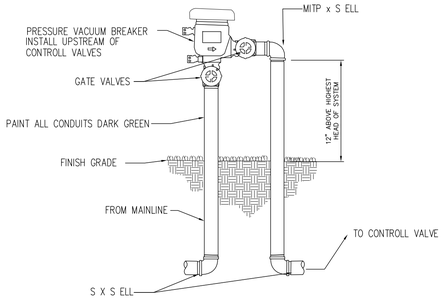
C9

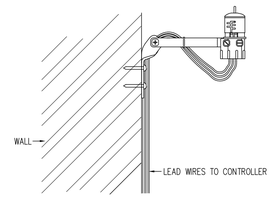
NOTES: 1. ALL FITTINGS AND RISERS SHALL BE COPPER.



1 IRRIGATION CONTROLLER
SCALE: NTS

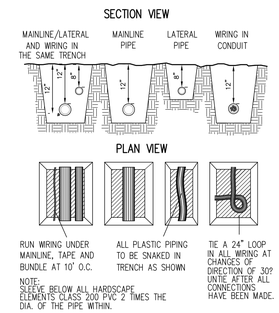


2 PRESSURE VACCUM BREAKER
SCALE: NTS



NOTE:
MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN THE PATH OF SPRINKLER SPRAY.

3 RAIN SENSOR
SCALE: NTS



NOTE:
SLEEVE BELOW ALL HARDSCAPE ELEMENTS CLASS 200 PVC 2 TIMES THE DIA. OF THE PIPE WITHIN.

5 PIPE & WIRE TRENCHING
SCALE: NTS

GENERAL NOTES

1. CRONTACTOR SHALL BE RESPONSIBLE FOR VISITING SITE AND GETTING FAMILIAR WITH EXISTING CONDITIONS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH ALL EXISTING UTILITIES AND MUST TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE DURING EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED AT SITE.

3. CONTRACTOR SHALL SCHEDULE ALL WORK AND FINISH IN A TIMELY MANNER.

4. ALL EQUIPMENT SHALL BE HUNTER OR RAINBIRD EQUIPMENT UNLESS OTHERWISE INDICATED.

5. LAWN SPRAY HEADS ARE 4" PRO-SPRAY INSTALLED AS PER DETAIL.

6. ELECTRIC CONTROL VALVES SHALL BE ICV INSTALLED AS PER DETAIL SHOWN. SIZE VALVE AS SHOWN ON PLANS. VALVES SHALL BE INSTALLED IN VALVE BOXES LARGE ENOUGH TO PERMIT MANUAL OPERATION, REMOVAL OF SOLENOID AND/OR VALVE COVER WITHOUT ANY EARTH EXCAVATION.

7. AUTOMATIC CONTROLLER SHALL BE INSTALLED AT LOCATION SHOWN. POWER (120V) SHALL BE LOCATED IN A JUNCTION BOX WITHIN (5') OF CONTROLLER LOCATION. POWER SUPPLY AND JUNCTION BOX TO BE PROVIDED BY OWNER.

8. ALL 24 VOLT VALVE WIRING IS TO BE UF 14 SINGLE CONDUCTOR. ALL WIRE SPLICES ARE TO BE PERMANENT AND WATER PROOF.

9. SLEEVES SHALL BE SUPPLIED/INSTALLED BY L.I.C.. SLEEVE MATERIAL SHALL BE SCHEDULE 40. SIZE SHALL BE 2" LARGER THAN PIPE BEING PROTECTED.

10. TEN DAYS PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY STATIC WATER PRESSURE. IF STATIC PRESSURE IS LESS THAN 55 PSI, DO NOT START WORK UNTIL NOTIFIED TO DO SO BY OWNER.

11. ALL MAINLINE PIPING SHALL HAVE A MINIMUM OF 12 INCHES OF COVER. LATERAL PIPING SHALL HAVE 8" OF COVER. ALL PIPING UNDER PAVING SHALL HAVE A MINIMUM OF 18 INCHES OF COVER.

12. THE IRRIGATION CONTRACTOR SHALL SELECT THE PROPER ARC AND RADIUS FOR EACH NOZZLE TO INSURE 100% AND PROPER COVERAGE OF ALL LAWN AREAS AND PLANT MATERIAL. ALL NOZZLES IN PARKING LOTS AND PLANTING BEDS SHALL BE LOW ANGLE TO MINIMIZE OVERSPRAY ON PAVEMENT SURFACES. NO WATER WILL BE ALLOWED TO SPRAY ON BUILDING.

13. THE IRRIGATION CONTRACTOR SHALL WARRANTY ALL SYSTEM COMPONENTS FOR A PERIOD OF ONE YEAR.

14. AS BUILT - PROVIDE OWNER WITH A COMPLETE SET OF AS-BUILTS DREAWINGS AT FINAL ACCEPTANCE.

15. SENSORS - INSTALL RAIN SHUT-OFF SENSORS IN ELEVATED AND EXPOSED EXTERIOR LOCATIONS CLEAR OF TREES AND OTHER OBSTRUCTIONS.

16. LATERAL PIPE AND SLEEVES TO TREE BUBBLERS AND DRIP ZONES ARE OMMITED FOR GRAPHIC CLARITY. CONNECT TREE BUBBLERS AND DRIP ZONES TO VALVES SHOWN WITH CLASS 200 PVC PIPE. ALL LATERAL SHALL BE SIZED TO ALLOW MAXIMUM FLOW VELOCITY OF FIVE FEET PER SECOND.

17. L.I.C. TO COORDINATE WITH OWNER FOR WATERING SCHEDULE.

18. ADD 2" SCHEDULE 40 SLEEVE TO ALL MAINLINE SLEEVE LOCATIONS.

10/15/18

ISAEL POSADAS, P.E. PRINTING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 15, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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C10

LANDSCAPE NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND LINE RUNS. CONTRACTOR SHALL LOCATE AND ESTABLISH ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA BEFORE ANY EXCAVATION SHALL OCCUR.
2. CONTRACTOR SHALL VISIT THE SITE TO EXAMINE THE CONDITIONS, AS THEY EXIST, DETERMINE THE NATURE OF THE MATERIALS TO BE USED AND ALL OTHER PERTINENT INFORMATION TO THE WORK.
3. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH ALL LANDSCAPE OPERATIONS.
4. BACKFILL MATERIALS FOR ALL TREES AND PALMS SHALL BE 2/3 NEW-COMPOSTED TOPSOIL, AND 1/3 PEAT/HUMUS. PLACE 'AGRIFORM' TABLETS OR APPROVED EQUAL IN ALL BACKFILL MIX.
5. STAKE AND GUY ALL TREES AND PALMS WITH (3) 6" 'T' POST, 12 GAUGE WIRES, AND FLAG GUY WIRES WITH A 12" WHITE FLAGGING TAPE.
6. EDGING TO BE A 2" X 4" 'BEND A BOARD'. ALL BEDS THAT CONTRACT TURF SHALL HAVE EDGING. EDGING TO BE BROWN IN COLOR INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
7. SOLID SOD TO BERMUDA GRASS, ROLL AND FERTILIZE ALL NEW SOD. CONTRACTOR SHALL SPRAY ALL SOD AREAS WITH 'ROUND UP' IF ANY VEGETATION EXISTS. TILL ALL SOD AREAS TO A DEPTH OF 2". CONTRACTOR SHALL PROPERLY GRADE AND SPREAD TOPSOIL AS REQUIRED. FINISH GRADE PRIOR TO SOD INSTALLATION SHALL BE 1" BELOW TOP OF CURB OR WALKS.
8. CONTRACTOR IS RESPONSIBLE FOR ALL FINE AND FINISHED GRADING. CONTRACTOR SHALL PROVIDE PROPER AND POSITIVE DRAINAGE IN ALL LAWNS AND PLANTING BEDS. COORDINATE ALL SOIL WORK WITH THE SITE CONTRACTOR FOR THE TOPSOIL INSTALLATION AND REQUIREMENTS ASSOCIATED WITH THE SITE WORK.
9. TOP-DRESS ALL BEDS AND TREES WITH 4" OF CYPRESS MULCH. ALL TREES AND BEDS SHALL HAVE DEWITT PRO 5 FABRIC OR APPROVED EQUAL.
10. WARRANTY ON ALL TREES AND SHRUBS SHALL BE FOR ONE YEAR AFTER FINAL ACCEPTANCE.
11. CONTRACTOR SHALL SUBMIT MAINTENANCE INSTRUCTION RECOMMENDING PROCEDURES TO BE ESTABLISHED BY OWNER FOR MAINTENANCE OF LANDSCAPING DURING AN ENTIRE YEAR MAINTENANCE, INCLUDING, BUT NOT LIMITED TO: WEED CONTROL, FERTILIZING, TRIMMING, PRUNING, WATERING, EDGING, AND MOWING. A TYPEWRITTEN MAINTENANCE PROGRAM/SCHEDULE TO BE SUBMITTED TO OWNER AT FINAL ACCEPTANCE.
12. INSTALLER SHALL PROVIDE ALL TOP SOIL THAT IS REQUIRED FOR THE INSTALLATION OF THE LANDSCAPING. THE TOP SOIL SCHEDULE FOR COMPACTED TOP SOIL THICKNESS AT THE FOLLOWING AREAS: LAWN – 4", PLANTING BEDS – 16", INCLUDING 6" OF SUB-BASE AND 6" OF PREPARED MIX AND TOPSOIL.
13. CONTRACTOR SHALL INSTALL A STRIP OF SOLID SOD ALONG ALL HARDSCAPE (CURB, WALK, ETC.) FOR ALL HYDROMULCH AREAS.
14. HYDROMULCHING AREAS: CONTRACTOR SHALL LIGHTLY TILL THE SOIL TO A DEPTH OF 2". GRASS SEED SHALL HAVE THE FOLLOWING MINIMUM RATIO: SUMMER MIX: CYODON DACTYLON (HULLED COMMON BERMUDA GRASS) 85% PURE LIVE SEED AT 75 LBS PURE LIVE SEED PER ACRES. SLURRY MIX COMPONENT PER ACRE SHALL BE WOOD CELLULOSE FIBER MULCH = 2,000 LBS + GRASS SEED AS SPECIFIED + FERTILIZER (13–13–13) 800 LBS. HYDROMULCH SEEDING ON PREPARED FINISH GRADES: A. BED PREPARATION: IMMEDIATELY AFTER THE FINISH GRADE HAS BEEN APPROVED, BEGIN HYDROSEEDING OPERATION TO REDUCE EXCESSIVE WEED GROWTH AND EROSION. B. APPLY SEED FERTILIZER AND MULCH BY SPRAYING THEM ON THE PREVIOUSLY PREPARED SEED BEDS IN THE FORM OF ANY AQUEOUS MIXTURE AND BY USING THE METHODS AND EQUIPMENT DESCRIBED HEREIN. C. PARTICULAR CARE SHALL BE EXERCISED BY THE CONTRACTOR TO INSURE THAT THE APPLICATION IS MADE UNIFORMLY AND AT THE PRESCRIBED RATE AND TO GUARD AGAINST MISSED AND OVERLAPPED AREAS.
15. SEEDED AREA: CONTRACTOR SHALL TILL TO A 2" DEPTH AND SEED WITH BERMUDA AND FERTILIZER. CONTRACTOR IS RESPONSIBLE FOR (3) WATERINGS. NOTIFY OWNER OF WATER DATES FOR APPROVAL.
16. IN ALL PLANTING BEDS THE INSTALLER SHALL REMOVE ALL EXISTING VEGETATION, ROCKS AND CONSTRUCTION DEBRIS, SPRAY ALL BEDS WITH AN APPROVED HERBICIDE TO KILL EXISTING VEGETATION.
17. CONTRACTOR TO PREPARE ALL PLANTING BEDS BY TILLING 4" OF SPECIFIED LANDSCAPE MIX INTO NEW TOPSOIL AND WITH A SLOW RELEASE FERTILIZER TILL TO A DEPTH OF 8".
18. CONTRACTOR TO VERIFY ALL QUANTITIES AND EXISTING CONDITIONS PRIOR TO BID SUBMITTAL.
19. OWNER'S REPRESENTATIVE/ENGINEER WILL INSPECT AND APPROVE ALL BED LAYOUTS, PLANT MATERIAL, BED PREPARATION, SOIL WORK AND PLANT MATERIAL.

IRRIGATION NOTES:

1. CONTRACTOR SHALL CONFORM TO ALL CODES AND ORDINANCE RELEVANT TO THE WORK UNDER THIS CONTRACT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOR AND MATERIALS NECESSARY TO FULLY EXECUTE AND GUARANTEE THE WORK ENTAII CONTRACT DOCUMENTS.
3. THE AUTOMATIC CONTROL CLOCK IS SCHEMATICALLY INDICATED ON THE PLAN, FINAL LOCATION SHALL BE DETERMINED BY OWNER.
4. CONTRACTOR SHALL ADJUST THE ARC AND RADIUS OF EACH HEAD TO MINIMIZE 'OVERFLOW' AND 'DRY SPOTS'.
5. ALL THE NECESSARY CONNECTIONS AND FITTING 'DOWNSTREAM' OF P.O.C. SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. VERIFY ACTUAL LOCATION OF P.O.C.
6. IRRIGATION SYSTEM LAYOUT IS DIAGRAMMATIC. EXACT LOCATIONS OF PIPING, SPRINKLER HEADS, VALVES AND OTHER COMPONENTS SHALL BE ESTABLISHED BY CONTRACTOR AND SUBCONTRACTOR IN THE FIELD AT TIME OF INSTALLATION AND APPROVED BY THE ENGINEER.
7. ALL VALVES SHALL BE PLACED IN 10" AND JUMBO VALVE BOXES WITH MINIMUM OF 3" OF GRAVEL FOR DRAINAGE.
8. ACCURATE AS-BUILTS SHOWING AS A MINIMUM VALVE LOCATIONS, WIRE RUNS AND SLEEVE LOCATION WILL BE REQUIRED ALONG WITH PRODUCT INFORMATION AND OPERATIONS MANUALS AT PROJECT CLOSE-OUT.
9. THE ENTIRE IRRIGATION SYSTEM SHALL BE UNCONDITIONALLY GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP, INCLUDING SETTLING OF BACKFILLED AREAS BELOW GRADE FOR A PERIOD OF ONE (1) YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF WORK. CONTRACTOR AGREES TO REPAIR OR REPLACE ANY SUCH DEFECTS OCCURRING WITHIN THAT YEAR AT HIS EXPENSE.
10. PVB SHALL BE IN A STRONG BOX. ACTUAL LOCATION TO BE APPROVED BY ECISD.
11. CONTRACTOR TO SUPPLY OWNER WITH (10) 1" QUICK COUPLER KEYS, HOSE SWIVEL AND Q.C. SPRINKLERS.
12. CONTRACTOR TO BURY FOUNDATION DRIP 2" BELOW FINISHED GRADE AND 2" AWAY FROM ANY FOUNDATION.

SUBSURFACE IRRIGATION SYSTEM

PRODUCT: TORO DL2000 DRIP (OR APPROVED EQUAL)

FLOW RATE: 1 GPH

EMITTERS SPACING: 12"

ROW SPACING: 2 RINGS FOR TREES, REFER TO IRRIGATION PLAN FOR BEDS

DEPTH: BURIAL DEPTH OF SUB-IRRIGATION SYSTEM TO BE INSTALLED ABOVE LANDSCAPE FABRIC AND UNDER MULCH OR GRANITE.

FILTER: AP4E-100 (OR APPROVED EQUAL)

PRESSURE REGULATOR: PMR25-LF (OR APPROVED EQUAL)

FLUSH CAPS AND AIR VENTS.

INSTALLATION:

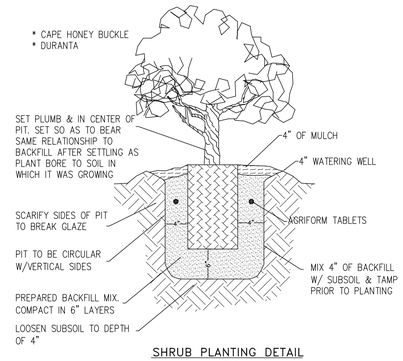
1. THE DRIP LINE SHALL BE INSTALLED AT A UNIFORM DEPTH AND WIDTH. STAPLE ALL DRIPLINES EVERY 5' O.C.
2. PRESSURE TEST THE SYSTEM BEFORE COVERING TRENCHES TO CHECK FOR LEAKS PRIOR TO PLANTING.
3. PRE-IRRIGATE AREAS TO ENSURE THAT THE SOIL IS HYDRATED TO FIELD CAPACITY BEFORE PLANTING SEEDS.
4. PIN ALL DRIPS 5' O.C.

PLANTING:

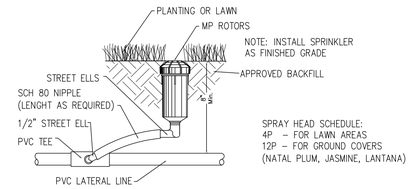
1. PROVIDE A PROPER SUB GRADE PRIOR TO INSTALLING THE DRIP LINE LATERALS.
2. PLANT ALL LARGE ITEMS PRIOR TO INSTALLING THE DRIPLINE LATERALS AND PLANT THE SMALLER PLANTS AFTER INSTALLING THE DRIPLINE LATERALS.

INSTALLATION STEPS:

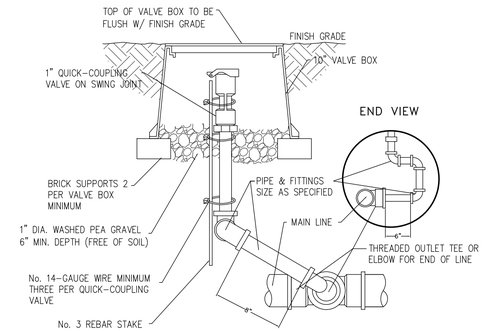
1. ASSEMBLE AND INSTALL FILTERS, REMOTE CONTROL VALVE AND PRESSURE REGULATING VALVE ASSEMBLY, LINE LATERALS.
2. ASSEMBLE AND INSTALL SUPPLY HEADERS IN ALL FORMAL HEDGE PLANTING.
3. ASSEMBLE AND INSTALL EXHAUST HEADERS. TAPE OR PLUG ALL OPEN ENDS WHILE INSTALLING THE DRIP LINE TO PREVENT DEBRIS CONTAMINATION.
4. INSTALL DRIP LINE LATERALS.
5. INSTALL AIR VACUUM RELIEF VALVES AT THE ZONE HIGHEST POINTS.
6. THOROUGHLY FLUSH SUPPLY HEADERS AND CONNECT DRIP LINE LATERALS WHILE FLUSHING.
7. THOROUGHLY FLUSH DRIP LINE LATERALS AND CONNECT TO EXHAUST HEADERS OR INTER-CONNECTING LATERALS WHILE FLUSHING.
8. THOROUGHLY FLUSH EXHAUST HEADERS AND INSTALL LINE FLUSHING VALVES. FLUSH EACH SEGMENT TO ENSURE THAT NO CONTAMINATION OCCURS.
9. INSTALL AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.



SHRUB PLANTING DETAIL
N.T.S.

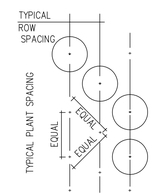


SPRAY HEAD W/SWING JOINT–AP & 12P
N.T.S.



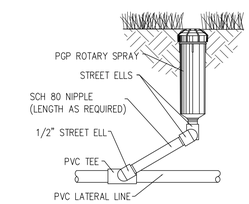
QUICK COUPLING VALVE
N.T.S.

TREE SEPARATION DISTANCE (TYP.)

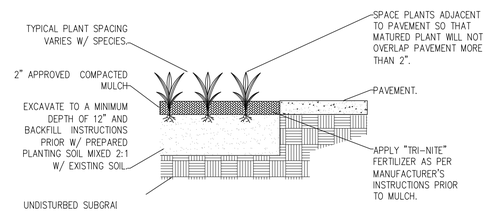


PLANT SPACING	ROW SPACING
12"	10.4"
18"	15.6"
24"	20.8"
30"	26.0"
36"	31.2"
48"	41.6"
60"	52.0"

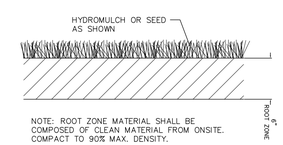
PLANT: TRIANGULAR SPACING



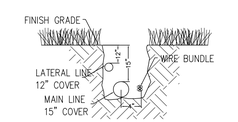
ROTARY SPRAY
N.T.S.



OVER PLANTING DETAILS
N.T.S.

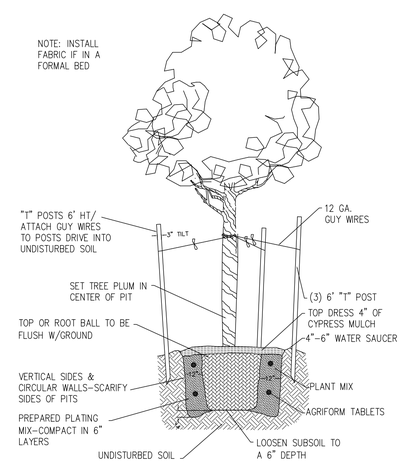


TYPICAL TURF SECTION

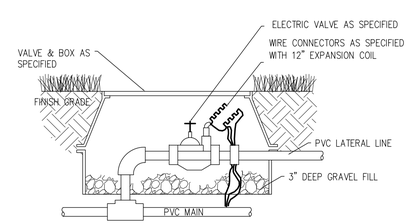


NOTE: PIPE SHALL REST FIRMLY ON TRENCH BOTTOM. BUNDLE WIRE AT 20' INTERVALS. SHAKE PIPE IN TRENCH FROM SIDE TO SIDE. DO NOT STACK PIPES IN THE TRENCH. PROVIDE HORIZONTAL SEPARATION.

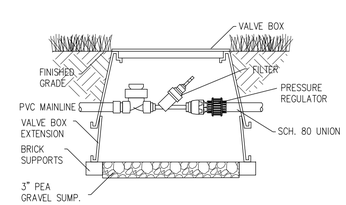
PIPE IN TRENCH DETAIL
N.T.S.



TREE PLANTING AND GUYING DETAIL
N.T.S.



TYP. ELECTRIC VALVE
N.T.S.



REMOTE OPERATED VALVE PRESS. REG. AND FILTER FOR SUBSURFACE DRIP
N.T.S.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

10/15/18

FINAL APPROVAL OF THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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TBPE REG. NO. F-13016

Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
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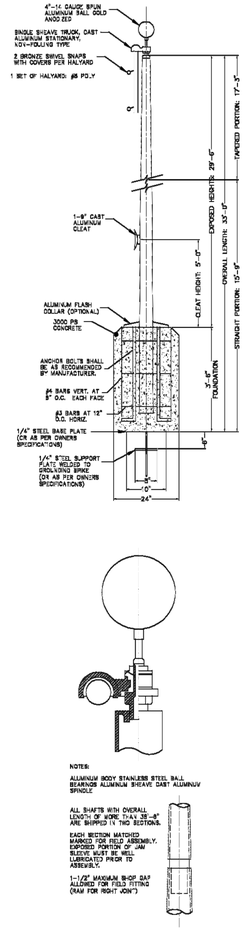
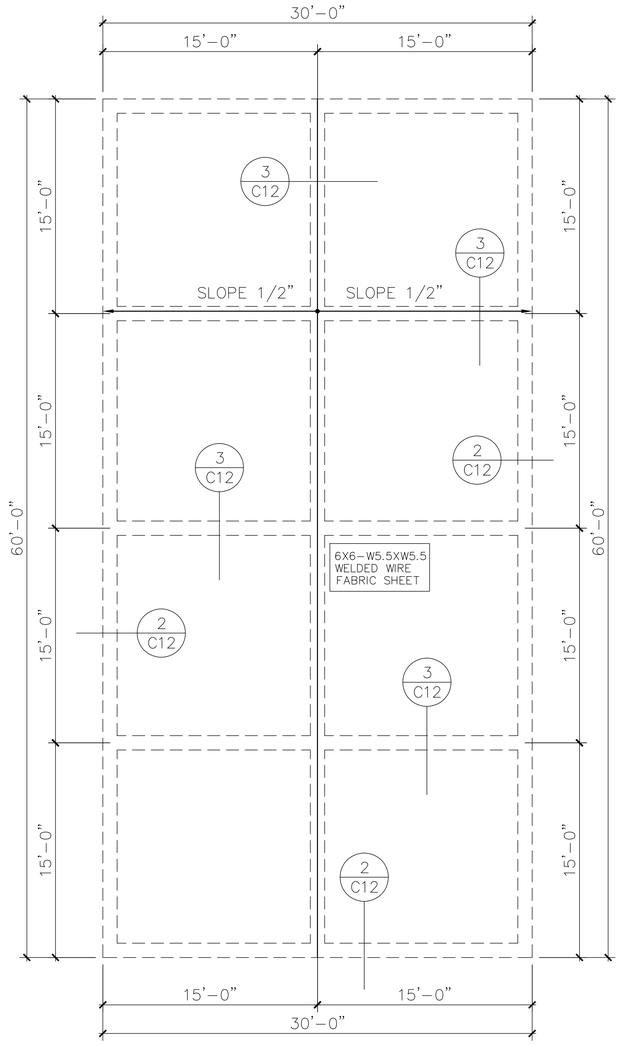
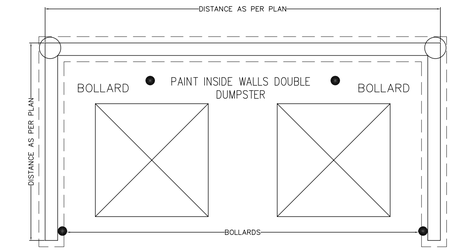


FLAG POLE DETAILS

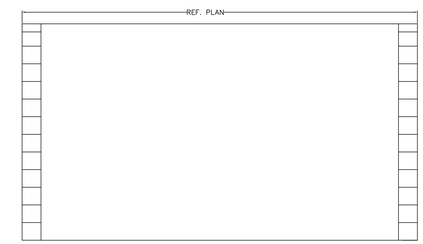


RECREATIONAL SLAB

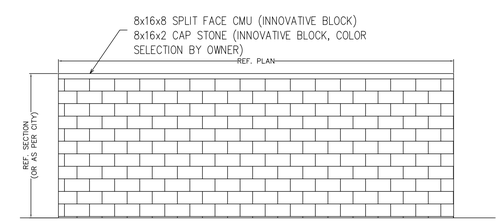
SCALE: N.T.S.



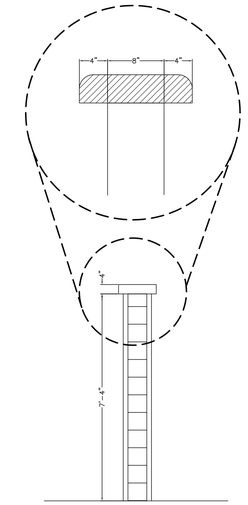
DUMPSTER PLAN



DUMPSTER FRONT VIEW

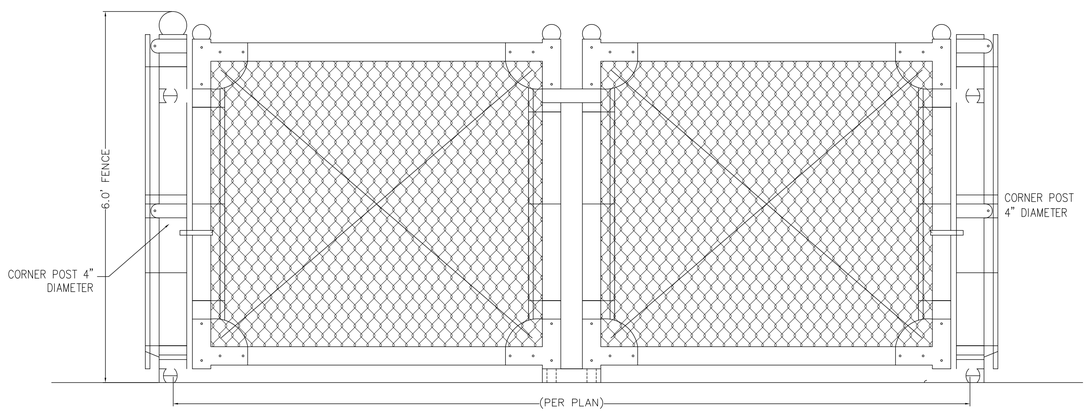


DUMPSTER ENCLOSURE DETAILS



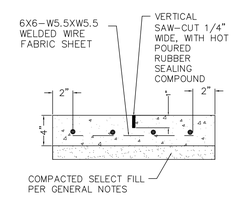
VERT. REINF. 5#5 #3 SPIRAL @ 12"
PITCH PROVIDE 2 TURNS TOP & BOT.
(ALTERNATIVE PROVIDE #3 TIES @ 12" O.C. W/4 TIES BOT. STAGGER
TIE LAPS 180°)

BOLLARD DETAILS



NOTE: CHAINLINK FABRIC SHALL BE 9 GAUGE

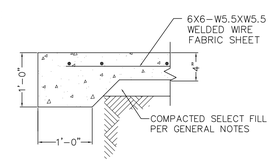
PROPOSED DOUBLE GATE DOORS



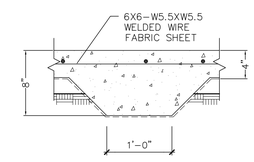
1 CONCRETE SLAB DETAIL

NOTE

1. CONCRETE SHALL HAVE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. COMPACTED SELECT FILL SHALL BE COMPACTED TO 90% STANDARD PROCTOR.



2 EXTERIOR SLAB



3 INTERIOR THICKENED SLAB

RECREATIONAL SLAB DETAILS

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

ISAEL POSADAS 10/18/18

SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

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DATE
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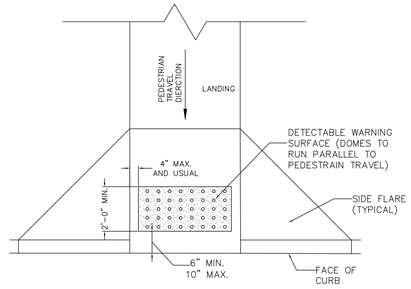
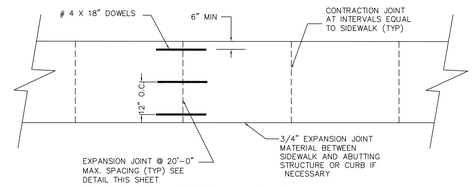
SHEET NUMBER
C12

GENERAL NOTES FOR DETECTABLE WARNINGS
1. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPL YING WITH SECTION 4.29 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY \11TH ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH DARK BROWN DR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. SHADED AREAS ON SHEET 1 OF 4 INDICATE THE APPROXIMATE LOCATION FOR THE DETECTABLE WARNING SURFACE FOR EACH CURB RAMP TYPE.
5. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL \\10TH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
6. DETECTABLE WARNING SURFACES SHALL NE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 10" FROM THE EXTENSION OF THE FACE OF CURB. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
7. TXDOT MAINTAINS A UST A QUALIFIED DETECTABLE WARNING MATERIALS. DETAILS ARE PROVIDED HEREIN FOR THE PLACEMENT OF LANDSCAPE POWERS. FOR OTHER MATERIALS, REFER TO THE MANUFACTURER'S PRODUCT MANUAL FOR PROPER INSTALLATION.

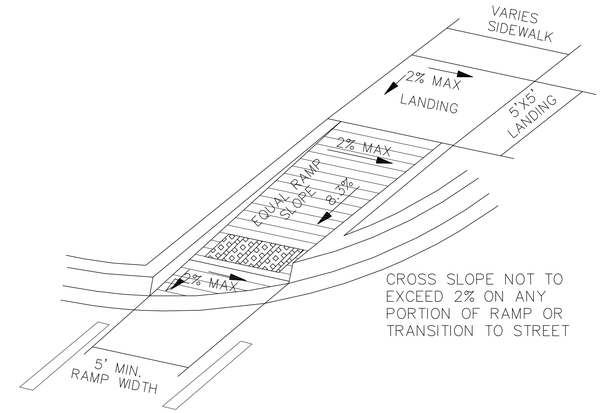


TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN

SIDEWALK NOTES:
NOI 10 SCALE
1. MINIMUM 4' –0" WIDE SIDEWALK.
2. SIDEWALK GRADIENT SHALL NOT EXCEED 1: 20.
3. SIDEWALK CONCRETE SHALL BE 5 SACK CEMENT MIX AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi @28 days.
4. CONTRACTOR SHALL VERIFY EXISTENCE AND LOCA 1ION OF EXISTING UTILITY LINES WITH APPROPRIATE COMPANIES TO AVOID PLACING SIDEWALKS ON TOP OF LINES.
5. PROVIDE DROP CURBS AT INTERSEC1IONS.
6. CONTRACTOR SHALL COMPLY WITH LATEST REGULATIONS AS SET FORTH IN AMERICANS WITH DISABILITIES ACT (ADA).

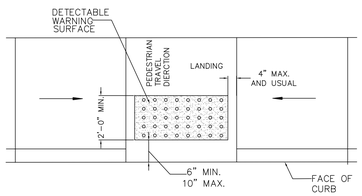


SIDEWALK PLAN
NOT TO SCALE

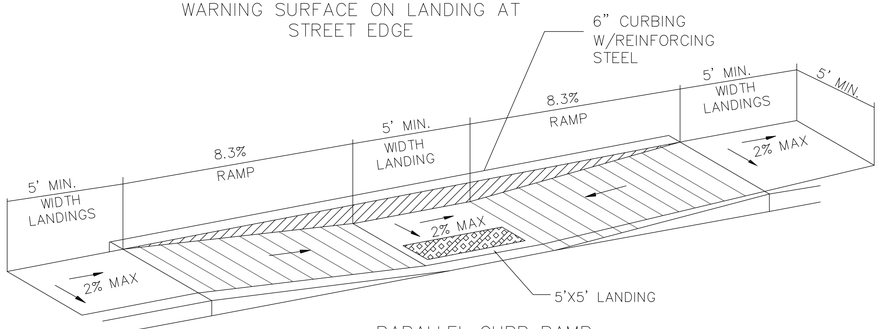


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION TO STREET

DIRECTIONAL RAMP WITHIN RADIUS (SIDEWALK SET BACK FROM CURB NOT TO SCALE

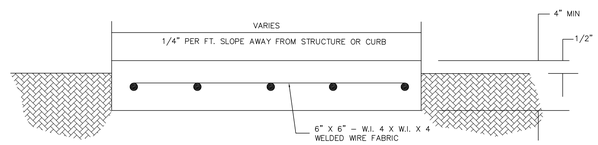


TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE

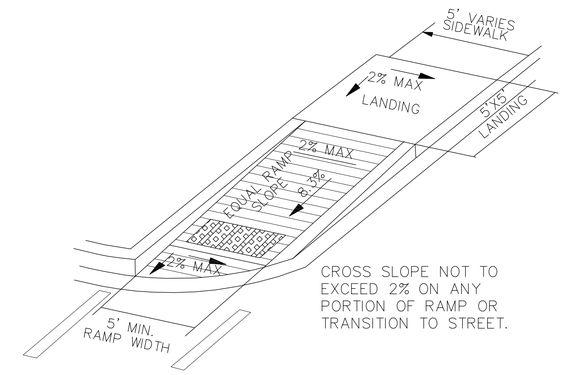


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

PARALLEL CURB RAMP
NOT TO SCALE

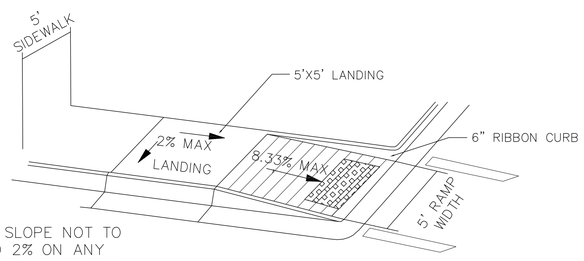


CONCRETE SIDEWALK
NOT TO SCALE



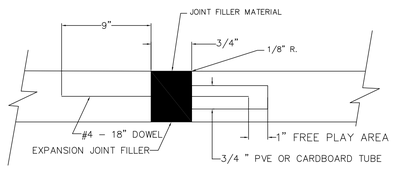
CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

DIRECTIONAL RAMP WITHIN RADIUS (SIDEWALK ADJACENT TO CURB) NOT TO SCALE

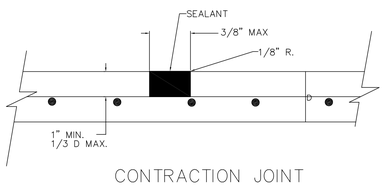


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

TYPICAL CORNER SIDEWALK RAMP
NOT TO SCALE



EXPANSION JOINT

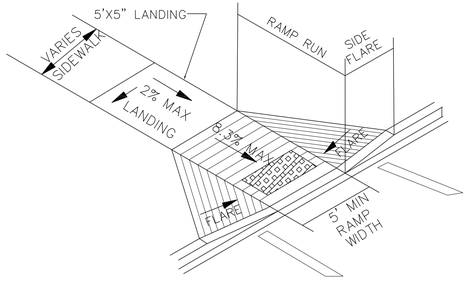


CONTRACTION JOINT

EXPANSION /CONTRACTION JOINT NOTES:
1) JOINT FILLER: TYPE C, ASTM D1752; PRE MOLDED SPONGE RUBBER, FULLY COMPRESSIBLE WITH RECOVERY RATE OF MINIMUM 95 %, OR APPROVED EQUAL.
2) SEALANT: ASTM D1190; HOT APPLIED, RUBBER; SYNTHETIC RUBBER; ASPHALT; POLYMER BASED ASPHALT; COAL TAR AND RUBBER COMPOUND, OR APPROvED EQUAL.
3) MIX CONCRETE IN ACCORDANCE WITH ACI 304. DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94.

EXPANSION/CONTRACTION JOINT DETAIL
NOT TO SCALE

CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION TO STREET.



PERPENDICULAR CURB RAMP
NOT TO SCALE

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER
10/15/18

ISAEL POSADAS, P.E. STAMPING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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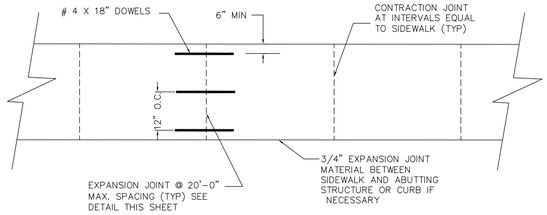
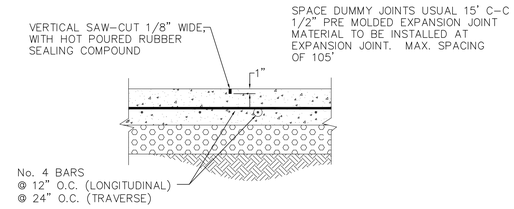
SIDEWALK NOTES:

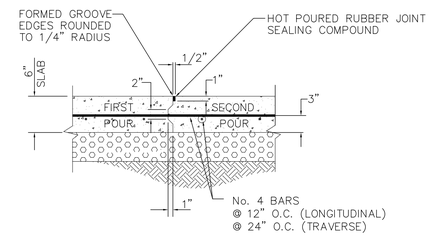
1. MINIMUM 4' –0" WIDE SIDEWALK.
2. SIDEWALK GRADIENT SHALL NOT EXCEED 1: 20.
3. SIDEWALK CONCRETE SHALL BE 5 SACK CEMENT MIX AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @28 DAYS.
4. CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATION OF EXISTING UTILITY LINES WITH APPROPRIATE COMPANIES TO AVOID PLACING SIDEWALKS ON TOP OF LINES.
5. PROVIDE DROP CURBS AT INTERSECTIONS.
6. CONTRACTOR SHALL COMPLY WITH LATEST REGULATIONS AS SET FORTH IN AMERICANS WITH DISABILITIES ACT (ADA).



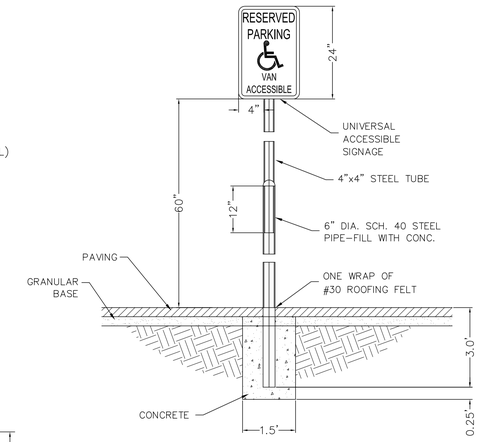
SIDEWALK PLAN



SAWED DUMMY JOINT



CONSTRUCTION JOINT



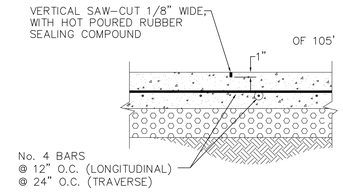
ACCESSIBLE PARKING SIGN

GENERAL NOTES

1) ALL SIDEWALKS AND HANDICAPPED RAMPS ARE FOR SCHEMATIC PURPOSES ONLY.

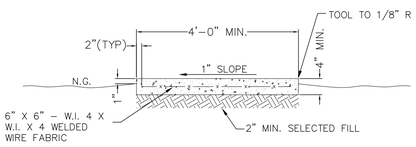
2) THE HANDICAPPED RAMPS MUST BE IN ACCORDANCE WITH THE FEDERAL ADA–AG SUBSECTIONS 4.16, 4.8 AND 429.2 AND THE STATE TAS SUBSECTION 4.3 STANDARDS.

SPACE DUMMY JOINTS USUAL 15' C–C 1/2" PRE MOLDED EXPANSION JOINT MATERIAL TO BE INSTALLED AT EXPANSION JOINT. MAX. SPACING

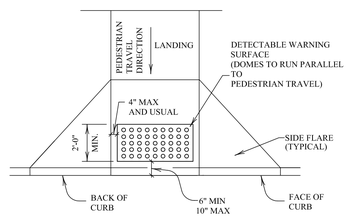


SAWED DUMMY JOINT

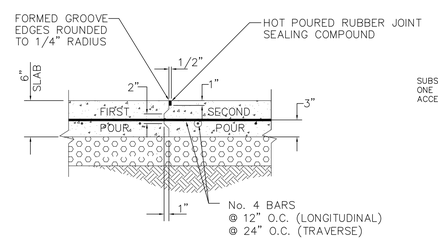
PRIMARY SIGN



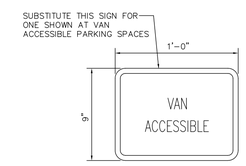
TYPICAL CONC. WALK DETAIL



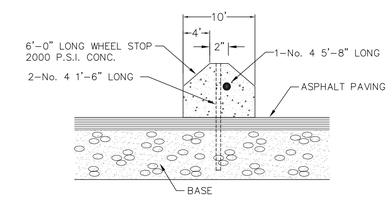
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



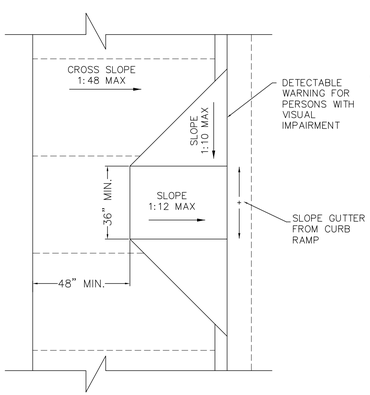
CONSTRUCTION JOINT



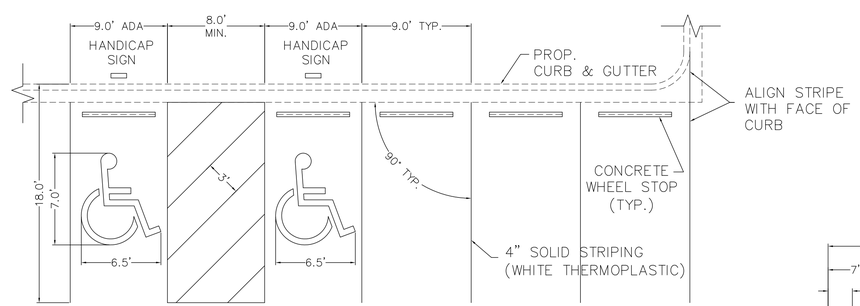
SUPPLEMENTARY SIGN



CONCRETE WHEEL STOP



RAMP SLOPE DETAIL

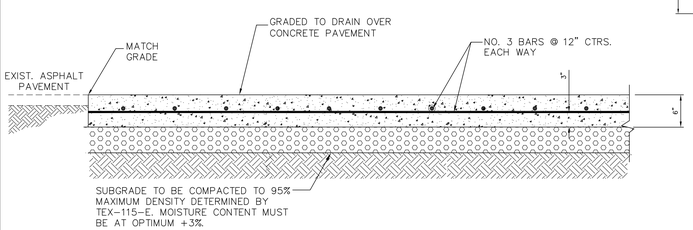


NOTE:
PROPOSED 24.0' BACKUP DISTANCE

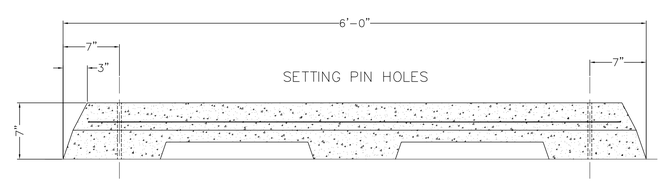
NOTE:
FINAL PLACEMENT OF PAVEMENT MARKINGS SHALL BE APPROVED BY THE ENGINEER IN THE FIELD PRIOR TO INSTALLATION.

TYPICAL STRIPING DETAIL FOR ACCESSIBLE AREAS

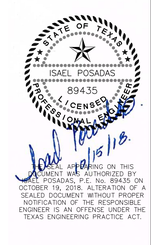
1. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 4.29 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. SHADED AREAS ON DETAILS INDICATE THE APPROXIMATE LOCATION FOR THE DETECTABLE WARNING SURFACE FOR EACH CURB RAMP TYPE.
5. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
6. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 10" FROM THE EXTENSION OF THE FACE OF CURB. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
7. TXDOT MAINTAINS A LIST OF QUALIFIED DETECTABLE WARNING MATERIALS. REFER TO FEDERAL AND STATE DOT CURB RAMP WITH DETECTABLE WARNING STANDARDS, REFER TO THE MANUFACTURER'S PRODUCT MANUAL FOR PROPER INSTALLATION.



CONCRETE SLAB FOR COMPACTOR & DUMPSTERS



CONCRETE WHEEL STOP



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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TBPE REG. NO. F-13016

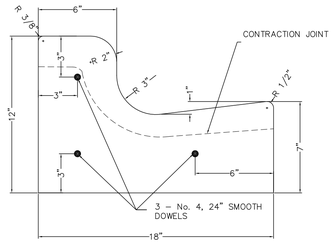
Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
217017

DATE
October 19, 2018

SHEET NUMBER
C14



GENERAL NOTES:
1. CONCRETE SHALL BE 3000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAY.

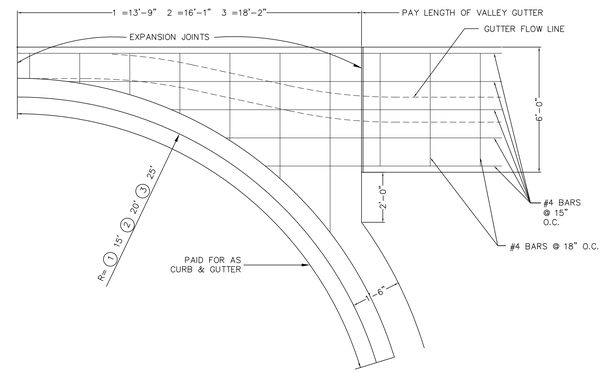
2. ALL CONCRETE WORK SHALL BE TREATED WITH MEMBRANE CURING COMPOUND TYPE 2 WHITE PIGMENTED IN ACCORDANCE w/ TEXAS DEPARTMENT OF TRANSPORTATION DEPARTMENTAL MATERIALS SPECIFICATION ITEM 4650. CONSIDERED INCIDENTAL TO CONCRETE WORK.

3. 1/2" EXPANSION JOINTS REQUIRED AT 40' c.c. AND AT THE BEGINNING AND END OF ALL RADII. CONTRACTION JOINTS SHALL NOT EXCEED 10' c.c.

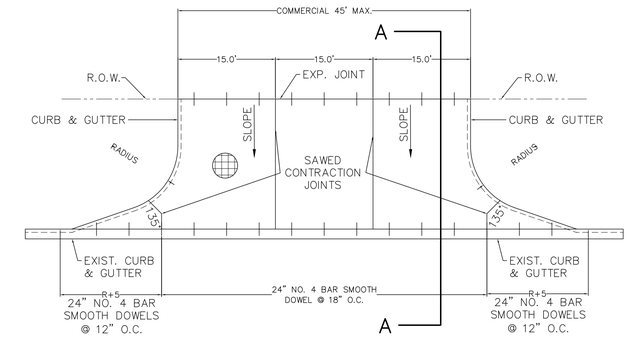
4. EXPANSION JOINTS SHALL HAVE 1/2 EXPANSION JOINT MATERIAL, AND 3 No. 4, 24" SMOOTH DOWEL BARS COATED TO PREVENT BOND.

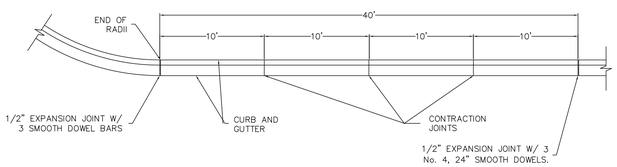
CURB AND GUTTER DETAIL

NOT TO SCALE



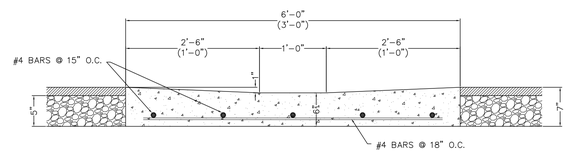
VALLEY GUTTER DETAIL



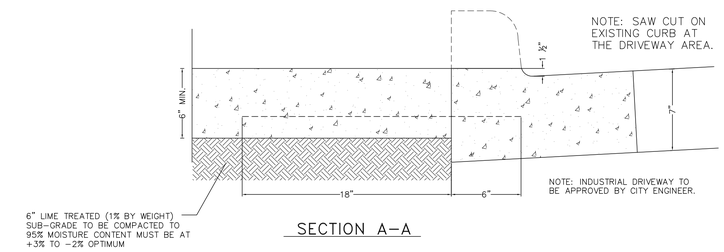


TYPICAL JOINTS

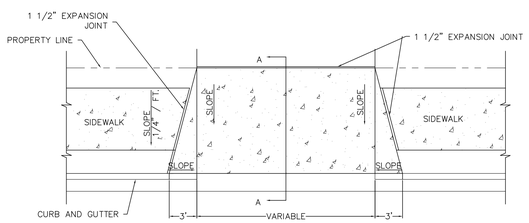
NOT TO SCALE



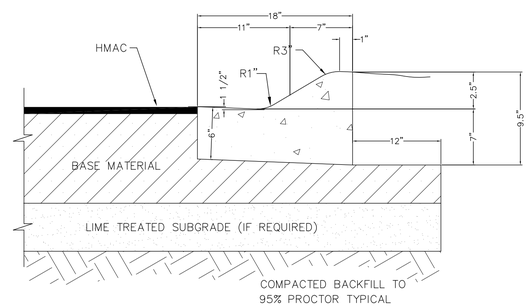
TYPICAL VALLEY GUTTER SECTION



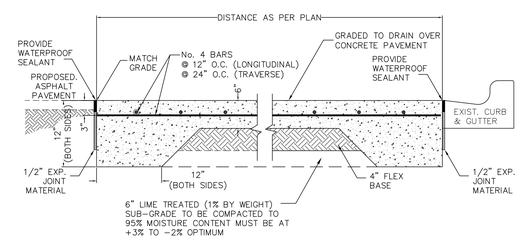
SECTION A–A



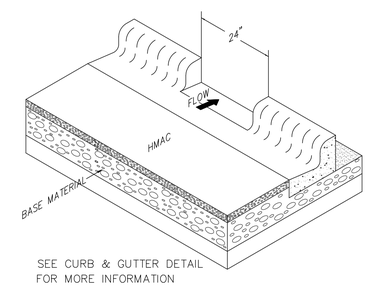
PLAN VIEW



TYPICAL LOW PROFILE CURB & GUTTER SECTION

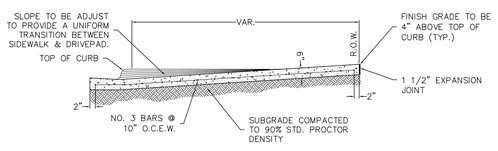


CONCRETE PAVEMENT SECTION

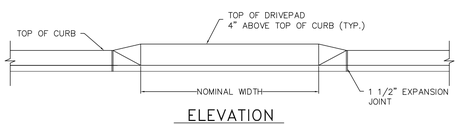


SEE CURB & GUTTER DETAIL FOR MORE INFORMATION

TYPICAL CURB SLOT SECTION



SECTION A–A



ELEVATION

GENERAL NOTES

1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.

2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.

3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIUM OF 4" AND WHERE POSSIBLE 1/2 THE HEIGHT OF THE BALE.

4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.

5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3/8" DIA. REBAR OR 2" X 2" WOOD STAKES, DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.

6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

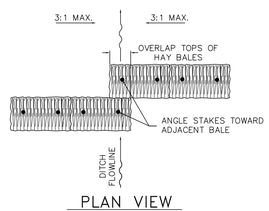
A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAX. FLOW THROUGH RATE OF 100 GPM/FT². SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

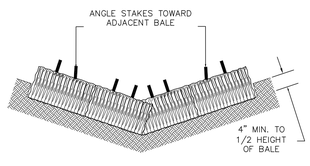
PLAN SHEET LEGEND

SEDIMENT CONTROL FENCE — SCF

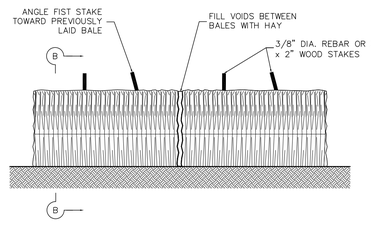
BALED HAY — BH

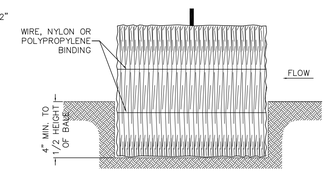


PLAN VIEW

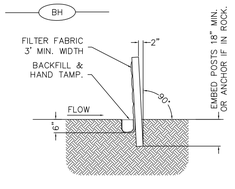


PROFILE VIEW

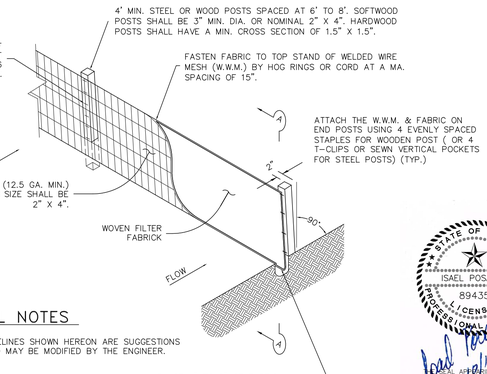




SECTION B–B



SECTION A–A



GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER
10/15/18

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Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
217017

DATE
October 19, 2018

SHEET NUMBER
C15

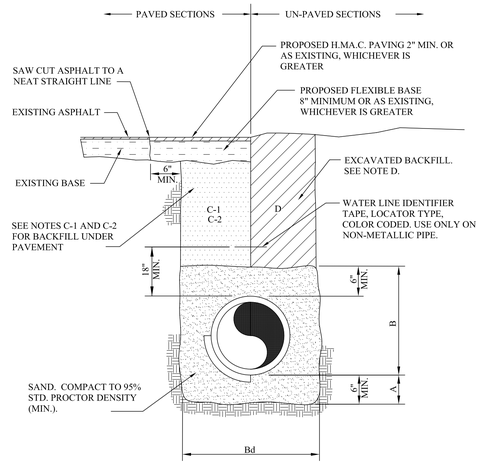
NOTES:

1. CONTRACTOR TO CONTACT ALL UTILITIES COMPANIES IN THE AREA FOR FIELD VERIFICATION OF EXISTING FACILITIES. UTILITY COMPANY'S SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

CITY OF McALLEN	956-972-7600
CENTRAL POWER & LIGHT CO.	800-274-2611
SOUTHERN UNION GAS CO.	800-743-2945
AT&T	800-288-2020
U.S. SPRINT CO.	956-948-3100
TIME WARNER CABLE	800-222-5355
TX. EXCAVATION SAFETY SYSTEM	800-344-8377

2. CONTRACTOR TO EXPOSE ANY EXISTING FACILITY THAT MAY BE IN CONFLICT PRIOR TO START OF CONSTRUCTION.
3. ALL EXISTING CITY UTILITIES (WATER/SEWER) SHOWN ARE FROM BEST INFORMATION AVAILABLE. NEITHER THE ENGINEER NOR THE CITY IS RESPONSIBLE FOR THE ACCURACY OF LOCATION.
4. CONTRACTOR SHALL AT ALL TIMES ALLOW ACCESS TO EXISTING DRIVEWAYS OR PROVIDE/MAINTAIN ALTERNATIVE ALL WEATHER ROUTES.
5. ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
6. TRENCHES OR EXCAVATIONS MAY NOT BE LEFT OPEN OVERNIGHT UNLESS AUTHORIZED IN WRITING BY THE ENGINEERING DEPARTMENT. IN SUCH CASES, THE CONTRACTOR MUST PROVIDE 1/2" STEEL PLATES OVER PLATES WITH ANCHORING AS PER SPECIFICATIONS TO BE PROVIDED BY THE CITY OF MCALLEN.
7. ANY DAMAGE TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXCAVATED MATERIAL AND DEBRIS FROM THE SITE AT NO ADDITIONAL EXPENSE TO THE OWNER.
9. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING CONSTRUCTION MATERIALS TESTING THROUGH THE CITY'S DESIGNATED FIELD REPRESENTATIVE 24 HOURS PRIOR TO TESTING. CONTRACTOR IS RESPONSIBLE FOR ADHERING CLOSELY TO TESTING SCHEDULE AND AVOID ANY DELAYS IN THE FIELD.

WATER UTILITIES GENERAL NOTES



WATER LINE AND SEWER FORCEMAIN BEDDING DETAIL
SHEET 1 OF 2

NOTES:

A. SAND BEDDING PLACED, HAND LEVELED, AND COMPACTED BEFORE PIPE IS LAID, UP TO BOTTOM OF PIPE (MIN. THICHKNESS = 6").

B. SAND BACKFILL PLACED AND COMPACTED AFTER PIPE IS LAID, FROM BOTTOMOF PIPE TO 6" ABOVE THE TOP OF PIPE. WORK IN UNDER PIPE HAUNCHES AND COMPACT BY HAND TO SPRING LINE. USE VIBRATORY-TYPE COMPACTORS FOR LIFTS ABOVE THE SPRING LINE. MAXIMUM 6" LIFTS.

Bd. MINIMUM TRENCH WIDTH: PIPE O.D. + 16" (FOR 16" PIPE AND SMALLER) OR PIPE O.D. X 1.25 + 12" (FOR 18" PIPE AND LARGER)

C-1. (CITY STREETS, PARKING AREA, AND DRIVEWAYS) SELECT EXCAVATED BACKFILL MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 8" MAX. LIFTS.

C-2 (STATE MAINTAINED ROADWAY) SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED TO 95% STANDARD PROCTOR DENSITY.

D. EXCAVATED EARTH BACKFILL MECHANICALLY COMPACTED IN 12" MAX. LIFTS. MINIMUM STANDARD PROCTOR DENSITY: 90% OUTSIDE RIGHT OF WAY; 95% INSIDE RIGHT OF WAY

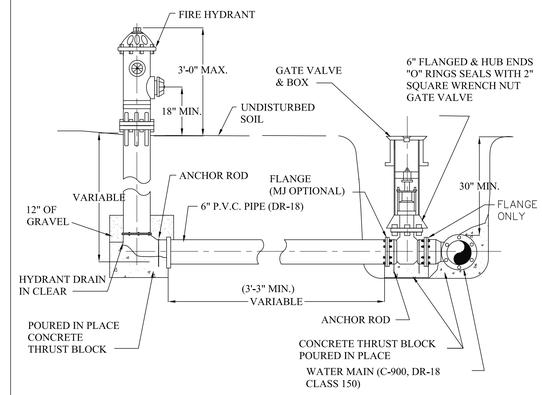
EMBEDMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D 2321. EMBEDMENT MATERIAL SHALL BE CLASS II OR III WITH < 50% PASSING A No. 200 SIEVE AND PLASTICITY INDEX < 7.

WHERE THIS STANDARD CONFLICTS WITH THE RECOMMENDATION OF ANY GEOTECHNICAL REPORT, OBTAIN WRITTEN CLARIFICATION FROM THE UTILITY ENGINEER PRIOR TO CONSTRUCTION.

FOUNDATION PREPARATION USING COBBLES, GRAVEL, CEMENT STABILIZATION, OR OTHER METHODS AS DIRECTED BY THE ENGINEER SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAXIMUM LIFTS. STRUCTURE BACKFILL MATERIAL SHALL BE SAND.

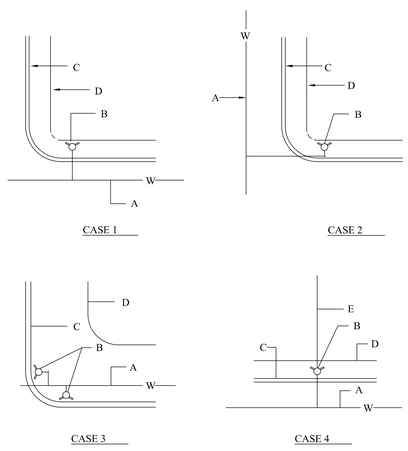
WATER LINE AND SEWER FORCEMAIN BEDDING DETAIL
SHEET 2 OF 2



NOTES:

1. FIRE HYDRANT ELEVATIONS WILL BE SET BY THE ENGINEER.
2. FLANGE MUST BE AT FINISHED GRADE OR 3" TO 6" ABOVE 2. FLANGE MUST BE AT FINISHED GRADE OR 3" TO 6" ABOVE TOP OF CURB.
3. FLANGED GATE VALVE INSTALLATION TO BE USED WITH 10" WATER LINES OR GREATER.
4. BBF TEES TO BE USED WITH 10" WATER LINE OR GREATER BBF TEES TO BE UED WITH SMALLER DIA. PIPES.
5. ACCEPTABLE HYDRANT BRANDS ARE MUELLER, AMERICAN DARLING AND KENNEDY.

TYPICAL FIRE HYDRANT INSTALLATION



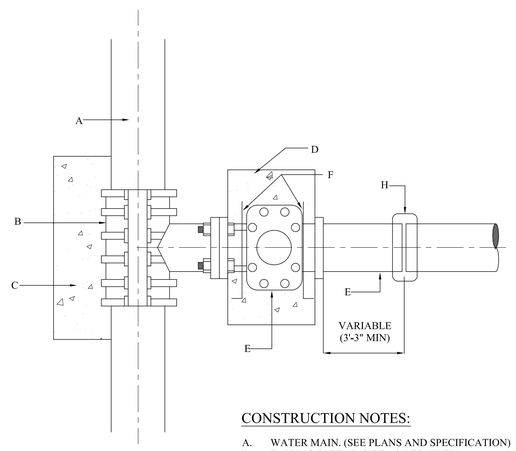
NOTES:

1. NORMALLY, FIRE HYDRANTS ARE TO BE LOCATED AT THE END OF CURB RETURN, OR AT PROPERTY LINE.
2. PERMANENT OBSTRUCTIONS SUCH AS POLES, TRAFFIC SIGNALS ETC. MAY REQUIRED RELOCATION OF FIRE HYDRANT 5' DISTANCE FROM OBSTRUCTION. FIRE HYDRANT NOT TO BE LOCATED WITHIN AREA OF CURB RETURN.

CONSTRUCTION NOTES:

A. WATER MAIN.
B. FIRE HYDRANT.
C. CURB AND GUTTER.
D. RIGHT OF WAY.
E. PROPERTY LINE.

TYPICAL FIRE HYDRANT LOCATIONS



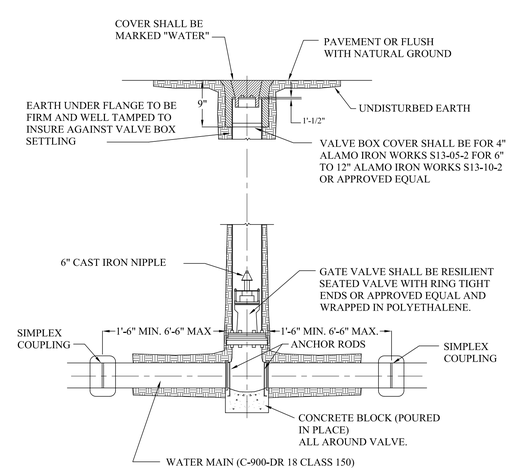
GENERAL NOTES:

1. ALL CONCRETE TO HAVE A MINIMUM OF 28 DAYS COMPRESSIVE STRENGTH OF 3,000 P.S.I.

CONSTRUCTION NOTES:

A. WATER MAIN. (SEE PLANS AND SPECIFICATION)
B. TAPPING SLEEVE (SIZE AS REQUIRED).
C. CONCRETE SUPPORT UNDER TAPPING SLEEVE AND BEHIND.
D. THRUST BLOCK AS PER SPECIFICATIONS.
E. FLANGED AND HUB ENDS "O" RING SEALS WITH 2" SQUARE WRENCH NUT GATE VALVE.
F. ANCHOR RODS.
G. PVC PIPE.
H. SIMPLEX COUPLING.

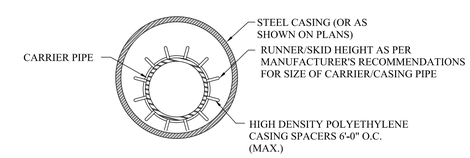
WATER TAPPING SLEEVE & VALVE INSTALLATION



NOTES:

1. CAST IRON BOOT TO BE USED IN HEAVY TRAFFIC AREAS CONCRETE BLOCK (POURED IN PLACE)

TYPICAL VALVE & VALVE BOX



BORING INSTALLATION		
CARRIER PIPE SIZE	PIPE CASING SIZE	MIN. WALL THICKNESS
6"	14"	0.3125"
8"	16"	0.3125"
10"	18"	0.3125"
12"	21"	0.3750"
14", 15"	24"	0.4375"
16"	26"	0.4375"
18"	30"	0.5000"
24"	36"	0.5625"
36"	48"	0.6250"

GENERAL NOTES:

1. ALL STEEL CASING SHALL BE WELDED.
2. STEEL CASING SHALL BE CLOSED AT EACH END USING USING SYNTHETIC RUBBER END SEALS.
3. CASING SPACERS SHALL BE USED TO INSTALL THE CARRIER PIPE INSIDE THE ENCASEMENT PIPE. CASING SPACERS SHALL FASTEN TIGHTLY ON THE CARRIER PIPE TO PREVENT RELATIVE MOVEMENT ON PIPE DURING INSTALLATION. CASING SPACERS SHALL BE DOUBLED ON EACH END OF THE ENCASEMENT.
4. PROJECTION TYPE CASING SPACERS SHALL BE CONSTRUCTED SECTIONS OF HIGH DENSITY POLYETHYLENE.
5. INSTALLATION AND SIZE OF SPACERS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

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UTILITY LINE BORE DETAIL

SDI ENGINEERING, LLC
CIVIL • TRANSPORTATION • PLANNING • STORMWATER
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INFO@SDI-ENGINEERING.COM
TBPE REG. NO. F-13016

Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
MISSION, TX.

PROJECT NUMBER
217017

DATE
October 19, 2018

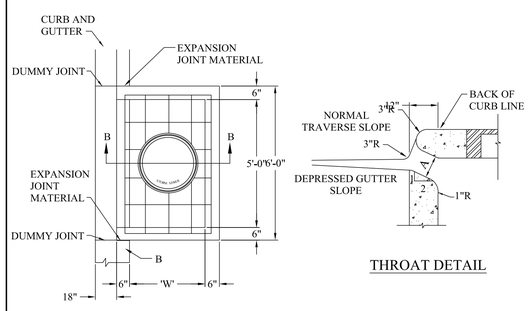
SHEET NUMBER
C16

GENERAL NOTES:

1. TRANSITION NORMAL GUTTER TO INLET FLOW SLOPE APPROX. 3".
2. INLETS SHALL BE COMPOSED OF PRE-CAST SECTIONS, CAST IN PLACE OR A COMBINATION OF BOTH.
3. 6" GRAVEL BEDDING IS REQUIRED IF UNSTABLE SOIL OR GROUND WATER IS FOUND.

CONSTRUCTION NOTES:

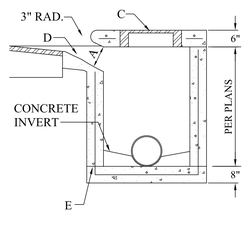
A. 5" CLEAR OPENINGS.
B. CURB & GUTTER SECTION.
C. C.I. MANHOLE RING & COVER SHALL BE ALAMO 860-22 OR EQUAL 20, 3/8"
D. DEPRESS 2" BELOW NORMAL GUTTER.
E. ALL REINFORCING NO. 4 BARS 12" O.C.E.W.



TOP VIEW
TYPE "A" INLET

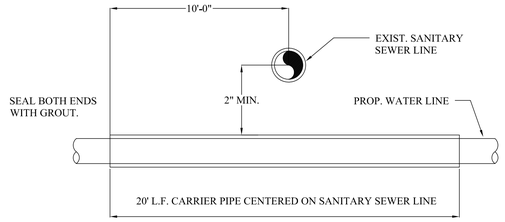
THROAT DETAIL

INLET TYPE	W	MAX. PIPE SIZE ALLOW (DIA.)
A	3'-0"	24"
A-1	4'-0"	36"
A-2	5'-0"	48"
A-3	6'-0"	60"

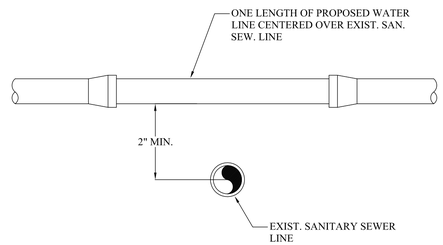


TYPE 'A' INLET

SHEET 1 OF 2



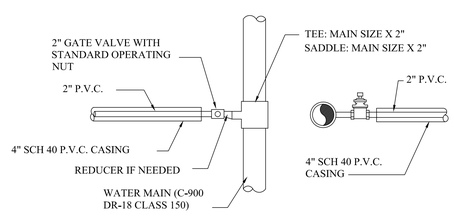
WATER LINE CROSSING
UNDER EXIST. S.S. LINE



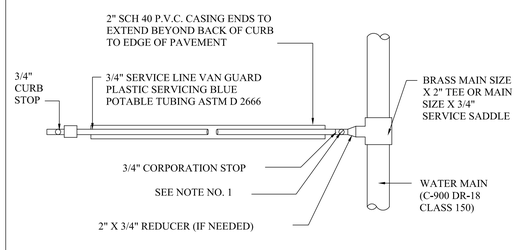
WATER LINE CROSSING
OVER EXIST. S.S. LINE

NOTES:

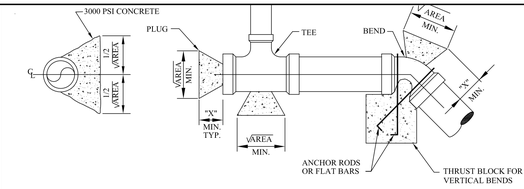
1. ON ALL SERVICE LINES GREATER THAN 1" (2" P.V.C. SCHEDULE 40), A 2" VALVE WILL BE REQUIRED.
2. ONE SERVICE PER EACH LOT.



2" SERVICE LINE



SINGLE CONNECTION

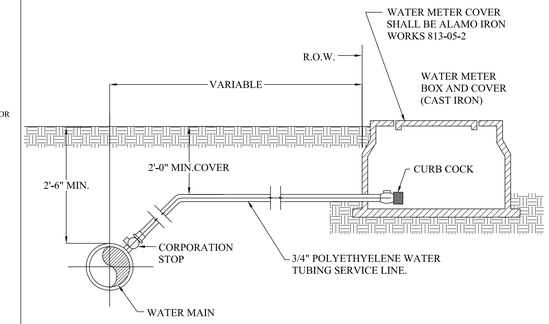


THRUST BLOCK REQUIREMENTS VS. FITTING TYPE

DIAMETER	"X"	END/TEE	90° BEND		45° BEND		22.5° BEND		11.25° BEND	
(IN.)	(FT.)	(S.F.)	(S.F.)	(LB.)	(S.F.)	(LB.)	(S.F.)	(LB.)	(S.F.)	(LB.)
4	1	1.4	1.9	3839	1.0	2077	0.5	1059	0.3	532
6	1	2.8	4.0	7932	2.1	4293	1.1	2188	0.5	1100
8	1.25	4.8	6.8	13646	3.7	7385	1.9	3765	0.9	1892
10	1.25	7.3	10.3	20528	5.6	11110	2.8	5664	1.4	2846
12	1.50	10.3	14.5	29030	7.9	15711	4.0	8009	2.0	4024
14	1.75	13.8	19.5	39001	10.6	21107	5.4	10760	2.7	5406
16	2	17.8	25.2	50442	13.6	27299	7.0	13917	3.5	6992

NOTES:

1. THRUST BLOCKING TO BE PLACED AT ALL DEAD ENDS, TEES, BENDS, WYES, AND REDUCERS AND OTHER AREAS THAT REQUIRE THRUST RESISTANCE.
2. MINIMUM AREAS SHOWN ARE IN SQUARE FEET, BLOCK WEIGHTS FOR VERTICAL BENDS ARE IN POUNDS.
3. THRUST BLOCK AREAS SHOWN ARE BASED ON A TEST PRESSURE OF 150 P.S.I., SOIL BEARING PRESSURE OF 2000 PSF, AND MINIMUM 30" COVER. IF REQUIRED TEST PRESSURE IS LESS OR THE SOIL BEARING CAPACITY IS GREATER, THE CONTRACTOR MAY, AFTER APPROVAL BY THE ENGINEER, REDUCE THE THRUST BLOCK AREA SHOWN. THRUST BLOCKING AREA SHALL BE INCREASED IF SOIL BEARING CAPACITY IS LESS THAN 2000 PSI.
4. AT DOWNWARD VERTICAL BENDS, PIPING SHALL BE RESTRAINED BY THRUST BLOCK AS SHOWN WITH WEIGHT INDICATED IN THE TABLE. ANCHOR RODS OR FLAT BARS SHALL BE STAINLESS STEEL.
5. BEARING MUST BE ON UNDISTURBED EARTH.
6. USE 3000 PSI CONCRETE.
7. RESTRAINING JOINTS MAY BE REQUIRED AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER
8. THRUST BLOCK SHALL BEAR ON FULL 180° OF CIRCUMFERENCE OF PIPE.



NOTES:

1. ALL SERVICE CONNECTIONS NEED TO HAVE A MIN. 2'-0" COVER FROM FINISHED GRADE.
2. WATER METER COVER SHALL BE ALAMO IRON WORKS 813-05-2.
3. ALL WATER MAINS HAVE 30 INCHES OF COVER FROM FINISHED GRADE.
4. METER BOX SHALL BE CAST IRON.
5. ALL CONCRETE TO HAVE A MIN. 28 DAYS COMPRESSIVE STRENGHT OF 3,000 P.S.I.
6. 2" GATE VALVE ONLY REQUIRED FOR 2" SERVICE.
7. POLYETHYLENE TUBING ACCEPTABLE FOR LINE SIZES 1" OR LESS, SCHEDULE 40 PVC REQUIRED FOR LINE SERVICES GREATER THAN 1".

CONSTRUCTION NOTES:

A. WATER VALVE COVER
B. CURB COCK
C. METER BOX & METER PROVIDED
D. WATER TUBING SERVICE LINE
E. CORPORATION STOP
F. WATER MAIN

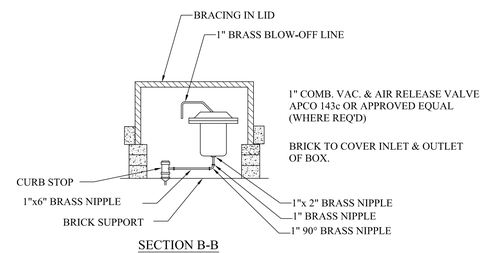
TYPE 'A' INLET

SHEET 2 OF 2

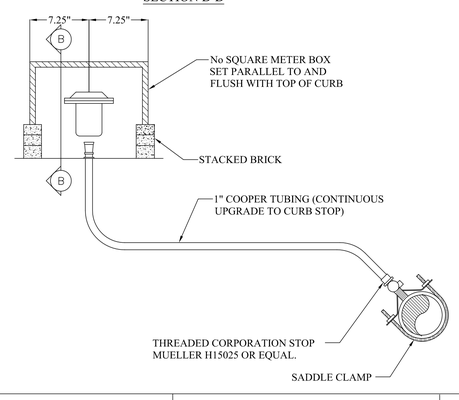
WATER LINE CROSSING DETAIL

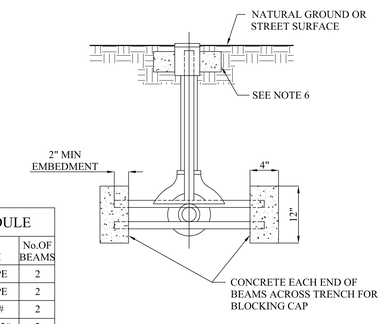
CONCRETE THRUST BLOCKS

TYPICAL SERVICE CONNECTION WITH METER BOX



SECTION B-B





BEAM SCHEDULE

SIZE MAIN	SIZE AND TYPE BEAM			No.OF BEAMS
2"	2" STEEL PIPE			2
8"	3" STEEL PIPE			2
12"	5"	I	10.0#	2
16"	6"	I	17.25#	2
20"	8"	I	18.4#	2
24"	10"	I	25.4#	2
30"	12"	I	35.0#	2
36"	15"	I	50.0#	2

NOTES:

1. ALL DEAD-ENDS ON NEW WATER LINES SHALL BE EQUIPPED WITH A SUITABLE BLOW-OFF FACILITY, OR AS DIRECTED BY THE ENGINEER.
2. EMBED ALL C.I. FITTINGS IN SAND.
3. BEAM SCHEDULE SHALL BE USED FOR END CAPS AND PLUGS, OMITTING BLOW-OFF FITTINGS.
4. BEAMS SHALL EXTEND BEYOND TRENCH WALLS.
5. ALL CONCRETE TO HAVE A MIN. 28 DAYS COMPRESSIVE STRENGTH 3,000 P.S.I.
6. MIN. OF 9 SY. COMPACTION AROUND INSTALLATION.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED PROFESSIONAL ENGINEER

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TYPICAL 1" AIR RELEASE VALVE

BLOW-OFF VALVE INSTALLATION

SDI ENGINEERING, LLC
CIVIL • TRANSPORTATION • PLANNING • STORMWATER
5602 E. IOWA RD., EDINBURG, TEXAS 78542 (956) 287-1818 PH. (956) 287-3697 FAX
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Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
217017

DATE
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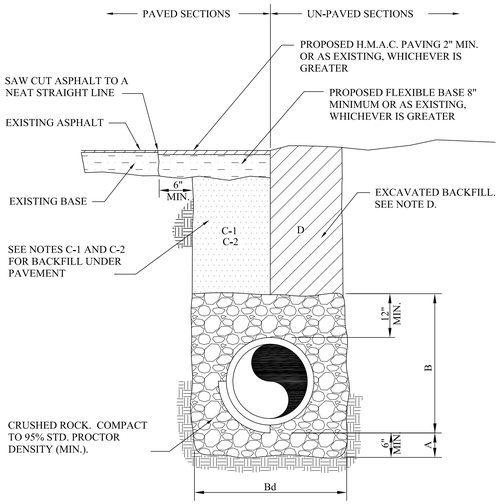
SHEET NUMBER
C17



GENERAL NOTES:

A. CRUSHED ROCK BEDDING PLACED, HAND LEVELED, AND COMPACTED BEFORE PIPE IS LAID, UP TO BOTTOM OF PIPE (MIN. THICKNESS = 6").

B. CRUSHED ROCK BACKFILL PLACED AND COMPACTED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO 12" ABOVE THE TOP OF PIPE. WORK IN UNDER PIPE HAUNCHES AND COMPACT BY HAND TO SPRING LINE. USE VIBRATORY-TYPE COMPACTORS FOR LIFTS ABOVE THE SPRING LINE. MAXIMUM 6" LIFTS.

Bd. MINIMUM TRENCH WIDTH: PIPE O.D. + 16" (FOR 16" PIPE AND SMALLER); PIPE O.D. X 1.25 + 12" (FOR 18" PIPE AND LARGER)

C-1. (CITY STREETS, PARKING AREA, AND DRIVEWAYS) SELECT EXCAVATED BACKFILL MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 8" MAX. LIFTS.

C-2 (STATE MAINTAINED ROADWAY) SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED TO 95% STANDARD PROCTOR DENSITY.

D. EXCAVATED EARTH BACKFILL MECHANICALLY COMPACTED IN 12" MAX. LIFTS. MINIMUM STANDARD PROCTOR DENSITY: 90% OUTSIDE RIGHT OF WAY; 95% INSIDE RIGHT OF WAY

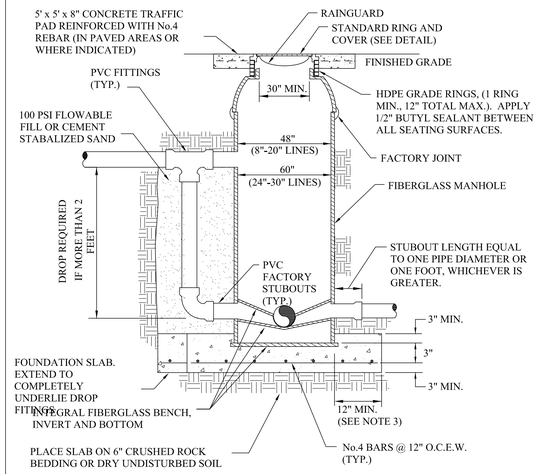
EMBEDMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D 2321. EMBEDMENT MATERIAL SHALL BE CLASS 1A (CRUSHED ROCK) OR 1B (CRUSHED ROCK-SAND MIXTURE) WITH LESS THAN 50% PASSING A No. 4 SIEVE. MAXIMUM ¾" SIZE FOR PIPE SIZE ≤ 15". GREATER THAN 90% OF CRUSHED ROCK SHALL HAVE AT LEAST THREE BROKEN FACES. NO MORE THAN 2% UNBROKEN FRACTION ALLOWED.

IN SATURATED OR UNSTABLE SOILS, EMBEDMENT SHALL BE CLASS 1B ONLY (SEE SPECIFICATIONS FOR GRADATION REQUIREMENTS).

WHERE THIS STANDARD CONFLICTS WITH THE RECOMMENDATION OF ANY GEOTECHNICAL REPORT, OBTAIN WRITTEN CLARIFICATION FROM THE UTILITY ENGINEER PRIOR TO CONSTRUCTION.

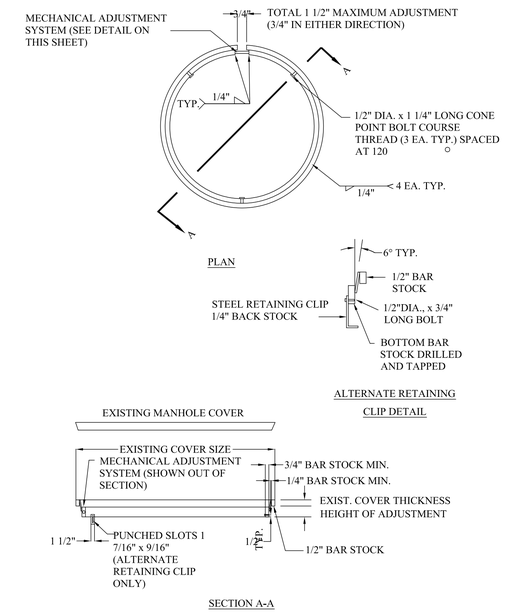
FOUNDATION PREPARATION USING COBBLES, GRAVEL, CEMENT STABILIZATION, OR OTHER METHODS AS APPROVED BY THE ENGINEER SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAXIMUM LIFTS. STRUCTURE BACKFILL MATERIAL SHALL BE SAND.



NOTES

1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. BACKFILL SHALL BE SAND COMPACTED TO 95% STANDARD PROCTOR.
3. BASE SLAB SHALL BE 4 FT. LARGER THAN MANHOLE DIAMETER WHERE SOIL BEARING CAPACITY < 2000 PSF, WATER TABLE < 5 FT., OR DEPTH > 20 FT. SLAB SHALL BE DESIGNED TO PREVENT FLOTATION OF MANHOLE.
4. COAT ALL INTERNAL CEMENTITIOUS AND METALLIC SURFACES WITH COAL TAR EPOXY.
5. OUTLET STUBOUT SHALL BE SPIGOT END. INLET STUBOUTS SHALL BE BELL END EXCEPT FOR DROP CONNECTIONS.

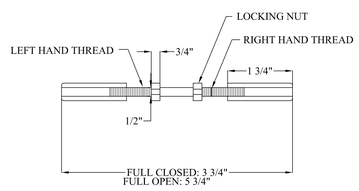


SANITARY SEWER (NON-FORCEMAIN) PIPE BEDDING DETAIL

SANITARY SEWER (NON-FORCEMAIN) PIPE BEDDING DETAIL

TYPICAL FIBERGLASS MANHOLE

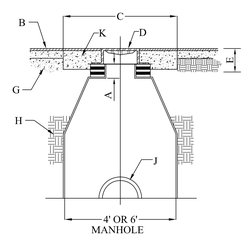
MANHOLE COVER ADJUSTMENT DETAILS



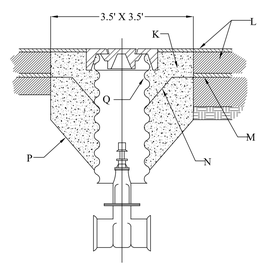
MECHANICAL ADJUSTMENT SYSTEM

NOTES:

1. ALL COMPONENTS ARE MANUFACTURED FROM U.S. MADE CARBON STEEL MEETING OR EXCEEDING THE MINIMUM REQUIREMENTS OF A.S.T.M. A-36.
2. 4 INCH WELDS ON 12 INCH CENTERS ARE MADE BETWEEN THE TOP AND BOTTOM LIDS FOR SUPERIOR STRENGTH AND DURABILITY.
3. MECHANICAL ADJUSTMENT STUD IS MADE FROM TYPE 304 STAINLESS STEEL.
4. EACH ADJUSTMENT RING IS CUSTOM FABRICATED FROM MEASUREMENTS PROVIDED WITH EACH ORDER. REQUIRED MEASUREMENTS INCLUDE:
   A. EXISTING MANHOLE COVER DIAMETER AND THICKNESS.
   B. REQUIRED HEIGHT OF ADJUSTMENTS FROM TOP OF EXISTING LID TO FINISHED ELEVATION. MAXIMUM RECOMMENDED HEIGHT OF ADJUSTMENTS IS 6 INCHES. HEIGHT ADJUSTMENTS ARE AVAILABLE IN 1/4" INCREMENTS.
   C. REQUIRED LENGTH AND TYPE OF RETAINER CLIP FOR ALTERNATE RETAINING CLIP ONLY.
   D. WIDTH OF EXISTING CASTING BEARING SURFACE.
5.. DURING INSTALLATION, CHECK FOR FULL BEARING OF LOWER FRAME SECTION ON EXISTING CASTING. OVER TIGHTENING ADJUSTMENT DEVICE MAY CAUSE UPLIFTING OF RISER.
6. DIMENSIONS MAY VARY TO MEET EXISTING FIELD CONNECTIONS. ANY CHANGES IN DIMENSIONS SHOULD BE APPROVED BY PROJECT OWNER.
7. AVAILABLE OPTIONS IN LIEU OF CONE POINT BOLTS FOR ATTACHING RETAINING CLIP INCLUDE DRILL AND TAPPED BAR STOCK WITH 1/2" AND 3/4" LONG BOLT.



MANHOLE REGRADING DETAIL



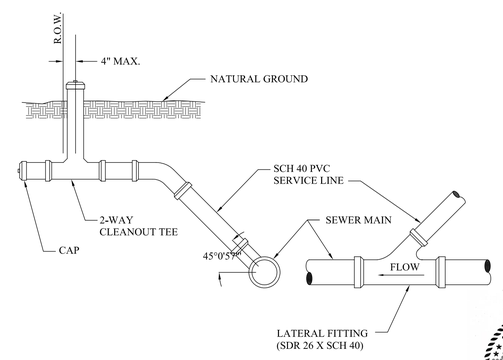
VALVE BOX REGRADING DETAIL

GENERAL NOTES:

1. ADJUSTMENT TO GRADE OF FRAME AND COVER SHALL BE MADE BY VARYING NUMBER OF HDPE GRADE RINGS DIRECTLY UNDER FRAME USING A MINIMUM OF ONE RING UP TO A MAXIMUM OF 12 INCHES TOTAL. IF ADJUSTMENT REQUIRES MORE THAN 12 INCHES, THE CONE SHALL BE REMOVED, BARREL HEIGHT ADJUSTED AND CONE REPLACED.
2. FOR SHALLOW ADJUSTMENTS, WATER VALVE EXTENSION COLLAR & INSERT MAY BE USED.
3. ALL SEATING SURFACES BETWEEN INDIVIDUAL GRADE RINGS, FRAME, AND MANHOLE BRICK LEDGE SHALL BE SEALED USING 1/2" BUTYL SEALANT.

CONSTRUCTION NOTES:

A. HDPE GRADE RINGS, ONE RING MINIMUM, 12" MAX. TOTAL
B. OVERLAY
C. USE A REINFORCED CONCRETE PAD 5' X 5' X 8" IN ALL PAVED AREAS
D. MANHOLE FRAME & COVER
E. STANDARD PAVING SECTION
G. FLEX BASE
H. SUBGRADE
J. SEWER LINE
K. NEW PORTLAND CEMENT CONCRETE.
L. NEW PAVING MATERIAL
M. EXISTING PAVEMENT
N. CUT LINE
P. EXISTING CONCRETE
Q. VALVE BOX EXTENSION



NOTES

1. INDIVIDUAL SERVICE LATERALS TO BE PROVIDED TO EACH LOT.
2. SINGLE FAMILY SERVICE SHALL BE 4" MIN. MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL SERVICE SHALL BE 6" OR GREATER AS REQUIRED.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

10/15/18

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MANHOLE COVER ADJUSTMENT DETAILS

MANHOLE & VALVE BOX REGRADING

MANHOLE & VALVE BOX REGRADING

STANDARD SERVICE CONNECTION

SDI ENGINEERING, LLC
CIVIL • TRANSPORTATION • PLANNING • STORMWATER
5602 E. IOWA RD., EDINBURG, TEXAS 78542 (956) 287-1818 PH. (956) 287-3697 FAX
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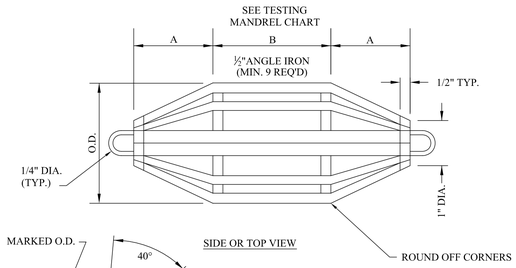
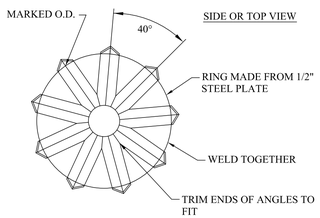


SIDE OR TOP VIEW

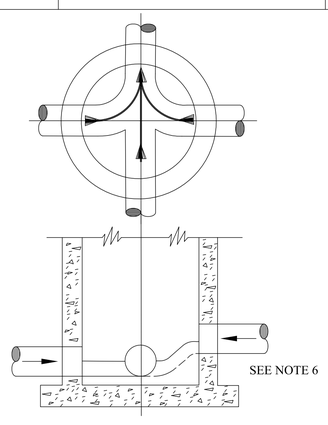


END VIEW

TESTING MANDREL CHART

			MANDREL O.D.	RING O.D.
SIZE	A	B	PSM SDR-26	PSM SDR-26
6	4.0"	4.5"	5.50	4.79
8	5.5"	6.0"	7.37	6.66
10	7.0"	7.5"	9.21	8.50
12	8.0"	9.0"	10.96	10.25
15	10.0"	11.0"	13.42	12.71
18	12.0"	13.5"		
21	14.0"	16.0"		
24	16.0"	18.0"		
27	18.0"	20.0"		

GO NO-GO DEFLECTION TESTING MANDREL DETAIL



NOTES:

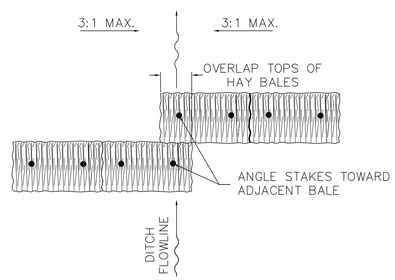
1. ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION.
2. PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
3. SERVICE LATERALS SHALL NOT ENTER MANHOLES UNLESS SPECIFIED ON PLANS AND THEN MUST BE TREATED AS MAINS (ELEVATIONS SHOWN, PRECAST HOLE, FLOW CHANNEL)
4. APPROVED PRECAST CONCRETE OR FIELD INSTALLED CONCRETE FLOW CHANNEL IS REQUIRED.
5. SIDEWALLS OF FLOW CHANNEL SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.
6. NO INSIDE DROP LARGER THAN 6" SHALL BE ALLOWED WHEN THERE ARE MORE THAN 2 INVERTS OR WHEN THERE IS A CHANGE OF DIRECTION OF FLOW GREATER THAN 45 DEGREES.
7. THE FIELD APPLIED CORROSION BARRIER SYSTEM SHALL BE INSTALLED AFTER INVERT CHANNEL CONSTRUCTION, THE CORROSION BARRIER SHALL NOT BE APPLIED TO THE FLOW CHANNEL

SANITARY SEWER MANHOLE INVERT DETAIL

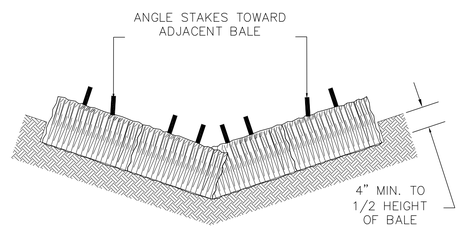
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

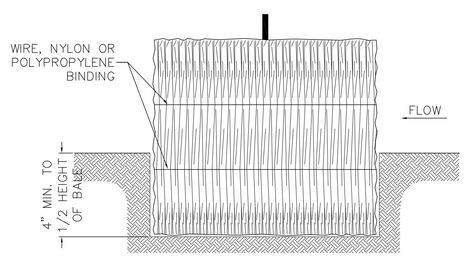
SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAX. FLOW THROUGH RATE OF 100 GPM/FT². SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.



PLAN VIEW



PROFILE VIEW



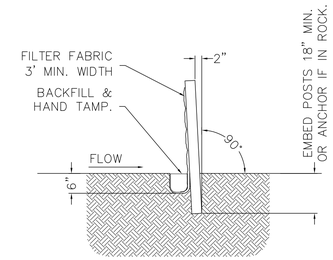
SECTION B–B

GENERAL NOTES

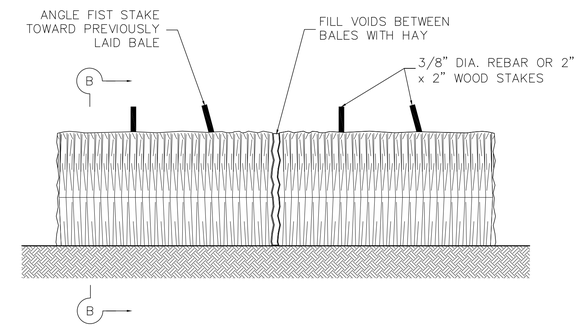
1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIUM OF 4" AND WHERE POSSIBLE 1/2 THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3/8" DIA. REBAR OR 2" X 2" WOOD STAKES, DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTION ONLY AND MAY BE MODIFIED BY THE ENGINEER.

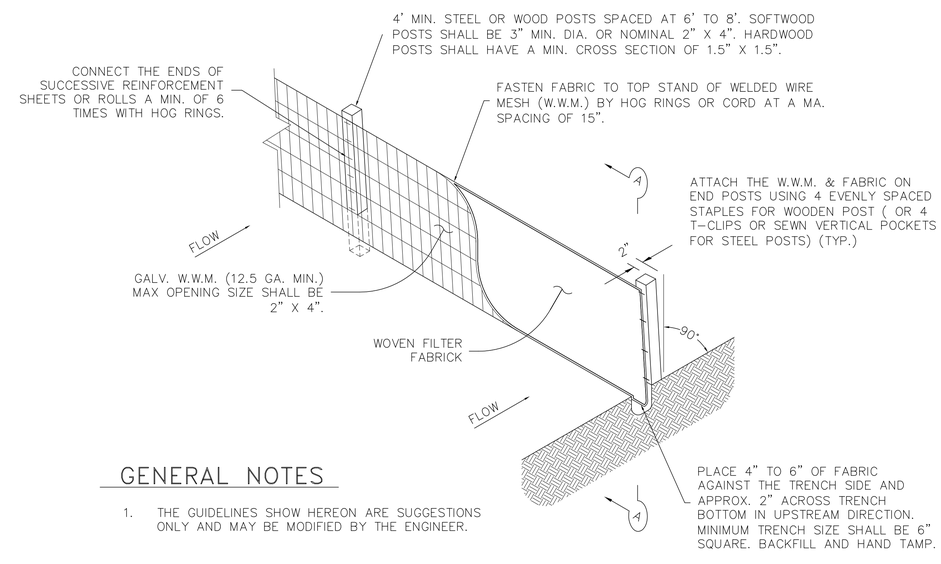
PLAN SHEET LEGEND

SCF	SEDIMENT CONTROL FENCE
BH	BALED HAY



SECTION A–A





GENERAL NOTES

1. THE GUIDELINES SHOW HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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TBPE REG. NO. F-13016

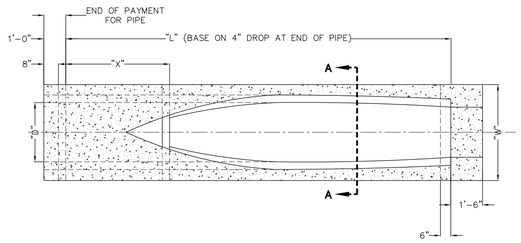
Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

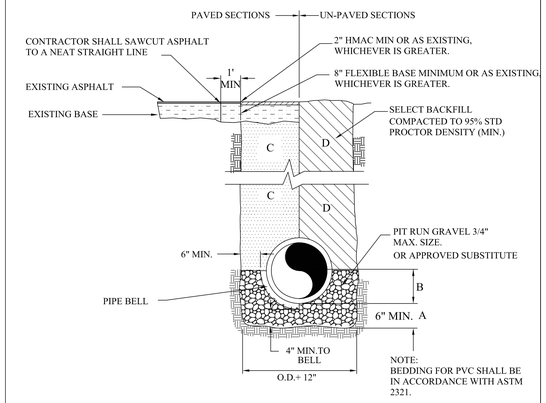
PROJECT NUMBER
217017

DATE
October 19, 2018

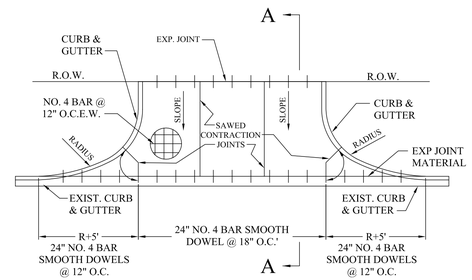
SHEET NUMBER
C19



PLAN



A. GRAVEL BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE (MIN. THICKNESS=6") PIT RUN GRAVEL 3/4" MAX SIZE.
B. GRAVEL PLACED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO THE SPRING LINE. PIT RUN GRAVEL 3/4" MAX. SIZE OR APPROVED SUBSTITUTE.
C. CITY STREETS PARKING AREA, DRIVEWAYS: SELECT EXCAVATED BACK FILL COMPACTED 95% STD, 8" LIFTS, MECHANICAL COMPACTION.
D. STATE MAINTAINED ROADWAYS: COMPACTED SAND/CEMENT STABILIZED BACK FILL 7% PORTLAND CEMENT COMPACTED AS PER ASTM D-4253 AND ASTM D-698.
E. SELECT EARTH BACKIFILL COMPACTED TO 95% STD. PROCTOR DENSITY (12" LIFTS, MECHANICAL COMPACTION) FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE. BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STD. PROCTOR DENSITY (USE RELATIVE DENSITY TEST PER ASTM D-4253 & ASTM D-698). THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 8". STRUCTURE BACK FILL MATERIAL SHALL BE SAND, EXCAVATED MATERIAL, OR OTHER APPROVED SUBSTITUTE.



NOTE:

INDUSTRIAL DRIVEWAY TO BE APPROVED BY CITY ENGINEER.

GENERAL NOTES

1. DEVIATIONS FROM THESE STANDARDS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
2. USE 1/2" EXPANSION JOINT WHERE SIDEWALK OR DRIVEWAY APRON ABUTS BUILDING, FENCES,WALLS OR OTHER IMMOVABLE OBJECTS.
3. DRIVEWAY APRON WIDER THAN 18 FT (NOMINAL) SHALL HAVE A SAWED CONSTRUCTION JOINT AT MIDPOINT. DRIVEWAY APRON WIDER THAN 36 FT. SHALL HAVE AN EXPANSION JOINT EQUALLY SPACED AT MID-POINT OF DRIVEWAY.
4. MAXIMUM DRIVEWAY APRON WIDTHS SHALL BE:
   RESIDENTIAL: 24 FT MAX.
   COMMERCIAL: 45 FT MAX.
5. SUBGRADE UNDER DRIVEWAY APRON SHALL BE COMPACTED TO 95% MIN. DENSITY TO A DEPTH OF 6".
6. DRIVEWAY APRON SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE PLACED USING 3000 P.S.I. CONCRETE WITH 6"X6" WELDED WIRE MESH, NO. 3 BARS @ 12" O.C.E.W. OR NO. 4 @ 18" O.C.E.W.
7. CURB CUT MUST BE A MINIMUM OF 6 FT FROM SIDE YARD PROPERTY LINE.
8. CURB CUT MUST BE A MINIMUM OF 25 FT FROM THE PROJECTION OF THE CLOSEST THROUGHLANE AT A STREET INTERSECTION.
9. CONCRETE SHALL HAVE A BROOM FINISH. BRICK PAVERS, EXPOSED AGGREGATE, RIVER-BRICK FINISH, TILE ARE NOT PERMITTED WITHIN THE R.O.W.
10. MEMBRANE CURING COMPOUND SHALL BE APPLIED AT A MINIMUM OF 1 GALLON PER 180 SQUARE FEET OF AREA AFTER SURFACE FINISH HAS BEEN COMPLETED.

CONSTRUCTION NOTES

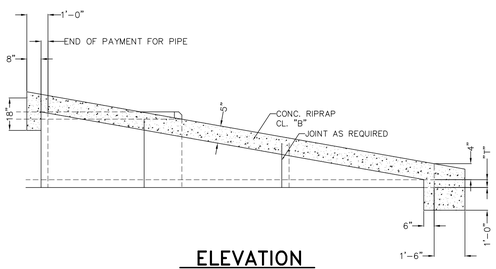
A. CURB TYPE SIDEWALK.
B. OFFSET SIDEWALK.
C. 1/2" EXPANSION JOINT AT PROPERTY LINE ADJACENT SIDEWALK AND ALONG BACK OF CURB.
D. CURB & GUTTER.
E. SLOPE TO BE ADJUSTED TO PROVIDE A UNIFORM TRANSITION BETWEEN SIDEWALK & DRIVEWAY APRON 12:1 SLOPE MAX.
F. TOP OF DRIVEWAY APRON.
G. TOP OF CURB.
H. PROPERTY LINE.

TYPICAL STORM SEWER PIPE BEDDING DETAIL

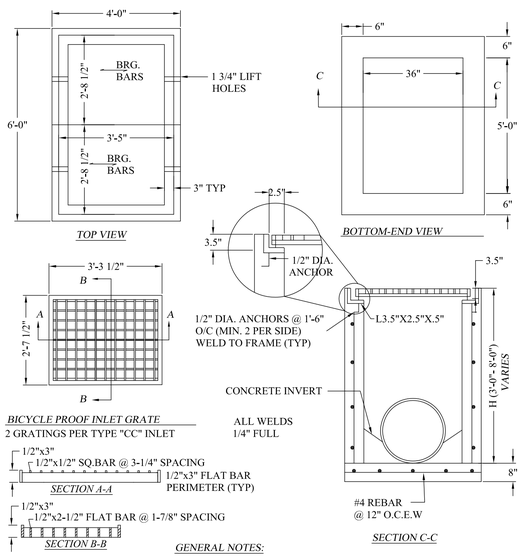
CONCRETE APRON TYPICAL JOINT LAYOUT

CONCRETE DRIVEWAY APRON (SIDEWALKOFFSET FROM CURB)

SHEET 3 OF 3

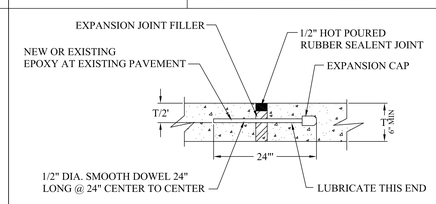


ELEVATION

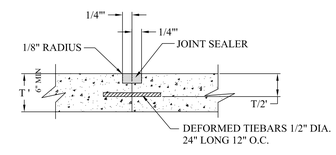


GENERAL NOTES:

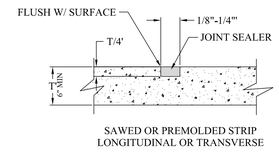
1. REINFORCEMENT: #4 BARS AT 12" O.C. EACH WAY.
2. CONCRETE TO HAVE A MIN. 28 DAY COMPRESSIVE STRENGTH OF 3000 P.S.I.
3. ``H" DIMENSION AVAILABLE IN 6" INCREMENTS FROM 3'-0" TO 8'-0".
4. INLETS SHALL BE COMPOSED OF PRE-CAST SECTIONS, CAST IN PLACE OR A COMBINATION OF BOTH.
5. 6" GRAVEL BEDDING IS REQUIRED IF UNSTABLE SOIL OR GROUND WATER IS FOUND.



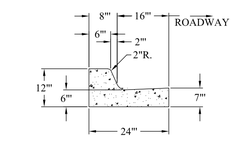
EXPANSION JOINT



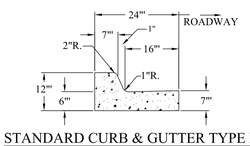
CONSTRUCTION JOINT



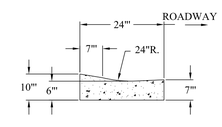
SAWED CONTRACTION JOINT



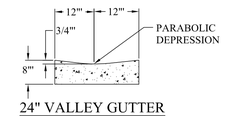
STANDARD CURB & GUTTER TYPE A



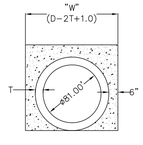
STANDARD CURB & GUTTER TYPE B



LAYDOWN CURB & GUTTER



24" VALLEY GUTTER



A-A

SLOPED REINFORCED CONCRETE PIPE

SAFETY END TREATMENT

TYPE "C" INLET

TYPICAL CONCRETE JOINT DETAILS

CONCRETE CURB & GUTTER

SHEET 1 OF 3

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Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
217017

DATE
October 19, 2018

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED
PROFESSIONAL ENGINEER

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SHEET NUMBER
C20

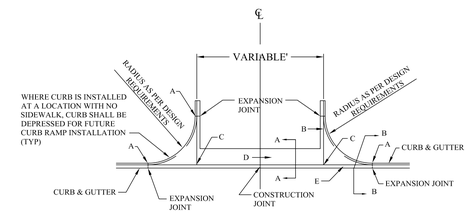
GENERAL NOTES:

1. CURBS AND GUTTERS TO BE CONSTRUCTED OF 3000 PSI CONCRETE.
2. FOR NON-REINFORCED STANDARD CURB OR CURB & GUTTER PROVIDE SAWED CONTRACTION JOINTS 10' O.C. MAX. ALSO PROVIDE 1/2" EXPANSION JOINTS AT 30' O.C. MAX. AT POINTS OF CURVATURE, CURB INLETS, BOX CULVERTS, AT EACH SIDE OF DRIVEWAYS AND ADJACENT TO SIDEWALK.
3. FOR REINFORCED STANDARD CURB OR CURB & GUTTER PROVIDE SAWED CONTRACTION JOINTS 10' O.C. MAX AND EXPANSION JOINTS SHALL BE SPACED AT 120' O.C. MAX, AT POINTS OF CURVATURE, CURB INLETS, BOX CULVERTS, AT EACH SIDE OF DRIVEWAYS, AND ADJACENT TO SIDEWALKS.
4. EDGES NOT SPECIFIED WITH DIMENSIONS SHALL BE EDGED WITH A 3/8" EDGING TOOL.
5. A MEMBRANE CURING COMPOUND SHALL BE APPLIED TO EXPOSED CURB OR CURB & GUTTER AFTER THE SURFACE FINISH HAS BEEN COMPLETED AT A MIN. RATE OF 1 GAL/180 S.F. OF SURFACE AREA.
6. DESIGN ELEVATIONS TO BE GIVEN AT PC, PT AND MID POINT OF THE CURB RADII (FLOW OF CURB ELEVATION) AND AT INTERSECTIONS OF PROJECTED FLOWLINES (FLOWLINE ELEVATION).
7. ON UPSTREAM AND DOWNSTREAM ENDS OF THE INTERSECTION, VALLEY GUTTER CONSTRUCTION SHALL EXTEND TO THE END OF RETURNS.
8. THE VALLEY GUTTER TO BE REINFORCED WITH 6"X 6" X NO. 6 GA. WIRE MESH. OR NO. 3 @ 12" O.C.E.W. 4. INVERT OF VALLEY GUTTER TO EXTEND FROM FLOWLINE OF UPSTREAM CURB RETURN TO FLOWLINE OF DOWNSTREAM CURB RETURN.
9. FOR NEW CONSTRUCTION, VALLEY GUTTER SHALL BE CONSTRUCTED PRIOR TO ADJACENT PAVEMENT.
10. PRIOR TO CONSTRUCTION OF NEW VALLEY GUTTER ON EXISTING ACCEPTED STREETS, PAVEMENT SHALL BE REMOVED AS SHOWN ON PLANS.
11. FOR HANDICAP RAMP, SEE DETAIL.
12. EXISTING CURB OR PAVEMENT SHALL BE SAWCUT WHERE NECESSARY TO CONNECT TO PROPOSED VALLEY GUTTER.

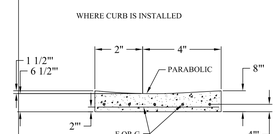
CONCRETE CURB & GUTTER

NOTES:

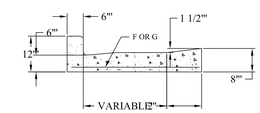
REFER TO SHEET 2 OF 2 FOR GENERAL AND CONSTRUCTION NOTES:



PLAN



SECTION A-A



SECTION B-B

CONCRETE CURB & GUTTER

SHEET 3 OF 3

CONCRETE VALLEY GUTTER

SHEET 1 OF 2

GENERAL NOTES:

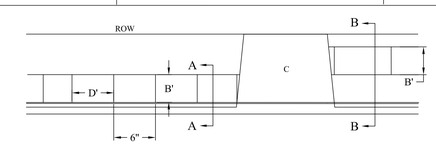
1. DESIGN ELEVATIONS TO BE GIVEN AT PC, PT AND MID POINT OF THE CURB RADII (FLOW OF CURB ELEVATION) AND AT INTERSECTIONS OF PROJECTED FLOWLINES (FLOWLINE ELEVATION).
2. ON UPSTREAM AND DOWNSTREAM ENDS OF THE INTERSECTION, VALLEY GUTTER CONSTRUCTION SHALL EXTEND TO THE END OF RETURNS.
3. THE VALLEY GUTTER TO BE REINFORCED WITH 6"X 6" X NO. 6 GA. WIRE MESH. OR NO. 3 @ 12" O.C.E.W.
4. INVERT OF VALLEY GUTTER TO EXTEND FROM FLOWLINE OF UPSTREAM CURB RETURN TO FLOWLINE OF DOWNSTREAM CURB RETURN.
5. FOR NEW CONSTRUCTION, VALLEY GUTTER SHALL BE CONSTRUCTED PRIOR TO ADJACENT PAVEMENT.
6. PRIOR TO CONSTRUCTION OF NEW VALLEY GUTTER ON EXISTING ACCEPTED STREETS, PAVEMENT SHALL BE REMOVED AS SHOWN ON PLANS.
7. VALLEY GUTTER SHALL BE PLACED USING 3000 P.S.I CONCRETE.
8. FOR HANDICAP RAMP, SEE DETAIL.
9. EXISTING CURB OR PAVEMENT SHALL BE SAWCUT WHERE NECESSARY TO CONNECT TO PROPOSED VALLEY GUTTER.

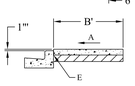
CONSTRUCTION NOTES:

A. END OF CURB RETURN, SEE NOTE 1.
B. PROJECTED FLOW LINE OF 1 1/2" INVERT SEE NOTE 2.
C. INTRSECTION OF FLOWLINES, SEE NOTE 1.
D. DIRECTION OF FLOW
E. FLOWLINE
F. 6" X 6" NO. 6 GA. WIRE MESH
G. NO. 3 BARS AT 12" O.C.E.W.
H. THE 1 1/2" INVERT DEPTH MAY BE REDUCED TO IMPROVE DRIVEABILITY WITH APPROVAL FROM THE CITY ENGINEER.

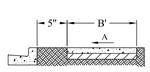
CONCRETE VALLEY GUTTER

SHEET 2 OF 2

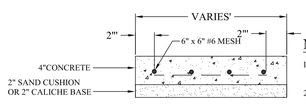




SECTION A-A
SIDEWALK ADJACENT TO CURB



SECTION B-B
SIDEWALK OFFSET 5 FT FROM CURB



NOTE

1. CONCRETE SHALL HAVE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. SUBGRADE SHALL BE COMPACTED TO 90% MAX DENSITY.

GENERAL NOTES:

1. DEVIATIONS FROM THESE STANDARDS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
2. SIDEWALK SHALL BE CONSTRUCTED WITHIN STREET R.O.W.
3. PROVIDE 5' X 5' PASSING SPACE AT A MAXIMUM 200' INTERVALS, IF SIDEWALK IS LESS THAN 5' ON WIDTH (DRIVEWAY IS CONSIDERED A PASSING SPACE)

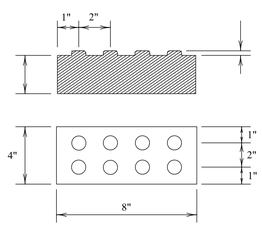
CONSTRUCTION NOTES:

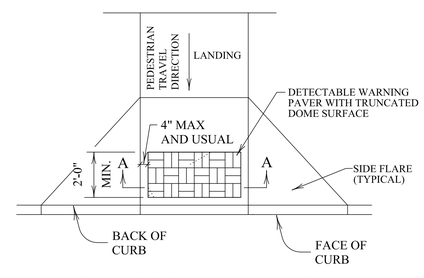
A. CROSS-SLOPE AT 1.5% USUAL AND 2.0% MAX.
B. SIDEWALK, WIDTH VARIES. 4 FT MINIMUM WHEN SETBACK 5 FT FROM THE CURB. 5 FT. MINIMUM WHEN ADJACENT TO THE CURB.
C. SEE DRIVEWAY APRON DETAIL.
D. CONTRACTION JOINTS EVERY 6 FT.; EXPANSION JOINT EVERY 30 FT. AND ALONG CURB AND GUTTER WHEN SIDEWALK ADJACENT TO CURB AND ALONG ANY STRUCTURE EXISTING.
E. 1/2" EXPANSION JOINT.

TYPICAL SIDEWALK DETAILS

1. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 4.29 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. SHADED AREAS ON DETAILS INDICATE THE APPROXIMATE LOCATION FOR THE DETECTABLE WARNING SURFACE FOR EACH CURB RAMP TYPE.
5. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
6. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 10" FROM THE EXTENSION OF THE FACE OF CURB. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
7. TXDOT MAINTAINS A LIST OF QUALIFIED DETECTABLE WARNING MATERIALS. DETAILS ARE PROVIDED HEREIN FOR THE PLACEMENT OF LANDSCAPE PAVERS. FOR OTHER MATERIALS, REFER TO THE MANUFACTURER'S PRODUCT MANUAL FOR PROPER INSTALLATION.

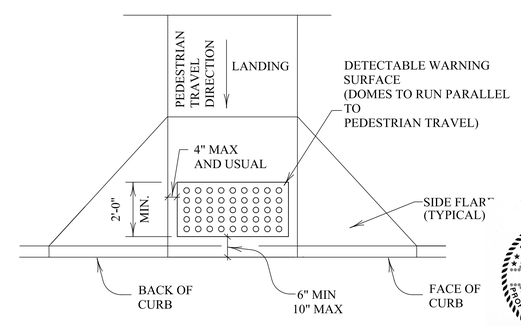
DETECTABLE WARNING DETAILS, GENERAL NOTES





TRUNCATED DOME PATTERN CURB RAMP

DETECTABLE WARNING PAVER OPTION



TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

STATE OF TEXAS
ISAEL POSADAS
89435
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ISAEL POSADAS, P.E. No. 89435 ON OCTOBER 19, 2018. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DETECTABLE WARNING DETAILS

SDI ENGINEERING, LLC
CIVIL • TRANSPORTATION • PLANNING • STORMWATER
5602 E. IOWA RD., EDINBURG, TEXAS 78542 (956) 287-1818 PH. (956) 287-3697 FAX
INFO@SDI-ENGINEERING.COM
TBPE REG. NO. F-13016

Milnet Architectural Services
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CO.
NEW ADMINISTRATION BLDG.
ALTON, TEXAS

PROJECT NUMBER
217017

DATE
October 19, 2018

SHEET NUMBER
C21

GENERAL NOTES

1. THIS CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL NCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR EARTH BANKS, FORMS, SCAFFOLDING, PLANKING SAFETY NETS, SUPPORT AND BRACING FOR CRANES, POLES, ETC. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR THE ENGINEER DO NOT INCLUDE INSPECTION OF THE ABOVE AND BELOW ITEMS.

2. ALL CONSTRUCTION AND QUALITY OF MATERIALS SHALL COMPLY WITH THE GOVERNING BUILDING CODES AND REGULATIONS.

3. THE CONTRACTOR SHALL Verify ALL DIMENSIONS, ELEVATIONS, TOLERANCES AND CONDITIONS AT THE JOB SITE BEFORE COMMENCEMENT OF WORK AND SHALL IMMEDIATELY REPORT ANY DISCREPANCIES OR OMISSIONS TO THE ARCHITECT AND ENGINEER IN WRITING. ANY OMISSION OR CONFLICT BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.

4. IN CASE OF CONFLICT; NOTES AND DETAILS ON THE BALANCE OF THE DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. DRAWINGS TAKE PRECEDENCE OVER SPECIFICATIONS.

5. WHERE CONSTRUCTION DETAILS ARE NOT SPECIFICALLY SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN FOR SIMILAR CONDITIONS AND MATERIALS. WHERE SUFFICIENTLY SIMILAR WORK IS NOT SHOWN, THE ENGINEER SHALL BE CONSULTED FOR CLARIFICATION.

6. EACH SUBCONTRACTOR IS CONSIDERED AN EXPERT IN HIS RESPECTIVE FIELD AND SHALL PRIOR TO THE SUBMISSION OF A BID OR PERFORMANCE OF WORK, NOTIFY THE GENERAL CONTRACTOR, ARCHITECT, ENGINEER OR OWNER, IN WRITING OF ANY WORK CALLED OUT ON THE DRAWINGS IN HIS TRADE THAT CANNOT BE GUARANTEED OR PERFORMED AS INDICATED.

7. THE CONTRACTOR SHALL COORDINATE ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AS TO WEIGHTS AND EXACT LOCATIONS, WITH STRUCTURAL SUPPORTS. IN THE EVENT THAT THE PURCHASED EQUIPMENT DEVIATES IN WEIGHT AND LOCATION FROM THOSE INDICATED ON THE PLANS, THE ARCHITECT AND ENGINEER MUST BE NOTIFIED AND APPROVAL OBTAINED PRIOR TO INSTALLATION.

8. THIS STRUCTURE IS DESIGNED AS A STABLE UNIT AFTER ALL COMPONENTS ARE IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY BRACING AS REQUIRED TO INSURE THE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE, OR ANY PORTION THEREOF, DURING CONSTRUCTION.

9. NEITHER THE OWNER NOR THE ARCHITECT NOR THE ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.

10. TRADE NAMES AND MANUFACTURERS REFERRED TO ARE FOR QUALITY STANDARDS ONLY. SUBSTITUTIONS WILL BE PERMITTED AS APPROVED BY THE ENGINEER.

11. ANY OPTIONS OR APPROVED SUBSTITUTIONS ARE FOR CONTRACTORS CONVENIENCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES, ADDITIONAL COSTS (INCLUDING REDESIGN BY THE ENGINEER), AND COORDINATION WITH ALL ITEMS THAT THE SUBSTITUTIONS MAY IMPACT.

12. THE ARCHITECT AND ENGINEER ARE TO BE NOTIFIED IN WRITING WHEN CONSTRUCTION AT THE SITE BEGINS.

13. ANY QUESTIONS RELATED TO INTERPRETATION OR INTENT OF THESE DRAWINGS SHALL BE REFERRED TO THE ENGINEER.

14. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO LOCATE AND PROJECT ANY EXISTING UNDERGROUND OR CONCEALED CONDUIT, PLUMBING, OR OTHER UTILITIES PRIOR TO BEGINNING ANY WORK.

15. PIPES, DUCTS, SLEEVES, CHASES, ETC. SHALL NOT BE PLACED IN BEAMS OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED. NOR **SHALL** ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC. UNLESS NOTED CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.

DESIGN CRITERIA

DESIGN LOADS, STRUCTURAL ANALYSIS AND PREPARATIONS OF STRUCTURAL MEMBERS ARE BASED UPON THE FOLLOWING CRITERIA:

1. CODE: IBC 2015
2. LATERAL LOADS
   - A. WIND SPEED (V^3 s): 140 MPH
   - B. EXPOSURE CATEGORY: C
   - C. IMPORTANCE FACTOR: 1.15
   - D. BUILDING CATEGORY III
   - E. SEISMIC DESIGN CATEGORY A
   - F. SITE CLASS D
   - G. SEISMIC COEFFICIENTS D
     - Ss 0.042 g
     - S1 0.014 g
     - Fa 2.5
     - Fv 3.5
     - Sms 0.140 g
     - Sm1 0.050 g
     - Sds 0.093 g
     - Sd1 0.033 g
3. VERTICAL LOADS
   - ROOF:
     - A. COLLATERAL LOAD: 15 at main building, 8 psf at warehouse PSF
     - B. DEAD LOAD: ACTUAL WEIGHT PSF
     - C. LIVE LOAD: (REDUCIBLE) 20 PSF
     - D. WIND UPLIFT LOAD (NET): SEE TABLE PSF
     - E. GROUND SNOW LOAD: 0 PSF
     - F. CRANE LOADS: NONE
     - G. MECHANICAL UNITS SEE PLANS
   - FLOOR:
     - A. DEAD LOAD: 50 PSF
     - B. LIVE LOAD, OFFICE: 50 PSF
     - C. LIVE LOAD, LIGHT STORAGE 125 PSF
     - D. LIVE LOAD, HEAVY STORAGE: 250 PSF
     - E. LIVE LOAD, CLASSROOM: 40 PSF
     - F. LIVE LOAD, CORRIDOR: 100 PSF
     - G. MECHANICAL UNITS SEE PLANS
4. SUBSURFACE INFORMATION
   - A. PREPARED BY: Terracon
     - PROJECT NO.: 88185036
     - DATE: August 3, 2018
   - B. SHALLOW FOUNDATION
     - MINIMUM FOOTING DEPTH: 24 INCHES
     - MINIMUM FOOTING WIDTH: 12 INCHES
     - ALLOWABLE BEARING PRESSURE (CONTINUOUS FOOTINGS): 2000 PSF
     - ALLOWABLE BEARING PRESSURE (ISOLATED FOOTINGS): 2000 PSF
     - WIRE REINFORCEMENT INSTITUTE (WRI) CRITERIA
     - CLIMATIC RATING (Cw) 15
     - EFFECTIVE PLASTICITY INDEX (UNDISTURBED, NATIVE SOIL) 19
     - EFFECTIVE PLASTICITY INDEX (SITE IMPROVED SOIL) 19
     - PVR (UNDISTURBED SOIL) 1 1/2 INCH
     - PVR (WITH SITE IMPROVEMENT) 1.0 INCH

ALLOWANCE

1. IN ADDITION TO THE MATERIAL SHOWN, THE CONTRACTOR TO PROVIDE ADDITIONAL MATERIAL, FOR USE ON THE PROJECT AS DIRECTED BY THE STRUCTURAL ENGINEER FIELD REPRESENTATIVE. THE ALLOWANCE COST SHALL INCLUDE MATERIAL COST, LABOR COSTS AND PLACEMENT AT THE SITE.
2. REMAINING BALANCE AT THE END OF THE PROJECT SHALL BE RETURNED/CREDITED BACK TO THE OWNER.
3. THE ALLOWANCE SHALL APPEAR ON THE SCHEDULE OF VALUE AS A LINE ITEM.

MATERIAL	ALLOWANCE
CONCRETE	10 CU. YD.
REINFORCING STEEL	3000 LBS
STRUCTURAL STEEL	5000 LBS
CMU	1000 SQ. FT.
CONCRETE SPALL REPAIR (x 6" DEEP)	0 SQ. FT.

SHOP DRAWINGS AND SUBMITTALS

1. SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED FOR REVIEW TO THE ENGINEER FOR EACH STRUCTURAL BUILDING MATERIAL AS INDICATED IN THE STRUCTURAL GENERAL NOTES AND THE CONTRACT SPECIFICATIONS. SEE THE CONTRACT SPECIFICATIONS FOR SUBMITTAL PROCEDURES AND ADDITIONAL INFORMATION
2. SHOP DRAWINGS SHALL USE DRAFTING LINE WORK AND LETTERING THAT IS CLEARLY LEGIBLE. SHOP DRAWINGS SHALL NOT CONTAIN NO REPRODUCTIONS OF THE CONTRACT DRAWING PLANS OR DETAILS.
3. SUBMIT STRUCTURAL SHOP DRAWINGS IN PDF FORMAT.
4. SHOP DRAWINGS SHALL NOT SHOW MATERIALS FOR MORE THAN ONE LEVEL OF THE SAME PLAN.
5. SHOP DRAWINGS SHALL SHOW CLEAR AND COMPLETE INFORMATION FOR THE FABRICATION (DETAIL SHEETS AND/OR MATERIAL LISTS) AND INSTALLATION.
6. ALLOW A MINIMUM OF (2) WEEKS FOR REVIEW OF EACH SET OF SHOP DRAWINGS.
7. CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS SUBMITTED BY THE SUB-CONTRACTOR AND COORDINATE SHOP DRAWINGS WITH ALL OTHER TRADING.
8. CONTRACTOR SHALL ANSWER ALL QUESTIONS OR CLARIFICATIONS BY THE SUB-CONTRACTOR BEFORE SUBMITTING THE DRAWINGS FOR REVIEW. ANY QUESTIONS THAT THE CONTRACTOR CANNOT ANSWER WITH THE INFORMATION ON THE DRAWINGS SHALL CLEARLY BE MARKED FOR THE ENGINEER FOR REVIEW.
9. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, SEE NOTE NUMBER 3 UNDER GENERAL NOTES.
10. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS FOR GENERAL CONFORMANCE TO THE STRUCTURAL DRAWINGS. REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEF THE CONTRACTOR FOR ANY ERRORS IN DIMENSIONS OR MATERIALS INDICATED ON THE SHOP DRAWINGS.
11. IF THERE IS ANY DISCREPANCY BETWEEN THE STRUCTURAL DRAWINGS AND SHOP DRAWINGS, THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS GOVERN. INFORMATION THAT IS NOT INDICATED ON THE SHOP DRAWINGS SHALL BE OBTAINED FROM THE STRUCTURAL DRAWINGS.
12. PROVIDE SUBMITTALS FOR THE FOLLOWING ITEMS:

ITEM	REQUIRED
A. CONCRETE MIX DESIGN	X
B. CURING COMPOUND FOR CONCRETE	X
C. REINFORCING STEEL	X
D. STRUCTURAL STEEL	X
E. STEEL JOIST	
F. METAL DECKING (INDICATE LAYOUT AND TYPES OF DECK PANELS, ANCHORAGE DETAILS, REINFORCING CHANNELS, PANEL DECK OPENINGS, SPECIAL JOINTING, ACCESSORIES, AND ATTACHMENTS TO OTHER CONSTRUCTION.)	
G. PRE-MANUFACTURED METAL BUILDING (INCLUDE CALC'S & REACTIONS)	X
H. PRE-MANUFACTURED WOOD TRUSSES	

REINFORCING STEEL

1. BAR REINFORCEMENT SHALL CONFORM TO THE FOLLOWING GRADES OF ASTM A615, INCLUDING SUPPLEMENT S1. GRADE 40 - #3 AND SMALLER GRADE 60 - #4 AND LARGER
2. DETAILS OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH CHAPTER 7 OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318, UNLESS OTHERWISE NOTED.
3. VERTICAL REINFORCEMENT SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT THE TOP AND BOTTOM AND AT INTERMEDIATE LOCATIONS, SPACED NOT GREATER THAN 192 BAR DIAMETERS NOR FOUR (4) FEET ON CENTER
4. WELDED STEEL WIRE FABRIC REINFORCEMENT SHALL CONFORM TO ASTM A185
5. LAPS OF WELDED STEEL WIRE FABRIC AT SPLICES SHALL BE NOT LESS THAN 12 INCHES.
6. WALLS, PILASTER, COLUMNS SHALL BE DOWELED TO THE SUPPORTING FOOTINGS WITH REINFORCEMENT OF THE SAME SIZE, GRADE AND AT THE SAME SPACING AS THE VERTICAL REINFORCEMENT IN THE WALLS, PILASTER, OR COLUMNS.
7. BAR SUPPORTS SHALL BE FABRICATED IN ACCORDANCE WITH THE PROVISIONS OF "BAR SUPPORT SPECIFICATIONS" AS CONTAINED IN THE LATEST EDITION OF THE "MANUAL OF STANDARD PRACTICE" BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
8. REINFORCING STEEL DETAILING, BENDING AND PLACING SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
9. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE BEFORE PLACING CONCRETE OR GROUT. PROVIDE CONCRETE OR MASONRY CHAIRS AT 4'-0" O.C. MAX. (PLASTIC CHAIRS NOT ALLOWED.
10. PROVIDE CORNER BARS TOP AND BOTTOM AT ALL BEAM CORNERS AND DEAD END BEAM INTERSECTIONS. BARS TO EQUAL SIZE AND QUANTITY OF THE NOTED BEAM STEEL. BARS SHALL LAP BEAM REINFORCEMENT 40 BAR DIAMETERS.
11. BARS DETAILED AS CONTINUOUS SHALL BE LAPPED 40 BAR DIAMETERS AT SPLICES.
12. EXTEND SLAB REINFORCING STEEL, PERPENDICULAR TO BEAM, TO THE TOP OUTSIDE REINFORCING BAR OF PERIMETER BEAMS. START THE SLAB REINFORCING STEEL, PARALLEL TO BEAM, NOT MORE THAN 6" FROM THE TOP INSIDE REINFORCING BAR OF PERIMETER BEAMS.
13. PROVIDE #4 "Z" BARS AT 12" ON CENTER WHERE THE SLAB STEPS DOWN MORE THAN 3". THE "Z" BARS SHALL LAP THE MAIN SLAB REINFORCING STEEL 40 BAR DIAMETERS.
14. ALL CONDUIT OR PLUMBING LINES IN SLAB SHALL BE PLACED BELOW SLAB REINFORCING. ALL CONDUIT TO BE NO GREATER THAN 1" DIAMETER AND TO BE PLACED IN CENTER OF SLAB. NO PLUMBING LINES GREATER THAN 1 INCH ALLOWED IN THE SLAB.
15. WELDING OF CROSSING BARS AND TACK WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED.
16. WELDING OF REINFORCING STEEL, IF PERMITTED BY THE STRUCTURAL ENGINEER, SHALL BE PERFORMED IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE REINFORCING STEEL" ON THE AMERICAN WELDING SOCIETY, AWS D1.4-96 AS INCORPORATED IN CBC CHAPTER No. 19, AND BY CERTIFIED WELDERS QUALIFIED USING PROCEDURES CONTAINED THEREIN. E70XX ELECTRODES SHALL BE USED IN WELDING GRADE 60 REINFORCEMENT. REINFORCEMENT SHALL NOT BE WELDED UNTIL A CHEMICAL ANALYSIS SUFFICIENT TO DETERMINE THE CARBON EQUIVALENT (C.E.) IS PERFORMED. THE C.E. OF REINFORCING STEEL SHALL BE CALCULATED FORM THE CHEMICAL COMPOSITION AS SHOWN IN THE MILL TEST REPORT. IF MILL TEST REPORTS ARE NOT AVAILABLE, A CHEMICAL ANALYSIS SHALL BE MADE ON REINFORCEMENT REPRESENTATIVE OF THOSE TO BE WELDED. THE C.E. SHALL NOT EXCEED 0.55 AS CALCULATED PER CBC CHAPTER 19, A COPY OF THE MILL TEST OF REINFORCING STEEL IN CONCRETE MEMBERS. (SPECIAL INSPECTION IS REQUIRED FOR ALL FIELD WELDING).
17. CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW BEFORE FABRICATION AND INSTALLATION.
18. CONCRETE COVER FOR REINFORCING AS FOLLOWS:

EXPOSURE CONDITION	MINIMUM COVER	TOLERANCE
DRILLED PIERS, FOOTINGS AND OTHER PRINCIPAL STRUCTURAL MEMBERS IN WHICH CONCRETE IS DEPOSITED AGAINST GROUND:	3"	3/8"
WHERE CONCRETE SURFACES, AFTER REMOVAL OF FORMS, ARE EXPOSED TO WEATHER OR GROUND:		
FOR BARS 5/8" IM DIAMETER	2"	1/4"
FOR BARS 5/8" OR LESS IN DIAMETER	1 1/2"	1/4"
WHERE SURFACES ARE NOT DIRECTLY EXPOSED TO WEATHER OR GROUND:		
FOR SLAB ON GRADE (FROM TOP OF SLAB)	1 1/2"	1/4"
FOR BEAMS, COLUMNS	1 1/2"	1/4"
FOR JOISTS AND SLABS	1"	1/8"

20. LAPS AT BAR SPLICES, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:

MASONRY - GRADE 60: LAP 50 DIA. (30" MIN.)
GRADE 40: LAP 48 DIA. (24" MIN.)

CONCRETE - LAP PER SCHEDULE BELOW

BAR SPLICE LAP LENGTH IN CONCRETE

BAR SIZE	f'c = 2000 PSI	f'c = 3000 PSI	f'c = 4000 PSI	f'c = 5000 PSI
#3	22	22	22	22
#4	29	29	29	29
#5	40	36	36	36
#6	57	46	43	43
#7	77	63	54	54
#8	100	82	71	71
#9	128	104	90	90
#10	162	132	115	115
#11	200	163	141	141

FOR WELDED WIRE FABRIC: SPACING OF WIRE PLUS 12".

SPECIAL NOTES TO OWNER

1. UNDER NORMAL CONDITIONS, AND FOR CONVENTIONAL BUILDINGS SUCH AS THE SUBJECT MATTER, REINFORCED CONCRETE AND MASONRY DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE OF CONCRETE, CREEP AND RESTRAINING EFFECTS OF VERTICAL AND OTHER STRUCTURAL ELEMENTS TO WHICH THE BEAMS/SLABS ARE TIED.

2. THE CRACKS FORMED ARE NORMALLY COSMETIC. THE SLAB MAINTAINS ITS SERVICEABILITY AND STRENGTH REQUIREMENTS. IT IS EMPHASIZED THAT ALTHOUGH SPECIAL EFFORT IS MADE TO REDUCE THE POTENTIAL CAUSES AND NUMBER OF SUCH CRACKS, IT IS NOT PRACTICAL TO PROVIDE TOTAL ARTICULATION BETWEEN THE FLOOR SYSTEM AND ITS SUPPORTS AND THEREBY ACHIEVE COMPLETE INHIBITION OF ALL CRACKS.

3. MOST SUCH CRACKS DEVELOP OVER THE FIRST THREE YEARS OF THE LIFE OF THE FLOOR SYSTEM. CRACKS WHICH ARE WIDER THAN 0.01 INCH MAY NEED TO BE PRESSURE EPOXIED. REFER TO THE NOTES UNDER "ALLOWANCES".

4. THE OBJECT OF THE JOINTS PROVIDED IS TO ALLOW MOVEMENT. MOVEMENTS DUE TO CREEP AND SHRINKAGE MAY BE NOTICEABLE AT JOINTS UP TO TWO YEARS AFTER CONSTRUCTION, BEYOND WHICH MOVEMENTS DUE TO VARIATIONS IN TEMPERATURE WILL PERSIST.

STRUCTURAL STEEL

1. MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
2. STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING ASTM DESIGNATIONS:

MATERIAL	DESIGNATION	STRENGTH
ANCHOR BOLTS	A36	Fy=36 ksi
PLATES	A36	Fy=36 ksi
ANGLES	A36	Fy=36 ksi
CHANNELS	A36	Fy=36 ksi
WIDE FLANGE SHAPES	A572	Fy=50 ksi
STEEL PIPE	A53 GRADE B	Fy=35 ksi
SQUARE & RECT. STEEL TUBES (HSS)	A500 GRADE B	Fy=46 ksi
ROUND TUBES (HSS)	500 GRADE B	Fy=42 ksi

3. ALL STRUCTURAL STEEL SHALL BE FABRICATED, ERECTED, AND PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AS AMENDED TO DATE AND THE CODE OF STANDARD PRACTICE, LATEST EDITION AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AMENDED AS FOLLOWS:
   - SECTION 4.2.1, DELETE FIRST TWO SENTENCES.
   - SECTION 7., ALL REFERENCE TO OWNER SHALL BE CHANGED TO GENERAL CONTRACTOR.
   - SECTION 7.9.3, THE CONTRACTOR SHALL PROVIDE THE SEQUENCE AND SCHEDULE OF PLACEMENT OF NON-SELF SUPPORTING STEEL FRAMES.
   - SECTION 7.9.4, THE CONTRACTOR TO DESIGN SHORES, JACKS OR LOADS.
4. WELDING SHALL BE DONE IN ACCORDANCE WITH THE STANDARD CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION AS PUBLISHED BY THE AMERICAN WELDING SOCIETY, EXCEPT THAT ALL WELDING SHALL BE DONE BY THE ELECTRIC ARC PROCESS. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS AND SHALL CONFORM TO ANSI/AWS D1.1-04
5. DETAILED AND OR SCHEDULED CONNECTIONS HAVE BEEN DESIGNED BY STRUCTURAL ENGINEER. ANY CONNECTION NOT DETAILED OR SCHEDULED OR ALTERED FOR FABRICATION PURPOSES SHALL BE SIZED AND DETAILED BY FABRICATOR AND SHALL BE MARKED FOR ENGINEER'S VERIFICATION. FABRICATOR SIZED AND DETAILED CONNECTIONS SHALL SUPPORT ONE HALF THE TOTAL UNIFORM LOAD CAPACITY SHOWN IN THE TABLES OF UNIFORM CONSTANTS, PART 2 OF THE AISC MANUAL OF STEEL CONSTRUCTION FOR THE GIVEN BEAM, SPAN AND GRADE OF STEEL SPECIFIED. THE EFFECT OF ANY CONCENTRATION LOADS MUST BE TAKEN INTO ACCOUNT.
6. SEE ARCHITECTURAL PLANS FOR MISCELLANEOUS STEEL ITEMS NOT INDICATED ON STRUCTURAL DRAWINGS. STEEL ITEMS SHOWN ON ARCHITECTURAL DRAWINGS AND NOT SPECIFIED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGN BY THE STEEL FABRICATOR. SEE DESIGN CRITERIA FOR LOADING.
7. ALL WELDED CONNECTIONS SHALL BE MADE USING 1/4" FILLET WELD, U.N.O.
8. ALL BOLTED CONNECTIONS SHALL BE MADE USING 3/4" DIAMETER HIGH STRENGTH BOLTS, ASTM A325, BEARING TYPE CONNECTION w/ WASHERS ASTM F436, U.N.O. ON DESIGN DRAWINGS. SPECIAL INSPECTION REQUIRED FOR ALL HIGH STRENGTH BOLTING. ALL NUTS SHALL BE PER ASTM A563
9. ALL CONNECTION PLATES AND STIFFENERS SHALL BE MADE WITH 1/4" THICK PLATES, UNLESS OTHERWISE NOTED ON PLANS
10. ALL STEEL (INCLUDING BOLTS) EXPOSED TO THE WEATHER SHALL BE HOT DIPPED GALVANIZED. (INCLUDES STEEL THAT IS ONLY COVERED WITH PLASTER OR STUCCO). SEE ARCHITECTURAL PLANS IF STRICTER REQUIREMENTS ARE REQUIRED.
11. ALL EXPOSED STEEL SHALL FOLLOW SECTION 10 OF THE CODE OF STANDARD PRACTICE OF AISC. SECTION 10 OF THE CODE ADDRESSES ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS)
12. CONNECTIONS SHALL BE PER HOLLOW STRUCTURAL SECTIONS, CONNECTION MANUAL BY AISC
13. WHERE STEEL MEMBER PASS THROUGH CMU WALLS, PROVIDE HALF INCH GAP BETWEEN THE CMU AND THE STEEL MEMBER. PROVIDE ELASTOMERIC MATERIAL BETWEEN THE THE STEEL MEMBER AND CMU WALL.
14. ALL BEAMS NOT SHOWN SHALL BE W14x26. ALL COLUMNS NOT SHOWN SHALL BE HSS4x4x1/4.
15. STEEL SHOP SHALL BE AISC CERTIFIED
16. HOLES FOR BOLTS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED. UNLESS NOTED OTHERWISE, HOLES SHALL BE STANDARD SIZE 1/16 INCH LARGER THAN THE BOLT.
17. ALL STRUCTURAL STEEL SHAPES SHALL BE PRIMED WITH A RUST RESISTANT PRIMER BEFORE SHIPMENT TO THE PROJECT SITE. PRIMER SHALL NOT BE APPLIED TO THE IMMEDIATE AREA OF STEEL INTENDED TO RECEIVE SLIP CRITICAL BOLTED CONNECTIONS
18. HIGH STRENGTH BOLTS INSTALLATION SHALL BE CONTINUOUSLY INSPECTED BY A SPECIAL INSPECTOR. FOLLOWING ARE REQUIREMENTS OF THE SPECIAL INSPECTOR:
   - A. HE SHALL VERIFY THE MILL CERTIFICATES FOR MATERIAL.
   - B. HE SHALL VERIFY THAT THE MATERIAL USED ARE PROPERLY STORED AND PREPARED FOR USE.
   - C. HE SHALL VERIFY THAT CONSTRUCTION DETAILS, PROCEDURES, TOOL CALIBRATIONS WORKMANSHIP ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND AND BUILDING CODE.
   - D. FOR SNUG-TIGHT CONNECTIONS, HE SHALL VERIFY THAT THE PLIES OF THE CONNECTED ELEMENTS HAVE BEEN BROUGHT INTO SNUG CONTACT WITH EACH OTHER.
   - E. FOR SLIP-TIGHT CONNECTIONS, HE SHALL VERIFY THE PRETENSION METHOD SELECTED BY THE CONTRACTOR HAS INDUCED THE REQUIRED MINIMUM TENSION IN THE BOLT.
   - F. A CERTIFICATE OF INSPECTION SHALL BE FURNISHED BY THE SPECIAL INSPECTOR TO THE BUILDING OFFICIAL PRIOR TO HIS INSPECTION AND TO THE ARCHITECT AND ENGINEER.
19. WELDING IN THE FIELD SHALL BE CONTINUOUSLY INSPECTED, BY A SPECIAL INSPECTOR FOLLOWING ARE REQUIREMENTS OF THE SPECIAL INSPECTOR:
   - A. HE SHALL VERIFY THAT THE MATERIAL USED ARE PROPERLY STORED AND PREPARED FOR USE.
   - B. HE SHALL VERIFY THE WELDER'S QUALIFICATIONS.
   - C. HE SHALL VERIFY THAT CONSTRUCTION DETAILS, PROCEDURES AND WORKMANSHIP ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND BUILDING CODE.
   - D. A CERTIFICATE OF INSPECTION SHALL BE FURNISHED BY THE SPECIAL INSPECTOR TO THE BUILDING OFFICIAL PRIOR TO HIS INSPECTION AND TO THE ARCHITECT AND ENGINEER.
20. ALL NON SHRINK GROUT FOR LEVELING OF BASE PLATES SHALL HAVE A MINIMUM 5000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. GROUT SHALL COMPLY WITH CORPS OF ENGINEERS SPECIFICATION CRD-C 621.

Drawing List	
Sheet Number	Sheet Name
S101	General Notes
S102	General Notes
S201	Foundation Plan
S202	CMU Wall Layout
S203	Foundation Plan, Warehouse
S301	Roof Framing Plan
S302	Roof Framing Plan, Warehouse
S401	Typical Concrete Details
S402	Foundation Details
S403	Typical Framing Details
S404	Typical CMU Details
S405	Typical Framing Details

ABBREVIATIONS

TYP	TYPICAL
SIM	SIMILAR
T&S	TYPICAL AND SIMILAR
U.N.O.	UNLESS NOTED OTHERWISE
CLR	CLEAR

CAST-IN-PLACE CONCRETE

1. VERIFY ALL DIMENSIONS. COORDINATE WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND/OR ENGINEER OF ANY DISCREPANCIES.
2. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE SPECIFICATIONS, ACI #301 LATEST EDITION. DRILLED PIERS SHALL COMPLY WITH ACI 336.1 AND ACI 336.3R, LATEST EDITIONS
3. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, ACCESSORIES UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", ACI #315 LATEST EDITION
4. THE MINIMUM 28 DAYS CYLINDER STRENGTH SHALL BE AS FOLLOWS:

LOCATION	STRENGTH AT 28 DAYS	MAXIMUM SLUMP	SIZE OF LARGE AGGREGATE	WATER/CEMENT RATIO
FOUNDATIONS	3000 PSI	5"	1 1/2"	0.53
SLAB ON GRADE	3000 PSI	5"	1 1/2"	0.53
GRADE BEAMS	3000 PSI	5"	1 1/2"	0.53
WALL	3000 PSI	6"	3/4"	0.53

5. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN SLABS OR BEAMS.
6. VERTICAL CONSTRUCTION JOINTS IN SLABS ARE TO BE AS SHOWN ON PLANS OR AS APPROVED BY ENGINEER.
7. ALL OPENINGS IN SLAB (FOR PIPING, DRAINS, ETC.) SHALL BE SEALED WITH 1/2 SEALANT '2A' (SELF-LEVELING 2-PART POLYURETHANE).
8. UTILITIES THAT PROJECT THROUGH SLAB FLOORS SHOULD BE DESIGNED WITH EITHER SOME DEGREE OF FLEXIBILITY OR WITH SLEEVES IN ORDER TO PREVENT DAMAGE TO THESE LINE SHOULD VERTICAL MOVEMENT OCCUR.
9. BACKFILL AROUND PERIMETER TO PROVIDE POSITIVE DRAINAGE AWAY FROM SLAB.
10. FLOOR TOLERANCES
    F-NUMBER SYSTEM

	COMPOSITE	MINIMUM LOCAL VALUE
FLATNESS (F) :	30	23
LEVELNESS (F) :	25	19

IN ALL INSTANCES MINIMUM SLAB THICKNESS SHALL BE OBTAINED. COORDINATE SLAB FINISHES WITH ARCHITECTURAL PLANS.

11. ANCHOR BOLTS, DOWELS, INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO PLACING CONCRETE.
12. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ALL MOLDS. GROOVES, REGLETS, ORNAMENTAL CLIPS, PIPES, CONDUITS, INSERTS, ETC. TO BE CAST IN CONCRETE. PROVIDE OVERSIZED SLEEVES FOR PLUMBING AND ELECTRICAL CONDUITS AND PIPES. NO PIPES OR DUCTS SHALL BE PLACED IN CONCRETE, FOOTINGS OR SLAB UNLESS SPECIFICALTY DETAILED IN THESE PLANS, OR AS DIRECTED BY THE ENGINEER.
    MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED.
13. CONCRETE TESTING SHALL BE ONE SET OF CYLINDERS FOR EVERY 50 CUBIC YARDS OR PORTION THEREOF FOR EACH TYPE OF CONCRETE POURED ON ANY GIVEN DAY, ONE SET CONSISTS OF 2 CYLINDERS TESTED FOR COMPRESSION AT 7 DAYS AND 2 CYLINDERS AT 28 DAYS.
14. VAPOR RETARDANT
    - A. VAPOR RETARDANT (UNDER SLAB): SHALL CONFORM TO ASTM E1745, CLASS C OR BETTER AND SHALL HAVE A MINIMUM WATER VAPOR PERMEANCE OF 0.044 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM E96. VAPOR RETARDANT

SPECIAL INSPECTION, MATERIALS TESTING

1. RESPONSIBILITIES OF THE OWNER
   A. EMPLOY AND PAY THE SPECIAL INSPECTION AGENCY TO PERFORM INSPECTIONS SPECIFIED IN THIS SECTION AND THOSE REQUIRED BY AUTHORITIES HAVING JURISDICTION.
   B. EMPLOY AND PAY THE MATERIALS TESTING LABORATORY TO PERFORM TESTS SPECIFIED IN THIS SECTION AND THOSE REQUIRED BY AUTHORITIES HAVING JURISDICTION
      1) RETESTING - THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR RE-TESTING WHERE RESULTS OF INSPECTIONS AND TESTS PROVE UNSATISFACTORY AND INDICATE NONCOMPLIANCE WITH REQUIREMENTS.
   C. EMPLOY THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE STRUCTURAL DESIGN OR ANOTHER ENGINEER OR ARCHITECT DESIGNATED BY THE (DPR) TO PERFORM STRUCTURAL OBSERVATION. (REF 1702)
2. DEFINITIONS
   A. APPROVED FABRICATOR: A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL AND ENGINEER OF RECORD, TO PERFORM WORK, OFF SITE, REQUIRING SPECIAL INSPECTION WITHOUT SPECIAL INSPECTION. THE DESCRIPTION IN SECTION 1701.1 OF THE 1998 CALIFORNIA BUILDING CODE IS APPLICABLE.
   B. SPECIAL INSPECTION AGENCY: THE ACCREDITED INSPECTION BODIES DESIGNATED HEREIN AND APPROVED BY THE ENGINEER OF RECORD TO PERFORM SPECIAL INSPECTION AS REQUIRED BY THE BUILDING CODE AND THE PROJECT SPECIFICATIONS AND AS DESCRIBED IN SECTION 1701 1998 CALIFORNIA BUILDING CODE.
   C. SPECIAL INSPECTOR: A QUALIFIED PERSON, EMPLOYED BY THE SPECIFIED SPECIAL INSPECTION AGENCY, WHO HAS DEMONSTRATED COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. DUTIES INCLUDE VISUAL OBSERVATIONS AND FIELD MEASUREMENTS OF MATERIALS; OBTAINING SPECIMENS FOR TESTS AND RELATED ACTIONS INCLUDING PREPARATION OF REPORTS.
   D. TESTING LABORATORY: AN ACCREDITED MATERIALS TESTING LABORATORY, APPROVED BY THE ENGINEER OF RECORD, TO MEASURE, EXAMINE, TEST, CALIBRATE OR OTHERWISE DETERMINE THE CHARACTERISTICS OR PERFORMANCE OF CONSTRUCTION MATERIALS.
   E. CONTINUOUS INSPECTION: ON SITE INSPECTION BY THE SPECIAL INSPECTOR ON A CONTINUOUS BASIS OBSERVING ALL WORK REQUIRING SPECIAL INSPECTION.
   F. PERIODIC INSPECTION: INTERMITTENT INSPECTION AS PERMITTED BY THE PLAN SPECIFICATIONS AT PREDETERMINED INTERVALS OR MORE FREQUENTLY AS WORK PROGRESSES. NO SIGNIFICANT ELEMENTS OR AREAS SHALL BE COVERED BY ADDITIONAL WORK UNTIL APPROVED BY THE MUNICIPAL BUILDING INSPECTOR AND/OR THE SPECIAL INSPECTOR.
   G. STRUCTURAL OBSERVATION: THE VISUAL OBSERVATION, BY THE ENGINEER OF RECORD OR HIS DESIGNEE, INCLUDING BUT NOT LIMITED TO THE ELEMENTS AND CONNECTIONS, OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE SPECIAL AND MUNICIPAL INSPECTIONS REQUIRED BY CODES AND SPECIFICATIONS.
   H. EOR: ENGINEER OF RECORD
   I. DPR: ENGINEER OF RECORD/DESIGN PROFESSIONAL OF RECORD
   J. SPECIAL INSPECTION AND MATERIALS TESTING
      THIS SECTION APPLIES TO THE STRUCTURAL PORTIONS OF THE PROJECT REQUIRING SPECIAL INSPECTION. THE SPECIAL INSPECTORS DUTIES ARE DESCRIBED IN CBC 1701.3 AND CBC 1701.5
      DOCUMENTED METHODS AND PROCEDURES SHALL BE USED FOR INSPECTION AND TESTING REQUIRED OF CONTRACTUAL DOCUMENTS, AND FOR ESTABLISHING ACCEPTANCE CRITERIA. ALL INSTRUCTIONS, STANDARDS, PROCEDURES, CHECKLISTS RELEVANT TO THE WORK WILL BE KEPT UP TO DATE AND READILY AVAILABLE FOR USE. NO INSPECTION OR TEST WILL BE PERFORMED IF THE SAFETY OF THE TESTING PERSONNEL IS IN QUESTION DUE TO JOB SITE CONDITIONS. PRIOR TO PROJECT COMMENCEMENT, THE TESTING AGENCY WILL CONFER WITH AND OBTAIN THE APPROVAL FROM THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD REGARDING THE INSPECTION AND TESTING PROCEDURES OR SPECIFICATIONS INCLUDING ANY APPROPRIATE ASTM METHODS, CODE REQUIREMENTS OR PROJECT SPECIFICATION REQUIREMENTS. AT THE START OF AND DURING EACH INSPECTION OF THE PROJECT TO ASCERTAIN PROPOSED CONFORMITY OF MATERIALS, PERSONNEL QUALIFICATIONS, AS REQUIRED, AND PROCEDURS WITH APPLICABLE CODES, PLANS, AND SPECIFICATIONS.
      1. ALL INSPECTIONS SHALL BE PERFORMED BY AN ACCREDITED, APPROVED SPECIAL INSPECTION AGENCY EMPLOYED BY THE OWNER OR OWNER'S AGENT, NOT THE CONTRACTOR OR SUBCONTRACTOR,
         ACCREDITATION TO ASTM E-329-95C, STANDARD
         SPECIFICATIONS FOR AGENCIES ENGAGED IN THE TESTING AND/OR INSPECTION OF MATERIALS USED IN CONSTRUCTION, IS PREFERRED.
         COPIES OF THE TEST RESULTS AND FINAL REPORTS SHALL BE FURNISHED TO THE ENGINEER OF RECORD (EOR) IN ADDITION TO OTHER NORMAL DISTRIBUTIONS, WITHIN TWO DAYS OF THE TEST. IN THE CASE OF DISCREPANCIES OR DEFICIENCIES, THE SPECIAL INSPECTION AGENCY SHALL IMMEDIATELY NOTIFY THE EOR. TESTING FREQUENCY SHALL BE PER APPLICABLE STRUCTURAL MASONRY, REINFORCED CONCRETE, AND STRUCTURAL STEEL WELDING CODES AND STANDARDS AND ARE PART OF THIS SPECIFICATION.
         A. CERTIFICATE OF SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED AND SUBMITED TO THE INSPECTION SERVICES DIVISION BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE TEST AND/OR INSPECTION FIRM WITH A CONSTRUCTION SCHEDULE TO FACILITATE THE PROPER COORDINATION.
4. THE SPECIAL INSPECTOR SHALL FURNISH DAILY INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT, AND THE ENGINEER AT A MINIMUM PER WEEK FREQUENCY. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT, SIGNED BY BOTH HE AND HIS SUPERVISOR, STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE WORKMANSHIP PROVISIONS OF THE CBC.
5. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION; THEN IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY AND THE BUILDING OFFICIAL.
6. SPECIAL INSPECTION REPORTS
   THESE REPORTS SHALL INCLUDE, AS A MINIMUM, THE FOLLOWING INFORMATION:
   A. PERMIT NUMBER
   B. NAME OF THE MUNICIPAL INSPECTOR, IF AVAILABLE, AND OF THE GOVERNING MUNICIPALITY
   C. SPECIAL INSPECTION AGENCY NAME, ADDRESS, AND PHONE NUMBER
   D. UNIQUE IDENTIFICATION OF THE REPORT AND OF EACH PAGE.
   E. CLIENT NAME AND ADDRESS
   F. NAME AND ADDRESS OF THE DESIGN PROFESSIONAL OF RECORD, AND OTHER DESIGNERS OR ENGINEERS APPLICABLE TO THE PROJECT
   G. DESCRIPTION OF THE TYPE OF INSPECTION PERFORMED
   H. ANY UNRESOLVED DEVIATIONS, EXCLUSIONS, AND ADDITIONS TO OR FROM THE APPROVED DRAWINGS AND SPECIFICATIONS RELEVANT TO THE SPECIFIC INSPECTION OR TEST.
   I. COMPLIANCE FINDINGS AND REFERENCE
   J. DESCRIPTION OF LOCATION WHERE THE INSPECTION WAS PERFORMED WITHIN THE PROJECT
   K. TIME AND DATE OF THE INSPECTION
   L. MEASUREMENTS, EXAMINATIONS, AND DERIVED RESULTS SUPPORTED BY TABLES, GRAPHS, SKETCHES, OR PHOTOGRAPHS AS APPROPRIATE
   M. THE NAME, SIGNATURE, TITLE, AND IDENTIFICATION NUMBER, AS APPROPRIATE, OF THE FIELD INSPECTOR PERFORMING THE INSPECTION
   N. IDENTIFICATION OF SUBCONTRACTORS EMPLOYED TO CARRY OUT TESTS OR PARTS OF TESTS
7. TESTS REPORTS
   LABORATORY TESTS AND MILL CERTIFICATIONS ARE REQUIRED TO BE SUBMITTED TO THE ENGINEER OF RECORD. THESE REPORTS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   1. CONCRETE CYLINDERS
   2. REINFORCING STEEL
   3. STRUCTURAL STEEL
   4. CONCRETE MIXES
   5. CONCRETE ANCHORS
8. SPECIAL INSPECTION BY A SPECIAL OR DEPUTY INSPECTOR FROM AN ACCREDITED, EOR APPROVED INSPECTION AGENCY AND WITH THE APPROPRIATE CURRENT MUNICIPAL LICENSES AND CERTIFICATIONS SHALL BE REQUIRED FOR THE TYPE OF WORK LISTED BELOW.

8A CONTINUOUS INSPECTION REQUIRED FOR THE FOLLOWING:
A. REINFORCED CONCRETE.
   1. DURING PLACEMENT OF REINFORCED CONCRETE WHERE THE STRUCTURAL DESIGN IS BASED ON F'C GREATER THAT 3,000 PSI AND THE TAKING TEST SPECIMENS. THE NUMBER OF AND FREQUENCY OF TAKING OF TEST SPECIMENS SHALL BE THE MINIMUM REQUIRED BY THE GOVERNING MUNICIPAL BUILDING CODE OR AS SPECIFIED BY THE APPROVED STRUCTURAL PLANS, WHICHEVER IS THE GREATER NUMBER.
   2. DURING THE PLACEMENT OF REINFORCING STEEL AND PRE STRESS TENDONS UNLESS THE SPECIAL INSPECTOR HAS INSPECTED FOR CONFORMANCE WITH THE APPROVED PLANS PRIOR TO THE CLOSING OF FORMS OR THE DELIVERY OF CONCRETE TO THE JOBSITE.
   3. DURING THE PLACEMENT OF REINFORCING STEEL AND CONCRETE FOR CAST-IN-PLACE DRILLED PILES OR CAISSONS.
   4. INSPECTION IS REQUIRED ON CAST-IN-PLACE PILES OR CAISSONS, EVEN IF F'C IS LESS THAN 2,500 PSI.
   5. PRIOR TO AND DURING THE PLACEMENT OF CONCRETE AROUND BOLTS WHEN STRESS INCREASES PERMITTED BY FOOTNOTE 5 OF TABLE 19E, SECTION 1925 OF THE UNIFORM BUILDING CODE FOR THE USE OF FULL VALUES FOR EMBEDDED BOLTS.
   6. PRIOR TO AND DURING THE INSTALLATION OF ANCHORS REQUIRING TO BE DRILLED INTO CONCRETE.
   7. DURING THE STRESSING AND GROUTING OF TENDONS IN PRE STRESSED
   8. CONTINUOUS INSPECTION FOR THE PLACEMENT OF THE REINFORCEMENT AND CONCRETE AT CONCRETE MOMENT FRAMES WITHIN SEISMIC ZONES 3 & 4
   9. SHOT CRETE PLACEMENT AND DURING THE TAKING OF TEST SPECIMENS.
      PERIODIC INSPECTION FOR REINFORCED CONCRETE SHALL BE PERFORMED WHEN SPECIFIED, AS MINIMUMS:
      1. AT THE START OF AND DURING EACH INSPECTION OF THE PROJECT TO ASCERTAIN PROPOSED CONFORMITY OF MATERIALS, PERSONNEL QUALIFICATIONS AS REQUIRED, AND PROCEDURES WITH THE APPLICABLE CODES, PLANS AND SPECIFICATIONS.
      2. REINFORCEMENT VERIFICATION PRIOR TO THE PLACEMENT OF CONCRETE
      3. DURING THE PLACEMENT OF CONCRETE
      4. DURING THE MOLDING, CONSTRUCTION OF TAKING OF COMPRESSION SAMPLES, BEAMS, CORES OR PANELS.
      5. AT SUCH FREQUENCY AS NECESSARY TO CLEARLY CONFIRM THE PLACEMENT OF TIES, HOOPS, STIRRUPS, CONNECTIONS, AND ANY ADDITIONAL SPECIFIED REINFORCEMENT (IE @ OPENINGS, BEAMS, CORNERS, COLUMNS, PIERS, AND CAISSONS) BEFORE THEY ARE COVERED.
      6. DURING SAMPLING OF CONCRETE AT DISCHARGE FROM MIXER.
      7. BEFORE ANY CONCRETE IS PLACED FOR VERIFICATION OF MIX DESIGN
      8. ALL FUNCTIONS AT THE BATCHING PLANT FOR READY MIX. THIS COULD INCLUDE CEMENT SAMPLING OR TEST RESULTS, GRAVEL GRADATION, CHECKING CALIBRATION OF EQUIPMENT AND ADMIXTURE DELIVERYS.
B. STRUCTURAL WELDING - GENERAL - INSPECTOR'S DUTIES
   1. ALL FIELD WELDING NOT DONE IN AN APPROVED FABRICATORS SHOP EXCEPT THAT PERIODIC INSPECTION THE FREQUENCY OF WHICH IS DETERMINED PRIOR TO THE START OF THE PROJECT SHALL BE ALLOWED PER SECTION 1701.5, #5 EXCEPTIONS.
   2. DURING ALL FIELD WELDING OF SPECIAL MOMENT-RESISTING FRAMES; IN ADDITION, NONDESTRUCTIVE TESTING AS REQUIRED BY SECTION 1703.
   3. THE SPECIAL INSPECTOR SHALL REVIEW FOR APPROVED WELDING PROCEDURES SPECIFICATIONS (WPS) WHEN OTHER THAN STANDARD AWS PRE QUALIFIED JOINTS AND PROCEDURES ARE INVOLVED.
   4. THE SPECIAL INSPECTOR SHALL REVIEW APPLICABLE SECTION OF REFERENCED CODES, PARTICULARLY THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (AWS D1.1) AND THE MANUAL, AND SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
   5. THE SPECIAL INSPECTOR SHALL REVIEW MILL TEST REPORTS AND CHECK HEAT NUMBERS WITH MATERIAL AS RECEIVED. VERIFY THAT PROPER IDENTIFICATION OF STEEL IS MAINTAINED DURING FABRICATION.
   6. THE SPECIAL INSPECTOR SHALL, WHEN REQUIRED BY PROJECT SPECIFICATIONS, MARK SAMPLE LOCATION WITH STEEL STAMP ON EACH PIECE TESTED.
   7. THE SPECIAL INSPECTOR SHALL RECORD SAMPLE NUMBER AND LOCATION AND CHECK THAT SAMPLE IDENTIFICATION IS MAINTAINED AS SAMPLES ARE DELIVERED TO LABORATORY AND TESTED.
   8. THE SPECIAL INSPECTOR SHALL WHEN STEEL MEMBERS ARE DELIVERED TO FINISH AND NO "CROP ENDS" ARE AVAILABLE FOR SAMPLE CUTTING, COORDINATE CUTTING AND PATCHING REQUIREMENTS WITH THE ARCHITECT/ENGINEER
9A. WELDING OBSERVATION - (APPLICABLE TO SHOP AND FIELD)
   1. THE SPECIAL INSPECTOR SHALL CHECK EACH WELDER'S CERTIFICATION AND VERIFY THAT THE WELDER DOES WORK ONLY AS QUALIFIED BY HIS CERTIFICATION
   2. THE SPECIAL INSPECTOR SHALL KEEP A WRITTEN RECORD OF EACH WELDER BY NAME, IDENTIFICATION NUMBER AND HIS IDENTIFYING STEEL MARK, IF APPLICABLE, AND THE PERCENTAGE OF REJECTABLE WELDS.
   3. THE SPECIAL INSPECTOR SHALL UPON DETECTION OF REJECTABLE WELD (EITHER VISUALLY OR BY NONDESTRUCTIVE TEST), THE INSPECTOR OF DEFECT. THE INSPECTOR OF RECORD WILL OBSERVE REMOVAL, REWORK, OR REPAIRS.
   4. THE SPECIAL INSPECTOR SHALL CHECK STRUCTURAL MEMBERS FOR THICKNESS ADJACENT TO WELDS, OPENING, ETC. REWORK, OR REPAIRS.
   5. THE SPECIAL INSPECTOR SHALL INSPECT JOINTS FOR PROPER PREPARATION, INCLUDING BEVEL, ROOT FACES, ROOT OPENING, ETC. REWORK, OR REPAIRS.
   6. THE SPECIAL INSPECTOR SHALL CHECK THE TYPE AND SIZE OF ELECTRODES TO BE USED FOR THE VARIOUS JOINTS, AND POSITIONS. CHECK THE STROGAGE FACILITIES TO SEE IF THEY ARE ADEQUATE TO KEEP THE ELECTRODES DRY.
   7. THE SPECIAL INSPECTOR SHALL OBSERVE THE TECHNIQUE OF EACH THE SPECIAL INSPECTOR SHALL WELDER WITH USE OF A WELDING INSPECTION SHIELD.
   8. THE SPECIAL INSPECTOR SHALL VERIFY THE USE OF PROPER PREHEAT AND INTER PASS TEMPERATURES. INSPECTOR SHALL WELDER WITH USE OF A WELDING INSPECTION SHIELD.
   9. THE SPECIAL INSPECTOR SHALL CONTINUOUSLY OBSERVE MULTI-PASS WELDS. CONTINUOUS INSPECTION IS DEFINED AS FOLLOWS: THE INSPECTOR IS PRESENT IN THE WELDING AREA AT ALL TIMES AND IS FULLY AWARE OF THE PROGRESS OF THE WELDING AT ANY GIVEN TIME. THE INSPECTOR MAY WATCH MULTIPLE WELDERS PROVIDED THEY ALL BE IN THE AREA, CLOSE ENOUGH FOR EFFECTIVE VISUAL INSPECTION OF THE WORK PERFORMED.
   10. THE SPECIAL INSPECTOR SHALL DETERMINE THAT THE OPERATOR IS CAPABLE OF PRODUCING THE REQUIRED WELDS.
   11. THE SPECIAL INSPECTOR SHALL OBSERVE SINGLE PASS FILLET WELDS PERIODICALLY, OR MORE OFTEN IF CODES AND SPECIFICATIONS REQUIRE.
   12. THE SPECIAL INSPECTOR SHALL, IF STRAIGHTENING OR RESTRAINING OF WELDMENTS IS NECESSARY, VERIFY THAT APPROVED METHODS WILL BE USED.
   13. THE SPECIAL INSPECTOR SHALL TAG OR STAMP ACCEPTED WELDMENTS WITH THE INSPECTOR'S IDENTIFICATION STAMP. APPROVED METHODS WILL BE USED.

JACK AND KING STUD

SIZE OF OPENING	24" O.C. STUD SPACING		16" O.C. STUD SPACING	
	NO. OF JACK STUDS[1]	NO. OF KING STUDS[2]	NO. OF JACK STUDS[1]	NO. OF KING STUDS[2]
UP TO 3'-6"	1	1	1	1
> 3'-6" TO 5'-0"	1	2	1	2
> 5'-0" TO 5'-6"	1	2	2	2
> 5'-6" TO 8'-0"	1	2	2	2
> 8'-0" TO 10'-6"	2	2	2	3
> 10'-6" TO 12'-0"	2	2	3	3
> 12'-0" TO 13'-0"	2	3	3	3
> 13'-0" TO 14'-0"	2	3	3	4
> 14'-0" TO 16'-0"	2	3	3	4
> 16'-0" TO 17'-0"	3	3	4	4
> 17'-0" TO 18'-0"	3	3	4	4

1 TOTAL NUMBER OF JACK STUDS REQUIRED AT EACH END OF THE HEADER.

2 TOTAL NUMBER OF KING STUDS REQUIRED AT EACH END OF THE HEADER.

8A. PORTIONS OF WORK REQUIRING SPECIAL INSPECTION:		YES	NO	N/A
FOUNDATION	A. COMPACTED FILL, GRADING, AND EXCAVATIONS	X		
	B. CONTINUOUS INSPECTION OF PIERS			X
CONCRETE	A. CONTINUOUS INSPECTION AND TEST CYLINDERS FOR CONCRETE.	X		
	B. CONTINUOUS INSPECTION FOR SLAB CONCRETE		X	
	C. TEST CYLINDERS FOR SLAB CONCRETE	X		
	D. ANCHOR BOLTS OR EMBEDS IN CONCRETE (INSTALLATION AND CONCRETE PLACEMENT)		X	
DRILLED IN ANCHORS	A. ALL ADHESIVE ANCHORS, RODS, DOWELS, SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION.	X		
	B. ADDITIONAL TESTING MAY BE REQUIRED AS SPECIFIED ON THE PLANS.		X	
	C. ADHESIVE ANCHORS IN CONCRETE OR MASONRY	X		
REINFORCING STEEL	A. PLACING OF REINFORCING		X	
	B. SAMPLING AND TESTING STEEL (MILL REPORTS AND IDENTIFICATION OF STEEL)		X	
WELDING	A. ALL STRUCTURAL WELDING EXCEPT WELDING IN APPROVED SHOPS	X		
	B. ULTRASONIC TESTING OF FULL PENETRATION WELD CONNECTIONS , AND FIELD WELDS.	X		
	C. STRUCTURAL LIGHT GAGE METAL FRAME WELDING.			X
	D. REINFORCING STEEL WELDING	X		
BOLTING	A. HIGH STRENGTH BOLT A325 & A490 (TORQUE VERIFICATION)	X		
	B. HIGH STRENGTH BOLT A325N,X & A480N,X (SNUG CONTACT OF PLYS)	X		
MASONRY	A. SAMPLING OF MASONRY UNITS	X		
	B. MASONRY PRISM CONSTRUCTION	X		
	C. MORTAR SAMPLING	X		
	D. CONTINUOUS INSPECTION DURING PLACEMENT AND GROUTING OF MASONRY UNITS AND REINFORCEMENT PLACEMENT.	X		
	E. ANCHOR BOLTS OR EMBEDS IN MASONRY (INSTALLATION AND GROUT PLACEMENT)	X		
INSULATING CONCRETE FILL	A. TEST CYLINDERS AND INSPECTIONS			X
STRUCTURAL STEEL	A. MILL REPORTS AND IDENTIFICATION OF STEEL (AFFIDAVIT OF COMPLIANCE)		X	
	B. SAMPLING AND TESTING		X	
	C. DURING PLACEMENT OF PAINT AS SPECIFIED BY THE ARCHITECT.		X	
SHEA DIAPHRAGMS	A. INSPECTION OF SHEATHING PLACEMENT AND NAIL SPACING			X
APPROVE FABRICATORS	APPROVED FABRICATORS: MUST SUBMIT CERTIFICATE OF COMPLIANCE FOR ALL OFF SITE FABRICATION SUCH AS STRUCTURAL STEEL GLU-LAMS PRECAST CONCRETE, ETC.	X		
STRUCTURAL OBSERVATION	STRUCTURAL OBSERVATIONS REQUIRED. WHEN REQUIRED BY THIS ENGINEER OR THE BUILDING DEPARTMENT, THE CONTRACTOR SHALL EMPLOY AN ENGINEER APPROVED BY THE EOR TO PERFORM STRUCTURAL OBSERVATION.	X		

HEADER TO KING

HEADER SPAN	3 5/8" STUD WALL	6" STUD WALL
< 4'	(2) 6" CSJ 18ga.	(3) 6" CSJ 18ga.
> 4' TO 8'	(2) 8" CSJ 18 ga.	(3) 8" CSJ 18 ga.
> 8' TO 12'	(2) 10" CSJ 18 ga.	(3) 10" CSJ 16 ga.
> 12' TO 16'	(2) 12" CSJ 18 ga.	(3) 12" CSJ 14 ga.

HEADER TO KING

HEADER SPAN	
< 4'	(4) #10 SCREWS
> 4' TO 8'	(4) #10 SCREWS
> 8' TO 12'	(6) #12 SCREWS
> 12' TO 16'	(8) #12 SCREWS

FASTENING

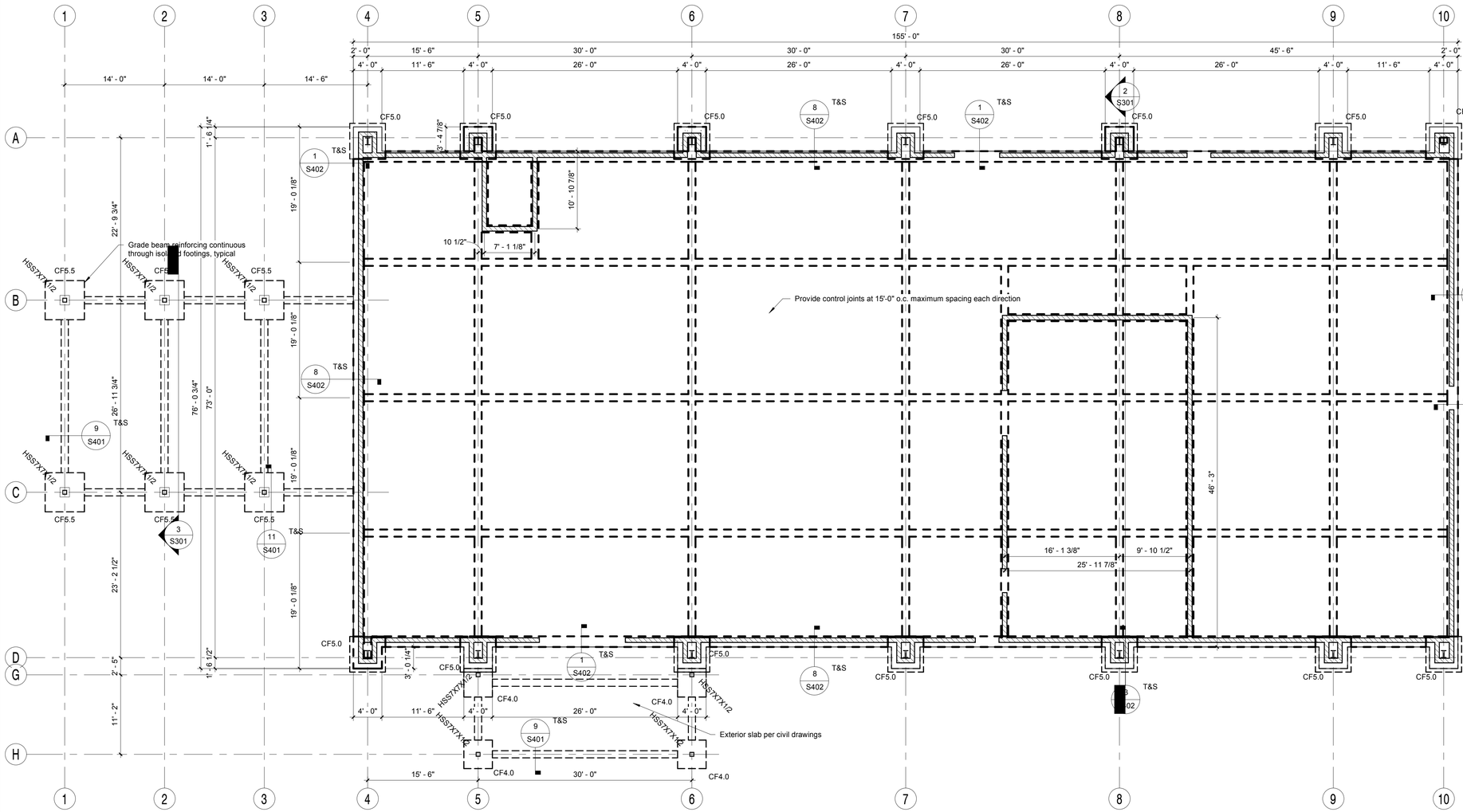
MATERIALS	FASTENER	FREQUENCY OR QUANTITY
CEILING JOIST TO WOOD TOP PLATE	1" - 1 1/8" #10	1 AT EACH JOIST
CEILING JOIST TO TOP PLATE TRACK	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	1 AT EACH JOIST
CONNECTION CLIP TO TOP PLATE TRACK	1" -1 1/8" #10	4 AT EACH CLIP TO TOP PLATE
CONNECTION CLIP TO TOP PLATE TRACK	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	4 AT EACH CLIP TO TOP PLATE
CONNECTION CLIP TO CEILING JOIST	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	MIN. 3 AT EACH CLIP TO CEILING JOIST AND AS PER LOADING
CONNECTION CLIP TO RAFTER	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	MIN. 3 AT EACH CLIP TO RAFTER AND AS PER LOADING
CEILING JOIST TO PARALLEL RAFTER	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	NO. VARIES AS PER LOADING
CEILING JOIST TO TRUSS WEB	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	MIN. 2 AT FLANGE AND AS PER LOADING JOIST
CEILING JOIST, OVERLAPPED AT SUPPORT	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	MIN. 2 AT WEB
CONNECTION CLIP TO RIDGE BOARD	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	4 - 6 AT EACH CLIP TO RIDGE
RAFTERS OVERLAPPED AT RIDGE	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	MIN. 6 AT OVERLAPPED WEB SECTION AND AS PER LOADING
BUILT UP BEAM (RIDGE BOARD)	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	1 AT EACH FLANGE AT 12" O.C.
STIFFBACK BRACING TO JOIST	5/8" - 3/4" #10 SELF DRILLING PAN HEAD	MIN. 2 AT EACH JOIST
SUB-FASCIA TRACK TO RAFTER	5/8" - 3/4" #10 SELF DRILLING LOW PROFILE PAN HEAD	1 AT EACH CONNECTION CLIP AND MAX TOP PLATE
WOOD FASCIA TO SUB-FASCIA TRACK	1 5/8" #6 TRIM HEAD	2 AT 24" O.C. AND AT MAXIMUM OF 12" FROM EACH END OF BOARD OR CORNER
STUD TO PLATE TRACK (BOTTOM)	5/8" - 3/4" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT EACH FLANGE
STUD TO PLATE TRACK (TOP)	5/8" - 3/4" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT EACH FLANGE
DIAGONAL BRACING TO STUD	1/2" - 5/8" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT EACH STUD
LATERAL BRACING TO STUD	1/2" - 5/8" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT EACH STUD PER STRAP OR 3 AT CONNECTION CLIP WITH COLD ROLLED CHANNEL
STUD TO STUD (NESTED)	1/2" - 5/8" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT 24" O.C. THROUGH FLANGE
STUD TO STUD (BACK TO BACK)	1/2" - 5/8" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT 24" O.C. THROUGH WEB
STUD TO STUD (AT WALL INTERSECTION)	1/2" - 5/8" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	1 AT 24" O.C. OR 1 AT EACH BLOCKING
LINTEL TO STUD	1/2" - 5/8" #8 OR #10 SELF DRILLING LOW PROFILE HEAD	REQUIREMENT VARIES WITH DIFFERENT LOADING
WALL BOTTOM TRACK (RUNNER) TO FOUNDATION	1/2" DIAMETER ANCHOR BOLT	4'-0" O.C., (1) 9" FROM END OF WALL OR EACH SIDE OF SPLICE

NOTES:
(1) LOW PROFILE HEAD IS USED IN LIEU OF PAN OR HEX WASHER HEADS WHERE LEAST PROJECTION OF FASTENER IS DESIRED.
(2) S-7 POINT WILL SUBSTITUTE S-12 WHEN ATTACHING .07" MEMBERS TOGETHER.
(3) #2 POINT SELF DRILLING SCREW WILL BE SUBSTITUTED BY #3 POINT SELF DRILLING SCREW WHEN STEEL THICKNESS VARIES BETWEEN .09" TO .250", CONSULT MFG. RECOMMENDED THICKNESS FOR DRILL CAPACITY.

STRUCTURAL MASONRY (SPECIAL INSPECTION)

INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
A. PROPORTIONS OF SITE PREPARED MORTAR.		X
B. CONSTRUCTION OF MORTAR JOINTS.		X
C. LOCATION OF REINFORCEMENT AND CONNECTORS.		X
2. THE INSPECTION PROGRAM SHALL VERIFY:		
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.		X
B. TYPE, SIZE AND LOCATION OF DOWELS, ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES AND OTHER CONSTRUCTION		X
C. CHECK GROUT MIX FOR COMPLIANCE WITH CODE AND SPECIFICATIONS.		X
D. WELDING OF REINFORCING BARS.		X
E. PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40 °F) OR HOT		X
F. WEATHER (TEMP. ABOVE 90 °F). CUTTING OF CLEAN OUT HOLES, KNOCKING DOWN OF FINS AND REMORAL OF DEBRIS.		X
3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
A. GROUT SPACE IS CLEAN.		X
B. PLACEMENT OF REINFORCEMENT AND CONNECTOR.		X
C. CHECK GROUT MIX FOR COMPLIANCE WITH CODE AND SPECIFICATIONS.		X
D. CONSTRUCTION OF MORTAR JOINTS.		X
E. CHECK INSTALLATION OF CLEAN OUT CLOSURE.		X
4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS. (SUCH AS MECHANICAL VIBRATION DURING PLACEMENT AND LATER DURING RECONSOLIDATION.)		X
5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.		X
6. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE PROVISIONS OF THE CONSTRUCTON DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.		X
7. CHECK THAT CURING REQUIREMENTS ARE BEING FOLLOWED	X	
8. VERIFY PLACEMENT OF ANCHORS INTO CONCRETE MASONRY UNITS.		X
9. FREQUENCY OF TESTS:		X
A. CONCRETE MASONRY UNIT TEST- FOR EACH TYPE, CLASS, AND GRADE OF CONCRETE MASONRY UNIT INDICATED, TEST UNITS BY METHOD OF SAMPLING AND TESTING OF ASTM C140. ONE SET FO CMU STANDARD PRISM TEST SHALL BE CONDUCTED FOR EVERY 5,000 SQ. FT. OF WALL DURING CONSTRUCTION IN ACCORDANCE TO ASTM C1314, BUT NOT LESS THAN ONE SET OF 3 MASONRY PRISMS FOR THE PROJECT.		
B. MORTAR TEST: FOR EACH TYPE INDICATED, TEST MORTAR BY METHODS OF SAMPLING AND TESTNG OF ASTM C780. CONDUCT TESTS NO LESS FREQUENTLY THAN THAT REQUIRED TO EVALUATE MORTAR USED TO INSTALL EACH INCREMENT OF MASONRY UNITS INDICATED ABOVE FROM WHICH SAMPLES ARE TAKEN FOR TESTING. TEST MORTAR FOR EVERY 1,500 SQ. FT. OF WALL CONSTRUCTION.		
C. GROUT TEST: AT START OF GROUTING OPERATION, TAKE ONE TEST PER DAY FOR FIRST 3 DAYS. EACH GROUT TEST CONSISTS OF THREE SPECIMENS MADE IN ACCORDANCE WITH ASTM C1019. AFTER FIRST THREE TESTS, SPECIMENS FOR CONTINUING QUALITY CONTROL SHOULD BE TAKEN ONCE A WEEK FOR EVERY 25 CUBIC YARDS OF GROUT OR FOR EVERY 2,500 SQ. FT. OF WALL, WHICHEVER COMES FIRST.		
10. MASONRY TESTING REQUIREMENTS		X

TESTING METHOD OPTIONS	PRIOR TO CONSTRUCTION	DURING CONSTRUCTION
METHOD 1: MASONRY PRISM TESTING	5 PRISMS	3 PRISMS FOR EVERY 5,000 S.F. OF WALL
METHOD 2: MASONRY PRISM TEST RECORD	APPROVED 30 PRISM RECORD	3 PRISMS FOR EVERY 5,000 S.F. OF WALL
METHOD 3: UNIT STRENGTH METHOD	UNITS AND GROUT OR 5 PRISM	UNITS AND GROU



Foundation Plan 1 (S301 S201)
1/8" = 1'-0"

FOUNDATION NOTES

1. FOR GENERAL NOTES SEE SHEET S101 AND S102.
2. FOR TYPICAL DETAILS SEE SHEETS NUMBER S400
3. CONTRACTOR/SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING ANY WORK. THE CONTRACTOR AND OR SUBCONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER BEFORE THE WORK HAS BEGUN.
4. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS.
5. REFER TO ARCHITECTURAL PLANS FOR FLOOR DRAIN LOCATIONS.
6. SLOPE SLAB TO DRAINS, SEE ARCHITECTURAL PLANS FOR SLOPE.
7. REFER TO ARCHITECTURAL PLANS FOR FLOOR FINISHES. ENGINEER IS NOT RESPONSIBLE FOR TYPE OF FLOOR FINISHES.
8. PROVIDE SLAB CONTRACTION JOINTS PER TYPICAL DETAIL
9. THE TESTING LABORATORY SHALL BE THE OWNERS REPRESENTATIVE TO CONTROL THE PLACEMENT OF COMPACTED FILL. THE TESTING LABORATORY SHALL APPROVE THE SUBGRADE PREPARATION, THE FILL MATERIALS, THE METHOD OF PLACEMENT AND COMPACTION, AND COMPACTION, AND SHALL GIVE WRITTEN APPROVAL OF THE COMPLETED FILL. THE TESTING LABORATORY SHALL INDICATE ON THERE REPORT THE ELEVATION OF THE COMPACTED SUBGRADE.
10. ALL EARTHWORK AND GRADING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING STUDY. THE MORE STRINGENT REQUIREMENTS BETWEEN THESE SUBGRADE NOTES AND GEOTECHNICAL ENGINEERING STUDY SHALL GOVERN AND EXECUTED BY THE CONTRACTOR.
11. IN THE EVENT FOUNDATION EXCAVATIONS ARE CARRIED TO A DEPTH GREATER THAN REQUIRED, THE ADDITIONAL DEPTH SHALL BE FILLED WITH THE SAME CONCRETE AS THAT USED FOR FOOTING AT NO ADDITIONAL EXPENSE TO THE OWNER. NO UNCONTROLLED FILL WILL BE PERMITTED.
12. THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER.
13. THE FOUNDATION EXCAVATIONS SHOULD BE OBSERVED BY THE TESTING LABORATORY PRIOR TO STEEL OR CONCRETE PLACEMENT TO ASSESS THAT THE FOUNDATION MATERIALS ARE CAPABLE OF SUPPORTING THE DESIGN LOADS AND ARE CONSISTENT WITH THE MATERIALS DISCUSSED IN THE STUDY. THIS IS ESPECIALLY IMPORTANT TO IDENTIFY THE ACCEPTABILITY OF THE SUBGRADE OR FILL MATERIAL UNDER THE FOOTING. SOFT OR LOOSE SOIL ZONES ENCOUNTERED AT THE BOTTOM OF THE FOOTING OR BEAM EXCAVATIONS SHOULD BE EXCAVATIONS SHOULD BE REMOVED TO THE LEVEL OF COMPETENT SOIL AS DIRECTED BY THE TESTING LABORATORY. CAVITIES FORMED AS A RESULT OF EXCAVATION OF SOFT OR LOOSE SOIL ZONES SHOULD BE BACKFILLED WITH LEAN CONCRETE OR SELECT FILL AS DETERMINED BY THE TESTING LABORATORY.
14. CARE SHOULD BE TAKEN TO SHAPE THE BUILDING AREAS SUCH THAT WATER WILL NOT POND AROUND THE STRUCTURE DURING CONSTRUCTION AND CAUSE THE NEAR SURFACE CLAYS TO SWELL. THE PROPOSED STRUCTURE SHALL BE ISOLATED FROM ANY MOISTURE SOURCE WHICH MIGHT ALSO CAUSE SWELLING OF THE CLAYS AFTER COMPLETION OF THE CONSTRUCTION.
15. WHEN THE STRUCTURE IS COMPLETE, THE GROUND SURFACE SHOULD SLOPE AWAY FROM THE STRUCTURE AND DOWN SPOUTS SHOULD CARRY RUNOFF WATER SEVERAL FEET FROM THE BUILDING, PREFERABLY INTO PAVED AREAS OR SEWERS, BEFORE DISCHARGING.
16. DO NOT PLANT, OR LEAVE IN PLACE, DEEP ROOTED TREES WITHIN CLOSE PROXIMITY TO THE PERIMETER OF THE STRUCTURE. DEEP ROOTED TREES HAVE POTENTIAL TO REMOVE MOISTURE FROM BENEATH THE BUILDING IF PLANTED CLOSE ENOUGH TO ALLOW THE ROOT BULB EXTEND NEAR OR BENEATH THE BUILDING.
17. AIR CONDITIONING CONDENSER DRAIN LINES TO DISCHARGE WATER A MINIMUM OF 5 FEET FROM THE PERIMETER OF THE STRUCTURE. THE DISCHARGE AREA SHALL HAVE SUFFICIENT SLOPE AWAY FROM THE STRUCTURE TO PREVENT STANDING WATER.
18. THE FINAL ONE (1) FOOT OF FILL OUTSIDE THE BUILDING AREA SHOULD CONSIST OF A COHESIVE CLAYEY (CL) SOIL. FILL CAN NOT BE ALLOWED TO DRY OUT DURING OR AFTER COMPACTION. (P1 BETWEEN 15 AND 25)
19. NOTE THAT SOME LEVELS OF RISK ARE ASSOCIATED WITH ALL FOUNDATION SYSTEMS AND THERE IS NO SUCH THING AS A "ZERO RISK" FOUNDATION. IT ALSO SHOULD BE NOTED THAT THE FOUNDATION PROVIDED IS NOT DESIGNED TO RESIST SOIL MOVEMENT AS A RESULT OF SEWER/PLUMBING LEAKS, EXCESSIVE IRRIGATION, NON UNIFORM IRRIGATION, POOR DRAINAGE, AND WATER PONDING NEAR THE FOUNDATION SYSTEM.
20. CONSTRUCTION FOLLOWING WET WEATHER PERIODS WILL LIKELY ENCOUNTER DIFFICULTIES DUE TO THE WET OR SOFT SURFACE SOILS BECOMING A GENERAL HINDRANCE TO EQUIPMENT DUE TO RUTTING AND PUMPING OF THE SOIL SURFACE. IF THE SUBGRADE CANNOT BE ADEQUATELY COMPACTED TO MINIMUM DENSITIES AS DESCRIBED ABOVE, ONE OF THE FOLLOWING MEASURES WILL BE REQUIRED:
    a) REMOVAL AND REPLACEMENT WITH SELECT FILL;
    b) CHEMICAL TREATMENT OF THE SOIL TO DRY SOIL AND INCREASE THE STABILITY OF THE SUBGRADE.
    c) DRYING BY NATURAL MEANS.

SLAB ON GRADE	
THICKNESS	5.0 INCHES
REINFORCING (EACH WAY)	#4 AT 14" O.C.
REINFORCING LOCATION	MID DEPTH
VISQUEEN	15 MIL
CONCRETE CHAIRS (NO PLASTIC CHAIRS ALLOWED)	4' O.C. EACH WAY

SUBGRADE PREPARATION

1. SITE PREPARATION

A. PREPARATION OF EXISTING GROUND
ALL AREAS TO SUPPORT SELECT FILL SHALL BE STRIPPED OF
ALL VEGETATION AND/OR ORGANIC TOPSOIL: 6 INCHES
ADDITIONAL DEPTH OF REMOVAL: *18 INCHES
EXTEND BEYOND BUILDING FOOT PRINT: 3 FEET
EXPOSED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF: 8 INCHES
MOISTURE: (OPTIMUM MOISTURE CONTENT) -2 TO +2%
COMPACTION (ASTM D-698) (MAXIMUM DENSITY): 95%

B. SELECT FILL MATERIAL
AMOUNT OF COMPACTED SELECT FILL: 24* INCHES
NO ORGANIC OR OTHER PERISHABLE MATERIAL
NO STONES LARGER THAN 2 INCHES
*FINISHED FLOOR SHALL BE AS INDICATED ON CIVIL DRAWINGS, INCREASE INDICATED AMOUNT OF FILL AS REQUIRED TO ACHIEVE MOST STRINGENT REQUIREMENT. INCREASE EXCAVATION AS REQUIRED TO MEET MINIMUM AMOUNT OF SELECT FILL

FILL MATERIAL SHALL BE AS INDICATED ON THE GEOTECHNICAL REPORT.

C. PLACING SELECT FILL
FILL LIFTS (LOOSE MEASURE, NOT EXCEEDING): 8 INCHES

D. COMPACTION OF SELECT FILL
MOISTURE: (OPTIMUM MOISTURE CONTENT) -2 TO +2
COMPACTION (ASTM D-698) (MAXIMUM DENSITY): 95%

E. COMPACTION TESTING
ATTERBERG LIMITS (ONE AT A RATE OF): 5,000 CU. YDS.
COMPACTION (ONE TEST PER): 2,500 SQ. FT./ LIFT (MIN. OF 3 PER LIFT)

Structural Foundation Schedule

Type	Length	Width	Thickness	Reinforcing A Bar Quantity	Reinforcing A Bar Size	Reinforcing B Bar Quantity	Reinforcing B Bar Size
CF3.0	3' - 0"	3' - 0"	3' - 0"	4	5	4	5
CF3.0 1	3' - 0"	3' - 0"	1' - 3"	4	5	4	5
CF4.0	4' - 0"	4' - 0"	3' - 0"	5	6	5	6
CF4.0 1	4' - 0"	4' - 0"	1' - 3"	5	6	5	6
CF5.0	5' - 0"	5' - 0"	3' - 0"	6	6	6	6
CF5.5	5' - 6"	5' - 6"	1' - 9"	7	6	7	6

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STATE OF TEXAS
SIMON G. SOLORIO JR.
83066
REGISTERED PROFESSIONAL ENGINEER

October 18, 2018

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For Construction

NEW BUILDING
SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
Foundation Plan

SHEET
S201

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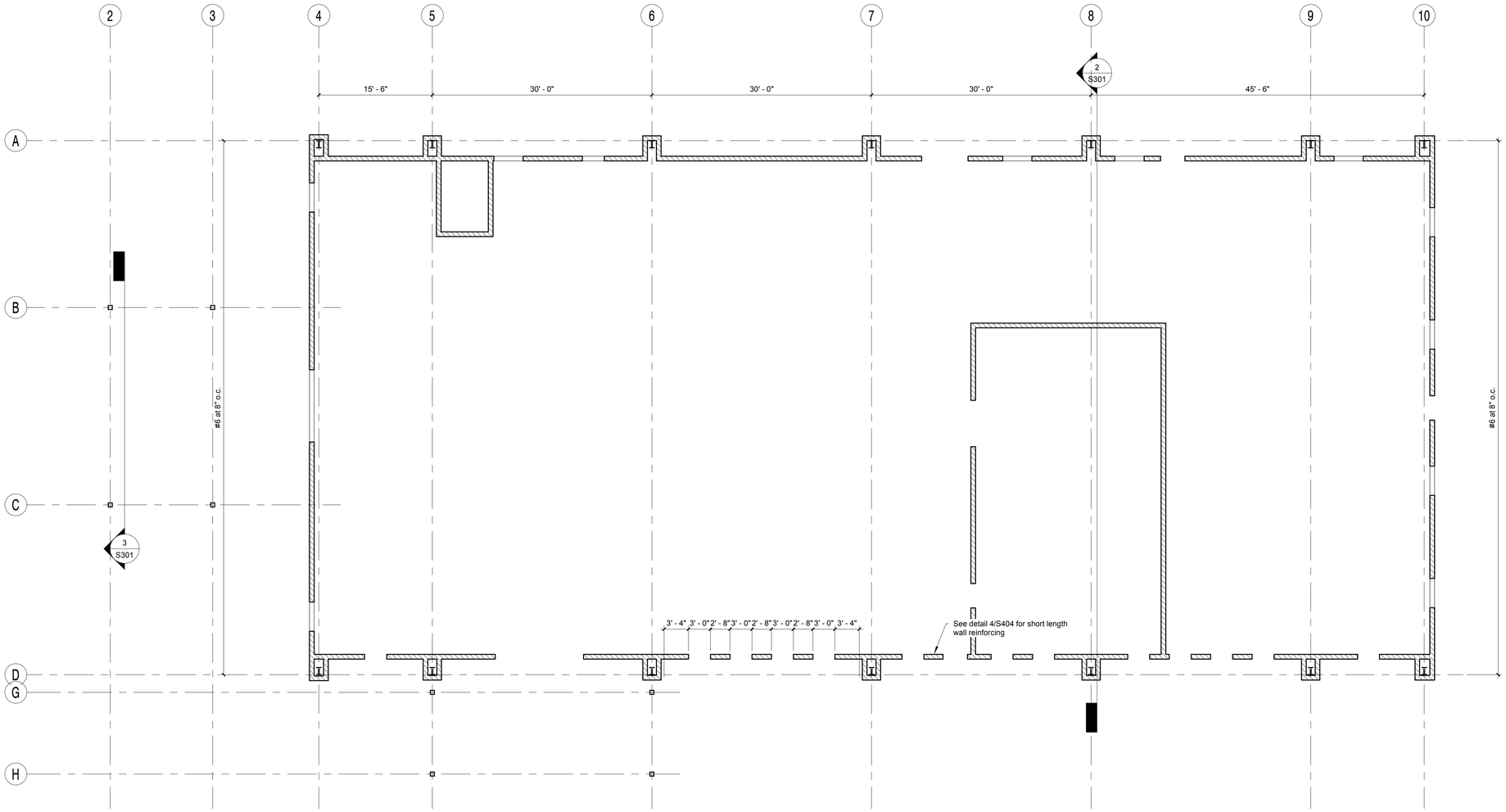

CMU Layout

1/8" = 1'-0"

1
S202

CMU		VERTICAL	HORIZONTAL	OPENINGS AND DOWELS	CORNERS
	8"	#6 AT 32" O.C.	#5 AT 96" O.C.	(2) #5	(3) #5
	6"	#4 AT 48" O.C.	#4 AT 96" O.C.	(1) #4	(3) #4
	12"	(2) #6 AT 32" O.C.	(2) #5 AT 96" O.C.	(2) #6	(3) #6

INDICATES CMU WALL/COLUMN/PILASTER REINFORCED PER DETAIL 1/S402

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ISSUED FOR:

For Construction

NEW BUILDING

SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
CMU Wall Layout

S H E E T

S202

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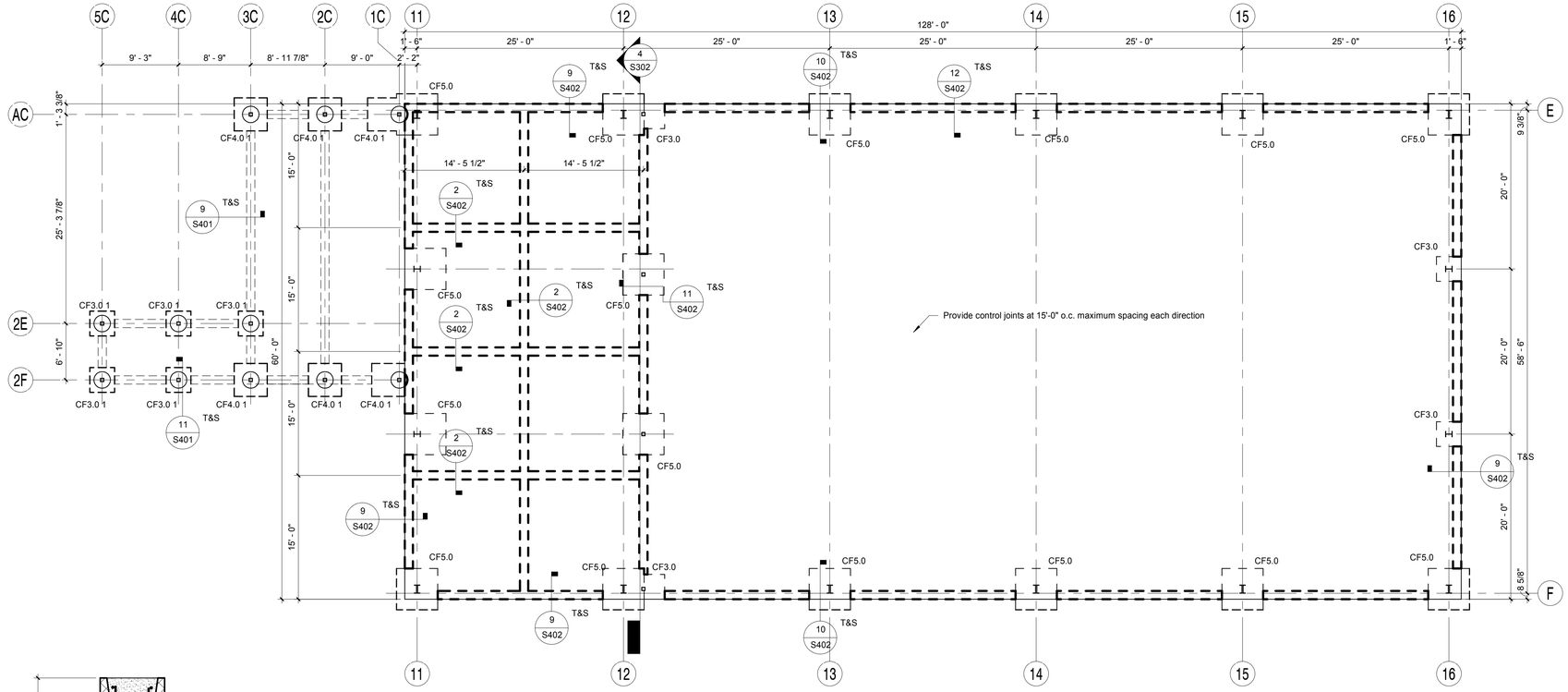
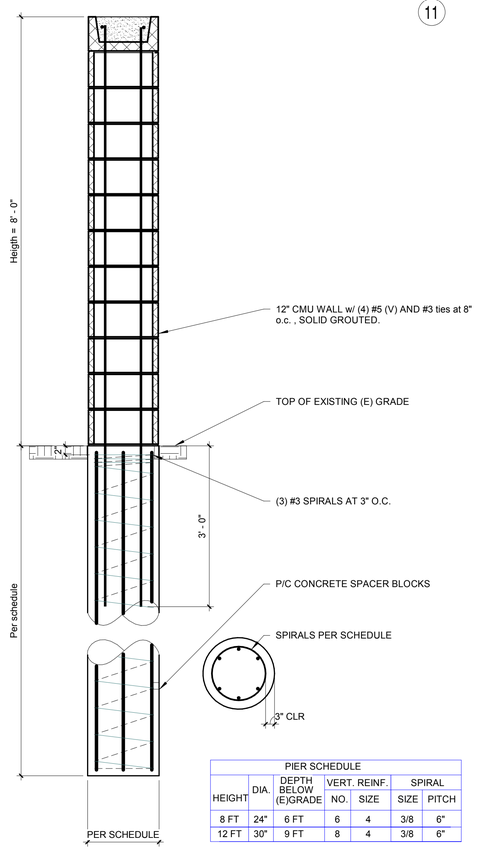


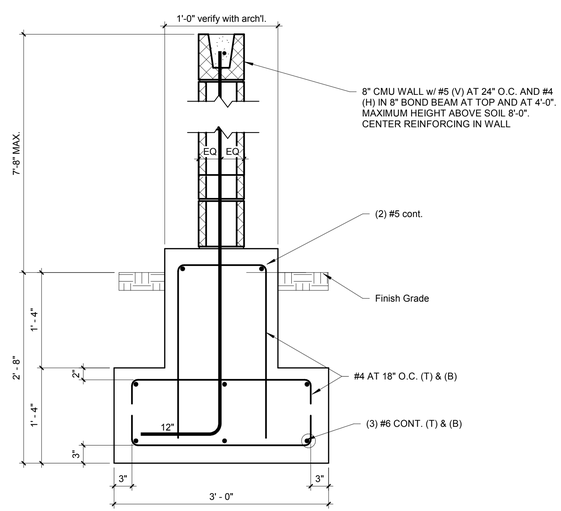
Foundation Plan, Warehouse 1
1/8" = 1'-0" S301 S203

Structural Foundation Schedule							
Type	Length	Width	Thickness	Reinforcing A Bar Quantity	Reinforcing A Bar Size	Reinforcing B Bar Quantity	Reinforcing B Bar Size
CF3.0	3' - 0"	3' - 0"	3' - 0"	4	5	4	5
CF3.0 1	3' - 0"	3' - 0"	1' - 3"	4	5	4	5
CF4.0	4' - 0"	4' - 0"	3' - 0"	5	6	5	6
CF4.0 1	4' - 0"	4' - 0"	1' - 3"	5	6	5	6
CF5.0	5' - 0"	5' - 0"	3' - 0"	6	6	6	6
CF5.5	5' - 6"	5' - 6"	1' - 9"	7	6	7	6



PIER SCHEDULE						
HEIGHT	DIA.	DEPTH BELOW (E)GRADE	VERT. REINF.		SPIRAL	
			NO.	SIZE	SIZE	PITCH
8 FT	24"	6 FT	6	4	3/8	6"
12 FT	30"	9 FT	8	4	3/8	6"

Typical Fence Pilaster at Pier 2
3/4" = 1'-0" S203



Footing at CMU Entry Sign 3
1" = 1'-0" S203

FOUNDATION NOTES

1. FOR GENERAL NOTES SEE SHEET S101 AND S102.
2. FOR TYPICAL DETAILS SEE SHEETS NUMBER S400
3. CONTRACTOR/SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING ANY WORK. THE CONTRACTOR AND OR SUBCONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER BEFORE THE WORK HAS BEGUN.
4. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS.
5. REFER TO ARCHITECTURAL PLANS FOR FLOOR DRAIN LOCATIONS.
6. SLOPE SLAB TO DRAINS, SEE ARCHITECTURAL PLANS FOR SLOPE.
7. REFER TO ARCHITECTURAL PLANS FOR FLOOR FINISHES. ENGINEER IS NOT RESPONSIBLE FOR TYPE OF FLOOR FINISHES.
8. PROVIDE SLAB CONTRACTION JOINTS PER TYPICAL DETAIL.
9. THE TESTING LABORATORY SHALL BE THE OWNERS REPRESENTATIVE TO CONTROL THE PLACEMENT OF COMPACTED FILL. THE TESTING LABORATORY SHALL APPROVE THE SUBGRADE PREPARATION, THE FILL MATERIALS, THE METHOD OF PLACEMENT AND COMPACTION, AND COMPACTION, AND SHALL GIVE WRITTEN APPROVAL OF THE COMPLETED FILL. THE TESTING LABORATORY SHALL INDICATE ON THERE REPORT THE ELEVATION OF THE COMPACTED SUBGRADE.
10. ALL EARTHWORK AND GRADING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING STUDY. THE MORE STRINGENT REQUIREMENTS BETWEEN THESE SUBGRADE NOTES AND GEOTECHNICAL ENGINEERING STUDY SHALL GOVERN AND EXECUTED BY THE CONTRACTOR.
11. IN THE EVENT FOUNDATION EXCAVATIONS ARE CARRIED TO A DEPTH GREATER THAN REQUIRED, THE ADDITIONAL DEPTH SHALL BE FILLED WITH THE SAME CONCRETE AS THAT USED FOR FOOTING AT NO ADDITIONAL EXPENSE TO THE OWNER. NO UNCONTROLLED FILL WILL BE PERMITTED.
12. THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER.
13. THE FOUNDATION EXCAVATIONS SHOULD BE OBSERVED BY THE TESTING LABORATORY PRIOR TO STEEL OR CONCRETE PLACEMENT TO ASSESS THAT THE FOUNDATION MATERIALS ARE CAPABLE OF SUPPORTING THE DESIGN LOADS AND ARE CONSISTENT WITH THE MATERIALS DISCUSSED IN THE STUDY. THIS IS ESPECIALLY IMPORTANT TO IDENTIFY THE ACCEPTABILITY OF THE SUBGRADE OR FILL MATERIAL UNDER THE FOOTING. SOFT OR LOOSE SOIL ZONES ENCOUNTERED AT THE BOTTOM OF THE FOOTING OR BEAM EXCAVATIONS SHOULD BE EXCAVATIONS SHOULD BE REMOVED TO THE LEVEL OF COMPETENT SOIL AS DIRECTED BY THE TESTING LABORATORY. CAVITIES FORMED AS A RESULT OF EXCAVATION OF SOFT OR LOOSE SOIL ZONES SHOULD BE BACKFILLED WITH LEAN CONCRETE OR SELECT FILL AS DETERMINED BY THE TESTING LABORATORY.
14. CARE SHOULD BE TAKEN TO SHAPE THE BUILDING AREAS SUCH THAT WATER WILL NOT POND AROUND THE STRUCTURE DURING CONSTRUCTION AND CAUSE THE NEAR SURFACE CLAYS TO SWELL. THE PROPOSED STRUCTURE SHALL BE ISOLATED FROM ANY MOISTURE SOURCE WHICH MIGHT ALSO CAUSE SWELLING OF THE CLAYS AFTER COMPLETION OF THE CONSTRUCTION.
15. WHEN THE STRUCTURE IS COMPLETE, THE GROUND SURFACE SHOULD SLOPE AWAY FROM THE STRUCTURE AND DOWN SPOUTS SHOULD CARRY RUNOFF WATER SEVERAL FEET FROM THE BUILDING, PREFERABLY INTO PAVED AREAS OR SEWERS, BEFORE DISCHARGING.
16. DO NOT PLANT, OR LEAVE IN PLACE, DEEP ROOTED TREES WITHIN CLOSE PROXIMITY TO THE PERIMETER OF THE STRUCTURE. DEEP ROOTED TREES HAVE POTENTIAL TO REMOVE MOISTURE FROM BENEATH THE BUILDING IF PLANTED CLOSE ENOUGH TO ALLOW THE ROOT BULB EXTEND NEAR OR BENEATH THE BUILDING.
17. AIR CONDITIONING CONDENSER DRAIN LINES TO DISCHARGE WATER A MINIMUM OF 5 FEET FROM THE PERIMETER OF THE STRUCTURE. THE DISCHARGE AREA SHALL HAVE SUFFICIENT SLOPE AWAY FROM THE STRUCTURE TO PREVENT STANDING WATER.
18. THE FINAL ONE (1) FOOT OF FILL OUTSIDE THE BUILDING AREA SHOULD CONSIST OF A COHESIVE CLAYEY (CL) SOIL. FILL CAN NOT BE ALLOWED TO DRY OUT DURING OR AFTER COMPACTION. (P1 BETWEEN 15 AND 25)
19. NOTE THAT SOME LEVELS OF RISK ARE ASSOCIATED WITH ALL FOUNDATION SYSTEMS AND THERE IS NO SUCH THING AS A "ZERO RISK" FOUNDATION. IT ALSO SHOULD BE NOTED THAT THE FOUNDATION PROVIDED IS NOT DESIGNED TO RESIST SOIL MOVEMENT AS A RESULT OF SEWER/PLUMBING LEAKS, EXCESSIVE IRRIGATION, NON UNIFORM IRRIGATION, POOR DRAINAGE, AND WATER PONDING NEAR THE FOUNDATION SYSTEM.
20. CONSTRUCTION FOLLOWING WET WEATHER PERIODS WILL LIKELY ENCOUNTER DIFFICULTIES DUE TO THE WET OR SOFT SURFACE SOILS BECOMING A GENERAL HINDRANCE TO EQUIPMENT DUE TO RUTTING AND PUMPING OF THE SOIL SURFACE. IF THE SUBGRADE CANNOT BE ADEQUATELY COMPACTED TO MINIMUM DENSITIES AS DESCRIBED ABOVE, ONE OF THE FOLLOWING MEASURES WILL BE REQUIRED:
    a) REMOVAL AND REPLACEMENT WITH SELECT FILL;
    b) CHEMICAL TREATMENT OF THE SOIL TO DRY SOIL AND INCREASE THE STABILITY OF THE SUBGRADE,
    c) DRYING BY NATURAL MEANS.

SLAB ON GRADE	
THICKNESS	6.0 INCHES
REINFORCING (EACH WAY)	#4 AT 12" O.C.
REINFORCING LOCATION	2 1/4" from top of slab
VISQUEEN	15 MIL
CONCRETE CHAIRS (NO PLASTIC CHAIRS ALLOWED)	3' O.C. EACH WAY

SUBGRADE PREPARATION

1. SITE PREPARATION

A. PREPARATION OF EXISTING GROUND
ALL AREAS TO SUPPORT SELECT FILL SHALL BE STRIPPED OF
ALL VEGETATION AND/OR ORGANIC TOPSOIL: 6 INCHES
ADDITIONAL DEPTH OF REMOVAL: *18 INCHES
EXTEND BEYOND BUILDING FOOT PRINT: 3 FEET
EXPOSED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF: 8 INCHES
MOISTURE: (OPTIMUM MOISTURE CONTENT) -2 TO +2%
COMPACTION (ASTM D-698) (MAXIMUM DENSITY): 95%

B. SELECT FILL MATERIAL
AMOUNT OF COMPACTED SELECT FILL: 24* INCHES
NO ORGANIC OR OTHER PERISHABLE MATERIAL
NO STONES LARGER THAN 2 INCHES

*FINISHED FLOOR SHALL BE AS INDICATED ON CIVIL DRAWINGS, INCREASE INDICATED AMOUNT OF FILL AS REQUIRED TO ACHIEVE MOST STRINGENT REQUIREMENT. INCREASE EXCAVATION AS REQUIRED TO MEET MINIMUM AMOUNT OF SELECT FILL

FILL MATERIAL SHALL BE AS INDICATED ON THE GEOTECHNICAL REPORT.

C. PLACING SELECT FILL.
FILL LIFTS (LOOSE MEASURE, NOT EXCEEDING): 8 INCHES

D. COMPACTION OF SELECT FILL
MOISTURE: (OPTIMUM MOISTURE CONTENT) -2 TO +2
COMPACTION (ASTM D-698) (MAXIMUM DENSITY): 95%

E. COMPACTION TESTING
ATTERBERG LIMITS (ONE AT A RATE OF): 5,000 CU. YDS.
COMPACTION (ONE TEST PER): 2,500 SQ. FT / LIFT (MIN. OF 3 PER LIFT)

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REGISTERED PROFESSIONAL ENGINEER

October 18, 2018

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ISSUED FOR:
For Construction

NEW BUILDING
SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
Foundation Plan, Warehouse

S H E E T
S203

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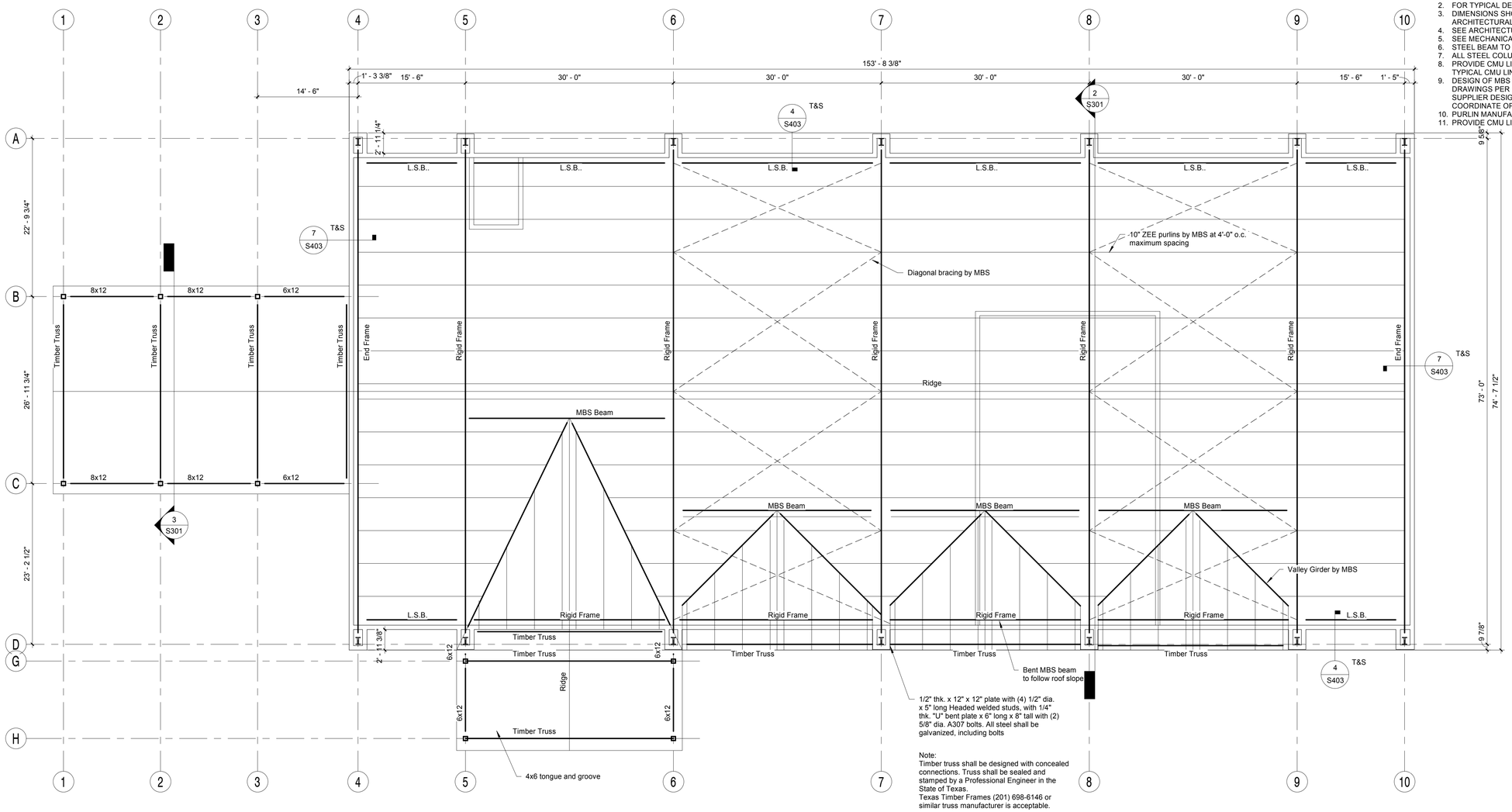
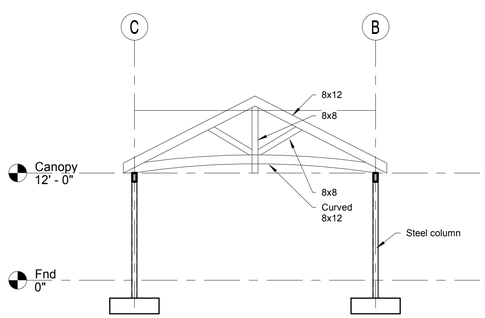
Framing Notes

1. FOR GENERAL NOTES SEE SHEET S101, S102 AND S103.
2. FOR TYPICAL DETAILS SEE SHEETS S400's.
3. DIMENSIONS SHOWN ARE FOR GENERAL INFORMATION. COORDINATE WITH ARCHITECTURAL PLANS.
4. SEE ARCHITECTURAL ROOF PLAN FOR ROOF HATCHES.
5. SEE MECHANICAL PLANS FOR MECHANICAL OPENINGS.
6. STEEL BEAM TO STEEL BEAM CONNECTION PER DETAIL.
7. ALL STEEL COLUMN SHALL BE HSS6x6x3/8 UNO ON PLANS.
8. PROVIDE CMU LINTEL WHERE MECHANICAL DUCT PENETRATES CMU WALL PER TYPICAL CMU LINTEL DETAIL.
9. DESIGN OF MBS PURLINS UNDER UNITS WITH LOADS INDICATED ON THE DRAWINGS PER DESIGN CRITERIA. MBS PURLINS SHALL BE DESIGNED BY MBS SUPPLIER DESIGN PURLINS FOR 1/600. (MECHANICAL WEIGHT+ DEAD LOAD ONLY) COORDINATE OPENINGS WITH MECHANICAL PLANS.
10. PURLIN MANUFACTURER TO VERIFY THE MINIMUM ROW OF BRIDGING AND SIZE.
11. PROVIDE CMU LINTEL OVER ALL OPENINGS, SEE TYPICAL CMU LINTEL DETAIL.

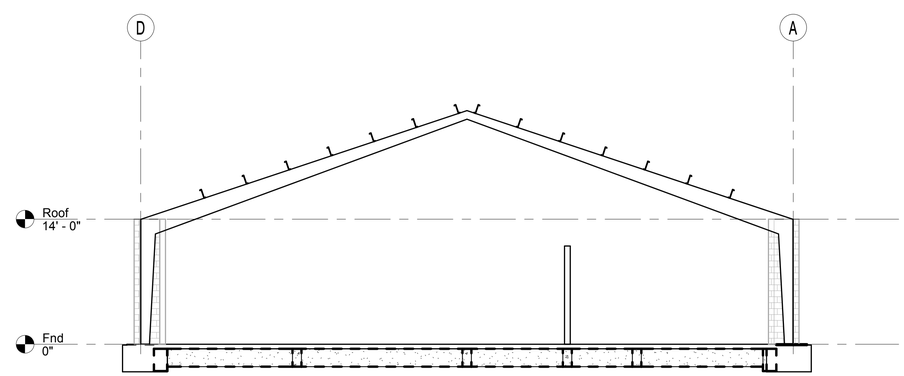


Note:
Timber truss shall be designed with concealed connections. Truss shall be sealed and stamped by a Professional Engineer in the State of Texas.
Texas Timber Frames (201) 698-6146 or similar truss manufacturer is acceptable.

Roof Framing Plan
1/8" = 1'-0"
1 | S301 S301



Section 2
1/8" = 1'-0"
3 | S201 S301



Section 3
1/8" = 1'-0"
2 | S201 S301

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SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

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Sheet Name
Roof Framing Plan

SHEET
S301

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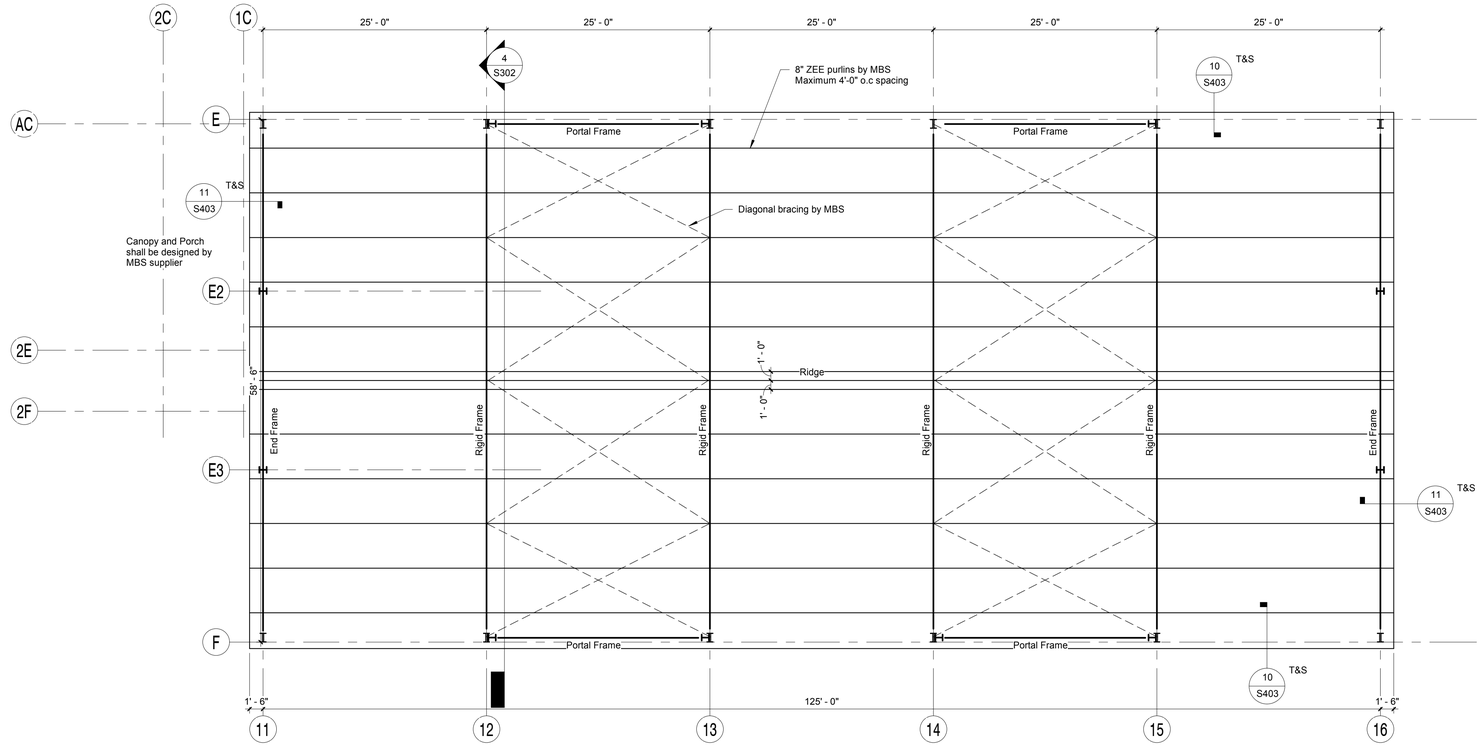
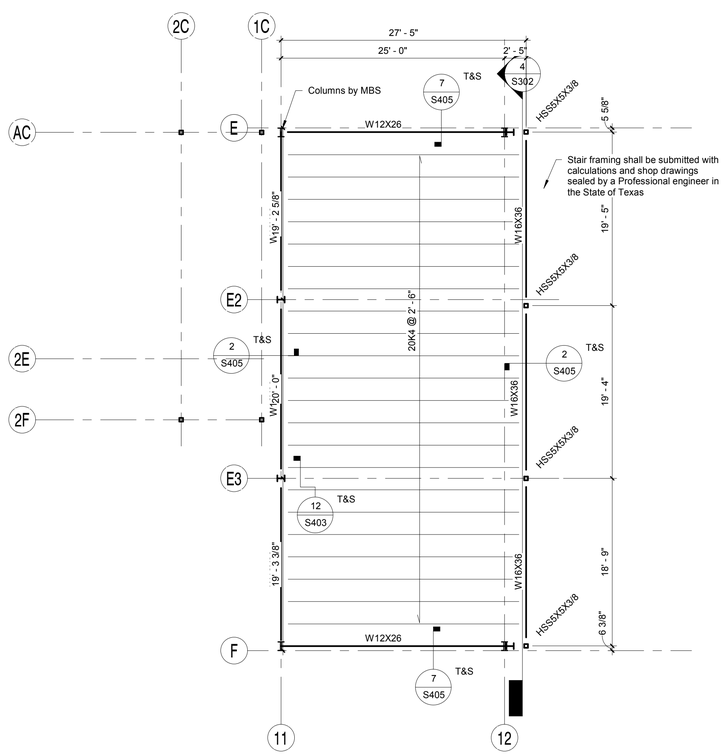
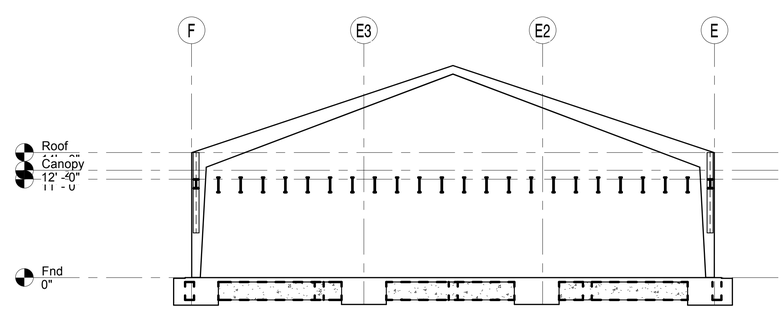


Roof Framing Plan, Warehouse
1/8" = 1'-0" (1 / S301 S302)



Mezzanine Framing Plan
1/8" = 1'-0" (3 / S302 S302)



Section 1
1/8" = 1'-0" (4 / S203 S302)

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10. PURLIN MANUFACTURER TO VERIFY THE MINIMUM ROW OF BRIDGING AND SIZE.
11. PROVIDE CMU LINTEL OVER ALL OPENINGS, SEE TYPICAL CMU LINTEL DETAIL.

OPEN WEB STEEL JOISTS

1. ALL STEEL FOR JOISTS SHALL CONFORM TO THE STEEL JOIST INSTITUTE REQUIREMENTS FOR K-SERIES OPEN WEB JOISTS, AND VS-SERIES STEEL JOISTS, MINIMUM 50,000 PSI YIELD POINT.
2. ALL STEEL JOISTS SHALL RECEIVE MANUFACTURER'S STANDARD BASE PAINT, APPLIED BY DIPPING OR SPRAYING, BEFORE LEAVING THE SHOP.
3. ALL STEEL JOISTS BEARING ON STEEL SHALL HAVE A MINIMUM 2 1/2" BEARING LENGTH AND SHALL BE WELDED TO THE STEEL WITH 2 WELDS AT EACH END, EACH 2 1/2" LONG. JOIST BEARING LESS THAN 2 1/2" SHALL BE DESIGNED BY THE JOIST SUPPLIER TO RESIST THE INCREASED STRESS. THE JOIST SUPPLIER SHALL SPECIFY SPECIAL JOIST SEATS AND ANCHORAGE REQUIREMENTS FOR DEFICIENT BEARING.
4. PROVIDE 2"x2"x1/4" ANGLE BOTTOM CHORD EXTENDS AT STEEL JOIST END AT COLUMN LINES OR AT JOIST NEAREST COLUMN LINES.
5. CHECK ARCHITECTURAL PLANS IF BOTTOM CHORD EXTENSIONS ARE REQUIRED.
6. BOTTOM CHORD EXTENDED ENDS SHALL NOT BE INSTALLED UNTIL AFTER ROOF HAS BEEN COMPLETELY INSTALLED.
7. ROOF TOP A/C UNITS SHALL HAVE AN OPERATING WEIGHT NOT TO EXCEED 500 LBS. AND SHALL BE LOCATED OVER A MINIMUM OF 2 JOISTS. ROOF TOP UNITS WEIGHING MORE THAN 500 LBS. SHALL BE LOCATED AS SHOWN ON THE MECHANICAL PLANS.
8. STEEL JOISTS TO BE DESIGNED PER DESIGN CRITERIA.
9. ALL STEEL JOISTS SHALL BE MANUFACTURED BY VULCRAFT OR SMI, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
10. PROVIDE ANGLES FOR SUPPORT AROUND OPENINGS AT METAL DECK.
11. STEEL JOIST SUPPLIER TO VERIFY THAT THE SPECIFIED JOIST MEET ALL THE MINIMUM REQUIREMENTS OF SJI BEFORE PROVIDING A BID.
12. MECHANICAL EQUIPMENT: SEE MECHANICAL PLANS. PIPES AND MECHANICAL EQUIPMENT SHALL BE SUPPORTED BY THE TOP CHORD OF THE STEEL JOISTS ONLY.
13. WHERE STEEL JOIST PASS THROUGH CMU WALLS, PROVIDE HALF INCH GAP BETWEEN THE CMU AND STEEL JOIST. PROVIDE ELASTOMERIC MATERIAL BETWEEN THE STEEL JOIST AND CMU.
14. PROVIDE CLOSURE ANGLE 3x3x3/8 AT ALL PERIMETER CONDITIONS TO FRAME OUT ALL ROOF PENETRATIONS UNLESS NOTED OTHERWISE.
15. JOISTS SHALL ALSO BE DESIGNED FOR AN ADDITIONAL 500 LB CONCENTRATED LOAD PLACED AT ANY POINT. THE MAXIMUM DEFLECTION SHALL BE L/600.

FLOOR METAL DECK

1. SHEET METAL:

MATERIAL:	ASTM A446, GRADE A,
GALVANIZING:	G90 ZINC COATED ACCORDING TO ASTM A525
DECK PROFILE	C
PROFILE DEPTH:	0.6 INCHES
GAUGE:	24
SPAN	30 inches

2. ATTACHMENT:

AT SUPPORTS:	#12 TEK SCREWS
FASTENER LAYOUT	36/4
AT SIDE LAPS:	#10 TEK SCREWS
SIDE LAPS	4 FASTENERS PER SPAN

3. TOPPING:

WEIGHT:	NORMAL WEIGHT CONCRETE
STRENGTH	3000 PSI
SLUMP	6 INCHES
CONTROL JOINTS	SPACED AT 15 FEET MAXIMUM AND OVER BEAMS
THICKNESS	t= 2 1/2 INCH
THICKNESS (TOTAL)	3 INCH
REINFORCEMENT	6x6-W2.9xW2.9

4. INSTALL DECK ENDS OVER SUPPORTING FRAMING WITH A MINIMUM END BEARING OF1.5" WITH END JOINTS LAPPED AT A MINIMUM OF TWO INCHES AND SHALL OCCUR OVER SUPPORTS.

5. SCREWS MUST BE INSTALLED USING PROPERLY CALIBRATED TOOLS TO AVOID OVERDRIVING WHICH CAN STRIP THE THREADS AT SIDE LAPS OR SEVER THE SCREW WHEN IT IS PLACED INTO HEAVIER SUBSTRATE.

6. WELDING OF METAL DECKING NOT ALLOWED. ALL METAL DECKING THAT HAS BEEN WELDED SHALL BE REMOVED AT CONTRACTORS EXPENSE. REMOVED METAL DECKING SHALL NOT BE USED.

7. DECK UNITS SHALL BE 3 OR MORE SPANS AND SHALL BE ATTACHED TO THE STRUCTURAL SUPPORT

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NEW BUILDING
SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
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Sheet Name
Roof Framing Plan, Warehouse

SHEET
S302

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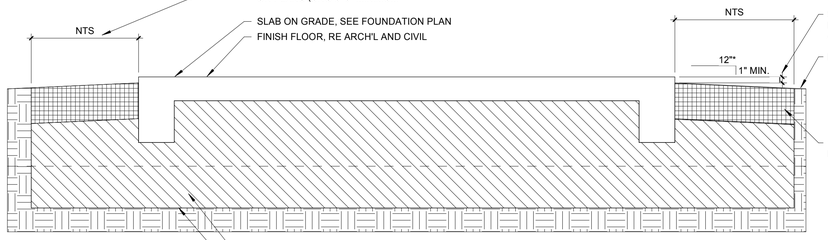
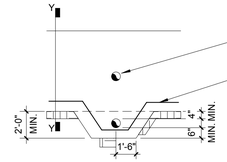
NOTE TO OWNER:
DRAINAGE OF THE SITE MUST BE MAINTAINED THROUGHOUT THE LIFE OF THE STRUCTURE. THE SOIL AT THIS SITE IS HIGHLY SENSITIVE TO CHANGE IN THE SOIL MOISTURE CONTENT AND WILL DAMAGE THE STRUCTURE IF THE MOISTURE CONTENT INCREASES OR DECREASES.

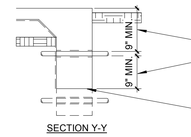
* INITIAL ROUGH GRADING SHALL BE COMPLETED w/ NATURAL CLAY MATERIALS (NO SAND ALLOWED) PRIOR TO FORM SETTING IT SHALL SLOPE 1"/ FOOT FOR THE FIRST 5', AND 6' MIN. IN 10' TO INSURE POSITIVE DRAINAGE AWAY FROM THE SLAB.

NOTE TO CONTRACTOR
PROVIDE PUMPS ON SITE AND REMOVE ANY WATER FROM THE SITE 100% OF THE TIME. STANDING WATER IN THE EXCAVATION AT ANYTIME, DAY OR NIGHT, IS UNACCEPTABLE.

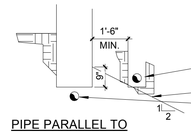


Typical Building Subgrade Preparation
1" = 1'-0" | 7 | S401





PIPE PERPENDICULAR TO

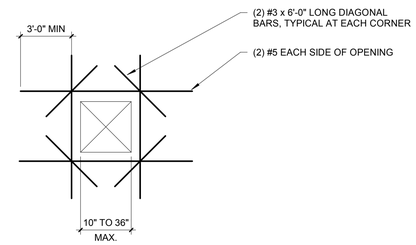


PIPE PARALLEL TO

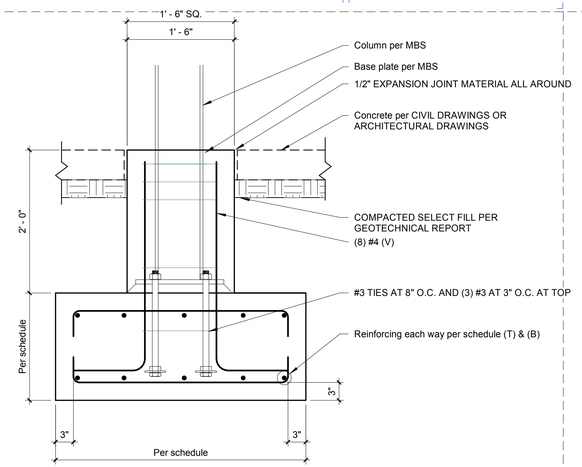
NOTE:
WHERE PIPES ARE MORE THAN 2'-O" BELOW BOTTOM OF FOOTING STEP FOOTING PER TYPICAL STEPPED WALL FOOTING DETAIL.

LOCATE PARALLEL PIPE TRENCH SO THAT FOOTING IS NOT UNDERMINED
NO EXCAVATION BELOW THIS LINE
NO PIPE UNDER FOOTING OR PARALLEL IN FOOTING

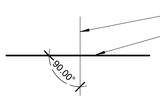
Typical Piping Through Footing
3/8" = 1'-0" | 4 | S401



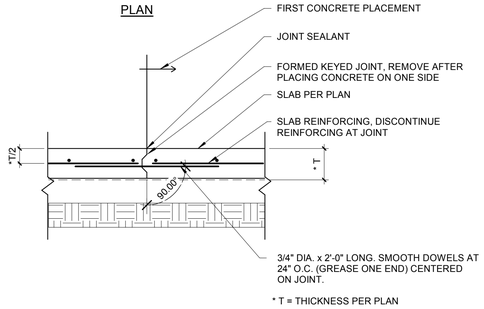
Typical Slab Opening Reinforcing
1/4" = 1'-0" | 1 | S401



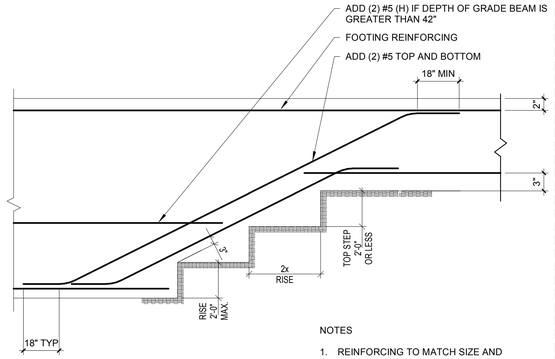
Footing at Steel Column for Canopy
1" = 1'-0" | 11 | S201 S401



PLAN



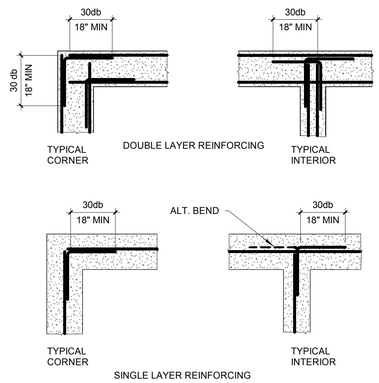
Typical Slab Construction Joint
1" = 1'-0" | 8 | S401



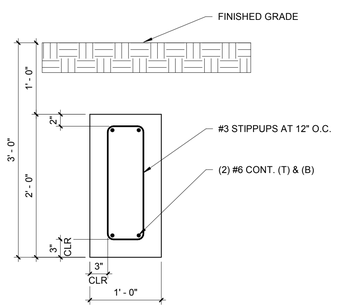
NOTES

1. REINFORCING TO MATCH SIZE AND SPACING OF FOOTING REINFORCING.
2. SLOPE TO BE (1) VERTICAL TO (2) HORIZONTAL, EXCEPT WHERE SHOWN OTHERWISE ON PLAN.
3. FOOTING TO BE STEPPED WHERE SLOPE EXCEEDS 1:10
4. "D" INDICATES MIN. FOOTING THICKNESS.

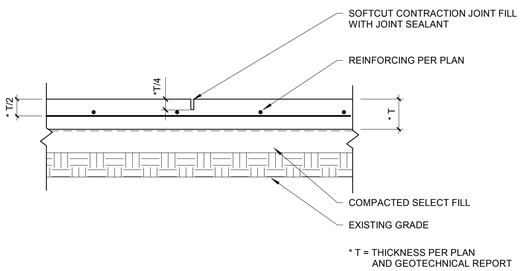
Typical Stepped Footing
1" = 1'-0" | 5 | S401



Typical Reinforcing at Concrete Intersections
1/4" = 1'-0" | 2 | S401



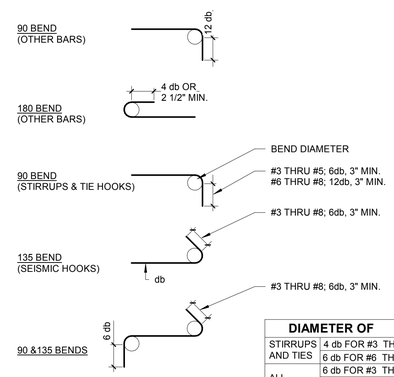
Footing at Grade Beam Tie
1" = 1'-0" | 9 | S201 S401



NOTES

1. SPACING SHALL NOT EXCEED 15 FEET.
2. JOINT PATTERN SHOULD BE NEARLY SQUARE.
3. SAW CUT SHALL BE MADE WITHIN 4 HOURS OF PLACEMENT (OR AS SOON AS SLAB SURFACE CAN BE WALKED UPON WITHOUT MARKING).
4. FILL SAW CUT FULL DEPTH WITH "SKQOUR S1" AFTER SLAB IS CURED (28 DAYS, MINIMUM)
5. THIS DETAIL TO BE USED ONLY IN THE ABSENCE OF ARCHITECTURAL INFORMATION FOR CONTRACTION JOINTS

Typical Slab Contraction Joint
1" = 1'-0" | 6 | S401



DIAMETER OF	
STIRRUPS AND TIES	4 db FOR #3 THRU #5 BARS
	6 db FOR #6 THRU #8 BARS
ALL OTHERS	6 db FOR #3 THRU #8 BARS
	8 db FOR #9 THRU #11 BARS
	10 db FOR #14 THRU #18 BARS

Typical Reinforcing Bends
1/4" = 1'-0" | 3 | S401

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STATE OF TEXAS
SIMON G. SOLORIO JR.
83066
REGISTERED PROFESSIONAL ENGINEER

October 18, 2018

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ISSUED FOR:
For Construction

NEW BUILDING
SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
Typical Concrete Details

SHEET
S401

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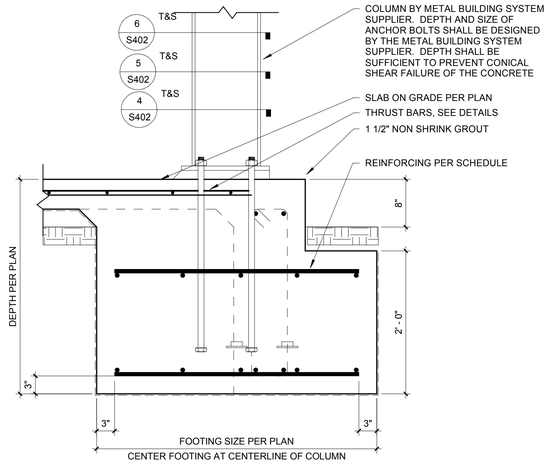
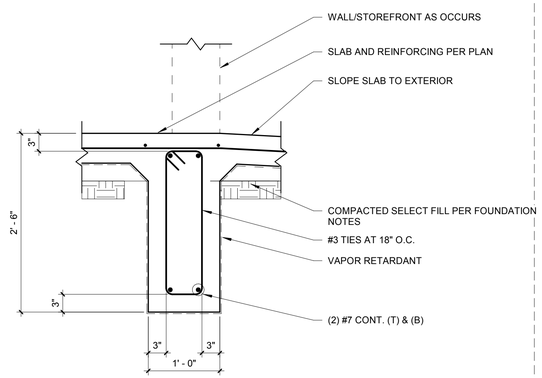


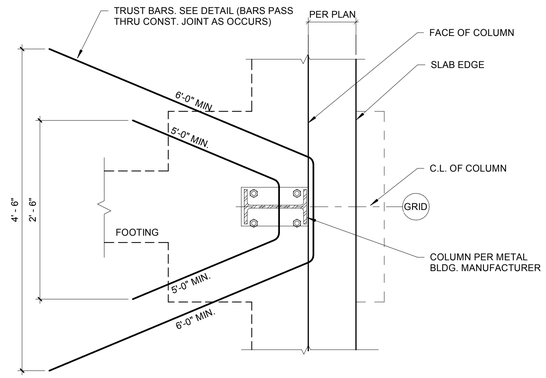
Footing at MBS Exterior Column

1" = 1'-0" | 10 | S203 S402



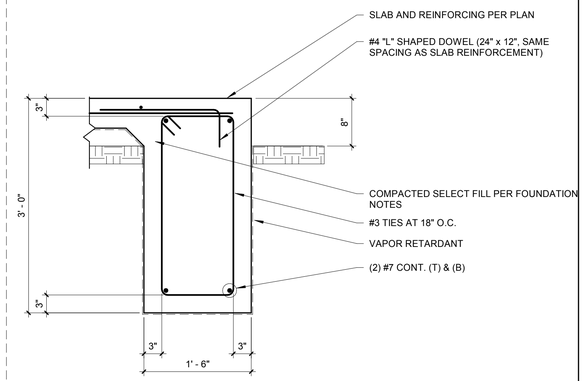
Footing at Interior Slab Slope

1" = 1'-0" | 7 | S402



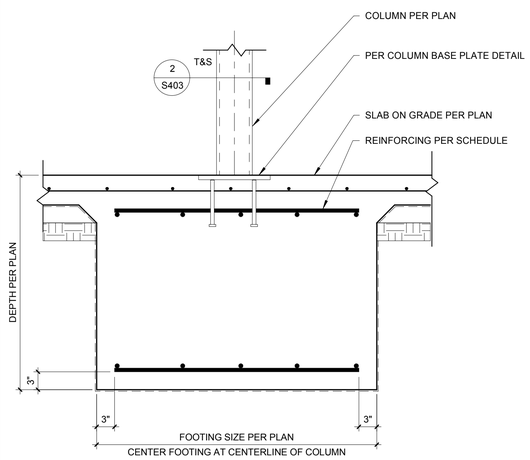
Footing at Thrust Bars at Interior Columns

1" = 1'-0" | 4 | S402 S402



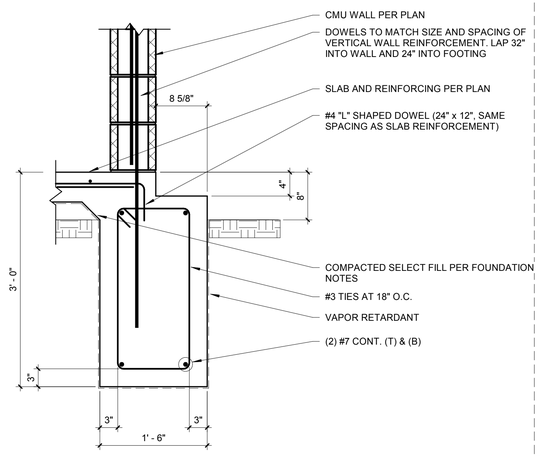
Footing at Exterior

1" = 1'-0" | 1 | S201 S402



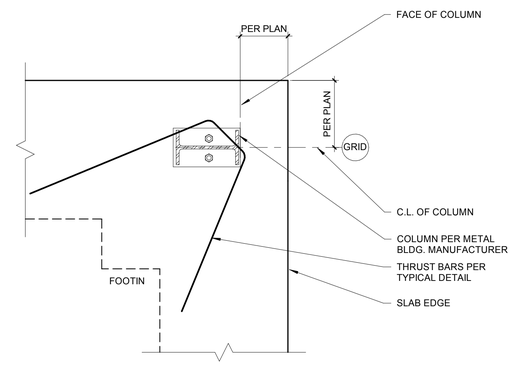
Footing at Interior Steel Column

1" = 1'-0" | 11 | S203 S402



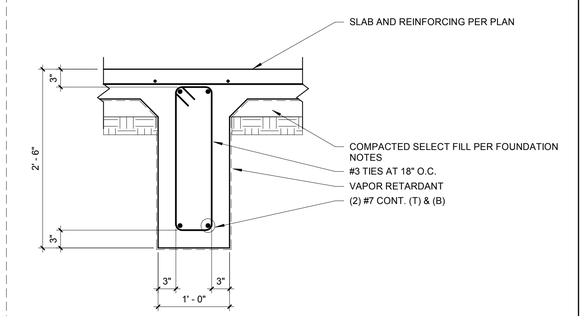
Footing at Exterior CMU Wall at Ledge

1" = 1'-0" | 8 | S201 S402



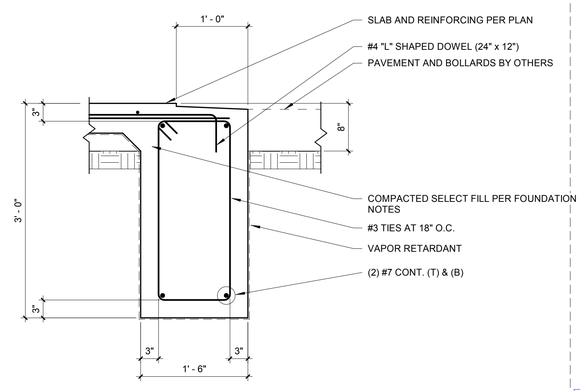
Footing at Trust Bars at Corner Columns

1" = 1'-0" | 5 | S402 S402



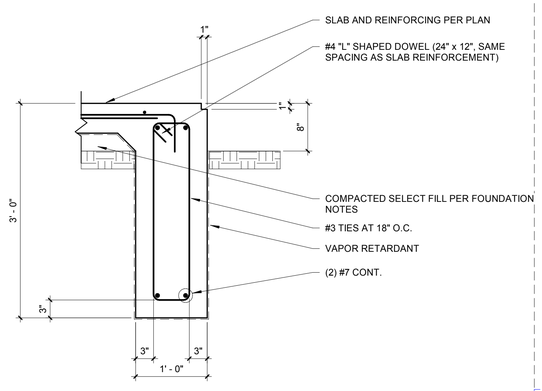
Footing at Interior

1" = 1'-0" | 2 | S203 S402



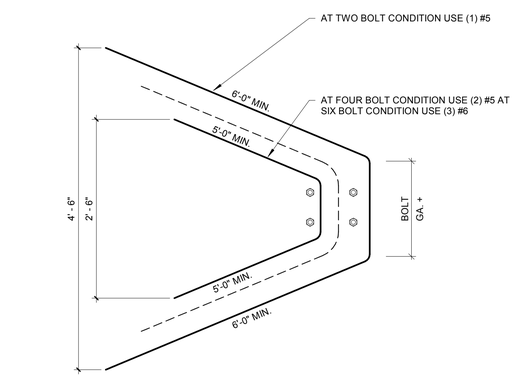
Footing at Exterior Overhead Door

1" = 1'-0" | 12 | S203 S402



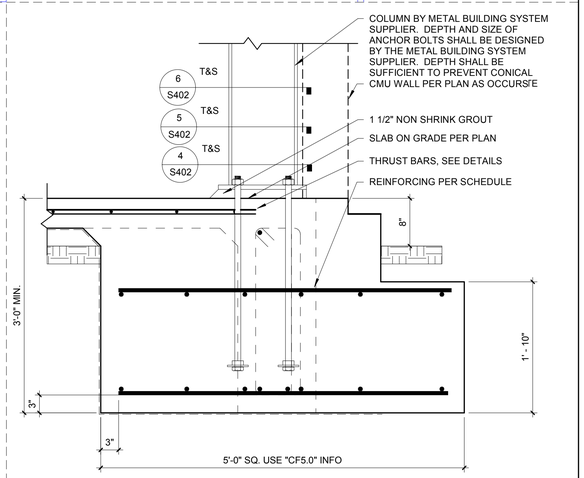
Footing at Exterior Wall at Metal Ledge

1" = 1'-0" | 9 | S203 S402



Footing Thrust Bar Detail

1" = 1'-0" | 6 | S402 S402



Footing at MBS Exterior Column, CMU

1" = 1'-0" | 3 | S201 S402

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SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
Foundation Details

SHEET
S402

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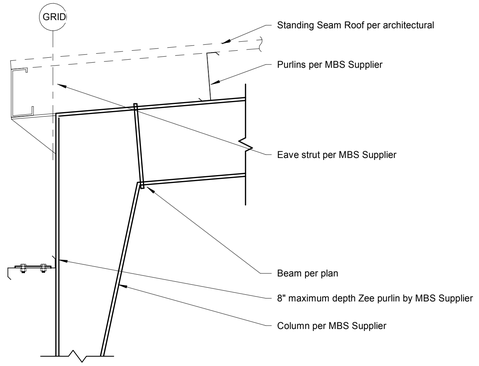
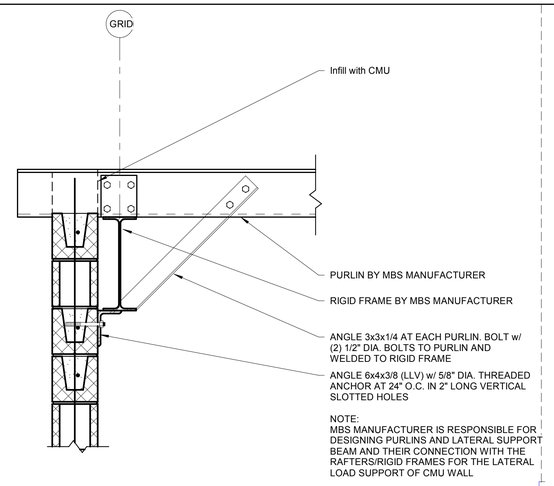
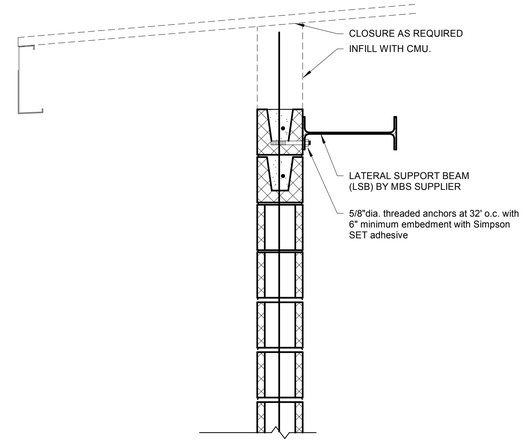


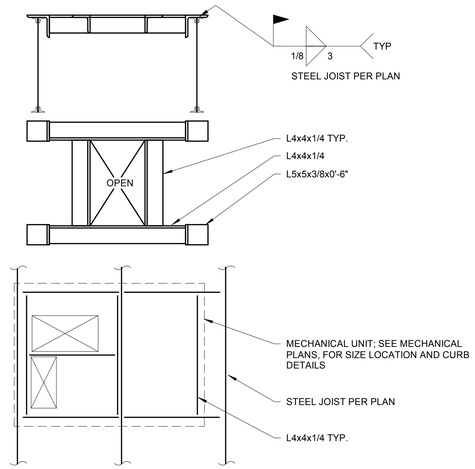
MBS Parallel
1" = 1'-0"
10 | S302 | S403



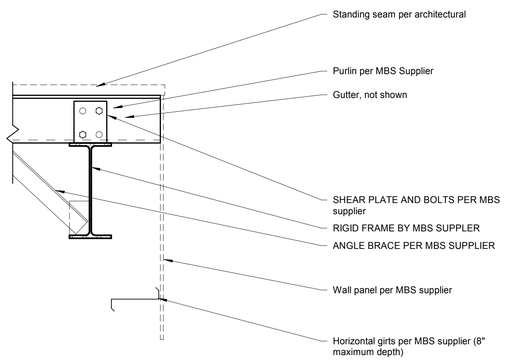
MBS to CMU Wall, Perpendicular, Parapet
1" = 1'-0"
7 | S301 | S403



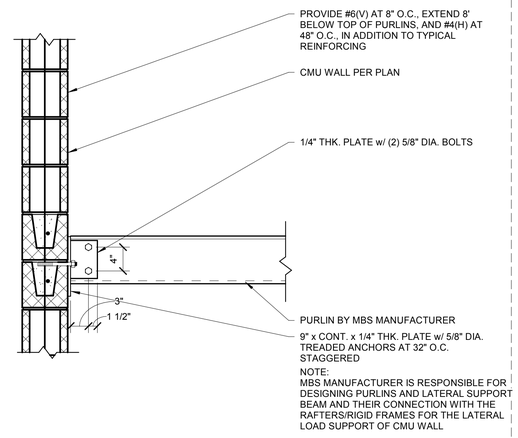
Drafting 2
1" = 1'-0"
4 | S301 | S403



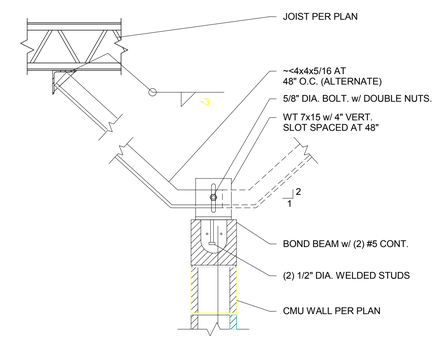
Typical Steel Joist Reinforcement at Openings
1" = 1'-0"
1 | S403



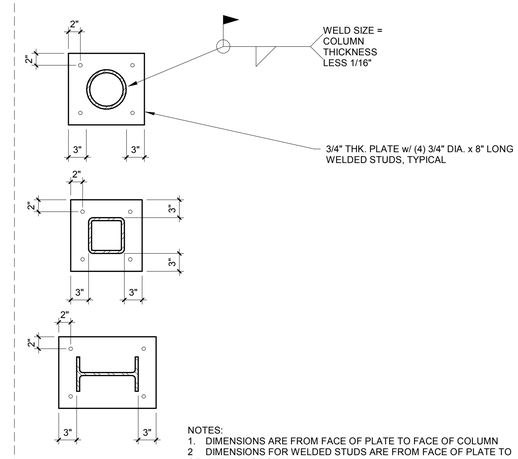
MBS to Metal Studs, Perpendicular
1" = 1'-0"
11 | S302 | S403



MBS to CMU Wall, Perpendicular, Curved Wall
1" = 1'-0"
8 | S403

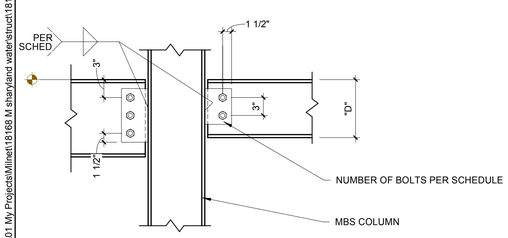


Typical CMU Bracing, Perpendicular. To MBS Purlins Similar
1" = 1'-0"
5 | S403



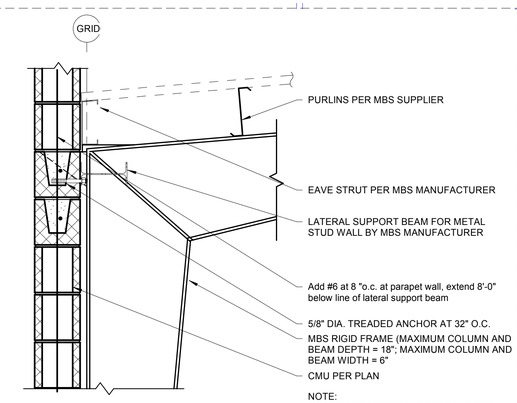
NOTES:
1. DIMENSIONS ARE FROM FACE OF PLATE TO FACE OF COLUMN
2. DIMENSIONS FOR WELDED STUDS ARE FROM FACE OF PLATE TO CENTERLINE OF STUD

Steel Column Base Plate
1" = 1'-0"
2 | S402 | S403

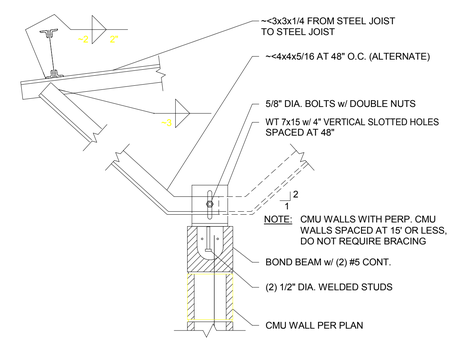


SIMPLE BEAM CONNECTION SCHEDULE				
BEAM DEPTH "D"	SHEAR/ STIFF. PLATE	NO. & SIZE OF A325N BOLTS	WELD SIZE	MAX. REACTION
8,10	1/4	(2) 5/8" DIA.	1/4"	16.0 K
12, 14	1/4	(3) 3/4" DIA.	1/4"	20.0 K
16	3/8	(4) 3/4" DIA.	3/8"	35.0 K
18	3/8	(5) 3/4" DIA.	3/8"	55.0 K
21	1/2	(6) 3/4" DIA.	3/8"	65.0 K

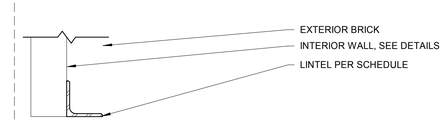
Steel Beam to MBS Column
1" = 1'-0"
12 | S302 | S403



MBS to CMU Wall, Parallel
1" = 1'-0"
9 | S403



Typical CMU Bracing, Parallel. To MBS Purlins Similar
1" = 1'-0"
6 | S403



LOOSE ANGLE LINTEL SCHEDULE			
ANGLE SIZE (LLV)	CLEAR OPENING		REMARKS
	GREATER THAN	UP TO	
4" x 4" x 5/16"	---	3'-0"	8" MIN. BEARING EA. END
4" x 4" x 3/8"	3'-1"	6'-0"	12" MIN. BEARING EA. END
5" x 3-1/2" x 3/8"	6'-1"	8'-0"	12" MIN. BEARING EA. END
6" x 4" x 3/8"	8'-1"	9'-0"	16" MIN. BEARING EA. END
6" x 4" x 1/2"	9'-1"	10'-0"	16" MIN. BEARING EA. END
7" x 4" x 1/2"	10'-1"	11'-0"	16" MIN. BEARING EA. END
8" x 4" x 1/2"	11'-1"	12'-0"	16" MIN. BEARING EA. END

NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
2. PROVIDE 1" OF BEARING AT EACH JAMB FOR EACH FOOT OF CLEAR SPAN BUT NOT LESS THAN 6".
3. WHERE MINIMUM BEARING CANNOT BE ACHIEVED, PROVIDE ADEQUATE CONNECTION TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE VERTICAL SUPPORTS. SUBMIT SUCH DETAILS FOR THE ENGINEER'S REVIEW.
4. ALL LINTELS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
5. FOR MASONRY OPENINGS GREATER THAN 10'-0", SEE DETAILS ON THE DRAWINGS OR REFER TO ENGINEER.
6. BRICK HEIGHTS OVER OPENINGS GREATER THAN ONE HALF THE LINTEL SPAN SHALL BE SHORED UNTIL MORTAR HAS SET AND CURED.
7. CUT HORIZONTAL LEG 1/4" FROM OUTSIDE FACE OF VENEER.

Steel Loose Angle Lintel Schedule
1" = 1'-0"
3 | S403

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S403

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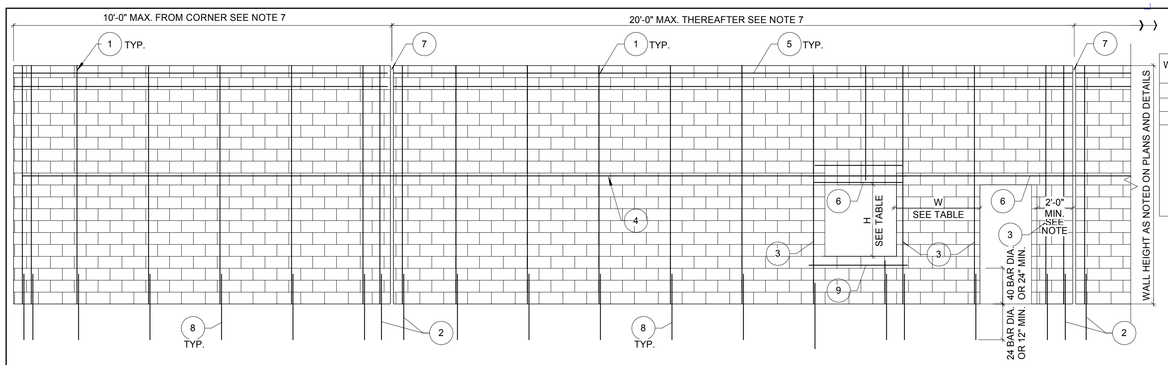
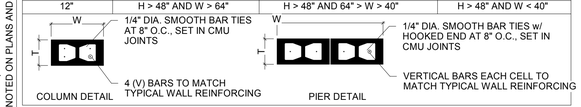
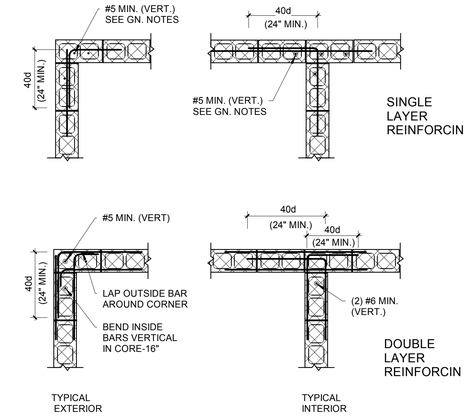


WALL THICKNESS (T)	DIMENSIONAL LIMITS		
	CLEAR	PIER	COLUMN
6"	H > 24" AND W > 32"	H > 24" AND 32" > W > 24"	H > 24" AND W < 24"
8"	H > 32" AND W > 40"	H > 32" AND 40" > W > 24"	H > 32" AND W < 24"
12"	H > 48" AND W > 64"	H > 48" AND 64" > W > 40"	H > 48" AND W < 40"



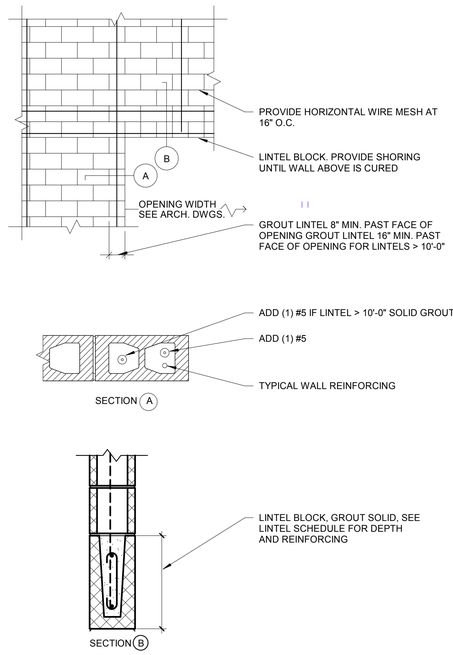
1. NORMAL WALL REINFORCING AS NOTED ON DETAILS AND DESCRIBED IN GENERAL NOTES.
2. ADDITIONAL VERTICAL REINFORCING AT CONTROL JOINTS - SEE TYPICAL CONTROL JOINT DETAIL.
3. ADDITIONAL VERTICAL REINFORCING AT JAMBS OF ALL WALL OPENINGS.
4. INTERMEDIATE BOND BEAM REINFORCED AND SPACED AS REQUIRED ON DRAWINGS. CUT ONE INTERMEDIATE BOND BEAM SHALL BE PLACED AT WINDOW LINTEL ELEVATION AND AT 8'-0" O.C.
5. ROOF LEVEL BOND BEAM REINFORCED AS NOTED ON DETAILS - CONTINUE ALL REINFORCING UNCUT THROUGH CONTROL JOINTS.
6. LINTEL REINFORCING AS DETAILED AND/OR SCHEDULED.
7. CONTROL JOINTS (CJ): UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS. THE CJ SPACING NOTED IS THE MAXIMUM PERMITTED. THE SPACING OF CJ'S SHALL BE COORDINATED WITH THE WALL OPENING LOCATIONS AND IN NO CASE SHALL A CJ BE LOCATED CLOSER THAN 24" TO THE JAMB OF ANY WALL OPENING.
8. FOUNDATION DOWELS TO MATCH VERTICAL WALL REINFORCING SIZE AND SPACING.
9. SILL LEVEL BOND BEAM REINFORCED AS NOTED IN MASONRY GENERAL NOTES.

Typical CMU Wall Elevation
1" = 1'-0" — 4 / S404



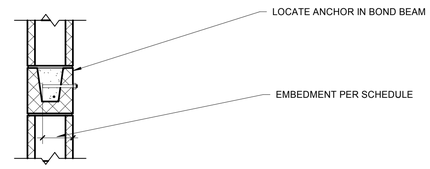
Typical CMU Reinforcing at Intersections
1/2" = 1'-0" — 1 / S404

LINTEL SCHEDULE					
CLEAR SPAN	WIDTH	DEPTH	REINFORCING	#3 TIES AT:	REMARKS
<3'-4"	8"	8"	(1) #5		
<6'-6"	8"	16"	(1) #5 (T) & (B)	8"	
<10'-0"	8"	16"	(1) #6 (T) & (B)	8"	
<12'-0"	8"	24"	(1) #7 (T) & (B)	8"	
<14'-8"	8"	36"	(1) #7 (T) & (B)	8"	
<16'-0"	8"	24"	(2) #6(H) AT 8"	8"	C.I.P. CONC.
CURVED	8"	24"	(2) #6(H) AT 8"	8"	C.I.P. CONC.
<24'-0"	8"	36"	(2) #6(H) AT 8"	8"	C.I.P. CONC.

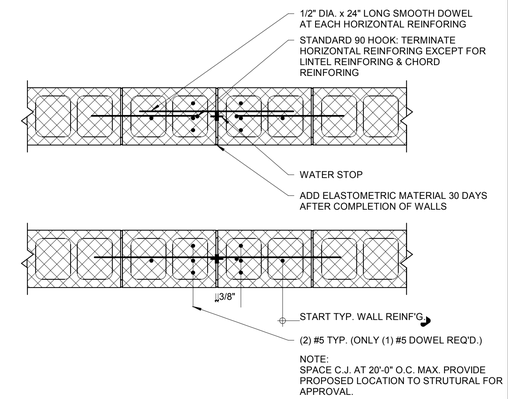


Typical CMU Lintel
1" = 1'-0" — 9 / S404

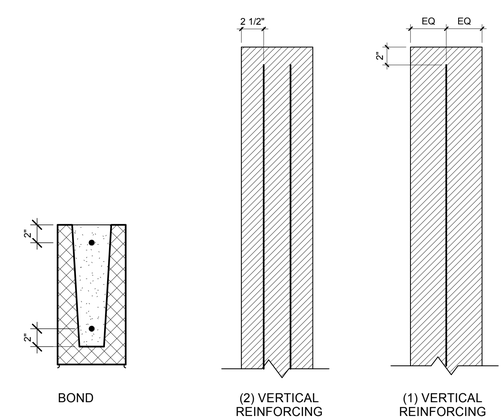
DIA.	EMBEDMENT		ADHESIVE
	CONCRETE	MASONRY	
1/2"	4"	6"	SIMPSON SET or HILTI HY150
5/8"	5"	6"	SIMPSON SET
3/4"	6"	6"	SIMPSON SET



Typical CMU Threaded Anchor Embedment
1" = 1'-0" — 5 / S404



Typical CMU Control Joint
1" = 1'-0" — 2 / S404



Typical CMU Reinforcing Clearances
1 1/2" = 1'-0" — 3 / S404

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STATE OF TEXAS
SIMON G. SOLORIO JR.
83066
REGISTERED PROFESSIONAL ENGINEER

October 18, 2018

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ISSUED FOR:

For Construction

NEW BUILDING
SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
Typical CMU Details

SHEET
S404

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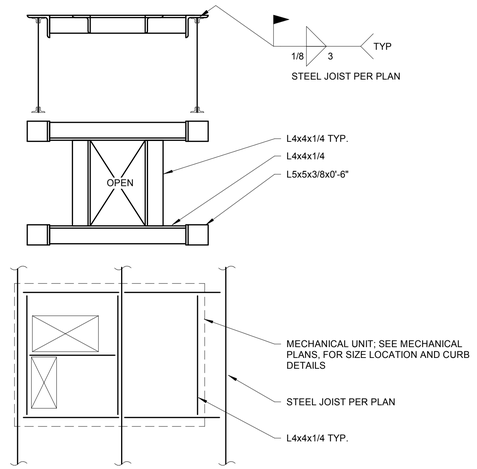
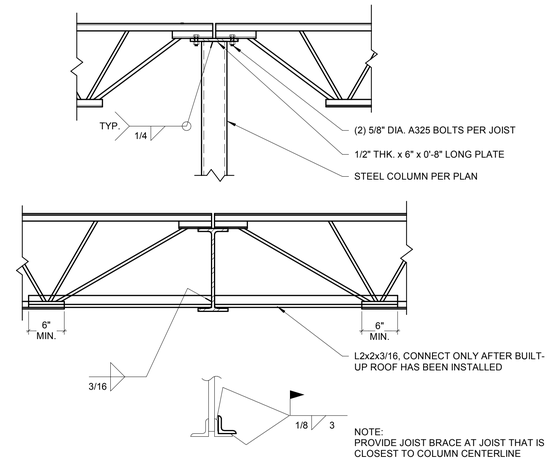


Typical Steel Joist Reinforcement at Openings

1" = 1'-0"

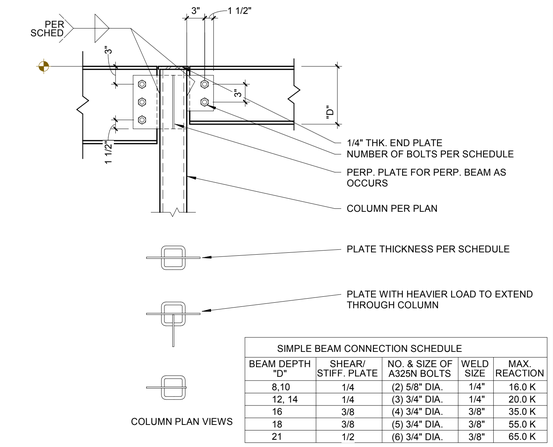
6 / S405



Typical Steel Joist Brace Near and at Column

1" = 1'-0"

4 / S405

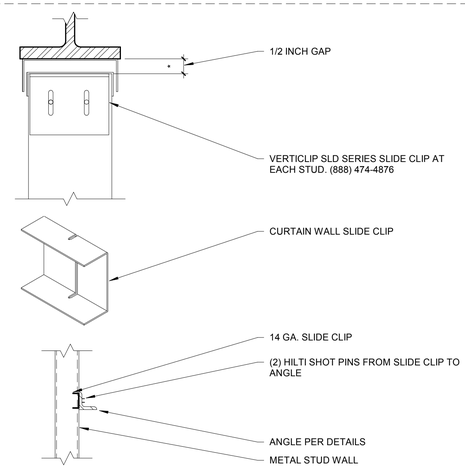


SIMPLE BEAM CONNECTION SCHEDULE				
BEAM DEPTH "D"	SHEAR/ STIFF. PLATE	NO. & SIZE OF A325N BOLTS	WELD SIZE	MAX. REACTION
8,10	1/4	(2) 5/8" DIA.	1/4"	16.0 K
12, 14	1/4	(3) 3/4" DIA.	1/4"	20.0 K
16	3/8	(4) 3/4" DIA.	3/8"	35.0 K
18	3/8	(5) 3/4" DIA.	3/8"	55.0 K
21	1/2	(6) 3/4" DIA.	3/8"	65.0 K

Typical Steel Beam to Steel Column

1" = 1'-0"

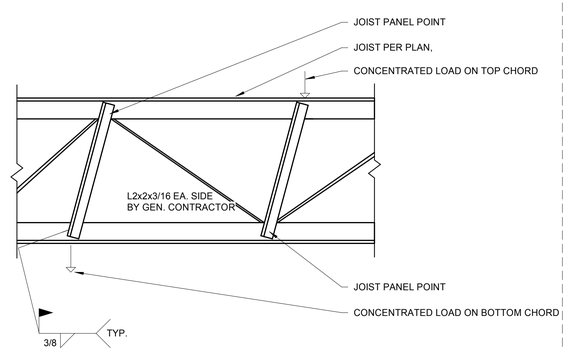
1 / S405



Metal Stud Slide Clip

1" = 1'-0"

8 / S405



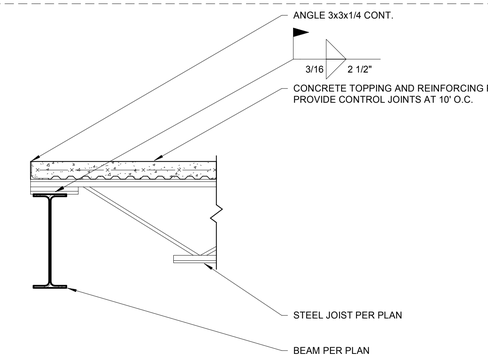
NOTES:
THIS DETAIL IS APPLIED FOR ALL CONCENTRATED LOADS THAT ARE ATTACHED TO JOIST(S) BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS. EXAMPLES OF THESE LOADS ARE:

1. HANGING LOAD, PARTITION THAT EXCEEDS 150 lb.
2. HANGING PLUMBING, MECH'L STEEL PIPE WITH DIA. > 5"
3. HANGING BASKETBALL GOALS
4. MECHANICAL UNITS.

Typical Steel Joist Bracing Reinforcement

1" = 1'-0"

5 / S405

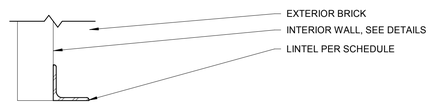


NOTES:
1. OFFSET STEEL JOISTS IF 2 1/2" MINIMUM BEARING CANNOT BE OBTAINED (6" MINIMUM BEARING AT OFFSET CONDITION)
2. BEARING SEAT MATERIAL OF STEEL JOISTS SHALL BE 3/16" THK. MINIMUM

Steel Joist to Steel Beam at Floor

1" = 1'-0"

2 / S302 S405



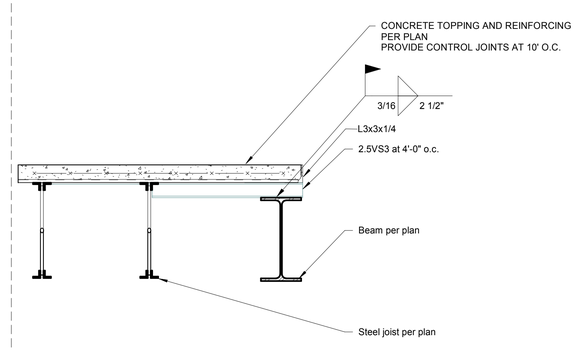
LOOSE ANGLE LINTEL SCHEDULE			
ANGLE SIZE (LLV)	CLEAR OPENING		REMARKS
	GREATER THAN	UP TO	
4" x 4" x 5/16"	---	3'-0"	8" MIN. BEARING EA. END
4" x 4" x 3/8"	3'-1"	6'-0"	12" MIN. BEARING EA. END
5" x 3-1/2" x 3/8"	6'-1"	8'-0"	12" MIN. BEARING EA. END
6" x 4" x 3/8"	8'-1"	9'-0"	16" MIN. BEARING EA. END
6" x 4" x 1/2"	9'-1"	10'-0"	16" MIN. BEARING EA. END
7" x 4" x 1/2"	10'-1"	11'-0"	16" MIN. BEARING EA. END
8" x 4" x 1/2"	11'-1"	12'-0"	16" MIN. BEARING EA. END

NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
2. PROVIDE 1" OF BEARING AT EACH JAMB FOR EACH FOOT OF CLEAR SPAN BUT NOT LESS THAN 6".
3. WHERE MINIMUM BEARING CANNOT BE ACHIEVED, PROVIDE ADEQUATE CONNECTION TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE VERTICAL SUPPORTS. SUBMIT SUCH DETAILS FOR THE ENGINEER'S REVIEW.
4. ALL LINTELS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
5. FOR MASONRY OPENINGS GREATER THAN 10'-0", SEE DETAILS ON THE DRAWINGS OR REFER TO ENGINEER.
6. BRICK HEIGHT'S OVER OPENINGS GREATER THAN ONE HALF THE LINTEL SPAN SHALL BE SHORED UNTIL MORTAR HAS SET AND CURED.
7. CUT HORIZONTAL LEG 1/4" FROM OUTSIDE FACE OF VENEER.

Steel Loose Angle Lintel Schedule

1" = 1'-0"

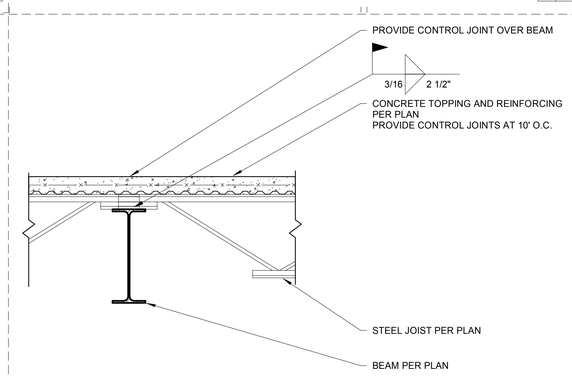
9 / S405



Steel Joist to Steel Beam at Floor Parallel

1" = 1'-0"

7 / S302 S405



NOTES:
1. OFFSET STEEL JOISTS IF 2 1/2" MINIMUM BEARING CANNOT BE OBTAINED (6" MINIMUM BEARING AT OFFSET CONDITION)
2. BEARING SEAT MATERIAL OF STEEL JOISTS SHALL BE 3/16" THK. MINIMUM

Steel Joist to Steel Beam at Floor Both Sides

1" = 1'-0"

3 / S405

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October 18, 2018

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ISSUED FOR:
For Construction

NEW BUILDING
SHARYLAND WATER SUPPLY CORP.
MISSION, TX

PROJECT NUMBER
18168

DATE
October 18, 2018

Sheet Name
Typical Framing Details

S H E E T
S405

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OCCUPANCY SCHEDULE - MAIN BUILDING BUSINESS					
NUMBER	NAME	OCCUPANCY	AREA	OCCUPANT LOAD	EXIT WIDTH TOTAL
100	LOBBY	BUSINESS	1096 SF	11	0' - 3 1/4"
101	TELLER AREA	BUSINESS	951 SF	10	0' - 2 3/4"
103	UNISEX RESTROOM	BUSINESS	41 SF	0	0' - 0"
104	RECEPTIONIST	BUSINESS	59 SF	1	0' - 0 1/4"
105	CUSTOMER SERVICE	BUSINESS	79 SF	1	0' - 0 1/4"
106	NEW ACCOUNTS	BUSINESS	79 SF	1	0' - 0 1/4"
107	OFFICE MANAGER	BUSINESS	165 SF	2	0' - 0 1/2"
110	CSI & CSI CLERK	BUSINESS	145 SF	1	0' - 0 1/2"
111	COMPUTER ROOM	BUSINESS	124 SF	1	0' - 0 1/4"
114	EMPLOYEE LOUNGE	BUSINESS	363 SF	4	0' - 1"
117	WOMEN RESTROOM	BUSINESS	192 SF	2	0' - 0 1/2"
118	MEN RESTROOM	BUSINESS	192 SF	2	0' - 0 1/2"
120	DISTRIBUTION FOREMAN & SUP.	BUSINESS	200 SF	2	0' - 0 1/2"
121	HUMAN RESOURCES	BUSINESS	208 SF	2	0' - 0 3/4"
122	GENERAL MANAGER ASSISTANT	BUSINESS	116 SF	1	0' - 0 1/4"
123	GENERAL MANAGER	BUSINESS	362 SF	4	0' - 1"
124	RESTROOM	BUSINESS	84 SF	1	0' - 0 1/4"
125	ASSISTANT GENERAL MANAGER	BUSINESS	202 SF	2	0' - 0 1/2"
126	ACCOUNTANT	BUSINESS	170 SF	2	0' - 0 1/2"
127	A/P	BUSINESS	157 SF	2	0' - 0 1/2"
128	OPS MANAGER	BUSINESS	222 SF	2	0' - 0 3/4"
129	OPS CLERK	BUSINESS	171 SF	2	0' - 0 1/2"
130	ENGINEER	BUSINESS	242 SF	2	0' - 0 3/4"
131	PLANNER OFFICE	BUSINESS	214 SF	2	0' - 0 3/4"
132	MAP ROOM	BUSINESS	446 SF	4	0' - 1 1/4"
133	HALLWAY	BUSINESS	1361 SF	14	0' - 4"
			7640 SF	76	1' - 11"

OCCUPANCY SCHEDULE - MAIN BUILDING ASSEMBLY					
NUMBER	NAME	OCCUPANCY	AREA	OCCUPANT LOAD	EXIT WIDTH TOTAL
102	CONFERENCE ROOM	ASSEMBLY	900 SF	129	3' - 2 3/4"
			900 SF	129	3' - 2 3/4"

OCCUPANCY SCHEDULE - MAIN BUILDING UTILITY					
NUMBER	NAME	OCCUPANCY	AREA	OCC. LOAD	EXIT WIDTH TOTAL
108	VAULT	UTILITY	59 SF		
112	ELECTRICAL ROOM	UTILITY	39 SF		
113	JANITOR ROOM	UTILITY	35 SF		
115	PANTRY	UTILITY	103 SF		
116	SUPPLY STORAGE	UTILITY	133 SF		
119	FILE ROOM	UTILITY	660 SF		
134	RISER	UTILITY	14 SF		
135	MEZZANINE	UTILITY	660 SF		
136	SERVER	UTILITY	84 SF		
137	CLOSET	UTILITY	13 SF		
			1800 SF	0	0' - 0"

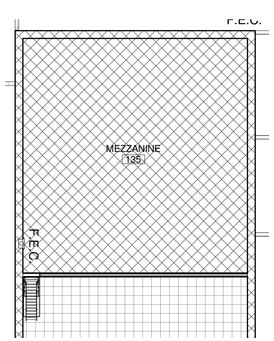
CODE PLAN LEGEND

"A" OCCUPANCY

"B" OCCUPANCY

UTILITY OCCUPANCY

2HR RATED WALL



2 MEZZANINE PLAN
1/8" = 1'-0"

GENERAL INFORMATION

LOCATION: ALTON, TX
ARCHITECT: MILNET ARCHITECTRUAL SERVICES, PLLC

PROJECR DESCRIPTION

NEW CONSTRUCTION OF A 10,800 SQUARE FOOT ADMINISTRATION BUILDING FOR SHARYLAND WATER SUPPLY CORP, NEW CONSTRUCTION OF 7,860 SQUARE FOOT WAREHOUSE ALTERNATE #1.

APPLICABLE CODES

2012 - IBC
2012 - IFC
2014 - NEC
2012 - TAS

BUILDING HEIGHT AND AREAS

OCCUPANCY CLASSIFICATION
CONST. TYPE II B - UNPROTECTED, SPRINKLED — OCCUPANCY GROUP "A"

ALLOWABLE — HAVE:
TOTAL AREA: 11,000SF — 900SF
OCCUPANT LOAD: 129

OCCUPANCY CLASSIFICATION
CONST. TYPE V B - UNPROTECTED, SPRINKLED — OCCUPANCY GROUP "B"

ALLOWABLE — HAVE:
TOTAL AREA: 18,000SF — 10,800SF
OCCUPANT LOAD: 76

BASIC ALLOWABLE HEIGHT:
ALLOWABLE STORIES: 1 (TABLE 503)
ACTUAL STORIES: 1
ALLOWABLE HEIGHT: 40 FT
ACTUAL HEIGHT: 14'

TOTAL ACTUAL SQUARE FOOTAGE:
MAIN BUILDING 10,800 SF

GENERAL NOTES:
SEPARATE REVIEW, APPROVAL, AND PERMITS ARE REQUIRED FOR GRADING, ACCESSORY BUILDINGS AND STRUCTURES, SIGNS, TRASH ENCLOSURES, BLOCK WALLS, RETAINING WALLS NOT SUPPORTING BUILDINGS, AND DEMOLITION WORK. CONTACT CITY FOR PROCEDURAL INFORMATION.

OVERALL PLAN SHEET IS INTENDED FOR CODE COMPLIANCE SUCH AS OVERALL OCCUPANCY, EGRESS INFORMATION, FIRE SEPARATION AND GENERAL INFORMATION ONLY.

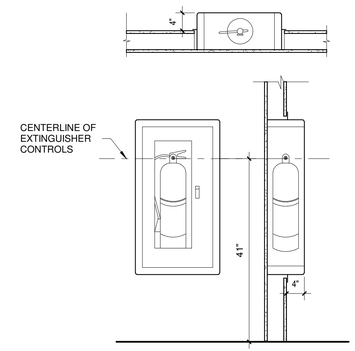
A FIRE SYSTEM APPROVED BY THE FIRE MARSHALL OR AHJ SHALL BE PROVIDED.

AUDIBLE ALARM DEVICES SHALL BE USED IN ALL AREAS. AUDIBLE ALARM DEVICES SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR WITHIN BASE BID. RE: MEP

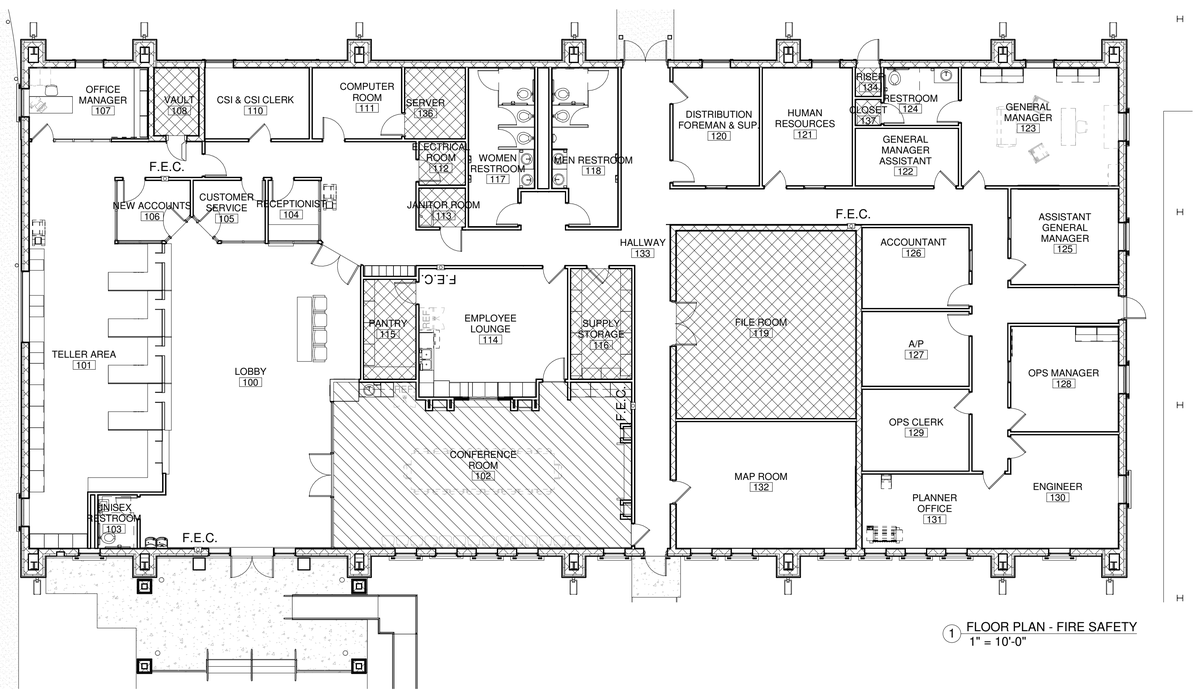
AN OCCUPANT LOAD SIGN SHALL BE POSTED IN ANY ROOM WITH AN OCCUPANT LOAD OVER 50. THE SIGN IS REQUIRED TO BE POSTED AT OR NEAR THE MAIN EXIT.

PROVIDE PANIC HARDWARE FOR GROUP "A" OCCUPANCIES WITH AN OCCUPANT LOAD OF 50 OR MORE.

MARKING OF FIRE RATED AND SMOKE STOP PARTITIONS: ALL SMOKE STOP PARTITIONS, HORIZONTAL EXIT ENCLOSURES, AND IRE WALLS MUST BE PERMANENT MARKED ABOVE CEILINGS AS FOLLOWS: "FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS." LETTERS SHALL BE PAINTED RED. PROTECT ALL OPENINGS." LETTERS SHALL BE PROVIDE ONE LABEL PER STRUCTURAL BAY.



3 FIRE EXTINGUISHER
3/4" = 1'-0"



1 FLOOR PLAN - FIRE SAFETY
1" = 10'-0"

MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

ISSUE FOR COMPETITIVE SEALED PROPOSALS

SHEET NUMBER
A0.1

OCCUPANCY SCHEDULE - BUSINESS					
NUMBER	NAME	OCCUPANCY	AREA	OCC. LOAD	EXIT WIDTH TOTAL
201	HALLWAY	BUSINESS	137 SF	1	0' - 0 1/2"
202	WORKOUT ROOM	BUSINESS	349 SF	3	0' - 1"
203	CLERK OFFICE	BUSINESS	155 SF	2	0' - 0 1/2"
204	TRAINING ROOM	BUSINESS	395 SF	4	0' - 1 1/4"
206	RESTROOM	BUSINESS	155 SF	2	0' - 0 1/2"
207	RESTROOM	BUSINESS	155 SF	2	0' - 0 1/2"
208	HALLWAY	BUSINESS	248 SF	2	0' - 0 3/4"
209	OFFICE	BUSINESS	182 SF	2	0' - 0 1/2"
210	OFFICE	BUSINESS	175 SF	2	0' - 0 1/2"
211	OFFICE	BUSINESS	155 SF	2	0' - 0 1/2"
212	UNISEX RESTROOM	BUSINESS	96 SF	1	0' - 0 1/4"
213	OFFICE	BUSINESS	153 SF	2	0' - 0 1/2"
214	OFFICE	BUSINESS	108 SF	1	0' - 0 1/4"
			2463 SF	25	0' - 7 1/2"

OCCUPANCY SCHEDULE - ASSEMBLY					
NUMBER	NAME	OCCUPANCY	AREA	OCC. LOAD	EXIT WIDTH TOTAL
215	CONFERENCE ROOM	ASSEMBLY	360 SF	51	1' - 3 1/2"
			360 SF	51	1' - 3 1/2"

OCCUPANCY SCHEDULE - UTILITY					
NUMBER	NAME	OCCUPANCY	AREA	OCC. LOAD	EXIT WIDTH TOTAL
200	WAREHOUSE	UTILITY	5733 SF	11	0' - 3 1/2"
205	STORAGE	UTILITY	111 SF	0	0' - 0"
			5845 SF	12	0' - 3 1/2"

GENERAL INFORMATION

LOCATION: ALTON, TX
ARCHITECT: MILNET ARCHITECTRUAL SERVICES, PLLC

SCOPE OF WORK

NEW CONSTRUCTION OF 8,668 SQUARE FOOT
WAREHOUSE ALTERNATE #1.

APPLICABLE CODES

2012 - IBC
2012 - IFC
2014 - NEC
2012 - TAS

BUILDING HEIGHT AND AREAS

OCCUPANCY CLASSIFICATION
CONST. TYPE II B - UNPROTECTED, UNSPRINKLED — OCCUPANCY GROUP "A"

ALLOWABLE — HAVE:
TOTAL AREA: 11,000SF — 360SF
OCCUPANT LOAD: 129

OCCUPANCY CLASSIFICATION
CONST. TYPE V B - UNPROTECTED, UNSPRINKLED — OCCUPANCY GROUP "B"

ALLOWABLE — HAVE:
TOTAL AREA: 18,000SF — 2,463SF
OCCUPANT LOAD: 76

BASIC ALLOWABLE HEIGHT:
ALLOWABLE STORIES: 1 (TABLE 503)
ACTUAL STORIES: 1
ALLOWABLE HEIGHT: 40 FT
ACTUAL HEIGHT: 22'

TOTAL ACTUAL SQUARE FOOTAGE:
WAREHOUSE 8,668 SF

GENERAL NOTES:
SEPARATE REVIEW, APPROVAL, AND PERMITS ARE REQUIRED FOR GRADING, ACCESSORY BUILDINGS AND STRUCTURES, SIGNS, TRASH ENCLOSURES, BLOCK WALLS, RETAINING WALLS NOT SUPPORTING BUILDINGS, AND DEMOLITION WORK. CONTACT CITY FOR PROCEDURAL INFORMATION.

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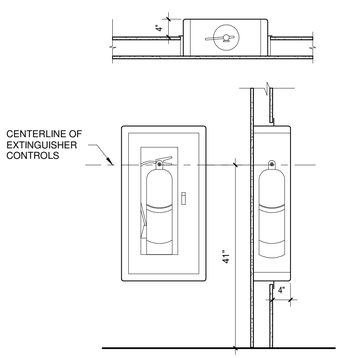
CODE PLAN LEGEND

"A" OCCUPANCY

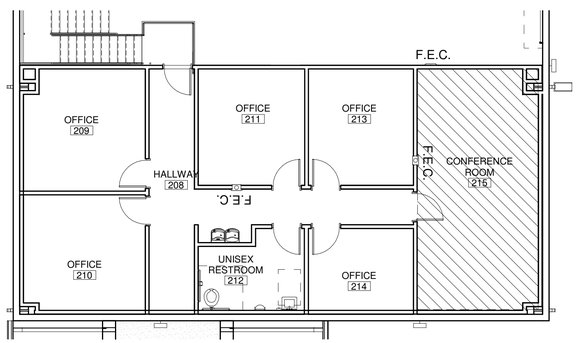
"B" OCCUPANCY

"UTILITY" OCCUPANCY

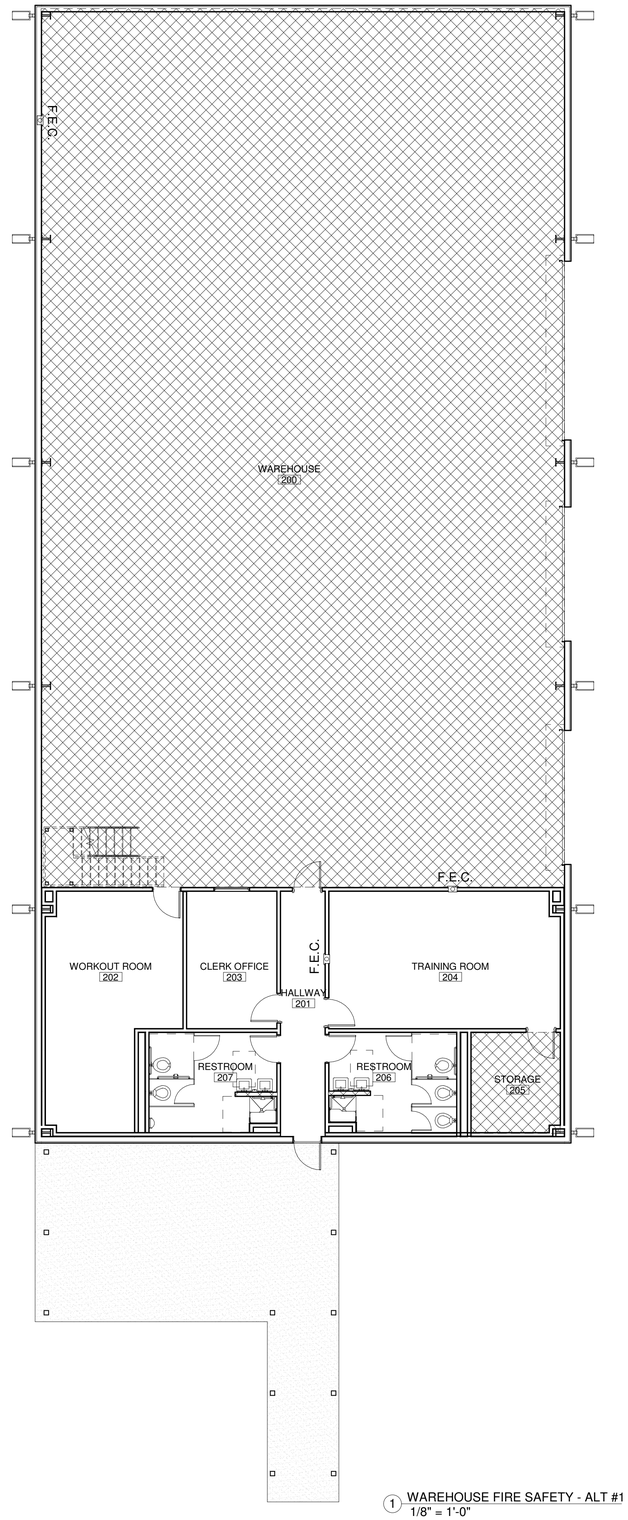
2HR RATED WALL



3 FIRE EXTINGUISHER
3/4" = 1'-0"



2 MEZZANINE PLAN - FIRE SAFETY
1/8" = 1'-0"



1 WAREHOUSE FIRE SAFETY - ALT #1
1/8" = 1'-0"

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SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNET, JR.
14760
STATE OF TEXAS

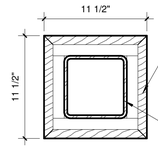
NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

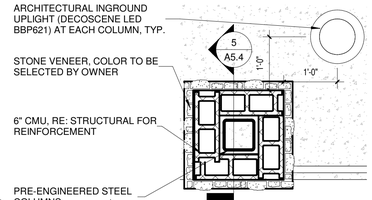
DATE
OCTOBER 19, 2018

ISSUE FOR
COMPETITIVE SEALED
PROPOSALS

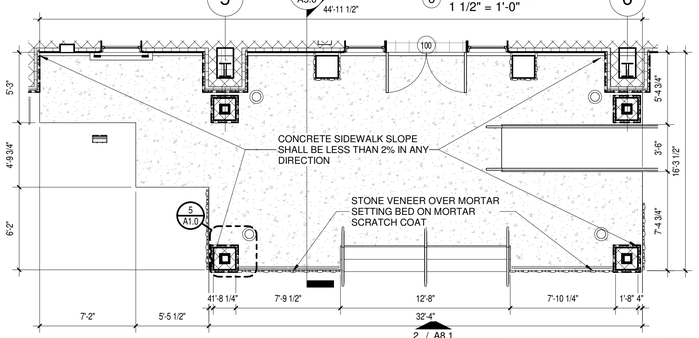
SHEET NUMBER
A0.2



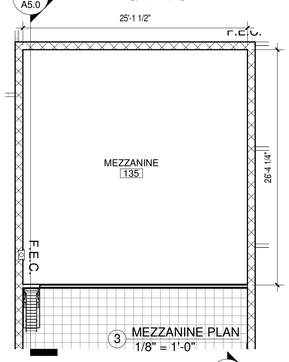
6 DETAIL
1 1/2" = 1'-0"



5 DETAIL - ARCH. LIGHTING
3/4" = 1'-0"



4 ENLARGED PLAN - ENTRY
3/16" = 1'-0"



3 MEZZANINE PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. ALL PENETRATIONS IN TOP OR BOTTOM PLATES FOR PLUMBING OR ELECTRICAL RUNS TO BE SEALED. SEE ELECTRICAL PLANS FOR ADDITIONAL SPECIFICATIONS.

2. ALL DIM. TO FINISH FACE OF WALL. DIM ON GRAY WALLS TO BE FIELD VERIFIED.

3. BUILDING MUST HAVE A PANEL BOX (LOCATION AS PER CITY CODES)

4. ALL SMOKE DETECTORS ARE TO BE PLACED AS PER CITY CODES.

5. ALL LIGHT FIXTURES TO BE REVIEWED BY OWNER. RE: ELEC.

6. RE: A7.1 FOR DOOR AND WINDOW SCHEDULES.

7. RE: 2/A1.0 FOR PARTITION TYPES.

8. ALL PARTITION TYPE "A" U.N.O.

9. PROVIDE ROOM SIGNAGE, RE: 3/A8.0 FOR SIGNAGE SPECIFICATIONS.

10. THE CONTRACTOR SHALL CAREFULLY REVIEW THE DRAWINGS, SPECIFICATIONS, DIMENSIONS AND SITE CONDITIONS PRIOR TO BEGINNING ANY WORK AND REPORT ANY INCONSISTENCIES OR DISCREPANCIES TO THE ARCHITECT IMMEDIATELY FOR RESOLUTION DURING THE Q&A PERIOD OF THE BID PHASE, AND AT THE LATEST BEFORE BEGINNING CONSTRUCTION.

11. THE DRAWINGS AND SPECIFICATIONS ARE CORRELATIVE AND HAVE EQUAL AUTHORITY AND PRIORITY. BASE DISAGREEMENTS IN THEMSELVES OR IN EACH OTHER ON THE MOST EXPENSIVE COMBINATION OF QUANTITY AND QUALITY OF WORK INDICATED.

12. ITEMS SPECIFICALLY MENTIONED IN THE SPECIFICATONS BUT NOT SHOWN ON THE DRAWINGS OR ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS SHALL BE PROVIDED AS IF THEY WERE BOTH SPECIFIED AND SHOWN IN THE DRAWINGS.

13. ALL MINOR DETAILS OF WORK WHICH ARE NOT SPECIFICALLY SHOWN ON THE DRAWINGS, AS WELL AS SUCH ITEMS WHICH ARE NOT SPECFICALLY MENTIONED IN THE SPECIFICATIONS, BUT ARE NECESSARY FOR THE PROPER COMPLETION OF THE WORK, SHALL BE CONSIDERED AS INCIDENTAL AND AS BEING PART OF AND INCLUDED WITH THE WORK FOR WHICH PRICES ARE GIVEN IN THE PROPOSAL AND NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THE PERFORMANCE THEREOF.

14. ALL FLOOR PLAN DIMENSIONS ARE TO FINISH FACE OF WALL. DO NOT SCALE DRAWINGS. WHERE DIMENSIONS ARE NOTED "AS CLEAR" DIMENSION SHALL BE FROM FINISH TO FINISH.

15. CASEWORK, PLUMBING FIXTURES, TOILET PARTITIONS, AND OTHER FIXTURES AND EQUIPMENT ARE DIMENSIONED FROM FINISHED SURFACES UNLESS NOTED OTHERWISE.

16. ALL SPACES WITH FLOOR DRAINS - SLOPE NOT TO EXCEED 2% (ONE - IN - FIFTY) IN ANY DIRECTION. COORDINATE ALL FLOOR DRAINS WITH PLUMBING DRAWINGS PRIOR TO ANY ROUGH-IN AND CONCRETE PLACEMENT.

17. DIMENSIONS NOTED AS "FIELD VERIFY" SHALL BE CHECKED AT THE SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.

18. DIMENSIONS NOTED AS "CLEAR" REQUIRE SPECIFIC COORDINATION BETWEEN DISCIPLINES AND/OR MANUFACTURERS.

19. PROVIDE CORNERGUARDS AT ALL INTERIOR GYP. BOARD WALL CORNERS AS SPECIFIED.

20. ALL FLOOR FINISH CHANGES SHALL OCCUR AT THE CENTERLINE OF DOORS UNLESS NOTED OTHERWISE. ALL FLOOR FINISH ELEVATION CHANGES SHALL HAVE THRESHOLDS OR REDUCERS STRIPS AS SPECIFIED.

21. OPEN EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES, BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, AT WALL AND ROOF PENETRATIONS AND ANY OTHER BUILDING ENVELOPE PENETRATION SHALL BE SEALED, CAULKED AND/OR WEATHER-STRIPPED TO PREVENT OR LIMIT AIR, MOISTURE AND VAPOR PENETRATION. USE ONLY SPECIFIED MANUFACTURER APPROVED MATERIALS AS DIRECTED BY MATERIAL MANUFACTURERS.

22. EFFECTIVELY ISOLATE ALL DISSIMILAR METALS/ MATERIALS TO PREVENT CORROSION BY ELECTROLYTIC ACTION OR OTHER CAUSES AS RECOMMENDED BY THE RESPECTIVE PRODUCT MANUFACTURER OR SUPPLIER.

23. PROPERLY TERMINATE ALL MATERIALS WITH APPROPRIATE TRIM, FLASHING, SEALANT, EXPANSION CONTROL, ETC. AS INDICATED ON DRAWINGS OR AS REQUIRED FOR PROPER INSTALLATION AS ACCEPTED BY STANDARD BUILDING PRACTICE.

24. COORDINATE AND PROVIDE APPROPRIATE BLOCKING IN WALLS AS REQUIRED TO SECURE ALL EQUIPMENT, HANDRAILS, CASEWORK, ETC. AS REQUIRED. WOOD BLOCKING SHALL MEET CODE REQUIREMENTS.

25. SINGLE USER TOILET ROOMS MAY BE CONFIGURED IN ACCORDANCE WITH TECHNICAL MEMORANDUM TM 03-02 ISSUED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATIONS, ARCHITECTURAL BARRIERS DIVISION ALLOWING THE DOOR SWING TO ENCROACH INTO THE 5 FOOT DIAMETER TURNING CIRCLE SPACE SO LONG AS A CLEAR FLOOR SPACE OF 30" X 48" IS PROVIDED.

26. REFER TO ARCHITECUTRAL REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS. COORDINATE ALL LIGHT FIXTURES, MECHANICAL DIFFUSERS, NOTIFICATION DEVICES, ETC. WITH MEP DRAWINGS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOR RESOLUTION.

27. COORDINATE HOUSEKEEPING PAD DIMENSIONS AND LOCATIONS WITH EQUIPMENT TO BE INSTALLED. ALL HOUSEKEEPING PADS SHALL BE A MINIMUM OF 4" TALL REINF. W/ #3 BARS AT 15" O.C.B.W. AND PROVIDE 1" (45- DEGREE) CHAMFERED EDGES UNLESS NOTED OTHERWISE.

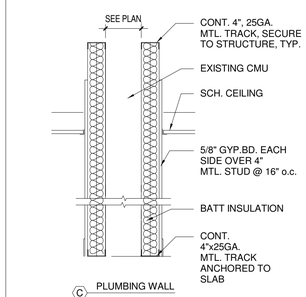
28. ALL INTERIOR DOORS IN STUD WALL ASSEMBILES SHALL BE SET A MINIMUM OF 4" OFF THE PERPENDICULAR ADJACENT WALL ON THE HINGE SIDE OF THE DOOR UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY CONFLICTS FOR RESOLUTION.

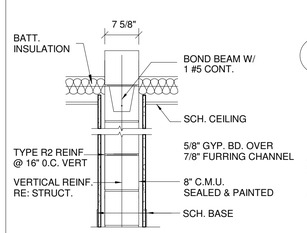
29. SET ALL EXTERIOR DOOR THRESHOLDS IN FULL BED OF MANUFACTURER APPROVED SEALANT IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS.

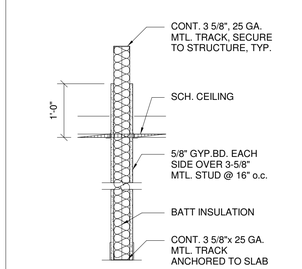
30. REFER A3.0 AND A8.0 SHEET FOR MOUNTING HEIGHTS OF FIXTURES AND EQUIPMENT AS SCHEDULED. REFER TO THE TEXAS DEPARTMENT OF LICENSING AND REGULATIONS, ARCHITECTURAL BARRIERS DIVISION TEXAS ACCESSIBILITY STANDARDS FOR ALL MOUNTING HEIGHTS NOT LISTED AND FOR FURTHER CLARIFICATION AS NEEDED.

SQUARE FOOTAGE:

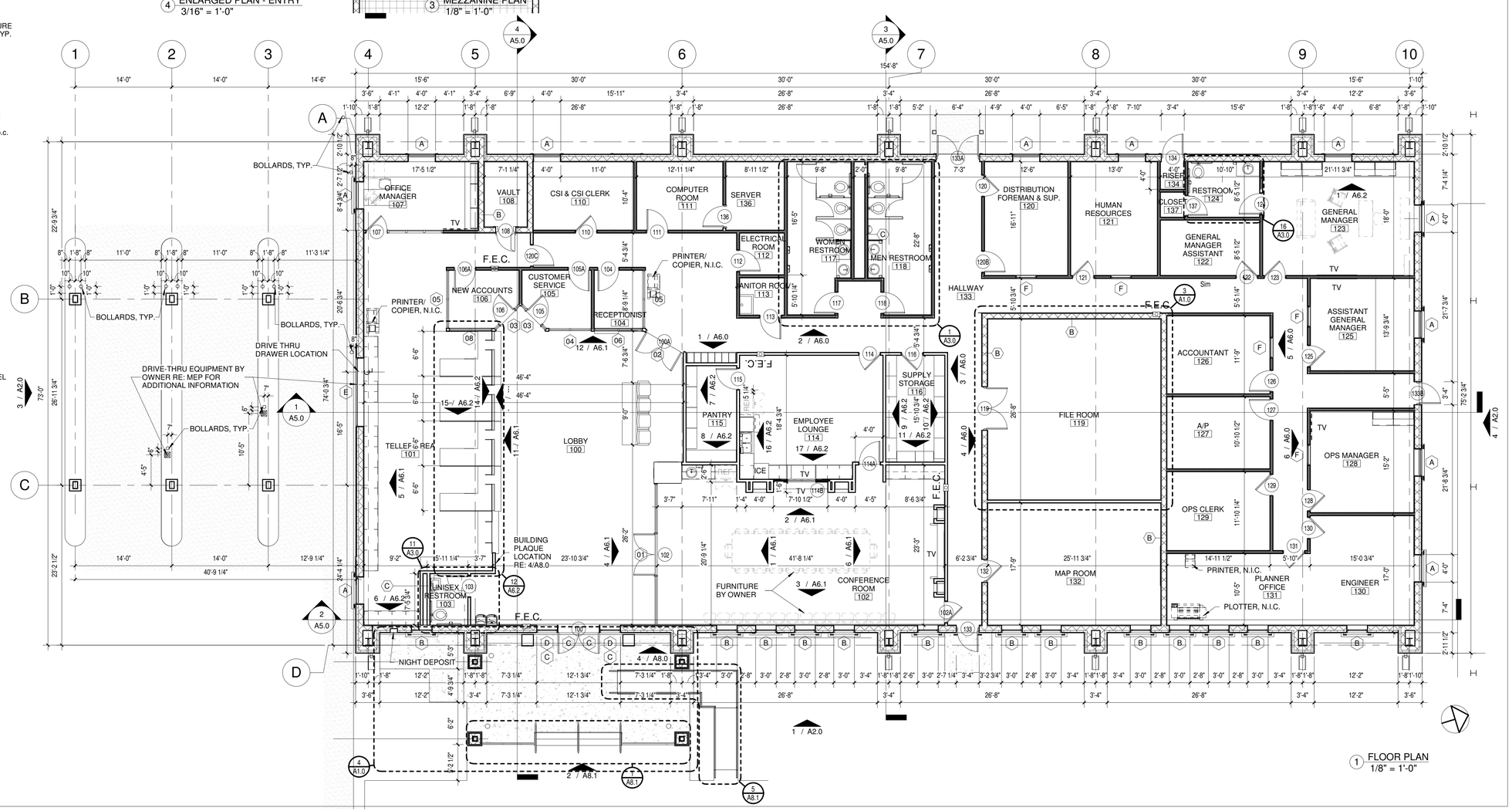
MAIN BLDG. GROSS AREA:	10,800 SQ FT
WAREHOUSE GROSS AREA ALT #1:	8,668 SQ FT
TOTAL (BASE BID):	19,468 SQ FT







2 PARTITION TYPES
3/4" = 1'-0"



1 FLOOR PLAN
1/8" = 1'-0"

MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNET
14740
STATE OF TEXAS

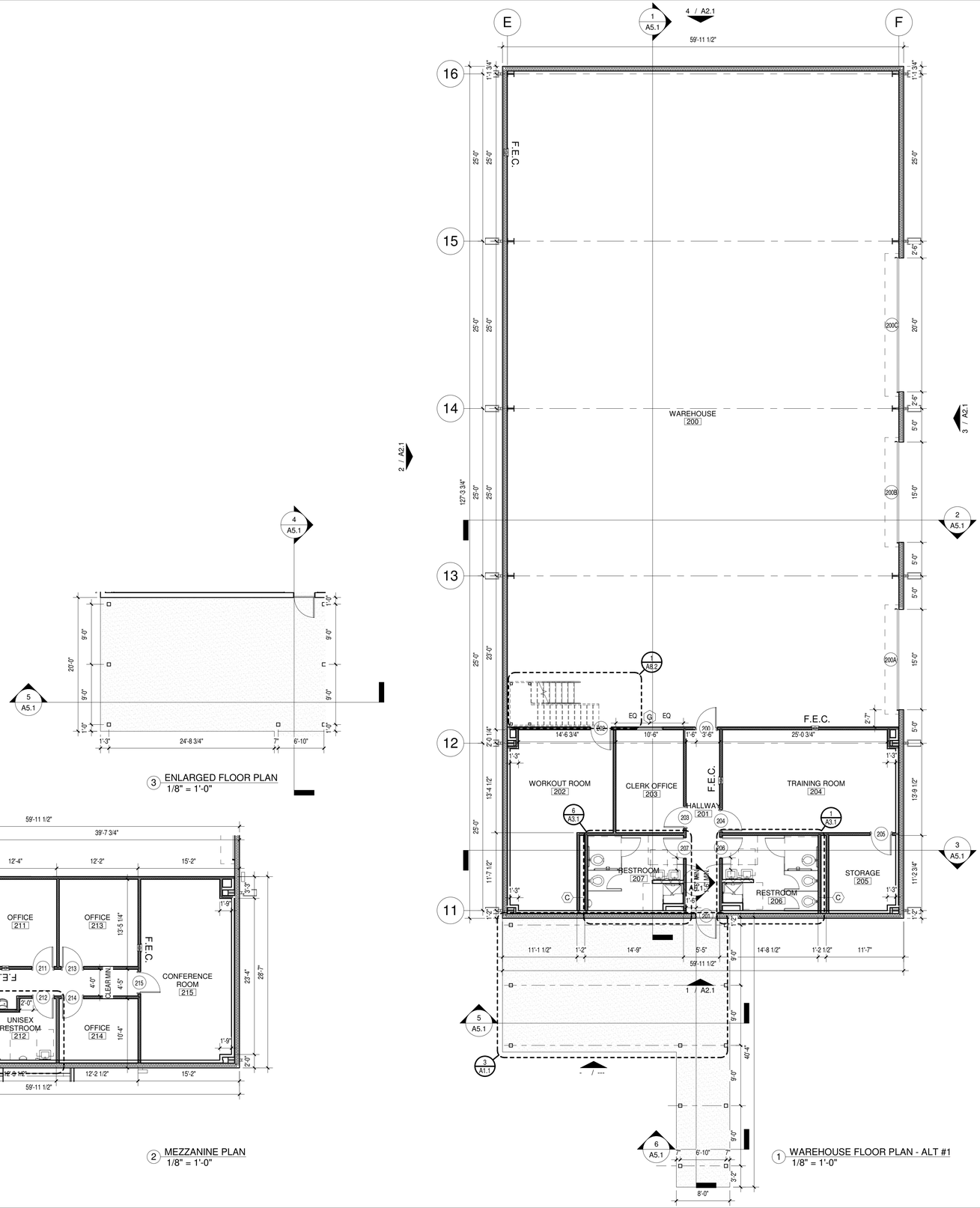
NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

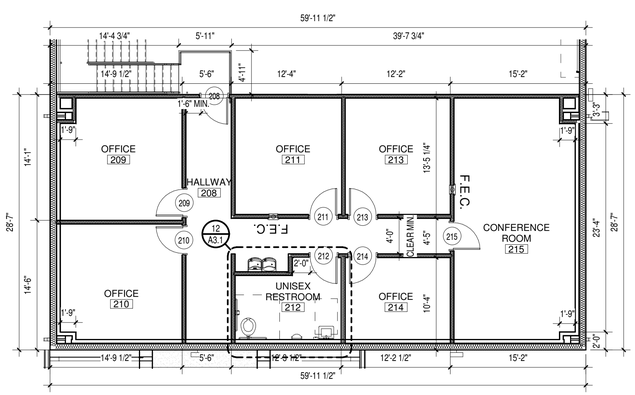
ISSUE FOR COMPETITIVE SEALED PROPOSALS

SHEET NUMBER
A1.0



1 WAREHOUSE FLOOR PLAN - ALT #1
1/8" = 1'-0"

3 ENLARGED FLOOR PLAN
1/8" = 1'-0"



2 MEZZANINE PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. ALL PENETRATIONS IN TOP OR BOTTOM PLATES FOR PLUMBING OR ELECTRICAL RUNS TO BE SEALED. SEE ELECTRICAL PLANS FOR ADDITIONAL SPECIFICATIONS.
2. ALL DIM. TO FINISH FACE OF WALL.
3. BUILDING MUST HAVE A PANEL BOX (LOCATION AS OF CITY CODES).
4. ALL SMOKE DETECTORS ARE TO BE PLACED AS OF CITY CODES.
5. ALL LIGHT FIXTURES TO BE REVIEWED BY OWNER. RE: ELEC.
6. RE: A7.1 FOR DOOR, WINDOW SCH.
7. RE: 2/A1.0 FOR PARTITION TYPES.
8. RE: A7.0 FOR ROOM FINISHES.
9. ALL PARTITIONS TYPE "A" U.N.O.
10. ALTERNATE NO. 1 IS WAREHOUSE
11. PROVIDE ROOM SIGNAGE, RE: 3/A8.0
12. BULLNOSE EDGE AT ALL C.M.U. CORNERS FOR INTERIOR C.M.U. WALLS.
13. CONTRACTOR TO PROVIDE AND INSTALL FIRE EXTINGUISHERS (F.E.) RE: SPECS
14. RE: 1/A8.0 FOR DOOR MANEUVERING CLEARANCES. THE ARCHITECT SHALL BE IMMEDIATELY BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.

SQUARE FOOTAGE:_____

MAIN BLDG. GROSS AREA:	10,800 SQ. FT.
WAREHOUSE GROSS AREA:	7,680 SQ. FT.
TOTAL (BASE BID):	10,800 SQ. FT.
ALT. NO. 1:	7,680 SQ. FT.

MILNET
ARCHITECTURAL
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AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MOLINA, JR.
14740
STATE OF TEXAS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

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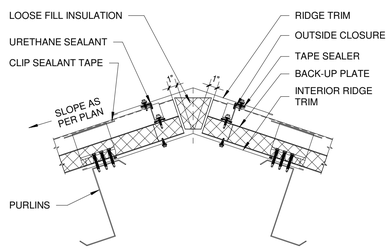
SHEET NUMBER
A1.1

DRAINAGE NOTES:

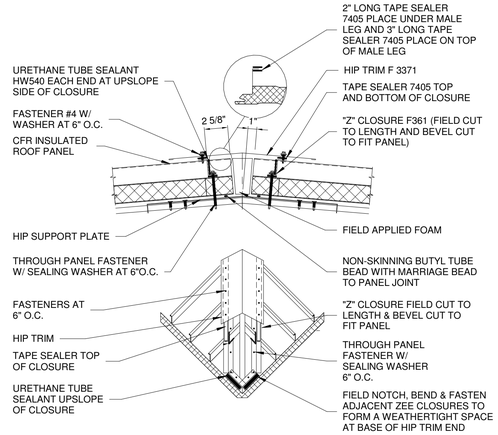
1. SCUPPERS TO BE 4" HIGH X 7" WIDE W/ 4" RECT. CORRUGATED DOWNSPOUTS.
2. PROVIDE A 6"x9" CONDUCTOR HEAD AT THE TOP OF DOWNSPOUTS.
3. ALL CONCEALED ROOF DRAIN PIPES TO BE METAL
4. SET ROOF DRAINS WITH AN OVERFLOW DRAIN OF THE SAME SIZE AS THE DRAIN.
5. INSTALL THE OVERFLOW LINE 2" ABOVE THE LOW POINT OF THE ROOF.
6. OVERFLOW LINES TO BE INDEPENDENT OF ROOF DRAINS.

GENERAL NOTES:

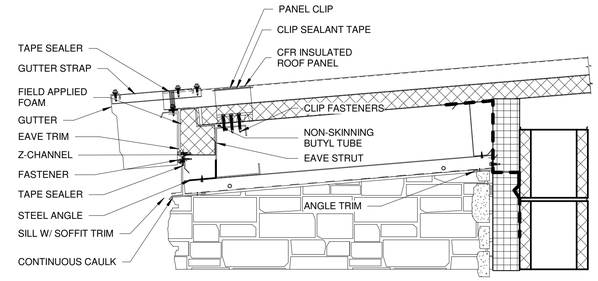
1. CONTRACTOR TO REVIEW M.E.P. DRAWINGS FOR LOCATIONS OF NEW ROOF TOP EQUIPMENT & ALL PENETRATIONS.
2. ROOF CONTRACTOR TO PROVIDE AND INSTALL ALL ROOF CURBS AND PENETRATIONS (WERE REQUIRED).



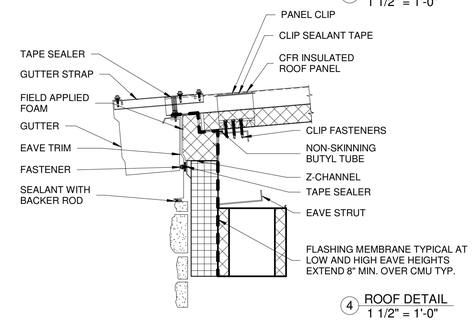
8 ROOF DETAIL
1 1/2" = 1'-0"



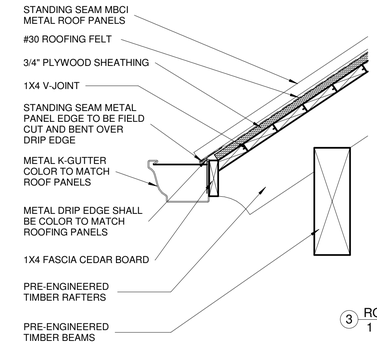
6 ROOF DETAIL
1 1/2" = 1'-0"



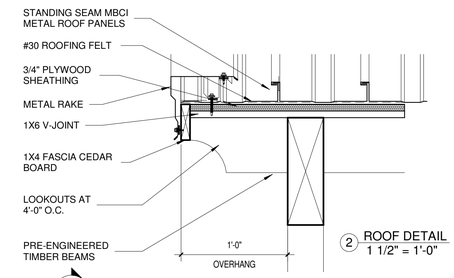
5 ROOF DETAIL
1 1/2" = 1'-0"



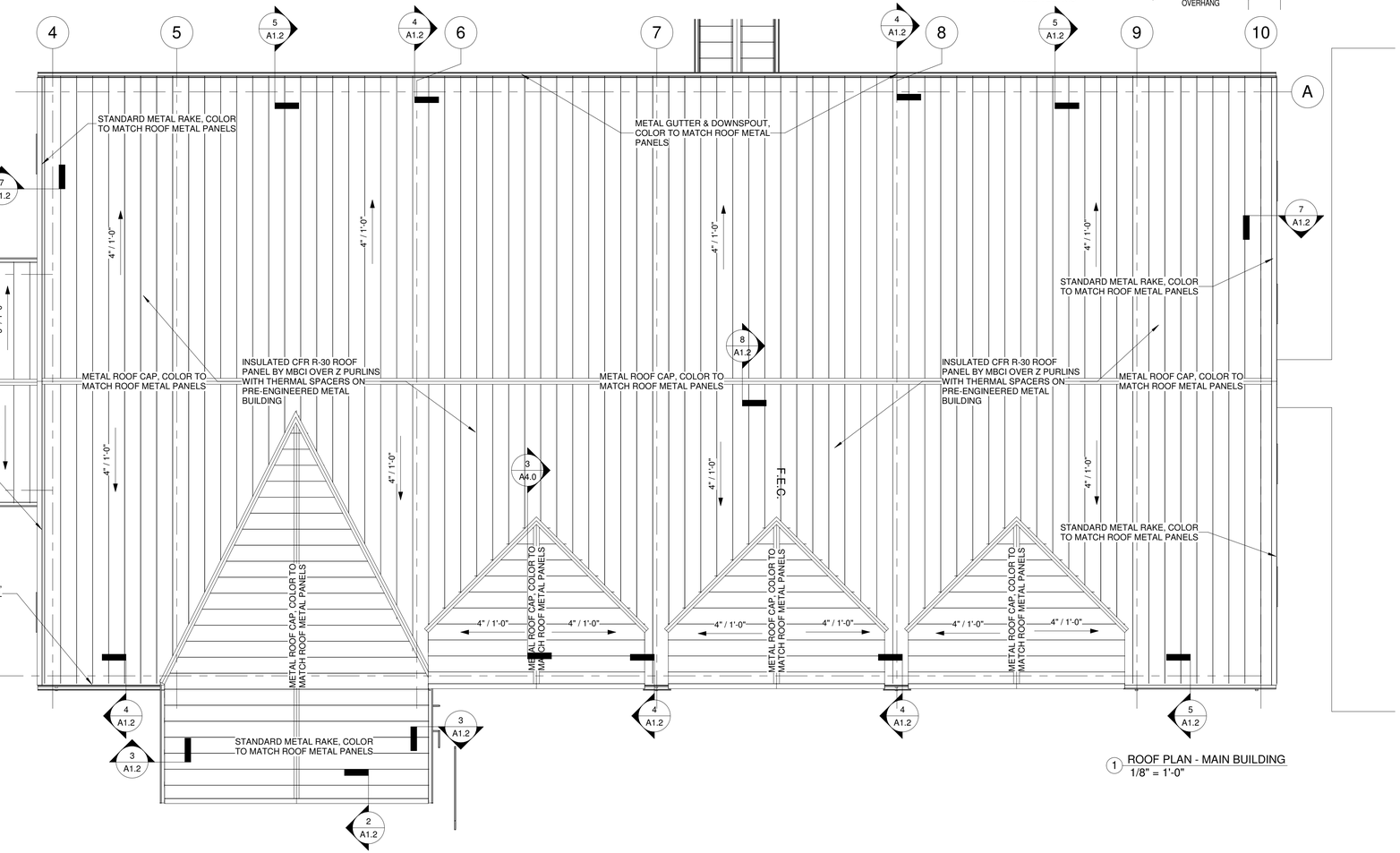
4 ROOF DETAIL
1 1/2" = 1'-0"



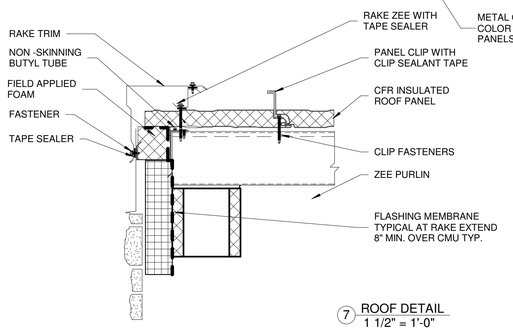
3 ROOF DETAIL
1 1/2" = 1'-0"



2 ROOF DETAIL
1 1/2" = 1'-0"



1 ROOF PLAN - MAIN BUILDING
1/8" = 1'-0"



7 ROOF DETAIL
1 1/2" = 1'-0"

MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT RODOLFO R. MILNET 14740 STATE OF TEXAS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP

ALTON, TX

PROJECT NUMBER
217017

DATE
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ISSUE FOR COMPETITIVE SEALED PROPOSALS

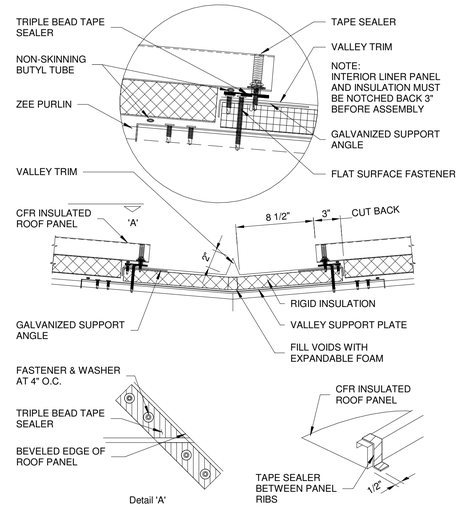
SHEET NUMBER
A1.2

DRAINAGE NOTES:

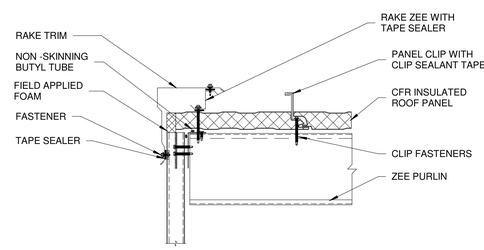
1. SCUPPERS TO BE 4" HIGH X 7" WIDE W/ 4" RECT. CORRUGATED DOWNSPOUTS.
2. PROVIDE A 6"x9" CONDUCTOR HEAD AT THE TOP OF DOWNSPOUTS.
3. ALL CONCEALED ROOF DRAIN PIPES TO BE METAL
4. SET ROOF DRAINS WITH AN OVERFLOW DRAIN OF THE SAME SIZE AS THE DRAIN.
5. INSTALL THE OVERFLOW LINE 2" ABOVE THE LOW POINT OF THE ROOF.
6. OVERFLOW LINES TO BE INDEPENDENT OF ROOF DRAINS.

GENERAL NOTES:

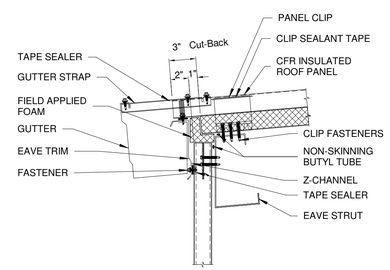
1. CONTRACTOR TO REVIEW M.E.P. DRAWINGS FOR LOCATIONS OF NEW ROOF TOP EQUIPMENT & ALL PENETRATIONS.
2. ROOF CONTRACTOR TO PROVIDE AND INSTALL ALL ROOF CURBS AND PENETRATIONS (WERE REQUIRED).



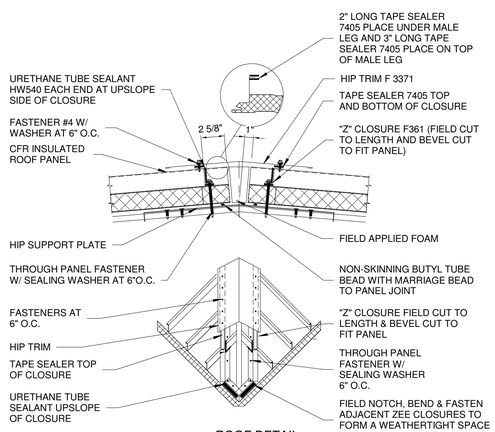
5 ROOF DETAIL
1 1/2" = 1'-0"



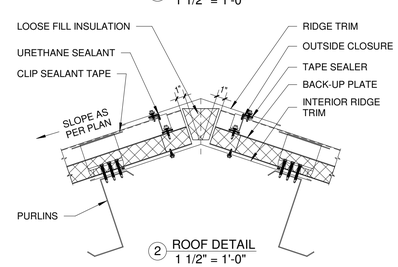
4 ROOF DETAIL
1 1/2" = 1'-0"



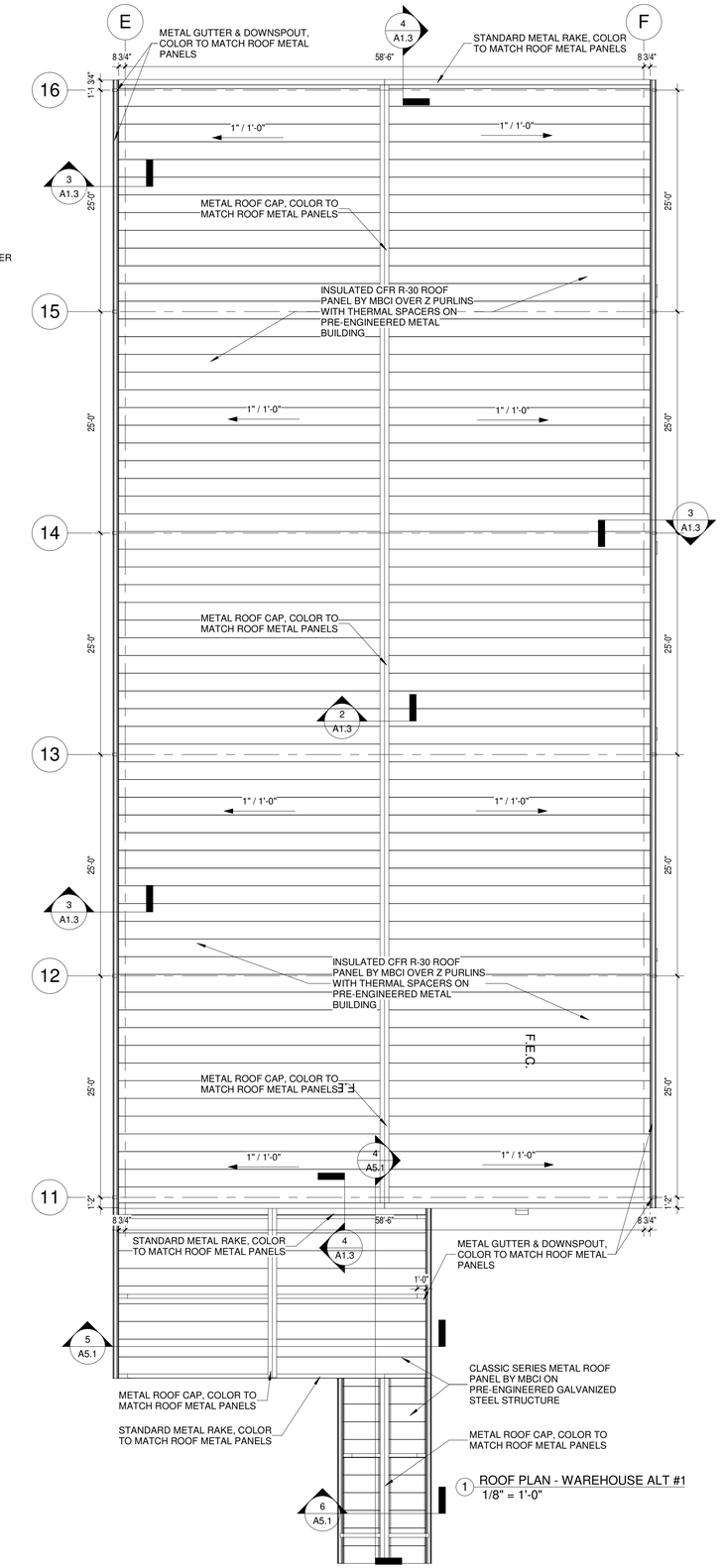
3 ROOF DETAIL
1 1/2" = 1'-0"



6 ROOF DETAIL
1 1/2" = 1'-0"



2 ROOF DETAIL
1 1/2" = 1'-0"



1 ROOF PLAN - WAREHOUSE ALT #1
1/8" = 1'-0"

MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT RODOLFO R. MILNET JR. 14740 STATE OF TEXAS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP | ALTON, TX

PROJECT NUMBER
217017

DATE
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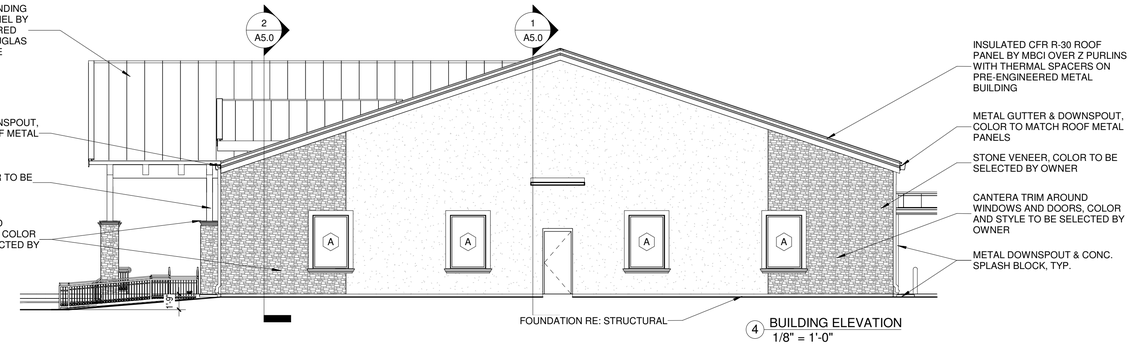
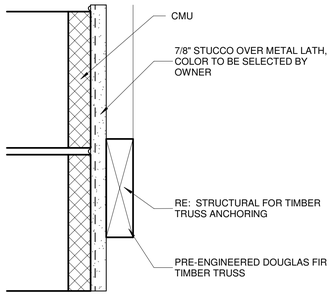
ISSUE FOR COMPETITIVE SEALED PROPOSALS

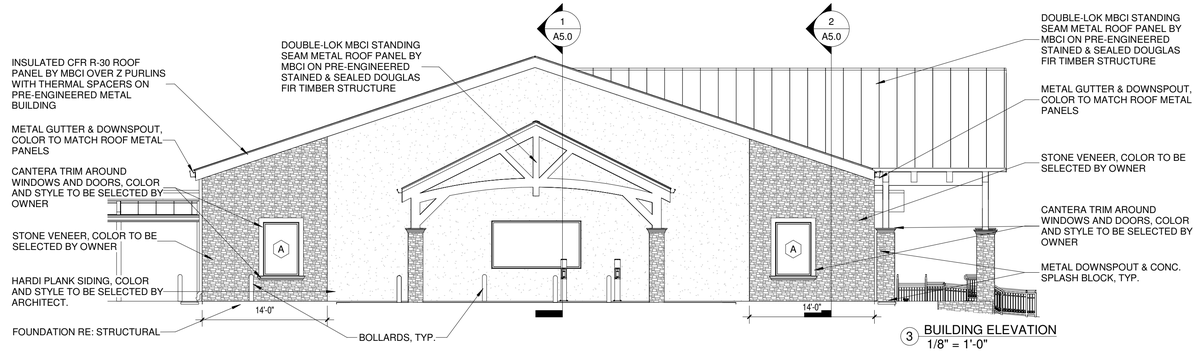
SHEET NUMBER
A1.3



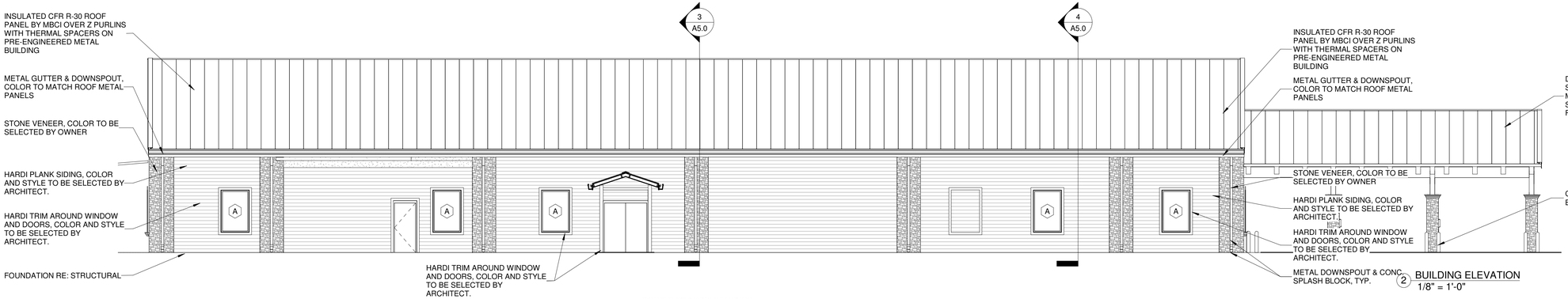
4 BUILDING ELEVATION
1/8" = 1'-0"



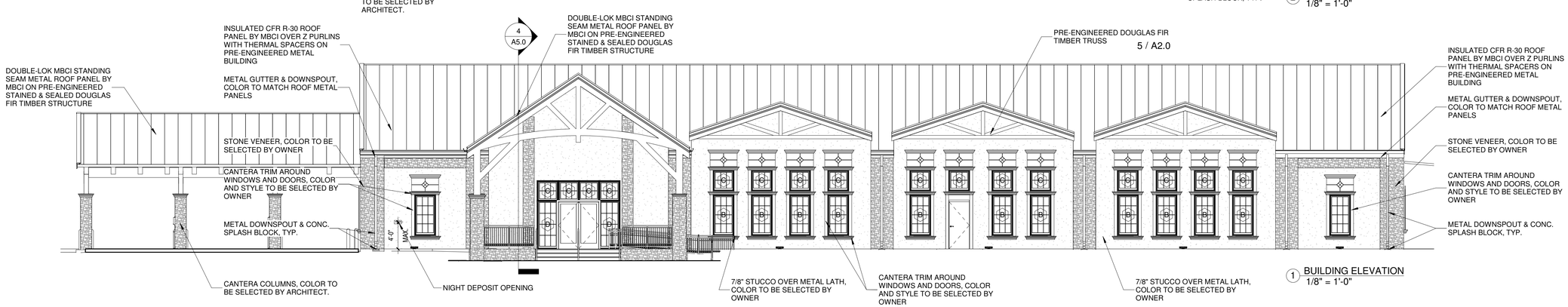
5 ELEVATION DETAIL
3" = 1'-0"



3 BUILDING ELEVATION
1/8" = 1'-0"



2 BUILDING ELEVATION
1/8" = 1'-0"



1 BUILDING ELEVATION
1/8" = 1'-0"

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AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNET, JR.
14740
STATE OF TEXAS

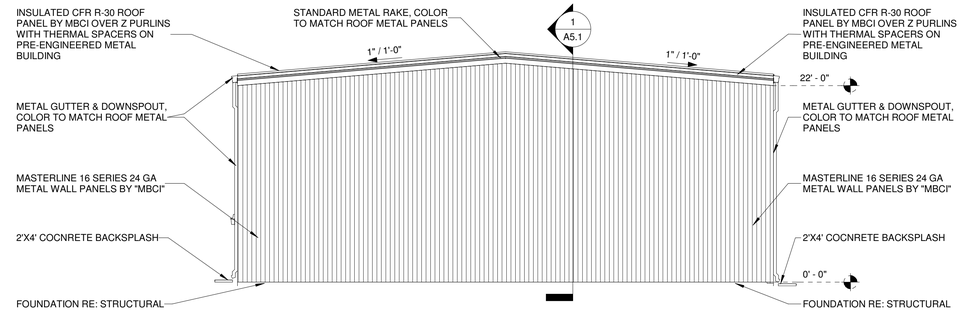
NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

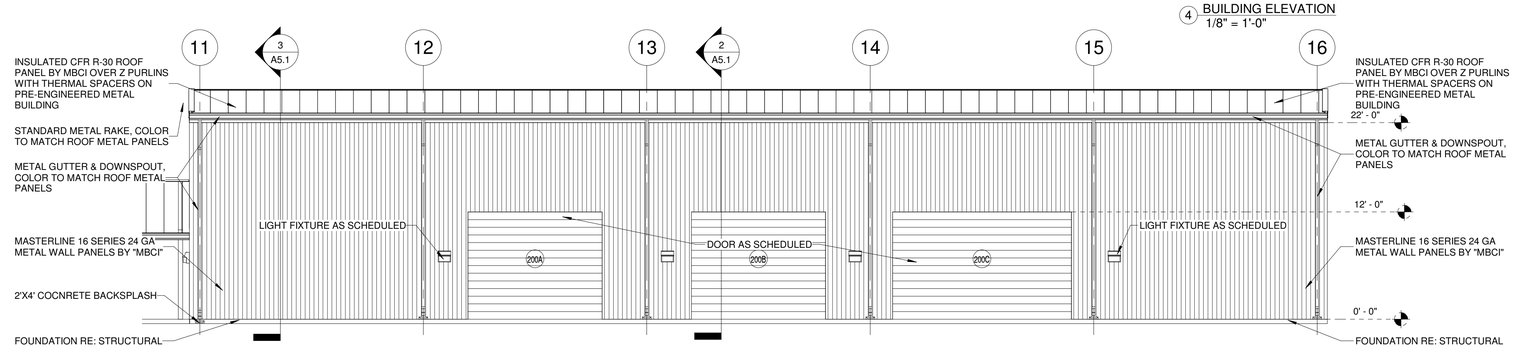
DATE
OCTOBER 19, 2018

ISSUE FOR
COMPETITIVE SEALED
PROPOSALS

SHEET NUMBER
A2.0



4 BUILDING ELEVATION
1/8" = 1'-0"



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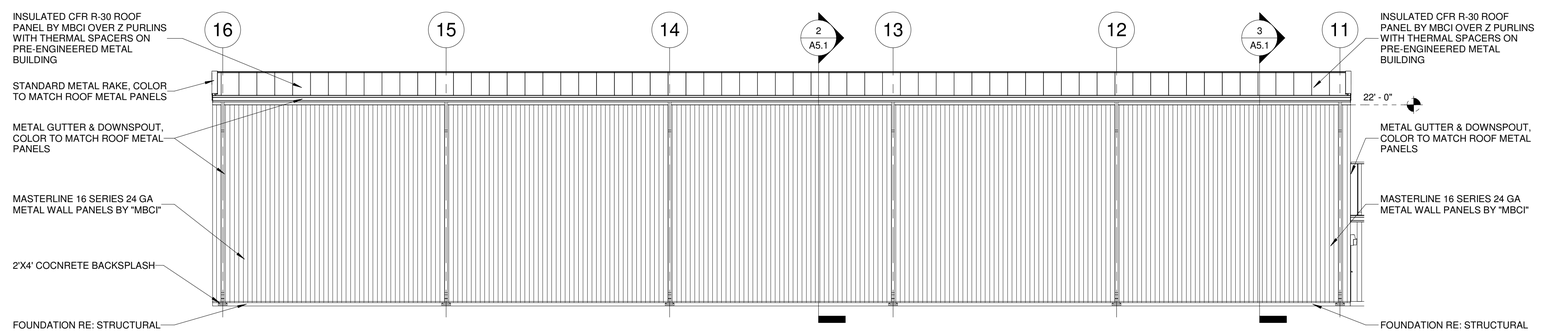

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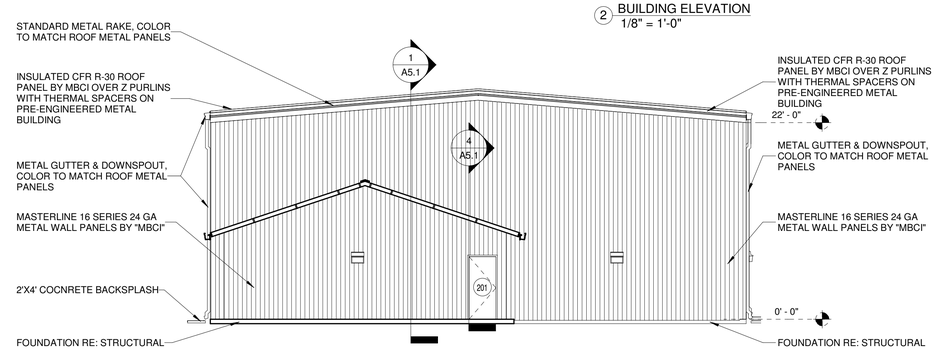

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MILNET
ARCHITECTURAL
SERVICES

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TOILET ACCESSORIES LEGEND

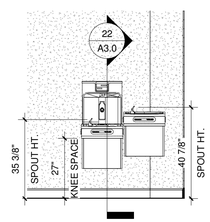
	DESCRIPTION	MODEL NO.	NOTES
A	STAINLESS STL GRAB BAR 36" LONG	B-6206-36	1
B	STAINLESS STL GRAB BAR 42" LONG	B-6206-42	1
C	STAINLESS STL GRAB BAR 24"X36"	B-68616	1
D	NOT USED		
E	RIGHT HAND FOLDING H.C. SHOWER SEAT	B-517	1
F	LEFT HAND FOLDING H.C. SHOWER SEAT	B-518	1
G	FRAMED 1/4" PLATE GLASS MIRROR 18"x36"	B-290-1836	2
H	FRAMED 1/4" PLATE GLASS MIRROR 24"X72"	B-290-2472	2
I	STAINLESS STL MOP & BROOM HOLDER 24" LONG	B-223X24	-
J	SURFACE MOUNTED TOWEL HOOKS	B-981	
K	RECESED SOAP DISH	B-439	
L	TOWEL PIN	B-677	
M	NOT USED		
N	RECESED MOUNTED AUTOMATIC HAND DRYER	B-677	5
P	RECESSED PAPER TOWEL DISPENSER	B-369	9 & 10
Q	SHOWER ROD	B-207	
R	SHOWER CURTAIN & HOOKS	B-204-1 B-204-2	8
S	NOT USED		
T	NOT USED		
U	BOBRICK CONTURA SERIES SURFACE MOUNTED SOAP DISPENSER	B-4112	9 & 10
V	BOBRICK CLASSIC SERIES SURFACE-MOUNTED TOILET TISSUE DISPENSER FOR TWO ROLLS	B-265	

TOILET ACCESSORIES NOTES

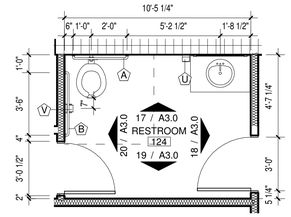
1. PROVIDE ALL NECESSARY ANCHORING PLATES AND FASTENERS.
2. PROVIDE EXPANSION SHIELDS FOR CMU PTN OR ANCHORING PLATE AND TOGGLE BOLTS AT GYP BD WALL CONDITIONS FOR SECURE ATTCHMENT.
3. COORDINATE WITH WALL PTN CONSTRUCTION FOR RECESSED ACCESSORY.
4. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURERS STANDARD COLORS.
5. COORDINATE ELECTRICAL REQUIREMENTS AND ANCHORING.
6. LENGTH OF ROD SHALL BE FIELD VERIFIED AND COORDINATED BY CONTRACTOR.
7. QUANTITY OF HOOKS AND SIZE OF CURTAIN TO BE PROVIDED AS REQUIRED TO FIT OPENING.
8. COORDINATE LOCATION WITH OTHER ACCESSORIES ON WALL.
9. UNIT SHALL BE FURNISHED BY OWNER AND INSTALLED BY THE CONTRACTOR AS PART OF BASE BID. PROVIDE THREE WEEKS NOTICE TO OWNER AND COORDINATE DELIVERY AND STORAGE UNTIL INSTALLED. SEE SPEC SECTION 10155
   - SOAP DISPENSERS
   - TOWEL DISPENSERS
   - TISSUE DISPENSERS
   - SOAP DISHES
10. RE: A3.0 FOR MOUNTING HEIGHTS, PROVIDE ONE TOWEL DISPENSER AND SOAP DISPENSER AT EVERY SINK.

GENERAL NOTES

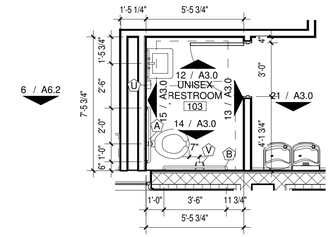
1. GENERAL CONTRACTOR SHALL VISIT SITE AND FAMILIARIZE WITH ALL EXISTING CONDITIONS AND CONTRACT DOCUMENTS. CONTRACTOR SHALL REPORT TO THE ARCHITECT ANY DISCREPANCIES OR IRREGULARITIES THAT MAY EXIST PRIOR TO SUBMITTING A BID.
2. GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS AND CONSTRUCTION MATERIAL OFF OF SITE AND DISPOSE ON APPROPRIATE DUMPSITE.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS, QUANTITIES, ETC. PRIOR TO BIDDING.
4. PAINT ALL (4) WALLS WHERE NEW CONSTRUCTION HAS OCCURRED
5. PROVIDE A 24X24 CEILING ACCESS PANEL AT ALL RESTROOMS.
6. PROVIDE A FLOOR DRAIN AT EVERY RESTROOM, RE: MEP FOR ADD. INFO.
7. PROVIDE A STAINLESS STL. MOP & BROOM HOLDER 24" LONG. AT MOP SINK RM. 113.



21 INTERIOR ELEVATION
3/8" = 1'-0"



16 ENLARGED FLOOR PLAN
1/4" = 1'-0"



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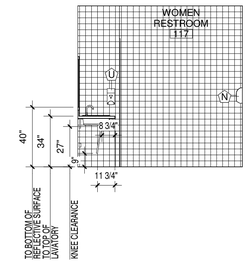
1/4" = 1'-0"



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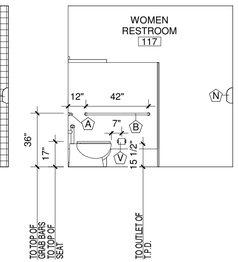

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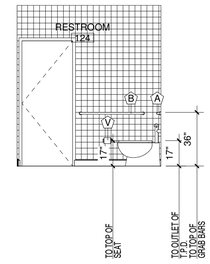

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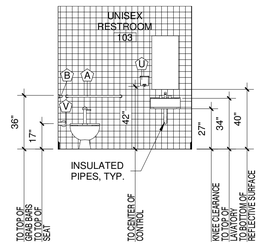
1/4" = 1'-0"



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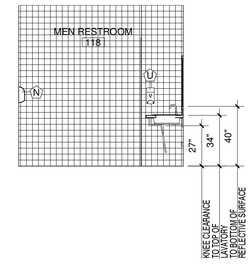

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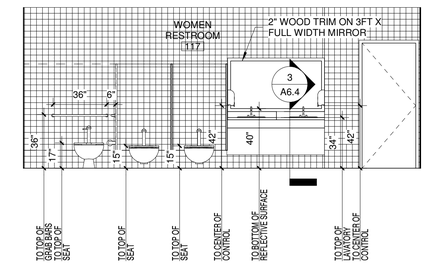

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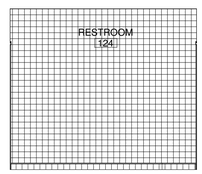

19 INTERIOR ELEVATION
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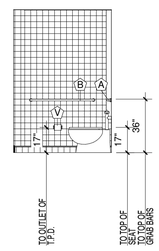

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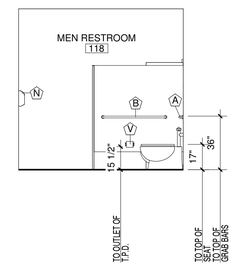

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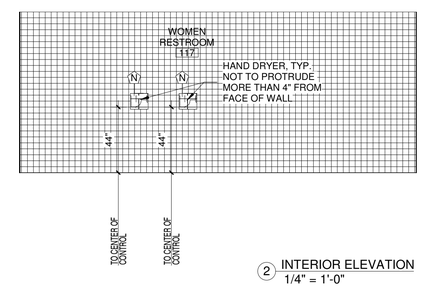

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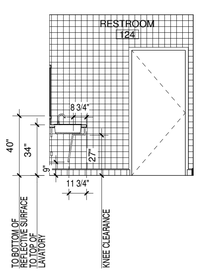

18 INTERIOR ELEVATION
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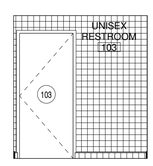

13 INTERIOR ELEVATION
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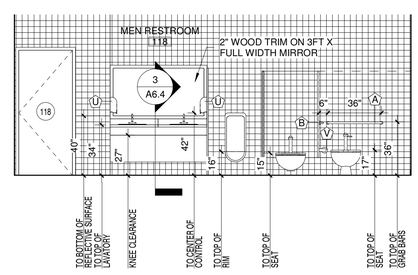

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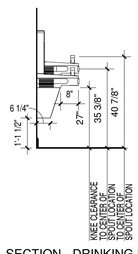
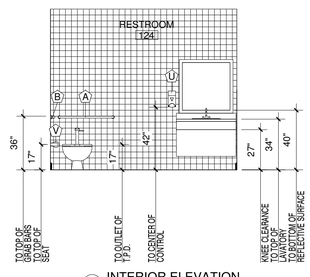


22 SECTION - DRINKING FOUNTAIN
3/8" = 1'-0"



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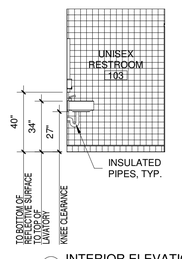

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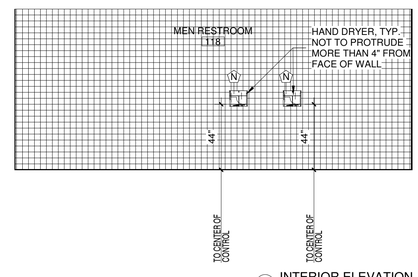

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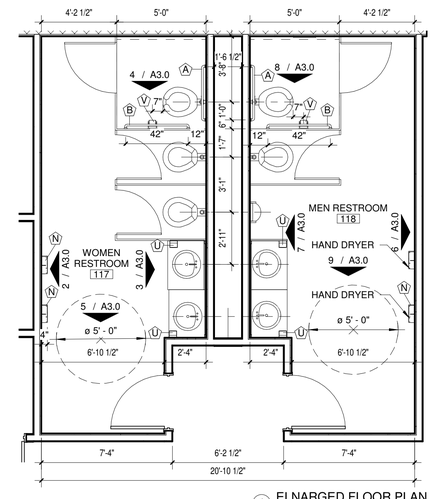

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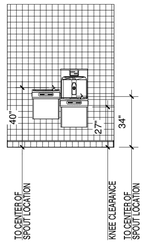
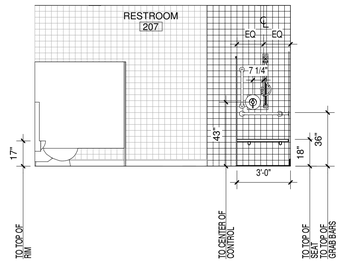


16 INTERIOR ELEVATION
1/4" = 1'-0"



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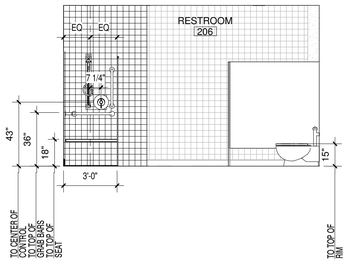

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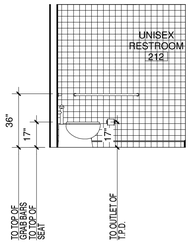

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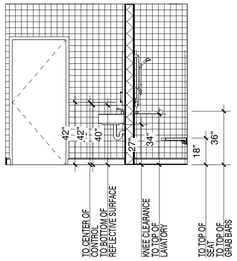

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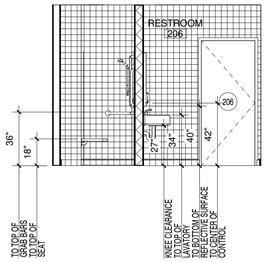

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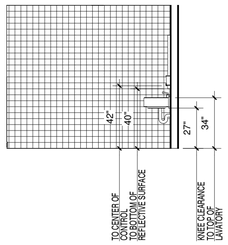

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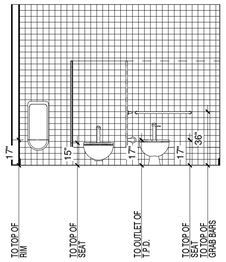

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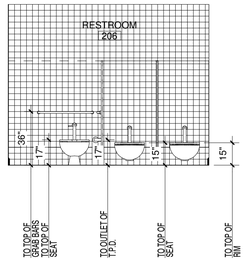
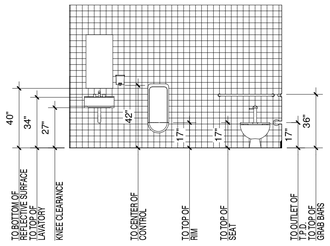
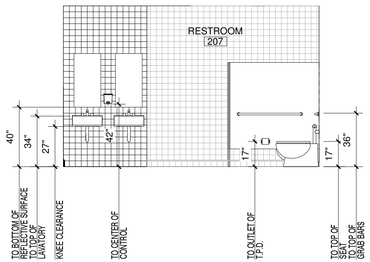


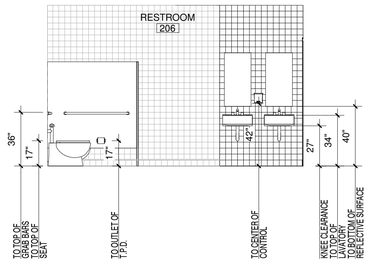
3 INTERIOR ELEVATION
1/4" = 1'-0"



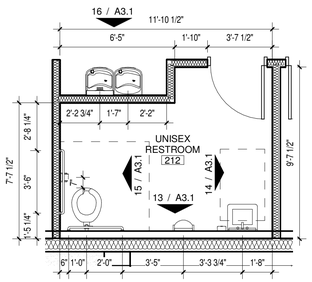
13 INTERIOR ELEVATION
1/4" = 1'-0"



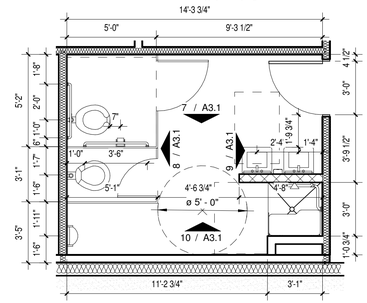
7 INTERIOR ELEVATION
1/4" = 1'-0"



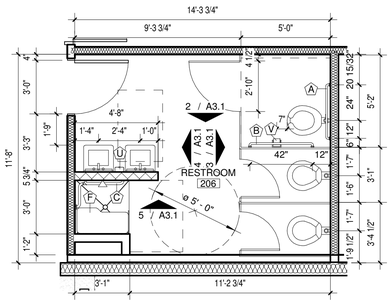
2 INTERIOR ELEVATION
1/4" = 1'-0"



12 ENLARGED FLOOR PLAN
1/4" = 1'-0"



6 ENLARGED FLOOR PLAN
1/4" = 1'-0"



1 ENLARGED FLOOR PLAN
1/4" = 1'-0"

MILNET
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REGISTERED ARCHITECT
RODOLFO R. MILNET, JR.
14740
STATE OF TEXAS

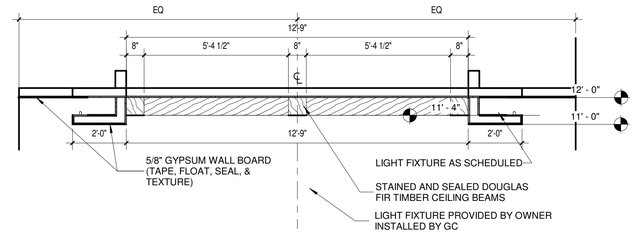
NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

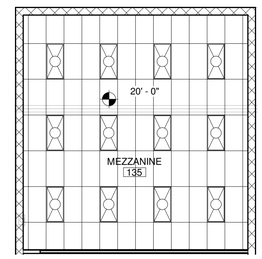
DATE
OCTOBER 19, 2018

ISSUE FOR
COMPETITIVE SEALED
PROPOSALS

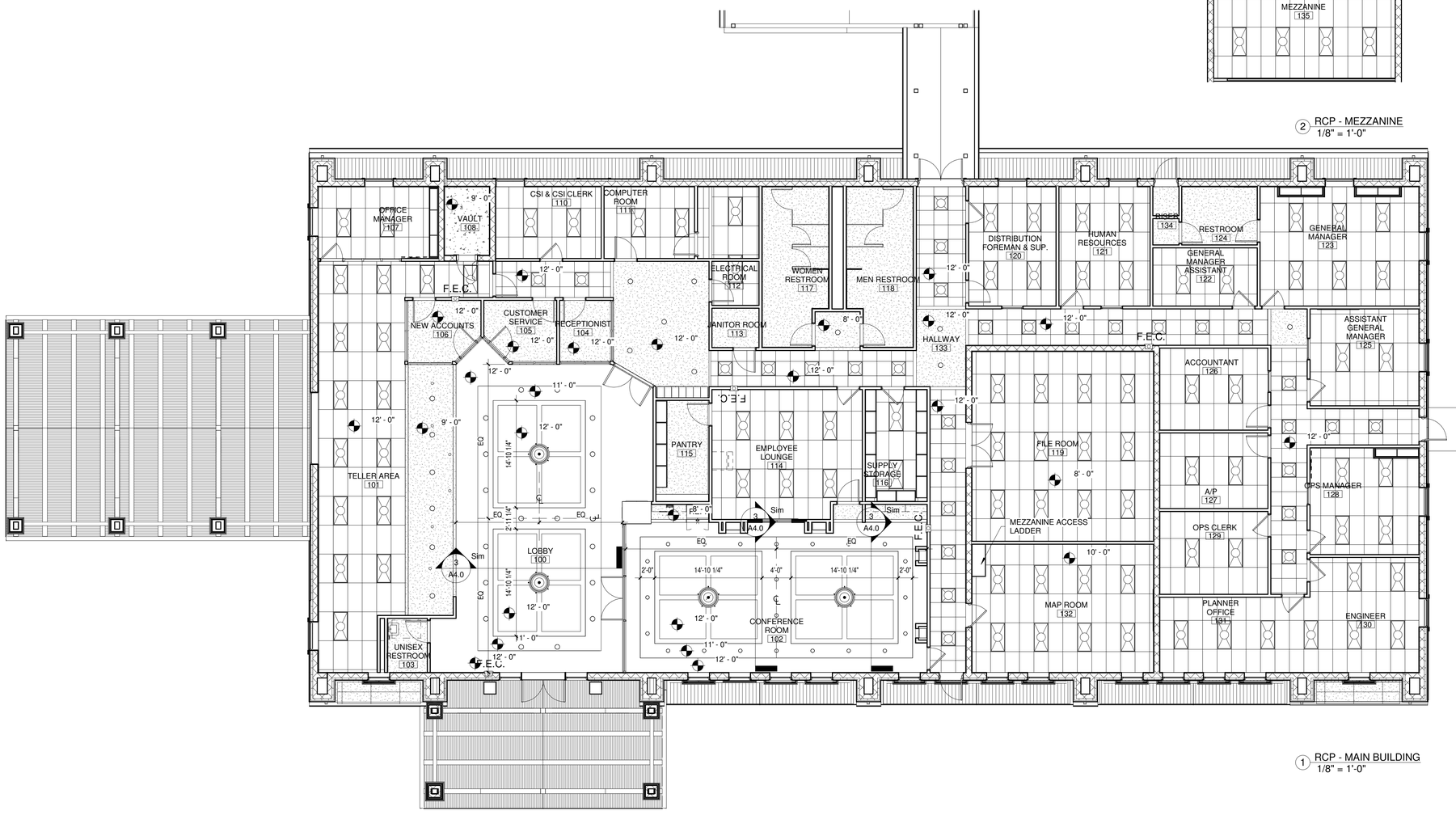
SHEET NUMBER
A3.1



3 SECTION - CEILING
3/8" = 1'-0"



2 RCP - MEZZANINE
1/8" = 1'-0"



1 RCP - MAIN BUILDING
1/8" = 1'-0"

1. ALL OUTLETS SHALL BE @ 15" A.F.F. UNLESS NOTED OTHERWISE. ALSO, OUTLETS SHALL BE PLACED 12'-0" MAX. DISTANCE ALONG INSIDE WALLS.

2. GROUND FAULT INTERRUPTERS (GFI) ARE REQ'D ON CONVRNIENCE OUTLETS IN RESTROOMS & KITCHEN.

3. WEATHER PROOF (W.P.) CONVENIENCE OUTLETS ARE REQUIRED OUTSIDE.

4. ALL CLG. 9'-0" U.N.O. NOTED ON PLANS.

5. RE: MEP DWGS. FOR EXACT LIGHTING COUNT AND LOCATIONS.

6. PROVIDE A 24X24 ACCESS PANEL @ RESTROOMS.

7. PROVIDE 24X24 SUSPENDED ACOUSTICAL CEILING UNLESS NOTED OTHERWISE.

8. PROVIDE A CABLE TRAY AT WALLWAY ABOVE ACOUSTICAL CEILING AND A 2" SLEEVE INTO EACH CLASSROOM ABOVE CEILING.

9. ALL EXPOSED DUCTS AND FIRE SPRINKLER LINES TO BE PAINTED, COLOR TO BE SELECTED BY ARCHITECT.

SUSPENDED ACOUSTICAL CEILING
ACOUSTICAL UNITS & SUSPENSION SYSTEM($)
2'-0" X 2'-0" SUSPENDED ACOUSTICAL CEILING SYSTEM.

SUSPENDED ACOUSTICAL CEILING
ACOUSTICAL UNITS & SUSPENSION SYSTEM($)
2'-0" X 2'-0" SUSPENDED ACOUSTICAL CEILING SYSTEM. 1 HOUR RATED.

GYPSUM BOARD ASSEMBLIES
5/8" GYPSUM BOARD, (TAPE, FLOAT, TEXTURE & PAINT) ON DRYWALL GRID SYSTEM SUSPENDED FROM STRUCTURE.

GYPSUM BOARD ASSEMBLIES
5/8" MOISTURE RESISTANT GYPSUM BOARD, (TAPE, FLOAT, TEXTURE & PAINT) ON DRYWALL GRID SYSTEM SUSPENDEDFROM STRUCTURE.

METAL SOFFIT
FLEXLOC 24 GA METAL SOFFIT PANELS BY 'MBCI' OR EQUAL.

STUCCO FINISH CEILING
3/4" STUCCO FINISH, ON METAL LATH SYSTEM-SUSPENDED FROM STRUCTURE.

WOOD FINISH CEILING
1X4 V-JOINT .

LIGHT WEIGHT CONCRETE
SEALED AND PAINTED

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RODOLFO R. MILNET, JR.
14760
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SHARYLAND WATER SUPPLY CORP
ALTON, TX

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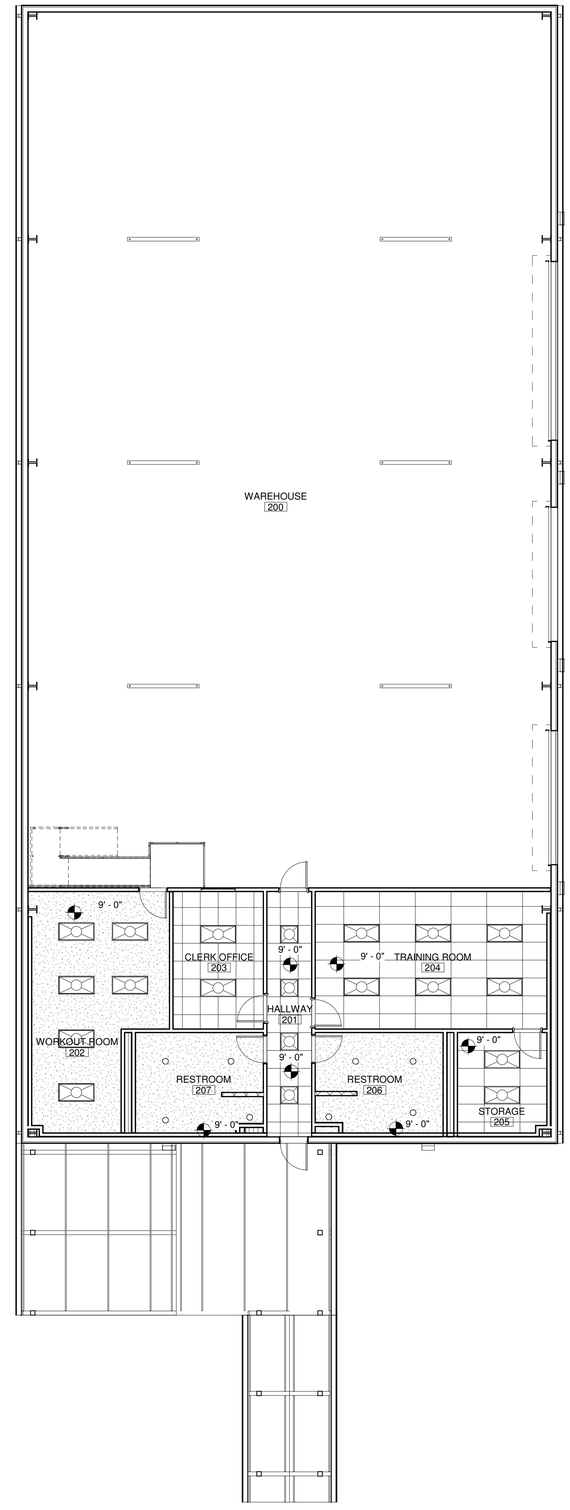
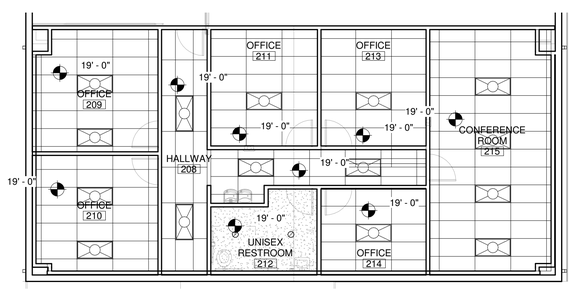
A4.0



1 RCP - WAREHOUSE ALT. #1
1/8" = 1'-0"



2 RCP - WAREHOUSE MEZZANINE
1/8" = 1'-0"

1. ALL OUTLETS SHALL BE @ 15' A.F.F. UNLESS NOTED OTHERWISE. ALSO, OUTLETS SHALL BE PLACED 12'-0" MAX. DISTANCE ALONG INSIDE WALLS.

2. GROUND FAULT INTERRUPTERS (GFI) ARE REQ'D ON CONVRNIENCE OUTLETS IN RESTROOMS & KITCHEN.

3. WEATHER PROOF (W.P.) CONVENIENCE OUTLETS ARE REQUIRED OUTSIDE.

4. ALL CLG. 9'-0" U.N.O. NOTED ON PLANS.

5. RE: MEP DWGS. FOR EXACT LIGHTING COUNT AND LOCATIONS.

6. PROVIDE A 24X24 ACCESS PANEL @ RESTROOMS.

7. PROVIDE 24X24 SUSPENDED ACOUSTICAL CEILING UNLESS NOTED OTHERWISE.

8. PROVIDE A CABLE TRAY AT WALLWAY ABOVE ACOUSTICAL CEILING AND A 2" SLEEVE INTO EACH CLASSROOM ABOVE CEILING.

9. ALL EXPOSED DUCTS AND FIRE SPRINKLER LINES TO BE PAINTED, COLOR TO BE SELECTED BY ARCHITECT.

SUSPENDED ACOUSTICAL CEILING
ACOUSTICAL UNITS & SUSPENSION SYSTEM(S) 2'-0" X 2'-0" SUSPENDED ACOUSTICAL CEILING SYSTEM.

SUSPENDED ACOUSTICAL CEILING
ACOUSTICAL UNITS & SUSPENSION SYSTEM(S) 2'-0" X 2'-0" SUSPENDED ACOUSTICAL CEILING SYSTEM. 1 HOUR RATED.

GYPSUM BOARD ASSEMBLIES
5/8" GYPSUM BOARD, (TAPE, FLOAT, TEXTURE & PAINT) ON DRYWALL GRID SYSTEM SUSPENDED FROM STRUCTURE.

GYPSUM BOARD ASSEMBLIES
5/8" MOISTURE RESISTANT GYPSUM BOARD, (TAPE, FLOAT, TEXTURE & PAINT) ON DRYWALL GRID SYSTEM SUSPENDEDFROM STRUCTURE.

METAL SOFFIT
FLEXLOC 24 GA METAL SOFFIT PANELS BY "MBCI" OR EQUAL.

STUCCO FINISH CEILING
3/4" STUCCO FINISH, ON METAL LATH SYSTEM-SUSPENDED FROM STRUCTURE.

WOOD FINISH CEILING
1X4 V-JOINT .

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AMERICAN INSTITUTE OF ARCHITECTS

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RODOLFO R. MOLINA JR.
14740
STATE OF TEXAS

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SHARYLAND WATER SUPPLY CORP
ALTON, TX

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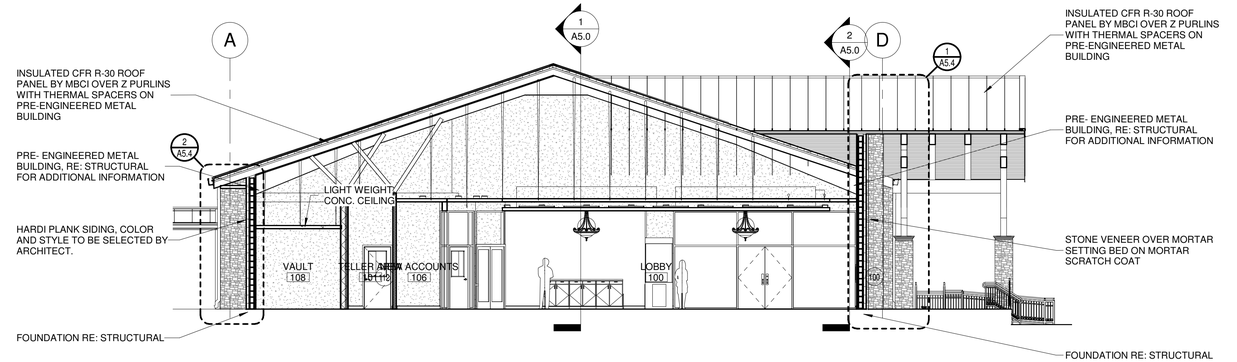
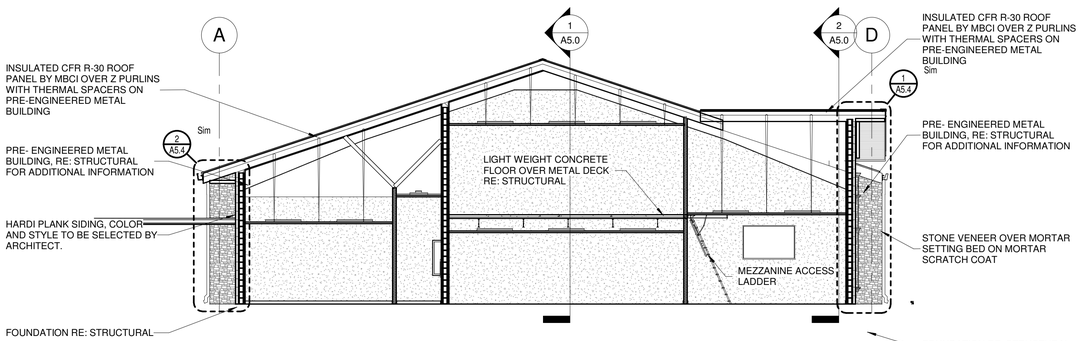
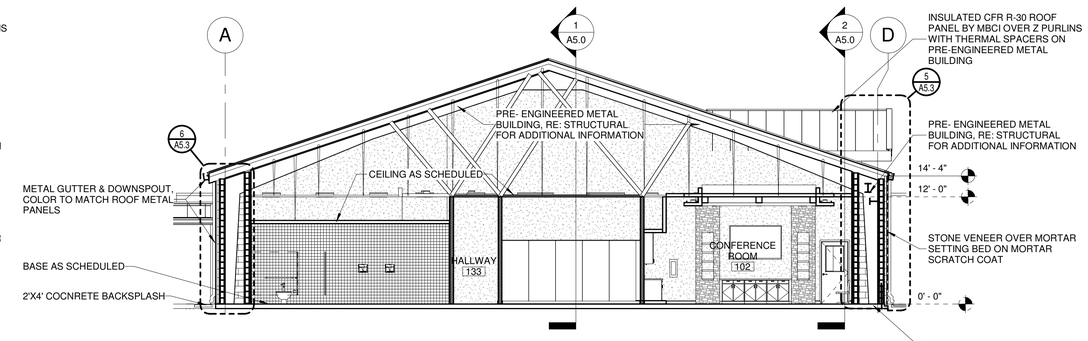


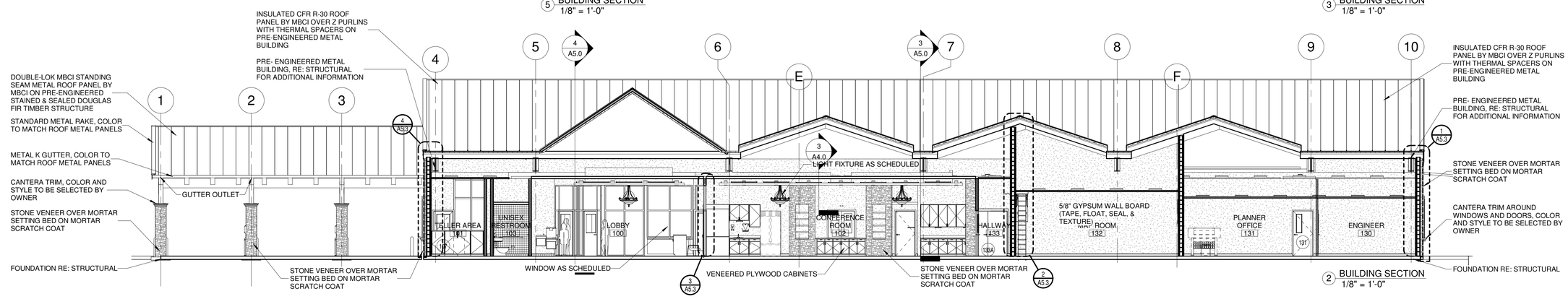
4 BUILDING SECTION
1/8" = 1'-0"



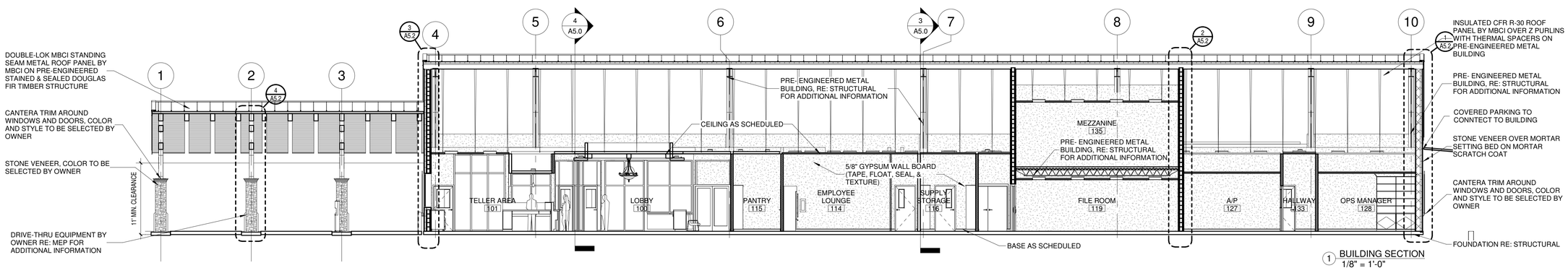
5 BUILDING SECTION
1/8" = 1'-0"



3 BUILDING SECTION
1/8" = 1'-0"



2 BUILDING SECTION
1/8" = 1'-0"



1 BUILDING SECTION
1/8" = 1'-0"

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RODOLFO R. MILNET
14740
STATE OF TEXAS

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ALTON, TX

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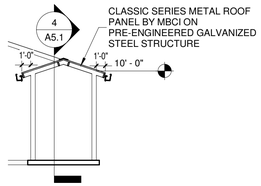
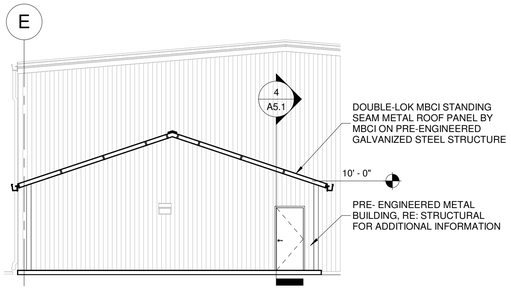
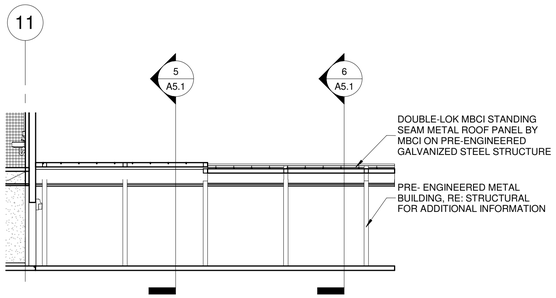
A5.0



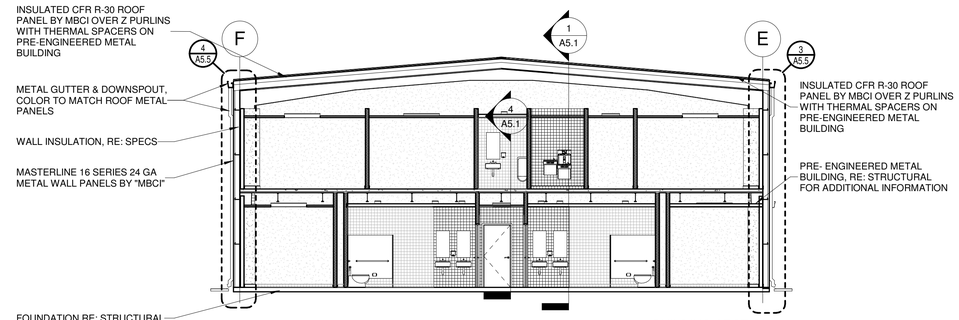
6 CANOPY SECTION
1/8" = 1'-0"



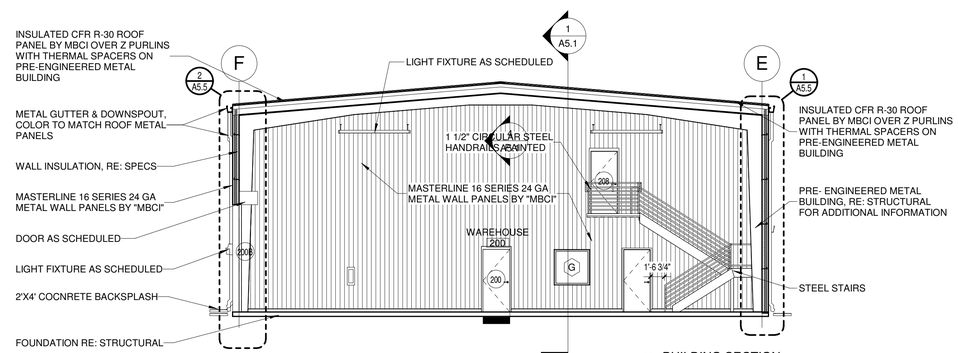
5 CANOPY SECTION
1/8" = 1'-0"



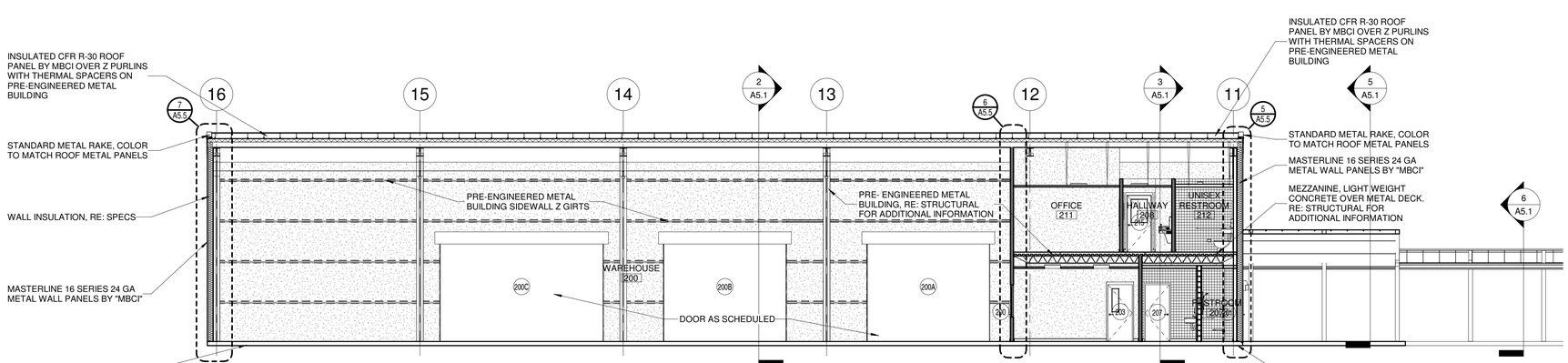
4 CANOPY SECTION
1/8" = 1'-0"



3 BUILDING SECTION
1/8" = 1'-0"



2 BUILDING SECTION
1/8" = 1'-0"



1 BUILDING SECTION
1/8" = 1'-0"

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REGISTERED ARCHITECT
RODOLFO R. MILNET
14740
STATE OF TEXAS

NEW BUILDING
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ALTON, TX

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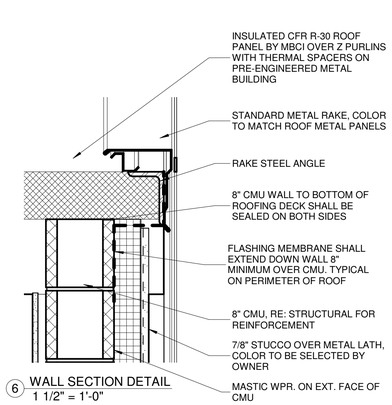
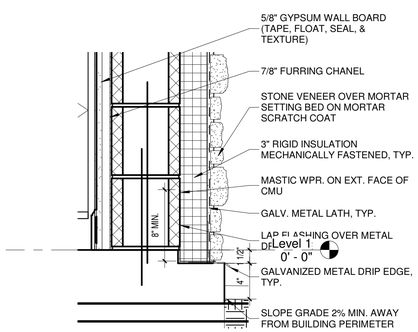
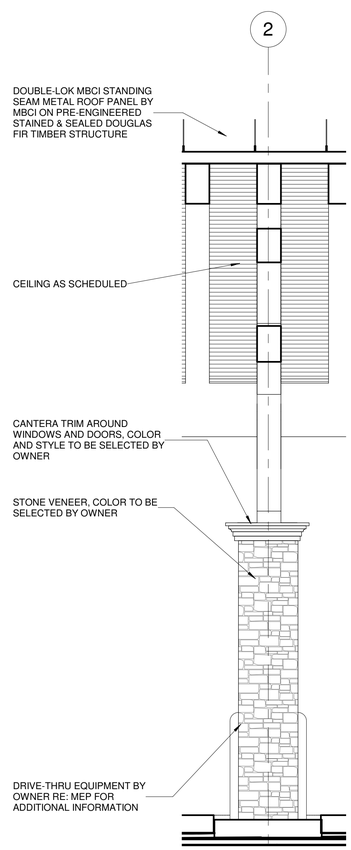
A5.1



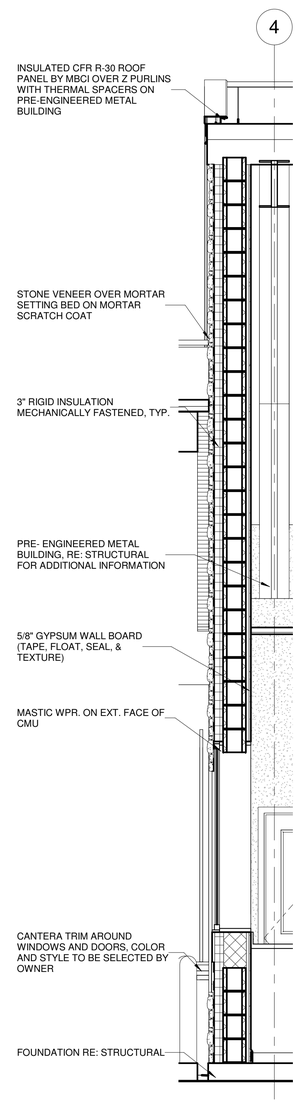
6 WALL SECTION DETAIL
1 1/2" = 1'-0"



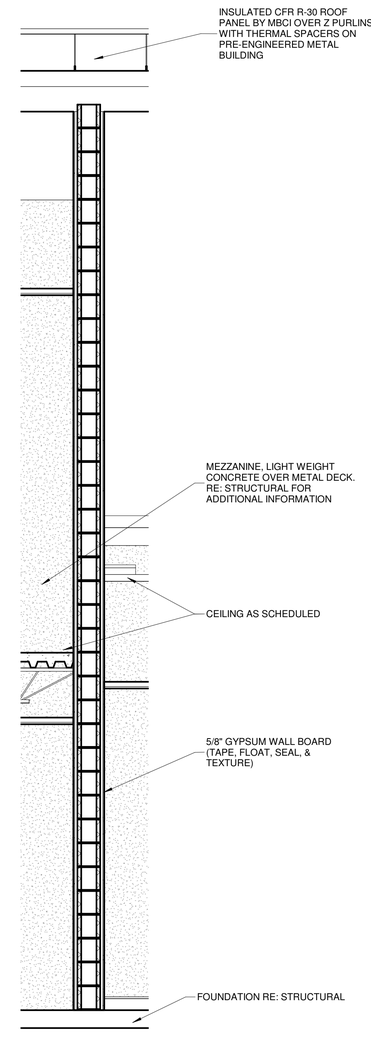
5 WALL SECTION DETAIL
1 1/2" = 1'-0"



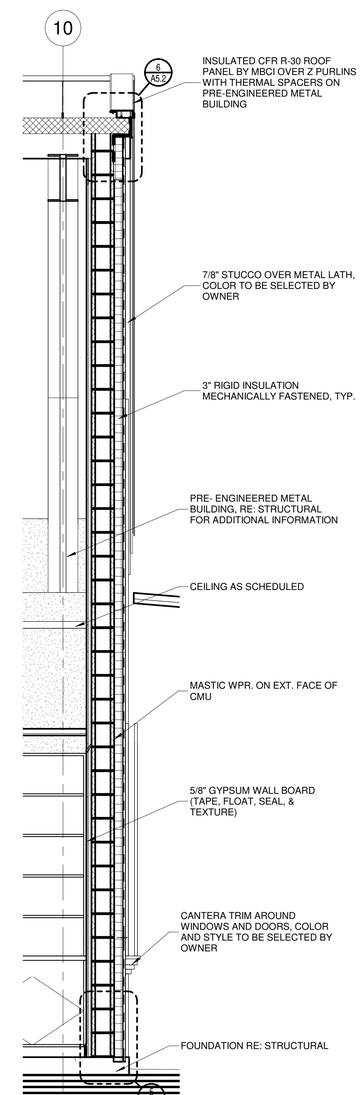
4 WALL SECTION
1/2" = 1'-0"



3 WALL SECTION
1/2" = 1'-0"



2 WALL SECTION
1/2" = 1'-0"



1 WALL SECTION
1/2" = 1'-0"

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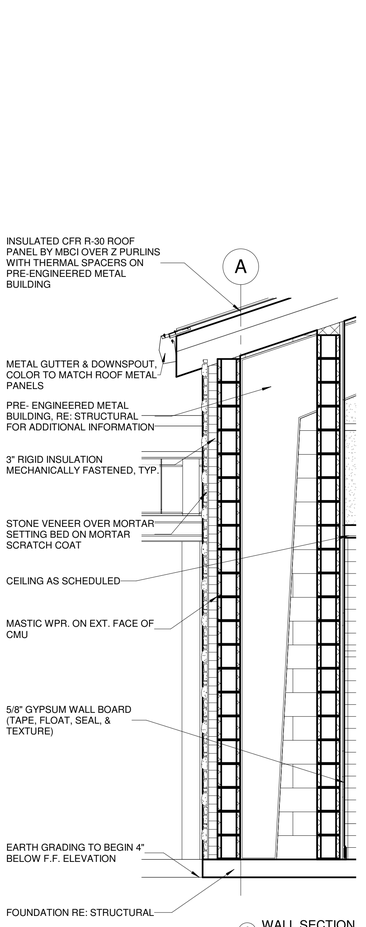
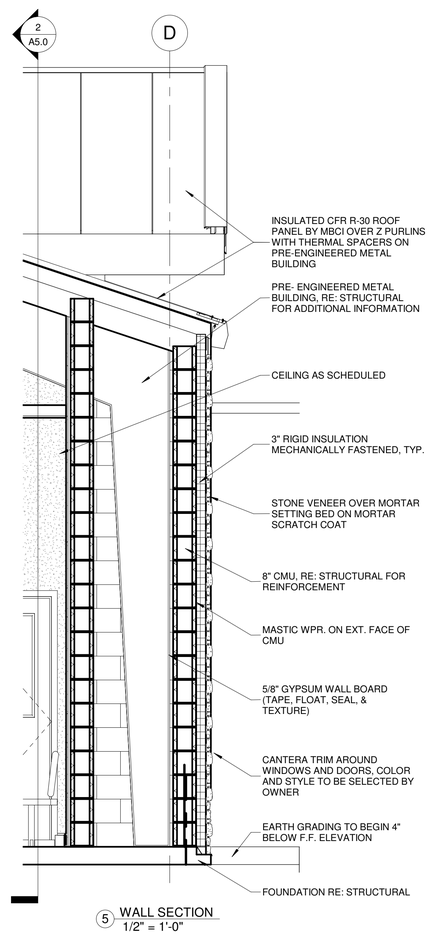
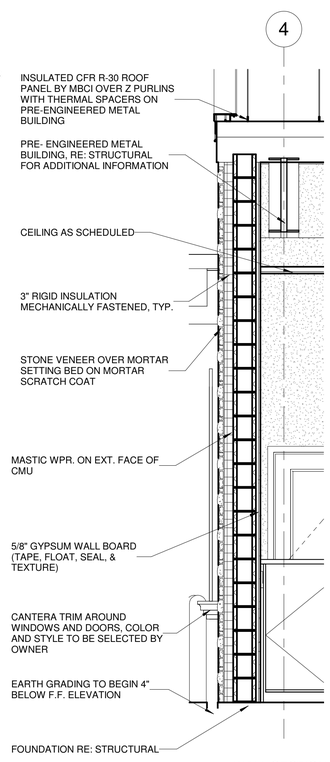
A5.2



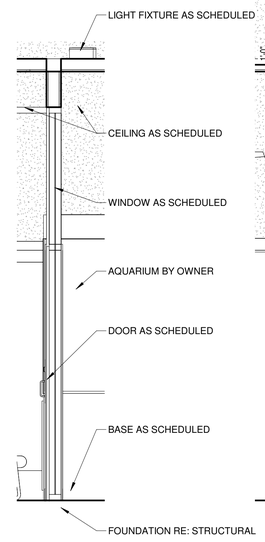
6 WALL SECTION
1/2" = 1'-0"



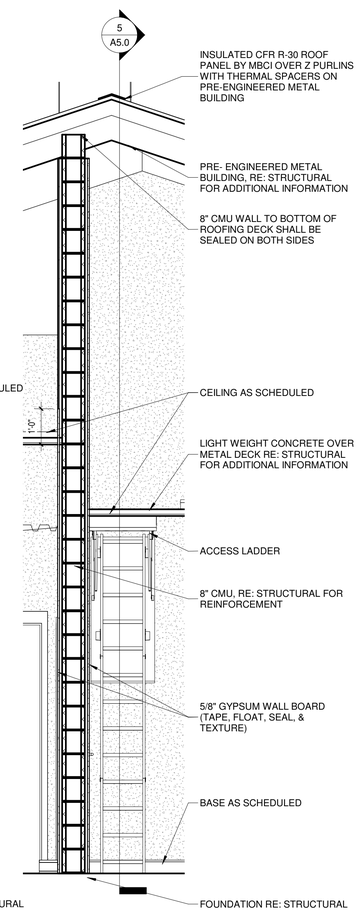
5 WALL SECTION
1/2" = 1'-0"



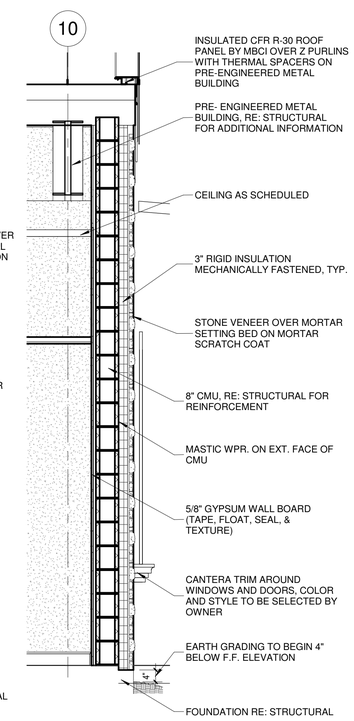
4 WALL SECTION
1/2" = 1'-0"



3 WALL SECTION
1/2" = 1'-0"



2 WALL SECTION
1/2" = 1'-0"



1 WALL SECTION
1/2" = 1'-0"

MILNET
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RODOLFO R. MILNET
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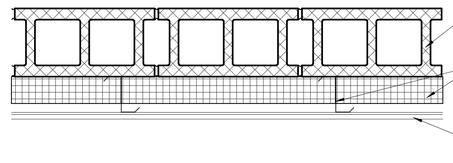
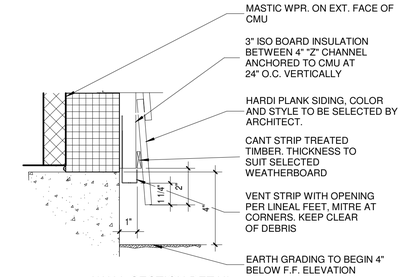
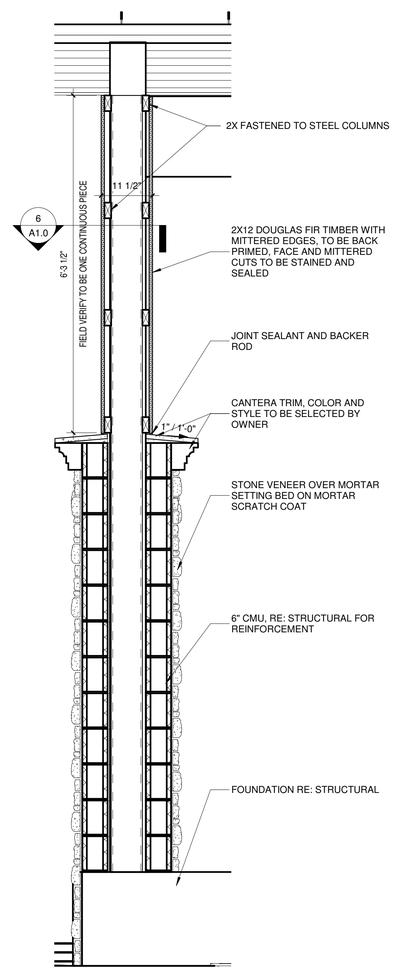
A5.3



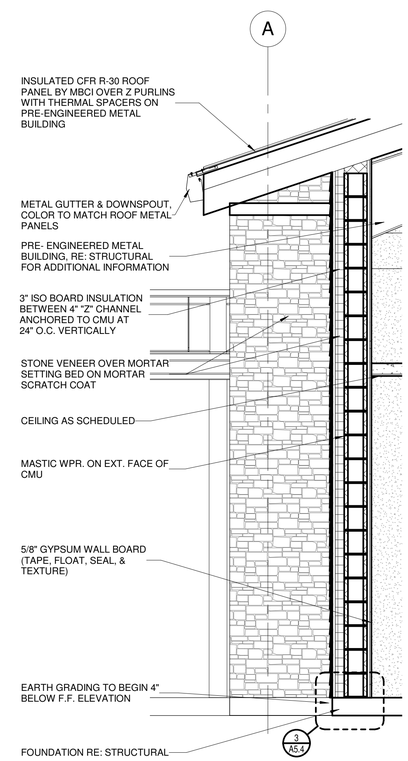
4 WALL SECTION DETAIL
1 1/2" = 1'-0"



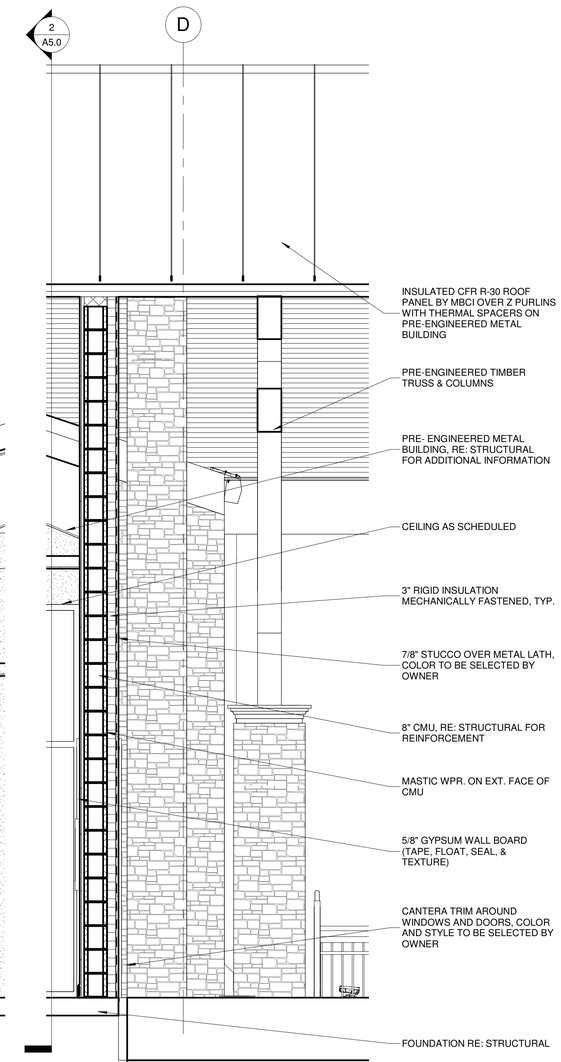
3 WALL SECTION DETAIL
3" = 1'-0"



5 SECTION
3/4" = 1'-0"



2 WALL SECTION
1/2" = 1'-0"



1 WALL SECTION
1/2" = 1'-0"

MILNET
ARCHITECTURAL
SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNET, JR.
14740
STATE OF TEXAS

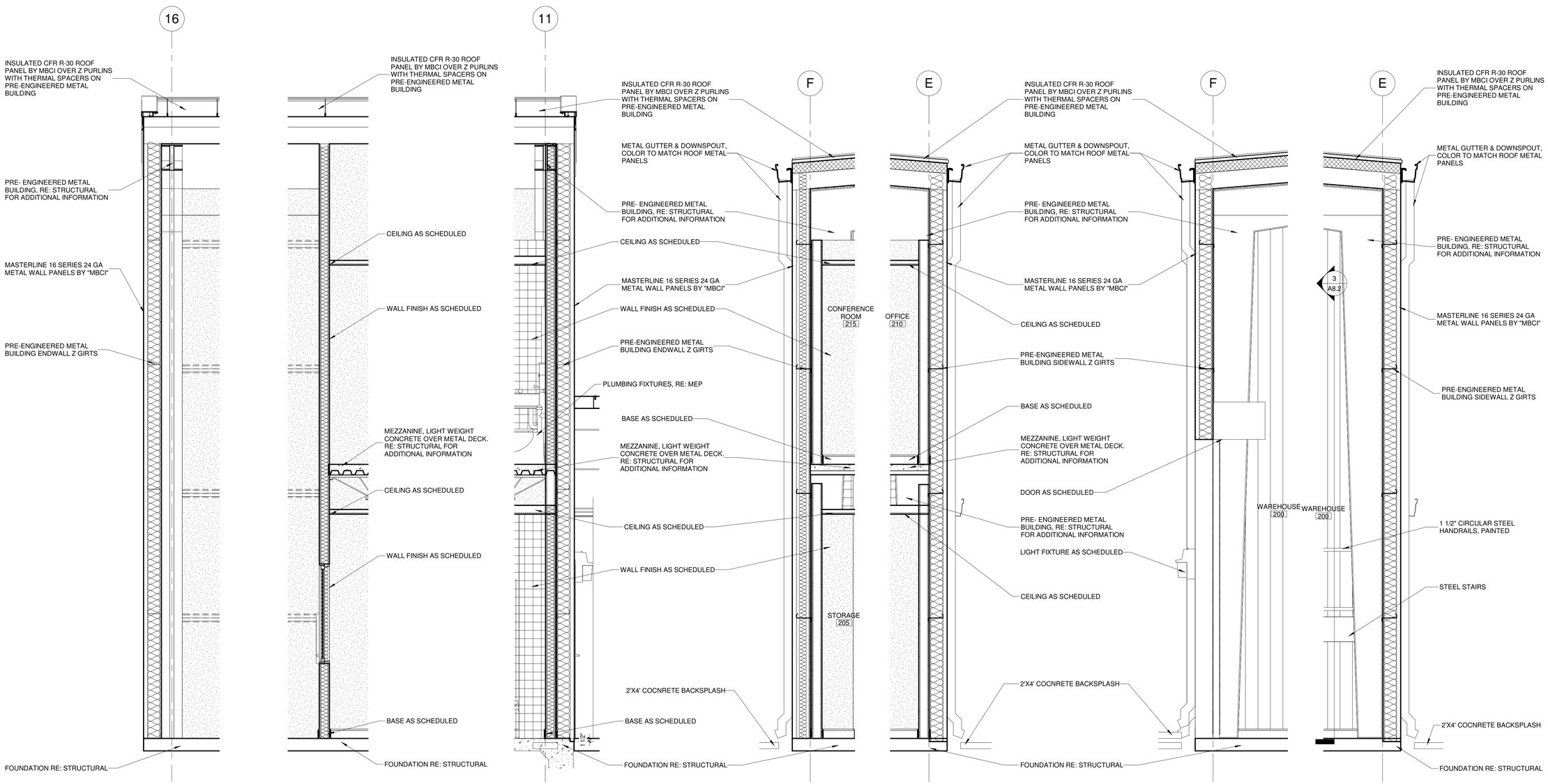
NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

ISSUE FOR
COMPETITIVE SEALED
PROPOSALS

SHEET NUMBER
A5.4



MILNET
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14740
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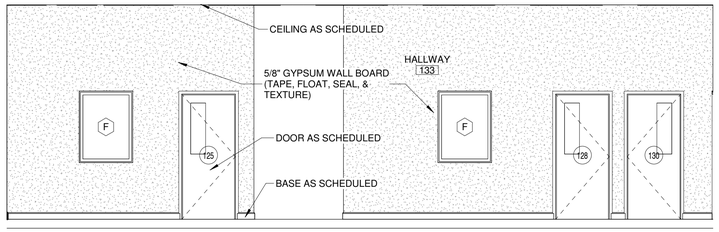
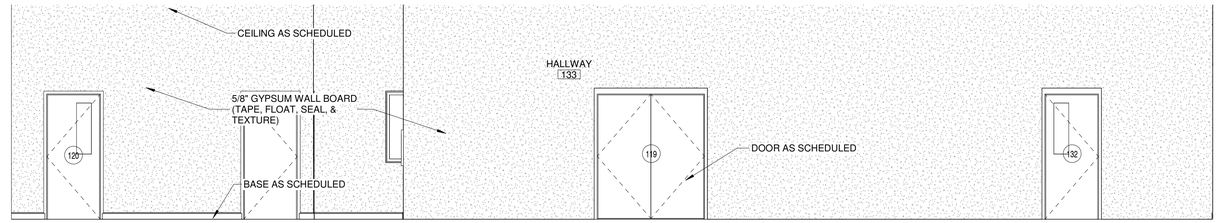
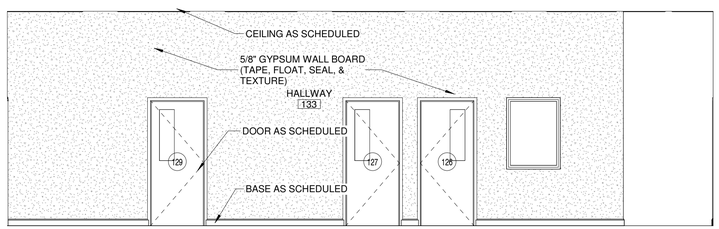
SHEET NUMBER
A5.5



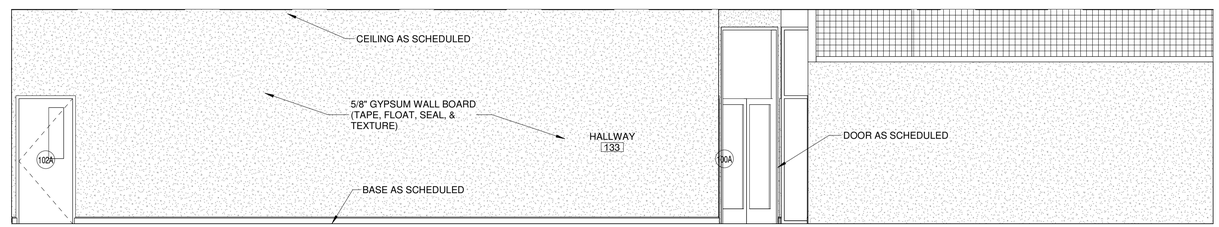
6 INTERIOR ELEVATION
1/4" = 1'-0"



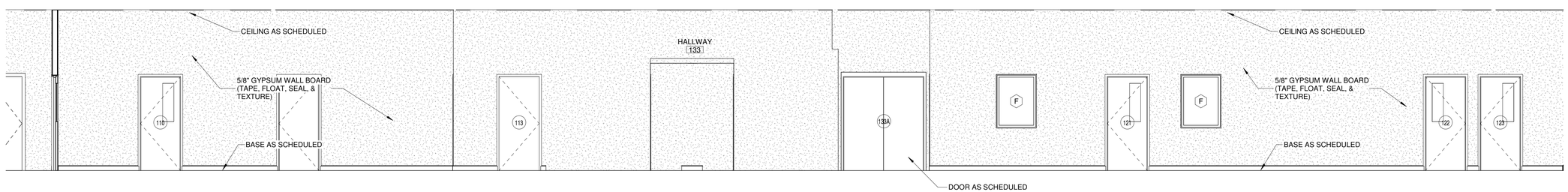
4 INTERIOR ELEVATION
1/4" = 1'-0"



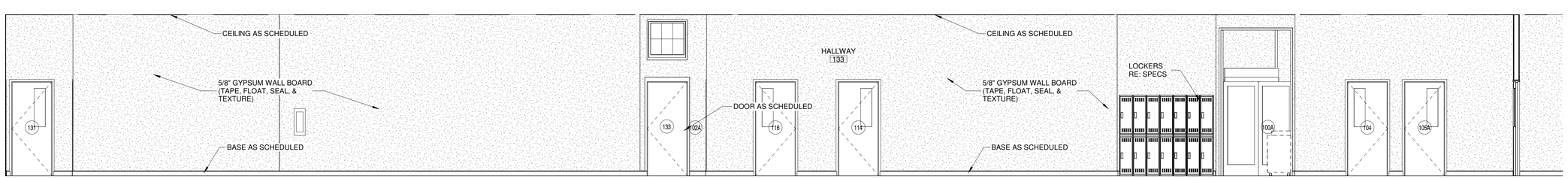
5 INTERIOR ELEVATION
1/4" = 1'-0"



3 INTERIOR ELEVATION
1/4" = 1'-0"



2 INTERIOR ELEVATION
1/4" = 1'-0"



1 INTERIOR ELEVATION
1/4" = 1'-0"

MILNET
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SHARYLAND WATER SUPPLY CORP
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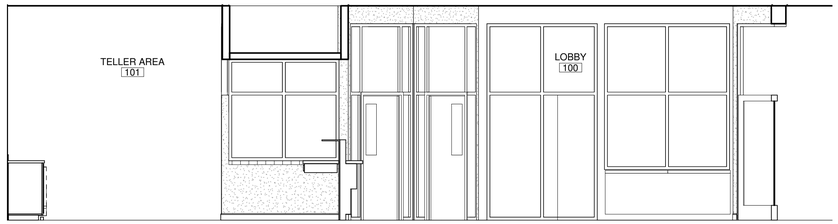
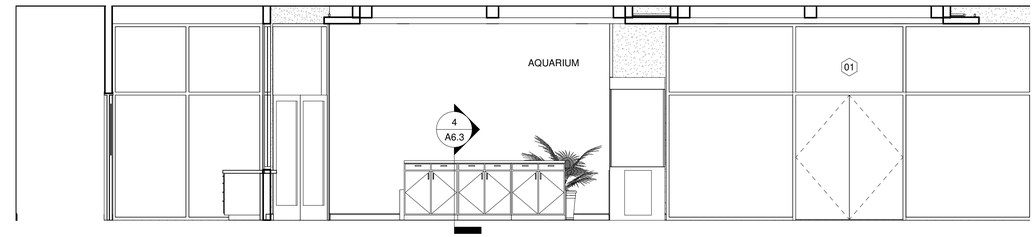
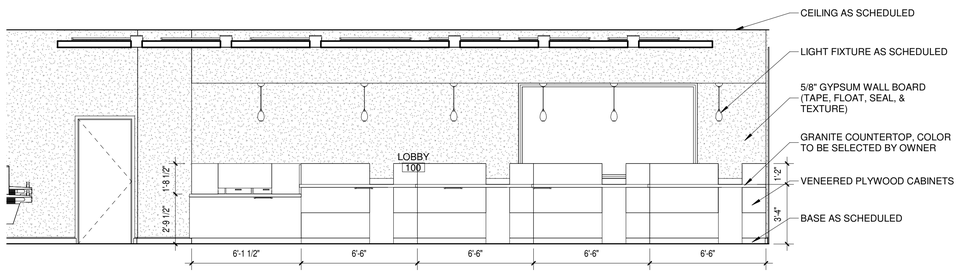
A6.0



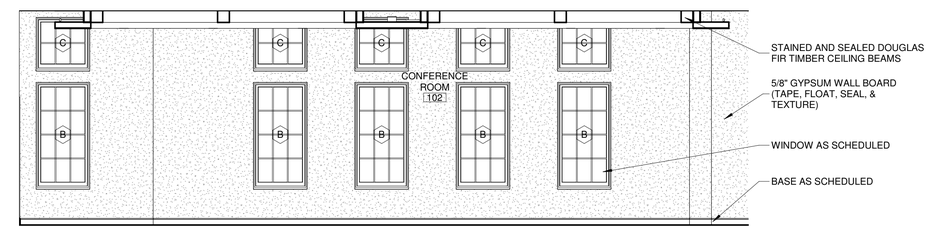
12 INTERIOR ELEVATION
1/4" = 1'-0"



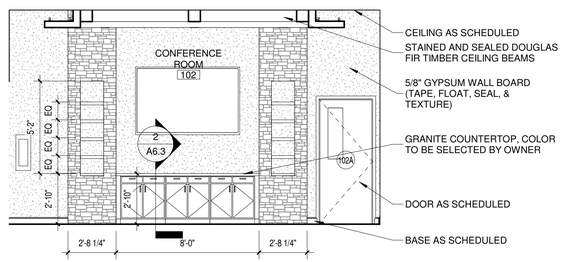
4 INTERIOR ELEVATION
1/4" = 1'-0"



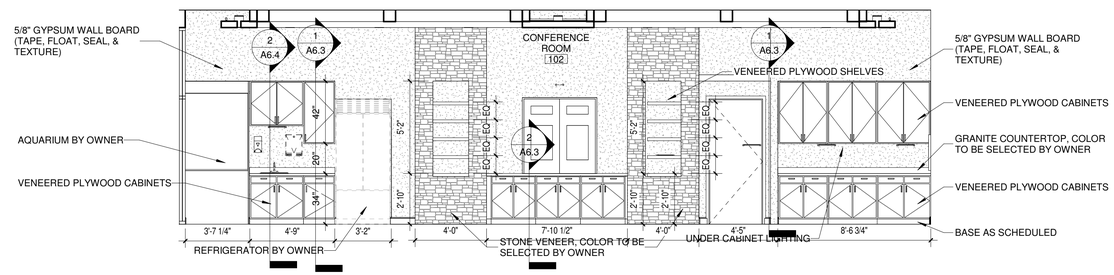
11 INTERIOR ELEVATION
1/4" = 1'-0"



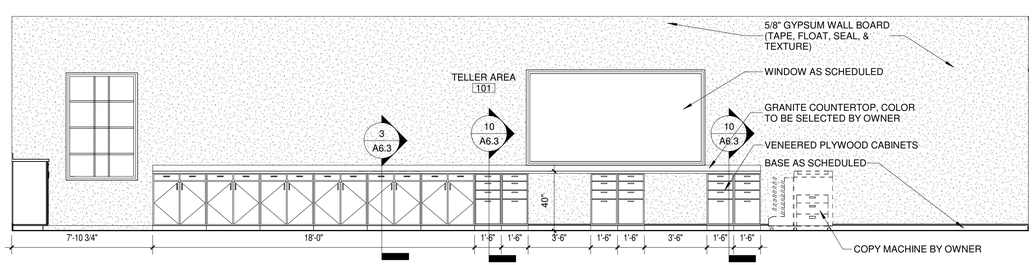
3 INTERIOR ELEVATION
1/4" = 1'-0"



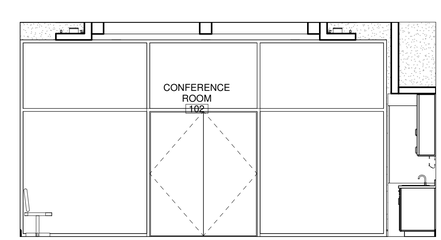
6 INTERIOR ELEVATION
1/4" = 1'-0"



2 INTERIOR ELEVATION
1/4" = 1'-0"



5 INTERIOR ELEVATION
1/4" = 1'-0"



1 INTERIOR ELEVATION
1/4" = 1'-0"

MILNET ARCHITECTURAL SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNET, JR.
14760
STATE OF TEXAS

NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

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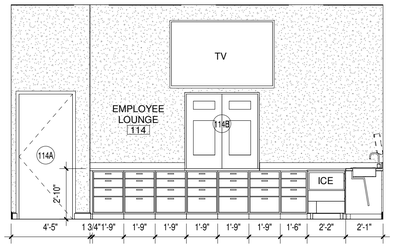
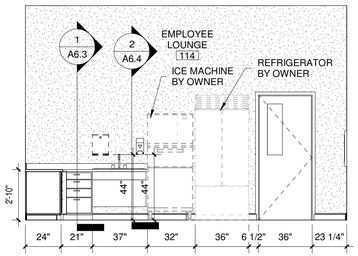
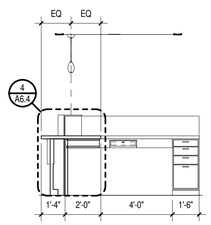
A6.1



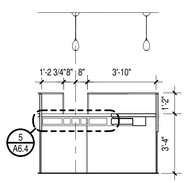
17 INTERIOR ELEVATION
1/4" = 1'-0"



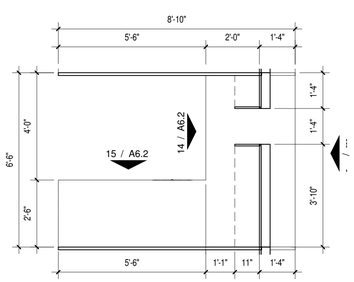
16 INTERIOR ELEVATION
1/4" = 1'-0"



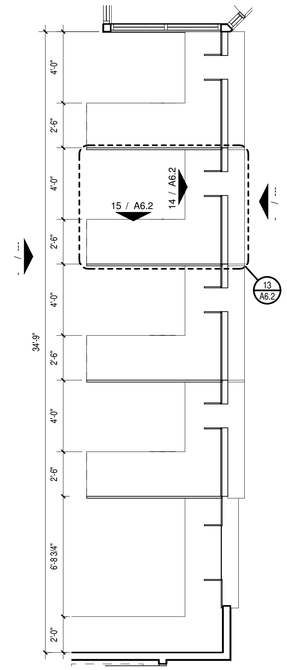
15 INTERIOR ELEVATION
1/4" = 1'-0"



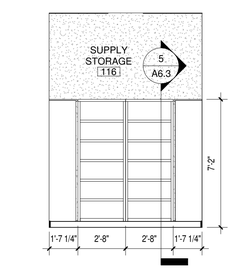
14 INTERIOR ELEVATION
1/4" = 1'-0"



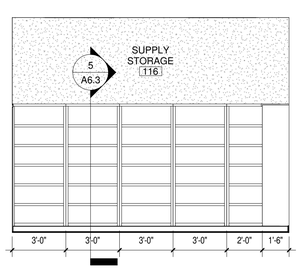
13 TELLER STATION
3/8" = 1'-0"



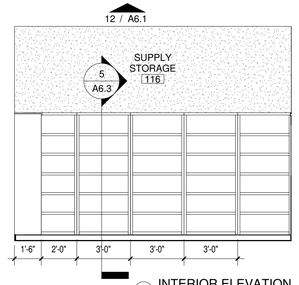
12 ENLARGED PLAN - TELLER AREA
1/4" = 1'-0"



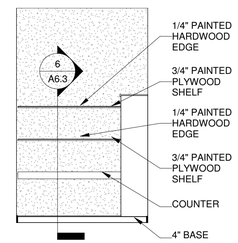
11 INTERIOR ELEVATION
1/4" = 1'-0"



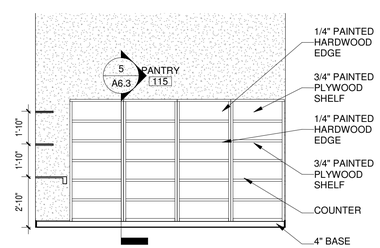
10 INTERIOR ELEVATION
1/4" = 1'-0"



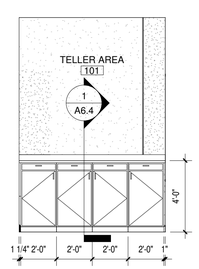
9 INTERIOR ELEVATION
1/4" = 1'-0"



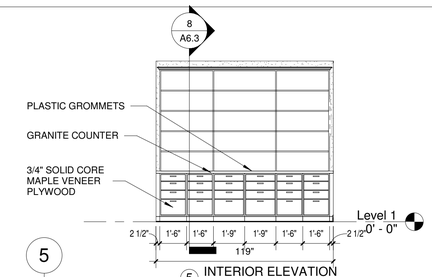
8 INTERIOR ELEVATION
1/4" = 1'-0"



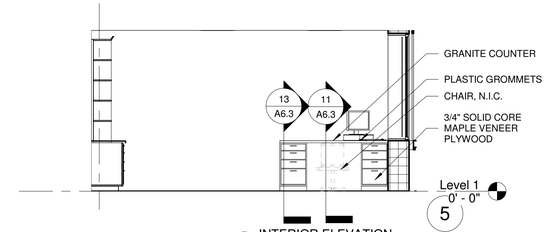
7 INTERIOR ELEVATION
1/4" = 1'-0"



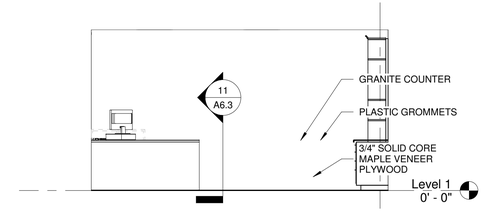
6 INTERIOR ELEVATION
1/4" = 1'-0"



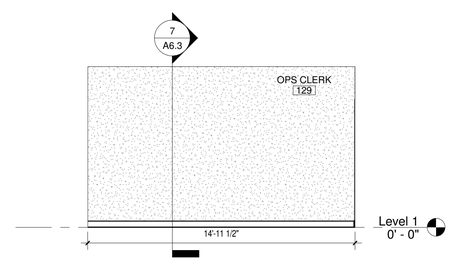
5 INTERIOR ELEVATION
1/4" = 1'-0"



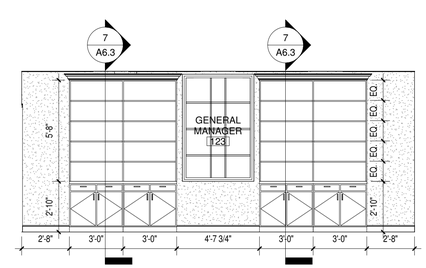
4 INTERIOR ELEVATION
1/4" = 1'-0"



3 INTERIOR ELEVATION
1/4" = 1'-0"



2 INTERIOR ELEVATION
1/4" = 1'-0"



1 INTERIOR ELEVATION
1/4" = 1'-0"

MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT RODOLFO R. MOLINA JR. 14740 STATE OF TEXAS

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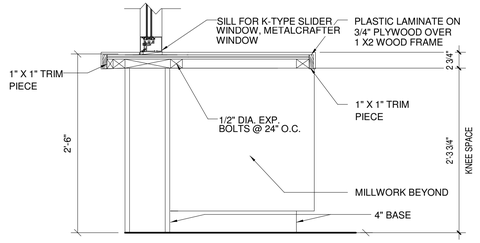
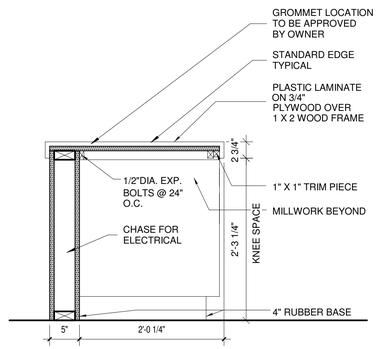
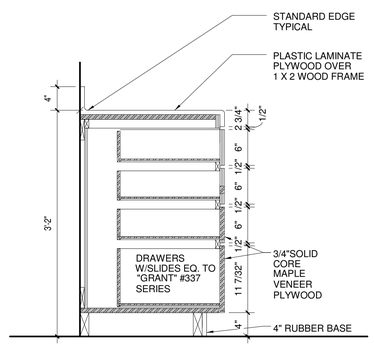


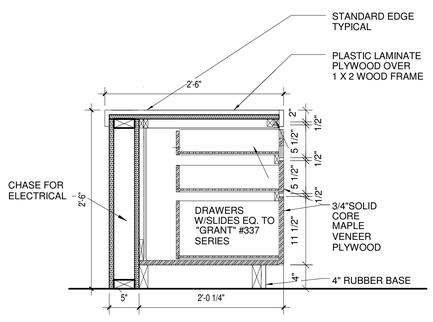
12 MILLWORK SECTION
1" = 1'-0"



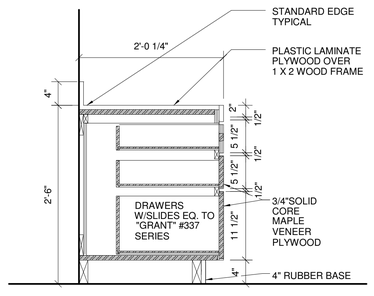
11 MILLWORK SECTION
1" = 1'-0"



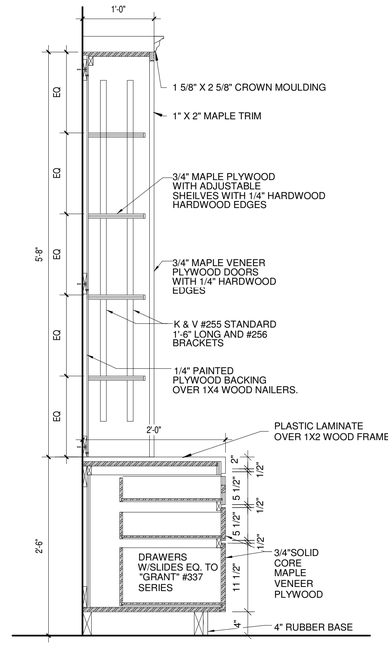
10 MILLWORK SECTION
1" = 1'-0"



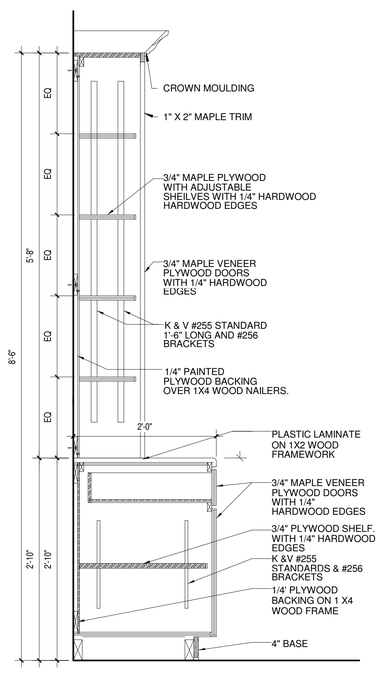
13 MILLWORK SECTION
1" = 1'-0"



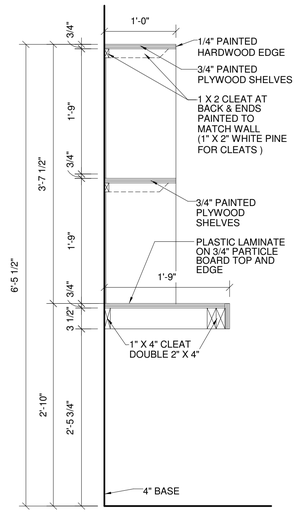
9 MILLWORK SECTION
1" = 1'-0"



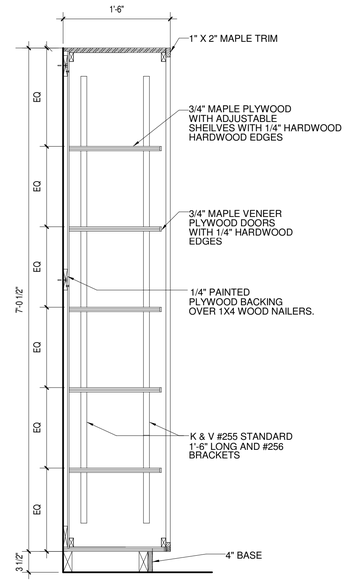
8 MILLWORK SECTION
1" = 1'-0"



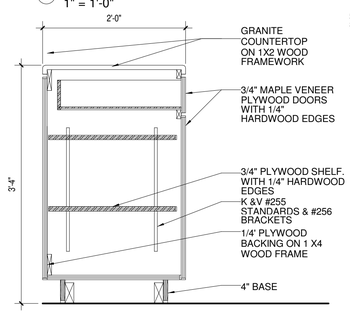
7 MILLWORK SECTION
1" = 1'-0"



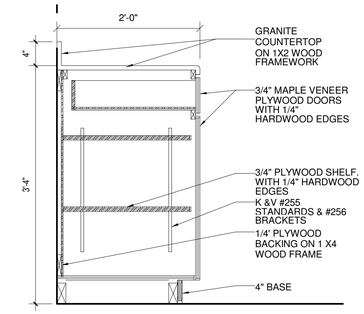
6 MILLWORK SECTION
1" = 1'-0"



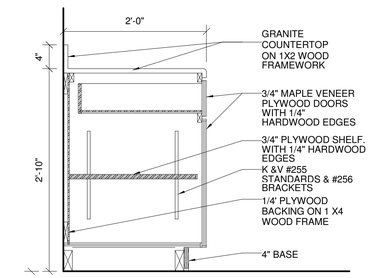
5 MILLWORK SECTION
1" = 1'-0"



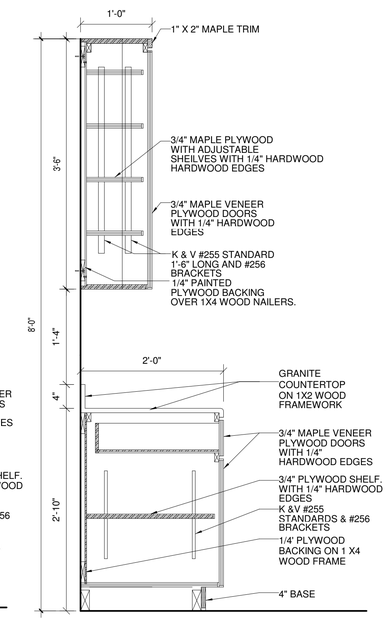
4 MILLWORK SECTION
1" = 1'-0"



3 MILLWORK SECTION
1" = 1'-0"



2 MILLWORK SECTION
1" = 1'-0"



1 MILLWORK SECTION
1" = 1'-0"

MILNET
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AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT
RODOLFO R. MILNE/NAVA
14740
STATE OF TEXAS

NEW BUILDING
SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

ISSUE FOR
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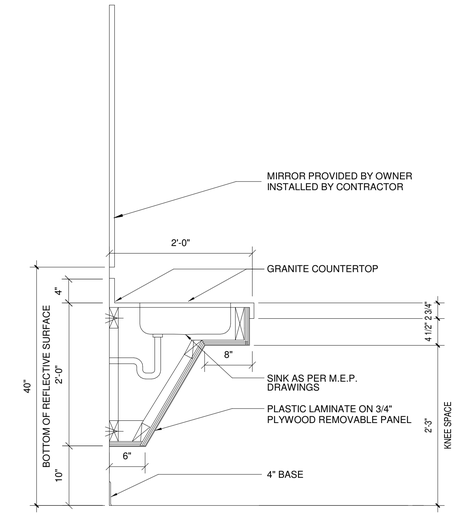
PROPOSALS

SHEET NUMBER
A6.3



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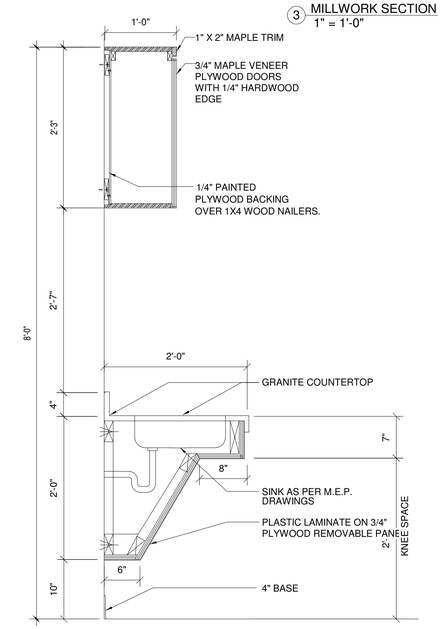
1" = 1'-0"



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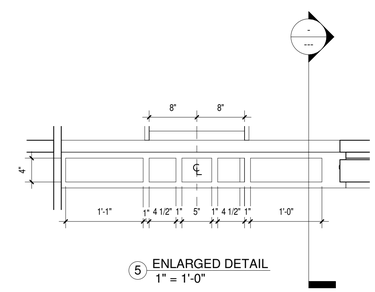
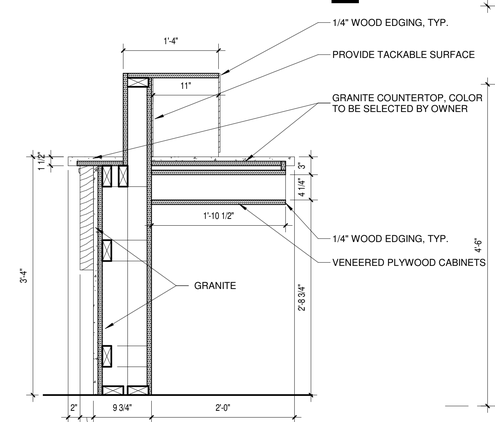
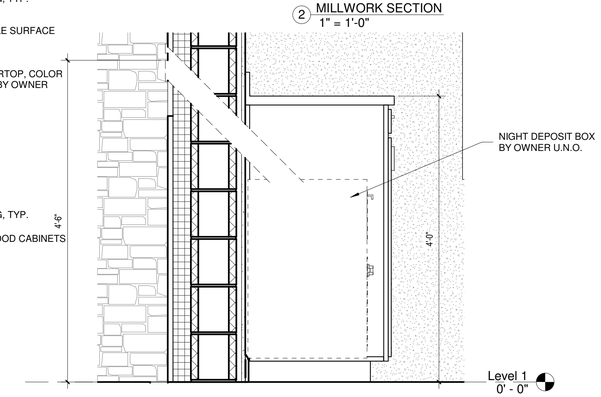
1" = 1'-0"



5 ENLARGED DETAIL
1" = 1'-0"



4 MILLWORK SECTION
1" = 1'-0"



1 MILLWORK SECTION
1" = 1'-0"

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SHARYLAND WATER SUPPLY CORP
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A6.4

DOOR SCHEDULE - MAIN BUILDING

DOOR	DOOR LOCATION	DOOR TYPE	WIDTH	HEIGHT	THICKNESS	PAIR OR SINGLE	DOOR HARDWARE	FINISH	FRAME TYPE	HEAD	JAMB	SILL	Comments
100	LOBBY	A	6' - 0"	7' - 0"	0' - 2"	PAIR		ANODIZED BRONZE		1,2/A7.2	3/A7.2	4/A7.2	ACCESS CONTROL - CARD READER
100A	LOBBY	A	6' - 0"	7' - 0"	0' - 2"	PAIR		ANODIZED BRONZE		1,2/A7.2	3/A7.2	4/A7.2	ACCESS CONTROL - CARD READER
102	CONFERENCE ROOM	A	6' - 0"	7' - 0"	0' - 1 3/4"				D				ACCESS CONTROL - CARD READER
102A	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
103	UNISEX RESTROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
104	RECEPTIONIST	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
105	CUSTOMER SERVICE	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
105A	CUSTOMER SERVICE	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	ACCESS CONTROL - CARD READER
106	NEW ACCOUNTS	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
106A	NEW ACCOUNTS	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	ACCESS CONTROL - CARD READER
107	TELLER AREA	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
108	VAULT	H	2' - 8"	7' - 0"	0' - 2"								ACCESS CONTROL
110	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
111	COMPUTER ROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
112	ELECTRICAL ROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
113	JANITOR ROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
114	EMPLOYEE LOUNGE	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
114A	EMPLOYEE LOUNGE	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
114B	EMPLOYEE LOUNGE	J	4' - 0"	4' - 2"	0' - 1 1/2"								
115	PANTRY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
116	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
117	HALLWAY	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
118	HALLWAY	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
119	HALLWAY	E	6' - 0"	7' - 0"	0' - 1 3/4"				E	8/A7.3	9/A7.3	10/A7.3	
120	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
120B	DISTRIBUTION FOREMAN & SUP.	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
120C	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	ACCESS CONTROL - CARD READER
121	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
122	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
123	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
124	RESTROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
125	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
126	ACCOUNTANT	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
127	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
128	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
129	OPS CLERK	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
130	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
131	PLANNER OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
132	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	
133	HALLWAY	D	3' - 0"	7' - 0"	0' - 1 3/4"				C	5/A7.3	6/A7.3	7/A7.3	ACCESS CONTROL - CARD READER
133A	HALLWAY	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAIR			E	5/A7.3	6/A7.3	7/A7.3	ACCESS CONTROL - CARD READER
133B	HALLWAY	D	3' - 0"	7' - 0"	0' - 1 3/4"				C	5/A7.3	6/A7.3	7/A7.3	ACCESS CONTROL - CARD READER
134	RISER	D	3' - 0"	7' - 0"	0' - 1 3/4"				C	5/A7.3	6/A7.3	7/A7.3	ACCESS CONTROL - CARD READER
136	SERVER	B	3' - 0"	7' - 0"	0' - 1 3/4"				A	16/A7.3	17/A7.3	18/A7.3	ACCESS CONTROL - CARD READER
137	CLOSET	I	2' - 10"	7' - 0"	0' - 1 3/4"				B	16/A7.3	17/A7.3	18/A7.3	

MAIN BUILDING ROOM FINISH SCHEDULE

MARK	ROOM NAME	FINISH KEY NOTE	WALLS	BASE	FLOOR	CEILING	COMMENTS
100	LOBBY	F2	W-1	B-1	F-1	C-1,C-2	
101	TELLER AREA	F1	W-1	B-1	F-2	C-1	
102	CONFERENCE ROOM	F2	W-1	B-1	F-1	C-1,C-2	
103	UNISEX RESTROOM	F3	W-3	B-2	F-3	C-3	
104	RECEPTIONIST	F1	W-1	B-1	F-2	C-1	
105	CUSTOMER SERVICE	F1	W-1	B-1	F-2	C-1	
106	NEW ACCOUNTS	F1	W-1	B-1	F-2	C-1	
107	OFFICE MANAGER	F1	W-1	B-1	F-2	C-1	
108	VAULT	F6	W-1	B-1	F-1	C-5	
110	CSI & CSI CLERK	F1	W-1	B-1	F-2	C-1	
111	COMPUTER ROOM	F5	W-2	B-1	F-5	C-1	
112	ELECTRICAL ROOM	F5	W-2	B-1	F-5	C-1	
113	JANITOR ROOM	F4	W-4	B-3	F-4	C-4	
114	EMPLOYEE LOUNGE	F2	W-1	B-1	F-1	C-1,C-2	
115	PANTRY	F2	W-1	B-1	F-1	C-1,C-2	
116	SUPPLY STORAGE	F2	W-1	B-1	F-1	C-1,C-2	
117	WOMEN RESTROOM	F3	W-3	B-2	F-3	C-3	
118	MEN RESTROOM	F3	W-3	B-2	F-3	C-3	
119	FILE ROOM	F2	W-1	B-1	F-1	C-1,C-2	
120	DISTRIBUTION FOREMAN & SUP.	F2	W-1	B-1	F-1	C-1,C-2	
121	HUMAN RESOURCES	F1	W-1	B-1	F-2	C-1	
122	GENERAL MANAGER ASSISTANT	F1	W-1	B-1	F-2	C-1	
123	GENERAL MANAGER	F1	W-1	B-1	F-2	C-1	
124	RESTROOM	F3	W-3	B-2	F-3	C-3	
125	ASSISTANT GENERAL MANAGER	F1	W-1	B-1	F-2	C-1	
126	ACCOUNTANT	F1	W-1	B-1	F-2	C-1	
127	A/P	F1	W-1	B-1	F-2	C-1	
128	OPS MANAGER	F1	W-1	B-1	F-2	C-1	
129	OPS CLERK	F1	W-1	B-1	F-2	C-1	
130	ENGINEER	F1	W-1	B-1	F-2	C-1	
131	PLANNER OFFICE	F1	W-1	B-1	F-2	C-1	
132	MAP ROOM	F2	W-1	B-1	F-1	C-1,C-2	
133	HALLWAY	F1	W-1	B-1	F-2	C-1	F-1 NEAR EXITS
134	RISER	F4	W-4	B-3	F-4	C-4	
135	MEZZANINE	F4	W-4	B-3	F-4	C-4	
136	SERVER	F5	W-2	B-1	F-5	C-1	
137	CLOSET	F2	W-1	B-1	F-1	C-1,C-2	

DOOR SCHEDULE - WAREHOUSE

DOOR	DOOR LOCATION	DOOR TYPE	WIDTH	HEIGHT	THICKNESS	PAIR OR SINGLE	DOOR HARDWARE	FINISH	FRAME TYPE	HEAD	JAMB	SILL	Comments
200	WAREHOUSE	D	3' - 0"	7' - 0"	0' - 1 3/4"					5/A7.3	6/A7.3	7/A7.3	
200A	WAREHOUSE	F	15' - 0"	12' - 0"	0' - 3"								
200B	WAREHOUSE	F	15' - 0"	12' - 0"	0' - 3"								
200C	WAREHOUSE	F	20' - 0"	12' - 0"	0' - 3"								
201	HALLWAY	D	3' - 0"	7' - 0"	0' - 1 3/4"					5/A7.3	6/A7.3	7/A7.3	
202	WORKOUT ROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
203	CLERK OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
204	HALLWAY	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
205	TRAINING ROOM	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
206	HALLWAY	B	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
207	RESTROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
208	HALLWAY	D	3' - 0"	7' - 0"	0' - 1 3/4"					5/A7.3	6/A7.3	7/A7.3	
209	OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
210	OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
211	OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
212	UNISEX RESTROOM	B	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
213	OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
214	OFFICE	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	
215	CONFERENCE ROOM	C	3' - 0"	7' - 0"	0' - 1 3/4"					16/A7.3	17/A7.3	18/A7.3	

WAREHOUSE BUILDING ROOM FINISH SCHEDULE

MARK	ROOM NAME	FINISH KEY NOTE	WALLS	BASE	FLOOR	CEILING	COMMENTS
200	WAREHOUSE	F4	W-4	B-3	F-4	C-4	
201	HALLWAY	F1	W-1	B-1	F-2	C-1	
202	WORKOUT ROOM	F1	W-1	B-1	F-2	C-1	
203	CLERK OFFICE	F1	W-1	B-1	F-2	C-1	
203	OFFICE	F1	W-1	B-1	F-2	C-1	
204	TRAINING ROOM	F1	W-1	B-1	F-2	C-1	
205	STORAGE	F1	W-1	B-1	F-2	C-1	
206	RESTROOM	F3	W-3	B-2	F-3	C-3	
207	RESTROOM	F3	W-3	B-2	F-3	C-3	
208	HALLWAY	F1	W-1	B-1	F-2	C-1	
209	OFFICE	F1	W-1	B-1	F-2	C-1	
210	OFFICE	F1	W-1	B-1	F-2	C-1	
211	OFFICE	F1	W-1	B-1	F-2	C-1	
212	UNISEX RESTROOM	F3	W-3	B-2	F-3	C-3	
213	OFFICE	F1	W-1	B-1	F-2	C-1	
214	OFFICE	F1	W-1	B-1	F-2	C-1	
215	CONFERENCE ROOM	F1	W-1	B-1	F-2	C-1	

ROOM FINISH SCHEDULE

Key Name	WALLS	BASE	FLOOR	CEILING	MISC.	REMARKS
F1	W-1	B-1	F-2	C-1		WALL PAINT LATEX
F2	W-1	B-1	F-1	C-1,C-2		WALL PAINT LATEX
F3	W-3	B-2	F-3	C-3		PROVIDE 2'X2' ACCESS PANEL AT RESTROOMS, WALL PAINT EPOXY
F4	W-4	B-3	F-4	C-4		
F5	W-2	B-1	F-5	C-1		WALL PAINT EPOXY
F6	W-1	B-1	F-1	C-5		

WALL FINISH

WALL TYPE	WALL DESCRIPTION
W-1	5/8" GYP. BD. T.F.T.&P.
W-2	5/8" GYP. BD. (MOISTURE RES.) T.F.T.&P.
W-3	CERAMIC TILE 4 1/4" X 4 1/4" WAINSCOT UP TO 6'-10 3/4" HIGH WITH GYP. BD. (MOISTURE RES.) T.F.T.&P. ABOVE
W-4	EXPOSED STRUCTURE PAINTED

BASE FINISH

BASE TYPE	BASE DESCRIPTION
B-1	4" RUBBER COVE BASE
B-2	4-1/4" CERAMIC TILE COVE BASE
B-3	NONE

FLOOR FINISH

FLOOR TYPE	FLOOR DESCRIPTION
F-1	LVT - LUXURY VINYL TILE
F-2	COMMERCIAL CARPET TILE
F-3	12x12 PORCELAIN TILE
F-4	SEALED CONCRETE
F-5	RUBBERIZED ANTI-STATIC FLOORING

CEILING FINISH

CEILING TYPE	CEILING DESCRIPTION
C-1	2'X2' LAY-IN ACOUSTICAL CEILING TILE SYSTEM
C-2	5/8" THICK GYP. BD. T.F.T.&P. ON 3 5/8" MTL. STUDS @ 16" O.C.
C-3	5/8" THICK, MOISTURE RESISTANT GYP. BD. ON SUSPENDED GRID SYSTEM (2 LAYERS OF 5/8" GYP. BD. AT FIRE RATED CONDITIONS
C-4	EXPOSED TO STRUCTURE PAINTED
C-5	LIGHT WEIGHT CONCRETE

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RODOLFO R. MOLINA
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FLOOR FINISHES

1. ALL FINISH MATERIALS MUST MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE.

2. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.

3. PAINT ALL EXPOSED DUCTWORK, CONDUIT, ELECTRICAL EQUIPMENT, ETC TO MATCH ADJACENT SURFACES.

4. PAINT ALL NON-FACTORY FINISHED EXPOSED METAL.

5. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR ALL FLOORING MATERIALS. NOT TRANSITIONS SHALL BE MORE THAN 1:2

6. FLOORING TRANSITIONS AT DOORS SHOULD BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION, UNLESS NOTED OTHERWISE.

7. CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.

8. PROVIDE BULLNOSE TRIM AT TRANSITIONS FROM CERAMIC WALL TILE TO OTHER MATERIAL, UNLESS NOTED OTHERWISE.

9. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS.

10. ALL ELECTRICAL DEVICE COVERS ARE TO BE WHITE UNLESS NOTED OTHERWISE.

11. CARPET PATTERNS TO RUN PARALLEL TO CORRIDOR, UNLESS NOTED OTHERWISE.

COMMERCIAL CARPET TILE

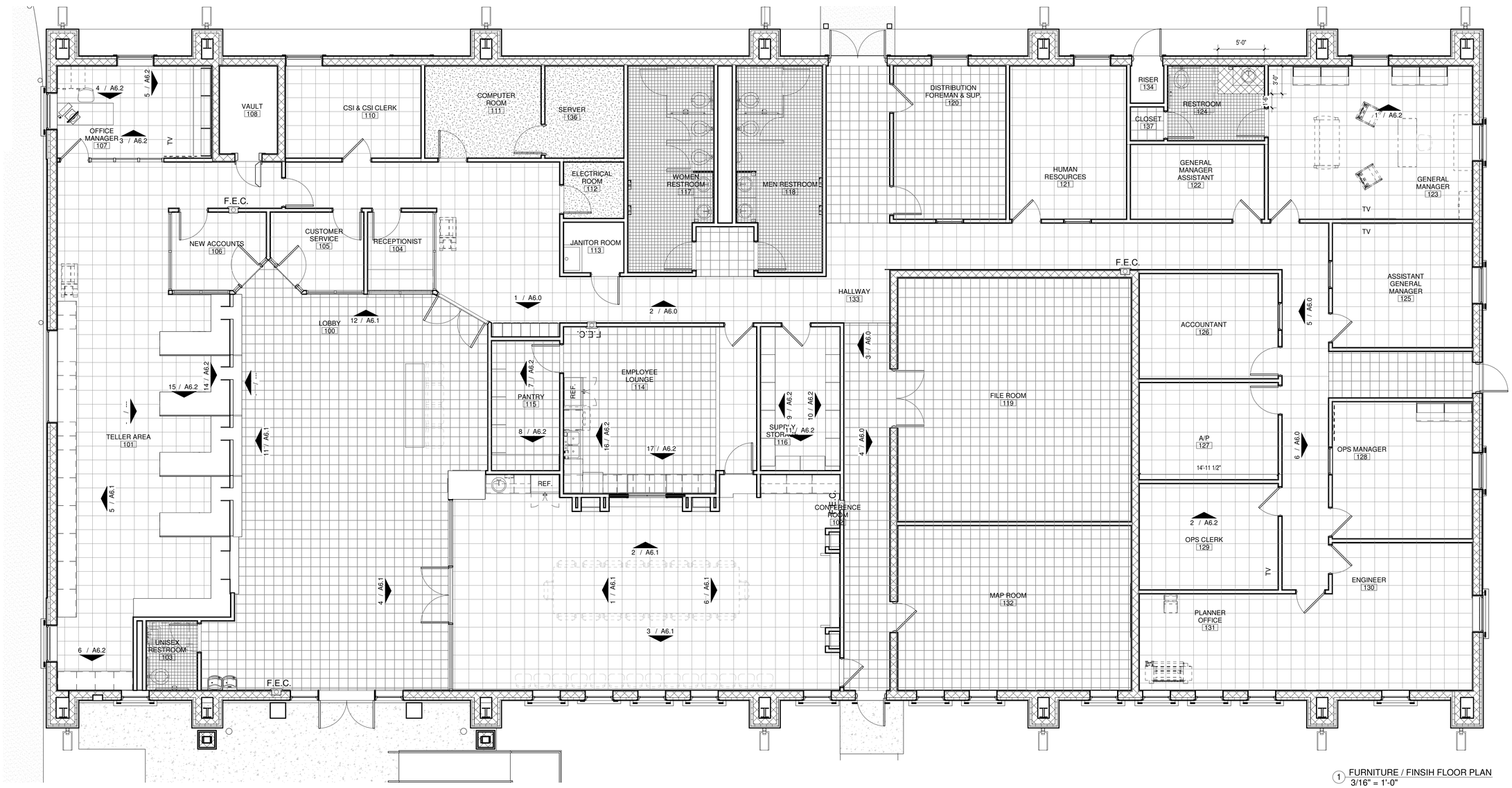
(LVT) LUXURY VINYL TILE

12 x 12 PORCELAIN TILE

RUBBERIZED ANTI-STATIC FLOORING

SEALED CONCRETE

2 FLOOR TRANSITION DETAIL
12" = 1'-0"



1 FURNITURE / FINSIH FLOOR PLAN
3/16" = 1'-0"

MILNET ARCHITECTURAL SERVICES

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14740
STATE OF TEXAS

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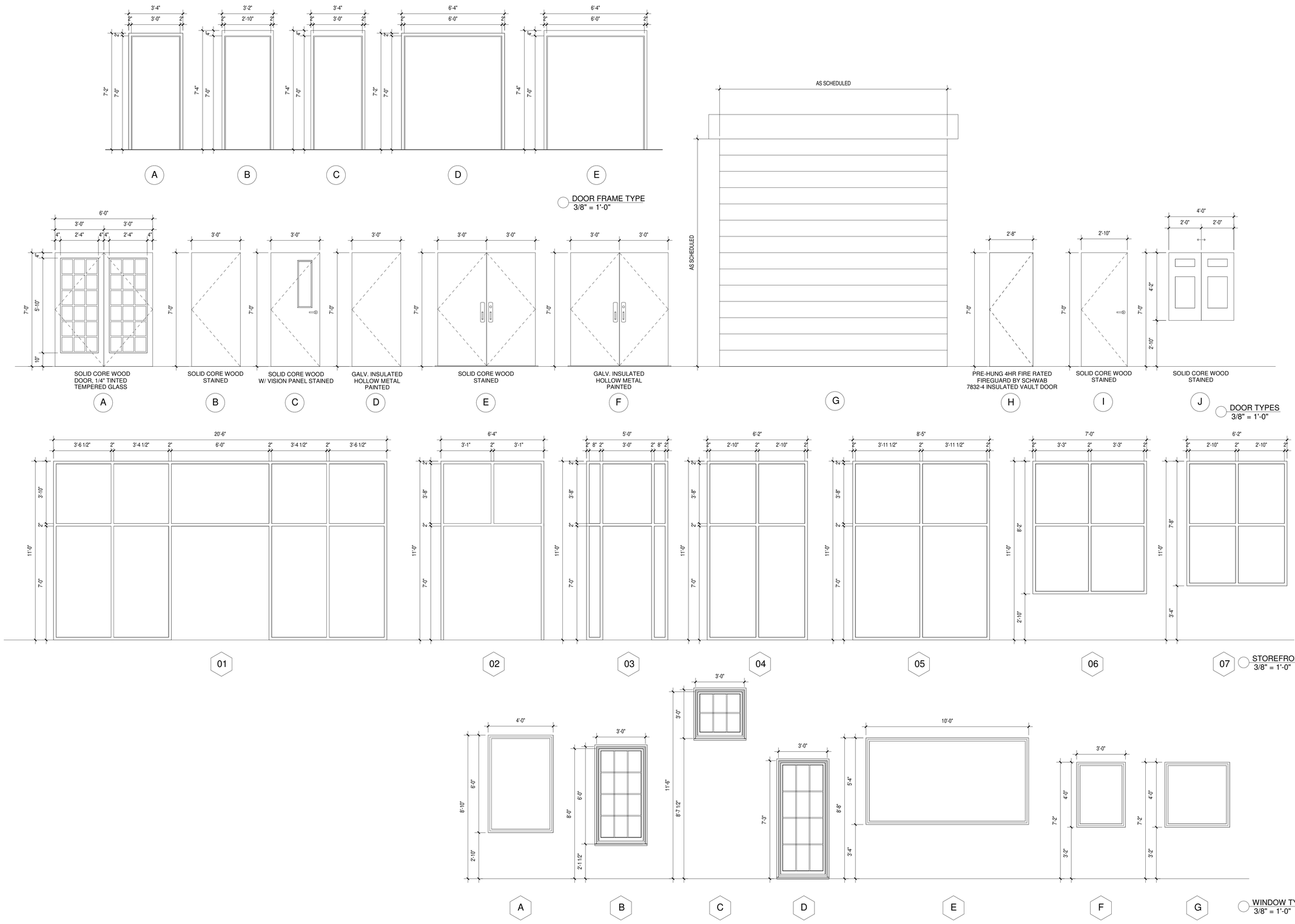
SHEET NUMBER
A7.1



MILNET ARCHITECTURAL SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

REGISTERED ARCHITECT RODOLFO R. MILNET JR. 14760 STATE OF TEXAS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP

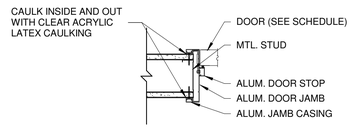
ALTON, TX

PROJECT NUMBER
217017

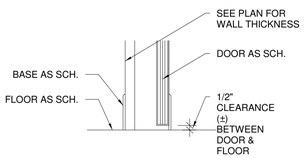
DATE
OCTOBER 19, 2018

ISSUE FOR COMPETITIVE SEALED PROPOSALS

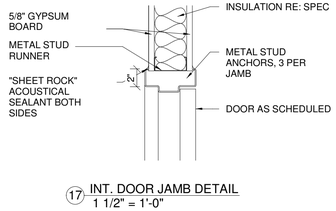
SHEET NUMBER
A7.2



13 INT. DOOR/WINDOW JAMB DETAIL
1 1/2" = 1'-0"



18 INT. DOOR SILL DETAIL
1 1/2" = 1'-0"



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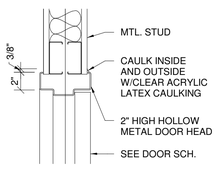
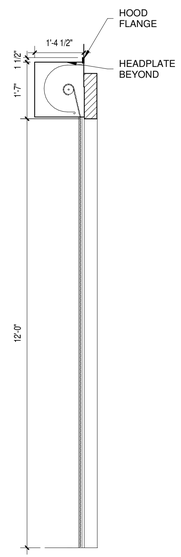
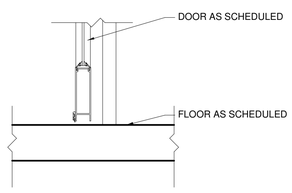


16 INT. DOOR HEAD DETAIL
1 1/2" = 1'-0"



12 OVERHEAD ROLLING DOOR HEAD
1/2" = 1'-0"



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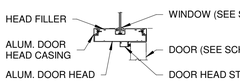
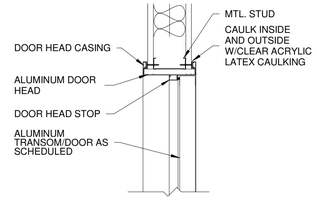
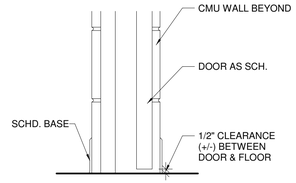
1 1/2" = 1'-0"



14 IN, DOOR/WINDOW MULLION DETAIL
1 1/2" = 1'-0"



11 INT. DOOR/WIND HEAD DETAIL
1 1/2" = 1'-0"



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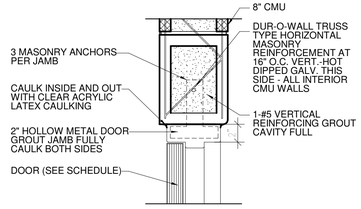
1 1/2" = 1'-0"



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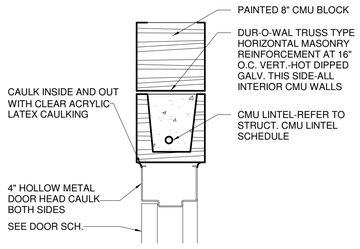
1 1/2" = 1'-0"



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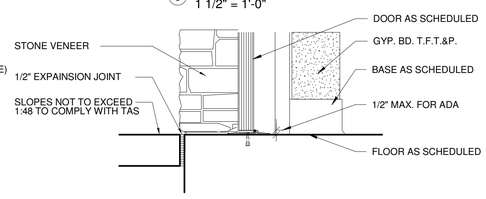

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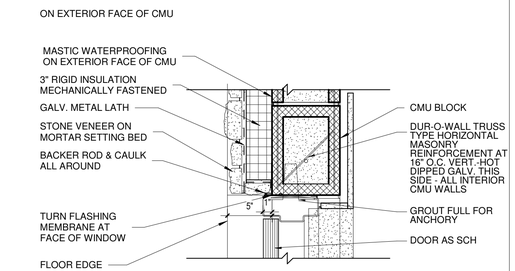
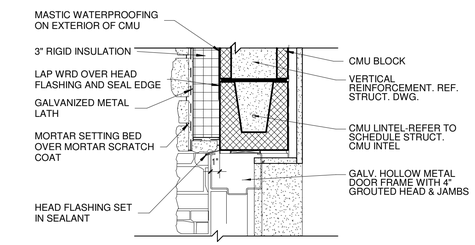
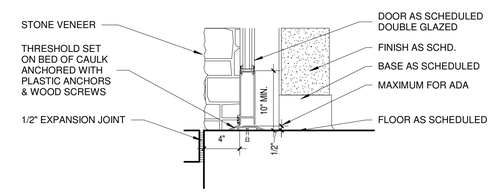
1 1/2" = 1'-0"



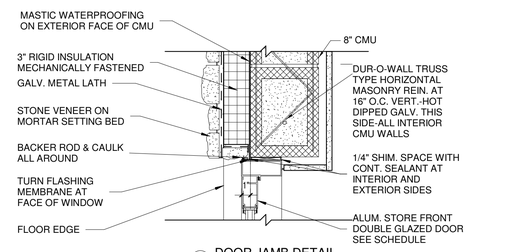
6 DOOR JAMB DETAIL
1 1/2" = 1'-0"



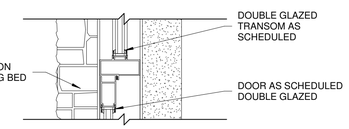
5 DOOR HEAD DETAIL
1 1/2" = 1'-0"



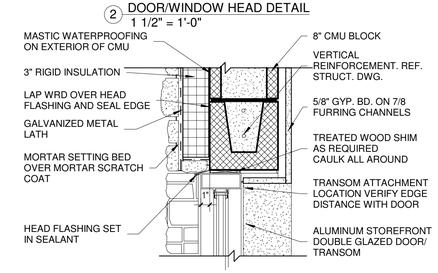
4 DOOR SILL DETAIL
1 1/2" = 1'-0"



3 DOOR JAMB DETAIL
1 1/2" = 1'-0"



2 DOOR/WINDOW HEAD DETAIL
1 1/2" = 1'-0"



1 DOOR HEAD DETAIL
1 1/2" = 1'-0"

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SHEET NUMBER
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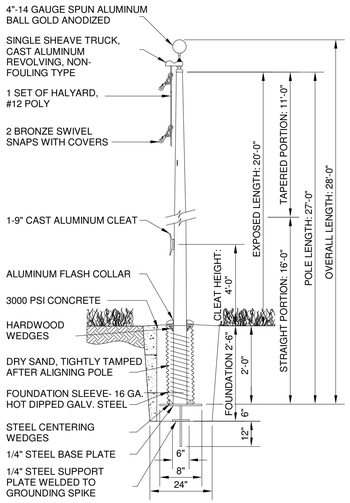
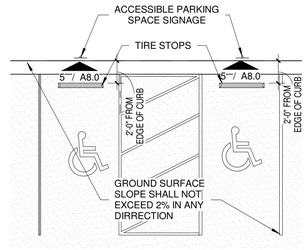


ELEVATION VIEW

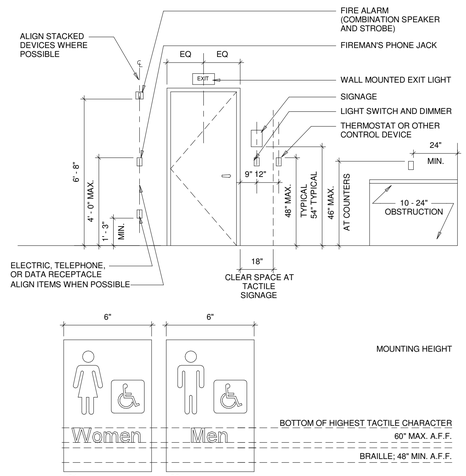
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.

8 FLAG POLE DETAIL
1/2" = 1'-0"

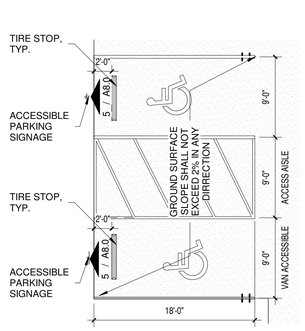


6 ENLARGED PLAN - PARKING
1/8" = 1'-0"

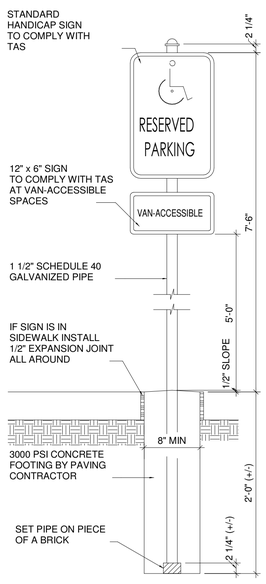
1. COLOR AS CLOSE TO COUNTERTOP AS POSSIBLE BASED ON STANDARD COLORS.
2. SIGNS THAT DESIGNATE PERMANENT ROOMS AND SPACES MUST COMPLY WITH REQUIREMENTS FOR CHARACTER PROPORTION, RAISED ADN BRAILLED CHARACTERS AND PICTORIAL SYMBOLS SIGNS, FINISH AND CONTRAST, AND MOUNTING AND LOCATION HEIGHT.
3. CHARACTER PROPORTION: CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".
4. RAISED AND BRAILLED CHARACTERS AND PICTORIAL SYMBOL SIGNS (PICTORGRAMS): LETTERS AND NUMERALS SHALL BE RAISED 1/32 IN, UPPER-CASE, SANS SERIF AND SHALL BE ACCOMPANIED WITH GRADE 2 BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8 IN. (16mm) HIGH, BUT NO HIGHER THAN 2 IN. (50mm). PICTOGRAMS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE 6 IN. (152mm) MINIMUM IN HEIGTH.
5. FINISH AND CONTRAST: CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
6. MOUNTING LOCATION AND HEIGHT. WHERE PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, SIGNS SHALL BE INSTALLED ALONGSIDE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE INSTALLED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE INSTALLED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGND SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MIN. BY 18" MIN., CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION.



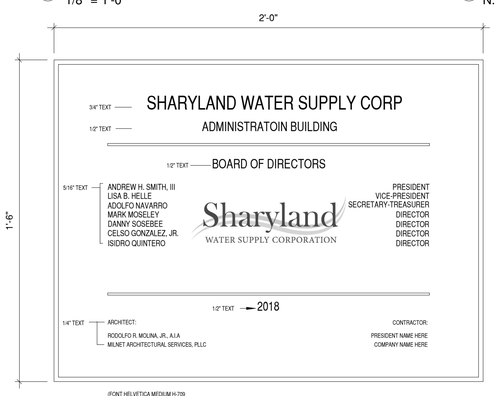
3 ADA - INTERIOR SIGNAGE SPECS
N.T.S.



7 ENLARGED PLAN - PARKING
1/8" = 1'-0"

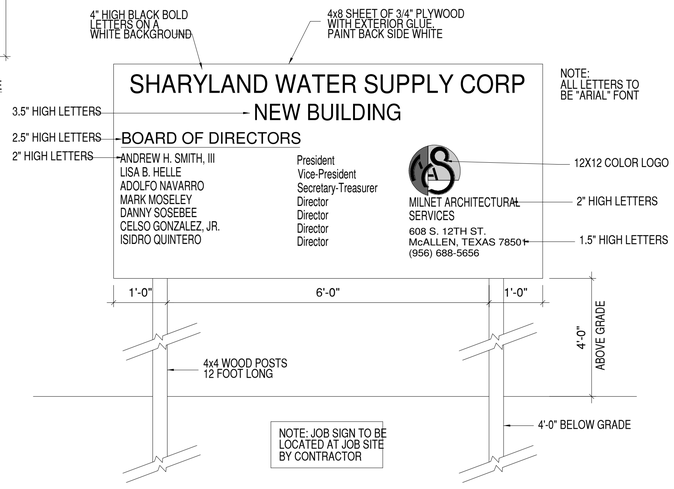


5 PARKING SIGNAGE
N.T.S.

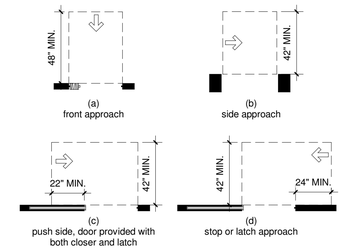


(FONT HELVETICA MEDIUM H-709
RE: SPECS FOR ADDITIONAL INFO.)

4 PLAQUE
N.T.S.



2 JOB SITE SIGN
N.T.S.



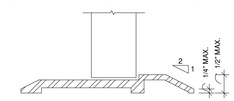
MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS, SLIDING DOORS, GATES AND FOLDING DOORS

DOOR CRITERIA:

GENERAL NOTES:

1. FLOOR OR GROUND SURFACE. FLOOR OR GROUND SURFACE WITHIN REQUIRED MANEUVERING CLEARANCE SHALL BE STABLE FIRM, AND SLIP RESISTANT. CHANGES IN LEVEL ARE NOT PERMITTED.

2. VISION LIGHTS. DOORS, GATES, AND SIDE LIGHTS ADJACENT TO DOOR OR GATES, SHALL HAVE THE BOTTOM OF AT LEAST ONE GLAZED PANEL LOCATED 43" MAX. ABOVE THE FINISH FLOOR



A. THRESHOLD

NOTES:

1. 1/2" MAXIMUM TOTAL HEIGHT WITH 1/4" MAXIMUM VERTICAL CHANGE AT EDGE.

2. 1 : 2 SLOPED BEVEL REQUIRED IF LEVEL CHANGE IS OVER 1/4" VERTICAL LEVEL CHANGE.

DOOR TYPE:

1. MINIMUM 10" HIGH SMOOTH SURFACE AT DOOR BOTTOM, EITHER ATTACHED PANEL OR BOTTOM RAIL.

HARDWARE:

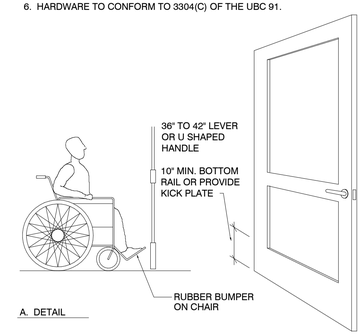
2. OPERABLE FROM INSIDE WITHOUT USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT.

3. OPENABLE BY SINGLE EFFORT LEVER-TYPE DEVICE (NOT REQUIRING GRASPING).

4. MOUNTED 36" TO 42".

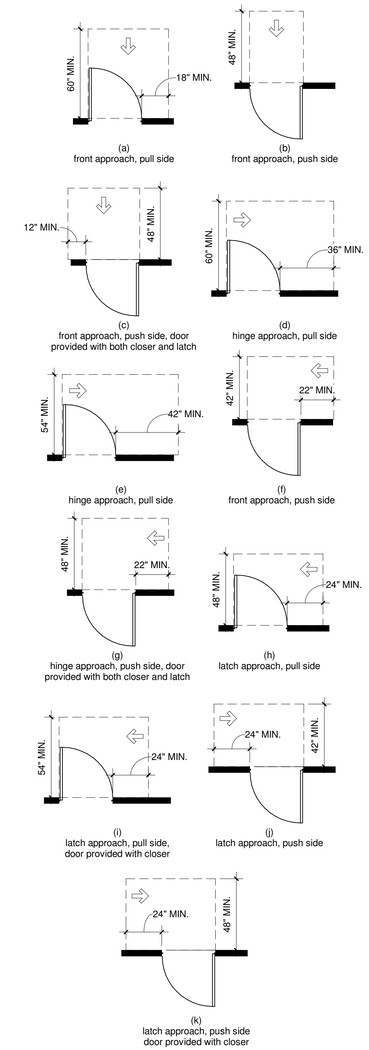
5. MAXIMUM 8.5 POUNDS EFFORT TO OPERATE EXTERIOR DOOR, 5 POUNDS FOR INTERIOR.

6. HARDWARE TO CONFORM TO 3304(C) OF THE UBC 91.

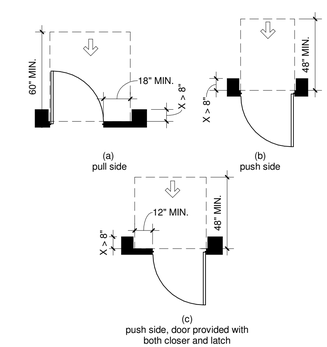


A. DETAIL

1 DOOR CRITERIA
N.T.S.



MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS AND GATES



MANEUVERING CLEARANCE AT RECESSED DOORS AND GATES

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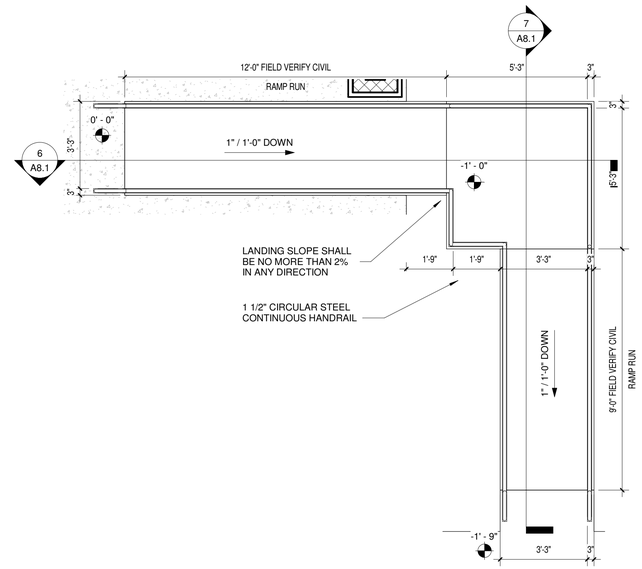
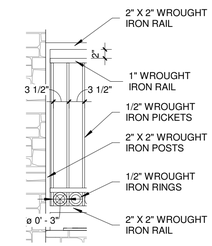
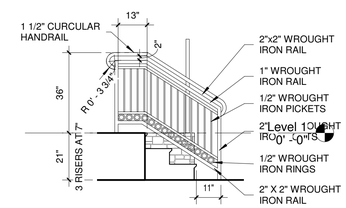


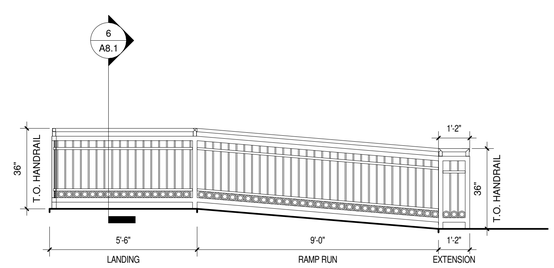
5 ENLARGED PLAN - RAMP
3/8" = 1'-0"



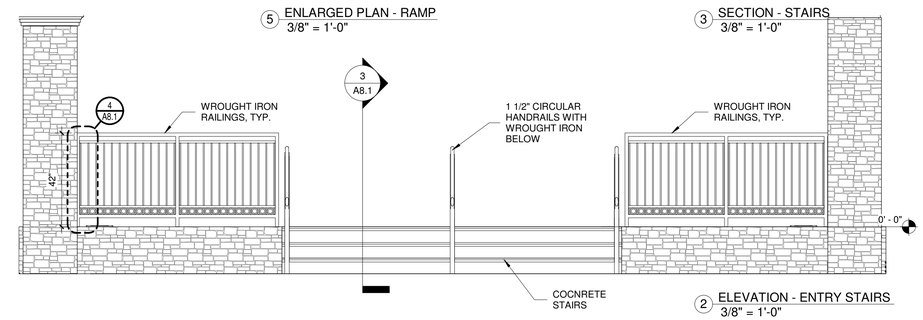
4 DETAIL - STAIRS
3/4" = 1'-0"



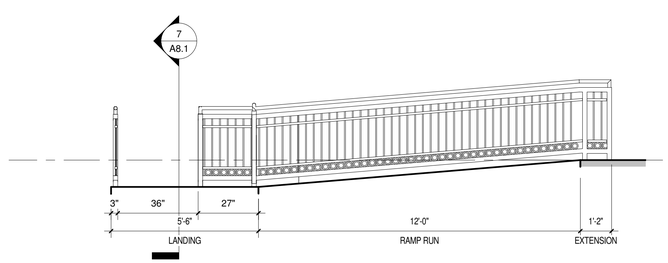
3 SECTION - STAIRS
3/8" = 1'-0"



7 SECTION - RAMP
3/8" = 1'-0"



2 ELEVATION - ENTRY STAIRS
3/8" = 1'-0"



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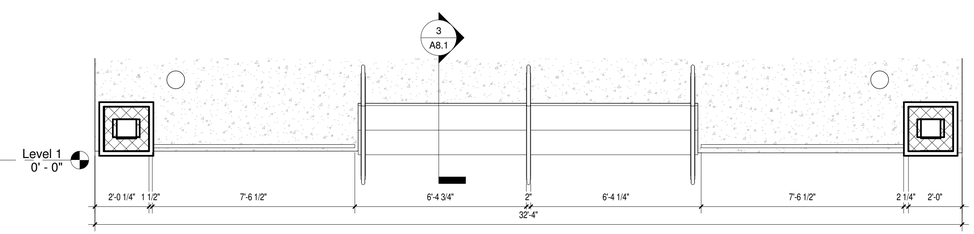

2 / A8.1

1 ENLARGED PLAN - STAIRS
3/8" = 1'-0"

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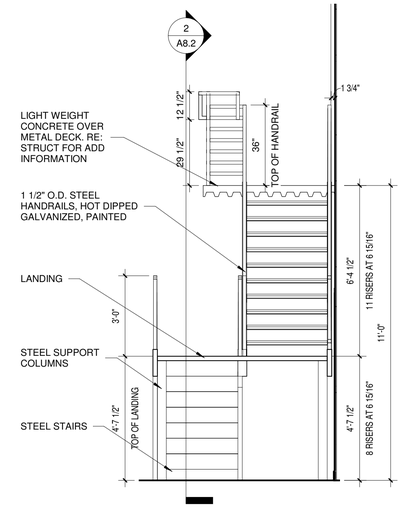
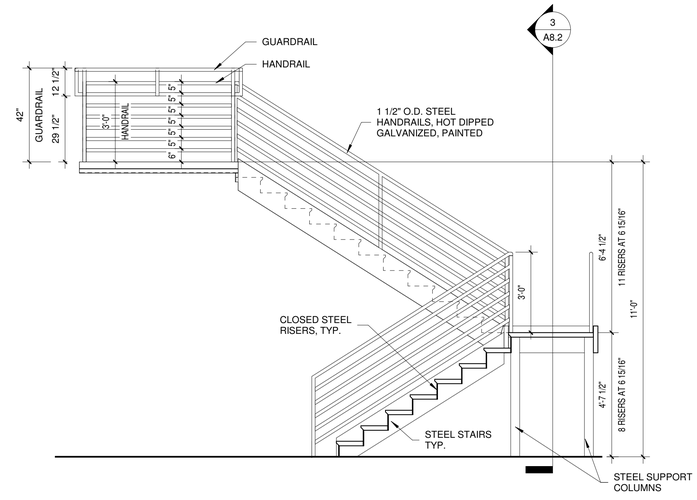
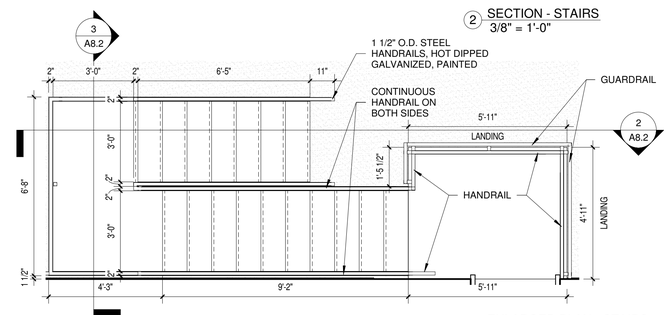


3 SECTION - STAIRS
3/8" = 1'-0"



2 SECTION - STAIRS
3/8" = 1'-0"



1 ENLARGED PLAN - STAIRS
3/8" = 1'-0"

MILNET
ARCHITECTURAL
SERVICES

AMERICAN INSTITUTE OF ARCHITECTS

NEW BUILDING

SHARYLAND WATER SUPPLY CORP
ALTON, TX

PROJECT NUMBER
217017

DATE
OCTOBER 19, 2018

ISSUE FOR
COMPETITIVE SEALED
PROPOSALS

SHEET NUMBER
A8.2

KEYED NOTES: MECHANICAL

1. CONTROLS FOR A/C UNIT WILL BE BY MEANS OF A 24 VOLT 7-DAY PROGRAMMABLE THERMOSTAT WITH HEAT-OFF-COOL AND FAN ON-AUTO CAPABILITIES SHOWN ON A DIGITAL DISPLAY. MOUNT THERMOSTAT AT 48" ABOVE FINISHED FLOOR. PROVIDE WITH KEYED CLEAR PLASTIC COVER.
2. UNIT TO BE MOUNTED ON A 24" HIGH PLATFORM CONSTRUCTED OF 1-1/2" ANGLE IRON/1" SQUARE METAL TUBING. WRAP PLATFORM IN GALVANIZED SHEET METAL. LINE INTERIOR OF PLATFORM W/ 1" DUCT BOARD. W/ FOIL FACING AIRSTREAM. COAT INSIDE W/ MASTIC (TO FACILITATE CLEANING) & SEAL AIR TIGHT.
3. RETURN AIR DUCT TO BE SIZED ACCORDING TO RESPECTIVE AIR OPENING.
4. ROUND EXHAUST DUCT OUT TO WALL MOUNTED LOUVER. COORDINATE LOCATION OF LOUVERS TO NOT CONFLICT WITH CONTROL JOINTS AND DOWNSPOUTS.
5. PLACE CONDENSING UNIT ON 6" CONCRETE PAD.
6. HANG AIR HANDLER FROM STRUCTURE AND PROVIDE W/ VIBRATION ISOLATION. PROVIDE TWO 4"x4" TREATED WOOD TIMBERS INSIDE AN AUXILIARY DRAIN PAN ON WHICH TO MOUNT AIR HANDLING UNIT. REFER TO PLUMBING PAGES FOR CONDENSATE ROUTING. REFER TO IMC 307.2.3 FOR AUXILIARY DRAIN PAN SIZING (OR JURISDICTION HAVING AUTHORITY)
7. MOUNT AIR CONDITIONING UNIT CENTERED ABOVE DOOR. REFER TO PLUMBING PAGES FOR CONDENSATE ROUTING.
8. PROVIDE W/ MOTORIZED DAMPER W/ OPEN/CLOSE OPERATION. DAMPER TO BE ACTUATED TO MAX ONLY WHEN COMPRESSOR OR HEATER IS ENERGIZED & ACTUATED TO THE CLOSED POSITION @ ALL OTHER TIMES. PROVIDE W/ ADDITIONAL MANUAL BALANCING DAMPER TO BALANCE CFM AMOUNTS OF OUTSIDE AIR. MECHANICAL CONTRACTOR TO PROVIDE W/ ANY ELECTRICAL HARDWARE TO POWER DAMPER.
9. SUSPEND VIA 1/4" ALL THREAD ROD AND PROVIDE WITH SPRING VIBRATION ISOLATORS IN RUBBER SPRING CUPS.
10. SUPPPLY AIR/RETURN AIR DUCT DROP DOWN TO FIRST FLOOR MEZZANINE.
11. PROVIDE W/ REFRIGERANT LINE WALL PENETRATION HOUSING/PANEL EQUAL TO "WALL VAULT" MADE BY "ROOF PENETRAITION HOUSINGS, LLC". WALL PANEL TO BE SIZED TO ACCOMMODATED REFRIGERANT LINES & CONDUIT, COORDINATE W/ ELECTRICAL. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE TITLED WITH LOCK-TYPE TAMPER-RESISTANT CAPS OR SHALL BE OTHERWISE SCORED TO PREVENT UNAUTHORIZED ACCESS.
12. HVLS FAN CONTROL PANEL TO BE MOUNTED AT THIS LOCATION, 48" A.F.F.
13. EXHAUST DUCT TO EXTEND 12" BELOW ROOF DECK. PROVIDE W/ $\frac{3}{4}$"X$\frac{3}{4}$" EXPANDED WIRE MESH OVER DUCT OPENING.
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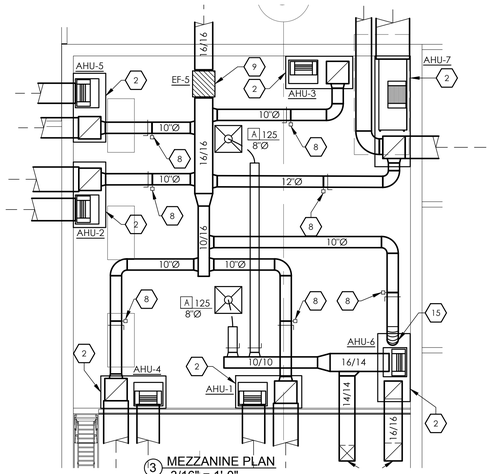
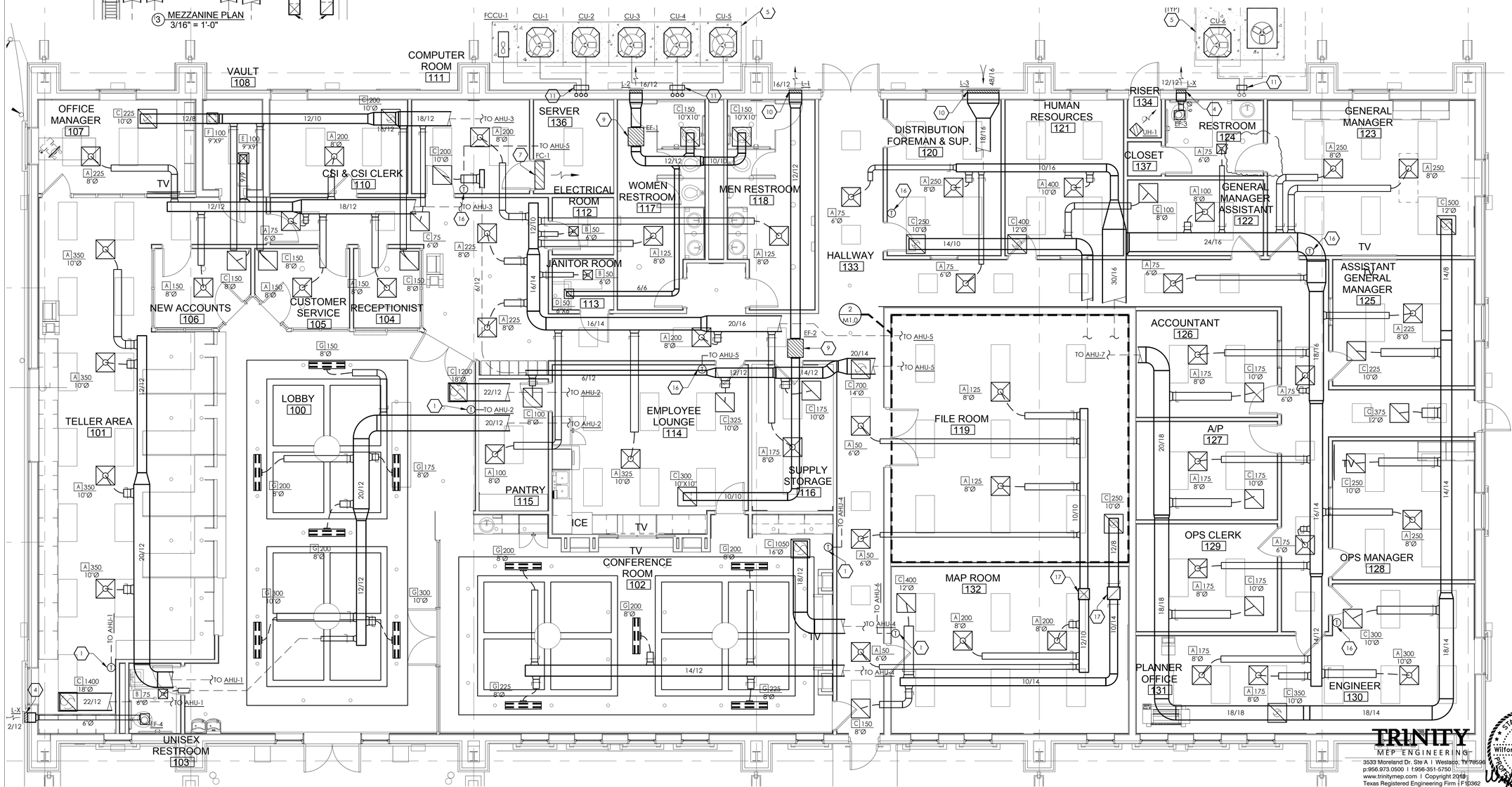


3 MEZZANINE PLAN
3/16" = 1'-0"



1 FLOOR PLAN
3/16" = 1'-0"

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10/18/18
STATE OF TEXAS
Wilford L. McGee III
121939
PROFESSIONAL ENGINEER

MILNET ARCHITECTURAL SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

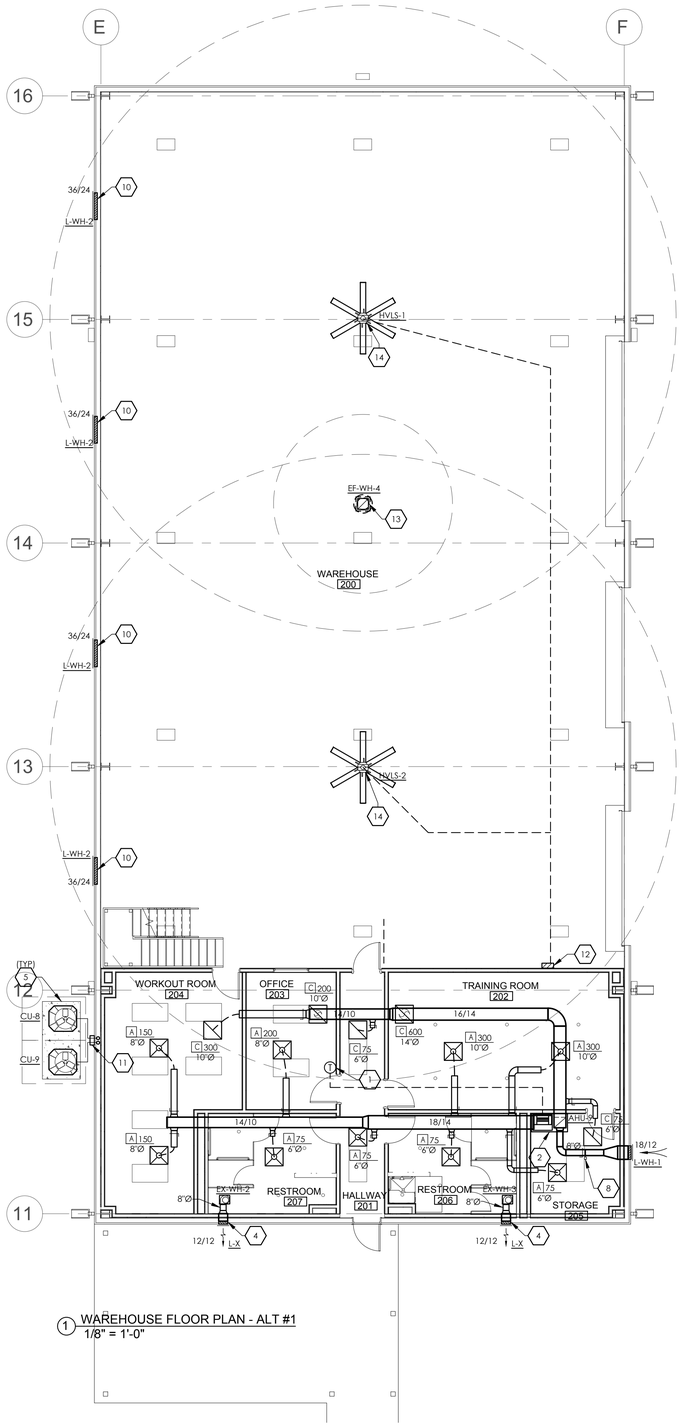
SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

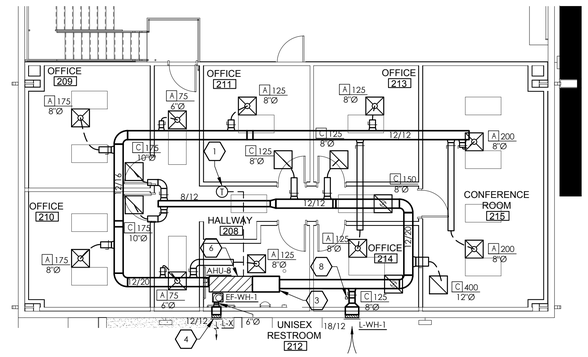
DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
M1.0



1 WAREHOUSE FLOOR PLAN - ALT #1
1/8" = 1'-0"



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AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
M1.1

GENERAL NOTES - MECHANICAL:

(1) THE MECHANICAL CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING THE WORK IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES UNDER THIS SECTION OF THE CONTRACT. IF THE CONTRACTOR DETERMINES THAT THE CONTRACT DOCUMENTS AND PLANS ARE NOT IN COMPLIANCE WITH THE APPLICABLE LOCAL CODES, HE/SHE SHALL INFORM THE ARCHITECT PRIOR TO CONSTRUCTION START FOR DIRECTION. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO MEET APPLICABLE LOCAL CODES, AND RE-WORK SHALL BE AT CONTRACTOR'S EXPENSE.

(2) CONTRACTOR SHALL HANG AND INSTALL ALL DUCTWORK FLUSH WITH THE BUILDING STRUCTURE TO ACCOMMODATE NEW CEILINGS. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WORK WITH ARCHITECTURAL AND ELECTRICAL DESIGN. ALL DUCTWORK SHALL BE MODIFIED AS NECESSARY AND REQUIRED TO FIT AROUND BUILDING STRUCTURES, ARCHITECTURAL BUILD-OUT AND ELECTRICAL CABLE TRAY INSTALLATIONS. MECHANICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK SCOPE OF OTHER TRADES AND PARTICIPATE IN COORDINATING ALL CONSTRUCTION EFFORTS.

(3) CONNECT EACH DIFFUSER TO THE MAIN DISTRIBUTION DUCTS WITH A FLEX-DUCT SECTION; CONNECTIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE DETAIL. EACH FLEX-DUCT CONNECTION SHALL INCLUDE A BUTTERFLY DAMPER TO BE INSTALLED AT THE TRUNK DUCT.

(4) CONTRACTOR SHALL PROVIDE ALL DUCTWORK REQUIRED TO COMPLETE THE HVAC SYSTEM, TIE IN BRANCH DUCTS TO MAIN DUCTS WITH SHEET METAL FLANGES. FLANGE CONNECTION SHALL BE FASTENED WITH CRIMPED SHEET METAL STRIPS AND SEALED WITH SILICONE CAULK.

(5) CONTRACTOR SHALL SUPPLY AND INSTALL FIRE DAMPERS AND ACCESS DOORS IN THE HORIZONTAL DUCTS WHERE THEY PENETRATE FIRE WALLS & BARRIERS.

(6) ALL OPENINGS CUT IN MASONRY AND PLASTER WALLS OR CONCRETE FLOORS SHALL BE CORE DRILLED OR SAWED WHEN POSSIBLE. CONTRACTOR SHALL CHECK BUILDING CONSTRUCTION BEFORE MAKING PENETRATIONS TO AVOID CUTTING THROUGH STRUCTURAL BEAMS AND REINFORCING. CONTRACTOR SHALL INFORM THE ENGINEER IF REINFORCING IS CUT OR DAMAGED WHILE MAKING OPENINGS. CONTRACTOR SHALL REINFORCE ALL OPENINGS AS REQUIRED BY DRAWINGS AND SPECIFICATIONS. PATCH AND SEAL OPENINGS WITH 8000 PSI CEMENT GROUT. INSTALL DECORATIVE TRIM (EQUIPMENT FLANGES, FRAMING OR ESCUTCHEONS) AROUND OPENINGS IN FINISHED AREAS. COORDINATE ALL CUTTING AND PATCHING WITH THE OTHER TRADES

(7) ON ANY WORK SHOWN ON MECHANICAL DRAWINGS REQUIRING DEMOLITION OF EXISTING OR NEW BUILDING STRUCTURES AND FINISHES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE NECESSARY DEMOLITION. CONTRACTOR SHALL PATCH AND REPAIR ALL DEMOLITION WORK. PATCHING SHALL BE COMPLETED WITH THE SAME MATERIALS AS THE SURROUNDING AREAS, OR WITH ARCHITECT-APPROVED PATCHING MATERIALS. REPAIRS SHALL BE COMPLETED ACCORDING TO ARCHITECTURAL SPECIFICATIONS. ALL REFINISHING SHALL BE APPROVED BY THE ARCHITECT.

(8) CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE INSTALLATION OF THE AIR DISTRIBUTION SYSTEM SHOWN. DUCTWORK, DUCT ACCESSORIES AND CONTROLS SHOWN AND REQUIRED SHALL BE SUPPLIED AND INSTALLED. ALL INSTALLATION WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES, INCLUDING NFPA 90A AND 90B.(NFPA 90A: STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS)(NFPA 90B: STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS)

(9) CONTRACTOR SHALL BALANCE ALL AIR DISTRIBUTION SYSTEMS TO ACHIEVE THE AIR VOLUME REQUIREMENTS INDICATED. BALANCING SHALL INCLUDE ADJUSTMENT OF ALL MANUAL VOLUME DAMPERS, SPUTTER DAMPERS, ZONE DAMPERS (IF REQUIRED), BUTTERFLY DAMPERS AND INDIVIDUAL DIFFUSER VOLUME DAMPERS (FINAL BALANCING ONLY). CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A COMPLETE BALANCING REPORT WHICH INCLUDES, VOLUME, ROOM REFERENCE AND ZONE VOLUME TOTALS.

(10) MOUNT ALL THERMOSTATS (SENSORS) 48" ABOVE THE FINISHED FLOOR LEVEL. THERMOSTATS SHOWN SHALL BE IN CONTROL OF THE ZONE SYSTEM WHICH IS SUPPLYING AIR TO THE AREA WHERE THE THERMOSTAT IS LOCATED. CONTRACTOR SHALL SUPPLY AND INSTALL ALL CONTROL VOLTAGE WIRING AND CONDUIT FOR THERMOSTAT (DDC CONTROL) INSTALLATION.

(11) CONTRACTOR SHALL INSTALL NEW REFRIGERANT PIPING FLUSH WITH THE BUILDING STRUCTURE AND MECHANICAL ROOM BOUNDARIES AS SHOWN. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WORK WITH DUCTS AND ELECTRICAL CONDUIT. MECHANICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK SCOPE OF OTHER TRADES AND PARTICIPATE IN COORDINATING ALL CONSTRUCTION EFFORTS.

(12) ALL PIPING SHALL BE INSULATED AND JACKETED. REFER TO THE SPECIFICATIONS. THE CONDENSING AND ROOF TOP CONDENSER COILS ARE TO BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.

(13) PROVIDE SMOKE DETECTOR AND SHUTDOWN CONTROLS ON AIR HANDLERS AND SUPPLY FANS. SMOKE DETECTORS SHALL BE PROVIDED BY ELECTRICAL AND INSTALLED BY MECHANICAL. COORDINATE TO PROVIDE A COMPLETE SYSTEM. PROVIDE BOTH SUPPLY AND RETURN SIDE DEVICES.

(14) PROVIDE SEVEN DAY PROGRAMMABLE THERMOSTAT, 24 HOUR SINGLE/MULTI STAGE COMMERCIAL THERMOSTAT. DUAL SET POINTS, OCCUPIED AND UNOCCUPIED PERIODS, UNIT OPTIMIZATION, AUTO HEATING/COOLING AND AUTO CHANGE OVER. SUB-BASE BACK-UP BATTERY AND TEMPORARY OVER-RIDE. 24 VAC CONTROL VOLTAGE. PROVIDE PLASTIC SEE THRU PROTECTIVE COVER WITH KEY LOCK.

(15) **FILTER INSTALLATION AND REPLACEMENT**

A. INSTALL CONSTRUCTION RETURN FILTER AT EACH RETURN GRILLE BEFORE OPERATING PERMANENT AIR HANDLERS DURING CONSTRUCTION.

B. REPLACE FILTERS AFTER COMPLETING CONSTRUCTION AND BEFORE CONDUCTING BUILDING FLUSH-OUT.

1. REPLACE CONSTRUCTION RETURN FILTERS WITH FLUSH-OUT RETURN FILTERS.
2. REPLACE SUPPLY FILTERS.

MECHANICAL SYMBOL LEGEND

CFM; TAG A; NECK SIZE 10 Ø(D); 325(2) QUANTITY; OPPOSED BLACE DAMPER	
CONICAL DUCT SPIN TAP; FLEXIBLE DUCT; ROUND SHEET-METAL DUCT; BALANCING DAMPER	
B2 M1107	DETAIL NUMBER; SHEET NUMBER
	PERFORATED INNER METAL LINER, WHERE INDICATED (DOUBLE WALL); HIDDEN DUCT (FOR CLARITY)
	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE-SLOT DIFFUSER
	RETURN AIR GRILLE ALL RETURN AIR DUCT DROPS TO INCLUDE A MANUAL DAMPER
T S O	THERMOSTAT TEMPERATURE SENSOR TEMPERATURE OVERRIDE SENSOR/SWITCH
FD FSD	FIRE DAMPER W/ ACCESSIBLE DUCT ACCESS DOOR FIRE/SMOKE DAMPER W/ ACCESSIBLE DUCT ACCESS DOOR
F	FLOW DIRECTION
	PIPE DROP
	PIPE RISE
	RETURN AIR DUCT RISE/DROP
	SUPPLY AIR DUCT RISE/DROP
	WALL OR FLOOR SLEEVE
	CHILLED WATER SUPPLY/RETURN PIPING
SQUARE ROUND	SQUARE TO ROUND DUCT TRANSITION

MECHANICAL ABBREVIATIONS

A/C	AIR CONDITIONED	MAX	MAXIMUM
AD	ACCESS DOOR	MBD	MANUAL BALANCING DAMPER
AFF	ABOVE FINISHED FLOOR	MD	MOTORIZED DAMPER
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
APPROX	APPROXIMATE	MIN	MINIMUM
ARCH	ARCHITECTURAL	MS	MOTOR STARTER
BDD	BACK DRAFT DAMPER	NA	NOT APPLICABLE
BHP	BRAKE HORSEPOWER	NC	NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO	NORMALLY OPEN
CH	CHILLER	NTS	NOT TO SCALE
CHP	CHILLED WATER PUMP		
CLG	CEILING	OA	OUTSIDE AIR
CWP	CONDENSER WATER PUMP	OAH	OUTSIDE AIR INTAKE HOOD
CO	CLEANOUT	OBD	OPPOSED BLADE DAMPER
CT	COOLING TOWER	OC	ON CENTER
CU	CONDENSING UNIT		
CW	COLD WATER	P	PUMP
CL	CENTER LINE	PBD	PARALLEL BLADE DAMPER
		PP	PRIMARY CHILLED WATER PUMP
DB	DRY BULB	PRESS	PRESSURE
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE
DN	DOWN	PSIG	POUNDS PER SQUARE INCH (GAUGE)
DWG	DRAWING		
DX	DIRECT EXPANSION	R	RETURN (AIR DEVICE)
EAT	ENTERING AIR TEMPERATURE	RA	RETURN AIR
EDH	ELECTRIC DUCT HEATER	RE: 4M7.01	REFER TO DETAIL 4, SHEET M7.01
EF	EXHAUST FAN	RET	RETURN
ELEC	ELECTRICAL	RH	RELATIVE HUMIDITY
ELEV	ELEVATION	RHD	RELIEF HOOD
		RPM	REVOLUTIONS PER MINUTE
F	DEGREES FAHRENHEIT	RTU	ROOF TOP UNIT
FC	FAN COIL		
FD	FIRE DAMPER W/ DUCT ACCESS DOOR		
FLEX	FLEXIBLE	S	SUPPLY (AIR DEVICE)
FLG	FLANGE	SA	SUPPLY AIR
FLR	FLOOR	SCH	SCHEDULE
FPM	FEET PER MINUTE	SCHP	SECONDARY CHILLED WATER PUMP
FT	FEET, FOOT	SD	SMOKE DAMPER
FS	FLOW SWITCH	SEC	SECOND
		SF	SUPPLY FAN
GAL	GALLON	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
GALV	GALVANIZED		
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
		SPEC	SPECIFICATION
HB	HOSE BIBB	SF	SQUARE FOOT
HP	HORSEPOWER	STD	STANDARD
HR	HEAT PUMP (WATER SOURCE)		
HR	HOUR	TEMP	TEMPERATURE
HVAC	HEATING/VENTILATING/ AIR CONDITIONING	TSTAT	THERMOSTAT
		TYP	TYPICAL
HWP	HOT WATER PUMP		
HZ	HERTZ	UF	UNDER FLOOR
		UH	UNIT HEATER
ID	INSIDE DIAMETER	UL	UNDERWRITERS LABORATORIES
IE	INVERT ELEVATION (FLOW LINE)		
IN	INCHES	VEL	VELOCITY
INSUL	INSULATION	VENT	VENTILATE
IN WG	INCHES OF WATER	VF	VENTILATION FAN
		VOL	VOLUME
KW	KILOWATT(S)	VOLT	VOLTAGE
		W	WIDE, WIDTH
LAT	LEAVING AIR TEMPERATURE	W/	WITH
LB	POUND	WB	WET BULB
L	LOUVER	W/O	WITHOUT

H.V.A.C. SYSTEM SECTION 15500

THE WORK INCLUDES PROVIDING THE HVAC SYSTEMS, INCLUDING DUCTWORK, DIFFUSERS AND GRILLES, INSULATION, CONTROLS, AND ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM. HVAC SYSTEM SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:

- HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) UNITS.
- SUPPLY AND RETURN DUCTWORK SYSTEMS WITH GRILLES, DIFFUSERS, FILTERS, AND DAMPERS.
- TEMPERATURE CONTROL SYSTEM INCLUDING LOW VOLTAGE WIRING AND CONDUIT.
- DUCT, PIPING, AND EQUIPMENT INSULATION, WHERE INDICATED HEREIN.
- CONTROLS AND WIRING FOR CONNECTION TO LANDLORD'S FIRE-SMOKE ALARM SYSTEM (WHERE APPLICABLE).

THE CONTRACTOR SHALL COORDINATE ALL NEW DUCTWORK INCLUDING DUCTWORK INSULATION AND REINFORCING WITH EXISTING DUCTWORK AND DUCTWORK ANGLE BRACING SUCH THAT THE NEW DUCTWORK WILL FIT WITHIN THE SPACE LIMITATIONS OF THE PROJECT.

CONDENSATE PIPING: CONDENSATE PIPING SHALL BE A MINIMUM OF 3/4" COPPER TYPE "L" PIPE. ALL CONDENSATE DRAINS SHALL BE INSULATED WITH 1/2" THICK CLOSED CELL INSULATION SIMILAR TO ARMAFLEX 2000.

THE DESIGN, SELECTION, SPACING AND APPLICATION OF HORIZONTAL PIPE HANGERS, SUPPORTS, RESTRAINTS, ANCHORS AND GUIDES SHALL BE IN ACCORDANCE WITH THE STANDARD CODE FOR PRESSURE PIPING ANSI B31.1 AND THE LATEST EDITION OF THE MANUFACTURERS' STANDARDIZATION SOCIETY STANDARDS MSS SP- 69, "PIPE HANGERS AND SUPPORTS--SELECTION AND APPLICATION".

PROVIDE PIPE COVERING PROTECTION SHIELDS AND SADDLES FOR ALL INSULATED PIPING AT THE LOCATIONS OF ALL SUPPORTS. THE PROTECTION SHIELD LENGTH AND GAUGE THICKNESS FOR USE AT EACH CLEVIS HANGER SHALL BE AS SPECIFIED FOR TYPE 40 PROTECTION SHIELDS IN THE CURRENT EDITION OF MSS SP-69. PROTECTION SHIELDS SHALL BE GALVANIZED AND SHALL BE ARRANGED TO COVER ONE-HALF OF THE CIRCUMFERENCE OF THE INSULATION AND SHALL BE MOUNTED ON THE OUTSIDE OF THE INSULATION WITH INSULATION BLOCKING BETWEEN THE PIPE AND SADDLE TO PREVENT CRUSHING OF THE INSULATION. INSULATION BLOCKING SHALL BE UPJOHN 2 POUND HIGH DENSITY MOLDED URETHANE OR SEGMENTED MACHINERY CORK DIPPED IN HOT ASPHALT VAPOR SEAL OF NOT LESS THAN THE SAME LENGTH AND CIRCUMFERENCE AS THE PIPE PROTECTION SHIELD.

ALL HANGERS, HARDWARE, RODS, CLAMPS, CHANNELS, BASE PLATES, ANGLES, BOLTS, NUTS AND OTHER FACTORY-BUILT OR SHOP FABRICATED PIPE SUPPORT DEVICES SHALL BE GALVANIZED OR CADMIUM PLATED UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL SHOP FABRICATED AND WELDED STEEL SUPPORTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

ALL CONCRETE INSERTS FOR HANGER RODS SHALL BE NATIONAL PIPE HANGERS CORPORATION FIGURE 606 WITH FIGURE 607, OR GRINNELL FIGURE 282, FIGURE 152, OR APPROVED EQUAL. METAL DECK CONCRETE INSERT SHALL BE F & S MANUFACTURING CORPORATION FIGURE 282, GALVANIZED FABRICATED STEEL METAL DECK CEILING BOLT, PHILLIPS RED HEAD, OR APPROVED EQUAL. HANGER RODS, INSERTS, ETC., SHALL BE SIZED AND INSTALLED AS RECOMMENDED BY THE HANGER MANUFACTURER FOR THE SERVICE INTENDED.

FIELD VERIFY THE EXACT SIZES AND LOCATIONS OF ALL EXISTING DUCTWORK AND PIPING PRIOR TO DEMOLITION OF ANY EXISTING WORK. THE DEMOLITION WORK SHALL BE COORDINATED WITH THE NEW WORK TO ASSURE PROPER LIMITS OF DEMOLITION.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS, AS REQUIRED. PROVIDE ALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE SYSTEM FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. THE WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES OR ORDINANCES AND SUBJECT TO INSPECTION.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE LANDLORD, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

EXTRA STOCK: PROVIDE TWO SETS OF REPLACEMENT FILTERS PER EACH INSTALLED FOR ALL THE ROOFTOP UNITS, AND OTHER EQUIPMENT AND DEVICES, AND PROVIDE AN ITEMIZED LIST OF THE NUMBER, TYPE REQUIRED, AND WHERE USED. OBTAIN RECEIPT FROM OWNER THAT THESE ITEMS HAVE BEEN DELIVERED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.

DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON DRAWING ARE SHEET METAL DIMENSIONS ON UNLINED DUCTS (INTERIOR DIMENSIONS).

SHEET METAL DUCTWORK: SHEET METAL DUCTWORK SHALL BE FABRICATED AND INSTALLED TO MEET ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS. SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, ASTM A-525. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL ELBOWS OR OFFSETS EXCEEDING 30°.

DUCT SHALL BE EXTERNALLY WRAPPED W/ 2" FIBERGLASS BLANKET INSULATION.

RIGID ROUND GALVANIZED DUCT SHALL BE SPIRAL OR SNAP LOCK GALVANIZED SHEETMETAL COMPLYING WITH SMACNA.

FIBERGLASS DUCT BOARD IS AN ACCEPTABLE W/ PRIOR WRITTEN OWNER PERMISSION. MINIMUM R-VALUE OF 5 REQUIRED FOR CONDITIONED SPACES AND MINIMUM R-VALUE OF 8 FOR UNCONDITIONED SPACES.

FLEXIBLE DUCT CONNECTOR: WHERE INDICATED PROVIDE U.L. LABELED 30oz. NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS.

GRILLES AND DIFFUSERS: PROVIDE GRILLES, DIFFUSERS, AND DAMPERS IN SIZES, CAPACITIES, MATERIALS, AND PATTERN INDICATED ON THE DRAWINGS.

ACCESS PANELS: PROVIDE HINGED ACCESS PANELS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS IN INSULATED DUCTWORK.

PROVIDE WHERE APPLICABLE, DUCT MOUNTED SUPPLY AND/OR RETURN AIR PHOTOELECTRIC TYPE UL LISTED SMOKE DETECTORS. DETECTORS SHALL BE LISTED FOR THE AIR VELOCITIES ENCOUNTERED. PROVIDE INTERLOCK WIRING AND RELAYS FOR UNIT SHUT DOWN. ON ACTIVATION OF ANY DETECTOR, ALL HVAC UNIT FANS SHALL STOP.

TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER BALANCE AND OPERATION. TEST AND BALANCE SHALL BE PERFORMED BY AN INDEPENDENT NEBB OR AABC REGISTERED CONTRACTOR. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURE, AND OPERATION. BALANCE MECHANICAL SYSTEM, AND SUBMIT COMPLETED TEST

EXPOSED ROUND (SPIRAL) DUCT TO BE INTERNALLY LINED. SUPPLY DUCTWORK SHALL BE LINED W/1" INSULATION. RETURN/EXHUAST/VENTILATION DUCT TO BE LINED W/1/2" INSULATION. CONCEALED ROUND DUCT TO BE EXTERNALLY INSULATED. USING R-5 INSULATION MIN FOR CONDITIONED SPACES (WHERE PLENUM RETURN IS USED) OR R-8 INSULATION MIN FOR UNCONDITIONED SPACES.

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Project number: 18.2.17

10/18/18
STATE OF TEXAS
Wilford L. McGee III
121939

MILNET
ARCHITECTURAL
SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

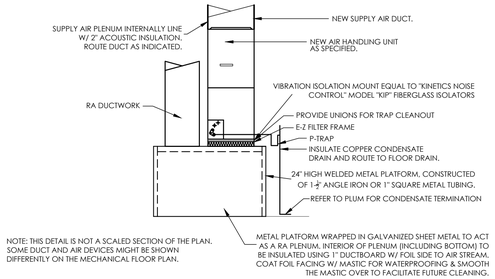
PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
M2.1

01



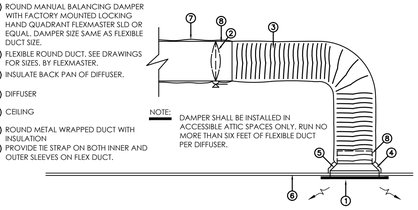
AIR HANDLING UNIT CONFIGURATION

NOT TO SCALE

02

1. CEILING DIFFUSER
2. ROUND MANUAL BALANCING DAMPER WITH FACTORY MOUNTED LOCKING HAND QUADRANT FLEXMASTER SLD OR EQUAL. DAMPER SIZE SAME AS FLEXIBLE DUCT SIZE.
3. FLEXIBLE ROUND DUCT. SEE DRAWINGS FOR SIZES. BY FLEXMASTER.
4. INSULATE BACK PAN OF DIFFUSER.
5. DIFFUSER
6. CEILING
7. ROUND METAL WRAPPED DUCT WITH INSULATION
8. PROVIDE TIE STRAP ON BOTH INNER AND OUTER SLEEVES ON FLEX DUCT.

NOTE: DAMPER SHALL BE INSTALLED IN ACCESSIBLE ATTIC SPACES ONLY. RUN NO MORE THAN SIX FEET OF FLEXIBLE DUCT PER DIFFUSER.



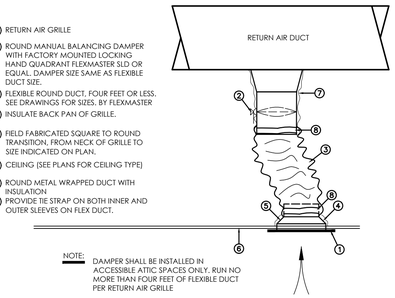
DIFFUSER RUN OUT DETAIL

NO SCALE

03

1. RETURN AIR GRILLE
2. ROUND MANUAL BALANCING DAMPER WITH FACTORY MOUNTED LOCKING HAND QUADRANT FLEXMASTER SLD OR EQUAL. DAMPER SIZE SAME AS FLEXIBLE DUCT SIZE.
3. FLEXIBLE ROUND DUCT. FOUR FEET OR LESS. SEE DRAWINGS FOR SIZES. BY FLEXMASTER
4. INSULATE BACK PAN OF GRILLE.
5. FIELD FABRICATED SQUARE TO ROUND TRANSITION. FROM NECK OF GRILLE TO SIZE INDICATED ON PLAN.
6. CEILING [SEE PLANS FOR CEILING TYPE]
7. ROUND METAL WRAPPED DUCT WITH INSULATION
8. PROVIDE TIE STRAP ON BOTH INNER AND OUTER SLEEVES ON FLEX DUCT.

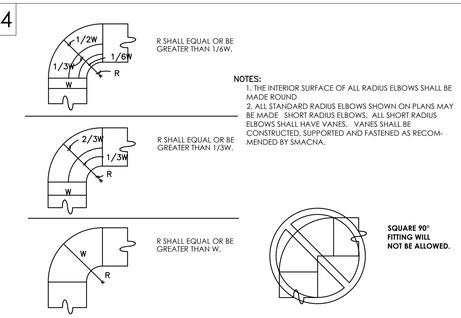
NOTE: DAMPER SHALL BE INSTALLED IN ACCESSIBLE ATTIC SPACES ONLY. RUN NO MORE THAN FOUR FEET OF FLEXIBLE DUCT PER RETURN AIR GRILLE



RETURN AIR GRILLE ATTACHMENT DETAIL

NO SCALE

04



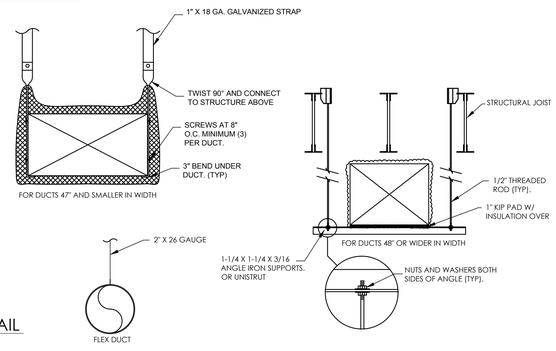
NOTES:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND
2. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

RADIUS DUCT ELBOW DETAIL

NO SCALE

05

DUCT SUPPORT:
1. HANGER ATTACHMENTS TO STRUCTURE: SEE DIVISION 23 SECTION "HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT:. MINIMUM ROD OR BOLT SIZE IS ⅜ (9MM).
2. SUSPEND HORIZONTAL GALVANIZED RECTANGULAR DUCTWORK 47" (1220MM) OR LESS IN LARGEST DIMENSION FROM CONSTRUCTION BY 1 INCH BY 18 GAUGE (25MM X 1.3MM) GALVANIZED STRAP HANGERS SCREWED 8 INCHES (200MM) O.C. TO DUCTS. USE THREE (3) SCREWS MINIMUM PER STRAP. BEND STRAP UNDER DUCT AND SCREW INTO BOTTOM OF DUCT.
3. SUSPEND HORIZONTAL RECTANGULAR STAINLESS STEEL AND COATED DUCTWORK 48" (1220MM) OR LESS IN LARGEST DIMENSION FROM CONSTRUCTION BY 1 INCH BY 18 GAUGE (25MM BY 1.3MM) GALVANIZED STEEL STRAP HANGERS BOLTED TO MATING FLANGES AT MINIMUM OF THREE LOCATIONS. (TOP,MIDDLE,BOTTOM).
4. DUCTS OVER 48" (1220MM) IN LARGEST DIMENSION SUPPORT FROM UNISTRUT, SUPERSTRUT, OR EQUAL, TRAPEZE HANGERS SIZED FOR THE LOAD, PER SMACNA STANDARDS.
5. SUPPORT ROUND STEEL DUCTWORK FROM CONSTRUCTION BY 1 INCH BY 18 GUAGE (25MM BY 1.3MM) GALVANIZED STRAP HANGERS WITH INSIDE RADIUS OF LOOP HANGER EQUAL TO OUTSIDE RADIUS OF DUCT. FOR DUCTS UNDER 12" DIAMETER, PROVIDE SUPPORTS 10 FEET (3CM) O.C; 12 FEET (3.6M) AND OVER, 6 FEET (1.8M) O.C. PROVIDE NOT LESS THAN ONE HANGER PER BRANCH AND AT EACH CHANGE OF DIRECTION.
6. SUPPORT ROUND FLEXIBLE DUCTWORK FROM CONSTRUCTION BY 2 INCHES BY 26 GAUGE (50 MM BY 0.55MM) GALVANIZED STRAP HANGERS WITH INSIDE RADIUS OF LOOP HANGER EQUAL TO OUTSIDE RADIUS OF DUCT. LOCATE SUPPORTS TO AVOID KINKS AND SHARP BENDS.
7. DOUBLE FOLD STRAPS AT ATTACHMENTS TO STRUCTURE.
8. SPACE HANGERS NOT OVER 96 INCHES (2440MM) ON CENTER FOR DUCTS SMALLER THAN 18 INCHES (457MM) IN LARGEST DIMENSION; 60 INCHES (1524MM) O.C. FOR DUCTS 18 INCHES (457MM) AND OVER.

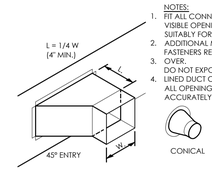


DUCT HANGER DETAIL

NO SCALE

06

NOTES:
1. FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS & SECURE SUITABLY FOR THE PRESSURE CLASS.
2. ADDITIONAL MECHANICAL FASTENERS REQ'D. FOR 4" W.G. & OVER.
3. DO NOT EXPOSE LINER EDGES ON LINED DUCT CONNECTIONS. ALL OPENINGS TO BE CUT ACCURATELY IN SHAPE & SIZE.



BRANCH CONN. DETAIL

NO SCALE

AIR BALANCE SCHEDULE

WAREHOUSE OFFICE			
MARK	O.A. CFM IN (+)	E.A. CFM OUT (-)	CFM BALANCE
AHU-8	250		
AHU-9	250		
EF-WH1		-100	
EF-WH2		-150	
EF-WH3		-150	
TOTAL=	500	-400	100

AIR HANDLING UNIT SCHEDULE

TAG	AHU-1,2,8,9	AHU-3,4,6	AHU-5	AHU-7
TYPE	SNGL ZN VAV	SNGL ZN VAV	SNGL ZN VAV	TRUE VAV
FLOW CONFIGURATION	VERTICAL	VERTICAL	VERTICAL	VERTICAL
AREA SERVED	TLLR,LBBY,WRHS	OFF,CONF,FILE	LNG/RRs	OFFICES
INDOOR UNIT FAN				
SUPPLY CFM	1400	1050	1800	3200
MIN. OUTSIDE AIR (CFM)	250	200	200	300
EXT. STATIC INCHES WC	0.5	0.5	0.5	0.625
MIN FAN POWER	3/4 HP - ECM	1/2 HP - ECM	1.0 HP	2.0 HP - VFD
INDOOR UNIT COOLING COIL				
ENTERING AIR DB/WB (°F)	78.5/65.3	78.9/65.5	76.4/63.7	75.9/63.3
LEAVING AIR DB/WB (°F)	56/54.6	56.8/55	55.7/53.6	55.49/54.25
MIN. TOTAL/SENSIBLE CAPACITY (MBH)	43.8/33.6	32.6/24.7	52/39.8	87.8/74.5
DESIGN RETURN AIR DB/WB (°F)	73/61	73/61	73/61	73/61
DESIGN OUTSIDE AIR DB/WB (°F)	104/81	104/81	104/81	104/81
INDOOR UNIT HEATING SELECTION				
HEATER TYPE/AMBIENT DESIGN DB (°F)	ELEC/33	ELEC/33	ELEC/33	ELEC/33
HEAT INPUT/STAGES	10.8 KW/1	7.2 KW/1	10.8 KW/1	18.72 KW/2
ENTERING/LEAVING DB (°F)	65/90	63/85	66/85	68/87
DETAILS AND ACCESSORIES				
VOLTAGE/PHASE	208/1	208/1	208/1	208/3
MCA/MOCP	73/80	48/50	75/80	72/80
MANUFACTURER	TRANE	TRANE	TRANE	TRANE
MODEL	GAM580C48	GAM580836	GAM580C60	TWE090
NOMINAL UNIT SIZE TONNAGE	4.0 TONS	3.0 TONS	5.0 TONS	7.5 TONS
MAX WEIGHT (lbs)	175 LBS	150 LBS	200 lbs	375 LBS
NOTES	2-4	2-4	2-4	2,3,5

CONDENSING UNIT SCHEDULE

TAG	CU-1,2,8,9	CU-3,4,6	CU-5	CU-7
OUTDOOR UNIT ELECTRICAL				
VOLTAGE/PHASE	208/1	208/1	208/1	208/3
MCA/MOCP	28/45	24/35	41/60	36/50
DETAILS AND ACCESSORIES				
MIN COOL/HEAT EFFICIENCY	17 SEER/-	17 SEER/-	17 SEER/-	11.2 EER/-
COMPRESSOR QTY/STAGE QTY	1/2	1/2	1/2	2/2
COOL/HEAT AMBIENT DB (°F)	104/33	104/33	104/33	104/33
MANUFACTURER	TRANE	TRANE	TRANE	TRANE
MODEL	4TTR7048	4TTR7036	4TTR7060	TTA090
NOMINAL UNIT SIZE TONNAGE	4.0 TONS	3.0 TONS	5.0 TONS	7.5 TONS
MAX WEIGHT	325 lbs	300 lbs	325 lbs	400 lbs
NOTES	1-4	1-4	1-4	1-3,5

NOTES:
01. PROVIDE CONDENSER W/ FACTORY HAIL GUARDS & RUBBER ISOLATOR MOUNTING KIT.
02. PROVIDE W/ SINGLE POINT PWR; TRANE, CARRIER, LENNOX, ACCEPTABLE MFGs.
03. CLEARANCES SHOWN ON PLANS ARE FOR SCHEDULED MAKE/MODEL. IF A SUBSTITUTION IS MADE, CONTRACTOR TO ASSUME RESPONSIBILITY FOR PROVIDING CLEARANCES AS PER SELECTED MANUFACTURER.
04. PROVIDE W/ SINGLE ZONE VAV CONTROL.
05. PROVIDE W/ TRUE VAV CONTROL VIA VFD & APR RAWAL VALVES ON ALL REFRIGERANT CIRCUITS. VAV TO BE BASED ON COOLING/HEATING SETPOINT & SHALL MODULATE LINEARLY TO MAINTAIN SETPOINT.

DX MINI-SPLIT SCHEDULE

INDOOR UNIT TAG	FC-1
SERVES	IT ROOM
LOCATION	WALL
UNIT TYPE	COOLING ONLY
FAN PROPERTIES	
MIN SUPPLY (CFM)	700
MINIMUM O/A (CFM)	0
UNIT CAPACITIES	
ENTERING AIR (DB/WB)	74/62
TOTAL CAPACITY (BTUH	18,000
HEATING CAPACITY (BTUH)	0
UNIT DETAILS	
VOLTAGE/PHASE	208/1
MANUFACTURER	DAIKIN
MODEL NO.	FTKN18
MAX WEIGHT (LBS)	25
CONDENSING UNIT TAG	**FCCU-1**
DETAILS	
VOLTAGE/PHASE	208/1
MCA/MOCP	19/20
AMB. AIR TEMP. (CLG°F/HTG°F)	100/33
REFRIGERANT	R-410A
COOLING MODE OPER. RANGE	15°F - 110°F
HEATING MODE OPER. RANGE	N/A
MANUFACTURER	DAIKIN
MODEL NO.	RKN18
MAX WEIGHT (LBS)	100
MIN COOL/HEAT EFFICIENCY	18 SEER/-
MIN EQUIV. LINE LENGTH (FT)	95
MIN VERTICAL RISE (FT)	65
CONTROL TYPE	WL-RC
NOTES	ALL

NOTES:
01. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT & WIRE TO INDOOR UNIT.
02. WIRELESS REMOTE CONTROLLER.
03. PROVIDE INDOOR UNITS WITH MOUNTING BRACKETS IF REQUIRED.
04. SEE PLUMBING FOR CONDENSATE ROUTING.
05. CONTRACTOR TO PROVIDE CONCRETE PAD TO ANCHOR CONDENSER TO.
06. CONTRACTOR TO PROVIDE LINE SETS.
07. SIGHT GLASSES, FILTER DRYERS, & FIELD SUPPLIED EXPANSION VALVES ARE NOT TO BE USED ON THIS EQUIPMENT.
08. INSTALL PER MANUFACTURERS INSTRUCTIONS & PIPING RECOMMENDATIONS.
09. PROVIDE W/ OPTIONS/ACCESSORIES REQ. FOR LOW AMBIENT COOLING.

HVLS FAN SCHEDULE

TAG	HVLS-1,2
SERVICE	WAREHOUSE
LOCATION	STRUCTURE
DETAILS & ACCESSORIES	
FAN DIAMETER	8 FT
BLADE COUNT	6
MAX FAN RPM	220 RPM
FAN POWER	1.0 HP
VOLTS/PHASE	208/1
MCA/MOCP	5/15
MAX SOUND LEVEL	61 db
FAN WEIGHT	150 LBS
MANUFACTURER	MACRO-AIR
MODEL	AVD 550
NOTES	ALL NOTES APPLY

NOTES:
01. VERIFY EXTENSION TUBE LENGTH & MOUNTING BRACKET WITH MANUFACTURER PRIOR TO ORDERING. I-BEAM MOUNTING SYSTEM.
02. PROVIDE W/ WALL MOUNTED CONTROLS, DIGITAL TOUCH SCREEN, SUITABLE FOR CONTROLLING FAN QUANTITY INDICATED ON PLANS.
03. FAN SHALL BE AMCA CERTIFIED FOR FLOW PERFORMANCE.
04. PROVIDE FAN WITH ONE YEAR FULL LABOR WARRANTY.
05. PROVIDE FAN WITH NON-PRORATED 12 YR PARTS WARRANTY ON MOTOR, DRIVE, ELECTRONIC CONTROLS, & WALL MOUNTED KEYPAD.
06. PROVIDE FAN WITH LIFETIME WARRANTY ON HUB/BLADES.
07. FIRE DISCONNECT TO BE TIED INTO FACP SUCH THAT DURING ALARM EVENTS, FANS ARE DISCONNECTED FROM POWER.
08. MACRO-AIR, BIG ASS FANS ARE ACCEPTABLE MANUFACTURERS.

UNIT HEATER SCHEDULE

TAG	UH-1
SERVICE/LOCATION	RISER ROOM
DETAILS & ACCESSORIES	
VOLTS/PHASE	208/1
POWER INPUT	1 KW
AMPERAGE	5
MANUFACTURER	MARKEL
MODEL	(3000 series)
NOTES	ALL

NOTES:
01. PROVIDE W/ AUTOMATICE ON/OFF VIA THERMOSTAT.
02. UNIT TO SWITCH ON WHEN SPACE TEMPERATURE REACHES 35°.
03. PROVIDE W/ DISCONNECT.
04. PROVIDE W/ SURFACE MOUNT FRAME

LOUVER SCHEDULE

TAG	L-1,2	L-3	L-WH-1	L-WH-2
TYPE	EXHAUST	INTAKE	INTAKE	VENTILATION
SERVICE	EF-1,2	AHU-1-7	AHU-8,9	WAREHOUSE
DETAILS AND ACCESSORIES				
MAX CFM	300	1600	225	1075
LENGTH/HEIGHT (IN)	16/12	48/16	18/12	36/24
FREE AREA (SQ FT)	0.37	1.79	0.4	2.66
MAX VELOCITY (FPM)	820	900	570	410
MAX PRESSURE DROP (IN. H2O)	0.1	1.5	0.0625	0.0375
FINISH	1.2 mils 70% PVDF	1.2 mils 70% PVDF	1.2 mils 70% PVDF	1.2 mils 70% PVDF
INCLUDED SCREENS	BIRD	BIRD	BIRD	BIRD
ACTUATION TYPE	NONE	NONE	NONE	NONE
BORDER STYLE	2" FLANGE	2" FLANGE	2" FLANGE	2" FLANGE
MAUNUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	EDJ-401	EHH-401	EHH-401	EDJ-401
NOTES	1,2	1,2	1,2	1,2

NOTES:
01. LOUVER OPENINGS TO BE SAW CUT.
02. SEAL OPENING WEATHER TIGHT.

AIR DEVICE SCHEDULE

TAG	A	B	C	D	E	F	G
SERVICE TYPE	SUPPLY	SUPPLY	RETURN	RETURN	SUPPLY	RETURN	SUPPLY
PHYSICAL PROPERTIES							
FACE SIZE	24"X24"	12"x12"	24"X24"	12"x12"	NECK + 2"	NECK +2"	two 48"x2" slots
NECK SIZE	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS
MOUNTING SURFACE	CEILING	CEILING	CEILING	CEILING	CEILING	CEILING	CEILING
DETAILS AND ACCESSORIES							
DAMPER TYPE	OPPOSED BLADE	OPPOSED BLADE	OPPOSED BLADE	OPPOSED BLADE	OPPOSED BLADE	OPPOSED BLADE	BUTTERFLY
ACCESSORY	INSUL BACKPAN	INSUL BACKPAN	INSUL BACK PAN	INSUL BACK PAN	INSUL BACK PAN	INSUL BACK PAN	INSUL PLENUM
COLOR FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	
MATERIAL	STEEL	ALUMINUM	ALUMINUM	ALUMINUM	STEEL	STEEL	ALUMINUM
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	SCD	ASCD	80	80	MSL	MSL	ASPI
NOTES	1	1	1	1	1,2	1,2	1,3,4

NOTES:
01. COORDINATE ALL CEILING TYPES W/ AIR DEVICES.
02. USE TAMPER RESISTANT FASTENERS.
03. PROVIDE W/ FACTORY FULLY INSULATED ENGINEERED PLENUM. FIELD INSULATE END CAPS. PROVIDE W/ HARDWARE FOR MOUNTING ON SURFACE INDICATED ON PLANS.
04. COORDINATE COLOR OF AIR DEVICE & FRAME W/ ARCHITECT.

FAN SCHEDULE

TAG	EF-1	EF-2	EF-3,4	EF-5	EF-WH-1	EF-WH-2,3	EF-WH-4
SERVICE	RR	LOUNGE	PUBLIC RRs	OA FAN	RRs	RRs	WAREHOUSE
LOCATION	PLENUM	PLENUM	CEILING	PLENUM	CEILING	CEILING	ROOF
FAN PROPERTIES							
CFM	350	300	75	1600	100	150	4300
FAN RPM	1710	1626	900	1655	949	1020	1163
EXT SP (IN WG)	0.5	0.5	0.15	0.5	0.2	0.2	0.25
FAN POWER	1/10 HP - ECM	1/10 HP - ECM	18 W	1/2 HP - ECM	80 W	128 W	1 HP
VOLTS/PHASE	120/1	120/1	120/1	120/1	120/1	120/1	120/1
SOUND LEVEL	7.8 SONES	8.1 SONES	0.6 SONE	12.4 SONES	1.5 SONES	2.5 SONES	17.5 SONES
MOUNTING	SUSPENDED	SUSPENDED	CEILING	SUSPENDED	CEILING	CEILING	14" TDI CURB
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	SQ-85-VG	SQ-85-VG	SP-B80	SQ-120-VG	SP-B110	SP-B150	GB-180
MAX WEIGHT	75 lbs	75 lbs	25 lbs	75 lbs	25 lbs	50 lbs	125 lbs
NOTES	1-4,7	1-3,6,7	1-5	1-3,7,11,12	1-5	1-5	1-4,8-10

NOTES:
01. PROVIDE WITH FACTORY INSTALLED DISCONNECT.
02. PROVIDE W/ FAN SPEED CONTROLLER.
03. PROVIDE W/ BACKDRAFT DAMPER.
04. INTERLOCK FAN W/ LIGHTS.
05. PROVIDE W/ TIMED DELAY SHUTOFF
06. PROVIDE W/ WALL MOUNTED ROTARY TIMED DIAL SWITCH, 0-60 MINS, LABELED "VENT FAN".
07. FAN TO BE SUSPENDED FROM STRUCTURE VIA SPRING VIBRATION ISOLATORS IN RUBBER SPRING CUPS.
08. PROVIDE W/ LIFTING LUGS.
09. PROVIDE W/ AUTOMATIC BELT TENSIONERS.
10. PROVIDE IBC 2015 COMPLIANT CURB & ATTACHMENTS FROM UNIT TO CURB & CURB TO STRUCTURE. EQUIPMENT OR CURB MANUFACTURER IS RESPONSIBLE FOR PROVIDING ENGINEERED DETAIL ANALYSIS OF:
    A) ATTACHMENT OF EQUIPMENT TO CURB.
    B) CURB TO STRUCTURE.
    C) CURB & ATTACHMENT HARDWARE STRENGTH.
    REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR ROOF SUBSTRATE DETAILS. EQUIPMENT OR CURB MANUFACTURER IS ALSO RESPONSIBLE FOR PROVIDING ENGINEERED INSTALLATION DRAWINGS FOR ITEMS 'A' & 'B' LISTED ABOVE. BOTH, THE ENGINEERED ANALYSIS & THE ENGINEERED INSTALLATION DRAWINGS SHALL BE PERFORMED SPECIFICALLY FOR THIS BUILDING & PROJECT SITE & STAMPED & SEALED BY A TEXAS LICENSED ENGINEER. SUBMITTALS WILL NOT BE APPROVED UNTIL ALL DOCUMENTATION LISTED ABOVE IS PROVIDED ACCURATELY.
11. FAN SPEED TO BE CONTROLLED BASED ON DUCT STATIC PRESSURE, MAINTAIN AN OA DUCT PRESSURE OF POSSITIVE 0.1" OF STATIC PRESSURE.
12. MECH CONTRACTOR TO PROVIDE W/ PROGRAMMABLE TIME CLOCK, TO MATCH VOLTAGE OF FAN; FAN OPERATION TO BE ENGAGED THROUGH TIME CLOCK, SET BY OWNER.

AIR BALANCE SCHEDULE

MAIN OFFICE			
MARK	O.A. CFM IN (+)	E.A. CFM OUT (-)	CFM BALANCE
AHU-1	250		
AHU-2	250		
AHU-3	200		
AHU-4	200		
AHU-5	200		
AHU-6	200		
AHU-7	300		
EF-1		-300	
EF-2		-300	
EF-3		-75	
EF-4		-75	
TOTAL=	1600	-750	850

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10/18/18
STATE OF TEXAS
Wilford L. McGee III
121939
REGISTERED PROFESSIONAL ENGINEER

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AMERICAN INSTITUTE OF ARCHITECTS

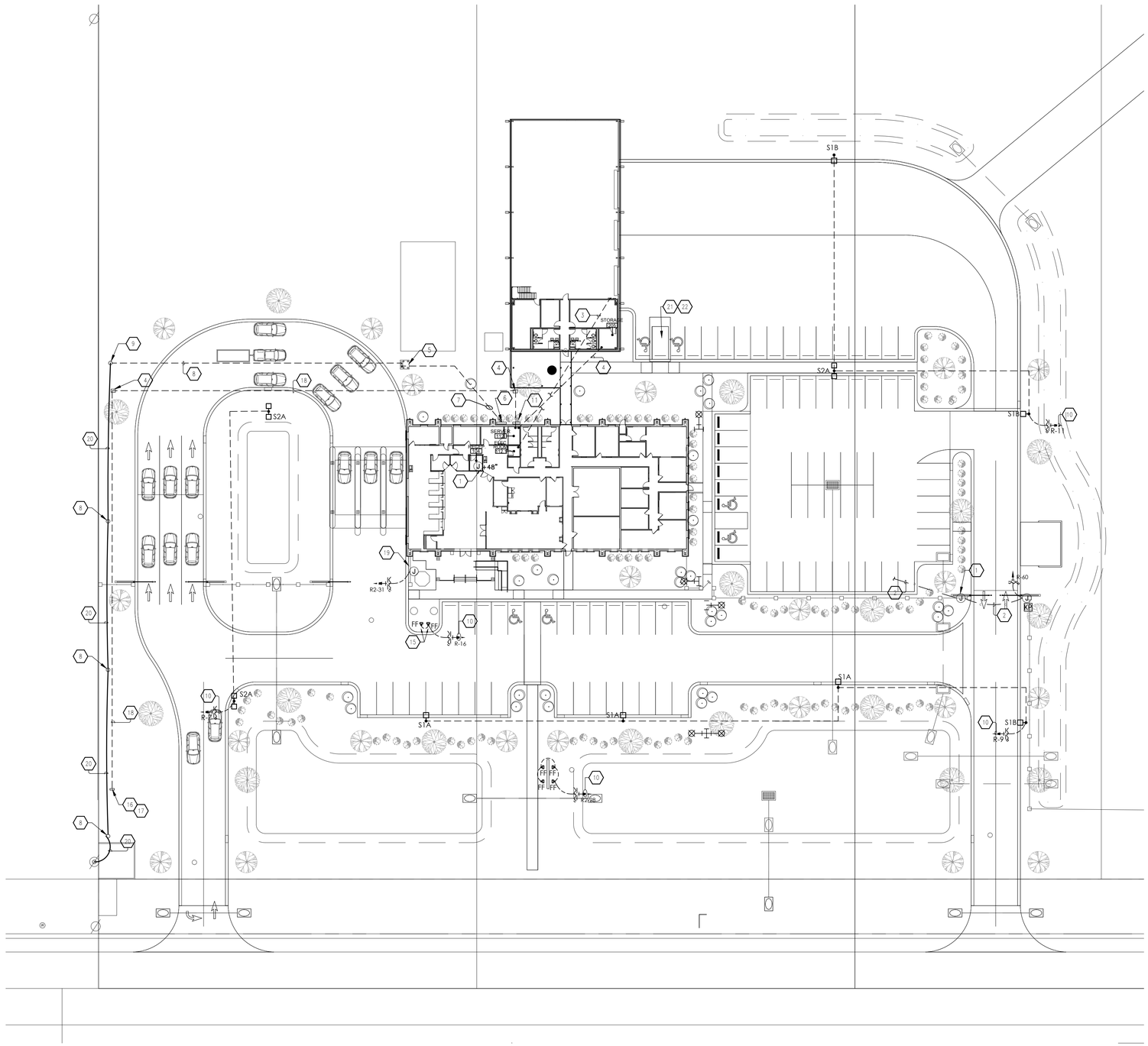
SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
M3.1



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

GENERAL ELECTRICAL NOTES (TO ALL SHEETS)

A. CONTRACTOR TO VERIFY ALL EXISTING MAIN POWER SERVICES AND COORDINATE WITH POWER COMPANY FOR ALL NEW REQUIREMENTS AND ALL COST ASSOCIATED. CONTRACTOR SHALL INCLUDE ANY COST FOR THE NEW TRANSFORMER AND OTHER ASSOCIATED FEES IN BID. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL FEES WITH POWER COMPANY AND TO INCLUDE IN BID. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH POWER COMPANY AS SOON THE CONTRACT IS AWARDED TO ORDER TRANSFORMER AND THE RELATED ELECTRICAL SERVICE EQUIPMENT AS SOON AS POSSIBLE.

B. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, TRENCHING AND BACKFILLING. COORDINATE WITH ALL UTILITIES PRIOR TO EXCAVATION.

C. CONTRACTOR TO VERIFY ALL EXISTING MAIN TELEPHONE SERVICES AND COORDINATE WITH TELEPHONE COMPANY FOR ALL REQUIREMENTS AND ALL COST ASSOCIATED. INCLUDE ALL COST IN BID. CONDUIT FROM MAIN TELEPHONE RISER SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

D. ALL ELECTRICAL EQUIPMENT OUTDOORS SHALL BE RATED TYPE NEMA 3R UNLESS OTHERWISE NOTED.

E. CONTRACTOR SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES. ALL WORK SHALL CONFORM TO NATIONAL ELECTRICAL CODES AND ALL OTHER AUTHORITY HAVING JURISDICTION. OBTAIN PERMITS AND PAY ALL FEES. PERFORM MODIFICATIONS TO MEET CODE AND ORDINANCE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER, ARCHITECT OR ENGINEER. VERIFY PRIOR TO BID DATE.

F. IN COOPERATION WITH OTHER CONTRACTORS, DETERMINE THE EXACT LOCATION OF EQUIPMENT AND DEVICES AND CONNECTIONS THERETO BY REFERENCE TO THE SUBMITTALS AND ROUGH-IN DRAWINGS, AND BY MEASUREMENTS AT THE SITE. REFER TO ALL OTHER TRADES SUBMITTAL FOR ELECTRICAL INFORMATION.

G. GROUND ENTIRE ELECTRICAL SYSTEM IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

H. VERIFY AT JOB SITE GENERAL WORK TO BE DONE AS SPECIFIED, AS NOTED, OR AS REQUIRED FOR INSTALLATION ELECTRICAL SYSTEMS PRIOR TO SUBMISSION OF BIDS.

I. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND EQUIPMENT TO BE REMOVED AND REPLACED BEFORE SUBMITTING HIS BID.

J. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SMALL SCALE ONLY. THEY CONVEY THE INTENT OF THE WORK BUT DO NOT SHOW DETAIL SUCH AS JUNCTION AND PULL BOXES REQUIRED BY THE SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE(NEC). PROVIDE ALL MATERIALS AND METHODS CALLED FOR IN THE SPECIFICATIONS AND AS REQUIRED IN THE NEC TO PROVIDE A COMPLETE INSTALLATION OF ALL WORK.

L. ALL SLEEVES, PENETRATIONS, ETC. SHALL BE SEALED SOLID NON-SHRINKING MATERIAL IMMEDIATELY UPON FILLING OF THE OPENING WITH PIPE OR CONDUIT.

M. ARRANGE FOR SOURCES OF TEMPORARY CONSTRUCTION SERVICES. SUCH SERVICES SHALL BE NOMINALLY 120/240V, 1-PHASE, 3-WIRE FROM WHICH A COMPLETE SYSTEM OF TEMPORARY POWER AND LIGHTING SHALL BE PROVIDED FOR ALL CONSTRUCTION NEEDS.

KEYED NOTES: ELECTRICAL

1. J-BOX FOR GATE ENTRY SYSTEM. FIELD COORDINATE EXACT LOCATION.
2. PROVIDE 1-2"C WITH PULLSTRING FOR GATE ENTRY SYSTEM. ROUTE TO SERVER ROOM.
3. PROVIDE 2-2"C WITH PULLSTRING. ROUTE TO ELECTRICAL ROOM.
4. PROVIDE 1-2"C WITH PULLSTRING, FROM STORAGE ROOM TO SERVER ROOM.
5. NEW POWER COMPANY PAD MOUNTED TRANSFORMER. PROVIDE CONCRETE PAD PER POWER COMPANY STANDARDS. COORDINATE COST AND INSTALLATION WITH POWER COMPANY PRIOR TO BID DATE. COORDINATE EXACT LOCATION WITH POWER COMPANY PRIOR TO ANY ROUGH-IN.
6. NEW ELECTRICAL SERVICE EQUIPMENT REFER TO ELECTRICAL RISER DIAGRAM.
7. CONTRACTOR TO PROVIDE AND INSTALL PVC CONDUIT FROM NEW UTILITY TRANSFORMER TO NEW ELECTRICAL SERVICE EQUIPMENT PER POWER COMPANY STANDARDS. VERIFY ALL REQUIREMENTS PRIOR TO ANY ROUGH-IN. REFER TO ELECTRICAL RISER DIAGRAM.
8. NEW UTILITY POWER POLE. COORDINATE EXACT LOCATION WITH POWER COMPANY.
9. NEW POWER COMPANY POWER POLE WITH RISER DIP POLE.
10. CIRCUIT CONTROLLED VIA LCP.
11. NEW TELEPHONE DISTRIBUTION PANEL. COORDINATE WITH TELEPHONE COMPANY PRIOR TO COMMENCING ANY WORK.
12. MARQUEE SIGN CIRCUIT. COORDINATE EXACT LOCATION PRIOR TO ANY ROUGH-IN.
13. PROVIDE 1-1"C FOR CONTROLS WITH PULLSTRING. ROUTE TO ELECTRICAL ROOM.
14. PROVIDE 1-4X4X4 WEATHER PROOF BOX FOR MARQUEE SIGN CONTROLS.
15. FLAGPOLE LIGHTING. FIELD COORDINATE EXACT LOCATION.
16. NEW TELEPHONE PEDESTAL. VERIFY ALL REQUIREMENTS PRIOR TO ANY ROUGH-INS.
17. TIE INTO EXISTING MAIN TELEPHONE LINE. COORDINATE WITH THE TELEPHONE COMPANY PRIOR TO ANY ROUGH-INS.
18. CONTRACTOR TO PROVIDE AND INSTALL (2)-4"PVC CONDUIT FOR TELEPHONE SERVICE EQUIPPED WITH PULLSTRING, AND TURNED UP AND CAPPED AT BOTH ENDS. DEPTH OF CONDUIT SHALL BE A MINIMUM OF 36". VERIFY ALL REQUIREMENTS WITH LOCAL UTILITIES BEFORE ROUGH-IN. ROUTE TO NEAREST TELEPHONE SERVICE LINE OR AS DIRECTED BY LOCAL TELEPHONE COMPANY. PROVIDE TRENCHING AND BACKFILL AS REQUIRED. COORDINATE EXACT LOCATION AND COST WITH TELEPHONE COMPANY PRIOR TO BID.
19. PROVIDE J-BOX FOR WATER FEATURE.
20. EXTEND EXISTING OVERHEAD LINE. COORDINATE WITH POWER COMPANY.
21. PROPOSE GENERATOR LOCATION FOR BASE BID OR ALTERNATE#5.
22. BASE BID GENERATOR SHALL INCLUDE THE REMOVAL AND TRANSPORT OF THE EXISTING GENERATOR TO THE NEW LOCATION AS INDICATED ON THE DRAWINGS.

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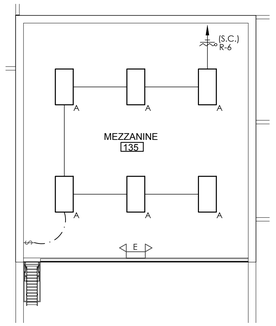
ES1.1



② MEZZANINE PLAN
1/8" = 1'-0"

GENERAL NOTES: LIGHTING

A. ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.

B. VERIFY CEILING TYPES AND COORDINATE WITH FIXTURE TYPE LIGHT FIXTURE SHALL BE COMPATIBLE WITH CEILING TYPE AS INDICATED ON THE ARCHITECTURAL DOCUMENTS. NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO ORDERING FIXTURES.

C. COORDINATE EXACT ROUTING OF ALL CONDUIT ABOVE CEILING IN BUILDING. TYPICAL FOR ALL BUILDING EXTERIOR LIGHTING.

D. COORDINATE LOCATION OF LIGHTS WITH DIFFUSERS AND GRILLES.

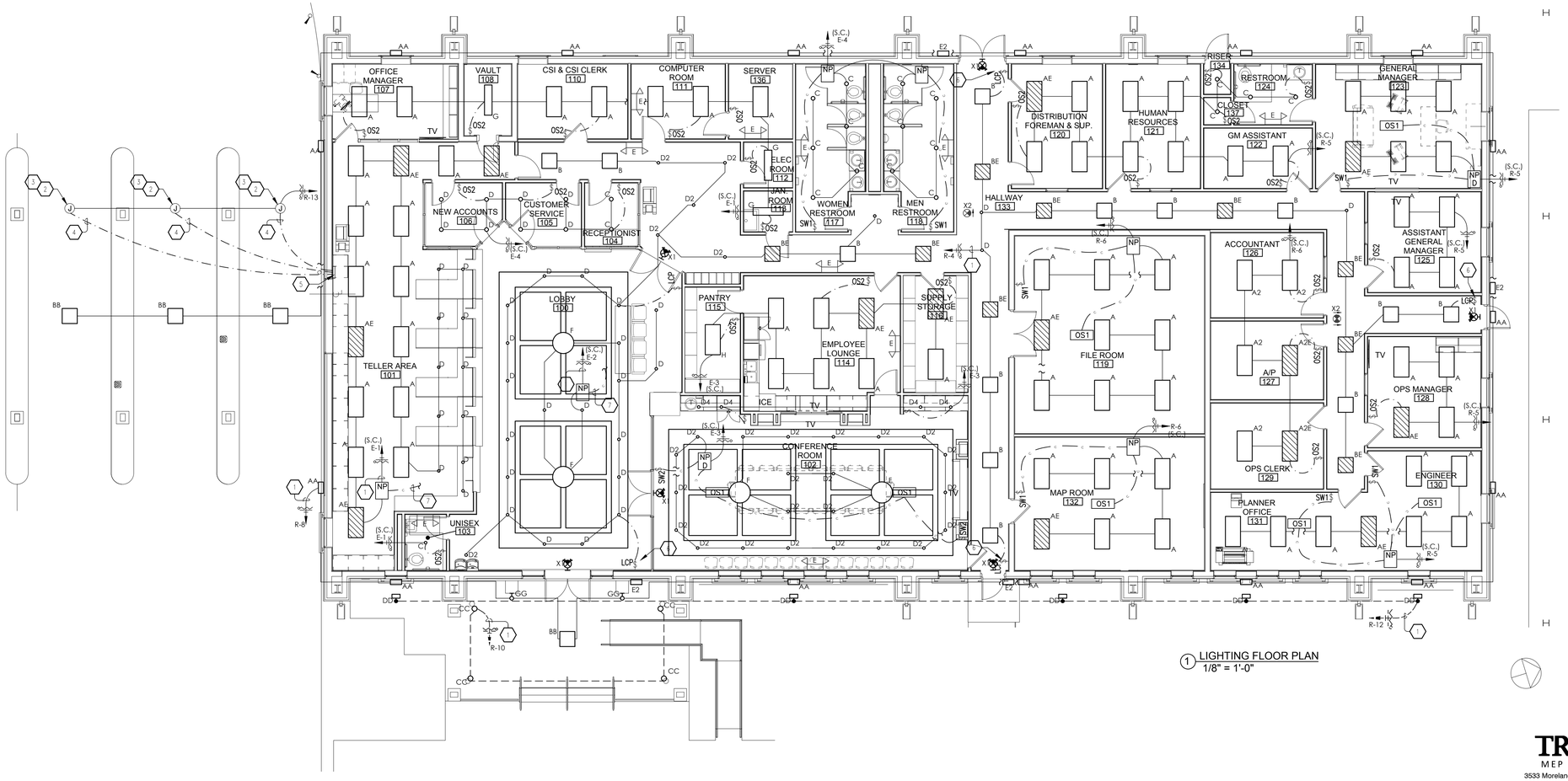
E. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

F. ALL EXIT FIXTURES TYPE-"X1 & X2", EMERGENCY LIGHT FIXTURE TYPE-"E" AND ALL EMERGENCY BALLAST SHALL BE ON CIRCUIT "R-14". FIXTURE TYPE LABEL WITH AN "_E" ARE LIGHT FIXTURES WITH EMERGENCY BALLAST. REFER TO LIGHT FIXTURE SCHEDULE.

G. CONTRACTOR SHALL REFER TO EQUIPMENT SUBMITTAL FOR ALL ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.

KEYED NOTES: LIGHTING

1. CONTROLLED VIA LCP1.
2. J-BOX FOR LANE INDICATION SIGNS. COORDINATE EXACT LOCATION PRIOR TO COMMENCING ANY ROUGH-INS.
3. COORDINATE CONTROLS WITH EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH-INS.
4. PROVIDE 3#12, 1#12G, 1/2"C.
5. PROPOSED LOCATION FOR SWITCH BANK FOR LANE INDICATION SIGNS. COORDINATE WITH OWNER PRIOR TO ANY ROUGH-INS. REFER TO DETAIL #1 ON THIS SHEET.
6. PROVIDE OVERRIDE SWITCH FOR LIGHTING RELAY PANEL. PROGRAM SWITCH WITH TIME AND/OR DIM FUNCTIONS PER OWNER DIRECTIONS.
7. COMMUNICATION CABLE TO RELAY PANEL.



① LIGHTING FLOOR PLAN
1/8" = 1'-0"

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SHEET NUMBER
E1.0

GENERAL NOTES: LIGHTING

A. ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.

B. VERIFY CEILING TYPES AND COORDINATE WITH FIXTURE TYPE LIGHT FIXTURE SHALL BE COMPATIBLE WITH CEILING TYPE AS INDICATED ON THE ARCHITECTURAL DOCUMENTS. NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO ORDERING FIXTURES.

C. COORDINATE EXACT ROUTING OF ALL CONDUIT ABOVE CEILING IN BUILDING. TYPICAL FOR ALL BUILDING EXTERIOR LIGHTING.

D. COORDINATE LOCATION OF LIGHTS WITH DIFFUSERS AND GRILLES.

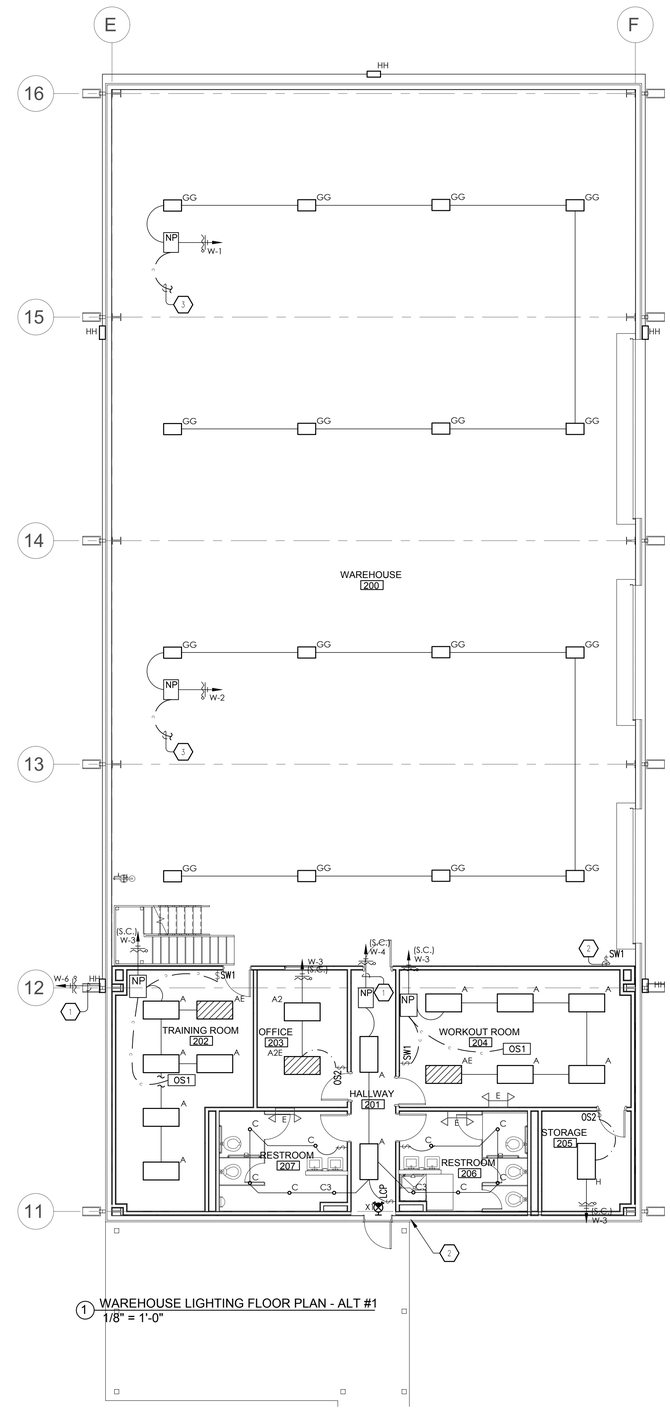
E. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

F. ALL EXIT FIXTURES TYPE-"X1 & X2", EMERGENCY LIGHT FIXTURE TYPE-"E" AND ALL EMERGENCY BALLAST SHALL BE ON CIRCUIT "W-5". FIXTURE TYPE LABEL WITH AN "_E" ARE LIGHT FIXTURES WITH EMERGENCY BALLAST. REFER TO LIGHT FIXTURE SCHEDULE.

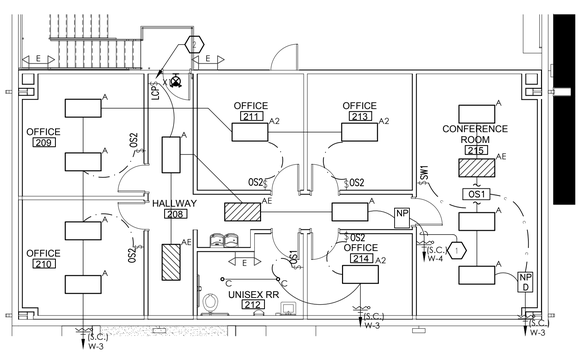
G. CONTRACTOR SHALL REFER TO EQUIPMENT SUBMITTAL FOR ALL ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.

KEYED NOTES: LIGHTING

1. CONTROLLED VIA LCP2.
2. PROVIDE OVERRIDE SWITCH FOR LIGHTING RELAY PANEL. PROGRAM SWITCH WITH TIME AND/OR DIM FUNCTIONS PER OWNER DIRECTIONS.
3. COMMUNICATION CABLE TO RELAY PANEL.



1 WAREHOUSE LIGHTING FLOOR PLAN - ALT #1
1/8" = 1'-0"



2 MEZZANINE LIGHTING PLAN
1/8" = 1'-0"

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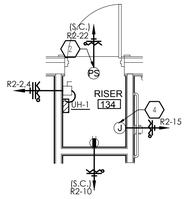
SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

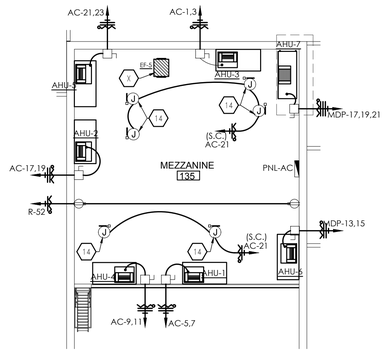
DATE
OCT 18, 2018

FINALS - 100%

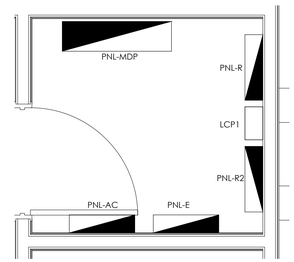
SHEET NUMBER
E1.1



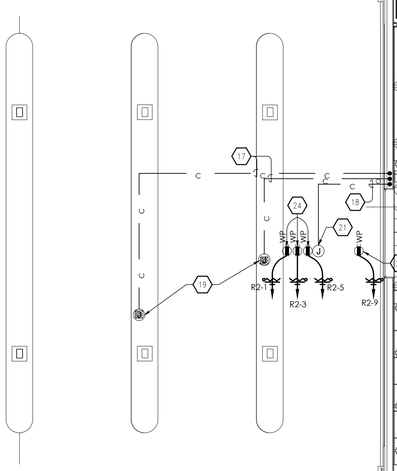
4 RISER ELECTRICAL PLAN
1/8" = 1'-0"

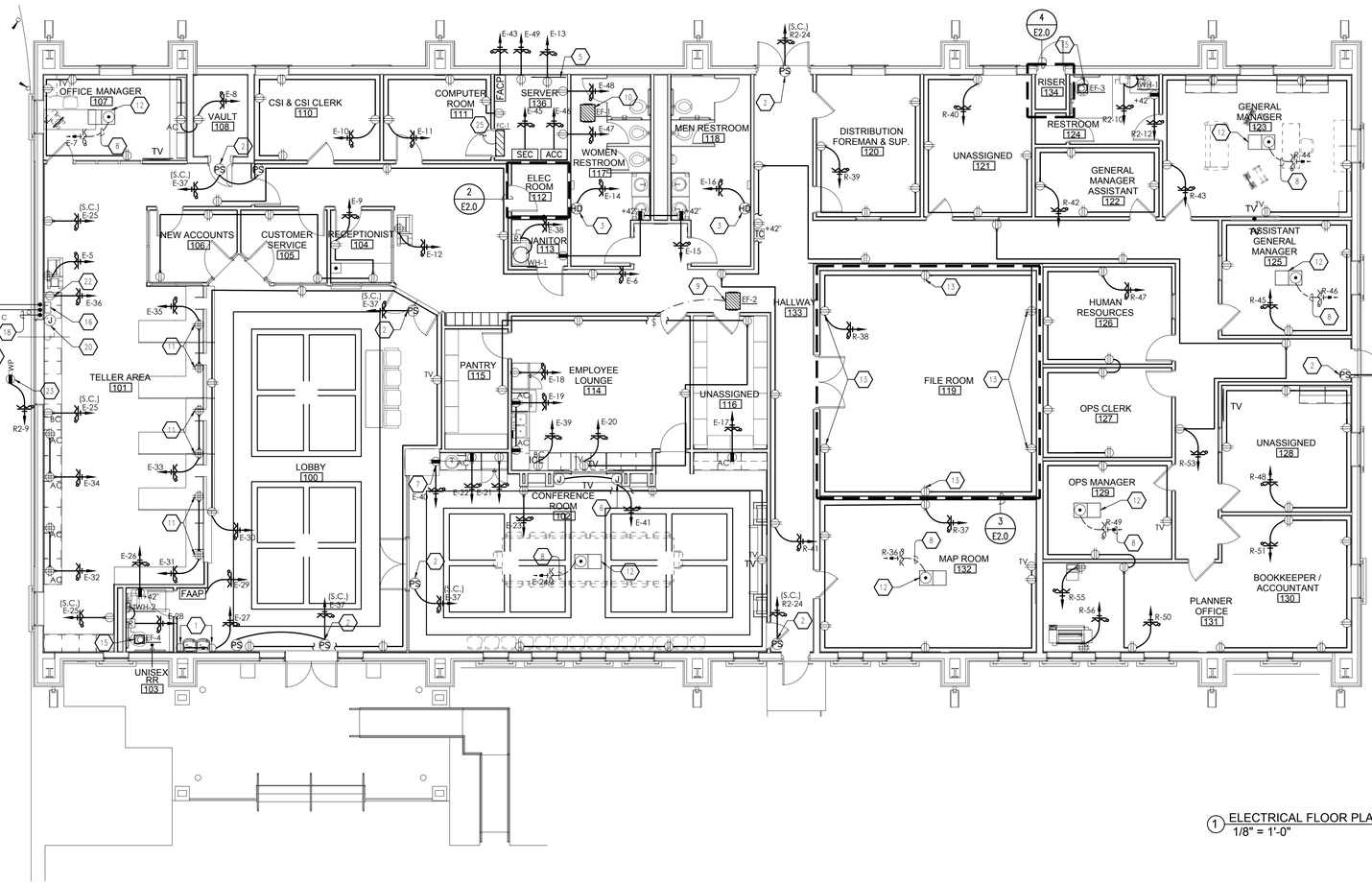


3 MEZZANINE ELECTRICAL PLAN
1/8" = 1'-0"



2 ELEC ROOM
1/2" = 1'-0"





1 ELECTRICAL FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES: POWER

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.

B. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.

D. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.

E. COORDINATE EXACT LOCATION OF ISOLATED OUTLETS FOR COMPUTERS WITH OWNER.

F. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.

G. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.

H. CONTRACTOR SHALL REFER TO EQUIPMENT SUBMITTAL FOR ALL ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.

KEYED NOTES: POWER

1. COORDINATE EXACT LOCATION WITH PLUMBER TO CONCEAL CORD BEHIND ELECTRIC DRINKING FOUNTAIN PRIOR TO ANY ROUGH-IN.
2. PROVIDE J-BOX ABOVE CEILING FOR CARD READER DOOR ACCESS CONTROLS. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH OWNER AND EQUIPMENT SUPPLIER PRIOR TO COMMENCING ANY WORK.
3. J-BOX FOR HAND DRYER. VERIFY EXACT ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
4. PROVIDE J-BOX FOR FIRE SPRINKLER SYSTEM.
5. 3/4"X8'HX4'W PLYWOOD TELEPHONE BOARD FINISHED ONE SIDE. PROVIDE GROUND BAR AND TIE INTO ELECTRICAL GROUNDING SYSTEM VIA WIRE #4.
6. J-BOX FOR MOTORIZED ROOM PARTITION. PROVIDED BY CONTRACTOR. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH OWNER/MANUFACTURE PRIOR TO ANY WORK.
7. RECEPTACLE FOR AQUARIUM COORDINATE EXACT LOCATION WITH OWNER PRIOR TO COMMENCING ANY ROUGH-INS.
8. ROUTE THROUGH NEAREST FULL WALL. ALL CONDUIT MUST BE CONCEALED. COORDINATE WITH CONTRACTOR PRIOR TO COMMENCING ANY WORK.
9. PROVIDE A 120V, 20 AMP SPRING WOUND AUTO-OFF WALL TIMER SWITCH, EQUAL TO MFR. INTERMATIC # FF60MHC
10. TIE INTO ROOMS '117' & '118' LIGHTING CIRCUIT. WIRING SHALL BE 2#12, 1#12G, $\frac{3}{4}$"C.
11. COORDINATE EXACT LOCATION WITH MILWORK CONTRACTOR & OWNER PRIOR TO COMMENCING ANY ROUGH-INS.
12. FLOOR MOUNTED RECEPTACLE COORDINATE EXACT LOCATION WITH FURNITURE LAYOUT PRIOR TO COMMENCING ANY WORK.
13. PROVIDE 1.5" CONDUIT WITH BLANK WALL PLATES FOR FUTURE RECEPTACLE.
14. PROVIDE J-BOX FOR MOTORIZED HVAC DAMPER.
15. TIE INTO ROOMS LIGHTING CIRCUIT. WIRING SHALL BE 2#12, 1#12G, $\frac{3}{4}$"C.
16. TELLER UNIT. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO COMMENCING ANY WORK.
17. PROVIDE 1-$\frac{1}{2}$"CONDUIT WITH PULLSTRING TO CUSTOMER UNIT. COORDINATE EXACT ROUTING PRIOR TO COMMENCING ANY ROUGH-INS.
18. PROVIDE 1-$\frac{1}{2}$"CONDUIT WITH PULLSTRING TO BYPASS VALVE MODULE. COORDINATE EXACT ROUTING PRIOR TO COMMENCING ANY ROUGH-INS.
19. J-BOX FOR CUSTOMER UNIT CONTROLS. COORDINATE EXACT LOCATION PRIOR TO COMMENCING ANY ROUGH-INS.
20. J-BOX FOR TELLER UNIT. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO COMMENCING ANY WORK.
21. J-BOX FOR BYPASS VALVE MODULE CONTROLS . COORDINATE EXACT LOCATION WITH OWNER PRIOR TO COMMENCING ANY WORK.
22. CIRCUIT FOR SYSTEM CONTROL UNIT. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER AND OWNER PRIOR TO COMMENCING ANY ROUGH-INS.
23. CIRCUIT FOR BYPASS VALVE MODULE. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO COMMENCING ANY ROUGH-INS.
24. CIRCUIT FOR CANOPY BLOWER PACK MODULE. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO COMMENCING ANY ROUGH-INS.
25. INTERLOCK FCCU WITH FC H.V.A.C. EQUIPMENT. WIRING SHALL BE 3#10, 1#10G, $\frac{3}{4}$"C.

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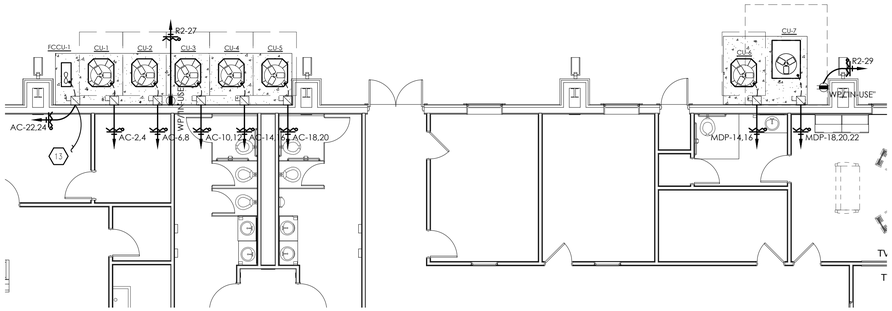
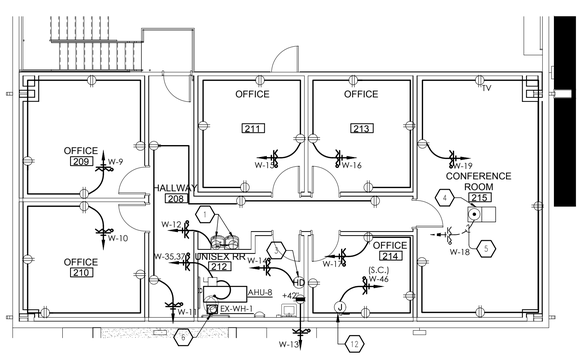
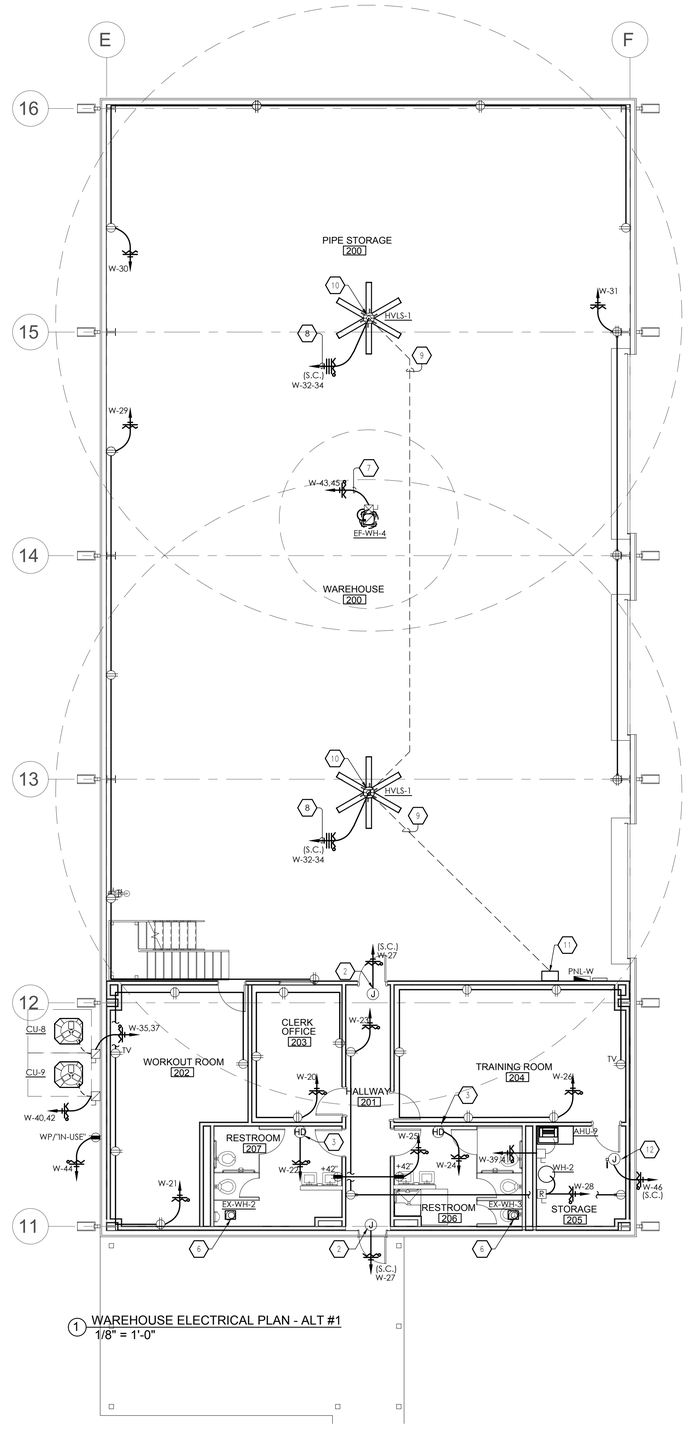
E2.0



3 EQUIPMENT PLAN
1/8" = 1'-0"



2 MEZZANINE ELECTRICAL PLAN
1/8" = 1'-0"



1 WAREHOUSE ELECTRICAL PLAN - ALT #1
1/8" = 1'-0"

GENERAL NOTES: POWER

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.

B. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.

D. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.

E. COORDINATE EXACT LOCATION OF ISOLATED OUTLETS FOR COMPUTERS WITH OWNER.

F. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.

G. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.

H. CONTRACTOR SHALL REFER TO EQUIPMENT SUBMITTAL FOR ALL ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.

KEYED NOTES: POWER

1. COORDINATE EXACT LOCATION WITH PLUMBER TO CONCEAL CORD BEHIND ELECTRIC DRINKING FOUNTAIN PRIOR TO ANY ROUGH-IN.
2. J-BOX FOR CARD READER DOOR ACCESS. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH OWNER AND EQUIPMENT SUPPLIER PRIOR TO COMMENCING ANY ROUGH-INS.
3. J-BOX FOR HAND DRYER. PROVIDED BY CONTRACTOR. VERIFY EXACT ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
4. FLOOR MOUNTED RECEPTACLE COORDINATE EXACT LOCATION WITH FURNITURE LAYOUT PRIOR TO COMMENCING ANY WORK.
5. ROUTE THROUGH NEAREST FULL WALL. ALL CONDUIT MUST BE CONCEALED. COORDINATE WITH CONTRACTOR PRIOR TO COMMENCING ANY WORK.
6. TIE INTO ROOMS LIGHTING CIRCUIT. WIRING SHALL BE 2#12, 1#12G, $\frac{3}{4}$"C.
7. SHALL BE CONTROLLED VIA LIGHT RELAY CONTROL PANEL 'LCP1'.
8. INTERLOCK HVLS FANS WITH FIRE ALARM SYSTEM. COORDINATE ALL WORK WITH EQUIPMENT MANUFACTURE AND FIRE ALARM CONTRACTOR.
9. PROVIDE 1-1"C WITH PULLSTRING TO EACH HVLS FAN FOR CONTROL WIRING. WIRING BY DIVISION-15 MECHANICAL CONTRACTOR. SUPPORT CONDUIT FROM STRUCTURAL.
10. J-BOX FOR HVLS FAN. COORDINATE ALL ELECTRICAL CONNECTIONS WITH MANUFACTURE AND MECHANICAL CONTRACTOR PRIOR TO COMMENCING ANY WORK.
11. HVLS CONTROLLER. COORDINATE EXACT LOCATION AND ALL REQUIRED ELECTRICAL CONNECTIONS WITH MECHANICAL CONTRACTOR AND MANUFACTURE PRIOR TO COMMENCING ANY WORK.
12. PROVIDE J-BOX FOR MOTORIZED HVAC DAMPER.
13. INTERLOCK FCCU WITH FC H.V.A.C. EQUIPMENT. WIRING SHALL BE 3#10, 1#10G, $\frac{3}{4}$"C.

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AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
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FINALS - 100%

SHEET NUMBER
E2.1

GENERAL NOTES: SPECIAL SYSTEMS

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.

B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.

C. EQUIPMENT AS FURNISHED OF A SINGLE MANUFACTURER.

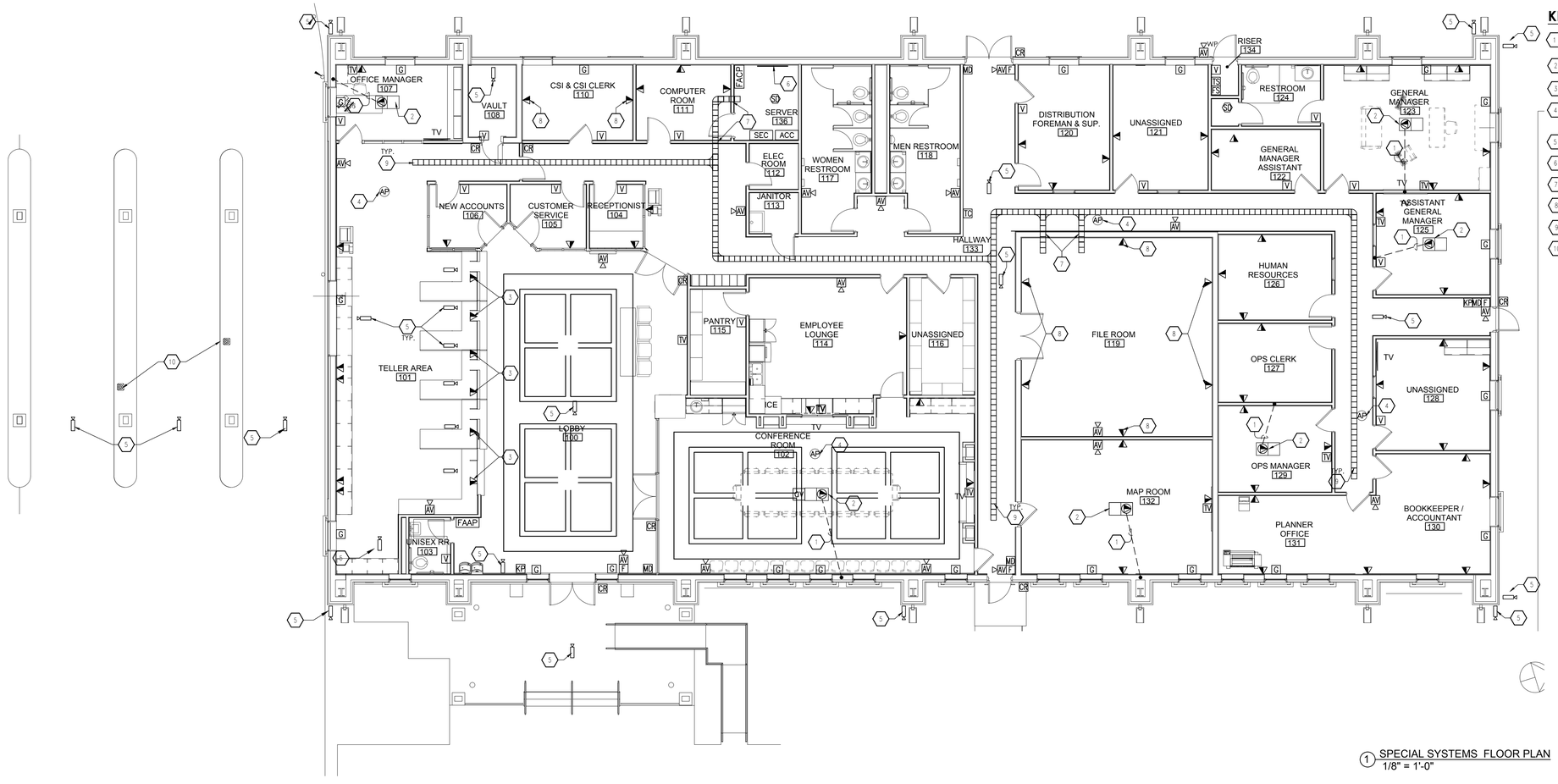
D. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.

E. ALL CONDUITS SHALL REAMED AND COMPLETED WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.

F. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND REQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.

G. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMITT DRAWINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.

H. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.



1 SPECIAL SYSTEMS FLOOR PLAN
1/8" = 1'-0"

KEYED NOTES: SPECIAL SYSTEMS

1. PROVIDE 1.5" CONDUIT FOR DATA, STUB UP IN WALL. ROUTE CONDUIT TO ENCLOSURE. ALL CONDUIT SHALL BE CONCEALED. NO EXPOSED CONDUITS ACCEPTABLE.
2. FLOOR MOUNTED DATA COORDINATE EXACT LOCATION WITH FURNITURE LAYOUT PRIOR TO COMMENCING ANY WORK.
3. COORDINATE EXACT LOCATION WITH MILWORK CONTRACTOR & OWNER PRIOR TO COMMENCING ANY ROUGH-INS.
4. PROVIDE J-BOX FOR ACCESS POINT. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO COMMENCING ANY ROUGH-INS.
5. PROVIDE 4X4X2" J-BOX FOR CAMERA. PROVIDE 1-1"C SLEEVE. VERIFY WITH OWNER.
6. PROVIDE 3/4"X8'HX4'W PLYWOOD FOR WALL MOUNTED MDF.
7. PROVIDE SLEEVE WITH FIRE RATED PENETRATION.
8. PROVIDE 1.5" CONDUIT WITH BLANK WALL PLATES FOR FUTURE RECEPTACLE.
9. PROVIDE CABLE TRAY ABOVE CEILING.
10. REFER TO SHEET E2.0 FOR COMMUNICATION CONDUITS.

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GENERAL NOTES: SPECIAL SYSTEMS

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.

B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.

C. EQUIPMENT AS FURNISHED OF A SINGLE MANUFACTURER.

D. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.

E. ALL CONDUITS SHALL REAMED AND COMPLETED WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.

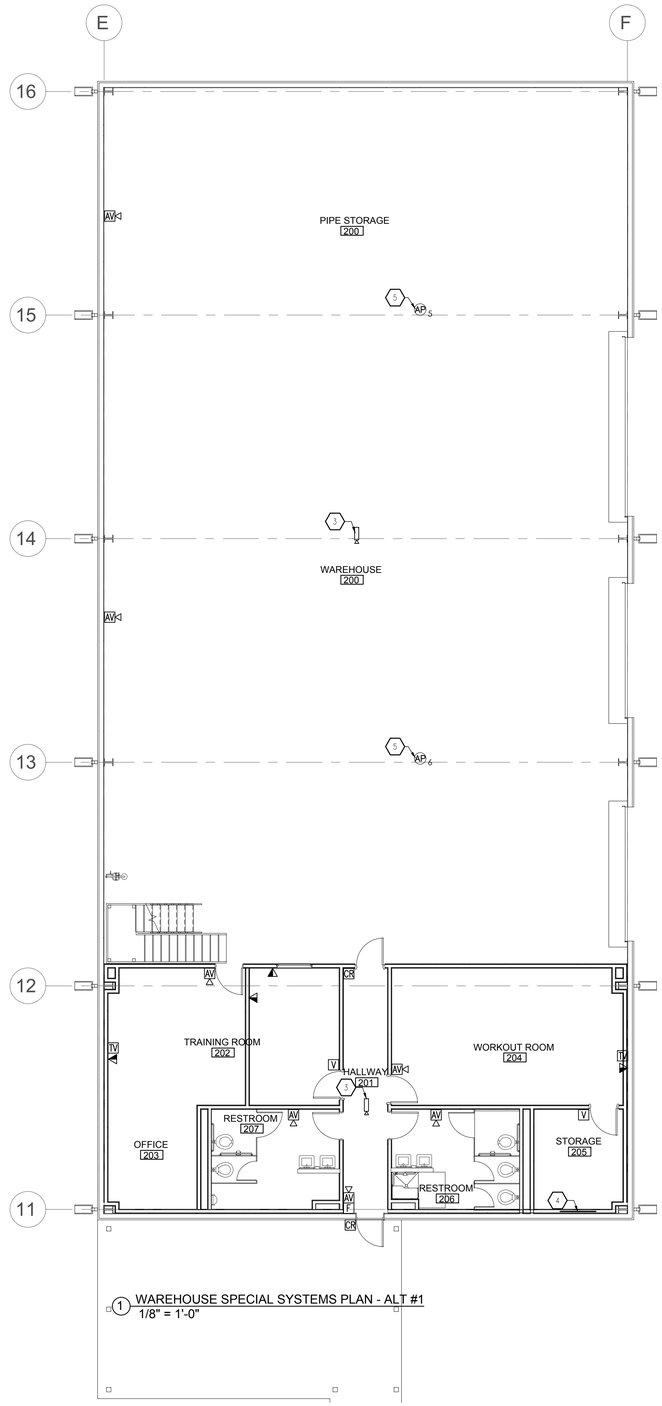
F. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND REQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.

G. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMITT DRAWINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.

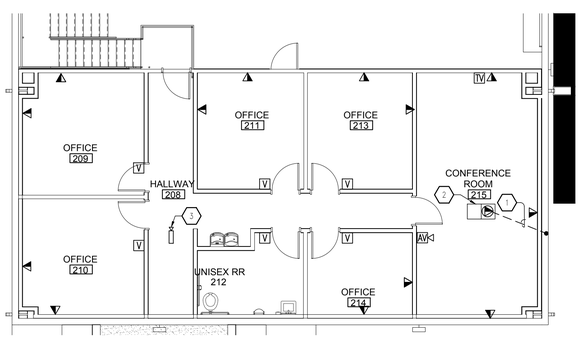
H. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.

KEYED NOTES: SPECIAL SYSTEMS

1. PROVIDE 1.5" CONDUIT FOR DATA, STUB UP IN WALL. ROUTE CONDUIT TO ENCLOSURE. ALL CONDUIT SHALL BE CONCEALED. NO EXPOSED CONDUITS ACCEPTABLE.
2. FLOOR MOUNTED RECEPTACLE COORDINATE EXACT LOCATION WITH FURNITURE LAYOUT PRIOR TO COMMENCING ANY WORK.
3. PROVIDE 4X4X2" J-BOX FOR CAMERA. PROVIDE 1-1"C SLEEVE. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ANY WORK.
4. PROVIDE 3/4"X4'HX4'W PLYWOOD FOR WALL MOUNTED IDF.
5. PROVIDE J-BOX FOR ACCESS POINT. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO COMMENCING ANY ROUGH-INS.



1 WAREHOUSE SPECIAL SYSTEMS PLAN - ALT #1
1/8" = 1'-0"



2 MEZZANINE SPECIAL SYSTEMS PLAN
1/8" = 1'-0"

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ELECTRICAL LEGEND-LIGHTING

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
	2'x4' LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	2'X4' LIGHT FIXTURE W/EMERGENCY BATTERY PACK, REFER TO LUMINAIRE SCHEDULE
	2'x2' LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	2'X2' LIGHT FIXTURE W/EMERGENCY BATTERY PACK, REFER TO LUMINAIRE SCHEDULE
	1'X4' LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	TRACK LIGHT WITH HEADS AS INDICATED
	INCANDESCENT, LED, FLUORESCENT, OR HID WALL WASHER LIGHT FIXTURE CEILING MTD, REFER TO LUMINAIRE SCHEDULE
	INCANDESCENT, LED, FLUORESCENT, OR HID FIXTURE CLG. OR WALL MTD, REFER TO LUMINAIRE SCHEDULE
	LED, FLUORESCENT, OR HID FIXTURE WITH EMERGENCY BATTERY PACK, CLG. OR WALL MTD, REFER TO LUMINAIRE SCHEDULE
	EXIT LIGHT, CEILING OR WALL MOUNTED - SHADING INDICATING SINGLE OR DOUBLE FACE; DIRECTIONAL ARROWS AS INDICATED REFER TO LUMINAIRE SCHEDULE
	EXIT LIGHT SAME AS ABOVE, EXCEPT WITH AN EMERGENCY UNIT AS A COMBO, REFER TO LUMINAIRE SCHEDULE
	CEILING FAN
	STRIP UTILITY LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	STRIP UTILITY STRIP LIGHT WITH EMERGENCY BATTERY PACK, REFER TO LUMINAIRE SCHEDULE
$	WALL SWITCH SPST, 20A,120/277V
$2	DOUBLE POLE TOGGLE SWITCH, 20A/120/277V
$3	3-WAY WALL SWITCH, 20A,120/277V
$4	4-WAY WALL SWITCH, 20A,120/277V
$D	WALL DIMMER SWITCH
$P	WALL SWITCH SPST, 20A,120/277V - PILOT LIGHT SWITCH
$X	WALL SWITCH SPST, 20A,120/277V - KEYED SWITCH, X = 3 OR 4 WAY

ELECTRICAL LEGEND-SPECIAL SYSTEMS

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	
TV	WALL MOUNTED TELEPHONE/DATA OUTLET, FURNISH AND INSTALL 1.25"C., WITH PULLSTRING AND INSULATED BUSHING, STUBBED ABOVE CEILING, +24" UNLESS OTHERWISE NOTE. BOX TO BE MINIMUM 2 1/8" DEEP.	
	WALL MOUNTED TELEPHONE OUTLET, FURNISH AND INSTALL 1"C , WITH PULLSTRING AND INSULATED BUSHING, STUBBED ABOVE CEILING, +24" UNLESS OTHERWISE NOTE. BOX TO BE MINIMUM 2 1/8" DEEP.	
	WALL MOUNTED DATA OUTLET, FURNISH AND INSTALL 1.25"C , WITH PULLSTRING AND INSULATED BUSHING, STUBBED ABOVE CEILING, +24" UNLESS OTHERWISE NOTE. BOX TO BE MINIMUM 2 1/8" DEEP.	
P	PUBLIC TELEPHONE OUTLET.; J-BOX & 1"C	
TV	TELEVISION OUTLET. CLG. OR WALL MOUNTED - STUB 1" C. ABOVE CEILING FROM OUTLET BOX	
	PUSHBUTTON WALL MOUNTED.	
AV	AUDIO VIDEO DROP, REFER TO DETAIL	
IC	INTERCOM - CALL SWITCH- JBOX WITH 3/4"C	
S	INTERCOM/PAGING LAY-IN SPEAKER	
I	PA EXTERIOR SPEAKER	10'-6" AFF
DC	SECURITY DOOR CONTACT SENSOR - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX	
MD	SECURITY MOTION DETECTOR SENSOR - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX	
G	SECURITY GLASS BREAK SENSOR - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX	
KP	SECURITY KEY PAD - STUB 3/4"C ABOVE CEILING FROM OUTLET BOX	
SEC	SECURITY PANEL JUNCTION BOX	54"
ACC	ACCESS CONTROL PANEL JUNCTION BOX - BY OTHERS	54"
CR	CARD READER BOX - STUB 3/4"C ABOVE CEILING LEVEL FROM OUTLET BOX SYSTEM BY OTHERS	- - - -
ML	MAGNETIC LOCK BOX - STUB 3/4"C ABOVE CEILING LEVEL FROM OUTLET BOX SYSTEM BY OTHERS	- - - -
S	INTRUSION EXTERIOR SPEAKER	10'-6" AFF
C	SINGLE SIDED CLOCK, J-BOX W/3/4"C	96" AFF MIN.
C	DOUBLE SIDED CLOCK,J-BOX W/3/4"C	96" AFF MIN.
	CAMERA J-BOX W/ 3/4" CONDUIT	- - - -
	TELEPHONE BOARD- 3/4"x8' FIRE RATED	

ELECTRICAL LEGEND-FIRE ALARM

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
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SYMBOL	DESCRIPTION
F	FIRE ALARM PULL STATION: STUB 3/4"C ABOVE CEILING FROM J-BOX
AV	FIRE ALARM AUDIBLE/VISUAL SIGNAL: STUB 3/4"C ABOVE CEILING FROM J-BOX
V	FIRE ALARM VISUAL SIGNAL: STUB 3/4"C ABOVE CEILING FROM J-BOX
V S	FIRE ALARM CEILING MOUNT SPEAKER STROBE, UL LISTED, : J-BOX WITH 3/4"C
VS	FIRE ALARM CEILING WALL MOUNT OUTDOOR SPEAKER STROBE, UL LISTED, : J-BOX WITH 3/4"C
SD SD	FIRE ALARM SMOKE DETECTOR CEILING OR WALL MOUNTED: STUB 3/4"C ABOVE CEILING FROM J-BOX
H	HEAT DETECTOR CEILING OR WALL MOUNTED: STUB 3/4"C ABOVE CEILING FROM J-BOX
SD D	DUCT SMOKE DETECTOR: STUB 3/4"C ABOVE CEILING FROM J-BOX
SD A	SMOKE DETECTOR WITH AN AUDIBLE BASE: STUB 3/4"C ABOVE CEILING FROM J-BOX
FACP	FIRE ALARM CONTROL PANEL, ADDRESSABLE, SURFACE MTD UNO, INCLUDE A FIRE DOCUMENT BOX EQUAL TO MFR. SPACE AGE ELECTRONICS #FDB-ACE-11.
FACP-EVS	FIRE ALARM CONTROL PANEL WITH EMERGENCY VOICE SYSTEM, ADDRESSABLE, FLUSH MTD UNO, INCLUDE A FIRE DOCUMENT BOX EQUAL TO MFR. SPACE AGE ELECTRONICS #FDB-ACE-11.
EVES	FIRE ALARM EMERGENCY VOICE EVACUATION SYSTEM, FLUSH OR SURFACE.
FAAP	FIRE ALARM REMOTE ANNUNCIATOR PANEL, FLUSH MOUNTED UNO
PAD-X	POWER SUPPLY, DEDICATED 110V
DH	DOOR HOLDER DEVICE: STUB 3/4"C ABOVE CEILING FROM J-BOX
TS	TAMPER SWITCH: STUB 3/4"C ABOVE CEILING FROM J-BOX
FS	FLOW SWITCH: STUB 3/4"C ABOVE CEILING FROM J-BOX
F	FIRE ALARM OUTDOOR SPEAKER, WEATHER PROOF: STUB 3/4"C ABOVE CEILING FROM J-BOX

ELECTRICAL LEGEND-GENERAL

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SYMBOL	DESCRIPTION
	HEAVY DUTY DISCONNECT SWITCH FUSED
	HEAVY DUTY DISCONNECT SWITCH NONFUSED
	HEAVY DUTY COMBINATION DISCONNECT/MOTOR STARTER
	HEAVY DUTY MOTOR STARTER
	ENCLOSED BREAKER, RE: TO SCH. FOR MORE INFO.
R	ROTARY TYPE DISCONNECT SWITCH
$M	120/277-208/480V,20AMP, MOTOR RATED SWITCH, NEMA-1(INTERIOR) ENCLOSURE, NEMA-3R(EXTERIOR) ENCLOSURE. VOLTAGE TO BE SELECTED PER EQUIPMENT CIRCUIT REQUIREMENTS.
	MOTOR
	PANELBOARD, CLEARANCE AS PER LATEST NEC SWITCH LEG
	ELECTRICAL CONDUIT
	UNDERGROUND ELECTRICAL CONDUIT
C	COMMUNICATION CONDUIT AND WIRING
X, X, X	MULTI-POLE DEVICE CIRCUIT NUMBERS
X/X/X	THREE SINGLE POLE DEVICE CIRCUIT NUMBERS
A-1	CONDUIT AND WIRE HOMERUN TO PANEL. SHORT HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATES OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION INDICATES PANEL AND BREAKER.
A-1	UNDERGROUND CONDUIT AND WIRE HOMERUN TO PANEL. SHORT HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATED OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION INDICATES PANEL AND BREAKER.
	DETAIL NUMBER
	SHEET NUMBER
T	THERMOSTAT WALL MOUNTED - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX. COORDINATE EXACT LOCATION AND HEIGHT WITH MECHANCIAL DIVISION.
J J	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED MINIMUM OF 4" SQUARE
PC	PHOTO CELL(MFR.INTERMATIC #K4136M)
LC	LIGHTING CONTACTOR, NEMA-1, W/H.O.A. SWITCH
TC	TIME CLOCK (MFR.TORK#7202Z)
CP-1	CIRCULATING PUMP
	ELECTRICAL DEVICE AS SHOWN ON PLANS SURFACE MOUNT RACEWAY. SURFACE MOUNT RACEWAY SHALL BE WIREMOLD #V700 SERIES. PROVIDE ALL RELATED #V700 SERIES ACCESSORIES FOR AN OPERABLE SYSTEM.

ELECTRICAL ABBREVIATIONS:

ABBV:	DESCRIPTION	ABBV:	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	MFR.	MANUFACTURER
BFC	BELOW FINISHED CEILING	(S.C.)	SHARE CIRCUIT
C	CONDUIT	QRCPT(S)	QUAD RECEPTACLE(S)
CB	CIRCUIT BREAKER	RCPT(S)	DUPLEX RECEPTACLE(S)
EC	EMPTY CONDUIT	CRCPT(S)	I.G. RECEPTACLE(S)
EX	EXISTING	QCRCPT(S)	QUAD I.G. RECEPTACLE(S)
F	FUSE	PNL	PANEL
G	GROUND (EQUIPMENT)	SO (S.O.)	SPACE ONLY
GFI	GROUND FAULT INTERRUPTER	SP	SPARE
MTD	MOUNT OR MOUNTED	ST (S.T.)	SHUNT TRIP
NF	NONFUSED	SW	SWITCH
NIC	NOT IN CONTRACT	UF	UNDERFLOOR
H.D	HEAVY DUTY	UG	UNDERGROUND
NL	NIGHT LIGHT	UNO(U.N.O.)	UNLESS NOTED OTHERWISE
AC	ABOVE COUNTER	WG	WIRE GUARD
HT.	HEIGHT	WP	WEATHERPROOF
MTD.	MOUNTING	XFMR	TRANSFORMER
FDR.	FEEDER	MB	MAIN BREAKER
CKT.	CIRCUIT	MLO	MAIN LUGS ONLY
LTG.	LIGHTING	RMC	RIGID METAL CONDUIT
LC	LIGHTING CONTACTOR	RNC	RIGID NONMETALLIC CONDUIT
IG	ISOLATED GROUND	EMT	ELECTRICAL METALLIC TUBING CONDUIT
EA.	EACH	S/N	SOLID NEUTRAL
N1	NEMA-1	AC	ABOVE COUNTER
N3R	NEMA-3R	AHJ	AHUTHORITY HAVING JURISDICTION
N4X	NEMA-4X	T	TAMPER PROOF
SS	STAINLESS STEEL		

NOTES:

1.) 48" AFF INDICATES TO TOP OF DEVICE;
15" AFF INDICATES TO BOTTOM OF DEVICE;
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.
AC INDICATES 6" ABOVE COUNTER TO BOTTOM OF DEVICE.

ELECTRICAL LEGEND - WIRING DEVICES

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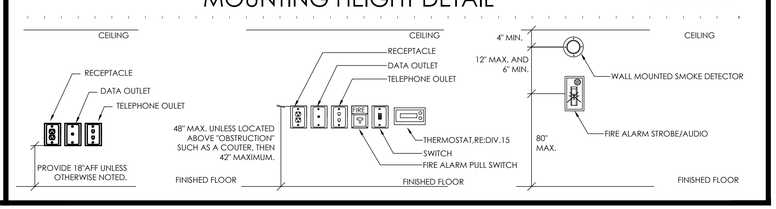
SYMBOL	DESCRIPTION
	SINGLE RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R
	DUPLEX RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R
T	DUPLEX RECEPTACLE TAMPER RESISTANT - 20A/125V/2P/3W/G NEMA 5-20R
H H	HOSPITAL GRADE DUPLEX RECEPTACLE/GFI - 20A/125V/2P/3W/G NEMA 5-20R
	DUPLEX RCPT. GFI - 20A/125V/2P/3W/G NEMA 5-20R
WP/ "IN-USE"	DUPLEX RCPT.,WEATHER RESISTANT "WR", GFI INSTALLED IN A "IN-USE" WEATHER PROOF STEEL ENCLOSURE- 20A/125V/2P/3W/G NEMA 5-20R WP/"IN-USE" SHALL BE EQUAL TO MFR. CARLON, METALLIC SERIES SINGLE GANG, VERTICAL MOUNT #ME9UVMG DOUBLE GANG, VERTICAL MOUNT #ME9U2VMG
	QUADRAPLEX RECEPTACLE
	ISOLATED GROUND QUADPLEX RECEPTACLE
	ISOLATED GROUND DUPLEX RECEPTACLE - 20A/125V NEMA 5-20R
	208V RECEPTACLE, VERIFY NEMA NO. WITH EQUIPMENT SUPPLIER
Y	SPECIAL PURPOSE RECEPTACLE (NEMA NO. AS INDICATED)
HD	J-BOX - AIR HAND DRYER: (RECESSED HAND DRYERS TO BE PROVIDED BY DIVISION 16, ELECTRICAL)#B-750 AUTOMATIC HANDCRAFT AS MANUFACTURER BY BOBRICK. (COLOR WHITE) QUANTITY: REFER TO DRAWINGS (MIN. ONE PER LAV. COMPLETE W/ ELE. CONNECTIONS TYP.)
	4-GANG FLOOR MOUNTED BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)/2-GANG FOR DATA - FLUSH MOUNTED UNO FLOOR BOX = MFR.-HUBBELL MODEL#CFB4G30CR-24GCVRNK(COVER)-(2)FBMPDUP-FBMP6KS -CFBHB2(MULTISERVICE STEEL RECESSED FLOOR BOX-VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.
6G	6-GANG FLOOR MOUNTED BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)/2-GANG FOR DATA - FLUSH MOUNTED UNO FLOOR BOX = MFR.-HUBBELL MODEL#CFB6G30CR-CFBS1R8CVRALU(COVER)-(3)FBMPDUP-FBMP6KS -CFBHB2(MULTISERVICE STEEL RECESSED FLOOR BOX-VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.
6P	6" FIRE RATED POKE-TRHOUGHS BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)- MFR.-HUBBELL MODEL#S1R6PTFIT-S1R6SPE-S1R6SPL-S1R6SPH(50/50 DEVICE PLATE COMBINATION)-S1R6CVRALU(COVER) -VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.
6JP	6" FIRE RATED POKE-TRHOUGHS BOX, FURNITURE FEED.- MFR.-HUBBELL MODEL#S1R6PTFFALU(ALUMINUM COVER) -VERIFY FLOOR FINISH PRIOR TO ORDER.
8P	8" FIRE RATED POKE-TRHOUGHS BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)- MFR.-HUBBELL MODEL#S1R8PTFIT3-S1R8CSPK-S1R8CSPK-S1R8PSPZ(50/50 DEVICE PLATE COMBINATION)-S1R8CVRALU(COVER) -VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.

MOUNTING HEIGHT DETAIL

NOTE: VERIFY WITH ARCHITECTURAL FOR **ADA REQUIREMENTS.**



GENERAL ELECTRICAL NOTES

1. ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.
2. USE DIRECTIONAL ARROW ON EXIT SIGNS AS REQUIRED.
3. IEEE STANDARD C37.2-1991, ELECTRICAL POWER SYSTEM DEVICE FUNCTION NUMBERS.
4. CONTRACTOR SHALL NOT INSTALL MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A COMMON RACEWAY. IF CONTRACTOR IS PLANNING ON GROUPING MULTIPLE CIRCUITS IN A SINGLE RACEWAY, THE CONTRCATOR MUST SUBMIT ALL DERATING CALCULATIONS FOR THE PROPOSED INSTALLATION IN ACCORDANCE WITH NEC ARTICLE 310.15 (B) (2) FOR APPROVAL PRIOR TO INSTALLATION. NON APPROVED INSTALLATIONS WILL BE REMOVED AND REINSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE NEC AT NO ADDITIONAL COST TO THE OWNER.
5. THERE SHALL NOT BE MORE THAN THE EQUIVALENT OF THREE 90° BENDS (270 DEGREES TOTAL) BETWEEN PULL POINTS. WHERE THERE ARE MORE THAN THREE QUARTER BENDS, CONTRACTOR SHALL PROVIDE PULL BOXES AS SPECIFIED AND SIZED IN ACCORDANCE WITH NEC.
6. COMPLY WITH NEC REQUIREMENTS FOR ELECTRICAL INSTALLATIONS. ALL ELECTRICAL EQUIPMENT AND MATERIAL TO BE APPROVED, LISTED, LABELED, IDENTIFIED AND INSTALLED PER RECOGNIZED ELECTRICAL TESTING LABORATORY.
7. ALL RECEPTACLES, SWITCHES AND JUNCTION BOXES SERVED BY EMERGENCY BRANCH CIRCUITS SHALL BE "RED" IN COLOR. COVERPLATES SHALL BE LABELED IN ACCORDANCE WITH SPECIFICATIONS TO INDICATE PANELBOARD AND CIRCUIT NO. (IE: ET*LA-3).

ELECTRICAL: LIGHTING FUNCTIONAL TESTING / COMMISSIONING PLAN:

CONTRACTOR SHALL PERFORM THE TASK BELOW TO COMMISSION THE LIGHTING CONTROL SYSTEM. CONTRACTOR SHALL SUBMIT A DOCUMENTATION DETAILING THE LIGHTING CONTROL SYSTEM, SETTING/CONDITION, ACTIONS PERFORMED AND FINAL SETTING CONDITION. SUBMIT DOCUMENTATION AT OR BEFORE SUBSTANTIAL COMPLETION TO FACILITATE OBTAINING THE CERTIFICATE OF OCCUPANCY.

A. ENSURE ALL LIGHTING FIXTURES FIXTURES HAVE LAMPS INSTALLED AND ARE FUNCTIONAL.
B. TEST ALL EXIT SIGNS, EMERGENCY LIGHTING FIXTURES, AND EMERGENCY BALLASTS FURNISHED INTEGRAL TO FIXTURES.
C. ENSURE ALL OCCUPANCY SENSORS HAVE BEEN INSTALLED AND ARE OPERATIONAL.
D. VERIFY ALL WALLBOX AND SCENE CONTROLLERS ARE INSTALLED AND OPERATIONAL.
E. TEST EACH INDIVIDUAL DEVICE FOR OCCUPANCY SENSOR TYPES OS1, OS2 AND TEST THE LIGHTING CONTROL RELAY PANEL SYSTEM.
F. TEST 10% OF ALL THE DEVICES FOR OCCUPANCY SENSOR TYPE: WSX-PDT-SA.
G. VERIFY THE FOLLOWING:
1. ALL SENSORS ARE LOCATED AND AIMED PER THE MANUFACTURER'S RECOMMENDATIONS.
2. STATUS INDICATORS ON DEVICES ARE OPERATIONAL AND CORRECT.
3. DEVICES CONTROL LIGHTING FIXTURES AS INDICATED ON DRAWINGS.
4. TIME DELAYS HAVE BEEN SET AS PER CODE AND PER OWNERS DIRECTIONS.
5. MOVEMENT IN ADJACENT AREAS AND/ CYCLING OF HVAC SYSTEMS DOES NOT FALSE TRIGGER SENSORS.
6. PHOTOCELL LOCATION AND AIMED PER MANUFACTURERS RECOMMENDATIONS.
7. PROGRAM INTERIOR RELAYS WITH A TIME FUNCTION ACCEPTABLE TO OWNER.
8. PROGRAM INTERIOR OVERRIDE SWITCH WITH A TIME FUNCTIONAL ACCEPTABLE BY OWNER.

LUMINAIRE SCHEDULE

MARK	VOLTAGE	LAMP	MOUNTING	DESCRIPTION	MODEL NO.
A	120V	LED 5600 LM 4000K 48W	LAY-IN	2X4 LED PARABOLIC 12 CELLFIXTURE, UL LISTED, LENS, HIGH EFFICIENCY 0-10V DRIVER	LEGION T-3724L-2-LL1-40-ST-PB12-RFL-UNV
AE	SAME AS TYPE 'A' EXCEPT WITH 1400 LUMEN EMERGENCY BATTERY PACK				
A2	120V	LED 5600 LM 4000K 48W	LAY-IN	2X4 LED PARABOLIC 12 CELLFIXTURE, UL LISTED, LENS, HIGH EFFICIENCY 0-10V DRIVER	LEGION T-3724L-2-LL2-40-ST-PB12-RFL-UNV
A2E	SAME AS TYPE 'A2' EXCEPT WITH 1400 LUMEN EMERGENCY BATTERY PACK				
B	120V	LED 4000LM 4000K 32W	LAY-IN	2X2 LED TROFFER FIXTURE, UL LISTED, LENS, HIGH EFFICIENCY 0-10 DRIVER	LEGION T-3722L-2-LL1-40-ST-PB12-RFL-UNV
BE	SAME AS TYPE 'B' EXCEPT WITH 1400 LUMEN EMERGENCY BATTERY PACK				
C	120V	LED 3000LM 4000K 36W	RECESSED	6"LED OPEN DOWN- LUMINAIRE, MATTE DIFFUSE REFLECTOR, WITH 0-10V DRIVER	GOTHAM EVO-40/30-6AR-_-WD-LS-MVOLT-GZ10
D	120V	LED 3000LM 4000K 35W	RECESSED	6"LED OPEN DOWN- LUMINAIRE, MATTE DIFFUSE REFLECTOR, WITH 0-10-10V DRIVER	LITHONIA LDN6 40/30 LO6AR LD GZ10
D2	120V	LED 3000LM 4000K 35W	RECESSED	6"LED OPEN DOWN- LUMINAIRE, MATTE DIFFUSE REFLECTOR, WITH 0-10-1%V DRIVER	LITHONIA LDN6 40/30 LO6AR LD GZ1
D4	120V	LED 3000LM 4000K 35W	RECESSED	4"LED OPEN DOWN- LUMINAIRE, MATTE DIFFUSE REFLECTOR, WITH 0-10-10%V DRIVER	LITHONIA LDN4 40/20 LO6AR LD GZ10
E	120V	INCLUDED	SURFACE	EMERGENCY LIGHTING UNIT W/ SELF-DIAGNOSTICS	LITHONIA ELM2 LED SD
E2	120V	INCLUDED	SURFACE 8'-0" AFF	EXTERIOR EMERGENCY LIGHTING UNIT W/ SELF-DIAGNOSTICS	LITHONIA AFN-8N-EXT
F	120V	LED 4000K	PENDANT	30" LED DECORATIVE PENDANT DIRECT/INDIRECT LIGHT .	SELECTED BY OWNER AND FURNISH AND INSTALL BY CONTRACTOR. CONTRACTOR SHALL INCLUDE COST FOR INSTALLATION IN BID.
G	120V	LED 3994LM 4000K 32W	SURFACE	1X4 LED FIXTURE, UL LISTED, LENS, HIGH EFFICIENCY 0-10 DRIVER	LITHONIA SBL4LP840
H	120V	LED 5600 LM 4000K 48W	RECESSED	2X4 LED PARABOLIC 12 CELLFIXTURE, UL LISTED, LENS, HIGH EFFICIENCY 0-10V DRIVER	LEGION T-3724L-2-LL1-40-ST-PB12-RFL-UNV-FK24
X1	120V	LED	SURFACE	LED THERMOPLASTIC EXIT/EMERGENCY UNIT WITH SELF-DIAGNOSTICS	LITHONIA LHQM LED _ R SD

NOTE:
1.) EQUAL MANUFACTURER SHALL BE ACCEPTABLE WITH EQUAL PERFORMANCE OF SPECIFIED EQUIPMENT AND APPROVED BY ENGINEER.
2.) SUBMIT EQUAL MANUFACTURERS TO ENGINEER 10 DAYS PRIOR TO BID DATE.
3.) SUBMIT LIGHT FIXTURES CUTSHEETS TO OWNER FOR APPROVAL PRIOR TO ORDER.
4.) CONTRACTOR SHALL VERIFY THAT ANY IRRIGATION SPRINKLER HEAD IS AWAY FROM ANY LIGHT POLE A MINIMUM OF 75' TO AVOID CONSISTENT WATER TO LIGHT POLE. COORDINATE WITH IRRIGATION CONTRACTOR PRIOR TO ANY WORK.
5.) CONTRACTOR SHALL VERIFY THAT ANY LIGHT POLES ON COMMON AREAS AND SIDE WALKS, THAT THE LOCATION OF THE POLE TO MEET THE ADA REQUIREMENTS.
6.) CONTRACTOR SHALL FIELD VERIFY FOR EXISTING/NEW UNDERGROUND UTILITIES PRIOR TO ANY WORK.

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10/18/18
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MILNET
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SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
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FINALS - 100%

SHEET NUMBER
E4.0

LIGHTING CONTROL SENSORS LEGEND

SYMBOL	ACUITY MODEL NUMBER	CONDUIT	COMMENTS
OS1	NCM-PDT-10	3/4"C	PROVIDE POWER PACK POSITIONED AS DIRECTED BY MANUFACTURER. REFER TO PLANS FOR TYPE OF POWER PACK. REFER TO PLANS AND SCHEDULES FOR SWITCHING TYPES.
$ OS2	WSX-PDT-SA	3/4"C	
OS3	CM-10	NA	PROVIDE POWER PACK POSITIONED AS DIRECTED BY MANUFACTURER. REFER TO PLANS FOR TYPE OF POWER PACK. REFER TO PLANS AND SCHEDULES FOR SWITCHING TYPES.
OS4	NCM-PDT-9	NA	PROVIDE POWER PACK POSITIONED AS DIRECTED BY MANUFACTURER. REFER TO PLANS FOR TYPE OF POWER PACK. REFER TO PLANS AND SCHEDULES FOR SWITCHING TYPES.
NP	nPP16	3/4"C	POWER PACK, 120,240,277, VAC, 16AMPS/POLE, PLENUM RATED, RELAY CONTACT PROTECTION, RJ-45 PORT
NP D	nPP16 D	3/4"C	POWER PACK, 120,240,277, VAC, 16AMPS/POLE, 0-10VDC DIMMING, PLENUM RATED, RELAY CONTACT PROTECTION, RJ-45 PORT
NP 2D	PP20 2P	3/4"C	POWER PACK, 120,240,277, VAC, 20AMPS/POLE, PLENUM RATED, RELAY CONTACT PROTECTION, RJ-45 PORT, CONTROLS TWO CIRCUITS
ADCP	nCM ADCX	3/4"C	AUTOMATIC DIMMING CONTROL PHOTOCELL-CEILING MOUNT, LOW VOLTAGE
LCP	BLUE BOX LT	RE: PLANS	LIGHTING CONTROL RELAY PANEL, REFER TO RELAY PANEL SCHEDULE.
SW1	nPODM-_-_-_WH	3/4"C	WALL MOUNT SWITCH WITH ON/OFF WITH STAINLESS STEEL PLATE
SW2	nPODM-_-DX-_WH	3/4"C	WALL MOUNT SWITCH WITH ON/OFF WITH RAISE /LOWER FUNCTION AND WITH STAINLESS STEEL PLATE

GENERAL NOTES:
A. CONTRACTOR SHALL REFER TO MANUFACTURERS INSTRUCTIONS AND WIRING DIAGRAMS PRIOR TO BID DATE.
B. CONTRACTOR SHALL INCLUDE ALL COST IN BID FOR AN OPERABLE LIGHTING SYSTEM.

NOTES:

1. All sensor locations are approximate, refer to manufacturers installation instructions prior to installation.
2. Ultrasonic ceiling mount sensors should be located a minimum of six feet from HVAC supply/return vents.
3. Contractor is responsible for: proper sensitivity & time delay settings (for non-adaptive products) recommended placement, and field verification of circuits with in respect to power placement.
4. Contractor is responsible for field verification of required number of power packs:
   - One power pack is required for each circuit to be controlled.
   - One power pack is required for every three sensors in the zone.
   - If multiple circuits are to be controlled by a sensor, an auxiliary relay can be used in conjunction with the power pack.
   - The maximum number of sensors that can be put on a power pack is to be reduced by one for each slave pack used.
5. Sensors mounted over the door must be placed one foot inside the threshold.
6. Contractor is responsible for ensuring that the sensor bill of materials complies with the sensor design and layout specifications.
7. Contractor is responsible for installing equipment in compliance with local code.
8. Refer to manufacturers wiring diagrams.

EXTERIOR LUMINAIRE SCHEDULE

MARK	VOLTAGE	LAMP	MOUNTING	DESCRIPTION	MODEL NO.
AA	120V	LED 3000 LM 4000 K 25 W	SURFACE	LED WALL LUMINAIRE, WET LOCATION RATED, CSA CERTIFIED	LITHONIA WST LED P2 40K VF MVOLT BBW
BB	120V	LED 4285 LM 4000 K 46W	SURFACE	15"X15" RECESSED LED FIXTURE RATED FOR WET LOCATION	MCGRAW EDISON LRC-B32-4-LED-E1-WST
CC	120V	LED 4285 LM 4000 K 28W	SURFACE	ARCHITECTURAL LED RGB, INGRADE, UL LISTED, WET LOCATION, INCLUDE CONTROL CABLE	PHILIPS DECOSCENE LED BBP621
DD	120V	LED 1445 LM 4000 K 50W	SURFACE	LED FLOOD LIGHT, RGB,DMX, UL LISTED, WET LOCAATION,SPREAD LENS, DATA ENABLER PRO.	PHILIPS CK_SPEC30_COLORBLASTPC_GEN4RGB_100-277VAC
FF	120V	LED 4100K 41W	SURFACE	LED FLOOD LIGHT, WIDE FLOOD RECTANGULAR DISTRIBUTION, RATED FOR WET LOCATION. MOUNT ON RIGID CONDUIT. INCLUDE DRIVER	LITHONIA DSXF1LED-2-A530/40K-WFR-MVOLT-THK-DNAXD-DSXF1VG U
GG	120V	LED 4100K 41W	SURFACE	LED EXTERIOR WALL SCONCE, UL LISTED, WET LOCAITON	SELECTED BY OWNER AND FURNISH AND INSTALL BY CONTRACTOR. CONTRACTOR SHALL INCLUDE COST FOR INSTALLATION IN BID.
HH	120V	LED 4470 LM 4000 K 40W	SURFACE	LED WALL LUMINAIRE, WET LOCATION RATED, CSA CERTIFIED	LITHONIA TWR1 P2 40K MVOLT _ DDBTXD
S1A	120V	LED 20733 LM 4000 K 207W	28' POLE	LED AREA LUMINAIRE, POLE MOUNT LUMINAIRE, INCLUDE BASE COVER, RATED FOR WET LOCATION, UL LISTED, POLE SHALL BE SIZE FOR MIN. 110 MPH, INCLUDE VIBRATION DAMPERS	LITHONIA DSX1 LED P8 40K TFTM MVOLT
S1B	120V	LED 20140 LM 4000 K 207W	28' POLE	LED AREA LUMINAIRE, POLE MOUNT LUMINAIRE, INCLUDE BASE COVER, RATED FOR WET LOCATION, UL LISTED, POLE SHALL BE SIZE FOR MIN. 110 MPH, INCLUDE VIBRATION DAMPERS	LITHONIA DSX1 LED P8 40K T3M MVOLT
S2A	120V	LED 21384 LM 4000 K 414W	28' POLE	LED AREA LUMINAIRE, POLE MOUNT LUMINAIRE, INCLUDE BASE COVER, RATED FOR WET LOCATION, UL LISTED, POLE SHALL BE SIZE FOR MIN. 110 MPH, INCLUDE VIBRATION DAMPERS	LITHONIA DSX1 LED P8 40K T5W MVOLT

NOTE:

1.) EQUAL MANUFACTURER SHALL BE ACCEPTABLE WITH EQUAL PERFORMANCE OF SPECIFIED EQUIPMENT AND APPROVED BY ENGINEER.
2.) SUBMIT EQUAL MANUFACTURERS TO ENGINEER 10 DAYS PRIOR TO BID DATE.
3.) SUBMIT LIGHT FIXTURES CUTSHEETS TO OWNER FOR APPROVAL PRIOR TO ORDER.
4.) CONTRACTOR SHALL VERIFY THAT ANY IRRIGATION SPRINKLER HEAD IS AWAY FROM ANY LIGHT POLE A MINIMUM OF 75' TO AVOID CONSISTENT WATER TO LIGHT POLE. COORDINATE WITH IRRIGATION CONTRACTOR PRIOR TO ANY WORK.
5.) CONTRACTOR SHALL VERIFY THAT ANY LIGHT POLES ON COMMON AREAS AND SIDE WALKS, THAT THE LOCATION OF THE POLE TO MEET THE ADA REQUIREMENTS.
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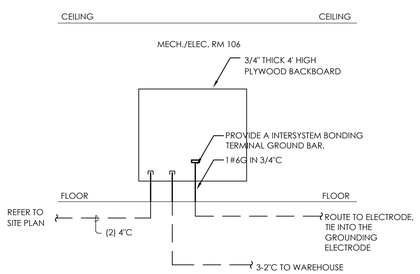

1 TELE/DATA RISER
SCALE: NTS

DISCONNECT SCHEDULE

LABEL	DESCRIPTION
WH-1,2	30AMP, 1Ø, 3W, N1,208V, S/N, N.F., H.D. ROTARY TYPE DISCONNECT
IWH-1,2	30AMP, 1Ø, 3W, N1,208V, S/N, N.F., H.D. ROTARY TYPE DISCONNECT
UH-1	30AMP, 1Ø, 3W, N1,208V, S/N, N.F., H.D. DISCONNECT
AHU-1,2,5,8,9	100AMP, 1Ø,3W, N1,208V, S/N, N.F., H.D. DISCONNECT
CU-1,2,3,4,5,6,8,9	60AMP, 1Ø, 3W, N3R,208V, S/N, H.D. FUSED DISCONNECT
CU-3,4,6	60AMP, 1Ø, 3W, N3R,208V, S/N, H.D. FUSED DISCONNECT
AHU-7	60AMP, 3Ø,4W, N1,208V, S/N, N.F., H.D. DISCONNECT
CU-7	60AMP, 3Ø, 4W, N3R,208V, S/N, H.D. FUSED DISCONNECT
FCCU-1	30AMP, 1Ø, 3W, N3R,208V, S/N, H.D. FUSED DISCONNECT
EF-WH-4	FUSED COMBINATION DISCONNECT/STARTER, 30AMP, 1Ø, 3W, N3R,208V, 3/4 HP, CPT, SSOL, HOA

NOTE: 1. REFER TO BREAKER SIZE FOR FUSE SIZE.
2. REFER TO PANELBOARD FOR DISCONNECT PHASES AND VOLTAGE.
3. PROVIDE SOLID STATE PHASE LOSS PROTECTION FOR ALL STARTER AND COMBOS .

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E4.1

120/208V, 3Ø, 4W ELECTRICAL LOAD ANALYSIS	
DISCRIPTION	TOTAL KVA
LIGHTING	18
GENERAL POWER	84
A/C	132
WATER HEATER	8
TOTAL WATTS:	260 KVA
TOTAL AMPS:	723 AMPS
WIRE SIZE AMPS:	800 AMPS

GENERAL NOTES:

A. PROVIDE GROUND /BONDING AS INDICATED ON THE NATIONAL ELECTRICAL CODE.

B. NAME PLATES SHALL BE PROVIDED FOR ALL ELECTRICAL SWITCH GEAR, PANEL BOARDS, LIGHTING CONTACTORS, LIGHTING CONTROL PANELS, ETC.. BY ELECTRICAL CONTRACTOR.

C. NEW ELECTRICAL METERING AND SERVICE EQUIPMENT SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE LOCAL POWER UTILITY CO. AND CITY REQUIREMENTS. VERIFY AND COORDINATE WITH POWER UTILITY CO. AND AHJ BEFORE BID AND INSTALLATION.

D. COMPLY WITH NFPA 70E SAFETY REQUIREMENTS.

E. PANELBOARDS WITH MORE THAN 42 CIRCUITS SHALL BE IN ONE CABINET ENCLOSURE, UNLESS OTHERWISE NOTED.

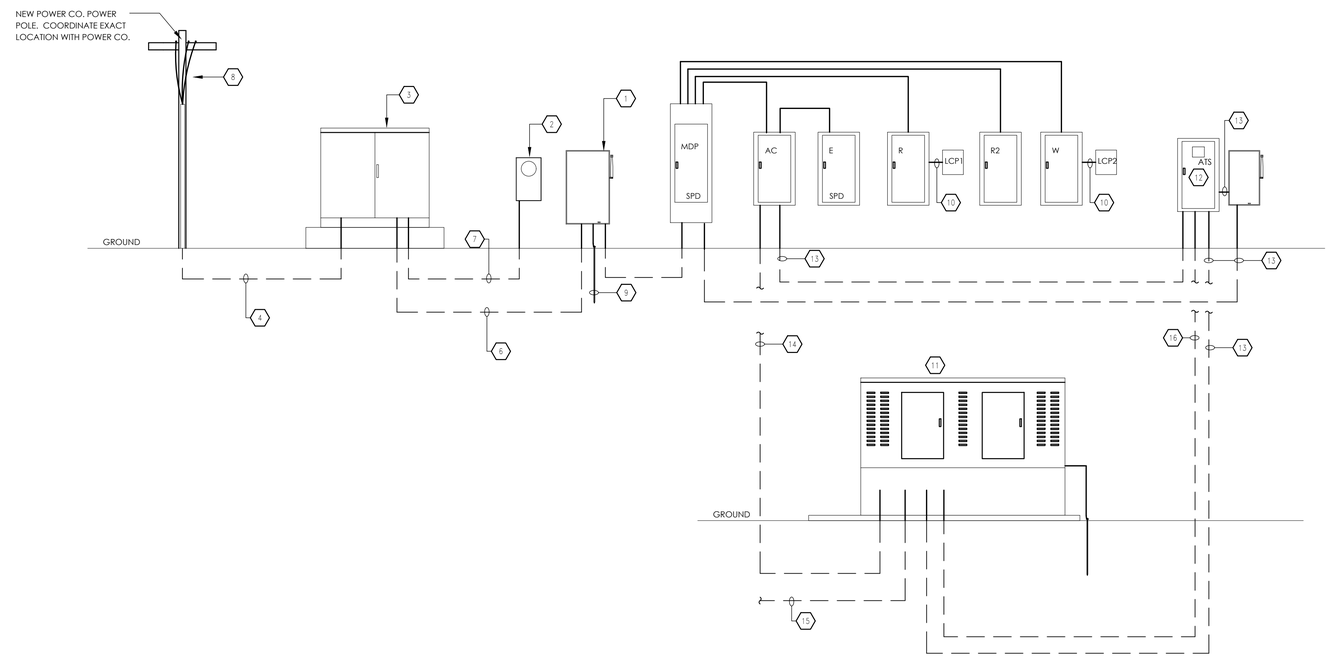
F. PROVIDE 4"CONCRETE PAD FOR ALL DRY-TYPE TRANSFORMERS.

G. ALL TWO SECTION PANELBOARDS SHALL BE FEED THRU LUGS.

H. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY OF ELECTRICAL SERVICE TO THE NEW BUILDING WITHIN PROJECT SCHEDULE. COORDINATE ALL COST FOR LABOR AND MATERIALS WITH LOCAL ELECTRICAL UTILITY COMPANY PRIOR TO BID. ALL COST ASSOCIATED WITH THE DELIVERY OF ELECTRICAL SERVICE INCLUDING ALL MATERIALS SHALL BE INCLUDED IN BID. TRANSITION OF NEW ELECTRICAL SERVICE SHALL PROCEED IN WEEKENDS OR HOLIDAYS, INCLUDE ALL COST IN BID FOR OVERTIME FROM ELECTRIC UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE MADE FOR SERVICE DELIVERY COSTS AFTER CONTRACT HAS BEEN AWARDED.

BASE BID
ELECTRICAL RISER
DIAGRAM KEYED NOTES:

1. PROVIDE 800AMPS, 208V, 3Ø, 4W, S/N, N3R, HEAVY DUTY FUSED SERVICE ENTRANCE DISCONNECT, FUSED@800AMPS.
2. NEW ELECTRICAL SERVICE METER 120/208V, 3Ø, 4W. CONTRACTOR SHALL PROVIDE METER BASE. VERIFY WITH POWER FOR METER BASE REQUIREMENTS PRIOR TO BID DATE. INCLUDE ALL COST IN BID. COORDINATE ALLOCATION OF METER SOCKET AND WIRING WITH POWER COMPANY.
3. NEW POWER COMPANY PAD MOUNT TRANSFORMER 120/208V, 3Ø, 4W, PROVIDE CONCRETE PAD AS PER POWER COMPANY REQUIREMENTS.
4. FURNISH AND INSTALL 1-4"C FOR UTILITY PRIMARY RACEWAY TO POWER SOURCE AS DIRECTED BY UTILITY COMPANY. PROVIDE WARNING RIBBONS 12" ABOVE CONDUIT.
5. 1#3/0G IN 1"C, 3/4"X10' COPPER CLAD RODS. PROVIDE GROUNDING AS PER NEC REQUIREMENTS.
6. PROVIDE 2-RUNS EACH 4#600KCMIL, 1#1/0G, 4"C.
7. PROVIDE 1-2"C WITH PULLSTRING.
8. NEW POWER COMPANY POLE WITH RISER DIP POLE. COORDINATE WITH POWER COMPANY FOR ALL REQUIREMENTS.
9. 1#6G, GROUND ELECTRODE CONDUCTOR, CALDWELD CONNECTION TO BUILDING REBAR AND STRUCTURE STEEL.
10. LIGHTING CIRCUITS.
11. EXISTING GENERATOR, MFR. CATERPILLAR#D125-6, 120/208V, 3Ø, 4W, 400AMPS AT A NEW LOCATION.
12. NEW 400AMP, 208/120V, 3Ø, 4W, S/N, N3R, 65KAIC, OTS, AUTOMATIC TRANSFER SWITCH
13. PROVIDE 2 RUNS EACH 4#4/0, 1#3G, 3"C
14. 1-1"C TO PANEL FOR BLOCK HEATER CKT AND 1-1"C TO PANEL FOR BATTERY CHARGER. REFER TO PANEL SCHEDULES FOR BLOCK HEATER AND BATTERY CHARGER CIRCUITS.
15. PROVIDE 1-1.5"C WITH PULLSTRING FOR REMOTE ANUNNCIATOR. COORDINATE EXACT LOCATION- FOR REMOTE ANUNNCIATOR WITH OWNER PRIOR TO ANY ROUGH-INS. LOCATE REMOTE ANUNNCIATOR IN ROOM #104.
16. (1)-1"C TO ATS FOR START CONTROLS. START CONTROL WIRING SHALL BE 3#14. VERIFY WITH EQUIPMENT SUPPLIER FOR START WIRING.



1 ELECTRICAL SCHEMATIC DIAGRAM - BASE BID
SCALE: NTS

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SHEET NUMBER
E5.0

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B. NAME PLATES SHALL BE PROVIDED FOR ALL ELECTRICAL SWITCH GEAR, PANEL BOARDS, LIGHTING CONTACTORS, LIGHTING CONTROL PANELS, ETC.. BY ELECTRICAL CONTRACTOR.

C. NEW ELECTRICAL METERING AND SERVICE EQUIPMENT SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE LOCAL POWER UTILITY CO. AND CITY REQUIREMENTS. VERIFY AND COORDINATE WITH POWER UTILITY CO. AND AHJ BEFORE BID AND INSTALLATION.

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F. PROVIDE 4"CONCRETE PAD FOR ALL DRY-TYPE TRANSFORMERS.

G. ALL TWO SECTION PANELBOARDS SHALL BE FEED THRU LUGS.

H. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY OF ELECTRICAL SERVICE TO THE NEW BUILDING WITHIN PROJECT SCHEDULE. COORDINATE ALL COST FOR LABOR AND MATERIALS WITH LOCAL ELECTRICAL UTILITY COMPANY PRIOR TO BID. ALL COST ASSOCIATED WITH THE DELIVERY OF ELECTRICAL SERVICE INCLUDING ALL MATERIALS SHALL BE INCLUDED IN BID. TRANSITION OF NEW ELECTRICAL SERVICE SHALL PROCEED IN WEEKENDS OR HOLIDAYS, INCLUDE ALL COST IN BID FOR OVERTIME FROM ELECTRIC UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE MADE FOR SERVICE DELIVERY COSTS AFTER CONTRACT HAS BEEN AWARDED.

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ELECTRICAL RISER
DIAGRAM KEYED NOTES:

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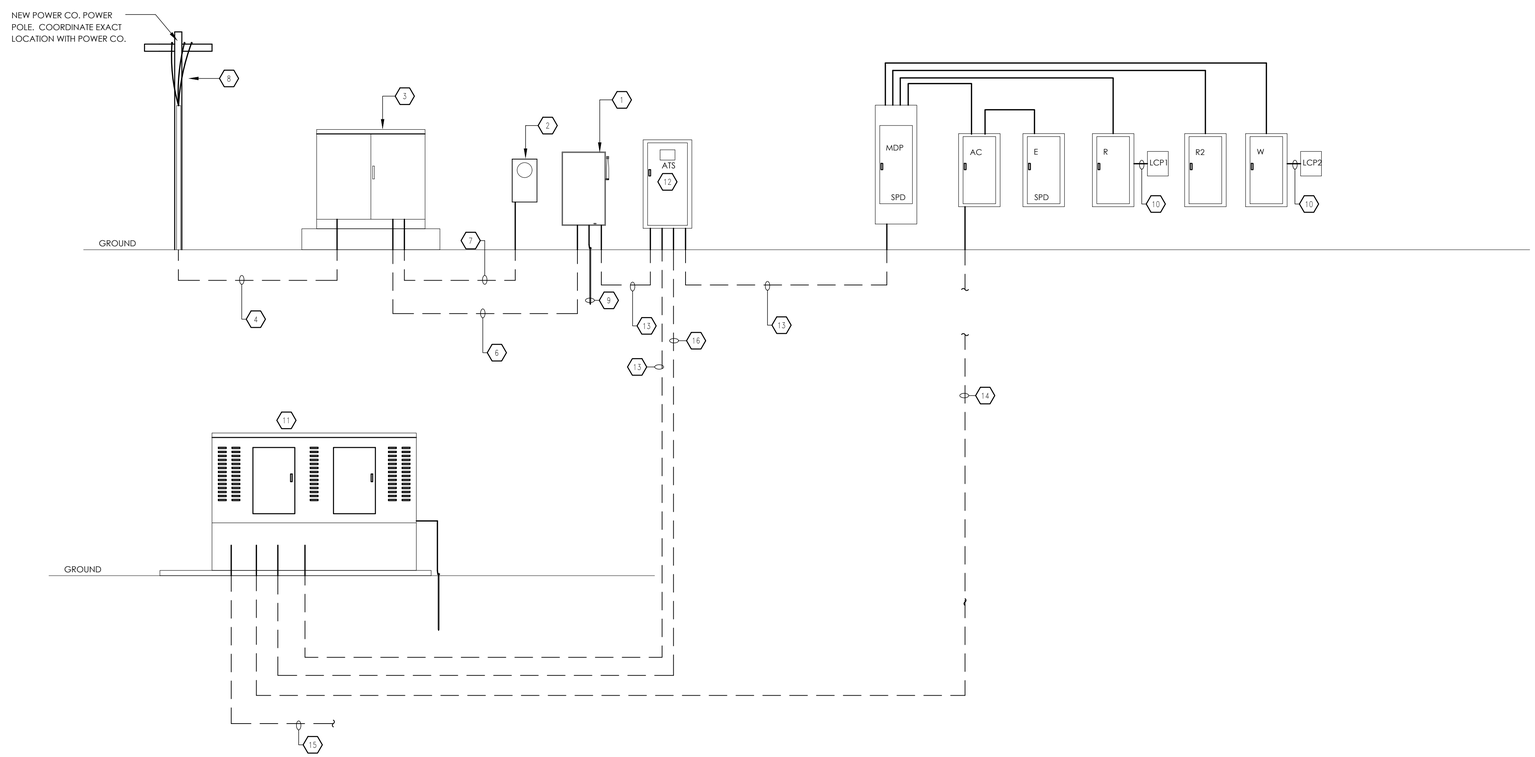
4. FURNISH AND INSTALL 1-4"C FOR UTILITY PRIMARY RACEWAY TO POWER SOURCE AS DIRECTED BY UTILITY COMPANY. PROVIDE WARNING RIBBONS 12" ABOVE CONDUIT.
5. 1#3/0G IN 1"C, 3/4"X10' COPPER CLAD RODS. PROVIDE GROUNDING AS PER NEC REQUIREMENTS.
6. PROVIDE 2-RUNS EACH 4#600KCMIL, 1#1/0G, 4"C.
7. PROVIDE 1-2"C WITH PULLSTRING.
8. NEW POWER COMPANY POLE WITH RISER DIP POLE. COORDINATE WITH POWER COMPANY FOR ALL REQUIREMENTS.
9. 1#6G. GROUND ELECTRODE CONDUCTOR. CALDWELD CONNECTION TO BUILDING REBAR AND STRUCTURE STEEL.
10. LIGHTING CIRCUITS.
11. 250KW, 208/120V, 3Ø, 4W, 1-800AMP 3-POLE MAIN BREAKER 100% RATED, U.L. LISTED DIESEL GENERATOR IN A WEATHER PROOF ENCLOSURE. PROVIDE CONCRETE PAD. REFER TO SPECIFICATIONS.
12. NEW 800AMP, 208/120V, 3Ø, 4W, S/N, N3R, 65KAIC, OTS, AUTOMATIC TRANSFER SWITCH
13. PROVIDE 2-RUNS EACH 4#600KCMIL, 1#1/0G, 4"C.
14. 1-1"C TO PANEL FOR BLOCK HEATER CKT AND 1-1"C TO PANEL FOR BATTERY CHARGER. REFER TO PANEL SCHEDULES FOR BLOCK HEATER AND BATTERY CHARGER CIRCUITS.
15. PROVIDE 1-1.5"C WITH PULLSTRING FOR REMOTE ANUNNCIATOR. COORDINATE EXACT LOCATION- FOR REMOTE ANUNNCIATOR WITH OWNER PRIOR TO ANY ROUGH-INS. LOCATE REMOTE ANUNNCIATOR IN ROOM #104.
16. (1)-1"C TO ATS FOR START CONTROLS. START CONTROL WIRING SHALL BE 3#14. VERIFY WITH EQUIPMENT SUPPLIER FOR START WIRING.



1 ELECTRICAL SCHEMATIC DIAGRAM - ALTERNATE#5
SCALE: NTS

TRINITY
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PROFESSIONAL ENGINEER

MILNET
ARCHITECTURAL
SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
E5.1

PANEL-MDP	AMP	LUGS	NEMA	V(LL)		(P)		(W)		V(LN)	MNT	KAIC	FDR: 2 RUNS EACH,
LOCATION:	800	MLO	1	208		3		4		120	SUR.	40	4#600KCMIL, 1#1/OG, 4"C
LOAD	CKT	LOAD	BKR	POLE	FEEDER/BRANCH CIRCUIT				FEEDER/BRANCH CIRCUIT	POLE	BKR	LOAD	CKT	LOAD
SERVED	#	KVA	SIZE		SIZE	A	B	C	SIZE		SIZE	KVA	#	SERVED
PANEL-AC	1	44	400	3	4#600KCMIL, 1#3G, 5"C	*			4#1, 1#6G,2"C	3	125	11	2	PANEL-R
"	3	37			-		*		-			8	4	"
"	5	36			-			*	-			9	6	"
PANEL-W	7	17	225	3	4#4/0, 1#4G,3"C	*			4#2, 1#8G,2"C	3	100	5	8	PANEL-R2
"	9	20			-		*		-			7	10	"
"	11	28			-			*	-			4	12	"
AHU-6	13	5	50	2	3#6, 1#10G,1"C	*			3#8, 1#10G,3/4"C	2	35		14	CU-6
"	15	5			-		*		-				16	"
AHU-7	17	8.6	80	2	3#4, 1#8G,1 1/2"C			*	3#6, 1#10G,1"C	2	50		18	CU-7
"	19	8.6			-	*			-				20	"
"	21	8.6			-		*		-				22	"
SPACE	23				-			*	-				24	SPACE
SPACE	25				-	*			-				26	SPACE
SPACE	27				-		*		-				28	SPACE
SPACE	29				-			*	-				30	SPACE
SPARE	31		20	1	-	*			-				32	SPACE
SPARE	33		20	1	-		*		-				34	SPACE
SPARE	35		20	1	-			*	-				36	SPACE
SPD	37		60	3	4#4, 1#8G,1 1/2"C	*			-	1			38	SPARE
"	39				-		*		-	1			40	SPARE
"	41				-			*	-	1			42	SPARE
LOADS	-	(KVA)				89	86	85				(KVA)	-	DESCRIPTIVE LOADS
CONNECTED LOAD	-	260				KVA/PHASE						0	-	LIGHTING
RESERVE	0	0										0	-	RECEPTACLES
TOTAL LOAD	-	**260**										0	-	COOLING
												36	-	HEATING
TOTAL AMPS	-	**723**										225	-	OTHER

NOTES:
1) INCLUDE INTEGRAL SURGE PROTECTION DEVICE, 160K WITH SEPARATE MEANS DISCONNECT
2)
3)

PANEL-AC	AMP	LUGS	NEMA	V(LL)		(P)		(W)		V(LN)	MNT	KAIC	FDR
-	400	MLO	1	208		3		4		120	SUR.	30	1-RUN 4#600KCMIL, 1#3G, 4"C
LOAD	CKT	LOAD	BKR	POLE	FEEDER/BRANCH CIRCUIT				FEEDER/BRANCH CIRCUIT	POLE	BKR	LOAD	CKT	LOAD
SERVED	#	KVA	SIZE		SIZE	A	B	C	SIZE		SIZE	KVA	#	SERVED
AHU-1	1	7.6	80	2	3#4, 1#8G,1 1/2"C	*			3#6, 1#10G,1"C	2	45		2	CU-1
"	3	7.6			-		*		-				4	"
AHU-2	5	7.6	80	2	3#4, 1#8G,1 1/2"C			*	3#6, 1#10G,1"C	2	45		6	CU-2
"	7	7.6			-	*			-				8	"
AHU-3	9	5	50	2	3#6, 1#10G,1"C		*		3#8, 1#10G,3/4"C	2	35		10	CU-3
"	11	5			-			*	-				12	"
AHU-4	13	5	50	2	3#6, 1#10G,1"C	*			3#8, 1#10G,3/4"C	2	35		14	CU-4
"	15	5			-		*		-				16	"
AHU-5	17	7.8	80	2	3#4, 1#8G,1 1/2"C			*	3#6, 1#10G,1"C	2	45		18	CU-5
"	19	7.8			-	*			-				20	"
MOTORIZED DAMPERS	21	1.2	20	1	2#12, 1#12G,1/2"C		*		3#12, 1#12G,1/2"C	2	20	1.4	22	FCCU-1
SPACE	23				-			*	-			1.4	24	"
SPACE	25				-	*			-				26	SPACE
SPACE	27				-		*		-				28	SPACE
SPACE	29				-			*	-				30	SPACE
SPD	31		30	3	3#10, 1#10G,3/4"C	*			-				32	SPACE
"	33				-		*		-				34	SPACE
"	35				-			*	-				36	SPACE
PANEL-E	37	16	200	3	4#3/0, 1#6G,2"C	*			-	1	20		38	SPARE
"	39	17			-		*		-	1	20		40	SPARE
"	41	14			-			*	-	1	20		42	SPARE
LOADS	-	(KVA)				44	37	36				(KVA)	-	DESCRIPTIVE LOADS
CONNECTED LOAD	-	113				KVA/PHASE						0	-	LIGHTING
RESERVE	0	0										0	-	RECEPTACLES
TOTAL LOAD	-	**113**										0	-	COOLING
												67	-	HEATING
TOTAL AMPS	-	**314**										46	-	OTHER

NOTES:
1) INCLUDE INTEGRAL SURGE PROTECTION DEVICE, 100K WITH SEPARATE MEANS DISCONNECT
2)
3)

PANEL-R2	AMP	LUGS	NEMA	V(LL)		(P)		(W)		V(LN)	MNT	KAIC	FDR
	100	MLO	1	208		3		4		120	SUR.	10	1-RUN 4#2, 1#8G, 2"C
LOAD	CKT	LOAD	BKR	POLE	FEEDER/BRANCH CIRCUIT				FEEDER/BRANCH CIRCUIT	POLE	BKR	LOAD	CKT	LOAD
SERVED	#	KVA	SIZE		SIZE	A	B	C	SIZE		SIZE	KVA	#	SERVED
BLOWER PACK MODULE	1	1.2	20	1	2#8, 1#10G,3/4"C	*			3#10, 1#10G,3/4"C	2	20	0.5	2	UH-1
BLOWER PACK MODULE	3	1.2	20	1	2#8, 1#10G,3/4"C		*		-			0.5	4	"
BLOWER PACK MODULE	5	1.2	20	1	2#8, 1#10G,3/4"C			*	-				6	
SPACE	7	0.6	20	1	2#12, 1#12G,1/2"C	*			-				8	
BYPASS VALVE MODULE	9	1.2	20	1	2#8, 1#10G,3/4"C		*		2#8, 1#10G,3/4"C	1	30	2.4	10	IWH-1
SPACE	11				2#8, 1#10G,3/4"C			*	2#8, 1#10G,3/4"C				12	SPACE
SPACE	13				-	*			-				14	SPACE
SPRINKLER SYSTEM	15	0.6	20	1	2#12, 1#12G,1/2"C		*		-				16	SPACE
SPACE	17				-			*	2#12, 1#12G,1/2"C	1	20	0.4	18	1 RCPT
SPACE	19				-	*			2#8, 1#10G,3/4"C	1	20	1.2	20	MARQUEE
SPACE	21				-		*		-				22	SPACE
SPACE	23				-			*	2#10, 1#10G,3/4"C	1	20	0.6	24	ACCESS CONTROLS
SPACE	25				-	*			-				26	SPACE
1 RCPT	27	1.5	20	1	2#12, 1#12G,1/2"C		*		-				28	SPACE
1 RCPT	29	1.5	20	1	2#12, 1#12G,1/2"C			*	-				30	SPACE
1) WATER FEATURE	31	1.2	20	1	2#8, 1#10G,3/4"C	*			-				32	SPACE
SPACE	33				-		*		-				34	SPACE
SPACE	35				-			*	-				36	SPACE
SPARE	37			1	-	*			-	1			38	SPARE
SPARE	39			1	-		*		-	1			40	SPARE
SPARE	41			1	-			*	-	1			42	SPARE
LOADS	-	(KVA)				5	7	4				(KVA)	-	DESCRIPTIVE LOADS
CONNECTED LOAD	-	15				KVA/PHASE						1	-	LIGHTING
RESERVE	0	0										12	-	RECEPTACLES
TOTAL LOAD	-	**15**										0	-	COOLING
												0	-	HEATING
TOTAL AMPS	-	**42**										2	-	OTHER

NOTES:
1) PROVIDE GFI BREAKER
2)
3)

	SPACE
	SPACE
	SPACE
	SPACE

PANEL-W	AMP	LUGS	NEMA	V(LL)		(P)		(W)		V(LN)	MNT	KAIC	FDR
LOCATION:	225	MLO	1	208		3		4		120	SUR.	10	1-RUN 4#4/0, 1#4G, 3"C
LOAD	CKT	LOAD	BKR	POLE	FEEDER/BRANCH CIRCUIT				FEEDER/BRANCH CIRCUIT	POLE	BKR	LOAD	CKT	LOAD
SERVED	#	KVA	SIZE		SIZE	A	B	C	SIZE		SIZE	KVA	#	SERVED
LIGHTING	1	1.2	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1.2	2	LIGHTING
LIGHTING	3	0.8	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.5	4	LIGHTING
EMERGENCY/EXITS	5	1.5	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1	6	EXTERIOR LIGHTING
SPACE	7				-	*			-				8	SPACE
4 RCPTS	9	0.8	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.8	10	4 RCPTS
4 RCPTS	11	0.8	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.2	12	EDF
1 RCPT	13	0.4	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1.2	14	HAND DRYER
4 RCPTS	15	0.8	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.8	16	4 RCPTS
4 RCPTS	17	0.8	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	0.8	18	QUAD
6 RCPTS	19	1.2	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	0.8	20	4 RCPTS
5 RCPTS	21	1	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	1.2	22	HAND DRYER
3 RCPTS	23	0.6	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.2	24	HAND DRYER
2 RCPTS	25	0.8	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1.2	26	6 RCPTS
ACCESS CONTROLS	27	0.6	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	1.5	28	WH-2
4 RCPTS	29	0.8	20	1	2#10, 1#10G,3/4"C			*	2#8, 1#10G,3/4"C	1	20	0.8	30	4 RCPTS
3 QUAD	31	1.2	20	1	2#10, 1#10G,3/4"C	*			2#12, 1#12G,1/2"C	1	20	0.5	32	HVLS-1
SPACE	33				-		*		-			0.5	34	"
AHU-8	35	7.6	80	2	3#4, 1#8G,1 1/2"C			*	3#6, 1#10G,1"C	2	45		36	CU-8
"	37	7.6			-	*			-				38	"
AHU-9	39	7.6	80	2	3#4, 1#8G,1 1/2"C		*		3#6, 1#10G,1"C	2	45		40	CU-9
"	41	7.6			-			*	-				42	"
EF-WH-4	43	0.6	20	1	2#10, 1#10G,3/4"C	*			2#12, 1#12G,1/2"C	1	20	1.5	44	1 RCPT
SPACE	45				-		*		2#12, 1#12G,1/2"C	1	20	0.6	46	MOTORIZED DAMPERS
SPACE	47				-			*	-				48	SPACE
SPACE	49				-	*			-				50	SPACE
SPACE	51				-		*		-				52	SPACE
SPACE	53				-			*	-				54	SPACE
SPACE	55				-	*			-				56	SPACE
SPACE	57				-		*		-				58	SPACE
SPARE	59			1	-			*	-	1			60	SPARE
SPARE	61			1	-	*			-	1			62	SPARE
SPARE	63			1	-		*		-	1			64	SPARE
LOADS	-	(KVA)				19	18	25				(KVA)	-	DESCRIPTIVE LOADS
CONNECTED LOAD	-	62				KVA/PHASE						6	-	LIGHTING
RESERVE - %	0	0										24	-	RECEPTACLES
TOTAL LOAD	-	**62**										0	-	COOLING
												30	-	HEATING
												0	-	MOTOR
												0	-	KITCHEN
												2	-	OTHER
TOTAL AMPS	-	**171**												

NOTES:
1)
2)
3)

PANEL-R	AMP	LUGS	NEMA	V(LL)		(P)		(W)		V(LN)	MNT	KAIC	FDR
LOCATION:	125	MLO	1	208		3		4		120	SUR.	10	1-RUN 4#1, 1#6G, 2"C
LOAD	CKT	LOAD	BKR	POLE	FEEDER/BRANCH CIRCUIT				FEEDER/BRANCH CIRCUIT	POLE	BKR	LOAD	CKT	LOAD
SERVED	#	KVA	SIZE		SIZE	A	B	C	SIZE		SIZE	KVA	#	SERVED
SPACE	1				-	*			-				2	SPACE
SPACE	3				-		*		2#12, 1#12G,1/2"C	1	20	1	4	LIGHTING
LIGHTING	5	1.1	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.1	6	LIGHTING
SITE LIGHTING	7	0.8	20	1	2#8, 1#10G,3/4"C	*			2#10, 1#10G,3/4"C	1	20	0.6	8	EXTERIOR LIGHTING
SITE LIGHTING	9	0.8	20	1	2#8, 1#10G,3/4"C		*		2#10, 1#10G,3/4"C	1	20	0.2	10	EXTERIOR LIGHTING
SITE LIGHTING	11	0.8	20	1	2#8, 1#10G,3/4"C			*	2#6, 1#10G,1"C	1	210	0.5	12	EXTERIOR LIGHTING
LANE INDICATION SIGNS	13	0.8	20	1	2#12, 1#12G,1/2"C	*			2#8, 1#10G,3/4"C	1	20	1.5	14	EMERGENCY/EXITS
EXTERIOR LIGHTING	15	0.2	20	1	2#8, 1#10G,3/4"C		*		2#10, 1#10G,3/4"C	1	20	1	16	FLAG POLE/MONUMENT SIGN
SPACE	17				2#10, 1#10G,3/4"C			*	-				18	SPACE
SPACE	19				-	*			-				20	SPACE
SPACE	21				-		*		-				22	SPACE
SPACE	23				-			*	-				24	SPACE
SPACE	25				-	*			-				26	SPACE
SPACE	27				-		*		-				28	SPACE
SPACE	29				-			*	-				30	SPACE
SPACE	31				-	*			-				32	SPACE
SPACE	33				-		*		2#10, 1#10G,3/4"C				34	SPACE
SPACE	35				-			*	2#12, 1#12G,1/2"C	1	20	0.4	36	QUAD
6 RCPTS	37	1.2	20	1	2#8, 1#10G,3/4"C	*			2#8, 1#10G,3/4"C	1	20	1.2	38	6 RCPTS
4 RCPTS	39	0.8	20	1	2#12, 1#12G,1/2"C		*		2#10, 1#10G,3/4"C	1	20	0.8	40	4 RCPTS
6 RCPTS	41	1.2	20	1	2#10, 1#10G,3/4"C			*	2#10, 1#10G,3/4"C	1	20	0.8	42	4 RCPTS
5 RCPTS	43	1	20	1	2#8, 1#10G,3/4"C	*			2#10, 1#10G,3/4"C	1	20	0.4	44	QUAD
4 RCPTS	45	0.8	20	1	2#10, 1#10G,3/4"C		*		2#12, 1#12G,1/2"C	1	20	0.4	46	QUAD
6 RCPTS	47	1.2	20	1	2#8, 1#10G,3/4"C			*	2#10, 1#10G,3/4"C	1	20	0.8	48	4 RCPTS
QUAD	49	0.8	20	1	2#12, 1#12G,1/2"C	*			2#8, 1#10G,3/4"C	1	20	1	50	5 RCPTS
5 RCPTS	51	1	20	1	2#8, 1#10G,3/4"C		*		2#12, 1#12G,1/2"C	1	20	0.8	52	4 RCPTS
4 RCPTS	53	0.8	20	1	2#10, 1#10G,3/4"C			*	-				54	SPACE
PRINTER	55	0.8	20	1	2#12, 1#12G,1/2"C	*			2#10, 1#10G,3/4"C	1	20	1.2	56	PLOTTER
SPACE	57				-		*		2#10, 1#10G,3/4"C				58	SPACE
SPARE	59		20	1	-			*	2#8, 1#10G,3/4"C	1	20	0.6	60	GATE CONTROLS
SPARE	61		20	1	-	*			-	1	20		62	SPARE
SPARE	63		20	1	-		*		-	1	20		64	SPARE
LOADS	-	(KVA)				11	8	9				(KVA)	-	DESCRIPTIVE LOADS
CONNECTED LOAD	-	28				KVA/PHASE						10	-	LIGHTING
RESERVE - %	0	0										18	-	RECEPTACLES
TOTAL LOAD	-	**28**										0	-	COOLING
												0	-	HEATING
												0	-	MOTOR
												0	-	KITCHEN
												0	-	OTHER
TOTAL AMPS	-	**78**												

NOTES:
1)
2)
3)

PANEL-E	AMP	LUGS	NEMA	V(LL)		(P)		(W)		V(LN)	MNT	KAIC	FDR
	200	MLO	1	208		3		4		120	SUR.	25	1-RUN 4#4/0, 1#4G, 3"C
LOAD	CKT	LOAD	BKR	POLE	FEEDER/BRANCH CIRCUIT				FEEDER/BRANCH CIRCUIT	POLE	BKR	LOAD	CKT	LOAD
SERVED	#	KVA	SIZE		SIZE	A	B	C	SIZE		SIZE	KVA	#	SERVED
LIGHTING	1	1	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1	2	LIGHTING
LIGHTING	3	0.9	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.3	4	LIGHTING
LIGHTING	5	0.4	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	0.8	6	4 RCPTS
QUAD	7	0.4	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1	8	5 RCPTS
6 RCPTS	9	1.2	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.8	10	4 RCPTS
4 RCPTS	11	0.8	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.2	12	COPY/PRINTER
TELE. BOARD/ 1 RCPT	13	0.6	20	1	2#12, 1#12G,1/2"C	*			2#10, 1#10G,3/4"C	1	20	2.5	14	HAND DRYER
3 RCPTS	15	1.2	20	1	2#12, 1#12G,1/2"C		*		2#10, 1#10G,3/4"C	1	20	2.5	16	HAND DRYER
1 RCPT	17	1.2	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.2	18	REF
2 RCPTS	19	1.2	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1	20	5 RCPTS
REF	21	1.2	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	1.2	22	1 RCPT
5 RCPTS	23	1	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	0.4	24	QUAD
3 RCPTS	25	0.6	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	0.4	26	1 RCPT
2) EDF	27	1.2	20	1	2#12, 1#12G,1/2"C		*		2#10, 1#10G,3/4"C	1	30	2.4	28	IWH-2
FAAP	29	0.6	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.2	30	6 RCPTS
2 QUAD	31	0.8	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	0.8	32	2 QUAD
2 QUAD	33	0.8	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.8	34	2 QUAD
2 QUAD	35	0.8	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	0.6	36	SYSTEM COITROLLER UNIT
ACCESS CONTROLS	37	0.8	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1.5	38	WH-1
ICE MAKER	39	1.5	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.6	40	AQUARIUM
ROOM PARTITION	41	1.5	20	1	2#12, 1#12G,1/2"C			*	-				42	SPACE
FACP	43	0.8	20	1	2#12, 1#12G,1/2"C	*			-				44	SPACE
SEC	45	0.6	20	1	2#12, 1#12G,1/2"C		*		2#12, 1#12G,1/2"C	1	20	0.6	46	ACC
1 RCPT	47	1.2	20	1	2#12, 1#12G,1/2"C			*	2#12, 1#12G,1/2"C	1	20	1.2	48	1 RCPT
1 RCPT	49	1.2	20	1	2#12, 1#12G,1/2"C	*			2#12, 1#12G,1/2"C	1	20	1.2	50	COPY/PRINTER
SPACE	51				-		*		-				52	SPACE
SPD	53		30	3	3#10, 1#10G,3/4"C			*	-				54	SPACE
"	55				-	*			-				56	SPACE
"	57				-		*		-				58	SPACE
SPARE	59		20	1	-			*	-	1			60	SPARE
SPARE	61		20	1	-	*			-	1			62	SPARE
SPARE	63		20	1	-		*		-	1			64	SPARE
LOADS	-	(KVA)				16	17	14				(KVA)	-	DESCRIPTIVE LOADS
CONNECTED LOAD	-	47				KVA/PHASE						4	-	LIGHTING
RESERVE - %	0	0										39	-	RECEPTACLES
TOTAL LOAD	-	**47**										0	-	COOLING
												0	-	HEATING
												0	-	MOTOR
												0	-	KITCHEN
												4	-	OTHER
TOTAL AMPS	-	**130**												

NOTES:
1) INCLUDE INTEGRAL SURGE PROTECTION DEVICE, 100K WITH SEPARATE MEANS DISCONNECT
2) PROVIDE GFI BREAKER
3)

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SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

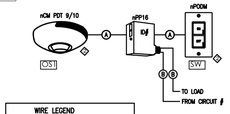
PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
E6.0

01



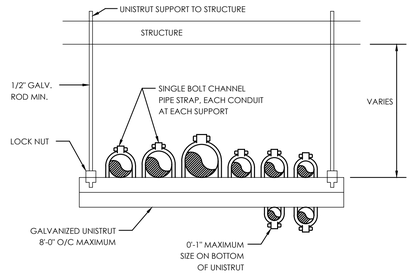
WIRE LEGEND	
A	CAT 5 (LOW VOLTAGE)
B	CLASS 1 (2#12, 1#12G,1/2"C)
C	CLASS 2 (LOW VOLTAGE)
D	ETHERNET LAN (LOW VOLTAGE)

GENERAL NOTES:
1. SEE SPECS FOR LIMITATIONS ON DEVICES PER CAT5 RUN.
2. SEE LIMITATION OF GATEWAY AND BRIDGE FOR DEVICES PER PORT.
3. ALL SCENARIOS SHOW A MANUAL OVERRIDE OPTION.
4. NPP (NON-EMERGENCY) DEVICES PROVIDE UP TO 40mA BUS POWER PER PORT.

KEY NOTES:
1. QUANTITY OF FIXTURES MAY VARY.
2. DEVICES REQUIRE BUS POWER; PROVIDED BY DEVICES SUCH AS MASTER POWER PACK (nPP DEVICE)
3. BUS POWER PROVIDED BY LED nLIGHT ENABLED FIXTURES IN SPACE.
4. PROGRAMMING IS NECESSARY IF ROOMS ARE BROKEN DOWN INTO ZONES. EMBEDDED CONTROLS REQUIRE n100 OR OTHER FACTORY-INSTALLED nLIGHT DEVICE.
5. VERIFY DIMMING TYPES: ELV, MLV, 2-WIRE, 3-WIRE, 4-WIRE, INCANDESCENT AVAILABLE. DIMMING DEVICE MAY REQUIRE ADDITIONAL BUS POWER TO OPERATE (NPS80 / NPS150 / OTHER SELF POWERED POWER PACK)
6. 0-10V DIMMING ONLY (MARK VII DIMMING BALLAST OR 0-10VDC DIMMING DRIVER)
7. nLIGHT EMBEDDED CONTROLS WITH EMERGENCY GENERATOR/INVERTER INPUT. FIXTURES TO OPERATE AT FULL BRIGHT IN EVENT OF NORMAL POWER LOSS. CONTROL DEVICES ARE DIABLED UNTIL NORMAL POWER IS RESTORED. SEE SPECIFICATIONS FOR POWER REQUIREMENTS.
8. nPP16 ER RELAYS DO NOT PROVIDE BUS POWER FOR nLIGHT DEVICES IN NETWORK DAISY CHAIN.
9. ALL THE CAT-5 CABLE SHALL BE DONE BY A QUALIFIED CERTIFED INSTALLER TO ASSURE THE CABLE TERMINATIONS ARE DONE PROPERLY PER MFR RECOMMENDATIONS.
10. CONTRACTOR SHALL INCLUDE ALL COST TO HAVE A PRE-INSTALLATION MEETING WITH MANUFACTURER TO ASSURE ALL THE INSTALLATION REQUIREMENTS ARE DONE PER MANUFACTURER.

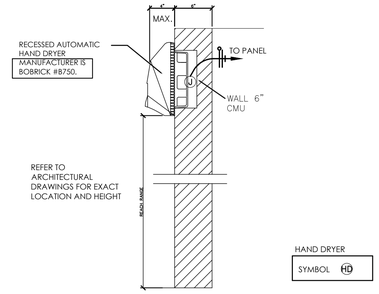
OCCUPANCY SENSOR SCHMETIC
NO SCALE

02



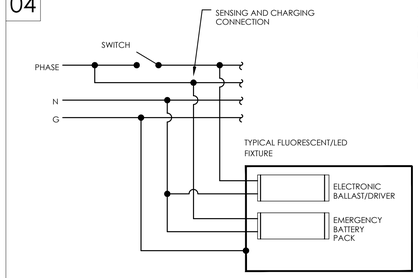
SUPPORT DETAIL FOR MULTIPLE CONDUIT HORIZONTAL RUNS
NO SCALE

03



HAND DRYER DETAIL
NO SCALE

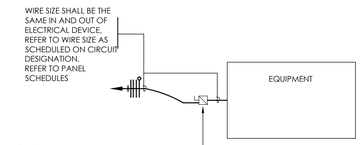
04



NOTE:
ALL EXIT LIGHT FIXTURE AND EMERGENCY FIXTURES SHALL BE ON THE NON-SWITCHED LEG. REFER TO LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPE AND PLANS.

TYPICAL EMERGENCY LIGHT FIXTURE SCHEMATIC
NO SCALE

05

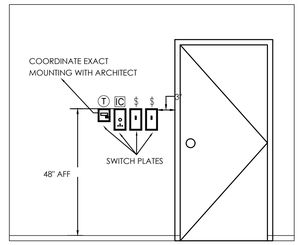


NOTE:
FOR MECHANICAL TERMINAL UNITS, REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT CIRCUIT DETAIL
NO SCALE

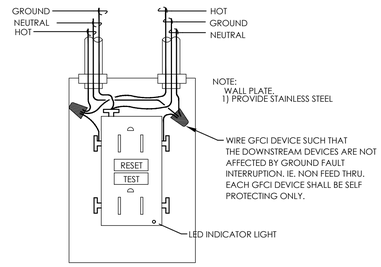
06

NOTE:
VERIFY WITH DIVISION-15 FOR THERMOSTAT LOCATION AND HEIGHT.



SWITCH PLATE LOCATION DETAIL
NO SCALE

07



NOTE:
WALL PLATE.
1) PROVIDE STAINLESS STEEL

GFI RECEPTACLE- WIRING DIAGRAM
NO SCALE

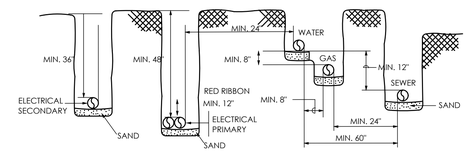
08

CLEAR TRENCH OF ALL ROCKS AND DEBRIS BEFORE ADDING SAND CUSHION.

COMPACT TRENCH FILL TO 95% PROCTOR DENSITY.

MAINTAIN A MINIMUM OF 60 INCHES UNDISTURBED EARTH BETWEEN PARALLEL WATER AND SEWER LINES OR SUPPORT WATER LINE ON SEPARATE SHELF A MINIMUM OF 12" ABOVE SEWER LINE.

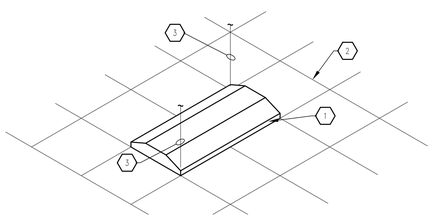
MAINTAIN A MINIMUM OF 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND SEWER. MAINTAIN A MINIM OF 12" VERTICALLY OR 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND WATER LINES, GAS LINES, TELEPHONE RACEWAYS AND CABLE RACEWAYS.



TRENCH DETAIL
NO SCALE

09

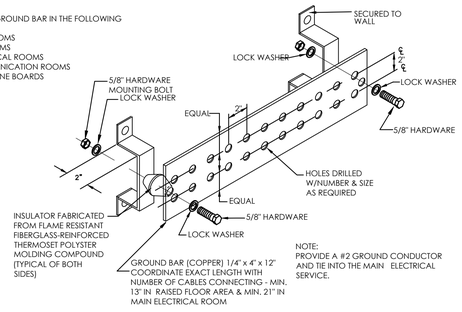
KEYED NOTES:
1. 2'x 4' LAY-IN LED/FLUORESCENT FIXTURE
2. SUSPENDED CEILING
3. TIE WIRE, CONNECT TO ALL FOUR CORNERS OF FIXTURE TO TOP OF STRUCTURE, INDEPENDENT OF CEILING SUPPORTS.



TYPICAL LAY-IN FIXTURE SUPPORT
NO SCALE

10

PROVIDE GROUND BAR IN THE FOLLOWING ROOMS:
1. MDF ROOMS
2. IDF ROOMS
3. ELECTRICAL ROOMS
4. COMMUNICATION ROOMS
5. TELEPHONE BOARDS

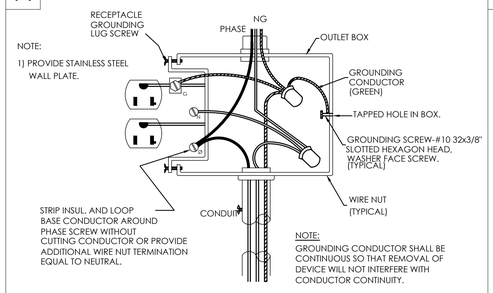


NOTE:
PROVIDE A #2 GROUND CONDUCTOR AND TIE INTO THE MAIN ELECTRICAL SERVICE.

WALL MOUNTED SINGLE-POINT GROUND BAR DETAIL
NO SCALE

11

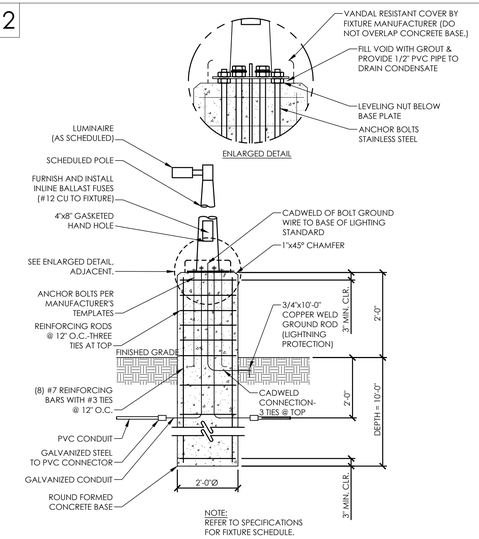
NOTE:
1) PROVIDE STAINLESS STEEL WALL PLATE.



NOTE:
GROUNDING CONDUCTOR SHALL BE CONTINUOUS SO THAT REMOVAL OF DEVICE WILL NOT INTERFERE WITH CONDUCTOR CONTINUITY.

TYPICAL RECEPTACLE GROUNDING DETAIL
NO SCALE

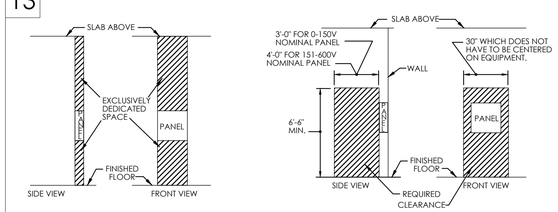
12



NOTE:
REFER TO SPECIFICATIONS FOR FIXTURE SCHEDULE.

PARKING LOT LIGHT POLE BASE
NO SCALE

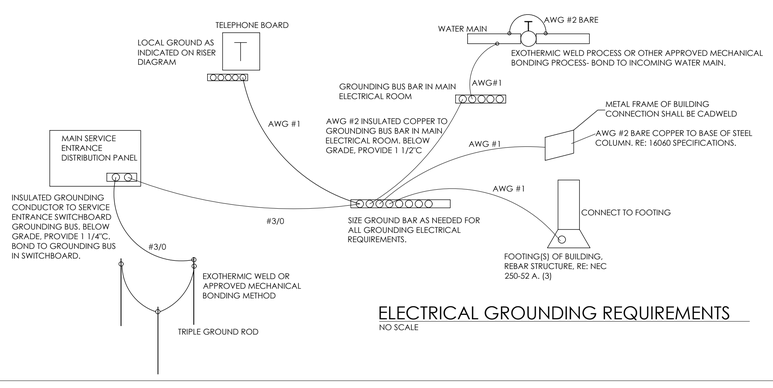
13



NOTE:
REFER TO THE LATEST NATIONAL ELECTRICAL CODE AND LOCAL CODES.

TYPICAL PANEL BOARD REQUIRED CLEARANCE
NO SCALE

14



ELECTRICAL GROUNDING REQUIREMENTS
NO SCALE

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MILNET ARCHITECTURAL SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
OCT 18, 2018

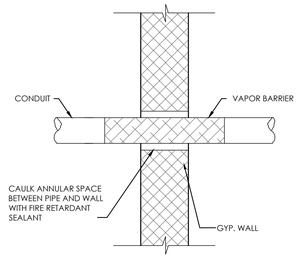
FINALS - 100%

SHEET NUMBER
E7.1

01

NOTE: WHERE PIPING IS EXPOSED AT FINISHED WALLS, PROVIDE FLUSH MOUNTED SLEEVE AND ESCUTCHEON PLATES. (CONTRACTOR MAY USE FIELD FABRICATED S.S. PLATE).

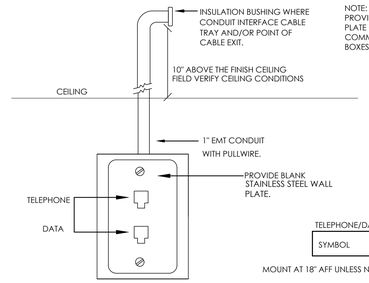
NOTE: SIMILAR FOR UNINSULATED PIPE AND CONDUIT.



CONDUIT THROUGH FIRE RATED WALL

NO SCALE

02

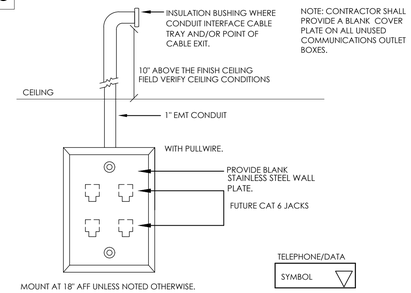


NOTE: CONTRACTOR SHALL PROVIDE A BLANK COVER PLATE ON ALL UNUSED COMMUNICATIONS OUTLET BOXES.

TELEPHONE/ DATA DETAIL

NO SCALE

03



NOTE: CONTRACTOR SHALL PROVIDE A BLANK COVER PLATE ON ALL UNUSED COMMUNICATIONS OUTLET BOXES.

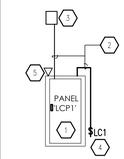
DATA DETAIL

NO SCALE

04

KEYED NOTES:

1. LIGHTING CONTROL RELAY PANELS. REFER TO SPECIFICATIONS - 26 09 26. EACH MAITER RELAY PANEL SHALL INCLUDE DISPLAY MONITOR.
2. PROVIDE COMMUNICATION CABLE AS RECOMMENDED BY MANUFACTURER IN A 3/4"C. REFER TO PLAN FOR PANEL LOCATIONS.
3. PROVIDE EXTERIOR PHOTO CELL AS RECOMMENDED BY MANUFACTURER.
4. PROVIDE OVERRIDE SWITCH STATION. PROVIDE WIRING AS RECOMMENDED BY MANUFACTURER.
5. PROVIDE DATA CONNECTION TO MASTER PANEL.

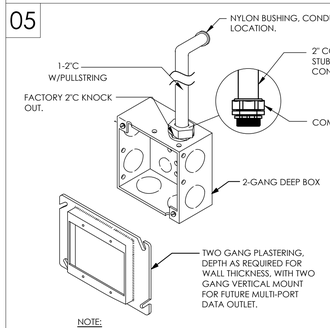


NOTE:
1.) ALL EXTERIOR CIRCUITS SHALL BE PROGRAMMED AT OWNERS DIRECTIONS.
2.) MASTER RELAY PANEL "LCP1" SHALL INCLUDE CLOCK, PHOTOCELL, SOFTWARE PROGRAMMING, COMMUNICATION CARD AND GRAPHICAL CONTROLS.
3.) ALL SLAVE PANELS SHALL INCLUDE GRAPHICAL CONTROLS.

LIGHTING RELAY PANEL - SCHEMATIC DETAIL

NO SCALE

05



NOTE:
1) PROVIDE STAINLESS STEEL BLANK WALL PLATE.
2) BOX SHALL BE EQUAL TO MFR. HUBBELL LARGE CAPACITY WALL BOX WITH 2"C KO:#HBL260(2-GANG), #HBL263(3-GANG). PROVIDE PROPER MUD RING AND STAINLESS STEEL WALL PLATE.
3) FIELD VERIFY WALL CONDITIONS PRIOR TO ORDERING AND ANY WORK.

NOTE:

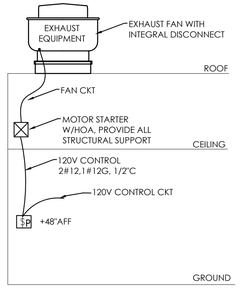
1. PROVIDE TWO GANG STAINLESS STEEL BLANK WALL PLATE.

SYMBOL

AUDIO/VIDEO DROP DETAIL

NO SCALE

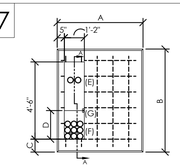
06

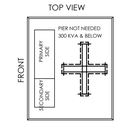


EXHAUST ROOF MOUNTED EQUIPMENT DETAIL

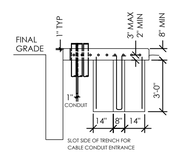
NO SCALE

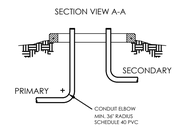
07





PAD DIMENSION TABLE			
DIM \ KVA	UP TO 300 KVA	500 THRU 1000 KVA	1500 THRU 3000 KVA
A	5'-0"	6'-0"	7'-0"
B	6'-0"	7'-0"	8'-0"
C	0'-9"	1'-3"	1'-9"
D	1'-8"	2'-0"	2'-0"
E	HIGH VOLTAGE OR PRIMARY SIDE OF TRANSFORMER. PRIMARY CONDUITS		
F	LOW VOLTAGE OR SECONDARY SIDE OF TRANSFORMER. ONE 1" CONDUIT FOR METERING. OTHER CONDUITS FOR SECONDARY WIRE		
G	CONSUMER TO INSTALL GROUND RODS 5/8" X 8' IN COMPARTMENT OPENING		





NOTES:

1. PAD ASSEMBLIES INCLUDE SITE PREPARATION, BEDDING AND DRAINAGE.
2. SLABS MAY BE PRECAST OR POURED IN PLACE.
3. CONCRETE TESTING 4000 POUNDS PER SQUARE INCH.
4. STEEL REINFORCING SHOULD BE NO. 4 REAR, AATSM-A615 GRADE 60. PLACE APPROX. 6" OPPOSITE CORNER EACH WAY AND SECURELY TIED TOGETHER.
5. MINIMUM CONCRETE COVER OVER REINFORCING STEEL 5 INCHES.
6. WOOD FLOAT FINISH. LEAVING NO DEPRESSION.
7. CONTACT MVEC REPRESENTATIVE TO INSPECT BEFORE POURING CONCRETE.
8. A CLEAR AREA SHOULD BE MAINTAINED FOR 10 FEET IN FRONT OF PADMOUNT.
9. TOP OF PAD SHOULD BE A MIN OF 3" ABOVE GRADE AND BOTTOM OF PAD A MIN OF 5' BELOW GRADE.
10. CONDUITS SHOULD BE IN FRONT BUT NOT UNDER WEIGHT OF TRANSFORMER.

TRANSFORMER PAD (MAGIC VALLEY)

NO SCALE

08

RELAY LIGHTING CONTROL PANEL
Master CABINET CIRCUIT SCHEDULE
120/240VAC, 1 PHASE

PANEL LOCATION:
PANEL DESCRIPTION: NETWORKING 4 Relay Cabinet:
CATALOG NUMBER: XXX
PANEL FEED: R
PANEL ID: Master
MOUNTING: Surface

PANEL NAME: LCP1

RELAY		A	PNL CIRCUIT	LOAD			RELAY		A	PNL CIRCUIT	LOAD		
NO.	TYPE			VAC	LOAD W/VA	CIRCUIT DESCRIPTION	NO.	TYPE			VAC	LOAD W/VA	CIRCUIT DESCRIPTION
1	1	20	R-1	120V	1200	TELLER AREA	2	1	20	R-2	120V	1200	LOBBY AREA
3	1	20	R-4	120V	1200	HALLWAY	4	1	20	R-16	120V	1200	MONUMENT/FLAG LTG
5	1	20	R-7	120V	1200	SITE LIGHTING	6	1	20	R-8	120V	1200	EXTERIOR LIGHTING
7	1	20	R-9	120V	1200	SITE LIGHING	8	1	20	R-10	120V	1200	CANOPY
9	1	20	R-11	120V	1200	SITE LIGHTING	10	1	20		120V		SPARE
11	1	20		120V		SPARE	12	1	20		120V		SPARE
13	1	20		120V		SPARE	14	1	20		120V		SPARE
15	1	20		120V		SPARE	16	1	20		120V		SPARE

LEGEND:
1 = RELAY-1-POLE,20A, UP TO 277VAC
2 = RELAY-2-POLE, 2-POLE, 20A, UP TO 480VAC
A=AMPS

NOTES:
1. INCLUDE EXTERIOR PHOTO CELL,SOFTWARE PROGRAMMING, COMMUNICATION CARD AND GRAPHICAL CONTROLS.
2. VERIFY WITH OWNER FOR ALL PROGRAMMING SEQUENCE.
3. REFER TO SPECIFICATION 16515.
4. PROVIDE DEDICATED 20AMP 120V FROM NEAREST 120/208V PANEL.
5. INCLUDE ALL TRAINING FOR PROGRAMMING AND STARTUP IN CONTRACT. REFER TO SPECIFICATIONS.
6. INCLUDE REMOTE CONTROL OPTION. OWNER TO PROVIDE DATA INPUT.
7. INCLUDE ASTRONOMICAL TIME CLOCK.

LIGHTING RELAY PANEL

NO SCALE

09

RELAY LIGHTING CONTROL PANEL
Master CABINET CIRCUIT SCHEDULE
120/240VAC, 1 PHASE

PANEL LOCATION:
PANEL DESCRIPTION: NETWORKING 4 Relay Cabinet:
CATALOG NUMBER: XXX
PANEL FEED: W
PANEL ID: Master
MOUNTING: Surface

PANEL NAME: LCP2

RELAY		A	PNL CIRCUIT	LOAD			RELAY		A	PNL CIRCUIT	LOAD		
NO.	TYPE			VAC	LOAD W/VA	CIRCUIT DESCRIPTION	NO.	TYPE			VAC	LOAD W/VA	CIRCUIT DESCRIPTION
1	1	20	W-1	120V	1200	SHOP LIGHTING	2	1	20	W-2	120V	1200	SHOP LIGHTING
3	1	20	W-4	120V	1200	HALLWAY	4	1	20		120V		SPARE
5	1	20		120V		SPARE	6	1	20		120V		SPARE
7	1	20		120V		SPARE	8	1	20		120V		SPARE

LEGEND:
1 = RELAY-1-POLE,20A, UP TO 277VAC
2 = RELAY-2-POLE, 2-POLE, 20A, UP TO 480VAC
A=AMPS

NOTES:
1. INCLUDE EXTERIOR PHOTO CELL,SOFTWARE PROGRAMMING, COMMUNICATION CARD AND GRAPHICAL CONTROLS.
2. VERIFY WITH OWNER FOR ALL PROGRAMMING SEQUENCE.
3. REFER TO SPECIFICATION 16515.
4. PROVIDE DEDICATED 20AMP 120V FROM NEAREST 120/208V PANEL.
5. INCLUDE ALL TRAINING FOR PROGRAMMING AND STARTUP IN CONTRACT. REFER TO SPECIFICATIONS.
6. INCLUDE REMOTE CONTROL OPTION. OWNER TO PROVIDE DATA INPUT.
7. INCLUDE ASTRONOMICAL TIME CLOCK.

LIGHTING RELAY PANEL

NO SCALE

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Project number: 18.2.17

10/18/18

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LEONARDO MUNOZ
97157
LICENSED PROFESSIONAL ENGINEER

MILNET ARCHITECTURAL SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

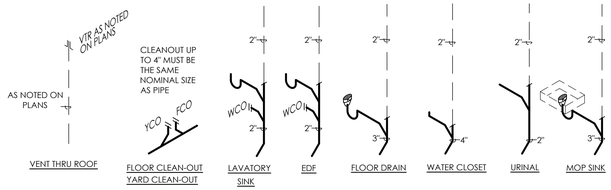
SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

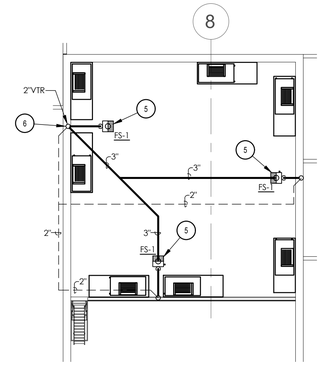
DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
E7.2



SEWER & VENT
02 TYPICAL RISER SCHEMATICS
SCALE: NTS

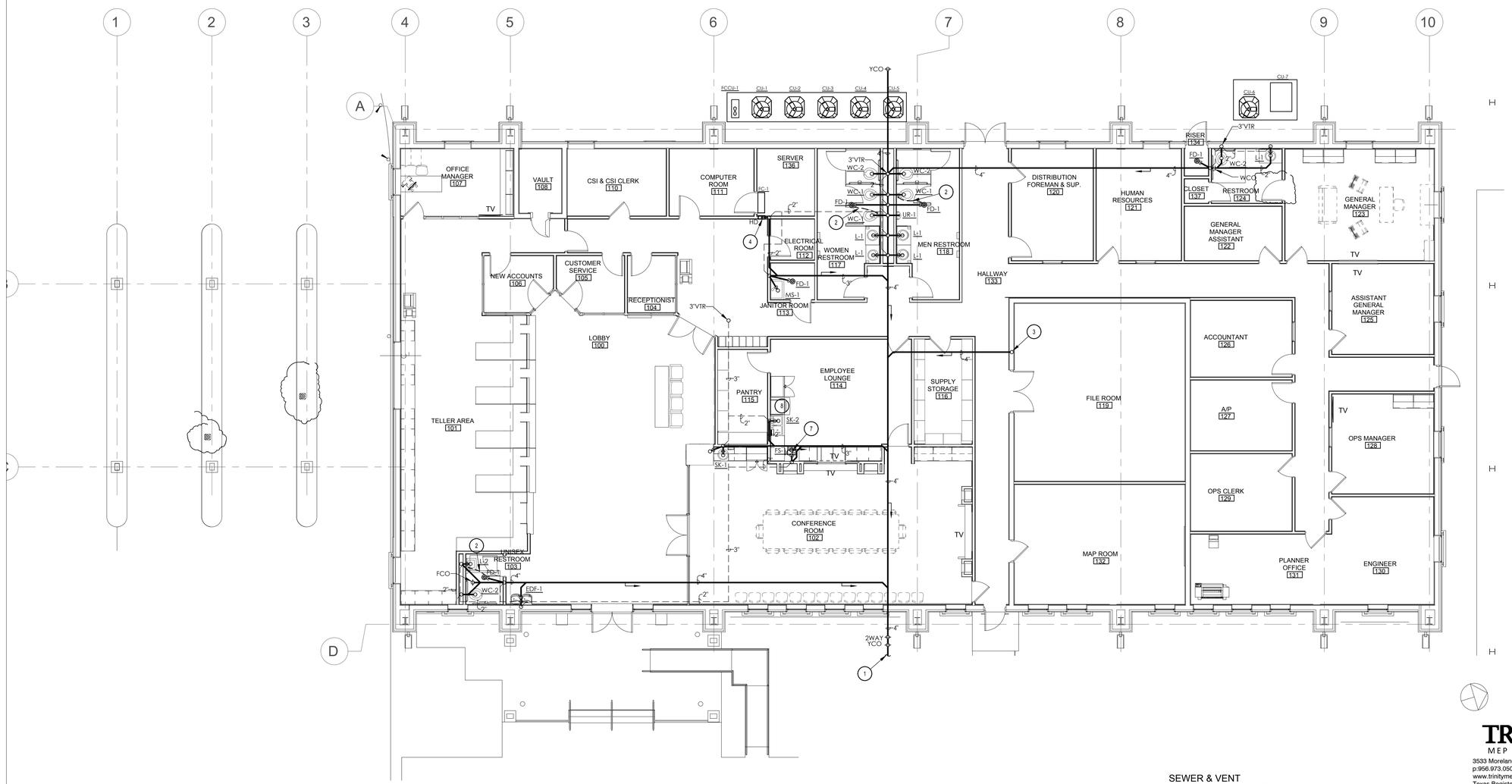


SEWER & VENT
3 MEZZANINE PLAN: PLUMBING
1/8" = 1'-0"

NOTE:
DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

KEYED NOTES: PLUMBING

1. REFER TO CIVIL SITE PLAN FOR CONTINUATION OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. CONTRACTOR SHALL VERIFY LOCATIONS, INVERT SLOPE, ELEVATION, AND DIRECTION OF FLOW WITH CIVIL ENGINEERING DRAWINGS.
2. 1/2" COPPER FROM TRAP PRIMER. PROVIDE LAVATORY WITH WATER SAVER TRAP PRIMER. SEE DETAIL 08/P4.1. COVER WITH SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL FOR ALL TRAP-PRIMERS.
3. 4" WASTE FROM FLOOR SINK ABOVE.
4. PROVIDE 3"HUB DRAIN FOR FAN COIL UNIT, WITH DEEP SEAL P-TRAP, IN WALL ALONG WITH DRAIN KIT. TRAP PRIMER AND 8X8 UNIVERSAL ACCESS DOOR EQUAL TO MIFAB SERIES UA. REFER TO DETAIL 02/P4.2.
5. FLOOR SINK FOR CONDENSATE FROM AHU's. COORDINATE LOCATION WITH HVAC CONTRACTOR.
6. 4" WASTE DOWN. 2" VENT UP TO 2" VTR.
7. FLOOR SINK FOR ICE MAKER. COORDINATE LOCATION WITH EQUIPMENT CONTRACTOR/ ARCHITECT.
8. PLUMBER TO INSTALL DISHWASHER AND CONNECT DRAIN. DISHWASHER BY OWNER. REFER TO CONNECTION DETAIL 03/P4.2.



SEWER & VENT
1 FLOOR PLAN: PLUMBING
1/8" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER

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AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
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217017

DATE
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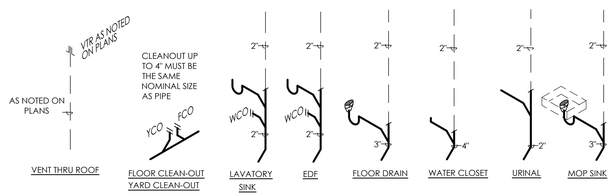
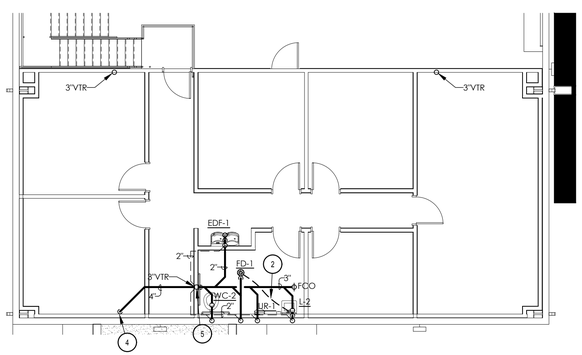
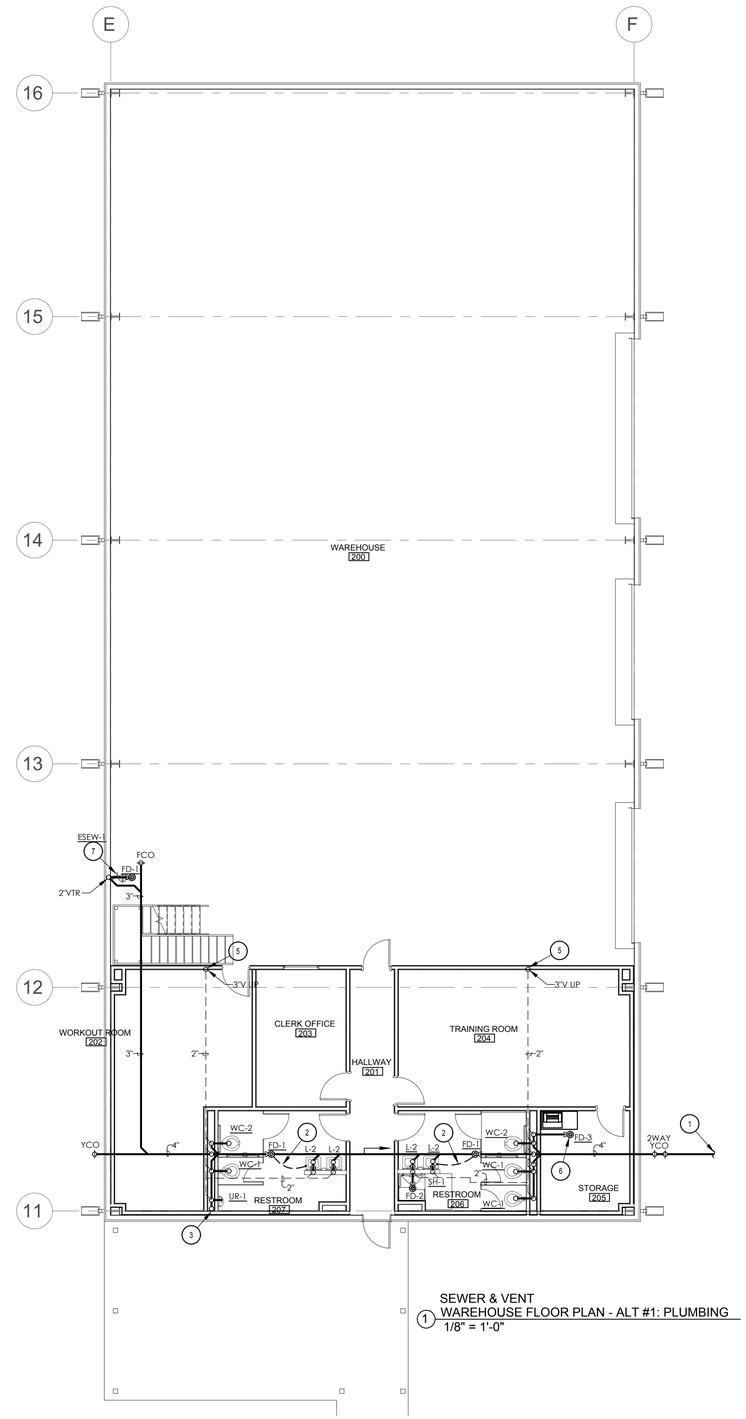
SHEET NUMBER
P1.1



02 SEWER & VENT
TYPICAL RISER SCHEMATICS
SCALE: NTS



2 SEWER & VENT
MEZZANINE PLAN: PLUMBING
1/8" = 1'-0"



1 SEWER & VENT
WAREHOUSE FLOOR PLAN - ALT #1: PLUMBING
1/8" = 1'-0"

NOTE:
DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

KEYED NOTES: PLUMBING

1. REFER TO CIVIL SITE PLAN FOR CONTINUATION OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. CONTRACTOR SHALL VERIFY LOCATIONS, INVERT SLOPE, ELEVATION, AND DIRECTION OF FLOW WITH CIVIL ENGINEERING DRAWINGS.
2. 1/2" COPPER FROM TRAP PRIMER. PROVIDE LAVATORY WITH WATER SAVER TRAP PRIMER. SEE DETAIL 08/P4.1. COVER WITH SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL FOR ALL TRAP-PRIMERS.
3. 4" SOIL STACK FROM RESTROOMS ABOVE.
4. 4" WASTE DOWN. ROUTE INSIDE 1ST FLOOR WALL.
5. 3" VENT UP TO 3" VTR.
6. FLOOR DRAIN FOR CONDENSATE FROM AHU's. COORDINATE LOCATION WITH HVAC CONTRACTOR.
7. EMERGENCY SHOWER AND EYEWASH, PROVIDED AND INSTALLED BY PLUMBER. REFER TO DETAIL 03/P2.2.

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SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

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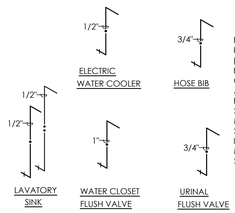
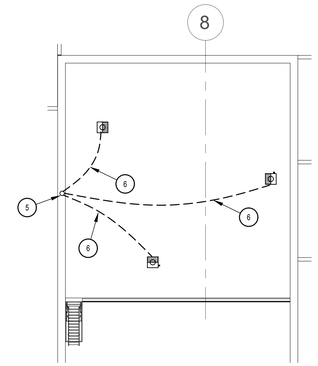
SHEET NUMBER
P1.2



PROVIDE WATER HAMMER ARRESTOR (MINI RESTER, HYDRA-RESTER), SIOUX CHIEF OR EQUAL FOR ALL FIXTURES. WATER HAMMER ARRESTOR, SIZE AS PER MANUFACTURER'S SIZING TABLE. INSTALLATION AS PER MANUFACTURER'S SPECS & DETAILS.

04 DOMESTIC WATER
TYPICAL RISER SCHEMATICS
SCALE: NTS



3 DOMESTIC WATER
MEZZANINE PLAN: PLUMBING
1/8" = 1'-0"

NOTE:

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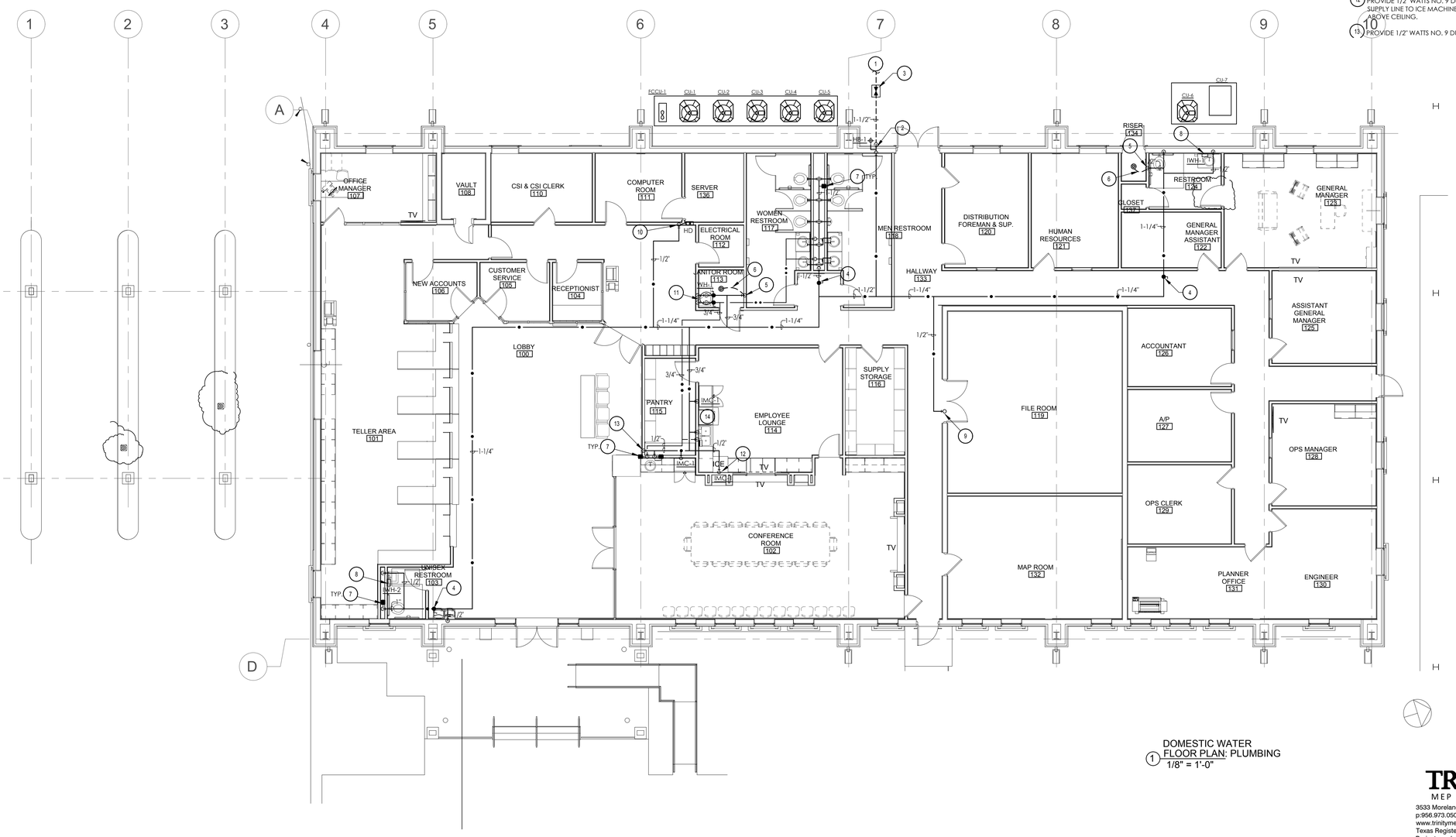
KEYED NOTES: PLUMBING

1. REFER TO CIVIL SITE PLAN FOR CONTINUATION OF OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION. VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. PROVIDE WATER METER AND BACKFLOW PREVENTER AS REQUIRED.
2. WATER SERVICE ENTRANCE. REFER TO DETAIL 01/P4.1
3. CUT-OFF VALVE IN CAST IRON BOX. SET BOX FLUSH WITH FINISHED FLOOR.
4. BRONZE CUT-OFF VALVE ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH CEILING.
5. PRESSURE DROP ACTIVATED TRAP PRIMER. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 06/P4.1
6. 1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL ALL TRAP-PRIMERS.
7. WATER HAMMER ARRESTOR ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"x12" PAINTED TO MATCH CEILING.
8. PROVIDE UNDERCOUNTED INSTANTANEOUS WATER HEATER.
9. 1/2" CW UP TO TRAP PRIMER ABOVE.
10. PRESSURE DROP ACTIVATED TRAP PRIMER.
11. INSTALL WATER HEATER ABOVE MOP SINK. REFER TO DETAIL 16/P4.1
12. PROVIDE 1/2" WATTS NO. 9 DUAL CHECK BACKFLOW PREVENTER IN SUPPLY LINE TO ICE MACHINE. LOCATE IN ACCESSIBLE LOCATION ABOVE CEILING.
13. PROVIDE 1/2" WATTS NO. 9 DUAL CHECK BACKFLOW PREVENTER IN



1 DOMESTIC WATER
FLOOR PLAN: PLUMBING
1/8" = 1'-0"

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SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

PROJECT NUMBER
217017

DATE
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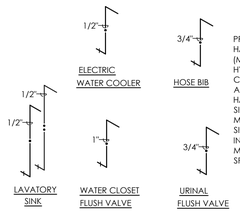
FINALS - 100%

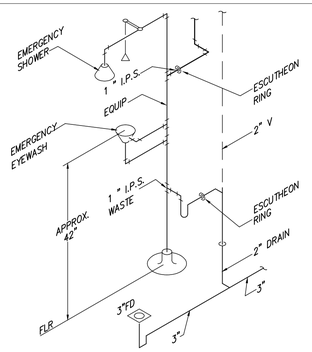
SHEET NUMBER
P2.1



PROVIDE WATER HAMMER ARRESTOR (MINI RESTER, HYDRA-RESTER), SIOUX CHIEF OR EQUAL FOR ALL FIXTURES. WATER HAMMER ARRESTOR, SIZE AS PER MANUFACTURER'S SIZING TABLE. INSTALLATION AS PER MANUFACTURER'S SPECS & DETAILS.

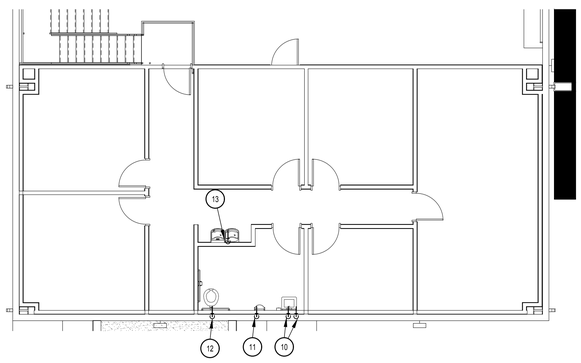
DOMESTIC WATER
04 TYPICAL RISER SCHEMATICS
SCALE: NTS

03

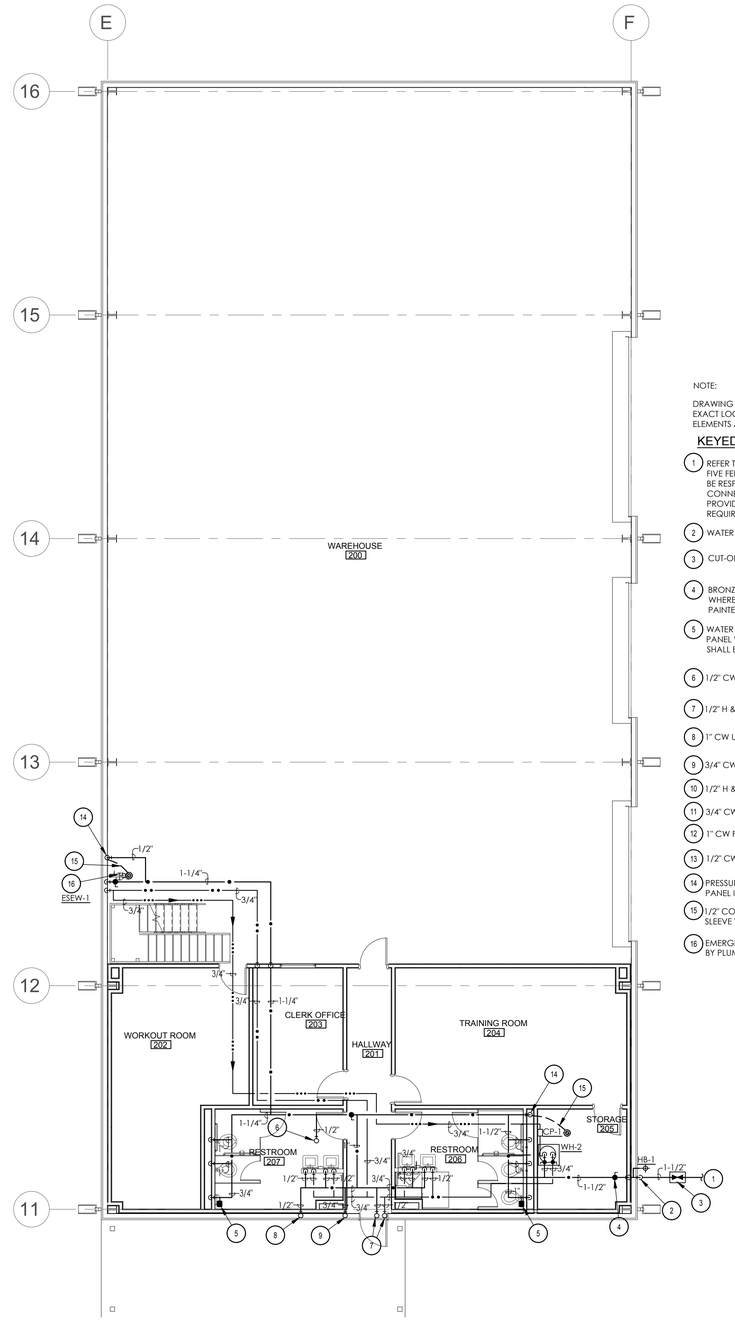


FREE STANDING SAFETY SHOWER

NO SCALE



DOMESTIC WATER
2 MEZZANINE PLAN: PLUMBING
1/8" = 1'-0"



DOMESTIC WATER
1 WAREHOUSE FLOOR PLAN - ALT #1: PLUMBING
1/8" = 1'-0"

NOTE:

DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

KEYED NOTES: PLUMBING - PART 'B'

1. REFER TO CIVIL SITE PLAN FOR CONTINUATION OF OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION. VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. PROVIDE WATER METER AND BACKFLOW PREVENTER AS REQUIRED.
2. WATER SERVICE ENTRANCE. REFER TO DETAIL 01/P4.1
3. CUT-OFF VALVE IN CAST IRON BOX. SET BOX FLUSH WITH FINISHED FLOOR.
4. BRONZE CUT-OFF VALVE ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH CEILING.
5. WATER HAMMER ARRESTOR ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH CEILING.
6. 1/2" CW UP TO DRINKING FOUNTAIN ABOVE.
7. 1/2" H & CW UP TO LAVATORY ABOVE.
8. 1" CW UP TO SUPPLY LINE TO TOILET FIXTURE.
9. 3/4" CW UP TO SUPPLY LINE TO URINAL FIXTURE.
10. 1/2" H & CW FROM BELOW.
11. 3/4" CW FROM BELOW.
12. 1" CW FROM BELOW.
13. 1/2" CW FROM BELOW.
14. PRESSURE DROP ACTIVATED TRAP PRIMER. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 06/P4.1
15. 1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL ALL TRAP-PRIMERS.
16. EMERGENCY SHOWER AND EYEWASH. PROVIDED AND INSTALLED BY PLUMBER. REFER TO DETAIL # 03 THIS SHEET.

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SHEET NUMBER
P2.2

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BALL VALVE		DOMESTIC COLD WATER
	CHECK VALVE		DOMESTIC HOT WATER
	GATE VALVE		DOMESTIC HOT WATER RETURN
	UNION		SANITARY SEWER VENT
	DIRECTION OF FLOW		SANITARY WASTE LINE
	WALL CLEANOUT	140°	140° HOT WATER
	FLOOR CLEANOUT YARD CLEANOUT		SANITARY DIRECTION OF FLOW
	FLOOR SINK		BRANCH - TOP CONNECTION
	FLOOR DRAIN		PIPE RISER
	WALL HYDRANT OR HOSE BIBB		PIPE DROP
FW	FILTERED WATER		POINT OF CONNECTION (APPROXIMATED FIELD VERIFY EXACT POINT OF CONNECTION)

NOTE: 1. NOT ALL SYMBOLS USED ON THIS PROJECT
2. INSTALL WATER CLOSET FLUSH VALVE HANDLE TOWARDS WIDER SIDE OF WATER CLOSET OR DOOR OPENING.
3. INSTALL ADA APPROVED FLUSH VALVE HANDLE FOR ADA PLUMBING FIXTURES.

PLUMBING PIPING MATERIAL:

1. SANITARY DRAIN & VENT INSIDE BUILDING BELOW GRADE: SCHEDULE 40 PVC
2. SANITARY DRAIN OUTSIDE BUILDING: SCHEDULE 40 PVC
3. SANITARY DRAIN & VENT INSIDE BUILDING ABOVE GRADE: SCHEDULE 40 PVC
4. SANITARY DRAIN & VENT IN PLENUM CEILING: NO-HUB CAST IRON
5. DOMESTIC HOT & COLD WATER: COPPER, TYPE "L" HARD DRAWN
6. DOMESTIC WATER BELOW GRADE: COPPER, TYPE "K" SOFT ANNEALED
7. DOMESTIC WATER BELOW GROUND OUTSIDE OF BUILDING PIPING 2" SIZE AND SMALLER: COPPER, TYPE "L" HARD DRAWN
8. DOMESTIC WATER BELOW GROUND OUTSIDE OF BUILDING PIPING OVER 2" SIZE: SDR 26 CLASS 160 PVC

ELECTRIC WATER HEATER SCHEDULE

DESIG.	STORAGE GALLONS	RECOVERY G.P.H.	DEGREE RISE °F	WATER TEMP. LEAVING	WATER INLET	WATER OUTLET	REMARKS
WH-1	10	10	60°	120°	3/4"	3/4"	BRADFORD WHITE LIGHT DUTY COMMERCIAL WALL HUNG WATER HEATER, MODEL NO. LD-WH12US-1, 1.5KW, 120V/1Ø, ELECTRIC TANK TYPE.
WH-2	50	51	80°	120°	3/4"	3/4"	RHEEM MODEL NO. ELDS2, 10KW, 480V/3Ø, ELECTRIC TANK TYPE. PROVIDE 5 GAL EXPANSION TANK. PROVIDE 6" CONCRETE PAD.

INSTANTANEOUS ELECTRIC WATER HEATER SCHEDULE

MARK	MODEL	VOLTAGE	KW	AMPS	DEGREE RISE AT 0.5 GPM	WATER INLET	WATER OUTLET	MANUFACTURER
IWH-1, IWH-2	SP2412	120/1Ø	2.4	20	33	3/8"	3/8"	EEMAX "SINGLE POINT" WATER HEATER

RECIRCULATING PUMP SCHEDULE

MARK	GPM	FEET HEAD	H.P.	RPM	VOLTS/PHASE	REMARKS
CP-1	0-11	0-10	1/40	3250	115 volts/Ø	EQUAL TO TACO MODEL 006-B4 CARTRIDGE CIRCULATOR, MAINTENANCE FREE, WET-ROTOR, IN-LINE, SINGLE STAGE CIRCULATOR. PROVIDE TACO CLOCK TIMER AND TEMPERATURE AQUASTAT MODEL NO. 00 TIMERERS/AQUASTAT

ABBREV. DESCRIPTION

AC	ABOVE CEILING
AFF	ABOVE FINISHED FLOOR
ASA	AMERICAN STANDARDS ASSOCIATION
ASME	AMERICAN SOICIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AW	ACID WASTE
AWWA	AMERICAN WATER WORKS ASSOCIATION
AV	ACID VENT
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMPRESSED AIR
CI	CAST IRON
CO	CLEANOUT
CU	COPPER
DN	DOWN
EQ	EQUAL
FCO	FLOOR CLEANOUT
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
GAL	GALLON(S)
GALV	GALVANIZED
GW	GREASE WASTE
HB	HOSE BIBB
HP	HORESPOWER
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
RD	ROOF DRAIN(S)
RE:4/P6	REFER TO DETAIL 4 DRAWING P-6
RO	REVERSE OSMOSIS
SD	STORM DRAIN
SPEC	SPECIFICATION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
VTR	VENT THRU ROOF
V	VACUUM
W/	WITH
WCO	WALL CLEAN OUT
YCO	YARD CLEAN OUT

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE TYPE	CONNECTION SIZE San. Sewer	Vent	Cold Water	Hot Water	DESCRIPTION
WC-1	WATER CLOSET FLOOR MOUNTED	4"	2"	1"	-	KOHLER "WELLCOMME ULTRA" MODLE NO. K-96056-B, LOW CONSUMPTION (1.6GPF)FLOOR MOUNTED WATER CLOSET, ELONGATED RIM, 15-1/4" RIM HEIGHT, VITREOUS CHINA (WHITE), 1 1/2" TOP SPUD, SIPHON JET ACTION, WITH SLOAN UPPERCUT FLUSH VALVE MODEL NO. WES 111 . COMPLETE WITH BEMIS MODEL NO. 1955SSTFR, OPEN FRONT SEAT LESS COVER. FLUSH LEVER SHALL BE MOUNTED ON APPROACH SIDE OF FIXTURE.
WC-2	WATER CLOSET FLOOR MOUNTED ADULT HANDICAPPED	4"	2"	1"	-	KOHLER "HIGHCLIFF ULTRA" MODLE NO. K-96057, FLOOR MOUNTED WATER CLOSET, WITH ELONGATED RIM, 16-5/8" RIM HEIGHT, VITREOUS CHINA, SIPHON JET FLUSH ACTION 10"- 12" ROUGH IN, WITH SLOAN UPPERCUT FLUSH VALVE MODEL NO. WES 111. INCLUDES 1-1/2" TOP SPUD AND 2 BOLT CAPS. COMPLETE WITH BEMIS MODEL NO. 1955SSTFR, OPEN FRONT SEAT LESS COVER. FLUSH LEVER SHALL BE MOUNTED ON APPROACH SIDE OF FIXTURE.
UR-1	URINAL (STANDARD & HANDICAPPED) REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	3/4"	-	KOHLER "DEXTER" MODEL NO. K-5016-ER, SIPHON JET WALL HUNG URINAL. VITREOUS CHINA, 1 GPF FLUSH OR LESS, COMPACT DESIGN, WITH INTEGRAL TRAP, 3/4" TOP INLET, 14" LIP, INCLUDES WALL HANGERS, 2" IPS OUTLET FLANGE AND RUBBER GASKET. WITH SLOAN "ROYAL" FLUSHOMETER VALVE MODEL NO. 186-1. PROVIDE ZURN CARRIER SYSTEM MODEL NO. Z-1221.
L-1	LAVATORY COUNTER TOP STANDARD & HANDICAPPED	2"	2"	1/2"		KOHLER 'PENNINGTON' MODEL NO. K-2196-4 SELF-RIMMING OVAL BASIN COUNTERTOP LAVATORY. CONCEALED FRONT OVERFLOW, VITREOUS CHINA. COMPLETE WITH INSTALLATION TEMPLATE. FAUCET HOLES ON 4" CENTERS. PROVIDE SINGLE-HANDLE FAUCET EQUAL TO MOEN MODEL NO. L4621 (CHROME). VANDAL RESISTANT, ADA APPROVED. PROVIDE PROTECTIVE COVER ON P-TRAP AND STOPS. PROVIDE SINK/LAV WITH SINGLE OUTLET THERMOSTATIC MIXING VALVE (TMV), WATTS LFMMV-US-M1. SET TEMPERATURE AS PER LOCAL JURISDICTION.
L-2	LAVATORY WALL HUNG ADA REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	1/2"	1/2"	KHOLAR "BRENHAM" MODEL NO. K-1997-4 (21x19) WALL HUNG LAVATORY. WITH OVERFLOW. INCLUDES WALL HANGER. VITREOUS CHINA. WITH 4-INCH CENTER FAUCET HOLES. PROVIDE SINGLE-HANDLE FAUCET EQUAL TO MOEN MODEL NO. L4621 (CHROME). VANDAL RESISTANT, ADA APPROVED. PROVIDE PROTECTIVE COVER ON P-TRAP AND STOPS. PROVIDE SINK/LAV WITH SINGLE OUTLET THERMOSTATIC MIXING VALVE (TMV), WATTS LFMMV-US-M1. SET TEMPERATURE AS PER LOCAL JURISDICTION.
SK-1	STAINLESS STEEL SINK ADA	2"	2"	1/2"	1/2"	SINGLE COMPARTMENT STAINLESS STEEL SINK BY ELKAY MODEL NO. LRAD1720-60 SELF RIMMING, TOP MOUNT WITH STAINLESS STEEL MOUNTING CHANNELS. 18 GAUGE TYPE 302 CENTERED REAR DRAIN. COMPLETE WITH ELKAY MODEL LK53SA210L2 FAUCET ADA. HOLE DRILLING 1. PROVIDE LKADOS CHROME PLATED BRASS OFFSET TAILPIECE FOR WHEELCHAIR USE.
SK-2	TWO-COMPARTMENT KITCHEN SINK ADA COMPLIANT	2"	2"	1/2"	1/2"	DOUBLE COMPARTMENT STAINLESS STEEL SINK BY ELKAY MODEL GECR 3321 MOUNT WITH STAINLESS STEEL MOUNTING CHANNELS. 18 GAUGE, TYPE 302, CENTERED REAR DRAIN. COMPLETE WITH MOEN TWO-HANDLE KITCHEN FAUCET MODEL NO. 8799. WITH WRIST BLADE HANDLES. COORDINATE KNEE SPACE WITH SINK DRAIN LOCATION FOR ADA COMPLIANCE. PROVIDE PROTECTIVE COVER ON P-TRAP AND STOPS. PROVIDE LKADOS CHROME PLATED BRASS OFFSET TAILPIECE FOR WHEELCHAIR USE.
SH-1	BUILT-IN SHOWER HANDICAPPED	2"	2"	1/2"	1/2"	SHOWER SYSTEM EQUAL TO BRADLEY MODEL NO. HN300-TMV-SX-AKV-RSD BARRIER FREE SHOWER UNIT. INCLUDES FIXED DIRECTION ADJUSTABLE SPRAYHEAD, DIVERTER VALVE, HAND-HELD SHOWER SPRAY, 2.0 GPM FLOW CONTROL, L-SHAPED GRAB BAR, BARRIER-FREE SEAT, SHOWER CURTAIN, ROD AND HOOKS. PROVIDE WITH OPTIONS: TMV (THERMOSTATIC MIXING VALVE), SX (SEVERE SERVICE SHOWERHEAD), AKV (ALLEN KEY VOLUME CONTROL), RSD (RECESSED SOAP DISH).
EDF-1	ELECTRIC WATER COOLER W/ Water Refilling Station REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	1/2"	-	BI-LEVEL ELECTRIC WATER COOLER SHALL BE "ELKAY" MODEL No. LZSTL8WSVRSK,WITH Elkay EZH2O Water Refilling Station, CAPACITY OF 8.0 GALLONS, STAINLESS STEEL BASIN WITH INTEGRAL DRAIN GRID AND EMBOSSED BUBBLER PAD. LEAD FREE ADA COMPLIANT, WITH ZURN CARRIER MODEL No. Z-1225, WITH APRON MODEL NO. LKAPR-EZL TO COMPLY WITH TAS AND ADA.
ESEW-1	EMERGENCY SHOWER AND EYEWASH	3"	2"	1-1/4"	1/2"	EQUAL TO GUARDIAN NO. G8F1909, BARRIER FREE, COMBINATION EYE/FACE WASH AND SHOWER SAFETY STATION WITH ABS PLASTIC SHOWER HEAD. UNIT COMPLIES WITH ADA REQUIREMENTS FOR ACCESSIBILITY BY HANDICAPPED PERSONS. PROVIDE WITH GUARDIAN NO. G3800LF EMERGENCY THERMOSTATIC MIXING VALVE.
MS-1	MOP SINK	3"	2"	1/2"	1/2"	FIAT MODEL NO. TSB100, 24"X24"X12" TERRAZO MOP SINK. COMPLETE WITH FAUCET MODEL 830-AA, MOP SINK SHALL INCLUDE ALL HOSE BRACKETS, HOSE, AND MOP HANGER. WITH 3" DRAIN WITH STRAINER & DEEP SEAL P-TRAP. PROVIDE WALL GUARD MSG2424.
IMC-1	ICE MAKER CONNECTION BOX	-	-	1/2"	-	CONNECTION BOX EQUAL TO GUY GRAY NO. BIM875 PREFABRICATED RECESSED BOX WITH COMPRESSION ANGLE VALVE.
HB-1	HOSE BIB EXTERIOR GENERAL USE	-	-	3/4"	-	MILD TEMPERATURE WALL HYDRANT SHALL BE WOODFORD MODEL B65 3/4" INLET WITH BRONZE CASING, BRONZE FACE AND STRAIGHT INLET CONNECTION WITH INTEGRAL BACKFLOW PREVENTER.
FS-1	FLOOR SINK	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 49303-3-31-Z-55, 8" SQUARE A.R.E. TOP, WITH 5-7/8" DEEP SUMP, WITH DRAINAGE FLANGE, 1/2 GRATE, ALUMINUM SEDIMENT BUCKET, 1/2" PRIMER TAP.
FD-1	RESTROOM FLOOR DRAIN	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 30003-6A-Y-50, CAST IRON BODY WITH CLAMP RING, FLANGE, ADJUSTABLE NIKALOY STRAINER, HUB OUTLET WITH GASKET AND 1/2" PRIMER TAP.
FD-2	SHOWER FLOOR DRAIN	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 30002-6A-Y-50, CAST IRON BODY WITH CLAMP RING, FLANGE, ADJUSTABLE NIKALOY STRAINER, HUB OUTLET WITH GASKET AND 1/2" PRIMER TAP.
FD-3	FLOOR DRAIN W/ FUNNEL	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 30003-7E2-Y, COATED CAST IRON BODY WITH CLAMP RING, TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, ADJUSTABLE NIKALOY FUNNEL STRAINER .
FCO	FLOOR CLEANOUT	AS NOTED ON PLANS				MIFAB MODEL "C1100-R-1" ADJUSTABLE FLOOR CLEANOUT, COMPLETE WITH NICKEL BRONZE TOP ASSEMBLY, LACQUERED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, AND PRIMARY GASKET SEAL.
YCO	YARD CLEANOUT	AS NOTED ON PLANS				MIFAB MODEL "C-1220" LACQUERED CAST IRON CLEANOUT, THREADED BRONZE PLUG FOR AIR TIGHT SEAL AND STANDARD REINFORCED SATIN FINISHED NICKEL BRONZE ADJUSTABLE TOP ASSEMBLY.
WCO	WALL CLEANOUT	AS NOTED ON PLANS				MIFAB MODEL "C1430-RD" CAST BRONZE CLEANOUT PLUG, COMPLETE WITH STAINLESS STEEL WALL ACCESS COVER AND ANCHOR SCREW, MOUNT 24" A.F.F.

NOTES:

1.) INSULATE ALL WATER AND WASTE PIPING UNDER LAVATORIES WITH HANDY-SHIELD JACKET BY PLUMBEREX.

2.) PROVIDE SINGLE FIXTURE WATER HAMMER ARRESTORS EQUAL TO MINI-RESTER, HYDRA-RESTER SIOUX CHIEF. FOR ALL PLUMBING FIXTURES IN THE WATER SUPPLY SYSTEM.

3.) ALL VITREOUS CHINA FIXTURES SHALL BE WHITE.

PLUMBING GENERAL NOTES: (ALL SHEETS)

A. ALL WORK AND MATERIAL SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES AS ADAPTED AND AMENDED BY THE INSPECTING AUTHORITIES.

B. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID CONFLICT WITH ALL ELECTRICAL WORK, MECH'L WORK AND STRUCTURAL MEMBERS. COORDINATE WITH MECHANICAL, ELEC'L AND STRUCTURAL FOR PROPER CLEARANCES. CONTRACTOR SHALL COORDINATE AND ESTABLISH A SEQUENCE OF INSTALLATION WITH OTHER TRADES WORKING ON THE PROJECT.

C. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PHASING AND SEQUENCE OF CONSTRUCTION OF WORK.

D. SLEEVE ALL OUTSIDE WALL, FLOOR SLAB, AND GRADE BEAM PENETRATIONS PER DETAILS AND PER CODE.

E. LOCATE ALL PLUMBING VENTS TO ROOF (VTR) SO THAT THEY TERMINATE A MINIMUM OF 1'-0" AWAY FROM ANY VERTICAL SURFACE AND 10'-0" AWAY FROM ANY OUTSIDE AIR INTAKES.

F. RECORD INVERT ELEVATIONS OF ALL YCO'S ON "AS-BUILT" DRAWINGS.

G. ALL SANITARY SEWER PIPING 4" AND LARGER SHALL BE INSTALLED AT 1/8" PER FT. MINIMUM. ALL SANITARY SEWER PIPING 3" AND SMALLER SHALL BE INSTALLED AT 1/4" PER FT. MINIMUM.

H. PLUMBING CONTRACTOR SHALL PAY FOR ALL UTILITY CONNECTIONS FEES, PERMITS, TESTS AND INSPECTIONS. FURNISH 3 COPIES OF INSPECTION CERTIFICATE BEFORE REQUESTING FINAL PAYMENT. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. REFERENCE ASSOCIATED ARCHITECTURAL, ELECTRICAL, MECHANICAL, STRUCTURAL, KITCHEN AND CIVIL DRAWINGS FOR RELATED INFORMATION.

I. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ALL AREAS WHICH ARE DAMAGED BY HIS OPERATIONS.

J. CUTTING OF CONCRETE FLOORS SHALL BE BY MACHINE SAW. HOLES FOR PIPES (WALL OR FLOOR) SHALL BE DONE WITH CORE DRILLING EQUIPMENT WITH PRIOR APPROVAL FROM THE STRUCTURAL ENGINEERS.

K. PRESSURE TEST ALL INSTALLATIONS PRIOR TO CONNECTING EQUIPMENTS.

L. LABEL ALL PIPING PER ANSI STANDARD.

M. INSULATE ALL PIPING AS STATED IN SPECIFICATIONS.

N. INSTALL SHUT-OFF VALVES (STOPS) AND PIPING UNIONS AT EACH PIECE OF EQUIPMENT, PLUMBING FIXTURES, AND BRANCHES TO FIXTURE GROUPS. VALVES SHALL BE LOCATED IN AN ACCESSIBLE LOCATION, OR ACCESS PANELS PROVIDED AS NECESSARY.

O. PROVIDE ANY BACK FLOW PREVENTION DEVICE REQUIRED BY CODE OR GOVERNING AUTHORITIES. CONTRACTOR SHALL VERIFY THIS WITH CITY OR LOCAL AGENCIES AND INCLUDE COST OF SAME IN BID. CONTRACTOR TO HAVE BACK FLOWS CERTIFIED.

P. PROVIDE WATER HAMMER ARRESTORS AS INDICATED ON THE DRAWINGS. AIR CHAMBERS NOT AN APPROVED SUBSTITUTE.

Q. ALL EXPOSED PIPING FOR DESIGNATED DISABLED ACCESS FIXTURES SHALL BE COVERED OR OTHERWISE WRAPPED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND LOCAL AUTHORITY.

R. ALTERNATE MATERIALS NOT IDENTIFIED IN SPECIFICATIONS/DRAWINGS BUT APPROVED BY LOCAL AUTHORITY SHALL BE SUBMITTED TO ARCHITECT AND PLUMBING ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

S. ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION.

T. DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE PLUMBING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

U. EVERY FLOOR DRAIN, FLOOR SINK OR HUB DRAIN SHALL BE SERVED BY AN AUTOMATIC TRAP PRIMER.

V. REFER TO KITCHEN EQUIPMENT PLAN AND SPECIFICATIONS. INFORMATION SHOWS EXACT LOCATIONS AND NECESSARY PLUMBING REQUIREMENTS FOR THE KITCHEN EQUIPMENT. COORDINATE WITH KITCHEN EQUIPMENT SUPPLIER.

W. ALL PLUMBING FIXTURES IDENTIFIED SHALL BE PROVIDED AND INSTALLED BY THE PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE.

X. INSTALL VACUUM BREAKERS AT ALL THREADED HOSE CONNECTIONS AND AT ALL CONNECTIONS WHERE CROSS-CONTAMINATION COULD OCCUR.

Y. PIPING SHALL NOT BE INSTALLED OVER ELECTRICAL EQUIPMENT.

Z. CONTACT ARCHITECT BEFORE PENETRATING STRUCTURAL ELEMENTS WITH PIPING, EQUIPMENT, ETC.

A'. VERIFY EXACT LOCATIONS OF "HVAC" EQUIPMENT WITH MECHANICAL DRAWINGS. VERIFY PRIOR TO ANY INSTALLATION THAT THERE IS SUFFICIENT SPACE IN WALLS, CHASES AND CEILING CAVITIES FOR PLUMBING SYSTEM PIPING, VENTS, EQUIPMENT, ETC.

B'. PROVIDE ACOUST-O-PLUMB PIPE CLAMPS ON ALL DOMESTIC WATER PIPES 1" AND SMALLER IN SIZE. REFER TO FLOOR PLANS AND RISER DIAGRAMS.

C'. FIRESTOP ALL PENETRATIONS THRU FIRE-RATED ASSEMBLIES. REFER TO SPECIFICATIONS AND ARCHITECTURAL DRAWINGS.

D'. CAULK AROUND ALL PLUMBING FIXTURES. CAULK COLOR TO MATCH FIXTURE COLOR.

E'. SEAL ALL EXTERIOR WALL AND ROOF PENETRATIONS WATER TIGHT.

F'. PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.

ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING.

NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS.

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Texas Registered Engineering Firm - F10362
Project number: 18.2.17

10/18/18

STATE OF TEXAS
LEONARDO MUNOZ
9157
LICENSED PROFESSIONAL ENGINEER

MILNET ARCHITECTURAL SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

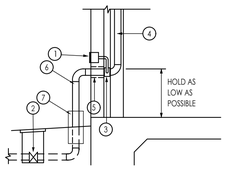
PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
P3.1

01

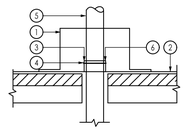


1. WALL HYDRANT - INSTALL LOW ENOUGH TO DRAIN RISER.
2. SHUT-OFF VALE IN CAST IRON BOX FLUSH WITH FINISHED GRADE
3. TEE
4. TYPE "L" COPPER
5. SLEEVE
6. PROVIDE 1" ARMAFLEX INSULATION W/ METAL JACKET ON EXPOSED PIPING.
7. PVC SCH 40 SLEEVE

WATER SERVICE ENTRANCE DETAIL

NO SCALE

05

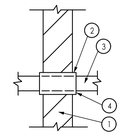


1. PREFABRICATED ROOF CURB. FURNISHED & INSTALLED BY ROOFING CONTR. (COORDINATE)
2. METAL ROOFING
3. STAINLESS STEEL CLAMP
4. SLEEVE PIPE BY ROOFING CONTR.
5. VTR
6. PROVIDE CAULKING GROVE
7. LOCATE MIN. 10'-0" FROM A/C AIR INTAKES

VENT THRU ROOF DETAIL

NO SCALE

09



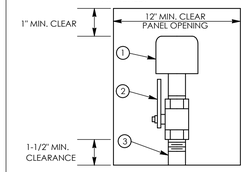
1. MASONRY WALL
2. GALVANIZED SCHEDULE 40 STEEL OR COPPER SLEEVE. SIZE TO BE MINIMUM 3/8" LARGER IN DIAMETER THAN PIPE AND INSULATION.
3. PLUMBING PIPE (RELIER LINES, DOMESTIC WATER, AIR, AND GAS PIPING).
4. FILL VOID WITH MINERAL WOOL AND CAULK VERMIN TIGHT.

WALL SLEEVE DETAIL

NO SCALE

13

1. WATER HAMMER ARRESTOR, SIZE AS PER MANUFACTURER'S SIZING TABLE.
2. BALL VALVE, SAME NOMINAL SIZE AS PIPE BRANCH. OPENING IN BALL VALVE TO MATCH PIPE I.D.
3. PIPE SAME SIZE AS BRANCH LINE TO WHICH IT IS ATTACHED.



NOTE: PROVIDE REDUCER IF REQUIRED BETWEEN VALVE AND WATER HAMMER ARRESTOR.

DIMENSIONS FOR MIN. PANEL SIZE AND OPENING IF WATER HAMMER ARRESTOR IS LOCATED IN WALL. LOCKING PANEL COLOR TO BE DETERMINED BY ARCHITECT.

WATER HAMMER ARRESTOR DETAIL

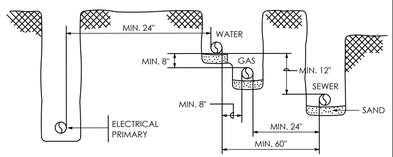
NO SCALE

02

CLEAR TRENCH OF ALL ROCKS AND DEBRIS BEFORE ADDING SAND CUSHION.

COMPACT TRENCH FILL TO 95% PROCTOR DENSITY.

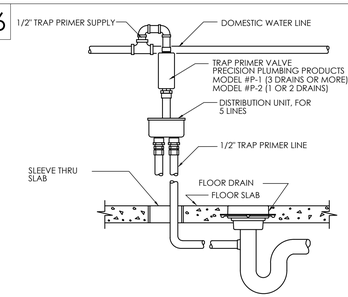
MAINTAIN A MINIMUM OF 60 INCHES UNDISTURBED EARTH BETWEEN PARALLEL WATER AND SEWER LINES OR SUPPORT WATER LINE ON SEPARATE SHELF A MINIMUM OF 12" ABOVE SEWER LINE.
MAINTAIN A MINIMUM OF 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND SEWER.
MAINTAIN A MINIM OF 12" VERTICALLY OR 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND WATER LINES, GAS LINES, TELEPHONE RACEWAYS AND CABLE RACEWAYS.



TRENCHING DETAIL

NO SCALE

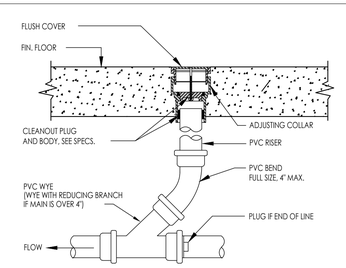
06



TRAP SEAL PRIMER DETAIL

NO SCALE

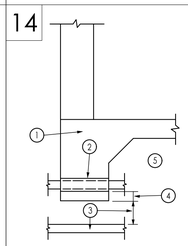
10



FLOOR CLEANOUT DETAIL

NO SCALE

14

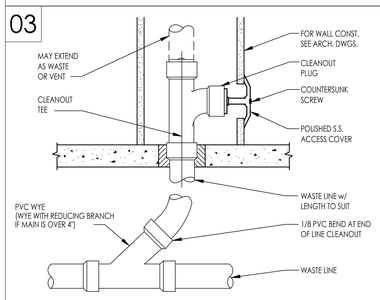


1. GRADE BEAM
2. GALVANIZED SCH 40 STEEL SLEEVE. SIZE PER SPECS. CENTER PIPE IN SLEEVE.
3. PIPING PASSING HORIZONTALLY UNDER GRADE BEAM SHALL BE LOCATED A MINIMUM OF 6" BELOW BEAM. PROVIDE A SLEEVE.
4. PIPING PASSING HORIZONTALLY THROUGH GRADE BEAM SHALL BE LOCATED NO LESS THAN 6" ABOVE BOTTOM OF BEAM.
5. COORDINATE LOCATIONS OF PIPING IN 3,4,5 ABOVE AS RELIEVING ARCHES OR ADDITIONAL CONCRETE MAY BE REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY OF BEAM.

GRADE BEAM SLEEVE DETAIL

NO SCALE

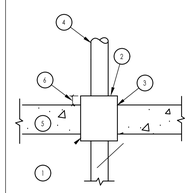
03



WALL CLEANOUT DETAIL

NO SCALE

07

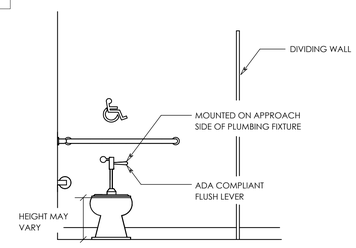


1. METAL SLEEVE TWO SIZES LARGER THAN PIPE
2. FILL VOID WITH NON-SHRINKING WATERPROOF, VERMIN PROOF MATERIAL
3. ALL PLUMBING PIPE PENETRATIONS THROUGH GROUND FLOOR, AND GRADE BEAMS SHALL BE SLEEVED
4. PIPE
5. CONCRETE SLAB
6. MINIMUM 2"

FLOOR PENETRATION DETAIL

NO SCALE

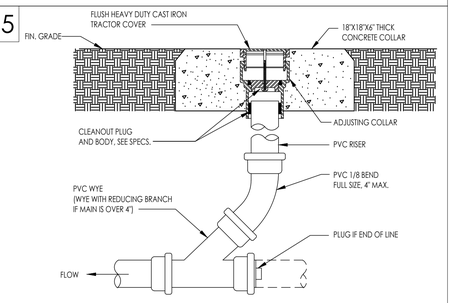
11



ADA WATER CLOSET DETAIL

NO SCALE

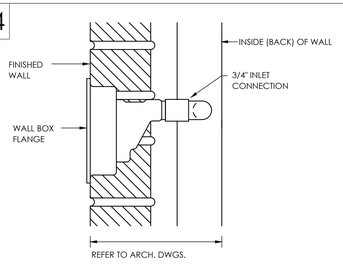
15



YARD CLEANOUT DETAIL

NO SCALE

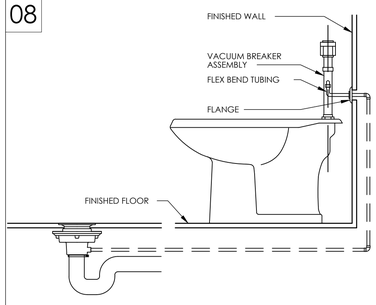
04



WALL HYDRANT DETAIL

NO SCALE

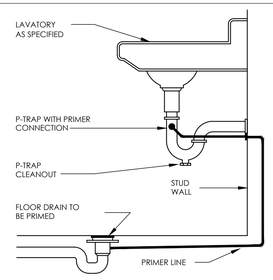
08



FLUSH VALVE TRAP SEAL PRIMER

NO SCALE

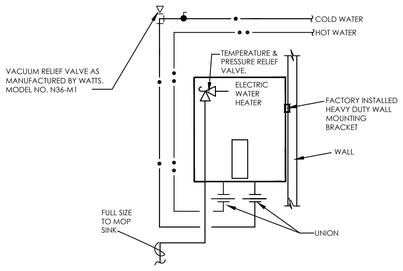
12



TRAP SEAL PRIMER INSTALLATION DETAIL

NO SCALE

16



WALL MOUNTED ELECTRIC WATER HEATER

NO SCALE

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10/18/18

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LEONARDO MUNOZ
97157
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PROFESSIONAL ENGINEER

MILNET ARCHITECTURAL SERVICES
AMERICAN INSTITUTE OF ARCHITECTS

SHARYLAND WATER SUPPLY CORP.
NEW BUILDING
MISSION, TX

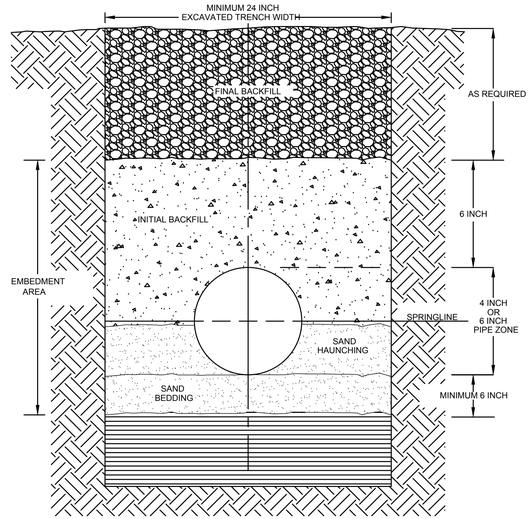
PROJECT NUMBER
217017

DATE
OCT 18, 2018

FINALS - 100%

SHEET NUMBER
P4.1

02



UNDERGROUND INSTALLATION OF PLASTIC PIPE

PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.

ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING.

NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS.

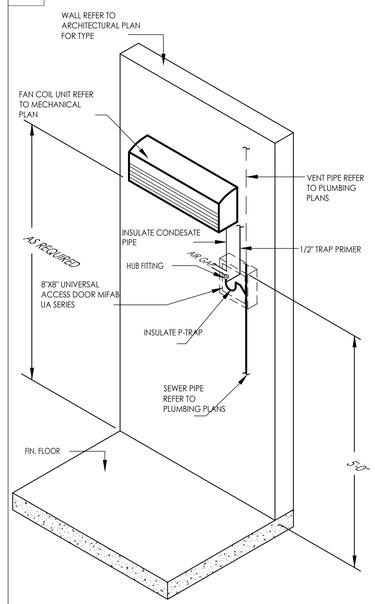
RECOMMENDATIONS FOR UNDERGROUND INSTALLATION OF PLASTIC DRAINAGE PIPE:

1. THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SNAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION OF BACKFILL. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
2. PROVIDE A MINIMUM OF 6 INCHES OF FIRM, STABLE AND UNIFORM SAND BEDDING IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 8 INCHES OF SAND BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
3. THE PIPE SHOULD BE SURROUNDED WITH AN AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING SHOULD BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
4. A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN FINE-GRAINS, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTING SHOULD BE DONE BY HAND.
5. THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OR VOIDS. LARGE ROCKS, STONES, FROZEN CLODS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1-1/2" SIEVE. ROCK SIZE ONE-TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD SHOULD BE ABOUT ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
6. TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.

UNDERGROUND INSTALLATION DETAIL OF PLASTIC PIPING SYSTEMS

NO SCALE

17

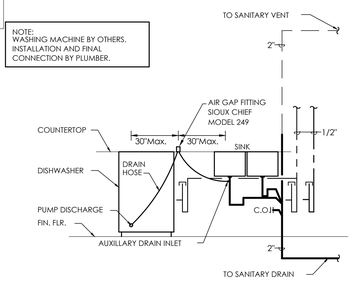


CONDENSATE DRAIN DETAIL

NO SCALE

01

NOTE:
WASHING MACHINE BY OTHERS.
INSTALLATION AND FINAL
CONNECTION BY PLUMBER.



DISHWASHER/DISPOSAL/SINK PLUMBING

NO SCALE

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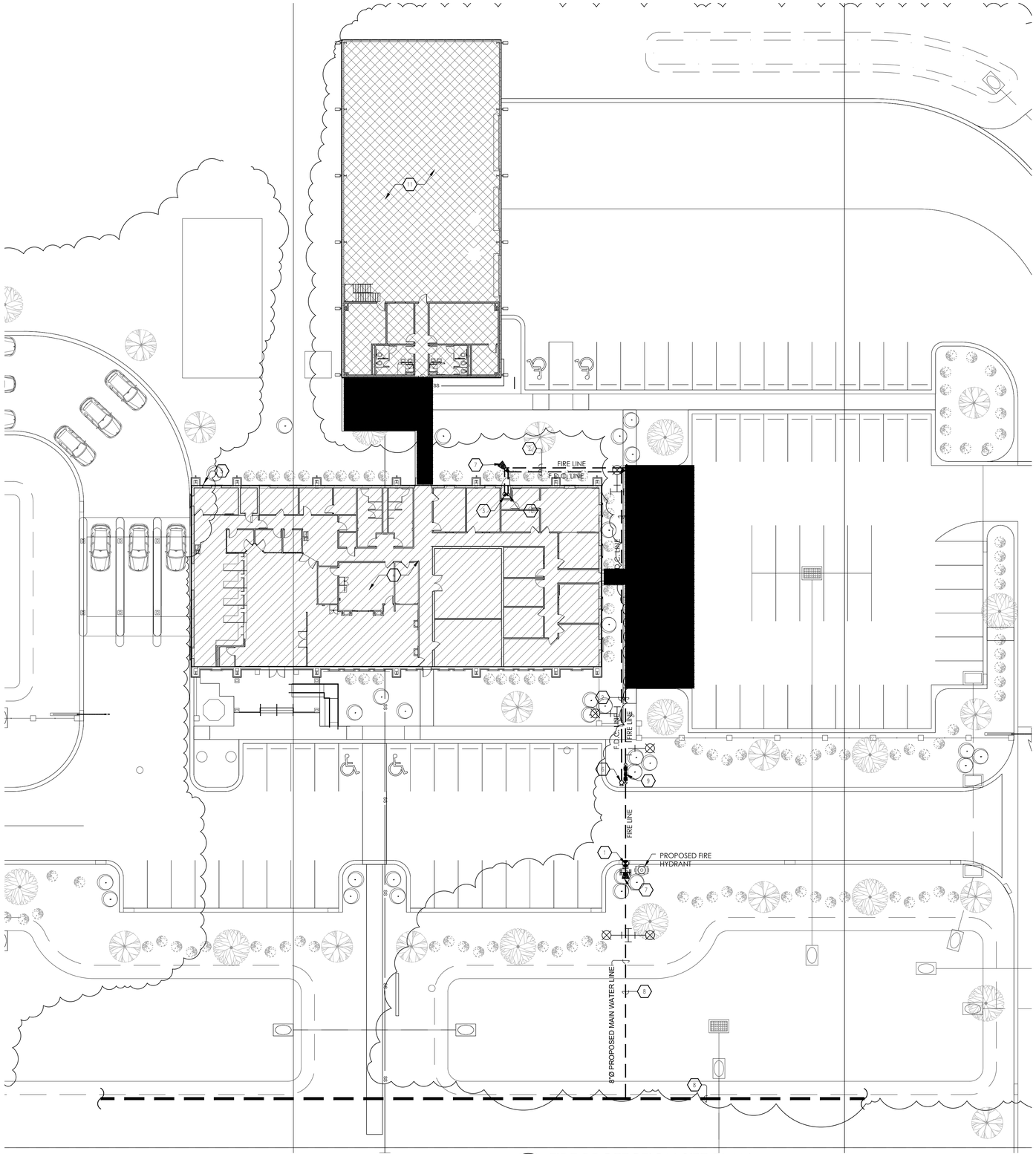


1 FIRE PROTECTION SITE PLAN
SCALE: 1"=20'-0"

GENERAL NOTES - FIRE PROTECTION:

A. SYSTEM TO BE DESIGNED TO MEET CITY OF MISSION AND FIRE MARSHAL CODES. FIRE MARSHAL TO BE THE FINAL APPROVING AUTHORITY FOR ALL FIRE PROTECTION WORK.

B. FIRE DEPARTMENT CONNECTION SHALL BE AS REQUIRED BY LOCAL FIRE MARSHAL.

C. ALL PIPE TO BE SIZED HYDRAULICALLY

D. ALL PIPING UNDER SLAB SHALL BE STAINLESS STEEL. ELSE USE DUCTILE IRON. VERIFY WITH LOCAL APPROVING AUTHORITY.

E. DETAILS DESCRIBE SOME SPRINKLER COMPONENTS REQUIRED BY A AUTOMATICALLY OPERATED SYSTEM. SPRINKLER CONTRACTOR TO PROVIDE ALL SYSTEM COMPONENTS REQUIRED FOR A TURN KEY FIRE SPRINKLER SYSTEM.

F. PROVIDE SIGNS FOR FDC, ALL VALVES, AND RISER.

G. HAZARD CLASSIFICATION SHALL BE AS PER NFPA 13.

H. ALL UNDERGROUND PIPE TO BE DR-18 C900 AND TO BE INSTALLED AS PER NFPA 24.

I. REFER TO SPECIFICATIONS FOR FURTHER INSTRUCTIONS.

J. SEAL ALL WALL OPENINGS W/ MORTAR OR FIRE CAULKING.

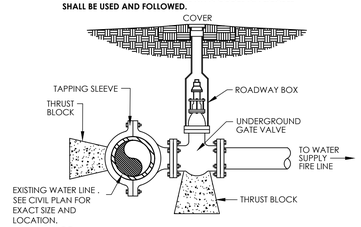
K. NO FIRE SPRINKLER PIPING TO RUN OVER ELECTRICAL EQUIPMENT. IT ROOM AND ANY OTHER SYSTEM THAT MAY BE DAMAGED FROM WATER LEAK.

THIS DRAWING IS DIAGRAMMATIC AND SHOULD BE USED AS REFERENCE FOR BIDDING PURPOSES ONLY. THIS DRAWING SHALL NOT BE USE FOR PERMIT OR CONSTRUCTION.

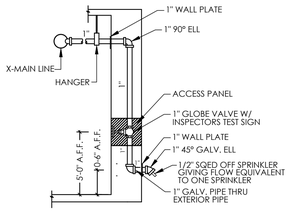
CONTRACTOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE NEW FIRE SPRINKLER SYSTEM. ALL NFPA CODES APPLICABLE SHALL BE USED AND FOLLOWED.

KEYED NOTES: FIRE PROTECTION

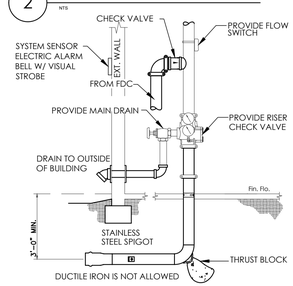
1. FIRE SPRINKLER MAIN TO CONNECT TO EXISTING WATER LINE. REFER TO DETAIL #2.
2. RUN FIRE MAIN LINE BETWEEN 3 AND 4 FEET DEEP. PROVIDE 4 INCHES OF SAND UNDER PIPE. COVER ALL PIPE AND LEAVE JOINTS EXPOSED FOR ENGINEER AND FIRE DEPARTMENT INSPECTION.
3. FIRE SPRINKLER SYSTEM RISER SHALL BE PLACED IN THIS ROOM. REFER TO DETAIL #4.
4. THIS IS A NEW BUILDING FACILITY. PROVIDE A NEW FIRE SPRINKLER SYSTEM. FIRE PROTECTION SYSTEM TO COORDINATE WITH ALL OTHER TRADES. PROVIDE NEW CONCEALED PENDANT SPRINKLER HEAD AND BRASS UPRIGHT IN OPEN AREAS.
5. INSPECTOR'S TEST TO CONNECT TO FIRE PROTECTION SYSTEM. REFER TO DETAIL #3. CONTRACTOR COORDINATE WITH ARCHITECTURAL FOR PIPE ROUTE. VALVE LOCATION AND ACCESS. INSPECTOR'S TEST SHALL BE INSIDE A FURR-OUT WITH ACCESS PANEL IF INSPECTOR'S TEST IS LOCATED IN COMMON AREA.
6. PROVIDE FREE STANDING F.D.C. COORDINATE EXACT LOCATION WITH A.H.J. PROVIDE SIGN WITH BUILDING IT SERVE. REFER TO DETAIL #7.
7. 3000 PSI CONCRETE THRUST BLOCK AT EVERY CHANGE IN DIRECTION AS PER NFPA 24.
8. REFER TO CIVIL PLAN FOR EXACT WATER MAIN SIZE AND LOCATION.
9. PROVIDE A BACKFLOW PREVENTER. CONTRACTOR COORDINATE EXACT LOCATION. REFER TO DETAIL #5.
10. DROP F.D.C. LINE DOWN AND PROVIDE STAINLESS STEEL RISER @ FLOOR PENETRATION.
11. THIS IS A NEW BUILDING FACILITY. NO FIRE PROTECTION REQUIRED.



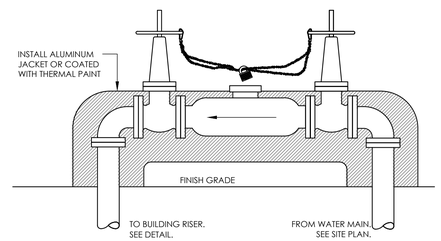
2 TAPPING SLEEVE DETAIL
NTS



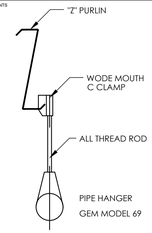
3 INSPECTOR'S TEST DETAIL
NTS



4 RISER ROOM DETAIL
NTS

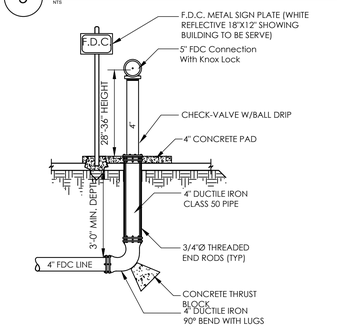


5 BACKFLOW PREVENTER DETAIL
NTS



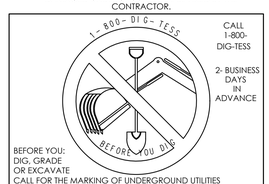
1.) USE 3/8" TOP BEAM CLAMP AND 3/8" ALL THREAD ROD AT 2" PIPE & SMALLER

6 HANGER DETAIL
NTS



7 FREE STANDING F.D.C. DETAIL
NTS

NOTE: CARE SHALL BE TAKEN DURING DIGGING. ALL LINES DAMAGED UNDERGROUND WILL BE FIXED BY THE CONTRACTOR.



CALL 1-800-DIG-TESS

2- BUSINESS DAYS IN ADVANCE

BEFORE YOU: DIG, GRADE OR EXCAVATE CALL FOR THE MARKING OF UNDERGROUND UTILITIES

EXTREME CAUTION CONTRACTOR TO VERIFY EXISTING UTILITIES PRIOR TO ANY WORK

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