AUSTIN INDEPENDENT SCHOOL DISTRICT
1111 W 6TH STREET
AUSTIN , TX 78703

O'CONNELL ROBERTSON
Architecture - Engineering - Interiors
811 BARTON SPRINGS ROAD , SUITE 900
AUSTIN , TX 78704

Kings Struarchural, Inc.
Structural Engineer
2851 JOE DIMAGGIO BLVD , SUITE 22
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MWM Design Group
Civil Engineer
305 E. HUNTLAND DR , SUITE 200
AUSTIN , TX 78752

2017 BOND PROGRAM
PHASE 2

Dr. Paul Cruz, Superintendent

Edmund T. Gordon, District 1
Jayme Mathias, District 2
Ann Teich, District 3
Julie Cowan, District 4, Secretary
Amber Elenz, District 5
Geronimo M. Rodriguez, Jr., District 6, President
Yasmin Wagner, District 7, Vice President
Cindy Anderson, At-Large Position 8
Vacant, At-Large Position 9

Project Contact:
David Knapp, AISD Project Manager

12/14/2018 9:40:06 AM

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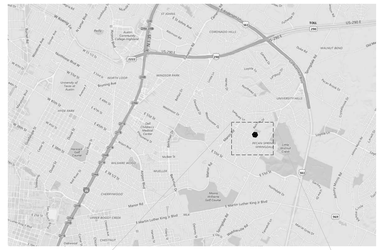
DRAWING INDEX

LIST OF DEFICIENCIES

ID#	NAME / DESCRIPTION	REF. DWG(S)
DI-38824	HEATING & AIR-CONDITIONING IMPROVEMENTS	M2.1, M3.1, M5.1
DI-38864	ELECTRICAL SYSTEM IMPROVEMENTS	E1.2, E2.1, E3.1, E4.1
DI-38865	INTERIOR & EXTERIOR IMPROVEMENTS	A2.1, A3.1, A6.1
DI-38866	PLUMBING IMPROVEMENTS	P2.1, P3.1, P4.1
DI-38892	ARCHITECTURAL & INTERIOR RENOVATIONS	A2.1, A3.1, A6.1
DI-38965	SITE DRAINAGE IMPROVEMENTS	C1.1, C2.1, C3.1



LOCATION MAP

PECAN SPRINGS ELEMENTARY SCHOOL

GENERAL PROJECT NOTES

1. GENERAL NOTES APPLY TO ALL SHEETS.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS.
3. ALL ACCESSIBLE ROUTES (OTHER THAN RAMPS) SHALL NOT EXCEED A SLOPE OF 1:20, AND CROSS SLOPES SHALL NOT EXCEED A SLOPE OF 1:50
4. THE DRAWINGS INDICATE BUILDING CONDITIONS PER EXISTING DRAWINGS AND ACTUAL PROJECT INVESTIGATION. THE CONTRACTOR SHALL ANTICIPATE POSSIBLE SLIGHT DEVIATION FROM THESE DRAWINGS. REFER TO ARCHITECTURAL & MEP DRAWINGS AND DETAILS FOR EXTENT OF DEMOLITION.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
6. INSTALL TEMPORARY DUST PARTITIONS WITH DOORS FOR CONSTRUCTION ACCESS AROUND AREAS OF WORK SO THAT OPERATIONS IN EXISTING ADJACENT AREAS REMAIN DUST FREE AND ACCESSIBLE TO BUILDING OCCUPANTS. MAINTAIN IN PLACE UNTIL COMPLETION OF CONSTRUCTION.
7. REMOVE ALL BUILDING PARTS AND/OR OTHER ITEMS TO ALLOW FOR THE INSTALLATION AND CONNECTION OF NEW WORK, COORDINATE THE WORK WITH THE HVAC, PLUMBING AND ELECTRICAL DEMOLITION DRAWINGS.
8. REMOVAL OF THE BUILDING PARTS SHALL BE PERFORMED IN A SAFE, ORDERLY AND CAREFUL MANNER, WITH THE CONSIDERATION AT ALL TIMES FOR THE SAFETY AND WELFARE OF THE OWNER, BLDG. OCCUPANTS, & PERSONNEL OF THE CONTRACTOR AND/OR SUBCONTRACTOR.
9. MAINTAIN THE UTILITIES TO OCCUPIED SPACES AT ALL TIMES. COORDINATE ANY UTILITY DOWNTIMES W/ OWNER. PROVIDE 72 HOUR ADVANCE NOTICE TO THE OWNER OF INTENDED UTILITY SHUT DOWN AND/OR DISRUPTION.

GENERAL PROJECT NOTES

10. REMOVE ALL MISCELLANEOUS DEVICES AS REQUIRED TO INSTALL NEW FINISHES, INCLUDING BUT NOT LIMITED TO: PLUMBING FIXTURES, SIGNAGE, SWITCH PLATES, TELEVISION BRACKETS, WALL OUTLET COVERS, TOILET ACCESSORIES, CORNER GUARDS, ETC. SAVE FOR REINSTALLATION AFTER COMPLETION OF FINISH WORK.
11. PROTECT ALL EXISTING FINISHES, DOOR FRAMES, EQUIPMENT AND MATERIALS THAT ARE TO REMAIN IN PLACE. DAMAGE TO EXISTING COMPONENTS BY CONTRACTOR SHALL BE REPLACED WITH NEW MATERIAL OF LIKE KIND AND QUALITY THAT MATCH THE EXISTING STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING EXISTING SURFACES TO RECEIVE NEW FINISHES SCHEDULED.
12. REFER TO CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR OTHER WORK.
13. ELECTRICAL AND MECHANICAL INSTALLATIONS MAY REQUIRE WORK ABOVE EXISTING CEILINGS BOTH IN THE AREA OF WORK AND IN ADJACENT AREAS (POSSIBLY ON OTHER FLOORS). REMOVE AND REINSTALL (OR REPLACE) CEILING TILES AND GRID AS REQUIRED. REMOVE GYPSUM BOARD AT WALLS AND CEILINGS AND REPLACE AS REQUIRED.
14. ALL ITEMS AND ASSOCIATED CONNECTIONS ARE TO BE REMOVED AND TERMINATED AT DESIGNATED POINTS. SERVICE CONNECTIONS SHALL BE SAFELY REMOVED, CAPPED OR PLUGGED IN CONFORMITY WITH LOCAL LAWS AND ORDINANCES, REQUIREMENTS OF PUBLIC UTILITY COMPANIES, AND OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, AND IN SUCH MANNER AS NOT TO INTERFERE WITH THE USE OF THE OCCUPIED SPACES IN THE BUILDING.
15. IF A CONDUIT OR UTILITY LINE IS CUT WHILE SLEEVING OR CUTTING THE SLAB OR REMOVING A PARTITION, THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT IMMEDIATELY.

ARCHITECTURAL SYMBOLS

- PARTITION TYPES
- DOOR NUMBER (101)
- KEYNOTE (#)
- DEMOLITION NOTE (#)
- WINDOW TAG (#)
- COLUMN GRID (#)
- REVISION (#)
- ELEVATION (# / #)
- SECTION (SIM; # / #)
- NORTH ARROW (N)

ARCHITECTURAL LINETYPES

- NEW CONSTRUCTION
- EXISTING CONSTRUCTION
- DEMOLITION
- HIDDEN LINE

Mission: We believe every project has a mission and strive to design environments that have a purpose that extend far beyond form and function.

RENOVATIONS TO PECAN SPRINGS ES

3100 ROGGE LANE, AUSTIN, TX 78723

CONTRACT DOCUMENTS

12/14/18
AISD PROJ. 190027-PECSP

O'CONNELL ROBERTSON
Austin 811 Barton Springs Road, Suite 900, Austin, Texas 78704 p: 512.478.7284 f: 512.478.7441
San Antonio 404 Beauregard, Suite 300, San Antonio, Texas 78204 p: 210.224.4808 f: 210.224.4453

AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

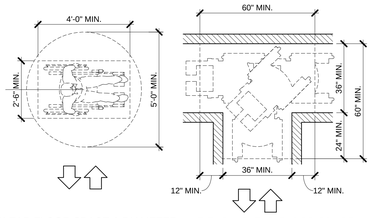
REGISTERED ARCHITECT — RICHARD L. STEPHENSON — STATE OF TEXAS
12/14/2018

Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

COVER SHEET
G1.0



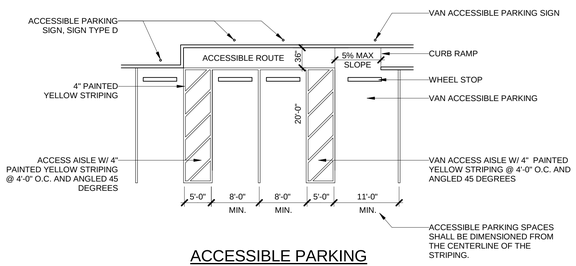
CLEAR FLOOR SPACE & DIAMETER TURNING SPACE

T-TURN CLEAR FLOOR SPACE

TURNING SPACE

REF. SECTION 304 TURNING SPACE

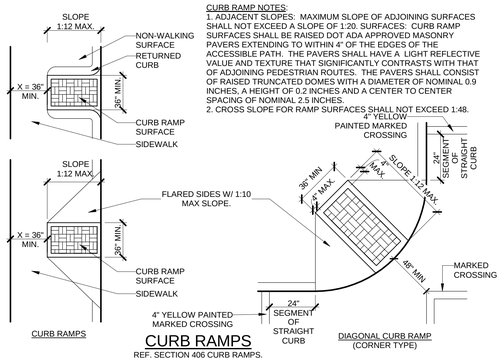
ACCESSIBLE PARKING NOTES:
1. SURFACE SLOPES: PARKING SPACES AND ACCESS AISLES SHALL NOT HAVE SURFACE SLOPES EXCEEDING 1:48 (2%) IN ALL DIRECTIONS.



ACCESSIBLE PARKING

REF. SECTION 502 PARKING AND SPACES.

CURB RAMP NOTES:
1. ADJACENT SLOPES: MAXIMUM SLOPE OF ADJOINING SURFACES SHALL NOT EXCEED A SLOPE OF 1:20. SURFACES: CURB RAMP SURFACES SHALL BE RAISED DOT ADA APPROVED MASONRY PAVERS EXTENDING TO WITHIN 4" OF THE EDGES OF THE ACCESSIBLE PATH. THE PAVERS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES. THE PAVERS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF 0.2 INCHES AND A CENTER TO CENTER SPACING OF NOMINAL 2.5 INCHES.
2. CROSS SLOPE FOR RAMP SURFACES SHALL NOT EXCEED 1:48.



CURB RAMPS

DIAGONAL CURB RAMP (CORNER TYPE)

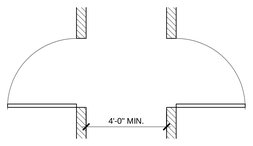
CURB RAMPS

REF. SECTION 406 CURB RAMPS.

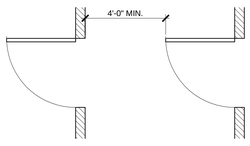
GENERAL TAS NOTES

1. DRAWINGS ON THIS SHEET REPRESENT THE REQUIREMENTS SET BY THE TEXAS ACCESSIBILITY STANDARDS (TAS) OF THE ARCHITECTURAL BARRIERS ACT ARTICLE 9102, TEXAS CIVIL STATUTES EFFECTIVE MARCH 15, 2012. THE CONTRACTOR IS TO COMPLY WITH THESE STANDARDS.

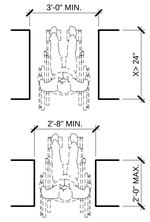
2. THESE REQUIREMENTS ARE MINIMUMS SET FORTH BY THE TEXAS ACCESSIBILITY STANDARDS AND MAY NOT REFLECT THE ACTUAL SCOPE OF WORK. THE CONSTRUCTION DOCUMENTS SHALL GOVERN OVER THESE STANDARDS EXCEPT WHERE THE DOCUMENTS DO NOT MEET THE MINIMUM REQUIREMENTS SHOWN ON THIS SHEET. CONTRACTOR TO NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONDITIONS ARISE THAT DO NOT MEET THESE STANDARDS.



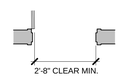
TWO HINGED DOORS IN SERIES



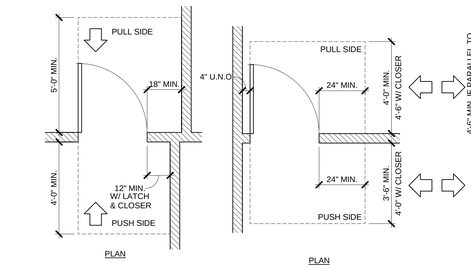
TWO HINGED DOORS IN SERIES



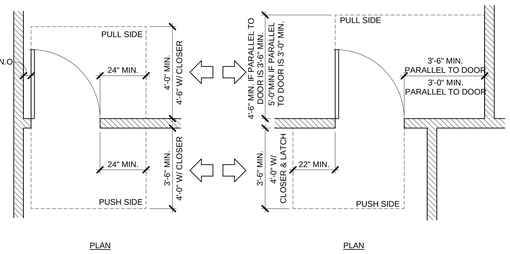
CLEAR DOORWAY DEPTH



CLEAR DOORWAY WIDTH



SWINGING DOOR CLEARANCES (FRONT APPROACH)



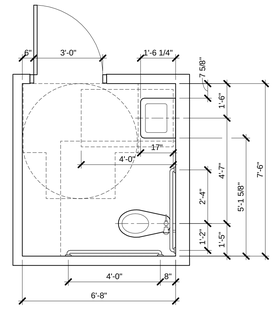
SWINGING DOOR CLEARANCES (LATCH SIDE APPROACH)

SWINGING DOOR CLEARANCES (HINGE SIDE APPROACH)

DOOR NOTES:
1. DOOR THRESHOLDS: THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 3/4" IN HEIGHT FOR EXTERIOR SLIDING DOORS OR 1/2" FOR OTHER TYPES OF DOORS. THRESHOLDS AND FLOOR LEVEL CHANGES BETWEEN 1/4" AND 1/2" AT ACCESSIBLE DOORWAYS SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.

DOORS

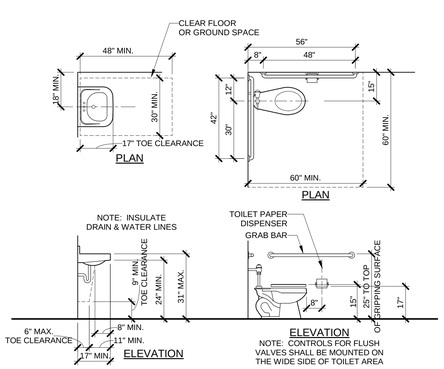
REF. SECTION 404 DOORS



TOILET ROOM NOTES:
1. LAVATORY WATER AND DRAIN LINES SHALL BE INSULATED TO PROTECT AGAINST CONTACT. FAUCETS SHALL BE LEVER OPERATED OR ELECTRONICALLY CONTROLLED.
2. WATER CLOSET FLUSH CONTROLS SHALL BE MANUAL OR AUTOMATIC AND MOUNTED ON THE WIDE SIDE OF TOILET NO MORE THAN 24" AFF.
3. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OF FIXTURES. EXCEPTION: REFER TO 603.2.3 DOOR SWING EXCEPTION 2.

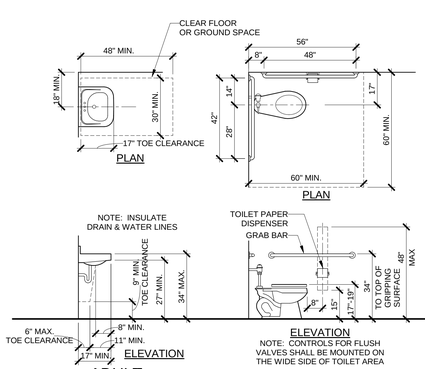
TOILET ROOMS

REF. CHAPTER 6 PLUMBING ELEMENTS



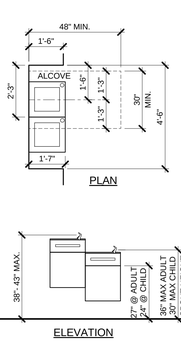
CHILDREN LAVATORY
REF. SECTION 306.2
REF. SECTION 306.3
REF. SECTION 606

CHILDREN WATER CLOSET
REF. SECTION 604
REF. SECTION 609

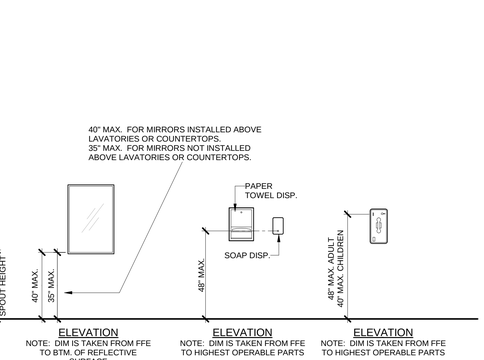


ADULT LAVATORY
REF. SECTION 306.2
REF. SECTION 306.3
REF. SECTION 606

ADULT WATER CLOSET
REF. SECTION 604
REF. SECTION 609



DRINKING FOUNTAIN \ WATER COOLER
REF. SECTION 602

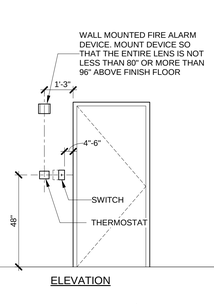


MIRROR
REF. SECTION 603.3

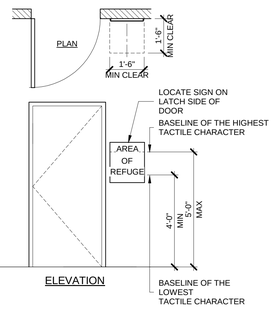
SOAP DISP.
REF. SECTION 309
REF. SECTION 308

TELEPHONE
REF. SECTION 704
REF. SECTION 308

OVERHEAD CLEARANCE
REF. SECTION 307



TYP SWITCH/ THERMOSTAT/STROBE /LOCATION
REF. SECTION 309



TACTILE SIGN
REF. SECTION 703.4

O'CONNELLROBERTSON

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San Antonio 404 Broadway, Suite 300, San Antonio, Texas 78209 p: 210.224.4500 f: 210.224.4455

AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

REGISTERED ARCHITECT CHARLES J. STRONG 19834 STATE OF TEXAS
12/14/2018

Revisions:

NO	DESCRIPTION	DATE
-	-	-

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

TAS ACCESSIBILITY

G2.0

O'CONNELLROBERTSON
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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

0 10' 20' 40'
Scale: 1" = 20'

TRV 15
N=10084868.78
E=3135023.23
60D NAIL

TRV 14
N=10084754.63
E=3134962.07
60D NAIL

TRV 6
N=10084782.18
E=3135291.17
"X" CUT

TRV 10
N=10084646.73
E=3135300.06
"X" CUT

LIMITS OF SURVEY

(BOUNDARY PER TCAD PARCEL DATA)

REICHER DRIVE

ROGGE LANE

GATE
UTILITY CABINET
ELECTRIC PANEL
PLAY SLAB
BIKE RACK
5' CHAINLINK FENCE
BUILDING OVERHANG
SPLASH PAD
6' CHAINLINK FENCE
CONC. FLUME
CONSTRUCTION AREA
AREAWAY TOP=610.33 BOTTOM=604.03
GREASE TRAP TOP=609.59 FL=INACCESSIBLE
RAMP
RUNNING TRACK
CONC. WALK
METAL DECK
METAL PLATE
STEPS
FIBERGLAS COVER UNKNOWN UTILITY
METAL PLATE GATE
2-6" PVC
COVERED WALK
BUILDING OVERHANG
RAISED GARDEN BED
COVERED PICNIC TABLES
WV TOP COVER=609.73 TOP NUT=608.68
WMH TOP COVER=609.77 TOP NUT=608.94
WV TOP COVER=609.58 TOP NUT=608.48
WWMH TOP=609.62 FLIN (N)=604.52 FL IN(E)=604.52 FL OUT(S)=604.42

TREE TABLE

TREE #	DESCRIPTION	TREE #	DESCRIPTION
368	4" PECAN DEAD	1439	26" LIVE OAK
369	6" CEDAR ELM	1558	4" YAUPON HOLLY (2"/4-1")
482	3" TEXAS REDBUD	1699	11" LIVE OAK
483	1" TEXAS REDBUD	2009	7" LIVE OAK
1000	3" LIVE OAK	2010	5" TEXAS REDBUD
1001	6" TEXAS REDBUD	2011	8" CEDAR ELM
1002	6" TEXAS REDBUD	2201	5" MOUNTAIN LAUREL (2"/6-1")
1003	3" TEXAS REDBUD (5-1")	2204	7" LIVE OAK
1004	6" CHINQUAPIN OAK	2205	6" TEXAS REDBUD
1005	10" CHINQUAPIN OAK	2206	5" CRAPE MYRTLE (2-2"/3")
1092	3" CRAPE MYRTLE	2207	5" YAUPON HOLLY
1097	9" MOUNTAIN LAUREL (2-3"/4-2")	2216	18" SYCAMORE
1186	8" CHINQUAPIN OAK	2225	7" YAUPON HOLLY (2-4"/3")
1431	2" HACKBERRY	2226	14" PECAN (3-7")
1432	2" PECAN	2227	9" YAUPON HOLLY (5"/2-4")
1438	20" LIVE OAK	2231	4" PECAN
		2237	4" TEXAS REDBUD

NOTES:

THE COORDINATES SHOWN ARE BASED ON THE TEXAS STATE PLANE, CENTRAL ZONE, NAD 83(CORS2011)(EPOCH: 2010.000), MODIFIED TO SURFACE VALUES USING A SURFACE ADJUSTMENT FACTOR (SAF) OF 1.00007. ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE.

VERTICAL BASIS: NAVD 88 (GEOID12B)

BM:1 'X' CUT IN TOP OF EAST CURBLINE, REICHER DR. APPROX 20' EAST OF CENTERLINE REICHER DR. AND 35' NORTH OF CENTERLINE ROGGE LN.
ELEVATION 609.82'

RESEARCH AND MAPPING OF UNDERGROUND UTILITIES IS NOT A PART OF THIS SURVEY.

THIS IS NOT A BOUNDARY SURVEY. BOUNDARY LINES SHOWN ARE AN APPROXIMATE DEPICTION OF RECORD DATA.

LEGEND

○	CONTROL POINT SET (SIZE/TYPE NOTED)
●	IRON ROD FOUND (SIZE/TYPE NOTED)
IRCF	IRON ROD WITH CAP FOUND
	NAIL FOUND
BM	BENCHMARK
	BOLLARD POST
	SIGN POST
	FIRE HYDRANT
WV	WATER VALVE
RD	ROOF DRAIN
WM	WATER METER
IC	IRRIGATION CONTROL BOX
ICV	IRRIGATION CONTROL VALVE
WMH	WATERLINE MANHOLE
WWMH	WASTEWATER MANHOLE
CO	WASTEWATER CLEANOUT
EM	ELECTRIC METER
	POWER POLE
	GUY WIRE
LP	LIGHT POLE
P	POLE
ECBX	EMERGENCY CALL BOX
TSIG	TRAFFIC SIGNAL
	WHEEL STOP
	EDGE OF ASPHALT
	CURB AND GUTTER
OE	OVERHEAD ELECTRIC LINE
SD	UNDERGROUND STORM LINE
WW	UNDERGROUND WASTEWATER LINE
	CHAIN LINK FENCE
	BUILDING
	CONCRETE
	PAVERS
	TREE

12/14/2018
STATE OF TEXAS
JASON A. BASS
109708
LICENSED
PROFESSIONAL
LANDSCAPE ARCHITECT

Revisions:

NO.	DESCRIPTION	DATE

mwm Design Group
MWM No. 137-50
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

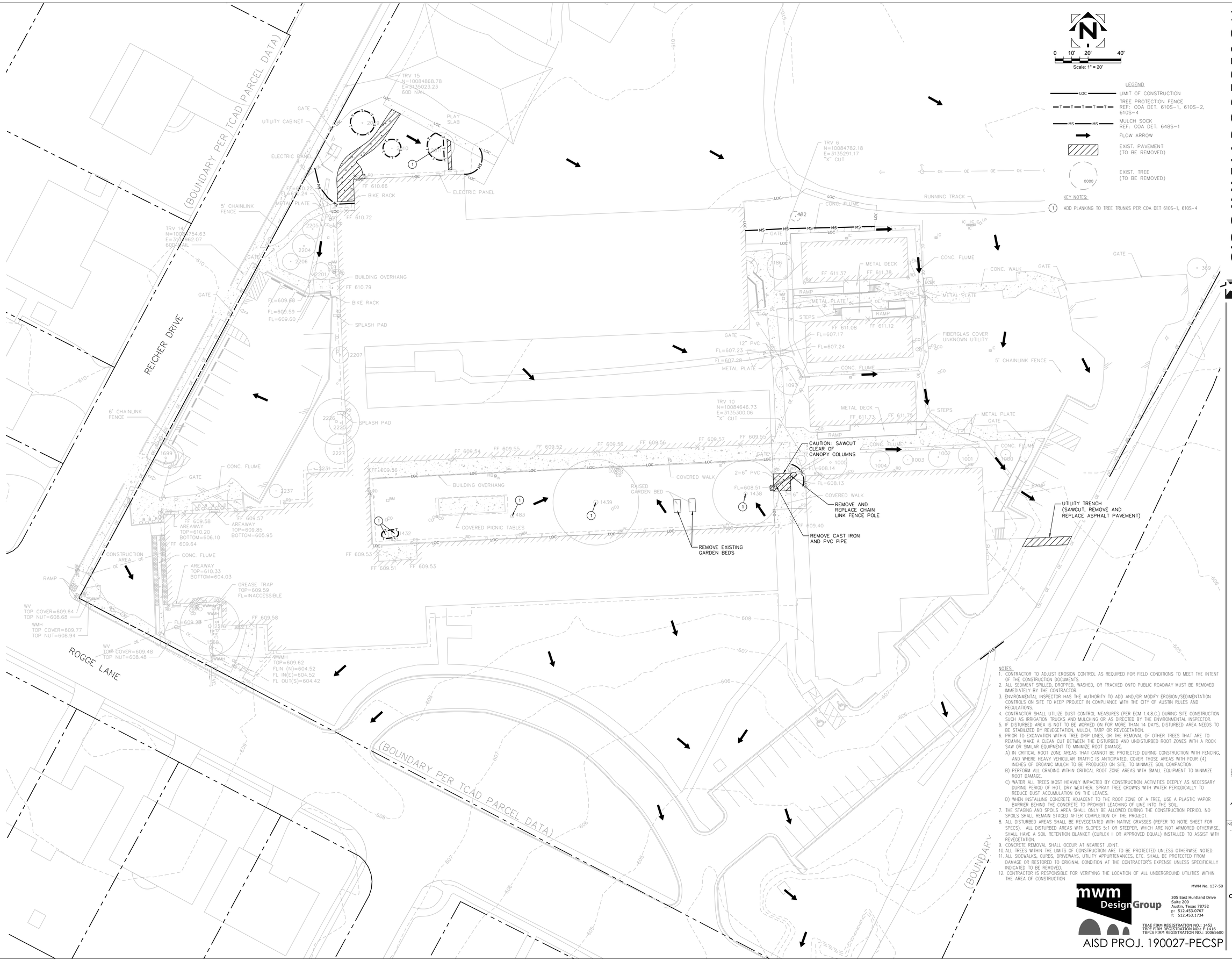
AISD PROJ. 190027-PECSP

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

EXISTING SITE CONDITONS

C1.1

10/26/2018 12:09:22 PM
C:\Revit Projects 2017\1818\01_17 Pecan_Springs_Arch_Central_cnichols.rvt



LEGEND

- LOC — LIMIT OF CONSTRUCTION
- T T T T T — TREE PROTECTION FENCE REF: COA DET. 610S-1, 610S-2, 610S-4
- MS MS — MULCH SOCK REF: COA DET. 648S-1
- FLOW ARROW
- EXIST. PAVEMENT (TO BE REMOVED)
- EXIST. TREE (TO BE REMOVED)

KEY NOTES:

1. ADD PLANKING TO TREE TRUNKS PER COA DET 610S-1, 610S-4

NOTES:

1. CONTRACTOR TO ADJUST EROSION CONTROL AS REQUIRED FOR FIELD CONDITIONS TO MEET THE INTENT OF THE CONSTRUCTION DOCUMENTS.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
3. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS.
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES (PER ECM 1.4.8.C.) DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION.
6. PRIOR TO EXCAVATION WITHIN TREE DRIP LINES, OR THE REMOVAL OF OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
   - A) IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING, AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH FOUR (4) INCHES OF ORGANIC MULCH TO BE PRODUCED ON SITE, TO MINIMIZE SOIL COMPACTION.
   - B) PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
   - C) WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY AS NECESSARY DURING PERIOD OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
   - D) WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
7. THE STAGING AND SPOILS AREA SHALL ONLY BE ALLOWED DURING THE CONSTRUCTION PERIOD. NO SPOILS SHALL REMAIN STAGED AFTER COMPLETION OF THE PROJECT.
8. ALL DISTURBED AREAS SHALL BE REVEGETATED WITH NATIVE GRASSES (REFER TO NOTE SHEET FOR SPECS). ALL DISTURBED AREAS WITH SLOPES 5:1 OR STEEPER, WHICH ARE NOT ARMORED OTHERWISE, SHALL HAVE A SOIL RETENTION BLANKET (CURLEX II OR APPROVED EQUAL) INSTALLED TO ASSIST WITH REVEGETATION.
9. CONCRETE REMOVAL SHALL OCCUR AT NEAREST JOINT.
10. ALL TREES WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED UNLESS OTHERWISE NOTED.
11. ALL SIDEWALKS, CURBS, DRIVEWAYS, UTILITY APPURTENANCES, ETC. SHALL BE PROTECTED FROM DAMAGE OR RESTORED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE UNLESS SPECIFICALLY INDICATED TO BE REMOVED.
12. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE AREA OF CONSTRUCTION

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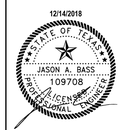

Revisions:

NO	DESCRIPTION	DATE
-		

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TBPLS FIRM REGISTRATION NO.: 10065600

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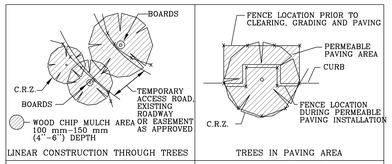
12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

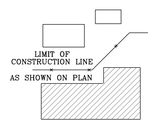
EROSION / SEDIMENTATION CONTROL, TREE PROTECTION AND DEMOLITION PLAN

C2.1

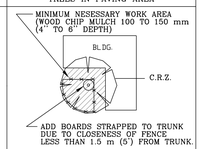


LINEAR CONSTRUCTION THROUGH TREES

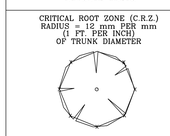
TREES IN PAVING AREA



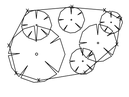
NATURAL AREAS



TREES NEAR CONSTRUCTION ACTIVITY

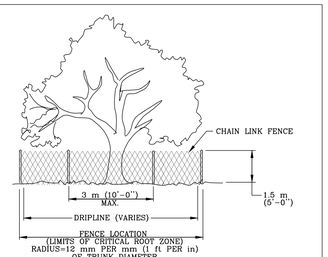


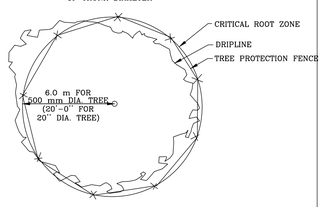
INDIVIDUAL TREE



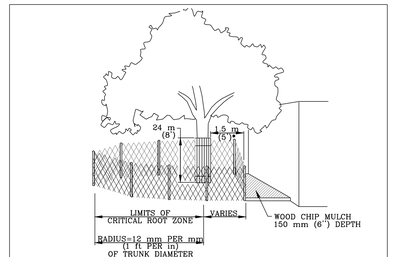
GROUP OF TREES

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S–1

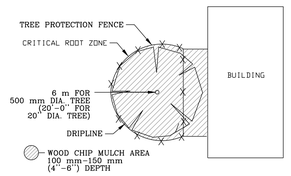




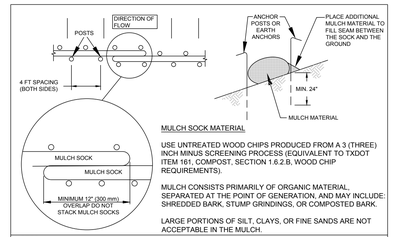
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROPTECTION FENCE TYPE A – CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S–2



*AS NEEDED TO PROVIDE MINIMUM NECESSARY WORK SPACE. IF LESS THAN 1.5 m (5'), THEN ADD BOARDS STRAPPED TO TRUNK.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE MODIFIED TYPE A – CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S–4



MULCH SOCK MATERIAL

USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK	
RECORD COPY SIGNED BY MORGAN BYARS 08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S–1

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12/14/2018
STATE OF TEXAS
JASON A. BASS
109708
LICENSED
PROFESSIONAL ENGINEER

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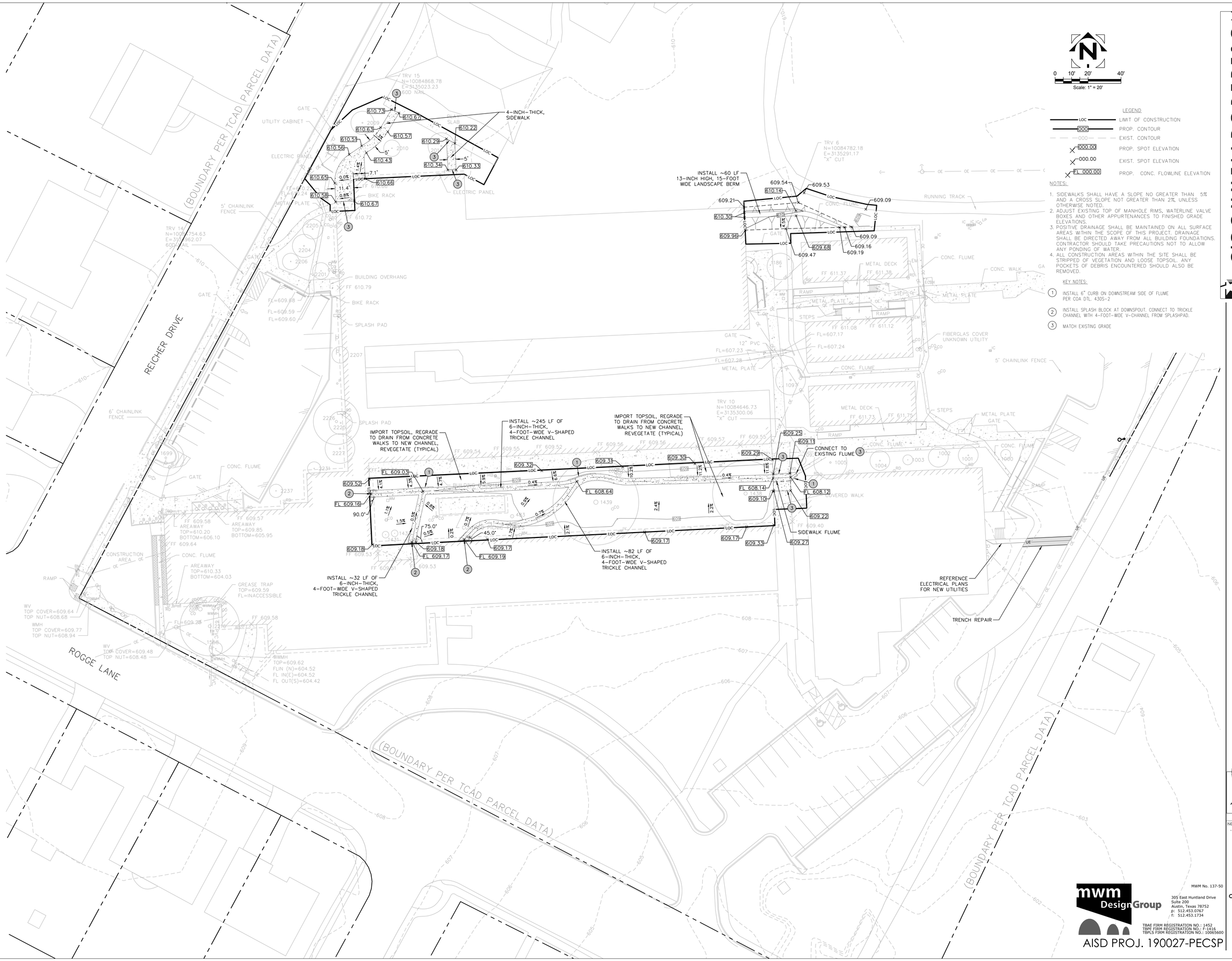
12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

EROSION / SEDIMENTATION CONTROL AND TREE PROTECTION DETAILS

C2.2



LEGEND

- LOC — LIMIT OF CONSTRUCTION
- 000 — PROP. CONTOUR
- 000 — EXIST. CONTOUR
- 000.00 — PROP. SPOT ELEVATION
- 000.00 — EXIST. SPOT ELEVATION
- FL 000.00 — PROP. CONC. FLOWLINE ELEVATION

NOTES:

1. SIDEWALKS SHALL HAVE A SLOPE NO GREATER THAN 5% AND A CROSS SLOPE NOT GREATER THAN 2%, UNLESS OTHERWISE NOTED.
2. ADJUST EXISTING TOP OF MANHOLE RIMS, WATERLINE VALVE BOXES AND OTHER APPURTENANCES TO FINISHED GRADE ELEVATIONS.
3. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
4. ALL CONSTRUCTION AREAS WITHIN THE SITE SHALL BE STRIPPED OF VEGETATION AND LOOSE TOPSOIL. ANY POCKETS OF DEBRIS ENCOUNTERED SHOULD ALSO BE REMOVED.

KEY NOTES:

1. INSTALL 6" CURB ON DOWNSTREAM SIDE OF FLUME PER COA DTL 430S-2
2. INSTALL SPLASH BLOCK AT DOWNSPOUT. CONNECT TO TRICKLE CHANNEL WITH 4-FOOT-WIDE V-CHANNEL FROM SPLASHPAD.
3. MATCH EXISTING GRADE

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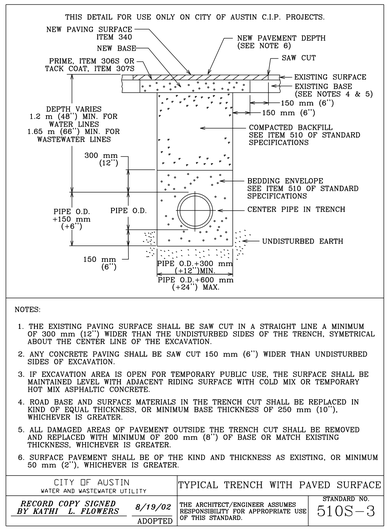
CONTRACT DOCUMENTS

GRADING AND DRAINAGE PLAN

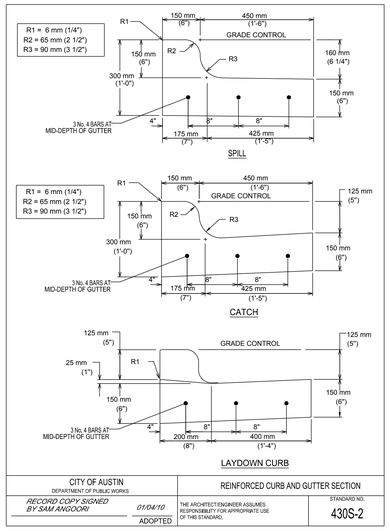
C3.1



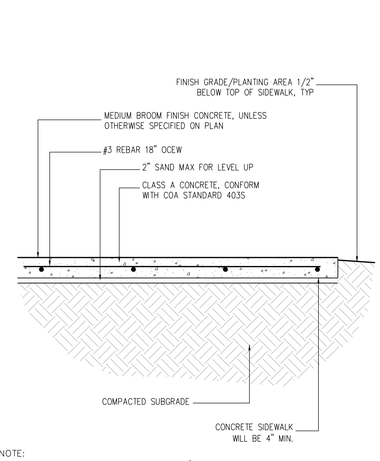
NOTES:

1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 300 mm (12") WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 150 mm (6") WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALTIC CONCRETE.
4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 250 mm (10"), WHICHEVER IS GREATER.
5. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 200 mm (8") OF BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
6. SURFACE PAVEMENT SHALL BE OF THE KIND AND THICKNESS AS EXISTING, OR MINIMUM 50 mm (2"), WHICHEVER IS GREATER.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		TYPICAL TRENCH WITH PAVED SURFACE
RECORD COPY SIGNED BY KATHI L. FLOWERS	*8/19/02* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 510S-3

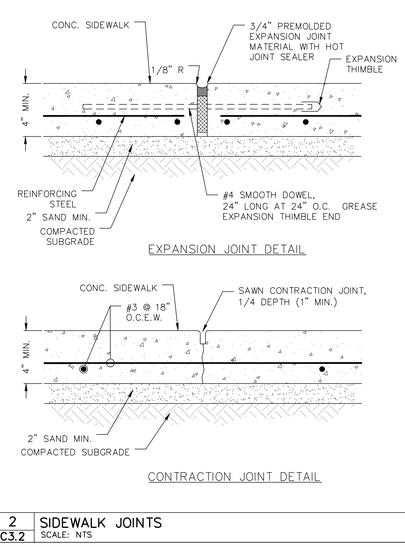


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		REINFORCED CURB AND GUTTER SECTION
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 430S-2

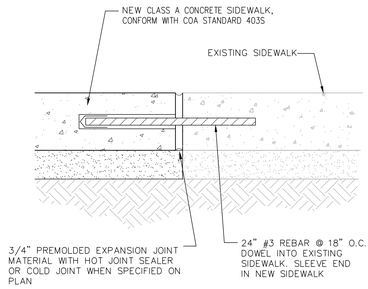


NOTE:
1. CONTRACTION JOINTS SPACED @ 5'
2. EXPANSION JOINTS SPACED AT 40'

1 C3.2 CONCRETE SIDEWALK
SCALE: NTS



2 C3.2 SIDEWALK JOINTS
SCALE: NTS



3 C3.2 NEW SIDEWALK CONNECTION AT EXISTING SIDEWALK
SCALE: NTS

4 C3.2 CONCRETE SIDEWALK FLUME
SCALE: NTS

NOTE:
SUBMIT SHOP DRAWING TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

PLAN

SECTION A

SECTION C

SECTION B

NOTES:

1. PROVIDE CONTRACTION JOINTS AT 10 FEET SPACING

ISOMETRIC

5 C3.2 CONCRETE TRICKLE CHANNEL DETAIL
SCALE: NTS

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SITE PLAN DETAILS

C3.2

STRUCTURAL NOTES

I. DESIGN DATA

A. BUILDING CODE
INTERNATIONAL BUILDING CODE 2015 EDITION WITH CITY OF AUSTIN AMMENDMENTS.

B. DESIGN LOADS

1.	Wind Load	Exposure	B
		Design Wind Speed	120 MPH
		Risk Factor	III
2.	Roof Loads		
		Live Load (L.L)	20 PSF*
		Dead Load (Design) (D.L)	20 PSF

* Reduced Per I.B.C. SEC. 1605.3

The contractor shall verify all dimensions and shall coordinate all structural plans and details with the architect before starting work. The engineer shall be notified of any discrepancies prior to construction.

The structural systems of the floor and roof are designed to perform as a complete unit. During demolition and repair of these structures, structural components may be unstable and it is the responsibility of the contractor to provide temporary shoring and/or bracing as required for the stability of the incomplete structure and for the safety of all on-site personnel.

C. Contractor to verify all conditions at the jobsite and report any discrepancies to the engineer prior to start of any construction.

II. FRAMING

1. All bolts shall be ASTM A-307.
2. All beam header, rafter and ceiling joist framing lumber shall be No. 1 grade Southern Pine Kiln Dried or better. All column lumber shall be No. 1 Douglas Fir Kiln-Dried or better.
3. All wood connector and hangers shall be as manufactured by Simpson Strong-Tie Co. or equal.
4. All connectors or hangers for pressure treated material shall be stainless steel.
5. All exterior walls and interior shear walls shall be sheathed with a minimum of 7/16-24/48 C-D Exterior Plywood or OSB. Attach to framing with 10d nails @ 6" O.C.
6. All exterior walls and interior shear walls shall be anchored to the foundation with 1/2" x 12" anchor bolts at 48" O.C.
7. All roofs shall be decked with 5/8"-48/24 C-D Exterior Plywood nailed with 6d nails at 6" O.C. at all supports.
8. All wall framing shall be #2 Southern Yellow Pine or better.
9. All roof joists and ceiling joists shall be #2 Southern Yellow Pine or better.
10. No holes, notches or other cuts shall be made in any beam, joist, rafter or other framing member without written approval by the engineer.
11. No hole larger than 1" in diameter will be allowed in any load bearing or any exterior wall stud. 1" diameter and smaller holes shall be located on the centerline of the wide axis and spaced no less than 6" O.C. No other holes will be allowed without the written approval of the engineer.

III. STRUCTURAL STEEL

1. Structural Steel design and construction shall conform to UBC Chapter 22, - General design requirements. All steel shall be designed, fabricated and erected in accordance with the latest AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
2. All welding shall be in accordance with the latest American Welding Society Specifications.
3. All steel to be given one shop coat of rust inhibitive primer, after fabrication.
4. Structural Steel Supplier is responsible for & shall submit shop drawings for all structural steel.
5. Structural Steel Supplier shall furnish bolts for OSHA connections (see drawings for details).
6. Provide protective asphaltic coating or equal around structural steel below grade.

IV. STEEL MATERIAL PROPERTIES

	STEEL PROPERTIES:	FY, PSI	ASTM
A.	Structural shapes	50,000	A992
B.	Plates	36,000	A36
C.	High strength bolts, U.N.O.	74,000	A325
D.	Anchor bolts (tensile strength)	60,000	A307
E.	Welding electrodes	E70XX	A233
F.	Deck welding electrodes	E60XX	A233
G.	Structural HSS	46,000	A500, GRADE B
H.	Headed studs	50,000	A108

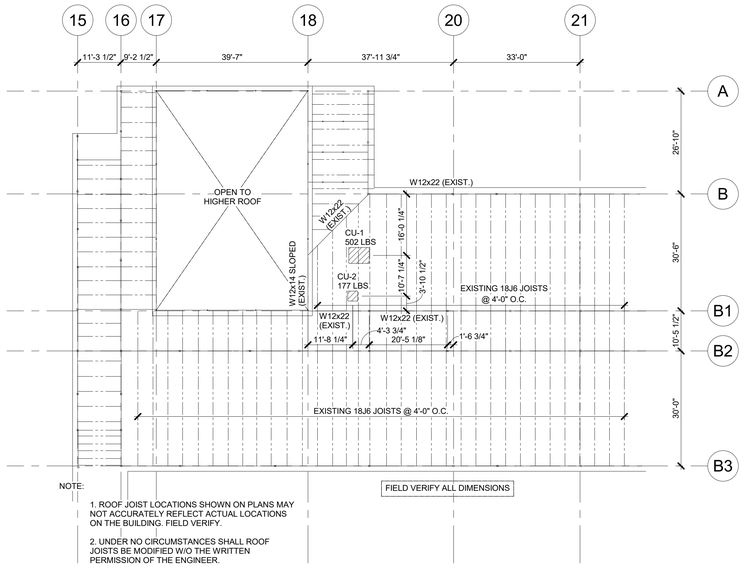
I. "Expansion Bolts" shall be equal to Simpson HIT-HY200 system.

V. STEEL JOISTS

1. Steel joists shall be manufactured by a member of SJI.
2. Steel joists shall be designed, fabricated and erected in accordance with the 2005 STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS.
3. No construction loads of any kind shall be placed on unbridged joists.
4. Where columns are not framed in at least two directions with structural steel members, joists at or closest to column lines shall be field bolted to add lateral stability during construction.
5. Provide bridging in accordance with the latest edition of the SJI STANDARD SPECIFICATION AND OSHA REQUIREMENTS.
6. The structural drawings are not stand alone documents. The joist supplier shall coordinate the locations and weights of all mechanical, plumbing, electrical and other equipment with the applicable drawings. The joist supplier shall account for the loads in their design.
7. Steel joist manufacturer shall design roof joists supporting mechanical units for 1.2x mechanical weights shown. Use [20] PSF live load (non-reducible) unless noted otherwise. Contractor shall verify actual mechanical loads. Notify steel joist manufacturer of any descrepancies.
8. Steel joists shall be designed for a net wind uplift of [15] PSF unless note otherwise.
9. The dead load of miscellaneous rooftop items, including screen wall, skylights, etc. shall be accounted for in the design of the steel roof joists.

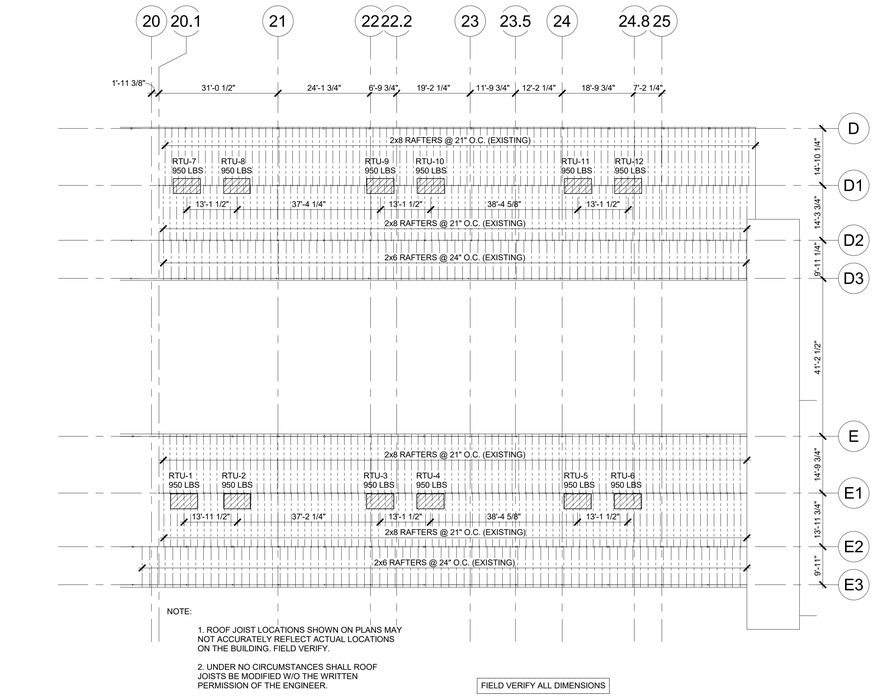
VI. STEEL JOIST GIRDERS

1. Steel joist girders shall be manufactured by a member of SJI.
2. Steel joist girders shall be designed, fabricated and erected in accordance with the 2005 STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS.
3. Steel joist girders are denoted thus: DG NN P
   Where D = Depth in inches
   N = Number of joist spaces
   P = KIP load on each panel point
4. Steel joist manufacturer shall design roof joist girders supporting mechanical units for 1.2x mechanical unit weights shown. Use [20] PSF dead load and [25] PSF live load (non-reducible) unless noted otherwise. Contractor shall verify actual mechanical loads. Notify steel joist manufacturer of any descrepancies.
5. The structural drawings are not stand alone documents. The joist supplier shall coordinate the locations and weights of all mechanical, plumbing, electrical and other equipment with the applicable drawings. The joist supplier shall account for the loads in their design.
6. The dead load of miscellaneous rooftop items, including screen walls, skylights, etc. shall be accounted for in the design of the steel roof joist girders.



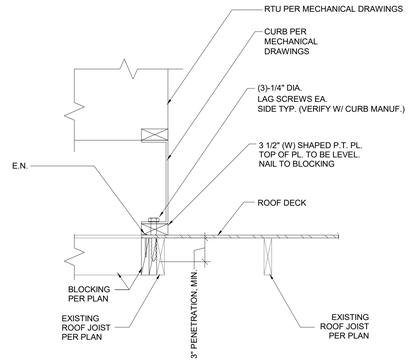
N
TRUE NORTH

A ROOF PLAN (PARTIAL)
SCALE: 1/16" = 1'-0"

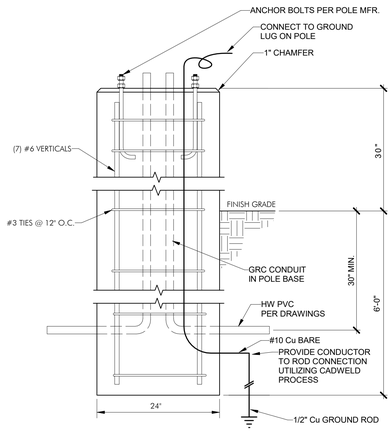


N
TRUE NORTH

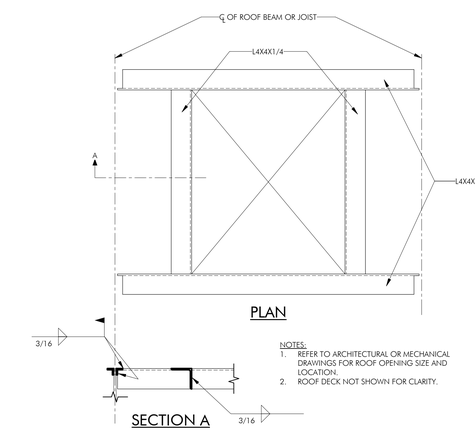
B ROOF PLAN (PARTIAL)
SCALE: 1/16" = 1'-0"



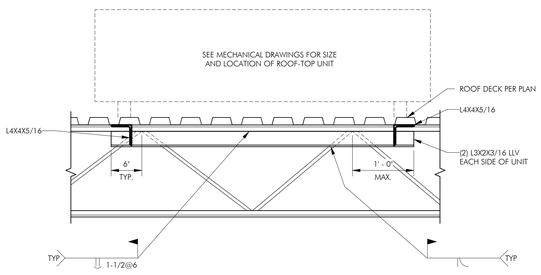
1 TYP. CURB DETAIL
SCALE: 1" = 1'-0"



2 LIGHT POLE BASE
SCALE: 1" = 1'-0"



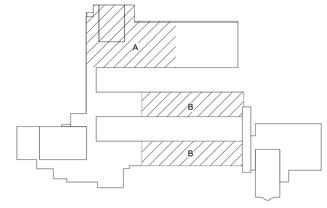
3 TYPICAL ROOF HATCH OPENING
SCALE: 1" = 1'-0"



NOTE: IF CURB IS GREATER THAN 1'-0" FROM PANEL POINT OF JOIST, EXTEND ANGLE TO NEXT PANEL POINT.

01049002

4 TYP. ROOF TO EQUIPMENT SUPPORT
SCALE: 1" = 1'-0"



KEY PLAN

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San Antonio 404 Broadway, Suite 305, San Antonio, Texas 78209 p: 210.224.4662 f: 210.224.9455

AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

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STATE OF TEXAS
PATRICK ASIEDU
105858
LICENSED
PROFESSIONAL ENGINEER
12/14/18
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PATRICK ASIEDU, P.E. 105858. THIS DRAWING IS ISSUED FOR CONSTRUCTION. IT SHALL NOT BE USED FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE ENGINEER, AND THEN ONLY IN ACCORDANCE WITH THE RULES OF THE TEXAS ENGINEERING PRACTICE ACT.

KINGSSE
2851 Joe DiMaggio, Unit 22
Round Rock, TX 78665
Phone (512) 244-1966
Fax (512) 388-3698
TBPE Registration No. F-13346
JOB NO. 181017

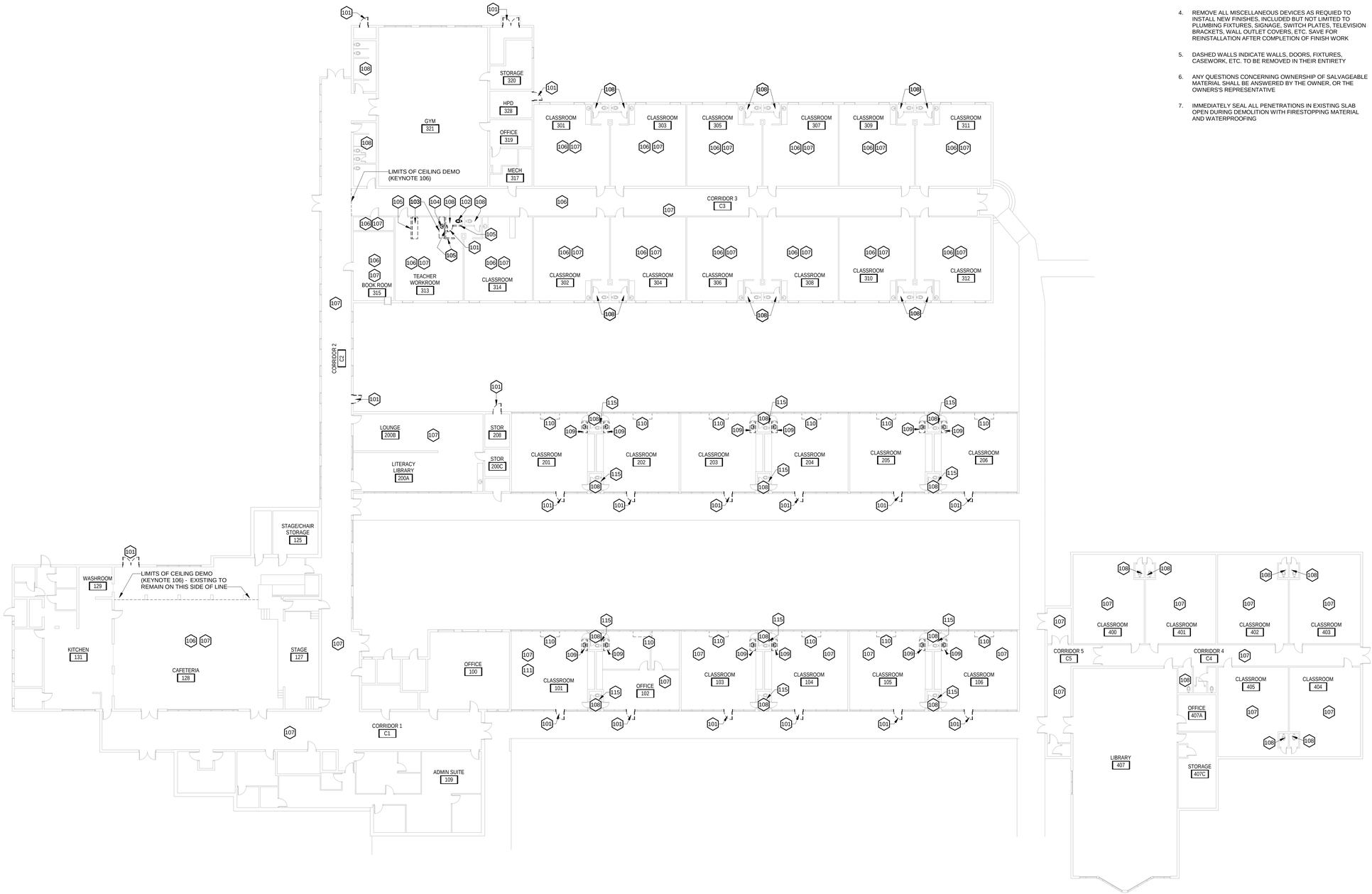
"Bringing Structure to the world"

12/14/18
Project No. 181017
CONSTRUCTION DOCUMENTS

STRUCTURAL ROOF PLAN

AISD PROJ. 190027-PECSP

S1.0



1 DEMOLITION FLOOR PLAN
SCALE: 1/16" = 1'-0"

GENERAL DEMO NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND RELATED ITEMS REQUIRED TO COMPLETE THE DEMOLITION WORK AS INDICATED BT THE CONTRACT DOCUMENTS
2. THE CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES AND INSPECTIONS REQUIRED FOR THE EXECUTION OF THE WORK
3. SERVICE CONNECTIONS SHALL BE SAFELY REMOVED, CAPPED OR PLUGGED IN COMFORMITY WITH LOCAL LAWS AND ORDINANCES, REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND THE NATIONAL BOARD OF FIRE UNDERWRITERS, AND IN SUCH MANNER AS TO NOT TO INTERFERE WITH USE OF THE OCCUPIED SPACES IN THE BUILDING
4. REMOVE ALL MISCELLANEOUS DEVICES AS REQUIED TO INSTALL NEW FINISHES, INCLUDED BUT NOT LIMITED TO PLUMBING FIXTURES, SIGNAGE, SWITCH PLATES, TELEVISION BRACKETS, WALL OUTLET COVERS, ETC. SAVE FOR REINSTALLATION AFTER COMPLETION OF FINISH WORK
5. DASHED WALLS INDICATE WALLS, DOORS, FIXTURES, CASEWORK, ETC. TO BE REMOVED IN THEIR ENTIRETY
6. ANY QUESTIONS CONCERNING OWNERSHIP OF SALVAGEABLE MATERIAL SHALL BE ANSWERED BY THE OWNER, OR THE OWNER'S REPRESENTATIVE
7. IMMEDIATELY SEAL ALL PENETRATIONS IN EXISTING SLAB OPEN DURING DEMOLITION WITH FIRESTOPPING MATERIAL AND WATERPROOFING

KEYNOTE LEGEND

101 REMOVE EXISTING DOOR. FRAME TO REMAIN.

102 REMOVE WATER CLOSET AND REPAIR/REPLACE WALL AND FLOOR FINISHES AS NEEDED TO ACCEPT TO NEW FINISH

103 DEMOLISH CASEWORK

104 REMOVE SINK - CAP PLUMBING STUB-OUT

105 DEMOLISH WALL TO EXTENTS INIDICATED

106 REMOVE CEILING TILES AND GRID. AS REQUIRED, CONTRACTOR SHALL TEMPORARILY SUPPORT EXISTING INFRASTRUCTURE. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.

107 REMOVE VCT FLOORING

108 REMOVE TILE FLOORING

109 DEMOLISH SINK, COUNTER, AND BASE CABINET. REPAIR WALL AND FLOOR FINISHES AS NEEDED TO ACCEPT NEW FINISH.

110 REMOVE EXISTING HVAC UNIT. REFER TO MECHANICAL DRAWINGS. REPAIR/REPLACE WALL AND FLOOR FINISHES AS NEEDED TO ACCEPT NEW FINISH.

111 REFER TO MECHANICAL DRAWINGS FOR SCOPE OF DEMOLITION IN THIS ROOM. PATCH WALLS AS NEEDED FOR THE REMOVAL OF EXISTING HVAC DUCTWORK AND GRILLES.

115 REMOVE, STORE, AND REINSTALL TOILET PARTITION

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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

REGISTERED ARCHITECT RAYMOND J. STEFANSKI 19814 STATE OF TEXAS
12/14/2018

Revisions:

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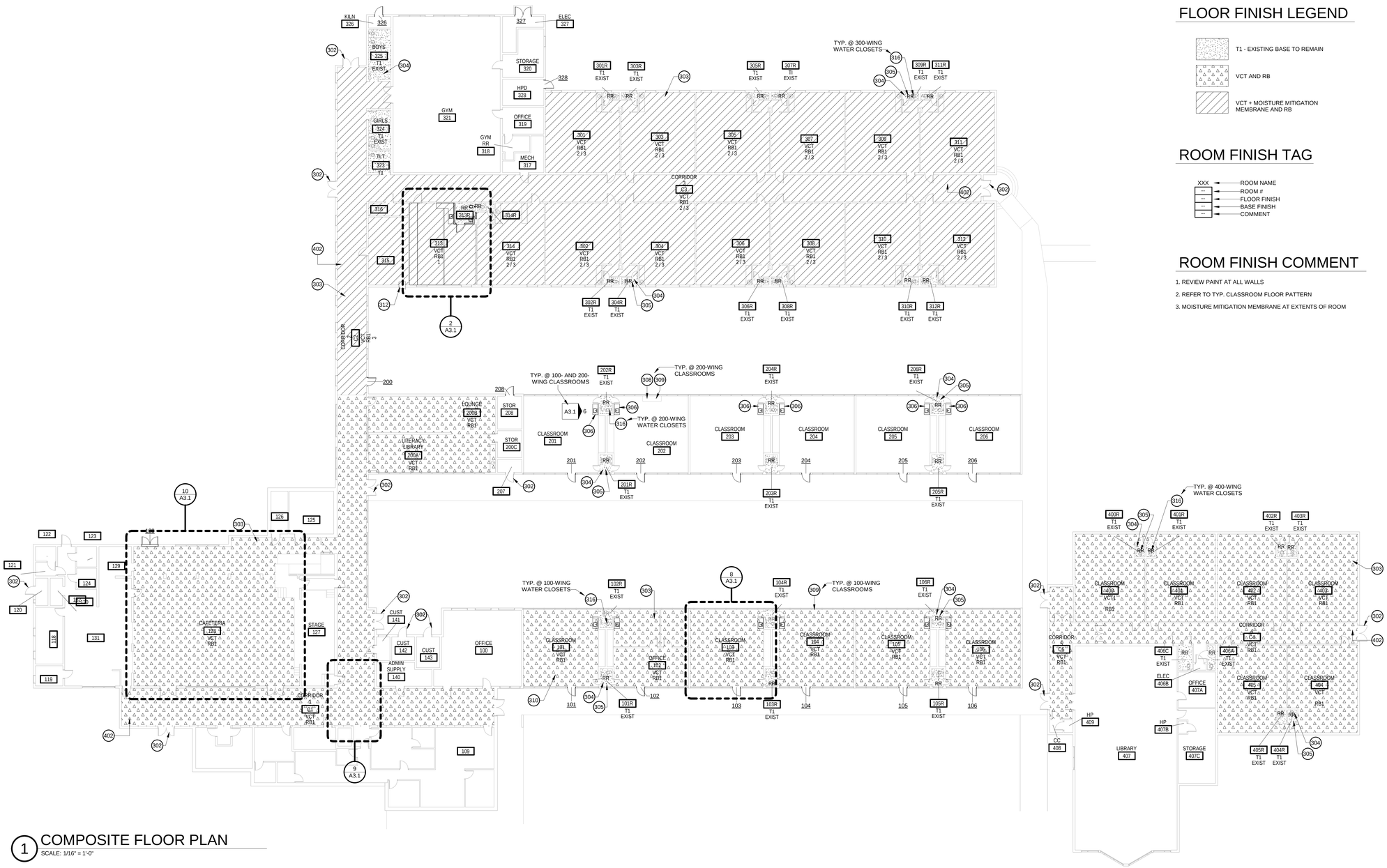
N TRUE NORTH
N PLAN NORTH

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

AISD PROJ. 190027-PECSP

DEMOLITION PLAN
A2.1



1 COMPOSITE FLOOR PLAN
SCALE: 1/16" = 1'-0"

FLOOR FINISH LEGEND

- T1 - EXISTING BASE TO REMAIN
- VCT AND RB
- VCT + MOISTURE MITIGATION MEMBRANE AND RB

ROOM FINISH TAG

XXX — ROOM NAME
-- — ROOM #
-- — FLOOR FINISH
-- — BASE FINISH
-- — COMMENT

ROOM FINISH COMMENT

1. REVIEW PAINT AT ALL WALLS
2. REFER TO TYP. CLASSROOM FLOOR PATTERN
3. MOISTURE MITIGATION MEMBRANE AT EXTENTS OF ROOM

KEYNOTE LEGEND

302 RE-PAINT EXISTING EXTERIOR DOOR TO MATCH NEW EXTERIOR DOORS

303 NEW VCT FLOORING - TYP. AT THIS HATCH

304 NEW TILE FLOORING - TYP. AT THIS HATCH

305 REPLACE FLANGE GASKET AT TOILET. TYP. IN ALL SINGLE-STALL RESTROOMS LOCATED BETWEEN CLASSROOMS.

306 NEW VCT AROUND NEW COUNTER AND SINK AS NEEDED TO COVER THE DIFFERENCE FROM THE DEMOLITION OF PREVIOUS COUNTER AND SINK.

307 REPAIR/REPLACE TILE AROUND NEW COUNTER. EXISTING SOAP DISPENSER, PAPER TOWEL DISPENSER, MIRROR TO REMAIN

308 NEW VCT AS NEEDED TO COVER WHERE OLD HVAC UNIT WAS LOCATED

309 AT VENT BEHIND REMOVED HVAC UNIT, REFER TO VENT INFILL DETAIL ON THIS SHEET.

310 REFER TO MECHANICAL DRAWINGS FOR SCOPE OF DEMOLISHED AND NEW DUCTWORK. RE-PAINT EXISTING WALLS AS NEEDED.

312 EXISTING ROOF LADDER

313 REFRIGERATOR - OFOI

316 PROVIDE JOINT PROTECTION AROUND PLUMBING FIXTURE, TYP.

402 REFER TO TYP. CORRIDOR FLOOR PATTERN FOR FLOOR PATTERN

TOILET ACCESSORIES SCHEDULE

TA-1 GRAB BAR 42"

TA-2 GRAB BAR 48"

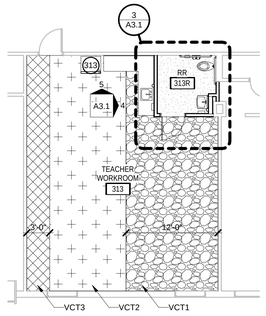
TA-6 SURFACE MOUNTED DOUBLE ROLL TOILET TISSUE DISPENSER (OFCI)

TA-7 SOAP DISPENSER (OFCI)

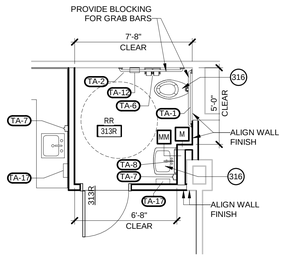
TA-8 STEEL CHANNEL FRAME MIRROR - 18"W X 40"H

TA-12 SANITARY NAPKIN DISPOSAL

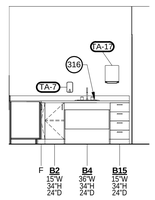
TA-17 SURFACE MOUNTED PAPER TOWEL DISPENSER (OFCI)



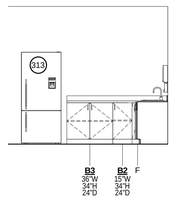
2 TEACHER WORKROOM
SCALE: 1/8" = 1'-0"



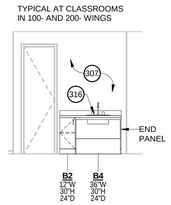
3 RESTROOM 313R
SCALE: 1/4" = 1'-0"



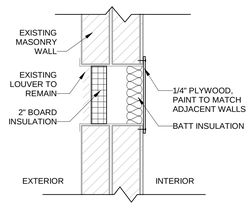
4 WORKROOM A
SCALE: 1/4" = 1'-0"



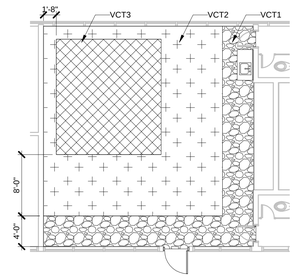
5 WORKROOM B
SCALE: 1/4" = 1'-0"



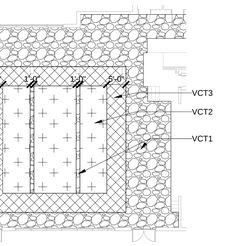
6 CLASSROOM COUNTER
SCALE: 1/4" = 1'-0"



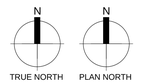
7 VENT INFILL DETAIL
SCALE: 1 1/2" = 1'-0"

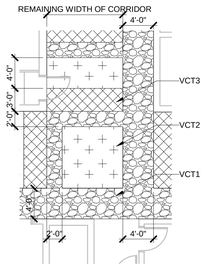


8 TYP. CLASSROOM FLOOR PATTERN
SCALE: 1/8" = 1'-0"



10 CAFETERIA FLOOR PATTERN
SCALE: 1/16" = 1'-0"





9 TYP. CORRIDOR FLOOR PATTERN
SCALE: 1/8" = 1'-0"

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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

REGISTERED ARCHITECT — STATE OF TEXAS

12/14/2018

Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

AISD PROJ. 190027-PECSP

FLOOR PLAN

A3.1

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KEYNOTE LEGEND

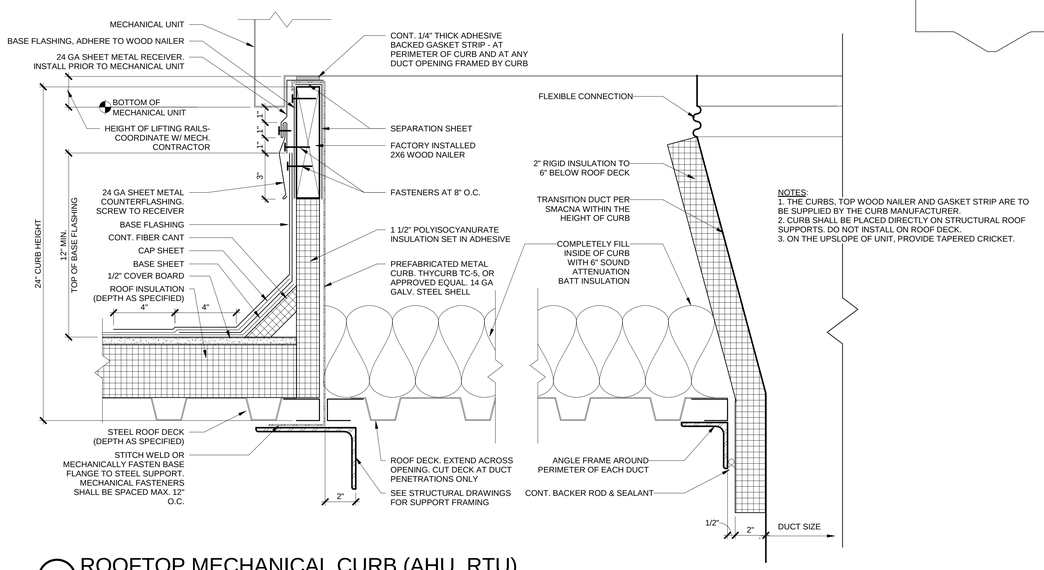
311 MECHANICAL EQUIPMENT ON CURBS, TYP. - REFER TO DETAILS ON THIS SHEET AND ON SHEET S1.0. REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT INFORMATION.

312 EXISTING ROOF LADDER

315 DRAINAGE CRICKET, TYP. - ROOF DEMO AND PATCHING AS NEEDED.

1 ROOF PLAN

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



2 ROOFTOP MECHANICAL CURB (AHU, RTU)

SCALE: 3" = 1'-0"

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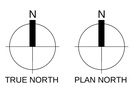

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ROOF PLAN

A4.1

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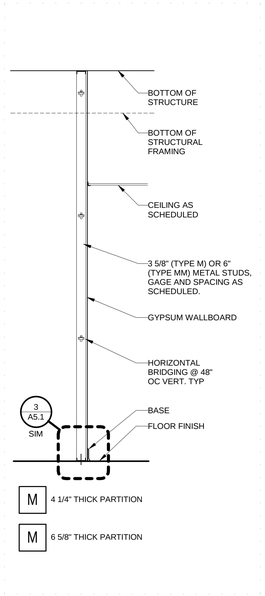
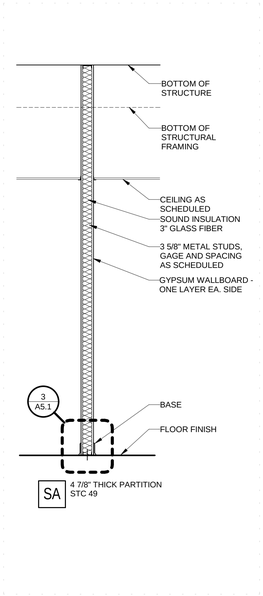


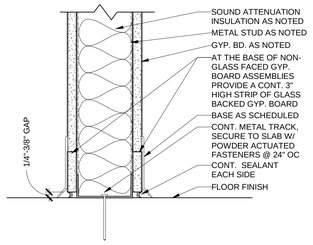
PARTITION M



PARTITION SA

GENERAL PARTITION NOTES

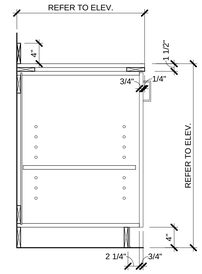
1. UNLESS NOTED ON THE PLANS WITH A KEYED PARTITION TYPE SYMBOL, ALL PARTITIONS SHALL BE TYPE SA.
2. ALL METAL STUDS ARE CONTINUOUS FROM FLOOR TRACK TO STRUCTURE OR STRUCTURAL FRAMING ABOVE UNLESS NOTED OTHERWISE.
3. BOTTOM OF STRUCTURE REFERS TO BOTTOM OF: METAL FLOOR DECK, METAL ROOF DECK, CONCRETE DECK, CONCRETE ROOF, OR PLYWOOD SHEATHING WHICHEVER IS APPLICABLE.
4. BOTTOM OF STRUCTURAL FRAMING REFERS TO BOTTOM OF: STEEL BEAM, STEEL GIRDER, STEEL BAR JOIST, STEEL PURLIN, METAL FLOOR JOIST, METAL ROOF JOIST, METAL RAFTER, METAL TRUSS, CONCRETE BEAM, CONCRETE TEE, WOOD FLOOR JOIST, WOOD ROOF JOIST, WOOD RAFTER OR WOOD TRUSS, WHICHEVER IS APPLICABLE.



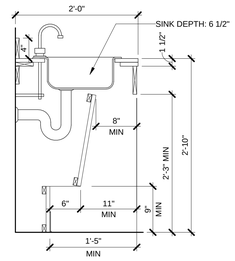
FLOOR TRACK

GENERAL CASEWORK NOTES

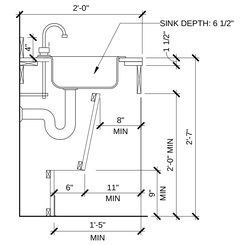
1. ALL EXPOSED AND SEMI-EXPOSED SURFACE PLASTIC LAMINATE U.N.O. REFER TO ELEVATION AND LIST OF FINISHES FOR PLAM COLOR.
2. PROVIDE 1 1/2" RADIUS AT ALL OUTSIDE CORNERS OF COUNTERS AND TRANSACTION TOPS.
3. WALL BASE ON BASE CABINET UNLESS NOTED OTHERWISE.
4. PROVIDE FINISHED END PANELS AND/OR END RETURNS AT OPEN CASEWORK.
5. PROVIDE BACKSPLASHES & SIDESPLASHES - U.N.O.
6. PROVIDE BLIND CORNER UNITS AT BASE FOR "L" SHAPED CONFIGURATIONS. BLIND UNIT TO EXTEND 12" - 15" OF WALL.



B2, B3 - BASE CABINET



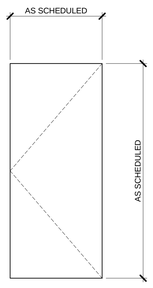
B4 - ADULT TAS COMPLIANT BASE SINK



B4 - CHILDREN (6-12) TAS COMPLIANT BASE SINK

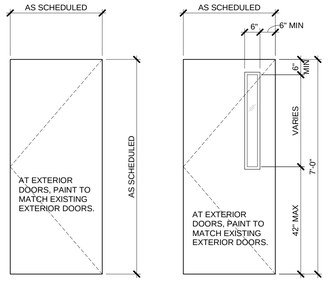
DOOR AND FRAME SCHEDULE

DOOR									FRAME	NOTES
		SIZE								
		WIDTH								
MARK	DESCRIPTION	WIDTH	PANEL 1	PANEL 2	HEIGHT	THICK	MAT'L	TYPE		
101	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
102	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
103	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
104	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
105	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
106	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
128	PAIR	6' - 0"	3' - 0"	3' - 0"	7' - 0"	1 3/4"	STL	FSTL	STL1	
200	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL1	
201	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
202	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
203	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
204	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
205	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
206	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
208	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	NSTL	STL2	
313R	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	WD	FWD	STL1	
326	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	FSTL	STL1	
327	PAIR	6' - 0"	3' - 0"	3' - 0"	7' - 0"	1 3/4"	STL	FSTL	STL1	
328	SINGLE	3' - 0"	3' - 0"		7' - 0"	1 3/4"	STL	FSTL	STL1	



FWD
FLUSH DOOR

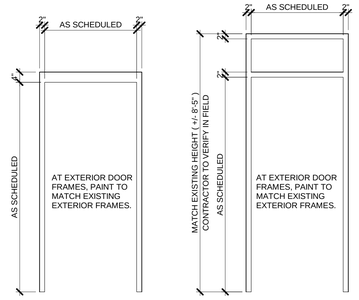
WOOD DOOR (WD)



FSTL
FLUSH DOOR

NSTL
NARROW LITE

STEEL DOOR TYPES (STL)



STL1
SINGLE DOOR OR PAIR OF DOORS

STL2
SINGLE DOOR W/ TRANSOM

STEEL FRAME TYPES

GENERAL DOOR NOTES

1. THE LOCATION OF THE VISION LIGHTS IN DOOR TYPE NARROW LITE, GLASS SHALL COMPLY WITH THE TEXAS ACCESSIBILITY 2012 STANDARDS 404.2.11. THE DIMENSIONS SHOWN ARE TAKEN FROM THE FINISH FLOOR TO THE GLASS AND SHALL NOT EXCEED 42 INCHES.
2. WHERE EXIT PANIC HARDWARE IS SCHEDULED, THE BOTTOM OF THE DEVICE SHALL BE MOUNTED NO LESS THAN 34 INCHES AND NOT MORE THAN 48 INCHES ABOVE THE FINISH FLOOR. THE DEVICE SHALL NOT PROJECT MORE THAN 4 INCHES FROM THE FACE OF THE DOOR. AT DOOR TYPE NARROW LITE, LOCATE PANIC HARDWARE BELOW THE VISION LITE.

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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

REGISTERED ARCHITECT RAYMOND J. STEINKUHL 19853 STATE OF TEXAS

12/14/2018

Revisions:

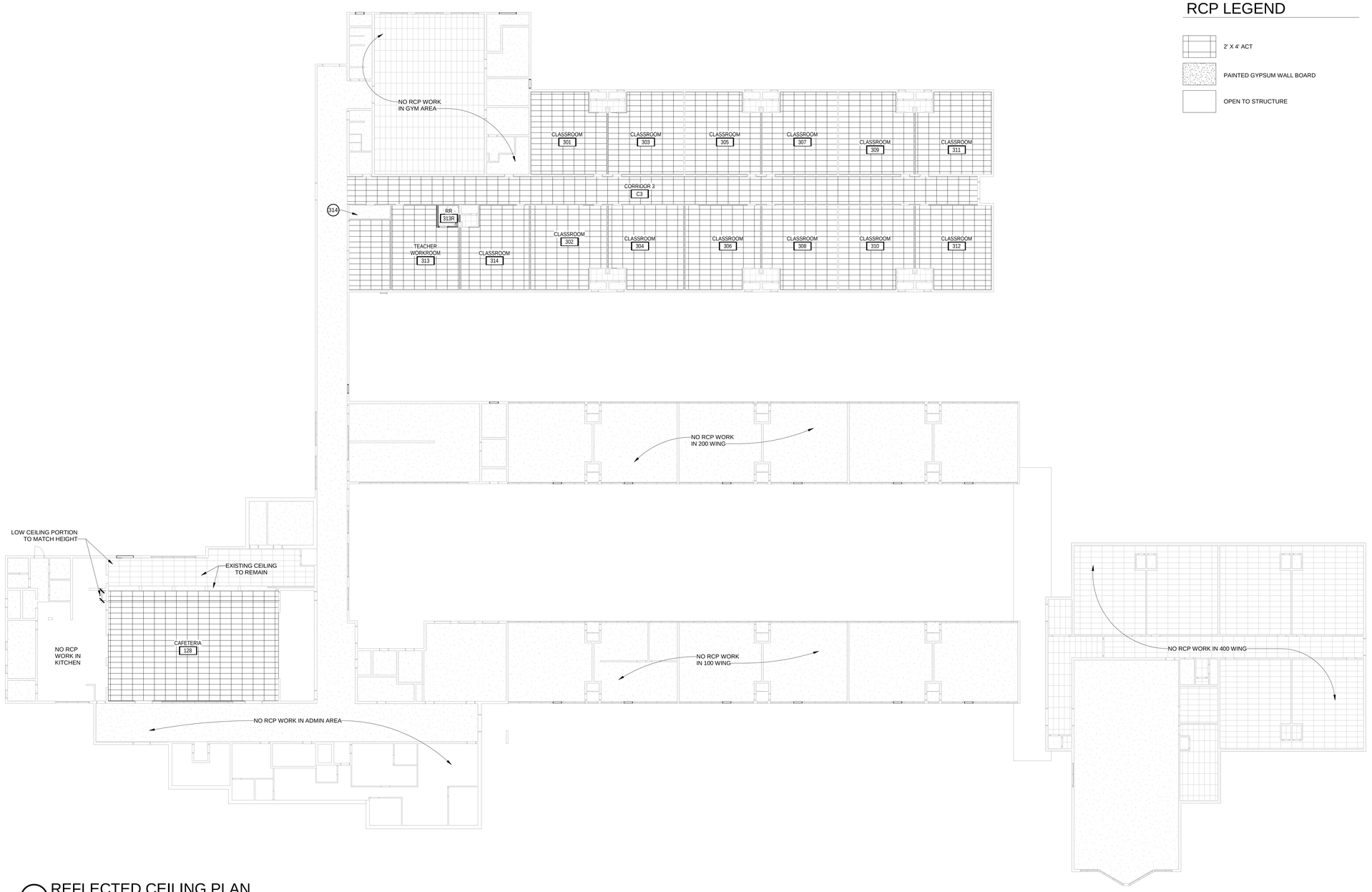
NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

WALL TYPES AND DOOR SCHEDULE

A5.1

AISD PROJ. 190027-PECSP



RCP LEGEND

- 2' X 4' ACT
- PAINTED GYPSUM WALL BOARD
- OPEN TO STRUCTURE

GENERAL RCP NOTES

1. CEILING HEIGHT TO MATCH EXISTING UNLESS NOTED OTHERWISE.
2. CEILING TYPE IS ACT-1 UNLESS NOTED OTHERWISE.
3. PAINTED CEILINGS AN FURR DOWNS ARE PT-1 UNLESS NOTED OTHERWISE.
4. NOT ALL CEILING DEVICES ARE SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLAN. DEVICES ARE SHOWN TO REPRESENT THE DESIRED LOCATION AND IMPACT ON DESIGN INTENT.
5. CEILING DEVICES MAY BE SHOWN IN MULTIPLE DOCUMENTS FOR COORDINATION.

KEYNOTE LEGEND

314 REPAIR CEILING AS NEEDED FOR MEP WORK. REFER TO PLUMBING DRAWINGS.

1 REFLECTED CEILING PLAN

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

LIST OF FINISHES

KEY	DESCRIPTION	MANUFACTURER	PATTERN/STYLE	COLOR/NAME	REMARKS
PT- PAINT					
PT1	PAINT - FIELD COLOR	SHERWIN WILLIAMS	SKYLINE STEEL	SW1015	GENERAL FIELD COLOR
PL - PLASTIC LAMINATE					
PL1		FORMICA	NEUTRAL TWILL 8826-58	MATTE FINISH	BASE AND UPPER CABINETS U.N.O.
PL2		FORMICA	BUBBLE SCIENCE 8956-58	MATTE FINISH	COUNTERTOP AND BACKSPLASH U.N.O
BASE					
RB1	RUBBER BASE	JOHNSONITE	4" RUBBER BASE	186 MOUSI	
T - TILE					
T1	12" X 24" PORCELAIN TILE	DALTILE	PORTFOLIO	IRON GREY	
VCT - VINYL COMPOSITION TILE					
VCT1	12" X 12" VCT	ARMSTRONG	STANDARD EXCELON IMPERIAL TEXTURE	PEWTER 51908	FLOOR U.N.O.
VCT2	12" X 12" VCT	ARMSTRONG	STANDARD EXCELON IMPERIAL TEXTURE	LUNAR BLUE 51932	
VCT3	12" X 12" VCT	ARMSTRONG	STANDARD EXCELON IMPERIAL TEXTURE	VICTORIA BLUE 59230	
EXISTING					
EXIST	EXISTING MATERIAL/FINISH	-	-	-	

TRUE NORTH PLAN NORTH

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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

REGISTERED ARCHITECT RAYMOND T. STEPHENSON 19824 STATE OF TEXAS

12/14/2018

Revisions:

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12/14/18
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REFLECTED CEILING PLAN

A6.1

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1 PME ROOF PLAN
SCALE: 1/16" = 1'-0"

KEYNOTE LEGEND

600 INSTALL NEW PACKAGED HVAC UNIT ON NEW CURB. COORDINATE EXACT LOCATION WITH STRUCTURAL DRAWINGS. RE: DETAIL 11/M9.1.

601 ROUTE CONDENSATE DRAIN DOWN THROUGH ROOF AND CONTINUE DOWN TO LAVATORY BELOW, REF M3.1 AND M5.1 FOR CONTINUATION.

604 INSULATED PIPE CURB. ROOFJACK, RE: DETAIL 7/M9.1.

605 CONDENSING UNITS ON ROOF SUPPORTS AS SPECIFIED. COORDINATE WITH STRUCTURAL DRAWINGS FOR EXACT LOCATION.

606 6" Ø RELIEF VENT AS SPECIFIED.

711 EXISTING GAS METER; COORDINATE WITH TEXAS GAS TO PROVIDE NEW METER AND REGULATOR AS NEEDED TO PROVIDE AN ADDITIONAL 780 CFH AT 2 PSI DELIVERY PRESSURE.

712 PROVIDE REGULATORS AT EACH ROOF TOP UNIT TO REDUCE PRESSURE FROM 2 PSI TO 7 OZ.

713 PROVIDE PRE-MANUFACTURED PIPE SUPPORTS; WOOD BLOCKING IS NOT ALLOWED.

714 PAINT ALL NEW GAS PIPING YELLOW.

722 ROUTE GAS PIPING UP WALL; GROUP WITH OTHER GAS PIPING. PROVIDE A GALVANIZED SHROUD TO SECURE TO WALL TO PREVENT CLIMBING ON GAS PIPE AND ACCESS TO ROOF.

727 EXTEND EXISTING 4"VTR TO 3 FT ABOVE MECHANICAL EQUIPMENT INTAKE. MODIFY FLASHING AS NEEDED.

910 PROVIDE UNISTRUT MOUNTING RACK FOR ELECTRICAL EQUIPMENT AND WP CONV. RECEPTACLE.

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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

STATE OF TEXAS — DAVID N. MEYER — 92665 — LICENSED PROFESSIONAL ENGINEER — 12/14/2018
PLUMBING

STATE OF TEXAS — TRENT S. TOPHAM — 116106 — LICENSED PROFESSIONAL ENGINEER — 12/14/2018
MECHANICAL

STATE OF TEXAS — JEREMY L. ZORN — 99218 — LICENSED PROFESSIONAL ENGINEER — 12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708
Revisions:

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N PLAN NORTH

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PME ROOF PLAN

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PLUMBING ABBREVIATIONS

NOT ALL WILL APPEAR ON THE DRAWINGS

A	COMPRESSED AIR	G	GAS, NATURAL (LOW PRESSURE)
AAV	AUTOMATIC AIR VENT	GAL	GALLON
AC	ABOVE CEILING	GALV	GALVANIZED
AD	AREA DRAIN	GC	GAUGE COCK
AFF	ABOVE FINISHED FLOOR	G.C.	GENERAL CONTRACTOR
ANC	ANCHOR	GLV	GLOBE VALVE
ANV	ANGLE VALVE	GPH	GALLONS PER HOUR
AP	ACCESS PANEL	GPM	GALLONS PER MINUTE
AQ	AQUASTAT	GPR	GAS PRESSURE REGULATOR
ATC	AUTOMATIC TEMPERATURE CONTROL	GV	GATE VALVE
ATV	ATMOSPHERIC VENT (STEAM OR HOT WATER)	HB	HOSE BIB
AV	ACID VENT PIPING, CHEMICAL RESISTANT	HD	HUB DRAIN
AW	ACID WASTE PIPING, CHEMICAL RESISTANT	HPG	HIGH PRESSURE GAS, NATURAL
BF	BELOW FLOOR	HW	HOT WATER, DOMESTIC
BFP	BACKFLOW PREVENTER	HWC	HOT WATER CIRCULATING, DOMESTIC
BFV	BUTTERFLY VALVE	HWR	HOT WATER RETURN, DOMESTIC
BG	BELOW GRADE	IPS	INTERNATIONAL PIPE STANDARD
BLDG	BUILDING	INV	INVERT (ELEV/FLOW LINE)
BOP	BOTTOM OF PIPE	LAV	LAVATORY
BR	BRANCH	MH	MANHOLE
BS	BELL AND SPIGOT	MPH	MEDIUM PRESSURE GAS, NATURAL
BTC	BRANCH TO CONNECTION	MPT	MALE PIPE THREAD
BTM	BOTTOM OF PIPE	MSB	MOP SERVICE BASIN
BV	BALLVALVE	N.C.	NORMALLY CLOSED
BWV	BACKWATER VALVE	NH	NO-HUB (CAST IRON)
CD	CONDENSATE DRAIN	N.O.	NORMALLY OPEN
CFH	CUBIC FEET PER HOUR	NOM	NOMINAL
CI	CAST IRON	OSD	OPEN SITE DRAIN
CLG	CEILING	OS&Y	OUTSIDE SCREW & YOKE
CO	CLEANOUT	OFD	OVERFLOW DRAIN
COTG	CLEANOUT TO GRADE	PD	PRESSURE DROP
CSS	CLINICAL SERVICE SINK	PLBG	PLUMBING
CW	COLD WATER, DOMESTIC	PRV	PRESSURE REDUCING VALVE
D	DRAIN	PS	PRESSURE SWITCH
DCO	DOUBLE CLEANOUT	RD	ROOF DRAIN
DCOTG	DOUBLE CLEANOUT TO GRADE	RV	RELIEF VALVE
DFU	DRAINAGE FIXTURE UNIT	SAN	SANITARY WASTE
DI	DE-IONIZED WATER	SD	STORM DRAIN
DIA (□)	DIAMETER	SHR	SHOWER
DN	DOWN	SS	SERVICE SINK
DS	DOWNSPOUT (EXTERIOR)	S.S.	STAINLESS STEEL
DW	DISTILLED WATER	SSD	SUB SOIL (FRENCH) DRAIN
(E)	EXISTING	SV	SOLENOID VALVE
ECC	ELECTRICAL CONTROL CENTER	T	THERMOSTAT
ELEV	ELEVATION	TPR	TEMPERATURE AND PRESSURE RELIEF
EMER	EMERGENCY	TDH#	TOTAL DYNAMIC HEAD (PSIG)
EWC	ELECTRIC WATER COOLER	TDH'	TOTAL DYNAMIC HEAD (FEET)
EWH	ELECTRIC WATER HEATER	TH	THERMOMETER
EXIST.	EXISTING	TMV	THERMOSTATIC MIXING VALVE
EX. JT.	EXPANSION JOINT	UN	UNION
FC	FLEXIBLE CONNECTION	V	SANITARY VENT
FCO	FINISHED FLOOR CLEANOUT	VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN	WC	WATER CLOSET
FL	FLOW LINE	WCO	WALL CLEANOUT, FINISHED
FLR	FLOOR	WHA	WATER HAMMER ARRESTOR
FPM	FEET PER MINUTE	WB	WALL BOX
FPT	FEMALE PIPE THREAD		
FS	FLOW SWITCH		
FT	FEET		
FTG	FITTING		
FV	FLUSH VALVE		

PLUMBING SYMBOL SCHEDULE

NOT ALL WILL APPEAR ON THE DRAWINGS

	COLD WATER PIPE		BALL VALVE
	COLD WATER PIPE, EXISTING		CHECK VALVE
O	EQUIPMENT DRAIN		GAS COCK
	EXISTING PIPE TO BE REMOVED		GATE VALVE
G	GAS PIPE		GLOBE VALVE
G	GAS PIPE, EXISTING		OUTSIDE SCREW & YOKE VALVE
	HOT WATER PIPE		PRESS. REDUCING VALVE (PRV)
	HOT WATER PIPE, EXISTING		PRESS./TEMP. RELIEF VALVE
	HOT WATER RETURN PIPE		VALVE IN BOX (VIB)
	HOT WATER RETURN PIPE, EXISTING		THERMOSTATIC RECIRCULATION VALVE
	SANITARY SOIL/WASTE		AUTOMATIC FLOW REGULATOR
	SANITARY SOIL/WASTE, EXISTING		BRANCH OUT OF TOP
	SANITARY VENT PIPE		DROP OR RISE
	SANITARY VENT PIPE, EXISTING		BRANCH OUT OF BOTTOM
SD	STORM DRAIN PIPE		BRANCH OUT OF TOP
SD	STORM DRAIN PIPE, EXISTING		CAP OR PLUG
	NEW CONNECTION TO EXISTING		CLEANOUT (EXPOSED) (CO)
AV	ACID VENT		FLOOR CLEANOUT (FCO)
AW	ACID WASTE		UNION
	REMOVE TO THIS POINT		CLEANOUT TO GRADE (COTG)
O	MEDICAL OXYGEN PIPE		DOUBLE CLEANOUT TO GRADE (DCOTG)
MA	MEDICAL AIR PIPE		FIRE HYDRANT
MV	MEDICAL VACUUM PIPE		FLOOR DRAIN (FD)
GW	GREASE WASTE		FLOOR SINK (FS)
CA	COMPRESSED AIR	HB	HOSE BIB
PWS	PURIFIED WATER SUPPLY		ROOF DRAIN (RD)
PWR	PURIFIED WATER RETURN		VENT THROUGH ROOF (VTR)
			GAS REGULATOR
			CONTROL VALVE
		FPHB	FREEZE PROOF HOSE BIB
		V	VACUUM OUTLET
		O	OXYGEN OUTLET
		S	SLIDER OUTLET
		NO	NITROUS OXIDE OUTLET
		A	AIR OUTLET
		B	BLANK OUTLET
			CARBON DIOXIDE/NITROGEN OUTLET
		EV	EVACUATION OUTLET

CODE COMPLIANCE

1. INTERNATIONAL BUILDING CODE (2015 EDITION) AND ANY APPLICABLE LOCAL AMENDMENTS
2. UNIFORM BUILDING CODE (2015 EDITION), UNIFORM MECHANICAL & PLUMBING CODES (2015 EDITION) AND ANY APPLICABLE LOCAL AMENDMENTS.
3. INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION, AND ANY APPLICABLE LOCAL AMENDMENTS.
4. NATIONAL FIRE PROTECTION ASSOCIATION, NFPA 101, LIFE SAFETY CODE.

GENERAL NOTES

1. LOCATIONS OF PLUMBING SYSTEMS TAKEN FROM COMBINATION OF A VISUAL SURVEY AND ORIGINAL DRAWINGS. CONTRACTOR TO FIELD VERIFY EXISTING SYSTEMS AND CONDITIONS.
2. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE CODES LISTED BELOW AND ALL LOCAL AMENDMENTS AND REGULATIONS AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE PLANS AND SHALL BE PERFORMED WITH THE LATEST INDUSTRY ACCEPTED STANDARDS.
3. ALL NEW SANITARY WASTE AND VENT PIPING SHALL BE ROUTED AT NO LESS THAN 1/8 INCH PER FOOT SLOPE.
4. ALL VENT PIPING ON PLANS ARE SHOWN SCHEMATICALLY FOR CLARITY. CONTRACTOR IS TO ROUTE PIPING IN WALLS AND ABOVE CEILING IN CONCEALED SPACES. WHERE PIPING IS EXPOSED ROUTE INLINE WITH STRUCTURE AND HOLD TIGHT TO ROOF STRUCTURE.
5. ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS AND SOUND WALLS SHALL BE MADE WITH THE PIPING AT RIGHT ANGLES TO THE PENETRATED WALLS. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED WITH U.L. OR F.M. LISTED FIRESTOPPING MATERIAL AND METHODS AS REQUIRED TO MAINTAIN THE RATING OF THE WALL. PENETRATIONS THROUGH SOUND WALLS SHALL BE SEALED WITH NON-COMBUSTIBLE SOUND PROOFING. REFER TO SPECIFICATIONS FOR INFORMATION PERTAINING TO PIPING PENETRATIONS THROUGH FIRE RATED AND CORRIDOR WALLS.
6. PROVIDE CLEANOUTS AS INDICATED ON THE DRAWINGS AND AS REQUIRED. CLEANOUTS SHALL BE AS NOTED IN THE PLUMBING FIXTURE SCHEDULE OR AS CALLED OUT ON THE PLANS.
7. COORDINATE SLEEVES AND BLOCKOUTS THROUGH GRADE BEAMS, FOUNDATION BEAMS, AND JOISTS WITH GENERAL CONTRACTOR.
8. COORDINATE FLOOR/ROOF PENETRATIONS OF SANITARY/VENT, ETC., WITH STRUCTURAL TO AVOID STRUCTURAL BEAMS AND JOISTS.
9. REFER TO ARCHITECTURAL PLANS FOR ANY PHASING OF CONSTRUCTION AND COORDINATE BIDDING AND EXECUTION ACCORDINGLY.
10. KEEP ALL V.T.R.'S A MINIMUM OF 10 FEET AWAY FROM ALL OUTSIDE INTAKES, DOORS AND WINDOWS.
11. ALL EXPOSED GAS PIPING (INTERIOR AND EXTERIOR) SHALL BE PAINTED. REFER TO ARCHITECTURAL PAINTING SPECIFICATIONS FOR PAINT TYPE AND APPLICATION.
12. REFER TO ARCHITECT/ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR MOUNTING INFORMATION AND EXACT LOCATION FOR ALL PLUMBING FIXTURES AND TRIM. OFFSET ROUGH-INS AS REQUIRED. COORDINATE WITH GENERAL CONTRACTOR ACCORDINGLY.
13. SOME CONDITIONS MAY EXIST WHICH RESULT IN MINIMAL ROUGH-IN TOLERANCES FOR FIXTURES DUE TO POSSIBLE BELOW SLAB BEAM LOCATIONS. VERIFY SUCH ON SITE VIA SLAB CUTS. WHERE THIS OCCURS, ROUTE PIPING ABOVE SLAB IN PARTITIONS OR CHASES TO BEYOND THE BEAM LINES AND THEN DROP BELOW SLAB. COORDINATE WITH GENERAL CONTRACTOR AND ARCHITECT/ENGINEER IF/AS NEEDED.
14. PLUMBING CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, LABOR, ETC. NECESSARY TO PROVIDE A COMPLETE WORKABLE PLUMBING SYSTEM. ALL FIXTURES SHALL COME COMPLETE WITH NECESSARY TRIM, CHROME PLATED ESCUTCHEONS, P-TRAPS, TAIL PIECE CONNECTIONS, AND CARRIERS. PROVIDE ANGLE SUPPLY STOPS FOR DOMESTIC HOT AND COLD WATER CONNECTIONS TO PLUMBING FIXTURES. INSTALL SHOCK-STOP ASSEMBLIES AS REQUIRED TO PREVENT WATER HAMMER.
15. PROVIDE AND INSTALL FIXTURES FULLY OPERATIONAL FOR FIXTURE TYPES SCHEDULED.
16. FURNISH AND INSTALL VALVES AND UNIONS AT EACH PIECE OF EQUIPMENT TO ALLOW THE ITEM TO BE ISOLATED AND REMOVED FROM THE SYSTEM, AS REQUIRED, WITHOUT DISTURBING THE REMAINING SYSTEM.
17. WHEN FLOOR AND SLAB IS SAW CUT TO INSTALL NEW PIPE OR TO GAIN ACCESS TO EXISTING PIPE, THE PLUMBING CONTRACTOR IS REQUIRED TO PATCH AND REPAIR FLOOR TO MATCH EXISTING.
18. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND THE OWNER WHEN IT IS NECESSARY TO INTERRUPT UTILITIES.
19. THE CONTRACTOR SHALL CLEAN AND DISINFECT WATER LINES. REFER TO SPECIFICATIONS. DISINFECTION OF WATER LINES SHALL OCCUR WITHIN A MAXIMUM OF 3 WEEKS PRIOR TO OCCUPANCY. IF MORE THAN 3 WEEKS PASS BEFORE OCCUPANCY THE DOMESTIC WATER SHALL BE DISINFECTED AGAIN AT THE CONTRACTOR'S EXPENSE.
20. INSTALLATION OF BACKFLOW PREVENTERS SHALL BE IN ACCORDANCE WITH IPC AND AWWA M14 "RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS CONTROL." TESTING OF BACKFLOW PREVENTERS SHALL OCCUR UPON INSTALLATION TESTING SHALL BE CONDUCTED BY A TCEQ LICENSED BACKFLOW. PREVENTION ASSEMBLY TESTER REGISTERED WITH THE AUTHORITY HAVING JURISDICTION.
21. ALL FLOOR DRAINS SHALL BE PRIMED BY EITHER AND ELECTRONIC TRAP PRIMER OR FLUSH VALVE TRAP PRIMER. TRAP GUARD OR SIMILAR PRODUCTS WILL ONLY BE CONSIDERED IN SPECIAL CASES AND ONLY AS APPROVED BY THE OWNER.

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3100 ROGGE LANE, AUSTIN, TX 78723

STATE OF TEXAS
DAVID N. MEYER
92665
LICENSED
PROFESSIONAL ENGINEER
12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
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PLUMBING NOTES, SYMBOLS AND ABBREVIATIONS

AISD PROJ. 190027-PECSP

P1.1

1 FIRST FLOOR OVERALL PLUMBING DEMO PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET P1.1 FOR GENERAL PLUMBING NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. ALL EXISTING PIPING SIZES AND LOCATIONS ARE TAKEN FROM AVAILABLE RECORD DOCUMENTS AND SITE OBSERVATIONS. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

KEYNOTE LEGEND

700 REMOVE EXISTING SINKS AND ASSOCIATED APPURTENANCES EXISTING ROUGH-INS TO BE REUSED FOR NEW SINK. COORDINATE WITH GENERAL CONTRACTOR FOR REMOVAL OF ANY CASEWORK.

702 REMOVE EXISTING FLOOR MOUNTED ELECTRIC WATER HEATER AND ASSOCIATED WATER PIPING AND ELECTRICAL. CAP CW SUPPLY AT NEAREST MAIN (DEAD LEGS OVER 6" NOT ALLOWED). ELECTRICAL TO BE REMOVED; COORDINATE WITH DIV 26. REMOVE ALL ASSOCIATED EQUIPMENT. DO NOT ABANDON IN PLACE.

703 REMOVE EXISTING GAS FIRED WATER HEATER, EXISTING COLD WATER SUPPLY AND HOT WATER DISTRIBUTION PIPING, GAS PIPING TO BE REUSED. REMOVE EXISTING FLUE EXISTING FLUE PENETRATION AND ROOD CAP TO BE REUSED FOR NEW WATER HEATER.

709 REMOVE EXISTING SINK, FAUCET, AND ALL ASSOCIATED HARDWARE. REMOVE EXISTING CW, HW, AND VENT PIPING BACK TO MAIN AND CAP. DEAD LEGS OVER 6" ARE NOT PERMITTED. CUT SAN PIPING FLUSH WITH FINISH FLOOR. PLUG PIPE 6" BELOW FINISH FLOOR AND GROUT FLUSH WITH FINISH FLOOR.

710 REMOVE EXISTING WATER CLOSET AND ALL ASSOCIATED HARDWARE. REMOVE ~5FT OF WALL BEHIND WATER CLOSET TO ADJUST WATER CLOSET ROUGH-INS TO MATCH LOCATION OF NEW WATER CLOSET. SAW CUT FLOOR TO ADJUST WASTE ROUGH-IN TO MATCH NEW LOCATION OF WATER CLOSET. PATCH AND REPAIR WALL AND FLOOR TO ACCEPT NEW FINISHES.

723 ALL PLUMBING FIXTURES TO REMAIN UNLESS NOTED OTHERWISE; TYPICAL.

724 EXISTING GAS METER LOCATION. THERE ARE TWO (2); ONE (1) FOR THE KITCHEN AND ONE (1) FOR HEATING LOADS.

725 PROVIDE FUNNEL ON EXISTING DRAIN STRAINER; 2" ZURN Z-328 FUNNEL CONVERTING ASSEMBLY OR EQUAL; FOR INDIRECT CONNECTION.

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STATE OF TEXAS
DAVID N. MEYER
92665
LICENSED PROFESSIONAL ENGINEER
12/14/2018

Engineering Firm:
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Firm Registration No. F-2708
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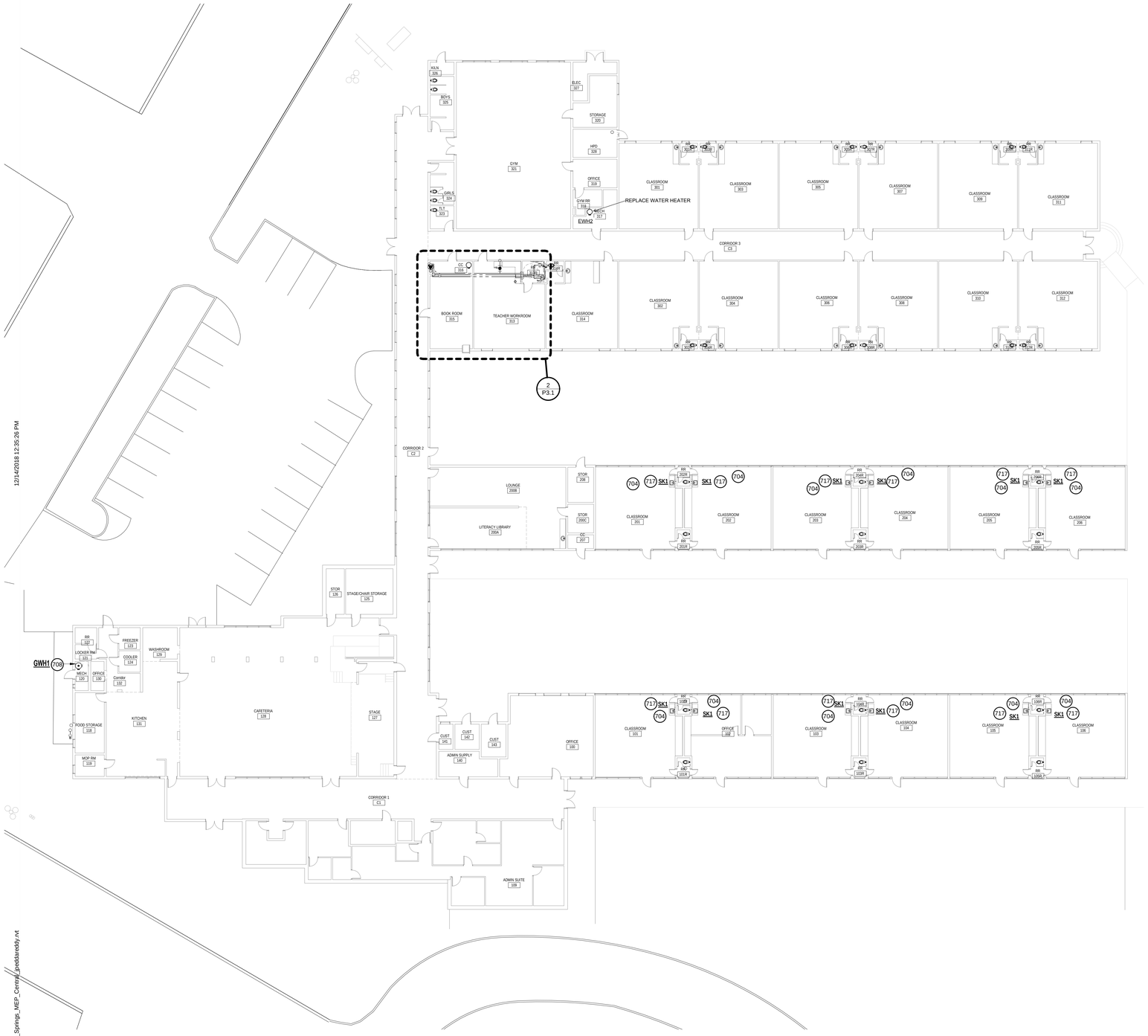
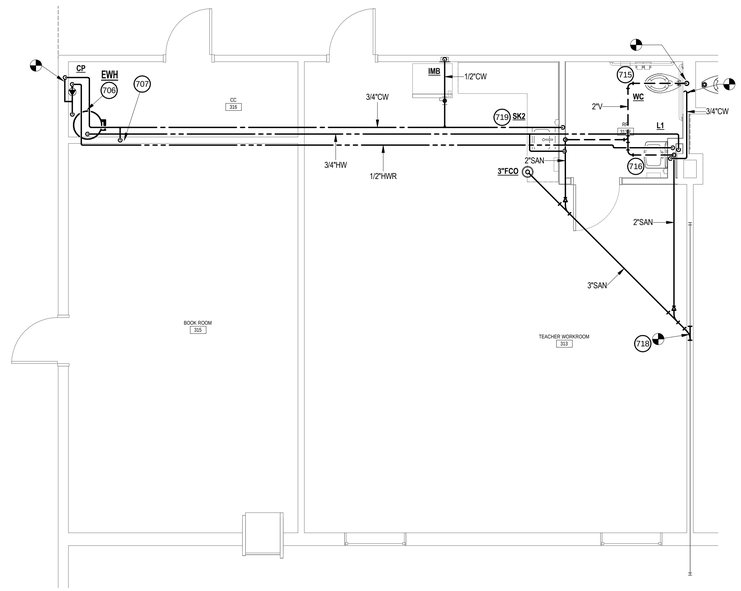
PLUMBING DEMOLITION PLAN

AISD PROJ. 190027-PECSP

P2.1



1 FIRST FLOOR OVERALL PLUMBING PLAN
SCALE: 1/16" = 1'-0"



2 ENLARGED PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET P1.1 FOR GENERAL PLUMBING NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. ALL EXISTING PIPING SIZES AND LOCATIONS ARE TAKEN FROM AVAILABLE RECORD DOCUMENTS AND SITE OBSERVATIONS. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

KEYNOTE LEGEND

704 PROVIDE NEW SINK IN CASE WORK EXTEND EXISTING ROUGH-INS, DWV & WATER TO SINK.

706 PROVIDE NEW WALL MOUNTED ELECTRIC WATER HEATER (EWH) MOUNT ABOVE EXISTING SANITORS CLOSET. EXTEND HOT WATER SUPPLY TO MOP SINK FAUCET.

707 PROVIDE SEPARATE CW HOSE BIB ~12" ABOVE EXISTING JANITORS CLOSET.

708 PROVIDE NEW GAS FIRED WATER HEATER, EXTEND EXISTING COLD WATER SUPPLY TO WATER HEATER. EXTEND EXISTING HOT WATER DISTRIBUTION TO OUTLET OF WATER HEATERS. EXTEND EXISTING GAS SUPPLY TO NEW WATER HEATERS. INSULATE ALL CW SUPPLY AND HW DISTRIBUTION PIPING IN MECH CLOSET. EXTEND FLUE THROUGH EXISTING ROOF PENETRATION. REFER TO DETAIL ON DRAWING P4.1.

715 PROVIDE NEW ADA/TAS WATER CLOSET. ADJUST DWV AND CW ROUGH-INS AS NEEDED TO ACCOMMODATE ADA/TAS CLEARENCE REQUIREMENTS. PROVIDE WATER HAMMER ARRESTOR, WHA-A ON WATER SUPPLY LINE SERVING WATER CLOSETS.

716 EXTEND 1/2" CW TO LAVATORY FROM EXISITNG 1-1/4" WATER CLOSET SUPPLY

717 INSULATE TRAP AND TRAP ARM SERVING FIXTURE RECEIVING CONDENSATE FROM ABOVE.

718 EXTEND 2" SAN; FROM EXISTING 4" UNDERGROUND SAN; TO NEW SINK.

719 EXTEND 2" VENT FROM SINK TO EXISTING 4" VTR SERVING WATER CLOSET. EXTEND 1/2" CW AND 1/2" HW TO SINK.

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12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708
Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

PLUMBING FLOOR PLAN

P3.1

AISD PROJ. 190027-PECSP

N TRUE NORTH
N PLAN NORTH
NORTH

PLUMBING FIXTURE SCHEDULE - LAVATORIES

MARK	FIXTURE / TRIM & ACCESSORIES	MFR.	MODEL NO.	REMARKS
L1	LAVATORY: ADA/TAS, WALL HUNG, WHITE VITREOUS CHINA, 21-1/4" x 18-1/8", WITH OVERFLOW, BACKSPLASH, 3 FAUCET HOLES FOR 4" CENTER SET FAUCET, DRILLED FOR CONCEALED CARRIER.	KOHLER	K-2032-0 "GREENWICH"	"A" INDICATES ADA/TAS COMPLIANT INSTALLATION REFER TO "G SERIES SHEETS FOR MOUNTING HEIGHTS AND FIXTURE LOCATION DIMENSIONS
	TRIM: DECK-MOUNTED, 4" CENTERSET, SINGLE LEVER FAUCET, POLISHED CHROME BRASS BODY WITH INTEGRAL SPOUT,0.5 GPM AERATOR (MODEL NO. B-0199-09-F05), CERAMIC CARTRIDGE WITH ADJUSTABLE TEMPERATURE LIMIT STOP, LONG LEVER HANDLE, AND 1/2" SUPPLY INLETS.	T&S BRASS	B-2711-LH	
	FIXTURE CARRIER: FLOOR MOUNTED, HEAVY GAUGE STEEL UPRIGHTS WITH INTEGRAL WELDED FEET, ADJUSTABLE DUCTILE IRON CONCEALED ARMS WITH LEVELING SCREWS AND BASIN LOCKING DEVICE.	MIFAB	MC-41	
	POINT OF USE MIXING VALVE: THERMOSTATIC MIXING VALVE WITH BUILT-IN CHECK VALVES, ASSE 1070 CERTIFIED AT MINIMUM FLOW RATE 0.25 GPM. SET FOR 110°F DELIVERY TEMP. PROVIDE WITH COLD WATER BYPASS AND MOUNTING BRACKET.	LEONARD	170-LF-BP-BRKT	
	SUPPLY: SUPPLY KIT SHALL INCLUDE COMMERCIAL PATTERN CHROME PLATED QUARTER-TURN BRASS BALL VALVES WITH LOOSE KEY HANDLE, BRAIDED STAINLESS RISERS AND FORGED BRASS FLANGE WITH SET SCREW. INLET SHALL BE 1/2" IPS, OUTLET SHALL BE 3/8" COMPRESSION. SUPPLY KIT SHALL BE CERTIFIED BY CSA OR...	McGUIRE	LFBV2165F	
	DRAIN, TRAP, AND PIPING COVERS: CAST BRASS CHROME PLATED OPEN P.O. PLUG WITH 17 GA. 1-1/4" x 6" SEAMLESS BRASS TAILPIECE. SEAMLESS PRE-WRAPPED ADJUSTABLE CAST BRASS 1-1/4" 17GA. P-TRAP KIT FURNISHED WITH SEAMLESS SUPPLY RISER TUBE COVERS, SUPPLY ANGLE STOP COVERS, AND SEAMLESS DRAIN TAILPIECE COVER. FURNISH WITH ESCUTCHEONS WITH SET SCREWS.	McGUIRE	155A & PW2150NC	

PLUMBING FIXTURE SCHEDULE - SINKS

MARK	FIXTURE / TRIM & ACCESSORIES	MFR.	MODEL NO.	REMARKS
SK1	SINK: CLASS ROOM;SINGLE COMPARTMENT, 20 GAUGE TYPE 304 BRUSHED STAINLESS STEEL, SOUND DEADENED, THREE HOLE PUNCH, 25" x 17" OVERALL WITH 6" DEEP BOWL, COVED CORNERS, CENTERED 3 1/2" DRAIN OUTLET, BOWL & FAUCET DECK RECESS AND FULLY UNDERCOATED BOWL. PROVIDE STAINLESS STEEL CAP ON SLOTTED HOLE FOR FUTURE BUBBLER INSTALLATION.	ELKAY "CELEBRITY"	PSDKAD251755-4	COUNTERTOP MOUNTED SELF RIMMING
	TRIM: DECK-MOUNTED, CONCEALED 8" CENTER SET HOT AND COLD WATER FAUCET, POLISHED CHROME-PLATED SOLID BRASS CONSTRUCTION 5 1/2" RIGID/ SWING GOOSENECK, 1.5 GPM NON-AERATED LAMINAR FLOW CONTROL DEVICE, 4" METAL WRISTBLADE HANDLES, COMPRESSION CARTRIDGE AND 1/2" SUPPLY INLETS.	T&S BRASS	B-2867-04-LF15	
	SUPPLY: SUPPLY KIT SHALL INCLUDE COMMERCIAL PATTERN CHROME PLATED QUARTER-TURN BRASS BALL VALVES WITH LOOSE KEY HANDLE, BRAIDED STAINLESS RISERS AND FORGED BRASS FLANGE WITH SET SCREW. INLET SHALL BE 1/2" IPS, OUTLET SHALL BE 3/8" COMPRESSION. SUPPLY KIT SHALL BE CERTIFIED BY CSA OR OTHER RECOGNIZED TESTING AUTHORITY AND BEAR MANUFACTURER AND TESTING MARK. STOP TO BE CERTIFIED TO 20 PSI LINE PRESSURE. PROVID TEE FITTING ON CW SUPPLY RISER FOR FUTURE BUBBLER INSTALLATION	McGUIRE	LFBV2165F	
	DRAIN: TYPE 304 STAINLESS STEEL DRAIN OUTLET FITTING FOR 3 1/2" OPENING VANDAL RESISTANT 3" PERFORATED GRID STRAINER.	ELKAY	LKVR18B	
	TRAP: 1 1/2" 17 GA. C.P. P-TRAP WITH TUBING OUTLET AND SET-SCREW WALL ESCUTCHEON.	McGUIRE	8902CNCF	
	POINT OF USE MIXING VALVE: THERMOSTATIC MIXING VALVE WITH BUILT-IN CHECK VALVES, ASSE 1070 CERTIFIED AT MINIMUM FLOW RATE 0.25 GPM. SET FOR 110°F DELIVERY TEMP. PROVIDE WITH COLD WATER BYPASS AND MOUNTING BRACKET.	LEONARD	170-LF-BP-BRKT	
SK2	SINK: KITHENETTE; SINGLE COMPARTMENT, 18 GAUGE TYPE 304 BRUSHED STAINLESS STEEL, SOUND DEADENED, THREE HOLE PUNCH, 19" x 18" OVERALL WITH 6" DEEP BOWL, COVED CORNERS, OFF CENTERED REAR 3 1/2" DRAIN OUTLET, BOWL & FAUCET DECK RECESS AND FULLY UNDERCOATED BOWL.	ELKAY "LUSTERTONE"	LRAD191860	
	TRIM: DECK-MOUNTED, CONCEALED 8" CENTER SET HOT AND COLD WATER FAUCET, POLISHED CHROME-PLATED SOLID BRASS CONSTRUCTION 9" SPOUT, SWIVEL BASE, 2.2 GPM AERATOR, 6" SINGLE LEVER HANDLES, CERAMIC CARTRIDGE AND 1/2" SUPPLY INLETS.	T&S BRASS	B-2731-LH	
	SUPPLY: SUPPLY KIT SHALL INCLUDE COMMERCIAL PATTERN CHROME PLATED QUARTER-TURN BRASS BALL VALVES WITH LOOSE KEY HANDLE, BRAIDED STAINLESS RISERS AND FORGED BRASS FLANGE WITH SET SCREW. INLET SHALL BE 1/2" IPS, OUTLET SHALL BE 3/8" COMPRESSION. SUPPLY KIT SHALL BE CERTIFIED BY CSA OR OTHER RECOGNIZED TESTING AUTHORITY AND BEAR MANUFACTURER AND TESTING MARK. STOP TO BE CERTIFIED TO 20 PSI LINE PRESSURE. PROVID TEE FITTING ON CW SUPPLY RISER FOR FUTURE BUBBLER INSTALLATION	McGUIRE	LFBV2165F	
	DRAIN: TYPE 304 STAINLESS STEEL DRAIN OUTLET FITTING FOR 3 1/2" OPENING VANDAL RESISTANT 3" PERFORATED GRID STRAINER.	ELKAY	LKVR18B	
	TRAP: 1 1/2" 17 GA. C.P. P-TRAP WITH TUBING OUTLET AND SET-SCREW WALL ESCUTCHEON.	McGUIRE	8902CNCF	
	POINT OF USE MIXING VALVE: THERMOSTATIC MIXING VALVE WITH BUILT-IN CHECK VALVES, ASSE 1070 CERTIFIED AT MINIMUM FLOW RATE 0.25 GPM. SET FOR 110°F DELIVERY TEMP. PROVIDE WITH COLD WATER BYPASS AND MOUNTING BRACKET.	LEONARD	170-LF-BP-BRKT	

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	DESCRIPTION	COLD WATER (2)		HOT WATER (2)		WASTE (1)		MIN
		RUN	CONN	RUN	CONN	RUN	CONN	VENT (4)
EWC	ELECTRIC WATER COOLER	3/4"	3/4"	-	-	2"	1 1/2"	2"
HB/WH	HOSE BIBB/ WALL HYDRANT	3/4"	3/4"	-	-	-	-	-
LV	LAVATORY	3/4"	3/8"	3/4"	3/8"	2"	1 1/4"	2"
IMB	ICE MAKER BOX	3/4"	1/2"	-	-	-	-	-
MB	MOP BASIN	3/4"	3/4"	3/4"	3/4"	3"	3"	2"
SK	SINK	3/4"	3/8"	3/4"	3/8"	2"	1 1/2"	2"
SH	SHOWER	3/4"	3/4"	3/4"	3/4"	2"	2"	2"
WC	WATER CLOSET - FLUSH VALVE	1 1/4"	1"	-	-	4"	4"	2"
UR	URINAL	3/4"	3/4"	-	-	2"	2"	2"
FD/FS	FLOOR DRAIN/FLOOR SINK	-	-	-	-			

NOTES:

1	DRAIN PIPE SIZES ARE FOR THE SANITARY WASTE PIPE RUNOUT TO THE FIXTURE LOCATION. REFER TO THE MANUFACTURER'S ROUGH-IN DRAWINGS FOR THE P-TRAP AND ACTUAL FIXTURE CONNECTION SIZES FOR THE SINKS, LAVATORIES AND SIMILAR FIXTURES
2	WATER PIPE SIZES INDICATED ARE THE BRANCH RUNOUT PIPE SIZE TO THE FIXTURE AND ARE TO BE RUN DOWN IN WALL TO FIXTURE CONNECTION POINT (STOP VALVE, FLUSHOMETER, ETC.) REDUCE TO ACTUAL FIXTURE INLET SIZE IMMEDIATELY UPSTREAM OF THE FIXTURE.
3	PROVIDE SINGLE COMPARTMENT SINKS WITH 1 1/2" P-TRAP.
4	SANITARY RUNOUT AND CONNECTION TO FLOOR DRAINS OR FLOOR SINKS SHALL BE SIZED AS SHOWN ON PLANS. SHALL BE SIZED AS SHOWN ON PLANS.
5	MINUMUM WATER RUN SIZE SHALLL BE 3/4" (HW & CW); PER UT PMCS DESIGN STANDARDS
6	VENT PIPING FOR FLOOR DRAINS AND FLOOR SINKS SHALL NOT BE LESS THAN HALF OF THE DIAMETER OF THE SANITARY PIPING SERVING DRAIN, AND SHALL NOT BE LESS THAN 2".

PLUMBING FIXTURE SCHEDULE - NOTES

1	REFER TO ARCHITECTURAL G-SERIES SHEETS FOR MOUNTING HEIGHTS AND LOCATION OF ALL ADA/TAS COMPLIANT FIXTURES.
2	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF INDIVIDUAL WALL-MOUNTED FIXTURES.
3	UNLESS SCHEDULED OTHERWISE, PROVIDE EACH LAVATORY AND SINK WITH A P-TRAP ASSEMBLY CONSISTING OF A CHROME-PLATED (C.P.) CAST BRASS TRAP WITH C.P. TUBING OUTLET AND C.P. CAST BRASS ESCUTCHEON WITH SET SCREW.
4	PROVIDE EACH LAVATORY AND SINK WITH A SUPPLY/STOP ASSEMBLY CONSISTING OF A C.P. BRASS FEMALE THREADED INLET, QUARTER-TURN BALL VALVE STOP (MIN. 1/2") WITH LOOSE KEY HANDLE AND LOCK SHIELD, BRAIDED STAINLESS STEEL RISERS, C.P. BRASS NIPPLE AND C.P. CAST BRASS ESCUTCHEONS WITH SET SCREW.
5	EACH LAVATORY WITH EXPOSED SUPPLY/DRAIN PIPING SHALL BE PROVIDED WITH A MANUFACTURED INSULATION PRODUCT TO COVER THE P-TRAP, SUPPLIES AND STOPS, AND RISERS. PRODUCT SHALL BE "PROWRAP" BY McGUIRE, "LAV-GUARD 2" "LAV-SHIELD" OR "BASIN GUARD" BY TRUEBRO OR APPROVED EQUAL.
6	UNLESS SCHEDULED OTHERWISE, ALL FAUCETS SHALL BE THE PRODUCT OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURERS SHALL BE AMERICAN STANDARD, DELTA, GERBER, KOHLER, MOEN COMMERCIAL, AND T&S BRASS.
7	UNLESS SCHEDULED OTHERWISE, ALL VITREOUS CHINA FIXTURES SHALL BE THE PRODUCT OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURERS SHALL BE AMERICAN STANDARD, SLOAN, KOHLER, AND TOTO.
8	UNLESS SCHEDULED OTHERWISE, ALL FLUSH VALVES SHALL BE THE PRODUCT OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURERS SHALL BE SLOAN, TOTO, AND ZURN

PLUMBING FIXTURE SCHEDULE - WATER CLOSETS

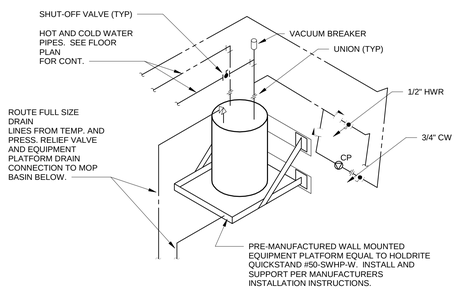
MARK	FIXTURE / TRIM & ACCESSORIES	MFR.	MODEL NO.	REMARKS
WC	WATER CLOSET: FLOOR MOUNTED, WHITE VITREOUS CHINA, ELONGATED, WATER SAVING BOWL, SIPHON JET, 2-1/4" PASSAGEWAY AND 1-1/2" TOP SPUD.	KOHLER	"WELLCOME" K-96053-0	"C" INDICATES CHILDREN ADA/TAS COMPLIANT INSTALLATION
	FLUSH VALVE: EXPOSED, 1.28 GPF WATER CLOSET FLUSHOMETER, DIAPHRAGM TYPE, CHROME PLATED, 1" I.P.S. SCREWDRIVER BAK-CHEK ANGLE STOP, FREE SPINNING VANDAL RESISTANT STOP CAP, VACUUM BREAKER, SWEAT SOLDER ADAPTER, CHROME PLATED CAST BRASS WALL FLANGE WITH SET SCREW AND 1-1/2" TOP SPUD.	SLOAN	"ROYAL" 111-1.28	
	SEAT: HEAVY DUTY, INJECTION MOLDED SOLID PLASTIC, WHITE, OPEN FRONT ELONGATED TOILET SEAT, LESS COVER, WITH MOLDED IN BUMPERS, SELF-SUSTAINING CHECK HINGES AND 300 SERIES STAINLESS STEEL POST AND PINTLES. SEAT SHALL COMPLY WITH ANSI Z124.5 AS A COMMERCIAL HEAVY DUTY CLASS TOILET SEAT.	BEMIS	1955SSCT	

WATER HEATING EQUIPMENT SCHEDULE

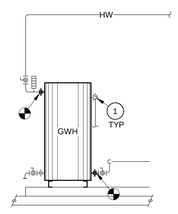
MARK	FIXTURE / TRIM & ACCESSORIES	MFR.	MODEL NO.	ELECT. REQ.	REMARKS
EWH1, EWH2	ELECTRIC WATER HEATER: SIMULTANEOUS DUAL ELEMENT, RECOVERY CAPACITY OF 18 GPH AT 100°F TEMPERATURE RISE. UL LISTED, NSF COMPLIANT, MAXIMUM WORKING PRESSURE OF 150 PSI, NOMINAL STORAGE TANK CAPACITY OF 30 GALLONS WITH A 3/4" RELIEF VALVE OPENING. ASME TEMPERATURE AND PRESSURE RELIEF VALVE. 1 1/4" INLET AND OUTLET. SET OUTLET WATER TEMPERATURE AT 130DEG. F.	A.O. SMITH	DEL-20-3	208/ 1phase/ 4500 WATTS / 21.6 FLA	EWH1 - PROVIDE HOLDRITE 50-SWHP-w OR EQUAL; EWH2 - UTILIZE EXISTING SUPPORT PLATFORM.
GWH	FUEL-FIRED WATER HEATER: FULLY CONDENSING, NATURAL GAS-FIRED, MODULATION POWER BURNER WITH INPUT RATING OF 199,00 BTU/HR., 100 GAL. ASME TANK. RECOVERY CAPACITY OF 173 GPH AT 80°F TEMPERATURE RISE AT UP TO 96% THERMAL EFFICIENCY. HEATER SHALL BE SUITABLE FOR SEALED COMBUSTION DIRECT VENTING USING A MAXIMUM OF CLEARANCES TO COMBUSTIBLES. MAXIMUM WORKING PRESSURE OF 150 PSI, 3/4" RELIEF VALVE OPENING. ASME TEMPERATURE AND PRESSURE RELIEF VALVE. FURNISH AND INSTALL ALL MATERIALS FOR SEALED DIRECT VENT WITH CONCENTRIC VENT, HORIZONTAL TERMINATION THROUGH WALL OR...	A.O. SMITH	CYCLONE BHT-199(A)	120V	
CP	HOT WATER CIRCULATION PUMP: IN-LINE, SENSOR-LESS VARIABLE SPEED WET ROTOR WITH MOTOR MOUNTED DIRECTLY TO THE PUMP VOLUTE, BE CAPABLE OF DELIVERING 1 GPM AT 5' OF HEAD. PROVIDE WITH AQUASTAT AND TIME CLOCK.	BELL AND GOSSET	ECOCIRC 19-16	115V / 60 W	FOR POTABLE WATER USE.

WATER HEATING EQUIPMENT SCHEDULE NOTES

1	UNLESS SCHEDULED OTHERWISE, ALL ELECTRIC WATER HEATERS SHALL BE THE PRODUCT OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURERS SHALL BE A.O. SMITH, HEAT TRANSFER PRODUCTS, LOCHINVAR, AND STAT INDUSTRIES.
2	UNLESS SCHEDULED OTHERWISE, ALL POTABLE WATER THERMAL EXPANSION TANKS SHALL BE THE PRODUCTS OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURERS SHALL BE ELBI OF AMERICA, TACO, AND WATTS REGULATOR COMPANY.
3	UNLESS SCHEDULED OTHERWISE, ALL HOT WATER CIRCULATION PUMPS SHALL BE THE PRODUCT OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURERS SHALL BE BELL & GOSSETT, GOULDS PUMPS, GRUNDFOS, AND TACO.

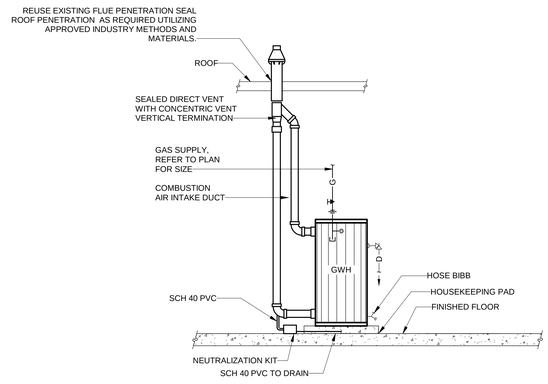


3 WALL MOUNTED WATER HEATER EQUIPMENT PLATFORM DETAIL
SCALE: 12" = 1'-0"



1 ROUTE T&P RELIEF VALVE DISCHARGE FULL SIZE TO FLOOR DRAIN. MAINTAIN MINIMUM 2" AIR GAP AT TERMINATION POINT.

2 WATER HEATER PIPING DETAIL
SCALE: 12" = 1'-0"



1 NATURAL GAS FIRED WATER HEATER FLUE DETAIL
SCALE: 12" = 1'-0"

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PLUMBING SCHEDULES / DETAILS

AISD PROJ. 190027-PECSP

P4.1

CODE COMPLIANCE

1. INTERNATIONAL BUILDING CODE (2015 EDITION) WITH ANY APPLICABLE LOCAL AMENDMENTS
2. INTERNATIONAL ENERGY CONSERVATION CODE (2015 EDITION) WITH ANY APPLICABLE LOCAL AMENDMENTS.
3. UNIFORM MECHANICAL CODE (2015 EDITION) WITH ANY APPLICABLE LOCAL AMENDMENTS.
4. UNIFORM PLUMBING CODE (2015 EDITION) WITH ANY APPLICABLE LOCAL AMENDMENTS.
5. ASHRAE 62.1-2016: VENTILATION STANDARD FOR ACCEPTABLE INDOOR AIR QUALITY.

HVAC EQUIPMENT

NOT ALL WILL APPEAR ON THE DRAWINGS

AC	AIR CONTROL
ACC	AIR COOLED CHILLER
AP	ACCESS PANEL
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER
BDD	BACKDRAFT DAMPER
BV	BALANCING VALVE
CH	CHILLER
CC	DX COOLING COIL
CHP	CHILLED WATER PUMP
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CV	CONSTANT VOLUME TERMINAL UNIT
CWP	CONDENSER WATER PUMP
DHP	DUCT HEAT PIPE
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
ESG	ELECTRIC STEAM GENERATOR
ET	EXPANSION TANK
FCU	FAN COIL UNIT
FCV	FLOW CONTROL VALVE
FF	FILTER FEEDER
FFU	FAN FILTER UNIT
FH	FUME HOOD
GEF	GENERAL EXHAUST FAN
H	HUMIDIFIER
HCU	HUMIDITY CONTROL UNIT
HC	HEATING COIL
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HWP	HEATING WATER PUMP
KEF	KITCHEN EXHAUST FAN
IU	VARIABLE REFRIGERANT FLOW INDOOR UNIT
OU	VARIABLE REFRIGERANT FLOW OUTDOOR UNIT
KH	KITCHEN EXHAUST HOOD
KSF	KITCHEN SUPPLY FAN
L	LOUVER
LEF	LAB EXHAUST FAN
MAU	MAKE-UP AIR UNIT
MASF	MAKE-UP AIR SUPPLY FAN
MB	MIXING BOX
ML	MIXING LATERAL
OAI	OUTSIDE AIR INTAKE
OAU	OUTSIDE AIR UNIT
OAF	OUTSIDE AIR FAN
PACU	PACKAGED AIR CONDITIONING UNIT
PCHP	PRIMARY CHILLED WATER PUMP
PF	PURGE FAN
PTHP	PACKAGED TERMINAL HEAT PUMP
PTAC	PACKAGED TERMINAL AIR CONDITIONING UNIT
PV	PENTHOUSE VENTILATOR
RH	RADIANT HEATER
RF	RELIEF FAN
RPZ	REDUCED PRESSURE BACK FLOW PREVENTER
RTU	SINGLE PACKAGED (ROOFTOP) AIR CONDITIONING UNIT
SAF	SUPPLY AIR FAN
SCHP	SECONDARY CHILLED WATER PUMP
SEF	SMOKE EVACUATION FAN
SF	SUPPLY FAN
SPF	SMOKE PURGE FAN
UH	UNIT HEATER
VAV	VARIABLE VOLUME AIR TERMINAL UNIT
WSHP	WATER SOURCE HEAT PUMP

HVAC SYMBOL SCHEDULE

NOT ALL WILL APPEAR ON THE DRAWINGS

SYMBOL	IDENTIFICATION
	GENERAL
	NEW POINT OF CONNECTION TO EXISTING
	REMOVE BACK TO HERE
	PIPING
	DIRECTION OF SLOPE (OR PITCH)
	DIRECTION OF FLOW
	UNION
	TOP CONNECTION (45° OR 90°)
	BOTTOM CONNECTION (45° OR 90°)
	SIDE CONNECTION (TEE)
	CAPPED OUTLET (TOP CONNECTION)
	DROP (OR RISE) IN PIPE
	ELL TURNED UP (RISER)
	ELL TURNED DOWN
	BALL VALVE
	GATE VALVE
	BALANCING VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	STRAINER
	TRIPLE DUTY VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	PLUG VALVE
	THERMOMETER
	PRESSURE GAUGE
	STEAM TRAP
	THERMOWELL
	GAUGE TAP (PETE'S PLUG)
	PUMP

SYMBOL	IDENTIFICATION
	DUCTWORK
20x8	EXTERNALLY INSULATED OR INTERNALLY LINED DUCT. SIZE INDICATES INSIDE FREE AIRWAY WIDTH (SIDE SHOWN) X DEPTH
	SUPPLY AIR RISE UP
	RETURN/EXHAUST AIR RISE UP
	SUPPLY AIR DROP DOWN
	RETURN/EXHAUST AIR DROP DOWN
	FLEXIBLE DUCT
	SUPPLY AIR DIFFUSER (CEILING) (4-WAY THROW U.N.O.)
	RETURN/EXHAUST AIR REGISTER OR GRILLE (CEILING)
6"	VANE TURN ELBOW & AIR SPLIT DUCT TAKE-OFF (DIMENSION AT SPLIT INDICATES SMALLER SIDE OF SPLIT)
DN UP	INCLINED RISE OR DROP
	MITERED ELBOW (WITH TURNING VANES)
	MITERED ELBOW (NO TURNING VANES)
	RADIUS ELBOW
DD	DUCT MOUNTED SMOKE DETECTOR
VD	MANUAL VOLUME DAMPER
FD	DUCT MOUNTED FIRE DAMPER
FSD	DUCT MOUNTED FIRE/SMOKE DAMPER
SD	DUCT MOUNTED SMOKE DAMPER
M	MOTORIZED DAMPER
SPS	DUCT MOUNTED STATIC PRESSURE SENSOR
	SENSORS
T/#	THERMOSTAT OR TEMP SENSOR (#= ZONE CONTROLLED)
H/#	HUMIDISTAT (#= ZONE CONTROLLED)
CO_2/#	CARBON DIOXIDE SENSOR (#= ZONE CONTROLLED)
CO/#	CARBON MONOXIDE SENSOR (#= ZONE CONTROLLED)
SP	SPACE STATIC PRESSURE SENSOR
PM	ROOM PRESSURE MONITOR

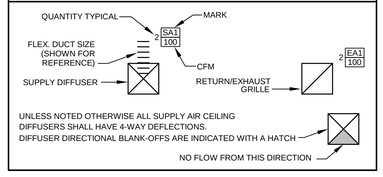
GENERAL ABBREVIATIONS

ABV.	ABOVE	LG.	LONG/LENGTH
A.F.F.	ABOVE FINISH FLOOR	MAT'L.	MATERIAL
AHU	AIR HANDLING UNIT	MFR.	MANUFACTURER
ALUM.	ALUMINUM	MAX.	MAXIMUM
APPROX.	APPROXIMATELY	MECH.	MECHANICAL
ARCH.	ARCHITECT/ARCHITECTURAL	MIN.	MINIMUM
BD.	BOARD	MISC.	MISCELLANEOUS
B.O.	BOTTOM OF	MTD.	MOUNTED
B.O.D.	BOTTOM OF DUCT	MTL.	METAL
B.O.P.	BOTTOM OF PIPE	N.C.	NORMALLY CLOSED
BLDG.	BUILDING/BUILDINGS	N.I.C.	NOT IN CONTRACT
BMS	BUILDING MANAGEMENT SYSTEM	NO.	NUMBER
CLG.	CEILING	N.O.	NORMALLY OPEN
C.L.	CENTERLINE	N.T.S.	NOT TO SCALE
COL.	COLUMN	O.C.	ON CENTER
CONC.	CONCRETE	OAF	OUTSIDE AIR FAN
CV	CONSTANT VOLUME	O.D.	OUTSIDE DIAMETER
CONST.	CONSTRUCTION	OPN'G.	OPENING
CONT.	CONTINUOUS	PL.	PLATE
CORR.	CORRIDOR	PL.	PLATE
CSA	COLD SUPPLY AIR	PVC	POLYVINYLCHLORIDE
DEMO.	DEMOLITION	RAD.	RADIUS
DIA.	DIAMETER	REINF.	REINFORCE/REINFORCING
DIM.	DIMENSION	REQ'D.	REQUIRED
DDC	DIRECT DIGITAL CONTROLS	RA	RETURN AIR
DWG.	DRAWING/DRAWINGS	RAF	RETURN AIR FAN
DN.	DOWN	RTU	ROOFTOP UNIT
EA.	EACH	SCHED.	SCHEDULE
ELEC.	ELECTRICAL	SECT.	SECTION
ELEV.	ELEVATION	SHT.	SHEET
EQ.	EQUAL	SIM.	SIMILAR
EQUIP.	EQUIPMENT	SPECS.	SPECIFICATIONS
EXP.	EXPANSION	STL.	STEEL
EXIST.	EXISTING	STRUCT.	STRUCTURAL
EXH.	EXHAUST	SA	SUPPLY AIR
FOB	FLAT ON BOTTOM	SUSP.	SUSPENDED
FOT	FLAT ON TOP	T.O.	TOP OF
FT.	FOOT/FEET	T.O.D.	TOP OF DUCT
GA.	GAUGE	T.O.P.	TOP OF PIPE
GALV.	GALVANIZED	TYP.	TYPICAL
GYP.	GYPSUM	U.N.O.	UNLESS NOTED OTHERWISE
HT.	HEIGHT	VAV	VARIABLE AIR VOLUME
HORIZ.	HORIZONTAL	VERT.	VERTICAL
HSA	HOT SUPPLY AIR	VFD	VARIABLE FREQUENCY DRIVE
I.D.	INSIDE DIAMETER	VRF	VARIABLE REFRIGERANT FLOW
IN.	INCH/INCHES	W/	WITH
INSUL.	INSULATE/INSULATION	W/O	WITHOUT

GENERAL NOTES

1. ALL CONSTRUCTION/DEMOLITION INDICATED ON THE DRAWINGS REFLECTS ASSUMPTIONS CONCERNING EXISTING CONDITIONS BASED ON THE AVAILABLE INFORMATION, VISITS TO THE JOB SITE, AND LOCATIONS/ARRANGEMENTS OF EXISTING FACILITIES. IT SHALL BE INCUMBENT UPON EACH CONTRACTOR TO VISIT THE SITE PRIOR TO BIDDING AND SATISFY THEMSELVES AS TO THE EXISTING CONDITIONS.
2. VERIFY ALL DIMENSIONS AFFECTING EACH ITEM OF THE WORK.
3. REVIEW ALL GENERAL NOTES ON THE ARCHITECTURAL, CIVIL & STRUCTURAL DRAWINGS.
4. FOR CLARITY PURPOSES, NOT ALL EQUIPMENT, DUCTWORK, PIPING, ETC. MAY BE SHOWN IN EACH VIEW.
5. REFER TO ARCHITECTURAL DRAWINGS FOR DEMOLITION WORK INVOLVED IN THIS CONTRACT. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OR REVISION OF SERVICES COVERED BY HIS TRADE.
6. COORDINATE VERY CLOSELY WITH OTHER TRADES CONCERNING WORK DONE ABOVE CEILINGS, WORKING OUT PROBLEMS OF CONFLICT PRIOR TO INSTALLATION OF THE WORK.
7. SEAL PENETRATIONS OF FIRE AND/OR SMOKE RATED WALL, FLOORS & PARTITIONS USING "UL" APPROVED SEALANT AND/OR METHODS.
8. DUCT SIZES SHOWN ON PLANS ARE INSIDE FREE AIRWAY DIMENSIONS IN INCHES. FIRST FIGURE IN THE DUCT DIMENSION IS THE FACE SHOWN OR INDICATED.
9. ANY WORK THAT WILL REQUIRE THE CONTRACTOR TO WORK OUTSIDE THE DEMOLITION/CONSTRUCTION AREA SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
10. REFER TO ARCHITECTURAL DRAWINGS/SPECIFICATIONS CONCERNING PHASING OF THE DEMOLITION & CONSTRUCTION WORK.
11. MAINTAIN EXISTING BUILDING IN A SAFE & WEATHER-TIGHT CONDITION.
12. REFER TO ARCHITECTURAL WALL ELEVATIONS FOR PLACEMENT OF DEVICES (TEMPERATURE SENSORS, MANOMETERS, ETC.).
13. COORDINATE THE LOCATION OF ROOF & WALL PENETRATIONS WITH STRUCTURAL ELEMENTS. PROVIDE AT NEW WALL PENETRATIONS SLEEVES 1" LARGER IN DIAMETER THAN THE PIPE INSULATION & EXTENDING 1-1/2" BEYOND FINISHED SURFACES. FILL ANNULAR SPACE WITH FIRESTOPPING INSULATION & CAULK.
14. WHERE THE INTERIOR SURFACE OF DUCTWORK IS VISIBLE FROM AN OCCUPIED SPACE, THE VISIBLE SURFACE SHALL BE PAINTED MATTE BLACK.
15. CONTRACTOR SHALL LOCATE ALL EQUIPMENT ABOVE CEILING (E.G. TERMINAL UNIT) IN PLAN & ELEVATION TO ALLOW SUFFICIENT ACCESS FOR PROPER MAINTENANCE & SERVICE OF EQUIPMENT.
16. ALL HVAC SYSTEMS SHALL BE ENERGIZED, TESTED, ADJUSTED & BALANCED AS REQUIRED BY SPECIFICATION SECTION 23 05 93. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF EQUIPMENT START-UP SCHEDULE AND OF T.A.B. PROCEDURES IN ADVANCE TO ALLOW FOR WITNESSING (IF REQUIRED) AND FOR COORDINATION.
17. CUT & PATCH TO ACCOMMODATE THE WORK UNLESS NOTED OTHERWISE. ALL OPENINGS IN EXISTING WALLS, CEILING, FLOORS, ROOFING, AND DUCTS RESULTING FROM DEMOLITION WORK OR NEW WORK SHALL BE PATCHED TO MATCH EXISTING, UNLESS NOTED OTHERWISE.
18. IF ANY ASBESTOS CONTAINING MATERIAL IS DISCOVERED OR SUSPECTED, THE CONTRACTOR SHALL IMMEDIATELY CEASE ANY & ALL WORK IN THAT AREA. COVER THE EXPOSED MATERIAL IN PLASTIC CONTAINMENT WITHOUT DISTURBING THE EXPOSED MATERIAL & CONTACT THE ARCHITECT.
19. ACCESS PANELS ARE REQUIRED IN GYPSUM BOARD CEILINGS FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, EQUIPMENT, ETC. & SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATIONS.
20. SALVAGED EQUIPMENT SHALL BE REMOVED TO A SITE OF THE OWNER'S CHOOSING. DEMOLISHED EQUIPMENT THAT THE OWNER DOES NOT WANT TO SALVAGE SHALL BE REMOVED FROM SITE BY THE CONTRACTOR.
21. ALL DX EQUIPMENT AND PIPING TAKEN OUT OF SERVICE SHALL HAVE THE REFRIGERANT RECOVERED PER CURRENT E.P.A. REGULATIONS; ALL REFRIGERANT RECOVERED REMAINS THE PROPERTY OF THE OWNER AND SHALL BE TRANSFERRED TO OWNER FURNISHED TANKS.
22. FOR EQUIPMENT, DUCTWORK OR PIPING THAT IS INDICATED TO BE REMOVED, THE RELATED SUPPORT APPARATUS SHALL ALSO BE REMOVED, UNLESS NOTED OTHERWISE. THIS INCLUDES REMOVAL OF THE EQUIPMENT'S RELATED CONCRETE HOUSEKEEPING PAD AND PATCHING THE CONCRETE FLOOR SMOOTH TO MATCH THE EXISTING.

AIR DEVICES LEGEND



HVAC PIPING

NOT ALL WILL APPEAR ON THE DRAWINGS

CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
P____	PRIMARY CHILLED/HEATING WATER (E.G. 'PCHS')
S____	SECONDARY CHILLED/HEATING WATER (E.G. 'SCHS')
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
CWTT	CONDENSER WATER TO TOWER
CWFT	CONDENSER WATER FROM TOWER
G	NATURAL GAS
CD	CONDENSATE DRAIN
DCW	DOMESTIC COLD WATER
HPS	HIGH PRESSURE STEAM (>= 50 PSI)
MPS	MEDIUM PRESSURE STEAM (15-50 PSI)
LPS	LOW PRESSURE STEAM (<15 PSI)
PCD	PUMPED CONDENSATE DRAIN
PCR	PUMPED CONDENSATE RETURN
FIN	FIN WATER CONDENSATE FROM COOLING COILS
CR	STEAM CONDENSATE RETURN (GRAVITY)
LS	LOOP SUPPLY
LR	LOOP RETURN
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
R	REFRIGERANT LINE SET
HG	HOT GAS

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STATE OF TEXAS
TRENT S. TOPHAM
116106
LICENSED PROFESSIONAL ENGINEER
12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708

Revisions:

NO.	DESCRIPTION	DATE

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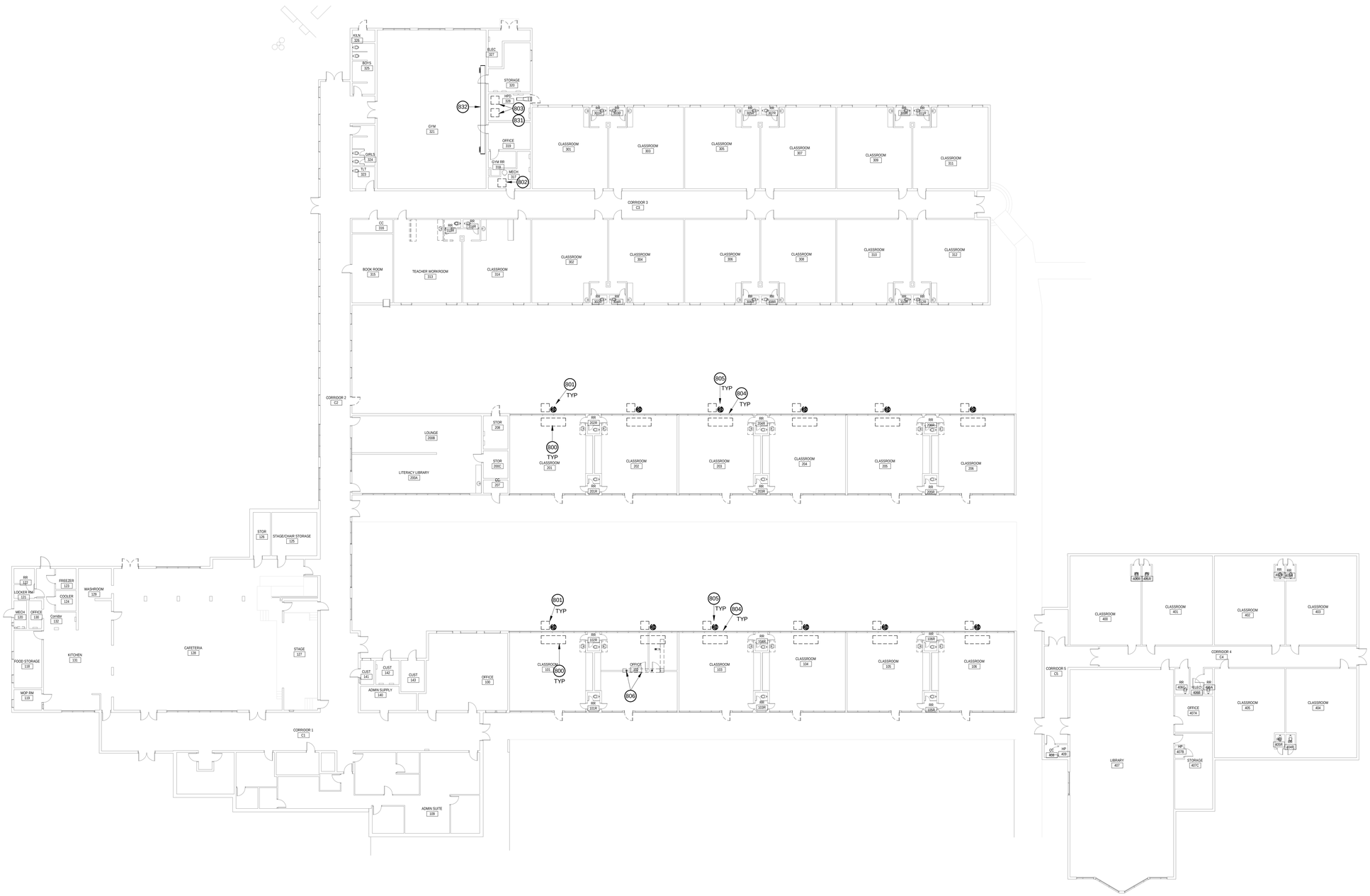
Project No. 1818.01
CONTRACT DOCUMENTS

MECHANICAL NOTES, SYMBOLS AND ABBREVIATIONS

AISD PROJ. 190027-PECSP

M1.1



1 FIRST FLOOR DUCTWORK DEMOLITION PLAN - AREA A

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

GENERAL NOTES

1. REFER TO SHEET M1.1 FOR GENERAL MECHANICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. ALL EXISTING DUCTWORK, PIPING SIZES & LOCATIONS ARE TAKEN FROM BEST AVAILABLE RECORD DOCUMENTS & SITE OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

KEYNOTE LEGEND

800 REMOVE EXISTING FLOOR CONSOLE HVAC UNIT AND ASSOCIATED WATER SUPPLY, RETURN AND CONDENSATE PIPING.

801 CAP EXISTING GROUND SOURCE HEAT PUMP WATER SUPPLY AND RETURN PIPING 24" BELOW GRADE. REMOVE EXISTING SHEET METAL PIPE ENCLOSURE.

802 REMOVE EXISTING HORIZONTAL FAN COIL UNIT AND ASSOCIATED PUMP, LOOP WATER SUPPLY, RETURN AND CONDENSATE PIPING.

803 REMOVE EXISTING VERTICAL GROUND SOURCE HEAT PUMP UNITS AND ASSOCIATED PUMP, LOOP WATER SUPPLY, RETURN AND CONDENSATE PIPING.

804 EXISTING WALL LOUVER TO REMAIN. RE: ARCHITECTURAL DRAWINGS FOR IN-FILL DETAILS.

805 REMOVE EXISTING DRY WELL. PIPING TO POINT 24" BELOW GRADE.

806 REMOVE EXISTING EXPOSED DUCT BOARD DUCT WORK AND AIR DEVICES.

831 REMOVE ALL DUCTWORK IN THIS ROOM UNLESS NOTED OTHERWISE. RE: M5.1 FOR MORE INFORMATION.

832 EXISTING SUPPLY DUCTWORK AND RETURN GRILLE TO BE REUSED.

N TRUE NORTH

N PLAN NORTH

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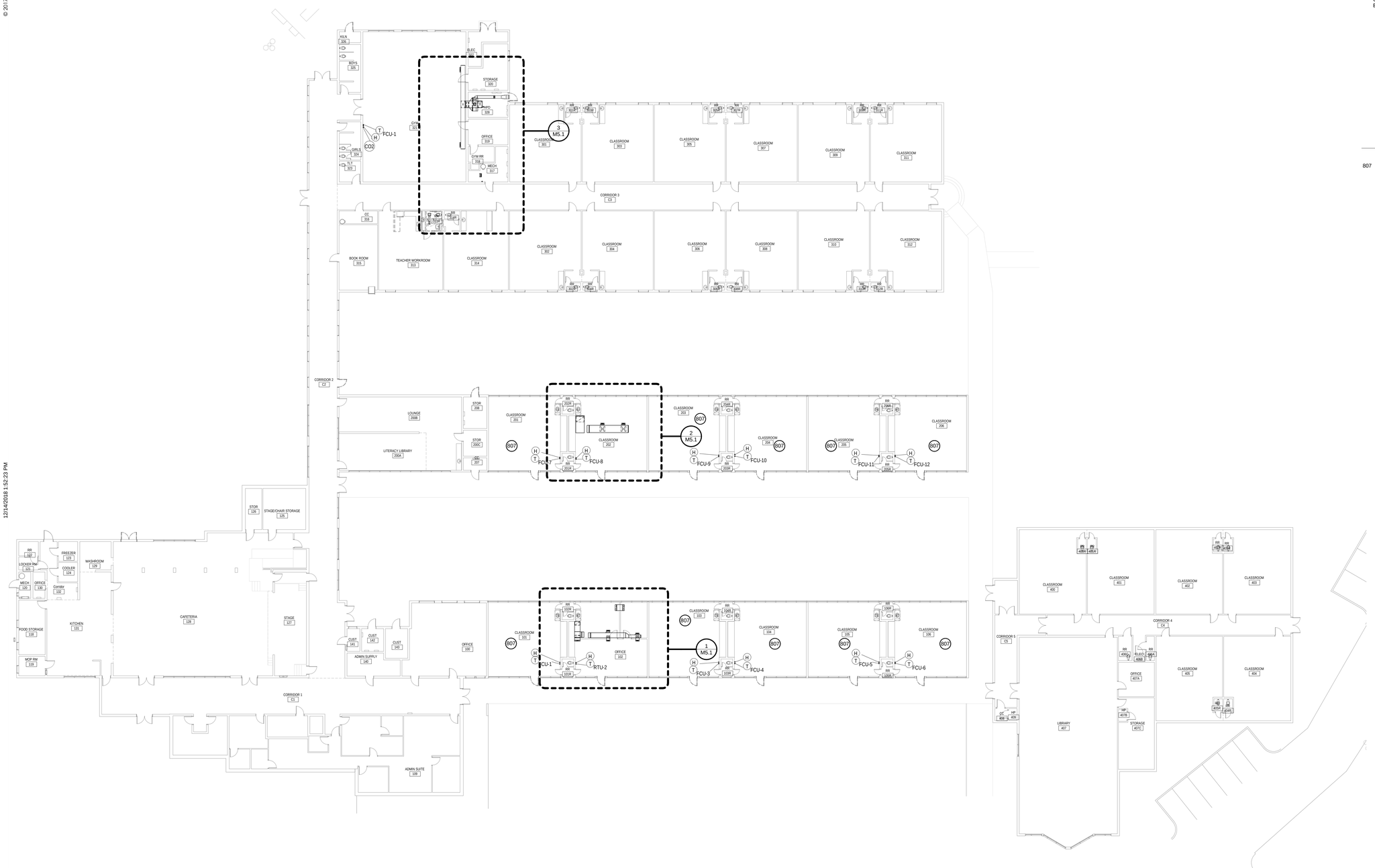
MECHANICAL
DEMOLITION FLOOR
PLAN

AISD PROJ. 190027-PECSP

M2.1



02 FIRST FLOOR DUCTWORK PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET M1.1 FOR GENERAL MECHANICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. ALL EXISTING DUCTWORK, PIPING SIZES & LOCATIONS ARE TAKEN FROM BEST AVAILABLE RECORD DOCUMENTS & SITE OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

KEYNOTE LEGEND

807 PROVIDE NEW DUCT WORK AND AIR DEVICES IN CLASSROOM INDICATED. INSTALLATION SIMILAR TO CLASSROOM 202.

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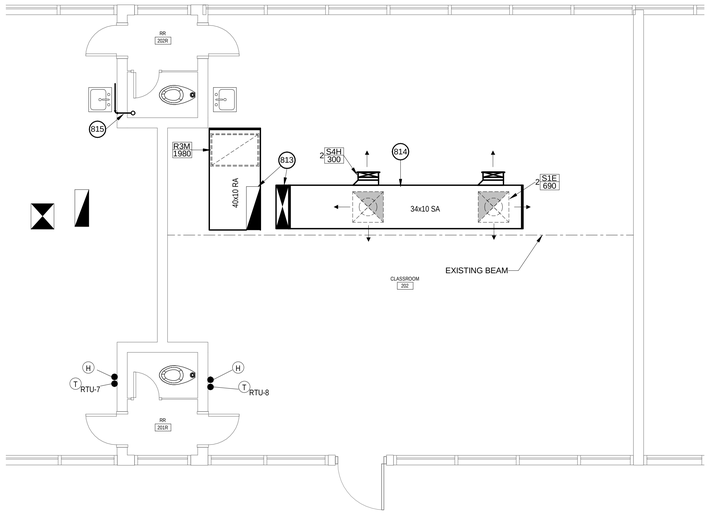
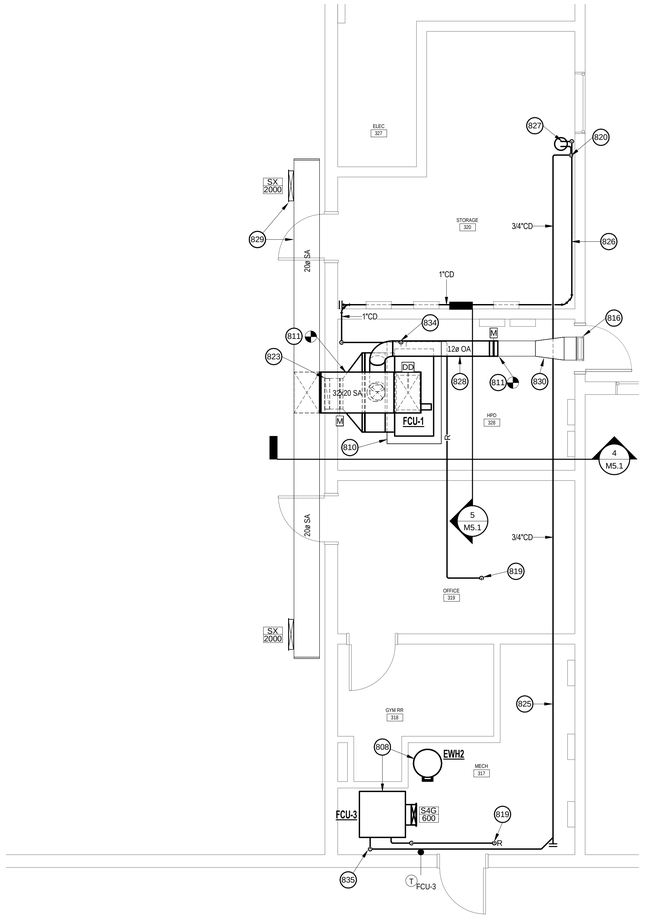
MECHANICAL PLAN
M3.1

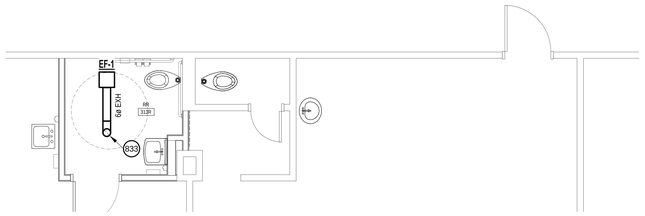
AISD PROJ. 190027-PECSP



2 FIRST FLOOR ENLARGED MECHANICAL PLAN

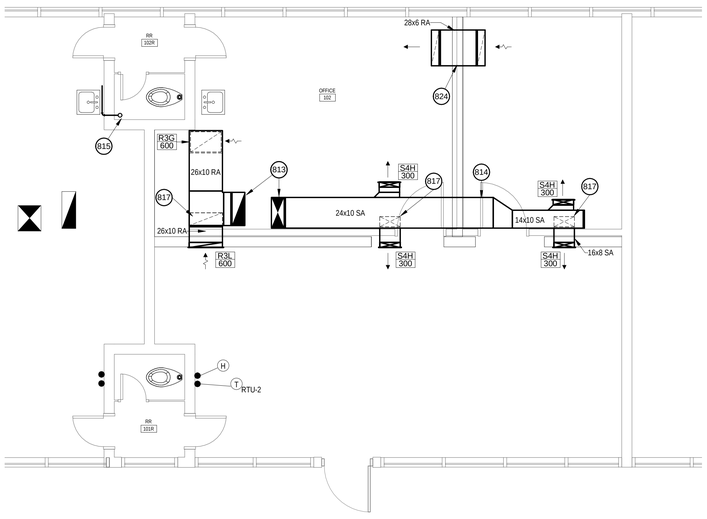
SCALE: 1/4" = 1'-0"





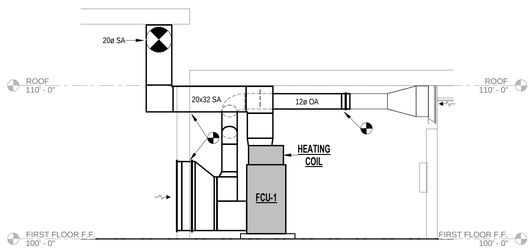
3 FIRST FLOOR ENLARGED MECHANICAL PLAN

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



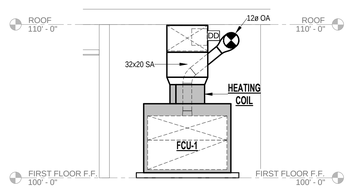
1 FIRST FLOOR ENLARGED MECHANICAL PLAN

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



4 HPD 328 SECTION A

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



5 HPD 328 SECTION B

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

GENERAL NOTES

1. REFER TO SHEET M1.1 FOR GENERAL MECHANICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. ALL EXISTING DUCTWORK, PIPING SIZES & LOCATIONS ARE TAKEN FROM BEST AVAILABLE RECORD DOCUMENTS & SITE OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

KEYNOTE LEGEND

808 INSTALL NEW FAN COIL UNIT AS HIGH AS POSSIBLE AT SAME LOCATION AS REMOVED HEAT PUMP INDOOR UNIT. COORDINATE INSTALLATION WITH WATER HEATER. RE: DETAIL 2/M9.1

810 INSTALL NEW VERTICAL FAN COIL UNIT ON NEW 4" CONCRETE HOUSE KEEPING PAD; TO EXTEND 6" BEYOND EDGE OF EQUIPMENT FOOTPRINT.

811 RECONNECT TO EXISTING SUPPLY DUCT AND OUTSIDE AIR / RETURN PLENUM. RECONFIGURE DUCTWORK AS REQUIRED, REF SECTIONS 4&5/M5.1.

813 SUPPLY AND RETURN DUCTS UP THROUGH ROOF TO RTU. TRANSITION IN VERTICAL TO UNIT CONNECTION SIZE.

814 ROUTE SUPPLY DUCT AS HIGH AS POSSIBLE ADJACENT TO STRUCTURAL BEAM/WALL,MAINTAIN 7'-0" MINIMUM CLEARANCE BELOW BOTTOM OF DUCT AND AIR DEVICES.

815 3/4" CONDENSATE DRAIN FROM RTU ON ROOF. ROUTE DOWN ON WALL INSIDE TOILET STALL, STUB THRU WALL AND CONNECT TO LAVATORY TAIL PIECE. COORDINATE WITH PLUMBING CONTRACTOR. WRAP EXPOSED PIPING IN TOILET STALL IN ALUMINUM JACKET.

816 EXISTING OUTSIDE AIR LOUVER TO BE REUSED.

817 BOTTOM TAP

819 ROUTE REFRIGERANT PIPING ON PIPE SUPPORTS ALONG CEILING AND THEN UP THROUGH ROOF TO CONDENSING UNIT.

820 ROUTE CONDENSATE DRAIN DOWN ON WALL TO FLOOR DRAIN.

823 EXISTING RETURN GRILLE TO REMAIN.

824 TRANSFER DUCT. RE: DETAIL 10/M9.1.

825 ROUTE CONDENSATE DRAIN EXPOSED AS HIGH AS POSSIBLE. WRAP IN ALUMINUM JACKET.

826 ROUTE CONDENSATE DRAIN EXPOSED LOW ALONG WALL. WRAP IN ALUMINUM JACKET.

827 EXISTING FLOOR DRAIN. FIELD VERIFY EXACT LOCATION.

828 NEW DUCT SECTION WITH MOTORIZED OUTSIDE AIR DAMPER.

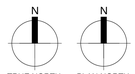
829 EXISTING SUPPLY DUCT AND AIR DEVICES TO REMAIN.

830 EXISTING OUTSIDE AIR DUCT TO REMIAIN.

833 EXHAUST DUCT UP THROUGH ROOF.

834 CONDENSATE DRAIN. RE: DETAIL 3/M9.1

835 CONDENSATE DRAIN. RE: DETAIL 4/M9.1.



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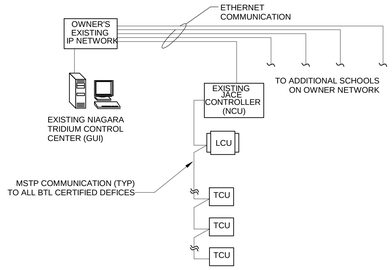
MECHANICAL ENLARGED PLANS

AISD PROJ. 190027-PECSP

M5.1

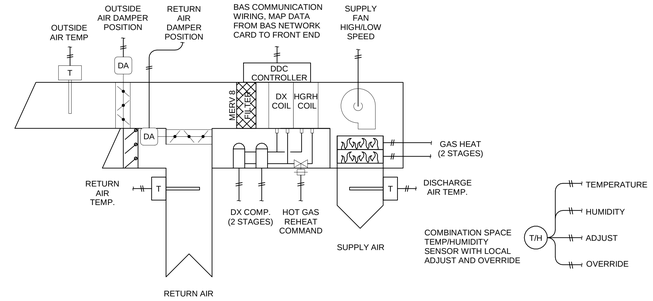
CONTROLS SYMBOLS LEGEND

DO	DIGITAL OUTPUT - START/STOP	AO	ANALOG OUTPUT
DI	DIGITAL INPUT	AI	ANALOG INPUT
	LOW LIMIT SWITCH WITH NORMALLY OPEN AND CLOSED CONTACTS	DSD	DUCT SMOKE DETECTOR
T	AVERAGING DUCT MOUNT TEMPERATURE SENSOR	T	DUCT MOUNT TEMPERATURE PROBE (SIZE TO CENTER OF DUCT/AIRSTREAM)
CO2	DUCT MOUNT CO2 SENSOR	H	DUCT MOUNT HUMIDITY SENSOR
	ANALOG PRESSURE GAUGE		DUAL POLE HIGH/LOW PRESSURE SAFETY SWITCH (NO & NC)
H L DPT	DIFFERENTIAL PRESSURE TRANSDUCER WITH HIGH AND LOW PRESSURE PORTS	AFMS	AIR FLOW MEASURING STATION
	AVERAGING FLOW CROSS WITH HIGH AND LOW PICKUPS	H L	AVERAGING FLOW RING WITH HIGH AND LOW PICKUPS
P	GAUGE PRESSURE SENSOR	T	HYDRONIC TEMPERATURE SENSOR WITH THERMOWELL (SIZE TO CENTER OF PIPE)
	COMPRESSOR		PUSH BUTTON OVERRIDE
	THREE WAY CONTROL VALVE		TWO WAY CONTROL VALVE
SPS	STATIC PRESSURE SENSOR (DUCT OR SPACE)		REVERSING VALVE
	SINGLE BLADE DAMPER		FILTER
	BACK DRAFT DAMPER (BAROMETRICALLY CONTROLLED)		OPPOSED BLADE DAMPER
DX OR HGRH COIL	DIRECT EXPANSION COOLING OR HOT GAS REHEAT COIL	--W COIL	CHILLED (CHW), HOT (HW), OR PREHEAT WATER (PHW) COIL
UV	UV LIGHT ARRAY		STEAM HUMIDIFIER
	ELECTRIC STRIP HEATER		GAS FIRED HEATER
FS	FLOW SWITCH	FS	FLOAT SWITCH
FM	FLOW METER	ES	END SWITCH
DA	MOTORIZED DAMPER ACTUATOR	CS	CURRENT SWITCH
T	SPACE TEMPERATURE SENSOR	H	SPACE HUMIDITY SENSOR
OS	SPACE OCCUPANCY SENSOR	CO2	SPACE CO2 SENSOR
	COMBINATION STARTER/VFD		STARTER
	MOTOR		PUMP
C	HOUSED FAN		PLENUM / PLUG FAN
	ROOF MOUNTED EXHAUST FAN		AXIAL FAN
	BAS COMM WIRING		WIRING BY OTHERS (HIGH VOLTAGE OR FIRE ALARM)
	LOW VOLTAGE OR CONTROLS WIRING		POLY OR COPPER TUBING FOR PRESSURE SENSORS
	ENERGY RECOVERY (ENTHALPY) CORE		ENERGY RECOVERY WHEEL



1 BACNET SYSTEM ARCHITECTURE

1. PROVIDE NEW BACNET CONTROLLERS AND DEVICES FOR NEW EQUIPMENT AT FIELD LEVEL.
2. INSTALL NEW BACNET COMMUNICATION NETWORK FROM NEW DEVICES TO EXISTING JACE.
3. THE CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING GRAPHICS TO INDICATE THE SET POINT AND ACTUAL VALUE OF ALL THE POINTS SHOWN. THE GRAPHICS SHALL INCLUDE A SCHEMATIC DRAWING FOR EACH UNIT (AS SHOWN ON PLANS) AND EXACT LOCATION OF THE POINTS WITHIN THE UNIT.



2 TWO STAGE, SINGLE ZONE ROOFTOP UNIT WITH HGRH CONTROL DIAGRAM & SEQUENCE OF OPERATIONS: (SEE I/O SUMMARY

SCALE: NONE

GENERAL
ALL CONTROLS SHALL BE SUPPLIED BY THE RTU SUPPLIER. ONCE THERMOSTAT IS SET-UP IT SHALL BE LOCKED WITH AN OWNER SUPPLIED PASSWORD. TEMPORARY OVERRIDE SHALL BE THE ONLY AVAILABLE FUNCTION TO A USER WITHOUT THE PASSWORD.

SYSTEM START-UP:
AT THE INITIAL UNIT FIELD START-UP, A MANUFACTURER'S REPRESENTATIVE THAT IS FAMILIAR WITH THE CONTROL SYSTEMS SHALL BE BE REQUIRED TO ATTEND. THE REPRESENTATIVE SHALL VERIFY THAT THE UNIT IS OPERATING CORRECTLY, AS PER THIS SEQUENCE OF OPERATION. THE CONTROLS CONTRACTORS REPRESENTATIVE SHALL ALSO BE PRESENT AND PROGRAM THE UNITS OPERATING SCHEDULE AT THE BMS FRONT END, AS DIRECTED BY THE OWNER.

GRAPHICS:
THE CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING GRAPHICS TO INDICATE THE STATUS OF ALL THE POINTS FOR THE BMS CONTROLLER. THE GRAPHICS SHALL INCLUDE A SCHEMATIC DRAWING OF THE UNIT (AS SHOWN ABOVE) AND EXACT LOCATION OF THE POINTS WITHIN THE UNIT.

SCHEDULE:
SCHEDULE SHALL BE PROGRAMMED INTO THE CONTROLLER BY THE INSTALLER. UNLESS OTHERWISE DIRECTED BY THE OWNER, THE SCHEDULE SHALL BE 7:00AM TO 6:00PM MONDAY THROUGH FRIDAY.

SUPPLY FAN:
SUPPLY FAN SHALL BE STARTED AND BASED UPON THE OCCUPANCY SCHEDULE. FAN SHALL BE SET TO "FAN-ON" SO THAT FAN RUNS CONTINUOUSLY WHEN THE UNIT IS OCCUPIED. WHEN THE UNIT IS UNOCCUPIED THE FAN SHALL BE COMMANDED OFF.

IN THE FIRST STAGE OF HEATING, COOLING OR IN THE DEADBAND THE FAN SPEED SHALL BE AT MINIMUM. WHEN THE UNIT IS IN THE SECOND STAGE OF HEATING OR COOLING THE FAN SPEED SHALL BE AT MAXIMUM.

OUTSIDE AIR DAMPERS AND RETURN AIR DAMPER:
OA DAMPER AND RA DAMPER SHALL BE COMMANDED OPEN WHEN THE AHU IS OCCUPIED. TAB SHALL DETERMINE THE SETTING FOR OAD REQUIRED TO DELIVER THE SCHEDULED AMOUNT OF OA AT BOTH MINIMUM AND MAXIMUM FAN SPEEDS.

OA DAMPER SHALL BE OPENED AND THE RA DAMPER SHALL BE CLOSED WHEN IN THE ECONOMIZER MODE.

IN THE EVENT OF:
a. FAN FAILURE,
b. SCHEDULED UNOCCUPIED MODE,

THE RETURN AIR DAMPER SHALL BE FULLY OPEN AND THE OUTSIDE AIR DAMPER SHALL BE CLOSED.

ECONOMIZER MODE:
ECONOMIZER MODE SHALL BE ENABLED WHEN THE UNIT IS OCCUPIED, NOT IN THE HEATING MODE OR DEHUMDIFICATION MODE AND THE OA TEMP IS LESS THAN 65°F.

OCCUPIED / UNOCCUPIED MODE:
WHEN THE RTU IS IN OCCUPIED MODE, THE EFFECTIVE COOLING SET POINT SHALL BE 75°F (ADJ), AND THE EFFECTIVE HEATING SET POINT SHALL BE 70°F (ADJ).

WHEN THE RTU IS IN UNOCCUPIED MODE, THE SPACE TEMPERATURE SETPOINT SHALL BE SETUP OR SETBACK TO THE UNOCCUPIED SETPOINTS OF 85°F (COOLING) AND 55°F (HEATING). IF THE SPACE TEMPERATURE FALLS OUTSIDE THE SETUP SETBACK SETPOINTS THEN THE UNIT SHALL BE TEMPORARILY OCCUPIED UNTIL THE SPACE TEMPERATURE CAN BE SATISFIED.

OCCUPANCY OVERRIDE SHALL BE PROVIDED AT THE SPACE SENSOR. THE OVERRIDE TIME SHALL BE ENGAGED UNTIL THE NEXT SCHEDULED EVENT.

SPACE TEMPERATURE CONTROL:
IF THE SPACE TEMPERATURE RISES ABOVE THE EFFECTIVE COOLING SET POINT, THE UNIT CONTROLLER SHALL BE IN THE COOLING MODE. IN THE COOLING MODE THE COMPRESSOR(S) SHALL BE ENABLED TO MAINTAIN THE SPACE TEMPERATURE AT THE EFFECTIVE COOLING SETPOINT.

IF THE SPACE TEMPERATURE FALLS BELOW THE EFFECTIVE HEATING SET POINT, THE UNIT CONTROLLER SHALL BE IN THE HEATING MODE. IN THE HEATING MODE THE GAS HEAT STAGE(S) SHALL BE ENABLED TO MAINTAIN THE SPACE TEMPERATURE AT THE EFFECTIVE HEATING SETPOINT.

DEHUMIDIFICATION CONTROL:
IF THE SPACE HUMIDITY RISES ABOVE 60%RH (ADJ) DEHUMIDIFICATION MODE SHALL BE ENGAGED. IN THE DEHUMIDIFICATION MODE THE COMPRESSORS SHALL BE ENGAGED (# OF STAGES DEPENDENT ON COOLING DEMAND) WITH THE HOT GAS REHEAT VALVE. DEHUMIDIFICATION MODE SHALL REMAIN ENGAGED UNTIL THE SPACE HUMIDITY FALLS BELOW 55% (ADJ).

ALARMS:
AN ALARM SHALL BE GENERATED AT THE BMS WORKSTATION IF THERE IS A UNIT MALFUNCTION.

BAS INPUT/OUTPUT SUMMARY

SYSTEM/EQUIPMENT	DIGITAL INPUT (DI)	ANALOG INPUT (AI)	DIGITAL OUTPUT (DO)	ANALOG OUTPUT (AO)	CALC-ULATED	DDC COMM CARD	NOTES
RTU-1 THRU 12							1
SPACE TEMP						X	2
SPACE RELATIVE HUMIDITY						X	2
USER ADJUST						X	2
USER OVERRIDE						X	2
SUPPLY FAN LOW SPEED						X	2
SUPPLY FAN HIGH SPEED						X	2
RETURN AIR TEMP						X	2
SUPPLY AIR TEMP						X	2
DX STAGE 1 START/STOP						X	2
DX STAGE 2 START/STOP						X	2
GAS HEAT STAGE 1 START/STOP						X	2
GAS HEAT STAGE 2 START/STOP						X	2
HOT GAS REHEAT ENABLE/DISABLE						X	2
RETURN AIR DAMPER POSITION						X	2
OUTSIDE AIR DAMPER POSITION						X	2
OUTSIDE AIR TEMP						X	2
ECONOMIZER ALARM						X	2
GENERAL ALARM						X	2

NOTES:
1. MANUFACTURER TO PROVIDE BACNET CARD AND ALL CONTROLS NECESSARY FOR SEQUENCE.
2. ALL POINTS SHALL BE WRITABLE FROM THE BMS WORKSTATION.

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12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708

Revisions:

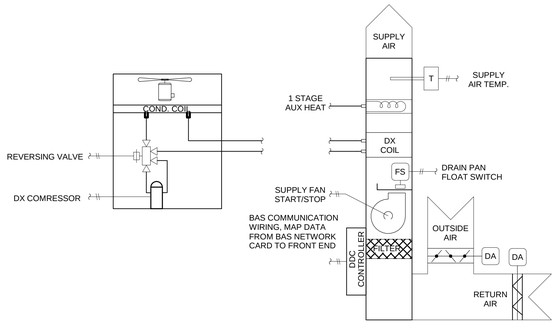
NO.	DESCRIPTION	DATE

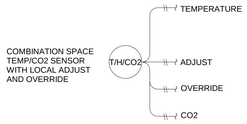
12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

MECHANICAL CONTROLS

AISD PROJ. 190027-PECSP

M7.1





1 SPLIT SYSTEM HEAT PUMP WITH AUX ELECTRIC HEAT SCHEMATIC AND SEQUENCE OF OPERATIONS FOR FCU-1 / CU-1

GENERAL
ALL CONTROLS SHALL BE SUPPLIED BY THE UNIT SUPPLIER. ONCE THERMOSTAT IS SET-UP IT SHALL BE LOCKED WITH AN OWNER SUPPLIED PASSWORD. TEMPORARY OVERRIDE SHALL BE THE ONLY AVAILABLE FUNCTION TO A USER WITHOUT THE PASSWORD. DDC CONTROLS CONTRACTOR SHALL INTEGRATE ALL POINTS AVAILABLE AND PROVIDE SCHEDULING CAPBILITY THROUGH MANUFACTURER SUPPLIED BACNET CARD.

SCHEDULE
SCHEDULE SHALL BE PROGRAMMED INTO THE CONTROLLER BY THE INSTALLER. UNLESS OTHERWISE DIRECTED BY THE OWNER, THE SCHEDULE SHALL BE 7:00AM TO 6:00PM MONDAY THROUGH FRIDAY.

UNOCCUPIED/UNOCCUPIED MODE:
INITIALLY THE OCCUPANCY SCHEDULE SHOULD BE SET TO 07:00 TO 18:00. DURING UNOCCUPIED HOURS THE SETPOINT SHALL BE SETUP/BACK TO 85°F (ADJ) AND 55°F (ADJ), RESPECTIVELY AND THE USER ADJUST SHALL BE IGNORED. IF THE SPACE TEMPERATURE FALLS BEYOND THAT RANGE THEN THE UNIT SHALL BE TEMPORARILY OCCUPIED UNTIL THE SPACE TEMPERATURE RISES +2° IN HEATING OR FALLS -2°F IN COOLING. THE FINAL OCCUPANCY SCHEDULE SHALL BE PROVIDED BY THE OWNER.

OVERRIDE:
A PUSH BUTTON OVERRIDE SHALL BE PROVIDED THAT, WHEN PUSHED, FORCES THE UNIT INTO OCCUPIED MODE FOR 2 HOURS (ADJ).

SUPPLY FAN:
SUPPLY FAN SHALL BE STARTED AND STOPPED BASED UPON WHEN THE UNIT IS OCCUPIED. THE FAN SHALL BE COMMANDED ON AND SHALL RUN CONTINUOUSLY. THE FAN SHALL NORMALLY BE RUN AT LOW SPEED. THE SPEED SHALL BE INCREASED WHEN THE 2ND STAGE OF COOLING OR AUXILIARY HEAT IS ENABLED. WHEN THE UNIT IS UNOCCUPIED THE FAN SHALL BE COMMANDED OFF.

IN THE EVEN T OF:
a. SMOKE DETECTION
THE SUPPLY FAN SHALL BE STOPPED

OUTSIDE AIR DAMPER:
THE OUTSIDE AIR DAMPER SHALL BE CLOSED AND THE RETURN AIR DAMPER OPEN WHEN THE UNIT IS UNOCCUPIED. WHEN THE UNIT IS OCCUPIED THE OUTSIDE AIR DAMPER SHALL OPEN TO A MINIMUM POSITION AND RETURN AIR DAMPER OPEN TO A MAXIMUM POSITION. DETERMINED BY TAB TO DELIVER THE MINIMUM OUTSIDE AIR AS SCHEDULED WHEN THE FAN IS AT MINIMUM SPEED. THE OUTSIDE AIR DAMPER SHALL OPEN TO A MAXIMUM POSITION AND THE RETURN AIR DAMPER OPEN TO A MINIMUM POSITION DETERMINED BY TAB TO DELIVER THE MAXIMUM OUTSIDE AIR AS SCHEDULED WHEN THE FAN IS AT MAXIMUM SPEED WHEN THE SPACE CO2 RISES ABOVE 900 PPM.

IN THE EVEN T OF:
a. SMOKE DETECTION
THE OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED AND THE RETURN DAMPER SHALL BE FULLY OPEN.

EFFECTIVE SETPOINT AND DEADBAND CONTROL:
THE SETPOINT (SP) SHALL BE USER SELECTABLE FROM 70±2°F (ADJ). THERE SHALL BE A ±2°F (ADJ) DEADBAND (DB) TO DEFINE THE EFFECTIVE HEATING SETPOINT (SP-DB) AND EFFECTIVE COOLING SETPOINT (SP+DB).

COOLING CONTROL:
THE FIRST STAGE OF COOLING SHALL BE ENABLED WHEN THE UNIT IS IN OCCUPIED MODE AND THE SPACE TEMPERATURE IS ABOVE THE EFFECTIVE COOLING SP. THE SECOND STAGE OF COOLING SHALL BE ENABLED WHEN THE UNIT IS IN OCCUPIED MODE AND THE SPACE TEMPERATURE IS ABOVE THE EFFECTIVE COOLING SP + DB. THE COOLING MODE SHALL BE DISABLED WHEN THE SPACE TEMPERATURE FALLS TO SP - (0.5*DB).

IN THE EVEN T OF:
a. FLOAT SWITCH TRIPPED

THE COMPRESSOR SHOULD BE STOPPED.

HEATING CONTROL:
THE FIRST STAGE OF HEATING SHALL BE ENABLED WHEN THE UNIT IS IN OCCUPIED MODE AND THE SPACE TEMPERATURE IS BELOW THE EFFECTIVE HEATING SP. THE HEAT PUMP SHALL ENGAGE THE COMPRESSOR AND THE REVERSING VALVE IN THIS MODE. THE SECOND STAGE OF HEATING SHALL BE ENABLED WHEN THE UNIT IS IN OCCUPIED MODE AND THE SPACE TEMPERATURE IS BELOW THE EFFECTIVE HEATING SP - DB. THE ELECTRIC AUX HEAT SHALL BE ENABLED SIMULTANEOUSLY WITH THE COMPRESSOR AND REVERSING VALVE. THE HEATING MODE SHALL BE DISABLED WHEN THE SPACE TEMPERATURE RISES TO SP + (0.5*DB).

IN THE EVEN T OF:
a. FLOAT SWITCH TRIPPED

THE COMPRESSOR SHOULD BE STOPPED.

ADJUSTABLE PARAMETERS:
ALL PARAMETERS LISTED AS ADJUSTABLE (ADJ.) SHALL BE FULLY ADJUSTABLE FROM THE BMS WORKSTATION.

SYSTEM START-UP:
AT THE INITIAL UNIT FIELD START-UP, A MANUFACTURER'S REPRESENTATIVE THAT IS FAMILIAR WITH THE CONTROL SYSTEMS SHALL BE BE REQUIRED TO ATTEND. THE REPRESENTATIVE SHALL VERIFY THAT THE UNIT IS OPERATING CORRECTLY, AS PER THIS SEQUENCE OF OPERATION. THE CONTROLS CONTRACTORS REPRESENTATIVE SHALL ALSO BE PRESENT AND PROGRAM THE UNITS OPERATING SCHEDULE AT THE BMS FRONT END, AS DIRECTED BY THE OWNER.

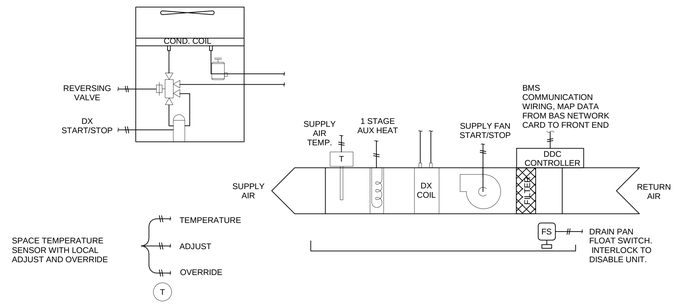
GRAPHICS:
THE CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING GRAPHICS TO INDICATE THE STATUS OF ALL THE POINTS FOR THE BMS CONTROLLER. THE GRAPHICS SHALL INCLUDE A SCHEMATIC DRAWING OF THE UNIT (AS SHOWN ABOVE) AND EXACT LOCATION OF THE POINTS WITHIN THE UNIT.

ALARMS:
AN ALARM SHALL BE GENERATED BY THE BMS SHOWING A TRIPPED FLOAT SWITCH.

BAS INPUT/OUTPUT (I/O) SUMMARY

SYSTEM/EQUIPMENT		DIGITAL INPUT	ANALOG INPUT	DIGITAL OUTPUT	ANALOG OUTPUT	CALC-ULATED	DDC COMM CARD	NOTES
		(DI)	(AI)	(DO)	(AO)			
CU/FCU-1								1
	SPACE TEMP						X	2
	USER ADJUST						X	2
	USER OVERRIDE						X	2
	SPACE CO2						X	2
	SUPPLY FAN START/STOP						X	2
	DRAIN PAN FLOAT SWITCH						X	2
	COMPRESSOR START/STOP						X	2
	REVERSING VALVE ENABLE						X	2
	DISCHARGE AIR TEMPERATURE						X	2
	RETURN AIR DAMPER						X	2
	OUTSIDE AIR DAMPER						X	2

NOTES:
1. MANUFACTURER TO PROVIDE BACNET CARD AND ALL CONTROLS NECESSARY FOR SEQUENCE.
2. ALL POINTS SHALL BE WRITABLE FROM THE BMS WORKSTATION.



2 SPLIT DX HEAT PUMP SYSTEM WITH AUX ELECTRIC HEAT SCHEMATIC AND SEQUENCE OF OPERATIONS: FCU/CU-2

SCALE: NONE

GENERAL
ALL CONTROLS SHALL BE SUPPLIED BY THE FCU/CU SUPPLIER. ONCE THERMOSTAT IS SET-UP IT SHALL BE LOCKED WITH AN OWNER SUPPLIED PASSWORD. TEMPORARY OVERRIDE SHALL BE THE ONLY AVAILABLE FUNCTION TO A USER WITHOUT THE PASSWORD.

SYSTEM START-UP:
AT THE INITIAL UNIT FIELD START-UP, A MANUFACTURER'S REPRESENTATIVE THAT IS FAMILIAR WITH THE CONTROL SYSTEMS SHALL BE BE REQUIRED TO ATTEND. THE REPRESENTATIVE SHALL VERIFY THAT THE UNIT IS OPERATING CORRECTLY, AS PER THIS SEQUENCE OF OPERATION. THE CONTROLS CONTRACTORS REPRESENTATIVE SHALL ALSO BE PRESENT AND PROGRAM THE UNITS OPERATING SCHEDULE AT THE BMS FRONT END, AS DIRECTED BY THE OWNER.

GRAPHICS:
THE CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING GRAPHICS TO INDICATE THE STATUS OF ALL THE POINTS FOR THE BMS CONTROLLER. THE GRAPHICS SHALL INCLUDE A SCHEMATIC DRAWING OF THE UNIT (AS SHOWN ABOVE) AND EXACT LOCATION OF THE POINTS WITHIN THE UNIT.

SCHEDULE
SCHEDULE SHALL BE PROGRAMMED INTO THE CONTROLLER BY THE INSTALLER. UNLESS OTHERWISE DIRECTED BY THE OWNER, THE SCHEDULE SHALL BE 7:00AM TO 6:00PM MONDAY THROUGH FRIDAY.

SUPPLY FAN:
SUPPLY FAN SHALL BE STARTED AND BASED UPON THE OCCUPANCY SCHEDULE. FAN SHALL BE SET TO "FAN-AUTO" SO THAT FAN RUNS ONLY WHEN THE UNIT IS IN THE HEATING OR COOLING MODE. WHEN THE UNIT IS UNOCCUPIED THE FAN SHALL BE COMMANDED OFF.

OCCUPIED / UNOCCUPIED MODE:
WHEN THE FCU IS IN OCCUPIED MODE, THE EFFECTIVE COOLING SET POINT SHALL BE 75°F (ADJ), AND THE EFFECTIVE HEATING SET POINT SHALL BE 70°F (ADJ).

WHEN THE FCUU IS IN UNOCCUPIED MODE, THE SPACE TEMPERATURE SETPOINT SHALL BE SETUP OR SETBACK TO THE UNOCCUPIED SETPOINTS OF 85°F (COOLING) AND 55°F (HEATING). IF THE SPACE TEMPERATURE FALLS OUTSIDE THE SETUP SETBACK SETPOINTS THEN THE UNIT SHALL BE TEMPORARILY OCCUPIED UNTIL THE SPACE TEMPERATURE CAN BE SATISFIED.

OCCUPANCY OVERRIDE SHALL BE PROVIDED AT THE SPACE SENSOR. THE OVERRIDE TIME SHALL BE ENGAGED UNTIL THE NEXT SCHEDULED EVENT.

SPACE TEMPERATURE CONTROL:
IF THE SPACE TEMPERATURE RISES ABOVE THE EFFECTIVE COOLING SET POINT, THE UNIT CONTROLLER SHALL BE IN THE COOLING MODE. IN THE COOLING MODE THE COMPRESSOR SHALL BE ENABLED TO MAINTAIN THE SPACE TEMPERATURE AT THE EFFECTIVE COOLING SETPOINT.

IN THE EVEN T OF:
a. FLOAT SWITCH TRIPPED

THE COMPRESSOR SHOULD BE STOPPED.

IF THE SPACE TEMPERATURE FALLS BELOW THE EFFECTIVE HEATING SET POINT, THE UNIT CONTROLLER SHALL BE IN THE HEATING MODE. IN THE HEATING MODE THE COMPRESSOR AND THE REVERSING VALVE SHALL BE ENABLED. AUX HEATING SHALL BE ENABLED WHEN THE UNIT IS IN HEATING/DEFROST MODE.

ALARMS:
AN ALARM SHALL BE GENERATED AT THE BMS WORKSTATION IF THERE IS A UNIT MALFUNCTION

BAS INPUT/OUTPUT (I/O) SUMMARY

SYSTEM/EQUIPMENT		DIGITAL INPUT	ANALOG INPUT	DIGITAL OUTPUT	ANALOG OUTPUT	CALC-ULATED	DDC COMM CARD	NOTES
		(DI)	(AI)	(DO)	(AO)			
CU/FCU-2								1
	ZONE TEMPERATURE						X	2
	ZONE SETPOINT ADJUST						X	2
	ZONE OVERRIDE						X	2
	SUPPLY FAN START/STOP						X	2
	DX START/STOP						X	2
	REVERSING VALVE (HEAT PUMP MODE)						X	2
	AUXILIARY HEAT (HEAT/DEFROST)						X	2, 3
	DRAIN PAN FLOAT SWITCH						X	2
	DISCHARGE AIR TEMPERATURE						X	2

NOTES:
1. ALL POINTS SHALL BE WRITABLE FROM THE BMS WORKSTATION.
2. ALL POINTS SHALL BE WRITABLE FROM THE BMS WORKSTATION.
3. DEFROST MODE SHALL BE ENABLED BY THE UNIT CONTROLS AND SHALL ENABLE AUXILIARY HEAT AUTOMATICALLY.

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STATE OF TEXAS
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116106
LICENSED PROFESSIONAL ENGINEER
12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2108
Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

MECHANICAL CONTROLS

AISD PROJ. 190027-PECSP

M7.2

OUTSIDE AIR CALCULATION:

UNIT	ROOM	OA/PERSON	PEOPLE/1000SF	AREA	NO. OF	PEOPLE OA	OA/AREA	AREA OA	BREATHING ZONE OA	ZONE	TOTAL OA REQUIRED	OA PROVIDED
		CFM/PERSON		SF	PEOPLE	CFM	CFM/SF	CFM	CFM	EFFECTIVENESS	CFM	CFM
RTU-1 AND 3 THRU 12	CLASSROOM	10	25	839	21	210	0.12	101	311	0.8	388	400
RTU-2	OFFICES	10	5	839	5	50	0.06	50	100	0.8	125	150
FCU-1	GYM	20	7	2342	17	340	0.18	422	762	0.8	952	1000

BASED ON ASHRAE 62.1, 2016-Table 6.2.2.1

SPLIT-SYSTEM SCHEDULE

NOMINAL SIZE (TONS)		10	1.5
INDOOR UNIT	**MARK**	**FCU-1**	**FCU-2**
	TYPE	VERTICAL AIR HANDLER	HORIZONTAL AIR HANDLER
	AREA SERVED	GYM	STORAGE
	TOTAL CFM	4,000	600
	O.A. CFM (MIN)	530 MIN / 1000 MAX	-
	TOTAL ESP IN. WG	1.50	0.30
	NO. OF FANS	1	1
	SUPPLY FAN H.P. (EACH FAN)	3	1/2
	COOLING		
	NET TOTAL CAP MBTUH (MIN)	108.8	18.0
	NET SENS. CAP. MBTUH (MIN)	95.4	-
	ROWS	4	-
	ENTERING AIR DB/WB (deg F)	81.2/66.3	75/63
	HEATING		
	EAT / LAT (deg F)	58.8/85.2	70 / 97
	OUTPUT CAP (MBTUH @ 47 deg F/17 deg F)	114.4/70.0	17.5
	AUX. HEATER TYPE	ELECTRIC	ELECTRIC
	HEATER INPUT (KW)	26.3	4.50
	V/PH/HZ	208/3/60	208/1/60
	NUMBER OF HEATING STAGES	2	1
	REHEAT		
	TYPE		
	CAPACITY MBTUH		
	LEAVING AIR DB/WB (DEF F)		
	NO. STAGES		
	UNIT		
	V/PH/HZ	208/3/60	208 / 1 / 60
	BLOWER MOTOR FLA (EACH FAN)	10.6	1
	MCA	100	33
	MOCP	100	35
	FILTER QUANTITY AND SIZE	-	-
	WEIGHT (LBS.)	495	-
	MANUFACTURER	LENNOX	FIRST COMPANY
	MODEL	ELA120S4D-STD	25HXX-6-C
OUTDOOR UNIT	**MARK**	**CU-1**	**CU-2**
	TYPE	HEAT PUMP	HEAT PUMP
	COMP.		
	NO. OF COMP.	1	1
	STAGES	2	1
	V/PH/HZ	208 / 3 / 60	208 / 1 / 60
	RLA / LRA (EA. COMP)	34.6 / 240.0	8.96 / 48
	COND.		
	AMBIENT TEMPERATURE (deg F)	105	105
	NO. OF FANS	2	1
	FAN H.P.	0.5	1/6
	V/PH/HZ	208 / 1 / 60	208 / 1 / 60
	FLA (EACH FAN)	3.0	168 WATTS
	UNIT		
	V/PH/HZ	208 / 3 / 60	208 / 1 / 60
	MCA	50	12.2
	MOCP	80	20
	SEER / EER / IEER	- / 11.0 / 13.6	16.0 / 12.5 / -
	WEIGHT (LBS.)	502	-
	MANUFACTURER	LENNOX	LENNOX
	MODEL	ELP120S4ST	14HPX-018
	NOTES	1, 2, 4, 5	1, 2, 3, 5, 6

NOTES:

1. UNIT EFFICIENCIES ARE AT AHRI CONDITIONS.
2. PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL TO ALLOW UNIT OPERATION DOWN TO 20° F.
3. PROVIDE UNIT WITH 2" THICK MIN. MERV 13 FILTER.
4. PROVIDE UNIT WITH 4" THICK MIN. MERV 13 FILTER.
5. SINGLE POINT ELECTRICAL CONNECTION.
6. PROVIDE WITH FIBER-FREE FOAM INSULATED ENCLOSURE AND MODEL 966-M8 IAQ FILTER GRILLE.

ROOFTOP A/C UNIT SCHEDULE

	MARK	RTU-2	RTU-1, RTU-3, RTU-4, RTU-5, RTU-6, RTU-7, RTU-8, RTU-9, RTU-10, RTU-11, RTU-12
	SPACE SERVED	OFFICES	CLASSROOMS
	TYPE	DOWNFLOW	DOWNFLOW
	TOTAL MAX. / MIN. AIRFLOW (CFM)	1200	1,980
	O.A. MIN. AIRFLOW (CFM)	150	400
COOLING	MIN. TOTAL NET CAP. MBH	31.7	56.1
COOLING	MIN. SENS.NET CAP. MBH	27.1	48.0
COOLING	E.A.T. (DB/WB °F)	78.1 / 64.4	80 / 65.7
COOLING	COIL L.A.T. (DB/WB °F)	55.2 / 54.9	55.3 / 55.1
COOLING	UNIT L.A.T. (DB/WB °F)	56.2 / 55.2	56.5 / 55.5
COOLING	MAX. ROWS / FPI	3 / 14	4 / 16
COOLING	STAGES	2	2
DEHUMIDIFICATION	MIN. TOTAL NET CAP. MBH	35.2	62.2
DEHUMIDIFICATION	MIN. SENS.NET CAP. MBH	26.1	44.0
DEHUMIDIFICATION	E.A.T. (DB/WB °F)	75.8 / 65.2	76.4 / 66.4
DEHUMIDIFICATION	COIL L.A.T. (DB/WB °F)	53.9 / 53.8	54.0 / 54.0
DEHUMIDIFICATION	UNIT L.A.T. (DB/WB °F)	54.9 / 54.2	55.1 / 54.5
DEHUMIDIFICATION	MAX. ROWS / FPI	3 / 14	4 / 16
DEHUMIDIFICATION	STAGES	2	2
COMP.	NO. OF COMPRESSORS	1	1
COMP.	R.L.A. EACH	11.2	17.6
COMP.	V / PH / HZ	208 / 3 / 60	208 / 3 / 60
CONDENSER	NO. OF FANS	1	1
CONDENSER	FAN HP EACH		
CONDENSER	AMB. AIR TEMP. (DB °F)	105	105
CONDENSER	V / PH / HZ	208 / 3 / 60	208 / 3 / 60
CONDENSER	F.L.A.	4.1	4.1
HEATING	E.A.T. (DB °F)	64.4	60.9
HEATING	L.A.T. (DB °F)	104.5	85.2
HEATING	FUEL TYPE	NATURAL GAS	NATURAL GAS
HEATING	INPUT (CFH)	65	65.0
HEATING	OUTPUT (MBH)	52	52.0
HEATING	NO. STAGES	1	1
REHEAT	TYPE	HOT GAS REHEAT	HOT GAS REHEAT
REHEAT	CAPACITY MBH		
REHEAT	L.A.T.(DB / WB °F)	73.9	76.9
REHEAT	NO. STAGES	1	1
EVAP. FAN	DRIVE	DIRECT	DIRECT
EVAP. FAN	E.S.P. (IN. W.C.)	1	1
EVAP. FAN	MOTOR HP	0.5	1
EVAP. FAN	OPERATING BHP	0.48	1.08
EVAP. FAN	V / PH / HZ	208 / 3 / 60	208 / 3 / 60
EVAP. FAN	F.L.A.	4.3	7.4
UNIT DATA - ELEC.	V / PH / HZ	208 / 3 / 60	208 / 3 / 60
UNIT DATA - ELEC.	M.C.A.	23	33
UNIT DATA - ELEC.	M.O.C.P.	30	45
UNIT DATA	REFRIGERANT	R-410A	R-410A
UNIT DATA	MIN. EER / SEER	12.8 / 18.0	12.7 / 17.1
UNIT DATA	FILTER	(4x) 16"x20"x2" MERV13	(4x) 20"x20"x2" MERV 13
UNIT DATA	UNIT WEIGHT (LBS.)	675	795
UNIT DATA	MODEL NO.	LGH036H4E	LGH060H4E
UNIT DATA	MANUFACTURER	LENNOX	LENNOX
UNIT DATA	NOTES	1, 2, 3	1, 2, 3

NOTES:

1. EFFICIENCIES ARE AT A.H.R.I. CONDITIONS.
2. PROVIDE WITH THE FOLLOWING OPTIONS:
   - -24" HIGH ROOF CURB (SLOPED TO MATCH ROOF)
   - -HOT GAS REHEAT OPTION FOR DEHUMIDIFICATION CONTROL
   - -WEATHERPROOF OA INTAKE HOOD WITH OA AND RA MOTORIZED DAMPERS AND ECONOMIZER CONTROL
   - -HAIL GUARDS
   - -HINGED ACCESS PANELS
   - -LOW AMBIENT CONTROL
   - -PROGAMMABLE 7-DAY THERMO/HUMIDITY STAT
   - -FACTORY WIRED CONVENIENCE RECEPTACLE, SEPARATELY FUSED ON LINE SIDE OF UNIT DISCONNECT
   - -INTEGRAL DISCONNECT
   - -SINGLE POINT POWER CONNECTION.
3. PROVIDE WITH 2 SPEED SUPPLY FAN AND 2 STAGE COMPRESSOR

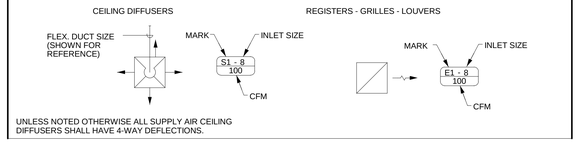
FAN SCHEDULE

MARK	EF-1			
FAN TYPE	CEILING EXH. FAN			
DRIVE TYPE	DIRECT			
SERVICE	RESTROOM EXH.			
MAX. FLOW (CFM)	125			
MIN. FLOW (CFM)	N/A			
EXT. S.P. (IN WG.)	0.25			
FAN RPM	862			
MAX FAN RPM	N/A			
FAN B.H.P.	128 WATTS			
MOTOR H.P.	--			
INLET SOUND POWER, LW (dBA)				
OUTLET SOUND POWER, LW (dBA)				
V / PH / CYC	120 / 1 / 60			
LOCATION	CEILING			
MOTOR CONTROL TYPE	STARTER			
INTERLOCK WITH...	LIGHT SWITCH			
MODEL	SP-B150			
MANUFACTURER	GREENHECK			
NOTES	1, 2, 3			

NOTES:

1. PROVIDE WITH BACKDRAFT DAMPER AS SPECIFIED.
2. PROVIDE WITH DISCONNECT SWITCH AS SPECIFIED.
3. PROVIDE WITH MOTOR-MOUNTED POTENTIOMETER FOR MANUAL SPEED ADJUSTMENT.

AIR DEVICE SCHEDULE



UNLESS NOTED OTHERWISE ALL SUPPLY AIR CEILING DIFFUSERS SHALL HAVE 4-WAY DEFLECTIONS.

AIR DEVICE SCHEDULE

REFER TO SHEET M1.1 FOR DIAGRAM INDICATING AIR DEVICE TAG DESCRIPTION.

NOTE: FOR ALL AIR DEVICES INSTALLED IN GYPSUM CEILINGS, PROVIDE PLASTER FRAME.

MARK	NECK SIZE	FACE SIZE	DESIGN AIRFLOW (HIDE THIS COLUMN)	DESCRIPTION	MODEL	REMARKS
S1A	18" X 18"	24"x24"	0-100	CEILING SUPPLY DIFFUSER	PRICE 'AMD'	MODULAR LOUVERED FACE SUPPLY DIFFUSER; 2-WAY THROW / "2G" CONFIGURATION; ALUMINUM CONSTRUCTION; WHITE FINISH; STYLE 6 FRAME; WITH "VCS3" OPPOSED BLADE DAMPER; PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S1B	18" X 18"	24"x24"	105-210			
S1C	18" X 18"	24"x24"	215-370			
S1D	18" X 18"	24"x24"	375-600			
S1E	18" X 18"	24"x24"	605-900			
S1F	18" X 18"	24"x24"	760-1050			
S2A	6"Φ	12"x12"	0-100	CEILING SUPPLY DIFFUSER	PRICE 'ASCD'	3 CONE SUPPLY DIFFUSER; ALUMINUM CONSTRUCTION; WHITE FINISH; FRAME FOR LAY-IN CEILING; PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S2B	8"Φ	12"x12"	105-210			
S2C	10"Φ	12"x12"	215-370			
S3A	6"Φ	24"x24"	0-100	CEILING SUPPLY DIFFUSER	PRICE 'ASPD'	SQUARE PLAQUE-FACED SUPPLY DIFFUSER; ALUMINUM CONSTRUCTION; WHITE FINISH; FRAME FOR LAY-IN CEILING; PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S3B	8"Φ	24"x24"	105-210			
S3C	10"Φ	24"x24"	215-370			
S3D	12"Φ	24"x24"	375-600			
S3E	14"Φ	24"x24"	605-900			
S3F	16"Φ	24"x24"	760-1050			
S4A	8" x 6"	8" x 6"		SIDEWALL SUPPLY GRILLE	PRICE '620'	DOUBLE DEFLECTION; 3/4" BLADE SPACING; ALUMINUM CONSTRUCTION; BORDER TYPE 'C', WITH CONCEALED MOUNTING
S4B	12" x 6"	12" x 6"				
S4C	12" x 8"	12" x 8"				
S4D	16" x 12"	16" x 12"				
S4E	18" x 12"	18" x 12"				
S4F	24" x 12"	24" x 12"				
S4G	36" x 8"	36" x 8"				
S4H	16" x 8"	16" x 8"				
S5A	6"Φ	13.5"Φ	0-100	ROUND CEILING SUPPLY DIFFUSER	PRICE 'ARCD'	ROUND-FACED FOUR-CONE SUPPLY DIFFUSER; THREE POSITION ADJUSTABLE INNER CONES; ALUMINUM CONSTRUCTION; WHITE FINISH; FRAME FOR GYPSUM CEILING; PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S5B	8"Φ	18"Φ	105-210			
S5C	10"Φ	22.5"Φ	215-370			
S5D	12"Φ	27"Φ	375-600			
S5E	14"Φ	31.5"Φ	605-900			
S5F	16"Φ	36"Φ	760-1050			
S6A	6"Φ	48"L	0-100	CEILING SUPPLY SLOT DIFFUSER	PRICE 'SDS75'	3/4" SLOT WIDTH; 2 SLOTS; PROVIDE WITH INSULATED PLENUM EQUAL TO PRICE MODEL 'SDA' TYPE 14 WITH FIBER FREE FOAM INSULATION; CONCEALED SURFACE MOUNT WITH TYPE 2 BORDER; COLOR AND FINISH TO BE CHOSEN BY ARCHITECT.
S6B	8"Φ	48"L	105-200			
S6C	10"Φ	48"L	205-300			
S6D	12"Φ	48"L	305-400			
S7A	6"Φ	24"x24"	0-100	PERFORATED FACE SUPPLY DIFFUSER	PRICE 'APDDR'	PERFORATED FACE SUPPLY DIFFUSER WITHOUT PATTERN CONTROLLER; ALUMINUM CONSTRUCTION; WHITE FINISH; FRAME FOR LAY-IN CEILING; PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S7B	8"Φ	24"x24"	105-210			
S7C	10"Φ	24"x24"	215-370			
S7D	12"Φ	24"x24"	375-600			
S7E	14"Φ	24"x24"	605-900			
S7F	16"Φ	24"x24"	760-1050			
S8A	6"Φ	24"x24"	0-100	CEILING SUPPLY VAV DIFFUSER	PRICE 'PPD-2'	VAV SUPPLY DIFFUSER WITH REMOTE THERMOSTAT (LOCATION ON PLANS) TO REGULATE FLOW IN COOLING & HEATING MODE. FRAME FOR LAY-IN CEILING. PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S8B	8"Φ	24"x24"	105-210			
S8C	10"Φ	24"x24"	215-370			
S8D	12"Φ	24"x24"	375-600			
S8E	14"Φ	24"x24"	605-900			
S8F	16"Φ	24"x24"	760-1050			
S9A	6"Φ	12"x24"	0-100	CEILING SUPPLY LAMINAR FLOW DIFFUSER	PRICE 'LFD'	VERTICAL LAMINAR FLOW SUPPLY DIFFUSER; ALUMINUM CONSTRUCTION; WHITE FINISH; PROVIDE PLASTER FRAME WITH GASKET. PROVIDE FACTORY INSTALLED, R-6, FOIL-BACKED INSULATION BLANKET.
S9B	8"Φ	12"x24"	105-200			
S9C	10"Φ	24"x48"	205-300			
S9D	12"Φ	24"x48"	305-400			
SX	SEE PLANS	SEE PLANS		EXISTING SUPPLY AIR DEVICE	N/A	EXISTING AIR DEVICE. REBALANCE TO AIRFLOWS SHOWN ON PLANS.
R1A	6"Φ	24"x24"	0-100	CEILING RETURN GRILLE	PRICE '80'	1/2"x 1/2"x1/2" ALUMINUM CORE; FRAME FOR LAY-IN CEILING; PROVIDE ROUND DUCT ADAPTER FOR ALL DEVICES OF THIS TYPE EXCEPT 'R1P.' FOR ALL TYPE 'R1P' DEVICES, PROVIDE PLENUM RETURN GRILLE COVER EQUAL TO PRICE MODEL 'RAC' TO BLOCK LIGHT AND SOUND.
R1B	8"Φ	24"x24"	105-210			
R1C	10"Φ	24"x24"	215-370			
R1D	12"Φ	24"x24"	375-600			
R1E	14"Φ	24"x24"	605-900			
R1F	16"Φ	24"x24"	760-1050			
R1P	N/A	24"x24"				
R2A	6"Φ	12"x24"	0-100	CEILING RETURN GRILLE	PRICE '80'	1/2"x 1/2"x1/2" ALUMINUM CORE; FRAME FOR LAY-IN CEILING; PROVIDE ROUND DUCT ADAPTER FOR ALL DEVICES OF THIS TYPE EXCEPT 'R2P.' FOR ALL TYPE 'R2P' DEVICES, PROVIDE PLENUM RETURN GRILLE COVER EQUAL TO PRICE MODEL 'RAC' TO BLOCK LIGHT AND SOUND.
R2B	8"Φ	12"x24"	105-210			
R2C	10"Φ	12"x24"	105-210			
R2P	N/A	12"x24"				
R3A	8" x 6"	8" x 6"		SIDEWALL RETURN GRILLE	PRICE '635'	45° DEFLECTION; 1/2" BLADE SPACING WITH HORIZONTAL BLADES; ALUMINUM CONSTRUCTION; SURFACE MOUNTING; BORDER TYPE 'C', WITH CONCEALED MOUNTING; WHITE FINISH;
R3B	12" x 6"	12" x 6"				
R3C	12" x 10"	12" x 10"				
R3D	12" x 12"	12" x 12"				
R3E	18" x 12"	18" x 12"				
R3F	24" x 12"	24" x 12"				
R3G	24" x 16"	24" x 16"				
R3H	24" x 24"	24" x 24"				
R3J	30" x 30"	30" x 30"				
R3K	36" x 36"	36" x 36"				
R3L	26" x 10"	26" x 10"				
R3M	36" x 24"	36" x 24"				
R4A	24" x 24"	24" x 24"		SIDEWALL HEAVY DUTY GYM RETURN GRILLE	PRICE '98'	45° DEFLECTION; 1/2" BLADE SPACING; ALUMINUM CONSTRUCTION; SURFACE MOUNTING; BORDER TYPE 'A'; WHITE FINISH;
R4B	36" x 36"	36" x 36"				
R4C	48" x 48"	48" x 48"				
R5A	6"Φ	48"L	0-100	CEILING RETURN SLOT DIFFUSER	PRICE 'SDR75'	3/4" SLOT WIDTH; 2 SLOTS; PROVIDE WITH INSULATED PLENUM EQUAL TO PRICE MODEL 'SDA' TYPE 14 WITH FIBER FREE FOAM INSULATION; CONCEALED SURFACE MOUNT WITH TYPE 2 BORDER; COLOR AND FINISH TO BE CHOSEN BY ARCHITECT.
R5B	8"Φ	48"L	105-200			
R5C	10"Φ	48"L	205-300			
R5D	12"Φ	48"L	305-400			
RX	SEE PLANS	SEE PLANS		EXISTING RETURN AIR DEVICE	N/A	EXISTING AIR DEVICE. REBALANCE TO AIRFLOWS SHOWN ON PLANS.
E1A	6"Φ	24"x24"	0-100	CEILING EXHAUST GRILLE	PRICE '80'	1/2"x 1/2"x1/2" ALUMINUM CORE; FRAME FOR LAY-IN CEILING; PROVIDE ROUND DUCT ADAPTER.
E1B	8"Φ	24"x24"	105-210			
E1C	10"Φ	24"x24"	215-370			
E1D	12"Φ	24"x24"	375-600			
E1E	14"Φ	24"x24"	605-900			
E1F	16"Φ	24"x24"	760-1050			
E2A	6"Φ	12"x24"	0-100	CEILING EXHAUST GRILLE	PRICE '80'	1/2"x 1/2"x1/2" ALUMINUM CORE; FRAME FOR LAY-IN CEILING; PROVIDE ROUND DUCT ADAPTER.
E2B	8"Φ	12"x24"	105-210			
E2C	10"Φ	12"x24"	215-370			
E3A	8" x 6"	8" x 6"	0-100	SIDEWALL EXHAUST GRILLE	PRICE '635'	45° DEFLECTION; 1/2" BLADE SPACING WITH HORIZONTAL BLADES; ALUMINUM CONSTRUCTION; SURFACE MOUNTING; BORDER TYPE 'C', WITH CONCEALED MOUNTING; WHITE FINISH;
E3B	12" x 6"	12" x 6"	50-300			
E3C	12" x 10"	12" x 10"	200-450			
E3D	18" x 12"	18" x 12"	300-600			
E3E	24" x 12"	24" x 12"	400-800			
E3F	24" x 24"	24" x 24"	450-1200			
EX	SEE PLANS	SEE PLANS		EXISTING EXHAUST AIR DEVICE	N/A	EXISTING AIR DEVICE. REBALANCE TO AIRFLOWS SHOWN ON PLANS.

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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

STATE OF TEXAS
TRENT S. TOPHAM
116106
LICENSED
PROFESSIONAL ENGINEER
01/14/2019

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708
Revisions:

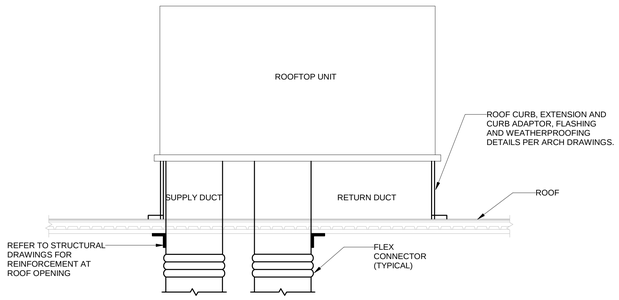
NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

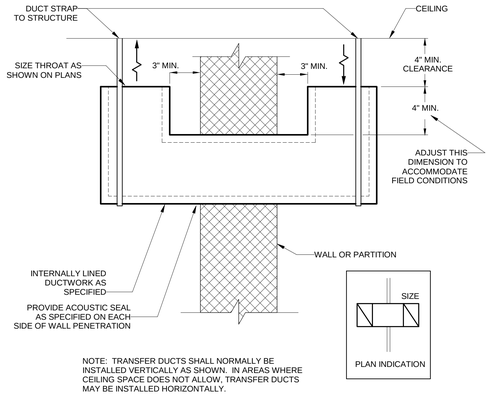
MECHANICAL SCHEDULES

AISD PROJ. 190027-PECSP

M8.1

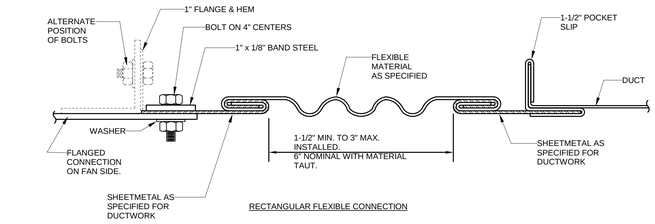


11 ROOFTOP UNIT DETAIL
NOT TO SCALE

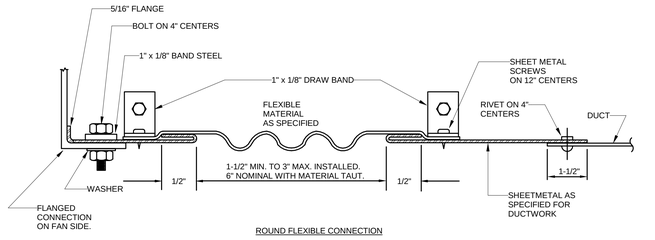


NOTE: TRANSFER DUCTS SHALL NORMALLY BE INSTALLED VERTICALLY AS SHOWN. IN AREAS WHERE CEILING SPACE DOES NOT ALLOW, TRANSFER DUCTS MAY BE INSTALLED HORIZONTALLY.

10 RETURN AIR TRANSFER DUCT DETAIL
SCALE: 12" = 1'-0"

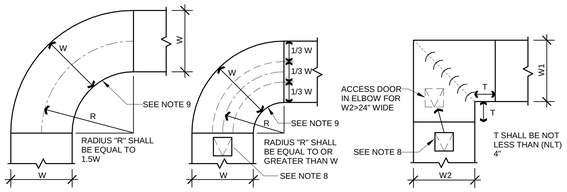


RECTANGULAR FLEXIBLE CONNECTION



ROUND FLEXIBLE CONNECTION

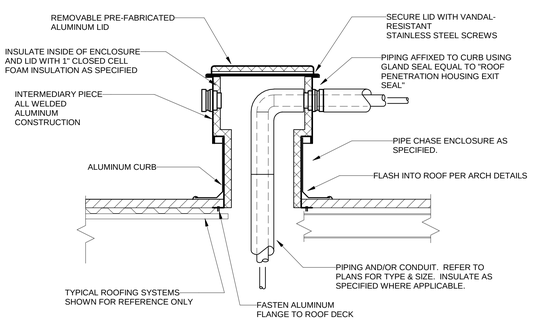
9 TYPICAL FLEXIBLE CONNECTOR
SCALE: 12" = 1'-0"



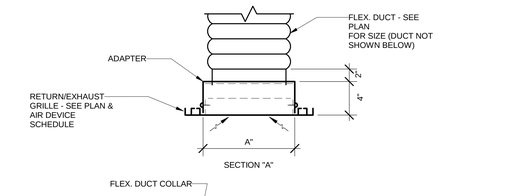
NOTES

1. AS SPACE ALLOWS, THE PREFERENCE FOR ELBOWS SHALL BE STANDARD RADIUS, THEN SHORT RADIUS, THEN MITERED.
2. STANDARD RADIUS ELBOWS SHALLNOT HAVE SPLITTER VANES. ALL ELBOWS WHERE R< 1.5W SHALL BE CONSTRUCTED WITH SPLITTER OR TURNING VANES. ALL VANES TO BE SUPPORTED AND FASTENED AS SPECIFIED PER SMACNA.
3. SHORT RADIUS ELBOWS SHALL HAVE A MINIMUM TWO SPLITTER VANES FOR W ≥ 18" AND ONE SPLITTER VANE FOR W < 18". ALL VANES SPACED EVENLY.
4. MITERED ELBOWS SHALL HAVE SINGLE THICKNESS TURNING VANES UP TO 36". DOUBLE THICKNESS VANES SHALL BE USED WHEN VANE LENGTH IS GREATER THAN 36".
5. MITERED ELBOWS SHALL HAVE A THROAT (T) NLT 4".
6. ALL TURNING VANES SHALL HAVE A 2" RADIUS, 1-1/2" MAXIMUM SPACE BETWEEN VANES.
7. WHEN W-1 DOES NOT EQUAL W-2, VANE SHALL BE CONSTRUCTED WITH VANE RUNNERS AND INSTALLED WITH RUNNERS TANGENT TO THE AIR STREAM.
8. PROVIDE SQUARE ACCESS DOOR UPSTREAM OF ALL SPLITTER/TURNING VANES TO FACILITATE CLEANING. MIN. SIZE SHALL BE (W-2") UP TO 24"x24" MAX.
9. SQUARE THROATS NOT PERMITTED ON RADIUS ELBOWS.
10. TURNING VANES AND SPLITTER VANES ARENOT ALLOWED ON THE FOLLOWING DUCT SYSTEMS: RETURN AIR, EXHAUST AIR, UNFILTERED OUTSIDE AIR.

8 TYP. DUCT CONSTRUCTION - RADIUS AND MITERED ELBOWS
SCALE: 12" = 1'-0"

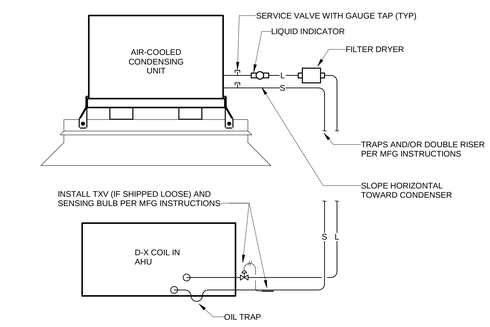


7 THREE-PIECE INSULATED PIPE CURB DETAIL
SCALE: 12" = 1'-0"



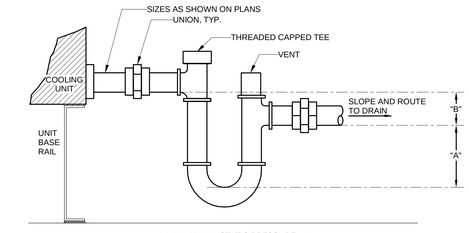
NOTE:
INSULATE OR WRAP BOX PER SPECIFICATIONS.

6 RETURN-EXHAUST GRILLE DUCT ADAPTER
SCALE: 12" = 1'-0"



NOTES:
1. ALL LINES TO BE SIZED AS RECOMMENDED BY EQUIPMENT MFG.
2. MAINTAIN ALL UNIT CLEARANCES PER INSTALLATION INSTRUCTIONS.
3. PIPING SHALL NOT INTERFERE WITH MAINTENANCE PANELS.
4. SECURE PIPING AND INSULATE PER SPECIFICATION.

REFRIGERANT PIPING DETAIL CONDENSER ABOVE EVAPORATOR
SCALE: 12" = 1'-0"

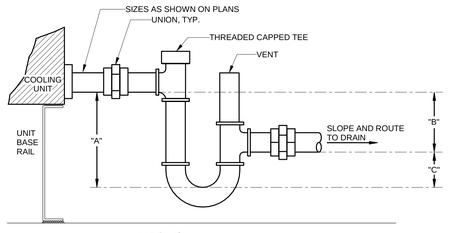


'A' = MAXIMUM STATIC PRESSURE +1"
'B' = 1" MINIMUM

NOTES:

1. DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON THE UNIT DRAIN PAN CONNECTION.
2. FITTINGS MAY BE ROTATED AS REQUIRED TO ALLOW FOR CLEARANCE WITH OTHER ADJACENT EQUIPMENT AS LONG AS THE VERTICAL AXIS REMAINS PLUMB. (ADDITIONAL FITTINGS, I.E., ELLS MAY BE REQUIRED OTHER THAN SHOWN HERE).

POSITIVE PRESSURE CONDENSATE DRAIN PIPING
SCALE: 12" = 1'-0"

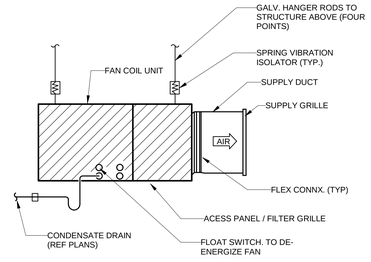


'A' = 'B' + 'C'
'B' = MAXIMUM TOTAL LESS EXTERNAL STATIC PRESSURE +1"
'C' = (1/2)B

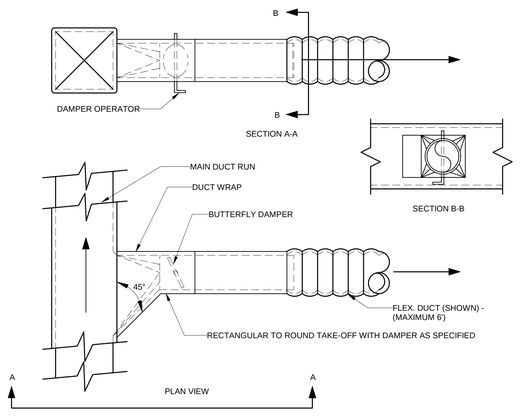
NOTES:

1. DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON THE UNIT DRAIN PAN CONNECTION.
2. FITTINGS MAY BE ROTATED AS REQUIRED TO ALLOW FOR CLEARANCE WITH OTHER ADJACENT EQUIPMENT AS LONG AS THE VERTICAL AXIS REMAINS PLUMB. (ADDITIONAL FITTINGS, I.E., ELLS MAY BE REQUIRED OTHER THAN SHOWN HERE).

NEGATIVE PRESSURE CONDENSATE DRAIN PIPING
SCALE: 12" = 1'-0"



FAN COIL UNIT MOUNTING DETAIL
SCALE: 12" = 1'-0"



1 AIR DEVICE TAKE OFF - RECTANGULAR TO ROUND
NOT TO SCALE

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STATE OF TEXAS
TRENT S. TOPHAM
116106
LICENSED
PROFESSIONAL ENGINEER
12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708
Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

MECHANICAL DETAILS

M9.1

AISD PROJ. 190027-PECSP

LIGHTING

MOUNT ALL SWITCHES & OCCUPANCY SENSORS AT 48" A.F.F. U.N.O.

A1 a	CEILING LIGHT FIXTURE. LOWER CASE SUBSCRIPT INDICATES SWITCH SERVING FIXTURE OR SUBSCRIPT 'NL' INDICATES NON-SWITCHED NIGHT LIGHT.
	CEILING-MOUNTED FIXTURE (ARROW INDICATES WALL WASHER OR SPOT AIMING DIRECTION),
	INDUSTRIAL STRIP FIXTURE
	ENCLOSED LINEAR LIGHT
	WALL-MOUNTED FIXTURE
	BATTERY POWERED EMERGENCY LIGHT
	EXIT LIGHT FIXTURES (CEILING, WALL). SHADING INDICATES ILLUMINATED FACE(S). ARROWS INDICATE CHEVRONS.
	SIDE-MOUNTED SITE LIGHTING FIXTURE AND POLE
	TOP-MOUNTED SITE LIGHTING FIXTURE AND POLE
	LIGHTED BOLLARD
CKT #1	DENOTES CIRCUIT NO. FOR ALL LIGHTS IN ROOM/AREA
$	SINGLE-POLE SWITCH, LINE-VOLTAGE
$3	THREE-WAY SWITCH
$4	FOUR-WAY SWITCH
$D	DIMMER SWITCH
$O	OCCUPANCY SENSOR SWITCH
$P	SWITCH WITH PILOT LIGHT (WHEN ON)
$V	VACANCY/MANUAL-ON SWITCH
S	LOW-VOLTAGE SWITCH. SUBSCRIPT, IF USED, INDICATES NUMBER OF ZONES OR SUBSCRIPT 'D' INDICATES DIMMER SWITCH.
	OCCUPANCY SENSOR (WALL, CEILING)
	VACANCY/ MANUAL-ON SENSOR (WALL, CEILING).
DS	DAY/ AMBIENT LIGHT SENSOR
LR	LOW VOLTAGE LIGHTING RELAY
PC	LIGHT CONTROL PHOTO CELL
TC1	TIME CLOCK, NUMBER INDICATES NAMING CONVENTION
LC1	LIGHTING CONTACTOR, NUMBER INDICATES NAMING CONVENTION

POWER

MOUNT ALL RECEPTACLES AT 16" A.F.F. U.N.O.

	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
	FOURPLEX (QUADPLEX) RECEPTACLE
	CEILING DUPLEX RECEPTACLE
L-20R	POWER RECEPTACLE W/NEMA CONFIGURATION AS INDICATED
	DUPLEX RECEPTACLE WITH INTEGRAL "GFCI" PROTECTION
	SPLIT-WIRED RECEPTACLE
EDF	GFCI RECEPTACLE FOR ELECTRIC DRINKING FOUNTAIN. MOUNT PER MANUFACTURER'S INSTRUCTIONS.
IG	ISOLATED GROUND DUPLEX RECEPTACLE
-	MINUS SIGN INDICATES SPECIAL MOUNTING. CENTER RECEPTACLE IN KNEE SPACE AT 24" A.F.F.
+	PLUS SIGN INDICATES SPECIAL MOUNTING HEIGHT. UNLESS SHOWN OTHERWISE ON ARCHITECTURAL ELEVATIONS, OR U.N.O., INSTALL HORIZONTALLY WITH BOTTOM OF PLATE 2" ABOVE BACKSPLASH OR 6" ABOVE COUNTER TOP IF NO BACKSPLASH.
	CORD DROP ASSEMBLY
PP	POWER POLE. RECEPTACLE TYPES NOTED ON PLAN.
	FLOOR BOX. SIZE & RECEPTACLE TYPES NOTED ON PLAN.
A	ACCESS FLOOR BOX
	MULTI-OUTLET ASSEMBLY. SIZE, RECEPTACLE TYPES & MTG. HT. NOTED ON PLAN.
	JUNCTION BOXES (CEILING/WALL/FLOOR)
DDC	EQUIPMENT OR MOTOR CONNECTION. FURNISH AND INSTALL ALL MATERIALS REQUIRED TO CONNECT PER MANUFACTURER'S REQUIREMENTS (INCLUDES FLEX CONNECTION, DISCONNECT SWITCH, RELAY, OR RECEPTACLE, IF REQUIRED). SUFFIX DENOTES TYPE OF EQUIPMENT: DDC = DIRECT DIGITAL CONTROLS, SEC = SECURITY CONTROLS, ETC.
5	MOTOR (HORSEPOWER NOTED)
	PUSH BUTTON
$M	MOTOR-RATED SWITCH
CB CB	ENCLOSED CIRCUIT BREAKER (SURFACE/FLUSH)
3/30/1	DISCONNECT SWITCH (3 POLE/ 30 AMP / NEMA 1)
3/30/20/1	FUSED DISCONNECT SWITCH (3 POLE/ 30 AMP / 20 AMP FUSES/ NEMA 1)
3/30/2/1	COMBINATION STARTER - (3 POLE/ 30 AMP/ SIZED 2/ NEMA 1)
3	MOTOR STARTER (NEMA SIZE NOTED)
	VARIABLE SPEED DRIVE (HANDLE INDICATES INTERNAL DISCONNECT FURNISHED)
'N1H'	PANELBOARD W/DESIGNATION (FLUSH-MOUNTED, SURFACE-MOUNTED)
E11	EQUIPMENT NUMBER

SITE ELECTRICAL

NOT ALL SYMBOLS WILL APPEAR ON THE DRAWINGS

OHP	OVERHEAD ELECTRICAL PRIMARY
OHS	OVERHEAD ELECTRICAL SECONDARY
OHT	OVERHEAD TELEPHONE
OHE	OVERHEAD ELECTRICAL - GENERAL
UGP	UNDERGROUND ELECTRICAL PRIMARY
UGS	UNDERGROUND ELECTRICAL SECONDARY
UGT	UNDERGROUND TELEPHONE
UGE	UNDERGROUND ELECTRICAL - GENERAL
UP	UTILITY POLE

CIRCUITING

NOT ALL SYMBOLS WILL APPEAR ON THE DRAWINGS

	CIRCUIT CONCEALED IN CEILING OR WALL
	SWITCHED LIGHTING
	CIRCUIT UNDER SLAB OR UNDER GROUND
	CIRCUIT HOMERUN
J	J-HOOK PATHWAY FOR CABLING WITH J-HOOKS AT 4' O.C. MAXIMUM
CT	APPROXIMATE CABLE TRAY ROUTING - COORDINATE ACTUAL LOCATIONS WITH OBSTRUCTIONS

GENERAL ABBREVIATIONS

OTHER ABBREVIATIONS MAY BE USED. NOTIFY ENGINEER IF CLARIFICATIONS ARE REQUIRED.

ABV	ABOVE	GEC	GROUNDING ELECTRODE CONDUCTOR
AFF	ABOVE FINISH FLOOR	GFI	GROUND FAULT CIRCUIT INTERRUPTER
AFG	ABOVE FINAL GRADE	IG	ISOLATED GROUND
AHJ	AUTHORITY HAVING JURISDICTION	MTG. HT.	MOUNTING HEIGHT
AL	ALUMINUM	N	GROUNDED CIRCUIT CONDUCTOR (NEUTRAL)
ATS	AUTOMATIC TRANSFER SWITCH	N1,N3R,N...	NEMA 1, NEMA 3R, NEMA RATING (AS NOTED)
BLW	BELOW	NL	NIGHT LIGHT
C	CONDUIT	NTS	NOT TO SCALE
CB	CIRCUIT BREAKER	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
CKT	CIRCUIT	OFOI	OWNER FURNISHED, OWNER INSTALLED
CLG	CEILING	PB	PULL BOX
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	PH,W	PHASE, WIRE
CT	CURRENT TRANSFORMER	RCPT	RECEPTACLE
CU	COPPER	SC	SPLIT CIRCUIT
(E)	EXISTING	SDE	SERVICE DISTRIBUTION ENCLOSURE
EC	EMPTY CONDUIT	SPD	SURGE PROTECTIVE DEVICE
EDF	ELECTRIC DRINKING FOUNTAIN	ST	SHUNT TRIP
EM	EMERGENCY	TR	TAMPER RESISTANT
EOMH	ELECTRICAL OPERATED, MECHANICALLY HELD	U.N.O.	UNLESS NOTED OTHERWISE
ER	EXISTING RELOCATED	UG	UNDERGROUND
EXR	EXISTING TO REMAIN	VFD	VARIABLE FREQUENCY DRIVE
F/A	FIRE ALARM	WR	WEATHER-RESISTANT
G	GROUND	XFMR	TRANSFORMER

ELECTRICAL GENERAL REQUIREMENTS & RESTRICTIONS

1. NO WIRING SHALL BE INSTALLED IN STAIRWELLS, EXIT PASSAGEWAYS, HOISTWAYS OR ELEVATOR MACHINE ROOMS EXCEPT THAT EXCLUSIVELY USED TO SERVE THOSE AREAS.
2. ALL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRE-STOPPED USING METHODS & MATERIALS COMPLYING WITH THE SPECIFICATIONS FOR THIS PROJECT.
3. LIGHT SWITCHES AND RECEPTACLES FROM EMERGENCY POWER SYSTEMS AND NORMAL POWER SYSTEMS SHALL NOT BE COMBINED IN THE SAME BOXES OR RACEWAY SYSTEMS.
4. ALL CIRCUITS TO ROOF MOUNTED EQUIPMENT SHALL BE INSTALLED ABOVE CEILING THEN UP THROUGH ROOF CURBS UNLESS NOTED OTHERWISE. NO CONDUITS SHALL BE RUN ON, ACROSS OR ABOVE ROOF, EXCEPTING FINAL CONNECTIONS TO EQUIPMENT NOT EXCEEDING 3 FEET MAXIMUM IN LENGTH.
5. WHERE POSSIBLE AVOID BACK-TO-BACK INSTALLATION OF OUTLETS. DO NOT USE THROUGH THE WALL BOXES WHERE BACK-TO-BACK CONDITIONS CANNOT BE AVOIDED.

ELECTRICAL CIRCUITING

1. UNLESS OTHERWISE INDICATED, ALL BRANCH CIRCUIT WIRING SHALL BE A MINIMUM OF 3/4" CONDUIT CONTAINING 2#12 CONDUCTORS AND 1#12 GROUNDING CONDUCTOR.
2. WHERE HOME RUN LENGTH ON 20A SINGLE PHASE CIRCUITS EXCEEDS 75' ON 120 VOLT CIRCUITS OR 150' ON 277 VOLT CIRCUITS, THE CONDUCTOR SIZES IN HOME RUNS SHALL BE INCREASED TO #10 MINIMUM FROM SERVING PANEL TO FIRST OUTLET.
3. 20A SINGLE PHASE CIRCUITS MAY BE COMBINED IN COMMON RACEWAYS AS ALLOWED BY THE NEC. COMMON NEUTRAL CONDUCTORS SHALL NOT BE USED.
4. NEC CODE SIZED EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED IN ALL BRANCH CIRCUITS & FEEDERS.
5. DEDICATED HOME RUNS SHALL BE PROVIDED FROM OUTLET TO PANEL WHERE SINGLE OUTLET CIRCUITS ARE SHOWN. DO NOT COMBINE WITH WIRING FOR OTHER OUTLETS.
6. SEE INDIVIDUAL FLOOR PLANS FOR SERVING PANELBOARD INFORMATION. CIRCUIT ALL OUTLETS WITH SAME NUMBERS ON SAME CIRCUIT.
7. LIGHT SWITCHES SHOWN IN A ROOM CONTROL ALL LIGHTS IN THAT ROOM, UNLESS NOTED OTHERWISE. SWITCHLEGS FOR LIGHTING OR OTHER NON-LIGHTING EQUIPMENT ARE SHOWN ONLY WHERE REQUIRED TO INDICATE THE INTENDED CONTROL. SWITCHING MAY ALSO BE INDICATED BY THE USE OF LOWER CASE LETTERS ADJACENT TO CORRESPONDING SWITCHES & FIXTURES.

COORDINATION WITH OTHER WORK

1. WHERE HEIGHTS OF ELECTRICAL OUTLETS ARE SHOWN ON DRAWINGS, THEY ARE GIVEN AS AN AID TO THE CONTRACTOR IN BIDDING & TO INDICATE GENERAL POSITION. COORDINATE FINAL EXACT LOCATION OF ALL DEVICES AND EQUIPMENT WITH ARCHITECTURAL & MECHANICAL PLANS, ELEVATIONS & CONSTRUCTION DETAILS.
2. WHEN OUTLET LOCATIONS ARE SPECIFICALLY INDICATED ON ARCHITECTURAL ELEVATIONS, THE OUTLETS SHALL BE INSTALLED AT THE LOCATION SHOWN.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR COORDINATION OF CEILING SYSTEMS AND MECHANICAL- ELECTRICAL SYSTEM COMPONENTS.
4. REVISE AND COORDINATE LOCATION OF ALL LIGHTING FIXTURES IN MECHANICAL ROOMS WITH PIPING, DUCTWORK AND EQUIPMENT BEFORE ROUGH IN. FIXTURES SHALL BE MOUNTED AS NOTED AND SPECIFIED. GENERALLY, ALL SUSPENDED FIXTURES SHALL BE MOUNTED 8' A.F.F. U.N.O. ARRANGE FIXTURES TO OBTAIN BEST USABLE LIGHTING COVERAGE.
5. COORDINATE EXACT PLACEMENT OF ALL MOTOR CONTROLLERS AND DISCONNECTS WITH THE SPACE AVAILABLE AND WITH THE TRADE PROVIDING THE EQUIPMENT SERVED.

MISCELLANEOUS REQUIREMENTS

1. EACH LAY-IN GRID MOUNTED LIGHTING FIXTURE SHALL BE FED FROM JUNCTION BOXES MOUNTED TO THE STRUCTURE (EXCEPT AS NOTED) USING A MAXIMUM OF 6' OF 3/8" FLEXIBLE METALLIC CONDUIT, SUCH THAT ANY FIXTURE MAY BE RELOCATED INTO ANY ADJACENT CEILING TILE SPACE. FLEX OR CABLE SHALL NOT BE RUN DIRECTLY FROM FIXTURE TO FIXTURE.
2. AT EACH FLUSH MOUNTED BRANCH CIRCUIT PANELBOARD, PROVIDE A MINIMUM OF THREE 1" EMPTY CONDUITS TO ABOVE CEILING OR OTHER ACCESSIBLE SPACE FOR FUTURE USE.

INFORMATION TECHNOLOGY REQUIREMENTS

1. FOR EACH DATA / COMM OUTLET, UNLESS OTHERWISE NOTED, PROVIDE 4-11/16" x 4-11/16" x 2-1/8" DEEP OUTLET BOX WITH SINGLE GANG RING. PROVIDE CONDUIT RUN FROM OUTLET PER NOTE BELOW.
2. WHERE COMPLETE RACEWAY SYSTEMS ARE NOT SPECIFIED OR OTHERWISE REQUIRED, RUN CONDUIT FROM OUTLET TO ACCESSIBLE SPACE AS FOLLOWS. UNLESS OTHERWISE NOTED, RUN 1" CONDUIT TO ABOVE CEILING FOR ROOMS WITH LAY-IN CEILINGS OR RUN CONDUIT ACROSS CEILING AND INTO NEAREST CORRIDOR WITH ACCESSIBLE CEILING FOR ROOMS WITH NON-ACCESSIBLE CEILINGS. ALL CONDUIT STUBBED INTO ACCESSIBLE CEILINGS SHALL BE TERMINATED WITH A PLASTIC BUSHING.
3. UNLESS NOTED OTHERWISE, ALL CABLES WHERE ALLOWED BY THE CONTRACT DOCUMENTS SHALL BE SUPPORTED ON A COMPLETE SYSTEM OF CATEGORY 6 COMPLIANT J-HOOKS (OR IN CABLE RAY WHERE SHOWN) SPACED AT 4'-0" ON CENTER MAXIMUM OR PER CABLE SUPPLIER RECOMMENDATIONS. ROUTE CABLE AND J-HOOK SYSTEMS PARALLEL TO BUILDING STRUCTURE. DIFFERENT SYSTEMS MAY USE COMMON J-HOOKS WHERE CAPACITY ALLOWS, BUT EACH SYSTEM SHALL BE SEPARATELY BUNDLED FROM OTHER SYSTEMS UTILIZING VELCRO TIE WRAPS IN A NEAT AND WORKMANLIKE MANNER. WHERE CABLES MUST PENETRATE FIRE RATED WALLS, PROVIDE FIRE STOPPED CONDUIT SLEEVES.

FIRE ALARM REQUIREMENTS

1. SEE MECHANICAL CONTROL LAYOUT/SEQUENCE FOR LOCATIONS AND QUANTITIES.
2. WHERE A FIRE ALARM SYSTEM IS NOT PRESENT, THE DUCT DETECTOR SHALL BE INTEGRAL WITH THE MECHANICAL UNIT SERVED.
3. FIRE SMOKE DAMPERS SHALL BE PROVIDED WITH A DUCT SMOKE DETECTOR AND FIRE ALARM RELAY.
4. DUCT-MOUNTED SMOKE DETECTORS SHALL BE MOUNTED BY DIVISION 23, WIRED & PROGRAMMED BY DIVISION 28. CONNECT TO BUILDING FIRE ALARM CONTROL PANEL (FACP). PROGRAM TO INITIATE A SUPERVISORY SIGNAL AT THE FACP UPON DETECTION OF SMOKE AND TO SHUT DOWN AIR HANDLER. PROVIDE EXPANSION MODULES AS NECESSARY.

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12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708

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ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS

E1.1

1 ELECTRICAL SITE LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET E1.1 FOR GENERAL ELECTRICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. EXISTING ELECTRICAL WORK & LOCATION/S ARE TAKEN FROM AVAILABLE RECORD DOCUMENTS & SITE OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. EXISTING FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE RE-USED U.N.O. PROTECT CONDUCTORS DURING CONSTRUCTION. PERFORM INSULATION RESISTANCE TESTS ON EXISTING CONDUCTORS AND REPORT ANY DEFICIENCIES TO ARCHITECT/ENGINEER.

KEYNOTE LEGEND

903 PROVIDE NEW SITE POLE LIGHT TO ILLUMINATE PARKING LOT. PROPOSED CONDUIT ROUTING SHOWN. COORD. UNDERGROUND CONDUIT ROUTING WITH EXISTING ELECTRICAL SERVICE, AND UNDERGROUND PIPING. CONTRACTOR TO REPAIR ANY PAVING DAMAGED DURING SITE WORK. COORD. POLE LOCATION WITH EXISTING FENCING AND OVERHEAD ELECTRICAL LINES. CIRCUIT TO EXISTING EXTERIOR LIGHT CIRCUIT (A-35) AT PANEL A IN ELEC RM 406B AND CONFIRM CONTROL WITH EXISTING TIME CLOCK/PHOTO CELL.

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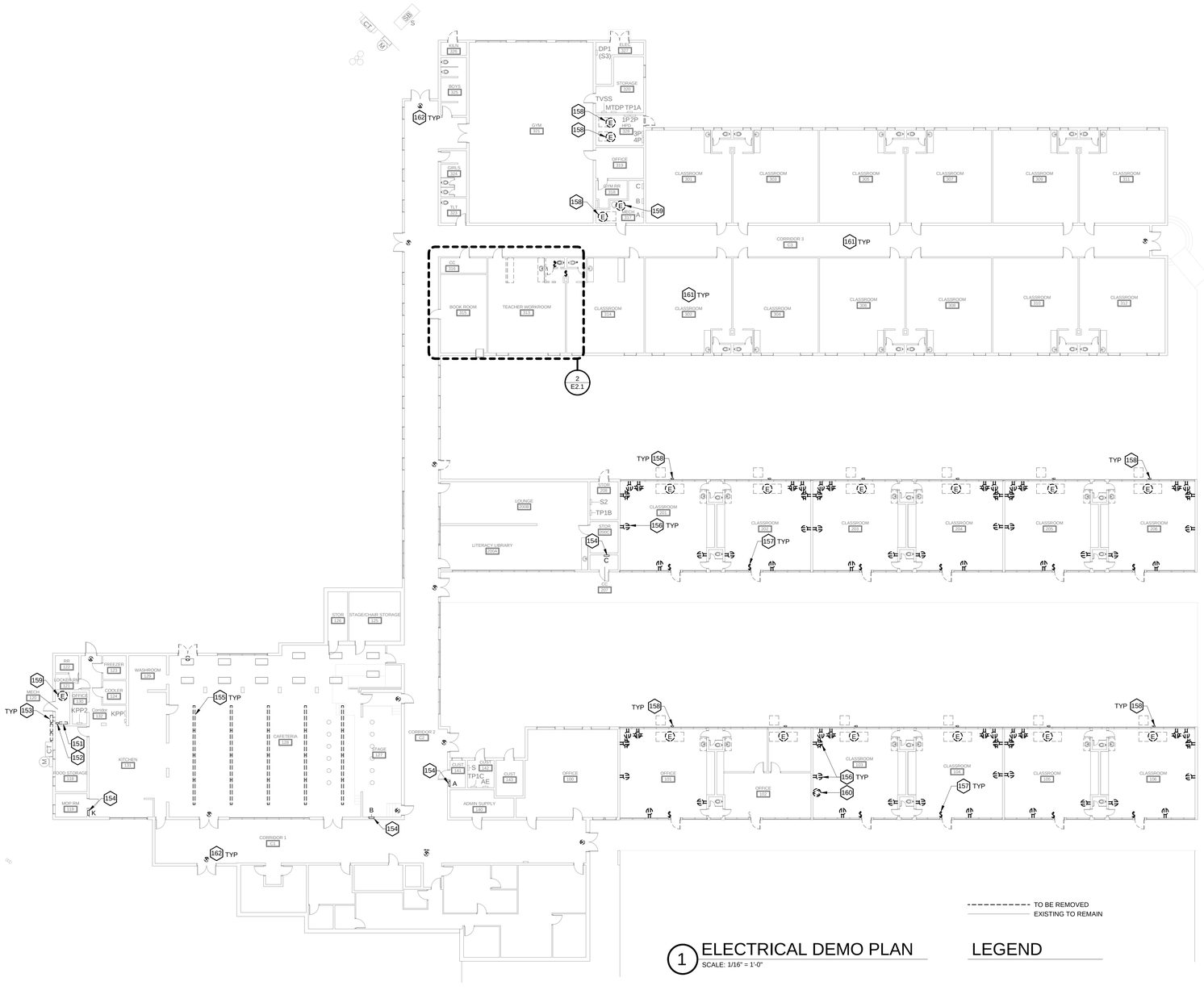
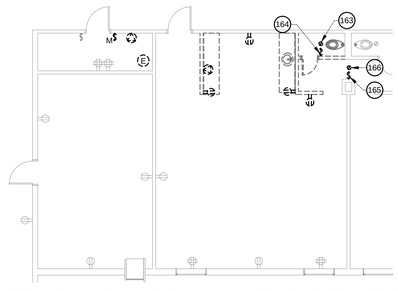
ELECTRICAL SITE PLAN
E1.2



TO BE REMOVED
EXISTING TO REMAIN

1 ELECTRICAL DEMO PLAN
SCALE: 1/16" = 1'-0"

LEGEND



2 ELECTRICAL DEMO PLAN - TEACHER WRKRM
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET E1.1 FOR GENERAL ELECTRICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. EXISTING ELECTRICAL WORK & LOCATION'S ARE TAKEN FROM AVAILABLE RECORD DOCUMENTS & SITE OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. EXISTING FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE RE-USED U.N.O. PROTECT CONDUCTORS DURING CONSTRUCTION. PERFORM INSULATION RESISTANCE TESTS ON EXISTING CONDUCTORS AND REPORT ANY DEFICIENCIES TO ARCHITECT/ENGINEER.

KEYNOTE LEGEND

151 EXISTING ELECTRICAL PANEL TO BE REMOVED. TRANSFER EXISTING LOADS TO NEW ELECTRICAL DISTRIBUTION PANEL DP1A PER ONE-LINE.

152 EXISTING ELECTRICAL ENCLOSED CIRCUIT BREAKER TO BE REMOVED. TRANSFER EXISTING LOAD TO NEW ELECTRICAL DISTRIBUTION PANEL DP1A PER ONE-LINE.

153 EXISTING SERVICE ENTRANCE DISCONNECT SWITCHES TO BE REPLACED.

154 EXISTING ELECTRICAL PANEL TO BE REMOVED OR REPURPOSED AS JUNCTION BOX AS FEASIBLE. TRANSFER EXISTING LOADS TO NEW PANEL.

155 LINEAR LIGHTS IN CAFETERIA CEILING TO BE REMOVED. REUSE EXISTING LIGHTING CIRCUIT(S) AND LIGHTING CONTROLS FOR NEW FIXTURES.

156 RECEPTACLES IN CLASSROOMS OF 100/200 WING TO BE REPLACED WITH NEW TAMPER RESISTANT RECEPTACLES. EXISTING BOX AND BRANCH CIRCUIT TO REMAIN.

157 LIGHTING SWITCHES IN CLASSROOMS OF 100/200 WING TO BE REPLACED WITH NEW SWITCHES.

158 DEMO EXISTING DISCONNECT AND RELATED CIRCUITRY FOR HVAC EQUIPMENT BACK TO PANEL.

159 DEMO EXISTING CONNECTION TO WATER HEATER. UTILIZE SAME CIRCUIT FOR NEW CONNECTION TO NEW WATER HEATER. REF: EQUIPMENT CONNECTIONS SCHEDULE ON SHEET E7.1

160 EXISTING 208V RECEPTACLE TO BE REMOVED.

161 PROTECT EXISTING LIGHT FIXTURES AND CEILING DEVICES (FIRE ALARM/SPEAKERS ETC.) DURING RENOVATION OF CORRIDORS AND CLASSROOMS (RE: ARCH) AND PROVIDE EXTRA SUPPORT AS NECESSARY.

162 ALL EXISTING EXIT SIGNS TO BE REMOVED AND REPLACED ONE-FOR-ONE.

163 REMOVE AND PROTECT RR LIGHT DURING RENOVATION. REINSTALL AT NEW CEILING.

164 DEMO EXISTING LIGHT SWITCH.

165 EXISTING LIGHT SWITCH TO BE REMOVED AND RELOCATED.

166 EXISTING LIGHT TO BE REMOVED AND RELOCATED.

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ELECTRICAL DEMOLITION PLAN

E2.1

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GENERAL NOTES

1. REFER TO SHEET E1.1 FOR GENERAL ELECTRICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. THIS SHEET GENERALLY DEPICTS EQUIPMENT AND DEVICES FOR FLOOR LEVEL TO APPROXIMATELY 48" AFF. SEE LIGHTING/CEILING SHEETS FOR ADDITIONAL DEVICES MOUNTED ABOVE THIS LEVEL.
3. EXISTING FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE RE-USED U.N.O. PROTECT CONDUCTORS DURING CONSTRUCTION. PERFORM INSULATION RESISTANCE TESTS ON EXISTING CONDUCTORS AND REPORT ANY DEFICIENCIES TO ARCHITECT/ENGINEER.

KEYNOTE LEGEND

900 PROVIDE NEW DISTRIBUTION PANEL TO REPLACE OBSOLETE FUSED SWITCHBOARD.

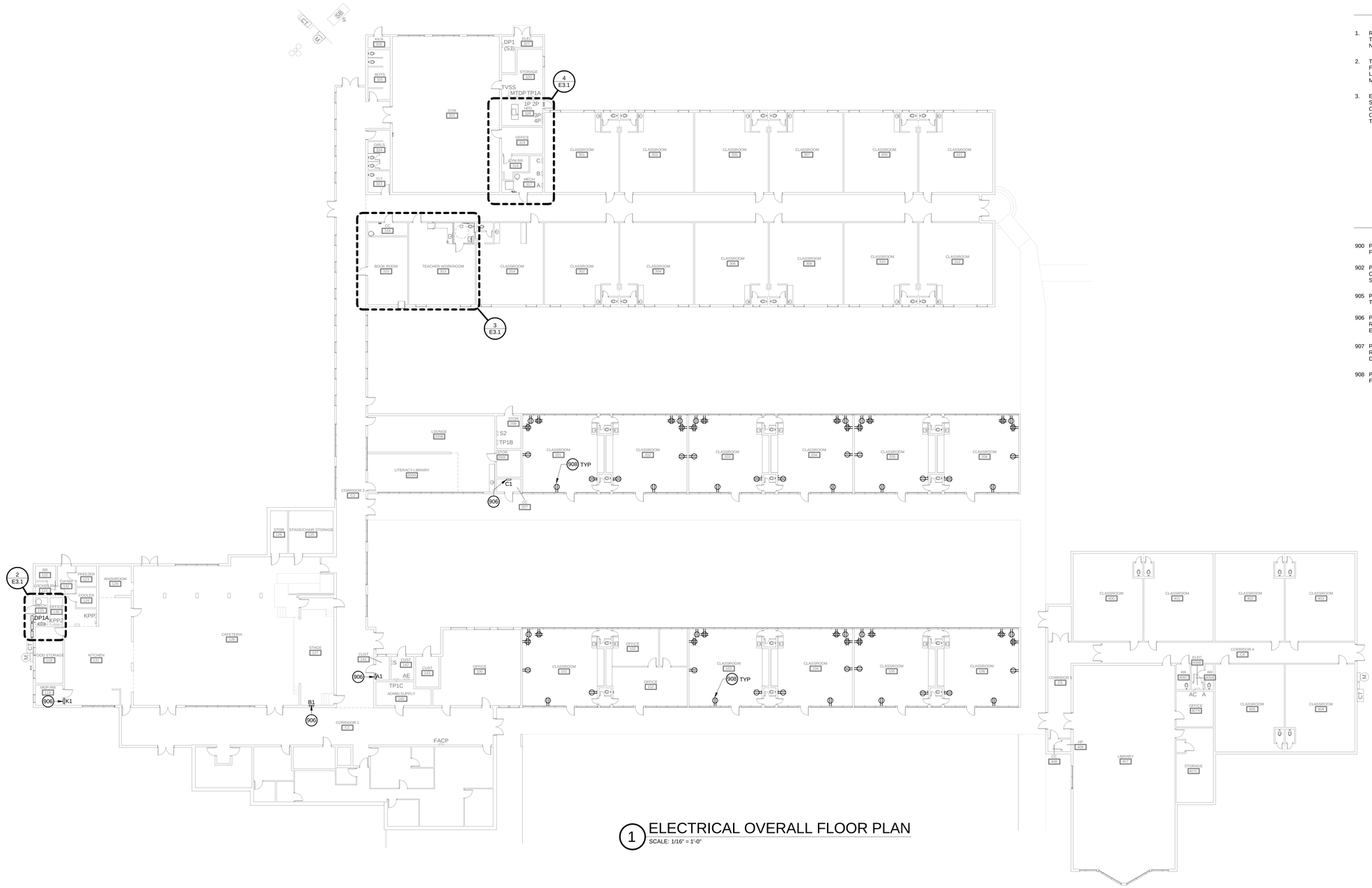
902 PROVIDE ELECTRICAL CONNECTIONS AND RELATED CIRCUITRY TO NEW MECHANICAL EQUIPMENT. RE: MECH SHEETS.

905 PROVIDE ELECTRICAL CONNECTION AND RELATED CIRCUITRY TO NEW WATER HEATER(S). REF: PLUMBING SHEETS.

906 PROVIDE NEW PANEL TO REPLACE OBSOLETE PANEL TO BE REMOVED OR REPURPOSED AS JUNCTION BOX. RECONNECT EXISTING BRANCH CIRCUITS TO REPLACEMENT PANEL.

907 PROVIDE NEW SERVICE ENTRANCE RATED DISCONNECT TO REPLACE OLD EXISTING DISCONNECT. REFER TO ONE-LINE DIAGRAM FOR SIZING.

908 PROVIDE NEW TAMPER RESISTANT RECEPTACLES AND FACEPLATES.



1 ELECTRICAL OVERALL FLOOR PLAN
SCALE: 1/16" = 1'-0"

2 ELECTRICAL ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"

3 ELECTRICAL FLOOR PLAN - TEACHER WRKRM
SCALE: 1/8" = 1'-0"

4 ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

TRUE NORTH PLAN NORTH

NORTH

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ELECTRICAL FLOOR PLAN

E3.1

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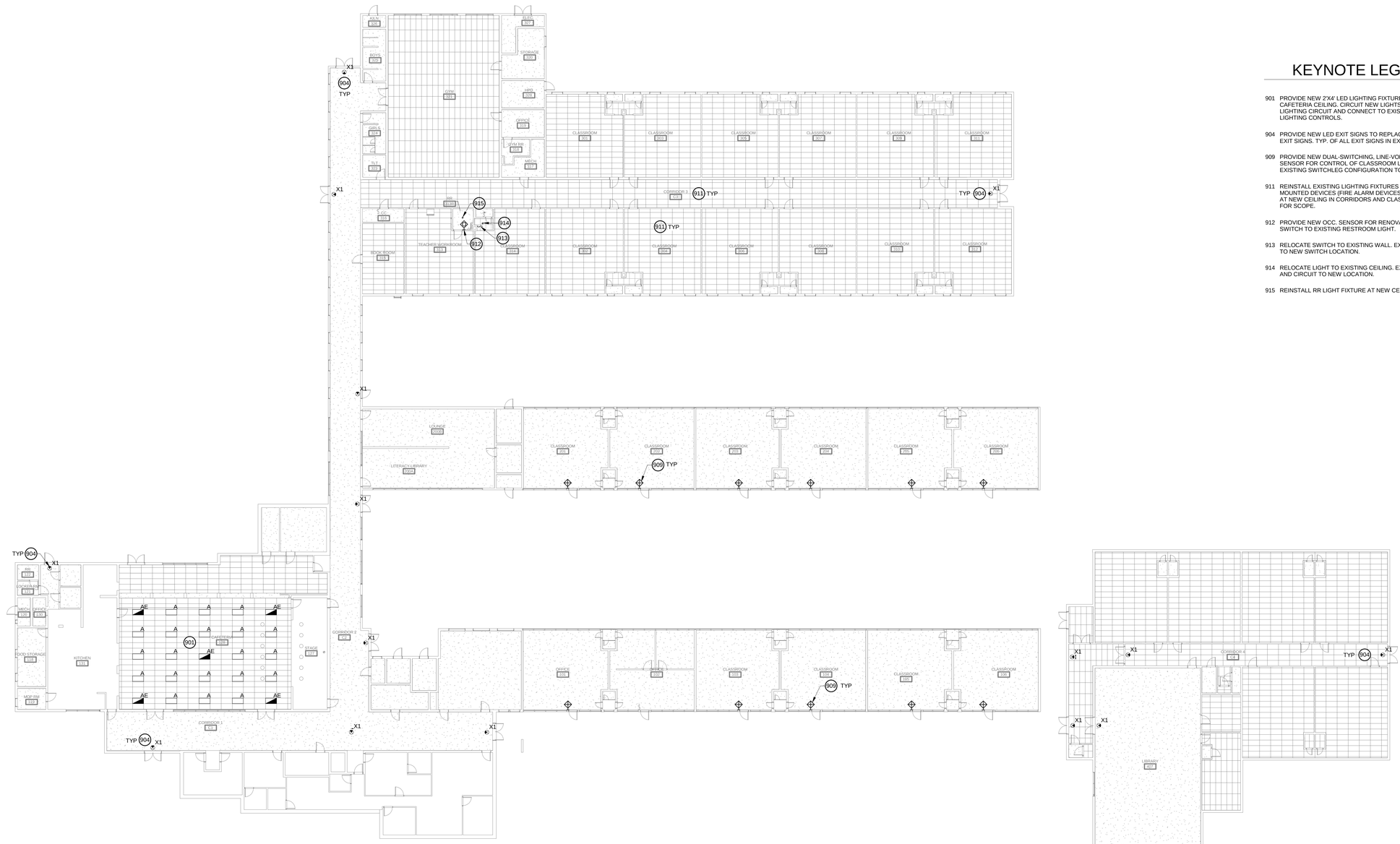

1 ELECTRICAL LIGHTING PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET E1.1 FOR GENERAL ELECTRICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.

2. THIS SHEET GENERALLY DEPICTS EQUIPMENT AND DEVICES FROM APPROXIMATELY 48" AFF TO CEILING LEVEL, INCLUDING LIGHTING, SWITCHING, AND SOME CEILING MOUNTED AND WALL MOUNTED DEVICES NECESSARY FOR COORDINATION WITH CEILING MOUNTED DEVICES - e.g. FIRE ALARM VISUAL DEVICES.

KEYNOTE LEGEND

901 PROVIDE NEW 2'X4' LED LIGHTING FIXTURES IN NEW CAFETERIA CEILING. CIRCUIT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT AND CONNECT TO EXISTING CAFETERIA LIGHTING CONTROLS.

904 PROVIDE NEW LED EXIT SIGNS TO REPLACE EXISTING AGING EXIT SIGNS. TYP. OF ALL EXIT SIGNS IN EXISTING BUILDINGS.

909 PROVIDE NEW DUAL-SWITCHING, LINE-VOLTAGE VACANCY SENSOR FOR CONTROL OF CLASSROOM LIGHT FIXTURES. EXISTING SWITCHLEG CONFIGURATION TO REMAIN.

911 REINSTALL EXISTING LIGHTING FIXTURES AND CEILING MOUNTED DEVICES (FIRE ALARM DEVICES, SPEAKERS, ETC.) AT NEW CEILING IN CORRIDORS AND CLASSROOMS. RE: ARCH FOR SCOPE.

912 PROVIDE NEW OCC. SENSOR FOR RENOVATED RESTROOM. SWITCH TO EXISTING RESTROOM LIGHT.

913 RELOCATE SWITCH TO EXISTING WALL. EXTEND SWITCHLEG TO NEW SWITCH LOCATION.

914 RELOCATE LIGHT TO EXISTING CEILING. EXTEND SWITCHLEG AND CIRCUIT TO NEW LOCATION.

915 REINSTALL RR LIGHT FIXTURE AT NEW CEILING.

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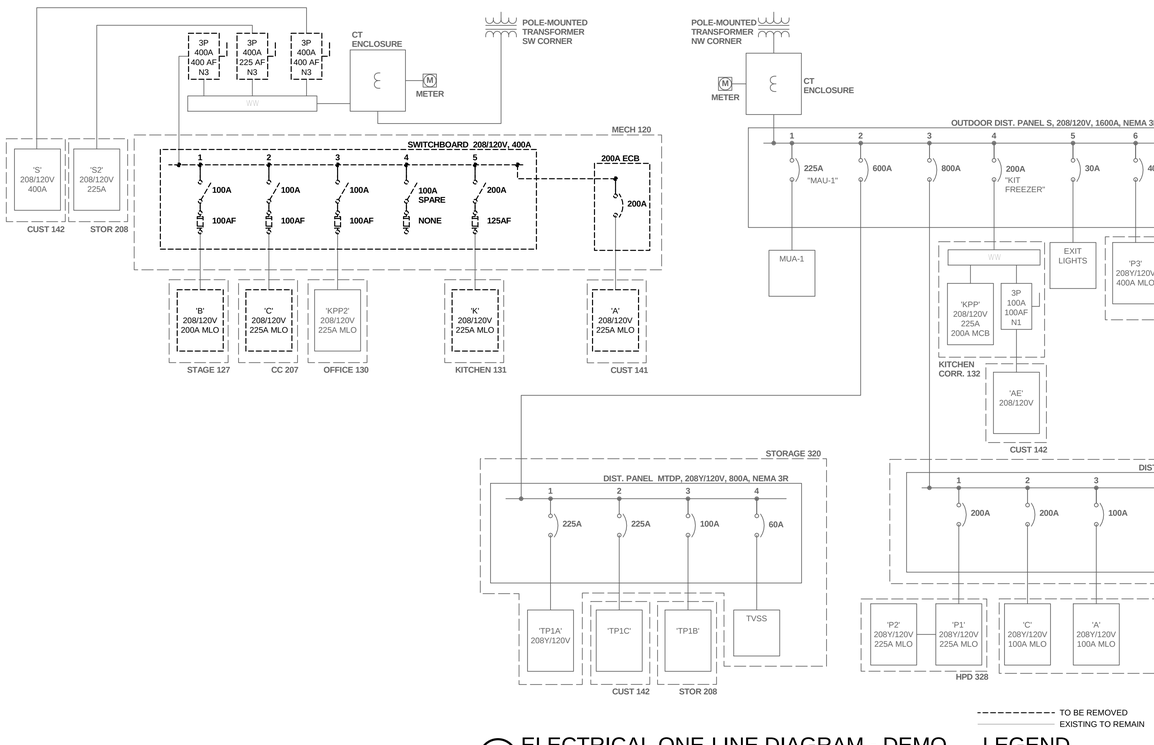
ELECTRICAL LIGHTING PLAN

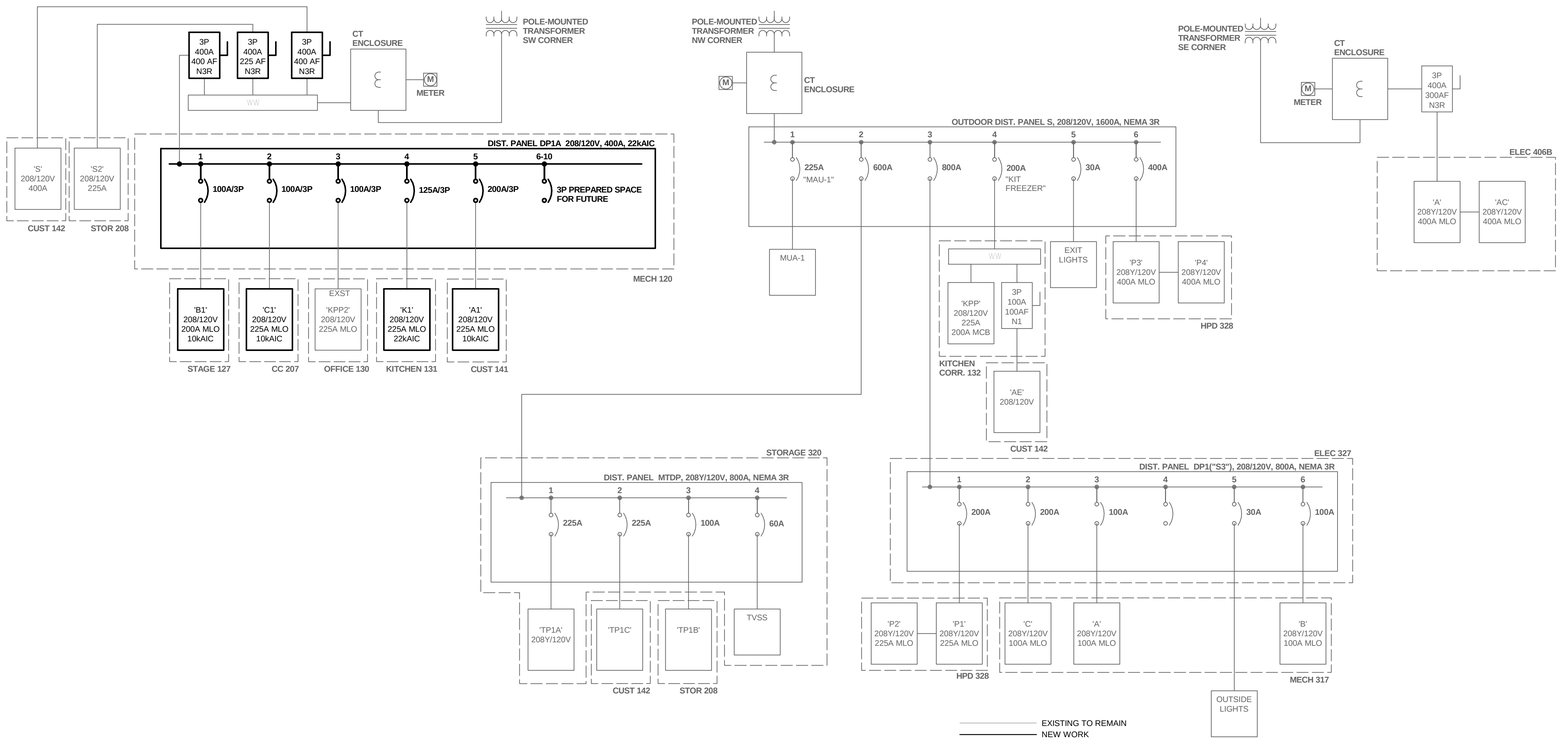
AISD PROJ. 190027-PECSP

E4.1



1 ELECTRICAL ONE-LINE DIAGRAM - DEMO
NOT TO SCALE

LEGEND



2 ELECTRICAL ONE-LINE DIAGRAM - NEW
SCALE: 1/8" = 1'-0"

LEGEND

GENERAL NOTES

1. REFER TO SHEET E1.1 FOR GENERAL ELECTRICAL NOTES THAT SHALL APPLY TO ALL SHEETS IN THIS SET UNLESS NOTED OTHERWISE IN THE KEYED NOTES.
2. EXISTING ELECTRICAL WORK & LOCATIONS ARE TAKEN FROM AVAILABLE RECORD DOCUMENTS & SITE OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. EXISTING FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE KEY NOTED TO BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL PERFORM TESTS ON EXISTING CONDUCTORS AND REPORT ANY DEFICIENCIES TO ARCHITECT/ENGINEER.

KEY NOTE LEGEND

NOT USED ON THIS SHEET

O'CONNELL ROBERTSON
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San Antonio 404 Blossom Way, Suite 300, San Antonio, Texas 78209 p: 210.224.4500 f: 210.824.4453

AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

STATE OF TEXAS
JEREMY L. ZORN
99218
LICENSED PROFESSIONAL ENGINEER
12/14/2018

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708
Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

ONE-LINE DIAGRAMS

AISD PROJ. 190027-PECSP

E6.1

Exst Branch Panel: A

Location: ELEC 406B
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MLO
Mains Rating: 400 A
MCB Rating:

Notes:
EXISTING PANEL - 400 WING (LIBRARY)

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	2
3	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	4
5	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	6
7	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	8
9	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	10
11	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	12
13	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	14
15	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	16
17	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	18
19	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	20
21	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	22
23	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	24
25	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	26
27	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	28
29	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	30
31	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	32
33	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	34
35	EXST "EXT. LIGHTS"	20 A	1					0 VA	0 VA	1	20 A	EXST	36
37	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	38
39	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	40
41	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	42
		Total Load:		0 VA		0 VA		0 VA					
		Total Amps:		0 A		0 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

Exst Branch Panel: B

Location: MECH 317
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating:

Notes:
EXISTING PANEL - 300 WING (GYM)

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPT 184, 187	20 A	1	540 VA	1440...					1	20 A	EXST RECEPT RM 313	2
3	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	4
5	EXST	20 A	1					0 VA	180 VA	1	20 A	FRIDGE RM 313	6
7	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	8
9	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	10
11	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	12
13	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	14
15	EXST	20 A	1			0 VA	2250...			2	30 A	EWH1	16
17								0 VA	2250...				18
19	EXST	20 A	3	0 VA	0 VA					1	20 A	EXST	20
21						0 VA	0 VA			1	20 A	EXST	22
23	EXST	20 A	1					0 VA	0 VA				24
25	EXST	20 A	1	0 VA	0 VA					3	20 A	EXST	26
27	EXST	20 A	1			0 VA	0 VA						28
29	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	30
31				0 VA	0 VA					1	20 A	EXST	32
33	EXST	20 A	3			0 VA	0 VA			1	20 A	EXST	34
35								0 VA	0 VA	1	20 A	EXST	36
37	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	38
39	EXST	20 A	2			0 VA	0 VA			1	20 A	EXST	40
41								0 VA	0 VA	1	20 A	EXST	42
		Total Load:		2108 VA		2430 VA		2430 VA					
		Total Amps:		18 A		21 A		21 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	128 VA	100.00%	128 VA		
Motor	4500 VA	125.00%	5625 VA	**Total Conn. Load:**	6968 VA
Power	2340 VA	100.00%	2340 VA	**Total Est. Demand:**	8093 VA
				Total Conn.:	19 A
				Total Est. Demand:	22 A

Exst Branch Panel: C

Location: MECH 317
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating:

Notes:
EXISTING PANEL - 300 WING (GYM)

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1													2
3	EXST	45 A	3			0 VA	0 VA			3	45 A	EXST	4
5								0 VA	0 VA				6
7				0 VA	0 VA								8
9	EXST	45 A	3			0 VA	0 VA			3	45 A	EXST	10
11								0 VA	0 VA				12
13				0 VA	0 VA								14
15	EXST	45 A	3			0 VA	0 VA			3	45 A	EXST	16
17								0 VA	0 VA				18
19				167 VA									20
21	FCU-2	20 A	3			167 VA							22
23								167 VA	1200...				24
25	SPACE ONLY	--	--	0 VA	1200...					3	100 A	FCU-1	26
27	SPACE ONLY	--	--			0 VA	1200...						28
29	SPACE ONLY	--	--					0 VA	0 VA	--	--	SPACE ONLY	30
		Total Load:		12175 VA		12175 VA		12175 VA					
		Total Amps:		101 A		101 A		101 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	500 VA	100.00%	500 VA		
Motor	36026 VA	125.00%	45033 VA	**Total Conn. Load:**	36526 VA
				Total Est. Demand:	45533 VA
				Total Conn.:	101 A
				Total Est. Demand:	126 A

New Branch Panel: A1

Location: CUST 141
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kAIC
Mains Type: MLO
Mains Rating: 225 A
MCB Rating:

Notes:
NEW PANEL - 100 WING

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	2
3	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	4
5	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	6
7	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST (OFF)	8
9	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST (OFF)	10
11	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	12
13	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	14
15	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	16
17	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	18
19	EXST	20 A	2	0 VA	0 VA					1	20 A	EXST	20
21						0 VA	0 VA			1	20 A	EXST	22
23	EXST	20 A	2					0 VA	0 VA	1	20 A	EXST	24
25				0 VA	0 VA					1	20 A	EXST	26
27	EXST	20 A	1			0 VA	0 VA			2	20 A	EXST	28
29	EXST	20 A	1					0 VA	0 VA				30
31	EXST	60 A	2	0 VA	0 VA					3	50 A	EXST	32
33						0 VA	0 VA						34
35	EXST	20 A	1					0 VA	0 VA				36
37	EXST	30 A	2	0 VA	0 VA					1	20 A	EXST	38
39						0 VA	0 VA			2	40 A	EXST (OFF)	40
41	SPACE ONLY	--	--					0 VA	0 VA				42
		Total Load:		0 VA		0 VA		0 VA					
		Total Amps:		0 A		0 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

New Branch Panel: C1

Location: CC 207
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kAIC
Mains Type: MLO
Mains Rating: 225 A
MCB Rating:

Notes:
NEW PANEL - 100 WING

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	2
3	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	4
5	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	6
7	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	8
9	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	10
11	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	12
13	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	14
15	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	16
17	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	18
19	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	20
21						0 VA	0 VA			1	20 A	EXST	22
23								0 VA	0 VA	1	20 A	EXST	24
25	EXST	20 A	2	0 VA	0 VA					2	20 A	EXST	26
27						0 VA	0 VA						28
29	EXST	20 A	1					0 VA	0 VA	--	--	SPACE ONLY	30
31	EXST	20 A	1	0 VA	0 VA					--	--	SPACE ONLY	32
33	EXST	20 A	1			0 VA	0 VA			--	--	SPACE ONLY	34
35	EXST	20 A	1					0 VA	0 VA	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	0 VA	0 VA					--	--	SPACE ONLY	38
39	SPACE ONLY	--	--			0 VA	0 VA			--	--	SPACE ONLY	40
41	EXST	20 A	1					0 VA	0 VA	--	--	SPACE ONLY	42
		Total Load:		0 VA		0 VA		0 VA					
		Total Amps:		0 A		0 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

LIGHTING FIXTURE SCHEDULE

ID TAG	DESCRIPTION	LAMP TYPE	WATTS	LUMENS	VOLTS	MANUFACTURER	CATALOG NO.	NOTES
A/AE	2'X4' RECESSED LED TROFFER	LED 3500K	30.6	3880 80 CRI	120	METALUX	24GR-LD5-38-F1-UNV-L835-CD1-U	1
H1	2-HEAD LED POLE LIGHT	LED 4000K	113	12252 70 CRI	120	MCGRAW-EDISON	GLEON-AF-02-LED-E1-T4FT-BK	2
X1	EXIT LIGHT	LED N/A	1	N/A N/A	120	SURE-LITES	LPX7	

NOTES: 1) PROVIDE INTEGRAL BATTERY BACKUP FOR EMERGENCY (AE) FIXTURES.
2) PROVIDE 25' SQUARE POLE.

EQUIPMENT CONNECTION SCHEDULE

EQ. TAG	VOLTAGE/PHASE	MCA	MOCP	PANEL	CIRCUIT	FEEDER	NOTES
CONDENSING UNIT							
CU-1	208 - 3	50 A	80 A	3P	19,21,23	3#4, 1#8G, 1"C.	
CU-2	208 - 1	12 A	20 A	4P	19,21	2#12, 1#12G, 3/4"C.	
EXHAUST FAN							
EF-1	120 - 1	2 A	20 A	C	43	2#12, 1#12G, 3/4"C.	1
FAN							
FCU-1	208 - 3	100 A	100 A	3P	24,26,28	3#3, #8G, 1-1/4"C.	
FCU-2	208 - 1	33 A	35 A	4P	25,27	2#8, 1#10G, 3/4"C.	
RTU							
RTU-1	208 - 3	33 A	45 A	S	1,3,5	3#8, 1#10G, 3/4"C.	
RTU-2	208 - 3	23 A	30 A	S	7,9,11	3#10, 1#10G, 3/4"C.	
RTU-3	208 - 3	33 A	45 A	S	13,15,17	3#8, 1#10G, 3/4"C.	
RTU-4	208 - 3	33 A	45 A	S	2,4,6	3#8, 1#10G, 3/4"C.	
RTU-5	208 - 3	33 A	45 A	S	8,10,12	3#8, 1#10G, 3/4"C.	
RTU-6	208 - 3	33 A	45 A	S	14,16,18	3#8, 1#10G, 3/4"C.	
RTU-7	208 - 3	33 A	45 A	S2	1,3,5	3#8, 1#10G, 3/4"C.	
RTU-8	208 - 3	33 A	45 A	S2	7,9,11	3#8, 1#10G, 3/4"C.	
RTU-9	208 - 3	33 A	45 A	S2	13,15,17	3#8, 1#10G, 3/4"C.	
RTU-10	208 - 3	33 A	45 A	S2	2,4,6	3#8, 1#10G, 3/4"C.	
RTU-11	208 - 3	33 A	45 A	S2	8,10,12	3#8, 1#10G, 3/4"C.	
RTU-12	208 - 3	33 A	45 A	S2	14,16,18	3#8, 1#10G, 3/4"C.	
WATER HEATER							
EWH1	208 - 1	28 A	30 A	C	16,18	2#10, 1#10G, 3/4"C.	
EWH2	208 - 1	28 A	30 A	B	22,24	2#10, 1#10G, 3/4"C.	
GWH1	120 - 1	5 A	20 A	KPP2	19	2#12, 1#12G, 3/4"C.	

NOTE: 1. INCORPORATE SWITCHING OF EXHAUST FAN TO BATHROOM LIGHT SWITCH.

Exst Branch Panel: 4P

Location: HPD 328
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MLO
Mains Rating: 400 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				0 VA	0 VA								2
3	EXST	45 A	3			0 VA	0 VA			3	45 A	EXST	4
5								0 VA	0 VA				6
7				0 VA	0 VA								8
9	EXST	45 A	3			0 VA	0 VA			3	45 A	EXST	10
11								0 VA	0 VA				12
13				0 VA	0 VA								14
15	EXST	45 A	3			0 VA	0 VA			3	50 A	EXST	16
17								0 VA	0 VA				18
19	CU-2	20 A	2	250 VA	0 VA					3	50 A	EXST	20
21						250 VA	0 VA						22
23	WP/GFI ROOF	20 A	1					1260...	0 VA				24
25	CU-2	20 A	2	3432...	0 VA					--	--	SPACE ONLY	26
27						3432...	0 VA			--	--	SPACE ONLY	28
29								0 VA		--	--	SPACE ONLY	30
		Total Load:		3682 VA		3682 VA		1260 VA					
		Total Amps:		34 A		34 A		11 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	500 VA	100.00%	500 VA		
Motor	6864 VA	125.00%	8580 VA	**Total Conn. Load:**	8624 VA
Power	1260 VA	100.00%	1260 VA	**Total Est. Demand:**	10340 VA
				Total Conn.:	24 A
				Total Est. Demand:	29 A

New Branch Panel: B1

Location: STAGE 127
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kAIC
Mains Type: MLO
Mains Rating: 225 A
MCB Rating:

Notes:
NEW PANEL - 100 WING

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXST (OFF)	20 A	1	0 VA	0 VA					1	20 A	EXST	2
3	EXST (OFF)	20 A	1			0 VA	0 VA			1	20 A	EXST	4
5	EXST (OFF)	20 A	1					0 VA	0 VA	1	20 A	EXST	6
7	EXST (OFF)	20 A	1	0 VA	0 VA					1	20 A	EXST	8
9	EXST (OFF)	20 A	1			0 VA	0 VA			1	20 A	EXST	10
11	EXST (OFF)	20 A	1					0 VA	0 VA	1	20 A	EXST	12
13	EXST (OFF)	20 A	1	0 VA	0 VA					1	20 A	EXST	14
15	EXST (OFF)	20 A	1			0 VA	0 VA			1	20 A	EXST	16
17	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	18
19	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	20
21	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	22
23	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	24
25	EXST	20 A	1	0 VA	0 VA					1	20 A	EXST	26
27	EXST	20 A	1			0 VA	0 VA			1	20 A	EXST	28
29	EXST	20 A	1					0 VA	0 VA	1	20 A	EXST	30
		Total Load:		0 VA		0 VA		0 VA					
		Total Amps:		0 A		0 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

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RENOVATIONS TO PECAN SPRINGS ES
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STATE OF TEXAS
JEREMY L. ZORN
99218
LICENSED PROFESSIONAL ENGINEER
1/14/2019

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708

Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

ELECTRICAL SCHEDULES

AISD PROJ. 190027-PECSP

E7.1

Exst Branch Panel: S2

Location: STOR 208 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1 | **MCB Rating:**

Notes:
EXISTING PANEL - 200 WING

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1				3963...	3963...					2
3	RTU-7	45 A	3			3963...	3963...	3	45 A RTU-10	4
5						3963...	3963...			6
7				3963...	3963...					8
9	RTU-8	45 A	3			3963...	3963...	3	45 A RTU-11	10
11						3963...	3963...			12
13				3963...	3963...					14
15	RTU-9	45 A	3			3963...	3963...	3	45 A RTU-12	16
17						3963...	3963...			18
19				0 VA	0 VA					20
21	EXST AC-7	25 A	3			0 VA	0 VA	3	30 A EXST AC-8	22
23						0 VA	0 VA			24
25	SPACE ONLY	--	--	0 VA	0 VA			--	-- SPACE ONLY	26
27	SPACE ONLY	--	--			0 VA	0 VA	--	-- SPACE ONLY	28
29	SPACE ONLY	--	--			0 VA	0 VA	--	-- SPACE ONLY	30
31	SPACE ONLY	--	--	0 VA	0 VA			--	-- SPACE ONLY	32
33	SPACE ONLY	--	--			0 VA	0 VA	--	-- SPACE ONLY	34
35	SPACE ONLY	--	--			0 VA	0 VA	--	-- SPACE ONLY	36
37	SPACE ONLY	--	--	0 VA	0 VA			--	-- SPACE ONLY	38
39	SPACE ONLY	--	--			0 VA	0 VA	--	-- SPACE ONLY	40
41	SPACE ONLY	--	--			0 VA	0 VA	--	-- SPACE ONLY	42
		Total Load:		23776 VA		23776 VA			23776 VA	
		Total Amps:		198 A		198 A			198 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	59440 VA	100.00%	59440 VA		
Motor	11888 VA	125.00%	14860 VA	**Total Conn. Load:**	71328 VA
				Total Est. Demand:	74300 VA
				Total Conn.:	198 A
				Total Est. Demand:	206 A

Branch Panel: S

Location: CUST 142 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: Type 1 | **MCB Rating:**

Notes:
EXISTING PANEL - 100 WING

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1				3963	3963					2
3	RTU-1	45 A	3			3963	3963	3	45 A RTU-4	4
5						3963	3963			6
7				2762	3963					8
9	RTU-2	30 A	3			2762	3963	3	45 A RTU-5	10
11						2762	3963			12
13				3963	3963					14
15	RTU-3	45 A	3			3963	3963	3	45 A RTU-6	16
17						3963	3963			18
19				0	0					20
21	EXST "RTU-5"	25 A	3			0	0	3	30 A EXST "RTU-3"	22
23						0	0			24
25				0	0					26
27	EXST "RTU-4"	45 A	3			0	0	3	20 A EXST "RTU-RECP"	28
29						0	0			30
31				0	0					32
33	EXST "RTU-CNSLG"	25 A	3			0	0	3	15 A EXST "LIFT STATION"	34
35						0	0			36
37	EXST "WATER HEATER"	20 A	2	0	0					38
39						0	0	3	100 A EXST "RTU-CAFE"	40
41	SPACE ONLY	--	--			0	0			42
		Total Load:		22575 VA		22575 VA				
		Total Amps:		188 A		188 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	55838 VA	100.00%	55838 VA		
Motor	11888 VA	125.00%	14860 VA	**Total Conn. Load:**	67726 VA
				Total Est. Demand:	70698 VA
				Total Conn.:	188 A
				Total Est. Demand:	196 A

New Branch Panel: K1

Location: KITCHEN 131 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22kAIC
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Type 1 | **MCB Rating:**

Notes:
NEW PANEL - 100 WING
ALL BRANCH CIRCUIT BREAKERS SHALL BE GFCI.

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EXST	20 A	1	0 VA	0 VA			1	20 A EXST	2
3	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	4
5	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	6
7	EXST	20 A	1	0 VA	0 VA			1	20 A EXST	8
9	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	10
11	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	12
13	EXST	20 A	2	0 VA	0 VA			1	20 A EXST	14
15						0 VA	0 VA	1	20 A EXST	16
17	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	18
19	EXST	20 A	1	0 VA	0 VA			1	20 A EXST	20
21	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	22
23	EXST	20 A	1			0 VA	0 VA	1	20 A EXST	24
25	EXST	20 A	1	0 VA	0 VA			2	20 A EXST	26
27	EXST	20 A	2			0 VA	0 VA			28
29						0 VA	0 VA	1	20 A EXST	30
31				0 VA	0 VA			1	20 A EXST	32
33	EXST	20 A	3			0 VA	0 VA	2	20 A EXST	34
35						0 VA	0 VA			36
37				0 VA	0 VA					38
39	EXST	20 A	2			0 VA	0 VA	3	20 A EXST	40
41	EXST	20 A	1			0 VA	0 VA			42
		Total Load:		0 VA		0 VA			0 VA	
		Total Amps:		0 A		0 A			0 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

O'CONNELL ROBERTSON
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AUSTIN INDEPENDENT SCHOOL DISTRICT
RENOVATIONS TO PECAN SPRINGS ES
3100 ROGGE LANE, AUSTIN, TX 78723

STATE OF TEXAS
JEREMY L. ZORN
99218
LICENSED PROFESSIONAL ENGINEER
1/14/2019

Engineering Firm:
O'CONNELL ROBERTSON
Firm Registration No. F-2708
Revisions:

NO.	DESCRIPTION	DATE

12/14/18
Project No. 1818.01
CONTRACT DOCUMENTS

ELECTRICAL SCHEDULES

E7.2

AISD PROJ. 190027-PECSP