TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

MECHANICAL, PLUMBING

NO.	SHEET NAME
FP001	FIRE PROTECTION GENERAL NOTES
B-FP01	FIRE PROTECTION PLANS - BOLIN SCIENCE HALL
FF-FP01	FIRE PROTECTION PLANS - FAIN FINE ARTS
FF-FP02	FIRE PROTECTION PLANS - FAIN FINE ARTS
H-FP01	FIRE PROTECTION PLANS - HARDIN ADMINISTRATION BUILDING
P001	PLUMBING GENERAL NOTES
P002	PLUMBING GENERAL NOTES
B-PD101	PLUMBING DEMOLITION PLANS - BOLIN SCIENCE HALL
B-PD102	PLUMBING DEMOLITION PLANS - BOLIN SCIENCE HALL
B-P101	PLUMBING PLANS - BOLIN SCIENCE HALL
B-P102	PLUMBING PLANS - BOLIN SCIENCE HALL
F-PG01	PLUMBING PLANS - FERGUSON BUILDING
FF-PD101	PLUMBING DEMOLITION PLANS - FAIN FINE ARTS
FF-P101	PLUMBING PLANS - FAIN FINE ARTS
FF-P102	PLUMBING PLANS - FAIN FINE ARTS
H-PD101	PLUMBING DEMOLITION PLANS - HARDIN ADMINISTRATION BUILDING
H-P101	PLUMBING PLANS - HARDIN ADMINISTRATION BUILDING
P003	PLUMBING SCHEDULES AND DETAILS
M001	MECHANICAL GENERAL NOTES & ABBREVIATIONS
M002	MECHANICAL SYMBOLS
B-MD101	MECHANICAL DEMOLITION PLANS - BOLIN SCIENCE HALL
B-MG101	MECHANICAL OVERALL PLANS - BOLIN SCIENCE HALL
B-MG102	MECHANICAL OVERALL PLANS - BOLIN SCIENCE HALL
B-MG103	MECHANICAL OVERALL PLANS - BOLIN SCIENCE HALL
B-M101	MECHANICAL PLANS - BOLIN SCIENCE HALL
B-M102	MECHANICAL PLANS - BOLIN SCIENCE HALL
F-MG101	MECHANICAL PLANS - FERGUSON BUILDING
FF-MD101	MECHANICAL DEMOLITION PLANS - FAIN FINE ARTS
FF-M101	MECHANICAL PLANS - FAIN FINE ARTS
M003	MECHANICAL SCHEDULES & DETAILS

ELECTRICAL

NO.	SHEET NAME
E001	ELECTRICAL GENERAL NOTES
E002	ELECTRICAL SYMBOLS
B-ED101	ELECTRICAL DEMOLITION PLANS - BOLIN SCIENCE HALL
B-ED102	ELECTRICAL DEMOLITION PLANS - BOLIN SCIENCE HALL
B-E101	ELECTRICAL PLANS - BOLIN SCIENCE HALL
B-E102	ELECTRICAL PLANS - BOLIN SCIENCE HALL
B-E201	ELECTRICAL DETAILS - BOLIN SCIENCE HALL
F-E101	ELECTRICAL PLANS - FERGUSON BUILDING
FF-ED101	ELECTRICAL DEMOLITION PLANS - FAIN FINE ARTS
FF-ED102	ELECTRICAL DEMOLITION PLANS - FAIN FINE ARTS
FF-E101	ELECTRICAL PLANS - FAIN FINE ARTS
FF-E102	ELECTRICAL PLANS - FAIN FINE ARTS
H-ED101	ELECTRICAL DEMOLITION PLANS - HARDIN ADMINISTRATION BLDG.
H-E101	ELECTRICAL PLANS - HARDIN ADMINISTRATION BUILDING

REGISTERED ARCHITECT 15203 STATE OF TEXAS
GLENDA G. RAMSEY #15203
EXPIRES: 25 AUGUST 2017
DATE SIGNED: 7-11-17

AIA HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

HARPER PERKINS AIA ARCHITECTS, INC.
ARCHITECTS PROGRAMMERS PLANNERS
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: http://www.harperperkins.com

DRAWN BY: SAM K. KENSHALO

DATE: 16 JUNE 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

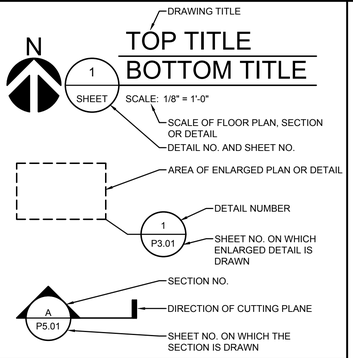
© 2017 HARPER PERKINS ARCHITECTS

SET NUMBER

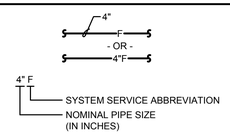
MEP

FIRE PROTECTION SYMBOL LEGEND

GRAPHIC SYMBOLS



PIPING DESIGNATIONS



MISCELLANEOUS SYMBOLS

XXX-1	EQUIPMENT DESIGNATION
	SINGLE LINE PIPE BREAK
	DOUBLE LINE PIPE BREAK
	STANDARD BREAK
1	KEYED NOTE
1	REVISION DELTA
	POINT OF DISCONNECTION
	POINT OF CONNECTION (NEW TO EXISTING)
	NEW ITEMS (PIPING/EQUIPMENT)
	EXISTING ITEMS TO REMAIN
	EXISTING ITEMS TO BE DEMOLISHED
	LIMIT OF EXISTING ITEMS TO BE REMOVED
	NEW CONNECTION TO EXISTING ITEM
(N)	NEW ITEM (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(E)	EXISTING ITEM TO REMAIN (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(F)	FUTURE ITEM (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(R)	EXISTING ITEM TO BE RELOCATED (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(D)	EXISTING ITEM TO BE DEMOLISHED (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)

PIPE & FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		PIPE
		DIRECTION OF FLOW / SLOPE
		PIPING WITH INSULATION (WHEN SHOWN FOR CLARITY)
		UNION
		GENERIC FLEXIBLE COUPLING (REFER TO SPECIFICATIONS)
		ELBOW, 45 DEGREE (LONG RADIUS UON)
		ELBOW, 90 DEGREE (LONG RADIUS UON)
		ELBOW, 90 DEGREE - CHANGE IN DIRECTION TOWARD VIEWER
		ELBOW, 90 DEGREE - CHANGE IN DIRECTION AWAY FROM VIEWER
		TEE FITTING
		TEE FITTING, BRANCH TOWARD VIEWER
		TEE FITTING, BRANCH AWAY FROM VIEWER
		LATERAL
		REDUCER - CONCENTRIC
		REDUCER - ECCENTRIC
		CAP
		ANCHOR
		STRAINER - "Y" TYPE WITH BLOW DOWN
		PRESSURE GAUGE WITH GAUGE COCK
		PUMP, ARROW INDICATES FLOW

NOTE:
WELDED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING.
FITTINGS WITH OTHER END CONDITIONS ARE SIMILAR.

EQUIPMENT

FDC	SIAMESE FIRE DEPARTMENT CONNECTION (ON BUILDING)
FDC	SIAMESE FIRE DEPARTMENT CONNECTION (FREESTANDING)
PIV	POST INDICATOR VALVE
	WET FIRE SPRINKLER SYSTEM RISER

VALVE SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		OS&Y GATE VALVE
		BUTTERFLY VALVE
		BALL VALVE
		CHECK VALVE
		BACKFLOW PREVENTER
		PRESSURE REDUCING VALVE
		PREACTION VALVE
		DELUGE VALVE
		ALARM CHECK VALVE
		DRY PIPE VALVE
		CONTROL VALVE W/ TAMPER SWITCH
T	T	TAMPER SWITCH
F	F	FLOW SWITCH

NOTE:
WELDED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING.
FITTINGS WITH OTHER END CONDITIONS ARE SIMILAR.

SPRINKLERS

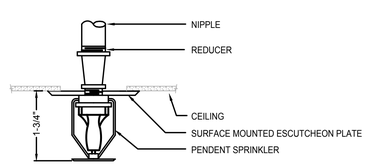
○	UPRIGHT
◎	CONCEALED
●	PENDENT
⊙	PENDENT RECESSED
⊘	PENDENT EXTENDED COVERAGE
▽	HORIZONTAL SIDEWALL

HATCH DESIGNATIONS

REFER TO PLANS FOR ADDITIONAL INFORMATION

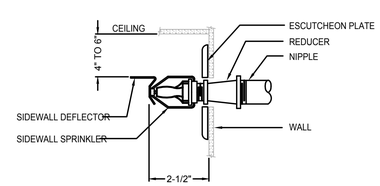
	WET PIPE SPRINKLER SYSTEM
	DRY SPRINKLER SYSTEM
	CLEAN AGENT SYSTEM
	PREACTION SYSTEM

THIS IS A STANDARD LEGEND SHEET. SOME INFORMATION ON THIS SHEET MAY NOT NECESSARILY APPLY TO THIS PROJECT.



PENDENT SPRINKLER DETAIL

NOT TO SCALE



SIDEWALL SPRINKLER DETAIL

NOT TO SCALE

FIRE PROTECTION GENERAL NOTES

1. PRIOR TO SUBMITTING A BID, THE FIRE PROTECTION SYSTEM CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXACT LOCATIONS OF UTILITIES IN FIELD, ALL EXISTING BUILDING CONDITIONS AND THAT NO WORK WILL BE REQUIRED OUTSIDE OF THE AREAS OF WORK SHOWN ON THE DRAWINGS.
2. THE FIRE PROTECTION SYSTEM CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND VERIFYING A CURRENT WATER FLOW TEST AND PRESSURE DATA, THE DESIGN OF SHOP DRAWINGS AND, IF REQUIRED, PERFORMING HYDRAULIC CALCULATIONS. CONTRACTOR SHALL PROVIDE ALL WORK CUSTOMARILY INCLUDED IF NOT SPECIFICALLY CALLED FOR ON THE PLANS. PROVIDE ALL NECESSARY INFORMATION REGARDING THE EXISTING FIRE PROTECTION SYSTEM ON THE PLANS TO MAKE ALL CONDITIONS CLEAR. THE INSTALLATION AND DESIGN SHALL COMPLY WITH NFPA 13, LATEST EDITION AND ALL OTHER CITY, COUNTY AND STATE REGULATIONS.
3. THE FIRE PROTECTION SYSTEM CONTRACTOR SHALL SUBMIT THE SHOP DRAWINGS (WHICH SHALL INDICATE DESIGN CRITERIA USED TO ESTABLISH DESIGN DENSITIES I.E. OCCUPANCY USE, OCCUPANCY CLASSIFICATION, TYPE OF COMMODITY, COMMODITY CLASSIFICATION, STORAGE CONFIGURATION, MAXIMUM AVAILABLE HEIGHT FOR STORAGE, AND APPROPRIATE CODE REFERENCES), MANUFACTURER'S SPECIFICATIONS AND HYDRAULIC CALCULATIONS, IF REQUIRED, TO THE LOCAL AUTHORITY HAVING JURISDICTION FOR REVIEW, APPROVAL AND PERMITTING PRIOR TO INSTALLATION OR MODIFICATION OF THE AUTOMATIC SPRINKLER SYSTEM. ALL DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY THE FIRE PROTECTION SYSTEM CONTRACTOR'S REGISTERED FIRE PROTECTION ENGINEER. THE ARCHITECT SHALL RECEIVE TWO COPIES OF THE SHOP DRAWINGS, MANUFACTURER'S SPECIFICATIONS AND REQUIRED HYDRAULIC CALCULATIONS FOR THEIR RECORDS.
4. THE FIRE PROTECTION SYSTEM CONTRACTOR SHALL VERIFY INSTALLATIONS AND OBSTRUCTIONS OF ALL TRADES AND SHALL COORDINATE ALL FIRE PROTECTION WORK WITH OTHER TRADES, NEW AND EXISTING, AND ROUTE PIPING TO AVOID INTERFERENCES.
5. THE FIRE PROTECTION SYSTEM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES, PERMITS AND INSPECTIONS REQUIRED TO PERFORM THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS AND SHOP DRAWINGS.
6. THE FIRE PROTECTION SYSTEM CONTRACTOR, PER NFPA 13, LATEST EDITION, SHALL PERFORM ALL REQUIRED ACCEPTANCE TESTS, COMPLETE THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATES, AND FORWARD THE CERTIFICATES TO THE AUTHORITY HAVING JURISDICTION PRIOR TO ASKING FOR APPROVAL OF THE INSTALLATION.
7. THE FIRE PROTECTION SYSTEM CONTRACTOR, AFTER EXAMINATION OF ALL EXISTING CONDITIONS, PLANS AND SPECIFICATIONS, SHALL INCLUDE ALL COSTS NECESSARY FOR ALTERATION, MODIFICATIONS, AND/OR ADDITIONS TO THE FIRE SPRINKLER SYSTEM NECESSARY TO MAKE THE COMPLETE AND FINISHED INSTALLATION IN ALL ASPECTS. IT IS THE INTENT THAT ALL COSTS FOR THE WORK REQUIRED BE IN THE BID OF THIS TRADE.
8. ALL MATERIAL (SPRINKLER HEADS, PIPING, FITTINGS, ETC.) SHALL BE IN CONFORMANCE WITH NFPA 13, LATEST EDITION, AND ALL OTHER APPLICABLE CODES.
9. ALL SHUTDOWNS OF THE EXISTING FIRE SPRINKLER SYSTEM TO PERFORM THE WORK UNDER THIS CONTRACT SHALL BE COORDINATED WITH THE BUILDING OWNER/ENGINEERING DEPARTMENT TO MINIMIZE OR AVOID INCONVENIENCE TO THE BUILDING TENANTS.
10. THE SPRINKLER HEADS SHOWN ON THE DRAWING ARE FOR REFERENCE ONLY. MORE HEADS MAY BE NECESSARY FOR THE DESIGN TO COMPLY WITH ALL CODES AND STANDARDS. ALL SPRINKLER HEADS SHALL BE CENTERED IN BOTH DIRECTIONS OF THE ACOUSTICAL TILE. PROVIDE ARMOVERS OR SWING JOINTS AS REQUIRED.
11. THE METHODS OF HANGING PIPE, HEADERS AND BRANCHES SHALL BE APPROVED BY NFPA 13, LATEST EDITION. ALL PIPING SHALL BE FIRMLY ANCHORED AND SUPPORTED TO PREVENT SWAY AND VIBRATION THE ENTIRE LENGTH. PROVIDE DETAIL AND INDICATE TYPE OF HANGER TO BE INSTALLED FOR THE FIRE PROTECTION SYSTEM PIPING.
12. PROVIDE FIRE RATED SLEEVES AND UL LISTED FIRESTOPPING AT ALL PENETRATIONS OF SMOKE/FIRE WALLS, CEILINGS, ROOFS, ETC. FLASH AND COUNTER FLASH ROOF PENETRATIONS.
13. INDICATE CENTER TO CENTER DIMENSIONS, PIPE CUT LENGTHS AND NOMINAL PIPE DIAMETERS ON ALL PIPING.
14. REFER TO AND COORDINATE WITH THE ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPES, HEIGHTS AND OTHER CEILING MOUNTED DEVICES. THE OWNER AND THE ARCHITECT RESERVE THE RIGHT TO MODIFY HEAD LOCATIONS TO CREATE AN AESTHETIC DESIGN.
15. ROUTE ALL PIPING CONCEALED ABOVE CEILINGS, WITHIN WALLS, IN MECHANICAL ROOMS, OR IN CHASES EXCEPT AS SPECIFICALLY NOTED.
16. COORDINATE LOCATION OF ANY NEW OR RELOCATED SIAMESE CONNECTIONS WITH ARCHITECT, SITE LAYOUT, AND FIRE DEPARTMENT. PROVIDE REMOTE SIAMESE CONNECTIONS AS REQUIRED FOR FIRE DEPARTMENT ACCESS FROM DRIVE.
17. LOCATION OF NEW OR RELOCATED INSPECTORS TEST STATIONS, ISOLATION VALVES AND DRAIN DOWN VALVES SHALL BE COORDINATED AS TO MINIMIZE PLACEMENT OF THESE DEVICES INSIDE TENANT SPACES. PROVIDE DRAIN DOWN VALVES FOR ANY AND ALL TRAPPED SECTION OF PIPING PER NFPA 13, LATEST EDITION. WHERE VALVES ARE REQUIRED IN TENANT SPACES, LOCATE IN A SERVICE OR STORAGE AREA. EACH SPRINKLER ZONE IS TO HAVE DRAIN DOWN VALVES CONFIGURED SO AS TO ALLOW ATTACHMENT OF A DRAIN HOSE. ALL DISCHARGE SHALL BE ARRANGED TO MINIMIZE DAMAGE TO THE BUILDING. ALL DRAIN PIPING SHALL BE GALVANIZED. PROVIDE ACCESS PANELS TO ANY VALVES ABOVE NON-ACCESSIBLE CEILING AND IN CHASES. ALL DRAIN DOWN VALVES AND INSPECTOR'S TEST STATION VALVES SHALL BE CHAINED AND PADLOCKED.
18. ALL ISOLATION VALVES SHALL BE SUPERVISED. PROVIDE TAMPER SWITCHES ON ALL CONTROL VALVES. COORDINATE WITH FIRE ALARM CONTRACTOR.
19. SPRINKLER HEADS MOUNTED LESS THAN 7 FEET ABOVE FINISHED FLOOR SHALL BE PROTECTED WITH A WIRE CAGE TYPE GUARD.
20. SPRINKLER CONTRACTOR SHALL INSTALL AND ACTIVATE THE ENTIRE SPRINKLER SYSTEM PRIOR TO THE ISSUANCE OF THE SUBSTANTIAL COMPLETION.
21. ALL FIRE PROTECTION SYSTEMS SHALL BE TESTED AS REQUIRED PER NFPA 13, LATEST EDITION AND LOCAL AUTHORITY HAVING JURISDICTION BEFORE ANY SYSTEMS ARE CONCEALED.
22. CONTRACTOR SHALL CONDUCT HYDROSTATIC TESTS IN COMPLIANCE WITH NFPA 13, LATEST EDITION (TWO HOUR AT 200 PSI OR 100 PSI OVER NORMAL SYSTEM PRESSURE MINIMUM). PIPING SUBJECT TO FREEZING DURING TEST PERIOD SHALL BE TESTED WITH COMPRESSED AIR.
23. CERTIFICATES OF APPROVAL OF INSTALLATION SHALL BE OBTAINED FROM THE AUTHORITY HAVING JURISDICTION AND FORWARDED TO THE OWNER.
24. THE FINAL INSPECTION AND APPROVAL OF THE FIRE PROTECTION SYSTEM SHALL BE BY THE LOCAL FIRE MARSHAL.
25. AFTER TESTS ARE CONDUCTED AND ANY REPAIRS COMPLETED, COMPLETELY FLUSH THE PIPING SYSTEMS WITH WATER UNTIL DISCHARGE SHOWS NO DISCOLORATION.
26. ALL BRANCH PIPING CONNECTIONS SHALL BE MADE AT THE TOP OR SIDE OF THE MAIN. BOTTOM CONNECTIONS ARE NOT ACCEPTABLE.

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

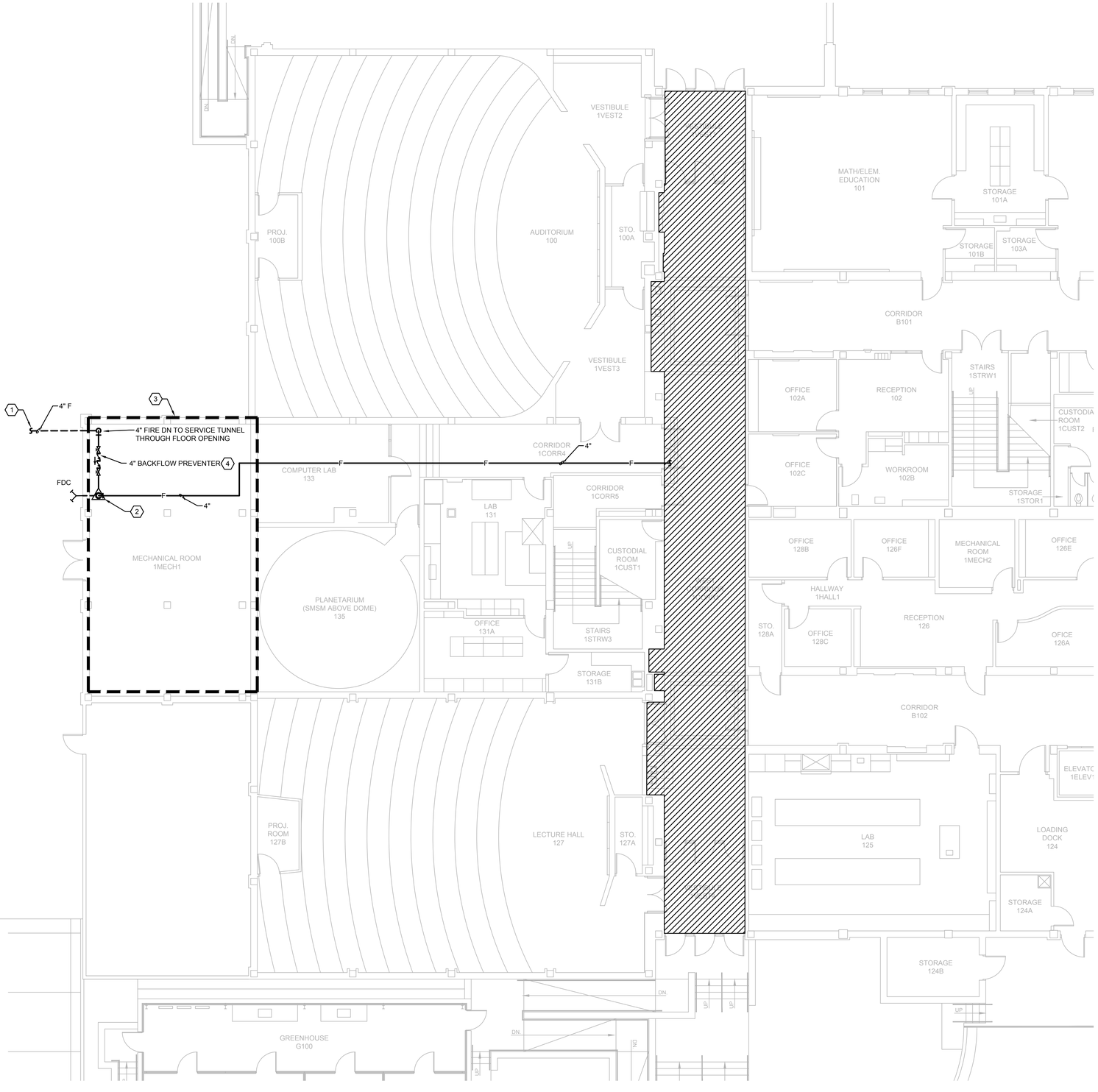
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

FP001



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1C
FIRE PROTECTION PLAN

1 B-FP101

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

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

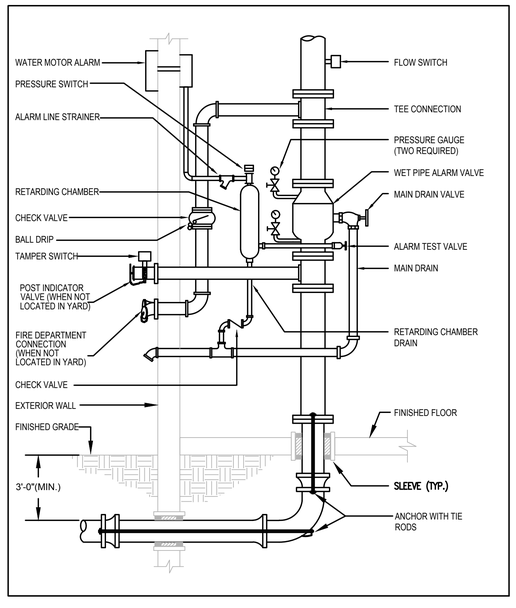
C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. CONNECT NEW 4" FIRE LINE TO MAIN WATER SERVICE LINE . HEAT TRACE THIS NEW FIRE LINE INSIDE THE SERVICE TUNNEL, APPROXIMATELY 100 FT. FIELD VERIFY EXACT LOCATION OF THE EXISTING WATER MAIN.
2. NEW FIRE 4" RISER TO SERVE CORRIDOR 1CORR1 AND FUTURE EXPANSION OF THE FIRE SPRINKLER COVERAGE IN THE BUILDING. REFER TO DETAIL 2/B-FP101. THE LOCATION OF THE FIRE RISER IN THIS SPACE IS DIAGRAMMATIC IN NATURE AND CONTRACTOR HAS OPTION TO ALTER FIRE RISER LOCATION IN THIS SPACE AS NEEDED.
3. PER FIRE PROTECTION GENERAL NOTES ON SHEET FP001, CONTRACTOR TO COORDINATE FIRE PROTECTION PIPE ROUTING WITH EXISTING FIELD CONDITIONS (EQUIPMENT, DUCTS,PIPE, SPACE RESTRICTIONS,ETC). THE PIPE ROUTING IN THIS SPACE IS DIAGRAMMATIC IN NATURE AND CONTRACTOR HAS OPTION TO ALTER ROUTING IN THIS SPACE AS NEEDED.
4. HORIZONTAL BACKFLOW PREVENTOR SHOWN FOR DIAGRAMMATIC PURPOSES. RECOMMEND USING VERTICAL BACKFLOW PREVENTOR DUE TO SPACE CONSTRAINTS.

WET TYPE SPRINKLER SYSTEM.



2 TYPICAL FIRE RISER DETAIL

SCALE: NONE

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

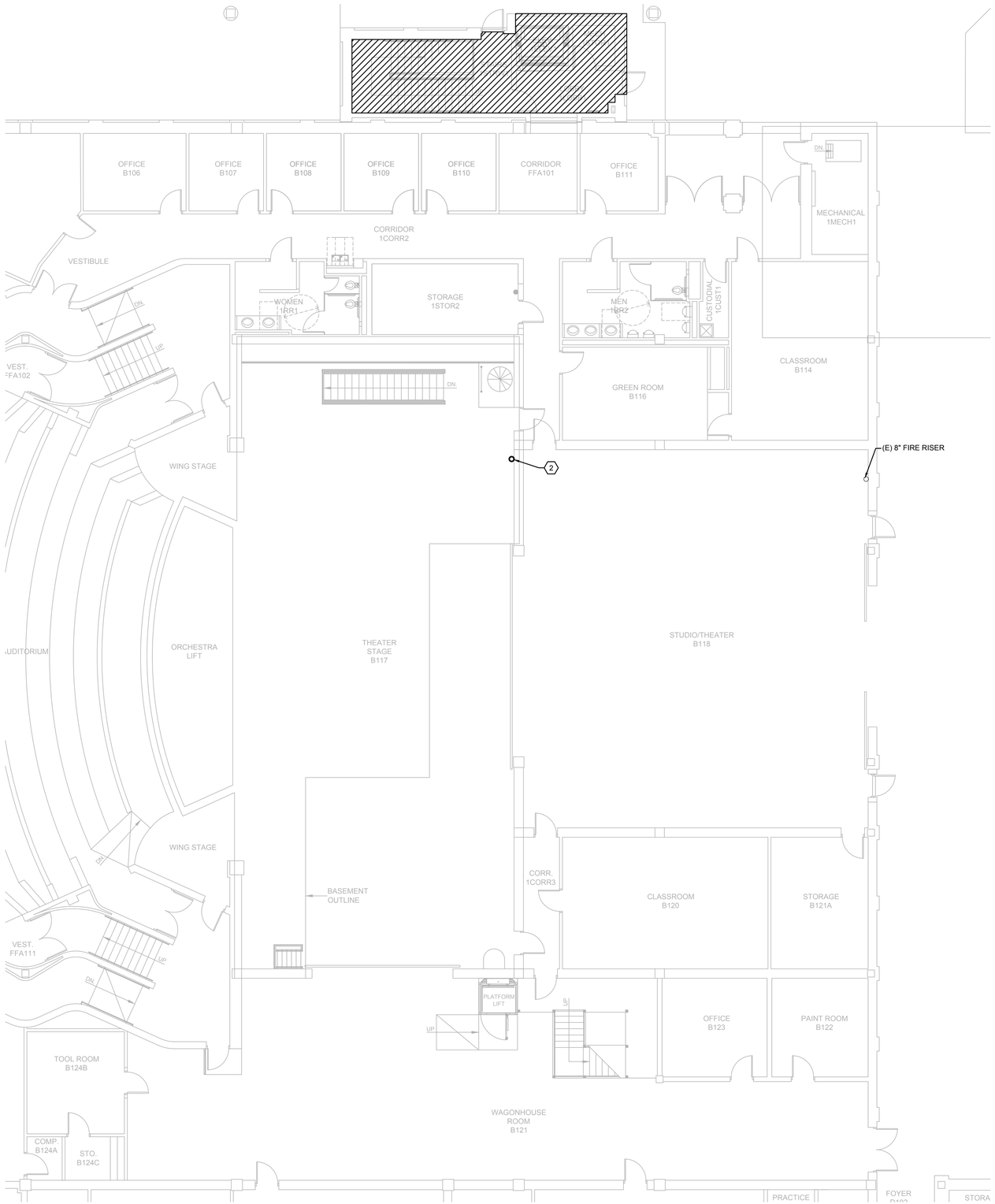
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-FP101



WET TYPE SPRINKLER SYSTEM.

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. EXISTING FIRE LINE SERVING AREA. FIELD VERIFY EXACT SIZE AND LOCATION.
2. NEW 2 1/2" FIRE LINE FROM ABOVE TO SERVE HOSE BOX. CONTRACTOR TO CONSULT WITH LOCAL FIRE DEPARTMENT FOR REQUIRED HOSE BOX TYPE AND APPROVED MANUFACTURERS.
3. MODIFY EXISTING FIRE SPRINKLER SYSTEM IN THIS AREA TO COMPLY WITH ALL APPLICABLE NFPA AND LOCAL CODES.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

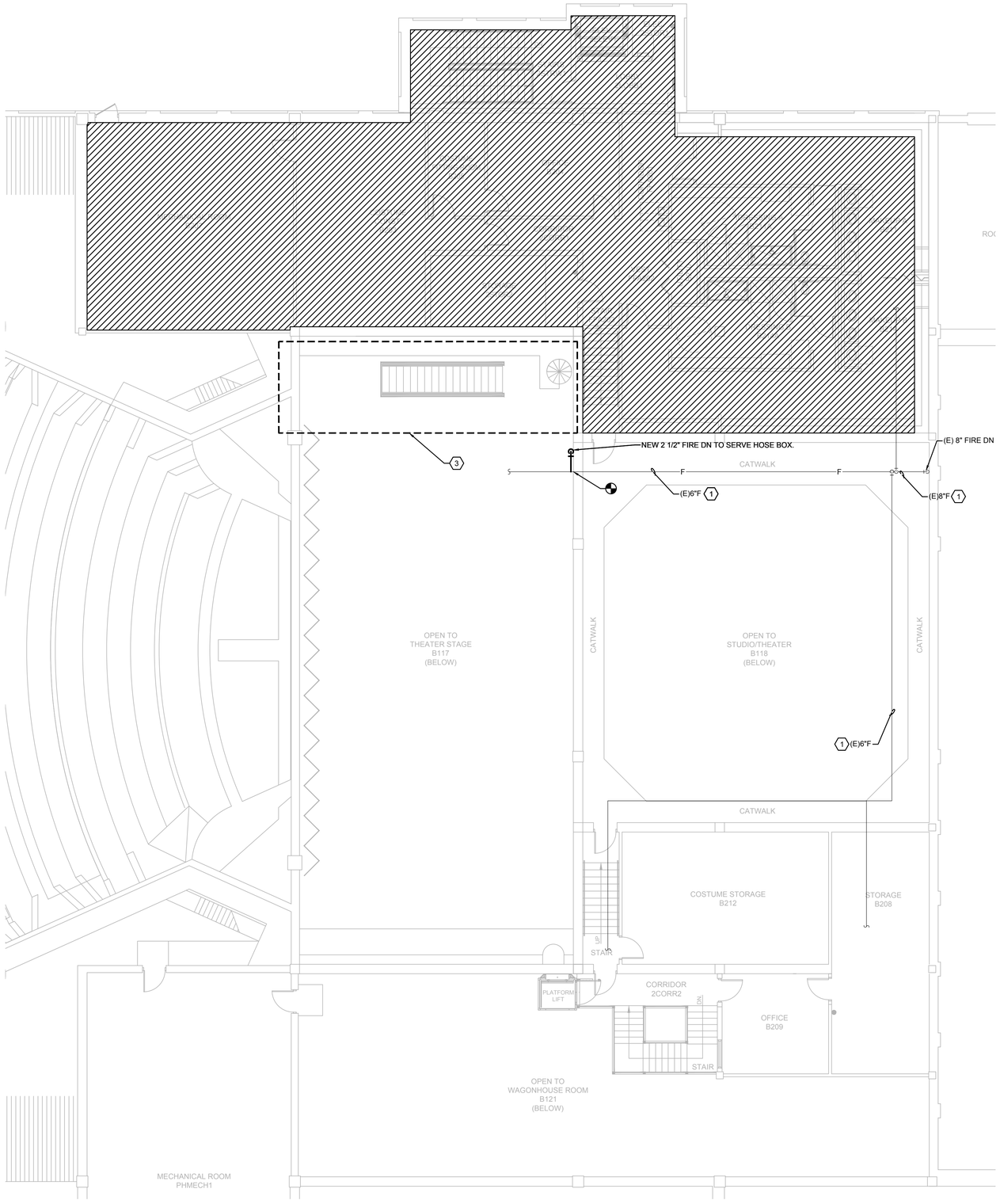
© 2017 HARPER PERKINS ARCHITECTS

FF-FP101

FAIN FINE ARTS - FIRST FLOOR - AREAS 1A/1B/1C FIRE PROTECTION PLAN

1
FF-FP101

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



FAIN FINE ARTS - SECOND FLOOR - AREAS 2A/2B/2C
FIRE PROTECTION PLAN

1
FF-FP102

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

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

1. EXISTING FIRE LINE SERVING AREA. FIELD VERIFY EXACT SIZE AND LOCATION.
2. NEW 2 1/2" FIRE LINE FROM ABOVE TO SERVE HOSE BOX. CONTRACTOR TO CONSULT WITH LOCAL FIRE DEPARTMENT FOR REQUIRED HOSE BOX TYPE AND APPROVED MANUFACTURERS.
3. MODIFY EXISTING FIRE SPRINKLER SYSTEM IN THIS AREA TO COMPLY WITH ALL APPLICABLE NFPA AND LOCAL CODES.

WET TYPE SPRINKLER SYSTEM.

FRED C. CRABTREE, JR.
109799
LICENSED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

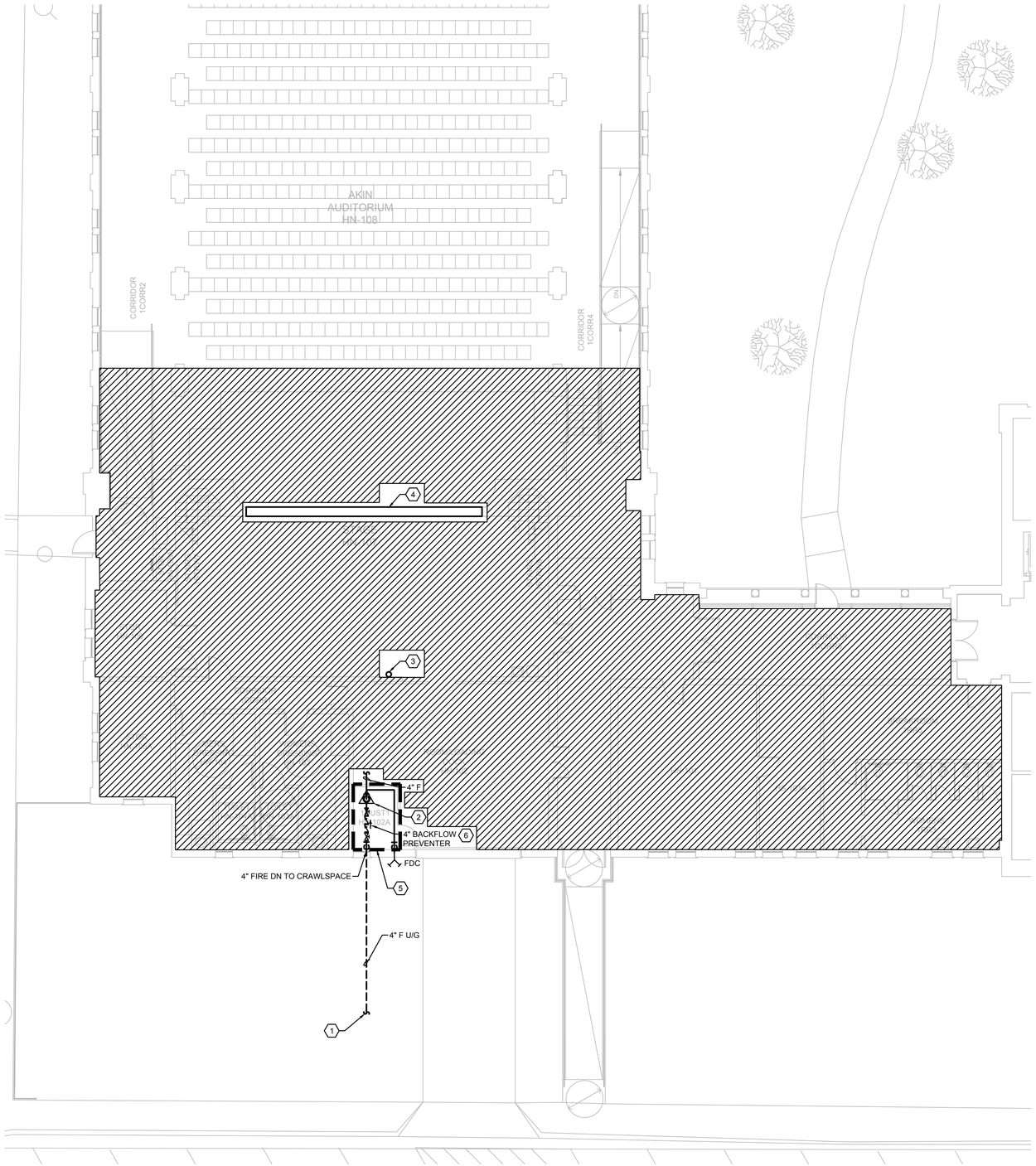
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

FF-FP102



GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. CONNECT NEW 4" FIRE LINE TO MAIN WATER SERVICE LINE. FIELD VERIFY EXACT LOCATION OF SAID EXISTING WATER MAIN.
2. NEW FIRE 4" RISER TO SERVE AREA NOTED. REFER TO DETAIL 2/B-FP101. THE FIRE RISER LOCATION IN THIS SPACE IS DIAGRAMMATIC IN NATURE AND CONTRACTOR HAS OPTION TO ALTER LOCATION OF THE FIRE RISER IN THIS SPACE AS NEEDED.
3. 2 1/2" FIRE DOWN FOR SERVE HOSE BOX. CONNECT TO FIRE SPRINKLER PIPE SERVING THAT AREA. CONTRACTOR TO CONSULT WITH LOCAL FIRE DEPARTMENT FOR REQUIRED HOSE BOX TYPE AND APPROVED MANUFACTURERS.
4. INSTALL NEW WATERFALL CURTAIN AT PROSCENIUM OPENING.
5. PER FIRE PROTECTION GENERAL NOTES ON SHEET FP001, CONTRACTOR TO COORDINATE FIRE PROTECTION PIPE ROUTING WITH EXISTING FIELD CONDITIONS (EQUIPMENT, DUCTS,PIPE, SPACE RESTRICTIONS,ETC). THE PIPE ROUTING IN THIS SPACE IS DIAGRAMMATIC IN NATURE AND CONTRACTOR HAS OPTION TO ALTER ROUTING IN THIS SPACE AS NEEDED.
6. HORIZONTAL BACKFLOW PREVENTOR SHOWN FOR DIAGRAMMATIC PURPOSES. RECOMMEND USING VERTICAL BACKFLOW PREVENTOR DUE TO SPACE CONSTRAINTS.

WET TYPE SPRINKLER SYSTEM.

HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1A
FIRE PROTECTION PLAN

1
H-FP101

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

FRED C. CRABTREE, JR.
109799
LICENSED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

H-FP101

ABBREVIATIONS

A (0.5)	COMPRESSED AIR (WORKING PRESS.)
AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
AD	ACCESS DOOR, AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
ALT	ALTITUDE
AMB	AMBIENT
AMP	AMPERE
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
AS	AIR SEPARATOR
ASC	ABOVE SUSPENDED CEILING
AHJ	AUTHORITY HAVING JURISDICTION
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
B	BOILER
B&S	BELL & SPIGOT
B/B	BACK TO BACK
BAL	BALANCE
BBR	BASE BOARD RADIATOR
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BFV	BUTTERFLY VALVE
BFBP	BOILER FEED BOOSTER PUMP
BFW	BOILER FEED WATER
BLDG	BUILDING
BHP	BRAKE HORSEPOWER
BLW	BELOW
BO	BLOWOFF
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALL VALVE
BYP	BYPASS
°C	CELSIUS [DEGREES]
C/C	COOLING COIL
CAP	CAPACITY
CD	CONDENSATE DRAIN
CF	CHEMICAL FEED
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHILLER
CHW	CHILLED WATER
CIP	CAST IRON PIPE
CKT	CIRCUIT
CKV	CHECK VALVE
CL	CENTER LINE (℄)
CONN	CONNECTION
CPD	CONDENSATE PUMP DISCHARGE
CPVC	CHLORONATED POLYVINYL CHLORIDE
CRAC	COMPUTER ROOM A/C UNIT
CRP	CONDENSATE RETURN PUMP
CT	COOLING TOWER
CU	CONDENSING UNIT
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CUH	CABINET UNIT HEATER
Cv	COEFFICIENT - VALVE FLOW
CW	COLD WATER (POTABLE)
CWP	COLD WORKING PRESSURE
CWR	COLD WATER RETURN (POTABLE)
D	DRAIN
DC	DIRECT CURRENT
DCW	DOMESTIC COLD WATER
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREES [CELSIUS OR FAHRENHEIT]
DF	DRINKING FOUNTAIN
DFU	DRAINGE FIXTURE UNIT
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DOV	DRAIN OFF VALVE
DPS	DIFFERENTIAL PRESSURE SENSOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DS	DISCONNECT SWITCH
DWV	DRAIN, WASTE & VENT
EA	EXHAUST AIR
E/P	ELECTRIC PNEUMATIC
EF	EXHAUST FAN
EFF	EFFICIENCY
EL	ELEVATION
ENT	ENTERING
EOV	ELECTRONICALLY OPERATED VALVE
ES	EMERGENCY SHOWER
ET	EXPANSION TANK
EVAP	EVAPORATOR
EWC	ELECTRIC WATER COOLER
EW	EMERGENCY EYE WASH
EXCH	EXCHANGER
EXH	EXHAUST
EXP	EXPANSION
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
°F	FAHRENHEIT [DEGREES]
FLA	FULL LOAD AMPS
FLG	FLANGE
FMS	FACILITY MANAGEMENT SYSTEM
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOOR SINK
FT	FOOT, FEET
FT LB	FOOT-POUND
FV	FLUSHOMETER VALVE
G (0.5)	GAS (WORKING PRESSURE)
GA	GAUGE, GAGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERATOR
GI	GREASE INTERCEPTOR
GLV	GLOBE VALVE
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GTV	GATE VALVE
GW	GREASE WASTE
GWH	GAS WATER HEATER
HB	HOSE BIBB
HD	HEAD/HUB DRAIN
HG	HEAT GAIN
HGT	HEIGHT
HP	HORSEPOWER
HR	HOUR
HVAC	HEATING, VENTILATION AND A/C
HW	HOT WATER (POTABLE)
HWB	HOT WATER BOILER
HWC	HOT WATER COIL
HWCP	HOT WATER CIRCULATING PUMP
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN (POTABLE)
HWT	HOT WATER TANK
HZ	HERTZ (FREQUENCY)
I/O	INPUT/OUTPUT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN WC	INCHES WATER COLUMN
INV	INVERT
IP	IRON PIPE
IPS	IRON PIPE SIZE, INCHES PER SECOND
IPT	IRON PIPE THREADED
IR	INFRARED
IW	INDIRECT WASTE
K	KELVIN, THERMAL CONDUCTIVITY
KIP	THOUSAND POUNDS
KIP FT	THOUSAND FOOT-POUNDS
KW	KILOWATT
KWh	KILOWATT HOUR
L	LAVATORY
LB	POUNDS
LF	LINEAR FEET
LG	LENGTH
LH	LATENT HEAT
LHG	LATENT HEAT GAIN
LP	LOW PRESSURE
LT	LEAVING TEMPERATURE
LTHW	LOW TEMPERATURE HOT WATER
LWT	LEAVING WATER TEMPERATURE
mA	MILLIAMPERES
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOV	MOTOR OPERATED VALVE
MP	MEDIUM PRESSURE
MPT	MALE PIPE THREAD
MS	MOP SINK
MU	MAKE-UP WATER
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NFHB	NON-FREEZE HOSE BIBB
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NH	NO HUB
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NPS	NOMINAL PIPE SIZE
NPW	NON-POTABLE WATER
NRS	NON-RISING STEM
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OSD	OVERFLOW STORM DRAIN
OS&Y	OUTSIDE SCREW AND YOKE
OZ	OUNCE
P	PUMP
P/E	PNEUMATIC ELECTRIC
%	PERCENT
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
POS	POSITIVE
PG	PRESSURE GAUGE
PH	PHASE
PHC	PREHEAT COIL
PRV	PRESSURE REDUCING VALVE
PPM	PARTS PER MILLION
PLBG	PLUMBING
PRESS	PRESSURE
PS	PRESSURE SWITCH
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
QT	QUART
QTY	QUANTITY
R	RELIEF, THERMAL RESISTANCE
RA	RETURN AIR
RD	ROOF DRAIN
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REFR	REFRIGERATION
RET	RETURN
REQ	REQUIRED
REV	REVOLUTIONS
RH	RELATIVE HUMIDITY
RHV	REHEAT VALVE
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RPZ	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
S	SECOND, SINK
SA	SUPPLY AIR
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SF	SQUARE FEET
SG	SPECIFIC GRAVITY, STEAM GAUGE
SH	SHOWER
SOLV	SOLENOID VALVE
SOV	SHUT OFF VALVE
SP	SUMP PUMP
SPEC	SPECIFICATION
SPS	STATIC PRESSURE SENSOR
SQ	SQUARE
SSD	SUB-SOIL DRAIN
SSP	STAINLESS STEEL PIPE
SST	STAINLESS STEEL
STD	STANDARD
STM	STEAM
STR	STRAINER
SWP	STEAM WORKING PRESSURE
SUCT	SUCTION
SUP	SUPPLY
SV	SAFETY VALVE
T	TEMPERATURE SENSOR
T&P	TEMPERATURE AND PRESSURE
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TOP	TOP OF PIPE
TRANS	TRANSFER
TSTAT	THERMOSTAT
TYP	TYPICAL
U or UR	URINAL
U/G	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABATORY
UON	UNLESS OTHERWISE NOTED
V	VENT/VOLTS
VAC	VOLTS ALTERNATING CURRENT
VAR	VARIABLE
VDC	VOLTS DIRECT CURRENT
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
W	WATT
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER, WALL HYDRANT
WL	WATER LINE
WLD	WELDED
WM	WATER METER
WNF	WELD NECK FLANGE
WP	WATER PUMP, WEATHERPROOF
WPD	WATER PRESSURE DROP
WPR	WORKING PRESSURE DROP
WT	WEIGHT
YD	YARD, YARD DRAIN
YH	YARD HYDRANT
YR	YEAR
Z	ZONE

PLUMBING GENERAL NOTES

1. THE PLUMBING CONTRACTOR SHALL VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT PRICING AND EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED. UTILITIES AND SERVICES INDICATED ARE TAKEN FROM VARIOUS SURVEYS, AS-BUILT DRAWINGS AND FIELD INVESTIGATIONS. IT IS TO BE UNDERSTOOD THAT UNFORSEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. COOPERATION WITH OTHER TRADES AND EXISTING CONDITIONS IN ROUTING, AS DIRECTED BY THE OWNER AND ARCHITECT/ENGINEER, MAY BE NECESSARY AND IT IS INTEDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED AS PART OF THIS CONTRACT. IT IS ALSO UNDERSTOOD THAT THE PLANS ARE NOT COMPLETELY TO SCALE. THIS CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL SITE UTILITIES, ETC., PRIOR TO BID, AND INCLUDE ANY DEVIATIONS IN THE PROPOSAL.
2. PROVIDE ISOLATION VALVES IN ALL BRANCH PIPING AND AT EQUIPMENT CONNECTIONS.
3. PROVIDE QUARTER TURN STOPS IN THE HOT AND COLD WATER SUPPLIES TO EACH PLUMBING FIXTURE.
4. PROVIDE ISOLATION VALVES IN THE HOT AND COLD WATER PIPING TO EACH GROUP OF PLUMBING FIXTURES.
5. PIPING CONNECTIONS TO ALL EQUIPMENT SHALL BE FABRICATED WITH THE ISOLATION VALVES, FLANGES AND/OR UNIONS POSITIONED TO ALLOW REMOVAL AND SERVICE OF THE COMPONENT PARTS.
6. ROUTE PIPING IN AN ORDERLY MANNER AND MAINTAIN PROPER GRADES. INSTALL TO CONSERVE HEADROOM AND TO CREATE MINIMUM INTERFERENCE WITH USE OF SPACE. ROUTE ALL PIPING PARALLEL TO BUILDING LINES UON. GROUP PIPING AT COMMON BOP ELEVATIONS WHENEVER PRACTICAL. PIPES LOCATED IN CONCEALED SPACES SHALL BE ROUTED CLOSE TO BUILDING STRUCTURE UON.
7. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE OR EQUIPMENT CONNECTED.
8. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
9. INSTALL VALVES AND EQUIPMENT IN ACCESSIBLE LOCATIONS. INSTALL ACCESS DOORS IN PARTITIONS OR CEILINGS WHERE VALVES AND EQUIPMENT WOULD OTHERWISE BE INACCESSIBLE.
10. WHEN SOCKET WELD OR SOLDER END VALVES ARE INSTALLED, SPECIAL CARE SHALL BE TAKEN TO AVOID OVERHEATING AND DAMAGING THE VALVE BODY, TRIM OR PACKING. DAMAGED VALVES SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
11. IDENTIFY EACH PIPE WITH LABELING AS REQUIRED BY SPECIFICATIONS.
12. SLEEVE ALL PIPING THAT PENETRATES FIRE RATED WALLS, FLOORS AND PARTITIONS. PENETRATIONS SHALL BE SEALED WITH A U.L. LISTED ASSEMBLY TO PROVIDE A RATING EQUAL TO OR GREATER THAN THAT OF THE PENETRATED WALL, FLOOR OR PARTITION.
13. SLEEVE ALL PIPING THAT PENETRATES EXTERIOR BUILDING WALLS AND GRADE BEAMS. SEAL PENETRATIONS WATERTIGHT.
14. COORDINATE WITH OTHER TRADES BEFORE FABRICATION OR INSTALLATION OF ANY SYSTEMS.
15. EXISTING PIPING AND EQUIPMENT SHOWN ON THESE DRAWINGS INDICATES THE GENERAL LOCATION AND ROUTING. THE ACTUAL LOCATION SHALL BE DETERMINED BY THE CONTRACTOR WHO SHALL COORDINATE ALL WORK WITH ALL TRADES NECESSARY TO INSTALL NEW PIPING OR EQUIPMENT AS SHOWN ON THE DRAWING.
16. THESE DRAWINGS DO NOT NECESSARILY SHOW ALL OFFSETS OR ELEVATION DIFFERENCES WHICH MAY BE NECESSARY FOR THE COMPLETE INSTALLATION. THESE SHALL BE PROVIDED AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM AT NO ADDITIONAL COST TO THE CONTRACT.
17. COORDINATE ALL REMODEL WORK WITH NEW CONSTRUCTION AND OTHER TRADES.
18. NOTIFY AND COORDINATE WITH THE OWNER AT LEAST SEVEN DAYS PRIOR TO SHUTDOWN OF ANY BUILDING SERVICES OR EQUIPMENT. SHUTDOWN TIME SHALL BE KEPT TO A MINIMUM.
19. ANY ITEMS DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH NEW MATERIALS TO MATCH EXISTING.
20. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE, PIPING OR OTHER BUILDING SERVICES AS REQUIRED TO KEEP OTHER AREAS IN OPERATION DURING REMODELING. NOTIFY OWNER PRIOR TO SHUT-DOWN FOR ANY TEMPORARY SERVICE REQUIREMENTS. ALL TEMPORARY WORK SHALL BE COMPLETELY REMOVED ONLY AFTER NEW SERVICES ARE COMPLETELY INSTALLED AND FUNCTIONAL.
21. ABANDONED PIPING SHALL BE REMOVED WHERE INDICATED ON THE DRAWINGS. PIPING REMAINING IN PLACE SHALL BE CAPPED, SEALED AIR TIGHT AT POINT(S) OF DEMOLITION, AND INSULATED TO MATCH EXISTING.
22. NEW HOLES THROUGH EXISTING FLOORS SHALL BE CORE DRILLED. ALL CORES SHALL BE X-RAYED PRIOR TO CORING.
23. THE OWNER SHALL HAVE THE OPTION TO DESIGNATE ANY MATERIALS REMOVED OR DEMOLISHED DURING THIS WORK AS "RECYCLABLE" AND SHALL HAVE FINAL DISPOSITION OVER THE DISPOSAL OF THESE MATERIALS. ALL MATERIALS REMOVED/DEMOLISHED BY THE CONTRACTOR FOR THIS JOB AND NOT RETAINED BY THE OWNER FOR RECYCLING OR OTHER PURPOSES SHALL BE DISPOSED OFF-SITE BY THE CONTRACTOR.
24. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL OF ANY EQUIPMENT DESIGNATED FOR REMOVAL. THE OWNER SHALL PROVIDE A LIST OF ITEMS THEY REQUIRE TO BE SALVAGED PRIOR TO THE START OF DEMOLITION. THE CONTRACTOR SHALL REMOVE THESE ITEMS USING REASONABLE CARE TO MINIMIZE DAMAGE.
25. ANY AND ALL WATER CONNECTIONS MADE FOR THE PURPOSE OF CLEANING TOOLS OR THE WORK AREA OR FOR ANY OTHER CONSTRUCTION-RELATED PURPOSES SHALL BE MADE ONLY TO DOMESTIC WATER HOSE BIBBS OR TO CONTRACTOR-SUPPLIED WATER SOURCES. APPROVED BACKFLOW PREVENTION DEVICES SHALL BE USED AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. CONNECTIONS SHALL NOT BE MADE TO FIRE WATER, CHILLED WATER, CONDENSER WATER, HEATING HOT WATER, DOMESTIC HOT WATER OR ANY OTHER TREATED WATER SOURCE UNLESS REQUIRED AS PART OF WORK ON THESE SYSTEMS.
26. EXCEPT WHERE REQUIRED AT EQUIPMENT NOZZLES, FLANGES SHALL BE RAISED FACE WELD-NECK.
27. INSTALL DIELECTRIC FITTINGS AT ALL FERROUS PIPE CONNECTIONS TO NON-FERROUS METALLIC PIPE OR EQUIPMENT.
28. PROVIDE CHROME PLATED, OR ARCHITECT APPROVED COLOR, ESCUTCHEON PLATES WHERE PIPES EXPOSED TO VIEW PENETRATE FINISHED WALLS, FLOORS AND CEILINGS. SPLIT-RING ESCUTCHEON PLATES SHALL NOT BE USED UON.
29. PROVIDE CAPPED DRAIN VALVES AT LOW POINTS OF PIPING SYSTEMS AND AT EQUIPMENT CONNECTIONS. PROVIDE HOSE BIBB CONNECTIONS WITH CAPS AT DRAIN VALVES WHICH DO NOT DISCHARGE DIRECTLY OVER OR ARE NOT PIPED DIRECTLY TO AN APPROPRIATE DRAIN.
30. PIPING OR EQUIPMENT CONNECTIONS OPENED BY DEMOLITION OR RENOVATION SHALL BE TEMPORARILY SEALED TO KEEP OUT FOREIGN MATTER UNTIL SUCH TIME AS RECONNECTIONS ARE MADE.
31. ALL PIPING SHALL BE SLOPED PER THE PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
32. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF EXISTING SANITARY PIPING TO WHICH NEW SEWER DRAINS ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.
33. PROVIDE CLEANOUTS IN ACCORDANCE WITH THE PLUMBING CODE, NO MORE THAN 100 FT. APART, AT CHANGES IN DIRECTION GREATER THAN 45 DEGREES, AND AT THE BASE OF STORM, SOIL AND WASTE STACKS.
34. REFER TO ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE EXACT LOCATIONS, MOUNTING HEIGHTS AND DIMENSIONS.
35. ALL ADA COMPLIANT FIXTURES SHALL BE MOUNTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
36. INSTALL WATER HAMMER SHOCK ARRESTORS AT EACH BATTERY OF FIXTURES AND AS INDICATED ON RISER DIAGRAMS/ISOMETRICS. ARRESTORS SHALL BE FACTORY-FABRICATED. INSTALL ARRESTORS AND SIZE PER PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I. WH-201. PROVIDE ACCESS PANELS FOR SERVICE AND MAINTENANCE.
37. DRAIN, WASTE, AND VENT PIPING LOCATED IN FIRE RATED WALL ASSEMBLIES AND RETURN AIR PLENUMS SHALL BE SERVICE WEIGHT CAST IRON WITH NO HUB FITTINGS.
38. UPON COMPLETION OF THE DOMESTIC WATER PIPING INSTALLATION, THE ENTIRE BUILDING'S HOT WATER RECIRCULATION SYSTEM SHALL BE CALIBRATED AND BALANCED TO PROVIDE SATISFACTORY OPERATION UNDER MINIMUM AND MAXIMUM EXPECTED FLOW CONDITIONS.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017
DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

P001

PLUMBING SYMBOL LEGEND

GRAPHIC SYMBOLS

DRAWING TITLE
TOP TITLE
BOTTOM TITLE
N
1
SHEET
SCALE: 1/8" = 1'-0"
SCALE OF FLOOR PLAN, SECTION OR DETAIL
DETAIL NO. AND SHEET NO.
AREA OF ENLARGED PLAN OR DETAIL
DETAIL NUMBER
1
P3.01
SHEET NO. ON WHICH ENLARGED DETAIL IS DRAWN
SECTION NO.
A
P5.01
DIRECTION OF CUTTING PLANE
SHEET NO. ON WHICH THE SECTION IS DRAWN

PIPING DESIGNATIONS

4"
SAN
- OR -
4"SAN
4" SAN
SYSTEM SERVICE ABBREVIATION
NOMINAL PIPE SIZE (IN INCHES)
SAN
V
SD
OSD
GW
SSD
CW
HW
HWR
A(0.5)
G(0.5)

MISCELLANEOUS SYMBOLS

XXX-1	EQUIPMENT DESIGNATION
	SINGLE LINE PIPE BREAK
	DOUBLE LINE PIPE BREAK
	STANDARD BREAK
1	KEYED NOTE
1	REVISION DELTA
	POINT OF DISCONNECTION
	POINT OF CONNECTION (NEW TO EXISTING)
	NEW ITEMS (PIPING/EQUIPMENT)
	EXISTING ITEMS TO REMAIN
	EXISTING ITEMS TO BE DEMOLISHED
	LIMIT OF EXISTING ITEMS TO BE REMOVED
	NEW CONNECTION TO EXISTING ITEM
(N)	NEW ITEM (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(E)	EXISTING ITEM TO REMAIN (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(F)	FUTURE ITEM (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(R)	EXISTING ITEM TO BE RELOCATED (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(D)	EXISTING ITEM TO BE DEMOLISHED (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)

PIPE & FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		PIPE
		DIRECTION OF FLOW / SLOPE
		PIPING WITH INSULATION (WHEN SHOWN FOR CLARITY)
		WELDED JOINT
		SCREWED JOINT
		FLANGED JOINT
		UNION
		GROOVED END JOINT
		GENERIC FLEXIBLE COUPLING (REFER TO SPECIFICATIONS)
		GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		STUB END OR FLANGE ADAPTER W/ FLANGE RING
		BLIND FLANGE
		ELBOW, 45 DEGREE (LONG RADIUS UON)
		ELBOW, 90 DEGREE (LONG RADIUS UON)
		ELBOW, 90 DEGREE - CHANGE IN DIRECTION TOWARD VIEWER
		ELBOW, 90 DEGREE - CHANGE IN DIRECTION AWAY FROM VIEWER
		TEE FITTING
		TEE FITTING, BRANCH TOWARD VIEWER
		TEE FITTING, BRANCH AWAY FROM VIEWER
		LATERAL
		REDUCER - CONCENTRIC
		REDUCER - ECCENTRIC
		CAP
		ANCHOR
CO	CO	CLEANOUT PLUG / WALL CLEANOUT
		VENTURI FLOW METER
		FLOW ORIFICE PLATE
		STRAINER - "Y" TYPE WITH BLOW DOWN
		THERMOWELL WITH THERMOMETER
		PRESSURE GAUGE WITH GAUGE COCK

NOTE:
WELDED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING.
FITTINGS WITH OTHER END CONDITIONS ARE SIMILAR.

PIPE & FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		AQUASTAT
		AUTOMATIC AIR VENT
		MANUAL AIR VENT
	M	WATER METER
		PUMP, ARROW INDICATES FLOW

NOTE:
WELDED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING.
FITTINGS WITH OTHER END CONDITIONS ARE SIMILAR.

VALVE SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		GATE VALVE
		SHUT-OFF VALVE IN VALVE BOX
		BUTTERFLY VALVE
		BALL VALVE
		DIAPHRAGM VALVE
		GLOBE VALVE
		PLUG VALVE
		GAS COCK
		CHECK VALVE
		BACKFLOW PREVENTER
		BACKWATER VALVE
		PRESSURE REDUCING VALVE
		BALANCING VALVE
		ANGLE VALVE
		TEMPERATURE AND PRESSURE RELIEF VALVE
S	S	SOLENOID VALVE
M	M	MOTOR OPERATED VALVE
		GAS PRESSURE REGULATOR

NOTE:
WELDED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING.
FITTINGS WITH OTHER END CONDITIONS ARE SIMILAR.

EQUIPMENT SYMBOLS

FLOOR/HUB DRAIN	P-TRAP
FLOOR SINK	HOSE BIBB / FROST-PROOF HOSE BIBB
ROOF DRAIN / OVER-FLOW ROOF DRAIN	WATER HAMMER ARRESTOR
FLOOR CLEANOUT	
CLEANOUT TO GRADE	

THIS IS A STANDARD LEGEND SHEET. SOME INFORMATION ON THIS SHEET MAY NOT NECESSARILY APPLY TO THIS PROJECT.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017
DATE SIGNED:
HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

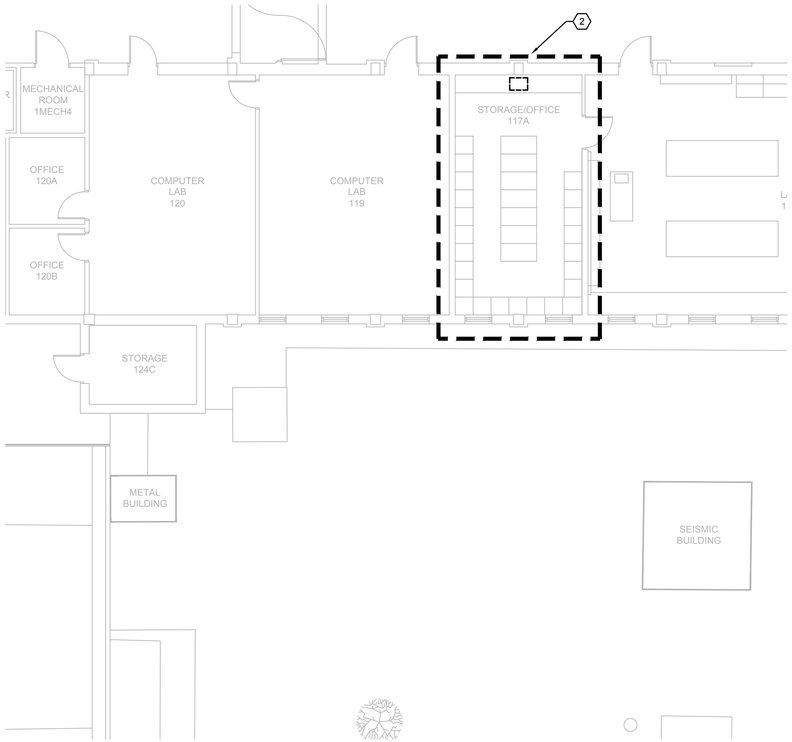
DRAWN BY:
DATE: 15 MAY 2017
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

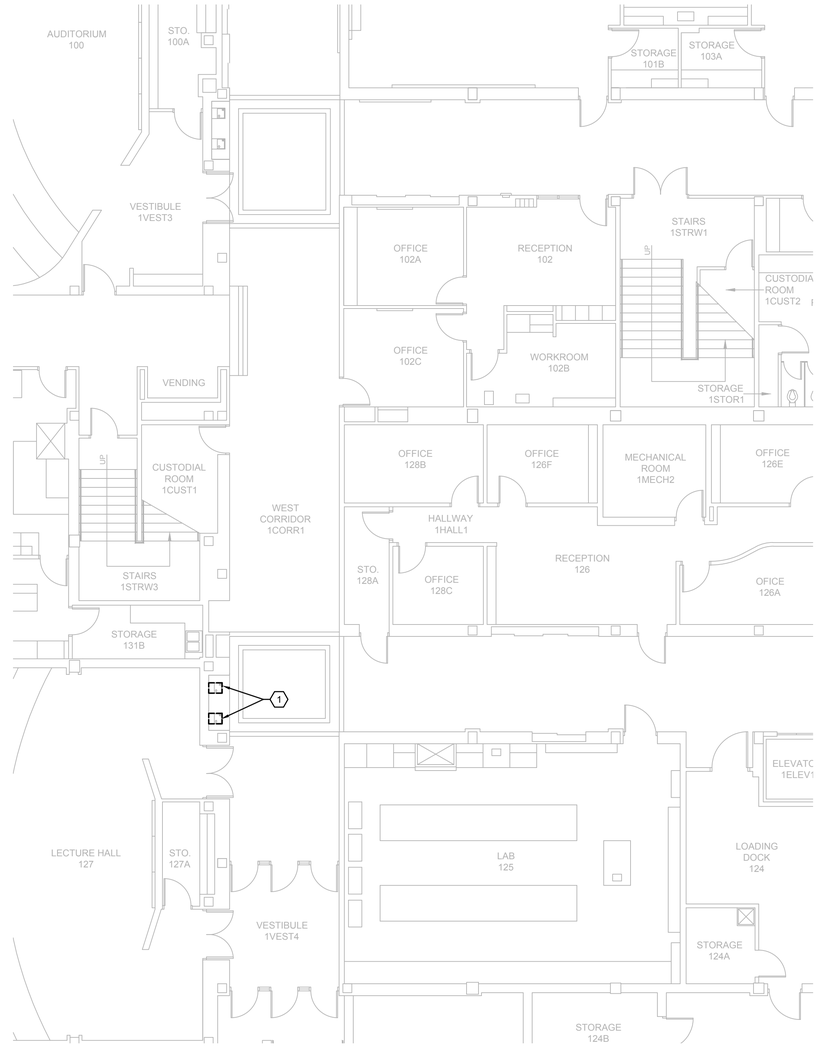
© 2017 HARPER PERKINS ARCHITECTS

P002



1 B-PD101 BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1A PLUMBING DEMOLITION PLAN

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



2 B-PD101 BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1C PLUMBING DEMOLITION PLAN

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

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE EXISTING ELECTRIC WATER COOLER. CAP DOMESTIC,SANITARY AND VENT PIPE LINES FOR REUSE.

2. REMOVE EXISTING SINK AND ALL OTHER PLUMBING FIXTURES IN THIS ROOM. REMOVE ASSOCIATED APPURTENANCES. DEMOLISH AND CAP DOMESTIC AND VENT LINES BACK TO MAINS, AND SANITARY TO BELOW SLAB. FIELD VERIFY EXACT NUMBER AND LOCATION OF PLUMBING FIXTURES.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-PD101

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

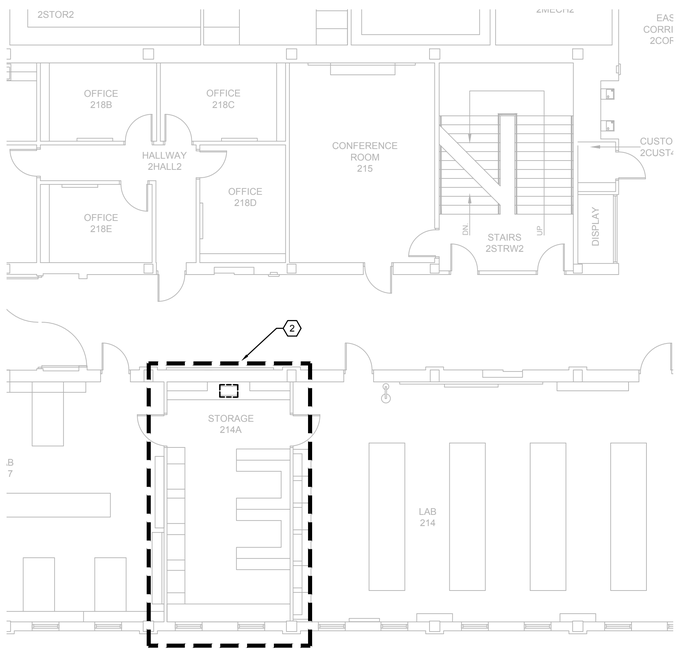
C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

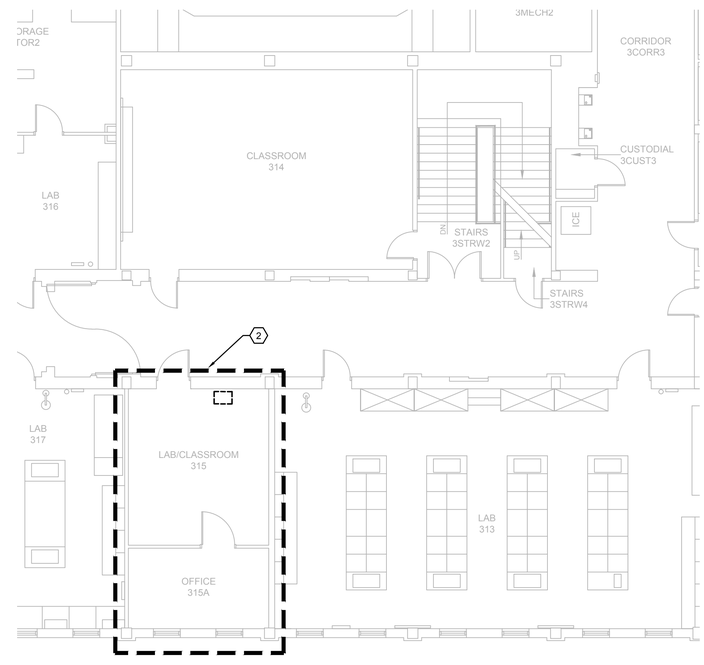
1. REMOVE EXISTING ELECTRIC WATER COOLER. CAP DOMESTIC,SANITARY AND VENT PIPE LINES FOR REUSE.

2. REMOVE EXISTING SINK AND ALL OTHER PLUMBING FIXTURES IN THIS ROOM. REMOVE ASSOCIATED APPURTENANCES. DEMOLISH AND CAP DOMESTIC AND VENT LINES BACK TO MAINS, AND SANITARY TO BELOW SLAB. FIELD VERIFY EXACT NUMBER AND LOCATION OF PLUMBING FIXTURES.



1 B-PD102 BOLIN SCIENCE HALL - SECOND FLOOR - AREA 2A PLUMBING DEMOLITION PLAN

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



2 B-PD102 BOLIN SCIENCE HALL - THIRD FLOOR - AREA 3A PLUMBING DEMOLITION PLAN

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

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS

HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-PD102

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

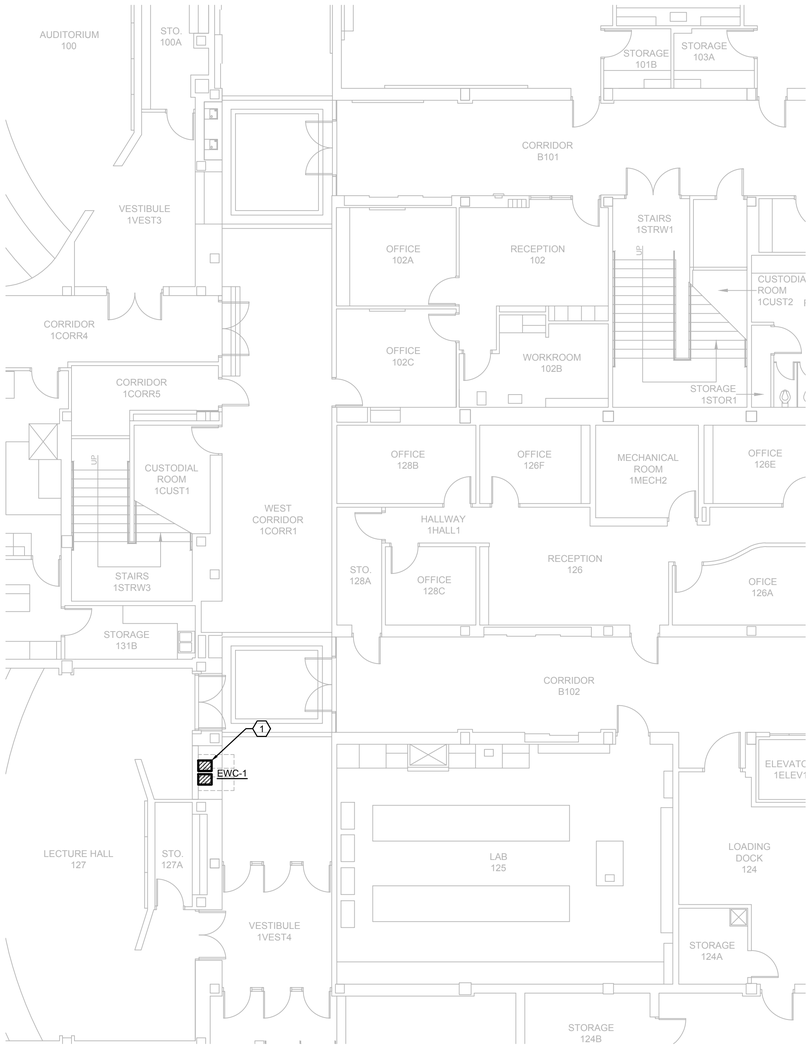
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

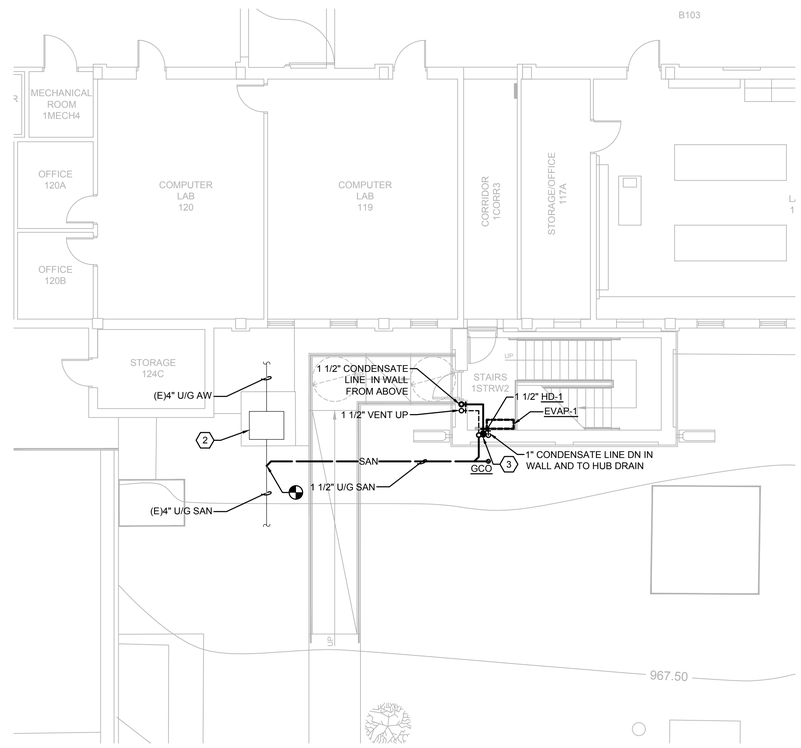
(NOT ALL NOTES APPLY TO EACH SHEET)

1. NEW ADA COMPLIANT EWC. REUSE THE DOMESTIC, SANITARY AND VENT LINES CAPPED DURING DEMOLITION. REWORK ALL SERVICES IN WALL TO SERVE NEW FIXTURE.
2. EXISTING ACID NEUTRALIZATION TANK. VERIFY EXACT LOCATION OF ASSOCIATED SANITARY PIPE.
3. PROVIDE FIRE RATED ACCESS DOOR TO HUB DRAIN IN WALL. FIRE RATING SHALL MATCH SHAFT RATING.
4. EXISTING 4" VENT RISER. FIELD VERIFY EXACT LOCATION AND SIZE.



1 B-P101 BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1C PLUMBING PLAN

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



2 B-P101 BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1A PLUMBING PLAN

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

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-P101

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

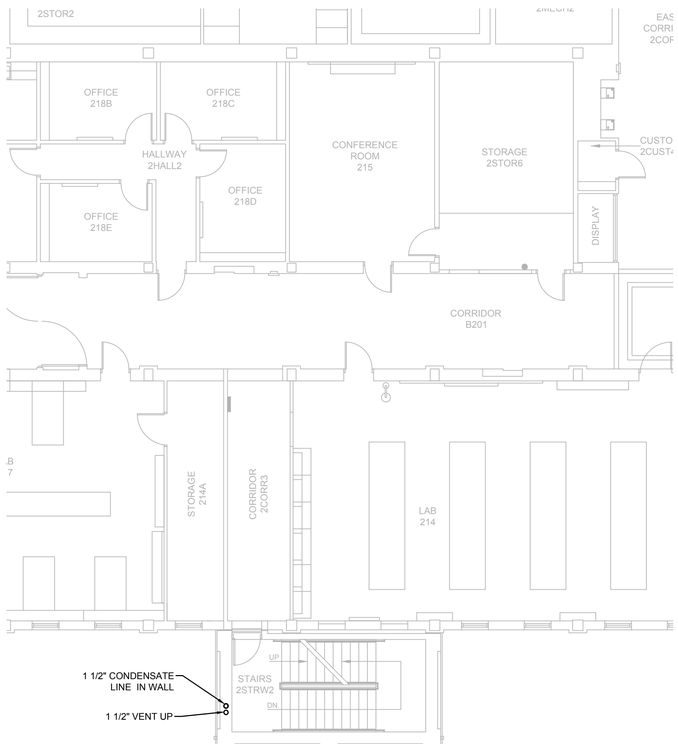
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

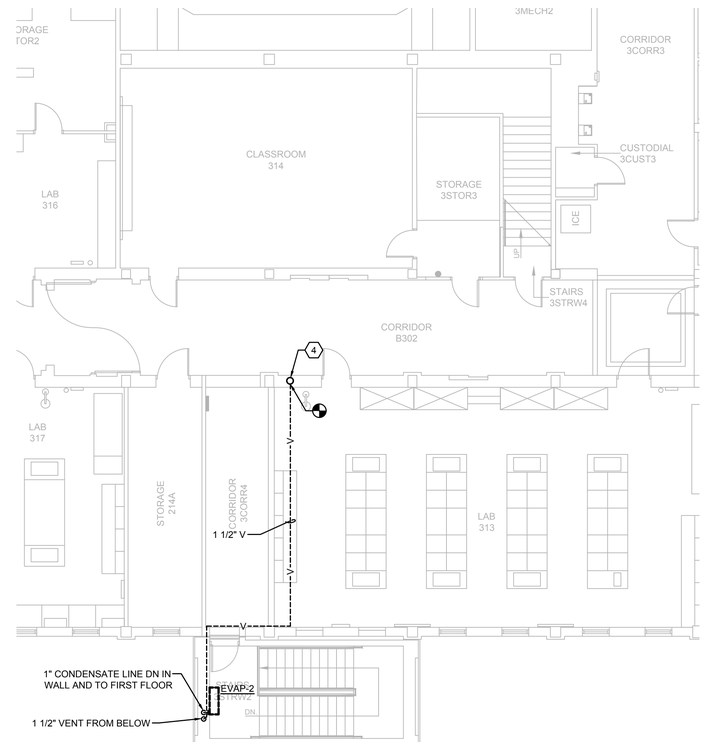
1. NEW ADA COMPLIANT EWC. REUSE THE DOMESTIC, SANITARY AND VENT LINES CAPPED DURING DEMOLITION. REWORK ALL SERVICES IN WALL TO SERVE NEW FIXTURE.
2. EXISTING ACID NEUTRALIZATION TANK. VERIFY EXACT LOCATION OF ASSOCIATED SANITARY PIPE.
3. PROVIDE FIRE RATED ACCESS DOOR TO HUB DRAIN IN WALL. FIRE RATING SHALL MATCH SHAFT RATING.
4. EXISTING 4" VENT RISER. FIELD VERIFY EXACT LOCATION AND SIZE.



BOLIN SCIENCE HALL - SECOND FLOOR - AREA 2A PLUMBING PLAN

1 / B-P102

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



BOLIN SCIENCE HALL - THIRD FLOOR - AREA 3A PLUMBING PLAN

2 / B-P102

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

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

AIA HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-P102

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

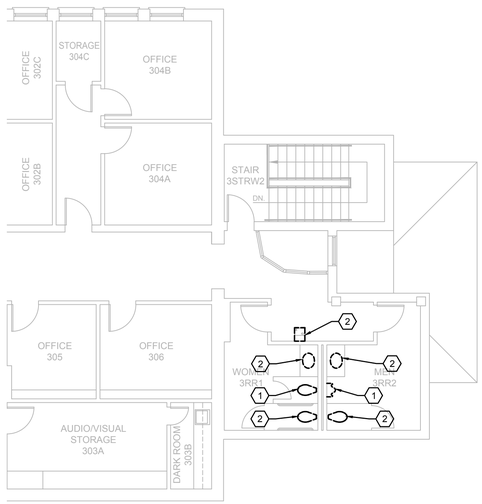
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

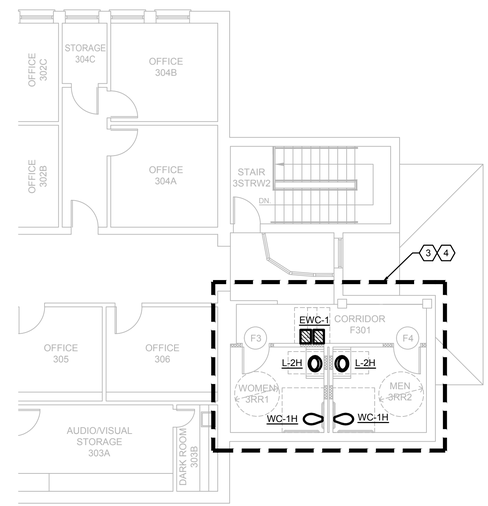
(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED APPURTENANCES. DEMOLISH AND CAP DOMESTIC AND VENT LINES BACK TO MAINS, AND SANITARY TO BELOW SLAB. FIELD VERIFY EXACT NUMBER AND LOCATION OF PLUMBING FIXTURES.
2. REMOVE PLUMBING FIXTURE. CAP DOMESTIC,SANITARY AND VENT PIPE LINES FOR REUSE.
3. INSTALL NEW PLUMBING FIXTURES IN THESE RESTROOMS. RECONNECT TO PLUMBING LINES CAPPED DURING DEMOLITION.
4. REWORK WET WALL SERVICES TO ACCOMMODATE NEW FIXTURES.



1 F-PG101 FERGUSON - THIRD FLOOR PLUMBING DEMOLITION PLAN

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



2 F-PG101 FERGUSON - THIRD FLOOR PLUMBING PLAN

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

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

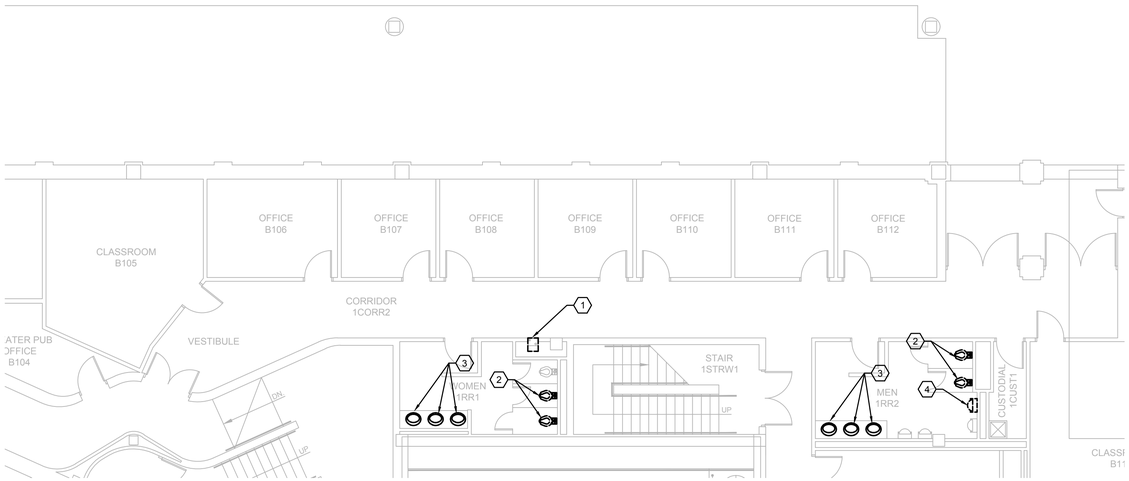
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

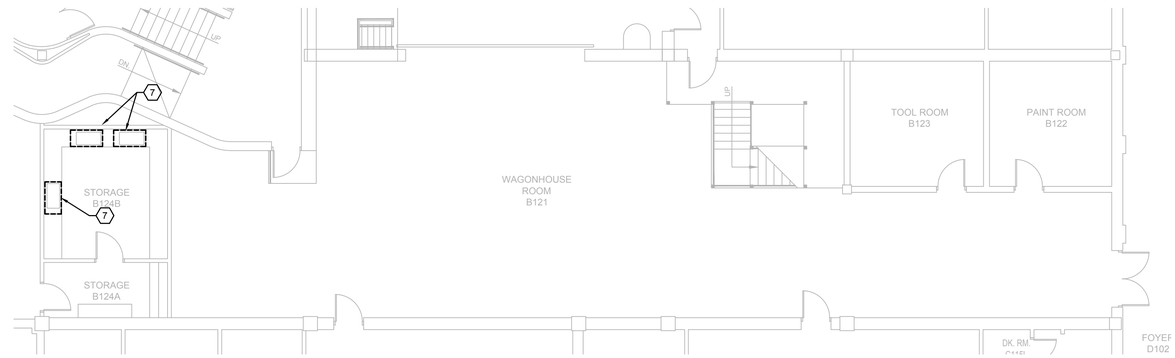
© 2017 HARPER PERKINS ARCHITECTS

F-PG101



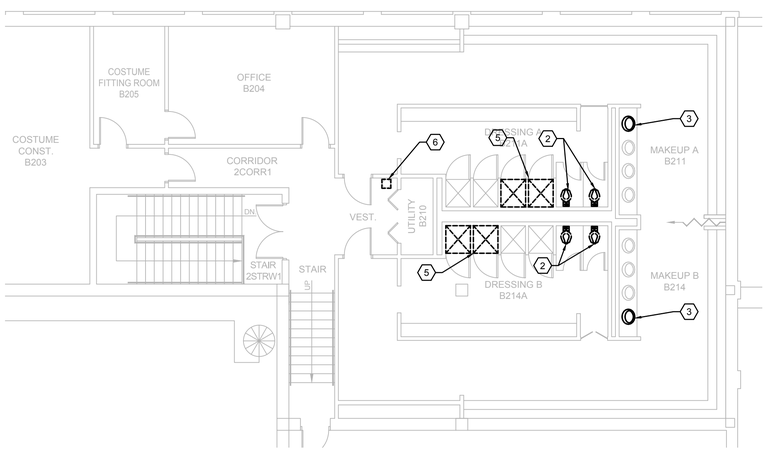
FAIN FINE ARTS - FIRST FLOOR - AREA 1A PLUMBING DEMOLITION PLAN

1 / FF-PD101 SCALE: 1/8" = 1'-0"



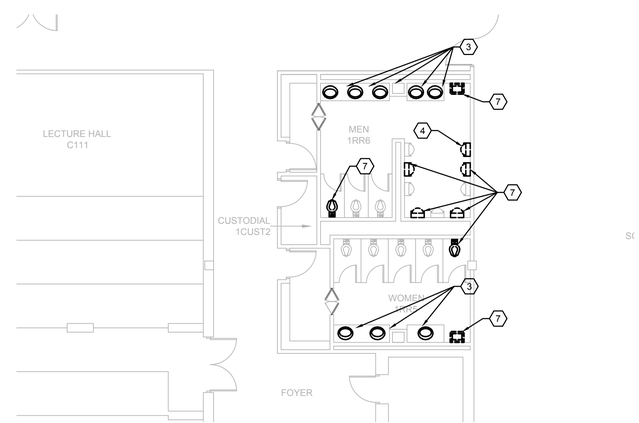
FAIN FINE ARTS - FIRST FLOOR - AREA 1C PLUMBING DEMOLITION PLAN

2 / FF-ED102 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - SECOND FLOOR - AREA 2A PLUMBING DEMOLITION PLAN

3 / FF-PD101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - FIRST FLOOR - AREA 1E PLUMBING DEMOLITION PLAN

4 / FF-PD101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE EXISTING ELECTRIC WATER COOLER. CAP DOMESTIC,SANITARY AND VENT PIPE LINES FOR REUSE.
2. REMOVE WATER CLOSETS. KEEP THE ONE THAT IS IN BETTER CONDITIONS FOR REUSE. CAP DOMESTIC,SANITARY AND VENT PIPE LINES FOR REUSE ONCE ONE OF THEM IS RELOCATED PER ADA AND TAS REQUIREMENTS.
3. REMOVE EXISTING LAVATORY AND KEEP IT FOR REUSE. CAP DOMESTIC, SANITARY AND VENT PIPE LINES FOR REUSE ONCE THE LAVATORY IS INSTALLED PER ADA AND TAS REQUIREMENTS.
4. REMOVE EXISTING URINAL AND KEEP IT FOR REUSE. CAP DOMESTIC, SANITARY AND VENT PIPE LINES FOR REUSE ONCE THE LAVATORY IS INSTALLED PER ADA AND TAS REQUIREMENTS.
5. REMOVE EXISTING SHOWER HEAD AND SHOWER DRAIN. PREP DOMESTIC,SANITARY AND VENT PIPE LINES TO BE REUSED BY NEW ADA SHOWER STALL.
6. REMOVE EXISTING ELECTRIC WATER COOLER. PREP DOMESTIC,SANITARY AND VENT PIPE LINES TO BE EXTENDED AND REUSED BY NEW EWC.
7. REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED APPURTENANCES. DEMOLISH AND CAP DOMESTIC AND VENT LINES BACK TO MAINS, AND SANITARY TO BELOW SLAB. FIELD VERIFY EXACT NUMBER AND LOCATION OF PLUMBING FIXTURES.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

AIA HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

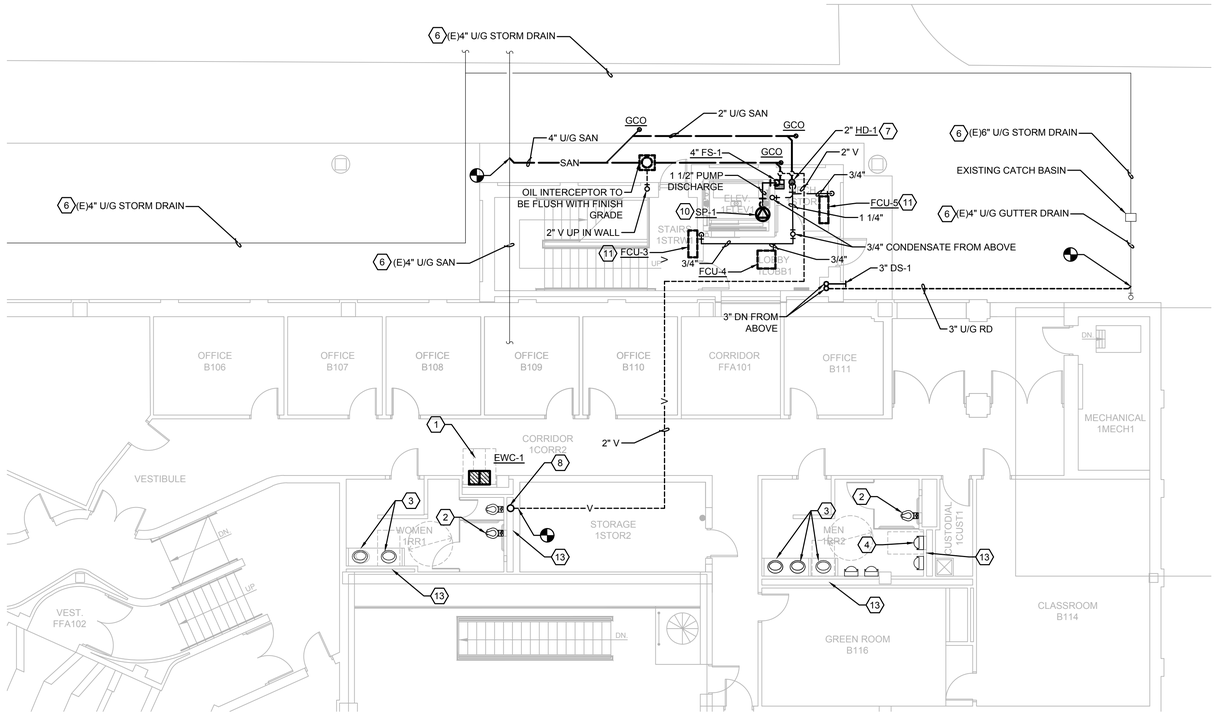
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

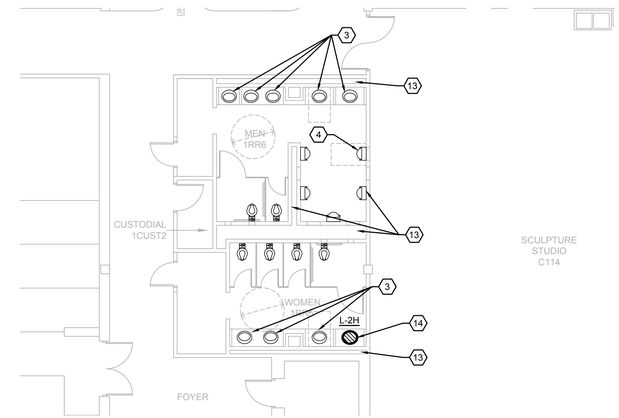
© 2017 HARPER PERKINS ARCHITECTS

FF-PD101



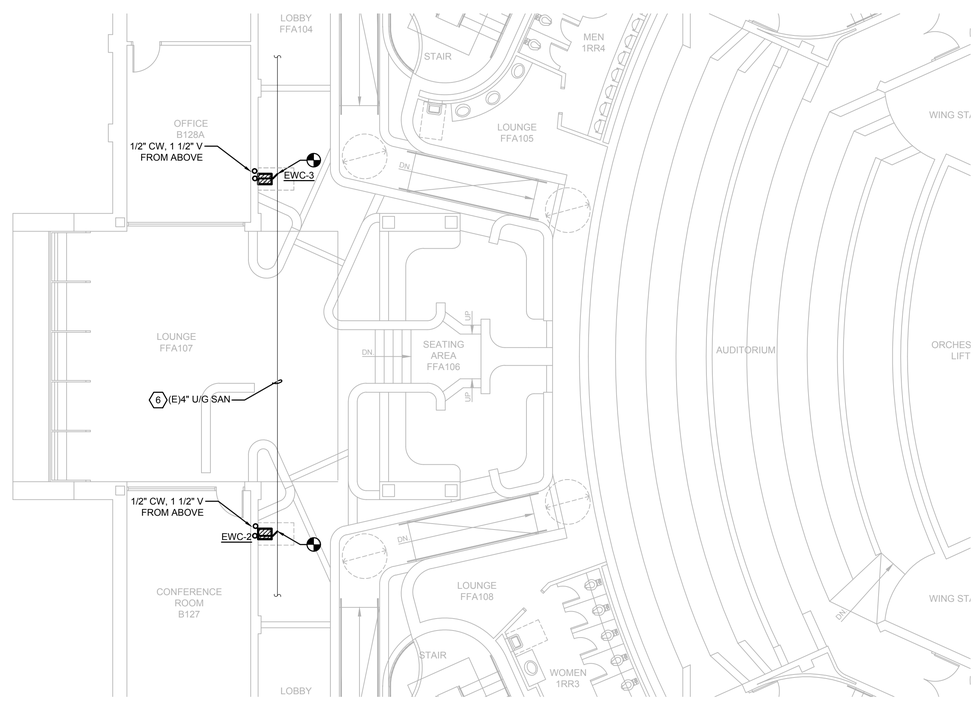
FAIN FINE ARTS - FIRST FLOOR - AREA 1A PLUMBING PLAN

1 FF-P101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - FIRST FLOOR - AREA 1E PLUMBING PLAN

2 FF-P101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - FIRST FLOOR - AREA 1D PLUMBING PLAN

3 FF-P101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

1. NEW ADA COMPLIANT EWC. REUSE THE DOMESTIC, SANITARY AND VENT LINES CAPPED DURING DEMOLITION.
2. REINSTALL WATER CLOSET REMOVED AND KEPT DURING DEMOLITION. CONNECT TO DOMESTIC, SANITARY AND VENT LINES PREVIOUSLY CAPPED. IF WATER CLOSET WAS DESTROYED DURING DEMOLITION REPLACE WITH ONE OF SAME MANUFACTURER, MODEL AND COLOR. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
3. REINSTALL LAVATORY REMOVED AND KEPT DURING DEMOLITION. CONNECT TO DOMESTIC, SANITARY AND VENT LINES PREVIOUSLY CAPPED. IF LAVATORY WAS DESTROYED DURING DEMOLITION REPLACE WITH ONE OF SAME MANUFACTURER, MODEL AND COLOR. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF HANDICAPPED LAVATORY. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
4. REINSTALL URINAL REMOVED AND KEPT DURING DEMOLITION. CONNECT TO DOMESTIC, SANITARY AND VENT LINES PREVIOUSLY CAPPED. IF URINAL WAS DAMAGED DURING DEMOLITION REPLACE WITH ONE OF SAME MANUFACTURER, MODEL AND COLOR. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
5. NEW SHOWER STALL. RECONNECT TO DOMESTIC,SANITARY AND VENT PIPE LINES CAPPED DURING DEMOLITION. INSTALL SHOWER HEAD AND VALVE AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
6. EXISTING UNDERGROUND PIPE. FIELD VERIFY EXACT LOCATION AND SIZE.
7. HUB DRAIN TO BE INSTALLED AT LEAST 6 FEET A.F.F.
8. EXISTING 4" VENT RISER. FIELD VERIFY EXACT LOCATION AND SIZE.
9. EXISTING 2 " CW RISER. FIELD VERIFY EXACT LOCATION AND SIZE.
10. ELEVATOR SUMP SYSTEM INSTALLED AT BASE OF ELEVATOR SHAFT. REFER TO SHEET P-003 FOR INFORMATION ABOUT THE SUMP PUMP, OIL INTERCEPTOR AND ADDITIONAL REQUIREMENTS.
11. PROVIDE FAN COIL UNIT WITH CONDENSATE PUMP.
12. INSTALL NFHB BETWEEN 12 AND 18 INCHES FROM PARAPET AND AT LEAST 3'-0" AWAY FROM ROOF EDGE.
13. REWORK WET WALL SERVICES AS REQUIRED FOR NEW/ RE-INSTALLED FIXTURE.
14. NEW ADA COMPLIANT LAVATORY. REUSE THE DOMESTIC, SANITARY AND VENT LINES CAPPED DURING DEMOLITION.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

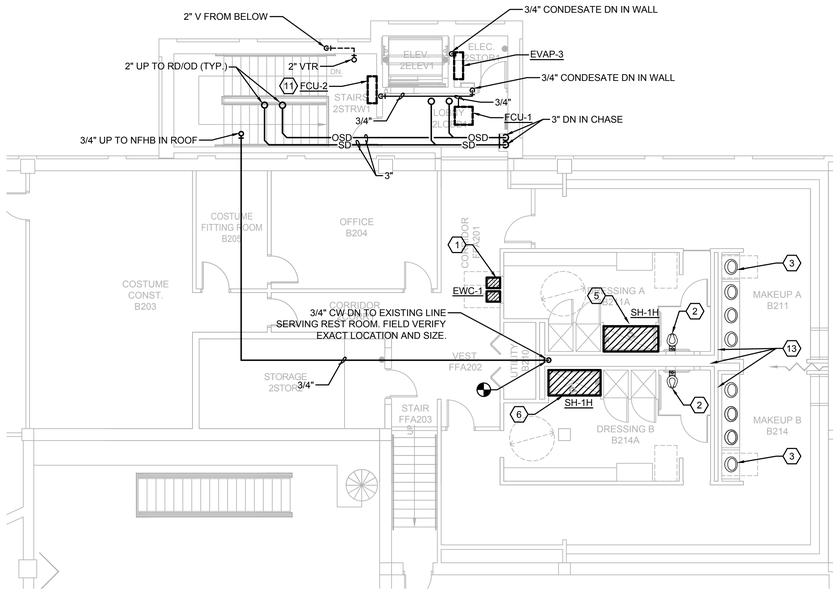
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

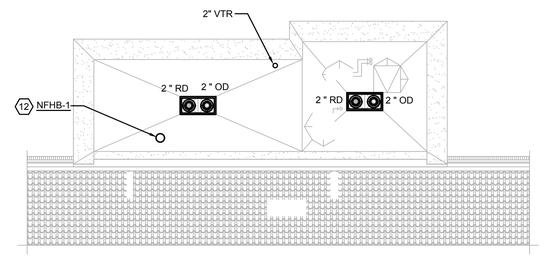
© 2017 HARPER PERKINS ARCHITECTS

FF-P101



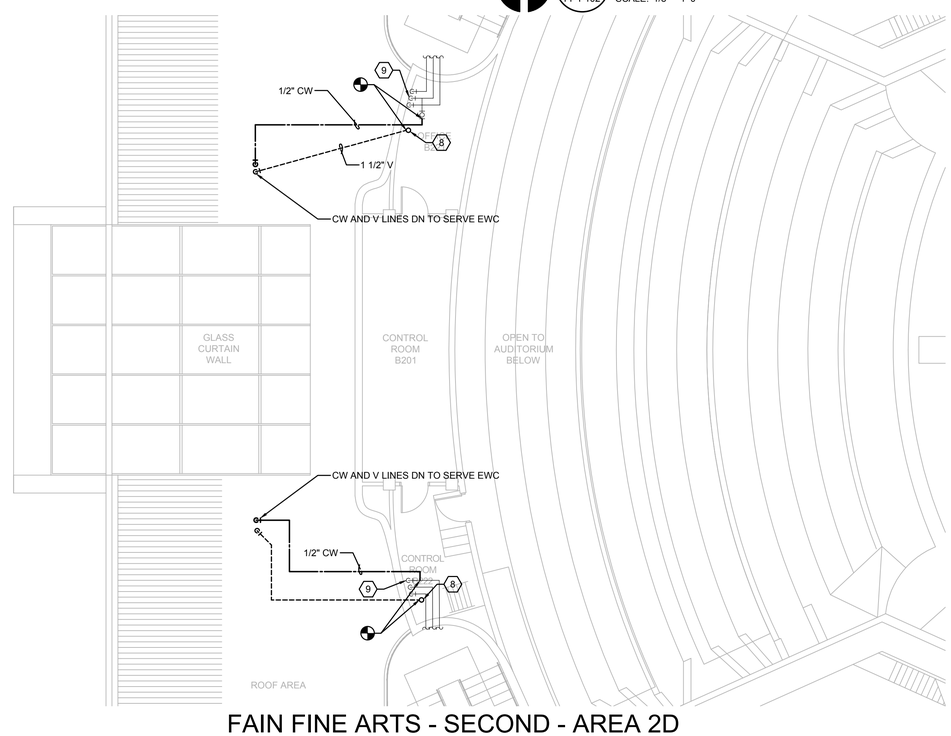
FAIN FINE ARTS - SECOND FLOOR - AREA 2A PLUMBING PLAN

1 FF-P102 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - ROOF - AREA R2A PLUMBING PLAN

2 FF-P102 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - SECOND - AREA 2D PLUMBING PLAN

3 FF-P102 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

1. NEW ADA COMPLIANT EWC. REUSE THE DOMESTIC, SANITARY AND VENT LINES CAPPED DURING DEMOLITION.
2. REINSTALL WATER CLOSET REMOVED AND KEPT DURING DEMOLITION. CONNECT TO DOMESTIC, SANITARY AND VENT LINES PREVIOUSLY CAPPED. IF WATER CLOSET WAS DESTROYED DURING DEMOLITION REPLACE WITH ONE OF SAME MANUFACTURER, MODEL AND COLOR. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
3. REINSTALL LAVATORY REMOVED AND KEPT DURING DEMOLITION. CONNECT TO DOMESTIC, SANITARY AND VENT LINES PREVIOUSLY CAPPED. IF LAVATORY WAS DESTROYED DURING DEMOLITION REPLACE WITH ONE OF SAME MANUFACTURER, MODEL AND COLOR. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF HANDICAPPED LAVATORY. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
4. REINSTALL URINAL REMOVED AND KEPT DURING DEMOLITION. CONNECT TO DOMESTIC, SANITARY AND VENT LINES PREVIOUSLY CAPPED. IF URINAL WAS DAMAGED DURING DEMOLITION REPLACE WITH ONE OF SAME MANUFACTURER, MODEL AND COLOR. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
5. NEW SHOWER STALL. RECONNECT TO DOMESTIC,SANITARY AND VENT PIPE LINES CAPPED DURING DEMOLITION. INSTALL SHOWER HEAD AND VALVE AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.
6. EXISTING UNDERGROUND PIPE. FIELD VERIFY EXACT LOCATION AND SIZE.
7. HUB DRAIN TO BE INSTALLED AT LEAST 6 FEET A.F.F.
8. EXISTING 4" VENT RISER. FIELD VERIFY EXACT LOCATION AND SIZE.
9. EXISTING 2" CW RISER. FIELD VERIFY EXACT LOCATION AND SIZE.
10. ELEVATOR SUMP SYSTEM INSTALLED AT BASE OF ELEVATOR SHAFT. REFER TO SHEET P-003 FOR INFORMATION ABOUT THE SUMP PUMP, OIL INTERCEPTOR AND ADDITIONAL REQUIREMENTS.
11. PROVIDE FAN COIL UNIT WITH CONDENSATE PUMP.
12. INSTALL NFHB BETWEEN 12 AND 18 INCHES FROM PARAPET AND AT LEAST 3'-0" AWAY FROM ROOF EDGE. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
13. REWORK WET WALL SERVICES AS REQUIRED FOR NEW/ RE-INSTALLED FIXTURE.
14. NEW ADA COMPLIANT LAVATORY. REUSE THE DOMESTIC, SANITARY AND VENT LINES CAPPED DURING DEMOLITION.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

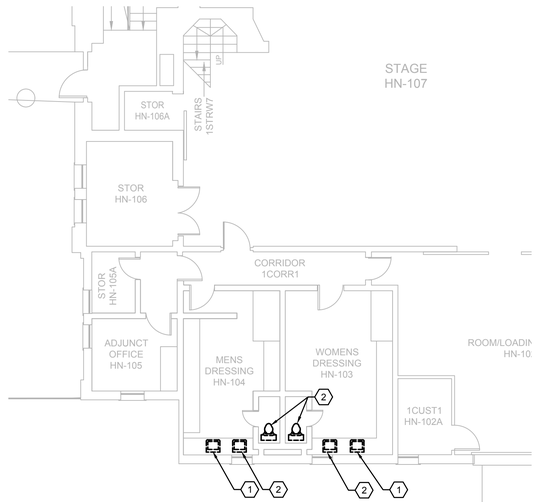
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

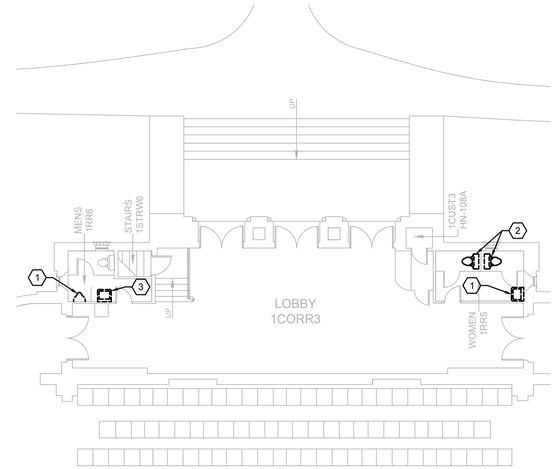
© 2017 HARPER PERKINS ARCHITECTS

FF-P102



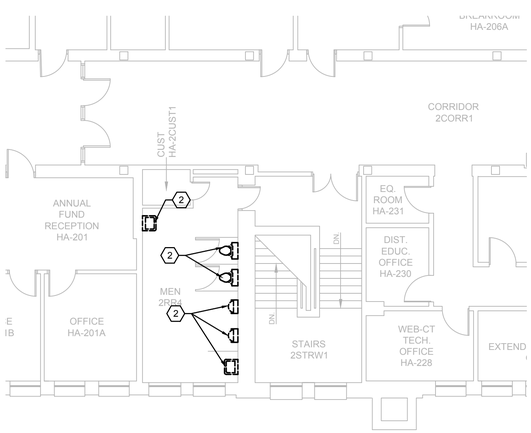
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1A PLUMBING DEMOLITION PLAN

1 / H-PD101 SCALE: 1/8" = 1'-0"



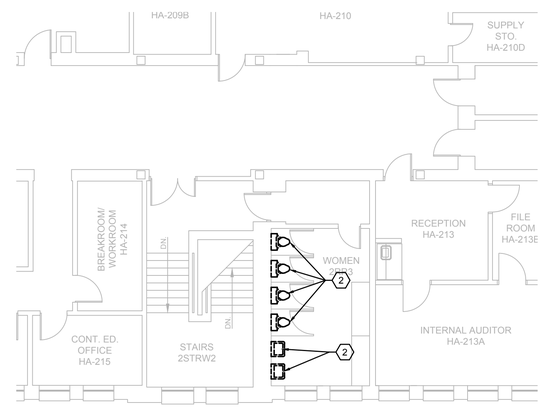
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1B PLUMBING DEMOLITION PLAN

2 / H-PD101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2B PLUMBING DEMOLITION PLAN

3 / H-PD101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2C PLUMBING DEMOLITION PLAN

4 / H-PD101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED APPURTENANCES. DEMOLISH AND CAP DOMESTIC AND VENT LINES BACK TO MAINS, AND SANITARY TO BELOW SLAB. FIELD VERIFY EXACT NUMBER AND LOCATION OF PLUMBING FIXTURES.
2. REMOVE PLUMBING FIXTURE. CAP SANITARY AND VENT PIPE LINES BELOW FLOOR FOR REUSE.
3. REMOVE EXISTING PLUMBING FIXTURE AND APPURTENANCES AND SAVE FOR REUSE. DEMOLISH AND CAP DOMESTIC AND VENT LINES BACK TO MAINS, AND SANITARY TO BELOW SLAB.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

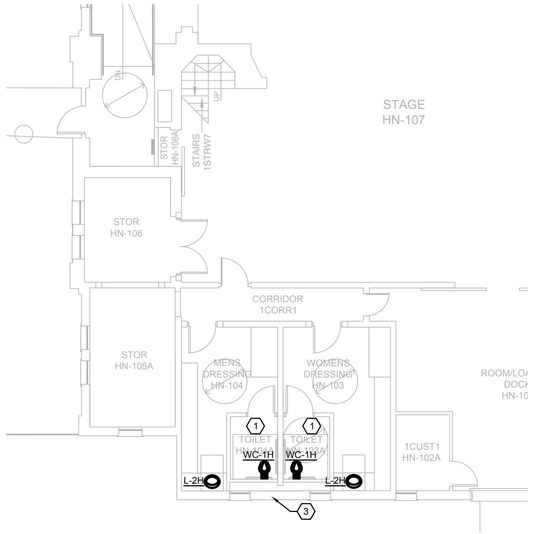
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

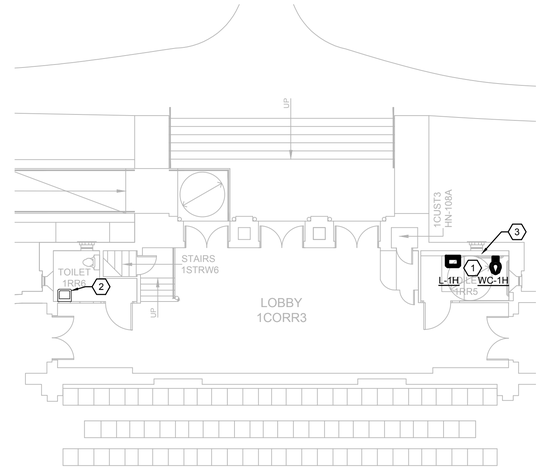
© 2017 HARPER PERKINS ARCHITECTS

H-PD101



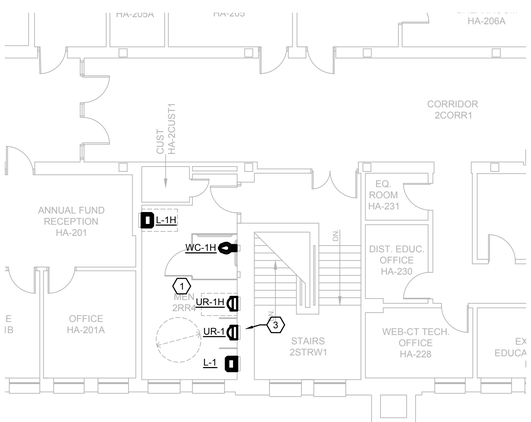
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1A
PLUMBING PLAN

1 / H-P101 SCALE: 1/8" = 1'-0"



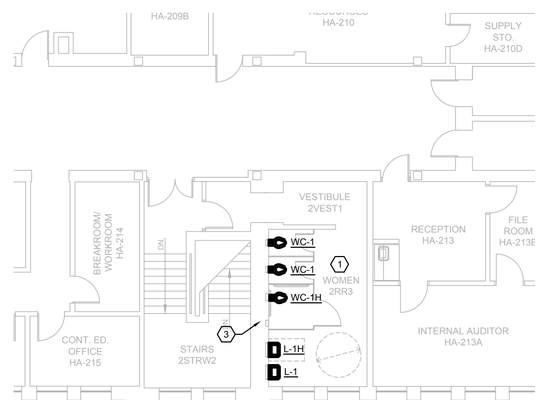
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1B
PLUMBING PLAN

2 / H-P101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2B
PLUMBING PLAN

3 / H-P101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2C
PLUMBING PLAN

4 / H-P101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. INSTALL NEW PLUMBING FIXTURES IN THIS RESTROOM. RECONNECT TO PLUMBING LINES CAPPED DURING DEMOLITION. UPSIZE DOMESTIC WATER CONNECTION FOR WATER CLOSETS IF NEEDED.

2. REINSTALL EXISTING LAVATORY AND APPURTENANCES REMOVED DURING DEMOLITION. CONNECT FIXTURE TO PLUMBING LINES CAPPED FOR REUSE DURING DEMOLITION.

3. REWORK WET WALL SERVICES TO NEW WET WALL.

FRED C. CRABTREE, JR.
109799
LICENSED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

H-P101

ELEVATOR SUMP PUMP SYSTEM

GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL A PARKUSA ELEVADER MODEL ELV-100 COMPLETE PUMP, SEPARATOR, AND CONTROL AND ALARM SYSTEM AS SHOWN ON THE DRAWINGS. PUMP(S) SHALL BE PROVIDED FOR EACH ELEVATOR HOISTWAY.

THE SYSTEM SHALL BE CAPABLE OF PUMPING ALL WATER & FLUIDS AUTOMATICALLY FROM THE ELEVATOR PIT AS REQUIRED BY TDLR (TEXAS DEPARTMENT OF LICENSING AND REGULATION) ELEVATOR RULES AND ASME A17.1/CSA B44 SAFETY CODE FOR ELEVATORS AND ESCALATORS, 2007, SECTION 2.2.2.5. THE SYSTEM SHALL FUNCTION AUTOMATICALLY TO REMOVE WATER AND FLUIDS FROM THE PIT AUTOMATICALLY WITHOUT ANY HUMAN INTERVENTION. SYSTEMS THAT DO NOT REMOVE ALL THE FLUID INCLUDING OIL ARE NOT COMPLIANT AND WILL NOT BE ACCEPTED.

AN OIL-WATER SEPARATOR OR EQUIVALENT PROTECTION SHALL BE USED TO TREAT OILY WASTEWATER AUTOMATICALLY FROM THE ELEVATOR PIT PRIOR TO DISCHARGE INTO THE PUBLIC SANITARY SEWER AS REQUIRED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND LOCAL PLUMBING CODES. PUMPING INTO THE STORM SEWER IS NOT PERMITTED. SYSTEMS THAT DO NOT REMOVE THE OIL WILL NOT BE ACCEPTED.

SUMP PUMP

A SUBMERSIBLE SUMP PUMP IS LOCATED IN THE SUMP AREA OF THE ELEVATOR (REFER TO PLAN DRAWINGS). THE SUMP PUMP SHALL BE AS SPECIFIED ON THE SCHEDULE, HEAVY DUTY SUBMERSIBLE TYPE, CAPABLE OF PUMPING WATER, WATER/OIL AND OIL AT A MINIMUM CAPACITY OF 50 GPM @ 23' TDH, (3000 GPH AS PER ASME A17.1 SECTION 2.2.2.5 (2007). THE PUMP SHALL BE CONSTRUCTED AND TESTED TO MEET UL 778 STANDARDS AND SHALL INCLUDE THERMAL OVERLOAD PROTECTION. REFER TO THE SCHEDULE FOR CAPACITY AND ELECTRICAL REQUIREMENTS. THE PUMP SHALL BE CAPABLE OF OPERATING WITH THE WATER LEVEL COVERING ONLY 50% OF THE MOTOR CASING AND SHALL OPERATE AUTOMATICALLY EITHER CONTINUOUSLY OR INTERMITTENTLY AS REQUIRED BY THE ON-OFF FLOAT SWITCH CONTROL. THE PUMP SHALL HAVE A SIZE 1-1/4" MINIMUM DISCHARGE CONNECTION. THE MOTOR HOUSING AND FASTENING BOLTS SHALL BE CONSTRUCTED OF 304 STAINLESS STEEL AND HAVE CARBON CERAMIC SEALS. THE PUMP SHALL HAVE A SEMI-OPEN, NON-CLOGGING VORTEX IMPELLER AND SHALL BE DESIGNED FOR FLOOR MOUNTING COMPLETE WITH SUPPORT LEGS. A STAINLESS CHAIN SHALL BE PROVIDED FOR EASY MAINTENANCE.

OIL/WATER SEPARATOR

THE SEPARATOR IS LOCATED EITHER FREESTANDING; OR RECESSED ON FLOOR NEAR THE SHAFT; OR LOCATED OUTDOORS BURIED BELOW GRADE. REFER TO THE SCHEDULE FOR CAPACITY AND SIZE REQUIREMENTS. THE SEPARATOR UNIT IS RATED FROM 50 TO 200 GPM DEPENDING ON THE QUANTITY OF ELEVATOR SHAFTS TO BE SERVED, 50 GPM OR 3000 GPH AS PER ASME A17.1 SECTION 2.2.2.5 (2007). THE OIL/WATER SEPARATOR SHALL BE A PRE-ENGINEERED ENHANCED GRAVITY SEPARATOR CAPABLE OF TREATING WASTEWATER DISCHARGE FREE OF PETROLEUM HYDROCARBONS, CONCENTRATION OF LESS THAN 100 PARTS PER MILLION. OPERATING RANGE OF THE INFLUENT IS 40°F TO 180°F AND AMBIENT AIR TEMPERATURE FROM 0°F TO 140°F. THE SPECIFIC GRAVITY OF THE OILS AT THESE OPERATING TEMPERATURES IS .70 TO .95. THE SEPARATOR SHALL DESIGNED TO WITHSTAND STATIC AND DYNAMIC HYDRAULIC LOADINGS WHILE EMPTY AND DURING OPERATION. THE TANK SHALL BE CONSTRUCTED OF 4500 PSI PRECAST CONCRETE CONFORMING TO ASTM C-913 FOR TANKS, WEIRS, FLOW DISTRIBUTORS, AND ENERGY DISSIPATER DEVICES. ALL INTERNAL COMPONENTS SHALL CONSIST OF CORROSION RESISTANT MATERIALS OR BE EPOXY COATED. ALL WELDING SHALL BE ACCORDANCE WITH AWA D1.1 TO PROVIDE WATERTIGHT VESSEL THAT WILL NOT WARP OR DEFORM EXCESSIVELY UNDER LOAD. MANWAY ACCESS COVER SHALL BE H-20 TRAFFIC DUTY ,BOLTED AND GASKETED. THE SEPARATOR SHALL UTILIZE COALESCING MEDIA FABRICATED OF CALCIUM CARBONATE-FILLED OLEOPHILLIC POLYPROPYLENE PLASTIC MATERIAL AND ASSEMBLED INTO MODULES WITH 304 STAINLESS STEEL MATERIALS. MEDIA ASSEMBLY SHALL BE SELF-CLEANING AND REMOVABLE.

CONTROL SYSTEM

THE CONTROL SYSTEM SHALL CONSIST OF FLOAT SENSORS AND A SINGLE CONTROL PANEL (NEMA 4X WEATHERPROOF) THAT IS WALL MOUNTED NEAR THE ELEVATOR SHAFT. THE CONTROL PANEL SHALL BE CONSTRUCTED AND TESTED TO MEET UL508 STANDARDS AND SHALL BE HOUSED IN A WEATHERPROOF NEMA 4X ELECTRICAL ENCLOSURE WITH A WIRING TERMINAL STRIP FOR FIELD WIRING TO THE J-BOX IN THE HOISTWAY.

THE CONTROL PANEL SHALL HAVE THE FOLLOWING FUNCTIONS:

A. OPERATES THE SUMP PUMP, "ON/OFF" DEPENDING ON SHAFT WATER LEVELS. THE PANEL SHALL HAVE A "HAND-OFF-AUTO" SWITCH, A "PUMP RUN" LIGHT, AND AUXILIARY CONTACTS FOR A BAS SYSTEM.

B. INDICATES "SUMP HIGH LEVEL" OF THE ELEVATOR SHAFT. IN THE EVENT OF PUMP MALFUNCTION, THE PANEL SHALL HAVE A "SUMP HIGH LEVEL" ILLUMINATED RED LIGHT AND HIGH DECIBEL WARNING HORN, A "SILENCE" SWITCH AND AUXILIARY DRY CONTACTS FOR BAS SYSTEM.

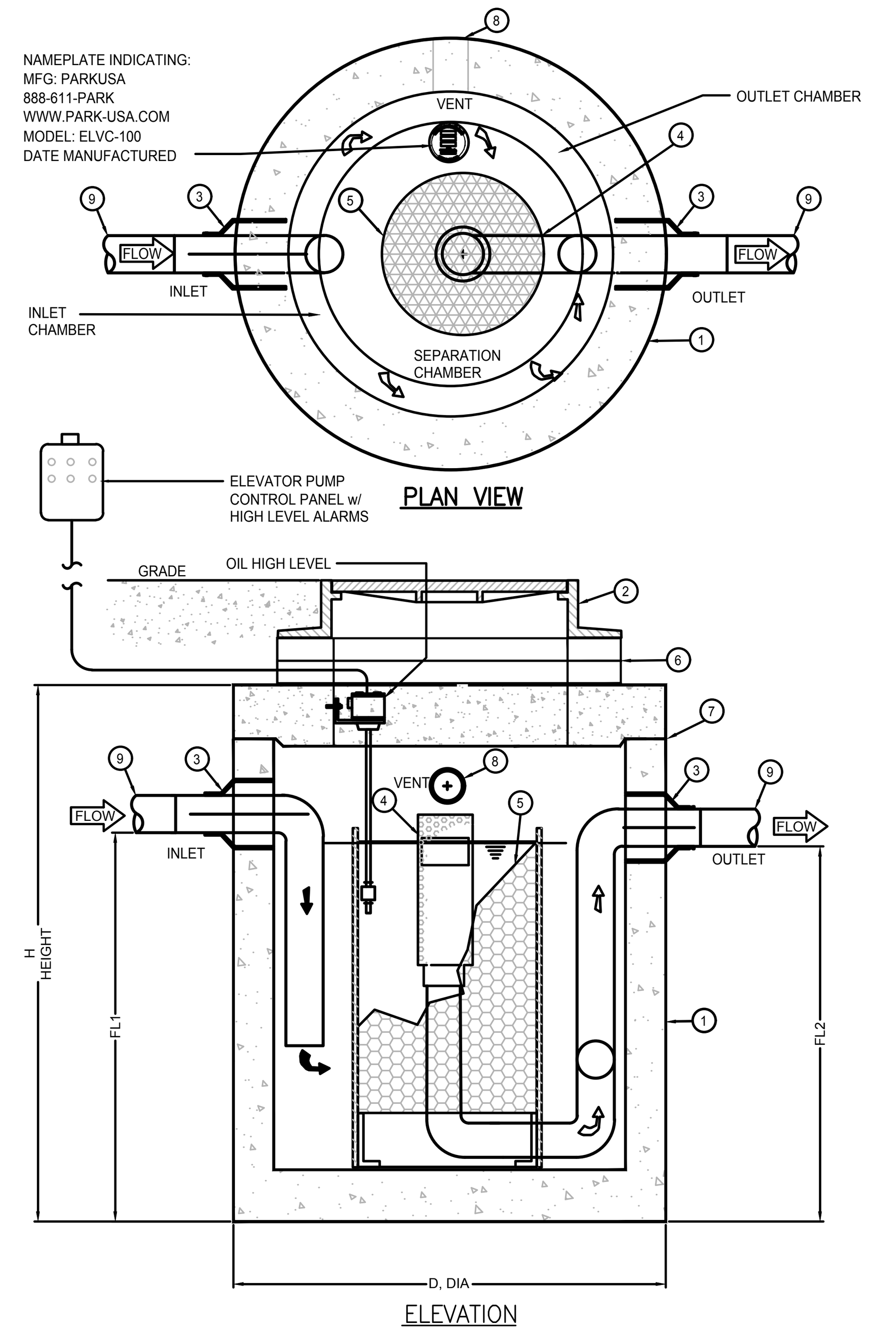
C. INDICATES "HIGH OIL LEVEL" OF THE SEPARATOR. IN THE EVENT OF A HIGH ACCUMULATION OF OIL IN THE SEPARATOR, THE PANEL SHALL HAVE A "SEPARATOR HIGH LEVEL" ILLUMINATED RED LIGHT & HIGH DECIBEL WARNING HORN, A "SILENCE" SWITCH, AND AUXILIARY DRY CONTACTS FOR BAS SYSTEM. NOTE: THE PRESENCE OF OIL DOES NOT PREVENT THE PUMP FROM OPERATING.

THE PANEL ALSO INCLUDES A SEPARATE OVER-CURRENT RELAY AND FIELD ADJUSTABLE MOTOR OVERLOAD HAVING A RANGE OF 5 TO 15 AMPS, FACTORY SET AT 8 AMPS FOR THIS PUMP APPLICATION. THE CONTROL PANEL SHALL HAVE A COMBINATION MANUAL "RESET/PUSH" TO TEST SWITCH FOR MOTOR OVERLOAD WITH BOTH AUTOMATIC, MANUAL RESET AND CONTROL DIAGNOSTICS. THE CONTROL SYSTEM MUST BE FACTORY SET FOR AUTOMATIC OVERLOAD RESTART.

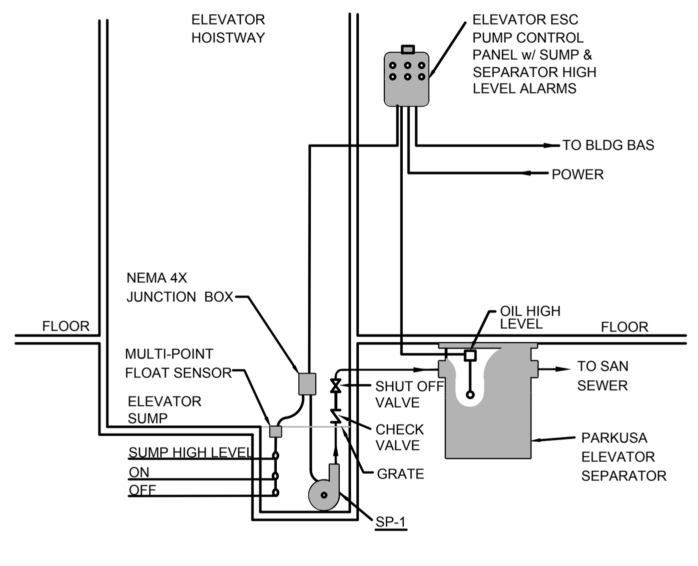
THE CONTROL SYSTEM SHALL INCLUDE THREE FIELD ADJUSTABLE FLOAT SWITCHES LOCATED IN THE SUMP; PUMP OFF, PUMP ON, AND HIGH LEVEL. PROVIDE A FACTORY PREWIRED NEMA 6P WATER TIGHT JUNCTION BOX WITH A DIN RAIL MOUNTED WIRING TERMINAL STRIP. PROVIDE FACTORY INSTALLED WIRING OF PUMP AND FLOATS INTO A NEMA 6P JUNCTION BOX. ALL CABLES BETWEEN THE PUMP AND JUNCTION BOX SHALL BE A MAXIMUM OF 6' LONG PER NEC 2008. THE CABLE SHALL BE HEAVY USAGE, WATER TIGHT AND OIL RESISTANT. THE FLOATS AND OIL SENSING PROBE SHALL BE FACTORY MOUNTED ON THE PUMP HOUSING. ALL CABLE ENTRIES INTO THE J-BOX FROM THE PUMP PIT SHALL HAVE NEMA 6P WATER TIGHT CORD GRIPS. THE OIL SENSING PROBE IS TO BE FACTORY MOUNTED AND POSITIONED WITHIN THE SEPARATOR AND FACTORY TESTED AS A COMPLETE SYSTEM.

ACCEPTABLE MANUFACTURERS:

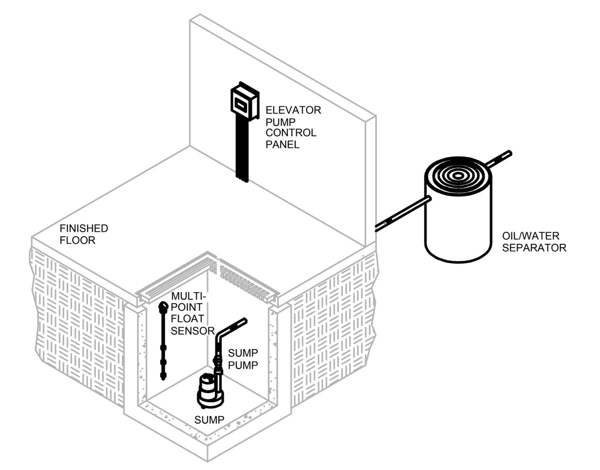
PARKUSA ELEVADER SYSTEM, OR ENGINEERED PRE-APPROVED EQUAL, PROVIDED ALL OF THE SPECIFICATIONS ARE MET.



1 ELEVATOR SUMP SYSTEM
SCALE: NONE



1B ELEVATOR SUMP DETAIL
NOT TO SCALE (BELOW GROUND SEPARATOR)



NOTES

1. SEPARATOR BASIN, PRECAST CONCRETE w/ INTERIOR EPOXY LINER & EXTERIOR VAPOR BARRIER
2. GASTITE, HINGED, DUCTILE IRON ACCESS COVER WITH NEOPRENE GASKET, H-20 TRAFFIC RATED
3. RESILIENT RUBBER CONNECTION
4. OIL/STOP-FLOW AUTOMATIC SHUT-OFF VALVE AT OUTLET PIPING
5. OLEOPHILLIC COALESCING PLATE PACK TO SEPARATE OIL & SOLIDS
6. EXTENSION RINGS AS REQUIRED
7. JOINTS SEALED WATER-TIGHT WITH OIL RESISTANT GASKET
8. VENT - NPT HALF CPLG
9. PIPING BY OTHERS

2 ELEVATOR SUMP PUMP SEPARATOR DETAIL
SCALE: NONE

ELEVATOR SUMP SYSTEM SCHEDULE

SYSTEM MODEL		SEPARATOR DATA								SUBMERSIBLE PUMP DATA (SP-1)						
SYSTEM SIZE	ELEVATORS	SEPARATOR MODEL	FLOW CAP GPM	TOTAL CAPACITY	OIL SPILL CAPACITY	DIA D	HEIGHT H	INLET FL1	OUTLET FL2	FLOW CAP GPM	TDH	DISCH SIZE	RPM	HP	VOLT/PH	MANUF./MODEL
ELVC-100	1	EC-100	50	100 GAL	50 GAL	44"	54"	39"	36"	50	12'	1 1/4"	1750	.50	115/1	ZOELLER/ 153

NOTES:

1. REFERENCE STRUCTURAL DRAWINGS FOR ELEVATOR SUMP BASIN SIZE.

PLUMBING EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NUMBER	SPECIFICATION
GCO	GROUND CLEANOUT	JOSAM	S-7008-Z-CL	COATED CAST IRON FLOOR CLEANOUT. INTERNAL GASKETED ABS CLEANOUT PLUG. NO-HUB CONECTION AND ADJUSTABLE ABS HOUSING WITH SPECIAL DUTY SCORIATED SECURED ROUND CAST IRON TOP.
FS-1	FLOOR SINK	JOSAM	49300	CAST IRON WITH ACID RESISTING INTERIOR, DOUBLE DRAINAGE FLANGE, WEEP HOLES, BOTTOM OUTLET. SQUARE TOP,ALUMINUM INTERNAL DOME STRAINER AND CAST IRON NON TRAFFIC,ACID RESISTING,ANTI-TILTING HALF (1/2) GRATE. POVIDE WITH TRAP GUARD.
HD-1	HUB DRAIN	-	-	CAST IRON SOIL PIPE INCREASER FITTING. HUB TO BE ONE SIZE LARGER THAN SPIGOT END.POVIDE WITH AIR GAP JOSAM 889000 AND TRAP GUARD.
DS-1	DOWNSPOUT NOZZLE	J.R.SMITH	FIG. #1770	DOWNSPOUT NOZZLE CAST BRONZE BODY AND FLANGE. MOUNT 12 INCHES ABOVE THE FINISH GRADE. PROVIDE CONCRETE SPLASH BLOCK IF NEEDED.
RD/OD	ROOF DRAIN/ OVERFLOW DRAIN	J.R. SMITH	FIG. #1800	DUCO CAST IRON BODIES WITH COMBINED FLASHING CLAMP AND GRAVEL STOPS FOR ROOF DRAIN, AND COMBINED FLASHING CLAMP AND GRAVEL STOPS WITH 3.5" HIGH INTERNAL WATER DAM STANDPIPE FOR OVERFLOW DRAIN. DECK PLATE WITH SECURITY HOLES. BOTH DRAINS WITH CAST IRON DOMES.
NFHB-1	NON- FREZEE ROOF HOSE BIB	WOODFORD	MODEL SRH-MS	NON-FREEZE ROOF POST HYDRANT TYPE WITH GALVANIZED CASING AND ADJUSTABLE FLOW LEVEL LOCK HANDLE WITH DECK FLANGE AND UNDER DECK CLAMP. 3/4" HOSE ADAPTER PROVIDE WITH INTEGRAL BACKFLOW PREVENTER.

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NUMBER	SPECIFICATION	FIXTURE CONNECTIONS			
					CW	HW	WASTE	VENT
WC-1	WATER CLOSET	AMERICAN STANDARD	AFWALL #2859.111	1.1 GALLON PER FLUSH ELONGATED BOWL TOP SPUD VITREOUS CHINA WATER CLOSETWITH OPEN FRONT WHITE SEAT CHURCH MODEL 9500 SSC. FURNISH WATER CLOSET COMPLETE WITH AMERICAN STANDARD 1.1 FPF MANUAL FLUSH VALVE, MODEL 6047.111.002 EXPOSED FLUSH VALVE. PROVIDE JOSAM FLOOR MOUNTED CAST IRON SUPPORT.	1"	-	4"	2"
WC-1H	WATER CLOSET (ADA COMPLIANT)	AMERICAN STANDARD	AFWALL #2859.111	1.1 GALLON PER FLUSH ELONGATED BOWL TOP SPUD VITREOUS CHINA WATER CLOSETWITH OPEN FRONT WHITE SEAT CHURCH MODEL 9500 SSC. FURNISH WATER CLOSET COMPLETE WITH AMERICAN STANDARD 1.1 GPF MANUAL FLUSH VALVE, MODEL 6047.111.002 EXPOSED FLUSH VALVE. PROVIDE JOSAM FLOOR MOUNTED CAST IRON SUPPORT. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	1"	-	4"	2"
UR-1	URINAL	AMERICAN STANDARD	WASHBROOK 6590.125	VITREOUS CHINA WASHOUT LOW CONSUMPTION 0.125 GALLON PER FLUSH URINALWITH 3/4 INCH TOP SPUD, 2 INCH FEMALE THREADED OUTLET. TWO WALL HANGERS MOUNTED ON STRUCTURAL STEEL SUPPORTS ANCHORED TO FLOOR. FURNISH URINAL COMPLETE WITH SLOAN OPTIMA 186-0.125 HEU EXPOSED FLUSH VALVE AND FLOOR MOUNTED CAST IRON SUPPORTS SIMILAR TO JOSAM PRO-SET UPRIGHTS.	3/4"	-	2"	1 1/2"
UR-1H	URINAL (ADA COMPLIANT)	AMERICAN STANDARD	WASHBROOK 6590.125	VITREOUS CHINA WASHOUT LOW CONSUMPTION 0.5 GPF URINAL WITH 3/4 INCH TOP SPUD, 2 INCH FEMALE THREADED OUTLET. TWO WALL HANGERS MOUNTED ON STRUCTURAL STEEL SUPPORTS ANCHORED TO FLOOR. FURNISH URINAL COMPLETE WITH SLOAN OPTIMA 186-0.5 XL HEU EXPOSED FLUSH VALVE. PROVIDE FLOOR MOUNTED CAST IRON SUPPORTS SIMILAR TO JOSAM PRO-SET UPRIGHTS. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	3/4"	-	2"	1 1/2"
L-1	LAVATORY (ADA COMPLIANT)	AMERICAN STANDARD	LUCERNE 0355.012	SINGLE BOWL LAVATORY, WALL HUNG, 20 -1/2" X 18-1/4", WHITE VITREOUS CHINA, FAUCET HOLES 4" ON CENTER, FRONT OVERFLOW. PROVIDE CHICAGO FAUCET MODEL 420-E2805ABCP FAUCET, WITH 0.5 GPM AERATOR , 4" WRISTBLADES . PROVIDE LAVATORY WITH,STRAINER McGUIRE 155WC, P-TRAP McGUIRE 8872,SUPPLIES McGUIRE 2165 LK. PROVIDE WITH THERMOSTATIC MIXING VALVE ZURN ZW3870XLT OR EQUAL. CARRIER SIMILAR TO WADE W520-M36.MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	1/2"	1/2"	1 1/2"	1 1/2"
L-1H	LAVATORY (ADA COMPLIANT)	AMERICAN STANDARD	LUCERNE 0355.012	SINGLE BOWL LAVATORY, WALL HUNG, 20 -1/2" X 18-1/4", WHITE VITREOUS CHINA, FAUCET HOLES 4" ON CENTER, FRONT OVERFLOW. PROVIDE CHICAGO FAUCET MODEL 420-E2805ABCP FAUCET, WITH 0.5 GPM AERATOR , 4" WRISTBLADES . PROVIDE LAVATORY WITH,STRAINER McGUIRE 155WC, P-TRAP McGUIRE 8872,SUPPLIES McGUIRE 2165 LK. PROVIDE WITH THERMOSTATIC MIXING VALVE ZURN ZW3870XLT OR EQUAL. CARRIER SIMILAR TO WADE W520-M36. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	1/2"	1/2"	1 1/2"	1 1/2"
L-2H	LAVATORY (ADA COMPLIANT)	AMERICAN STANDARD	PIAZZA 0478.803	WHITE VITREOUS CHINA COUNTERTOP LAVATORY WITH OVAL BASIN, FAUCET HOLES 4" ON CENTER,AND FRONT OVERFLOW. PROVIDE WITH CHICAGO FAUCET 420-E2805ABCP FAUCET,0.5 GPM, GRID DRAIN, P-TRAP AND STOPS. MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	1/2"	-	1 1/2"	1 1/2"
EWC-1	ELECTRIC WATER COOLER (ADA COMPLIANT)	ELKAY	SWIRLFLO EDFPBM117RAC	HI-LO BARRIER FREE, SATIN FINISH STAINLESS STEEL, 100% LEAD FREE WATERWAYS, WATERSENTRY FILTER SYSTEM, ANTI-MICROBIAL SAFETY BUBBLER, FRONT PUSH BUTTON. PROVIDE STOP AND P-TRAP. INSULATE WASTE PIPING WITH 1/2" FLEXIBLE ELASTOMERIC INSULATION	1/2"	-	1 1/2"	1 1/2"
EWC-2	ELECTRIC WATER COOLER	ELKAY	EZH20 LZS8WSLP	BOTTLE FILLING STATION AND SINGLE COOLER . WATER FILTER SYSTEM, ANTI-MICROBIAL SAFETY BUBBLER, FRONT PUSH BUTTON. PROVIDE STOP AND P-TRAP. INSULATE WASTE PIPING WITH 1/2" FLEXIBLE ELASTOMERIC INSULATION. MOUNT AT NORMAL HEIGHT.	1/2"	-	1 1/2"	1 1/2"
EWC-3	ELECTRIC WATER COOLER (ADA COMPLIANT)	ELKAY	EZH20 LZS8WSLP	BOTTLE FILLING STATION AND SINGLE COOLER . WATER FILTER SYSTEM, ANTI-MICROBIAL SAFETY BUBBLER, FRONT PUSH BUTTON. PROVIDE STOP AND P-TRAP. INSULATE WASTE PIPING WITH 1/2" FLEXIBLE ELASTOMERIC INSULATION.MOUNT AT HANDICAPPED HEIGHT AS REQUIRED BY TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	1/2"	-	1 1/2"	1 1/2"
SH-1H	SINGLE SHOWERSTALL ADA	–	REFER TO ARCHITECTURAL PLANS	PROVIDE SHOWER STALL WITH VALVE DELTA R10000-UNBX, TRIM VALVE DELTA T17T097 AND HAND HELD SHOWER HEAD DELTA RPW324HDF-1.5 AT 1.5 GPM. 60" FLEXIBLE STAINLESS STEEL HOSE WITH DUAL CHECK VALVES FOR BACKFLOW PROTECTION. SHOWER STALL TO COMPLY WITH TEXAS ACCESIBILITY STANDARDS AND ADA REQUIREMENTS.	1/2"	1/2"	2"	2"

STATE OF TEXAS
FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017
DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

P003

ABBREVIATIONS

A (0.5)	COMPRESSED AIR (WORKING PRESS.)
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR, AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
ALT	ALTITUDE
AMB	AMBIENT
AMP	AMPERE
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
AS	AIR SEPARATOR
ASC	ABOVE SUSPENDED CEILING
AHJ	AUTHORITY HAVING JURISDICTION
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
B&S	BELL & SPIGOT
B/B	BACK TO BACK
BAL	BALANCE
BBR	BASE BOARD RADIATOR
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BFV	BUTTERFLY VALVE
BFBP	BOILER FEED BOOSTER PUMP
BFW	BOILER FEED WATER
BLDG	BUILDING
BHP	BRAKE HORSEPOWER
BLR	BOILER
BLW	BELOW
BO	BLOWOFF
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALL VALVE
BYP	BYPASS
°C	CELSIUS [DEGREES]
C/C	COOLING COIL
CAP	CAPACITY
CD	CONDENSATE DRAIN
CF	CHEMICAL FEED
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHILLER
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWPP	CHILLED WATER PRIMARY PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHWSP	CHILLED WATER SECONDARY PUMP
CI	CAST IRON
CIP	CAST IRON PIPE
CKT	CIRCUIT
CKV	CHECK VALVE
CL	CENTER LINE (℄)
CONN	CONNECTION
CPD	CONDENSATE PUMP DISCHARGE
CRAC	COMPUTER ROOM A/C UNIT
CRP	CONDENSATE RETURN PUMP
CT	COOLING TOWER
CU	CONDENSING UNIT
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CUH	CABINET UNIT HEATER
Cv	COEFFICIENT - VALVE FLOW
CW	COLD WATER (POTABLE)
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
DB	DRY BULB
DBT	DRY BULB TEMPERATURE
dB	DECIBEL
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREES [CELSIUS OR FAHRENHEIT]
DENS	DENSITY
DEWPT	DEW POINT TEMPERATURE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DOAS	DEDICATED OUTDOOR AIR SYSTEM
DOV	DRAIN OFF VALVE
DPS	DIFFERENTIAL PRESSURE SENSOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DS	DISCONNECT SWITCH
DWV	DRAIN, WASTE & VENT
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ECON	ECONOMIZER
ECU	EVAPORATIVE COOLING UNIT
EDBT	ENTERING DRY BULB TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EL	ELEVATION
ENT	ENTERING
EOV	ELECTRONICALLY OPERATED VALVE
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
EWBT	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXCH	EXCHANGER
EXH	EXHAUST
EXP	EXPANSION

FCU	FAN COIL UNIT
FD	FLOOR DRAIN
°F	FAHRENHEIT [DEGREES]
FLA	FULL LOAD AMPS
FLG	FLANGE
FMS	FACILITY MANAGEMENT SYSTEM
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPB	FAN POWERED BOX
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT, FEET
FT LB	FOOT-POUND
GA	GAUGE, GAGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERATOR
GLV	GLOBE VALVE
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GTV	GATE VALVE
HC	HEATING COIL
HD	HEAD
HG	HEAT GAIN
HGT	HEIGHT
HP	HEAT PUMP, HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM (>100 PSI)
HR	HOUR
HS	HUMIDITY SENSOR
HSTAT	HUMIDISTAT
HVAC	HEATING, VENTILATION AND A/C
HW	HEATING WATER
HWB	HEATING WATER BOILER
HWC	HEATING WATER COIL
HWCP	HEATING WATER CIRCULATING PUMP
HWP	HEATING WATER PUMP
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HWT	HEATING WATER TANK
HZ	HERTZ (FREQUENCY)
I/O	INPUT/OUTPUT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN WC	INCHES WATER COLUMN
INV	INVERT
IP	IRON PIPE
IPS	IRON PIPE SIZE, INCHES PER SECOND
IPT	IRON PIPE THREADED
IR	INFRARED
IW	INDIRECT WASTE
K	KELVIN, THERMAL CONDUCTIVITY
KIP	THOUSAND POUNDS
KIP FT	THOUSAND FOOT-POUNDS
KW	KILOWATT
KWh	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LB	POUNDS
LDBT	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FEET
LG	LENGTH
LH	LATENT HEAT
LHG	LATENT HEAT GAIN
LP	LOW PRESSURE
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM (<15 PSI)
LRA	LOCKED ROTOR AMPS
LT	LEAVING TEMPERATURE
LTHW	LOW TEMPERATURE HOT WATER
LWBT	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
mA	MILLIAMPERES
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOV	MOTOR OPERATED VALVE
MP	MEDIUM PRESSURE
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM (16-99 PSI)
MPT	MALE PIPE THREAD
MU	MAKE-UP WATER
MVD	MANUAL VOLUME DAMPER
NA	NOT APPLICABLE
NC	NOISE CRITERIA, NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NPS	NOMINAL PIPE SIZE
NR	NOISE REDUCTION
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OZ	OUNCE
P	PUMP
P/E	PNEUMATIC ELECTRIC
%	PERCENT
PC	PUMPED CONDENSATE
PCC	PRECOOL COIL
PD	PRESSURE DROP
POS	POSITIVE
PR	PUMPED RETURN

PG	PRESSURE GAUGE
PH	PHASE
PHC	PREHEAT COIL
PRV	PRESSURE REDUCING VALVE
PPM	PARTS PER MILLION
PLBG	PLUMBING
PRESS	PRESSURE
PS	PRESSURE SWITCH
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PTAC	PACKAGED TERMINAL A/C
Q	TOTAL, TOTAL HEAT
QT	QUART
QTY	QUANTITY
R	RELIEF, THERMAL RESISTANCE
RA	RETURN AIR
RAC	ROOM AIR CONDITIONER
RECT	RECTANGULAR
REFR	REFRIGERATION
RET	RETURN
RED	REDUCER
REV	REVOLUTIONS
REF	REFERENCE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RHV	REHEAT VALVE
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
S	SECOND
SA	SUPPLY AIR
SAT	SATURATION
SC	SHADING COEFFICIENT
SEER	SEASONAL EER
SF	SQUARE FEET
SG	SPECIFIC GRAVITY, STEAM GAUGE
SH	SENSIBLE HEAT
SHG	SENSIBLE HEAT GAIN
SHGC	SOLAR HEAT GAIN COEFFICIENT
SHR	SENSIBLE HEAT RATIO
SOLV	SOLENOID VALVE
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE, SUMP PUMP
SPEC	SPECIFICATION
SPLY	SUPPLY
SPS	STATIC PRESSURE SENSOR
SQ	SQUARE
SSP	STAINLESS STEEL PIPE
SST	STAINLESS STEEL
STD	STANDARD
STM	STEAM
STR	STRAINER
STWP	STEAM WORKING PRESSURE
SUCT	SUCTION
SUP	SUPPLY
SV	SAFETY VALVE
T	TEMPERATURE SENSOR
T&P	TEMPERATURE AND PRESSURE
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TOP	TOP OF PIPE
TRANS	TRANSFER
TSTAT	THERMOSTAT
U	HEAT TRANSFER COEFFICIENT
U/G	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VDC	VOLTS DIRECT CURRENT
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VP	VELOCITY PRESSURE
VRF	VARIABLE REFRIGERANT FLOW
VSD	VARIABLE SPEED DRIVE
W	WATT
WB	WET BULB
WBT	WET BULB TEMPERATURE
WC	WATER COLUMN
WG	WATER GAGE
WH	WATER HEATER
WL	WATER LINE
WLD	WELDED
WM	WATER METER
WNF	WELD NECK FLANGE
WP	WATER PUMP
WPD	WATER PRESSURE DROP
WPR	WORKING PRESSURE DROP
WSHP	WATER SOURCE HEAT PUMP
WSP	WORKING STEAM PRESSURE
WT	WEIGHT
YD	YARD, YARD DRAIN
YR	YEAR
Z	ZONE

MECHANICAL GENERAL NOTES

1. ISOLATION VALVES SHALL BE PROVIDED IN ALL BRANCH PIPING AND AT EQUIPMENT CONNECTIONS.
2. PIPING CONNECTIONS TO ALL EQUIPMENT SHALL BE FABRICATED WITH THE ISOLATION VALVES, FLANGES AND/OR UNIONS POSITIONED TO ALLOW REMOVAL AND SERVICE OF THE COMPONENT PARTS.
3. INSTALL MANUAL AIR VENTS AT THE HIGH POINTS OF THE PIPING SYSTEMS.
4. ROUTE PIPING IN AN ORDERLY MANNER AND MAINTAIN PROPER GRADES. INSTALL TO CONSERVE HEADROOM AND TO CREATE MINIMUM INTERFERENCE WITH USE OF SPACE. ROUTE ALL PIPING PARALLEL TO BUILDING LINES UON. GROUP PIPING AT COMMON BOP ELEVATIONS WHENEVER PRACTICAL. PIPES LOCATED IN CONCEALED SPACES SHALL BE ROUTED CLOSE TO BUILDING STRUCTURE UON.
5. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE OR EQUIPMENT CONNECTED.
6. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
7. INSTALL VALVES AND EQUIPMENT IN ACCESSIBLE LOCATIONS. INSTALL ACCESS DOORS IN PARTITIONS OR CEILINGS WHERE VALVES AND EQUIPMENT WOULD OTHERWISE BE INACCESSIBLE.
8. WHEN SOCKET WELD OR SOLDER END VALVES ARE INSTALLED, SPECIAL CARE SHALL BE TAKEN TO AVOID OVERHEATING AND DAMAGING THE VALVE BODY, TRIM OR PACKING. DAMAGED VALVES SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
9. IDENTIFY EACH PIPE WITH LABELING AS REQUIRED BY SPECIFICATIONS.
10. SLEEVE ALL PIPING THAT PENETRATES FIRE RATED WALLS, FLOORS AND PARTITIONS. PENETRATIONS SHALL BE SEALED WITH A U.L. LISTED ASSEMBLY TO PROVIDE A RATING EQUAL TO OR GREATER THAN THAT OF THE PENETRATED WALL, FLOOR OR PARTITION.
11. SLEEVE ALL PIPING THAT PENETRATES EXTERIOR BUILDING WALLS AND GRADE BEAMS. SEAL PENETRATIONS WATERTIGHT.
12. COORDINATE WITH OTHER TRADES BEFORE FABRICATION OR INSTALLATION OF ANY SYSTEMS.
13. EXISTING DUCTWORK, PIPING AND EQUIPMENT SHOWN ON THESE DRAWINGS INDICATES THE GENERAL LOCATION AND ROUTING. THE ACTUAL LOCATION SHALL BE DETERMINED BY THE CONTRACTOR WHO SHALL COORDINATE ALL WORK WITH ALL TRADES NECESSARY TO INSTALL NEW DUCTWORK, PIPING OR EQUIPMENT AS SHOWN ON THE DRAWING.
14. THESE DRAWINGS DO NOT NECESSARILY SHOW ALL OFFSETS OR ELEVATION DIFFERENCES WHICH MAY BE NECESSARY FOR THE COMPLETE INSTALLATION. THESE SHALL BE PROVIDED AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM AT NO ADDITIONAL COST TO THE CONTRACT.
15. ALL NEW DUCTWORK SHALL BE EXTERNALLY INSULATED PER THE SPECIFICATIONS.
16. ALL NEW HYDRONIC PIPING SHALL BE INSULATED PER THE SPECIFICATIONS.
17. WHERE REMOVAL OF EXISTING DUCTWORK OR PORTIONS OF ANY AIR SYSTEM IS NECESSARY, THE DUCT SHALL BE PATCHED AND SEALED AIRTIGHT USING PATCH OF SAME MATERIAL AND EQUAL OR GREATER THICKNESS AS EXISTING. PATCHES SHALL BE ATTACHED WITH SHEET METAL SCREWS OR OTHER MEANS OF POSITIVE ATTACHMENT (WELDING, BONDING, ETC.) AS SPECIFIED FOR THE PARTICULAR DUCT SYSTEM. NEW INSULATION SHALL BE EQUAL TO OR BETTER THAN EXISTING AND SHALL BE PATCHED AND SEALED TO MATCH EXISTING INSULATION AND MAINTAIN VAPOR BARRIER.
18. THE CONTRACTOR SHALL ADJUST AND BALANCE ALL MECHANICAL SYSTEMS TO DESIGN SETTINGS AS SHOWN AND SHALL REBALANCE TO RESTORE SETTINGS OF SYSTEMS TEMPORARILY ALTERED FOR THE PURPOSES OF COMPLETING THE WORK OF THIS PROJECT.
19. NOTIFY AND COORDINATE WITH THE OWNER AT LEAST SEVEN DAYS PRIOR TO SHUTDOWN OF ANY BUILDING SERVICES OR EQUIPMENT. SHUTDOWN TIME SHALL BE KEPT TO A MINIMUM.
20. ANY ITEMS DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH NEW MATERIALS TO MATCH EXISTING.
21. CONTRACTOR SHALL PROVIDE TEMPORARY DUCTWORK, ELECTRICAL SERVICE, PIPING OR OTHER BUILDING SERVICES AS REQUIRED TO KEEP OTHER AREAS IN OPERATION DURING REMODELING. NOTIFY OWNER PRIOR TO SHUT-DOWN FOR ANY TEMPORARY SERVICE REQUIREMENTS. ALL TEMPORARY WORK SHALL BE COMPLETELY REMOVED ONLY AFTER NEW SERVICES ARE COMPLETELY INSTALLED AND FUNCTIONAL.
22. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF CEILING-MOUNTED HVAC DEVICES AND EQUIPMENT.
23. DUCT ROUTING CHANGES MADE BY THE CONTRACTOR FOR THE PURPOSE OF ACCOMMODATING FIELD CONDITIONS SHALL INCLUDE FIRE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS IN RATED PARTITIONS AS SHOWN IN ORIGINAL ROUTING ARRANGEMENTS.
24. FURNISH AND INSTALL ACCESS DOORS (AD) IN THE DUCTWORK IMMEDIATELY ADJACENT TO EACH FIRE DAMPER AND EACH FIRE/SMOKE DAMPER. PARTITIONS SHALL BE PROVIDED WITH ACCESS DOORS TO PROVIDE SERVICE AND ACCESS TO DAMPER ACCESS DOORS.
25. PROVIDE FIRE AND COMBINATION FIRE/SMOKE DAMPERS WHERE REQUIRED BY CODE. FIRE, SMOKE, AND COMBINATION FIRE/SMOKE DAMPERS SHALL BE UL LISTED, SHALL BEAR THE UL LABEL AND SHALL COMPLY WITH NFPA BULLETIN NO. 90A. FULLY-OPEN DAMPERS SHALL NOT HAVE ANY PROJECTIONS INTO THE AIRSTREAM.
26. ABANDONED DUCT SHALL BE REMOVED WHERE INDICATED ON THE DRAWINGS. DUCT REMAINING IN PLACE SHALL BE CAPPED, SEALED AIR TIGHT AT POINT(S) OF DEMOLITION, AND INSULATED TO MATCH EXISTING..
27. NEW HOLES THROUGH EXISTING FLOORS SHALL BE CORE DRILLED. ALL CORES SHALL BE X-RAYED PRIOR TO CORING.
28. ALL DUCT SIZES SHOWN HEREIN REPRESENT INSIDE CLEAR DIMENSIONS. EXTERNAL SHEET METAL DIMENSIONS OF DUCTWORK THAT IS SPECIFIED TO BE INTERNALLY LINED SHALL BE ADJUSTED BY THE CONTRACTOR TO ALLOW FOR THICKNESS OF LINING.
29. THE OWNER SHALL HAVE THE OPTION TO DESIGNATE ANY MATERIALS REMOVED OR DEMOLISHED DURING THIS WORK AS "RECYCLABLE" AND SHALL HAVE FINAL DISPOSITION OVER THE DISPOSAL OF THESE MATERIALS. ALL MATERIALS REMOVED/DEMOLISHED BY THE CONTRACTOR FOR THIS JOB AND NOT RETAINED BY THE OWNER FOR RECYCLING OR OTHER PURPOSES SHALL BE DISPOSED OFF-SITE BY THE CONTRACTOR.
30. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL OF ANY EQUIPMENT DESIGNATED FOR REMOVAL. THE OWNER SHALL PROVIDE A LIST OF ITEMS THEY REQUIRE TO BE SALVAGED PRIOR TO THE START OF DEMOLITION. THE CONTRACTOR SHALL REMOVE THESE ITEMS USING REASONABLE CARE TO MINIMIZE DAMAGE.
31. ANY AND ALL WATER CONNECTIONS MADE FOR THE PURPOSE OF CLEANING TOOLS OR THE WORK AREA OR FOR ANY OTHER CONSTRUCTION-RELATED PURPOSES SHALL BE MADE ONLY TO DOMESTIC WATER HOSE BIBBS OR TO CONTRACTOR-SUPPLIED WATER SOURCES. APPROVED BACKFLOW PREVENTION DEVICES SHALL BE USED AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. CONNECTIONS SHALL NOT BE MADE TO FIRE WATER, CHILLED WATER, CONDENSER WATER, HEATING HOT WATER, DOMESTIC HOT WATER OR ANY OTHER TREATED WATER SOURCE UNLESS REQUIRED AS PART OF WORK ON THESE SYSTEMS.
32. EXCEPT WHERE REQUIRED AT EQUIPMENT NOZZLES, FLANGES SHALL BE RAISED FACE WELD-NECK.
33. INSTALL DIELECTRIC FITTINGS AT ALL FERROUS PIPE CONNECTIONS TO NON-FERROUS METALLIC PIPE OR EQUIPMENT.
34. BULLHEAD TEES SHALL NOT BE USED TO JOIN CONVERGING (RETURN) FLOWS, REGARDLESS OF ARRANGEMENT SHOWN ON PLANS.
35. PROVIDE ESCUTCHEON PLATES WHERE PIPES EXPOSED TO VIEW PENETRATE FINISHED WALLS, FLOORS AND CEILINGS. SPLIT-RING ESCUTCHEON PLATES SHALL NOT BE USED UON.
36. PROVIDE CAPPED DRAIN VALVES AT LOW POINTS OF PIPING SYSTEMS AND AT EQUIPMENT CONNECTIONS. PROVIDE HOSE BIBB CONNECTIONS WITH CAPS AT DRAIN VALVES WHICH DO NOT DISCHARGE DIRECTLY OVER OR ARE NOT PIPED DIRECTLY TO AN APPROPRIATE DRAIN.
37. PIPING, DUCTWORK OR EQUIPMENT CONNECTIONS OPENED BY DEMOLITION OR RENOVATION SHALL BE TEMPORARILY SEALED TO KEEP OUT FOREIGN MATTER UNTIL SUCH TIME AS RECONNECTIONS ARE MADE.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
WICHITA FALLS, TEXAS
3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

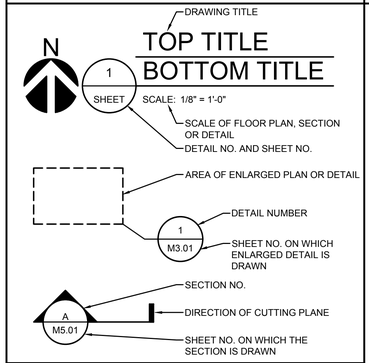
16782.00

© 2017 HARPER PERKINS ARCHITECTS

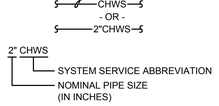
M001

MECHANICAL SYMBOL LEGEND

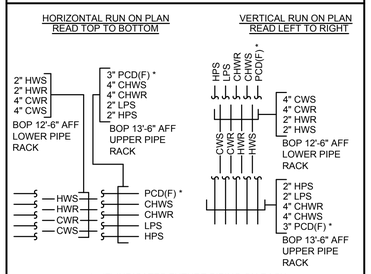
GRAPHIC SYMBOLS



PIPING DESIGNATION



MULTI-LINE KEY



* - (F) INDICATES FUTURE PIPING ON RACK

MISCELLANEOUS SYMBOLS

XXX-1	EQUIPMENT DESIGNATION
	SINGLE LINE PIPE/DUCTWORK BREAK
	DOUBLE LINE PIPE/ROUND DUCTWORK BREAK
	RECTANGULAR DUCT/STANDARD BREAK
1	KEYED NOTE
1	REVISION DELTA
	POINT OF DISCONNECTION
	POINT OF CONNECTION (NEW TO EXISTING)
	NEW ITEMS (PIPING/DUCTWORK/EQUIPMENT)
	EXISTING ITEMS TO REMAIN
	EXISTING ITEMS TO BE DEMOLISHED
	LIMIT OF EXISTING ITEMS TO BE REMOVED
	NEW CONNECTION TO EXISTING ITEM
(N)	NEW ITEM (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(E)	EXISTING ITEM TO REMAIN (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(F)	FUTURE ITEM (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(R)	EXISTING ITEM TO BE RELOCATED (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)
(D)	EXISTING ITEM TO BE DEMOLISHED (NOTATION SHOWN AS NECESSARY FOR CLARIFICATION)

PIPE & FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		PIPE
		DIRECTION OF FLOW / SLOPE
		PIPING WITH INSULATION (WHEN SHOWN FOR CLARITY)
		WELDED JOINT
		SCREWED JOINT
		FLANGED JOINT
		UNION
		GROOVED END JOINT
		GENERIC FLEXIBLE COUPLING (REFER TO SPECIFICATIONS)
		GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		STUB END OR FLANGE ADAPTER W/ FLANGE RING
		BLIND FLANGE
		ELBOW, 45 DEGREE (LONG RADIUS UON)
		ELBOW, 90 DEGREE (LONG RADIUS UON)
		ELBOW, 90 DEGREE - CHANGE IN DIRECTION TOWARD VIEWER
		ELBOW, 90 DEGREE - CHANGE IN DIRECTION AWAY FROM VIEWER
		TEE FITTING
		TEE FITTING, BRANCH TOWARD VIEWER
		TEE FITTING, BRANCH AWAY FROM VIEWER
		LATERAL
		REDUCER - CONCENTRIC
		REDUCER - ECCENTRIC
		CAP
		ANCHOR
CO	CO	CLEANOUT
		THERMOWELL WITH THERMOMETER
		PRESSURE GAUGE WITH GAUGE COCK
		STRAINER - "Y" TYPE WITH BLOW DOWN
	S	AIR SEPARATOR
M	M	WATER METER
		VENTURI FLOW METER
		FLOW ORIFICE PLATE
F&T	F&T	STEAM TRAP, TYPE AS NOTED IB = INVERTED BUCKET F&T = FLOAT & THERMOSTATIC TH = THERMODYNAMIC BP = BALANCED PRESSURE
		PUMP, ARROW INDICATES FLOW

NOTE:
WELDED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING.
FITTINGS WITH OTHER END CONDITIONS ARE SIMILAR.

VALVE SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		GATE VALVE
		BUTTERFLY VALVE
		BALL VALVE
		DIAPHRAGM VALVE
		GLOBE VALVE
		PLUG VALVE
		CHECK VALVE
		PRESSURE REDUCING VALVE
		BALANCING VALVE
		PRESSURE RELIEF VALVE
		AUTOMATIC AIR VENT
		MANUAL AIR VENT

CONTROL VALVES

DOUBLE LINE	SINGLE LINE	DESCRIPTION
T	T	TWO-WAY, TWO POSITION CONTROL VALVE
S	S	TWO-WAY, TWO POSITION CONTROL VALVE W/ SOLENOID
M	M	TWO-WAY, MODULATING CONTROL VALVE
T	T	THREE-WAY, TWO POSITION CONTROL VALVE
M	M	THREE-WAY, MODULATING CONTROL VALVE

CONTROL SYMBOLS

WALL MOUNTED DEVICES

T	TEMPERATURE SENSOR/THERMOSTAT
H	HUMIDITY SENSOR/HUMIDISTAT
M	MOTION SENSOR
R	OVERRIDE SWITCH
CO2	CARBON DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR
VFD	VARIABLE FREQUENCY DRIVE

EQUIPMENT SYMBOLS

	COOLING ONLY VAV TERMINAL UNIT
	EXISTING EQUIPMENT (COOLING ONLY VAV SHOWN)
	VAV TERMINAL WITH ELECTRIC OR HYDRONIC HEAT
	SERIES FAN POWERED VAV TERMINAL UNIT
	PARALLEL FAN POWERED VAV TERMINAL UNIT
	ROOFTOP EXHAUST FAN (ROOF PLAN VIEW)
	ROOFTOP EXHAUST FAN (FLOOR PLAN VIEW)
	INLINE EXHAUST FAN (EF), AIR HANDLING UNIT (AHU), CONDENSING UNIT (CU)
	WALL LOUVER WITH POSITIVE OR NEGATIVE AIRFLOW
UC	DOOR UNDERCUT (SPECIFY CFM IF REQUIRED)
LD	DOOR LOUVER (SPECIFY CFM IF REQUIRED)

DUCTWORK SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
AxB	AxB	RECTANGULAR OR SQUARE DUCT, DIMENSIONS ARE IN INCHES, MIN. INSIDE CLEAR, A = WIDTH, B= HEIGHT
A"Ø	A"Ø	ROUND DUCT DIMENSIONS ARE IN INCHES, MIN. INSIDE CLEAR, A = DIAMETER
AxBØ	AxBØ	FLAT OVAL DUCT DIMENSIONS ARE IN INCHES, MIN. INSIDE CLEAR, A = WIDTH, B= HEIGHT
R D	R D	DUCTWORK RISE (R) OR DROP (D) RELATIVE TO DIRECTION OF AIRFLOW
		DIRECTION OF AIR FLOW
		SUPPLY AIR OR POSITIVE PRESSURE DUCTWORK, SECTION TOWARDS/AWAY VIEWER
		SUPPLY AIR OR POSITIVE PRESSURE DUCTWORK, AIRFLOW AWAY FROM VIEWER
		RETURN AIR OR NEGATIVE PRESSURE DUCTWORK, AIRFLOW TOWARDS VIEWER
		RETURN AIR OR NEGATIVE PRESSURE DUCTWORK, AIRFLOW AWAY FROM VIEWER
		EXHAUST AIR DUCTWORK, AIRFLOW TOWARDS VIEWER
		EXHAUST AIR DUCTWORK, AIRFLOW AWAY FROM VIEWER
		RIGID ROUND DUCTWORK, AIRFLOW TOWARDS VIEWER
		RIGID ROUND DUCTWORK, AIRFLOW AWAY FROM VIEWER
		TRANSITION - ECCENTRIC REDUCER
		TRANSITION - CONCENTRIC REDUCER
		TRANSITION - SQUARE TO ROUND
		90° ELBOW WITH TURNING VANES (REQUIRED ON SUPPLY DUCTWORK)
		90° ELBOW WITHOUT TURNING VANES (RETURN OR EXHAUST DUCTWORK ONLY)
		45° ELBOW WITH TURNING VANES (REQUIRED ON SUPPLY DUCTWORK)
		45° ELBOW WITHOUT TURNING VANES (RETURN OR EXHAUST DUCTWORK ONLY)
W R		RADIUS 90° ELBOW (R = 1.5W)
W R		RADIUS 45° ELBOW (R = 1.5W)
A"Ø	A"Ø	SPIN-IN FITTING WITH FLEXIBLE DUCTWORK, DIMENSIONS ARE IN INCHES, MIN. INSIDE CLEAR, A = DIAMETER
		BRANCH TAKE-OFF WITH MVD
		CONICAL TAKE-OFF WITH MVD
		MANUAL VOLUME DAMPER
FD	FD	FIRE DAMPER
FSD	FSD	FIRE/SMOKE DAMPER
SD	SD	SMOKE DAMPER
BDD	BDD	BACKDRAFT DAMPER
M	M	MOTORIZED DAMPER
B	B	BAROMETRIC DAMPER
S	S	SMOKE DETECTOR

DUCTWORK SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
SP	SP	STATIC PRESSURE SENSOR
T	T	TEMPERATURE SENSOR
H	H	HUMIDITY SENSOR
CO2	CO2	CARBON DIOXIDE SENSOR
DP	DP	DIFFERENTIAL PRESSURE SENSOR
DPS	DPS	DIFFERENTIAL PRESSURE SAFETY SHUT-DOWN RELAY
AF	AF	AIRFLOW PROOF SWITCH
		ACCESS PANEL/CLEANOUT

AIR DISTRIBUTION

REFER TO SCHEDULE FOR ADDITIONAL INFORMATION

	SUPPLY AIR DIFFUSER
	RETURN AIR OR TRANSFER AIR GRILLE
	EXHAUST AIR GRILLE
	ROUND SUPPLY AIR DIFFUSER
	LINEAR SLOT DIFFUSER
CRD	CEILING RADIATION DAMPER
	SIDEWALL REGISTER
	DUCT MOUNTED GRILLE
S1 / 250 (TYP. OF 2)	AIR DISTRIBUTION CALLOUT

THIS IS A STANDARD LEGEND SHEET. SOME INFORMATION ON THIS SHEET MAY NOT NECESSARILY APPLY TO THIS PROJECT.

FRED C. CRABTREE, JR.
109799
LICENSED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
WICHITA FALLS, TEXAS
3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

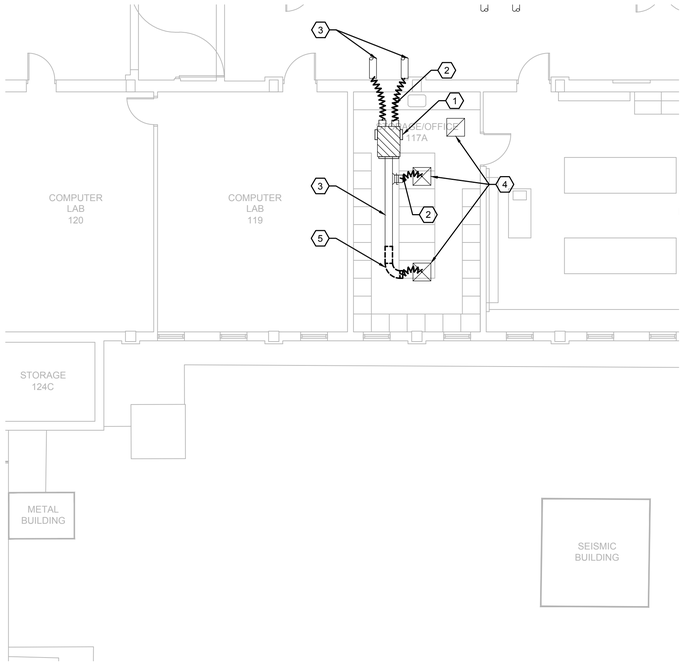
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

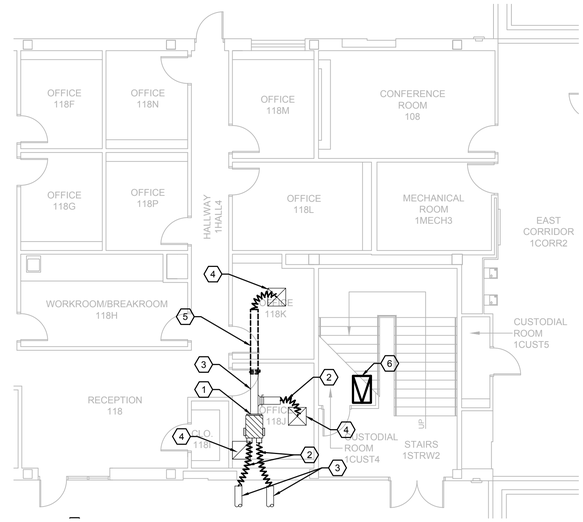
© 2017 HARPER PERKINS ARCHITECTS

M002



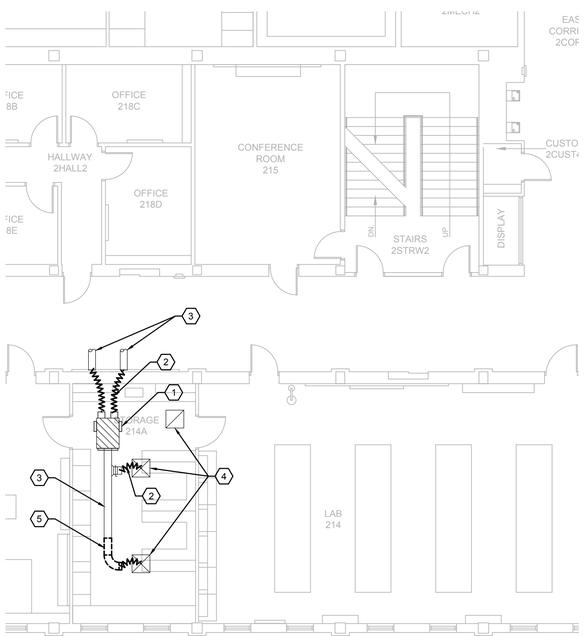
BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1A MECHANICAL DEMOLITION PLAN

1 / B-MD101 SCALE: 1/8" = 1'-0"



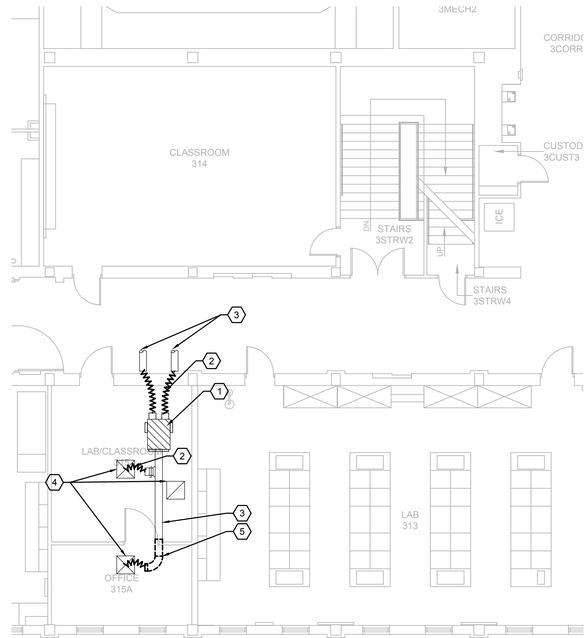
BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1B MECHANICAL DEMOLITION PLAN

2 / B-MD101 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - SECOND FLOOR - AREA 2A MECHANICAL DEMOLITION PLAN

3 / B-MD101 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - THIRD FLOOR - AREA 3A MECHANICAL DEMOLITION PLAN

4 / B-MD101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. EXISTING DUAL DUCT MIXING BOX TO REMAIN.
2. REMOVE EXISTING FLEX DUCT.
3. EXISTING DUCTWORK TO REMAIN.
4. EXISTING SUPPLY DIFFUSER/RETURN GRILLE TO BE REMOVED AND REUSED UNLESS DAMAGED. IF DAMAGED REPLACE WITH DIFFUSER/GRILL OF SAME SIZE, MANUFACTURER, MODEL AND COLOR.
5. DEMOLISH EXISTING DUCTWORK TO THE EXTENT SHOWN IN PLANS.
6. EXISTING FLOOR HATCH TO ACCESS THE CRAWLSPACE/BASEMENT AREA BELOW. DO NOT DEMOLISH THIS ACCESS DOOR.

FRED C. CRABTREE, JR. 109799 LICENSED PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-MD101

GENERAL NOTES
(NOT ALL NOTES APPLY TO EACH SHEET)

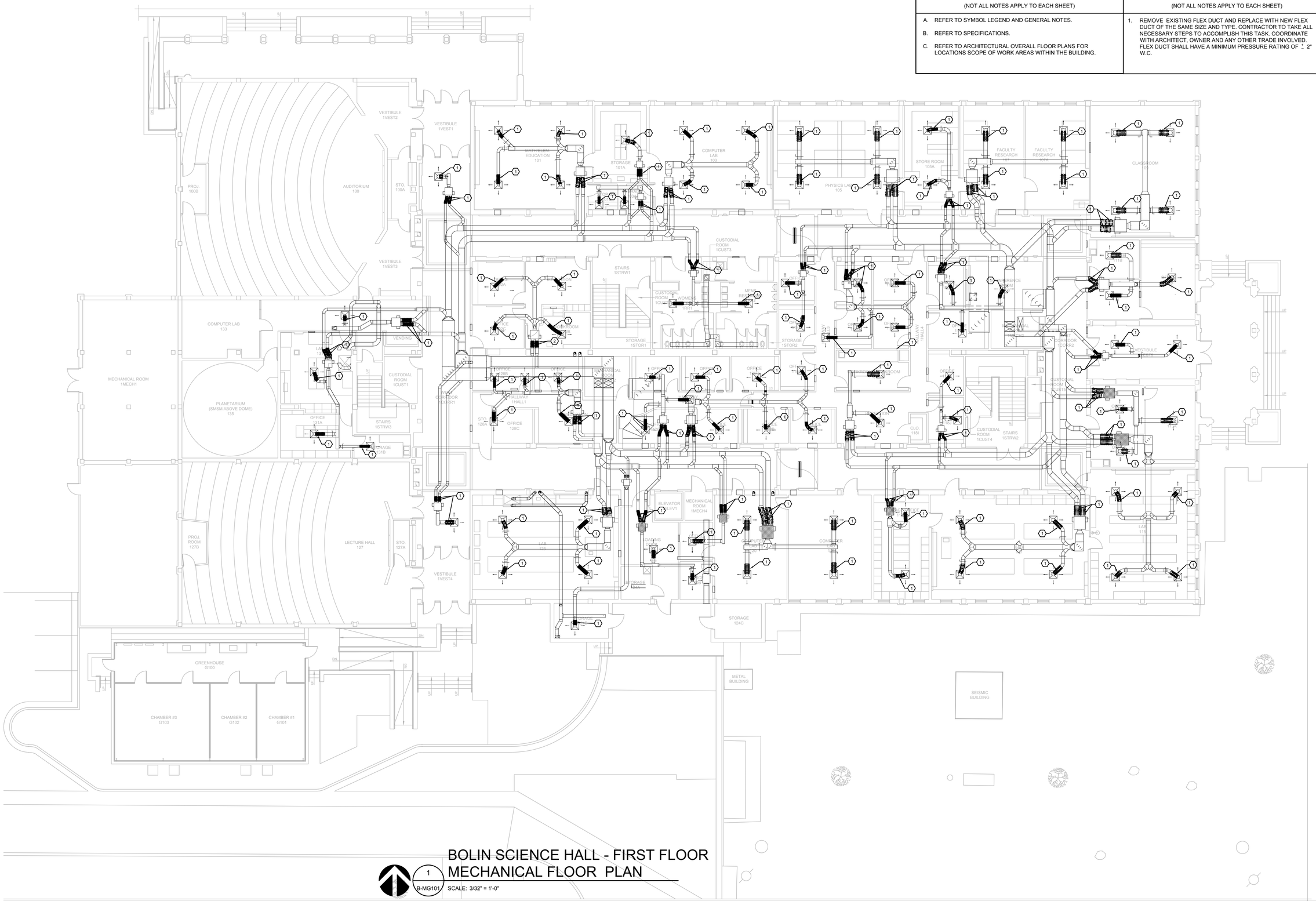
A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩
(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE EXISTING FLEX DUCT AND REPLACE WITH NEW FLEX DUCT OF THE SAME SIZE AND TYPE. CONTRACTOR TO TAKE ALL NECESSARY STEPS TO ACCOMPLISH THIS TASK. COORDINATE WITH ARCHITECT, OWNER AND ANY OTHER TRADE INVOLVED. FLEX DUCT SHALL HAVE A MINIMUM PRESSURE RATING OF ± 2" W.C.



BOLIN SCIENCE HALL - FIRST FLOOR MECHANICAL FLOOR PLAN

1
B-MG101

SCALE: 3/32" = 1'-0"

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-MG101

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

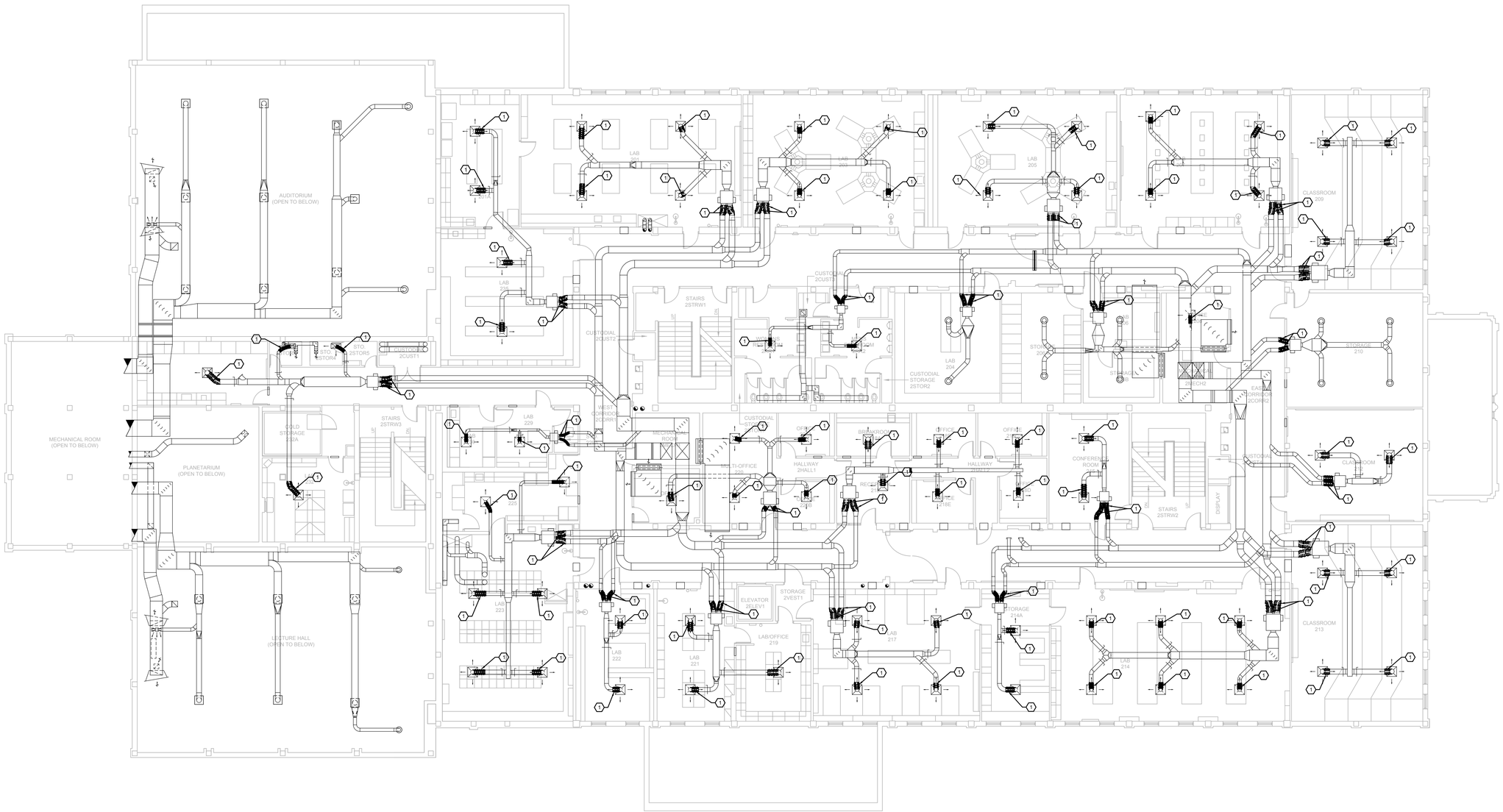
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REPLACE ALL EXISTING FLEX DUCT THROUGHOUT THIS FLOOR WITH NEW FLEX DUCT OF THE SAME SIZE AND TYPE. CONTRACTOR TO TAKE ALL NECESSARY STEPS TO ACCOMPLISH THIS TASK. COORDINATE WITH ARCHITECT, OWNER AND ANY OTHER TRADE INVOLVED. FLEX DUCT SHALL HAVE A MINIMUM PRESSURE RATING OF ± 2" W.C.



BOLIN SCIENCE HALL - SECOND FLOOR
MECHANICAL FLOOR PLAN

1 / B-MG102

SCALE: 3/32" = 1'-0"

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

AIA HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-MG102

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

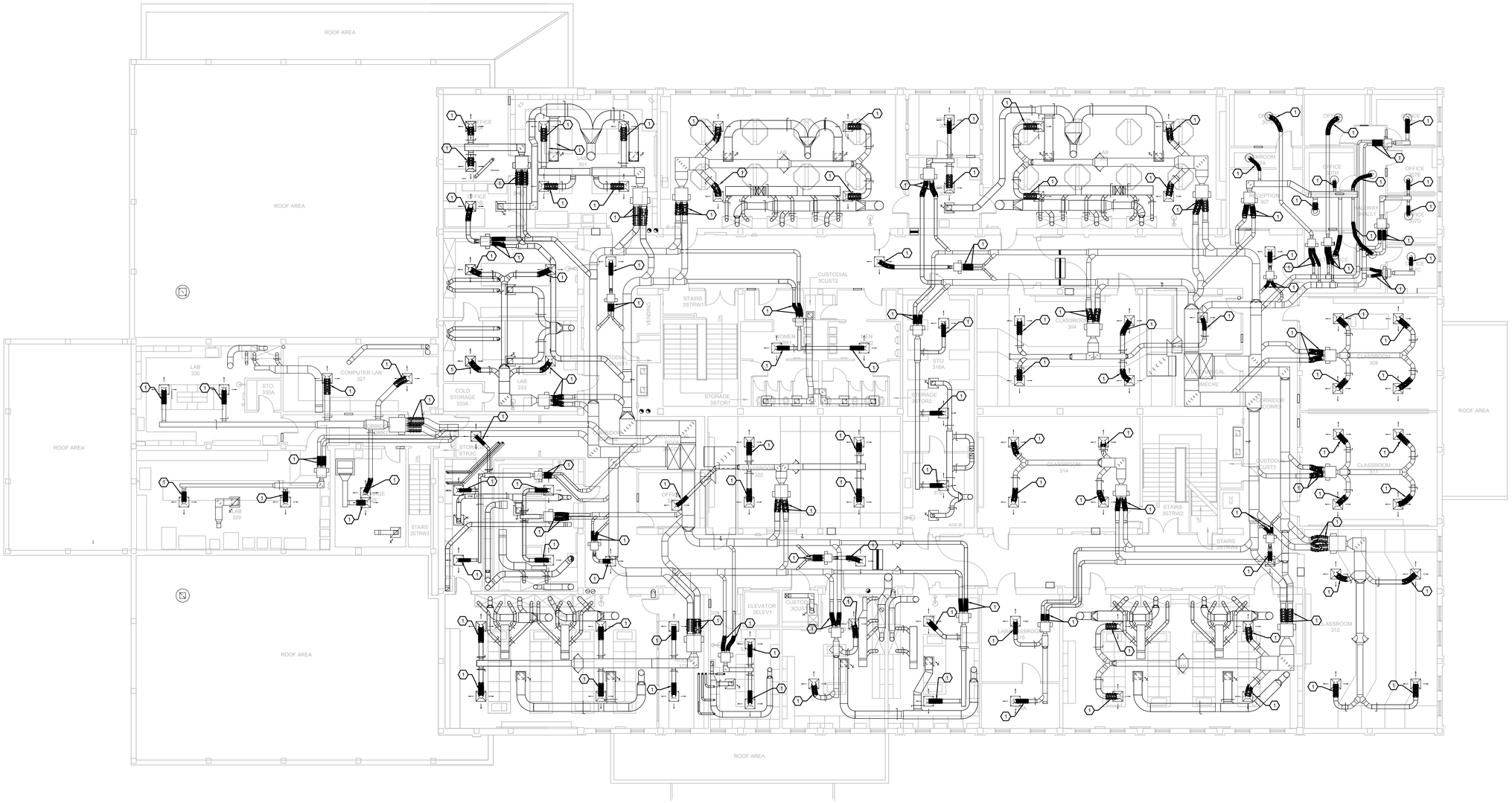
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REPLACE ALL EXISTING FLEX DUCT THROUGHOUT THIS FLOOR WITH NEW FLEX DUCT OF THE SAME SIZE AND TYPE. CONTRACTOR TO TAKE ALL NECESSARY STEPS TO ACCOMPLISH THIS TASK. COORDINATE WITH ARCHITECT, OWNER AND ANY OTHER TRADE INVOLVED. FLEX DUCT SHALL HAVE A MINIMUM PRESSURE RATING OF ± 2" W.C.



BOLIN SCIENCE HALL -THIRD FLOOR
MECHANICAL FLOOR PLAN

1
B-MG103

SCALE: 3/32" = 1'-0"

FRED C. CRABTREE, JR.
109799
LICENSED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS

HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-MG103

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

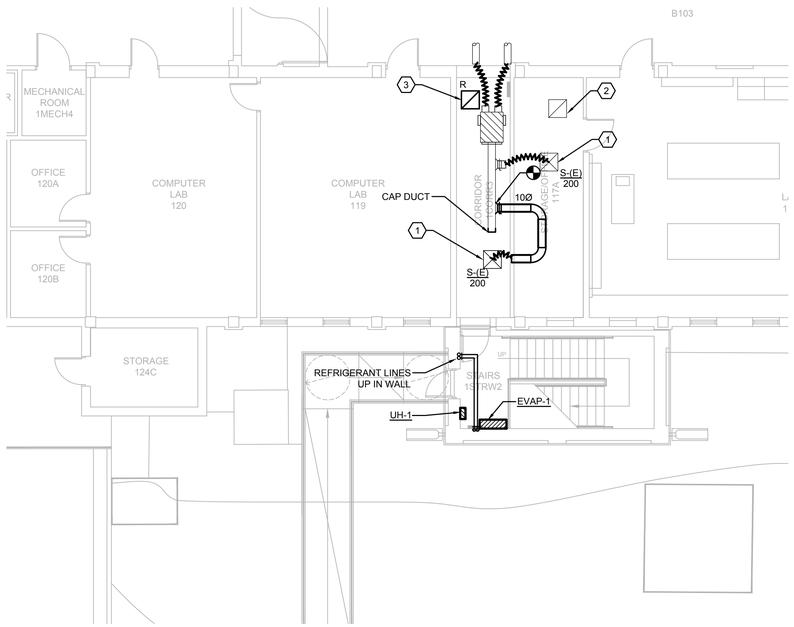
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

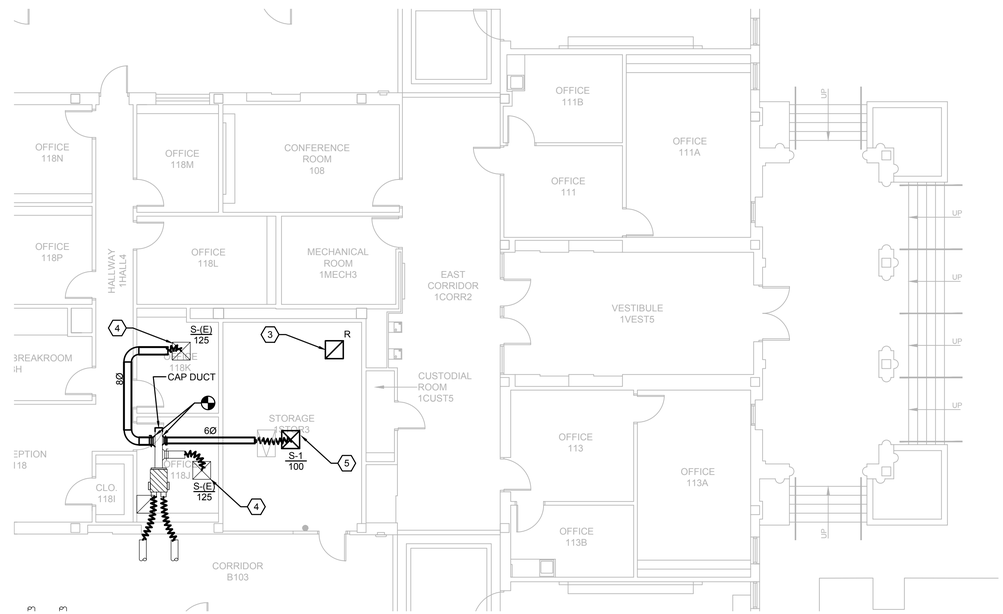
1. RELOCATE SUPPLY DIFFUSER AND BALANCE AS SHOWN ON PLAN. INSTALL NEW DIFFUSER IF THE ONE REMOVED FROM DEMOLITION IS DAMAGED. REFER TO DEMOLITION NOTES. COORDINATE LOCATION OF DIFFUSER WITH CEILING PLANS AND OTHER TRADES. REBALANCE EXISTING DUAL DUCT MIXING BOX AS REQUIRED.
2. RELOCATE RETURN AIR GRILLE. INSTALL NEW RETURN GRILLE IF THE ONE REMOVED FROM DEMOLITION IS DAMAGED. REFER TO DEMOLITION NOTES. COORDINATE LOCATION OF GRILLE WITH CEILING PLANS AND OTHER TRADES.
3. NEW RETURN AIR GRILLE, COORDINATE LOCATION WITH CEILING PLANS AND OTHER TRADES. ENSURE RETURN AIR HAS A FREE PATH OUT OF THE NEW ROOM, IF NOT PROVIDE RETURN AIR BOOT AS REQUIRED.
4. REBALANCE EXISTING SUPPLY DIFFUSER SHOWN SHOWN ON PLAN.
5. NEW SUPPLY DIFFUSER, BALANCE AS SHOWN ON PLAN. COORDINATE LOCATION OF DIFFUSER WITH CEILING PLANS AND OTHER TRADES. RE-BALANCE EXISTING DUAL DUCT MIX BOX AS NEEDED.



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1A
MECHANICAL PLAN

2 / B-M101

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



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1B
MECHANICAL PLAN

1 / B-M101

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

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

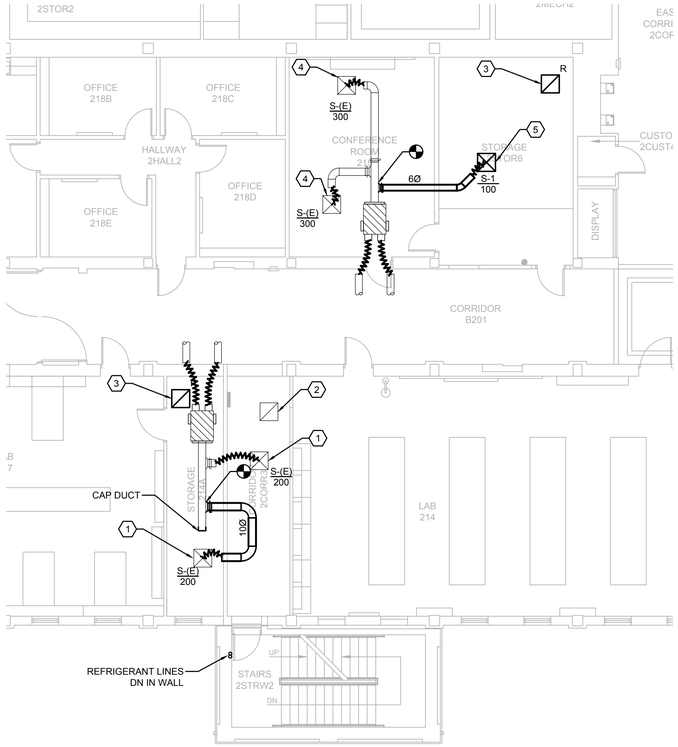
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

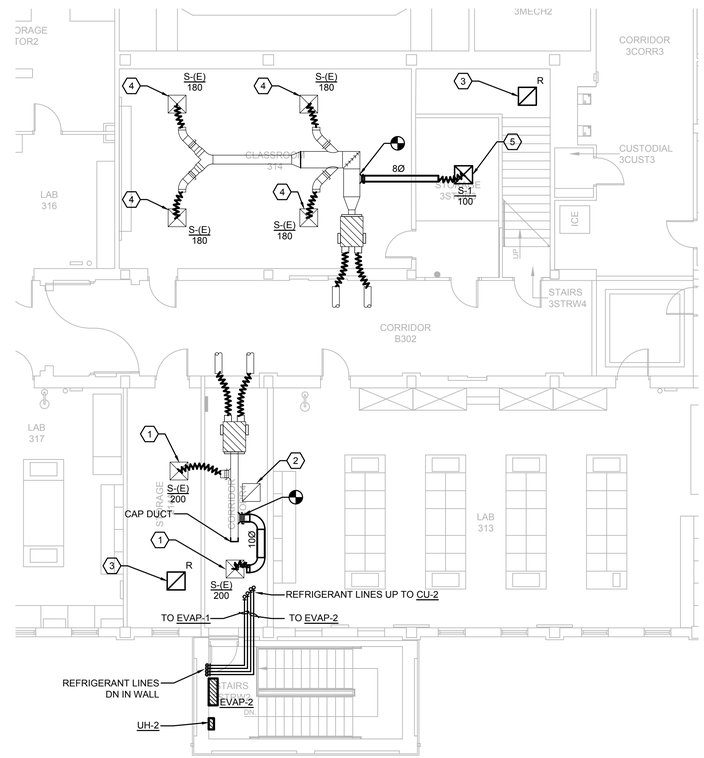
B-M101



BOLIN SCIENCE HALL - FIRST SECOND - AREA 2A MECHANICAL PLAN

1 / B-M102

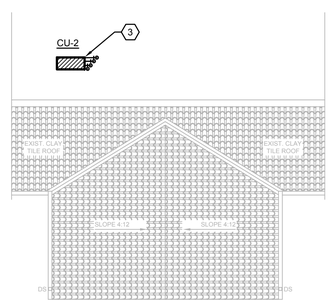
SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - THIRD FLOOR - AREA 3A MECHANICAL PLAN

2 / B-M102

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



BOLIN SCIENCE HALL - ROOF LEVEL - AREA RA MECHANICAL PLAN (PARTIAL VIEW)

3 / B-M102

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

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

1. RELOCATE SUPPLY DIFFUSER AND BALANCE AS SHOWN ON PLAN. INSTALL NEW DIFFUSER IF THE ONE REMOVED FROM DEMOLITION IS DAMAGED. REFER TO DEMOLITION NOTES. COORDINATE LOCATION OF DIFFUSER WITH CEILING PLANS AND OTHER TRADES. REBALANCE EXISTING DUAL DUCT MIXING BOX AS REQUIRED.
2. RELOCATE RETURN AIR GRILLE. INSTALL NEW RETURN GRILLE IF THE ONE REMOVED FROM DEMOLITION IS DAMAGED. REFER TO DEMOLITION NOTES. COORDINATE LOCATION OF GRILLE WITH CEILING PLANS AND OTHER TRADES.
3. NEW RETURN AIR GRILLE, COORDINATE LOCATION WITH CEILING PLANS AND OTHER TRADES. ENSURE RETURN AIR HAS A FREE PATH OUT OF THE NEW ROOM, IF NOT PROVIDE RETURN AIR BOOT AS REQUIRED.
4. REBALANCE EXISTING SUPPLY DIFFUSER SHOWN SHOWN ON PLAN.
5. NEW SUPPLY DIFFUSER, BALANCE AS SHOWN ON PLAN. COORDINATE LOCATION OF DIFFUSER WITH CEILING PLANS AND OTHER TRADES. RE-BALANCE EXISTING DUAL DUCT MIX BOX AS NEEDED.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-M102

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

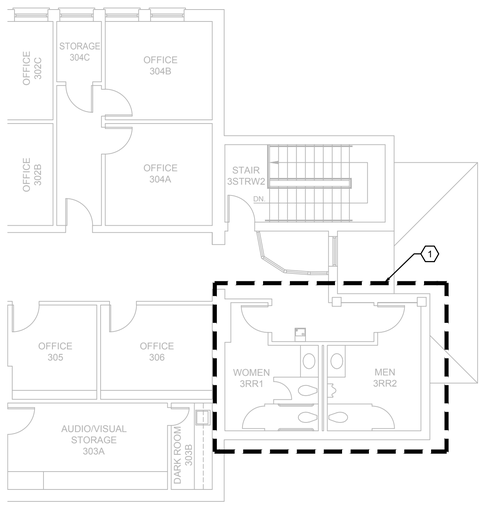
B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE AND SAVE EXISTING AIR SUPPLY DIFFUSER(S) AND EXHAUST GRILLE(S) TO BE REUSED. RELOCATE SUPPLY AIR DIFFUSER(S) AND EXHAUST GRILLE(S) IN COORDINATION WITH NEW REFLECTED CEILING PLAN. RELOCATE EXHAUST GRILLE(S) ON TOP OF WATER CLOSET(S) AS MUCH AS POSSIBLE. INSTALL NEW SUPPLY DIFFUSER/EXHAUST GRILLE IF THE ONE REMOVED DURING DEMOLITION IS DAMAGED.



FERGUSON - THIRD FLOOR MECHANICAL GENERAL PLAN

1 / F-MG101

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

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

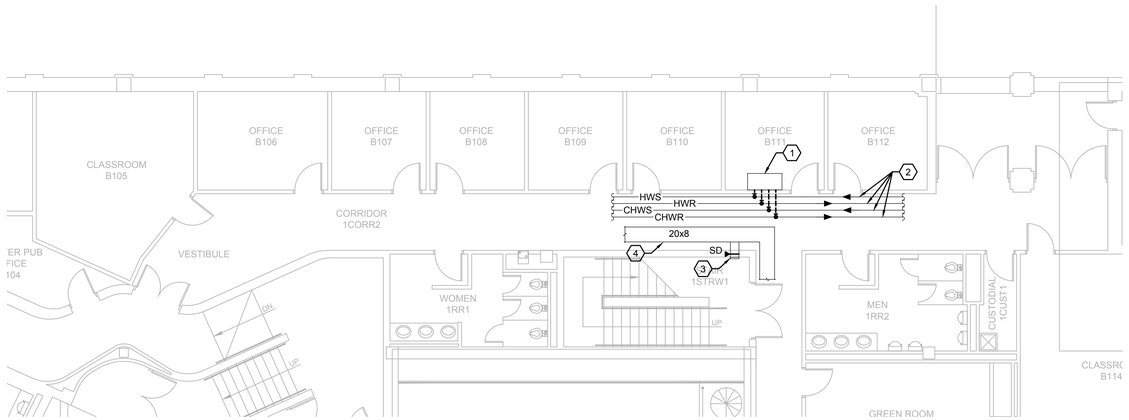
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

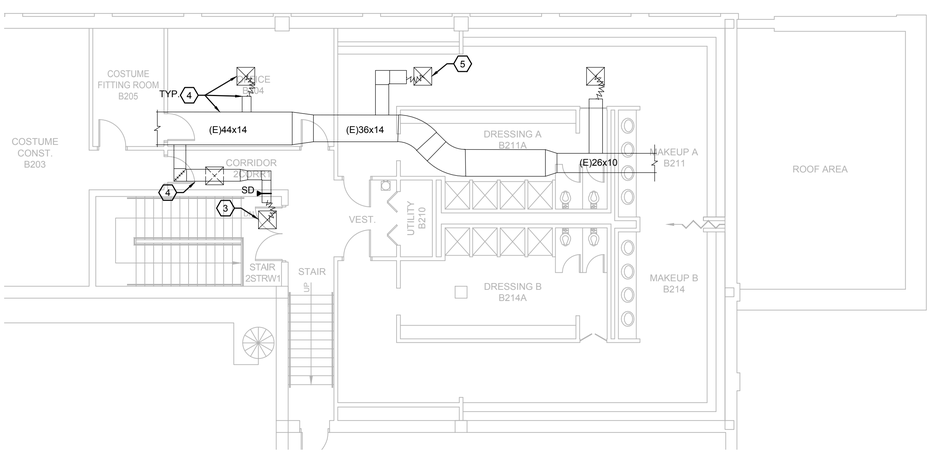
© 2017 HARPER PERKINS ARCHITECTS

F-MG101



FAIN FINE ARTS - FIRST FLOOR - AREA 1A MECHANICAL DEMOLITION PLAN

1 FF-MD101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - SECOND FLOOR - AREA 2A MECHANICAL DEMOLITION PLAN

2 FF-MD101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

1. DISCONNECT EXISTING HYDRONIC FAN COIL,STORE FOR REUSE. DEMOLISH HYDRONIC LINES,VALVE AND CAP AT MAINS.
2. EXISTING HYDRONIC LINES (HWS/R, CHWS/R) TO REMAIN.
3. EXISTING 12X6 SIDE WALL SUPPLY DIFFUSER AND SMOKE DAMPER TO REMAIN. PROVIDE MEANS OF PROTECTING DIFFUSER DURING DEMOLITION OF STAIRWAY.
4. EXISTING SUPPLY DUCTWORK/DIFFUSER TO REMAIN. TYPICAL U.N.O.
5. EXISTING SUPPLY AIR DIFFUSER TO BE RELOCATED.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

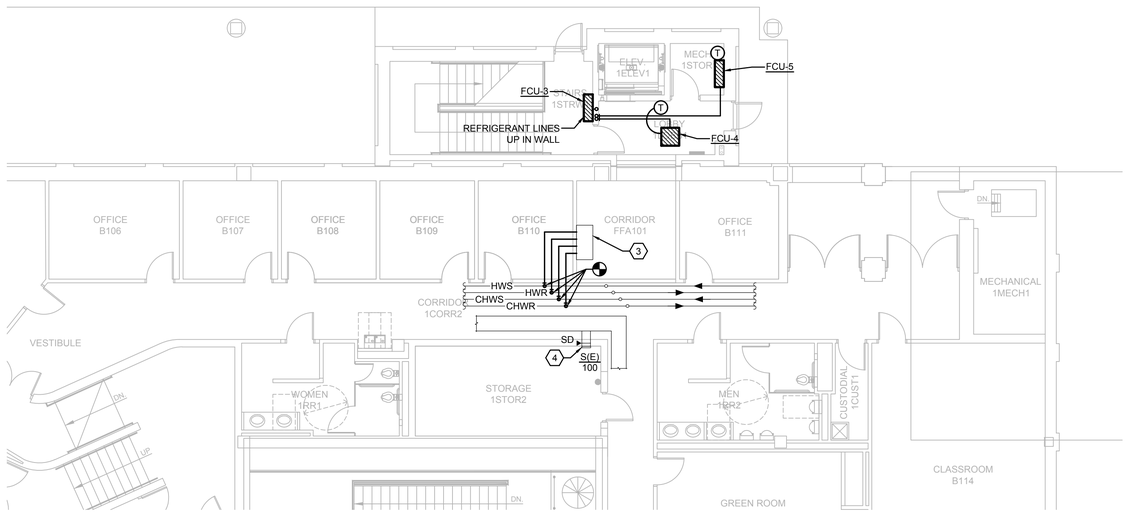
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

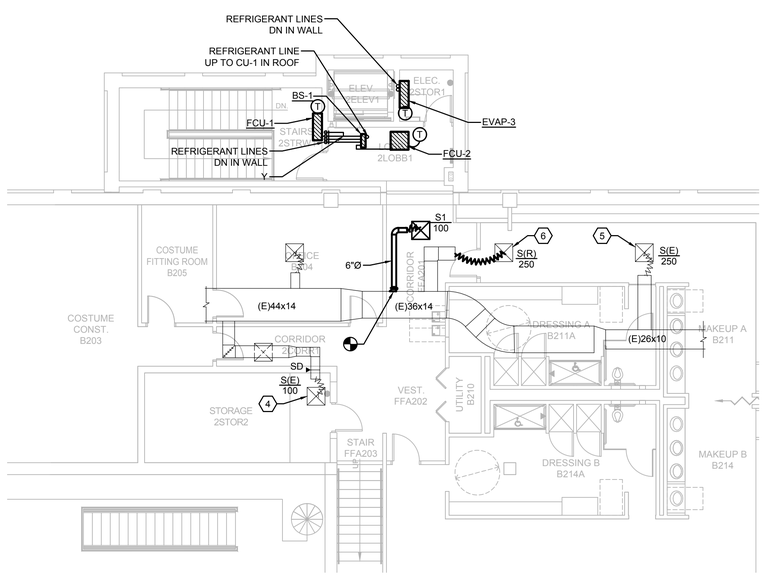
© 2017 HARPER PERKINS ARCHITECTS

FF-MD101



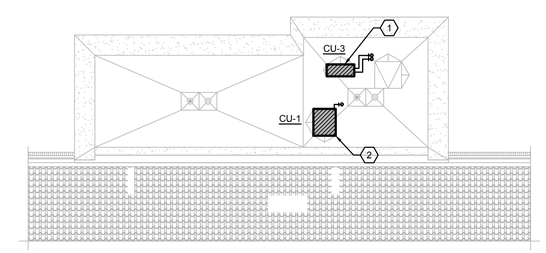
FAIN FINE ARTS - FIRST FLOOR - AREA 1A MECHANICAL PLAN

1 FF-M101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - SECOND FLOOR - AREA 2A MECHANICAL PLAN

2 FF-M101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - ROOF LEVEL - AREA 2A MECHANICAL PLAN

3 FF-M101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

(NOT ALL NOTES APPLY TO EACH SHEET)

1. NEW CONDENSING UNIT FOR DX SPLIT SYSTEM SERVING NEW ELECTRICAL ROOM. RUN REFRIGERANT LINES DOWN TROUGH ROOF.
2. NEW CONDENSING UNIT FOR VRF SYSTEM SERVING STAIRCASE,MECHANICAL ROOM AND LOBBIES. RUN REFRIGERANT LINES DOWN TROUGH ROOF, REFER TO DETAIL.
3. EXISTING FAN COILED UNIT RELOCATED IN THE CORRIDOR AND RECONNECTED TO THE HYDRONIC MAINS AND CONDENSATE.
4. SUPPLY AIR DIFFUSER KEPT DURING DEMOLITION. PER AS-BUILTS PROVIDE DIFFUSER TO BE AT 100 CFM. CONTRACTOR TO VERIFY THIS AIRFLOW ONCE NEW STORAGE ROOM IS BUILT.
5. EXISTING SUPPLY DIFFUSER TO BE REBALANCED TO 250 CFM.
6. RELOCATED SUPPLY AIR DIFFUSER TO BE REBALANCED TO 250 CFM.

FRED C. CRABTREE, JR.
109799
LICENSED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

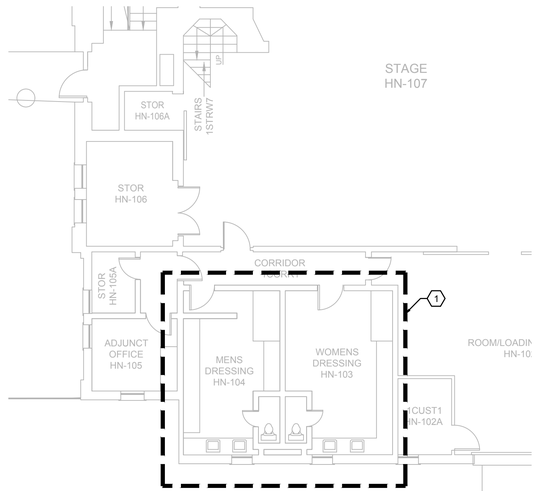
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

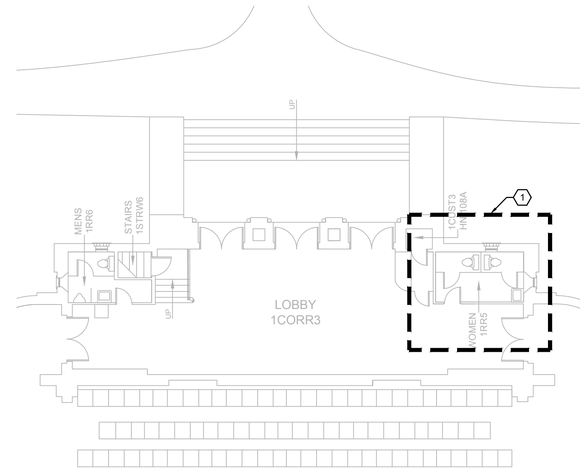
© 2017 HARPER PERKINS ARCHITECTS

FF-M101



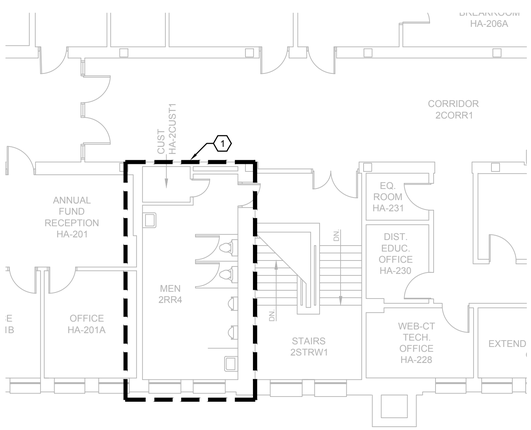
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1A
MECHANICAL GENERAL PLAN

1 / H-MG101 SCALE: 1/8" = 1'-0"



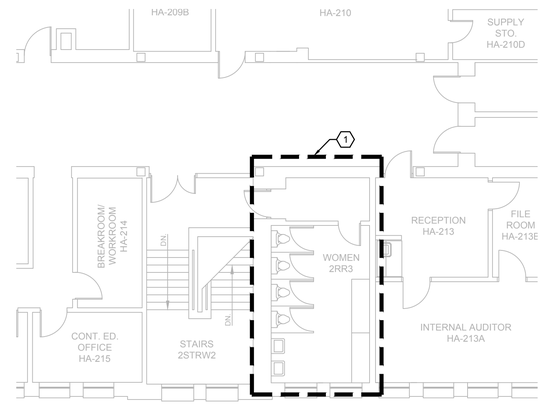
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1B
MECHANICAL GENERAL PLAN

2 / H-MG101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2B
MECHANICAL GENERAL PLAN

3 / H-MG101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2C
MECHANICAL GENERAL PLAN

4 / H-MG101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

(NOT ALL NOTES APPLY TO EACH SHEET)

A. REFER TO SYMBOL LEGEND AND GENERAL NOTES.

B. REFER TO SPECIFICATIONS.

C. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

(NOT ALL NOTES APPLY TO EACH SHEET)

1. REMOVE AND SAVE EXISTING AIR SUPPLY DIFFUSER(S) AND EXHAUST GRILLE(S) TO BE REUSED. RELOCATE SUPPLY AIR DIFFUSER(S) AND EXHAUST GRILLE(S) IN COORDINATION WITH NEW REFLECTED CEILING PLAN. RELOCATE EXHAUST GRILLE(S) ON TOP OF WATER CLOSET(S) AS MUCH AS POSSIBLE. INSTALL NEW SUPPLY DIFFUSER/EXHAUST GRILLE IF THE ONE REMOVED DURING DEMOLITION IS DAMAGED.

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

AIA HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

H-MG101

DX DUCTLESS SPLIT SYSTEM

SYMBOL	SERVING	SUPPLY AIR CFM	OUTSIDE AIR CFM	E.S.P. (IN. W.G.)	COOLING DATA TOTAL BTUHR	SENSIBLE BTUHR	ENT. AIR TEMP. DB	WB	RH %	ELECTRIC REHEAT DATA COND. DEG. F.	CAPACITY BTUHR	INDOOR FAN DATA DRIVE	AMPS	BHP	VOLT.	PH.
EVAP-1	BOLIN EXIT	371	-	0.3	14,300	-	80	67	50	-	-	DIRECT	0.2	-	230/208	1
EVAP-2	BOLIN EXIT	371	-	0.3	14,300	-	80	67	50	-	-	DIRECT	0.2	-	230/208	1
EVAP-3	FAIN FINE ELEC	649	-	0.3	13,785	11,900	75	61	50	-	-	DIRECT	0.2	-	230/208	1

SYMBOL	COMPRESSOR DATA NO.	RLA (EA.)	LRA (EA.)	HUMIDIFIER CAP. LB/HR	KW	UNIT ELECTRICAL DATA FLA	MCA	MOCP	VOLT.	PH.	E.E.R.	PHYSICAL CHARACTERISTICS DIMENSIONS (LxWxH) (IN)	WEIGHT (LBS)	MANUFACTURER	MODEL NUMBER	REMARKS
EVAP-1	-	-	-	-	-	-	-	-	-	1	12.5	36X12X9	20	LG	LMN15BHVT	-
EVAP-2	-	-	-	-	-	-	-	-	-	1	12.5	36X12X9	20	LG	LMN15BHVT	-
EVAP-3	-	-	-	-	-	-	-	-	-	1	12.5	35X12X9	20	LG	LSN120HSV4	-

REMARKS:

DX DUCTLESS SPLIT SYSTEM CONDENSING UNIT SCHEDULE

SYMBOL	SERVING	CAPACITY BTUHR.	COND. DEG. F.	OUTDOOR FAN DATA NO.	AMPS (EA.)	VOLTAGE	PHASE	COMPRESSOR DATA NO.	RLA (EA.)	LRA (EA.)	VOLTAGE	PHASE
CU-2	EVAP-1 EVAP-2	34000	-	1	0.73	208/230	1	1	-	-	208/230	1
CU-3	EVAP-3	14500	-	1	0.4	208/230	1	1	8.3	-	208/230	1

SYMBOL	UNIT ELECTRICAL DATA FLA	MCA	MOCP	VOLT.	PH.	PHYSICAL CHARACTERISTICS MAX. WEIGHT (LBS.)	DIMENSIONS (LxWxH) (IN.)	MANUFACTURER	MODEL NUMBER	REMARKS
CU-2	-	17.9	25	208/230	1	137	37X30X16	LG	LMU36CHV	ALL
CU-3	8.7	10	15	208/230	1	75	30X11X11	LG	LSU120HSV4	ALL

REMARKS:
1. PROVIDE FACTORY MOUNTED NEMA 3R FUSED DISCONNECT.
2. PROVIDE LOW AMBIENT HEAD PRESSURE CONTROLS FOR SYSTEM OPERATION DOWN TO 0°F.

ELECTRIC UNIT HEATER SCHEDULE

SYMBOL	SERVING	CAPACITY MBTUHR.	CFM	FAN (HP)	ELECTRICAL DATA K.W.	E.A.T. (DEG. F)	L.A.T. (DEG. F)	STEPS	VOLT.	PH.	MANUFACTURER	MODEL NUMBER	REMARKS
UH-1	BOLIN STAIRCASE 1ST	11.1/8.5	400	1/125	3.3/2.5	30	70	1	240/208	1	TRANE	UHCE-031B0C0	ALL
UH-2	BOLIN STAIRCASE 3RD	11.1/8.5	400	1/125	3.3/2.5	30	70	1	240/208	1	TRANE	UHCE-031B0C0	ALL

REMARKS:
1. PROVIDE NEC COMPLIANCE.
2. PROVIDE U.L. LISTING.
3. PROVIDE UNIT MOUNTED DISCONNECT.
4. PROVIDE UNIT MOUNTED DISCONNECT.
5. PROVIDE INTEGRAL THERMOSTAT.
6. PROVIDE WITH WALL MOUNTING BOX.

AIR DISTRIBUTION SCHEDULE

SYMBOL	DESCRIPTION	MODULE SIZE	MATERIAL	FINISH	NECK SIZE	DAMPER	BORDER FRAME TYPE	PATTERN	MAX. PRESS. DROP	MAX. N.C.	MANUF.	MODEL NUMBER	REMARKS
S1	SQUARE SUPPLY AIR CEILING DIFFUSER WITH THREE CONE, ONE PIECE CONSTRUCTION, NO CORNER JOINTS, REMOVABLE INNER CONES AND ROUND NECK DUCT CONNECTION. DAMPER SHALL BE OPERABLE FROM FACE OF DIFFUSER.	24 X 24	ALUMINUM	WHITE	SEE NECK / RUNOUT SCHED.	NO	LAY-IN PANEL	SEE PLANS	0.10	25	TITUS	TMS-AA	
S2		12 X 12				YES	SURFACE MOUNT						1
R1	RETURN, INTAKE OR TRANSFER AIR PERFORATED GRILLE WITH 3/16" HOLES ON 1/4" STAGGERED CENTERS.	24 X 24	ALUMINUM	WHITE	SEE NECK / RUNOUT SCHED.	NO	LAY-IN PANEL	N/A	0.10	25	TITUS	PAR-AA	
R2	24 " X 24" X 24 " EGGCRATE TYPE EXHAUST AIR GRILLE. CORNERS SHALL BE WELDED.	12 X 12				NO	LAY-IN PANEL						1
E1	EXHAUST AIR GRILLE WITH 35 DEGREE FIXED DEFLECTION BLADES ON 3/4" CENTERS. BLADES ARE PARALLEL TO LONG DIMENSION. CORNERS SHALL BE WELDED. DAMPER SHALL BE OPERABLE FROM FACE OF GRILLE.	24 X 24	ALUMINUM	MATCH ARCH. FINISHES	SAME AS DUCT SIZE ON PLANS	NO	LAY-IN PANEL	N/A	0.10	25	TITUS	350FL	2
E2		12 X 12				YES	SURFACE MOUNT						1

REMARKS:
1. PROVIDE RAPID MOUNT FRAME FOR SHEET ROCK CEILINGS.
2. FINAL LOCATION AND ROTATION ANGLE PER ARCHITECT. REFER TO RCP'S.

VRF SYSTEM SCHEDULE (FAIN FINE ARTS BLDG.)

MULTI V INDOOR UNIT EQUIPMENT SCHEDULE

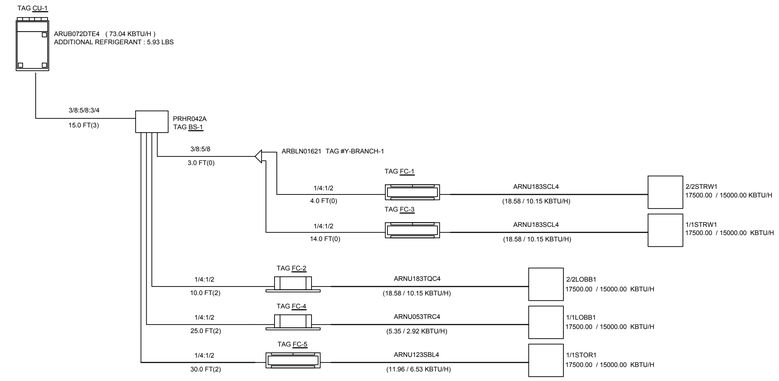
LOCATION	MARK	ROOM NAME	MODEL NUMBER	TYPE	QUANTITY	NOMINAL CAPACITY (BTU/H) TOTAL COOLING	SENSIBLE COOLING	HEATING	CORRECTED CAPACITY (BTU/H) TOTAL COOLING	SENSIBLE COOLING	HEATING	ENTERING (RETURN) AIR TEMPERATURE (°F) COOLING DB	COOLING WB	HEATING DB	FAN AIRFLOW (CFH)	PIPING CONNECTIONS (IN.) LIQUID	GAS	POWER VOLTS	PHASE	Hz	RLA
VRF	FCU-1	2/2STRW1	ARNU183SCL4	WALL_MOUNTED	1	19100	13800	21500	18576	10146	21612	75	67	68	441/424/399	1/4	1/2	220~240V	1Ph	50Hz/60Hz	0.29
VRF	FCU-2	2/2LOBB1	ARNU183TQC4	CASSETTE_4WAY	1	19100	13800	21500	18576	10146	21612	75	67	68	396/388/353	1/4	1/2	220~240V	1Ph	50Hz/60Hz	0.2
VRF	FCU-3	1/1STRW1	ARNU183SCL4	WALL_MOUNTED	1	19100	13800	21500	18576	10146	21612	75	67	68	441/424/399	1/4	1/2	220~240V	1Ph	50Hz/60Hz	0.29
VRF	FCU-4	1/1LOBB1	ARNU053TRC4	CASSETTE_4WAY	1	5500	3900	6100	5349	2922	6132	75	67	68	265/247/212	1/4	1/2	220~240V	1Ph	50Hz/60Hz	0.2
VRF	FCU-5	1/1STOR1	ARNU123SBL4	WALL_MOUNTED	1	12300	8700	13600	11963	6534	13671	75	67	68	336/290/230	1/4	1/2	220~240V	1Ph	50Hz/60Hz	0.16

MULTI V OUTDOOR UNIT EQUIPMENT SCHEDULE - AIR

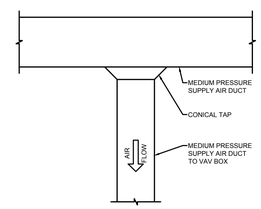
LOCATION	MARK	MODEL NUMBER	TYPE	QUANTITY	COOLING CAPACITY (BTU/H) TOTAL COOLING	HEATING COOLING	CORRECTED CAPACITY (BTU/H) TOTAL COOLING	HEATING COOLING	FAN AIRFLOW (CFM)	QUANTITY	OUTDOOR TEMPERATURE (°F) COOLING DB	COOLING WB	HEATING DB	EFFICIENCY COOLING IEER (SEER)	HEATING COP (HSPF)	REFRIGERANT	PIPING CONNECTIONS (IN.) LIQUID	LP GAS	HP GAS	POWER VOLTS	PHASE	Hz	MCA
VRF	CU-1	ARUB072DTE4	HR_Multi V IV	1	72000	81000	73039	84640	7400	1	102	75	18	24.8	3.77	R410A	3/8	3/4	5/8	460V	3Ph	60Hz	16.7

MULTI V HR BOXES

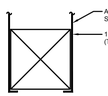
LOCATION	MARK	MODEL NUMBER	QUANTITY	POWER VOLTS	PHASE	Hz	RLA
VRF	BS-1	PRHR042A	1	208 / 230V	1Ph	60Hz	0.2



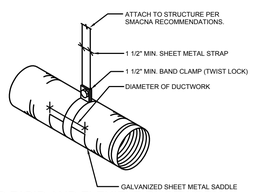
6 VRF DISTRIBUTION PIPING DIAGRAM
SCALE: NONE



5 MEDIUM PRESSURE SUPPLY AIR DUCT TAP DETAIL
SCALE: NONE



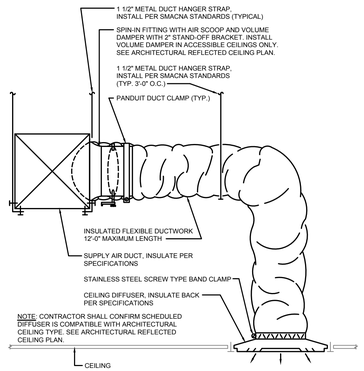
SQUARE AND RECTANGULAR DUCTWORK



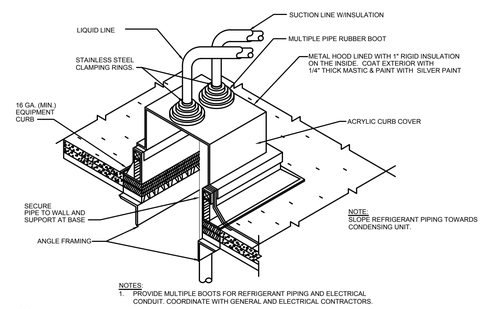
ROUND RIGID AND FLEXIBLE DUCTWORK

NOTES:
1. DO NOT USE POWDER POWERED FASTENING SYSTEMS TO ATTACH SUPPORTS TO STRUCTURE.
2. ALL CHANNEL SECTIONS SHALL BE HOT DIPPED GALVANIZED.
3. SUPPORT SYSTEM MUST NOT DAMAGE DUCT, INSULATION, OR CAUSE DUCT SHAPE DEFORMATION.
4. HANGER SIZES SHALL BE IN ACCORDANCE WITH SMACNA, LATEST EDITION.

4 DUCTWORK SUPPORT DETAIL
SCALE: NONE

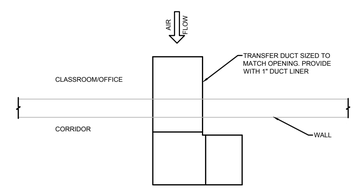


3 CEILING DIFFUSER DETAIL
SCALE: NONE



NOTES:
1. PROVIDE MULTIPLE BOOTS FOR REFRIGERANT PIPING AND ELECTRICAL CONDUIT. COORDINATE WITH GENERAL AND ELECTRICAL CONTRACTORS.

2 REFRIGERANT PIPE ROOF PENETRATION DETAIL
SCALE: NONE



1 TYPICAL TRANSFER DUCT TO CORRIDOR DETAIL
SCALE: NONE

FRED C. CRABTREE, JR.
109799
LICENSED PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

M003

FIRE ALARM DESIGN IS PERFORMANCE BASED AND DESCRIPTIVE IN NATURE. DEVICES SHOWN ARE REPRESENTATIVE AND DO NOT NECESSARILY REPRESENT THE FINAL DESIGN. A COMPLETE FIRE ALARM SYSTEM SHALL BE DESIGNED AND SEALED BY A NICET LEVEL III CERTIFIED DESIGNER. THE EXACT DEVICE LOCATIONS, NUMBER OF DEVICES, DEVICE TYPES, WIRING, POWER SUPPLIES, VOLTAGE DROP, CALCULATIONS, ETC. SHALL BE PROVIDED WITH SHOP DRAWINGS PREPARED BY THE LICENSED FIRE ALARM DESIGNER. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, LAYOUT, AND INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS (INCLUDING ADA, LIFE SAFETY, AND ANY OTHER REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION). THE LICENSED FIRE ALARM DESIGNER SHALL SUBMIT DRAWINGS TO THE STATE FIRE MARSHAL'S OFFICE AND/OR AUTHORITY HAVING JURISDICTION FOR APPROVAL PRIOR TO SUBMITTING SHOP DRAWINGS TO ENGINEER. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL SYSTEM PERFORMANCE REQUIREMENTS.

GENERAL NOTES FOR ALL FIRE ALARM WORK

1. SMOKE DETECTORS SHALL BE INSTALLED MINIMUM 3'-0" FROM HVAC SUPPLY AIR DIFFUSERS.
2. REFERENCE MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL DUCT DETECTORS, FIRE/SMOKE DAMPERS AND CONTROL DAMPERS. CONNECT ALL FIRE/SMOKE DAMPERS, SHAFT VENT AND CONTROL DAMPERS TO 120V CIRCUIT. CONTRACTOR TO ENSURE CONNECTION OF THESE DEVICES IS INCLUDED IN THE BID. CONTRACTOR TO ENSURE CIRCUIT UTILIZED IS NOT OVERLOADED. SEE MECHANICAL CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.
3. PROVIDE INTERLOCKS TO THE BUILDING FIRE ALARM SYSTEM TO PROVIDE AUTOMATIC SIGNALING TO AN APPROVED LOCATION WITH ADEQUATE DIALING AND COMMUNICATION SYSTEM TO ALERT THE LOCAL FIRE DEPARTMENT. A LEASED TELEPHONE LINE WILL BE PROVIDED BY THE OWNER.
4. ALL JUNCTION BOXES AND COVER PLATES TO EMERGENCY SYSTEM SHALL BE PAINTED RED FOR QUICK RECOGNITION.
5. SEE INDIVIDUAL ENLARGED SUITE PLANS FOR LOCATIONS OF SMOKE DETECTORS IN SUITE ROOMS.
6. CONTRACTOR SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES. CONTRACTOR SHALL PROVIDE A COMPLETE FIRE ALARM SYSTEM THAT IS COMPLIANT WITH ALL CODES.
7. VERIFY LOCATION OF THE FIRE ALARM CONTROL AND ANNUNCIATOR (WHERE REQUIRED) PANELS WITH THE LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO ROUGH-IN.
8. WHERE THE AHJ DETERMINES THAT AN EXISTING CONDITION CREATES A NUISANCE, DUCT DETECTORS SHALL REPORT TO FIRE ALARM CONTROL PANEL AS A SUPERVISORY SIGNAL.
9. CONNECT ACCESSIBLE REMOTE TEST STATION FOR DUCT DETECTOR WHERE REQUIRED BY MECHANICAL DRAWINGS. OBTAIN LOCATIONS AND REQUIREMENTS FOR MECHANICAL DRAWINGS.
10. ALL BUILDINGS SHALL HAVE APPROVED RADIO COVERAGE FOR EMERGENYC RESPONDERS WITHIN THE BUILDING BASED UPON THE EXISTING COVERAGE LEVELS OF THE PUBLIC SAFETY COMMUNICATION SYSTEM OF THE JURISDICTION AT THE EXTERIOR OF THE BUILDING.
11. LOW FREQUENCY AUDIBLE ALARMS ARE REQUIRED IN ALL SLEEPING AREAS. ENSURE DEVICES SUPPLIED IN THESE AREAS COMPLY WITH THIS REQUIREMENT.
12. ALL WIRE/CABLE FOR INITIATING AND INDICATING CIRCUITS SHALL COMPLY WITH NFPA 70, ARTICLE 760. ALL WIRE SHALL BE RUN IN CONDUIT, WHERE WIRE IS SUBJECT TO DAMAGE, WHICH SHALL BE RUN IN NEAT AND ORDERLY MANNER AS HIGH AS POSSIBLE.
13. CONNECTION FOR FIRE ALARM CONTROL PANEL(S) TO 120 VOLT POWER SUPPLY SHALL BE ON A DEDICATED BRANCH CIRCUIT, THE CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, BE LOCAKABLE, BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL". THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
14. SEAL PENETRATIONS OF RATED WALLS TO MAINTAIN THE INTEGRITY OF THE WALL ASSEMBLY.
15. PENETRATIONS OF EXTERIOR WALLS AND ROOF DECK SHALL BE WEATHER PROOFED.
16. PROVIDE UNISTRUT SUPPORT RACK AT ALL LOCATIONS OF MORE THAN A SINGLE CONDUIT. CONDUITS SHALL BE MOUNTED TO THE TOP OF SUPPORT RACK USING SPLIT UNISTRUT CLAMPS AND JUNCTION BOXES SHALL BE ORIENTED FOR ACCESS FROM BELOW.
17. WHERE EXPOSED CONDUIT MUST BE USED, CONDUITS SHALL BE GROUPED AND MOUNTED ON CHANNEL BOLTED SECURELY TO BUILDING STRUCTURE.
18. CONTRACTOR SHALL COORDINATE CONDUIT AND CONDUCTOR SIZES WITH SYSTEMS VENDOR AND SHALL PROVIDE MATERIAL AS REQUIRED.
19. ALL WIRE RUN EXPOSED IN AIR PLENUM SHALL UTILIZE PLENUM RATED CABLE.
20. ALL STROBE CANDELA RATINGS SHALL COMPLY WITH TEXAS ACCESSIBILITY STANDARDS.

GENERAL NOTES FOR ALL ELECTRICAL WORK

1. ELECTRICAL LAYOUT DRAWINGS ARE PARTIALLY DIAGRAMMATIC. INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL STEEL OR OTHER SYSTEMS. LOCATE LIGHTING FIXTURES IN SYMMETRICAL PATTERNS AND IN PROPER ALIGNMENT WITH BUILDING FEATURES EXCEPT WHERE DIMENSIONED ON THE DRAWINGS OR LOCATED ON THE REFLECTED CEILING PLANS.
2. ALL WORK SHALL BE PERFORMED IN SUCH A MANNER TO CREATE MINIMAL POWER OUTAGES FOR THE OWNER. ALL SUCH OUTAGES SHALL BE CAREFULLY COORDINATED WITH THE OWNER SO THAT POWER TO ESSENTIAL SERVICES CAN BE MAINTAINED.
3. PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, STARTERS, RACEWAYS AND OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING.
4. SYMBOLS IN THE LEGEND ARE APPLICABLE GENERALLY. FOR EXACT REQUIREMENTS, REFER TO THE SCHEDULES, LAYOUTS, DETAILS AND TO THE SPECIFICATIONS. THE APPEARANCE OF A PARTICULAR SYMBOL IN THE LEGEND DOES NOT NECESSARILY IMPLY THAT THE ITEM IS INCLUDED IN THE CONTRACT.
5. MOUNT GROUPED DEVICES IN A SINGLE CONTINUOUS GANG BOX. USE PARTITIONS WHERE VOLTAGE BETWEEN EXPOSED LIVE PARTS OF ADJACENT SWITCHES MAY EXCEED 300 VOLTS.
6. SEAL CONDUITS THAT ENTER CONDITIONED AREAS FROM NON-CONDITIONED AREAS TO FORM A TIGHT SEAL.
7. ALL NEW DEVICES TO BE FLUSH MOUNTED UNLESS SPECIFICALLY NOTED OTHERWISE.
8. SIZE EQUIPMENT GROUNDING CONDUCTORS PER THE NATIONAL ELECTRICAL CODE (NEC) 250-122.
9. WHEN TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
10. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND DIVISION 26 OF THE SPECIFICATION.
11. THE FLOOR, WALLS OR CEILING THAT REQUIRE TO BE MODIFIED TO INSTALL NEW DEVICES SHALL BE REPAIRED/PATCHED TO MATCH THE SURROUNDING AREA.
12. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL INSTALLER PRIOR TO ROUGH-IN.
13. THE USE OF ANY PROCESS INVOLVING ASBESTOS OR PCB, AND THE INSTALLATION OF ANY PRODUCT, INSULATION, COMPOUND OF MATERIAL CONTAINING OR INCORPORATING ASBESTOS OR PCB, IS PROHIBITED. THE REQUIREMENTS OF THIS SPECIFICATION FOR A COMPLETE AND PROPERLY OPERATING SHALL BE MET WITHOUT THE USE OF ASBESTOS OR PCB.
14. VISIT THE EXISTING FACILITY AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
15. CONTRACTOR SHALL INCLUDE IN HIS BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE.
16. LAMPS, BALLASTS AND OTHER MATERIALS SHALL BE TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES.
17. THE CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATION THAT ALL MATERIALS WHERE RECYCLED OR DISPOSED OF PROPERLY PER THE GUIDE LINE NOTED ABOVE.
18. PANEL SCHEDULES INDICATE CIRCUIT DESIGNATIONS ONLY. CONTRACTOR TO PROVIDE MATERIALS AS REQUIRED WHEN NEUTRALS ARE SHARED TO COMPLY WITH NEC REQUIREMENTS. ALL SINGLE PHASE MULTIWIRE BRANCH CIRCUITS SHALL BE FED VIA A TWO POLE BREAKER OR TWO SINGLE POLE BREAKERS WITH AN IDENTIFIED HANDLE TIE. ALL THREE PHASE MULTIWIRE BRANCH CIRCUITS SHALL BE FED VIA A THREE POLE BREAKER OR THREE SINGLE POLE BREAKERS WITH AN IDENTIFIED HANDLE TIE (PER NEC 210.4B).
19. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE IDENTIFIED BY PHASE OR LINE AND SYSTEM AT ALL TERMINATION, CONNECTIONS. THIS IDENTIFICATION METHOD SHALL BE DOCUMENTED IN A MANNER THAT IS READILY AVAILABLE OR SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD OR SIMILAR DISTRIBUTION EQUIPMENT (PER NEC 210.5C).

    THE VOLTAGES INDICATED SHALL BE MARKED AS FOLLOWS:

    480/277V WIRING

    PHASE A - BROWN
    PHASE B - ORANGE
    PHASE C - YELLOW
    NEUTRAL - GRAY
    GROUND - GREEN WITH YELLOW STRIPE

    208/120V WIRING

    PHASE A - BLACK
    PHASE B - RED
    PHASE C - BLUE
    NEUTRAL - WHITE
    GROUND - GREEN

GENERAL NOTES FOR EXISTING CONDITIONS

1. EXISTING CONDITIONS AND UTILITIES INDICATED ARE TAKEN FROM EXISTING CONSTRUCTION DOCUMENTS, VARIOUS SURVEYS AND FIELD INVESTIGATIONS. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. VISIT THE SITE PRIOR TO BID AND FIELD VERIFY EXISTING CONDITIONS. NOTIFY THE ENGINEER WHERE EXISTING CONDITIONS ARE IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS, COOPERATION WITH OTHER TRADES IN ROUTING AND/OR BURIAL DEPTHS AS DETERMINED DURING CONSTRUCTION AND AS DIRECTED BY THE ARCHITECT/ENGINEER MAY BE NECESSARY AND IT IS INTENDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED A PART OF THIS CONTRACT. IT IS ALSO UNDERSTOOD THAT THE PLANS ARE NOT COMPLETELY TO SCALE. THIS CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL SITE UTILITIES, ETC., PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE CONTRACT. PROVIDE ADDITIONAL LABOR AND MATERIALS DURING CONSTRUCTION AS NECESSARY TO:
    A. ACCOMMODATE EXISTING CONDITIONS FOR THE INSTALLATION OF NEW WORK.
    B. REPAIR OR REWORK EXISTING SYSTEMS TO REMAIN SO THEY COMPLY WITH THE MINIMUM CODES. PROVIDE A COMPLETE, CODE COMPLIANT AND OPERABLE SYSTEMS AT NO ADDITIONAL COST TO THE OWNER.
2. WHERE EXISTING EQUIPMENT IS TO BE RELOCATED, TAKE EXTREME CARE TO PREVENT DAMAGE DURING REMOVAL AND REINSTALLATION. WHERE DAMAGE OCCURS, REPLACE OR REPAIR THE EQUIPMENT TO THE SATISFACTION OF THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER. THOROUGHLY CLEAN, RELAMP AND, IF REQUIRED, PAINT ALL ITEMS BEFORE INSTALLING AT THEIR NEW LOCATION. PATCH AND PAINT AREAS AFFECTED BY WORK UNDER THIS CONTRACT TO MATCH ADJACENT WALL OR CEILING FINISH.
3. EXCEPT AS OTHERWISE NOTED, ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED OBSOLETE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THIS CONTRACT SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION. OTHER WORK OR MATERIAL RENDERED OBSOLETE BY THE WORK IN THIS PROJECT SHALL BE COMPLETELY REMOVED. JUNCTION BOXES RECESSED IN WALLS NOT TO BE REUSED SHALL BE PROVIDED WITH BLANK COVERPLATES. ANY CONDUITS STUBBED OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.
4. WHERE EXISTING ELECTRICAL WORK INTERFERES WITH NEW WORK AND WHERE SUCH INSTALLATIONS ARE TO REMAIN IN USE, THE INSTALLATIONS SHALL BE DISCONNECTED AND RELOCATED AND/OR RECONNECTED TO COORDINATE WITH THE WORK INDICATED ON THE CONTRACT DOCUMENTS AND AS SPECIFIED.
5. ALL EQUIPMENT INDICATED TO REMAIN IN PLACE SHALL REMAIN IN NORMAL OPERATION AT ALL TIMES DURING CONSTRUCTION. IF ANY BRANCH CIRCUIT WIRING FEEDING THIS EQUIPMENT IS DAMAGED DURING CONSTRUCTION, REPLACE WITH NEW BRANCH CIRCUIT WIRING OF THE SAME SIZE AND TYPE AS EXISTING AT NOT COST TO OWNER.
6. UPDATE EXISTING PANELBOARD SCHEDULE TO REFLECT ALL CHANGES MADE DURING THE PROJECT.
7. LOCATE ALL EXISTING UTILITIES AND PROTECT THEM FROM DAMAGE.
8. REMOVE EXISTING POWER, LIGHTING, SYSTEMS MATERIALS AND EQUIPMENT WHICH ARE MADE OBSOLETE OR WHICH INTERFERE WITH THE CONSTRUCTION OF THE PROJECT.
9. REINSTALL ANY SUCH POWER, LIGHTING, SYSTEMS, MATERIALS AND EQUIPMENT WHICH ARE REQUIRED TO REMAIN ACTIVE FOR THE FACILITY TO BE FULLY FUNCTIONAL.
10. ALL RECEPTACLES, DEVICES, LIGHTING, SYSTEMS AND EQUIPMENT NOT SHOWN, AND IN AREAS OUTSIDE OF REMODELING SHALL REMAIN ACTIVE UNLESS OTHERWISE NOTED. FURNISH AND INSTALL ACCESSIBLE JUNCTION BOXES AND REWORK EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY TO RECEPTACLES, DEVICES, LIGHTING, SYSTEMS AND EQUIPMENT.
11. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.
12. REMOVE EXPOSED ABANDONED CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES.
13. DISCONNECT AND REMOVE ELECTRICAL DEVICES AND EQUIPMENT SERVING UTILIZATION EQUIPMENT THAT HAS BEEN REMOVED.
14. CLEAN AND REPAIR EXISTING MATERIALS AND EQUIPMENT WHICH REMAIN OR ARE TO BE REUSED.
15. WHERE INSTALLING NEW CIRCUIT BREAKERS IN EXISTING PANELBOARDS. PROVIDE SAME MANUFACTURER TYPE, STYLE AND A.I.C. RATING AS EXISTING CIRCUIT BREAKERS IN THE EXISTING PANELBOARD.
16. SCREENED ELECTRICAL INDICATES EXISTING TO REMAIN ACTIVE, UNLESS NOTED OTHERWISE.
17. ALL CONDUIT AND WIRE REMOVED SHALL BE TAKEN BACK TO THE SOURCE OF SUPPLY.

GENERAL NOTES

1. WHERE EXISTING EQUIPMENT OR MATERIALS ARE REMOVED OR CHANGED, ALL BRANCH CONDUITS, WHICH NO LONGER ARE IN SERVICE, SHALL BE REMOVED AS DIRECTED BY THE ARCHITECT. IF, IN THE COURSE OF THE WORK, OUTLETS ARE COVERED UP OR OTHERWISE RENDERED INACCESSIBLE, ALL WIRING TO SAME SHALL BE REMOVED TO THE SOURCE. IF A CIRCUIT THAT MUST REMAIN IN SERVICE IS INTERRUPTED THEREBY, IT SHALL BE RECONNECTED BY THE MOST INCONSPICUOUS MEANS SO AS TO REMAIN OPERATIONAL, WITHTHE SAME CAPACITY AS BEFORE. ALL BUILDING SURFACES DAMAGED, AND OPENINGS LEFT BY REMOVAL OF BOXES, PIPING OR OTHER EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR. ALL HOLES LEFT IN JUNCTION BOXES, SWITCHES, PANELS, ETC. SHALL BE CLOSED.
2. REMOVE EXISTING SYSTEMS, MATERIALS AND EQUIPMENT WHICH ARE MADE OBSOLETE OR WHICH INTERFERE WITH THE CONSTRUCTION OF THE PROJECT. REINSTALL ANY SUCH SYSTEMS, MATERIALS AND EQUIPMENT WHICH IS REQUIRED TO COMPLETE THE PROJECT.
3. REMOVE EXISTING WORK AS INDICATED ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.
4. ALL EQUIPMENT REMOVED THAT IS NOT BEING REUSED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED OR DISPOSED OF AS DIRECTED.
5. WHERE EXISTING RACEWAYS THAT ARE NOT TO BE REUSED INTERFERE WITH NEW WORK. THESE RACEWAYS SHALL BE REMOVED BACK TO THE NEAREST ACTIVE JUNCTION BOX OR ACTIVE PULL BOX AND THE OPENINGS BLANKED.
6. MAINTAIN CONTINUITY OF BRANCH CIRCUITS SERVING MULTIPLE ITEMS OF WHICH ONE OR MORE ARE BEING DEMOLISHED. CONDUCTORS AND CONDUITS FOR THOSE ITEMS BEING DEMOLISHED SHALL BE REMOVED AS FAR AS PRACTICAL.
7. REMOVE ALL EXISTING ELECTRICAL EQUIPMENT NOT REUSED OR NOT NECESSARY FOR THE COMPLETION OF THIS PROJECT.
8. COORDINATE ALL DEMOLITION WORK WITH ALL TRADES.
9. PROVIDE CORE DRILLING AND FIRE STOPPING AT ALL CONDUIT PENETRATIONS THROUGH EXISTING FLOOR SLABS AND WALLS TO MAINTAIN A 2-HOUR FIRE RATING. USE UL LISTED METHODS AND MATERIALS.
10. REPAIR AS REQUIRED THE CEILINGS, WALLS AND FLOORS TO MATCH THE SURROUNDING AREAS WHERE ITEMS ARE TO BE REMOVED AND NOT REPLACED.

GENERAL NOTES FOR ALL DEMOLITION WORK

1. REMOVE EXISTING WORK AS INDICATED ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.
2. ALL EQUIPMENT REMOVED THAT IS NOT BEING REUSED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED OR DISPOSED OF AS DIRECTED.
3. WHERE EXISTING RACEWAYS THAT ARE NOT TO BE REUSED INTERFERE WITH NEW WORK, THESE RACEWAYS SHALL BE REMOVED BACK TO THE NEAREST ACTIVE JUNCTION BOX OR ACTIVE PULL BOX AND THE OPENINGS BLANKED.
4. MAINTAIN CONTINUITY OF BRANCH CIRCUITS SERVING MULTIPLE ITEMS OF WHICH ONE OR MORE ARE BEING DEMOLISHED. CONDUCTORS AND CONDUITS FOR THOSE ITEMS BEING DEMOLISHED SHALL BE REMOVED AS FAR AS PRACTICAL.
5. REMOVE ALL EXISTING ELECTRICAL EQUIPMENT NOT REUSED OR NOT NECESSARY FOR THE COMPLETION OF THIS PROJECT.
6. COORDINATE ALL DEMOLITION WORK WITH ALL TRADES.
7. PROVIDE CORE DRILLING AND FIRE STOPPING AT ALL CONDUIT PENETRATIONS THROUGH EXISTING FLOOR SLABS AND WALLS TO MAINTAIN CURRENT FIRE RATING. USE UL LISTED METHODS AND MATERIALS.
8. REPAIR AS REQUIRED THE CEILINGS, WALLS AND FLOORS TO MATCH THE SURROUNDING AREAS WHERE ITEMS ARE TO BE REMOVED AND NOT REPLACED.

STATE OF TEXAS
JOSEPH D. CAMPOS
45513
REGISTERED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

E001

ELECTRICAL ABBREVIATIONS

(ALL ABBREVIATIONS MAY NOT APPEAR ON DRAWINGS.)

2SCP	2-SPEED, CONSEQUENT POLE
2SSW	2-SPEED, SEPARATE WINDING
	AMPERE(S)
AC	ALTERNATING CURRENT
ACCU	AIR-COOLED CONDENSING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY(ROOT MEAN SQUARE ALTERNATE)
ALT	ALTERNATE
APPROX	APPROXIMATE OR APPROXIMATELY
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOT	BOTTOM OF TRAY
C	CONDUIT OR TUBING
CAT NO.	CATALOG NUMBER
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED-CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CND	CONDUCTOR
COMM	COMMUNICATIONS
CONT	CONTINUATION
CT(S)	CURRENT TRANSFORMER(S)
DC	DIRECT CURRENT
DISC	DISCONNECT
DIV	DIVISION
DPDT	DOUBLE-POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DWG(S)	DRAWING(S)
EC	EMPTY CONDUIT OR TUBING
EGS	ENGINE-GENERATOR SET
EHH	ELECTRICAL HANDHOLE
ELEC	ELECTRIC/ELECTRICAL
ELEV	ELEVATION
EMERG	EMERGENCY
EMH	ELECTRICAL MANHOLE
EMT	ELECTRICAL METALLIC TUBING
EQPT	EQUIPMENT
ES	ENERGY SAVING
EWC	ELECTRICAL WATER COOLER
EWH	ELECTRICAL WATER HEATER
EX	EXISTING
EXH	EXHAUST
F	FUSE(S)
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OWNER
FL	FLOOR
FLA	FULL LOAD AMPERE(S)
FLEX	FLEXIBLE
FS	FUSIBLE SAFETY SWITCH/FUSIBLE SWITCH
FUT	FUTURE
FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING
G	GROUND
GFI	GROUND FAULT CIRCUIT INTERRUPT
GS	GALVANIZED STEEL
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HZ	HERTZ
IES	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
INST	INSTRUMENT/INSTRUMENTATION
JBOX	JUNCTION BOX
KA	KILOAMPERE(S)
KW	KILOWATTS(S)
KWH	KILOWATT-HOUR(S)
KV	KILOVOLT(S)
KVA	KILOVOLT-AMPERE(S)
KVAR	KILOVOLT-AMPERE(S) REACTIVE
LPF	LOW POWER FACTOR
LPS	LOW PRESSURE SODIUM
LTG	LIGHTING
m	METER(S)
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MEZZ	MEZZANINE
MH	METAL HALIDE
MIC	MICROPHONE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
mm	MILLIMETER(S)
MMS	MANUAL MOTOR STARTER
MTD	MOUNTED
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MVA	MEGAVOLT-AMPERE(S)
MVAR	MEGAVOLT-AMPERE(S) REACTIVE
MW	MEGAWATT(S)
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFS	NON-FUSIBLE SAFETY SWITCH
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OH	OVERHEAD
P	POLE(S)
PA	PUBLIC ADDRESS SYSTEM
PF	POWER FACTOR
PL	PILOT LIGHT
PNL	PANELBOARD
PVC	POLYVINYL CHLORIDE
RC	REMOTE CONTROL
RCP	REFLECTED CEILING PLAN
REC	RECEPTACLES(S)
RGS	RIGID GALVANIZED STEEL
RVSS	REDUCED VOLTAGE, SOLID STATE
SPD	SURGE PROTECTIVE DEVICE
SF	SQUARE FOOT OR FEET
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
SS	START-STOP
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TA	TRIP AMPERE(S)
TAS	TEXAS ACCESSIBILITY STANDARDS
TEL	TELEPHONE
TEMP	TEMPORARY
TU	TEXAS UTILITIES ELECTRIC
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES, INC.
UPS	UNINTERRUPTIBLE POWER SUPPLY
UNO	UNLESS NOTED OTHERWISE
V	VOLTAGE OR VOLT(S)
VA	VOLT-AMPERE(S)
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
W	WATT(S)
WP	WEATHERPROOF
W/	WITH
W/O	WITHOUT
XFMR	TRANSFORMER
XP	EXPLOSION-PROOF
△	DELTA
#	NUMBER
Ø	PHASE(S)

FIRE ALARM SYMBOL LEGEND

SYM.	DESCRIPTION
F	MANUAL PULL STATION
F	COMBINATION HORN/STROBE - WALL MOUNTED
F	COMBINATION HORN/STROBE - CEILING MOUNTED
F WP	COMBINATION HORN/STROBE - WEATHER PROOF
F	HORN
F	STROBE LIGHT
F	STROBE LIGHT - CEILING MOUNTED
F	BELL
F SP	SPEAKER - WALL MOUNTED
F SP	SPEAKER - CEILING MOUNTED
F SP	SPEAKER/STROBE - WALL MOUNTED
F SP	SPEAKER/STROBE - CEILING MOUNTED
S	SYSTEM SMOKE DETECTOR
S	SYSTEM SMOKE DETECTOR - WALL MOUNTED
B	BEAM DETECTOR
D	DUCT DETECTOR
H	HEAT DETECTOR
CO	CARBON MONOXIDE DETECTOR
R	ADDRESSABLE RELAY MODULE
M	MAGNETIC DOOR HOLDER
FS	FLOW SWITCH (SPRINKLER)
TS	TAMPER SWITCH (SPRINKLER)
	FIREMAN'S PHONE
AR	AREA OF REFUGE, TWO WAY COMMUNICATION
CM	ADDRESSABLE CONTROL MODULE
MM	ADDRESSABLE MONITOR MODULE
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAPS	FIRE ALARM POWER SUPPLY
FARP	FIRE ALARM REMOTE PANEL

LIGHTING SYMBOL LEGEND

GENERAL

- AB a - CAPITAL LETTER DENOTES TYPE OF LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- AB a - LOWER CASE LETTER DENOTES SWITCHING
- AB a - NO HATCH INDICATES NORMAL POWER LIGHT FIXTURE
- AB a - HALF SOLID HATCH INDICATES LIFE SAFETY LIGHT FIXTURE
- AB a - ENTIRE STRIPED HATCH INDICATES CRITICAL LIGHT FIXTURE

SYMBOL	DESCRIPTION
	2X4 LIGHT FIXTURE
	2X2 LIGHT FIXTURE
	1X4 LIGHT FIXTURE
	STRIP LIGHT FIXTURE
	DOWN LIGHT FIXTURE
	WALL MOUNT LIGHT FIXTURE
	EMERGENCY BATTERY FIXTURE
	CLG MTD EXIT LIGHT - SHADING INDICATES NUMBER OF FACES WITH ORIENTATION
	WALL MTD EXIT LIGHT - SHADING INDICATES NUMBER OF FACES WITH ORIENTATION
	POLE MTD SITE LIGHTING FIXTURE
	BOLLARD LIGHT FIXTURE

SWITCHING SYMBOL LEGEND

GENERAL

$a

- SUBSCRIPT DENOTES FIXTURE BEING CONTROLLED
- K - KEY OPERATED SWITCH
- 3 - THREE-WAY TOGGLE SWITCH
- T - TIMER SWITCH
- WP - WEATHERPROOF SWITCH

SYMBOL	DESCRIPTION
PC	PHOTOCELL (MATCH CONTACTOR COIL VOLTAGE AS REQUIRED)
TC	DIGITAL PROGRAMMABLE TIME CLOCK
OS	CLG MTD OCCUPANCY SENSOR
$OS	WALL MTD OCCUPANCY SENSOR/SWITCH
VS	CLG MTD VACANCY SENSOR
$VS	WALL MTD VACANCY SENSOR/SWITCH
	DIMMER SWITCH
$	TOGGLE SWITCH - SPST

ELECTRICAL CONVENTIONS

LB-3 — PANELBOARD, SWITCHBOARD OR MOTOR CONTROL CENTER DESIGNATION

BRANCH CIRCUIT HOMERUN TO PANELBOARD, SHOWING LEFT TO RIGHT HOT AND NEUTRAL EQUIPMENT GROUNDING CONDUCTOR (EGC) NOT SHOWN, EGC TO BE RUN WITH ALL CIRCUITS SIZED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC)

- CONDUIT CONCEALED
- CONDUIT UNDERGROUND
- CONDUIT EXPOSED
- CONDUIT CAPPED OFF
- CONDUIT CONTINUED
- CONDUIT RUN UP
- CONDUIT RUN DOWN
- GROUND WIRE CONCEALED
- GROUND SYSTEM

GRAPHIC SYMBOLS

AREA OF ENLARGED PLAN OR DETAIL

1 — DETAIL NUMBER

E3.01 — SHEET NO. ON WHICH ENLARGED DETAIL IS DRAWN

ELECTRICAL SYMBOLS LIST

(ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.)

GENERAL

L1-10 — PANEL NAME - CIRCUIT NUMBER

WP — WEATHERPROOF WHILE-IN-USE COVER

ABOVE COUNTER

WALL

SYMBOL	DESCRIPTION
$M	MOTOR RATED SWITCH
$MS	MANUAL MOTOR STARTER
	MAGNETIC STARTER OR CONTACTOR
	JUNCTION BOX
PB	PULL BOX
	TELEPOWER/COMMUNICATIONS POLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	GFI DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
A	SPECIAL PURPOSE RECEPTACLE - WALL MOUNTED - REFER TO SPECIAL OUTLET SCHEDULE
A	SPECIAL PURPOSE RECEPTACLE - FLOOR MOUNTED - REFER TO SPECIAL OUTLET SCHEDULE
	DUPLEX RECEPTACLE PROTECTED BY A GFI CIRCUIT BREAKER
W	TELECOMMUNICATIONS WALL MTD OUTLET (48" AFF) - JUNCTION BOX WITH MINIMUM 1" CONDUIT WITH PULL STRING TO ABOVE CEILING
	TELECOMMUNICATIONS/DATA WALL OUTLET (18" AFF UNO) - JUNCTION BOX WITH MINIMUM 1" CONDUIT WITH PULL STRING TO ABOVE CEILING
	TELECOMMUNICATIONS TERMINAL BOARD
TV	TELEVISION DEVICE JUNCTION BOX WITH 1" CONDUIT WITH PULL STRING TO ABOVE ACCESSIBLE CEILING
	MOTOR
30/3/1	NON-FUSED DISCONNECT SWITCH (AMPS/POLES/NEMA RATING)
30/3/25/3R	FUSED DISCONNECT SWITCH (AMPS/POLES/FUSE RATING/NEMA RATING)
30/3/25/3R/00	COMBINATION DISCONNECT SWITCH/MOTOR STARTER (AMPS/POLES/FUSE RATING/NEMA RATING/STARTER SIZE)
VFD	VARIABLE FREQUENCY DRIVE
	ELECTRICAL PANEL (SURFACE OR FLUSH MOUNTED AS NOTED ON PANEL SCHEDULE AND DRAWINGS)
	MISC. CONTROL PANEL (SURFACE OR FLUSH MOUNTED AS NOTED ON DRAWINGS)
T	TRANSFORMER
	PUSH BUTTON MTD AT 48" TO CENTER UNO
	GROUND BAR
	WIREMOLD

STATE OF TEXAS
JOSEPH D. CAMPOS
49513
REGISTERED PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

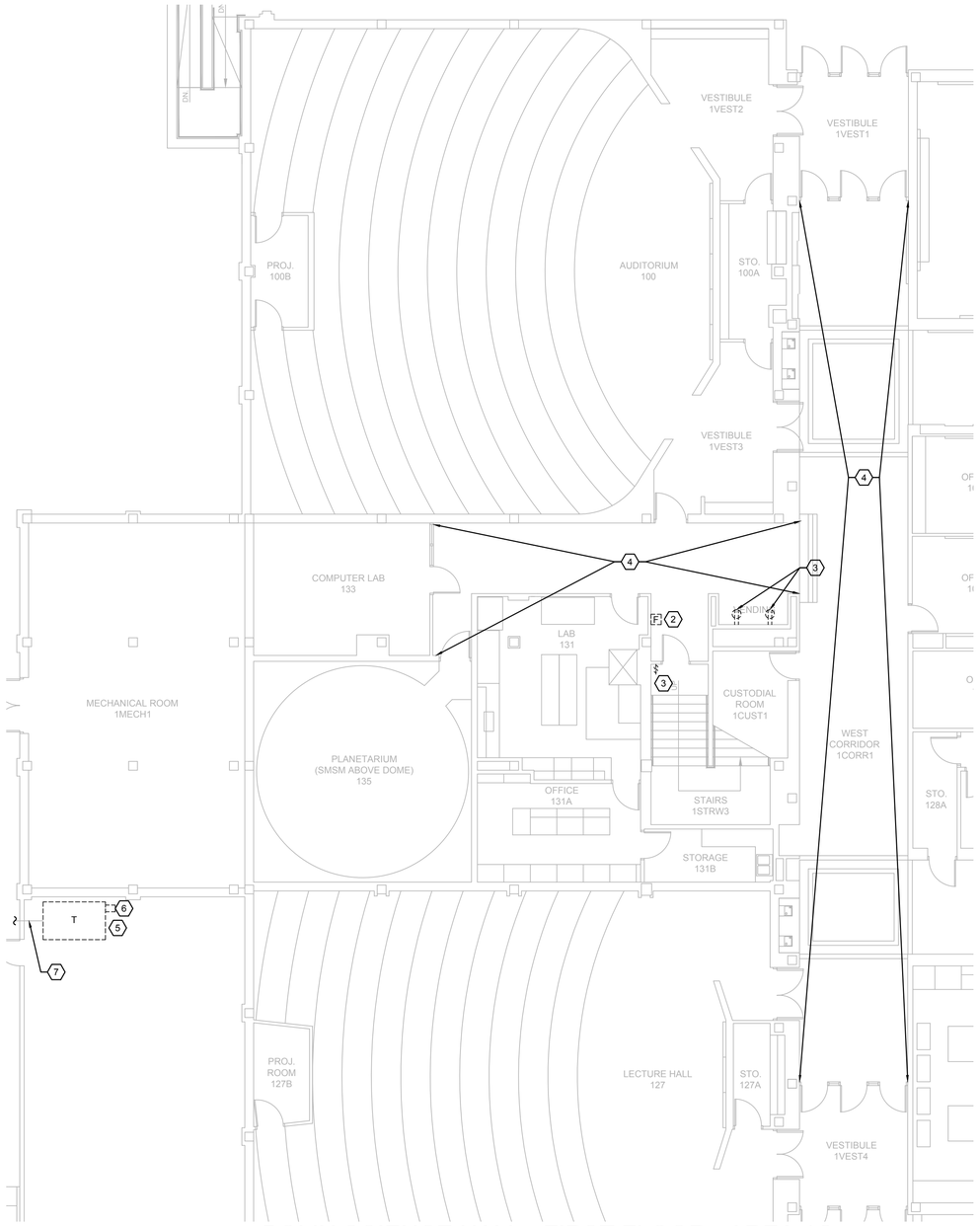
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

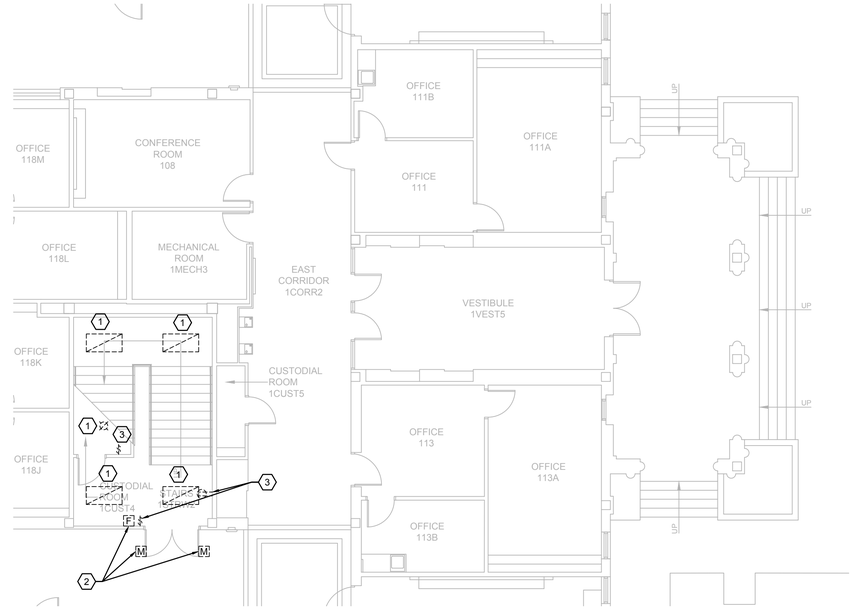
© 2017 HARPER PERKINS ARCHITECTS

E002



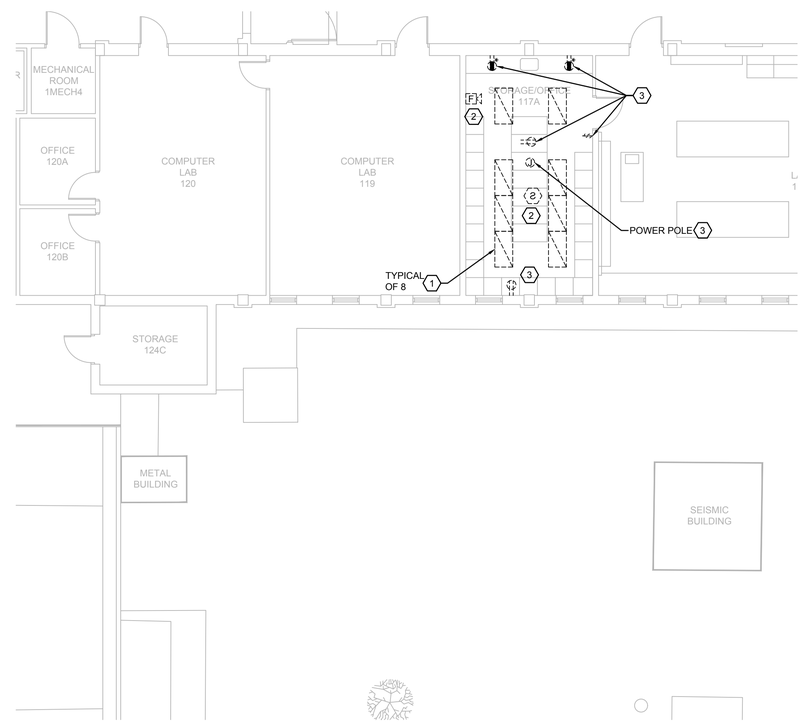
BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1C
ELECTRICAL DEMOLITION PLAN

3 B-ED101 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1B
ELECTRICAL DEMOLITION PLAN

1 B-ED101 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1A
ELECTRICAL DEMOLITION PLAN

2 B-ED101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

1. REMOVE EXISTING LIGHTS. RETAIN CIRCUITING FOR RE-USE.
2. REMOVE EXISTING FIRE ALARM DEVICE. RETAIN FOR RE-USE IN NEW LOCATION.
3. REMOVE EXISTING WIRING DEVICE. RETAIN CIRCUITING FOR RE-USE.
4. REMOVE ALL LIGHTS IN THIS AREA AND STORE THEM DURING CONSTRUCTION FOR RE-INSTALLATION AFTER THE SPRINKLER PIPING HAS BEEN INSTALLED.
5. REMOVE EXISTING 2000KVA TRANSFORMER, APPLY ALL NECESSARY PRECAUTION TO PRESERVE THE PRIMARY DUCTBANK SERVING TRANSFORMER IN GOOD AND SAFE CONDITION. TIMING OF REMOVAL AND THE INSTALLATION OF THE NEW TRANSFORMER SHALL BE COORDINATED WITH OWNER TO MINIMIZE POWER DISRUPTION TO THE BUILDING. REF. DRAWING B-101. DISPOSE OF THE EXISTING TRANSFORMER IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
6. REMOVE EXISTING TXU METER AND METERING CURRENT TRANSFORMERS (CT'S) AND RETURN TO OWNER. PRESERVE IN GOOD CONDITION. PRESERVE EXISTING SCHNEIDER ELECTRIC PM750 METER AND WIRING FOR REUSE AND INSTALLATION IN THE NEW TRANSFORMER. REFERENCE BE-102 FOR ADDITIONAL REQUIREMENTS.
7. APPROXIMATE LOCATION OF EXISTING PRIMARY CABLE IN DUCTBANK. FIELD VERIFY EXACT LOCATION PRIOR TO DEMOLITION.

STATE OF TEXAS
JOSEPH D. CAMPOS
45513
REGISTERED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

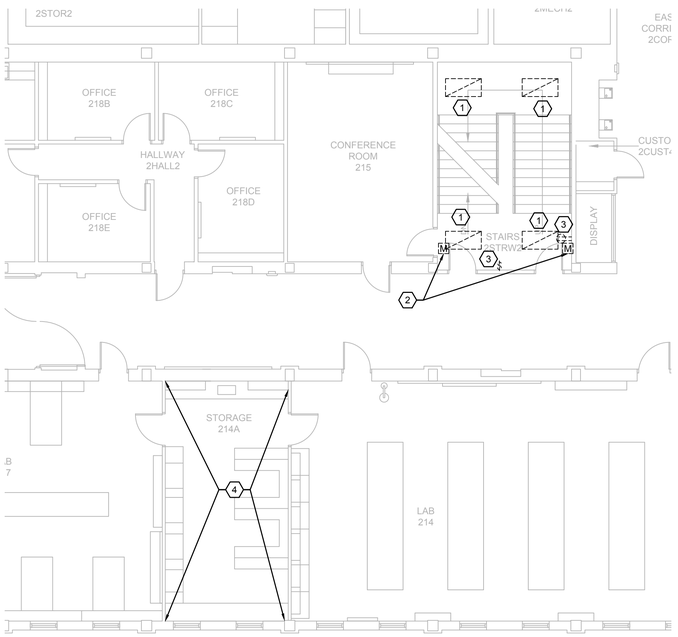
B-ED101

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

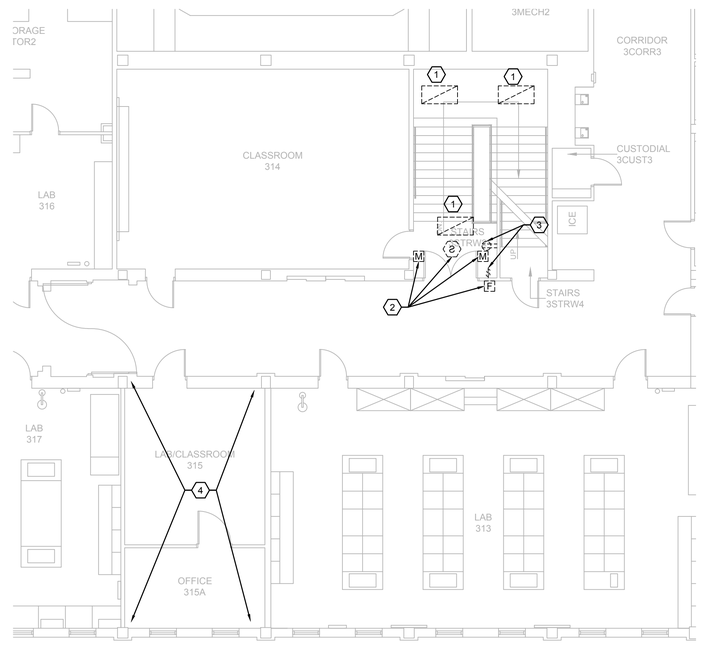
KEY NOTES (#)

1. REMOVE EXISTING LIGHTS. RETAIN CIRCUITING FOR RE-USE.
2. REMOVE EXISTING FIRE ALARM DEVICE. RETAIN FOR RE-USE IN NEW LOCATION.
3. REMOVE EXISTING WIRING DEVICE. RETAIN CIRCUITING FOR RE-USE.
4. REMOVE ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED CONTROLS, WIRING DEVICES AND FIRE ALARM DEVICES WITHIN THIS AREA. RETAIN CIRCUITING FOR RE-USE IN NEW CONSTRUCTION.



BOLIN SCIENCE HALL - SECOND FLOOR - AREA 2A
ELECTRICAL DEMOLITION PLAN

2 / B-ED102 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - THIRD FLOOR - AREA 3A
ELECTRICAL DEMOLITION PLAN

1 / B-ED102 SCALE: 1/8" = 1'-0"

STATE OF TEXAS
JOSEPH D. CAMPOS
45513
REGISTERED
PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

AIA HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

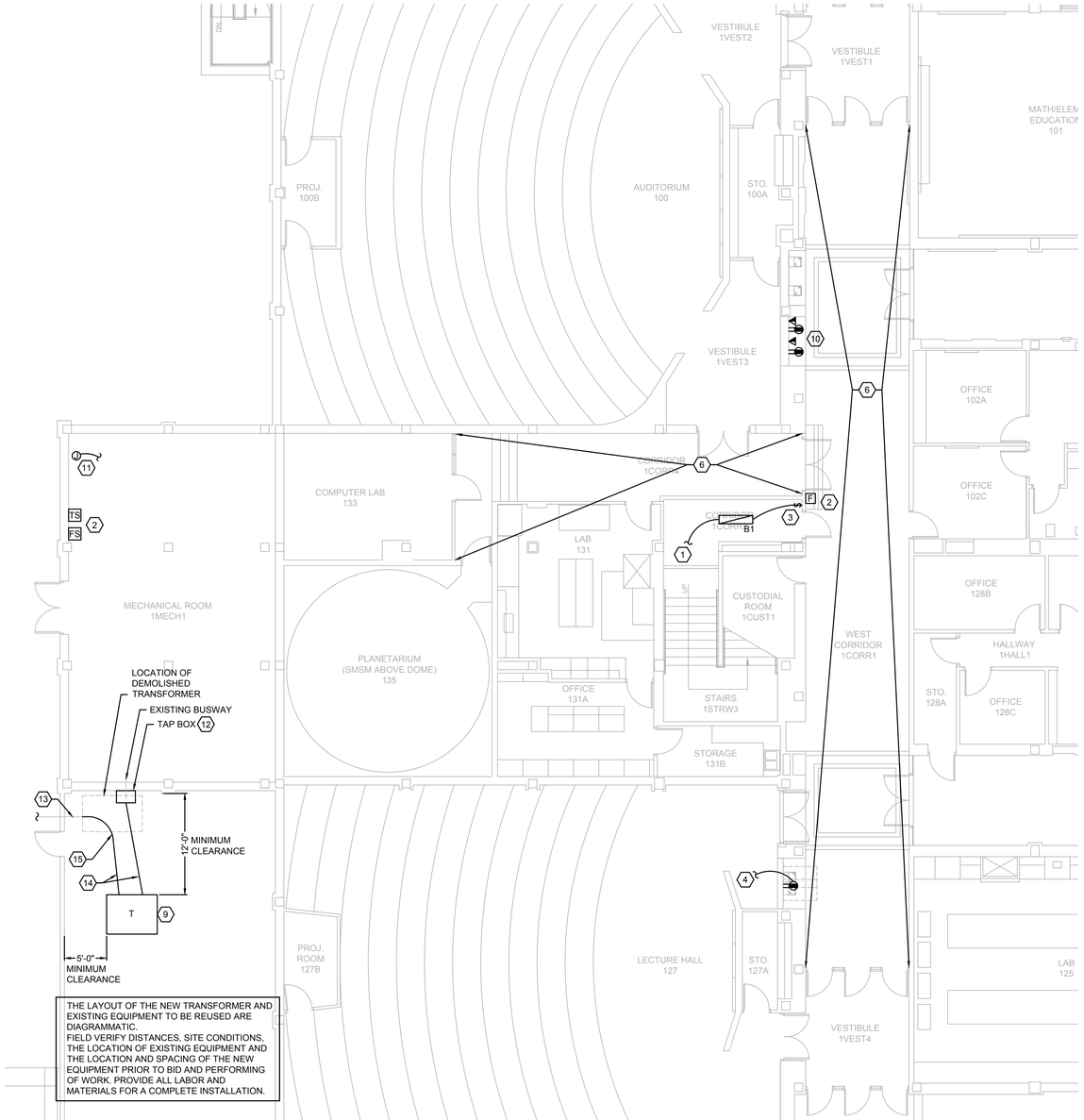
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

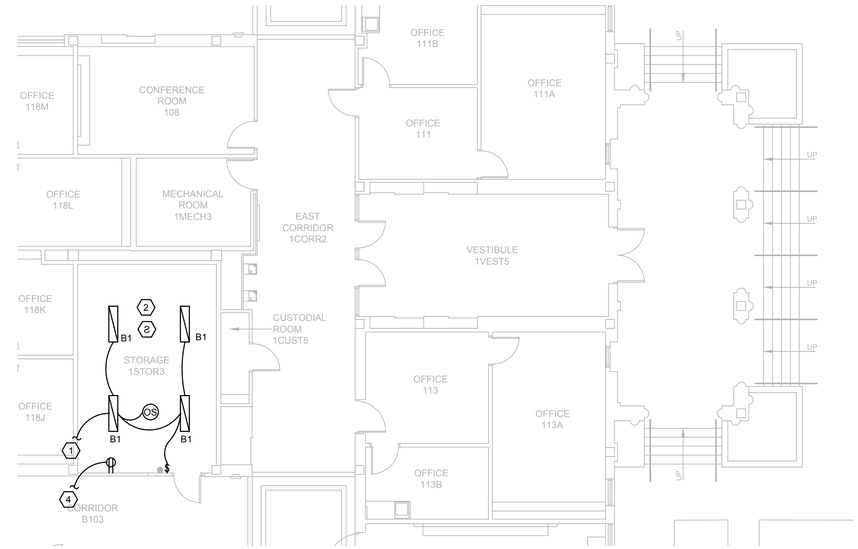
B-ED102



THE LAYOUT OF THE NEW TRANSFORMER AND EXISTING EQUIPMENT TO BE REUSED ARE DIAGRAMMATIC.
FIELD VERIFY DISTANCES, SITE CONDITIONS, THE LOCATION OF EXISTING EQUIPMENT AND THE LOCATION AND SPACING OF THE NEW EQUIPMENT PRIOR TO BID AND PERFORMING OF WORK. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION.

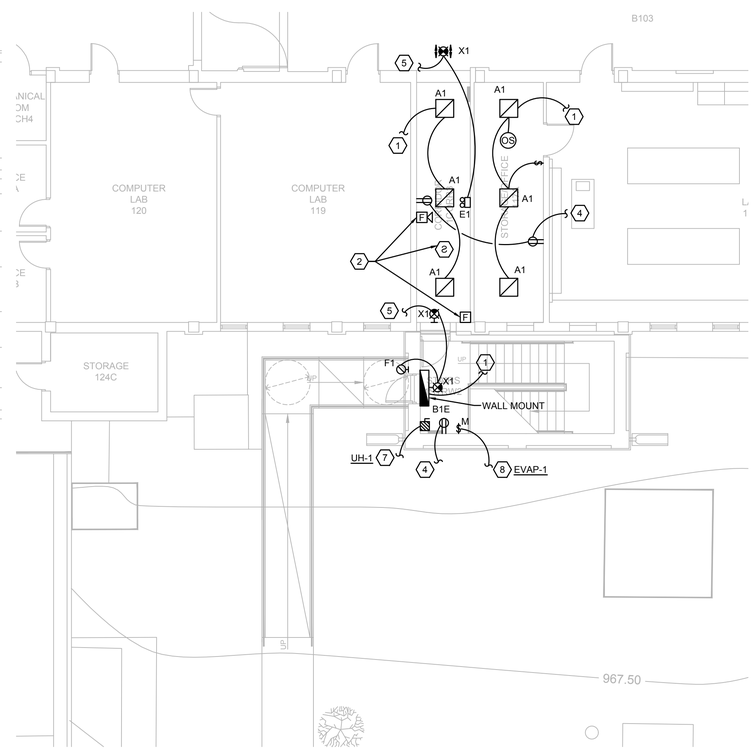
BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1C ELECTRICAL PLAN

3 / B-E101 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1B ELECTRICAL PLAN

1 / B-E101 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - FIRST FLOOR - AREA 1A ELECTRICAL PLAN

2 / B-E101 SCALE: 1/8" = 1'-0"

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMP			MOUNTING	ELECTRICAL		MANUFACTURER	CATALOG NUMBER	NOTES
		TYPE	COLOR TEMP	CRI		VOLTS	VA			
A1	2X2 LENSED TROFFER	FLUORESCENT	4000K	85	RECESSED GRID	UNV	35	HEW	50G-S22-2-17-F-AF12125-UNV	
B1	1X4 SURFACE MOUNTED WRAP AROUND	FLUORESCENT	4000K	85	SURFACE	UNV	65	HEW	21-4-232-I-EB2-UNV	
B1E	SAME AS B1 EXCEPT WITH EMERGENCY BATTERY BACK-UP									
X1	STANDARD LED EXIT SIGN	LED	N/A	N/A	SURFACE	UNV	10	HEW	EXIT-R-EM-WHT-SDT	1,2
E1	INTERIOR EMERGENCY WALL PACK	LED	N/A	N/A	SURFACE	UNV	10	HEW	EMER/LED-WHT-SDT	
F1	EXTERIOR WALL MOUNTED LIGHT	LED	6350K	N/A	WALL ABOVE DOOR	UNV	2.78	HEW	PGP-HTR	

NOTES:
1. VERIFY MOUNTING, NUMBER OF FACES AND ARROW CONFIGURATION WITH PLANS PRIOR TO ORDERING FIXTURES.
2. VERIFY MOUNTING HEIGHT AND ORIENTATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.
2. REFER TO MECHANICAL AND PLUMBING PLANS FOR LOCATIONS AND INFORMATION ON MECHANICAL AND PLUMBING EQUIPMENT.

KEY NOTES (#)

1. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA (16A LOAD MAX. PER 20A CIRCUIT).
2. NEW FIRE ALARM DEVICE. CONNECT TO EXISTING FIRE ALARM SYSTEM. VERIFY LOCATION WITH AHJ PRIOR TO INSTALLATION.
3. RELOCATED LIGHT SWITCH. RECONNECT TO LIGHTING IN THIS AREA.
4. CONNECT NEW RECEPTACLE TO NEAREST EXISTING 120V RECEPTACLE CIRCUIT (16.0A LOAD MAX. PER 20A CIRCUIT).
5. CONNECT NEW EXIT SIGN AND EMERGENCY WALL PACK TO NEAREST AVAILABLE UNCONTROLLED LIGHTING CIRCUIT (16A LOAD MAX. PER 20A CIRCUIT).
6. RE-INSTALL THE EXISTING LIGHT FIXTURES IN THIS AREA AFTER THE NEW SPRINKLER PIPING HAS BEEN INSTALLED.
7. PROVIDE 30/NF/2 DISCONNECT SWITCH FOR UNIT HEATER, 208V, 1-PH, 2.5KW. USE CIRCUIT RC-37/39. FIELD VERIFY THAT THE EXISTING BREAKER IN THE PANEL IS 20A/2P, OTHERWISE REPLACE WITH NEW. ROUTE 2#10, #10G, 3/4" CONDUIT FROM BREAKER TO UNIT. FIELD COORDINATE ACTUAL LOCATION OF UNIT PRIOR TO ROUGH-IN. NEW CIRCUIT BREAKER SHALL MATCH THE EXISTING BREAKER AIC RATING.
8. EVAPORATOR UNITS EVAP-1 AND EVAP-2, 208V, 1-PH, 0.2A, TO BE CIRCUITED FROM OUTDOOR UNIT CIRCUIT CU-2 (RC-34/36). ROUTE 3#12, #12G, 3/4"C FROM OUTDOOR UNIT VIA MOTOR RATED SWITCH. REFER TO MANUFACTURER'S WIRING INSTRUCTIONS FOR MORE INFORMATION BEFORE START OF WORK.
9. INSTALL NEW 2000KVA TRANSFORMER TO REPLACE THE EXISTING 2000KVA TRANSFORMER. PROVIDE ALL MATERIAL AND LABOR TO CONNECT THE NEW TRANSFORMER ASSEMBLY TO THE EXISTING PRIMARY AND SECONDARY SERVICES. COORDINATE THE WORK WITH THE OWNER FOR TIMING AND PHASING OF THE WORK IN ORDER TO MINIMIZE DISRUPTION OF SERVICE TO THE BUILDING. OBTAIN WRITTEN APPROVAL FROM THE OWNER AT MINIMUM OF FIVE BUSINESS DAYS PRIOR TO A SHUT DOWN OF SERVICE. SEE DRAWING B-E102 FOR ADDITIONAL DETAILS AND REQUIREMENTS.
10. NEW LOCATION OF RELOCATED EXISTING VENDING MACHINES, REFER TO B-ED101. EXTEND CIRCUIT TO NEW LOCATION. PROVIDE NEW OUTLETS. COORDINATE WITH OWNER FOR EXACT LOCATION BEFORE ROUGH IN.
11. POWER CONNECTION TO HEAT TRACE, HOMERUN CIRCUIT TO NEAREST 120V PANELBOARD, PROVIDE 25A/1P CIRCUIT BREAKER COMPATIBLE WITH THE PANEL, USE 2#10, 1#10C, 3/4"C (20A MAX. PER 25A CIRCUIT). REFER TO B-FP101. COORDINATE WITH PIPE INSTALLER AND HEAT TRACE PROVIDER/INSTALLER FOR LOCATIONS AND REQUIREMENTS.
12. PROVIDE NEW TAP BOX AND TAP KIT FOR CONNECTION OF EXISTING BUSWAY FEEDING THE EXISTING MDP IN THE MECHANICAL ROOM AND THE NEW FEEDERS COMING FROM THE NEW TRANFORMER. FIELD VERIFY THE LOCATION OF THE EXISTING BUSWAY.
13. REMOVE EXISTING PRIMARY CABLES BETWEEN BETWEEN SWITCH A AND EXISTING TRANSFORMER. PRESERVE DUCTBANK IN GOOD AND SAFE CONDITION FOR REUSE AND EXTENSION TO SERVE THE NEW TRANSFORMER. REFERENCE DRAWING B-E102 AND B-E201 FOR ADDITIONAL REQUIREMENTS.
14. COORDINATE ROUTING OF UNDERGROUND WIRING WITH NEW EQUIPMENT AND EXISTING INSTALLATION.
15. NEW 4" DUCT IN CONCRETE DUCTBANK TO MATCH EXISTING AND EXTEND TO NEW TRANSFORMER. FIELD VERIFY EXISTING DUCT QUANTITIES AND SIZES, MATCH EXISTING. REFERENCE DRAWING B-E201.

STATE OF TEXAS
JOSEPH D. CAMPOS
45513
REGISTERED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

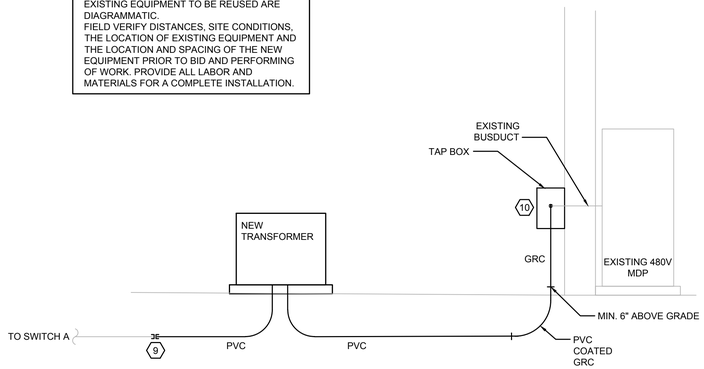
NO.	DESCRIPTION	DATE

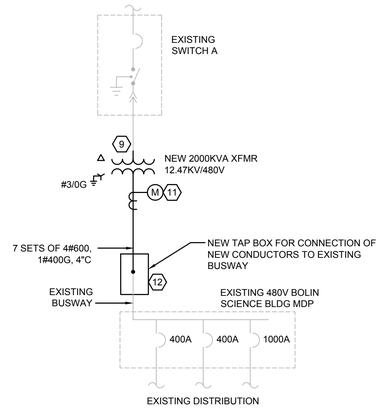
16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-E101

THE LAYOUT OF THE NEW TRANSFORMER AND EXISTING EQUIPMENT TO BE REUSED ARE DIAGRAMMATIC.
FIELD VERIFY DISTANCES, SITE CONDITIONS, THE LOCATION OF EXISTING EQUIPMENT AND THE LOCATION AND SPACING OF THE NEW EQUIPMENT PRIOR TO BID AND PERFORMING OF WORK. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION.

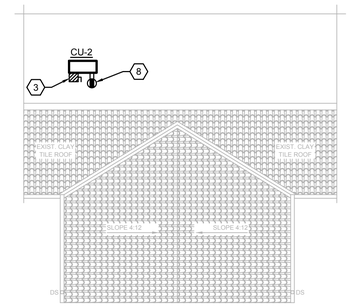




NOTES:
A. UNDERGROUND WIRING INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS NEC SECTIONS 300.5 AND 300.50.
B. REFER TO SHEET B-E101 FOR MORE INFORMATION.
C. TRANSFORMER INSTALLATION SHALL CONFORM WITH 450.27 OF THE NEC.
D. REFER TO B-E201 FOR DETAILS.

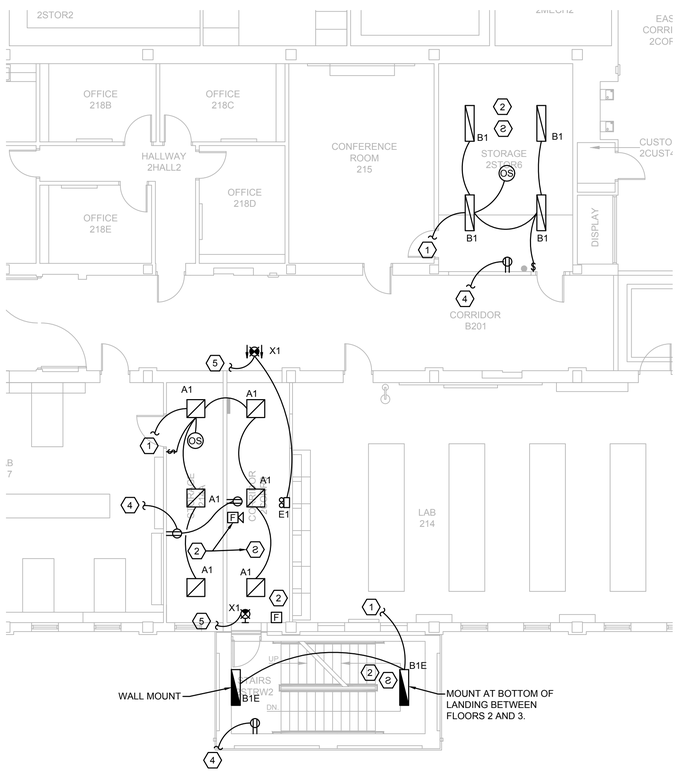
BOLIN SCIENCE HALL - ELECTRICAL ONE LINE ELECTRICAL PLAN

4 / B-E102 SCALE: NTS



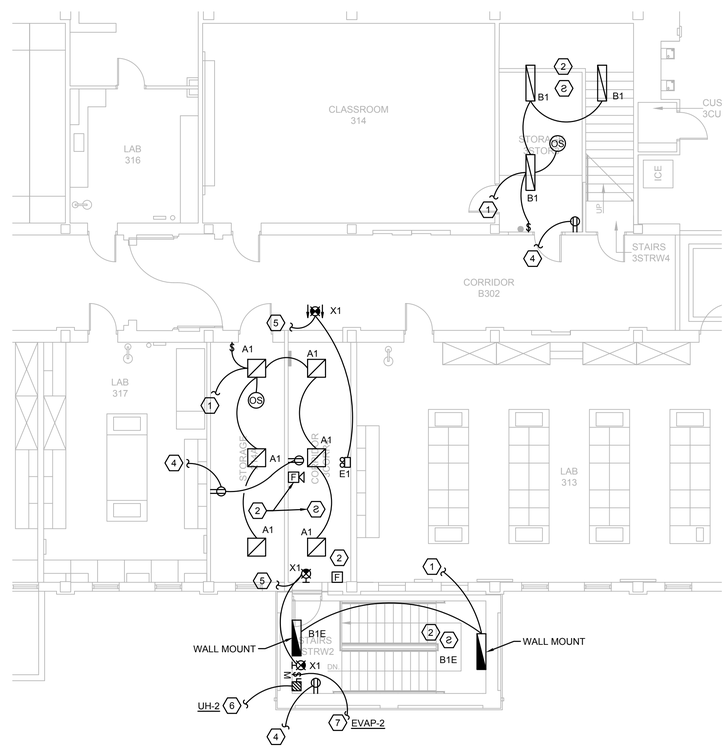
BOLIN SCIENCE HALL - ROOF LEVEL - AREA RA ELECTRICAL PLAN (PARTIAL VIEW)

3 / B-E102 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - SECOND - AREA 2A ELECTRICAL PLAN

2 / B-E102 SCALE: 1/8" = 1'-0"



BOLIN SCIENCE HALL - THIRD FLOOR - AREA 3A ELECTRICAL PLAN

1 / B-E102 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.
2. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOOR SHALL HAVE WEATHERPROOF ENCLOSURE.

KEY NOTES

1. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA (16A LOAD MAX. PER 20A CIRCUIT).
2. NEW FIRE ALARM DEVICE. CONNECT TO EXISTING FIRE ALARM SYSTEM. VERIFY LOCATION WITH AHJ PRIOR TO INSTALLATION.
3. PROVIDE 30/NF/2 NEMA 3R DISCONNECT SWITCH FOR NEW CONDENSING UNIT SERVING STAIR TOWER (208V, 1-PH, 17.9A MCA, 25A MOCP). USE CIRCUIT RC-34/36, PROVIDE 25A/2P BREAKER IN THE PANEL AND ROUTE 2#10,#10G, 3/4" CONDUIT FROM BREAKER TO UNIT. FIELD COORDINATE ACTUAL LOCATION OF UNIT PRIOR TO ROUGH-IN. NEW CIRCUIT BREAKER SHALL MATCH THE EXISTING BREAKER AIC RATING.
4. USE SPARE CIRCUIT RN-13 FOR NEW RECEPTACLE. USE 2#12, 1#12G, 3/4"C
5. CONNECT NEW EXIT SIGN AND EMERGENCY WALL PACK TO NEAREST AVAILABLE UNCONTROLLED LIGHTING CIRCUIT (16A LOAD MAX. PER 20A CIRCUIT).
6. PROVIDE 30/NF/2 DISCONNECT SWITCH FOR UNIT HEATER, 208V, 1-PH, 2.50W. USE CIRCUIT RN-8/10, PROVIDE 20A/2P BREAKER IN THE PANEL. ROUTE 2#10, #10G, 3/4" CONDUIT FROM BREAKER TO UNIT.
7. EVAPORATOR UNITS EVAP-1 AND EVAP-2, 208V, 1-PH, 0.2A, TO BE CIRCUITED FROM OUTDOOR UNIT CIRCUIT CU-2 (RC-34/36). ROUTE 3#12, #12G, 3/4"C FROM OUTDOOR UNIT VIA MOTOR RATED SWITCH. REFER TO MANUFACTURER'S WIRING INSTRUCTIONS FOR MORE INFORMATION. COORDINATE WITH EQUIPMENT INSTALLER FOR LOCATION AND REQUIREMENTS.
8. PROVIDE NEW GFI/WP WITH IN-USE COVER SERVICE RECEPTACLE NEAR NEW ROOF TOP UNIT. USE SPARE CIRCUIT RN-13, AND 2#12, 1#12G, 3/4"C.
9. REMOVE EXISTING CABLE FROM SWITCH A TO EXISTING TRANSFORMER, EXTEND EXISTING BUSDUCT TO NEW TRANSFORMER. INSTALL NEW 3#2 CABLE FROM EXISTING SWITCH A TO NEW TRANSFORMER. VISIT SITE AND FIELD VERIFY EXISTING DUCT SIZE AND TYPE, THE LOCATION OF SWITCH A, AND SITE CONDITIONS. INCLUDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION.
10. REUSE EXISTING 480V BUSWAY SERVING MDP. UTILIZE TAP KIT TO PROVIDE A NEAT INSTALLATION. INSPECT, CLEAN, CHECK AND ADJUST BUSWAY MECHANICAL CONNECTIONS PER THE BUSWAY MANUFACTURER SPECIFICATIONS OR PER NETA RECOMMENDATIONS IF THE MANUFACTURER DATA IS UNAVAILABLE. REPORT DEFICIENCIES TO THE ENGINEER. PROVIDE ALL LABOR AND MATERIALS TO CORRECT DEFICIENCIES.
11. PROVIDE NEW METERING TRANSFORMERS TO SERVE EXISTING SCHNEIDER ELECTRIC PM750 METER. VERIFY REQUIREMENTS INCLUDING SIZE, CT RATIO, AND POLARITY REQUIREMENTS WITH THE MANUFACTURER. INSTALL PER MANUFACTURER'S REQUIREMENTS. CONNECT TO THE EXISTING WIRING SERVING THE CAMPUS REMOTE MONITORING SYSTEM. VERIFY PROPER OPERATION WITH OWNER AND ENGINEER. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE OPERATING SYSTEM.
12. SIZE TAP BOX PER NEC AND TO PROVIDE SUFFICIENT SPACING BETWEEN CONNECTIONS FOR FUTURE INSPECTION AND MAINTENANCE. SECURE TAP BOX COVER WITH VANDAL RESISTANT HARDWARE AND SCREWS. PROVIDE NEMA 3R ENCLOSURE. SEAL ALL EXISTING AND NEW BUILDING PENETRATIONS WATER TIGHT.

STATE OF TEXAS
JOSEPH D. CAMPOS
49513
REGISTERED
PROFESSIONAL ENGINEER
07/11/2017
DATE SIGNED:

HPA ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
WICHITA FALLS, TEXAS
3410 TAFT BOULEVARD

DRAWN BY:
DATE: 15 MAY 2017
REVISIONS

NO.	DESCRIPTION	DATE

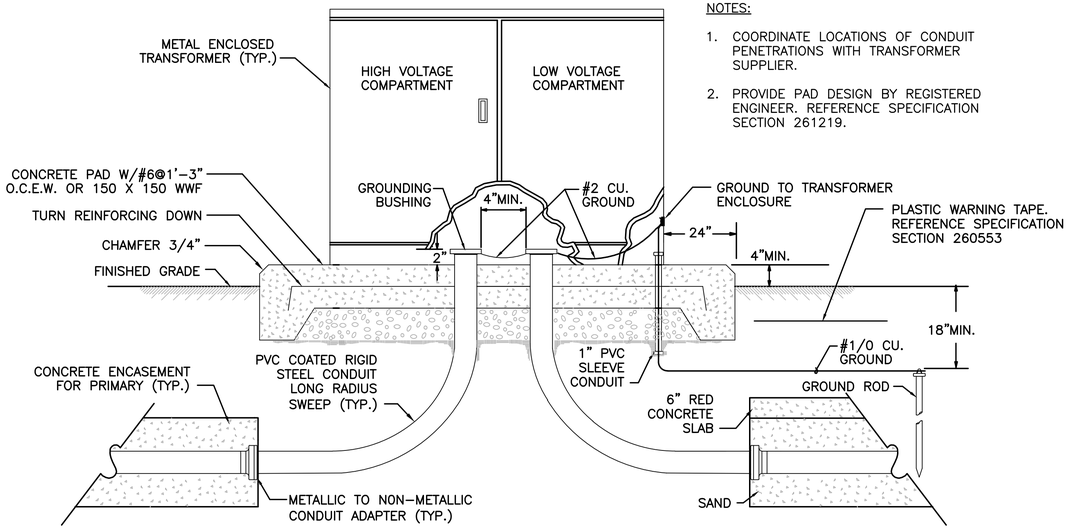
16782.00

© 2017 HARPER PERKINS ARCHITECTS

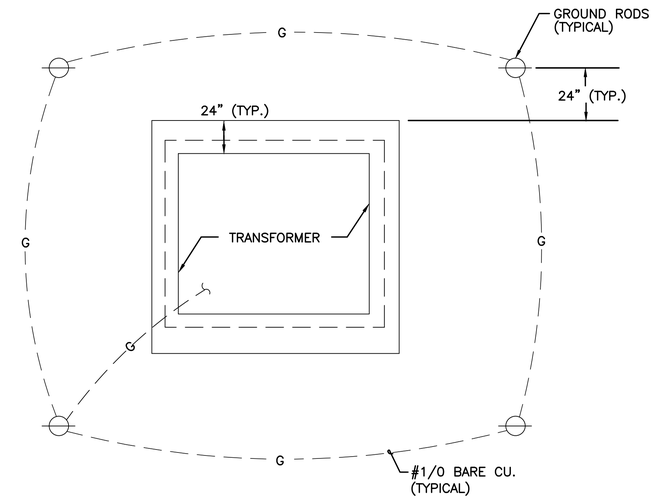
B-E102

NOTES:

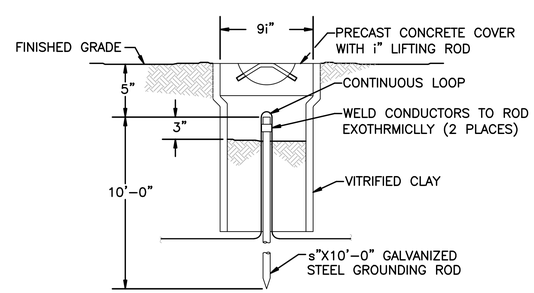
1. COORDINATE LOCATIONS OF CONDUIT PENETRATIONS WITH TRANSFORMER SUPPLIER.
2. PROVIDE PAD DESIGN BY REGISTERED ENGINEER. REFERENCE SPECIFICATION SECTION 261219.



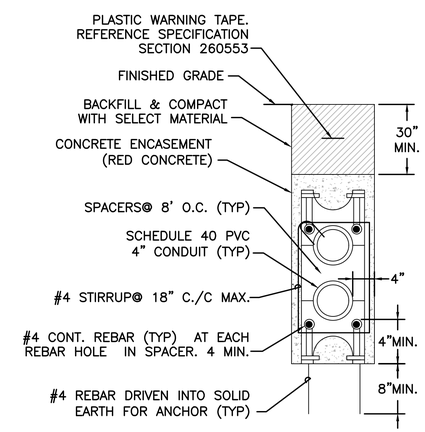
1 B-E201 TRANSFORMER DETAIL (TYPICAL)
SCALE: NONE



2 B-E201 TRANSFORMER GROUNDING DETAIL
SCALE: NONE



3 B-E201 GROUND ROD DETAIL
SCALE: NONE



NOTE:
FIELD VERIFY EXISTING DUCT, EXTEND TO SERVE NEW TRANSFORMER. PROVIDE 4" SPARE DUCT AS REQUIRED.

4 B-E201 MEDIUM VOLTAGE DUCT
SCALE: NONE

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

B-E201

LIGHT FIXTURE SCHEDULE - FERGUSON

TYPE	DESCRIPTION	LAMP			MOUNTING	ELECTRICAL		MANUFACTURER	CATALOG NUMBER	NOTES
		TYPE	COLOR TEMP	CRI		VOLTS	VA			
X1	STANDARD LED EXIT SIGN	LED	N/A	N/A	SURFACE	UNV	10	HEW	EXIT-R-EM-WHT-SDT	1,2
A1	2X2 LENSED TROFFER	FLUORESCEN	4000K	85	RECESSED GRID	UNV	35	HEW	50G-S22-2-17-F-AF12125-UNV	
E1	INTERIOR EMERGENCY WALL PACK	LED	N/A	N/A	SURFACE	UNV	10	HEW	EMER/LED-WHT-SDT	
F1	EXTERIOR WALL MOUNTED LIGHT	LED	6350K	N/A	WALL ABOVE DOOR	UNV	2.78	HEW	PGP-HTR	

NOTES:
1. VERIFY MOUNTING, NUMBER OF FACES AND ARROW CONFIGURATION WITH PLANS PRIOR TO ORDERING FIXTURES.
2. VERIFY MOUNTING HEIGHT AND ORIENTATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

KEY NOTES ⟨#⟩

1. CONNECT NEW EXIT SIGN AND EMERGENCY WALL PACK TO NEAREST AVAILABLE UNCONTROLLED LIGHTING CIRCUIT (16A LOAD MAX. PER 20A CIRCUIT).
2. REMOVE EXISTING DUPLEX RECEPTACLE SERVING WATER COOLER AND REPLACE WITH NEW GFI DUPLEX RECEPTACLE.
3. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA (16A LOAD MAX. PER 20A CIRCUIT).

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

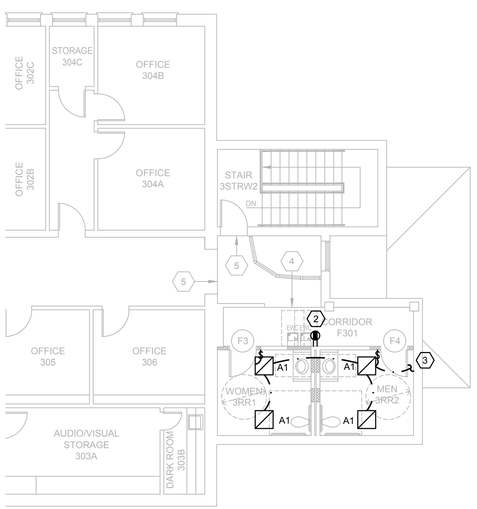
CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

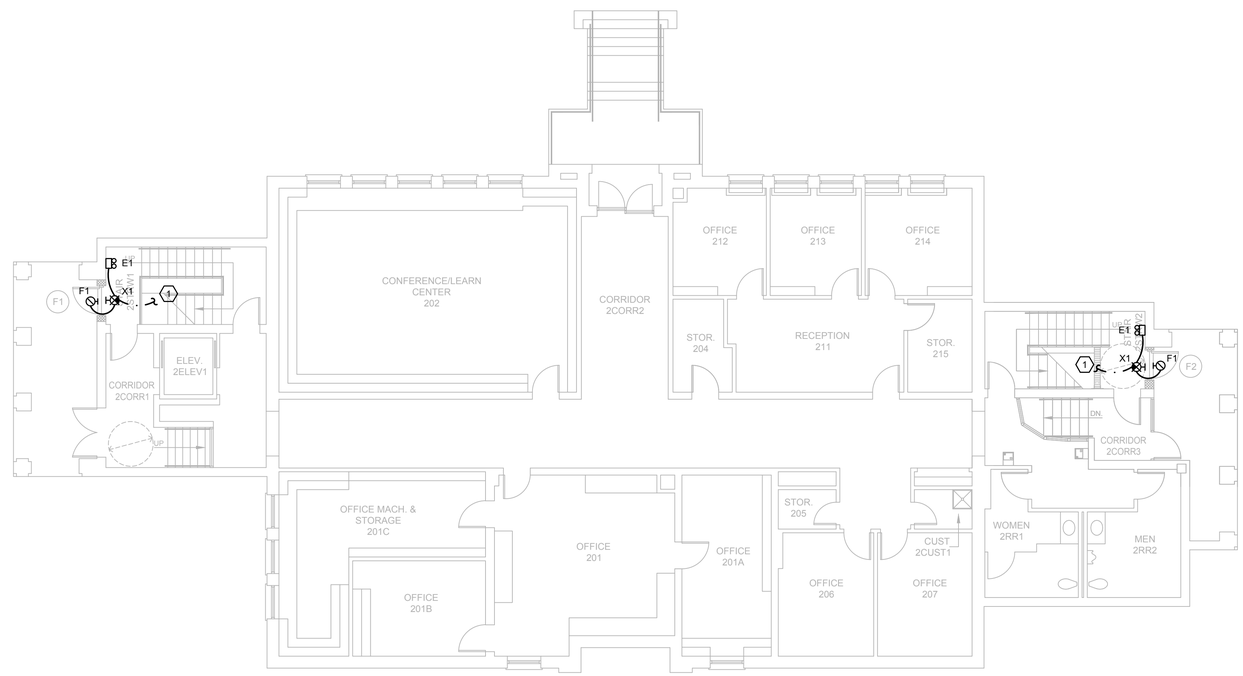
WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD



FERGUSON - THIRD FLOOR ELECTRICAL PLAN

2 / F-E101 SCALE: 1/8" = 1'-0"



FERGUSON - SECOND FLOOR ELECTRICAL PLAN

1 / F-E101 SCALE: 1/8" = 1'-0"

DRAWN BY:

DATE: 15 MAY 2017

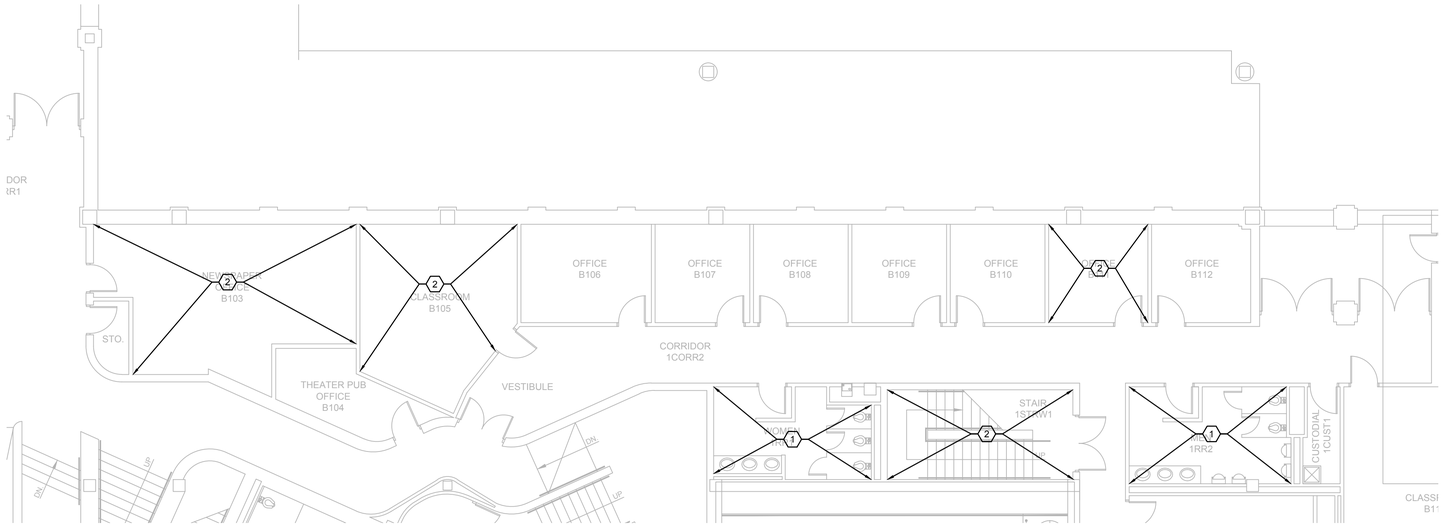
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

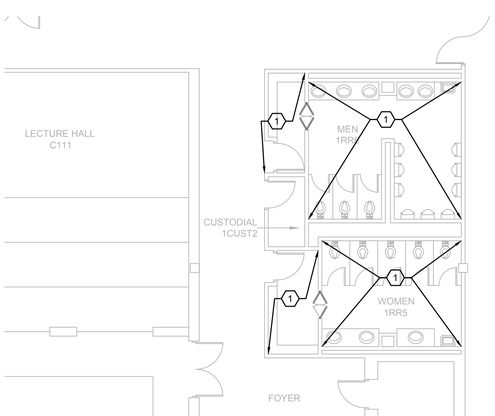
© 2017 HARPER PERKINS ARCHITECTS

F-E101



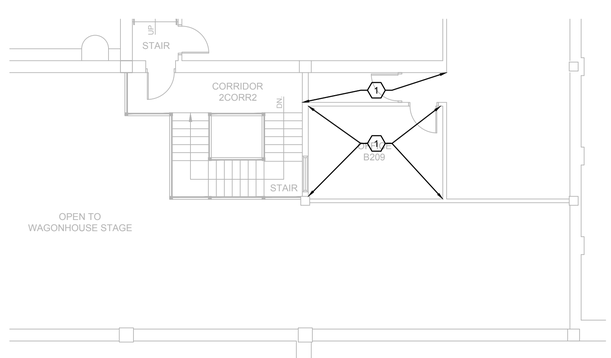
FAIN FINE ARTS - FIRST FLOOR - AREA 1A
ELECTRICAL DEMOLITION PLAN

1 FF-ED101 SCALE: 1/8" = 1'-0"



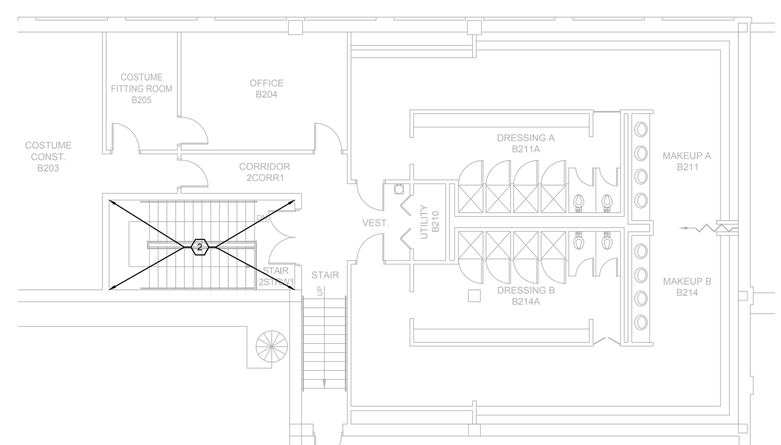
FAIN FINE ARTS - FIRST FLOOR - AREA 1E
ELECTRICAL DEMOLITION PLAN

4 FF-ED101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - SECOND FLOOR - AREA 2C
ELECTRICAL DEMOLITION PLAN

3 FF-ED101 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - SECOND FLOOR - AREA 2A
ELECTRICAL DEMOLITION PLAN

2 FF-ED101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES ⟨#⟩

1. REMOVE ALL LIGHTS IN THIS AREA. RETAIN CIRCUITING FOR RE-USE WITH NEW LIGHTS. FIELD COORDINATE THE EXTENT OF THE CEILING DEMO WITH ARCHITECT PRIOR TO DEMOLITION.
2. REMOVE ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED CONTROLS, WIRING DEVICES AND FIRE ALARM DEVICES WITHIN THIS AREA. RETAIN CIRCUITING FOR RE-USE IN NEW CONSTRUCTION.

STATE OF TEXAS
JOSEPH D. CAMPOS
45513
REGISTERED
PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

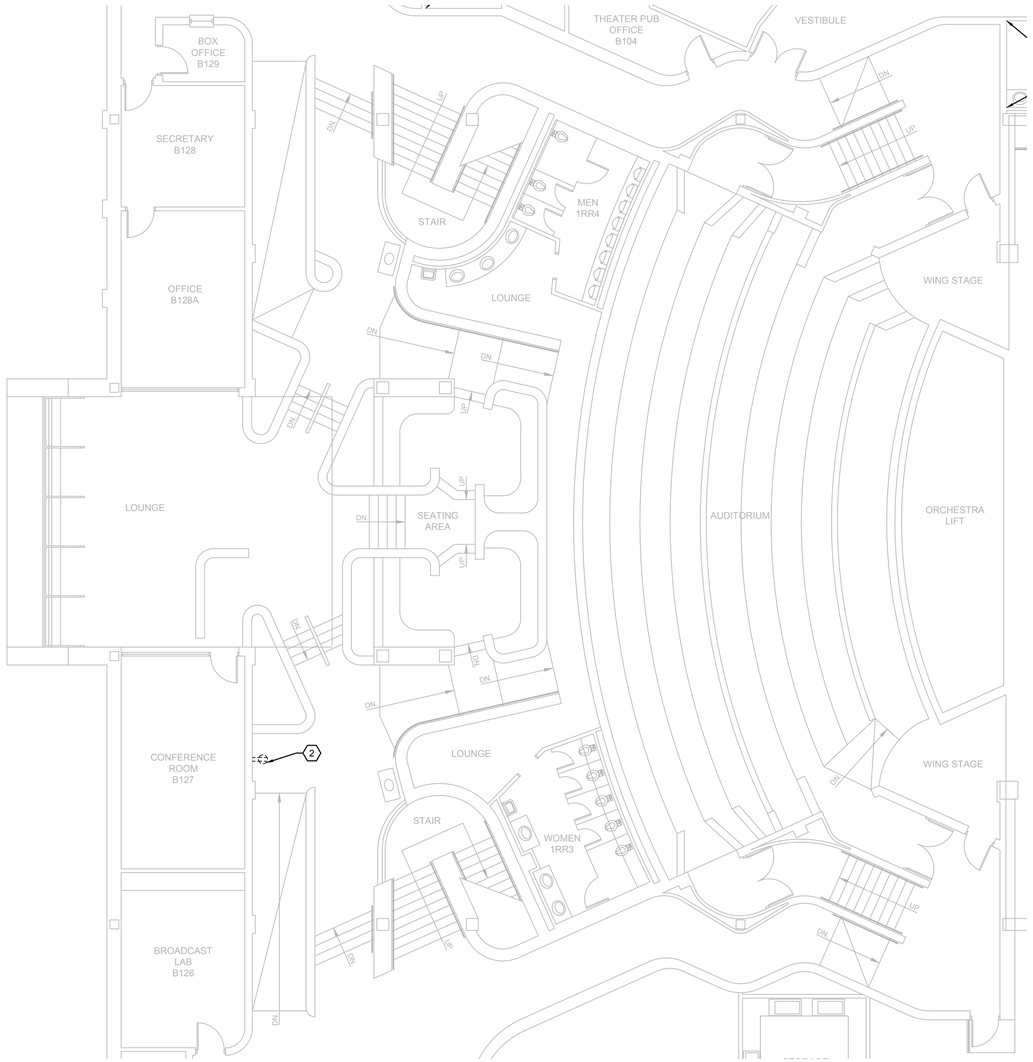
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

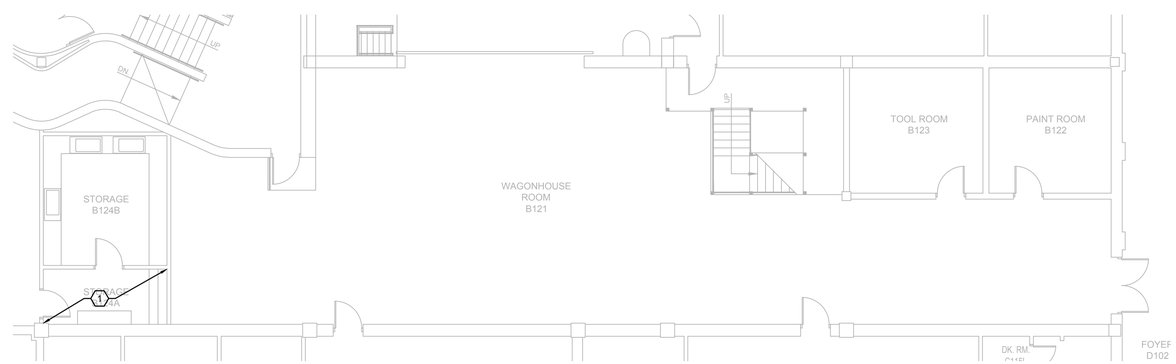
© 2017 HARPER PERKINS ARCHITECTS

FF-ED101



FAIN FINE ARTS - FIRST FLOOR - AREA 1D
ELECTRICAL DEMOLITION PLAN

1 FF-ED102 SCALE: 1/8" = 1'-0"



FAIN FINE ARTS - FIRST FLOOR - AREA 1C
ELECTRICAL DEMOLITION PLAN

1 FF-ED102 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES (#)

1. REMOVE ALL LIGHTS IN THIS AREA. RETAIN CIRCUITING FOR RE-USE WITH NEW LIGHTS. FIELD COORDINATE THE EXTENT OF THE CEILING DEMO WITH ARCHITECT PRIOR TO DEMOLITION.
2. REMOVE EXISTING WIRING DEVICE. RETAIN CIRCUITING FOR RE-USE.

STATE OF TEXAS
JOSEPH D. CAMPOS
45543
REGISTERED
PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

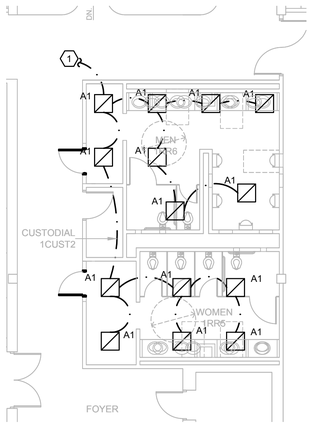
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

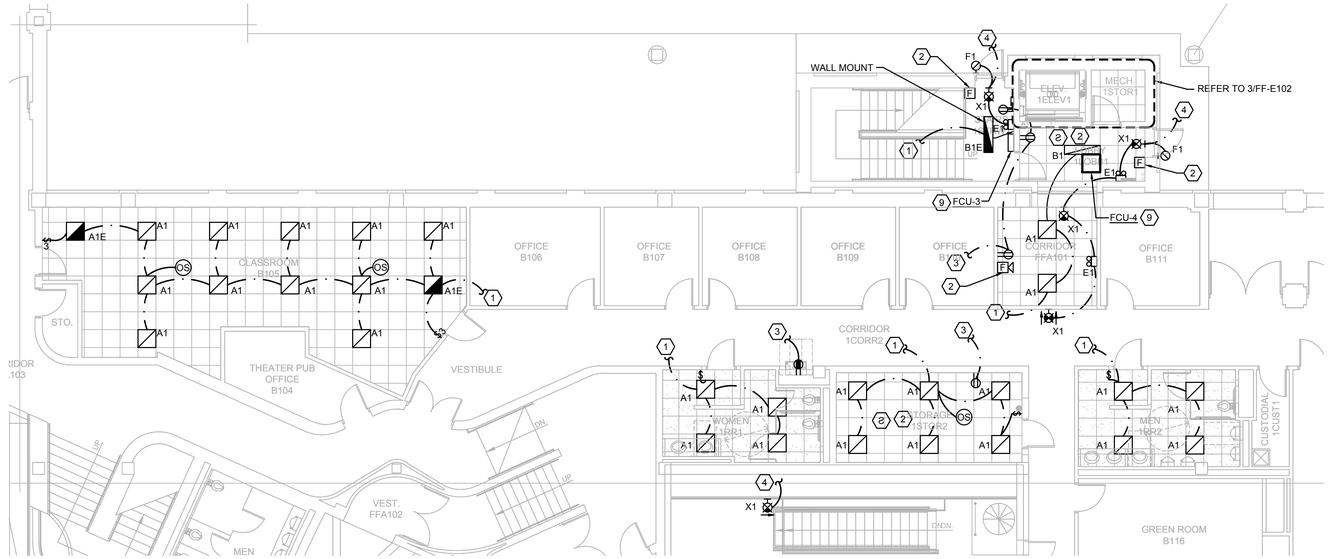
© 2017 HARPER PERKINS ARCHITECTS

FF-ED102



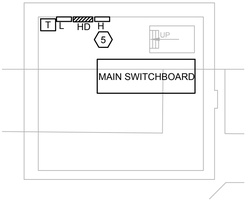
6 FF-E101 FAIN FINE ARTS - FIRST FLOOR - AREA 1E ELECTRICAL PLAN

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



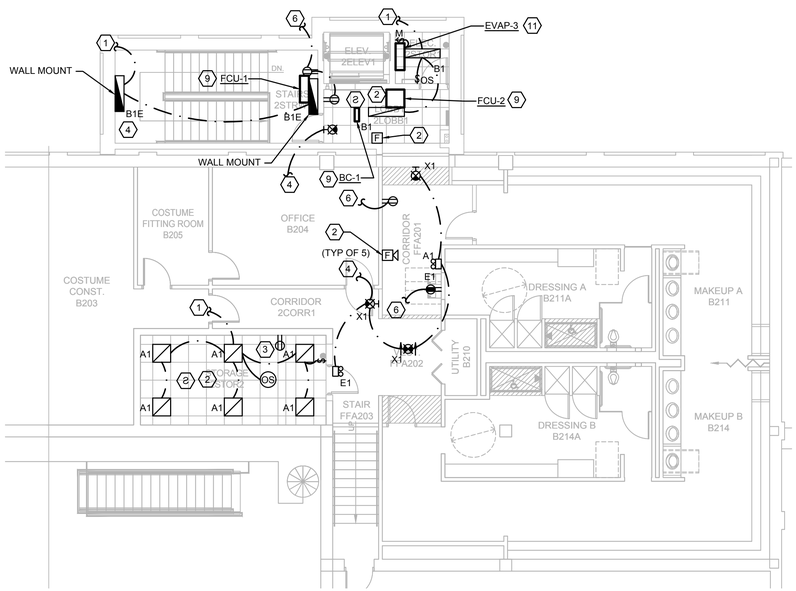
1 FF-E101 FAIN FINE ARTS - FIRST FLOOR - AREA 1A ELECTRICAL PLAN

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



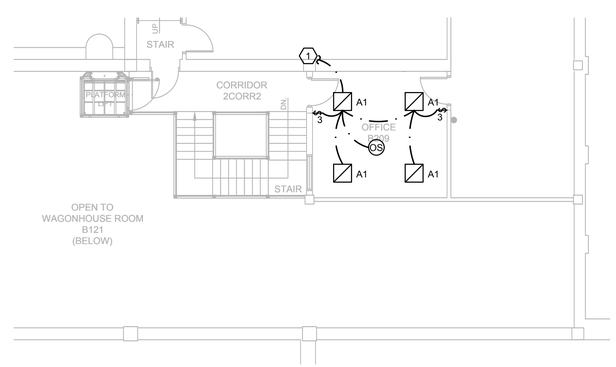
4 FF-E101 FAIN FINE ARTS - SUB BASEMENT ELECTRICAL ROOM PLAN

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



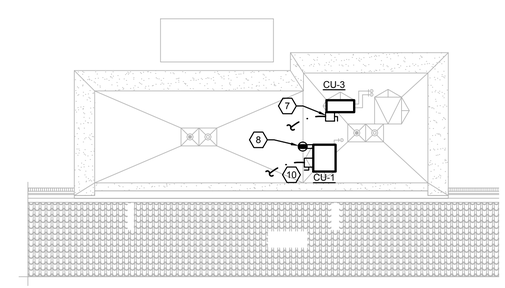
2 FF-E101 FAIN FINE ARTS - SECOND FLOOR - AREA 2A ELECTRICAL PLAN

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



3 FF-E101 FAIN FINE ARTS - SECOND FLOOR - AREA 2C ELECTRICAL PLAN

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



5 FF-E101 FAIN FINE ARTS - ROOF LEVEL - AREA 2A ELECTRICAL PLAN

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

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.
2. COORDINATE WITH MECHANICAL AND PLUMBING EQUIPMENT INSTALLER FOR LOCATIONS AND REQUIREMENTS PRIOR TO ROUGH IN.

KEY NOTES (#)

1. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA (16A LOAD MAX. PER 20A CIRCUIT).
2. NEW FIRE ALARM DEVICE. CONNECT TO EXISTING FIRE ALARM SYSTEM. VERIFY LOCATION WITH AHJ PRIOR TO INSTALLATION.
3. USE CIRCUIT LB7-107 FOR NEW RECEPTACLE, PROVIDE 20A/1P CB AND 2#12, 1#12G, 3/4"C. COORDINATE WITH EQUIPMENT INSTALLER FOR LOCATION AND REQUIREMENTS.
4. CONNECT NEW EXIT SIGN AND EMERGENCY WALL PACK TO NEAREST AVAILABLE UNCONTROLLED LIGHTING CIRCUIT (16A LOAD MAX. PER 20A CIRCUIT).
5. REPLACE EXISTING FEDERAL PACIFIC STYLE PANEL 'H' WITH NEW PANEL. NEW PANEL SHALL BE 60 POLE, 400A, 480/277V, 3 PHASE 4 WIRE AND MANUFACTURED BY SQUARE D. RELOCATE ALL EXISTING LOADS AND MATCH EXISTING BREAKER CONFIGURATION IN NEW PANEL.
6. USE CIRCUIT LB7-109 FOR NEW RECEPTACLE, PROVIDE 20A/1P CB AND 2#12, 1#12G, 3/4"C.
7. PROVIDE 30/NF/2 NEMA 3R DISCONNECT SWITCH FOR NEW CONDENSING UNIT CU-3 (208V, 1-PH, 10.0A MCA, 15A MOCP). USE CIRCUIT LB7-100/102, PROVIDE 15A/2P BREAKER IN PANEL AND ROUTE 2#12,#12G, 3/4" CONDUIT FROM BREAKER TO UNIT. FIELD COORDINATE ACTUAL LOCATION OF UNIT PRIOR TO ROUGH-IN.
8. PROVIDE NEW GFI SERVICE RECEPTACLE NEAR NEW ROOF TOP UNIT. PROVIDE RECEPTACLE WITH A WEATHER PROOF WHILE-IN-USE COVER. USE CIRCUIT LB7-109.
9. BC, FCU, & EVAPORATOR UNIT, 208V, 1-PH, 0.2A. USE CIRCUIT LB7-99/101, PROVIDE 20A/2P BREAKER IN PANEL AND ROUTE 2#12, #12G, 3/4" CONDUIT FROM BREAKER TO UNIT. COORDINATE WITH EQUIPMENT INSTALLER FOR LOCATIONS AND REQUIREMENTS.
10. PROVIDE 30/NF/3 NEMA 3R DISCONNECT SWITCH FOR NEW CONDENSING UNIT CU-1 (460V, 3-PH, 16.7A MCA, 25A MOCP). USE CIRCUIT H-34/36/38, PROVIDE 25A/3P BREAKER IN PANEL AND ROUTE 3#10,#10G, 3/4" CONDUIT FROM BREAKER TO UNIT. FIELD COORDINATE ACTUAL LOCATION OF UNIT PRIOR TO ROUGH-IN.
11. EVAP-3, 208V, 1-PH, 0.2A, TO BE CIRCUITED FROM OUTDOOR UNIT CIRCUIT CU-3 (LB7-100/102). ROUTE 3#12, #12G, 3/4"C FROM OUTDOOR UNIT VIA MOTOR RATED SWITCH. REFER TO MANUFACTURER'S WIRING INSTRUCTIONS FOR MORE INFORMATION.

STATE OF TEXAS
JOSEPH D. CAMPOS
45543
REGISTERED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

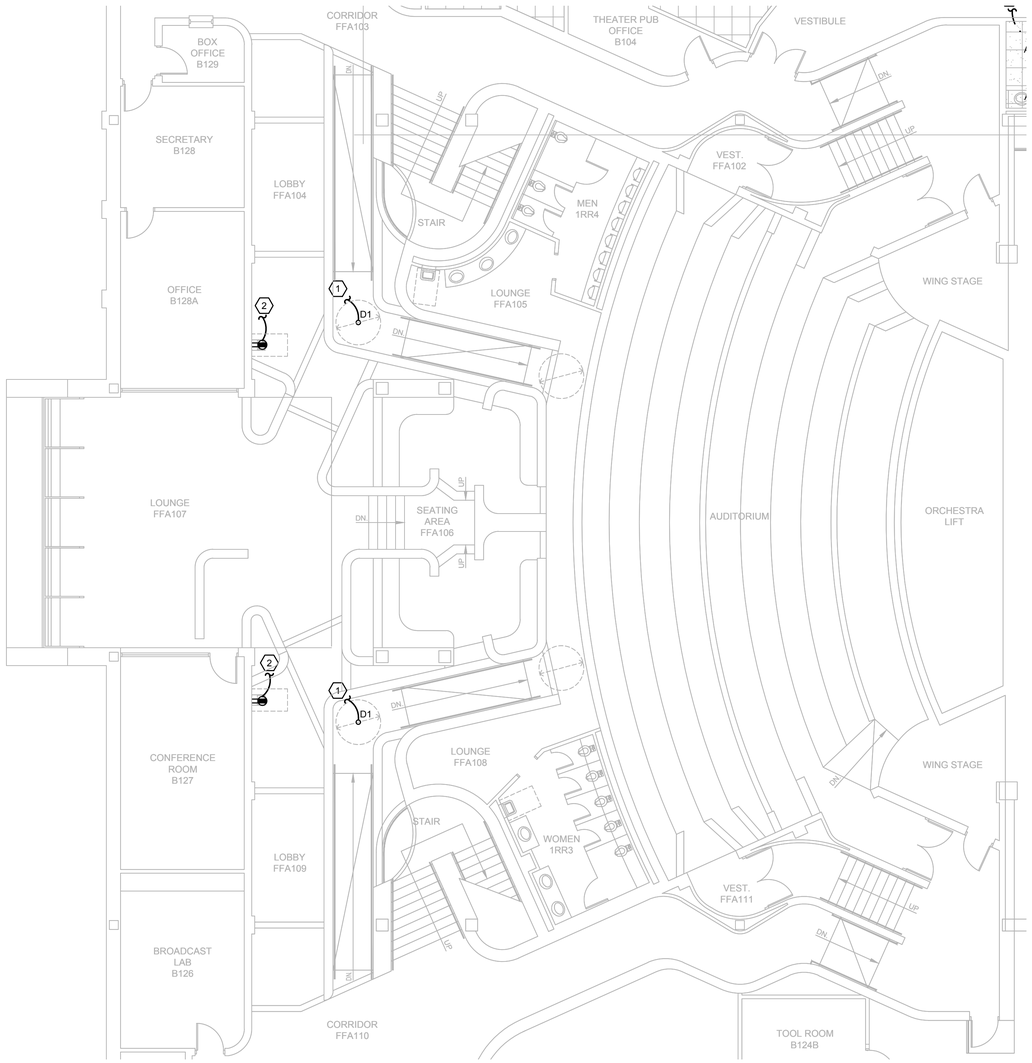
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

FF-E101



FAIN FINE ARTS - FIRST FLOOR - AREA 1D ELECTRICAL PLAN

1 / FF-E102 SCALE: 1/8" = 1'-0"

PANEL H (NEW)

S.C. RATING 22,000 AIC

480 Y/ 277 VOLT, 3 PHASE, 4 WIRE

LOCATION: ELECTRICAL ROOM
MOUNTING: SURFACE
FED FROM: PANEL HD

400 AMP M.L.O.
400 AMP BUS
100% NEUTRAL BUS

WIRE SIZE	CKT	DESCRIPTION	VA	A	P	PH	P	A	VA	DESCRIPTION	CKT	WIRE SIZE
E	1	(EX) HW PUMP	10000	50	3	A	3	50	10000	(EX) ORCHESTRA ELEVATOR	2	E
	3		10000			B			10000		4	
	5		10000			C			10000		6	
E	7	(EX) VENTILATING FAN	5000	30	3	A	3	25		(NEW) CU-3	8	
	9		5000			B					10	
	11		5000			C					12	
E	13	(EX) N. CONDENSATE PUMP	2500	20	3	A	3	20	2500	(EX) W. SUMP PUMP	14	E
	15		2500			B			2500		16	
	17		2500			C			2500		18	
E	19	(EX) S. CONDENSATE PUMP	2500	20	3	A	3	20	2500	(EX) E. SUMP PUMP	20	E
	21		2500			B			2500		22	
	23		2500			C			2500		24	
E	25	(EX) AIR COMPRESSOR	2500	20	3	A	1	20		SPARE	26	
	27		2500			B	1	20		SPARE	28	
	29		2500			C	1	20		SPARE	30	
	31	(EX) STAGE BSMT. LTS	1000	20	1	A	1	20		SPARE	32	
	33	(EX) MECH RM LTS.	1000	20	1	B	1			SPACE ONLY	34	
	35	SPARE		20	1	C	1			SPACE ONLY	36	
	37	(NEW) ELEVATOR	10000	60	3	A	3	125	25000	(EX) CHW PUMP	38	E
	39		10000			B			25000		40	
	41		10000			C			25000		42	
	43	SPACE ONLY			1	A	1			SPACE ONLY	44	
	45	SPACE ONLY			1	B	1			SPACE ONLY	46	
	47	SPACE ONLY			1	C	1			SPACE ONLY	48	
	49	SPACE ONLY			1	A	1			SPACE ONLY	50	
	51	SPACE ONLY			1	B	1			SPACE ONLY	52	
	53	SPACE ONLY			1	C	1			SPACE ONLY	54	
	55	SPACE ONLY			1	A	1			SPACE ONLY	56	
	57	SPACE ONLY			1	B	1			SPACE ONLY	58	
	59	SPACE ONLY			1	C	1			SPACE ONLY	60	

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

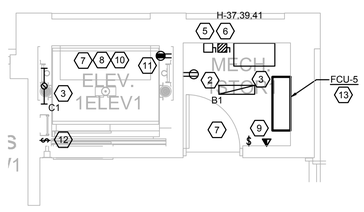
KEY NOTES ⟨#⟩

1. MOUNT NEW RECESSED CAN LIGHT UNDERNEATH STAIR LANDING. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT AND LOCAL LIGHTING CONTROLS SERVING THIS AREA.
2. CONNECT NEW RECEPTACLE TO NEAREST EXISTING 120V RECEPTACLE CIRCUIT (16A LOAD MAX. PER 20A CIRCUIT).
3. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA (16A LOAD MAX. PER 20A CIRCUIT).
4. USE CIRCUIT LB7-104, PROVIDE 20A/1P CIRCUIT BREAKER TO SERVE VERTICAL PLATFORM LIFT. FIELD COORDINATE ALL CONNECTION REQUIREMENTS PRIOR TO ROUGH IN. PROVIDE ALL REQUIRED INTERCONNECTIONS BETWEEN LIFT POWER SUPPLY AND LIFT CONTROL PANEL. VERIFY WITH EQUIPMENT VENDOR THAT AN OPTIONAL DISCONNECTING MEANS IS INCLUDED WITH THE PLATFORM LIFT, OTHERWISE PROVIDE WITH AND LOCATE NEAR THE EQUIPMENT.
5. ELEVATOR CAB LIGHT DISCONNECT 20A.,1P.,120V. CIRCUIT BREAKERS MOUNTED IN NEMA-1 ENCLOSURE WITH HANDLE PADLOCK ATTACHMENT CAPABLE OF LOCKING BREAKER IN OPEN POSITION. USE CIRCUIT LB7-110, PROVIDE 20A/1P CB AND 2/12, 1#12G, 3/4"C.
6. 60A., 3 POLE, 480V. NEMA-1 ENCLOSURE FUSED AT (60 AMPS). ALL IN ONE ELEVATOR DISCONNECT SWITCH WITH BUILT IN SHUNT TRIP BY BUSSMANN. ROUTE TO NEW 60A/3P CIRCUIT BREAKER IN NEW PANEL 'H'.
7. COORDINATE LOCATIONS OF ALL EQUIPMENT IN ELEVATOR EQUIPMENT ROOM WITH ELEVATOR SHOP DRAWINGS PRIOR TO ROUGH-IN.
8. CONNECT EMERGENCY SHUT-DOWN OF ELEVATOR AS REQUIRED. SEQUENCE EQUIPMENT TO SHUT-DOWN THE ELEVATOR BY SMOKE DETECTORS WHEN REQUIRED.
9. TELEPHONE FOR ELEVATOR CAB. CONNECT AS REQUIRED.
10. CONTRACTOR SHALL REFERENCE ELEVATOR SPECIFICATIONS. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELEVATOR MANUFACTURER PRIOR TO ROUGH-IN. FAILURE TO COORDINATE REQUIREMENTS WILL NOT RESULT IN ADDITIONAL COMPENSATION BEING PROVIDED TO THE CONTRACTOR.
11. PROVIDE WP/GFI RECEPTACLE LOCATED IN ELEVATOR PIT, FOR CONNECTION OF ELEVATOR PIT SUMP PUMP (SP-1). USE CIRCUIT LB7-106, WITH 2#10,#10G, 3/4"C, PROVIDE 20A/1P CB AT PANEL.
12. MOUNT LIGHT SWITCH FOR PIT LIGHTS NEXT TO LADDER INTO PIT.
13. FCU, 208V, 1-PH, 0.2A. USE CIRCUIT LB7-99/101, PROVIDE 20A/2P BREAKER IN PANEL AND ROUTE 2#12, #12G, 3/4" CONDUIT FROM BREAKER TO UNIT. COORDINATE WITH EQUIPMENT INSTALLER FOR LOCATIONS AND REQUIREMENTS.

LIGHT FIXTURE SCHEDULE

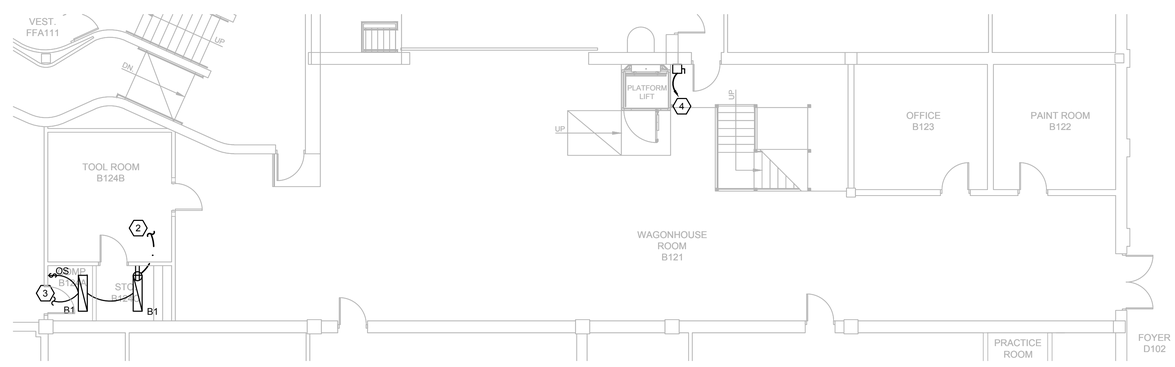
TYPE	DESCRIPTION	LAMP TYPE	LAMP COLOR TEMP	LAMP CRI	MOUNTING	ELECTRICAL VOLTS	ELECTRICAL VA	MANUFACTURER	CATALOG NUMBER	NOTES
A1	2X2 LENSED TROFFER	FLUORESCENT	4000K	85	RECESSED GRID	UNV	35	HEW	50G-S22-2-17-F-AF12125-UNV	
B1	1X4 SURFACE MOUNTED WRAP AROUND	FLUORESCENT	4000K	85	SURFACE	UNV	65	HEW	21-4-232-I-EB2-UNV	
C1	ELEVATOR PIT LIGHT	FLUORESCENT	4000K	85	SURFACE	UNV	65	HEW	93-4-232-A-EB2	3
D1	DOWNLIGHT	LED	4000K	85	RECESSED	UNV	25	HEW		4
X1	STANDARD LED EXIT SIGN	LED	N/A	N/A	SURFACE	UNV	10	HEW	EXIT-R-EM-WHT-SDT	1,2
E1	INTERIOR EMERGENCY WALL PACK	LED	N/A	N/A	SURFACE	UNV	10	HEW	EMER/LED-WHT-SDT	
F1	EXTERIOR WALL MOUNTED LIGHT	LED	6350K	N/A	WALL ABOVE DOOR	UNV	2.78	HEW	PGP-HTR	5

NOTES:
1. VERIFY MOUNTING, NUMBER OF FACES AND ARROW CONFIGURATION WITH PLANS PRIOR TO ORDERING FIXTURES.
2. VERIFY MOUNTING HEIGHT AND ORIENTATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
3. WALL MOUNT IN ELEVATOR PIT.
4. FIELD COORDINATE MOUNTING OF DOWNLIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
5. PROVIDE FIXTURE WITH LOW TEMPERATURE EMERGENCY BALLAST AND INTEGRAL PHOTOCELL FOR ON/OFF CONTROL.



FAIN FINE ARTS - FIRST FLOOR ELECTRICAL ELEVATOR PLAN

3 / FF-E102 SCALE: 1/4" = 1'-0"



FAIN FINE ARTS - FIRST FLOOR - AREA 1C ELECTRICAL PLAN

2 / FF-E102 SCALE: 1/8" = 1'-0"

STATE OF TEXAS — JOSEPH D. CAMPOS — 45513 — REGISTERED PROFESSIONAL ENGINEER

07/11/2017

DATE SIGNED:

HPA — ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

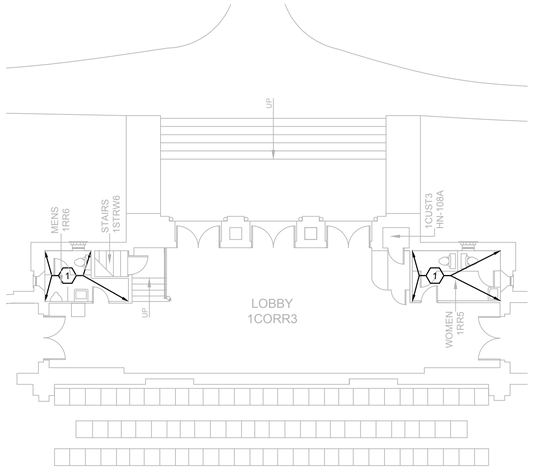
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

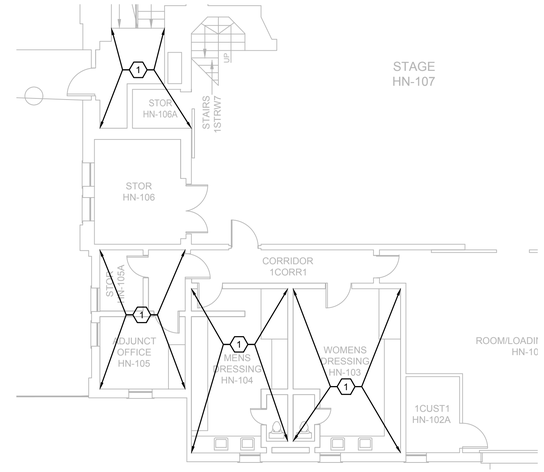
© 2017 HARPER PERKINS ARCHITECTS

FF-E102



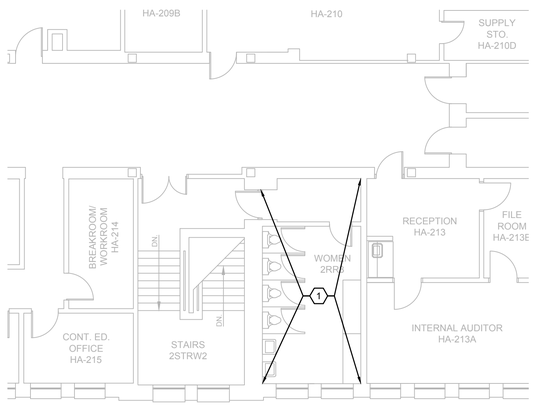
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1B
ELECTRICAL DEMOLITION PLAN

2 / H-ED101 SCALE: 1/8" = 1'-0"



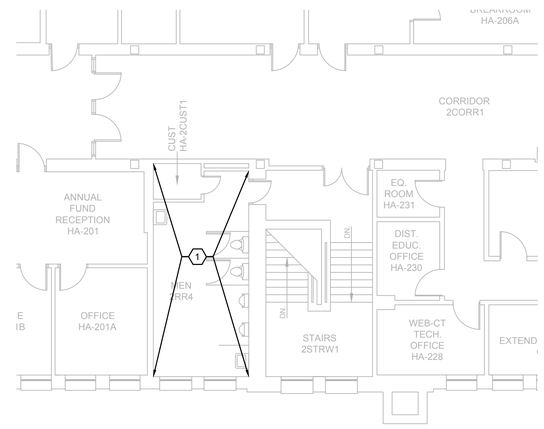
HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1A
ELECTRICAL DEMOLITION PLAN

1 / H-ED101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2C
ELECTRICAL DEMOLITION PLAN

4 / H-ED101 SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2B
ELECTRICAL DEMOLITION PLAN

3 / H-ED101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES

1. REMOVE ALL LIGHTS IN THIS AREA. RETAIN CIRCUITING FOR RE-USE WITH NEW LIGHTS. FIELD COORDINATE THE EXTENT OF THE CEILING DEMO WITH ARCHITECT PRIOR TO DEMOLITION.

STATE OF TEXAS
JOSEPH D. CAMPOS
49513
REGISTERED
PROFESSIONAL ENGINEER
07/11/2017

DATE SIGNED:

AIA HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR
MIDWESTERN STATE UNIVERSITY
3410 TAFT BOULEVARD
WICHITA FALLS, TEXAS

DRAWN BY:

DATE: 15 MAY 2017

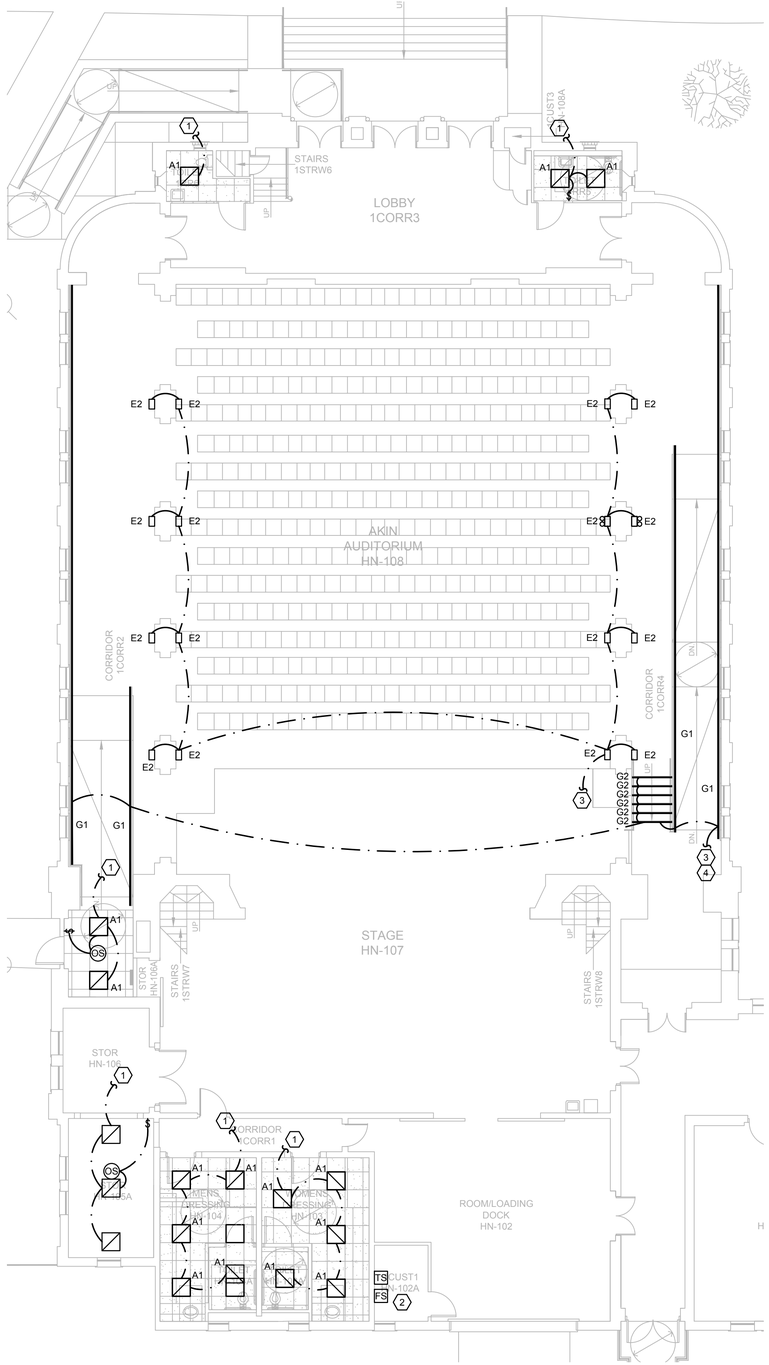
REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

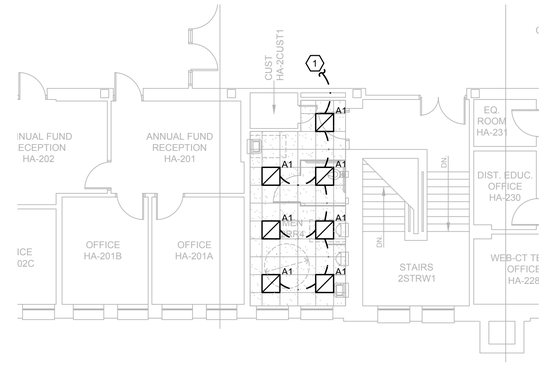
H-ED101



HARDIN ADMIN BUILDING - FIRST FLOOR - AREA 1B & 1A ELECTRICAL PLAN

1 / H-E101

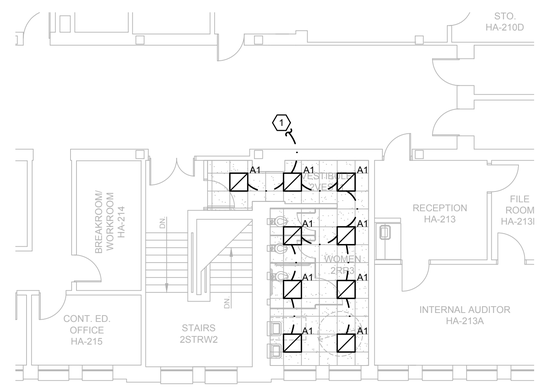
SCALE: 1/8" = 1'-0"



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2B ELECTRICAL PLAN

2 / H-E101

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



HARDIN ADMIN BUILDING - SECOND FLOOR - AREA 2C ELECTRICAL PLAN

4 / H-E101

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

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMP			MOUNTING	ELECTRICAL		MANUFACTURER	CATALOG NUMBER	NOTES
		TYPE	COLOR TEMP	CRI		VOLTS	VA			
A1	2X2 LENSED TROFFER	FLUORESCENT	4000K	85	RECESSED GRID	UNV	35	HEW	50G-S22-2-17-F-AF12125-UNV	
G1	LED PATHWAY, AISLE LIGHTING	LED	N/A	N/A	FLOOR	12V	1.8/FT	CALIFORNIA ACCENT LTG. INC.	AIL1800-3"-LED-G-SLC	PROVIDE DIMMABLE DRIVER, 120V
G2	CARPETED STEP LIGHT	LED	N/A	N/A	FLOOR	12V	1.8/FT	CALIFORNIA ACCENT LTG. INC.	STL6125-3-LED-G-SL	PROVIDE DIMMABLE DRIVER, 120V
E2	EMERGENCY LED SCONCE	LED	6350K	N/A	WALL	120V	2.78	DUAL LITE	PGZ	

NOTES:

1. VERIFY MOUNTING, NUMBER OF FACES AND ARROW CONFIGURATION WITH PLANS PRIOR TO ORDERING FIXTURES.
2. VERIFY MOUNTING HEIGHT AND ORIENTATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
3. WALL MOUNT IN ELEVATOR PIT.
4. FIELD COORDINATE MOUNTING OF DOWNLIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
5. COORDINATE AND VERIFY FIXTURE/LAMP COLOR AND FINISH WITH ARCHITECT.
6. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECT PRIOR TO ROUGH-IN.

GENERAL NOTES

1. REFER TO ARCHITECTURAL OVERALL FLOOR PLANS FOR LOCATIONS SCOPE OF WORK AREAS WITHIN THE BUILDING.

KEY NOTES

1. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA.
2. NEW FIRE ALARM DEVICE. CONNECT TO EXISTING FIRE ALARM SYSTEM. VERIFY LOCATION WITH AHJ PRIOR TO INSTALLATION.
3. HOMERUN CIRCUIT TO NEAREST 120V PANELBOARD WITH AVAILABLE 20A/1P SPARE CIRCUIT BREAKER OR SPACE AND PROVIDE 20A/1P CB. USE 2#12, 1#12G, 3/4"C.
4. NEW DIMMABLE PATHWAY LIGHTING TO BE CONTROLLED VIA EXISTING AUDITORIUM LIGHTING CONTROL SYSTEM. FIELD VERIFY EXISTING SYSTEM AND COORDINATE WITH OWNER FOR INTERFACE AND CONNECTION REQUIREMENTS FOR COMPATIBILITY AND OPERABILITY, PROVIDE NECESSARY APPURTENANCES. IN CASE THE EXISTING LIGHTING SYSTEM IS UNABLE TO ACCOMMODATE AND AFTER THOROUGH VERIFICATION WITH THE OWNER, PROVIDE A STAND ALONE DIMMING CONTROL COMPATIBLE WITH EXISTING DIMMING SYSTEM. MATCH THE NEW PATHWAY LIGHT DRIVER, LOCATION AND DEVICE TO BE APPROVED BY OWNER. PROVIDE A UL924 TYPE RELAY SO THAT ON NORMAL CONDITION THE PATHWAY LIGHTING CAN BE DIMMED/CONTROLLED BY THE LIGHTING CONTROL SYSTEM, WHILE UNDER EMERGENCY CONDITION THE PATHWAY LIGHTING WILL BE "ON" FULL BRIGHT.

07/11/2017

DATE SIGNED:

HPA
ARCHITECTS · PROGRAMMERS · PLANNERS
HARPER PERKINS ARCHITECTS, INC.
4724 OLD JACKSBORO HIGHWAY
WICHITA FALLS, TEXAS 76302-3599
VOICE: 940.767.1421 FAX: 940.397.0273
E-MAIL: office@harperperkins.com WEB: www.harperperkins.com

CEI CAMPOS ENGINEERING, Inc.
Consulting Engineers
1331 River Bend Drive
Dallas, Texas 75247
(214) 696-6291
campos@camposengineering.com
Registration No. F-001731
CEI Project Number D17-1263.00

TAS/ADA - FIRE MARSHAL DEFERRED MAINTENANCE PROJECTS FOR

MIDWESTERN STATE UNIVERSITY

WICHITA FALLS, TEXAS

3410 TAFT BOULEVARD

DRAWN BY:

DATE: 15 MAY 2017

REVISIONS

NO.	DESCRIPTION	DATE

16782.00

© 2017 HARPER PERKINS ARCHITECTS

H-E101