# CONCESSION / RESTROOM BUILDING GIRLS SOFTBALL RENOVATIONS AT YOUTH SPORTS COMPLEX

407 W X ST. CITY OF DEER PARK, TEXAS

# PROJECT TEAM

**ARCHITECT** MODE DESIGN COMPANY 1102 S. AUSTIN AVE STE 103 GEORGETOWN, TX 78626 512 | 733-1150 RYAN HANSANUWAT RYAN@MODEDC.US

CIVIL ENGINEER HALFF ASSOCIATES 2 SIERRA WAY ST GEORGETOWN, TX 78626 512 | 869-0045

STRUCTURAL ENGINEER **ENGINEERING 360** 2851 JOE DIMAGGIO BLVD STE 22 ROUND ROCK ,TX 78665 512 | 244-1966

MECHANICAL, ELECTRICAL, PLUMBING ENGINEER HENDRIX CONSULTING ENGINEER 115 E MAIN ST ROUND ROCK, TX 78664 512 | 218-0060

# SHEET INDEX

# ARCHITECTURE

**COVER SHEET** ACCESSIBILITY DIAGRAMS ABBREVIATIONS & NOTES FLOOR PLAN REFLECTED CEILING PLAN **ROOF PLAN EXTERIOR ELEVATIONS BUILDING SECTIONS** WALL SECTIONS ENLARGED PLANS / INTERIOR ELEVATIONS

DOOR SCHEDULE/ DETAILS





# ROOM BUILDING GIRLS SOFTBALL RENOVATIONS AT YOUTH CONCESSION / REST

407 W X ST. CITY OF DEER PARK, TEXAS

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PROJECT PHASE BID - 8/3/17 <u>REVISIONS</u>

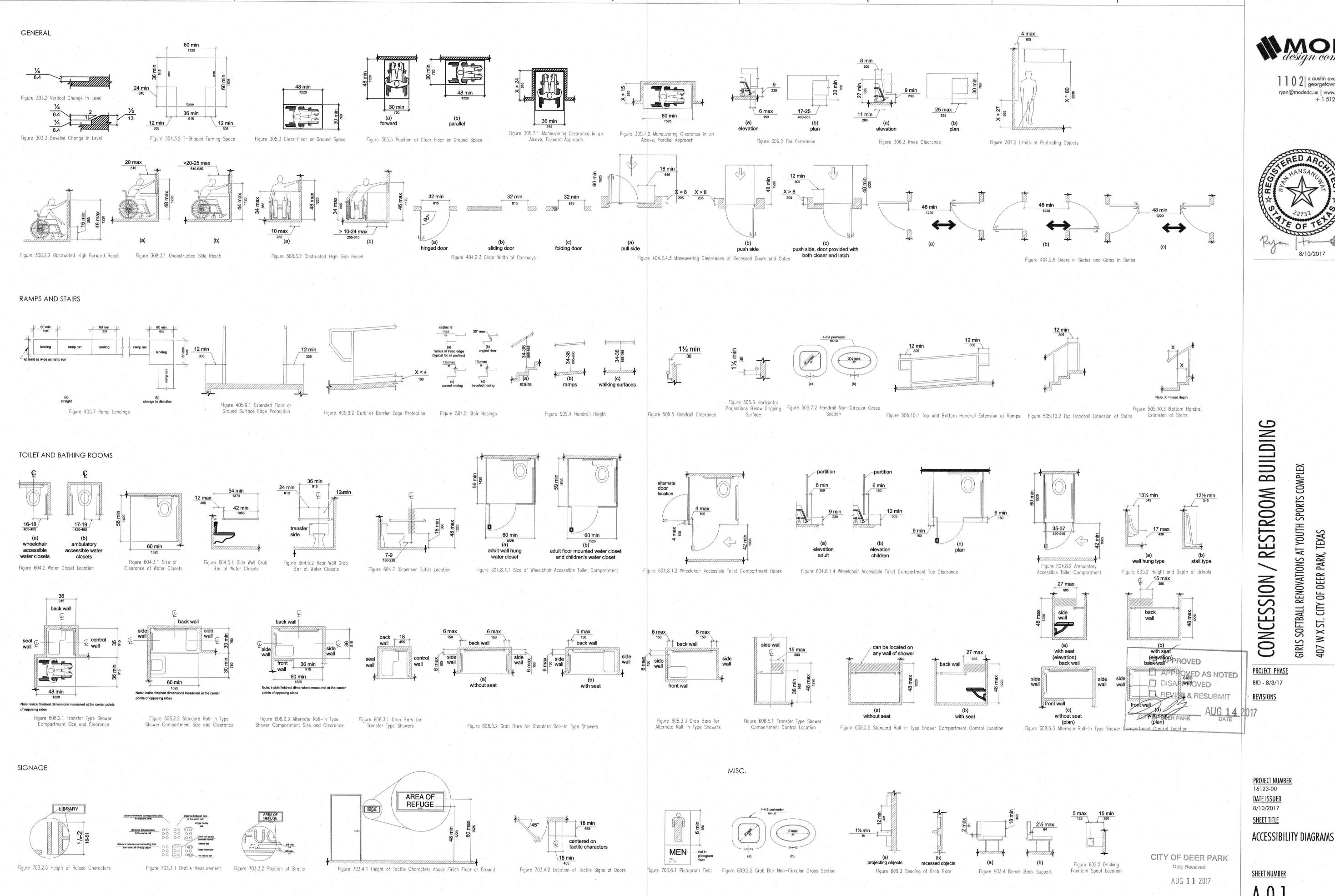
PROJECT NUMBER DATE ISSUED 8/10/2017 SHEET TITLE **COVER SHEET** 

CITY OF DEER PARK Date Received

SHEET NUMBER

A-0.0

AUG 11 2017 ENGINEERING DEPARTMENT



1102 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us | www.modedc.us + 1 512 733 1150



SPORTS COMPLEX

407 W X ST. CITY OF DEER PARK, TEXAS

GIRLS SOFTBALL RENOVATIONS AT YOUTH

PROJECT NUMBER DATE ISSUED

A-0.1ENGINEERING DEPARTMENT

# FLOOR PLAN LEGEND

# **NEW WALL** EXISTING WALL TO REMAIN ITEMS TO BE DEMOLISHED CENTERLINE **COLUMN GRID** PARTITION TYPE WINDOW TYPE 101 DOOR NUMBER ROOM NAME AND NUMBER Name **ELEVATION DATUM POINT** Elevation • View Name **ELEVATION VIEW** A101 SECTION/DETAIL **ENLARGED PLAN** REVISION KEY **REVISION CLOUD** NORTH ARROW

# ARCHITECTURE ABBREVIATIONS

ACC. AR CONDITIONING GAI GLAGE ACC. ACCESS ACCESS ACC. ACC. ACCESS ACC. ACC. ACC. ACC. ACC. ACC. ACC.	PLAM PLMB PLYWD PNL	PLASTIC LAMINATE PLUMBING PLYWOOD
ACP	PLYWD	PLYWOOD
ADDM ADDE NOW ADDE NOW ADD ADDISONA ADDISONA ADD ADDISONA AD	PNI	
ADI		PANEL
ADJ ADJUSTABLE GL GLASSIGNAZING AFF ABOVE FINSHED PLOOR GLB GLASS BLOCK AGG AGGETATE GTR GUTTER GLASSIGNAZING AGG AGGETATE GTR GUTTER GLASSIGNAZING ALTERNATE GLASSIGNAZING GLASSIGNAZING ALTERNATE GLASSIGNAZING GLASSIGNAZING ALTERNATE GLASSIGNAZING GLASSIGNAZING ALTERNATE GLASSIGNAZING GLASSIGNAZING GLASSIGNAZING ALTERNATE GLASSIGNAZING	PREFAB PREFIN	PREFABRICATED PREFINISHED
AGG ALTENATE	PRF	PREFORMED
ALT ALTERNATE GYL GRAVEL ALTUM ALDININUMY APPROX APPROXIMATELY APPROX APPROXIMATELY APPROX APPROXIMATELY APPROX APPROXIMATELY ALDIO VISUAL  AUTO ALTO-MATIC  AUTO ALTO-MATIC  AUTO ALTO-MATIC  AUTO ALDIO-MATIC  BD	PSF	POUNDS PER SQUARE FOOT
ALUM ALUMINUM GYP GYPSUM GARCH APPROXIMATELY APPROXIMATELY ARCH ARCHITECT/ARCHITECTURAL ASPH ARCHITECT/ARCHITECTURAL AND ARCHITECT/ARCHITECTURAL BB BD BCARD BD BCARD BL BULDING INE HDW HARDWORE BLUB BULDING INE HDWD HARDWORE BLUB BULDING I	PSI PT	POUNDS PER SQUARE INCH PAINT
APPROX APPROXIMATELY GYP BD GYPSLM BOARD ARCH ARCHITECTURAL ASPH ASPHALT ASPHALT HE HOSE BIB ASPHALT ALTO AUTOMATIC HC HC HOLLOW GORE AUTOMATIC HC HC HOLLOW GORE AUTOMATIC HC HC HOLLOW GORE HC AUTOMATIC HC HC HOLLOW GORE AUTOMATIC HC HC HOLLOW GORE HC AUTOMATIC HC	PVC	POLYVINYL CHLORIDE
ASPH ASPHALT ALTO AUTOMATIC HC HOLLOW CORE AUTOMATIC HC HOLLOW CORE HANDICAP  BU BULLOWING HDP HANDICAP  BU BULLOWING HDW HANDICAP  BU BULLOWING HDW HANDICAP  BU BULLOWING HDW HANDICAP  BUD BULLEYARD HORZ HORZONTAL  BIND BEAM HT HEGHT HERTHING  BIND BEAM HT HEGHT HERTHING  BIND BEAM HT HEGHT HORZONTAL  BIND BEAM HT HEGHT HANDING  BIND BEAM HT HEGHT HORZONTAL  BIND BEAM HORZ HANDING WEITHING WEIT		
AUTO AUTOMATIC AV AUDIO YSUJUL HDP HADDICAP HADD	R RA	RADIUS RETURN AIR
AV AUDIO YISUAL HOP HANDICAP HADDER BID BOARD HOW HADDWOOD BILL BUILDING LINE HOW HADDWOOD COOK CONTRACTOR RUNNISHED LINE LINE LINE LINE LINE LINE LINE LINE	RD	ROOF DRAIN
BD BOARD HOWD HARDWOOD BILD BILD BILD BILD BILDING UNE HOUR HARDWARE AND HOLD WARE BILD BILDING HAM HOLD WARE AND HOLD WARE BILD BOULEVARD HORZ HORZONTAL HEIGHT WAS AND HOLD WARE AND H	RE BAR	REINFORCING BARS
BILD BUILDING UNE BUDD BOULEVARD HORZ BW BOULEVARD HORZ BM BEAM BEAM HT BM BEAM BEAM HT BM BEAM HT BM BEAM HT BM BEAM BEAM HT BM BEAM HT BM BEAM BEAM HT BM BM B	RECP REF	RECEPTACLE REFERENCE
BUDG BUDD BOULENARD BLVD BENCH MARK HTG HEIGHT HEIGHT HEIGHT HEIGHT HEIGHT HOT WATER BRK BRCX BRCX BRCX BRCX BRCX BRCX BRONZE BSMIT BASRAENT BU BRTSH THERMAL UNIT BV CAB CAF CABINET IN INCL CODE CATCH BASIN INCL CCC CC ENTER TO CENTER INSUL INSULIATION INCL DED INT INTERNATIONAL BUILDING CODE CONTRACTOR RIJSHLED LIT INTERNATIONAL BUILDING CODE CONTRACTOR RIJSHLED LIN INTERNATIONAL BUILDING CODE CONTRACTOR BUILDING LIN INTERNATIONAL BUILDING LIN INTER	REFR	REFRIGERATOR
B.M. BEAM BEAM HTG HEIGHT BRK BRICK	REG	REGISTER
B.M. BENCH MARK BRICK BR	REINF	REINFORCED
BRK BRICK BRONZE	REQ'D RET	required return
BRITU BRITISH THERMAL UNIT BYL BRYDEN THERMAL UNIT CODE  CAB CABINET IN INCH INCH INCH INCH INCH INCH INCH INCH	RH	RIGHT HAND
BYUL BRITISH THERMAL UNIT BY ENVELVENCE BY ENVELVENCE IS CODE  CAB CARINET IN INCH INCLUDED CODE  CAB CARINET IN INCL INCLUDED INCH INCLUDED INCH INCLUDED INCT INCRUDED INCT INCLUDED INCT INCLUDED INCT INCLUDED INCT INCRUDED INCT INTERIOR  CYC CENTER TO CENTER INSULI INSULINION INTERIOR  CYC CENTER TO CENTER INSULI INSULINION INTERIOR  CYC CONTRACTOR INSTALLED  CI CAST IRON  CI CONTRACTOR INSTALLED  CI CAST IRON  CON INCRETE MASONRY UNIT  CI CI CAST IRON  CON IRON	RM	ROOM
BWL BEVEL/BEVELED BC INTERNATIONAL BUILDING CODE  CAB CABINET IN INCL INCLUDED  CAC CODE ON THE CODE OF THE CODE O	RO	ROUGH OPENING RIGHT OF WAY
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CB CATCH BASIN INCL INCLUDED C/C CENTER TO CENTER INSUL INCLUDED C/C CENTER TO CENTER INSUL INSULATION CFG CONTRACTOR FURNISHED CI CONTRACTOR INSTALLED CI CAST IRON CG CONTRACTOR INSTALLED CI CAST IRON CG CORREGUARD JBOX JUNCTION BOX CLG CEILING CLG CEILING CLG CEILING CLG CEILING CLG CEILING CLG CLOCKET CLG CLOCKET CLG CLOCKET CLG CLOCKET CLG CLOCKET CLG CLOCKET CND CONCRETE MASONRY UNIT CND CONCLOTT CND CONCRETE MASONRY UNIT CND CONCRETE COL COLUMN CONCRETE MASONRY UNIT CND CONCRETE CONC CONCRETION CONTRACTORY CONTRACTOR		SOLITIL
C/C CFCI CENTER TO CENTER CFCI CONTRACTOR FURNISHED CONTRACTOR INSTALLED CG CORNER GUARD CIG CERLING CIG CERLING CIC CILOST CIC CONDUIT CON CONDUIT CON CONDUIT CON CONDUIT CONCETE CON CONFERENCE CON CONFERENCE CONF CONFERENCE CONF CONFERENCE CONF CONFERENCE CONF CONSTRUCTION CONST CONSTRUCTION CONST CONSTRUCTION CONST CONSTRUCTION CONST CONSTRUCTION CONTRACTOR CONTRA	S SBC	SOUTH STANDARD BUILDING CODE
CONTRACTOR INSTALLED  CI CAST IRON CG CORNER GUARD CILG CELIUNG CILG CELIUNG CILC CELIUNG CILC CELIUNG CILC CELIUNG CILC CLOSET CILC CLOSE CILC CLOSE CILC CLOSE CILC COLUMN CONCRETE CILC COLUMN COCONCRETE COL COLUMN COCONCRETE CONC COMPOSITION/COMPOSITE CONC COMPOSITION/COMPOSITE CONC CONCRETE CONC CONFECTION CONFICION CONFICION CONFICION CONST CONSTRUCTION CONST CONSTRUCTION CONST CONSTRUCTION CONT CONST CONSTRUCTION CONT CONST CONSTRUCTION CONT CONTRUCTION CONT CONT CONT CONT CONT CONT CONT CO	SC	SOLID CORE
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CG         CORNER GUARD         JBOX         JUNCTION BOX           CLG         CELING         JCT         JUNCTION           CLK         CAULK/CAULKING         JST         JOIST           CLO         CLOSET         JT         JOINT           CLR         CLEAR/CLEARANCE         KT         KT           CMU         CONCRETE         LR         KICKPLATE           CND         CONDUIT         KPL         KICKPLATE           COL         COLUMN         KO         KNOCK OUT           COMP         CONDUIT         KPL         KICKPLATE           COND         CONDUIT         KPL         KICKPLATE           COND         CONCRETE         LAM         LAMINATE           CONF         CONTROCTION         LAV         LAWATORY           CONST         CONSTRUCTION         LH         LET HAND           LIT         LUT         LIGHTWEIGHT           DEPT         DEPARTMENT         LWT         LIGHTWEIGHT           DEPT         DEPARTMENT         LWT         LIGHTWEIGHT           DH         DOWBEH HUNG         MAS         MASONRY           DIM         DIAMETER         MAS         MASONRY	SCN SEAL	SCREEN SEALANT
CLG CEILING CLX CAULYCAULVING CLO CLOSET CLO CLOSET CLO CLOSET CLR CLCARANCE CMU CONCRETE MASONRY UNIT CND CONDUIT CND CND CONDUIT CND	SHTH	SHEATHING
CLO CLOSET CLR CLEAR/CLEARANCE CMU CONCRETE MASONRY UNIT CND CONDUIT CND CONDUIT CND CONDUIT COL COLLUMN COMPOSITION/COMPOSITE CONC COMPOSITION/COMPOSITE CONC CONFERENCE CONF CONFERENCE LAB LABORATORY COMPOSITION/COMPOSITE CONC CONFERENCE LAM LAMINATE CONF CONFERENCE LAM LAMINATE LIVI LIVI LOAD LIVI LIVI LOAD LOAD LOAD LOAD LOAD LOAD LOAD LOAD	SHT	SHEET
CIR CLEAR/CLEARANCE CMU CONCETTE MASONRY UNIT CND CONDUIT CND CND CONDUIT CND	SH	SHINGLE HUNG SIMILAR
CMU CONCRETE MASONRY UNIT CND CONDUIT CND CONDUIT COL COLUMN KO KNOCK OUT COMPOSITION/COMPOSITE CONC COLUMN KO KNOCK OUT COMPOSITION/COMPOSITE CONF CONFERENCE LAM LAMINATE CONF CONFERENCE LAM LAMINATE CONST CONSTRUCTION LAV LAVATORY CONST CONSTRUCTION LAV LAVATORY CONST CONSTRUCTION LIH LEFT HAND CONT CONSTRUCTION LIT LIGHT DEPT DEPARTMENT LIT LIGHT DH DOUBLE HUNG DIA DIAMETER MAS MASONRY DIM DIMENSION MATL MATERIAL DN DOWN MAX MAXIMUM DS DOWNSPOUT MB MACHINE BOLT DW DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEMBRANE E EAST MER MECH MECHANICAL DWG DRAWING MEMB MEMBRANE E EAST MER MAN MANIMUM EB EXPANSION BOLT MICRO MICROWAVE EJ EXPANSION JOINT MIN MINIMUM EL ELEVATION MIR MIRROR ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS ENTE ENTRANCE MOD MODULAR EGG EQUAL ENTRANCE MOD MODULAR ESTIMATE MICRO MICROWAVE ENT ENTRANCE MOD MODULAR ESTIMATE MICRO MODULAR ESTIMATE MODUL	SLV	SLEEVE
COL COLIMN KO KNOCK OUT  COMP COMPOSITION/COMPOSITE  CONC CONCRETE  CONF CONFERENCE  CONF CONFERENCE  CONN CONSTITUCTION  CONST CONSTRUCTION  LAV LAMINATE  CONST CONSTRUCTION  LIT LIGHT  LIT LIGHT  DEPT DEPARTMENT  DEPT DEPARTMENT  DIA DIAMETER  DIA MASONRY  DIA MERIAL  DIA MESERAL  DIA MESERAL  DIA MESERAL  DOWN MASONRY  DIA MESERAL  DIA MESERAL  DIA MESERAL  DIA MECHANICAL  DEPT LICHOTORIA  DIA MESERAL  DIA MESERAL  DIA MESERAL  MEZZANINE  E EAST MER MANUALACTURER  DIA DIAMETER  DIA MIN MINIMUM  MINIMUM  MINIMUM  MINIMUM  ELE LELEVATION  MIN MINIMUM  MINIMUM  ELE LELEVATION  ELE LELEVATION  ELE MOD MODULAR  MID MOUNTED  ENT ENTRANCE  MOD MODULAR  ENTE ENTRANCE  MOD MODULAR  ENTE ENTRANCE  MOD MODULAR  ENTE ENTRANCE  MOD MODULAR  DASONRY OPENING  ENTE ENTRANCE  MOD MODULAR  ENTE ENTRANCE  MOD MODULAR  ENTE ENTRANCE  MOD MODULAR  ENTE ENTRANCE  MOD MODULAR  ENTRANCE  ENTRANCE  MOD MODULAR  ENTRANCE  ENTRANCE  MOD MODULAR  ENTRANCE  ENTRANCE  MOD MODULAR  ENTRANCE  MOD MODULAR  ENTRANCE  POPOSITE  FOR POPOSITE  FOR POPOSITE  FOR POPOSITE  FOR POPOSITE  FOR POPOSITE  POPOSITE  FOR POPOSITE  PARTITION  PRICICLE BOARD  POPOSITE  F	SPEC	SPECIFICATIONS
COMP COMPOSITION/COMPOSITE CONF CONF CONFERENCE CONF CONFERENCE CONF CONFERENCE CONF CONFERENCE CONF CONFRENCE CONF CONFRENCE CONF CONFRUCTION LAV LAMINATE LAMINATE LAMINATE LAMINATE LAMINATE LAMINATE LAMINATE LAMINATE LOT LI LI LIVE LOAD LIFT LIGHTWEIGHT  DEPT DEPATIMENT LIT LIGHTWEIGHT  DH DOUBLE HUNG DIA DIAMETER MAS MASONRY DIM DIM DIMENSION MAT MAX MAXIMUM DS DOWNSPOUT MB MACHINE BOLT DW DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEMBRANE E E E EAST MER MER MER MER MER MER MER MENDRANE E E E E E E E E E E E E E E E E E E	SQ	SQUARE
CONC CONERTE CONF CONFERENCE LAM LAMINATE CONN CONNECTION LAV LAVATORY CONST C	SQ FT SST	SQUARE FEET STAINLESS STEEL
CONN CONNECTION LAV LAYATORY CONST CONSTRUCTION IH LEFT HAND CSMT CASEMENT IL LIVE LOAD LIVE LOAD DEPT DEPARTMENT DH DOUBLE HUNG DIA DIAMETER MAS MASONRY DIM DIMENSION MATL MATERIAL DN DOWN MAX MAXIMUM DS DOWNSPOUT MB MAX MAXIMUM DS DOWNSPOUT MB MAX MAXIMUM DS DOWNSPOUT MB MB MACHINE BOLT DW DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEBRANE  E E EAST MFR MANUFACTURER EA EACH MH MAN HOLE EB EPPANSION BOLT MICRO MICROWAVE EJ EXPANSION JOINT MIN MINIMUM ELE ELEVATION MIR MIRROR ELEC ELECTRIC/ELECTRICAL ELEV ELEVATION/ELEVATOR MLD MOULDING EMER EMERGENCY MLWK MILLWORK ENT ENTRANCE MOD MODULAR ENT ENTRANCE MOD MODULAR EGO EQUAL MTD MOUNTED EGO EQUAL MTD MODULAR ESTIMATE WHATEN EXTENDED TO CHARLES EYE EXCAVATE EWH ELECTRIC WATER HEATER N NORTH EXT EXTIMATE EXT EXTENDED FOR ELEVATION ON ON CENTER EACH WAY FIRE ALARM OBS OBS OBSCURE FOR OPEN WEB JOIST FILE FIRE EXTINGUISHER ASINET OP OP OPAQUE OVER HEAD  FIRE EXTINGUISHER BEINET OP OPPOSITE HAND OPEN WEB JOIST FILE FINISHED FLOOR ELEVATION OP OPEN WEB JOIST FILE FILE FILE FILE FILE FILE FILE FILE	STD	STANDARD
CONST CONSTRUCTION  CSMT CASEMENT  LI LIVE LOAD  LIFT LIGHT  DEPT DEPARTMENT  DH DOUBLE HUNG  DIA DIAMETER  MAS MASONRY  DIM DIMENSION  MATL MATERIAL  DN DOWN  DS DOWNSPOUT  DW DISHWASHER  MECH MECHANICAL  DWG DRAWING  MEMB MEMBRANE  E EAST MER MARE MANUFACTURER  EA EACH MH MAN HOLE  EB EXPANSION BOLT MICRO MICROWAVE  EJ EXPANSION JOINT MIN MINIMUM  ELEC ELECTRIC/ELECTRICAL  ELEC ELECTRIC/ELECTRICAL  EMER EMERGENCY  ENTE ENTRANCE  MOD MASONRY  MILWORK  ENT ENTRANCE  MOD MASONRY  DOWNS MAY  MILWORK  MILWORK  ENT ENTRANCE  MOD MASONRY  DOWNS MAY  MILWORK  MODULIAR  EGPT EQUIPMENT MIL METAL  ESTIM ESTIMATE MULT MULTIPLE  EWC ELECTRIC WATER COOLER  EWH ELECTRIC WATER MOD NOMINAL  EXF EXHAUST NOM NOMINAL  EXF EXCAVATE  FA FIRE ALARM  OBS OBSCURE  FOO PURNISHED BY OWNER  OCEW ON CENTER EACH WAY  POPOSITE HAND  FE FIRE EXTINGUISHER  OPP OPPOSITE  FOO POPOSITE  FING FIRE EXTINGUISHER  OPP OPPOSITE  FING FIRE EXTINGUISHER  OPP OPPOSITE  FINISH FLOOR  FINISH FLOOR  FINISHED FLOOR LIEVATION  FINISHED FLOOR LIEVATION  FINISHED FLOOR LIEVATION  FINISHED FINISHED FLOOR LIEVATION  FINISHED FLOOR LIEVATION  FINISHED FLOOR LIEVATION  FINISHED FLOOR LIEVATION  FOO PARTITION  FRECAST  PARTITION  PART BAPALLEL  FROM PARTITION  PART BAPALLEL  FROM PART BAPALLEL  FROM PARTITION  FRECAST  PONNOS PER CUBIC FOOT  FRECAST  FOO PRECAST  FOO PRECAST  FOO PRECAST  FOO PRECAST  FOO PRECAST  FOO PONNOS PER CUBIC FOOT	STL	STEEL
CSMT CASEMENT LL LL LIVE LOAD  DEPT DEPARTMENT LT LIGHT  LIGHT  LIGHT LIGHT  MAX MAXIMUM  AMAX MAXIMUM  AMAX MAXIMUM  AMAX MAXIMUM  AMACHINE  BMECH  MECH  MECH  MECH  MECH  MICH	STOR STRUCT	STORAGE STRUCTURAL
DEPT DEPARTMENT DH DOUBLE HUNG DIA DIAMETER MAS MASONRY DIM DIMENSION MATL MATERIAL DN DOWN DS DOWNSPOUT MB MACHINE BOLT DW DISHWASHER MECH MECHAMEMBRANE DWG DRAWING MEMB MEMBRANE E EAST MFR MEZZ MEZZANINE E EAST MFR MANUFACTURER EB EXPANSION BOLT MICRO MICROWAVE EJ EXPANSION JOINT MIN MINIMUM EL ELEVATION MIR MISC MISCELLANEOUS ELEV ELEVATION MIR MISC MISCELLANEOUS ELEV ELEVATION/ELEVATOR MLD MOULDING ENT ENTRANCE MOD MODULAR ENT ENTRANCE MOD MODULAR EQPT EQUIPMENT MIL METAL ESTIM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER COOLER EXPANSION MIR MID MOUNTED EXC EXCAVATE NAT NATURAL EXT EXTERIOR  FA FIRE ALARM OBS OBSCURE FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBD FIBER BOARD OC ON CENTER FBD FIBER BOARD OC ON CENTER FBC FIRE BRICK OD OPPONOTE FF ENTINGHER OPPONOTE FF EF ERICK OPPONOTE FF EINISHED FLOOR BLINE FF ET ENTINGHER FF ET ENTRENET FF ET ENTRENET FF ENTINGHER FF ET ENTRENET FF ENTINGHER FF ET ENTRENET FF ENTINGHER FF EN	SUSP	SUSPENDED
DH DOUBLE HUNG DIA DIAMETER DIA DIAMETER MAS MASONRY DIM DIMENSION MATL MATERIAL MATERIAL DN DOWN DS DOWNSPOUT MB MACHINE BOLT DW DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEMBRANE MEZZ MEZZAININE E EAST MER MAN HOLE EB EXPANSION BOLT MICRO MICROWAVE EJ EXPANSION JOINT MIN MINIMUM EL ELECTRIC/ELECTRICAL MISC MISCELLANEOUS ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS EMER EMERGENCY MLWK MILLWORK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQ EQUAL EGUIPMENT MIL METAL ESTIM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXT EXHAUST NOM NOMINAL EXT EXHAUST NOM NOMINAL EXT EXHAUST NOM NOMINAL EXT EXTERIOR FIBER BOARD FIBER BOARD FOC FIRE BRICK FO FIBER BOARD FOC FIRE BRICK FO FIRE STINGUISHER OPP FOR POPOSITE HAND FIFE ETINGUISHER FOC FIRE EXTINGUISHER CABINET FOR FIRE EXTINGUISHER OPP FOR POPOSITE HAND FIFE FIRE EXTINGUISHER OPP FOR POPOSITE HAND FIFE FIRE EXTINGUISHER OPP FOR OPPOSITE HAND FIFE FINISHED FLOOR ELEVATION FIRE FIRE EXTINGUISHER OPP FOR OPPOSITE HAND FIFE FINISHED FLOOR ELEVATION FIRE FIRE EXTINGUISHER OPP FOR OPPOSITE HAND FIFE FINISHED FLOOR ELEVATION FOC FACE OF CONCRETE FOR PART PARTICLE BOARD FOC FACE OF CONCRETE FOR PART PARTICLE BOARD FOC FACE OF CONCRETE FOR PARTICLE BOARD FOR PARTICLE BOA	SYM	SYMMETRICAL
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DIM DIMENSION MAX MAXIMUM DN DOWN DN DOWN DN DOWNSPOUT MB MAX MAXIMUM DS DOWNSPOUT MB MACHINE BOLT DW DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEMB MEMBRANE E EAST MEZZ MEZZANINE E E EAST MFR MANUFACTURER EA EACH MH MAN HOLE EB EXPANSION BOLT MICRO MICROWAVE ELE ELEVATION MIN MIN MINIMUM EL ELEVATION MIR MIRCOR MISCOLORY ELEC ELECTRICAL MISC MISCELLANEOUS ELEC ELECTRICAL MISC MISCELLANEOUS ELEV ELEVATION/ELEVATOR MLD MOULDING EMER EMERGENCY MLWK MILLWORK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQ EQUAL MTD MOUNTED EQ EQUAL MTD MOUNTED EQPT EQUIPMENT MTL METAL ESTIM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FA FIRE BOARD OC ON CENTER FBO FURNISHED BY OWNER OCC WON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FF FINISHED FIEC FIRE EXTINGUISHER OPP OPPOSITE HAND FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FIN FINISHED FIXT FIXTURE FIRE EXTINGUISHER PAR PARTITION FINISHED FIXT FIXTURE FIRE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FIN FINISHED FLOOR PART BD PARTICLE BOARD FINDN FOUNDATION PC FRECAST FOUNDS PER CUBIC FOOT	313	3131EM
DS DOWNSPOUT MB MACHINE BOLT DWG DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEMB MEMBRANE  E E EAST MFR MANUFACTURER EA EACH MH MAN HOLE EB EXPANSION BOLT MICRO MICROWAVE EL ELEVATION MIN MIN MINIMUM EL ELEVATION MIR MIRROR ELEV ELEVATION MIR MIRROR ELEV ELEVATION/ELEVATOR MILD MOULDING EMER EMERGENCY MLWK MILLWORK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQT EQUIL MTD MOUNTED EQT EQUIPMENT MIL METAL ESTIM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXF EXHAUST NOM NOMINAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBO FURNISHED BY OWNER OC ON CENTER EACH WAY FBRK FIRE BRICK OD ON ON CENTER EACH WAY FBRK FIRE BRICK OD ON ON CENTER EACH WAY FBRK FIRE BRICK OD ON ON CENTER EACH WAY FBRK FIRE BRICK OD ON ON CENTER EACH WAY FBRK FIRE BRICK OD ON ON CENTER EACH WAY FBRK FIRE BRICK OD ON ON CENTER EACH WAY FBRK FIRE BRICK OD ON CENTER EACH WAY FBRK FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFI FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	TAN	TANGENT
DW DISHWASHER MECH MECHANICAL DWG DRAWING MEMB MEMBRANE  REZZANINE  E E EAST MEZZANINE  EA EACH MH MAN HOLE  BB EXPANSION BOLT MICRO MICROWAVE  EJ EXPANSION JOINT MIN MINIMUM  EL ELEVATION MIR MIRROR  ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS  ELEV ELEVATION/ELEVATOR MLD MOULDING  EMER EMERGENCY MLWK MILWORK  ENC ENCLOSURE MO MASONRY OPENING  ENT ENTRANCE MOD MOUNTED  EQT EQUAL MITD MOUNTED  EGPT EQUIPMENT MIL METAL  ESTIM ESTIMATE MULT MULTIPLE  EWC ELECTRIC WATER COOLER  EWH ELECTRIC WATER HEATER N NORTH  EXC EXCAVATE NAT NATURAL  EXF EXHAUST FAN NIC NOT IN CONTRACT  EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE  FBD FIBER BOARD OC ON CENTER  FBD FIBER BOARD OC ON CENTER EACH WAY  FBRK FIRE BRICK OD OUTSIDE DIAMETER  FBD FIBER BOARD OPPOSITE  FFC FIRE EXTINGUISHER OPP OPPOSITE HAND  FFF FINISHED FLOOR LINE  FFF FINISHED FLOOR LINE  FFF FINISHED FLOOR LINE  FFL FINISHED FLOOR LINE  FFL FINISHED FLOOR LINE  FFL FINISHED FLOOR LINE  FFL FINISHED FLOOR LINE  FOC FACE OF CONCETTE  FOC FACE OF CONCETTE  FOC FACE OF CONCETTE  FOC FACE OF CONCETTE  FCF POUNDS FER CUBIC FOOT	TAS	TEXAS ACCESSIBILITY
DWG DRAWING MEMB MEMBRANE  E EAST MFR MANUFACTURER  EA EACH MH MAN HOLE  EB EXPANSION BOLT MICRO MICROWAVE  EJ EXPANSION JOINT MIN MINIMUM  EL ELEVATION MIR MIRCOR  ELEV ELEVATION, MIR MISC MISCELLANEOUS  ELEV ELEVATION, ELEVATOR MLD MOULDING  EMER EMERGENCY MLWK MILLWORK  ENC ENCLOSURE MO MASONRY OPENING  ENT ENTRANCE MOD MODULAR  EQ EQUAL MTD MOUNTED  EQPT EQUIPMENT MIL METAL  ESTIM ESTIMATE MULT MULTIPLE  EWC ELECTRIC WATER COOLER  EWH ELECTRIC WATER HEATER N NORTH  EXC EXCAVATE NAT NATURAL  EXF EXHAUST FAN NIC NOT IN CONTRACT  EXH EXHAUST FAN NIC NOT IN CONTRACT  EXH EXHAUST FAN NOM NOMINAL  EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE  FBD FIBER BOARD OC ON CENTER  FBD FIBER BOARD OPPOSITE HAND  FFE FINISHED FLOOR LIEVATION OWJ OPPON WEB JOIST  FFI FINISHED FLOOR LIEVATION OWJ OPPON WEB JOIST  FOC FACE OF CONCRETE PCF POUNDS PE	TECH	STANDARDS TECHNICAL
E EAST MFR MANUFACTURER EA EACH MH MAN HOLE EB EXPANSION BOLT MICRO MICROWAVE EJ EXPANSION JOINT MIN MINIMUM EL ELEVATION MIR MIR MIROR ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS ELEV ELEVATION/ELEVATOR MLD MOULDING EMER EMERGENCY MLWK MILLWORK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQPT EQUIPMENT MTL METAL ESTIM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBC FUNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FCONNECTION FF FINISH ELOOR ELEVATION OWJ OPEN ING FF FIRE STINGUISHER OPP OPPOSITE FF FINISH FLOOR ELEVATION OWJ OPEN WBB JOIST FF FINISH ELOOR LINE FINISHED FLOOR ELEVATION OWJ OPEN WBB JOIST FINISHED FLOOR ELEVATION OWJ OPEN WBB JOIST FIX FIXINGE FIX FIXINGUISHER PART PARTITION FIX FIXINGE FIX FIXINGE FIX FIXINGUISHER PART PARTITION FIX FIXINGE FIX FIXINGE FIX FINISHED FLOOR LINE FIX FIXINGE FIX FIX FIXINGE FIX FIX FI	TELE	TELEPHONE
EA EACH EB EXPANSION BOLT EJ EXPANSION JOINT MICROWAVE EJ EXPANSION JOINT MIR MIRON MILON MICON MILON	T&G	TONGUE AND GROOVE
EB EXPANSION BOLT EJ EXPANSION JOINT MIN MINIMUM EL ELEVATION MIR MIRROR ELEC ELECTRIC/ELECTRICAL MISC MISCELLANEOUS ELEV ELEVATION/ELEVATOR MID MOULDING EMER EMERGENCY MILWORK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MOUNTED EQT EQUAL MID MOUNTED EQT EQUAL MID MOUNTED EQT EQUAL MID MOUNTED EWE ELECTRIC WATER COOLER EWH ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FDC FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FDC FIRE EXTINGUISHER OP OPPOSITE FF FINISH FLOOR ORIGINAL FF F FINISH FLOOR ORIGINAL FF F FINISH FLOOR ORIGINAL FIRE FINISHED FLOOR LINE FINISHED FLOOR LINE FINISHED FLOOR LINE FINISHED FLOOR LINE FIX FIXER PART PARTITION FINISHED FLOOR LINE FIX FIXER PARALLEL FIXER FLOOR PART PARTITION FOUNDATION FOL FIXER FLOOR PART PARTITION FIXER FLOOR PARTITION FOL FRECONTER COBINCT FOL FACE OF CONCETTE FOL PARTITION FOL PARTITION FOL PARTITION FOL PRECAST FOL PARTITION FOL PA	THK THRES	THICK THRESHOLD
ELL ELECTRIC/ELECTRICAL ELEC ELECTRIC/ELECTRICAL ELEC ELECTRIC/ELECTRICAL ELEV ELEVATION/ELEVATOR EMER EMER EMERGENCY MLWK MILLWORK ENC ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQ EQUAL MTD MOUNTED EQPT EQUIPMENT MTL ESTM ESTIMATE WC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER EWC ELECTRIC WATER HEATER EXC EXCAVATE EXH EXHAUST NOM NOMINAL EXT EXT EXTERIOR  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FFC FIRE DEPARTMENT OP OPPOSITE FFC FIRE EXTINGUISHER FFC FIRE EXTINGUISHER FFC FIRE EXTINGUISHER FFF FINISH FLOOR FFL FINISHED FLOOR LINE FIL FIXTURE FINISHED FLOOR LINE FIXTURE FLOOR FRACE FINISHED FLOOR LINE FIX FIRE ALARD FOC FRECAST FROM OPP OPPOSITE FFL FINISHED FLOOR LINE FIX FIXTURE FLOOR FRACE FROM FRACE FRECAST FROM PARTIBD PARTITION FFC FRECAST FOC FACE OF CONCETE	TLT	TOILET
ELEC ELECTRIC/ELECTRICAL ELEV ELEVATION/FLEVATOR MID MOULDING  EMER EMERGENCY MLWK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQT EQUAL MTD MOUNTED  EQT EQUIPMENT MIL METAL ESTIM ESTIMATE MULT MULTIPLE  EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH  EXC EXCAVATE NAT NATURAL  EXF EXHAUST FAN NIC NOT IN CONTRACT  EXH EXHAUST NOM NOMINAL  EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE  FBD FIBER BOARD OC ON CENTER EACH WAY  FBBK FIRE BRICK OD OUTSIDE DIAMETER  FD FLOOR DRAIN OH OVERHEAD  FDC FIRE DEPARTMENT OP OPAQUE  CONNECTION  FEC FIRE EXTINGUISHER ABINET OPP OPPOSITE  FFC FIRE EXTINGUISHER OPP OPPOSITE  FFC FIRE EXTINGUISHER OPP OPPOSITE  FFF FINISH FLOOR ELEVATION OWJ OPEN WEB JOIST  FFL FINISHED FLOOR ELEVATION OPC  FIXTURE  FLOOR PART BD PARTICLE BOARD  FIX FIXTURE  FLOOR PART BD PARTICLE BOARD  FIX FIXTURE  FLOOR PART BD PARTICLE BOARD  FOC FACE OF CONCRETE  FOC FACE OF CONCRETE	TOB	TOP OF BLOCK
ELEV ELEVATION/ELEVATOR MLD MOULDING EMER EMERGENCY MLWK MILLWORK ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQ EQUAL MTD MOUNTED EQPT EQUIPMENT MTL METAL ESTIM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXF EXHAUST FAN NIC NOT IN CONTRACT EXH EXHAUST NOM NOMINAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBD FIBER BOARD OC ON CENTER FBC FUNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER OPP OPPOSITE FFC FINISH ELOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR ELEVATION OPPOSITE PART PARTITION FIX FIXTURE FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOOC FACE OF CONCRETE	TOC	TOP OF MASONEY
EMER ENC ENCLOSURE ENC ENCLOSURE MO MASONRY OPENING ENT ENTRANCE MOD MODULAR EQ EQ EQUAL MTD MOUNTED EQPT EQUIPMENT ESTIMATE EWC ELECTRIC WATER COOLER EWH ELLECTRIC WATER HEATER EXC EXCAVATE EXF EXHAUST FAN NIC EXT EXTERIOR  FA FIRE ALARM FBD FIBER BOARD FBD FIBER BOARD FOC FOR FOR FOC FIRE DEPARTMENT OP OPPOSITE FA FIRE EXINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER FEC FIRE EXTINGUISHER FEC FINISHED BLOOR ELEVATION FFL FINISHED FOC FACE OF CONCRETE FOC FOC FACE OF CONCRETE FOC FOC FACE OF CONCRETE FOC FOC MOD MASONRY OMA MOD MASONRY OPENING MOD MASONRY OPENING MOD	TOP	TOP OF MASONRY TOP OF PARAPET
ENT ENTRANCE EQUAL MTD MODULAR EQ EQUAL MTD MOUNTED EQPT EQUIPMENT MTL METAL ESTM ESTIMATE MULT MULTIPLE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXF EXHAUST FAN NIC NOT IN CONTRACT EXH EXHAUST NOM NOMINAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER CABINET OPP OPPOSITE FFE FINISH FLOOR LEVATION OWJ OPEN WEB JOIST FFI FINISHED FLOOR LINE FIX FIXTURE PAR PARALLEL FLOUR FLOOR ELEVATION ON FIXTURE FIXT FIXTURE PAR PARTITION FIXT FIXTURE FIXT FLOOR PARTITION FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	TOPL	TOP OF PLATE
EQ EQUAL EQPT EQUIPMENT MTL METAL ESTM ESTIMATE MULT MULTIPLE  EWC ELECTRIC WATER COOLER  EWH ELECTRIC WATER HEATER N NORTH  EXC EXCAVATE NAT NATURAL  EXF EXHAUST FAN NIC NOT IN CONTRACT  EXH EXHAUST NOM NOMINAL  EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE  FBD FIBER BOARD OC ON CENTER EACH WAY  FBRK FIRE BRICK OD OUTSIDE DIAMETER  FD FLOOR DRAIN OH OVERHEAD  FDC FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER OPP OPPOSITE  FFE FINISH FLOOR CARDINAL  FFE FINISH FLOOR ORIG ORIGINAL  FFE FINISH FLOOR ORIG ORIGINAL  FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST  FFI FINISHED FLOOR LINE  FIXT FIXTURE PAR PARAILEL  FLOUR FLOURESCENT PART PARTITION  FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	TOS	TOP OF STEEL
EQPT EQUIPMENT MTL MULT ESTIM ESTIMATE EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER EXC EXCAVATE EXF EXHAUST FAN EXH EXHAUST EXT EXTERIOR  FA FIRE ALARM FBD FIBER BOARD FBD FIBER BOARD FDC FIRE BERICK FD FLOOR DRAIN FFC FIRE EXTINGUISHER FEC FIRE EXTINGUISHER FEC FIRE EXTINGUISHER CABINET FF FINISH FLOOR FF FINISHED FLOOR ELEVATION FILE FINISHED FLOOR LINE FIXT FIXTURE FIND FIRE BOARD FIRE BOARD FOC PARAILEL FIXTOPPOSITE FI	TOSL TOW	TOP OF SLAB TOP OF WALL
EWC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXF EXHAUST FAN NIC NOT IN CONTRACT EXH EXHAUST NOM NOMINAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER CABINET OPP OPPOSITE FFF FINISH FLOOR ORIG ORIGINAL FFF FINISH FLOOR LEEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR LINE FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART DO PARTICLE BOARD FNDN FOUNDATION PC FNDN FOUNDATION PC FNDN FOUNDATION PC FRECAST FOC FACE OF CONCRETE	TRANS	TRANSFORMER
EWH ELECTRIC WATER HEATER N NORTH EXC EXCAVATE NAT NATURAL EXF EXHAUST FAN NIC NOT IN CONTRACT EXH EXHAUST NOM NOMINAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION OPNG OPENING FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER OPP OPPOSITE FFE FINISH FLOOR ELEVATION OWJ OPEN WEB JOIST FFI FINISHED FLOOR LINE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FILR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE	TS	TUBE STEEL
EXC EXCAVATE EXF EXHAUST FAN EXH EXHAUST EXT EXTERIOR  FA FIRE ALARM FBD FIBER BOARD FBC FIRE BRICK FD FLOOR DRAIN FC FIRE EXTINGUISHER FEC FIRE EXTINGUISHER CABINET FEC FIRE EXTINGUISHER CABINET FFF FINISH FLOOR FINISHED FLOOR LINE FINISHED FIXT FIXTURE FIXTURE FLOOR FIXTURE FLOOR FIXE FINISHED FIXT FIXTURE FLOOR FIXE FLOOR FIX	TV TYP	TELEVISION TYPICAL
EXF EXHAUST FAN NIC NOT IN CONTRACT EXH EXHAUST NOM NOMINAL EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE FBD FIBER BOARD OC ON CENTER FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION OPNG OPENING FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER OPP OPPOSITE HAND FF FINISH FLOOR CABINET OPP HD OPPOSITE HAND FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FILR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE	HE	THICAL
EXT EXTERIOR NTS NOT TO SCALE  FA FIRE ALARM OBS OBSCURE  FBD FIBER BOARD OC ON CENTER  FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY  FBRK FIRE BRICK OD OUTSIDE DIAMETER  FD FLOOR DRAIN OH OVERHEAD  FDC FIRE DEPARTMENT OP OPAQUE  CONNECTION OPNG OPENING  FE FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER OPP OPPOSITE  FFE FINISH FLOOR ORIG ORIGINAL  FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST  FFL FINISHED  FIXT FIXTURE PAR PARALLEL  FLOUR FLOURESCENT PART PARTITION  FUR FLOOR PART BD PARTICLE BOARD  FNDN FOUNDATION PC PRECAST  FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	UBC	UNIFORM BUILDING CODE
FA FIRE ALARM OBS OBSCURE  FBD FIBER BOARD OC ON CENTER  FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY  FBRK FIRE BRICK OD OUTSIDE DIAMETER  FD FLOOR DRAIN OH OVERHEAD  FDC FIRE DEPARTMENT OP OPAQUE  CONNECTION OPNG OPENING  FE FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND  FF FINISH FLOOR ORIG ORIGINAL  FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST  FFL FINISHED FLOOR LINE OZ OUNCE  FIN FINISHED  FIXT FIXTURE PAR PARALLEL  FLOUR FLOURESCENT PART PARTITION  FLR FLOOR PART BD PARTICLE BOARD  FNDN FOUNDATION PC PRECAST  FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	UNFIN UNO	UNFINISHED UNLESS NOTED OTHERWISE
FBD FIBER BOARD OC ON CENTER FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION OPNG OPENING FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND FF FINISH FLOOR ORIG ORIGINAL FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR LINE OZ OUNCE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	UR	URINAL
FBO FURNISHED BY OWNER OCEW ON CENTER EACH WAY FBRK FIRE BRICK OD OUTSIDE DIAMETER FD FLOOR DRAIN OH OVERHEAD FDC FIRE DEPARTMENT OP OPAQUE CONNECTION OPNG OPENING FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND FF FINISH FLOOR ORIG ORIGINAL FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR LINE OZ OUNCE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT		
FBRK FIRE BRICK  FD FLOOR DRAIN  FDC FIRE DEPARTMENT  CONNECTION  FE FIRE EXTINGUISHER  FEC FIRE EXTINGUISHER CABINET  FF FINISH FLOOR  FF FINISHED FLOOR ELEVATION  FFL FINISHED  FIXT FIXTURE  FLOUR FLOURESCENT  FLOOR  FLOOR  FLOOR  FLOOR  FLOOR  FACE OF CONCRETE  FOC  FOC  FACE OF CONCRETE   OD  OUTSIDE DIAMETER  OH  OVERHEAD  OPPAQUE  OPPAQUE  OPPAQUE  OPPAGUE  OPPAGUE  OPPOSITE  OPP OPPOSITE  OPPOSITE HAND  OPEN WEB JOIST  OUNCE  OUNCE  FIN FINISHED  PAR  PARALLEL  PART  PARTITION  PARTITION  FLR  FLOOR  PART BD  PARTICLE BOARD  FNDN  FOC  FACE OF CONCRETE	VB	VAPOR BARRIER
FD FLOOR DRAIN OH OVERHEAD  FDC FIRE DEPARTMENT OP OPAQUE  CONNECTION OPNG OPENING  FE FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND  FF FINISH FLOOR ORIG ORIGINAL  FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST  FFL FINISHED OZ OUNCE  FIN FINISHED  FIXT FIXTURE PAR PARALLEL  FLOUR FLOURESCENT PART PARTITION  FLR FLOOR PART BD PARTICLE BOARD  FNDN FOUNDATION PC PRECAST  FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	VAR VERT	VARIES VERTICAL
CONNECTION  FE FIRE EXTINGUISHER OPP OPPOSITE  FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND  FF FINISH FLOOR ORIG ORIGINAL  FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST  FFL FINISHED FLOOR LINE OZ OUNCE  FIN FINISHED  FIXT FIXTURE PAR PARALLEL  FLOUR FLOURESCENT PART PARTITION  FLR FLOOR PART BD PARTICLE BOARD  FNDN FOUNDATION PC PRECAST  FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	VENT	VENTILATION
FE FIRE EXTINGUISHER OPP OPPOSITE FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND FF FINISH FLOOR ORIG ORIGINAL FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR LINE OZ OUNCE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	VOL	VOLUME
FEC FIRE EXTINGUISHER CABINET OPP HD OPPOSITE HAND FF FINISH FLOOR ORIG ORIGINAL FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR LINE OZ OUNCE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	WTW	WALL TO WALL
FFE FINISHED FLOOR ELEVATION OWJ OPEN WEB JOIST FFL FINISHED FLOOR LINE OZ OUNCE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	WC	WATER CLOSET
FFL FINISHED FLOOR LINE OZ OUNCE FIN FINISHED FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	WH	WATER HEATER
FIN FINISHED  FIXT FIXTURE PAR PARALLEL  FLOUR FLOURESCENT PART PARTITION  FLR FLOOR PART BD PARTICLE BOARD  FNDN FOUNDATION PC PRECAST  FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	WP W	WATER PROOFING WEST
FIXT FIXTURE PAR PARALLEL FLOUR FLOURESCENT PART PARTITION FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	W/	WITH
FLR FLOOR PART BD PARTICLE BOARD FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	W/O	WITHOUT
FNDN FOUNDATION PC PRECAST FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	WDW	PROVED
FOC FACE OF CONCRETE PCF POUNDS PER CUBIC FOOT	WDW WT	WINDOW WEIGHTPROVED AS NO
FOF	WI	WROUGHT IRON
FOR FACE OF FINISH PED PEDESTAL		DISAPPROVED
FOM FACE OF MASONRY PERIM PERIMETER FOS FACE OF STUD PERM PERMANENT	YD	REVISE & RESUBM
FP FIREPROOF PERP PERPENDICULAR		AUG AUG
FPL FIREPLACE PFL POUNDS PER LINEAL FOOT		/ // //
FRC FIRE RESISTANT COATING PKG PARKING FRT FIRE RETARDANT PL PLATE		COMPOF DEER PARK D
FT FOOT/FEET PL PROPERTY LINE		
FTG FOOTING PLAS PLASTER		
FURR FURRED/FURRING FURN FURNISHED		

INTERIOR FINISHES ABBREVIATIONS

PLASTIC LAMINATE

RAISED FLOORING

**RESINOUS FLOORING** 

RESILIENT FLOORING

SPECIALTY PRODUCTS

STONE/STONE FLOORING

RESILIENT BASE

SOLID SURFACE

**QUARRY TILE** 

PAINT

QT RAF

ACP ACOUSTICAL CEILING PANEL

CONC CONCRETE
CPT CARPET/CARPET TILE
CT CERAMIC TILE

**FURNITURE** 

GL GLB MTL

FAB FABRIC (FURNITURE)
FWC FABRIC WALLCOVERING FABRIC (FURNITURE)

**GLASS BLOCK** 

METAL

GLASS/GLAZING



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BUILDING

ROOM

REST

WOODPPROVED REVISE RESUBMIT

STC STAINED CONCRETE TZ TERRAZZO

VINYL TILE

WDFL WOOD FLOORING

VCT VINYL COMPOSITION TILE

VWC VINYL WALL COVERING

WINDOW TREATMENT

WOOD VENEER/WOOD BASE/ WOOD TRIM

# WEIGHT PROVED AS NOTED WROUGHT IRON DISAPPROVED

GIRLS SOFTBALL RENOVATIONS AT YOUTH SPORTS COMPLEX 407 W X ST. CITY OF DEER PARK, TEXAS CONCESSION PROJECT PHASE BID - 8/3/17

**REVISIONS** 

**PROJECT NUMBER** 16123-00 DATE ISSUED 8/10/2017

SHEET TITLE **ABBREVIATIONS & NOTES** 

Date Received

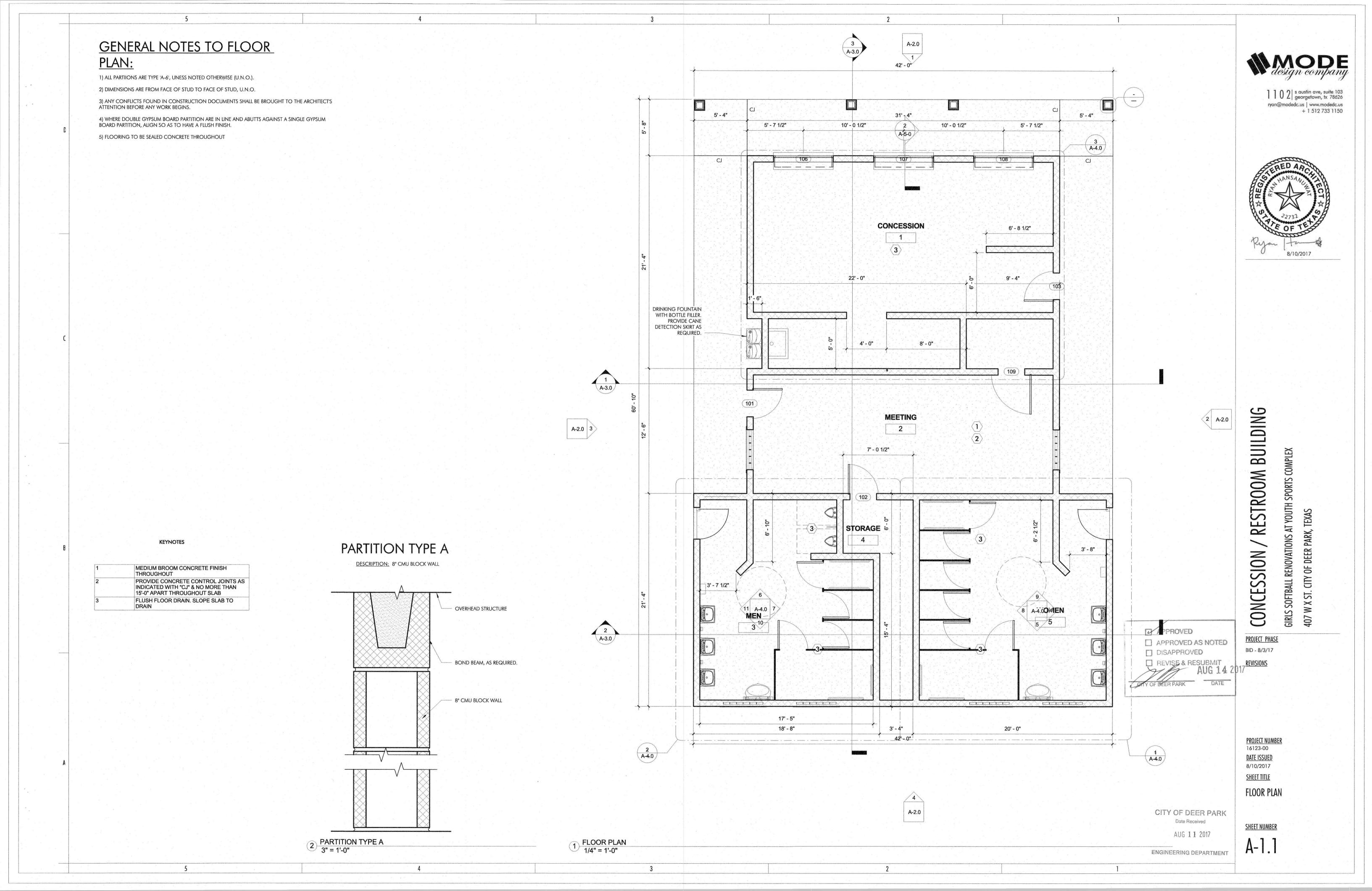
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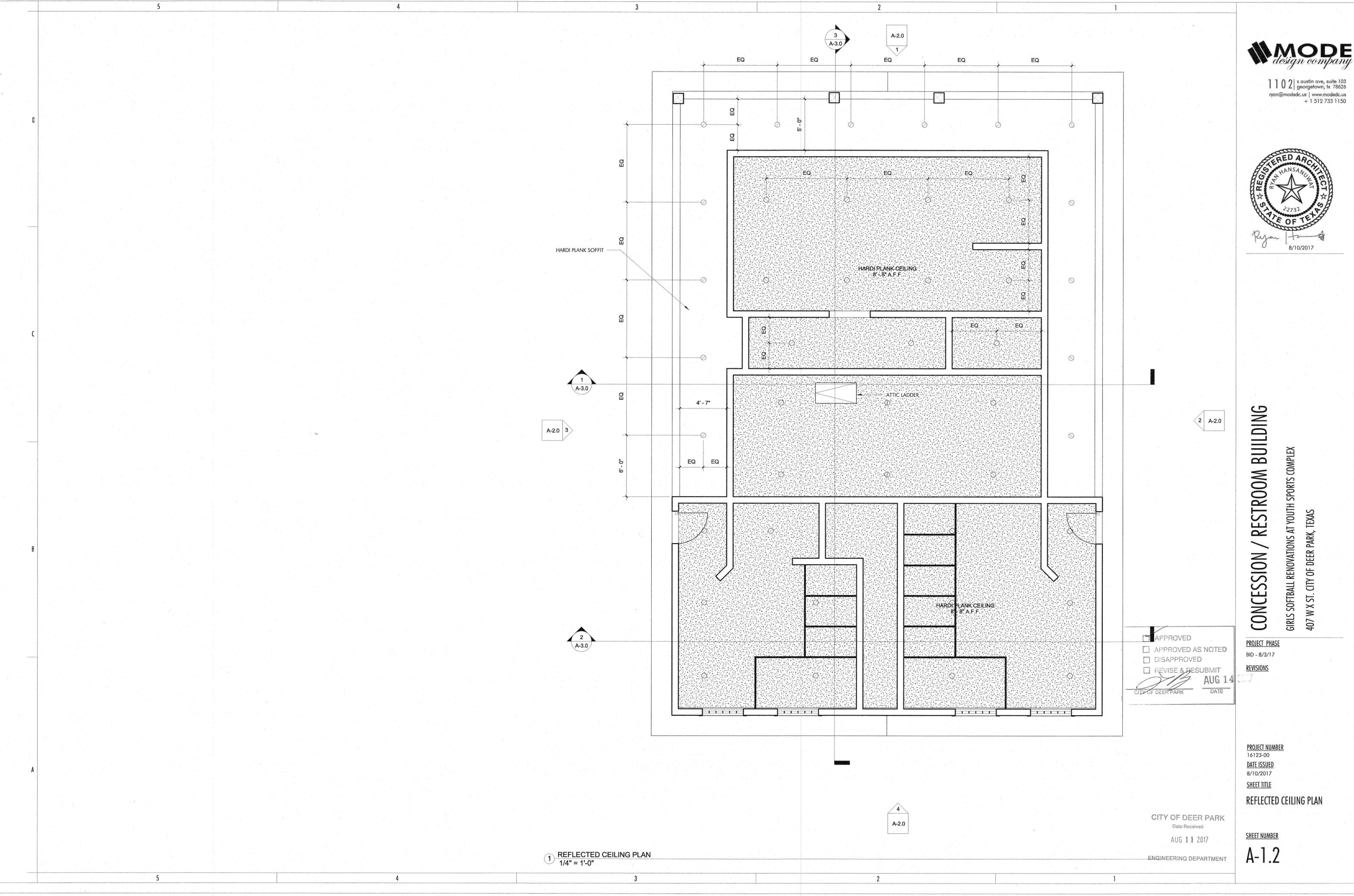
AUG 11 2017

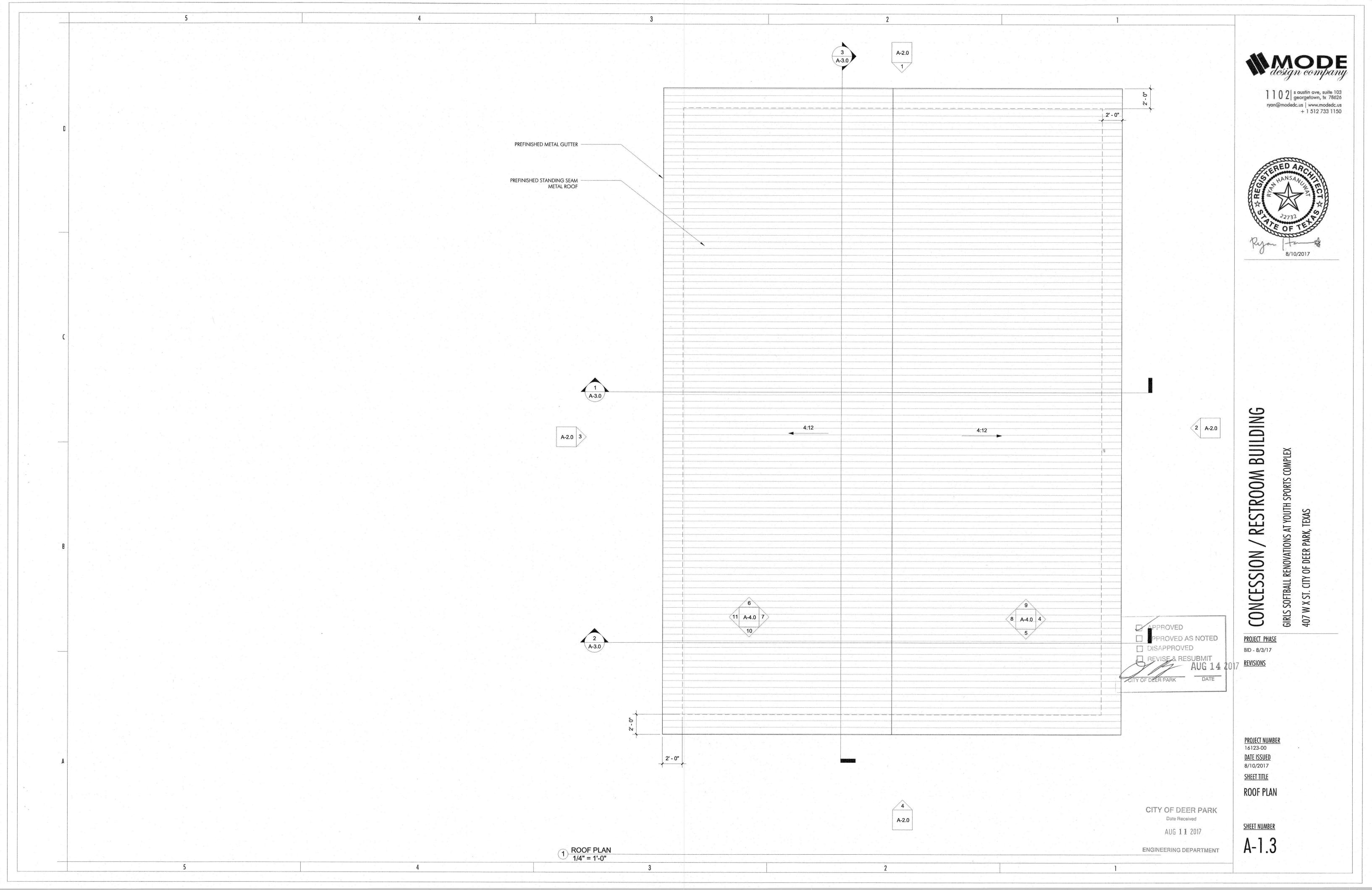
CITY OF DEER PARK

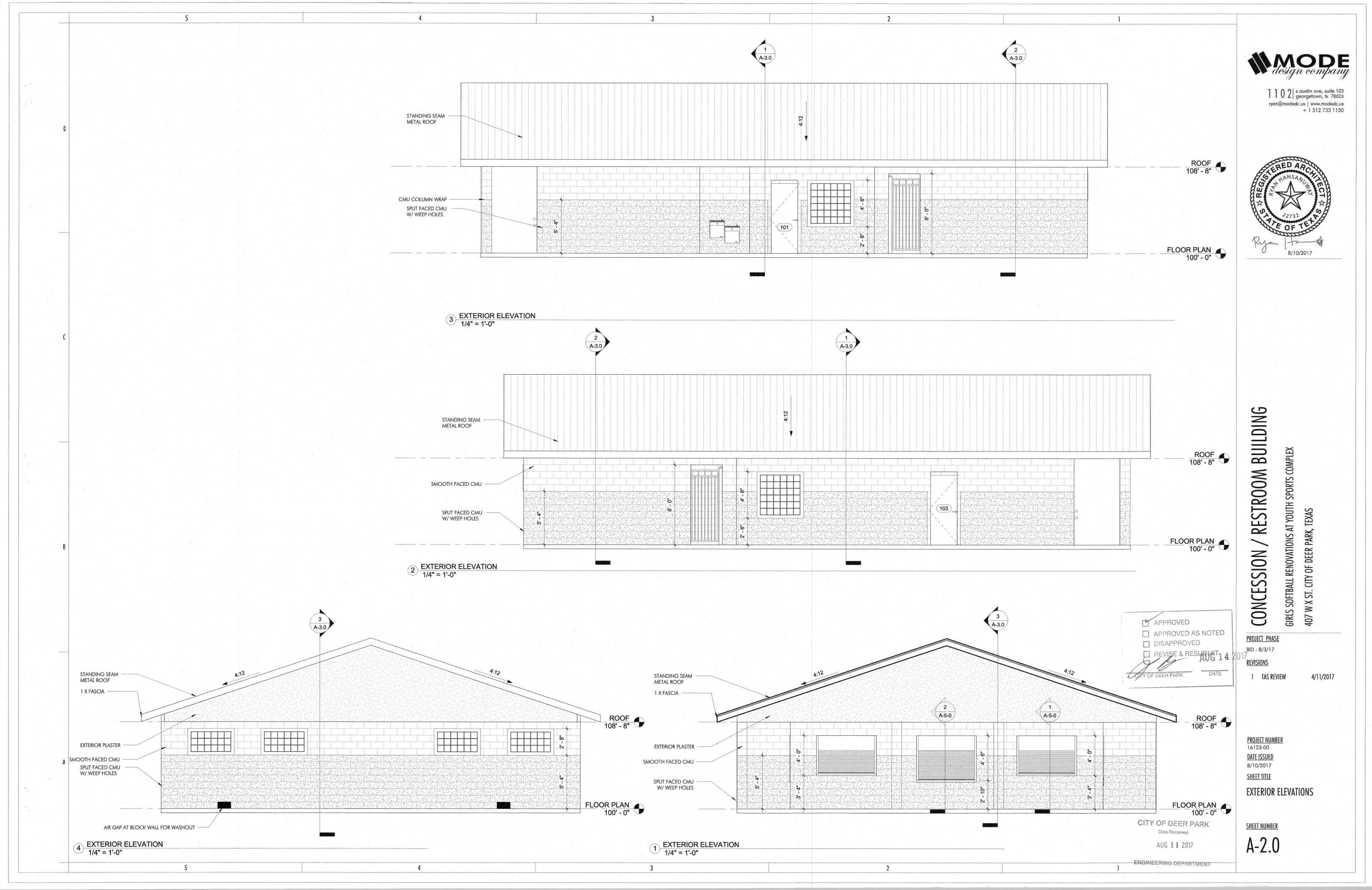
ENGINEERING DEPARTMENT

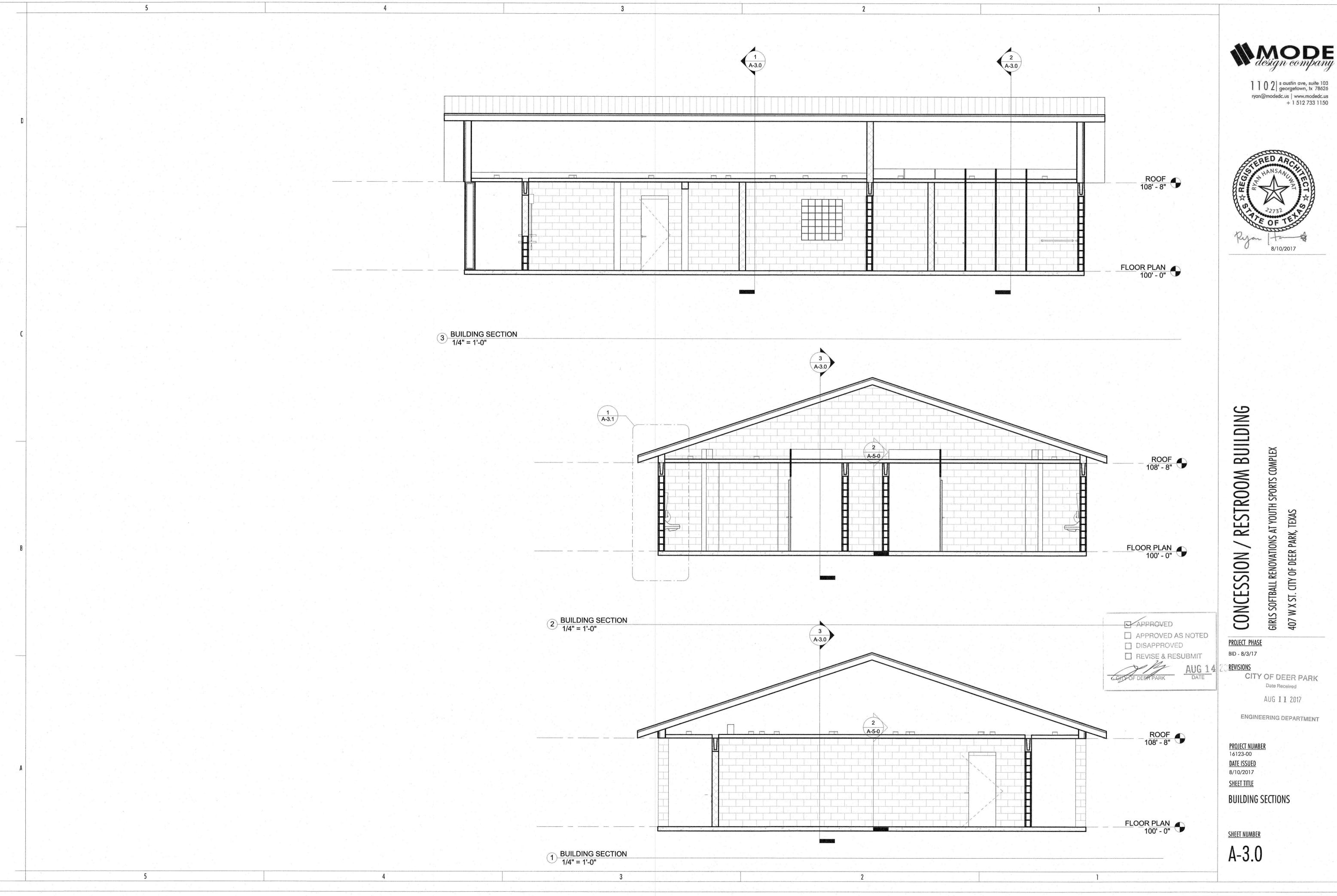
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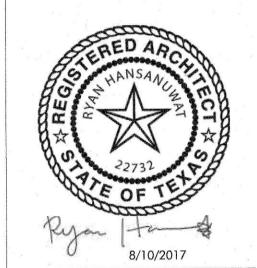






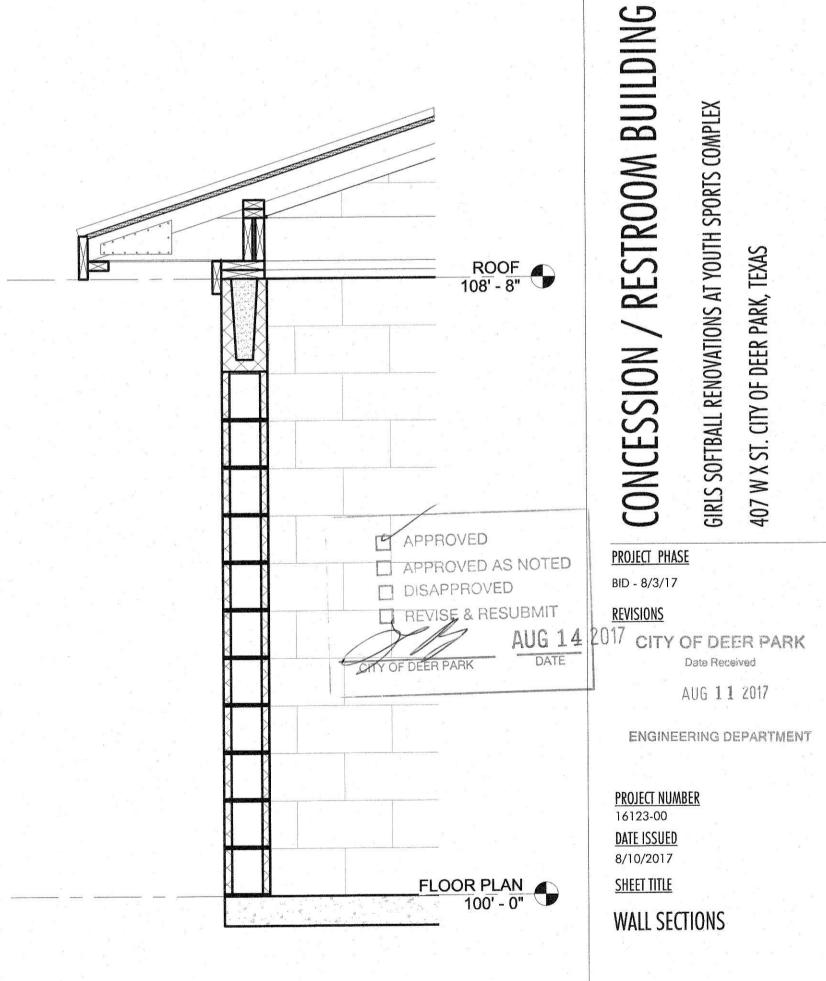






GIRLS SOFTBALL RENOVATIONS AT YOUTH SPORTS COMPLEX 407 W X ST. CITY OF DEER PARK, TEXAS

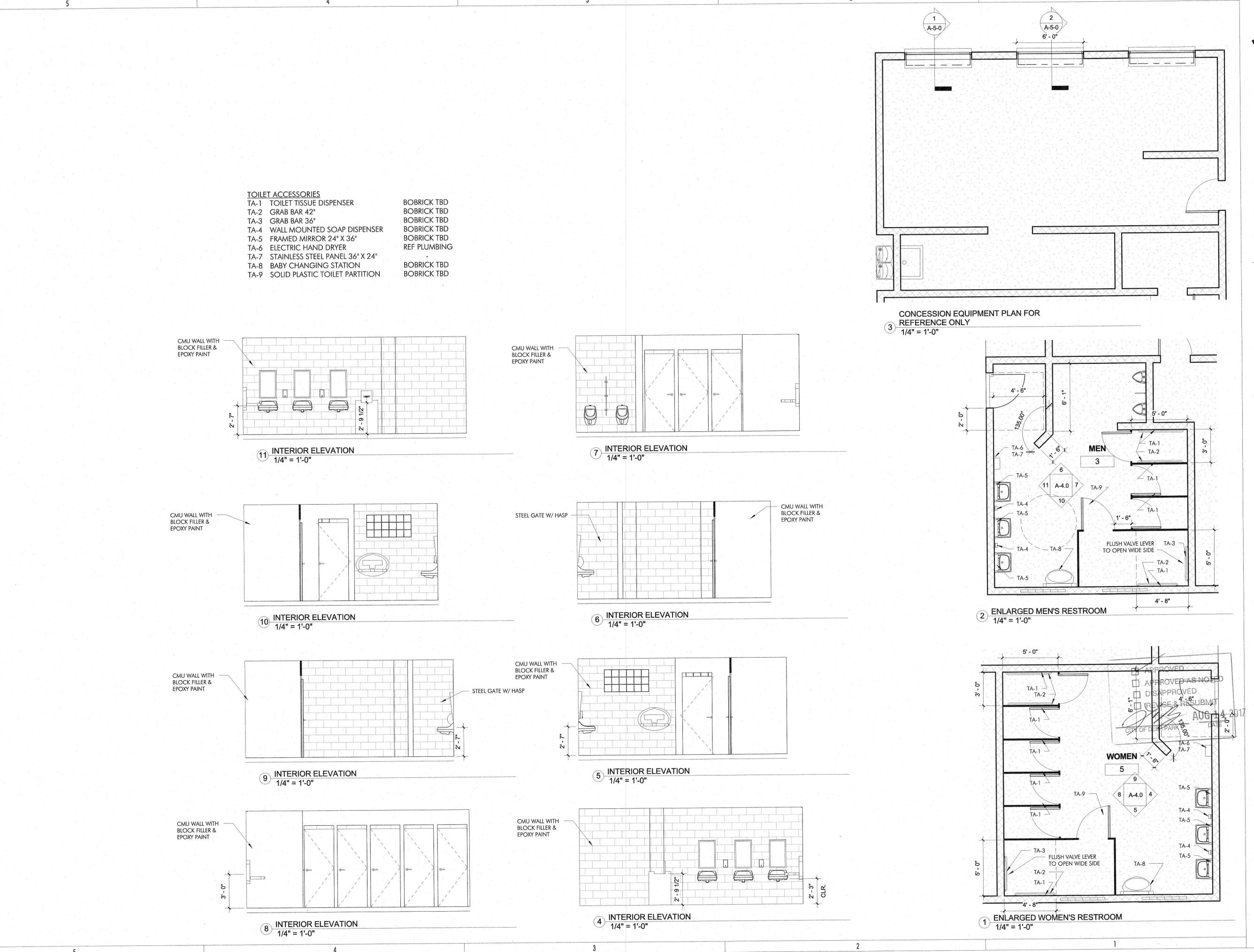
AUG 11 2017



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

SHEET NUMBER

A-3.1



**WMODE**design company

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CONCESSION / RESTROOM BUILDING GIRLS SOFTBALL RENOVATIONS AT YOUTH SPORTS COMPLEX

PROJECT PHASE
BID - 8/3/17

BID - 8/3/17

REVISIONS

1 TAS REVIEW 4/11/2017 CITY OF DEER PARK Date Received

AUG 11 2017

407 W X ST. CITY OF DEER PARK, TEXAS

ENGINEERING DEPARTMENT

PROJECT NUMBER 16123-00 Date Issued

8/10/2017
SHEET TITLE

ENLARGED PLANS / INTERIOR ELEVATIONS

SHEET NUMBER

A-4.0



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# CONCESSION / RESTROOM BUILDING GIRLS SOFTBALL RENOVATIONS AT YOUTH SPORTS COMPLEX

PROJECT PHASE

BID - 8/3/17

<u>REVISIONS</u>

1 TAS REVIEW 4/11/2017

CITY OF DEER PARK
Date Received

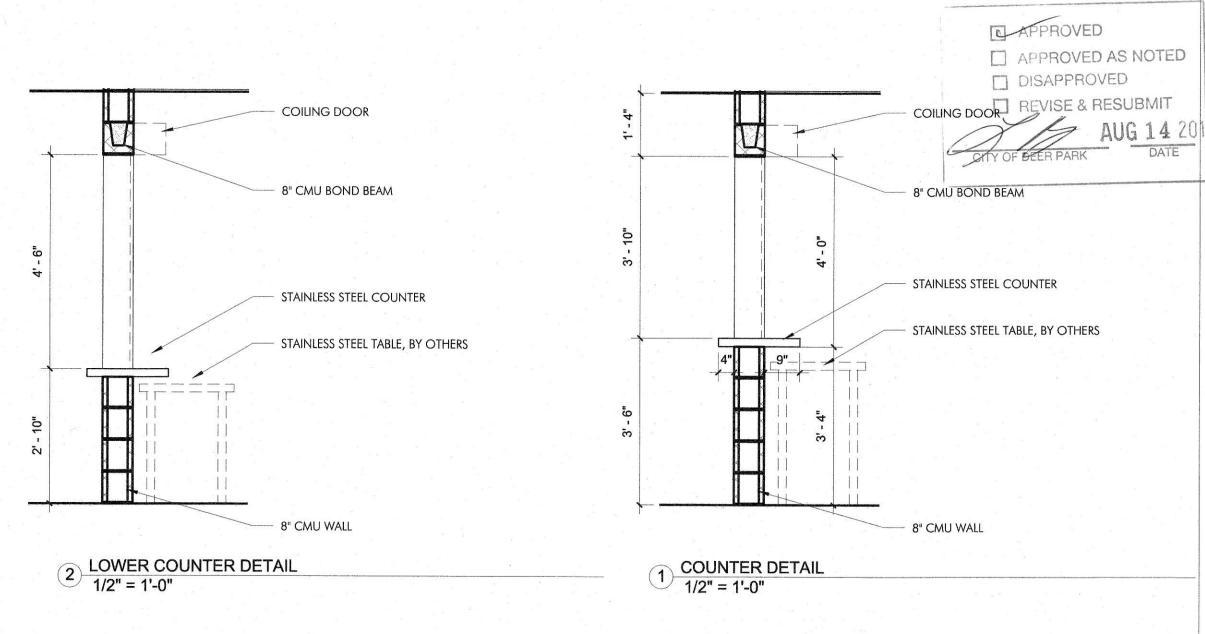
407 W X ST. CITY OF DEER PARK, TEXAS

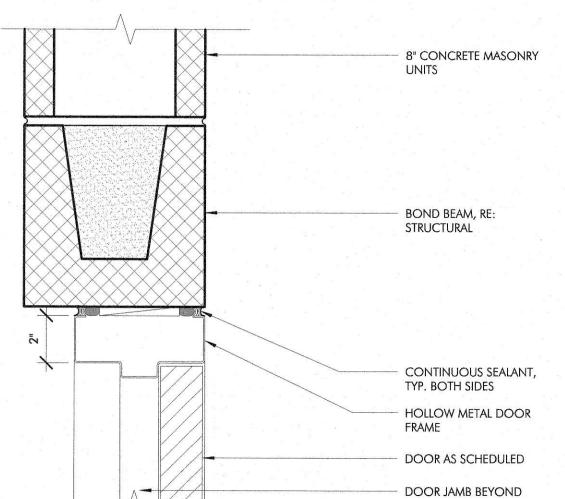
AUG 11 2017

ENGINEERING DEPARTMENT
PROJECT NUMBER
16123-00
DATE ISSUED
8/10/2017
SHEET TITLE

DETAILS

A-5-0





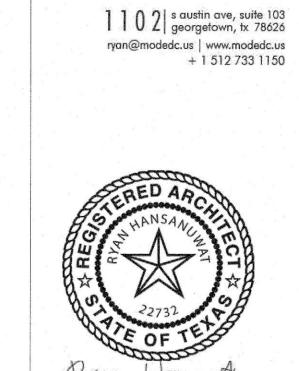
5 HEAD DETAIL 3" = 1'-0"

						DO	OR SO	CHE	DULE
	40.5			DOOR			FRAME		Σ
MARK	WIDTH	HEIGHT	LEAVES	THICK	FINISH	GLAZING	HNISH	RATING	COMMENTS
			1		<b>T</b>				
101	3' - 0"	7' - 0"	1	1 3/4"	PAINT	N/A	PAINT	0	EXTERIOR HOLLOW METAL DOOR - LOCKSET
102	3' - 0"	7' - 0"	1	1 3/4"	PAINT	N/A	PAINT	0	EXTERIOR HOLLOW METAL DOOR - LOCKSET
103	3' - 0"	7' - 0"	1	1 3/4"	PAINT	N/A	PAINT	0	EXTERIOR HOLLOW METAL DOOR - LOCKSET
106	6' - 0"	4' - 0"	0	0"	ANODIZED	N/A	N/A	0	COILING COUNTER DOOR
107	6' - 0"	4' - 8"	0	0"	ANODIZED	N/A	N/A	0	COILING COUNTER DOOR
108	6' - 0"	4' - 0"	0	0"	ANODIZED	N/A	N/A	0.	COILING COUNTER DOOR
109	4' - 0"	7' - 0"	1	1 3/4"	PAINT	N/A	PAINT	0	HOLLOW METAL DOOR - LOCKSET
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114	2' - 8"	7' - 0"		1 3/4"				The second secon	
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116	2' - 8"	7' - 0"		1 3/4"		-			
117	2' - 8"	7' - 0"		1 3/4"					
18	2' - 8"	7' - 0"	1	1 3/4"		***************************************			
119	2' - 8"	7' - 0"		1 3/4"					
120	2' - 8"	7' - 0"		1 3/4"		AND THE RESIDENCE OF THE PARTY			

8" CONCRETE MASONRY UNITS

BARREL HINGE

PREFABRICATED METAL GATE AS SCHEDULED



# CONCESSION / RESTROOM BUILDING SPORTS COMPLEX GIRLS SOFTBALL RENOVATIONS AT YOUTH

PROJECT PHASE BID - 8/3/17

APPROVED

☐ DISAPPROVED

APPROVED AS NOTED

REVISE & RESUBMIT

**REVISIONS** 

CITY OF DEER PARK Date Received

407 W X ST. CITY OF DEER PARK, TEXAS

AUG 11 2017

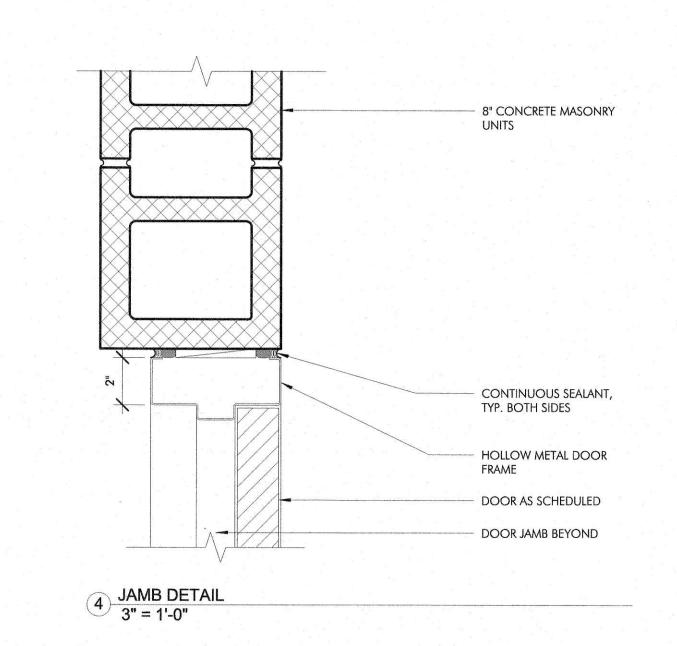
ENGINEERING DEPARTMENT

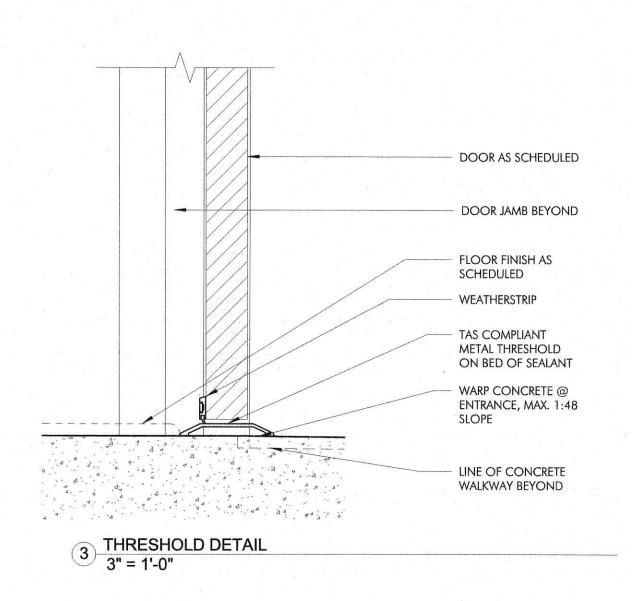
PROJECT NUMBER DATE ISSUED 8/10/2017

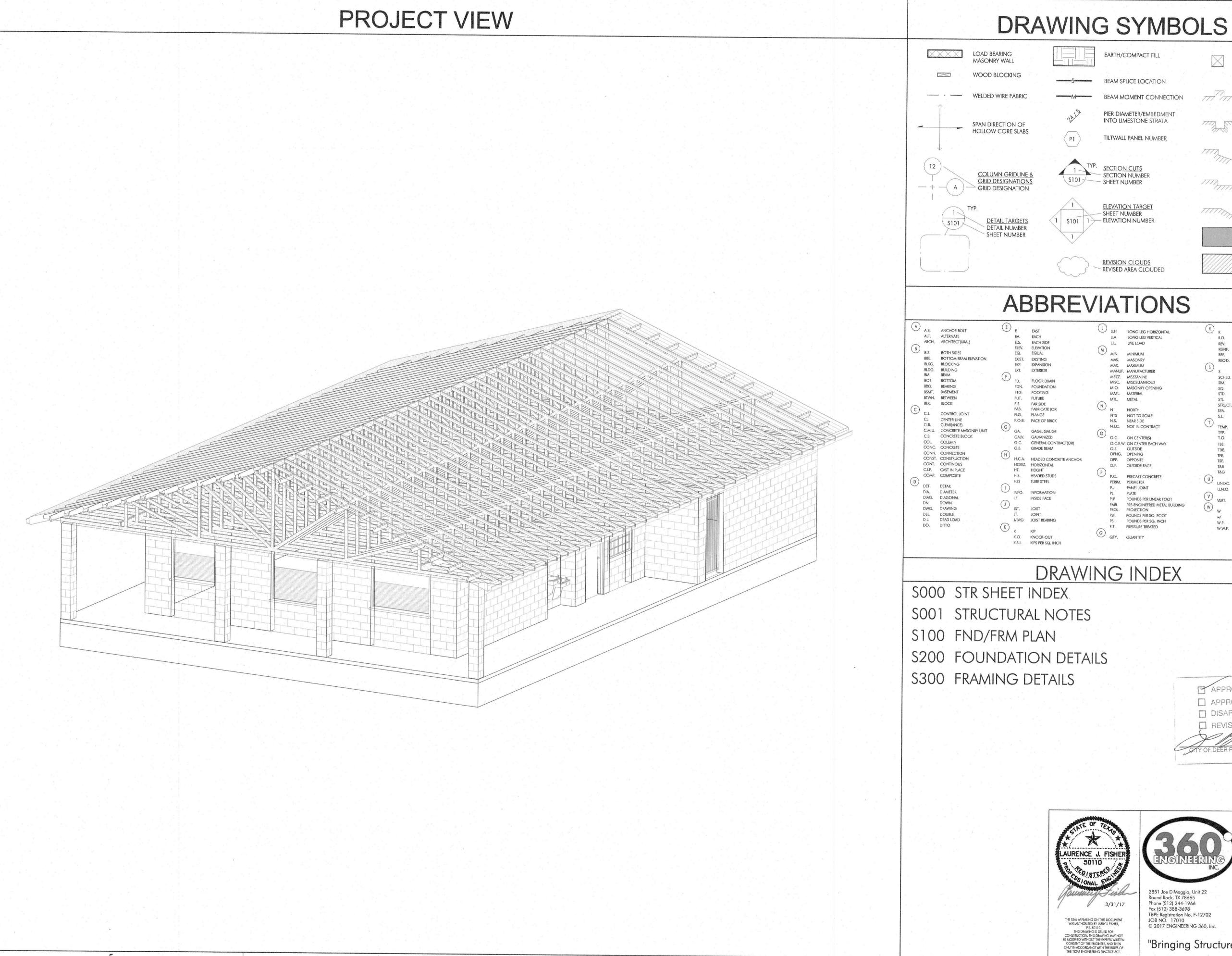
SHEET TITLE DOOR SCHEDULE/ DETAILS

SHEET NUMBER A-6.0

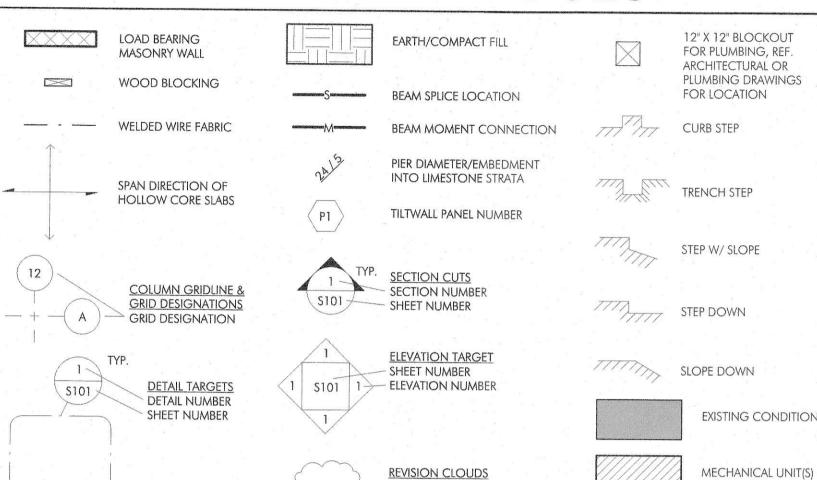
2 JAMB DETAIL 3" = 1'-0" PREFABRICATED GATE AS SCHEDULED PREFABRICATED GATE
AS SCHEDULED CONCRETE SLAB, RE: STRUCTURAL 1 THRESHOLD DETAIL 3" = 1'-0"



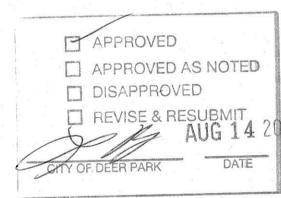












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RENOVATIONS BULDING
PROJECT B - GIRLS S
COMPLEX

の工

PROJECT PHASE

**REVISIONS** CITY OF DEER PARK Date Received

AUG 11 2017

ENGINEERING DEPARTMENT

PROJECT NUMBER NOTICE:

1. THIS DOCUMENT, THE IDEAS AND DESIGN
INCORPORATED HEREIN ARE AND SHALL REMAIN
THE PROPERTY OF ENGINEERING 360, INC. THESE
DOCUMENTS ARE NOT TO BE USED OR ALTERED,
IN WHOLE OR IN PART, FOR OTHER THAN THE
ORIGINAL INTENDED USE, NOR ARE THEY TO BE
ASSIGNED TO ANY THIRD PARTY WITHOUT
WRITTEN PERMISSION FROM ENGINEERING 360,
INC. DATE ISSUED 03-20-2017 SHEET TITLE

2. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CARFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND SPECIFICATIONS AND OTHER CONSTRUCTIONCONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS AND MATERIAL SUPPLIERS KNOWLEDGE ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTIBLE FOR ALL APPLICABLE CODES AND AUTHORITIES. STR SHEET INDEX

SHEET NUMBER

S000

# **DESIGN LOADS**

1.	Wind Load	Exposure	В
		Design Wind Speed	150 MPH
		Risk Category	II
2.	Roof Loads		
		Live Load (L.L.)	20 PSF**
		Dead Load (Design) (D.L.)	20 PSF
3.	Floor Loads		
		Live Load	80 PSF*
		Dead Load (Superimposed)	5 PSF
		Partitions	20PSF
		Storage Mezzanines	100 PSF
4.	Stairs, public corrid	dors & Lobbies (L.L.)	100 PSF
5.	Internal Pressure C		0.18 PSF
6.	Seismic Zone	Design Cat.	Α
10		Site Class	С

\*Reduced Per I.B.C. SEC. 1607.9

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

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

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

# **ALTERNATE DESIGNS**

Alternate structural systems & details will only be considered, provided they are submitted with calculations certified by a Professional Engineer Registered in the State of the project. The calculations must show the equivalency of the alternate & acceptance of the alternate by the engineer must be in writing.

# FUTURE EXPANSION

This project is not designed for future expansion.

# ROOF SLOPE

The roof has not been designed for ponding based on a roof slope of 3" per foot,

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

# II. SITE WORK

# A. <u>SOIL REPORT</u>

Foundations, retaining & basement walls, foundation drainage, slabs on grade & other items related to the soils are designed & shall be constructed in accordance with the recommendations of QC Laboratories, INC. REPORT NO. 17G13606.Add 1 DATED March 6, 2017.

2,000 PSF

Design net soil bearing capacity is as follows:

# BUILDING PAD PREPARATION (Slab-On-Grade Areas)

Remove all remaining vegetation, surficial clay soil, uncontrolled fill and obstructions from the existing surface of the site to a minimum of 5'-0" outside the building lines to a minimum of 36" below existing grade.

Proof roll exposed subgrade and re-compact all soft areas. Construct a compacted base of select fill overlaying the existing soil with a minimum thickness of 36 inches below the bottom of the slab. The select fill

shall be in compliance with the specifications in item 4 below. Bring building areas to planned grade using off-site fill selected and

compacted in accordance with the following:

Gradation Per Geotechnical Report. Plasticity Index

Material used for the granular fill shall have a plasticity index between 4 and 20. No organic matter is permitted.

Compaction

Compact the material to meet Geotechnical Report requirements. Hold water contents during compaction to -2% to +2% of laboratory optimum and compacted lift thickness of 8 inches maximum.

Approval All select fill material shall be approved by the Engineer prior to it being used on the project.

# III. DRILLED PIERS

Drilled piers shall be excavated, cleaned, reinforced and concrete placed on the

Geotechnical Report). Foundation conditions noted during construction which differ from those described in

the Geotechnical Report shall be reported to the Architect, Structural Engineer and Geotechnical Engineer before further construction is attempted. General Contractor shall notify the Architect and Structural Engineer 24 hours prior to

placement of concrete in the piers. Grade beams shall be formed and cast to insure 8" deep void below beam prior to installations of soil retainers.

Temporary steel casing may be required during the installation of drilled piers (see

# IV. FORMS

Lumber: All lumber and plywood used in the construction of forms for concrete shall be sound, clean and free of surface imperfections, and of sufficient size and thickness to rigidly support the loads involved. Plywood: Form plywood shall be sound and free of surface imperfections, and shall be manufactured with exterior glue suitable for use in forming

Accessories: Form ties, clamps and other accessories shall be of such type, size, etc. as will safely support the loads to be encountered. Accessories on exposed faces shall be such as will not leave exposed metal on concrete

Form Coating: Equal to Sonneborn Formsaver.

The contractor shall employ an experienced surveyor to supply all necessary lines and levels to insure that all finished concrete work is properly located, straight, true and square.

All vertical concrete surfaces shall be formed with wood, including edges of walks, slabs on grade, steps on grade and exposed portions of grade beams. If the earth will stand vertical and firm during excavating and

concreting, no forms need to be constructed for concrete below grade. Form construction and removal shall conform to the recommendations and requirements of the appropriate sections of ACI Standard 347 and ACI Code 318, latest versions. All form work shall be placed straight, level, plumb and true to line, sufficiently supported, braced and tied to rigidly support the loads involved without movement, and constructed to maximize resistance to shortening of the member. All joints in form work shall be tight

and neat to prevent leakage or irregularities in exposed surfaces. The contractor shall check with all other trades and make certain that all piping, conduit, sockets, inserts, sleeves, anchors, colts, etc., required by the various trades are properly placed and supported to prevent movement during concreting

The contractor shall obtain the Architect's and the Engineer's review and okay before placing any structural concrete, giving at least 48 hours notice before pours are scheduled. Obtain the Architect's approval before pouring

The contractor shall construct form work to adequately support pressure from the wet concrete. Reinforcing shall be installed to the Engineer's

satisfaction before placing concrete. Thoroughly clean all form surfaces in contact with concrete and coat with approved form coating. Oiled forms shall not be used for exposed concrete surfaces which are later to be plastered or rubbed.

Leave all form work in place for a time consistent with recommendations of the American Concrete Institute. In general, the perimeter vertical beam forms may be removed within 24-28 hours after concrete is placed. Should inconsistencies and/or irregularities on the lines, levels or plumb of the concrete occur, the contractor shall make such corrections as the engineer directs, without extra cost to the owner.

# V. REINFORCING MATERIAL PROPERTIES

1.	REINF	ORCING PROPERTIES:	FY, KSI	ASTM
	A.	All bars unless noted	60	A615
	B.	Ties & stirrups	60	A615
	C.	Welded wire fabric (smooth)	65	A185
	D.	Post-tensioning strand	270Fpu	A416
	E.	Pre-stressing strand	270Fpu	A416
	- F.	Weldable rebar	60	A706

# VI. EXPANSION AND CONTROL JOINTS

Control joins are to encompass an area not greater than 400 sq. ft. The minimum distance between control joints is 15'-0". Control joints shall be placed at mid span between grade beams parallel to control joint. Contractor shall submit control joint layout plan for review by architect and engineer prior to construction of slab.

## VII. CAST IN PLACE CONCRETE

Portland Cement shall conform to the standard specifications for Portland cement, ASTM Designation C-150, latest version Type I or Type III. Concrete Aggregates:

Concrete aggregates shall conform to the specifications for Concrete Aggregates, ASTM C-33, latest version Type I or Type III.

Water shall be clean, potable and free of injurious amounts of acids, alkalis or organic materials.

Ready Mixed Concrete: Ready Mixed Concrete shall conform to ASTM Specifications C-94, latest

Expansion joints (if shown): Pre-molded joint filler shall consist of asphalt vegetable fiber and mineral filler between two sheets of asphalt saturated paper and shall meet the requirements of ASTM Specification D-994, latest version. Admixtures:

Chemical compounds shall be used as an Admixture to control plastic shrinkage, improved workability and entrain 3 to 5% air. The Admixtures shall contain no chlorides, fluorides or nitrates and shall be formulated by the manufacturer for the job area and weather conditions to control setting time. Admixtures shall conform to ASTM Specifications C-260 and C-494, latest versions. The Admixtures intended for use shall be submitted to the Engineer for approval before any actual mix is made.

Place concrete in compliance with practices and recommendations of ACI 304. Cold Weather Placing: Comply with ACI 306. Hot Weather Placing: Comply with ACI 305.

Batching, Mixing & Delivery: Comply with ACI C94. ALL CONCRETE SHALL BE CONSOLIDATED BY USE OF A MECHANICAL

The maximum time interval between the addition of mixing water and/or cement to the batch, and the placing of the last of the concrete batch in the forms shall not exceed ninety (90) minutes for ambient temperatures below 90 degrees and sixty (60) minutes for ambient temperatures of 90 degrees and above.

No concrete shall be placed where the concrete temperature exceeds 90 degrees Fahrenheit, before any water is added at the jobsite.

Reinforcing bars shall be designed, fabricated and placed in accordance with the latest ACI Specifications. Continuous reinforcing bars shall have a minimum lap of 40 diameters or 24",

whichever is greater. Provide corner bars for all continuous reinforcing bars at all corners with minimum lap of 40 diameters or 24", whichever is greater.

Welded Wire Fabric (W.W.F.) shall conform to ASTM A185. Non-shrink grout shall be ready-to use metallic aggregate product requiring only additions of water at the site, and shall have the following attributes: Be capable of producing a flowable grouting material having no drying

shrinkage or settlement at any age. The compressive strength of the grout (50mm or 2" cubes) shall be not less than 5,000 psi at age 28 days. Store, mix and place non-shrink grout in strict accordance with manufacturer's recommendations, as approved by the Engineer.

Provide 1/2" pre-molded expansion joints where new concrete walks about the building, existing curbs and walks. Deposit concrete continuously or in layers of such thickness that no concrete will be

placed on concrete which has hardened sufficiently to form seams or planes of weakness within the section Where a section cannot be placed continuously, provide construction joints as

approved by the Engineer. Place concrete at such a rate that concrete which is being integrated with fresh concrete is still plastic.

Deposit concrete as nearly as practicable in its final location to avoid segregation due to re-handling and flowing. Do not subject concrete to any procedure which might cause segregation. Do not use mechanical vibrators to move concrete. Screed concrete which is to receive other construction to the proper level to avoid excessive shimming and grouting.

Do not use concrete that has become non-plastic and unworkable, or does not meet the required quality control limits or which has been contaminated by foreign

Do not re-temper concrete after initially obtaining the proper slump on any load of All reinforcing shall be supported on metal supports and securely fied to prevent

movement during concreting. All concrete shall be designed and constructed in accordance w/ IBC Chapter 19 & ACI-318, latest editions.

Provide extra reinforcing on each face around all openings 24" or larger in all slabs & walls equal to half the interrupted reinforcing bars on each side but not less than 2 - #5 bars with Class B lap but not less than 2 feet beyond edge openings. Provide a 3/4" chamfer on all exposed corners of concrete.

The following minimum concrete cover shall be provided for reinforcement: COVER IN. Concrete cast against & permanently exposed to earth: Concrete exposed to earth or weather: #6 THRU #18 bars #5 & smaller bars Concrete not exposed to weather or in 1-1/2" contact with ground: slabs & walls: #14 & #18 bars

#11 & smaller bars Beams & Columns: Primary reinforcement, ties & stirrups If any ponds, tree wells or abrupt grade changes occur within 5'-0" of perimeter grade beam, the grade beam must be extended a minimum of 12" below the lowest

elevation of the grade change. Under-slab vapor barrier shall be StegoWrap 15 mil. Or equal. Vapor retarder shall be installed in accordance with manufacturer's specifications.

All anchor bolts and shearwall hold down bolts are to be "wet set". Do not drill any epoxy set hold down or anchor bolts.

# VIII. CONCRETE MATERIAL PROPERTIES

CON	CRETE PROPERTIES:	F'c PSI 28 DAYS	SLUMP INCHES	
A.	Footings, piers, grade beams			
	& foundation walls	3000	$4 \pm 1$	
B.	Interior slab on grade	3000	$5 \pm 1$	
C.	Exterior slab on grade	3000	$5 \pm 1$	
D.	Topping & concrete			
	over metal deck	3500	$5 \pm 1$	

All exterior concrete shall be air entrained to give the concrete on air content of  $6 \pm 1\%$  by volume.

Cast-In-Place concrete shall be regular weight with a minimum compressive strength of 3000 psi at 28 days. The concrete mix design shall have a minimum of 5 sacks of cement for 3000 psi and 5-1/2 sacks for 3500 psi per cubic yard of concrete. The mix design shall be prepared by a testing agency and reviewed by the Engineer prior to placing any concrete. All concrete shall be by one supplier unless approved by the Engineer. The use of Fly Ash is not permitted. Concrete shall have a maximum slump of 5" for slabs and 4" for all other concrete.

# IX. MASONRY

All CMU Walls to be reinforced with (1) #5 Vertical at 24" O.C. There shall also be (3) #5 Verticals at each corner, (4) #5 Verticals at each wall intersection and (2) #5 Verticals at each side of each opening, at wall ends and at control joints. There shall be (1) #5 Vertical per CMU block cell at each location noted above with each cell being filled with 3000 psi concrete in 4'-0" lifts maximum.

All CMU Walls to be reinforced horizontally with 3/16" Dur-O-Wall at 16" O.C. vertically. Dur-O-Wall to be basic bright wire with deformed side rods. Dur-O-Wall to be fully embedded in the mortar with a minimum of 5/8" cover on exterior faces. All splices shall be a minimum of 6". Bend and hook side rods at ends of walls and at

Mortar shall be Type S, with a minimum compressive strength of 1800 psi at 28 days. Control joints shall be placed at a minimum of 24'-0" spacing and at either side of each opening 6'-0" or greater or one side of other openings. Each control joint shall be properly reinforced to provide lateral support.

Bond Beams shall be placed at the floor and roof level and at a maximum vertical spacing of 8'-0". The bond beam shall consist of an 8" CMU with (1) #5 continuous and filled with 3000 psi concrete as specified in NOTE VII. CAST IN PLACE CONCRETE.

# X. FRAMING

All bolts shall be ASTM A-307.

All beam header, rafter and ceiling joist framing lumber shall be No. 1 grade Southern Pine Kiln Dried or better. All column lumber shall be No. 1 Douglas Fir Kiln-Dried or

All wood connector and hangers shall be as manufactured by Simpson Strong-Tie Co.

All connectors or hangers for pressure treated material shall be stainless steel. All exterior walls and interior shear walls shall be sheathed with a minimum of 7/16-24/48 C-D Exterior Plywood or OSB. Attach to framing with 10d nails @ 6"

All exterior walls and interior shear walls shall be anchored to the foundation with

1/2" x 12" anchor bolts at 48" O.C. All roofs shall be decked with 5/8"-48/24 C-D Exterior Plywood nailed with 6d nails

at 6" O.C. at all supports.

All wall framing shall be #2 Southern Yellow Pine or better. All roof joists and ceiling joists shall be #2 Southern Yellow Pine or better.

No holes, notches or other cuts shall be made in any beam, joist, rafter or other framing member without written approval by the engineer. No hole larger than 1" in diameter will be allowed in any load bearing or any exterior wall stud. 1" diameter and smaller holes shall be located on the centerline of the wide

axis and spaced no less than 6" O.C. No other holes will be allowed without the

written approval of the engineer. XI. ROOF TRUSSES

# LOADING:

Top Chord Dead Load = 10 psf Top Chord Live Load = 20 psf Bot Chord Live Load = 0 psf Uplift = 0 psfDuration Factor of 100%

Trusses shall be Designed and Manufactured to be Equal to that Manufactured by Alpine Engineered Products, Inc. All trusses shall be engineered for the loading indicated and the manufacturer shall submit sealed engineering drawings for each truss type and length.

# XII. USE AND/OR RELEASE OF STRUCTURAL ENGINEERING ELECTRONIC FILE

The electronic files for the structural engineering documents will not be released for use during construction or for the preparation of shop drawings or submittals. Each supplier or fabricator is responsible for reproducing the information required for their submittal. The duplicating of any part of these documents for inclusion in shop drawings or submittals is also prohibited

Details noted as typical shall apply in all cases unless specifically shown or noted otherwise. STRUCTURAL REQUIREMENTS FOR SUBMITTALS

The following are submittals required by Engineer. Use plans and spec. book for product list.

Select fill material

Soil compaction test results Reinforcement & concrete accessories including vapor barrier

Concrete mix design Anchor bolts

CMU block and accessories Mortar mix design, grout mix design and test results

Concrete test results

# XV. STRUCTURAL REQUIREMENTS FOR SITE VISITS

bond beams

Site visits for construction observation will not be made by Engineer until all submittals and/or testing results have been reviewed and accepted by the Engineer. Contractor is responsible for scheduling submittals to allow the Engineer adequate time to review and comment before proceeding with construction.

Representative of Engineering 360 will visit the site at the following stages of construction:

During pier drilling and placement of reinforcing and concrete piers After forms, rebar, embeds and other accessories are in place and 72 hours prior to placement of concrete

All anchor bolts and embeds are to be set and adequately tied & held in position prior to the start of placing concrete During construction of masonry wall while all phases of the operation are in progress, including laying up of wall courses, pouring cells and constructing

After decking is in place and attached to the structure, but prior to covering with floor and roof materials

# Please refer to specifications or General Notes for project specific instructions.

Contractor shall issue to the engineer a complete project schedule with the above site visits noted and notify the Engineer a minimum of 48 hours prior to the scheduled visit to confirm time and date required visit. Failure of the Contractor to accomplish this notification will not require the engineer to respond on shorter notice, nor will the Contractor proceed without the Engineer performing appropriate site visit. Additionally if the Contractor requests or schedules a site visit and construction is not at the appropriate stage for the Engineer to perform the proper observations, another site visit will be required and scheduled at the Contractor expense for all time and travel expenses of the engineer or his representative. Engineer will not issue any type or form of compliance or concurrence statement for construction without performing the above noted site observations.

Statement of Special Inspections Per IBC 2012 Chapter 17

Per Section 1704.2.3: The applicant shall submit a statement of special inspection in accordance with Section 107.1 as a condition of permit issuance. The statement shall be in accordance with Section 1704.3.

PROJECT ADDRESS: DEER PARK CITY, STATE: DEER PARK, TEXAS

SECTION | ASSURANCE |

# SECTION 1705: REQUIRED VERIFICATION AND INSPECTION

2012 IBC INSPECTION TYPE OF SPECIAL INSPECTION

special inspections applicable for this project:

Section 1705 of the International Building Code 2012, the following is a list of the required

AND EXTENT

APPLICABLE APPLICABLE

SECTION	ASSUKANCE	AND EXTENT	APPLICABLE	APPLICABLE
1705.2	AISC 360	Steel Construction		Х
1705.2.2	IBC TABLE 1705.2.2	Steel Construction Other Than Structural Steel		X
1705.2.2.1.1	AWS D1.3	Cold-Formed Welding Inspection		X
1705.2.2.1.2	AWS D1.4 and ACI 318	Reinforced Steel Welding Inspection		X
1705.2.2.2	Indicated in Section	Cold-Formed Steel Trusses Spanning 60 Feet or Greater		. X
1705.3	IBC TABLE 1705.3	Concrete Construction	X	
1705.4	Inspection: TMS 420/ACI 530/ASCE 5 Assurance: TMS 602/ACI 530.1/ASCE 6	Masonry Construction	X	
1705.5	Indicated in Section	Wood Construction: High- Load Diaphragm/Metal-Plate- Connected Wood Trusses Spanning 60 Feet or Greater		X
1705.6	Indicated in Section	Soils	X	3 2
1705.7	Indicated in Section	Driven Deep Foundations		X
1705.8	Indicated in Section	Cast-in-Place Deep Foundations (Piers)	Χ	
1705.9	Indicated in Section	Helical Pile Foundations		X
1705.10	Indicated in Section	Special Inspection for Wind Resistance	S =	X
1705.11	Indicated in Section	Special Inspection for Seismic Resistance		X
1705.12	Indicated in Section	Testing and Qualification for Seismic Resistance		Χ
1705.13	Indicated in Section	Sprayed Fire-Resistance Materials		Χ
1705.14	AWCI 12-B	Mastic and Intumescent Fire- Resistance Coatings		X
1705.15	Indicated in Section & ASTM E 2570	Exterior Insulation and Finish Systems/Water-Resistive Barrier Coating		X
1705.16	Indicated in Section	Fire-Resistance Penetrations and Joints		X
1705.17	Indicated in Section	Special Inspection for Smoke Control	20 20	Χ

# Exceptions of Special Inspection as permitted per Section 1704.2

. Special inspections are not required for construction of a minor nature or as warranted by

conditions in the jurisdiction as approved by the building official. 2. Unless otherwise required by the building official, special inspections are not required for 3. Special inspections are not required for portions of structures designed and constructed in

accordance with the cold-formed steel light-frame construction provisions of IBC Section

2211.7 or the conventional light-frame construction provisions of IBC Section 2308. Additional Special inspections shall also be required for proposed work that is, in the opinion of the building official, unusual in nature.

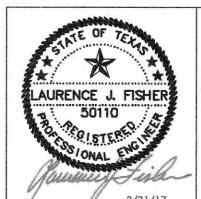
Additional Special Inspection per International Building Code 2012, the following is a list of the required special inspections applicable for this project:

2012 IBC SECTION	DETAILS	TYPE OF SPECIAL INSPECTION AND EXTENT	APPLICABLE	NON APPLICABLE
1706		Design Strengths of Materials		. X
1707		Alternative Test Procedures		X X
1708		Test Safe Load	/	X
1709		In-Situ Load Tests		And the same of th
1710	Manager par series de que en junto en conservir de la conservi	Preconstruction Load Tests	PROVED	X
1711		Material and Test Standards	PROVED A	SNATE

Prior to the commencement of observations, the structural observers that submit to the MIT building official a written statement identifying the frequency and extent of successful AUG 14 observations. At the conclusion of work included in the permit, the structured observer shall submit to the T building official a written statement that the site visits have been made and identified any

reported noting deficiencies which, to the best of the structural observer's knowledge, have not

Round Rock, TX 78665



been resolved.

Phone (512) 244-1966 Fax (512) 388-3698 TBPE Registration No. F-12702 THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY LARRY J. FISHER, P.E. 50110. THIS DRAWING IS ISSUED FOR © 2017 ENGINEERING 360, Inc. CONSTRUCTION. THIS DRAWING MAY NOT BE MODIFIED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE ENGINEER, AND THEN

Per Section 1704.5 Structural Observations:

2. BY THE ACT OF SUBMITTING A BID FOR THE FROM SED COMMAND, THE BIDDER WARRANTS
HAT THE BIDDER, AND ALL SUBCONTRACTORS
AND MATERIAL SUPPLIERS HE INTENDS TO USE
HAVE CAREFULLY AND THOROUGHLY REVIEWED
THE DRAWINGS AND SPECIFICATIONS AND OTH THE DRAWINGS AND SPECIFICATIONS AND OTHER CONSTRUCTIONCONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND REE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS AND MATERIAL SUPPLERS KNOWLEDGE ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES. 2851 Joe DiMaggio, Unit 22

DISAPPROVED

"Bringing Structure to the World"

1 1 0 2 s austin ave, suite 103 georgetown, tx 78626

ryan@modedc.us | www.modedc.us

+ 1 512 733 1150

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PROJECT PHASE Project Status

**REVISIONS** CITY OF DEER PARK Date Received

AUG 1 1 2017 ENGINEERING DEPARTMENT

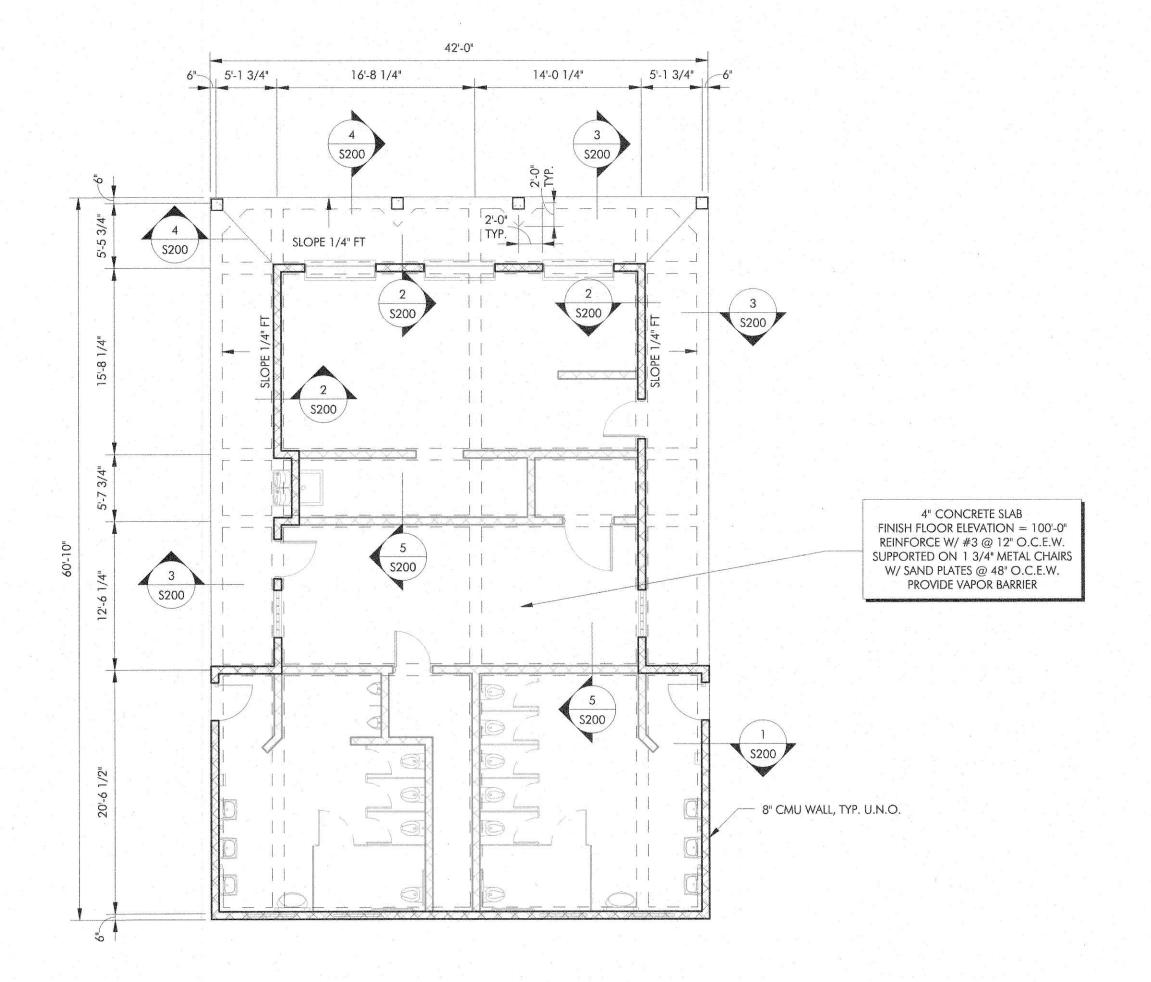
**PROJECT NUMBER** 

DATE ISSUED 03-20-2017 SHEET TITLE STRUCTURAL

NOTES SHEET NUMBER



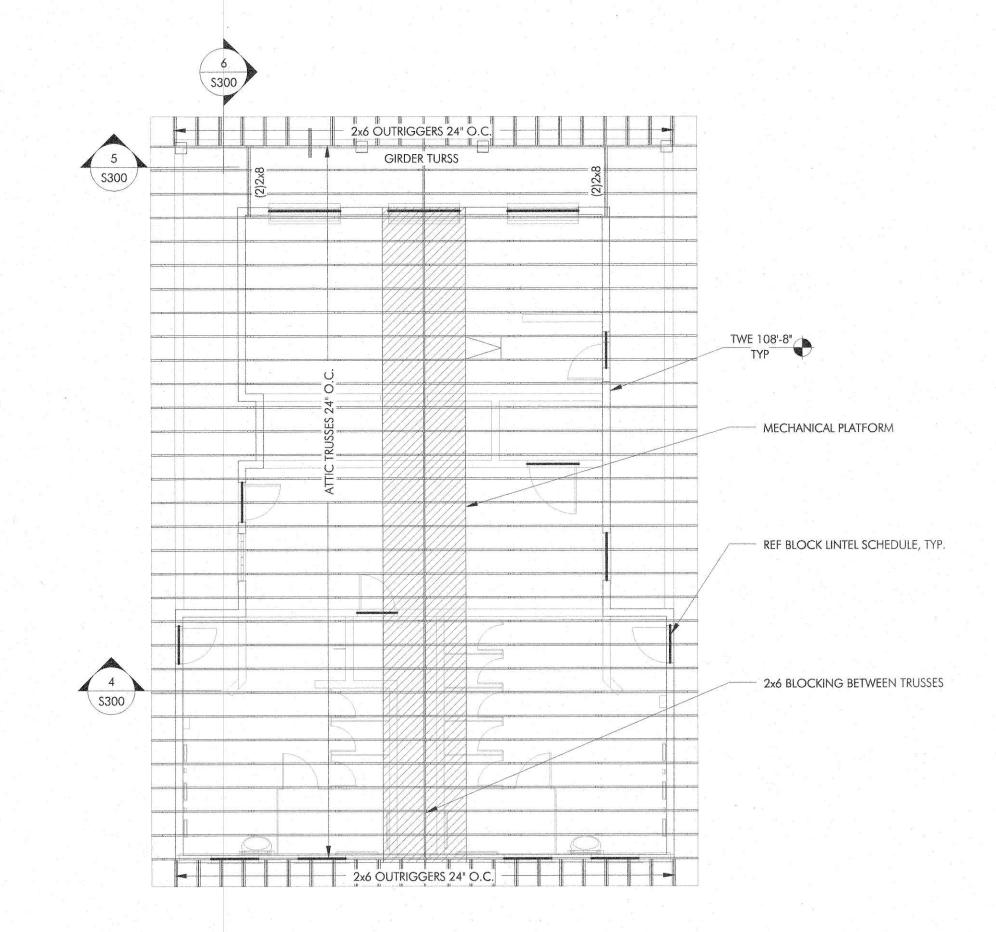
1 1 0 2 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us | www.modedc.us + 1 512 733 1150



PLAN NOTES:

REFER TO CIVIL SITE PLANS FOR ACTUAL FINISH FLOOR ELEVATIONS. ASSUMED ELEVATION OF 100'-0" FOR ALL SLAB AREAS UNLESS NOTED ON FOUNDATION PLAN OR IN ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATIONS OF SLAB DROPS AND SLOPES AND FOR COORDINATION OF ALL SLAB AND GRADE BEAM PENETRATIONS.

- PROVIDE CORNER BARS IN GRADE BEAMS PER DETAIL 6/S200.
- PLUMBING FIXTURES ARE SHOWN FOR REFERENCE ONLY. REFER ARCHITECTURAL AND PLUMBING PLANS FOR LOCATIONS, TYPE AND QUANTITIES.
- 4. REFER TO DETAIL 7/S200 FOR ALL PIPE/CONDUIT IN THE FOUNDATION.
  - REFER TO DETAIL 8 AND 9/S200 FOR GRADE BEAM PENETRATIONS.



APPROVED DISAPPROVED CITY OF DEER PARK

APPROVED AS NOTED REVISE & RESURVET 14 201 REVISIONS

PROJECT PHASE Project Status

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CITY OF DEER PARK Date Received

AUG 11 2017

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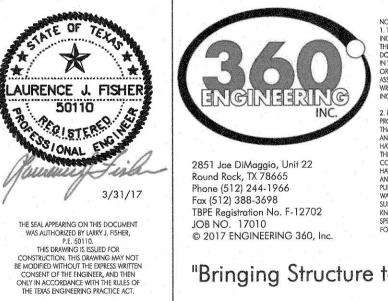
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FND/FRM PLAN

DATE ISSUED

SHEET TITLE

03-20-2017



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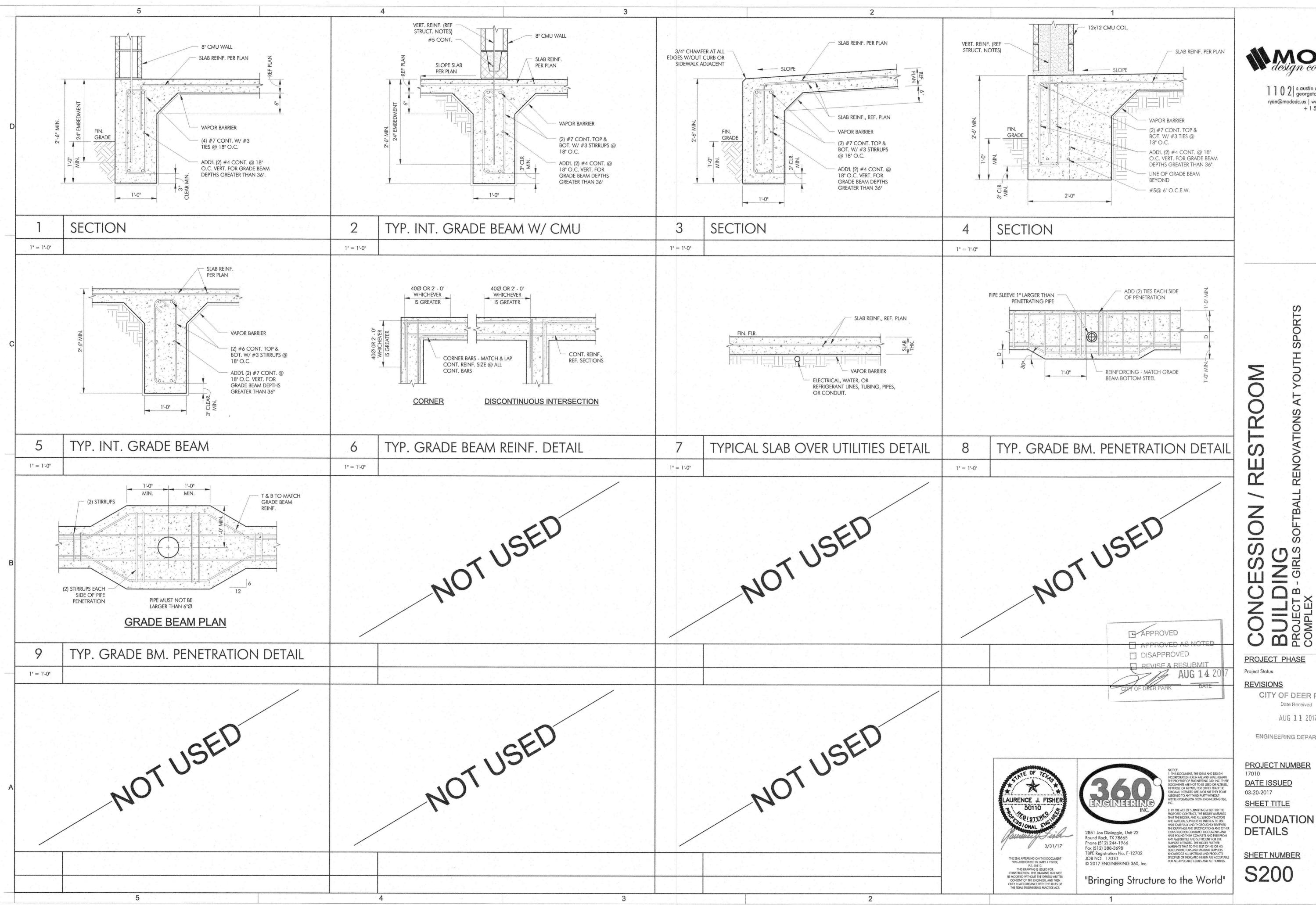
FOUNDATION PLAN 1/8" = 1'-0" NORTH

5

NORTH

1/8" = 1'-0"

ROOF FRAMING PLAN





1102 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us | www.modedc.us + 1 512 733 1150

PROJECT PHASE

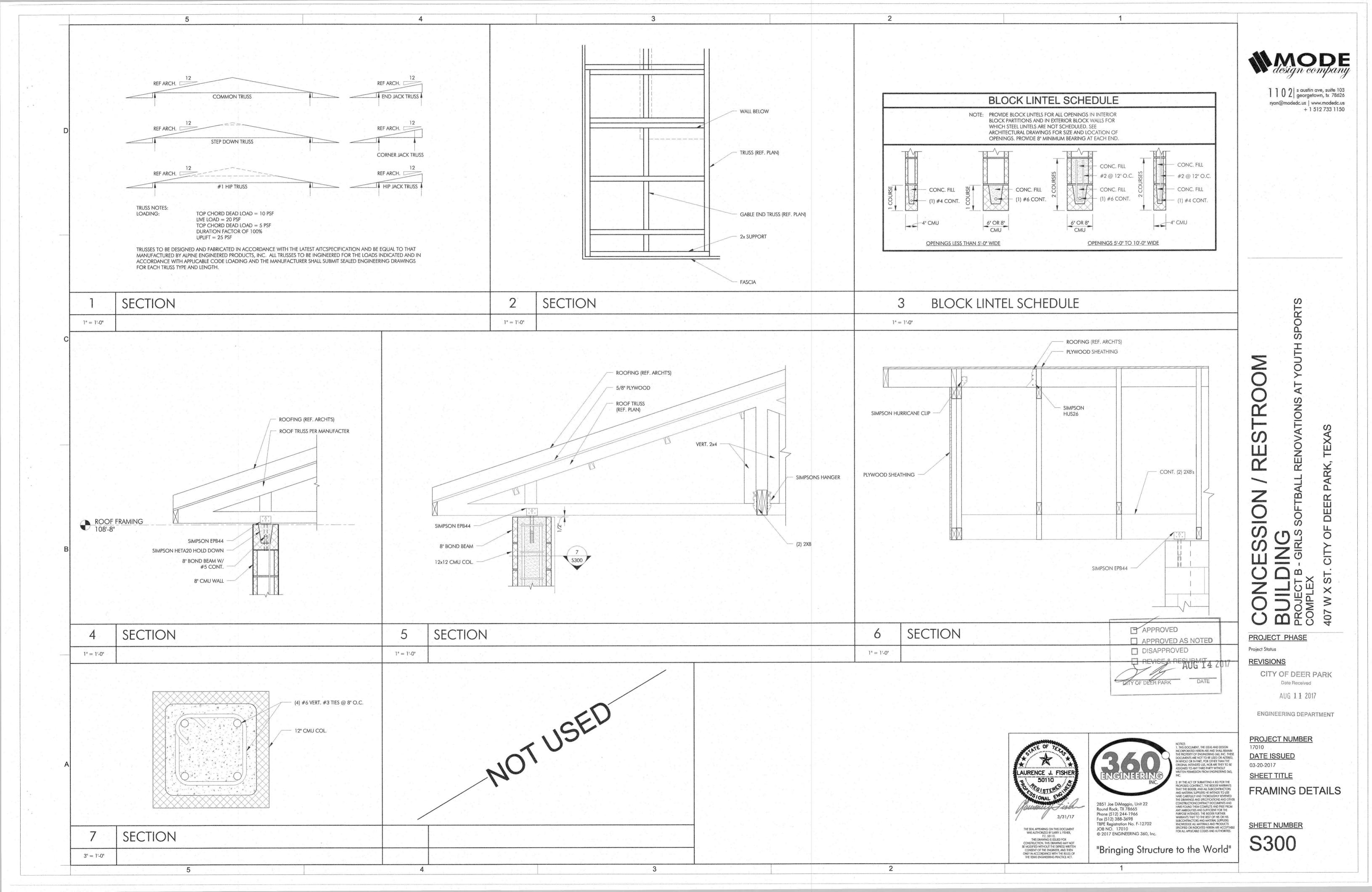
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SHEET NUMBER



A. ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS.

YMBOL	DESCRIPTION	REMARKS
	HOMERUN (REFER TO PANEL SCHEDULES FOR CONDUIT/WIRING)	
	CIRCUIT ROUTED THRU CONTACTOR OR RELAY	
— UE ——	UNDERGROUND ELECTRIC	
— тт —	UNDERGROUND TELEPHONE	
OE	OVERHEAD ELECTRIC	
— от —	OVERHEAD TELEPHONE	
419	CIRCUIT INDICATORS (HOT, NEUTRAL, GROUND, SWITCHLEG)	
P	PHOTOCELL	
<b>(</b> )	JUNCTION BOX	
<b>0</b>	JUNCTION BOX, FLOOR MOUNTED FLUSH	
Ю	JUNCTION BOX, WALL MOUNTED - 3/4"C TO ABOVE CEILING	
\$ <sup>M</sup>	MANUAL STARTER WITH THERMAL TRIP	
<b>L</b>	DISCONNECT SWITCH, REFER TO DISCONNECT SCHEDULE	
⊠ ⊠	STARTER	
ΓΣΖΙ	COMBINATION STARTER/DISCONNECT SWITCH, REFER TO SCHEDULE	
	POWER AND/OR LIGHTING PANELBOARD, REFER TO PANELBOARD SCHEDULE	
	SWITCHBOARD, REFER TO SWITCHBOARD SCHEDULE	1 1
	TRANSFORMER, REFER TO TRANSFORMER SCHEDULE	

# ELECTRICAL ABBREVIATION SCHEDULE

A AMPERES A/C AIR CONDITIONING AFF ABOVE FINISHED FLOOR AHJ AUTHORITY HAVING JURISDICTION AL ALUMINUM AUTO AUTOMATIC BEEF BELOW FINISHED FLOOR BUILDING C CONDUIT C C CONDUIT C C CONDUIT C C COLUMN C CONCETE C C CONSTRUCTION C CONSTRUCTION C CONSTRUCTION C CONSTRUCTION C CONTRACTOR C CONSTRUCTION C CONTRACTOR C C CONSTRUCTION C CONTRACTOR C C C C C C C C C C C C C C C C C C C	
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FA FIRE ALARM  FF FINISHED FLOOR  FLR FLOOR/FLOORING  G GROUND  GC GENERAL CONTRACTOR  GFI GROUND FAULT INTERRUPT  HD HEAVY DUTY  HP HORSEPOWER  IMC INTERMEDIATE METAL CONDUIT  KVA KILOVOLT-AMPERES  INTERMEDIATE METAL CONDUIT  WITH  TELEPHONE  TORDING TYPICAL  UNDERGROUND ELECTRIC  UNDERWRITER'S LABORATOR UNDERGROUND TELEPHONE  V VOLTS/VOLTAGE  WATTS  WATTS	
FF FINISHED FLOOR FLR FLOOR/FLOORING G GROUND GC GENERAL CONTRACTOR GFI GROUND FAULT INTERRUPT HD HEAVY DUTY HP HORSEPOWER IMC INTERMEDIATE METAL CONDUIT KVA KILOVOLT-AMPERES  INTERMEDIATE METAL CONDUIT  FLEPHONE TERMINAL BOAN TYP TYPICAL UNDERGROUND ELECTRIC UNDERWRITER'S LABORATOR UNDERGROUND TELEPHONE UNDERGROUND TELEPHONE V VOLTS/VOLTAGE VA WATTS WY	
FLR FLOOR/FLOORING UE UNDERGROUND ELECTRIC UNDERGROUND ELECTRIC UNDERGROUND ELECTRIC UNDERWRITER'S LABORATOR UL UNDERWRITER'S LABORATOR UNDERWRITER'S LABORATOR UNDERWRITER'S LABORATOR UNDERWRITER'S LABORATOR UNDESS OTHERWISE NOTED UNDERGROUND TELEPHONE UT UNDERGROUND TELEPHONE UNDERGRO	iD.
G GROUND GC GENERAL CONTRACTOR GFI GROUND FAULT INTERRUPT HD HEAVY DUTY HP HORSEPOWER IMC INTERMEDIATE METAL CONDUIT KVA KILOVOLT—AMPERES  UL UNDERGROUND ELECTRIC UNDERGROUND TELECTRIC UNDERGROUND ELECTRIC UNDERWRITER'S LABORATOR UNDERWRITE	
GC GENERAL CONTRACTOR  GFI GROUND FAULT INTERRUPT  HD HEAVY DUTY  HP HORSEPOWER  IMC INTERMEDIATE METAL CONDUIT  KVA KILOVOLT—AMPERES  UL UNDERWRITER'S LABORATOR  UON UNLESS OTHERWISE NOTED  UT UNDERGROUND TELEPHONE  V VOLTS/VOLTAGE  VA WATTS  W/ WITH	LEC
GFI GROUND FAULT INTERRUPT UNDERGROUND TELEPHONE HD HEAVY DUTY UNDERGROUND TELEPHONE HP HORSEPOWER V VOLTS/VOLTAGE IMC INTERMEDIATE METAL CONDUIT VA VOLT-AMPERES KVA KILOVOLT-AMPERES W WATTS	(IE2
HD HEAVY DUTY HP HORSEPOWER IMC INTERMEDIATE METAL CONDUIT KVA KILOVOLT—AMPERES  W WATTS W/ WITH	
HP HORSEPOWER IMC INTERMEDIATE METAL CONDUIT KVA KILOVOLT—AMPERES W WATTS W WITH	
IMC INTERMEDIATE METAL CONDUIT VA VOLT—AMPERES WATTS	
KVA KILOVOLT-AMPERES W WATTS	
W/ WITH	
KW KILOWALIS	
IGT LIGHT/LIGHTING W/O WITHOUT	
WP WEATHER PROOF	
MAC MACHANICAL CONTRACTOR XFMR TRANSFORMER	
MCB MAIN CIRCUIT BREAKER	
MDP MAIN DISTRIBUTION PANEL	

# BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE

NOT A.		EUTRAL	S FOF	R EACH CIRCUIT. NO SHA	RED N	EUTRA	LS ALLOWED.	
C -	CONDUIT G - GROU	JND	L-	- LINE OR PHASE	N - N	EUTRAI	-	
MARK	WIRE AND CONDUIT	SYSTEM	MARK	WIRE AND CONDUIT	SYSTEM	MARK	WIRE AND CONDUIT	SYSTEM
1	2#12, 1/2"C.	LN	31)	2#4, 1#8G., 1°C.	LLG	<b>6</b> 1	3#1/0, 1#6G., 2" C.	LLNG
	2#12, 1#12G., 1/2" C.	LNG	32	3#4, 1" C.	Ш	62	3#1/0, 1#6G., 2" C.	LLLG
3	2#12, 1#12G., 1/2" C.	LLG	33	3#4, 1#8G., 1" C.	LLNG	63)	4#1/0, 1#6G., 2" C.	LLLNG
4	3#12, 1/2" C.	LLL	34)	3#4, 1#8G., 1" C.	LLLG	64)	2#2/0, 1 1/2" C.	LN
3	3#12, 1#12G., 1/2" C.	LLNG	35)	4#4, 1#8G., 1 1/4" C.	LLLNG	65)	2#2/0, 1#4G., 1 1/2°C.	LNG
6	3#12, 1#12G., 1/2" C.	LLLG	36)	2#3, 1" C.	LN		2#2/0, 1#4G., 1 1/2" C.	
7	4#12, 1#12G., 1/2" C.	LLLNG	37)	2#3, 1#8G., 1"C.	LNG	67)	3#2/0, 1 1/2" C.	LLL
8	2#10, 1/2"C.	LN	38)	2#3, 1#8G., 1" C.	LLG	68)	3#2/0, 1#4G., 2" C.	LLNG
	2#10, 1#10G., 1/2" C.	LNG	39	3#3, 1" C.	LLL	69	3#2/0, 1#4G., 2" C.	LLLG
10	2#10, 1#10G., 1/2" C.	LLG	40	3#3, 1#8G., 1 1/4" C.	LLNG	70	4#2/0, 1#4G., 2" C.	LLLNG
1	3#10, 1/2" C.	LLL	41)	3#3, 1#8G., 1 1/4" C.	LLLG	7	2#3/0, 1 1/2" C.	LN
12	3#10, 1#10G., 1/2" C.	LLNG	42	4#3, 1#8G., 1 1/4" C.	LLLNG	72	2#3/0, 1#4G., 2" C.	LNG
13	3#10, 1#10G., 1/2" C.	LLLG	43)	2#2, 1"C.	LN	73	2#3/0, 1#4G., 2" C.	LLG
14)	4#10, 1#10G., 1/2" C.	LLLNG	44)	2#2, 1#8G., 1" C.	LNG	74)	3#3/0, 2" C.	LLL
15)	2#8, 1/2" C.	LN	<b>45</b>	2#2, 1#8G., 1" C.	LLG	75)	3#3/0, 1#4G., 2" C.	LLNG
16)	2#8, 1#10G., 3/4" C.	LNG	46)	3#2, 1 1/4" C.	LLL	76)	3#3/0, 1#4G., 2" C.	LLLG
17)	2#8, 1#10G., 3/4" C.	LLG	47)	3#2, 1#8G., 1 1/4" C.	LLNG	7	4#3/0, 1#4G., 2 1/2" C.	LLLNG
18	3#8, 3/4" C.	LLL	48)	3#2, 1#8G., 1 1/4" C.	LLLG	78)	2#4/0, 2" C.	LN
19	3#8, 1#10G., 3/4" C.	LLNG	49	4#2, 1#8G., 1 1/4" C.	LLLNG	79	2#4/0, 1#4G., 2" C.	LNG
20	3#8, 1#10G., 3/4" C.	LLLG	(50)	2#1, 1 1/4" C.	LN	80	2#4/0, 1#4G., 2" C.	LLG
21)	4#8, 1#10G., 1" C.	LLLNG	(51)	2#1, 1#6G., 1 1/4" C.	LNG	81)	3#4/0, 2" C.	LLL
22	2#6, 3/4" C.	LN	(52)	2#1, 1#6G., 1 1/4" C.	LLG	82	3#4/0, 1#4G., 2 1/2" C.	LLNG
23)	2#6, 1#10G., 3/4" C.	LNG	(53)	3#1, 1 1/2" C.	LLL	83	3#4/0, 1#4G., 2 1/2" C.	LLLG
24)	2#6, 1#10G., 3/4" C.	LLG	(54)	3#1, 1#6G., 1 1/2" C.	LLNG	84	4#4/0, 1#4G., 2 1/2" C.	LLLNC
25)	3#6, 3/4°C.	LLL	(55)	3#1, 1#6G., 1 1/2" C.	LLLG			
26)	3#6, 1#10G., 3/4" C.	LLNG	(56)	4#1, 1#6G., 1 1/2" C.	LLLNG			8
27)	3#6, 1#10G., 3/4" C.	LLLG	57	2#1/0, 1 1/4" C.	LN			
28)	4#6, 1#10G., 1" C.	LLLNG	(58)	2#1/0, 1#6G., 1 1/2" C.	LNG	1 2 2	2 = 2 = 2 = 2 = 2	1 4
29	2#4, 3/4" C.	LN	(59)	2#1/0, 1#6G., 1 1/2°C.	LLG			
	2#4, 1#8G., 1" C.	LNG	60	3#1/0, 1 1/2" C.	LLL			8

# DEVICE SYMBOL SCHEDULE

# NOTES: ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS. ALL DEVICE PART NUMBERS ARE HUBBELL UNLESS OTHERWISE NOTED.

SYMBOL	DESCRIPTION	REMARKS
0-	SINGLE RECEPTACLE 20A/120V 16" AFF UON	HBL 5361-I
₽	DUPLEX RECEPTACLE 20A/120V 16"AFF UON	CR20-I
υÐ=	DUPLEX RECEPTACLE WITH DUAL USB 20A/120V 16" AFF UON	USB20X2W
<b>=</b>	DUPLEX RECEPTACLE 20A/120V 16" AFF UON WITH GROUND FAULT INTERRUPTER	GF20ILA
IG <b>⊖</b> =	DUPLEX RECEPTACLE 20A/120V 16" AFF UON WITH ISOLATED/INSULATED GROUND	CR5352IG
<b>=</b>	FOURPLEX RECEPTACLE 20A/120V 16" AFF UON	(2) CR20-I
ЮІ	CLOCK RECEPTACLE 120V 96" AFF UON	HBL 5235
€	SPECIAL PURPOSE RECEPTACLE 16" AFF SEE PLANS FOR DETAILS	
•	CEILING MOUNTED DUPLEX RECEPTACLE 20A/120V (FLUSH)	CR20-I
₽	DUPLEX RECEPTACLE 20A/120V MOUNTED HORIZONTALLY 48" AFF UON	CR20-I
P <b>⊕</b> =	FOURPLEX RECEPTACLE FOR PROJECTOR	
WP 🗢	WEATHER/TAMPER-RESISTANT DUPLEX RECEPTACLE WITH "IN-USE" COVER 20A/120V 18"AFF UON	GFTR20I/ WP26M
<del>\$</del> =	8" ABOVE COUNTER - GFI	11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
sc <del>(=</del>	DUPLEX RECEPTACLE W/ SURGE SUPPRESSION 20A/120V 16" AFF UON	IG5362-SA
s ⊜=	SAFETY TYPE DUPLEX RECEPTACLE 20A/120V 16" AFF UON	CR20ITR
<b>a</b>	DUPLEX RECEPTACLE, FLOOR MOUNTED FLUSH	CR20-I,PFBRG1 SB3083,S3825
•	FOURPLEX RECEPTACLE, FLOOR MOUNTED FLUSH	(2) HBL-5362-I, PFBRG2 SB3084, (2)S3825
争	EXISTING DUPLEX RECEPTACLE	
⊕=	EXISTING FOURPLEX RECEPTACLE	
6=	EXISTING 208V RECEPTACLE	
\$	SINGLE POLE SWITCH 20A, 48"AFF UON	CS120-I
\$3	THREE-WAY SWITCH 20A, 48"AFF UON	CS320-I
\$4	FOUR-WAY SWITCH 20A, 48"AFF UON	CS1224-I
\$ <sup>K</sup>	SINGLE POLE KEY OPERATED SWITCH 20A, 48"AFF UON	HBL 1221-RKL
\$	DIMMER SWITCH, 48"AFF UON, SEE PLANS FOR DETAILS	
\$P	SWITCH WITH PILOT LIGHT, 48"AFF UON	HBL1221-PL
\$ <sup>2</sup>	TWO POLE SWITCH 20A, 48"AFF UON	CS1222-I
\$ <sup>T</sup>	TIMER SWITCH, 48"AFF UON	INTERMATIC FF60MC
\$ <sup>F</sup>	FAN SWITCH, 48"AFF UON	RF51
\$ <sub>IR</sub>	WALL MOTION SENSOR: 48" AFF UON, (IR) INFRARED	WS1277-I
\$us	WALL MOTION SENSOR: 48" AFF UON, (US) ULTRASONIC	AU127711
\$ <sub>DT</sub>	WALL MOTION SENSOR: 48" AFF UON, (DT) DUAL TECHNOLOGY	AD1277-I1
Mus	MOTION SENSOR: US (ULTRASONIC)	ATU2000C
MIR	MOTION SENSOR: IR (INFRARED)	ATP1500C
M <sub>DT</sub>	MOTION SENSOR: DT (DUAL TECHNOLOGY)	ATD2000C

# TELECOMMUNICATION/DATA SYMBOL SCHEDULE

TON	TES:		
A.	ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS.		

PROVIDE 3/4" CONDUIT TO ABOVE CEILING WITH PULLSTRING AND PLASTIC BUSHING FOR ALL DEVICES, USE 4" x 4" x 2 1/8" JUNCTION BOX WITH SINGLE GANG PLASTER RING FOR ALL DEVICES.

ALL CABLING BY OWNER/ OTHERS.

10 FEET SERVICE LOOP WITH DATA BISCUIT BOX ON END ABOVE CEILING, TIE OFF TO NEAREST JOIST. FINAL INSTALL OF AP DEVICE BY DISTRICT.

SYMBOL	DESCRIPTION	REMARKS
4	TELEPHONE OUTLET	
•	TELEPHONE OUTLET, FLOOR MOUNTED FLUSH	=
<b>⋖</b> w	TELEPHONE OUTLET, WALL MOUNTED	The state of the s
4	COMBINATION SINGLE VOICE TELEPHONE/DUAL DATA	1 2 16 1
	COMBINATION SINGLE VOICE TELEPHONE/DUAL DATA, FLOOR MOUNTED FLUSH	
◁	DUAL DATA OUTLET	
	DUAL DATA OUTLET, FLOOR MOUNTED FLUSH	
0	DUAL DATA OUTLET, CEILING MOUNTED FLUSH	
€	TELEVISION OUTLET	
HMR	MUDRING WITH 3-PULL STRINGS TO ABOVE CEILING	8 20
△ AP	SINGLE DATA DROP FOR WIRELESS ACCESS POINT, (WALL MOUNT)	
<b>⊘</b> AP	SINGLE DATA DROP FOR WIRELESS ACCESS POINT, (CEILING MOUNT)	. 1
₩)	AUDIO/VISUAL WALL MOUNTED OUTLET	

# **GENERAL NOTES**

- THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.
- CONTRACTOR IS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.
- ALL WORK SHALL COMPLY WITH THE CURRENT APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY NFPA, BUILDING CODE, MECHANICAL CODE, PLUMBING CODE, STATUTES GOVERN. THE CONTRACTOR SHALL VERIFY WITH AUTHORITY HAVING JURISDICTION THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY SIZES OF BREAKERS, FUSES, WIRES, ETC., FOR ALL EQUIPMENT PROVIDED AND REPORT DISCREPANCIES TO THE ENGINEER/ARCHITECT PRIOR TO INSTALLATION OF CONDUIT. COORDINATE WITH MECHANICAL/ELECTRICAL COORDINATION SHEET PROVIDED BY MECHANICAL CONTRACTOR FOR
- HOMERUNS SHALL BE COORDINATED WITH PANELBOARDS. ALL WIRING AND CONDUIT SHALL BE CONCEALED, EXCEPT IN ELECTRICAL ROOMS AND EXPOSED STRUCTURE AREAS.
- ALL WIRING SHALL BE FREE OF SHORTS AND GROUNDS. NO WIRING SHALL BE LOADED BEYOND THE PERMITTED AMPACITIES ALLOWED BY CURRENT N.E.C. NO ALUMINUM WIRING ALLOWED.
- MINIMUM WIRE/CONDUIT SIZES, EXCEPT FOR CLASS 2 LOW VOLTAGE CIRCUITS, ARE #12 AWG COPPER IN 1/2" CONDUIT. WHERE THE DISTANCE BETWEEN THE SUPPLYING PANEL AND THE FIRST BRANCH CIRCUIT RECEPTACLE OR LIGHT FIXTURE IS MORE THAN 100 FEET, UP SIZE CONDUCTOR TO ALLOW FOR MAXIMUM OF 3% VOLTAGE DROP FOR ACTUAL ROUTING OF CONDUITS TO DEVICE.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO MAKE A COMPLETE AND WORKABLE SYSTEM.
- CONFIRM THE EXACT LOCATION AND MOUNTING HEIGHTS OF LIGHTING FIXTURES WITH ARCHITECT BEFORE ROUGH-IN. COORDINATE REQUIRED CLEARANCES ABOVE FIXTURES WITH OTHER TRADES.
- PROVIDE A TYPED PANEL DIRECTORY FOR ALL PANELBOARDS INDICATING FINAL INSTALLED CONDITION. CIRCUIT LABELING SHALL AGREE WITH EQUIPMENT DESIGNATIONS AND OWNERS FINAL ROOM NUMBERS.
- LABEL ALL RECEPTACLES AND LIGHT SWITCHES WITH CIRCUIT NUMBER USING AN ELECTRONIC LABELER (BLACK ON
- THE CONTRACTOR IS TO LAY OUT SERVICE ENTRANCE AND ELECTRIC ROOMS TO SCALE WITH ACTUAL GEAR TO BE INSTALLED TO ENSURE PROPER FIT AND CLEARANCES BEFORE INSTALLATION. COORDINATE ALL SERVICE
- NOTIFY ARCHITECT/ENGINEERS OF ANY DIMENSIONAL PROBLEMS. COORDINATE AND WIRE ALL DOOR HOLD OPEN DEVICES, AS REQUIRED. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS. ROUTE 120 VOLT POWER FROM NEAREST AVAILABLE CIRCUIT AS REQUIRED. PROVIDE ALL WIRING

CLEARANCE REQUIREMENTS WITH LOCAL UTILITY COMPANY. PROVIDE A 1/4" SCALE (MINIMUM) SHOP DRAWING.

- NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM. CONDUITS ROUTED TO ROOF SHALL BE INSTALLED IN SAME ROOF JACK AS MECHANICAL ELEMENTS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR
- SHALL PROVIDE ROOF JACK WHERE NO MECHANICAL ELEMENTS EXIST. PROVIDE SLEEVES FOR SPECIAL SYSTEMS ABOVE EACH DOOR INTO A RATED EGRESS CORRIDOR, (1 - 2" AND 3 -
- 3/4"). FIRE SEAL ENDS AND UNUSED SLEEVES SHALL HAVE A SCREW CAP INSTALLED ON BOTH SIDES. USE ALL RECEPTACLES SERVING ELECTRIC WATER COOLERS SHALL BE LOCATED AT A HEIGHT SO AS NOT TO BE VISIBLE
- AFTER INSTALLATION OF EWC. COORDINATE MOUNTING HEIGHT WITH EQUIPMENT BEING PROVIDED. PROTECT WITH GFCI BREAKER.
- Q. ALL CONDUITS ROUTED BELOW FINISHED FLOOR SHALL BE RUN BELOW THE GRADE BEAMS. CONDUITS AND MULTIPLE CONDUITS SHALL NOT PENETRATE GRADE BEAMS UNLESS COORDINATED WITH STRUCTURAL ENGINEER. OBTAIN WRITTEN APPROVAL FROM STRUCTURAL ENGINEER PRIOR TO BEGINNING WORK.
- ALL EXPOSED CONDUIT SHALL BE RUN PARALLEL AND PERPENDICULAR TO STRUCTURE AND BUILDING LINES. COORDINATE FINAL CONDUIT ROUTING PATH WITH ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL 120 VOLT WIRING AND CONNECTIONS REQUIRED TO FIRE/SMOKE DAMPERS. COORDINATE EXACT LOCATIONS OF DAMPERS WITH MECHANICAL CONTRACTOR AND RELAY REQUIREMENTS WITH FIRE ALARM CONTRACTOR. CONNECT TO NEAREST AVAILABLE UNSWITCHED CIRCUIT UNLESS OTHERWISE INDICATED ON DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL CONNECT MOTORIZED BACK DRAFT DAMPERS FOR EXHAUST FANS FROM CIRCUIT FEEDING FAN. PROVIDE ALL MATERIAL AND LABOR TO MAKE CONNECTIONS.
- ELECTRICAL CONTRACTOR SHALL WIRE ALL EXHAUST FANS TO BE CONTROLLED PER "EXHAUST FAN SCHEDULE" ON MECHANICAL SHEET. ELECTRICAL CONTRACTOR TO PROVIDE ALL RELAYS, CONTACTORS, SPRING WOUND TIMERS, ETC., AS REQUIRED PER SCHEDULE TO OPERATE AND CONTROL EXHAUST FAN. IF NO CONTROL IS SPECIFIED, EXHAUST FAN SHALL ENERGIZE WHEN LIGHTS IN ANY ROOM IT SERVES ARE POWERED ON. REFERENCE DETAIL ON ELECTRICAL SHEET FOR ADDITIONAL INFORMATION.
- V. ELECTRICAL CONTRACTOR TO SEAL ALL PENETRATIONS OF ELECTRICAL WORK IN FIRE AND SMOKE RATED PARTITIONS, CEILINGS, ETC.
- W. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECTING MEANS FOR ALL EQUIPMENT PER N.E.C. UNLESS OTHERWISE NOTED.
- X. COORDINATE ALL DEVICES IN MILLWORK WITH ARCHITECTURAL MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
- Y. SENSOR OPERATED PLUMBING DEVICES: PLUMBING CONTRACTOR TO PROVIDE LOW VOLTAGE TRANSFORMERS FROM MANUFACTURER. ELECTRICAL CONTRACTOR IS TO PROVIDE ALL OTHER MATERIALS AND LABOR FOR COMPLETE INSTALLATION.
- Z. SPRAY PAINT JUNCTION BOXES RED FOR FIRE ALARM SYSTEM. ALL OTHER SPECIAL SYSTEM JUNCTION BOXES TO BE PAINTED WHITE.
- AA. DO NOT HANG ANY FIXTURES, EQUIPMENT OR CONDUIT FROM ROOF DECK.
- BB. LABEL ALL JUNCTION BOXES WITH CIRCUIT NUMBERS.
- CC. IDENTIFY RECEPTACLE CIRCUITS IN PANELBOARDS TO INDICATE FINAL ROOM NUMBERS. VERIFY FINAL ROOM NUMBERS PRIOR TO TYPING PANELBOARD SCHEDULES.
- DD. MECHANICALLY FASTEN ALL LABELS TO EQUIPMENT.
- EE. ELECTRICAL CONTRACTOR TO OBTAIN "MECH/ELEC COORDINATION SHEET" FILLED OUT FROM MECHANICAL CONTRACTOR. THIS SHEET IS TO BE INCLUDED WITH ELECTRICAL GEAR/PANELBOARD SUBMITTAL. SUBMITTAL WILL NOT BE CHECKED WITHOUT THIS FORM INCLUDED.
- FF. ELECTRICAL CONTRACTOR IS TO PROVIDE ROUGH-IN FOR ALL MECHANICAL CONTROL DEVICES IN WALLS AND PENETRATIONS FOR CONTROL WIRES TO EXTERIOR UNITS. COORDINATE ALL LOCATIONS WITH MECHANICAL CONTRACTOR AND MECHANICAL SHEETS.
- GG. DISCONNECTS MOUNTED ABOVE CEILING MUST BE MOUNTED TO BE READILY ACCESSIBLE NEAR UNIT. HANDLE TO BE NO MORE THAN 36" ABOVE CEILING GRID.
- HH. ALL EXTERIOR DISCONNECTS ARE TO BE MOUNTED BELOW LINE OF SIGHT OF A SCREEN WALL OR IF SINGLE DISCONNECT, LEVEL WITH TOP OF CONDENSER. VERIFY LOCATION WITH ARCHITECT/ENGINEER PRIOR TO

BUILDING **MOO**  $\sim$ SION

FIELD DEVELOPMENT 8

DEER PARK,

9 

WXST.

PROJECT PHASE BID - 8/10/2017

CITY OF DEER PARK

Date Received AUG 11 2017

**ENGINEERING DEPARTMENT** 

REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1.1 FOR ADDITIONAL INFORMATION

94813



APPROVED

DISAPPROVED

APPROVED AS NOTED

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HCE job no.: 17-026

16123-00 DATE ISSUED 8/10/2017

SCHEDULES, NOTES, AND LEGENDS - ELECTRICAL

ELECTRICIAN TO PROVIDE 120V POWER TO ALL EQUIPMENT FROM NEAREST PANEL HAVING CAPACITY, UNLESS OTHERWISE NOTED.

ELECTRICAL CONTRACTOR IS TO PROVIDE ALL PARTS AND LABOR TO MAKE FINAL CONNECTIONS TO ALL EQUIPMENT SHOWN IN CONTRACT DOCUMENTS. POWER MAY BE SHOWN IN GENERAL LOCATION. IT IS EXPECTED THAT THE ELETRICAL CONTRACTOR COORDINATE FINAL LOCATION FOR ROUGH-IN AND CONNECTION REQUIREMENTS WITH EXACT EQUIPMENT BEING INSTALLED. THESE ITEMS INCLUDE. BUT NOT LIMITED TO, BOOK SECURITY, EXHAUST FANS, KILNS, HAND DRYERS, SENSOR OPERATED PLUMBING DEVICES, ELECTRIC OVERHEAD DOORS, FIRE SMOKE DAMPERS, AIR PURIFICATION UNITS, ETC.

## **MOTION SENSORS**

PROVIDE MOTION SENSORS AS SHOWN ON PLANS. PROVIDE DUAL TECHNOLOGY MOTION SENSORS IN EVERY ROOM OVER 250 SQ.FT. WIRE SO THAT MOTION SENSOR ACTIVATES SWITCHES ON WALL.

## POWER FOR SPECIAL SYSTEMS POWER SUPPLIES

ELECTRICAL CONTRACTOR TO PROVIDE POWER TO ALL SECURITY, FIRE ALARM, ACCESS CONTROL, ETC. POWER SUPPLIES. COORDINATE EXACT LOCATION WITH SPECIAL SYSTEMS CONTRACTOR AND FLOOR PLANS. PROVIDE DEDICATED LOW VOLTAGE CIRCUIT TO NEAREST PANEL HAVING CAPACITY

2. LABEL ALL SPECIAL SYSTEMS POWER SUPPLIES WITH PANEL AND CIRCUIT NUMBERS.

# SENSOR OPERATED PLUMBING DEVICES

PLUMBING CONTRACTOR TO PROVIDE LOW VOLTAGE TRANSFORMERS FROM MANUFACTURER. ELECTRICAL CONTRACTOR IS TO PROVIDE ALL OTHER MATERIALS AND LABOR FOR COMPLETE INSTALLATION.

# DISCONNECT SWITCH SCHEDULE

## **REMARKS:**

COORDINATE FINAL FUSE SIZES WITH EQUIPMENT BEING PROVIDED PRIOR TO ROUGH-IN. WHEN THE LENGTH OF THE SECONDARY CONDUCTORS OF ANY TRANSFORMER EXCEEDS TEN FEET. PROVIDE AN ENCLOSED CIRCUIT BREAKER OR FUSED DISCONNECT WITHIN TEN FEET OF THE TRANSFORMER SECONDARY TERMINALS IN ACCORDANCE WITH NEC ARTICLE 240-21(C)(2). THIS OVERCURRENT DEVICE SHALL HAVE AN AMP RATING EQUAL TO THE AMP RATING OF THE PANEL BEING SERVED. THE PANEL BEING FED MAY BE CHANGED TO MAIN LUG ONLY.

PROVIDE LUG KITS AND/OR WIRING GUTTERS FOR PANELS WITH OVERSIZED CONDUCTORS DUE TO VOLTAGE DROP AND/OR DISTANCE. MAKE CONNECTIONS IN ACCORDANCE WITH THE N.E.C. PROVIDE SHOP DRAWINGS OF ALL ELECTRIC ROOMS INDICATING ALL PANEL, TRANSFORMER AND DISCONNECT LOCATIONS. ELECTRICAL EQUIPMENT MAY SHIFT IN LOCATION TO INSURE PROPER CLEARANCES.

PROVIDE DISCONNECTING MEANS FOR ALL EQUIPMENT PER N.E.C.

DISCONNECTS MOUNTED ABOVE CEILING MUST BE MOUNTED TO BE READILY ACCESSIBLE NEAR UNIT. HANDLE TO BE NO MORE THAN 36" ABOVE CEILING GRID.

ALL EXTERIOR DISCONNECTS ARE TO BE MOUNTED BELOW LINE OF SIGHT OF A SCREEN WALL OR IF SINGLE DISCONNECT, LEVEL WITH TOP OF CONDENSER. VERIFY LOCATION WITH ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.

	VC	)LT/	AGE	i U			Α	MP	ERE	SF	RATI	NG						11	PC	LE:	\$		ENC	LOS	URE	FU	SES		REMARKS
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# SPECIAL SYSTEMS SCOPE

FIRE ALARM SYSTEM 1. NONE

**TECHNOLOGY** 1. NONE OR BY OWNER

ACCESS/ CONTROL SECURITY 1. NONE OR BY OWNER

HVAC CONTROLS DDC 1. NONE

# NLIGHT - DEVICE SYMBOL SCHEDULE

ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS.

ALL DEVICE PART NUMBERS ARE NLIGHT UNLESS OTHERWISE NOTED. THESE DEVICES SHOULD BE USED IN ALL AREAS TO BE CONTROLLED BY NLIGHT.

MOTION SENSOR: WHERE MOTION SENSORS ARE SHOWN ON THE PLANS. THAT INDICATES AREA SHOULD BE COVERED IN FULL BY MOTION SENSORS. IT IS UP TO MOTION SENSOR PROVIDER TO PROVIDE APPROPRIATE QUANTITY AND LAYOUT OF MOTION SENSORS FOR COMPLETE COVERAGE. PROVIDE SHOP DRAWING AT SUBMITTAL PHASE.

PHOTOCELL: WHERE PHOTOCELLS ARE SHOWN ON PLANS OR IN TYPICAL DETAILS. IE:CLASSROOMS. PHOTOCELL LOCATION AND QUANTITY SHOULD BE DETERMINED BY PHOTOCELL PROVIDER.

PHOTOCELLS ARE INTENDED TO DIM LIGHTS IN DAYLIGHT ZONES AS INDICATED BY IECC 2015. AREAS IN QUESTION. ENGINEER WILL REVIEW AND MAKE ANY ADJUSTMENTS TO ZONES AT THAT TIME.

MANUFACTURER TO PROVIDE A COMPLETE SET OF SHOP DRAWINGS INDICATING ALL ASPECTS OF LIGHTING CONTROL AT A MINIMUM OF 1/8" = 1' SCALE WITH CLEAR DESCRIPTIONS AND LEGENDS FOR SYMBOLS.

BASIC COMPONENTS ARE CALLED FOR HERE, IT IS EXPECTED THAT MANUFACTURER PROVIDES ALL COMPONENTS FOR A COMPLETE WORKABLE SYSTEM.

FACTORY START-UP IS REQUIRED FOR ALL NLIGHT SPACES. CONTRACTOR SHOULD SEND COMPLETE SET OF ELECTRICAL PLANS TO NLIGHT FACTORY REP TO

ENSURE A COMPLETE BID. CONTRACTOR TO ASSUME ALL DEVICES INTER-CONNECTED WITH CAT-5 CABLE. PROVIDE ALL REQUIRED

SYMBOL	DESCRIPTION	REMARKS
\$ <sup>D</sup>	DIMMER	nPODM-DX
\$ <sup>DT</sup>	DUAL TECHNOLOGY WALL MOUNT MOTION AND DIMMING	nWSX-PDT-SA
\$ <sup>C1</sup>	ONE ZONE CONTROLLER, ON/OFF AND DIMMING	nPODM-DX
\$ <sup>C2</sup>	TWO ZONE CONTROLLER, ON/OFF AND DIMMING	nPODM-2P-DX
\$ <sup>c3</sup>	THREE ZONE CONTROLLER, 3 PRESET TOGGLE BUTTONS	
\$ <sup>C4</sup>	FOUR ZONE CONTROLLER, 4 PRESET TOGGLE BUTTONS	
MDT	MOTION SENSOR, DT (DUAL TECHNOLOGY)	nCM-PDT-9:nWV-PDT-16

nCM-ADCX

# NLIGHT INTERIOR LIGHTING SCHEDULE

# **GENERAL NOTES:**

**PHOTOCELL** 

CABLING BETWEEN DEVICES.

# **POWER PACKS**

P

FOR FIXTURES THAT ARE NOT NLIGHT COMPATIBLE, PROVIDE POWER PACKS TO ACHIEVE ZONING INDICATED ON PLANS.

AREAS WITH HIGH CEILINGS(25FT OR HIGHER). PROVIDE POWER PACKS TO ACHIEVE ZONING INDICATED ON PLANS. LOCATE POWER PACKS IN ACCESSIBLE LOCATION FROM LIGHTING PANEL SERVING CIRCUITS.

WHEN POWER PACKS ARE PROVIDED. CONTRACTOR MUST PROVIDE 0-10V DIMMING WIRES FROM POWER PACK TO FIXTURE FOR CONTROL IN LEIU OF CAT5 CABLE.

PROVIDE MOTION SENSORS AS SHOWN ON PLANS. PROVIDE DUAL TECHNOLOGY MOTION SENSORS IN **EVERY ROOM AS REQUIRED BY IEEC 2015.** 

ALL ROOMS SHALL HAVE A CONTROL STATION FOR CONTROL OF LIGHTS IN ROOM. IF NO CONTROL STATION IS SHOWN, ASSUME A TWO ZONE CONTROLLER FOR ROOMS LARGER THAN 9' X 9' AND A WALL MOUNT DUAL TECHNOLOGY CONTROLLER FOR ROOMS SMALLER THAN 9' X 9'.

# **SPACE TYPE DESCRIPTION:**

A. PROVIDE MOTION SENSOR AS SHOWN ON PLANS. WHEN MOTION IS NOT DETECTED LIGHTS SHOULD BE DIMMED TO 25% FOR 5 MIN THEN TO 0% IF NO ADDITIONAL MOTION IS DETECTED.

A. PROVIDE CONTROL STATIONS AS SHOWN ON PLANS. B. ONE OVERALL ZONE TO CONTROL ALL LIGHTS IN ROOM.

CIRCULATING FAN POWER

C. PROVIDE COMPLETE MOTION SENSOR COVERAGE. SHOP DRAWING REQUIRED.

# SPECIAL SYSTEM SYMBOL SCHEDULE

REFERENCE DISTRICT SPECIFICATIONS FOR ADDITIONAL INFORMATION. THIS IS FOR GENERAL LOCATION ONLY. ALL DEVICES AND CABLING PER DISTRICT SPECIFICATIONS

SYMBOL	DESCRIPTION	REMARKS
н	HAND DRYER	
ЮW)	DISHWASHER	

# LIGHT FIXTURE SCHEDULE

# **GENERAL NOTES:**

- CONFIRM CEILING TYPE AND CONSTRUCTION PRIOR TO ORDERING LIGHT FIXTURE. PROVIDE FLANGE KIT FOR PROPER INSTALLATION OF LAY-IN FIXTURE IN GYPSUM CEILING. PROVIDE FIXTURE TYPE 'H2' IN LIEU OF FIXTURE TYP 'A2' IN ROOMS WITH NO CEILING. CHAIN HANG AT 10' A.F.F.
- COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF WALL MOUNTED LIGHT FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.
- C. REFER TO ARCHITECTURAL REFLECTIVE CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURE.
- CONFIRM FINISH WITH ARCHITECT PRIOR TO ORDERING LIGHT FIXTURES.
- E. 'E' DESIGNATION ADJACENT TO LIGHTING FIXTURE TYPE INDICATES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK UNIT (LITHONIA PS1400 OR EQUAL). LIGHT FIXTURE SHALL BE SWITCHED, BATTERY PACK SHALL BE UNSWITCHED.
- F. 'N' DESIGNATION ADJACENT TO LIGHTING FIXTURE TYPE INDICATES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK UNIT (LITHONIA PS1400 OR EQUAL). LIGHT FIXTURE AND BATTERY PACK SHALL BE UNSWITCHED.
- G. FIXTURES SHALL HAVE A MAXIMUM OF TWO (2) LAMPS PER BALLAST.
- CONNECT ALL EXIT LIGHTING TO THE NEAREST UNSWITCHED CIRCUIT OR THE NEAREST EMERGENCY CIRCUIT.
- (\*) PROVIDE UNIT PRICE FOR THIS FIXTURE. INCLUDE MATERIAL AND LABOR TO BE ADDED AT ANY TIME DURING THE PROJECT.

MARK	MANUFACTURERS CATALOG NUMBER	LAMPS NO. / TYPE / WATTS	FIXTURE VOLTS / WATTS	DESCRIPTION AND COMMENTS
J2	LITHONIA VAP LED-4000LM-FST-MD-MVOLT -1%DIMMING-35K-80CRI-N100	1/LED 5200L/42	MVOLT/42	ENCLOSED LED WET LOCATION STRIP WITH ENERGY SAVING LAMPS. HIGH IMPACT LENS. WHITE FINISH. 1%DIM, NLIGHT
J3	LITHONIA VAP LED-6000LM-FST-MD-MVOLT -1%DIMMING-35K-80CRI-N100	1/LED 6630/62	MVOLT/62	ENCLOSED LED WET LOCATION STRIP WITH ENERGY SAVING LAMPS. HIGH IMPACT LENS. WHITE FINISH. 1%DIM, NLIGHT
L1	LITHONIA LDN6-35-1000-L06-AR-MVOLT	1/LED 1000 LUMENS/18	MVOLT/18	6" LED DOWNLIGHT SEMI SPECULAR REFLECTOR, TRIM TO MATCH CANOPY OR SILVER. PROVIDE 'EL' BATTERY WHEN SPECIFIED.
T1 (led)	VISIONAIRE LIGHTING VSC-1-T2-32-530-4000K- UNV-WM-SL-PC120	1/LED ENGINES/54	MVOLT/54	SLIM ARCHITECTURAL WALL MOUNTED LED FIXTURE WITH DIE CAST ALUMINUM HOUSING, ALUMINUM REFLECTOR WITH FULL CUTT-OFF, HIGH EFFICIENCY DRIVER. DARK BRONZE FINISH. COORDINATE FINAL HEIGHT WITH ARCHITECTURAL.
X1	LITHONIA LESW-1R-MVOLT-ELN	INCLUDED	MVOLT/5	LED SINGLE FACE EXIT SIGN WITH DIE CAST ALUMINUM HOUSING, EMERGENCY BATTERY PACK. WHITE FINISH.
Y1	LITHONIA ELM2—LED	INCLUDED	MVOLT/20	EMERGENCY EGRESS FIXTURE WITH POLYCARBONATE HOUSING, EMERGENCY BATTERY PACK AND AMMETER. WHITE FINISH. MOUNT FIXTURE ON WALL, AS HIGH AS POSSIBLE. CONNECT TO NEAREST UNSWITCHED 120 VOLT CIRCUIT.

# **CEILING FANS**

# CEILING FAN (CF-1, 2):

HUNTER ORIGINAL CLASSIC CEILING FAN MANUFACTURED BY HUNTER. 52" DIAMETER. PROVIDE

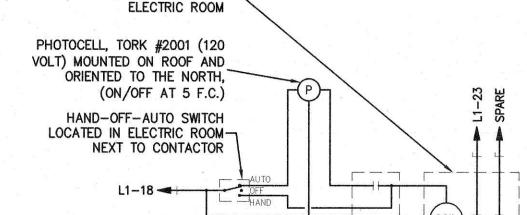
PROPER LENGTH MOUNTING STEM FOR HEIGHT SPECIFIED ON PLANS. KEEP MANUFACTURER MINIMUM CLEARANCE BETWEEN FAN BLADES AND CEILING. FAN SPEED IS VARIABLE. FANS TO BE BROWN, BLADES BROWN, IF LIGHT KIT IS CALLED FOR MUST BE APPROVED BY ARCHITECT. CONTACT MIKE AT "TEXAS CEILING FAN" 512-477-3132. (QUANTITY PER PLANS). COORDINATE STEM LENGTHS WITH FINAL MOUNTING HEIGHT. PROVIDE \$100 ALLOWANCE PER LIGHT KIT. NO EXCEPTIONS ON FAN MODEL.

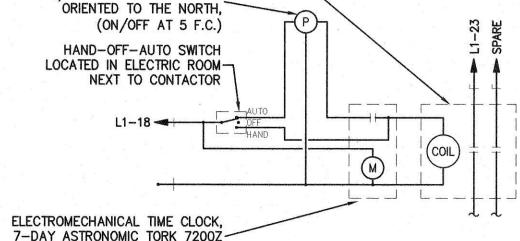
BROWN - # 23847 WHITE - #23845 BLACK - #23838

LIGHTING CONTACTOR SQ-D #LH-20 (120 VOLT) OR EQUAL, LOCATED IN-

LOCATED NEXT TO CONTACTOR

MARK NO.	STOCK/ MODEL NUMBER	MAX RPM	HP	VOLT/PH/AMPS	BLADE DIAMETER	WEIGHT
CF-1	HUNTER ORIGINAL #23847 (BRN)		FRACTION	120/1/1.1	52"	30









REFERENCE GENERAL NOTES OF SHEETS M1.1, P1.1 AND E1 FOR ADDITIONAL INFORMATION



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HCE job no.: 17-026

BUILDING S RESTR

CONCESSION PROJECT PHASE BID - 8/10/2017

REVISIONS CITY OF DEER PARK Date Received

AUG 11 2017

ENGINEERING DEPARTMENT

16123-00 DATE ISSUED

8/10/2017 SCHEDULES -**ELECTRICAL** 

SHEET NUMBER

# CIRCUIT BREAKER PANELBOARD 'L1' DEER PARK - SPENCERVIEW

## STANDARD NOTES:

PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY. . REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

# NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)

REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.

REFERENCE TRANSFORMER SCHEDULE.

REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.

CONNECTED LOAD

RECEPTACLE

EQUIPMENT

KITCHEN

2.7 KVA

12.7 KVA

58.5 KVA

0.0 KVA

0.0 KVA

= 73.8 KVA

(d) PROVIDE WITH SHUNT TRIP BREAKER. (e) PROVIDE WITH 200% NEUTRAL BUS AND WIRE. PROVIDE WITH GFCI BREAKER.

> (g) REFERENCE ASSOCIATED PANEL SCHEDULE. (h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/208 VOLT, 3 PHASE, 4 WIRE, 400A, MCB, KA, RMS SYM. MOUNTED. NEMA 1 ENCLOSURE, S/N FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	E	COVE HEATERS	2 -	1.5	20/1	80/2	16.0	31	AHU-1	E	2
3	E	COVE HEATERS	2	0.8	20/1	_			B B		4
5	E	COVE HEATERS	2	1.5	20/1	70/2	13.3	17	AHU-2	E	6
7	E	COVE HEATERS	2	1.5	20/1	-	-	THE CONTRACT OF THE CONTRACT O	II II		8
9	E	COVE HEATERS	2	0.8	20/1	45/2	5.9	17	HP-1	E	10
11	E	COVE HEATERS	2	1.5	20/1	_	_		E II		12
13	E	EUH-1	5	3.3	20/2	35/2	4.3	10	HP-2	E	14
15		£1 £1	-	_	_	_	_		. 14 - 8 E		16
17	E	EF-1, EF-2	2	0.5	20/1	20/1	0.2	2	RECEPT.	R	18
19	S	SPARE	_	-	30/2	20/1	0.2	2	RECEPT.	R	20
21	-	\$1 E5	-	-	-	20/1	0.2	2	RECEPT.	R	22
23	L	EXTERIOR LIGHTING	2	0.5	20/1	20/1	1.0	2	RECEPT.	R	24
25	L	LIGHTING	2	1.2	20/1	20/1	1.0	2	RECEPT.	R	26
27	L	LIGHTING	2	0.7	20/1	20/1	1.0	2	RECEPT.	R	28
29	L	LIGHTING	2	0.3	20/1	20/1	1.0	2	RECEPT.	R	30
31	E	CEILING FANS	2	0.3	20/1	20/1	1.0	2	RECEPT.	R	32
33	E	CEILING FANS	2	0.3	20/1	20/1	1.0	2	RECEPT.	R	34
35	E	WATER HEATER	14	6.0	30/3	20/1	0.5	2	RECEPT.	R	36
37		n n	-	_	_	20/1	0.5	2	RECEPT.	R	38
39		19 19	**************************************	T -	-	20/1	1.0	2	RECEPT.	R	40
41	E	EWC	2,(f)	1.0	20/1	20/1	1.0	2	RECEPT.	R	42
43	S	SPARE	-	-	20/1	20/1	1.0	2	RECEPT.	R	44
45	S	SPARE	-	-	20/1	20/1	1.0	2	RECEPT.	R	46
47	S	SPARE		_	20/1	20/1	1.0	2	RECEPT.	R	48
49	S	SPARE	The second secon	_	20/1	20/1	-		SPARE	S	50
51	S	SPARE	***	-	20/1	20/1	-	_	SPARE	S	52
53	S	SPARE	and the state of t	-	20/1	20/1	-		SPARE	S	54
55	S	SPARE	-	_	20/1	20/1	- 1	are particular in the contraction of the first contraction of the particular and the part	SPARE	S	56
57	S	SPARE	-	_	20/1	20/1	- 1		SPARE	S	58
59	S	SPARE	-	_	20/1	20/1	- 1		SPARE	S	60

LIGHTING

SPARES

TOTAL

NEC 220 - 56 KITCHEN

NEC 220 - 14 RECEPTACLE = 11.3 KVA

EQUIPMENT

203 AMPS

REMARKS:

COORDINATE CONNECTION POINT WITH CIVIL SITE CONTRACTOR. REFERENCE CIVIL MEP PACKAGE FOR ALL ELECTRICAL EQUIPMENT UPSTREAM OF DISCONNECT.

RISER KEYED NOTES

ONE SET 4#600 IN 4" CONDUIT

DEMAND LOAD

= 3.4 KVA

= 58.5 KVA

= 0.0 KVA

0.0 KVA

73.2 KVA

- GROUND PER NEC 250. MINIMUM #3/0 GROUNDING ELECTRODE CONDUCTOR. PROVIDE CONTINUOUS CONDUCTOR TO BUILDING STEEL, WATER PIPE, EUPHER,
- ONE SET 4#600, #3G IN 4" CONDUIT.
- REFERENCE DISCONNECT SWITCH SCHEDULE.
- REFERENCE PANEL BOARD SCHEDULE.

# GENERAL DISCONNECT NOTES

- WHEN THE LENGTH OF THE SECONDARY CONDUCTORS OF ANY TRANSFORMER EXCEEDS TEN FEET, PROVIDE AN ENCLOSED CIRCUIT BREAKER OR FUSED DISCONNECT WITHIN TEN FEET OF THE TRANSFORMER SECONDARY TERMINALS IN ACCORDANCE WITH NEC ARTICLE 240-21(C)(2). THIS OVERCURRENT DEVICE SHALL HAVE AN AMP RATING EQUAL TO THE AMP RATING OF THE PANEL BEING SERVED. THE PANEL BEING FED MAY BE CHANGED TO MAIN LUG ONLY.
- PROVIDE LUG KITS AND/OR WIRING GUTTERS FOR PANELS WITH OVERSIZED CONDUCTORS DUE TO VOLTAGE DROP AND/OR DISTANCE. MAKE CONNECTIONS IN ACCORDANCE WITH THE NEC.
- REFERENCE "DISCONNECT SCHEDULE" FOR ADDITIONAL DISCONNECT INFORMATION.

# SPLIT SYSTEM ELECTRICAL CONNECTION SCHEDULE

**DEER PARK - SOCCER & SOFTBALL** 

17026

208/1

1 1 0 2 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us | www.modedc.us + 1 512 733 1150

A. COORDINATE ALL FUSE AND CIRCUIT BEAKER SIZES WITH MECHANICAL EQUIPMENT MANUFACTURES EQUIPMENT SUBMITTAL. OBTAIN A COPY OF THE MECH / ELEC COORDINATION SHEET FROM THE MECHANICAL CONTRACTOR PRIOR TO SUBMITTAL AND / OR RELEASING OF EQUIPMENT. B. WIRE CONDUIT LENGTHS LONGER THAN LISTED LENGTHS MUST ACCOUNT FOR VOLTAGE DROP.

C. ALL UNITS TO BE PROVIDED WITH FUSED DISCONNECTS NO EXCEPTIONS.

# 2 STAGE HEAT PUMP SPLIT SYSTEM WITH VARIABLE SPEED BLOWER

					-			
		2H2	2H3	2H4	2H5			
INDO	DR	19.9		19.9	10.0			
INDOOR: VOLTAGE / PHASE	er te region de la company de planes de la company de planes de la company de la company de planes	208/1	208/1	208/1	208/1	de legiture belande de la legitude d	and the second of the second s	in the standard with a standard and a string treatment to be a string to section to be a string to the string to
KVA	V	7.0	10.9	13.1	17.1			***************************************
MCA		41	64	77	100			
FUSED DISCONNECT (NEMA 1	)	60	100	100	100			
MOCP		45	70	80	100			
MINIMUM WIRE / CONDUIT SI	ZE							
LENGTHUP TO (FT)	125	24	31	31	38	THE RESIDENCE OF THE PROPERTY	MATTER CONTROL OF THE	
LENGTHUP TO (FT)	LENGTHUP TO (FT) 250		45	45	59	ernanderpegend kannteen austrageteleanne en ee		Annual An
LENGTHUP TO (FT)	375	38	52	59	66		article and the second	-
OUTDO	OR	79.9	19.0	19.9				
OUTDOOR: VOLTAGE / PHAS		208/1	208/1	208/1	208/1	an kina aliku saliku salik Saliku saliku salik	us kand principania elimbanda patees kan tambar kan itari en alimbar kan itari kan itari kan itari kan itari k	de plendrante a des des educia ser lyndra des la frante e plan des estandes de la francis de la fran
KVA	erantenialise et state et al. Nodera delle et et et en en et et en en en et en en et en en et en en en en en e E	2.6	3.5	4.8	6.3	an output autom viginalitatives to palarmilia orași ni		
MCA	ACCESSION PLANT BERT AND THE PROPERTY OF THE P	15.3	20.8	28.3	36.8	A COMMITTEE OF STREET, COMMITTEE, COMMIT	ATTENDED TO THE PARTY OF THE PA	A THE STREET STREET, S
FUSED DISCONNECT (NEMA 3	R)	30	60	60	60	A CONTRACTOR OF THE CONTRACTOR		
MOCP	and the second section of the second section of the second section sec	25	35	45	60			
MINIMUM WIRE / CONDUIT SI	ZE							
LENGTH UP TO (FT)	125	martan <del>ungan menghalan kalanka kalanka</del>	10	17	17	free Combine Feedback of the shand end or the advantaged and or pleased on	el perella de la placifica de fraction de medicado por la medicada de medicada pobienda de medicada por la medicada de medicado de medicad	or for the street and and exclusive a tentent entires (selection) to a minimize about
LENGTHUP TO (FT)	250	17	24	24	31			
LENGTH UP TO (FT)	375	24	31	31	38	and externibles to distance by a decision on the control of Table (Additional Courts on Courts).		ert variority from heli met han elle litera est vario della section della est est est variority est statulos e

# 2 STAGE HEAT PUMP SPLIT SYSTEM WITH MULTISPEED BLOWER

INDOOR UNIT KVA TOTAL=		24.0546
OUTDOOR UNIT KVA TOTAL=		8.37646
COAND TOTAL 10/4-	1	20 42400

			0.0.00 10 1712 11	7 22.7070
UNIT TYPE	REMARKS	UNIT MARK	UNIT TYPE	REMARKS
2H4		0	0	
2H3		0	0	
0		0	0	
0		0	0	
0		0	0	
0		0	0	
0		0	0	
0		0	0	
0		0	0	
0		0	0	
0		0	0	
THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND ADDRESS O	2H4 2H3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2H4 2H3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2H4 0 0 2H3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2H4 0 0 0 2H3 0

**GEAR MANUFACTURER TO PROVIDE** COORDINATION STUDY, FAULT CURRENT ANALYSIS AND DETERMINE FINAL KAIC RATINGS FOR ALL GEAR.

# **UTILITY COMPANY CONTACT:**

# COORDINATE WITH CIVIL/ OWNER

UTILITY COMPANY TO DETERMINE SERVICE TRANSFORMER SIZES. DO NOT BEGIN ANY UTILITY WORK UNTIL UTILITY DRAWINGS HAVE BEEN ISSUED BY UTILITY COMPANY. UTILITY COMPANY TO PROVIDE AVAILABLE FAULT CURRENT WHEN AVAILABLE.

THE ELECTRICAL RISER DIAGRAM IS SHOWN SCHEMATICALLY IN NATURE TO INDICATE THE RELATIONSHIP OF THE ELECTRICAL SYSTEM COMPONENTS. IT DOES NOT REFLECT THE ACTUAL ROUTING OF CONDUITS. CONTRACTOR SHALL DETERMINE OVERHEAD OR UNDERGROUND CONDUIT ROUTING. CONDUIT SHALL NOT BE ROUTED EXPOSED ON EXTERIOR WALLS EXCEPT OUT OF THE BOTTOM OF THE PANEL TO RUN UNDER SLAB OR TO AN ADJACENT PANEL WITHIN 24". EXTERIOR EXPOSED CONDUIT SHALL BE MINIMIZED.



94813

APPROVED

CONCESSION

PROJECT PHASE BID - 8/10/2017

RESTROOM BUILDING

REVISIONS CITY OF DEER PARK

Date Received AUG 11 2017

**ENGINEERING DEPARTMENT** 

SCHEDULES AND ONE LINE

DIAGRAM - ELECTRICAL



EFERENCE GENERAL NOTES OF

HEETS M1.1, P1.1 AND E1.

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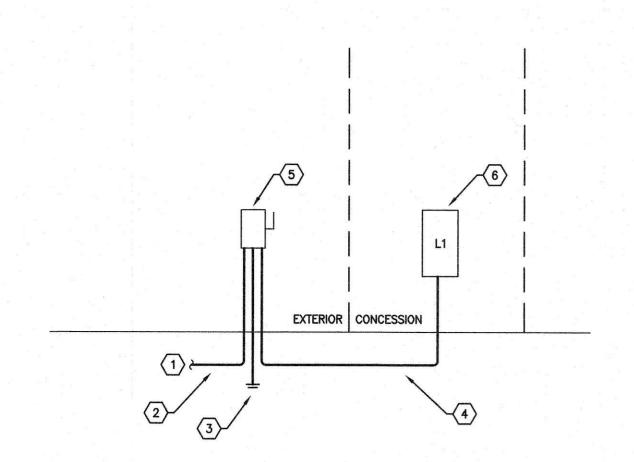
SHEET NUMBER

16123-00

DATE ISSUED

8/10/2017

SHEET TITLE

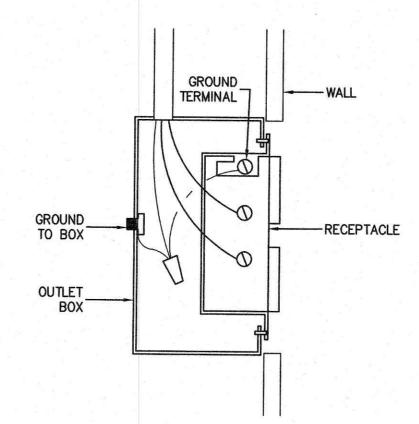


1 ELECTRICAL RISER DIAGRAM

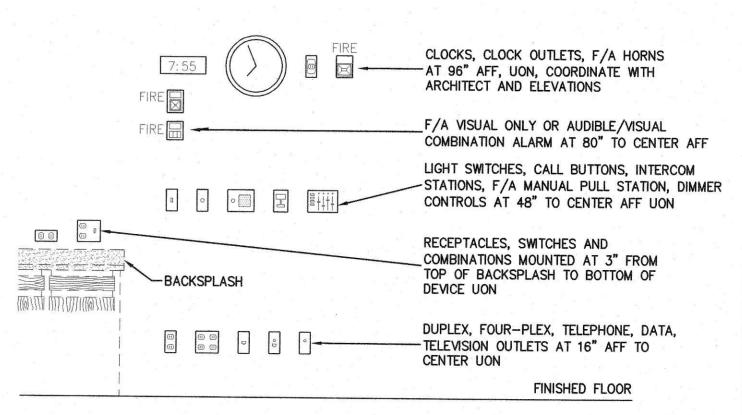
1 1 0 2 s austin ave, suite 103 georgefown, tx 78626 ryan@modedc.us | www.modedc.us + 1 512 733 1150

DEVICE IN CMU WALLS SHALL BE INSTALLED TO AVOID SPLITTING JOINTS AS SHOWN. ALL DEVICES MUST MEET ADA REQUIREMENTS, (48" MAXIMUM TO CENTER OF CONTROL DEVICES AND 16" MINIMUM TO CENTER OF RECEPTACLES). -CONTROL DEVICE

CMU DEVICE DETAIL NO SCALE



RECEPTACLE GROUNDING DETAIL



MOUNTING HEIGHT DETAIL

EDE-10

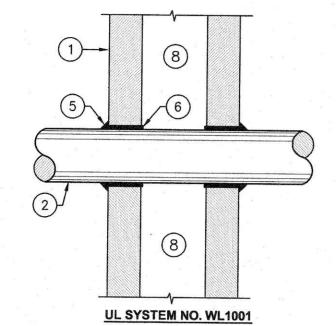
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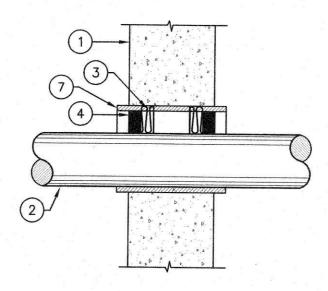
REVISE & RESUBMIT

94813 CENSE

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED B.J. HENDRIX, P.E. NO: 94813 ON: 08/10/2017



UL SYSTEM NO. WL1003



3

**UL SYSTEM NO. CAJ1175 CONDUIT** 

# **KEYED NOTES**

FINISH FLOOR

- 1 RATED WALL BARRIER
- PIPE OR CONDUIT
- 3 FORMING MATERIAL (MINERAL WOOL **BATT INSULATION**
- 4 FIRE CAULK
- 5 FIRE CAULK CONTINUOUS BEAD AROUND PENETRATING ITEM
- FIRE CAULK CONTINUOUSLY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT THROUGHOUT THICKNESS OF WALL BOARD LAYERS
- SLEEVE FOR UL SYSTEM NO. WL1003, OPTIONAL FOR UL SYSTEM NO. CAJ1175
- 8 WALL CAVITY

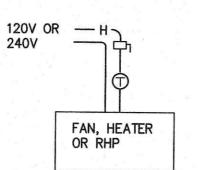
# **GENERAL NOTES**

EDE-59

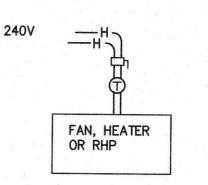
- A. REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL RATED WALLS, FLOORS AND CEILINGS.
- B. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION CONCERNING MATERIALS AND METHODS.
- C. REFERENCE UL FIRE RESISTANCE DIRECTORY FOR ADDITIONAL DATA, INCLUDING WALL RATINGS FOR WHICH DETAILS ARE AND SUPPORT REQUIREMENTS.
- D. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH UL SYSTEM NUMBER AND MANUFACTURER'S INSTRUCTIONS PROVIDED WITH MATERIALS.
- ONLY MATERIALS TESTED FOR SPECIFIC UL SYSTEM NUMBER MAY BE USED.
- ANNULAR SPACE BETWEEN FIRE BARRIER SURFACE AND PENETRATING ITEM IS EXTREMELY CRITICAL. REFER TO PARTICULAR UL SYSTEM NUMBER AND FIRE RATING FOR THIS CRITERIA.

# TYPICAL CONDUIT PENETRATION

(FIRE RATED GYPSUM/STUD WALL ASSEMBLY AND CONCRETE WALL/FLOOR ASSEMBLY) EDE-96



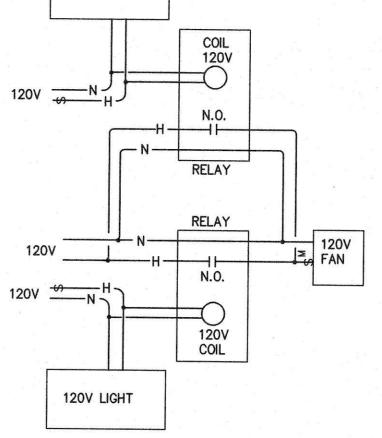
120V/240V LINE VOLTAGE CONTROL DIAGRAM NOTE\* BREAK NEUTRAL WHEN 2 POLE THERMOSTAT IS USED.



240V LINE VOLTAGE CONTROL DIAGRAM NOTE\* MUST USE 2 POLE THERMOSTAT.

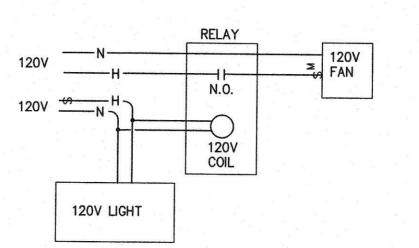
SCALE: NONE

EXHAUST FAN/HEATER CONTROL



120V LIGHT

SINGLE 120V FAN CONTROLLED WITH 120V LIGHTS IN DIFFERENT ROOMS ADD 1 RELAY PER ADDITIONAL ROOM AS REQUIRED.



120V FAN CONTROLLED WITH 120V LIGHT ON SEPERATE CIRCUIT. IF FAN AND LIGHT ARE BOTH ON SAME CIRCUIT SIMPLE WIRE IN PARALLEL.

# REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1 FOR ADDITIONAL INFORMATION This document, the ideas and

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F - 4095

Hendrix Consulting Engineers.

HCE job no.: 17-026

OM BUILDING RESTRO APPROVED AS NOTED SION

SOCCER FIELD DEVELOPMENT PHASE OF. WXST.

No. PROJECT PHASE

BID - 8/10/2017 REVISIONS

CITY OF DEER PARK Date Received

AUG 11 2017

**ENGINEERING DEPARTMENT** 

PROJECT NUMBER 16123-00 DATE ISSUED 8/10/2017

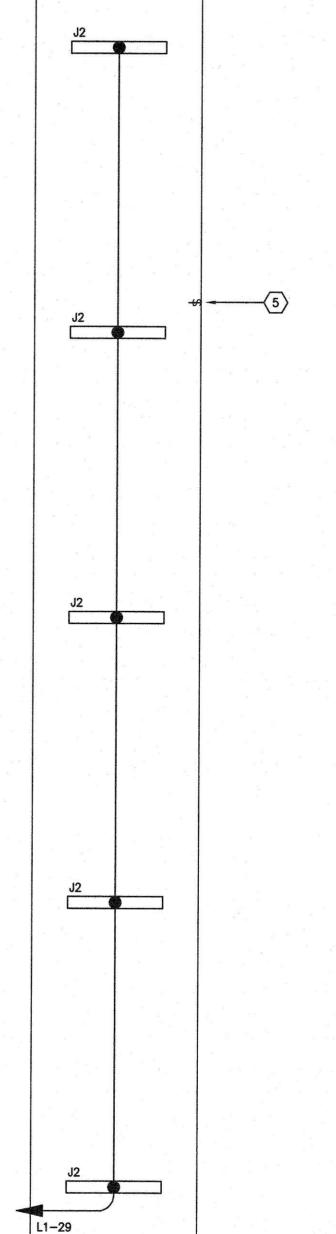
SHEET TITLE DETAILS -ELECTRICAL

SHEET NUMBER

# KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

- LOW VOLTAGE LIGHTING CONTROL BUTTON. REFERENCE MISCELLANEOUS EQUIPMENT SCHEDULE AND NLIGHT INTERIOR LIGHTING SCHEDULE.
- FIELD COORDINATE EXACT MOUNTING HEIGHT OF EXTERIOR FIXTURES WITH ARCHITECT AT ROUGH-IN.
- 3 COORDINATE LIGHTS AND FANS TO AVOID STROBING. .
- REFERENCE LIGHTING CONTACTOR DETAIL FOR EXTERIOR LIGHTING CONTROL INFORMATION.
- APPROXIMATE LOCATION OF MANUAL LIGHT SWITCH FOR MEZZANINE SERVICE LIGHTS AT TOP OF STAIRS TO MEZZANINE. COORDINATE FINAL LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.



HX1 HX

3

MDT

0 1 FLOOR PLAN - LIGHTING TITE (2)
SCALE: 1/4" = 1'-0"

71 g

L1-27

WOMEN

5

MDT

MDT

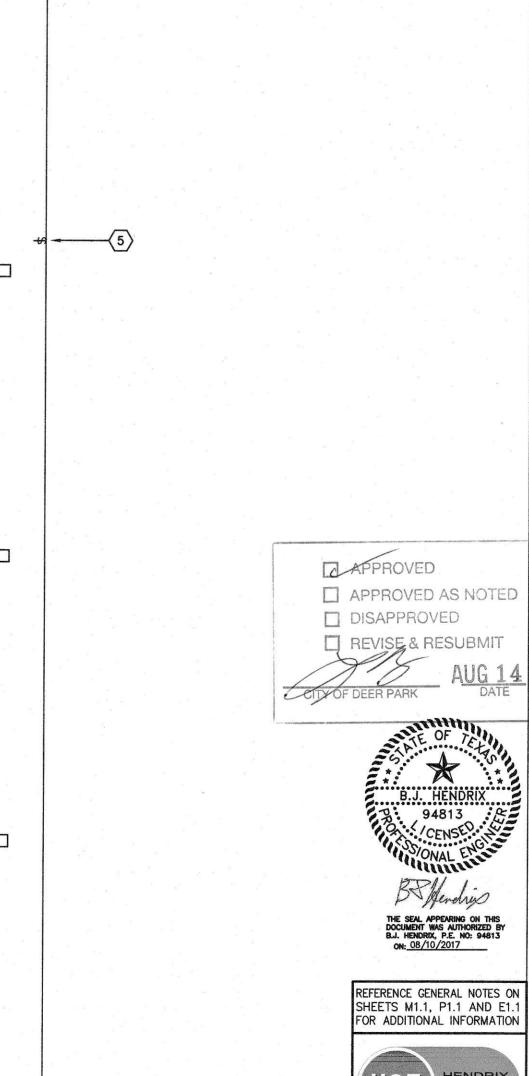
4

L1-23

02 MEZZANINE - LIGHTING
SCALE: 1/4" = 1'-0"



1 1 0 2 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us www.modedc.us + 1 512 733 1150



CONCESSION / RESTROOM BUILDING SOCCER FIELD DEVELOPMENT PHASE 1

PROJECT PHASE

BID - 8/10/2017 REVISIONS

CITY OF DEER PARK
Date Received
AUG 11 2017

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C

HCE job no.: 17-026

SHEET NUMBER

SHEET TITLE

FLOOR PLAN

E-2.1

3

# **KEYED NOTES**

2

THESE NOTES APPLY TO THIS SHEET ONLY

- FIELD COORDINATE PLACEMENT OF J-BOXES AND DISCONNECTING MEANS FOR COVE HEATERS WITH MECHANICAL CONTRACTOR. DISCONNECTING MEANS MAY BE A SNAP SWITCH AT EACH LOCATION AND SHALL BE LOCATED HIGH ON THE WALL AT THE END OF THE COVE HEATER.
- TIME CLOCK PER LIGHTING CONTACTOR DETAIL. PROVIDE WITH NEMA 3R WEATHERPROOF ENCLOSURE.
- COORDINATE FINAL RECEPTACLE LOCATIONS WITH MILLWORK PRIOR TO ROUGH-IN. REVIEW FINAL ARCHITECTURAL INTERIOR ELEVATIONS FOR FINAL LAYOUTS OF EQUIPMENT TO BE POWERED.
- REFERENCE MECHANICAL FAN SCHEDULE FOR CONTROL OF EXHAUST FANS.
- COORDINATE DISCONNECT LOCATION WITH ALL TRADES PRIOR TO ROUGH-IN. REFERENCE DISCONNECT SCHEDULE FOR ADDITIONAL REQUIREMENTS FOR ALL DISCONNECT SWITCHES.
- 6 FIELD COORDINATE PLACEMENT OF DISCONNECTING MEANS FOR WATER HEATERS.
- 7 ONE 2" CONDUIT FOR SITE TECHNOLOGY. COORDINATE CONNECTION POINT WITH OWNER/ SITE CONTRACTOR.
- SPACE FOR ELECTRICAL EQUIPMENT FROM SITE PACKAGE.

1102 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us www.modedc.us + 1 512 733 1150

DOM BUILDING **RESTR**( SION

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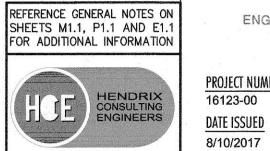
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AUG 11 2017

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HCE job no.: 17-026

E-3.1

REFERENCE MECHANICAL FAN SCHEDULE FOR EXHAUST FAN **SWITCHING REQUIREMENTS** 

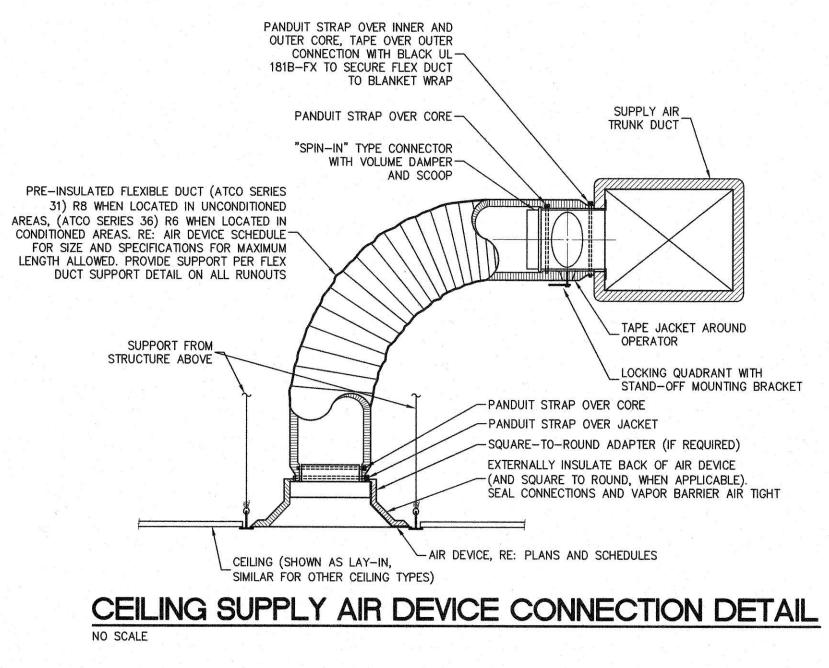
FOR LOCATIONS WHERE POWER AND DATA ARE SHOWN TOGETHER, DEVICE ROUGH-IN IS TO BE A MAXIMUM OF 6" APART. PROVIDE CADDY BRACKETS AS REQUIRED.

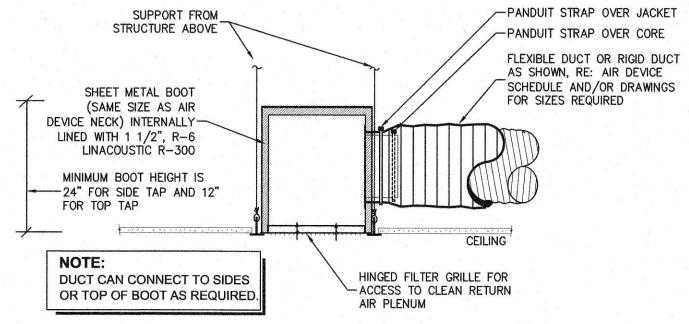
0 1 FLOOR PLAN - POWER

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

	AIR DEVICE SCHEDULE										
MARK	NECK SIZE	FRAME SIZE	FRAME TYPE	VOLUME DAMPER	SUPPLY	RETURN	EXHAUST	MODEL	FLEX SIZE	MAXIMUM CFM	
( <u>C</u> )	6 x 6	15 x 15	SURFACE	<b>I</b> -	•	-	-	PRICE MODEL AMD	6"ø	100	
<u>(2</u> )	12 x 12	18 x 18	SURFACE	-	•	-	_	PRICE MODEL AMD	8"ø	220	
<b>©</b> 3	12 x 12	18 x 18	SURFACE	-	•	_	-	PRICE MODEL AMD	10"ø	350	
				_	_	-	-		_		
(D)	8 x 8	10 x 10	SURFACE	•			•	PRICE MODEL 630DF		250	
( <u>C</u> )	12 x 12	14 × 14	SURFACE		-	-	•	PRICE MODEL 630DF		450	
<u>(∑</u> )	22 x 10	24 x 12	SURFACE	•	_=	-	•	PRICE MODEL 630	-	1100	
	12				- N		14.			1	
( <u>E</u> )	10 x 4	12 x 6	SURFACE	•	•	-	-	PRICE MODEL 620DAS	8"ø	150	
£2	12 x 6	14 x 8	SURFACE		•	-	<del>-</del>	PRICE MODEL 620DAS	10"ø	280	
€3	18 x 6	20 x 8	SURFACE	•	•		-	PRICE MODEL 620DAS	12"ø	400	
		-									
<b>F3</b>	16 x 25	18 x 27	SURFACE		_	•	_	PRICE MODEL 630FF 2" FILTER GRILLE	16"ø	1000	

- COORDINATE EXACT LOCATION OF DIFFUSERS WITH ARCHITECTURAL REFLECTED CEILING PLAN. ALL SUPPLY DIFFUSERS SHALL BE 4-WAY THROW UNLESS NOTED OTHERWISE.
- ALL FLEX SHALL BE SIZED AS SCHEDULED UNLESS NOTED OTHERWISE. 4. ALL DIFFUSERS SHALL BE OFF-WHITE UNLESS NOTED OTHERWISE.
- 5. VERIFY FRAME TYPE WITH ACTUAL CEILING TYPE PRIOR TO PURCHASE OF AIR DEVICES.
- ALL VOLUME DAMPERS SHALL BE OPPOSED BLADE TYPE. RUN-OUTS AND DROPS FROM R/A MAIN TRUNKS SHALL BE AS FOLLOWS: UP TO 250 CFM USE 10" DIAMETER OR 10" x 8"; 251 CFM TO 450 CFM USE 12" DIAMETER OR 12" x 10"; 451 CFM TO 700 CFM USE 14" DIAMETER OR 12" x 12": 701 CFM TO 1000 CFM USE 16" DIAMETER OR 14" x 16": 1001 CFM TO
- 1400 CFM USE 18" DIAMETER OR 16" x 18", UNLESS SHOWN OTHERWISE. INSULATE BACKS OF ALL AIR DEVICES.
- 9. PROVIDE PRICE PLASTER FRAME FOR ALL AIR DEVICES LOCATED IN GYP OR PLASTER CEILINGS. AIR DEVICES LOCATED IN DAMP AREAS (SHOWERS/LOCKER ROOMS/TRAINING ROOMS) ARE TO BE OF THE SAME SIZE AND TYPE AS SHOWN ON THE AIR DEVICE SCHEDULE BUT MUST BE OF ALL ALUMINUM CONSTRUCTION. ALL DEVICES SCHEDULED TO BE ALUMINUM MUST BE ALUMINUM NO
- MATTER WHERE THEY ARE LOCATED. 11. TRANSITION TO AIR DEVICE NECK SIZE AS REQUIRED.
- 12. ALL LAY-IN AIR DEVICES ARE TO BE CONNECTED WITH FLEX DUCT, PROVIDE WITH MINIMUM 3" HIGH ROUND NECK OR SQUARE TO ROUND ADAPTER WITH 3" HIGH NECK FOR PROPER CONNECTION OF FLEX DUCT (SIZED PER SCHEDULE) TO AIR DEVICE.





RETURN AIR DEVICE CONNECTION DETAIL

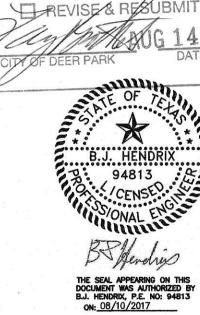
# **GENERAL NOTES**

- THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.
- CONTRACTORS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.
- C. ALL WORK SHALL COMPLY WITH THE CURRENT APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY ASME, SMACNA, ASHRAE, NFPA, APPLICABLE BUILDING CODE, APPLICABLE MECHANICAL CODE, APPLICABLE PLUMBING CODE, NATIONAL ELECTRICAL CODE, AGA, ADA AND OSHA, AS THEY APPLY TO THIS PROJECT, EXCEPT IN CASES WHERE LOCAL STATUTES GOVERN. THE CONTRACTOR SHALL VERIFY WITH THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT WITH THE AUTHORITY HAVING JURISDICTION.
- MECHANICAL CONTRACTOR TO COMPLETE A MECHANICAL/ELECTRICAL EQUIPMENT COORDINATION SHEET IN SPECIFICATION SECTION 20 00 00 AND SUBMIT COMPLETED FORM WITH EQUIPMENT SUBMITTAL AND PROVIDE A COMPLETED FORM TO THE ELECTRICAL CONTRACTOR.
- PROVIDE TRAP AND PROPER VENTING AT EACH A/C UNIT PER THE MANUFACTURER'S RECOMMENDATIONS. ROUTE CONDENSATE TO NEAREST CODE APPROVED DISPOSAL POINT.
- TRANSITION FROM DUCT SIZE SHOWN TO ROOF OPENING SIZE FOR EXHAUST FANS AND OTHER ROOF MOUNTED EQUIPMENT. ALLOW FOR CLEARANCE BETWEEN STRUCTURAL JOISTS.
- PROVIDE SEVEN (7) DAY PROGRAMMABLE THERMOSTATS FOR EACH AHU EQUAL TO ECOBEE EMS THERMOSTAT WI-FI ENABLED WITH FREE MOBILE PHONE APPS AND EASY TO USE ECOBEE WEB PORTAL. THERMOSTAT TO HAVE FULL COLOR TOUCH SCREEN, 365 DAY SCHEDULING AND 7 DAY PROGRAMMABILITY FOR EACH UNIT WITH DEHUMIDIFICATION CAPABILITY PROVIDE HONEYWELL MODEL H600A1014 DEHUMIDISTAT. REFERENCE GENERAL NOTES, SCHEDULE SHEETS, PLANS AND JOB SPECIFICATIONS FOR MORE INFORMATION.
- CONFIRM LOCATION AND MOUNTING HEIGHT OF EACH THERMOSTAT/SENSOR PRIOR TO INSTALLATION. COORDINATE WITH ARCHITECT, OWNER, MILLWORK, SWITCHES, EQUIPMENT, FURNITURE, ETC. PROVIDE INSULATED SUBBASE FOR EACH THERMOSTAT/SENSOR.
- PROVIDE ENGRAVED LABELS FOR ALL EQUIPMENT. LABEL ALL THERMOSTATS/SENSORS TO CORRESPONDING EQUIPMENT NUMBER. PROVIDE ENGRAVED ACCESS PANEL MARKERS ON THE CEILING GRID TO INDICATE ACCESS LOCATIONS FOR EQUIPMENT ABOVE CEILING.
- COORDINATE FRAMED OPENING THROUGH ROOF FOR EQUIPMENT. VERIFY SIZE AND METHOD WITH STRUCTURAL ENGINEER. PROVIDE ROOF SHOP DRAWING INDICATING SIZE AND LOCATION OF ROOF OPENINGS FOR COORDINATION PURPOSES.
- COORDINATE PLACEMENT AND SUPPORT OF ALL ROOF MOUNTED EQUIPMENT CURBS AND SUPPORTS WITH STRUCTURAL PRIOR TO INSTALLATION.
- RETURN AIR PLENUMS ON BACK OF AIR HANDLING UNITS TO BE FULL SIZE OF RETURN OPENING ON UNITS. PROVIDE MINIMUM 16" x 16" ACCESS DOOR IN RETURN PLENUM IN ACCESSIBLE LOCATION.
- AIR HANDLING UNITS MOUNTED ABOVE CEILING ARE TO BE INSTALLED TO ALLOW FOR MAXIMUM ACCESS ON ACCESS PANEL SIDES. CODE
- CLEARANCES MUST BE MAINTAINED. EQUIPMENT MUST BE INSTALLED SO THAT IT IS ACCESSIBLE FROM A LADDER THAT IS NO TALLER THAN THE CEILING, WITHOUT STANDING ON TOP STEP.
- N. WHERE STRUCTURAL BRIDGING IS REMOVED, RE-BRIDGE ON EACH SIDE OF JOIST. VERIFY WITH STRUCTURAL ENGINEER PRIOR TO REMOVING ANY BRIDGING.
- COORDINATE WITH ALL STRUCTURAL BRACING FOR ROUTING OF DUCT AND DIFFUSERS.
- BEFORE ANY CUTTING OR TRENCHING OPERATIONS BEGIN, VERIFY WITH OWNER'S REPRESENTATIVE, UTILITY COMPANIES AND OTHER INTERESTED PARTIES THAT ALL AVAILABLE INFORMATION HAS BEEN PROVIDED CONCERNING EXISTING UTILITY LOCATION. VERIFY LOCATIONS GIVEN. CONTACT ARCHITECT IMMEDIATELY UPON UNCOVERING UNKNOWN UTILITIES FOR FURTHER DIRECTION. INDICATE ALL UNCOVERED UTILITIES ON RECORD
- REFRIGERANT PIPING: THE REFRIGERATION SYSTEM SHALL BE INSTALLED COMPLETE AS A SYSTEM WITH ALL REFRIGERANT, OIL, VALVES, DEHYDRATORS, GAUGES AND CONTROLS AS REQUIRED FOR PROPER OPERATION OF THE SYSTEM. PIPING SHALL BE HARD DRAWN ACR REFRIGERANT PIPING WITH WROT FITTINGS IN ACCORDANCE WITH ARI STANDARDS. USE LONG RADIUS ELBOWS. INSULATE SUCTION LINES AND SEAL ALL CUT ENDS AND EDGES WITH ADHESIVE TO PROVIDE AN AIR TIGHT SEAL. USE 3/4" ARMAFLEX AP II INSULATION. REFRIGERANT PIPING IN INACCESSIBLE SPACES, SUCH AS WALL CAVITIES, OR IN UNDERGROUND SLEEVES IS TO BE SOFT DRAWN COPPER WITH NO FITTINGS IN THE INACCESSIBLE AREAS. ALL BENDS IN SOFT COPPER ARE TO BE MADE WITH REFRIGERATION TUBING BENDER, INSTALL COMBINATION SIGHT GLASS/MOISTURE INDICATOR NEAR LIQUID LINE CONNECTION TO OUTDOOR UNIT.
- FIRE/SMOKE AND/OR FIRE DAMPERS: INSTALL DAMPERS AT ALL DUCT PENETRATIONS OR RATED WALLS, TUNNELS AND CEILINGS. ALL DAMPERS TO BE OUT OF AIRSTREAM TYPE. DAMPERS TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE FACTORY WALL SLEEVE AND ANGLE KIT. ACCESS PANEL TO BE PROVIDED IN DUCT FOR ACCESS TO FUSIBLE LINK AND FOR INSPECTION AND MAINTENANCE. VERIFY THE EXACT LOCATION OF ALL RATED WALLS, TUNNELS AND CEILINGS WITH ARCHITECTURAL DRAWINGS. COMBINATION FIRE/SMOKE DAMPERS TO BE INSTALLED IN ALL SMOKE WALLS AND RATED EGRESS WAYS.
- COORDINATE LOCATION AND MOUNTING TYPE OF ALL CEILING AIR DEVICES IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- INSTALL CLEAN SET OF FILTERS THROUGHOUT AT COMPLETION OF PROJECT. ANY UNITS THAT ARE OPERATED DURING CONSTRUCTION SHALL HAVE FILTER MEDIA (FIBERBOND DUAL-PLY DUSTLOK MEDIA) PLACED OVER THE EXTERIOR OF RETURN AIR GRILLES. MEDIA SHALL BE CHANGED AS FREQUENTLY AS REQUIRED TO KEEP DUCTWORK CLEAN. WHEN RETURN AIR FILTERS ARE LOCATED AT UNIT, PROVIDE INSULATED FILTER RACK SUITABLE FOR 2" THICK, FACTORY STANDARD FILTER SIZES, THAT IS AIRTIGHT WITH HINGED ACCESS DOOR AND LATCH, UNLESS SUCH A RACK IS INTEGRAL TO UNIT CONSTRUCTION.
- PROVIDE INTERNALLY LINED RETURN AIR BOOT WITH WITH NINETY DEGREE ELBOW OR TEE FITTING ON BACK OF ALL RETURN AIR GRILLES UNLESS OTHERWISE NOTED. REFERENCE DETAIL SHEETS AND SPECIFICATIONS FOR MORE INFORMATION.
- PROVIDE ALL APPROPRIATE TOOLS, WRENCHES, KEYS, ETC. AS REQUIRED FOR ACCESS AND OPERATION OF VALVES, COVERS, ETC.
- SEAL AROUND ALL DUCTWORK AND PIPING AT PENETRATIONS THROUGH SOUND WALLS WITH ACOUSTICAL SEALANT
- X. ALL DUCTS 30" AND LARGER IN ANY DIMENSION TO HAVE DUCTMATE FITTINGS.
- ALL ACCESS DOORS SHALL BE INSTALLED IN EASILY ACCESSIBLE LOCATIONS. RELOCATE ANY ACCESS DOOR THAT IS NOT INSTALLED IN THIS MANNER. THIS SHALL BE DONE AT NO ADDITIONAL COST TO OWNER. INSTALL MINIMUM 12" x 12" HINGED ACCESS DOORS WITH CAM LOCKS AT THE END OF ALL DUCT RUNS, AT 20' INTERVALS ALONG LENGTH OF RUN, AND ON EACH SIDE OF ELBOWS WITH TURNING VANES. REFERENCE SPECIFICATIONS FOR MORE INFORMATION.
- Z. COORDINATE LOCATION OF DUCTWORK WITH LOCATION AND DEPTH OF ALL LIGHT FIXTURES PRIOR TO INSTALLATION.
- AA. MECHANICAL CONTRACTOR TO HAVE STAMPED AND REVIEWED DUCT SHOP DRAWINGS PRIOR TO INSTALLATION OF ANY DUCTWORK IN FIELD.
- ABSOLUTELY NO PIPING OR DUCTWORK CAN BE ROUTED ABOVE ELECTRICAL PANELS, GEAR OR TRANSFORMERS. THE ONLY HVAC, PLUMBING, SPRINKLER PIPING OR DUCTWORK THAT CAN ENTER AN ELECTRIC ROOM ARE THOSE SPECIFICALLY SERVING THAT ROOM. THESE SERVICES CAN ONLY ENTER INTO ELECTRIC ROOM ABOVE ENTRY DOOR.
- CC. SEAL AROUND ALL DUCTWORK AND PIPING AT PENETRATIONS THROUGH RATED WALLS WITH FIRE SEALANT. ALL PENETRATIONS THROUGH RATED WALLS ARE TO BE SEALED ACCORDING TO THE FIRE SEALANT MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUBMIT ON U.L. SYSTEM TO BE USED FOR EACH TYPE OF PENETRATION, POST A COPY OF INSTALLATION INSTRUCTIONS AT JOB SITE ACCESSIBLE TO ALL WORKERS PERFORMING WORK.
- DD. ALL OPENINGS OF DUCTWORK AND MECHANICAL EQUIPMENT MUST BE COVERED WITH PLASTIC AND TIGHTLY SEALED TO PREVENT DUST AND CONSTRUCTION DEBRIS FROM ENTERING SYSTEMS, THIS INCLUDES EQUIPMENT AND DUCTWORK STORED ON SITE. IF THE MECHANICAL EQUIPMENT IS OPERATED PRIOR TO ACCEPTANCE OF THE BUILDING BY OWNER, ALL OUTLET AND INLETS OF THE SYSTEM MUST BE PROTECTED WITH ROLLED FILTER MEDIA EQUAL TO (FIBERBOND DUAL-PLY DUSTLOC MEDIA). UNITS MUST BE SHUT DOWN WHEN PAINTING, SANDING AND SIMILAR CONSTRUCTION OPERATIONS ARE BEING PERFORMED. SYSTEMS THAT ARE OPERATED DURING CONSTRUCTION MUST BE CLEANED TO NEW CONDITION BEFORE FINAL PAYMENT WILL BE APPROVED. ITEMS TO BE CLEANED INCLUDE: WHOLE DUCT SYSTEM, AIR DEVICES, BLOWERS, MOTORS, UNIT CASING, EVAPORATOR COILS, CONDENSER COILS AND ALL OTHER COMPONENT EFFECTED BY THE OPERATION OF THE SYSTEMS.
- ALL SUPPLY BRANCH DUCTS ARE TO HAVE BALANCING DAMPERS WITH MANUAL LOCKING QUADRANT OPERATORS. PROVIDE STAND-OFF BRACKETS EQUIVALENT TO INSULATION THICKNESS.PROVIDE BALANCING DAMPERS IN OTHER DUCT SYSTEMS AS REQUIRED TO PROPERLY BALANCE SYSTEMS. SINGLE BLADE DAMPERS ARE ACCEPTABLE IN DUCTS 14" ROUND OR 14" TALL, LARGER DUCTS TO HAVE MULTIPLE BLADE DAMPERS. ALL DAMPER BLADES AND HARDWARE ARE TO BE FABRICATED OF SUFFICIENT GAGE AND HAVE REINFORCEMENTS AS REQUIRED TO PREVENT VIBRATION.

ME	ECH	IANICAL LEGEND
SYMBOL	ABB.	DESCRIPTION
4	FD	FIRE DAMPER (RE: ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS)
4	FSD	COMBINATION FIRE/SMOKE DAMPER
-	DB	DUCT BARRIER WITH SECURITY 1/2" BARS (6 x 6) EQUAL TO PRICE MODEL MSBG
0	TSTAT	THERMOSTAT/CONTROL DEVICE
(E)		REMOTE TEMPERATURE SENSOR
$\Theta$		HUMIDISTAT
<u>@</u>		CARBON DIOXIDE SENSOR
©		FIRESTAT
(SD)		SMOKE DETECTOR
(H)		ABSOLUTE HUMIDITY SENSOR
W—	MOD	MOTOR OPERATED DAMPER
Ø		VENTILATION SWITCH
2x-7	SINGLE	LONG RADIUS 90° ELBOW
5A-A	SINGLE	BRANCH TAKE-OFF WITH DAMPER
sx—式	SINGLE	RADIUS DUCT SPLIT W/LOCKING SPLITTER DAMPE
$\boxtimes$		CEILING SUPPLY AIR DEVICE
Ø		CEILING RETURN OR EXHAUST DEVICE
—D—		CONDENSATE DRAIN
-₩-		BALL VALVE — 2" AND SMALLER BUTTERFLY VALVE — LARGER THAN 2"
БАЛА	O.B.D.	OPPOSED BLADE DAMPER
		SMOKE SUPPLY GRILLE
8		POINT OF CONNECTION

DUCT ACCESS DOOR

	M/	P ABBREVIATI	ON	SCHEDULE
	AD	ACCESS DOOR	MAINT	MAINTENANCE
	ABV	ABOVE	MAU	MAKEUP AIR UNIT
į.	AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
	ARCH	ARCHITECT	MC	MECHANICAL CONTRACTO
1	AUTO	AUTOMATIC	MBH	1000 BTU PER HOUR
	AUX	AUXILIARY	MECH	MECHANICAL
	AHU	AIR HANDLING UNIT	MH	MANHOLE
	7410	AIN TIANDENS CHIT	MIN	MINIMUM
1	BD	BALANCE DAMPER	MISC	MISCELLANEOUS
	BFF	BELOW FINISHED FLOOR	MTD	MOUNTED
	BLDG	BUILDING	MOD	MOTOR OPERATED DAMPE
	BOD	BOTTOM OF DUCT	WICD	MOTOR OF ERATED DAME
	BOP	BOTTOM OF PIPE	NIC	NOT IN CONTRACT
1	BF	BOOSTER FAN	N.O.	NORMALLY OPEN
a		Boodiest Trat	N.C.	NORMALLY CLOSED
	CLG	CEILING	NO.	NUMBER
- 1	CLR	CLEAR/CLEARANCE		
	CO	CLEANOUT	NTS	NOT TO SCALE
	COL	COLUMN		
1	CONC	CONCRETE	O/A	OUTDOOR AIR
			OBD	OPPOSED BLADE DAMPER
	CONTR	CONTRACTOR	OC	ON CENTER(S)
	CM	COLD WATER	OPNG	OPENING
1	CONN	CONNECTION	ORL	OVERFLOW RAINLEADER
- 1	CU	CONDENSING UNIT	OAH	OUTSIDE AIR HOOD
	Cu	COPPER		
	CHS	CHILLED WATER SUPPLY CHILLED WATER RETURN	PC	PLUMBING CONTRACTOR
1	CHR	CHILLED WATER RETORN	PH	PHASE
	DIA	DIAMETER	PLBG	PLUMBING
- 5	DN	DOWN		
	DWG	DRAWING	R/A	RETURN AIR
	DH		RÉ:	REFERENCE/REFER TO
9	7.1	DUCT HEATER	REFRIG	REFRIGERANT
	E/A	EXHAUST AIR	REF	REFRIGERATOR
Į.	EC	ELECTRICAL CONTRACTOR	REQD	REQUIRED
1	EF	EXHAUST FAN	RHP	RADIANT HEAT PANEL
	ELEC	ELECTRIC/ELECTRICAL	RL	RAINLEADER
1	EQ	EQUAL	RM	ROOM
- 1	EQUIP	EQUIPMENT	RTU	ROOFTOP UNIT
1	EX	EXISTING	,,,,,	ROOF FOR SHAFE
- 1	EXH	EXHAUST	S/A	SUPPLY AIR
1	E.S.P.	EXTERNAL STATIC PRESSURE	SCH	SCHEDULE
1	ERV	ENERGY RECOVERY VENTILATOR	SP	STATIC PRESSURE
	0 <b>4.046</b> 5		SPEC	SPECIFICATION
	FCO	FLOOR CLEAN OUT	SD	STORM DRAIN
1	FCU	FAN COIL UNIT	SF	SUPPLY FAN
	FF	FINISHED FLOOR	7.5	
	FLEX	FLEXIBLE	TSP	TOTAL STATIC PRESSURE
1	FLR	FLOOR/FLOORING	TYP	TYPICAL
1	TUN	LOOKYTEOOKING	1104	UNITED ATHERMET NATE
1	GA	GAUGE	UON	UNLESS OTHERWISE NOTE
I	GC	GENERAL CONTRACTOR	UG	UNDERGROUND
8	GEN	GENERAL CONTRACTOR	UH	UNIT HEATER
1	GYP	GYPSUM BOARD	V	VENT (PLUMBING)
1	GIF	GIFSUM DUARD	v	VOLTAGE (ELECTRICAL)
	110	HEAT DINED	VTR	VENT THROUGH ROOF
100	HP	HEAT PUMP	7111	in i
	Hp	HORSEPOWER	W/	WITH
	HT	HEIGHT	W/O	WITHOUT
	HW	HOT WATER	WP	WATERPROOF
	HWC	HOT WATER CIRC	WT	
1	HR	HOUR	WIR	WEIGHT WATER
1	HWR	HEATING WATER RETURN		
	HWS	HEATING WATER SUPPLY	WW	WASTE WATER
			WCO	WALL CLEANOUT
	LOC	LOCATION	WH	WATER HEATER



APPROVED

APPROVED AS NOTED

8 PROJECT PHASE

BID - 8/10/2017

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SION

CITY OF DEER PARK Date Received

DEVELOP

ryan@modedc.us | www.modedc.us

+ 1 512 733 1150

AUG 11 2017

REFERENCE GENERAL NOTES O **ENGINEERING DEPARTMENT** SHEETS M1.1, P1.1 AND E1.



FOR ADDITIONAL INFORMATIO

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HCE job no.: 17-026

16123-00 DATE ISSUED 8/10/2017

SHEET TITLE SCHEDULES, NOTES, AND LEGENDS - MECHANICAL

SHEET NUMBER

LONG RADIUS RECTANGULAR ELBOW **UNEQUAL SPLIT LONG RADIUS ACCESS** ACCESS DOOR ACCESS DOOR SPLITTER\_

**EQUAL SPLIT LONG RADIUS** 

SEAL EXTERNAL DUCT WRAP

**UNEQUAL SPLIT LONG RADIUS** SPLITTER DETAIL
NO SCALE

# LOUVERS

LOUVER (L): GREENHECK MODEL ESD-403, 4 INCH DEEP EXTRUDED ALUMINUM CONSTRUCTION. VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING. COORDINATE FRAME TYPE WITH ARCHITECT AND BUILDING CONSTRUCTION. PROVIDE WITH 1/8" X 1/8" GALVANIZED HARDWARE CLOTH BEE

SIZE W x H MARK NO. L - 1 36 x 20

# **COVE HEATERS**

# **COVE HEATER (CV):**

3

MARKEL ELECTRIC COVE HEATER CONSTRUCTED OF .962" THICK ALUMINUM. THE HEATER SURFACE SHALL BE CONCAVE IN CONTOUR AND SAW-TOOTH IN PROFILE. THE FINISH SHALL BE OF BAKED WHITE ENAMEL. THE HEATERS SHALL BE AVAILABLE IN RATINGS FROM 450 THROUGH 1250 WATTS, AT 120, 240, 208 AND 277 VOLTS. THE HEATING ELEMENT SHALL BE OF NICHROME WIRE, EMBEDDED IN MAGNESIUM OXIDE POWDER, ENCLOSED AND SEALED IN ALUMINUM METAL TUBING. THE HEATER SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. AND THE ELEMENTS SHALL BE SUPPLIED WITH A ONE YEAR LIMITED WARRANTY. PROVIDE WALL MOUNTED LINE VOLTAGE THERMOSTAT.

MARK NO.	MARKEL MODEL NO.	WATTS GRS	VOLTS	LENGTH	WEIGHT	NOT USED
CV-1	CV7512X	750	120/1	72"	13	
CV-2	CV7512X	750	120/1	72"	13	
CV-3	CV7512X	750	120/1	72"	13	
CV-4	CV7512X	750	120/1	72"	13	
CV-5	CV7512X	750	120/1	72"	13	
CV-6	CV7512X	750	120/1	72"	13	
CV-7	CV7512X	750	120/1	72"	13	115111111111111111111111111111111111111
CV-8	CV7512X	750	120/1	72"	13	
CV-9	CV7512X	750	120/1	72"	13	
CV-10	CV7512X	750	120/1	72"	13	
•						
			14 7			

# **ELECTRIC UNIT HEATERS**

**ELECTRIC UNIT HEATER (EUH):** 

MANUFACTURED BY MARKEL WITH MOUNTING BRACKETS, DUST SHIELD, POWER DISCONNECT AND BUILT-IN THERMOSTAT. MOUNT NEAR BOTTOM TRUSSES.

MARK NO.	MODEL NO.	KW	VOLT/PH	APPROX. WT.	
EUH-1	HF1B5103N	3.3	208/1	35	
	•				, , , , , , , , , , , , , , , , , , , ,
			•		

FAN SCHEDULE **EFSCH** GREENHECK MODEL NO. CFM S.P. VOLT/PH RPM DRIVE **ACCESSORIES** OR AMPS EF-2 CSP-A710-VG 450 0.375 976 DIRECT

# STANDARD NOTES - APPLIES TO ALL FANS

A. BALANCE ALL FANS TO ACTUAL CFM SHOWN ON FLOOR PLANS.

BIRD SCREEN.

C. FANS INSTALLED ON METAL STANDING SEAM ROOFS: ROOF CURB IS TO BE FURNISHED, INSTALLED, FLASHED AND COUNTER FLASHED BY ROOFING CONTRACTOR. MECHANICAL CONTRACTOR IS TO COORDINATE SIZE AND LOCATION. CURB IS TO EXTEND A MINIMUM OF 12" ABOVE FINISHED ROOF ON SHORT SIDE.

FANS INSTALLED ON BUILT-UP ROOF: ROOF CURB IS TO BE FLASHED AND COUNTER FLASHED BY ROOFING CONTRACTOR. MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL ROOF CURB AND COORDINATE LOCATION. CURB IS TO EXTEND A MINIMUM OF 12" ABOVE FINISHED ROOF ON SHORT SIDE.

FACTORY DISCONNECT. PROVIDE EACH ROOF MOUNTED FAN WITH OPPOSED BLADE DAMPER WITH HEAVY DUTY MOTORIZED ACTUATOR (MATCH FAN VOLTAGE) UNLESS SPECIFICALLY NOTED OTHERWISE. ELECTRICAL CONTRACTOR TO TIE DAMPER ACTUATOR IN TO

UNIT WEIGHT LESS THAN 100 LBS. UNLESS NOTED OTHERWISE

COORDINATE ALL FINAL FAN LOCATIONS AND FRAMING WITH STRUCTURAL.

ALL ALTERNATE MANUFACTURER'S FANS MUST OPERATE WITH CFM, RPM AND HP RANGE AS FANS LISTED ABOVE TO ALLOW FLEXIBILITY. FANS MAY NOT BE DOWN SIZED.

FAN SPEED CONTROL (MOUNTED UNDER DOME ON ROOF FANS OR NEXT TO CABINET FANS FOR ALL DIRECT DRIVE FANS). DUCT DROPS ARE TO BE FULL SIZE OF DAMPER OR SIZED AT .08" SP WHICHEVER IS GREATER OR AS SPECIFICALLY

POWDER COATED METAL IS NOT ALLOWED TO BE USED IN LIEU OF GALVANIZED UNLESS SPECIFICALLY SCHEDULED. EXHAUST FANS / OUTLETS TO BE LOCATED A MINIMUM OF 10' AWAY FROM OUTSIDE AIR INTAKES OR AS REQUIRED BY

N. PROVIDE WITH MOTORIZED BACK DRAFT DAMPER.

# **ACCESSORIES AND NOTES**

1. UPBLAST GREASE FAN ACCESSORIES: FAN TO BE UL AND CUL LISTED FOR GREASE REMOVAL, HEAT BAFFLE, BIRD GUARD, HINGE KIT, DRAIN CONNECTION, GREASE TRAP AND VENTED CURB EXTENSION (MUST MEET THE NFPA 96 REQUIREMENT FOR A 40" DISCHARGE HEIGHT). PROVIDE WITH SEPARATE CURB FROM ANY SUPPLY FAN.

KITCHEN SUPPLY FAN ARRANGEMENT "DB" ACCESSORIES: EXHAUST FAN AND SUPPLY FAN TO BE MOUNTED ON SEPARATE CURBS AND PROVIDE MOPPED IN EQUIPMENT SUPPORT RAIL WITH GALVANIZED UNISTRUT SUPPORT FOR WEATHER HOOD, MOTORIZED INTAKE DAMPER, SPACER SECTION (TO MAINTAIN 10 FEET SEPARATION FROM EXHAUST FAN), FILTER SECTION THAT ACCOMMODATES 2" FILTERS, WEATHER HOOD, SUPPLY FAN INTERLOCKED TO RUN WITH KITCHEN EXHAUST FAN. KITCHEN EXHAUST FAN IS TO RUN AND SUPPLY FAN IS TO GO OFF IN THE EVENT THAT A FIRE IS DETECTED. FURNISH WITH REMOTE OR FAN CASING MOUNT PREWIRED KITCHEN FAN CONTROL CENTER WITH STARTERS, DISCONNECTS, CONTROL TRANSFORMERS, AND SINGLE POINT ELECTRICAL CONNECTION. ELECTRICAL CONTRACTOR TO MAKE ALL CONTROL AND LINE VOLTAGE TERMINATIONS AND FEED THROUGH CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. 120 VOLT CONTROL VOLTAGE FOR HOOD FAN PACKAGE IS TO BE OBTAINED FROM HOOD LIGHTING CIRCUIT.

DIRECT FIRED GAS HEAT.

ELECTRIC HEAT.

PERFORATED BAFFLE INSTALLED AT INLET.

GRAVITY BACK DRAFT DAMPER. RADIATION DAMPER (CEILING MOUNTED FANS).

COMBINATION NEOPRENE / SPRING VIBRATION ISOLATION.

INLET GUARD. BELT GUARD.

MAGNETIC MOTOR STARTER.

12. SWITCHED WITH LIGHTS BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE ALL RELAYS AND

13. SWITCHED BY SPRING WOUND TIMER (I HR MAX) PROVIDED BY ELECTRICAL CONTRACTOR. LOCATE NEXT TO ROOM LIGHT SWITCH UNLESS OTHERWISE NOTED.

14. SWITCHED BY WALL SWITCH WITH PILOT LIGHT BY ELECTRICAL CONTRACTOR. LOCATE NEXT TO ROOM LIGHT SWITCH

15. SWITCHED BY HOOD MOUNTED SWITCH WITH PILOT LIGHT BY ELECTRICAL CONTRACTOR.

16. SWITCHED BY THERMOSTAT. THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR. INSTALLED BY ELECTRICAL CONTRACTOR.

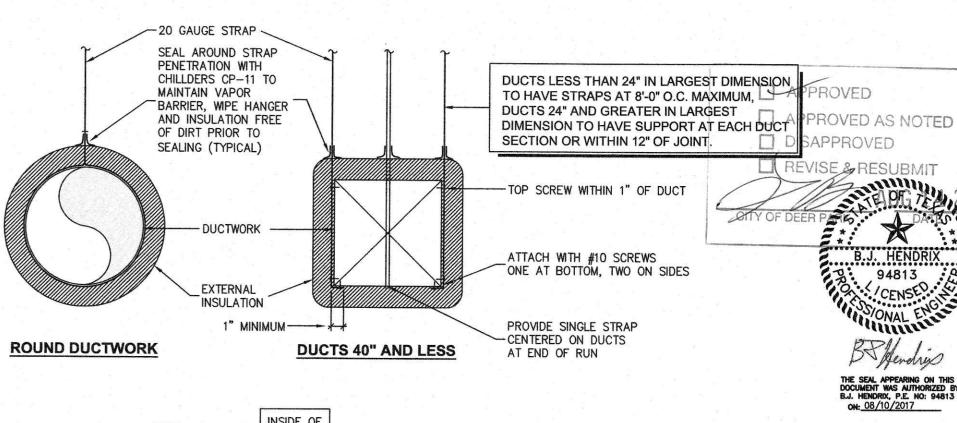
17. CONTROLLED BY ENERGY MANAGEMENT SYSTEM.

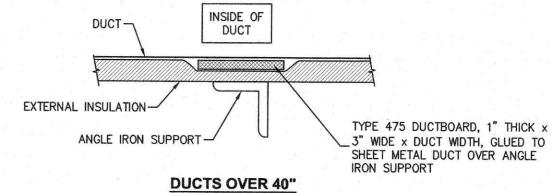
18. 120V/1PH MOTORIZED DAMPER FOR INLINE FAN TIED IN TO FAN POWER. 19. EXPLOSION PROOF FAN, WIRE TO RUN CONTINUOUSLY

20. PERFORATED BAFFLE INSTALLED AT INLET.

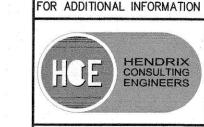
INTERLOCKED WITH DISHWASHER. 22. DRYER BOOSTER FAN. PROVIDE ALL CONTROLS AND INTERLOCKING WIRING REQUIRED FOR A COMPLETE OPERABLE

23. SIDEWALL PROPELLER FAN PROVIDE WITH HOUSING, MOTORIZED BACKDRAFT DAMPER, INTEGRAL DISCONNECT, MOTOR SIDE GUARD AND TRANSITIONS AS REQUIRED TO CONNECT TO WALL LOUVER.





**DUCT DETAILS** 



REFERENCE GENERAL NOTES OF

SHEETS M1.1, P1.1 AND E1.

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XX 8 SOCCER 407 PROJECT PHASE

DEER

PF

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1102 s austin ave, suite 103 georgefown, tx 78626

ryan@modedc.us | www.modedc.us

BID - 8/10/2017 REVISIONS

BUILDING

8

**RESTR**(

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PHASE

DEVELOPMENT !

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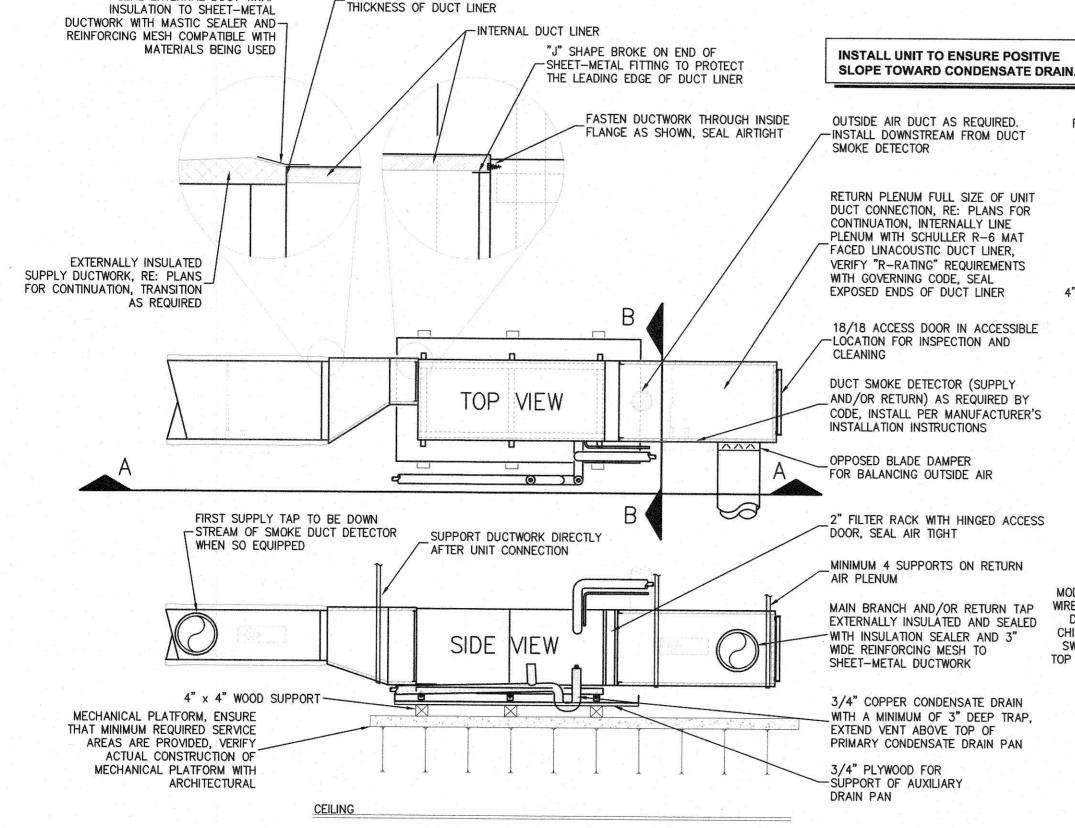
CITY OF DEER PARK Date Received AUG 11 2017

**ENGINEERING DEPARTMENT** 

PROJECT NUMBER 16123-00 DATE ISSUED 8/10/2017

SCHEDULES -MECHANICAL

SHEET NUMBER



TRANSITION TO ALLOW FOR

-INSTALL DOWNSTREAM FROM DUCT SUCTION LINES SMOKE DETECTOR OUTSIDE AIR DUCT, RETURN PLENUM FULL SIZE OF UNIT IF REQUIRED DUCT CONNECTION, RE: PLANS FOR CONTINUATION, INTERNALLY LINE PLENUM WITH SCHULLER R-6 MAT 1 5/8" UNISTRUT -FACED LINACOUSTIC DUCT LINER, 3/4" PLYWOOD VERIFY "R-RATING" REQUIREMENTS (NO PRESSWOOD) WITH GOVERNING CODE, SEAL SECTION B-B EXPOSED ENDS OF DUCT LINER 4" x 4" WOOD SUPPORT (BELOW UNISTRUT) CLEANOUT PLUG FOR 18/18 ACCESS DOOR IN ACCESSIBLE CONDENSATE DRAIN -LOCATION FOR INSPECTION AND DUCT SMOKE DETECTOR (SUPPLY AND/OR RETURN) AS REQUIRED BY CODE, INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS FLOAT SWITCH, TIE INTO CONTROLS OPPOSED BLADE DAMPER FOR BALANCING OUTSIDE AIR

REFRIGERATION LIQUID AND

2" FILTER RACK WITH HINGED ACCESS

EXTERNALLY INSULATED AND SEALED WITH INSULATION SEALER AND 3" WIDE REINFORCING MESH TO SHEET-METAL DUCTWORK

3/4" COPPER CONDENSATE DRAIN WITH A MINIMUM OF 3" DEEP TRAP. EXTEND VENT ABOVE TOP OF PRIMARY CONDENSATE DRAIN PAN 3/4" PLYWOOD FOR

-SUPPORT OF AUXILIARY DRAIN PAN

**SECTION A-A** 

MECHANICAL PLATFORM AIR HANDLING UNIT DETAIL

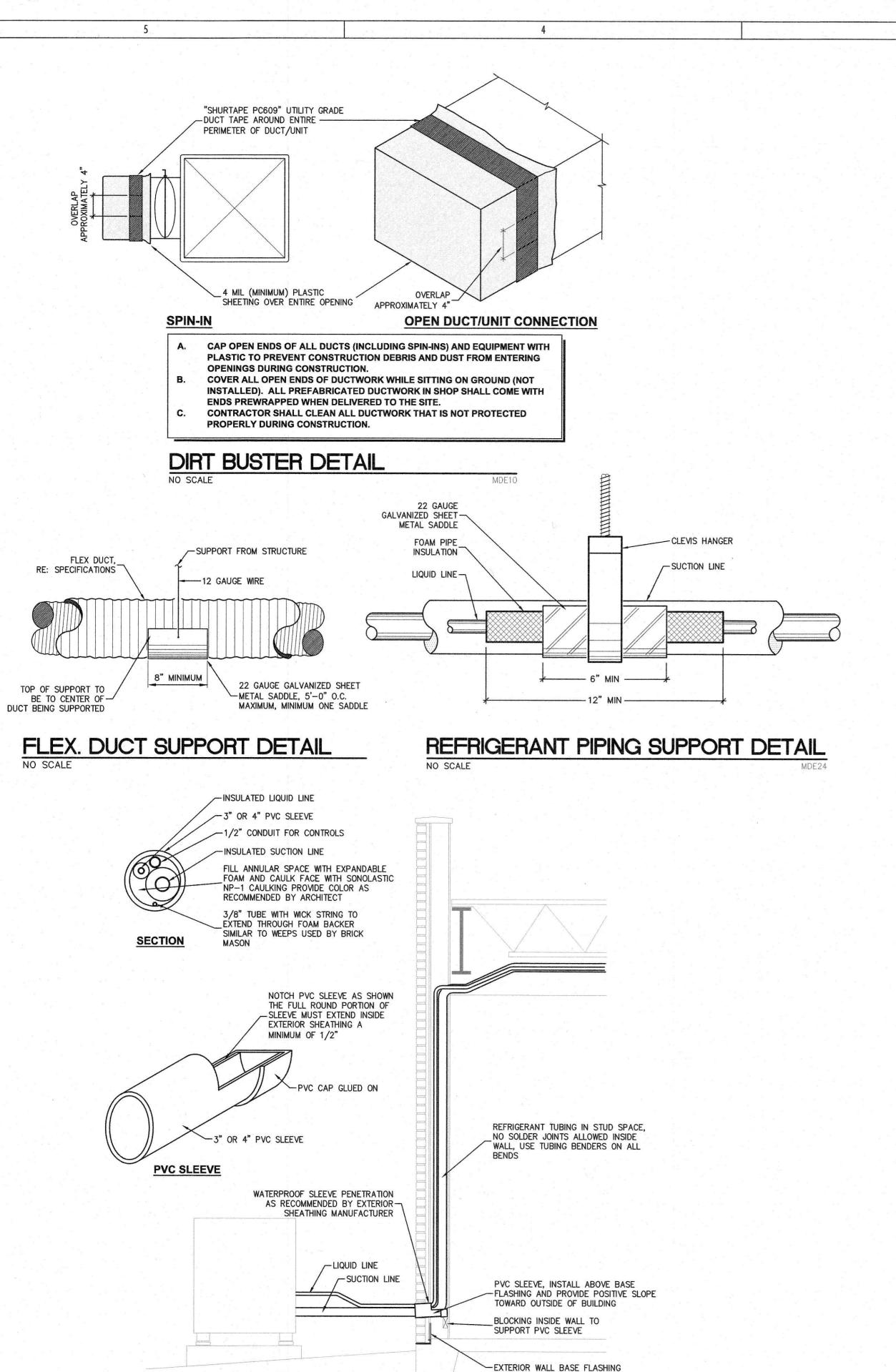
2 1/2" DEEP 20 GAUGE SHEET METAL AUXILIARY DRAIN PAN, PROVIDE BECKETT MODEL 1502UR FLOAT SWITCH IN DRAIN PAN. MAIN BRANCH AND/OR RETURN TAP WIRE SWITCH INTO CONTROL CIRCUIT TO SHUT DOWN UNIT AND SHUT OFF FLOW THROUGH-CHILLED WATER COIL IF SO EQUIPPED. FLOAT SWITCH TO BE SECURED AT TWO POINTS ON

TOP WITH SELF-TAPPING SCREWS. PAN TO BE 12" WIDER AND 12" LONGER THAN UNIT

LENGTH OF UNISTRUT

2" WIDE NEOPRENE TAPE FULL

HCE job no.: 17-026



REFRIGERANT PIPING WALL PENETRATION DETAIL

SCALE: NO SCALE

SPLIT SYSTEM MASTER SCHEDULE

**DEER PARK - SOCCER & SOFTBALL** 

17026

208/1

2CM = TWO STAGE COOLING WITH MULTI-SPEED AHU AND ELECTRIC HEAT

2C = TWO STAGE COOLING WITH VARIABLE SPEED AHU AND ELECTRIC HEAT 2HM = TWO STAGE HEAT PUMP WITH MULTI-SPEED AHU AND ELECTRIC EMERGENCY HEAT

2H = TWO STAGE HEAT PUMP WITH VARIABLE SPEED AHU AND ELECTRIC EMERGENCY HEAT 2GH = TWO STAGE COOLING WITH HORIZON TAL SINGLE STAGE GAS HEAT

2GV = TWO STAGE COOLING WITH VERTICAL SINGLE STAGE GAS HEAT

# STANDARD NOTES:

**UNIT TYPE BREAKDOWN** 

H = HEAT PUMP WITH ELECTRIC EMERGENCY HEAT

GH = COOLING WITH HORIZONTAL SINGLE STAGE GAS HEAT

GV = COOLING WITH VERTICAL SINGLE STAGE GAS HEAT

C = COOLING WITH ELECTRIC HEAT

- A. SOME UNITS SHOWN ON THE MASTER SCHEDULE(S) MAY NOT BE USED ON THIS JOB.
- B. ALL EFFICIENCIES LISTED ARE AT ARI CONDITIONS (80/67/95).

2CM = TWO STAGE COOLING WITH MULTI-SPEED AHU AND ELECTRIC HEAT

2C = TWO STAGE COOLING WITH VARIABLE SPEED AHU AND ELECTRIC HEAT

- C. ALL CAPACITIES LISTED ARE TO BE SELECTED AT (80/67/105) AT LISTED AIR FLOW.
- D. VERIFY AVAILABLE VOLTAGE, PHASE AND CIRCUIT FUSE SIZE(S) WITH ELECTRICAL PLANS AND ELECTRICAL CONTRACTOR PRIOR TO RELEASING EQUIPMENT ORDER. MECHANICAL CONTRACTOR IS TO FILL IN THE "MECH/ ELECT COORDINATION SHEET" FOUND IN THE SPECIFICATIONS AND FURNISH ONE COPY TO THE ELECTRICAL CONTRACTOR AND ALSO ATTACH THIS INFORMATION TO THE EQUIPMENT SUBMITTAL PRIOR TO SUBMITTING TO ENGINEER.
- E. WHEN NEUTRAL OUT SIDE AIR IS SCHEDULED, IT WILL BE PROVIDED FROM A DEDICATED OUTSIDE AIR UNIT TO THE RETURN AIR PLENUM OF THE UNIT OR DIRECTLY TO THE SPACE. . WHEN RAW OUTSIDE AIR IS SCHEDULED, PROVIDE AN INSULATED FILTER BOX WITH HINGED ACCESS DOOR, ROUTE OUTSIDE AIR DUCT FROM ROOF CAP OR EXTERIOR WALL LOUVER TO RETURN AIR PLENUM. PROVIDE A MANUAL BALANCING DAMPER AND A MOTORIZED DAMPER IN OUTSIDE AIR DUCT. THE FILTER BOX AND DAMPERS MUST BE EASILY ACCESSIBLE FROM THE AIR HANDLER SERVICE AREA. FILTER SIZE TO BE 12X12X2 IN DUCTS WITH UP TO 200 CFM AND 16X20X2 IN DUCTS WITH 200 TO 800 CFM.
- G. AIR PURIFICATION: PROVIDE GLOBAL PLASMA SOLUTIONS, BI-POLAR ION GENERATOR MODEL NUMBER GPS-FC-3-BAS FOR ALL UNITS LISTED IN SCHEDULE BELOW. INSTALL
- PER MANUFACTURERS INSTALLATION INSTRUCTIONS. POWER SUPPLY IS 24 VAC AT 12VA COORDINATE ELECTRICAL REQUIREMENTS WITH UNIT MANUFACTURER PRIOR TO INSTALLING.

PROVIDE LARGER UNIT TRANSFORMER IF REQUIRED. CONTACT HTS FOR PRICING. 512-745-0555 OR derrick.vanwest@hts.com

# SEE SPECIFICATIONS FOR ALL STANDARD ACCESSORIES, FEATURES AND CONTROLS REQUIRED.

# ACCESSORIES AND NOTES: (ONLY ACCESSORIES NOTED IN THE SCHEDULE BELOW ARE TO BE PROVIDED)

- . DUCT SMOKE DETECTOR IN SUPPLY AND / OR RETURN AIR DUCT AS REQUIRED BY AUTHORITY HAVING JURISDICTION, PROVIDED AND WIRED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM CONTRACTOR SHALL PROVIDE A SHUT DOWN RELAY AND MAKE CONNECTIONS FROM DETECTOR TO RELAY, CONTROLS CONTRACTOR SHALL PROVIDE WIRE AND CONNECTIONS FROM CONTROL RELAY TO AIR HANDLING UNIT. IF A FIRE ALARM SYSTEM IS NOT PROVIDED, THE MECHANICAL CONTRACTOR IS TO PROVIDE AND INSTALL DUCT DETECTOR, SHUT DOWN RELAY, REMOTE TEST SWITCH AND AUDIBLE/ VISUAL INDICATOR.
- PROVIDE HIGH EFFICIENCY / CAPACITY (MERV 8) 5" THICK PLEATED FILTER AND CASING EQUAL TO LENNOX BMAC.
- 3. PROVIDE CONDENSATE PUMP.
- 4. PROVIDE CO2 SENSOR MOUNTED 18" FROM UNIT THERMOSTAT/SENSOR TO MONITOR SPACE CONDITIONS. OUTSIDE AIR DAMPER IS TO CLOSE WHEN UNIT IS OFF AND OPEN TO
- MAXIMUM O/A POSITION (100% OF RAW O/A CFM SCHEDULED) ANY TIME SPACE IS OCCUPIED AND CO2 LEVEL IS ABOVE 800 PPM.
- 5. PROVIDE LOW AMBIENT CONTROL DOWN TO 0 DEGREES BY A VARIABLE SPEED CONDENSER FAN OPERATION (PROVIDE BALL BEARING CONDENSER MOTOR)
- 6. PROVIDE UNIT WITH THERMOSTAT HAVING TWO REMOTE SENSORS EACH HAVING 50% AUTHORITY EACH.

# 2 STAGE HEAT PUMP SPLIT SYSTEM WITH VARIABLE SPEED BLOWER

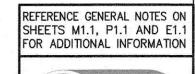
INDOOR / OUTDOOR									
INDOORTOOTDOOR			2H2	2H3	2H4	2H5			
CFM			750	1150	1550	1800			
MINIMUM NET SENSIBLE MBH			17465	30415	37595	45510			
VINIMUM NET	TOTAL MBH		23800	38500	49080	61500	1980 17 18 18 18 19 19 19 18 18 18 18 18 18 18 18 18 18 18 18 18	**************************************	And the state of t
SEER			15.7	16	16	15.5	***************************************		
ER			12.2	12.5	12.5	12.5			alid addressed and the state of
NDOOR UNIT	OLTAGE / PHASE		208/1	208/1	208/1	208/1			annight of gallenging and short the forest property forest an against annight the statement of the forest f
EATKW ATR	RATED VOLTAGE		6	9.4	11.3	15.0		**************************************	apati ar fa l'angunerapannigar y a deligida e Nagungan d'Angungan d'Angungan di Angungan d
DUTDOOR UNI	UTDOOR UNIT VOLTAGE / PHASE		208/1	208/1	208/1	208/1		0001 ( \$ 1	ACM A CENTENNESS OF CHARLES AND ACCOUNT OF CHARLES AND ACCOUNT AND ACCOUNT OF CHARLES AND A
	INDOOR UNIT	(AHU)	CBX40UHV-024	CBX40UHV-036	CBX40UHV-048	CBX40UHV-060		**************************************	A) and the fall of
LENNOX	ELECTRIC HEATER		ECB40-8CB P	ECB40-12.5CB P	ECB40-15CB P	ECB40-20CB P			COST OF A TAXABILITY OF THE STATE OF THE STA
	OUTDOOR UNIT	(HP)	XP16-024-230	XP16-036-230	XP16-048-230	XP16-060-230			
	INDOOR UNIT	(AHU)	0	0	0	0			NAM WERPOLISHOON THE STREET STATE OF THE STA
	ELECTRIC HEATER			0	0	0	-		COLUMN TO THE CO
	OUTDOOR UNIT	(HP)	0	0	0	0			
	INDOOR UNIT	(AHU)		•	0	Ö	iliani i sa kani na ina da antantantan ina ina ina ina ina ina ina ina ina i		
	ELECTRIC HEATER		0	•	•••••••••••••••••••••••••••••••••••••••	0	(A)		
	OUTDOOR UNIT	(HP)	0	0	0	0			TAPPROVED
NDOOR UNITY	WEIGHT	onimet ny trontant votant notao taonamin'n' ana taonamina dia dia dia dia dia dia dia dia dia di	alterioris electrologico minutarioris phonostrologico in 165	172	216	216	miler fer besterdenden den herdendende består herdende de blad	nelige beautimed medicale extension of contracting to a climate of markets	
OUTDOOR UNI	TWEIGHT		222	273	294	353			APPROVED AS N
		2 STAGE HE	AT PUMP SPLIT	SYSTEMW	ITH MIII TIS	PEED BLOWE	P		DISAPPROVED

2 STAGE HEAT PUMP SPLIT SYSTEM WITH MULTISPEED BLOWER

			MANUFACTURE SENSE CONTRACTOR OF THE PARTY OF	O/A CFM	- The second
TOTAL NEU	O/A =	(	)	TOTAL GAS LOAD BTU =	
TOTAL RAW	O/A =	42	20	TOTAL TONS =	

IT MARK	UNIT TYPE	O/A	CFM	ACCESCODIES AND NOTES	UNIT MARK UNIT TYPE	O/A (	CFM	CITY OF DEEP	
III WARK	RAW NEUTRA		NEUTRAL	ACCESSORIES AND NOTES	ONII WARK	UNII ITPE	RAW	NEUTRAL	ACCESSORIES AND NOTES
HU/HP-1	2H4	300		4					
HU/HP-2	2H3	120		4					
						era describilitation de la completa completa de la			
						entri dell'emmente dell'emmente dell'emmente dell'emperatori dell'emperatori dell'emperatori dell'emperatori d	ra den Allina de la Antonia de la Antonia de Carta de Antonia de Carta de C		
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***************************************							nd princens and the second control of the se		-
		Other transmission of the control of				***************************************			

PER THE LATEST VERSION OF ASHRAE, **ANY MECHANICAL COOLING UNIT WITH** AN EFFICIENCY EXCEEDING THE STANDARD MINIMUM REQUIREMENT BY 17% OR MORE IS EXEMPT FROM THE **ECONOMIZER REQUIREMENT.** 



94813



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HCE job no.: 17-026

BUILDING **W00** 2 CONCESSION

SOCCER FIELD DEVELOPMENT

PHASE

DEER PARK,

**OF** 

407 W X ST.

PROJECT PHASE

BID - 8/10/2017

CITY OF DEER PARK Date Received AUG 11 2017

**ENGINEERING DEPARTMENT** 

16123-00

DATE ISSUED 8/10/2017

SHEET TITLE DETAILS -MECHANICAL

SHEET NUMBER

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

# KEYED NOTES

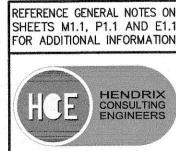
THESE NOTES APPLY TO THIS SHEET ONLY

- 1 EXHAUST AIR LOUVER. REFERENCE ARCHITECTURAL FOR EXACT LOCATION.
  PROVIDE 24" DEEP EXTERNALLY WRAPPED SHEET METAL PLENUM FULL SIZE OF
  LOUVER ON BACK OF LOUVER. BOTTOM OF PLENUM TO BE WELDED WATERTIGHT
  AND SLOPED TO DRAIN TOWARDS EXTERIOR.
- 2 PROVIDE THERMOSTAT WITH INSULATED BACKING.
- OUTSIDE SIDE AIR INTAKE FILTER GRILLE IN SOFFIT.
- OUTSIDE AIR TO CONNECT TO RETURN AIR PLENUM. PROVIDE MOTORIZED DAMPER TO OPEN ONLY WHEN ASSOCIATED COMPRESSOR IS OPERATING AND CO2 LEVEL IS ABOVE 1100 PPM. PROVIDE MANUAL DAMPER FOR BALANCING. DAMPERS TO BE IN ACCESSIBLE LOCATION.
- MECHANICAL PLATFORM ACCESS LADDER. COORDINATE WITH ARCHITECT.
- 6 AIR HANDLING UNIT ON MECHANICAL PLATFORM. ROUTE CONDENSATE TO SERVICE SINK IN PLUMBING CHASE.
- LINE OF MECHANICAL PLATFORM ABOVE CEILING. COORDINATE WITH ARCHITECT AND STRUCTURAL ENGINEER.
- SERVICE SINK LOCATION FOR CONDENSATE DISPOSAL. COORDINATE WITH PLUMBING CONTRACTOR.
- 9 LOCATION FOR ELECTRICAL SERVICE DISCONNECT.
- 10 EF-1 AND LOUVER ABOVE PLATFORM.
- 11 COVE HEATERS TO BE INSTALLED JUST BELOW CEILING PER MANUFACTURER'S INSTRUCTIONS. SET AT 40 DEGREES FAHRENHEIT FOR FREEZE PROTECTION. LIGHTS TO BE MOUNTED BELOW.
- 12 EUH-1 IN CHASE FOR FREEZE PROTECTION. SET AT 40 DEGREES FAHRENHEIT.
- 13 RUN DUCT HIGH OVER MEZZANINE FOR MAINTENANCE ACCESS.
- 14 CONTINUATION OF NEW KITCHEN EXHAUST DUCT.



INTERLOCK AHU-1/ HP-1 WITH SENSOR FOR OVERHEAD ROLL-UP WINDOWS IN CONCESSION STAND SUCH THAT WHEN OVERHEAD ROLL-UP WINDOWS ARE OPENED, AHU-1/HP-1 POWERS OFF.

2



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**MMODE**design company

1 1 0 2 s austin ave, suite 103 georgetown, tx 78626 ryan@modedc.us | www.modedc.us + 1 512 733 1150

CONCESSION / RESTROOM BUILDING

CONCESSION / RES-

BID - 8/10/2017
REVISIONS

CITY OF DEER PARK

Date Received

AUG 11 2017
ENGINEERING DEPARTMENT

407 W X ST. CITY OF DEER PARK, TEXAS

PROJECT NUMBER 16123-00 DATE ISSUED 8/10/2017

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SHEET NUMBER

AA 2 T

F - 4095 © HCE job no.: 17-026

# PIPE SIZING REQUIREMENTS

- ALL FLOOR DRAINS AND FLOOR SINKS MUST HAVE TRAP PRIMERS. PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IN JURISDICTIONS WHERE PRESSURE ACTIVATED MECHANICAL PRIMERS ARE NOT ALLOWED. USE ELECTRONIC TRAP PRIMERS. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PROSET "TRAP GUARD" DEVICE MAY BE USED IN LIEU OF TRAP PRIMERS WHEN ALLOWED BY LOCAL CODE AUTHORITY HAVING JURISDICTION. BEFORE USING PROSET "TRAP GUARD" CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM LOCAL CODE AUTHORITY HAVING JURISDICTION AND PROVIDE COPIES TO ARCHITECT AND
- PIPING SIZE FOR WATER MAIN DROPS AND MANIFOLD IN CHASE OR WALL TO REMAIN FULL SIZE OF DROP INDICATED. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL LINE SIZE TO EACH FIXTURE.
- COORDINATE ALL WASTEWATER FLOOR PENETRATIONS AND PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO INSTALLATION. PIPING MAY BE OFFSET SLIGHTLY TO AVOID
- ROUTE VENT FROM EACH FIXTURE TO HORIZONTAL VENT HEADER IN CHASE/WALL OR TO NEAREST COMMON VTR ABOVE CEILING. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL FIXTURE VENT SIZES. VENT HEADERS IN CHASE TO BE SIZED ACCORDINGLY: 1 1/2" VENT UP TO 6 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 60 FEET (EXCEPT FOR WATER CLOSETS), 2" VENT UP TO 20 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 120 FEET, 3" VENT UP TO 84 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 212 FEET AND 4" VENT UP TO 256 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 300 FEET. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH ARE TO BE INCREASED BY ONE PIPE SIZE. NO MORE THAN 1/3 OF THE CODE PERMITTED DEVELOPED LENGTH SHALL BE IN HORIZONTAL POSITION. EXTEND COMMON VENT UP THROUGH ROOF.
- ROUTE ALL VENTS TO NEAREST COMMON VENT THRU ROOF (VTR) TO MINIMIZE ROOF PENETRATIONS. VTR TO BE MINIMUM 15 FEET AWAY FROM OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.

FIXT	URE (	CONN	ECTIO	ON SC	HEDUL	E
MARK	CW	HW	TW	WASTE	DRAIN FIXTURE UNITS	VENT
WATER CLOSET (FLUSH VALVE)	1"	_	-	4"	6	2"
WATER CLOSET (TANK TYPE)	1/2"	_	_	4"	4	2"
URINAL	3/4"		-	2"	2	2"
LAVATORY *	1/2"	_	1/2"	2"	1	1 1/2" * *
SINK ***	1/2"	1/2"	1/2"	2"	2	1 1/2" * *
SERVICE SINK	3/4"	3/4"	-	3"	2	2"
WASH FOUNTAIN	1/2"	** =	1/2"	2"	2	1 1/2" * *
EWC	1/2"	<del>-</del>	_	2"	1	1 1/2" * *
WASHING MACHINE	3/4"	3/4"	a 2 0 <b>-</b>	2"	2	2"
HOSE BIBB	3/4"	-		-	-	-
SHOWER * * * *	1/2"	1/2"	-	3"	2	1 1/2"
FLOOR DRAIN	_	-		3"	2	2"

- \* HOT (TEMPERED) AND COLD WATER REQUIRED UNLESS NOTED OTHERWISE ON PLUMBING FIXTURE SCHEDULE, PROVIDE TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.
- \* \* IF HORIZONTAL VENT LENGTH EXCEEDS 20 FEET, INCREASE VENT SIZE TO TWO INCHES.
- $\star$   $\star$   $\star$  COMMERCIAL KITCHEN SINKS GET HOT WATER, REMAINDER TO BE PROVIDED WITH TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.
- ★★★ SHOWER VALVES TO BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC CONFORMING TO ASSE 1016.

	PLU	MBING LEGEND	M/	P ABBREVIATI	ON S	SCHEDULE
SYMBOL	ABB.	DESCRIPTION	AD ABV AFF	ACCESS DOOR ABOVE ABOVE FINISHED FLOOR	MAINT MAU MAX	MAINTENANCE MAKEUP AIR UNIT MAXIMUM
	CW	COLD WATER PIPING	ARCH AUTO AUX	ARCHITECT AUTOMATIC AUXILIARY	MC MBH MECH	MECHANICAL CONTRACTOR 1000 BTU PER HOUR MECHANICAL
	HW	HOT WATER PIPING	AHÛ	AIR HANDLING UNIT	MH MIN	MANHOLE MINIMUM
	HWR	HOT WATER RETURN PIPING	BD BFF	BALANCE DAMPER BELOW FINISHED FLOOR	MISC MTD	MISCELLANEOUS MOUNTED
	ww	WASTE WATER	BLDG BOD BOP	BUILDING BOTTOM OF DUCT BOTTOM OF PIPE	MOD	MOTOR OPERATED DAMPE
		VENT PIPING	BF	BOOSTER FAN	NIC N.O. N.C.	NOT IN CONTRACT NORMALLY OPEN NORMALLY CLOSED
т —		TEMPERED WATER	CLG CLR	CEILING CLEAR/CLEARANCE	NO. NTS	NUMBER NOT TO SCALE
G —		GAS PIPING	COL	CLEANOUT COLUMN	0/A	OUTDOOR AIR
F —		FIRE LINE	CONC CONTR CW	CONCRETE CONTRACTOR COLD WATER	OBD OC OPNG	OPPOSED BLADE DAMPER ON CENTER(S) OPENING
GT		GREASE TRAP LINE	CONN	CONNECTION CONDENSING UNIT	ORL	OVERFLOW RAINLEADER OUTSIDE AIR HOOD
A —		COMPRESSED AIR PIPING	Cu CHS CHR	COPPER CHILLED WATER SUPPLY CHILLED WATER RETURN	PC	PLUMBING CONTRACTOR
D —	2	RELIEF OR CONDENSATE DRAIN PIPING	DIA	DIAMETER	PH PLBG	PHASE PLUMBING
<u> </u>	SD	STORM DRAIN	DN DWG	DOWN DRAWING	R/A RE:	RETURN AIR REFERENCE/REFER TO
	RL	RAIN LEADER	DH E/A	DUCT HEATER EXHAUST AIR	REFRIG REF	REFRIGERANT REFRIGERATOR
L	ORL	OVERFLOW RAIN LEADER	EC EF	ELECTRICAL CONTRACTOR EXHAUST FAN	REQD RHP	REQUIRED RADIANT HEAT PANEL
		FULL PORT BALL PIPE ISOLATION VALVE	ELEC EQ EQUIP	ELECTRIC/ELECTRICAL EQUIPMENT	RL RM	RAINLEADER ROOM
<b>-</b> \$	НВ	HOSE BIBB/WALL HYDRANT	EXH EXH	EXISTING EXHAUST	RTU S/A	ROOFTOP UNIT SUPPLY AIR
		UNION	E.S.P. ERV	EXTERNAL STATIC PRESSURE ENERGY RECOVERY VENTILATOR	SCH	SCHEDULE STATIC PRESSURE
0	FD/FS	FLOOR DRAIN/FLOOR SINK	FCO	FLOOR CLEAN OUT	SPEC	SPECIFICATION STORM DRAIN
0	HD	HUB DRAIN	FCU FF	FAN COIL UNIT FINISHED FLOOR	SF	SUPPLY FAN TOTAL STATIC PRESSURE
)	со	CLEAN OUT	FLEX FLR	FLEXIBLE FLOOR/FLOORING	TYP	TYPICAL UNLESS OTHERWISE NOTE
<del></del>		DOUBLE CLEAN OUT	GA GC	GAUGE GENERAL CONTRACTOR	UG UH	UNDERGROUND UNIT HEATER
4	wco	WALL CLEAN OUT	GEN GYP	GENERAL GYPSUM BOARD	V	VENT (PLUMBING) VOLTAGE (ELECTRICAL)
		GAS COCK	HP	HEAT PUMP	VTR	VENT THROUGH ROOF
<del></del>		BALANCE VALVE	HP HT HW	HORSEPOWER HEIGHT HOT WATER	W/O	WITHOUT
<b> </b>		CHECK VALVE	HWC HR	HOT WATER CIRC	WP	WATERPROOF WEIGHT
•		POINT OF CONNECTION	HWR HWS	HEATING WATER RETURN HEATING WATER SUPPLY	WTR WW	WATER WASTE WATER WALL CLEANOUT
		GAS PRESSURE REGULATOR	LOC	LOCATION	MH MCO	WATER HEATER

# **GENERAL NOTES**

- THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.
- CONTRACTORS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.
- ALL WORK SHALL COMPLY WITH THE APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY ASME, SMACNA, ASHRAE, NFPA, APPLICABLE BUILDING CODE, APPLICABLE MECHANICAL CODE, APPLICABLE PLUMBING CODE, NATIONAL ELECTRICAL CODE, AGA, ADA AND OSHA, AS THEY APPLY TO THIS PROJECT EXCEPT IN CASES WHERE LOCAL STATUTES GOVERN.
- THE CONTRACTOR SHALL VERIFY WITH AUTHORITY HAVING JURISDICTION THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT. PROVIDE CONDENSATE DISPOSAL POINT FOR ALL MECHANICAL EQUIPMENT TO CODE APPROVED DISPOSAL. COORDINATE WITH MECHANICAL CONTRACTOR.
- ABSOLUTELY NO PIPING OR DUCTWORK CAN BE ROUTED ABOVE ELECTRICAL PANELS, GEAR OR TRANSFORMERS. THE ONLY HVAC, PLUMBING, SPRINKLER OR DUCTWORK THAT CAN ENTER AN ELECTRIC ROOM ARE THOSE SPECIFICALLY SERVING THAT ROOM. THESE SERVICES CAN ONLY ENTER INTO ELECTRIC ROOM ABOVE ENTRY DOOR.
- PROVIDE VALVE TAGS FOR ALL VALVES. PROVIDE CEILING ACCESS MARKERS FOR VALVES LOCATED ABOVE CEILING OR BEHIND WALL MOUNTED PANEL.
- PLUMBING PIPING SHALL NOT BLOCK ACCESS TO EQUIPMENT, JUNCTION BOXES, DISCONNECTS, ACCESS DOORS, ETC.
- H. ALL VALVES ARE TO BE ACCESSIBLE AND SHALL NOT BE LOCATED MORE THAN FOUR FEET ABOVE THE CEILING.
- CONTRACTOR TO CONNECT COLD WATER, TEMPERED WATER, WASTE WATER AND VENT PIPING TO ALL FIXTURES PER MANUFACTURER'S RECOMMENDATIONS, UNLESS OTHERWISE NOTED ON DRAWINGS.
- BEFORE ANY CUTTING OR TRENCHING OPERATIONS BEGIN, VERIFY WITH OWNER'S REPRESENTATIVE, UTILITY COMPANIES AND OTHER INTERESTED PARTIES THAT ALL AVAILABLE INFORMATION HAS BEEN PROVIDED CONCERNING EXISTING UTILITY LOCATION. VERIFY LOCATIONS GIVEN. CONTACT ARCHITECT IMMEDIATELY UPON UNCOVERING UNKNOWN UTILITIES FOR FURTHER DIRECTION. INDICATE ALL UNCOVERED UTILITIES ON RECORD DRAWINGS.
- K. INSTALL ROOF JACK AS REQUIRED AT ALL GAS PIPING ROOF PENETRATIONS.
- FIRE SEAL AROUND ALL PIPING AT PENETRATIONS THROUGH RATED WALLS, CEILINGS AND TUNNELS PER UL LISTED MATERIAL FOR ACTUAL SEALANT BEING USED. COORDINATE WITH ARCHITECTURAL PLANS FOR RATED WALL LOCATION.
- M. PROVIDE ALL APPROPRIATE TOOLS, WRENCHES, KEYS, ETC. AS REQUIRED FOR ACCESS AND OPERATION OF VALVES, COVERS, ETC.
- DO NOT ROUTE PIPING UNDER EQUIPMENT LOCATED ABOVE CEILING. ROUTE PIPING AROUND EQUIPMENT TO ALLOW FOR ACCESS AROUND EQUIPMENT AND FOR FUTURE REMOVAL OF EQUIPMENT.
- O. PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING FLUES AND COMBUSTION AIR PIPING TO EXTERIOR FOR GAS FIRED WATER HEATERS AND BOILERS.
- PROVIDE HEAT TRAPS ON INCOMING AND DISCHARGE LINES FROM WATER HEATERS WHICH DO NOT HAVE THEM FACTORY INSTALLED OR ARE NOT CONNECTED TO A RECIRCULATING SYSTEM.

# PLUMBING FIXTURE SCHEDULE

REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ALL WALL HUNG FIXTURES TO BE INSTALLED WITH WALL CARRIERS, VERIFY CONFIGURATION TYPE.

PROVIDE VANDAL RESISTANT SCREWS AT ALL FIXTURES. INSTALL STAINLESS STEEL CAPS AT ALL UNUSED LAVATORY FAUCET HOLES.

NO OFFSET FLANGES WILL BE ALLOWED FOR WATER CLOSET INSTALLATIONS. GROUT FOR LEVELING WATER CLOSETS SHALL NOT EXTEND UP ON SIDE OF WATER CLOSET BASES. TAKE GROUT BACK TO MINIMUM 1/8" UNDER BASE AND CAULK FOR

FINAL FINISH. VERIFY CAULK COLOR AND TYPE WITH ARCHITECT. REFERENCE ARCHITECTURAL CONTRACT DOCUMENTS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES. CONTACT ARCHITECT FOR ADDITIONAL INFORMATION AS REQUIRED.

PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

ALL PLUMBING FIXTURES TO BE "LEAD FREE" AB1953 COMPLIANT (.25% OR LESS AVERAGE LEAD CONTENT). PROVIDE DOCUMENTATION IN SUBMITTALS THAT THIS REQUIREMENT IS MET FOR EACH APPLICABLE FIXTURE.

# WATER CLOSET: ACORN MODEL #1680-W-1-HET-FVBO-FT-MT-SW, WALL/CHASE MOUNTED.

SEAMLESS WELDED 14 GAUGE TYPE 304 STAINLESS STEEL, CONCEALED SUPPLY, ELONGATED BOWL, INTEGRAL SEAT, FLOOD-TROL (MANUAL RESET) METAL TEMPLATE AND WALL SLEEVE. CONCEALED FLUSH VALVE: SLOAN ROYAL 9603-1,28 GPF, 1.28 GALLON MANUAL PUSH BUTTON FLUSH WITH CHROME PLATED WALL COVER. PROVIDE WITH FLUSH VALVE TRAP PRIMER VBF-21-A AS REQUIRED.

WATER CLOSET (ADA): ACORN MODEL #1680-W-1-HET-FVBO-ADA-FT-MT-SW, WALL/CHASE MOUNTED, SEAMLESS WELDED 14 GAUGE TYPE 304 STAINLESS STEEL, CONCEALED SUPPLY. ELONGATED BOWL, INTEGRAL SEAT. FLOOD-TROL (MANUAL RESET) METAL TEMPLATE AND WALL SLEEVE. CONCEALED FLUSH VALVE: SLOAN ROYAL 9603-1.28 GPF, 1.28 GALLON MANUAL PUSH BUTTON FLUSH WITH CHROME PLATED WALL COVER. PROVIDE WITH FLUSH VALVE TRAP PRIMER VBF-21-A AS REQUIRED.

URINAL: ACORN MODEL #1709-W-1-.5-FYBO-MT-SW, WALL MOUNTED. SEAMLESS WELDED HEAVY GAUGE STAINLESS STEEL, CONCEALED SUPPLY, CONCEALED FLUSH VALVE: SLOAN ROYAL 9613-0.5, 0.5 GALLON MANUAL PUSH BUTTON FLUSH WITH CHROME PLATED WALL COVER, METAL TEMPLATE AND WALL SLEEVE. PROVIDE WITH FLUSH VALVE TRAP PRIMER AS REQUIRED.

URINAL (ADA): ACORN MODEL #1709-W-1-.5-FYBO-MT-SW, WALL MOUNTED, SEAMLESS WELDED HEAVY GAUGE STAINLESS STEEL, CONCEALED SUPPLY. CONCEALED FLUSH VALVE: SLOAN ROYAL 9613-0.5, 0.5 GALLON MANUAL PUSH BUTTON FLUSH WITH CHROME PLATED WALL COVER, METAL TEMPLATE AND WALL SLEEVE. PROVIDE WITH FLUSH VALVE TRAP PRIMER AS REQUIRED.

LAVATORY (ADA): ACORN MODEL #1652LRB-DMS-PPZ1-MT-SW-ST70, WALL/CHASE MOUNTED, SEAMLESS WELDED HEAVY GAUGE STAINLESS STEEL, TOUCH TIME SINGLE TEMPERATURE ELECTRONIC METERING VALVE, DECK MOUNTED SPOUT AND ASSE 1070 THERMOSTATIC MIXING VALVE, METAL TEMPLATE AND WALL SLEEVE.

3 COMPARTMENT SINK: ELKAY #WNSF8360LR4, 14 GAUGE STAINLESS STEEL, 1/4" RADIUS COVED CORNER CONSTRUCTION, 24" x 20" x 14" DEEP BOWLS, 8" HIGH FULL LENGTH SLOPED BACKSPLASH, DRAINBOARDS LEFT AND RIGHT, STAINLESS STEEL TUBULAR LEGS WITH ADJUSTABLE BULLET FEET. FAUCETS: TWO (2) ELKAY #LK945AT12T4T, 4" WRIST BLADE HANDLES.

KITCHEN HAND SINK (ADA): ELKAY #ELVW02219, 304 STAINLESS STEEL, NSF, COMPLETE WITH WALL HANGER, INTEGRAL STAINLESS STEEL SUPPORT BRACKETS, INTEGRAL OVERFLOW. PROVIDE WITH LK412 GOOSENECK FAUCET WITH 4" WRISTBLADE HANDLES AND LK723 THERMOSTATIC MIXING VALVE (ASSE 1070).

DRINKING FOUNTAIN (ADA): "MOST DEPENDABLE FOUNTAINS. INC" WALL MOUNT MODEL 10485WMSS, DUAL LEVEL, RECESSED NOZZLE BOTTLE FILLER SPOUT, STAINLESS STEEL, STAINLESS STEEL COVER PLATE OVER WALL CARRIER PLATE, CANE APRON, VANDAL RESISTANT BUBBLER AND OPTIONAL CUT-OFF VALVE AND LOW POINT DRAIN. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTIONS.

SERVICE SINK: FIAT #MSB-2424, ONE-PIECE MOLDED STONE WITH #832-AA HOSE AND HOSE BRACKET #E-77-AA VINYL BUMPER GUARD, MSG-2424 STAINLESS STEEL WALL GUARD AND #830-AA FAUCET.

WATER HEATER: A.O.SMITH MODEL DEN-52, 50 GALLON STORAGE, 6KW-208V-3PH NON-SIMULTANEOUS ELEMENTS, 31 GPH RECOVERY AT 80 DEGREES RISE.

HOSE BIBB: WOODFORD MODEL 26, TEE KEY OPERATOR, ASSE 1052 OR 1101 BACKFLOW PREVENTER, CLOSE COUPLED, NO SPRAYBACK. PROVIDE SHUT-OFF VALVE INSIDE BUILDING IN ACCESSIBLE LOCATION. SLOPE LINE FROM SHUT-OFF VALVE TO WALL HYDRANT TO ALLOW DRAINING OF LINE FOR FREEZE PROTECTION.

FLOOR DRAIN: C.I. BODY, FLASHING COLLAR, WEEPHOLES, ADJUSTABLE STAINLESS STEEL OR NICKEL BRONZE RECTANGULAR TOP (4" x 12"). MIFAB F1100C-RS-3 SERIES.

FLOOR DRAIN (KITCHEN): C.I. BODY, FLASHING COLLAR, WEEPHOLES, SECURED AND ADJUSTABLE STAINLESS STEEL OR NICKEL BRONZE SQUARE TOP (6" x 6") MINIMUM WITH COPPER SEDIMENT BASKET. TOP SIZE TO MATCH TILE SIZE AS CLOSE AS POSSIBLE, VERIFY TOP SIZE. MIFAB F1100 CS-3-5 SERIES.

FLOOR SINK: 6" DEEP WITH ACID-RESISTING PORCELAIN ENAMEL INTERIOR, ALUMINUM INTERNAL DOME STRAINER, and STAINLESS STEEL GRATE (1/2 GRATE TYPE). MIFAB FS1720-3 SERIES.

BUILDIN W00  $\alpha$ 

SION 5

PROJECT PHASE

SONAL ENGLES

REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1. FOR ADDITIONAL INFORMATION



94813

CENSED

APPROVED

T DISAPPROVED

□ APPROVED AS NOTED

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HCE job no.: 17-026

DEVELOPMENT 9 HED 12 XM

**8**0

BID - 8/10/2017

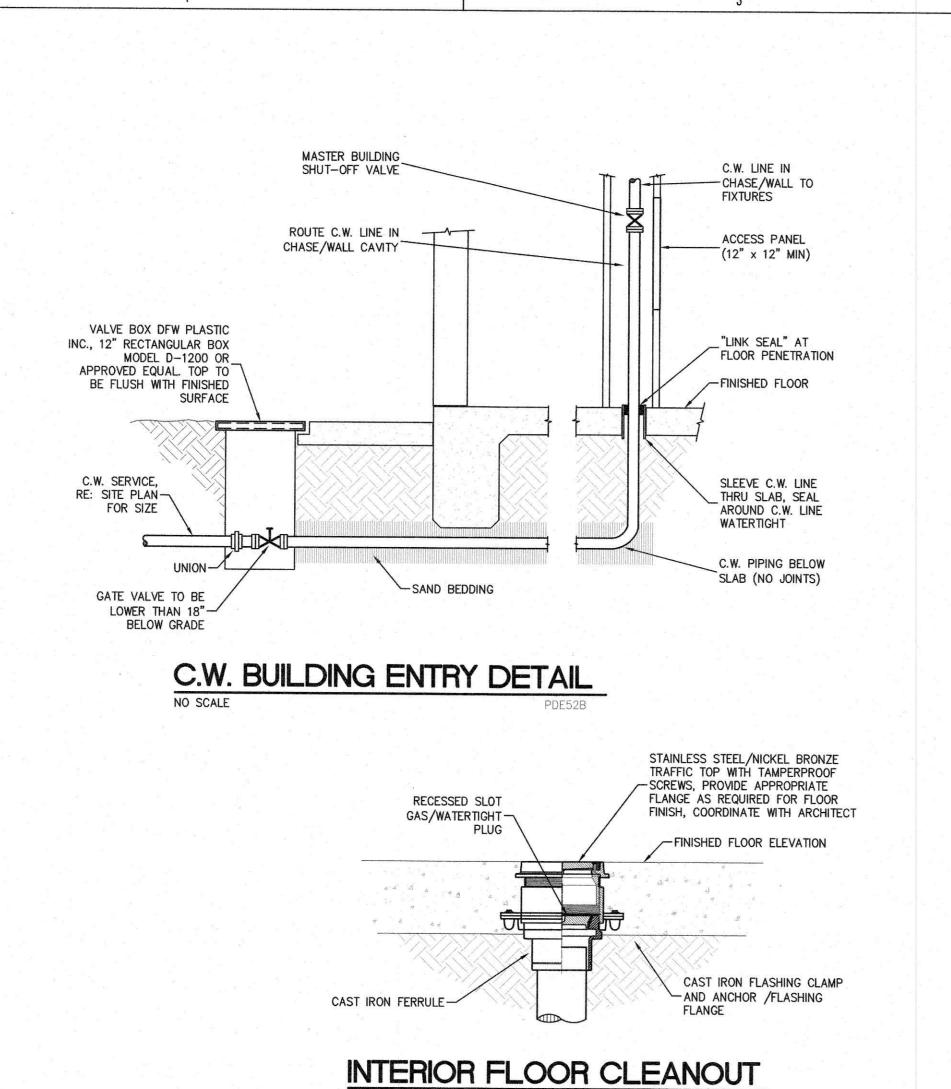
CITY OF DEER PARK

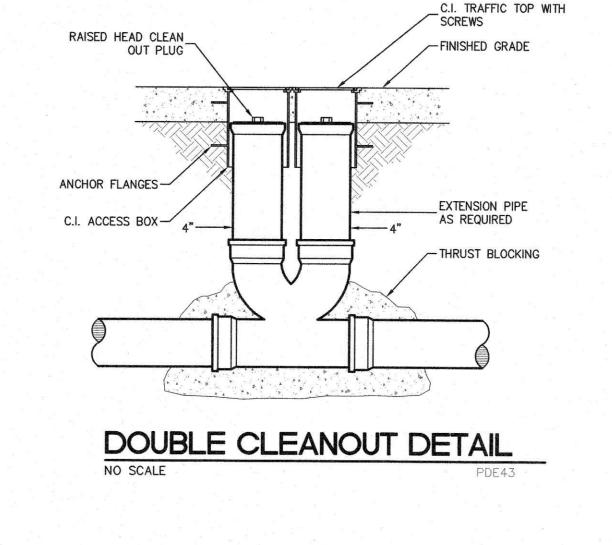
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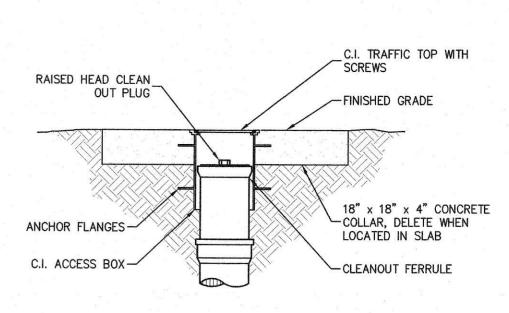
ENGINEERING DEPARTMENT

PROJECT NUMBER 16123-00 DATE ISSUED 8/10/2017

SHEET TITLE AND LEGENDS SHEET NUMBER

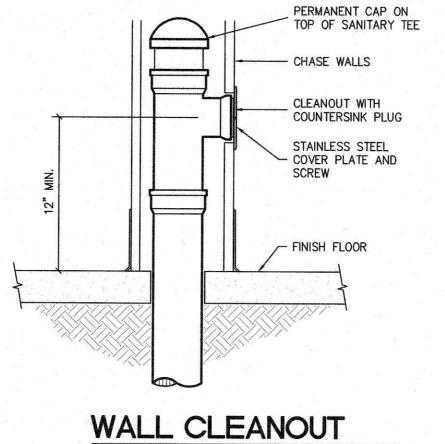


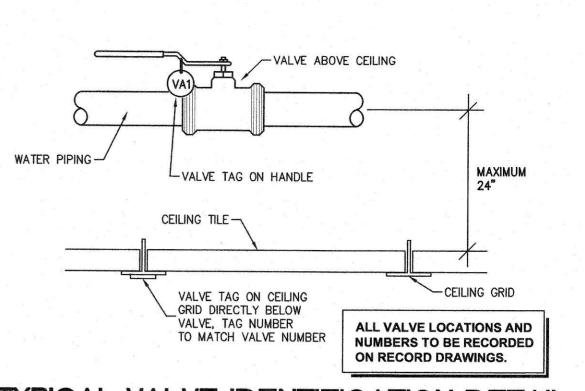




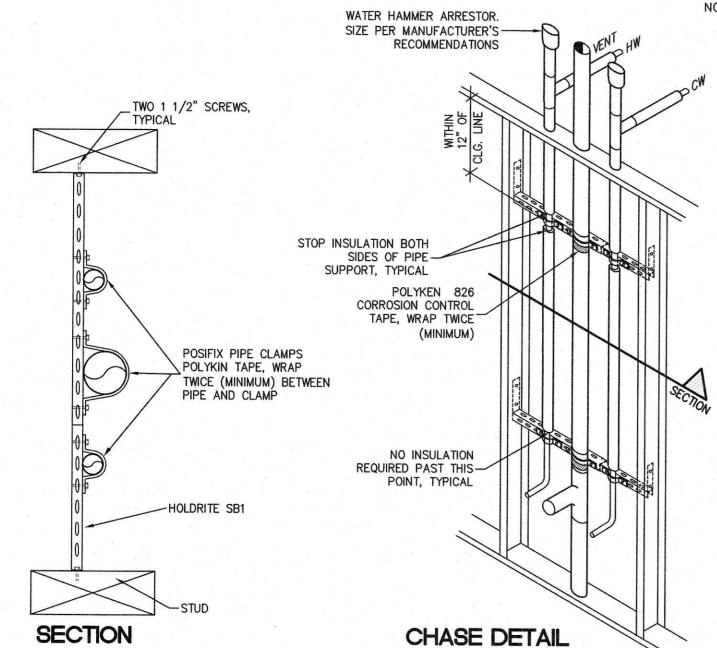
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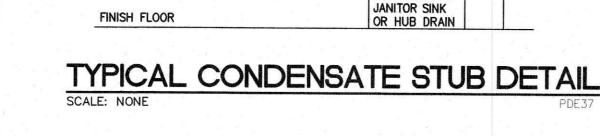
PDE88





TYPICAL VALVE IDENTIFICATION DETAIL





ROUTE 2" COPPER PIPING UP IN WALL

AND STUB 6" ABOVE CEILING FOR MECHANICAL CONTRACTOR TO

CONNECT CONDENSATE MAIN, STUB

OUT OF WALL AND TURN DOWN 1"

DRAIN, INSULATE ENTIRE RUN OF

CONDENSATE PIPING

PROVIDE ESCUTCHEON TO

SECURE PIPING TO WALL

ONE INCH

AIR GAP

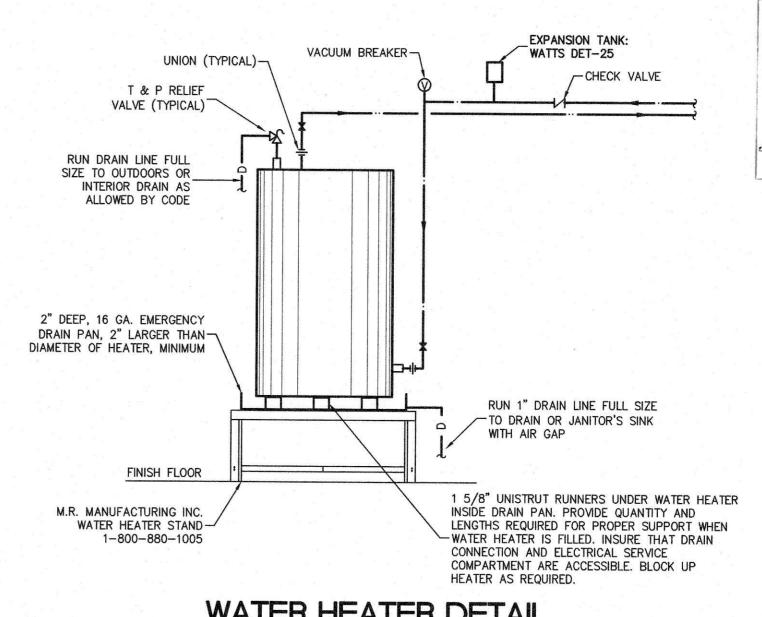
DISCHARGE TO

SECURE PIPING

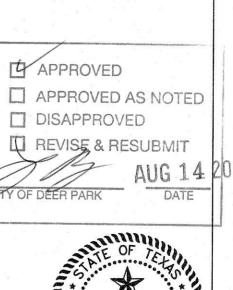
IN WALL (TYPICAL)

ABOVE RIM OF JANITOR SINK OR HUB

CEILING



WATER HEATER DETAIL





BID - 8/10/2017 REVISIONS Date Received

8

REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1. FOR ADDITIONAL INFORMATION PROJECT NUMBER 16123-00



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HCE job no.: 17-026

SHEET NUMBER

TYP. PLUMBING CHASE SUPPORT DETAIL

RESTROOM BUILDING NOIS

REVISE & RESUBMIT

PROJECT PHASE

CITY OF DEER PARK

SOCCER FIELD DEVELOPMENT PHASE

DEER PARK,

OF.

WXST. CITY

1 1 0 2 s austin ave, suite 103 georgefown, tx 78626

ryan@modedc.us | www.modedc.us

+ 1 512 733 1150

**ENGINEERING DEPARTMENT** 

AUG 11 2017

DATE ISSUED 8/10/2017

DETAILS -

THESE NOTES APPLY TO THIS SHEET ONLY

(1) DO NOT ROUTE ANY PIPING ABOVE THIS AREA.

2 CONNECT TO WASTEWATER (WW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION AND INVERT. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION.

CONNECT TO COLD WATER (CW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION. COORDINATE LOCATION OF SHUT OFF WITH CONDENSING UNITS.

4 RE: CW BUILDING ENTRY DETAIL ON PLUMBING DETAIL SHEET(S).

5 RE: DOUBLE CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).

RE: EXTERIOR CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).

RE: INTERIOR CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).

RE: WATER HEATER DETAIL ON PLUMBING DETAIL SHEET(S) FOR WATER HEATER AND HOT WATER RECIRCULATION PUMP PIPING.

9 RE: TYPICAL CONDENSATE STUB DETAIL ON PLUMBING DETAIL SHEET(S).

10 CW IN-LINE RPZ BACKFLOW PREVENTOR ON WALL IN ACCESSIBLE LOCATION. COORDINATE EXACT LOCATION WITH ARCHITECT AND EQUIPMENT. ROUTE RELIEF FROM RPZ TO FLOOR SINK FOR ICEMAKER.

11 GREASE INTERCEPTOR EQUAL TO PARK MODEL MGT-35-PDI, 35 GPM, 70 LB GREASE CAPACITY. PROVIDE STEEL EXTENSIONS AS REQUIRED.

12 SAMPLE WELL EQUAL TO PARK MODEL SWB-184.

13 PROVIDE BUILDING SHUT OFF VALVE AND DOUBLE CHECK BACKFLOW PREVENTER IN

14 ROUTE ALL WW VENTS, AND WATER LINES TIGHT TO CHASE WALLS TO MAINTAIN MAXIMUM ACCESS SPACE DOWN CENTER OF CHASE. ROUTE 2" DOMESTIC WATER MAINS DOWN EACH SIDE OF CHASE TO SERVE FIXTURES. SLOPE MAINS TO DRAIN TO EXTERIOR HOSE BIBBS AT END OF CHASE. REFERENCE FIXTURE CONNECTION

15 SLOPE WATER LINE TO HOSE BIB FOR DRAIN DOWN.

4

02 FLOOR PLAN - PLUMBING - SUPPLY
SCALE: 1/8" = 1'-0"

WCW

PEX-A WATER PIPING MAY BE

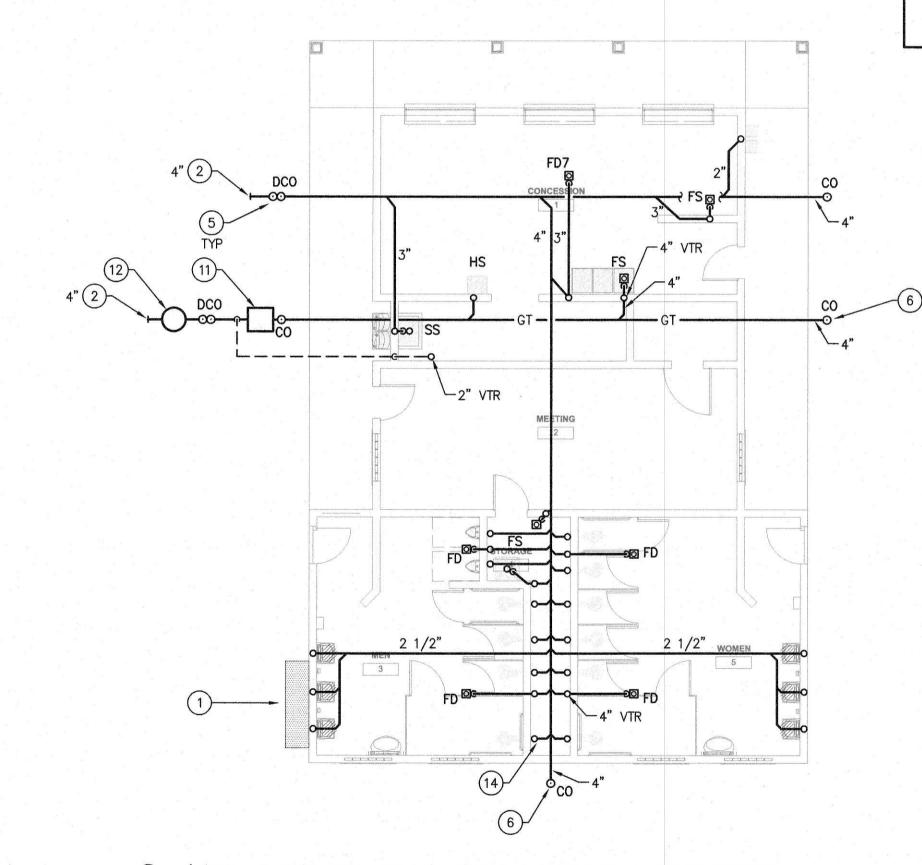
**USED IF ACCEPTABLE TO OWNER.** 

ALL WATER LINES UNDERGROUND

KS3

**EXCEPT IN CHASE FOR FREEZE** 

PROTECTION.



0 1 FLOOR PLAN - PLUMBING - WASTE

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





PROJECT PHASE BID - 8/10/2017

BUILDING

**MOO** 

**RESTRO** 

CONCESSION

REVISIONS

CITY OF DEER PARK Date Received

AUG 1 1 2017

SOCCER FIELD DEVELOPMENT PHASE 1

REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1.1 FOR ADDITIONAL INFORMATION **ENGINEERING DEPARTMENT** 

> 16123-00 DATE ISSUED 8/10/2017



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SHEET NUMBER

P-2.1

FLOOR PLAN -

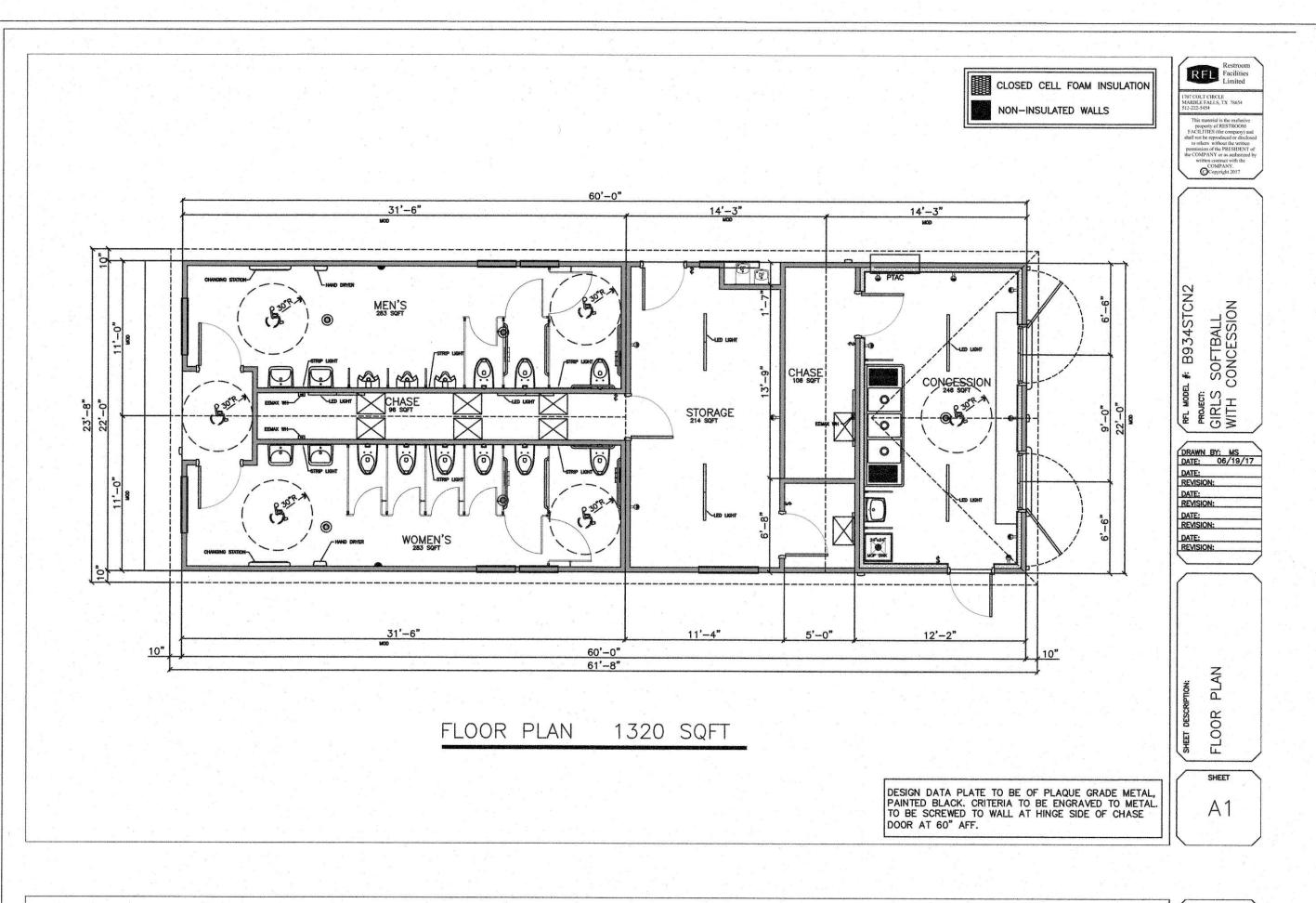
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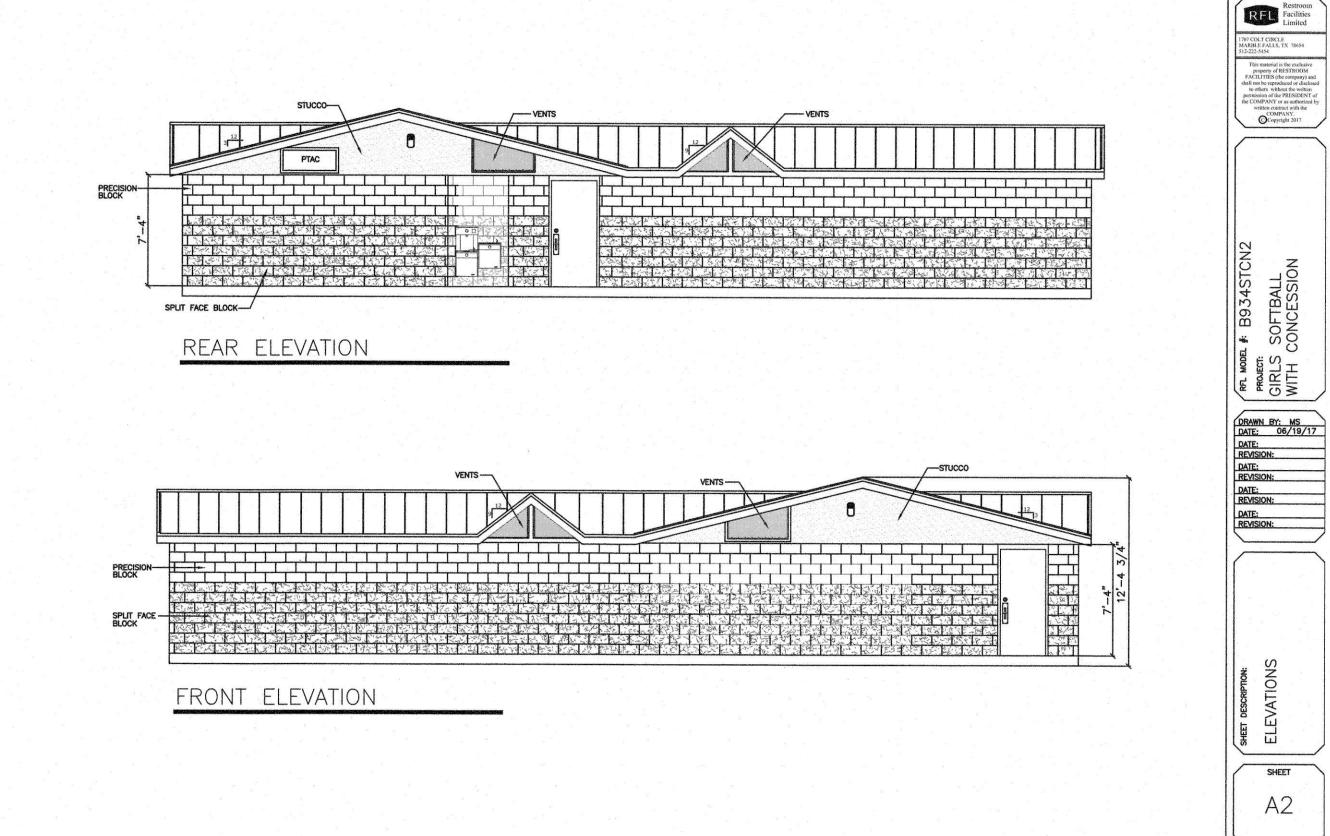
3

1102 s austin ave, suite 103 georgefown, tx 78626

ryan@modedc.us | www.modedc.us

+ 1 512 733 1150





# GENERAL CONTRACTOR'S SCOPE OF WORK TURNKEY INSTALLATION OF RESTROOM BUILDING WITH ATTACHED SLAB

# 1. SURVEY STAKES:

Provide ten foot offset stakes and locate front corners of building, existing utilities, and inverts within the area of construction. Locate and mark final slab elevation.

# 2. SUBGRADE PAD:

Preparing the site is fairly simple. Detailed instructions to prepare the building site are

- 2.1. Excavate down ten inches below the finish floor elevation (the slab is eight inches thick on top of a two inch sand bed).
- If soils are poor, it may be necessary to import six inches of Class II base rock, and pour for a footing and/or piers. (This is not necessary if native soils will compact)
- 2.3. Compact to 95%, or to local code requirement.
- 2.4. Compact one foot over in all directions (over build).
- 2.5. Supply approximately five cubic yards of clean sand, on side of site, for fine
- 2.6. Excavate and backfill trenches up to and within building pad for RFL supplied underground utility service kits.
- 2.7. Provide water and inspection for RFL supplied underground sewer kit.
- 2.8. Depending on weather, all irrigation should be turned off prior to delivery to allow the surrounding soils to dry and bear the weight of the truck and crane.
- 2.9. Check corner locations against plans for proper sizing.2.10. Verify finish floor elevation for concrete slab (shipped fully attached to the
- 2.11. Excavate one foot perimeter footing if required by local code to specified depth.

# 3. SITE ACCESS AND STORAGE:

Provide suitable safe clear access to allow a crane (up to 110 tons), and the building on a semi-trailer (up to 40 tons) to reach site (14' width, 70' length, and 14' in height). If path to site is over existing utilities, sidewalks, or other damageable areas, proper marking, plating or other appropriate protection must be provided by General Contractor. General Contractor is responsible for removing any overhead obstructions (i.e. power lines, trees). This proposal provides for a 110 ton crane with access to within 25' of the building pad. The proposal is based on four (4) hours of crane time. If access is limited a larger crane may be required. All additional crane costs shall be borne by the CLIENT. A direct route to the project site is assumed. Should routes be altered due to road closures or restrictions, additional fees may apply.

# 4. UTILITIES:

Bring water, sewer, and power (if applicable) utilities into point of connection Christy boxes (supplied by RFL), within six feet of the building line at the location shown on our

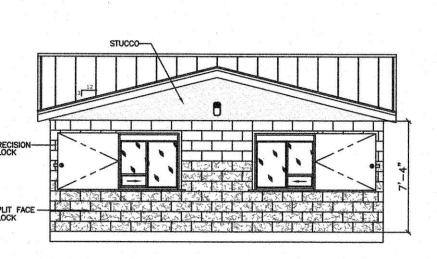
- 4.1. Water: RFL will furnish and install a water point of connection (isolation valve), from mechanical chase to a Christy box six feet from the building line. General Contractor must connect service to valve.
- 4.2. Sewer: RFL will furnish and install a sewer point of connection from mechanical chase to a Christy box six feet from the building line. General Contractor must connect service.
- 4.3. Electrical: (when this option is chosen) RFL will furnish and install a PVC conduit and a Christy box to the point of connection six feet from the building line. General Contractor to pull the electrical service line through the conduit and connect to the main panel lugs inside the building. All electrical inside the building will be furnished and installed by RFL, except as noted above in exclusions.
- 4.4. If the utilities are not available when we depart the site, testing and minor leaks will be the responsibility of the General Contractor.
- 4.5. A minimum 1½" line with 25 gpm at 60 psi pressure minimum is required to ensure that water closets will operate as designed. If this is not available an auxiliary holding tank may be required.

OF PARK

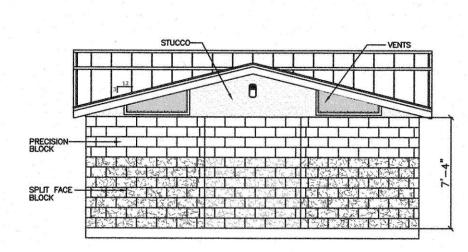
GIRLS SOFTBALL RENOVAT
AT YOUTH SPORTS COMP
407 W X ST.



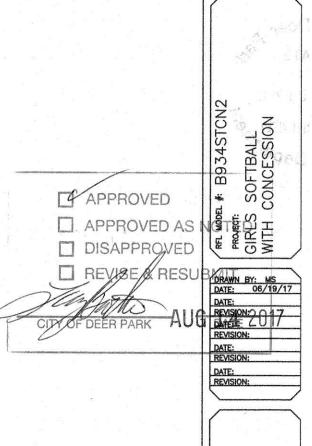
14800 ST. MARY'S LANE SUITE 160 HOUSTON, TEXAS 77079-2943 TEL (713) 588-2450 FAX (281) 310-5259



RIGHT SIDE ELEVATION

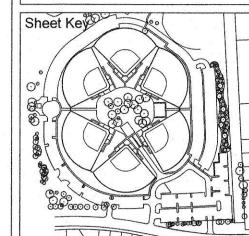


LEFT SIDE ELEVATION



CITY OF DEER PARK
Date Received
AUG 11 2017

ENGINEERING DEPARTMENT



Project No.: 31558-6A
Issued: 08/10/17
Drawn By: AA / BM
Checked By: KD / BB

Sheet Title

CORWORTH ARCHITECTURAL ALTERNATE

AA1.0 Sheet Number

ARCHITECTURAL ALTERNATE
OWNER TO PURCHASE PRE-FAB BUILDING AND
INSTALL. CONTRACTOR SHALL PROVIDE
ELECTRICAL AND PLUMBING CONNECTIONS WITHIN
5' OF THE BUILDING AND COORDINATE WITH SITE
WORK AND INSTALLATION WITH OWNER.

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☐ APPROVED AS NOTED DISAPPROVED

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PERMIT #CB-000134-2017 GIRLS SOFTBALL RENOVATION PHASE I

AUG 11 2017

ENGINEERING DEPARTMENT

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