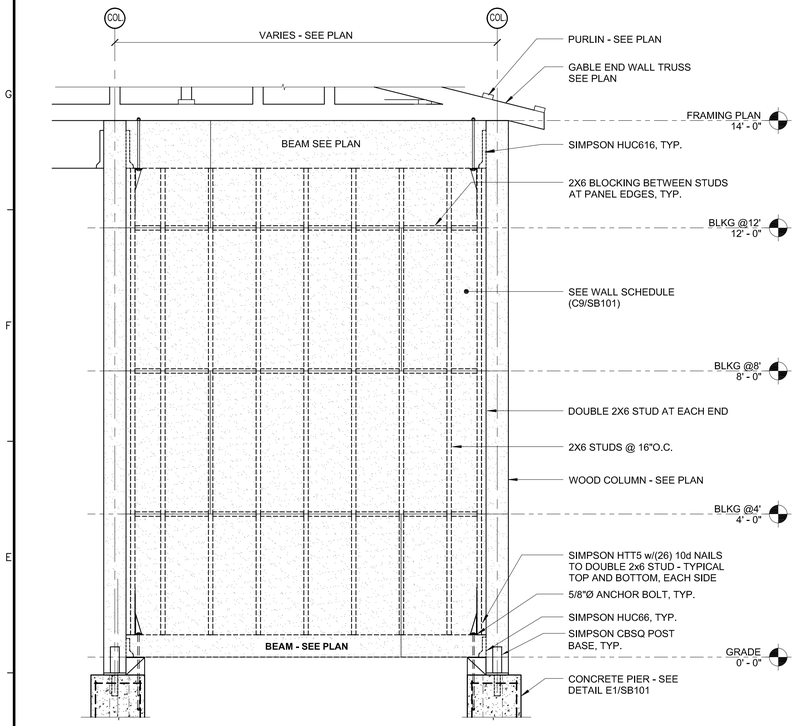
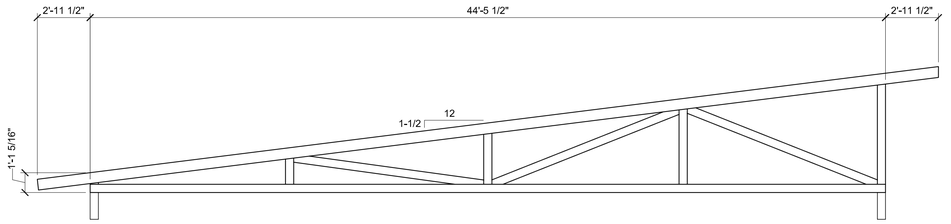
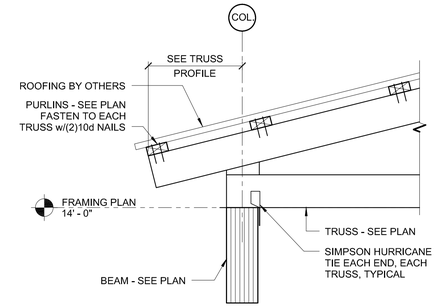


E1	ELEVATION VIEW OF TYPICAL SHEARWALL
NTS	

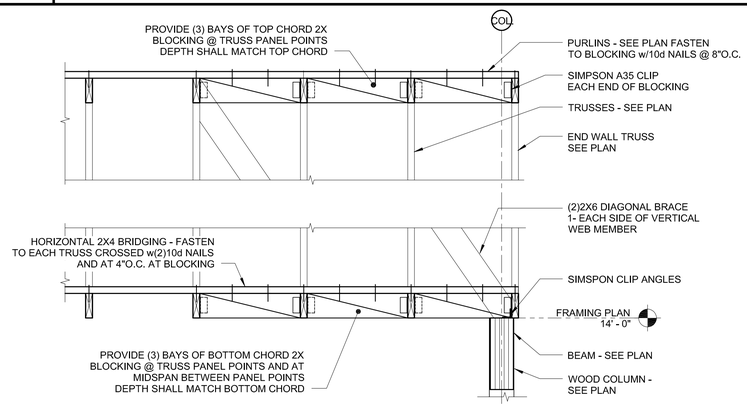


TYPICAL TRUSS PROFILE SCHEMATIC

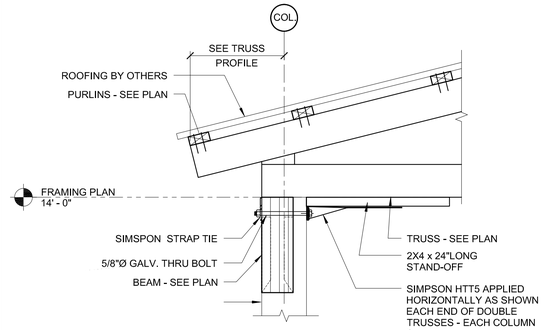
G5	TRUSS PROFILE SCHEMATIC
NTS	



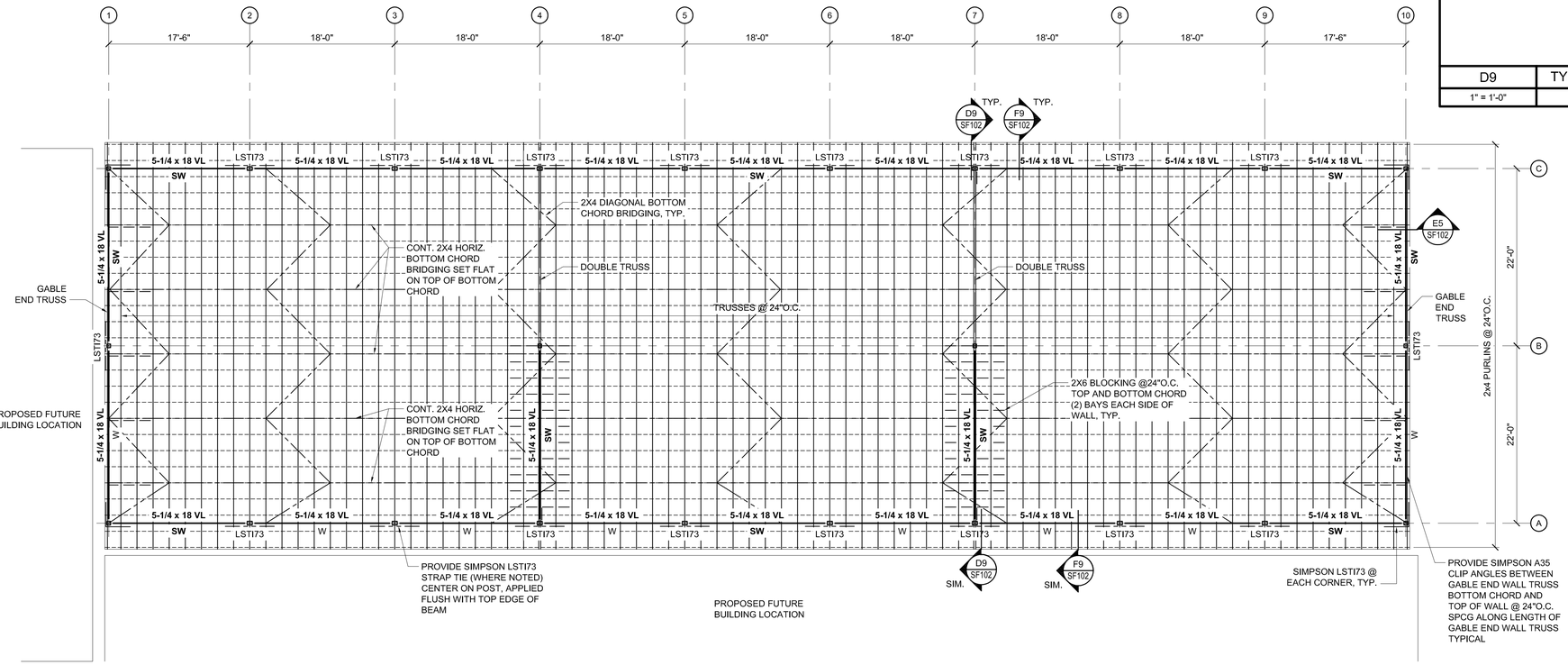
F9	TYPICAL TRUSS BEARING DETAIL
1" = 1'-0"	



E5	TYPICAL DETAIL AT GABLE END BLOCKING
3/4" = 1'-0"	



D9	TYPICAL TRUSS BEARING DETAIL AT DOUBLE TRUSS
1" = 1'-0"	

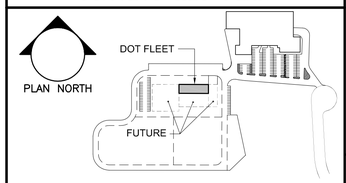


A1	STRUCTURAL ~ ROOF FRAMING PLAN
1/8" = 1'-0"	

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



Allied Engineering
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www.allied-eng.com

Allied Project No: 13057 Cad File: 13057S.rvt

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE WILLIAM P. FALCHER JR. 13153 REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION			
PROGRAM			
PROJECT MANAGER			
DESIGNER	ALLIED ENG., INC.		
CONSULTANT	–		
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE	–		

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2

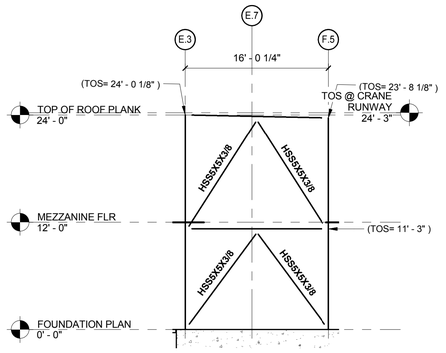
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

STRUCTURAL – DOT FLEET FRAMING PLAN

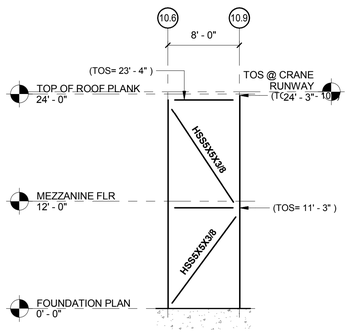
SHEET NUMBER

SF102

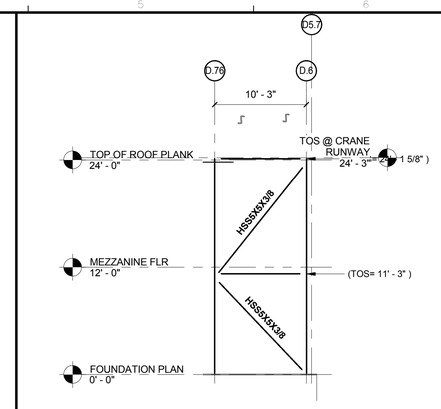
N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057S_DOTFLEET.dwg Feb 27, 2014 – 10:05am



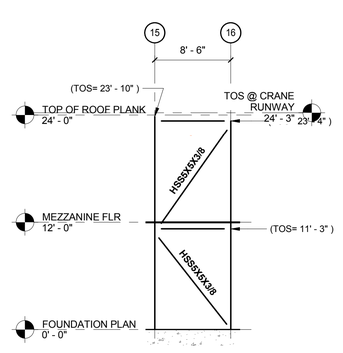
F1	BRACED FRAME-1
1/8" = 1'-0"	



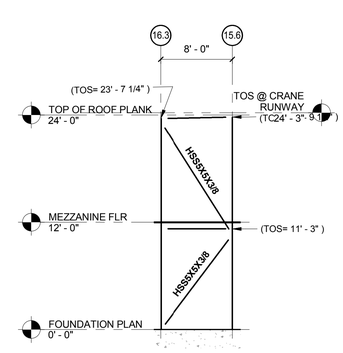
F3	BRACED FRAME-2
1/8" = 1'-0"	



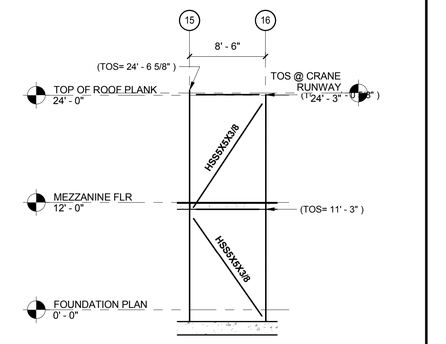
F5	BRACED FRAME-3
1/8" = 1'-0"	



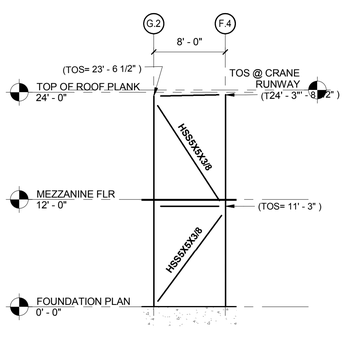
F7	BRACED FRAME-4
1/8" = 1'-0"	



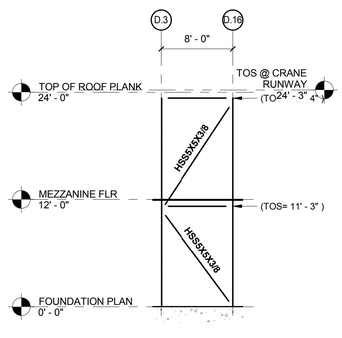
F9	BRACED FRAME-5
1/8" = 1'-0"	



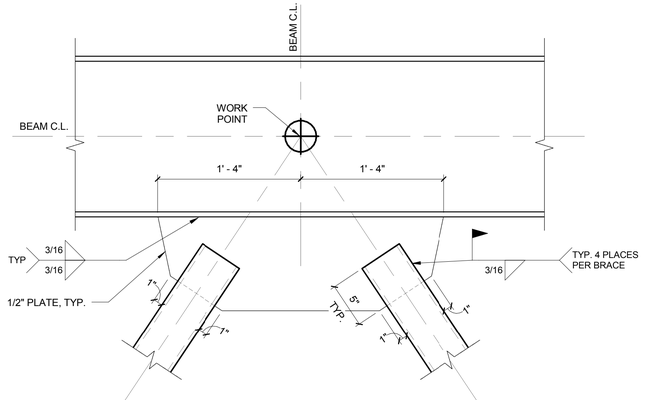
D1	BRACED FRAME-6
1/8" = 1'-0"	



D3	BRACED FRAME-7
1/8" = 1'-0"	

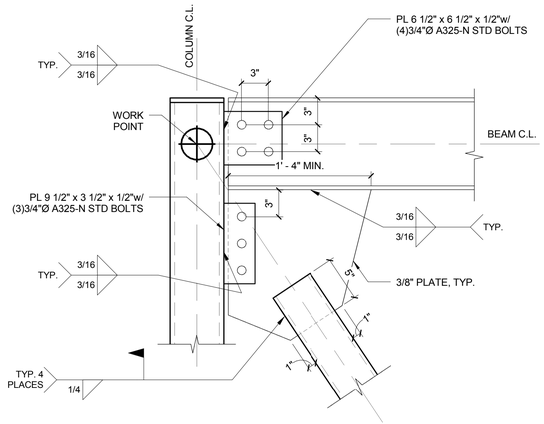


D5	BRACED FRAME-8
1/8" = 1'-0"	



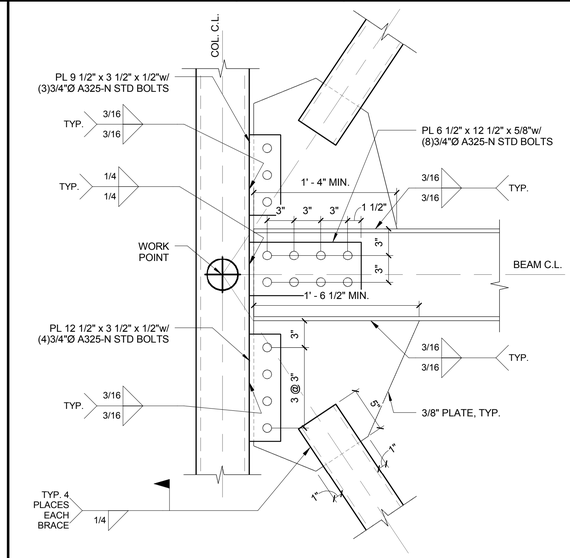
NOTE: SEE BRACED FRAME SCHEMATIC FOR BRACE SIZES, TYPICAL

D7	TYPICAL CHEVRON BRACE AT TOP CONNECTION
1 1/2" = 1'-0"	



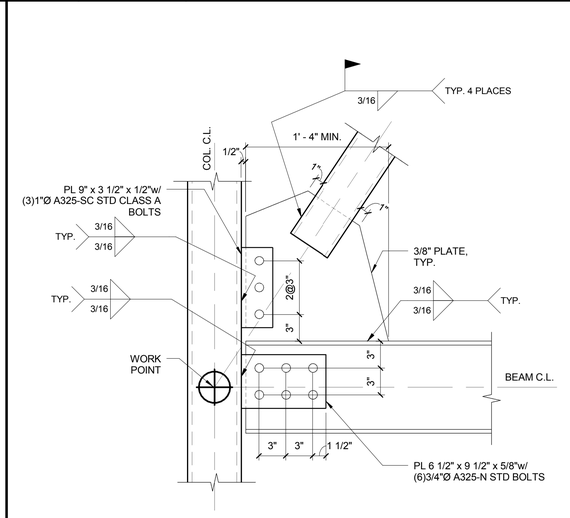
NOTE: SEE BRACED FRAME SCHEMATIC FOR BRACE SIZES, TYPICAL

A1	TYPICAL K-BRACE AT TOP CONNECTION
1 1/2" = 1'-0"	



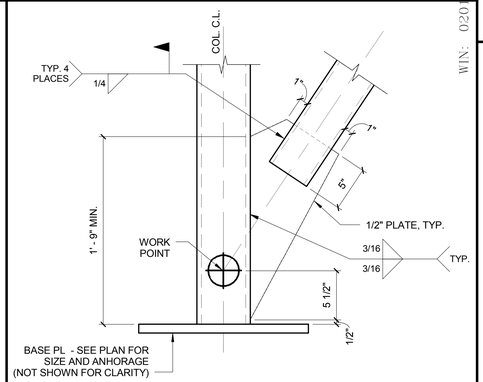
NOTE: SEE BRACED FRAME SCHEMATIC FOR BRACE SIZES, TYPICAL

A4	TYPICAL K-BRACE AT MIDDLE CONNECTION
1 1/2" = 1'-0"	



NOTE: SEE BRACED FRAME SCHEMATIC FOR BRACE SIZES, TYPICAL

A6	TYPICAL CHEVRON AT MIDDLE CONNECTION
1 1/2" = 1'-0"	



NOTE: SEE BRACED FRAME SCHEMATIC FOR BRACE SIZES, TYPICAL

A9	TYPICAL BRACE AT BASE CONNECTION
1 1/2" = 1'-0"	

ISSUED FOR BID

FEBRUARY 27, 2014

Allied Engineering
Structural Mechanical Electrical Commissioning

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Allied Project No: 13057 | Cad File: 13057S.rvt

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE — WILLIAM FALCHER — 12705 — REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	-
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

WIN: 020118.20

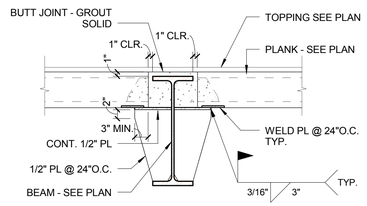
66 INDUSTRIAL DRIVE-PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

STRUCTURAL - BRACED FRAME SCHEMATICS

SHEET NUMBER

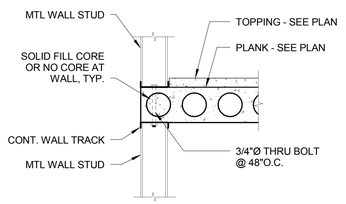
SF200

Username: -
Division: -
Date: -
Filename: -



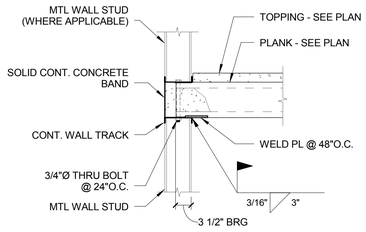
F1 TYPICAL PLANK BEARING ON RECESSED BEAM

3/4" = 1'-0"



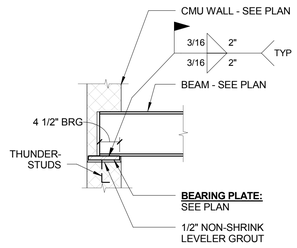
F3 EXTERIOR SIDE LAP ON METAL STUD

3/4" = 1'-0"



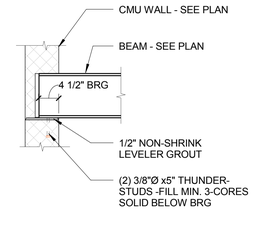
F6 EXTERIOR BEARING ON METAL STUD

3/4" = 1'-0"



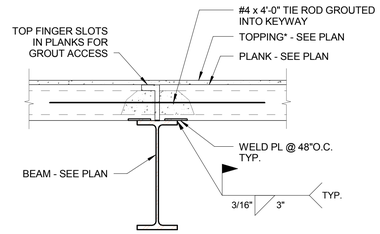
F8 BEAM POCKET w/BRG PL

3/4" = 1'-0"



F9 BEAM POCKET -NO BRG PL REQ'D

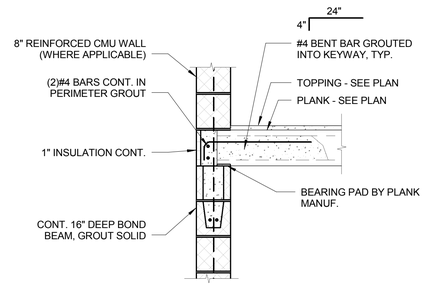
3/4" = 1'-0"



* NO TOPPING AT ROOF PLANK

E1 INTERIOR BEARING ON STEEL BEAM

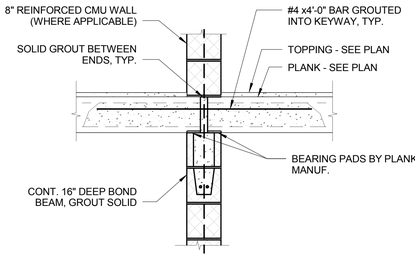
3/4" = 1'-0"



NOTE:
1. 3" MIN BEARING TYP.
2. SIM. AT CONCRETE WALLS
3. INTERIOR AND EXTERIOR FINISHES NOT SHOWN FOR CLARITY - COORDINATE WITH ARCHITECTURAL DRAWINGS

E3 TYP. PLANK AT EXT. CMU WALL

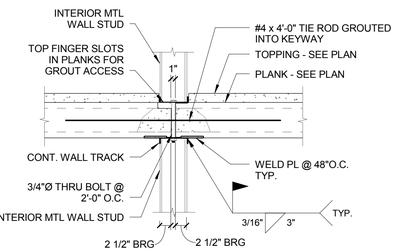
3/4" = 1'-0"



NOTE:
1. 3" MIN BEARING TYP.
2. INTERIOR FINISHES NOT SHOWN FOR CLARITY - COORDINATE WITH ARCHITECTURAL DRAWINGS

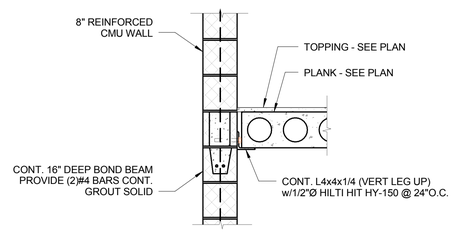
E6 TYP. PLANK AT INT. CMU WALL

3/4" = 1'-0"



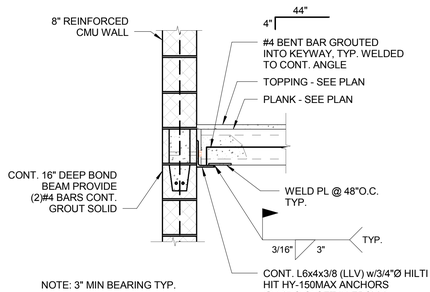
E8 INTERIOR BEARING ON 6" METAL STUD

3/4" = 1'-0"



C1 NON-BEARING PLANK AT CMU w/ANGLE

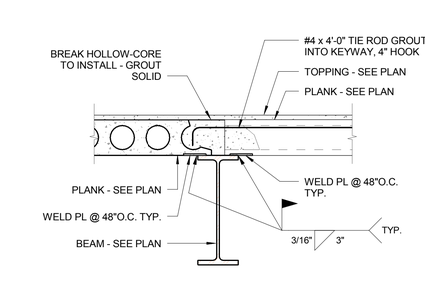
3/4" = 1'-0"



NOTE: 3" MIN BEARING TYP.

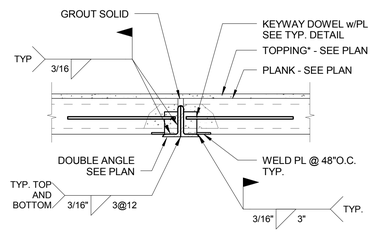
C3 PLANK BRG AT STAIR/ELEVATOR CMU WALL

3/4" = 1'-0"



C6 PLANK TRANSITION DETAIL AT STL BEAM

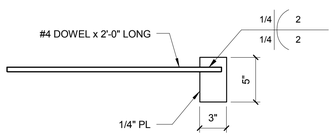
3/4" = 1'-0"



* NO TOPPING AT ROOF PLANK

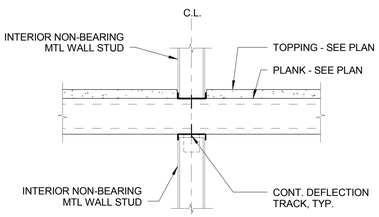
C8 INTERIOR BEARING ON DOUBLE ANGLE

3/4" = 1'-0"



A1 TYP. KEYWAY DOWEL/PL DETAIL

1 1/2" = 1'-0"



A3 INT. NON-BEARING METAL STUD

3/4" = 1'-0"

ISSUED FOR BID
FEBRUARY 27, 2014

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
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T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Project No: 13057 | Cad File: 13057S.rvt

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

WILLIAM FALCHER 12745 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

P.E. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

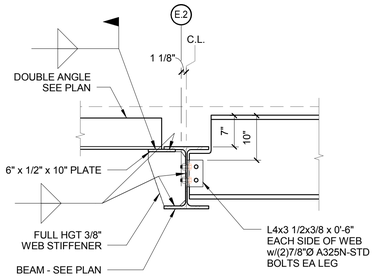
66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

STRUCTURAL – DETAILS

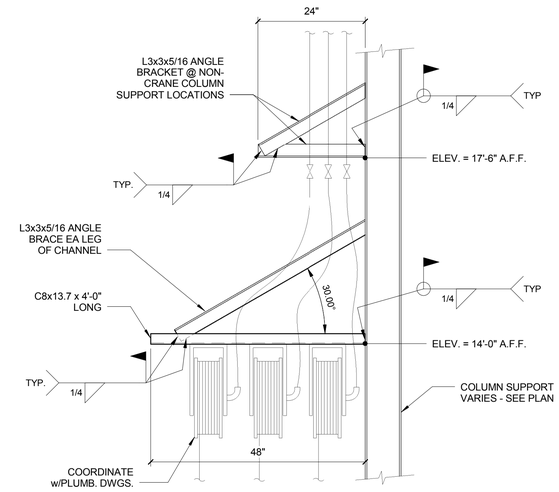
SHEET NUMBER

SF500

Username: –
Division: –
Date: –
Filename: –

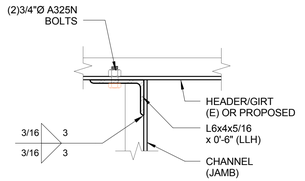


F1	DETAIL
3/4" = 1'-0"	

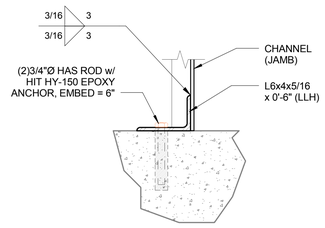


NOTE: COORDINATE LOCATIONS
w/PLUMBING DWGS.

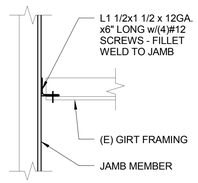
E8	TYPICAL HOSE REEL DETAIL
3/4" = 1'-0"	



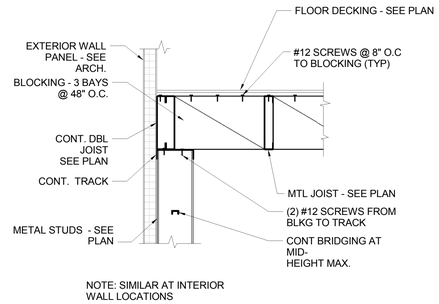
E1	TYPICAL CHANNEL JAMB AT TOP
1 1/2" = 1'-0"	



E3	TYPICAL CHANNEL JAMB AT BASE
1 1/2" = 1'-0"	

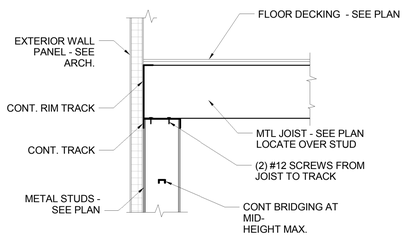


E6	TYPICAL ATTACHMENT OF (E) GIRT
1 1/2" = 1'-0"	



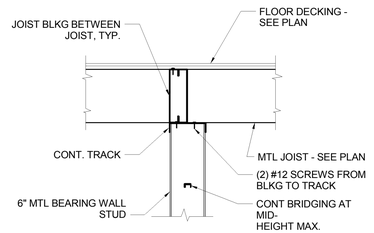
NOTE: SIMILAR AT INTERIOR
WALL LOCATIONS

C1	CFMF NON BEARING JOIST
3/4" = 1'-0"	

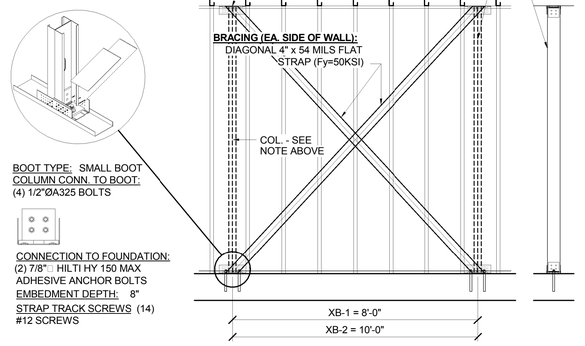


NOTE: SIMILAR AT INTERIOR
WALL LOCATIONS

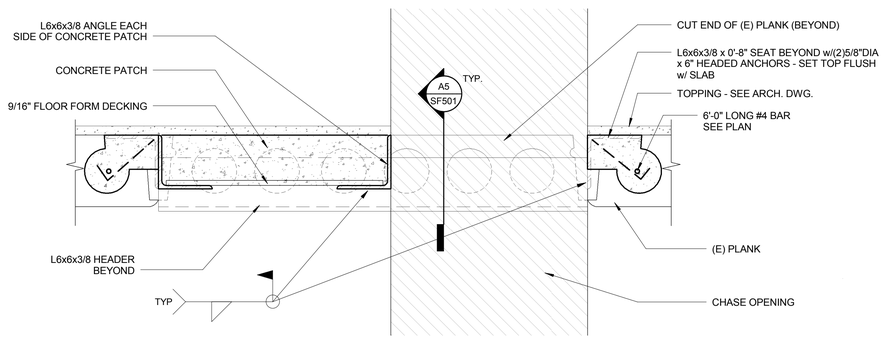
C3	CFMF BEARING DETAIL
3/4" = 1'-0"	



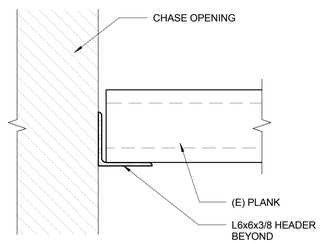
C6	CFMF AT INTERIOR BEARING WALL
3/4" = 1'-0"	



C8	CMFM (X-BRACE) SCHEMATIC



A1	TYPICAL PLANK HEADER/INFILL DETAIL
1 1/2" = 1'-0"	



A5	DETAIL - REFER TO A1/SF501
1 1/2" = 1'-0"	

ISSUED FOR BID

FEBRUARY 27, 2014

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Project No: 13057 | Cad File: 13057S.rvt

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE — WILLIAM FALCHER — 13185 — REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION			
PROGRAM	-	ALLIED ENG., INC.	-
PROJECT MANAGER	-	CONSULTANT	-
DESIGNER	-	PROJECT RESIDENT	-
		CONTRACTOR	-
		PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

STRUCTURAL – DETAILS

SHEET NUMBER

SF501

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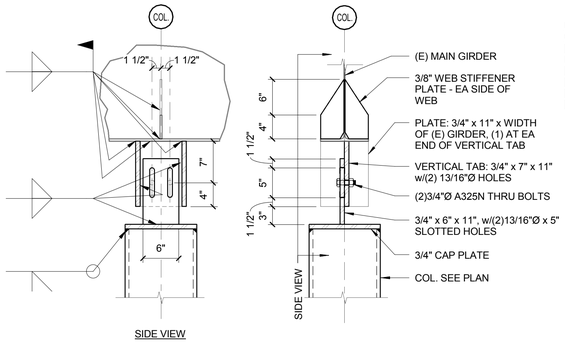
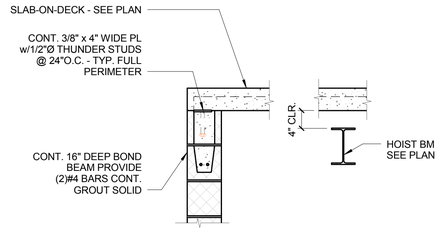
Username: -
Division: -
Date: -
Filename: -

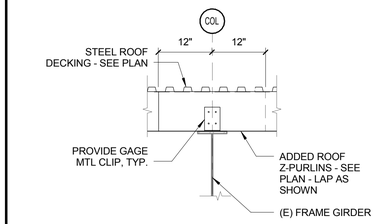


USE THIS DETAIL AT THE FOLLOWING COLUMN LOCATIONS:
[LINES 2 AND 3 @ A.61, B.11, B.49, B.94, C.71, D.01, D.51]
[LINE 4 @ A.61, B.11, B.49, B.95]
[LINE 5 @ A.3, A.8, B.4, B.85]
[LINE 6 @ B.9]
[LINE B.95 @ 7, 8, 9, 10, 11, 12]

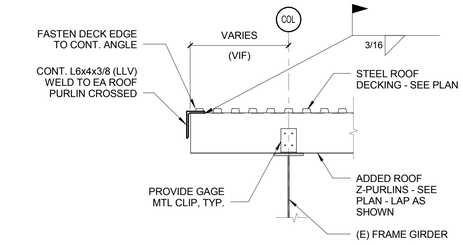
F1	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



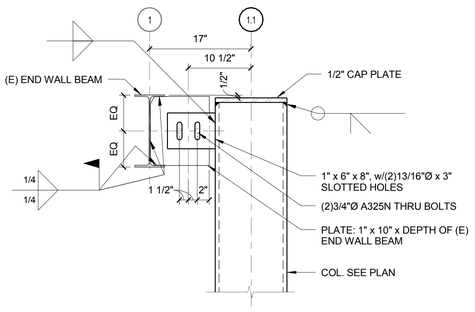
F5	ELEVATOR CAP DETAIL
3/4" = 1'-0"	



F7	DETAIL AT Z-PURLIN TO FRAME
3/4" = 1'-0"	

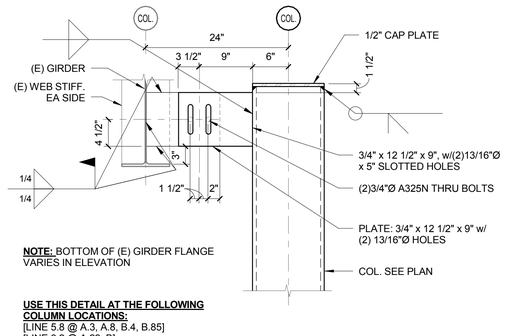


F9	DETAIL AT MAIN ROOF GABLE
3/4" = 1'-0"	



USE THIS DETAIL AT THE FOLLOWING COLUMN LOCATIONS:
[LINE 1.1 @ A.2, A.61, B.11, B.49, B.96, C.72, D.01, D.51]

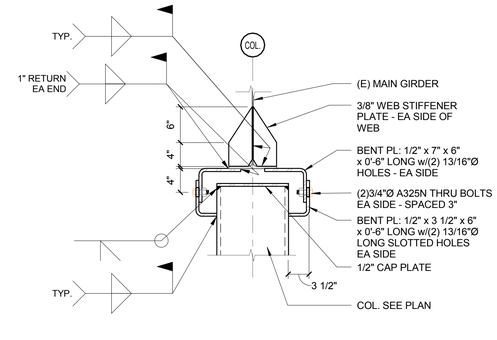
D1	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



NOTE: BOTTOM OF (E) GIRDER FLANGE VARIES IN ELEVATION

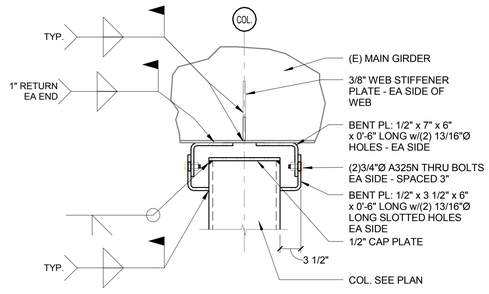
USE THIS DETAIL AT THE FOLLOWING COLUMN LOCATIONS:
[LINE 5.8 @ A.3, A.8, B.4, B.85]
[LINE 6.2 @ A.22, B]
[LINE 4.8 @ A.2]
[LINE B @ 7.2, 8.2, 9.2, 10.2, 11.1, 12.2]
[LINE 12.9 @ A.21, B, B.95]

D4	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



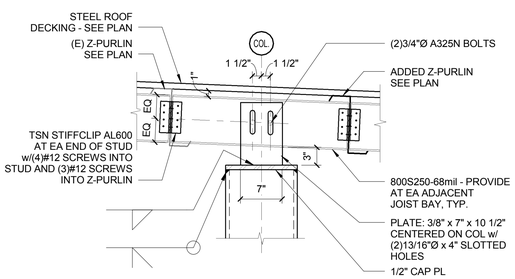
USE THIS DETAIL AT THE FOLLOWING COLUMN LOCATIONS:
[LINE A.21 @ 7, 8, 9, 10, 11, 12]

D6	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



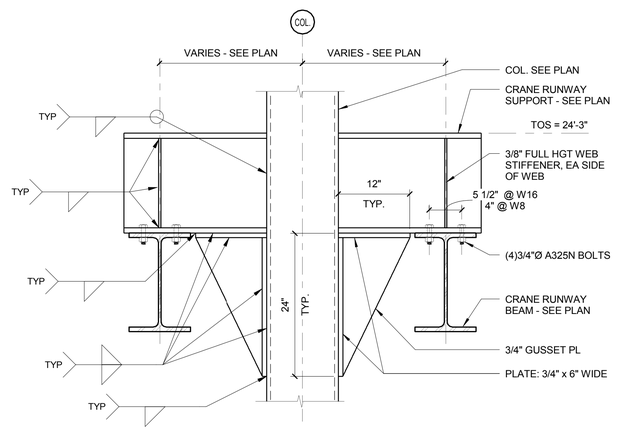
USE THIS DETAIL AT THE FOLLOWING COLUMN LOCATIONS:
[LINE A.2 @ 2, 3, 4]
[LINE D.88 @ 2]

E9	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



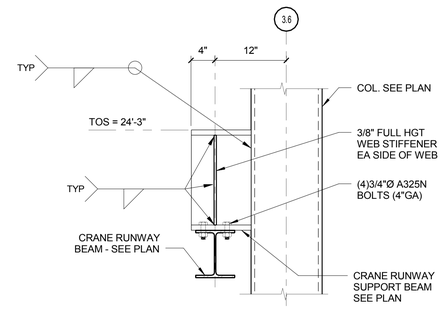
USE THIS DETAIL AT THE FOLLOWING COLUMN LOCATIONS:
[LINE C.4 @ 3.8]
[LINE 3.6 @ C.71, D.01, D.51]

A1	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



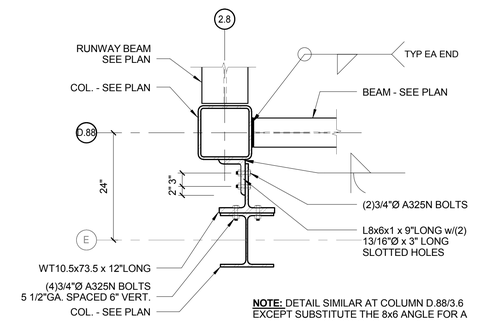
USE THIS DETAIL AT ALL CRANE COLUMN LOCATIONS EXCEPT FOR THE FOLLOWING:
[LINE D.88 @ 2.8, 3.6]
LINE 3.6 @ C.71, D.01, D.51]
[LINE C.4 @ 3.8]
LINE B.9 @ 6]
[LINE A.22 @ 6.2]

A4	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



TYPICAL AT COLUMNS:
C.71, D.01 AND D.51

A7	TYPICAL DETAIL AT CRANE SUPPORT FRAMING
1" = 1'-0"	



NOTE: DETAIL SIMILAR AT COLUMN D.88/3.6 EXCEPT SUBSTITUTE THE 8x6 ANGLE FOR A WT10.5x73.5 x 12"LONG. CUT WEBS OF WT's FOR A WT DEPTH OF 9 7/8"

B9	PLANVIEW DETAIL
3/4" = 1'-0"	

ISSUED FOR BID
FEBRUARY 27, 2014

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE — WILLIAM FALCHER — 10789 — REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM	-
PROJECT MANAGER	ALLIED ENG., INC.
DESIGNER	-
CONSULTANT	-
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

STRUCTURAL – DETAILS

SHEET NUMBER
SF502

Username: -
Division: -
Date: -
Filename: -

PIPE ELBOW TURNED DN
PIPE ELBOW TURNED UP
PIPING TEE DOWN
PIPING TEE UP
PIPE RISER
45° ELBOW DOWN
PIPING TO BE REMOVED
CAPPED PIPING
CAPPED BELOW FINISHED FLOOR
CONCENTRIC REDUCER
ECCENTRIC REDUCER
DIRECTION OF FLOW
PIPING PITCHES DOWN
PIPE GUIDE
EXPANSION JOINT
PIPE ANCHOR
UNION
FLANGED CONNECTION
BACKFLOW PREVENTER
FLEXIBLE CONNECTION
SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS
GATE VALVE ~ OUTSIDE SCREW & YOKE (OS&Y)

GLOBE VALVE
LOCKABLE BALL VALVE
PLUG VALVE
2-WAY CONTROL VALVE
3-WAY CONTROL VALVE
LOCK & SHIELD VALVE
CHECK VALVE
BALANCING VALVE (CIRCUIT SETTER)
AIR VENT ~ REFER TO SPECIFICATIONS
STRAINER WITH BLOWDOWN VALVE AND CAP
EXPANSION VALVE (AUTOMATIC)
RELIEF/SAFETY VALVE
PRESSURE GAUGE WITH COCK
SIGHT GLASS
PRESSURE REDUCING VALVE
FLOW SWITCH
SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR

STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T. = THERMOSTATIC TRAP, B.T. = BUCKET TRAP)
PUMP ~ POINT OF TRIANGLE INDICATES DIRECTION OF FLOW
GAS SHUT-OFF VALVE
HOSE END DRAIN VALVE W/CAP
TEMPERATURE/PRESSURE TAP (PETE'S PLUG)
THERMOMETER WITH COCK
SOLENOID VALVE
ORIFICE FLOWMETER
DIFFERENTIAL PRESSURE TRANSMITTER
HUMIDIFIER (DUCT/AHU MOUNTED)
FINNED TUBE BASEBOARD
HOSE BIB/WALL HYDRANT
FLOOR CLEANOUT
FUSIBLE LINK VALVE
WALL CLEANOUT
AQUASTAT

EXPANSION LOOP
EXPANSION LOOP (BRAIDED/MANUFACTURED)
FLOOR DRAIN
SHOCK ABSORBER (WATER HAMMER ARRESTER)
FIRE DEPARTMENT CONNECTION
FREE STANDING FIRE DEPARTMENT CONNECTION
WATER GONG
DUCTWORK ~ FIRST DIMENSION IS SIDE SHOWN IN INCHES S= SUPPLY, R= RETURN, E= EXHAUST, OA= OUTSIDE AIR F.O. = FLAT OVAL
ACCOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA)
DUCTWORK TO BE REMOVED
SINGLE LINE DUCTWORK TO BE REMOVED
DUCT TRANSITION
SQUARE TO ROUND TRANSITION
FLEX DUCT ~ DOUBLE LINE
FLEX DUCT ~ SINGLE LINE

CHANGE IN ELEVATION (UP/DOWN, RISE OR DROP)
SUPPLY DUCT TURNED UP/DN
RETURN DUCT TURNED UP/DN
EXHAUST DUCT TURNED UP/DN
ROUND DUCT TURNED UP/DN
MITERED DUCT ELBOW W/TURNING VANES
RADIUS DUCT ELBOW
DUCT/PIPE CAP (SINGLE/DOUBLE LINE)
VOLUME DAMPER
FIRE DAMPER
SMOKE DAMPER
FIRE AND SMOKE DAMPER
BACKDRAFT DAMPER

MOTORIZED DAMPER
FLEXIBLE CONNECTION
TEMPERATURE SENSOR OR THERMOSTAT (AS SPECIFIED)
HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)
CARBON DIOXIDE SENSOR
CARBON MONOXIDE SENSOR
ACCESS PANEL
DUCT SMOKE DETECTOR
ROOFTOP EXHAUST FAN
ROOFTOP SUPPLY FAN
CEILING DIFFUSER ~ 4-WAY BLOW
CEILING DIFFUSER ~ 3-WAY BLOW
CEILING DIFFUSER ~ 2-WAY BLOW
CEILING DIFFUSER ~ CORNER BLOW
CEILING RETURN GRILLE
CEILING EXHAUST GRILLE
POINT OF CONNECTION EXISTING TO NEW
DIRECTION OF AIR FLOW

REGISTER, GRILLE & DIFFUSER TAG
DIFFUSER, REGISTER OR GRILLE No.
QUANTITY
CFM AIR FLOW

FINTUBE TAG
FINTUBE No.
LENGTH
GPM

VAV TAG
VAV No.
MINIMUM CFM
MAXIMUM CFM
GPM

EQUIPMENT TAG
TYPE DESIGNATOR
NUMBER

EQUIPMENT TAG (ON FLOOR/ROOF ABOVE)
TYPE DESIGNATOR
NUMBER

DETAIL REFERENCE SYMBOL
DETAIL No.
SHEET DETAIL LOCATED ON

SECTION REFERENCE SYMBOL
SECTION No.
SHEET SECTION LOCATED ON

E1 SYMBOLS LEGEND

NONE

A1 PIPING LINETYPE LEGEND

AW	ACID WASTE
ATV	AIR RELIEF
BBD	BOILER BLOWDOWN
C	CONDENSATE (HVAC DRAIN PAN)
C	CONDENSATE (HVAC DRAIN PAN - BELOW FLOOR)
CA	COMPRESSED AIR
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
— —	DOMESTIC COLD WATER
— - —	DOMESTIC HOT WATER
— - - - —	DOMESTIC WATER RECIRC.
D	DRAIN
FM	PUMP FORCE MAIN
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL TANK VENT
FW	FEEDWATER
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY
H	HUMIDIFICATION LINE
H2	HYDROGEN GAS
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HPC	HIGH-PRESSURE CONDENSATE
HPS	HIGH-PRESSURE STEAM
HTWR	HIGH-TEMP. HOT WATER RETURN
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IND	INDUSTRIAL WASTE
IW	INDIRECT WASTE
LN	LIQUID NITROGEN
LOX	LIQUID OXYGEN
LPC	LOW-PRESSURE CONDENSATE
LP	LIQUID PETROLEUM GAS
LPR	LOW-PRESSURE CONDENSATE
LPS	LOW-PRESSURE STEAM
MA	MEDICAL AIR
MPR	MEDIUM-PRESSURE CONDENSATE
MPS	MEDIUM-PRESSURE STEAM
MU	MAKEUP WATER
N2	NITROGEN
NG	NATURAL GAS
NO	NITROUS OXIDE
NPW	NON-POTABLE WATER
OX	OXYGEN
PC	PUMPED CONDENSATE
PCWR	PROCESSED COLD WATER RETURN
PCWS	PROCESSED COLD WATER SUPPLY
RD	REFRIGERANT DISCHARGE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RW	RAIN WATER ABOVE FLOOR
RW	RAIN WATER BELOW GRADE
	SANITARY SOIL WASTE (ABOVE FLOOR)
	SANITARY SOIL WASTE (BELOW FLOOR)
	SANITARY SOIL VENT (ABOVE FLOOR)
	SANITARY SOIL VENT (BELOW FLOOR)
SV	SANITARY WASTE & VENT COMBINATION
SP	SPRINKLER MAIN PIPING
SWR	SOLAR WATER RETURN
SWS	SOLAR WATER SUPPLY
TP	TRAP PRIMER PIPING ABOVE GRADE
TP	TRAP PRIMER PIPING BELOW GRADE
TWR	TEMPERED RETURN WATER
TWS	TEMPERED SUPPLY WATER
VAC	VACUUM (AIR)
VC	VACUUM CLEANING (HOUSE)
VPD	VACUUM PUMP DISCHARGE

A4 ABBREVIATIONS

NONE

AAV	AUTOMATIC AIR VENT
AC	ABOVE CEILING
ACC	AIR COOLED CONDENSER
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AD	ACCESS DOOR
AE	ACID EXHAUST
AW	ACID WASTE
AFF; A.F.F.	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APPROX	APPROXIMATE; APPROXIMATELY
APMR	AS PER MFR'S RECOMMENDATIONS
ATC	AUTOMATIC TEMPERATURE CONTROL
AV	AIR VENT
BC	BALANCING COCK
BDD	BACKDRAFT DAMPER
BG	BLAST GATE
BF	BARRIER FREE
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
B.T.U.	BRITISH THERMAL UNIT
C; CONV.	CONVECTOR
CCW	COUNTER CLOCKWISE
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CM	CONSTRUCTION MANAGER
CNTR	COUNTER; COUNTERTOP
CONN	CONNECT; CONNECTION
CONT	CONTINUE; CONTINUATION
COORD	COORDINATE
CORR	CORRIDOR
CR	CHEMICAL RESISTING
CT	COOLING TOWER
CTE	CONNECT TO EXISTING
CTR	CENTER
CTRLN	CENTERLINE
CU	COPPER
CUH	CABINET UNIT HEATER
C.V.	CONTROL VALVE
CW	COLD WATER/CLOCKWISE
DB	DRY BULB TEMPERATURE, °F
DC	DOUBLE CONTAINED
DDC	DIRECT DIGITAL CONTROL
DET	DETAIL
DIA	DIAMETER
DIC	DOWN IN CHASE
DIW	DOWN IN WALL
DN	DOWN
DS	DOWNSPOUT
DT	DROP AND TRANSITION
DV	DRAIN VALVE
DWG	DRAWING
EA	EXHAUST AIR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEV	ELEVATION
ELONG	ELONGATE
ENC	ENCLOSURE
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
(E)	EXISTING
F & T	FLOAT AND THERMOSTATIC
FBO	FURNISHED BY OTHERS
FBP	FACE AND BYPASS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD-#	FLOOR DRAIN TAG
FD	FIRE DAMPER
FIN	FINISH
FL	FLOOR
FTG	FOOTING
FTR	FINNED TUBE RADIATION
FS	FLOW SWITCH
FM	FORCE MAIN
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GV	GRAVITY VENTILATOR
H	HUMIDIFIER
HB	HOSE BIB
HC; HDC	HANDICAP ACCESS
HGT, HT.	HEIGHT
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HTR	HEATER
H & V	HEATING AND VENTILATION
HVAC	HEATING, VENTILATING, & AIR COND.
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
ID	INSIDE DIAMETER
IN WG	INCHES WATER GAUGE
INCL	INCLUDING
INV EL	INVERT ELEVATION
IPS	IRON PIPE SIZE
KE-#	KITCHEN EQUIPMENT NUMBER
LD	LINEAR DIFFUSER
LE-#	SCIENCE LAB EQUIPMENT NUMBER
LP	LIQUID PETROLEUM GAS
LPR	LOW PRESSURE STEAM RETURN
LPS	LOW PRESSURE STEAM SUPPLY
MAX	MAXIMUM
MBH	1000 BTU/HR.
MFR	MANUFACTURER
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
MPG	MEDIUM PRESSURE GAS
MPV	MULTI-PURPOSE VALVE
MTD	MOUNTED
MTG	MOUNTING
MUA	MAKE UP AIR
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NIC	NOT IN CONTRACT
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
P-#	PLUMBING FIXTURE TAG
PD	PUMPED DISCHARGE
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR
RD	ROOF DRAIN
REC	RECOMMENDATION
REG	REGULAR
RF	RETURN FAN
RG	RETURN GRILLE
RHC	REHEAT COIL
RM	ROOM
RPZ	REDUCED PRESSURE BFP
RR	RETURN REGISTER
RV	RELIEF VALVE
RW	RAIN WATER
S	SUPPLY AIR
SA-" "	SHOCK ABSORBER OF PDI SIZE (" ") AS INDICATED
SCV	SELF CONTAINED VALVE
SD	SMOKE DAMPER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SGL	SINGLE
SHT	SHEET
SPLR	SPRINKLER
SQ FT; S. F.	SQUARE FEET
SR	SUPPLY REGISTER
S/O	SHUT OFF
S.S.	STAINLESS STEEL
TD	TRENCH DRAIN
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TP	TRAP PRIMER
TSP	TOTAL STATIC PRESSURE
TTS	TIGHT TO STEEL
TV	TURNING VANE
TW	TEMPERED WATER
TYP	TYPICAL
UH	UNIT HEATER
UIC	UP IN CHASE
UIW	UP IN WALL
UV	UNIT VENTILATOR
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCFF	VALVE & CAP FOR FUTURE
VD	VOLUME DAMPER - MANUAL
VLV	VALVE
VS	VENT STACK
VTR	VENT THROUGH ROOF
W	WASTE
W/	WITH
WB	WET BULB TEMPERATURE, °F
WCO	WALL CLEANOUT
WH	WATER HEATER
WHYD	WALL HYDRANT
NTS	NOT TO SCALE
Ø	DIAMETER
@	AT
&	AND
%	PERCENT

NOTE

ALL GENERAL NOTES, SYMBOL LEGENDS, AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL PLUMBING AND HVAC DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN.

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FEBRUARY 27, 2014

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057P.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE
COMMISSIONER:
CHIEF ENGINEER:

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE
ARCH. LIN. NUMBER
DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

PLUMBING AND HVAC NOTES, LEGEND AND ABBREVIATIONS

SHEET NUMBER
PL000

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_P.dwg Mar 05, 2014 - 12:03pm

LEGEND:

- ZONE 1
- ZONE 2

NOTE:

OPEN FLOOR AREAS NOT CROSSHATCHED ON THIS DRAWING ARE COVERED ON THE UPPER LEVEL FIRE PROTECTION PLAN FP101.

KEYED NOTES:

1. PROVIDE SPRINKLER COVERAGE BELOW OVERHEAD DOOR TRAVEL AS REQUIRED BY NFPA 13.
2. FIRE PROTECTION WITHIN RELOCATED PAINT BOOTH/ MIXING ROOM IS NIC. (E)ANSUL SYSTEM SHALL BE RELOCATED WITH THE BOOTH. OUTSIDE OF THE SCOPE OF THIS CONTRACT.
3. PROVIDE SPRINKLER COVERAGE BELOW HARD CEILING IN THIS AREA.

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FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

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Allied Project No: 13057 Cad File: 13057P.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION		
PROGRAM		
PROJECT MANAGER		
DESIGNER	ALLIED ENG., INC.	
CONSULTANT	-	
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE	-	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

FIRE PROTECTION PLAN ~ FIRST FLOOR

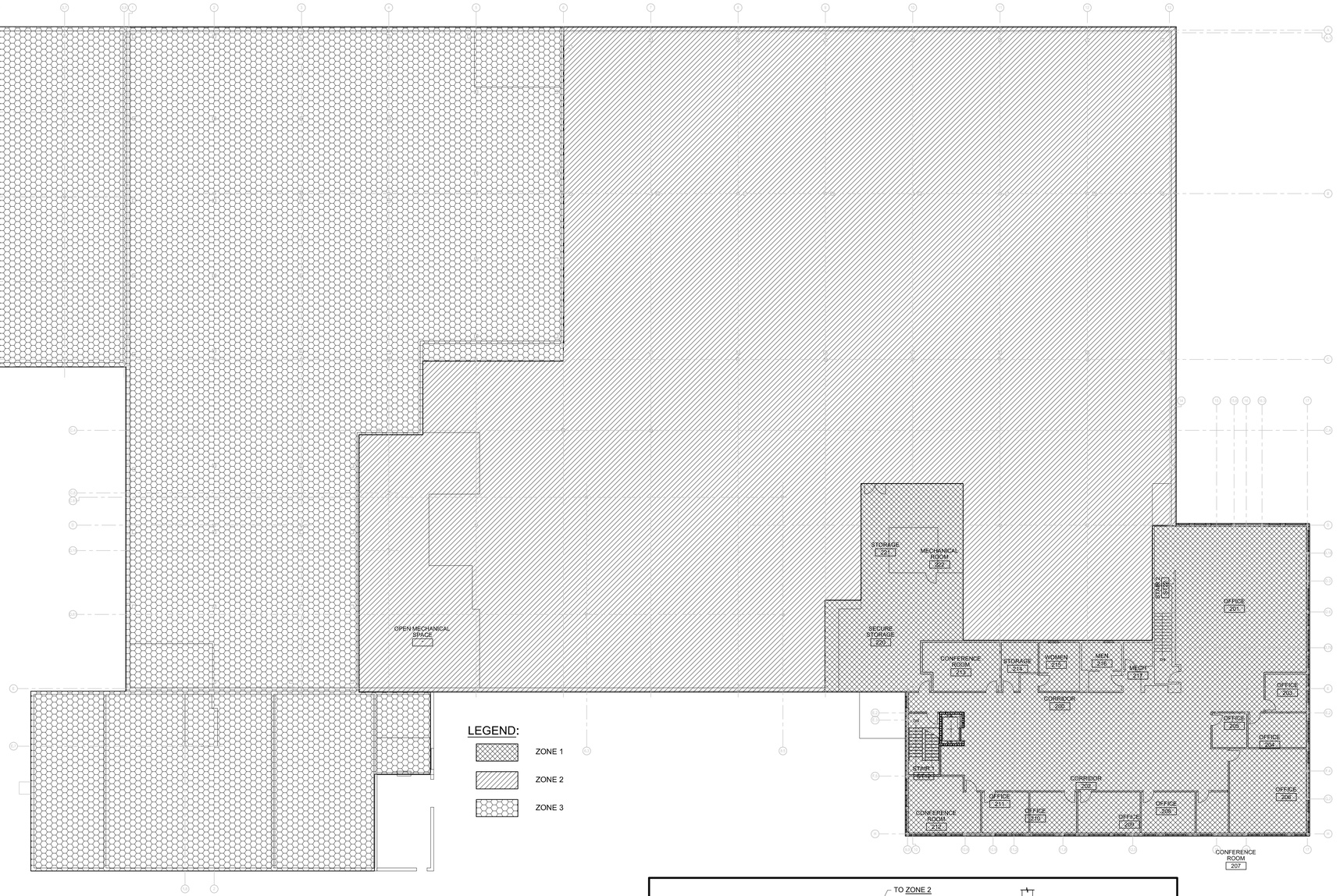
SHEET NUMBER

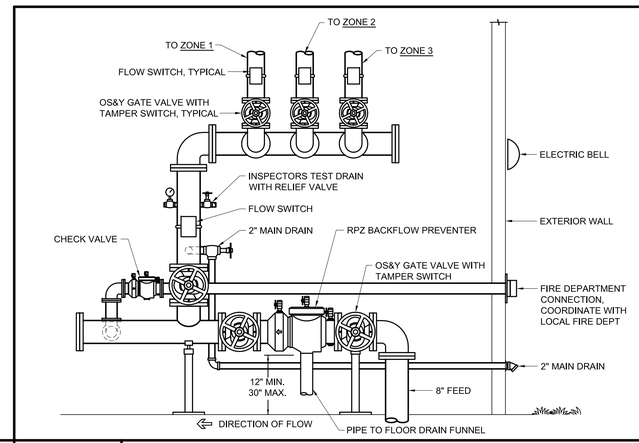
FP100

A1 | FIRE PROTECTION PLAN ~ FIRST FLOOR

1/16" = 1'=0"

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_P.dwg Mar 05, 2014 - 12:02pm





A1	FIRE PROTECTION PLAN ~ SECOND FLOOR	A6	DETAIL ~ SPRINKLER RISER DIAGRAM
1/16" = 1'=0"		NOT TO SCALE	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

STATE OF MAINE · ANTHONY S. DAVIS No. 8834 · LICENSED PROFESSIONAL ENGINEER

SIGNATURE –

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION		
PROGRAM		
PROJECT MANAGER	ALLIED ENG., INC.	
DESIGNER	–	
CONSULTANT		
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE	–	

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66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

FIRE PROTECTION PLAN ~ SECOND FLOOR

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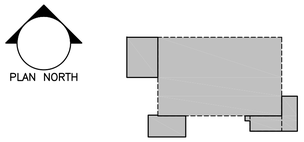
PROJECT KEY PLAN



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SHEET NUMBER
FP101

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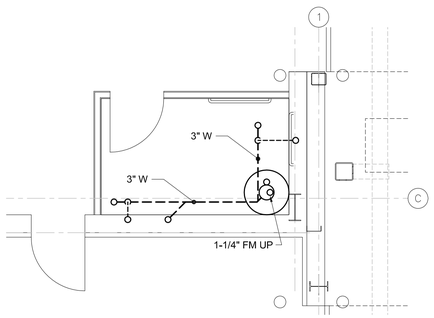
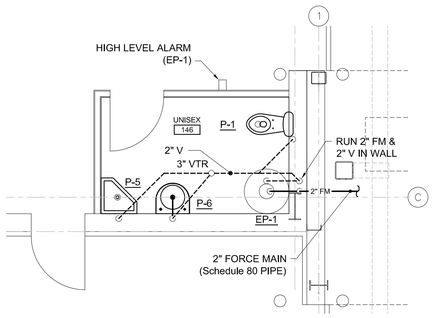
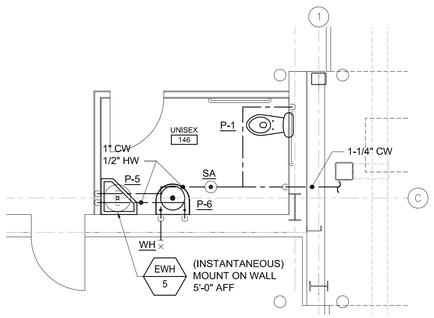


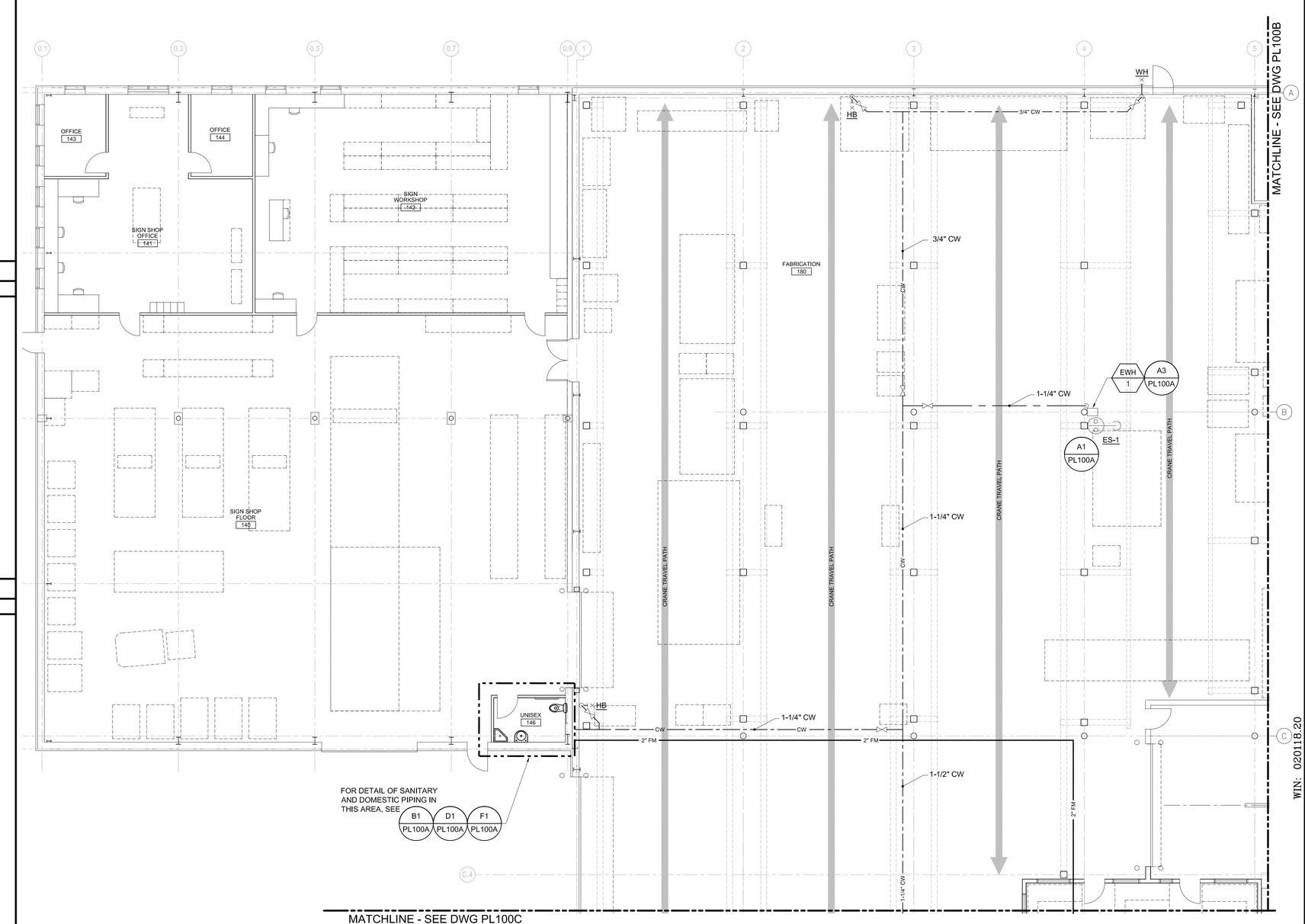
F1	DETAIL ~ SANITARY PIPING PART PLAN - BELOW SLAB
1/4" = 1'-0"	TOILET 146



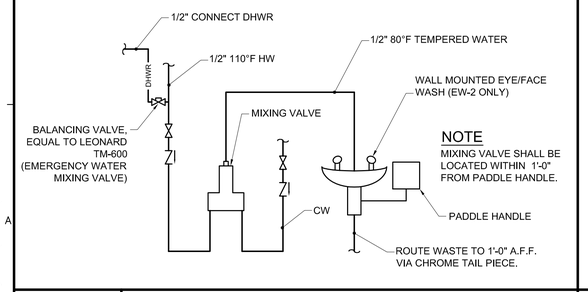
D1	DETAIL ~ SANITARY PIPING PART PLAN - ABOVE SLAB
1/4" = 1'-0"	TOILET 146



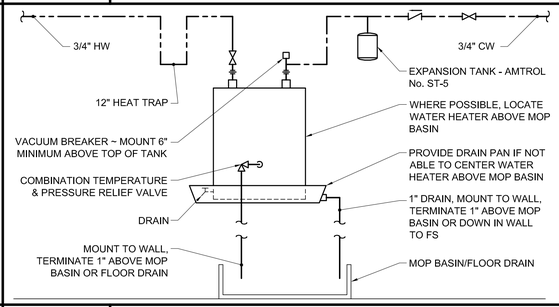
B1	DETAIL ~ DOMESTIC PIPING PART PLAN
1/4" = 1'-0"	TOILET 146



B3	PLUMBING PART PLAN ~ FIRST FLOOR - AREA A
1/8" = 1'=0"	



A1	DETAIL ~ EMERGENCY EYEWASH PIPING
NOT TO SCALE	



A3	DETAIL ~ ELECTRICAL WATER HEATER PIPING (EWH-5)
NOT TO SCALE	

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	BRANCH SIZES				NOTES
		CW	HW	VENT	WASTE	
P-1	WATER CLOSET-FLUSH VALVE, FLOOR MOUNT	1"	-----	1-1/2"	3"	
P-2	URINAL - FLUSH VALVE - 1/8 GAL/FLUSH	3/4"	-----	1-1/2"	2"	
P-3	DOUBLE ONE PIECE COUNTER MOUNT LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	
P-4	KITCHEN SINK	1/2"	1/2"	1-1/2"	1-1/2"	
P-5	MOP/SERVICE BASIN	3/4"	3/4"	1-1/2"	3"	PROVIDE CHECK VALVES AT WATER INLETS
P-6	WALL MOUNTED LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	
P-7	ADA HAND WASHING STATION	1/2"	1/2"	1-1/2"	2"	
WC-1	ELECTRIC WATER COOLER ~ BARRIER FREE WITH BOTTLE FILL	1/2"	-----	1-1/4"	1-1/2"	
ES-1 TO 4	EMERGENCY EYE/FACE WASH / SHOWER - WALL MOUNTED	3/4"	3/4"	-----	-----	TEMPERING VALVE WITH 3/4" INLETS AND OUTLET
WHYD	WALL HYDRANT	3/4"	-----	-----	-----	
HB	HOSE BIBB	1/2"	-----	-----	-----	
DF	WATER COOLER W/ BOTTLE FILL					

A6	PLUMBING FIXTURE SCHEDULE
NONE	

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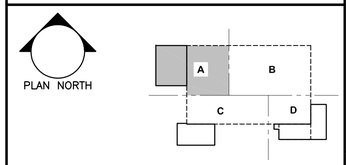
PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057P.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE	
COMMISSIONER:	
CHIEF ENGINEER:	

STATE OF MAINE
ANTHONY S. DAVIS
No. 8834
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

PLUMBING PART PLAN
FIRST FLOOR – AREA A

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SHEET NUMBER
PL100A

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MATCHLINE - SEE DWG PL100A

PUBLICATIONS AND LOCKERS 183

MACHINE 184

CRANE TRAVEL PATH

DROP CW TO A.F.F. 3'-0"±

1/2" CW

HB

EWH 2

ES-2

1-1/4" CW

CRANE TRAVEL PATH

CW

1-1/4" CW

WH

3/4" CW

CW

HEAVY VEHICLE SERVICE 160

CRANE TRAVEL PATH

SUMPS

FCO

6" ST

FOR TYPICAL TRENCH DRAIN DETAIL, SEE A5 PL100B

FAST LANE 150

℄ TRENCH DRAINS = ℄ OF "FAST LANE"

MATCHLINE - SEE DWG PL100C

MATCHLINE - SEE DWG PL100D

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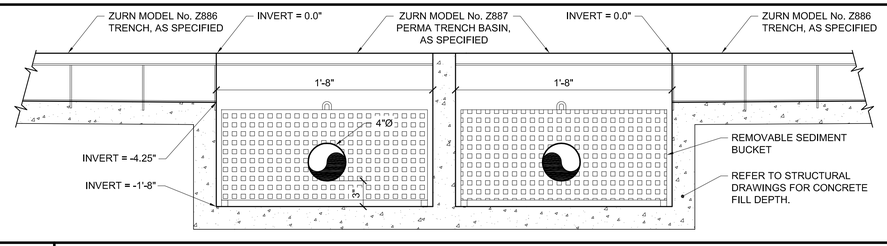
FEBRUARY 27, 2014

B1 | PLUMBING PART PLAN ~ FIRST FLOOR - AREA B
1/8" = 1'=0"

A1 | -
-



A5 | DETAIL ~ TRENCH DRAIN SUMP
NOT TO SCALE

PROJECT KEY PLAN

PLAN NORTH

A B C D

Allied Engineering
Structural Mechanical Electrical Commissioning

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STATE OF MAINE
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PROJECT INFORMATION	
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DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
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PLUMBING PART PLAN
~ FIRST FLOOR – AREA B

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SHEET NUMBER
PL100B

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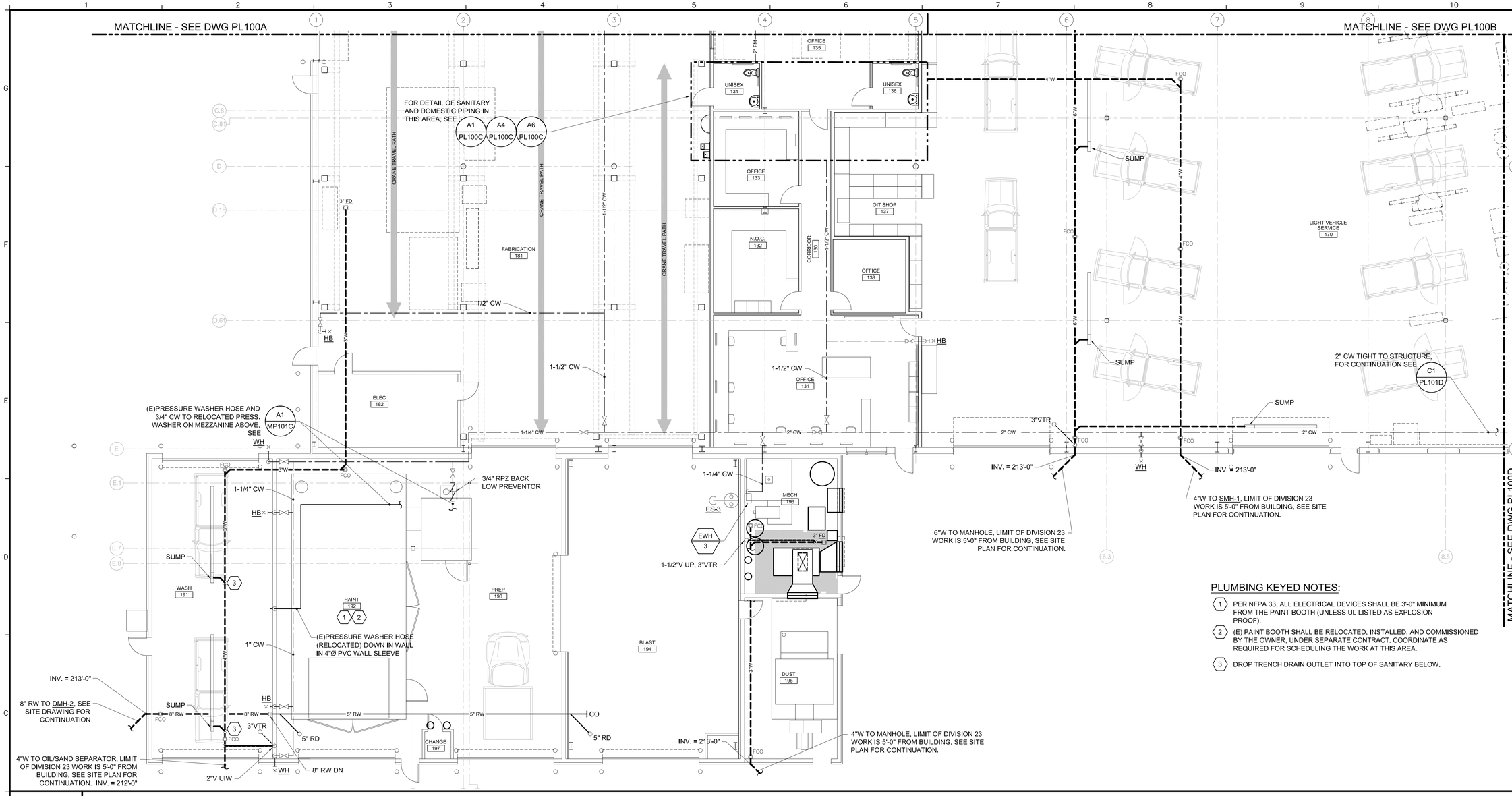
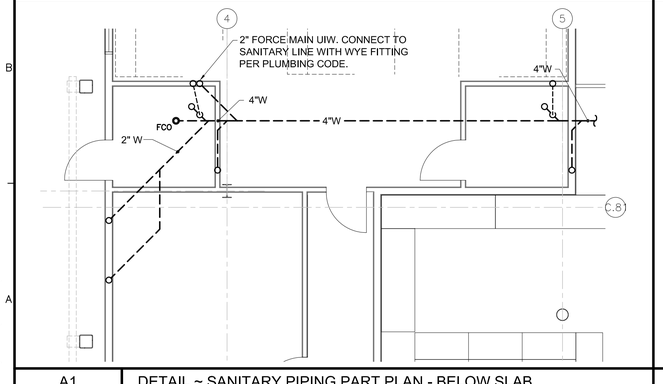


C1 | PLUMBING PART PLAN ~ FIRST FLOOR - AREA C

1/8" = 1'=0"

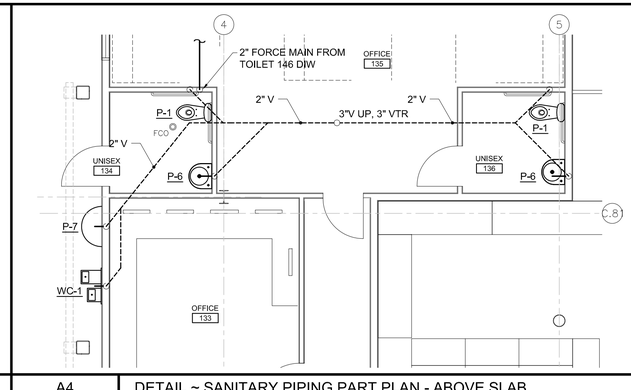
PLUMBING KEYED NOTES:

1. PER NFPA 33, ALL ELECTRICAL DEVICES SHALL BE 3'-0" MINIMUM FROM THE PAINT BOOTH (UNLESS UL LISTED AS EXPLOSION PROOF).
2. (E) PAINT BOOTH SHALL BE RELOCATED, INSTALLED, AND COMMISSIONED BY THE OWNER, UNDER SEPARATE CONTRACT. COORDINATE AS REQUIRED FOR SCHEDULING THE WORK AT THIS AREA.
3. DROP TRENCH DRAIN OUTLET INTO TOP OF SANITARY BELOW.



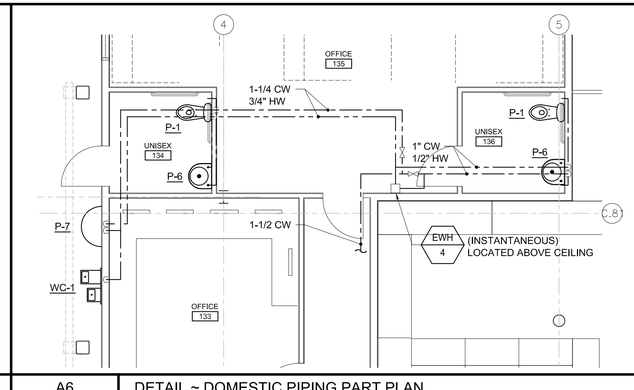
A1 | DETAIL ~ SANITARY PIPING PART PLAN - BELOW SLAB

3/16" = 1'-0" | UNISEX 134 AND UNISEX 136



A4 | DETAIL ~ SANITARY PIPING PART PLAN - ABOVE SLAB

3/16" = 1'-0" | UNISEX 134 AND UNISEX 136



A6 | DETAIL ~ DOMESTIC PIPING PART PLAN

3/16" = 1'-0" | UNISEX 134 AND UNISEX 136

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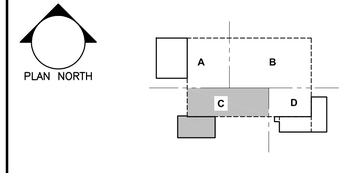
FEBRUARY 27, 2014

PROJECT KEY PLAN



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STATE OF MAINE
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DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

PLUMBING PART PLAN
FIRST FLOOR – AREA C

SHEET NUMBER
PL100C

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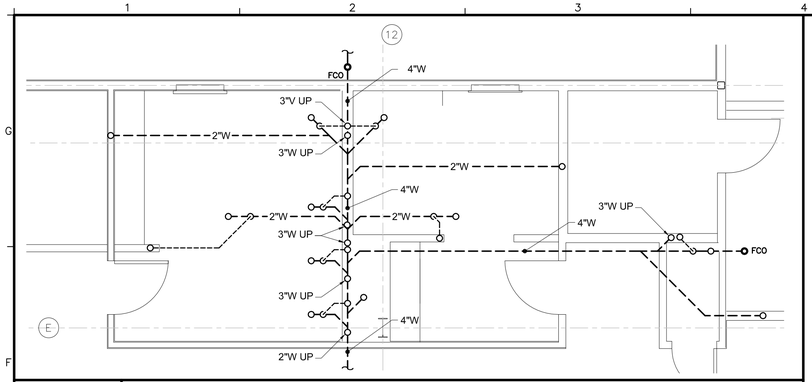
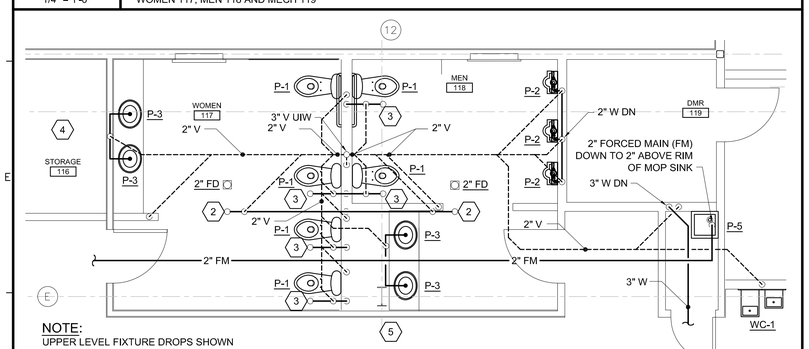
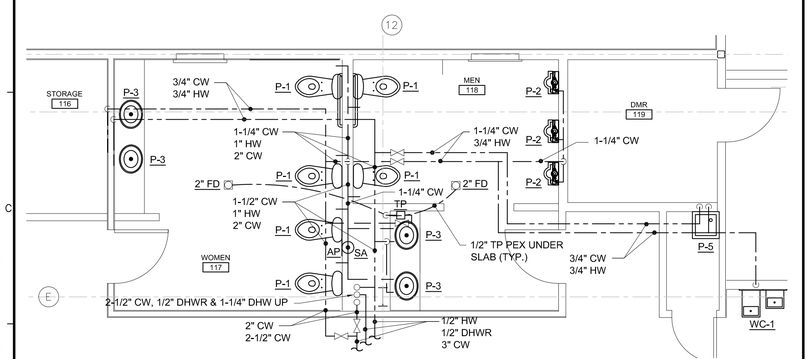


F1	DETAIL ~ SANITARY PIPING PART PLAN - BELOW SLAB
1/4" = 1'-0"	WOMEN 117, MEN 118 AND MECH 119

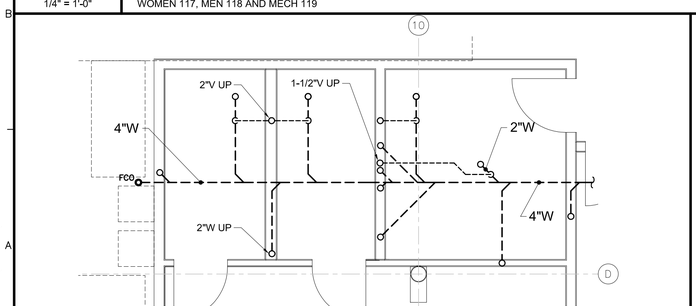


NOTE:
UPPER LEVEL FIXTURE DROPS SHOWN
OFFSET FOR CLARITY, TYPICAL.

D1	DETAIL ~ SANITARY PIPING PART PLAN - ABOVE SLAB
1/4" = 1'-0"	WOMEN 117, MEN 118 AND MECH 119



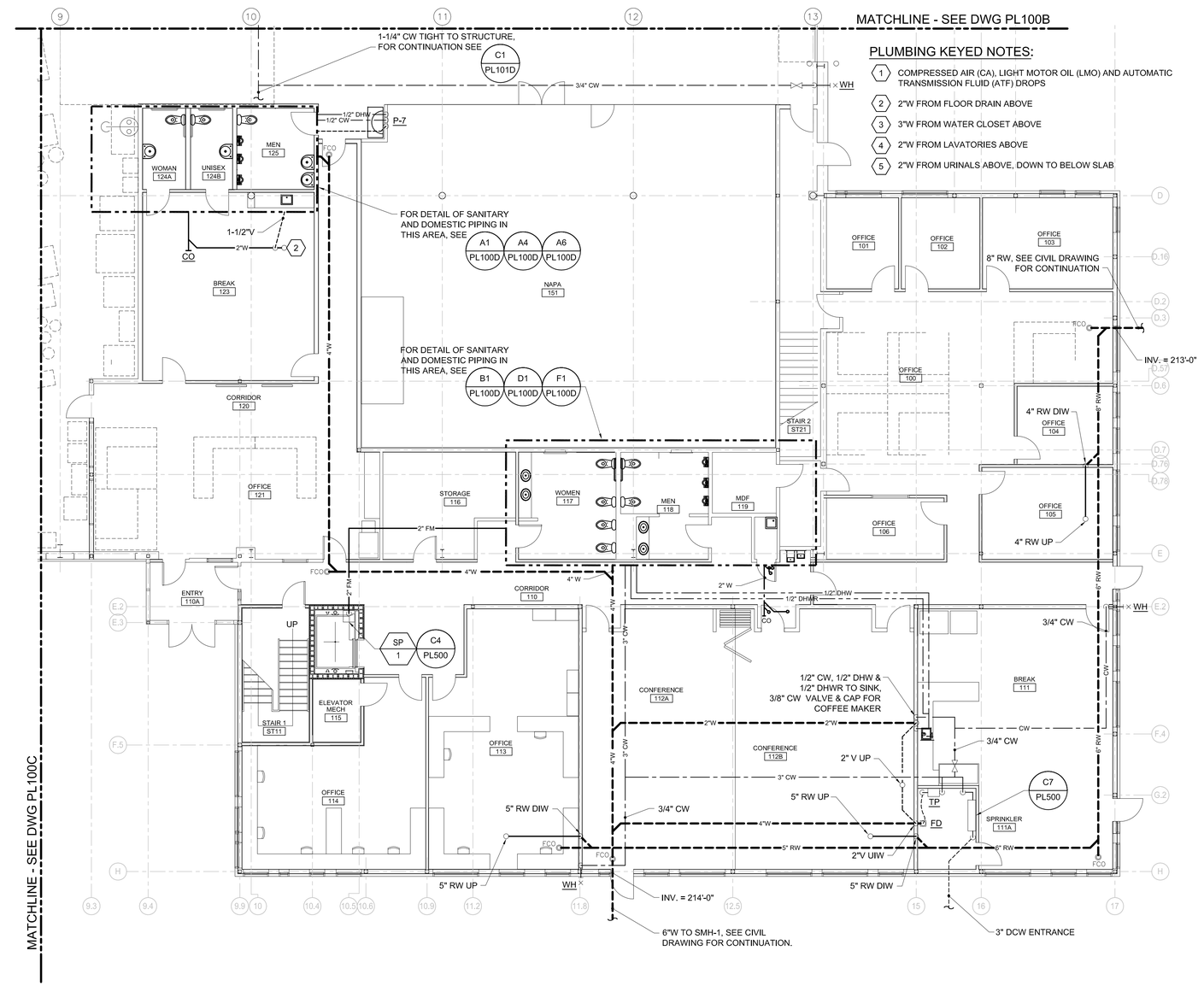
B1	DETAIL ~ DOMESTIC PIPING PART PLAN
1/4" = 1'-0"	WOMEN 117, MEN 118 AND MECH 119



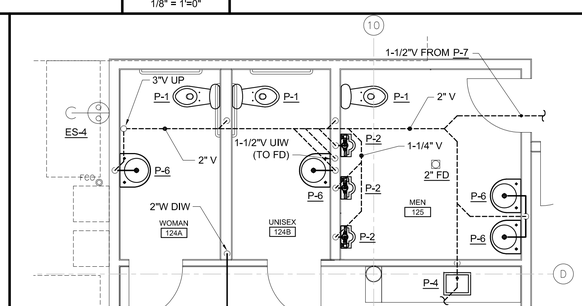
A1	DETAIL ~ SANITARY PIPING PART PLAN - BELOW SLAB
1/4" = 1'-0"	UNISEX 124A, UNISEX 124B, MENS 125 AND BREAK 123

MATCHLINE - SEE DWG PL100C

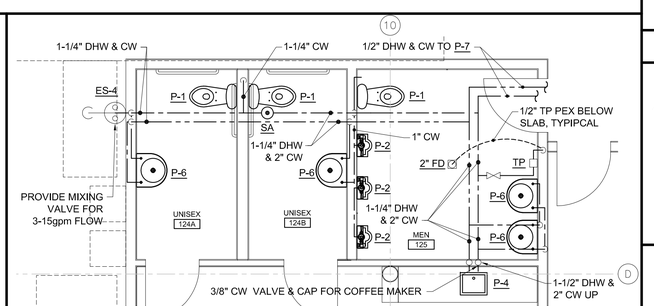
MATCHLINE - SEE DWG PL100B



B4	PLUMBING PART PLAN ~ FIRST FLOOR - AREA D
1/8" = 1'=0"	



A4	DETAIL ~ SANITARY PIPING PART PLAN - ABOVE SLAB
1/4" = 1'-0"	UNISEX 124A, UNISEX 124B, MENS 125 AND BREAK 123



A6	DETAIL ~ DOMESTIC PIPING PART PLAN
1/4" = 1'-0"	UNISEX 124A, UNISEX 124B, MENS 125 AND BREAK 123

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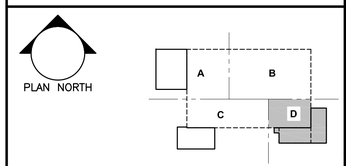
PROJECT KEY PLAN



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PROJECT COMPLETION DATE	-

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66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
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PLUMBING PART PLAN
FIRST FLOOR – AREA D

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SHEET NUMBER
PL100D

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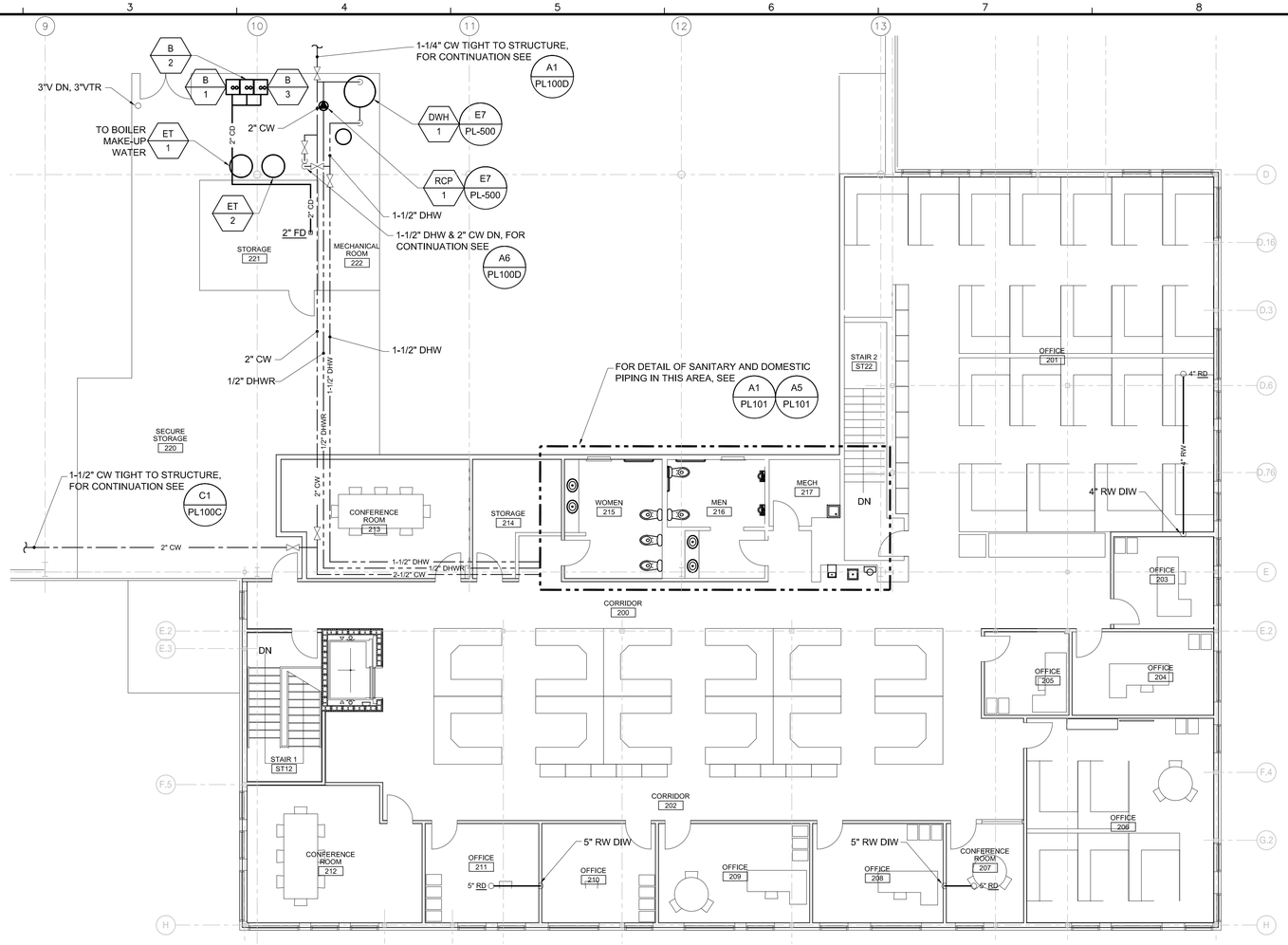
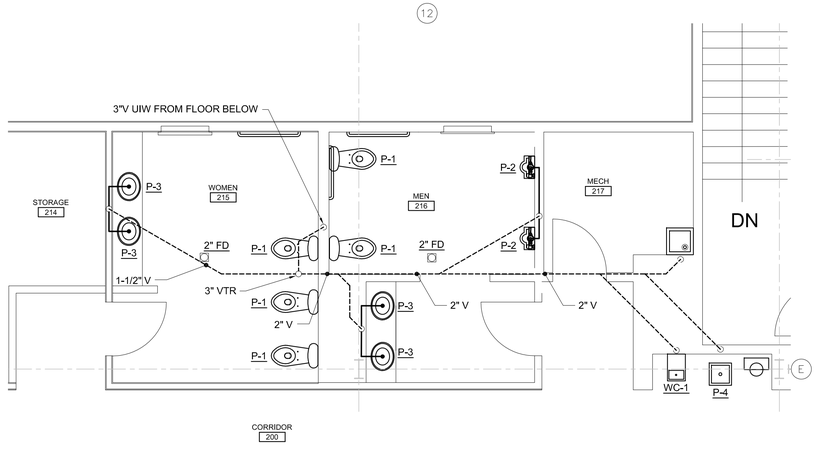


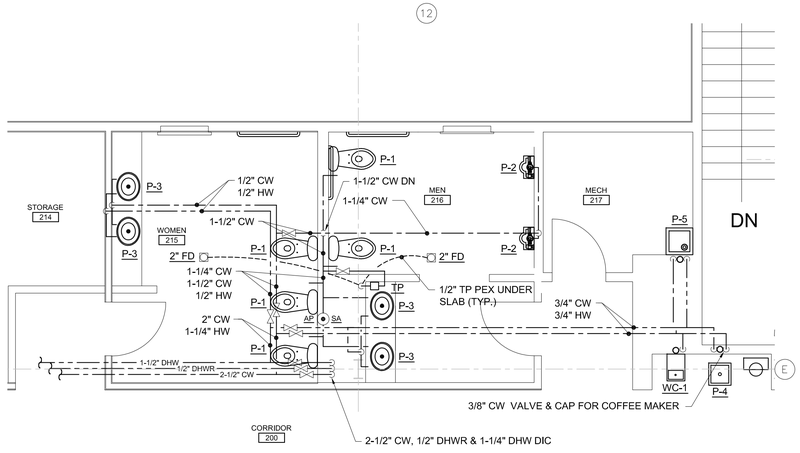
C1 | PLUMBING PART PLAN ~ SECOND FLOOR - AREA D

1/8" = 1'=0"



A1 | DETAIL ~ SANITARY PIPING PART PLAN

1/4" = 1'=0" | WOMEN 215, MEN 216 AND MECH 217



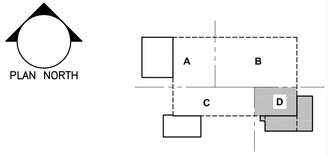
A5 | DETAIL ~ DOMESTIC PIPING PART PLAN

1/4" = 1'=0" | WOMEN 215, MEN 216 AND MECH 217

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



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66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

PLUMBING PART PLAN
~ SECOND FLOOR – AREA D

SHEET NUMBER
PL101D

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE
ANTHONY S. DAVIS
No. 8834
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
–

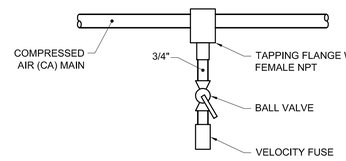
ARCH. LIN. NUMBER
–

DATE FEBRUARY 27, 2014

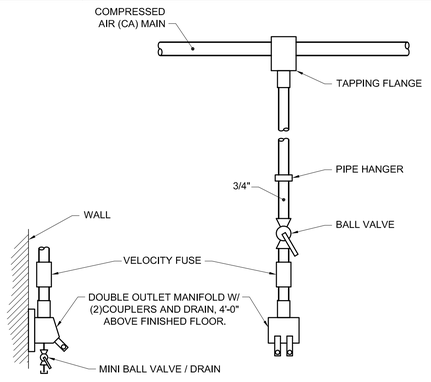
WIN: 02D118.20

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

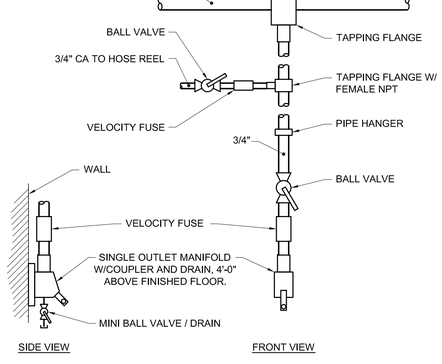
N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_P.dwg Mar 05, 2014 - 11:56am



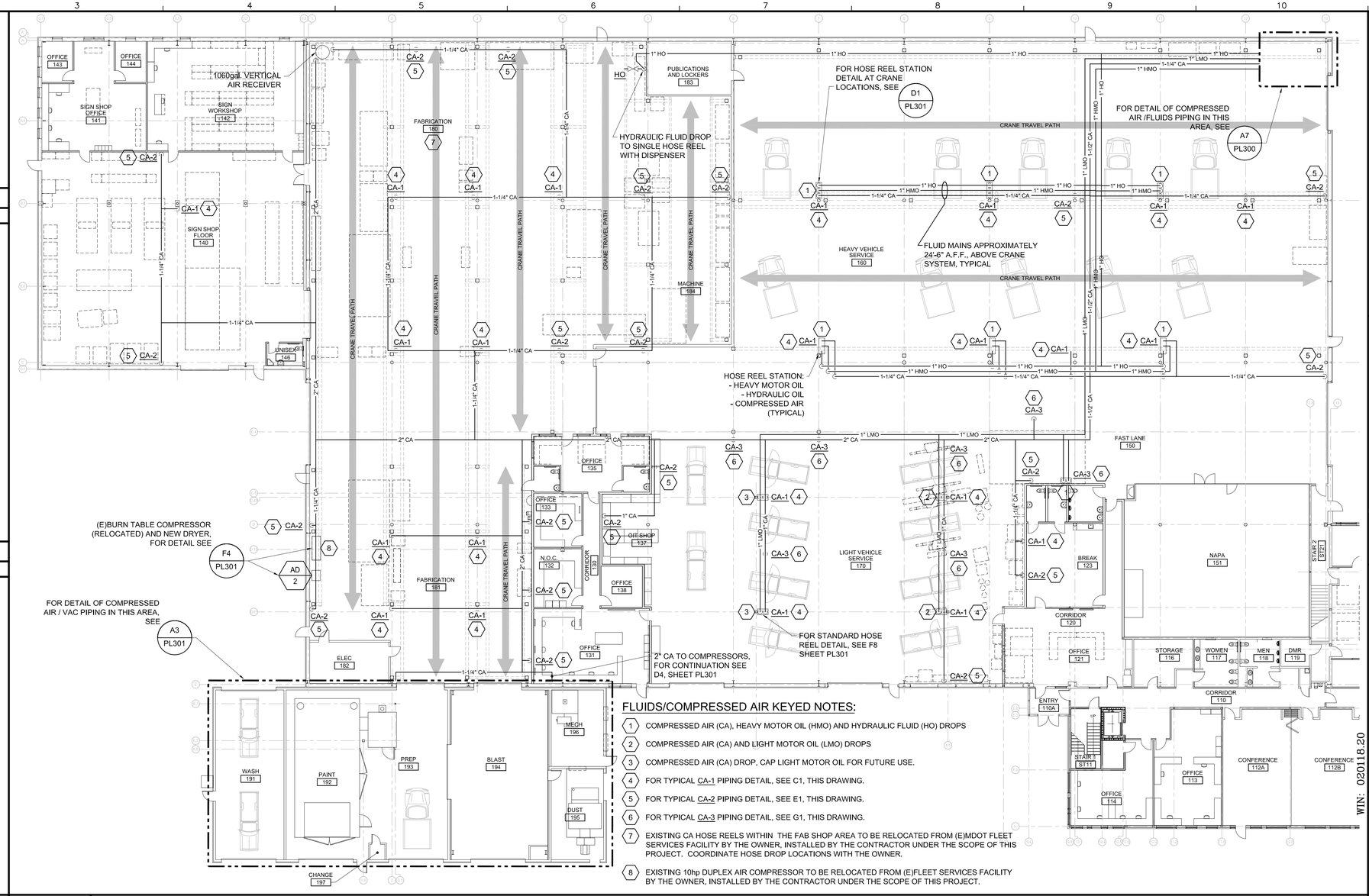
G1	DETAIL ~ TYPICAL CA-3 AIR DROP PIPING
NOT TO SCALE	FOR CONNECTION TO HOSE REEL



E1	DETAIL ~ TYPICAL CA-2 AIR DROP PIPING
NOT TO SCALE	FOR CONNECTION TO TOOLS



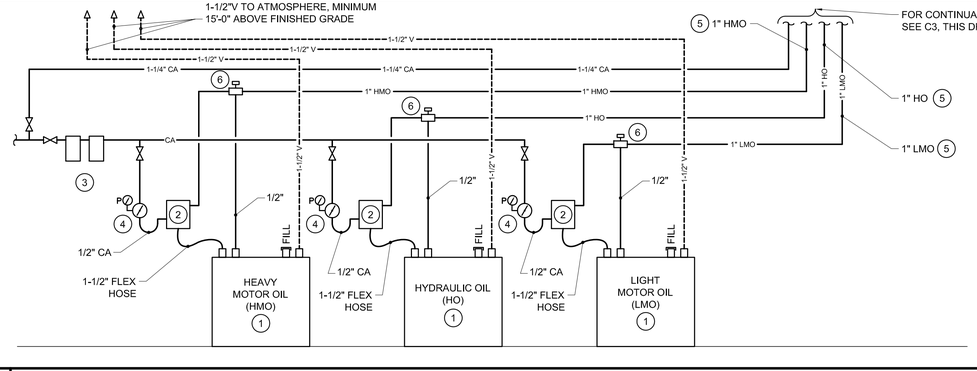
C1	DETAIL ~ TYPI CAL CA-1 AIR DROP PIPING
NOT TO SCALE	FOR CONNECTION TO HOSE REEL AND FAB



C3	FLUIDS AND COMPRESSED AIR PIPING PLAN
1/16" = 1'=0"	

FLUIDS/COMPRESSED AIR KEYED NOTES:

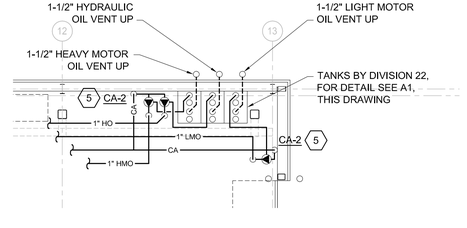
1. COMPRESSED AIR (CA), HEAVY MOTOR OIL (HMO) AND HYDRAULIC FLUID (HO) DROPS
2. COMPRESSED AIR (CA) AND LIGHT MOTOR OIL (LMO) DROPS
3. COMPRESSED AIR (CA) DROP, CAP LIGHT MOTOR OIL FOR FUTURE USE.
4. FOR TYPICAL CA-1 PIPING DETAIL, SEE C1, THIS DRAWING.
5. FOR TYPICAL CA-2 PIPING DETAIL, SEE E1, THIS DRAWING.
6. FOR TYPICAL CA-3 PIPING DETAIL, SEE G1, THIS DRAWING.
7. EXISTING CA HOSE REELS WITHIN THE FAB SHOP AREA TO BE RELOCATED FROM (E)MDOT FLEET SERVICES FACILITY BY THE OWNER, INSTALLED BY THE CONTRACTOR UNDER THE SCOPE OF THIS PROJECT. COORDINATE HOSE DROP LOCATIONS WITH THE OWNER.
8. EXISTING 10hp DUPLEX AIR COMPRESSOR TO BE RELOCATED FROM (E)FLEET SERVICES FACILITY BY THE OWNER, INSTALLED BY THE CONTRACTOR UNDER THE SCOPE OF THIS PROJECT.



DETAIL NOTES:

1. 275gal. DOUBLE WALL STORAGE TANK WITH LEAK DETECTION.
2. WALL MOUNTED PUMP.
3. AIR LINE FILTER AND LUBRICATOR EQUAL TO LINCOLN INDUSTRIAL .
4. AIR PRESSURE REGULATOR EQUAL TO LINCOLN INDUSTRIAL.
5. LOW PRESSURE STEEL TUBING, FITTINGS, VALVES AND UNIONS RATED FOR 2,200psig.
6. 1,000psi THERMAL RELIEF VALVE W/DRAIN, EQUAL TO LINCOLN INDUSTRIAL.

A1	DETAIL ~ HYDRAULIC/FUEL OIL STORAGE TANK AND PUMP PIPING
NOT TO SCALE	

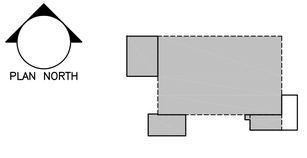


A7	DETAIL ~ FLUIDS PIPING AT STORAGE TANKS
1/8" = 1'=0"	

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057P.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

FLUIDS/COMPRESSED AIR PLAN AND DETAILS

SHEET NUMBER

PL300

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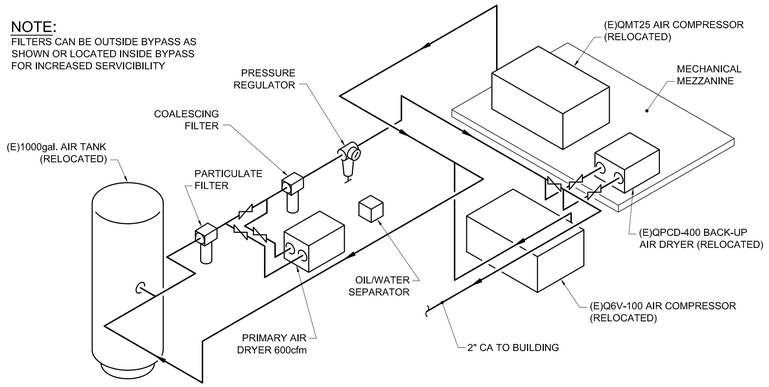
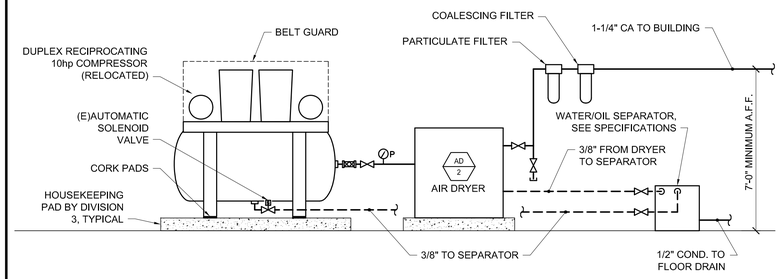


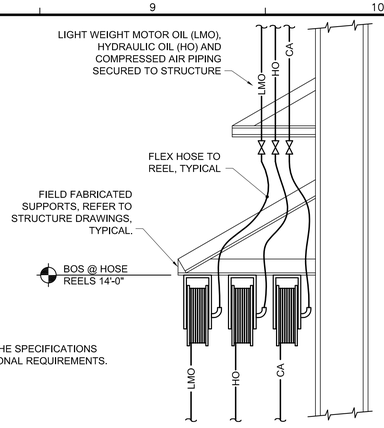
F1 DETAIL ~ COMPRESSOR ROOM PIPING

NOT TO SCALE



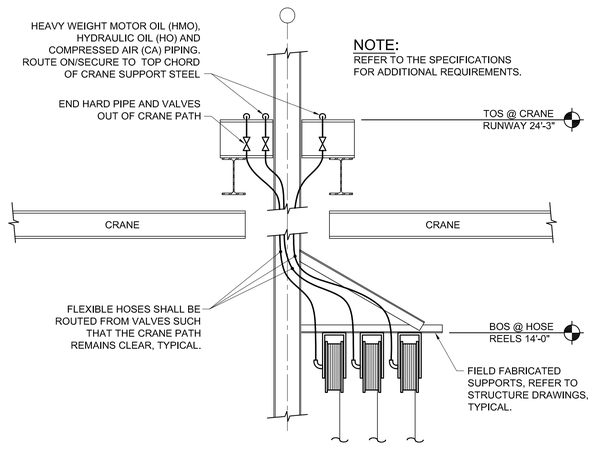
F4 DETAIL ~ RELOCATED DUPLEX COMPRESSED AIR SYSTEM SERVING BURN TABLE

NOT TO SCALE



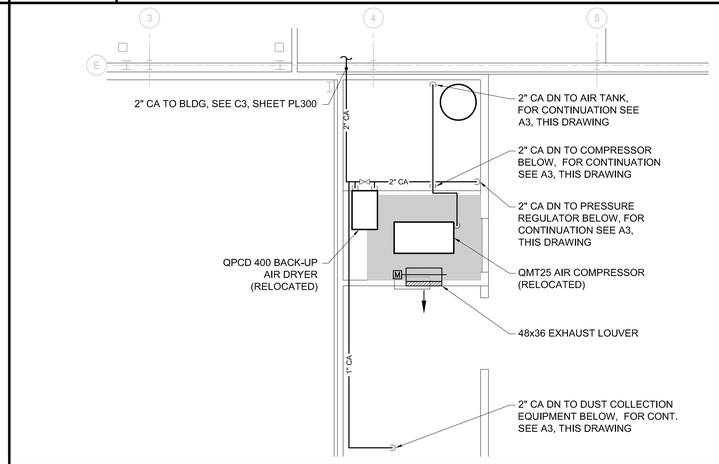
F8 DETAIL ~ HOSE REEL STATION

NOT TO SCALE STANDARD CONFIGURATION



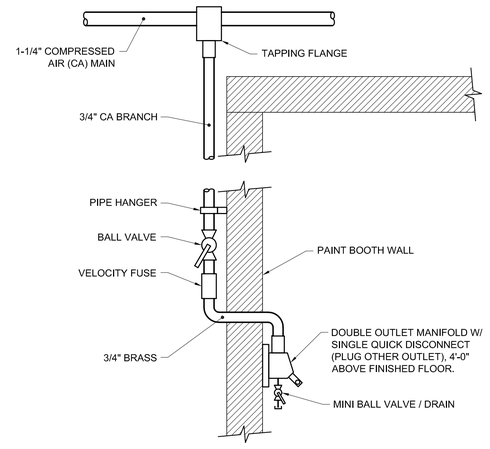
D1 DETAIL ~ HOSE REEL STATION

NOT TO SCALE CONFIGURATION AT OVERHEAD CRANE LOCATIONS



D4 DETAIL ~ COMPRESSED AIR PIPING PART PLAN - MEZZANINE

1/8" = 1'-0"



D8 DETAIL ~ TYPICAL CA-4 AIR DROP PIPING

NOT TO SCALE FOR CONNECTION TO TOOLS

PROVIDE SUBMITTALS FOR:

1. Four wet/dry central vacuum stations.
2. 40' vacuum hoses.
3. Standard hose hanger and wall outlet.
4. Attachments
5. Vacuum piping
6. Controls

PRODUCTS: Equal to Aqua-air Wet/Dry, Ivins UT, 800-916-5777. (Provide for each work station)

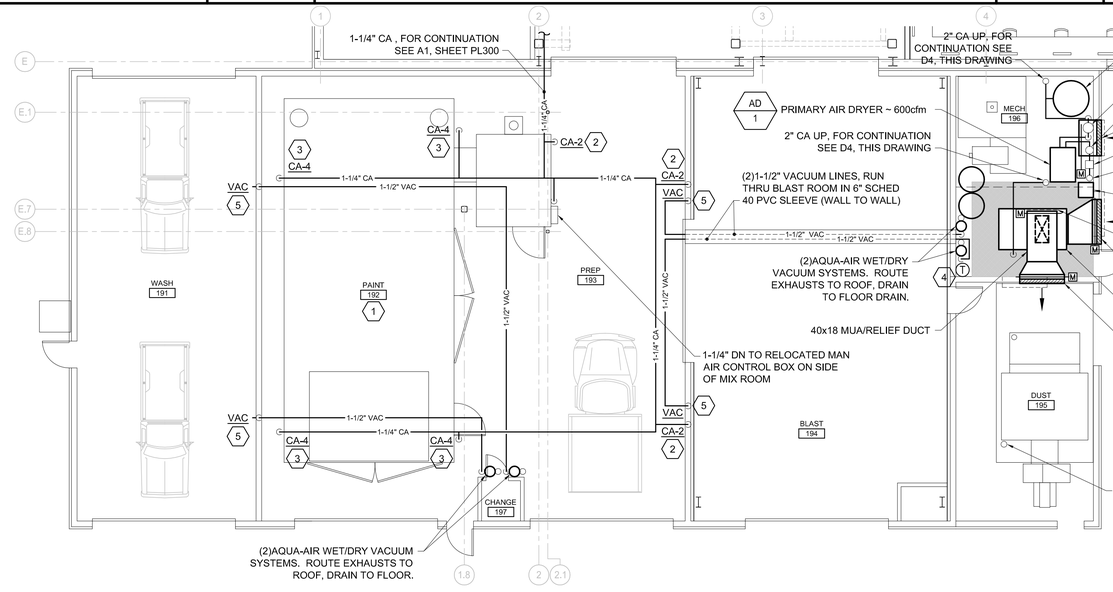
1. Wet/Dry vacuum: Model 158 heavy duty wet/dry central vacuum extractor. Single canister (14" diameter by 47" long).
   a. 8.4" extractor motor, 2 stage, high efficiency.
   b. 146" water lift.
   c. 141 cfm.
   d. 14 amp, 120v, 1 ph.
   e. Debris screens bag of 50.
2. Vacuum hose: Model AA279, 1.25" x 40' wet/dry hose set.
3. Attachments:
   a. Plastic claw tool, Model AA271.
   b. Crevice tool, Model PA282.
   c. Upholstery tool, Model AA404BK.
   d. Dusting brush, Model PA280.
4. Surface mount installation kit: Model AA522
   a. Include white dry in/out wall outlet.
   b. Standard wall mount hose hanger.
5. Piping: equal to schedule DWV plumbing pipe and fittings (Refer to specification Section 221316)
6. On/Off switch wall switch.
   a. Standard wall switch for prep bay area; provide Nema 4X enclosure in wash bay area.
   b. 2/18 control wire.

INSTALLATION:

1. Install all piping (vacuum tubing), wiring, power unit, and accessories in strict conformance with manufacturer's written instructions.
2. Install equipment with required clearances for service and maintenance.
3. Install vacuum tubing (DWV piping) in accordance with specification Section 221316.
4. Power wiring shall be by Division 26.
5. Low voltage control wiring shall be by Division 23.
6. Start up: Provide start up and test per manufacturer's recommendation. Correct/replace all damaged or malfunctioning equipment.
7. Demonstration/training: Provide demonstration and training for operation of the complete central vacuum system to owner authorized personnel. Include maintenance and cleaning instructions.

A1 WET/DRY CENTRAL VACUUM SYSTEM SPECIFICATIONS

NONE



A3 DETAIL ~ COMPRESSED AIR AND VACUUM SYSTEM PART PLAN

1/8" = 1'=0"

KEYED NOTES:

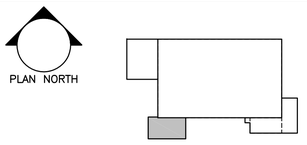
1. PER NFPA 33, ALL ELECTRICAL DEVISES SHALL BE 3'-0" MINIMUM FROM THE PAINT BOOTH (UNLESS UL LISTED AS EXPLOSION PROOF).
2. FOR TYPICAL CA-2 PIPING DETAIL, SEE E1, SHEET PL300.
3. FOR TYPICAL CA-4 PIPING DETAIL, SEE D8, THIS DRAWING.
4. WALL SENSOR SHALL OPERATE MOTOR OPERATED DAMPERS IN SEQUENCE TO MAINTAIN SPACE HEATING.
5. VACUUM DROP TO WALL OUTLET AND HOSE HANGER AND POWER UNIT ON/OFF SWITCH.

ISSUED FOR BID

FEBRUARY 27, 2014

NOTE:
FOR DETAIL OF COMPRESSED AIR PIPING AND EQUIPMENT ON THE MEZZANINE ABOVE SEE D8, THIS DRAWING.

PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057P.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020113.20

66 INDUSTRIAL DRIVE–PHASE 2

66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

COMPRESSED AIR / VACUUM PART PLAN AND DETAILS

SHEET NUMBER

PL301

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ELECTRIC DHW HEATER SCHEDULE

TAG	TYPE	SERVES	MANUFACTURER	MODEL	VOLTS	PHASE	HEAT INPUT (KW)	AMPS	RECOVERY FLOW	TEMP RISE (DEG-F)	WATER STORAGE (GAL)	HEIGHT (INCHES)	WIDTH (INCHES)	DEPTH (INCHES)
EWH-1	INSTANTANEOUS	EMERGENCY SHOWER/FACE #1	EEMAX	EXD096480T12 EFD	460	3	96.0	116	3 -15 GPM	48	0	33"	33"	6"
EWH-2	INSTANTANEOUS	EMERGENCY SHOWER/FACE #2	EEMAX	EXD096480T12 EFD	460	3	96.0	116	3 -15 GPM	48	0	33"	33"	6"
EWH-3	INSTANTANEOUS	EMERGENCY SHOWER/FACE #3	EEMAX	EXD096480T12 EFD	460	3	96.0	116	3 -15 GPM	48	0	33"	33"	6"
EWH-4	INSTANTANEOUS	UNISEX 134 / 136	EEMAX	MB012240T	208	1	8.6	50	1.0 GPM	79	0	13.5"	5.0"	4"
EWH-5	TANK - LOW PROFILE	SIGN SHOP LAV / JAN	A.O. SMITH	DEL-20	208	1	2.5	NA	14 GPH	72	20	23"	22" DIAM	NA

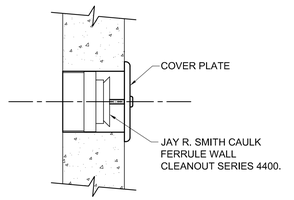
NOTE: 208V EEMAX INCLUDES 25% REDUCTION FROM 240V PERFORMANCE

DOMESTIC PLUMBING PUMPS

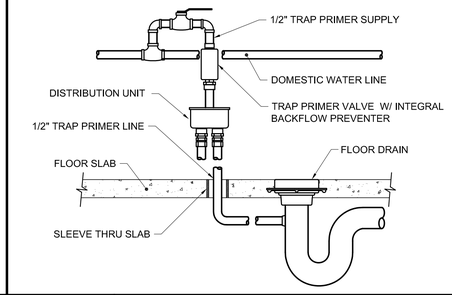
TAG	SERVES	MAKE & MODEL	TYPE	GPM	HEAD	ELECTRICAL		BASIN						
						MOTOR HP	VOLTS/PH (60 Hz.)	DIA.	HEIGHT	GAL.	INLET TYPE	INLET SIZE	DISCH SIZE	NOTES
RCP-1	DHW RECIRC	TACO IL 009-IFC	IN LINE	2	13	1/8	115/1	--------	--------	--------	--------	--------	--------	NOTE 1; 3/4" X 3/4" INLET/DISCH
SP-1	ELEV SUMP	ZOELLER N152	SUBMERSIBLE	53	15	0.4	115/1	18"	30"	30	PIPED	4"	2"	3
EP-1	TOILET 146	ZOELLER G840	GRINDER	43	30	2	460/3	30	36	100	PIPED	3"	1 1/4"	2

NOTES:
1. POWER SUPPLY TO STARTER/CONTACTOR AND DISC SWITCH BY DIV 26. WIRE PUMP IN SERIES WITH AN IMMERSION AQUASTAT; WIRING FROM SWITCH TO AQUASTAT AND PUMP BY DIV 23.
2. DUPLEX GRINDER SYSTEM WITH CONTROLS, ALARM, AND 36 X 30 BASIN.
3. PLUG CONNECTION, COORDINATE WITH DIV 26.

E1 SCHEDULES ~ PLUMBING
NOT TO SCALE



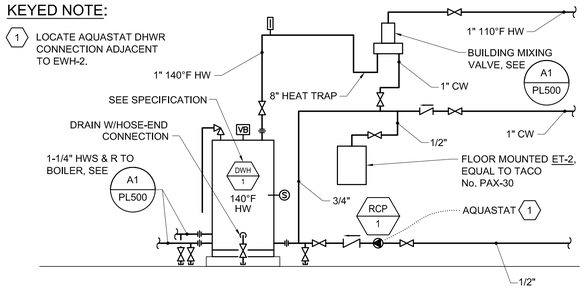
F7 DETAIL ~ WALL CLEANOUT
NOT TO SCALE



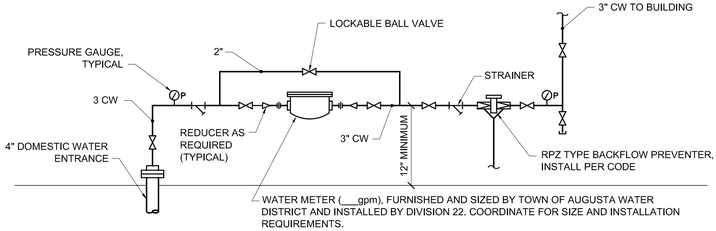
F9 DETAIL ~ TRAP PRIMER PIPING
NOT TO SCALE

KEYED NOTE:

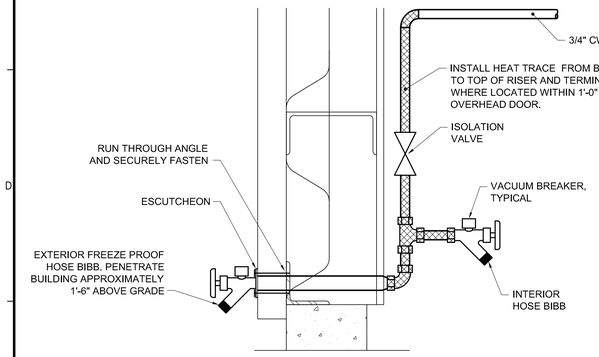
1. LOCATE AQUASTAT DHWR CONNECTION ADJACENT TO EWH-2.



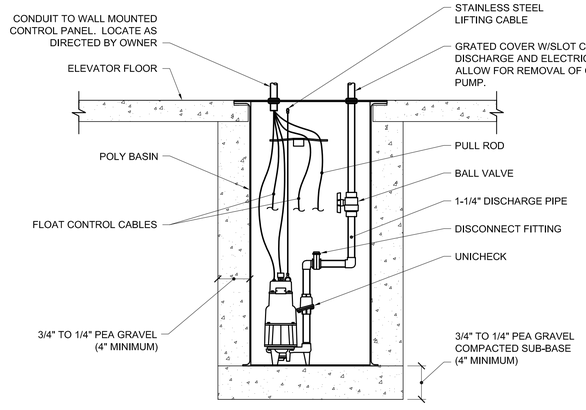
E7 DETAIL ~ DHW PIPING SCHEMATIC
NOT TO SCALE



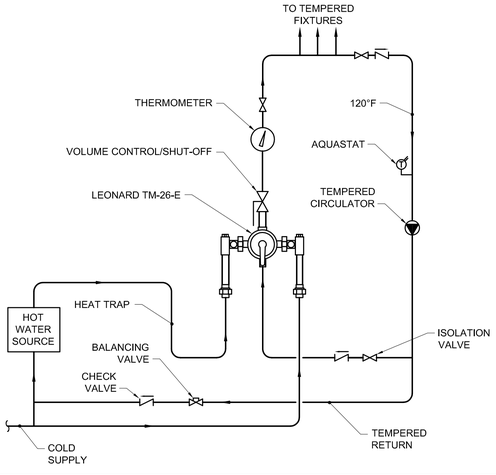
C7 DETAIL ~ DOMESTIC WATER ENTRANCE
NOT TO SCALE



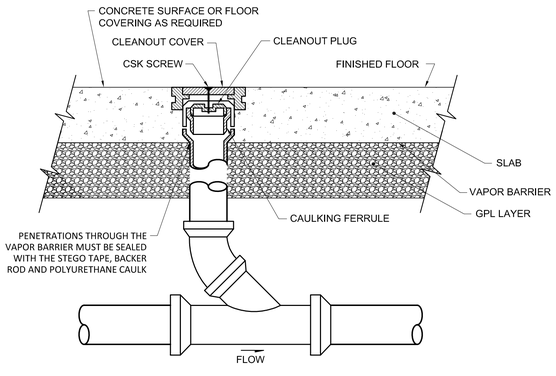
C1 DETAIL ~ INTERIOR HOSE BIBB / EXTERIOR WALL HYDRANT
NOT TO SCALE



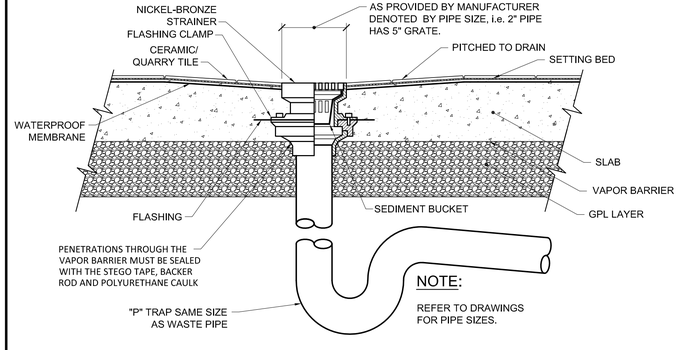
C4 DETAIL ~ ELEVATOR PIT SUMP PUMP PIPING
NOT TO SCALE



A1 DETAIL ~ THERMOSTATIC MIXING VALVE PIPING
NOT TO SCALE



A4 DETAIL ~ FLOOR CLEAN OUT
NOT TO SCALE



A6 DETAIL ~ FLOOR DRAIN
NOT TO SCALE

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STATE OF MAINE ANTHONY S. DAVIS No. 8834 REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

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PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

PLUMBING DETAILS

SHEET NUMBER
PL500

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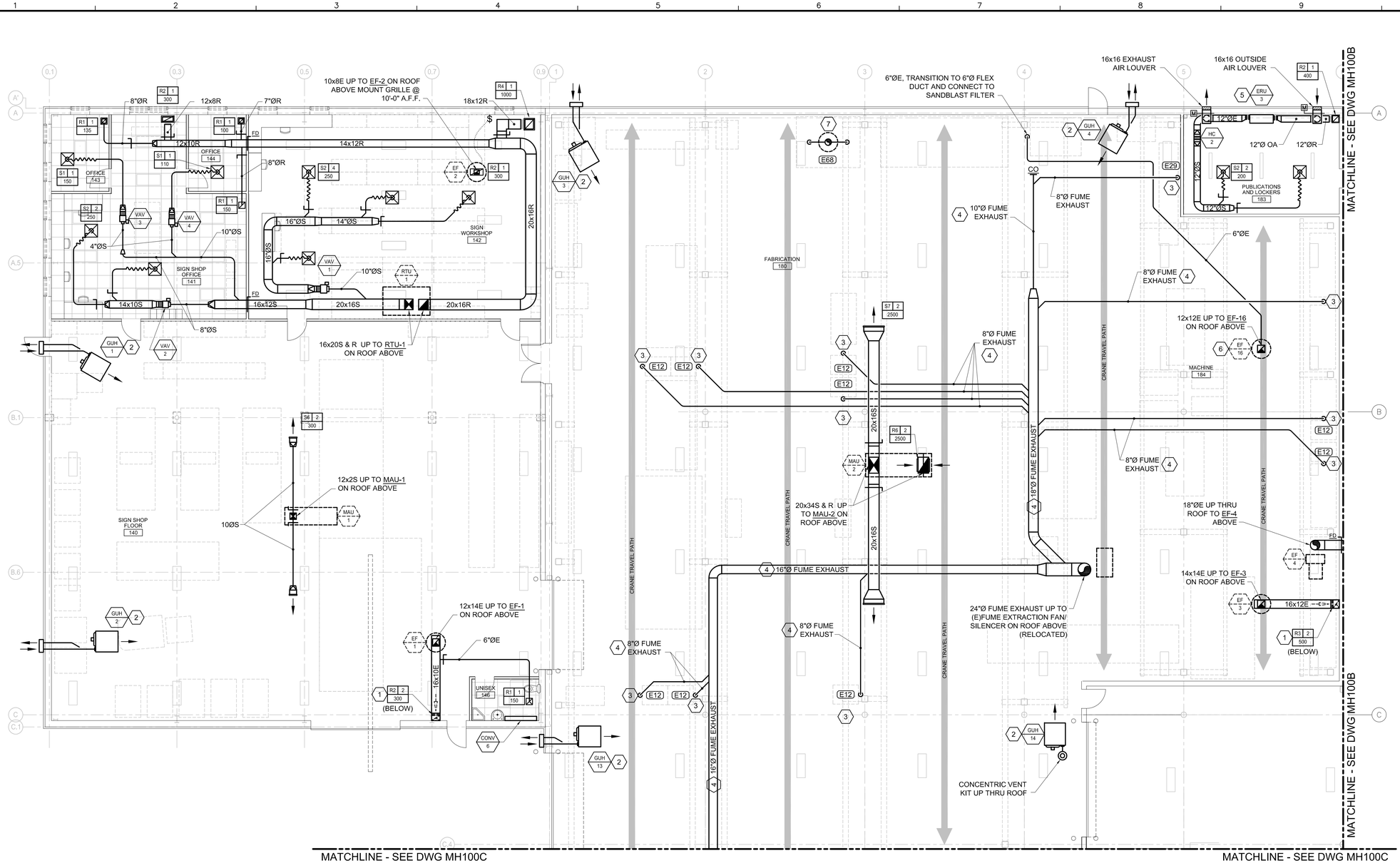

KEYED NOTES:

1. (1)GRILLE AT 1'-0" A.F.F. AND (1)GRILLE AT 18'-0" A.F.F.
2. MOUNT GAS FIRED UNIT HEATER (GUH) APPROXIMATELY 12'-0" ABOVE FINISHED FLOOR.
3. DROP TO RELOCATED FUME ARM, INSTALL FUME ARM MOUNTING FRAME APPROXIMATELY 9'-6" ABOVE FINISHED FLOOR. COORDINATE INSTALLATION WITH OWNER'S WORKBENCH LOCATIONS. RELOCATION OF THE FUME ARM FROM THE EXISTING MDOT FLEET SERVICES BUILDING TO THE PROJECT SITE SHALL BE BY OWNER. INSTALLATION BY THE CONTRACTOR UNDER THE SCOPE OF THIS PROJECT. COORDINATE WITH THE OWNER TO INTEGRATE THE RELOCATION WITH THE OVERALL PROJECT SCHEDULE. PROVIDE ALL TERMINATIONS AND T.A.B.
4. FUME EXHAUST DUCT SYSTEM SHALL BE ROUTED/SUPPORTED ALONG STRUCTURAL COLUMNS, BELOW CRANE SYSTEM, TYPICAL.
5. WALL-MOUNTED UNIT ON STRUCTURAL PLATFORM ABOVE CEILING. PROVIDE ACCESS PANEL TO FACILITATE SERVICING OF UNIT.
6. EXHAUST FAN EF-16 AND ASSOCIATED BRANCH DUCTS ARE INTENDED TO SERVE LOCAL VENT (HEAT AND FUME REQUIREMENTS FOR SEVERAL PIECES OF EQUIPMENT). DROP 12"x12" DOWN FROM EF TO APPROXIMATELY 8'-0" A.F.F. AND CAP BOTTOM OF DUCT. THE INTENT IS TO TAP 12"x12" DUCT WITH 4" OR 6" DIAMETER TAKE-OFFS TO CONNECT TO EQUIPMENT FLEX DUCT. ADDITIONALLY, PROVIDE SERVICE TO SANDBLAST CABINET AS SHOWN.
7. RELOCATED EXHAUST FAN ON ROOF. RE-USE EXISTING WELDED STAINLESS DUCTWORK MODIFIED TO RUN STRAIGHT UP TO FAN WITHOUT OFFSETS. EXTEND EXISTING DUCTWORK AS REQUIRED, MATCHING EXISTING STAINLESS MATERIAL AND DUCT DIMENSIONS. WELD ALL JOINTS AS REQUIRED.

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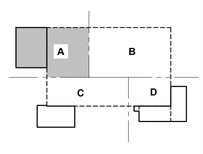
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH



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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2

66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PART PLAN
~ FIRST FLOOR – AREA A

SHEET NUMBER

MH100A

A1

MECHANICAL PART PLAN ~ FIRST FLOOR - AREA A

1/8" = 1'=0"

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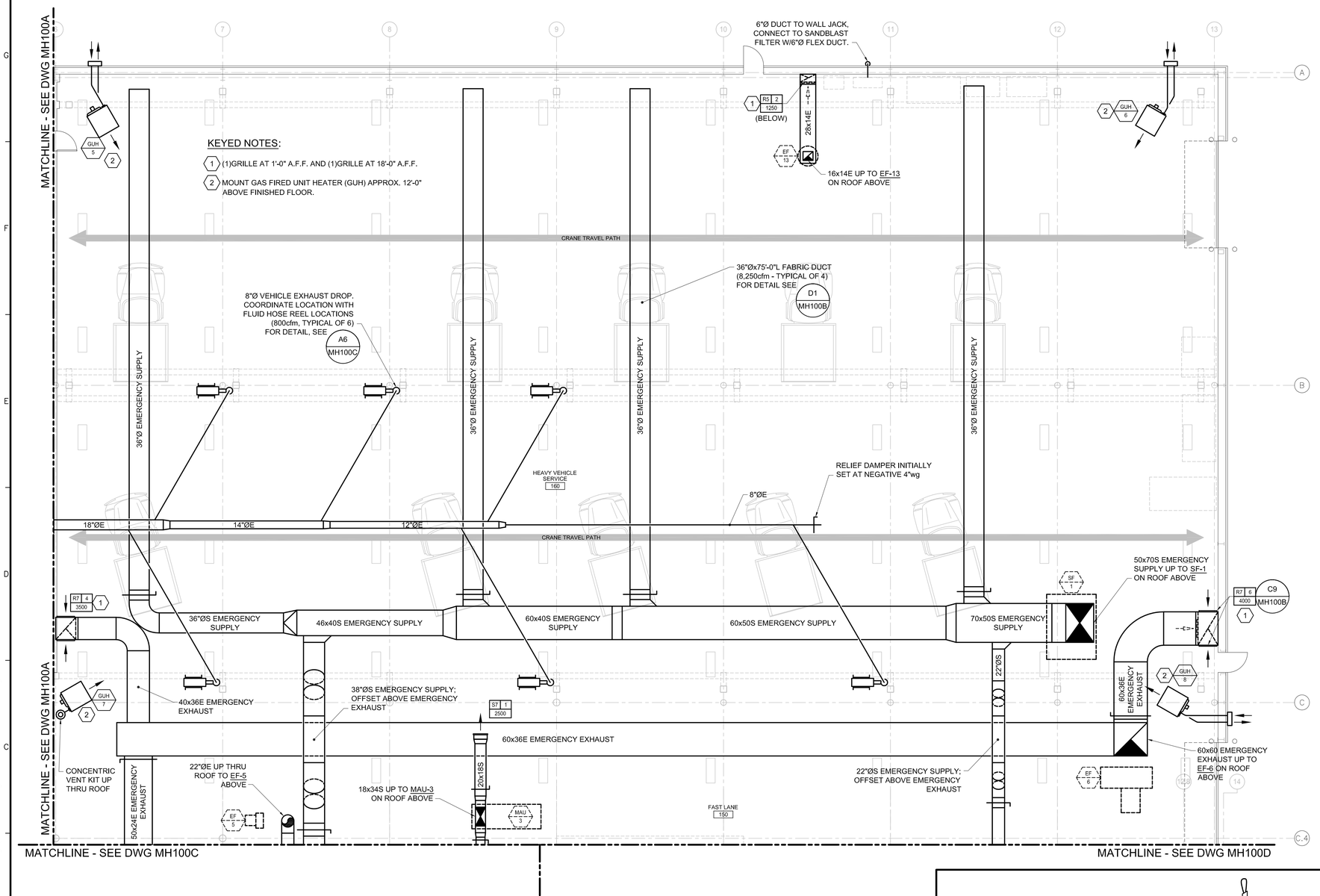
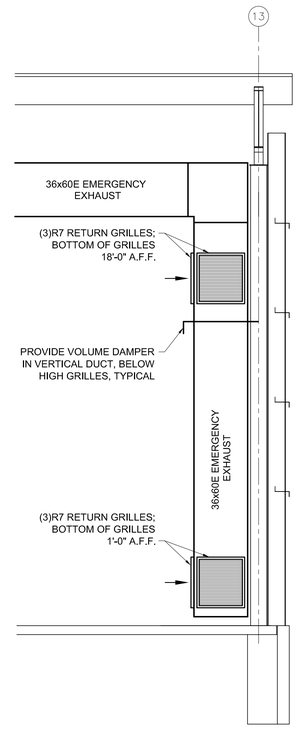


KEYED NOTES:

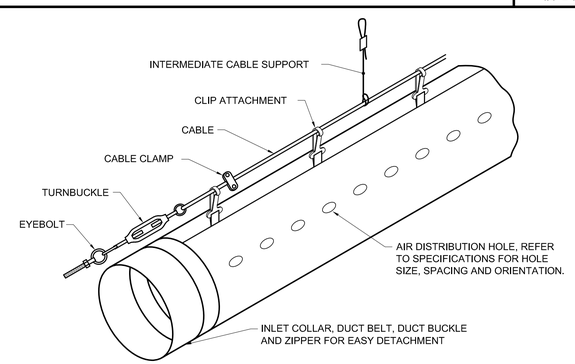
1. (1)GRILLE AT 1'-0" A.F.F. AND (1)GRILLE AT 18'-0" A.F.F.
2. MOUNT GAS FIRED UNIT HEATER (GUH) APPROX. 12'-0" ABOVE FINISHED FLOOR.

A1	MECHANICAL PART PLAN ~ FIRST FLOOR - AREA B
1/8" = 1'=0"	



NOTE:
TYPICAL EXHAUST DUCT RISER SHOWN, REFER TO DRAWINGS FOR SPECIFIC DUCT SIZE AND SIZE / QUANTITY OF GRILLES FOR EACH LOCATION.

C9	DETAIL ~ EMERGENCY EXHAUST DUCT RISER
1/4" = 1'=0"	



D1	DETAIL ~ FABRIC DUCT SUSPENSION
NOT TO SCALE	CABLE SUSPENSION - CLIP ATTACHMENT PER MFR RECOMMENDATIONS

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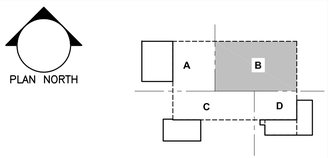
FEBRUARY 27, 2014

PROJECT KEY PLAN



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STATE OF MAINE
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COMMISSIONER:
CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE
ARCH. LIN. NUMBER
DATE FEBRUARY 27, 2014

PROJECT INFORMATION
PROGRAM
PROJECT MANAGER
DESIGNER ALLIED ENG., INC.
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PART PLAN
~ FIRST FLOOR – AREA B

SHEET NUMBER
MH100B

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MATCHLINE - SEE DWG MH100A

MATCHLINE - SEE DWG MH100A

MATCHLINE - SEE DWG M100B

MATCHLINE - SEE DWG M100B

MATCHLINE - SEE DWG MH100D

MATCHLINE - SEE DWG MH100D

CRANE TRAVEL PATH

16"Ø FUME EXHAUST

8"Ø FUME EXHAUST

8"Ø FUME EXHAUST

RELIEF DAMPER

EF-7

10"ØE UP TO MEZZANINE ABOVE (EF-7)

18x18E UP TO EF-2 ON ROOF ABOVE

28x12E

(BELOW)

CONCENTRIC VENT KIT UP

OFFICE 135

UNISEX 134

UNISEX 136

OFFICE 133

OIT SHOP 137

CORRIDOR 130

N.O.C. 132

FABRICATION 181

OFFICE 138

OFFICE 131

EXISTING PAINT BOOTH MAKE-UP AIR UNIT, INSULATED 90° ELBOW, DISCHARGE DAMPER, INSULATED 96x32 TO 96x14 TRANSITION, AND INSULATED 96x14 DUCT (RELOCATED AND CHANGED FROM LP TO NG GAS TRAIN)

32x96S UP, SEE A1, SHEET MH102 FOR CONTINUATION

ELEC. 182

(2)(E)PAINT BOOTH EXHAUST FANS/STACKS (RELOCATED)

(E)MIX ROOM EXHAUST FAN/STACK (RELOCATED)

(2)26"Ø PARTICULATE EXHAUST UP

(E)MIX ROOM (RELOCATED)

14x14E UP TO EF-8 ON ROOF ABOVE (1000cfm)

PAINT 192

96x32S UP

PREP 193

BLAST 194

MECH 196

DUST 195

CHANGE 197

WASH 191

MUA/EF

(E)MUA

14x14S UP TO MUA-4 ON ROOF ABOVE

MUA 4

(E)PAINT BOOTH (RELOCATED)

(E)AIR INLET LOUVER, FURNISHED BY OWNER, INSTALLED BY CONTRACTOR (TYPICAL 2)

(E)8'-0"Wx8'-0"H EXHAUST AIR BAFFLE PLATES FURNISHED BY OWNER, INSTALLED BY CONTRACTOR. MODIFY THE PLATES TO REDUCE SIZE TO 6'-0"Wx8'-0"H

NOTE:
FOR DETAIL OF COMPRESSED AIR EQUIPMENT AND VENTILATION DUCTWORK IN THIS AREA SEE A3, D4 AND F1, SHEET PL301.

(E)MEDIA RECOVERY SYSTEM (RELOCATED) 10

(E)DUST COLLECTION SYSTEM (RELOCATED) 10

30"ØE UP

CONSTRUCT SHEETMETAL COLLAR AND AFFIX TO LOUVER

48"x38" DUCT DN IN CORNER W/2'x2' ACCESS DOOR. DROP DUCT DN IN CHASE AND TERMINATE OPEN-ENDED JUST ABOVE THE TOP OF THE LOUVER

50x24E EMERGENCY EXHAUST

8"Ø VEHICLE EXHAUST DROP COORDINATE LOCATION WITH FLUID HOSE REEL LOCATION (600cfm, TYPICAL OF 4) FOR DETAIL, SEE A8, THIS DRAWING

22"ØE

16"ØE

38"ØE EMERGENCY SUPPLY

LIGHT VEHICLE SERVICE 170

16x12S

38"Øx60'-0"L FABRIC DUCT (12,000cfm)

VEHICLE EXHAUST RELIEF DAMPER

16x16E UP TO EF-12 ON ROOF ABOVE

(BELOW)

22x12E

GUH 15

GUH 12

GUH 11

GUH 10

KEYED NOTES:

1. (1)GRILLE AT 1'-0" A.F.F. AND (1)GRILLE AT 18'-0" A.F.F.
2. ALL DUCTWORK AND GRILLES SHALL BE ALUMINUM.
3. EXHAUST GRILLE SHALL BE FLUSH WITH BOTTOM OF PLANKING.
4. NOT USED.
5. MOUNT GAS FIRED UNIT HEATER (GUH) APPROXIMATELY 12'-0" ABOVE FINISHED FLOOR.
6. DROP TO RELOCATED FUME ARM. INSTALL FUME ARM MOUNTING FRAME APPROXIMATELY 9'-6" ABOVE FINISHED FLOOR. COORDINATE INSTALLATION WITH OWNER'S WORKBENCH LOCATIONS.
7. FUME EXHAUST DUCT SYSTEM SHALL BE ROUTED/SUPPORTED ALONG STRUCTURAL COLUMNS, BELOW CRANE SYSTEM, TYPICAL.
8. DOWN TO RELOCATED TRAVELING FLEX ARMS SYSTEM FOR BURN TABLE.
9. THE EXISTING PAINT BOOTH/MIX ROOM SHALL BE RELOCATED, INSTALLED AND COMMISSIONED BY THE OWNER. THE CONTRACTOR, UNDER THE SCOPE OF THIS PROJECT, SHALL COORDINATE WITH THE OWNER TO INTEGRATE THE RELOCATION INTO THE OVERALL PROJECT SCHEDULE. CONTRACTOR SHALL FURNISH ALL ASSOCIATED UTILITIES/CONNECTIONS AND PERFORM FINAL T.A.B. AT THE DIRECTION OF THE OWNER'S EQUIPMENT VENDOR.
10. EQUIPMENT SHALL BE RELOCATED FROM THE EXISTING MDOT FLEET SERVICES FACILITY BY THE OWNER, INSTALLED BY THE CONTRACTOR UNDER THE SCOPE OF THIS PROJECT. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO INTEGRATE THE RELOCATION WITH THE OVERALL PROJECT SCHEDULE. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED UTILITIES, TERMINATIONS AND T.A.B. ASSOCIATED WITH THE EQUIPMENT, AS INDICATED.
11. SWITCH SHALL HAVE RED INDICATOR LIGHT WHEN SWITCHED "ON".

HOSE REEL

COORDINATE SUPPORT MOUNTING W/ STRUCTURAL

RIGID DUCTING TO FAN

13'-0" A.F.F.

FLEXIBLE TUBING

HOSE CLAMP

TAILPIPE/STACK ADAPTER

PULL RING KIT

NOTE:
IN THE STORAGE POSITION, THE BOTTOM OF THE TAILPIPE ADAPTER PULL RING SHALL BE A MINIMUM OF 6'-0"± A.F.F. TO OPERATE, PULL THE TAILPIPE ADAPTER DOWN TO THE DESIRED POSTION, PULL THE HOSE AN ADDITIONAL AMOUNT TO SET THE REEL LOCK INTO PLACE AND PUT THE ADAPTER ON THE VEHICLE EXHAUST PIPE. WHEN STORING THE SYSTEM, TUG HOSE SLIGHTLY TO UNLOCK THE REEL AND ALLOW THE HOSE TO SLOWLY RETRACT.

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FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A B C D

A1	MECHANICAL PART PLAN ~ FIRST FLOOR - AREA C	A6	DETAIL ~ SPRING POWERED VEHICLE EXHAUST HOSE REEL SYSTEM
1/8" = 1'=0"		NOT TO SCALE	

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER 1

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	ALLIED ENG., INC.
DESIGNER	
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PART PLAN
FIRST FLOOR – AREA C

SHEET NUMBER
MH100C

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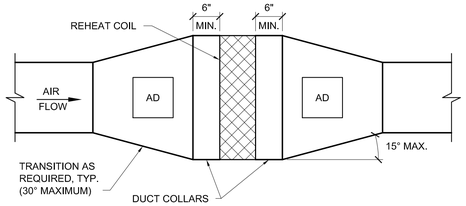
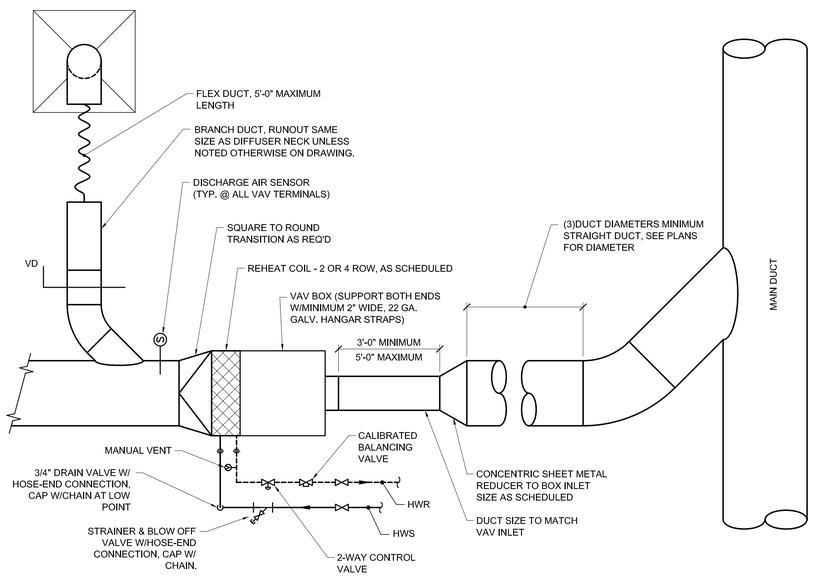


D1 | DETAIL ~ REHEAT COIL DUCT CONNECTION

NOT TO SCALE



A1 | DETAIL ~ VAV BOX SCHEMATIC

NOT TO SCALE

MATCHLINE - SEE DWG MH100B

MATCHLINE - SEE DWG MH100C

MATCHLINE - SEE DWG MH100B

MATCHLINE - SEE DWG MH100C

KEYED NOTES:

1. MOUNT GAS FIRED UNIT HEATER (GUH) APPROXIMATELY 12'-0" ABOVE FINISHED FLOOR.
2. RUN DUCT TIGHT TO CEILING.

A5 | MECHANICAL PART PLAN ~ FIRST FLOOR - AREA D

1/8" = 1'=0"

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PROJECT KEY PLAN

PLAN NORTH

A B C D

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CHIEF ENGINEER:	

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PART PLAN
~ FIRST FLOOR – AREA D
~

SHEET NUMBER

MH100D

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AHU 1

CU 1

8"ØE UP TO EF-17 ON ROOF ABOVE

12x22 OA UP TO GRV-1 ON ROOF ABOVE

EF 17

GRV 1

22x12 OA

22x12R

22x12S

10"ØR

7"ØE

VAV 18

9"ØR

5"ØS

12x10R

EF 15

12x16E UP TO EF-15 ON ROOF ABOVE

CONCENTRIC VENT KIT UP THRU ROOF

VAV 19

10"ØS

5"ØS

MOTORIZED DAMPER SHALL CLOSE 100% WHEN EF-7 IS SWITCHED ON.

6"ØR

9"ØR

EF 7

VAV 20

8"ØE DN. UP TO EF-7 ON ROOF ABOVE

VAV 21

8"ØS

4"ØS

VAV 22

OPEN MECHANICAL SPACE

10"ØR

14x12S

14x12S

VD IN DROP

MATCHLINE - SEE DWG MH101D

MUA 3

12" VENT KIT UP THRU ROOF W/ RAIN CAP, RATED FOR NATURAL GAS, APPLIANCE CATEGORY AS APPLICABLE. COORDINATE WITH THE EQUIPMENT MANUFACTURER. COMPLY WITH NFPA 54

32x96S UP FROM RELOCATED MUA BELOW, UP TO ROOF ABOVE. SEE A1, SHEET MH102 FOR CONTINUATION

(E)OIL FIRED PRESSURE WASHER RELOCATED ABOVE MIXING ROOM, FURNISHED AT PROJECT SITE BY OWNER, INSTALLED BY CONTRACTOR. THE CONTRACTOR SHALL FURNISH A NEW FLUE VENT THRU ROOF, BURNER AND APPURTENANCES REQUIRED FOR CONVERSION FROM No. 2 FUEL TO NATURAL GAS

VENT THRU ROOF, PER NFPA 54 AND EQUIPMENT MANUFACTURER REQUIREMENTS

(E)OIL FIRED FURNACE RELOCATED ABOVE MIXING ROOM, FURNISHED AT PROJECT SITE BY OWNER, INSTALLED BY CONTRACTOR. THE CONTRACTOR SHALL FURNISH A NEW FLUE VENT THRU ROOF, BURNER AND APPURTENANCES REQUIRED FOR CONVERSION FROM No. 2 FUEL TO NATURAL GAS

8" CONCENTRIC VENT KIT UP THRU ROOF

GUH 17

OPEN-ENDED DUCT W/SCREEN

16'-0"Lx4'-0"Dx4'-0"H PLENUM W/(2)RELOCATED ASHRAE FILTERS

72x28

32"ØE

44"ØS UP

44"ØS

MUA 4

MATCHLINE - SEE DWG MH101D

WIN: 020118.20

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FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A B C D

A1	MECHANICAL PART PLAN ~ MEZZANINE - AREA C
1/8" = 1'=0"	

Allied Project No: 13057 Cad File: 13057M.DWG

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE
ANTHONY S. DAVIS
No. 8834
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE –

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

INFORMATION	
PROJECT	
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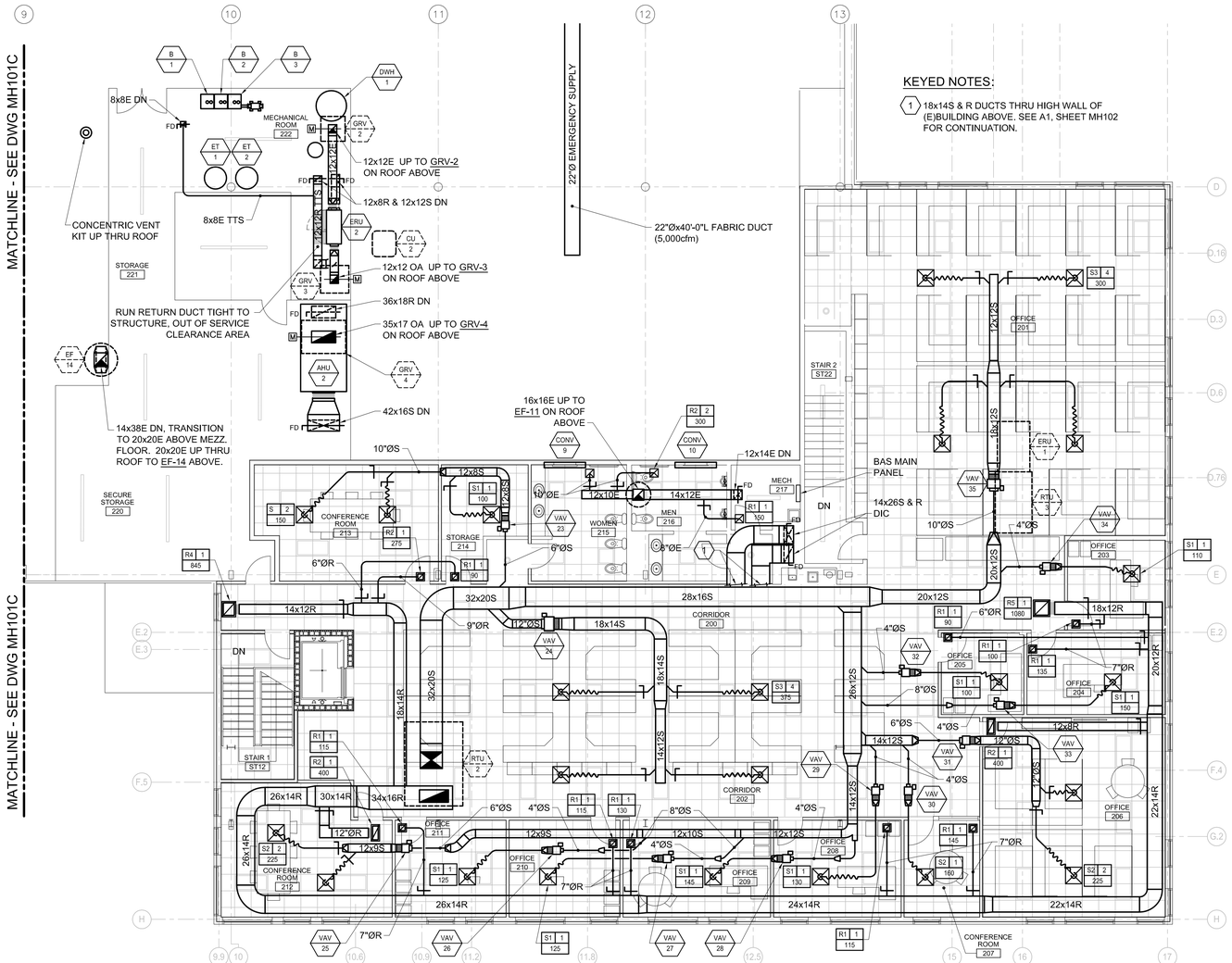
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PART PLAN
~ MEZZANINE - AREA C

SHEET NUMBER

MH101C



KEYED NOTES:

1. 18x14S & R DUCTS THRU HIGH WALL OF (E)BUILDING ABOVE. SEE A1, SHEET MH102 FOR CONTINUATION.

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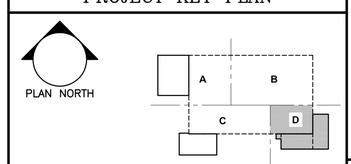
PROJECT KEY PLAN



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A1	MECHANICAL PART PLAN ~ SECOND FLOOR - AREA D
1/8" = 1'=0"	

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	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

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PROGRAM	
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DESIGNER	ALLIED ENG., INC.
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CONTRACTOR	
PROJECT COMPLETION DATE	-

66 INDUSTRIAL DRIVE–PHASE 2

66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
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MECHANICAL PART PLAN
~ SECOND FLOOR – AREA D

SHEET NUMBER

MH101D

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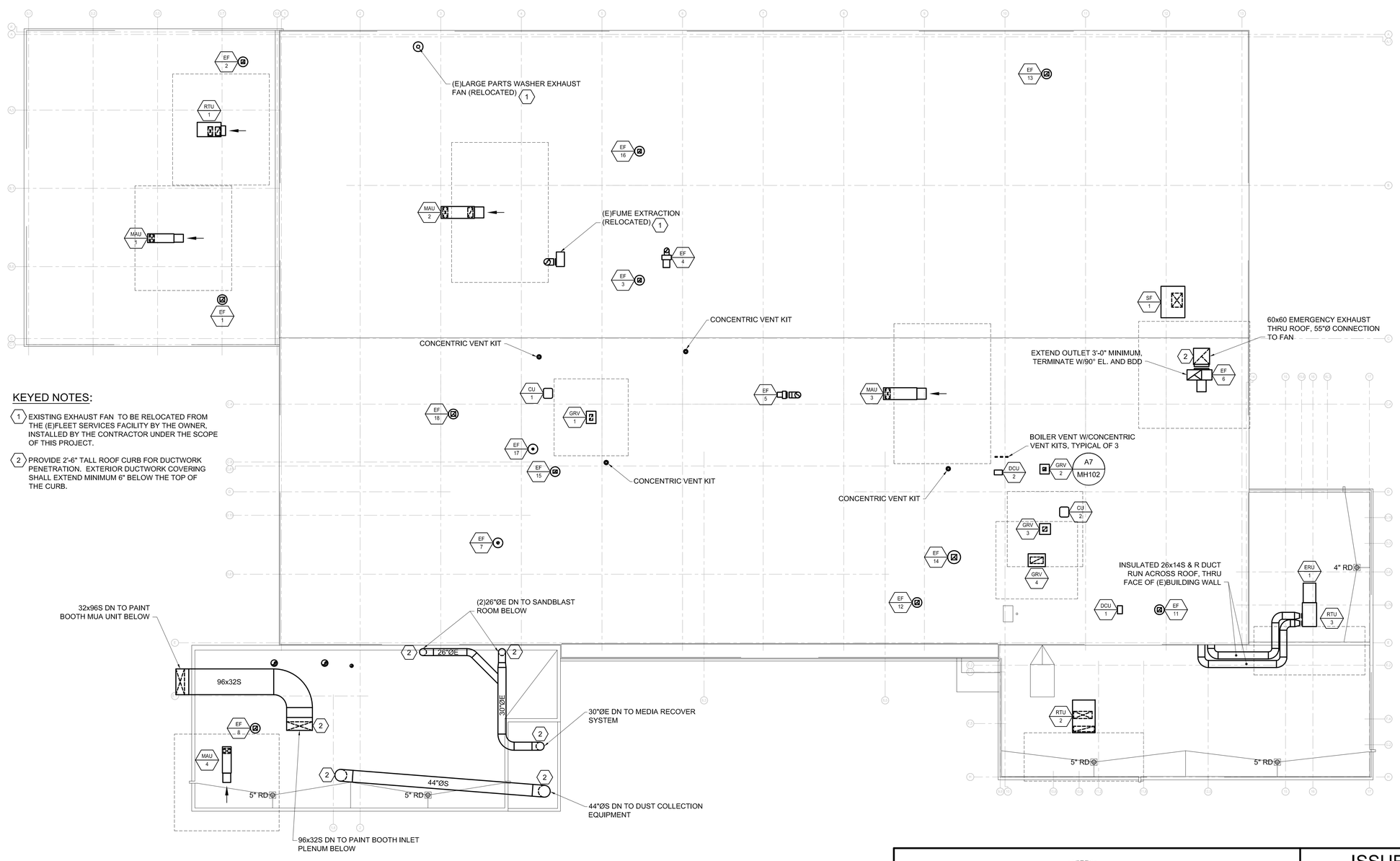
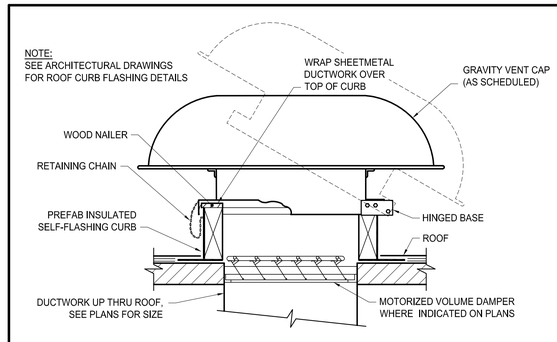
KEYED NOTES:

1. EXISTING EXHAUST FAN TO BE RELOCATED FROM THE (E)FLEET SERVICES FACILITY BY THE OWNER, INSTALLED BY THE CONTRACTOR UNDER THE SCOPE OF THIS PROJECT.
2. PROVIDE 2'-6" TALL ROOF CURB FOR DUCTWORK PENETRATION. EXTERIOR DUCTWORK COVERING SHALL EXTEND MINIMUM 6" BELOW THE TOP OF THE CURB.





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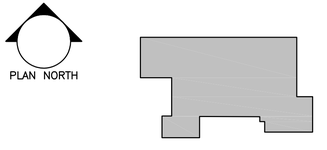
PROJECT KEY PLAN



A1	MECHANICAL ROOF PLAN	A7	DETAIL ~ GRAVITY ROOF VENTILATOR
1/16" = 1'=0"		NOT TO SCALE	

STATE OF MAINE
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CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

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66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL ROOF PLAN

SHEET NUMBER
MH102

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UNIT HEATER SCHEDULE

TAG	MFR. -MODEL	SIZE	TYPE	EXPOSED FACE WIDTH	EXPOSED FACE HEIGHT	UNIT DEPTH	MBH	CFM	EAT (DEG.-F)	LAT (DEG.-F)	GPM	FLUID	EWT	LWT	MOTOR HP	ELECT	MAX WPD	PIPE RUNOUT SIZE	NOTES
CUH-1	TRANE FFE	3	HORIZ. RECESSED CABINET BOTTOM LOUVER	3'-1"	2'-6"	10 1/2"	11.4	270	70	120.0	2.0	WATER	140.0	128.6	36w	120-1-60	5.5	3/4"	
CUH-2	TRANE FFJ	6	VERTICAL CABINET SLOPE TOP	3'-11"	2'-5	10"	28.7	480	70	125.0	3.0	WATER	140.0	120.0	79	120-1-60	3.8	3/4"	
CUH-3	TRANE FFJ	3	VERTICAL CABINET SLOPE TOP	2'-10"	2'-4"	10"	14.8	260	70	125.0	1.5	WATER	140.0	120.0	85	120-1-60	3.0	3/4"	
CUH-4	TRANE FFJ	6	VERTICAL CABINET SLOPE TOP	3'-11"	2'-5	10"	28.7	480	70	125.0	3.0	WATER	140.0	120.0	79	120-1-60	3.8	3/4"	
UH-1	TRANE S	S-18	HORIZONTAL UH	15"	15"	10"	7.0	350	70	95	1.3	WATER	140.0	120.0	16w	120-1-60	0.2	1/2"	

NOTES:
1. POWER WIRING TO UNIT HEATER BY DIV 26. ALL LOW VOLTAGE CONTROL WIRING, THERMOSTAT, RELAYS, AND TRANFORMERD BY DIV. 23.

AIR DRYER SCHEDULE

TAG	MANUFACTURER AND MODEL NUMBER	LOCATION	AIRFLOW @ 100 F @ 37 F DP (CFM)	INLET/OUTLET CONN.	DRAIN CONN. (INCHES)	COMPRESSOR COMP. HP	COMPRESSOR VOLT/PH	WEIGHT LBS	PHYSICAL LENGTH/ WIDTH/ HEIGHT	NOTES
AD-1	ZEKS MODEL 600HSF	COATINGS MECH RM	600	2"	1/2	4	208/3/60	1275	42/40/62	
AD-2	ZEKS MODEL HTB080	FABRICATION	66	3/4"	1/2	0.5	115/1/60	137	23/17/31	

CONVECTOR SCHEDULE

TAG	STERLING MODEL	STYLE	LENGTH	HEIGHT	DEPTH	MBH	GPM	MAX WPD	PIPE RUNOUT SIZE
CONV-1 thru 10	SW-A	WALL-HUNG	60"	32"	8"	6.5	1	2	1/2"

NOTES:
BASE SIZING ON: 120 AWT, 30F TEMP DROP.

MAKE-UP AIR UNIT SCHEDULE

INDOOR UNIT:	MAU-1	MAU-2	MAU-3	MAU-4
MANUFACTURER	TRANE	TRANE	TRANE	TRANE
DESCRIPTION	ROOF TOP INDIRECT FIRED	ROOF TOP INDIRECT FIRED	ROOF TOP INDIRECT FIRED	ROOF TOP DRECT FIRED
MODEL	GRCA10GFHF0	GRCA50GFHF0	GRCA50GFHF0	GRCA10GFHF0
WEIGHT (w/ Curb)	1,050	1,600	1,600	1050
AIRFLOW, cfm	800	5000	4,000	1,000
ESP, in.wc.	0.75	1	1	0.75
HP	1/2	5	3	1/2
RPM	1135	1415	1220	1135
HEATING				
FUEL	NAT GAS	NAT GAS	NAT GAS	NAT GAS
TEMP RISE, deg-F.	High Temp Rise 60 - 90	Std Temp Rise 20 - 60		High Temp Rise 60 - 90
INPUT (MBH)	100	500	500	100
OUTPUT (MBH)	80	400	400	80
EFFICIENCY	79	80	80	79
TURNDOWN	Full Mod down to 40%	Full Mod down to 40%	Full Mod down to 40%	Full Mod down to 40%
FILTERS	2" Pleated MERV 8	2" Pleated MERV 8	2" Pleated MERV 8	2" Pleated MERV 8
MODULATIING OA/RETURN	NO	YES	NO	NO
ELECTRICAL				
VOLTAGE/HZ/PHASE	460/3	480/3	480/3	460/3
STARTER TYPE	Contactor by Div 23	Magnetic by Div 23	Magnetic by Div 23	Contactor by Div 23
FLA	NA	NA	NA	NA

NOTES:
1. MUA-2 HAS RETURN AIR CONFIGURATION

SPLIT A/C UNIT SCHEDULE

UNIT	DAC-1	DAC-2
SERVES	DMR 119	BREAK 123
COOLING MBH	12	12.0
REFRIGERANT	R410a	R410a
INDOOR UNIT:	WALL MOUNT	WALL MOUNT
MITSUBISHI MODEL NO.	PKA-A12HA	PKA-A12HA
WEIGHT, LBS.	29	29
CFM LOW	320	320
CFM HIGH	425	425
VOLTAGE/PHASE	208/1	208/1
SEER	15.2	15.2
BREAKER SIZE, AMPS	15	15
OUTDOOR COND. UNIT:	DCU-1	DCU-2
MITSUBISHI MODEL NO.	PUY-A12NHA3	PUY-A12NHA3
WEIGHT, LBS.	41	41
LIQUID LINE SIZE	1/4"	1/4"
HOT GAS LINE SIZE	1/2"	1/2"
VOLTAGE/PHASE	208/1	208/1
MCA	13	13.0
MOCP	15	15

NOTES:
1. POWER TO CU'S BY DIV 26.
2. WIRING BETWEEN AC AND CU DIV 23.
3. PROVIDE FACTORY MINI PUMP

REGISTERS - GRILLES - DIFFUSERS (RGD) SCHEDULE

TAG	PRICE MFG MODEL	TYPE	NECK SIZE	FACE SIZE	CFM RANGE	MAX TOTAL P.D. (IN.W.C.)	MAX NC LEVEL	BORDER TYPE	BLOW	NOTES
S-1	SMD	SQ. CEILING SUPPLY DIFFUSER	6" DIA	24" X 24"	0-150	0.07"	16	LAY-IN	4-WAY DIRECTIONAL	
S-2	SMD	SQ. CEILING SUPPLY DIFFUSER	8" DIA	24" X 24"	151-275	0.07"	19	LAY-IN	4-WAY DIRECTIONAL	
S-3	SMD	SQ. CEILING SUPPLY DIFFUSER	10" DIA	24" X 24"	276-440	0.07"	22	LAY-IN	4-WAY DIRECTIONAL	
S-4	SMD	SQ. CEILING SUPPLY DIFFUSER	14" DIA	24" X 24"	441- 500	0.10"	24	LAY-IN	4-WAY DIRECTIONAL	
S-5	520D	STEEL DOUBLE DEFL. SUPPLY REGISTER	12" X 6"	14" X 8"	50-250	0.10"	22	SURFACE MT.	ADJUSTABLE	
S-6	520D	STEEL DOUBLE DEFL. SUPPLY REGISTER	12" X12"	14" X 14"	251-500	0.10"	22	SURFACE MT.	ADJUSTABLE	
S-7	520D	STEEL DOUBLE DEFL. SUPPLY REGISTER	36" X 18"	38" X 20"	2100-3000	0.03"	29	SURFACE MT.	ADJUSTABLE	
R-1	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	8" X 8"	10" X 10"	0-170	0.05"	23	SURFACE MT.	----------------	
R-2	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	12" X 12"	14" X 14"	171-440	0.05"	27	SURFACE MT.	----------------	
R-3	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	22" X 10"	24" X 12"	441-550	0.03"	27	SURFACE MT.	----------------	
R-4	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	20" X 18"	22" X 20"	551-1000	0.03"	27	SURFACE MT.	----------------	
R-5	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	22" X 22"	24" X 24"	1001-1500	0.03"	27	SURFACE MT.		
R-6	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	30" X 22"	32" X 24"	1501-2500	0.04"	25	SURFACE MT.	----------------	
R-7	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	32" X 30"	34" X 32"	2501-4000	0.12"	35	SURFACE MT.	----------------	

GAS FIRED SEALED COMBUSTION UNIT HEATER SCHEDULE

TAG	MFR. -MODEL	SIZE	TYPE	EXPOSED FACE DIM.	EXPOSED DEPTH DIM.	WEIGHT LBs	INPUT MBH	OUPUT MBH	GAS PRESSURE RANGE (MIN-MAX)	GAS CONN. SIZE	CFM	VENT CONN.	COMB. AIR	MOTOR HP	ELECT	NOTES
GUH - 1	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 2	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 3	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 4	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 5	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 6	REZNOR - UEAS	310	NAT GAS FIRED UH	34-1/8"	41"	400	305.0	277.5	5" -14"	3/4 "	4283	4"	6"	1	120/1/60	
GUH - 7	REZNOR - UEAS	310	NAT GAS FIRED UH	34-1/8"	41"	400	305.0	277.5	5" -14"	3/4 "	4283	4"	6"	1	120/1/60	
GUH - 8	REZNOR - UEAS	310	NAT GAS FIRED UH	34-1/8"	41"	400	305.0	277.5	5" -14"	3/4 "	4283	4"	6"	1	120/1/60	
GUH - 9	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 10	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 11	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 13	REZNOR - UEAS	310	NAT GAS FIRED UH	34-1/8"	41"	400	305.0	277.5	5" -14"	3/4 "	4283	4"	6"	1	120/1/60	
GUH - 14	REZNOR - UEAS	310	NAT GAS FIRED UH	34-1/8"	41"	400	305.0	277.5	5" -14"	3/4 "	4283	4"	6"	1	120/1/60	
GUH - 15	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 16	REZNOR - UEAS	130	NAT GAS FIRED UH	20-1/8"	39-3/16"	250	131.0	121.8	5" -14"	1/2 "	2256	4"	6"	1/4	120/1/60	
GUH - 17	REZNOR - UEAS	310	NAT GAS FIRED UH	34-1/8"	41"	400	305.0	277.5	5" -14"	3/4 "	4283	4"	6"	1	120/1/60	

NOTES:

FAN SCHEDULE

TAG	SERVES	MANUFACTURER-MODEL	TYPE	DRIVE	CFM	ESP	MAX BHP	MOTOR HP	MAX RPM	VOLTS/ PH	MAX SONES	WEIGHT (LBS.)	VFD	DAMPER	NOTES
EF-1	RM 140	LOREN COOK - 120R15D	ROOF UP BLAST	DIRECT	750	0.6	0.14	0.25	1247	115/1	8.7	75	NO	MOD	#1, #2
EF-2	RM 142	LOREN COOK -90R15DH	ROOF UP BLAST	DIRECT	300	0.4	88w	0.125	1330	115/1	5.6	30	NO	MOD	#1, #2
EF-3	RM 180-184	LOREN COOK - 120R15D	ROOF UP BLAST	DIRECT	1,000	0.5	0.14	0.167	1013	115/1	8.2	75	NO	MOD	#1, #2
EF-4	HEAVY BAY VEHICLE EXHAUST	LOREN COOK - 180 CPS	ROOF UTILITY	BELT	4,800	5	5.8	7.5	2291	460/3	60.0	750	NO	BDD	
EF-5	LIGHT BAY VEHICLE EXHAUST	LOREN COOK - 135 CPS	ROOF UTILITY	BELT	2,400	4	2.4	3	2724	460/3	60.0	450	NO	BDD	
EF-6	LIGHT/HEAVY BAYS EMERGENCY EXHAUST	LOREN COOK - 490 CPS	ROOF UTILITY	BELT	50,000	1.5	34	40	748	460/3	60.0	2200	YES	MOD	
EF-7	RM 132	LOREN COOK -90R15DH	ROOF UP BLAST	DIRECT	300	0.4	88w	0.125	1330	115/1	5.6	30	NO	MOD	#1, #2
EF-8	WASH 191	LOREN COOK - 120R15D	ROOF UP BLAST	DIRECT	1,000	0.5	0.14	0.167	1013	115/1	8.2	75	NO	MOD	#1, #2
EF-9	ELEV MACHINE RM	LOREN COOK - GC-162	CEILING INLINE	DIRECT	150	0.5	114w	NA	1230	115/1	4.2	20	NO	BDD	#1
EF-10	BREAK 111	LOREN COOK - 100 ACWB	NFPA 96 WALL	BELT	600	0.7	0.17	0.175	1704	115/1	10.0	40	NO	NA	#3
EF-11	TOILETS RMS 117/8, 215/6	LOREN COOK - 150R13D	ROOF UP BLAST	DIRECT	1,500	0.7	0.28	0.75	1088	460/3	10.0	95	NO	MOD	#1, #2
EF-12	LIGHT BAY GENERAL EXHAUST	LOREN COOK - 150R13D	ROOF UP BLAST	DIRECT	1,500	0.75	0.28	0.75	1088	460/3	10.0	95	NO	MOD	#1, #2
EF-13	HEAVY BAY GENERAL EXHAUST	LOREN COOK - 210R6B	ROOF UP BLAST	BELT	3,000	0.75	0.69	0.75	964	460/3	8.5	240	NO	MOD	#2
EF-14	AHU-2 RELIEF/ECONOMIZER	LOREN COOK - 245RH7B	ROOF UP BLAST	BELT	3,500	1	1.1	1	828	460/3	13.0	340	YES	MOD	#2
EF-15	AHU-1 RELIEF/ECONOMIZER	LOREN COOK - 120R17DEC	ROOF UP BLAST	DIRECT	1,000	0.6	178w	0.50	1371	115/1	11.0	80	YES	MOD	ECM MOTOR
EF-16	MACHINE SHOP EXHAUST	LOREN COOK - 101R15D	ROOF UP BLAST	DIRECT	500	0.5	0.9	0.125	1435	115/1	8.0	40	NO	MOD	#2
EF-17	UNISEX TOIILETS 134 / 136	LOREN COOK -90R15DH	ROOF UP BLAST	DIRECT	200	0.4	88w	0.125	1330	115/1	5.6	30	NO	MOD	#1, #2
EF-18	FABRICATION 181	LOREN COOK - 150R15D	ROOF UP BLAST	DIRECT	2,000	0.75	0.44	0.75	1255	460/3	15.0	100	NO	MOD	#1, #2
SF-1	GARAGE EMERGENCY EXHAUST	LOREN COOK 365CFS	FILTERED ROOF SUPPLY	BELT	50,000	1.75	39.8	40	1019	460/3	54.0	3000	YES	MOD	#2

GENERAL NOTES:
1. PROVIDE FACTORY SPEED CONTROLLER.
2. ALL MODs ARE BY TEMPERATURE CONTROLS CONTRACTOR
3. INTERLOCK WITH KITCHEN HOOD MANUAL SWITCH

UNIT HEATER SCHEDULE

TAG	MFR. -MODEL	SIZE	TYPE	EXPOSED FACE WIDTH	EXPOSED FACE HEIGHT	UNIT DEPTH	MBH	CFM	EAT (DEG.-F)	LAT (DEG.-F)	GPM	FLUID	EWT	LWT	MOTOR HP	ELECT	MAX WPD	PIPE RUNOUT SIZE	NOTES
CUH-1	TRANE FFE	3	HORIZ. RECESSED CABINET BOTTOM LOUVER	3'-1"	2'-6"	10 1/2"	11.4	270	70	120.0	2.0	WATER	140.0	128.6	36w	120-1-60	5.5	3/4"	
CUH-2	TRANE FFJ	6	VERTICAL CABINET SLOPE TOP	3'-11"	2'-5	10"	28.7	480	70	125.0	3.0	WATER	140.0	120.0	79	120-1-60	3.8	3/4"	
CUH-3	TRANE FFJ	3	VERTICAL CABINET SLOPE TOP	2'-10"	2'-4"	10"	14.8	260	70	125.0	1.5	WATER	140.0	120.0	85	120-1-60	3.0	3/4"	
CUH-4	TRANE FFJ	6	VERTICAL CABINET SLOPE TOP	3'-11"	2'-5	10"	28.7	480	70	125.0	3.0	WATER	140.0	120.0	79	120-1-60	3.8	3/4"	
UH-1	TRANE S	S-18	HORIZONTAL UH	15"	15"	10"	7.0	350	70	95	1.3	WATER	140.0	120.0	16w	120-1-60	0.2	1/2"	

NOTES:
1. POWER WIRING TO UNIT HEATER BY DIV 26. ALL LOW VOLTAGE CONTROL WIRING, THERMOSTAT, RELAYS, AND TRANFORMERD BY DIV. 23.

DUCT HEATING COIL SCHEDULE

TAG	SERVES	AIRFLOW	LENGTH	HEIGHT	FACE VEL	EDB	LDB	MBH	MAX APD	FLUID	GPM	EWT	LWT	MAX WPD	RUNOUT SIZE
HC-1	ERU-1	700	24	12	350	40	90	30.24	0.2"	WATER	1.5	140	100	3'	3/4"
HC-2	ERU-3	400	12	12	400	40	90	21.6	0.2"	WATER	1.5	140	100	3'	3/4"

RADIANT FLOOR CIRCUIT SCHEDULE

AREA SERVED / MANIFOLD NO.	CIRCUIT NO.	FLOOR AREA (s f)	UNIT HEAT (s f)	LENGTH (ft) (Circuit + Tail)	FLOW RATE (gal/min)	HEAD LOSS (Ft of water)	SUPPLY TEMP (°F)	SURFACE TEMP (°F)	DESIGN TEMP DROP (°F)	TUBE SPACING (in)	TUBE SIZE
MANIFOLD #1	1	200	50	277	1.20	5.40	132	85	20	9	5/8"
	2	200	50	277	1.20	5.40	132	85	20	9	5/8"
	3	200	50	277	1.20	5.40	132	85	20	9	5/8"
	4	200	50	277	1.20	5.40	132	85	20	9	5/8"
	5	200	50	277	1.20	5.40	132	85	20	9	5/8"

NOTE: Circuit lengths, tubing and manifold are based on UPONOR (Urell Inc is Sales Rep). Total Heat Load = 58,333 BTUh.

GRAVITY ROOF VENTILATOR SCHEDULE

TAG	MAKE - MODEL	ASSOCIATED AIR SYSTEM	INTAKE OR RELIEF?	CFM	HOOD DIMENSIONS LENGTH (in.)	HOOD WIDTH (in.)	HOOD HEIGHT (in.)	HOOD MIN. FREE AREA (SF)	THROAT DIMENSIONS LENGTH (in.)	THROAT WIDTH (in.)	THROAT MIN. FREE AREA (SF)	MAX P.D. MAX W.C.	SCREEN	WEIGHT LBS	ROOF CURB
GRV-1	COOK - GI	AHU-1	INTAKE	1,610	39	39	14	6.0	24.0	18.0	3.0	0.04	SEE SPEC	125	30"
GRV-2	COOK - GR	ERU-2	EXHAUST	700	31	27	12	3.7	12.0	12.0	1.0	0.01	SEE SPEC	90	30"
GRV-3	COOK - GI	ERU-2	INTAKE	700	31	27	12	3.7	12.0	12.0	1.0	0.02	SEE SPEC	90	30"
GRV-4	COOK - GI	AHU-2	INTAKE	4,500	75	51	19	16.0	48.0	24.0	8.0	0.04	SEE SPEC	220	30"

AIR SEPARATOR / EXPANSION TANK SCHEDULE

AIR SEPARATOR		
TAG	AS-1	---
MFR-MODEL	TACO - 49025AD-125	---
INLET/OUTLET	2" 1/2"	---
STRAINER	YES	---
BLADDER-TYPE EXPANSION TANK		
TAG	ET-1	ET-2
MFR-MODEL	TACO CA-300	TACO PAX-30
TANK DIAMETER	24	14
TANK HEIGHT	58	25
ACCEPTANCE VOLUME	79	5
WATERLOGGED WEIGHT (LBS.)	978	503
ASME PRESSURE RATING	125	125
MAXIMUM OPERATING TEMPERATURE	180 F	120 F

SPLIT AIR HANDLING UNIT SCHEDULE

GENERAL	UNIT NO.	AHU-1	AHU-2
	LOCATION	OIT MEZZANINE	OIT STORAGE
	SERVICE	OIT ADMINISTRATION	FIRST FLOOR ADMINISTRATION
	DESIGN EQUIPMENT MFG.	TRANE	TRANE
	MODEL / SIZE	CSSA / 4	CSSA / 14
	SYSTEM TYPE	VAV	VAV
ELECTRICAL	VOLTAGE	460-3-60	460-3-60
	MOTOR EFFICIENCY	PREMIUM	PREMIUM
	VFD FURN BY	DIV 23	DIV 23
	DISCONNECT SW. FURN BY	DIV 26	DIV 26
SUPPLY FAN	DIAMETER - TYPE	13.5" DIRECT DRIVE PLENUM	20" DIRECT DRIVE PLENUM
	CFM STD. AIR	1610	4,500
	MIN. OA CFM AT MAX DESIGN CFM	400	1800 (40% MIN)
	ESP, in.wc.	1.5	1.75
	TSP, in. wc.	3.9	3.5
	MAX-BHP	1.49	3.9
	MOTOR HP	2	5
	MOTOR RPM	1800	1725
	STARTER OR VFD	VFD BY DIV 23	VFD BY DIV 23
ECONOMIZING RELIEF	ARRANGEMENT	IN SEQUENCE WITH OA/RA DAMPERS	IN SEQUENCE WITH OA/RA DAMPERS
HOT WATER COIL	EAT, deg-F.	35	35
	LAT, deg-F.	65	65
	TMBTUH	52.38	153.0
	MIN COIL AREA, sf.	4	11.3
	MAX AIR PD. in. wc.	0.2	0.2
	COIL FACE VELOCITY	403	418
	FLUID	WATER	WATER
	EWT, deg-F	140	140
	LWT, deg-F	100	100
	GPM	2.7	8
	WATER PD, ft-H2O	2	20
DX COOLING COIL	ENT. AIR, DB/WB	80/67	80/67
	TMBTUH	53.9	218
	SMBTUH	37.5	144
	NOMINAL TONS	4	20
	MIN COIL AREA, sf.	4.5	12.3
	MAX AIR PD. in. wc.	0.25	0.35
	COIL FACE VELOCITY	357	382
	REFRIGERANT	410A	410A
	SUCTION TEMP.	45	45
FILTERS	TYPE (SEE SPEC)	30% ANGLE	30% ANGLE
	MIN. AREA, sf	5.56	13.3
	VELOCITY	290	353
DIMENSIONS	LENGTH / WIDTH / HEIGHT	121" / 44" / 30"	127" / 66.5" / 42"
WEIGHT	INSTALLED WEIGHT	1,000 LBs	1,700 LBs

SINGLE DUCT AIR TERMINAL SCHEDULE

TAG	SERVES	Trane Model No.	INLET SIZE	CFM MIN	RANGE MAX	OUTLET SIZE	MAX RAD. & DISCH. NC	A.P.D. AT MAX. COOLING	MBH	GPM	MAX WPD	EWT	LWT	EAT	LAT	ROWS	RUNOUT SIZE
VAV-1	SIGN WORKSHOP 142	VCWF10	10"	700	1000	14" x 12"	28	0.50	32.1	2.1	0.1'	140	110	55	97	2	3/4"
VAV-2	SIGN SHOP OFFICE 141	VCWF06	8"	350	500	10" x 8"	35	0.45	16.6	1.1	0.3'	140	110	55	99	1	1/2"
VAV-3	OFFICE 143	VCWF04	4"	105	150	10" x 8"	35	0.10	5.1	0.3	0.2	140	110	55	104	1	1/2"
VAV-4	OFFICE 144	VCWF04	4"	75	110	10" x 8"	35	0.10	3.7	0.3	0.3'	140	110	55	100	1	1/2"
VAV-5	NOT USED	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
VAV-6	OFFICE 121	VCWF06	6"	210	300	10" x 8"	35	0.45	9.8	0.7	0.3'	140	110	55	98	1	1/2"
VAV-7	STORAGE 116	VCWF04	4"	100	200	10" x 8"	35	0.10	2.6	0.2	0.3	140	110	55	79	1	1/2"
VAV-8	MEN 118/WOMEN 117/CORR. 110	VCWF08	8"	490	700	11" x 10"	28	0.40	11.6	0.8	2.3	140	110	55	77	1	1/2"
VAV-9	OFFICE 114	VCWF06	6"	280	400	10" x 8"	35	0.45	10.4	0.7	0.3'	140	110	55	90	1	1/2"
VAV-10	OFFICE 113	VCWF08	8"	350	500	11" x 10"	35	0.40	10.1	0.7	0.3'	140	110	55	82	1	1/2"
VAV-11	OFFICE 106	VCWF04	4"	70	100	10" x 8"	35	0.10	1.5	0.1	0.3'	140	110	55	75	1	1/2"
VAV-12	BREAK 111	VCWF08	8"	550	800	11" x 10"	28	0.40	19.2	1.3	2.3	140	110	55	87	1	1/2"
VAV-13	OFFICE 105	VCWF04	4"	110	160	10" x 8"	35	0.10	3.7	0.3	0.3'	140	110	55	85	1	1/2"
VAV-14	OFFICE 100	VCWF08	8"	525	750	11" x 10"	35	0.40	14.7	1.0	0.3'	140	110	55	81	1	1/2"
VAV-15	OFFICE 104	VCWF04	4"	90	125	10" x 8"	35	0.10	3.2	0.2	0.3'	140	110	55	88	1	1/2"
VAV-16	OFFICE 101/OFFICE 102	VCWF04	4"	140	200	10" x 8"	35	0.10	4.8	0.3	0.3'	140	110	55	87	1	1/2"
VAV-17	OFFICE 103	VCWF04	4"	105	150	10" x 8"	35	0.10	4.4	0.3	0.3'	140	110	55	94	1	1/2"
VAV-18	OFFICE 135	VCWF05	5"	250	300	10" x 8"	37	0.15	13.0	0.9	0.3'	140	110	55	103	2	1/2"
VAV-19	CORRIDOR 130/OFFICE 133	VCWF05	5"	220	310	10" x 8"	37	0.15	9.9	0.6	0.3'	140	110	55	95	1	1/2"
VAV-20	N.O.C.	VCWF05	5"	210	300	10" x 8"	37	0.15	7.3	0.5	0.3'	140	110	55	87	1	1/2"
VAV-21	OFFICE 138	VCWF04	4"	75	100	10" x 8"	35	0.10	4.2	0.3	0.3'	140	110	55	105	1	1/2"
VAV-22	OFFICE 131	VCWF08	8"	420	600	11" x 10"	35	0.40	18.7	1.2	0.3'	140	110	55	96	1	1/2"
VAV-23	CONF. RM 213/STORAGE 214	VCWF06	6"	280	400	10" x 8"	35	0.45	9.8	0.7	0.3'	140	110	55	91	1	1/2"
VAV-24	OPEN OFFICE 2nd FLOOR ADMIN	VCWF12	12	1350	1500	17"x14"	30	0.50"	32.2	2.1	2.8'	140	110	55	83	1	3/4"
VAV-25	CONF. RM 212	VCWF06	6"	315	450	10" x 8"	35	0.45	10.7	0.7	0.3'	140	110	55	86	1	1/2"
VAV-26	OFFICE 211	VCWF04	4"	90	125	10" x 8"	35	0.10	3.5	0.2	0.3'	140	110	55	91	1	1/2"
VAV-27	OFFICE 210	VCWF04	4"	90	125	10" x 8"	35	0.10	3.5	0.2	0.3'	140	110	55	91	1	1/2"
VAV-28	OFFICE 209	VCWF04	4"	100	145	10" x 8"	35	0.10	4.1	0.3	0.3'	140	110	55	93	1	1/2"
VAV-29	OFFICE 208	VCWF04	4"	90	130	10" x 8"	35	0.10	3.6	0.2	0.3'	140	110	55	92	1	1/2"
VAV-30	CONF. RM 207	VCWF04	4"	145	160	10" x 8"	35	0.10	4.2	0.3	0.3'	140	110	55	82	1	1/2"
VAV-31	OFFICE 206	VCWF06	6"	405	450	10" x 8"	35	0.45	13.8	0.9	0.3'	140	110	55	86	1	1/2"
VAV-32	OFFICE 205	VCWF04	4"	75	110	10" x 8"	35	0.10	1.9	0.1	0.3'	140	110	55	78	1	1/2"
VAV-33	OFFICE 204	VCWF04	4"	75	110	10" x 8"	35	0.10	2.7	0.2	0.3'	140	110	55	88	1	1/2"
VAV-34	OFFICE 203	VCWF04	4"	75	110	10" x 8"	35	0.10	2.7	0.2	0.3'	140	110	55	88	1	1/2"
VAV-35	OFFICE 201	VCWF10	10"	850	1200	14"x12"	28	0.50"	24.1	1.6	2.2'	180	155	55	81	2	3/4"
VAV-36	CONF 112A	VCWF10	10"	600	1200	14"x12"	28	0.50"	15.5	1.0	2.2'	180	155	55	79	1	1/2"
VAV37	CONF 112B	VCWF10	10"	600	1200	14"x12"	28	0.50"	15.5	1.0	2.2'	180	155	55	79	1	1/2"

NOTES:
1. VAV BOX MANUFACTURER: BOX, AIRFLOW PICKUP, AND HW COIL.
2. CONTROL CONTRACTOR: DAMPER ACTUATOR, VALVE ACTUATOR, TRANSFORMERS, AND LOW VOLTAGE WIRING.
3. ELECTRICAL CONTRACTOR; 120V JUNCTION BOXES WHERE SHOWN ON ELECTRICAL PLANS.

PUMP SCHEDULE

TAG	SYSTEM	MFR.	MODEL	SUCT X DISCH	TYPE	PUMPED FLUID	PERFORMANCE GPM	HEAD	RPM	MOTOR HP	VOLTS/PH (60 Hz.)	ELECTRICAL COORDINATION VFD FURN. BY	STARTER FURN. BY	DISC. SWITCH FURN BY	NOTES
P-1	BUILDING HEATING LOOP	TACO	SKV 1507-1750-1.5	1 1/2" X 1 1/2"	INLINE	WATER	59	36	1760	1.5	208/3	TACO	NA	DIV 26	WIRED TO BOILER CONTROLLER
P-2	BUILDING HEATING LOOP	TACO	SKV 1507-1750-1.5	1 1/2" X 1 1/2"	INLINE	WATER	59	36	1760	1.5	208/3	TACO	NA	DIV 26	WIRED TO BOILER CONTROLLER
P-3	BUILDING DHW (DWH-1)	TACO	IL0011-IFC	1 1/2" X 1 1/2"	INLINE	WATER	12	15	3250	1/8	120/1	NA	NA	DIV 26	BOILER HWS
P-4	GARAGE RADIANT FLOOR	TACO	IL0011-IFC	1 1/4" X 1 1/4"	INLINE	WATER	6	12	3250	1/8	120/1	NA	NA	DIV 26	#1
P-5	BOILER B-1	GRUNDFOSS	UPS26-99F	1 1/2"x1 1/2"	INLINE	WATER	25	18	1750	245w	115/1	NA	NA	NA	POWERED THRU BOILER CIRCUIT
P-6	BOILER B-2	GRUNDFOSS	UPS26-99F	1 1/2"x1 1/2"	INLINE	WATER	25	18	1750	245w	115/1	NA	NA	NA	POWERED THRU BOILER CIRCUIT
P-7	BOILER B-3	GRUNDFOSS	UPS26-99F	1 1/2"x1 1/2"	INLINE	WATER	25	18	1750	245w	115/1	NA	NA	NA	POWERED THRU BOILER CIRCUIT

NOTES: 1. Provide One Spare Circulato In Box.

ENERGY RECOVERY UNIT SCHEDULE

GENERAL	TAG	ERU-1	ERU-2	ERU-3
	SERVES	RTU-3	Break 123	Publications and Locker 183
	LOCATION	RTU-3 Combination Curb	Mech Rm 222	Publications Mezz.
	TYPE	FIXED-PLATE SENSIBLE	FIXED-PLATE SENSIBLE	FIXED-PLATE SENSIBLE
	MFR	RENEWAIRE	RENEWAIRE	RENEWAIRE
	MODEL	HE2XRT (Roof)	HE1XIN (Horiz.)	EV450 (Vert.)
FILTER SECTION	FILTERS	MERV 8 2" Pleated	MERV 8 2" Pleated	MERV 8 2" Pleated
(TYP for SUPPLY & EXH)	MIN. AREA, sf	5.5	2.7	1.9
	VELOCITY	NA	NA	NA
OUTSIDE AIR FAN	TYPE	FC	FC	FC
	AIRFLOW, cfm	**1240**	**700**	**400**
	ESP, in.wc.	0.5	0.75	0.6
	MOTOR SPEEDS	FACTORY MOUNTED VFD	SPEED CONTROL via ECM	SPEED CONTROL via ECM
	HP	1.5	0.75	0.75
EXHAUST AIR FAN	TYPE	FC	FC	FC
	AIRFLOW, cfm	**1240**	**630**	**400**
	ESP, in.wc.	0.5	0.75	0.6
	MOTOR SPEEDS	FACTORY MOUNTED VFD	SPEED CONTROL via ECM	SPEED CONTROL via ECM
	HP	1.5	0.75	SUPPLY MOTOR ONLY
OVERALL DIMENSIONS	LENGTH	87"	54"	41"
	WIDTH	44"	24"	16"
	HEIGHT	40"	37"	37"
	OPERATING WEIGHT, lbs.	300	600	600
HEAT RECOVERY CORE	SUMMER OA DB/WB	88 / 71	88 / 71	88 / 71
	WINTER OA DB	-3	-3	-3
	SUMMER SA DB/WB	78.5 /66	78.5 /66	78.5 /66
	WINTER SA DB	51.5	51.5	51.5
	SENSIBLE EFF. WINTER	0.75	0.75	75%
	SENSIBLE EFF. SUMMER	0.72	0.72	72.0%
	FROST CONTROL	NONE REQUIRED	NONE REQUIRED	NONE REQUIRED
ELECTRICAL DATA				
	V-PH-HZ	460/3/60	208/1/60	208/1/60
	UNIT FLA	2.4	5.1	5.1
	UNIT MCA	5.9	11.5	6.4
	MAX FUSE SIZE	15	`	15
	SUPPLY AND RETURN SMOKE DETECTORS	NO	NO	NO
NOTES				

NOTES:
1. ERU MFR. SHALL PROVIDE NF DISCONNECT, 24VAC TRANSFORMER/RELAY PACKAGE.

PACKAGED ROOF TOP UNIT (RTU) SCHEDULE

GENERAL	ITEM	RTU -1	RTU -2	RTU-3 (COMBINATION ERU CURB)
	SERVES	Sign Shop Admin	Upper Level Administration	Conference Rms 112a/b
	MFR	Trane	Trane	Trane
	MODEL	YZC060	YHD180	YHC092
	NOMINAL TONS	5.0	15.0	7.5
	SEER	13	12	12.6
ELECTRICAL	VOLTS-PH-HZ	460/3/60	460/3/60	460/3/60
	MCA / MCB	10.3 / 15	39 / 50	19.9 / 25
	DISCONNECT SW. FURN BY	RTU MFR.	RTU MFR.	RTU MFR.
	SMOKE DETECTOR (SD)	NA	DIV 26	DIV 26
	SD FURN BY	NA	DIV 26	DIV 26
	SD INSTALLED IN DUCT BY	NA	DIV 23	DIV 23
	SD WIRED TO HVAC CONTROLS BY	NA	DIV 23	DIV 23
	SD WIRED TO FIRE ALARM BY	NA	DIV 26	DIV 26
FILTER SECTION	30% FILTERS (Qauntity)	MERV 8 (4)	MERV 8 (12)	MERV 8 (4)
	MIN. AREA, sf	11.1	31.0	13.9
SUPPLY FAN	DRIVE	VFD	VFD	VFD
	AIRFLOW, Max cfm	1,800	5,100	2400
	MIN OUTSIDE AIR, cfm	300	1,410	250 (via ERU-1)
	ESP, in.wc.	1.25	1.75	1.2
	RPM	1122	1100	1152
	MAX-BHP/ MOTOR HP	0.88 / 1.0	4 / 5	1.15 / 3.6
HEATING	FUEL	NAT GAS	NAT GAS	NAT GAS
	GAS CONNECTION	1/2"	1/2"	3/4"
	MIN / MAX in wg	4.5 / 14	4.5 / 14	4.5 / 14
	MBH INPUT	80	250 / 175	150 / 105
	MBH OUTPUT	64	203 / 142	120 / 84
	NO. STAGES	1	2	2
	DELTA TEMP RISE F	33	37	46.5
ECONOMIZER	POWERED / BAROMETRIC	POWER EXHAUSTER	POWER EXHAUSTER	POWER EXHAUSTER
DX COOLING COIL	ENT. AIR DB/WB	80 / 67	80 / 67	80 / 67
	TMBTUH	58.9	175	87.3
	SMBTUH	41.9	116	60.2
	REFRIGERANT	410a	410a	410a
CONDENSING SECTION	AMBIENT DB, DEG-F	95	95	95
	MIN OA TEMP	0	0	0
	SCROLL COMP QTY (EA.)	1	2	2
	COND FAN QTY (EA)	1	2	1
	MIN STAGES OF COOLING	1	2	2
OVERALL DIMENSIONS	LENGTH	89"	121"	89"
	WIDTH	53"	84"	53"
	HEIGHT	41"	64"	47"
	CURB HEIGHT	14"	14"	14"
	OVERALL HEIGHT	55"	78"	61"
	OPERATING WEIGHT (LBS)	1,400	2,800	1,500 (less ERU-1)

Note:

AIR COOLED CONDENSING UNIT SCHEDULE

TAG	CU-1	CU-2
LOCATION	ON ROOF	ON ROOF
SERVICE	AHU-1	AHU-2
MFR-MODEL	TRANE	TRANE
MODEL	4TTA3048D4000	TTA24004000
TONS	4	20
V-PH-HZ	460-3-60	460-3-60
REFRIGERANT	R410a	R410a
COOLING CAPACITY (MBH)	50	270
MIN OA TEMP COOL / HEAT	-4 F / 0 F	-4 F / 0 F
COMP QTY	1	2
FAN QTY	1	2
UNIT MCA	8	46.9
UNIT MCB	15	60
COMPRESSOR R.L.A.	6.4	18.6
COMPRESSOR L.R.A.	41	142
MIN. COOLING STAGES	1	2
COOLING EER	---	10.9
OPERATING WEIGHT, lbs.	230	900
DEPTH	34	46"
WIDTH	37	96"
HEIGHT	29	45"

NOTES:
1. PROVIDE UNIT-MOUNTED FACTORY DISCONNECT SWITCH.

BOILER SCHEDULE

TAG	B-1	B-2	B-3
TYPE	CONDENSING	CONDENSING	CONDENSING
MANUFACTURER	VEISSMANN	VEISSMANN	VEISSMANN
BOILER MODEL/SERIES	VITODENS 200-W / B2HA	VITODENS 200-W / B2HA	VITODENS 200-W / B2HA
GROSS INPUT (MBH)	352	352	352
NET I=B=R OUTPUT (MBH)	333	333	333
A.F.U.E.	94.5%	94.5%	94.5%
TEMP RISE, DEG F	40.0	40.0	40.0
MAX FLOW, GPM	25	25	25
FLUID	WATER	WATER	WATER
SHIPPING WEIGHT (LBS)	200	200	200
OVERALL DEPTH (IN.)	21"	21"	21"
WIDTH (IN.)	19"	19"	19"
HEIGHT (IN.)	43 1/2"	43 1/2"	43 1/2"
VENT CONN. DIA (IN.)	4 3/8"	4 3/8"	4 3/8"
VENT MATERIAL	POLYPROPYLENE	POLYPROPYLENE	POLYPROPYLENE
VENT CATEGORY	IV	IV	IV
AIR INLET CONN. (IN.)	6"	6"	6"
WATER CONN. (IN.)	1 1/2"	1 1/2"	1 1/2"
GAS	LP	LP	LP
GAS CONN. (IN.)	1"	1"	1"
TURN DOWN	3:1 MOD	3:1 MOD	3:1 MOD
MIN / MAX GAS PRS. IN. WG.	10" TO 14"	10" TO 14"	10" TO 14"
ELECTRICAL	120-1-60	120-1-60	120-1-60
TOTAL AMPS	12	12	12

NOTE: See Pump Schedule for boiler associated injection pumps

ISSUED FOR BID

FEBRUARY 27, 2014

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057M.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM

PROJECT MANAGER

DESIGNER ALLIED ENG., INC.

CONSULTANT

PROJECT RESIDENT

CONTRACTOR

PROJECT COMPLETION DATE

WIN: 020118.20

66 INDUSTRIAL DRIVE-PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL SCHEDULES

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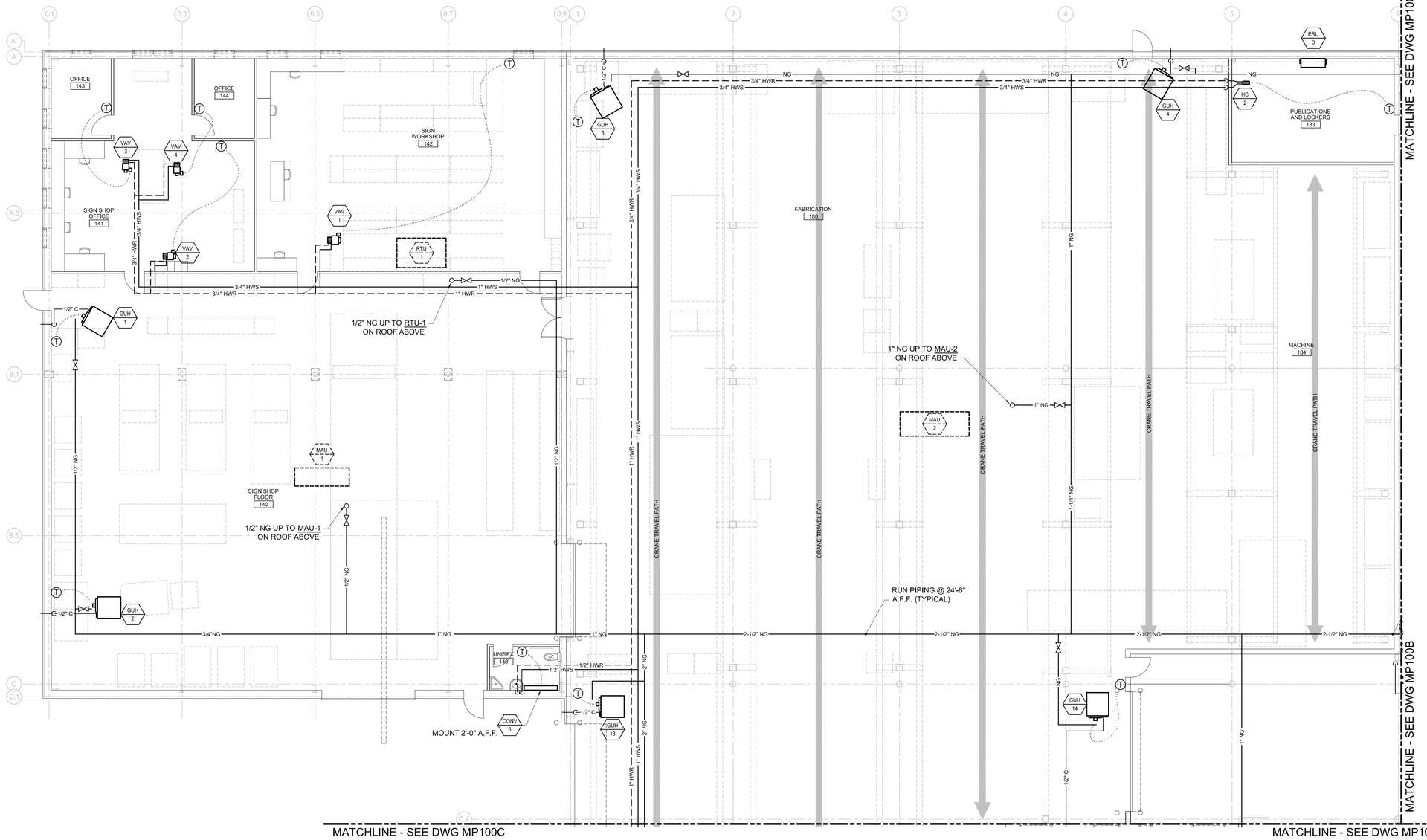
SHEET NUMBER
MH600

A1 MECHANICAL SCHEDULES
NONE



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PROJECT KEY PLAN

PLAN NORTH

A B C D

Allied Engineering
Structural Mechanical Electrical Commissioning

160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
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PROJECT MANAGER	ALLIED ENG., INC.	
DESIGNER	-	
CONSULTANT		
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE	-	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2

66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PIPING PART PLAN
~ FIRST FLOOR – AREA A ~

SHEET NUMBER

MP100A

A1	MECHANICAL PIPING PART PLAN ~ FIRST FLOOR - AREA A
1/8" = 1'=0"	

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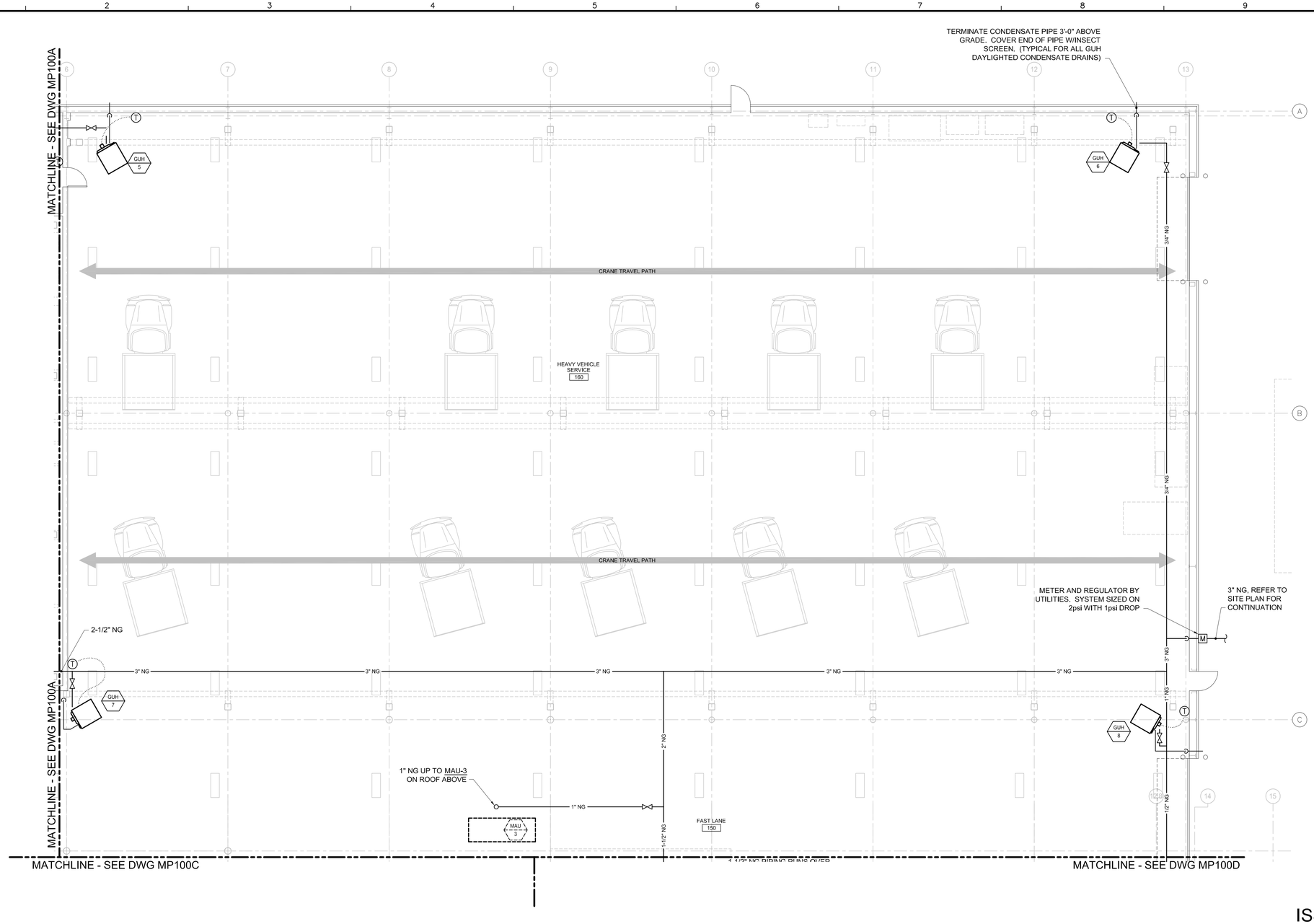

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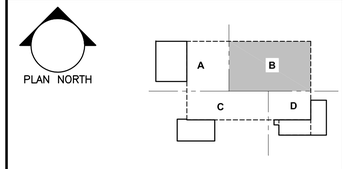
PROJECT KEY PLAN



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

STATE OF MAINE * ANTHONY S. DAVIS No. 8834 * REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2

66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PIPING PART PLAN ~ FIRST FLOOR – AREA B

SHEET NUMBER

MP100B

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A1	MECHANICAL PIPING PART PLAN ~ FIRST FLOOR - AREA B
1/8" = 1'=0"	

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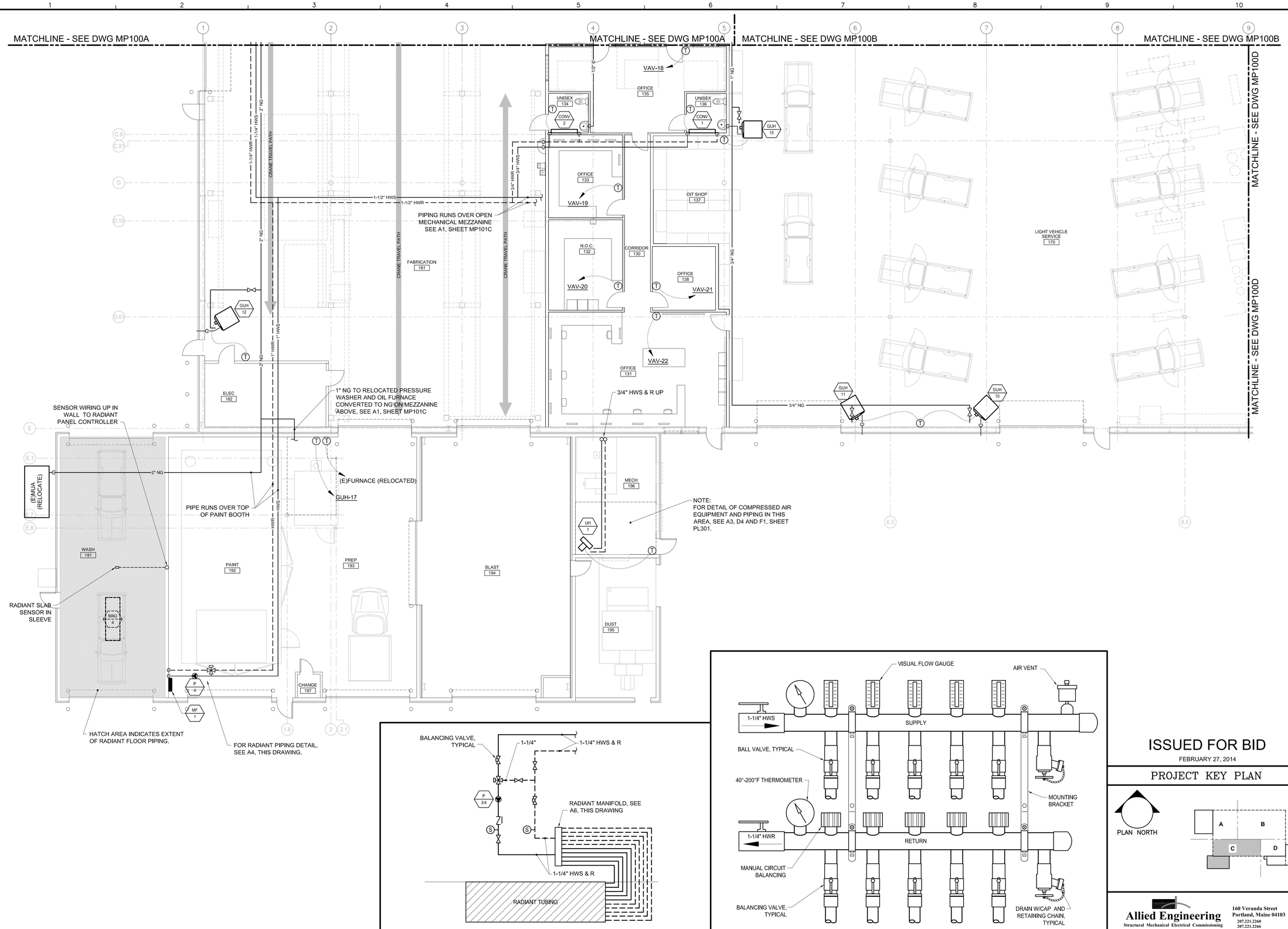

A1	MECHANICAL PIPING PART PLAN ~ FIRST FLOOR - AREA C	A4	DETAIL ~ RADIANT LOOP PIPING	A7	DETAIL ~ RADIANT HEAT MANIFOLD
1/8" = 1'=0"		NOT TO SCALE		NOT TO SCALE	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PIPING PART PLAN ~ FIRST FLOOR – AREA C

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A B C D

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
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207.221.2260
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SHEET NUMBER
MP100C

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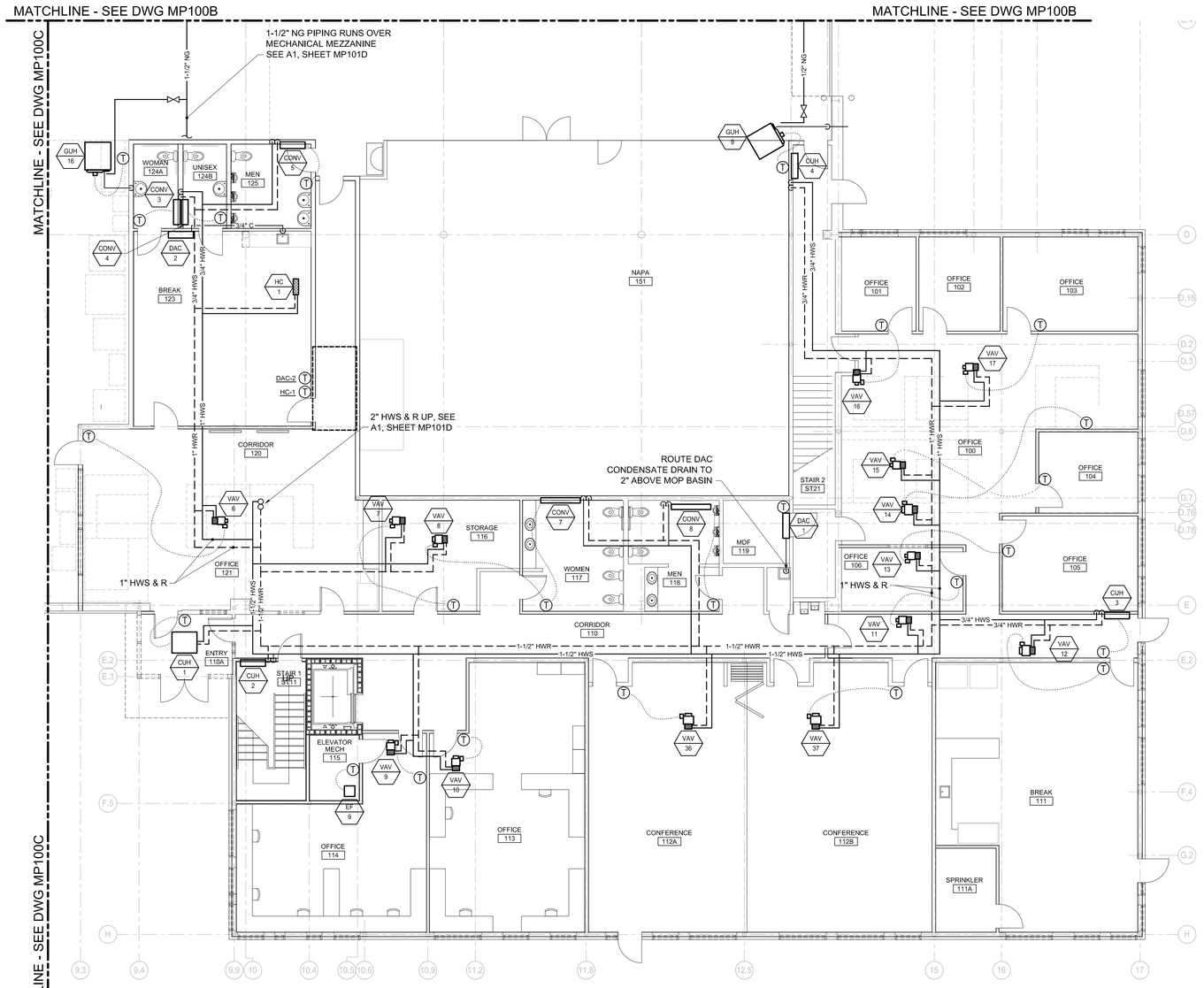

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FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A1 | MECHANICAL PIPING PART PLAN ~ FIRST FLOOR - AREA D

1/8" = 1'=0"

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207.221.2266
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PIPING PART PLAN ~ FIRST FLOOR – AREA D

SHEET NUMBER

MP100D

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_M.dwg Mar 05, 2014 - 11:35am

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_M.dwg Mar 05, 2014 - 2:56pm

MATCHLINE - SEE DWG MP101D

CU 1

AHU 1

VAV 18

VAV 19

VAV 20

VAV 21

VAV 22

3/4" HWS & R

1" HWS & R

1-1/2" HWS &R MAINS, FOR CONTINUATION SEE A1, SHEET MP100C

2" HWS
2" HWR

EXPANSION LOOP (METRA LOOP)

OPEN MECHANICAL SPACE

(E)OIL FIRED PRESSURE WASHER AND HOSE ASSEMBLY RELOCATED ABOVE MIXING ROOM. THE CONTRACTOR SHALL UNDER THE SCOPE OF THIS PROJECT, CONVERT THE EXISTING No. 2 FUEL FIRED FURNACE TO NATURAL GAS. CONVERSION SHALL INCLUDE GAS TRAIN, GAS BURNER AND ALL REQUIRED ACCESSORIES. COORDINATE WITH MDOT, WHO WILL BE RESPONSIBLE FOR DELIVERING THE FURNACE TO THE PROJECT SITE.

1" NG, FOR CONTINUATION SEE A1, SHEET MP100C

3/4" CW W/BACKFLOW PREVENTER, FOR CONTINUATION SEE C1, SHEET PL100C

(E)OIL FIRED FURNACE RELOCATED ABOVE MIXING ROOM. THE CONTRACTOR SHALL, UNDER THE SCOPE OF THIS PROJECT, CONVERT THE EXISTING No. 2 FUEL FIRED FURNACE TO NATURAL GAS. CONVERSION SHALL INCLUDE GAS TRAIN, GAS BURNER AND ALL REQUIRED ACCESSORIES. COORDINATE WITH MDOT, WHO WILL BE RESPONSIBLE FOR DELIVERING THE FURNACE TO THE PROJECT SITE.

3/4" HWS & R

3/4" HWS & R DN

(E)HIGH PRESSURE HOSE (RELOCATED) FOR CONT. SEE C1, SHEET PL100C

1/2" NG TO BURNER AT FURNACE

GUH 17

NOTE:
FOR DETAIL OF AIR COMPRESSOR EQUIPMENT AND PIPING IN THIS AREA, SEE

A1 / PL301 | D4 / PL301

MATCHLINE - SEE DWG MP101D

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A | B | C | D

A1	MECHANICAL PART PLAN ~ MEZZANINE - AREA C
1/8" = 1'=0"	

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057M.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE
COMMISSIONER:
CHIEF ENGINEER:

STATE OF MAINE * ANTHONY S. DAVIS No. 8834 * LICENSED PROFESSIONAL ENGINEER

SIGNATURE
ARCH. LIN. NUMBER
DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE-PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PIPING PART PLAN ~ MEZZANINE - AREA C

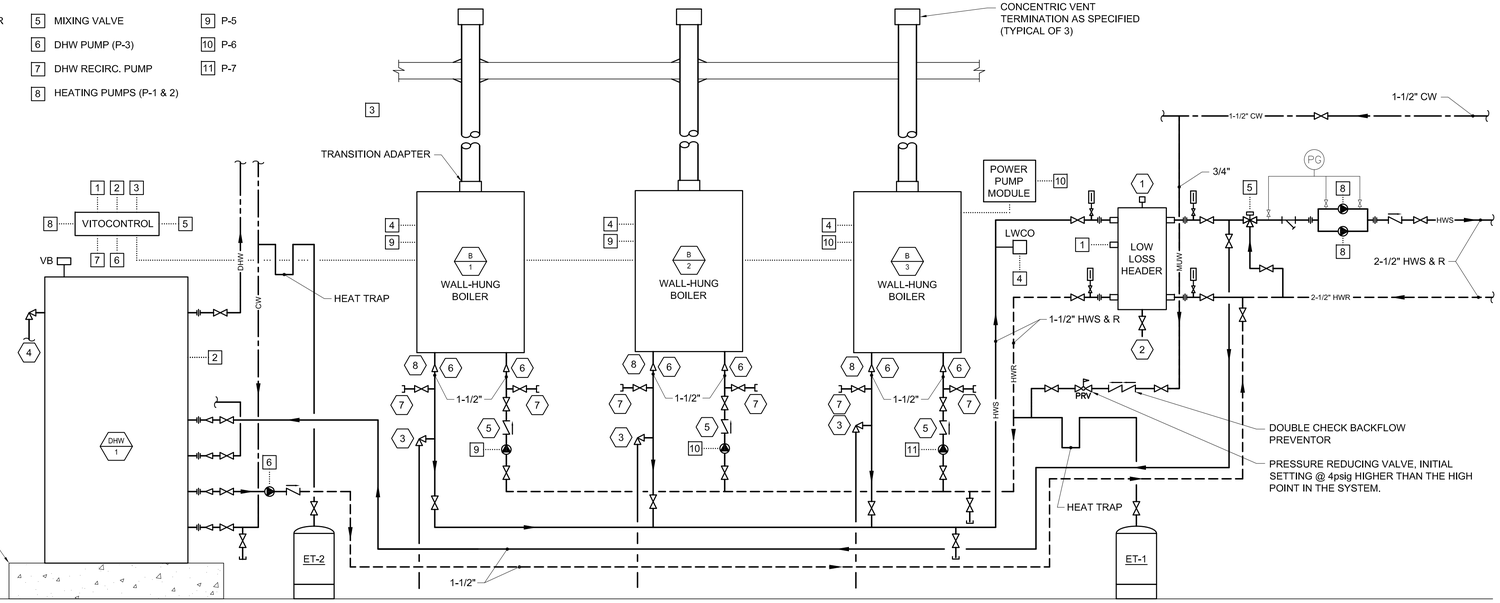
SHEET NUMBER
MP101C

SENSORS ~ WIRE TO BOILER CONTROLLER

1. TEMPERATURE SENSOR - LOW LOSS HEADER
2. TEMPERATURE SENSOR - DHW
3. OUTSIDE AIR TEMPERATURE SENSOR NORTH WALL
4. LOW WATER CUTOFF
5. MIXING VALVE
6. DHW PUMP (P-3)
7. DHW RECIRC. PUMP
8. HEATING PUMPS (P-1 & 2)
9. P-5
10. P-6
11. P-7

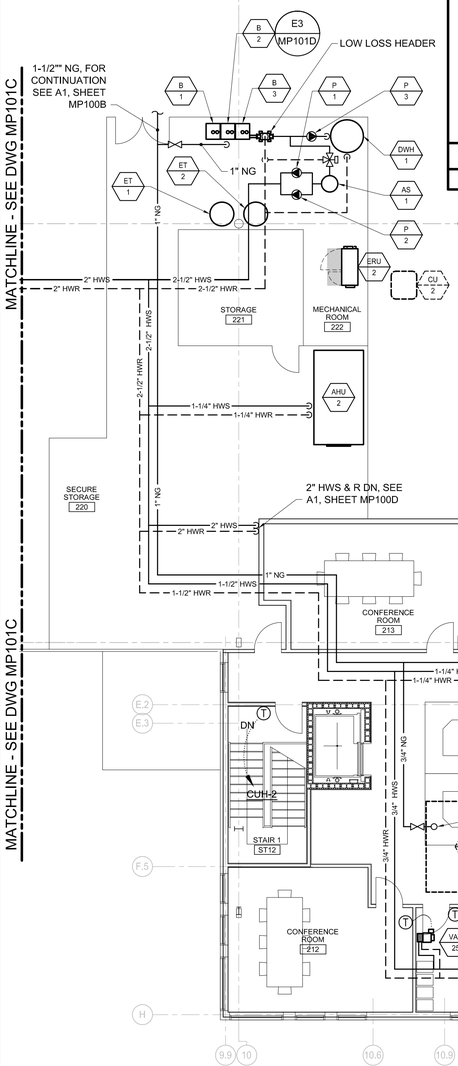
KEYED NOTES

1. AIR BLEED PLUG
2. 1/2" DRAIN VALVE
3. PRESSURE RELIEF VALVE, PIPE TO 6" A.F.F.
4. T&P RELIEF, PIPE TO 6" A.F.F.
5. FLOW-CHECK VALVE
6. UNION AND INCREASER
7. BOILER FILL & DRAIN
8. PROVIDE CONDENSATE PIPING AND NEUTRALIZER PER BOILER INSTALLATION MANUEL.

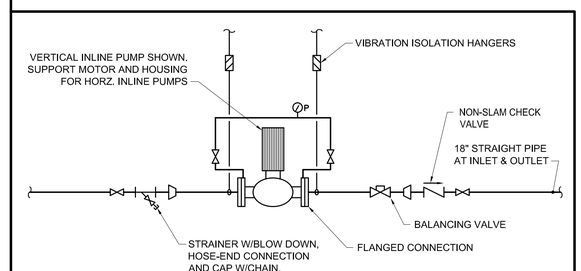


E3	DETAIL ~ HEATING PLANT SCHEMATIC
NOT TO SCALE	

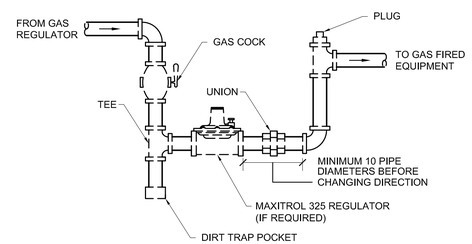
NOTE:
ROUTE PIPING IN SECURE STORAGE 220 AND STORAGE 221 AS HIGH AS POSSIBLE, TIGHT TO STRUCTURE.



A1	MECHANICAL PART PLAN ~ SECOND FLOOR - AREA D
1/8" = 1'=0"	



B7	DETAIL ~ VERTICAL IN-LINE PUMP
NOT TO SCALE	



A7	DETAIL ~ GAS PIPING EQUIPMENT CONNECTION
NOT TO SCALE	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

STATE OF MAINE · ANTHONY S. DAVIS No. 8834 · LICENSED PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER 1

DATE FEBRUARY 27, 2014

WIN: 020118.20

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

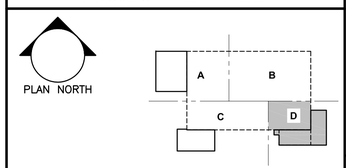
66 INDUSTRIAL DRIVE–PHASE 2

66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

MECHANICAL PIPING PART PLAN ~ SECOND FLOOR – AREA D

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN



SHEET NUMBER
MP101D

Allied Engineering
Structural Mechanical Electrical Commissioning
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Portland, Maine 04103
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207.221.2266
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Allied Project No: 13057 Cad File: 13057M.DWG

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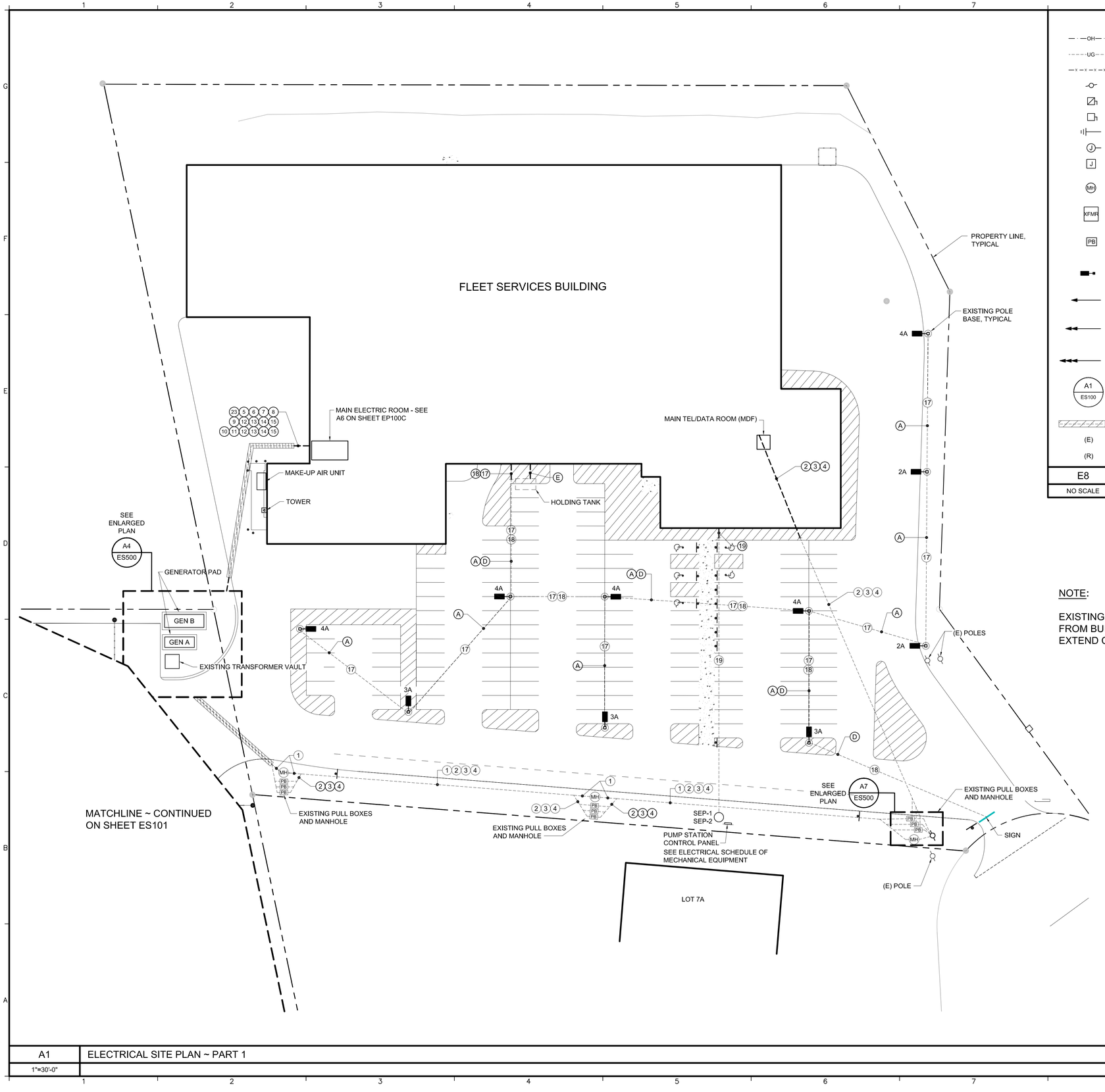


A1	ELECTRICAL SITE PLAN ~ PART 1
1"=30'-0"	

—OH— OVERHEAD WIRING

—UG— UNDERGROUND OR UNDERSLAB WIRING

—x—x—x— ITEM TO BE DEMOLISHED

UTILITY POLE

FUSED DISCONNECT SWITCH

NON-FUSED DISCONNECT SWITCH

GROUNDING SYSTEM

J JUNCTION BOX, WALL MOUNTED

J JUNCTION BOX, IN-GROUND

MH ELECTRICAL MANHOLE, 4' X 6', COORDINATE LOCATION WITH OTHER UNDERGROUND UTILITIES

XFMR TRANSFORMER, PROVIDE TRANSFORMER VAULT PER UTILITY SPECIFICATIONS

PB PULL BOX, POLYMER CONCRETE, 17" x 30" OR LARGER AS REQUIRED BY CODE OR APPLICABLE UTILITY COMPANY

SINGLE POLE MOUNTED LIGHT, TERMINATE CONDUITS AT CONCRETE BASE PROVIDED BY DIVISION 33

SINGLE POLE HOMERUN, CONNECT TO PANEL INDICATED

SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT, CONNECT TO PANEL INDICATED

3-PHASE HOMERUN OR MULTIPLE HOMERUNS UTILIZING THE SAME CONDUIT, CONNECT TO PANEL INDICATED

A1 / ES100 SECTION CALL-OUT

CONDUITS WITH CONCRETE ENCASEMENT

(E) EXISTING TO REMAIN

(R) ITEM TO BE REMOVED

E8	ELECTRICAL SITE LEGEND
NO SCALE	

NOTE:

EXISTING CONDUITS TERMINATE 10' FROM BUILDINGS, VAULT, ETC. EXTEND CONDUITS TO BUILDING

1. (2) 5" C, PRIMARY
2. (1) 5" C, TELEPHONE
3. (1) 5" C, CATV
4. (1) 5" C SPARE
5. (1) 2" C, NORMAL POWER FOR CONNECTION TO ATS-E
6. (4) 4" C, NORMAL POWER FOR CONNECTION TO ATS-DPA
7. (4) 4" C, NORMAL POWER FOR CONNECTION TO ATS-DPB
8. (1) 1" C FOR METER CONNECTION
9. (1) 2" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-E
10. (4) 4" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-DPA
11. (4) 4" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-DPB
12. (1) 1" C FOR FOR CONNECTIONS TO JACKET WATER HEATER and BATTERY CHARGER CIRCUITS
13. (1) 1" C FOR CONTROL WIRING FOR CONNECTION TO ATS
14. (1) 1" C FOR DATA FOR CONNECTION TO GENERATOR ANNUNCIATOR PANEL
15. (1) 1" C SPARE
16. (2) 4" C, NORMAL POWER FOR CONNECTION TO STORAGE BUILDING
17. (1) 1" C FOR CONNECTION OF SITE LIGHTING POWER
18. (1) 1" C FOR SIGN POWER, and (1) 1" C FOR SIGN DATA
19. (1) 1" C FOR PUMP STATION POWER, and (1) 2" C FOR PUMP STATION DATA
20. (1) 1" C FOR GATE POWER, and (2) 2" C FOR GATE DATA
21. (2) 1" C FOR FUEL ISLAND POWER , and (2) 2" C FOR FUEL ISLAND COMMUNICATIONS
22. (2) 1" C FOR FUEL ISLAND EMERGENCY POWER SHUTOFF CONNECTIONS
23. (1) 4" C SPARE

D9	EXISTING CONDUIT AND WIRING KEY

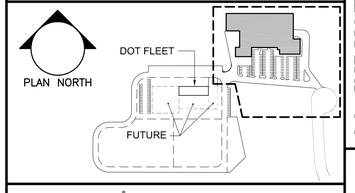
- (A) PROVIDE (2)#12+(1)#12G IN EXISTING 1" C
- (B) PROVIDE (2)#10+(1)#10G IN EXISTING 1" C
- (C) PROVIDE (2)#8+(1)#8G IN EXISTING 1" C
- (D) PROVIDE (2)#10+(1)#10G IN EXISTING 1" C
- (E) PROVIDE 1" C FOR HOLDING TANK CONTROLS

C9	SITE LIGHTING WIRING KEY

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
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207.221.2560
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

INFORMATION	SIGNATURE	–
PROJECT	ARCH. LIN. NUMBER	
PROGRAM	DATE	FEBRUARY 27, 2014
PROJECT MANAGER		
DESIGNER	ALLIED ENG., INC.	–
CONSULTANT	–	
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE		–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SITE PLAN ~ PART 1

SHEET NUMBER
ES100

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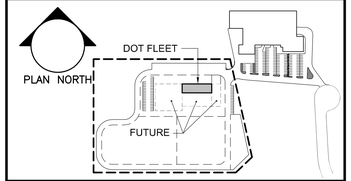
ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



(A) PROVIDE (2)#12+(1)#12G IN EXISTING 1" C

(B) PROVIDE (2)#10+(1)#10G IN EXISTING 1" C

(C) PROVIDE (2)#8+(1)#8G IN EXISTING 1" C

(D) PROVIDE (2)#10+(1)#10G IN EXISTING 1" C

C9	SITE LIGHTING WIRING KEY

(2) (1) 5" C, TELEPHONE

(3) (1) 5" C, CATV

(4) (1) 5" C SPARE

(5) (1) 2" C, NORMAL POWER FOR CONNECTION TO ATS-E

(6) (4) 4" C, NORMAL POWER FOR CONNECTION TO ATS-DPA

(7) (4) 4" C, NORMAL POWER FOR CONNECTION TO ATS-DPB

(8) (1) 1" C FOR METER CONNECTION

(9) (1) 2" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-E

(10) (4) 4" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-DPA

(11) (4) 4" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-DPB

(12) (1) 1" C FOR FOR CONNECTIONS TO JACKET WATER HEATER and BATTERY CHARGER CIRCUITS

(13) (1) 1" C FOR CONTROL WIRING FOR CONNECTION TO ATS

(14) (1) 1" C FOR DATA FOR CONNECTION TO GENERATOR ANNUNCIATOR PANEL

(15) (1) 1" C SPARE

(16) (2) 4" C, NORMAL POWER FOR CONNECTION TO STORAGE BUILDING

(17) (1) 1" C FOR CONNECTION OF SITE LIGHTING POWER

(18) (1) 1" C FOR SIGN POWER, and (1) 1" C FOR SIGN DATA

(19) (1) 1" C FOR PUMP STATION POWER, and (1) 2" C FOR PUMP STATION DATA

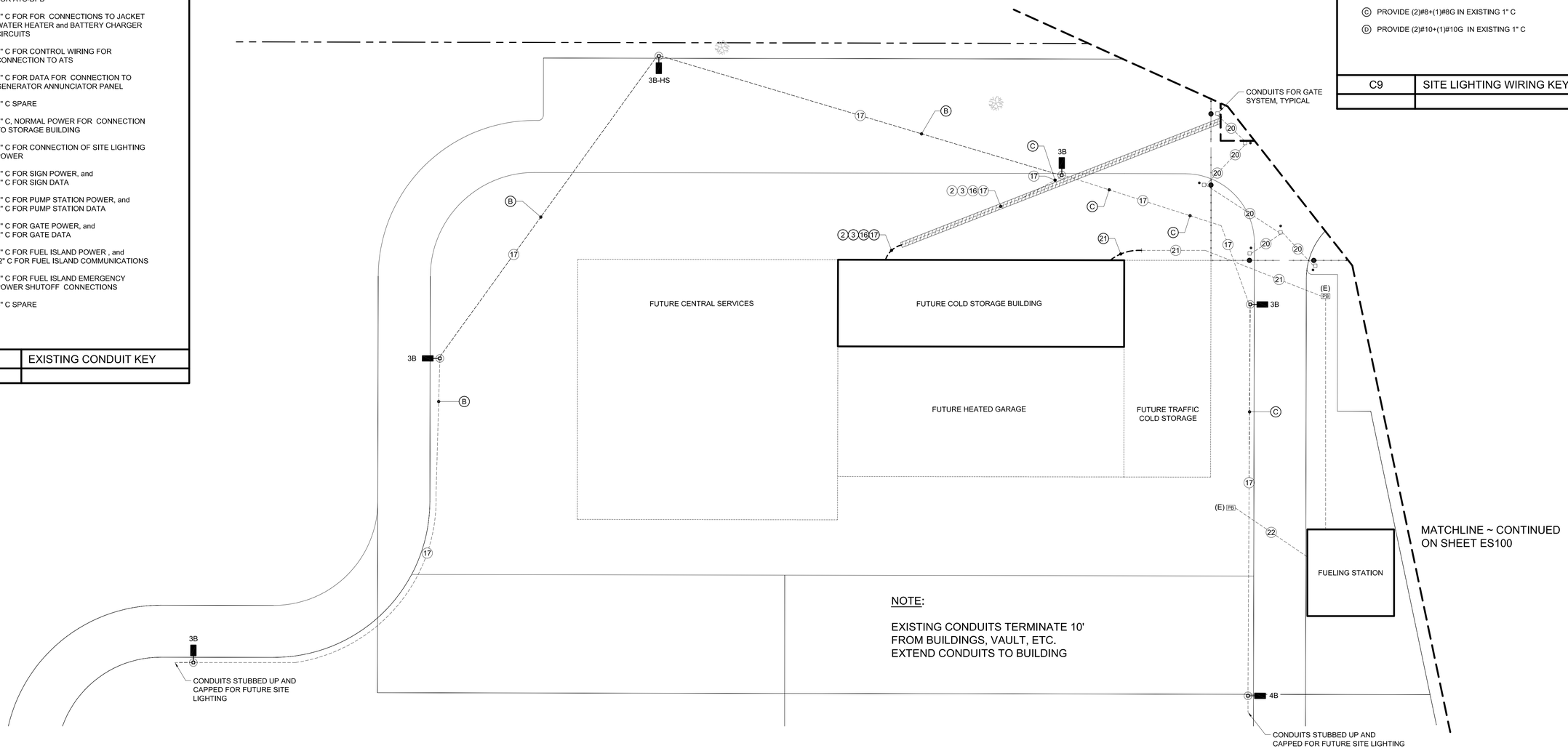
(20) (1) 1" C FOR GATE POWER, and (2) 2" C FOR GATE DATA

(21) (2) 1" C FOR FUEL ISLAND POWER , and (2) 2" C FOR FUEL ISLAND COMMUNICATIONS

(22) (2) 1" C FOR FUEL ISLAND EMERGENCY POWER SHUTOFF CONNECTIONS

(23) (1) 4" C SPARE

D1	EXISTING CONDUIT KEY



NOTE:

EXISTING CONDUITS TERMINATE 10' FROM BUILDINGS, VAULT, ETC. EXTEND CONDUITS TO BUILDING

A1	ELECTRICAL SITE PLAN ~ PART 2
1"=30'-0"	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7577 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE –

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL
SITE PLAN ~ PART 2

SHEET NUMBER
ES101

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_ES.DWG

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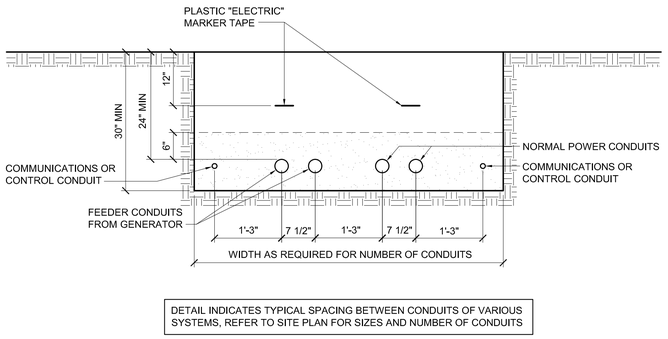
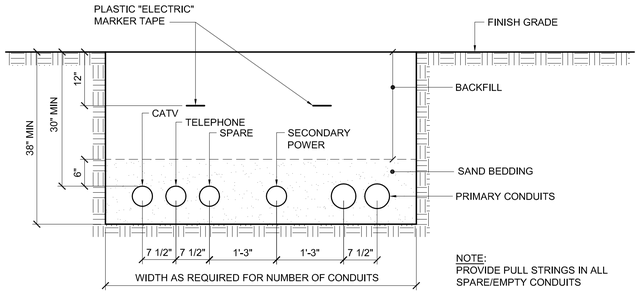


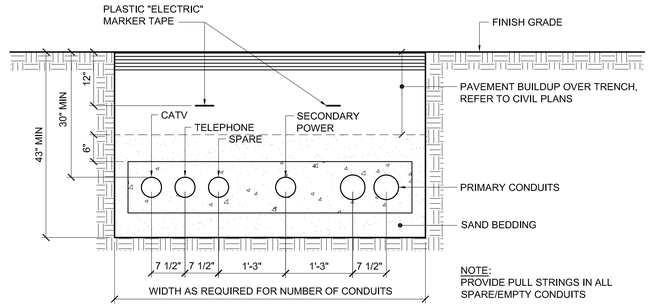
DETAIL INDICATES TYPICAL SPACING BETWEEN CONDUITS OF VARIOUS SYSTEMS, REFER TO SITE PLAN FOR SIZES AND NUMBER OF CONDUITS

F1	TYPICAL SEPARATION OF NORMAL POWER SYSTEMS
NO SCALE	TYPICAL TRENCH DETAIL



DETAIL INDICATES TYPICAL SPACING BETWEEN CONDUITS OF VARIOUS SYSTEMS, REFER TO SITE PLAN FOR SIZES AND NUMBER OF CONDUITS

F4	TYPICAL SEPARATION OF UTILITY SYSTEMS
NO SCALE	TYPICAL TRENCH DETAIL

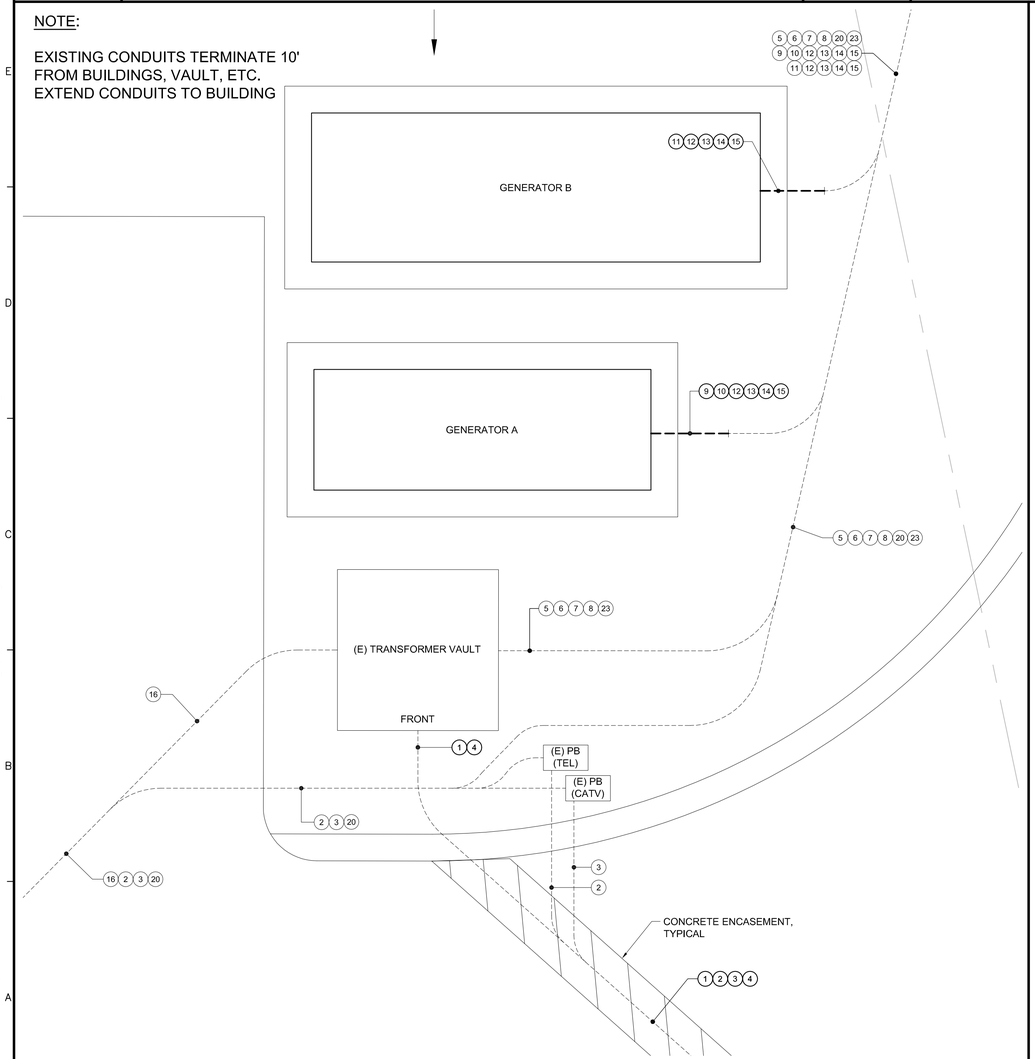


DETAIL INDICATES TYPICAL SPACING BETWEEN CONDUITS OF VARIOUS SYSTEMS, REFER TO SITE PLAN FOR SIZES AND NUMBER OF CONDUITS

F8	TYPICAL SEPARATION OF UTILITY SYSTEMS UNDER PAVEMENT
NO SCALE	TYPICAL TRENCH DETAIL

NOTE:

EXISTING CONDUITS TERMINATE 10' FROM BUILDINGS, VAULT, ETC. EXTEND CONDUITS TO BUILDING



A1	ENLARGED SITE UTILITY AREA
1/4"=1'-0"	

1. (2) 5" C, PRIMARY
2. (1) 5" C, TELEPHONE
3. (1) 5" C, CATV
4. (1) 5" C SPARE
5. (1) 2" C, NORMAL POWER FOR CONNECTION TO ATS-E
6. (4) 4" C, NORMAL POWER FOR CONNECTION TO ATS-DPA
7. (4) 4" C, NORMAL POWER FOR CONNECTION TO ATS-DPB
8. (1) 1" C FOR METER CONNECTION
9. (1) 2" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-E
10. (4) 4" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-DPA
11. (4) 4" C, GENERATOR POWER FOR CONNECTION TO DISCONNECT SWITCH FOR ATS-DPB
12. (1) 1" C FOR FOR CONNECTIONS TO JACKET WATER HEATER and BATTERY CHARGER CIRCUITS
13. (1) 1" C FOR CONTROL WIRING FOR CONNECTION TO ATS
14. (1) 1" C FOR DATA FOR CONNECTION TO GENERATOR ANNUNCIATOR PANEL
15. (1) 1" C SPARE
16. (2) 4" C, NORMAL POWER FOR CONNECTION TO STORAGE BUILDING
17. (1) 1" C FOR CONNECTION OF SITE LIGHTING POWER
18. (1) 1" C FOR SIGN POWER, and (1) 1" C FOR SIGN DATA
19. (1) 1" C FOR PUMP STATION POWER, and (1) 2" C FOR PUMP STATION DATA
20. (1) 1" C FOR GATE POWER, and (2) 2" C FOR GATE DATA
21. (2) 1" C FOR FUEL ISLAND POWER , and (2) 2" C FOR FUEL ISLAND COMMUNICATIONS
22. (2) 1" C FOR FUEL ISLAND EMERGENCY POWER SHUTOFF CONNECTIONS
23. (1) 4" C SPARE

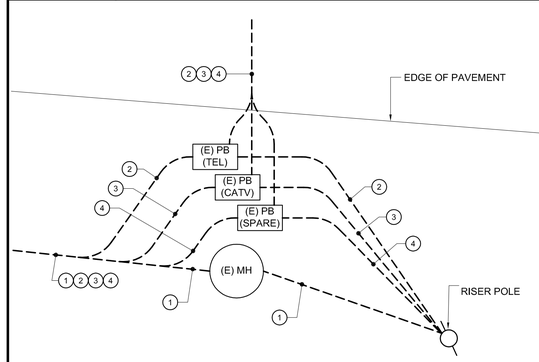
A5	EXISTING CONDUIT KEY

SITE LUMINAIRE SCHEDULE ~ BASIS OF DESIGN

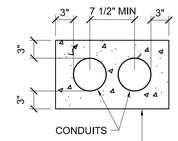
TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER SEE NOTE 1	MOUNTING	VOLTS	LAMP QTY PER FIXTURE	LAMP WATTS	LAMP TYPE	KEY NOTES
2A-HS	POLE LIGHT - TYPE 2 DISTRIBUTION WITH HOUSE SIDE SHIELD	PHILIPS	RVS-80W48LED4K-R-LE2-HS	25' POLE	277	-	78	LED ARRAY	
3A	POLE LIGHT - TYPE 3 DISTRIBUTION	PHILIPS	RVS-90W80LED4K-R-LE4	25' POLE	277	-	85	LED ARRAY	
4A	POLE LIGHT - TYPE 4 DISTRIBUTION	PHILIPS	RVS-90W80LED4K-R-LE3	25' POLE	277	-	100	LED ARRAY	
3B-HS	POLE LIGHT - TYPE 3 DISTRIBUTION	PHILIPS	RVM-160W96LED4K-R- LE3	40' POLE	277	-	160	LED ARRAY	
3B-HS	POLE LIGHT - TYPE 3 DISTRIBUTION WITH HOUSE SIDE SHIELD	PHILIPS	RVM-160W96LED4K-R- LE3-HS	40' POLE	277	-	155	LED ARRAY	
4B	POLE LIGHT - TYPE 4 DISTRIBUTION	PHILIPS	RVM-160W96LED4K-R- LE4	40' POLE	277	-	160	LED ARRAY	
	NOTES								
1	**NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG #'S. PROVIDE ALL REQUIREMENTS ON SCHEDULE,NOTES, SPECS, AND DRAWINGS COMBINED.**								
2	**CATALOG SERIES NUMBERS ARE USED TO ESTABLISH A LEVEL OF QUALITY AND NOT INTENDED TO LIMIT COMPETITION. SERIES NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. COMPLY WITH ADDITIONAL REQUIREMENTS IN SPECIFICATIONS AND DRAWINGS.**								

D7	LUMINAIRE SCHEDULE

C7	--



A7	ENLARGED SITE UTILITY AREA
1/4"=1'-0"	



C9	TYPICAL CONCRETE ENCASEMENT DIMENSIONS
NO SCALE	

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

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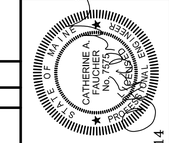
COMMISSIONER:

CHIEF ENGINEER:



SIGNATURE –

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SITE DETAILS

SHEET NUMBER
ES500

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_ES ph 2.dwg Mar 05, 2014 – 2:50pm

A1 ABBREVIATIONS

NO SCALE

A	AMPERE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BKBD	BACKBOARD
C	CONDUIT
CAT	CATALOG, CATEGORY
CATV	CABLE TV
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CM	CIRCULAR MILS
COMM	COMMUNICATIONS
CU	MECH CONDENSING UNIT
CU	COPPER
CUH	CABINET UNIT HEATER
DC	DIRECT CURRENT
DDC	DIGITAL DIRECT CONTROL
DN	DOWN
DW	DISHWASHER
DWG	DRAWING
EF	EXHAUST FAN
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
ERU	ENERGY RECOVERY UNIT
EWC	ELECTRIC WATER COOLER
FACP	FIRE ALARM CONTROL PANEL
FB	FLOOR BOX
FLA	FULL LOAD AMPS
FWE	FURNISHED WITH EQUIPMENT
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO SELECTOR SWITCH
HP	HORSEPOWER
HVAC	HEATING, VENTILATION AND COOLING UNIT
IDS	INTRUSION DETECTION SYSTEM
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IR	INFRARED
K	KILO
KCMIL	KILO CIRCULAR MILS
KW	KILOWATT
KVA	KILO VOLT-AMPS
LAN	LOCAL AREA NETWORK
LC	LIGHTING CONTACTOR
LF	LINEAR FEET
LC	LOADCENTER
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MH	MOUNTING HEIGHT
MC	MICROPHONE
MICRO	MICROWAVE
MLO MT	MAIN LUG ONLY MOUNT
MTS	MANUAL TRANSFER SWITCH
MCP	MOTOR CONTROL PANEL
MH	METAL HALIDE
MDP	MAIN DISTRIBUTION PANEL
MIN	MINIMUM
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NF	NON-FUSED
NO	NORMALLY OPEN
NO., #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OCC	OCCUPANCY
OH	OVERHEAD
P	POLE
PA	PUBLIC ADDRESS
PH,	PHASE
PIR	PASSIVE INFRARED
PNL	PANELBOARD
P/O	PART OF
PV	PHOTOVOLTAIC
PVC	POLY-VINYL CHLORIDE
REC, RECEPT	RECEPTACLE
REF	REFRIGERATOR
RF	RETURN FAN
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMC	RIGID METAL CONDUIT
RTU	ROOFTOP UNIT
REF	REFRIGERATOR
SF	SUPPLY FAN
SPDT	SINGLE POLE, DOUBLE THROW
SQ	SQUARE
TEL	TELEPHONE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UF	UNDER FLOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
WP	WEATHERPROOF
WG	WIREGUARD
XFMR	TRANSFORMER
(E)	EXISTING ITEM TO REMAIN
(R)	REMOVE ITEM AND DISPOSE OF PROPERLY
(ER)	RELOCATED ITEM AT NEW LOCATION
(RL)	REMOVE AND RELOCATE

A3 GENERAL NOTES

NO SCALE

1. BRANCH CIRCUIT WIRING NOT SHOWN. WIRE AND CONNECT ELECTRICAL ITEMS TO CIRCUITS INDICATED.
2. DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE WORK OF DIVISION 16 AND OTHER DIVISIONS. WHERE ELECTRICAL ITEMS ARE REMOVED, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
3. DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
4. THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS, IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET PROJECT REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.
5. ALL ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.
6. COORDINATE ALL WORK WITH OTHER DIVISIONS. VERIFY EXACT POWER REQUIREMENTS OF MECHANICAL EQUIPMENT WITH DIVISION 15. POWER WIRING FOR EQUIPMENT & CONTROL IS TO BE PERFORMED BY DIVISION 16. CONTROL WIRING BY DIVISION 15.
7. A BUILDING LIGHTING CONTROL SYSTEM IS TO BE PROVIDED. REFER TO SPECIFICATIONS AND LIGHTING PLANS.

A5 SECURITY SYSTEM

NO SCALE

- SEC — SECURITY PANEL
- CR — CARD READER, VERIFY MOUNTING HEIGHT, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- DC — DOOR CONTACT, VERIFY LOCATION, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- DP — JUNCTION BOX FOR DOOR POWER, VERIFY LOCATION, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- DA — DOOR ALARM, VERIFY MOUNTING, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- DR — DOOR RELEASE BUTTON, MOUNT UNDER SYSTEMS FURNITURE DESK, VERIFY LOCATION, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- MS — MOTION SENSOR, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- PB — PANIC BUTTON, VERIFY LOCATION, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- CM — CAMERA, VERIFY MOUNTING HEIGHT, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL
- SR — ACCESS SECURE READER, VERIFY MOUNTING HEIGHT, PROVIDE 3/4" C WITH PULL STRING TO SECURITY PANEL

A7 LIGHT SWITCHES

NO SCALE

- $a — LIGHT SWITCH, 20A,125/277V
- $3 — THREE-WAY LIGHT SWITCH
- $4 — FOUR-WAY LIGHT SWITCH
- $2 — TWO-POLE SWITCH
- $K — KEY OPERATED SWITCH
- $M — MOTOR RATED SWITCH
- $P — SINGLE POLE SWITCH WITH RED PILOT LIGHT ~ RED LIGHT SHALL GLOW WHEN CIRCUIT IS ENERGIZED
- $a,b — MULTI-GANGED SWITCHES, GANG UNDER ONE PLATE, LETTER INDICATES SWITCHING
- $OS — OCCUPANCY SENSOR SWITCH, WALL MOUNTED
- $OS2 — 2-BUTTON OCCUPANCY SENSOR SWITCH
- OS — OCCUPANCY SENSOR, CEILING MOUNTED
- OS — OCCUPANCY SENSOR, WALL MOUNTED
- $D — 0-10V DIMMER SWITCH
- $FD — FLUORESCENT DIMMER SWITCH
- $F, $L — HANDICAP SWITCHES FOR HOOD LIGHT AND FAN
- $T — TIMER SWITCH, 60 MINUTES
- $LV — LOW VOLTAGE LIGHT SWITCH, MOMENTARY CONTACT
- LTC — LIGHTING TIME CLOCK
- LC — LIGHTING CONTACTOR
- LCP — LIGHTING CONTROL PANEL
- PC — PHOTOCELL

NOTES:

1. MOUNT LIGHT SWITCHES WITH CENTERLINE 48" AFF, UNO
2. LOWER CASE LETTER AT SWITCH INDICATES SWITCHING

C3 TECHNOLOGY

NO SCALE

1. BRANCH CIRCUIT WIRING NOT SHOWN. WIRE AND CONNECT ELECTRICAL ITEMS TO CIRCUITS INDICATED.
2. DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE WORK OF DIVISION 16 AND OTHER DIVISIONS. WHERE ELECTRICAL ITEMS ARE REMOVED, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
3. DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
4. THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS, IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET PROJECT REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.
5. ALL ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.
6. COORDINATE ALL WORK WITH OTHER DIVISIONS. VERIFY EXACT POWER REQUIREMENTS OF MECHANICAL EQUIPMENT WITH DIVISION 15. POWER WIRING FOR EQUIPMENT & CONTROL IS TO BE PERFORMED BY DIVISION 16. CONTROL WIRING BY DIVISION 15.
7. A BUILDING LIGHTING CONTROL SYSTEM IS TO BE PROVIDED. REFER TO SPECIFICATIONS AND LIGHTING PLANS.

C5 SINGLE RECEPTACLES

NO SCALE

- 20A, 125V, 2P, 3W, NEMA 5-20R, (2)#12+(1)#12G
- 20A, 250V, 2P, 3W, NEMA 6-20R, (2)#12+(1)#12G
- WELDING OUTLET, 30A, 480V, 3ϕ, PIN AND SLEEVE, 3W, 4 POLE, STYLE 2, CROUSE-HINDS #AR342, PROVIDE 30A, 3P MECHANICALLY INTERLOCKED DISCONNECT SWITCH WITH 60A FUSES, (3)#10+(1)#10G
- 30A, 277/480V, 3ϕY, 4P, 5W, TWIST-LOCK, NEMA L22-30R, (4)#10+(1)#10G
- 30A, 480V, 3ϕ, 3P, 4W, TWIST-LOCK L16-30R, (3)#10+(1)#10G
- WELDING OUTLET, 60A, 480V, 3ϕ, PIN AND SLEEVE, 3W, 4 POLE, STYLE 2, CROUSE-HINDS #AR642, PROVIDE 60A, 3P MECHANICALLY INTERLOCKED DISCONNECT SWITCH WITH 60A FUSES, (3)#4+(1)#10G
- 30A, 250V, 2 POLE, 3 WIRE, TWIST-LOCK, L6-30R, (2)#10+(1)#10G
- 50A RANGE RECEPTACLE ~ 125/250V, 3P, 4W, GROUNDING, NEMA 14-50R, (3)#6+(1)#10 TO 50A, 2P CIRCUIT BREAKER

NOTES:

1. PROVIDE MATCHING CORD AND PLUG FOR SINGLE RECEPTACLES
2. PROVIDE ANGLED RECEPTACLE HOUSING FOR SINGLE RECEPTACLES

D7 FIRE ALARM SYSTEM

NO SCALE

- FACP — FIRE ALARM CONTROL PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- FAA — FIRE ALARM ANNUNCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- S — SMOKE DETECTOR
- S E — SMOKE DETECTOR, "E" INDICATES CONNECTION FOR ELEVATOR RECALL
- H — HEAT DETECTOR
- H E — HEAT DETECTOR, "E" INDICATES CONNECTION FOR ELEVATOR RECALL
- D — DUCT SMOKE DETECTOR
- D — GAS VALVE
- D — FLAME DETECTOR, ARROW INDICATES DIRECTION OF COVERAGE
- RTS — REMOTE TEST/INDICATOR FOR DUCT SMOKES, MOUNT ON CEILING BENEATH UNIT, OR WALL MOUNT WHERE INDICATED ON PLANS
- F — MANUAL PULL STATION, MOUNT 48" AFF
- 30 F — HORN/STROBE NOTIFICATION APPLIANCE, CANDELA AS NOTED ON PLANS
- 30 S — SPEAKER/STROBE NOTIFICATION APPLIANCE, CANDELA AS NOTED ON PLANS
- 15 — STROBE ONLY NOTIFICATION APPLIANCE, CANDELA AS NOTED ON PLANS
- R — STROBE NOTIFICATION APPLIANCE, 15 CANDELA, 120V, CONNECT TO OPERATE UPON ACTIVATION OF ROOM SMOKE DETECTOR
- M — MINI HORN NOTIFICATION APPLIANCE
- 30 F F — HORN/STROBE WITH PULL STATION DIRECTLY BELOW
- 30 F — HORN/STROBE INSTALLED ON CEILING
- 15 — STROBE INSTALLED ON CEILING
- MH — MAGNETIC DOOR HOLD OPEN DEVICE
- T — TRANSFORMER
- FD — SPRINKLER SYSTEM WATER FLOW SWITCH, PROVIDED UNDER DIVISION 23, WIRED UNDER DIVISION 26
- T — SPRINKLER SYSTEM TAMPER SWITCH, PROVIDED UNDER DIVISION 23, WIRED UNDER DIVISION 26
- C — SPRINKLER SYSTEM CHECK VALVE PRESSURE SWITCH, FURNISHED AND INSTALLED UNDER DIVISION 23, WIRED UNDER DIVISION 26
- FD — SPRINKLER SYSTEM EXCESS PRESSURE PUMP, FURNISHED AND INSTALLED UNDER DIVISION 23, WIRED UNDER DIVISION 26
- K — KNOX BOX, PROVIDE IN ACCORDANCE WITH LOCAL FIRE DEPARTMENT REQUIREMENTS
- SD — SMOKE DAMPER
- FSD — FIRE AND SMOKE DAMPER

D9 POWER DISTRIBUTION

NO SCALE

- PANELBOARD ~ SURFACE MOUNTED
- PANELBOARD ~ FLUSH MOUNTED
- FUSED DISCONNECT SWITCH
- NON-FUSED DISCONNECT SWITCH
- 00 — MOTOR STARTER ~ NUMBER INDICATES NEMA SIZE
- 00 — COMBINATION MOTOR STARTER/FUSED DISCONNECT
- MOTOR OR FAN
- M — METER AND CABINET
- J — JUNCTION BOX ~ CEILING MOUNTED
- J — JUNCTION BOX ~ WALL MOUNTED
- J — JUNCTION BOX ~ FLOOR MOUNTED
- J — JUNCTION BOX ~ PEDESTAL MOUNTED
- T# — TRANSFORMER ~ NUMBER INDICATES DESIGNATION SEE TRANSFORMER SCHEDULE
- VFD — VARIABLE FREQUENCY DRIVE
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR
- E — EMERGENCY SHUTOFF SWITCH ~ WALL MOUNTED 48" TO CENTERLINE ~ PROVIDE TAMPER-PROOF COVER
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- WIRING UNDERGROUND OR UNDERSLAB
- HOMERUN ~ (2)#12+(1)#12G UNO (EXCEPT COMPUTER AND LIGHTING CIRCUITS: (1)#12+(1)#10N+(1)#12G UNO)
- SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT
- 3-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT
- FLEXIBLE CONNECTION
- GROUNDING SYSTEM
- P — POWER POLE
- PUSHBUTTON
- C — DOORBELL CHIME
- F — DUAL SERVICE FURNITURE FEED, WALL MOUNTED 18" AFF
- P — MOTORIZED DOOR OPERATOR AND PUSH PADDLE ~ FURNISHED BY DIVISION 08, WIRED BY DIVISION 26
- H — HAND DRYER, HIGH VELOCITY, AUTOMATIC, ADA COMPLIANT, 120V, 8.3 AMPS, BASIS OF DESIGN: WORLD DRYER SLIMDRI #L-974, MOUNT 37" FROM FLOOR TO DRYER BOTTOM EDGE (HANDICAP MOUNTING HEIGHT)
- F — DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W, NEMA 5-20R, MOUNT IN FLUSH FLOOR BOX
- F — DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W, NEMA 5-20R, MOUNT IN FLUSH FLOOR BOX
- C — DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
- C — DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
- C — DUPLEX GFCI RECEPTACLE, FLUSH MOUNTED IN CEILING
- C — DOUBLE DUPLEX GFCI RECEPTACLE, FLUSH MOUNTED IN CEILING
- C — DATA OUTLET, FLUSH MOUNTED IN CEILING.
- C TV — CATV OUTLET, FLUSH MOUNTED IN CEILING
- OVERHEAD RECEPTACLE DROP, DUPLEX
- OVERHEAD RECEPTACLE DROP, DOUBLE DUPLEX
- INDUSTRIAL CORD REEL WITH 45' CORD AND 20A DUPLEX RECEPTACLE WITH GFCI PROTECTION, CORD REEL PLUGS INTO RECEPTACLE AT SYMBOL LOCATION ON PLAN, BASIS OF DESIGN: HUBBELL #HBL45123GF20
- C — 4" POKE-THRU DEVICE, DUAL SERVICE FURNITURE FEED, BASIS OF DESIGN: WIREMOLD AFFATC
- FB — FLUSH FLOOR BOX WITH (1) DOUBLE DUPLEX RECEPTACLE, (2) VOICE AND (2) DATA OUTLETS, BASIS OF DESIGN: FSR 710 SERIES, PROVIDE STEEL CONSTRUCTION COVER, CONCRETE POUR PAN, AND FL-710-BLK-C COVER

A9 FLOOR AND CEILING DEVICES

NO SCALE

F3 LUMINAIRES

NO SCALE

- LIGHT FIXTURE, RECESSED TROFFER, TYPICAL
- RECESSED DOWNLIGHT
- RECESSED WALL WASHER DOWNLIGHT
- WALL MOUNTED LIGHT FIXTURE
- CEILING SURFACE MOUNTED LIGHT FIXTURE
- PENDANT MOUNTED LIGHT FIXTURE
- LINEAR LIGHT FIXTURE, CEILING SURFACE MOUNTED
- LINEAR LIGHT FIXTURE, PENDANT MOUNTED
- LINEAR LIGHT FIXTURE, WALL MOUNTED
- RB — REMOTE BALLAST, ALLOW 9" IN ALL DIRECTIONS BETWEEN BALLASTS

TYPICAL FOR ALL FIXTURE TYPES:

F1 a — F1 INDICATES LUMINAIRE TYPE ON SCHEDULE; a INDICATES CIRCUIT NUMBER; # LOWER CASE LETTER INDICATES SWITCHING

F5 EMERGENCY LUMINAIRES

NO SCALE

- HATCHING INDICATES FIXTURE WITH ONE LAMP ON LIFE SAFETY BRANCH
- BP# — EMER BATTERY UNIT WITH NO HEADS, MT 7'-6"AFF; BP# INDICATES BATTERY UNIT DESIGNATION; 2 NUMBER INDICATES CIRCUITING
- BP# — EMER BATTERY UNIT WITH INTEGRAL HEADS, MT 7'-6"AFF; BP# INDICATES BATTERY UNIT DESIGNATION; 2 NUMBER INDICATES CIRCUITING
- BP# — SINGLE REMOTE EMERGENCY LIGHT HEAD, MOUNT 7'-6"AFF; BP# INDICATES BATTERY UNIT CONNECTED TO
- BP# — DOUBLE REMOTE EMERGENCY LIGHT HEAD, MOUNT 7'-6"AFF; BP# INDICATES BATTERY UNIT CONNECTED TO
- EXIT SIGN, CEILING MOUNTED, SHADING INDICATES FACE(S); ARROWHEAD INDICATES CHEVRON(S) REQUIRED; 2 NUMBER INDICATES CIRCUIT NUMBER
- EXIT SIGN, WALL MOUNTED, SHADING INDICATES FACE(S); MOUNT AT 7'-6"AFF OR OVER DOOR; 2 NUMBER INDICATES CIRCUIT NUMBER

NOTE

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN

E3 RECEPTACLES

NO SCALE

- SINGLE GANG BOX MOUNTED 18" AFF, UNO WITH 3/4" CONDUIT WITH PULL STRING TO ABOVE CEILING
- W — SINGLE GANG BOX MOUNTED 45" AFF WITH 3/4" CONDUIT WITH PULL STRING TO ABOVE CEILING
- TV — SINGLE GANG BOX MOUNTED 18" AFF, UNO WITH 3/4" CONDUIT WITH PULL STRING TO ABOVE CEILING
- WA — WIRELESS ACCESS POINT

NOTE:
IN AREAS WITHOUT CEILINGS OR INACCESSIBLE CEILINGS, PROVIDE CONDUIT TO NEAREST ACCESSIBLE CORRIDOR CEILING

- DUPLEX RECEPTACLE ~ 20A, 125V, 2P, 3W, NEMA 5-20R
- DOUBLE DUPLEX RECEPTACLE
- GFCI DUPLEX RECEPTACLE, MOUNT 48" AFF UNO
- GFCI DOUBLE DUPLEX RECEPTACLE, MOUNT 48" AFF UNO
- WP — GFCI RECEPTACLE WITH WEATHERPROOF COVER
- GFCI RECEPTACLE IN WP ENCLOSURE ON ROOF
- DIVIDED METAL RACEWAY, PROVIDE RECEPTACLES 24" OC UNO, PROVIDE DATA OUTLETS 24" OC UNO, MOUNT 48" AFF UNO, BASIS OF DESIGN WIREMOLD 4000 SERIES, UNO
- EWC — GFCI RECEPTACLE FOR ELECTRIC WATER COOLER ~ COORDINATE INSTALLATION WITH WATER COOLER MFR

NOTES:

1. MOUNT RECEPTACLES WITH CENTERLINE 18" AFF UNO
2. MOUNT EXTERIOR RECEPTACLES WITH CENTERLINE 24" AFG UNO

NOT FOR CONSTRUCTION

PROGRESS SUBMISSION

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2366
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EL.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

INFORMATION

PROJECT

PROGRAM

PROJECT MANAGER

DESIGNER — ALLIED ENG., INC.

CONSULTANT

PROJECT RESIDENT

CONTRACTOR

PROJECT COMPLETION DATE

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL LEGENDS, GENERAL NOTES AND ABBREVIATIONS

SHEET NUMBER

E000

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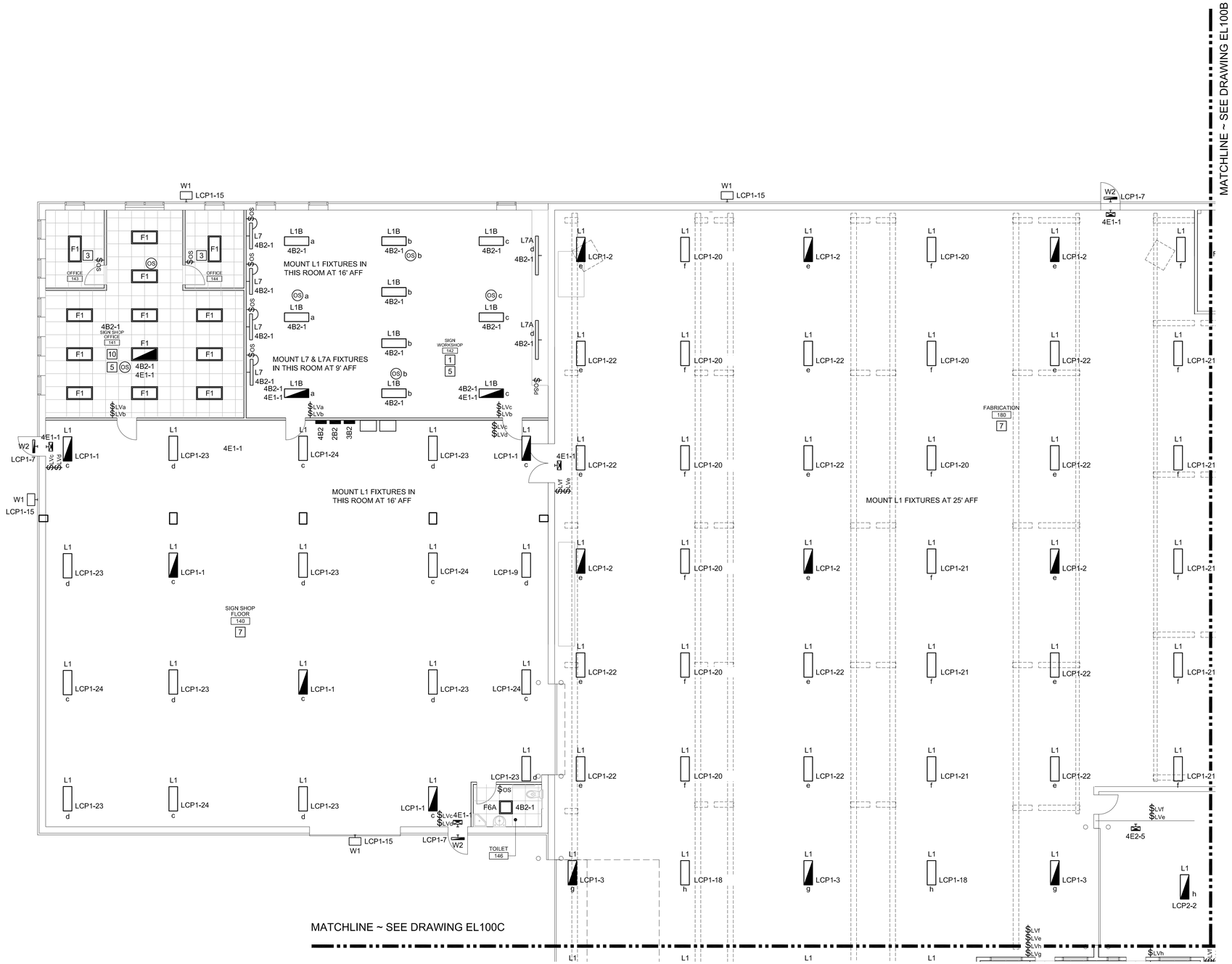
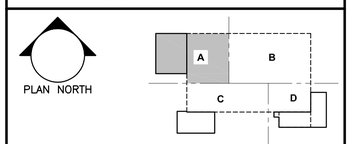


1. LIGHTING CONTROL SHALL BE MANUAL ON BY LOW VOLTAGE WALL SWITCH AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL C1/E 400
2. LIGHTING CONTROL SHALL BE AUTO ON AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL A4/EL400
3. LIGHTING SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH ~ SEE DETAIL B4/EL 400
4. LIGHTING CONTROL SHALL BE MANUAL ON/MANUAL OFF
5. PROVIDE EMERGENCY LIGHTING POWER VIA GENERATOR TRANSFER DEVICE, NINE 24 INC, BLTC-V3 OR APPROVED EQUAL. PROVIDE ONE GENERATOR TRANSFER DEVICE PER SWITCH GROUP ~ SEE DETAIL D4/EL 400
6. LIGHTING CONTROL SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCHES WIRED FOR 3-WAY CONTROL ~ SEE DETAIL F1/EL400
7. LIGHTING CONTROL SHALL BE MANUAL ON BY LOCAL LOW VOLTAGE SWITCH AND AUTO OFF VIA LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)
8. LIGHTING SHALL BE CONTROLLED FROM LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)
9. LIGHTING CONTROL SHALL BE STEP DIMMING WITH 2-BUTTON SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH WITH MANUAL ON/AUTO OFF OPERATION ~ SEE DETAIL F4/EL400
10. LIGHTING CONTROL SHALL BE STEP DIMMING WITH MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY CEILING MOUNTED OCCUPANCY SENSOR(S) ~ SEE DETAIL A1/EL400

E9 | LIGHTING CONTROL NOTES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN



A1 | LIGHTING PART PLAN ~ AREA A
1/8"=1'-0"

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WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – LIGHTING PLAN
AREA A

SHEET NUMBER
EL100A

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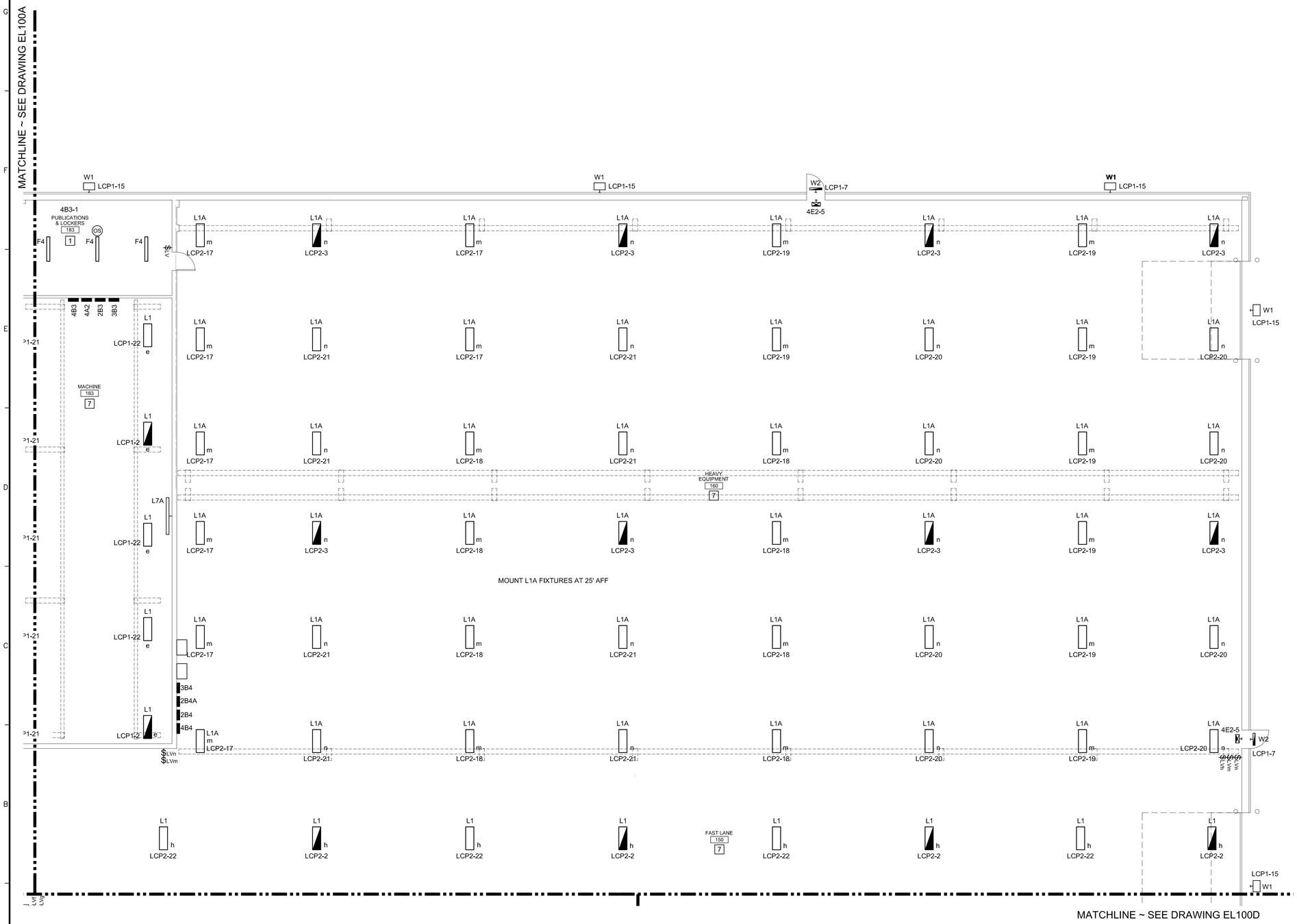


A1	LIGHTING PART PLAN ~ AREA B
1/8"=1'-0"	

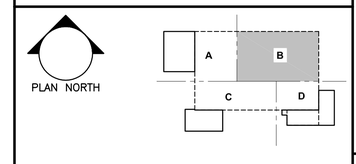
1. LIGHTING CONTROL SHALL BE MANUAL ON BY LOW VOLTAGE WALL SWITCH AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL C1/E 400
2. LIGHTING CONTROL SHALL BE AUTO ON AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL A4/EL400
3. LIGHTING SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH ~ SEE DETAIL B4/EL 400
4. LIGHTING CONTROL SHALL BE MANUAL ON/MANUAL OFF
5. PROVIDE EMERGENCY LIGHTING POWER VIA GENERATOR TRANSFER DEVICE, NINE 24 INC, BLTC-V3 OR APPROVED EQUAL. PROVIDE ONE GENERATOR TRANSFER DEVICE PER SWITCH GROUP ~ SEE DETAIL D4/EL 400
6. LIGHTING CONTROL SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCHES WIRED FOR 3-WAY CONTROL ~ SEE DETAIL F1/EL400
7. LIGHTING CONTROL SHALL BE MANUAL ON BY LOCAL LOW VOLTAGE SWITCH AND AUTO OFF VIA LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)
8. LIGHTING SHALL BE CONTROLLED FROM LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)
9. LIGHTING CONTROL SHALL BE STEP DIMMING WITH 2-BUTTON SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH WITH MANUAL ON/AUTO OFF OPERATION ~ SEE DETAIL F4/EL400
10. LIGHTING CONTROL SHALL BE STEP DIMMING WITH MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY CEILING MOUNTED OCCUPANCY SENSOR(S) ~ SEE DETAIL A1/EL400

E9	LIGHTING CONTROL NOTES

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
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www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EL.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7575
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – LIGHTING PLAN
AREA B

SHEET NUMBER
EL100B

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EL.dwg Feb 27, 2014 – 2:12pm

MATCHLINE ~ SEE DRAWING EL100A

MATCHLINE ~ SEE DRAWING EL100D

CONNECT TO LIGHT ON MEZZANINE ABOVE

CONNECT PAINT BOOTH LIGHTING CIRCUIT 4B1-19 TO PAINT BOOTH CONTROL PANEL VIA CONTACTOR

NO ELECTRICAL ITEMS WITHIN 3' HORIZONTALLY AND VERTICALLY FROM PAINT BOOTH OPENINGS ~ REFER TO NEC ARTICLE 516

MOUNT ON CEILING

MOUNT ON CEILING BELOW MEZZANINE

8 TYPICAL TYPE W1 EXTERIOR LIGHTS

8 TYPICAL TYPE W2 EXTERIOR LIGHTS

1. LIGHTING CONTROL SHALL BE MANUAL ON BY LOW VOLTAGE WALL SWITCH AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL A6/E 400
2. LIGHTING CONTROL SHALL BE AUTO ON AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL A4/EL400
3. LIGHTING SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH ~ SEE DETAIL B4/EL 400
4. LIGHTING CONTROL SHALL BE MANUAL ON/MANUAL OFF
5. PROVIDE EMERGENCY LIGHTING POWER VIA GENERATOR TRANSFER DEVICE, NINE 24 INC, BLTC-V3 OR APPROVED EQUAL. PROVIDE ONE GENERATOR TRANSFER DEVICE PER SWITCH GROUP ~ SEE DETAIL D4/EL 400
6. LIGHTING CONTROL SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCHES WIRED FOR 3-WAY CONTROL ~ SEE DETAIL F1/EL400
7. LIGHTING CONTROL SHALL BE MANUAL ON BY LOCAL LOW VOLTAGE SWITCH AND AUTO OFF VIA LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)
8. LIGHTING SHALL BE CONTROLLED FROM LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)
9. LIGHTING CONTROL SHALL BE STEP DIMMING WITH 2-BUTTON SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH WITH MANUAL ON/AUTO OFF OPERATION ~ SEE DETAIL F4/EL400
10. LIGHTING CONTROL SHALL BE STEP DIMMING WITH MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY CEILING MOUNTED OCCUPANCY SENSOR(S) ~ SEE DETAIL A1/EL400

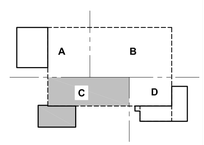
A1 | LIGHTING PART PLAN ~ AREA C | 1/8"=1'-0"

A6 | LIGHTING CONTROL NOTES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH



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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7511 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

SIGNATURE -
ARCH. LIN. NUMBER
DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – LIGHTING PLAN
AREA C

SHEET NUMBER
EL100C

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EL.dwg Mar 05, 2014 - 1:35pm

MATCHLINE ~ SEE DRAWING EL100B

MATCHLINE ~ SEE DRAWING EL100C

A1	LIGHTING PART PLAN ~ AREA D
1/8"=1'-0"	

1 LIGHTING CONTROL SHALL BE MANUAL ON BY LOW VOLTAGE WALL SWITCH AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL C1/E 400

2 LIGHTING CONTROL SHALL BE AUTO ON AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL A4/EL400

3 LIGHTING SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH ~ SEE DETAIL B4/EL 400

4 LIGHTING CONTROL SHALL BE MANUAL ON/MANUAL OFF

5 PROVIDE EMERGENCY LIGHTING POWER VIA GENERATOR TRANSFER DEVICE, NINE 24 INC, BLTC-V3 OR APPROVED EQUAL. PROVIDE ONE GENERATOR TRANSFER DEVICE PER SWITCH GROUP ~ SEE DETAIL D4/EL 400

6 LIGHTING CONTROL SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCHES WIRED FOR 3-WAY CONTROL ~ SEE DETAIL F1/EL400

7 LIGHTING CONTROL SHALL BE MANUAL ON BY LOCAL LOW VOLTAGE SWITCH AND AUTO OFF VIA LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)

8 LIGHTING SHALL BE CONTROLLED FROM LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)

9 LIGHTING CONTROL SHALL BE STEP DIMMING WITH 2-BUTTON SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH WITH MANUAL ON/AUTO OFF OPERATION ~ SEE DETAIL F4/EL400

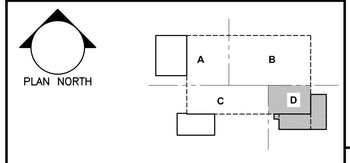
10 LIGHTING CONTROL SHALL BE STEP DIMMING WITH MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY CEILING MOUNTED OCCUPANCY SENSOR(S) ~ SEE DETAIL A1/EL400

E9	LIGHTING CONTROL NOTES

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057_EL.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

SIGNATURE -

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – LIGHTING PLAN
AREA D

SHEET NUMBER
EL100D

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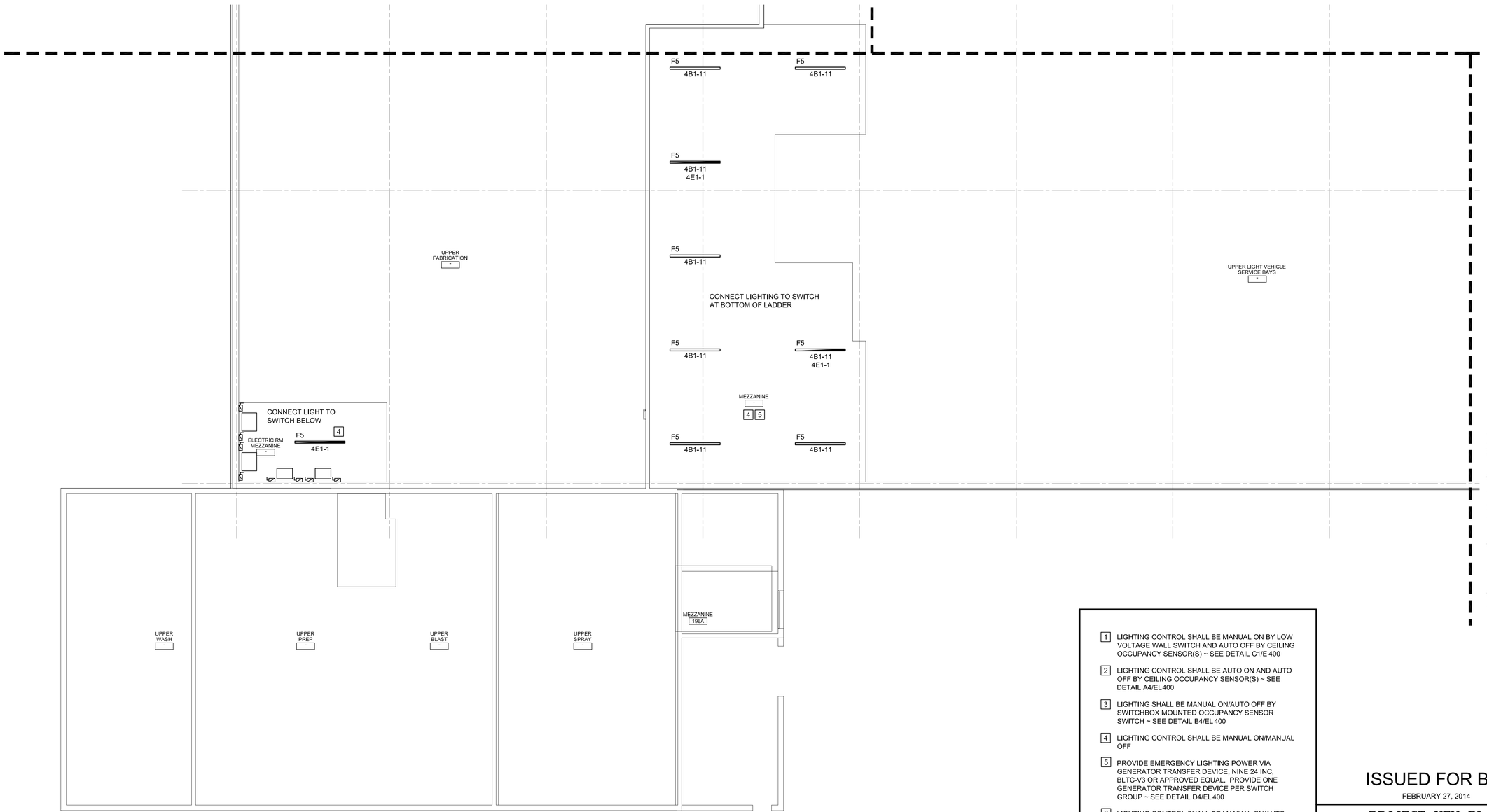

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2 LIGHTING CONTROL SHALL BE AUTO ON AND AUTO OFF BY CEILING OCCUPANCY SENSOR(S) ~ SEE DETAIL A4/EL400

3 LIGHTING SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH ~ SEE DETAIL B4/EL 400

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10 LIGHTING CONTROL SHALL BE STEP DIMMING WITH MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY CEILING MOUNTED OCCUPANCY SENSOR(S) ~ SEE DETAIL A1/EL400

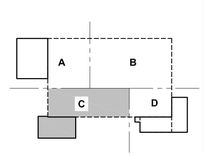
A1	LIGHTING PART PLAN ~ AREA C
1/8"=1'-0"	

A8	LIGHTING CONTROL NOTES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH



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Allied Project No: 13057 Cad File: 13057_EL.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7501 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION	SIGNATURE
PROGRAM	–
PROJECT MANAGER	ARCH. LIN. NUMBER
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – LIGHTING PLAN
AREA C

SHEET NUMBER
EL101C

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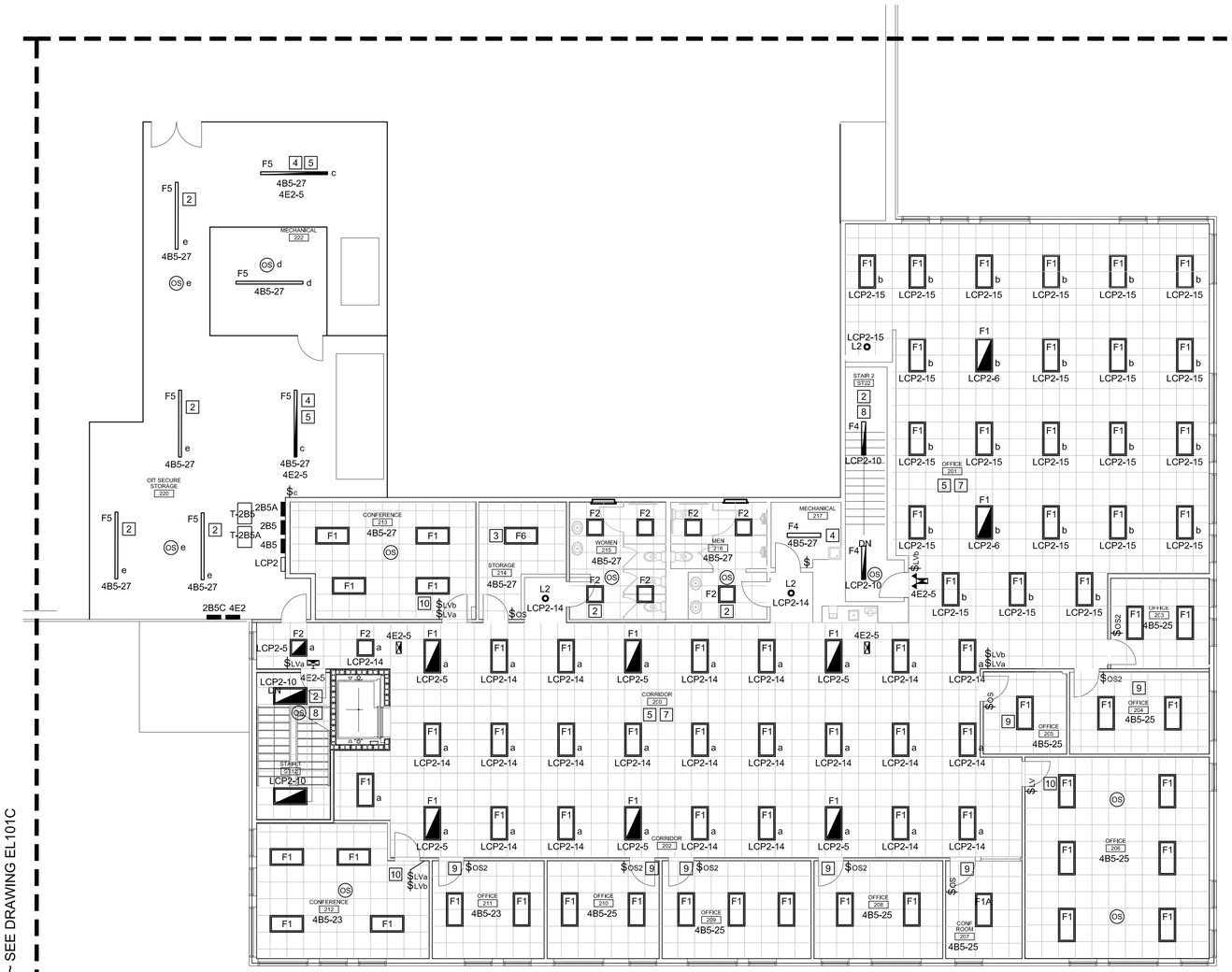

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3 LIGHTING SHALL BE MANUAL ON/AUTO OFF BY SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH ~ SEE DETAIL B4/EL 400

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7 LIGHTING CONTROL SHALL BE MANUAL ON BY LOCAL LOW VOLTAGE SWITCH AND AUTO OFF VIA LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)

8 LIGHTING SHALL BE CONTROLLED FROM LIGHTING CONTROL PANEL ~ REFER TO LCP SCHEDULE(S)

9 LIGHTING CONTROL SHALL BE STEP DIMMING WITH 2-BUTTON SWITCHBOX MOUNTED OCCUPANCY SENSOR SWITCH WITH MANUAL ON/AUTO OFF OPERATION ~ SEE DETAIL F4/EL400

10 LIGHTING CONTROL SHALL BE STEP DIMMING WITH MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY CEILING MOUNTED OCCUPANCY SENSOR(S) ~ SEE DETAIL A1/EL400

E9	LIGHTING CONTROL NOTES

A1	LIGHTING PART PLAN ~ SECOND FLOOR ~ AREA D
1/8"=1'-0"	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

WIN: 020118.20

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

SIGNATURE -

ARCH. LIN. NUMBER

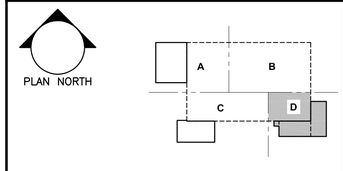
DATE FEBRUARY 27, 2014

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – LIGHTING PLAN
SECOND FLOOR – AREA D

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN



SHEET NUMBER
EL101D

Allied Engineering
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Allied Project No: 13057 Cad File: 13057_EL.DWG

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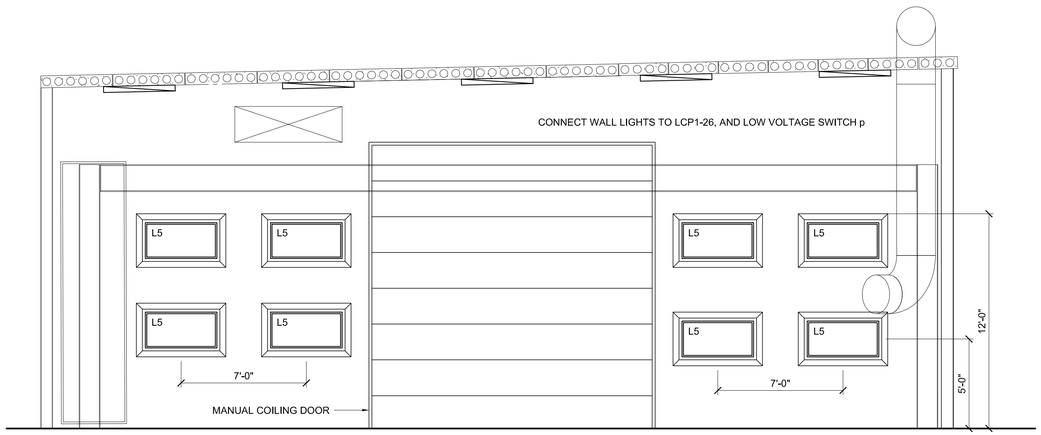
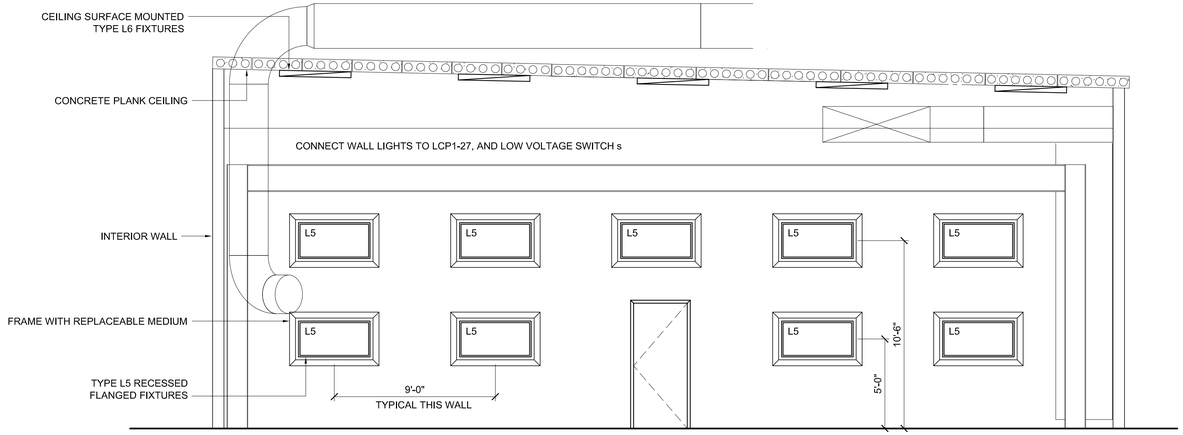


EAST ELEVATION



WEST ELEVATION

E1 | BLAST ROOM ELEVATION

1/4"=1'-0"

LIGHTING CONTROL PANEL SCHEDULE ~ LCP1

PROVIDE INTEGRAL ASTRONOMICAL TIME CLOCK

	MOUNTING: SURFACE
CONTROL VOLTAGE: 277	LOCATION: ELECTRIC ROOM
CONTROL CIRCUIT: 4B1-13	

RELAY NO	CIRCUIT NO	NOTE NO	DESCRIPTION
1	4E1-3	4	Sign Shop Floor 140 , Switch c
2	4E1-3	4	Fabrication 180 & Machine Shop 183, Switch e
3	4E1-1	4	Fabrication 181, Switch g
4	4E1-3	4	Wash Bay 191, Switch m
5	4E1-1	4	Prep Room 193, Switch n
6	4E1-1	4	Blast Room 194, Switch o
7	4E1-3	1	Exterior Building Lights
8			Spare
9			Spare
10			Spare
11			Spare
12			Spare
13			Spare
PROVIDE BARRIER BETWEEN NORMAL AND LIFE-SAFETY CIRCUITS			
14	4B1-13	4	Blast Room 194, Switch o
15	4B1-11	1	Exterior Building Lights
16	4B1-7	4	Prep Room 193, Switch n
17	4B1-9	4	Wash Bay 191, Switch m
18	4B1-9	4	Fabrication 181, Switch h
19	4B1-5	4	Fabrication 181, Switch g
20	4B1-7	4	Fabrication 180, Switch f
21	4B1-5	4	Fabrication 180 & Machine Shop 183, Switch f
22	4B1-3	4	Fabrication 180 & Machine Shop 183, Switch e
23	4B1-1	4	Sign Shop Floor 140 , Switch d
24	4B1-1	4	Sign Shop Floor 140 , Switch c
25	4B1-17	1	Exterior Pole Lights
26	4B1-13	4	Blast Room 194, Switch p
27	4B1-13	4	Blast Room 194, Switch s
28			Spare
29			Spare
30			Spare
31			Spare
32			Spare
33			Spare
34			Spare
35			Spare
36			Spare

NOTES:

1. PROGRAM FOR AUTO-ON/AUTO-OFF CONTROL VIA ASTRONOMICAL CLOCK
2. PROGRAM FOR AUTO-ON/AUTO-OFF VIA PHOTOCELL
3. PROGRAM FOR AUTO-ON/AUTO-OFF VIA TIME SCHEDULE ~ COORDINATE TIMES WITH OWNER.
4. PROGRAM FOR MANUAL-ON/AUTO-OFF VIA TIME SCHEDULE ~ COORDINATE TIMES WITH OWNER.

LIGHTING CONTROL PANEL SCHEDULE ~ LCP2

PROVIDE INTEGRAL ASTRONOMICAL TIME CLOCK

DESIGNATION:	MOUNTING: SURFACE
CONTROL VOLTAGE: 277	LOCATION: MEZZANINE
CONTROL CIRCUIT: 4B5-23	

RELAY NO	CIRCUIT NO	NOTE NO	DESCRIPTION
1	4E2-1	4	Light Vehicle Service 170, Switch f
2	4E2-1	4	Fast Lane 150 Switch h
3	4E2-3	4	Heavy Equipment 160, Switch n
4	4E2-3	4	NAPA 151, Switch o
5	4E2-5	4	Open Office 200, Switch a
6	4E2-5	4	Open Office 201, Switch b
7	4E2-7	4	Corridor 120, Switch a
8	4E2-7	4	Corridor 110, Switch b
9	4E2-7	4	Office 121, Switch c
10	4E2-5	2	Stair 1 and Stair 2
11			Spare
12			Spare
13			Spare
PROVIDE BARRIER BETWEEN NORMAL AND LIFE-SAFETY CIRCUITS			
14	4B5-23	4	Open Office 200, Switch a
15	4B5-25	4	Open Office 201, Switch b
16	4B5-7	4	NAPA 151, Switch o
17	4B5-21	4	Heavy Equipment 160, Switch m
18	4B5-19	4	Heavy Equipment 160, Switch m
19	4B5-17	4	Heavy Equipment 160, Switch m
20	4B5-15	4	Heavy Equipment 160, Switch n
21	4B5-13	4	Heavy Equipment 160, Switch n
22	4B5-7	4	Fast Lane 150 Switch h
23	4B5-11	4	Light Vehicle Service 170, Switch g
24	4B5-9	4	Light Vehicle Service 170, Switch f
25	4B5-1	4	Corridor 120, Switch a
26	4B5-5	4	Corridor 110, Switch b
27	4B1-5	4	Task lighting 170, Switch p
28	4B5-1	4	Office 121, Switch c
29			Spare
30			Spare
31			Spare
32			Spare
33			Spare
34			Spare
35			Spare
36			Spare

NOTES:

1. PROGRAM FOR AUTO-ON/AUTO-OFF CONTROL VIA ASTRONOMICAL CLOCK
2. PROGRAM SUCH THAT RELAY IS ON AT ALL TIMES WHEN THE BUILDING IS OCCUPIED.
3. PROGRAM FOR AUTO-ON/AUTO-OFF VIA TIME SCHEDULE ~ COORDINATE TIMES WITH OWNER.
4. PROGRAM FOR MANUAL-ON/AUTO-OFF VIA TIME SCHEDULE ~ COORDINATE TIMES WITH OWNER.

A1 | LIGHTING CONTROL PANEL SCHEDULES

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE –

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

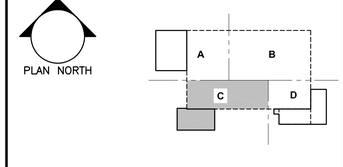
PROJECT	INFORMATION
PROGRAM MANAGER	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL
ENLARGED LIGHTING DETAILS

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN



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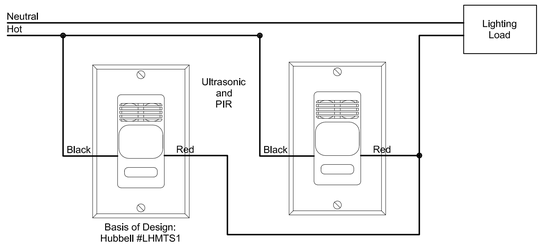
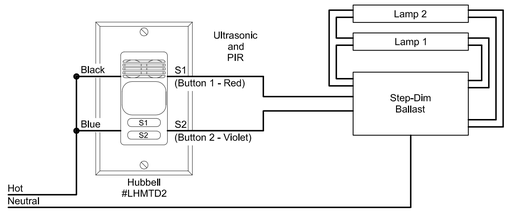
Allied Project No: 13057 Cad File: 13057_EL.DWG

SHEET NUMBER
EL200

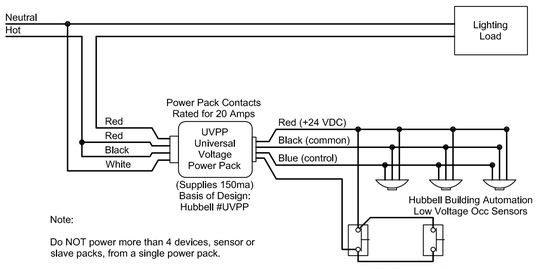
N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EL.dwg Mar 05, 2014 - 1:55pm



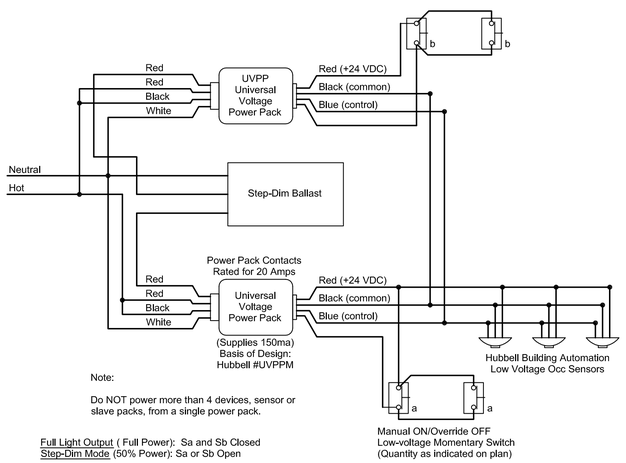
F1	3-WAY SENSOR SWITCH WIRING - MANUAL ON/AUTO OFF
NO SCALE	



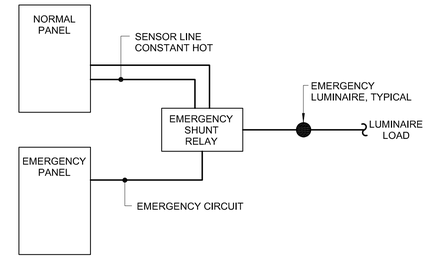
F4	2-BUTTON OCC SENSOR SWITCH FOR STEP DIMMING
NO SCALE	



C1	MANUAL ON SWITCHING WITH AUTO OFF
NO SCALE	

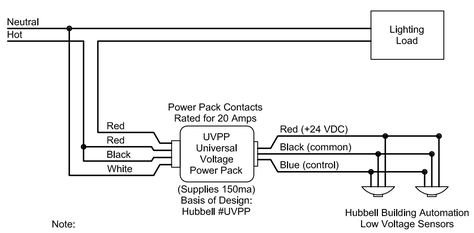


A1	STEP DIMMING WITH AUTO OFF
NO SCALE	



D4	EMERGENCY POWER GENERATOR TRANSFER DEVICE
NO SCALE	

B4	OCCUPANCY SENSOR SWITCH - MANUAL ON/AUTO OFF
NO SCALE	



A4	AUTO ON/AUTO OFF CONTROL DETAIL
NO SCALE	

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER SEE NOTE 1	MOUNTING	VOLTS	LAMP			KEY NOTES
						QTY PER FIXTURE	WATTS	TYPE	
F1	2x4 HIGH PERFORMANCE TROFFER	FINELITE	HPR-A-2x4-DCO-2T5-PS	RECESSED	277	2	28	T5 3500K	4
F1A	2x4 HIGH PERFORMANCE TROFFER	FINELITE	HPR-A-2x4-DCO-3T5-PS	RECESSED	277	3	28	T5 3500K	4
F2	2x2 HIGH PERFORMANCE TROFFER	FINELITE	HPR-A-2x2-DCO-2T5-PS	RECESSED	277	2	14	T5 3500K	4
F2A	2x2 HIGH PERFORMANCE TROFFER	FINELITE	HPR-A-2x2-DCO-3T5-PS	RECESSED	277	3	14	T5 3500K	4
F3	UTILITY LIGHT	LUMINAIRE LIGHTING	LVP88-2PLT26-120-CP-WHT-DAMP	SURFACE	120	2	26	COMPACT FLUORESCENT	7
F4	4' LENSED STRIP LIGHT	LITHONIA	ST5-2-28T5	SEE PLANS	277	2	28	T5 3500K	4
F5	8' STRIP WITH WIRE GUARDS	LITHONIA	TZ228T5-GEB10PS-WGZ46	CEILING OR CHAIN	277	4	28	T5 3500K	6,7
F5A	4' STRIP WITH WIRE GUARD	LITHONIA	Z228T5-GEB10PS-WGZ46	CEILING OR CHAIN	277	2	28	T5 3500K	6,7
F6	2x4 LENSED GRID TROFFER	LITHONIA	SP5G-228T5-A19	RECESSED	277	3	28	T5 3500K	4
F6A	2x2 LENSED GRID TROFFER	LITHONIA	SP5G-214T5-A19	RECESSED	277	2	14	T5 3500K	4
L1	LED HIGH BAY	LITHONIA	IBL-18L-WD-SD125-LP740DLC	AIRCRAFT CABLE	277	-	199	LED ARRAY 4000K	
L1A	LED HIGH BAY	LITHONIA	IBL-24L-WD-SD125-LP740DLC	AIRCRAFT CABLE	277	-	258	LED ARRAY 4000K	
L1B	LED HIGH BAY	LITHONIA	IBL-12L-WD-SD125-LP740DLC	AIRCRAFT CABLE	277	-	131	LED ARRAY 4000K	
L2	4" DIAMETER DOWNLIGHT	PRESCOLITE	LF4LED-4LFLED5	RECESSED	277	-	18.5	LED ARRAY 3500K	
L3	16" SURFACE SQUARE	XAL	N677-635-0161-7170-O-70	CEILING SURFACE	277	-	23	LED ARRAY 3500K	
L4	2" DIAMETER DOWNLIGHT	PRESCOLITE	D2LED-2D9LED-9L-35K-8-WF L45-MFC	RECESSED	277	-	17	LED ARRAY 3500K	
L5	LED TROFFER WITH INTEGRAL FLANGE AND DOOR GASKET FOR BLAST RM	LITHONIA	2GL4F-72L-FN-SWL-ABC	WALL SEE DETAIL E1/EL200	277	-	77	LED ARRAY 4100K	
L6	LED SURFACE MOUNT FIXTURE FOR BLAST RM	LITHONIA	FHE LED-12L-FST	CEILING SURFACE	277	-	152	LED ARRAY 4100K	
L7	LINEAR TASK LIGHT, 48"	LUMINAIRE LIGHTING	AEL48-42W-DP-SVH	WALL 9' AFF	277	-	42	LED ARRAY 3500K	
L7A	LINEAR TASK LIGHT, 72"	LUMINAIRE LIGHTING	AEL72-64W-DP-SVH	WALL 9' AFF	277	-	64	LED ARRAY 3500K	
L8	WASH BAY LIGHT	LITHONIA	FHELED-9L/35-FST	CEILING SURFACE	277	-	118	LED ARRAY 3500K	
W1	LED EXTERIOR WALL SCONCE	PHILIPS GARDCO	161-CW-2-70LA-6435-NW	WALL 18'	277	-	75	LED ARRAY	
W2	OVER DOOR EGRESS LIGHT	LUMINAIRE LIGHTING	AEL24-22WLED-DP-BZH	WALL 8" OVER DOOR	277	-	22	LED ARRAY	
	EXIT SIGN	LITHONIA	LXW3R	SEE NOTE 3	277	-	3.8	LED ARRAY	3
	LUMINAIRE SCHEDULE NOTES								
1	**NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG #'S. PROVIDE ALL REQUIREMENTS ON SCHEDULE,NOTES, SPECS, AND DRAWINGS COMBINED.**								
2	**CATALOG SERIES NUMBERS ARE USED TO ESTABLISH A LEVEL OF QUALITY AND NOT INTENDED TO LIMIT COMPETITION. SERIES NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. COMPLY WITH ADDITIONAL REQUIREMENTS IN SPECIFICATIONS AND DRAWINGS.**								
3	PROVIDE WALL,CEILING, OR PENDANT MOUNTING AS INDICATED ON PLANS. PROVIDE NUMBER OF FACES AND ARROWS AS INDICATED.								
4	PROVIDE PROGRAMMED START BALLAST WITH ROOMS THAT HAVE OCCUPANCY SENSORS.								
5	VERIFY CEILING STRUCTURE AND MOUNTING HEIGHT PRIOR TO ORDERING ANY LIGHT FIXTURES.								
6	(2) LAMPS IN CROSS SECTION								
7	LIGHT FIXTURE LOCATIONS IN MECHANICAL ROOMS AND ELECTRIC ROOMS ARE APPROXIMATE. INSTALL LIGHTING TO AVOID DUCTWORK, PIPING AND ELECTRICAL ITEMS.								

A6	LUMINAIRE SCHEDULE AND NOTES

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EL.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 Licensed PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL LIGHTING DETAILS AND LUMINAIRE SCHEDULE

SHEET NUMBER
EL400

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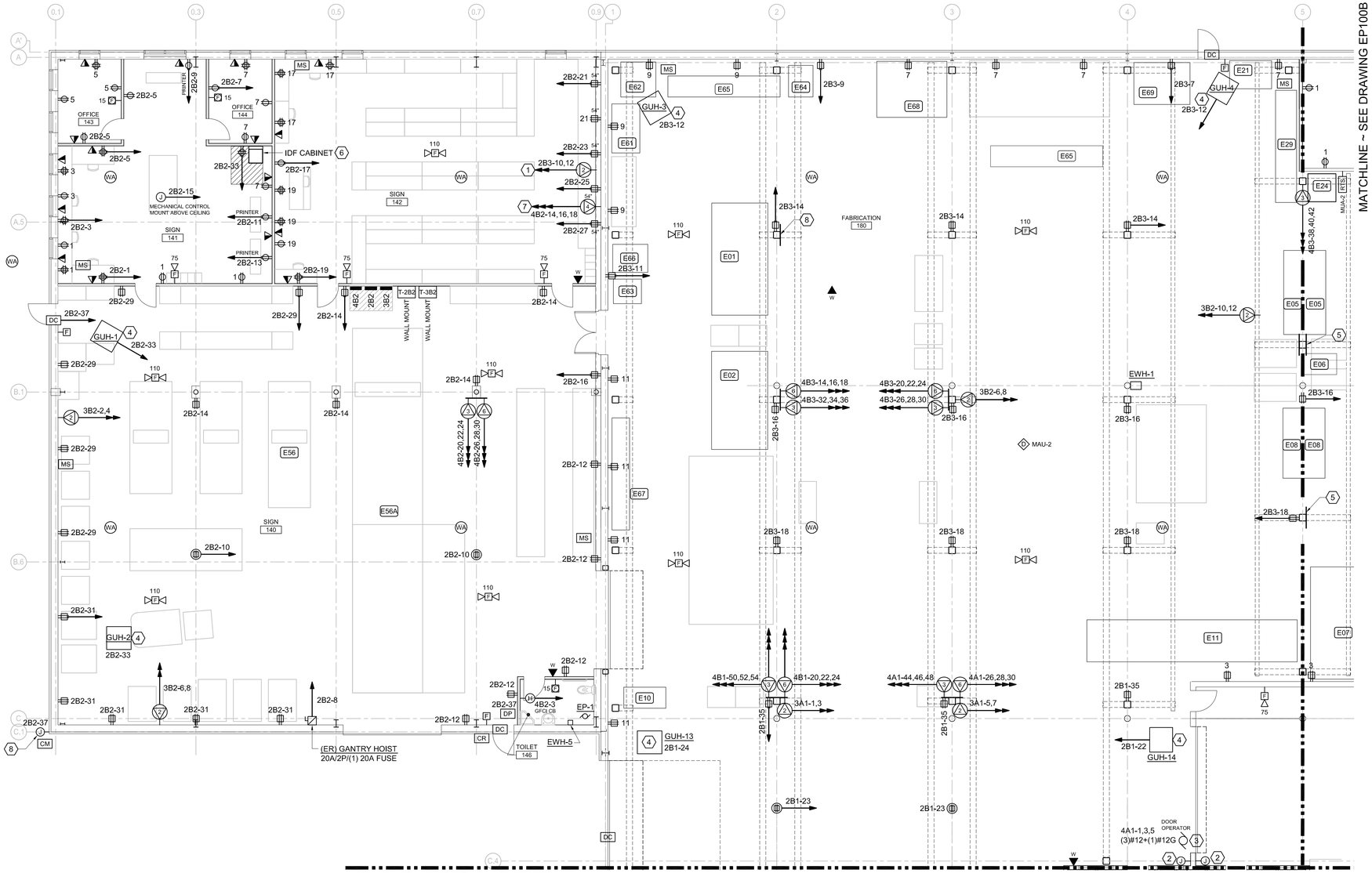


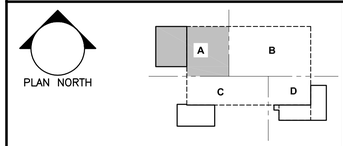
ISSUED FOR BID

FEBRUARY 27, 2014

1	MOUNT RECEPTACLE AT 54" AFF, PROVIDE 30A, 240V, 2P NON-FUSED DISCONNECT SWITCH
2	PROVIDE 3/4" CONDUIT FROM WALL BOX AT 48" AFF TO DOOR OPERATOR
3	PROVIDE 20A, 600V 3-POLE NON-FUSED DISCONNECT SWITCH FOR DOOR OPERATOR
4	PROVIDE 20A, 120V 2P NON-FUSED DISCONNECT SWITCH
5	MOUNT DISCONNECT SWITCHES FOR SHOP EQUIPMENT ON BACKBOARD.
6	PROVIDE (2) 4"C WITH PULL STRING FROM IDF TO MDF ROOM 119
7	MOUNT RECEPTACLE AT 54" AFF, PROVIDE 30A, 240V, 2P NON-FUSED DISCONNECT SWITCH
8	POWER FOR CAMERA HOUSING HEATER, VERIFY MOUNTING HEIGHT

A8 KEY NOTES

PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057_EP.DWG

A1 POWER AND SYSTEMS PLAN ~ AREA A

1/8"=1'-0"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7571 Registered Professional Engineer STATE OF MAINE

PROJECT INFORMATION	SIGNATURE	DATE
PROGRAM	–	
PROJECT MANAGER		
DESIGNER	ALLIED ENG., INC.	ARCH. LIN. NUMBER –
CONSULTANT	–	
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE	–	DATE FEBRUARY 27, 2014

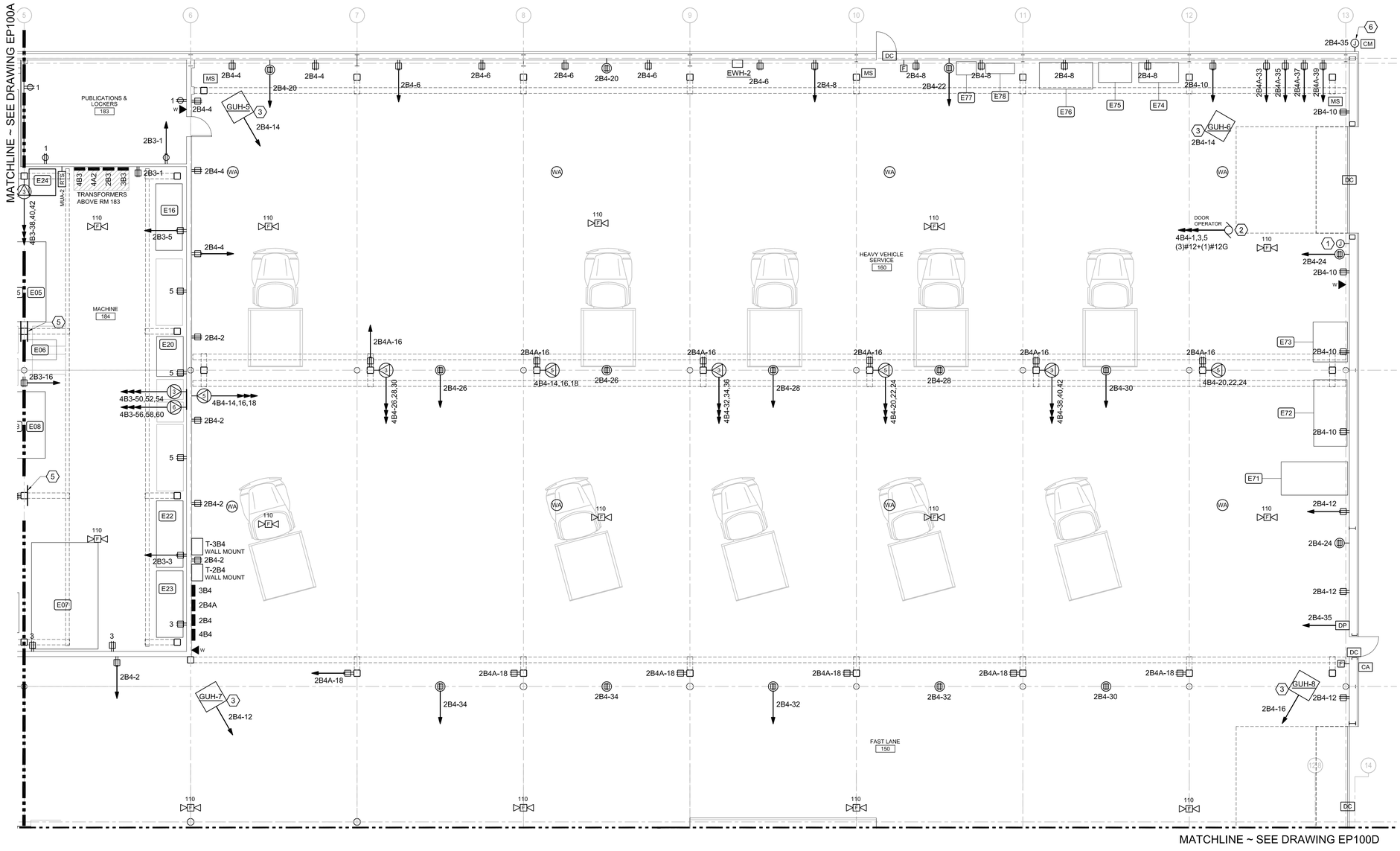
66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

WIN: 020118.20

ELECTRICAL – POWER AND SYSTEMS PLAN ~ AREA A

SHEET NUMBER
EP100A

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EP.dwg Mar 05, 2014 – 1:31pm

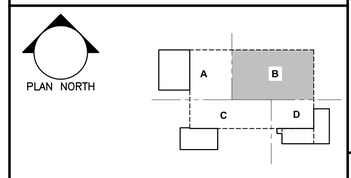


ISSUED FOR BID

FEBRUARY 27, 2014

1. PROVIDE 3/4" CONDUIT FROM WALL BOX TO DOOR OPERATOR
2. PROVIDE 20A, 600V 3-POLE NON-FUSED DISCONNECT SWITCH FOR DOOR OPERATOR
3. PROVIDE 20A, 120V 2P NON-FUSED DISCONNECT SWITCH
4. MOUNT DISCONNECT SWITCHES FOR E05 AND E06 ON BACKBOARD.
5. MOUNT DISCONNECT SWITCH FOR E08 ON BACKBOARD.
6. POWER FOR CAMERA HOUSING HEATER, VERIFY MOUNTING HEIGHT

PROJECT KEY PLAN



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A1	POWER AND SYSTEMS PLAN ~ AREA B	A8	KEY NOTES
1/8"=1'-0"			

Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7575
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – POWER AND SYSTEMS PLAN ~ AREA B

SHEET NUMBER
EP100B

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MATCHLINE ~ SEE DRAWING EP100A

MATCHLINE ~ SEE DRAWING EP100D

(ER) MIX ROOM EXHAUST FAN

(ER) PAINT BOOTH EXHAUST FANS

(ER) MIXING ROOM

NO ELECTRICAL ITEMS WITHIN 3' HORIZONTALLY AND VERTICALLY FROM PAINT BOOTH OPENINGS ~ REFER TO NEC ARTICLE 516

(ER) TITAN PAINT BOOTH CONTROL PANEL SINGLE, POINT CONNECTION

(ER) MEDIA RECOVERY SYSTEM: CONTROLLED THROUGH EMPIRE MOTOR CONTROL PANEL - TAG E92

(ER) 100 HP AIR COMPRESSOR

(ER) BRIDGE CRANE

(ER) DUST COLLECTOR

(ER) PAINT BOOTH

(ER) FIRE SUPPRESSION PANEL

(ER) MAU

CONTINUE CONDUITS UP TO MEZZANINE

MOUNT AUGER DISC SWITCHES HERE

DROP CONDUITS DOWN TO 3'-4" AFG

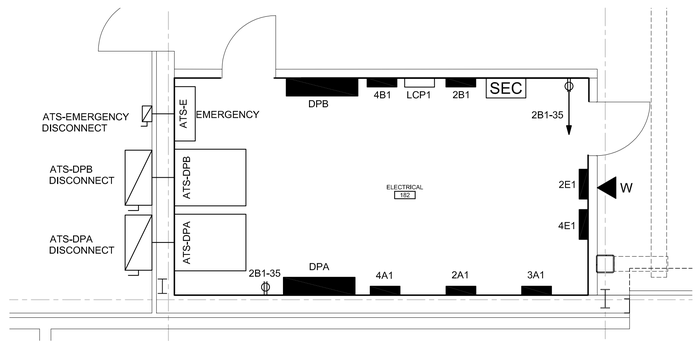
TOWER

(4) 6" PVC CONDUITS, RUN AT CEILING

OFFICE 130 · UNISEX TOILET 134 · UNISEX TOILET 136 · BENCH 133 · CORR 132 · OFF SHOP 137 · FABRICATION 181 · OFFICE 131 · NOC 132 · OFFICE 138 · OPEN OFFICE 131 · PRINTER FAX · LIGHT VEHICLE SERVICE 170 · ELECTRICAL 182 · WASH 191 · PAINT 192 · PREP 193 · BLAST 194 · MECH 196 · CHANGE 197 · DUST 195

KEY NOTES

1. PROVIDE (4) 6" PVC CONDUITS WITH PULL STRING FROM RADIO TOWER TO MEZZANINE ABOVE RM 131
2. NOT USED
3. NOT USED
4. PROVIDE 3/4" CONDUIT FROM WALL BOX TO DOOR OPERATOR
5. PROVIDE 6' SURFACE RACEWAY WITH RECEPTACLE SPACING OF 9", AT 24" AFF AND 48" AFF, BASIS OF DESIGN: WIREMOLD 2000 SERIES IVORY SCUFFCOAT FINISH
6. PROVIDE 20A, 600V 3-POLE NON-FUSED DISCONNECT SWITCH FOR DOOR OPERATOR
7. PROVIDE 20A, 120V 2P NON-FUSED DISCONNECT SWITCH
8. MOUNT DISCONNECT SWITCHES FOR SHOP EQUIPMENT ON BACKBOARD.



ENLARGED MAIN ELECTRIC ROOM

1/4"=1'-0"

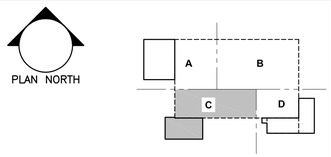
POWER AND SYSTEMS PLAN ~ AREA C

1/8"=1'-0"

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	SIGNATURE
DESIGNER	ARCH. LIN. NUMBER
CONSULTANT	ALLIED ENG., INC.
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – POWER AND SYSTEMS PLAN ~ AREA C

SHEET NUMBER

EP100C

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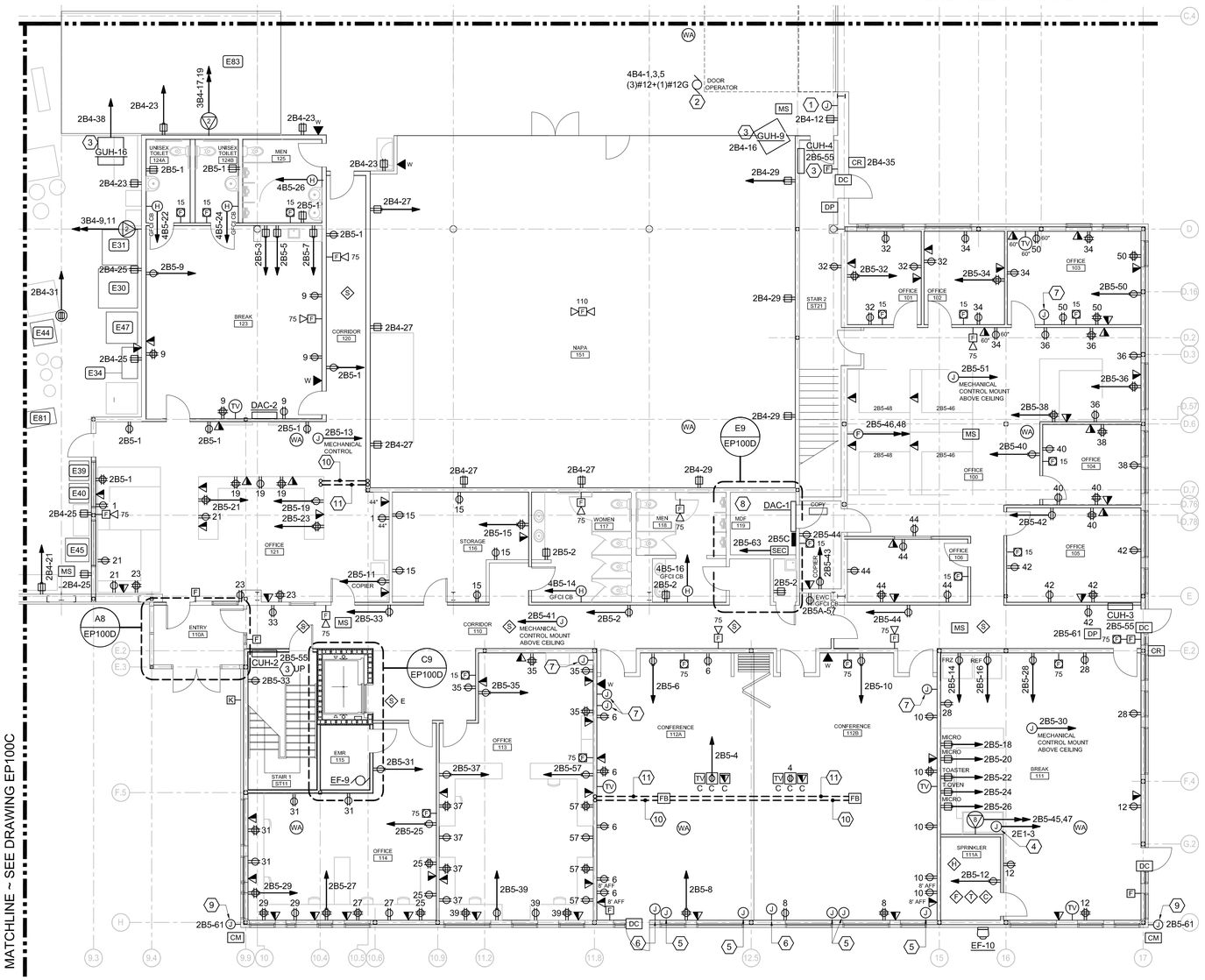
MATCHLINE ~ SEE DRAWING EP100B

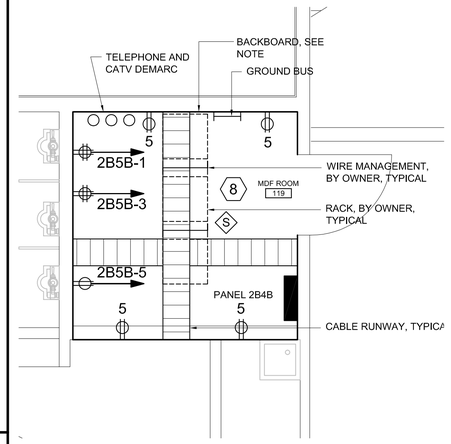
MATCHLINE ~ SEE DRAWING EP100C



A1	POWER AND SYSTEMS PLAN ~ AREA D
1/8"=1'-0"	

1. PROVIDE 3/4" CONDUIT FROM WALL BOX TO DOOR OPERATOR
2. PROVIDE 20A, 600V 3-POLE NON-FUSED DISCONNECT SWITCH FOR DOOR OPERATOR
3. PROVIDE 20A, 120V 2P NON-FUSED DISCONNECT SWITCH
4. POWER FOR HOOD LIGHTS AND FIRE SUPPRESSION SYSTEM. WHEN ACTIVATED, FIRE SUPPRESSION SYSTEM SHUTS OFF POWER TO RANGE.
5. PROVIDE JUNCTION BOX ABOVE CEILING FOR MOTORIZED SHADES
6. PROVIDE JUNCTION BOX AT 48" AFF FOR SHADE CONTROLS.
7. PROVIDE JUNCTION BOX AT 48" AFF. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM JUNCTION BOX TO RADIO EQUIPMENT ON MECHANICAL MEZZANINE ABOVE ROOM 131
8. PROVIDE 4" C WITH PULL STRING FROM MDF ROOM 119 TO RADIO EQUIPMENT ON MECHANICAL MEZZANINE ABOVE ROOM 131
9. POWER FOR CAMERA HOUSING HEATER, VERIFY MOUNTING HEIGHT
10. 1" C UNDER FLOOR FOR POWER
11. 2" C UNDER FLOOR FOR TEL/DATA

F7	KEY NOTES



BACKBOARD:

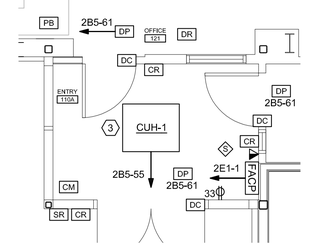
BACKBOARD SHALL BE 4-FT. X 8-FT. X ¾-IN. PLYWOOD SHEETS OF GOOD QUALITY, PAINTED TWO COATS WITH AN OFF-WHITE SEMI-GLOSS OR SATIN FINISH LATEX PAINT, MOUNTED THIRTY-SIX (36) INCHES ABOVE THE FLOOR, AS MEASURED FROM THE LOWERMOST EDGE OF THE BACKBOARD. ALL BACKBOARDS SHALL BE SECURELY FASTENED DIRECTLY TO THE FINISHED WALL STRUCTURE, USING APPROPRIATE FASTENERS FOR THE SURFACE TO WHICH SUCH BACKBOARDS ARE BEING FASTENED. WALL SURFACES MUST BE FINISHED AND PAINTED PRIOR TO BACKBOARD INSTALLATION.

E9	ELEVATOR AND MACHINE ROOM PLAN
3/8"=1'-0"	

C9	ELEVATOR AND MACHINE ROOM PLAN
1/4"=1'-0"	

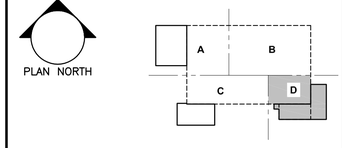
ISSUED FOR BID

FEBRUARY 27, 2014



A8	ENLARGED ENTRY 110A
1/4"=1'-0"	

PROJECT KEY PLAN



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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE –

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – POWER AND SYSTEMS PLAN ~ AREA D

SHEET NUMBER

EP100D

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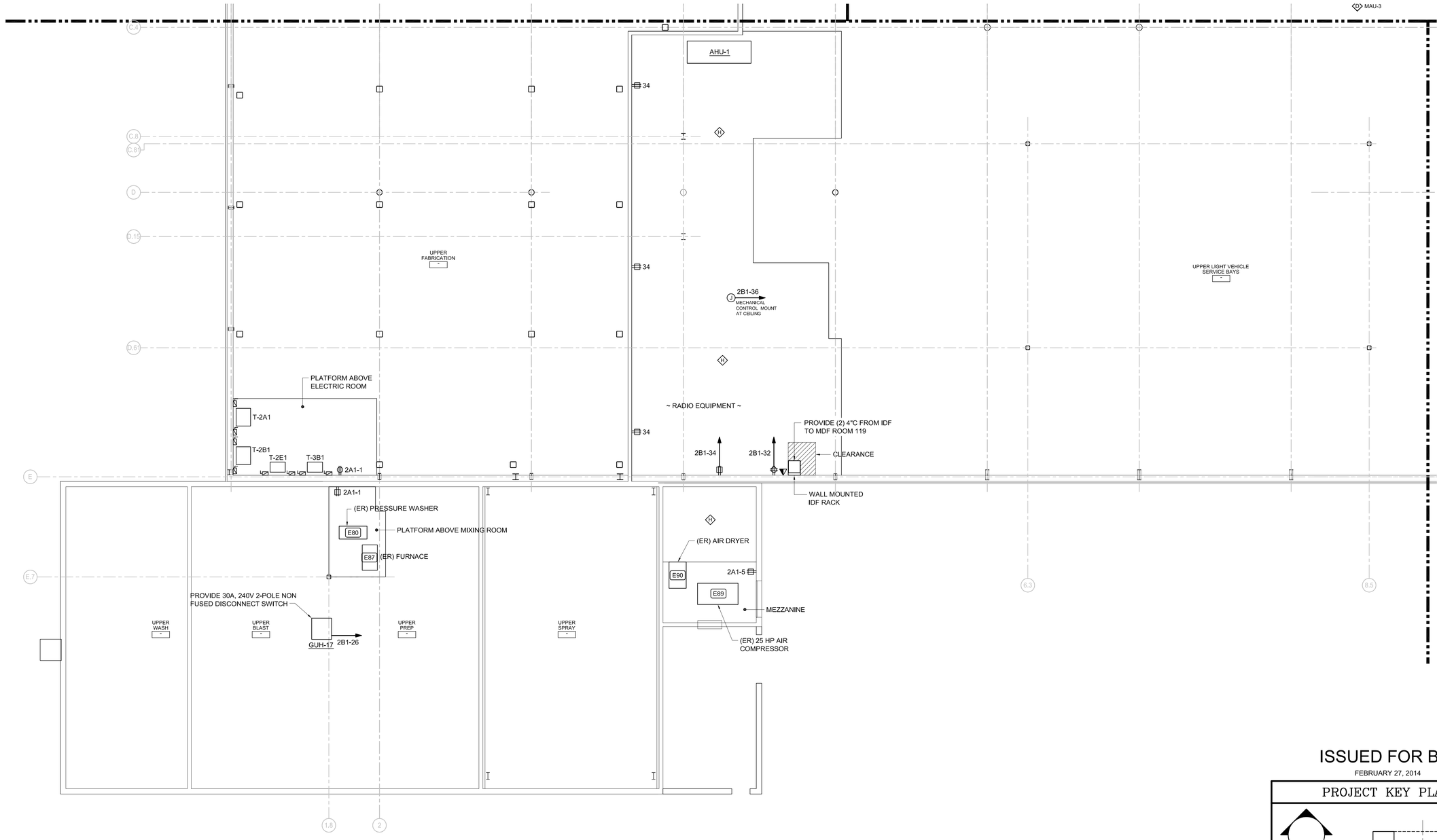

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A B C D

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Structural Mechanical Electrical Commissioning

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207.221.2266
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Allied Project No: 13057 Cad File: 13057_EP.DWG

A1	POWER AND SYSTEMS PLAN ~ AREA C
1/8"=1'-0"	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7577 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION	SIGNATURE	ARCH. LIN. NUMBER
PROGRAM		
PROJECT MANAGER		
DESIGNER	ALLIED ENG., INC.	
CONSULTANT		
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE		

DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – POWER AND SYSTEMS
PLAN – AREA C

SHEET NUMBER

EP101C

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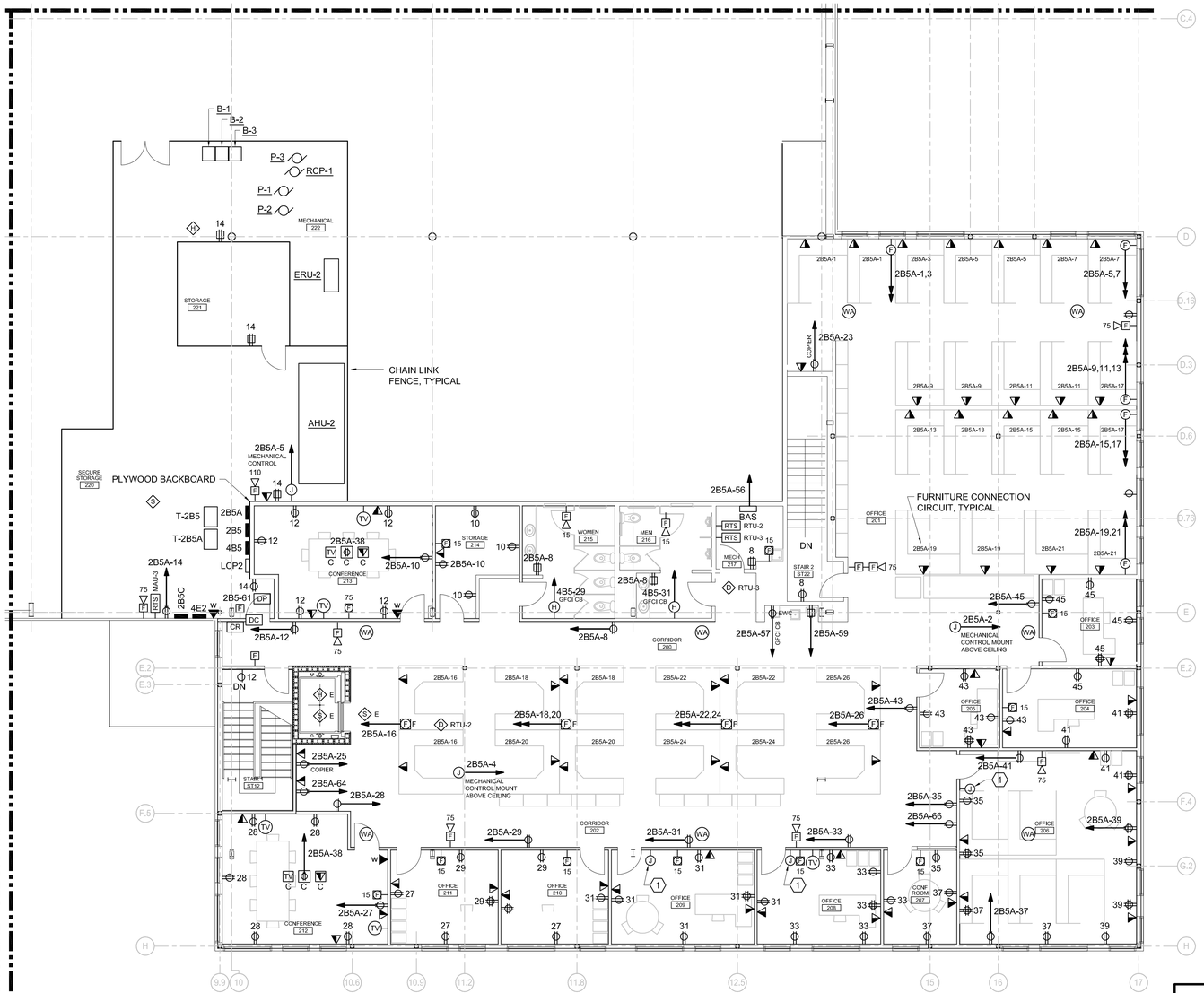

A1	POWER AND SYSTEMS PLAN ~ SECOND FLOOR AREA D	A4	KEY NOTES
1/8"=1'-0"			

1 PROVIDE JUNCTION BOX AT 48" AFF. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM JUNCTION BOX TO RADIO EQUIPMENT ON MECHANICAL MEZZANINE ABOVE ROOM 131

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

A B C D

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7501 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

SIGNATURE -
ARCH. LIN. NUMBER
DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – POWER AND SYSTEMS
PLAN – SECOND FLOOR AREA D

SHEET NUMBER
EP101D

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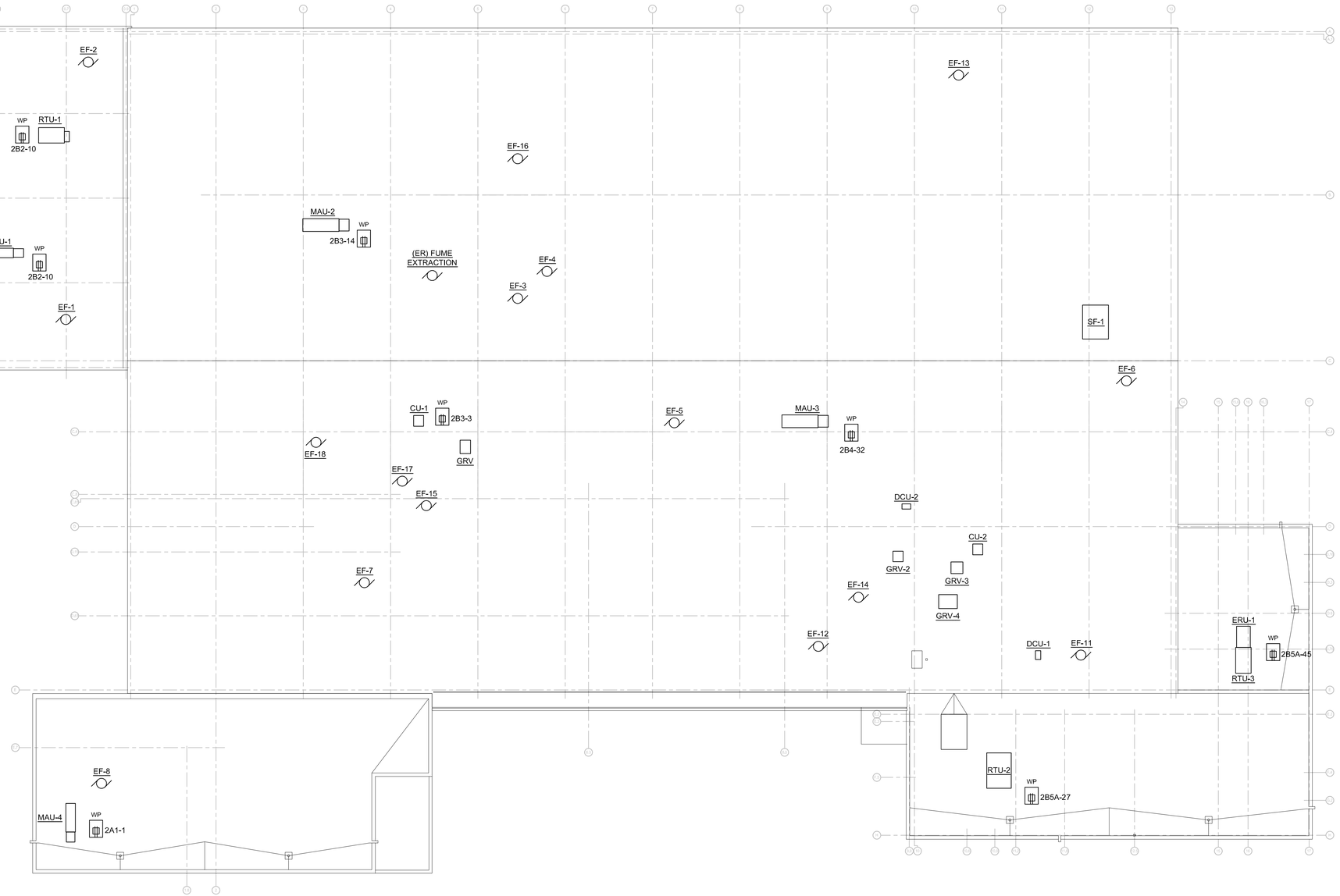
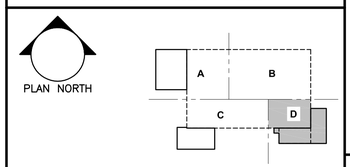


ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN



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Allied Project No: 13057 Cad File: 13057_EP.DWG

A1 | ELECTRICAL ROOF PLAN

1/16"=1'-0"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

CATHERINE A. FAUCHER No. 7571 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

PROJECT INFORMATION		
PROGRAM		
PROJECT MANAGER		
DESIGNER	ALLIED ENG., INC.	
CONSULTANT	–	
PROJECT RESIDENT		
CONTRACTOR		
PROJECT COMPLETION DATE		–

SIGNATURE –

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL ROOF PLAN

SHEET NUMBER

EP102

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DISCONNECT SWITCH KEY:

- (A) 240V, 60A, 3P FUSED AT 50A
- (B) 240V, 100A, 3P FUSED AT 100A
- (C) 240V, 400A, 3P FUSED AT 225A
- (D) 600V, 30A, 3P FUSED AT 30A
- (E) 600V, 60A, 3P FUSED AT 50A
- (F) 600V, 60A, 3P FUSED AT 60A
- (G) 600V, 200A, 3P FUSED AT 125A
- (H) 600V, 400A, 3P FUSED AT 225A
- (I) 600V, 100A, 3P FUSED AT 100A, NEMA-3R
- (J) 600V, 1200A, 3P FUSED AT 1000A, NEMA-3R
- (K) 600V, 1200A, 3P FUSED AT 1200A, NEMA-3R

POWER RISER KEY NOTES:

1. ELEVATOR DISCONNECT SWITCH, NEMA-3R, WITH AUXILIARY SWITCH (ELECTRICAL INTERLOCK KIT), RATED 200A, 240V, 3P FUSED AT 125A
2. PROVIDE TELEPHONE LINE TO METER
3. FEEDERS WITH CONDUCTORS IN CONDUITS AS INDICATED ARE TO BE RUN TO 10' OUTSIDE OF THE BUILDING AND TO BE RUN IN EXISTING CONDUIT TO TRANSFORMER VAULT AND EMERGENCY GENERATOR RESPECITVELY

TRANSFORMER SCHEDULE/KEY

TAG	DESCRIPTION		NOTES
1	112.5 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120 VOLT, 3 PHASE, 4 WIRE SECONDARY	
2	15 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120 VOLT, 3 PHASE, 4 WIRE SECONDARY	
3	75 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120 VOLT, 3 PHASE, 4 WIRE SECONDARY	
4	45 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120 VOLT, 3 PHASE, 4 WIRE SECONDARY	
5	30 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120 VOLT, 3 PHASE, 4 WIRE SECONDARY	
6	75 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 230 VOLT, 3 PHASE, 3 WIRE SECONDARY	
7	30 KVA	480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 230 VOLT, 3 PHASE, 3 WIRE SECONDARY	

TRANSFORMER SCHEDULE NOTES:

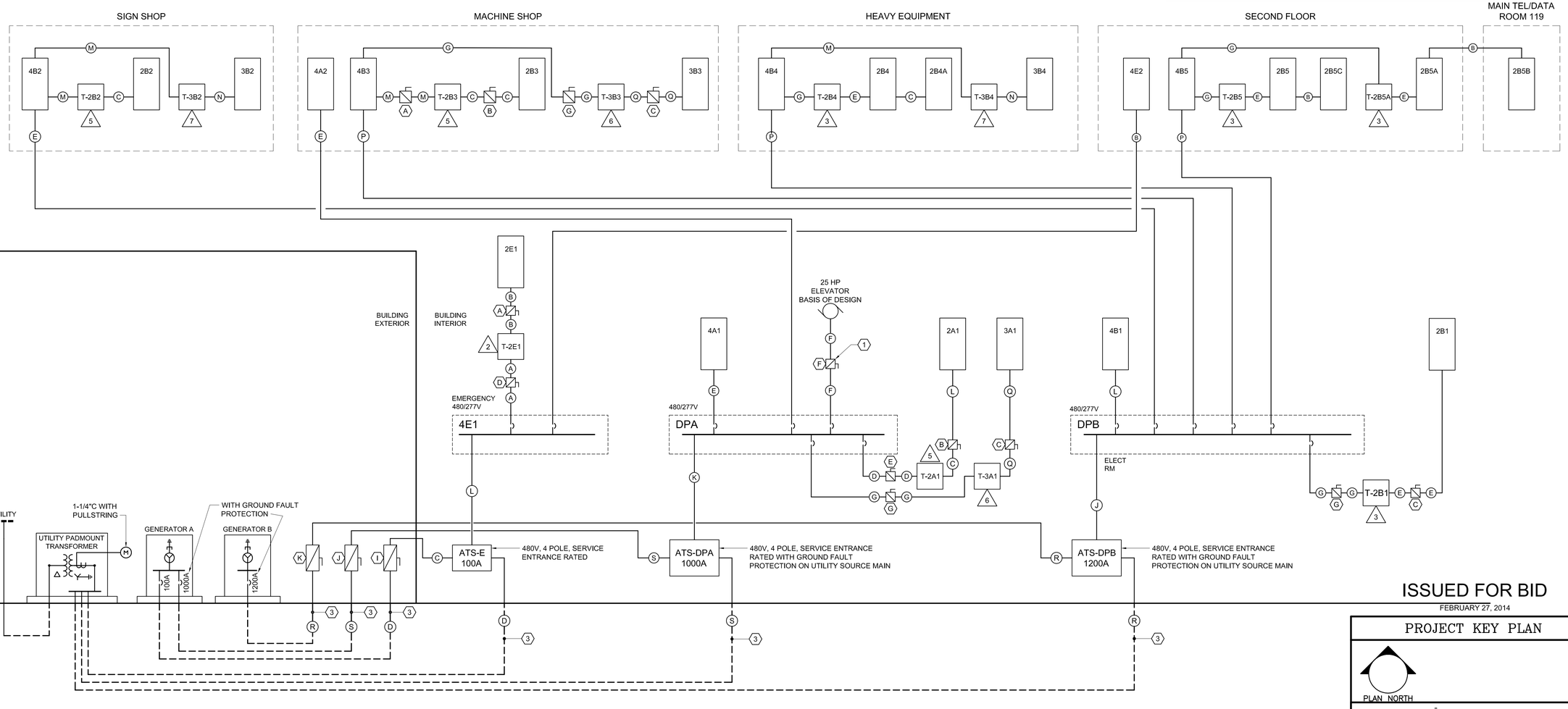
1. TRANSFORMER TO BE CEILING/WALL MOUNTED TO BEST SUIT THE EXISTING CONDITIONS.

FEEDER SCHEDULE

TAG	DESCRIPTION	CONDUCTORS (NOTE 1)	CONDUIT (NOTE 2)
A	30 AMP PRIMARY/FEEDER	(3) #10, (1) #10 G	3/4"
B	50 AMP SECONDARY/FEEDER	(4) #8, (1) #10 G	1"
C	100 AMP SECONDARY/FEEDER	(4) #2, (1) #8 G	1 -1/4"
D	200 AMP SECONDARY/FEEDER	(4) #3/0, (1) #6 G	2"
E	250 AMP SECONDARY/FEEDER	(4) 4/0 KCMIL, (1) #4 G	2-1/2"
F	70 AMP PRIMARY/FEEDER	(3) #4, (1) #8 G	1
G	125 AMP PRIMARY/FEEDER	(3)#1,(1)#6G	1-1/2"
H	200 AMP PRIMARY/FEEDER	(3) #3/0, (1) #6 G	2"
I	NOT USED		
J	1200 AMP SECONDARY/FEEDER	(4) 600 KCMIL, (1) #3/0 G	IN EACH OF (3) 4"
K	1000 AMP SECONDARY/FEEDER	(4) 500 KCMIL, (1) #2/0 G	IN EACH OF (3) 4"
L	125 AMP SECONDARY/FEEDER	(4) #1/0, (1) #6 G	1-1/2"
M	50 AMP PRIMARY/FEEDER	(3) #8, (1) #10 G	1"
N	100 AMP PRIMARY/FEEDER	(3) #2, (1) #8 G	1-1/2"
P	400 AMP SECONDARY/FEEDER	(4) 500 KCMIL, (1) #3 G	3"
Q	250 AMP PRIMARY/FEEDER	(4) 250 KCMIL, (1) #4 G	2-1/2"
R	1200 AMP SECONDARY/FEEDER - UNDERGROUND	(4) 750 KCMIL, (1) #3/0 G	IN EACH OF (4) 4"
S	1000 AMP SECONDARY/FEEDER - UNDERGROUND	(4) 500 KCMIL, (1) #2/0 G	IN EACH OF (4) 4"

FEEDER SCHEDULE NOTES:

1. WIRING BASED ON COPPER THWN/THHN
2. CONDUIT SIZE BASED ON EMT



ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

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Structural Mechanical Electrical Commissioning
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Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	-
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	-

WIN: 020118.20

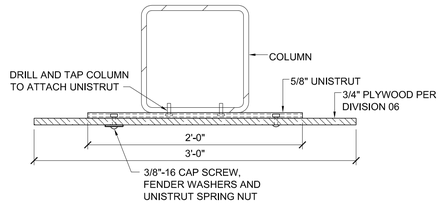
66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL – POWER RISER DIAGRAM

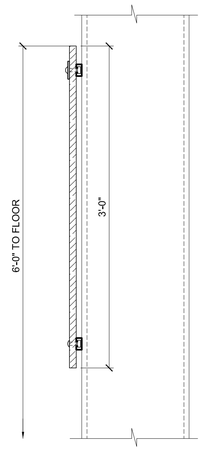
SHEET NUMBER
EP400

A1	POWER RISER DIAGRAM
NO SCALE	

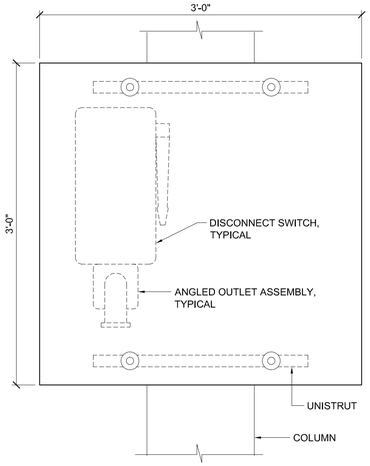
N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EP.dwg Mar 05, 2014 - 1:56pm



TOP VIEW



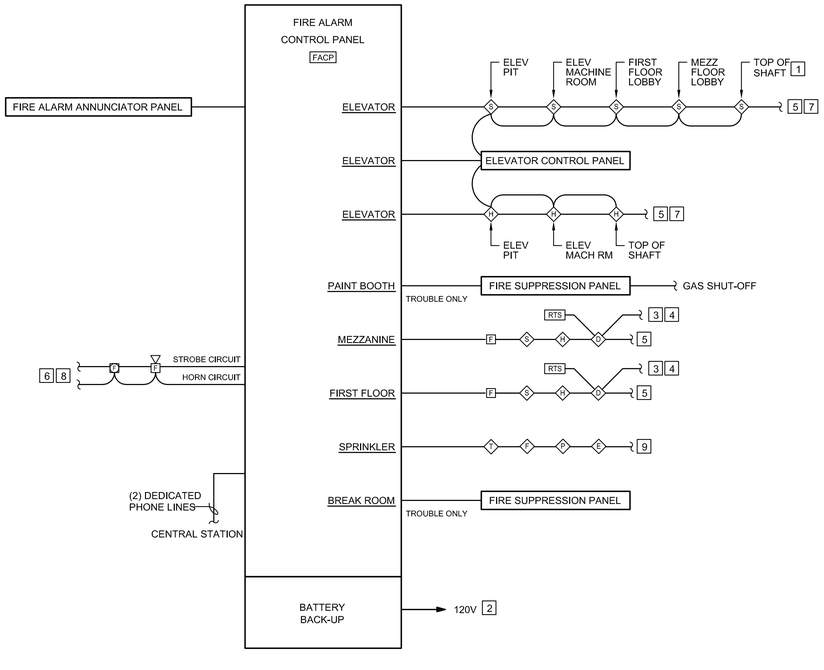
SIDE VIEW



FRONT VIEW

D5 | TYPICAL BACKBOARD FOR DISCONNECT SWITCHES

NO SCALE



FIRE ALARM GENERAL NOTES

1. MINIMUM SIZE CONDUIT SHALL BE 1/2" UNLESS NOTED OTHERWISE.
2. SYSTEM WIRING SHALL BE INSTALLED IN CONDUIT AND IN ACCORDANCE WITH EQUIPMENT SUPPLIER'S APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.
3. RISER DIAGRAM DOES NOT SHOW ENTIRE SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL SYSTEM DEVICES.
4. COORDINATE LOCATIONS OF DUCT SMOKE DETECTORS WITH DIVISION 23.
5. ALL WIRING SHALL BE CONCEALED.

FIRE ALARM KEY NOTES

1. PROVIDE ONLY IF SPRINKLER HEAD IS LOCATED AT TOP OF SHAFT
2. PROVIDE CIRCUIT BREAKER HANDLE LOCK ON POWER CIRCUIT. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
3. TO AUXILIARY CONTACTS IN RESPECTIVE AIR-HANDLING UNIT STARTER FOR UNIT SHUTDOWN ON ALARM. LABEL DUCT SMOKE DETECTOR AND CORRESPONDING REMOTE TEST STATION UNIQUELY. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF MECHANICAL EQUIPMENT.
4. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR HVAC CONTROLS.
5. CONNECT TO REMAINING INITIATING DEVICES. SEE FLOOR PLANS.
6. CONNECT TO REMAINING NOTIFICATION APPLIANCES. SEE FLOOR PLANS PROVIDE NUMBER OF CIRCUITS AS REQUIRED. WHERE FIELD CHARGING POWER SUPPLIES OR NOTIFICATION APPLIANCE CIRCUIT POWER EXTENDERS ARE USED, PROVIDE A SMOKE DETECTOR AT EACH UNIT PER NFPA 72 IN ADDITION TO SMOKE DETECTORS INDICATED ON FLOOR PLANS.
7. PROVIDE CONTACTS FOR ALL DETECTORS AND CONNECT TO ELEVATOR CONTROLLER FOR SHUNT TRIP OPERATION OF ELEVATOR AND ELEVATOR RECALL. OPERATION OF SMOKES CAUSES ELEVATOR TO GO TO FLOOR OF EGRESS AND LOCK OUT WITH DOOR OPEN. 135° HEAT DETECTOR OPERATION CAUSES SHUNT TRIP CIRCUIT BREAKER TO DISCONNECT ALL POWER TO THE ELEVATOR. MOUNT ALL DETECTORS WITHIN 2' OF THEIR RESPECTIVE SPRINKLER HEAD.
8. STROBES SHALL BE SYNCHRONIZED IN AREAS CONTAINING MULTIPLE UNITS.
9. VERIFY AND WIRE ACTUAL QUANTITY OF SPRINKLER SYSTEM DEVICES

A1 | FIRE ALARM RISER DIAGRAM

NO SCALE

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

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Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE –

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

WIN: 020118.20

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

FIRE ALARM RISER DIAGRAM

SHEET NUMBER

EP401

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ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT

TAG	DESCRIPTION	VOLTS	PH	HP	LOAD	MCA	MOPD	DISCONNECT SWITCH					STARTER (NEMA)			PANEL	WIRING IN CONDUIT	NOTES
								FRAME	POLES	FUSE	NEMA ENCL	FBD	SIZE/ VFD	FBD	CBD			
P-1	BUILDING HEATING LOOP	208	3	1.5 HP	2.48 KVA		15A	30	3	NF	1	26	VFD	FWE	23	2B5A	3#12,1#12G IN 3/4"C	5
P-2	BUILDING HEATING LOOP	208	3	1.5 HP	2.48 KVA		15A	30	3	NF	1	26	VFD	FWE	23		3#12,1#12G IN 3/4"C	5
P-3	BUILDING DHW (DWH-1)	120	1	1/8 HP	.5 KVA		15A	30	2	NF	1	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	
P-4	GARAGE RADIANT FLOOR	120	1	1/8 HP	.5 KVA		15A	30	2	NF	1	26	-	-	-		2#12,1#12G IN 3/4"C	
B-1	BOILER WITH P-5	120	1	12 A	1.44 VA		20A	30	2	NF	1	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	
B-2	BOILER WITH P-6	120	1	12 A	1.44 VA		20A	30	2	NF	1	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	
B-3	BOILER WITH P-7	120	1	12 A	1.44 VA		20A	30	2	NF	1	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	
AHU-1	AIR HANDLER UNIT, MEZZANINE	480	3	2HP	2.83 KVA		15A	30	3	7A	1	26	VFD	23	23	4B1	3#12,1#12G IN 3/4"C	
CU-1	CONDENSING UNIT	480	3		6.65 KVA	8	15A	F W E								4B1	3#12,1#12G IN 3/4"C	
AHU-2	AIR HANDLER UNIT, MEZZANINE	480	3	5HP	6.32 KVA		25A	30	3	15A	1	26	VFD	23	23	4B5	3#10,1#10G IN 3/4"C	1,2
CU-2	CONDENSING UNIT	480	3		38.97 KVA	46.9	60A	F W E								4B5	3#4,1#10G IN 1-1/2"C	
MUA-1	MAKE-UP AIR UNIT	480	3	1/2HP	.91 KVA		15A	30	3	2A	3R	26	-	23	23	4B2	3#12,1#12G IN 3/4"C	
MUA-2	MAKE-UP AIR UNIT	480	3	5HP	6.32 KVA		25A	30	3	15A	3R	26	-	23	23	4A2	3#10,1#10G IN 3/4"C	
MUA-3	MAKE-UP AIR UNIT	480	3	3HP	4 KVA		15A	30	3	8A	3R	26	-	23	23	4B4	3#12,1#12G IN 3/4"C	
MUA-4	MAKE-UP AIR UNIT	480	3	1/2HP	.91 KVA		15A	30	3	2A	3R	26	-	23	23	4A1	3#12,1#12G IN 3/4"C	
RTU-1	ROOF TOP UNIT	480	3		8.56 KVA	10.3	15A	FWE					VFD	23	23	4B2	3#12,1#12G IN 3/4"C	
RTU-2	ROOF TOP UNIT	480	3		32.51 KVA	39.0	50A	FWE					VFD	23	23	4B5	3#6,1#10G IN 1"C	1,2
RTU-3	ROOF TOP UNIT	480	3		16.54 KVA	19.9	25A	FWE					VFD	23	23	4B5	3#10,1#10G IN 3/4"C	1,2
DAC-1	SPLIT A/C UNIT, INDOOR UNIT	208	1			-	-	-	-	-	-	-	-	-	-			3
DCU-1	CONDENSING UNIT, OUTDOOR	208	1		2.7 KVA	13.0	15A	30	2	15	3R	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	3
DAC-2	SPLIT A/C UNIT, INDOOR UNIT	208	1			-	-	-	-	-	-	-	-	-	-			3
DCU-2	CONDENSING UNIT, OUTDOOR	208	1		2.7 KVA	13.0	15A	30	2	15	3R	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	3
						-	-	-	-	-	-	-	-	-	-			
ERU-1	ENERGY RECOVERY UNIT	480	3		4.9 KVA	5.9	15A	F W E					VFD	FWE	23	4B5	3#12,1#12G IN 3/4"C	
ERU-2	ENERGY RECOVERY UNIT	208	1		2.39 KVA	11.5	15A	F W E					VFD	FWE	23	2B5A	2#12,1#12G IN 3/4"C	
ERU-3	ENERGY RECOVERY UNIT	208	1		1.33 KVA	6.4	15A	F W E					VFD	FWE	23	2B3	2#12,1#12G IN 3/4"C	
EF-1	RM 140	120	1	0.25 HP	.7 KVA	5.8	20A	30	2	NF	3R	26	-	-	23	2B2	2#12,1#12G IN 3/4"C	
EF-2	RM 142	120	1	0.125 HP	88W	4.4		30	2	NF	3R	26	-	-	23		2#12,1#12G IN 3/4"C	
EF-3	RM 180-184	120	1	0.167 HP	.5 KVA		20A	30	2	NF	3R	26	-	-	23	2B3	2#12,1#12G IN 3/4"C	
EF-16	MACHINE SHOP EXHAUST	120	1	.125HP	.5 KVA			30	2	NF	3R	26	-	-	23		2#12,1#12G IN 3/4"C	
EF-4	HEAVY BAY VEHICLE EXHAUST	480	3	7.5 HP	9.14 KVA		30A	30	3	NF	3R	26	-	-	23	4B3	3#10,1#10G IN 3/4"C	
EF-5	LIGHT BAY VEHICLE EXHAUST	480	3	3 HP	4 KVA		20A	30	3	NF	3R	26	-	-	23	4B4	3#12,1#12G IN 3/4"C	
EF-13	HEAVY BAY GENERAL EXHAUST	480	3	.75 HP	1.33 KVA			30	3	NF	3R	26	-	-	23		3#12,1#12G IN 3/4"C	
EF-6	LIGHT/HEAVY BAYS EMERGENCY EXHAUST	480	3	40 HP	43.21 KVA		150A	100	3	100	3R	26	VFD	23	23	4B4	3#4,1#6G IN 1"C	
EF-7	RM 132	120	1	0.125 HP	.5 KVA		20A	30	2	NF	3R	26	-	-	23	2B1	2#12,1#12G IN 3/4"C	
EF-15	AHU-1 RELIEF/ECONOMIZER	120	1	.50HP	.91 KVA			30	2	NF	3R	26	VFD	23	23		2#12,1#12G IN 3/4"C	
EF-8	WASH 191	120	1	.167HP	.5 KVA		20A	30	2	NF	3R	26	-	-	23	2B1	2#12,1#12G IN 3/4"C	
EF-17	UNISEX TOILETS 134/136	120	1	.125HP	.5 KVA			30	2	NF	3R	26	-	-	23		2#12,1#12G IN 3/4"C	
EF-9	ELEV MACHINE RM	120	1	NA	114W		20A	30	2	NF	3R	26	-	-	23	2B5A	2#12,1#12G IN 3/4"C	
EF-10	BREAK 111	120	1	.175 HP	.5 KVA			30	2	NF	3R	26	-	-	23		2#12,1#12G IN 3/4"C	
EF-11	TOILETS RMS 117/8, 215/6	480	3	.75 HP	1.33 KVA			30	3	NF	3R	26	-	-	23		3#12,1#12G IN 3/4"C	
EF-12	LIGHT BAY GENERAL EXHAUST	480	3	.75 HP	1.33 KVA		20A	30	3	NF	3R	26	-	-	23	4B5	3#12,1#12G IN 3/4"C	
EF-14	AHU-2 RELIEF/ECONOMIZER	480	3	1HP	1.75 KVA			30	3	NF	3R	26	VFD	23	23		3#12,1#12G IN 3/4"C	
EF-18	FABRICATION 181	480	3	.75 HP	1.33 KVA		15A	30	3	NF	3R	26	-	-	23		3#12,1#12G IN 3/4"C	
SF-1	GARAGE EMERGENCY EXHAUST SYSTEM	480	3	40HP	43.21 KVA		150A	100	3	100	3R	26	VFD	23		DPA	3#4,1#6G IN 1"C	
RCP-1	DHW RECIRC	120	1	1/8HP	.25 KVA		15A	30	2	NF	1	26	-	-	-	2B5A	2#12,1#12G IN 3/4"C	
EP-1	TOILET 146	480	3	2HP	2.83 KVA		15A	30	3	NF	1	26	-	-	-	4B2	3#12,1#12G IN 3/4"C	
EWH-1	INSTANTANEOUS WATER HEATER	480	3		96KW		150A	200	3	NF	1	26	-	-	-	4A2	3#1/0,1#6G IN 1-1/2"C	
EWH-2	INSTANTANEOUS WATER HEATER	480	3		96KW		150A	200	3	NF	1	26	-	-	-	4B4	3#1/0,1#6G IN 1-1/2"C	
EWH-3	INSTANTANEOUS WATER HEATER	480	3		96KW		150A	200	3	NF	1	26	-	-	-	DPA	3#1/0,1#6G IN 1-1/2"C	
EWH-4	INSTANTANEOUS WATER HEATER	208	1		8.6KW		60A	60	2	NF	1	26	-	-	-	2B1	2#4,1# 10G IN 1"C	
EWH-5	WATER HEATER	208	1		2.5KW		20A	30	2	NF	1	26	-	-	-	2B2	2#12,1#12G IN 3/4"C	
CV-1	CENTRAL VAC SYSTEM 1	120	1	-	2.4 KVA	20A	30A	30	2	NF	1	26	-	-	-	2A1	2#10,1#10G IN 3/4"C	
CV-2	CENTRAL VAC SYSTEM 2	120	1	-	2.4 KVA	20A	30A	30	2	NF	1	26	-	-	-	2A1	2#10,1#10G IN 3/4"C	
CV-3	CENTRAL VAC SYSTEM 3	120	1	-	2.4 KVA	20A	30A	30	2	NF	1	26	-	-	-	2A1	2#10,1#10G IN 3/4"C	
CV-4	CENTRAL VAC SYSTEM 4	120	1	-	2.4 KVA	20A	30A	30	2	NF	1	26	-	-	-	2A1	2#10,1#10G IN 3/4"C	
SEP-1	DUPLEX SEWAGE EJECTOR PUMPS	208	1	2	3.12 KVA		30A	30	2	20	3R	26	-	-	-	2B5	2#10,1#10G IN 3/4"C	5
SEP-2	DUPLEX SEWAGE EJECTOR PUMPS	208	1	2	3.12 KVA		30A	30	2	20	3R	26	-	-	-	2B5	2#10,1#10G IN 3/4"C	5
AD-1	AIR DRYER	208	3	4	6.29 KVA			30	2	30	1	26	-	-	-	2A1		
AD-2	AIR DRYER FOR BURN TABLE	120	1	1/2	1.17 KVA			30	2	15	1	26	-	-	-	2A1		

	NOTES:
1	DUCT SMOKE DETECTOR FURNISHED AND WIRED TO FIRE ALARM PANEL BY DIVISION 26
2	DUCT SMOKE DETECTOR INSTALLED IN DUCT AND WIRED TO HVAC CONTROLS BY DIVISION 23
3	POWER FEEDER TO OUTDOOR UNIT. WIRING BETWEEN AC AND CU BY DIV.23
4	PLUG CONNECTION
5	LEAD-LAG

	ABBREVIATIONS:
FWE	FURNISHED WITH EQUIPMENT
NF	NOT FUSED
SWBD	SWITCHBOARD
FBD	FURNISHED BY DIVISION
CBD	CONTROL WIRING BY DIVISION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM

PROJECT MANAGER

DESIGNER — ALLIED ENG., INC.

CONSULTANT

PROJECT RESIDENT

CONTRACTOR

PROJECT COMPLETION DATE

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

SHEET NUMBER
EP600

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
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Allied Project No: 13057 Cad File: 13057_EP.DWG

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ELECTRICAL SCHEDULE OF RELOCATED MDOT EQUIPMENT

NOTE: EQUIPMENT IN THIS SCHEDULE IS EXISTING AND BEING RELOCATED TO NEW SITE. PROVIDE DISCONNECT OR RECEPTACLE AND BRANCH CIRCUIT AS NOTED IN THIS SCHEDULE.

Tag	Equipment	Mfr	Voltage	Ph	Amps	HP	Disc	Fuse	NEMA Receptacle	Panel	Wire Size	Notes
	FABRICATION SHOP											
E01	Press brake	Betenbender 12-350T	480	3	40	30	60A, 3P	50	-	4B2	(3)#6+(1)#10G IN 1"C	
E02	Shear 10 ft	Allsteel (220 3ø)	230	3	100	40	200A, 3P	125	-	3A1	(3)#1/0+(1)#6G IN 1-1/2"C	
E03	Burning table and water tank	Kolke Aronson Plate-pro	230	1	15	-	30A, 2P	20	-	3A1	(2)#12+(1)#12G IN 3/4"C	
E03A	Power supply	Hypertherm AX200	480	3	45	-	60A, 3P	60 Slow Blow	60A, AR642	4A1	(3)#4+(1)#10G IN 1-1/2"C	Power supply for burning table
E10	Small band saw		230	1	15	2	-	-	L6-20R	3A1	(2)#12+(1)#12G IN 3/4"C	
E11	30 ft rollers with motor and hydraullics		480	3	29.2	25	70A, 3P	-	-	4B3	(3)#4+(1)#8G IN 1-1/2"C	Combination Starter 70A breaker, NEMA size 2 starter
E12	Welder		-	-	-	-	-	-	-	-	-	Welder outlets shown on plans
E14	Small Drill Press	Avery	480	3	3	1	30A, 3P	NF	-	4B3	(3)#12+(1)#12G IN 3/4"C	
E14A	Small Drill Press	Cincinnati Bickford Super Service	480	3	5	3	30A, 3P	NF	-	4B3	(3)#12+(1)#12G IN 3/4"C	Starter mounted on eq
E15	Drill sharpener	McDonough - Sterling	480	3	1,6	1	30A, 3P	NF	-	4B3	(3)#12+(1)#12G IN 3/4"C	Disconnect w/starter
E17	Lathe	Summit 21	480	3	40	-	60A, 3P	50	-	4A2	(3)#6+(1)#10G IN 1"C	Elec CB on unit
E18	Lathe	Warner & Swasey No.4	230	3	50	10	100A,3P	70	-	3B3	(3)#4+(1)#8G IN 1-1/2"C	Turret lathe #4
E19	Large arm Drill	Cincinatti Bickford	230	3	21	15	30A, 3P	30	-	3A1	(3)#10+(1)#10G IN 3/4"C	
E20	Heating oven	ThermCraft	230	1	22	-	30A, 2P	30	6-20R	3B3	(2)#10+(1)#10G IN 3/4"C	Disconnect switch for plug
E21	Grinder	Abrasive	230	3	8.2	-	30A, 3P	15	-	3B3	(3)#12+(1)#12G IN 3/4"C	Starter with equip
E22	Large Bridgeport (Milling Mach)	Cincinnati Bickford	480	3	5	3	-	-	-	3B3	(3)#12+(1)#12G IN 3/4"C	Disc mounted on equip
E23	Small Bridgeport (Milling Mach)	Cincinatti - ToolMaster	480	3	1.96	1	30A, 3P	NF	-	3B3	(3)#12+(1)#12G IN 3/4"C	
E62	Compressor	Quincy	208	1	33	7.5	60A, 2P	40	-	2B2	(2)#6+(1)#10G IN 1"C	230V/USABLE AT 208
E63	Dust Collector	JET Equipment	230	1	12	2	30A,2P	15	-	3B3	(2)#12+(1)#12G IN 3/4"C	
E64	Band Saw	Powermatic	230	3	20	-	30A,3P	30	-	3B3	(3)#10+(1)#10G IN 3/4"C	
E65	Table Saw		120	1	12				5-20R	2B3	(2)#12+(1)#12G IN 3/4"C	
E66	Drill Press	Craftsman	120	1	10	3/4	-	-	5-20R	2B3	(2)#12+(1)#12G IN 3/4"C	
E67	Chop Saw		120	1	15	-	-	-	5-20R	2B3	(2)#12+(1)#12G IN 3/4"C	
E68	Large Parts Washer		480	3	15.8	(2) 5 HP	30A, 3P	30	-	4B3	(3)#10+(1)#10G IN 3/4"C	
E69	Blast Cabinet and Dust Collector	Econoline	120	1	12	1			5-20R	2B3	(2)#12+(1)#12G IN 3/4"C	
E84	Drill press	Delta Model 20, 70-330	480	3	2.5	1 1/2	30A, 3P	NF	-	4A2	(3)#12+(1)#12G IN 3/4"C	Owner will locate this equipment and connect as indicated
E85	Band Saw	Wilton	480	3	1.1	1/8	30A, 3P	NF	-	4A2	(3)#12+(1)#12G IN 3/4"C	Owner will locate this equipment and connect as indicated
E86	Drill Press	Powermatic	230	1	7.4	-	-	-	6-20R	3B3	(2)#12+(1)#12G IN 3/4"C	Owner will locate this equipment and connect as indicated
	Fume Extraction System		480	3	48	40	60A, 3P	60	-	4A2	(3)#4+(1)#10G IN 1"C	VFD
	MACHINE SHOP											
E05	Drill press 8 ft	Gilbert 5776	480	3	10	7 1/2	30A, 3P	15	-	4B3	(3)#10+(1)#10G IN 3/4"C	
E06	Hydraulic press 150 ton	Dake	480	3	2.9	2	30A, 3P	TRS5R	-	4B3	(3)#12+(1)#12G In 3/4"C	
E07	40 inch band saw	WF Wells	480	3	29	-	60A, 3P	TRS40R, 40A	-	4B3	(3)#8+(1)#10G IN 3/4"C	
E08	200 ton punch	Scotchman	480	3	14.8	10	30A, 3P	20	-	4B3	(3)#10+(1)#10G IN 3/4"C	
E16	Lathe	Henry 16 x 54	480	3	9.7	71/2	30A, 3P	15	-	4A2	(3)#12+(1)#12G IN 3/4"C	
E24	Band saw	Kalamazoo	480	3	4	1	30A, 3P	NF	L16-20R	4A2	(3)#12+(1)#12G IN 3/4"C	change plug to L16-20P
	HEAVY EQUIPMENT											
E71	Forklift Charger		120						5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E72	Large Press	Vic Roc P-150	480	3	13.5	10	30A, 3P	20	-		(3)#12+(1)#12G IN 3/4"C	
E73	Tire Balancer								5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E74	Band Saw	Wellsaw	120	1	13.4	1			5-20R	2B4	(2)#12+(1)#12G IN 3/4"C	.
E75	Drill Press	Buffalo #22	480	3	5.2				-		(3)#12+(1)#12G IN 3/4"C	
E76	Grinder		120	1					-	2B4	(2)#12+(1)#12G IN 3/4"C	
E77	Blast Cabinet and Dust Collector	Econoline	120	1	12	1			5-20R	2B4	(2)#12+(1)#12G IN 3/4"C	
E78	Belt Sander	Kalamazoo	230	3	2	1/2	30A, 3P	NF	-	3B4	(3)#12+(1)#12G IN 3/4"C	
E79	Rotary Vehicle Lift, 2-post, 12,000 lbs	Rotary #SPO12-10	208	1	17	2	-	-	L6-30R	2B4	(2)#10+(1)#10G IN 3/4"C	Mount receptacle on nearby column
E79	Rotary Vehicle Lift, 2-post, 14,000 lbs	Rotary #SM14N001	208	1	17	2	-	-	L6-30R	2B4	(2)#10+(1)#10G IN 3/4"C	Mount receptacle on nearby column
E83	Mohawk Vehicle Lift, 4-post, 16,000 lbs	Mohawk	208	1	13.9	2.5	-	-	L14-20R		(2)#10+(1)#10G IN 3/4"C	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM

PROJECT MANAGER

DESIGNER ALLIED ENG., INC.

CONSULTANT

PROJECT RESIDENT

CONTRACTOR

PROJECT COMPLETION DATE

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2366
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EP.DWG

SHEET NUMBER
EP601

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ELECTRICAL SCHEDULE OF RELOCATED MDOT EQUIPMENT

NOTE: EQUIPMENT IN THIS SCHEDULE IS EXISTING AND BEING RELOCATED TO NEW SITE. PROVIDE DISCONNECT OR RECEPTACLE AND BRANCH CIRCUIT AS NOTED IN THIS SCHEDULE.

Tag	Equipment	Mfr	Voltage	Ph	Amps	HP	Disc	Fuse	NEMA Plug	Panel	Wire Size	Notes
	HYDRAULIC SHOP											
E29	Hydraulic Test Bench		480	3	7.1	5	30A		-	4A2	(3)#10+(1)#10G IN 3/4"C	Disconnect w/ s-s starter mounted on wall above.
	SIGN SHOP											
E56	Scotchlite - old machine - no air	3M	230	3	6.2	-	30A,3P	8		3B2	(3)#12+(1)#12G IN 3/4"C	
E56A	Scotchlite Machine	Contech	230	1	40	-	On Machine	50	-	3B2	(2)#6+(1)#10G IN 1"C	
	CENTRAL FLEET MAINTENANCE EQUIPMENT											
E30	Tire Machine	Hunter	120	1	12	-	-	-	5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E31	Tire Balancer	Coats	230	1	20	-	-	-	L6-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E34	Parts Washer		120	1	15	-	-	-	5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E39	Drill Press	Delta	120	1	7.2				5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E40	Grinder		120	1	16	1	-	-	5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E43	Welder		230	1	42	-	-	-	14-50R	-	(3)#6+(1)#10G IN 1"C	Welder outlets shown on plans
E44	Transmission Flush Machine		120	1	1.4	-	-	-	5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E45	Evap Leak Machine		120	1					5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E47	Tire Hoist		120	1					5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	
E82	Oil Filter Press	Oberg	120	1					5-20R	-	(2)#12+(1)#12G IN 3/4"C	Use convenience receptacle
	OTHER RELOCATED EQUIPMENT											
E80	Power Washer	Alkota 4231B	230	1	31	6	60A, 2P	40	-	3A1	(2)#8+(1)#10G IN 3/4"C	
E87	Furnace (above paint mix room)								-			
E88	Compressor	Quincy QGV-100	480	3	124	100	200A,3P	200	-	DPA	(3)#3/0+(1)#6G IN 2"C	
E89	Compressor	Quincy QMT-25	480	3	34	25	60A, 3P	45	-			
E90	Air Dryer		480	3	8.8	(1) 2.3 (2) 1/4	20A,3P	15	-	DPA		
E91	Bridge Crane in Blast room	New England Crane	480	3	2.1	(1) 1, (1) 1/4, (2) 1/2	30A,3P	15	-	4A1	(3)#12+(1)#12G IN 3/4"C	1 disconnect switch for Crane power
	Control power		120	1	-	-	-	-	-	2A1	(2)#12+(1)#12G IN 3/4"C	
E92	Media Recovery Control Panel	Empire	480	3	98.7	-	-	-	-	DPA	(3)#1/0+(1)#6G IN 2" C	Single Point Connection
E92A	Dust Collector	Siemens motor	480	3	71	60	100A,3P NEMA-3R	90	-		(3)#1+(1)#8G IN 1-1/2" C	
E92B	Bucket Elevator		480	3	3.1	2	20A,3P	4	-		(3)#12+(1)#12G IN 3/4"C	
E92C	(5) Augers		480	3	8.2	(5) 3	20A,3P ea, NEMA-4X	11	-		(3)#12+(1)#12G IN 3/4"C	
E93	Paint Booth Control Panel	Titan	480	3	40.2	-	-	-	-	DPA	(3)#4+(1)#10G IN 1" C	Single point connection
E93A	MUA (Paint Booth)		480	3	27	20	60A, 3P NEMA-3R	40	-		(3)#8+(1)#10G IN 1" C	
E93B	(2) Exhaust Fans		480	3	7.6 ea	(2) 5	20A,3P	10	-		(3)#12+(1)#12G IN 3/4"C	
E93C	Mixing Room Fan		480	3	1.6	3/4	20A,3P	2	-		(3)#12+(1)#12G IN 3/4"C	
E94	Compressor	Atlas Copco	480	3	14 ea	(2) 10	60A,3P	40	-	DPA	(3)#8+(1)#10G IN 1" C	
E95	Lathe	Accu-Turn	120	1	14.2	-	-	-	5-20R	2B4A	(2)#12+(1)#12G IN 3/4"C	Bench mounted
	CRANES											
	5-ton Crane in Heavy Equipment	Load reflects (2) Bridges per runway	480	3	38.8	(2) 1/2, (4) 1/3, (2) 4-1/2 ea	60A, 3P	50	-	4B4	(3)#6+(1)#10G IN 3/4"C	(1) Disconnect switch per runway, locate near center of runway
	5-ton Crane in Fabrication	Load reflects (3) Bridges per runway	480	3	26.4	(2) 1/2, (2) 2-1/2 ea	60A, 3P	40	-	4A1, 4B1	(3)#8+(1)#10G IN 1" C	(1) Disconnect switch per runway, locate near center of runway
	1-ton Crane in Fabrication	(1) Bridge per runway	480	3	5	(2) 1/2, (2) 1 ea	30A, 3P	15	-	4B1, 4A2	(3)#12+(1)#12G IN 3/4"C	(1) Disconnect switch per runway, locate near center of runway

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2560
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Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE –

DATE FEBRUARY 27, 2014

ARCH. LIN. NUMBER

INFORMATION			
PROJECT			
PROGRAM			
PROJECT MANAGER			
DESIGNER	ALLIED ENG., INC.	–	
CONSULTANT			
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

SHEET NUMBER

EP602

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PANEL SCHEDULE ~ 4A1

VOLTAGE: 480/277V | MLO: 400A | AIC: 18KA

3-PHASE, 4-WIRE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	3	A	1.16			DOOR OPERATORS - FABRICATION 181
3			B		1.16		
5			C			1.16	
7	20	3	A	1.16			DOOR OPERATORS - PREP
9			B		1.16		
11			C			1.16	
13	20	3	A	1.16			DOOR OPERATORS - WASH BAY
15			B		1.16		
17			C			1.16	
19	20	3	A	0.30			MUA-4
21			B		0.30		
23			C			0.30	
25	20	3	A	2.44			AIR DRYER (QUINCY QCD-400)
27			B		2.44	0.00	
29			C			2.44	
31	20	3	A	1.35			BLAST ROOM BRIDGE CRANE
33			B		1.35		
35			C			1.35	
37	40	3	A	7.31			5-TON CRANE
39			B		7.31		
41			C			7.31	
43	40	3	A	7.31			5-TON CRANE
45			B		7.31		
47			C			7.31	
49	20	3	A	0.00			SPARE
51			B		0.00		
53			C			0.00	
SUBTOTAL				22.19	22.19	22.19	
2	60	3	A	12.45			TAG E03A BURN TABLE POWER SUPPLY
4			B		12.45		
6			C			12.45	
8	60	3	A	6.86			WELDING OUTLET
10			B		6.86		
12			C			6.86	
14	60	3	A	6.86			WELDING OUTLET
16			B		6.86		
18			C			6.86	
20	60	3	A	5.83			WELDING OUTLET
22			B		5.83		
24			C			5.83	
26	60	3	A	4.80			WELDING OUTLET
28			B		4.80		
30			C			4.80	
32	30	3	A	2.83			WELDING OUTLET
34			B		2.83		
36			C			2.83	
38	30	3	A	2.83			WELDING OUTLET
40			B		2.83		
42			C			2.83	
44	30	3	A	2.83			WELDING OUTLET
46			B		2.83		
48			C			2.83	
50	30	3	A	2.83			WELDING OUTLET
52			B		2.83		
54			C			2.83	
SUBTOTAL				48.12	48.12	48.12	

PANEL SCHEDULE ~ DPA (FACTORY INSTALLED INTEGRAL TVSS)

VOLTAGE: 480/277V | MLO: 1000A | AIC: 42KA

3-PHASE, 4-WIRE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	150	3	A	14.40			SF-1
3			B		14.40		
5			C			14.40	
7	200	3	A	34.35			QUINCY 100 COMPRESSOR
9			B		34.35		
11			C			34.35	
13	125	3	A	27.33			MEDIA RECOVERY SYSTEM CONTROL PANEL (EMPIRE)
15			B		27.33		
17			C			27.33	
19	60	3	A	11.19			PAINT BOOTH CONTROL PANEL (TITAN)
21			B		11.19		
23			C			11.19	
25	150	3	A	32.00			EWH-3 (EYEWASH)
27			B		32.00		
29			C			32.00	
31	100	3	A	0.00			SPARE
33			B		0.00		
35			C			0.00	
37	100	3	A	0.00			SPARE
39			B		0.00		
41			C			0.00	
43	150	3	A	0.00			SPARE
45	0	0	B		0.00		0
47	0	0	C			0.00	0
49	150	3	A	0.00			SPARE
51	0	0	B		0.00		0
53	0	0	C			0.00	0
SUBTOTAL				119.27	119.27	119.27	
2	250	3	A	70.31			PANEL 4A1
4			B		70.31		
6			C			70.31	
8	50	3	A	8.09			PANEL 2A1
10			B		5.42		
12			C			7.82	
14	200	3	A	65.80			PANEL 4A2
16			B		65.80		
18			C			65.80	
20	125	3	A	19.50			PANEL 3A1
22			B		26.85		
24			C			25.01	
26	70 SHUNT TRIP	3	A	0.00			ELEVATOR
28			B		0.00		
30			C			0.00	
32	0	3	A	0.00			SPACE
34			B		0.00		
36			C			0.00	
38	0	3	A	0.00			SPACE
40			B		0.00		
42			C			0.00	
44	0	3	A	0.00			SPARE
46			B		0.00		
48			C			0.00	
50	0	3	A	0.00			SPARE
52			B		0.00		
54			C			0.00	
SUBTOTAL				163.70	168.38	168.94	

PANEL SCHEDULE ~ 4E2

VOLTAGE: 480/277V | MLO: 125A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: MEZZANINE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	2.80			EMER LTG: LCP2-1,2
3	20	1	B		2.85		EMER LTG: LCP2-3,4
5	20	1	C			1.25	EMER LTG: MEZZ, EXITS,LCP2-5,6
7	20	1	A	0.53			EMER LTG: FIRST FLOOR OFFICES
9	20	1	B		0.00		SPARE
11	20	1	C			0.00	SPARE
13	20	1	A	0.00			SPARE
15	20	1	B		0.00		SPARE
17	20	1	C			0.00	SPARE
19	20	1	A	0.00			SPARE
21	20	1	B		0.00		SPARE
23	20	1	C			0.00	SPARE
SUBTOTAL				3.33	2.85	1.25	
2	20	1	A	0.00			SPARE
4	20	1	B		0.00		SPARE
6	20	1	C			0.00	SPARE
8	20	1	A	0.00			SPARE
10	20	1	B		0.00		SPARE
12	20	1	C			0.00	SPARE
14	20	1	A	0.00			SPARE
16	20	1	B		0.00		SPARE
18	20	1	C			0.00	SPARE
20	20	1	A	0.00			SPARE
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
SUBTOTAL				0.00	0.00	0.00	

PANEL SCHEDULE ~ 4E1 (FACTORY INSTALLED INTEGRAL TVSS)

VOLTAGE: 480/277V | MLO: 125A | AIC: 42KA

3-PHASE, 4-WIRE | LOCATION: ELECTRIC ROOM

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	3.14			EMER LTG: SIGN,FAB,MACH, OFFICE, LCP1-3,5,6
3	20	1	B		3.26		EMER LTG: LCP1-1,2,4,7
5	20	1	C			0.00	SPARE
7	20	1	A	0.00			SPARE
9	20	1	B		0.00		SPARE
11	20	1	C			0.00	SPARE
13	20	1	A	0.00			SPARE
15	20	1	B		0.00		SPARE
17	20	1	C			0.00	SPARE
19	20	1	A	0.00			SPARE
21	20	1	B		0.00		SPARE
23	20	1	C			0.00	SPARE
25	20	1	A	0.00			SPARE
27	20	1	B		0.00	0.00	SPARE
29	20	1	C			0.00	SPARE
SUBTOTAL				3.14	3.26	0.00	
2	30	3	A	1.00			PANEL 2E1
4			B		1.00		
6			C			1.00	
8	50	3	A	3.33			PANEL 4E2
10			B		2.85		
12			C			1.25	
14	20	1	A	0.00			SPARE
16	20	1	B		0.00		SPARE
18	20	1	C			0.00	SPARE
20	20	1	A	0.00			SPARE
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
26	20	1	A	0.00			SPARE
28	20	1	B		0.00		SPARE
30	20	1	C			0.00	SPARE
SUBTOTAL				4.33	3.85	2.25	

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

SHEET NUMBER

EP603

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EPanels.dwg Mar 05, 2014 – 1:24pm

PANEL SCHEDULE ~ 4A2

VOLTAGE: 480/277V | MLO: 225A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: MACHINE SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	3	A	2.77			TAG E05 DRILL PRESS (GILBERT)
3			B		2.77		
5			C			2.77	
7	20	3	A	0.80			TAG E06 HYDRAULIC PRESS (DAKE)
9			B		0.80		
11			C			0.80	
13	40	3	A	8.03			TAG E07 BAND SAW (WF WELLS)
15			B		8.03		
17			C			8.03	
19	20	3	A	4.10			TAG E08 200 TON PUNCH (SCOTCHMAN)
21			B		4.10		
23			C			4.10	
25	20	3	A	2.68			TAG E16 LATHE (HENRY)
27			B		2.68		
29			C			2.68	
31	20	3	A	3.32			TAG E24 BAND SAW (KALAMAZOO)
33			B		3.32		
35			C			3.32	
37	50	3	A	11.07			TAG E17 LATHE (SUMMIT 21)
39			B		11.07		
41			C			11.07	
43	20	3	A	0.97			TAG E84 DRILL PRESS (DELTA) TAG E85 BAND SAW (WILTON)
45			B		0.97		
47			C			0.97	
49	60	3	A	13.29			FUME EXTRACTION SYSTEM
51			B		13.29		
53			C			13.29	
55	**20**	**3**	A	1.38			**1-TON CRANE**
57			B		1.38		
59			C			1.38	
61	20	3	A	1.38			1-TON CRANE
63			B		1.38		
65			C			1.38	
67	20	3	A	0.00			SPARE
69			B		0.00		
71			C			0.00	
SUBTOTAL				49.79	49.79	49.79	
2	60	3	A	4.12			WELDING OUTLET
4			B		4.12		
6			C			4.12	
8	60	3	A	4.12			WELDING OUTLET
10			B		4.12		
12			C			4.12	
14	30	3	A	2.83			WELDING OUTLET
16			B		2.83		
18			C			2.83	
20	30	3	A	2.83			WELDING OUTLET
22			B		2.83		
24			C			2.83	
26	60	3	A	0.00			TAG E29 HYDRAULIC TEST BENCH
28			B		0,00		
30			C			0.00	
32	25	3	A	2.11			MUA-2
34			B		2.11		
36			C			2.11	
38	150	3	A	0.00			EWH-1
40			B		0,00		
42			C			0.00	
44	20	3	A	0,00			SPARE
46			B		0.00		
48			C			0.00	
50	20	3	A	0.00			SPARE
52			B		0.00		
54			C			0.00	
56	20	3	A	0.00			SPARE
58			B		0.00		
60			C			0.00	
62	30	3	A	0.00			SPARE
64			B		0.00		
66			C			0.00	
68	30	3	A	0.00			SPARE
70			B		0,00		
72			C			0.00	
SUBTOTAL				16.01	16.01	16.01	

PANEL SCHEDULE ~ DPB (FACTORY INSTALLED INTEGRAL TVSS)

VOLTAGE: 480/277V | MLO: 1200A | AIC: 42KA

3-PHASE, 4-WIRE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1		3	A	18.59			
3			B		17.94		PANEL 2B1
5			C			17.02	
7	100	3	A	0.00			
9			B		0.00		SPARE
11			C			0.00	
13	225	3	A	0.00			
15			B		0.00		SPARE
17			C			0.00	
19	225	3	A	0.00			
21			B		0.00		SPARE
23			C			0.00	
25	100	3	A	0.00			
27			B		0.00		SPARE
29			C			0.00	
SUBTOTAL				18.59	17.94	17.02	
2	125	3	A	28.74			
4			B		24.41		PANEL 4B1
6			C			22.75	
8	250	3	A	44.34			
10			B		45.58		PANEL 4B2
12			C			41.55	
14	400	3	A	67.98			
16			B		71.41		PANEL 4B3
18			C			70.67	
20	400	3	A	91.68			
22			B		83.36		PANEL 4B4
24			C			84.20	
26	400	3	A	96.19			
28			B		92.73		PANEL 4B5
30			C			88.90	
SUBTOTAL				328.93	317.49	308.07	

PANEL SCHEDULE ~ 4B1

VOLTAGE: 480/277V | MLO: 225A | AIC: 18KA

3-PHASE, 4-WIRE | LOCATION: ELECTRIC ROOM

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	3.29			LTG: LCP1-23,24
3	20	1	B		3.50		LTG: LCP1-22
5	20	1	C			3.29	LTG: LCP1-19,21
7	20	1	A	3.29			LTG: LCP1-16,20
9	20	1	B		3.20		LTG: LCP1-17,18
11	20	1	C			2.82	LTG: LCP1-15, MECH MEZZ
13	20	1	A	3.23			LTG: LCP1-14
15	20	1	B		2.08		LTG: OFFICES, TASK
17	20	1	C			1.01	PARKING LOT POLE LIGHTS
19	20	1	A	3.30			PAINT BOOTH LIGHTS
21	20	1	B		0.00		SPARE
23	20	1	C			0.00	SPARE
25	20	1	A	0.00			SPARE
27	20	1	B		0.00	0.00	SPARE
29	20	1	C			0.00	SPARE
31	20	1	A	0.00			SPARE
33	20	1	B		0.00		SPARE
35	20	1	C			0.00	SPARE
37	20	1	A	0.00			SPARE
39	20	1	B		0.00		SPARE
41	20	1	C			0.00	SPARE
SUBTOTAL				13.11	8.78	7.12	
2	20	3	A	1.38			1-TON CRANE
4			B		1.38		
6			C			1.38	
8	20	3	A	4.14			5-TON CRANE
10			B		4.14		
12			C			4.14	
14	15	3	A	0.94			AHU-1
16			B		0.94		
18			C			0.94	
20	15	3	A	2.22			CU-1
22			B		2.22		
24			C			2.22	
26	60	3	A	4.12			193 WELDING OUTLET
28			B		4.12		
30			C			4.12	
32	30	3	A	2.83			193 WELDING OUTLET
34			B		2.83		
36			C			2.83	
38	30	3	A	0.00			SPARE
40			B		0.00		
42			C			0.00	
SUBTOTAL				15.63	15.63	15.63	

PANEL SCHEDULE ~ 4B2

VOLTAGE: 480/277V | MLO: 225A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: SIGN SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	2.38			LTG: 141,142,143,144,146
3	20 GFCI	1	B		1.19		146 HAND DRYER
5	20	1	C			1.22	EF-1 + EF-2
7	50	3	A	11.08			TAG E01 PRESS BRAKE
9			B		11.08		
11			C			11.08	
13	15	3	A	0.30			MAU-1
15			B		0.30		
17			C			0.30	
19	15	3	A	2.85			RTU-1
21			B		2.85		
23			C			2.85	
25	15	3	A	0.94			EP-1
27			B		0.94		
29			C			0.94	
31	20	1	A	0.00			SPARE
33	20	1	B		0.00		SPARE
35	20	1	C			0.00	SPARE
37	20	1	A	0.00			SPARE
39	20	1	B		0.00		SPARE
41	20	1	C			0.00	SPARE
SUBTOTAL				17.55	16.36	16.39	
2	50	3	A	4.28			PANEL 2B2
4			B		3.91		
6			C			4.45	
8	50	3	A	7.26			PANEL 3B2
10			B		10.06		
12			C			5.46	
14	30	3	A	8.30			142 BENCH RECEPTACLE NEMA L22-30R
16			B		8.30		
18			C			8.30	
20	30	3	A	2.83			140 WELDER OUTLET
22			B		2.83		
24			C			2.83	
26	60	3	A	4.12			140 WELDER OUTLET
28			B		4.12		
30			C			4.12	
32	20	1	A	0.00			SPARE
34	20	1	B		0.00		SPARE
36	20	1	C			0.00	SPARE
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
SUBTOTAL				26.79	29.22	25.16	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

DATE FEBRUARY 27, 2014

ARCH. LIN. NUMBER

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

SHEET NUMBER
EP604

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EP.DWG

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PANEL SCHEDULE ~ 4B3

VOLTAGE: 480/277V | MLO: 400A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: MACHINE SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.19			LTG: 183
3	20	1	B		0.00		SPARE
5	20	1	C			0.00	SPARE
7			A	8.08			
9	70	3	B		8.08		TAG E11 (HYDRAULIC ROLLERS
11			C			8.08	
13			A	0.83			
15	15	3	B		0.83		TAG E14 DRILL PRESS (AVERY)
17			C			0.83	
19			A	1.38			
21	15	3	B		1.38		TAG 14A DRILL PRESS (CINCINNATI-BICKFORD SUPER SERVICE)
23			C			1.38	
25			A	0.44			
27	15	3	B		0.44	0.00	TAG E15 DRILL SHARPENER
29			C			0.44	
31			A	4.37			
33	30	3	B		4.37		TAG E68 LARGE PARTS WASHER
35			C			4.37	
37			A	0.44			
39	15	3	B		0.44		EF-18
41			C			0.44	
43			A	0.00			
45	30	3	B		0.00		SPARE
47			C			0.00	
49			A	0.00			
51	30	3	B		0.00		SPARE
53			C			0.00	
55	20	1	A	0.00			SPARE
57	20	1	B		0.00		SPARE
59	20	1	C			0.00	SPARE
61	20	1	A	0.00			SPARE
63	20	1	B		0.00		SPARE
65	20	1	C			0.00	SPARE
67	20	1	A	0.00			SPARE
69	20	1	B		0.00		SPARE
71	20		C			0.00	SPARE
			SUBTOTAL	15.73	15.54	15.54	
2			A	5.92			
4	50	3	B		9.01		PANEL 2B3
6			C			6.27	
8			A	23.72			
10	125	3	B		24.25		PANEL 3B3
12			C			26.25	
14			A	4.12			
16	60	3	B		4.12		WELDING OUTLET 180
18			C			4.12	
20			A	4.12			
22	60	3	B		4.12		WELDING OUTLET 180
24			C			4.12	
26			A	2.83			
28	30	3	B		2.83		WELDING OUTLET 180
30			C			2.83	
32			A	2.83			
34	30	3	B		2.83		WELDING OUTLET 180
36			C			2.83	
38			A	2.83			
40	30	3	B		2.83		WELDING OUTLET 180
42			C			2.83	
44			A	3.05			
46	30	3	B		3.05		EF-4
48			C			3.05	
50			A	2.83			
52	30	3	B		2.83		WELDING OUTLET 184
54			C			2.83	
56			A	4.12			
58	60	3	B		4.12		WELDING OUTLET 184
60			C			4.12	
62	20	1	A	0.00			SPARE
64	20	1	B		0.00		SPARE
66	20	1	C			0.00	SPARE
68	20	1	A	0.00			SPARE
70	20	1	B		0.00		SPARE
72	20	1	C			0.00	SPARE
			SUBTOTAL	52.25	55.87	55.13	

PANEL SCHEDULE ~ 4B4

VOLTAGE: 480/277V | MLO: 400A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: HEAVY EQUIP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1			A	1.16			
3	20	3	B		1.16		DOOR OPERATORS
5			C			1.16	
7			A	1.16			
9	20	3	B		1.16		DOOR OPERATORS
11			C			1.16	
13			A	3.74			
15	20	3	B		3.74		TAG E72 LARGE PRESS
17			C			3.74	
19			A	2.47			
21	20	3	B		2.47		TAG E75 DRILL PRESS
23			C			2.47	
25			A	0.00			
27	150	3	B		0.00		EWH-2
29			C			0.00	
31			A	0.00			
33	30	3	B		0.00		SPARE
35			C			0.00	
37			A	14.40			
39	150	3	B		14.40		EF-6
41			C			14.40	
43			A	1.78			
45	20	3	B		1.78		EF-5, EF-13
47			C			1.78	
49			A	0.00			
51	20	3	B		0.00		SPARE
53			C			0.00	
55			A	0.00			
57	20	3	B		0.00		SPARE
59			C			0.00	
61			A	0.00			
63	30	3	B		0.00		SPARE
65			C			0.00	
67			A	0.00			
69	30	3	B		0.00		SPARE
71			C			0.00	
			SUBTOTAL	24.71	24.71	24.71	
2			A	22.70			
4	125	3	B		19.21		PANEL 2B4
6			C			17.52	
8			A	9.65			
10	50	3	B		4.82		PANEL 3B4
12			C			7.35	
14			A	3.32			
16	30	3	B		3.32		TAG E79 PORTABLE LIFT
18			C			3.32	
20			A	0.00			
22	30	3	B		0.00		30A CONVINENCE OUTLET
24			C			0.00	
26			A	2.83			
28	30	3	B		2.83		WELDING OUTLET
30			C			2.83	
32			A	2.83			
34	30	3	B		2.83		WELDING OUTLET
36			C			2.83	
38			A	2.83			
40	30	3	B		2.83		WELDING OUTLET
42			C			2.83	
44			A	1.33			
46	15	3	B		1.33		MAU-3
48			C			1.33	
50			A	10.74			
52	50	3	B		10.74		5-TON CRANE
54			C			10.74	
56			A	10.74			
58	50	3	B		10.74		5-TON CRANE
60			C			10.74	
62	20	1	A	0.00			SPARE
64	20	1	B		0.00		SPARE
66	20	1	C			0.00	SPARE
68	20	1	A	0.00			SPARE
70	20	1	B		0.00		SPARE
72	20	1	C			0.00	SPARE
			SUBTOTAL	66.97	58.65	59.49	

PANEL SCHEDULE ~ 4B5

VOLTAGE: 480/277V | MLO: 400A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: MEZZANINE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	2.29			LTG: 114-125, TASK 170
3	20	1	B		2.37		LTG: 111-113
5	20	1	C			2.50	LTG: 104-107, 110, 117-118
7	20	1	A	2.90			LTG: LCP2-16,22
9	20	1	B		2.14		LTG: LCP2-24
11	20	1	C			2.28	LTG: LCP2-23
13	20	1	A	2.28			LTG: LCP2-21
15	20	1	B		2.28		LTG: LCP2-20
17	20	1	C			2.28	LTG: LCP2-19
19	20	1	A	2.28			LTG: LCP2-18
21	20	1	B		2.28		LTG: LCP2-17
23	20	1	C			2.25	LTG: LCP2-14, 202,211,212
25	20	1	A	2.82			LTG: LCP2-15, 202-210
27	20	1	B		1.70		LTG: 213-222
29	20 GFCI	1	C			0.90	215 HAND DRYER
31	20 GFCI	1	A	0.90			216 HAND DRYER
33	20	1	B		0.00		SPARE
35	20	1	C			0.00	SPARE
37			A	6.63			
39	25	3	B		6.63		RTU-3
41			C			6.63	
43			A	2.11			
45	25	3	B		2.11		AHU-2
47			C			2.11	
49			A	12.99			
51	60	3	B		12.99		CU-2
53			C			12.99	
55			A	5.51			
57	25	3	B		5.51		RTU-3
59			C			5.51	
61			A	1.47			EF-11,12,14
63	20	3	B		1.47		
65			C			1.47	
67			A	1.63			ERU-1
69	15	3	B		1.63		
71			C			1.63	
			SUBTOTAL	43.81	41.11	40.55	
2			A	20.42			
4	125	3	B		20.30		PANEL 2B5
6			C			19.48	
8			A	10.84			
10	50	3	B		10.84		RTU-2
12			C			10.84	
14	20 GFCI	1	A	0.90			117 HAND DRYER
16	20 GFCI	1	B		0.90		118 HAND DRYER
18	20	1	C			0.00	SPARE
20	20	1	A	0.00			SPARE
22	20 GFCI	1	B		0.90		124A HAND DRYER
24	20 GFCI	1	C			0.90	124B HAND DRYER
26	20 GFCI	1	A	0.90			125 HAND DRYER
28	20	1	B		0.00		SPARE
30	20	1	C			0.00	SPARE
32			A	19.32			
34	250	1	B		18.68		PANEL 2B5A
36			C			17.13	
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
44	20	1	A	0.00			SPARE
46	20	1	B		0.00		SPARE
48	20	1	C			0.00	SPARE
50	20	1	A	0.00			SPARE
52	20	1	B		0.00		SPARE
54	20	1	C			0.00	SPARE
56	20	1	A	0.00			SPARE
58	20	1	B		0.00		SPARE
60	20	1	C			0.00	SPARE
62	20	1	A	0.00			SPARE
64	20	1	B		0.00		SPARE
66	20	1	C			0.00	SPARE
68	20	1	A	0.00			SPARE
70	20	1	B		0.00		SPARE
72	20	1	C			0.00	SPARE
			SUBTOTAL	52.38	51.62	48.35	

PANEL SCHEDULE ~ 2E1

VOLTAGE: 208/120V | MLO: 125A | AIC: 10KA
3-PHASE, 4-WIRE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20 LOCK	1	A	1.00			FIRE ALARM CONTROL PANEL
3	20 LOCK	1	B		1.00		RANGE HOOD FIRE SUPPRESSION SYSTEM
5	20 LOCK	1	C			1.00	PAINT BOOTH FIRE SUPPRESSION SYSTEM
7	20	1	A	0.00			SPARE
9	20	1	B		0.00		SPARE
11	20	1	C			0.00	SPARE
13	20	1	A	0.00			SPARE
15	20	1	B		0.00		SPARE
17	20	1	C			0.00	SPARE
19	20	1	A	0.00			SPARE
21	20	1	B		0.00		SPARE
23	20	1	C			0.00	SPARE
			SUBTOTAL	1.00	1.00	1.00	
2	20	1	A	0.00			SPARE
4	20	1	B		0.00		SPARE
6	20	1	C			0.00	SPARE
8	20	1	A	0.00			SPARE
10	20	1	B		0.00		SPARE
12	20	1	C			0.00	SPARE
14	20	1	A	0.00			SPARE
16	20	1	B		0.00		SPARE
18	20	1	C			0.00	SPARE
20	20	1	A	0.00			SPARE
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
			SUBTOTAL	0.00	0.00	0.00	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM

PROJECT MANAGER

DESIGNER — ALLIED ENG., INC.

CONSULTANT

PROJECT RESIDENT

CONTRACTOR

PROJECT COMPLETION DATE

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

SHEET NUMBER
EP605

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EP.DWG

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PANEL SCHEDULE ~ 2A1

VOLTAGE: 208/120V | MLO: 125A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: ELECTRIC ROOM

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.72			REC ROOF, 192,193,MEZZ
3	20	1	B		0.72		REC 193
5	20	1	C			0.72	REC 195, 196, UH-1
7	20	1	A	0.00			SPARE
9	20	1	B		0.00		BLAST ROOM CRANE CONTROL POWER
11	30	1	C			2.40	CV-1 CENTRAL VAC UNIT 196
13	30	1	A	2.40			CV-2 CENTRAL VAC UNIT 196
15	30	1	B		2.40		CV-3 CENTRAL VAC UNIT 193
17	30	1	C			2.40	CV-4 CENTRAL VAC UNIT 193
19	20	1	A	2.17			AD-2 AIR DRYER
21	20	1	B		0.00		SECURITY PANEL 182
23	20	1	C			0.00	SPARE
25	20	1	A	0.00			SPARE
27	20	1	B		0.00		SPARE
29	20	1	C			0.00	SPARE
			SUBTOTAL	5.29	3.12	5.52	
2	30	3	A	0.00			AD-1 AIR DRYER
4			B		0.00		
6			C			0.00	
8	20	1	A	0.50			FURNACE 193
10	20	1	B		0.00		SPARE
12	20	1	C			0.00	SPARE
14	20	1	A	0.00			SPARE
16	20	1	B		0.00		SPARE
18	20	1	C			0.00	SPARE
20	20	1	A	0.00			SPARE
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
26	20	1	A	0.00			SPARE
28	20	1	B		0.00		SPARE
30	20	1	C			0.00	SPARE
			SUBTOTAL	0.50	0.00	0.00	

PANEL SCHEDULE ~ 2B1

VOLTAGE: 208/120V | MLO: 225A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: ELECTRIC ROOM

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	1.08			REC 134,135
3	20	1	B		1.26		REC 135
5	20	1	C			1.26	REC 135,136
7	20	1	A	0.90			REC 130,135,136
9	20	1	B		1.08		REC 138
11	20	1	C			1.00	135 MECHANICAL CONTROL
13	20	1	A	1.26			REC 132,131
15	20	1	B		1.26		REC 131
17	20	1	C			1.08	REC 131
19	20	1	A	0.90			REC 131
21	20	1	B		0.36		CORD REELS
23	20	1	C			0.36	CORD REELS
25	20	1	A	0.90			REC 181
27	20	1	B		0.90	0.00	REC 181
29	20	1	C			0.90	REC 181
31	60	2	A	4.30			EWH-2
33			B		4.30		
35	20	1	C			0.90	181 COLUMN REC
37	20	1	A	0.90			182, 181 COLUMN REC,
39	20	1	B		0.00		SPARE
41	20	1	C			1.44	133 SURFACE RACEWAY REC
43	20	1	A	1.00			193 MECHANICAL CONTROL
45	20	1	B		1.00		196MECHANICAL CONTROL
47	20 GFI	1	C			0.40	WATER COOLER REC 181
49	20	1	A	0.00			SPARE
51	20	1	B		0.00		SPARE
53	20	1	C			0.00	SPARE
55	20	1	A	0.00			SPARE
57	20	1	B		0.00		SPARE
59	20	1	C			0.00	SPARE
61	20	1	A	0.00			SPARE
63	20	1	B		0.00		SPARE
65	20	1	C			0.00	SPARE
67	20	1	A	0.00			SPARE
69	20	1	B		0.00		SPARE
71	20	1	C			0.00	SPARE
			SUBTOTAL	11.24	10.16	7.34	
2	20	1	A	1.44			132 SURFACE RACEWAY REC
4	20	1	B		1.44		132 SURFACE RACEWAY REC
6	20	1	C			1.44	132 SURFACE RACEWAY REC
8	20	1	A	1.44			132 SURFACE RACEWAY REC
10	20	1	B		1.44		132 SURFACE RACEWAY REC
12	20	1	C			1.26	133 SURFACE RACEWAY REC
14	20	1	A	1.26			133 SURFACE RACEWAY REC
16	20	1	B		1.26		133 SURFACE RACEWAY REC
18	20	1	C			1.44	133 SURFACE RACEWAY REC
20	20	1	A	1.44			133 SURFACE RACEWAY REC
22	30	1	B		1.92		GUH-14
24	30	1	C			2.62	GUH-12, 13
26	20	1	A	0.00			SPARE
28	20	1	B		0.00		SPARE
30	20	1	C			1.92	GUH-17
32	20	1	A	0.36			IDF RACK ON MEZZANINE
34	20	1	B		0.72		REC MEZZANINE
36	20	1	C			1.00	MECH CONTROL MEZZANINE
38	20	1	A	1.41			EF-7, EF-15
40	20	1	B		1.00		EF-8, EF-17
42	20	1	C			0.00	SPARE
44	20	1	A	0.00			SPARE
46	20	1	B		0.00		SPARE
48	20	1	C			0.00	SPARE
50	20	1	A	0.00			SPARE
52	20	1	B		0.00		SPARE
54	20	1	C			0.00	SPARE
56	20	1	A	0.00			SPARE
58	20	1	B		0.00		SPARE
60	20	1	C			0.00	SPARE
62	20	1	A	0.00			SPARE
64	20	1	B		0.00		SPARE
66	20	1	C			0.00	SPARE
68	20	1	A	0.00			SPARE
70	20	1	B		0.00		SPARE
72	20	1	C			0.00	SPARE
			SUBTOTAL	7.35	7.78	9.68	

PANEL SCHEDULE ~ 2B2

VOLTAGE: 208/120V | MCB: 100A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: SIGN SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.00			REC 141
3	20	1	B		0.00		REC 141
5	20	1	C			0.00	REC 141,143
7	20	1	A	0.00			REC 141,144
9	20	1	B		0.00		REC PRINTER
11	20	1	C			0.00	REC PRINTER
13	20	1	A	0.00			REC PRINTER
15	20	1	B		0.00		MECHANICAL CONTROL
17	20	1	C			0.00	REC 142
19	20	1	A	0.00			REC 142
21	20	1	B		0.36		REC 142 BENCH
23	20	1	C			0.18	REC 142 BENCH
25	20	1	A	0.18			REC 142 BENCH
27	20	1	B		0.18	0.00	REC 142 BENCH
29	20	1	C			0.90	REC 140
31	20	1	A	0.90			REC 140
33	20	1	B		1.40		GUH-1,2
35	20	1	C			1.22	EF-1, EF-2
37	20	1	A	0.50			SECURITY SYSTEM DOOR + CAMERA
39	20	1	B		0.00		SPARE
41	20	1	C			0.00	SPARE
43	20	1	A	0.00			SPARE
45	20	1	B		0.00		SPARE
47	20	1	C			0.00	SPARE
49	20	1	A	0.00			SPARE
51	20	1	B		0.00		SPARE
53	20	1	C			0.00	SPARE
			SUBTOTAL	1.58	1.94	2.30	
2	20	3	A	0.00			SPARE
4			B		0.00		
6			C			0.00	
8	20	1	A	1.80			GANTRY HOIST
10	20	1	B		0.72		CORD REELS + ROOF REC
12	20	1	C			0.90	REC 140,146
14	20	1	A	0.90			REC 140, COLUMNS
16	20	2	B		1.25		EWH-5
18			C			1.25	
20	20	2	A	0.00			SPARE
22			B		0.00		
24	30	2	C			0.00	SPARE
26			A	0.00			
28	30	2	B		0.00		SPARE
30			C			0.00	
32	20	1	A	0.00			SPARE
34	20	1	B		0.00		SPARE
36	20	1	C			0.00	SPARE
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
44	20	1	A	0.00			SPARE
46	20	1	B		0.00		SPARE
48	20	1	C			0.00	SPARE
50	20	1	A	0.00			SPARE
52	20	1	B		0.00		SPARE
54	20	1	C			0.00	SPARE
			SUBTOTAL	2.70	1.97	2.15	

PANEL SCHEDULE ~ 2B3

VOLTAGE: 208/120V | MCB: 100A | AIC: 10KA

3-PHASE, 4-WIRE | LOCATION: MACHINE SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.90			REC 180,183
3	20	1	B		1.26		REC 180, ROOF
5	20	1	C			0.72	REC 180
7	20	1	A	0.00			REC 180
9	20	1	B		0.00		REC 180
11	20	1	C			0.00	REC 180
13	15	1	A	1.00			EF-3, EF-16
15	20	1	B		1.44		TAG 65 TABLE SAW
17	20	1	C			0.00	SPARE
19	20	2	A	0.66			ERU-3
21			B		0.66		
23	20	1	C			0.00	SPARE
25	20	1	A	0.00			SPARE
27	20	1	B		0.00		SPARE
29	20	1	C			0.00	SPARE
31	20	1	A	0.00			SPARE
33	20	1	B		0.00		SPARE
35	20	1	C			0.00	SPARE
37	20	1	A	0.00			SPARE
39	20	1	B		0.00		SPARE
41	20	1	C			0.00	SPARE
			SUBTOTAL	2.56	3.36	0.72	
2	20	1	A	1.44	0.00	0.00	TAG 69 BLAST CAB &DUST COLLECTOR
4	50	2	B		3.43	0.00	TAG E62 COMPRESSOR (QUINCY)
6			C			3.43	
8	20	1	A	1.20			TAG E66 DRILL PRESS (CRAFTSMAN)
10	20	1	B		1.50		TAG E67 CHOP SAW
12	20	1	C			1.40	GUH-3,4
14	20	1	A	0.72			180 COLUMN, ROOF REC
16	20	1	B		0.72		180 COLUMN REC
18	20	1	C			0.72	180 COLUMN REC
20	20	1	A	0.00			180 COLUMN REC
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
26	20	1	A	0.00			SPARE
28	20	1	B		0.00		SPARE
30	20	1	C			0.00	SPARE
32	20	1	A	0.00			SPARE
34	20	1	B		0.00		SPARE
36	20	1	C			0.00	SPARE
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
			SUBTOTAL	3.36	5.65	5.55	

ISSUED FOR BID

FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2366
www.allied-eng.com

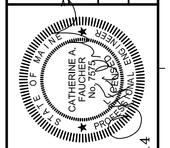
Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:



SIGNATURE

ARCH. LIN. NUMBER

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM

PROJECT MANAGER

DESIGNER ALLIED ENG., INC.

CONSULTANT –

PROJECT RESIDENT

CONTRACTOR

PROJECT COMPLETION DATE –

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

SHEET NUMBER

EP606

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PANEL SCHEDULE ~ 2B4

VOLTAGE: 208/120V | MCB: 225A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: HEAVY EQUIPMENT

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.36			170 CABLE REELS
3	20	1	B		0.36		170 CABLE REELS
5	20	1	C			0.36	170 CABLE REELS
7	20	1	A	0.36			170 BENCH RECEPT
9	20	1	B		0.36		170 BENCH RECEPT
11	20	1	C			0.36	170 BENCH RECEPT
13	20	1	A	0.36			170 BENCH RECEPT
15	20	1	B		0.36		170 BENCH RECEPT
17	20	1	C			0.36	170 BENCH RECEPT
19	20	1	A	0.36			170 BENCH RECEPT
21	20	1	B		0.36		170 BENCH RECEPT
23	20	1	C			0.90	170 RECEPT
25	20	1	A	1.08			170 RECEPT
27	20	1	B		0.90	0.00	151 RECEPT
29	20	1	C			0.72	151 RECEPT
31	20	1	A	0.18			170 CABLE REELS
33	20	1	B		0.00		160 COLUMN REC
35	20	1	C			0.50	SECURITY CAMERA + DOOR
37	20	1	A	0.00			SPARE
39	20	1	B		0.00		SPARE
41	20	1	C			0.00	SPARE
43	20	1	A	0.00			SPARE
45	20	1	B		0.00		SPARE
47	20	1	C			0.00	SPARE
49	20	1	A	0.00			SPARE
51	20	1	B		0.00		SPARE
53	20	1	C			0.00	SPARE
55	20	1	A	0.00			SPARE
57	20	1	B		0.00		SPARE
59	20	1	C			0.00	SPARE
61	20	1	A	0.00			SPARE
63	20	1	B		0.00		SPARE
65	20	1	C			0.00	SPARE
67			A	12.56			
69	100	3	B		10.29		PANEL 2B4A
71			C			8.68	
			SUBTOTAL	15.26	12.63	11.88	
2	20	1	A	0.90			160 RECEPT
4	20	1	B		0.90		160 RECEPT
6	20	1	C			0.90	160 RECEPT
8	20	1	A	0.90			160 RECEPT
10	20	1	B		0.90		160 RECEPT
12	30	1	C			2.62	GUH-15,GUH-7
14	30	1	A	2.62			GUH-6,GUH-5
16	30	1	B		2.62		GUH-8,GUH-9
18	20	1	C			1.40	GUH-10,GUH-11
20	20	1	A	0.36			160 CABLE REEL
22	20	1	B		0.36		160 CABLE REEL
24	20	1	C			0.36	160 CABLE REEL
26	20	1	A	0.36			160 CABLE REEL
28	20	1	B		0.36		160 CABLE REEL
30	20	1	C			0.36	160 CABLE REEL
32	20	1	A	1.60			TAG E74 BAND SAW
34	20	1	B		1.44		TAG E77 BLAST CAB & DUST COLLECTOR
36	20	1	C			0.00	SPARE
38	20	1	A	0.70			GUH-16
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
44	20	1	A	0.00			SPARE
46	20	1	B		0.00		SPARE
48	20	1	C			0.00	SPARE
50	20	1	A	0.00			SPARE
52	20	1	B		0.00		SPARE
54	20	1	C			0.00	SPARE
56	20	1	A	0.00			SPARE
58	20	1	B		0.00		SPARE
60	20	1	C			0.00	SPARE
62	20	1	A	0.00			SPARE
64	20	1	B		0.00		SPARE
66	20	1	C			0.00	SPARE
68	20	1	A	0.00			SPARE
70	20	1	B		0.00		SPARE
72	20	1	C			0.00	SPARE
			SUBTOTAL	7.44	6.58	5.64	

PANEL SCHEDULE ~ 2B5A

VOLTAGE: 208/120V | MCB: 225A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: MEZZANINE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	1.08			201 FURNITURE FEED
3	20	1	B		1.08		201 FURNITURE FEED
5	20	1	C			1.08	201 FURNITURE FEED
7	20	1	A	1.08			201 FURNITURE FEED
9	20	1	B		1.08		201 FURNITURE FEED
11	20	1	C			1.08	201 FURNITURE FEED
13	20	1	A	1.08			201 FURNITURE FEED
15	20	1	B		1.08		201 FURNITURE FEED
17	20	1	C			1.08	201 FURNITURE FEED
19	20	1	A	1.08			201 FURNITURE FEED
21	20	1	B		1.08		201 FURNITURE FEED
23	20	1	C			1.20	201 COPIER REC
25	20	1	A	1.20			202 COPIER REC
27	20	1	B		0.00	0.00	REC 210,211,212
29	20	1	C			0.00	REC 202,210,211
31	20	1	A	0.00			REC 208,209,210
33	20	1	B		0.00		REC 202,207,208
35	20	1	C			0.00	REC 202,206,207
37	20	1	A	0.90			REC 206,207
39	20	1	B		0.90		REC 206
41	20	1	C			0.00	REC 204,206
43	20	1	A	0.00			REC 202,204,205
45	20	1	B		0.00		REC 202,203,204
47	20	1	C			0.60	EF-9, EF-10
49	20	2	A	1.35			DAC-1, DCU-1
51			B		1.35		
53	20	2	C			1.35	DAC-2, DCU-2
55			A	1.35			
57	20 GFCI	1	B		1.00		110, 200 EWC REC
59	20	1	C			0.00	200 COUNTER REC
61	20	1	A	0.00			SPARE
63	20	1	B		0.00		SPARE
65	20	1	C			0.00	SPARE
67	20	1	A	0.00			SPARE
69	20	1	B		0.00		SPARE
71	20	1	C			0.00	SPARE
			SUBTOTAL	9.12	7.57	6.39	
2	20	1	A	1.00			201 MECHANICAL CONTROL
4	20	1	B		1.00		202 MECHANICAL CONTROL
6	20	1	C			1.00	220 MECHANICAL CONTROL
8	20	1	A	1.08			REC ST2,200,215,216,217
10	20	1	B		1.08		REC 200,213,214
12	20	1	C			1.26	REC ST1,200,213
14	20	1	A	0.90			REC 220,222
16	20	1	B		1.44		FLOOR FURNITURE FEED
18	20	1	C			1.44	FLOOR FURNITURE FEED
20	20	1	A	1.44			FLOOR FURNITURE FEED
22	20	1	B		1.44		FLOOR FURNITURE FEED
24	20	1	C			1.44	FLOOR FURNITURE FEED
26	20	1	A	1.44			FLOOR FURNITURE FEED
28	20	1	B		0.90		REC 202,212
30	20	1	C			0.24	115 EMR LT + REC
32	20	1	A	0.36			ELEV PIT LT + REC
34	20	1	B		0.50		ELEVATOR CAR LTS + FAN
36	20	1	C			0.00	ELEV PIT SUMP PUMP + CONTROL PANEL REC
38	20	1	A	0.36			212, 213 CEILING REC
40	20	2	B		1.20		ERU-2
42			C			1.20	
44	20	1	A	1.44			BOILER 1
46	20	1	B		1.44		BOILER 2
48	20	1	C			1.44	BOILER 3
50	20	3	A	0.82			P-1, P-2
52			B		0.82		
54			C			0.82	
56	20	1	A	1.00			BAS PANEL
58	20	1	B		0.75		P-5, RCP-1
60	20	1	C			1.00	P-3,4
62	20	1	A	0.00			SPARE
64	20	1	B		0.18		REC-202
66	20	1	C			0.18	REC 202
68	50	3	A	0.36			PANEL 2B5B
70			B		0.36		
72			C			0.72	
			SUBTOTAL	10.20	11.11	10.74	

PANEL SCHEDULE ~ 2B5

VOLTAGE: 208/120V | MCB: 225A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: MEZZANINE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.90			REC 120,123,124,125
3	20	1	B		0.18		REC 123 COUNTER
5	20	1	C			0.18	REC 123 COUNTER
7	20	1	A	0.18			REC 123 COUNTER
9	20	1	B		1.26		REC 123
11	20	1	C			1.20	REC 120 COPIER
13	20	1	A	1.00			120 MECHANICAL CONTROL
15	20	1	B		1.26		REC 116
17	20	1	C			0.00	REC 121
19	20	1	A	1.26			REC 120,121
21	20	1	B		1.08		REC 121
23	20	1	C			1.26	REC 121
25	20	1	A	1.08			REC 114
27	20	1	B		0.90	0.00	REC 114
29	20	1	C			0.90	REC 114
31	20	1	A	1.08			REC 114
33	20	1	B		1.26		REC ST1, 110
35	20	1	C			0.72	REC 113
37	20	1	A	1.26			REC 113
39	20	1	B		1.08		REC 113
41	20	1	C			1.00	110 MECHANICAL CONTROL
43	20	1	A	1.20			REC 100 COPIER
45	50	2	B		4.00		111 RANGE
47	0	0	C			4.00	0
49	20	1	A	0.00			SPARE
51	20	1	B		0.36		112A, 112B FLOOR REC
53	20	1	C			1.00	100 MECHANICAL CONTROL
55	20	1	A	0.60			CUH-1,2,3
57	20	1	B		1.26		REC 113
59	20	1	C			0.00	112A, 112B MOTORIZED SHADES
61	20	1	A	0.00			SECURITY CAMERAS + DOORS
63	20	1	B		0.00		SECURITY PANEL 119
65	20	1	C			0.00	SPARE
67	20	1	A	0.00			SPARE
69	20	1	B		0.00		SPARE
71	20	1	C			0.00	SPARE
			SUBTOTAL	8.56	12.64	10.26	
2	20	1	A	1.44			REC 116,117,118,JAN
4	20	1	B		0.72		REC 112 CEILING
6	20	1	C			1.26	REC 112A
8	20	1	A	0.90			REC 112A,112B
10	20	1	B		1.08		REC 112B
12	20	1	C			0.90	REC 111,111A
14	20	1	A	1.00			REC 111 REFRIG
16	20	1	B		1.00		REC 111 REFRIG
18	20	1	C			0.18	REC 111 COUNTER
20	20	1	A	0.18			REC 111 COUNTER
22	20	1	B		0.18		REC 111 COUNTER
24	20	1	C			0.18	REC 111 COUNTER
26	20	1	A	0.18			REC 111 COUNTER
28	20	1	B		0.72		REC 111
30	20	1	C			1.00	111 MECHANICAL CONTROL
32	20	1	A	1.46			REC 101,102
34	20	1	B		1.26		REC 102,103
36	20	1	C			1.08	REC 100,103
38	20	1	A	1.26			REC 100,104
40	20	1	B		1.26		REC 100,104,105
42	20	1	C			1.26	REC 105, CORRIDOR
44	20	1	A	1.26			REC 100,106
46	20	1	B		1.08		REC 100
48	20	1	C			1.08	REC 100
50	20	1	A	1.26			REC 100,1003
52	20	1	B		0.00		SPARE
54	20	2	C			1.56	SEP-1, SEWAGE PUMP
56			A	1.56			
58	20	2	B		0.00		SEP-2 SEWAGE PUMP
60			C			0.00	
62	20	1	A	1.00			SEWAGE PUMP CONTROL PANEL
64	20	1	B		0.00		SPARE
66	20	1	C			0.00	SPARE
68	50	3	A	0.36			PANEL 2B5C
70			B		0.36		
72			C			0.72	
			SUBTOTAL	11.86	7.66	9.22	

PANEL SCHEDULE ~ 2B4A

VOLTAGE: 208/120V | MLO: 100A | AIC: 10KA
3-PHASE, 4-WIRE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	1.44			TAG E71 FORKLIFT CHARGER
3	20	1	B		1.44		TAG E73 TIRE BALANCER
5	20	1	C			1.44	TAG E76 GRINDER
7	20	1	A	1.70			TAG E96 LATHE
9	20	2	B		1.77		TAG E79 VEHICLE LIFT (ROTARY 12,000 lb cap)
11			C			1.77	
13	20	2	A	1.67			TAG E83 VEHICLE LIFT (MOHAWK 16,000 lb cap)
15			B		1.67		
17	20	2	C			1.77	TAG E79 VEHICLE LIFT (ROTARY 14,000 lb cap)
19			A	1.77			
21	20	2	B		0.00		SPARE
23			C			0.00	
25	30	2	A	0.00			SPARE
27			B		0.00		
29	30	2	C			0.00	SPARE
31			A	0.00			
33	20	1	B		1.18		OIL PUMP REC
35	20	1	C			1.18	OIL PUMP REC
37	20	1	A	1.18			OIL PUMP REC
39	20	1	B		1.18		OIL PUMP REC
41	20	1	C			0.00	SPARE
			SUBTOTAL	7.76	7.24	6.16	
2	20	1	A	1.44			TAG E30 TIRE MACHINE (HUNTER)
4	20	1	B		1.80		TAG E34 PARTS WASHER
6	20	1	C			0.00	TAG E39 DRILL PRESS (DELTA)
8	20	1	A	1.92			TAG E40 GRINDER
10	20	1	B		0.17		TAG E44 TRANS FLUSH MACH
12	20	1	C			1.44	170 SURFACE RACEWAY FOR CHARGERS
14	20	1	A	1.44			170 SURFACE RACEWAY FOR CHARGERS
16	20	1	B		1.08		160 COLUMN REC
18	20	1	C			1.08	160 COLUMN REC
20	20	1	A	0.00			TAG E47 TIRE HOIST
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
26	20	1	A	0.00			SPARE
28	20	1	B		0.00		SPARE
30	20	1	C			0.00	SPARE
32	20	1	A	0.00			SPARE
34	20	1	B		0.00		SPARE
36	20	1	C			0.00	SPARE
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
			SUBTOTAL	4.80	3.05	2.52	

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

PLAN NORTH

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2266
www.allied-eng.com

Allied Project No: 13057 Cad File: 13057_EP.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

CATHERINE A. FAUCHER No. 7571 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE –

ARCH. LIN. NUMBER –

DATE FEBRUARY 27, 2014

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	–
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	–

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

SHEET NUMBER
EP607

N:\Projects\2013\13057 ~ BGS_MDOT Fleet Services Building\00 Drawing Files\13057_EPanels.dwg Mar 05, 2014 – 1:26pm

PANEL SCHEDULE ~ 2B5B

VOLTAGE: 208/120V | MLO: 100A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: TEL/DATA 119

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.36			REC TELEPHONE ENTRANCE
3	20	1	B		0.36		REC CATV ENTRANCE
5	20	1	C			0.72	REC 119
7	20	1	A	0.00			SPARE
9	20	1	B		0.00		SPARE
11	20	1	C			0.00	SPARE
13	20	1	A	0.00			SPARE
15	20	1	B		0.00		SPARE
17	20	1	C			0.00	SPARE
19	20	1	A	0.00			SPARE
21	20	1	B		0.00		SPARE
23	20	1	C			0.00	SPARE
			SUBTOTAL	0.36	0.36	0.72	
2	20	1	A	0.00			SPARE
4	20	1	B		0.00		SPARE
6	20	1	C			0.00	SPARE
8	20	1	A	0.00			SPARE
10	20	1	B		0.00		SPARE
12	20	1	C			0.00	SPARE
14	20	1	A	0.00			SPARE
16	20	1	B		0.00		SPARE
18	20	1	C			0.00	SPARE
20	20	1	A	0.00			SPARE
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
			SUBTOTAL	0.00	0.00	0.00	

PANEL SCHEDULE ~ 3B4

VOLTAGE: 208/120V | MCB: 100A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: HEAVY EQUIPMENT

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	30	2	A	2.30			TAG E31 TIRE BALANCER
3			B		2.30		
5	60	2	C			4.83	SPARE
7			A	4.83			
9	20	2	B		0.00		230V CONVENIENCE RECEPTACLE 170
11			C			0.00	
13	20	2	A	0.00			230V CONVENIENCE RECEPTACLE 170
15			B		0.00		
17	20	2	C			0.00	230V CONVENIENCE RECEPTACLE 170
19			A	0.00			
21	30	2	B		0.00		SPARE
23			C			0.00	
25	20	3	A	0.00			SPARE
27			B		0.00		
29			C			0.00	
			SUBTOTAL	7.13	2.30	4.83	
2	20	3	A	0.27			TAG E78 BELT SANDER
4			B		0.27		
6			C			0.27	
8	30	3	A	2.25			TAG E87 VEHICLE LIFT (ROTARY)
10			B		2.25		
12			C			2.25	
14	20	3	A	0.00			SPARE
16			B		0.00		
18			C			0.00	
20	30	3	A	0.00			SPARE
22			B		0.00		
24			C			0.00	
26	30	3	A	0.00			SPARE
28			B		0.00		
30			C			0.00	
			M	2.52	2.52	2.52	

PANEL SCHEDULE ~ 3A1

VOLTAGE: 208/120V | MLO: 225A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: ELECTRIC ROOM

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	2	A	1.84			181 - 230V CONVENIENCE OUTLET
3			B		1.84		
5	20	2	C			1.84	181 - 230V CONVENIENCE OUTLET
7			A	1.84			
9	20	2	B		1.84		181 - 230V CONVENIENCE OUTLET
11			C			1.84	
13	20	2	A	1.84			181 - 230V CONVENIENCE OUTLET
15			B		1.84		
17	30	3	C			2.78	TAG E19 DRILL (CINCINNATI-BICKFORD)
19			A	2.78			
21			B		2.78		
23	20	2	C			0.00	193 - 230V CONVENIENCE OUTLET
25			A	0.00			
27	30	2	B		0.00		193 - 230V CONVENIENCE OUTLET
29			C			0.00	
31	30	2	A	0.00			SPARE
33			B		0.00		
35	20	2	C			0.00	SPARE
37			A	0.00			
39	30	2	B		0.00		SPARE
41			C			0.00	
			SUBTOTAL	8.30	8.30	6.46	
2	125	3	A	13.26			E02 SHEAR (ALLSTEEL)
4			B		13.26		
6			C			13.26	
8	20	2	A	1.73			E10 SMALL BAND SAW
10			B		1.73		
12	20	2	C			1.73	E03 BURNING TABLE
14			A	1.73			
16	40	2	B		3.56		TAG E80 PRESSURE WASHER
18			C			3.56	
20	20	2	A	0.00			SPARE
22			B		0.00		
24	20	1	C			0.00	SPARE
26	20	1	A	0.00			SPARE
28	20	1	B		0.00		SPARE
30	20	1	C			0.00	SPARE
32	20	1	A	0.00			SPARE
34	20	1	B		0.00		SPARE
36	20	1	C			0.00	SPARE
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
			SUBTOTAL	16,72	18,55	18,55	

PANEL SCHEDULE ~ 2B5C

VOLTAGE: 208/120V | MLO: 100A | AIC: 10KA
3-PHASE, 4-WIRE

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	1	A	0.00			SPARE
3	20	1	B		0.00		SPARE
5	20	1	C			0.00	SPARE
7	20	1	A	0.00			SPARE
9	20	1	B		0.00		SPARE
11	20	1	C			0.00	SPARE
13	20	1	A	0.00			SPARE
15	20	1	B		0.00		SPARE
17	20	1	C			0.00	SPARE
19	20	1	A	0.00			SPARE
21	20	1	B		0.00		SPARE
23	20	1	C			0.00	SPARE
			SUBTOTAL	0.00	0.00	0.00	
2	20	1	A	0.00			SPARE
4	20	1	B		0.00		SPARE
6	20	1	C			0.00	SPARE
8	20	1	A	0,00			SPARE
10	20	1	B		0.00		SPARE
12	20	1	C			0.00	SPARE
14	20	1	A	0.00			SPARE
16	20	1	B		0.00		SPARE
18	20	1	C			0.00	SPARE
20	20	1	A	0,00			SPARE
22	20	1	B		0.00		SPARE
24	20	1	C			0.00	SPARE
			SUBTOTAL	0.00	0.00	0.00	

PANEL SCHEDULE ~ 3B2

VOLTAGE: 208/120V | MCB: 100A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: SIGN SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	20	3	A	0.82			TAG 56 SCOTCHLITE MACHINE (3M)
3			B		0.82		
5			C			0.82	
7	20	3	A	0.00			SPARE
9			B		0.00		
11			C			0.00	
13	20	3	A	0.00			SPARE
15			B		0.00		
17			C			0.00	
19	30	3	A	0.00			SPARE
21			B		0.00		
23			C			0.00	
25	20	1	A	0.00			SPARE
27	20	1	B		0.00	0.00	SPARE
29	20	1	C			0.00	SPARE
31	20	1	A	0.00			SPARE
33	20	1	B		0.00		SPARE
35	20	1	C			0.00	SPARE
37	20	1	A	0.00			SPARE
39	20	1	B		0.00		SPARE
41	20	1	C			0.00	SPARE
			SUBTOTAL	0.82	0.82	0.82	
2	20	2	A	0.00			SPARE
4			B		1.84		
6	20	2	C			1.84	140 - 230V CONVENIENCE OUTLET
8			A	1.84			
10	20	2	B		2.80		142 - 230V BENCH OUTLET
12			C			2.80	
14	50	2	A	4.60			TAG E56A SCOTCHLITE MACHINE (CONTECH)
16			B		4.60		
18	20	2	C			0.00	SPARE
20			A	0.00			
22	20	2	B		0.00		SPARE
24			C			0.00	
26	20	2	A	0.00			SPARE
28			B		0.00		
30	30	2	C			0.00	SPARE
32			A	0.00			
34	30	2	B		0.00		SPARE
36			C			0.00	
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
			SUBTOTAL	6.44	9.24	4.64	

PANEL SCHEDULE ~ 3B3

VOLTAGE: 208/120V | MLO: 225A | AIC: 10KA
3-PHASE, 4-WIRE | LOCATION: MACHINE SHOP

CIRCUIT BREAKER				CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	
1	70	3	A	6.63			TAG E18 LATHE (WARNER & SWASEY)
3			B		6.63		
5			C			6.63	
7	15	3	A	1.09			TAG E21 GRINDER (ABRASIVE)
9			B		1.09		
11			C			1.09	
13	15	3	A	1.38			TAG E22 LARGE BRIDGEPORT (CINCINNATI-BICKFORD)
15			B		1.38		
17			C			1.38	
19	15	3	A	0.54			TAG E23 SMALL BRIDGEPORT (CINCINNATI-TOOLMASTER)
21			B		0.54		
23			C			0.54	
25	20	3	A	4.37			TAG E68 LARGE PARTS WASHER
27			B		4.37	0.00	
29			C				
31	30	3	A	2.65			TAG E64 BAND SAW (POWERMATIC)
33			B		2.65		
35			C			2.65	
37	30	3	A	0.00			SPARE
39			B		0.00		
41			C			0.00	
			SUBTOTAL	16.66	16.66	12.29	
2	20	2	A	1.84			180 - 230V CONVENIENCE OUTLET
4			B		1.84		
6	20	2	C			1.84	180 - 230V CONVENIENCE OUTLET
8			A	1.84			
10	20	2	B		1.84		180 - 230V CONVENIENCE OUTLET
12			C			1.84	
14	30	2	A	2.53			TAG E20 OVEN (THERMCRAFT)
16			B		2.53		
18	20	2	C			0.85	TAG E86 DRILL PRESS (POWERMATIC)
20			A	0.85			
22	20	2	B		1.38		TAG E63 DUST COLLECTOR (JET)
24			C			1.38	
26	20	2	A	0.00			SPARE
28			B		0.00		
30	30	2	C			0.00	SPARE
32			A	0.00			
34	20	1	B		0.00		SPARE
36	20	1	C			0.00	SPARE
38	20	1	A	0.00			SPARE
40	20	1	B		0.00		SPARE
42	20	1	C			0.00	SPARE
			SUBTOTAL	7.06	7.59	5.91	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER:

CHIEF ENGINEER:

SIGNATURE

DATE FEBRUARY 27, 2014

ARCH. LIN. NUMBER

INFORMATION

PROJECT	
PROGRAM	
PROJECT MANAGER	
DESIGNER	ALLIED ENG., INC.
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN: 020118.20

66 INDUSTRIAL DRIVE–PHASE 2
66 INDUSTRIAL DRIVE, AUGUSTA, MAINE
MAINE DEPARTMENT OF TRANSPORTATION

ELECTRICAL SCHEDULES

ISSUED FOR BID
FEBRUARY 27, 2014

PROJECT KEY PLAN

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
207.221.2260
207.221.2366
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Allied Project No: 13057 Cad File: 13057_EP.DWG

SHEET NUMBER
EP608

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