

LOUVER AND DAMPER SCHEDULE

MARK	LOCATION	AREA SERVED/ SYSTEM TYPE	MANUFACTURER / MODEL No.	TYPE	MATERIAL	WIDTH OR DIA (IN)	HEIGHT (IN)	DEPTH (IN)	CFM	FREE AREA (SF)	FA VEL (FPM)	PD (IN)	FAIL POSITION	NOTES
LD-BR-1A	TUNNEL	BLOWER ROOM / SUPPLY AIR	RUSKIN / CD504	VOLUME DAMPER	ALUMINUM	24	24	5	4000	-	-	0.01	-	3,4,5,9
LD-BR-1B	TUNNEL	BLOWER ROOM / SUPPLY AIR	RUSKIN / CD504	MOTORIZED DAMPER	ALUMINUM	24	24	5	4000	-	-	0.01	CLOSED	1,2,3,4,5,6,9
LD-BR-2A	TUNNEL	BLOWER ROOM / SUPPLY AIR	RUSKIN / CD504	VOLUME DAMPER	ALUMINUM	24	24	5	4000	-	-	0.01	-	3,4,5,9
LD-BR-2B	TUNNEL	BLOWER ROOM / SUPPLY AIR	RUSKIN / CD504	MOTORIZED DAMPER	ALUMINUM	24	24	5	4000	-	-	0.01	CLOSED	1,2,3,4,5,6,9
LD-BR-3A	TUNNEL	BLOWER ROOM / SUPPLY AIR	RUSKIN / CD504	VOLUME DAMPER	ALUMINUM	24	24	5	4000	-	-	0.01	-	3,4,5,9
LD-BR-3B	TUNNEL	BLOWER ROOM / SUPPLY AIR	RUSKIN / CD504	MOTORIZED DAMPER	ALUMINUM	24	24	5	4000	-	-	0.01	CLOSED	1,2,3,4,5,6,9
LD-BR-4A	TUNNEL	BLOWER ROOM / RELIEF AIR	RUSKIN / ACL845	ACOUSTICAL LOUVER	ALUMINUM	68	36	8	4000	4.66	860	0.06	-	3,4,5
LD-BR-4B	TUNNEL	BLOWER ROOM / RELIEF AIR	RUSKIN / CD504	VOLUME DAMPER	ALUMINUM	68	36	5	4000	-	-	0.01	-	3,4,5,9
LD-BR-5A	ABOVE GRADE	BLOWER ROOM / SUPPLY AIR	RUSKIN / PH837	TIERED PENTHOUSE LOUVER	ALUMINUM	30	24	30	4000	8.88	450	0.05	-	3,4,5,13,14
LD-BR-5B	ABOVE GRADE	BLOWER ROOM / SUPPLY AIR	RUSKIN / CDTI-50	THERMAL ISOLATION DAMPER	ALUMINUM	26	26	16	4000	-	-	0.03	CLOSED	1-6,8,9,12
LD-BR-5C	ABOVE GRADE	BLOWER ROOM / SUPPLY AIR	RUSKIN / PH837	TIERED PENTHOUSE LOUVER	ALUMINUM	30	24	30	4000	8.88	450	0.05	-	3,4,5,13,14
LD-BR-5D	ABOVE GRADE	BLOWER ROOM / SUPPLY AIR	RUSKIN / CDTI-50	THERMAL ISOLATION DAMPER	ALUMINUM	26	26	16	4000	-	-	0.03	CLOSED	1-6,8,9,12
LD-BR-6A	ABOVE GRADE	BLOWER ROOM / RELIEF AIR	RUSKIN / PH837	TIERED PENTHOUSE LOUVER	ALUMINUM	36	36	36	8000	18.12	442	0.05	-	3,4,5,13,14
LD-BR-6B	ABOVE GRADE	BLOWER ROOM / RELIEF AIR	RUSKIN / CDTI-50	MOTORIZED DAMPER	ALUMINUM	38	38	16	8000	-	-	0.03	CLOSED	1-6,8,9,12
LD-EL-1A	ABOVE GRADE	ELECTRICAL ROOM / SUPPLY AIR	RUSKIN / PH837	TIERED PENTHOUSE LOUVER	ALUMINUM	30	30	30	3600	8.94	402	0.04	-	3,4,5,13,14
LD-EL-1B	ABOVE GRADE	ELECTRICAL ROOM / SUPPLY AIR	RUSKIN / CDTI-50	MOTORIZED DAMPER	ALUMINUM	22	22	5	3600	-	-	0.01	CLOSED	1,2,3,4,5,6,9
LD-EL-2A	ABOVE GRADE	ELECTRICAL ROOM / RELIEF AIR	RUSKIN / PH837	TIERED PENTHOUSE LOUVER	ALUMINUM	30	30	30	3600	8.94	402	0.04	-	3,4,5,13,14
LD-EL-2B	ABOVE GRADE	ELECTRICAL ROOM / RELIEF AIR	RUSKIN / CDTI-50	MOTORIZED DAMPER	ALUMINUM	24	24	5	3600	-	-	0.01	CLOSED	1,2,3,4,5,6,9

NOTES:

1. PROVIDE QUANTITY OF ACTUATORS OF SUFFICIENT TORQUE TO DRIVE LOUVER OR DAMPER PER MANUFACTURERS REQUIREMENTS.
2. CONTRACTOR SHALL COORDINATE ACTUATOR POWER AND VOLTAGE REQUIREMENTS WITH AUTOMATIC TEMPERATURE CONTROLS PROVIDER.
3. CONTRACTOR SHALL COORDINATE ROUGH OPENING DIMENSIONS REQUIRED FOR PROPER INSTALLATION OF EACH LOUVER AND DAMPER WITH STRUCTURAL OPENING AND TO MAINTAIN PROPER CLOSURE.
4. REFER TO SPECIFICATION SECTION 15598 FOR CONSTRUCTION AND REQUIRED FEATURES
5. PROVIDE MULTI-STEP KYNAR 500 SERIES COATING
6. TWO POSITION ACTUATOR
7. MODULATING ACTUATOR
8. THERMALLY INSULATED DAMPER
9. LOW LEAKAGE: <math>-6\text{CFM}/\text{SQ.FT. @ }4\text{\"W.G.}</math>
10. 277V, SINGLE PHASE 60W/SQ.FT HEATING ELEMENT
11. DRAINED SLEEVE
12. ROUND DUCT TRANSITION CONNECTION
13. SIDES SHALL BE RUSKIN ELF837 OR EQUIVALENT PERFORMANCE
14. BIRD SCREEN

ELECTRIC HEATER

MARK	LOCATION	CFM	KW (MINIMUM)	AMPS	POWER	MANUFACTURER	MODEL NUMBER	REMARKS
IUH-ER-1	ELECTRICAL ROOM	700	3	5	460V/60HZ/3PH	INDEECO	IUH	1

REMARKS:

- 1 SEE 15604 FOR CONSTRUCTION AND ACCESSORY DETAILS

AIR DEVICE SCHEDULE

MARK	LOCATION	AREA SERVED	MANUFACTURER & MODEL No.	MATERIAL	FACE SIZE (INCHES)	MAX. S.P. IN WG	MOUNTING	NOTES
SR-BR-1	TUNNEL	BLOWER ROOM	TITUS 301FS	ALUMINUM	48X30	0.2	SEE PLANS	1
ER-BR-1	TUNNEL	BLOWER ROOM	TITUS 350FL	ALUMINUM	48x48	0.05	SEE PLANS	2

NOTES:

1. DOUBLE DEFLECTION 22.5 DEGREE DEFLECTION, 3/4" BLADE SPACING
2. SINGLE 0 DEGREE DEFLECTION, 3/4" BLADE SPACING

FAN SCHEDULE

MARK	LOCATION	FAN TYPE	DRIVE TYPE	DESIGN CFM	SP (INWG)	BHP AT DESIGN POINT	FAN RPM	MOTOR HP	MOTOR RPM	POWER	MANUFACTURER	MODEL NUMBER	REMARKS
SF-BR-1	TUNNEL	INLINE CENTRIFUGAL	BELT	4000	1.4	1.7	1452	2	1725	460V/60HZ /3PH	HARTZELL	A04-9-181	1,3,4,5,6,7
SF-BR-2	TUNNEL	INLINE CENTRIFUGAL	BELT	4000	1.4	1.7	1452	2	1725	460V/60HZ /3PH	HARTZELL	A04-9-181	1,3,4,5,6,7
SF-BR-3	TUNNEL	INLINE CENTRIFUGAL	BELT	4000	1.4	1.7	1452	2	1725	460V/60HZ /3PH	HARTZELL	A04-9-181	1,3,4,5,6,7
SF-ER-1	ELECTRICAL ROOM	INLINE AXIAL	BELT	3600	1.4	2.5	3277	3	1725	460V/60HZ /3PH	HARTZELL	A31-166-W	1,4,5,6,8

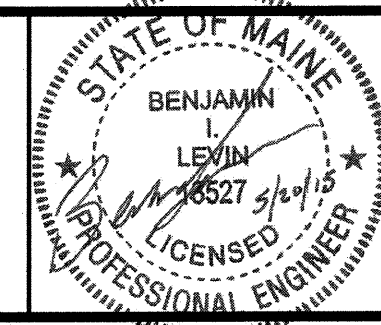
REMARKS:

- 1 SEE 15590 FOR CONSTRUCTION AND ACCESSORY DETAILS
- 2 HOUSING, IMPELLER, AND ALL ACCESSORIES WITH CORROSION RESISTANT COATING, SEE 15590.
- 3 PROVIDE FLEXIBLE CONNECTION ON FAN DISCHARGE
- 4 PROVIDE FLEXIBLE CONNECTION ON FAN INLET
- 5 TEFC PREMIUM EFFICIENCY MOTOR
- 6 VFD RATED MOTOR
- 7 304 SS CONSTRUCTION
- 8 ALUMINUM CONSTRUCTION

2015/05/20 3:10P C:\B270\p1\3\90216-000 Portland Aeration Upgrade\Drawings\HVAC\90216-000H02.dwg LAST SAVED By: mbrandt  
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 IMAGE=:\Tblock\2015.05.20 - SEAL-MECH  
 PLOT DATE: May 20, 2015 - 3:10pm By: MBRANDT

DESIGNED	SB		
DRAWN	MJB		
CHECKED	CMB		
PROJ.ENGR.	BIL		
NO.	DATE	CONSTRUCTION ISSUED FOR	BIL BY
1	MAY 2015		

**Hazen and Sawyer**  
 Environmental Engineers & Scientists  
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PORTLAND WATER DISTRICT  
 PORTLAND, MAINE  
 EAST END WASTEWATER TREATMENT FACILITY  
 AERATION UPGRADE

HVAC  
 SCHEDULES

DATE	MAY 2015
DWG. NO.	H02
SHEET NO.	72
FILE NAME:	90216-000H02

FINAL DRAWING - ISSUED FOR CONSTRUCTION