#15 - PROCESS

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REV.	DATE	DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER: MJB

CHECKED BY: CCA

SCALE: AS INDICATED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

APPROVED BY: CRL

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PROJECT TITLE:

WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

ADDRESS: **FROST BRIDGE ROAD WATERTOWN, CONNECTICUT 06787**

DRAWING TITLE:

PROCESS SYSTEMS DRAWING INDEX

PROJECT NO. **431-0006**

DRAWING NO. **D-000**

SHEET NO. **15.001**

Connecticut Department of Transportation
QA/QC Format Check

PROCESS ABBREVIATIONS

A

A	COMPRESSED AIR
AC	AIR COMPRESSOR
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACV	AUTOMATIC CONTROL VALVE
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
AP	ACCESS PANEL
AS	AIR SEPARATOR
ASC	ABOVE SUSPENDED CEILING
AV-A	AUTOMATIC AIR VENT
AV-M	MANUAL AIR VENT
AVG	AVERAGE

B

BAV	BALANCING VALVE
BB-E	BASEBOARD - ELECTRIC
BF	BOILER FEED PUMP
BFP	BACKFLOW PREVENTER
BTV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BJA	BETWEEN JOISTS ABOVE
BV	BALL VALVE

C

C	COMMON
CA	COMBUSTION AIR
CEB	CONCRETE EQUIPMENT BASE
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CHWP	CHILLED WATER CIRCULATING PUMP
CIR	CAST IRON RADIATOR
CKV	CHECK VALVE
CRP	CONDENSATE RETURN PUMP
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CUV	CLASSROOM UNIT VENTILATOR
CV	CONVECTOR

D

DB	DRY BULB
DC	DUCT COVERING
DCO	DOOR CUTOFF - 3/4" BY GENERAL CONTRACTOR
DL	DUCT LINING
DSS	DUCTLESS SPLIT SYSTEM AIR CONDITIONER
DX	DIRECT EXPANSION

E

EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDR	EQUIVALENT DIRECT RADIATION
EF	EXHAUST AIR FAN
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE

F

F	DEGREES FAHRENHEIT
FBO	FURNISHED BY OTHERS
FCU	FAN COIL UNIT
FCV	FLOW CONTROL VALVE
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FID	FIRE DAMPER
FR	FURNACE
FSD	FIRE/SMOKE DAMPER
FTC	FINNED TUBE CONVECTOR

G

GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GVTR	GAS VENT THROUGH ROOF

H

H	HUMIDIFIER
HC	HVAC CONTRACTOR
HEC	HEATING COIL
HP	HORSEPOWER
HRU	HEAT RECOVERY UNIT
HS	HUMIDITY SENSOR
HV	HEATING AND VENTILATING UNIT
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HX	HEAT EXCHANGER

L

LAT	LEAVING AIR TEMPERATURE
LRI	LOUVERED ROOF INTAKE
LRV	LOUVERED ROOF VENT
LWT	LEAVING WATER TEMPERATURE

M

MAU	MAKE-UP AIR UNIT

N

NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE

O

0	OPEN
OA	OUTDOOR AIR
OC	ON CENTER
OED	OPEN ENDED DUCT

P

P	PRESENT TO REMAIN
PC	PLUMBING CONTRACTOR
PLV	PLUG VALVE
PRV	PRESSURE REDUCING VALVE
PD	PUMPED DISCHARGE

R

RA	RETURN AIR
RAF	RETURN AIR FAN
RHC	REHEAT COIL
RE	RELIEF AIR
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RV	ROOF VENT

S

SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SD	SMOKE DAMPER
STR	STRAINER
SP	STATIC PRESSURE
SUH	SUSPENDED UNIT HEATER

T

TCAC	TEMPERATURE CONTROL AIR COMPRESSOR
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TJA	THROUGH JOIST ABOVE

U

UH	UNIT HEATER
UV	UNIT VENTILATOR

V

VAV	VARIABLE AIR VOLUME
VIB ISO	VIBRATION ISOLATOR
VD	VOLUME DAMPER

W

WB	WET BULB
WC	WATER COLUMN
WCU	WATER CHILLER UNIT
WIV	WATER INLET VALVE
WLS	WALL LOUVER WITH SCREEN
WPD	WATER PRESSURE DROP

PROCESS SYMBOLS - PIPING DESIGNATIONS

EO	ENGINE OIL
EO-P	ENGINE OIL - PARATRANSIT
CG	COMMON GREASE
ATF	AUTOMATIC TRANMISSION FLUID
ATF-P	AUTOMATIC TRANMISSION FLUID - PARATRANSIT
EC	ENGINE COOLANT
EC-P	ENGINE COOLANT - PARATRANSIT
WWF	WINDSHIELD WASHER FLUID
GO	GEAR OIL
DI	DIESEL FUEL
WO	WASTE ENGINE OIL
WC	WASTE ENGINE COOLANT
CA	COMPRESSED AIR
DI	DIESEL FUEL
BA	BREATHING AIR
DEF	DIESEL EXHAUST FLUID
X	UNDERGROUND PIPING, X INDICATES TYPE

PROCESS SYMBOLS - VALVES & SPECIALTIES

- SHUT-OFF VALVE (GATE, BALL, ETC.)
- BRANCH CONNECTION - BOTTOM
- BRANCH CONNECTION - TOP
- ELBOW - TURNED DOWN
- ELBOW - TURNED UP
- CAP
- FLEXIBLE CONNECTOR
- DIRECTION OF FLOW
- UNION
- PIPE GUIDE (PG)
- PIPE ANCHOR (PA)
- REDUCER

GENERAL NOTES

1. THE PLANS ARE DIAGRAMMATIC AND INDICATE ONLY THE SIZE AND GENERAL ARRANGEMENT OF PIPING AND EQUIPMENT. EXACT LOCATION OF ALL ELEMENTS SHALL BE DETERMINED AS WORK PROGRESSES, IN COOPERATION AND COORDINATION WITH THE WORK OF ALL OTHER TRADES. IT IS NOT INTENDED TO SHOW EVERY ITEM OF WORK OR MINOR PIECE OF EQUIPMENT, BUT THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL REMUNERATION ANY COMPONENT NECESSARY TO COMPLETE THE SYSTEM IN ACCORDANCE WITH THE BEST PRACTICE.
2. ITEMS OF WORK OR EQUIPMENT SHOWN ON THE DRAWINGS ONLY, OR CALLED FOR IN THE SPECIFICATIONS ONLY, SHALL BE FURNISHED AND INSTALLED IN THE SAME MANNER AS IF THEY APPEARED ON BOTH THE DRAWINGS AND SPECIFICATIONS.
3. DRAWINGS DO NOT INDICATE ALL OFFSETS, CHANGES IN ELEVATIONS, ETC. WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL MAKE SUCH CHANGES IN PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMMODATE WORK WITH THAT OF OTHER CONTRACTORS.
4. INSTALL EQUIPMENT AND PIPING TO AVOID INTERFERENCE WITH THE OPERATION OR SERVICING AND MAINTENANCE OF EQUIPMENT.
5. PIPES PENETRATING FIRE WALLS AND FLOORS SHALL BE FIRESTOPPED AS SPECIFIED. REFER TO THE ARCHITECTURAL DRAWINGS FOR FIRE WALL AND FLOOR LOCATIONS.
6. ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR THE EQUIPMENT SCHEDULES. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT/ENGINEER HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS IF THOSE ITEMS DO NOT MATCH THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.
7. COMPLY WITH THE CONNECTICUT STATE BUILDING CODES, CONNECTICUT STATE ENERGY CONSERVATION CONSTRUCTION CODE, AND OTHER APPLICABLE CODES.

SHOP/COORDINATION DRAWINGS:

CONTRACTOR SHALL PROVIDE TO THE ENGINEER CAD-GENERATED (AUTOCAD 2000 OR NEWER) COORDINATION DRAWINGS AT 3/8" EQUALS 1 FOOT SCALE

1. CONTRACTOR SHALL BE RESPONSIBLE TO:
   - A. PROVIDE LAYOUT OF ALL NEW EQUIPMENT, DUCTWORK (DOUBLE LINED) AND PIPING.
   - B. PROVIDE ELEVATIONS OF ALL DUCTWORK (TOP AND BOTTOM).
   - C. PROVIDE DIMENSIONS OF MAIN PIPE RUNS FROM BUILDING GRID LINES OR WALLS.
   - D. PENETRATIONS THROUGH FIRE-RATED AND OTHER PARTITIONS.
   - E. EQUIPMENT INSTALLATION BASED ON EQUIPMENT PURCHASED FOR PROJECT.

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DESIGNER/DRAFTER: MJB

CHECKED BY: CCA

SCALE: AS INDICATED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

APPROVED BY: CRL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

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PROJECT TITLE:

WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

ADDRESS:

FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

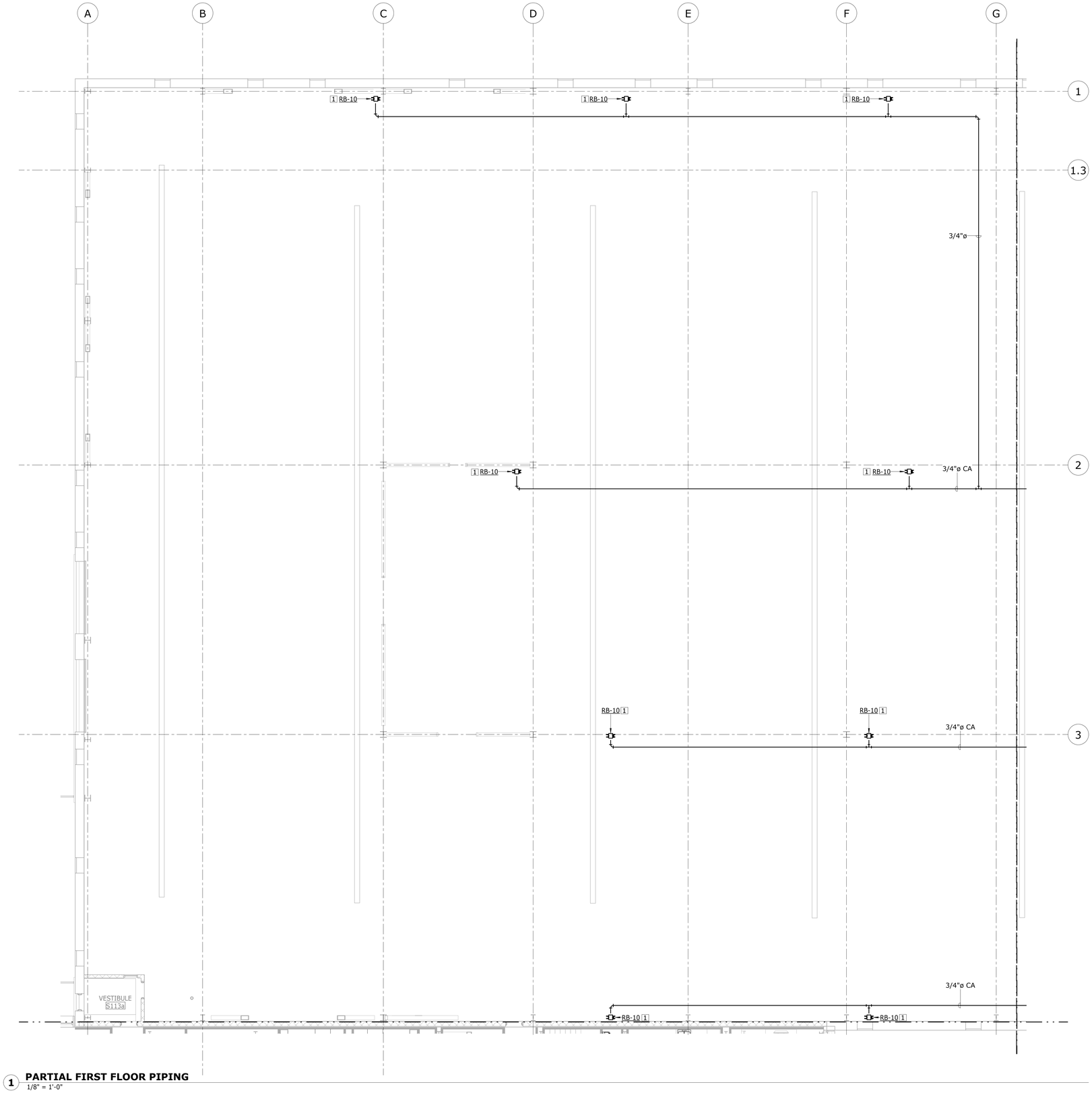
DRAWING TITLE:

PROCESS SYSTEMS SYMBOLS, NOTES, & ABBREVIATIONS

PROJECT NO. **431-0006**

DRAWING NO. **D-001**

SHEET NO. **15.002**



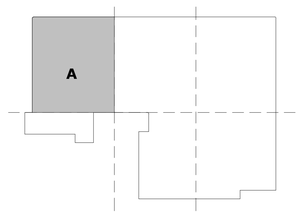
1 **PARTIAL FIRST FLOOR PIPING**
1/8" = 1'-0"

CONSTRUCTION NOTES:

1. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.

GENERAL NOTES:

1. REFER TO DRAWING D301 FOR BRANCH CONNECTION SIZES.



KEY PLAN

N

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SCALE: As indicated

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: **WENDEL**

ENGINEERS: **ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL**

APPROVED BY: **CRL**

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WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

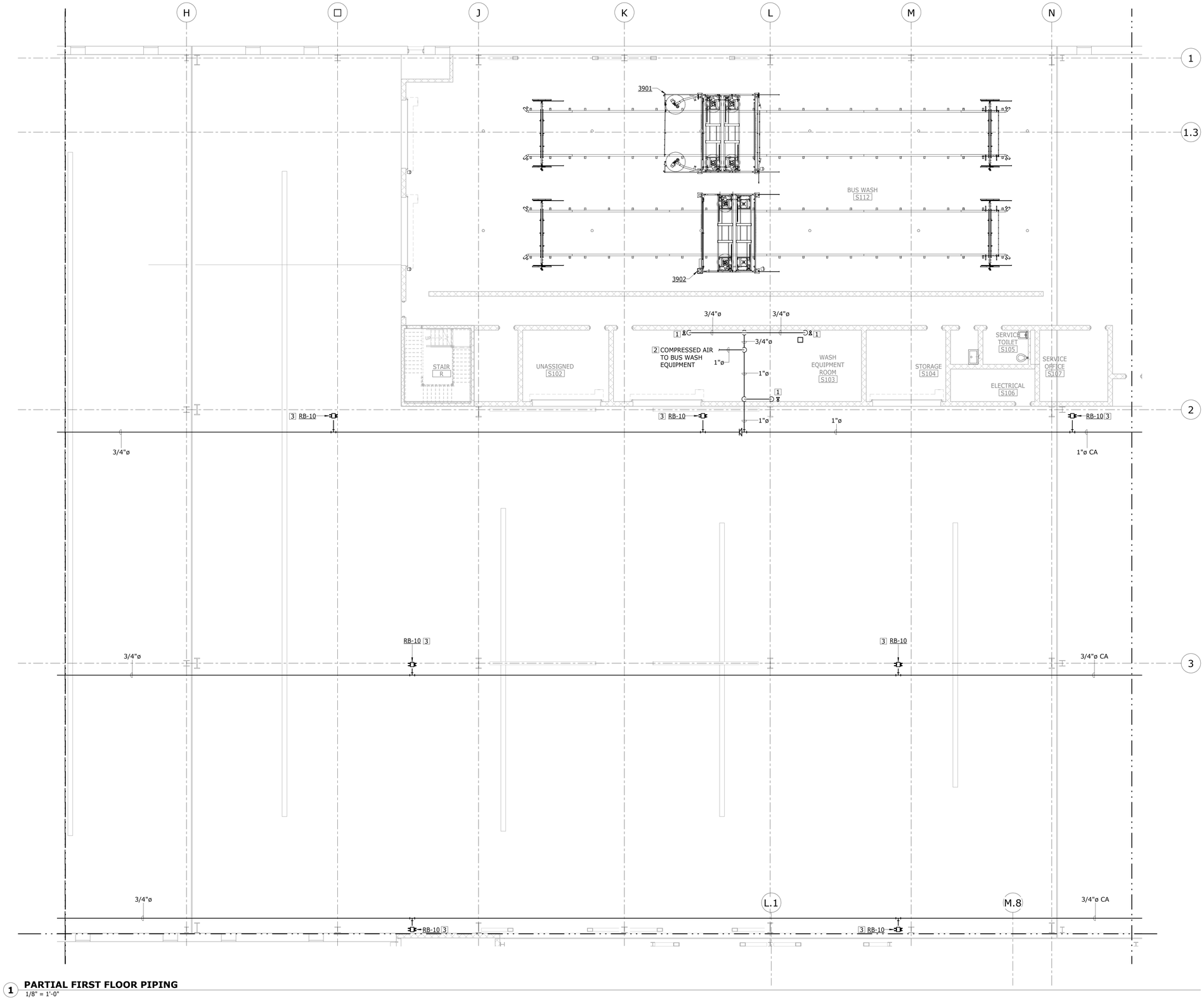
ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
PARTIAL FIRST FLOOR PIPING

PROJECT NO. **431-0006**

DRAWING NO. **D-101**

SHEET NO. **15.003**



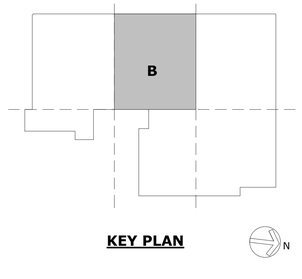
1 **PARTIAL FIRST FLOOR PIPING**
1/8" = 1'-0"

CONSTRUCTION NOTES:

1. PROVIDE 1/4" PUSH-TO-CONNECT INDUSTRIAL INTERCHANGE EXHAUSTING COMPRESSED AIR QUICK COUPLER, BASIS OF DESIGN PRODUCT, PARKER PBS-251-6. REFER TO DETAIL FOR INSTALLATION.
2. PROVIDE SHUT-OFF VALVE AND CAP FOR CONNECTION TO BUS WASH EQUIPMENT. EXTEND BRANCH PIPING AND COORDINATE LOCATION OF PIPE DROP WITH BUS WASH MANUFACTURER. FINAL CONNECTION BY BUS WASH MANUFACTURER.
3. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.

GENERAL NOTES:

1. REFER TO DRAWING D301 FOR BRANCH CONNECTION SIZES.



KEY PLAN

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: CRL

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PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

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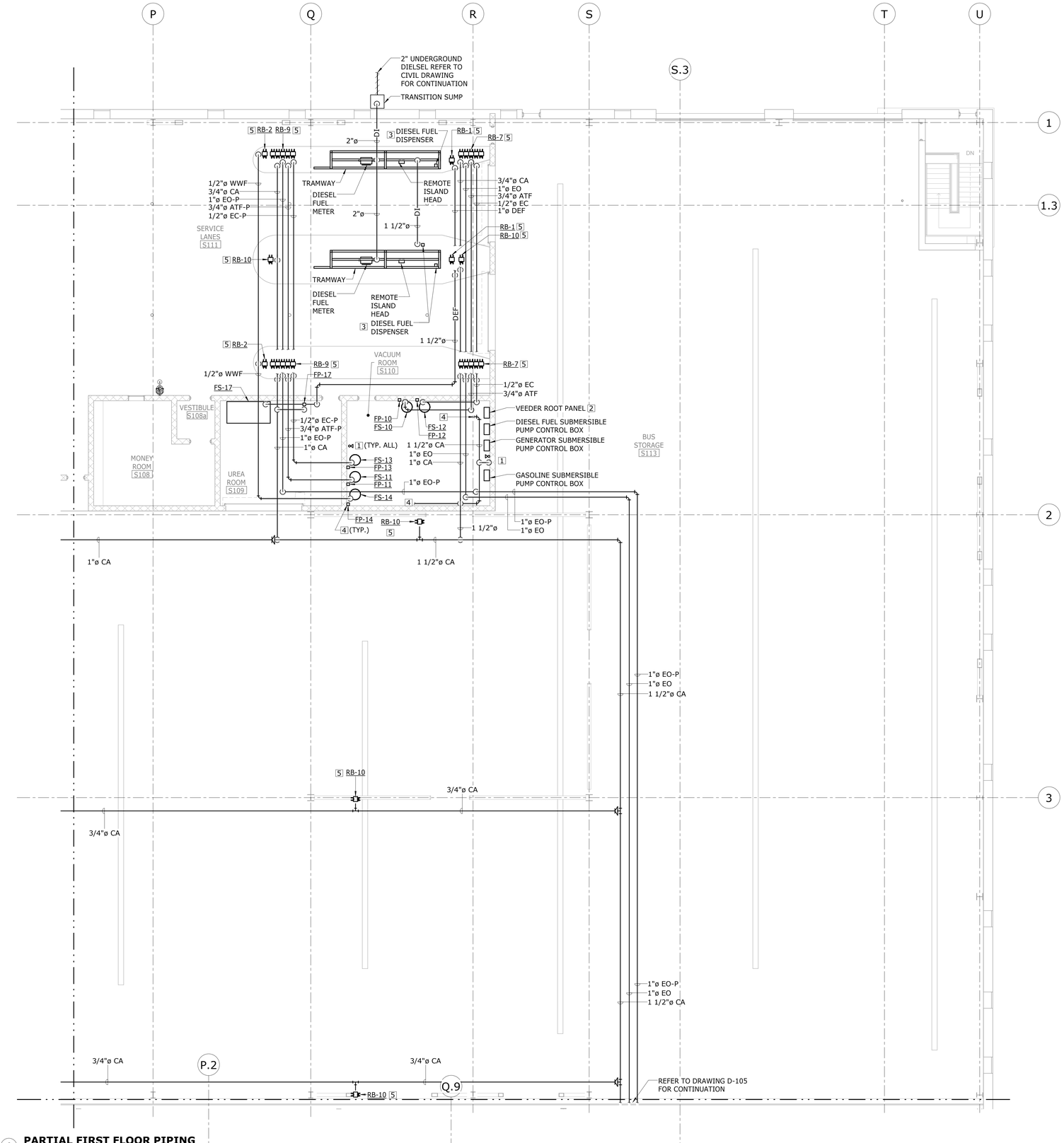
DRAWING TITLE:
PARTIAL FIRST FLOOR PIPING

PROJECT NO. **431-0006**

DRAWING NO. **D-102**

SHEET NO. **15.004**



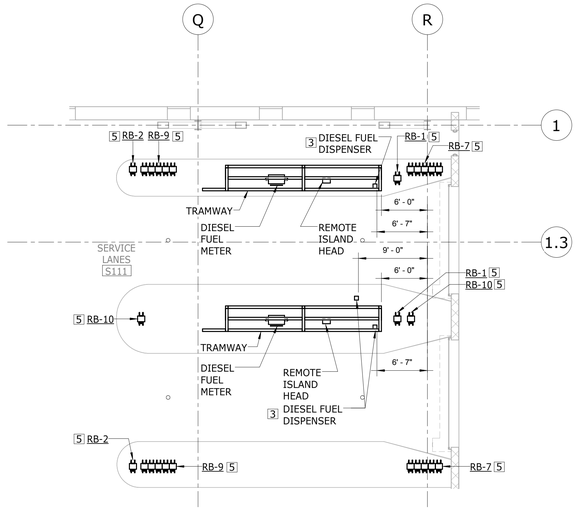
1 **PARTIAL FIRST FLOOR PIPING**
1/8" = 1'-0"

CONSTRUCTION NOTES:

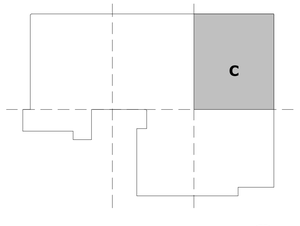
1. PROVIDE 1/4" PUSH-TO-CONNECT INDUSTRIAL INTERCHANGE EXHAUSTING COMPRESSED AIR QUICK COUPLER, BASIS OF DESIGN PRODUCT, PARKER PBS-251-6. REFER TO DETAIL FOR INSTALLATION.
2. PROVIDE INVENTORY AND LEAK DETECTION WEB BASED CONTROL PANEL AND SENSORS, BASIS OF DESIGN PRODUCT, VEEDER ROOT MODEL TLS-450.
3. REFER TO FUELING SCHEMATIC FOR FUELING SYSTEM COMPONENT INFORMATION ON DRAWING D202.
4. PROVIDE COMPRESSED AIR PIPING. ROUTE PIPING AROUND PERIMETER OF ROOM AND DROP COMPRESSED AIR PIPING TO OUTLETS AND FLUID PUMPS AS REQUIRED. REFER TO DETAILS ON DRAWING D201 FOR COMPRESSED AIR CONNECTIONS.
5. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.

GENERAL NOTES:

1. REFER TO DRAWING D301 FOR BRANCH CONNECTION SIZES.



2 **FUEL LANE DISPENSOR DIMENSIONS**
1/8" = 1'-0"



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STATE OF CONNECTICUT
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ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: CRL

DATE: 6-11-14

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STATE OF CONNECTICUT · CARL R. LUDEKE · 29462 · LICENSED · PROFESSIONAL ENGINEER

PROJECT TITLE: WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

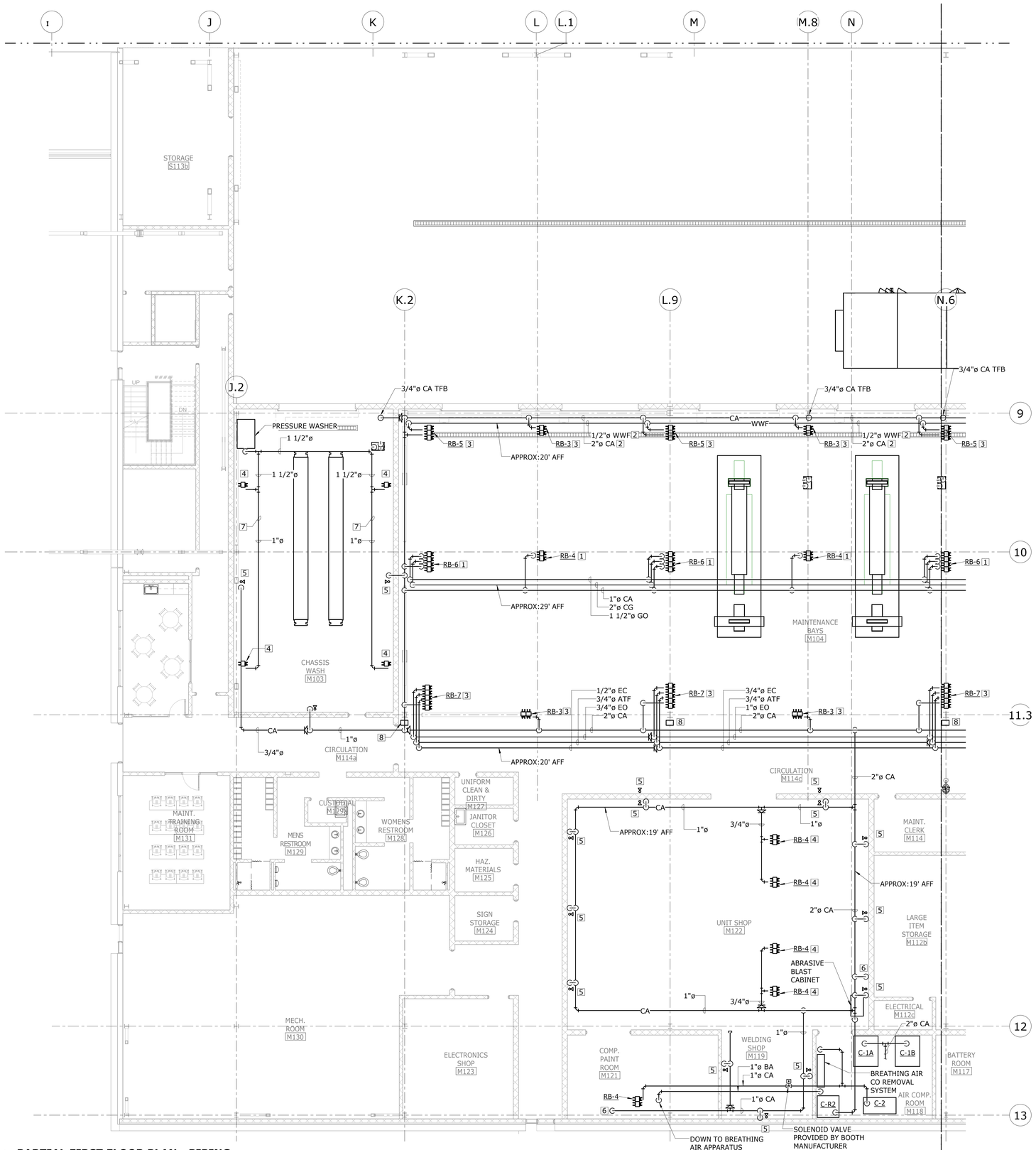
ADDRESS: FROST BRIDGE ROAD WATERTOWN, CONNECTICUT 06787

DRAWING TITLE: PARTIAL FIRST FLOOR PIPING

PROJECT NO. 431-0006

DRAWING NO. D-103

SHEET NO. 15.005



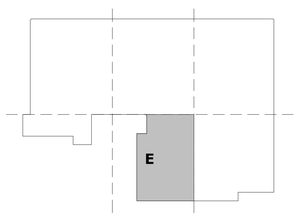
1 PARTIAL FIRST FLOOR PLAN - PIPING
1/8" = 1'-0"

CONSTRUCTION NOTES:

1. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED, ROUTE PIPING FROM CLERESTORY DOWN REEL BANK SUPPORT STRUCTURE. PROVIDE UNISTRUT SUPPORTS ANCHOR REEL BANK SUPPORT STRUTURE EVERY 5 FEET. ANCHOR PIPING TO UNISTRUT SUPPORT. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.
2. PROVIDE PIPING AS INDICATED. PIPING SHALL BE STACKED VERTICALLY ALONG WALL AND SUPPORTED WITH UNISTRUT ANCHORED TO WALL.
3. PROVIDE REEL BANK, SUPPORT REEL BANK FROM STRUCTURAL COLUMN. REFER TO DETAIL ON STRUCTURAL DRAWING FOR FURTHER INFORMATION.
4. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.
5. PROVIDE 1/4" PUSH-TO-CONNECT INDUSTRIAL INTERCHANGE EXHAUSTING COMPRESSED AIR QUICK COUPLER,BASIS OF DESIGN PRODUCT, PARKER PBS-PBS-251-6. REFER TO DETAIL FOR INSTALLATION.
6. PROVIDE COMPRESSED AIR PIPING TO EQUIPMENT. PROVIDE COMPRESSED AIR REGULATOR AND SHUT-OFF VALVE. PROVIDE FLEXIBLE TUBING FOR FINAL EQUIPMENT CONNECTION.
7. PROVIDE COPPER PIPING FROM PRESSURE WASHER TO ASSOCCIATED REELS. PROVIDE FINAL CONNECTION TO REELS.
8. PROVIDE FUEL AND FLUID MANAGEMENT SYSTEM REMOTE ISLAND HEAD (RIH) FLEETWATCH. PROVIDE REQUIRED BRACKETING TO SECURE RIH TO COLUMN OR WALL. MOUNT RIH APPROXIMATELY 3' AFF. RIH TO ENABLE REEL BANK RB-7 & RB-8, ENGINE OIL, AUTOMATIC TRANSMISSION FLUID, AND ENGINE COOLANT. PROVIDE CONDUIT AND WIRING FROM RIH TO ASSOCIATED REEL BANK SOLENOID VALVE AND PULSE TRANSMITTER. REFER TO DETAIL ON DRAWING D201 AND SPECIFICATIONS FOR FURTHER INFORMATION.

GENERAL NOTES:

1. REFER TO DRAWING D301 FOR BRANCH CONNECTION SIZES.



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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: CRL

DATE: 6-11-14

DESIGNED BY:
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AMHERST, NEW YORK
14228

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

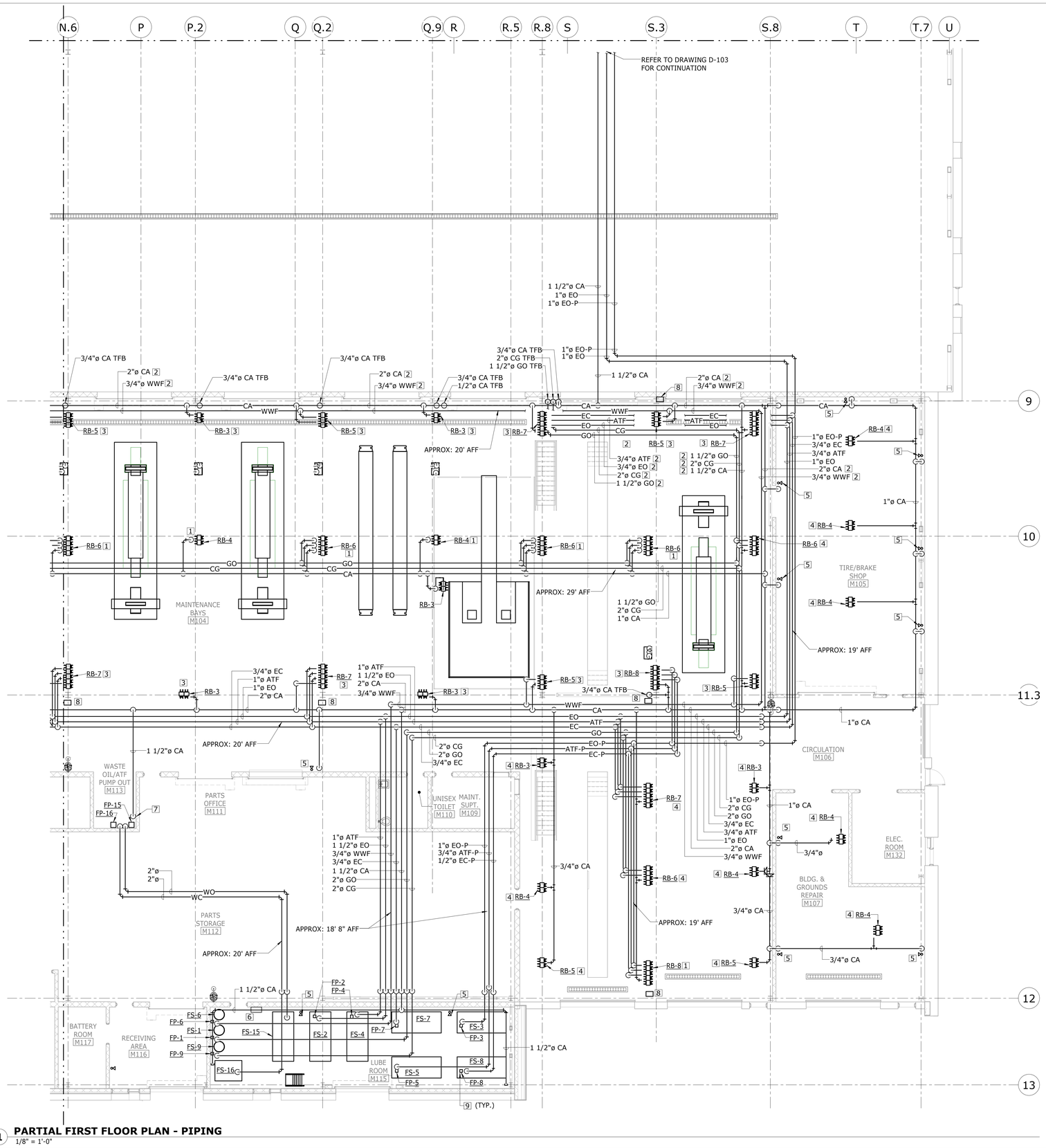
ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
PARTIAL FIRST FLOOR PIPING

PROJECT NO. 431-0006

DRAWING NO. D-104

SHEET NO. 15.006



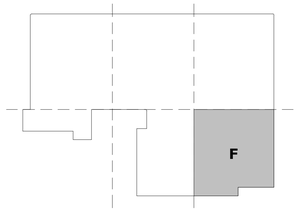
1 **PARTIAL FIRST FLOOR PLAN - PIPING**
1/8" = 1'-0"

CONSTRUCTION NOTES:

1. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED, ROUTE PIPING FROM CLERESTORY DOWN REEL BANK SUPPORT STRUCTURE. PROVIDE UNISTRUT SUPPORTS ANCHOR REEL BANK SUPPORT STRUTURE EVERY 5 FEET. ANCHOR PIPING TO UNISTRUT SUPPORT. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.
2. PROVIDE PIPING AS INDICATED. PIPING SHALL BE STACKED VERTICALLY ALONG WALL AND SUPPORTED WITH UNISTRUT ANCHORED TO WALL.
3. PROVIDE REEL BANK, SUPPORT REEL BANK FROM STRUCTURAL COLUMN. REFER TO DETAIL ON STRUCTURAL DRAWING FOR FURTHER INFORMATION.
4. PROVIDE REEL BANK AS SCHEDULED. SUPPORT REEL BANK FROM STRUCTURE ABOVE REFER TO STRUCTURAL DRAWING FOR FURTHER INFORMATION. PROVIDE PIPING AS INDICATED. PROVIDE SHUT-OFF VALVE AND FLEXIBLE TUBING AT CONNECTION TO REEL REFER TO DETAIL FOR FURTHER INFORMATION.
5. PROVIDE 1/4" PUSH-TO-CONNECT INDUSTRIAL INTERCHANGE EXHAUSTING COMPRESSED AIR QUICK COUPLER, BASIS OF DESIGN PRODUCT, PARKER PBS-251-6. REFER TO DETAIL FOR INSTALLATION.
6. PROVIDE INVENTORY AND LEAK DETECTION WEB BASED CONTROL PANEL AND SENSORS, BASIS OF DESIGN PRODUCT, VEEDER ROOT MODEL TLS-450.
7. PROVIDE COMPRESSED AIR PIPING TO WASTE OIL AND WASTE COOLANT PUMPS. PROVIDE COMPRESSED AIR REGULATOR AND SHUT-OFF VALVE. PROVIDE FLEXIBLE TUBING FOR FINAL EQUIPMENT CONNECTION.
8. PROVIDE FUEL AND FLUID MANAGEMENT SYSTEM REMOTE ISLAND HEAD (RIH) FLEETWATCH OR APPROVED EQUAL. PROVIDE REQUIRED BRACKETING TO SECURE RIH TO COLUMN OR WALL. MOUNT RIH APPROXIMATELY 3' AFF. RIH TO ENABLE REEL BANK RB-7 & RB-8, ENGINE OIL, AUTOMATIC TRANSMISSION FLUID, AND ENGINE COOLANT. PROVIDE CONDUIT AND WIRING FROM RIH TO ASSOCIATED REEL BANK SOLENOID VALVE AND PULSE TRANSMITTER. REFER TO DETAIL ON DRAWING D201 AND SPECIFICATIONS FOR FURTHER INFORMATION.
9. PROVIDE COMPRESSED AIR BRANCH PIPING FROM MAIN AND CONNECT TO FLUID PUMP. REFER TO DETAIL ON DRRAWING D201 FOR REQUIRED FINAL CONNECTION.

GENERAL NOTES:

1. REFER TO DRAWING D301 FOR BRANCH CONNECTION SIZES.



KEY PLAN

N

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME:

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER: MJB

CHECKED BY: CCA

SCALE: As indicated

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: CRL

DATE: 6-11-14

DESIGNED BY:
WENDEL
140 JOHN JAMES
AUDUBON PKWY.,
SUITE 201
AMHERST, NEW YORK
14228

STATE OF CONNECTICUT
CARL R. LUDKE
29482
LICENSED
PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

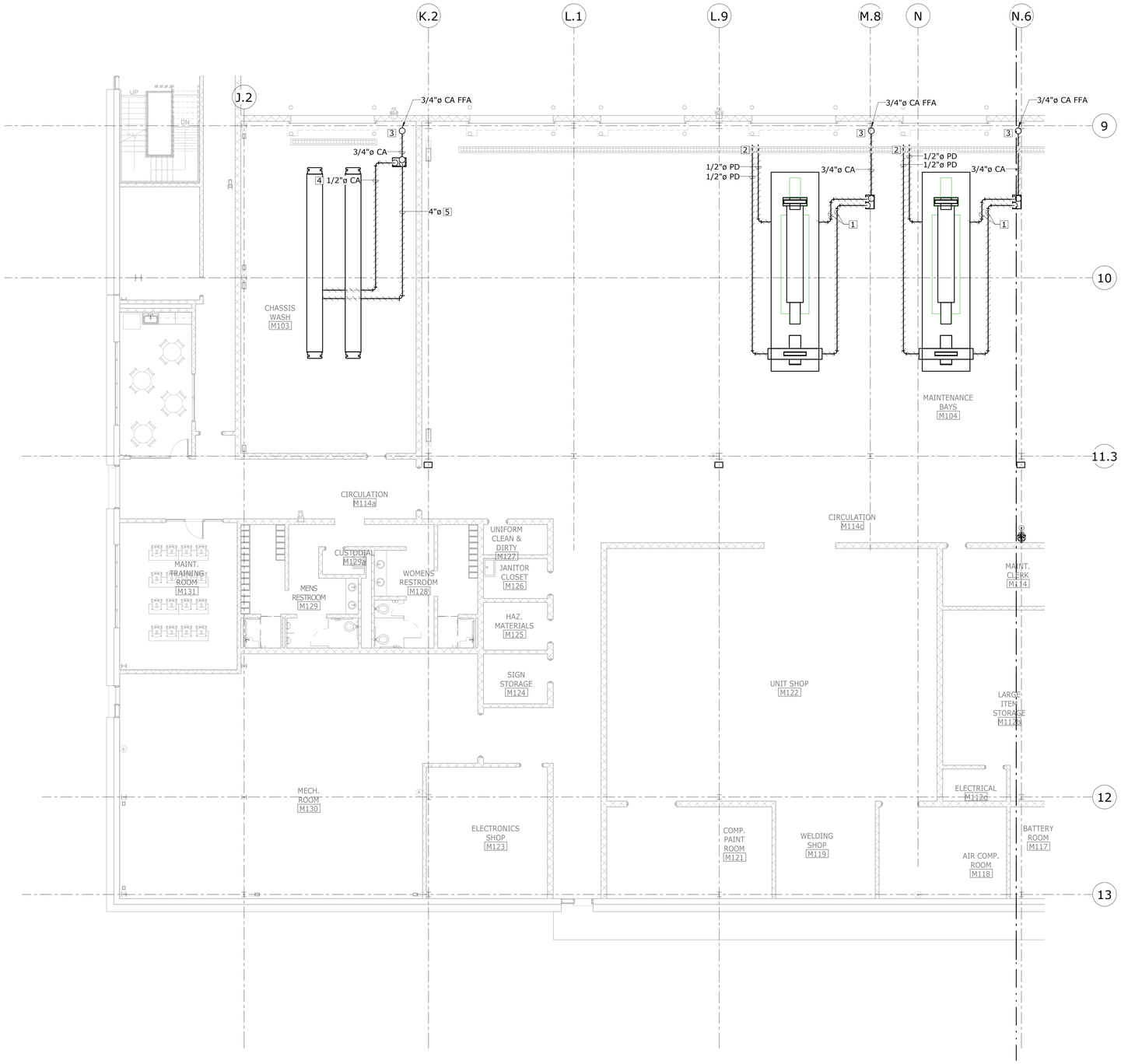
ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
PARTIAL FIRST FLOOR PIPING

PROJECT NO. **431-0006**

DRAWING NO. **D-105**

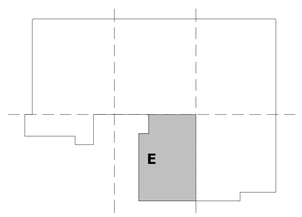
SHEET NO. **15.007**



1 **PARTIAL FIRST FLOOR PLAN - UNDERGROUND PIPING**
1/8" = 1'-0"

CONSTRUCTION NOTES:

1. PROVIDE 2" RIGID CONDUIT FROM LIFT CONTROLLER TO LIFT. INSTALL 1/2" AND 1/4" FLEXIBLE TUBING COMPRESSED AIR LINES INSIDE CONDUIT. CONNECT 1/2" CA LINE TO LIFT AND 1/4" CA LINE TO DIAPHRAGM SUMP PUMP.
2. PROVIDE COPPER PUMP DISCHARGE PIPING FROM DIAPHRAGM PUMP. PIPING TO DISCHARGE INTO TRENCH DRAIN. SEAL AROUND PIPING AT PENETRATION AND TERMINATE WITH DOWN TURNED ELBOW, MIN 2" ABOVE BOTTOM OF TRENCH.
3. PROVIDE COMPRESSED AIR PIPING INSTALLED DOWN COLUMN OR WALL. PROVIDE TRANSITION FROM COPPER PIPE TO 3/4" COMPRESSED AIR TUBING APPROXIMATELY 12" ABOVE FINISHED FLOOR. PROVIDE LOCKABLE SHUT-OFF VALVE IN RISER PRIOR TO TRANSITION. LABEL VALVE AS BUS LIFT SHUT-OFF. PROVIDE 1-1/2" RIGID CONDUIT INSTALLED IN THE FLOOR SLAB FROM COLUMN TO THE ASSOCIATED LIFT CONTROLLER. INSTALL 3/4" RUBBER TUBING IN RIGID CONDUIT AND EXTEND TO LIFT CONTROLLER. PROVIDE FILTER/REGULATOR/LUBRICATOR IN DROP PRIOR TO RUNNING UNDERSLAB TO FINAL CONNECTION TO CONTROLLER.
4. PROVIDE 2" RIGID CONDUIT FROM LIFT CONTROLLER TO LIFT. INSTALL 1/2" FLEXIBLE TUBING COMPRESSED AIR LINES INSIDE CONDUIT. CONNECT 1/2" CA LINE TO LIFT. INSTALL PER MANUFACTURERS WRITTEN RECOMMENDATIONS.
5. PROVIDE 4" SCHEDULE 40 HYDRAULIC SERVICE SUPPLY CONDUIT FROM LIFT CONTROLLER TO EACH LIFT PLATFORM SERVICE LEGS. INSTALL PER MANUFACTURERS WRITTEN RECOMMENDATIONS.



KEY PLAN

N

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME:

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DESIGNER/DRAFTER: MJB

CHECKED BY: CCA

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

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: CRL

DATE: 6-11-14

DESIGNED BY:
WENDEL
140 JOHN JAMES
AUDUBON PKWY.,
SUITE 201
AMHERST, NEW YORK
14228

STATE OF CONNECTICUT
CARL R. LUNDQUIST
29482
LICENSED
PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

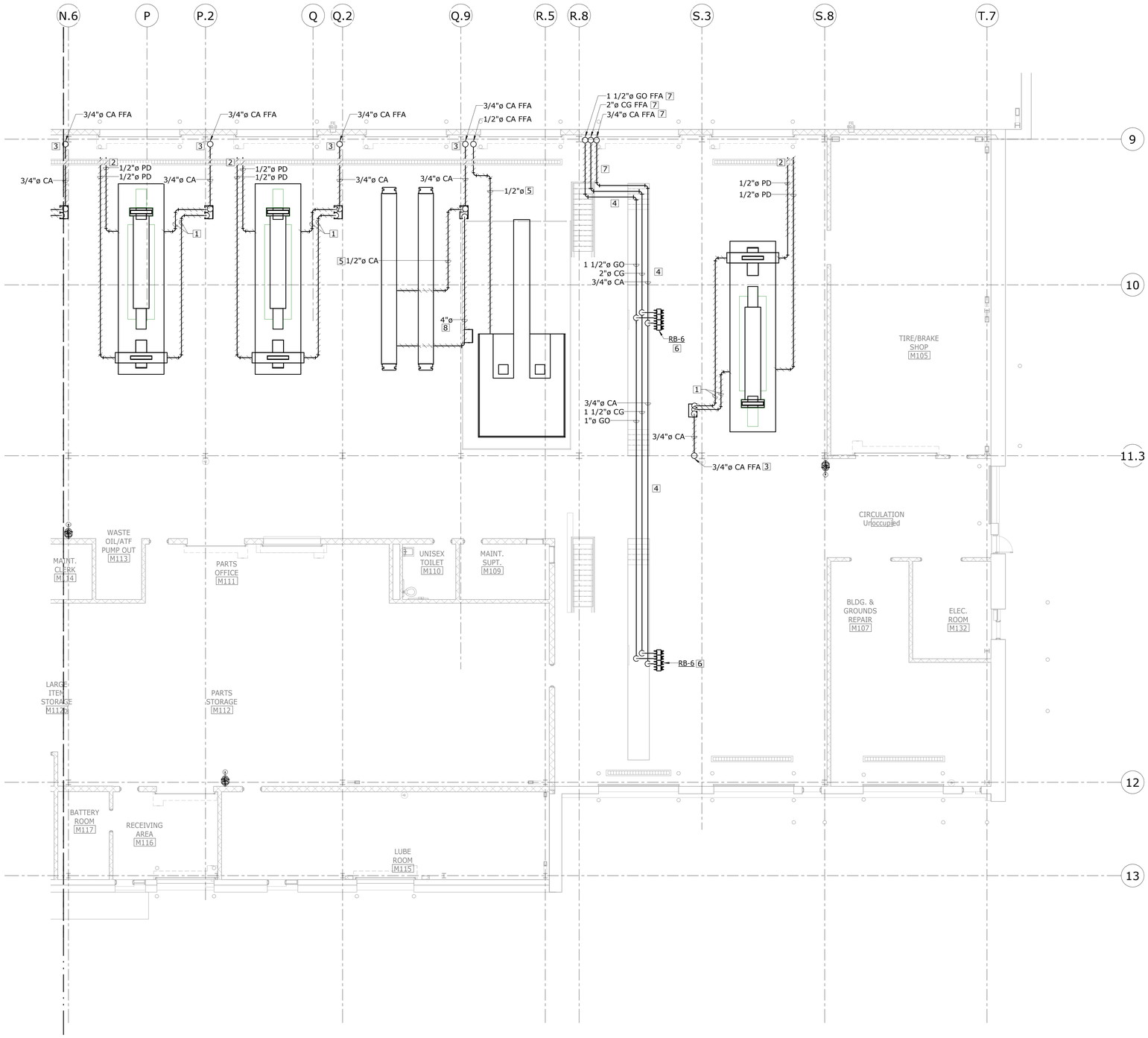
ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
PARTIAL FIRST FLOOR UNDERGROUND PIPING

PROJECT NO. **431-0006**

DRAWING NO. **D-106**

SHEET NO. **15.008**



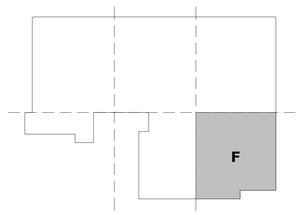
1 PARTIAL FIRST FLOOR PLAN - UNDERGROUND PIPING
1/8" = 1'-0"

CONSTRUCTION NOTES:

1. PROVIDE 2" RIGID CONDUIT FROM LIFT CONTROLLER TO LIFT. INSTALL 1/2" AND 1/4" FLEXIBLE TUBING COMPRESSED AIR LINES INSIDE CONDUIT. CONNECT 1/2" CA LINE TO LIFT AND 1/4" CA LINE TO DIAPHRAGM SUMP PUMP.
2. PROVIDE COPPER PUMP DISCHARGE PIPING FROM DIAPHRAGM PUMP. PIPING TO DISCHARGE INTO TRENCH DRAIN. SEAL AROUND PIPING AT PENETRATION AND TERMINATE WITH DOWN TURNED ELBOW, MIN 2" ABOVE BOTTOM OF TRENCH.
3. PROVIDE COMPRESSED AIR PIPING INSTALLED DOWN COLUMN OR WALL. PROVIDE TRANSITION FROM COPPER PIPE TO 3/4" COMPRESSED AIR TUBING APPROXIMATELY 12" ABOVE FINISHED FLOOR. PROVIDE LOCKABLE SHUT-OFF VALVE IN RISER PRIOR TO TRANSITION. LABEL VALVE AS BUS LIFT SHUT-OFF. PROVIDE 1-1/2" RIGID CONDUIT INSTALLED IN THE FLOOR SLAB FROM COLUMN TO THE ASSOCIATED LIFT CONTROLLER. INSTALL 3/4" RUBBER TUBING IN RIGID CONDUIT AND EXTEND TO LIFT CONTROLLER. PROVIDE FILTER/REGULATOR/LUBRICATOR IN DROP PRIOR TO RUNNING UNDERSLAB TO FINAL CONNECTION TO CONTROLLER.
4. PROVIDE PIPING ROUTED STACKED ALONG PIT WALL.
5. PROVIDE 2" RIGID CONDUIT FROM LIFT CONTROLLER TO LIFT. INSTALL 1/2" FLEXIBLE TUBING COMPRESSED AIR LINES INSIDE CONDUIT. CONNECT 1/2" CA LINE TO LIFT. INSTALL PER MANUFACTURERS WRITTEN RECOMMENDATIONS.
6. PROVIDE REEL BANK AS INDICATED. MOUNT REEL BANK INSIDE RECESSED POCKET.
7. PROVIDE CA, CG,AND GO PIPING. PROVIDE 6"ø SCHEDULE 40 WELDED STEEL ENCASMENT PIPE. INSTALL CA, CG, AND GO PIPING INSIDE ENCASEMENT PIPE. ENCASEMENT PIPE SHALL STUB UP 2 " ABOVE FINISHED FLOOR. PROVIDE SHUT-OFF VALVE AND UNION IN RISERS APPROXIMATELY 6" AFF.
8. PROVIDE 4" SCHEDULE 40 HYDRAULIC SERVICE SUPPLY CONDUIT FROM LIFT CONTROLLER TO EACH LIFT PLATFORM SERVICE LEGS. INSTALL PER MANUFACTURERS WRITTEN RECOMMENDATIONS.

GENERAL NOTES:

1. REFER TO DRAWING D301 FOR BRANCH CONNECTION SIZES.



KEY PLAN

N

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME:

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DESIGNER/DRAFTER: MJB

CHECKED BY: CCA

SCALE: As indicated

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: CRL

DATE: 6-11-14

DESIGNED BY:
WENDEL
140 JOHN JAMES AUDUBON PKWY., SUITE 201
AMHERST, NEW YORK 14228

STATE OF CONNECTICUT CHRIS R. LAPOINTE 23482 LICENSED PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

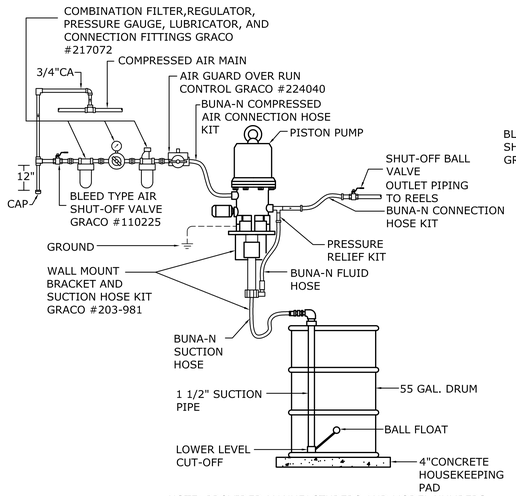
ADDRESS:
FROST BRIDGE ROAD WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
PARTIAL FIRST FLOOR UNDERGROUND PIPING

PROJECT NO. **431-0006**

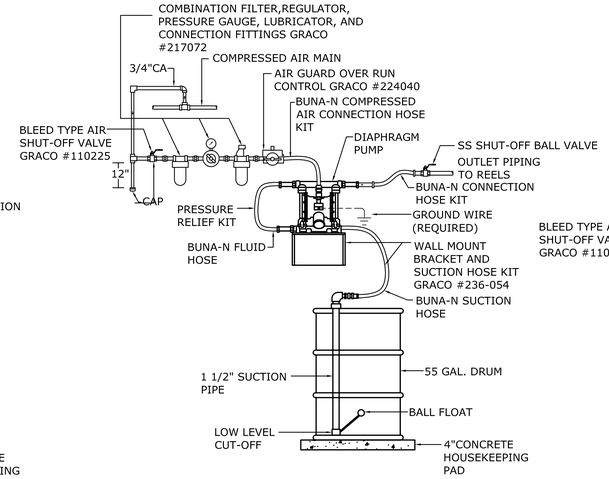
DRAWING NO. **D-107**

SHEET NO. **15.009**



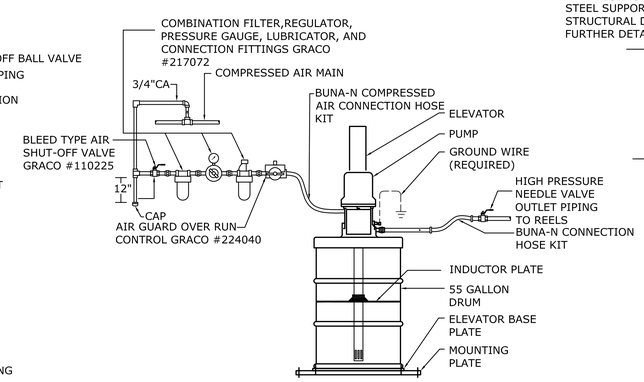
NOTE: PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

1 55 GALLON DRUM PISTON PUMP SYSTEM
SCALE: NOT TO SCALE



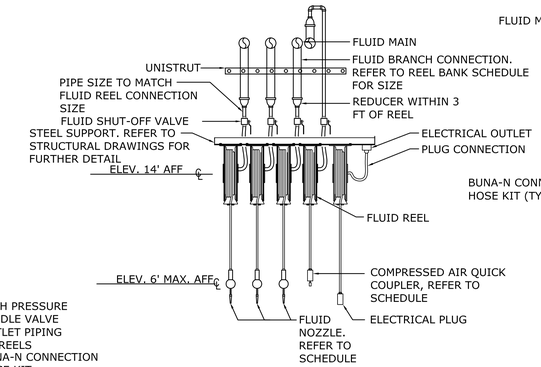
NOTE: PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

2 55 GALLON DRUM DOUBLE DIAPHRAGM PUMP SYSTEM
SCALE: NOT TO SCALE

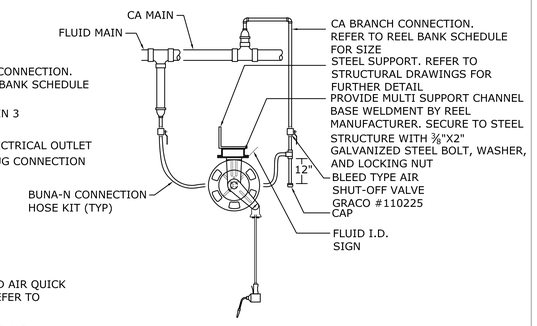


NOTE: PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

3 TYPICAL CHASSIS GREASE PUMP SYSTEM
SCALE: NOT TO SCALE



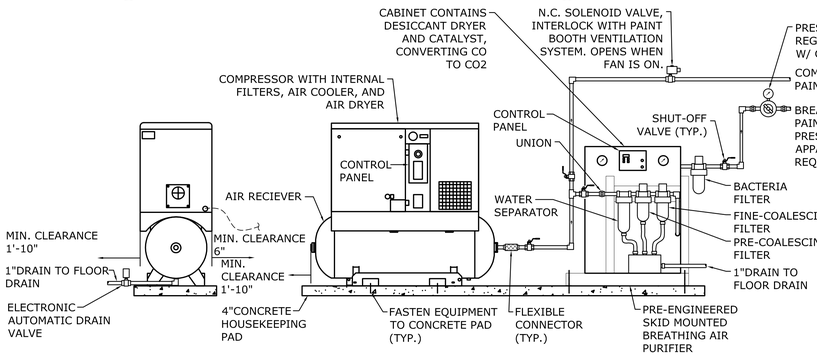
ELEVATION OF HOSE REEL BANKS



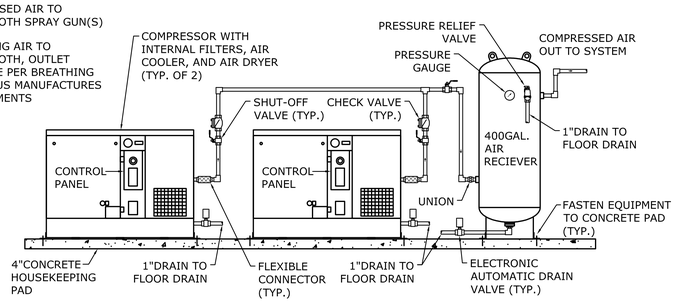
SECTION OF HOSE REEL BANKS

NOTE:
1. PROVIDE SOLENOID VALVE AND PULSE TRANSMITTER AT ENGINE OIL (EO), AUTOMATIC TRANSMISSION FLUID (ATF), ENGINE COOLANT (EC), AND DIESEL EXHAUST FLUID (DEF) HOSE REELS. CONNECT THE PULSE TRANSMITTER AND SOLENOID VALVE TO THE FUEL/FLUID MANAGEMENT SYSTEM REMOTE ISLAND HEAD. PROVIDE CONDUIT AND WIRING TO MAKE A COMPLETE AND OPERABLE SYSTEM.
2. SUPPORT HOSE REELS AS RECOMMENDED BY THE MANUFACTURER. PROVIDE SUPPORT ANGLES/HANGER FRAMES AS REQUIRED FOR HOSE REEL SUPPORT. REFER TO STRUCTURAL DRAWING FOR FURTHER DETAIL.
3. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

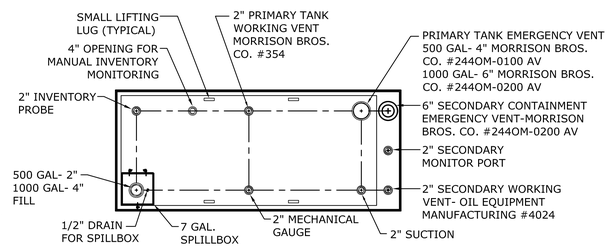
4 REEL BANK
SCALE:NOT TO SCALE



5 BREATHING AIR COMPRESSOR DETAIL
SCALE:NOT TO SCALE



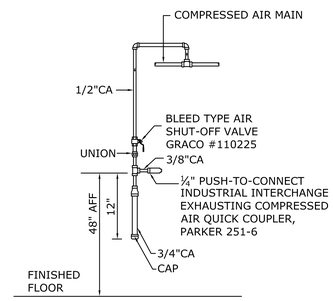
6 DUPLEX BREATHING AIR COMPRESSOR DETAIL
SCALE:NOT TO SCALE



TOP VIEW

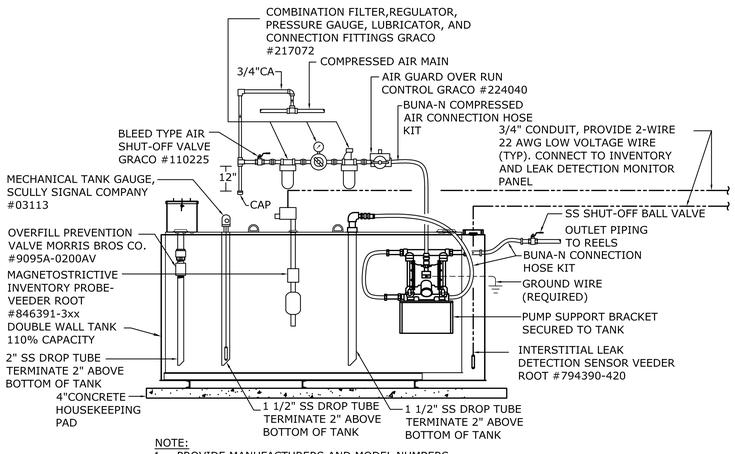
NOTE:
1. EXTEND PRIMARY WORKING VENT ASSOCIATED WITH THE USED COOLANT AND OIL TANKS TO THE BUILDING EXTERIOR, ELBOW UP AND TERMINATE 12' ABOVE GRADE WITH UPDRAFT VENT MORRISON BROS. CO. #354
2. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

7 TYPICAL FLUID STORAGE TANK CONFIGURATION
SCALE: NOT TO SCALE



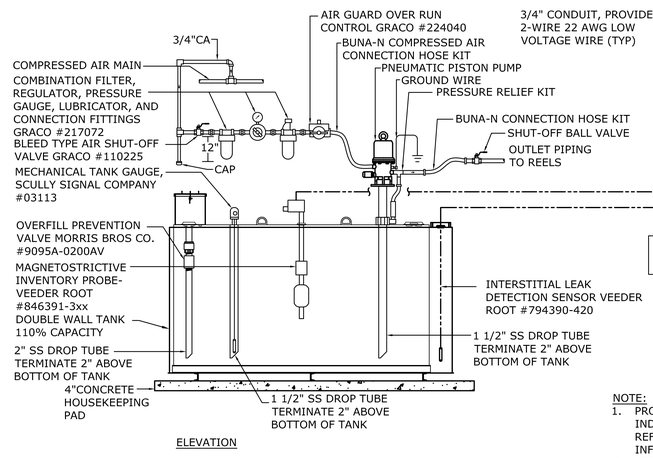
NOTE: PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

8 COMPRESSED AIR OUTLET
SCALE:NOT TO SCALE



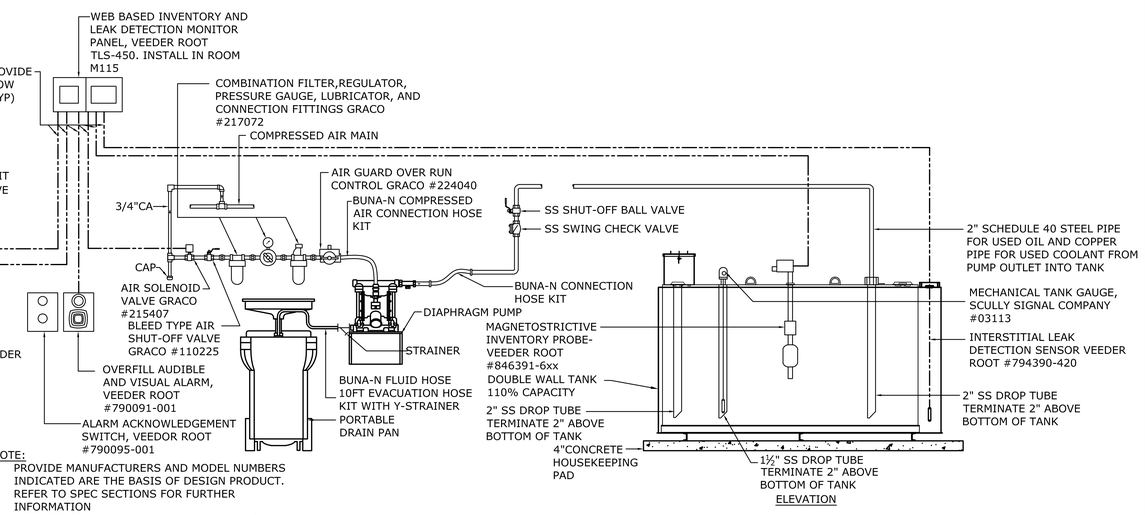
NOTE:
1. PROVIDE MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

9 TYPICAL TANK PUMP SYSTEM
SCALE: NOT TO SCALE



ELEVATION

10 TYPICAL TANK PUMP SYSTEM
SCALE: NOT TO SCALE



ELEVATION

NOTE:
1. PROVIDE MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION
2. USED OIL OIL PUMP, USED COOLANT PUMP, OVERFILL ALARM, AND ACKNOWLEDGEMENT SWITCH TO BE LOCATED WITHIN ROOM M113

11 USED OIL AND COOLANT SYSTEM
SCALE: NOT TO SCALE

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME: P:\330801D WATERBURY MAINTENANCE\16. CAD\DWG\PROCESS\COMPOSITE\D201.DWG

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER: TIP
CHECKED BY: –
SCALE: AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL
APPROVED BY: -
ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL
DATE: 6/11/14

DESIGNED BY:
WENDEL
140 JOHN JAMES AUDUBON PKWY., SUITE 201
AMHERST, NEW YORK 14228

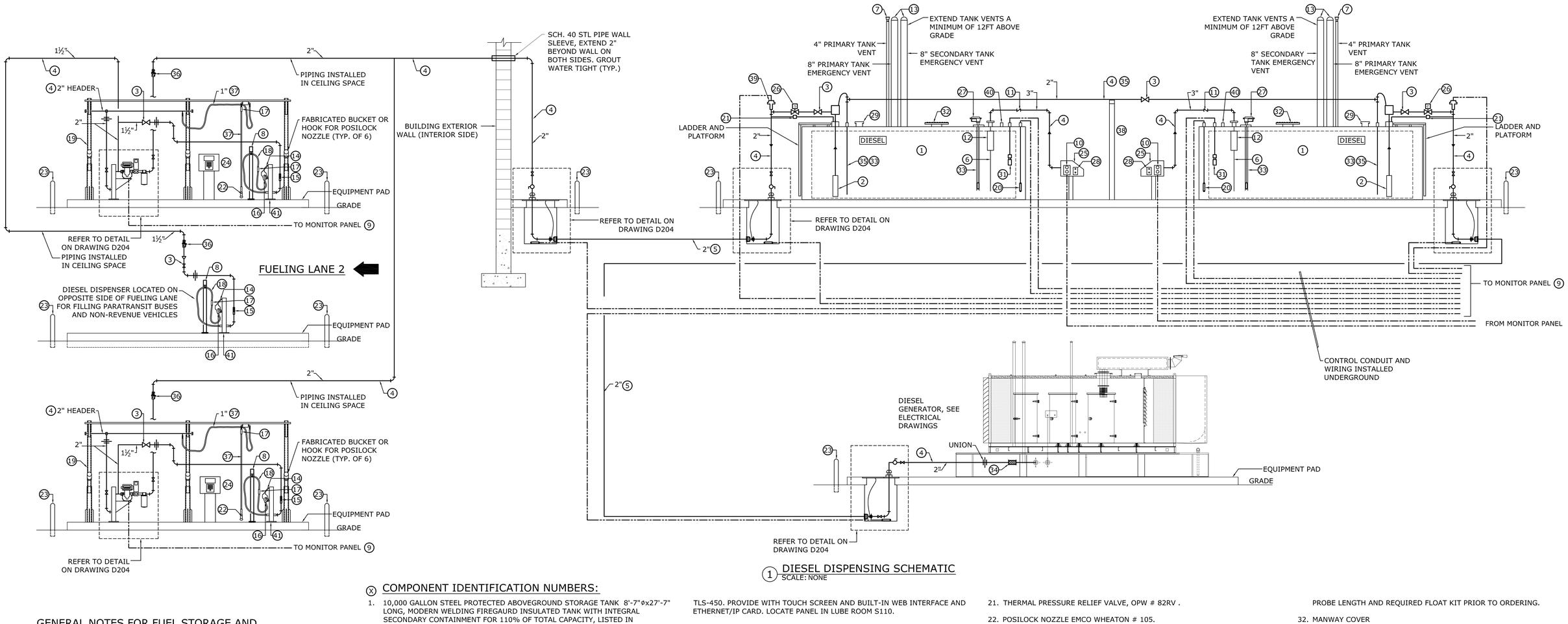
STATE OF CONNECTICUT COLEY L. LOGAN 29462 LICENSED PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

ADDRESS: FROST BRIDGE ROAD WATERTOWN, CONNECTICUT 06787

DRAWING TITLE: PROCESS SYSTEMS DETAILS

PROJECT NO. 0431-0006
DRAWING NO. D-201
SHEET NO. 15.010



1 DIESEL DISPENSING SCHEMATIC
SCALE: NONE

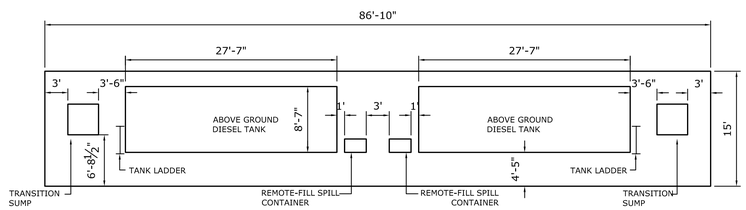
GENERAL NOTES FOR FUEL STORAGE AND DISPENSING:

1. PROVIDE ALL POWER AND CONTROL CONDUIT AND WIRING REQUIRED TO MAKE A COMPLETE AND OPERABLE SYSTEM. THIS INCLUDES ALL EQUIPMENT SHOWN ON THE DRAWINGS OR REFERENCED IN THE SPECIFICATIONS. WIRING TO BE INSTALLED WITHIN PVC COATED RIGID STEEL CONDUIT. JUNCTION BOXES TO BE NEMA 4 GUA SERIES EXPLOSION PROOF.
2. INSTALL SYSTEM PER NFPA 30 AND NFPA 30A REQUIREMENTS.
3. INSTALL SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
4. ALL CONTROL EQUIPMENT LOCATIONS ARE APPROXIMATE, CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER.
5. ALL VENTS FOR FUEL TANK TO EXTEND A MINIMUM OF 12'-0" ABOVE GRADE
6. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.
7. PROVIDE FLEXIBLE ENTRY BOOTS FOR ALL SUMP PENETRATIONS, INCLUDING PIPING AND CONDUIT.
8. INSTALL TO CONNECTICUT CODES AND NFPA REQUIREMENTS.
9. PROVIDE GROUND FROM EACH TANK.
10. FILL PIPES SHALL TERMINATE WITHIN 6 INCHES OF THE BOTTOM OF THE TANK.
11. REFER TO LANDSCAPE DRAWINGS FOR TANK LOCATIONS AND PIPE ROUTING EXTERIOR TO THE BUILDING.
12. PROVIDE FM GLOBAL APPROVED DEVICES WHERE APPLICABLE.

COMPONENT IDENTIFICATION NUMBERS:

1. 10,000 GALLON STEEL PROTECTED ABOVEGROUND STORAGE TANK 8'-7"ϕx27'-7" LONG, MODERN WELDING FIREGAURD INSULATED TANK WITH INTEGRAL SECONDARY CONTAINMENT FOR 110% OF TOTAL CAPACITY, LISTED IN ACCORDANCE WITH ANSI/UL 2085. PROVIDE SADDLES, LADDER, AND PLATFORM.
2. 1 1/2 HP SUBMERSIBLE PUMP WITH CHECK VALVE, PRESSURE RELIEF VALVE, SIPHON, AIR ELIMINATOR, AND ELECTRICAL DISCONNECT, FE PETRO # PMA-150. VERIFY LENGTH REQUIRED PRIOR TO ORDERING. PROVIDE SUBMERSIBLE PUMP DISPENSER HOOK ISOLATION BOX (NOT SHOWN ON DRAWINGS) FE PETRO # STP-DHI AND PUMP SMART CONTROLLER STP-SC1 TO ACCOMMODATE 120V SIGNAL FROM DISPENSERS AND 240 V TO SUBMERSIBLE PUMP. DHI BOX TO ACCEPT UP TO 8 INPUTS. INSTALL CONTROL BOX IN LUBE ROOM S110. CONNECT TO DISPENSER CONTROLS. SOLENOID VALVE TO BE ENERGIZED AND PUMP ACTIVATED UPON DISPENSER ACTIVATION.
3. FULL PORT TWO-WAY BALL VALVE, OPW # 21BV.
4. SCHEDULE 40 SEAMLESS STEEL PIPE WITH FACTORY APPLIED CORROSION RESISTIVE COATING. ALL JOINTS AND FITTINGS TO BE WELDED EXCEPT AT VALVES AND SPECIALTIES REQUIRING THREADED JOINTS.
5. SECONDARILY CONTAINED PRESSURE PIPING, OPW FLEXWORKS C20. CONTINUOUS PIPE INSTALLATION, NO COUPLINGS OR UNIONS UNDERGROUND EXTERIOR TO SUMPS
6. DROP TUBE, OPW # 61FT.
7. ATMOPHERIC VENT, OPW # 23 SERIES.
8. POST MOUNTED HOSE RETRACTOR OPW POMECO #102 WITH POST MOUNTED NOZZLE HANGER.
9. INVENTORY CONTROL AND LEAK DETECTION MONITOR PANEL. VEEDER ROOT # TLS-450. PROVIDE WITH TOUCH SCREEN AND BUILT-IN WEB INTERFACE AND ETHERNET/IP CARD. LOCATE PANEL IN LUBE ROOM S110.
10. SINGLE OVERFILL TANK ALARM MOUNT 40" ABOVE FINISHED GRADE, VEEDER ROOT # 790091-001.
11. SWING CHECK VALVE, OPW # 175.
12. OVERFILL PREVENTION VALVE, OPW # 61FSTOP.
13. EMERGENCY VENT, OPW # 201.
14. 3/4" PRESSURE ACTIVATED AUTOMATIC SHUT-OFF NOZZLES FOR DIESEL APPLICATIONS. OPW # 11B. COLOR TO BE SELECTED BY OWNER. PROVIDE WITH 3/4" TO 1" BUSHING.
15. FLOW LIMITER OPW # 44-0044.
16. 3/4" HOSE SWIVEL, OPW #241TPS.
17. 3/4" RECONNECTABLE BREAKAWAY UPSTREAM OF HOSE RETRACTOR, OPW # 66RB.
18. 3/4" HOSE ASSEMBLY INCLUDING CURB AND WHIP HOSE, PARKER # 7124 SUPER FLEX. HOSE LENGTHS TO COMPLY WITH NFPA 30A REQUIREMENTS AND ALL LOCAL CODES.
19. TRAMWAY BUS REFUELING SYSTEM FLEET FUELING SYSTEMS INC. MODEL FF-2000-TS.
20. INTERSTITIAL SENSOR (SINGLE FLOAT) FOR DOUBLE WALL STEEL TANKS, VEEDOR ROOT # 794390-420. PROVIDE REQUIRED INSTALLATION AND ADAPTOR KIT.
21. THERMAL PRESSURE RELIEF VALVE, OPW # 82RV .
22. POSILOCK NOZZLE EMCO WHEATON # 105.
23. CONCRETE BOLLARD. REFER TO ARCHITECTURAL AND SITE DRAWINGS FOR SIZE, LOCATION, AND QUANTITY.
24. FUEL MANAGEMENT SYSTEM CONTROLLER- FLEETWATCH REMOTE ISLAND HEAD MODEL 3000R:
    24.1. PROVIDE ALL REQUIRED UNDERGROUND AND ABOVEGROUND COMMUNICATION WIRING AND CONDUIT TO MAKE A COMPLETE AND OPERABLE SYSTEM. CONNECT SYSTEM TO NETWORK SERVER TO ACCOMMODATE REMOTE NETWORK ACCESS BY A USER COMPUTER.
25. REMOTE-FILL SPILL CONTAINER. OPW # 211R-301. PROVIDE 3" FILL WITH FILL ADAPTOR OPW # 1612AN-0300, VAPOR RECOVERY ADAPTOR OPW # 1611AV, AND LOCKABLE DUST CAPS. VERIFY WITH FUEL SUPPLIER THAT ADAPTORS WILL COMPLY WITH SUPPLIERS EQUIPMENT.
26. SOLENOID VALVE, OPW # 821 (FM APPROVED).
27. MECHANICAL TANK GAUGE, OPW # 200TG-ENG.
28. ALARM ACKNOWLEDGEMENT SWITCH, VEEDOR ROOT # 790095-001 .
29. CAP SPARE CONNECTIONS.
30. EMERGENCY SHUT-OFF SWITCH TO DISABLE FUELING SYSTEM, REFER TO ELECTRICAL DRAWINGS FOR LOCATION (NOT SHOWN).
31. MAGNETOSTRICTIVE INVENTORY ONLY MEASUREMENT PROBE, VEEDER ROOT # 846391-3xx WITH # 846400 FLOATS. PROVIDE REQUIRED INSTALLATION KIT INCLUDING ALL CABLES, RISER CAPS, FLOAT KIT, ETC. CONTRACTOR TO VERIFY PROBE LENGTH AND REQUIRED FLOAT KIT PRIOR TO ORDERING.
32. MANWAY COVER
33. DROP TUBE, OPW # 61T
34. STAINLESS STEEL FLEXIBLE CONNECTOR
35. 2" SYPHON LINE TO MAINTAIN EQUAL LEVELS TANKS. TERMINATE DROP TUBE 3" ABOVE BOTTOM OF TANKS.
36. EMERGENCY SHEAR VALVE OPW 10 SERIES. SECURE TO STRUCTURAL FRAMING. REFER TO STRUCTURAL DRAWINGS FOR FURTHER DETAIL.
37. 1" HOSE ASSEMBLY INCLUDING CURB AND WHIP HOSE, PARKER # 7124 SUPER FLEX. HOSE LENGTHS TO COMPLY WITH NFPA 30A REQUIREMENTS AND ALL LOCAL CODES.
38. PROVIDE UNI-STRUT GALVANIZED PIPE SUPPORT STAND AND PIPE CALMP SECURED TO THE CONCRETE PAD AS REQUIRED TO SUPPORT SYPHON PIPING.
39. MECHANICAL LINE LEAK DETECTOR, RED JACKET #FXV.
40. CAP SPARE CONNECTIONS.
41. HIGH CAPACITY HOSE STAND WITH 1½" CONNECTION, INTEGRAL BOOT, SOLENOID VALVE, AND DPDT SWITCH, PMC #OHSH-60BV. ANCHOR TO CONCRETE USING A MINIMUM OF FOUR 4" X ½" CONCRETE ADHESIVE ANCHORS WITH 3" EMBEDMENT.

3 DISPENSING EQUIPMENT LIST
SCALE: NONE



4 FUEL SYSTEM LAYOUT
SCALE: NONE

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME: P:\330801D WATERBURY MAINTENANCE\16. CAD\DWG\PROCESS\COMPOSITE\D202.DWG

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER: TIP
CHECKED BY: –
SCALE: AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL
ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL
APPROVED BY: -
DATE: 6/11/14

DESIGNED BY:
WENDEL
140 JOHN JAMES AUDUBON PKWY.,
SUITE 201
AMHERST, NEW YORK
14228

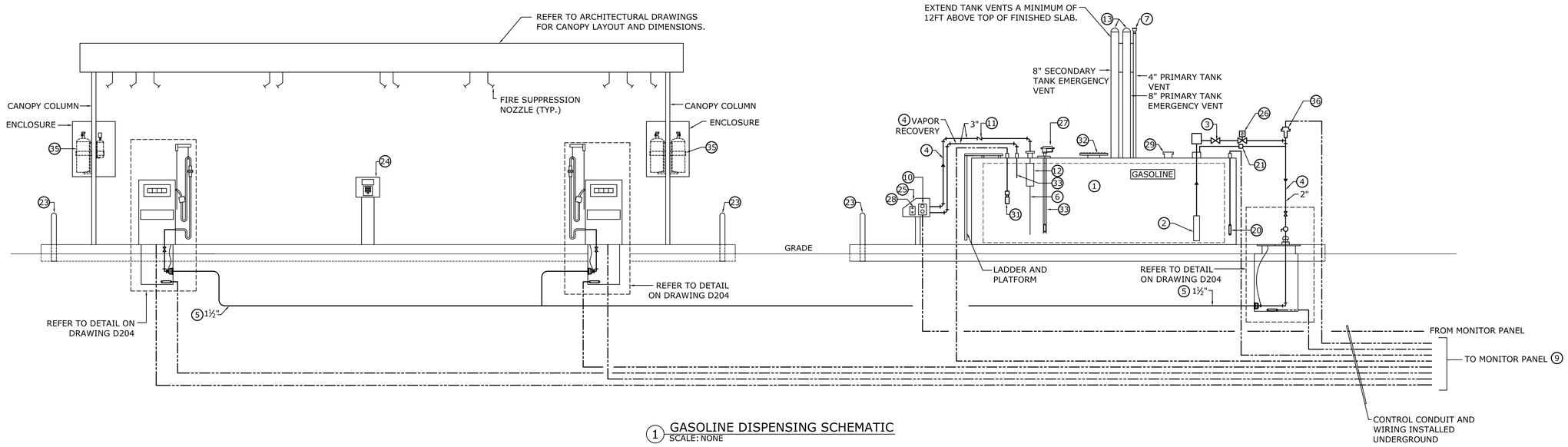
STATE OF CONNECTICUT CARL R. CLOUGH JR. LICENSE 29465 PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
DIESEL FUEL SCHEMATIC

PROJECT NO. **0431-0006**
DRAWING NO. **D-202**
SHEET NO. **15.011**



1 GASOLINE DISPENSING SCHEMATIC
SCALE: NONE

GENERAL NOTES FOR FUEL STORAGE AND DISPENSING:

1. PROVIDE ALL POWER AND CONTROL CONDUIT AND WIRING REQUIRED TO MAKE A COMPLETE AND OPERABLE SYSTEM. THIS INCLUDES ALL EQUIPMENT SHOWN ON THE DRAWINGS OR REFERENCED IN THE SPECIFICATIONS. WIRING TO BE INSTALLED WITHIN PVC COATED RIGID STEEL CONDUIT. JUNCTION BOXES TO BE NEMA 4 GUA SERIES EXPLOSION PROOF.
2. INSTALL SYSTEM PER NFPA 30 AND NFPA 30A REQUIREMENTS.
3. INSTALL SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
4. ALL CONTROL EQUIPMENT LOCATIONS ARE APPROXIMATE, CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER.
5. ALL VENTS FOR FUEL TANK TO EXTEND A MINIMUM OF 12'-0" ABOVE GRADE
6. PROVIDE MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.
7. PROVIDE FLEXIBLE ENTRY BOOTS FOR ALL SUMP PENETRATIONS, INCLUDING PIPING AND CONDUIT.
8. INSTALL TO CONNECTICUT CODES AND NFPA REQUIREMENTS.
9. PROVIDE GROUND FROM EACH TANK.
10. FILL PIPES SHALL TERMINATE WITHIN 6 INCHES OF THE BOTTOM OF THE TANK.
11. REFER TO LANDSCAPE DRAWINGS FOR TANK LOCATIONS AND PIPE ROUTING EXTERIOR TO THE BUILDING.
12. PROVIDE FM GLOBAL APPROVED DEVICES WHERE APPLICABLE.

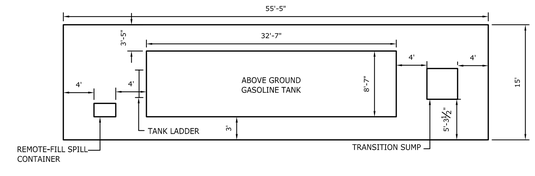
(X) COMPONENT IDENTIFICATION NUMBERS:

1. 12,000 GALLON STEEL PROTECTED ABOVEGROUND STORAGE TANK 8'-7"Øx32'7" LONG, MODERN WELDING FIREGAURD INSULATED TANK WITH INTEGRAL SECONDARY CONTAINMENT FOR 110% OF TOTAL CAPACITY, LISTED IN ACCORDANCE WITH ANSI/UL 2085. PROVIDE SADDLES, LADDER, AND PLATFORM.
2. 1/3 HP SUBMERSIBLE PUMP WITH CHECK VALVE, PRESSURE RELIEF VALVE, SIPHON, AIR ELIMINATOR, AND ELECTRICAL DISCONNECT, FE PETRO # PMA-33. VERIFY LENGTH REQUIRED PRIOR TO ORDERING. PROVIDE SUBMERSIBLE PUMP DISPENSER HOOK ISOLATION BOX (NOT SHOWN ON DRAWINGS) FE PETRO # STP-DHI AND PUMP SMART CONTROLLER STP-SC1 TO ACCOMMODATE 120V SIGNAL FROM DISPENSERS AND 208 V TO SUBMERSIBLE PUMP. DHI BOX TO ACCEPT UP TO 8 INPUTS. INSTALL CONTROL BOX IN LUBE ROOM S110. CONNECT TO DISPENSER CONTROLS. SOLENOID VALVE TO BE ENERGIZED AND PUMP ACTIVATED UPON DISPENSER ACTIVATION.
3. FULL PORT TWO-WAY BALL VALVE, OPW # 21BV.
4. SCHEDULE 40 SEAMLESS STEEL PIPE WITH FACTORY APPLIED CORROSION RESISTIVE COATING. ALL JOINTS AND FITTINGS TO BE WELDED EXCEPT AT VALVES AND SPECIALTIES REQUIRING THREADED JOINTS.
5. SECONDARILY CONTAINED PRESSURE PIPING, OPW FLEXWORKS C15. CONTINUOUS PIPE INSTALLATION, NO COUPLINGS OR UNIONS UNDERGROUND EXTERIOR TO SUMPS
6. DROP TUBE, OPW # 61FT.
7. ATMOPHERIC VENT, OPW # 23 SERIES.
8. NOT USED.
9. INVENTORY CONTROL AND LEAK DETECTION MONITOR PANEL. VEEDER ROOT # TLS-450. PROVIDE WITH TOUCH SCREEN AND BUILT-IN WEB INTERFACE AND ETHERNET/IP CARD. LOCATE PANEL IN LUBE ROOM S110.
10. SINGLE OVERFILL TANK ALARM MOUNT 40" ABOVE FINISHED GRADE, VEEDER ROOT # 790091-001.
11. SWING CHECK VALVE, OPW # 175.
12. OVERFILL PREVENTION VALVE, OPW # 61FSTOP.
13. EMERGENCY VENT, OPW # 201.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. NOT USED.
18. NOT USED.
19. NOT USED.
20. INTERSTITIAL SENSOR (SINGLE FLOAT) FOR DOUBLE WALL STEEL TANKS, VEEDOR ROOT # 794390-420. PROVIDE REQUIRED INSTALLATION AND ADAPTOR KIT.
21. THERMAL PRESSURE RELIEF VALVE, OPW # 82RV .
22. NOT USED.
23. CONCRETE BOLLARD. REFER TO ARCHITECTURAL AND SITE DRAWINGS FOR SIZE, LOCATION, AND QUANTITY.
24. FUEL MANAGEMENT SYSTEM CONTROLLER- FLEETWATCH REMOTE ISLAND HEAD MODEL 3000R.

24.1. PROVIDE ALL REQUIRED UNDERGROUND AND ABOVEGROUND COMMUNICATION WIRING AND CONDUIT TO MAKE A COMPLETE AND OPERABLE SYSTEM. CONNECT SYSTEM TO NETWORK SERVER TO ACCOMMODATE REMOTE NETWORK ACCESS BY A USER COMPUTER.

25. REMOTE-FILL SPILL CONTAINER. OPW # 211R-302. PROVIDE 3" FILL WITH FILL ADAPTOR OPW # 1612AN-0300, VAPOR RECOVERY ADAPTOR OPW # 1611AV, AND LOCKABLE DUST CAPS. VERIFY WITH FUEL SUPPLIER THAT ADAPTORS WILL COMPLY WITH SUPPLIERS EQUIPMENT.
26. SOLENOID VALVE, OPW # 821 (FM APPROVED).
27. MECHANICAL TANK GAUGE, OPW # 200TG-ENG.
28. ALARM ACKNOWLEDGEMENT SWITCH, VEEDOR ROOT # 790095-001 .
29. NOT USED.
30. EMERGENCY SHUT-OFF SWITCH TO DISABLE FUELING SYSTEM, REFER TO ELECTRICAL DRAWINGS FOR LOCATION (NOT SHOWN).
31. MAGNETOSTRICTIVE INVENTORY ONLY MEASUREMENT PROBE, VEEDER ROOT #86391-3xx WITH #846400 FLOATS. PROVIDE REQUIRED INSTALLATION KIT INCLUDING ALL CABLES, RISER CAPS, FLOAT KIT, ETC.CONTRACTOR TO VERIFY PROBE LENGTH AND REQUIRED FLOAT KIT PRIOR TO ORDERING.
32. MANWAY COVER
33. DROP TUBE, OPW # 61T
34. NOT USED
35. PROVIDE FM APPROVED DRY CHEMICAL FIRE EXTINGUISHING SYSTEM, PYRO-CHEM ATTENDANT II. SYSTEM TO INCLUDE REQUIRED CONTROL HEAD, PNEUMATIC ACTUATING CYLINDER, CHEMICAL AGENT STORAGE CYLINDERS, DISCHARGE NOZZLES, AUDIBLE ALARM, AND REMOTE MECHANICAL PULL STATION. PROVIDE REQUIRED CONTROL WIRING AND CONDUIT, PNEUMATIC ACTUATION LINE, AND AGENT DISTRIBUTION PIPING. CONTROL HEAD, PNEUMATIC ACTUATING CYLINDER, AND MECHANICAL PULL STATION TO BE LOCATED ADJACENT TO EMERGENCY SHUT-OFF. STORAGE CYLINDER CAPACITY, QUANTITY AND LOCATION OF DISCHARGE NOZZLES, AND PIPE SIZING TO BE DETERMINED BY MANUFACTURER ENGINEER. PROVIDE DELEGATED DESIGN ENGINEERING SERVICES. PROVIDE CALCULATIONS REPORT TO ENGINEER FOR APPROVAL PRIOR TO ORDERING. SYSTEM TO BE INSTALLED AND TESTED BY A CERTIFIED CONTRACTOR. PROVIDE INTERCONNECTION WITH DISPENSER. IN THE EVENT OF AN ALARM THE DISPENSER PUMPS ARE TO BE DISABLED. PROVIDE SUPERVISION OF THE DETECTION/INITIATION CIRCUIT, TIE INTO BUILDING FIRE ALARM SUCH THAT ALARM IS GENERATED UPON SYSTEM ACTIVATION.
36. MECHANICAL LINE LEAK DETECTOR, RED JACKET #FXV.

2 GASOLINE DISPENSING EQUIPMENT LIST
SCALE: NONE



3 FUEL SYSTEM LAYOUT
SCALE: NONE

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME: P:\330801D WATERBURY MAINTENANCE\16. CAD\DWG\PROCESS\COMPOSITE\D203.DWG

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DESIGNER/DRAFTER: TIP
CHECKED BY: –
SCALE: AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL
ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL
APPROVED BY: -
DATE: 6/11/14

DESIGNED BY:
WENDEL
140 JOHN JAMES AUDUBON PKWY.,
SUITE 201
AMHERST, NEW YORK
14228

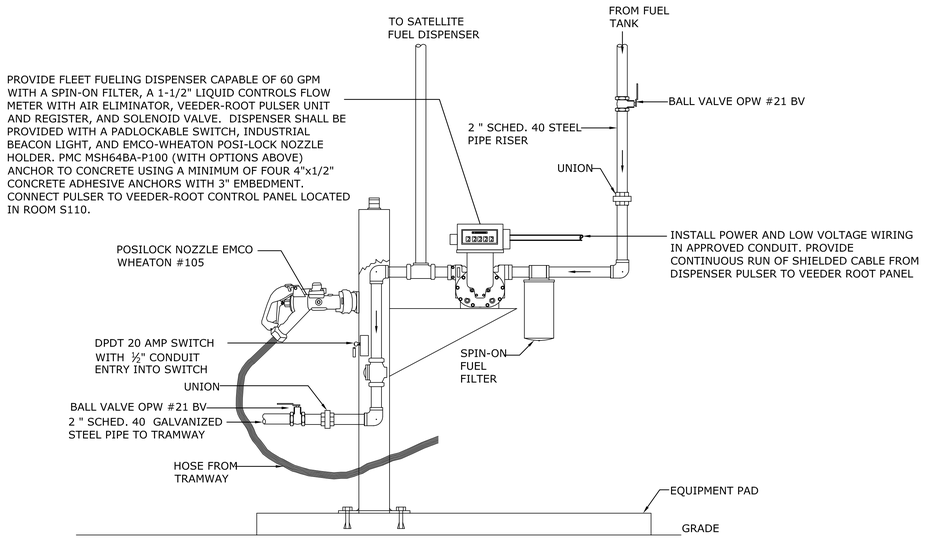
STATE OF CONNECTICUT CARLA R. LUDWIG 29402 LICENSED PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

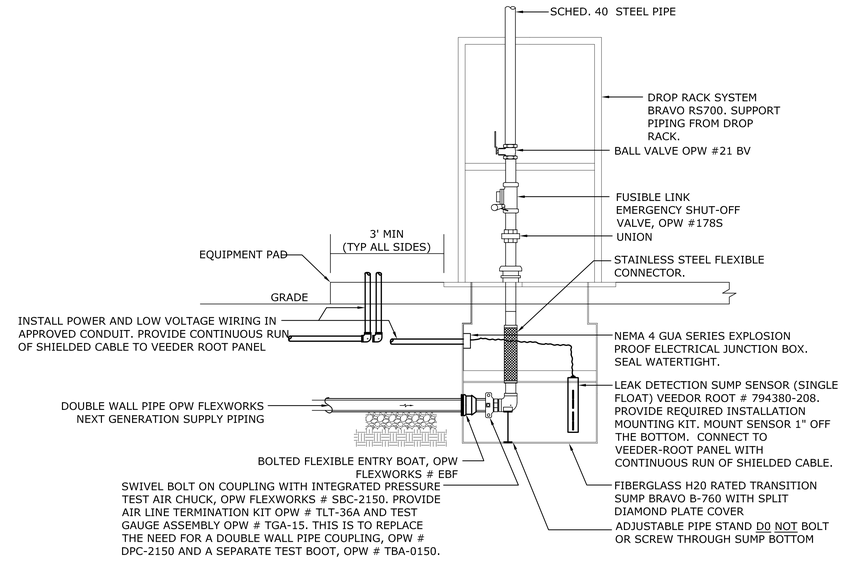
ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
GASOLINE DISPENSING SCHEMATIC

PROJECT NO. **0431-0006**
DRAWING NO. **D-203**
SHEET NO. **15.012**



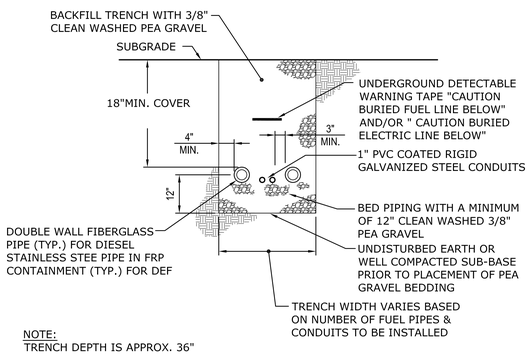
1 DIESEL FUEL DISPENSER AND SUMP
SCALE: NONE



3 FUEL PIPING TRANSITION SUMP
SCALE: NONE

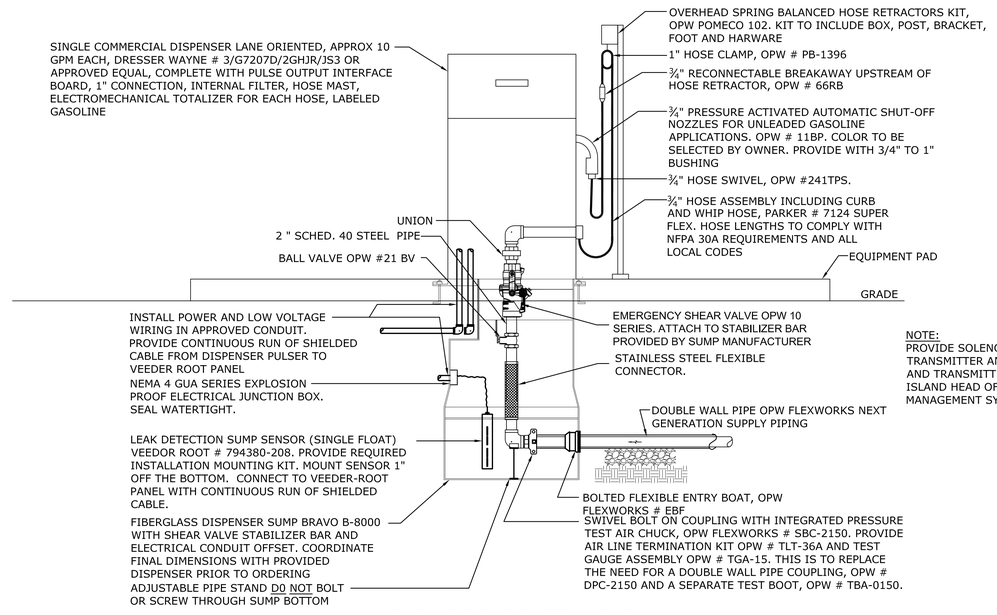
GENERAL NOTES FOR FUEL STORAGE AND DISPENSING:

1. PROVIDE ALL POWER AND CONTROL CONDUIT AND WIRING REQUIRED TO MAKE A COMPLETE AND OPERABLE SYSTEM. THIS INCLUDES ALL EQUIPMENT SHOWN ON THE DRAWINGS OR REFERENCED IN THE SPECIFICATIONS. WIRING TO BE INSTALLED WITHIN PVC COATED RIGID STEEL CONDUIT. JUNCTION BOXES TO BE NEMA 4 GUA SERIES EXPLOSION PROOF.
2. INSTALL SYSTEM PER NFPA 30 AND NFPA 30A REQUIREMENTS.
3. INSTALL SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
4. ALL CONTROL EQUIPMENT LOCATIONS ARE APPROXIMATE, CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER.
5. ALL VENTS FOR FUEL TANK TO EXTEND A MINIMUM OF 12'-0" ABOVE GRADE
6. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.
7. PROVIDE FLEXIBLE ENTRY BOOTS FOR ALL SUMP PENETRATIONS, INCLUDING PIPING AND CONDUIT.
8. INSTALL TO CONNECTICUT CODES AND NFPA REQUIREMENTS.
9. PROVIDE GROUND FROM EACH TANK.
10. FILL PIPES SHALL TERMINATE WITHIN 6 INCHES OF THE BOTTOM OF THE TANK.
11. REFER TO LANDSCAPE DRAWINGS FOR TANK LOCATIONS AND PIPE ROUTING EXTERIOR TO THE BUILDING.
12. PROVIDE FM GLOBAL APPROVED DEVICES WHERE APPLICABLE.



NOTE:
TRENCH DEPTH IS APPROX. 36"

2 FUEL PIPING TRENCH
SCALE: NONE



NOTE:
PROVIDE SOLENOID VALVE AND PULSE TRANSMITTER AND CONNECT THE VALVE AND TRANSMITTER TO THE REMOTE ISLAND HEAD OF THE FUEL/FLUID MANAGEMENT SYSTEM.

4 GASOLINE DISPENSER AND SUMP
SCALE: NONE

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME: P:\330801D WATERBURY MAINTENANCE\16. CAD\DWG\PROCESS\COMPOSITE\D204.DWG

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DESIGNER/DRAFTER: TIP
CHECKED BY: –
SCALE: AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL
ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL
APPROVED BY: -
DATE: 6/11/14

DESIGNED BY:
WENDEL
140 JOHN JAMES AUDUBON PKWY., SUITE 201
AMHERST, NEW YORK 14228

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

ADDRESS:
FROST BRIDGE ROAD
WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
DIESEL FUEL SCHEMATIC

PROJECT NO. **0431-0006**
DRAWING NO. **D-204**
SHEET NO. **15.013**

COMPRESSOR (VSD) SCHEDULE (C)

ID #	MANUFACTURER MODEL No.	LOCATION	SERVICE	TYPE	MIN/MAX FAD (SCFM)	MAX PRESSURE (PSI)	CALCULATED WORKING FAD (SCFM)	SYSTEM WORKING PRESSURE (PSI)	DIMENSION LXWXH (IN)	WEIGHT (LBS)	NOISE LEVEL (dB)	ELECTRICAL DATA		NOTES
												HP	KW/ VOLTS/ PHASE	
C-1 A	ATLAS COPCO GA 22VSDFF	COMPRESSOR ROOM	MAINTENANCE	ROTARY SCREW	38/130	145	178	130	50X34X58	1,235	68	30	22/460/3	1,2,3,4,5,6,8,10
C-1 B	ATLAS COPCO GA 22VSDFF	COMPRESSOR ROOM	MAINTENANCE	ROTARY SCREW	38/130	145	178	130	50X34X58	1,235	68	30	22/460/3	1,2,3,4,5,6,8,10
C-2	ATLAS COPCO GA7VSDFF	COMPRESSOR ROOM	PAINT BOOTH	ROTARY SCREW	15/46	102	35	100	24X25X56	426	64	10	7.5/460/3	1,2,3,4,7,8,9,10

NOTES:
1. PROVIDE FULL FEATURED UNIT WITH INTEGRATED REFRIGERANT AIR DRYER
2. COMPRESSOR PACKAGE TO INCLUDE COMPRESSOR, DRIVE MOTOR AND STARTER, OIL SYSTEM, REGULATION SYSTEM, AND CONTROL MODULE.
3. PROVIDE PACKAGE IN SOUND ATTENUATING ENCLOSURE
4. PROVIDE INTERNAL COOLING AIR CIRCUIT
5. PROVIDE ONE VERTICAL 400 GALLON AIR RECEIVER WITH GAUGE, RELIEF VALVE AND AUTOMATIC CONDENSATE DRAIN FEED FROM DUPLEX SYSTEM COMPRESSORS C-1A AND C-1B.
6. EACH COMPRESSOR SIZED BASED ON 75% OF CALCULATED DESIGN AIR FLOW TO ACCOMMODATE REDUNDANCY.
7. PROVIDE ONE VERTICAL 200 GALLON RECEIVER WITH GAUGE, RELIEF VALVE AND AUTOMATIC CONDENSATE DRAIN.
8. PROVIDE INTERNAL AIR FILTERS.
9. PROVIDE BREATHING AIR PURIFIER ATLAS COPCO BAP 7 SERIES. SKID MOUNTED SYSTEM WITH WATER SEPARATOR, PRE- FILTERS, FINE-COALESCING FILTER, HEATLESS DESICCANT DRYER, ACTIVATED CARBON, CATALYST, BACTERIA FILTER AND ELECTRONIC WATER DRAIN. 38"x26"x35"HIGH, 405 LBS, 1/2"CONNECTION
10. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.

FLUID PUMP SCHEDULE (FP)

ID #	MANUFACTURER MODEL No.	LOCATION	FLUID TYPE	TYPE	STYLE	PUMP RATIO	COMPRESSED AIR				FLUID				NOTES
							FLOW (SCFM)	OUTLET PRESSURE (PSI)	MAX WORKING PRESSURE (PSI)	CONNECT. SIZE (IN)	FLOW (GPM)	SYSTEM PRESSURE DROP (PSI)	INLET SIZE (IN)	OUTLET SIZE (IN)	
FP-1	GRACO FIREBALL 425 205626	LUBE RM M115	GEAR OIL	PNEUMATIC	PISTON	10:1	15	75	180	1/2	2	620	1-1/2	3/4	1,2,3,4,6,9,14
FP-2	GRACO FIREBALL 425 205626	LUBE RM M115	ENGINE OIL- BUS	PNEUMATIC	PISTON	10:1	18	45	180	1/2	3	468	1-1/2	3/4	1,2,3,4,7,9,14
FP-3	GRACO FIREBALL 425 205626	LUBE RM M115	ENGINE OIL- PARA	PNEUMATIC	PISTON	6:1	10	30	180	1/2	2	145	1-1/2	3/4	1,2,3,4,7,9,14
FP-4	GRACO FIREBALL 425 238108	LUBE RM M115	AUTOMATIC TRANSMISSION-BUS	PNEUMATIC	PISTON	3:1	10	40	180	1/2	4	103	1-1/2	3/4	1,2,3,4,7,9,14
FP-5	GRACO FIREBALL 425 238108	LUBE RM M115	AUTOMATIC TRANSMISSION-PARA	PNEUMATIC	PISTON	3:1	8	25	180	1/2	2	71	1-1/2	3/4	1,2,3,4,7,9,14
FP-6	GRACO HUSKEY 647016	LUBE RM M115	WINDSHIELD WASHER	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	7	10	100	1/2	2	8	1	1	1,2,3,4,5,6,14
FP-7	GRACO MONARCH 256714	LUBE RM M115	ENGINE COOLANT- BUS	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	8	15	100	1/2	4	13	1	1	1,2,3,4,5,6,14
FP-8	GRACO MONARCH 256714	LUBE RM M115	ENGINE COOLANT- PARA	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	8	15	100	1/2	2	19	1	1	1,2,3,4,5,6,14
FP-9	GRACO FIREBALL 425 205935	LUBE RM M115	COMMON GREASE	PNEUMATIC	PISTON	50:1	130	23	150	1/2	2	4500	SLOTTED	3/8	2,3,4,9,10,14
FP-10	GRACO FIREBALL 300 225852	S110	AUTOMATIC TRANSMISSION-BUS	PNEUMATIC	PISTON	3:1	8	25	180	1/2	2	62	1-1/2	3/4	1,2,3,4,6,14
FP-11	GRACO FIREBALL 300 225852	S110	AUTOMATIC TRANSMISSION-PARA	PNEUMATIC	PISTON	3:1	8	25	180	1/2	2	62	1-1/2	3/4	1,2,3,4,6,9,14
FP-12	GRACO HUSKEY 647016	S110	ENGINE COOLANT-BUS	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	8	15	100	1/2	2	12	1	1	1,2,3,4,5,6,14
FP-13	GRACO HUSKEY 647016	S110	ENGINE COOLANT-PARA	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	8	15	100	1/2	2	12	1	1	1,2,3,4,5,6,14
FP-14	GRACO HUSKEY 647016	S110	WINDSHIELD WASHER	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	7	10	100	1/2	1	6	1	1	1,2,3,4,5,6,14
FP-15	GRACO HUSKEY 647016	M113	USED OIL	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	70	25	120	1/2	50	50	15	1	2,3,4,5,11,14
FP-16	GRACO HUSKEY 647016	M113	USED COOLANT	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	70	25	120	1/2	50	50	15	1	2,3,4,5,11,14
FP-17	GRACO ADBLUE 24G745	S109	DEF	PNEUMATIC	DOUBLE DIAPHRAGM	1:1	28	50	50	1/4	6.5	50	1/2	3/4	1,2,3,4,12,13,14

NOTES:
1. PROVIDE PRESSURE RELIEF KIT.
2. PROVIDE AIR INLET AND FLUID OUTLET CONNECTING HOSE KITS. TUBING SIZE TO MATCH OUTLET SIZE OF PUMP.
3. PROVIDE FILTER/REGULATOR/LUBRICATOR KIT WITH GAUGE AND AUTOMATIC TANK DRAIN VALVE ON THE AIR FILTER. PROVIDE TUBING AND 5 GALLON BUCKET FOR AIR FILTER TO DRAIN INTO.
4. PROVIDE AIR GUARD RUNAWAY VALVE TO PROTECT PUMP.
5. PUMP TO BE OF ALL ALUMINUM CONSTRUCTION.
6. PROVIDE WALL MOUNT BRACKET, SUCTION HOSE KIT WITH LOW LEVEL CUT OFF, AND ALL NECESSARY COMPONENTS TO DRAW FROM A 55 GALLON DRUM OR TANK.
7. PUMP TO BE MOUNTED TO FLUID TANK.
8. PUMP TO HAVE STAINLESS STEEL LOWER UNIT COMPONENTS.
9. PUMP TO HAVE EXTERNAL MUFFLER THAT OPERATES BELOW OSHA NOISE STANDARDS.
10. PROVIDE STATIONARY SUPPLY STAND AND ALL NECESSARY COMPONENTS TO DRAW FROM A 55 GALLON DRUM INCLUDING TOPPER-INDUCTOR PLATE, ELEVATOR, AND CARRIAGE.
11. PROVIDE DRUM STYLE ADAPTOR KIT , WALL MOUNT BRACKET, AND ALL NECESSARY COMPONENTS TO EXCAVATE USED OIL AND COOLANT RECEIVERS.
12. PROVIDE WALL MOUNTING BRACKET, SUCTION HOSE KIT WITH LOW LEVEL CUTOFF, DEF METER, AND ALL NECESSARY COMPONENTS TO DRAW FROM THE TANK. REFER TO TANK PUMP SYSTEM DETAIL ON DRAWING Q201 FOR OVERFILL PREVENTION, INVENTORY MONITORING, AND ADDITIONAL COMPONENTS REQUIRED.
13. PUMP TO BE CONSTRUCTED OF POLYPROPYLENE.
14. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.

FLUID STORAGE SCHEDULE (FS)

ID #	MANUFACTURER MODEL No.	LOCATION	FLUID TYPE	TYPE	DIMENSIONS (L X W X H)	CAPACITY (GALLONS)	STYLE	ASSOCIATED EQUIPMENT	NOTES
FS-1	GRAINGER 2GTW5	LUBE ROOM M115	GEAR OIL	DRUM	-	55	-	FP-1	2,6
FS-2	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	ENGINE OIL - BUS	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-2	1,6
FS-3	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	ENGINE OIL - PARATRANSIT	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-3	1,6
FS-4	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	AUTOMATIC TRANSMISSION-BUS	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-4	1,6
FS-5	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	AUTOMATIC TRANSMISSION-PARA	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-5	1,6
FS-6	GRAINGER 4GY40	LUBE ROOM M115	WINDSHIELD WASHER	DRUM	-	55	-	FP-6	2,4,6
FS-7	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	ENGINE COOLANT- BUS	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-7	1,5,6,7
FS-8	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	ENGINE COOLANT- PARA	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-8	1,5,6,7
FS-9	GRAINGER 2GTW5	LUBE ROOM M115	COMMON GREASE	DRUM	-	55	-	FP-9	2,6
FS-10	GRAINGER 2GTW5	S110	AUTOMATIC TRANSMISSION-BUS	DRUM	-	55	-	FP-10	2,6
FS-11	GRAINGER 2GTW5	S110	AUTOMATIC TRANSMISSION-PARA	DRUM	-	55	-	FP-11	2,6
FS-12	GRAINGER 4GY40	S110	ENGINE COOLANT-BUS	DRUM	-	55	-	FP-12	2,4,6
FS-13	GRAINGER 4GY40	S110	ENGINE COOLANT-PARA	DRUM	-	55	-	FP-13	2,4,6
FS-14	GRAINGER 4GY40	S110	WINDSHIELD WASHER	DRUM	-	55	-	FP-14	2,4,6
FS-15	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	USED OIL	TANK	9'4"X4'0"X6'2"	1000	DOUBLE WALL	FP-15	1,6
FS-16	CONTAINMENT SOLUTIONS LUBE CUBE	LUBE ROOM M115	USED COOLANT	TANK	5'1"X3'10"X6'2"	500	DOUBLE WALL	FP-16	1,6
FS-17	-	UREA ROOM S109	DEF	TANK	8'0"X4'0"	1000	DOUBLE WALL	FP-17	3,6

NOTES:
1. PROVIDE CONCRETE HOUSEKEEPING PAD REFER TO STRUCTURAL DRAWINGS
2. PROVIDE EAGLE 1633 CONTAINMENT PALLET OR APPROVED EQUAL
3. TANK TO BE RELOCATED FROM EXISTING FACILITY
4. DRUM TO BE CONSTRUCTED OF POLYETHYLENE
5. TANK TO BE PROVIDED WITH 304 STAINLESS STEEL INNER TANK.
6. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.
7. PROVIDE PUMP/REEL BRACKET TO ACCOMMODATE PUMP INSTALLATION

REEL BANK SCHEDULE (RB)

ID #	REEL/FLUID TYPE	MANUFACTURER MODEL No.	RATED PRESSURE (PSI)	BRANCH CONNECTION SIZE TO SINGLE REEL (IN)	REEL CONNECTION SIZE (IN)	HOSE SIZE (IN)	HOSE LENGTH (FT)	NOZZLE MANUFACTURER MODEL No.	NOTES
RB-1	DIESEL EXHAUST FLUID	GRACO XD30 HSD-D5B	50	3/4	3/4	3/4	50	GRACO 24F-529	1,2,6
RB-2	WINDSHIELD WASHER FLUID	GRACO XD20 HSL56B	300	1/2	1/2	3/8	65	GRACO 180-685	1,2,6
RB-3	COMPRESSED AIR	GRACO XD20 HSL65B	300	1/2	1/2	1/2	50	PARKER PBS-251-6	2,3,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
RB-4	COMPRESSED AIR	GRACO XD20 HSLC8B	300	3/4	1/2	1/2	75	PARKER PBS-371-6	2,4,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
RB-5	COMPRESSED AIR	GRACO XD20 HSL65B	300	1/2	1/2	1/2	50	PARKER PBS-251-6	2,3,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
	WINDSHIELD WASHER FLUID	GRACO XD20 HSL56B	300	1/2	1/2	3/8	65	GRACO 180-685	1,2,6
RB-6	COMPRESSED AIR	GRACO XD20 HSL-C8B	300	1/2	1/2	1/2	75	PARKER PBS-371-6	2,4,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
	GEAR OIL	GRACO XD20 HSM65B	2000	1 1/2	1/2	1/2	50	GRACO SDP5 255352	2,6
	COMMON GREASE	GRACO XD20 HSH55B	4000	1 1/2	1/2	1/2	50	GRACO PRO SHOT 224872	2,6
RB-7	COMPRESSED AIR	GRACO XD20 HSL65B	300	1/2	1/2	1/2	50	PARKER PBS-251-6	2,3,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
	ENGINE COOLANT	GRACO XD20 HSM65B	2000	1/2	1/2	1/2	50	GRACO SDP5 255355	2,6
	AUTOMATIC TRANSMISSION FLUID	GRACO XD20 HSM65B	2000	3/4	1/2	1/2	50	GRACO SDP5 255351	2,6
	ENGINE OIL	GRACO XD20 HSM65B	2000	3/4	1/2	1/2	50	GRACO SDP5 255200	2,6
RB-8	COMPRESSED AIR	GRACO XD20 HSL65B	300	1/2	1/2	1/2	50	PARKER PBS-251-6	2,3,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
	ENGINE COOLANT - PARATRANSIT	GRACO XD20 HSM65B	2000	1/2	1/2	1/2	50	GRACO SDP5 255355	2,6
	AUTOMATIC TRANSMISSION FLUID - PARATRANSIT	GRACO XD20 HSM65B	2000	3/4	1/2	1/2	50	GRACO SDP5 255351	2,6
	ENGINE OIL - PARATRANSIT	GRACO XD20 HSM65B	2000	3/4	1/2	1/2	50	GRACO SDP5 255200	2,6
RB-9	COMPRESSED AIR	GRACO XD20 HSL65B	300	1/2	1/2	1/2	50	PARKER PBS-371-6	2,4,6
	ELECTRICAL OUTLET	GRACO SD10 24M526	-	-	-	-	95	-	5,6
	ENGINE COOLANT- PARATRANSIT	GRACO XD20 HSM65B	2000	1/2	1/2	1/2	50	GRACO SDP5 255355	2,6
	AUTOMATIC TRANSMISSION FLUID-PARATRANSIT	GRACO XD20 HSM65B	2000	3/4	1/2	1/2	50	GRACO SDP5 255351	2,6
	ENGINE OIL- PARATRANSIT	GRACO XD20 HSM65B	2000	3/4	1/2	1/2	50	GRACO SDP5 255200	2,6
RB-10	COMPRESSED AIR	GRACO XD20 HSL-C8B	300	3/4	1/2	1/2	75	PARKER PBS-371-6	2,4,6

NOTES:
1. PROVIDE STAINLESS STEEL BALL VALVE AT INLET TO REEL.
2. PROVIDE INLET HOSE KIT.
3. PROVIDE ¼" PORT PUSH-TO-CONNECT INDUSTRIAL INTERCHANGE EXHAUSTING COMPRESSED AIR QUICK COUPLER.
4. PROVIDE ⅜" PORT PUSH-TO-CONNECT INDUSTRIAL INTERCHANGE EXHAUSTING COMPRESSED AIR QUICK COUPLER.
5. PROVIDE 18 AMP 12 AWG CORD AND INDUSTRIAL RECEPTACLE.
6. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION

REV.	DATE	DESCRIPTION	SHEET NO.
		REVISIONS	

FILENAME: P:\330801D WATERBURY MAINTENANCE\16. CAD\DWG\PROCESS\COMPOSITE\D301.DWG

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER: TIP

CHECKED BY: –

SCALE: AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ARCHITECT: WENDEL

ENGINEERS: ReSTL DESIGNERS, CLOUGH HARBOUR ASSOC., AI ENGINEERS, WENDEL

APPROVED BY: -

DATE: 6/11/14

DESIGNED BY:
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14228

STATE OF CONNECTICUT
CHERYL A. LOBACK
29462
LICENSED
PROFESSIONAL ENGINEER

PROJECT TITLE:
WATERBURY BUS MAINTENANCE FACILITY REPLACEMENT

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WATERTOWN, CONNECTICUT 06787

DRAWING TITLE:
PROCESS SYSTEM SCHEDULES

PROJECT NO. **0431-0006**

DRAWING NO. **D-301**

SHEET NO. **15.014**