

From: [Daly, Keith](#)
To: ["Olk, John \(OlkJ@WSDOT.WA.GOV\)"; "Szewcik, Mark \(SzewciM@WSDOT.WA.GOV\)";](#)
cc: [Green, Frank; Peppers, Nicki;](#)
Subject: FW: Air System Shop Drawings For Contract 8078 Columbia River Bridge Temporary Pile Test Program
Date: Friday, January 28, 2011 4:47:32 PM
Attachments: [TRANS. WSDOT, Air Supply Manifold Shop Drawings & Hook Up Schematics SUBMITTAL, 1-28-11.pdf](#)
[1109-100-1 BUBBLE CURTAIN THREADED FITTINGS REV A.PDF](#)

John/Mark,

Attached please find Air Supply Manifold Shop Drawings and Hook Up Schematics for your review and approval. Please rush as we hope to begin work 2/7/11 and have a limited in-water work window.

Thanks,

Keith Daly
Assistant Business Manager

Columbia River Crossing Project | <mailto:dalyk@columbiarivercrossing.org>
700 Washington St. Suite 300, Vancouver, WA 98660
office: 360.816.8870 | Office: 503.256.2726 Ext. 8870
Fax: 360.737.0294

From: Kevin Culbert [<mailto:kevinc@americanconstco.com>]
Sent: Friday, January 28, 2011 4:01 PM
To: Daly, Keith
Cc: Green, Frank
Subject: Air System Shop Drawings

Keith:

Here are the stamped drawings for the air system.

Kevin

Kevin Culbert, Vice President



kevinc@americanconstco.com

voice: 253-254-0118
fax: 253-254-0155

Marine Construction Dredging Pile Driving

1501 Taylor Way • Tacoma, Washington 98421

PHONES: Tacoma (253) 254-0118,

Seattle (206) 623-0114,

Fax (253) 254-0155



**AMERICAN
CONSTRUCTION COMPANY**

CONTRACTORS LIC NO. 223-01-AM-ER-IC*372 NO.

TO: WSDOT
Bridge and Structures Engineer
Construction Support
P.O. Box 47340
Olympia, WA 98504-7340

DATE January 28, 2011

JOB #: MC 02-11

TITLE: Columbia River Bridge Temporary
Pile Test Program (#8078)

THE FOLLOWING ITEMS ARE BEING SENT: Herewith
Under Separate Cover
Direct

QUANTITY	DESCRIPTION
7 EA	Air Supply Manifold Shop Drawing submittal
7 EA	Unconfined Bubble Curtain Hook Up Schematic submittal
7 EA	Confined Bubble Curtain Hook Up Schematic submittal

These items are being sent:

- Per your request
- Please keep us advised of action taken
- For you to process
- For your inspection and approval
- For your general information and file
- For your approval or corrections

REMARKS:

Please contact us promptly if there is a problem or question

COPY TO:

AMERICAN CONSTRUCTION COMPANY, INC.

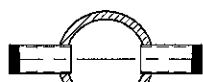
BY: _____
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3

2

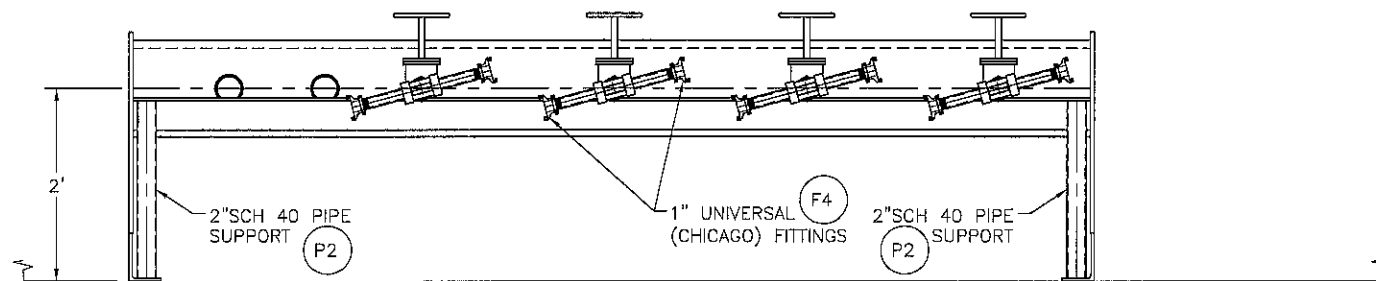
1



FB DRILL AND TAP FOR 1/2" NPT PLUG

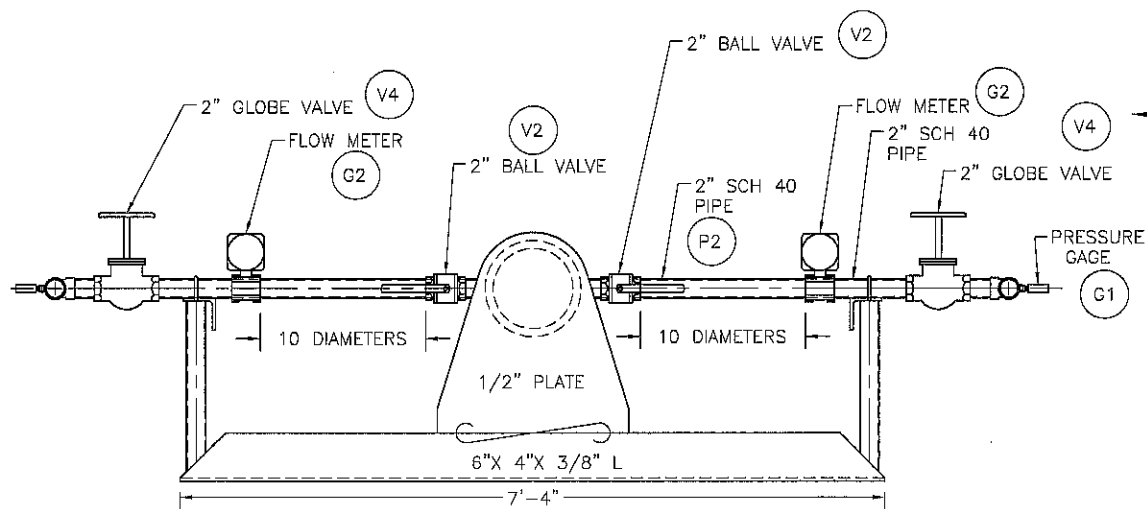
SECTION "4-D"

1/2" = 1' - 0"



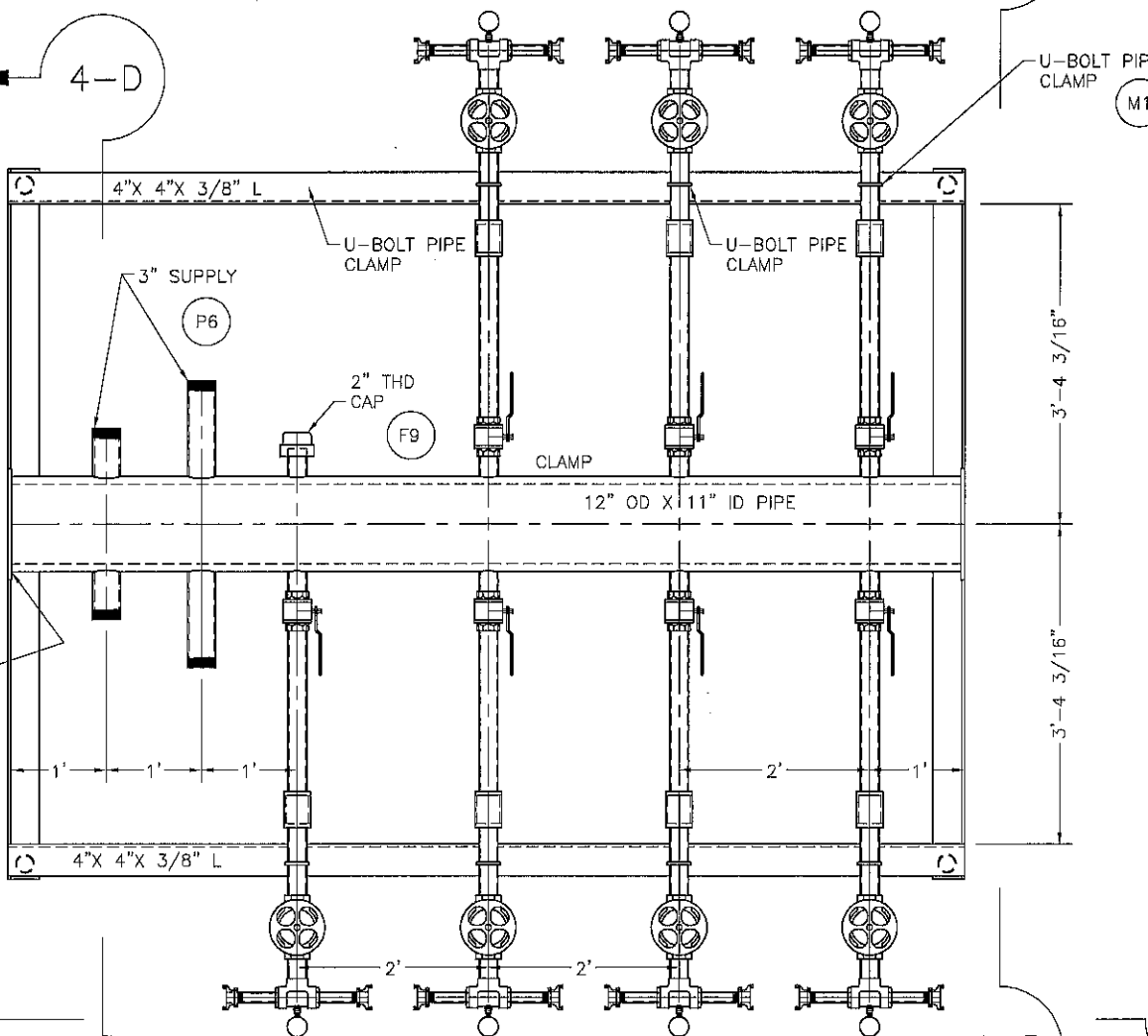
ELEVATION "2-D"

1/2" = 1' - 0"



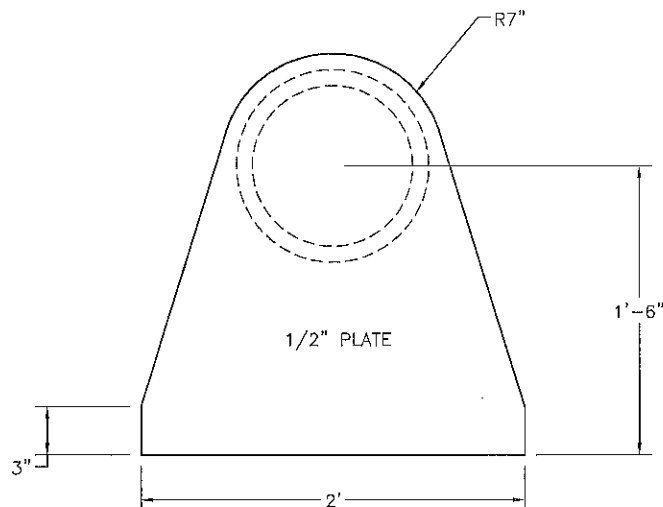
SECTION "4-B"

1/2" = 1' - 0"



PLAN "2-A"

BUBBLER SUPPLY
1/2" = 1' - 0"



SECTION "4-A"

END PLATE
TWO REQUIRED
1" = 1' - 0"

REVISIONS

SYM	DESCRIPTION	BY/DATE
A	INITIAL STAMPED ISSUE	wpecse 28JAN11

GENERAL NOTES

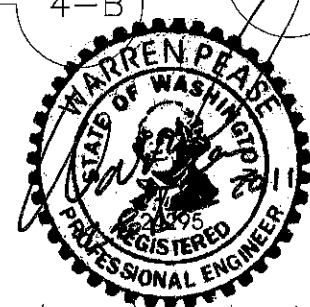
- DRAWING DEPICTS UNCONFINED AND CONFINED BUBBLE CURTAIN DISTRIBUTION MANIFOLD.
- MAWP = 100 PSI
- MANIFOLD TO BE PRESSURE TESTED TO 1-1/2 TIMES THE MAWP (150 PSI).
- EACH BUBBLE RING TO BE CONNECTED WITH TWO 1" HOSES TO ONE "TEE" ASSEMBLY.
- 3" SUPPLY PIPES TO BE THREADED TO MATCH FITTINGS ON AIR COMPRESSOR HOSES.
- 10 DIAMETERS OF STRAIT PIPE REQUIRED IN FRONT OF FLOW METERS, PER REFERENCE 10.
- WELDS UNDER PRESSURE SHALL BE PER ASME SECTION 8 BOILER AND PRESSURE VESSEL CODE, LATEST ADDITION.

REFERENCES

- COLUMBIA-SENTINEL ENGINEERS DRAWING 1109-100-1, UNCONFINED BUBBLE CURTAIN, HOOK UP SCHEMATIC.
- COLUMBIA-SENTINEL ENGINEERS DRAWING 1109-100-3, CONFINED BUBBLE CURTAIN, HOOK UP SCHEMATIC.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL, REF.SHT. NUMBER ND1, SHEET 5 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, BOTTOM BUBBLE RING DETAILS, REF.SHT. NUMBER ND2, SHEET 6 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, UPPER BUBBLE RING DETAILS, REF.SHT. NUMBER ND3, SHEET 7 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL 1, REF.SHT. NUMBER ND5, SHEET 9 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL 2, REF.SHT. NUMBER ND6, SHEET 10 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL, REF.SHT. NUMBER ND7, SHEET 11 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, I-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, CONFINED BUBBLE RING DETAILS, REF.SHT. NUMBER ND8, SHEET 12 OF 12.
- INSTALLATION, OPERATION AND MAINTENANCE, THREADED AND WAFER STYLE FLOWMETERS, RCM INDUSTRIES, INC. (WWW.FLO-GAGE.COM).

COLUMBIA-SENTINEL ENGINEERS, INC.
NAVAL ARCHITECTS & MARINE ENGINEERS
SEATTLE, WASHINGTON

AMERICAN CONSTRUCTION
UNCONFINED BUBBLE CURTAIN
AIR SUPPLY MANIFOLD

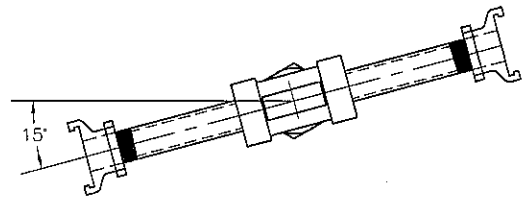


EXPIRES: 11/5/2011

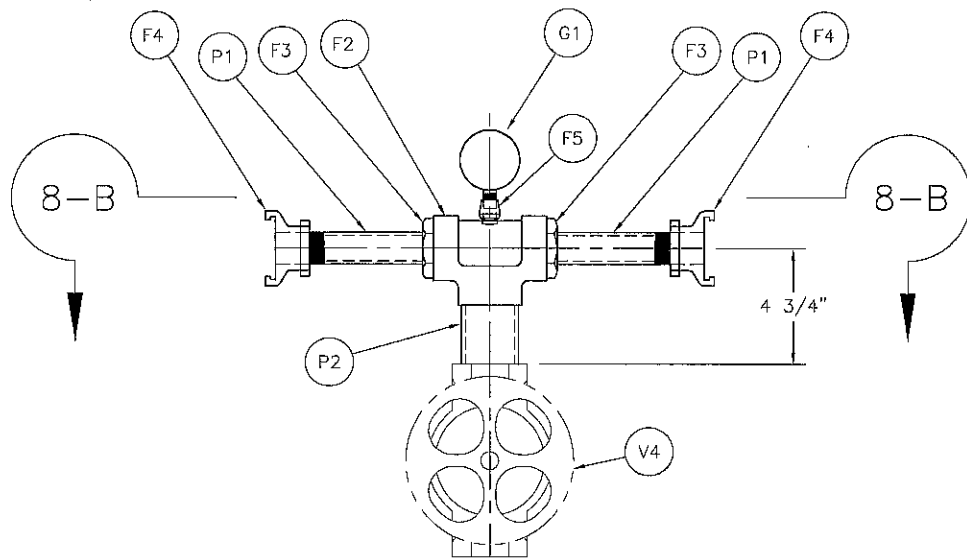
DRAWN wpecse	APPROVED	APPROVED BY LETTER DATED:	A.S.S.	U.S.G.G.
CHECKED	DATE 28 JAN 11	OWNER:		
DWG NO. 1109-100-2	SHEET 1	of 2	SCALE: NOTED	REV A

MATERIAL LIST

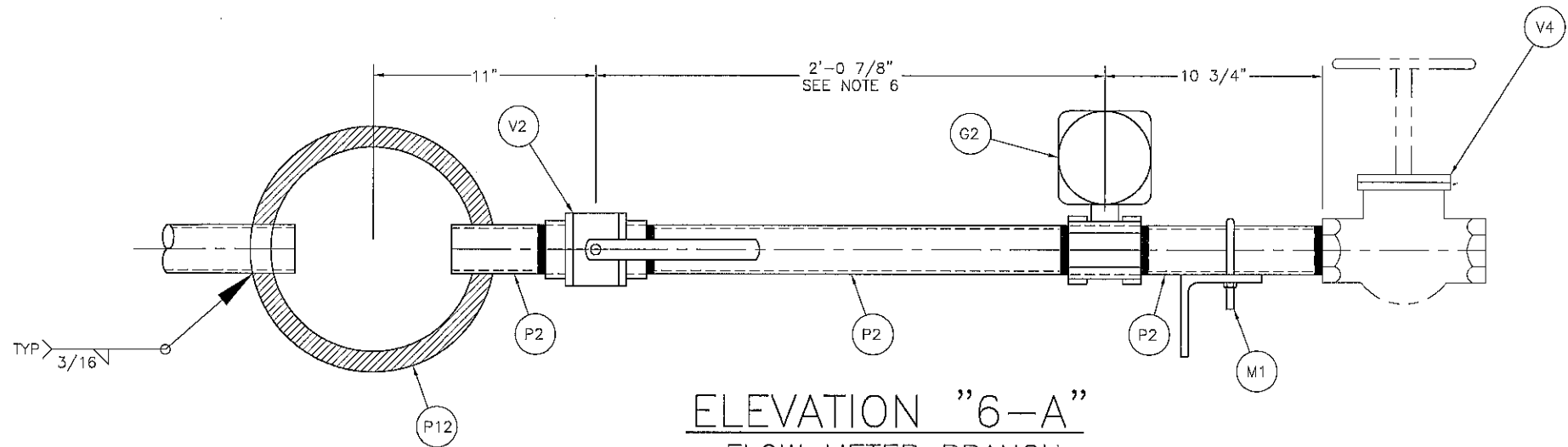
NO.	QTY.	SIZE	GRADE	ENDS	DESCRIPTION	MATERIAL	SPEC
P12	1				12" OD x 11" ID x 10' long Pipe	A106 GR B	
P1		1"			SCH 40 PIPE	A106 GR B	
P2		2"			SCH 40 PIPE	A106 GR B	
P3		3"			SCH 40 PIPE	A106 GR B	
F2	7	2"	SCH 40	FNPT	TEE	A197	
F3	14	2"X 1"	SCH 40	NPT	BUSHING	A197	
F4	14	1"		FNPT	UNIVERSAL (CHICAGO) COUPLINGS	SST	DIXON OR EQUAL
F5	7	1/2" X 2"	3000#	FNPT	THREADOLET	STEEL	BONNEY FORGE OR EQUAL
F6	4	3"		FBPT	HOSE TO PIPE CONNECTION		TO MATCH COMPRESSOR AIR HOSES
F7	28	1"		BARB	UNIVERSAL (CHICAGO) COUPLINGS	SST	DIXON OR EQUAL WITH HOSE CLAMPS
F8	1	1/2"	SCH 40	MNPT	PIPE PLUG	ASTM A105 OR A181	
F9	1	2"	SCH 40	FNPT	PIPE CAP	ASTM A105 OR A181	
F10	3	3"	SCH 40	FNPT	PIPE CAP	ASTM A105 OR A181	
V2	7	2"		FNPT	BALL VALVE	ASTM A351, BALL, PTFE SEAT & SEALS	TACHEN 2" TC-02X OR EQUAL
V4	7	2"	150#	FNPT	GLOBE VALVE	ANSI B16.5, ASTM A197 OR A395 w/ RENEWABLE BRZ TRIM	
G1	7				PRESSURE GUAGE		NOSCHOK 25.400-200PSI-1/2"NPT OR EQUAL
G2	7				FLOW METER		RCM FLO-GAGE 2-71-R-800-ADI OR EQUAL
H1	600'	1"	250 PSI		HOSE		PACIFIC RUBBER MARINE ENVIRONMENT INDUSTRIAL
M1	7	2"			"U" BOLT PIPE HANGERS	STEEL	ASTM 708-92, TABLE 4
A1	2				6"X 4"X 3/8" L X 7'- 4" LONG	A36	
A2	2				4"X 4"X 3/8" L X 12'- 0" LONG	A36	
PL1	2				1/2" PL; 24" X 25"	A36	



ELEV. "8-B"
FLANGE "CLOCKING"
1-1/2" = 1' - 0"



PLAN "8-A"
CHICAGO FITTING BRANCH
SEVEN REQUIRED
1-1/2" = 1' - 0"



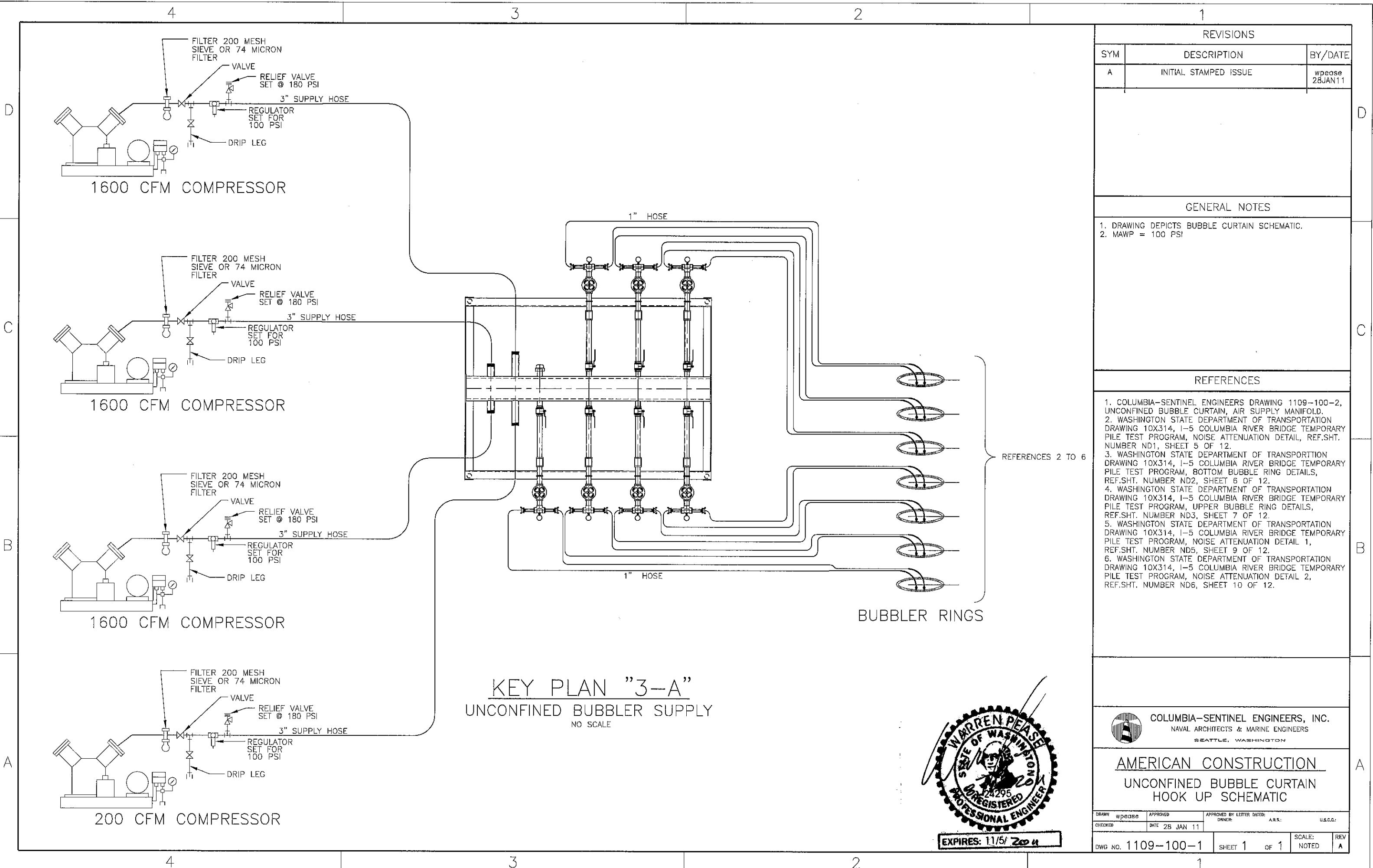
ELEVATION "6-A"
FLOW METER BRANCH
SEVEN REQUIRED
1-1/2" = 1' - 0"



COLUMBIA-SENTINEL ENGINEERS, INC.
NAVAL ARCHITECTS & MARINE ENGINEERS
SEATTLE, WASHINGTON

AMERICAN CONSTRUCTION
UNCONFINED BUBBLE CURTAIN
AIR SUPPLY MANIFOLD

DRAWN	wpease	APPROVED	APPROVED BY LETTER DATED:	A.B.S.:	U.S.C.S.:
CHECKED		DATE	28 JAN 11		
DWG NO. 1109-100-2		SHEET 2 OF 2		SCALE:	REV
				NOTED	A



KEY PLAN "3-A"
UNCONFINED BUBBLER SUPPLY
NO SCALE



REVISIONS		
SYM	DESCRIPTION	BY/DATE
A	INITIAL STAMPED ISSUE	wpease 28JAN11

GENERAL NOTES

- DRAWING DEPICTS BUBBLE CURTAIN SCHEMATIC.
- MAWP = 100 PSI

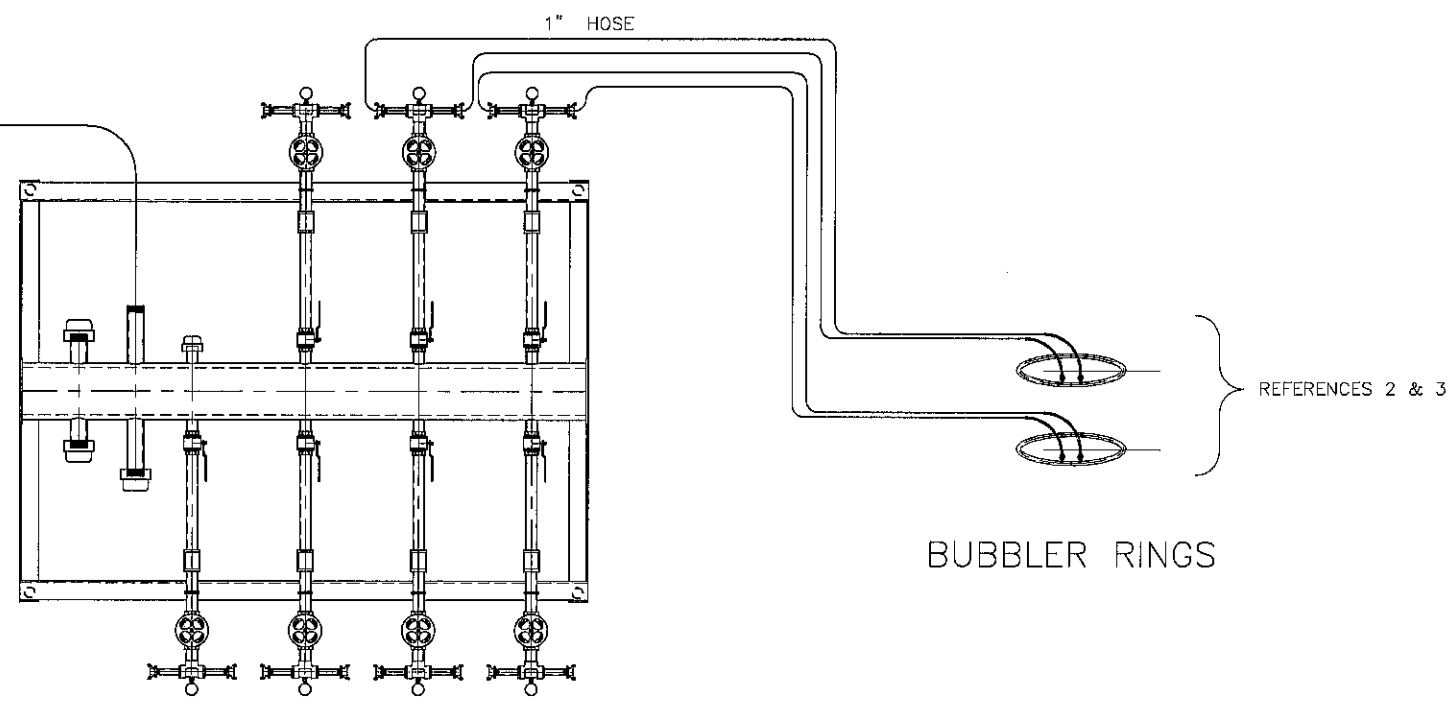
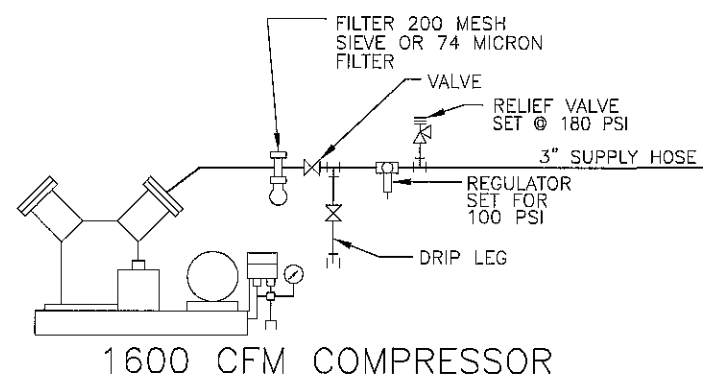
- REFERENCES
- COLUMBIA-SENTINEL ENGINEERS DRAWING 1109-100-2, UNCONFINED BUBBLE CURTAIN, AIR SUPPLY MANIFOLD.
 - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL, REF.SHT. NUMBER ND1, SHEET 5 OF 12.
 - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, BOTTOM BUBBLE RING DETAILS, REF.SHT. NUMBER ND2, SHEET 6 OF 12.
 - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, UPPER BUBBLE RING DETAILS, REF.SHT. NUMBER ND3, SHEET 7 OF 12.
 - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL 1, REF.SHT. NUMBER ND5, SHEET 9 OF 12.
 - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL 2, REF.SHT. NUMBER ND6, SHEET 10 OF 12.

COLUMBIA-SENTINEL ENGINEERS, INC.
NAVAL ARCHITECTS & MARINE ENGINEERS
SEATTLE, WASHINGTON

AMERICAN CONSTRUCTION
UNCONFINED BUBBLE CURTAIN
HOOK UP SCHEMATIC

DRAWN wpease	APPROVED DATE 28 JAN 11	APPROVED BY LETTER DATED: OWNER: A.B.S.	U.S.C.G.
DWG NO. 1109-100-1	SHEET 1 OF 1	SCALE: NOTED	REV A

EXPIRES: 11/5/2014



KEY PLAN "3-A"
 CONFINED BUBBLER SUPPLY
 NO SCALE



REVISIONS		
SYM	DESCRIPTION	BY/DATE
A	INITIAL STAMPED ISSUE	wpease 28JAN11

GENERAL NOTES

- DRAWING DEPICTS BUBBLE CURTAIN SCHEMATIC.
- MAWP = 100 PSI

REFERENCES

- COLUMBIA-SENTINEL ENGINEERS DRAWING 1109-100-2, UNCONFINED BUBBLE CURTAIN, AIR SUPPLY MANIFOLD.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, NOISE ATTENUATION DETAIL, REF.SHT. NUMBER ND7, SHEET 11 OF 12.
- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION DRAWING 10X314, 1-5 COLUMBIA RIVER BRIDGE TEMPORARY PILE TEST PROGRAM, CONFINED BUBBLE RING DETAILS, REF.SHT. NUMBER ND8, SHEET 12 OF 12.

COLUMBIA-SENTINEL ENGINEERS, INC.
 NAVAL ARCHITECTS & MARINE ENGINEERS
 SEATTLE, WASHINGTON

AMERICAN CONSTRUCTION
 CONFINED BUBBLE CURTAIN
 HOOK UP SCHEMATIC

DRAWN wpease	APPROVED	APPROVED BY LETTER DATED:	A.B.S.	U.S.C.G.
CHECKED	DATE 28 JAN 11	OWNER:		
OWG NO. 1109-100-3	SHEET 1 of 1	SCALE: NOTED	REV A	