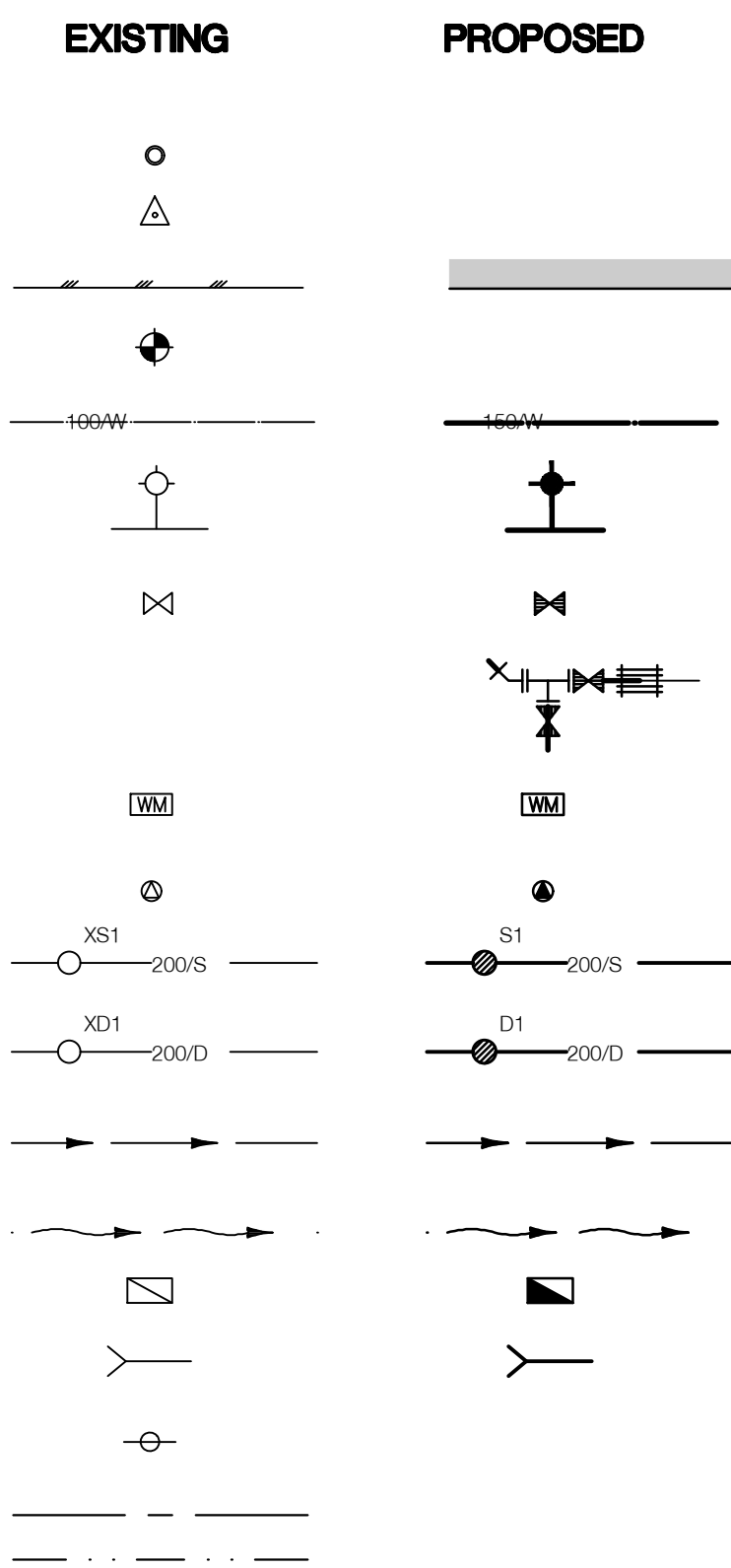


CONUMA RIVER HATCHERY REARING TUB EXPANSION

KEY MAP

LEGEND

- IRON PIN
- SURVEY CONTROL HUB
- ROAD EDGE
- WATER WELL
- WATERMAIN SIZE & TYPE
- HYDRANT ASSEMBLY
- WATERMAIN GATE VALVE
- WATERMAIN FITTINGS
(BEND, TEE, VALVE, REPAIR COUPLING)
- WATER METER
- AIR RELEASE VALVE
- SANITARY MANHOLE, SEWER SIZE & TYPE
- STORM MANHOLE, SEWER SIZE & TYPE
- DITCH
- SWALE
- CATCH BASIN
- CULVERT/STORM OUTFALL
- POWER POLE
- OVERHEAD POWER LINE
- BURIED 230 V TRANSMISSION LINE

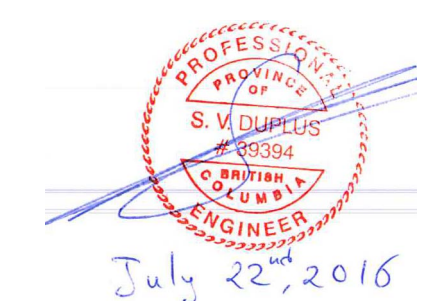


DRAWING LIST

DWG No.	DRAWING TITLE
COVER	DRAWING LIST, LOCATION MAP AND LEGEND
32-18-310	SITE PLAN
32-18-311	PROPOSED 16'0" REARING TUBS EXPANSION
32-18-312	PROPOSED 16'0" REARING TUBS DETAILS - SHEET 1
32-18-313	PROPOSED 16'0" REARING TUBS DETAILS - SHEET 2
32-18-314	GRADING PLAN
32-18-315	SITE PLAN AND CROSS SECTIONS
32-18-316	PROPOSED CIRCULAR TUBS OF 3000 AERATOR WATER SUPPLY - PLAN AND PROFILE
32-18-317	MISCELLANEOUS DETAILS
32-18-318	AIRLIFT DETAILS
32-18-319	ELECTRICAL CONDUIT

DNA

David Nairne + Associates Ltd



ISSUED FOR TENDER

GENERAL NOTES

1. ALL ELEVATIONS AND DIMENSIONS SHOWN ARE IN METRIC.
2. CONTRACTOR TO LOCATE AND EXPOSE ALL EXISTING UTILITIES AFFECTED BY PROPOSED WORKS AND INFORM DFO REPRESENTATIVE OF ANY CONFLICTS
3. CONTRACTOR TO CONFIRM ELEVATION AND LOCATION OF ALL EXISTING UTILITIES AFFECTED BY THE PROPOSED WORKS.
4. ALL GROUND DISTURBED BY PROPOSED WORK TO BE REINSTALLED TO ORIGINAL CONDITIONS OR BETTER.
5. PIPE CROSSINGS SUGGESTED IN THE DESIGN COULD BE ADJUSTED DURING CONSTRUCTION.
6. IF ENVIRONMENTAL CONDITIONS DO NOT MEET MANUFACTURER'S SPECIFICATIONS FOR APPLICATION OF CAULKING HOARDING AND ASSOCIATED TEMPERATURE AND MOISTURE CONTROL MUST BE PROVIDED AT THE CONTRACTOR'S EXPENSE

TANKS NOTES

1. #16' FIBERGLASS TANK AND LIDS SUPPLIED BY DFO CONTRACTOR RESPONSIBLE TO INSTALL.
2. CAULK ALL THROUGH TANK FITTINGS. SEALANT TO BE APPROVED BY DFO REPRESENTATIVE.

WATERWORKS NOTES

1. WATER SUPPLY MAINS TO BE SCHEDULE 40 PVC c/w SOLVENT WELD JOINTS, UNLESS NOTED OTHERWISE. ABOVE GROUND PIPELINES SHALL BE PAINTED WITH A GREEN WATER BASED LATEX PAINT, 2 COATS.
2. CONCRETE THRUST BLOCKS SHALL BE 30 MPa. ALL BENDS AND FITTINGS SHALL BE RESTRAINED BY THRUST BLOCKS. REFER TO DETAIL, DWG 5435-C5(TYP.)
3. MINIMUM GRADE ON WATERMAIN SHALL BE 0.5%
4. MINIMUM COVER ON WATERMANS SHALL BE 1.0m OR APPROVED BY DFO REPRESENTATIVE

DRAIN PIPE NOTES

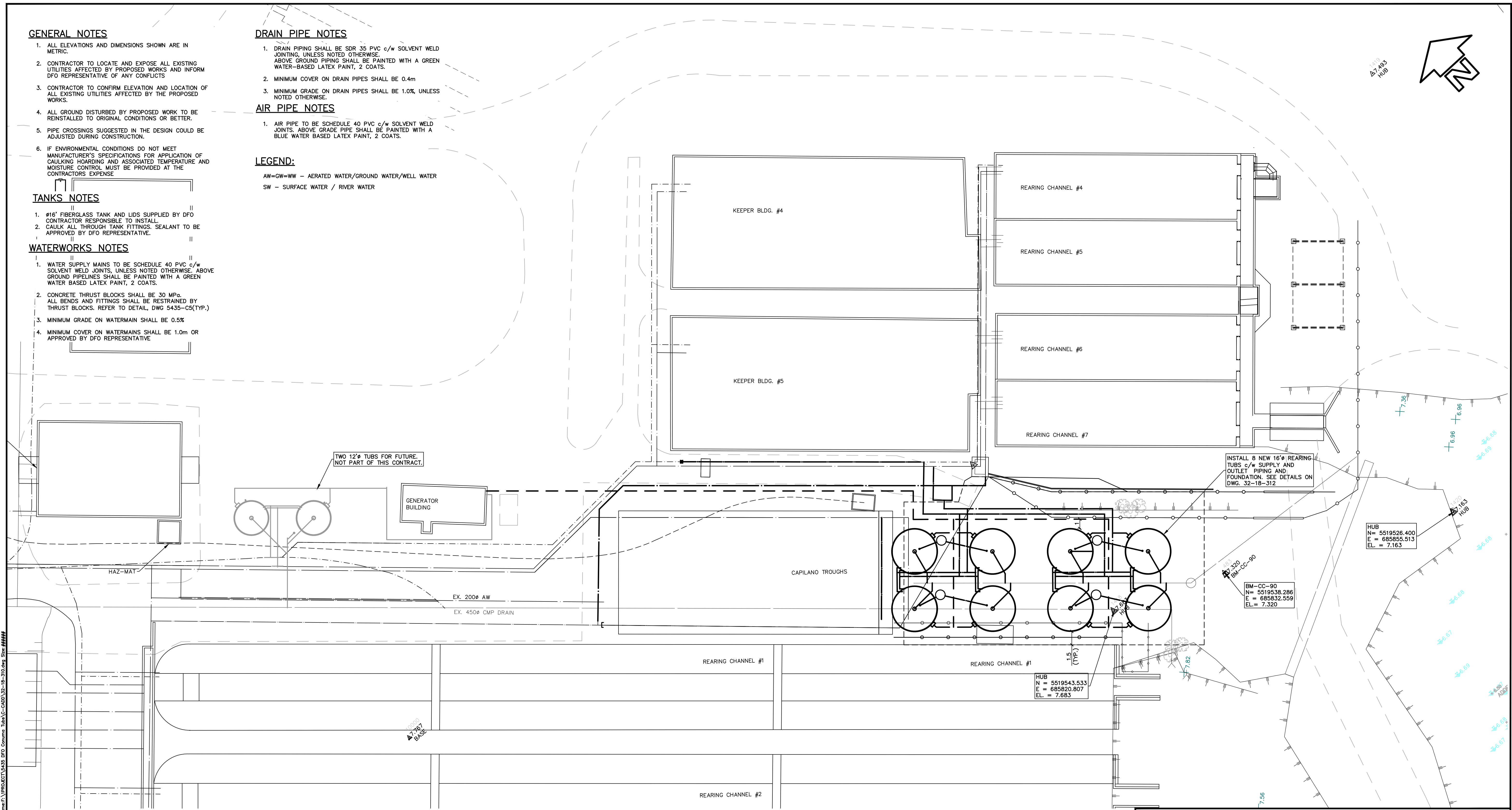
1. DRAIN PIPING SHALL BE SDR 35 PVC c/w SOLVENT WELD JOINTING, UNLESS NOTED OTHERWISE. ABOVE GROUND PIPING SHALL BE PAINTED WITH A GREEN WATER-BASED LATEX PAINT, 2 COATS.
2. MINIMUM COVER ON DRAIN PIPES SHALL BE 0.4m
3. MINIMUM GRADE ON DRAIN PIPES SHALL BE 1.0%, UNLESS NOTED OTHERWISE.

AIR PIPE NOTES

1. AIR PIPE TO BE SCHEDULE 40 PVC c/w SOLVENT WELD JOINTS. ABOVE GRADE PIPE SHALL BE PAINTED WITH A BLUE WATER BASED LATEX PAINT, 2 COATS.

LEGEND:

- AW=GW=WW - AERATED WATER/GROUND WATER/WELL WATER
- SW - SURFACE WATER / RIVER WATER



Plotted by: Johnson, M. Date: 2016-07-22 10:14:15 Path: \\server\projects\2016\2016-07-22\2016-07-22\2016-07-22.dwg Size: 114488



NOTES

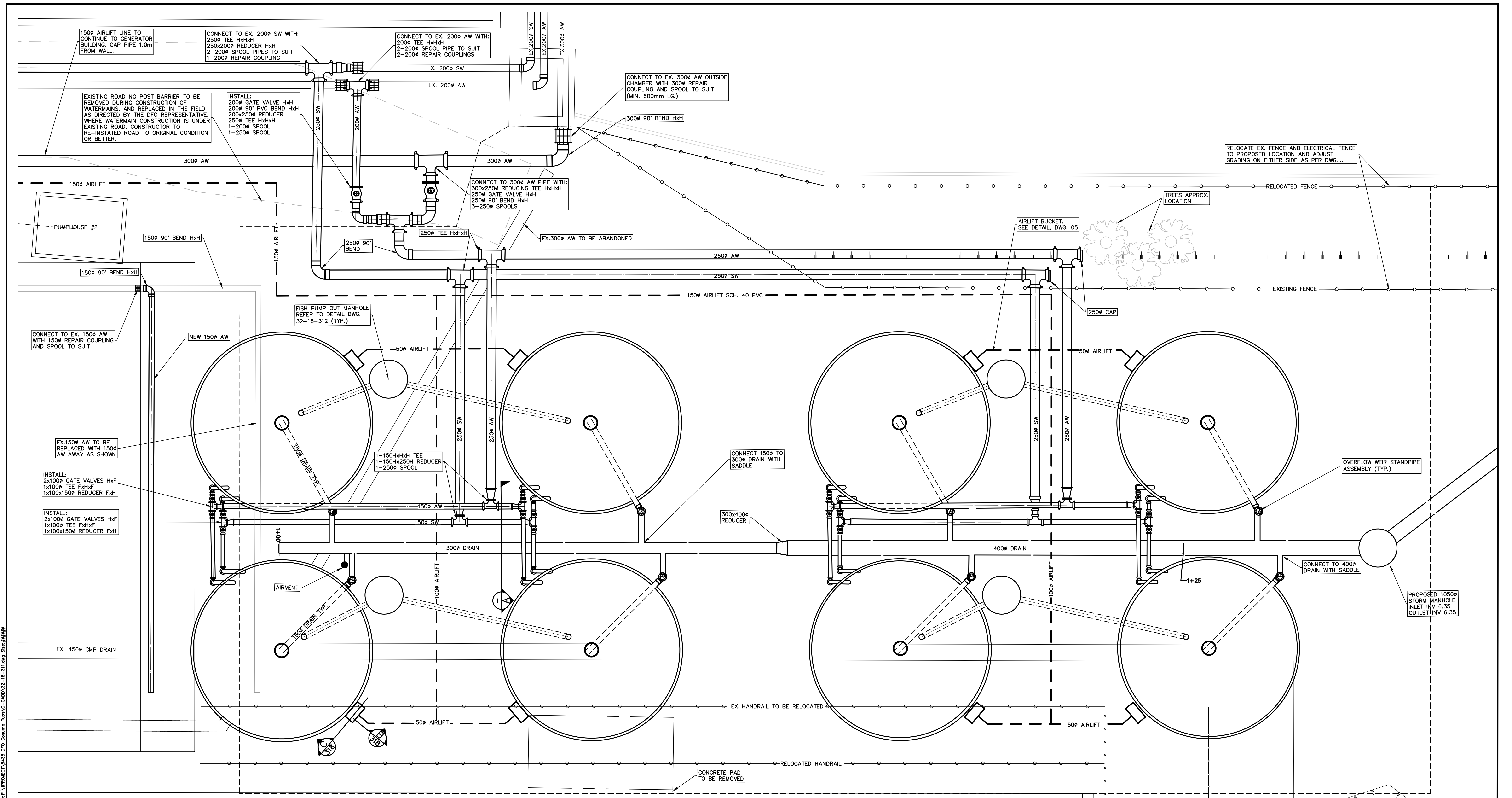
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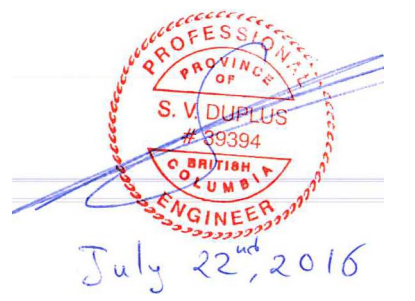
FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

CONUMA RIVER HATCHERY
PROPOSED CIRCULAR TUBS
SITE PLAN & SURVEY CONTROL

SCALE	1:200
DATE	22-Jul-16
DRAWING NUMBER	32-18-310
REVISION	1



Plotted by: Johnson, M. Date: 2016-07-22 10:15:15 AM Path: \\server\projects\2016\2016-07-22\2016-07-22.dwg Size: 11000x11000



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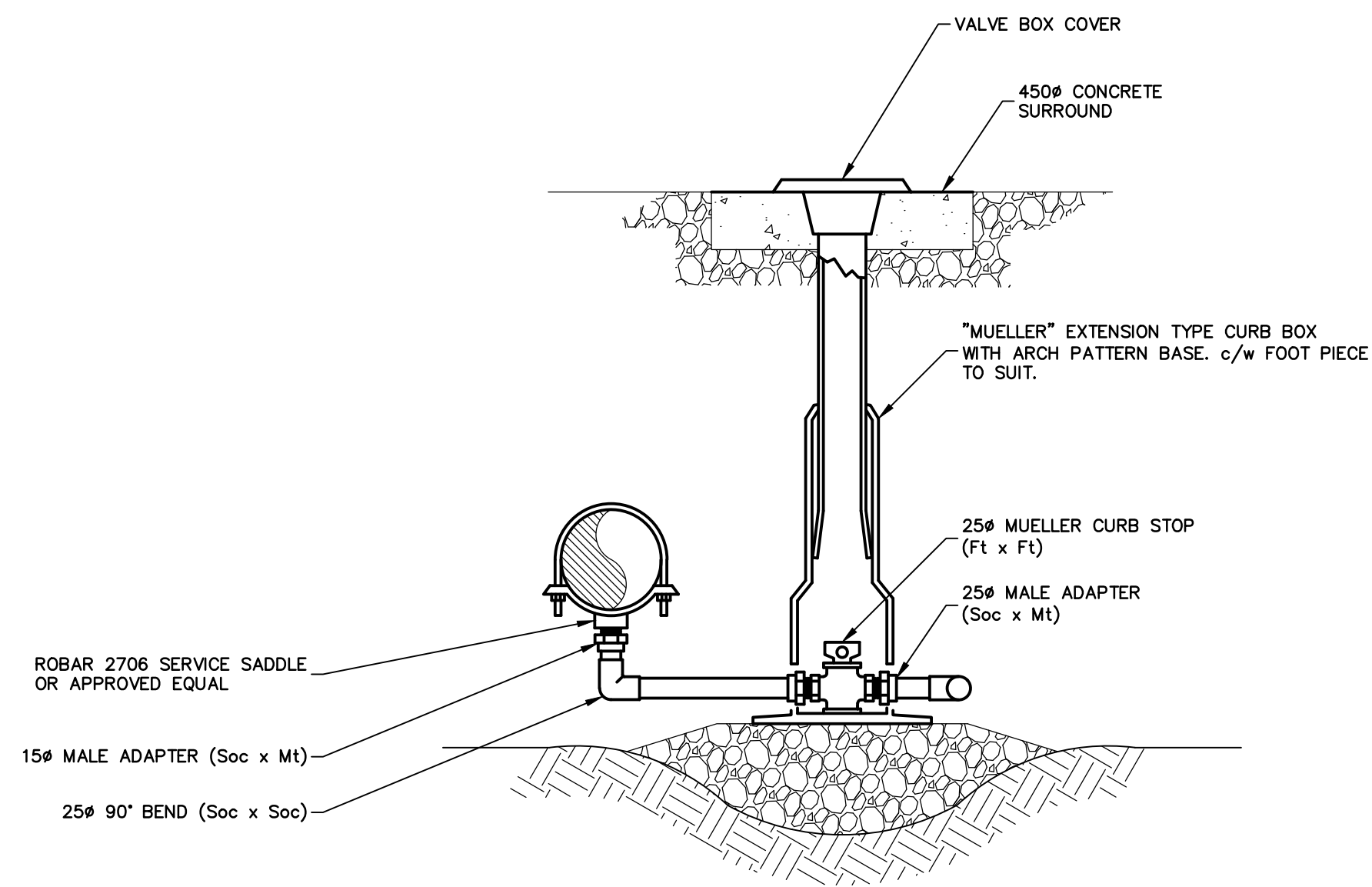
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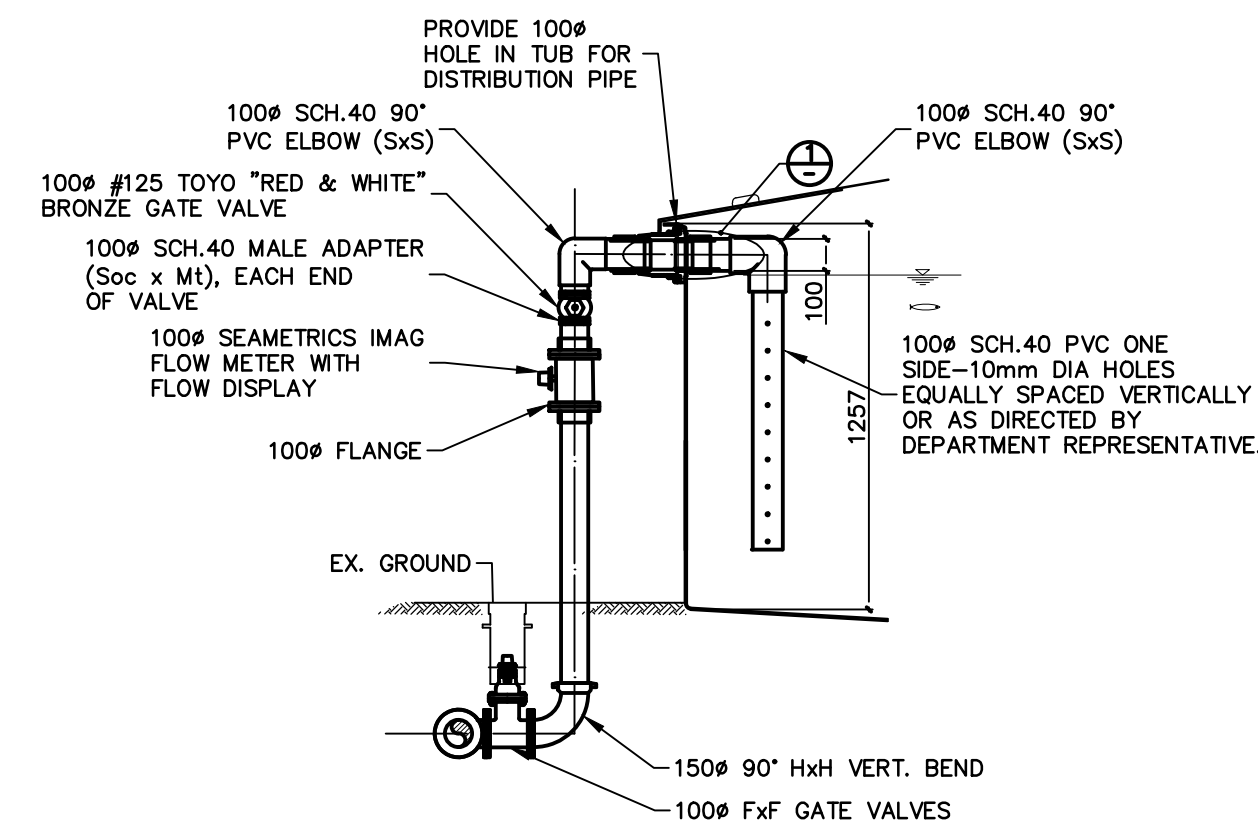
FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

**CONUMA RIVER HATCHERY
PROPOSED 16' CIRCULAR TUBS
REARING TUBS EXPANSION**

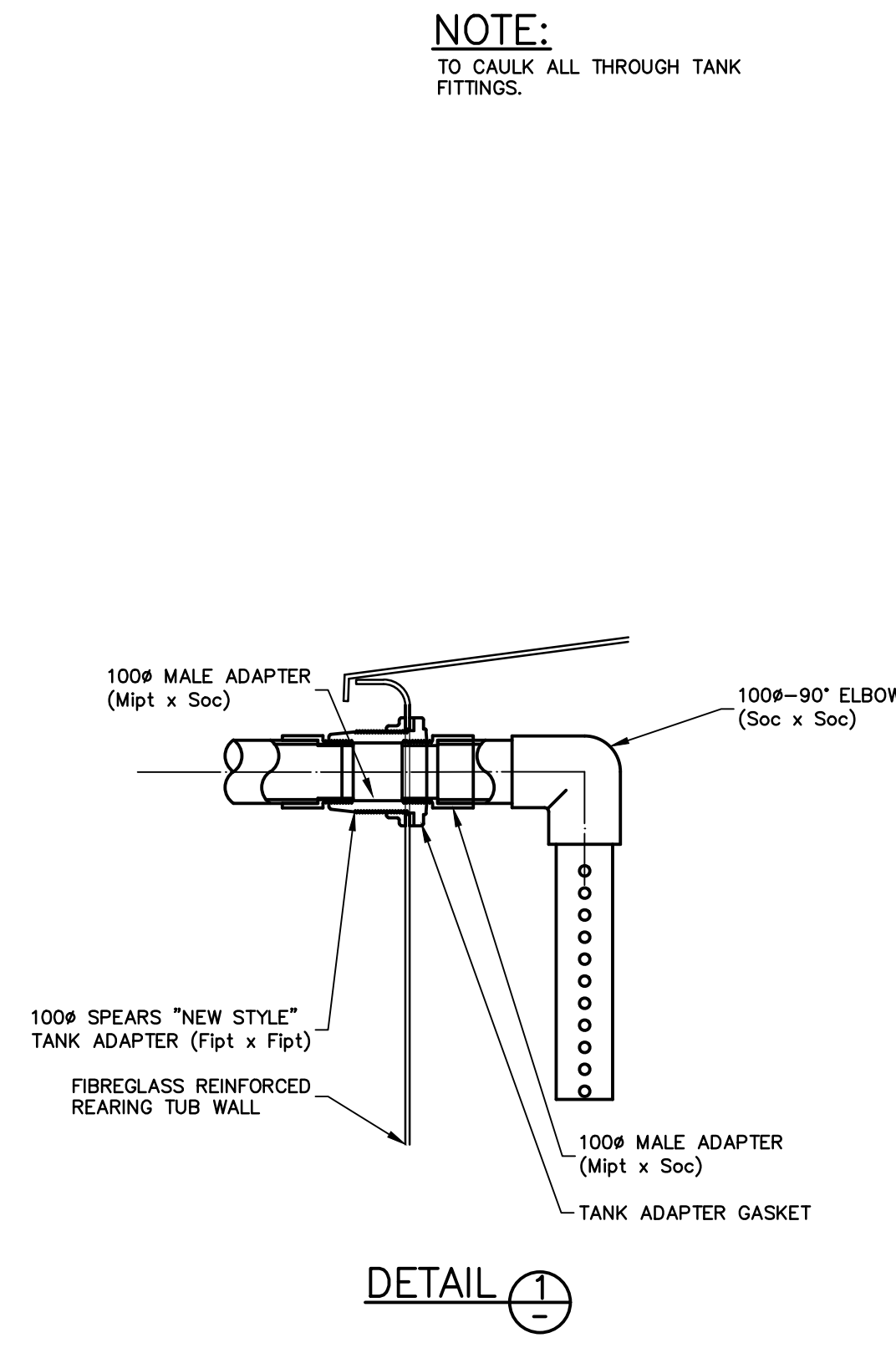
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DRAWING NUMBER	32-18-311
REVISION	1



TYPICAL SUPPLY WATER STANDPIPE DRAIN
SCALE 1:10



TYPICAL WATER SUPPLY CONNECTION DETAIL
SCALE: 1:25



DETAIL 1

NOTE:
TO CAULK ALL THROUGH TANK FITTINGS.

Plotted by: Johnson Whitehead Plot: 2016-07-22 14:16 Path: \\server\c1\projects\3218\3218-18-31.dwg Size: 1144x1144



NOTES

NO.	DATE	REVISIONS
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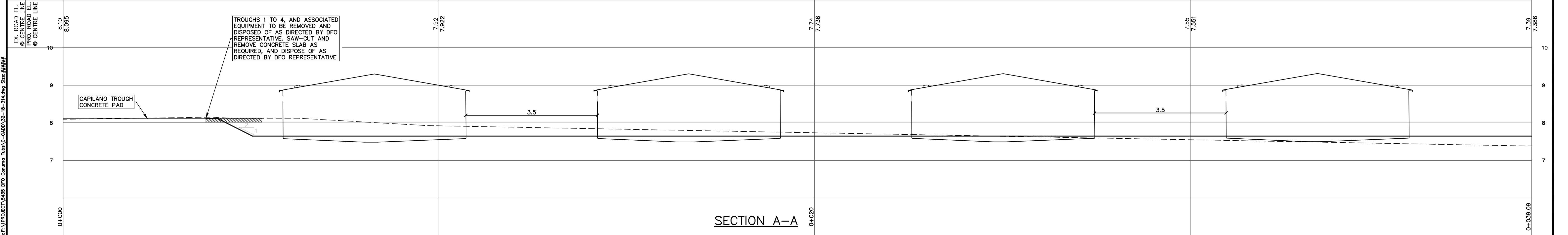
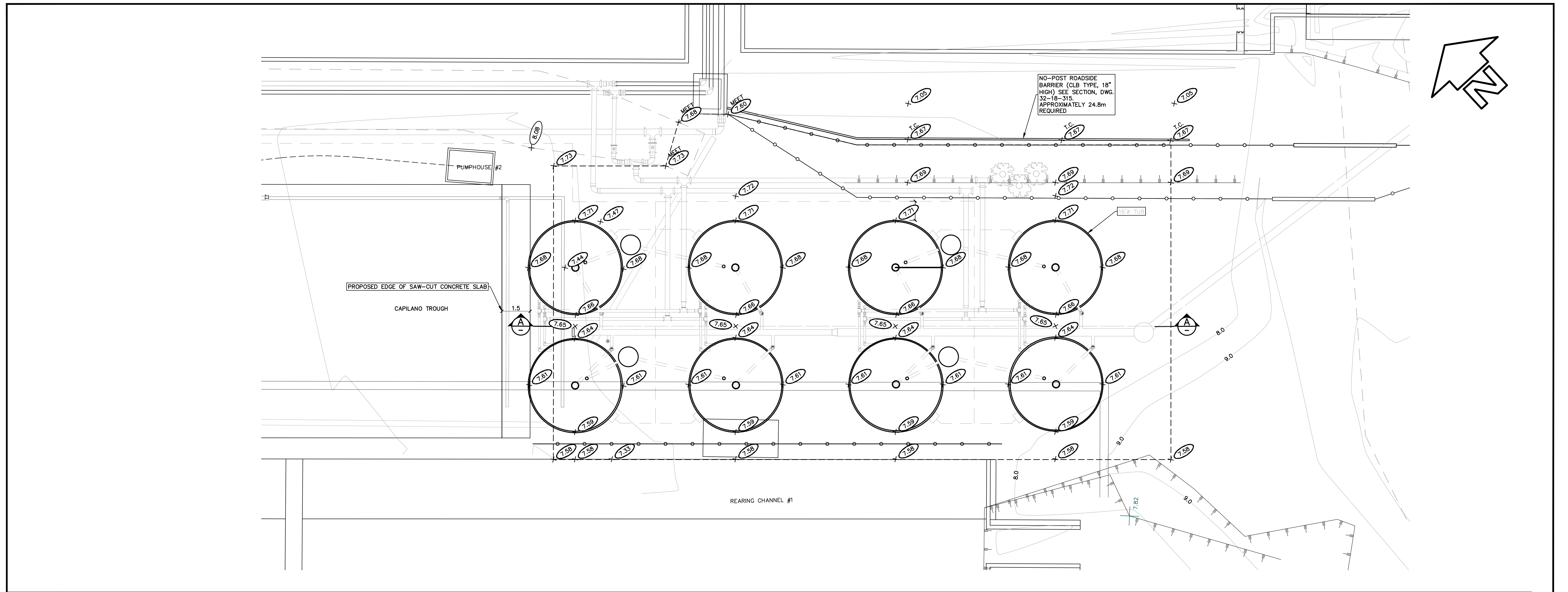
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APPROVED
APPROVED

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

**CONUMA RIVER HATCHERY
PROPOSED CIRCULAR TUBS
REARING TUB EXPANSION**

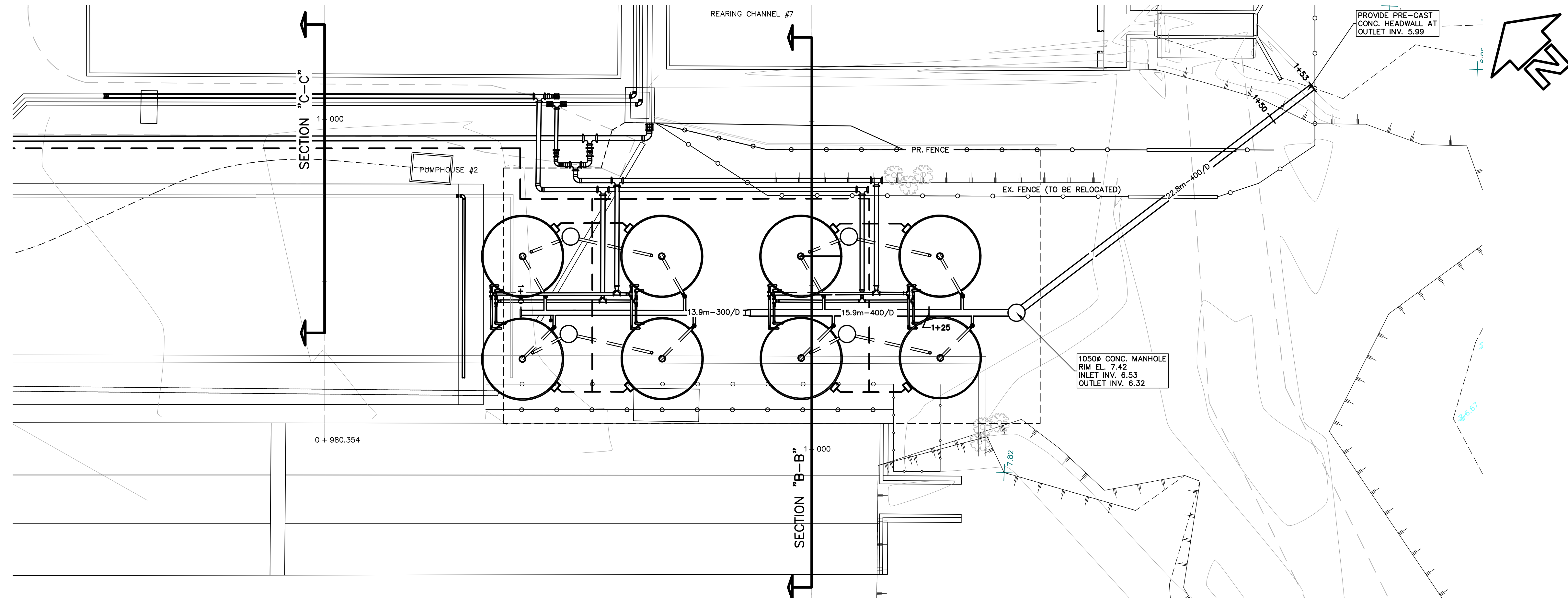
**16' REARING TUBS DETAILS
SHEET 2**

SCALE	1:75
DATE	22-Jul-16
DRAWING NUMBER	32-18-313
REVISION	1



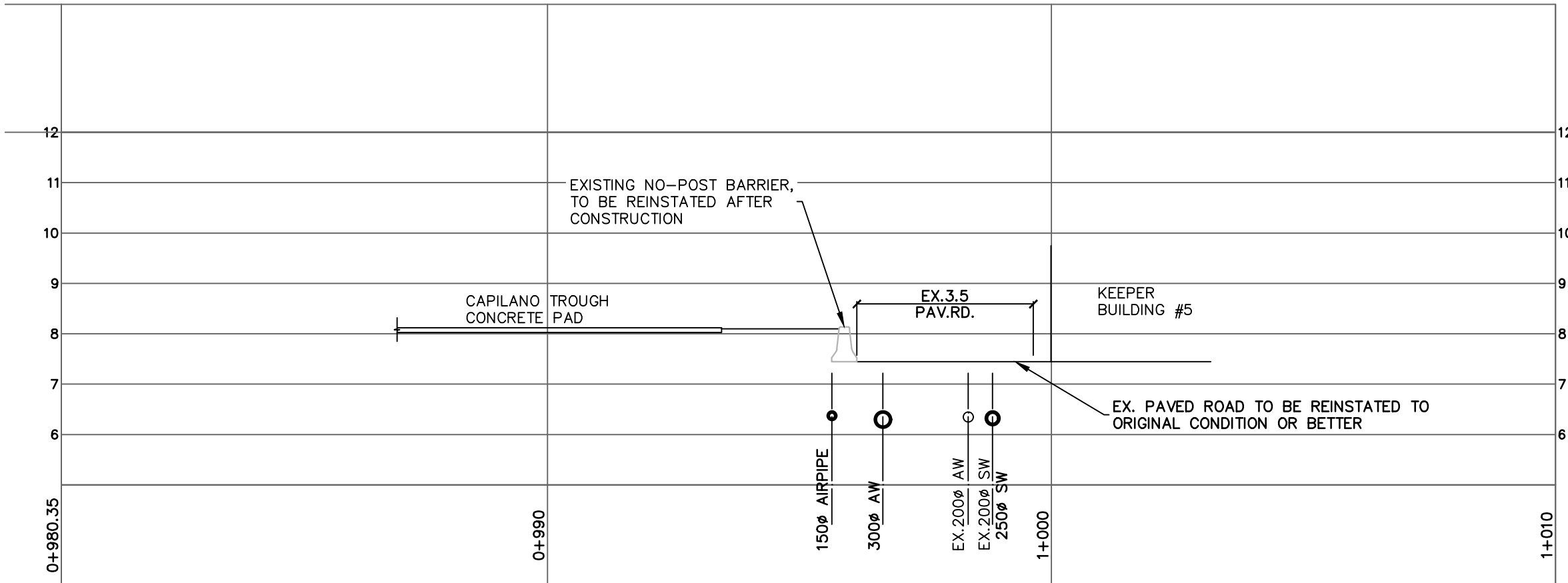
<p>DNA project managers planners engineers architects David Nelme - Associates Ltd</p>		<p>NOTES</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>REVISIONS</th> </tr> <tr> <td>1</td> <td>2016-JULY-22</td> <td>ISSUED FOR TENDER</td> </tr> </table>	NO.	DATE	REVISIONS	1	2016-JULY-22	ISSUED FOR TENDER	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>DESIGNED</td><td>SD</td></tr> <tr><td>DRAWN</td><td>LP</td></tr> <tr><td>CHECKED</td><td>SD</td></tr> <tr><td>RECOMMENDED</td><td>SD</td></tr> <tr><td>APPROVED</td><td></td></tr> <tr><td>APPROVED</td><td></td></tr> </table>	DESIGNED	SD	DRAWN	LP	CHECKED	SD	RECOMMENDED	SD	APPROVED		APPROVED		<p>FISHERIES AND OCEANS CANADA REAL PROPERTY AND TECHNICAL SUPPORT</p> <p>CONUMA RIVER HATCHERY PROPOSED CIRCULAR TUBS GRADING PLAN</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>SCALE</td><td>1:100</td></tr> <tr><td>DATE</td><td>22-Jul-16</td></tr> <tr><td>DRAWING NUMBER</td><td>32-18-314</td></tr> <tr><td>REVISION</td><td>1</td></tr> </table>	SCALE	1:100	DATE	22-Jul-16	DRAWING NUMBER	32-18-314	REVISION	1
				NO.	DATE	REVISIONS																										
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Plotted by: John Whitehead Plot date: 22-Jul-16 Path: \\server\projects\32-18-314\eng\32-18-314.dwg Size: 4444



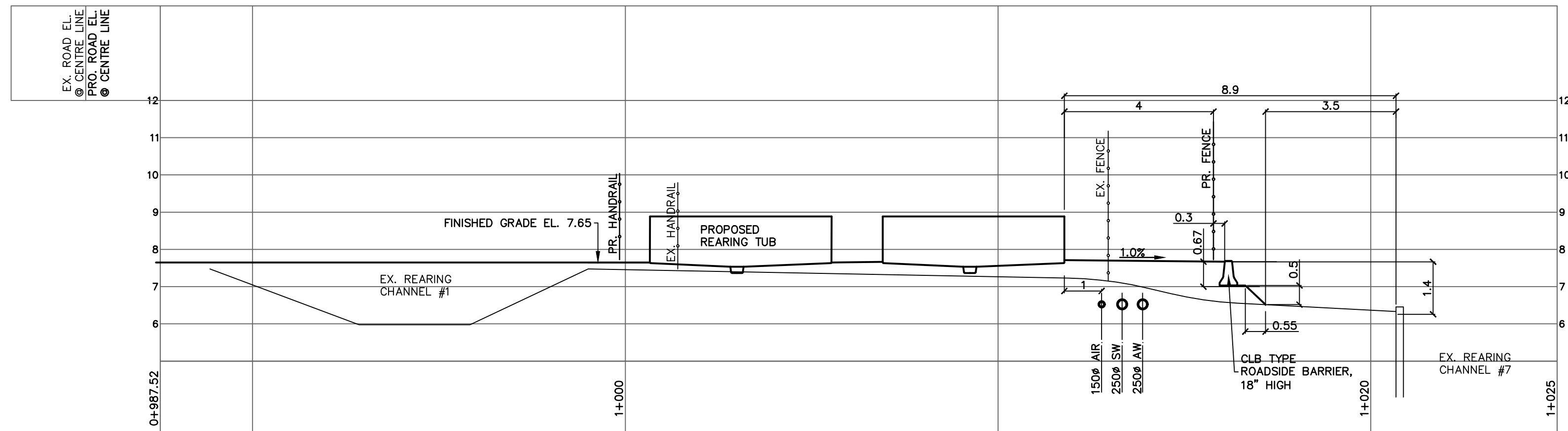
SITE PLAN SHOWING SECTION LOCATIONS
SCALE - 1:150

Profile View of AT BLDG



SECTION "C-C"
SCALE - 1:100

Profile View of AT TUBS



SECTION "B-B"
SCALE - 1:100

- NOTE:
- CROSS SECTION GRIDLINE ELEVATION INCREMENTS ARE 1.0m.
 - ELEVATIONS ON GRIDLINES ARE NOT FROM GEODETIC SURVEY, AND ARE INTENDED FOR GENERAL INFORMATION ONLY.

FISHERIES AND OCEANS CANADA REAL PROPERTY AND TECHNICAL SUPPORT	
CONUMA RIVER HATCHERY PROPOSED CIRCULAR TUBS SITE PLAN AND CROSS SECTIONS	SCALE AS SHOWN DATE 22-JUL-16 DRAWING NUMBER 32-18-315 REVISION 1

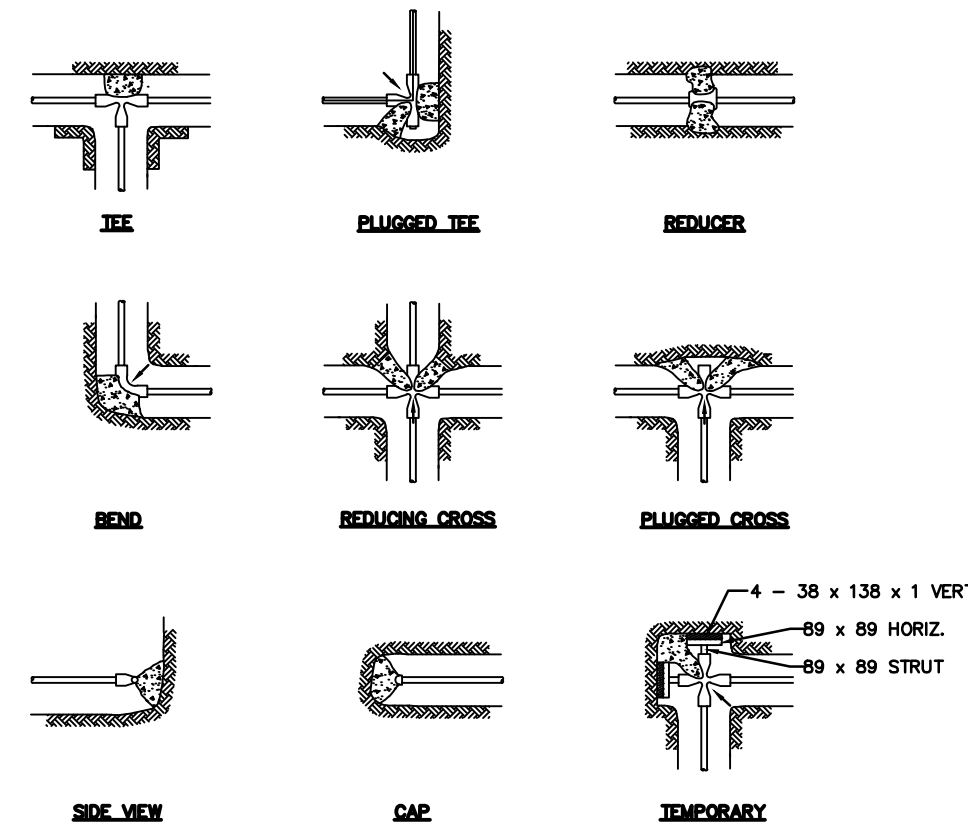
Plotted by: Jordan Whitehead - Plot date: 22-Jul-16 Path: \\naime\fr\F:\PROJECTS\452 DFD Conuma Tub\CONOMA\32-18-315.dwg Size: #444



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NO.	DATE	REVISIONS
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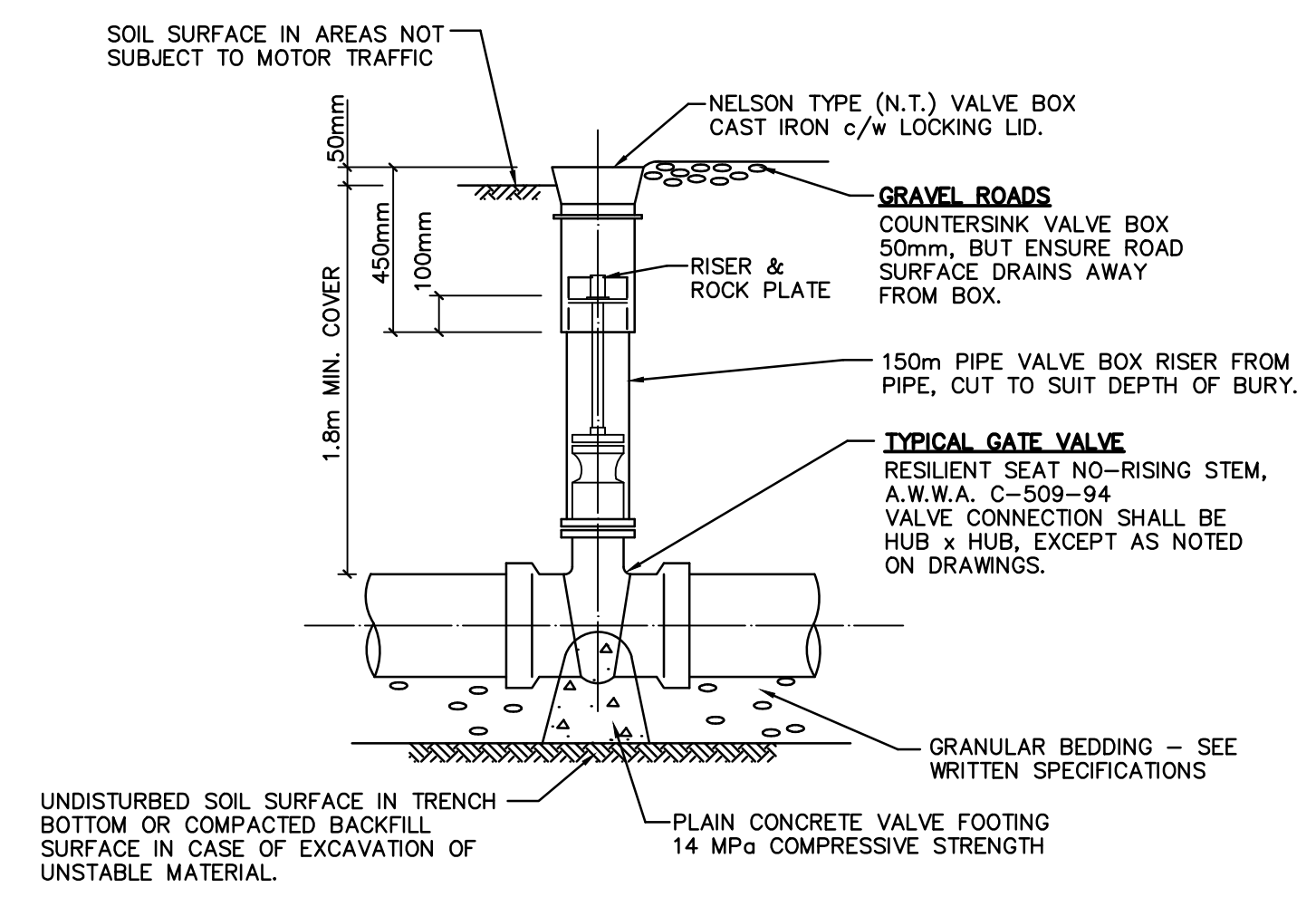


THRUST (kN) 800 kPa WATER PRESSURE					SAFE BEARING LOAD OF SOIL	
TABLE No.1					TABLE No.2	
SIZE OF PIPE	TEE	90°	BENDS 45°	22 1/2°	SOIL TYPE	LOAD (kg/m ²)
100	840	1104	644	327	MUCK PEAT ETC.	0
150	1724	2436	1320	667	SOFT CLAY	2450
200	2985	4218	2286	1157	SAND	4900
250	4876	6895	3758	1892	SAND & GRAVEL	7350
300	6945	9816	5316	2694	SAND & GRAVEL WITH CLAY	9800
					SHALE	24,500

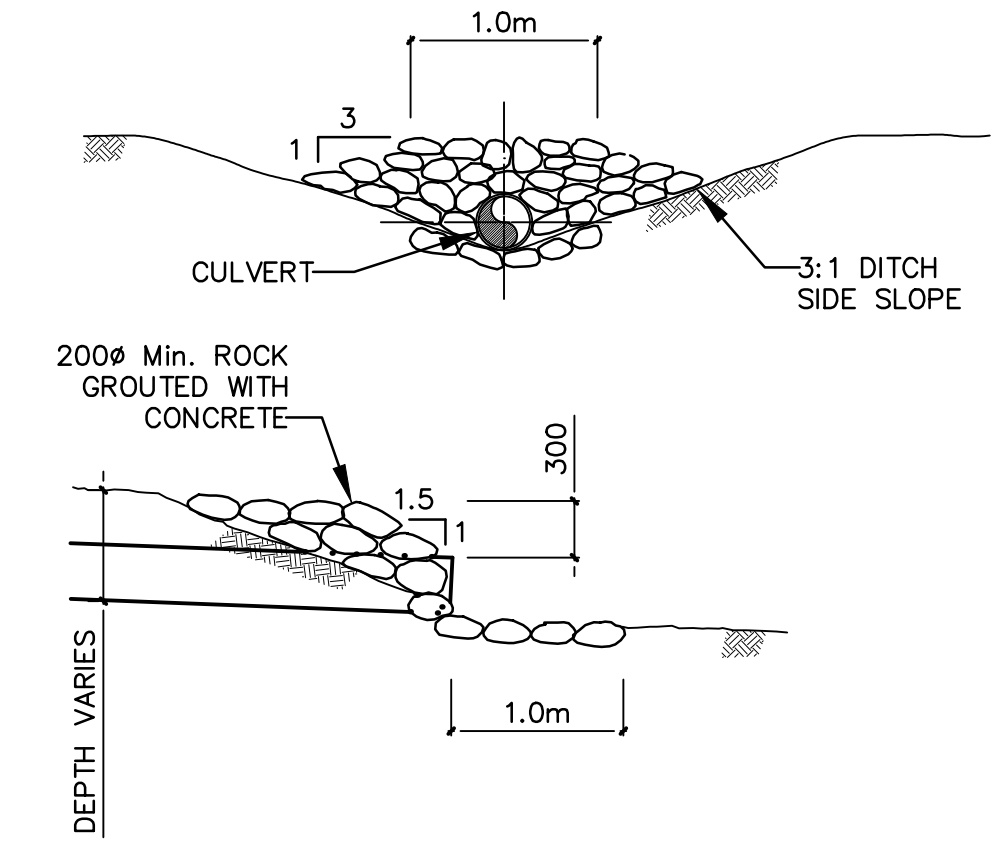
IF TEST PRESSURE IS 1034 kPa THEN ALL FIG. IN TABLE No.1 ARE MULTIPLIED BY 1.5.

NOTE:
 - ALL THRUST BLOCKS TO EXTEND TO SOLID BEARING
 - ALL LOCATIONS AND SIZES OF THRUST BLOCKS TO BE TO THE APPROVAL OF THE ENGINEER.
 - CONCRETE TO BE IN ACCORDANCE WITH C.S.A. A-23 AS CURRENTLY IN FORCE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 14 MPa AT 28 DAYS.

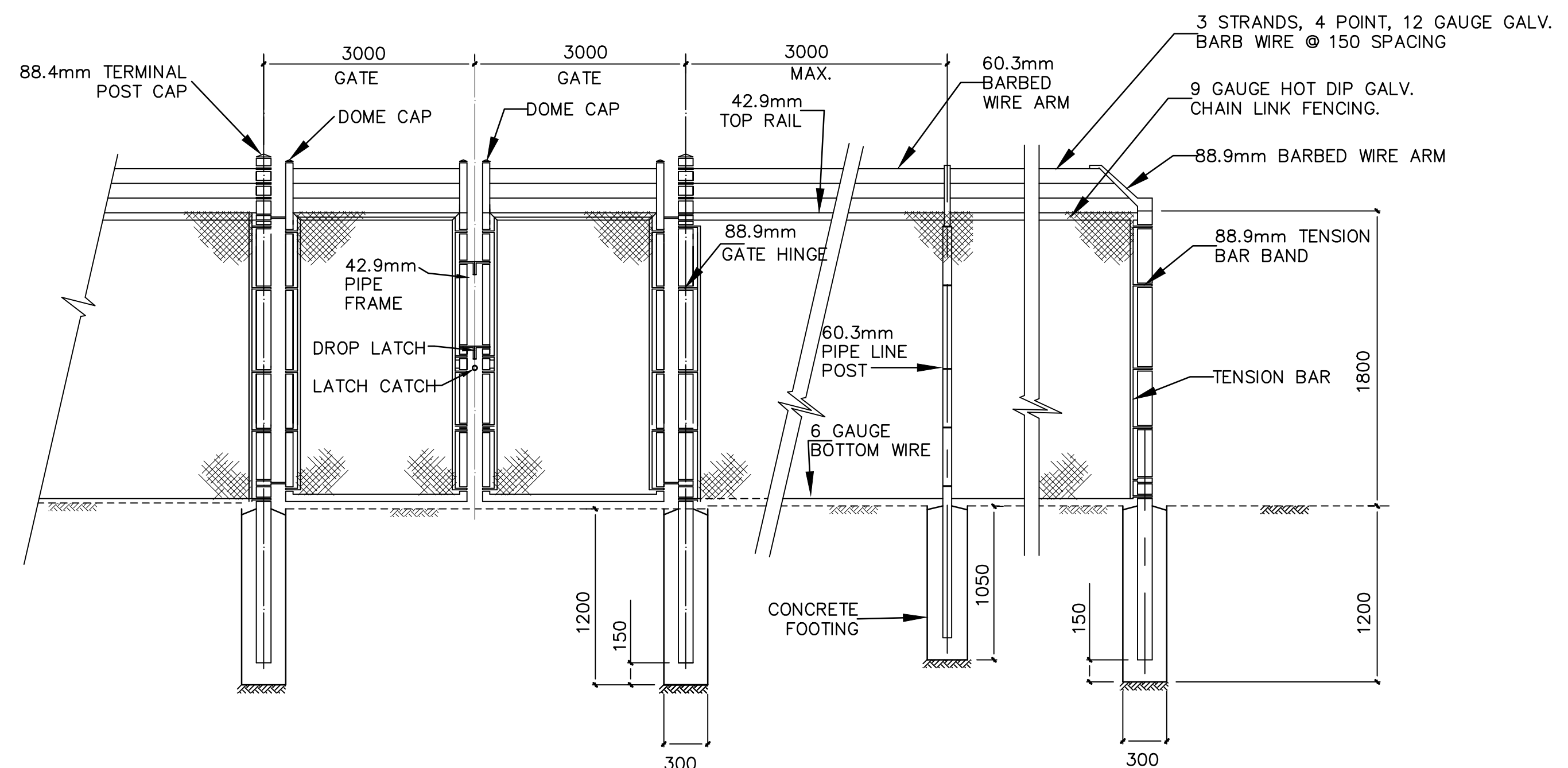
THRUST BLOCK



GATE VALVE DETAIL
N.T.S.



RIPRAP HEADWALL DETAIL
N.T.S.



CHAIN LINK FENCE & DOUBLE SWING GATE DETAIL
N.T.S.

Plotted by: Johnson Whitehead Plot date: 22-Jul-16 Path: \\server\projects\2016\CAD\32-18-317.dwg User: JWH

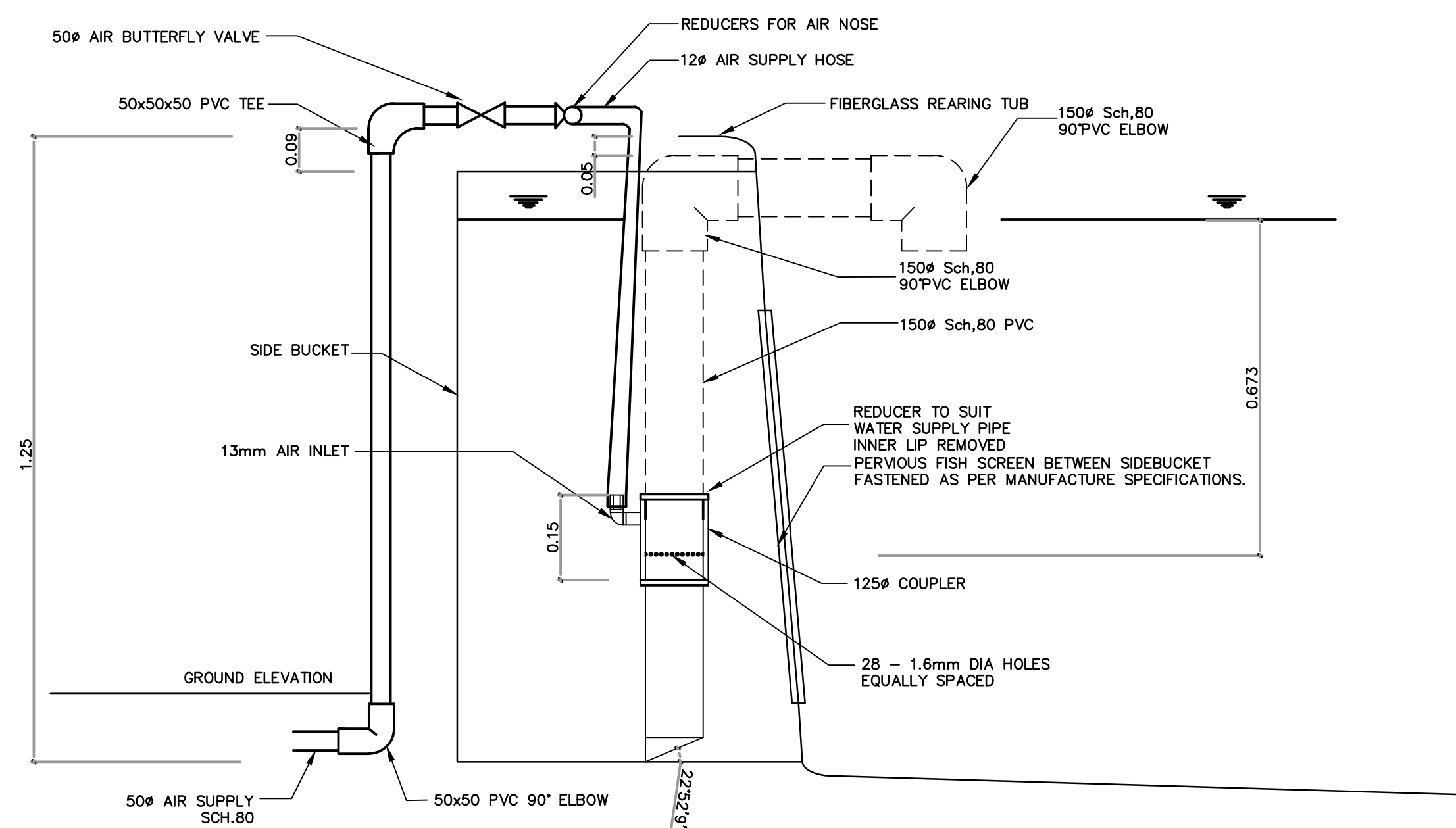


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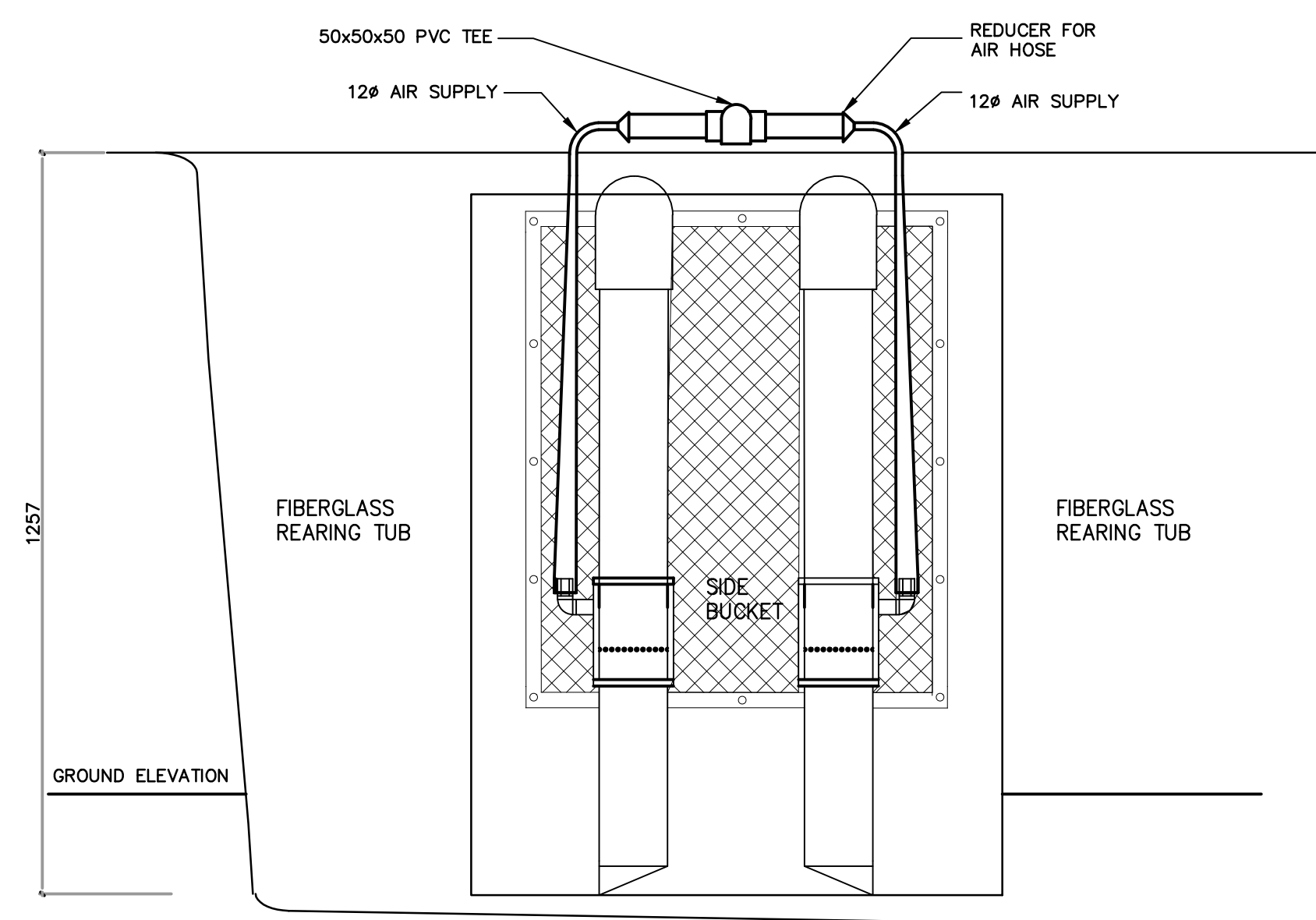
NO.	DATE	REVISIONS
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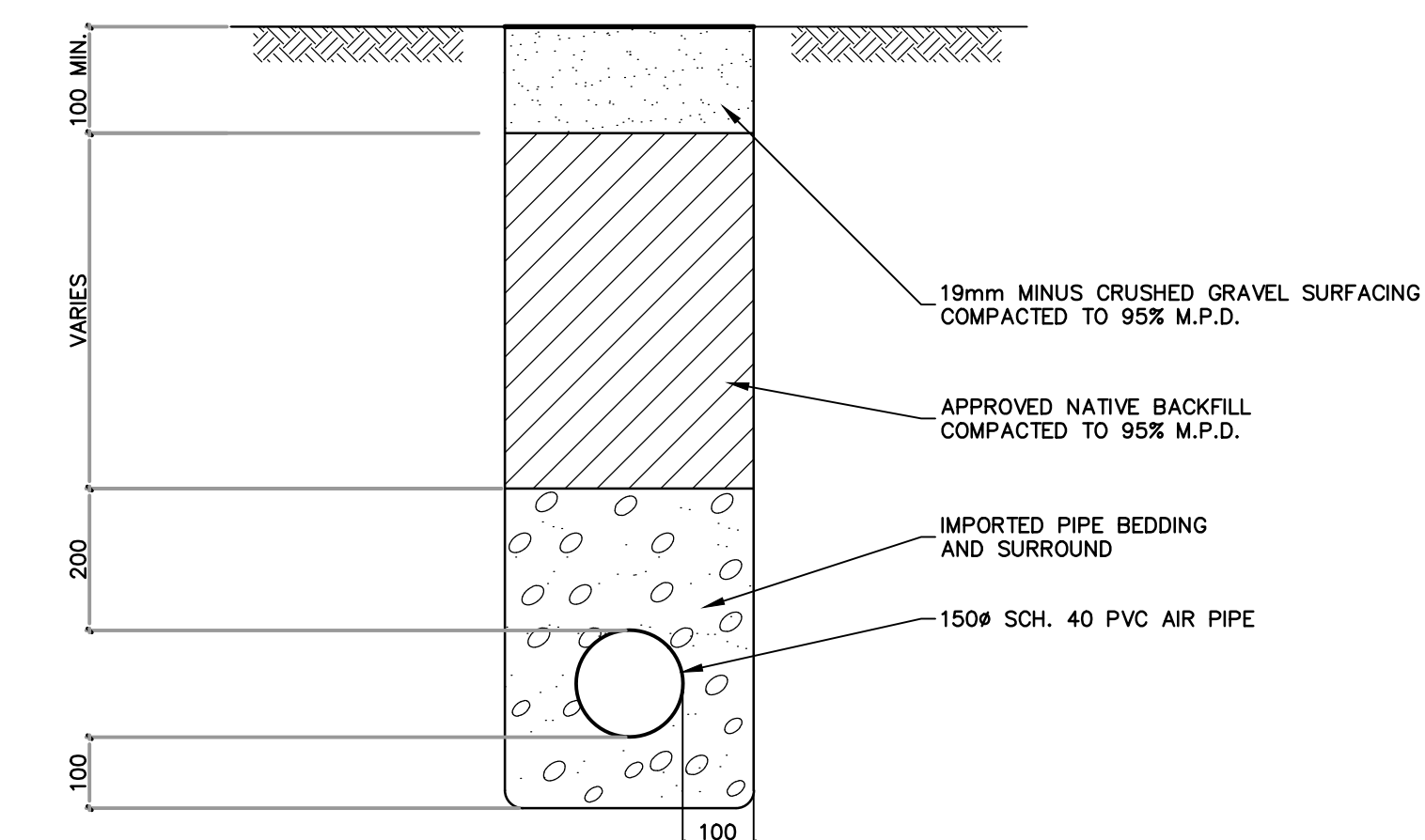
FISHERIES AND OCEANS CANADA REAL PROPERTY AND TECHNICAL SUPPORT	
CONUMA RIVER HATCHERY PROPOSED CIRCULAR TUBS REARING TUB	SCALE AS SHOWN
MISCELLANEOUS DETAILS	DATE 22-Jul-16
	DRAWING NUMBER 32-18-317
	REVISION 1



B SECTION
311 N.T.S.

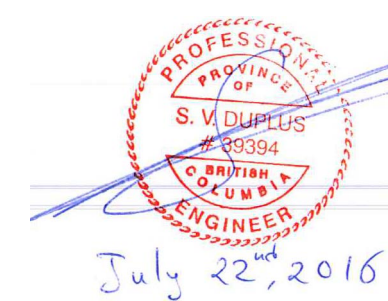


C SECTION
311 N.T.S.



AIRLIFT PIPE TRENCH DETAIL
N.T.S.

Plotted by: Johnson Whitehead Plot: 2016-07-22-14:16 Path: \\server\c1\projects\3218\3218-18-318.dwg Size: 111111



NOTES

NO.	DATE	REVISIONS
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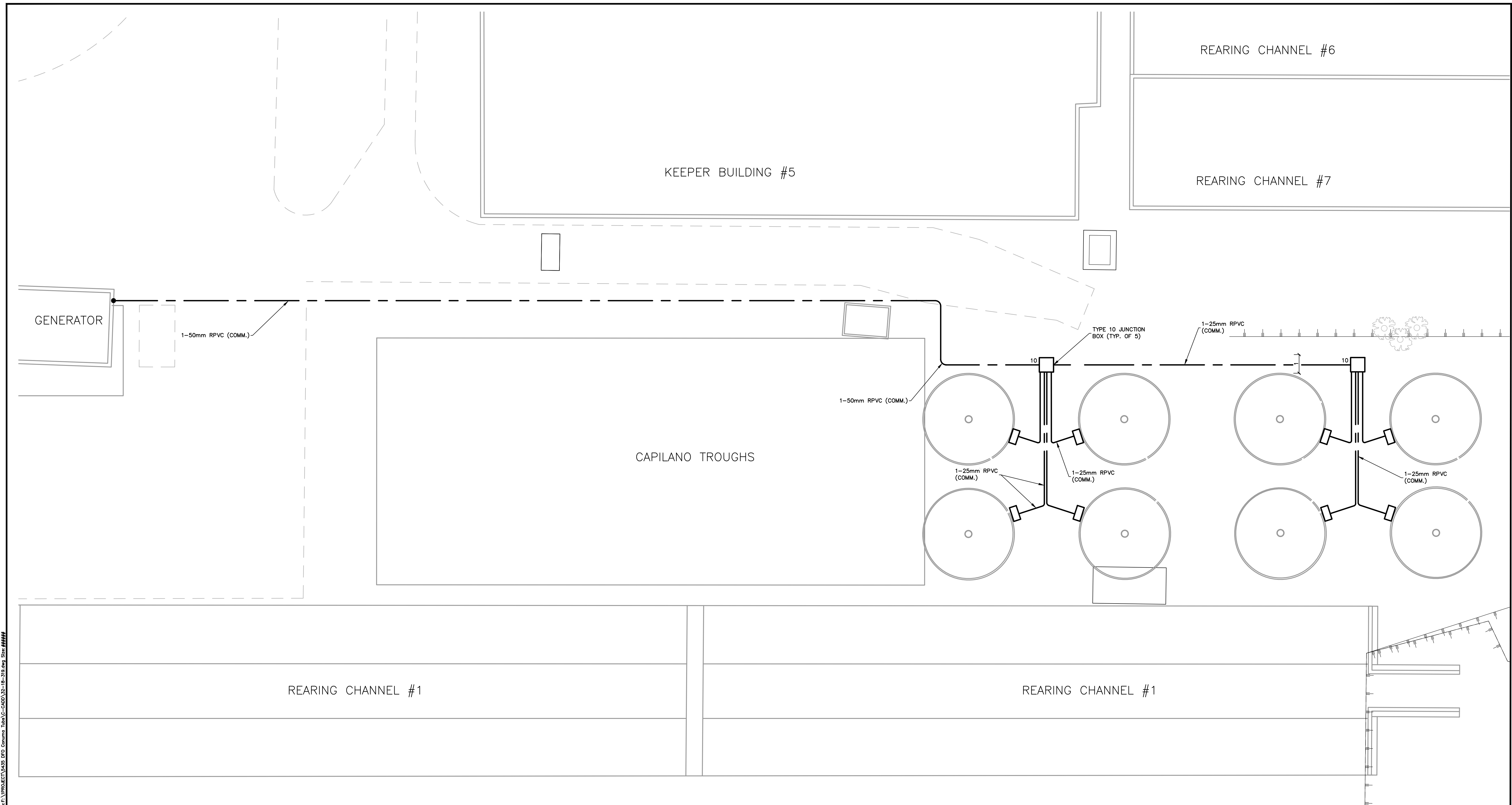
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APPROVED
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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

**CONUMA RIVER HATCHERY
PROPOSED CIRCULAR TUBS
REARING TUB**

AIRLIFT DETAILS

SCALE	AS SHOW
DATE	22-JUL-16
DRAWING NUMBER	32-18-318
REVISION	1



Plotted by: Johnnie Whitehead Plot date: 22-Jul-16 Path: \\server\c1\PROJECTS\3218\3218-18-319.dwg Elec: 3218-18-319.dwg



NOTES

NO.	DATE	REVISIONS
1	2016-JULY-22	ISSUED FOR TENDER

DESIGNED	SD
DRAWN	LP
CHECKED	SD
RECOMMENDED	SD
APPROVED	
APPROVED	

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

CONUMA RIVER HATCHERY
PROPOSED 16' CIRCULAR TUBS
ELECTRICAL CONDUIT

SCALE	1:100
DATE	22-Jul-16
DRAWING NUMBER	32-18-319
REVISION	1