



ATNARKO RIVER DEVELOPMENT WATER SUPPLY UPGRADES

ISSUED FOR CONSTRUCTION
FEBRUARY 28, 2018
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CIVIL DRAWINGS

- C00 COVER
- C01 LEGEND
- C02 SITE PLAN
- C03 PIPING DETAIL
- C04 WELL DETAILS
- C05 DETAILS

GENERAL NOTES:

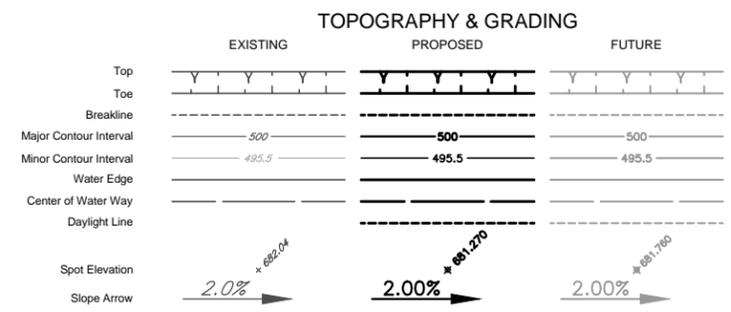
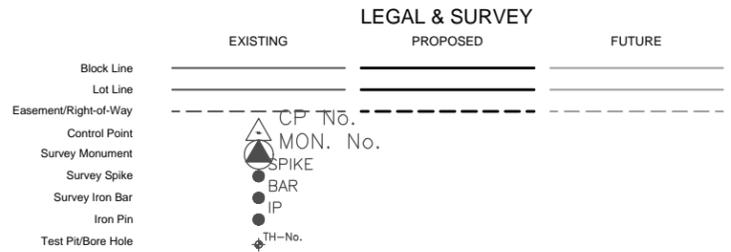
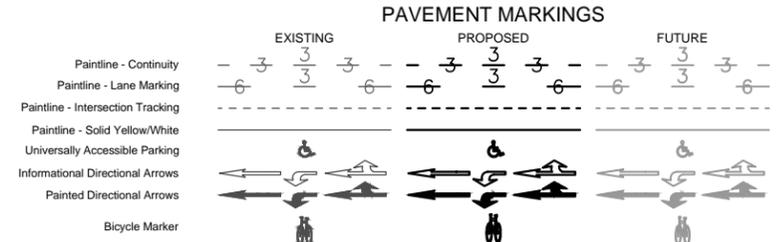
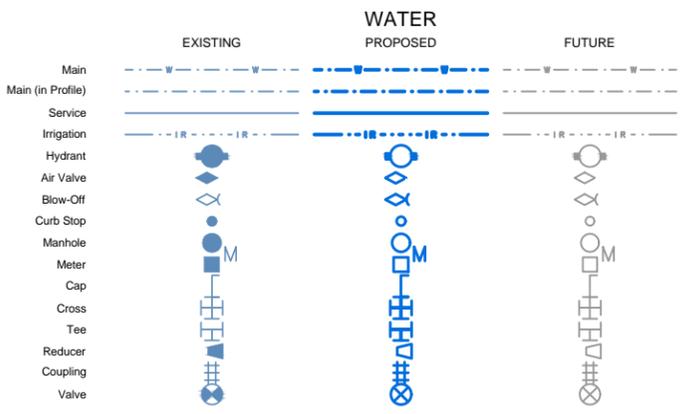
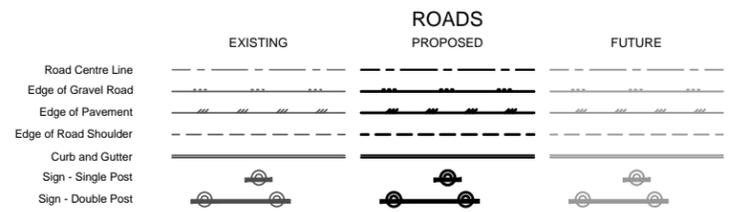
- 1) ALL ELEVATIONS AND DIMENSIONS ARE IN METRIC.
- 2) CONTRACTOR TO LOCATE AND EXPOSE ALL EXISTING UTILITIES AFFECTED BY PROPOSED WORKS AND INFORM DFO REPRESENTATIVE OF ANY CONFLICTS.
- 3) CONTRACTOR TO CONFIRM ELEVATION AND LOCATION OF ALL EXISTING UTILITIES AFFECTED BY THE PROPOSED WORKS WITH DFO REPRESENTATIVE.
- 4) SLOPE ARE LOCATED APPROXIMATELY, CONTRACTOR TO CONFIRM CONDITION ON-SITE.
- 5) CONTRACTOR TO REMOVE AND DISPOSE OF APPROPRIATELY OF ALL STRUCTURE, CONCRETE BLOCKS, ETC., LOCATED ON THE PIPE ROUTE AS PER DFO DIRECTIONS.

WATERMAIN NOTES:

- 1) WATER SUPPLY MAINS TO BE SCH80 PVC UNLESS OTHERWISE NOTED, ALL FITTINGS TO BE CAST IRON UNLESS NOTED OTHERWISE.
- 2) MINIMUM GRADE ON WATERMAIN SHALL BE 0.5%.
- 3) MINIMUM COVER ON WATERMAIN SHALL BE 0.5m, UNLESS OTHERWISE NOTED. IF MINIMUM COVER ON WATERMAIN CANNOT BE ACHIEVED, WATERMAIN TO BE ENCASED IN 50mm INSULATION AS SHOWN ON DETAIL 6 DWG C04
- 4) CONCRETE THRUST BLOCKS, IN ACCORDANCE WITH DETAIL SHEET, SHALL BE PROVIDED AT ALL FITTINGS.



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HABITAT AND ENHANCEMENT BRANCH



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5	FEB 28, 2019	ISSUED FOR CONSTRUCTION
4	FEB 06, 2019	ISSUED FOR TENDER
3	NOV 30, 2018	ISSUED FOR REVIEW
2	AUG 27, 2018	ISSUED FOR REVIEW
1	AUG 10, 2018	ISSUED FOR PRELIMINARY

ISSUED FOR CONSTRUCTION
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ISSUED FOR REVIEW
ISSUED FOR REVIEW
ISSUED FOR PRELIMINARY

DESIGNED	S. DUPLUS
DRAWN	S. CHAN
CHECKED	S. CHAN
RECOMMENDED	S. DUPLUS
APPROVED	
APPROVED	

ATNARKO RIVER DEVELOPMENT
WATER SUPPLY UPGRADES

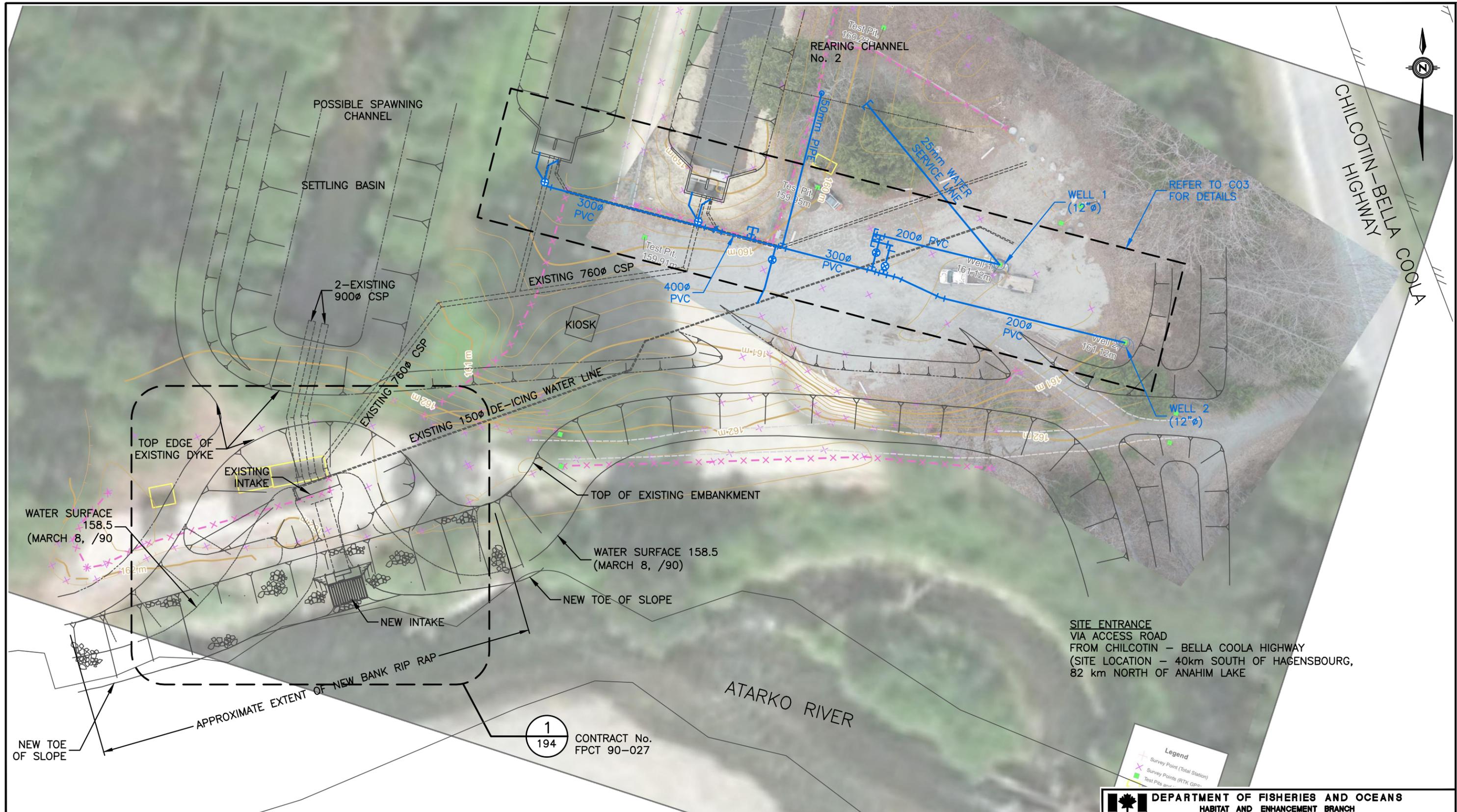
LEGEND

SCALE	1:2000
DATE	FEBRUARY 2019
DRAWING NUMBER	C01
REVISION	5

DWG. NO.	REFERENCE DRAWINGS

NOTES

NO. DATE REVISIONS



SITE ENTRANCE
 VIA ACCESS ROAD
 FROM CHILCOTIN - BELLA COOLA HIGHWAY
 (SITE LOCATION - 40km SOUTH OF HAGENSBOURG,
 82 km NORTH OF ANAHIM LAKE)

1
 194 CONTRACT No.
 FPCT 90-027

Legend

- Survey Point (Total Station)
- Survey Points (RTK Gps)
- Test Pits (RTK Gps)

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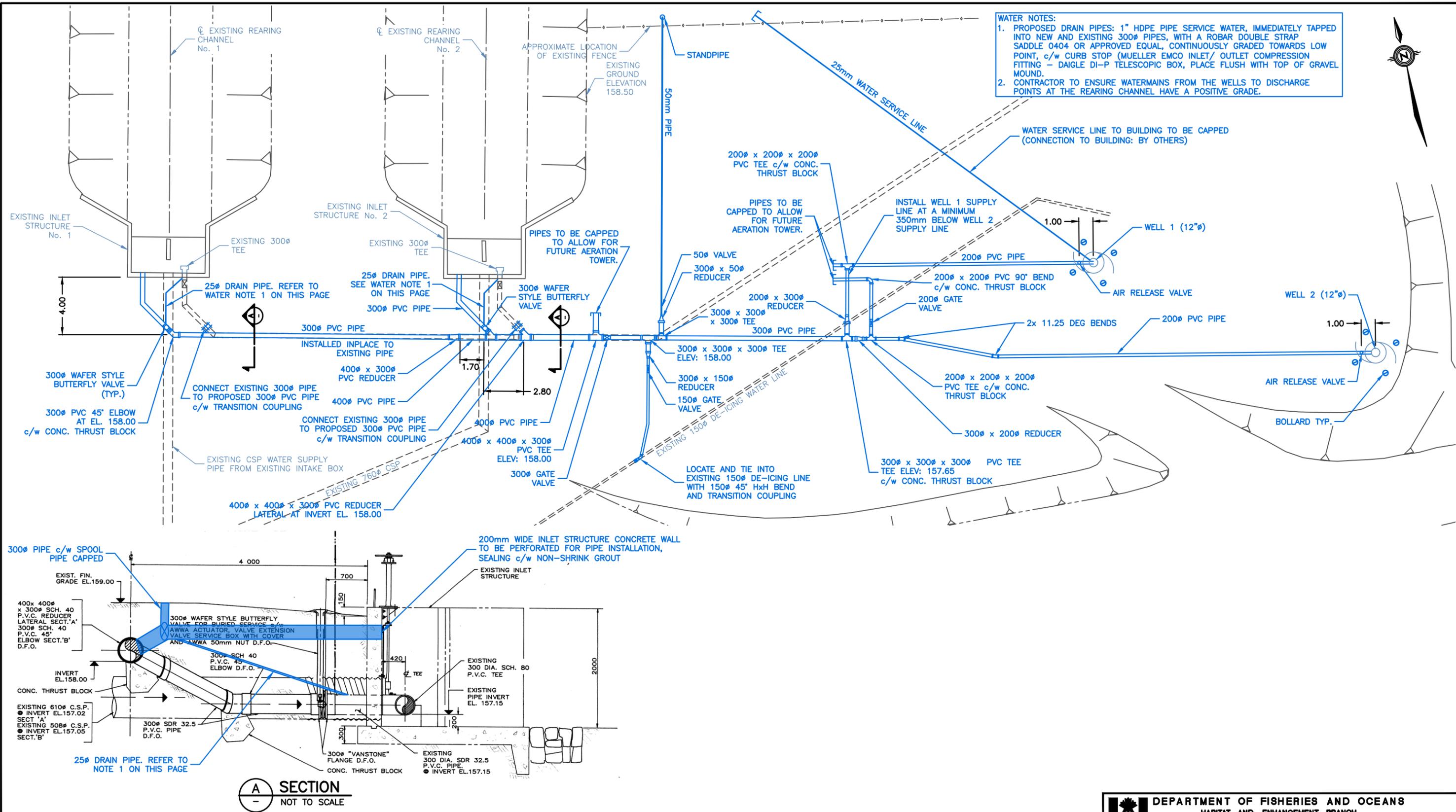
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APPROVED
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ATNARKO RIVER DEVELOPMENT WATER UPGRADES		SCALE 1:500
		DATE FEBRUARY 2019
SITE PLAN		DRAWING NUMBER C02
		REVISION 5

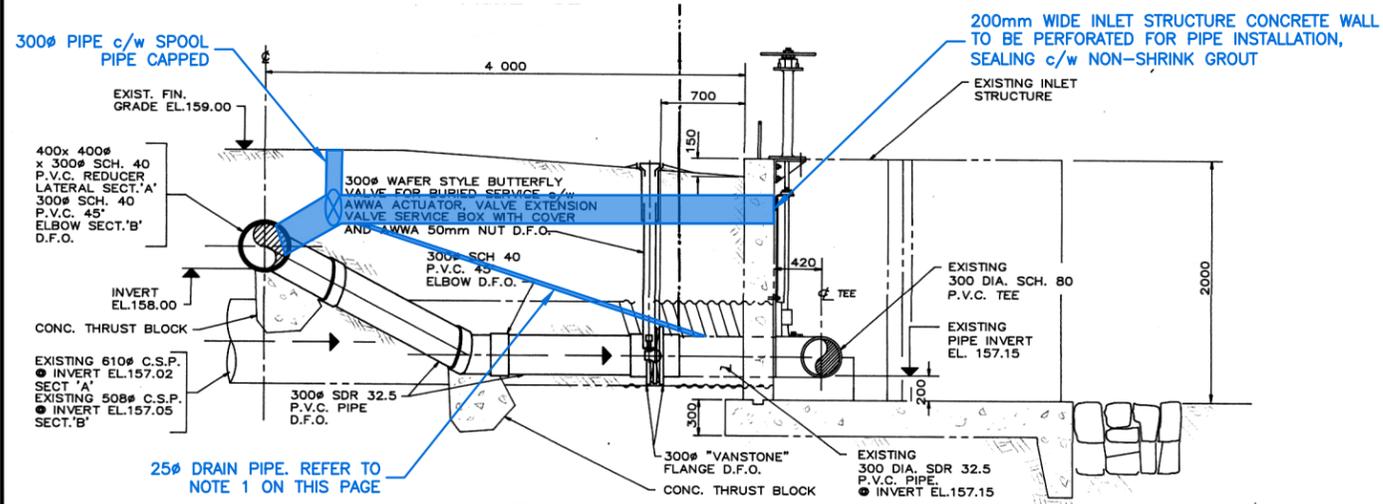
DWG. NO.	REFERENCE DRAWINGS	NOTES

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WATER NOTES:
 1. PROPOSED DRAIN PIPES: 1" HDPE PIPE SERVICE WATER, IMMEDIATELY TAPPED INTO NEW AND EXISTING 300Ø PIPES, WITH A ROBAR DOUBLE STRAP SADDLE 0404 OR APPROVED EQUAL, CONTINUOUSLY GRADED TOWARDS LOW POINT, c/w CURB STOP (MUELLER EMCO INLET/ OUTLET COMPRESSION FITTING - DAIGLE DI-P TELESCOPIC BOX, PLACE FLUSH WITH TOP OF GRAVEL MOUND.
 2. CONTRACTOR TO ENSURE WATERMANS FROM THE WELLS TO DISCHARGE POINTS AT THE REARING CHANNEL HAVE A POSITIVE GRADE.

A SECTION
 NOT TO SCALE



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ATNARKO RIVER DEVELOPMENT
WATER SUPPLY UPGRADES

PIPING DETAIL

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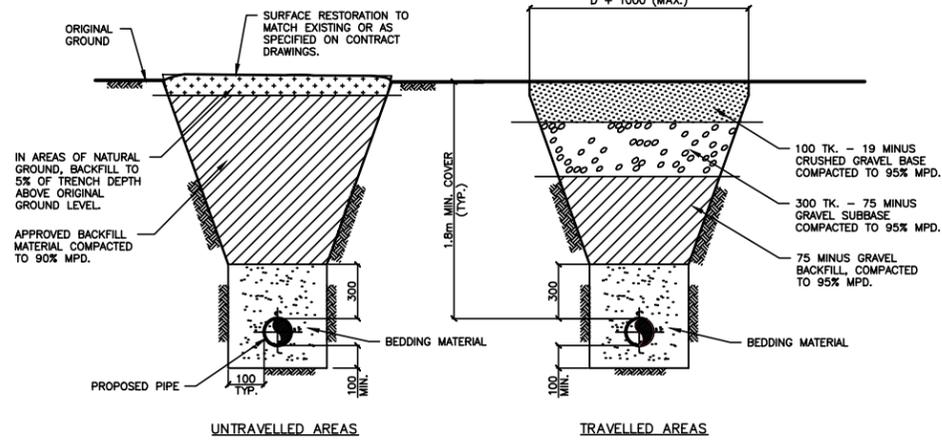


NOTES

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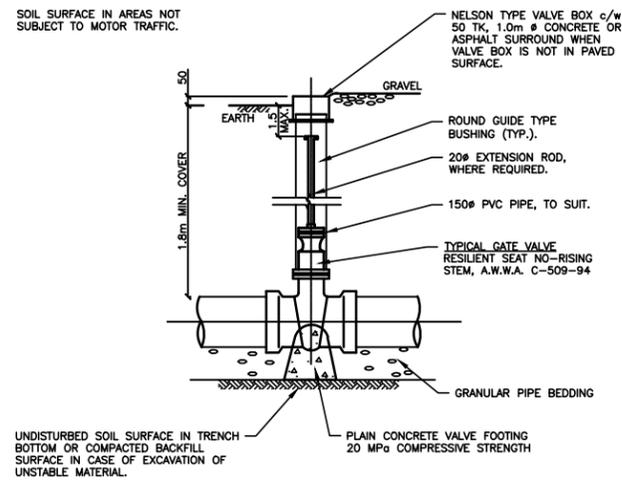
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SCALE	1:250
DATE	FEBRUARY 2019
DRAWING NUMBER	C03
REVISION	5

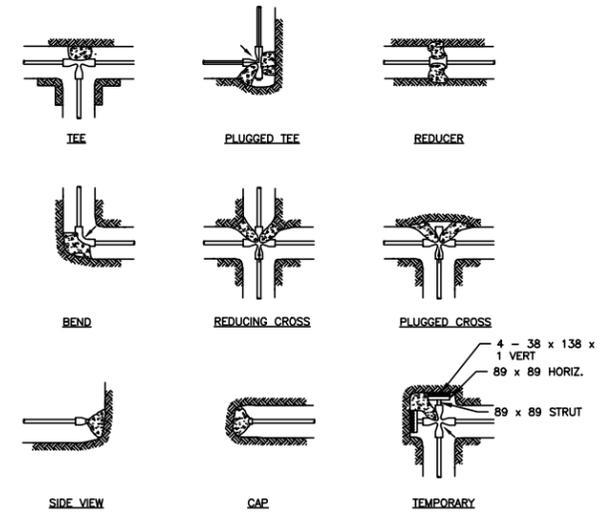


- NOTE:**
1. ALL BACKFILL SHALL BE WELL COMPACTED.
 2. ALL TRENCHES SHALL BE EXCAVATED IN ACCORDANCE WITH W.C.B. REGULATIONS.

1 TYPICAL TRENCH DETAILS
NOT TO SCALE



2 GATE VALVE DETAIL
NOT TO SCALE



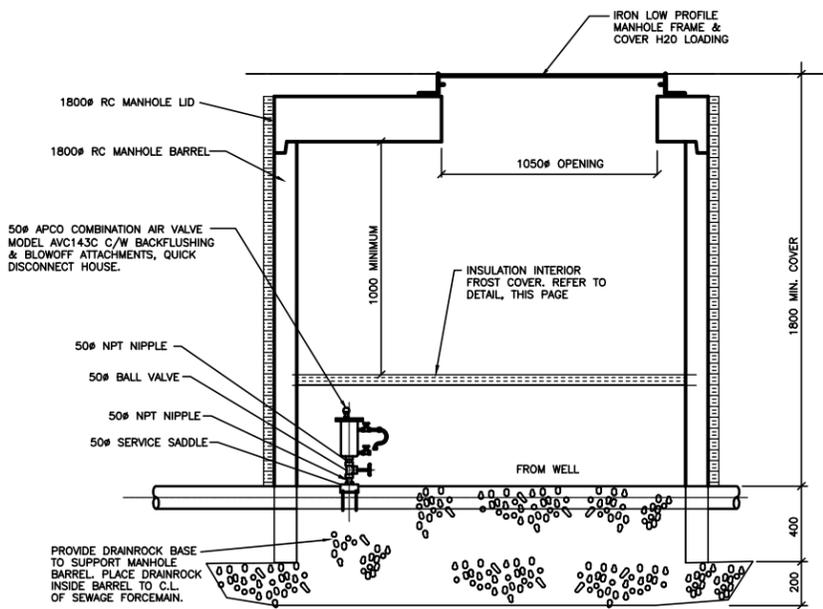
THRUST (kg) 690 kPa WATER PRESSURE
TABLE No.1

SIZE OF PIPE	TEE	90°	BENDS 45°	22 1/2'
100	840	1184	644	327
150	1724	2436	1320	667
200	2985	4218	2286	1157
250	4876	6895	3738	1892
300	6945	9816	5316	2694

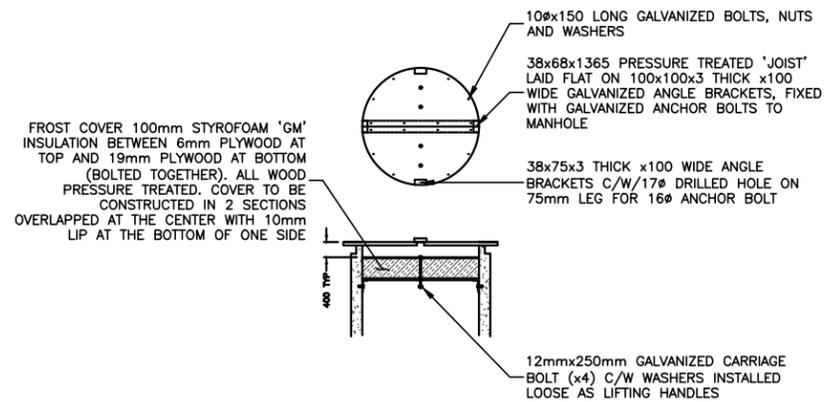
SAFE BEARING LOAD OF SOIL
TABLE No.2

SOIL TYPE	LOAD (kg/m ²)
MUCK PEAT ETC.	0
SOFT CLAY	2450
SAND	4900
SAND & GRAVEL	7350
SAND & GRAVEL WITH CLAY	9800
SHALE	24,500

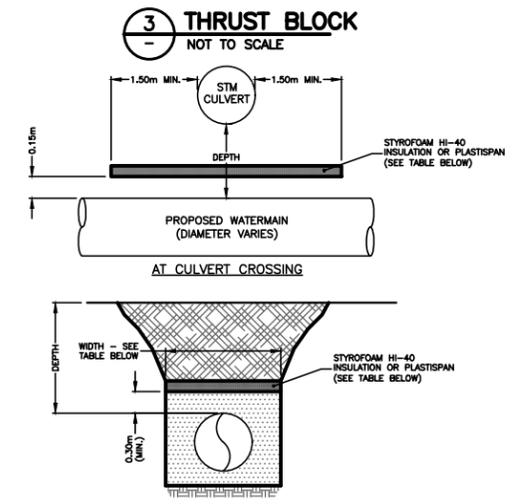
IF TEST PRESSURE IS 1034 kPa THEN ALL FIG. IN TABLE No.1 ARE MULTIPLIED BY 1.5. IF TEST PRESSURE IS 1379 kPa THEN ALL FIG. IN TABLE No.1 ARE MULTIPLIED BY 2.0.
NOTE:
- ALL THRUST BLOCKS TO EXTEND TO SOLID BEARING
- ALL LOCATIONS AND SIZES OF THRUST BLOCKS TO BE TO THE APPROVAL OF THE ENGINEER.
- CONCRETE 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.



4 AIR VALVE CHAMBER DETAIL
NOT TO SCALE



5 FROST LID COVER DETAIL
NOT TO SCALE



WHERE MINIMUM COVER IS NOT ACHIEVED

Depth (m)	Width (m) and Thickness (mm) of Insulation										
	Pipe Size (mm)										
	100	150	200	250	300	350	400	450	500	600	750
0.3 to 0.6	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0
0.6	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
0.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2
0.8	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0
0.9	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8
1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6
1.1	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4
1.2 to 1.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2

NOTE: DESIGN BASED ON CITY OF KELLOWNA FREEZING INDEX OF 363 DEGREE DAYS C.

6 INSULATION DETAIL
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DEPARTMENT OF FISHERIES AND OCEANS
HABITAT AND ENHANCEMENT BRANCH

ATNARKO RIVER DEVELOPMENT
WATER SUPPLY UPGRADES

DETAILS

SCALE: AS SHOWN
DATE: FEBRUARY 2019
DRAWING NUMBER: C05
REVISION: 5

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