

CONSTRUCT 440m ROAD IMPROVEMENTS
PER NOV. 9, 2007 LETTER & PLAN TO MOT.
RE: CONDITION 25, P.A.-010-19740, WIDENING
EAST PROCTER ROAD TO 7.5m

KOOTENAY LAKE ROAD
EAST PROCTER ROAD (PUBLIC ROAD)

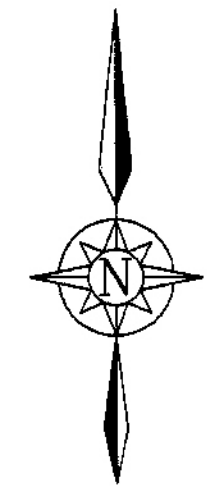
EXISTING WATER SYSTEM:
SEE PENNCO ENGINEERING AS BUILT DWGS.
(15 SHTS. TOTAL)
AS W01 THRU W08 & W11 & AS GA1
DATED AUGUST 01, 2007
c/w THRUST BLOCKS

EXISTING SEWER OUTFALL:
SEE PENNCO ENGINEERING DWGS.

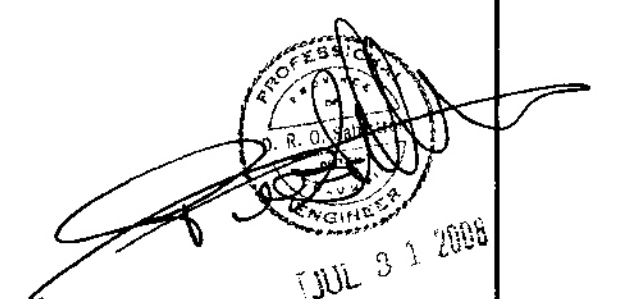
SHT 15
SHT S1
SHT S2

SEE IHA PERMIT KO-227W DWGS.
(17 SHTS. TOTAL)
TITLE: SHT01, W01 THRU W08 & W11 THRU W15
DATED MAY 10, 2007
W09 & W10 DATED JUNE 08, 2007

EXISTING SEWER TREATMENT SYSTEM:
SEE EAGLE ENGINEERING LTD. DWGS.
(2 SHEETS TOTAL) 50'x60' RGF & TANK
PROFILES, DATED FEBRUARY 10, 2006



ACCEPTED FOR FILING
DATE: 2008
R. L. ...
Secretary to the Comptroller of Water Rights



"AS CONSTRUCTED" WATER EXTENSION

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
B	07/23/08	AS CONSTRUCTED, WATER EXTENSION							
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	06/05/08	GENERAL REVISION		

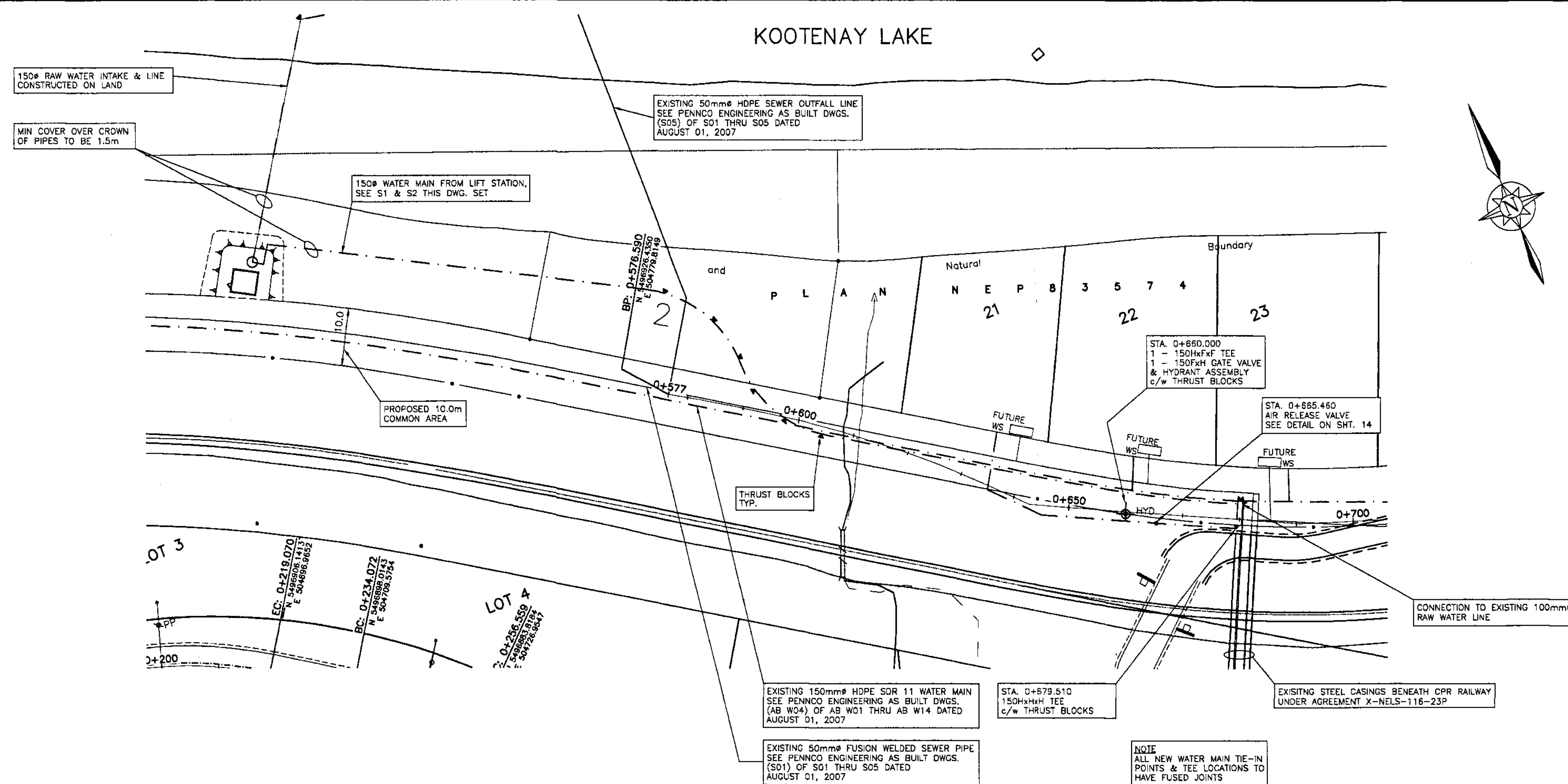
WSA ENGINEERING LTD.
WOODS SAHLSTROM ASSOCIATES
Geotechnical • Civil • Structural • Materials Testing
2248 Columbia Ave. Castlegar, B.C. V1N 2X1 Ph: (250) 365-3696

DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: JULY 2008

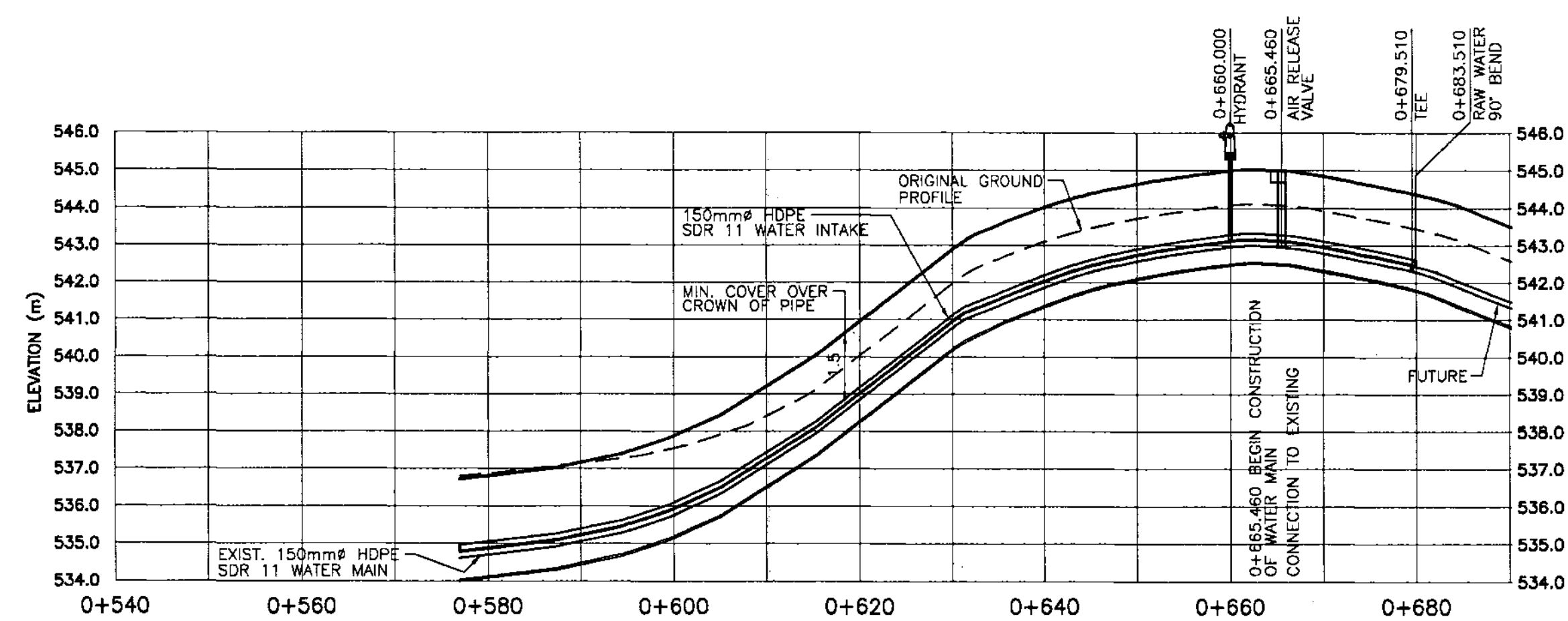
KOOTENAY LAKE VILLAGE
PHASE 3, UPHILL
PROCTER, B.C.
SITE PLAN & SHEET INDEX

SCALE: 1:2000
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 02 B

866
RECEIVED
UTILITY REGULATION SECTION
OCT - 2 2008
REF: _____
ACK: _____
ANS: _____
WLR-2021-38841-1-0123 Page



WATER MAIN ALIGNMENT
SCALE: 1:500



WATER DESIGN PROFILE
SCALE: H: 1:500, V: 1:125

GENERAL NOTES

1. REFERENCE DRAWINGS
SHT. 1
2. ALL ELEVATIONS ARE IN METERS
3. NO VARIATION TO THIS DRAWING SHALL BE PERMITTED UNLESS AUTHORIZED IN WRITING BY ENGINEER.
4. TO AWWA C906 STANDARDS.
5. PRESSURE AND LEAKAGE TESTING IN ACCORDANCE WITH AWWA DISINFECTION IN ACCORDANCE TO C651 AWWA.
6. WATER MAINS HDPE SDR 13.5 WATER PIPE
7. FOR DETAIL REFERENCE DRAWINGS & SPECIFICATIONS REFER TO THE MASTER MUNICIPAL CONSTRUCTION DOCUMENT (MMCD) VOLUME 2, INSTRUCTIONS TO TENDERERS - PART 2 GENERAL CONDITIONS, SPECIFICATIONS, & STANDARD DETAIL DRAWINGS.
8. WHERE WATER & SEWER CONDUITS CROSS, LAY WATER MAIN ABOVE. LAY PIPE WITH MIDDLE OF PIPE LENGTHS LOCATED AT CROSSING POINT. WRAP JOINTS WITH "DENSO" TAPE OR APPROVED EQUIVALENT WHEN 3.0m HORIZONTAL AND 0.45m VERTICAL SEPARATION BETWEEN MAINS CANNOT BE MAINTAINED.
9. A HORIZONTAL SEPARATION OF 3.0m IS REQUIRED BETWEEN WATER AND SEWER MAINS. FOR SEPARATIONS OF LESS THAN 3.0m ALL WATER MAINS SHALL BE WRAPPED WITH "DENSO" TAPE OR EQUIVALENT
10. WHERE SERVICE MAIN SLOPES EXCEED 15%, CONTRACTOR TO INSTALL PIPE ANCHOR BLOCKS. MAXIMUM SPACING OF BLOCKS NOT TO EXCEED 10.0m. (SEE DETAIL DWG. G8, MMCD)
11. ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE MMCD STANDARD CONSTRUCTION SPECIFICATIONS.

EXISTING UTILITIES

THE LOCATION OF ALL EXISTING UTILITIES INCLUDING UNDERGROUND, SURFACE AND OVERHEAD UTILITIES SHOWN ON THE DRAWINGS IS NOT GUARANTEED. NOR IS IT GUARANTEED THAT ALL UTILITIES WHICH MAY BE ENCOUNTERED ARE SHOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL THE UTILITIES AND PAYING FOR ANY DAMAGE RESULTING FROM HIS ENCOUNTERING THEM.

LEGEND

- WATER MAIN
- 50mm HDPE SDR 13.5 LOW PRESSURE SANITARY LINE
- PROPOSED SEPTIC/HOLDING TANK
- ▼ PROPOSED THRUST BLOCK

"AS CONSTRUCTED" WATER EXTENSION

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
B	07/23/08	AS CONSTRUCTED, WATER EXTENSION			2	06/05/08	GENERAL REVISION		
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	03/18/08	WET WELL RELOCATED DUE TO SOIL CONDITIONS		

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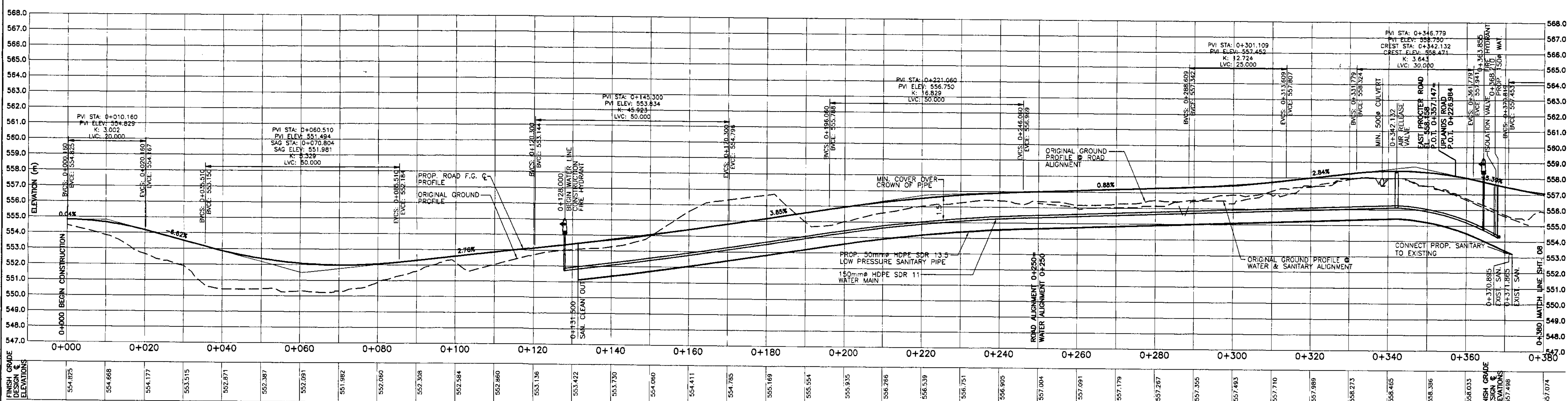
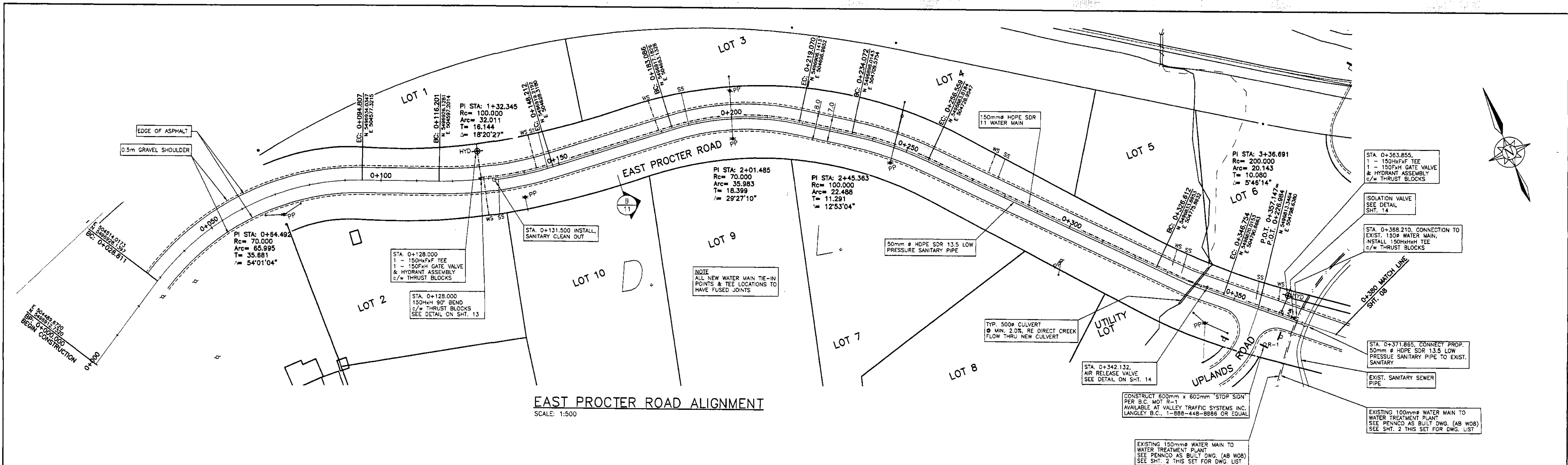
DSGN:	DS
DWN:	GSF
CHK:	DS
DATE DWN:	JULY 2008

**KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.**
**WATER DESIGN - PLAN & PROFILE
STRATA RD. STA. 0+540 TO 0+700**

SCALE:	AS NOTED
DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	05

ACCEPTED FOR FILING
DATE: 2008
Blowup
Secretary to the Comptroller of Water Rights

(SHT. 03, 04, NOT USED)
RECEIVED
UTILITY REGULATION SECTION
OCT - 2 2008
REF.
ACK.
ANS.



GENERAL NOTES

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SHT. 08, 10, THIS DWG. SET
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B	07/23/08	AS CONSTRUCTED, WATER EXTENSION							
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT							

EAST PROCTER ROAD PROFILE

SCALE: H: 1:500, V: 1:125

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LEGEND

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- 50mm HDPE SDR 13.5 LOW PRESSURE SANITARY LINE
- PROPOSED SEPTIC/HOLDING TANK
- PROPOSED THRUST BLOCK

"AS CONSTRUCTED" WATER EXTENSION

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DSN: DS
OWN: GSG
CHK: DS
DATE DWN: JULY 2008

KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.
ROAD DESIGN - PLAN & PROFILE
PUBLIC RD. STA. 0+000 TO 0+380

SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 07 B

ACCEPTED FOR FILING

DATE: 2008

Secretary to the Comptroller of Water Rights

(SHT. 06, NOT USED)

RECEIVED

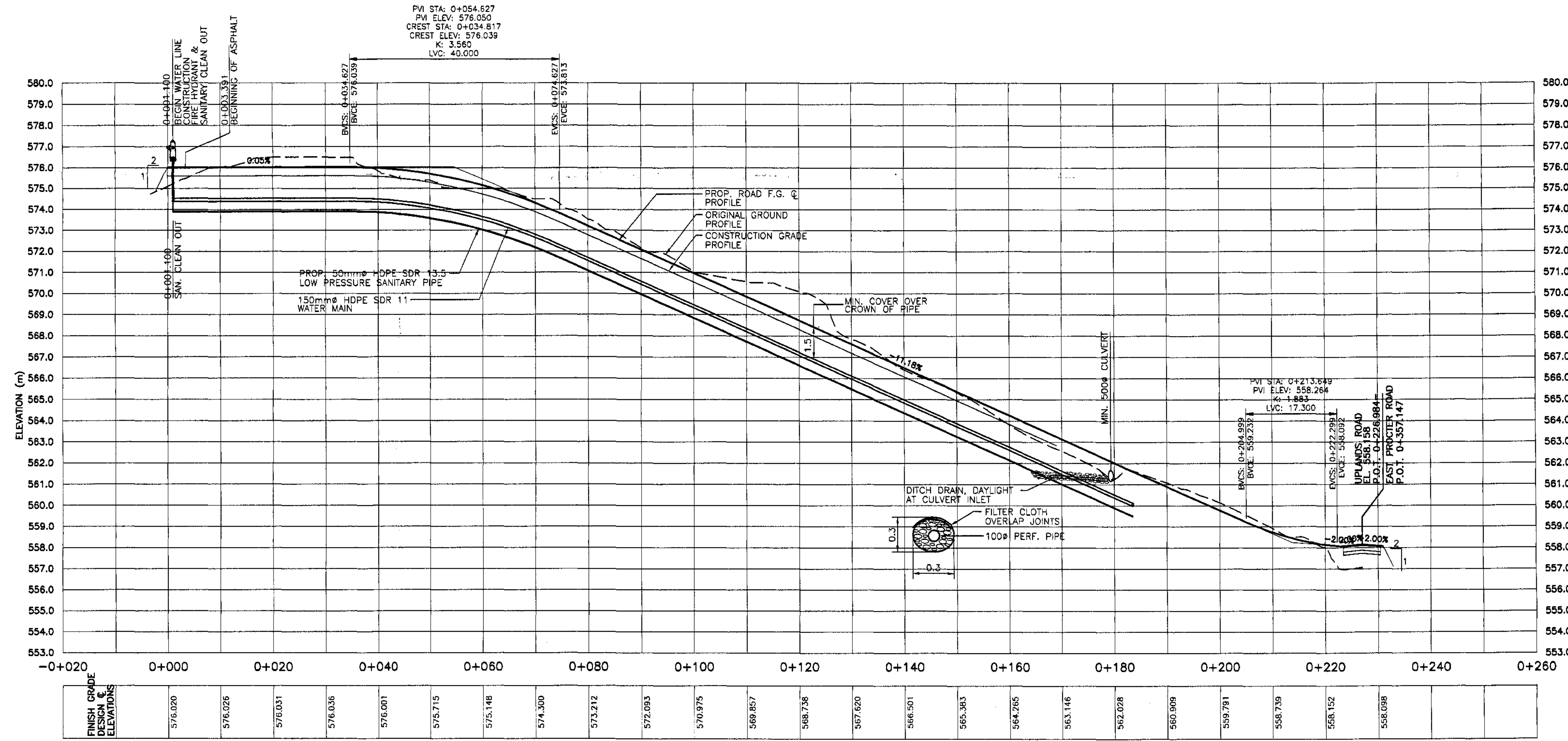
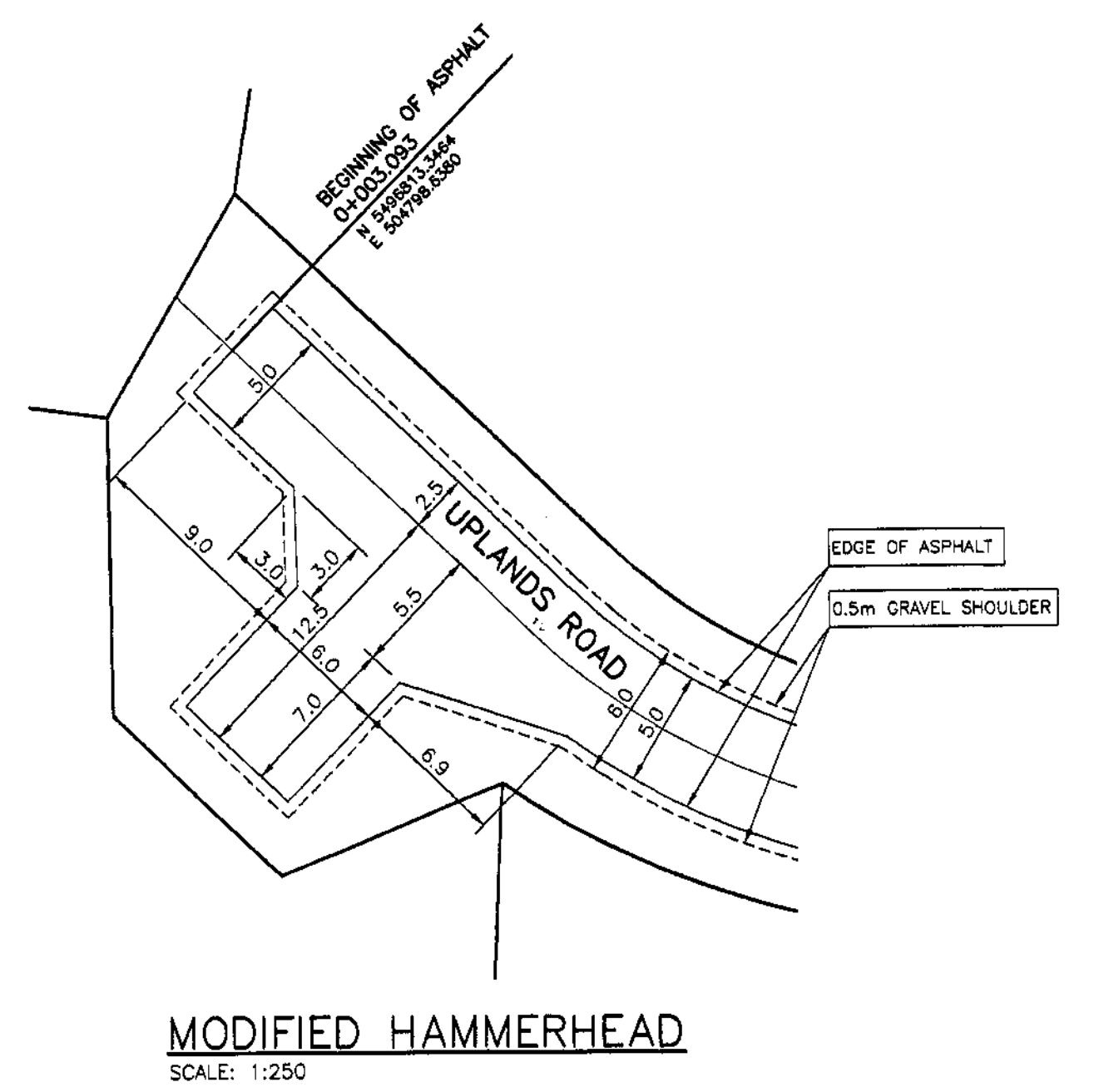
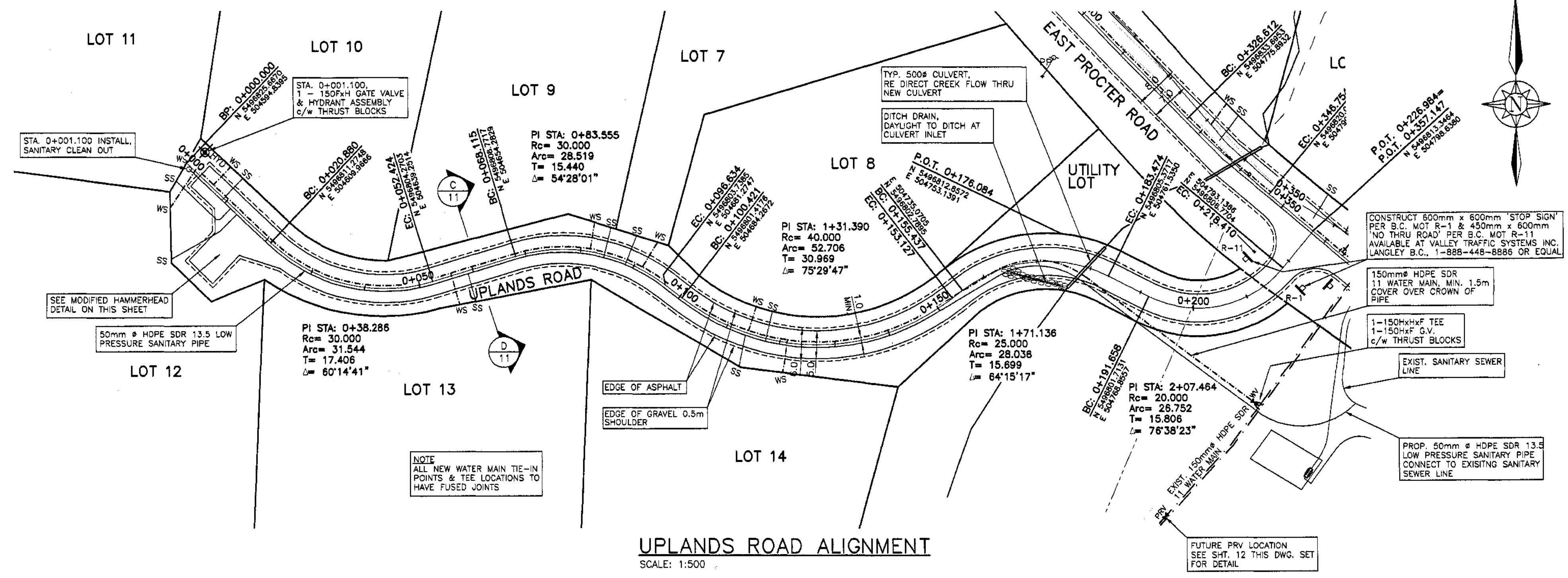
UTILITY REGULATION SECTION

OCT - 2 2008

REF: _____

ACK: _____

ANS: _____



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"AS CONSTRUCTED" WATER EXTENSION

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DSGN:	DS
DWN:	GSG
CHK:	DS
DATE DWN:	JULY 2008

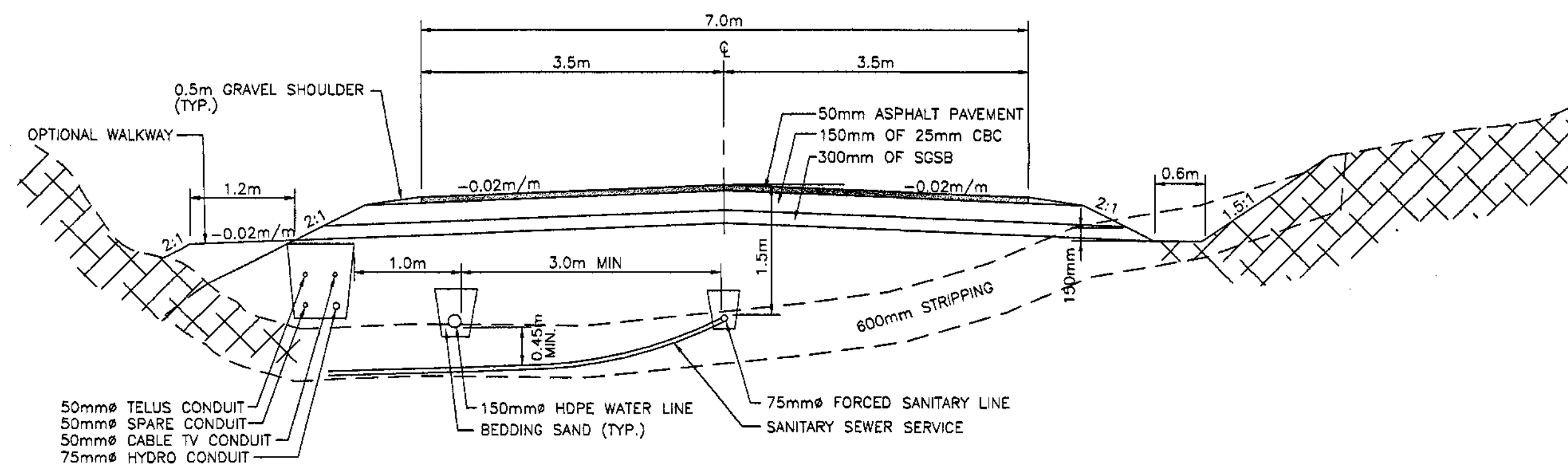
**KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.**
ROAD & WATER DESIGN
UPLANDS RD. STA. 0+000 TO 0+230

SCALE:	AS NOTED
DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	09 B

ACCEPTED FOR FILING
DATE: *2008*
R. L. Smith
Secretary to the Comptroller of Water Rights

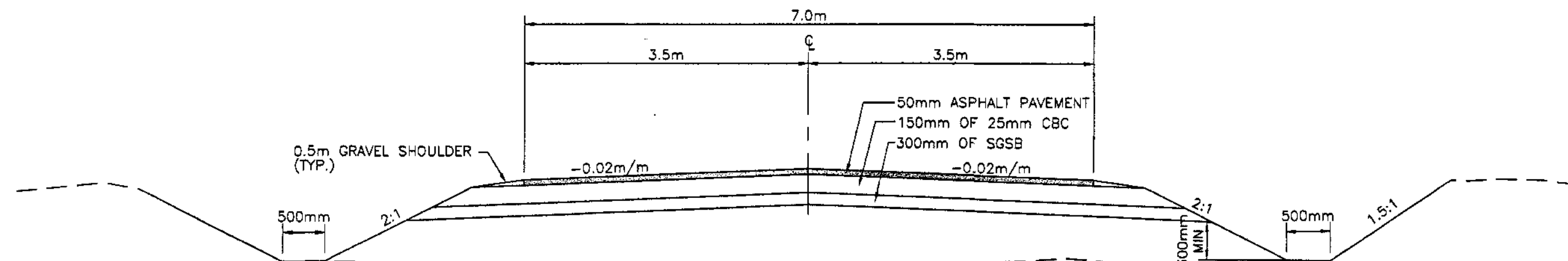
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RECEIVED
UTILITY REGULATION SECTION
OCT - 2 2008
REF: *2008*
ACK: *2008*
ANS: *2008*

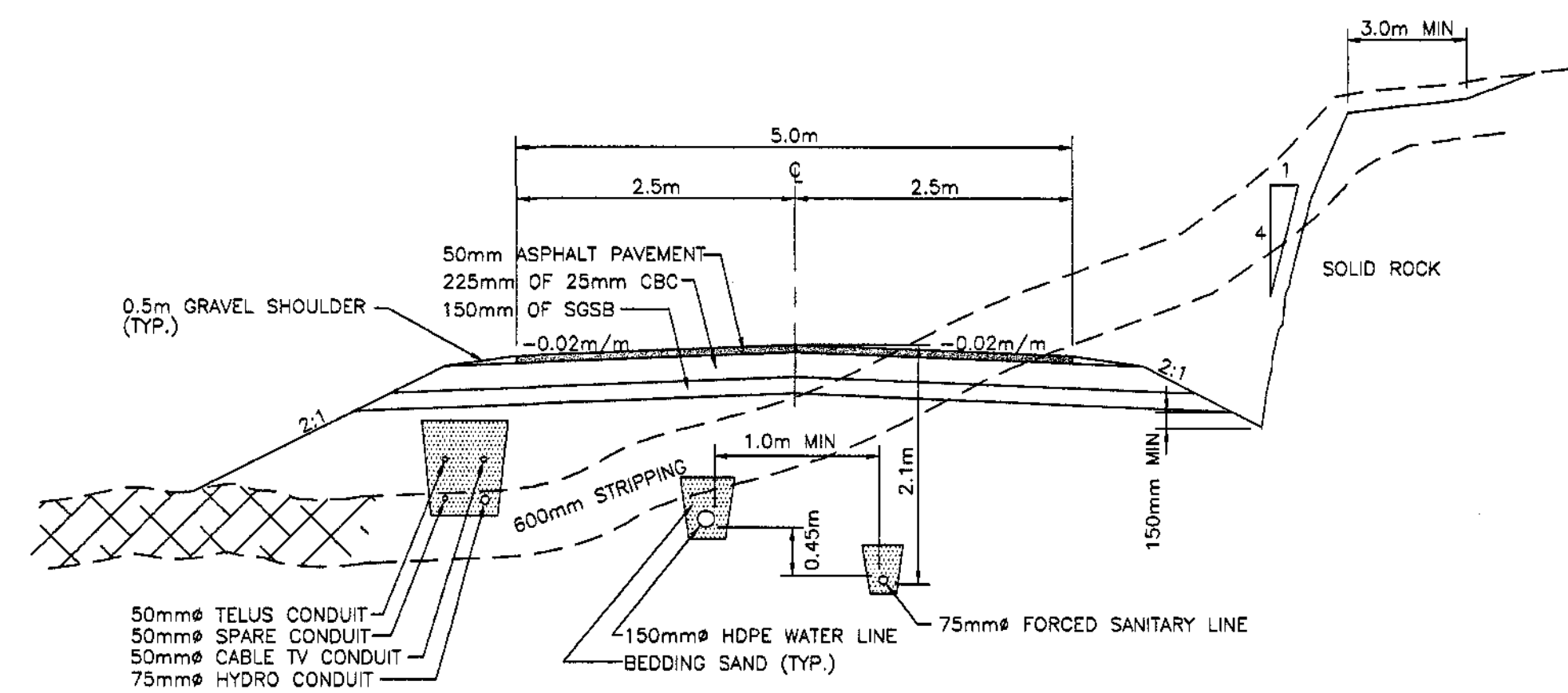


FILL SECTION EARTH CUT SECTION

B LOCAL PUBLIC ROAD SECTION
(EAST PROCTER ROAD)

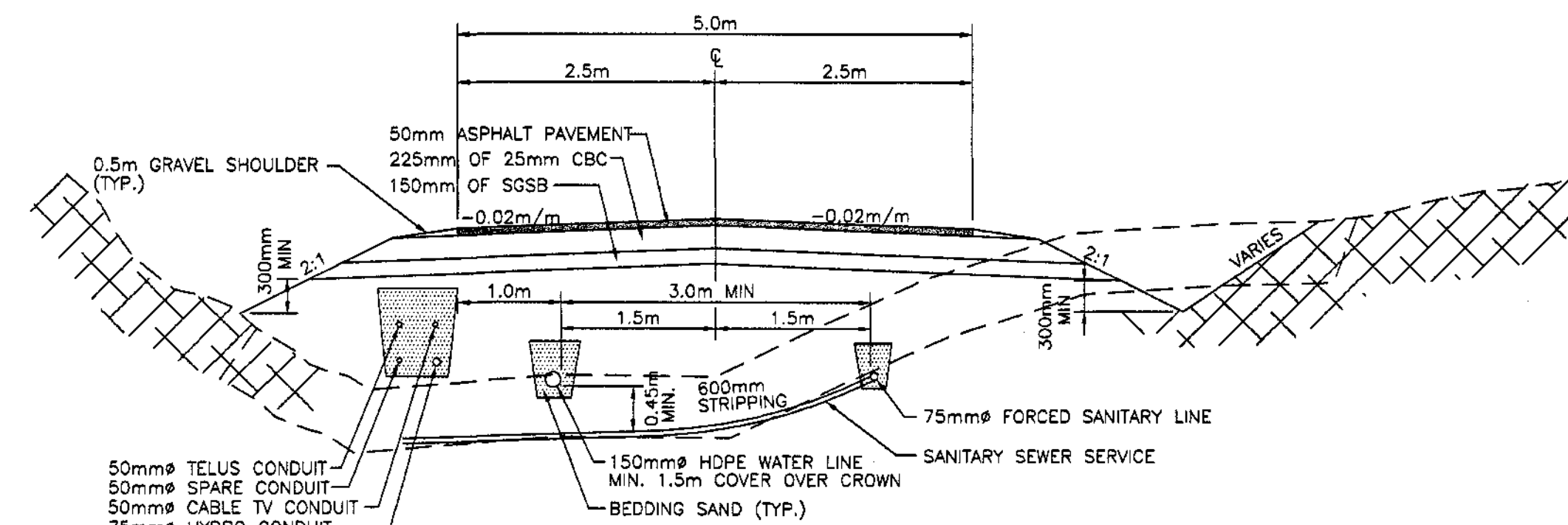


TYPICAL LOCAL PUBLIC ROAD CROSSING SECTION



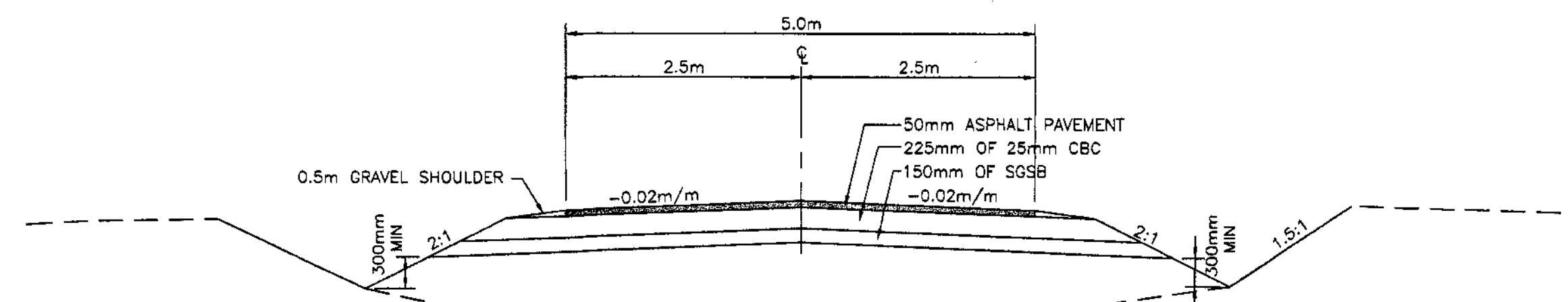
FILL SECTION ROCK CUT SECTION

C STRATA ROAD SECTION
(UPLANDS ROAD)

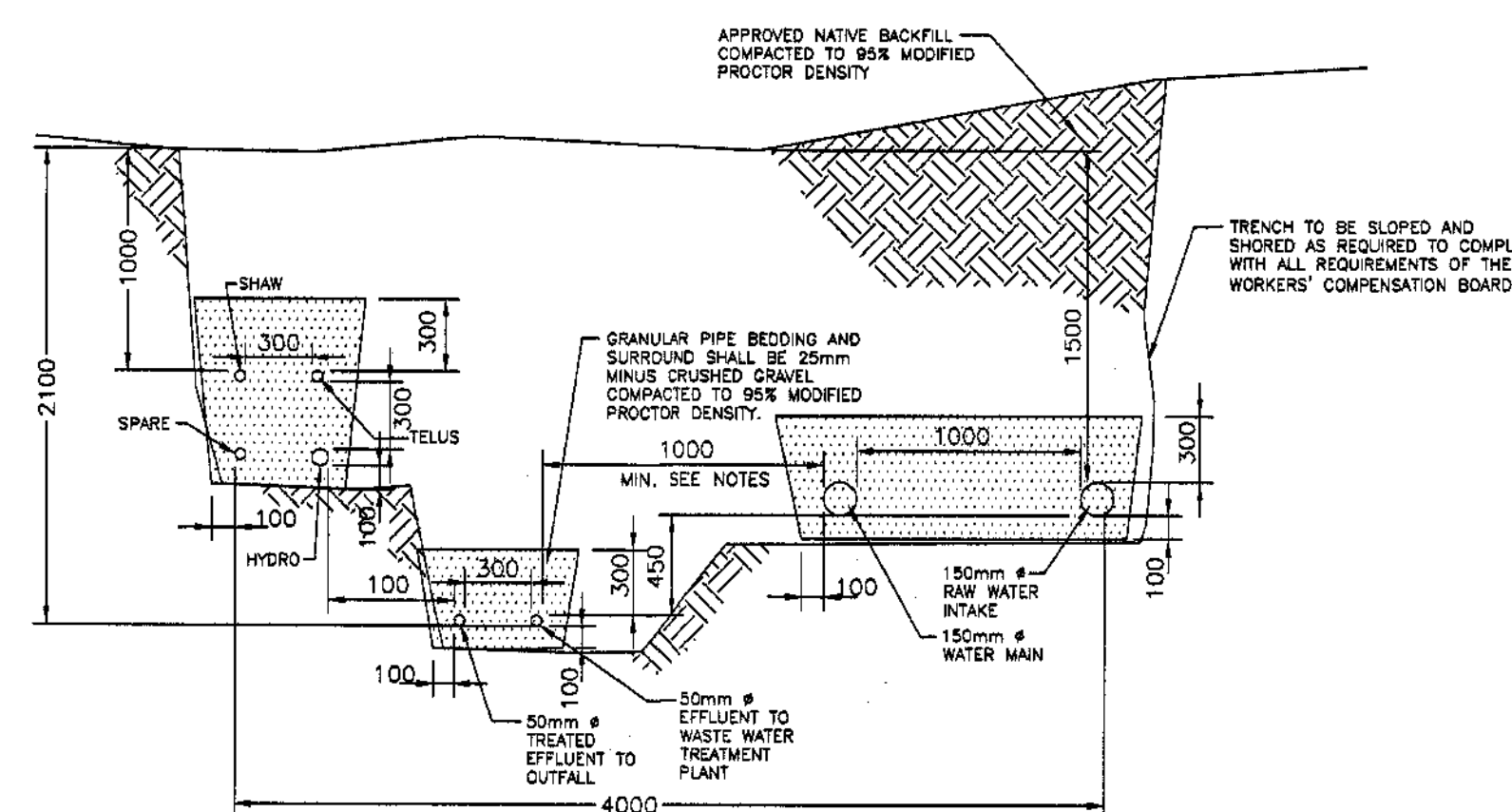


FILL SECTION EARTH CUT SECTION

D STRATA ROAD SECTION
(UPLANDS ROAD)



TYPICAL STRATA ROAD CROSSING SECTION

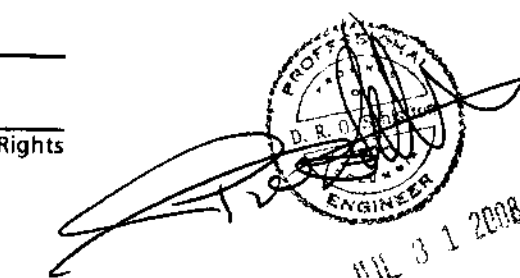


TYPE 2 UTILITY TRENCH DETAIL

ACCEPTED FOR FILING

DATE: 2008

Secretary to the Comptroller of Water Rights



"AS CONSTRUCTED" WATER EXTENSION

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
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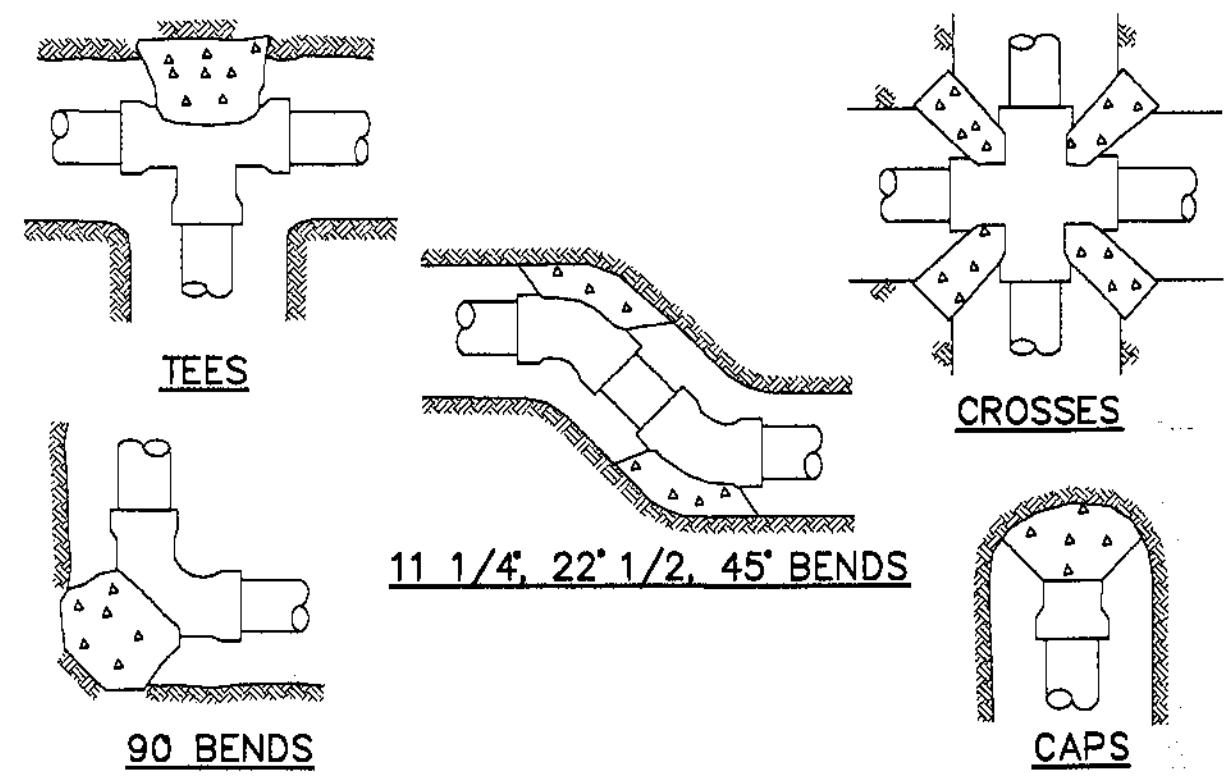
DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: JULY 2008

KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.
ROAD, WATER, & SEWER
TYPICAL SECTIONS

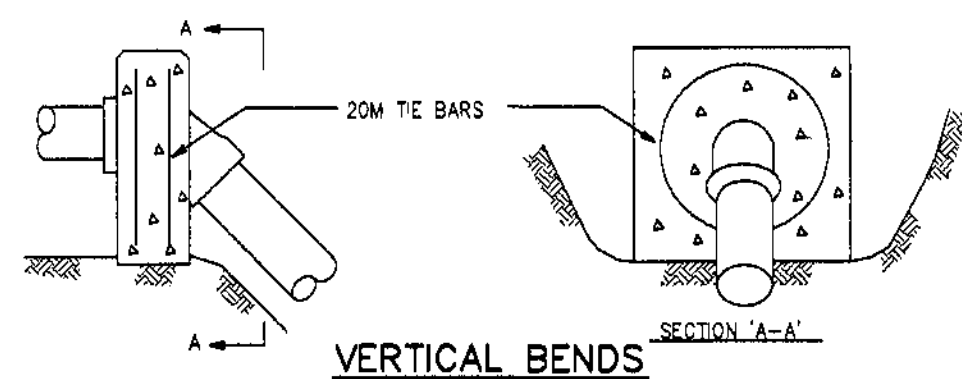
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DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 11 B

(SHT. 10, NOT USED)

RECEIVED
UTILITY REGULATION SECTION
OCT - 2 2008
REF
ACK
ANS



GENERAL ARRANGEMENTS - PLAN VIEW

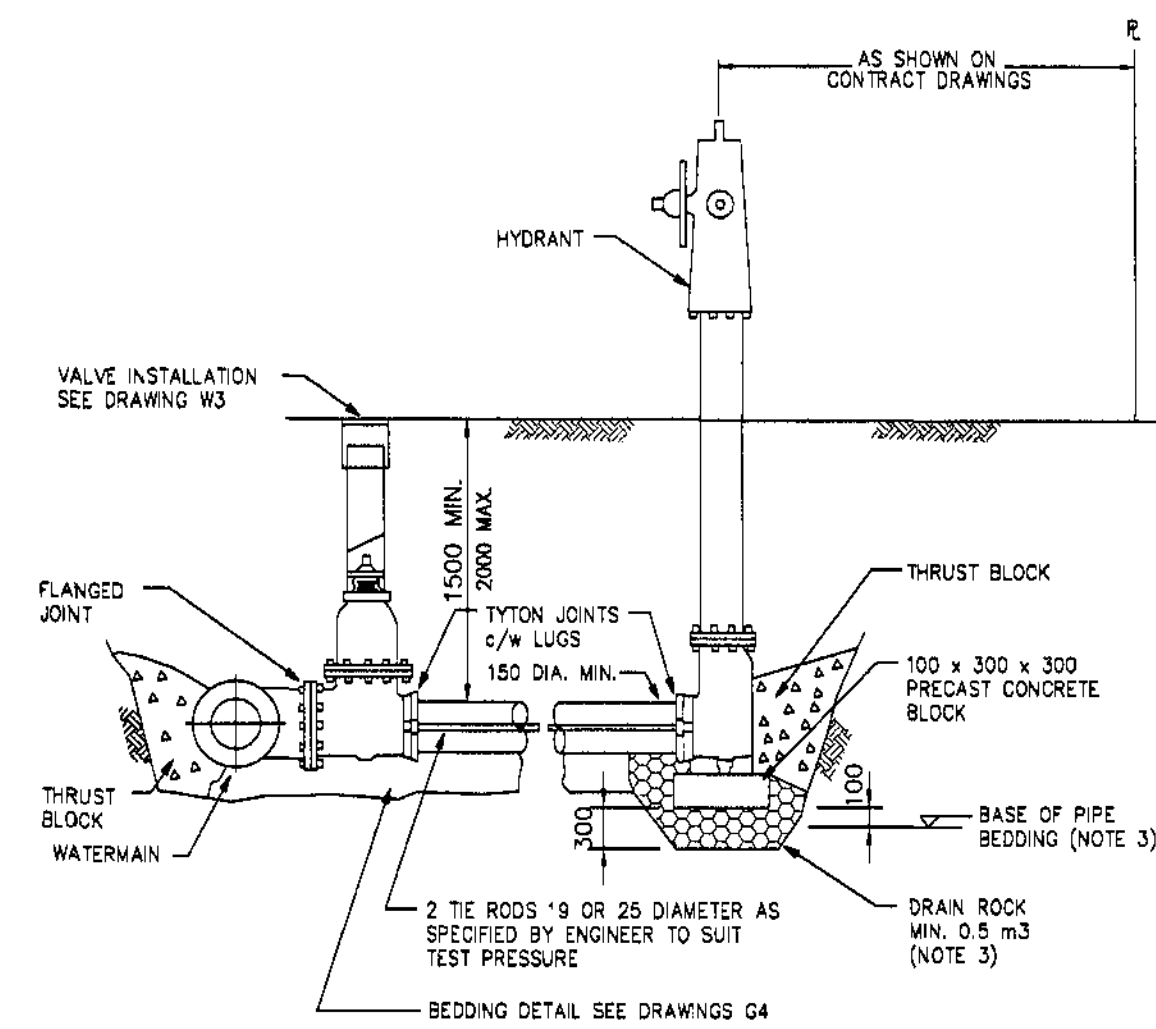


GENERAL ARRANGEMENTS - ELEVATIONS

- NOTE: 1. REFER TO CONTRACT DRAWINGS FOR SPECIFIED BEARING AREAS OF THRUST BLOCKS AND/OR SPECIFIC REQUIREMENTS NOT SHOWN ON THIS DRAWING.
2. PLACE 6 mil POLYETHYLENE ON INTERFACE BETWEEN CONCRETE AND FITTING.
3. PLACE 20 MPa CONCRETE AGAINST UNDISTURBED GROUND; KEEP CONCRETE CLEAR OF FITTING JOINTS.
4. REFER TO CONTRACT DRAWINGS AND SECTIONS 02656 AND 03300 FOR DETAILED SPECIFICATIONS.

TYPICAL THRUST BLOCK ARRANGEMENTS

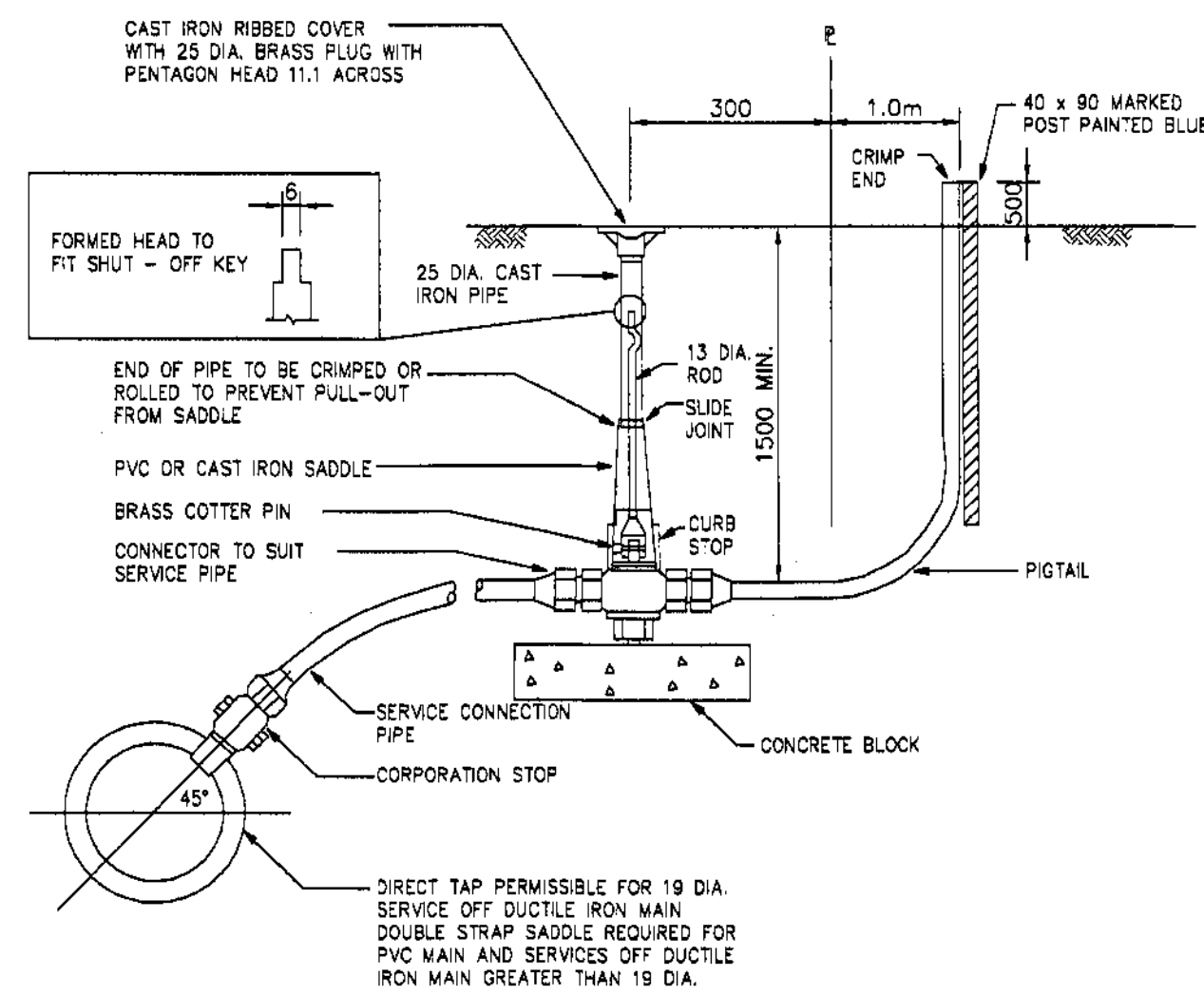
STANDARD DRAWING NUMBER W1
N.T.S.



- NOTE: 1. REFER TO SUPPLEMENTAL SPECIFICATIONS FOR HYDRANT PAINTING REQUIREMENTS.
2. REFER TO CONTRACT DRAWINGS AND SECTION 02656 FOR DETAILED SPECIFICATIONS.
3. FOR INSTALLATIONS SHOWN ON CONTRACT DRAWINGS WHERE WATER TABLE (AT SEASONAL HIGH) IS ABOVE BASE OF DRAIN ROCK, (COMPACT PIPE BEDDING TO 95% MODIFIED PROCTOR DENSITY)

FIRE HYDRANT INSTALLATION

STANDARD DRAWING NUMBER W4
N.T.S.



- NOTE: 1. THIS DETAIL FOR SERVICES 19 TO 50mm ONLY.
2. INSTALL SERVICE PIPE WITH "GOOSE NECK" IN HORIZONTAL POSITION.
3. WHEN CURB STOP INSTALLED IN DRIVEWAY PLACE COVER IN CHAMBER. MARK "WATER" SEE DRAWING S9 FOR TYPICAL DETAIL.
4. REFER TO CONTRACT DRAWINGS AND SECTION 02656 FOR DETAILED SPECIFICATIONS.

WATER SERVICE CONNECTION

STANDARD DRAWING NUMBER W25
N.T.S.

GENERAL NOTES

- ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE.
- NO VARIATION TO THIS DRAWING SHALL BE PERMITTED UNLESS UNLESS AUTHORIZED IN WRITING BY ENGINEER.
- TO AWWA C906 STANDARDS.
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- IN AREAS WHERE BEDROCK IS ENCOUNTERED THE MINIMUM SEPARATION BETWEEN THE TREATED WATER MAIN, 0.45m ABOVE THE OTHER MAINS, ALL JOINTS SHALL BE WRAPPED. THE RAW WATER MAIN SHALL BE 1.0m HORIZONTALLY FROM THE SEWER AND STORM MAINS, WITH THE RAW WATER MAIN 0.45m ABOVE THE SEWER AND STORM MAINS, ALL JOINTS SHALL BE WRAPPED.
- WHERE SERVICE MAIN SLOPES EXCEED 15% CONTRACTOR TO INSTALL PIPE ANCHOR BLOCKS. MAXIMUM SPACING OF BLOCKS NOT TO EXCEED 10.0m. (SEE DETAIL DWG. G8, MMCD)
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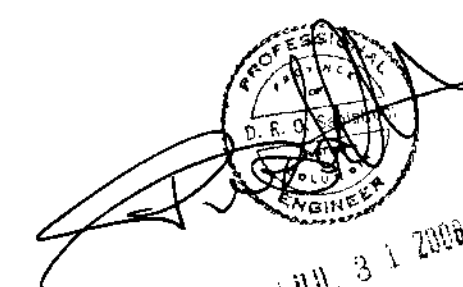
Test Pressure (P)	200 psi = 500 kPa			
Bearing Capacity (Bc)	3000 psf = 144.0 kPa			
Bearing Area of Thrust Block = T / Bc				
Diameter (mm)		150		
Factor of Safety		1.5		
Watermain Fitting	Thrust Force (kN)	Bearing Area (sq. m)	Thrust Block Dims. Height (mm)	Length (mm)
Bend 5 degree	0.8	0.01	225	36
Bend 11.25 degree	1.7	0.02	225	80
Bend 22.5 degree	3.4	0.04	225	160
Bend 45 degree	6.8	0.07	225	313
Bend 90 degree	12.5	0.13	225	578
Tee/Cap (T = PA)	8.6	0.09	225	409

THRUST BLOCK CALCULATIONS

ACCEPTED FOR FILING

DATE: 2008

R. Lowery
Secretary to the Comptroller of Water Rights



"AS CONSTRUCTED" WATER EXTENSION

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A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	06/05/08	GENERAL REVISION - PRV DETAIL ADDED		

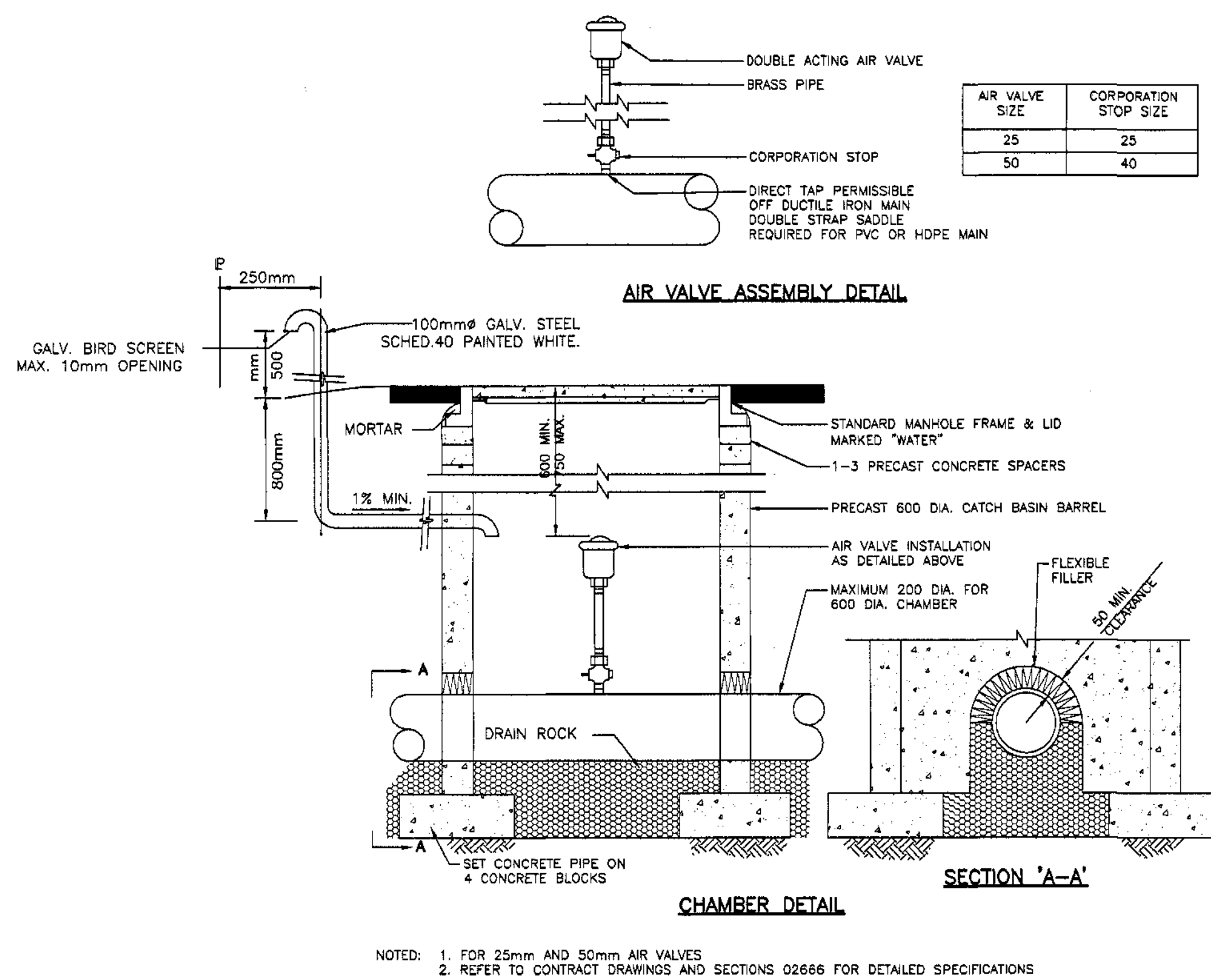
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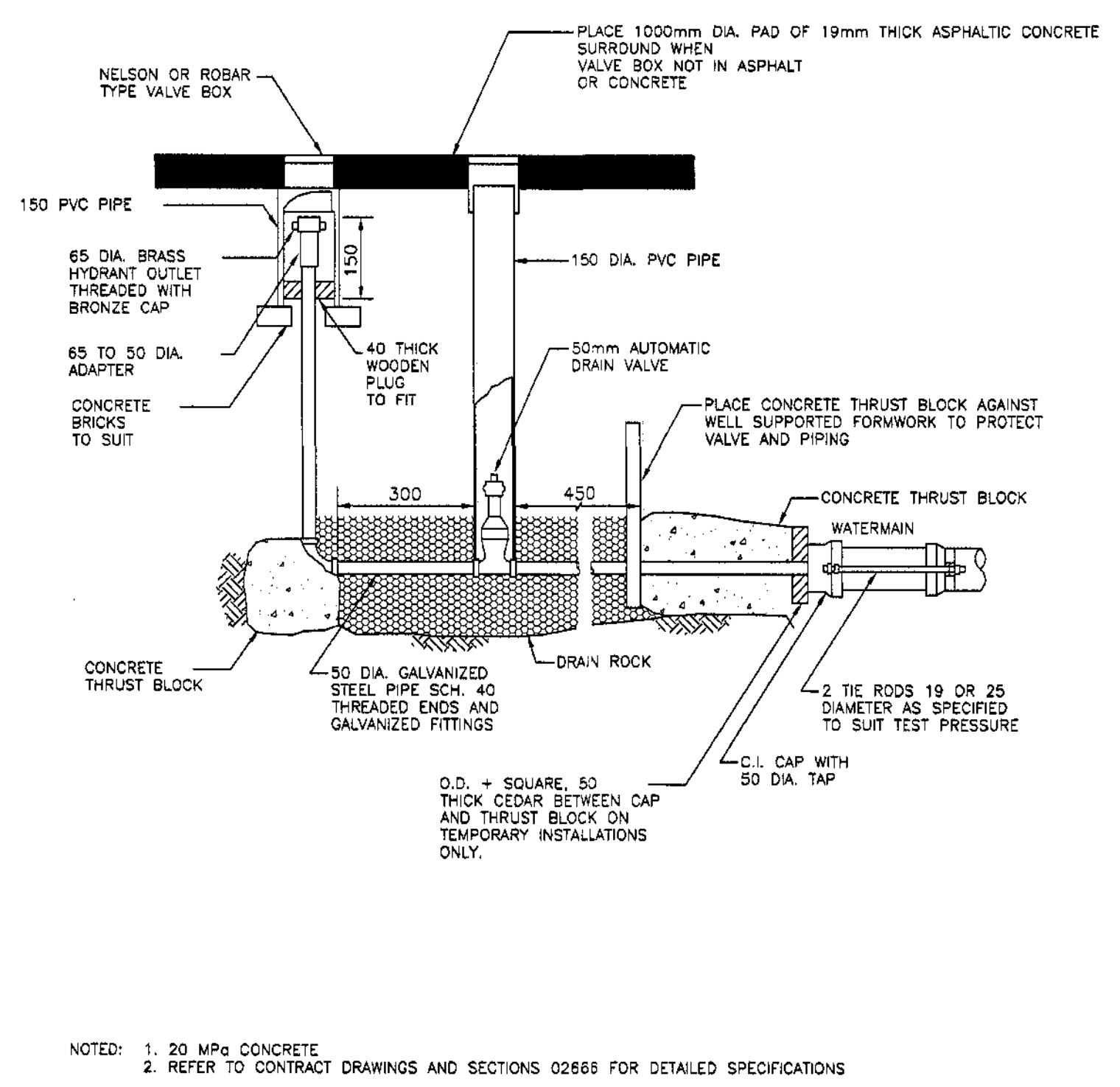
**KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.**
**WATER DESIGN
TYPICAL MMCD DETAILS**

SCALE:	AS NOTED
DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	12

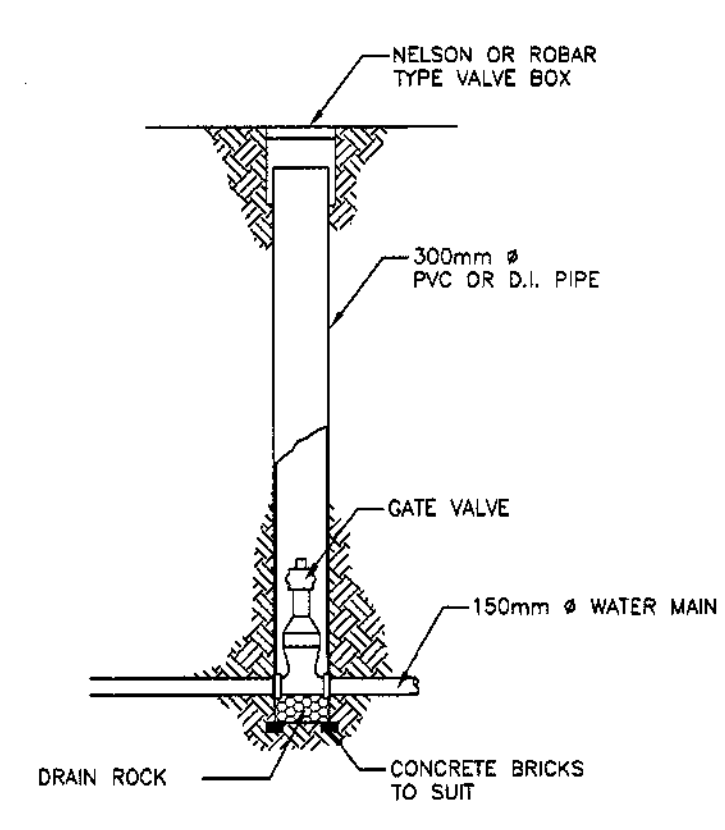
RECEIVED
UTILITY REGULATION SECTION
OCT - 2 2008
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ACK
ANS



AIR VALVE ASSEMBLY
STANDARD DRAWING NUMBER W6
N.T.S.



BLOW-OFF (FLUSH OFF VALVE) FOR WATERMAIN
STANDARD DRAWING NUMBER W6
N.T.S.



ISOLATION VALVE DETAIL

GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. NO VARIATION TO THIS DRAWING SHALL BE PERMITTED UNLESS UNLESS AUTHORIZED IN WRITING BY ENGINEER.
3. TO AWWA C906 STANDARDS.
4. PRESSURE AND LEAKAGE TESTING IN ACCORDANCE WITH AWWA. DISINFECTION IN ACCORDANCE TO C651 AWWA.
5. WATER MAINS HDPE SDR 13.5 WATER PIPE
6. FOR DETAIL REFERENCE DRAWINGS & SPECIFICATIONS REFER TO THE MASTER MUNICIPAL CONSTRUCTION DOCUMENT (MMCD) VOLUME 2, INSTRUCTIONS TO TENDERS - PART 2 GENERAL CONDITIONS, SPECIFICATIONS, & STANDARD DETAIL DRAWINGS.
7. WHERE WATER & SEWER CONDUITS CROSS, LAY WATER MAIN ABOVE. LAY PIPE WITH MIDDLE OF PIPE LENGTHS LOCATED AT CROSSING POINT. WRAP JOINTS WITH "DENSO" TAPE OR APPROVED EQUIVALENT WHEN 3.0m HORIZONTAL AND 0.45m VERTICAL SEPARATION BETWEEN MAINS CANNOT BE MAINTAINED.
8. A HORIZONTAL SEPARATION OF 3.0m IS REQUIRED BETWEEN WATER AND SEWER MAINS. FOR SEPARATIONS OF LESS THAN 3.0m ALL WATER MAINS SHALL BE WRAPPED WITH "DENSO" TAPE OR EQUIVALENT
9. WHERE SERVICE MAIN SLOPES EXCEED 15%, CONTRACTOR TO INSTALL PIPE ANCHOR BLOCKS. MAXIMUM SPACING OF BLOCKS NOT TO EXCEED 10.0m. (SEE DETAIL DWG. G8, MMCD)
10. ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE MMCD STANDARD CONSTRUCTION SPECIFICATIONS.

EXISTING UTILITIES

THE LOCATION OF ALL EXISTING UTILITIES INCLUDING UNDERGROUND, SURFACE AND OVERHEAD UTILITIES SHOWN ON THE DRAWINGS IS NOT GUARANTEED, NOR IS IT GUARANTEED THAT ALL UTILITIES WHICH MAY BE ENCOUNTERED ARE SHOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL THE UTILITIES AND PAYING FOR ANY DAMAGE RESULTING FROM HIS ENCOUNTERING THEM.

CONCRETE:

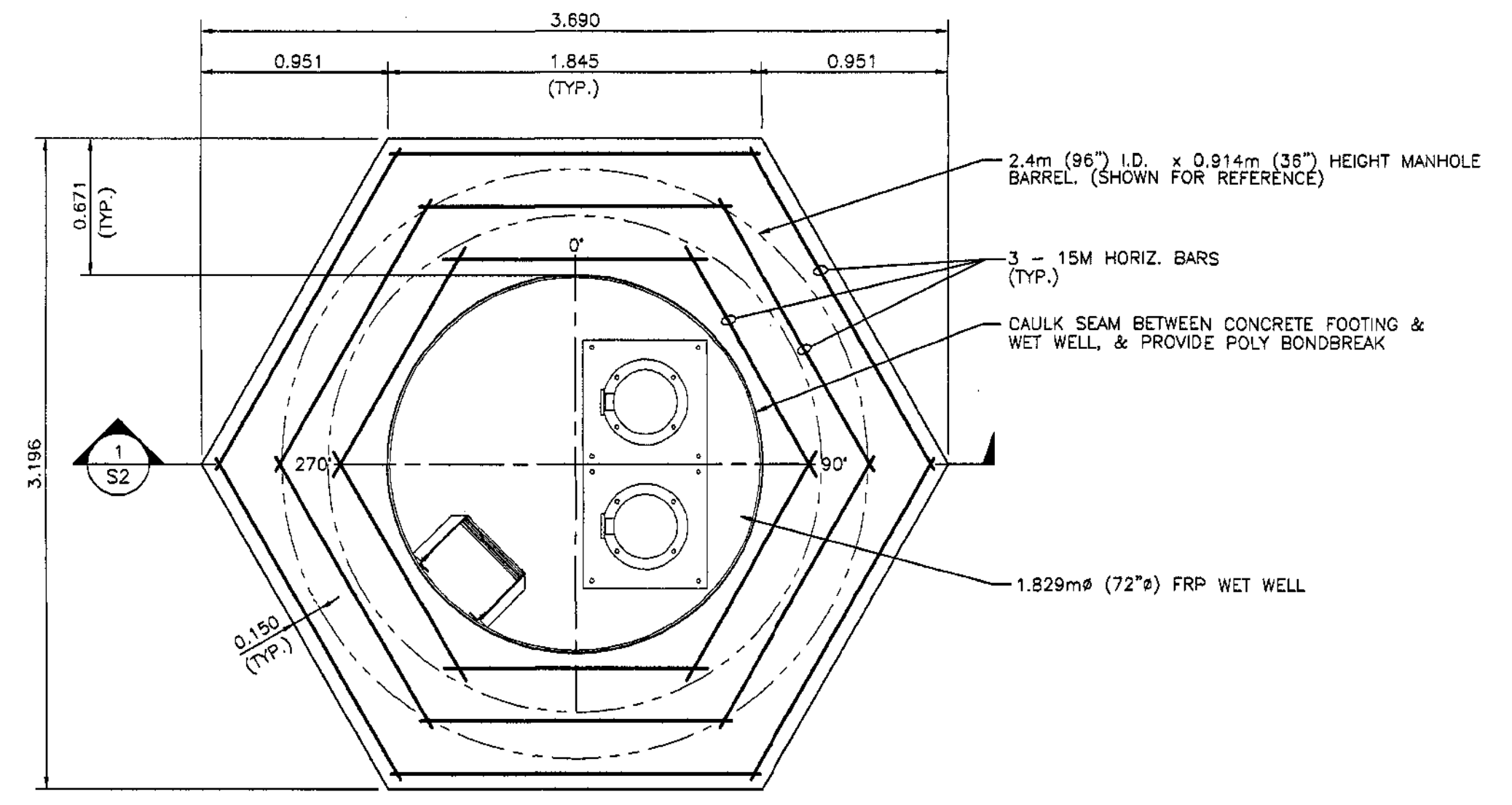
1. PROVIDE CONCRETE AND PERFORM WORK TO CSA-A23.1.
 2. MINIMUM 28 DAY COMPRESSIVE STRENGTHS AS INDICATED BELOW. ALL CONCRETE NORMAL WEIGHT - 150 PCF, TYPE 10 CEMENT, TYPE F FLYASH, MAXIMUM 19mm AGGREGATE FOR ALL CONCRETE EXCEPT 32mm MAXIMUM AGGREGATE FOR CHUTE PLACED SLABS ON GRADE. SUBMIT PROPOSED MIX DESIGN TO THE ENGINEER FOR APPROVAL.
- | LOCATIONS | STRENGTH MPa (PSI) | AIR % | SLUMP | +20mm EXPOS. CLASS |
|-------------------------|--------------------|-------|-------|--------------------|
| FOOTINGS | 25 (3600) | 1-4 | 70 | - |
| SUSPENDED SLABS & BEAMS | 25 (3600) | 4-7 | 70 | F2 |
| RETAINING WALL | 25 (3600) | 4-7 | 70 | F2 |
| INTERIOR S.O.G. | 25 (3600) | 1-4 | 60 | - |
| EXPOSED S.O.G. | 32 (4640) | 4-8 | 60 | C2 |
| WALLS & COLUMNS | 25 (3600) | 1-4 | 70 | - |
| | 30 (4350) | 4-7 | 70 | F2 |
3. DO NOT USE ADMIXTURES OTHER THAN AIR ENTRAINMENT, STANDARD WATER REDUCERS OR SUPER PLASTICIZERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
 4. REJECT ALL CONCRETE WHEN TIME BETWEEN BATCHING AND PLACING EXCEEDS 2 HOURS.
 5. DO NOT ADD WATER TO THE CONCRETE ON SITE. UNLESS AUTHORIZED BY THE ENGINEER.
 6. CONSOLIDATE ALL CONCRETE USING MECHANICAL VIBRATORS.
 7. CONTROL JOINTS FOR SLAB-ON-GRADE: SAWCUT AS SOON AS POSSIBLE AT MAXIMUM 6.1m SPACING OR AT LOCATIONS SHOWN ON THE DRAWINGS.
 8. CONSTRUCTION JOINTS: AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
 9. PROTECT CONCRETE FROM ADVERSE WEATHER CONDITIONS IN ACCORDANCE WITH CSA A23.1
 10. CONSTRUCT FORMWORK IN ACCORDANCE WITH WCB REGULATIONS AND CSA S289.3. FORMWORK DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR.

REINFORCEMENT:

1. NEW DEFORMED BARS TO CSA G30.19 GRADE 400 (60 KSI). WELDED WIRE FABRIC TO CSA G30.5. ANCHOR BOLTS TO ASTM A307.
2. PLACE REINFORCING BARS TO CSA A23.1. TIE ALL BARS SECURELY IN PLACE TO PREVENT DISPLACEMENT. SUPPORT SLAB REINFORCING ON SUITABLE CHAIRS OR SUPPORTS AT MAXIMUM 4 FT. CENTERS. PROVIDE CORNER BARS TO MATCH HORIZONTAL WALL REBAR.
3. PROVIDE CLEAR CONCRETE COVER FOR REBAR AS FOLLOWS:

REINFORCING	COVER
SURFACE POURED AGAINST GROUND	75mm
FORMED SURFACE EXPOSED TO GROUND	50mm
OR WEATHER	50mm
BEAMS	50mm TO MAIN STEEL
COLUMNS	50mm TO MAIN STEEL
SLABS, WALLS	25mm
4. SPLICE REBAR AS FOLLOWS (UNLESS OTHERWISE NOTED):

BAR SIZE	10M	15M	20M	25M	30M
LAP SPLICE	450mm	635mm	790mm	1295mm	1800mm
5. MINIMUM 2-15M REINFORCING AROUND OPENING LARGER THAN 300mm AT EACH SIDE OF OPENING. EXTEND 600mm PAST CORNER.
6. CONTRACTOR TO PROVIDE 24 HOURS NOTICE FOR REBAR INSPECTION.



MANHOLE BARREL FOUNDATION PLAN
SCALE: 1:25

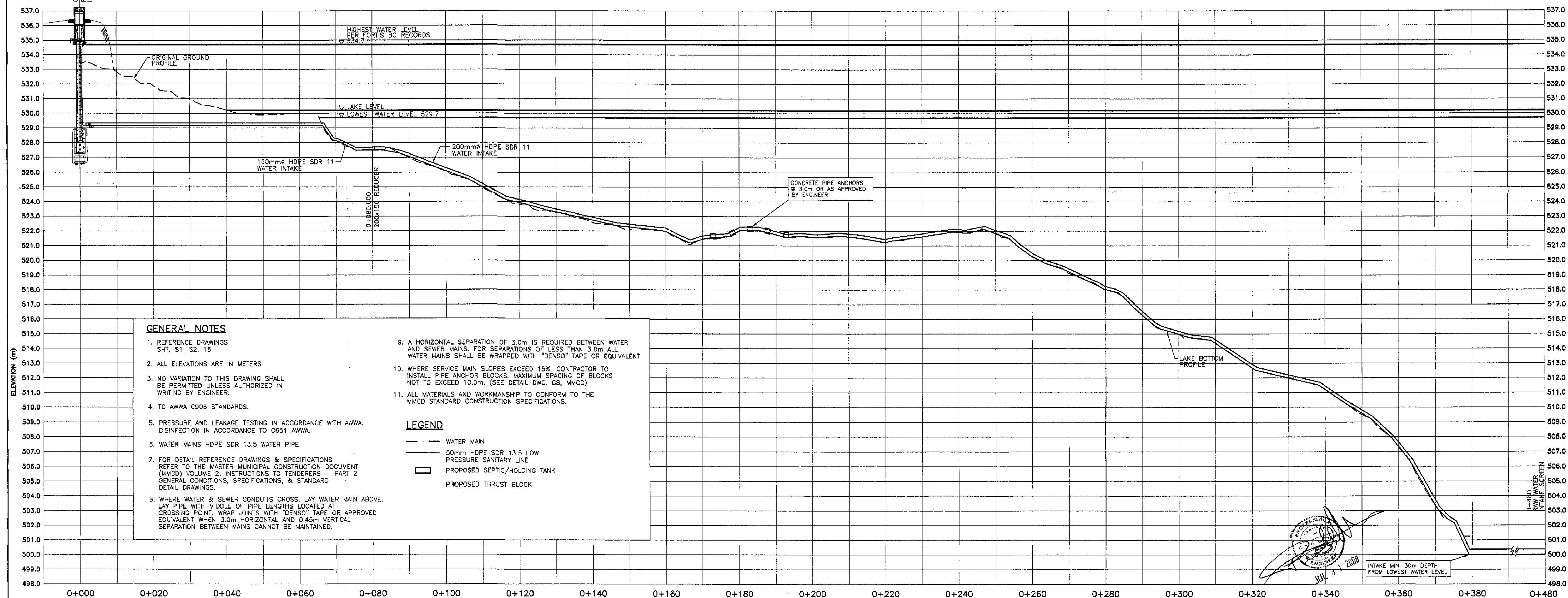
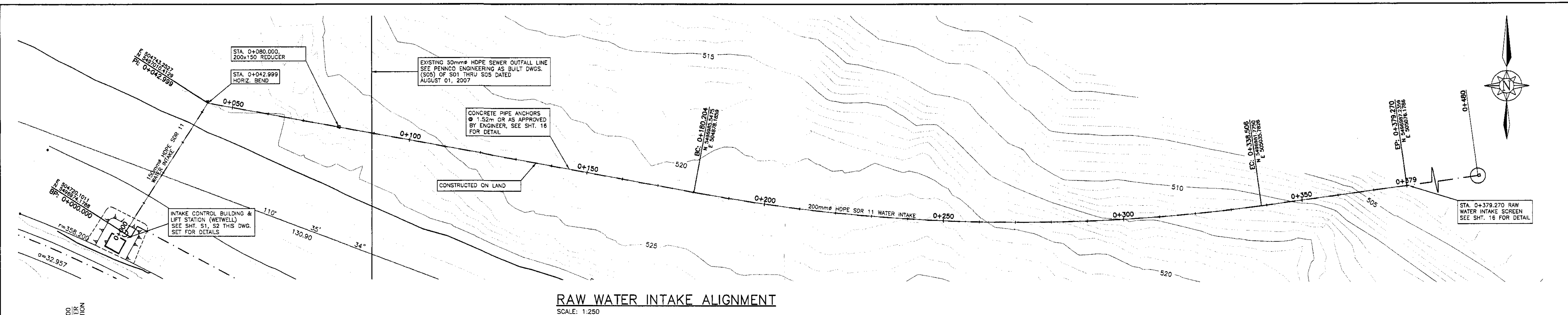
NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
B	07/23/08	AS CONSTRUCTED, WATER EXTENSION							
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	05/22/08	MANHOLE BARREL FOUNDATION PLAN ADDED		

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2248 Columbia Ave. Castlegar, B.C. V1N 2X1 Ph: (250) 365-3696

DSGN:	DS	KOOTENAY LAKE VILLAGE PHASE 3 UPHILL PROCTER, B.C. WATER DESIGN TYPICAL MMCD DETAILS	SCALE:	AS NOTED
DWN:	GSG		DWG FILE:	C07219-001-01
CHK:	DS		JOB:	C07219-001
DATE DWN:	JULY 2008		SHEET:	13 B

ACCEPTED FOR FILING
DATE: 2008
R. L. L. L.
Secretary to the Comptroller of Water Rights

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OCT - 2 2008
REF: WLR-2008-132854
ACK: WLR-2008-132854
Page



GENERAL NOTES

- REFERENCE DRAWINGS
SHT. S1, S2, 16
- ALL ELEVATIONS ARE IN METERS
- NO VARIATION TO THIS DRAWING SHALL BE PERMITTED UNLESS AUTHORIZED IN WRITING BY ENGINEER.
- TO AWWA C906 STANDARDS.
- PRESSURE AND LEAKAGE TESTING IN ACCORDANCE WITH AWWA. DISINFECTION IN ACCORDANCE TO C651 AWWA.
- WATER MAINS HDPE SDR 13.5 WATER PIPE
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- ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE MMCD STANDARD CONSTRUCTION SPECIFICATIONS.

LEGEND

- WATER MAIN
- 50mm HDPE SDR 13.5 LOW PRESSURE SANITARY LINE
- PROPOSED SEPTIC/HOLDING TANK
- PROPOSED THRUST BLOCK

RAW WATER INTAKE PROFILE

SCALE: H: 1:500, V: 1:125

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
B	07/23/08	AS CONSTRUCTED, WATER EXTENSION							
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	06/05/08	GENERAL REVISION		

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DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: JULY 2008

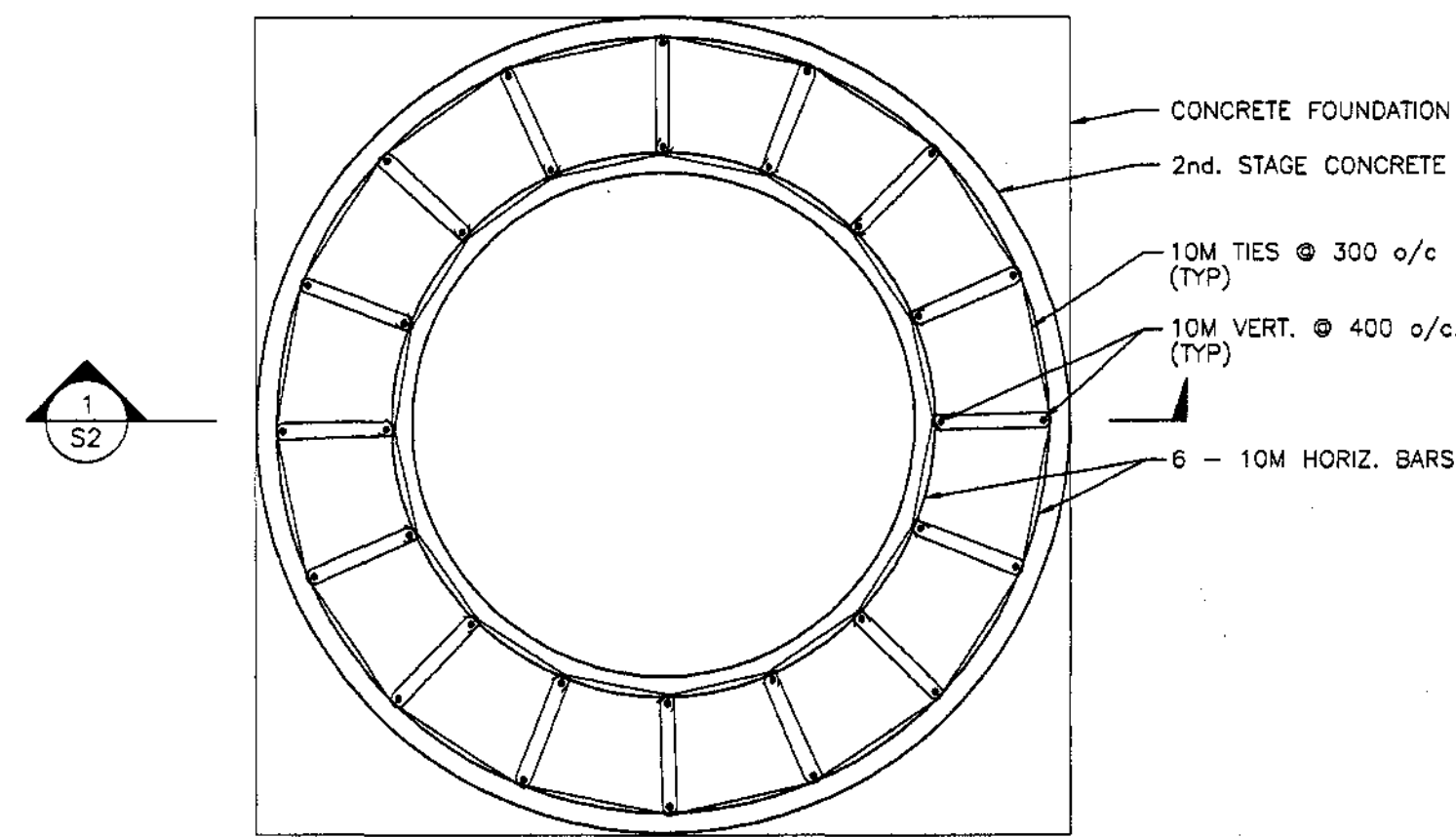
KOOTENAY LAKE VILLAGE
PHASE 3, UPHILL
PROCTER, B.C.
WATER DESIGN - LAKE INTAKE
STA. 0+000 TO 0+379.270

SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 15 B

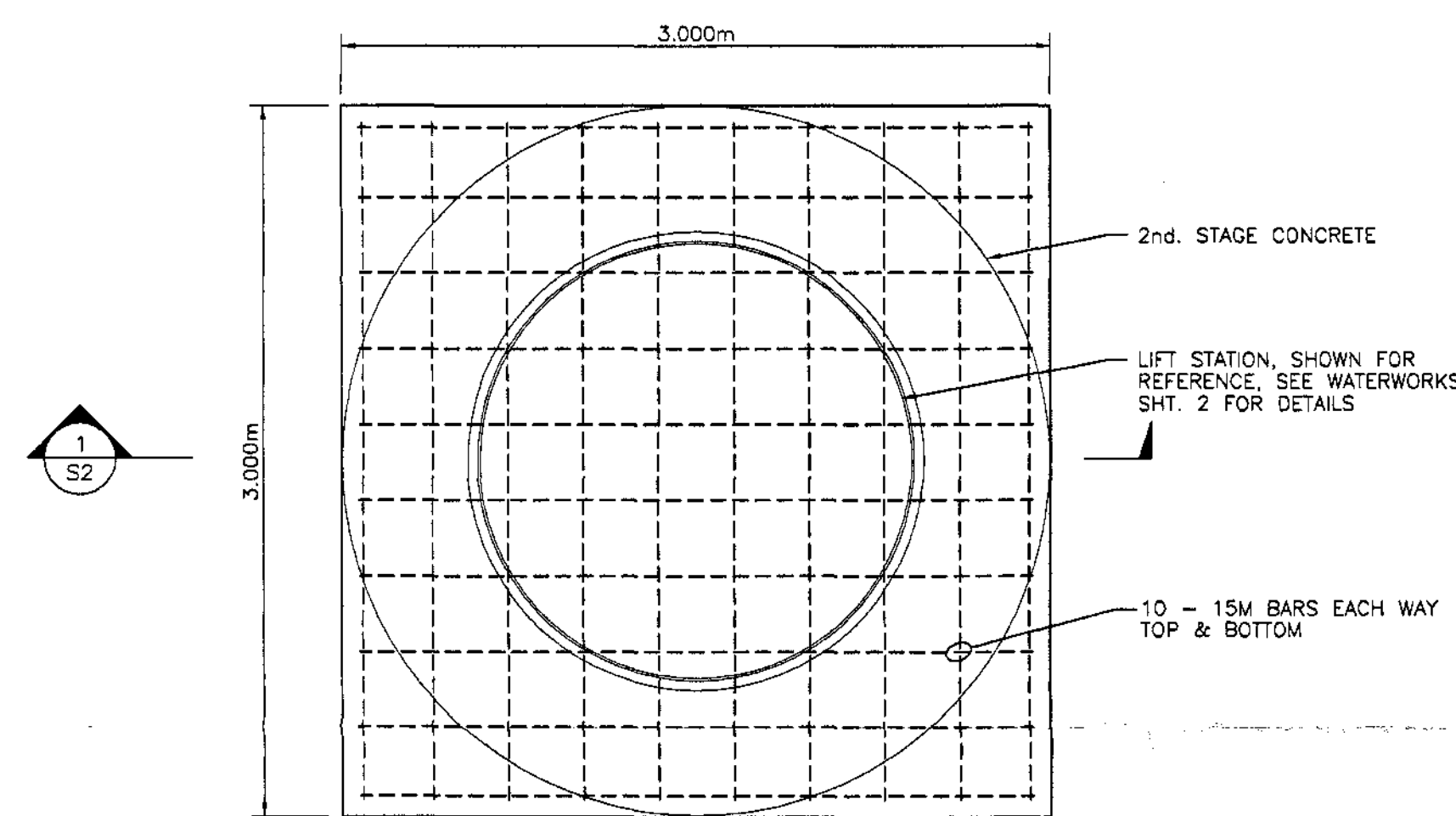
ACCEPTED FOR FILING
DATE: 2008
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(SHT. 14, NOT USED)

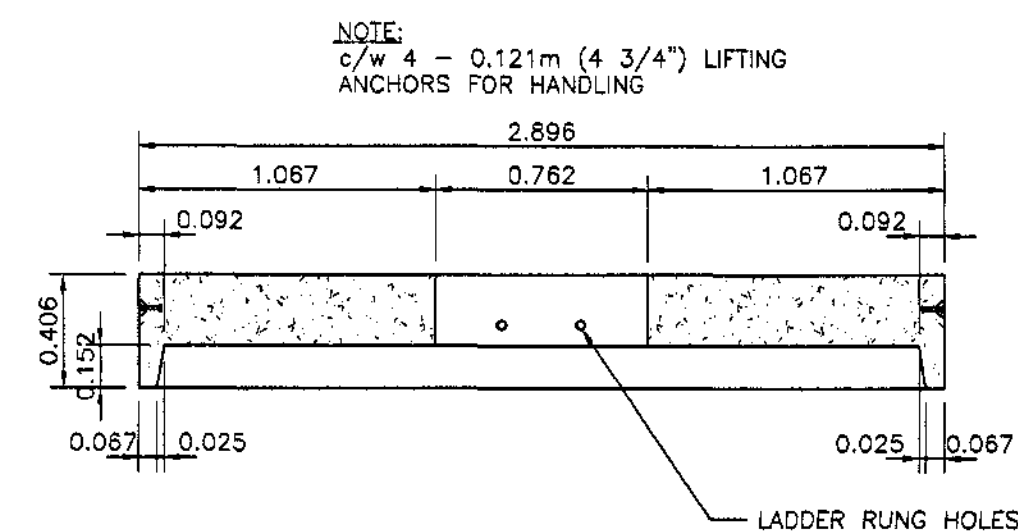
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UTILITY REGULATION SECTION
OCT - 2 2008
REF: WLR-2003-132854 8 of 39 Page



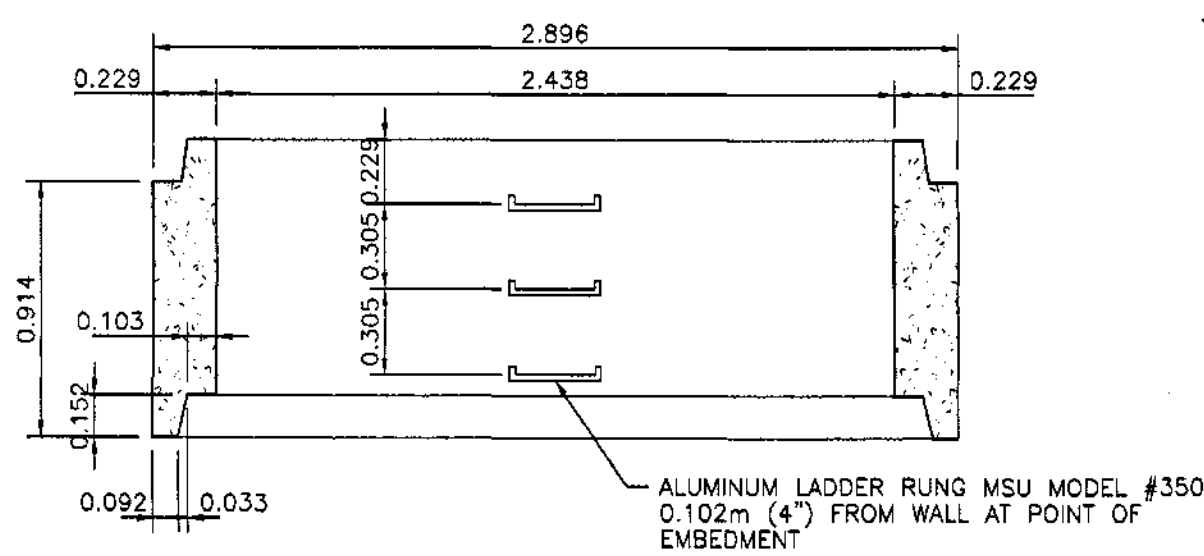
LIFT STATION - 2nd STAGE CONCRETE
SCALE: 1:25



LIFT STATION FOUNDATION PLAN
SCALE: 1:25



MANHOLE COVER - KONKAST ITEM 791
SCALE: 1:25

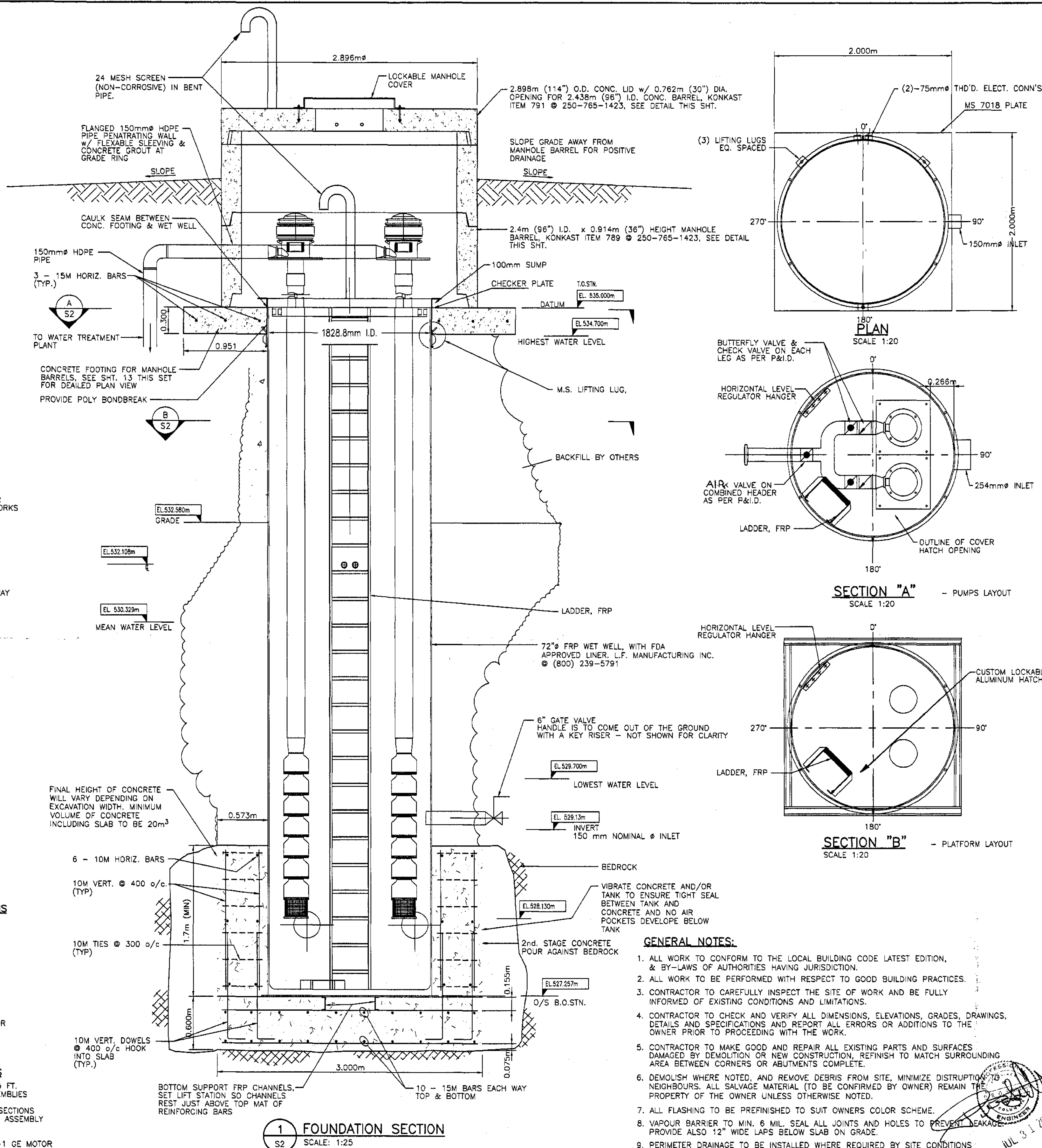


MANHOLE BARREL - KONKAST ITEM 789
SCALE: 1:25

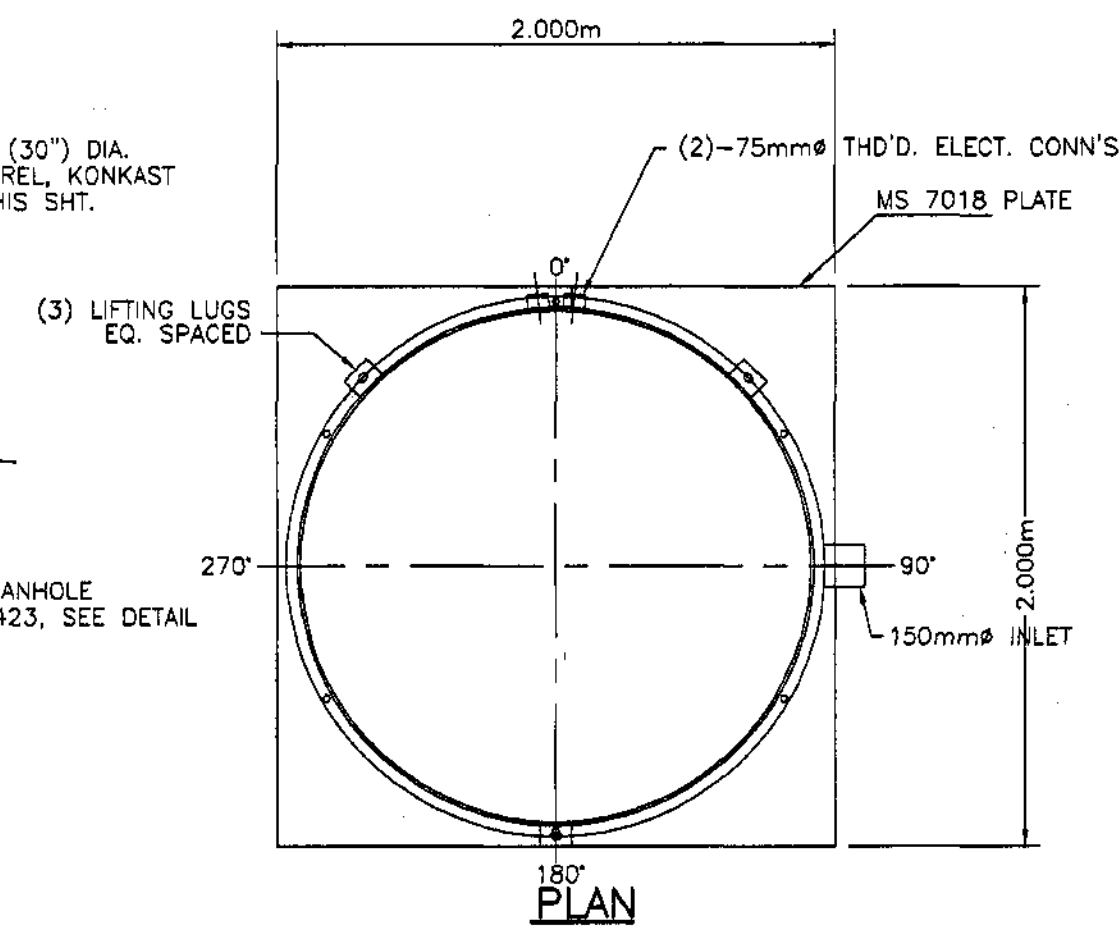
NOTES: PUMP SPECIFICATIONS

PUMP PARTS:
CAST IRON BOWLS
FLANGED BOWLS
BRONZE IMPELLERS
STEEL COLLETS
146SS BOWL SHAFT
STRAINER MATERIAL - 316SS
316SS LIFSHAFT COUPLING
150# FLANGE
DRIVER PARTS:
VERTICAL HOLLOW SHAFT MOTOR
MOTOR ENCLOSURE W/PI
NON-REVERSE COUPLING ON MOTOR
OPERATING CONDITIONS:
FLOW RATED: 32 M³/H
HEAD, RATED: 85 M

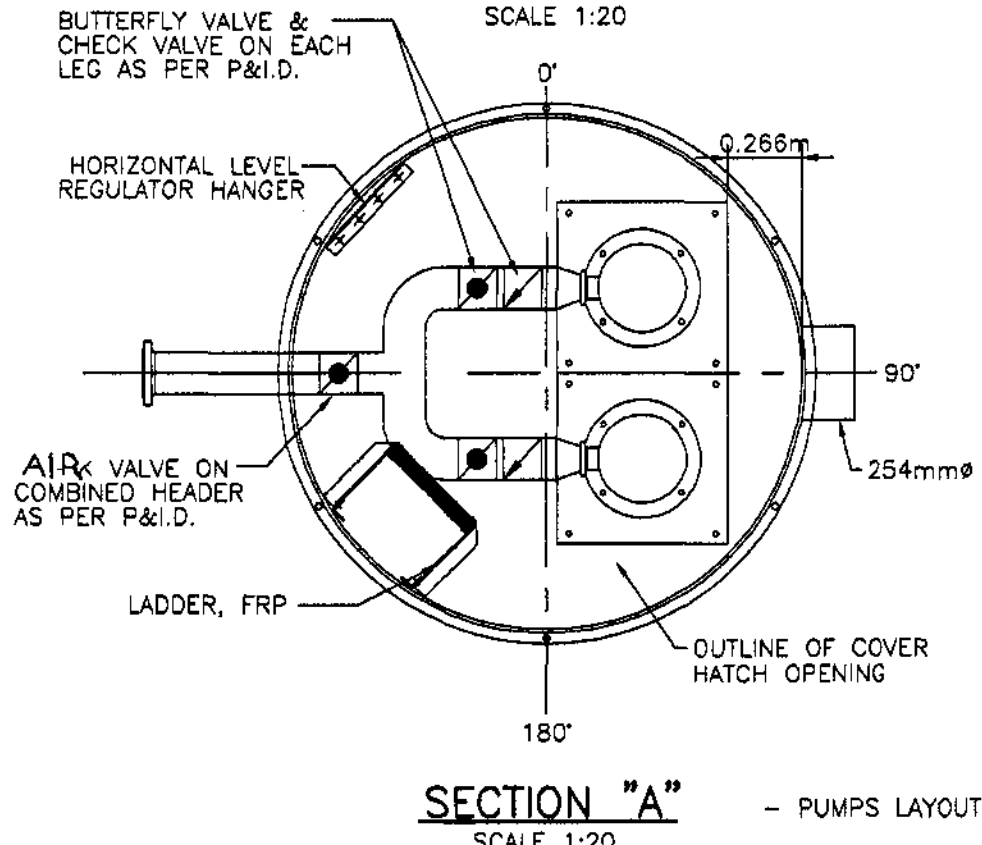
FAIRBANKS MORSE 883+ LINE SHAFT TURBINE PUMPS
- RATED 141 U.S. GALLON @ 345 FT.
- DT TYPE DISCHARGE HEAD ASSEMBLIES
(WITH PACKING BOX)
- 4"x5" COLUMN ASSEMBLY x 3 SECTIONS
- 25mm (1") LINE SHAFTING AND ASSEMBLY
- 3 STAGE BOWL ASSEMBLY
- BASKET STRAINER
- 20 HP-3600 RPM - 3PH-WP-1 GE MOTOR



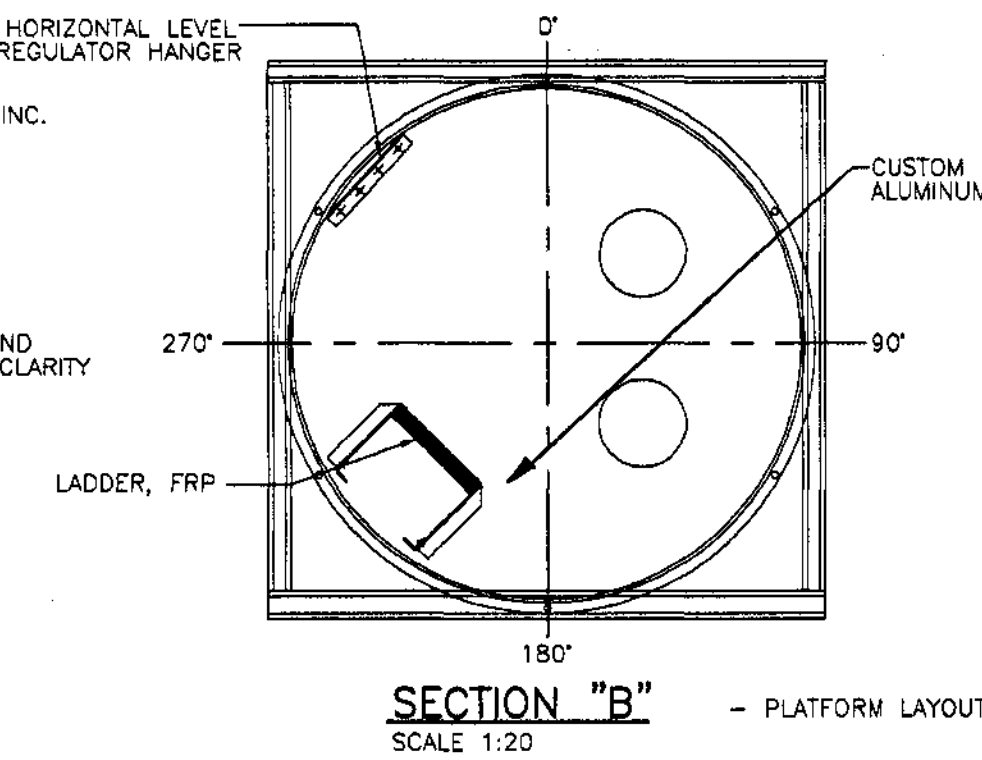
FOUNDATION SECTION
SCALE: 1:25



PLAN
SCALE: 1:20



SECTION "A" - PUMPS LAYOUT
SCALE: 1:20



SECTION "B" - PLATFORM LAYOUT
SCALE: 1:20

GENERAL NOTES:

- ALL WORK TO CONFORM TO THE LOCAL BUILDING CODE LATEST EDITION, & BY-LAWS OF AUTHORITIES HAVING JURISDICTION.
- ALL WORK TO BE PERFORMED WITH RESPECT TO GOOD BUILDING PRACTICES.
- CONTRACTOR TO CAREFULLY INSPECT THE SITE OF WORK AND BE FULLY INFORMED OF EXISTING CONDITIONS AND LIMITATIONS.
- CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS, ELEVATIONS, GRADES, DRAWINGS, DETAILS AND SPECIFICATIONS AND REPORT ALL ERRORS OR ADDITIONS TO THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
- CONTRACTOR TO MAKE GOOD AND REPAIR ALL EXISTING PARTS AND SURFACES DAMAGED BY DEMOLITION OR NEW CONSTRUCTION, REFINISH TO MATCH SURROUNDING AREA BETWEEN CORNERS OR ABUTMENTS COMPLETE.
- DEMOLISH WHERE NOTED, AND REMOVE DEBRIS FROM SITE, MINIMIZE DISTURBANCE TO NEIGHBOURS. ALL SALVAGE MATERIAL (TO BE CONFIRMED BY OWNER) REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE NOTED.
- ALL FLASHING TO BE PREFINISHED TO SUIT OWNERS COLOR SCHEME.
- VAPOUR BARRIER TO MIN. 6 MIL. SEAL ALL JOINTS AND HOLES TO PREVENT LEAKAGE. PROVIDE ALSO 12" WIDE LAPS BELOW SLAB ON GRADE.
- PERIMETER DRAINAGE TO BE INSTALLED WHERE REQUIRED BY SITE CONDITIONS.

BILL OF MATERIALS	
QTY	DESCRIPTION
3	LIFTING LUGS, MS/FRP
14	HOLD DOWN LUGS, MS/FRP
1	SAFETY LADDER, FRP, PARTIAL LENGTH TO PLATFORM
1	150mm INLET, SDR 35 STUB(SEE SEWER PIPE) BONDED INTO WALL
1	150mm FOREMAN/MAINTAINED FRP, WITH 150mm # FLANGED NOZZLE
16	20mm PUMP BASE BOLTS, 304 SS
6	22mm ANCHOR BOLTS, M.S. (BY OTHERS)
1	HEATER/BLOWER (BY OTHERS)
1	PUMP, CHEM-FEED INJECTOR, 1000X000001
2	PUMP, VERTICAL TURBINE 7 STAGE
1	PLATE, MS 7018 STEEL, 2X2 METERS
2	ELBOW TEE, 4" HDPE
2	VALVE, BUTTERFLY, 4" WHEEL OPERATED
1	VALVE, GATE, 6" OPERATED THROUGH THE KEY RISER
-	-
-	-

GENERAL NOTES

- TANK WALL 120 MIL THICK CORROSION LINER OF ISOPHTHALIC RESIN, C-VEL & CHOPPED, STRAND MAT, A STRUCTURAL BLAD UP OF POLYESTER RESIN, CHOPPED STRAND MAT & PLUMMET WINDING
- ACCESS REQUIRED UNDERNEATH THE 500X500 mm FRP BLOCK OF MOUNTING PUMPS FOR FASTENING NUTS
- REQUIRED NECESSARY FITTINGS FOR CONNECTING 50 mm # GALVANIZED GULF BARS.

CONCRETE:

- PROVIDE CONCRETE AND PERFORM WORK TO CSA-A23.1.
- MINIMUM 28 DAY COMPRESSIVE STRENGTHS AS INDICATED BELOW. ALL CONCRETE NORMAL WEIGHT - 150 PCF, TYPE 10 CEMENT, TYPE F FLYASH, MAXIMUM 19mm AGGREGATE FOR ALL CONCRETE EXCEPT 32mm MAXIMUM AGGREGATE FOR CHUTE PLACED SLABS ON GRADE. SUBMIT PROPOSED MIX DESIGN TO THE ENGINEER FOR APPROVAL.

INDUSTRIAL/COMMERCIAL

LOCATIONS	STRENGTH MPa (PSI)	AIR %	SLUMP	+20mm EXPOS. CLASS
FOOTINGS	25 (3600)	1-4	70	-
SUSPENDED SLABS & BEAMS	25 (3600)	4-7	70	F2
RETAINING WALL	25 (3600)	4-7	70	F2
INTERIOR S.O.G.	25 (3600)	1-4	60	-
EXPOSED S.O.G.	32 (4640)	4-8	60	C2
WALLS & COLUMNS	25 (3600)	1-4	70	-
	30 (4350)	4-7	70	F2

- DO NOT USE ADMIXTURES OTHER THAN AIR ENTRAINMENT, STANDARD WATER REDUCERS OR SUPER PLASTICIZERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- REJECT ALL CONCRETE WHEN TIME BETWEEN BATCHING AND PLACING EXCEEDS 2 HOURS.
- DO NOT ADD WATER TO THE CONCRETE ON SITE, UNLESS AUTHORIZED BY THE ENGINEER.
- CONSOLIDATE ALL CONCRETE USING MECHANICAL VIBRATORS.
- CONTROL JOINTS FOR SLAB-ON-GRADE, SAWCUT AS SOON AS POSSIBLE AT MAXIMUM 6.1m SPACING OR AT LOCATIONS SHOWN ON THE DRAWINGS.
- CONSTRUCTION JOINTS: AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- PROTECT CONCRETE FROM ADVERSE WEATHER CONDITIONS IN ACCORDANCE WITH CSA A23.1
- CONSTRUCT FORMWORK IN ACCORDANCE WITH WCB REGULATIONS AND CSA 259.3. FORMWORK DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR.

REINFORCEMENT:

- NEW DEFORMED BARS TO CSA G30.18 GRADE 400 (60 KSI), WELDED WIRE FABRIC TO CSA G30.5, ANCHOR BOLTS TO ASTM A307.
- PLACE REINFORCING BARS TO CSA A23.1. TIE ALL BARS SECURELY IN PLACE TO PREVENT DISPLACEMENT. SUPPORT SLAB REINFORCING ON SUITABLE CHAIRS OR SUPPORTS AT MAXIMUM 4 FT. CENTERS. PROVIDE CORNER BARS TO MATCH HORIZONTAL WALL REBAR.
- PROVIDE CLEAR CONCRETE COVER FOR REBAR AS FOLLOWS:
SURFACE POURED AGAINST GROUND 75mm
FORMED SURFACE EXPOSED TO GROUND 50mm
OR WEATHER
50mm TO MAIN STEEL
BEAMS
50mm TO MAIN STEEL
COLUMNS
25mm
SLABS, WALLS
- SPlice REBAR AS FOLLOWS (UNLESS OTHERWISE NOTED):
BAR SIZE 10M 15M 20M 25M
LAP SPLICE 460mm 635mm 790mm 1295mm 1800mm
- MINIMUM 2-15M REINFORCING AROUND OPENING LARGER THAN 300mm AT EACH SIDE OF OPENING. EXTEND 600mm PAST CORNER.
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DSGN:	DS
DWN:	GSG
CHK:	DS
DATE DWN:	JULY, 2008

**KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.**

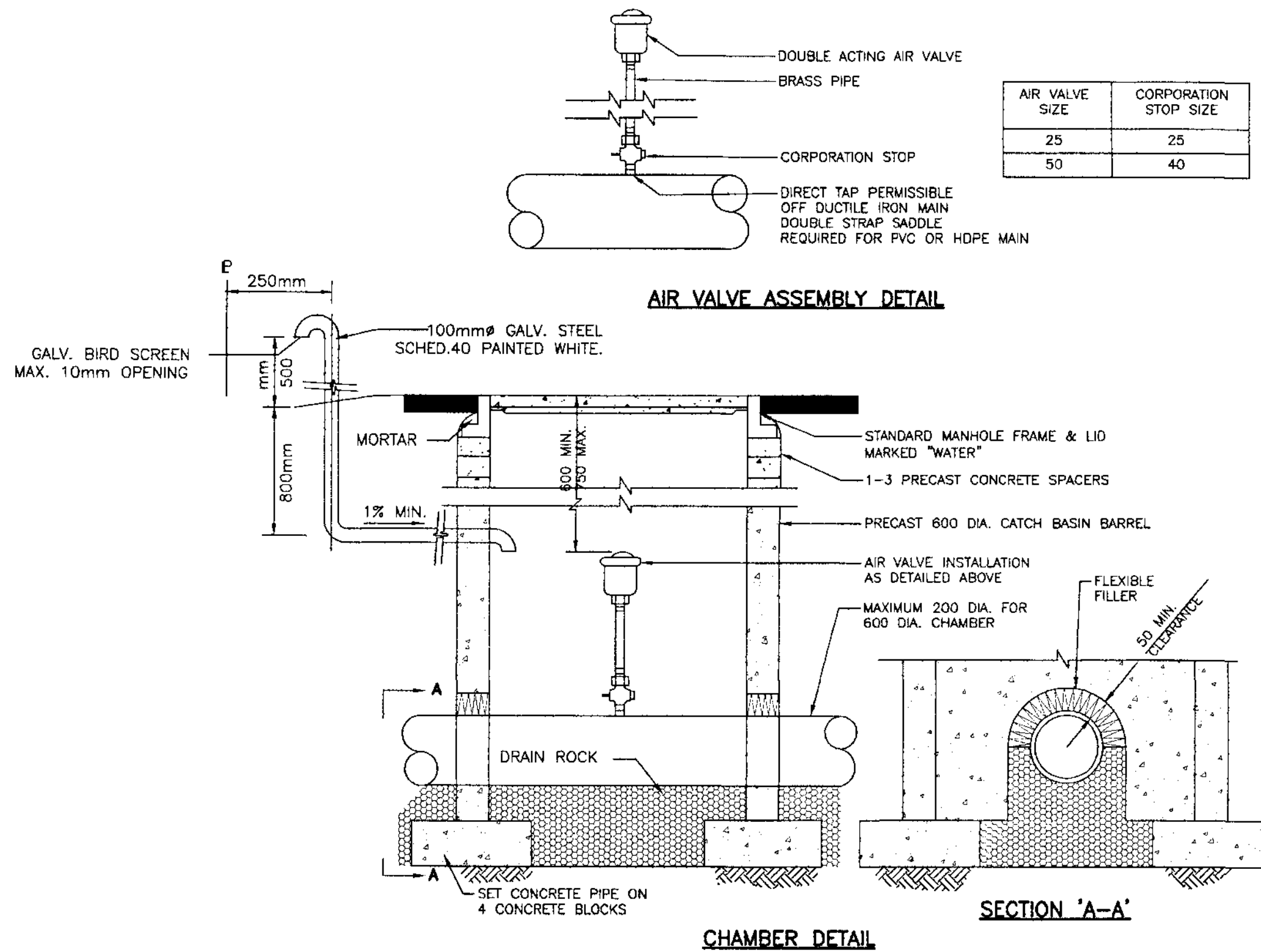
**WATER DESIGN
LIFT STATION FOUNDATION**

SCALE:	AS NOTED
DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	S2 B

ACCEPTED FOR FILING

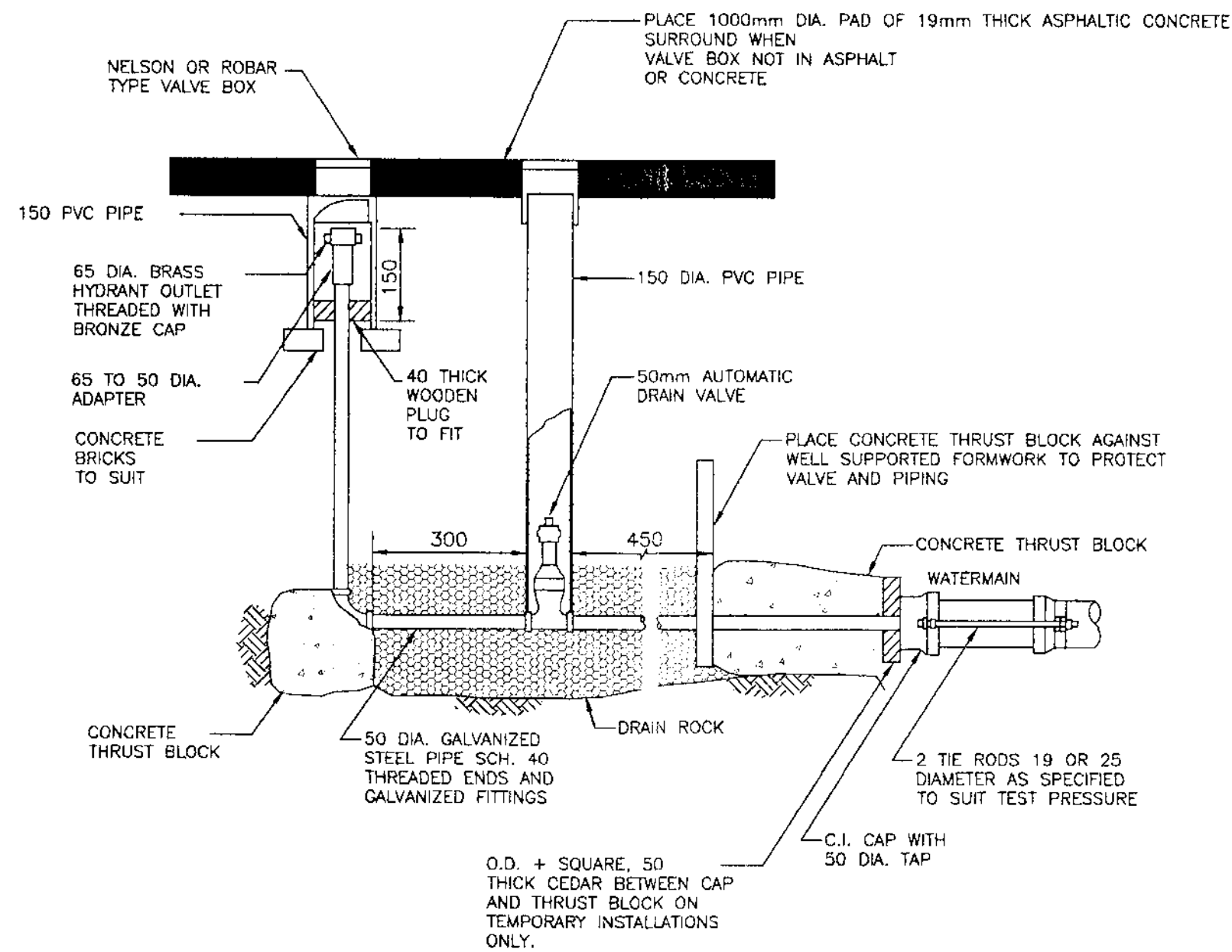
DATE: 2008
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OCT - 2 2008



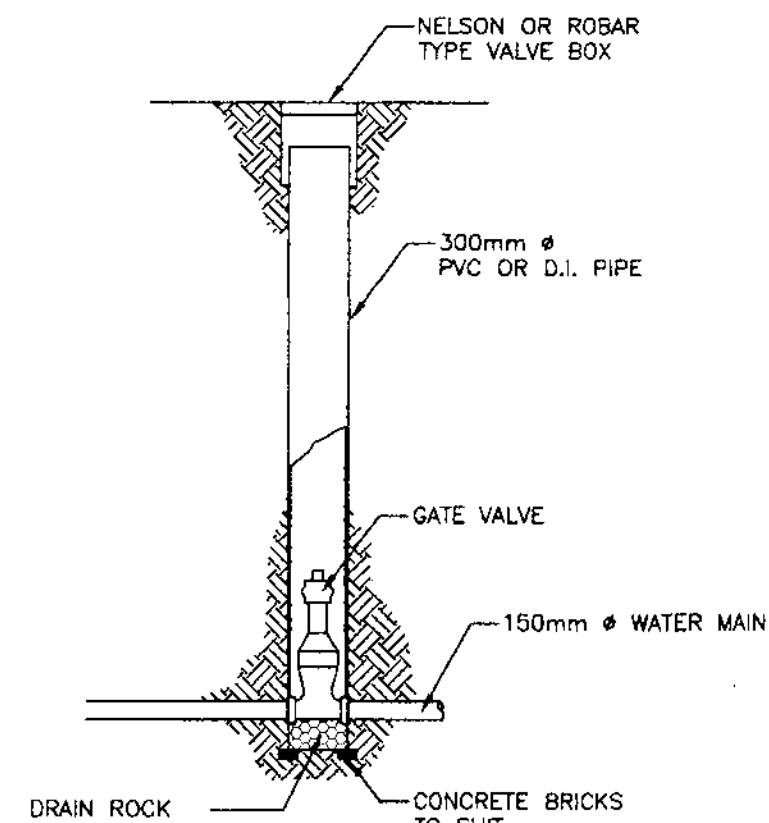
NOTED: 1. FOR 25mm AND 50mm AIR VALVES
2. REFER TO CONTRACT DRAWINGS AND SECTIONS 02666 FOR DETAILED SPECIFICATIONS

AIR VALVE ASSEMBLY
STANDARD DRAWING NUMBER W6
N.T.S.

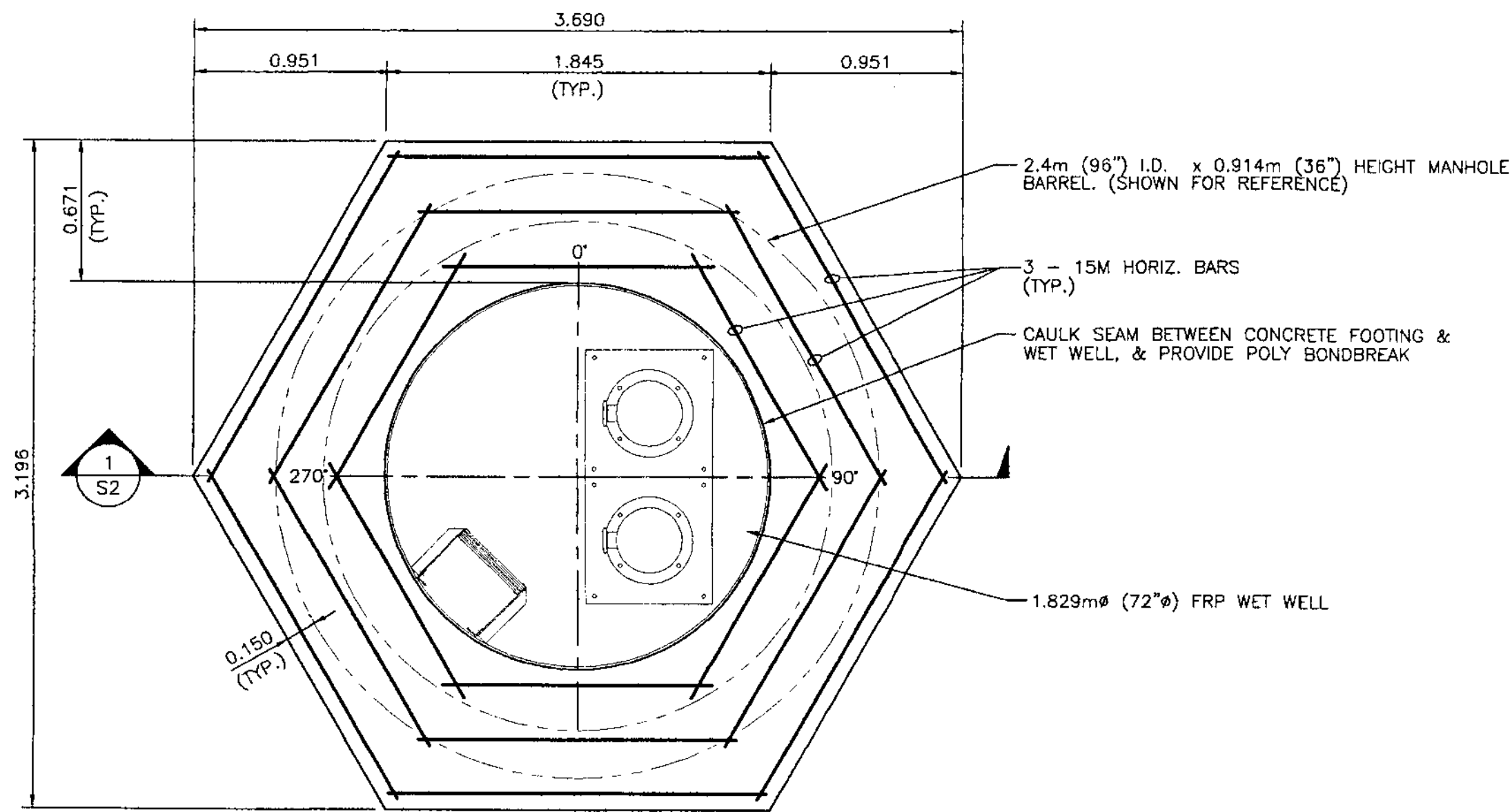


NOTED: 1. 20 MPa CONCRETE
2. REFER TO CONTRACT DRAWINGS AND SECTIONS 02666 FOR DETAILED SPECIFICATIONS

BLOW-OFF (FLUSH OFF VALVE) FOR WATERMAIN
STANDARD DRAWING NUMBER W8
N.T.S.



ISOLATION VALVE DETAIL



MANHOLE BARREL FOUNDATION PLAN
SCALE: 1:25

GENERAL NOTES

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LOCATIONS	STRENGTH MPa (PSI)	AIR %	SUMP +20mm EXPOS. CLASS
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- NEW DEFORMED BARS TO CSA G30.18 GRADE 400 (60 KSI). WELDED WIRE FABRIC TO CSA G30.5. ANCHOR BOLTS TO ASTM A307.
- PLACE REINFORCING BARS TO CSA A23.1. TIE ALL BARS SECURELY IN PLACE TO PREVENT DISPLACEMENT. SUPPORT SLAB REINFORCING ON SUITABLE CHAIRS OR SUPPORTS AT MAXIMUM 4 FT. CENTERS. PROVIDE CORNER BARS TO MATCH HORIZONTAL WALL REBAR.
- PROVIDE CLEAR CONCRETE COVER FOR REBAR AS FOLLOWS:
SURFACE POURED AGAINST GROUND 75mm
FORMED SURFACE EXPOSED TO GROUND 50mm
OR WEATHER
BEAMS 50mm TO MAIN STEEL
COLUMNS 50mm TO MAIN STEEL
SLABS, WALLS 25mm
- SPLICE REBAR AS FOLLOWS (UNLESS OTHERWISE NOTED):
BAR SIZE 10M 15M 20M 25M 30M
LAP SPLICE 460mm 635mm 790mm 1295mm 1800mm
- MINIMUM 2-15M REINFORCING AROUND OPENING LARGER THAN EACH SIDE OF OPENING. EXTEND 600mm PAST CORNER.
- CONTRACTOR TO PROVIDE 24 HOURS NOTICE FOR REBAR INSPECTION.

RECEIVED
OCT 27 2008

"AS BUILT" WATER AND SEWER

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
C	10/06/08	AS BUILT WATER AND SEWER							
B	07/23/08	AS CONSTRUCTED, WATER EXTENSION							
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	05/22/08	MANHOLE BARREL FOUNDATION PLAN ADDED		

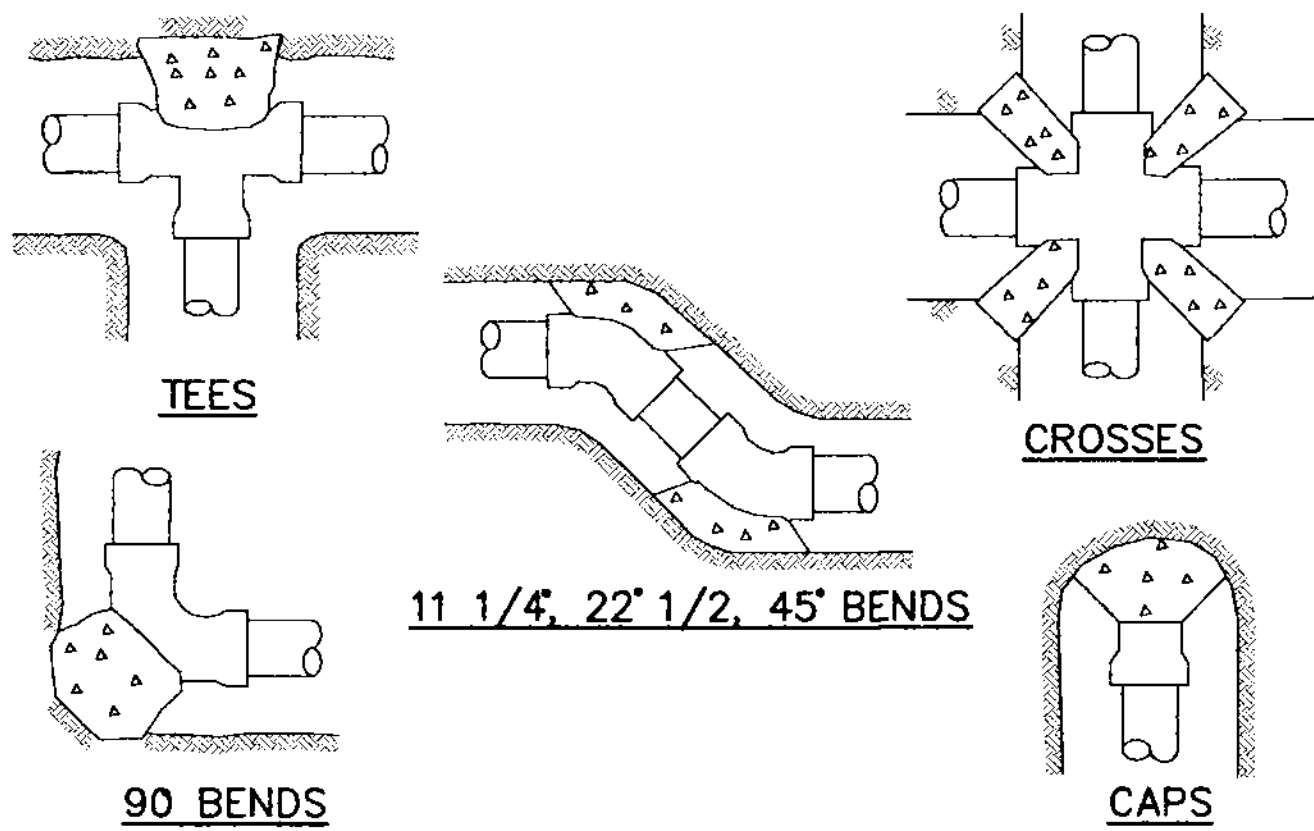
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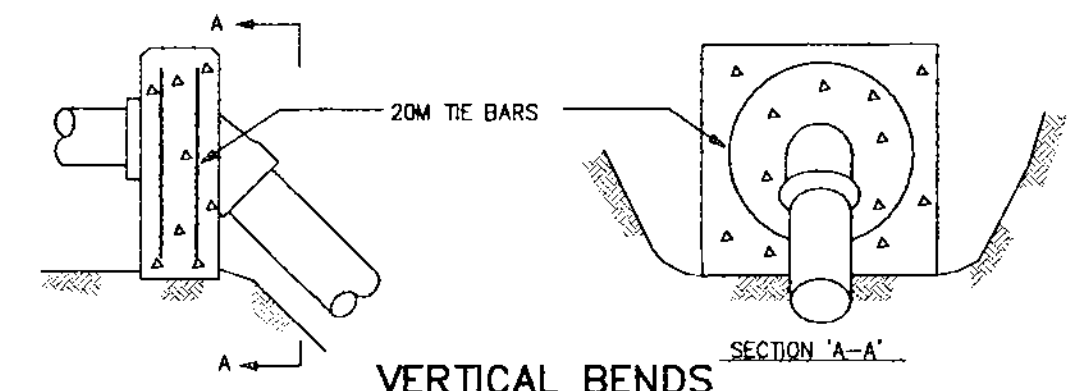
DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: JULY 2008

KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.
WATER DESIGN
TYPICAL MMCD DETAILS

SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 13 C



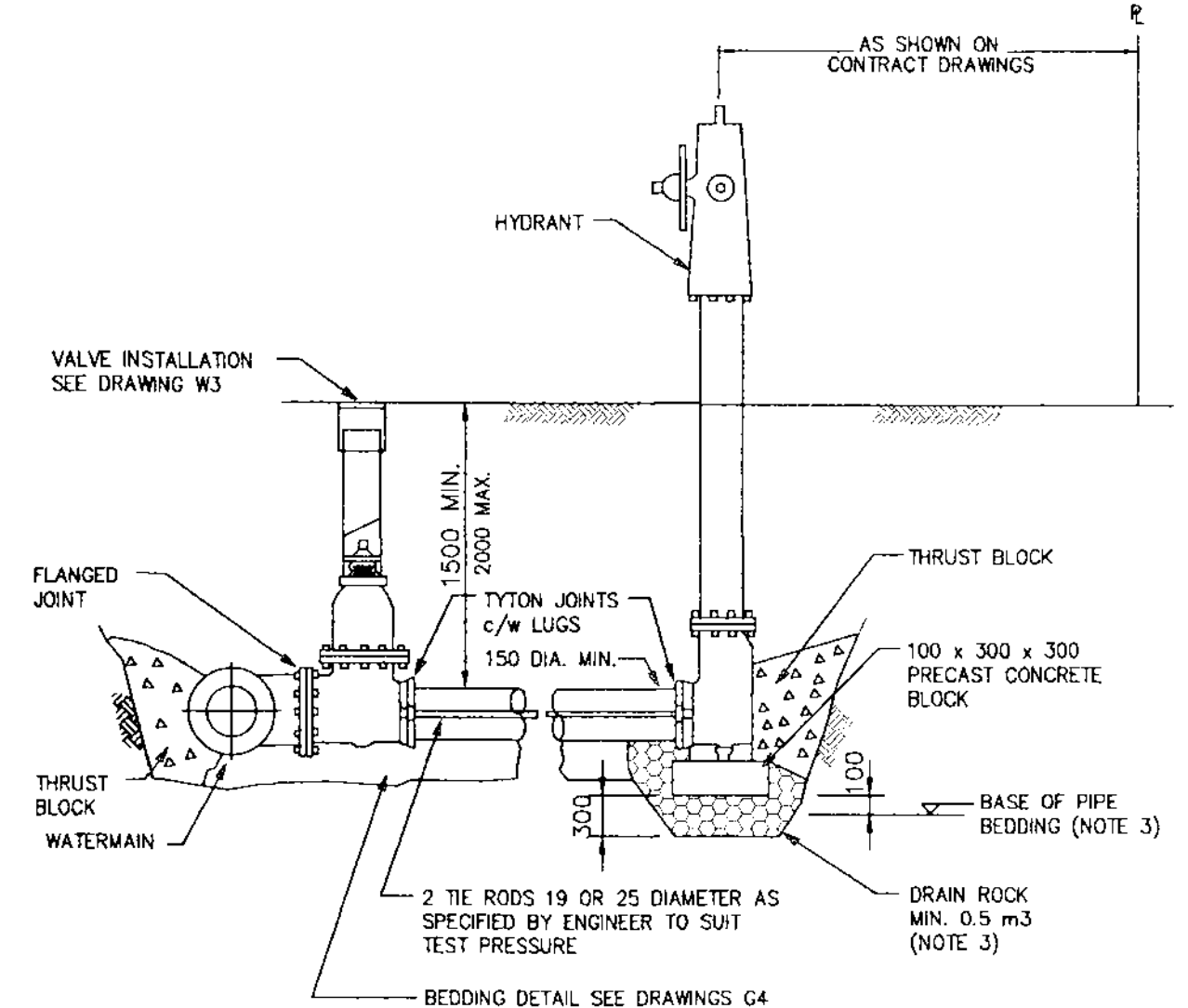
GENERAL ARRANGEMENTS - PLAN VIEW



GENERAL ARRANGEMENTS - ELEVATIONS

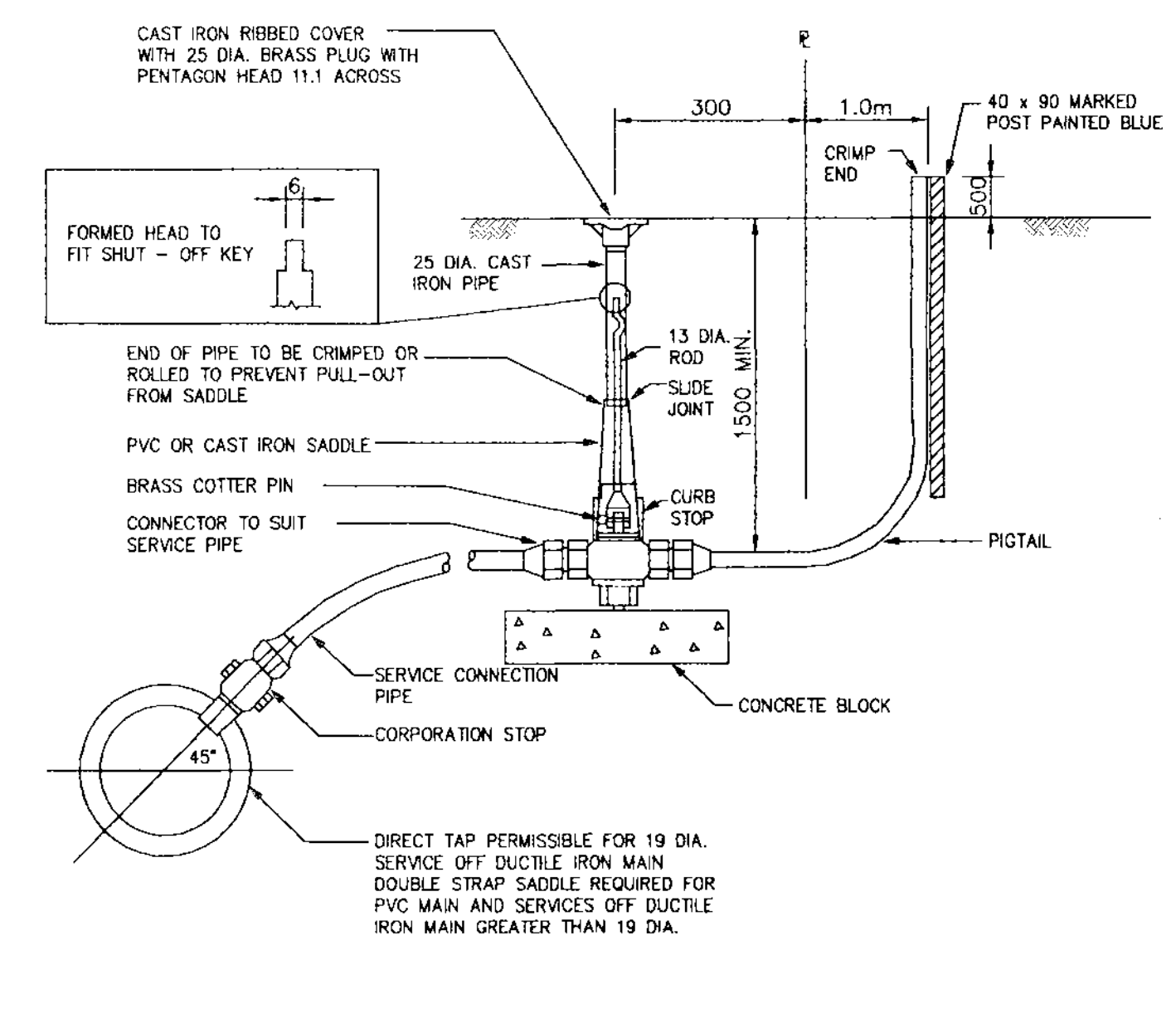
NOTE: 1. REFER TO CONTRACT DRAWINGS FOR SPECIFIED BEARING AREAS OF THRUST BLOCKS AND/OR SPECIFIC REQUIREMENTS NOT SHOWN ON THIS DRAWING.
 2. PLACE 5 mm POLYETHYLENE ON INTERFACE BETWEEN CONCRETE AND FITTING.
 3. PLACE 20 MPa CONCRETE AGAINST UNDISTURBED GROUND; KEEP CONCRETE CLEAR OF FITTING JOINTS.
 4. REFER TO CONTRACT DRAWINGS AND SECTIONS 02666 AND 03300 FOR DETAILED SPECIFICATIONS.

TYPICAL THRUST BLOCK ARRANGEMENTS
 STANDARD DRAWING NUMBER W1
 N.T.S.



NOTE: 1. REFER TO SUPPLEMENTAL SPECIFICATIONS FOR HYDRANT PAINTING REQUIREMENTS.
 2. REFER TO CONTRACT DRAWINGS AND SECTION 02666 FOR DETAILED SPECIFICATIONS.
 3. FOR INSTALLATIONS SHOWN ON CONTRACT DRAWINGS WHERE WATER TABLE (AT SEASONAL HIGH) IS ABOVE BASE OF DRAIN ROCK, (COMPACT PIPE BEDDING TO 95% MODIFIED PROCTOR DENSITY)

FIRE HYDRANT INSTALLATION
 STANDARD DRAWING NUMBER W4
 N.T.S.



NOTE: 1. THIS DETAIL FOR SERVICES 19 TO 50mm ONLY.
 2. INSTALL SERVICE PIPE WITH "GOOSE NECK" IN HORIZONTAL POSITION.
 3. WHEN CURB STOP INSTALLED IN DRIVEWAY PLACE COVER IN CHAMBER. MARK "WATER" SEE DRAWING S9 FOR TYPICAL DETAIL.
 4. REFER TO CONTRACT DRAWINGS AND SECTION 02666 FOR DETAILED SPECIFICATIONS.

WATER SERVICE CONNECTION
 STANDARD DRAWING NUMBER W2d
 N.T.S.

GENERAL NOTES

- ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE.
- NO VARIATION TO THIS DRAWING SHALL BE PERMITTED UNLESS AUTHORIZED IN WRITING BY ENGINEER.
- TO AWWA C906 STANDARDS.
- PRESSURE AND LEAKAGE TESTING IN ACCORDANCE WITH AWWA. DISINFECTION IN ACCORDANCE TO C651 AWWA.
- WATER MAINS HOPE SDR 13.5 WATER PIPE
- FOR DETAIL REFERENCE DRAWINGS & SPECIFICATIONS REFER TO THE MASTER MUNICIPAL CONSTRUCTION DOCUMENT (MMCD) VOLUME 2, INSTRUCTIONS TO TENDERERS - PART 2 GENERAL CONDITIONS, SPECIFICATIONS, & STANDARD DETAIL DRAWINGS.
- WHERE WATER & SEWER CONDUITS CROSS, LAY WATER MAIN ABOVE. LAY PIPE WITH MIDDLE OF PIPE LENGTHS LOCATED AT CROSSING POINT. WRAP JOINTS WITH "DENSO" TAPE OR APPROVED EQUIVALENT WHEN 3.0m HORIZONTAL AND 0.45m VERTICAL SEPARATION BETWEEN MAINS CANNOT BE MAINTAINED.
- A HORIZONTAL SEPARATION OF 3.0m IS REQUIRED BETWEEN WATER AND SEWER MAINS. FOR SEPARATIONS OF LESS THAN 3.0m ALL WATER MAINS SHALL BE WRAPPED WITH "DENSO" TAPE OR EQUIVALENT
- IN AREAS WHERE BEDROCK IS ENCOUNTERED THE MINIMUM SEPARATION BETWEEN THE TREATED WATER MAIN, 0.45m ABOVE THE OTHER MAINS, ALL JOINTS SHALL BE WRAPPED. THE RAW WATER MAIN SHALL BE 1.0m HORIZONTALLY FROM THE SEWER AND STORM MAINS, WITH THE RAW WATER MAIN 0.45m ABOVE THE SEWER AND STORM MAINS, ALL JOINTS SHALL BE WRAPPED.
- WHERE SERVICE MAIN SLOPES EXCEED 15%, CONTRACTOR TO INSTALL PIPE ANCHOR BLOCKS. MAXIMUM SPACING OF BLOCKS NOT TO EXCEED 10.0m. (SEE DETAIL DWG. G8, MMCD)
- ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE MMCD STANDARD CONSTRUCTION SPECIFICATIONS.

EXISTING UTILITIES

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Test Pressure (P)	200 psi	=	500 kPa		
Bearing Capacity (Bc)	3000 psf	=	144.0 kPa		
Bearing Area of Thrust Block = T / Bc					
	Diameter (mm)		150		
	Factor of Safety		1.5		
Watermain Fitting	Thrust Force (kN)	Bearing Area (sq. m)	Thrust Block Dims. Height (mm)		
			Length (mm)		
Bend	5 degree	0.8	0.01	225	36
Bend	11.25 degree	1.7	0.02	225	80
Bend	22.5 degree	3.4	0.04	225	160
Bend	45 degree	6.8	0.07	225	313
Bend	90 degree	12.5	0.13	225	578
Tee/Cap	(T = PA)	8.8	0.09	225	409

THRUST BLOCK CALCULATIONS

ACCEPTED FOR FILING

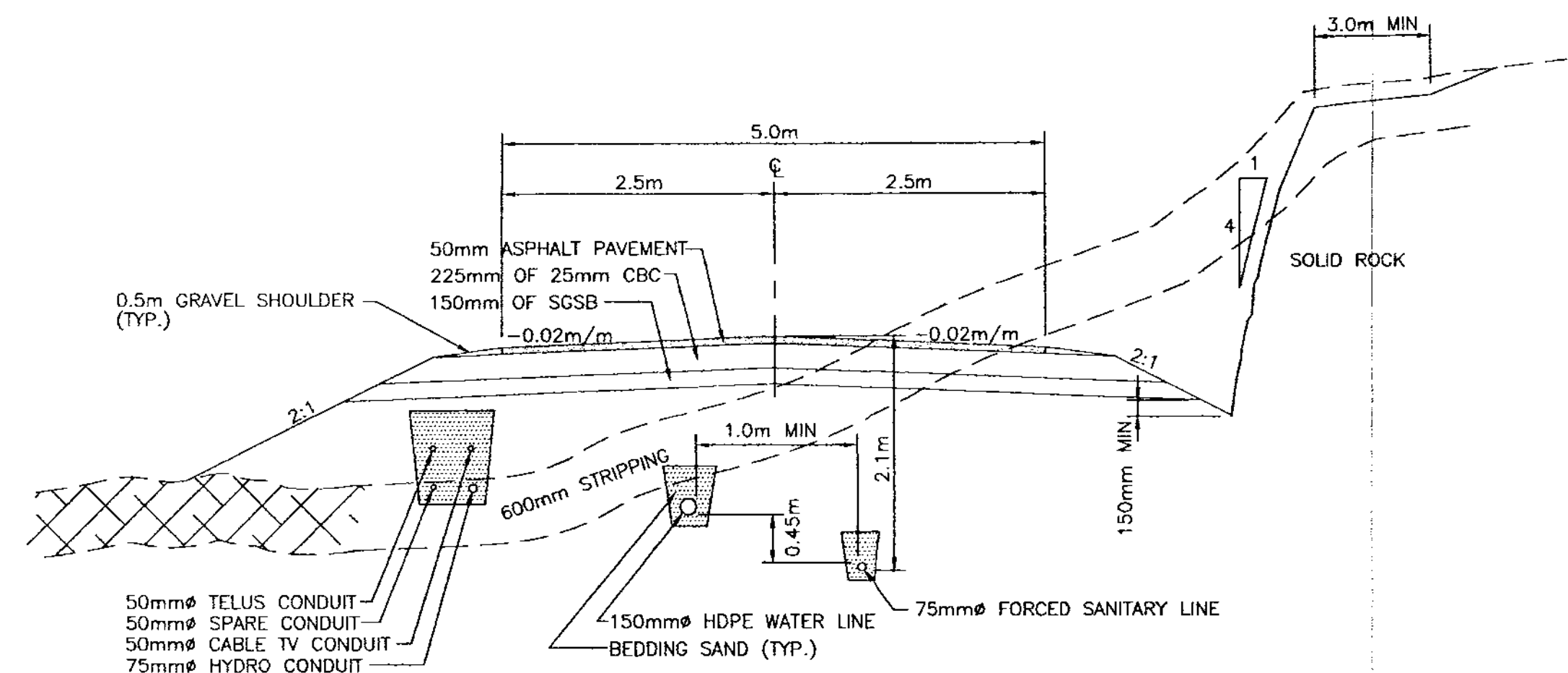
DATE: 2008
 Secretary to the Comptroller of Water Rights

OCT 21 2008

RECEIVED
 UTILITY REGULATION SECTION
 OCT 27 2008
 REF: _____
 ACK: _____
 ANS: _____

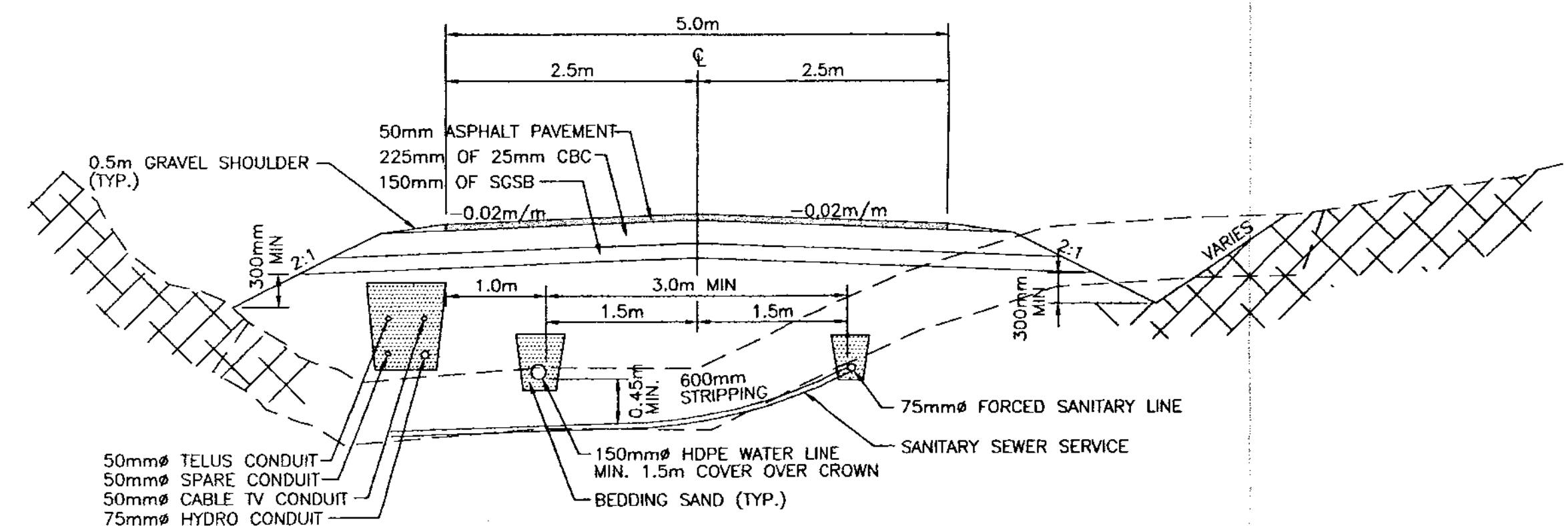
"AS BUILT" WATER AND SEWER

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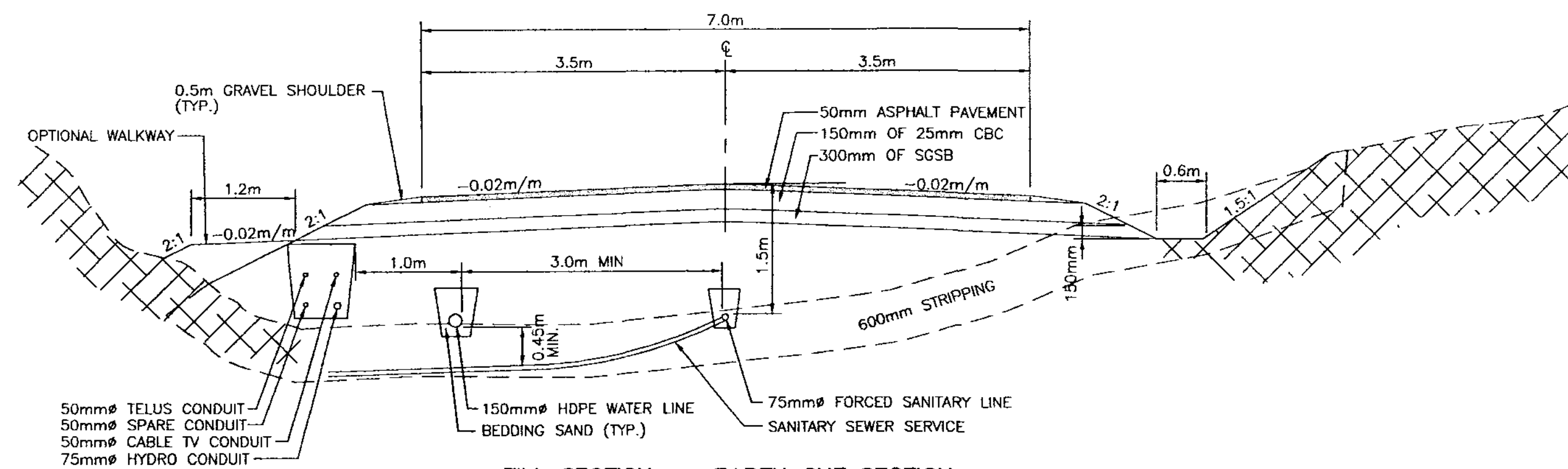
FILL SECTION ROCK CUT SECTION

C STRATA ROAD SECTION
(UPLANDS ROAD)



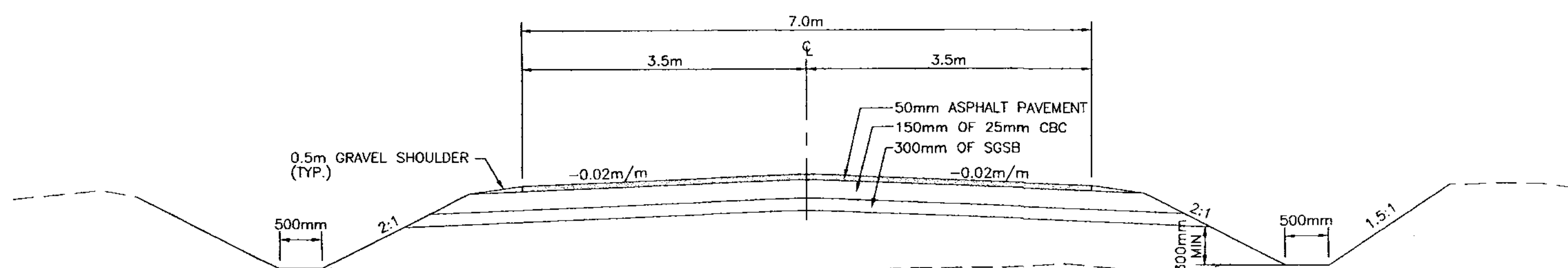
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D STRATA ROAD SECTION
(UPLANDS ROAD)

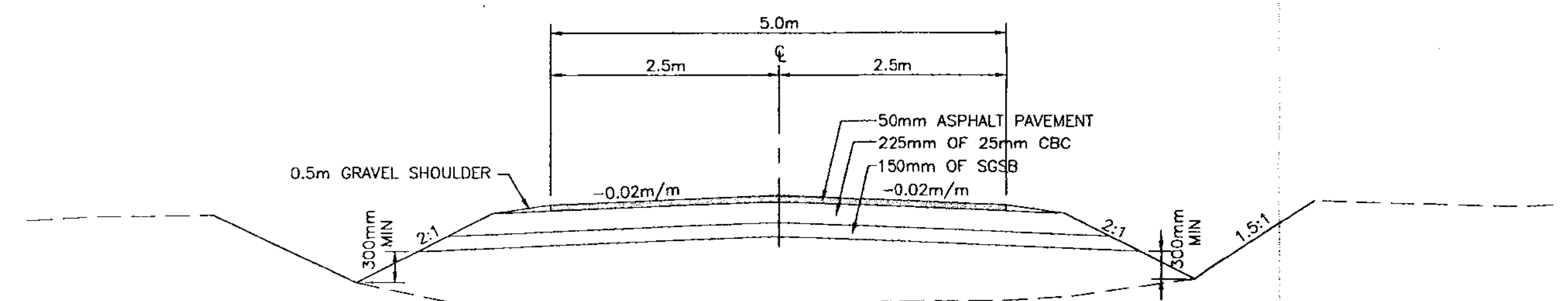


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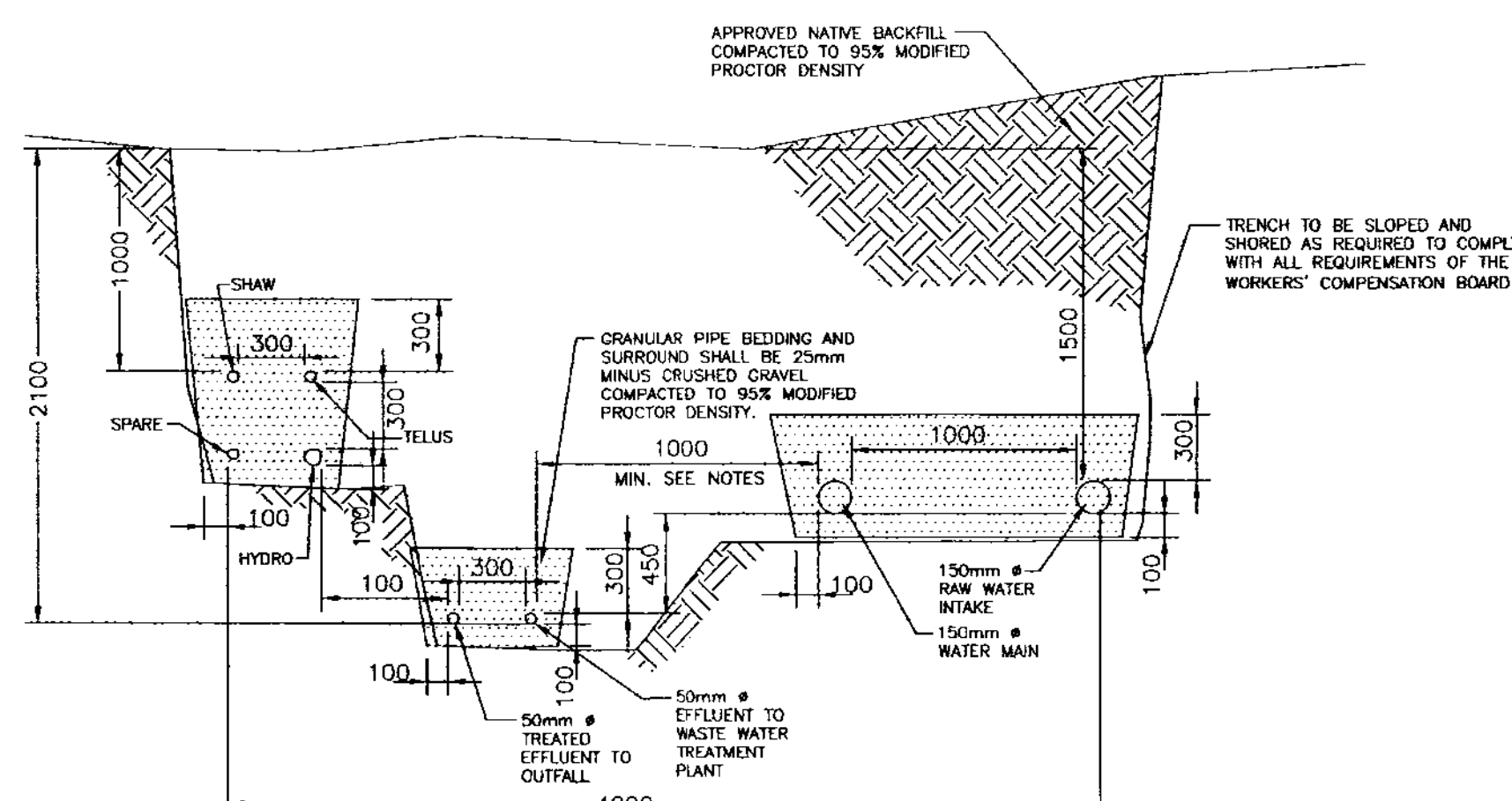
B LOCAL PUBLIC ROAD SECTION
(EAST PROCTER ROAD)



TYPICAL LOCAL PUBLIC ROAD CROSSING SECTION



TYPICAL STRATA ROAD CROSSING SECTION



TYPE 2 UTILITY TRENCH DETAIL

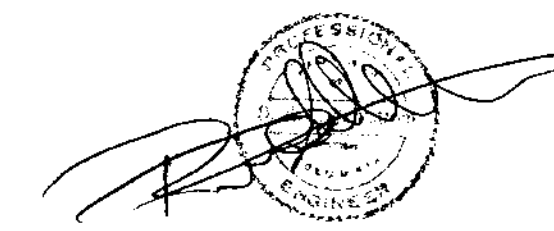
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DATE: 2008

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UTILITY REGULATION SECTION
OCT 27 2008



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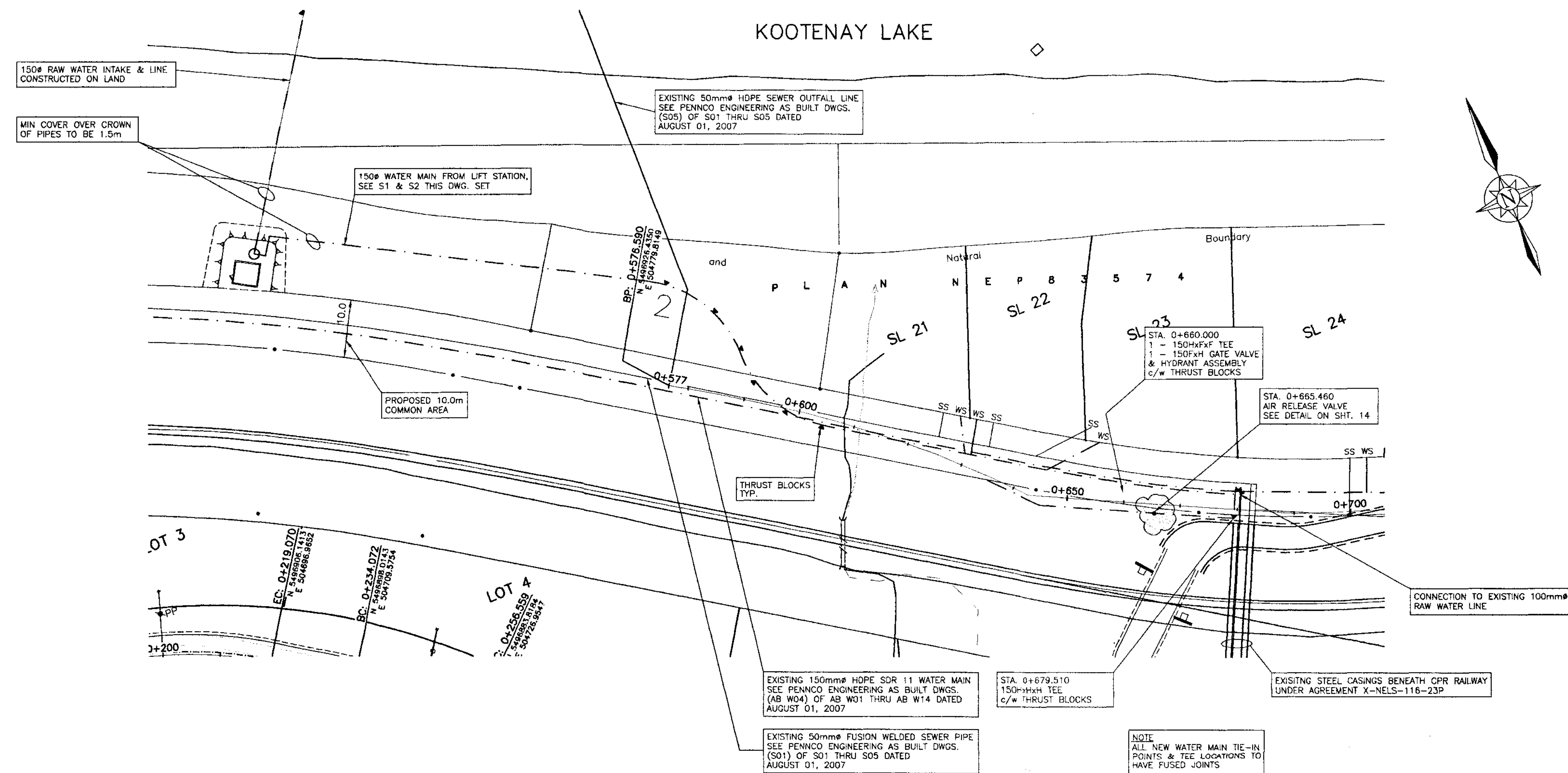
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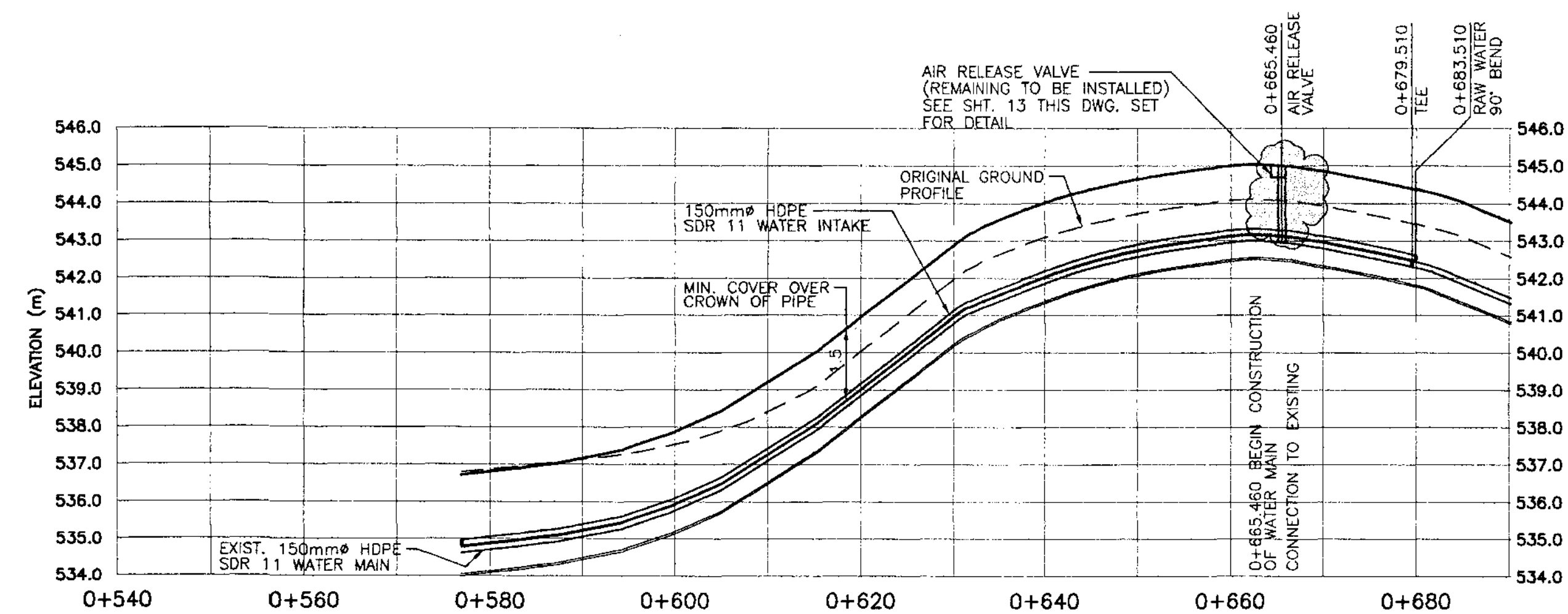
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DSGN:	DS	KOOTENAY LAKE VILLAGE PHASE 3 UPHILL PROCTER, B.C.	SCALE:	1:50
DWN:	GSG		DWG FILE:	C07219-001-01
CHK:	DS		JOB:	C07219-001
DATE DWN:	JULY 2008		SHEET:	11 C
		ROAD, WATER, & SEWER TYPICAL SECTIONS		



WATER MAIN ALIGNMENT
SCALE: 1:500



WATER DESIGN PROFILE
SCALE: H: 1:500, V: 1:125

GENERAL NOTES

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SHT. -
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LEGEND

- WATER MAIN
- 50mm HDPE SDR 13.5 LOW PRESSURE SANITARY LINE
- PROPOSED SEPTIC/HOLDING TANK
- PROPOSED THRUST BLOCK

ACCEPTED FOR FILING
DATE: 2008
Secretary to the Commissioner of Water Rights

"AS BUILT" WATER AND SEWER

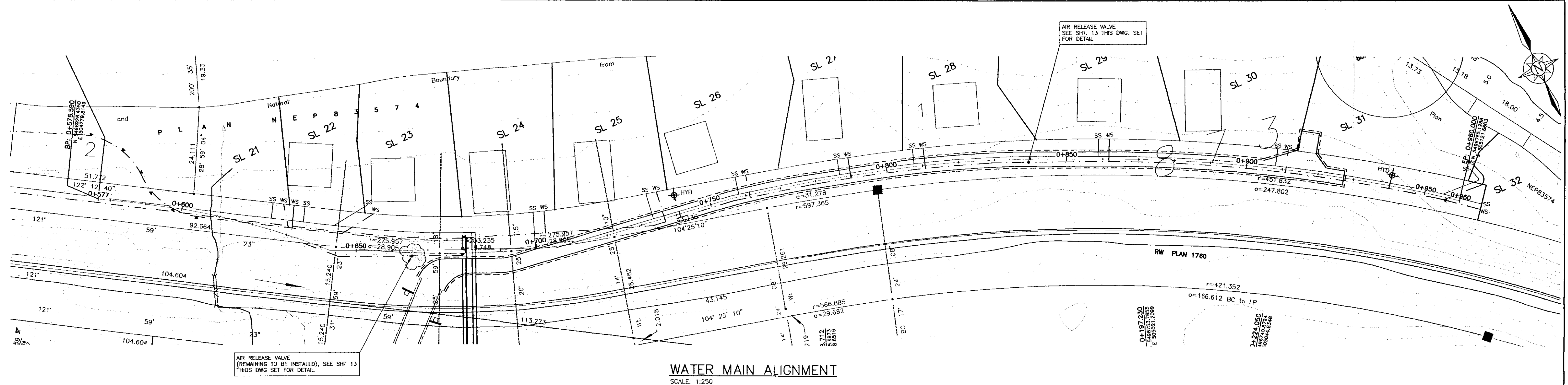
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A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	03/18/08	WET WELL RELOCATED DUE TO SOIL CONDITIONS		

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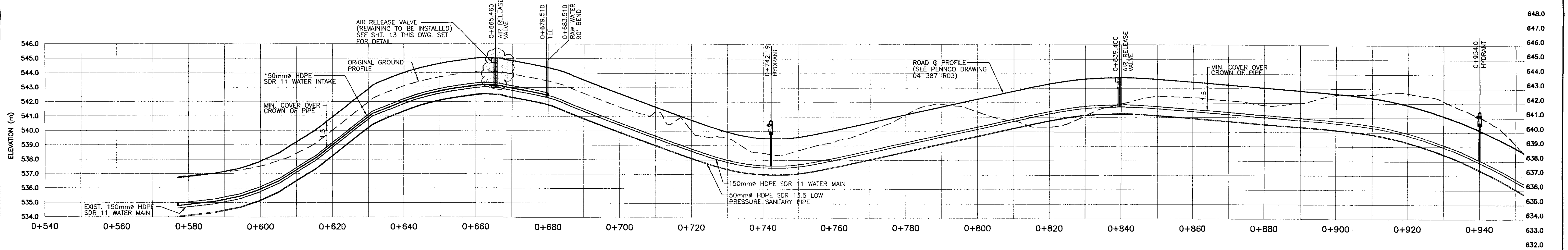
DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: JULY 2008

KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.
WATER DESIGN - PLAN & PROFILE
STRATA RD. STA. 0+540 TO 0+700

SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 05 c



WATER MAIN ALIGNMENT
SCALE: 1:250



WATER DESIGN PROFILE
SCALE: H: 1:250, V: 1:125

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- FOR DETAIL REFERENCE DRAWINGS & SPECIFICATIONS REFER TO THE MASTER MUNICIPAL CONSTRUCTION DOCUMENT (MMCD) VOLUME 2, INSTRUCTIONS TO TENDERERS - PART 2 GENERAL CONDITIONS, SPECIFICATIONS, & STANDARD DETAIL DRAWINGS.

- WHERE WATER & SEWER CONDUITS CROSS, LAY WATER MAIN ABOVE. LAY PIPE WITH MIDDLE OF PIPE LENGTHS LOCATED AT CROSSING POINT. WRAP JOINTS WITH "DENSO" TAPE OR APPROVED EQUIVALENT WHEN 3.0m HORIZONTAL AND 0.45m VERTICAL SEPARATION BETWEEN MAINS CANNOT BE MAINTAINED.
- A HORIZONTAL SEPARATION OF 3.0m IS REQUIRED BETWEEN WATER AND SEWER MAINS. FOR SEPARATIONS OF LESS THAN 3.0m ALL WATER MAINS SHALL BE WRAPPED WITH "DENSO" TAPE OR EQUIVALENT
- WHERE SERVICE MAIN SLOPES EXCEED 15%, CONTRACTOR TO INSTALL PIPE ANCHOR BLOCKS. MAXIMUM SPACING OF BLOCKS NOT TO EXCEED 10.0m. (SEE DETAIL DWG. G8, MMCD)
- ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE MMCD STANDARD CONSTRUCTION SPECIFICATIONS.

EXISTING UTILITIES

THE LOCATION OF ALL EXISTING UTILITIES INCLUDING UNDERGROUND, SURFACE AND OVERHEAD UTILITIES SHOWN ON THE DRAWINGS IS NOT GUARANTEED, NOR IS IT GUARANTEED THAT ALL UTILITIES WHICH MAY BE ENCOUNTERED ARE SHOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL THE UTILITIES AND ANY DAMAGE RESULTING FROM HIS ENCOUNTERING THEM.

LEGEND

— WATER MAIN
— 50mm HDPE SDR 13.5 LOW PRESSURE SANITARY LINE
— PROPOSED THRUST BLOCK

ACCEPTED FOR FILING

DATE: 2008

Secretary to the Commissioner of Water Rights

"AS BUILT" WATER AND SEWER

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
A	10/06/08	AS BUILT WATER AND SEWER							

WSA ENGINEERING LTD.
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DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: MARCH 2008

KOOTENAY LAKE VILLAGE
PHASE 3, UPHILL
PROCTER, B.C.
PLAN & PROFILE
19740 PHASE 2 WATER FRONT

SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 03 A

CONSTRUCT 440m ROAD IMPROVEMENTS
PER NOV. 9, 2007 LETTER & PLAN TO MOT.
RE: 'CONDITION 25, PLA-010-19740, WIDENING
EAST PROCTER ROAD TO 7.5m'

KOOTENAY LAKE ROAD
EAST PROCTER ROAD (PUBLIC ROAD)

EXISTING WATER SYSTEM:
SEE PENNCO ENGINEERING AS BUILT DWGS.
(15 SHTS. TOTAL)
AB W01 THRU AB W14 & AB G01
DATED AUGUST 01, 2007
C/W THRUST BLOCKS

EXISTING SEWER OUTFALL
SEE PENNCO ENGINEERING DWGS.

SHT 15
SHT S1
SHT S2

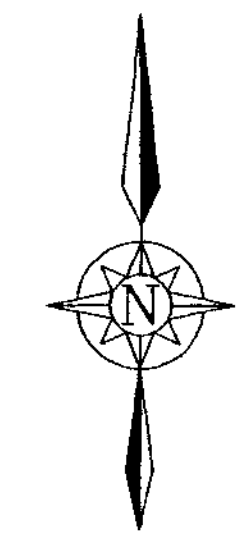
SHT 15

SEE SHT 16

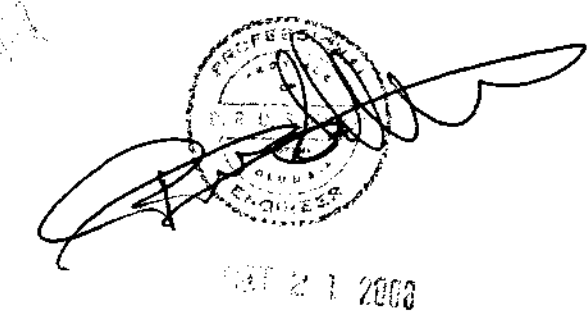
SEE IHA PERMIT KO-351W DWGS.
DATED JUNE 11, 2008

EXISTING SEWER TREATMENT SYSTEM:
SEE EAGLE ENGINEERING LTD. DWGS.
(2 SHEETS TOTAL) 50'x60' RCF & TANK
PROFILES, DATED FEBRUARY 10, 2008

SEE SHT 17



ACCEPTED FOR FILING
DATE: 2008
Secretary to the Comptroller of Water Rights



RECEIVED
UTILITY REGULATION SECTION
OCT 27 2008
REF: _____
ACK: _____
ANS: _____

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
D	10/06/08	AS BUILT WATER AND SEWER							
C	07/30/08	RE-ISSUE FOR WATERWORKS CONSTRUCTION PERMIT							
B	07/23/08	SEE "AS CONSTRUCTED, WATER EXTENSION"							
A	03/03/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	06/05/08	GENERAL REVISION		

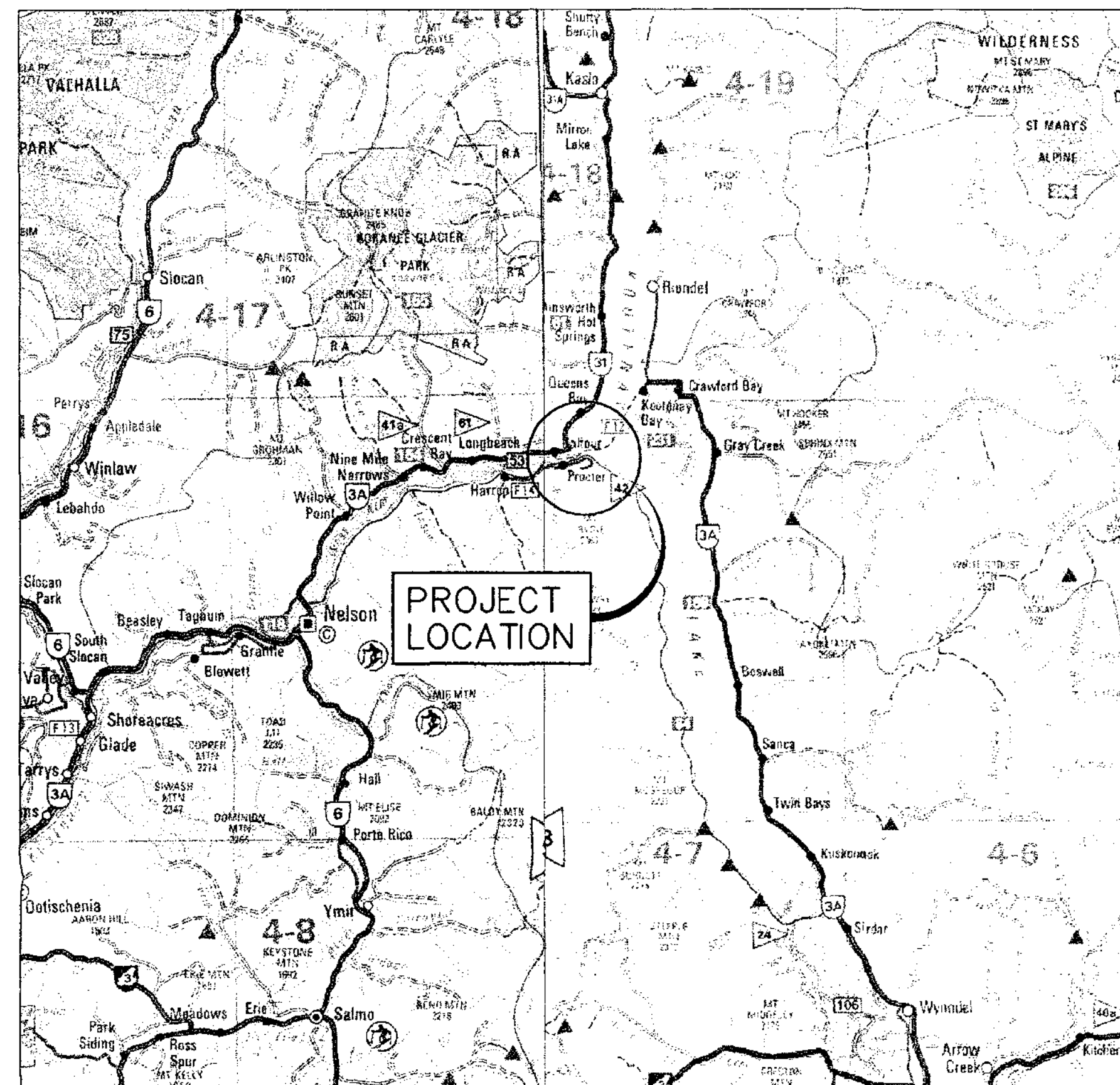
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DSGN:	DS
DWN:	GSG
CHK:	DS
DATE DWN:	JULY 2008

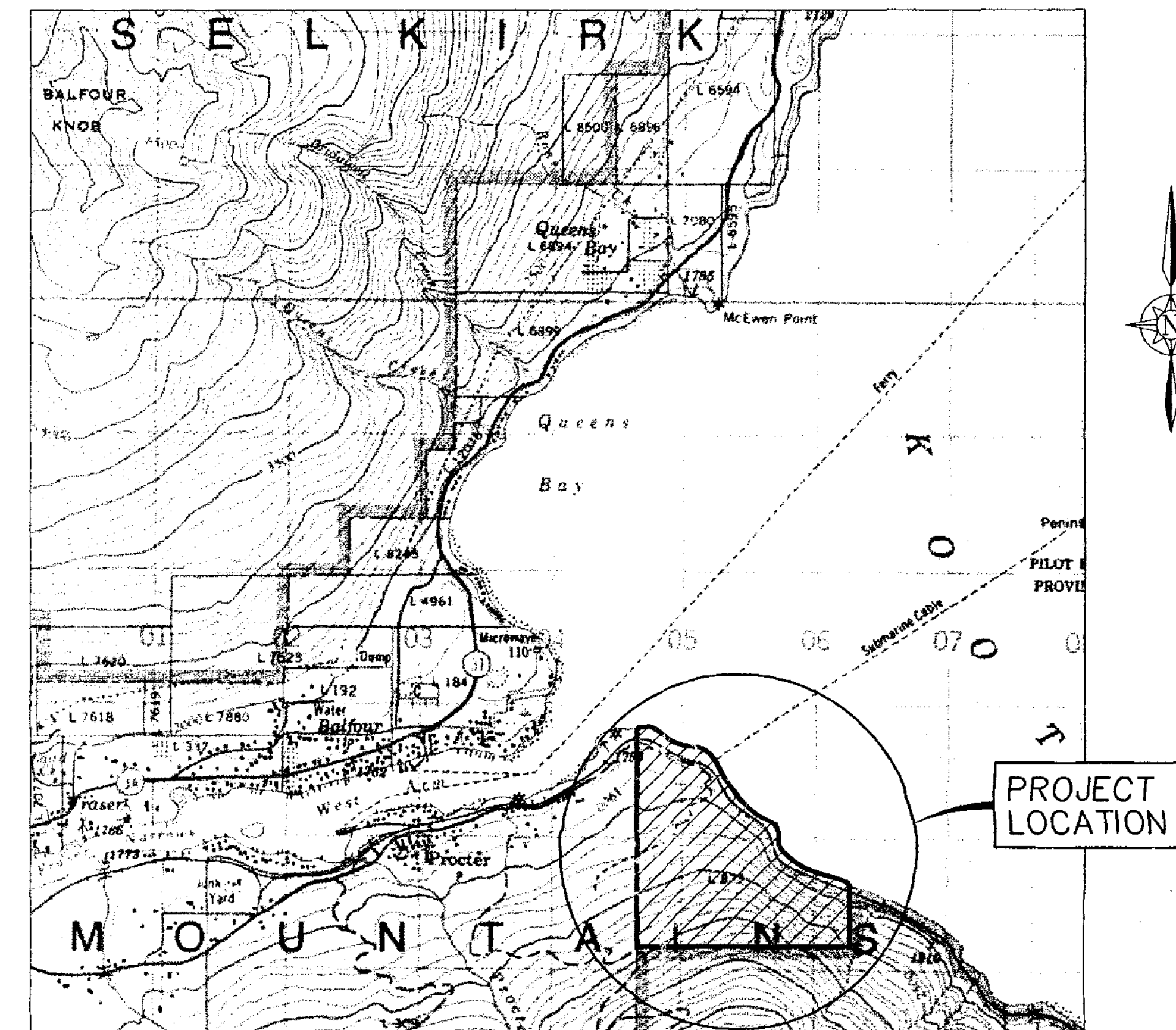
KOOTENAY LAKE VILLAGE
PHASE 3, UPHILL
PROCTER, B.C.
SITE PLAN & SHEET INDEX

SCALE:	1:2000
DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	02 D

KOOTENAY LAKE VILLAGE SECOND STRATA (14 LOTS) DEVELOPMENT PROCTER, B.C.



AREA PLAN



LOCATION PLAN



PROJECT CONTACTS

DESCRIPTION	COMPANY	CONTACT
DRY UTILITY – ELEC.	NELSON HYDRO	CARL OLSEN @ 250-352-8214
DRY UTILITY – TEL.	TELUS	AL WILSON @ 250-417-6924
DRY UTILITY – CABLE	SHAW	KAREN CRIBBES @ 250-417-3898
DRY UTILITY – GAS	TERASEN GAS (N/A)	NORM MCKINNON @ 250-368-4009
ENG.-CIVIL	WSA ENGINEERING LTD.	DAN SAHLSTROM @ 250-365-3696
ENG.-ELECTRICAL	EMCO ENGINEERING	KEN GUIDO @ 250-470-9696
ENG.-SEWER	OSI/EAGLE ENGINEERING	STEVE BRYDGES @ 250-748-8500
REG.-WATER UTILITY	B.C. MOE WATER USE	AL ADERICHIN @ 250-387-3421
REG. – WATER QUALITY	B.C. MOH INTERIOR HEALTH AUTHORITY	MARRIANE CROWE @ 250-505-7200
REG. – WATER LICENCE	B.C. MOE WATER STANDARDS	JOHN BOCHARD @ 250-354-6349
REG. – WATER SEWER	B.C. MOE ENV. MGMT.	CHRIS STROICH @ 250-354-6333
REG. – SUBDIVISION	B.C. MOT TRANSPORTATION	PETER MUIRHEAD @ 250-354-8495
REG. – ROADS	B.C. MOT TRANSPORTATION	PHIL BEST @ 250-354-6520
SURVEY – LEGAL	HINTERLAND SURVEYING & GEOMETRICS INC.	MILOS HINTERBERGER @ 250-364-1444
SURVEY – CONSTRUCTION	SEL SURVEY & DESIGN	BILL SPROULE @ 250-353-7900
OWNER	KOOTENAY LAKE ESTATES	OLIVER BERKELEY @ 250-505-5558

LOCATION
NELSON, B.C.
KELOWNA, B.C.
CRANBROOK, B.C.
TRAIL, B.C.
CASTLEGAR, B.C.
CASTLEGAR, B.C.
VICTORIA, B.C.
NELSON, B.C.
NELSON, B.C.
NELSON, B.C.
NELSON, B.C.
TRAIL, B.C.
NELSON, B.C.
NELSON, B.C.

DRAWING INDEX

CIVIL

- SHEET 01 – CONTACT INDEX, DRAWING INDEX, AREA PLAN & LOCATION PLAN (AS BUILT)
- SHEET 02 – SITE PLAN & SHEET INDEX (AS BUILT)
- SHEET 03 – PLAN & PROFILE – 19740 PHASE 2 WATER FRONT (AS BUILT)
- SHEET 04 – (NOT USED)
- SHEET 05 – WATER DESIGN – PLAN & PROFILE, STRATA RD. STA. 0+640 TO 0+700 (AS BUILT)
- SHEET 06 – (NOT USED)
- SHEET 07 – ROAD DESIGN – PLAN & PROFILE, EAST PROCTER ROAD STA. 0+000 TO 0+380 (AS BUILT)
- SHEET 08 – (NOT USED)
- SHEET 09 – ROAD & WATER DESIGN – PLAN & PROFILE, UPLANDS ROAD STA. 0+000 TO 0+230 (AS BUILT)
- SHEET 10 – (NOT USED)
- SHEET 11 – ROAD, WATER, & SEWER TYPICAL SECTIONS (AS BUILT)
- SHEET 12 – WATER DESIGN – TYPICAL MMCD DETAILS (AS BUILT)
- SHEET 13 – WATER DESIGN – TYPICAL MMCD DETAILS (AS BUILT)
- SHEET 14 – (NOT USED)
- SHEET 15 – WATER DESIGN – LAKE INTAKE PLAN & PROFILE (AS BUILT)
- SHEET 16 – WATER DESIGN – LAKE INTAKE DETAILS (AS BUILT)
- SHEET 17 – WATER DESIGN – WATER TREATMENT ROOM LAYOUT (AS BUILT)
- SHEET 18 – WATER DESIGN – PROCESS AND INSTRUMENTATION DIAGRAM (AS BUILT)

STRUCTURAL

- SHEET S1 – WATER DESIGN – INTAKE CONTROL BUILDING (AS BUILT)
- SHEET S2 – WATER DESIGN – LIFT STATION FOUNDATION (AS BUILT)

ACCEPTED FOR FILING
DATE: 2008
Secretary to the Controller of Water Rights

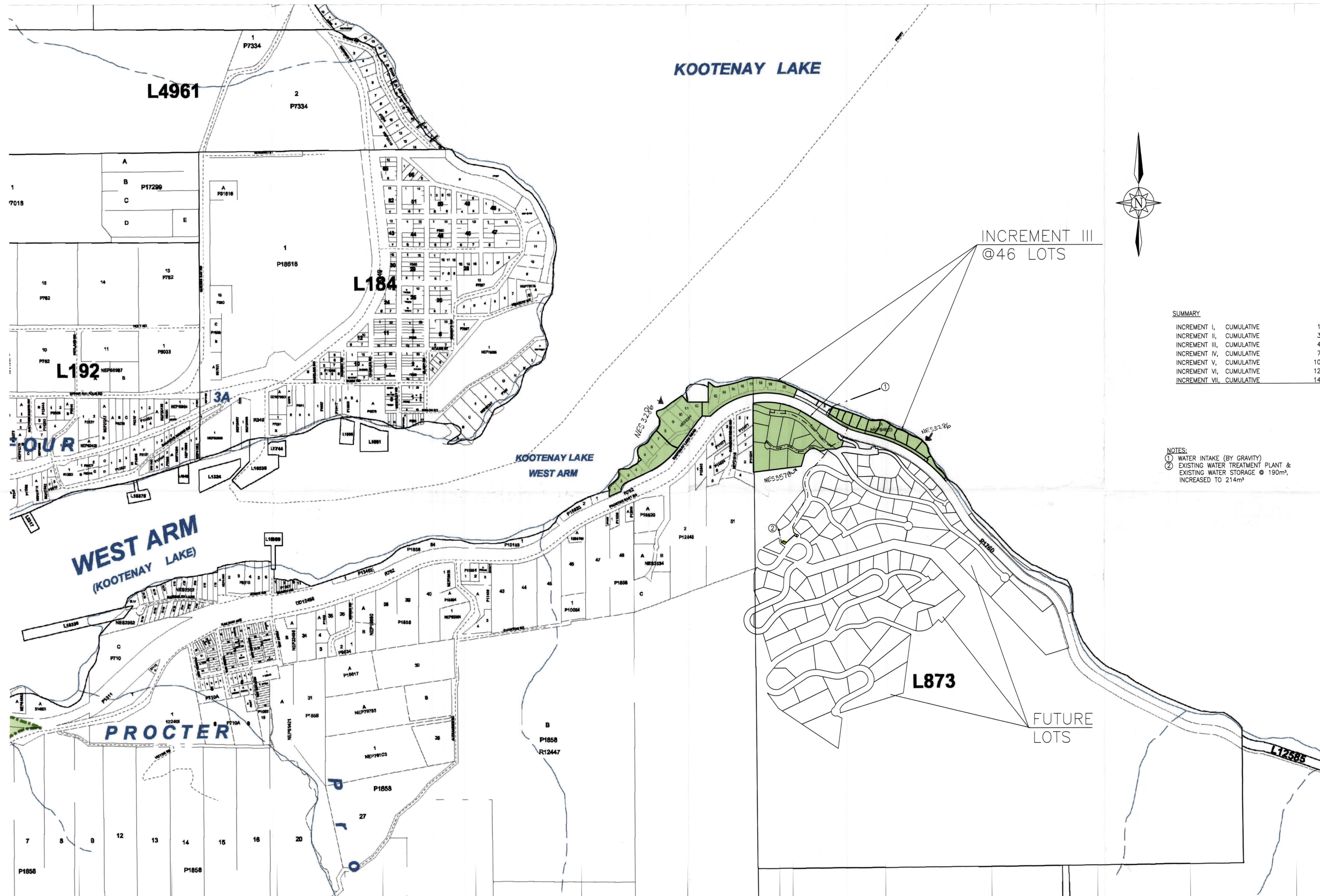
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ACK: _____
ANS: _____

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"AS BUILT" WATER AND SEWER
OCTOBER, 2008

SHEET: 01



SUMMARY		
INCREMENT I, CUMULATIVE	19 LOTS,	(JUL 2007)
INCREMENT II, CUMULATIVE	34 LOTS,	(OCT 2008)
INCREMENT III, CUMULATIVE	46 LOTS,	(DEC 2008)
INCREMENT IV, CUMULATIVE	76 LOTS,	(APR 2009)
INCREMENT V, CUMULATIVE	109 LOTS,	(APR 2010)
INCREMENT VI, CUMULATIVE	127 LOTS,	(APR 2011)
INCREMENT VII, CUMULATIVE	148 LOTS,	(APR 2012)

NOTES:
① WATER INTAKE (BY GRAVITY)
② EXISTING WATER TREATMENT PLANT &
EXISTING WATER STORAGE @ 190m³,
INCREASED TO 214m³

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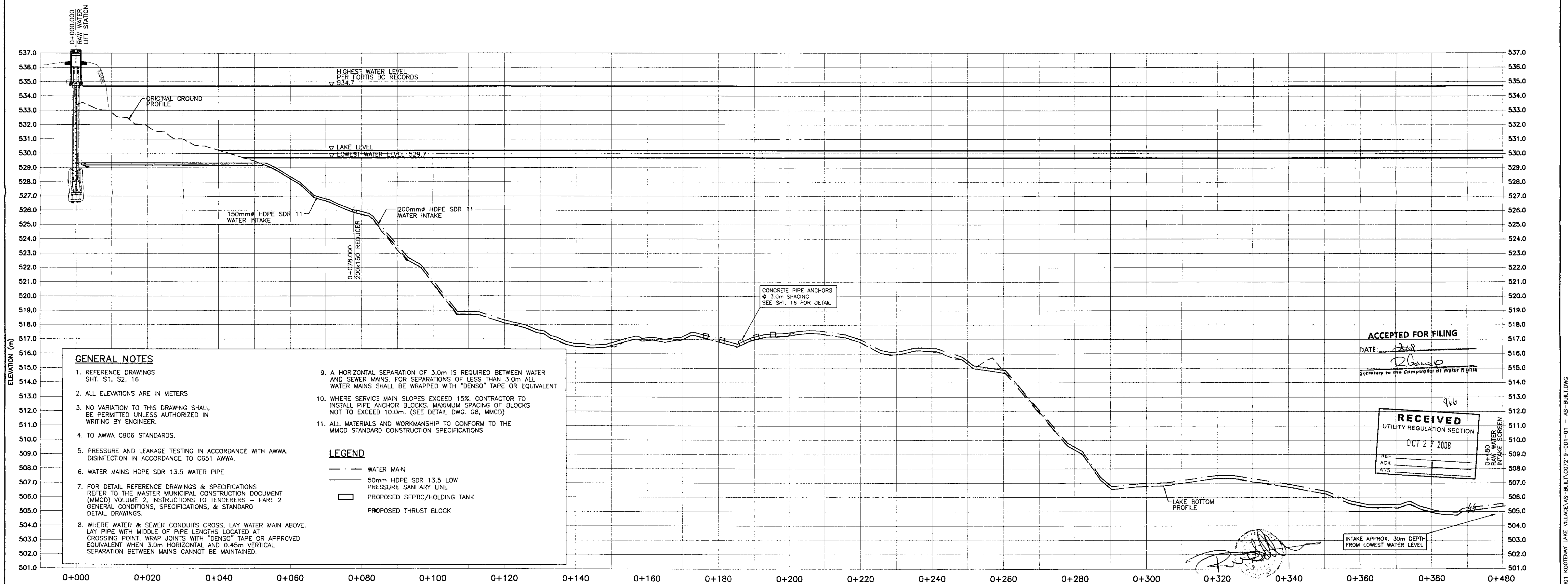
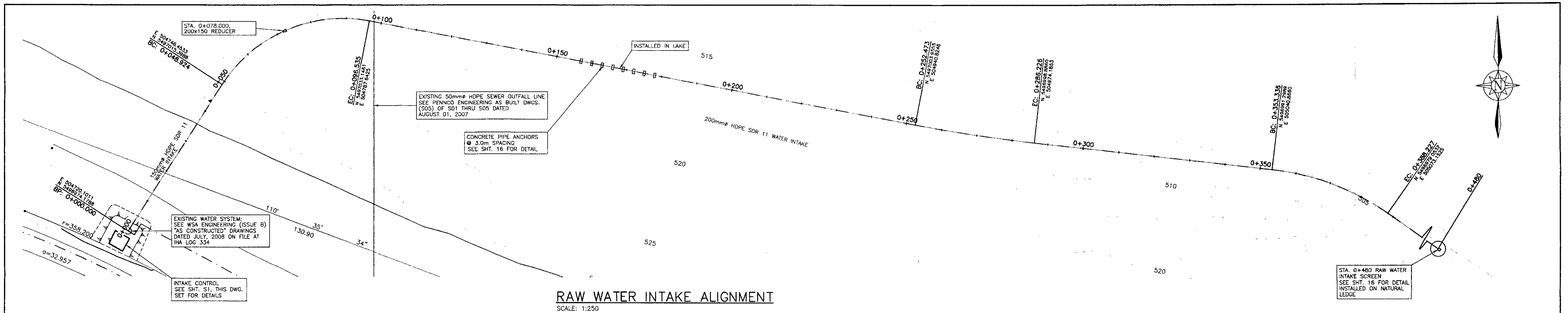
NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD

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DSGN: DS
DWN: GM
CHK: DS
DATE DWN: OCT 2008

KOOTENAY LAKE VILLAGE
DEVELOPMENT PLAN
PROCTOR, B.C.
KEY PLAN & EXHIBIT
FOR SERVICE AREA IIIA

SCALE: NTS
DWG FILE: C07219-001
JOB: C07219-001-01
SHEET:



RAW WATER INTAKE PROFILE
SCALE: H: 1:500, V: 1:125

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
D	10/06/08	AS BUILT WATER AND SEWER							
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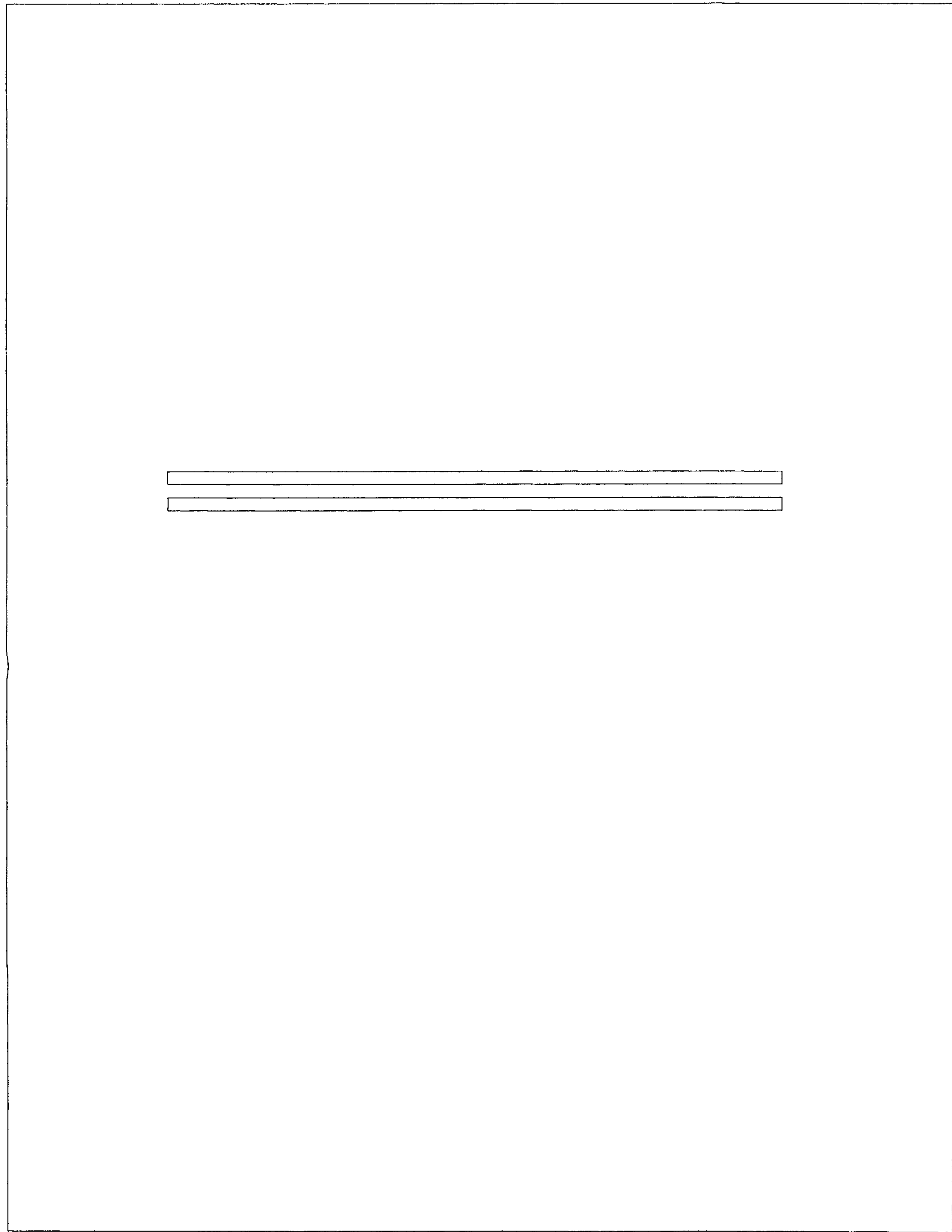
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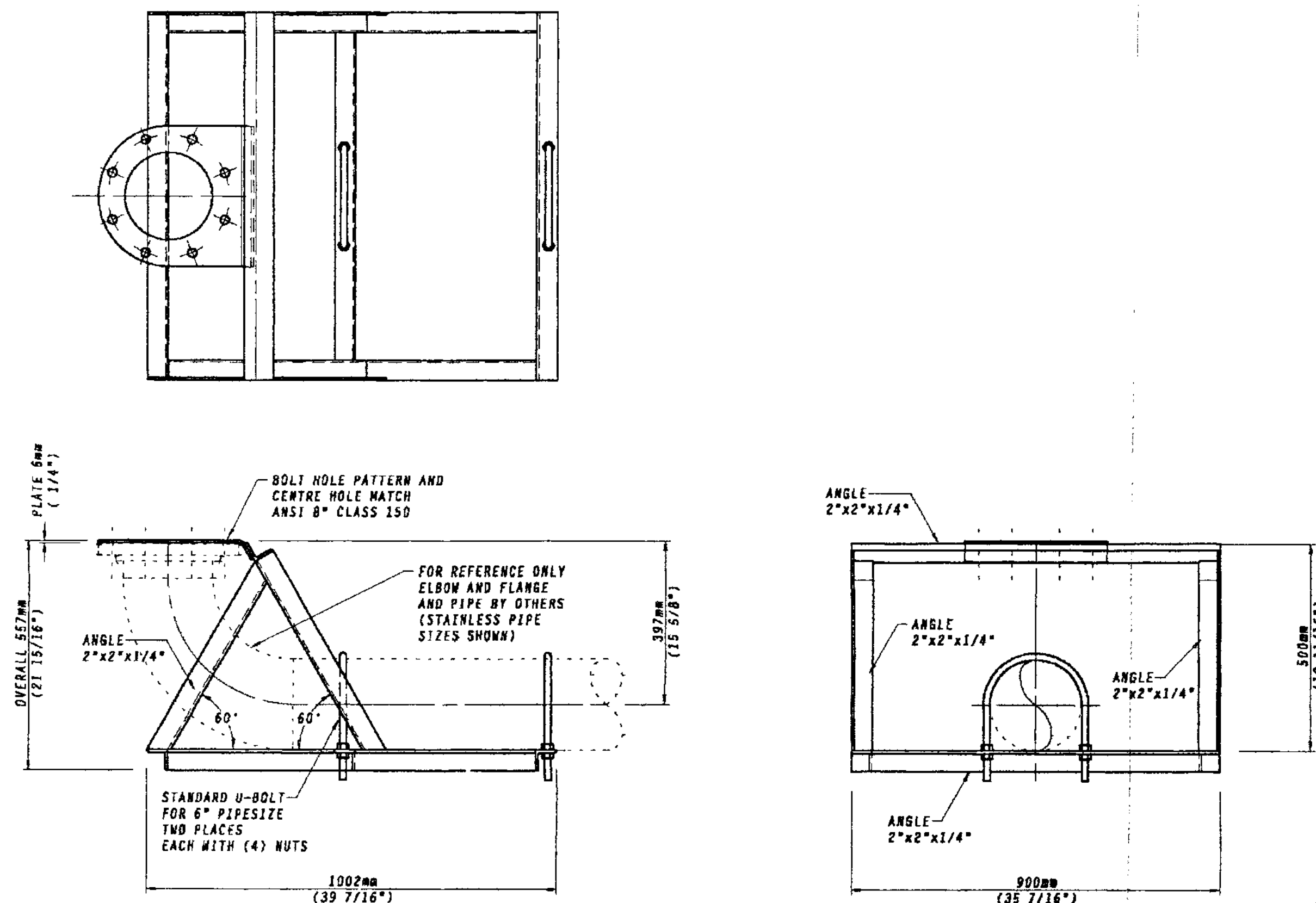
DSGN: DS
DWN: GSG
CHK: DS
DATE DWN: JULY 2008

"AS BUILT" WATER AND SEWER
KOOTENAY LAKE VILLAGE
PHASE 3, UPHILL
PROCTER, B.C.
WATER DESIGN - LAKE INTAKE
STA. 0+000 TO 0+379.270

SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 15 D

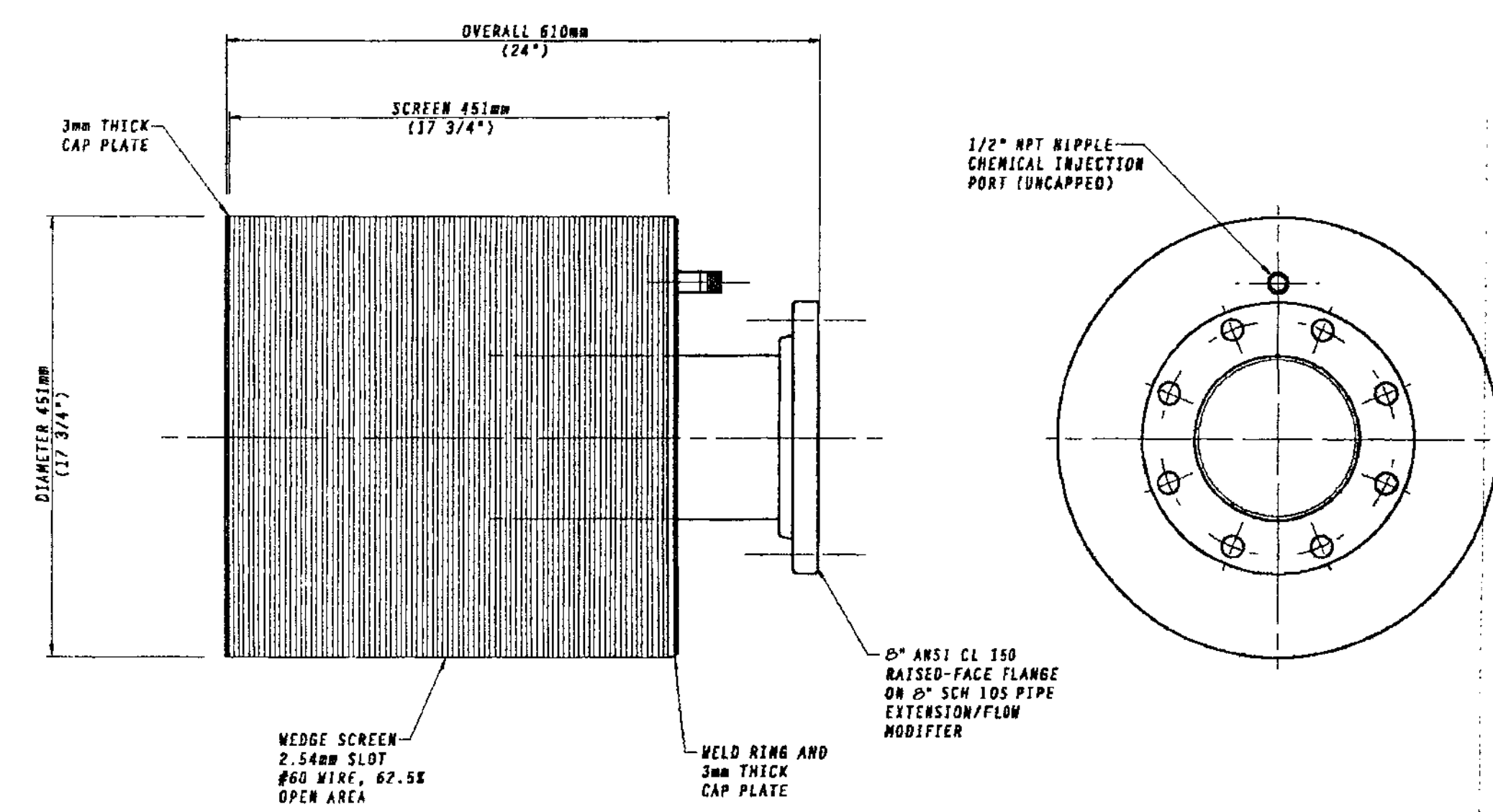


MATERIAL: TYPE 316 STAINLESS STEEL
FASTENERS OTHER THAN U-BOLTS (AS SHOWN) ARE NOT INCLUDED



FABRICATION NOTES:
1. REMOVE BURRS AND SPLATTER
2. RELIEVE SHARP EDGES

STAND FOR STATICORB INTAKE
SCALE: NTS



ACCEPTED FOR FILING
DATE: 2008
R. Quinn
Secretary to the Comptroller of Water Rights

FABRICATION NOTES:
1. ALL GAPS TO BE LESS THAN SCREEN SLOT
2. REMOVE BURRS AND SPLATTER
3. RELIEVE SHARP EDGES

STATICORB INTAKE
SCALE: NTS

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UTILITY REGULATION SECTION
OCT 27 2008
REF
ACK
ANS

"AS BUILT" WATER AND SEWER

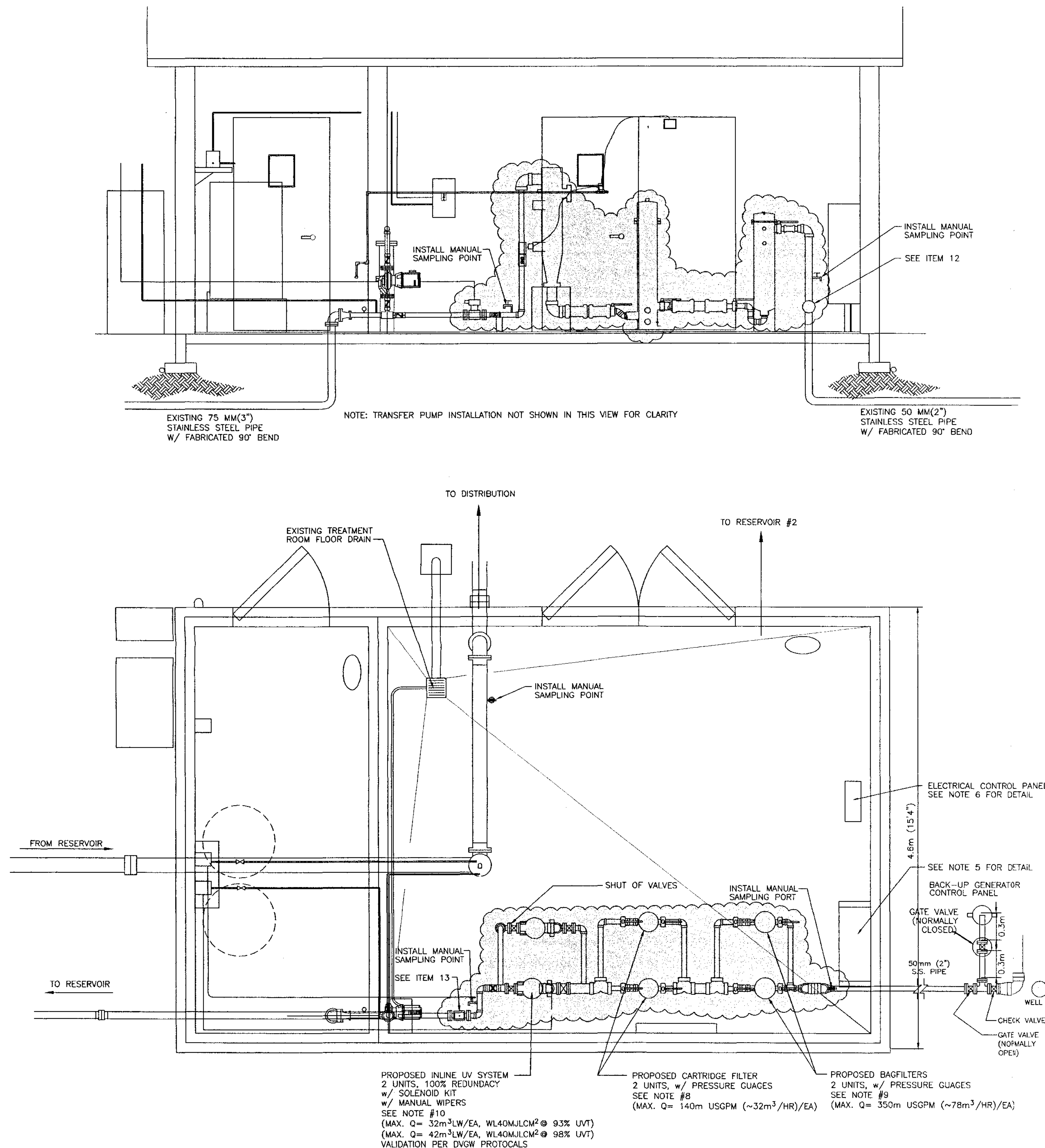
NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
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DSGN:	DS
DWN:	GSF
CHK:	DS
DATE DWN:	JULY 2008

KOOTENAY LAKE VILLAGE
PHASE 3, UPHILL
PROCTER, B.C.
WATER DESIGN
LAKE INTAKE DETAILS

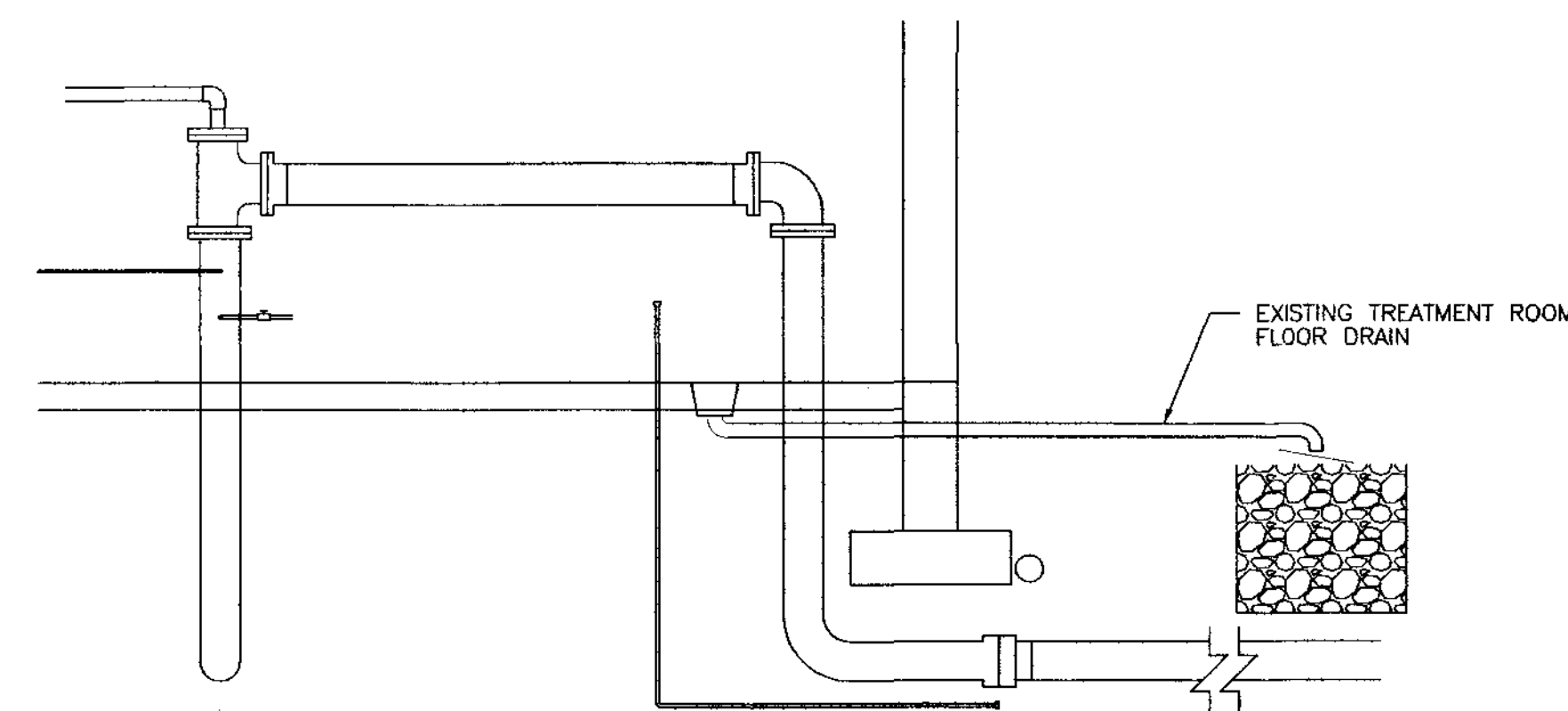
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DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	16 D



PLAN VIEW
SCALE 1:25

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
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A	05/04/08	ISSUED FOR WATER WORKS CONSTRUCTION PERMIT			1	06/05/08	GENERAL REVISION		

MATERIALS SCHEDULE AND SPECIFICATION									
NOTE		DESCRIPTION OF PART	COST	SUPPLIER	MANUFACTURER				
1	EXISTING	SEVERN TRENT SERVICES MICROCHEM2 CL RESIDUAL ANALYSER, MODEL: T17M41D214 C/W KC4000 MEASURING CELL MODEL T1KC4000A SELF CLEANING	\$3860 SUP	BC CONTROLS, PORT COQUITLAM BC 604-942-0288					
-	EXISTING	MODEL 10X431 DE11P1A2BA1132 C/W INTEGRAL CONTERTER MODEL 50XE4	\$1849 SUP	BC CONTROLS, PORT COQUITLAM BC 604-942-0288					
2	EXISTING	PULSAFEEDER CHEMICAL METERING PUMPSTAND, MODEL LPA2-S-A-VHC-520 C/W TWO MODEL LP-A2-M-A-VHC-4-XXX PUMPS, CAPACITY 55 GAL	\$5030 SUP	BC CONTROLS, PORT COQUITLAM BC 604-942-0288					
3	EXISTING	PULSAFEEDER SODIUM HYPOCHLORITE STORAGE TANK, MODEL J40366, CAPACITY 55 GAL	\$180 SUP	BC CONTROLS, PORT COQUITLAM BC 604-942-0288					
4	EXISTING	ABB 261 SERIES GAUGE PRESSURE TRANSMITTER, MODEL 261GSLKBN51-ED-L1	\$1020 SUP	BC CONTROLS, PORT COQUITLAM BC 604-942-0288					
5	EXISTING	YASKAWA VFD, 25HP MODEL P7U40151.34A RATED, C/W 10KVA 1PH 230V-480V ISOLATION TRANSFORMER(1200X800X400 MOUNT)	\$6200 SUP	VECTOR DRIVE, PORT COQUITLAM BC 604-945-5112					
6	EXISTING	MODICON PLC C/W 5.7 TFT 2SER PART3AGP 3000T1D24FNIM [2] FOUR CHANNEL A/1 P/N FN-ADO4AH11 [1] OF P/N FN-DA024AH41, [16PT I/O] #FNXY16SC41, CABLE 3FN-CABLE-2010-MS AND 128MB FLASH CARD 3CAT-CECALL/129-01 C/W 1HP 120V MAGNETIC STARTER	\$7000 SUP	VECTOR DRIVE, PORT COQUITLAM BC 604-945-5112					
7	EXISTING	ARMSTRONG PUMP MODEL H-51, 1/4HP 115V 1PH 1750 RPM 1"BBF	\$715 SUP	SPEARS SALES, VANCOUVER BC 604-872-7104					
-	EXISTING	VALMATIC 100S 1/2" AIR/VACUUM VALVE, CAST IRON BODY, STAINLESS STEEL TRIM	\$173 SUP	ROBIN FLOTECH SURREY BC 604-882-0028					
-	EXISTING	CLA VAL 136EG-01 BY X101 2" SOLENOID CONTROL VALVE, ASCO 8320G182 NC 120/60 VAC SWAY	\$797 SUP	CORIX WATER, LANGLEY BC 604-514-4620					
8	PROPOSED	CARTRIDGE FILTERS, SHELCO, 2 UNITS #5F054-SB-316L-ML-GPA	\$1865/EA SUP	NICLAND FILTER, 1C-30321, FRASER HIGHWAY, ABOTSFORD, B.C., V4X 1T3 604-8569451	SHELCO FILTERS, 100 BRADLEY STREET, MIDDLETOWN, CT, 06457, 800-543-5843				
9	PROPOSED	BAG FILTERS, SHELCO, 2 UNITS #BFS-2C-2-316-2-E-GPA	\$1395 SUP	NICLAND FILTER, 1C-30321, FRASER HIGHWAY, ABOTSFORD, B.C., V4X 1T3 604-8569451	SHELCO FILTERS, 100 BRADLEY STREET, MIDDLETOWN, CT, 06457, 800-543-5843				
10	PROPOSED	UVSWIFT, B04 TYPE 12 316L, 2 UNITS DELIVERED DOSE /S VALIDATED - DWGW CERTIFICATION SS316L REACTOR CHAMBER WITH 100mm (4") INLET/OUTLET DIAMETER CONNECTIONS 4 LOW PRESSURE HIGH OUTPUT AMALGAM LAMPS IN PROTECTIVE QUARTZ SLEEVES PER UNIT MAXIMUM OPERATING PRESSURE 150 PSIG TYPE 12 RATED PANEL FOR INDOOR INSTALLATION UV INTENSITY SENSOR PROVIDED WITH DISPLAY AT OPERATOR INTERFACE INDIVIDUAL LAMP STATUS INDICATORS AND REACTOR RUNNING HOUR METER AT OPERATOR INTERFACE REMOTE ON/OFF RELAY PROVIDED A 4-20mA OUTPUT SIGNAL AVAILABLE FOR REMOTE MONITORING OF UV INTENSITY A TOTAL OF (2) CONFIGURABLE NON POWERED DISCRETE DRY CONTACT OUTPUTS RATED AT 24 VDC ELECTRICAL POWER SUPPLY REQUIRED: 208-240 VOLTS, 60 H., 1 PHASE, 2 WIRE + GROUND NORMALLY OPERATING POWER = 66W PER REATOR CONNECTED ELECTRICAL LOAD = 1310W PER REACTOR	\$18,690 SUP	RAMTECH ENVIRONMENTAL, 2335 - 23 AVE. SW CALGARY, AB: T2T.0W3 403-221-8585	TROJAN TECHNOLOGIES, 3020 GORE ROAD, LONDON, ON, N5V4T7 519-457-3400				
11		NOT USED							
12	PROPOSED	CONSTANT TURBIDIMETER ON-LINE TURBIDIMETER, FOR TURBIDITY MEASUREMENT RANGE OF 0.000 UP TO 100 NTU, AUTO-RANGING, FLOWMETER WITH NEEDLE VALVE, MOUNTED ON PVC PANEL, FACTORY TESTED AND READY FOR OPERATIONS, 2 x SIGNAL OUTPUTS, 3 x RELAY OUTPUTS, 1 x REMOTE DIGITAL INPUT (REMOTE HOLD/OFF), 85-285 VAC 47-63 Hz INCLUDES CSA APPROVAL MAX. PRESSURE 150 PSI							
13	PROPOSED	CONSTANT FLOW METER MATERIAL - BRASS, SS RANGE - .3 TO 30 FPS PIPE SIZE 2" - 10" MAXIMUM PRESSURE - 200 PSI FITTING SIZE - 1 1/2" NPT POWER - 5-24 VDC 1.5mA DIGITAL POWER SS SADDLE							

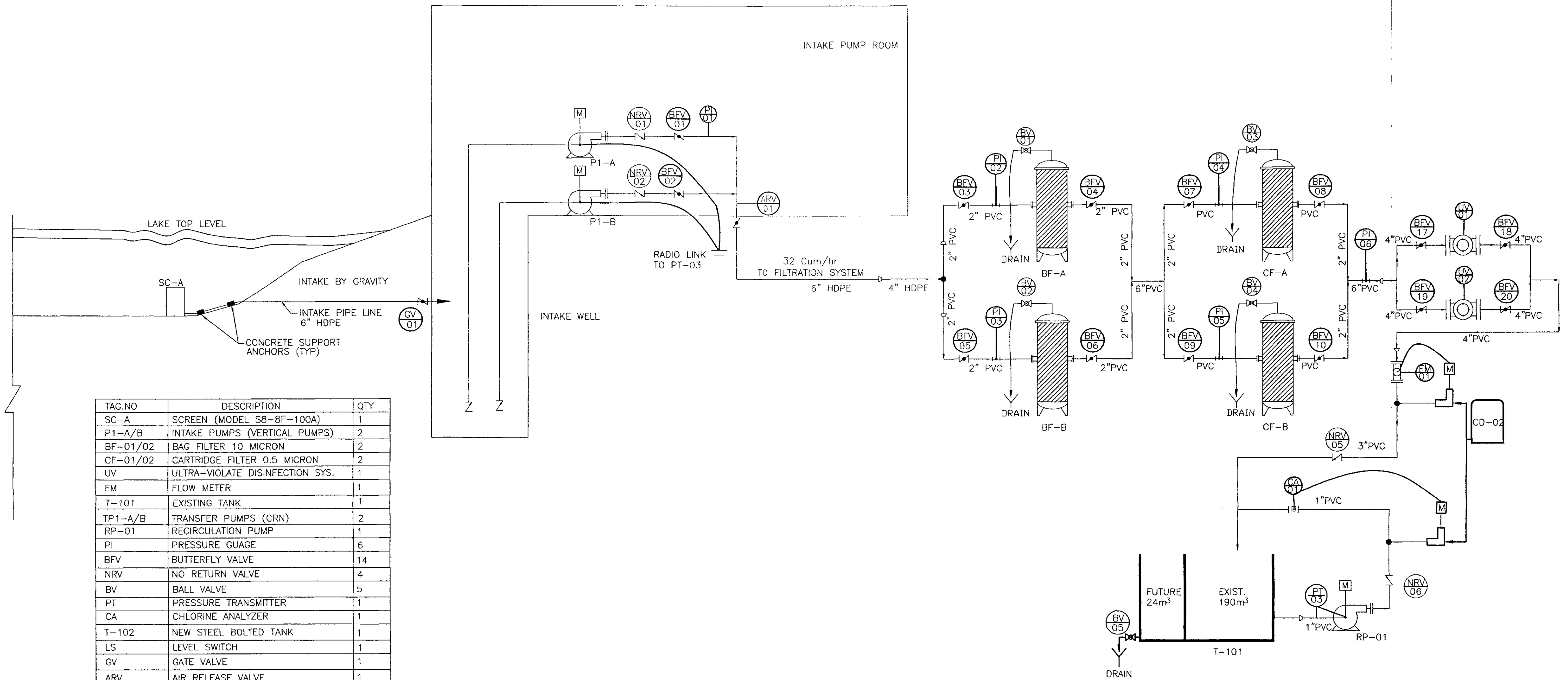


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INVENTORIED ITEMS FOR INSTALLATION PER IHA CONSTRUCTION PERMIT KO-406W

"AS BUILT" WATER AND SEWER
KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.
WATER DESIGN
WATER TREATMENT ROOM LAYOUT
SCALE: AS NOTED
DWG FILE: C07219-001-01
JOB: C07219-001
SHEET: 17 D

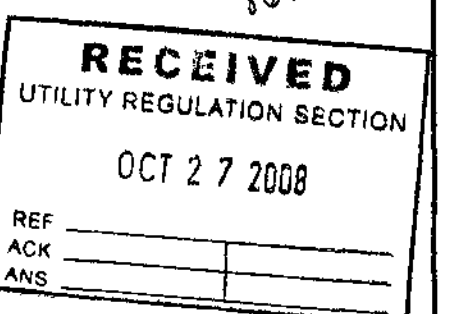
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DWN: GSG
CHK: DS
DATE DWN: JULY 2008



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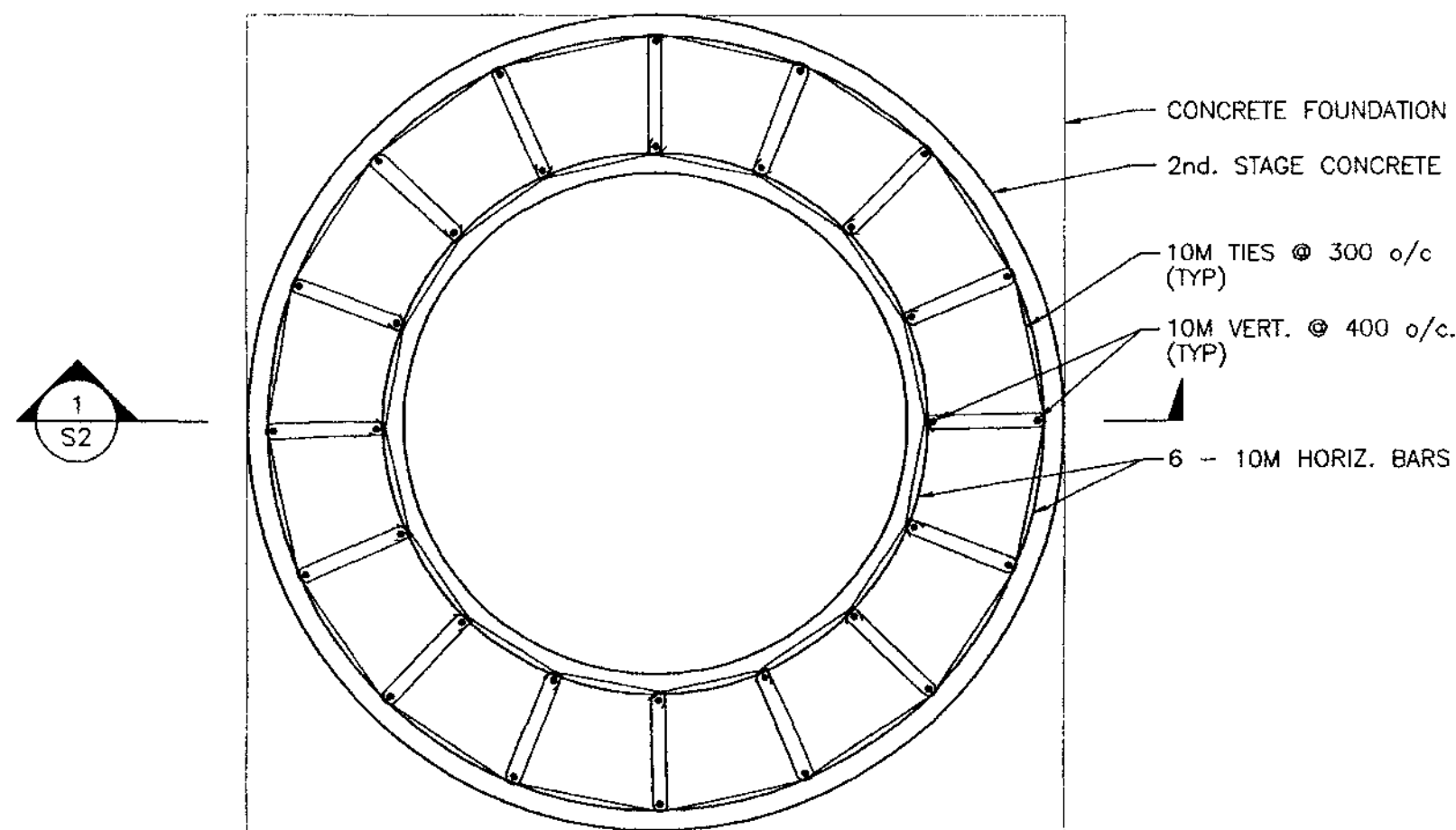
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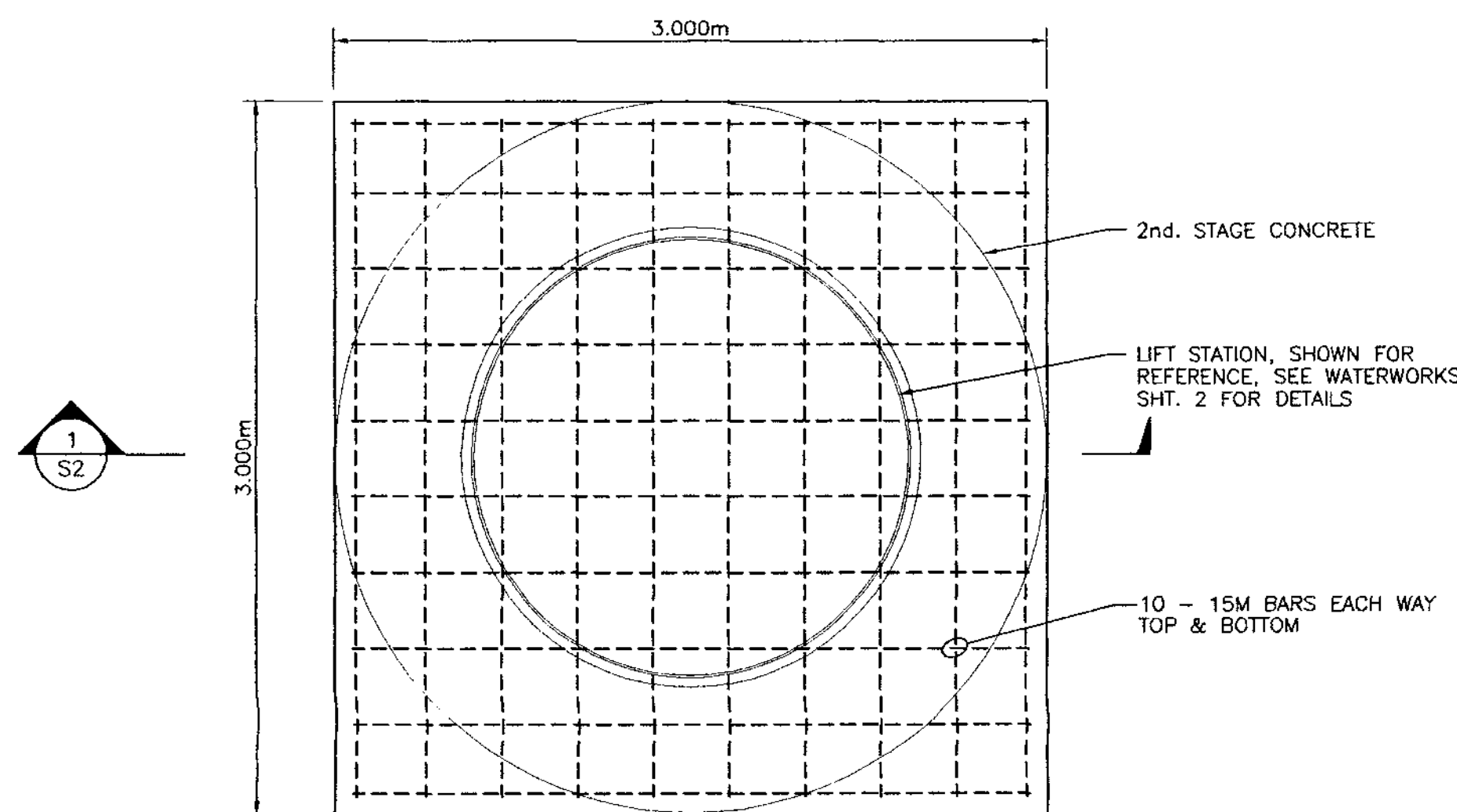
SEE SHEET 17
 FOR COMPLETED WORKS
 OCT 27 2008

"AS BUILT" WATER AND SEWER

D 10/06/08 AS BUILT WATER AND SEWER C 07/30/08 RE-ISSUE FOR WATERWORKS CONSTRUCTION PERMIT B 07/23/08 SEE "AS CONSTRUCTED, WATER EXTENSION" A 03/03/08 ISSUED FOR WATER WORKS CONSTRUCTION PERMIT	NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD	WSA ENGINEERING LTD. WOODS SAHLSTROM ASSOCIATES Geotechnical • Civil • Structural • Materials Testing 2248 Columbia Ave. Castlegar, B.C. V1N 2X1 Ph: (250) 365-3696	DSGN: DS DWN: GSG CHK: DS DATE DWN: JULY 2008	KOOTENAY LAKE VILLAGE PHASE 3 UPHILL PROCTER, B.C. WATER DESIGN PROCESS & INSTRUMENTATION DIAGRAM	SCALE: AS NOTED DWG FILE: JOB: C07219-001 SHEET: 18

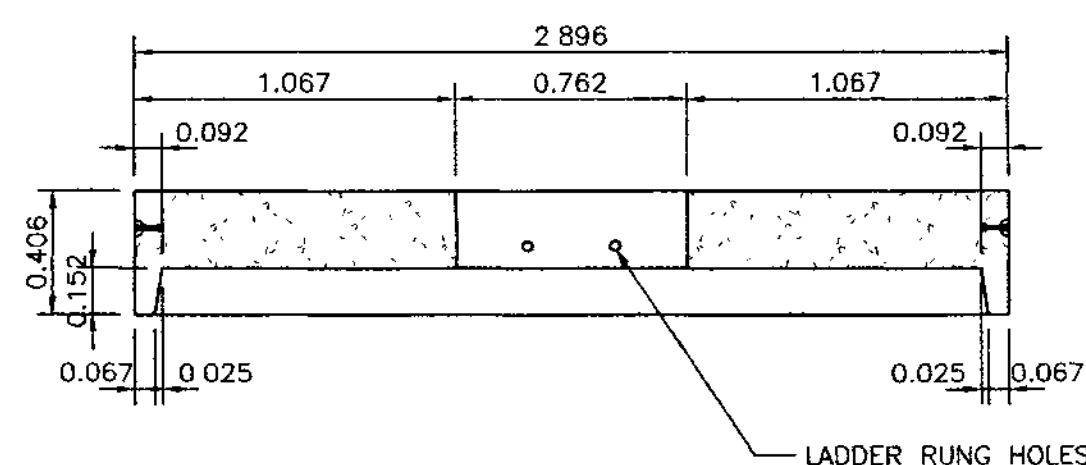


LIFT STATION - 2nd STAGE CONCRETE
SCALE: 1:25

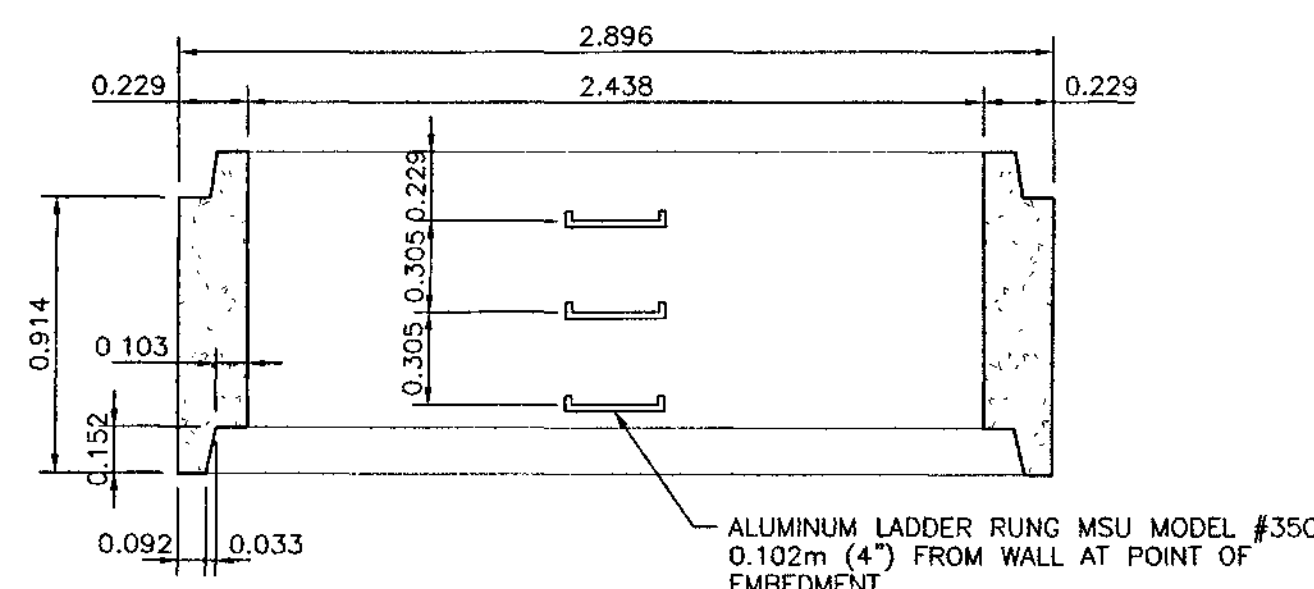


LIFT STATION FOUNDATION PLAN
SCALE: 1:25

NOTE:
c/w 4 - 0.121m (4 3/4") LIFTING
ANCHORS FOR HANDLING



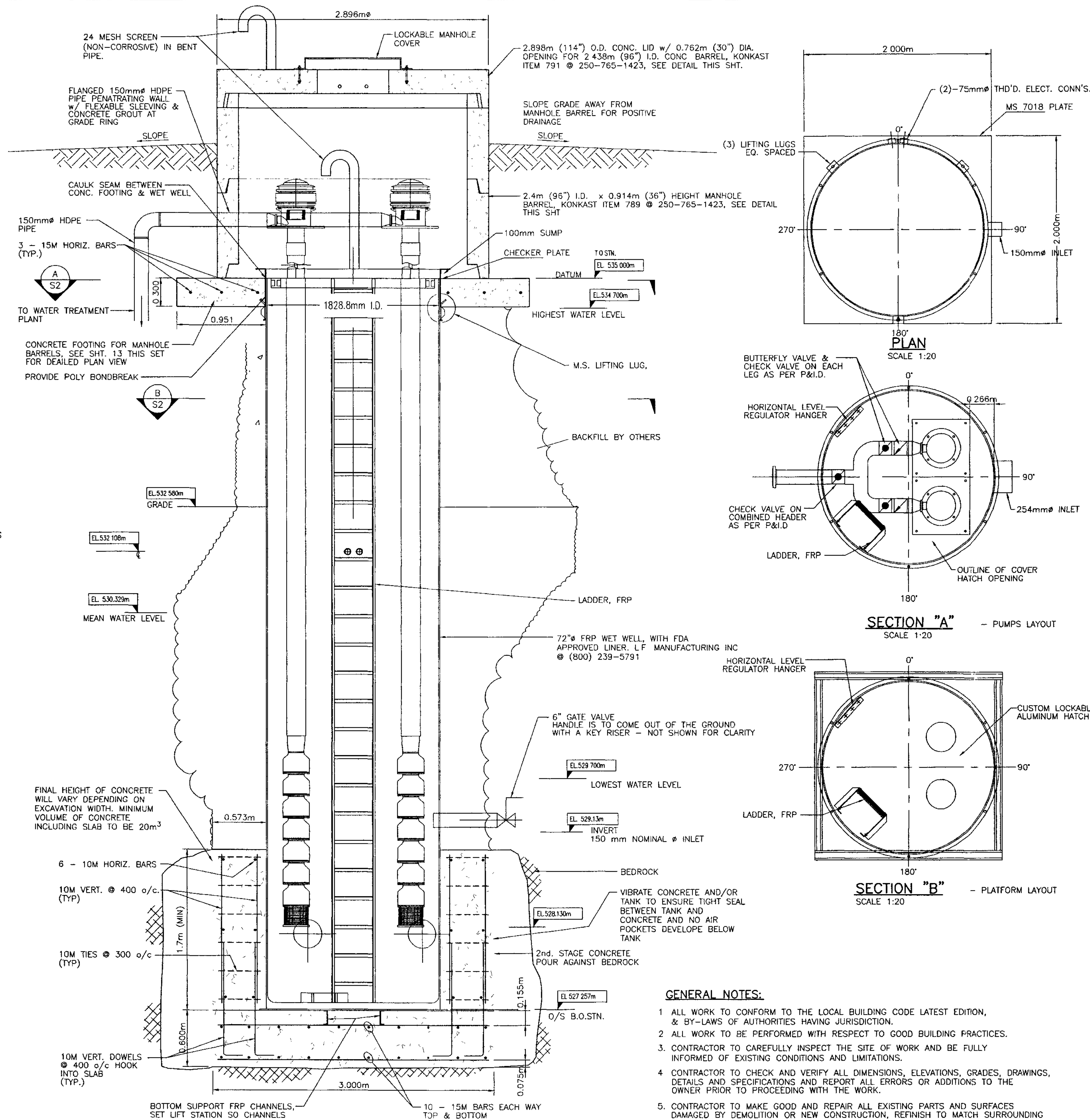
MANHOLE COVER - KONKAST ITEM 791
SCALE: 1:25



MANHOLE BARREL - KONKAST ITEM 789
SCALE: 1:25

NOTES: PUMP SPECIFICATIONS

- PUMP PARTS:**
CAST IRON BOWLS
FLANGED BOWLS
BRONZE IMPELLERS
STEEL COLLETS
146SS BOWL SHAFT
STRAINER MATERIAL - 316SS
316SS LIFESAFT COUPLING
150# FLANGE
DRIVER PARTS
VERTICAL HOLLOW SHAFT MOTOR
MOTOR ENCLOSURE WPI
NON-REVERSE COUPLING ON MOTOR
OPERATING CONDITIONS:
FLOW, RATED: 32 M³/H
HEAD, RATED: 85 M
- FAIRBANKS MORSE 883+ LINE SHAFT TURBINE PUMPS**
- RATED 141 U.S. GALLON @ 345 FT.
- DT TYPE DISCHARGE HEAD ASSEMBLIES (WITH PACKING BOX)
- 4"x5" COLUMN ASSEMBLY x 3 SECTIONS
- 25mm (1") LINE SHAFTING AND ASSEMBLY
- 3 STAGE BOWL ASSEMBLY
- BASKET STRAINER
- 20 HP-3600 RPM - 3PH-WP-1 GE MOTOR



FOUNDATION SECTION
SCALE: 1:25

GENERAL NOTES:

- ALL WORK TO CONFORM TO THE LOCAL BUILDING CODE LATEST EDITION, & BY-LAWS OF AUTHORITIES HAVING JURISDICTION.
- ALL WORK TO BE PERFORMED WITH RESPECT TO GOOD BUILDING PRACTICES.
- CONTRACTOR TO CAREFULLY INSPECT THE SITE OF WORK AND BE FULLY INFORMED OF EXISTING CONDITIONS AND LIMITATIONS.
- CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS, ELEVATIONS, GRADES, DRAWINGS, DETAILS AND SPECIFICATIONS AND REPORT ALL ERRORS OR ADDITIONS TO THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
- CONTRACTOR TO MAKE GOOD AND REPAIR ALL EXISTING PARTS AND SURFACES DAMAGED BY DEMOLITION OR NEW CONSTRUCTION, REFINISH TO MATCH SURROUNDING AREA BETWEEN CORNERS OR ABUTMENTS COMPLETE.
- DEMOLISH WHERE NOTED, AND REMOVE DEBRIS FROM SITE, MINIMIZE DISTURPTION TO NEIGHBOURS. ALL SALVAGE MATERIAL (TO BE CONFIRMED BY OWNER) REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE NOTED.
- ALL FLASHING TO BE PREFINISHED TO SUIT OWNERS COLOR SCHEME.
- VAPOUR BARRIER TO MIN. 6 MIL. SEAL ALL JOINTS AND HOLES TO PREVENT LEAKAGE. PROVIDE ALSO 12" WIDE LAPS BELOW SLAB ON GRADE.
- PERIMETER DRAINAGE TO BE INSTALLED WHERE REQUIRED BY SITE CONDITIONS

BILL OF MATERIALS	
QTY	DESCRIPTION
3	LIFTING LUGS, MS/FRP
14	HOLD DOWN LUGS, MS/FRP
1	SAFETY LADDER, FRP, PARTIAL LENGTH TO PLATFORM
1	150 mm INLET, SNR 35 STUB(GREEN SOWER PIPE) BONDED INTO WALL
1	150mm-# FORCEMAIN(MACHINED FRP, WITH 150 mm # FLANGED NOZZLE
16	20mm PUMP BASE BOLTS, 304 SS
6	22mm ANCHOR BOLTS, M 5 (BY OTHERS)
1	HEATER/BLOWER (BY OTHERS)
1	PUMP, CHEM-FEED INJECTOR, TNO4X000V01
2	PUMP, VERTICAL TURBINE 7 STAGE
1	PLATE, MS 7018 STEEL, 2X2 METERS
2	ELBOW TEE, 4" HDPE
2	VALVE, BUTTERFLY, 4" WHEEL OPERATED
1	VALVE, GATE, 6" OPERATED THROUGH THE KEY RISER

GENERAL NOTES:

- TANK WALL 120 MIL THICK CORROSION LINER OF ISOPHTHALIC RESIN, C-VOL & CHOPPED, STRAND MAT, A STRUCTURE BUILD UP OF POLYESTER RESIN, CHOPPED STRAND MAT & FILAMENT WINDING.
- ACCESS REQUIRED UNDERNEATH THE 500x500 mm FRP BLOCK OF MOUNTING PUMPS FOR FASTENING NUTS
- REQUIRED NECESSARY FITTINGS FOR CONNECTING 50 mm # GALVANIZED GUIDE BARS.

CONCRETE:

- PROVIDE CONCRETE AND PERFORM WORK TO CSA-A23.1.
- MINIMUM 28 DAY COMPRESSIVE STRENGTHS AS INDICATED BELOW. ALL CONCRETE NORMAL WEIGHT - 150 PCF, TYPE 10 CEMENT, TYPE F FLYASH, MAXIMUM 19mm AGGREGATE FOR ALL CONCRETE EXCEPT 32mm MAXIMUM AGGREGATE FOR CHUTE PLACED SLABS ON GRADE. SUBMIT PROPOSED MIX DESIGN TO THE ENGINEER FOR APPROVAL.

INDUSTRIAL/COMMERCIAL

LOCATIONS	STRENGTH MPa (PSI)	AIR %	SLUMP	+20mm EXPOS. CLASS
FOOTINGS	25 (3600)	1-4	70	-
SUSPENDED SLABS & BEAMS	25 (3600)	4-7	70	F2
RETAINING WALL	25 (3600)	4-7	70	F2
INTERIOR S.O.G.	25 (3600)	1-4	60	-
EXPOSED S.O.G.	32 (4640)	4-8	60	C2
WALLS & COLUMNS	25 (3600)	1-4	70	-
	30 (4350)	4-7	70	F2

- DO NOT USE ADMIXTURES OTHER THAN AIR ENTRAINMENT, STANDARD WATER REDUCERS OR SUPER PLASTICIZERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- REJECT ALL CONCRETE WHEN TIME BETWEEN BATCHING AND PLACING EXCEEDS 2 HOURS.
- DO NOT ADD WATER TO THE CONCRETE ON SITE UNLESS AUTHORIZED BY THE ENGINEER.
- CONSOLIDATE ALL CONCRETE USING MECHANICAL VIBRATORS.
- CONTROL JOINTS FOR SLAB-ON-GRADE: SAWCUT AS SOON AS POSSIBLE AT MAXIMUM 6.1m SPACING OR AT LOCATIONS SHOWN ON THE DRAWINGS.
- CONSTRUCTION JOINTS: AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- PROTECT CONCRETE FROM ADVERSE WEATHER CONDITIONS IN ACCORDANCE WITH CSA A23.1
- CONSTRUCT FORMWORK IN ACCORDANCE WITH WCB REGULATIONS AND CSA S269.3. FORMWORK DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR.

REINFORCEMENT:

- NEW DEFORMED BARS TO CSA G30.18 GRADE 400 (60 KSI). WELDED WIRE FABRIC TO CSA G30.5. ANCHOR BOLTS TO ASTM A307.
- PLACE REINFORCING BARS TO CSA A23.1. TIE ALL BARS SECURELY IN PLACE TO PREVENT DISPLACEMENT. SUPPORT SLAB REINFORCING ON SUITABLE CHAIRS OR SUPPORTS AT MAXIMUM 4 FT. CENTERS. PROVIDE CORNER BARS TO MATCH HORIZONTAL WALL REBAR.
- PROVIDE CLEAR CONCRETE COVER FOR REBAR AS FOLLOWS:
SURFACE POURED AGAINST GROUND 75mm
FORMED SURFACE EXPOSED TO GROUND 50mm
OR WEATHER 50mm
BEAMS 50mm TO MAIN STEEL
COLUMNS 50mm TO MAIN STEEL
SLABS, WALLS 25mm
- SPLICE REBAR AS FOLLOWS (UNLESS OTHERWISE NOTED):
BAR SIZE 10M 15M 20M 25M 30M
LAP SPLICE 460mm 635mm 790mm 1295mm 1800mm
- MINIMUM 2-15M REINFORCING AROUND OPENING LARGER THAN 300mm AT EACH SIDE OF OPENING. EXTEND 600mm PAST CORNER.
- CONTRACTOR TO PROVIDE 24 HOURS NOTICE FOR REBAR INSPECTION.

"AS BUILT" WATER AND SEWER

DSGN:	DS
DWN:	GSG
CHK:	DS
DATE DWN:	JULY, 2008

**KOOTENAY LAKE VILLAGE
PHASE 3 UPHILL
PROCTER, B.C.**
**WATER DESIGN
LIFT STATION FOUNDATION**

SCALE:	AS NOTED
DWG FILE:	C07219-001-01
JOB:	C07219-001
SHEET:	S2

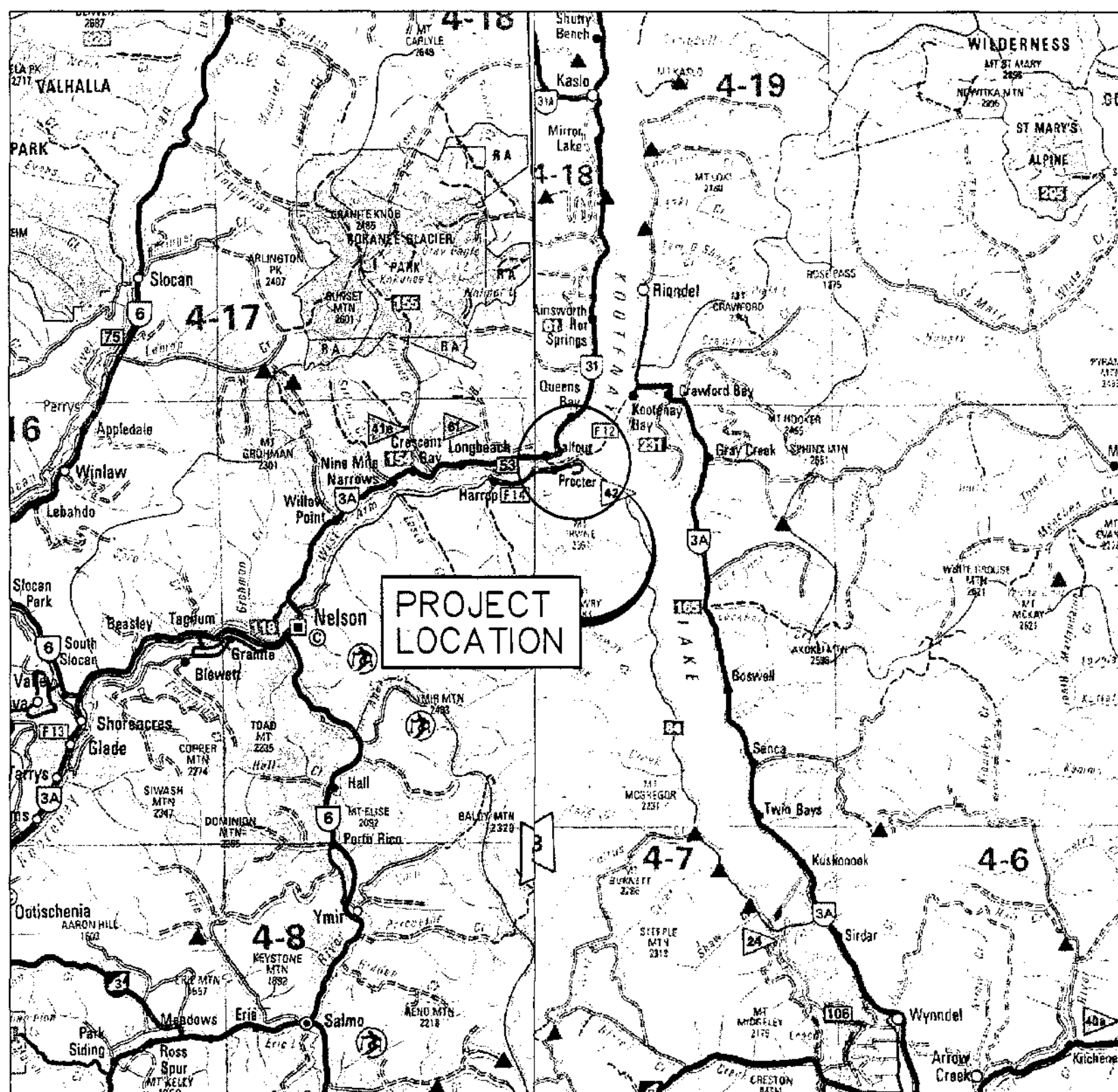
WSA ENGINEERING LTD.
WOODS SAHL STROM ASSOCIATES
Geotechnical • Civil • Structural • Materials Testing
2248 Columbia Ave, Castlegar, B.C. V1N 2X1 Ph: (250) 365-3696

NO.	DATE	ISSUES	BY	APPD	NO.	DATE	REVISIONS	BY	APPD
C	10/06/08	AS BUILT WATER AND SEWER							
B	07/23/08	AS CONSTRUCTED, WATER EXTENSION							
A	03/18/08	ISSUED FOR CONSTRUCTION			1	06/05/08	GENERAL REVISIONS		

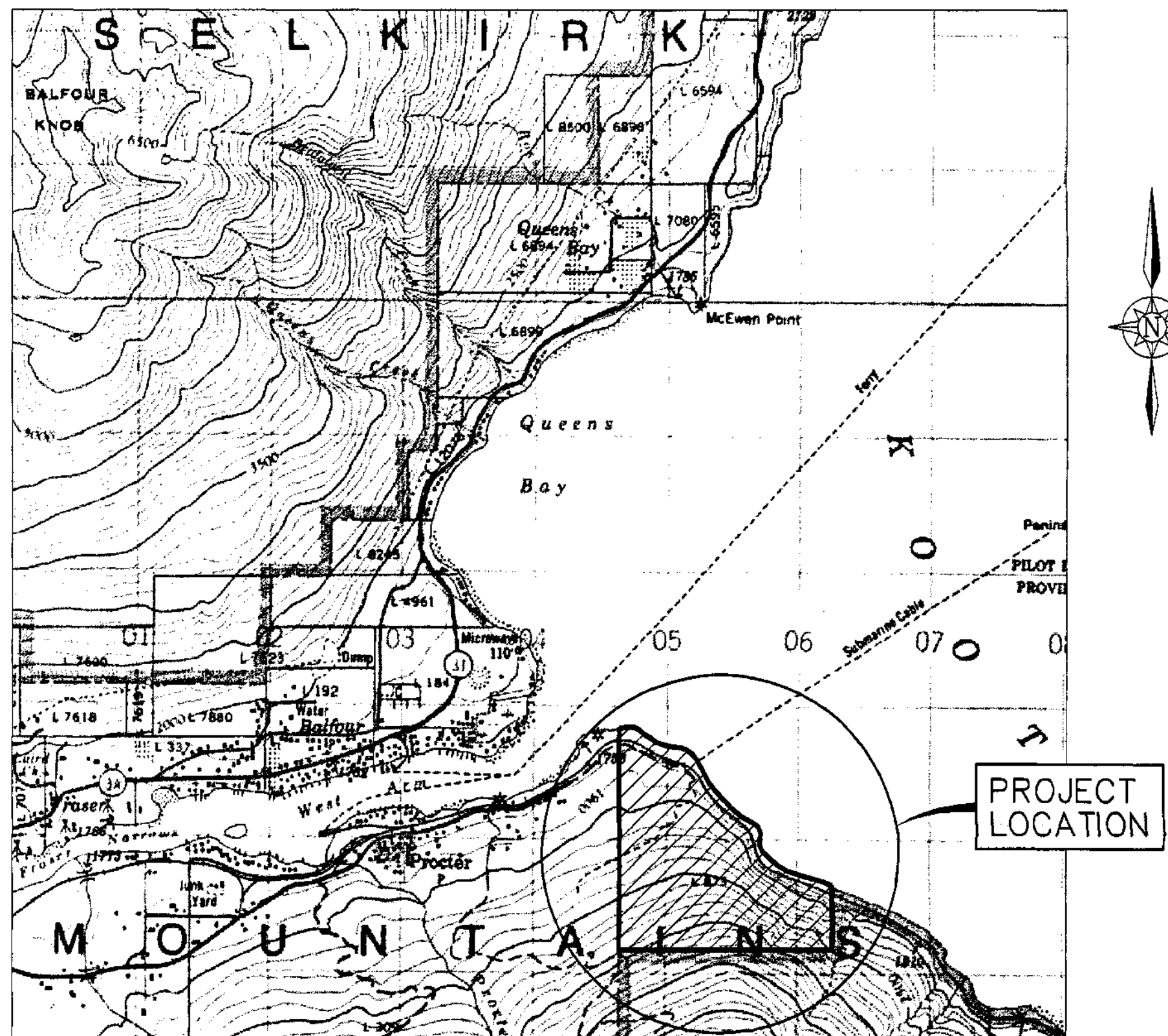
ACCEPTED FOR FILING
DATE: 2008-07-23
BY: [Signature]

Secretary to the Comptroller of Water Rights

KOOTENAY LAKE VILLAGE SECOND STRATA (14 LOTS) DEVELOPMENT PROCTER, B.C.



AREA PLAN



LOCATION PLAN

PROJECT CONTACTS

DESCRIPTION

DRY UTILITY - ELEC.
DRY UTILITY - TEL.
DRY UTILITY - CABLE
DRY UTILITY - GAS
ENG.-CIVIL
ENG.-ELECTRICAL
ENG.-SEWER
REG.-WATER UTILITY
REG. - WATER QUALITY
REG. - WATER LICENCE
REG. - WATER SEWER
REG. - SUBDIVISION
REG. - ROADS
SURVEY - LEGAL
SURVEY - CONSTRUCTION
OWNER

COMPANY

NELSON HYDRO
TELUS
SHAW
TERASEN GAS (N/A)
WSA ENGINEERING LTD.
EMCO ENGINEERING
OSI/EAGLE ENGINEERING
B.C. MOE WATER USE
B.C. MOH INTERIOR HEALTH AUTHORITY
B.C. MOE WATER STANDARDS
B.C. MOE ENV. MGMT.
B.C. MOT TRANSPORTATION
B.C. MOT TRANSPORTATION
HINTERLAND SURVEYING & GEOMETRICS INC.
SEL SURVEY & DESIGN
KOOTENAY LAKE ESTATES

CONTACT

CARL OLSEN @ 250-352-8214
AL WILSON @ 250-417-6924
KAREN CRIBBES @ 250-417-3898
NORM MCKINNON @ 250-368-4009
DAN SAHLSTROM @ 250-365-3696
KEN GUIDO @ 250-470-9696
STEVE BRYDGES @ 250-748-8500
AL ADERICHIN @ 250-387-3421
MARRIANE CROWE @ 250-505-7200
JOHN BOCHARD @ 250-354-6349
CHRIS STROICH @ 250-354-6333
PETER MUIRHEAD @ 250-354-8495
PHIL BEST @ 250-354-6520
MILOS HINTERBERGER @ 250-364-1444
BILL SPROULE @ 250-353-7900
OLIVER BERKELEY @ 250-505-5558

LOCATION

NELSON, B.C.
KELOWNA, B.C.
CRANBROOK, B.C.
TRAIL, B.C.
CASTLEGAR, B.C.
CASTLEGAR, B.C.
CASTLEGAR, B.C.
VICTORIA, B.C.
NELSON, B.C.
NELSON, B.C.
NELSON, B.C.
NELSON, B.C.
TRAIL, B.C.
NELSON, B.C.
NELSON, B.C.

DRAWING INDEX

CIVIL

SHEET 01 - CONTACT INDEX, DRAWING INDEX, AREA PLAN & LOCATION PLAN (AS CONSTRUCTED)
SHEET 02 - SITE PLAN & SHEET INDEX (AS CONSTRUCTED)
SHEET 03 - (NOT USED)
SHEET 04 - (NOT USED)
SHEET 05 - WATER DESIGN - PLAN & PROFILE, STRATA RD. STA. 0+640 TO 0+700 (AS CONSTRUCTED)
SHEET 06 - NOT USED
SHEET 07 - ROAD DESIGN - PLAN & PROFILE, EAST PROCTER ROAD STA. 0+000 TO 0+380 (AS CONSTRUCTED)
SHEET 08 - (NOT USED)
SHEET 09 - ROAD & WATER DESIGN - PLAN & PROFILE, UPLANDS ROAD STA. 0+000 TO 0+230 (AS CONSTRUCTED)
SHEET 10 - (NOT USED)
SHEET 11 - ROAD, WATER, & SEWER TYPICAL SECTIONS (AS CONSTRUCTED)
SHEET 12 - WATER DESIGN - TYPICAL MMCD DETAILS (AS CONSTRUCTED)
SHEET 13 - WATER DESIGN - TYPICAL MMCD DETAILS (AS CONSTRUCTED)
SHEET 14 - (NOT USED)
SHEET 15 - WATER DESIGN - LAKE INTAKE PLAN & PROFILE (AS CONSTRUCTED)
SHEET 16 - (NOT USED)
SHEET 17 - (NOT USED)
SHEET 18 - (NOT USED)

STRUCTURAL

SHEET S1 - (NOT USED)
SHEET S2 - STRUCTURAL - WATER DESIGN - LIFT STATION FOUNDATION (AS CONSTRUCTED)

ACCEPTED FOR FILING

DATE: 2008

Secretary to the Comptroller of Water Rights

WSA ENGINEERING LTD.
WOODS SAHLSTROM ASSOCIATES
Geotechnical • Civil • Structural • Materials Testing

2248 Columbia Ave. Castlegar, B.C. V1N 2X1 Ph: (250) 365-3696

"AS CONSTRUCTED" WATER EXTENSION
JULY, 2008

SHEET: 01

RECEIVED
UTILITY REGULATION SECTION
OCT - 2 2008
REF: _____
ACK: _____
ANS: _____



Province of British Columbia

In the Matter of the *Water Utility Act* and the *Utilities Commission Act*

and

In the Matter of *Procter Water Utility Limited*

**CERTIFICATE
OF
PUBLIC CONVENIENCE AND NECESSITY**

THIS IS TO CERTIFY THAT public convenience and necessity require the construction and operation by Procter Water Utility Limited (herein referred to as "the Utility") of a waterworks system at Procter, BC, British Columbia, to supply proposed bare land strata subdivision consisting of a 19 lot single family bare land strata subdivision (Phase 1).

AND IT IS HEREBY ORDERED THAT the Utility is authorized to construct and operate a waterworks system to supply an area more particularly described as:

Strata Lots 1-9 and 11-20 of proposed subdivision of Parcel A, Lot 52, DL 309, Kootenay District, Plan 1858 and District Lot 873, Kootenay District, except Part in R/W Plan 1760; (As shown on Preliminary Legal Survey Plan dated April 10, 2007, prepared by Milos J. Hinterber, BCLS, and received on April 30, 2007.)

THIS CERTIFICATE of public convenience and necessity is granted under the following conditions:

- (1) The Utility shall submit to the Comptroller of Water Rights, *Water Utility Act*,
 - (i) One copy of the registered plans of the above mentioned subdivisions within 30 days of the date of registration at the Land Titles Office,
 - (ii) One copy of all required registered Statutory Rights of Way / easements,
 - (iii) One copy of required registered Restrictive Covenants,
 - (iv) One copy of required register Rent Charge Agreement,
 - (v) One copy of As-Constructed drawings of the water system upon completion of construction;
- (2) The entire cost of installing the necessary works is contributed to the Utility with no expectation of a return on investment.

Pieter J. Bekker
Deputy Comptroller of Water Rights
Water Utility Act



Province of British Columbia

In the Matter of the *Water Utility Act* and the *Utilities Commission Act*

and

In the Matter of *Procter Water Utility Limited*

**CERTIFICATE
OF
PUBLIC CONVENIENCE AND NECESSITY**

THIS IS TO CERTIFY THAT public convenience and necessity require the construction and operation by Procter Water Utility Limited (herein referred to as "the Utility") of an extension of its waterworks system at Procter, BC, British Columbia, to supply a proposed additional bare land strata subdivision consisting of a 15 lots (Phase 2).

AND IT IS HEREBY ORDERED THAT the Utility is authorized to construct and operate a waterworks system to supply an area more particularly described as:

Lot 10, Strata Plan NES3286, Phase 1, Plan of Phased Bare Land Strata of Lot A, Plan NEP84603, District Lots 309 and 873, Kootenay District as shown on registerable subdivision plan dated August 27, 2007, prepared by Milos J. Hinterberger, BCLS and received on March 5, 2008, and

Strata Lots 1 – 14 of proposed subdivision of District Lot 873, Kootenay District, except Part included in R/W Plan 1760, as shown on Preliminary Legal Survey Plan prepared by Milos J. Hinterberger, BCLS, and received on April 7, 2008.

THIS CERTIFICATE of public convenience and necessity is granted under the following conditions:

- (1) The Utility shall submit to the Comptroller of Water Rights, *Water Utility Act*,
 - (i) One copy of the registered plans of the above mentioned subdivisions within 30 days of the date of registration at the Land Titles Office,
 - (ii) One copy of all required registered Statutory Rights of Way / easements,
 - (iii) One copy of required registered Restrictive Covenants,
 - (iv) One copy of required register Rent Charge Agreement,
- (2) The entire cost of installing the necessary works is contributed to the Utility with no expectation of a return on investment.

Pieter J. Bekker
Deputy Comptroller of Water Rights
Water Utility Act



PROVINCE OF BRITISH COLUMBIA

In the Matter of the *Water Utility Act* and the *Utilities Commission Act*

and

In the Matter of *Procter Water Utility Limited*

**CERTIFICATE
OF
PUBLIC CONVENIENCE AND NECESSITY**

THIS IS TO CERTIFY THAT public convenience and necessity requires the construction and operation by Procter Water Utility Limited (herein referred to as "the Utility") of an extension of its waterworks system at Procter, BC, British Columbia, to supply a proposed additional bare land strata subdivision consisting of a 11 waterfront lots and 1 up hill lot,

AND IT IS HEREBY ORDERED THAT the Utility is authorized to construct and operate a waterworks system to supply an area more particularly described as:

Strata Lots 21 – 32 of a proposed subdivision of Lot A, District Lot 309 and 873, Kootenay District, Plan NEP 84603, except Strata Plan NES 3286 as shown on Preliminary Legal Survey Plan dated June 11, 2008, prepared by Hinterland Surveying & Geomatics Inc. and received on October 27, 2008.

This Certificate of Public Convenience and Necessity is granted under the following conditions:

- (1) The Utility shall submit to the Comptroller of Water Rights, *Water Utility Act*;
 - (i) One copy of the registered plans of the above mentioned subdivisions within 30 days of the date of registration at the Land Title Office,
 - (ii) One copy of all required registered Statutory Rights of Way / Easements,
 - (iii) One copy of required registered Restrictive Covenants,
 - (iv) One copy of Lien after registration on the parent parcel prior to subdivision registration,
 - (v) One copy of required registered Rent Charge Agreement.
- (2) The entire cost of installing the necessary works is contributed to the Utility with no expectation of a return on investment.

Pieter J. Bekker
Deputy Comptroller of Water Rights
Water Utility Act