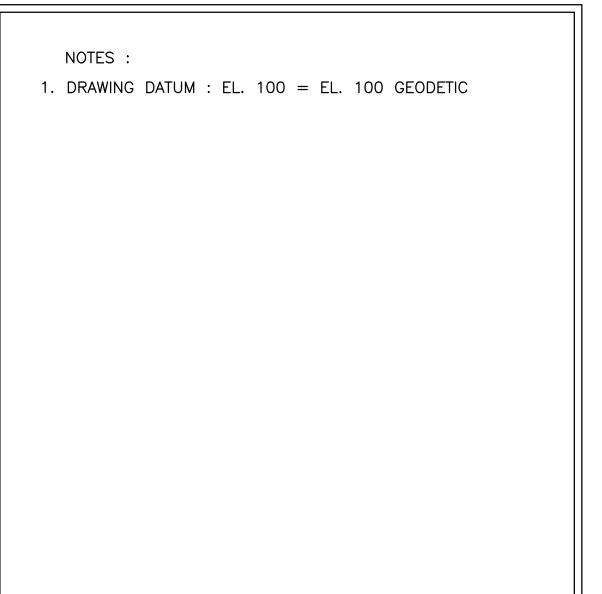
SUNSHINE COAST REGIONAL DISTRICT JERVIS INLET ROAD WATERMAIN EXTENSION

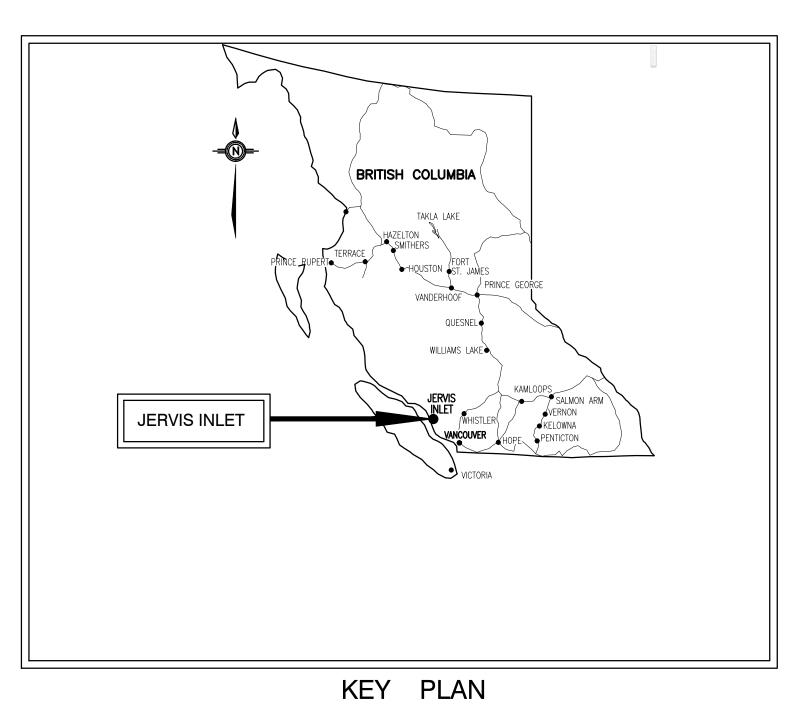
CONTRACT No. 09 103

RECORD DRAWINGS









INDEX TO DRAWINGS (TOTAL DRAWINGS = 10)

No. TITLE GENERAL

G1 KEY PLAN - AREA PLAN - INDEX TO DRAWINGS

CONNECTION DETAILS

MISCELLANEOUS DETAILS

DETAILS

DETAILS

DETAILS

PP2 PLAN AND PROFILE - STA. 0+300.0 TO 0+600.0 PP3 PLAN AND PROFILE - STA. 0+600.0 TO 0+722.7

PP4 PLAN AND PROFILE - EARL'S COVE ROAD - STA. 0+000.0 TO 0+058.9

SUNSHINE COAST REGIONAL DISTRICT JERVIS INLET ROAD WATERMAIN EXTENSION

CONTRACT No. 09 103

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PLOT: FU	JLL 1	:5	HALF 1:10										
AutoCAD DRAWING	S	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
	NOIS	Α	FEB11/09	МС	CC		ISSUED FOR REVIEW	D	DEC04/09	A.S.	C.C.	C.C.	RECORD DRAWING
	REVIS	В	MAR10/09	МС	СС	CC	ISSUED FOR TENDER	E	JUN11/14	M.C.	C.C.	C.C.	REVISED RECORD DRAWING
		С	APR30/09	МС	CC	CC	ISSUED FOR CONSTRUCTION						

AREA PLAN

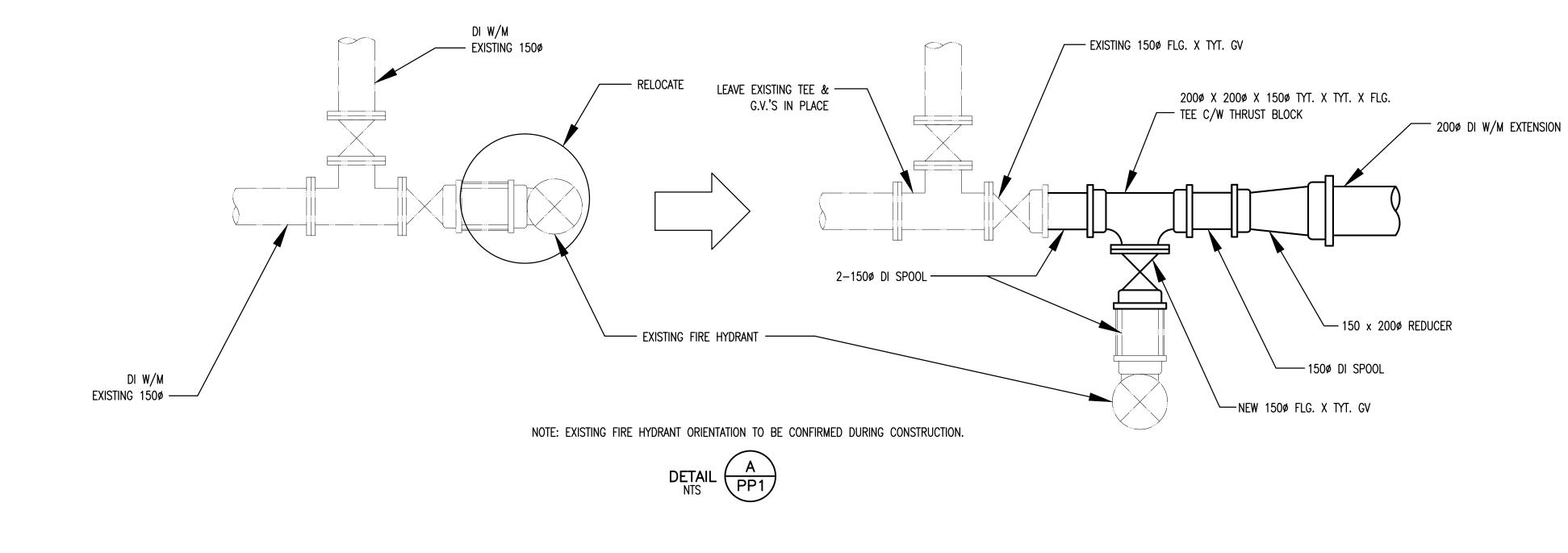


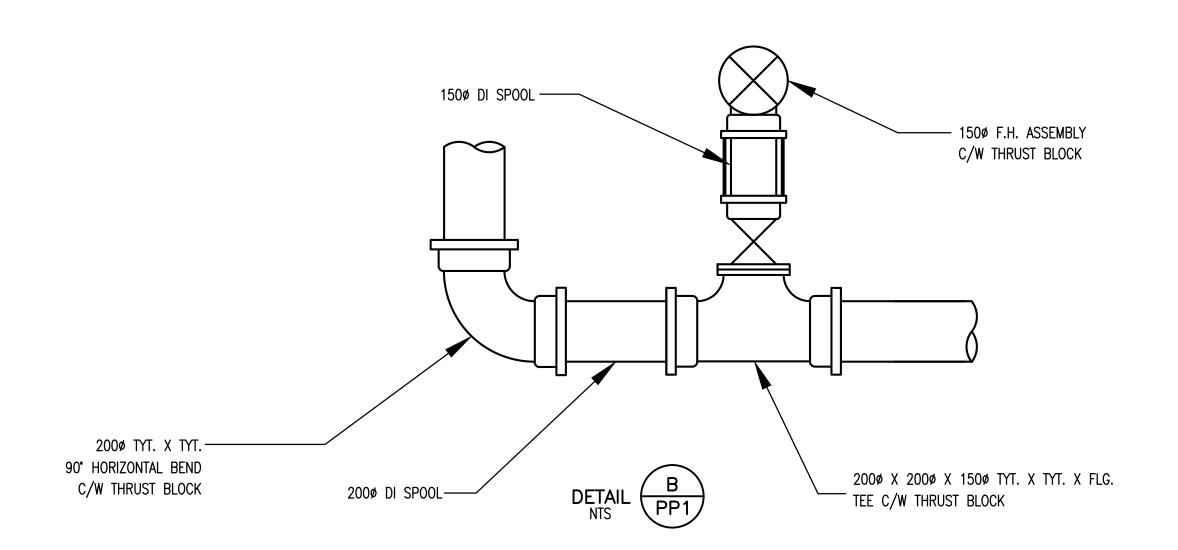
SUNSHINE COAST REGIONAL DISTRICT JERVIS INLET ROAD WATERMAIN EXTENSION KEY PLAN — AREA PLAN — INDEX TO DRAWINGS

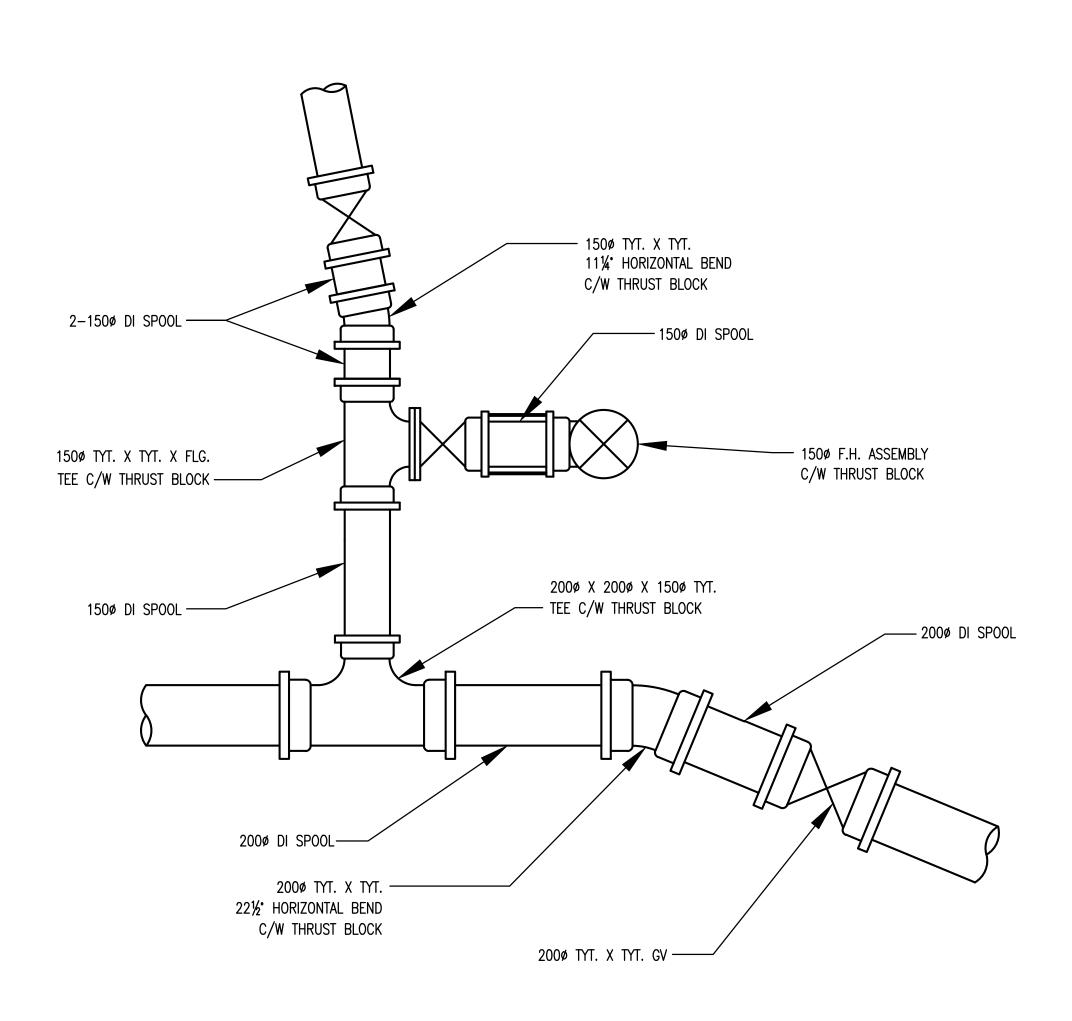
SCALE: AS SHOWN								
DRAWING No. 028.199.0001								
SHEET No.	G1	ISSUE E						

CHECKED <u>CC</u>

DESIGNED <u>AS/MC</u>









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PLOT: FULL 1:5 HALF 1:10

DATE DRAWN CHK'D APP'D DESCRIPTION ISSUE DATE DRAWN CHK'D APP'D DESCRIPTION D DEC04/09 A.S. C.C. C.C. RECORD DRAWING A FEB11/09 MC ISSUED FOR REVIEW DRAWN B MAR10/09 MC | CC | CC ISSUED FOR TENDER E JUN11/14 M.C. | C.C. | C.C. REVISED RECORD DRAWING APR30/09 MC ISSUED FOR CONSTRUCTION

DESIGNED AS/MC

DRAWN MC

CHECKED CC

Dayton & Knight Ltd.
CONSULTING ENGINEERS
#210-889 HARBOURSIDE DR., NORTH VANCOUVER, B.C. V7P 3S1
TEL.: (604) 990-4800 FAX: (604) 990-4805 www.dayton-knight.com

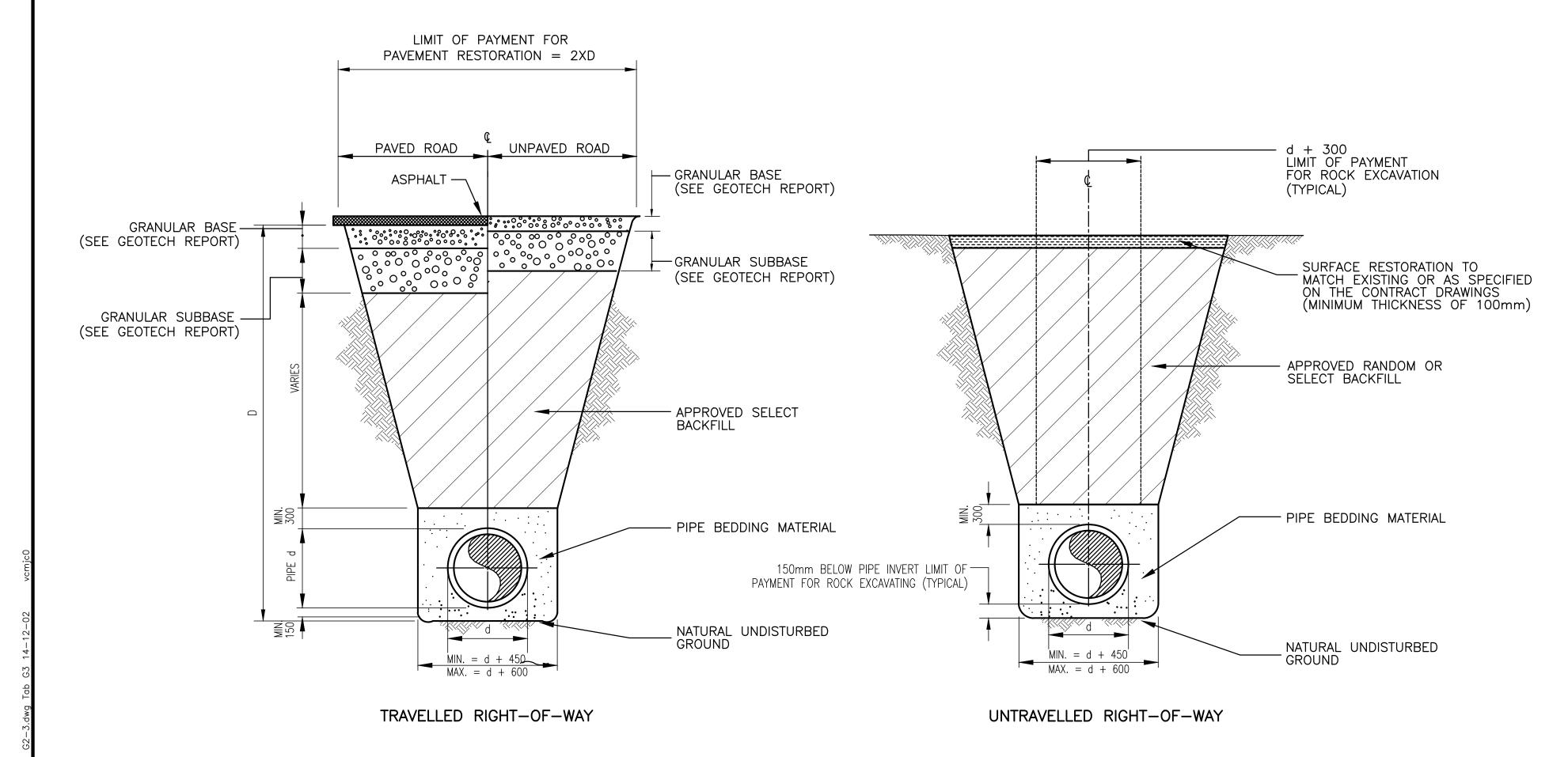
CONTRACT No. 09 103

SCALE: NTS

DRAWING No. 028.199.0001

SHEET No. G2 ISSUE E

SUNSHINE COAST REGIONAL DISTRICT JERVIS INLET ROAD WATERMAIN EXTENSION CONNECTION DETAILS



STANDARD TRENCH CROSS SECTION DETAILS

2500 2500 CONCRETE PROTECTION WITH INSULATION DETAIL (PP1) - SELECT BACKFILL OR IMPORTED BACKFILL CONTAINING NO ORGANIC MATERIAL OR STONES GREATER THAN 100 mm; MECHANICALLY TAMPED IN 300 mm LIFTS TO 600 95 % A.S.T.M. DENSITY. MAY BE PLACED BY MACHINE — INSULATION 4 4 CONCRETE SLAB, 20MPa PIPE BEDDING LIGHTLY COMPACTED IMMEDIATELY ABOVE PIPE GRANULAR PIPE BEDDING MATERIAL 600

APPROXIMATE GROUND PROFILE —

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CONTRACT No. 09 103

DATE | DRAWN | CHK'D | APP'D | DESCRIPTION DRAWN CHK'D APP'D DESCRIPTION ISSUE DATE DESIGNED <u>AS/MC</u> ISSUED FOR REVIEW D DEC04/09 A.S. | C.C. | C.C. RECORD DRAWING A FEB11/09 MC DRAWN B MAR10/09 MC cc cc ISSUED FOR TENDER E JUN11/14 M.C. | C.C. | C.C. REVISED RECORD DRAWING CHECKED APR30/09 MC ISSUED FOR CONSTRUCTION

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SUNSHINE COAST REGIONAL DISTRICT JERVIS INLET ROAD WATERMAIN EXTENSION MISCELLANEOUS DETAILS

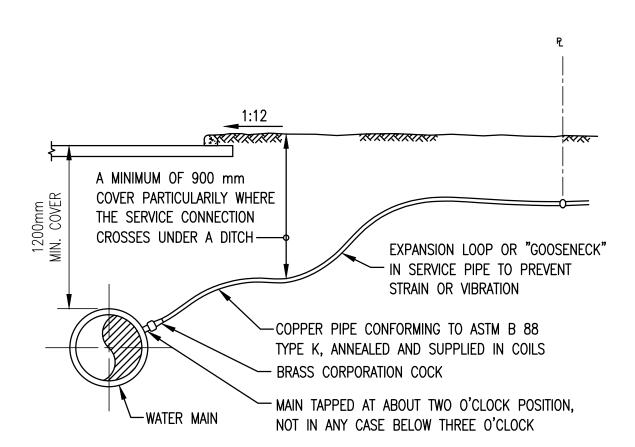
SECTION (

100 MIN. (150 MIN. IN ROCK)

SCALE: NTS DRAWING No. 028.199.0001 ISSUE E G3 SHEET No.

- 1. STANDARD HYDRANT WITH LUGS FOR TIE BACK RODS (TYPE T.C. 20P)
- 2. 0.45m DEEP X 0.61m DIA. CIRCLE (0.13m³) OF 40mm DRAIN ROCK TO SURROUND HYDRANT DRAIN
- CONCRETE THRUST BLOCKS, SIZED AND PLACED AGAINST UNDISTURBED VERTICAL FACE. ENCLOSE FITTING IN POLY BEFORE POURING BLOCK TEE AT WATERMAIN - BRANCH SIZE 150mm DIA., WITH LUGS FOR TIE BACK RODS
- NIPPLE-SIZE 150mm DIA. X 600mm LONG (VARIED IF NECESSARY)
- HYDRANT CONTROL VALVE 150mm C.I. GATE VALVE, HUB ENDS, WITH LUGS FOR TIE RODS
- NIPPLE-SIZE 150mm DIA. X MINIMUM OF 300mm IN LENGTH
- 8. TIE RODS 15mm DIA. X 100mm LONGER THAN THE NIPPLE, THREADED BOTH ENDS AND COATED WITH COAL-TAR ENAMEL FOR CORROSION PROTECTION. OMIT RODS IF OVER 6m.
- 9. CONCRETE VALVE EXTENSION PIPE 200mm INSIDE DIA.
- 10. CRUSHED GRAVEL BACKFILL FOR VALVE EXTENSION PIPE AND VALVE BOX BASE
- 11. TELESCOPIC VALVE BOX
- 12. 450mm X 450mm X 50mm CONCRETE PAD ON UNDISTURBED GROUND
- 13. CONCRETE SUPPORT BLOCK (MIN. 150mm X 300mm X 50mm) TO UNDISTURBED THRENCH BOTTOM
- 14. DRAIN HOLE FROM BASE OF HYDRANT MUST BE PROTECTED DURING THE POURING OF THE THRUST BLOCK

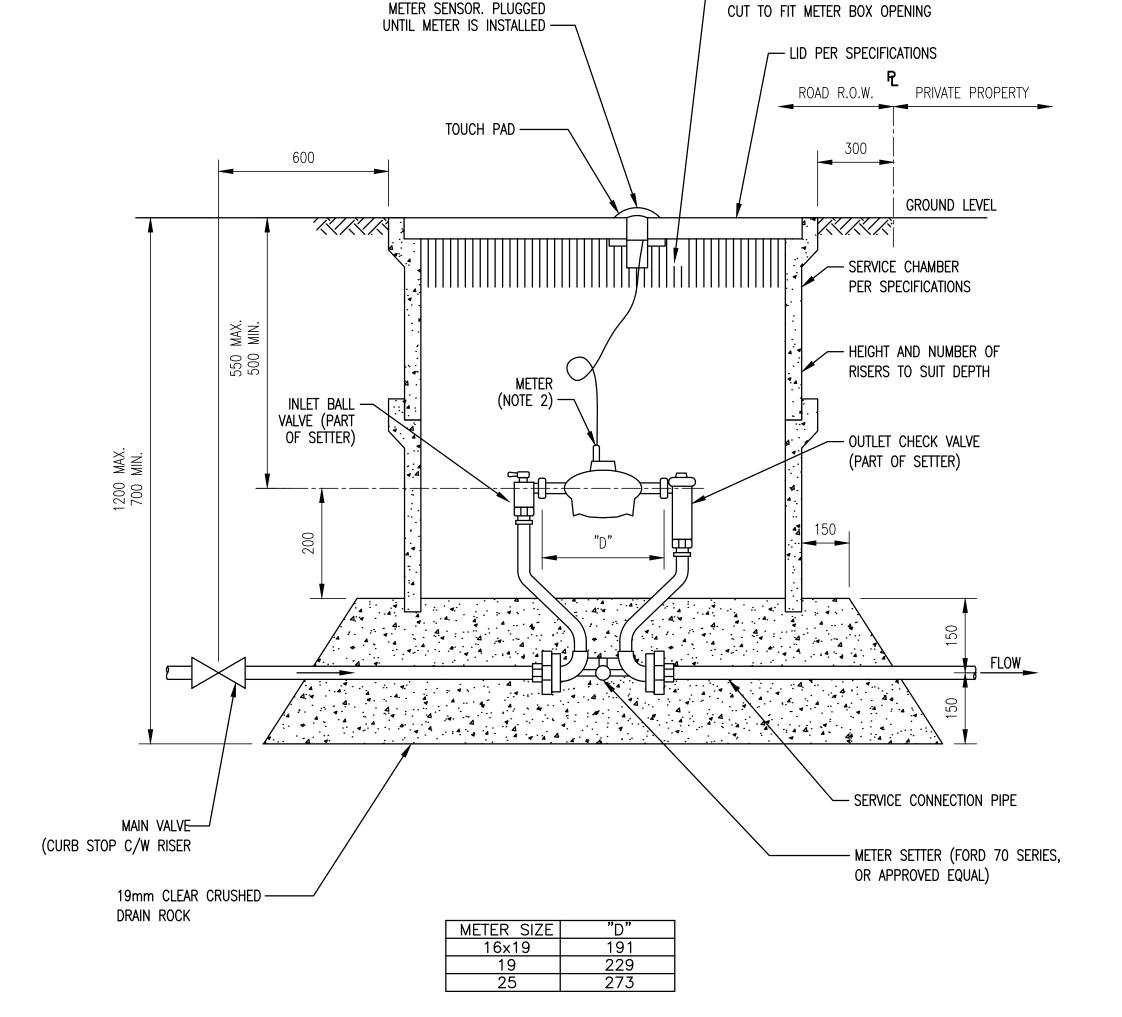
TYPICAL HYDRANT ASSEMBLY



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TYPICAL WATER SERVICE CONNECTION 20mm Ø OR 25mm Ø CONNECTION

NTS



45ø OPENING FOR REMOTE

— 100 STYROFOAM INSULATION

- 1. THIS DRAWING SHOULD BE REVIEWED IN CONJUNCTION WITH THE DOCUMENT "WATER METER INSTALLATION STANDARDS AND SPECIFICATIONS" BY CITY OF SURREY.
- 2. METER AND REMOTE METER SENSOR BY OTHERS

WATER METER INSTALLATION FOR METERS 25mm Ø AND SMALLER

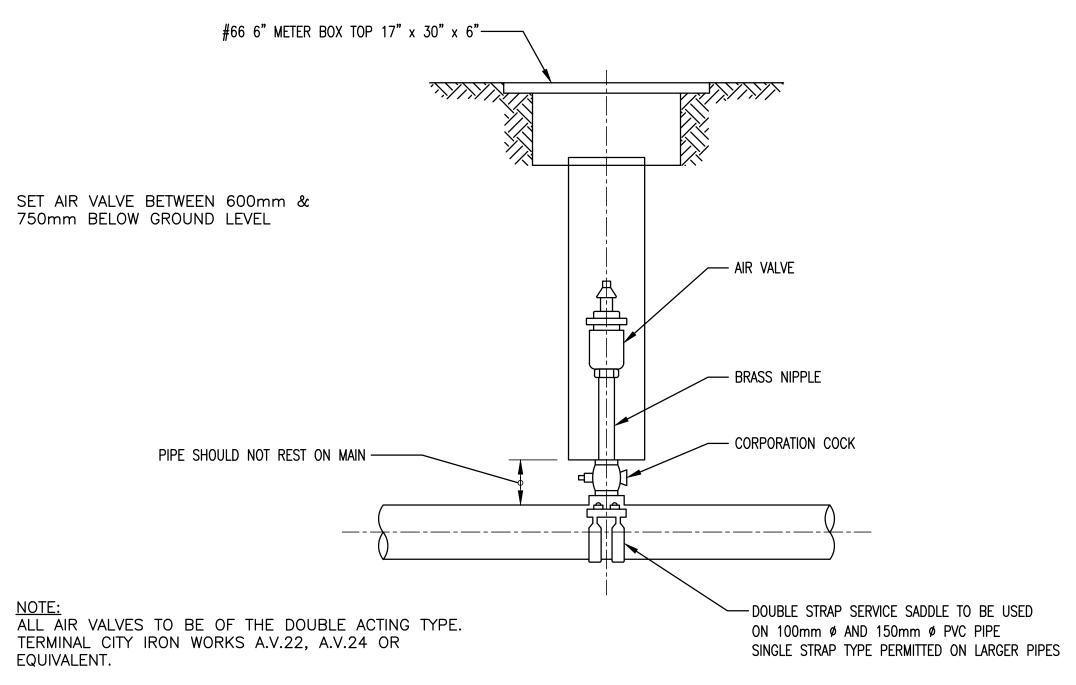
CONTRACT No. 09 103

SCALE: AS SHOWN DRAWING No. 028.199.0001 ISSUE D **DETAILS** SHEET No. G4

DESCRIPTION DESCRIPTION DATE | DRAWN | CHK'D | APP'D | ISSUE DATE DRAWN CHK'D APP'D DESIGNED AS/MC ISSUED FOR TENDER MAR10/09 MC D JUN11/14 M.C. | C.C. | C.C. REVISED RECORD DRAWING DRAWN APR30/09 MC cc cc ISSUED FOR CONSTRUCTION CHECKED <u>CC</u> DEC04/09 A.S. RECORD DRAWING

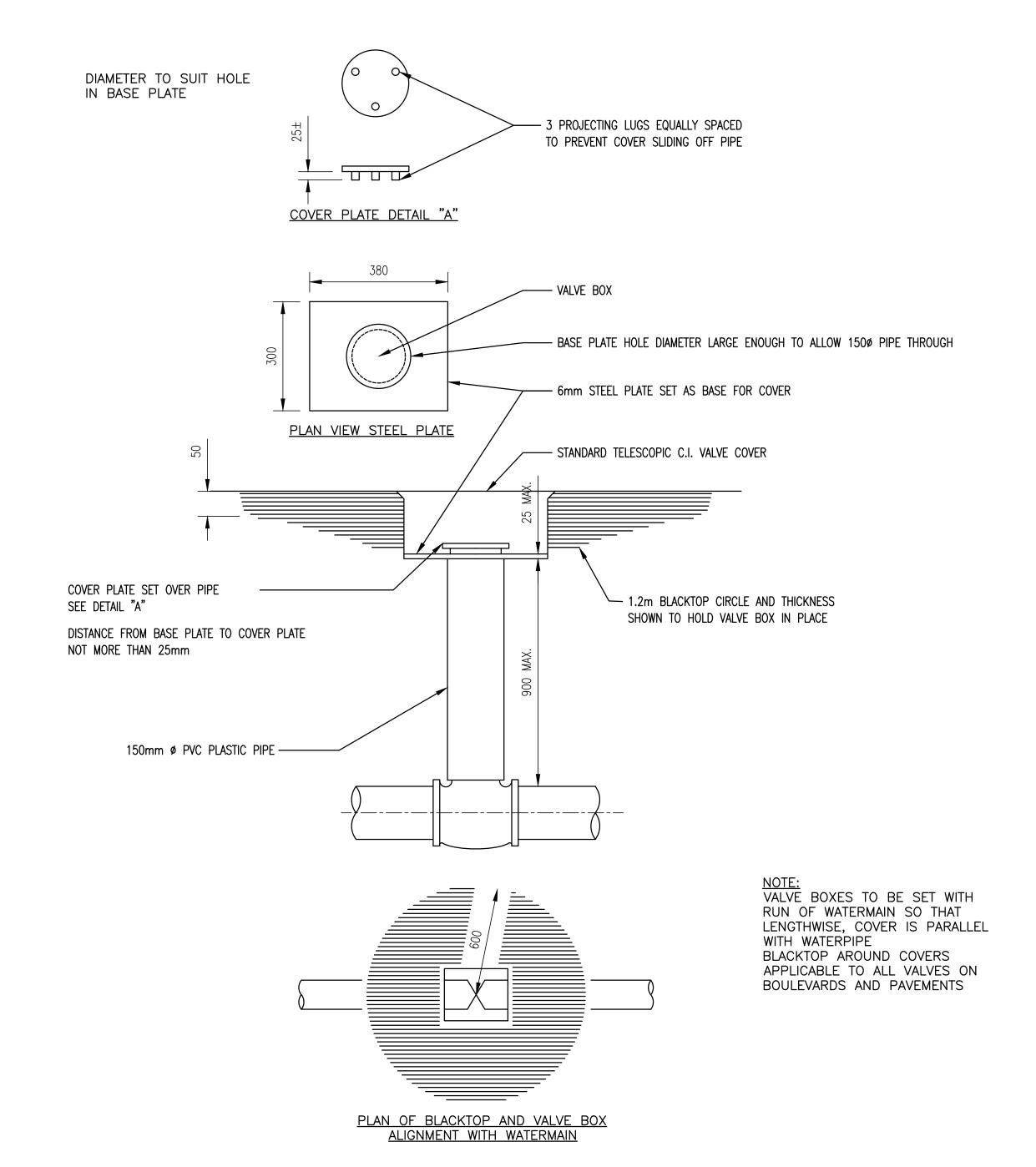


TYPICAL BLOW OFF AT WATERMAIN END POINT



TYPICAL AIR VALVE INSTALLATION NTS

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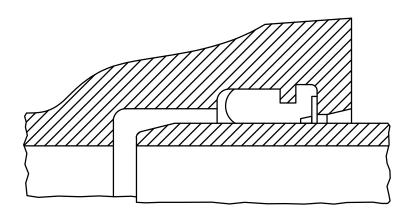


TYPICAL GATE VALVE COVER INSTALLATION

CONTRACT No. 09 103

DATE | DRAWN | CHK'D | APP'D | DESCRIPTION DESCRIPTION ISSUE DATE DRAWN | CHK'D | APP'D DESIGNED <u>AS/MC</u> MAR10/09 MC ISSUED FOR TENDER D JUN11/14 M.C. | C.C. | C.C. REVISED RECORD DRAWING DRAWN B APR30/09 MC cc cc ISSUED FOR CONSTRUCTION CHECKED <u>CC</u> DEC04/09 A.S. RECORD DRAWING



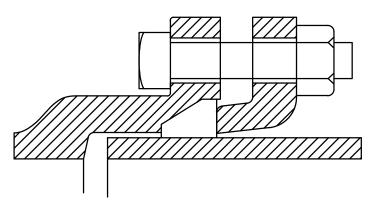


TYTON (TYP)

FOR INSTALLATION WITH ALL TYPES OF RUBBER-RING-JOINT CAST IRON PIPE. LAYING LENGTH AND METAL THICKNESS TO AWWA SPECIFICATIONS C110-77 METAL SPECIFICATIONS TO ASTM A126 AVAILABLE IN FITTING SIZES 100mm TO 300mm INCLUSIVE. SUPPLIED WITH NECESSARY RUBBER GASKETS. TIE ROD LUGS AVAILABLE IN FITTING SIZES 100mm TO 300mm INCLUSIVE.

FLANGED ENDS

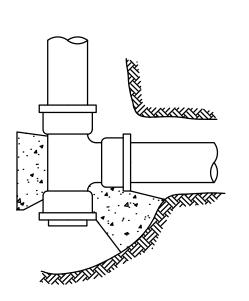
AVAILABLE IN VALVES AND FITTINGS 50mm TO 750mm INCLUSIVE; HYDRANTS 100mm AND 150mm. LAYING LENGTHS AND DRILLING TO AMERICAN STANDARD. FOR CAST IRON FLANGED FITTINGS CLASS 125 (B16.1-1975) METAL THICKNESS TO ASTM SPECIFICATIONS (B16.1-1975) METAL SPECIFICATIONS TO ASTM SPECIFICATION A126

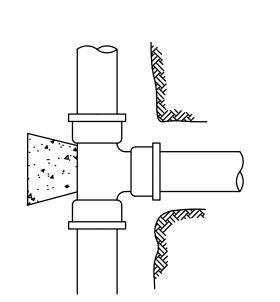


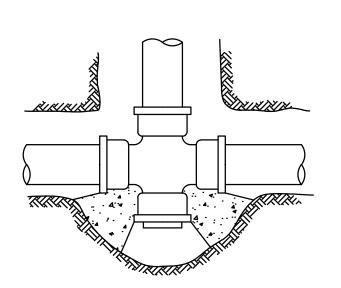
TER-MECH (MJ)

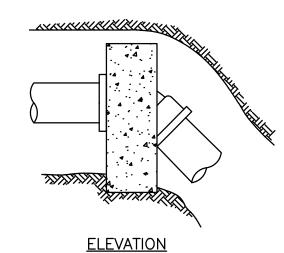
FOR USE WITH CANADIAN, AMERICAN AND BRITISH MECHANICAL JOINT OR GROOVED HUB TYPE CAST IRON PIPE. LAYING LENGTHS AND METAL THICKNESS TO AWWA SPECIFICATION C110-77. METAL SPECIFICATIONS TO ASTM A126. AVAILABLE IN VALVES AND FITTING 100mm TO 500mm INCLUSIVE, HYDRANTS 100mm AND 150mm SUPPLIED WITH AWWA RUBBER GASKETS CORROSION RESISTANT BOLTS AND NUTS, "SORBO-MAT" CAST IRON GLANDS. TIE ROD LUGS AVAILABLE ON VALVES AND HYDRANTS 100mm AND 150mm AND ON FITTINGS 100mm TO 300mm

TYPES OF HUB CONNECTIONS FOR USE WITH CAST IRON PIPE NTS

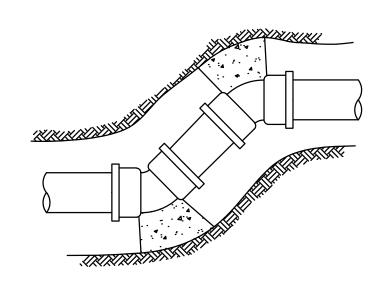


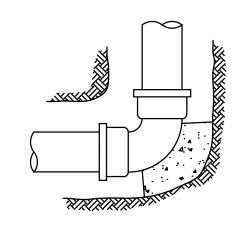


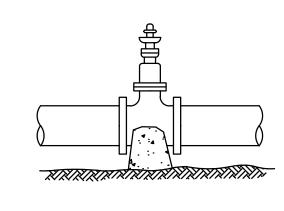


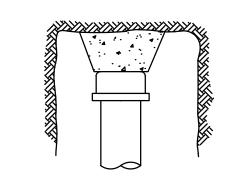


BLOCK TO BE OF SUFFICIENT WEIGHT TO RESIST OUTWARD





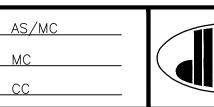




ALL BLOCKING TO EXTEND INTO UNDISTURBED SOIL

SUGGESTED THRUST BLOCK LOCATIONS

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SUNSHINE COAST REGIONAL DISTRICT JERVIS INLET ROAD WATERMAIN EXTENSION

SCALE: AS SHOWN DRAWING No. 028.199.0001 ISSUE D SHEET No.

VERTICAL BENDS

SEE NOTE 4

CONCRETE BLOCKING

		CAPS, PLUGS & TEES		90° ELBOWS		45° El	BOWS	22 <mark>1°</mark> E	LBOWS	11¼° ELBOWS	
MAXIMUM						SEE 22½	'ELBOW			SEE 22½° ELBOW	
ALLOWABLE SOIL BEARING LOADS (KPa)	FITTING SIZE (mm)	THRUST (KN)	MINIMUM BLOCK BASE AREA (m²)	THRUST (KN)	MINIMUM BLOCK BASE AREA (m²)	THRUST (KN)	MINIMUM BLOCK BASE AREA (m²)	THRUST (KN)	MINIMUM BLOCK BASE AREA (m²)	THRUST (KN)	MINIMUM BLOCK BASE AREA (m²)
	100	16	0.019	23	0.023	12	0.009	6	0.007	3	0.004
1915.2 HARDPAN S SHALE—	150	33	0.037	47	0.046	25	0.023	13	0.009	7	0.007
1915.2 -HARDPAN OR SHALE-	200	57	0.056	81	0.084	44	0.046	22	0.023	11	0.009
	300	122	0.130	172	0.177	93	0.093	48	0.046	24	0.023
	100	16	0.023	23	0.037	12	0.019	6	0.009	3	0.006
1149.1 ARD CLAY	150	33	0.056	47	0.084	25	0.046	13	0.019	7	0.009
1149.1 -HARD CLAY-	200	57	0.102	81	0.140	44	0.074	22	0.037	11	0.019
1	300	122	0.214	172	0.297	93	0.158	48	0.084	24	0.037
. OR	100	16	0.056	23	0.084	12	0.046	6	0.019	3	0.009
574.6 -SAND— E, LOOSE COMPAC	150	33	0.112	47	0.093	25	0.093	13	0.046	7	0.019
574.6 —SAND— COURSE, LOOSE C FINE COMPACT	200	57	0.195	81	0.279	44	0.149	22	0.074	11	0.037
COU	300	122	0.418	172	0.604	93	0.316	48	0.167	24	0.084
1.5 CLAY-	100	16	0.167	23	0.242	12	0.130	6	0.065	3	0.037
191.5 -SOFT CL	150	33	0.344	47	0.492	25	0.269	13	0.139	7	0.065
-80	200	57	0.595	81	0.845	44	0.455	22	0.232	11	0.121

- 1. CONCRETE THRUST BLOCKS SHALL EXTEND INTO UNDISTURBED SOIL. THRUST IN SOFT UNSTABLE SOILS WILL REQUIRE REMOVAL OF SOIL AND REPLACEMENT WITH COMPACTABLE FILL OF SUFFICIENT STABILITY TO RESIST THRUST OR SPECIAL ANCHOR BLOCKS AS DIRECTED BY THE CITY ENGINEER.
- 2. BLOCKING WILL BE REQUIRED FOR ALL ELBOWS, TEES, PLUGS, CAPS, PIPE DEFLECTIONS AND OTHER FITTINGS ON LIVE MAINS WHERE ANCHOR RODS ARE NOT PRACTICAL.
- 3. THRUST BLOCKS SHALL BE OF AT LEAST 15 MPa 28 DAYS CONCRETE OR HIGH EARLY STRENGTH CONCRETE IF REQUIRED.
- 4. AT VERTICAL BENDS BLOCKING SHALL BE OF SUFFICIENT WEIGHT TO RESIST OUTWARD THRUST.
- 5. BLOCKING SHALL BE KEPT CLEAR OF BELLS WHERE POSSIBLE.
- 6. FOR SPECIFICATION OF LARGER DIAMETER PIPES SEE ENGINEER.

DRAWN CHK'D APP'D DESCRIPTION ISSUE DATE DESCRIPTION DESIGNED <u>AS/MC</u> ISSUED FOR TENDER D | JUN11/14 M.C. | C.C. | C.C. REVISED RECORD DRAWING DRAWN APR30/09 MC CC CC ISSUED FOR CONSTRUCTION CHECKED <u>CC</u> RECORD DRAWING

DETAILS

CONTRACT No. 09 103

