



**PURCHASING SECTION**  
13450 – 104 Avenue, Surrey BC V3T 1V8  
Tel: 604-590-7274  
E-mail: [purchasing@surrey.ca](mailto:purchasing@surrey.ca)  
**ADDENDUM #1**

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<b>REQUEST FOR QUOTATIONS (RFQ) NO.:</b>	<b>1220-040-2018-066</b>
<b>TITLE:</b>	<b>CATHODIC PROTECTION SURVEY AND MAINTENANCE</b>
<b>ADDENDUM ISSUE DATE:</b>	<b>July 20, 2018</b>
<b>REVISED CLOSING DATE:</b>	<b>prefer to receive Quotations on or before: August 2, 2018</b>

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### **INFORMATION FOR CONTRACTORS**

This Addendum is issued to provide additional information to the RFQ for the above named project, to the extent referenced and shall become a part thereof. No consideration will be allowed for extras due to the Contractor not being familiar with this Addendum. This Addendum No. 1 contains ten (10) pages in total.

### **REVISED CLOSING DATE**

The City would prefer to receive Quotations on or before **Thursday, August 2, 2018**. The City's office hours are 8:30 a.m. to 4:00 p.m., Monday to Friday, except statutory holidays.

### **QUESTIONS AND ANSWERS:**

- Q1: On page 23 of 52, one of the objectives states is to identify any electrical discontinuity between test stations. Can you clarify if this means checking for discontinuous wires within a test station or is it checking for electrical continuity between test station? Would be checking the continuity between the test stations within a project?
- A1: It is between test station. There are tests to determine the discontinuity between test stations and if there are discontinuous wires in test station, the Contractor needs to fix them as maintenance.
- Q2: Pages 26 to 28 of 52 show Schedule A-1: Projects list. In these charts, is the "length" the distance of pipe that is targeted by the CP system installed? If yes, are these sections of pipe isolated from the rest of the pipe network?

A2: "length" is the pipe section length between any T, valve or fittings. The projects should be isolated with other projects if the CP was installed but not each pipe sections.

Q3: What is the total quantity of test stations? Is it 147 test stations in all?

A3: The total is 149 per City records but the total can be more or less in the actual field. That's why the City is asking for additional test station for optional items.

Q4: Would it be possible to see a picture, or drawing of a typical test station, inside and out?

A4: The City does not have pictures but Contractors can search drawings in COSMOS. Attached are three (3) drawings for reference only.

Q5: In the event that a test station is difficult to locate, will the City provide assistance?

A5: The only record the City has is as-built drawings which can be found in COSMOS. In COSMOS, there is document search on left side of map. When it's active, Contractors can make a box on the map to search drawings. After making the box, it will show two menus, as-built drawings and legal plans under document search. Under as-built drawings, there is a water section that show as-built drawings of boxed area. The RFQ provides the as-built drawings file names that can be found in COSMOS.

Q6: Why is there a mention of excavations if we are just working on test stations? Which task would you expect might need excavations?

A6: Change anode or fix discontinuity may require excavations. If excavations are required, it is the Contractor's responsibility but this project does not require any construction works.

Q7: Would it be possible to see one typical as built drawing of any of the 27 CP systems in order to better understand the type of CP systems we will be inspecting?

A7: Contractors can search for as-built drawings in COSMOS. Attached is one (1) drawing for reference only.

Q8: Will manhole entry/confined space ever be necessary to reach a certain test station or cable connection?

A8: Some test stations or cable connections may be in manholes but not all of them, based on as-built drawings.

Q9: Would we have the exact location of each test station prior the work? Are they easy to locate? Would we need traffic control for all the test stations?

A9: As-built drawings would show rough location but not exact. It would be in boulevard but not guarantee since the City has not maintained them. Contractors may need traffic control for some stations on roadways.

Q10: Is the City seeking confirmation or status or cathodic protection of the CP systems? Does the City have a performance requirement or criteria for cathodic protection?

A10: The City is seeking status of existing cathodic protections. The City does not have a performance requirement and rely on the original designer to provide appropriate design.

Q11: Reference: Appendix A, Section 2.1, Point 4. Does the station cover refer to the road box cover? What is the approved paint/colour? Is the Contractor to provide this, or will the City provide the material?

A11: It is box covers on the road/boulevard/side walk. There is no approved paint or color but it should be matched with current. The materials are Contractor's responsibility. The City does not have any specific requirement for the colour.

Q12: Reference: Appendix A Section 2.1 Point 9. Is it required to connect the spare anode if the primary anode is not used up? Is the City's Design Criteria Manual available for review?

A12: Connect to the spare anode is required only if the primary anode is used up. The City's Design Criteria Manual is available on City website, however, there is no specific specification on cathodic protection.

Q13: Reference: Appendix A, Section 2.2, Point 7. Please clarify the intent and level of detail required for this item. Is this expected as part of the Contractor's scope of work?

A13: The City does not expect any soil test because it would include excavation. We expect the Contractor to observe and report any metal component within the station, and any other metal in the vicinity and comment if there is any corrosion taken place.

Q14: Is there an accuracy or precision requirement for the GPS coordinates and equipment?

A14: No specific accuracy or precision is required for the GPS coordinates and equipment within 5cm would be okay.

Q15: Do all test points exist behind the curb? Do any test points exist within roadways?

A15: Since we do not have exact location of test stations, the location may be both behind the curb and within roadways.

Q16: Are there detail drawings or specifications available of the CP and test point components installed?

A16: Refer to A4, A5, and A7 above.

Q17: Is any maintenance or inspection work required of the rectifier and cabinet associated with the Impressed Current Cathodic Protection system for Facility ID 1000418454 (Project ID 24)?

A17: Yes, inspection is required to confirm that the system is working. Maintenance of the rectifier and cabinet are required. Similar requirements for the test stations as other projects.

Q18: Would it be possible to get the as-built drawings mentioned on Schedule A-1 (pages 26-28) in the RFQ package?

A18: Refer to A4, A5, and A7 above.

Q19: We would also like to request 2016 or 2017 cathodic protection annual survey report so that we can better understand the current state of your system.

A19: This is our first survey and maintenance work for cathodic protection. No reports are available.

**END OF ADDENDUM #1**

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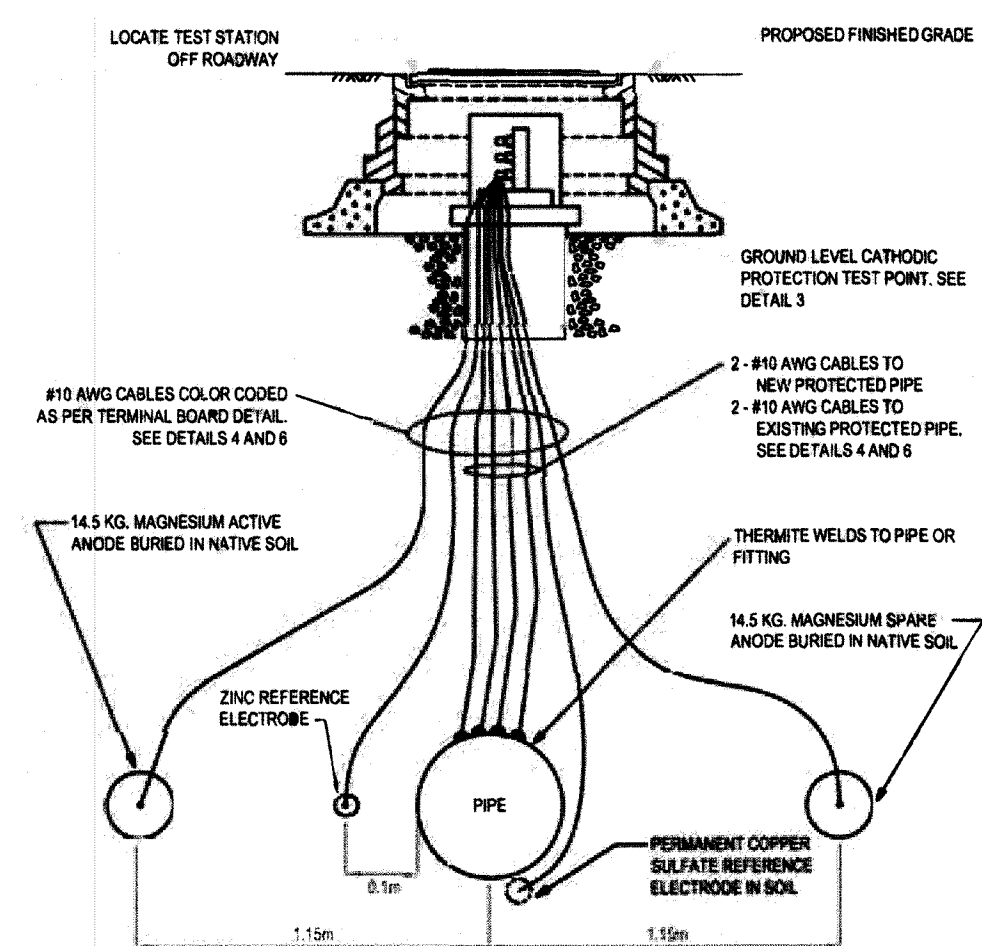
All Addenda will become part of the RFQ Documents.

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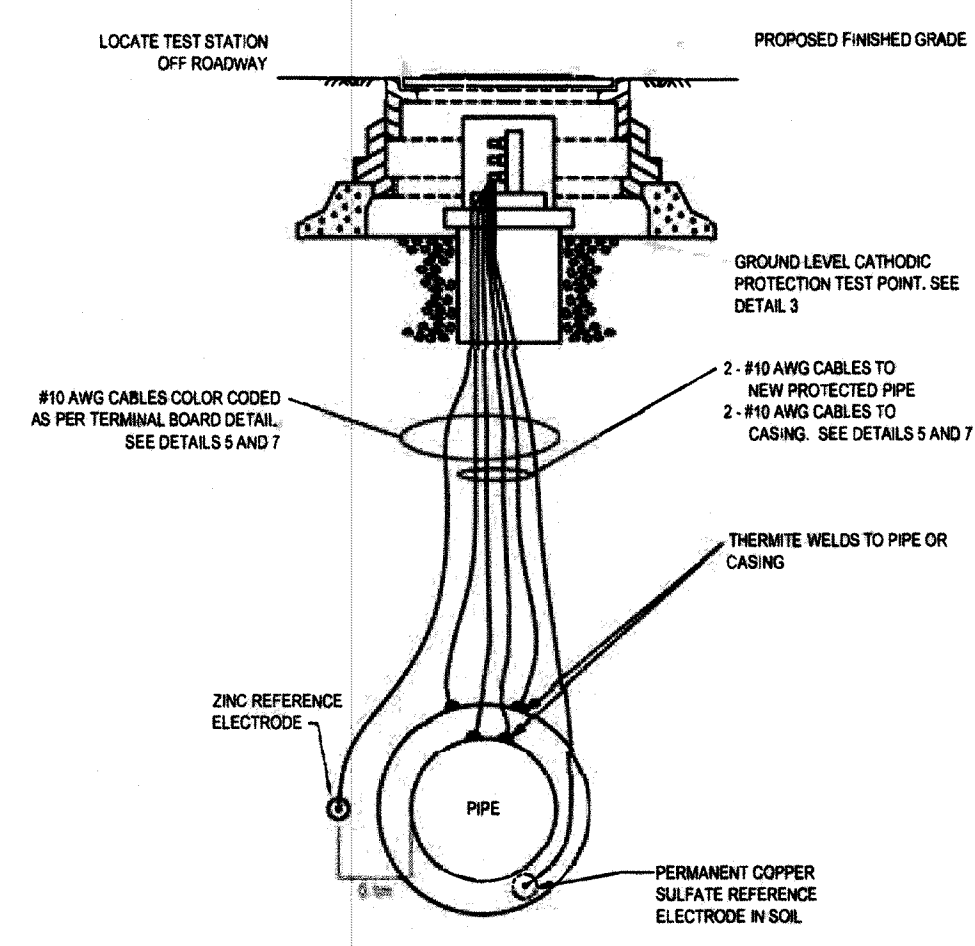


**DRAWINGS TO ANSWER 4, FOR REFERENCE PURPOSES ONLY**



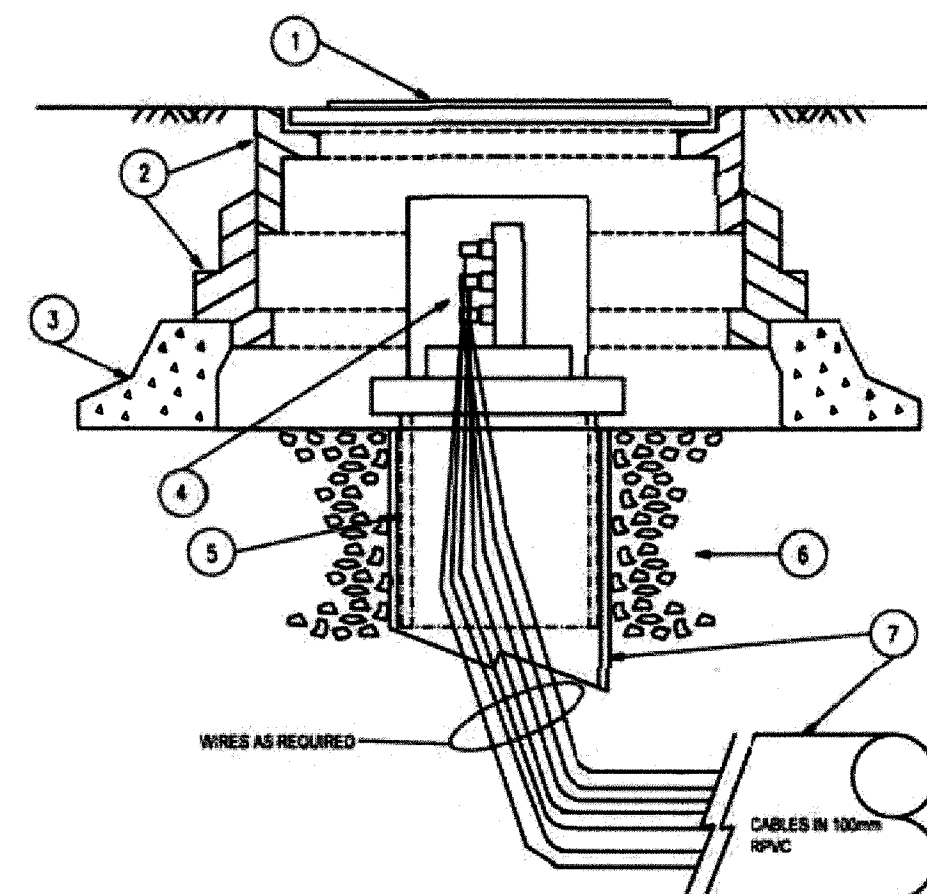
CATHODIC PROTECTION INSTALLATION - TYPE A  
(TEST POINTS #1 and #3)

1 DETAIL 1



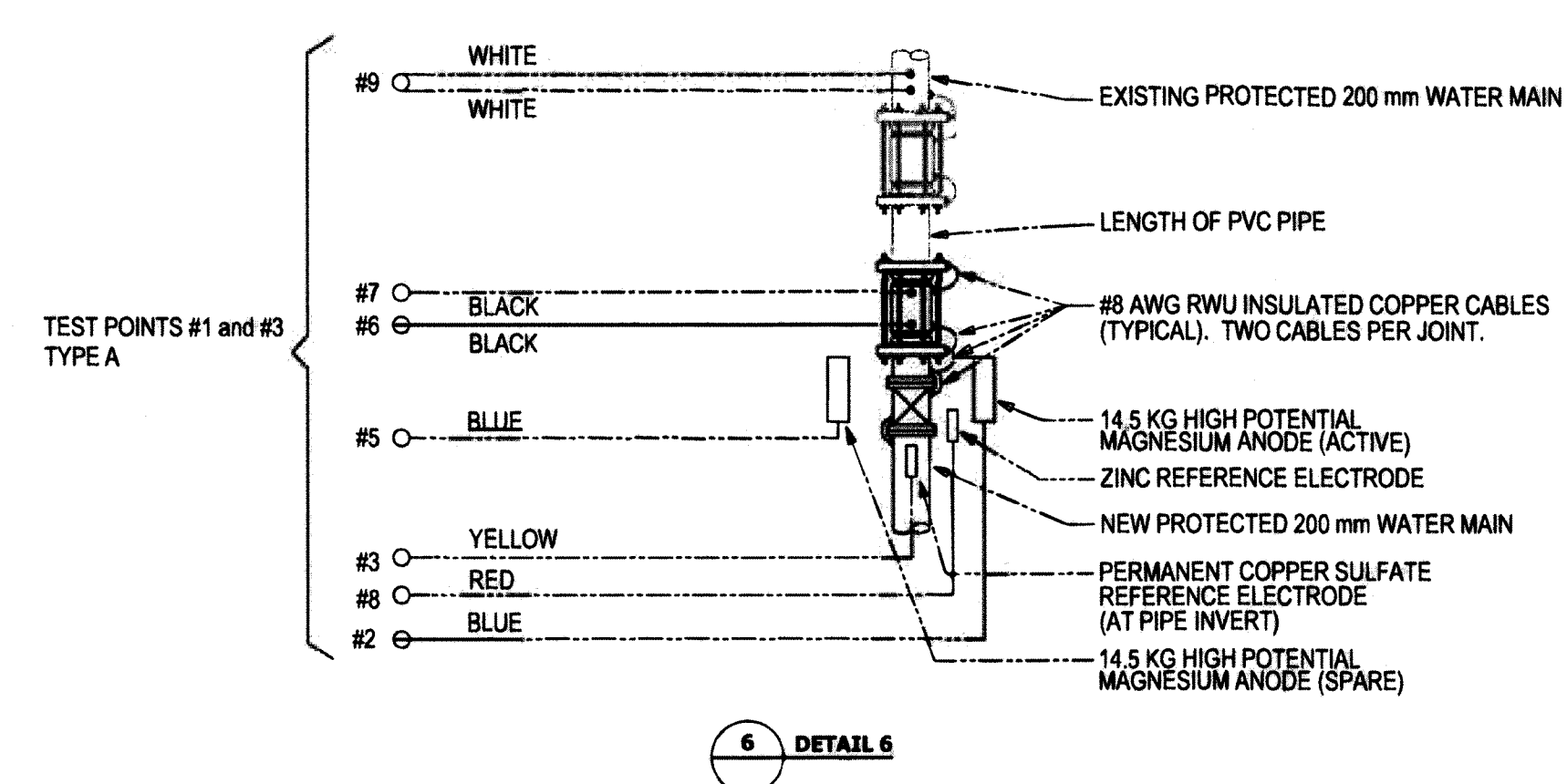
CATHODIC PROTECTION INSTALLATION - TYPE C  
(TEST POINT #2)

2 DETAIL 2

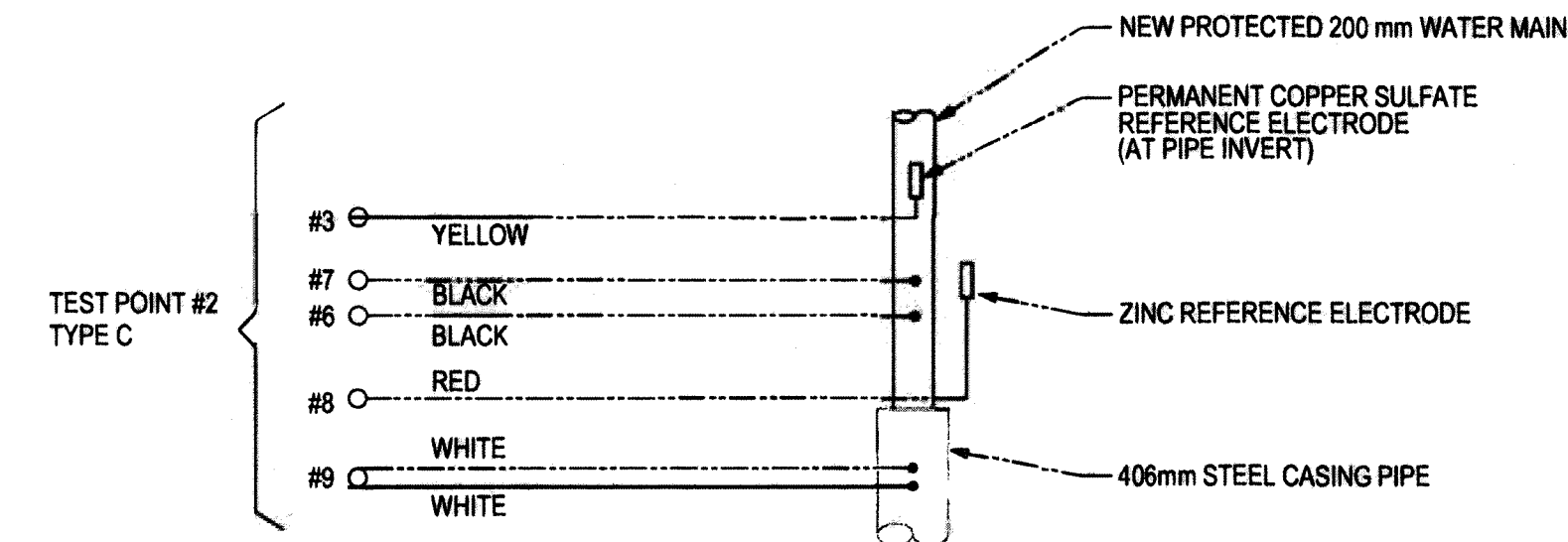


1. WATERWORK CAST IRON SPECIAL VALVE BOX LID MARKED "CATHODIC PROTECTION" AND PAINTED TO CITY STANDARDS
2. WATERWORKS CAST IRON TELESCOPIC VALVE BOX
3. PRECAST CONCRETE VALVE BOX SUPPORT
4. HEAVY DUTY CATHODIC PROTECTION TEST STATION (COTT MANUFACTURING BIG FINK)
5. PVC TUBE SECTION, 75mm I.D. X 300mm LENGTH
6. GRAVEL BEDDING
7. PVC TUBE SECTION & BENDS AS REQUIRED, 100mm I.D.

3 DETAIL 3

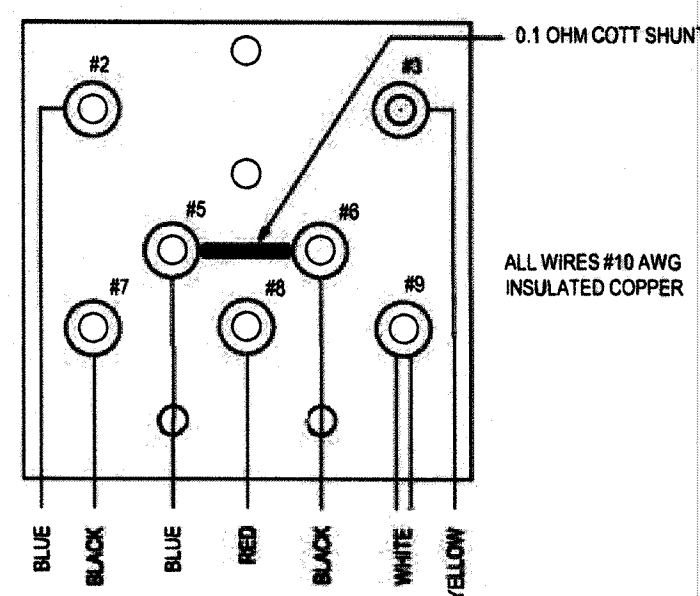


TEST POINTS #1 and #3  
TYPE A



TEST POINT #2  
TYPE C

DETAIL OF CATHODIC PROTECTION TERMINAL BOARD - TYPE A

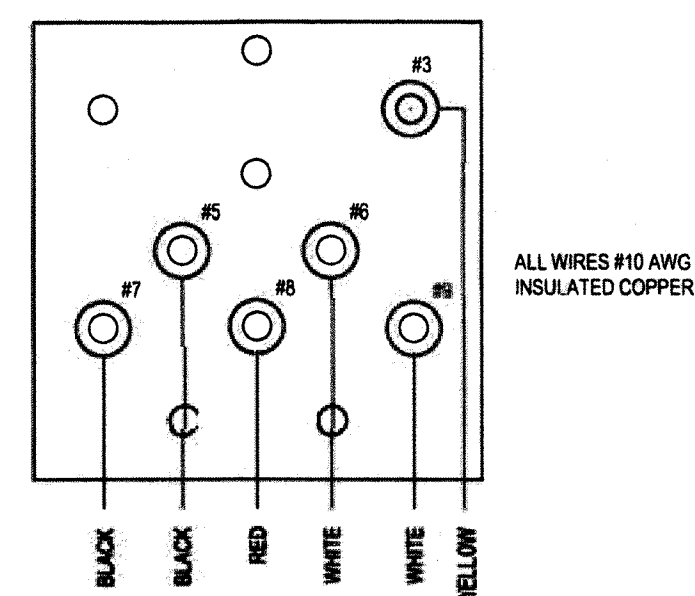


WIRE CODE AND TERMINAL CODE - TEST POINT

- #2 - CONNECTION TO SACRIFICIAL MAGNESIUM ANODE (SPARE) - BLUE TERMINAL
- #3 - CONNECTION TO PERMANENT COPPER SULFATE REFERENCE ELECTRODE - YELLOW TERMINAL
- #5 - CONNECTION TO SACRIFICIAL MAGNESIUM ANODE (ACTIVE) - BLUE TERMINAL
- #6 - CONNECTION TO NEW PROTECTED WATER MAIN - BLACK TERMINAL
- #7 - CONNECTION TO NEW PROTECTED WATER MAIN - BLACK TERMINAL
- #8 - CONNECTION TO ZINC REFERENCE ELECTRODE - RED TERMINAL
- #9 - CONNECTION TO EXISTING PROTECTED WATER MAIN - WHITE TERMINAL

4 DETAIL 4

DETAIL OF CATHODIC PROTECTION TERMINAL BOARD - TYPE C

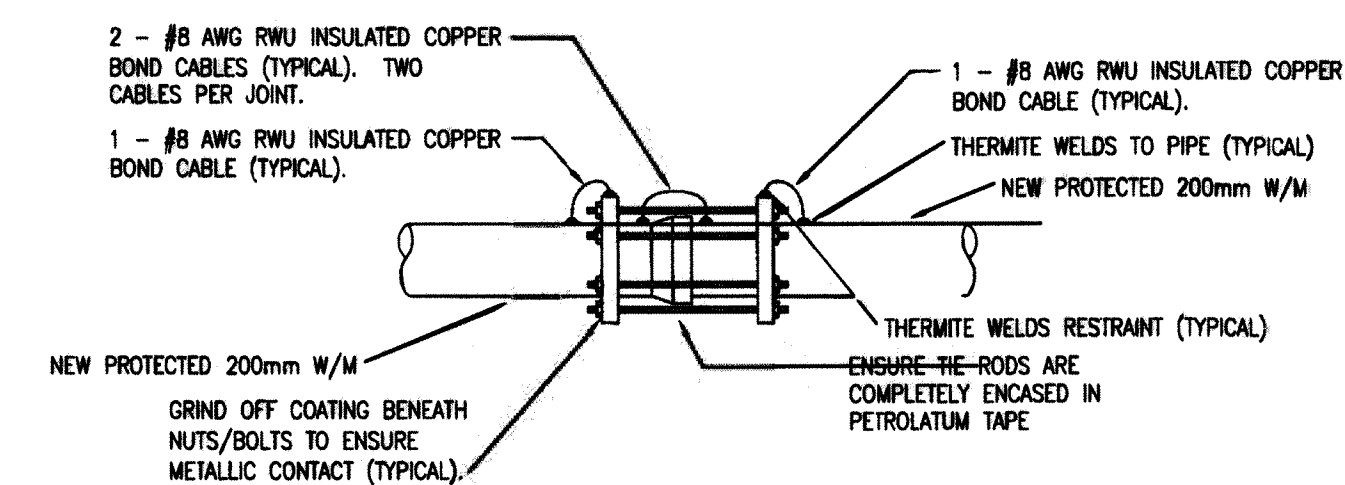


WIRE CODE AND TERMINAL CODE - TEST POINT

- #3 - CONNECTION TO PERMANENT COPPER SULFATE REFERENCE ELECTRODE - YELLOW TERMINAL
- #5 - CONNECTION TO NEW PROTECTED WATER MAIN - BLACK TERMINAL
- #6 - CONNECTION TO CASING PIPE - WHITE TERMINAL
- #7 - CONNECTION TO NEW PROTECTED WATER MAIN - BLACK TERMINAL
- #8 - CONNECTION TO ZINC REFERENCE ELECTRODE - RED TERMINAL
- #9 - CONNECTION TO CASING PIPE - WHITE TERMINAL

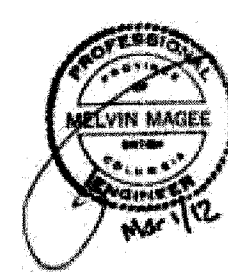
5 DETAIL 5

UNI-FLANGE PIPE JOINT RESTRAINT (TYPICAL)



NEW PROTECTED 200mm W/M

8 DETAIL 8



No.	Description	Date
4	As Constructed	Feb. 29, 2012
3	Issued for Construction	Jan. 5, 2012
2	Issued for Tender	Nov. 25, 2011
1	Issued for Review	Nov. 3, 2011



LEVELTON CONSULTANTS LTD.  
301-19292 60th Avenue Tel: 604 533-2992  
Surrey, B.C. Fax: 604 533-0768

TITLE: CP Installation Details  
PROJECT: Corrosion Protection Design Services  
Amix Water Main Relocation  
Surrey, British Columbia

CLIENT: AECOM

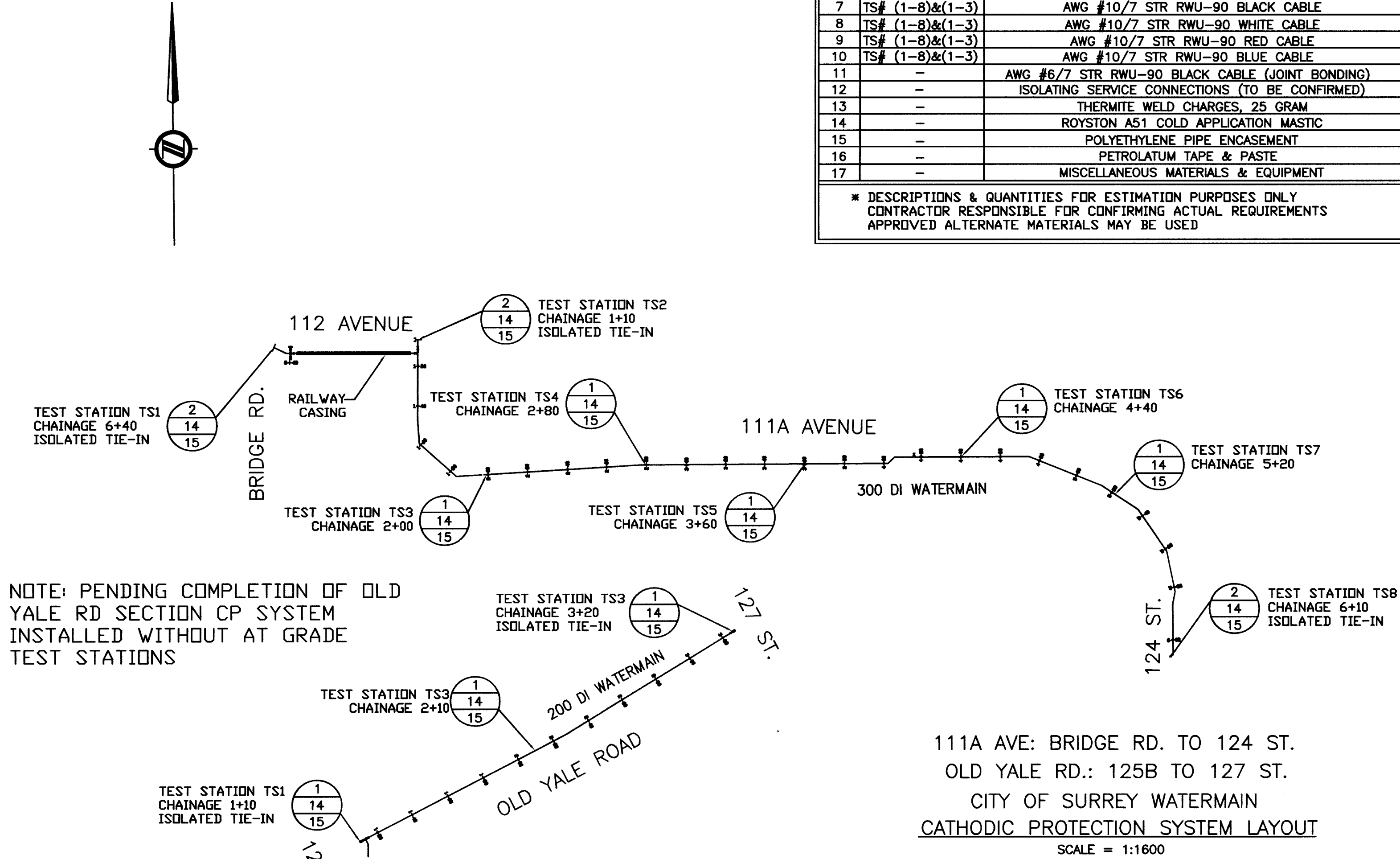
CoS File 7811-0321-00  
CoS Dwg # W-000-059

DES.	ECM	DR.	ECM
CH.	MJM	SCALE	NTS
APP.	MJM	DATE	Nov. 3, 2011
FILE NO.	FV11-2312-00		
DWG. NO.	FV11-2312-01		



CABLE DESIGNATION TABLE*						
TAG	ORIGIN 111A AVENUE	DESTINATION	CABLE TYPE, COLOUR, AND LENGTH* (m)			
			AWG #10/7 STR RWU-90 BLACK	AWG #10/7 STR RWU-90 WHITE	AWG #10/7 STR RWU-90 BLUE	AWG #10/7 STR TWH RED
S1-1	300mm WATERMAIN**	TEST STATION TS1	10			
S1-2	300mm WATERMAIN**	"	10			
S1-3	300mm WATERMAIN (ISOL)**	"		10		
S1-4	300mm WATERMAIN (ISOL)**	"		10		
S1-A	20 LB. MAGNESIUM ANODE	"			10	
S1-R	ZINC REFERENCE	"				10
S2-1	300mm WATERMAIN	TEST STATION TS2	10			
S2-2	300mm WATERMAIN	"	10			
S2-3	300mm WATERMAIN (ISOL)	"		10		
S2-4	300mm WATERMAIN (ISOL)	"		10		
S2-5	CASING PIPE (ISOL)	"		10		
S2-6	CASING PIPE (ISOL)	"		10		
S2-A	20 LB. MAGNESIUM ANODE	"			10	
S2-R	ZINC REFERENCE	"				10
S3-1	300mm WATERMAIN	TEST STATION TS3	10			
S3-2	300mm WATERMAIN	"	10			
S3-A	20 LB. MAGNESIUM ANODE	"			10	
S3-R	ZINC REFERENCE	"				10
S4-1	300mm WATERMAIN	TEST STATION TS4	10			
S4-2	300mm WATERMAIN	"	10			
S4-A	20 LB. MAGNESIUM ANODE	"			10	
S4-R	ZINC REFERENCE	"				10
S5-1	300mm WATERMAIN	TEST STATION TS5	10			
S5-2	300mm WATERMAIN	"	10			
S5-A	20 LB. MAGNESIUM ANODE	"			10	
S5-R	ZINC REFERENCE	"				10
S6-1	300mm WATERMAIN	TEST STATION TS6	10			
S6-2	300mm WATERMAIN	"	10			
S6-A	20 LB. MAGNESIUM ANODE	"			10	
S6-R	ZINC REFERENCE	"				10
S7-1	300mm WATERMAIN	TEST STATION TS7	10			
S7-2	300mm WATERMAIN	"	10			
S7-A	20 LB. MAGNESIUM ANODE	"			10	
S7-R	ZINC REFERENCE	"				10
S8-1	300mm WATERMAIN	TEST STATION TS8	10			
S8-2	300mm WATERMAIN	"	10			
S8-3	300mm WATERMAIN (ISOL)	"		10		
S8-4	300mm WATERMAIN (ISOL)	"		10		
S8-A	20 LB. MAGNESIUM ANODE	"			10	
S8-R	ZINC REFERENCE	"				10
OLD YALE ROAD - PENDING SECTION COMPLETION, CP SYSTEM INSTALLED WITHOUT AT GRADE TEST STATIONS						
S1-1	300mm WATERMAIN**	TEST STATION TS1	10			
S1-2	300mm WATERMAIN**	"	10			
S1-3	300mm WATERMAIN (ISOL)**	"		10		
S1-4	300mm WATERMAIN (ISOL)**	"		10		
S1-A	20 LB. MAGNESIUM ANODE	"			10	
S1-R	ZINC REFERENCE	"				10
S2-1	300mm WATERMAIN	TEST STATION TS3	10			
S2-2	300mm WATERMAIN	"	10			
S2-A	20 LB. MAGNESIUM ANODE	"			10	
S2-R	ZINC REFERENCE	"				10
S3-1	300mm WATERMAIN	TEST STATION TS8	10			
S3-2	300mm WATERMAIN	"	10			
S3-3	300mm WATERMAIN (ISOL)	"		10		
S3-4	300mm WATERMAIN (ISOL)	"		10		
S3-A	20 LB. MAGNESIUM ANODE	"			10	
S3-R	ZINC REFERENCE	"				10
B/S/R CABLE* AWG #6/7 RWU-90 BL			200			
TOTAL CABLE LENGTHS			200m	220m	120m	110m
* CABLE LENGTHS FOR ESTIMATION PURPOSES ONLY. CONTRACTOR RESPONSIBLE FOR ACCURACY OF MEASUREMENTS						
** W/M CONNECTIONS AT EACH TEST STATION - STRUCTURE OR SENSE CABLE						
B/S/R/ CABLE: BELL, SPROUT & RESTRAINT COUPLING BOND CABLE						

BILL OF MATERIALS - BOTH ALIGNMENTS*			
ITEM	CODE	DESCRIPTION	QUANTITY
1	TS# (1-8)&(1-3)	FINK TEST STATION c/w 75mm x 1524mm RPVC POST	11 EA.
2	TS# (1-8)&(1-3)	0.01 COTT OHM SHUNT	11 EA.
3	TS# (1-8)&(1-3)	VALVE BOX c/w PRECAST CONCRETE BASE & GRAVEL	11 EA.
4	TS# (1-8)&(1-3)	9.2 KG. PACKAGED MAGNESIUM ANODE	11 EA.
5	TS# (1-8)&(1-3)	2.7 KG. PACKAGED ZINC REFERENCE ELECTRODE	11 EA.
6	UNCERTAIN	ISOLATION POINTS-QUANTITY & DETAILS TO BE CONFIRMED	8 EA.
7	TS# (1-8)&(1-3)	AWG #10/7 STR RWU-90 BLACK CABLE	200m
8	TS# (1-8)&(1-3)	AWG #10/7 STR RWU-90 WHITE CABLE	120m
9	TS# (1-8)&(1-3)	AWG #10/7 STR RWU-90 RED CABLE	110m
10	TS# (1-8)&(1-3)	AWG #10/7 STR RWU-90 BLUE CABLE	100m
11	-	AWG #6/7 STR RWU-90 BLACK CABLE (JOINT BONDING)	200m
12	-	ISOLATING SERVICE CONNECTIONS (TO BE CONFIRMED)	?
13	-	THERMITE WELD CHARGES, 25 GRAM	600 EA.
14	-	ROYSTON A51 COLD APPLICATION MASTIC	7 GALLONS
15	-	POLYETHYLENE PIPE ENCASEMENT	700m
16	-	PETROLATUM TAPE & PASTE	60 ROLLS
17	-	MISCELLANEOUS MATERIALS & EQUIPMENT	AS REQ'D
* DESCRIPTIONS & QUANTITIES FOR ESTIMATION PURPOSES ONLY CONTRACTOR RESPONSIBLE FOR CONFIRMING ACTUAL REQUIREMENTS APPROVED ALTERNATE MATERIALS MAY BE USED			

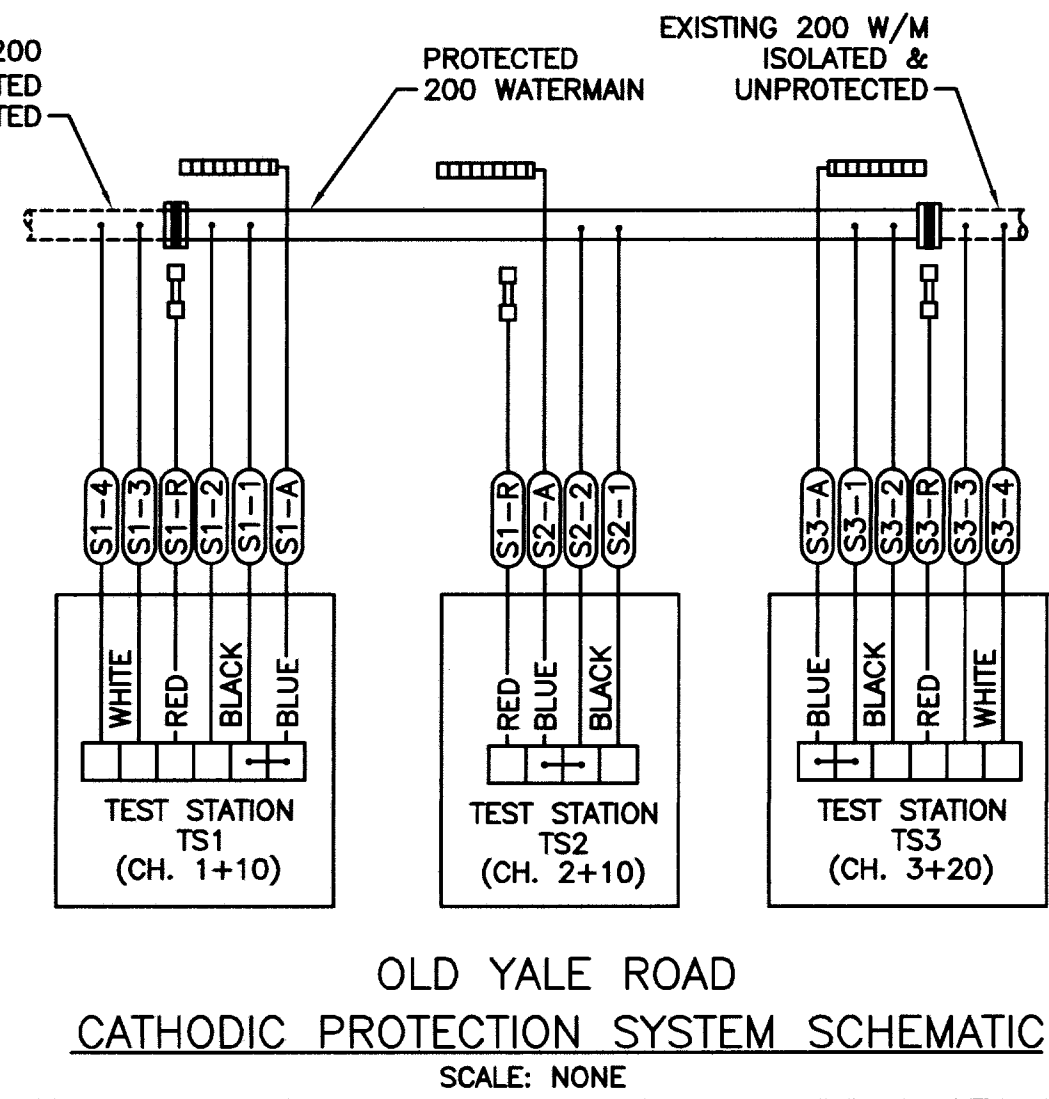
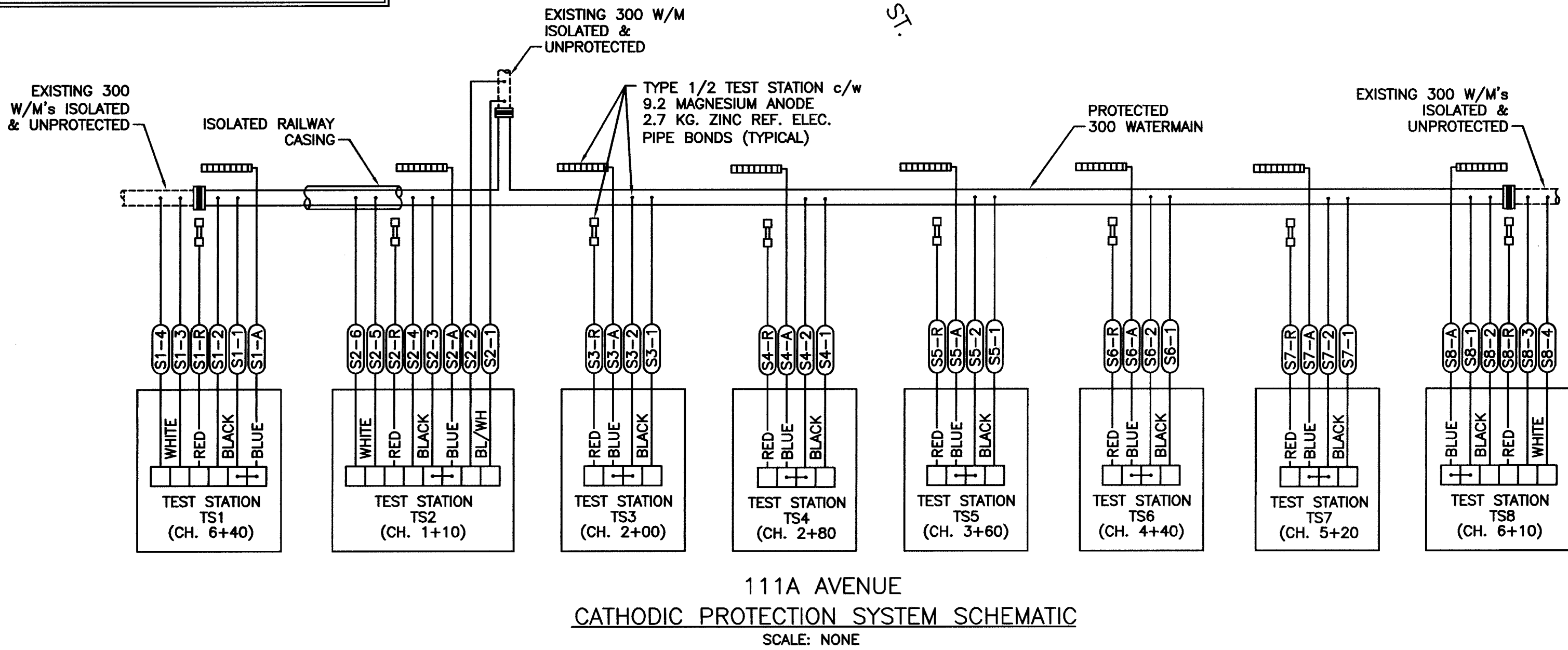


SCHEMATIC LEGEND

PROTECTED WATERMAIN	
EXISTING WATERMAIN (ISOLATED & UNPROTECTED)	
9.2kg. MAGNESIUM ANODE	
2.7kg. ZINC REF. ELECTRODE	
THERMA WELD PIPE BONDS	
ISOLATION COUPLING/FLANGE	

DETAIL SYMBOL EXPLANATION

	DETAIL IDENTIFICATION NUMBER
	SUFFIX OF DRAWING DETAIL TAKEN FROM
	SUFFIX OF DRAWING DETAIL SHOWN ON



W-010-064

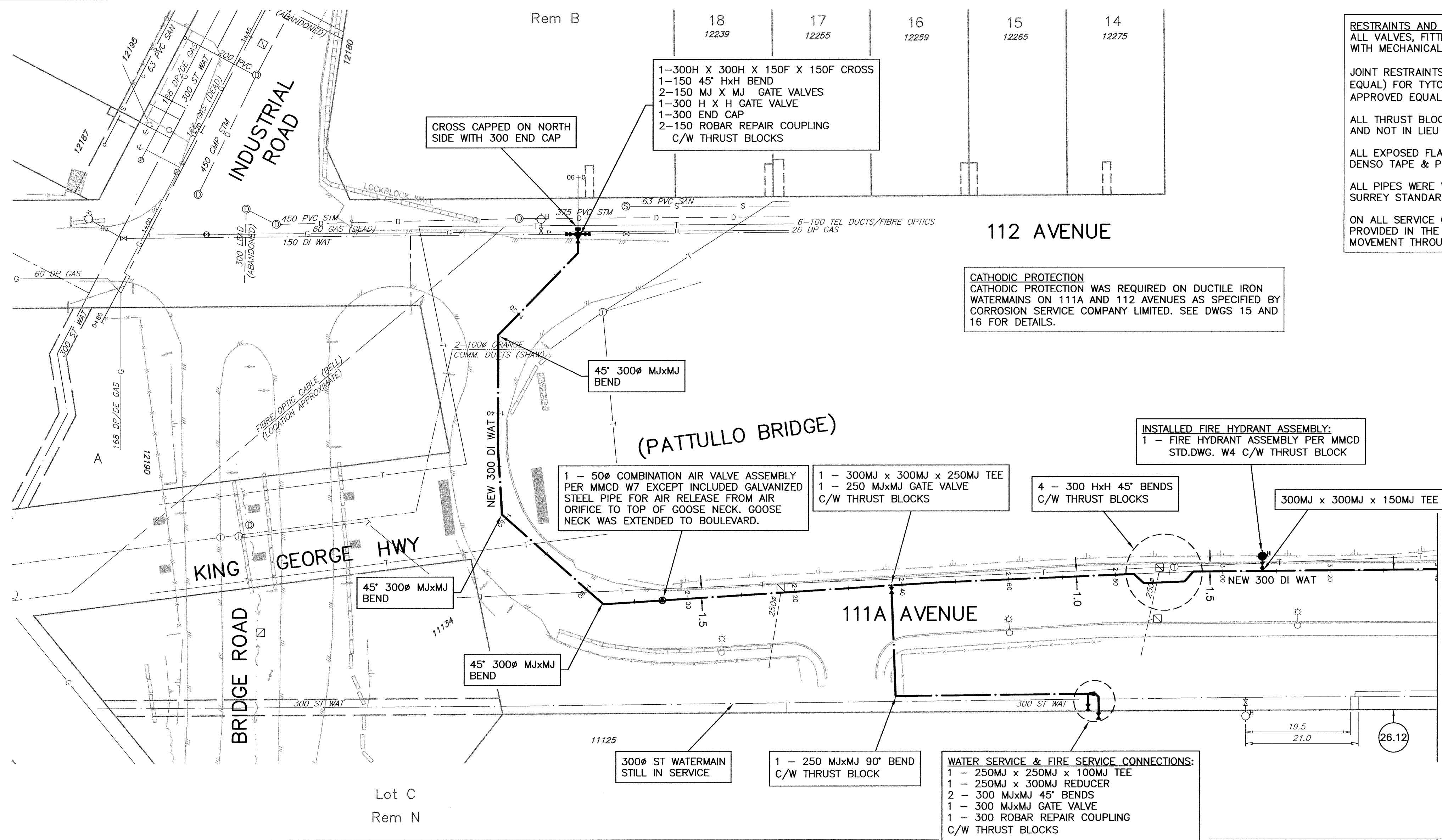
NOTE: AT GRADE TEST STATIONS TO BE INSTALLED

E			J		
D	AS CONSTRUCTED	11/11/01	RJA	I	
C	ISSUED FOR CONSTRUCTION	10/11/01	RJA	H	
B	ISSUED FOR TENDER	10/09/14	RJA	G	
A	ISSUED FOR REVIEW	10/02/02	RJA	F	
REVISIONS		Y/M/D	BY	REVISIONS	
		Y/M/D	BY		

**CORROSION SERVICE**  
COMPANY LIMITED  
Professional Engineers : Corrosion Specialists  
Toronto : Sarria : Montreal : Halifax : Calgary  
Edmonton : Vancouver : Dubai (U.A.E.)  
This print and the design herein are the property of  
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and have been produced solely for the use of our client.  
The print and design shall not be used directly or indirectly  
in any way detrimental to our mutual interests.

SCALE: AS NOTED	DRAWN BY: BS
DATE: 10/02/02	DESIGNED BY: RJA
	CHECKED BY: WS
APPROVED FOR USE IN CONSTRUCTION	
DISK No. _____	FILE No. _____

CITY OF SURREY Waterworks Package W01/10	SACRIFICIAL CATHODIC PROTECTION
111A AVE. (BRIDGE RD TO 126 ST) & OLD YALE RD. (125A ST TO 127 ST) LOCATION 6 (PID 11887) LOCATION 2 (PID 11595)	
PLAN & DETAILS	DRAWING No. SHEET-15 D
CANCEL PRINTS BEARING EARLIER REVISION	



**RESTRAINTS AND PIPE WRAPPING (SEISMIC ZONE)**  
ALL VALVES, FITTINGS AND JOINTS WERE FLANGED OR COMPLETED WITH MECHANICAL JOINT RESTRAINTS.

JOINT RESTRAINTS WERE UNIFLANGE SERIES 1450 (OR APPROVED EQUAL) FOR TYTON JOINTS OR UNIFLANGE SERIES 1400 (OR APPROVED EQUAL) FOR MECHANICAL JOINTS.

ALL THRUST BLOCKS SHOWN ON DETAILS WERE IN ADDITION TO AND NOT IN LIEU OF JOINT RESTRAINTS.

ALL EXPOSED FLANGES, BOLTS, RODS, ETC. WERE WRAPPED WITH DENSO TAPE & PASTE OR APPROVED EQUAL.

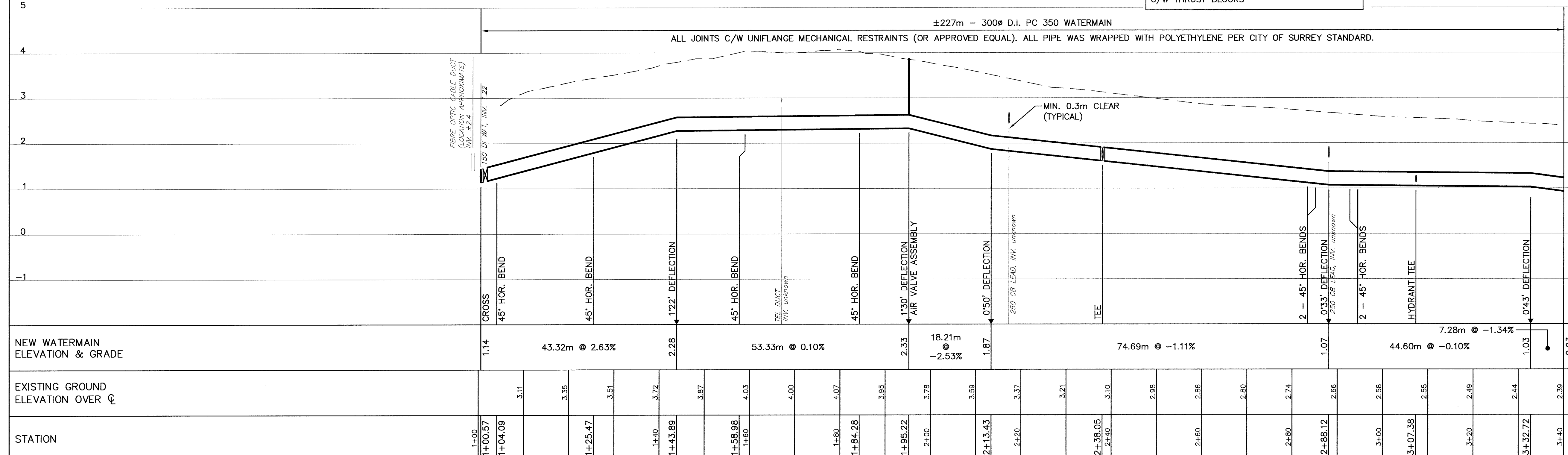
ALL PIPES WERE WRAPPED WITH POLYETHYLENE PER CITY OF SURREY STANDARDS.

ON ALL SERVICE CONNECTIONS, AN OFFSET AND A LOOP WERE PROVIDED IN THE SERVICE CONNECTION TO ACCOMMODATE PIPE MOVEMENT THROUGH THE SOIL OF UP TO 0.5m.

**CATHODIC PROTECTION**  
CATHODIC PROTECTION WAS REQUIRED ON DUCTILE IRON WATERMAINS ON 111A AND 112 AVENUES AS SPECIFIED BY CORROSION SERVICE COMPANY LIMITED. SEE DWGS 15 AND 16 FOR DETAILS.

**INSTALLED FIRE HYDRANT ASSEMBLY:**  
1 - FIRE HYDRANT ASSEMBLY PER MMCD STD.DWG. W4 C/W THRUST BLOCK

**WATER SERVICE & FIRE SERVICE CONNECTIONS:**  
1 - 250MJ x 250MJ x 100MJ TEE  
1 - 250MJ x 300MJ REDUCER  
2 - 300 MJxMJ 45° BENDS  
1 - 300 MJxMJ GATE VALVE  
1 - 300 ROBAR REPAIR COUPLING C/W THRUST BLOCKS



ALL DIMENSIONS ARE IN METRES  
ALL PIPE SIZES ARE IN MILLIMETRES

REVISIONS	DESCRIPTION	BY	DATE	APPROVED
8	RECORD DRAWING	DR	01/11/2012	SU
7	ISSUED FOR CONSTRUCTION	JSK	11/01/2010	JSK
6	ISSUED FOR TENDER	JSK	09/14/2010	JSK
5	ISSUED FOR TENDER REVIEW	SU	07/30/2010	JSK
4	FINAL REVIEW SUBMISSION	AK	02/16/2010	AK

**PARAGON ENGINEERING LTD.**  
104 - 1515 BROADWAY STREET, PORT COQUITLAM, BC, V3C 6M2  
TELEPHONE: (604) 944-0820 FAX: (604) 944-0815

**ENGINEERING DEPARTMENT**  
**CITY OF SURREY**

BENCH MARK = S.F.P.R. # 087, LOCATED ON 111A AVENUE ELEV. 3.36m SEAL

**WATERWORKS PACKAGE W01/10**  
LOCATION 4  
111A AVENUE - INDUSTRIAL ROAD to 11112 124th STREET  
STA. 1+13.68 to STA. 3+40

SURREY PROJECT NUMBER: 1209-3090  
SCALE: 1:50  
VER. 1:50  
AUG 28, 2009

DESIGNED	CHECKED	PLANNING	APPROVED
AK/JSK	AK/JSK	AK/JSK	JSK

CONTRACT MS 1210-001-11  
AS BUILT  
DESTROY ALL PRINTS BEARING PREVIOUS NUMBERS

SHEET 7 OF 16  
REVISION 8

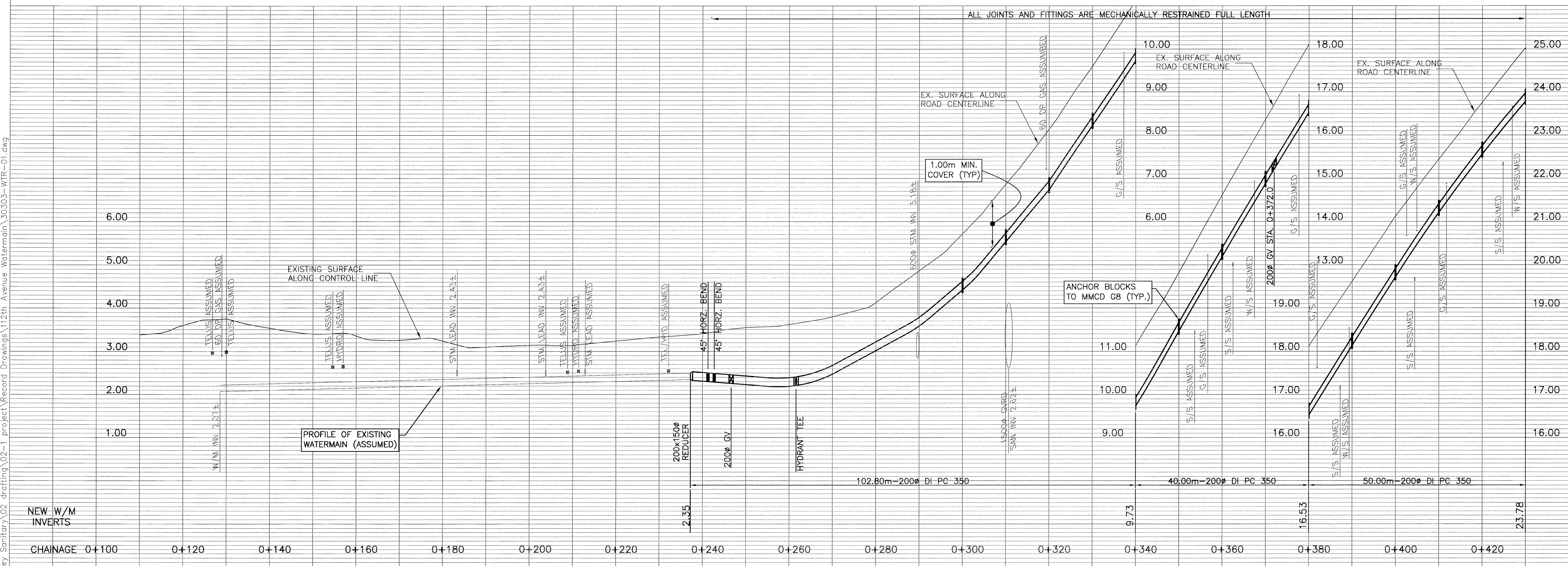
Jan 13 2012 - 4:56pm PA:\2010\2010-03-0933 Surrey WA W01-08 Construction\Drawings\Parcel\2010-03-0933-001.dwg/7 - 111A Ave sunterberger



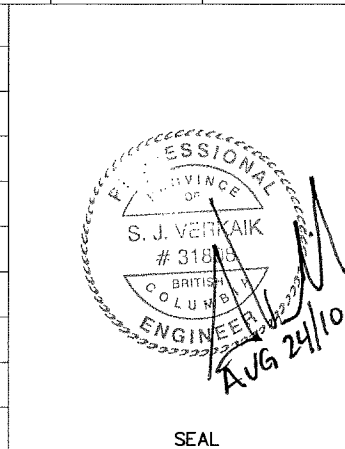


**AS-BUILT DRAWING TO ANSWER 7, FOR REFERENCE PURPOSES ONLY**

H:\projects\30303 2007 Surrey Sanitary\02 drafting\02-1 project\Record Drawings\112th Avenue Watermain\30303-WTR-01.dwg



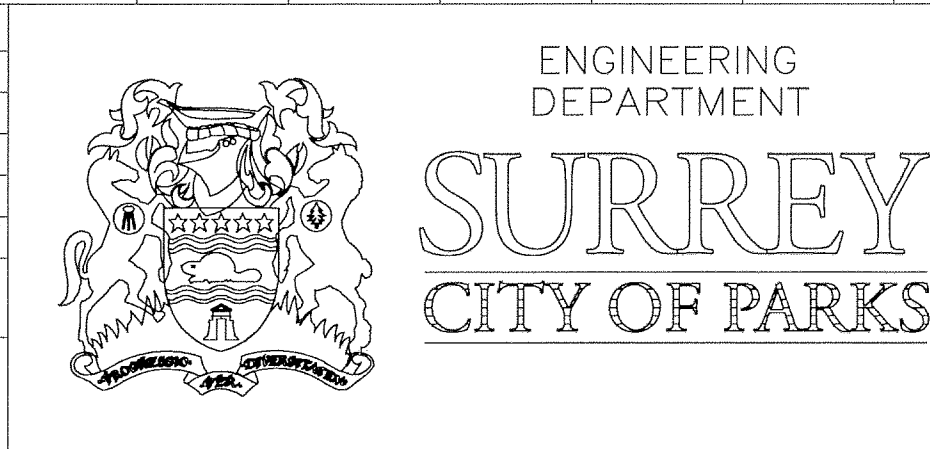
No.	REVISION	DATE	BY	APPROVED
9				
8				
7	RECORD DRAWING	DEC 16/08	CDP	SJV
6	CONSTRUCTION ISSUE	JULY 23/08	CDP	RRR
5	TENDER ISSUE	JUN 12/08	CDP	RRR
4	100% DESIGN ISSUE	OCT 9/07	CDP	RRR
3	REVISED HORIZONTAL ALIGNMENT	SEPT 24/07	CDP	RRR
2	90% DESIGN ISSUE	JULY 30/07	CDP	RRR
1	50% PRELIMINARY DESIGN ISSUE	MAY 18/07	CDP	RRR



**ISL Engineering and Land Services**  
SUITE 301, 26338 - 65 AVENUE  
LANEY, BRITISH COLUMBIA, V2Y 2K3  
[604] 530-2288 FAX: [604] 530-1132

THE EXISTING UTILITIES INFORMATION SHOWN IS COMPILED FROM RECORD DRAWINGS AND SURVEYS. IT IS NOT GUARANTEED FOR COMPLETENESS OR ACCURACY. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL:  
1. CONFIRM LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.  
2. NOTIFY THE VARIOUS UTILITY AGENCIES AND OBTAIN FIELD LOCATIONS.  
3. PROTECT EXISTING UTILITIES FROM DAMAGE.

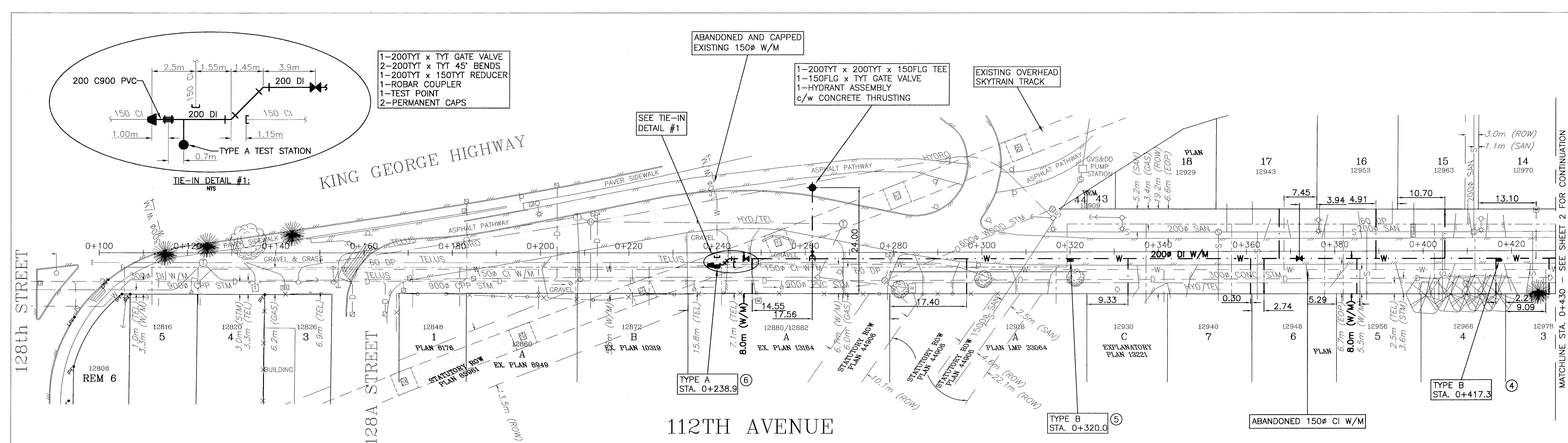
DESIGN	CDP
DRAWN	CDP
CHECK	SJV
APPROVED	RRR
DATE	MAY 03, 2007
SCALE	1:500 H : 1:50 V
DRAWING No.	30303-WTR-01



BENCHMARK: MONUMENT OCM 5405  
#13055 - 112TH AVENUE  
ELEV. = 37.475m

**WATERMAIN UPGRADE - 112th AVENUE**  
STA. 0+100 TO STA. 0+430

SHEET No.	05	TITLE:	THE CITY OF SURREY 112th AVE - #12880 TO 131st ST
OF	06	REV.	REV. 7
DESTROY PRINTS BEARING PREVIOUS NUMBER		SCALE:	SURREY PROJECT No. 1207-3570-00
		HOR. 1 : 500 VER. 1 : 50	SURREY DRAWING No. W-001-042
		CHECKED:	
		P.W.	
		P.U.	



- GENERAL NOTES:**
- REPLACED ALL WATER SERVICE CONNECTIONS AS SHOWN. ALL WATER SERVICE CONNECTIONS ARE 19mm DIAMETER UNLESS OTHERWISE NOTED. THE LOCATION OF WATER SERVICES ARE TAKEN FROM THE CITY OF SURREY RECORDS. THE CONTRACTOR VERIFIED THEIR LOCATION AND THE LOCATION OF ANY OTHER UTILITIES DURING CONSTRUCTION.
  - TIED ALL EXISTING WATER SERVICE CONNECTIONS AND FIRE HYDRANT LEADS TO NEW 2000 DI WATERMAIN UNLESS OTHERWISE NOTED.
  - ALL WATERMAIN THRUST BLOCKS WERE CONSTRUCTED AND INSTALLED AS PER CITY OF SURREY STANDARD DETAIL DRAWINGS SDD-W.3.
  - ALL WATERMAIN JOINTS WERE RESTRAINED USING APPROVED UNIFLANGE SERIES RESTRAINTS UNLESS OTHERWISE NOTED ON DRAWINGS.
  - ALL BACKFILL WAS IMPORTED COMPACTED GRANULAR FILL.
  - INSTALLED ANCHORS FOR ALL WATERMAIN SLOPES GREATER THAN 10% AS SHOWN AS PER MMCD G8.
  - ALL PAVEMENT RESTORATION AS PER MMCD G5.
  - INSTALLED 19mm CLEAR CRUSH GRANULAR PIPE BEDDING FULL LENGTH OF PROTECTIVE SLAB.

- CATHODIC PROTECTION NOTES:**
- THE CATHODIC PROTECTION INSTALLATION WAS IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND THE SUPPLEMENTAL CATHODIC PROTECTION SPECIFICATION AND DRAWINGS.
  - THE ANODE WEIGHT ARE 14.5KG. ALL TEST POINTS WERE INSTALLED BEHIND THE CURB FACE OR IN A LOCATION APPROVED BY THE CITY OF SURREY.
  - THE WATERMAIN COATING WAS FIELD APPLIED LINEAR LOW DENSITY POLYETHYLENE ENCASEMENT, INSTALLED IN ACCORDANCE WITH THE ANSI/AWWA C105 STANDARD. THE MINIMUM THICKNESS OF THE POLYETHYLENE SLEEVE IS 8 MILS (0.008 INCH) OR 200 MICRONS.
  - ALL FITTINGS, TIE-RODS, SHORT PIPE LENGTHS, HYDRANTS AND OTHER BURIED METALLIC PIPING COMPONENTS WERE CLEANED, PRIMED AND TAPE-WRAPPED WITH PETROLATUM TAPE AS PER ANSI/AWWA STANDARD C217. POLYETHYLENE ENCASEMENT WAS NOT INSTALLED OVER THE PETROLATUM TAPE.
  - ALL WATERMAIN SERVICE CONNECTIONS AND TIE-INS TO EXISTING METALLIC WATER MAINS WERE ELECTRICALLY ISOLATED IN ACCORDANCE WITH THE SUPPLEMENTAL CATHODIC PROTECTION SPECIFICATION.
  - THE PIPE BEDDING AND BACKFILL MATERIAL WERE CLEAN WASHED SAND WITH LESS THAN 10PPM OF CHLORIDE AND SULPHATE IONS.
- LEGEND:**
- TYPE # 1 CATHODIC PROTECTION TEST STATION NUMBER
- REFER TO LEVELTON CONSULTANTS LTD. DRAWINGS 807-0526-01 TO 04