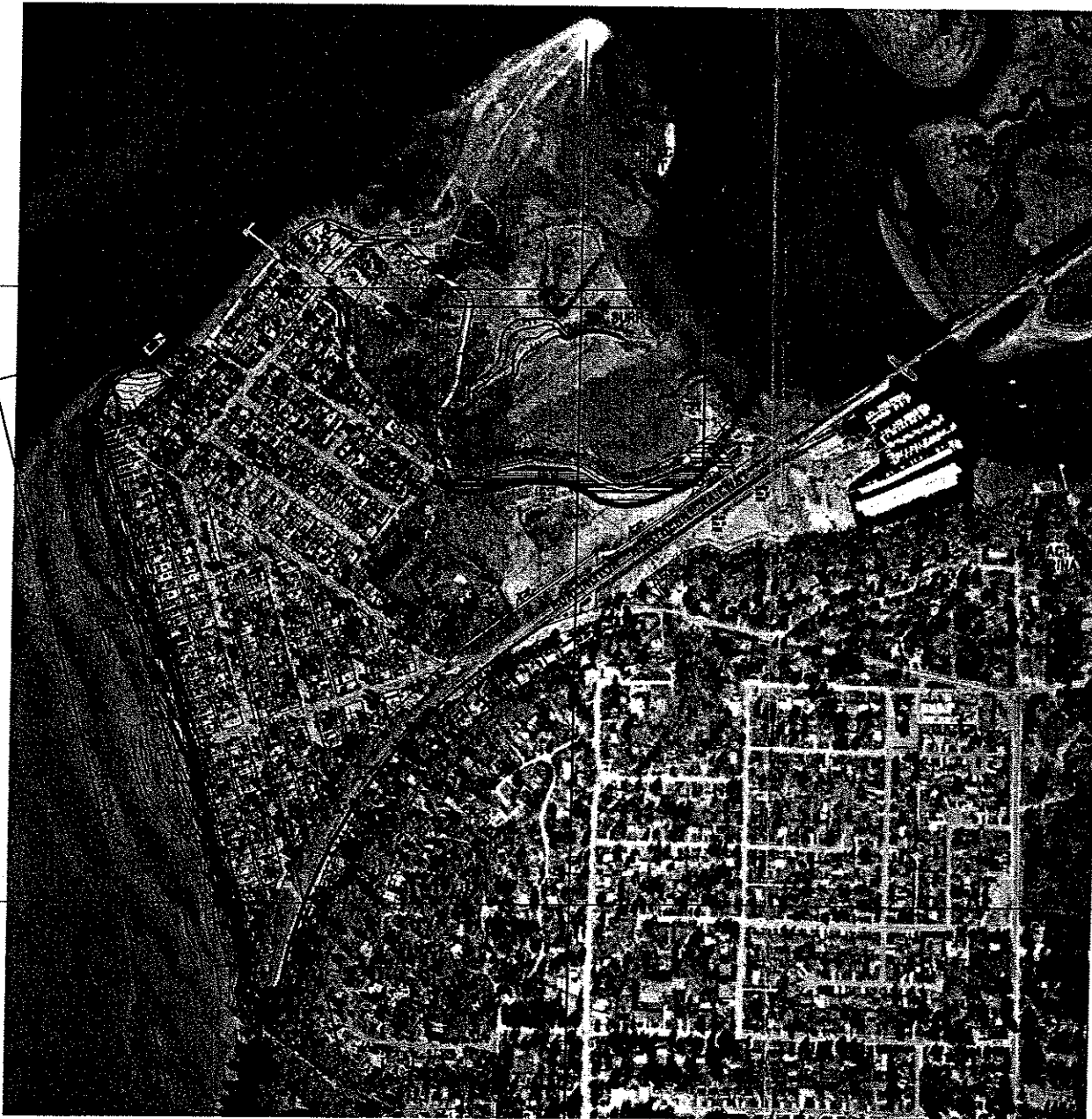
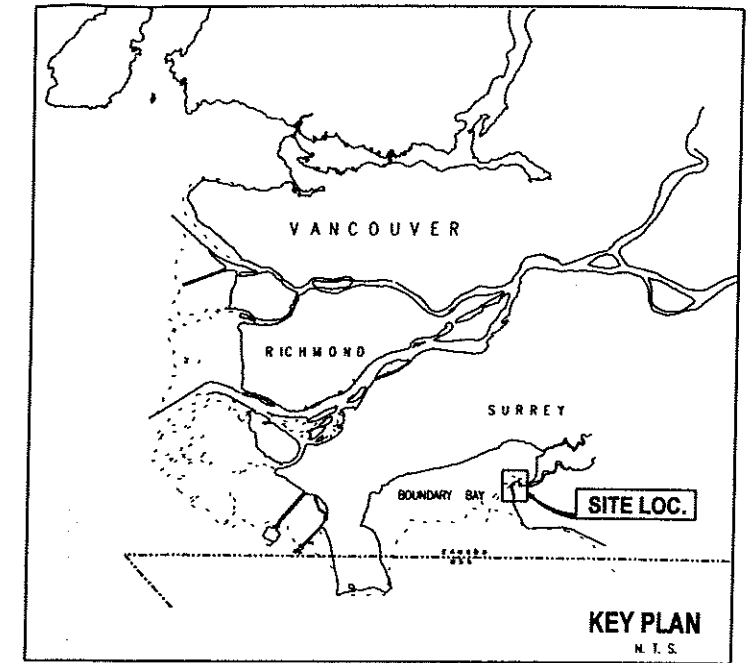




CITY OF SURREY

CRESCENT BEACH

FORESHORE PROTECTION WORKS



N 34 000

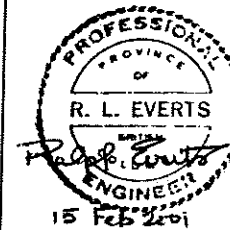
N 33 000

E 8 000

E 10 000

LIST OF DRAWINGS

- SURR-03A-D101 DRAWING INDEX SHEET
- SURR-03A-D102 WEST BEACH - EXISTING CONDITIONS AND SITE PREPARATION
- SURR-03A-D103 CONTROL LINE LAYOUT PLAN
- SURR-03A-D104 WEST BEACH - SHORELINE STABILIZATION PLAN - SHEET 1 OF 3
- SURR-03A-D105 WEST BEACH - SHORELINE STABILIZATION PLAN - SHEET 2 OF 3
- SURR-03A-D106 WEST BEACH - SHORELINE STABILIZATION PLAN - SHEET 3 OF 3
- SURR-03A-D107 WEST BEACH - TIMBER GROYNE EXTENSION & REPAIR - SHEET 1 OF 4
- SURR-03A-D108 WEST BEACH - TIMBER GROYNE EXTENSION & REPAIR - SHEET 2 OF 4
- SURR-03A-D109 WEST BEACH - TIMBER GROYNE EXTENSION & REPAIR - SHEET 3 OF 4
- SURR-03A-D110 WEST BEACH - TIMBER GROYNE EXTENSION & REPAIR - SHEET 4 OF 4
- SURR-03A-D111 WEST BEACH - SHORELINE STABILIZATION - SECTIONS - SHEET 1 OF 2
- SURR-03A-D112 WEST BEACH - SHORELINE STABILIZATION - SECTIONS - SHEET 2 OF 2
- SURR-03A-D113 BLACKIE SPIT - COMPENSATION MARSH
- SURR-03A-D114 WEST BEACH - AREA DRAINAGE
- SURR-03A-D115 WEST BEACH - AREA DRAINAGE - PROFILES & DETAILS



No.	Date	By	Appr.	Description
1	2000-08-16	RE	RE	AS NOTED
2	2000-08-17	RE	RE	ISSUED FOR CONSTRUCTION
3	2000-08-17	RE	RE	ISSUED FOR SITES
4	2000-08-09	RE	RE	ISSUED TO CITY OF SURREY FOR REVIEW

Design: RE 16 MAR 2000
 Checked: RE 16 MAR 2000
 Approved: RE 16 MAR 2000
 Drawn: HIC 16 MAR 2000

Scale: 1:15,000

HAY & COMPANY
 CONSULTANTS INC.
 One West 7th Avenue
 Vancouver, B.C. Canada V6P 1L4
 E-mail: hay@hayco.com

CITY OF SURREY
 CRESCENT BEACH
 FORESHORE PROTECTION WORKS

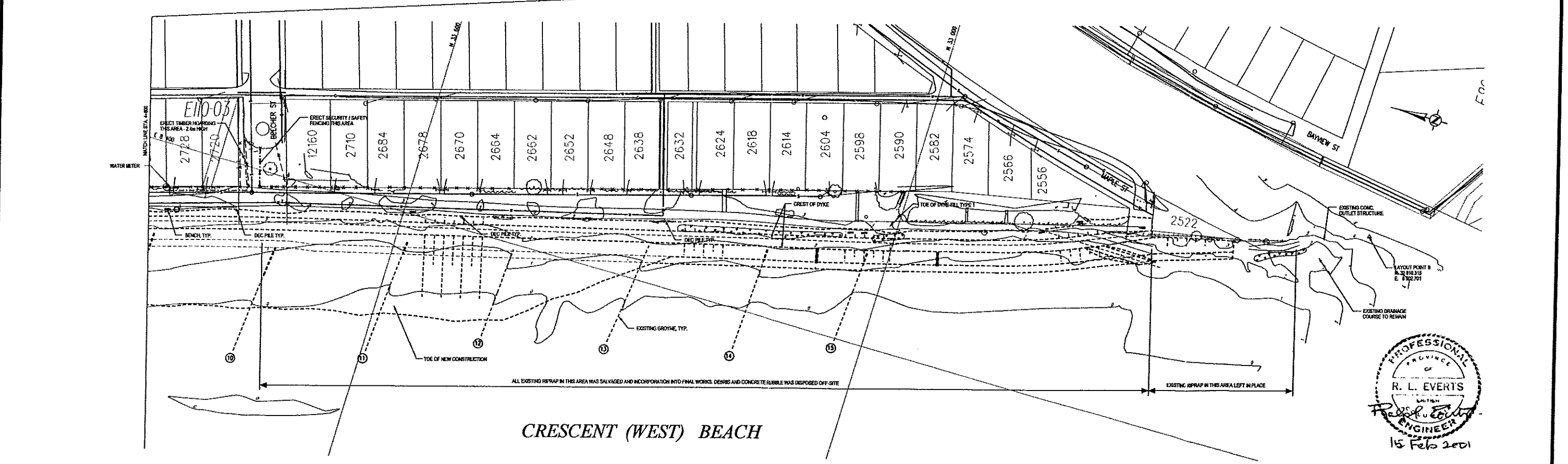
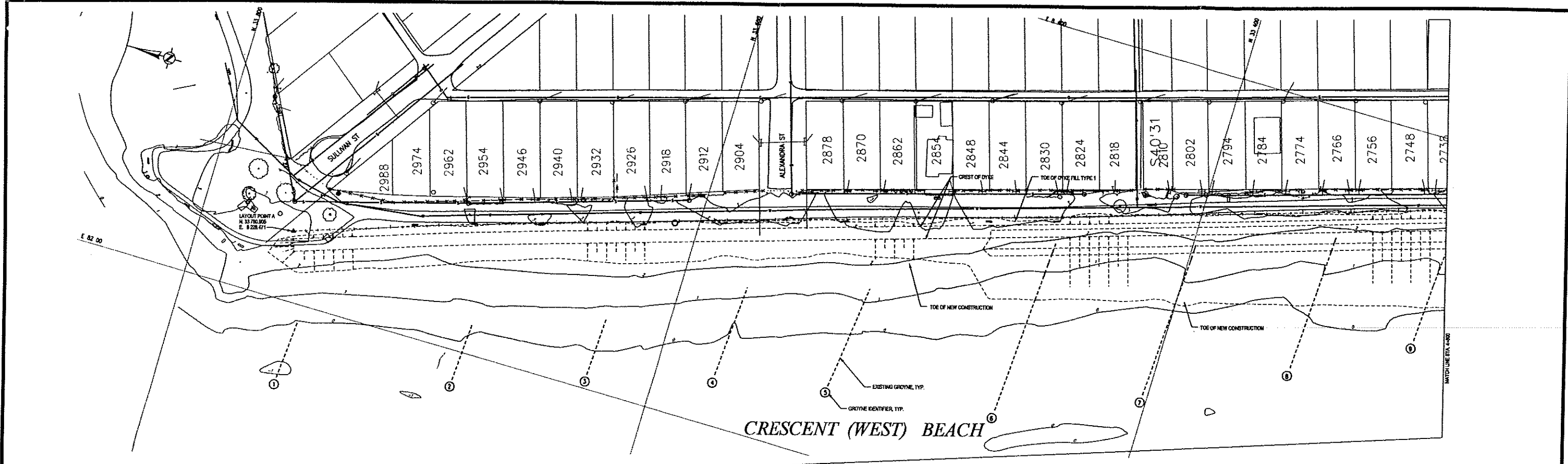
SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

Drawing Title:
DRAWING INDEX SHEET

Drawing No.:
SURR-03A-D101

Revision:
2



PROFESSIONAL
 PROVINCE OF
R. L. EVERTS
 ENGINEER
 15 Feb 2001

LEGEND

- WATER
- SANITARY
- GAS
- HYDRO POWER POLES
- MANHOLES
- HYDRO PILES
- WASTE RECEPTACLE - REMOVAL AND REINSTALLATION BY OTHERS
- HYDRANT

- DECORATIVE PILE CLUSTER - REMOVAL AND REINSTALLATION BY OTHERS
- VEGETATION
- TREE
- FENCE
- EXISTING DUNE GRASS TO BE HARVESTED FOR DONOR STOCK PRIOR TO CONSTRUCTION - HARVESTING BY OTHERS
- EXISTING BENCH
- EXISTING BENCH - REMOVAL AND REINSTALLATION BY OTHERS
- SERVICE VALVE

GENERAL NOTES

- DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- ELEVATIONS ARE IN METERS RELATIVE TO GEODETIC DATUM.
- COORDINATES ARE IN METERS UTM

Rev.	Date	By	App.	Description
1	2000 MAR 9	RE	MC	ISSUED FOR CONSTRUCTION
2	2000 JUL 17	RE	MC	ISSUED FOR REVIEW
3	2000 JUL 06	RE	MC	ISSUED TO CITY OF SURREY FOR REVIEW

Design	RE	10 MAR 2000
Checked	RE	10 MAR 2000
Approved	RE	10 MAR 2000
Drawn	JMC	15 MAR 2000

HAY & COMPANY
 CONSULTANTS INC.
 4800-3110-00

CITY OF SURREY
 CRESCENT BEACH
 FORESHORE PROTECTION WORKS

PROFESSIONAL ENGINEER
 R. L. EVERTS
 15 Feb 2001

WEST BEACH
 EXISTING CONDITIONS
 AND
 SITE PREPARATION

Scale: 1:11750

10 0 10 20 30 40m

Project: CRESCENT BEACH FORESHORE PROTECTION WORKS

Revision: **SIUR-03A-0102** 2



1. FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
2. FOR LAYOUT COORDINATES FOR COMPENSATION MARSH CONSTRUCTION REFER TO DRAWING SURR-03A-D113.
3. DISPOSE OF EXCAVATED MATERIALS DERIVED FROM CONSTRUCTION OF COMPENSATION MARSH IN DESIGNATED ADJACENT DISPOSAL SITE. PLACE EXCAVATED MATERIAL TO A LAYER THICKNESS OF APPROX. 1.0 m FOLLOWING EXISTING CONTOURS. BLEND EDGES OF PLACED MATERIALS TO EXISTING GROUND. FINAL PLACEMENT TO BE SEEDED (SEEDING BY OTHERS).

NO.	DATE	BY	REVISION
1	2000 JUL 9	HC	ISSUED FOR CONSTRUCTION
2	2000 JUL 17	HC	ISSUED FOR TENDER
3	2000 JUL 27	HC	ISSUED TO CITY OF SURREY FOR REVIEW

Design: HC 10 MAR 2000
 Checked: HC 15 MAR 2000
 Approved: HC 15 MAR 2000
 Drawn: HC 15 MAR 2000

Scales: 1:12,000

0 50 100 m

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CITY OF SURREY

Project: CRESCENT BEACH
 MARSH CONSTRUCTION WORK

SURVEY PROJECT NO. **4800-3110-00**

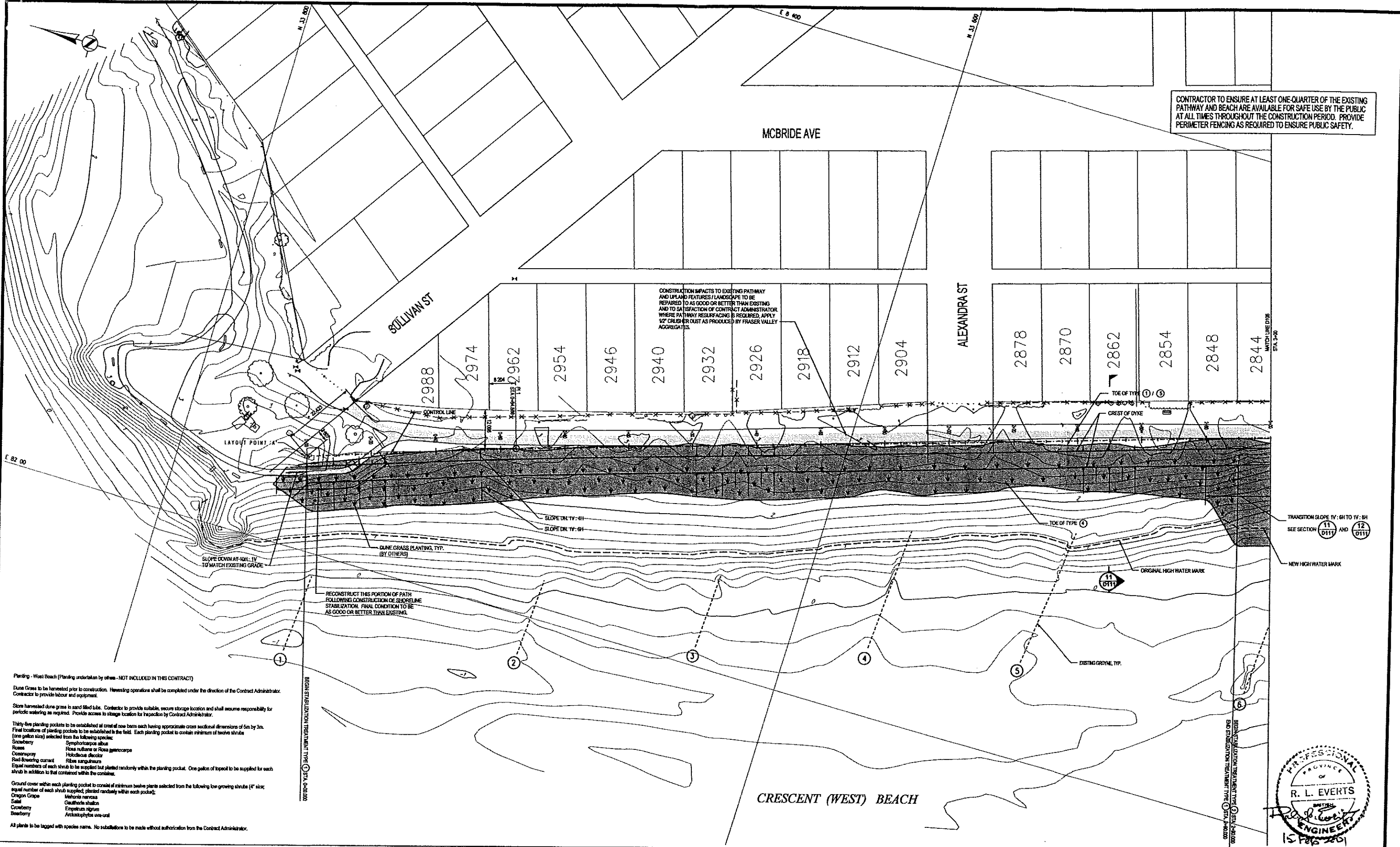
SURVEY DRAWING NO.

Drawing Title: **CONTROL LINE LAYOUT**

PLAN

Drawing No: **SURR-03A-D103**

Revision: **2**



CONTRACTOR TO ENSURE AT LEAST ONE-QUARTER OF THE EXISTING PATHWAY AND BEACH ARE AVAILABLE FOR SAFE USE BY THE PUBLIC AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. PROVIDE PERIMETER FENCING AS REQUIRED TO ENSURE PUBLIC SAFETY.

CONSTRUCTION IMPACTS TO EXISTING PATHWAY AND UPLAND FEATURES / LANDSCAPE TO BE REPAIRED TO AS GOOD OR BETTER THAN EXISTING AND TO SATISFACTION OF CONTRACT ADMINISTRATOR WHERE PATHWAY RESURFACING IS REQUIRED, APPLY 1/2\"/>

Planting - West Beach (Planting undertaken by others - NOT INCLUDED IN THIS CONTRACT)

Dune Grass to be harvested prior to construction. Harvesting operations shall be completed under the direction of the Contract Administrator. Contractor to provide labour and equipment.

Store harvested dune grass in sand filled tubs. Contractor to provide suitable, secure storage location and shall assume responsibility for periodic watering as required. Provide access to storage location for inspection by Contract Administrator.

Thirty-five planting pockets to be established all crest of new berm each having approximate cross sectional dimensions of 5m by 3m. Final location of planting pockets to be established in the field. Each planting pocket to contain minimum of twelve shrubs (one gallon size) selected from the following species:

- Snowberry
- Roses
- Cornus
- Red flowering currant
- Equal numbers of each shrub to be supplied but planted randomly within the planting pocket. One gallon of topsoil to be supplied for each shrub in addition to that contained within the container.

Ground cover within each planting pocket to consist of minimum twelve plants selected from the following low growing shrubs (1/2 size):

- Oregon Grape
- Salt
- Cornus
- Snowberry
- Mauihala
- Ceanothus
- Empetrum
- Arctostaphylos

All plants to be tagged with species name. No substitutions to be made without authorization from the Contract Administrator.

- NOTES:
- FOR GENERAL NOTES REFER TO DRAWING SURR-003A-0102.
 - HARVEST EXISTING VEGETATION FOR SUBSEQUENT REPLANTING PRIOR TO INITIATING ALL OTHER PHASES OF WORK. HARVESTING TO BE COMPLETED UNDER THE DIRECTION OF THE ENVIRONMENTAL MONITOR - HARVESTING UNDERTAKEN BY OTHERS.
 - ALL WORK TO BE UNDERTAKEN IN CONSIDERATION OF TIDE LEVELS. EXCAVATION OR PLACEMENT OF MATERIALS THROUGH WATER NOT PERMITTED.
 - FOR MATERIAL TYPES REFER TO DRAWING SURR-003A-0112.

LEGEND:

☐ DUNE GRASS PLANTING

NO.	DATE	BY	REVISION
1	2000 JUL 9	RE	ISSUED FOR CONSTRUCTION
2	2000 JUL 11	RE	ISSUED FOR REVIEW
3	2000 JUL 04	RE	ISSUED TO CITY OF SURREY FOR REVIEW

Design: RE 15 MAR 2000
 Checked: RE 15 MAR 2000
 Approved: RE 15 MAR 2000
 Drawn: HFC 15 MAR 2000

Scale: 1:500

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 CONSULTANTS INC.
 One West 7th Avenue
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 E-mail: hay@hays.com

CITY OF SURREY
 BARBOUR BOATHOUSE WORKS

SURREY PROJECT NO. **4800-3110-00**

SURREY DRAWING NO.

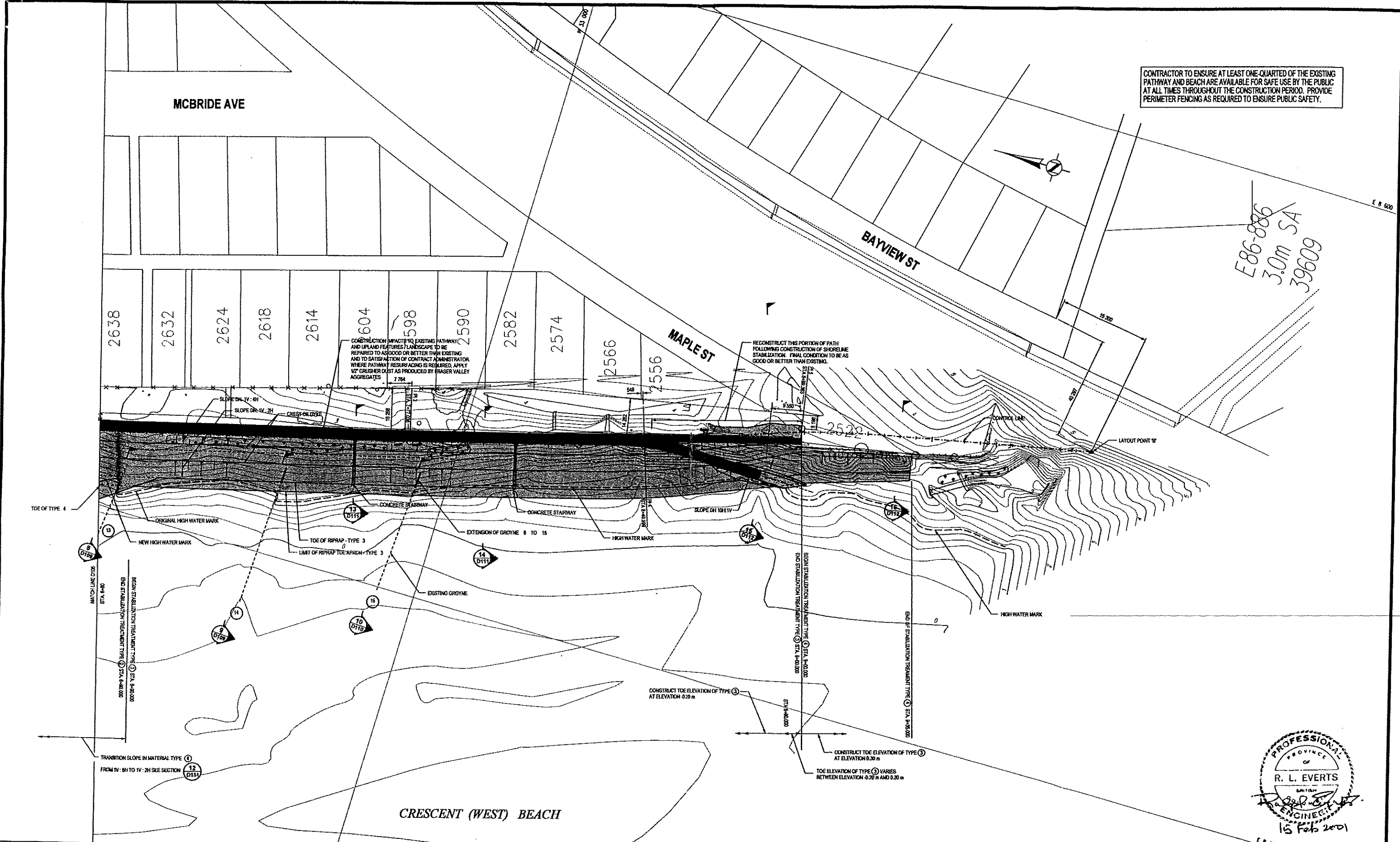
PROFESSIONAL ENGINEER
 PROVINCE OF BRITISH COLUMBIA
R. L. EVERTS
 15 FEB 2001

Drawing No. **WEST BEACH SHORELINE STABILIZATION PLAN SHEET 1 OF 3 (STA. 0+00 TO STA. 3+00)**

Revision No. **SI00-03A-010A 2**

CONTRACTOR TO ENSURE AT LEAST ONE-QUARTER OF THE EXISTING PATHWAY AND BEACH ARE AVAILABLE FOR SAFE USE BY THE PUBLIC AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. PROVIDE PERIMETER FENCING AS REQUIRED TO ENSURE PUBLIC SAFETY.

E86-886
3.0m SA
39609



CONSTRUCTION IMPACTS TO EXISTING PATHWAY AND UPLAND FEATURES / LANDSCAPE TO BE REPAIRED TO AS GOOD OR BETTER THAN EXISTING AND TO SATISFACTION OF CONTRACT ADMINISTRATOR. WHERE PATHWAY RESURFACING IS REQUIRED, APPLY 1/2" CRUSHER DUST AS PRODUCED BY FRASER VALLEY AGGREGATES.

RECONSTRUCT THIS PORTION OF PATH FOLLOWING CONSTRUCTION OF SHORELINE STABILIZATION. FINAL CONCRETION TO BE AS GOOD OR BETTER THAN EXISTING.

- NOTES**
- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
 - HARVEST EXISTING VEGETATION FOR SUBSEQUENT REPLANTING PRIOR TO INITIATING ALL OTHER PHASES OF WORK. HARVESTING TO BE COMPLETED UNDER THE DIRECTION OF THE ENVIRONMENTAL MONITOR - HARVESTING UNDERTAKEN BY OTHERS.
 - ALL WORK TO BE UNDERTAKEN IN CONSIDERATION OF TIDE LEVELS. EXCAVATION OR PLACEMENT OF MATERIALS THROUGH WATER NOT PERMITTED.

- FOR MATERIAL TYPES REFER TO DRAWING SURR-03A-D112.
- FOR DETAILS PERTAINING TO PLANTING POCKETS REFER TO DRAWING SURR-03A-D104 (PLANTING UNDERTAKEN BY OTHERS)

NO.	DATE	BY	REVISION
1	2009 MAR 09	RE	ISSUED FOR CONSTRUCTION
2	2009 JUN 12	RE	ISSUED FOR REVIEW
3	2009 JUN 04	AC	ISSUED TO CITY OF SURREY FOR REVIEW

Design: RE 18 MAR 2009
 Checked: RE 18 MAR 2009
 Approved: RE 18 MAR 2009
 Drawn: SAC 18 MAR 2009

Scale: 1:500

0 10 20 m

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CITY OF SURREY
 CRESCENT BEACH
 BEACH PROTECTION WORKS

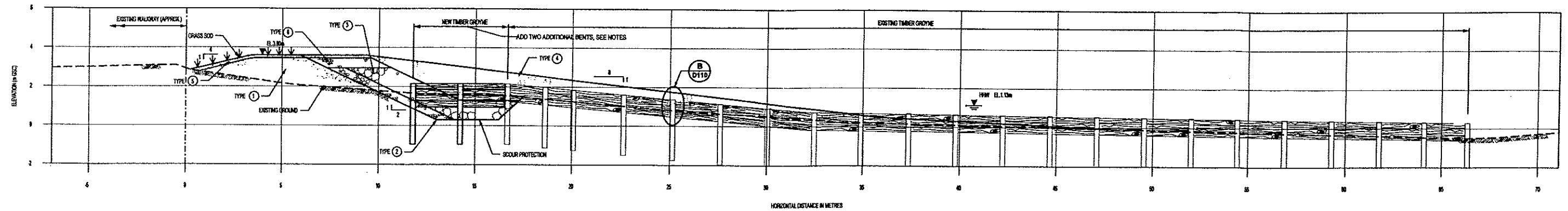
SURVEY PROJECT NO.
4800-3110-00

SURVEY DRAWING NO.

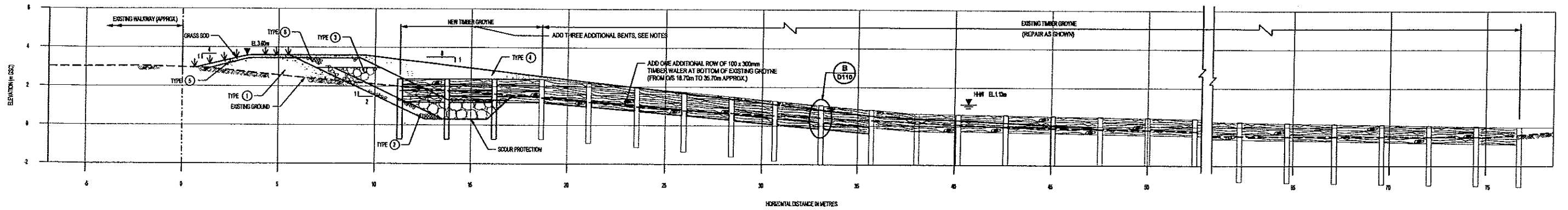
PROFESSIONAL
 PROVINCE OF
R. L. EVERTS
 ENGINEER
 15 Feb 2009

Drawing No. **WEST BEACH**
SHORELINE STABILIZATION
 PLAN
 SHEET 3 OF 3
 (STA. 8+80 TO STA. 9+80)

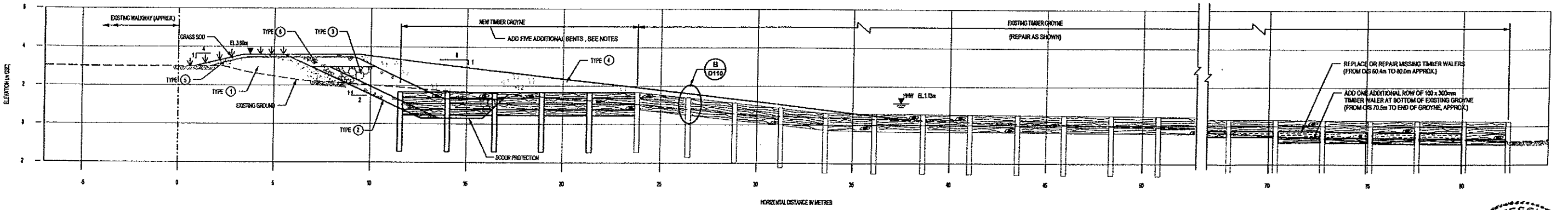
Revision
SURR-03A-D106 2



SECTION 3 GROUYNE 8
SCALE 1:100 (STA. 4+37.890)



SECTION 2 GROUYNE 7
SCALE 1:100 (STA. 3+80.310)



SECTION 1 GROUYNE 6
SCALE 1:100 (STA. 3+21.430)



- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
- ALL PILING TO BE DOUGLAS FIR CONFORMING WITH CAN 556-M. PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT.
- DRIVE PILES AT CENTER TO CENTER DISTANCE OF 2.45 m AND TO A MINIMUM PENETRATION OF 2.0m RELATIVE TO EXISTING BEACH GRADE.

- TIMBER WALERS SHALL BE No.1 STRUCTURAL GRADE (MGA) DOUGLAS FIR, PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT. PROVIDE TIMBER IN LENGTH TO SPAN A MINIMUM OF TWO PILES. STAGGER JOINTS IN ADJACENT WALERS BY MINIMUM ONE PILE.
- LOCAL EXCAVATION FOR INSTALLATION OF WALERS BELOW EXISTING GRADE SHALL BE MINIMIZED. COST OF EXCAVATION AND SUBSEQUENT BACKFILL TO BE INCIDENTAL TO RELATED WORK.

Rev.	Date	By	Description
1	2000 MAR 20	ME	AS BUILT
2	2000 AUG 9	ME	ISSUED FOR CONSTRUCTION
3	2000 JUL 17	ME	ISSUED FOR TENDER
4	2000 JUL 28	ME	ISSUED TO CITY OF SURREY FOR REVIEW

Design: _____
 Checked: _____
 Approved: _____
 Drawn: _____

Scales: 1:100

HAY & COMPANY
 CONSULTANTS INC.
 One West 7th Avenue
 Vancouver, B.C. Canada V6Y 1L6
 E-mail: hayco@hayco.com

CITY OF SURREY

Project: CRESCENT BEACH FORESHORE PROTECTION WORKS

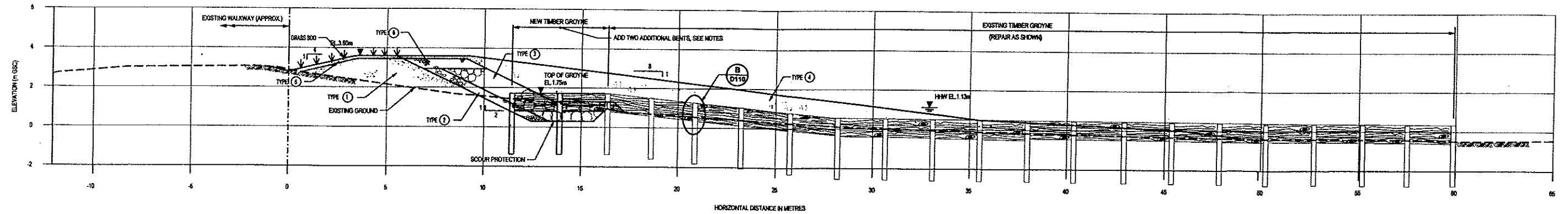
SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

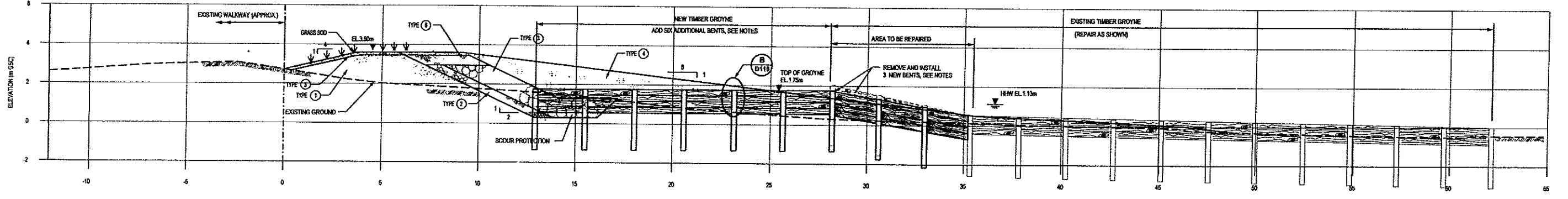
Drawing No. **SURR-03A-D107**

Revision **2**

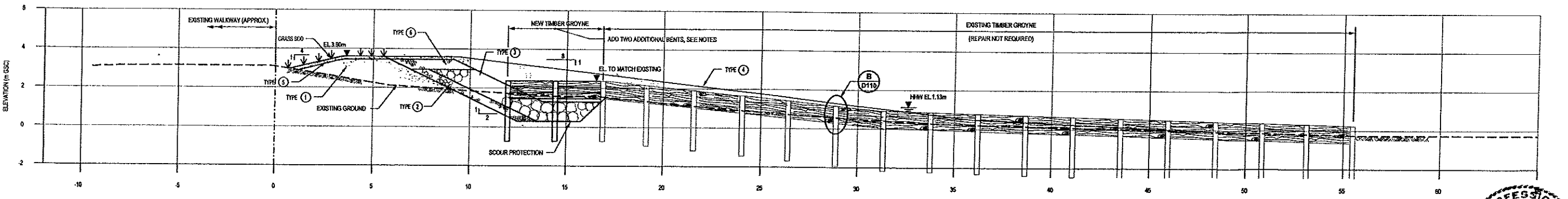
WEST BEACH
 TIMBER GROUYNE EXTENSION
 AND REPAIR
 SHEET 1 OF 4



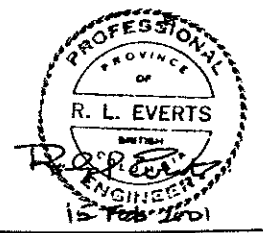
SECTION 6 GROYPNE 11
SCALE 1 : 100
D105 (STA. 5+91.800)



SECTION 5 GROYPNE 10
SCALE 1 : 100
D105 (STA. 5+39.600)



SECTION 4 GROYPNE 9
SCALE 1 : 100
D105 (STA. 4+86.190)



- NOTES**
- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
 - ALL PILING TO BE DOUGLAS FIR CONFORMING WITH CAN5-D6S-M, PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT.
 - DRIVE PILES AT CENTER TO CENTER DISTANCE OF 3.45 m AND TO A MINIMUM PENETRATION OF 2.0m RELATIVE TO EXISTING BEACH GRADE.

- TIMBER WALERS SHALL BE No.1 STRUCTURAL GRADE (MGLA) DOUGLAS FIR, PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT. PROVIDE TIMBER IN LENGTH TO SPAN A MINIMUM OF TWO PILES. STAGGER JOINTS IN ADJACENT WALERS BY MINIMUM ONE PILE.
- LOCAL EXCAVATION FOR INSTALLATION OF WALERS BELOW EXISTING GRADE SHALL BE MINIMIZED. COST OF EXCAVATION AND SUBSEQUENT BACKFILL TO BE INCIDENTAL TO RELATED WORK.

NO.	DATE	BY	CHK	DESCRIPTION
2	2000 MAR 20	RE	SK	DESIGN
1	2000 JUL 9	RE	RE	ISSUED FOR CONSTRUCTION
0	2000 JUL 17	RE	RE	ISSUED FOR RECORD
A	2000 JUL 26	RE	RE	ISSUED TO CITY OF SURREY FOR REVIEW
Rev.	000	By	App.	Description

Design RE 10 MAR 2000
 Checked RE 10 MAR 2000
 Approved
 Drawn HAD 10 MAR 2000

Scales
 1:100 0 2 4 6 m

HAY & COMPANY
 CONSULTANTS INC.
 One West 7th Avenue
 Vancouver, B.C. Canada V6Y 1E4
 E-mail: hay@hayco.com

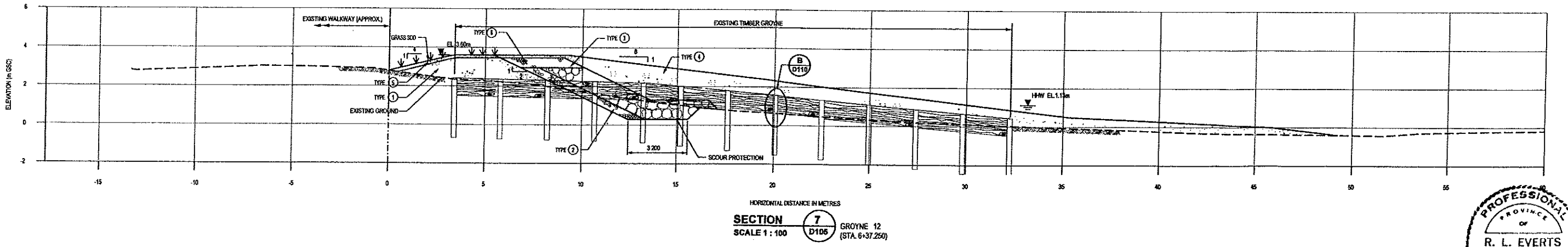
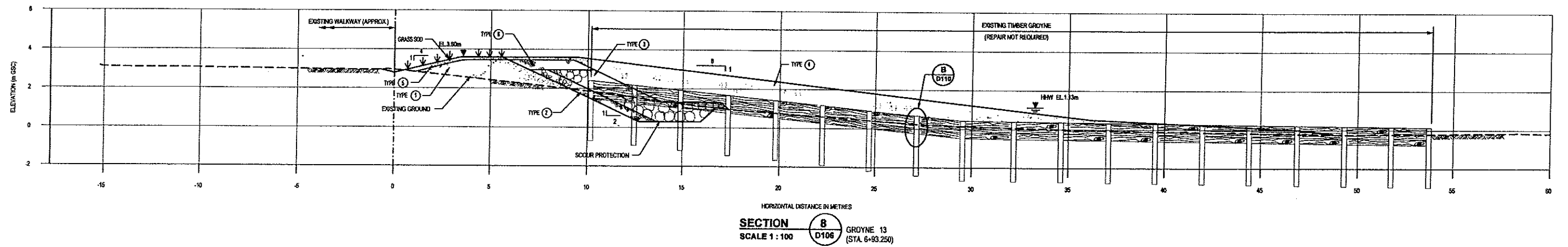
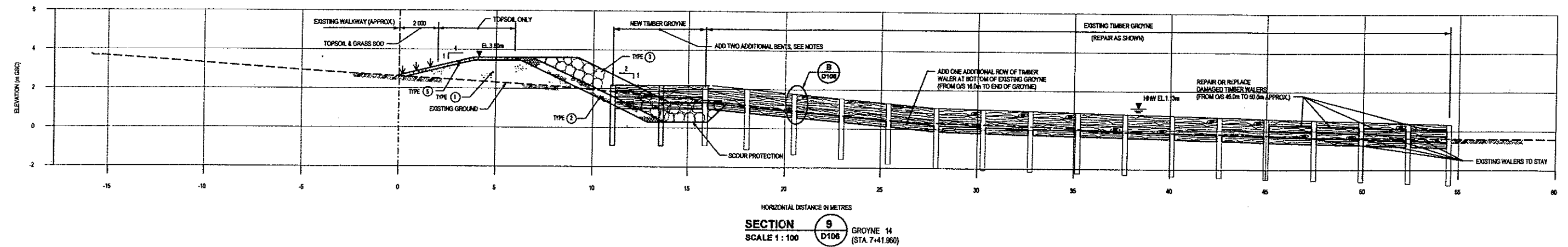
CITY OF SURREY
 Project: CRESCENT BEACH
 FORESHORE PROTECTION WORKS

SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

Drawing No. **WEST BEACH
 TIMBER GROYPNE EXTENSION
 AND REPAIR
 SHEET 2 OF 4**

Revision
SURR-03A-D108 2



- NOTES**
- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
 - ALL PILING TO BE DOUGLAS FIR CONFORMING WITH CANO-066-M. PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT.
 - DRIVE PILES AT CENTER TO CENTER DISTANCE OF 2.45 m AND TO A MINIMUM PENETRATION OF 2.0m RELATIVE TO EXISTING BEACH GRADE.
 - TIMBER WALERS SHALL BE No. 1 STRUCTURAL GRADE (INGLA) DOUGLAS FIR, PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT. PROVIDE TIMBER IN LENGTH TO SPAN A MINIMUM OF TWO PILES. STAGGER JOINTS IN ADJACENT WALERS BY MINIMUM ONE PILE.
 - LOCAL EXCAVATION FOR INSTALLATION OF WALERS BELOW EXISTING GRADE SHALL BE MINIMIZED. COST OF EXCAVATION AND SUBSEQUENT BACKFILL TO BE INCIDENTAL TO RELATED WORK.

NO.	DATE	BY	APP.	DESCRIPTION
1	2000 JUN 8	AC	AC	ISSUED FOR CONSTRUCTION
2	2000 JUN 17	AC	AC	ISSUED FOR TENDER
3	2000 JUN 26	AC	AC	ISSUED TO CITY OF SURREY FOR REVIEW

Design: _____
 Checked: _____
 Approved: _____
 Drawn: _____

Scales: 1:100

HAY & COMPANY
CONSULTANTS INC.
One West 7th Avenue
Vancouver, B.C. Canada V6V 1L4
E-mail: hay@hayco.com

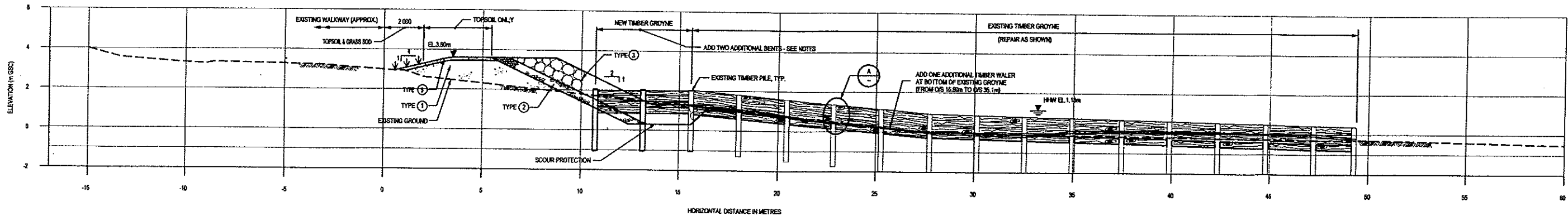
CITY OF SURREY
Project: CRESCENT BEACH
FORESHORE PROTECTION WORKS

SURREY PROJECT NO.
4800-3110-00

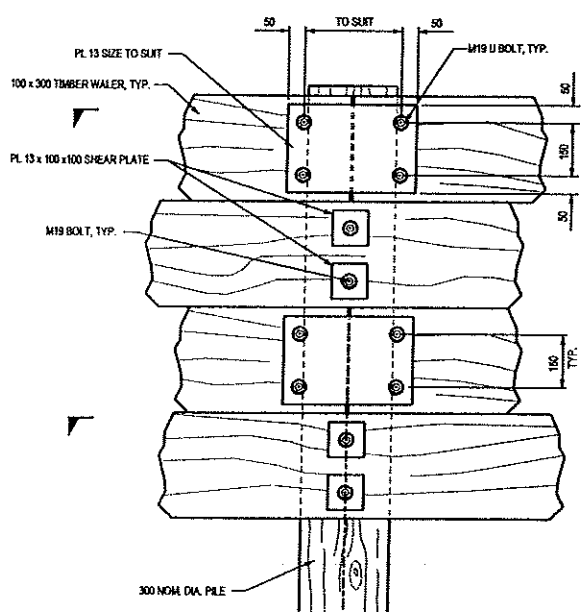
SURREY DRAWING NO.

Drawing No. **WEST BEACH
TIMBER GROYPNE EXTENSION
AND REPAIR
SHEET 3 OF 4**

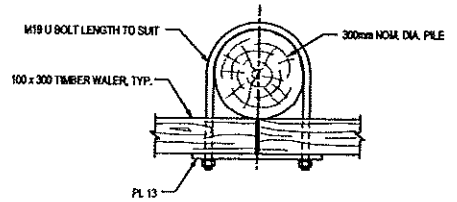
Revision
SURR-03A-D109 2



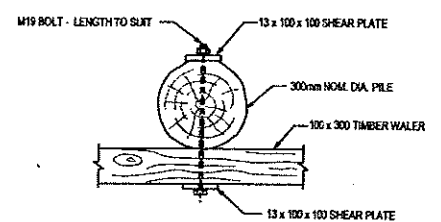
SECTION 10 GROYPNE 15
SCALE 1 : 100 D106 (STA. 7+84.000)



DETAIL A SHOWN
SCALE 1 : 10
DETAIL B SIMILAR (D107, D108 & D109)
SCALE 1 : 10



SECTION 1 THIS DETAIL APPLIED WHERE TIMBER WALER IS NOT CONTINUOUS
SCALE 1 : 10



SECTION 2 THIS DETAIL APPLIED WHERE TIMBER WALER IS CONTINUOUS
SCALE 1 : 10

NOTES

- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
- ALL PILING TO BE DOUGLAS FIR CONFORMING WITH CANADOS-M. PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT.
- DRIVE PILES AT CENTER TO CENTER DISTANCE OF 2.45 m AND TO A MINIMUM PENETRATION OF 2.0m RELATIVE TO EXISTING BEACH GRADE.
- TIMBER WALERS SHALL BE No.1 STRUCTURAL GRADE (NGLA) DOUGLAS FIR, PRESSURE TREATED WITH WATERBORNE ACZA TREATMENT. PROVIDE TIMBER IN LENGTH TO SPAN A MINIMUM OF TWO PILES. STAGGER JOINTS IN ADJACENT WALERS BY MINIMUM ONE PILE.
- LOCAL EXCAVATION FOR INSTALLATION OF WALERS BELOW EXISTING GRADE SHALL BE MINIMIZED. COST OF EXCAVATION AND SUBSEQUENT BACKFILL TO BE INCIDENTAL TO RELATED WORK.
- BOLTS TO BE GALVANIZED ASTM A307, AND PROVIDED WITH NUT AND PLATE WASHERS AS INDICATED. BOLT DIAMETER TO BE M20 (M7) UNLESS OTHERWISE INDICATED.
- ALL MISCELLANEOUS HARDWARE TO BE HOT DIP GALVANIZED.

Rev.	Date	By	App.	Description
1	2000 AUG 9	RE	RE	ADD BOLT
2	2000 AUG 9	RE	RE	ISSUED FOR CONSTRUCTION
3	2000 JUL 17	RE	RE	ISSUED FOR BIDDING
4	2000 JUL 04	RE	RE	ISSUED TO CITY OF SURREY FOR REVIEW

Design RE 15 MAR 2000
Checked RE 15 MAR 2000
Approved
Drawn HNC 15 MAR 2000

Scale
1:110
1:100

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CITY OF SURREY

Project
CRESCENT BEACH
FORESHORE PROTECTION WORKS

SURREY PROJECT NO.
4800-3110-00

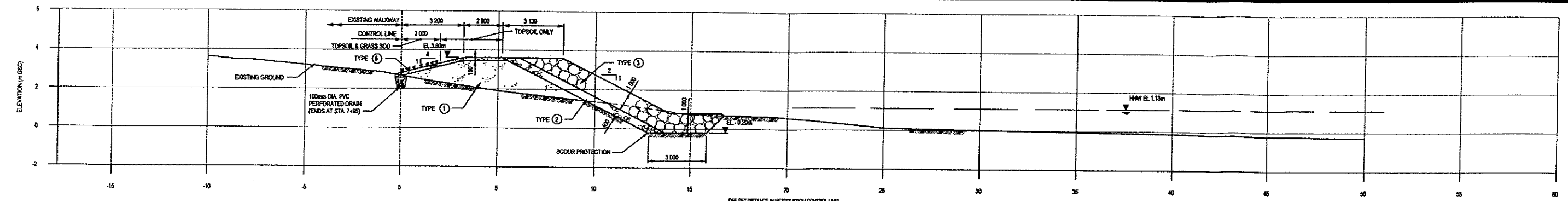
SURREY DRAWING NO.

Drawing No.
SURR-03A-D110

Revision
2

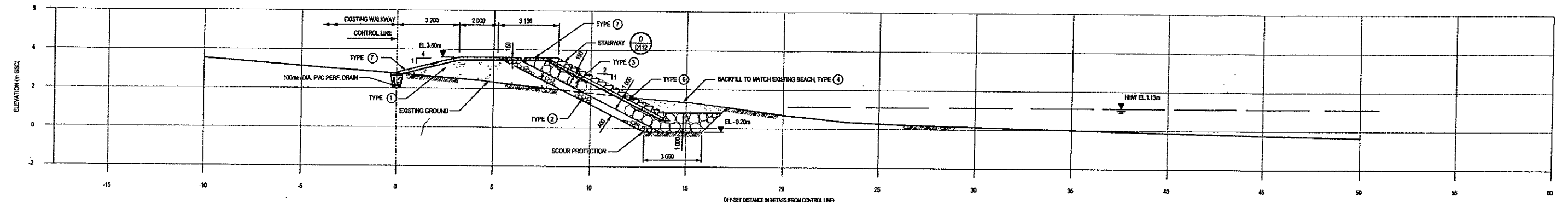
Project
WEST BEACH
TIMBER GROYPNE EXTENSION
AND REPAIR
SHEET 4 OF 4



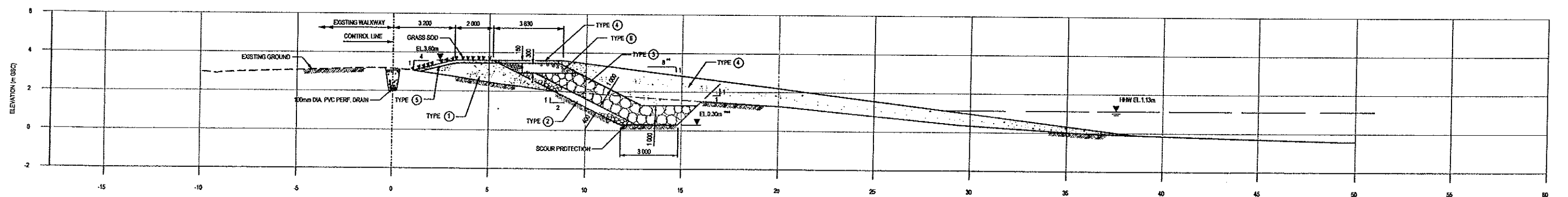


SECTION 14 STABILIZATION TREATMENT TYPE ③
 SCALE 1 : 100 D108 STA. 8+00, SHOWN
 (TYPICAL OF STA. 6+90 TO STA. 9+00)

** INDICATED ELEVATION APPLIES BETWEEN STA. 8+00 AND STA. 8+90
 RAISE ELEVATION IN LINEAR FASHION FROM EL. -0.20m
 AT 8+90 TO EL. 0.30m AT STA. 9+00

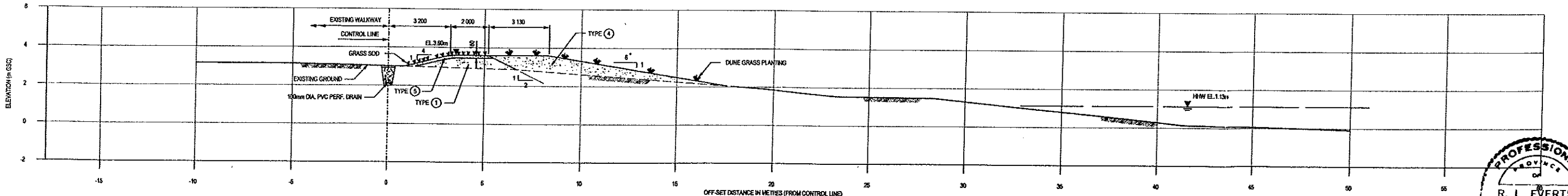


SECTION 13 STAIRWAY
 SCALE 1 : 100 D108 STA. 7+60, SHOWN
 (TYPICAL OF STA. 8+10)



SECTION 12 STABILIZATION TREATMENT TYPE ②
 SCALE 1 : 100 D105 STA. 4+00, SHOWN
 (TYPICAL OF STA. 2+90 TO STA. 6+90)

NOTES:
 ** INDICATED SLOPE APPLIES BETWEEN STA. 3+00 AND STA. 8+30
 FLATTEN SLOPE IN LINEAR FASHION BETWEEN 7H: 1V AT STA. 2+90
 AND 8H: 1V AT STA. 3+00
 STEEPEN SLOPE IN LINEAR FASHION BETWEEN 8H: 1V AT STA. 6+30
 TO 2H: 1V AT STA. 6+90
 *** INDICATED ELEVATION APPLIES BETWEEN STA. 2+90 AND STA. 5+40
 REDUCE ELEVATION IN LINEAR FASHION BETWEEN EL. 0.30m
 AT 5+40 TO EL. -0.20m AT STA. 5+50
 CONSTRUCT AT EL. -0.20m BETWEEN STA. 5+50 AND STA. 5+90



SECTION 11 STABILIZATION TREATMENT TYPE ①
 SCALE 1 : 100 D104 STA. 2+50, SHOWN
 (TYPICAL OF STA. 0+00 TO STA. 2+90)

NOTE:
 * INDICATED SLOPE APPLIES BETWEEN STATION 0+00 AND 2+90
 FLATTEN SLOPE IN LINEAR FASHION BETWEEN 8H: 1V AT STA. 2+90
 TO 7H: 1V AT STA. 2+90

- NOTES**
- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
 - FOR TABLE OF MATERIAL DESIGNATIONS REFER TO DRAWING SURR-03A-D112.
 - DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS.

Rev.	Date	By	App.	Description
1	2000-JUN-17	NE	NE	ISSUED FOR CONSTRUCTION
2	2000-JUN-17	NE	NE	ISSUED FOR REVIEW
3	2000-JUN-17	NE	NE	ISSUED FOR REVIEW
4	2000-JUN-17	NE	NE	ISSUED FOR REVIEW
5	2000-JUN-17	NE	NE	ISSUED FOR REVIEW

Design: NE 10 MAR 2000
 Checked: NE 16 MAR 2000
 Approved: NE 16 MAR 2000
 Drawn: PNC 18 MAR 2000

Scale: 1:100

1 0 2 4 6 m

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CITY OF SURREY
 CRESCENT BEACH
 FORESHORE PROTECTION WORKS

SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

Drawing No. **WEST BEACH**
SHORELINE STABILIZATION
 SECTIONS
 SHEET 1 OF 2

Revision: **SURR-03A-D111 2**



Planting - Blackie Spit - Planting undertaken by others - NOT INCLUDED IN THIS CONTRACT

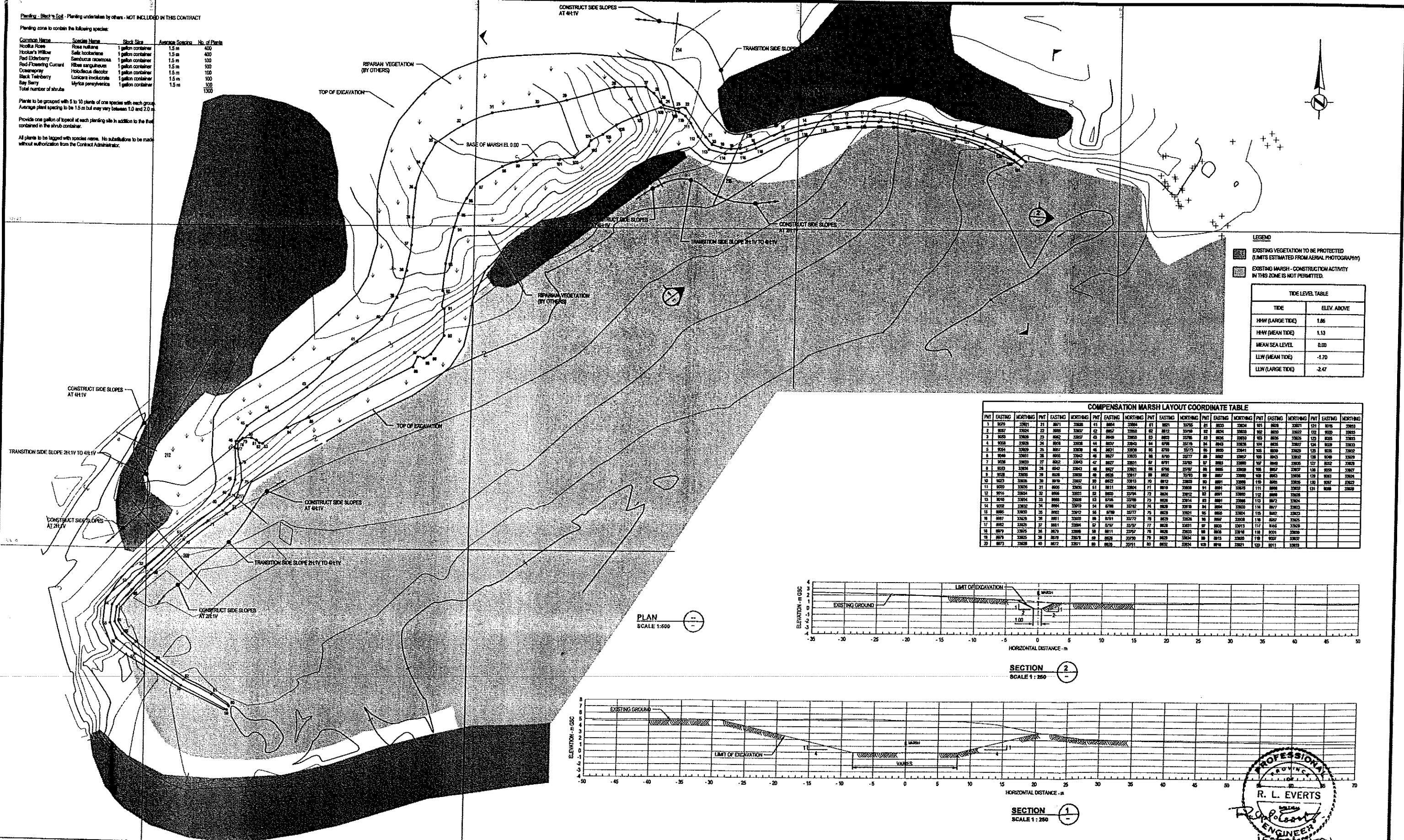
Planting zone to contain the following species:

Common Name	Scientific Name	Stock Size	Average Spacing	No. of Plants
Hook's Rose	Rosa nutkana	1 gallon container	1.5 m	400
Hook's Willow	Salix hookeriana	1 gallon container	1.5 m	100
Red Elderberry	Sambucus racemosa	1 gallon container	1.5 m	500
Red-Flowering Currant	Ribes sanguineum	1 gallon container	1.5 m	100
Cowenray	Holodiscus discolor	1 gallon container	1.5 m	100
Black Teinberry	Lonicera involucrata	1 gallon container	1.5 m	500
Bay Berry	Myrica pennsylvanica	1 gallon container	1.5 m	500
Total number of shrubs				1300

Plants to be grouped with 6 to 10 plants of one species with each group. Average plant spacing to be 1.5 m but may vary between 1.0 and 2.0 m.

Provide one gallon of topsoil at each planting site in addition to the fuel contained in the shrub container.

All plants to be tagged with species name. No substitutions to be made without authorization from the Contract Administrator.



LEGEND

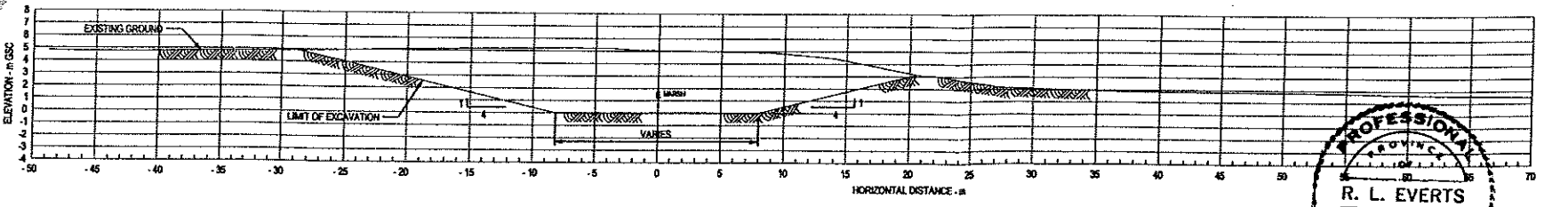
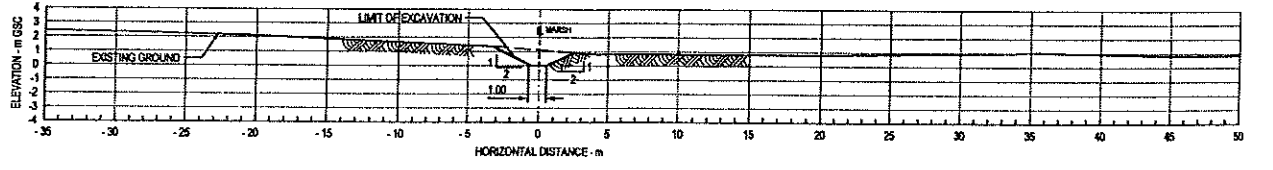
- EXISTING VEGETATION TO BE PROTECTED (LIMITS ESTIMATED FROM AERIAL PHOTOGRAPHY)
- EXISTING MARSH - CONSTRUCTION ACTIVITY IN THIS ZONE IS NOT PERMITTED.

TIDE LEVEL TABLE

TIDE	ELEV. ABOVE
HHW (LARGE TIDE)	1.86
HNW (MEAN TIDE)	1.13
MEAN SEA LEVEL	0.00
LLW (MEAN TIDE)	-1.70
LLW (LARGE TIDE)	-2.47

COMPENSATION MARSH LAYOUT COORDINATE TABLE

PNT	EASTING	NORTHING	PNT	EASTING	NORTHING	PNT	EASTING	NORTHING	PNT	EASTING	NORTHING	PNT	EASTING	NORTHING	PNT	EASTING	NORTHING
1	8079	32821	21	8071	32828	31	8064	32804	41	8021	32795	51	8023	32824	61	8028	32821
2	8057	32824	22	8065	32837	32	8067	32868	42	8012	32798	52	8014	32833	62	8019	32827
3	8053	32828	23	8062	32837	33	8069	32869	43	8013	32796	53	8016	32830	63	8021	32825
4	8028	32828	24	8064	32828	34	8037	32843	44	8014	32794	54	8017	32827	64	8022	32823
5	8024	32829	25	8067	32829	35	8031	32829	45	8015	32793	55	8018	32824	65	8023	32822
6	8048	32811	26	8065	32842	36	8027	32823	46	8016	32792	56	8019	32821	66	8024	32821
7	8028	32833	27	8062	32843	37	8027	32821	47	8017	32792	57	8020	32818	67	8025	32818
8	8033	32834	28	8063	32843	38	8027	32821	48	8018	32791	58	8021	32815	68	8026	32817
9	8028	32835	29	8068	32850	39	8028	32817	49	8022	32790	59	8025	32812	69	8027	32816
10	8023	32836	30	8070	32837	40	8023	32813	50	8021	32809	60	8024	32806	70	8028	32812
11	8020	32836	31	8069	32836	41	8021	32804	51	8020	32809	61	8023	32804	71	8029	32808
12	8016	32834	32	8066	32831	42	8020	32794	52	8024	32812	62	8021	32802	72	8030	32804
13	8013	32834	33	8068	32838	43	8019	32789	53	8025	32814	63	8022	32800	73	8031	32802
14	8012	32832	34	8064	32819	44	8018	32782	54	8026	32816	64	8023	32798	74	8032	32800
15	8005	32830	35	8062	32812	45	8018	32777	55	8027	32811	65	8024	32794	75	8033	32800
16	8007	32829	36	8061	32803	46	8017	32772	56	8029	32804	66	8025	32789	76	8034	32800
17	8002	32829	37	8061	32806	47	8017	32767	57	8030	32801	67	8026	32784	77	8035	32800
18	8009	32825	38	8070	32808	48	8011	32762	58	8031	32803	68	8027	32779	78	8036	32800
19	8019	32822	39	8070	32819	49	8022	32750	59	8032	32804	69	8028	32774	79	8037	32800
20	8077	32828	40	8072	32811	50	8029	32751	60	8032	32804	70	8029	32769	80	8038	32800



PLAN
SCALE 1:600

- NOTES**
- FOR GENERAL NOTES REFER TO DRAWING SURR-03A-D102.
 - EXISTING VEGETATION SHALL BE REVIEWED BY THE ENVIRONMENTAL MONITOR AND PLANTS MAY BE HARVESTED FOR SUBSEQUENT REPLANTING. NO WORK SHALL BE UNDERTAKEN UNTIL HARVESTING IS COMPLETE. HARVESTING TO BE UNDERTAKEN BY OTHERS.
 - EXISTING MARSH AND UPLAND RIPARIAN VEGETATION ARE VALUABLE HABITAT AND SHALL BE PROTECTED THROUGHOUT ALL PHASES OF CONSTRUCTION. EQUIPMENT OPERATION WITHIN THESE AREAS NOT PERMITTED.
 - LAYOUT EXCAVATION LIMITS (TOP AND TOE OF CUT) IN DETAIL FROM COORDINATES PROVIDED. EXCAVATION LIMITS TO BE REVIEWED AND APPROVED BY REPRESENTATIVES OF REGULATORY AGENCIES PRIOR TO EXCAVATION.
 - DISPOSE OF EXCAVATED MATERIALS IN DESIGNATED DISPOSAL SITE - SEE DRAWING SURR-03A-D103.

REV	DATE	BY	CHKD	DESCRIPTION
1	2000 JUN 1	NE	NE	AS SHOWN
2	2000 JUN 9	NE	NE	REVISED FOR CONSTRUCTION
3	2000 JUN 17	NE	NE	REVISED FOR REVIEW
4	2000 JUN 20	NE	NE	ISSUED TO CITY OF SURREY FOR REVIEW
5	2000 JUN 28	NE	NE	DESIGN RELEASED - BE-ISSUED FOR ENV. REVIEW
6	2000 JUN 1	NE	NE	JURISDICTION ABANDONED - BE-ISSUED FOR ENV. REVIEW
7	2000 JUN 15	NE	NE	REVISED FOR ENVIRONMENTAL REVIEW
8	2000 JUN 15	NE	NE	REVISED FOR ENVIRONMENTAL REVIEW

Design: RE 10 MAR 2000
 Checked: RE 16 MAR 2000
 Approved: [Signature]
 Drawn: HAC 16 MAR 2000

Scales:
 1:250
 1:500

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CITY OF SURREY

Project: **CRESCENT BRACH FORESHORE PROTECTION WORKS**

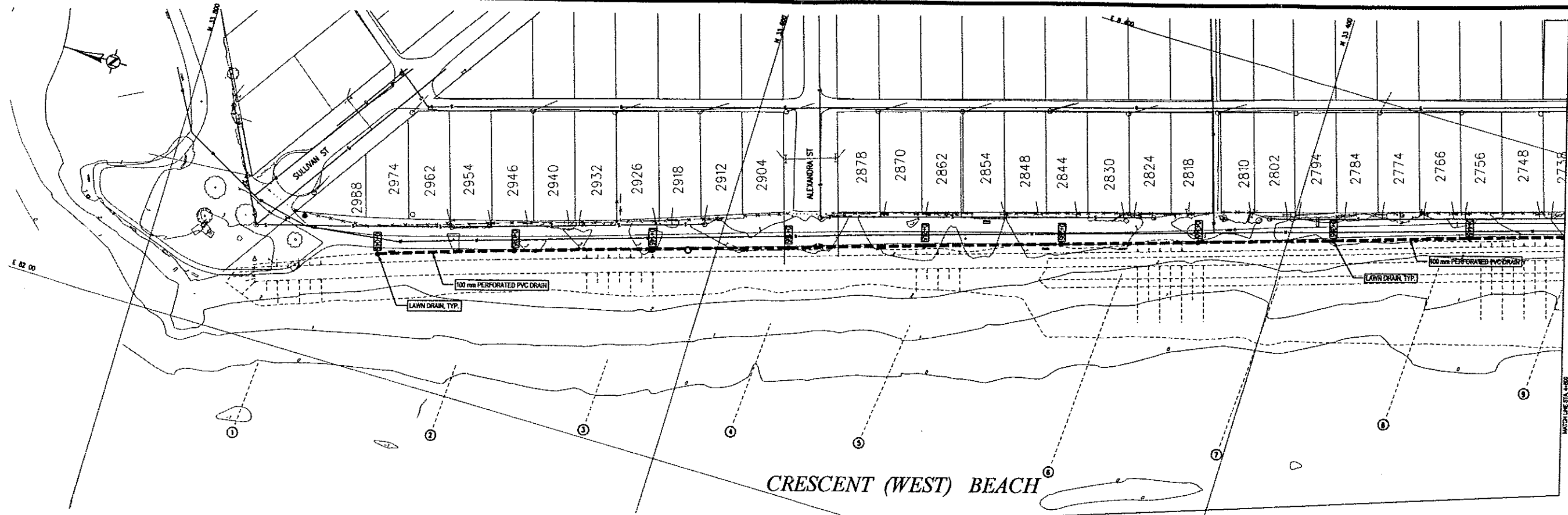
SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

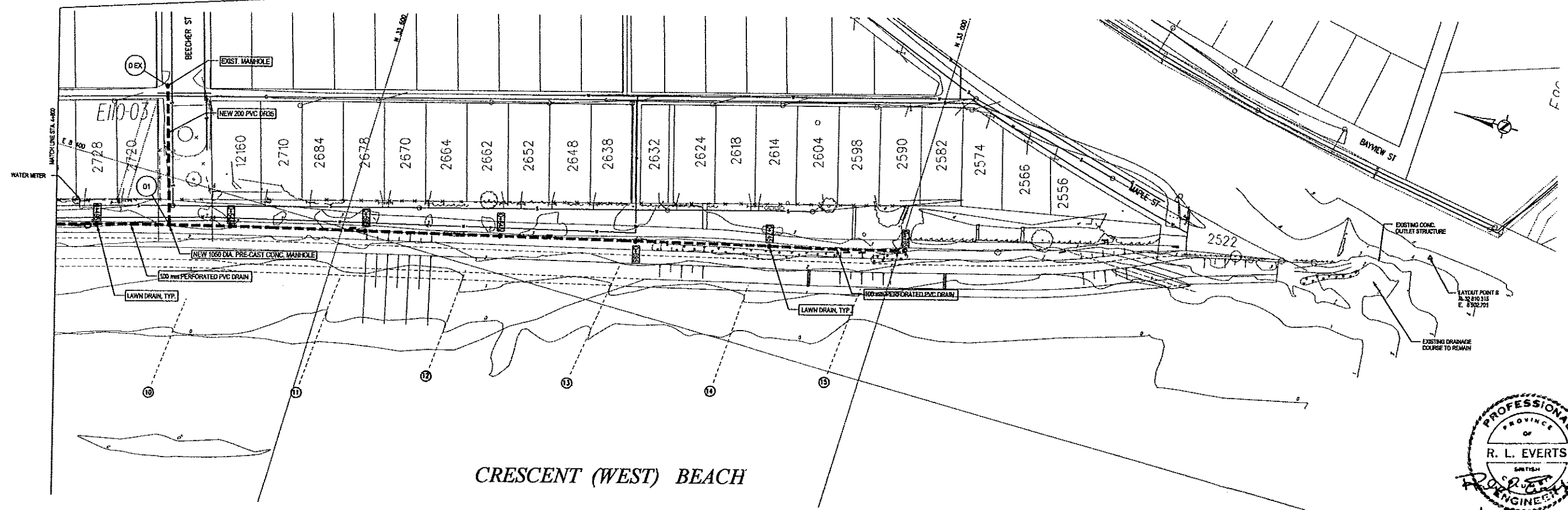
PROFESSIONAL ENGINEER
R. L. EVERTS
15 FEB 2001

BLACKIE SPIT
COMPENSATION MARSH

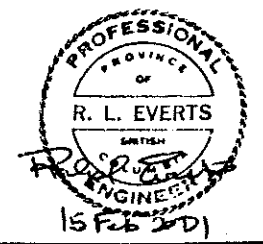
Drawing No. **SURR-03A-D113** 2



CRESCENT (WEST) BEACH



CRESCENT (WEST) BEACH



LEGEND

—	WATER
—	SANITARY
—	GAS
○	HYDRO POWER POLES
○	MANHOLES
○	HYDRO POTS
○	WASTE RECEPTACLE - REMOVAL AND REINSTALLATION BY OTHERS
○	HYDRANT
○	DECORATIVE PILE CLUSTER - REMOVAL AND REINSTALLATION BY OTHERS
○	VEGETATION
○	TREE
—	FENCE
—	EXISTING CLINE GRASS TO BE HARVESTED FOR DONOR STOCK PRIOR TO CONSTRUCTION - HARVESTING BY OTHERS
—	EXISTING BENCH
—	EXISTING BENCH - REMOVAL AND REINSTALLATION BY OTHERS
—	SERVICE VALVE

GENERAL NOTES:

- DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- ELEVATIONS ARE IN METERS RELATIVE TO GEODETIC DATUM.
- COORDINATES ARE IN METERS UTM.

No.	Date	By	App.	Description
1	2009 Nov 18	RE	RE	ISSUED FOR CONSTRUCTION
2	2009 Nov 23	RE	RE	ADDED CONNECTION TO STREET SEWER
3	2009 Oct 28	RE	RE	ISSUED TO CITY AND CONTRACTOR FOR REVIEW

Design RE 18 MAR 2010
 Checked RE 18 MAR 2010
 Approved RE 18 MAR 2010
 Drawn IMC 18 MAR 2010

Scales
 1:11750

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CITY OF SURREY
 Project: CRESCENT BEACH FORESHORE PROTECTION WORKS

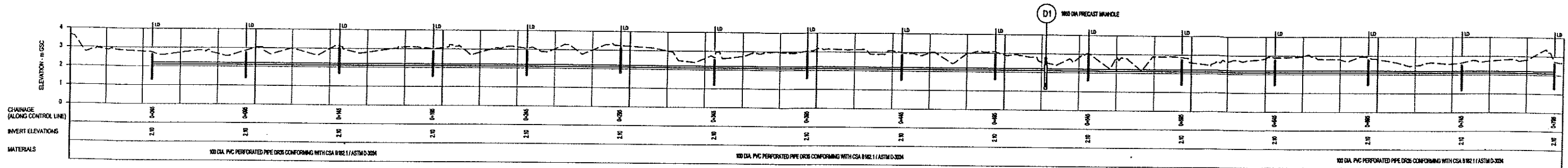
SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

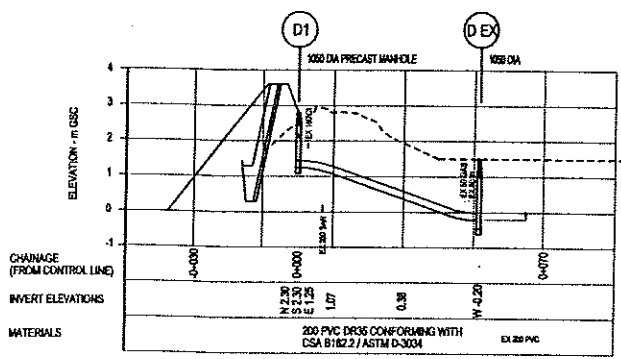
Drawing
WEST BEACH AREA DRAINAGE

Drawing No.
SURR-03A-D114

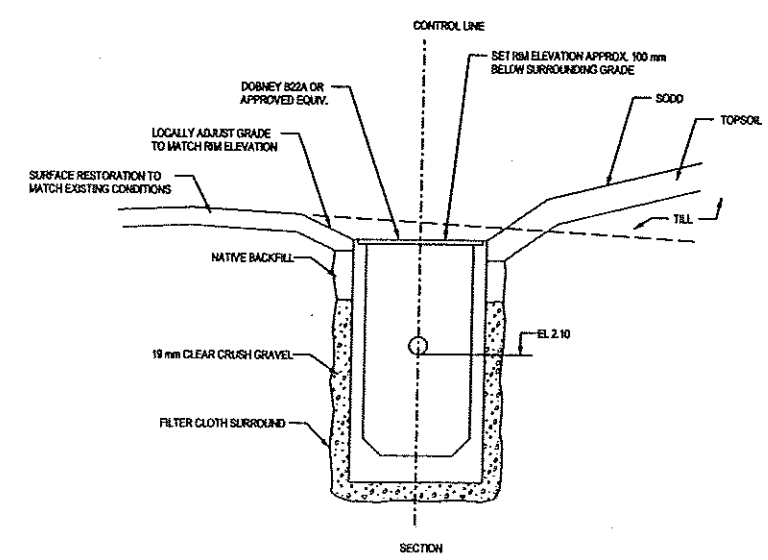
Revision
2



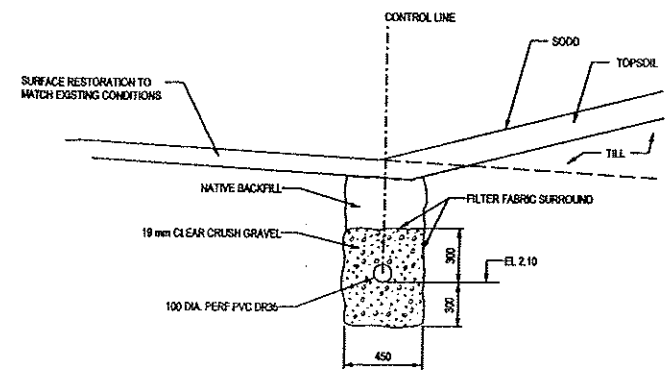
PROFILE ALONG CENTERLINE OF PERFORATED DRAIN (ALONG CONTROL LINE)
SCALE: 1:100 HORIZONTAL; 1:100 VERTICAL



PROFILE ALONG BEECHER ST. EXTENSION
SCALE: 1:100 HORIZONTAL; 1:100 VERTICAL

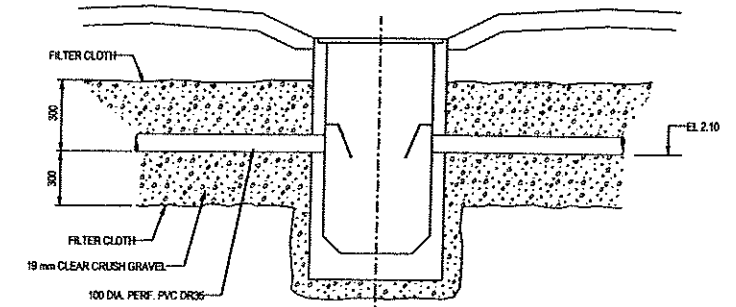


SECTION



TYPICAL SECTION THROUGH PERFORATED DRAIN

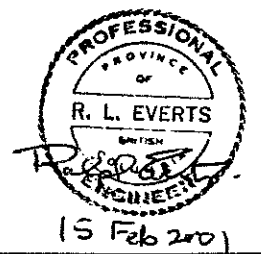
SCALE: 1:5



ELEVATION

TYPICAL LAWN DRAIN

SCALE: 1:5



- NOTES**
1. ALL WORK SHALL CONFORM WITH MASTER MUNICIPAL SPECIFICATION (MMS) - 1998
 2. EXISTING SERVICES AND UTILITIES HAVE BEEN IDENTIFIED FROM AVAILABLE RECORDS. LOCATIONS TO BE VERIFIED IN THE FIELD.
 3. LAWN DRAINS TO CONFORM WITH IMCO STANDARD DETAIL S12 FOR TYPE 2 DRAIN EXCEPT WHERE SPECIFIED OTHERWISE.
 4. ALIGNMENT OF PERFORATED DRAIN COINCIDENT WITH CONTROL LINE.

Rev.	Date	By	App.	Description
1	2000 JUN 9	ME	ME	ISSUED FOR CONSTRUCTION
2	2000 JUL 17	ME	ME	REVISED FOR SCOPES
3	2000 JUL 26	ME	ME	ISSUED TO CITY OF SURREY FOR REVIEW

Design	RE	10 MAR 2000
Checked	RE	10 MAR 2000
Approved		
Drawn	INC	15 MAR 2000

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CITY OF SURREY
Project: CRESCENT BEACH
FORESHORE PROTECTION WORKS

SURREY PROJECT NO.
4800-3110-00

SURREY DRAWING NO.

Client: WEST BEACH
AREA DRAINAGE
PROFILES & DETAILS

Drawing No: **SURR-03A-D115** | 2