

We hereby submit the landscape proposals as required under Clause 2.4 of the permit conditions cited within the Environmental Permit No. EP-103/2001.

### **Background**

An Environmental Permit (EP) for the works was issued on 17 September 2001 and placed in the EIA Ordinance Register, based on the following approved EIA documents:

- (1) *Route 16 Investigation Assignment*
  - *Environmental Impact Assessment Final Assessment Report (January 1998) (Register No. EIA-135/BC) [Hereinafter referred to as the "1998 EIA Report"]*
  - *Environmental Monitoring & Audit Manual (January 1998) [Hereinafter referred to as the "1998 EM&A Manual"]*
- (2) *Route 16 Investigation Assignment*
  - *Alternative Alignment Environmental Impact Assessment Final Assessment Report (August 1999)(Register No. AEIAR-022/1999)[Hereinafter referred to as the "1999 EIA Report"]*
  - *Environmental Monitoring & Audit Manual (August 1999)[Hereinafter referred to as the "1999 EM&A Manual"]*
- (3) *The Director's letter of approval of the 1999 EIA Report dated 5 November 1999 ref (25) in Ax(1) to EP2/N1/A/24 Pt.3*
- (4) *Application documents including all attachments submitted by the Permit Holder on 20 August 2001 [Hereinafter referred to as the "the Application"]*

The EIA documents refer to the whole of the Route 9 corridor from Cheung Sha Wan to Sha Tin, although the EP is for the construction and operation of the Main Portion only, from Cheung Sha Wan to the Toll Plaza Area, including specifically all civil works for the road section from the Lai Wan Interchange to Butterfly Valley, the Eagle's Nest Tunnel, its Portal Buildings and Ventilation Building (but excluding the site formation works at the Toll Plaza); the architectural works of the portal buildings of the Sha Tin Heights Tunnel and all E&M works for the whole Route 9 between Cheung Sha Wan and Sha Tin.

The formation of area of the proposed Toll Plaza and Pak Shek, and the compensation planting on the newly formed slopes is considered within the Entrusted Portion of the Works

### **Conditions of Environmental Permit**

Clause 1.7 of the Part C (Permit Conditions) of the Permit requires ....

*The Permit Holder shall ensure that the Project is designed, constructed and operated in accordance with the information and all recommendations described in the 1998 EIA Report (Register No. EIA-135/BC), the 1999 EIA Report (Register No. AEIAR-022/1999), the 1998 EM&A Manual, the 1999 EM&A Manual, and the Application (Application No. AEP-103/2001); or mitigation measures described in this Permit, or mitigation measures to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in this Permit, or mitigation measures to be recommended under on going surveillance and monitoring activities during all stages of the Project. Where recommendations referred to in the documents of the Register are not expressly referred to in this Permit, such recommendations are nevertheless to be implemented unless expressly excluded or impliedly amended in this Permit.*

Clause 2.4 of the Part C (Permit Conditions) of the Permit requires ....

*The Permit Holder, at least 8 weeks before commencement of any construction work causing any loss of woodland or natural stream, submit to the Director for approval 3 sets of landscape proposals, including plans of scale 1 to 1000 or other appropriate scale as agreed by the Director. With a view to further minimising ecological impacts, the proposals shall show the compensatory replanting areas for permanent woodland loss and reinstated areas for temporary woodland loss (with the size of compensation area clearly stated in hectares), as well as the recreated stream, and shall include an implementation programme for these work. The implementation programme shall clearly identify the responsibility for implementation, management and maintenance of landscape mitigation measures for these works. All measures recommended in the approved proposal(s) shall be fully implemented in accordance with the details and time schedule set out in the submission. No construction work causing any loss of woodland or natural stream shall commence without the approval of the proposals*

The measures recommended in the approved EIA documents with respect to compensation planting are as stated below.

### **Ecological Mitigation - Woodland Planting**

The recommendation for Woodland Compensation is stated under - Ecological Mitigation Table 7.1 of the 2000 EIA Review Report. A summary table, "Table A", showing the area of woodland loss, area of compensation and reinstated area for temporary woodland loss under the current scheme as compared to the previous EIA and EIA Review Reports for both portions of Route 9 is attached in Appendix 1. The figures presented in "Table A" including the compensatory replanting areas for permanent woodland loss and reinstated areas for temporary woodland loss area required under the Permit Conditions. Permanent woodland loss is the loss of woodland due to forming of the carriageway, rock slopes or other permanent structures. Temporary woodland loss is the temporary loss of woodland occurring during construction phase which will be reinstated upon the completion of works by replanting of woodland species on the affected areas.

It should be noted that the areas of woodland loss mentioned in the previous EIA reports and EIA Review Report include both permanent loss and temporary loss at Butterfly Valley. However, at Toll Plaza, temporary woodland loss is not included in the calculation of the area of woodland loss. Notes have been added in Table 'A' to highlight this difference. Drawing no. SK46 indicating the location of area of woodland loss, and drawing no. SK47 showing the location of compensation and reinstated areas are attached in Appendix 1.

The design approach has been to minimise the extent of disturbance of existing woodland areas as far as possible. To this end, the footprints of the works including the toll plaza and the slope works have been designed to minimise the overall landtake for the works. As shown in Table A, the woodland loss at Toll Plaza has been reduced from 5.6 ha to 5.32 ha by reduction of two toll lanes and rearranging the car park and ancillary facilities as recommended in the 1998 EIA Report. Although the EIA Report also recommended to integrate the portal building and administration so as to further reduce the landtake for Toll Plaza, it is considered cost ineffective and not efficient for such arrangement. It should be noted that the footprint of the administration building has been designed to be optimum for the operation of the tunnel including siting of the operating staff, control panel and toll collection system.

It should also be noted that the woodland loss at Butterfly Valley has been reduced to 1.97 ha in view that the woodland loss for slope works should be considered as temporary loss which will be reinstated when the proposed woodlands are established on the newly formed slopes.

Woodland compensatory plantings and reinstated plantings for temporary loss are proposed as shown in the **Landscape Softworks Plan** (drawings no. 94099/05101 to 05113). Woodland planting will be established on all newly formed soil cut and embankment slopes. In addition, there are:

- ◆ areas around the perimeter of newly formed slopes that are anticipated to be disturbed by the works within which infill planting of woodland trees would be possible.
- ◆ existing areas of shrub and open woodland vegetation on the slopes high above Ching Cheung Road, existing slopes near Wai Man Tsuen, natural hillslope near Ching Cheung Road and facing towards the Lai Chi Kok Electric Sub-Station, existing areas of groundcovers, trees and illegal structures near Ching Cheung Road and along Castle Peak Road, existing areas of grassland and shrub near the proposed Toll Plaza and along Tai Po Road, and the areas along the seasonal stream near the proposed Toll Plaza within which "infill planting" of woodland tree species would be possible, although the room for increasing density of woodland planting in these areas would be limited.

The detailed breakdown of the various forms of compensation planting for both portions of Route 9 that can be achieved is shown in Table B attached in Appendix 1.

### **Compensation Tree Planting**

The numbers of trees to be felled are based on the separate Tree Surveys prepared for the Main and Entrusted Portions, and are shown in Table C attached in the Appendix 1.

The recommendation for Compensation Tree Planting is described in para. 9.8.23 of the 1999 EIA report which states that subject to further studies during the detailed design stage (para. 9.8.15), “existing woodland cleared by construction activity will also be replaced at a ratio of at least twenty trees planted for every tree felled.”. According to the latest tree survey results, it was revealed that the existing tree density is very much higher than that expected when the EIA was done in 1999. Hence, the room of infill planting has been reduced.

Government Recommended planting density for woodland (Tree Planting and Maintenance in HK - SILTech 1991) is at a rate of between 2,500 and 4,445 no. of plants per hectare (2000 mm and 1500 mm spacing respectively). Current practice accepts up to 10,000 plants per hectare (1000 mm spacing).

Based on the available compensatory and reinstated areas of 14.16 ha, planted at 1000 mm spacing, 141,600 nos of woodland trees can be planted in the available areas.

Based on the total number of trees lost (ref. Columns (1) in Table C) of 33,718, the compensation planting represents a compensation ratio of 4.20 : 1.

Based on the estimated number of trees to be felled in the secondary woodland areas (ref. Column (2) in Table C) of 21,281, the compensation planting represents a compensation ratio of 6.65 : 1. It should be noted that this ratio represents the maximum practicable replanting ratio with considering the available replanting area and acceptable planting density.

It should be noted that about 92% of the proposed replanting areas are on engineering slopes and natural hillslopes on which planting of heavy standard trees is considered impracticable. Therefore, it is proposed to plant whips on these areas. The remaining 8% of the planting area is at a newly formed fill platform near the recreated stream in Butterfly Valley. Heavy standard trees are proposed to mix with whips to re-establish a new woodland and recreate the stream habitat.

### **Ecological Mitigation – Recreated Stream**

The requirement for the Recreated Stream is stated under Section 7.7.2 of the 2000 EIA Review Report. A new stream about 450 m long will be re-created to compensate for the loss of the permanent stream and constructed to mimic natural stream habitats. The details of the recreated stream are shown on the drawings nos. 94099/ENT/02241 to 2245.

**Implementation Programme**

The proposed ecological mitigation measures will be implemented by Highways Department under two construction contracts of Route 9 with contract period from September 2003 to April 2007. The woodland plantings will be planted as early as possible (with a condition of not affecting or being affected by the construction works) such that there will be a longer period for the establishment of the woodland within the construction period.

The management and maintenance authorities for the landscape works are shown on the **Maintenance Responsibilities for Landscape Works Plans** (drawings no. 94099/05401 to 05413). The management and maintenance for the recreated stream will be divided among government departments in accordance with WBTC No. 8/2000 with considering the recreated stream as natural stream course.

## **Appendix 1**

- |                      |   |   |
|----------------------|---|---|
| <b>Table A</b>       | - | <b>Summary of Areas of Woodland Loss, Area of Compensation, and Reinstated Area for Temporary Woodland Loss</b> |
| <b>Table B</b>       | - | <b>Breakdown of Area of Woodland Compensation</b>   |
| <b>Table C</b>       | - | <b>Numbers of Trees to be Felled</b>  |
| <b>Drg. No. SK46</b> | - | <b>Indicative Location of Woodland Loss Area</b>  |
| <b>Drg. No. SK47</b> | - | <b>Indicative Location of Woodland Compensation and Reinstatement</b>   |

Table A - Summary of areas of permanent woodland loss, compensation, and reinstated area for temporary woodland loss

Location of Woodland Loss	Area of Loss (ha)			Location of Compensatory Replanting	Area of Compensation (ha)			Reinstated Area for temporary woodland loss (ha)		
	EIA Reports (January 98 & August 99)	Environmental Review (dated November 00)	Current Scheme		EIA Reports (January 98 & August 99)	Environmental Review (dated November 00)	Current Scheme (breakdown of compensation area shown in Table B)		Main Portion	Entrusted Portion
							Main Portion	Entrusted Portion		
Butterfly Valley	3 <sup>(1)</sup>	3.6 <sup>(1)</sup>	1.97 <sup>(2)</sup>	Cut/fill Slopes at Butterfly Valley	3.00	4.00	2.40	-	1.49	-
Ventilation Building & Toll Plaza	5.6 <sup>(2)</sup>	5.6 <sup>(2)</sup>	5.32 <sup>(2)</sup>	Ching Cheung Road and Butterfly Interchange (including the cut slope along Ching Cheung Road)	2.50	2.50	4.07	-	-	-
<b>Total</b>	<b>8.60</b>	<b>9.20</b>	<b>7.29</b>	Wai Man Tsuen	1.00	1.00	0.98	-	-	-
				Pak Shek Area	5.00	5.00	-	1.87	-	-
		<b>*Others Compensation Area</b>		Site of Ventilation Building			0.13	-	0.52	-
				Toll Plaza (within Main Portion)			0.14	-	0.29	-
				Toll Plaza (within Entrusted Portion)*			-	0.20	-	2.07
				<b>subtotal</b>	<b>11.50</b>	<b>12.50</b>	<b>7.72</b>	<b>2.07</b>	<b>2.30</b>	<b>2.07</b>

\* Includes all the replanting area on the slopes in the non-woodland area

Note: (1) Area includes permanent and temporary woodland loss.

(2) Area includes permanent woodland loss only

**Total Reinstated area = 4.37 ha**

**Total Compensatory area = 9.79 ha**

**Total area for planting = 14.16 ha**

**Table B - Breakdown of Woodland Compensation Area**

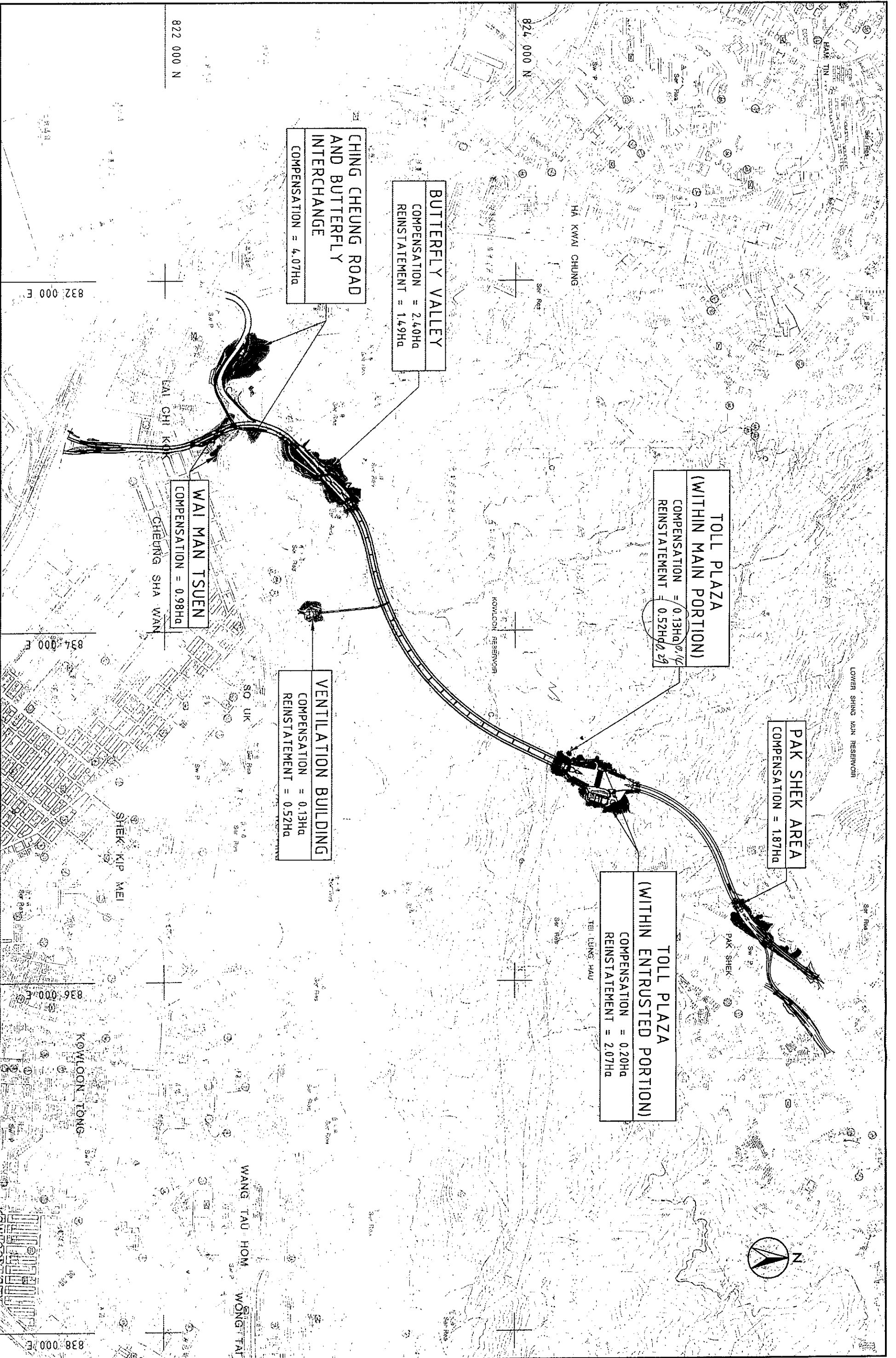
Location	Woodland Compensation Area							
	Main Portion				Entrusted Portion			
	Total Area	Woodland on Newly Formed Slope (ha)	Infill Planting at Perimeter of Slope (ha)	Infill Planting on Undisturbed ground (ha)	Total Area	Woodland on Newly Formed Slope (ha)	Infill Planting at Perimeter of Slope (ha)	Infill Planting on Undisturbed ground (ha)
Cut/fill Slopes at Butterfly Valley	2.40	2.10	0.30	-	-	-	-	-
Ching Cheung Road and Butterfly Interchange (including the cut slope along Ching Cheung Road)	4.07	1.55	0.07	2.45	-	-	-	-
Wai Man Tsuen	0.98	-	-	0.98	-	-	-	-
Pak Shek Area	-	-	-	-	1.87	1.14	-	0.73
Site of Ventilation Building *	0.13	-	0.13	-	-	-	-	-
Toll Plaza (within Main Portion) *	0.14	-	-	0.14	-	-	-	-
Toll Plaza (within Entrusted Portion) *	-	-	-	-	0.2	0.2	-	-
<b>Total</b>	<b>7.72</b>	<b>3.65</b>	<b>0.50</b>	<b>3.57</b>	<b>2.07</b>	<b>1.34</b>	<b>0.00</b>	<b>0.73</b>

\* New compensation areas identified as compared to previous EIA Report

**Table C - Numbers of Trees to be Felled**

<b>Location</b>	<b>column (1) Total Number of Trees to be Felled</b>	<b>column (2) Estimated Number of Trees to be Felled in Secondary Woodland Areas</b>
Main Portion	14,539 no.	7,941 no. (including 5,641 no. in Butterfly Valley and 2,300 no. in Ventilation Building Area)
Entrusted Portion	19,179 no.	13,340 no.
<b>Total</b>	<b>33,718 no.</b>	<b>21,281 no.</b>





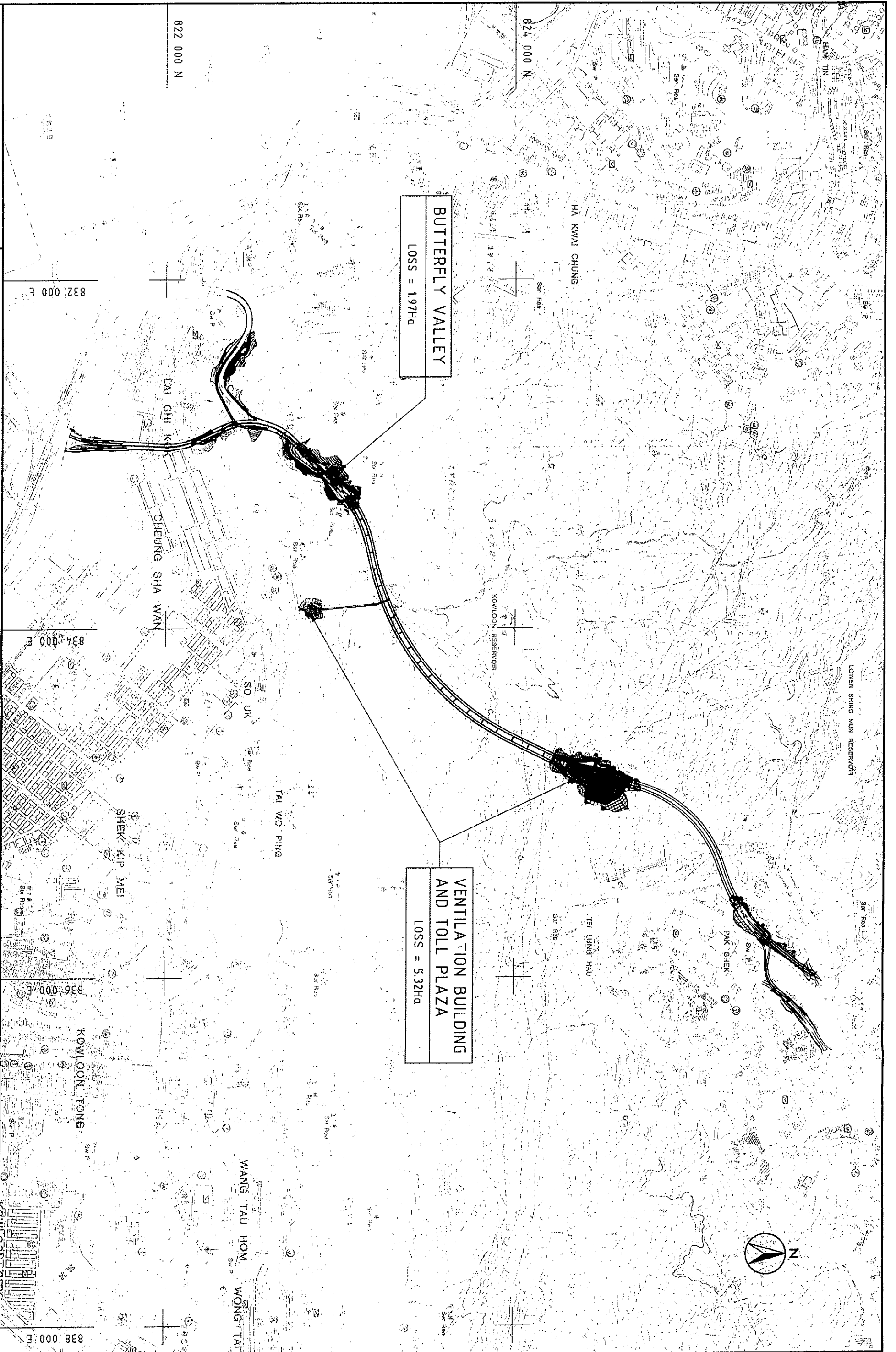
MAUNSELL HYDER JOINT VENTURE

**Maunsell**  
Hyder

AGREEMENT No. CE 50/98  
ROUTE 9 BETWEEN CHEUNG SHA WAN AND SHA TIN

INDICATIVE LOCATION OF WOODLAND COMPENSATION AND REINSTATEMENT

SCALE	A3 1:20000	DATE	OCT 2002
CHECK	KYF	DRAWN	TWY
JOB NO.	94099	FIGURE NO.	SK47
		REV	A



**BUTTERFLY VALLEY**  
LOSS = 1.97Hd

**VENTILATION BUILDING AND TOLL PLAZA**  
LOSS = 5.32Hd

MAUNSELL HYDER JOINT VENTURE

**Maunsell**  
茂盛(亞洲)工程有限公司

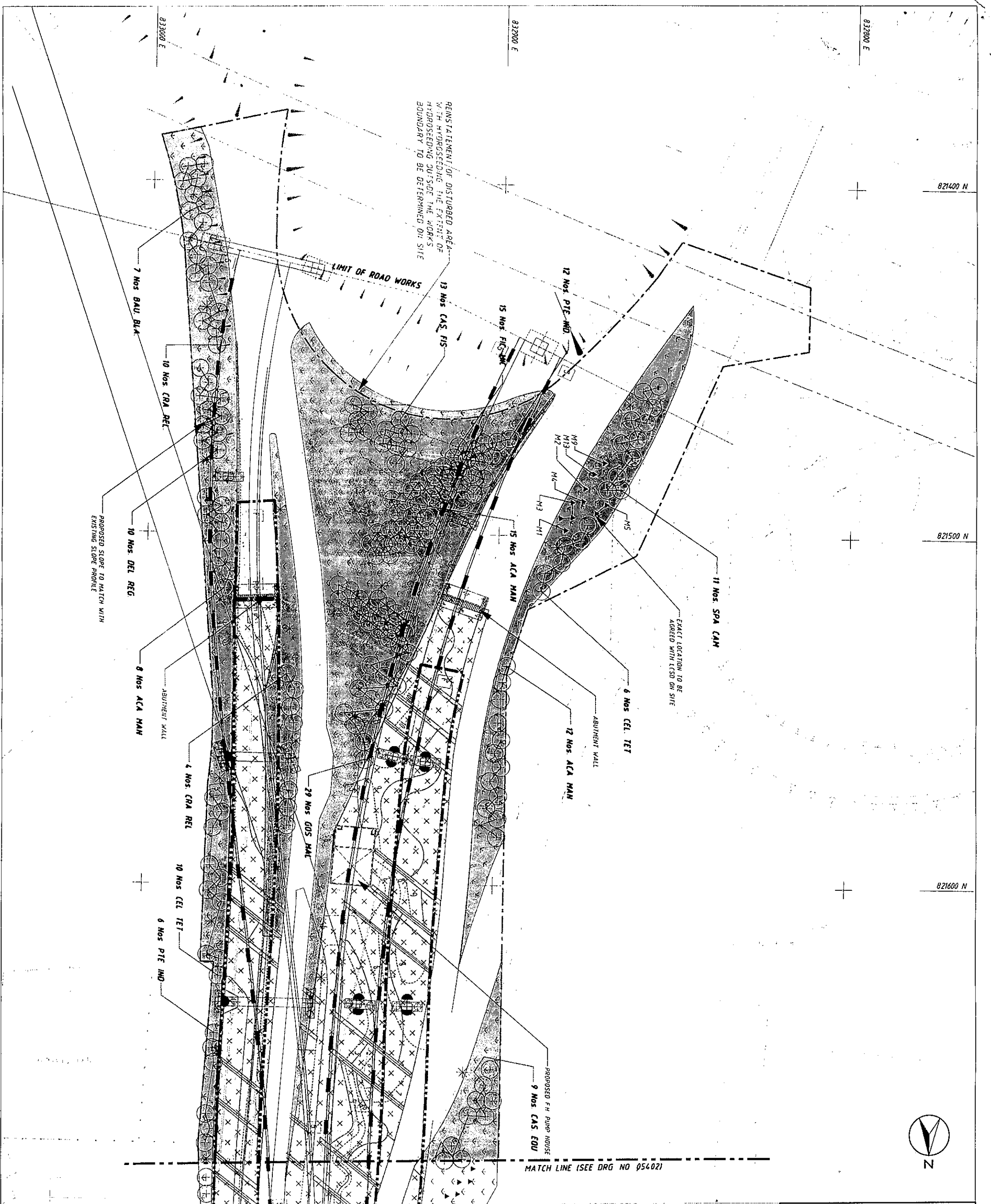
**Hyder**  
Hyder Consulting

AGREEMENT No. CE 50/98

ROUTE 9 BETWEEN CHEUNG SHA WAN AND SHA TIN.

INDICATIVE LOCATION OF WOODLAND LOSS AREA

SCALE	A3 1:20000	DATE	OCT 2002
CHECK	KYF	DRAWN	TWY
JOB No.	94099	FIGURE No.	SK46
		REV	A

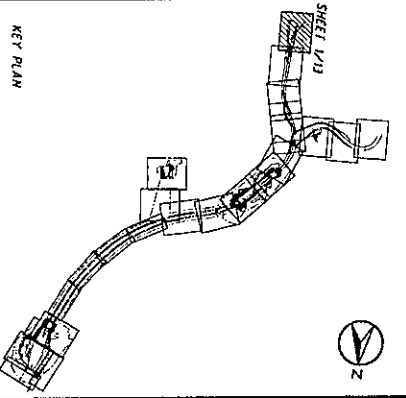


REINSTATEMENT OF DISTURBED AREA WITH HYDROSEEDING. THE EXTENT OF HYDROSEEDING OUTSIDE THE WORKS BOUNDARY TO BE DETERMINED ON SITE

LIMIT OF ROAD WORKS

EXACT LOCATION TO BE AGREED WITH LEISD ON SITE

MATCH LINE (SEE DRG NO 05402)



LEGEND

- ⊕ TREE (HEAVY STANDARD SIZE)
- ⊙ TREE (LIGHT STANDARD SIZE)
- ⊖ RETAINED TREE
- ▲ WOODLAND PLANTING
- ▴ PERMANENT LOCATION OF TRANSPLANTED TREE
- ▭ SHRUBS / GROUNDCOVERS
- ▭ HARD LANDSCAPE AREA
- ▭ HYDROSEEDING & WEED AND PLANTING
- ▭ HYDROSEEDING
- ▭ HYD SEED PLANTING BLOCKS
- ▭ AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR STRENGTH
- ⊙ WATER POINT
- ⊙ DRAIN FEED IRRIGATION SYSTEM
- ⊙ GRANITE STONE

NOTE: TREES SHALL BE PLANTED WITHIN 15% OF HANDLE COVERS. WOODLAND AND PLANTING WILL BE KEPT IN PLACE FROM THE ROAD FOR HARD LANDSCAPE TREATMENT REFER TO DRG NO 05399 / 05302

- ▭ MAINTENANCE BY HYD
- ▭ MAINTENANCE BY LEISD
- ▭ MAINTENANCE BY AFD
- ▭ MAINTENANCE BY ARNSO

Highways Department 路政署  
Major Works Project Management Office

ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN

**MAINTENANCE RESPONSIBILITIES FOR LANDSCAPE WORKS PLAN**

SHEET 1 OF 13

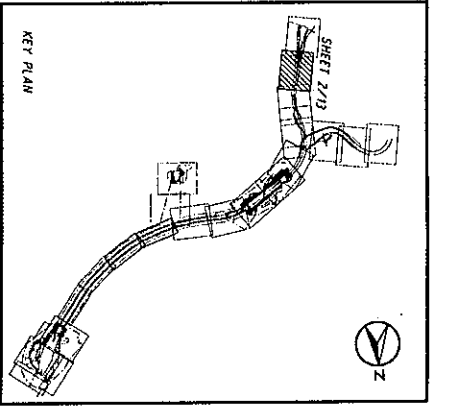
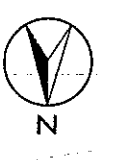
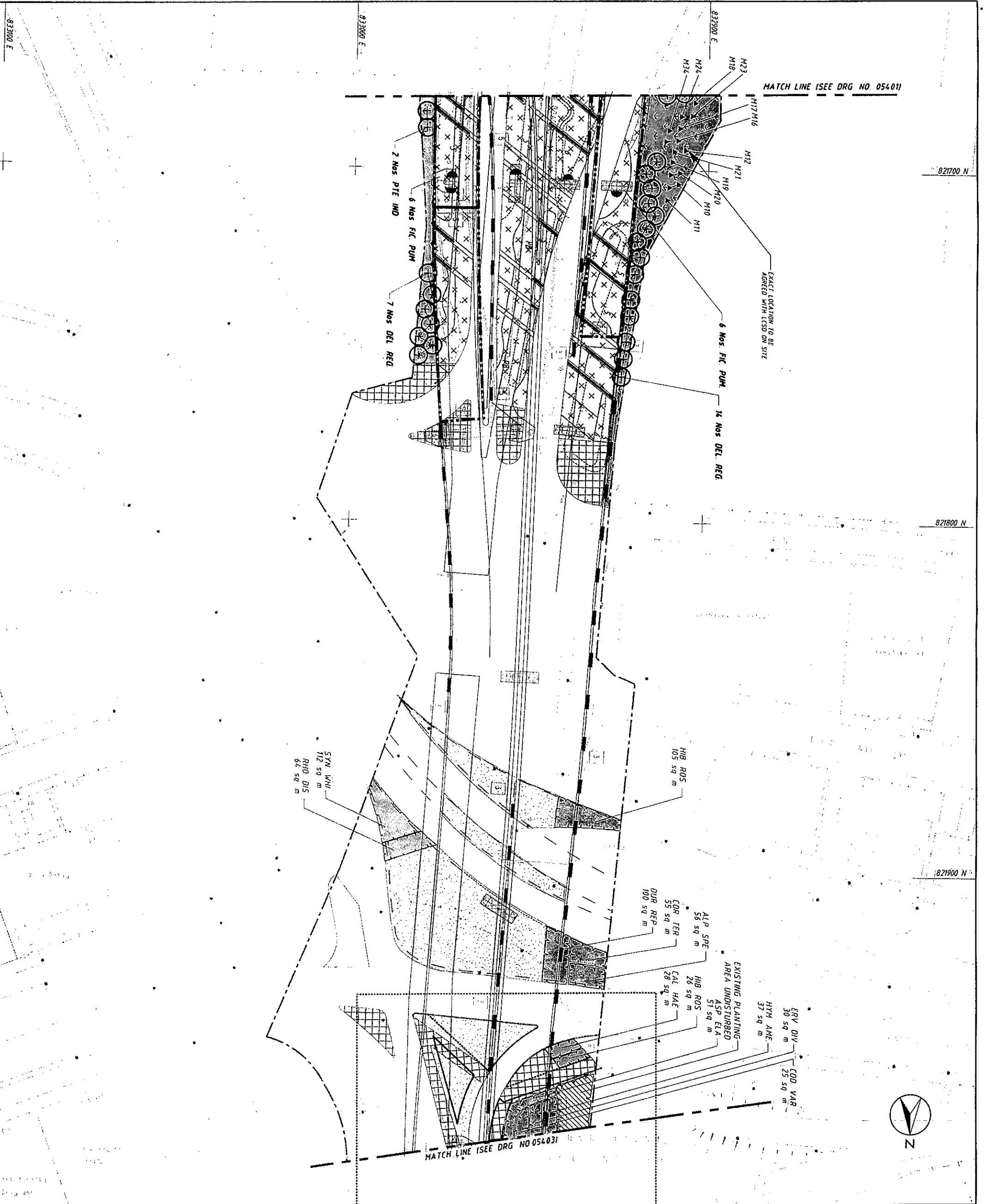
MAUNSELL HYDER JOINT VENTURE

**Maunsell**  
CONSULTANTS

DRGNO. 94099/05401 A

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LEGEND:

- TREE (HEAVY STANDARD SIZE)
- TREE (RIGHT STANDARD SIZE)
- RETAINED TREE
- WOODLAND PLANTING
- PERMANENT LOCATION OF TRANSPLANTATION TREE
- SHRUBS / GROUNDCOVERS
- HARD LANDSCAPE AREA
- HYDROSEEDING & WOODLAND PLANTING
- HYDROSEEDING
- H<sub>2</sub>O STD PARKING BLOCKS
- AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING
- WATER POINT
- IRRIGATION SYSTEM
- UNASSIGNED PLANTING AREA

NOTE: TREES SHALL BE PLANTED WITHIN 15m OF MARKING COVERS WOODLAND HQ PLANTING MUST BE KEPT 2m BACK FROM THE KERB LINE

- MAINTENANCE BY HYD
- MAINTENANCE BY LCSD
- MAINTENANCE BY JCDO
- MAINTENANCE BY A+C+S

Highways Department 路政署  
Major Works Project Management Office



ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN

MAUNSELL HYDER JOINT VENTURE

Maunsell

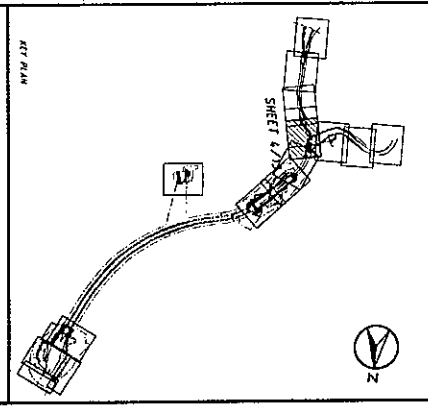
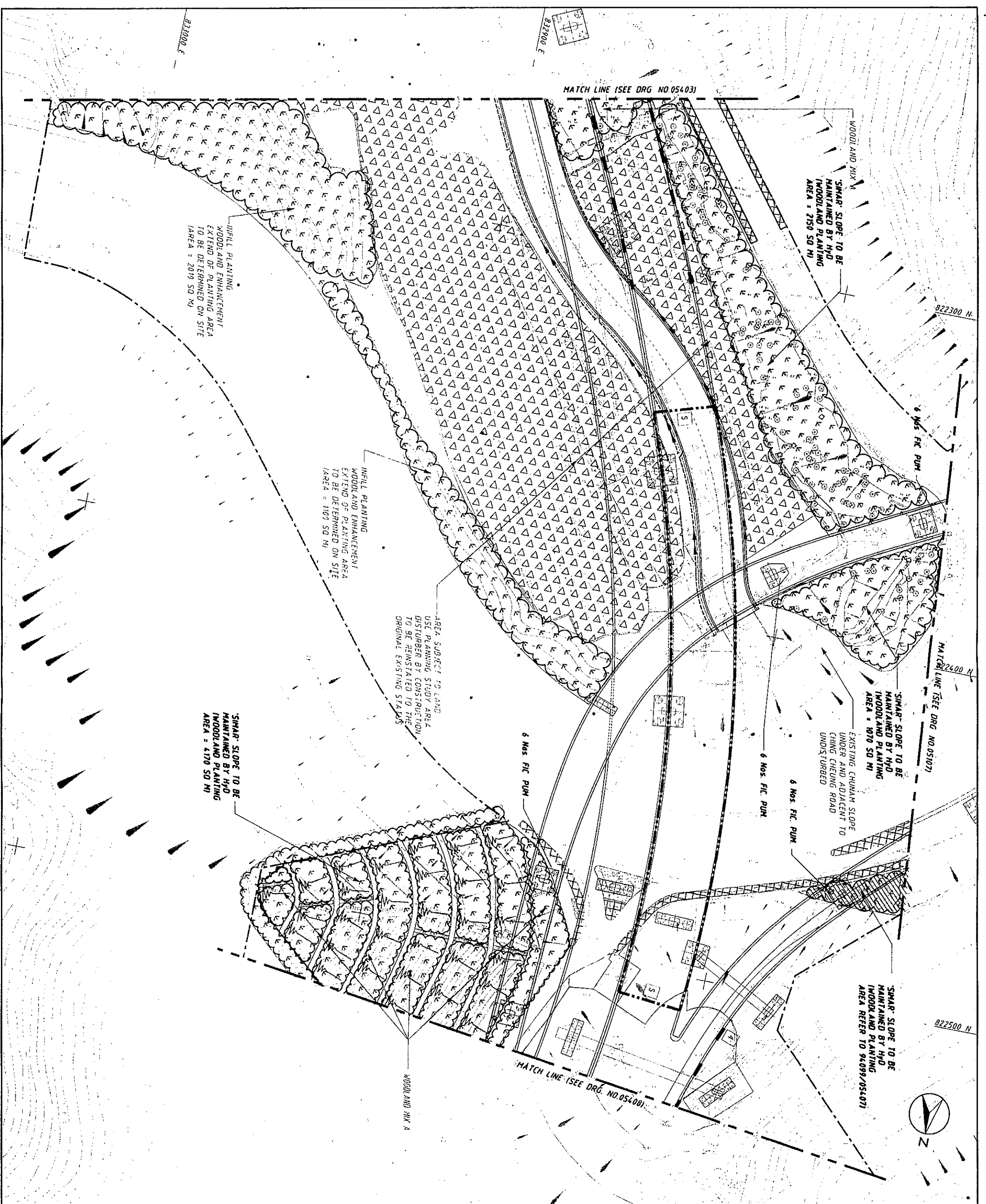
DRGNO. 94099/05402 A

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**LEGEND:**

- (+) TREE (HEAVY STANDARD SIZE)
- (o) TREE (LIGHT STANDARD SIZE)
- (o) RETAINED TREE
- (o) WOODLAND PLANTING
- (o) PERMANENT LOCATION OF TRANSPLANTED TREE
- (o) SHRUBS / GROUNDCOVERS
- (o) HARD LANDSCAPE AREA
- (o) HYDROSEEDING & WOODLAND PLANTING
- (o) HYDROSEEDING
- (o) HYD STD PLANTING OBJECTS
- (o) AREA SUBJECT TO LAND USE CHANGE - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR STRENGTH
- (o) WATER POINT
- (o) DRAINAGE INFRASTRUCTURE SYSTEM

NOTE: TREES SHALL BE PLANTED WITHIN 15% OF MARKED COVERS WOODLAND MIX PLANTING WILL BE KEPT IN PLACE FROM THE KERN LINE

- (o) MAINTENANCE BY HYD
- (o) MAINTENANCE BY LCSD
- (o) MAINTENANCE BY A/C/D
- (o) MAINTENANCE BY A/R/O/S/D

NO.	DESCRIPTION	DATE	BY	CHECKED	DATE
1	INTELL PLANTING LAYOUT	06/22			
2	GENERAL REVISION	06/22			
3	PROVISION FOR SLOPE LAYOUT	06/22			
4	INTELL PLANTING ON SLOPE AND/OR HWY	06/22			

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ROUTE 9 BETWEEN  
 CHEUNG SHA WAN AND SHA TIN

**MAINTENANCE RESPONSIBILITIES FOR LANDSCAPE WORKS PLAN**

MAUNSELL HYDER JOINT VENTURE  
**Maunsell**

DRGNO. 94099/05404 E  
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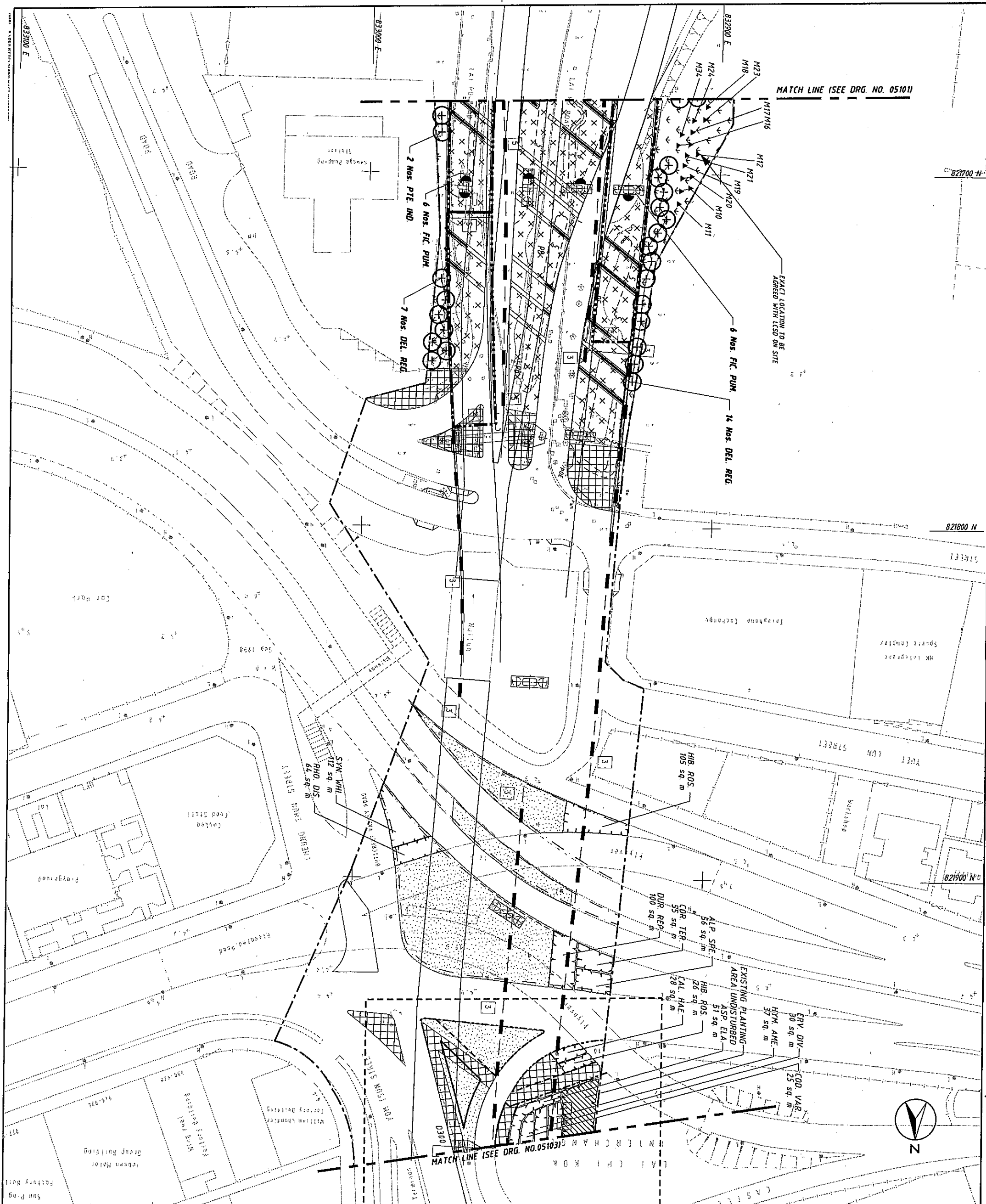








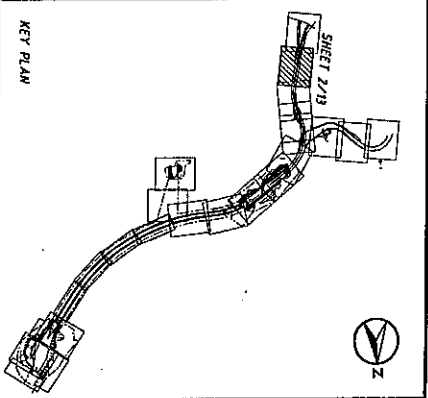




MATCH LINE (SEE DRG. NO. 05101)

EXACT LOCATION TO BE AGREED WITH LCSD ON SITE

MATCH LINE (SEE DRG. NO. 05102)



KEY PLAN

LEGEND:

- TREE (HEAVY STANDARD SIZE)
- TREE (LIGHT STANDARD SIZE)
- RETAINED TREE
- WOODLAND PLANTING
- PERMANENT LOCATION OF TRANSPLANTED TREE
- SHRUBS / GROUNDCOVERS
- HARD LANDSCAPE AREA
- HYDROSEEDING & WOODLAND PLANTING
- HYDROSEEDING
- HYD STD PAVING BLOCKS
- ASP. ELA. SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE ADJUSTED TO NATIVE WOODLAND FOR SCREENING
- WATER POINT
- DRIP FEED IRRIGATION SYSTEM
- UNDISTURBED PLANTING AREA

NOTE:  
NO TREES SHALL BE PLANTED WITHIN 15m OF MANHOLE COVERS.  
WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

NO.	DESCRIPTION	DATE	BY	CHECKED BY
1	WOODLAND PLANTING DELETED			
2	HYDROSEEDING			
3	HYDROSEEDING			
4	HYDROSEEDING			
5	HYDROSEEDING			
6	HYDROSEEDING			
7	HYDROSEEDING			
8	HYDROSEEDING			
9	HYDROSEEDING			
10	HYDROSEEDING			
11	HYDROSEEDING			
12	HYDROSEEDING			
13	HYDROSEEDING			
14	HYDROSEEDING			
15	HYDROSEEDING			
16	HYDROSEEDING			
17	HYDROSEEDING			
18	HYDROSEEDING			
19	HYDROSEEDING			
20	HYDROSEEDING			

Highways Department 路政署  
Major Works Project Management Office



ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN

LANDSCAPE  
SOFTWARES PLAN

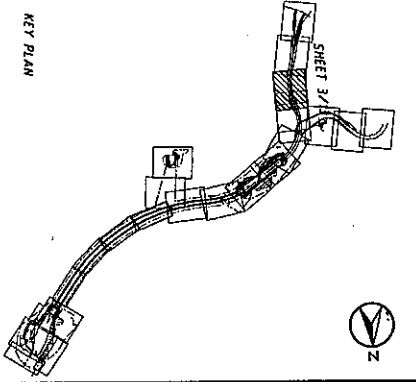
MAUNSELL HYDER JOINT VENTURE

Maunsell  
Hyder

DRGNO. 94,099/05102 B

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KEY PLAN

- LEGEND:**
- (+) TREE (HEAVY STANDARD SIZE)
  - (o) TREE (LIGHT STANDARD SIZE)
  - (o) RETAINED TREE
  - (o) WOODLAND PLANTING
  - (o) PERMANENT LOCATION OF TRANSPLANTED TREE
  - (o) SHRUBS / GROUNDCOVERS
  - (o) HARD LANDSCAPE AREA
  - (o) HYDROSEEDING & WOODLAND PLANTING
  - (o) HYDROSEEDING
  - (o) HYD STD PAVING BLOCKS
  - (o) AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING
  - (o) WATER POINT
  - (o) DRIP FEED IRRIGATION SYSTEM
  - (o) TREE (HEAVY STANDARD SIZE) WITH PROPOSED TREE PIT
  - (o) UNDISTURBED PLANTING AREA
  - (o) NOTE: NO TREES SHALL BE PLANTED WITHIN 1.5m OF MAJOR/OLE COVERS. WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

**MAJOR ADJUSTMENT:**

NO.	DESCRIPTION	DATE	BY	CHECKED
1	REVISED THE LOCATION OF F.H. PUMP HOUSE			

**Highways Department 路政署**  
Major Works Project Management Office

**ROUTE 9 BETWEEN CHEUNG SHA WAN AND SHA TIN**

**LANDSCAPE SOFTWARES PLAN**

**MAUNSELL HYDER JOINT VENTURE**

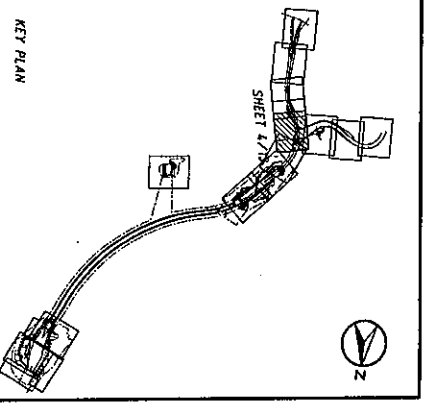
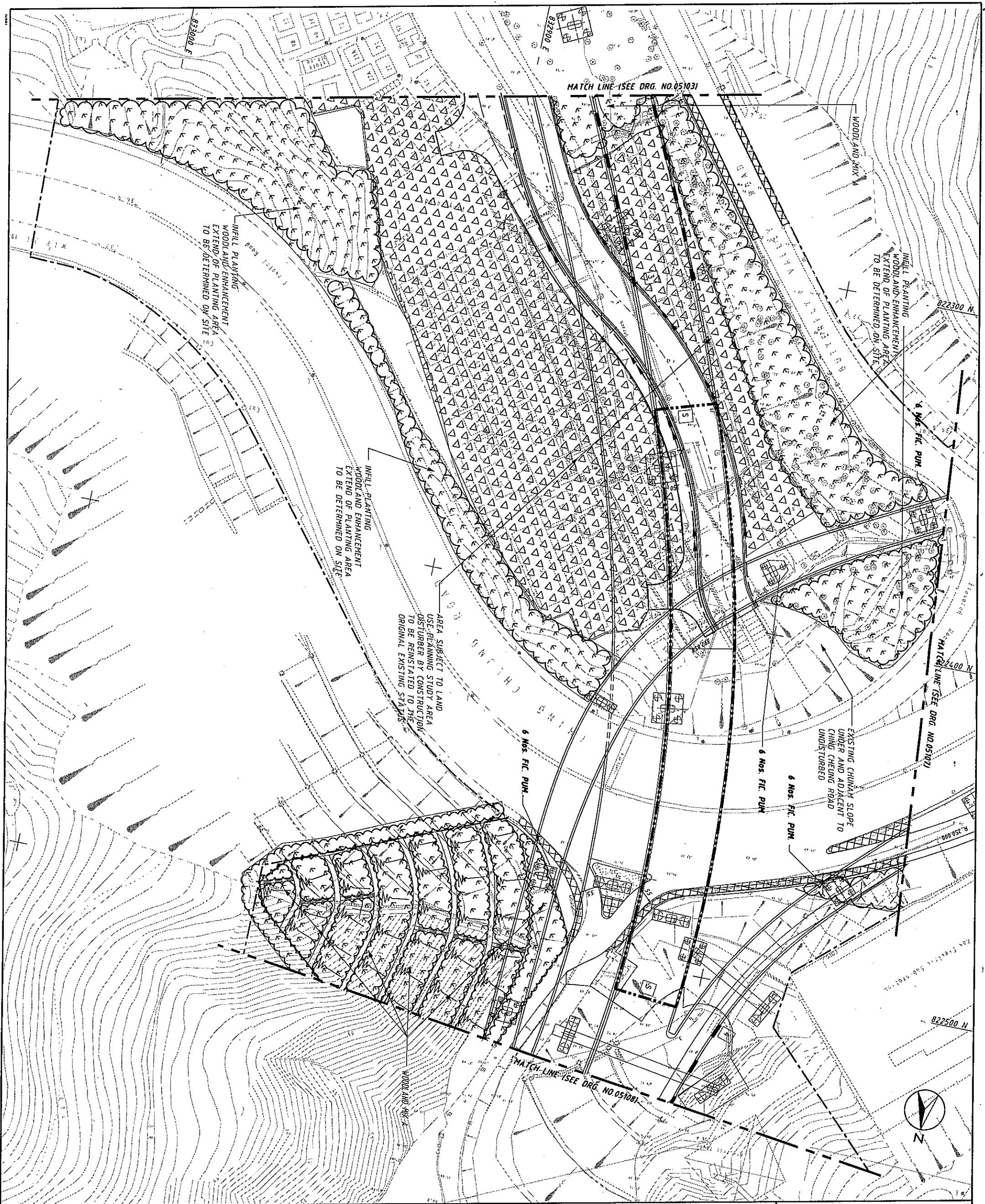
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**DRGNO. 94099/05103 B**

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NO.	REVISION	DATE	BY	CHECKED
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2	ISSUED FOR PERMIT			
3	ISSUED FOR PERMIT			
4	ISSUED FOR PERMIT			
5	ISSUED FOR PERMIT			
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LEGEND:

- ⊕ TREE (HEAVY STANDARD SIZE)
- TREE (LIGHT STANDARD SIZE)
- ◐ RETAINED TREE
- ◑ WOODLAND PLANTING
- ▲ PERMANENT LOCATION OF TRANSPLANTED TREE
- ▴ SHRUBS / GROUNDCOVERS
- ▭ HARD LANDSCAPE AREA
- ▨ HYDROSEEDING & WOODLAND PLANTING
- ▧ HYDROSEEDING
- ▩ HYD SID PAVING BLOCKS
- AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING
- ⊛ WATER POINT
- ⊙ DRIP FEED IRRIGATION SYSTEM

NOTE:  
TREES SHALL BE PLANTED WITHIN 1.5m OF MANHOLE COVERS. WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

NO.	REVISION	DATE	BY	CHECKED	SCALE
1	REVISION FOR SITE'S LAYOUT				
2	REVISION FOR THE LOCATION OF P.M. PUMP				
3	REVISION FOR THE LAYOUT OF SLOPE				
4	FINAL REVISION				

Highways Department 路政署  
Major Works Project Management Office

ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN

LANDSCAPE  
SOFTWARES PLAN

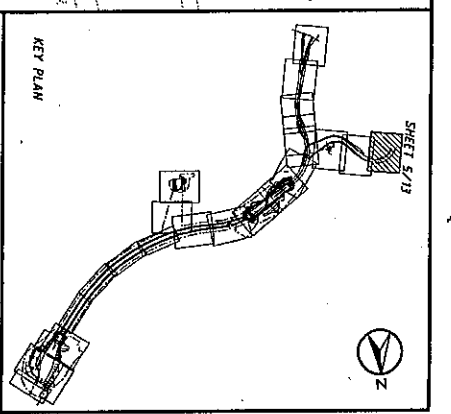
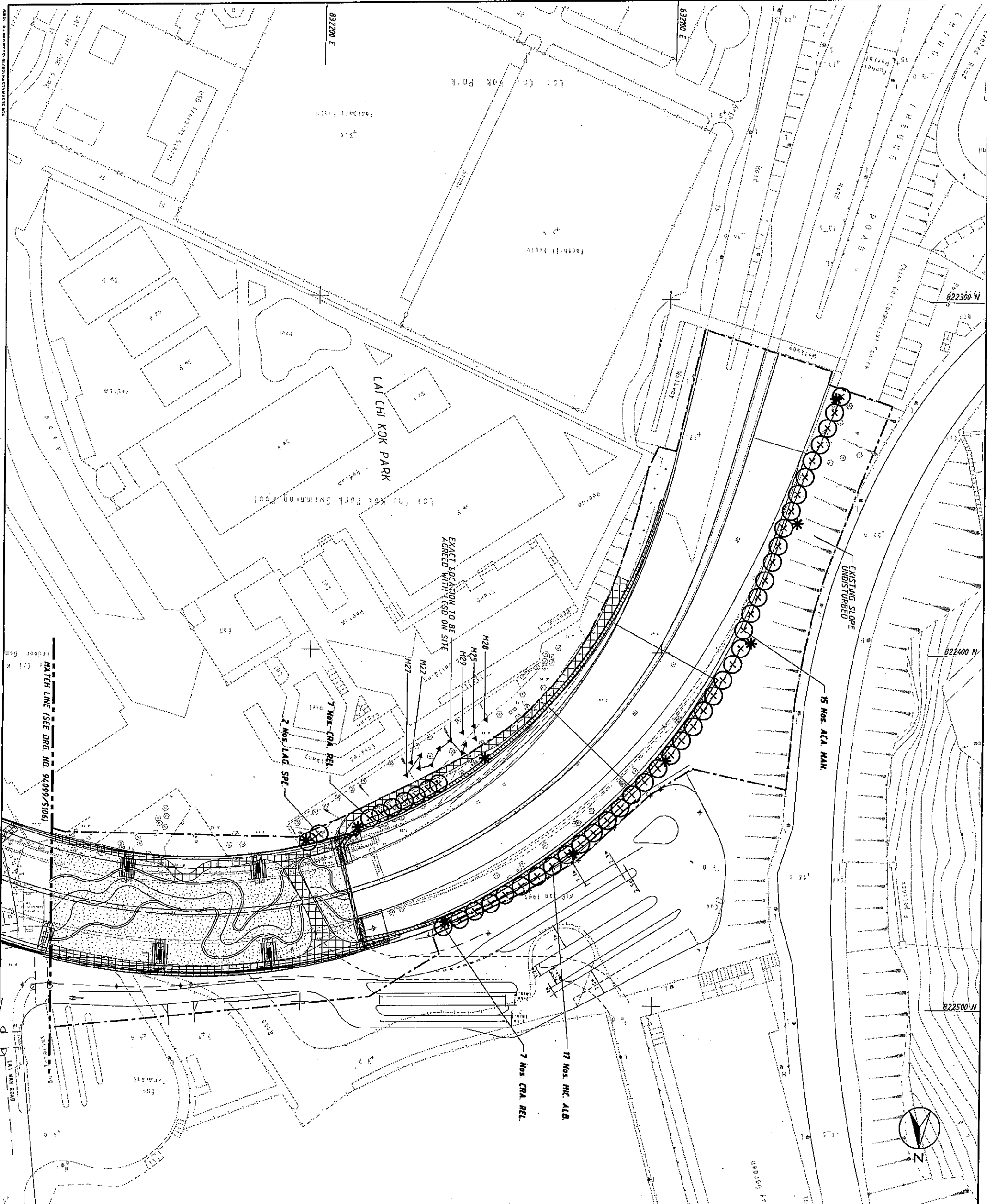
MAUNSELL HYDER JOINT VENTURE

DRGNO. 94099/05104\_B

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**LEGEND:**

- ⊕ TREE (HEAVY STANDARD SIZE)
- TREE (LIGHT STANDARD SIZE)
- ◊ RETAINED TREE
- ◌ WOODLAND PLANTING
- ▲ PERMANENT LOCATION OF TRANSPLANTED TREE
- ▨ SHRUBS / GROUNDCOVERS
- ▩ HARD LANDSCAPE AREA
- ▧ HYDROSEEDING & WOODLAND PLANTING
- ▦ HYDROSEEDING
- ▥ HYD STD PAVING BLOCKS
- ▤ AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH WHITE WOODLAND FOR SCREENING
- ⋆ WATER POINT
- D DRIP FEED IRRIGATION SYSTEM

**NOTE:**  
TREES SHALL BE PLANTED WITHIN 15m OF HANNOLE COVERS. WOODLAND HIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

NO.	REVISION	DATE	BY	CHECKED	SCALE
1	GENERAL REVISION FOR ROAD LAYOUT				
2	FINAL REVISION FOR TREE PLANTING				

Highways Department 路政署  
Major Works Project Management Office

ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN  
**LANDSCAPE  
SOFTWARES PLAN**

MAUNSELL HYDER JOINT VENTURE  
**Maunsell**  
HYDER

DRGNO. **94099/05105 B**  
PRELIMINARY

DATE: 11/11/09  
SCALE: AS SHOWN  
SHEET 5 OF 13  
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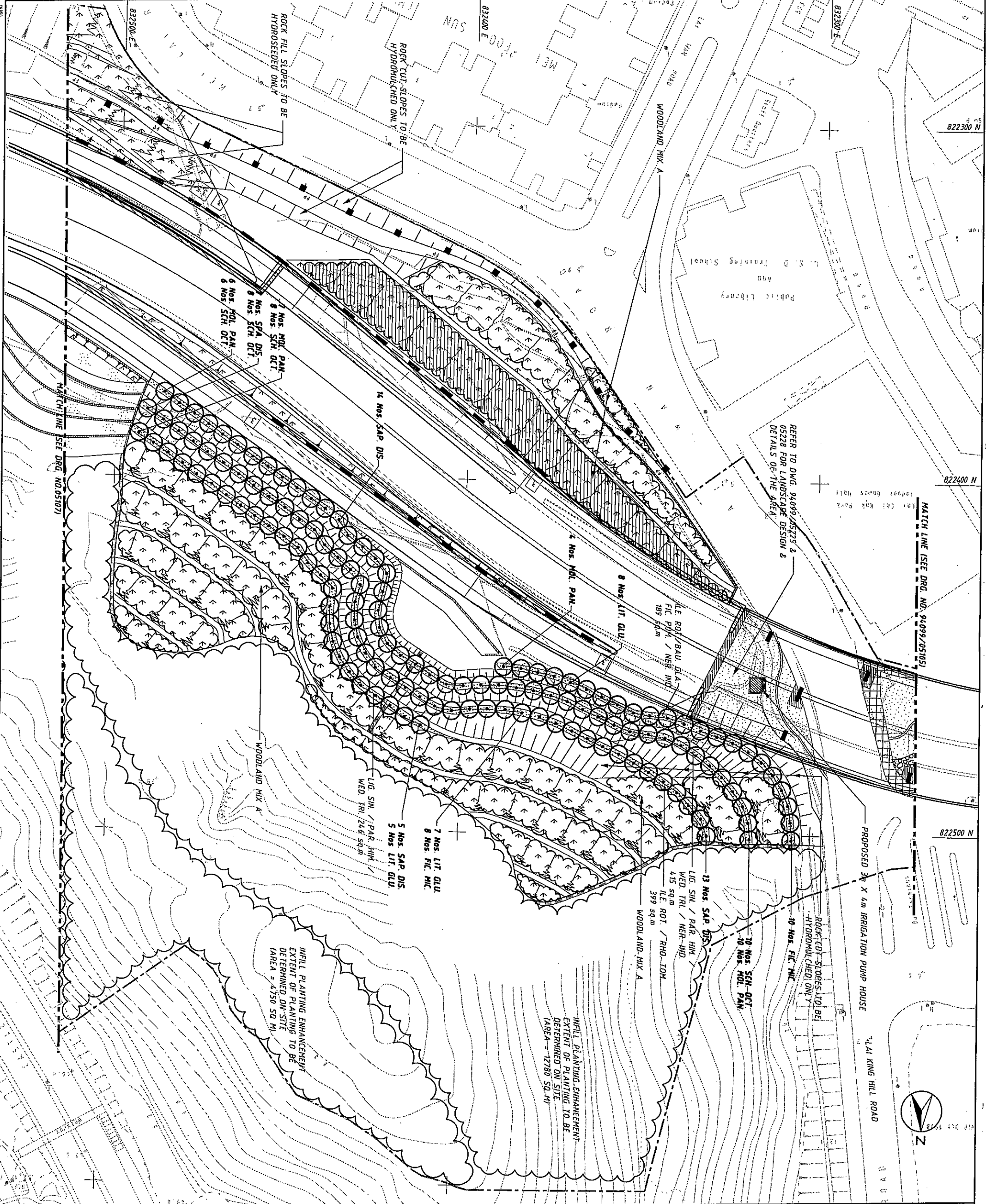
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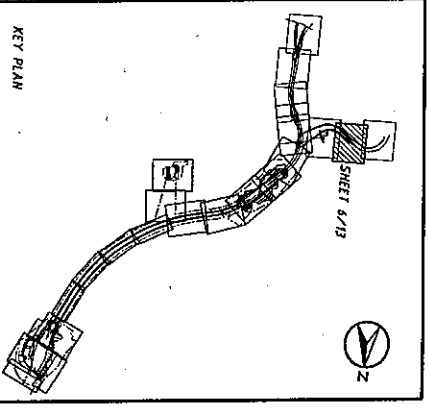
MATCH LINE (SEE DRG. NO. 94099/051051)  
 REFER TO DWG. 94099/051225 & 05228 FOR LANDSCAPE DESIGN & DETAILS OF THE AREA

MATCH LINE (SEE DRG. NO. 051071)

PROPOSED 30 x 4m IRRIGATION PUMP HOUSE  
 LAI KING HILL ROAD

INFILL PLANTING ENHANCEMENT  
 EXTENT OF PLANTING TO BE DETERMINED ON-SITE  
 (AREA = 4750 SQ.M)

INFILL PLANTING ENHANCEMENT  
 EXTENT OF PLANTING TO BE DETERMINED ON-SITE  
 (AREA = 12780 SQ.M)



LEGEND:

- ⊕ TREE (HEAVY STANDARD SIZE)
- ⊙ TREE (LIGHT STANDARD SIZE)
- RETAINED TREE
- ◐ WOODLAND PLANTING
- ◑ PERMANENT LOCATION OF TRANSPLANTED TREE
- ▭ SHRUBS / GROUNDCOVERS
- ▨ HARD LANDSCAPE AREA
- ▩ WOODLAND PLANTING & SHRUB MIX PLANTING
- ▧ HYDROSEEDING & WOODLAND PLANTING
- ▦ HYDROSEEDING
- ▥ HYD STD PAVING BLOCKS
- ▤ AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING
- ▣ WATER POINT
- ⋆ Drip Feed Irrigation System
- ⊞ BERM PLANTER - BERM PLANTING (WITH DRIP FEED IRRIGATION SYSTEM)
- ⊟ ROCK CUT SLOPES (HYDRO-MULCHING)

NOTE:  
 NO TREES SHALL BE PLANTED WITHIN 1.5m OF MAINHOLE COVERS.  
 WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

NO.	REVISION	DATE	BY	CHECKED	APP. BY
1	PLANTING REVISION	01.02.02			
2	AS PER DWT, COMMENTS	01.02.02			
3	GENERAL REVISION	01.02.02			
4	ROCK CUT SLOPES PROPOSED	01.02.02			
5	GENERAL REVISION	01.02.02			
6	RECALCULATED THE PROPOSED DRAINAGE	01.02.02			
7	REVISED THE PROPOSED IRRIGATION	01.02.02			
8	REVISED THE PROPOSED LANDSCAPE PLANTING	01.02.02			

Highways Department 路政署  
 Major Works Project Management Office

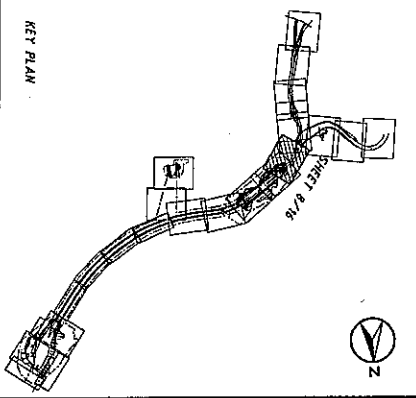
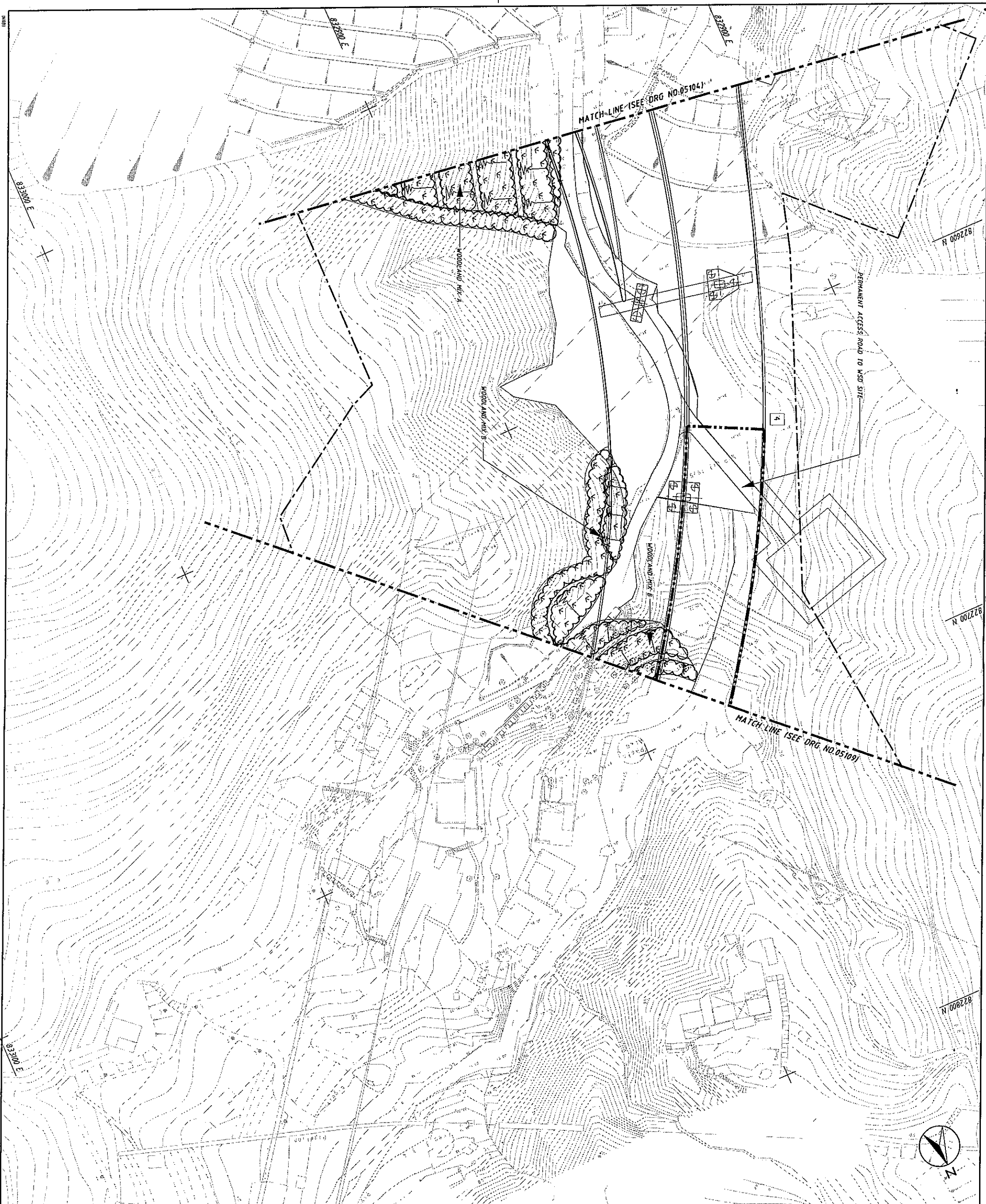
ROUTE 9 BETWEEN  
 CHEUNG SHA WAN AND SHA TIN  
**LANDSCAPE  
 SOFTWARES PLAN**

MAUNSELL HYDER JOINT VENTURE  
**Maunsell**

DRG. NO. 94099/05106 D  
 PRELIMINARY

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LEGEND:

- TREE (HEAVY STANDARD SIZE)
- TREE (LIGHT STANDARD SIZE)
- RETAINED TREE
- WOODLAND PLANTING
- PERMANENT LOCATION OF TRANSPLANTED TREE
- SHRUBS / GROUNDCOVERS
- HARD LANDSCAPE AREA
- HYDROSEEDING & WOODLAND PLANTING
- HYDROSEEDING
- HYD STD PAVING BLOCKS
- AREA SUBJECT TO LAND USE REVIEW - RESERVED TO PLANT NATIVE WOODLAND FOR SCREENING
- WATER POINT
- DRIP FEED IRRIGATION SYSTEM

NOTE:  
 1. TREES SHALL BE PLANTED WITHIN 15m OF MANHOLE COVERS.  
 2. WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

NO.	REVISION	DATE	BY	CHECKED	SCALE
1	GENERAL REVISION				

Highways Department 路政署  
 Major Works Project Management Office

ROUTE 9 BETWEEN  
 CHEUNG SHA WAN AND SHA TIN

LANDSCAPE  
 SOFTWORKS PLAN

MAUNSELL HYDER JOINT VENTURE

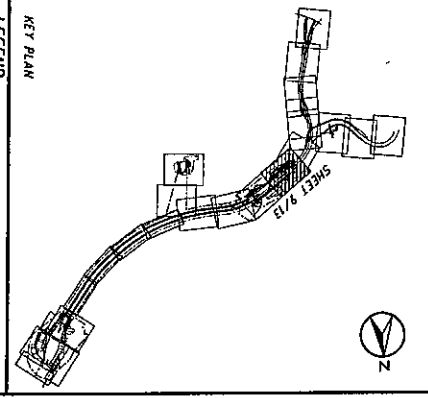
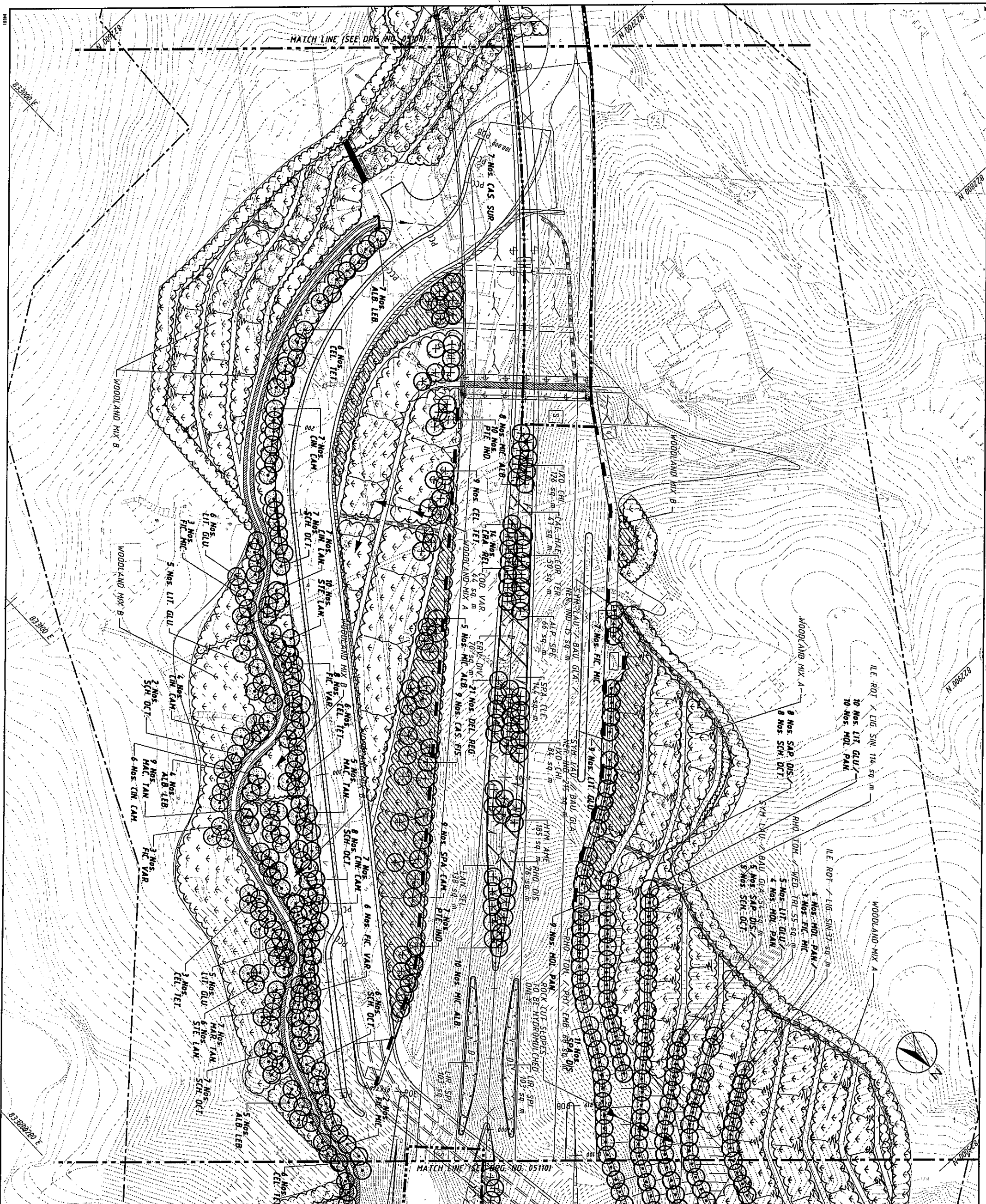
Maunsell

DRGNO. 94099/05108 B

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KEY PLAN

- LEGEND:
- ⊕ TREE (HEAVY STANDARD SIZE)
  - TREE (LIGHT STANDARD SIZE)
  - ◊ RETAINED TREE
  - ◻ WOODLAND PLANTING
  - ◻ PREPARATION LOCATION OF TRANSPANTED TREE
  - ▨ SHRUBS / GROUNDCOVERS
  - ▨ HARD LANDSCAPE AREA
  - ▨ WOODLAND PLANTING & SHRUB MIX PLANTING
  - ▨ HYDROSEEDING & WOODLAND PLANTING
  - ▨ HYDROSEEDING
  - ▨ HYD STD PAVING BLOCKS

AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING

AGUATE PLANTING AT THE EDGES OF RE-CREATED STREAM (DETAIL REFER TO ENGINEER'S DRAWING)

WATER POINT

DRIP FEED IRRIGATION SYSTEM

\* BERM PLANTER - BERM PLANTING WITH DUNE FEED IRRIGATION SYSTEM

ROCK SLOPES (HYDRO-HOLDING)

NOTE: TREES SHALL BE PLANTED WITHIN 15m OF HANNOLE COVERS

WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE

THE PROPOSED PLANTING AT ROAD JUNCTIONS WILL ALL BE GROUNDCOVER NOT EXCEEDING 0.5m IN HEIGHT ABOVE THE CARRIAGEWAY.

NO.	REVISION	DATE	BY	CHECKED
1	AS PER GOVT COMMENTS	01/02/09		
2	GENERAL REVISION	01/02/09		
3	REVISION FOR SITE LAYOUT	01/02/09		
4	HAND AMENDMENT	01/02/09		
5	GENERAL REVISION AND DEPICT	01/02/09		
6	REVISION AS PER GOVT COMMENTS & GENERAL REVISION	01/02/09		

Highways Department 路政署  
Major Works Project Management Office

ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN

LANDSCAPE  
SOFTWARES PLAN

SHEET 9 OF 13

MAUNSELL HYDER JOINT VENTURE

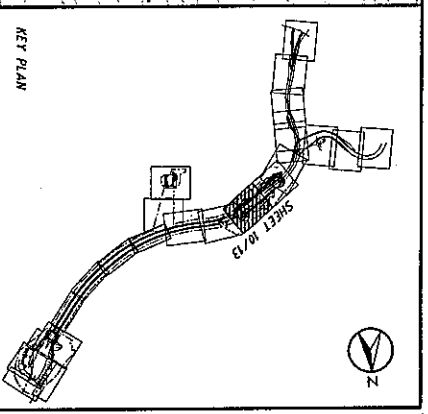
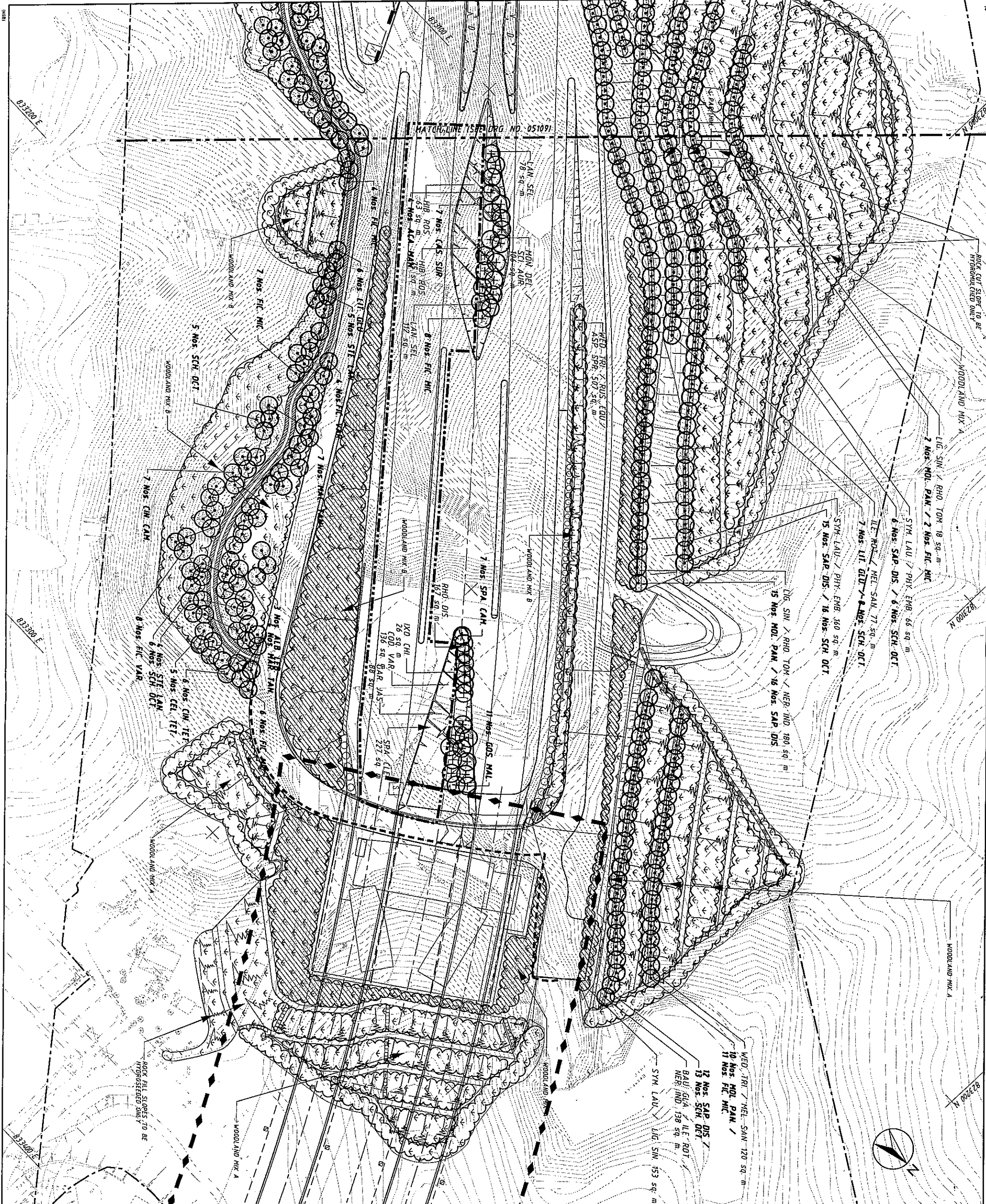
**Maunsell**

DRGNO. 94.099/05109 E

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NO.	REVISION	DATE	BY	CHECKED
1	AS PER GOVT COMMENTS	01/02/09		
2	GENERAL REVISION	01/02/09		
3	REVISION FOR SITE LAYOUT	01/02/09		
4	HAND AMENDMENT	01/02/09		
5	GENERAL REVISION AND DEPICT	01/02/09		
6	REVISION AS PER GOVT COMMENTS & GENERAL REVISION	01/02/09		



KEY PLAN

LEGEND:

- ⊕ TREE HEAVY STANDARD SIZE
- TREE (LIGHT STANDARD SIZE)
- ⊙ RETAINED TREE
- ⊙ WOODLAND PLANTING PERMANENT LOCATION OF TRANSPLANTED TREE
- ⊙ SHRUBS / GROUNDCOVERS
- ▨ HARD LANDSCAPE AREA
- ▨ WOODLAND PLANTING & SHRUB MIX PLANTING
- ▨ HYDROSEEDING & WOODLAND PLANTING
- ▨ HYDROSEEDING
- ▨ HYD STD PAVING BLOCKS
- ▨ AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING
- ▨ AGUATE PLANTING AT THE EDGES OF RE-CREATED STREAM (DETAIL REFER TO ENGINEER'S DRAWING)
- ⊙ WATER POINT
- ⊙ DRIP FEED IRRIGATION SYSTEM
- ⊙ BEEM PLANTER - BEEM PLANTING WITH DRIP FEED IRRIGATION SYSTEM
- ⊙ ROCK SLOPES (HATCHED-HOLLOW)
- ⊙ TREES FOR REPRODUCED STREAM HABITAT (HEAVY STANDARD SIZE)

NOTE:  
NO TREES SHALL BE PLANTED WITHIN 1.5m OF MANHOLE COVERS.  
WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.  
THE PROPOSED PLANTING AT ROAD JUNCTIONS WILL ALL BE GROUNDCOVER NOT EXCEEDING 0.5m IN HEIGHT ABOVE THE CARBONACEWAY.

NO.	DESCRIPTION	PLANTING	REVISION	DATE
1	PLANTING REVISION AS PER			01/11/02
2	GENERAL EXTENSION			01/11/02
3	ROCK CUT SLOPES REDESIGNED			01/11/02
4	WOODLAND MIX B			01/11/02
5	WOODLAND MIX A			01/11/02
6	WOODLAND MIX C			01/11/02
7	WOODLAND MIX D			01/11/02
8	WOODLAND MIX E			01/11/02
9	WOODLAND MIX F			01/11/02
10	WOODLAND MIX G			01/11/02
11	WOODLAND MIX H			01/11/02
12	WOODLAND MIX I			01/11/02
13	WOODLAND MIX J			01/11/02
14	WOODLAND MIX K			01/11/02
15	WOODLAND MIX L			01/11/02
16	WOODLAND MIX M			01/11/02
17	WOODLAND MIX N			01/11/02
18	WOODLAND MIX O			01/11/02
19	WOODLAND MIX P			01/11/02
20	WOODLAND MIX Q			01/11/02
21	WOODLAND MIX R			01/11/02
22	WOODLAND MIX S			01/11/02
23	WOODLAND MIX T			01/11/02
24	WOODLAND MIX U			01/11/02
25	WOODLAND MIX V			01/11/02
26	WOODLAND MIX W			01/11/02
27	WOODLAND MIX X			01/11/02
28	WOODLAND MIX Y			01/11/02
29	WOODLAND MIX Z			01/11/02

Highways Department 路政署  
Major Works Project Management Office

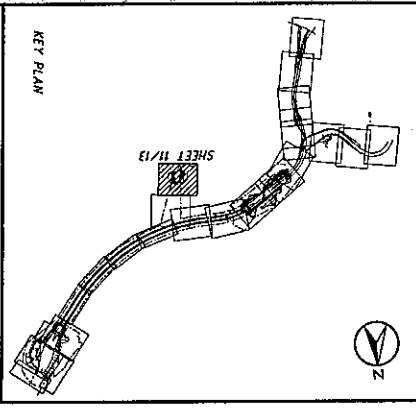
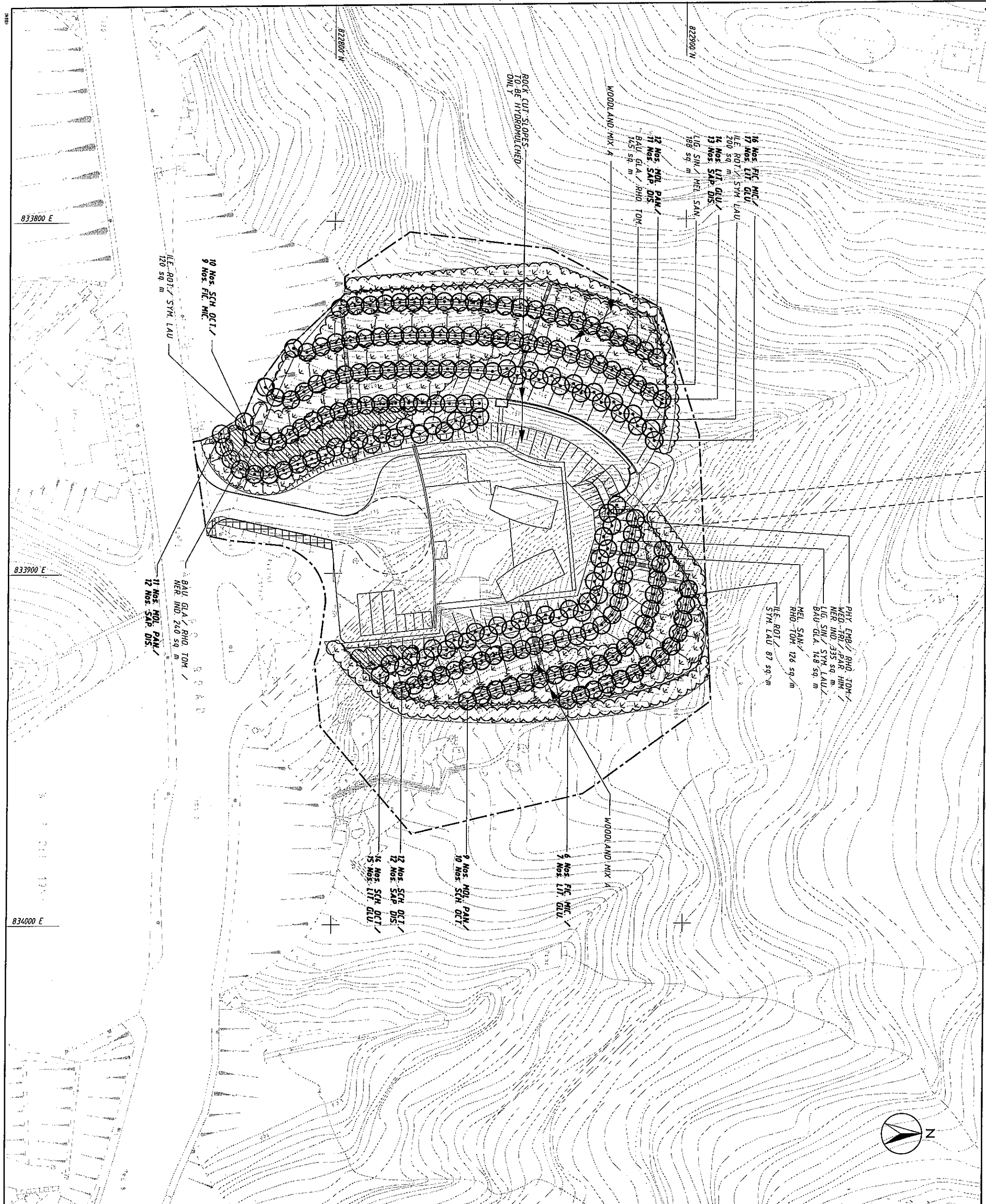
ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN  
LANDSCAPE  
SOFTWARES PLAN

MAUNSELL HYDER JOINT VENTURE  
Maunsell

DRGNO. 94099/05110 F  
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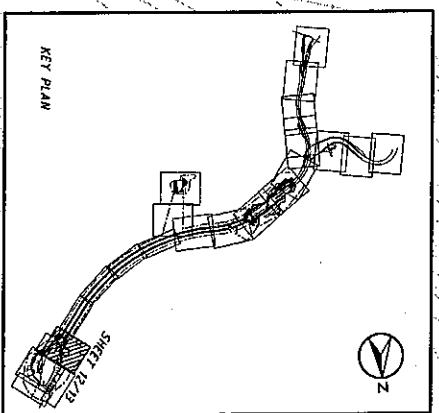




LEGEND:

- TREE HEAVY STANDARD SIZE
  - TREE LIGHT STANDARD SIZE
  - RETAINED TREE
  - WOODLAND PLANTING
  - PERMANENT LOCATION OF TRANSPLANTED TREE
  - SHRUBS / GROUNDCOVERS
  - HARD LANDSCAPE AREA
  - WOODLAND PLANTING & SHRUB MIX PLANTING
  - WOODLAND PLANTING
  - HYDROSEEDING
  - HYD MULCHING
  - HYDRO SEED SYSTEM
  - BERM PLANTER / BERM PLANTING
  - DRIP FEED IRRIGATION SYSTEM
  - ROCK SLOPES (HYDRO-MULCHING)
- NOTE:  
 \* AREAS SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING WATER POINT
- NOTE:  
 AND TREES SHALL BE PLANTED WITHIN 1.5m OF HAWKHOLE COVERS. WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KEY PLAN.

<b>Highways Department 路政署</b> Major Works Project Management Office	
<b>ROUTE 9 BETWEEN CHEUNG SHA WAN AND SHA TIN LANDSCAPE SOFTWARES PLAN</b>	
MAUNSELL HYDER JOINT VENTURE <b>Maunsell</b>	
DRAWING NO. <b>94099/05111 C</b> PROJECT NO. <b>DRGANO</b>	
SHEET NO. <b>11</b> OF <b>13</b>	DATE <b>11 MAR 2011</b>
<b>PRELIMINARY</b>	
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LEGEND

- Tree (heavy standard size)
- Tree (light standard size)
- Retained tree
- Woodland planting
- Permanent location of transplanted tree
- Shrubs / groundcovers
- Hard landscape area
- Woodland planting & shrub mix planting
- Hydroseeding & woodland planting
- Hydroseeding
- Hard std. paving blocks
- Area subject to land use review
- Area to be planted with native woodland for screening
- Water point
- Organic feed system
- Born planter
- Born planter with drip feed
- Irrigation system
- Rock cut slopes (hydro-kulching)

NOTE: TREES SHALL BE PLANTED WITHIN 15M OF MAINHOLE COVERS AND 20M FROM THE NEAR WALL. ALL BLACK FROM THE NEAR WALL.

INFILL PLANTING ENHANCEMENT EXTENT OF PLANTING TO BE DETERMINED ON SITE (AREA = 330 SQ M)

INFILL PLANTING ENHANCEMENT EXTENT OF PLANTING TO BE DETERMINED ON SITE (AREA = 200 SQ M)

INFILL PLANTING ENHANCEMENT EXTENT OF PLANTING TO BE DETERMINED ON SITE (AREA = 180 SQ M)

PLANTING WORKS FOR ADJACENT SLOPE & AREAS NOT UNDER THIS CONTRACT

PLANTING WORKS FOR ADJACENT SLOPE AREA NOT UNDER THIS CONTRACT

ROCK CUT SLOPES TO BE HYDROKULCHED ONLY

WOODLAND MIX B

9' NOS. DEL. RIG.

HIB ROS 73 sq. m

DUR. REP. 34 sq. m

LAN. MIS 192 sq. m

10 NOS. MIC. ALB.

RHD. DIS 71 sq. m

120 SQ. M

ALP. SPE 120 sq. m

LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

CAL. SHAES 114 sq. m

LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

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LAN. SEL 204 sq. m

LAN. SEL 204 sq. m

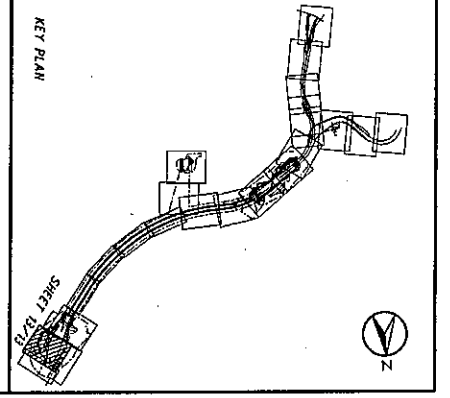
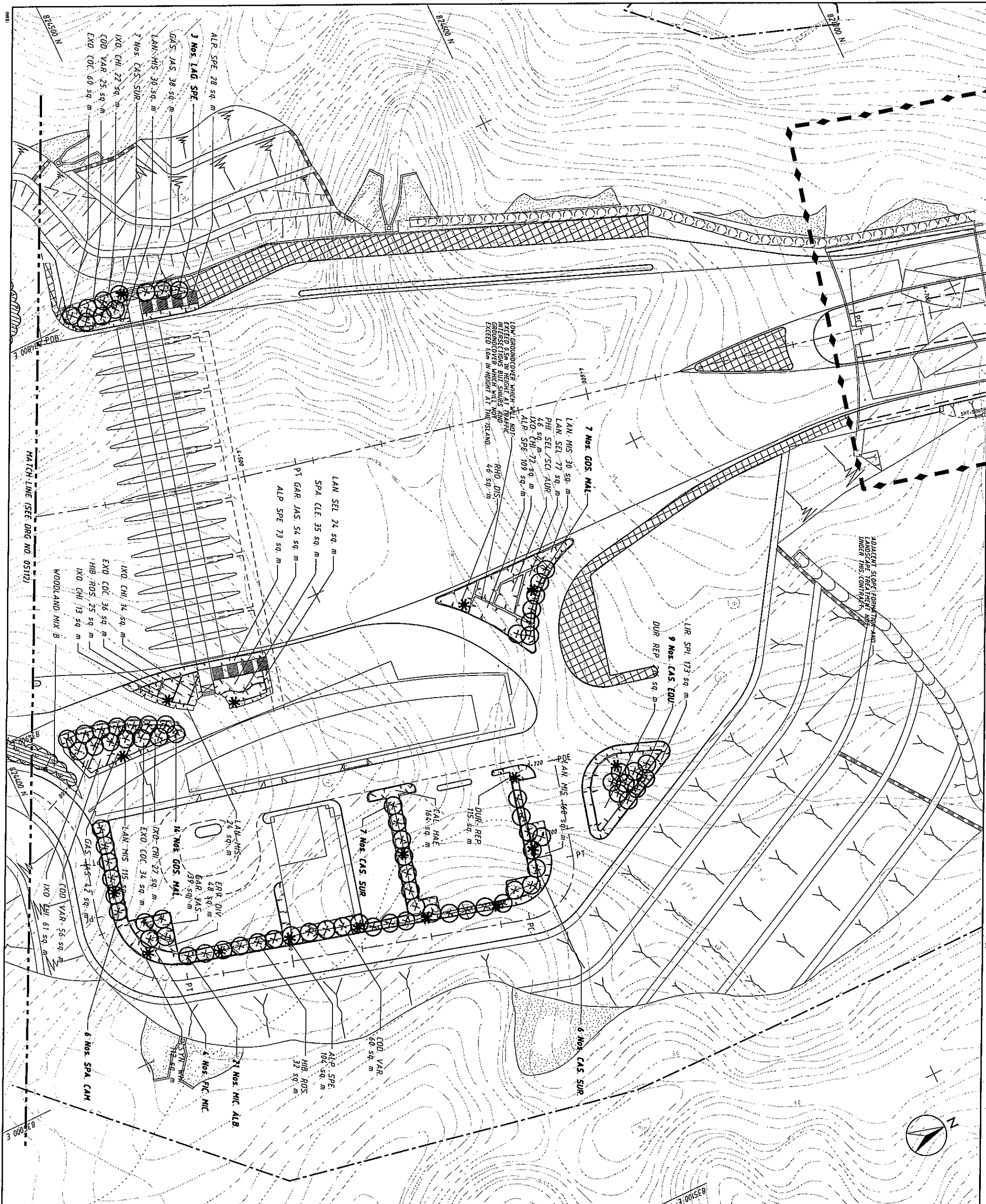
LAN. SEL 204 sq. m

D	PLANTING & WATER POINT REVISION	02/18
C	AREA REVISION TO MAIN POSITION	02/18
B	INFILL PLANTING REVISION	02/18
A	GENERAL REVISIONS COMMENT 2	02/18
0	GENERAL REVISIONS COMMENT 1	02/18

Highways Department 路政署  
Major Works Project Management Office  
ROUTE 9 BETWEEN  
CHEUNG SHA WAN AND SHA TIN  
LANDSCAPE  
SOFTWARES PLAN  
SHEET 12 OF 13

MAUNSELL HYDER JOINT VENTURE  
Maunsell  
DRGNO. 94099/05112 D  
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- LEGEND:**
- TREE HEAVY STANDARD SIZE
  - TREE (LIGHT STANDARD SIZE)
  - RETAINED TREE
  - WOODLAND PLANTING
  - PERMANENT LOCATION OF TRANSPLANTED TREE
  - SHRUBS / GROUNDCOVERS
  - HARD LANDSCAPE AREA
  - WOODLAND PLANTING & SHRUB MIX PLANTING
  - HYDROSEEDING & WOODLAND PLANTING
  - HYDROSEEDING
  - Hyd STD PARKING BLOCKS
  - AREA SUBJECT TO LAND USE REVIEW - BOUNDARIES TO BE PLANTED WITH NATIVE WOODLAND FOR SCREENING
  - WATER POINT
  - D DRAIN FEED IRRIGATION SYSTEM

**NOTE:**  
 NO TREES SHALL BE PLANTED WITHIN 1.5m OF HANDBOLE COVERS.  
 WOODLAND MIX PLANTING WILL BE KEPT 2M BACK FROM THE KERB LINE.

6	PAVING & WATER POINT REVISION	02/12/20
5	AS PER GOVT COMMENT	02/12/20
4	GENERAL REVISION	02/12/20
3	REVISION	02/12/20
2	REVISION	02/12/20
1	REVISION	02/12/20

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ROUTE 9 BETWEEN  
 CHEUNG SHA WAN AND SHA TIN  
**LANDSCAPE  
 SOFTWARES PLAN**

MAUNSELL HYDER JOINT VENTURE  
**Maunsell**

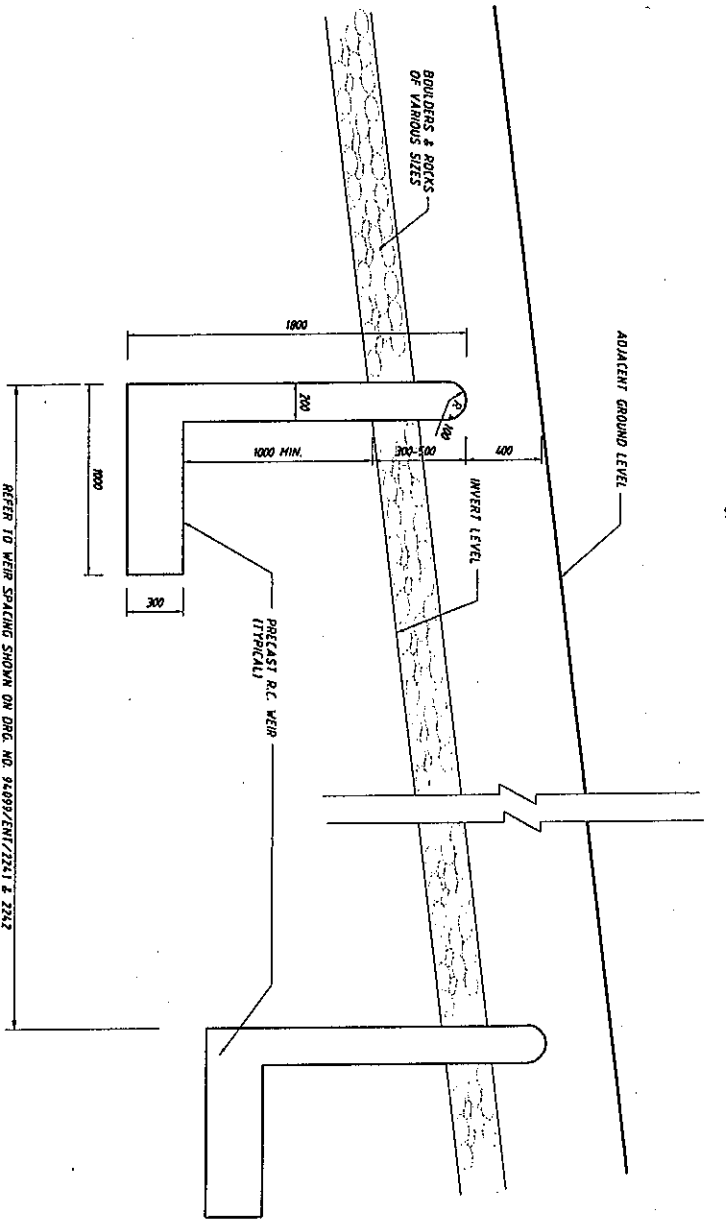
DRGNO. 94099/05113 B  
 SHEET 13 OF 13

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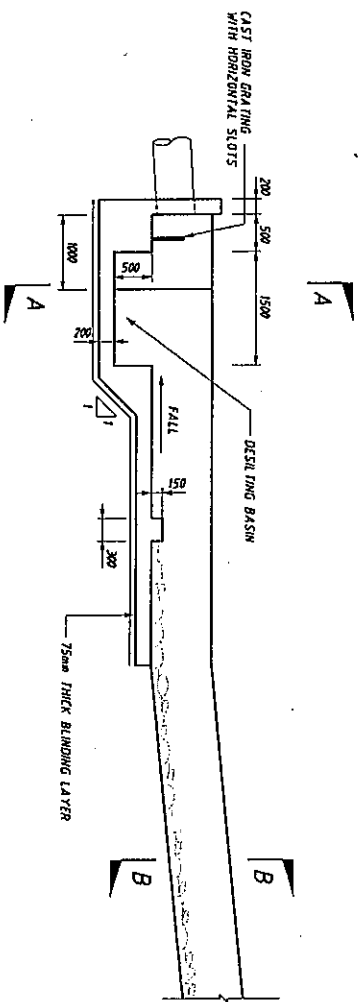
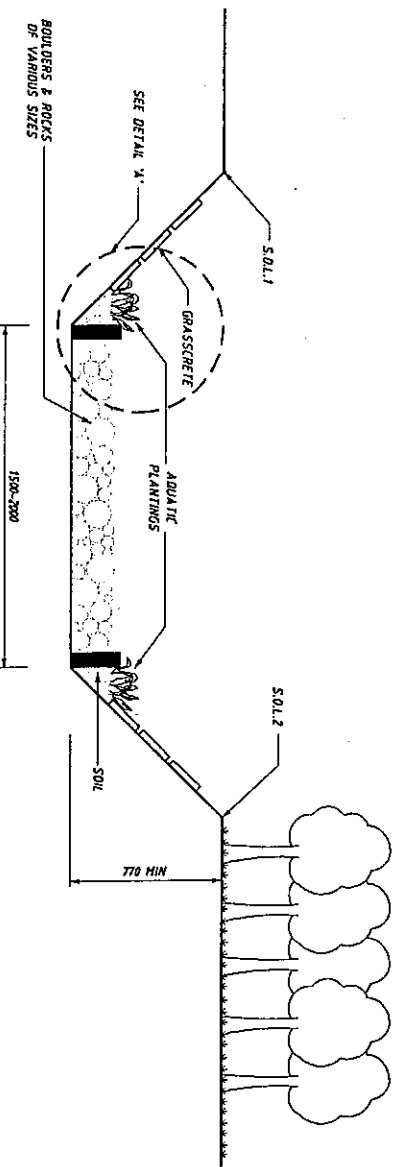
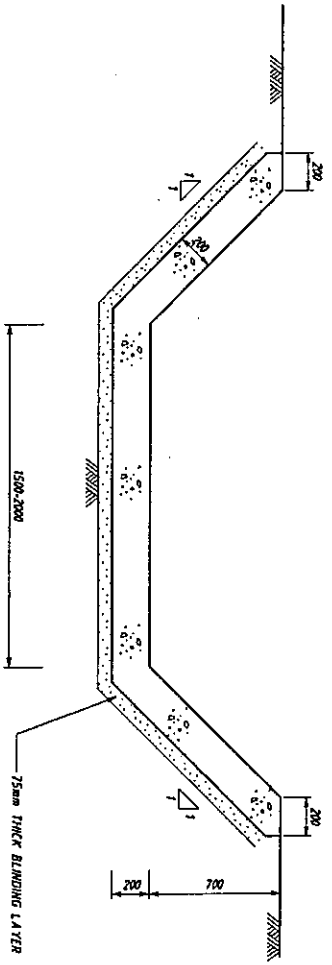






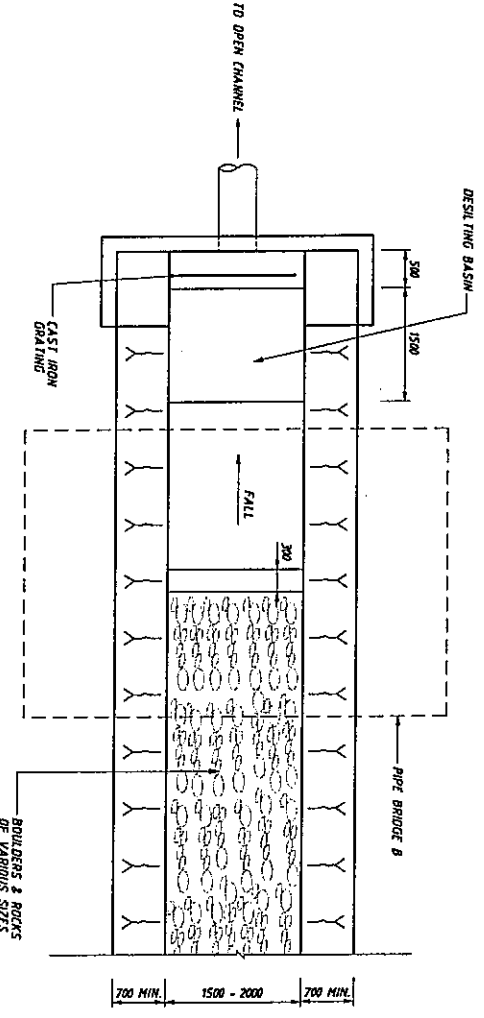
TYPICAL LONGITUDINAL SECTION OF RECREATED STREAM

N.T.S.



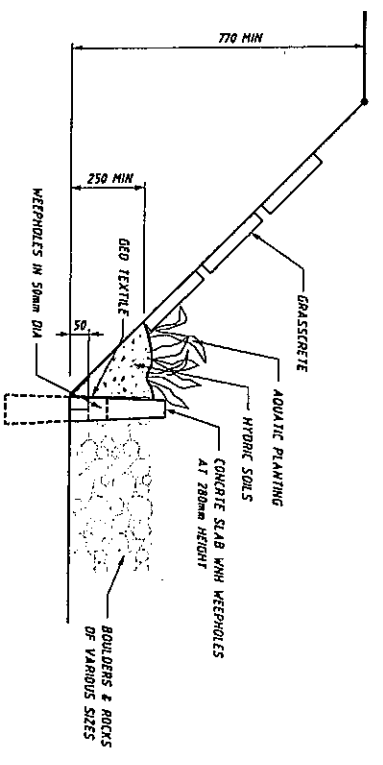
DESILTING BASIN AND OUTLET DETAILS OF RECREATED STREAM

SCALE 1:30



PLAN OF CONNECTION OF STREAM TO OPEN CHANNEL

SCALE 1:30



DETAIL 'A' DETAILS OF AQUATIC PLANTING AT THE EDGE OF RECREATED STREAM

SCALE 1:30

B GENERAL REVISION									
A	GENERAL REVISION								JAN 02
Highways Department 路政署 Major Works Project Management Office 									
ROUTE 9 - EAGLES NEST TUNNEL AND ASSOCIATED WORKS RECREATED STREAM- TYPICAL SECTIONS									
MAUNSELL HYDER JOINT VENTURE 									
DRGNO. 94,099/ENT/0224.3 B PRELIMINARY									
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LAYOUT PLAN  
SCALE: 1:500

MID	CUT/FILLED	PLATFORM	SOUTH PORTAL BUILDING		SLOPE	LOOP ROAD
			CABLE/VENTILATION PLENUM	CORRIDOR FOR INTAKE PIPE		
82	HEADWALL OF CULVERT INLET					
81						
80						
79						
78						
77						
76						
75						
74						
73						

DATA FROM 77mPD		APPROXIMATE FINISHED GROUND LEVEL (mPD)	
INVERT LEVEL (mPD)	76.2	01.8	01.0
PIPE DIAMETER (m)			
CHANGEG. CH (m)	00.0	05.7	12.50
VERTICAL BEND		15.00	15.00
HORIZONTAL BEND		13.90	13.90
GRADIENT	0.0	11.25	11.25
PIPE FITTING & VALVE			
MAINTENANCE PARTY			

LONGITUDINAL SECTION DN250 D.I. PIPE  
SCALE: VERT. 1:100  
HORIZ. 1:500

NOTES  
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING NO. 94099/ENT/02244.  
2. ALL LEVELS SHOWN ARE IN METRES AND REFER TO THE PRINCIPAL DATUM.

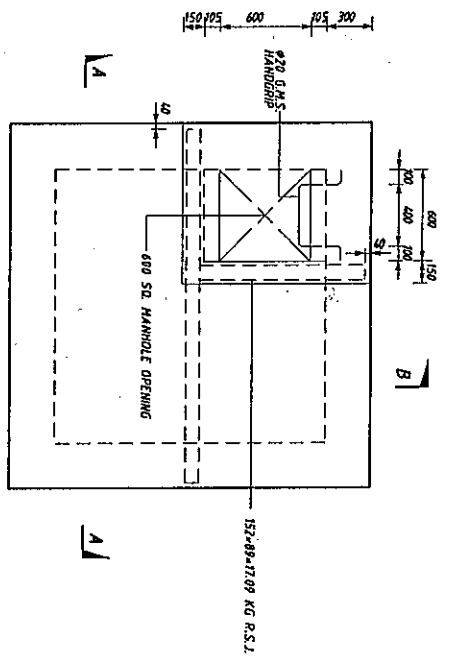
LEGEND:  
 250# D.I. PIPE  
 PROPOSED G.V.  
 INSPECTION TEE

ABBREVIATIONS:  
 G.V. GATE VALVE  
 D.I. DUCTILE IRON PIPE  
 I.I. INVERT LEVEL OF PIPE  
 I.T. INSPECTION TEE CHAMBER

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 ROUTE 9 - EAGLES NEST TUNNEL AND ASSOCIATED WORKS

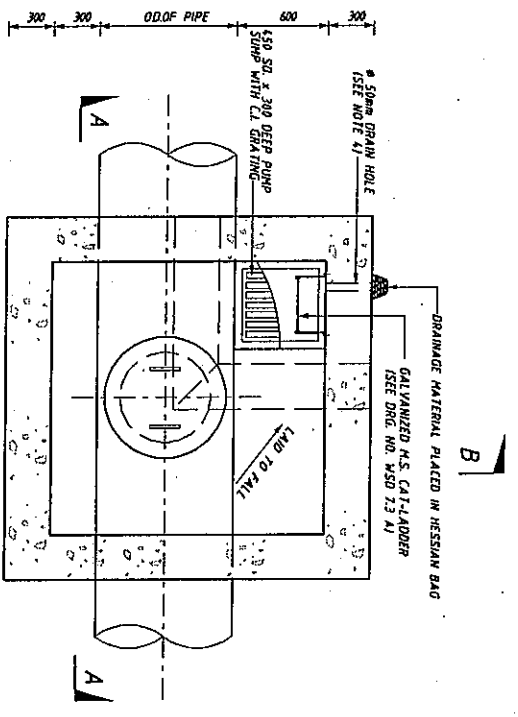
RECREATED STREAM - INTAKE PIPE ARRANGEMENT  
 MAUNSELL HYDER JOINT VENTURE  
 Maunsell

DRGNO. 94099/ENT/02244, B  
 PRELIMINARY  
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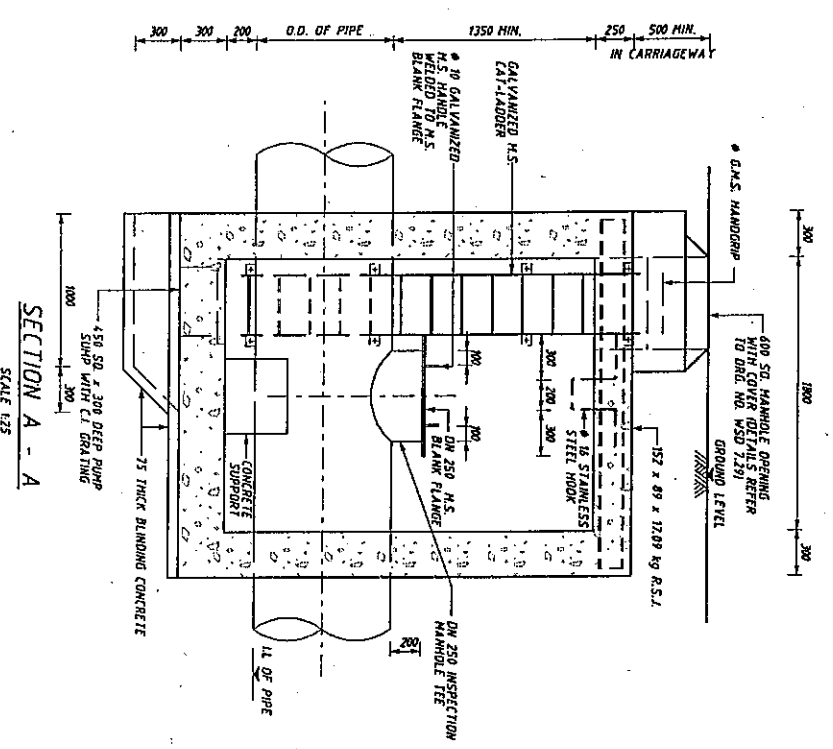


PLAN OF INSPECTION TEE CHAMBER  
SCALE 1:25

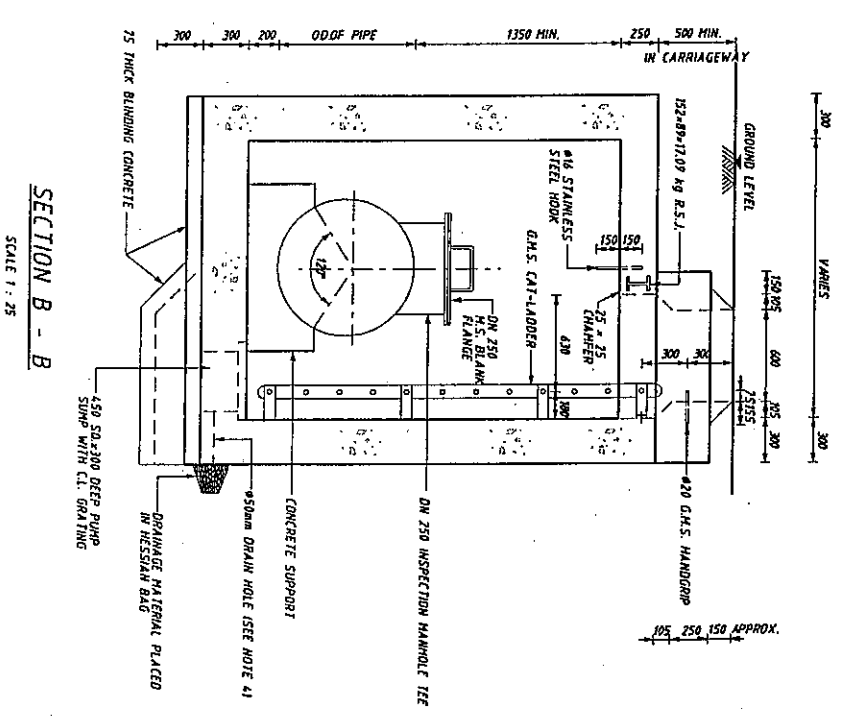
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
  2. CONCRETE TO BE GRADE 35/200.
  3. CONNECTION DETAILS FOR R.S.J. REFER TO DRAWING NO. WSD 119 SHEET 4 OF 4.
  4. DRAIN HOLE AND HESSIAN BAG TO BE INSTALLED WHEN THE ESTIMATED HIGHEST FLOODING LEVEL OF CHAMBER IS BELOW THE FORMATION LEVEL OF CHAMBER.



SECTIONAL PLAN OF INSPECTION TEE CHAMBER  
SCALE 1:25



SECTION A - A  
SCALE 1:25



SECTION B - B  
SCALE 1:25

NO.	REVISION	DATE
1	GENERAL REVISION	JUN 07
2	GENERAL REVISION	JAN 07

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ROUTE 9 - EAGLES NEST TUNNEL  
AND ASSOCIATED WORKS

RECREATED STREAM -  
MISCELLANEOUS DETAILS

MAUNSELL HYDER JOINT VENTURE

Maunsell

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