Project Title: Port Shelter Sewerage, Stage 3 – Sewerage Works at Po Toi O (Application No. EIA-244/2016)

Submission of information pursuant to Section 8(1) of the EIAO

Updated photomontage showing the facade treatment of the sewage treatment plant and the conceptual geotechnical design for the slope (Please see enclosed Fig 10.14a & 10.14b)

The visual mitigation of the building and retaining wall behind is addressed by the use of chromatic treatment, vertical greening, shrub and tree planting:

- The retaining wall and STP are to be painted with a non-reflective paint in recessive earth tones similar to the natural geology and soil colour of the area so that they blend into the hillside behind.

- Self-clinging climbers are proposed to be planted at the base of the retaining wall and STP in order to green the elevations over time. Climbers and trailing plants will also be planted at the top of the retaining wall to speed the green coverage of the wall. Climbers are also proposed at the base of the site perimeter fence to provide additional screening to the STP and retaining wall elevations. Planters will be irrigated with simple dripline tubing which will ensure that healthy growth is maintained during the winter dry season. It is anticipated that climber planting can provide some effective visual mitigation after the first season and coverage will thicken with each growing season thereafter. In order to provide initial greening of the perimeter fence at Day 1, temporary planters and frames with pre-grown climbers will be attached to the fence as a temporary greening solution. These will be removed once the permanent climber planting at grade has established sufficiently to provide a greening effect.

- Tree planting is also proposed although this will take longer to establish and provide a screening effect. Once mature however, the tree planting will provide an effective visual screen and reduce the apparent scale of the STP.

- Shrub planting is proposed in ground level planters along the fence line and around the STP to strengthen visual screening and amenity. Native shrub and ground cover planting will also be provided on the disturbed ground above the top of the retaining wall in order to re-establish vegetation cover on the existing

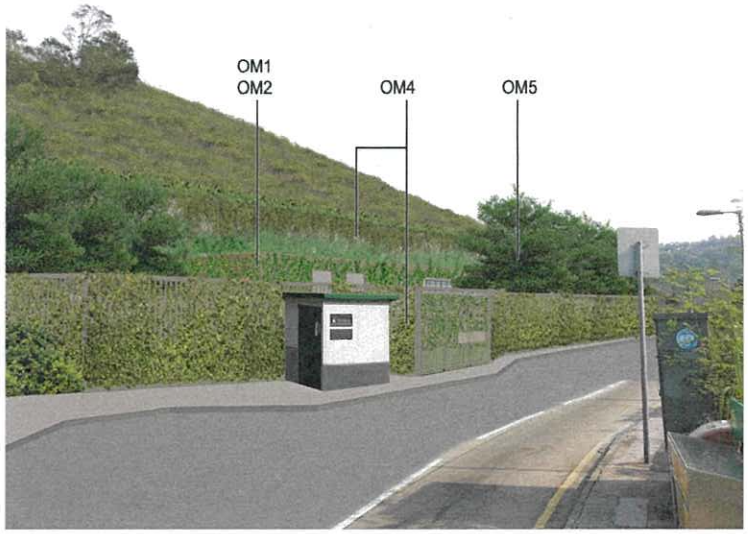
slope.

- The conceptual design for the slope (as shown in Fig 10.14b) was based on the assumption that geotechnical profile would be similar to the enclosed GI record.

EXISTING CONDITIONS

DAY 1 WITHOUT MITIGATION MEASURES

DAY 1 WITH MITIGATION MEASURES



YEAR 10 WITH MITIGATION MEASURES

Amendment No.	Date	Description	Drawn by	Checked by	Approved by
E	2016-11-30	BUILDING TONE AND RETAINING WALL CLIMBERS AMENDED	PN	TO	TO
D	2016-06-03	VERTICAL GREENING ADDED	MC	TO	TO
C	2016-03-30	GRASSCRETE ADDED	PN	TO	TO
B	2015-12-28	GENERAL REVISION	OO	TO	TO
A	2015-06-16	GENERAL REVISION	LW	TO	TO

Job Title
Agreement No. CE 41/2013 (EP) Port Shelter Sewerage, Stage 3 - Sewerage Works at Po Toi O Environmental Impact Assessment Studies - Investigation

Drawing Title
PHOTOMONTAGE VIEWPOINT 1 FROM PO TOI O CHUEN ROAD LOOKING SOUTH

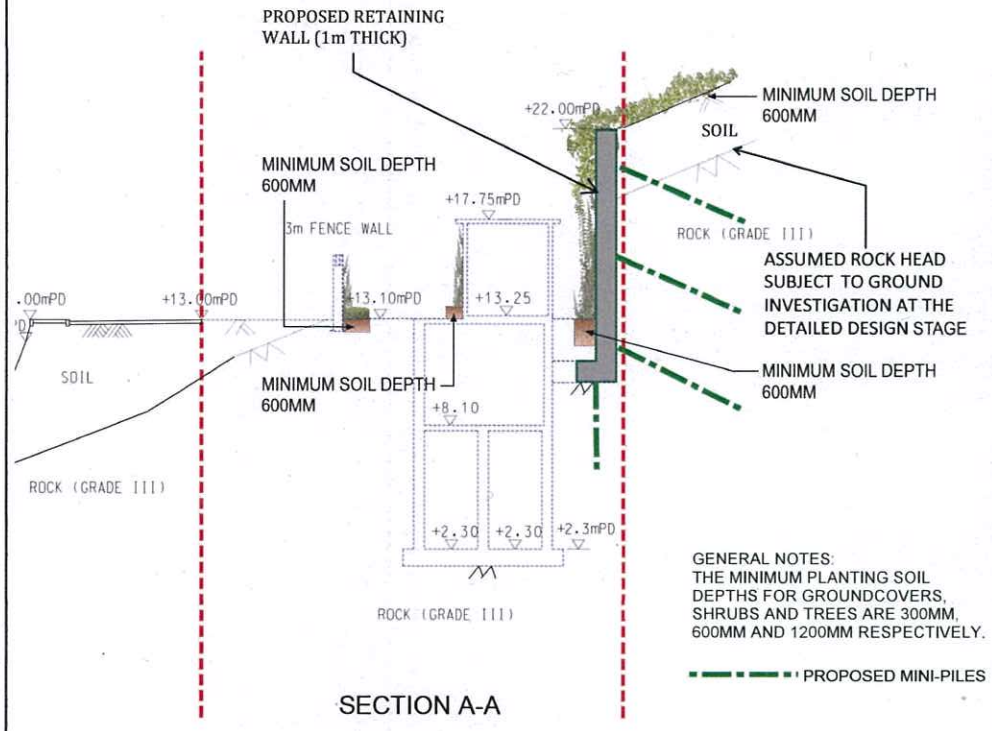
Drawn by PL | Checked by KB | Approved by TO | Date 2014-12-01

Drawing No. 10.14a

Scale N.T.S.

Job. No. CTCL1

Urbis Limited 雅邦
Planning, Urban Design, Landscape, Golf & Environmental Consultants
Urbis Limited, 11/F Siu On Centre, 188 Lockhart Road, Wan Chai, Hong Kong. Tel : 2802 3333 Fax : 2802 8662



SECTION A-A

YEAR 10 WITH MITIGATION MEASURES (FENCE AND TREES REMOVED)

CLIMBER PLANTING OPTIONS

Parthenocissus quinquefolia - Central Waterfront (one season's growth)

Ficus pumila - Fairway Vista, Po Toi O

Pyrostegia ignea - planted at top of wall

Hedera helix - temporary hoarding at Exchange Square

Amendment No.	Date	Description	Drawn by	Checked by	Approved by
A	2017-01-03	SOIL DEPTH ADDED	PN	TO	TO

Job Title: Agreement No. CE 41/2013 (EP) Port Shelter Sewerage, Stage 3 - Sewerage Works at Po Toi O Environmental Impact Assessment Studies - Investigation

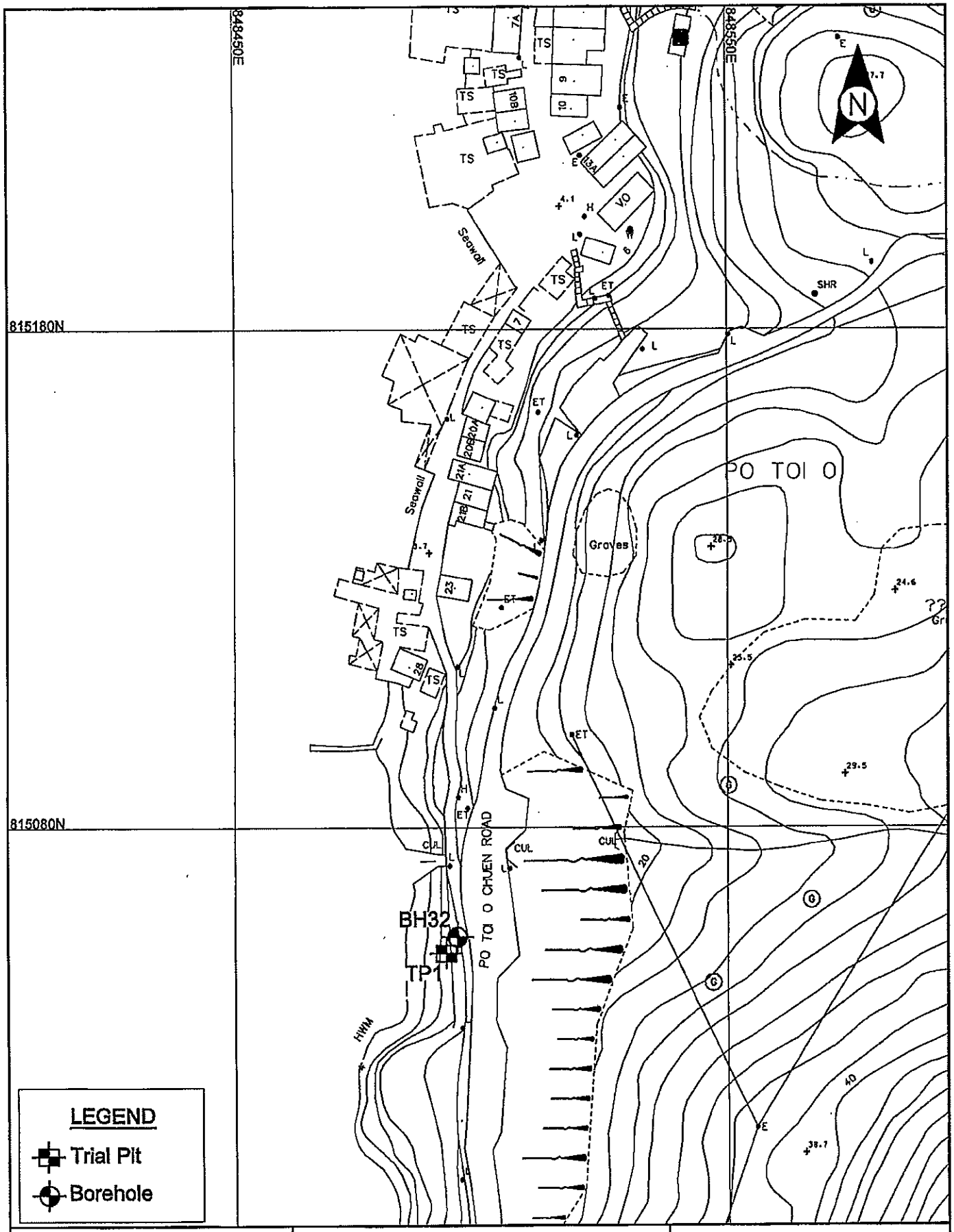
Drawing No.: 10.14b

Drawing Title: PHOTOMONTAGE VIEWPOINT 1 FROM PO TOI O CHUEN ROAD LOOKING SOUTH

Scale: N.T.S.

Drawn by	PN	Checked by	TO	Approved by	TO	Date	2016-12-01	Job. No.	CTCL1

Urbis Limited 雅邦
Planning, Urban Design, Landscape, Golf & Environmental Consultants
Urbis Limited, 11/F Siu On Centre, 188 Lockhart Road, Wan Chai, Hong Kong. Tel : 2802 3333 Fax : 2802 8662



FUGRO GEOTECHNICAL SERVICES LTD	PROJECT: Agreement No. CE 65/2006 (DS), Port Shelter Sewerage Stage 2 and Stage 3 - Design and Construction, Ground Investigation and Laboratory Testing (Batch 1)	TITLE: Ground Investigation Plan
		SCALE: 1:1000
JOB REF: 07 0254 03		CLIENT: CEDD-GEO
DATE: 29-Jan-2010	WORKS ORDER NO: GE/2007/13.14	FIGURE: 3

FUGRO GEOTECHNICAL SERVICES LTD

DRILLHOLE RECORD

HOLE No. BH32

CONTRACT No.: GE/2007/13

SHEET: 1 of 1

PROJECT: Agreement No. CE 65/2006 (DS), Port Shelter Sewerage Stage 2 and Stage 3 - Design and Construction, Ground Investigation and Laboratory Testing (Batch 1)

METHOD: Rotary Drilling

CO-ORDINATES:
E 848495.02
N 815058.01

WORKS ORDER No. GE/2007/13.14

MACHINE & No.: FDR-56

DATE from: 04/12/2009 to 04/12/2009

FLUSHING MEDIUM: Water

ORIENTATION: Vertical

GROUND LEVEL + 9.16 mPD

Drilling Progress	Casing depth/size	Water Level (m) Shift start/ end	Water Return %	TCR%	SCR%	RQD%	FI	Tests	Samples No.	Type	Depth	Reduced Level	Depth (m)	Legend	Grade	Description
04/12/2009	HW											9.16	0.00			
									1		0.60	8.56	0.60			Soft to firm, yellowish brown (10YR/5/6), sandy SILT with some angular fine to medium gravel of weak to moderately strong tuff. (FILL)
1			0	36						T2101						Greyish brown (10YR/5/2), angular coarse GRAVEL and COBBLES of moderately strong to strong tuff with a matrix of sandy silt. (FILL)
2			0	0							2.00	7.16	2.00			
									2		2.15 2.25	6.91	2.25			Greyish brown (10YR/5/2), angular coarse GRAVEL of moderately strong tuff. (FILL)
			0	96						T2101						Grey (7.5YR/8/1), angular BOULDERS of strong tuff. (FILL)
			0	84					3		2.70	6.46	2.70			
3	HW 3.25	2.60m at 18:00														Greyish brown (10YR/5/2), angular coarse GRAVEL of moderately strong tuff. (FILL)
									4		3.15 3.25	5.91	3.25			
04/12/2009			0	100						T2101	3.50	5.73 5.66	3.43 3.50			Greyish brown (10YR/5/2), subangular coarse GRAVEL of moderately strong tuff. (FILL)
4																CONCRETE.
																End of investigation hole at 3.50m.
5																
6																
7																
8																
9																
10													10.00			

Small Disturbed Sample
Piston sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
75mm Vibrocore Sample
100mm Vibrocore Sample
Vibrocore Sub-sample
SPT Liner Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Pressuremeter Test
Televiewer Survey
Packer Test
Impression Packer Test
Water Sample
Standpipe
Piezometer Tip

LOGGED P. Zhang
DATE 11/12/2009
CHECKED S.M. Pyle
DATE 24/12/2009

REMARKS
1. An inspection pit was excavated to a depth of 0.60m.
2. Drillhole terminated at 3.50m as instructed by the Engineer due to encountering concrete.

FGS Job No.: 07 0254 13 14

FUGRO GEOTECHNICAL SERVICES LTD

Project : Agreement No. CE 65/2006 (DS), Port Shelter Sewerage Stage 2 and Stage 3 - Design and Construction, Ground Investigation and Laboratory Testing (Batch 1)

Contract No.: GE/2007/13

WORKS ORDER No.: GE/2007/13.14

Logged by : P. Zhang

Date logged : 25/01/2010

Checked by : S.M. Pyle

Date checked : 27/01/2010

Co-ordinates :
E 848492.73 m
N 815054.71 m

Ground Level : +5.70 mPD

Excavation Dates: 22/01/2010 to 23/01/2010

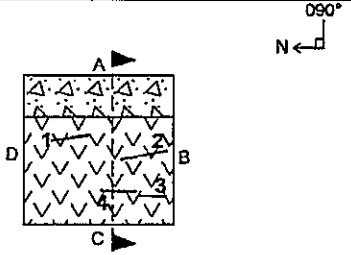
Backfill Date: 29/01/2010

Trial Pit No.: TP1

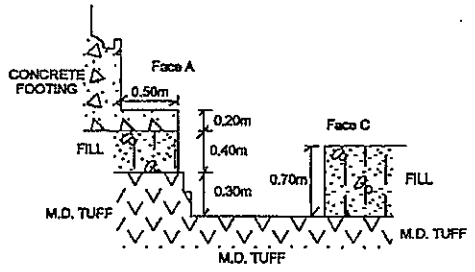
TRIAL PIT RECORD

Sample & Tests	Depth (m)	Sketch	Depth (m)	Legend (Face)	Grade	Description
3 2 1	0.50	Face A 1.50 m / Face B 1.50 m / Face C 1.50 m / Face D 1.50 m; 0.50m; 0.20m	0.20			200mm CONCRETE FOOTING.
	1.00		0.60		III	Dense, light yellowish brown (2.5Y/6/4), silty fine to coarse SAND with many angular fine to coarse gravel and cobbles of moderately strong tuff and some rootlets. (FILL)
	1.50		0.90			Moderately strong, light yellowish brown, moderately decomposed coarse ash crystal TUFF.
	2.00					Joints are closely to medium spaced, rough planar, extremely narrow, iron and manganese oxide stained, dipping at 1. 280°/74°, 2. 040°/54°, 3. 280°/80° and 4. 100°/74°.
	2.50					End of Trial Pit at 0.90m.
	3.00					
	3.50					
	4.00					
	4.50					

PLAN



SECTION



SYMBOL

- Disturbed Sample
- Undisturbed Sample Vert.
- Undisturbed Sample Horl.
- Block Sample
- In Situ Density Test
- Water Sample
- N - Schmidt Hammer Test
- Water Seepage

REMARKS

Shoring: No Water Seepage: No

Stability: Stable

Maximum Depth: 0.90m Average Depth: 0.80m

1. All sample depths are relative to Face A.
2. Small disturbed sample was taken at 0.50m below existing ground level.
3. Large disturbed sample was taken at 0.50m below existing ground level.
4. U100 sample was taken at 0.50m below existing ground level.

FGS Job No.: 07 0254 13 14