The Government of The Hong Kong Special Administrative Region

Drafting Specifications for Engineering Survey

(to be used in conjunction with CAD Standard for Works Projects)

Agriculture, Fisheries and Conservation Department
Civil Engineering and Development Department
Drainage Services Department
Highways Department
Housing Department
Water Supplies Department

Rev.4.0/May 2025

Amendment Record

Revision	Description	Effective Date
0	Line width for all symbols is reduced from 0.25mm to 0.18mm Deletion of symbol – CP, GT2 & GT4 Addition of symbol – CP1, CP2 & MT2 Modification of symbol – T1	22 December 2002
1.0	Paragraph 1.2 of Part I Addition of symbol – RPL, SEP & GV2 Modification of symbol – AR, MTR, KCR, LRT, TW, BN & PY Amendment on Appendices A and B Revision on Appendix C	14 April 2005
2.0	Modification of Foreword Amendment on URL at paragraph 1.1 of Part I Addition of class – "Survey Control" Addition of 9 point symbols –BBQ, DIS, EH, PM, PTB, PWT, RB, RUB, TOI Addition of 2 line symbols – BW, BPA Modification of symbol – BM, STN & TRI Modification of feature name – LRT Modification of description – MH & MH2 Modification of description – RPL Modification of description – TE Deletion of symbol – KCR Deletion of duplicate symbol at Part V – SS Revision on Appendices A, B & C	30 August 2012
3.0	Modification of Foreword Addition of symbols introduced by the Geographical Information System (GIS) Specifications for Engineering Surveys of Highways Department: Addition of 6 point symbols –ECM, EM, SPP, SNP, TCM, VS Addition of 9 line symbols – BOL, BK, CR, DK, EG, LW, NPC, RW, TV Addition of 2 polygon symbols–MHS, PX	24 November 2014
4.0	Modification of Foreword Addition of 12 point symbols/line-styles – DW, FA, LF, TBL, VP, FR, ASP, CCM, CCP, GK, SE, TEC Modification of feature name – BU, ET, FL Rectification of feature code (Num.) – TRI Modification of feature class – DP, FL, PB Modification of symbols/line-styles – BOL, CR, DP,	May 2025

	ECM, EG, FL, LW, PT, TCM, TV, VS Modification of description – All features Revision of symbol/line-style's figure – CC, CP2, CX, EM, ET, G2, GV2, IC, LR, MH, MH2, MF2, MTR, PB, PY, RPL, SC, SEP, SX, TB, TK, TOI, TW, UB Rectification of feature code in Part V – LX Addition of symbol/line-style in Part V – GV2, RPL Revision on Appendices A, B & C	

Foreword

This Drafting Specifications (Specifications) was first completed in Sept 2002 for implementing the CAD Standards for Works Projects (CSWP). The Specifications originated from the 1:200 and 1:500 Survey and Drafting Specifications was compiled by the Working Group on Engineering Survey Computerization (now as the Information Technology for Engineering Survey (ITES) Working Group, "the Working Group") in June 1994. Following mostly from the 1:200 and 1:500 Specifications, this Specifications continues to act as the standard for coding ground features and provides guidance for field surveying and plan drafting in all Engineering Survey Offices of AFCD, CEDD, DSD, HyD, HD and WSD.

The purpose of the CSWP is to provide a common set of CAD standards that will be used for CAD files and drawings produced for works projects. It was formulated by a consultancy study conducted in 1998. The CSWP aims at aligning the Works Departments' CAD standards, setting standards for data exchange and provisions for basic requirements of CAD data management. It also facilitates the Administration's commitment in developing the Electronic Service Delivery (ESD) to provide common software interface for individuals, business and Government to interact easily. The Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 38/2002 announced the implementation of the CSWP on 15 October 2002.

This Specifications does not only set standard for survey input and drawing output in Engineering Survey Offices, it also facilitates the implementation of the CSWP in Engineering Survey Offices. The drawing outputs satisfied the CSWP for data sharing with other works projects. The Specifications is compiled, together with CSWP Symbol Database and Supplementary CSWP Symbol Database, and is revised continuously to cope with the emergence of new features and advancement of surveying technologies, with details listed in the amendment record.

I must express my sincere thanks to the Working Group and the involved supporting technical colleagues for their dedicated efforts in reviewing and revising the Specifications.

(Signed)

LEE Kin-chung
Chief Land Surveyor/CEDD
May 2025

Contents

Part I: Introduction

1.1 What is CSWP

The CAD Standards for Works Projects (CSWP) was formulated by a consultancy study conducted in 1998. CSWP aims at aligning the Works Departments' CAD standards, setting standards for data exchange and provisions for basic requirements of CAD data management. It also facilitates the Administration's commitment in developing the Electronic Service Delivery (ESD) for common software interface through which individuals, business and Government can interact easily. Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 38/2002 announced the implementation of CSWP on 15 October 2002. The latest development and information of CSWP can be viewed from CSWP web page (URL: www.devb.gov.hk/en/construction_sector_matters/electronic_services/cad_standard).

1.2 Changes from the 1:200 and 1:500 Survey and Drafting Specification

Basically, this Specifications follows the 1:200 and 1:500 Survey and Drafting Specifications with the objectives of setting standard for survey input and drawing output for Engineering Survey Offices and complying with CSWP. Changes are recorded here for easy reference.

In this Specifications, the original eight categories of ground and hydrographic features of the 1:200 and 1:500 Survey and Drafting Specifications are regrouped into 5 classes :

	Non-CSWP/Supplementary Class	*CSWP Class*
Survey Control	Survey Control	801
Artificial features Building features	Artificial and Building Features	804
Relief & Hydrographic features	Relief & Hydrographic features	805
Road features Street features	Road and Street Features	806
Utilities features Apron Area features Miscellaneous features	Utilities Features	807

To comply with CSWP, the following symbols and line-styles were reorganized:

i) Unique feature
The 1:200 and 1:500 symbol sets were merged into one set. Basically, the 1:500 symbol set was adopted to avoid the symbols getting too large and overlapping in larger scale drawings.

ii) Unique size/shape
Symbols/Line-styles were categorized as CSWP set and Non-CSWP/Supplementary set. Symbols vary in size/shape are classified as Non-CSWP/Supplementary symbols which include balcony, bench, berm, boulder, building, 2-pt catchpit, gates etc.

iii) Unique line-style
Some line-styles were merged/deleted which include kerb, channel etc.

iv) Standardized text height
The text heights were changed to 1.0mm and 1.5mm (subject to formal revision of CSWP).

It is hoped that staff from engineering survey offices can adapt to the change for CSWP and maintain the high standard and good practice in field survey and computer drafting work.

1.3 Revisions

For continuous improvement to this Specifications, colleagues in engineering survey offices are welcomed to submit their suggestions as to addition/modification/deletion in CSWP and Non-CSWP/Supplementary symbol and line-style via the request form (Appendix C) through their office head to the Working Group for consideration.

Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
A					
Archway	101	AR	Artificial & Building	804	11
Audible Traffic Signal Pole	407	ASP	Road & Street Furniture	806	27
B					
Balcony/Canopy	56	CA	Artificial & Building	804	11
Barriers	141	BA	Artificial & Building	**804**	11
Barrier Fence	915	BK	Road & Street Furniture	806	27
BBQ Pit	179	BBQ	Artificial & Building	804	11
Beacon/Light House	135	LH	Artificial & Building	**804**	11
Bench	86	BN	Road & Street Furniture	806	27
Bench Mark	103	BM	Survey Control	**801**	10
Berm	40	BE	Relief & Hydrographic	805	17
Bicycle Parking Area	183	BPA	Road & Street Furniture	806	27
Blast Deflector	151	BF	Utilities	807	39
Boardwalk	184	BW	Road & Street Furniture	806	27
Bollard at quay	90	BQ	Road & Street Furniture	**806**	27
Bollard at road	140	BO	Road & Street Furniture	**806**	27
Bollard Railing	921	BOL	Road & Street Furniture	806	27
Boulder/Rock	17	BD	Relief & Hydrographic	805	17
Boundary Stone	142	BS	Artificial & Building	**804**	11
Building Outline Curve	14	BC	Artificial & Building	804	11
Building Outline Straight	13	BX	Artificial & Building	804	11
Buoy	152	BY	Relief & Hydrographic	**805**	17
Burial Urn	104	UR	Artificial & Building	**804**	12
Bus Shelter	87	BU	Road & Street Furniture	806	27
C					
Cable Duct	80	CD	Utilities	**807**	39
Canopy [see Balcony]					
Catch Pit (1 pt.)	671	CP1	Road & Street Furniture	**806**	28
Catch Pit (2 pts.)	672	CP2	Road & Street Furniture	806	28
Catchwater	105	CW	Relief & Hydrographic	805	17
CCTV Camera Mast	408	CCM	Road & Street Furniture	806	28
CCTV Camera Post	409	CCP	Road & Street Furniture	806	28
Channel Curve	21	CC	Relief & Hydrographic	805	18
Channel Straight	20	CX	Relief & Hydrographic	805	18
Chimney	106	CM	Artificial & Building	804	12
Cliff	43	CL	Relief & Hydrographic	805	19
Column	16	CO	Road & Street Furniture	806	28
Cope Line [see Seawall]					
Control Station	139	STN	Survey Control	**801**	10

Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
Covered Walkway	107	CY	Road & Street Furniture	806	28
Crash Cushion	918	CR	Road & Street Furniture	806	28
Cultivation Bund/Limit	39	CU	Artificial & Building	804	12
Culvert	66	CV	Relief & Hydrographic	805	19

D

Dam/Weir	173	DM	Relief & Hydrographic	805	19
Distance Post	185	DIS	Road & Street Furniture	806	28
Dolphin	108	DO	Artificial & Building	**804**	12
Drain Curve	68	DC	Relief & Hydrographic	805	19
Drain Straight	65	DX	Relief & Hydrographic	805	20
Draw Pit	154	DP	Road & Street Furniture	806	29
Drinking Water Facility	401	DW	Artificial & Building	804	12
Drop Kerb	919	DK	Road & Street Furniture	806	29

E

Electric Pit	155	EI	Utilities	807	39
Electric Pole	75	EP	Road & Street Furniture	**806**	29
Electric Sub-station	143	ES	Road & Street Furniture	806	29
Electric Transformer/Electric Box	26	ET	Road & Street Furniture	806	29
Emergency Gate	907	EG	Road & Street Furniture	806	29
Emergency Helpline	188	EH	Utilities	807	39
E&M Pit	908	EM	Road & Street Furniture	806	29

F

Fanned Outlet	109	FO	Relief & Hydrographic	805	20
Fence Curve	31	FC	Artificial & Building	804	12
Fence Straight	30	FX	Artificial & Building	**804**	12
Fender	406	FR	Relief & Hydrographic	805	20
Fire Hydrant	27	FH	Road & Street Furniture	**806**	29
Fire Hydrant Pit	172	HI	Utilities	807	39
Flagpole	402	FA	Artificial & Building	804	12
Floodlight Mast/High Mast Lighting	157	FL	Road & Street Furniture	806	30
Flower Bed	88	FB	Artificial & Building	804	13
Footpath (Unpaved)	25	FP	Road & Street Furniture	806	30
Foot/Rail Bridge	15	BR	Road & Street Furniture	806	30
Fountain	144	FN	Artificial & Building	**804**	13
Free Standing Wall Curve	51	WC	Artificial & Building	804	13
Free Standing Wall Straight	50	WX	Artificial & Building	**804**	13
Fuel Hydrant Pit	158	FU	Utilities	**807**	39
Fuel Tank [see Oil Tank]					
Fuel Valve Pit	156	FV	Utilities	807	39

Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
G					
Gas Governor Kiosk	410	GK	Road & Street Furniture	806	30
Gas Pipe	81	GP	Utilities	**807**	40
Gate	34	GA	Artificial & Building	804	13
Grating (1 pt.)	52	G1	Road & Street Furniture	**806**	30
Grating (2 pts.)	53	G2	Road & Street Furniture	806	30
Grave	45	GV	Artificial & Building	804	13
	709	GV2	Artificial & Building	804	13
Gully	69	GU	Road & Street Furniture	**806**	30
H					
Hedge	19	HG	Relief & Hydrographic	**805**	20
High Water Mark	94	HW	Relief & Hydrographic	**805**	20
Hoarding	98	HD	Artificial & Building	**804**	13
I					
Inclinometer Tube	110	IN	Artificial & Building	**804**	14
Inspection Chamber	70	IC	Road & Street Furniture	806	30
J					
Jetty/Pier	160	JT	Relief & Hydrographic	805	20
K					
Kerb Bottom Curve	33	KC	Road & Street Furniture	806	30
Kerb Bottom Straight	32	KX	Road & Street Furniture	806	31
L					
Lamp Post	76	LP	Road & Street Furniture	**806**	31
Letter Box	28	LB	Road & Street Furniture	**806**	31
Level String Curve	83	LC	Relief & Hydrographic	805	21
Level String Straight	22	LX	Relief & Hydrographic	805	21
Lift Tower	403	LF	Artificial & Building	804	14
Light House [see Beacon]					
Light Rail	136	LR	Road & Street Furniture	806	31
Lighting Pit	161	LI	Utilities	807	40
M					
Manhole	60	MH	Road & Street Furniture	806	31
Manhole (2 pts.)	602	MH2	Road & Street Furniture	806	31
Manhole Foul Water/Sewer	62	MF	Road & Street Furniture	**806**	31
Manhole Foul Water/Sewer (2 pts.)	622	MF2	Road & Street Furniture	806	31
Manhole Storm Water	61	MS	Road & Street Furniture	**806**	31

Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
Manhole Structure	904	MHS	Road & Street Furniture	806	32
Manhole Telephone	63	MT	Road & Street Furniture	**806**	32
Manhole Telephone (2 pts.)	632	MT2	Road & Street Furniture	806	32
Manhole Waterworks	64	MW	Road & Street Furniture	**806**	32
Manhole Waterworks (2 pts.)	642	MW2	Road & Street Furniture	806	32
Marsh/Swamp	113	MA	Relief & Hydrographic	805	21
Marshalling Platform	163	MP	Utilities	807	40
Mass Transit Railway	114	MTR	Road & Street Furniture	806	32
Milestone	149	ME	Road & Street Furniture	**806**	32
Moat [see Pond]					
Monument/Sculpture/Statue	115	MO	Artificial & Building	**804**	14
N					
Noise Barrier Curve	203	NC	Road & Street Furniture	806	32
Noise Barrier Straight	204	NX	Road & Street Furniture	**806**	33
Non-carriageway Pavement Centerline	920	NPC	Road & Street Furniture	806	33
Nose Tethering Slab	165	NT	Utilities	807	40
Nullah	74	NU	Relief & Hydrographic	805	21
O					
Oil Tank/Water Tank/Fuel Tank	73	TA	Artificial & Building	804	14
P					
Parking Meter	186	PM	Road & Street Furniture	806	33
Pavement/Paved Footpath	24	PA	Road & Street Furniture	806	33
Pavement Polygon	906	PX	Road & Street Furniture	806	33
Pavilion	116	PV	Artificial & Building	804	14
Peak Tramway	117	PT	Road & Street Furniture	806	33
Pedestrian Crossing	145	PC	Road & Street Furniture	806	33
Pedestrian Subway	36	SU	Road & Street Furniture	806	34
Picnic Table & Bench	180	PTB	Artificial & Building	804	14
Pier [see Jetty]					
Piezometer Tube	118	PZ	Artificial & Building	**804**	14
Pillar Box	166	PB	Road & Street Furniture	806	34
Pipeline	119	PP	Utilities	807	40
Plant Watering Tap	189	PWT	Utilities	807	40
Platform	57	PL	Artificial & Building	804	14
Podium Line	120	PD	Artificial & Building	804	14
Pond/Pool/Moat/Reservoir/Fountain	38	PO	Relief & Hydrographic	805	22
Portable Toilet	181	TOI	Artificial & Building	804	15
Pylon	84	PY	Utilities	807	40

Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
Q					
Quarry Bottom	121	QB	Relief & Hydrographic	805	22
Quarry Top	137	QT	Relief & Hydrographic	805	22
R					
Rail Bridge [see Footbridge]					
Railing Curve	59	RC	Road & Street Furniture	806	34
Railing Straight	58	RX	Road & Street Furniture	806	34
Railway Protection Limit	300	RPL	Road & Street Furniture	806	34
Random Level Point (Spot Height)	44	P	Relief & Hydrographic	805	22
Reservoir [see Pond]					
Restricted Access	123	RA	Road & Street Furniture	**806**	34
Retaining Wall [see Vertical Cutting]					
River [see Stream Course]					
Road Margin Line	23	RM	Road & Street Furniture	806	34
Roadblock	187	RB	Road & Street Furniture	806	34
Roadside Planter Wall	909	RW	Road & Street Furniture	806	34
Rock [see Boulder]					
Rocky Area/Group of Boulders	124	RK	Relief & Hydrographic	805	22
Rubbish Bin	182	RUB	Artificial & Building	804	15
Ruin	125	RU	Artificial & Building	804	15
S					
Seawall/Cope Line	99	SW	Relief & Hydrographic	805	23
Septic Tank	721	SEP	Road & Street Furniture	806	35
Shelter	411	SE	Road & Street Furniture	806	35
Shrine (Large)	126	SH	Artificial & Building	804	15
Shrine (Small)	174	SS	Artificial & Building	**804**	15
Sign Board	12	BB	Road & Street Furniture	806	35
Sign Pole	77	SP	Road & Street Furniture	**806**	35
Slope Bottom	42	SB	Relief & Hydrographic	805	23
Slope Planter Wall	910	LW	Road & Street Furniture	806	35
Slope Top	41	ST	Relief & Hydrographic	805	23
Slot Drain	167	SD	Utilities	807	41
Soil Nail	127	SN	Artificial & Building	**804**	15
Special Paving Panel	911	SPP	Road & Street Furniture	806	35
Stair/Step Edge	35	SI	Road & Street Furniture	806	35
Stepped Channel Curve	128	SC	Relief & Hydrographic	805	24
Stepped Channel Straight	129	SX	Relief & Hydrographic	**805**	25
Strategic Route Chainage Marker	916	ECM	Road & Street Furniture	806	35
Street Name Plate	913	SNP	Road & Street Furniture	806	35
Stream Course/River	37	SR	Relief & Hydrographic	**805**	25
Swamp [see Marsh]					

Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
T					
Table	404	TBL	Artificial & Building	804	15
Tactile Paving	912	TV	Road & Street Furniture	806	36
Tank [see Oil Tank]					
Taxiway Light	162	LT	Utilities	**807**	41
Taxiway Marking	159	AM	Utilities	807	41
Telephone Chamber	169	TC	Utilities	807	41
Telephone Kiosk	89	TK	Road & Street Furniture	806	36
Telephone Pole	79	TP	Road & Street Furniture	**806**	36
Temporary Structure	97	TS	Artificial & Building	804	16
Tide Gauge	130	TG	Relief & Hydrographic	**805**	25
Track	131	TR	Road & Street Furniture	806	36
Traffic Enforcement Camera	412	TEC	Road & Street Furniture	806	36
Traffic Island	146	TI	Road & Street Furniture	**806**	36
Traffic Light	78	TL	Road & Street Furniture	**806**	36
Traffic Light Control Box	147	TB	Road & Street Furniture	806	36
Tramway	138	TW	Road & Street Furniture	806	36
Transformer Pit	170	TT	Utilities	807	41
Tree	18	TE	Relief & Hydrographic	**805**	25
Trigonometrical Station	230	TRI	Survey Control	**801**	10
Tunnel	133	TU	Road & Street Furniture	806	37
Tunnel Chainage Marker	917	TCM	Road & Street Furniture	806	37
U					
Unclassified Dot/Point Feature	29	XP	Utilities	**807**	41
Unclassified Firm Line Structure Curve	47	XC	Utilities	807	41
Unclassified Firm Line Structure Straight	46	XX	Utilities	807	41
Unclassified Long Dash Line	48	XL	Utilities	807	41
Unclassified Short Dash Line	49	XS	Utilities	807	42
Utility Box	261	UB	Road & Street Furniture	806	37
V					
Valve	71	VV	Road & Street Furniture	**806**	37
Valve Fire	91	VF	Road & Street Furniture	**806**	37
Valve Gas	92	VG	Road & Street Furniture	**806**	37
Valve Waterworks	93	VW	Road & Street Furniture	**806**	38
Ventilation Pipe	405	VP	Artificial & Building	804	16
Vertical Cutting/Masonry/Retaining Wall	54	WR	Relief & Hydrographic	**805**	26
Visitor Sign Post	914	VS	Road & Street Furniture	806	38

Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

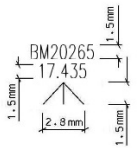
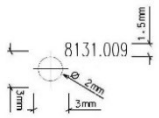
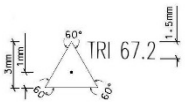
Part II : Symbol & Line-style Listing

Feature Name	Feature Code Num	Alpha	Feature Type	Class	Page No.
W					
Water Main	82	WM	Road & Street Furniture	**806**	38
Water Point	171	WP	Utilities	**807**	42
Water Tank [see Oil Tank]					
Weir [see Dam]					
Well	72	WL	Artificial & Building	**804**	16
Works in Progress Limit	134	WIP	Artificial & Building	804	16

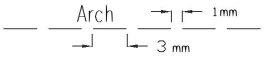
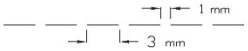
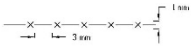
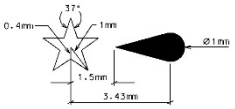
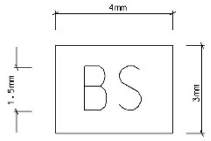
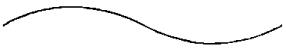
Note: **804** CSWP Symbol/Line-style
804 Non-CSWP/Supplementary Symbol/Line-style

Part III: Symbol & Line-style Details

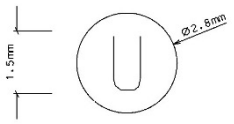
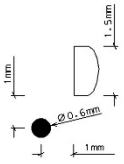
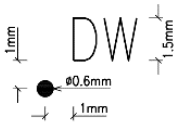
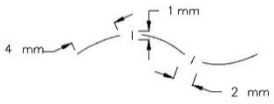
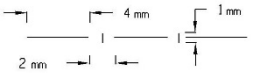
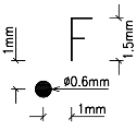
Survey Control

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Bench Mark	103	BM	The position of the bench mark is to be surveyed and shown with the point symbol as illustrated. Level and reference number of the bench mark are to be annotated.		**801**	
Control Station	139	STN	The control point is to be shown with the point symbol as illustrated. Reference number of the station is to be annotated.		**801**	
Trigonometrical Station	230	TRI	The trigonometrical station is to be shown with the point symbol as illustrated and center of the beacon is represented by the dot inside the symbol. Reference number of the station is to be annotated.		**801**	

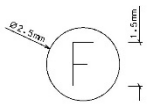
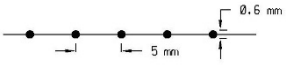
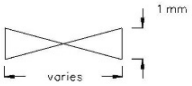
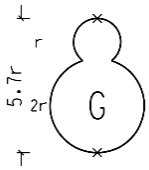
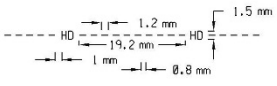
Part III: Symbol & Line-style Details
Artificial & Building Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Archway	101	AR	The size and shape of the archway are to be surveyed/delineated[1] and shown with pecked line as illustrated. The area is annotated as "Arch" with appropriate text height to suit the extent. Level is normally not required.			804
Balcony/Canopy	56	CA	The edge of the balcony or canopy is to be surveyed/delineated and shown with pecked line as illustrated. Level is normally not required.			804
Barriers	141	BA	The alignment of the barriers is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally shown.		**804**	
BBQ Pit	179	BBQ	The center of the BBQ pit is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			804
Beacon/Light House	135	LH	The center of the beacon or light house is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required. For large light house, the feature codes "BC" or "BX" for Building Outline should be used.		**804**	
Boundary Stone	142	BS	The center of the boundary stone is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.		**804**	
Building Outline Curve	14	BC	The outer limit of the curvilinear portion of the building line is to be surveyed/delineated and shown as solid line. Level is normally shown.			804
Building Outline Straight	13	BX	The outer limit of the straight portion of the building line is to be surveyed/delineated and shown as solid line. Level is normally shown.			804

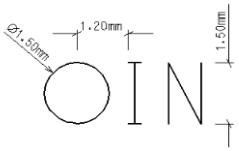
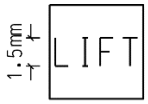
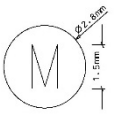
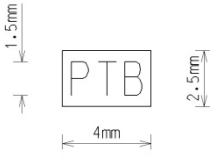
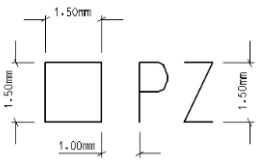
Part III: Symbol & Line-style Details
Artificial & Building Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Burial Urn	104	UR	The center of the burial urn is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required. In case of a group of urns in a rectangular compartment, the outer limits of the compartment with levels are to be surveyed/delineated and shown as pecked lines. The area is annotated as "Urns" with appropriate text height to suit the extent.		**804**	
Chimney	106	CM	The outer limit of the chimney is to be surveyed/delineated and shown as solid line. Level is normally not required. The height of chimney is measured only when requested.			804
Cultivation Bund/ Limit	39	CU	The limits of the cultivation are to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "Cultivation" or "CU" with appropriate text height to suit the extent. Level is normally shown.			804
Dolphin	108	DO	The center of the dolphin is to be surveyed/delineated and shown as a point with annotation "D". Level is normally not required.		**804**	
Drinking Water Facility	401	DW	The position of water refill station / drinking fountain is to be surveyed/delineated and shown as a point with annotation "DW". Level is normally not required.			804
Fence Curve	31	FC	The alignment of the curvilinear portion of the fence is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally shown.			804
Fence Straight	30	FX	The alignment of the straight portion of the fence is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally shown.		**804**	
Flagpole	402	FA	The center of the flagpole is to be surveyed/delineated and shown as a point with annotation "F". Level is normally not required.			804

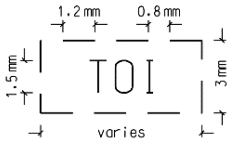
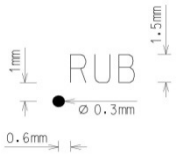
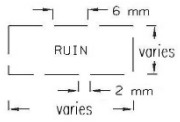
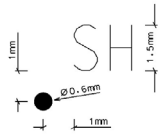
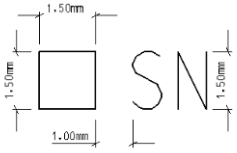
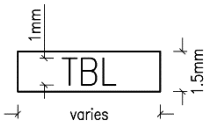
Part III: Symbol & Line-style Details
Artificial & Building Features

Feature Name	Feature Code Num.	Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Flower Bed	88	FB	The outer limit of the flower bed is to be surveyed/delineated and shown as solid line. Level is normally shown. The area is annotated as "Flower Bed" or "FB" with appropriate text height to suit the extent.			804
Fountain	144	FN	The center of the fountain is to be surveyed/delineated and shown by the point symbol as illustrated. Level is not required. For large fountain which cannot be shown as a point symbol the feature code "PO" for Pond should be used.		**804**	
Free Standing Wall Curve	51	WC	The alignment of the curvilinear portion of the free standing wall is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally shown. Height and width of the wall are to be measured and shown when necessary.			804
Free Standing Wall Straight	50	WX	The alignment of the straight portion of the free standing wall is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally shown. Height and width of the wall are to be measured and shown when necessary.		**804**	
Gate	34	GA	The two end points of the gate are to be surveyed/delineated and shown by the symbol as illustrated. Level is normally shown.			804
Grave	709 45	GV2 GV	For small grave, two opposite end points of the grave are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. It is annotated as 'G'. Level is normally not required. For large grave, the outer limit of the grave is to be surveyed/delineated and shown as solid line. It is annotated as "Grave" or "GV" with appropriate text height to suit the extent. Level is normally shown.	Small Grave (Symbol)  Large Grave (Line-style)		804
Hoarding	98	HD	The alignment of hoarding is to be surveyed/delineated and shown as pecked line with the annotation "HD" at regular intervals. Level is normally shown.		**804**	

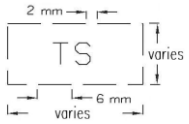
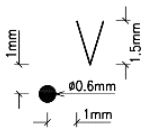
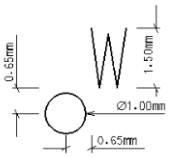
Part III: Symbol & Line-style Details
Artificial & Building Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Inclinometer Tube	110	IN	The center and cover level of the inclinometer tube are to be surveyed/delineated and shown by a circle annotated with "IN" as illustrated. The reference number of the inclinometer is to be annotated.		**804**	
Lift Tower	403	LF	The outer limit of the lift tower is to be surveyed/delineated and shown as solid line. The area is annotated as "LIFT" or "LF". Level is normally shown.			804
Monument/ Sculpture/Statue	115	MO	The center of the monument, sculpture or statue is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.		**804**	
Oil Tank/Water Tank/Fuel Tank	73	TA	The outer limit of the tank is to be surveyed/delineated and shown as solid line. Level is normally shown if the tank is on ground. The area is to be annotated as "Oil Tank", "Water Tank", "Fuel Tank", "TANK" or "TA" with appropriate text height to suit the extent.			804
Pavilion	116	PV	The outer limit of the pavilion is to be surveyed/delineated and shown as solid line. Level is normally shown.			804
Picnic Table and Bench	180	PTB	The center of the picnic table and bench is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			804
Piezometer Tube	118	PZ	The center and cover level of the piezometer tube are to be surveyed/delineated and shown by a square annotated with "PZ" as illustrated. The reference number of the piezometer is annotated when required.		**804**	
Platform	57	PL	The outer limit of the platform is to be surveyed/delineated and shown as solid line. Level is normally shown.			804
Podium Line	120	PD	The outer limit of the podium is to be surveyed/delineated and shown as solid line. Level is normally shown.			804

Part III: Symbol & Line-style Details
Artificial & Building Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Portable Toilet	181	TOI	The mid points of the shorter sides of the portable toilet are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required.			804
Rubbish Bin	182	RUB	The center of the ground fixed rubbish bin is to be surveyed/delineated and shown as a point with annotation "RUB". Level is normally not required.			804
Ruin	125	RU	The outer limit of the ruin is to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "Ruin" or "RU" with appropriate text height to suit the extent. Level is normally shown.			804
Shrine (Large)	126	SH	The outer limit of the shrine (large) is to be surveyed/delineated and shown as solid line. The area is annotated as "Shrine" or "SH" with appropriate text height to suit the extent. Level is normally not required.			804
Shrine (Small)	174	SS	The center of the shrine (small) is to be surveyed/delineated and shown as a point with annotation "SH". Level is normally not required.		**804**	
Soil Nail	127	SN	The center of the soil nail is to be surveyed/delineated and shown by a square annotated with "SN" as illustrated. The reference number of the soil nail is annotated when required.		**804**	
Table	404	TBL	The mid points of the shorter sides of table are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required.			804

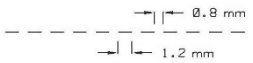
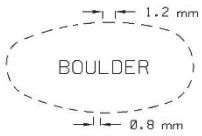
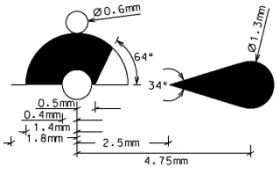
Part III: Symbol & Line-style Details
Artificial & Building Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Temporary Structure	97	TS	Temporary Structure is an individual or a group of structures which is built with flimsy material and is not of a permanent nature. The choice of presentation depends on the purpose of survey as well as the size and separation of the structures. Generally, temporary structures less than 1m apart will be shown collectively as a group of temporary structures. The outer limit of the individual, or group of temporary structure is to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "TS" with appropriate text height to suit the extent. Level is normally shown.			804
Ventilation Pipe	405	VP	The center of the ventilation pipe is to be surveyed/delineated and shown as a point with annotation "V". Level is normally not required.			804
Well	72	WL	The center of the well is to be surveyed/delineated and shown by a circle with annotation "W" as illustrated. Level is not required.		**804**	
Works In Progress Limit	134	WIP	The limit of the construction site is to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "W.I.P." or "Works in progress" and the date of survey, with appropriate text height to suit the extent.			804

Note[1]: to be directly surveyed by conventional survey methods or to be delineated from any form of survey deliverables (e.g. point cloud, mesh, orthophoto etc.)

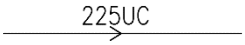
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Berm	40	BE	Berm refers to the horizontal platform inside an artificial slope, usually bounded by the edge of slope and surface channels. The edge of slope marking the berm is to be surveyed/delineated[1] and shown with pecked line as illustrated. Level is normally shown.			805
Boulder/Rock	17	BD	Only the limits of those large boulders, exposed rocks or rock outcrops required for engineering design are to be surveyed/delineated and shown with pecked lines as illustrated. The areas are annotated as "Boulder" with appropriate text height to suit the extent. Level is normally shown. The level of the highest point of boulder is to be surveyed/delineated and shown if possible.			805
Buoy	152	BY	The position of the buoy is to be surveyed/delineated and shown by the point symbol as illustrated. Level is not required.		**805**	
Catchwater	105	CW	The upper/outer and the lower/ inner limits of the catchwater are to be surveyed/delineated and shown as solid lines. Level is normally shown. The invert level and details like sandtrap, overflow etc. are surveyed/delineated when necessary.			805

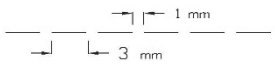
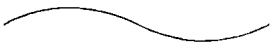
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Channel Curve	21	CC	(For 1:200 or larger scale) The alignment, size, shape and when necessary the invert level of the curvilinear portion of the surface channel are to be surveyed/delineated and shown by single solid line, or double solid lines representing a channel width apart. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "UC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent. (For 1:500) The centerline and the invert level of the curvilinear portion of the surface channel are to be surveyed/delineated and shown as solid line. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "UC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent.			805
Channel Straight	20	CX	(For 1:200 or larger scale) The alignment, size, shape and when necessary the invert level of the straight portion of the surface channel are to be surveyed/delineated and shown by single solid line, or double solid lines representing a channel width apart. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "UC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent. (For 1:500) The centerline and the invert level of the straight portion of the surface channel are to be surveyed/delineated and shown as solid line. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "UC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent.			805

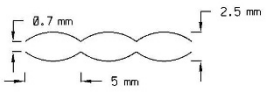
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Cliff	43	CL	The top and bottom edges of the cliff are to be surveyed/delineated and shown with pecked line as illustrated. Level is normally shown. The details and levels of the overhanging and caved-in structure are surveyed/delineated when necessary.			805
Culvert	66	CV	The size and shape of the culvert is to be surveyed/delineated and shown as solid line. The area is to be annotated as "Cul" with appropriate text height to suit the extent. Level is normally shown. Invert level of the culvert is to be surveyed/delineated when necessary.			805
Dam/Weir	173	DM	The outer limits of the dam or weir are to be surveyed/delineated and shown as solid lines. Level is normally shown. The external dam wall may be shown with appropriate pattern symbol.			805
Drain Curve	68	DC	(For 1:200 or larger scale) The alignment, size, shape and invert level of the curvilinear portion of the drain are to be surveyed/delineated and shown as solid line. The direction of flow is to be indicated by direction arrows at suitable intervals. The diameter and type of drain are to be surveyed/delineated and annotated. (For 1:500) The alignment and invert level of the curvilinear portion of the drain are to be surveyed/delineated and shown as solid line. The direction of flow is to be indicated by direction arrows at suitable intervals. The diameter and type of drain are to be surveyed/delineated and annotated.			805

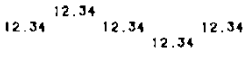
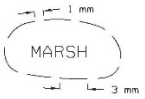
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Drain Straight	65	DX	(For 1:200 or larger scale) The alignment, size, shape and invert level of the straight portion of the drain are to be surveyed/delineated and shown as solid line. The direction of flow is to be indicated by direction arrows at suitable intervals. The diameter and type of drain are to be surveyed/delineated and annotated. (For 1:500) The alignment and invert level of the straight portion of the drain are to be surveyed/delineated and shown as solid line. The direction of flow is to be indicated by direction arrows at suitable intervals. The diameter and type of drain are to be surveyed/delineated and annotated.			805
Fanned Outlet	109	FO	The outer limits of the outlet are to be surveyed/delineated and shown as solid line. The area is to be annotated as "Fanned Outlet" or "FO" with appropriate text height to suit the extent. Level is normally not required.			805
Fender	406	FR	The outer limit of the fender is to be surveyed/delineated and shown as solid line. Level is normally not required.			805
Hedge	19	HG	The centerline of the hedge is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.		**805**	
High Water Mark	94	HW	As decided by the Mapping Policy Committee on 24.7.1991, the 2.3 metre (above Principal Datum) contour line is to be adopted as the high water mark. It is shown as a pecked line with the annotation "HWM" at regular intervals.		**805**	
Jetty/Pier	160	JT	The outer limits of the jetty or pier are to be surveyed/delineated and shown as solid lines. The area should be annotated as "Jetty" or "Pier" with appropriate text height to suit the extent. Level is normally shown.			805

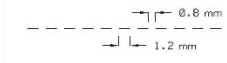
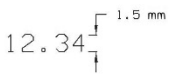
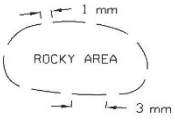
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Level String Curve	83	LC	Level strings (curvilinear) are invisible 3-dimensional lines in space with height values with respect to Hong Kong Principal Datum. These lines are either surveyed, or interpolated/extracted from any form of survey deliverables.			805
Level String Straight	22	LX	Level strings (straight) are invisible 3-dimensional lines in space with height values with respect to Hong Kong Principal Datum. These lines are either surveyed, or interpolated/extracted from any form of survey deliverables.			805
Marsh/Swamp	113	MA	The outer limit of the marsh or swamp is to be surveyed/delineated and shown with pecked line as illustrated. The area is to be annotated as “Marsh” or “MA” with appropriate text height to suit the extent. Level is normally shown.			805
Nullah	74	NU	The outer/upper and inner/lower limits of an open nullah are to be surveyed/delineated and shown as solid lines. Level is normally shown. Invert level and details inside the nullah are surveyed/delineated only when necessary. The direction of flow is indicated by direction arrows. For covered and decked nullah only the outer/upper limits are to be surveyed/delineated and shown as pecked lines.			805

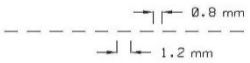
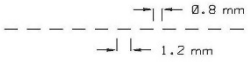
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Pond/ Pool/ Moat/ Reservoir/ Fountain	38	PO	The upper/outer limits of ponds, swimming pools, moats, reservoirs and large fountains etc. are to be surveyed/delineated and shown as solid lines. The area is annotated as "Pond", "Pool", "Sw P" or "Fountain" with appropriate text height to suit the extent. Level is normally shown. For small fountain, the feature code "FN" for 'Fountain' should be used. For open reservoir, the limit of the reservoir is determined by the water level at full capacity and is shown as solid line. The area is to be annotated as "Reservoir". For covered reservoir, the limit of the reservoir is shown as pecked line and the area is annotated as "Reservoir Under" with appropriate text height to suit the extent.			805
Quarry Bottom	121	QB	The bottom limits of the quarry platforms are to be surveyed/delineated and shown with pecked lines as illustrated. Level is normally shown.			805
Quarry Top	137	QT	The top limits of the quarry platforms are to be surveyed/delineated and shown with pecked lines as illustrated. Level is normally shown.			805
Random Level Point (Spot Height)	44	P	Any point on ground which is essential to depict the ground topography should be surveyed/delineated. The position of the spot height should be marked by the decimal point of its level value which is related to the Hong Kong Principal Datum.			805
Rocky Area/Group of Boulders	124	RK	The limits of the rocky area or a group of boulders are to be surveyed/delineated and shown with pecked lines. The area is to be annotated as "Rocky Area" or "RK" with appropriate text height to suit the extent. Level is normally shown. Sufficient spot levels within the rocky area should be surveyed and shown for engineering design or volumetric computation purposes.			805

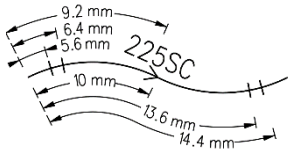
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Seawall/Cope Line	99	SW	Sloping seawall is treated as artificial slope. The top of the seawall is to be surveyed/delineated and shown as solid line. Level is normally shown. The bottom of the seawall is defined by 'High Water Mark'. The enclosed area is to be annotated as "Sloping Seawall" with appropriate text height to suit the extent. For vertical seawall, only the top of the seawall with level is to be surveyed/delineated. It is annotated as "Seawall" on the seaward side with appropriate text height to suit the extent.			805
Slope Bottom	42	SB	The bottom limit of the slope is to be surveyed/delineated and shown with pecked line as illustrated. Level is normally shown. The enclosed area is to be filled with slope symbols.			805
Slope Top	41	ST	The top limit of the slope is to be surveyed/delineated and shown with pecked line as illustrated. Level is normally shown. The enclosed area is to be filled with slope symbols.			805

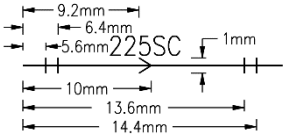
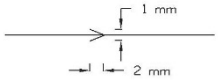
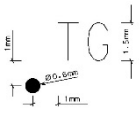
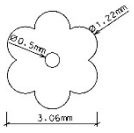
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Stepped Channel Curve	128	SC	(For 1:200 or larger scale) The alignment, size, shape and when necessary the invert level of the curvilinear portion of the stepped channel are to be surveyed/delineated. It is either shown with the line-style as illustrated, or double solid lines at channel width apart. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "SC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent. (For 1:500) The alignment and invert level of the curvilinear portion of the stepped channel are to be surveyed/delineated. It is shown with the line-style as illustrated. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "SC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent.			805

Part III: Symbol & Line-style Details

Relief & Hydrographic Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Stepped Channel Straight	129	SX	(For 1:200 or larger scale) The alignment, size, shape and when necessary the invert level of the straight portion of the stepped channel are to be surveyed/delineated. It is either shown with the line-style as illustrated, or double solid lines at channel width apart. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "SC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent. (For 1:500) The alignment and invert level of the straight portion of the stepped channel are to be surveyed/delineated. It is shown with the line-style as illustrated. The direction of flow is to be indicated by direction arrows at suitable intervals. The channel width with abbreviation "SC", whether the channel covers exist, are to be annotated with appropriate text height to suit the extent.		**805**	
Stream Course/ River	37	SR	For narrow stream course, the alignment of the stream is to be surveyed/delineated and shown as solid line. Level is normally shown. The direction of flow is indicated by direction arrows. For wide stream course and river, the limits of the stream or the bank of river are to be surveyed/delineated and shown as solid lines.		**805**	
Tide Gauge	130	TG	The position of the tide gauge is to be surveyed/delineated and shown as a point with annotation "TG". Level is normally not required.		**805**	
Tree	18	TE	The position of the tree is to be surveyed/delineated and shown by the point symbol as illustrated. The level, Diameter Breast Height (DBH) of the trunk, height and the spread of foliage are to be measured and annotated when requested.		**805**	

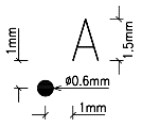
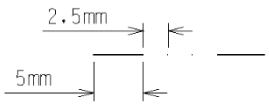
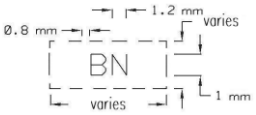
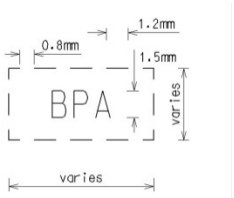
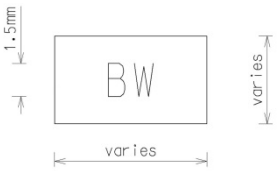
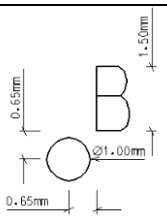
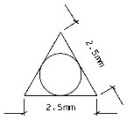
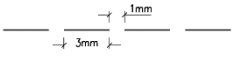
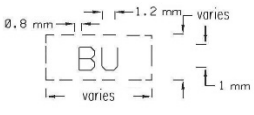
Part III: Symbol & Line-style Details

Relief & Hydrographic Features

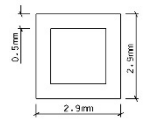
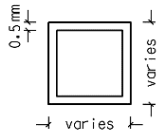
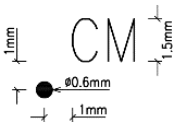
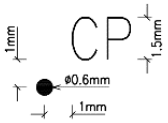
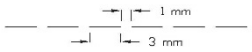
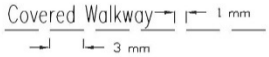
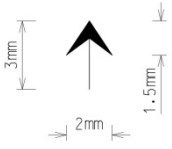
Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Vertical Cutting/ Masonry/ Retaining Wall	54	WR	The alignment of the vertical cutting or retaining wall is to be surveyed/delineated and shown with the line-style as illustrated. For sloping retaining wall both the top and the bottom are to be surveyed/delineated. The height and gradient of the wall is to be surveyed/delineated when requested.		**805**	

Note[1]: to be directly surveyed by conventional survey methods or to be delineated from any form of survey deliverables (e.g. point cloud, mesh, orthophoto etc.)

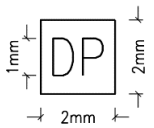
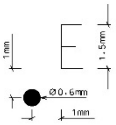
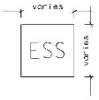
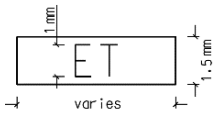
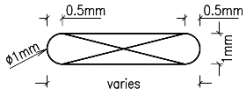
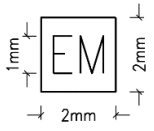
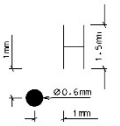
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Audible Traffic Signal Pole	407	ASP	The center of the audible traffic signal pole is to be surveyed/delineated[1] and shown as a point with annotation "A". Level is normally not required.			806
Barrier Fence	915	BK	The alignment of the barrier fence is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.			806
Bench	86	BN	The outer limit of the bench is to be surveyed/delineated and shown with pecked line as illustrated. It is annotated as "BN". Level is normally not required.			806
Bicycle Parking Area	183	BPA	The outer limit of the bicycle parking area is to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "BPA". Level is normally shown.			806
Boardwalk	184	BW	The outer limit of the boardwalk is to be surveyed/delineated and shown with solid line. The area is annotated as "BW". Level is normally shown.			806
Bollard at quay	90	BQ	The center of the bollard at quay is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.		**806**	
Bollard at road	140	BO	The center of the bollard at road is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.		**806**	
Bollard Railing	921	BOL	The alignment of the bollard railing is to be surveyed/delineated and shown with pecked line as illustrated. Level is normally not required.			806
Bus Shelter	87	BU	The outer limit of the bus shelter is to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "BU". Level is normally not required.			806

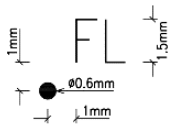
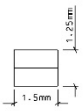
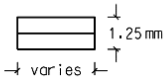
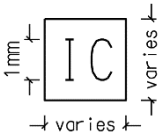
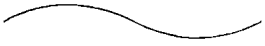
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Catch Pit (1 pt.)	671	CP1	The center of the catch pit is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required. Invert level, sump level, inlet and outlet levels etc. are to be surveyed/delineated when directed.		**806**	
Catch Pit (2 pts.)	672	CP2	The mid-points of the opposite sides of the catch pit are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required. Invert level, sump level, inlet and outlet levels etc. are to be surveyed/delineated when directed.			806
CCTV Camera Mast	408	CCM	The center of the camera mast is to be surveyed/delineated and shown as a point with annotation “CM”. Level is normally not required.			806
CCTV Camera Post	409	CCP	The center of the camera post is to be surveyed/delineated and shown as a point with annotation “CP”. Level is normally not required.			806
Column	16	CO	The perimeter of the column is to be surveyed/delineated and shown with pecked line as illustrated. Level is normally not required.			806
Covered Walkway	107	CY	The outer limits of the covered walkway are to be surveyed/delineated and shown with pecked lines as illustrated. The area is annotated as “Covered Walkway” with appropriate text height to suit the extent. Level is normally shown.			806
Crash Cushion	918	CR	The outer limit of the crash cushion is to be surveyed/delineated and shown as solid line. The area is annotated as “Crash Cushion” or “CR” with appropriate text height to suit the extent. Level is normally not required.			806
Distance Post	185	DIS	The position of the distance post is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			806

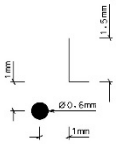
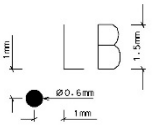
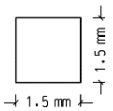
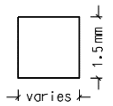
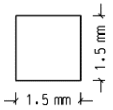
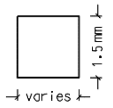
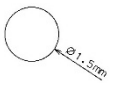
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Draw Pit	154	DP	The center of the draw pit is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			806
Drop Kerb	919	DK	The alignment and level of the drop kerb is to be surveyed/delineated and shown as solid line.			806
Electric Pole	75	EP	The center of the electric pole is to be surveyed/delineated and shown as a point with annotation “E”. Level is normally not required.		**806**	
Electric Sub-station	143	ES	The outer limit of the electric sub-station is to be surveyed/delineated and shown as solid line. The area is annotated as “ESS” with appropriate text height. Level is normally not required.			806
Electric Transformer/ Electric Box	26	ET	For small ‘Electric Transformer’ or ‘Electric Box’, the mid points of the shorter sides are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. It is annotated as “ET”. Level is normally not required. For large ‘Electric Transformer’, depending on the shape, the outer limits of the transformer are to be surveyed/delineated with Miscellaneous Feature code ‘XC’ or ‘XX’. The area is annotated as “Electric Transformer” with appropriate text height to suit the extent.			806
Emergency Gate	907	EG	The two end points of the emergency gate are to be surveyed/delineated and shown by the symbol as illustrated. Level is normally not required.			806
E&M Pit	908	EM	The center of the E&M pit is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			806
Fire Hydrant	27	FH	The center of the fire hydrant is to be surveyed/delineated and shown as a point with annotation “H”. Level is normally not required.		**806**	

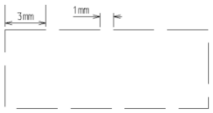
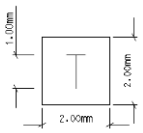
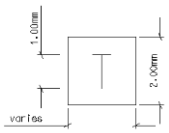
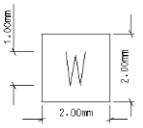
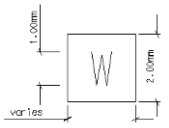
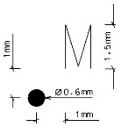
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Floodlight Mast/High Mast Lighting	157	FL	The center of the mast is to be surveyed/delineated and shown as a point with annotation "FL". Level is normally not required.			806
Footpath (Unpaved)	25	FP	The limits of unpaved footpath are to be surveyed/delineated and shown with pecked lines as illustrated. The area is annotated as "Footpath" or "FP" with appropriate text height to suit the extent. Level is normally shown. For pavement/paved footpath, the feature code "PA" should be used.			806
Foot/Rail Bridge	15	BR	The outer limits of the foot/rail bridge are to be surveyed/delineated and shown as solid lines. The area is annotated as "Footbridge" or "Railbridge" with appropriate text height to suit the extent. Level is normally shown.			806
Gas Governor Kiosk	410	GK	The outer limit of the gas governor kiosk is to be surveyed/delineated and shown as solid line. The area is annotated as "GK". Level is normally not required.			806
Grating (1 pt.)	52	G1	The center of the grating is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.		**806**	
Grating (2 pts.)	53	G2	The mid-points of the shorter sides of the grating are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required.			806
Gully	69	GU	The center of the gully is to be surveyed/delineated and shown by a circle as illustrated. Level is normally not required.		**806**	
Inspection Chamber	70	IC	The outer limit of the inspection chamber is to be surveyed/delineated and shown as solid line. It is annotated as "IC". Level is normally not required.			806
Kerb Bottom Curve	33	KC	The alignment and level of the curvilinear portion of kerb bottom are to be surveyed/delineated and shown as solid line.			806

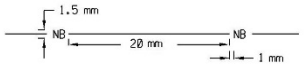
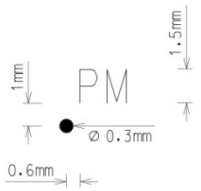
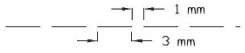
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Kerb Bottom Straight	32	KX	The alignment and level of the straight portion of kerb bottom are to be surveyed/delineated and shown as solid line.			806
Lamp Post	76	LP	The center of the lamp post is to be surveyed/delineated and shown as a point with annotation “L”. Level is normally not required.		**806**	
Letter Box	28	LB	The center of the letter box is to be surveyed/delineated and shown as a point with annotation “LB”. Level is normally not required.		**806**	
Light Rail	136	LR	The route of the Light Rail lines is to be surveyed/delineated and shown with pair of solid lines as illustrated. The route is annotated as “LIGHT RAIL” or “LR” with appropriate text height. Level is normally shown.			806
Manhole	60	MH	The center of the manhole cover is to be surveyed/delineated and shown by a square as illustrated. Level is normally not shown.			806
Manhole (2 pts.)	602	MH2	The mid-points of the shorter sides of the manhole cover are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not shown.			806
Manhole Foul Water/Sewer	62	MF	The center of the manhole cover (foul water/sewer) is to be surveyed/delineated and shown by a square as illustrated. Level is normally shown.		**806**	
Manhole Foul Water/Sewer (2 pts.)	622	MF2	The mid-points of the shorter sides of the manhole cover (foul water/sewer) are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally shown.			806
Manhole Storm Water	61	MS	The center of the manhole cover (storm water) is to be surveyed/delineated and shown by a circle as illustrated. Level is normally shown.		**806**	

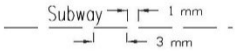
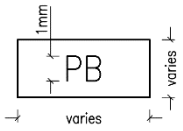
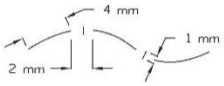
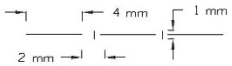
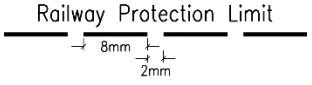
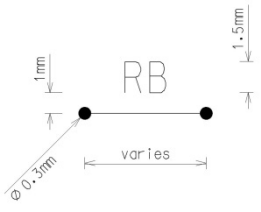
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Manhole Structure	904	MHS	The outer limit of the structure of the manhole is to be surveyed/delineated and shown with pecked line in a closed polygon as illustrated. Level is normally not shown.			806
Manhole Telephone	63	MT	The center of the manhole cover (telecommunication) is to be surveyed/delineated and shown by a square with annotation "T" inside. Level is normally not required.		**806**	
Manhole Telephone (2 pts.)	632	MT2	The mid-points of the shorter sides of the manhole cover (telecommunication) are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required.			806
Manhole Waterworks	64	MW	The center of the manhole cover (waterworks) is to be surveyed/delineated and shown by a square with annotation "W" inside. Level is normally not required.		**806**	
Manhole Waterworks (2 pts.)	642	MW2	The mid-points of the shorter sides of the manhole cover (waterworks) are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required.			806
Mass Transit Railway	114	MTR	The exposed route of the Mass Transit Railway lines is to be surveyed/delineated and shown with pair of solid lines as illustrated. The route is annotated as "MTR" or "Mass Transit Railway" with appropriate text height. Level is normally shown.			806
Milestone	149	ME	The center of the milestone is to be surveyed/delineated and shown as a point with annotation "M". Level is normally not required.		**806**	
Noise Barrier Curve	203	NC	The alignment of the footing of the curvilinear portion of the noise barrier is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.			806

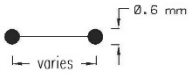
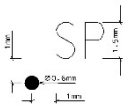
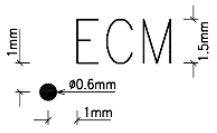
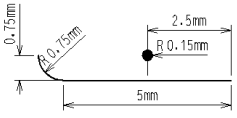
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Noise Barrier Straight	204	NX	The alignment of the footing of the straight portion of the noise barrier is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.		**806**	
Non-carriageway Pavement Centerline	920	NPC	The feature covers Pavement Polygon (PP) of Footway, Carpark-Footway, Public Transport Interchange-Footway, Cycle Track, Side/Back Lane and Run-in. The purpose is to record the length of PP with respect to the type of surface material. The NPC shall be drawn more or less along the center alignment and along the PP. One NPC shall be drawn for each PP and shown as solid line.			806
Parking Meter	186	PM	The center of the parking meter post is to be surveyed/delineated and shown as a point with annotation “PM”. Level is normally not required.			806
Pavement/Paved Footpath	24	PA	The limits of the pavement or paved footpath are to be surveyed/delineated and shown as solid lines. Level is normally shown.			806
Pavement Polygon	906	PX	The outer limit of the pavement is to be surveyed/delineated and each polygon shall record one uniform pavement surface type. The pavement polygon shown as a polygon with solid line. Level is normally not shown.			806
Peak Tramway	117	PT	The railway lines of the Peak Tram are to be surveyed/delineated and shown with pair of solid lines as illustrated. The route is annotated as “PEAK TRAM” with appropriate text height. Level is normally shown.			806
Pedestrian Crossing	145	PC	The limits of the pedestrian crossing are to be surveyed/delineated and shown with pecked lines as illustrated. Level is normally shown.			806

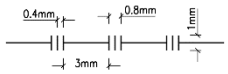
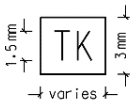
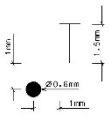
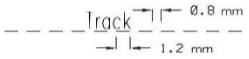
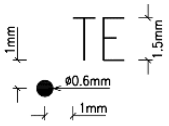
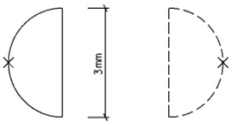
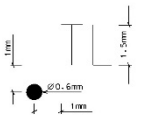
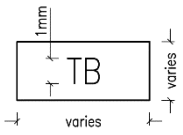
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Pedestrian Subway	36	SU	The limits of the pedestrian subway are to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "Subway" with appropriate text height to suit the extent. Level is normally shown.			806
Pillar Box	166	PB	The outer limit of the pillar box is to be surveyed/delineated and shown as solid line. It is annotated as "PB". Level is normally shown.			806
Railing Curve	59	RC	The alignment of the curvilinear portion of the railing is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.			806
Railing Straight	58	RX	The alignment of the straight portion of the railing is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.			806
Railway Protection Limit	300	RPL	The limit is shown with pecked line in Line Weight 4 (0.5mm) as illustrated and annotated as "Railway Protection Limit" with appropriate text height. Level is normally not required.			806
Restricted Access	123	RA	The stretch of physical barriers on motorable roads, stopping vehicles to access an open area such as country park, catchment area etc., are to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.		**806**	
Road Margin Line	23	RM	All road margins, including central dividers, are to be surveyed/delineated and shown as solid lines. Level is normally shown.			806
Roadblock	187	RB	The two end points of the roadblock are to be surveyed/delineated and shown by the symbol as illustrated. Level is normally not required.			806
Roadside Planter Wall	909	RW	The alignment of the roadside planter wall is to be surveyed/delineated and shown as solid line.			806

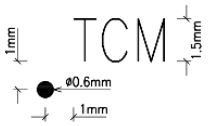
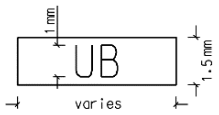
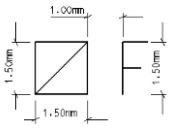
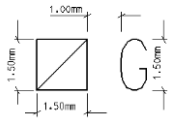
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Septic Tank	721	SEP	The center of the septic tank is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			806
Shelter	411	SE	The outer limit of the shelter is to be surveyed/delineated and shown as solid line. The area is annotated as “SHELTER” or “SE”. Level is normally not required.			806
Sign Board	12	BB	The two end points of the sign board are to be surveyed/delineated and shown by the symbol as illustrated. Level is normally not required.			806
Sign Pole	77	SP	The center of the sign pole is to be surveyed/delineated and shown as a point with annotation “SP”. Level is normally not required.		**806**	
Slope Planter Wall	910	LW	The alignment of the planter wall exceeding 0.5m height on Highway Registered Slopes and Highway Unregistered Slopes is to be surveyed/delineated and shown as solid line.			806
Special Paving Panel	911	SPP	The center of the special paving panel is to be surveyed/delineated and shown as a point with annotation “SPP”. Level is normally not required.			806
Stair/Step Edge	35	SI	The limits of stair or step are to be surveyed/delineated and shown as solid lines. Level is normally shown.			806
Strategic Route Chainage Marker	916	ECM	The center of the strategic route chainage marker is to be surveyed/delineated and shown as a point with annotation "ECM". Level is normally not required.			806
Street Name Plate	913	SNP	The position of the post for single post support or the midpoint of cantilever mount or the midpoint of two posts supporting the street name plate is to be surveyed/delineated and shown by the point symbol as illustrated. Level is normally not required.			806

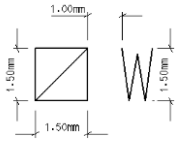
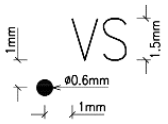
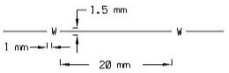
Part III: Symbol & Line-style Details
Road & Street Furniture Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Tactile Paving	912	TV	The centerline of the tactile paving (e.g., Tactile Guide Path / Warning Strips) is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally not required.			806
Telephone Kiosk	89	TK	The mid-points of the shorter sides of the telephone kiosk are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required.			806
Telephone Pole	79	TP	The center of the telephone pole is to be surveyed/delineated and shown as a point with annotation "T". Level is normally not required.		**806**	
Track	131	TR	The margins of motorable unsurfaced access way are to be surveyed/delineated and shown with pecked line as illustrated. The area is annotated as "Track" with appropriate text height to suit the extent. Level is normally shown.			806
Traffic Enforcement Camera	412	TEC	The position of the traffic enforcement camera is to be surveyed/delineated and shown as a point with annotation "TE". Level is normally not required.			806
Traffic Island	146	TI	The end point of the traffic island is to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally shown.		**806**	
Traffic Light	78	TL	The center of the traffic light is to be surveyed/delineated and shown as a point with annotation "TL". Level is normally not required.		**806**	
Traffic Light Control Box	147	TB	The outer limit of the traffic light control box is to be surveyed/delineated and shown as solid line. It is annotated as "TB". Level is normally shown.			806
Tramway	138	TW	The railway lines of the Tramways are to be surveyed/delineated and shown with pair of solid lines as illustrated. The route is annotated as "TRAM" with appropriate text height. Level is normally shown.			806

Part III: Symbol & Line-style Details
Road & Street Furniture Features

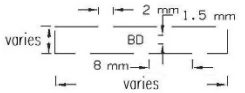
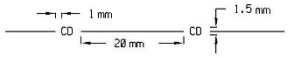
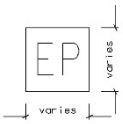
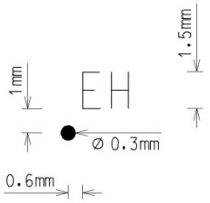
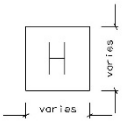
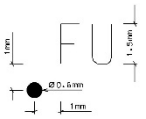
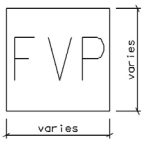
Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Tunnel	133	TU	(For 1:200 or larger scale) The limits of the tunnel are to be surveyed/delineated and shown with pecked lines as illustrated. The full name of gazetted tunnel should be shown, otherwise, the area is to be annotated as "Tunnel". Level is normally shown. (For 1:500) The limits of the tunnel are to be surveyed/delineated and shown with pecked lines as illustrated. Annotation is not required except where there is gazetted name. Level is normally shown.			806
Tunnel Chainage Marker	917	TCM	The center of the tunnel chainage marker is to be surveyed/delineated and shown as a point with annotation "TCM". Level is normally not required.			806
Utility Box	261	UB	For small utility box/cabinet, the mid-points of the shorter sides are to be surveyed/delineated and shown by the symbol as illustrated, with orientation defined by the two surveyed/delineated points. Level is normally not required. For large utility box/cabinet, depending on the shape, the outer limits are to be surveyed/delineated with Miscellaneous Feature Code 'XC' or 'XX'. The area is annotated as "Utility Box" or "Utility Cabinet" with appropriate text height to suit the extent.			806
Valve	71	VV	The center of the valve is to be surveyed/delineated shown by the point symbol as illustrated. Level is normally not required.		**806**	
Valve Fire	91	VF	The center of the valve (fire) is to be surveyed/delineated and shown by the symbol of Valve with annotation "F" as illustrated. Level is normally not required.		**806**	
Valve Gas	92	VG	The center of the valve (gas) is to be surveyed/delineated and shown by the symbol of Valve with annotation "G" as illustrated. Level is normally not required.		**806**	

Part III: Symbol & Line-style Details
Road & Street Furniture Features

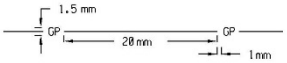
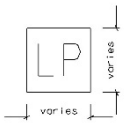
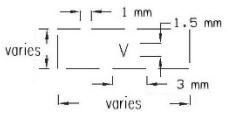
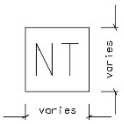
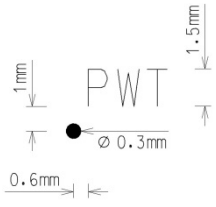
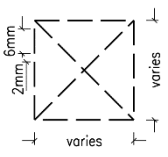
Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Valve Waterworks	93	VW	The center of the valve (waterworks) is to be surveyed/delineated and shown by the symbol of Valve with annotation "W" as illustrated. Level is normally not required.		**806**	
Visitor Sign Post	914	VS	The center of the visitor sign post is to be surveyed/delineated and shown as a point with annotation "VS". Level is normally not required.			806
Water Main	82	WM	The centerline of the water mains is to be surveyed/delineated. It is shown as solid line with the annotation "W" at regular intervals. Level is normally not required.		**806**	

Note[1]: to be directly surveyed by conventional survey methods or to be delineated from any form of survey deliverables (e.g. point cloud, mesh, orthophoto etc.)

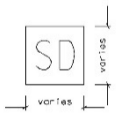
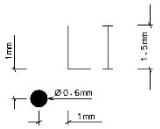
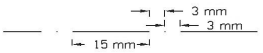
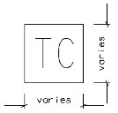
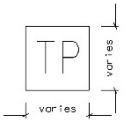
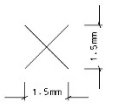
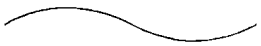
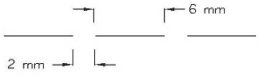
Part III: Symbol & Line-style Details
Utilities Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Blast Deflector	151	BF	The position, size and shape of the blast defector are to be surveyed/delineated and shown with pecked line as illustrated. It is annotated as "BD". Level is normally shown.			807
Cable Duct	80	CD	The centerline of the cable duct, should it be exposed, is to be surveyed/delineated. It is shown as solid line with the annotation "CD" at regular intervals. Level is normally not required. (For 1:200 or larger scale) Dimension of the cable duct is to be measured and annotated when necessary.		**807**	
Electric Pit	155	EI	The position, size and shape of the electric pit are to be surveyed/delineated and shown as solid line. It is annotated as "EP" with appropriate text height. Level is normally shown.			807
Emergency Helpline	188	EH	The center of the emergency helpline is to be surveyed/delineated. It is shown as a point with annotation "EH". Level is normally not required.			807
Fire Hydrant Pit	172	HI	The position, size and shape of the fire hydrant pit are to be surveyed/delineated and shown as solid line. It is annotated as "H" with appropriate text height. Level is normally shown.			807
Fuel Hydrant Pit	158	FU	The center of the fuel hydrant pit is to be surveyed/delineated and shown as a point with annotation "FU". Level is normally not required.		**807**	
Fuel Valve Pit	156	FV	The position, size and shape of the fuel valve pit are to be surveyed/delineated and shown as solid line. It is annotated as "FVP" with appropriate text height. Level is normally shown.			807

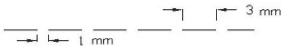
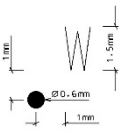
Part III: Symbol & Line-style Details
Utilities Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Gas Pipe	81	GP	The centerline of the gas pipe, should it be exposed, is to be surveyed/delineated. It is shown as solid line with the annotation "GP" at regular intervals. Level is normally not required. (For 1:200 or larger scale) Dimension of the gas pipe is to be measured and annotated when necessary.		**807**	
Lighting Pit	161	LI	The position, size and shape of the lighting pit are to be surveyed/delineated and shown as solid line. It is annotated as "LP" with appropriate text height. Level is normally shown.			807
Marshalling Platform	163	MP	The position, size and shape of the marshalling platform are to be surveyed/delineated and shown with pecked line as illustrated. It is annotated as "V". Level is normally shown.			807
Nose Tethering Slab	165	NT	The position, size and shape of the nose tethering slab are to be surveyed/delineated and shown as solid line. It is annotated as "NT" with appropriate text height. Level is normally shown.			807
Pipeline	119	PP	The centerline of the pipeline is to be surveyed/delineated and shown as solid line. Dimension of the pipeline is to be measured/identified and its value annotated. Buried portion of the pipeline will be shown as pecked lines. Level is normally shown.			807
Plant Watering Tap	189	PWT	The center of the plant watering tap is to be surveyed/delineated and shown as a point with annotation "PWT". Level is normally not required.			807
Pylon	84	PY	The outer limit of the pylon base is to be surveyed/delineated and shown with pecked lines as illustrated. Level is normally not required.			807

Part III: Symbol & Line-style Details
Utilities Features

Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supplement
Slot Drain	167	SD	The position, size and shape of the slot drain are to be surveyed/delineated and shown as solid line. It is annotated as "SD" with appropriate text height. Ground level and invert level is normally shown.			807
Taxiway Light	162	LT	The center of the taxiway light is to be surveyed/delineated and shown as a point with annotation "LI". Level is normally not required.		**807**	
Taxiway Marking	159	AM	The alignment of the taxiway marking is to be surveyed/delineated and shown with the line-style as illustrated. Level is normally shown.			807
Telephone Chamber	169	TC	The position, size and shape of the telecommunication chamber are to be surveyed/delineated and shown as solid line. It is annotated as "TC" with appropriate text height. Level is normally shown.			807
Transformer Pit	170	TT	The position, size and shape of the transformer pit (for taxiway light) are to be surveyed/delineated and shown as solid line. It is annotated as "TP" with appropriate text height. Level is normally shown.			807
Unclassified Dot/Point Feature	29	XP	The center of the unclassified dot/point feature is to be surveyed/delineated. It is shown by a cross as illustrated.		**807**	
Unclassified Firm Line Structure Curve	47	XC	The alignment of the curvilinear portion of the unclassified but permanent feature is to be surveyed/delineated and shown as solid line.			807
Unclassified Firm Line Structure Straight	46	XX	The alignment of the straight portion of the unclassified but permanent feature is to be surveyed/delineated and shown as solid line.			807
Unclassified Long Dash Line	48	XL	The alignment of the unclassified, temporary and large feature is to be surveyed/delineated and shown with pecked line (Long Dash) as illustrated.			807

Part III: Symbol & Line-style Details
Utilities Features

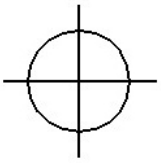
Feature Name	Feature Code Num.	Feature Code Alpha	Description	Illustration of Symbol / Line-style	CSWP Class	Supple-ment
Unclassified Short Dash Line	49	XS	The alignment of the unclassified, temporary and small feature is to be surveyed/delineated and shown with pecked line (Short Dash) as illustrated.			807
Water Point	171	WP	The center of the water point (fresh water for aircraft) is to be surveyed/delineated and shown as a point with annotation "W". Level is normally not required.		**807**	

Note[1]: to be directly surveyed by conventional survey methods or to be delineated from any form of survey deliverables (e.g. point cloud, mesh, orthophoto etc.)

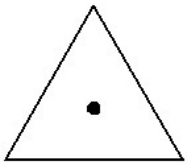
Part IV : CSWP Survey Symbol & Line-style Database

CSWP (Class 801)

Cell name:	Description:
BM	Bench Mark

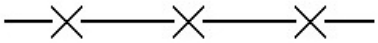


Cell name:	Description:
STN	Control Station



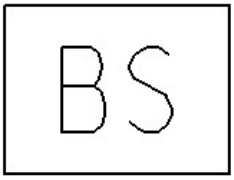
Cell name:	Description:
TRI	Trigonometrical Station

CSWP (Class 804)

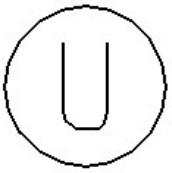


Line-style name:	Description:
BA	Barriers

Cell name:	Description:
LH	Beacon/Light House



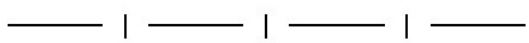
Cell name:	Description:
BS	Boundary Stone



Cell name:	Description:
UR	Burial Urn

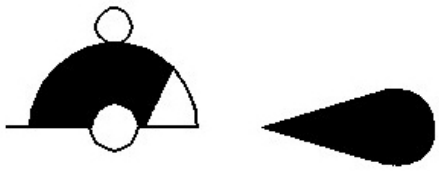
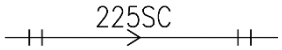
Cell name:	Description:
DO	Dolphin

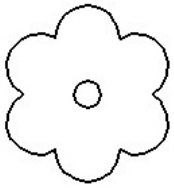
Part IV : CSWP Survey Symbol & Line-style Database

CSWP (Class 804)	
	
Line-style name: FX	Description: Fence Straight
	
Cell name: FN	Description: Fountain
	
Line-style name: WX	Description: Free Standing Wall
Line-style name: HD	Description: Hoarding
	
Cell name: IN	Description: Inclinometer Tube

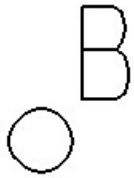
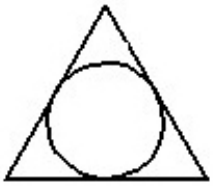
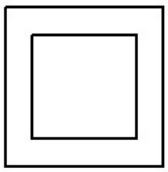
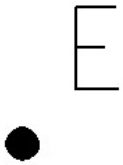
CSWP (Class 804)	
	
Cell name: MO	Description: Monument/Sculpture/Statue
	
Cell name: PZ	Description: Piezometer Tube
	
Cell name: SS	Description: Shrine (Small)
	
Cell name: SN	Description: Soil Nail
	
Cell name: WL	Description: Well

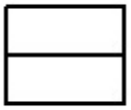
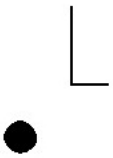
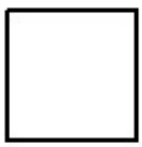
Part IV : CSWP Survey Symbol & Line-style Database

CSWP (Class 805)	
	
Cell name: BY	Description: Buoy
	
Line-style name: HG	Description: Hedge
	
Line-style name: HW	Description: High Water Mark
	
Line-style name: SX	Description: Stepped Channel Straight
Line-style name: SR	Description: Stream Course/River

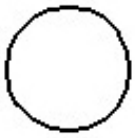
CSWP (Class 805)	
	
Cell name: TG	Description: Tide Gauge
	
Cell name: TE	Description: Tree
	
Line-style name: WR	Description: Vertical Cutting/Masonry/Retaining Wall

Part IV : CSWP Survey Symbol & Line-style Database

CSWP (Class 806)	
	
Cell name: BQ	Description: Bollard at quay
	
Cell name: BO	Description: Bollard at road
	
Cell name: CP1	Description: Catch pit (1 pt.)
	
Cell name: EP	Description: Electric Pole
	
Cell name: FH	Description: Fire Hydrant

CSWP (Class 806)	
	
Cell name: G1	Description: Grating (1 pt.)
	
Cell name: GU	Description: Gully
	
Cell name: LP	Description: Lamp Post
	
Cell name: LB	Description: Letter Box
	
Cell name: MF	Description: Manhole Foul Water/Sewer

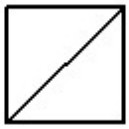
Part IV : CSWP Survey Symbol & Line-style Database

CSWP (Class 806)	
	
Cell name: MS	Description: Manhole Storm Water
	
Cell name: MT	Description: Manhole Telephone
	
Cell name: MW	Description: Manhole Waterworks
	
Cell name: ME	Description: Milestone
Line-style name: NX	Description: Noise Barrier Straight

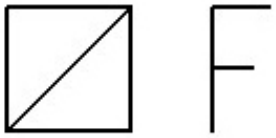
CSWP (Class 806)	
	
Cell name: RA	Description: Restricted Access
	
Cell name: SP	Description: Sign Pole
	
Cell name: TP	Description: Telephone Pole
	
Cell name: TI	Description: Traffic Island
	
Cell name: TL	Description: Traffic Light

Part IV : CSWP Survey Symbol & Line-style Database

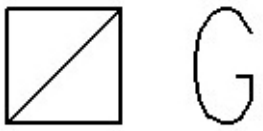
CSWP (Class 806)



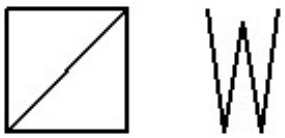
Cell name:	Description:
VV	Valve



Cell name:	Description:
VF	Valve Fire



Cell name:	Description:
VG	Valve Gas



Cell name:	Description:
VW	Valve Waterworks

Line-style name:	Description:
WM	Water Main

CSWP (Class 807)

Line-style name:	Description:
CD	Cable Duct

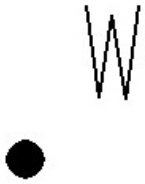
Cell name:	Description:
FU	Fuel Hydrant Pit

Line-style name:	Description:
GP	Gas Pipe

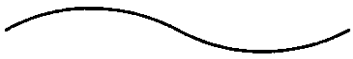
Cell name:	Description:
LT	Taxiway Light

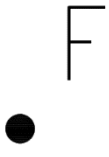
Cell name:	Description:
XP	Unclassified Dot/Point Feature

Part IV : CSWP Survey Symbol & Line-style Database

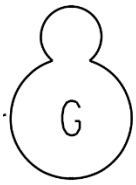
CSWP (Class 807)	
	
Cell name: WP	Description: Water Point

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 804)	
	
Line-style name: AR	Description: Archway
Line-style name: CA	Description: Balcony/Canopy
	
Cell name: BBQ	Description: BBQ Pit
	
Line-style name: BC	Description: Building Outline Curve
Line-style name: BX	Description: Building Outline Straight

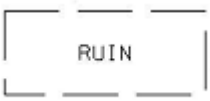
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 804)	
Line-style name: CM	Description: Chimney
	
Line-style name: CU	Description: Cultivation Bund/Limit
	
Cell name: DW	Description: Drinking Water Facility
	
Line-style name: FC	Description: Fence Curve
	
Cell name: FA	Description: Flagpole

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 804)	
	
Cell name: FB	Description: Flower Bed
	
Line-style name: WC	Description: Free Standing Wall Curve
	
Cell name: GA	Description: Gate
Line-style name: GV	Description: Grave
	
Cell name: GV2	Description: Grave

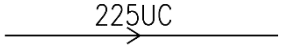
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 804)	
	
Line-style name: LF	Description: Lift Tower
	
Line-style name: TA	Description: Oil Tank/Water Tank/Fuel Tank
Line-style name: PV	Description: Pavilion
	
Cell name: PTB	Description: Picnic Table & Bench
Line-style name: PL	Description: Platform

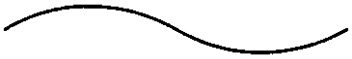
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 804)	
Line-style name: PD	Description: Podium Line
	
Cell name: TOI	Description: Portable Toilet
	
Cell name: RUB	Description: Rubbish Bin
	
Cell name: RU	Description: Ruin
Line-style name: SH	Description: Shrine (Large)

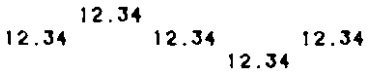
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 804)	
	
Cell name: TBL	Description: Table
	
Cell name: TS	Description: Temporary Structure
	
Cell name: VP	Description: Ventilation Pipe
	
Line-style name: WIP	Description: Works in Progress Limit

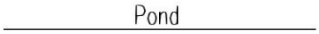
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 805)	
Line-style name: BE	Description: Berm
	
Line-style name: BD	Description: Boulder/Rock
Line-style name: CW	Description: Catchwater
	
Line-style name: CC	Description: Channel Curve
	
Line-style name: CX	Description: Channel Straight

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 805)	
Line-style name: CL	Description: Cliff
Line-style name: CV	Description: Culvert
Line-style name: DM	Description: Dam/Weir
	
Line-style name: DC	Description: Drain Curve
Line-style name: DX	Description: Drain Straight

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 805)	
	
Line-style name: FO	Description: Fanned Outlet
Line-style name: FR	Description: Fender
	
Line-style name: JT	Description: Jetty/Pier
	
Line-style name: LC	Description: Level String Curve
Line-style name: LX	Description: Level String Straight

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 805)	
	
Line-style name: MA	Description: Marsh/Swamp
Line-style name: NU	Description: Nullah
	
Line-style name: PO	Description: Pond/Pool/Moat / Reservoir/Fountain
Line-style name: QB	Description: Quarry Bottom
Line-style name: QT	Description: Quarry Top

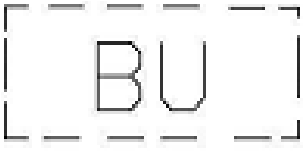
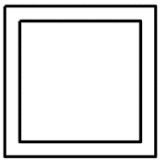
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 805)	
	
Cell name: P	Description: Random Level Point (Spot Height)
	
Line-style name: RK	Description: Rocky Area/Group Of Boulders
	
Line-style name: SW	Description: Seawall/Cope Line
Line-style name: SB	Description: Slope Bottom
Line-style name: ST	Description: Slope Top

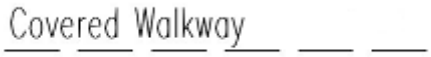
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 805)	
	
Line-style name: SC	Description: Stepped Channel Curve

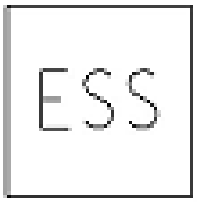
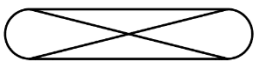
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Cell name: ASP	Description: Audible Traffic Signal Pole
Line-style name: BK	Description: Barrier Fence
	
Cell name: BN	Description: Bench
	
Cell name: BPA	Description: Bicycle Parking Area
	
Cell name: BW	Description: Boardwalk

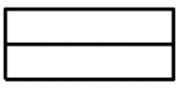
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
Line-style name: BOL	Description: Bollard Railing
	
Cell name: BU	Description: Bus Shelter
	
Cell name: CP2	Description: Catch Pit (2 pts.)
	
Cell name: CCM	Description: CCTV Camera Mast
	
Cell name: CCP	Description: CCTV Camera Post

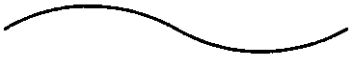
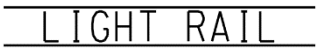
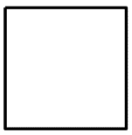
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
Line-style name: CO	Description: Column
	
Line-style name: CY	Description: Covered Walkway
Line-style name: CR	Description: Crash Cushion
	
Cell name: DIS	Description: Distance Post
	
Cell name: DP	Description: Draw Pit

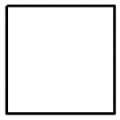
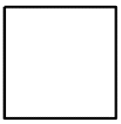
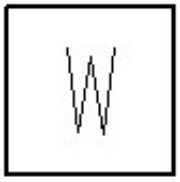
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
Line-style name: DK	Description: Drop Kerb
	
Cell name: ES	Description: Electric Sub-station
	
Cell name: ET	Description: Electric Transformer/Electric Box
	
Cell name: EG	Description: Emergency Gate
	
Cell name: EM	Description: E&M pit

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Cell name: FL	Description: Floodlight Mast/High Mast Lighting
	
Line-style name: FP	Description: Footpath (Unpaved)
	
Line-style name: BR	Description: Foot/Rail Bridge
	
Cell name: GK	Description: Gas Governor Kiosk
	
Cell name: G2	Description: Grating (2 pts.)

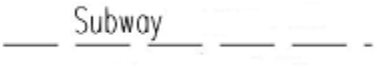
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Cell name: IC	Description: Inspection Chamber
	
Line-style name: KC	Description: Kerb Bottom Curve
Line-style name: KX	Description: Kerb Bottom Straight
	
Line-style name: LR	Description: Light Rail
	
Cell name: MH	Description: Manhole

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Cell name: MH2	Description: Manhole (2 pts.)
	
Cell name: MF2	Description: Manhole Foul Water / Sewer (2 pts.)
	
Cell name: MHS	Description: Manhole Structure
	
Cell name: MT2	Description: Manhole Telephone (2 pts.)
	
Cell name: MW2	Description: Manhole Waterworks (2 pts.)

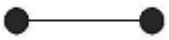
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Line-style name: MTR	Description: Mass Transit Railway
	
Line-style name: NC	Description: Noise Barrier Curve
Line-style name: NPC	Description: Non-carriageway Pavement Centerline
	
Cell name: PM	Description: Parking Meter
Line-style name: PA	Description: Pavement/Paved Footpath

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
Line-style name: PX	Description: Pavement Polygon
	
Line-style name: PT	Description: Peak Tramway
Line-style name: PC	Description: Pedestrian Crossing
	
Line-style name: SU	Description: Pedestrian Subway
	
Cell name: PB	Description: Pillar Box

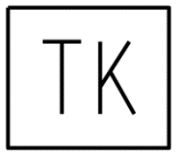
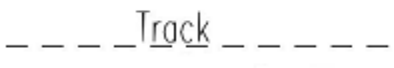
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Line-style name: RC	Description: Railing Curve
	
Line-style name: RX	Description: Railing Straight
	
Line-style name: RPL	Description: Railway Protection Limit
Line-style name: RM	Description: Road Margin Line
	
Cell name: RB	Description: Roadblock

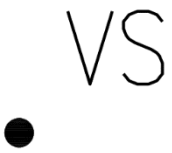
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
Line-style name: RW	Description: Roadside Planter Wall
	
Cell name: SEP	Description: Septic Tank
	
Cell name: SE	Description: Shelter
	
Cell name: BB	Description: Sign Board
Line-style name: LW	Description: Slope Planter Wall

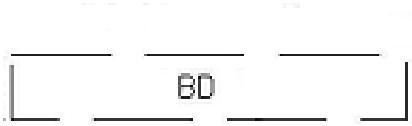
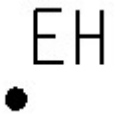
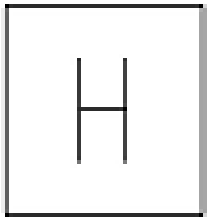
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Cell name: SPP	Description: Special Paving Panel
Line-style name: SI	Description: Stair/Step Edge
	
Cell name: ECM	Description: Strategic Route Chainage Marker
	
Cell name: SNP	Description: Street Name Plate
	
Line-style name: TV	Description: Tactile Paving

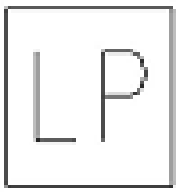
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Cell name: TK	Description: Telephone Kiosk
	
Line-style name: TR	Description: Track
	
Cell name: TEC	Description: Traffic Enforcement Camera
	
Cell name: TB	Description: Traffic Light Control Box
	
Line-style name: TW	Description: Tramway

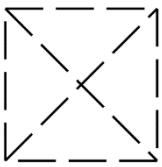
Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 806)	
	
Line-style name: TU	Description: Tunnel
	
Cell name: TCM	Description: Tunnel Chainage Marker
	
Cell name: UB	Description: Utility Box
	
Cell name: VS	Description: Visitor Sign Post

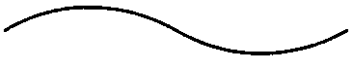
Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 807)	
	
Cell name: BF	Description: Blast Deflector
	
Cell name: EI	Description: Electric Pit
	
Cell name: EH	Description: Emergency Helpline
	
Cell name: HI	Description: Fire Hydrant Pit
	
Cell name: FV	Description: Fuel Valve Pit

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 807)	
	
Cell name: LI	Description: Lighting Pit
	
Cell name: MP	Description: Marshalling Platform
	
Cell name: NT	Description: Nose Tethering Slab
Line-style name: PP	Description: Pipeline
	
Cell name: PWT	Description: Plant Watering Tap

Part V : Non-CSWP/Supplementary Survey Symbol & Line-style Database

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 807)	
	
Cell name: PY	Description: Pylon
	
Cell name: SD	Description: Slot Drain
Line-style name: AM	Description: Taxiway Marking
	
Cell name: TC	Description: Telephone Chamber
	
Cell name: TT	Description: Transformer Pit

Non-CSWP/Supplementary Survey Symbols & Line-styles (Class 807)	
	
Line-style name: XC	Description: Unclassified Firm Line Structure Curve
Line-style name: XX	Description: Unclassified Firm Line Structure Straight
Line-style name: XL	Description: Unclassified Long Dash Line
Line-style name: XS	Description: Unclassified Short Dash Line

Appendix A:

MicroStation general drawing file settings

Drawing settings for MicroStation files for exchange as digital drawing data of works projects under the CSWP standard :-

File Names	(Refer to the CAD Standard for Works Projects Document)
File Types	(3D)
Units	(metric)
Global Origin	V7 or earlier versions: (X=2,147,483.648 Y=2,147,483.648 Z=2,147,483.648) V8 or later versions: (X=0 Y=0 Z=0)
Line Types	(Line Weight = 1, Line Width = 0.18mm)
Fonts	(English = Font 3 Engineering) (Chinese = Font MING (BIG-5 format))
Text	Various in size or otherwise specified
Text Width Factor	(0.8 * text height)
Resource Files	Line types of CSWP symbols are stored in "CSWP\RESOURCE\800.rsc" Cell libraries of CSWP symbols are kept in "\800\8XX.CEL"
Reference Paper	CAD Standard for Works Projects Document

Classes

Class Code	Description
801	Survey Control
804	Artificial & Building Features
805	Relief & Hydrographic Features
806	Road & Street Features
807	Utilities Features

Levels

Level No.	Description
4	Artificial & Building Features
5	Relief & Hydrographic Features
6	Road & Street Features
7	Utilities Features
22	Survey Control

Appendix B:

AutoCAD general drawing file settings

Drawing settings for AutoCAD files for exchange as digital drawing data of works projects under the CSWP standard :-

File Names	(Refer to the CAD Standard for Works Projects Document)
File Types	N/A
Units	(Metric)
Global Origin	(X=0 Y=0 Z=0)
Line Types	(Standard AutoCAD line weight settings)
Fonts	(English = Romans) (Chinese = Font MING (BIG-5 format))
Text	Various in size or otherwise specified
Text Width Factor	(0.8 * text height)
Resource Files	Line types of CSWP symbols are stored in"CSWP\RESOURCES\800.lin" Symbol libraries of CSWP symbols are kept in "\800\800\XXX.DWG"
Reference Paper	CAD Standard for Works Projects Document

Classes

Class Code	Description
801	Survey Control
804	Artificial & Building Features
805	Relief & Hydrographic Features
806	Road & Street Features
807	Utilities Features

Appendix C

Request Form of Updating the 'Drafting Specifications for Engineering Survey'

(Attn: Secretary to Information Technology for Engineering Survey (ITES) Working Group)

Reference No. *(for official use only)*	
HyD SD/10-3/2/16 Part Encl.	
Request Dept Ref.	
Fr/To	
File	

Part A. Purpose

- ❒ **Addition of NEW Symbol/Line-style**
- ❒ **Modification of EXISTING Symbol/Line-style**
- ❒ **Deletion of EXISTING Symbol/Line-style**

Reasons for Addition / Modification / Deletion *(e.g. Improvement / Rectification / Meet the changes of site feature etc.)*

Part B. Details of Symbol/Line-style

B1. Feature Name	**B2. Feature Code** **Number** *(if applicable)*	**Alpha** *(if applicable)*	**B3. Category**
			❒ **CSWP** ❒ **Supplementary**

B4. Class & Feature Type

	CSWP / Supp. Class
❒	**801**
❒	**804**
❒	**805**
❒	**806**
❒	**807**
❒	**Re-class from ___ To 801 / 804 / 805 / 806 / 807 ^**

B5. Description

❒ **Change / New**
❒ **No Change**

(Please briefly specify as appropriate)

B6. Symbol/Line-style *(Please illustrate the plotted details – size, dimensions, font height etc.)*

Part C. Particulars of Requester

Name		**Post**	in **AFCD / CEDD / DSD / HD / HYD / WSD ^**
Contact Tel. No.		**Date of request**	

❒ Please tick (✓) in the appropriate box ^ Delete as appropriate

--- To be completed by ITES Working Group ---

Part D. Receipt of Request Form

Name _____	**Post** _____
	Date _____

Part E. Remarks by Action Officer

<table>
<tr><td rowspan="3">Request</td><td rowspan="2">❒ Accept</td><td>❒ CSWP</td><td colspan="2"></td></tr>
<tr><td>❒ Supplementary</td><td colspan="2"></td></tr>
<tr><td>❒ Reject</td><td>Reasons</td><td colspan="2"></td></tr>
<tr><td colspan="2">Remarks</td><td colspan="3"></td></tr>
<tr><td colspan="2">Actions to be taken</td><td colspan="3"></td></tr>
</table>

❒ Please tick (✓) in the appropriate box ^ Delete as appropriate