

Electronic As-Built Requirements

VERSION 0.4

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1 PURPOSE

1.1 BACKGROUND

This document is derived from Version 0.1 of the Papakura District Council Digital Data Supply, Technical Specification 16/02/2007. This document and appendices describe in detail the requirements for the supply of digital spatial data to the Papakura District Council (PDC), from external sources and relates to all As-Built data for storm water, water and waste water, lot boundaries, building edits, kerblines, traffic islands, parks and reserves. Such data that is to be integrated into the Council's Geographic Information System (GIS) requires that data supplied from external sources to be of a defined standard.

In addition, attributes (data pertaining to a particular feature) should be required to be supplied according to Council's standards, where possible.

The standards will be updated on a regular basis, as more information is required by Council, and Council's customers. Furthermore Council standards may change due to Auckland Regional and national requirements and changes to technology.

Advancements and developments in technology may facilitate changes to this methodology in the near future. Such changes will include a more seamless approach to the supply of data, whereby Council can provide digital definitions and specifications of data via the functions of the software. It is envisaged that such a process would increase turn-around time of subdivision approval and integrate GIS more closely with the subdivision process. Consequently this document could change significantly.

1.2 OBJECTIVES

To achieve a workable and standardised specification for the integration of digital spatial data into PDC systems

2 TECHNICAL SPECIFICATION

Currently PDC maintains data that could be described as being categorised in three fundamental groups. These are

- Cadastral
- Asset based
- Topographic.

Cadastral data is normally updated via a regular update where data is provided by intermediary data suppliers which is sourced from Land Information New Zealand (LINZ). LINZ data is continually updated, primarily due to sub-division development and re-surveying. However, for 223 purposes, Council also receives data that has not yet been approved. These data are captured in the GIS for operational purposes.

Asset based data includes under-ground water based services (storm water, waste water and water), and parks and reserves.

Topographic data includes building footprints, kerb outlines and traffic islands. Other topographic data such as contour, land-use, soil-types, Lidar and aerial photography are sourced by other third party agencies.

2.1 SPATIAL SPECIFICATION – DATA FORMAT

The PDC operates modern GIS software supplied from the ESRI suite of products. ESRI is able to read a number of spatial data formats. These include Shapefile, Personal Geodatabase, SDE Geodatabase, file-based Geodatabase, DXF, DWG, geo-referenced image files (e.g. TIFF, JPEG, ECW et al), and others if the ESRI extensions are available. At present, the PDC operates their GIS in the File Geodatabase format.

Shapefile is a common data export format between GIS software, including MapInfo, Geomedia, Autodesk and others. Most large engineering and planning consultancies operate GIS. Consequently, the preferred data format for supply is Shapefile. Smaller suppliers will often have CAD based systems and are unable to supply data as Shapefile. Therefore DXF or DWG is the lowest common denominator for supply. However, DXF or DWG data has low functionality for providing attribute values in GIS. If data is to be supplied in DXF or DWG, then features within this format should be numbered accordingly, where that number can be correspondingly matched to an attached MS Excel spreadsheet or MS Access database table.

TABLE 1.0

Preferred Data Format	Attribute Storage
Shapefile	Associated .dbf file
DXF	Attached spreadsheet or database table

2.2 SPATIAL SPECIFICATION – DATA PROJECTION / COORDINATE SYSTEM

PDC is fully operational in the NZGD 2000 geodetic datum projected in the New Transverse Mercator projection (NZTM). This datum and projection is the national standard – not the local circuit standard (Mt Eden local circuit). NZGD 2000 is the 2000 variance of WGS 1984.

Previously PDC operated in the New Zealand Map Grid coordinate system (geodetic datum 1949). Below is the preferred projection and/or coordinate systems for supply of spatial data to PDC.

All spatial data is supplied as points, lines or polygons.

TABLE 2.

Preferred Projection / Coordinate System	Alternate
1. NZTM (NZGD 2000)	NZTM (NZGD 2000) – Mt Eden Local Circuit
2. NZMG	NZMG – Mt Eden Local Circuit

PDC's GIS can read all of the above systems but all spatial data supplies must be accompanied with documentation stating which system is being used. This saves a significant amount of time in trying to ascertain what projection is being used. If no statement

of projection or coordinate system is supplied to the GIS department, the data will not be accepted.

2.3 LAYER TYPE

Layer types relate to the differing levels of data supplied as layers required by the PDC. Layers relevant to this specification are only included in this document. These layers can conveniently be categorised into asset groups where appropriate.

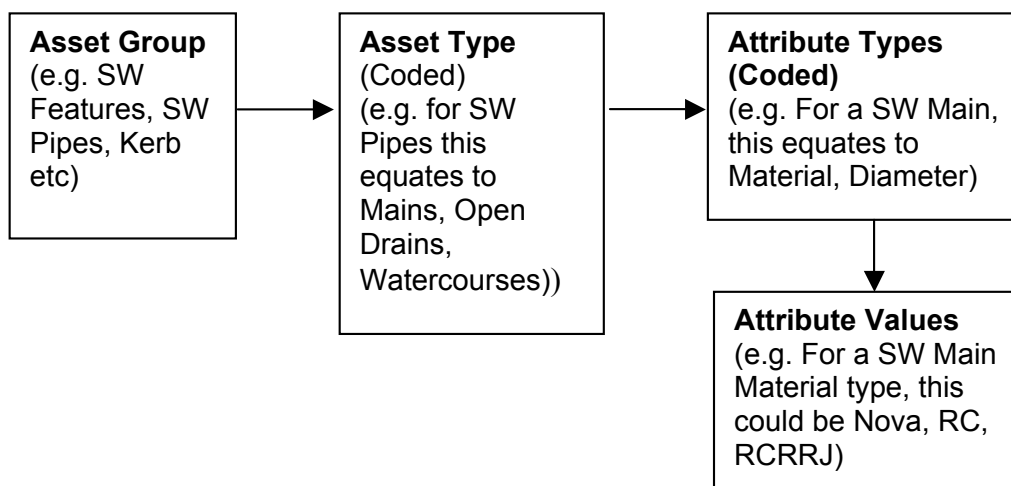
All data should be supplied in their distinctive layers as defined below.

TABLE 3.

Layers	
Stormwater Pipes	Water Feature Points
Stormwater Feature Points	Water Connections
Stormwater Connections	Kerb Lines
Stormwater Ponds	Building Footprints
Wastewater Pipes	Lot Boundaries
Wastewater Feature Points	Traffic Islands
Wastewater Connections	Parks and Reserves Data
Water Pipes	

2.4 ATTRIBUTE SPECIFICATION

These are defined in the appendices below. The asset types within each of the layers, the attribute types and the values for the attribute types are defined in the appendices below. Only the asset attribute data for stormwater are documented at this stage. Attributes for kerbs, traffic islands, building footprints and parks are not yet required. The table below illustrates the hierarchy.



3 APPENDICES

3.1 APPENDIX 1 – STORM WATER FEATURE CODES

Asset Group	Asset Type	Asset Type Code	GIS Feature Type
Stormwater Feature Point	BLANK CAP	SBBC	POINT
Stormwater Feature Point	CESSPIT	SCC	POINT
Stormwater Pipe	CESSPIT LEAD	SIIO	LINE
Stormwater Feature Point	CHAMBER	SMFC	POINT
Stormwater Pipe	CONNECTION	SPCX	LINE
Stormwater Feature Point	DOUBLE CESSPIT	SCDC	POINT
Stormwater Pond	DRY DETENTION POND	SPDD	POLYGON
Stormwater Feature Point	INLET/OUTLET	SIIO	POINT
Stormwater Feature Point	JOIN	SBJN	POINT
Stormwater Feature Point	LAMPHOLE	SMFL	POINT
Stormwater Pipe	MAIN	SPM	LINE
Stormwater Pipe	MAIN - PRIVATE	SPMP	LINE
Stormwater Feature Point	MANHOLE - FORMED IN-SITU	SMFF	POINT
Stormwater Feature Point	MANHOLE - PRECAST	SMHP	POINT
Stormwater Pipe	OPEN DRAIN	SOOD	LINE
Stormwater Feature Point	RECHARGE PIT	SCRP	POINT
Stormwater Feature Point	SOAKHOLE	SMSH	POINT
Stormwater Pipe	WATERCOURSE	SOW	LINE
Stormwater Pond	WET DETENTION POND	SPWD	POLYGON
Stormwater Pond	WET TREATMENT POND	SPWT	POLYGON
Stormwater Pond	WETLANDS TREATMENT AREA	SPWA	POLYGON

Each **asset group** type **must** be supplied as discrete "layers" e.g. Storm water Pipes, Storm water points (manholes etc)

3.2 APPENDIX 2 – STORM WATER ATTRIBUTE TYPES

Storm water attribute information is stored and maintained in the Confirm Asset Management System. Consequently, the attributes in storm water are more comprehensive.

Asset Type Code	Asset Type	Attribute Field Name Description	Associated Attribute Field Names
SCC	CESSPIT	INVERT LEVEL	IL
		LID LEVEL	LL
SCDC	DOUBLE CESSPIT	INVERT LEVEL	IL
		LID LEVEL	LL
SPCL	CESSPIT LEAD	PIPE DIAMETER	PDIA
		PIPE MATERIAL	PMAT
SCRP	RECHARGE PIT	LID LEVEL	LL
		WIDTH	WDTH
		DEPTH	DPTH
		LENGTH	LGTH
SBBC	BLANK CAP	INVERT LEVEL	IL
SBJN	JOIN	INVERT LEVEL	IL
SMFC	CHAMBER	INLET DEPTH 1	IL1
		INLET DEPTH 2	IL2
		INLET DEPTH 3	IL3
		INLET DEPTH 4	IL4
		INLET DEPTH 5	IL5
		INLET DEPTH 6	IL6
		INVERT LEVEL	IL
		LID LEVEL	LL
		MANHOLE DIAMETER	MDIA
SMFL	LAMPHOLE	INLET DEPTH 1	IL1
		INLET DEPTH 2	IL2
		INLET DEPTH 3	IL3
		INLET DEPTH 4	IL4
		INLET DEPTH 5	IL5
		INLET DEPTH 6	IL6
		INVERT LEVEL	IL
		LID LEVEL	LL
		MANHOLE DIAMETER	MDIA
SMSH	SOAKHOLE	INLET DEPTH 1	IL1
		INLET DEPTH 2	IL2
		INLET DEPTH 3	IL3

		INLET DEPTH 4	IL4
		INLET DEPTH 5	IL5
		INLET DEPTH 6	IL6
		INVERT LEVEL	IL
		LID LEVEL	LL
		MANHOLE DIAMETER	MDIA
SIIO	INLET/OUTLET	INLET DEPTH 1	IL1
		INLET DEPTH 2	IL2
		INLET DEPTH 3	IL3
		INLET DEPTH 4	IL4
		INLET DEPTH 5	IL5
		INLET DEPTH 6	IL6
		LID LEVEL	LL
SMHP	MANHOLE - PRECAST	INLET DEPTH 1	IL1
		INLET DEPTH 2	IL2
		INLET DEPTH 3	IL3
		INLET DEPTH 4	IL4
		INLET DEPTH 5	IL5
		INLET DEPTH 6	IL6
		INVERT LEVEL	IL
		LID LEVEL	LL
		MANHOLE DIAMETER	MDIA
SMFF	MANHOLE - FORMED IN-SITU	MANHOLE DIAMETER	MDIA
SPM	MAIN	PIPE DIAMETER	PDIA
		PIPE MATERIAL	PMAT
SOOD	OPEN DRAIN	OPEN DRAIN MATERIAL	ODM
		WIDTH	WDTH
SOW	WATERCOURSE	OPEN DRAIN MATERIAL	ODM
		WIDTH	WDTH
SPCX	CONNECTION	DISTANCE TO MANHOLE	DTMH

3.3 APPENDIX 3 - STORMWATER ATTRIBUTE CODES

Attribute Name	Attribute Field Code	Attribute Description	Attributes Value Codes
DATE		DATE INSTALLED	DATE TEXT INPUT (DD/MM/YYYY)
COVER DIAMETER	CDIA		FREE NUMERIC INPUT - METRES (0.00)
MANHOLE DIAMETER	MDIA	0	1
		1050	1050
		1200	1200
		1350	1350
		1500	1500
		1800	1800
LID LEVEL	LL		FREE NUMERIC INPUT - METRES (0.00)
INVERT LEVEL	IL		FREE NUMERIC INPUT - METRES (0.00)
OUTLET DEPTH	ODPT		FREE NUMERIC INPUT - METRES (0.00)
OUTLET CAPACITY	OLCP		FREE NUMERIC INPUT - (LITRES PER SEC)
INLET DEPTH 1	ILD1		FREE NUMERIC INPUT - METRES (0.00)
INLET DEPTH 2	ILD2		FREE NUMERIC INPUT - METRES (0.00)
INLET DEPTH 3	ILD3		FREE NUMERIC INPUT - METRES (0.00)
INLET DEPTH 4	ILD4		FREE NUMERIC INPUT - METRES (0.00)
INLET DEPTH 5	ILD5		FREE NUMERIC INPUT - METRES (0.00)
INLET DEPTH 6	ILD6		FREE NUMERIC INPUT - METRES (0.00)
NUMBER OF INLETS	NOII		FREE NUMERIC INPUT - (NUMBER OF)
DISTANCE TO MANHOLE	DTMH		FREE NUMERIC INPUT - METRES (0.00)
PIPE MATERIAL	PMAT	ASBESTOS CEMENT	AC
		BRICK	BRCK

		CAST IRON	CI
		CONCRETE CORRUGATED ALUMINIUM	CONC
		CORRUGATED STEEL	CA
		CORRUGATED UNPLASTICISED PVC	CS
		GALVANISED IRON	CPVC
		GALVANISED STEEL	GI
		GLAZED EARTHENWARE	GS
		HIGH DENSITY POLYETHELENE	GEW
		MEDIUM DENSITY POLYETHELENE	HDPE
		NOVA	MDPE
		REINFORCED CONCRETE RUBBER RING JOINT	NOVA
		REINFORCED CONCRETE	RCRJ
		REINFORCED CONCRETE FLUSH JOIN	RC
		UNGLAZED EARTHENWARE	RCFJ
		UNPLASTICISED PVC	UGEW
			UPVC
PIPE DIAMETER*	PDIA	0	0
		100	100
		110	110
		150	150
		175	175
		200	200
		225	225
		250	250
		275	275
		300	300
		315	315
		350	350
		375	375
		400	400
		425	425
		450	450
		475	475
		500	500
		525	525
		575	575
		600	600
		650	650
		700	700
		750	750
		800	800
		825	825

		850	850
		900	900
		1000	1000
		1050	1050
		1200	1200
		1350	1350
		1375	1375
		1500	1500
		1650	1650
		1800	1800
		2100	2100
		2200	2200
LENGTH	LGTH		FREE NUMERIC INPUT - METRES (0.00)
WIDTH	WDTH		FREE NUMERIC INPUT - METRES (0.00)
DIAMETER	DIAM		FREE NUMERIC INPUT - METRES (0.00)
VOLUME (m3)	VOL		FREE NUMERIC INPUT - CUBIC METRES (0.00)

3.4 APPENDIX 4 – STORM WATER PONDS

Storm water data will be required for volumes, levels, etc. Apply to the Storm Water Planning Engineer for data requirement.

3.5 APPENDIX 5 – WASTE WATER FEATURE CODES

Asset Type	Asset Code	GIS Feature Type	Asset Group
AIR VALVE	SS_AV	POINT	Sewer Feature Point
BLANKCAP	SS_BC	POINT	Sewer Feature Point
CHAMBER	SS_CH	POINT	Sewer Feature Point
JOIN	SS_J	POINT	Sewer Feature Point
LAMPHOLE	SS_LH	POINT	Sewer Feature Point
MANHOLE	SS_MH	POINT	Sewer Feature Point
PUMPSTATION	SS_PS	POINT	Sewer Feature Point
VENT	SS_VH	POINT	Sewer Feature Point
SEWER MAIN	SS_PIPE	LINE	Sewer Pipe
RISING MAIN	SS_RISING	LINE	Sewer Pipe
CONNECTION	SS_CON	LINE	Sewer Pipe
Each asset group type should be supplied as discrete "layers". Length will be calculated spatially based on coordinates supplied for each feature or vertex on a line. Area will also be spatially calculated. e.g. cesspits, manholes, chambers can be supplied as a single layer as long as they are identified as such			

3.6 APPENDIX 6 - WASTE WATER ATTRIBUTE CODES

Attribute Name	Attribute Field Name	Attribute Description	Attribute Values Codes	Applies to:
MANHOLE DEPTH	MH_DEPTH		FREE NUMERIC INPUT - METRES (0.00)	All Sewer Feature Points
LID LEVEL	LID_LEV		FREE NUMERIC INPUT - METRES (0.00)	All Sewer Feature Points
INVERT LEVEL	INV_LEV		FREE NUMERIC INPUT - METRES (0.00)	All Sewer Feature Points
DATE	DATE_LAID		DD/MM/YYYY	All Sewer Feature Points and Pipes (excluding Connections)
PIPE DIAMETER	DIAMETER	20mm	20	All Sewer Pipes
		25mm	25	
		32mm	32	
		38mm	38	
		40mm	40	
		50mm	50	
		63mm	63	
		65mm	65	
		75mm	75	
		80mm	80	
		85mm	85	
		100mm	100	
		110mm	110	
		150mm	150	
		160mm	160	
		200mm	200	
		225mm	225	
		230mm	230	
		250mm	250	
		PIPE MATERIAL	MATERIAL	
CONCRETE LINED MILD STEEL	CLMS			
CONCRETE	CONC			
FIBRE LIGHT	FBRLT			
GLAZED	GEW			

		EARTHENWARE		
		HIGH DENSITY POLYETHELENE	HDPE	
		MEDIUM DENSITY POLYETHELENE	MDPE	
		POLYVINYL CHLORIDE	PVC	
		UNPLASTICISED POLYVINYL CHLORIDE	UPVC	
DISTANCE TO MANHOLE	DIST_TO_MA		FREE NUMERIC INPUT - METRES (0.00)	Connections

3.7 APPENDIX 7 - WATER FEATURE CODES

Asset Type	Asset Code	GIS Feature Type	Asset Group
AIR VALVE	WM_AV	POINT	Water Feature Point
BLANKCAP	WM_BC	POINT	Water Feature Point
BULK METER	WM_BM	POINT	Water Feature Point
CHAMBER	WM_CH	POINT	Water Feature Point
FIRE SERVICE VALVE	WM_FSV	POINT	Water Feature Point
HYDRANT	WM_HYD	POINT	Water Feature Point
JOIN	WM_J	POINT	Water Feature Point
PUMPSTATION	WM_PS	POINT	Water Feature Point
PEET VALVE	WM_PV	POINT	Water Feature Point
REDUCER	WM_RED	POINT	Water Feature Point
SCOUR VALVE	WM_SCV	POINT	Water Feature Point
SHUT VALVE	WM_SHV	POINT	Water Feature Point
SLUICE VALVE	WM_SV	POINT	Water Feature Point
T-JUNCTION	WM_TJ	POINT	Water Feature Point
VALVE	WM_V	POINT	Water Feature Point
WHEEL VALVE	WM_WV	POINT	Water Feature Point
MAIN	WM_PIPE	LINE	Water Pipe
CONNECTION	WM_CON	LINE	Water Pipe

Each **asset group** type should be supplied as discrete "layers" e.g. cesspits, manholes, chambers can be supplied as a single layer as long as they are identified as such. Length will be calculated spatially based on coordinates supplied for each feature or vertex on a line. Area will also be spatially calculated.

3.8 APPENDIX 8 - WATER ATTRIBUTE CODES

Attribute Name	Attribute Field Names	Attribute Description	Attribute Values Codes	Applies to:
LID LEVEL	LID_LEV		FREE NUMERIC INPUT - METRES (0.00)	All Water Feature Points
DATE	DATE_LAID		DD/MM/YYYY	All Water Feature Points and Pipes (excl Connections)
PIPE DIAMETER	DIAMETER	20mm	20	All Water Pipes
		25mm	25	
		32mm	32	
		38mm	38	
		40mm	40	
		50mm	50	
		63mm	63	
		65mm	65	
		75mm	75	
		80mm	80	
		85mm	85	
		100mm	100	
		110mm	110	
		150mm	150	
		160mm	160	
		200mm	200	
		225mm	225	
		230mm	230	
		250mm	250	
		300mm	300	
		380mm	380	
		600mm	600	
		1050mm	1050	
		1200mm	1200	
		1800mm	1800	
PIPE MATERIAL	MATERIAL	ASBESTOS CONCRETE	AC	All Water Pipes
		ALKATHENE	ALKTHN	
		CAST IRON	CI	
		CONCRETE LINED MILD STEEL	CLMS	
		CONCRETE	CONC	
		DUCTILE IRON	DI	
		GALVINISED IRON	GI	
		MEDIUM DENSITY POLYETHELENE	MDPE	
		MODIFIED POLYVINYL CHLORIDE	MPVC	

		POLYETHELENE	PE	
		POLYVINYL CHLORIDE	PVC	
		UNPLASTICISED POLYVINYL CHLORIDE	UPVC	
		FIBRE LITE	FBRLT	
		COPPER	COPP	
DISTANCE TO MANHOLE	DIST_TO_MA		FREE NUMERIC INPUT - METRES (0.00)	Connections

3.9 APPENDIX 9 – ATTRIBUTE TABLE STRUCTURES

Below are examples of how an attribute table should be structured for a water pipe and water point feature respectively.

Asset Type	ID	Material	Diameter
WM_PIPE	001	PVC	150
WM_PIPE	002	FBRLT	100

Asset Type	ID	Lid_Level
WM_HYD	001	1.23
WM_RED	002	1.24

3.10 APPENDIX 10 – KERBLINES

No attributes needed for kerblines at this point in time.

Asset Group	Asset Code	GIS Feature Type
KERBLINES	KERB	POLYLINE

3.11 APPENDIX 11 – BUILDING FOOTPRINTS

Asset Group	Asset Code	GIS Feature Type
BUILDING FOOTPRINTS	BUILDING	POLYGON

3.12 APPENDIX 12 – LOT BOUNDARIES

Asset Group	Asset Code	GIS Feature Type
LOT BOUNDARIES	PARCELS	POLYGON

3.13 APPENDIX 13 – TRAFFIC ISLANDS

No attributes needed for traffic islands at this point in time.

Asset Group	Asset Code	GIS Feature Type
TRAFFIC ISLANDS	TRAFFIC ISLANDS	POLYLINE

3.14 APPENDIX 14 – PARKS AND RESERVES FEATURE TYPES

Asset Feature Group	Asset Feature Type	Feature Type Code
P-Play Surfaces	P-Artificial Cricket Wicket	PS11
P-Play Surfaces	P-Artificial Hockey Field	PS12
P-Sportsfields - Summer	P-Athletics Track	SP21
P-Bed	P-Bed - Floral	GD11
P-Bed	P-Bed - Floral Planter	GD12
P-Bed	P-Bed - Groundcover	GD13
P-Bed	P-Bed - Rose	GD14
P-Bed	P-Bed - Shrubs (General)	GD15
P-Bins	P-Bin - Dog	BN11
P-Bins	P-Bin - Litter	BN12
P-Play Surfaces	P-BMX Track	PS13
P-Boardwalks	P-Boardwalk - Aquatic	BW11
P-Boardwalks	P-Boardwalk - Land	BW12
P-Boardwalks	P-Boardwalk - Stairs	BW13
P-Aquatic Structures	P-Boat Ramp	AQ21
P-Bollards	P-Bollards	BL11
P-Play Surfaces	P-Bowling Green	PS14
P-Building	P-Building - Amenity Block	BU12
P-Building	P-Building - Civic	BU13
P-Building	P-Building - Club/Association	BU14
P-Building	P-Building - Community	BU15
P-Building	P-Building - Council House	BU11
P-Building	P-Building - Grandstand	BU16
P-Building	P-Building - Information Kiosk	BU17
P-Building	P-Building - Park House	BU18
P-Building	P-Building - Pavilion	BU19
P-Building	P-Building - Pavilion Toilet	BU1A
P-Building	P-Building - Private	BU1B

P-Building	P-Building - Pump Shed	BU1C
P-Building	P-Building - Shed	BU1D
P-Building	P-Building - Ticket Booth	BU1F
P-Building	P-Building - Toilets	BU1E
P-Carpark/Drive	P-Car Park (Asphalt)	HS21
P-Carpark/Drive	P-Car Park (Chip Seal)	HS22
P-Carpark/Drive	P-Car Park (Cobble Block)	HS23
P-Carpark/Drive	P-Car Park (Concrete)	HS24
P-Carpark/Drive	P-Car Park (Gravel)	HS25
P-Carpark/Drive	P-Car Park (Miscellaneous)	HS26
P-Artwork/Monument	P-Cenotaph	AW11
P-Sports Feature	P-Cricket Nets	SF11
P-Sports Feature	P-Cricket Wicket Blocks	SF12
P-Sportsfields - Summer	P-CricketOutfield	SP22
P-Play Surfaces	P-Croquet	PS15
P-Fountains	P-Drinking Fountain	PF11
P-Fence	P-Fence - Boundary Private	FN22
P-Fence	P-Fence - Boundary Public	FN21
P-Fence	P-Fence - Security	FN27
P-Lighting	P-Floodlight	LT11
P-Bridges	P-Footbridge	BD11
P-Furniture	P-Furniture - BBQ Electric	FU11
P-Furniture	P-Furniture - BBQ Gas	FU12
P-Furniture	P-Furniture - BBQ Open Fire	FU13
P-Furniture	P-Furniture - Bench	FU14
P-Furniture	P-Furniture - Clock	FU15
P-Furniture	P-Furniture - Cycle Barrier	FU20
P-Furniture	P-Furniture - Cycle Stand	FU16
P-Furniture	P-Furniture - Flagpole	FU17
P-Furniture	P-Furniture - Picnic Table	FU18
P-Furniture	P-Furniture - Seat	FU19
P-Furniture	P-Furniture - Tap	FU21
P-Furniture	P-Furniture - Tree Cages	FU1A
P-Furniture	P-Furniture - Walkers Stile	FU1B
P-Gates	P-Gates - Barrier Arm	FN11
P-Gates	P-Gates - Pedestrian	FN12
P-Gates	P-Gates - Stock	FN13
P-Gates	P-Gates - Vehicular	FN14
P-Sports Feature	P-Goal Posts	SF13
P-Grass	P-Grass (Type A)	TF11
P-Grass	P-Grass (Type B)	TF12
P-Grass	P-Grass (Type C)	TF13
P-Grass	P-Grass (Type D)	TF14
P-Graves	P-Grave Area	GR11

P-Graves	P-Graves Concrete Beams	GR12
P-Graves	P-Graves Mown Area	GR13
P-Graves	P-Graves Planted Areas	GR14
P-Graves	P-Graves Unplanted/Un-mown	GR15
P-Play Surfaces	P-Half Court	PS16
P-Hedges	P-Hedge - 0 to 1m	HB11
P-Hedges	P-Hedge - 1m to 2.5m	HB12
P-Sportsfields - Winter	P-Hockey	SP11
P-Sports Feature	P-Hoop	SF14
P-Aquatic Structures	P-Jetty	AQ22
P-Lake	P-Lake	WF31
P-Memorial	P-Memorial Garden	MW11
P-Memorial	P-Memorial Tree	MW12
P-Memorial	P-Memorial Wall	MW13
P-Play Surfaces	P-Miscellaneous	PS17
P-Artwork/Monument	P-Monument	AW12
P-Artwork/Monument	P-Mural	AW13
P-Play Surfaces	P-Netball Court	PS18
P-Fountains	P-Ornamental Fountain (Large)	PF12
P-Fountains	P-Ornamental Fountain (Small)	PF13
P-Lighting	P-Park Light	LT12
P-Path	P-Path (Asphalt)	HS36
P-Path	P-Path (Brick)	HS31
P-Path	P-Path (Chip Seal)	HS37
P-Path	P-Path (Cobble)	HS38
P-Path	P-Path (Concrete)	HS32
P-Path	P-Path (Gravel)	HS33
P-Path	P-Path (Misc)	HS34
P-Path	P-Path (Steps)	HS35
P-Open Structures	P-Pegola	OS15
P-Plaque	P-Plaque	PP11
P-Play Equipment (Climbing)	P-Play - Balance Beam	PE21
P-Play Equipment (Moving)	P-Play - Cantilever Tyre Swing	PE31
P-Play Equipment (Climbing)	P-Play - Chains	PE22
P-Play Equipment (Climbing)	P-Play - Climbing Structure	PE29
P-Play Equipment (Climbing)	P-Play - Climbing Wall	PE23
P-Play Equipment-Modular Unit	P-Play - Comp Structure	PE51
P-Play Equipment (Moving)	P-Play - Horse	PE32
P-Play Equipment (Climbing)	P-Play - Logs	PE24
P-Play Equipment (Climbing)	P-Play - Monkey Bars	PE25
P-Play Equipment (Climbing)	P-Play - Rings on Chains	PE26

P-Play Equipment (Climbing)	P-Play - Rope	PE27
P-Play Equipment (Moving)	P-Play - Roundabout	PE33
P-Play Equipment (Moving)	P-Play - See - Saw	PE34
P-Play Equipment (General)	P-Play - Slides (Stand Alone)	PE11
P-Play Equipment (Moving)	P-Play - Solo Spinner	PE35
P-Play Equipment (Swings)	P-Play - Swing	PE41
P-Play Equipment (Swings)	P-Play - Swing (Modular)	PE42
P-Play Equipment (Moving)	P-Play - Swing Bridge	PE36
P-Play Equipment (Climbing)	P-Play - Tyres	PE28
P-Playground Site	P-Playground	WS21
P-Play Equipment (General)	P-Playground Equipment	PE12
P-Aquatic Features	P-Pool (Ornamental)	AQ11
P-Aquatic Features	P-Pool (Paddling)	AQ12
P-Ramp	P-Ramp	HS41
P-Wetland Plantings	P-Riparian Planting	GD21
P-Carpark/Drive	P-Road	HS27
P-Sportsfields - Winter	P-Rugby	SP12
P-Sportsfields - Winter	P-Rugby League	SP13
P-Sports Feature	P-Scoreboard	SF15
P-Artwork/Monument	P-Sculpture	AW14
P-Open Structures	P-Shelter	OS11
P-Signs	P-Sign - Bylaw	SN11
P-Signs	P-Sign - Community Noticeboard	SN12
P-Signs	P-Sign - Information Board	SN13
P-Signs	P-Sign - Miscellaneous	SN14
P-Signs	P-Sign - Park Name	SN16
P-Signs	P-Sign - Route	SN15
P-Sports Feature	P-Skate Park	SF16
P-Play Surfaces	P-Skateboard Area	PS19
P-Sports Feature	P-Skateboard Ramp	SF17
P-Sportsfields - Winter	P-Soccer	SP14
P-Sports Feature	P-Softball Nets	SF18
P-Sportsfields - Summer	P-SoftballDiamond	SP23
P-Open Structures	P-Soundshell	OS12
P-Lighting	P-Special Lighting	LT13
P-Artwork/Monument	P-Statue	AW15
P-Ponds	P-Stormwater Detention	WF41
P-Rivers and Streams (m)	P-Streams	WF21
P-Structures	P-Structure	ST11
P-Structures	P-Structures (Platform)	ST12
P-Open Structures	P-Sunshade	OS13
P-Play Surfaces	P-Tennis Court	PS1A
P-Sportsfields - Summer	P-Touch	SP24

P-Tracks	P-Tracks	HS11
P-Trees	P-Tree	TR11
P-Trees & Shrubs	P-Tree & Bush Grouping Various	WD11
P-Trees & Shrubs	P-Trees (Native Bush)	WD12
P-Trees	P-Trees (Speciman)	WD15
P-Trees & Shrubs	P-Trees (Woodlots Forestry)	WD13
P-Trees & Shrubs	P-Trees (Woodlots Mixed)	WD14
P-Play Ground Undersurfacing	P-Undersurface (Bark)	PU11
P-Play Ground Undersurfacing	P-Undersurface (Hard Surface)	PU12
P-Play Ground Undersurfacing	P-Undersurface (Misc)	PU13
P-Open Structures	P-Viewing Platform	OS14
P-Wall	P-Wall - 100% Owned	FN31
P-Wall	P-Wall - 50% Owned	FN32
P-Wall	P-Wall - Boundary Retaining	FN33
P-Wetlands	P-Wetland	WF11
P-Aquatic Structures	P-Wharf	AQ23
P-Whole Site	P-Whole Site	WS11

3.15 PARKS AND RESERVES ATTRIBUTE VALUES

These are only supplied where they are known.

Attribute Type Code	Asset Type Description	Attribute Type Code	Attribute Description
AB8	Abatement Type	TBC	TBC
PAW1	Art Work - Size	3	Large
PAW1	Art Work - Size	2	Medium
PAW1	Art Work - Size	NA	Not Applicable
PAW1	Art Work - Size	1	Small
P014	Base Material	5	Asphalt
P014	Base Material	4	Bark
P014	Base Material	1	Concrete
P014	Base Material	3	Grass
P014	Base Material	NA	Not Applicable
P014	Base Material	2	Stamped Concrete
PG05	Bed Maturity	2	Immature
PG05	Bed Maturity	1	Mature
PG05	Bed Maturity	NA	Not Applicable
PG05	Bed Maturity	NK	Not Known
PG05	Bed Maturity	4	Over Mature
PG05	Bed Maturity	3	Ready for Replacement

PBQ2	Coin Operated	2	No
PBQ2	Coin Operated	NA	Not Applicable
PBQ2	Coin Operated	1	Yes
CMNT	Comment	UNKN	Unknown
PWD1	Development Status	1	Fully Developed
PWD1	Development Status	NA	Not Applicable
PWD1	Development Status	NK	Not Known
PWD1	Development Status	2	Partially Developed
PWD1	Development Status	4	Under Developer Maintenance
PWD1	Development Status	3	Undeveloped
PF02	Fence Style	3	Chain
PF02	Fence Style	11	Close Boarded
PF02	Fence Style	4	Mesh
PF02	Fence Style	9	Multi Strand Wire
PF02	Fence Style	NA	Not Applicable
PF02	Fence Style	NK	Not Known
PF02	Fence Style	6	Paling
PF02	Fence Style	7	Picket
PF02	Fence Style	2	Post & Rail
PF02	Fence Style	5	Solid
PF02	Fence Style	12	Swimming Pool
PF02	Fence Style	10	Trellis
PF02	Fence Style	8	Waratah
PF02	Fence Style	1	Wire Rope
GCAT	Grass Category	NA	Not Applicable
GCAT	Grass Category	1	25mm to 40mm
GCAT	Grass Category	2	25mm to 60mm
GCAT	Grass Category	3	40mm to 75mm
GCAT	Grass Category	4	50mm to 300mm
PG04	Groundcover Type of Plants	2	Conifers
PG04	Groundcover Type of Plants	1	Grasses
PG04	Groundcover Type of Plants	5	Hypericum
PG04	Groundcover Type of Plants	3	Ivy
PG04	Groundcover Type of Plants	4	Mixed
PG04	Groundcover Type of Plants	NA	Not Applicable
PG04	Groundcover Type of Plants	NK	Not Known
LB04	Litter Bin - Liner	2	No
LB04	Litter Bin - Liner	NA	Not Applicable
LB04	Litter Bin - Liner	1	Yes
LB02	Litter Bin - Style	2	Cage

LB02	Litter Bin - Style	3	D
LB02	Litter Bin - Style	4	Drum
LB02	Litter Bin - Style	NA	Not Applicable
LB02	Litter Bin - Style	5	Slatted
LB02	Litter Bin - Style	1	Solid
PWM1	Management Plan	3	No
PWM1	Management Plan	NA	Not Applicable
PWM1	Management Plan	1	Yes
PEM1	Manufacture - Play Equip	2	Ausplay
PEM1	Manufacture - Play Equip	3	Little Tykes
PEM1	Manufacture - Play Equip	NA	Not Applicable
PEM1	Manufacture - Play Equip	7	Not Known
PEM1	Manufacture - Play Equip	5	PlayCo
PEM1	Manufacture - Play Equip	1	Playground Centre
PEM1	Manufacture - Play Equip	9	Playground People
PEM1	Manufacture - Play Equip	8	Playworld
PEM1	Manufacture - Play Equip	4	Steel Pole - Old Style
PEM1	Manufacture - Play Equip	6	Wooden Pole - Old Style
MV	Margins Vegetation	FLSE	FALSE
MV	Margins Vegetation	TRUE	TRUE
MV	Margins Vegetation	UNKN	Unknown
POM1	Operating Mechanism	2	Electrical
POM1	Operating Mechanism	3	Manual
POM1	Operating Mechanism	1	Mechanical
POM1	Operating Mechanism	NA	Not Applicable
POM1	Operating Mechanism	NK	Not Known
LO	Ownership	PDC	Papakura District Council
LO	Ownership	PVT	Private
LO	Ownership	UNKN	Unknown
OT01	Ownership Type	2	100% Owned
OT01	Ownership Type	1	50% Owned
OT01	Ownership Type	NA	Not Applicable
HS01	Path Type	3	Cycleway
HS01	Path Type	NA	Not Applicable
HS01	Path Type	1	Pedstrian Only
HS01	Path Type	2	Pedstrian/Cycleway

P002	Plaque	2	No
P002	Plaque	NA	Not Applicable
P002	Plaque	1	Yes
PEU1	Play Equip - Undersurface Type	1	Bark
PEU1	Play Equip - Undersurface Type	3	Grass
PEU1	Play Equip - Undersurface Type	6	None
PEU1	Play Equip - Undersurface Type	NA	Not Applicable
PEU1	Play Equip - Undersurface Type	4	Safety Matting
PEU1	Play Equip - Undersurface Type	2	Sand
PEU1	Play Equip - Undersurface Type	5	Shingle
PCM1	Primary Construction Material	25	Aluminium
PCM1	Primary Construction Material	26	Asphalt
PCM1	Primary Construction Material	19	Brick
PCM1	Primary Construction Material	1	Bronze
PCM1	Primary Construction Material	22	Chain
PCM1	Primary Construction Material	14	Combination
PCM1	Primary Construction Material	3	Concrete
PCM1	Primary Construction Material	4	Concrete Block
PCM1	Primary Construction Material	20	Drum
PCM1	Primary Construction Material	9	Earth
PCM1	Primary Construction Material	8	Fibreglass
PCM1	Primary Construction Material	18	Galvanised
PCM1	Primary Construction Material	15	Granite
PCM1	Primary Construction Material	7	Iron
PCM1	Primary Construction Material	11	Metal
PCM1	Primary Construction Material	12	Metal & Wood
PCM1	Primary Construction Material	NA	Not Applicable
PCM1	Primary Construction Material	NK	Not Known
PCM1	Primary Construction Material	10	Plastic
PCM1	Primary Construction Material	27	Plastic & Metal

PCM1	Primary Construction Material	24	Polycarbonate
PCM1	Primary Construction Material	17	Powder Coated
PCM1	Primary Construction Material	21	Rope
PCM1	Primary Construction Material	5	Sand Stone
PCM1	Primary Construction Material	16	Stainless Steel
PCM1	Primary Construction Material	6	Steel
PCM1	Primary Construction Material	2	Stone
PCM1	Primary Construction Material	23	Tyres
PCM1	Primary Construction Material	13	Wood
PRPK	Purpose - Parks	1	Amenity Aesthetic
PRPK	Purpose - Parks	2	Crowd Control
PRPK	Purpose - Parks	NA	Not Applicable
PRPK	Purpose - Parks	6	Retaining Wall
PRPK	Purpose - Parks	5	Safety
PRPK	Purpose - Parks	3	Stock Protection
PRPK	Purpose - Parks	4	Vehicle Restraint
PG03	Rose Type	5	Bush
PG03	Rose Type	1	Climber
PG03	Rose Type	3	Groundcover
PG03	Rose Type	4	Mixed
PG03	Rose Type	NA	Not Applicable
PG03	Rose Type	NK	Not Known
PG03	Rose Type	2	Standard
PS04	Seat - Style Type	1	Fixed - ground
PS04	Seat - Style Type	3	Fixed - within wall
PS04	Seat - Style Type	2	Movable
PS04	Seat - Style Type	NA	Not Applicable
SDTS	Shade Tree Species	TBC	TBC
PSN2	Sign - Size	3	Large >2.5m ²
PSN2	Sign - Size	2	Medium - Btwn 500mm ² & 2m ²
PSN2	Sign - Size	NA	Not Applicable
PSN2	Sign - Size	1	Small - <500mm ²
PSN4	Sign - Type	2	Informational
PSN4	Sign - Type	NA	Not Applicable
PSN4	Sign - Type	1	Regulatory
PSN4	Sign - Type	3	Warning
HS02	Surface Material - Parks	6	Asphaltic Concrete - AC 10
HS02	Surface Material - Parks	7	Asphaltic Concrete - AC 16

HS02	Surface Material - Parks	5	Asphaltic Concrete - AC 5
HS02	Surface Material - Parks	1	Grade 4
HS02	Surface Material - Parks	3	Grade 4/6
HS02	Surface Material - Parks	2	Grade 5
HS02	Surface Material - Parks	4	Grade 6
HS02	Surface Material - Parks	8	Grit
HS02	Surface Material - Parks	NA	Not Applicable
HS04	Track - Usage	5	All use
HS04	Track - Usage	4	MTB & Horse
HS04	Track - Usage	NA	Not Applicable
HS04	Track - Usage	2	Pedestrian & MTB
HS04	Track - Usage	1	Pedestrian only
HS04	Track - Usage	3	Pedestrian, MTB & Horse
HS04	Track - Usage	UN	Unknown
HS04	Track - Usage	6	Vehicle only
TS01	Track Surface Type	3	Grass
TS01	Track Surface Type	2	Gravel
TS01	Track Surface Type	1	Natural
TS01	Track Surface Type	NA	Not Applicable
VAND	Vandalism Susceptibility	NA	Not Applicable
VAND	Vandalism Susceptibility	AR	Average Risk
VAND	Vandalism Susceptibility	HR	High Risk
VAND	Vandalism Susceptibility	LR	Low Risk