

VOLUME 2

EXTERNAL SURVEY AND SERVICES

2.1 FILENAMING

Data supplied should be broken up into the following files:
Digitized data and precision input data are stored in separate files.

i External Services, Existing and Redundant

	File name
- water	xwat
- sewerage	xsew
- drainage	xdra
- telecom	xtel
- air, gas, steam	xags
- electrical/communication	xele
- fuel	xfue
- airport lighting (true positions)	xapl

ii External Survey, Existing and Redundant

	File Name
- zoning	slea
- airfield	xair
- navigation	snav
- roads	xroa
- structures	xstr
- topography	xtop

iii Proposed services

- same as (i), with a p replacing x for file name:
eg. ppol, pwat, psew etc.

iv Proposed Survey

- same as ((ii)); with a p replacing x for file name: eg. plea, pair, pnav etc.

v File Names - External Services and Survey

[a] [bbb] [ccc] [dd] where:-

- a - x = existing (digitised)
s = precision input
p = proposed
- bbb - name of file
eg. pol for pollution control
- ccc - sheet numbers
- dd - Version Numbers.

Version Numbers

If more than one version is supplied, version numbers are to be added to the filenames.

eg. xpol01.dgn.

vi File Names - Miscellaneous

All other file naming that do not conform to the standards mentioned should be discussed with the CADD Manager.

External Survey and Services

2.2.1 AIR, GAS, STEAM

FILE: xags.dgn,sags.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	PIPES (Lines, Conduits etc)	0	1	5			
2	TEXT	0	1	5	.625	0.5	.375
3							
4							
5	INVERT/OBVERT LEVELS	0	1	5	.625	0.5	.375
6							
7							
8							
9							
10	FEATURES **** (See Note below)	0	1	5			
11	TEXT	0	1	5	.625	0.5	.375
..							
20							
..							
30							
..							
40							
..							
50	PIPES (Redundant/Disused)	0	0	8			
51	TEXT	0	0	8	.625	0.5	.375
52							
53							
54							
55	INVERT/OBVERT LEVELS	0	0	8	.625	0.5	.375
56							
57							
58							
59							
60	FEATURES (Redundant)	0	0	8			
61	TEXT	0	0	8	.625	0.5	.375
62	SPOT LEVELS	0	0	5	.625	0.5	.375
63	ADP						

NOTES

1. Use the "Place Line String" command to draw features that has to be patterned

**** All features associated with or on a service. Examples of features include:
 Pits, Stop Valves, Stopcocks, Valve Boxes, Oxygen Bottles etc

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.2.2 DRAINAGE

FILE: xdra.dgn,sdra.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	PIPES (Lines, Conduits etc)	0	2	1			
2	TEXT	0	1	1	.625	0.5	.375
3							
4							
5	INVERT/OBVERT LEVELS	0	1	1	.625	0.5	.375
6							
7							
8							
9							
10	FEATURES **** (See Note below)	0	1	1			
11	TEXT	0	1	1	.625	0.5	.375
..							
20							
..							
30							
..							
40							
..							
50	PIPES (Redundant/Disused)	0	0	8			
51	TEXT	0	0	8	.625	0.5	.375
52							
53							
54							
55	INVERT/OBVERT LEVELS	0	0	8	.625	0.5	.375
56							
57							
58							
59							
60	FEATURES (Redundant)	0	0	8			
61	TEXT	0	0	8	.625	0.5	.375
62	SPOT LEVELS	0	0	1	.625	0.5	.375
63	ADP						

NOTES

1. Use the "Place Line String" command to draw features that has to be patterned

**** All features associated with or on a service. Examples of features include:
 - Manholes, Pits, Dishdrains, Open Unlined Drain (OUD)
 - Open Lined Drain (OLD), Grated Drains, Grates, Chambers, Kerb Openings etc

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.2.3 ELECTRICAL RETICULATION

FILE: xeled.dgn, sele.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	POWER CABLES & CONDUITS	0	3	6			
2	TEXT	0	1	6	.625	0.5	.375
3	COMMUNICATION CABLES & CONDUITS	3	2	6			
4	TEXT	0	1	6	.625	0.5	.375
5	CABLE DUCTS	2	1	0			
6	TEXT	0	1	0	.625	0.5	.375
7	OVERHEAD CABLES	4	1	6			
8	TEXT	0	1	6	.625	0.5	.375
9							
10	DUCT MARKERS (DM)	0	1	23			
11	CABLE MARKERS (CM)	0	1	23			
12	TEST POINTS (TP)	0	1	23			
13	TRANSFORMER BLOCKS (TB)	0	1	23			
14							
..							
20	PILLAR BOXES	0	1	6			
21	TEXT	0	1	6	.625	0.5	.375
22	ELECTRICAL PITS	0	1	6			
23	TEXT	0	1	6	.625	0.5	.375
24	COMMUNICATION PITS	0	1	6			
25	TEXT	0	1	6	.625	0.5	.375
26	MANHOLES	0	1	6			
27	TEXT	0	1	6	.625	0.5	.375
28	FUSEBOXES	0	1	6			
29	TEXT	0	1	6	.625	0.5	.375
30	SUBSTATIONS	0	1	6			
31	TEXT	0	1	6	.625	0.5	.375
32	GROUND FLOODLIGHTS	0	1	6			
33	TEXT	0	1	6	.625	0.5	.375
34							
35	RAISED LIGHT (Runways, Taxiways & Aprons)	0	1	4			
36	TEXT	0	1	4	.625	0.5	.375
37	FLUSH LIGHT (Runways, Taxiways & Aprons)	0	1	4			
38	TEXT	0	1	4	.625	0.5	.375
..							
45	OTHER FEATURES (Not included above)	0	1	6			
46	TEXT	0	1	6	.625	0.5	.375
..							
55	INVERT/OBVERT LEVELS	0	1	6	.625	0.5	.375
..							
62	SPOT LEVELS	0	0	6	.625	0.5	.375
63	ADP						

NOTES

1. Each feature must be appropriately labelled.
All abbreviations used must be documented & supplied.

External Survey and Services

2.2.4 FUEL

FILE: xfue.dgn,sfue.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	PIPES (Lines, Conduits etc)	0	1	4			
2	TEXT	0	1	4	.625	0.5	.375
3							
4							
5	INVERT/OBVERT LEVELS	0	1	4	.625	0.5	.375
6							
7							
8							
9							
10	FEATURES **** (See Note below)	0	1	4			
11	TEXT	0	1	4	.625	0.5	.375
..							
20							
..							
..							
30							
..							
..							
40							
..							
50	PIPES (Redundant/Disused)	0	0	8			
51	TEXT	0	0	8	.625	0.5	.375
52							
53							
54							
55	INVERT/OBVERT LEVELS	0	0	8	.625	0.5	.375
56							
57							
58							
59							
60	FEATURES (Redundant)	0	0	8			
61	TEXT	0	0	8	.625	0.5	.375
62	SPOT LEVELS	0	0	4	.625	0.5	.375
63	ADP						

NOTES

1. Use the "Place Line String" command to draw features that has to be patterned

**** All features associated with or on a service. Examples of features include:
 Valves & Valve Boxes, Earth Points, Fuel Points, Bowsers, Tanks (U/grd & A/grd),
 Filling Points, Vents etc

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.2.5 SEWERAGE

FILE: xsew.dgn,ssew.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	PIPES (Lines, Conduits etc)	0	1	2			
2	TEXT	0	1	2	.625	0.5	.375
3							
4							
5	INVERT/OBVERT LEVELS	0	1	2	.625	0.5	.375
6							
7							
8							
9							
10	FEATURES **** (See Note below)	0	1	2			
11	TEXT	0	1	2	.625	0.5	.375
..							
20							
..							
..							
30							
..							
..							
40							
..							
50	PIPES (Redundant/Disused)	0	0	8			
51	TEXT	0	0	8	.625	0.5	.375
52							
53							
54							
55	INVERT/OBVERT LEVELS	0	0	8	.625	0.5	.375
56							
57							
58							
59							
60	FEATURES (Redundant)	0	0	8			
61	TEXT	0	0	8	.625	0.5	.375
62	SPOT LEVELS	0	0	2	.625	0.5	.375
63	ADP						

NOTES

1. Use the "Place Line String" command to draw features that has to be patterned

**** All features associated with or on a service. Examples of features include:
 Manholes, Pits, Gully Pits, I.O / Risers, Vent Pipes, Chambers etc

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.2.6 TELECOM

FILE: xtel.dgn,stel.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	PIPES (Lines, Conduits etc)	0	1	7			
2	TEXT	0	1	7	.625	0.5	.375
3							
4							
5	INVERT/OBVERT LEVELS	0	1	7	.625	0.5	.375
6							
7							
8							
9							
10	FEATURES **** (See Note below)	0	1	7			
11	TEXT	0	1	7	.625	0.5	.375
..							
20							
..							
..							
30							
..							
..							
40							
..							
50	PIPES (Redundant/Disused)	0	0	8			
51	TEXT	0	0	8	.625	0.5	.375
52							
53							
54							
55	INVERT/OBVERT LEVELS	0	0	8	.625	0.5	.375
56							
57							
58							
59							
60	FEATURES (Redundant)	0	0	8			
61	TEXT	0	0	8	.625	0.5	.375
62	SPOT LEVELS	0	0	7	.625	0.5	.375
63	ADP						

NOTES

1. Use the "Place Line String" command to draw features that has to be patterned

**** All features associated with or on a service. Examples of features include:
 Pits, Manholes, Markers, Posts, Telephone Boxes, Phone Outlets etc

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.2.7 WATER

FILE: xwat.dgn,swat.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	PIPES (Lines, Conduits etc)	0	1	3			
2	TEXT	0	1	3	.625	0.5	.375
3							
4							
5	INVERT/OBVERT LEVELS	0	1	3	.625	0.5	.375
6							
7							
8							
9							
10	FEATURES **** (See Note below)	0	1	3			
11	TEXT	0	1	3	.625	0.5	.375
..							
20							
..							
..							
30							
..							
40							
..							
50	PIPES (Redundant/Disused)	0	0	8			
51	TEXT	0	0	8	.625	0.5	.375
52							
53							
54							
55	INVERT/OBVERT LEVELS	0	0	8	.625	0.5	.375
56							
57							
58							
59							
60	FEATURES (Redundant)	0	0	8			
61	TEXT	0	0	8	.625	0.5	.375
62	SPOT LEVELS	0	0	3	.625	0.5	.375
63	ADP						

NOTES

1. Use the "Place Line String" command to draw features that has to be patterned

**** All features associated with or on a service. Examples of features include:
 - Stop Valves, Stopcocks, Ground Hydrants (GH), Pillar Hydrants (PH)
 - Taps, Valve Boxes, Pits, Water Meter, Sprinkler
 - Water Storage Tanks, Water Air Valves etc.

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.3.1 AIRFIELD

FILES: xair.dgn,sair.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	RUNWAY EDGE (High Strength Bitumen)	0	4	4			
2	RUNWAY EDGE (High Strength Concrete)	0	4	4			
3	RUNWAY SHOULDER	0	2	4			
4	TEXT	0	1	4	.625	0.5	.375
..							
5							
..							
10	TAXIWAY (High Strength Bitumen)	0	4	4			
11	TAXIWAY (High Strength Concrete)	0	4	4			
12	TAXIWAY SHOULDER	0	2	4			
13	TEXT	0	1	4	.625	0.5	.375
..							
18	APRON (High Strength Bitumen)	0	4	4			
19	APRON (High Strength Concrete)	0	4	4			
20	APRON SHOULDER	0	2	4			
21	TEXT	0	1	4	.625	0.5	.375
..							
30	HELIPAD	0	3	4			
31	TEXT	0	1	4	.625	0.5	.375
32							
33	AIRCRAFT PAD	0	3	4			
34	TEXT	0	1	4	.625	0.5	.375
35							
36	GABLE MARKER/CONE	0	1	4			
37	TEXT	0	1	4	.625	0.5	.375
38							
39	APRON TIE DOWN POINTS	0	1	4			
40	TEXT	0	1	4	.625	0.5	.375
41							
42	PAVEMENT MARKINGS (All Paint Marks)	0	2	4			
43							
44							

External Survey and Services

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
45	OTHER FEATURES (Not included above)	0	1	4			
46	TEXT	0	1	4	.625	0.5	.375
47							
48							
49							
50							
..							
..							
62	SPOT LEVELS	0	0	4	.625	0.5	.375
63	ADP						

NOTES

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.3.2 LEASES

FILES: slea.dgn,

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	LEASE BOUNDARIES	0	4	5			
2	(Air Services Australia & General)						
3	TEXT	0	1	5	.625	0.5	.375
4							
5							
6							
..							
10	QANTAS LEASE	0	4	5			
11	TEXT	0	1	5	.625	0.5	.375
12							
..							
20	ANSETT LEASE	0	4	5			
21	TEXT	0	1	5	.625	0.5	.375
22							
23							
..							
30	LICENCE BOUNDARIES	2	4	3			
	(Qantas)						
31	LICENCE BOUNDARIES	2	4	3			
	(General Products)						
32	LICENCE BOUNDARIES	2	4	3			
	(JUHI)						
33	LICENSE BOUNDARIES	2	4	3			
	(Others)						
..							
36	TEXT	0	1	3	.625	0.5	.375
..							
..							
62	SPOT LEVELS	0	0	5	.625	0.5	.375
63	ADP						

NOTES

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.3.3 NAVIGATION

FILES: xnav.dgn, snav.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	TVASIS	0	1	3			
2	VOR	0	1	3			
3	HIAL (HIGH INTENSITY APPROACH LIGHTING)	0	1	3			
4	GLIDEPATH	0	1	3			
5	GLIDEPATH CRITICAL AREA	0	1	3			
6	SATELLITE GROUND TRACKING STATION & DISHES	0	1	3			
7	VAL (VISIBILITY ASSESSMENT LIGHT)	0	1	3			
8	NDB (NON DIRECTIONAL BEACON)	0	1	3			
9	DME (DISTANCE MEASURING EQUIPMENT)	0	1	3			
10	TEXT	0	1	3	.625	0.5	.375
..							
20							
21							
22	ANEMOMETERS	0	1	3			
23	TEXT	0	1	3	.625	0.5	.375
24							
25	WIND INDICATOR (Illuminated & Non Illuminated)	0	1	3			
26	TEXT	0	1	3	.625	0.5	.375
27							
28	OBSTRUCTION LIGHT	0	1	3			
29	TEXT	0	1	3	.625	0.5	.375
30							
31	ILS TRACKER POINT	0	1	3			
32	TEXT	0	1	3	.625	0.5	.375
33							
34	THEODOLITE POINT	0	1	3			
35	TEXT	0	1	3	.625	0.5	.375
..							
40	MAGS (Movement Area Guidance Signs)	0	1	3			
41	TEXT	0	1	3	.625	0.5	.375
..							
45	OTHER FEATURES (Not included above)	0	1	3			
46	TEXT	0	1	3	.625	0.5	.375
..							
62	SPOT LEVELS	0	0	3	.625	0.5	.375
63	ADP						

NOTES

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.3.4 ROADS

FILES: xroa.dgn,sroa.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	ROADS (KERBS & GUTTERS)	0	3	6			
2	ROAD TEXT	0	1	6	.625	0.5	.375
..							
10	BITUMEN /CONCRETE PAVEMENT EDGE	0	2	6			
11	TEXT	0	1	6	.625	0.5	.375
..							
15	DRIVEWAYS, TRAFFIC ISLANDS MEDIAN STRIP etc	0	1	23			
16	TEXT	0	1	6	.625	0.5	.375
..							
..							
25	PEDESTRIAN CROSSING	0	1	6			
26	TEXT	0	1	6	.625	0.5	.375
27							
28	FOOTPATHS	0	0	6			
29	TEXT	0	1	6	.625	0.5	.375
30							
31	PAVEMENT MARKINGS (Lines and Lanes etc)	0	1	0			
32							
33							
34							
35	SIGNS - TRAFFIC	0	1	6			
36	TEXT	0	1	6	.625	0.5	.375
37	SIGNS - GENERAL	0	1	6	1.25	1.0	.75
38	TEXT	0	1	6	.625	0.5	.375
39							
40	ROAD BRIDGES	0	1	6			
41	TEXT	0	1	6	.625	0.5	.375
42							
43							
44							
45	OTHER FEATURES	0	1	6			
46	TEXT	0	1	6	.625	0.5	.375
47							
..							
..							
..							
62	SPOT LEVELS	0	0	6	.625	0.5	.375
63	ADP						

NOTES

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.3.5 STRUCTURES

FILES: xstr.dgn,sstr.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	BUILDING (Where Wall meets ground)	0	5	2			
2	BUILDING OVERALL (Roofline, Eaves ETC) Awnings	3	3	2			
3	TEXT	0	1	2	.625	0.5	.375
4							
5	MASTS	0	1	2			
6	TEXT	0	1	2	.625	0.5	.375
..							
10	FENCES AND GATES - SECURITY	0	1	0			
11	FENCE & GATES - OTHER	0	1	0			
12	ARMCO RAILS etc	0	0	1			
13	TEXT	0	1	0	.625	0.5	.375
14							
15	STEPS/STAIRS & VERENDAHS	0	1	2			
16	TEXT	0	1	2	.625	0.5	.375
17							
18							
19							
20	KERBS RELATING TO INTERFACE BETWEEN APRONS & BUILDINGS	0	1	6			
21	TEXT	0	1	6	.625	0.5	.375
22							
23							
24							
25	STREET LIGHTS	0	1	2			
26	FLOODLIGHTS	0	1	2			
27	POLES (ELECTRICAL, LIGHT, TELEGRAPH ETC)	0	1	2			
28	TRAFFIC LIGHTS	0	1	2			
29	TEXT	0	1	2	.625	.5	.375
30							
..							
45	OTHER FEATURES (Not included above)	0	1	2			
46	TEXT	0	1	2	.625	0.5	.375
47							
..							
..							
62	SPOT LEVELS	0	0	2	.625	0.5	.375
63	ADP						

NOTES

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services

2.3.6 TOPOGRAPHY

FILES: xtop.dgn,stop.dgn

LEVEL	DESCRIPTION	LC	WT	CO	TH FT=2	TW	LS
1	TREES (Outline of Spread)	2	1	12			
2	TREES (Individual Trunks)	0	1	12			
3	TEXT (Type, Diameter, Height & Spread)	0	1	12	.625	.5	.375
4							
5							
..							
10	GARDENS	0	0	12			
11	TEXT	0	1	12	.625	.5	.375
12							
13							
14							
15	WATER EDGE (Tidal)	3	1	12			
16	TEXT	0	1	12	.625	.5	.375
17	WATER EDGE (Non Tidal)	3	1	12			
18	TEXT	0	1	12	.625	.5	.375
19							
20							
..							
..							
25	EMBANKMENT (Top of Bank & Bank Symbol)	0	1	12			
26	EMBANKMENT (Bottom of Bank)	2	1	12			
27	TEXT	0	1	12	.625	.5	.375
28							
29							
30	ROCK OUTCROPS	0	1	12			
31	TEXT	0	1	12	.625	.5	.375
32							
33	CONTOURS MAJOR (Where & when requested)	0	3	12			
34	TEXT	0	1	12	.625	.5	.375
35	CONTOURS MINOR (Where & when requested)	0	1	12			
36	TEXT	0	1	12	.625	.5	.375
37							
38							
..							
..							
45	OTHER FEATURES (Not included above)	0	1	12			
46	TEXT	0	1	12	.625	0.5	.375
47							
..							
..							
..							
62	SPOT LEVELS	0	0	12	.625	0.5	.375
63	ADP						

NOTES

Each feature must be appropriately labelled.

All abbreviations used must be documented and supplied.

External Survey and Services