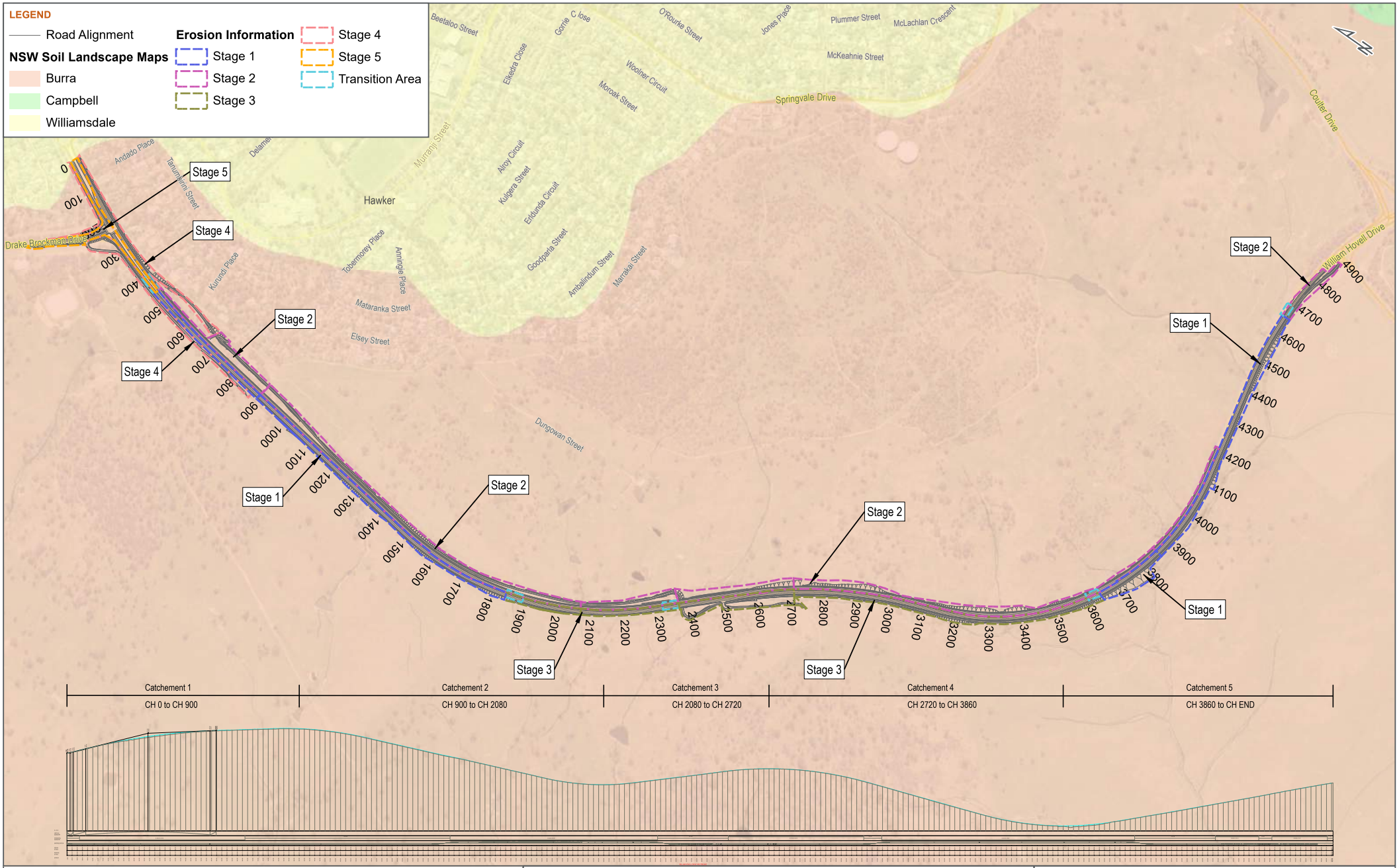

FIG NO. 1 **FIGURE TITLE** Site Overview	**DATE** 03/06/2020	**PAGE SIZE** A3	**COORDINATE SYSTEM** AGD 1966 ACT Grid AGC Zone
PROJECT NO. 3002750 **PROJECT TITLE** William Hovell Drive Duplication Detailed Design	**CREATED BY** FA13847	**SOURCES** Roadnet MDS 2018, Imagery © Department of Customer Service 2020, ACT Blocks, Contours ©ACT Government - Environment and Planning Directorate	

0 50 100 200 300 400 500
1:10,500 Metres

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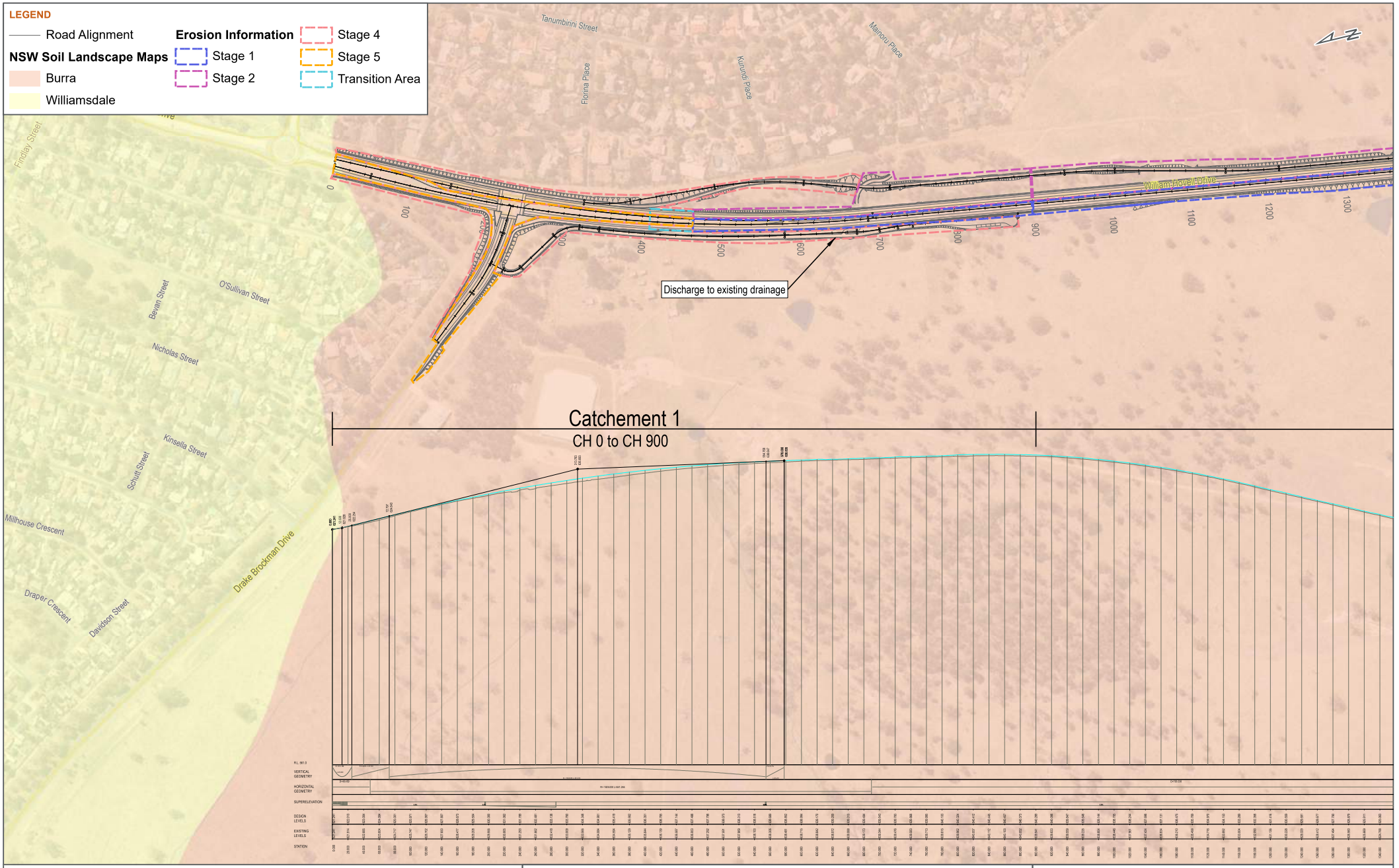

FIG NO. 2 **FIGURE TITLE** Profile LS and Soil Landscape

DATE 03/06/2020

0 50 100 200
1:4,500 Metres

PAGE SIZE A3 **COORDINATE SYSTEM** AGD 1966 ACT Grid AGC Zone

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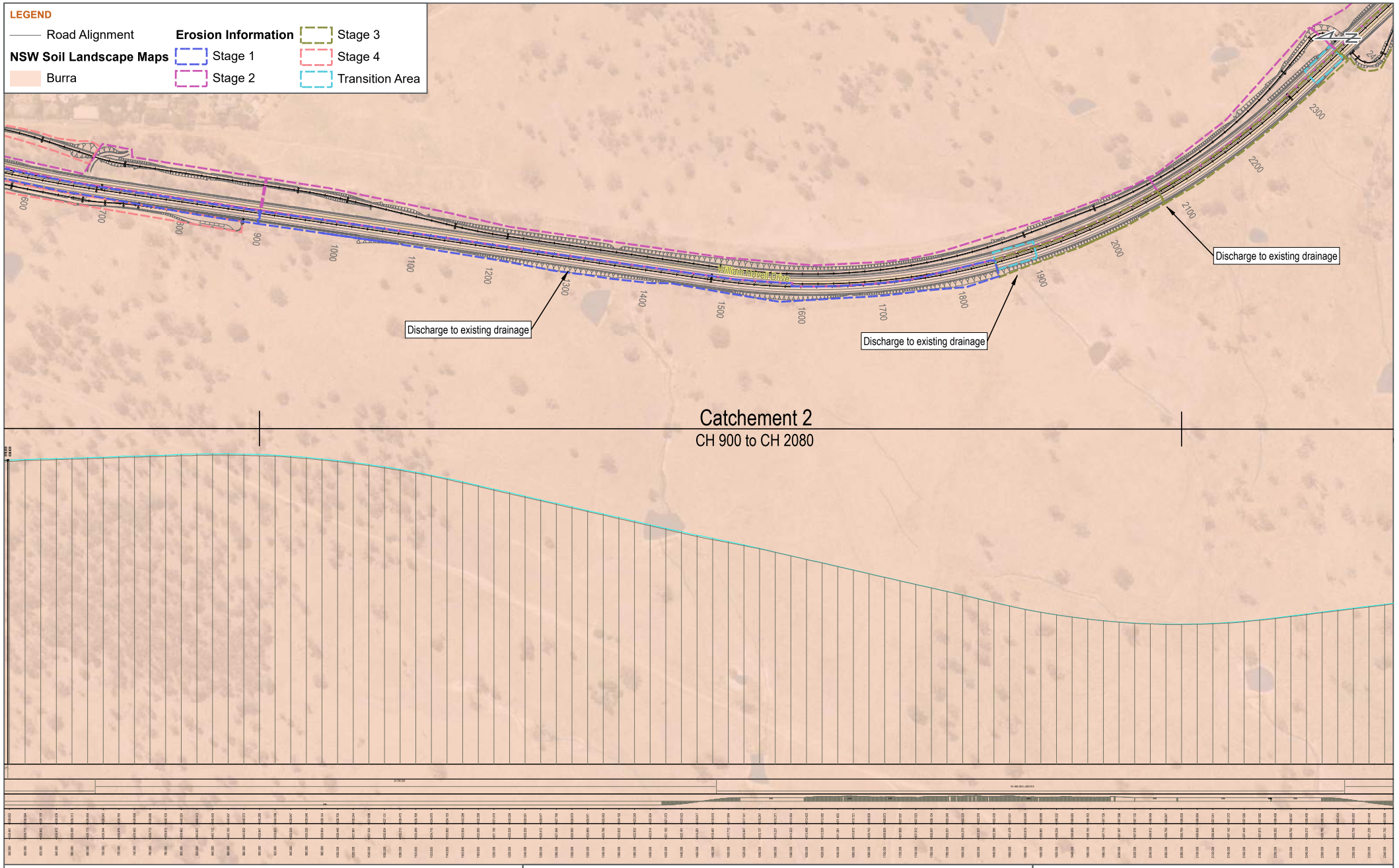

FIG NO. 3 **FIGURE TITLE** Profile LS and Soil Landscape	**DATE** 03/06/2020	0 50 100 200 Metres 1:4,500	**PAGE SIZE** A3 **COORDINATE SYSTEM** AGD 1966 ACT Grid AGC Zone
PROJECT NO. 3002750 **PROJECT TITLE** William Hovell Drive Duplication Detailed Design	**CREATED BY** FA13847	**SOURCES** Roadnet MDS 2018, ACT Blocks, Contours ©ACT Government - Environment and Planning Directorate Imagery © Department of Customer Service 2020	

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Location: C:\Users\FA13847\Desktop\108 GIS\Maps\Profile and Soil\3002750_PLS_F002_ProfileSoilL.mxd (\\auchbfsv002\Operations\Projects\3002750_WHDD\100 Concept - Feasibility\108 GIS\Maps)

Last updated by: FA13847 on 3/06/2020 at 14:17

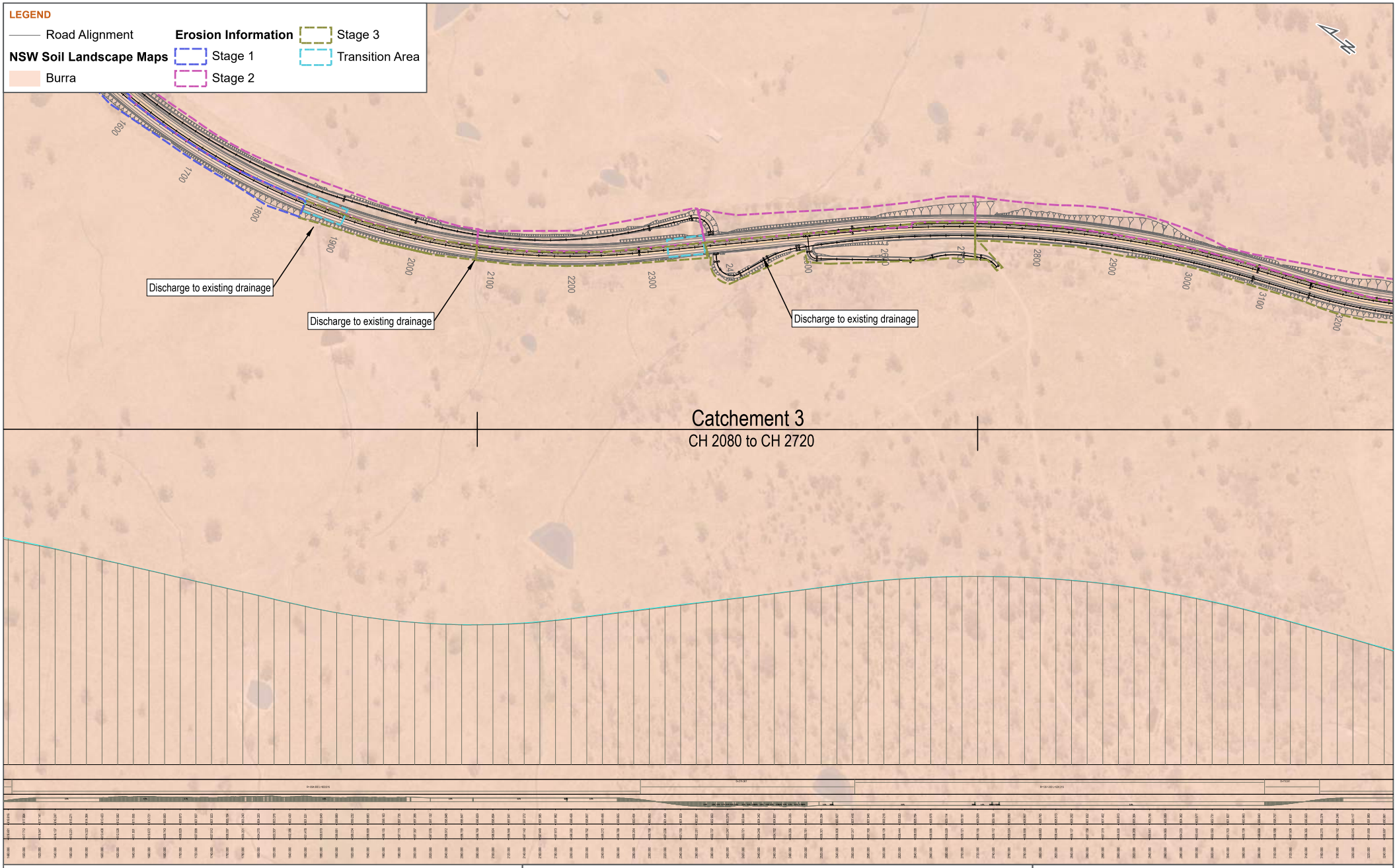

FIG NO. 4 **FIGURE TITLE** Profile LS and Soil Landscape	**DATE** 03/06/2020	**PAGE SIZE** A3 **COORDINATE SYSTEM** AGD 1966 ACT Grid AGC Zone	© SMEC Australia Pty Ltd 2020. All Rights Reserved
PROJECT NO. 3002750 **PROJECT TITLE** William Hovell Drive Duplication Detailed Design	**CREATED BY** FA13847	**SOURCES** Roadnet MDS 2018, ACT Blocks, Contours ©ACT Government - Environment and Planning Directorate Imagery © Department of Customer Service 2020	

0 50 100 200
1:4,500 Metres

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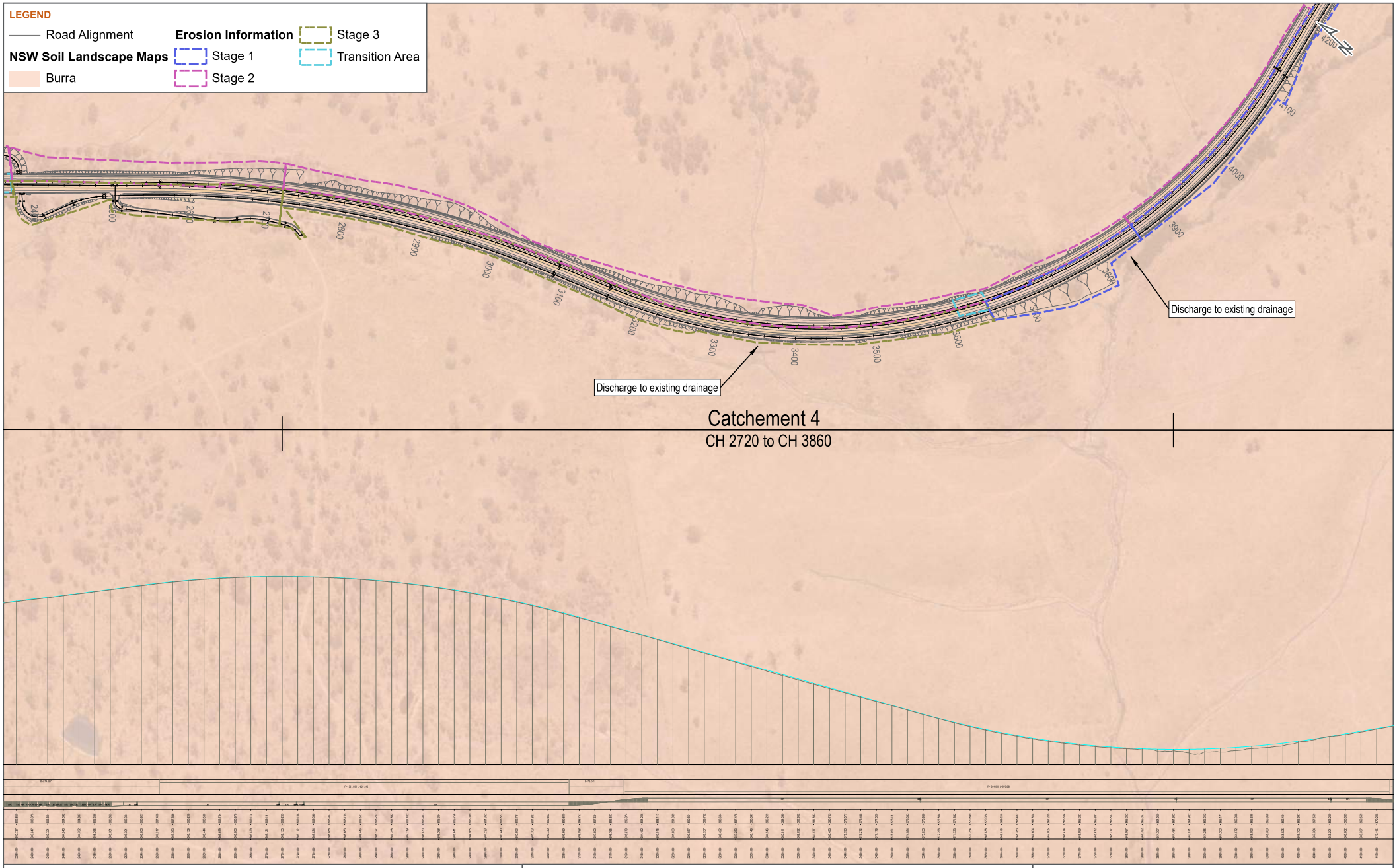

FIG NO. 5 **FIGURE TITLE** Profile LS and Soil Landscape	**DATE** 03/06/2020	0 50 100 200 Metres 1:4,500	**PAGE SIZE** A3 **COORDINATE SYSTEM** AGD 1966 ACT Grid AGC Zone
PROJECT NO. 3002750 **PROJECT TITLE** William Hovell Drive Duplication Detailed Design	**CREATED BY** FA13847	**SOURCES** Roadnet MDS 2018, ACT Blocks, Contours ©ACT Government - Environment and Planning Directorate Imagery © Department of Customer Service 2020	

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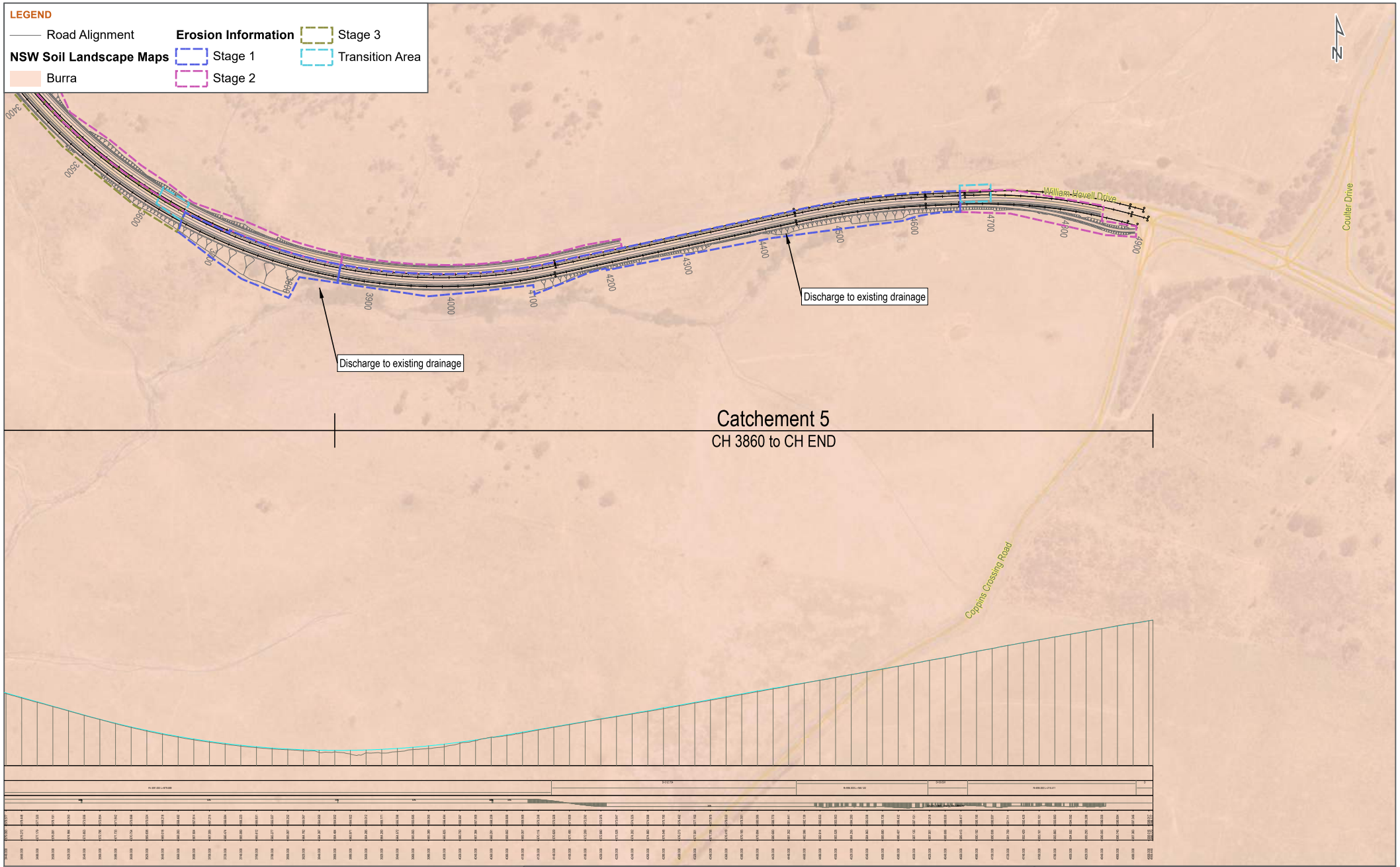

FIG NO. 6 **FIGURE TITLE** Profile LS and Soil Landscape

DATE 03/06/2020

0 50 100 200
1:4,500 Metres

PAGE SIZE A3 **COORDINATE SYSTEM** AGD 1966 ACT Grid AGC Zone

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Last updated by: FA13847 on 3/06/2020 at 14:22

1. Erosion Hazard and Sediment Basins

Site Name: William Hovel Drive

Site Location: Australian Capital Teritory

Precinct/Stage: Item 1 to 6 Phase 1

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
	1	2	3	4	5	6	
Total catchment area (ha)	1.116	3.057	1.469	3.707	1.731	1.87	
Disturbed catchment area (ha)	0.852	2.211	1.067	2.538	1.08	1.462	

Soil analysis (enter sediment type if known, or laboratory particle size data)

Sediment Type (C, F or D) if known:	F	F	F	F	F	F	From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	F	F	F	F	F	F	Automatic calculation from above

Rainfall data

Design rainfall depth (no of days)	5	5	5	5	5	5	See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	80	80	80	80	80	80	
x-day, y-percentile rainfall event (mm)	21.3	21.3	21.3	21.3	21.3	21.3	
Rainfall R-factor (if known)	1500	1500	1500	1500	1500	1500	Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)							

RUSLE Factors

Rainfall erosivity (*R*-factor)	1500	1500	1500	1500	1500	1500	Auto-filled from above
Soil erodibility (*K*-factor)	0.058	0.058	0.058	0.058	0.058	0.058	RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)	80	80	80	80	80	80	
Slope gradient (%)	3	3	4	3	3	4	
Length/gradient (*LS*-factor)	0.65	0.65	0.91	0.65	0.65	0.91	
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	

Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)

Storage (soil) zone design (no of months)	6	6	6	6	6	6	Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.35	0.35	0.35	0.35	0.35	0.35	See Table F2, page F-4 in Appendix F

Calculations and Type D/F Sediment Basin Volumes

Soil loss (t/ha/yr)	74	74	103	74	74	103	
Soil Loss Class	1	1	1	1	1	1	See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)	57	57	79	57	57	79	Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)	24	63	42	72	31	58	See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)	83	228	110	276	129	139	See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)	107	291	152	348	160	197	

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).

1. Erosion Hazard and Sediment Basins

Site Name: William Hovel Drive

Site Location: Australian Capital Teritory

Precinct/Stage: Item 7 to 12 Phase 1 & 2

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
	7	8	9	10	11	12	
Total catchment area (ha)	3.347	1.09	2.77	1.742	4.587	1.981	
Disturbed catchment area (ha)	2.324	6.286	1.786	1.254	3.378	0.907	

Soil analysis (enter sediment type if known, or laboratory particle size data)

Sediment Type (C, F or D) if known:	F	F	F	F	F	F	From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	F	F	F	F	F	F	Automatic calculation from above

Rainfall data

Design rainfall depth (no of days)	5	5	5	5	5	5	See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	80	80	80	80	80	80	
x-day, y-percentile rainfall event (mm)	21.3	21.3	21.3	21.3	21.3	21.3	
Rainfall R-factor (if known)	1500	1500	1500	1500	1500	1500	Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)							

RUSLE Factors

Rainfall erosivity (*R*-factor)	1500	1500	1500	1500	1500	1500	Auto-filled from above
Soil erodibility (*K*-factor)	0.058	0.058	0.058	0.058	0.058	0.058	RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)	80	80	80	80	80	80	
Slope gradient (%)	3	3	4.4	3	4.4	4	
Length/gradient (*LS*-factor)	0.65	0.65	1.02	0.65	1.02	0.91	
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	

Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)

Storage (soil) zone design (no of months)	6	6	6	6	6	6	Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.35	0.35	0.35	0.35	0.35	0.35	See Table F2, page F-4 in Appendix F

Calculations and Type D/F Sediment Basin Volumes

Soil loss (t/ha/yr)	74	74	116	74	116	103	
Soil Loss Class	1	1	1	1	1	1	See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)	57	57	89	57	89	79	Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)	66	178	79	36	150	36	See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)	250	81	207	130	342	148	See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)	316	259	286	166	492	184	

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).

1. Erosion Hazard and Sediment Basins

Site Name: William Hovel Drive

Site Location: Australian Capital Teritory

Precinct/Stage: Item 13 to 16 Phase 2

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
	13	14	15	16			
Total catchment area (ha)	0.723	0.873	4.646	1.385			
Disturbed catchment area (ha)	0.463	0.533	2.788	1.254			

Soil analysis (enter sediment type if known, or laboratory particle size data)

Sediment Type (C, F or D) if known:	F	F	F	F			From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	F	F	F	F			Automatic calculation from above

Rainfall data

Design rainfall depth (no of days)	5	5	5	5			See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	80	80	80	80			
x-day, y-percentile rainfall event (mm)	21.3	21.3	21.3	21.3			
Rainfall R-factor (if known)	1200	1200	1200	1200			Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)							

RUSLE Factors

Rainfall erosivity (*R*-factor)	1200	1200	1200	1200			Auto-filled from above
Soil erodibility (*K*-factor)	0.058	0.058	0.058	0.058			
Slope length (m)	80	80	80	80			
Slope gradient (%)	4.4	3	4.4	4			RUSLE LS factor calculated for a high rill/interrill ratio.
Length/gradient (*LS*-factor)	1.02	0.65	1.02	0.91			
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	

Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)

Storage (soil) zone design (no of months)	1	1	1	2.5			Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.35	0.35	0.35	0.35			See Table F2, page F-4 in Appendix F

Calculations and Type D/F Sediment Basin Volumes

Soil loss (t/ha/yr)	92	59	92	83			
Soil Loss Class	1	1	1	1			See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)	71	45	71	64			Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)	3	2	17	17			See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)	54	65	346	103			See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)	57	67	363	120			

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).