Appendix II
Proposed Surface Water Drainage Works Drawings

BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME

PROPOSED SURFACE WATER DRAINAGE WORKS

DRAWING SERIES NUMBER(S)	DRAWING SERIES DESCRIPTION
BCIDA-ACM-DNG_IX-0001_XX_00-DR-CR-0001	CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. COVER SHEET
BCIDA-ACM-DNG_KP-0001_XX_00-DR-CR-0001	CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. KEY PLAN
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-1001 to 1003	CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME. OVERALL CATCHMENT AREAS
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CR-0006 to 0021	CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS

Project Ireland 2040 Building Ireland's Future

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Client: NTA Údarás Náisiúnta Iompair National Transport Authority

Engineering Designer: AECOM / MOTT MACDONALD

Date	Scale	Drawn	Checked	Approved
06/12/21	NTS @ A1 NTS @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code
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Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS COVER SHEET

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_IX-0001_XX_00-DR-CD-0001	01 of 01	A	M01

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0 125 250 500 750 1000 1250m

SCALE 1:12500 @ A1; 1:25000 @ A3

R139

PRIORSWOOD ROAD

MALAHIDE ROAD

BLUNDEN DRIVE

GREENCASTLE ROAD

BROOKVILLE CRESCENT

TONLEGEE ROAD

MALAHIDE ROAD

ARDLEA ROAD

KILMORE ROAD

MALAHIDE ROAD

GRACEFIELD ROAD

COLLINS AVENUE

COLLINS AVENUE EAST

MALAHIDE ROAD

GRIFFITH AVENUE

CLONTARF ROAD

MARINO MART

SHEET 06

SHEET 07

SHEET 08

SHEET 09

SHEET 10

SHEET 11

SHEET 12

SHEET 13

SHEET 14

SHEET 15

SHEET 16

SHEET 17

SHEET 18

SHEET 19

SHEET 20

SHEET 21

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Engineering Designer: AECOM / MOTT MACDONALD

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06/12/21	1:12500 @ A1 1:25000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code
BCIDA	ACM	

Programme Title: **BUSCONNECTS DUBLIN**
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS
KEY PLAN

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_KP-0001_XX_00-DR-CD-0001	01 of 01	A	M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

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LEGEND:

- CATCHMENT AREA R01-01.3
- CATCHMENT AREA R01-02
- CATCHMENT AREA R01-03
- DISCHARGE POINT
- CATCHMENT AREA R01-04
- CATCHMENT AREA R01-05
- CATCHMENT AREA R01-06
- CATCHMENT AREA R01-07
- EXISTING SURFACE WATER DRAINAGE
- EXISTING COMBINED DRAINAGE
- EXISTING OVERFLOW DRAINAGE
- EXISTING FOUL DRAINAGE
- TEMPORARY LAND ACQUISITION
- SITE BOUNDARY LINE
- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREAS TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED

0 50 100 200 300 400 500m

SCALE 1:5000 @ A1; 1:10000 @ A3

CATCHMENT AREA R01-02 DRAINAGE NETWORK DISCHARGING NORTH TO MAYNE RIVER

CATCHMENT AREA R01-01.1 DRAINAGE NETWORK DISCHARGING NORTH TO MAYNE RIVER NO IMPACT ON CATCHMENT FROM PROPOSED WORKS

CATCHMENT AREA R01-04 DRAINAGE NETWORK DISCHARGING TO SANTRY RIVER

CATCHMENT AREA R01-05 DRAINAGE NETWORK DISCHARGING TO NANIKEN RIVER

CATCHMENT AREA R01-03 DRAINAGE NETWORK DISCHARGING TO NORTH BULL ISLAND SPECIAL PROTECTION AREA

SANTRY RIVER

MAYNE RIVER AVENUE
R139
MALAHIDE ROAD
CLAREHALL AVENUE
BUTTERCUP CRESCENT
BUTTERCUP PARK
GROVE PARK
NEWTOWN ROAD
NEWTOWN COTTAGES
AYRFIELD DRIVE
GREENCASTLE ROAD
BOTHAR MHULLACH IDE
BROOKVILLE CRESCENT
TONLEGEE ROAD
ST BRENDAN'S AVENUE
ST BRENDAN'S PARK
COOLOCK VILLAGE
CHANEL ROAD
ST BRENDAN'S DRIVE
BROOKVILLE PARK
MASK AVENUE

NOTE: WHERE NO SPECIFIC INFORMATION ABOUT NETWORK IS AVAILABLE, THE DISCHARGE LOCATIONS HAVE BEEN ASSUMED BASED ON TERRAIN SLOPE

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Programme Title: **BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS**

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME OVERALL CATCHMENT AREAS

Date	Scale	Drawn	Checked	Approved
06/12/21	1:5000 @ A1, 1:10000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code	Drawing File Name	Sheet Number	Status	Rev
BCIDA	ACM		BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-1001	01 of 03	A	M01

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LEGEND:

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- CATCHMENT AREA R01-03
- DISCHARGE POINT
- CATCHMENT AREA R01-04
- CATCHMENT AREA R01-05
- CATCHMENT AREA R01-06
- CATCHMENT AREA R01-07
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- EXISTING COMBINED DRAINAGE
- EXISTING OVERFLOW DRAINAGE
- EXISTING FOUL DRAINAGE
- TEMPORARY LAND ACQUISITION
- SITE BOUNDARY LINE
- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREAS TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED

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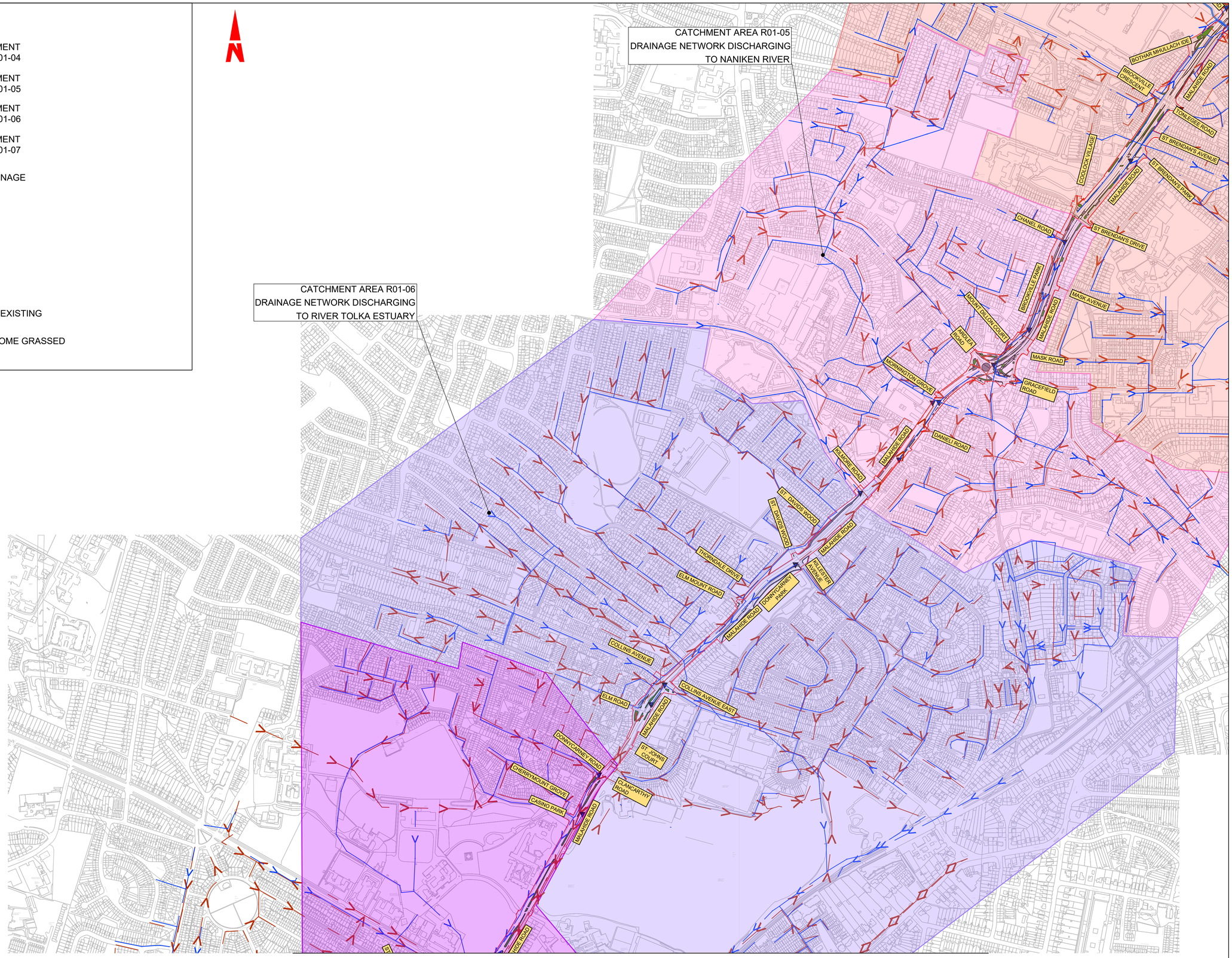

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Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
OVERALL CATCHMENT AREAS

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BCIDA	ACM		BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-1002	02 of 03	A	M01

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- CATCHMENT AREA R01-03
- DISCHARGE POINT
- CATCHMENT AREA R01-04
- CATCHMENT AREA R01-05
- CATCHMENT AREA R01-06
- CATCHMENT AREA R01-07
- EXISTING SURFACE WATER DRAINAGE
- EXISTING COMBINED DRAINAGE
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- EXISTING FOUL DRAINAGE
- TEMPORARY LAND ACQUISITION
- SITE BOUNDARY LINE
- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREAS TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED

0 50 100 200 300 400 500m

SCALE 1:5000 @ A1; 1:10000 @ A3

N

THORNDALE DRIVE
ELM MOUNT ROAD
KILLESTER AVENUE
DONNYCARNEY PARK
MALAHIDE ROAD
COLLINS AVENUE
ELM ROAD
COLLINS AVENUE EAST
MALAHIDE ROAD
ST. JOHNS COURT
DONNYCARNEY ROAD
CHERRYMOUNT GROVE
CASINO PARK
CLANCARTHY ROAD
MALAHIDE ROAD
ST. DECLAN'S ROAD
GRIFFITH AVENUE
COPELAND AVENUE
BRIAN ROAD
CARLETON ROAD
MALAHIDE ROAD
MARINO AVENUE
CHARLEMONT ROAD
CRESCENT PLACE
MARINO CRESCENT
MARINO PARK AVE
ST. AIDAN'S PARK
HAVERTY ROAD
MARGLANN MARINO
CLONTARF ROAD
MARINO MART
FAIRVIEW PARK
TOLKA RIVER

CATCHMENT AREA R01-07 DRAINAGE NETWORK DISCHARGING TO TOLKA ESTUARY

RIVER TOLKA ESTUARY SPECIAL PROTECTION AREA

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Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME OVERALL CATCHMENT AREAS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-1003	03 of 03	A	M01

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LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

CLAREHALL AVENUE

CLAREHALL SHOPPING CENTRE

MALAHIDE ROAD

HOTEL

R139

MAYNE RIVER AVENUE

NEWTOWN COURT

A 3056

A 3100

A 3150

A 3200

A 3250

A 3300

A 3350

A 3400

DN225

Tie in to Belmayne Main Street & Belmayne Avenue Scheme

PROPOSED SCHEME

SHEET 7

SHEET 6

Chainage A3056-A3180 (left hand side)
- Carriageway falls toward the left
- Additional impermeable catchment area = 560 m²
- Additional grassed (permeable area) = 103 m²
- Net increase in impermeable area = 457 m²
- Existing gullies connected to the surface water network (size, flow direction and cover depth unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Proposed area for SuDS location 208m² - collecting surface water from footpath, filter drain discharge to existing drainage network - outfall location need to be confirm
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: 2 l/s
- $V_{Vol_{att}}$: 44-88 m³

Connect to existing surface water drainage network. Petrol Interceptor requirement to be agreed with DCC.

Chainage A3180-A3390 (left hand side)
- Carriageway falls toward the left
- Additional impermeable catchment area = 235 m²
- Additional grassed (permeable area) = 146 m²
- Net increase in impermeable area = 89 m²
- Existing gullies connected to the DN300 surface water network (cover depth unknown)
- Assumed flow direction compatible with road slope
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A3180-A3390 (right hand side)
- Carriageway falls toward the left
- Additional impermeable catchment area = 178 m²
- Additional grassed (permeable area) = 248 m²
- Net increase in impermeable area - not applicable
- Existing gullies connected to the DN225 or DN300 surface water network (size, flow direction and cover depth unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing surface water network
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A3056-A3180 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 70 m²
- Additional grassed (permeable area) = 350 m²
- Net increase in impermeable area - not applicable
- Existing gullies connected to the surface water network (size, flow direction and cover depth unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $V_{Vol_{att}}$: not required

NOTES:

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3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE.WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE

Vol_{att}: VOLUME OF ATTENUATION

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Programme Title: BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Date	Scale	Drawn	Checked	Approved
06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code	Drawing File Name	Sheet Number	Status	Rev
BCIDA	ACM		BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0006	06 of 21	A	M01

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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

Chainage A3390-A3495 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 52 m²
- Additional grassed (permeable area) = 87 m²
- Net increase in impermeable area - not applicable
- Existing gullies connected to the DN225 surface water network (cover depth unknown)
- Assumed flow direction consistent with road slope
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $VVol_{att}$: not required

Chainage A3495-A3660 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 175 m²
- Additional grassed (permeable area) = 127 m²
- Net increase in impermeable area= 47 m²
- Existing gullies connected to the DN225 surface water network (cover depth, diameter and flow direction unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $VVol_{att}$: Assume that attenuation is achieved by existing drainage network

Chainage A3660-A3770 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 123 m²
- Additional grassed (permeable area) = 101 m²
- Net increase in impermeable area - 22 m²
- Existing gullies connected to existing surface water network (cover depth, diameter, flow direction unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $VVol_{att}$: not required

Chainage A3390-A3510 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 141 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area = 141 m²
- Existing gullies connected to the DN225 surface water network (cover depth unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing surface water network
- ADR: not required
- $VVol_{att}$: not required

Chainage A3510-A3770 (right hand side)
- Carriageway superelevated, fall towards left side
- Additional impermeable catchment area = 431 m²
- Additional grassed (permeable area) = 97 m²
- Net increase in impermeable area= 333 m²
- Existing gullies connected to the DN900 surface water network (cover depth unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $VVol_{att}$: Assume that attenuation is achieved by existing drainage network

LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
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- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
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NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

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3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
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BCIDA	ACM	

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0007	07 of 21	A	M01

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LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

Chainage A3770-A4150 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 2570 m²
- Additional grassed (permeable area) = 1356 m²
- Net increase in impermeable area = 1214 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225, DN300
- Proposed area for SuDS location 318 m² - collecting surface water from footpath, possible clash with VM and EIR utilities, further survey required in this area,
- Filter drain connected to existing drainage network DN 225
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: 2 l/s
- $V_{Vol_{att}}$: 79-154 m³

Chainage A3770-A3920 (right hand side)
- Carriageway super-elevated and falls toward the left
- Additional impermeable catchment area = 382 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area = 382 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Further survey required to confimr existing gullies' discharge location and existing road drainage system
- ADR: 2 l/s
- $V_{Vol_{att}}$: 33-66 m³

Chainage A3920-A4150 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 685 m²
- Additional grassed (permeable area) = 692 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Proposed area for SuDS location 318 m² - collecting surface water from footpath,
- Filter drain connected to existing drainage network - location, diameter and cover depth unknown, possible clash with VM utilities and proposed trees
- Further survey required to confirm existing gullies', SUDs discharge location and existing road drainage system
- ADR: not required
- $V_{Vol_{att}}$: not required

NOTES:

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2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE.WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
M01	06/12/21	PP	JH	CA	ISSUE FOR PHASE 4: PLANNING

Client: NTA Údarás Náisiúnta Iompair National Transport Authority

Engineering Designer: AECOM / MOTT MACDONALD

Date	Scale	Drawn	Checked	Approved
06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code
BCIDA	ACM	

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0008	08 of 21	A	M01

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LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

AYREFIELD DRIVE

Chainage A4150-A4520 (left hand side)
- Carriageway superelevated and falls towards the left
- Additional impermeable catchment area = 950 m²
- Additional grassed (permeable area) = 109 m²
- Net increase in impermeable area = 841 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Proposed area for SuDS location 339 m² - collecting surface water from carriageway
- Proposed area for SuDS location 229 m² - collecting surface water from carriageway
- Further survey required to confirm existing gullies', proposed SUDs discharge location and existing road drainage system
- Proposed SUDs area with filter drain - discharge to existing road drainage system
- ADR: 2 l/s
- Vol_{att}: 20-40 m³

A 4150 A 4200 A 4250 A 4300 A 4350 A 4400 A 4450 A 4500

MALAHIDE ROAD

Connect to existing surface water drainage network. Petrol Interceptor requirement to be agreed with DCC.

SHEET 8

SHEET 9

SHEET 10

PETROL STATION

RETAIL PARK

NEWTOWN ROAD

Chainage A4150-A4520 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 658 m²
- Additional grassed (permeable area) = 309 m²
- Net increase in impermeable area = 348 m²
- Proposed area for SuDS location 228 m² - collecting surface water from carriageway
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Further survey required to confirm existing gullies', proposed SUDs discharge location and existing road drainage system
- Proposed SuDS area with filter drain - discharge to existing road drainage system
- ADR: 2 l/s
- Vol_{att}: 65-128 m³

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7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
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Project Code	Originator Code	QMS Code
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Programme Title: **BUSCONNECTS DUBLIN**
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0009	09 of 21	A	M01

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Chainage A4520-A4570 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 26 m²
- Additional grassed (permeable area) = 28 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- $VVol_{att}$: not required

Chainage A4570-A4720 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 131 m²
- Additional grassed (permeable area) = 182 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- $VVol_{att}$: not required

Chainage A4720-A4895 (left hand side)
- Carriageway falls towards the left,
- Additional impermeable catchment area = 248 m²
- Additional grassed (permeable area) = 35 m²
- Net increase in impermeable area= 213 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN 375
- ADR: not required
- $VVol_{att}$: not required

Chainage A4520-A4620 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 117 m²
- Additional grassed (permeable area) = 51 m²
- Net increase in impermeable area = 65 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225 (location and cover depth unknown)
- ADR: not required
- $VVol_{att}$: not required

Chainage A4620-A4840 (right hand side)
- Carriageway super-elevated and falls towards the left
- Additional impermeable catchment area = 397 m²
- Additional grassed (permeable area) = 125 m²
- Net increase in impermeable area = 272 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network (location, diameter, flow direction and cover depth unknown)
- Further survey required to confimr existing gullies' discharge location and existing road drainage system
- ADR: not required
- $VVol_{att}$: not required

Chainage A4840-A4895 (right hand side)
- Carriageway falls toward left side
- Additional impermeable catchment area = 33 m²
- Additional grassed (permeable area) = 155 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Existing surface water network out of scope - construction risk to cross the boundary
- ADR: not required
- $VVol_{att}$: not required

Connect to existing surface water drainage network. Petrol Interceptor requirement to be agreed with DCC

LEGEND:

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- EXISTING PAVED AREAS TO BECOME GRASSED
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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

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Engineering Designer: AECOM / MOTT MACDONALD

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06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code
BCIDA	ACM	

Programme Title: BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0010	10 of 21	A	M01

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Chainage A4895-A5075 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 181 m²
- Additional grassed (permeable area) = 63 m²
- Net increase in impermeable area = 118 m²
- Existing gullies to be relocated beside the new kerb line and road surface (assumption - connected to surface water network DN300),
- Further survey required to confirm existing gullies' discharge location and existing road drainage system
- ADR: not required
- V_{att}: not required

Chainage A4910-A4970-A5050 (Dunree Park)
- Additional impermeable catchment area = 53 m²
- Additional grassed (permeable area) = 19 m²
- Net impermeable area to be attenuated = 33 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN300
- Further survey required to confirme existing gullies' discharge location and existing road drainage system
- ADR: not required
- V_{att}: not required

Chainage A5075-A5270 (left hand side)
- Carriageway superelevated, fall toward the left
- Additional impermeable catchment area = 266 m²
- Additional grassed (permeable area) = 606 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Further survey required to confirm existing gullies' s discharge location and existing road drainage system
- ADR: not required
- V_{att}: not required

Chainage A5010-A5150 (Brookville Park)
- Additional impermeable catchment area = 64 m²
- Additional grassed (permeable area) = 88 m²
- Net increase in impermeable area - not applicable
- Existing road surface network on both sides of road
- ADR: not required
- V_{att}: not required

Chainage A4895-A5270 (right hand side)
- Carriageway superelevated and falls towards the left - Chainage A4895-A5050
- Carriageway falls towards the - Chainage A5050-A5270
- Additional impermeable catchment area = 285 m²
- Additional grassed (permeable area) = 1046 m²
- Net increase in impermeable area- not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN375
- ADR: not required
- V_{att}: not required

SANTRY RIVER
DUNREE PARK
MALAHIDE ROAD
BROOKVILLE PARK
BOTHAR MHULLACH IDE
TONLEGEE ROAD
ST BRENDAN'S AVENUE
BROOKVILLE CRESCENT
A 4900
A 4950
A 5000
A 5050
A 5100
A 5150
A 5200
A 5250
SHEET 10
SHEET 11
SHEET 12

LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
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- EXISTING FOUL NETWORK
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- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
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BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0011	11 of 21	A	M01

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LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

MERCY COLLEGE

ST BREND

ST BRENDAN'S AVENUE

ST BRENDAN'S DRIVE

MALAHIDE ROAD

ST BRENDAN'S CHURCH

COOLOCK VILLAGE

CHANEL ROAD

Car Park

Saint Brendan's Church

Dublin Baile Átha Cliath

A 5250 A 5300 A 5350 A 5400 A 5450 A 5500 A 5550 A 5600 A 5650

SHEET 11 SHEET 12 SHEET 13

Chainage A5270-A5420 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 50 m²
- Additional grassed (permeable area) = 275 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Further survey required to confirm existing gullies' s discharge location and existing surface water network
- ADR: not required
- $VVol_{att}$: not required

Connect to existing surface water drainage network. Petrol Interceptor requirement to be agreed with DCC.

Chainage A5300-A5640 (St Brendan's Avenue)
- Carriageway superelevated, fall toward this side
- Additional impermeable catchment area = 292,8 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area = 0 m²
- Existing gullies connected to the surface water network (location, size and cover depth unknown)
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- ADR: not required
- $VVol_{att}$: not required

Chainage A5540 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 76 m²
- Additional grassed (permeable area) = 523,3 m²
- Net increase in impermeable area = 0 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- $VVol_{att}$: not required

Chainage A5420-A5640 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 209 m²
- Additional grassed (permeable area) = 452 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be adjusted to propose kerbline and road surface, connected to surface water network (location, size and cover depth unknown)
- Further survey required to confirm existing gullies' s discharge location and existing road drainage system.
- Discharge to existing surface water network DN225
- ADR: not required
- $VVol_{att}$: not required

Connect to existing surface water drainage network. Petrol Interceptor requirement to be agreed with DCC.

Chainage A5550-A5640 (Coolock Village)
- Carriageway superelevated, fall toward this side
- Additional impermeable catchment area = 39 m²
- Additional grassed (permeable area) = 172 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be adjusted to propose kerbline and road surface, connected to surface water network (location, size and cover depth unknown)
- Further survey required to confirm existing gullies' discharge location and existing surface water network.
- ADR: not required
- $VVol_{att}$: not required

Chainage A5540-A5640 (right hand side)
- Carriageway superelevated, fall toward left side
- Additional impermeable catchment area = 53 m²
- Additional grassed (permeable area) = 206 m²
- Net increase in impermeable area- not applicable
- Existing gullies to be adjusted to propose kerbline and road surface, connected to surface water network (location, size and cover depth unknown)
- Further survey required to confirm existing gullies' s discharge location and existing road drainage system.
- Discharge to existing surface water network DN375
- ADR: not required
- $VVol_{att}$: not required

NOTES:

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3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE.WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE

Vol_{att}: VOLUME OF ATTENUATION

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
M01	06/12/21	PP	JH	CA	ISSUE FOR PHASE 4: PLANNING

Client: NTA — Údarás Náisiúnta Iompair, National Transport Authority

Engineering Designer: AECOM / MOTT MACDONALD

Programme Title: BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Date	Scale	Drawn	Checked	Approved
06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code	Drawing File Name	Sheet Number	Status	Rev
BCIDA	ACM		BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0012	12 of 21	A	M01

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Chainage A5640-A6010 (left hand side) St Brendan's Avenue
- Additional impermeable catchment area = 486 m²
- Additional grassed (permeable area) = 726 m²
- Net increase in impermeable area = 0 m²
- Existing gullies connected to the surface water network (location, size and cover depth unknown)
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A5640-A6020 (left hand side)
- Carriageway falls forwards the left - Chainage A5560-A5840
- Carriageway fall forward right - Chainage A5840-A6020
- Additional impermeable catchment area = 441 m²
- Additional grassed (permeable area) = 483 m²
- Net increase in impermeable area = 0 m²
- Existing gullies connected to surface water network
- Existing gullies to be adjusted to propose kerbline and road surface and connected water network DN300,
- Further survey required to confirm existing gullies' s discharge location and existing road drainage system
- ADR: not required
- $V_{Vol_{att}}$: not required

Outlet to existing drainage network (Naniken River)
Petrol Interceptor requirement to be agreed with DCC.
- DN300
- Chainage A5890
- CL: ~32.97
- IL: ~31.50
- Depth: ~1.40

Chainage A5640-A5890 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 441 m²
- Additional grassed (permeable area) = 312 m²
- Net increase in impermeable area = 129 m²
- Proposed new surface water network DN225
- Possible clash with water network and gas LP A5685
- Possible clash with Foul Network - A5860 to A5880
- Possible clash with - A5770
- Discharge to existing surface water network DN375
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A5890-A6020 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 156 m²
- Additional grassed (permeable area) = 199 m²
- Net increase in impermeable area = 0 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN300
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: not required
- $V_{Vol_{att}}$: not required

Outlet to the existing network
- DN375
- Ch 5+890

Connect to existing surface water drainage network.
Petrol Interceptor requirement to be agreed with DCC.

LEGEND:

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- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
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- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
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- PROPOSED NEW TREE PIT
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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

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4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE.WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
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Project Ireland 2040 Building Ireland's Future

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Client: NTA Údarás Náisiúnta Iompair National Transport Authority
Engineering Designer: AECOM / MOTT MACDONALD

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06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code
BCIDA	ACM	

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS
Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0013	13 of 21	A	M01

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Chainage A6020-A6210 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 545 m²
- Additional grassed (permeable area) = 141 m²
- Net increase in impermeable area = 403 m²
- Proposed area for SuDS location 276 m² - collecting surface water from footpath
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: 2 l/s
- $V_{Vol_{att}}$: 21-40 m³

Outlet to the existing network
- DN375
- Ch 6+210

Outlet to existing drainage network (Naniken River).
Petrol Interceptor requirement to be agreed with DCC.
- DN375
- Chainage A6210
- CL: ~32.10
- IL: ~30.00
- Depth: ~2.10

Chainage A6210-A6400 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 66 m²
- Additional grassed (permeable area) = 155 m²
- Net increase in impermeable area - not applicable
- Existing surface water network need to be rebuild - increase pipe diameter to DN300
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN300
- ADR: not required
- $V_{Vol_{att}}$: not required

Outlet to existing drainage network (Naniken River)
Petrol Interceptor requirement to be agreed with DCC.
- DN375
- Chainage A6223
- CL: ~32.30
- IL: ~31.00
- Depth: ~1.30

Chainage A6210-A6390 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 8 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area = 8 m²
- Proposed new surface water network DN225
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- Discharge to existing surface water network DN1050
- ADR: 2 l/s
- $V_{Vol_{att}}$: 30-59 m³

Chainage A6020-A6210 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 181 m²
- Additional grassed (permeable area) = 126 m²
- Net increase in impermeable area = 55 m²
- Proposed area for SuDS location 159 m² - collecting surface water from footpath
- Proposed new surface water network DN225
- Discharge to existing surface water network DN1050
- Possible clash with LV UG utilities - Chainage A6165
- Possible clashes with FW - Chainage A5990-A6190
- ADR: 2 l/s
- $V_{Vol_{att}}$: 8.1-17 m³

GRACEFIELD ROAD
SAINT BRIGID'S ROAD
DANIELI ROAD
MALAHIDE ROAD
MORNINGTON GROVE
ARDLEA ROAD
PETROL STATION
A 6000
A 6050
A 6100
A 6150
A 6200
A 6250
A 6300
A 6350
A 6400
SHEET 14
SHEET 15
DN225
STOP

LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
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- EXISTING FOUL NETWORK
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- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

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Programme Title: BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Date	Scale	Drawn	Checked	Approved
06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code	Drawing File Name	Sheet Number	Status	Rev
BCIDA	ACM		BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0014	14 of 21	A	M01

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LEGEND:

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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

Outlet to existing drainage network (Naniken River)
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A6400
- CL: ~34.20
- IL: ~32.77
- Depth: ~1.43

Chainage A6400-A6670 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies probably connected to combined sewer network - further survey required (location, size and cover depth unknown)
- In case gullies' discharge to combined sewer network, proposed surface water network is necessary DN225
- Discharge to existing surface water network DN225 - pipe diameter need to be increased to DN300
- ADR 10 l/s
- Vol_{att}: 34-65 m³

Chainage A6670-A6770 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 9 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area = 9 m²
- Proposed new surface water network DN300
- Existing gullies discharged to combined network
- Discharge to existing surface water network DN225
- ADR: 8 l/s
- Vol_{att}: 16-32 m³

Chainage A6390-A6520 (right hand side)
- Carriageway falls towards the righ
- Additional impermeable catchment area = 236 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area = 236 m²
- Proposed new surface water network DN225
- Discharge to existing surface water network DN1050
- ADR: 2 l/s
- Vol_{att}: 1.6-3.9 m³

Outlet to existing drainage network (Naniken River)
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A6640
- CL: ~35.10
- IL: ~33.77
- Depth: ~1.40

Chainage A6520-A6770 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 784.8 m²
- Additional grassed (permeable area) = 0
- Net increase in impermeable area = 784.8 m²
- Proposed area for SuDS location 1072 m² - collecting surface water from footpath and carriageway
- Filter drain from SuDS connected to existing network DN225
- Proposed new surface water network DN225
- ADR: 2 l/s
- Vol_{att}: 80-160 m³

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6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
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9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
M01	06/12/21	PP	JH	CA	ISSUE FOR PHASE 4: PLANNING

Client: NTA Údarás Náisiúnta Iompair / National Transport Authority
Engineering Designer: AECOM / MOTT MACDONALD

Date	Scale	Drawn	Checked	Approved
06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code
BCIDA	ACM	

Programme Title: BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0015	15 of 21	A	M01

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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

Chainage A6770-A6800 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 19 m²
- Additional grassed (permeable area) = 17 m²
- Net increase in impermeable area = 2 m²
- Proposed new surface water network - oversize pipe DN600
- Discharge to existing surface water network DN225
- ADR: 8 l/s
- $Vvol_{att}$: 16-32 m³

Outlet to the existing network
- DN225
- Ch 6+800

Chainage A6800-A7145 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 608 m²
- Additional grassed (permeable area) = 96 m²
- Net increase in impermeable area = 512 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- $Vvol_{att}$: not required

Outlet to existing drainage network (River Tolka).
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A6800
- CL: ~34.22
- IL: ~32.77
- Depth: ~1.45

Chainage A6770-A6970 (Right hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 10 m²
- Additional grassed (permeable area) = 4 m²
- Net increase in impermeable area = 6 m²
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- Existing surface water network out of scope - construction risk to cross the boundary
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: not required
- $Vvol_{att}$: not required

Chainage A6970-A7145 (right hand side)
- Carriageway fall toward the right
- Additional impermeable catchment area = 7 m²
- Additional grassed (permeable area) = 10 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN600
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: not required
- $Vvol_{att}$: not required

PLAYING PITCH

MAYPARK (DONNYCARNEY PARK)

PLAYING PITCH

KILLESTER AVENUE

MALAHIDE ROAD

ST. DAVIDS WOOD

THORNDALE GROVE

THORNDALE DRIVE

ELM MOUNT ROAD

CLARREE ROAD

CLAYMAURICE COURT

Health Centre

A 6800 A 6850 A 6900 A 6950 A 7000 A 7050 A 7100 A 7150

SHEET 15 SHEET 16 SHEET 17

LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

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PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name	Sheet Number	Status	Rev
BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0016	16 of 21	A	M01

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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

Chainage A7145-A7215 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface connected to surface water network DN225
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A7215-A7275 (left hand side)
- Carriageway falls toward the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Missing network - additional survey required
- Existing gullies to be relocated beside the new kerb line and road surface
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A7275-A7360 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 337 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A7360-A7425 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 178 m²
- Net increase in impermeable area - not applicable
- Proposed new surface water network DN225
- Possibility reuse of existing drainage network, further survey required to confirm, existing gullies has been detected
- ADR: not required
- $V_{Vol_{att}}$: not required

Outlet to existing drainage network
- DN225
- Chainage A7360

Chainage A7425-A7520 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies probably connected to combined sewer network - further survey required (location, size and cover depth unknown)
- In case gullies' discharge to combined sewer network, proposed surface water network is necessary DN225
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: 10 l/s
- $V_{Vol_{att}}$: 47.0-88.0 m³

Outfall to existing route network
- DN225
- Chainage A7715

Outlet to existing drainage network (River Tolka)
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A6800
- CL: ~27.10
- IL: ~26.00
- Depth: ~1.10

Connect to existing surface water drainage network,Petrol Interceptor requirement to be agreed with DCC.

Chainage A7145-A7210 (right hand side)
- Carriageway superelevated, fall toward the right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN600
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A7210-A7275 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN300
- Existing surface road network outside of boundary - risk of construction outside the scope
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A7275-A7390 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 4 m²
- Additional grassed (permeable area) = 64 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN300
- ADR: not required
- $V_{Vol_{att}}$: not required

Chainage A7390-A7520 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 160 m²
- Net increase in impermeable area - not applicable
- Existing gullies probably connected to combined sewer network - further survey required (location, size and cover depth unknown)
- In case gullies' discharge to combined sewer network, proposed surface water network is necessary DN225
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- ADR: 8 l/s
- $V_{Vol_{att}}$: 22.0-43.0 m³

Outfall to existing route network
- DN225
- Chainage A7600

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0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

CLANCARTHY ROAD

GOLF CLUB

MALAHIDE ROAD

DONNYCARNEY ROAD

CHERRYMOUNT GROVE

CASINO PARK

OAK ROAD

Chainage A7520-A7710 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Proposed drainage network discharge to existing drainage network DN225 -DN300
- ADR: 10 l/s
- $VVol_{att}$: 47.0-88.0 m³

Outfall to existing route network
- DN225
- Chainage A7715

Chainage A7710-A7755 (left hand side)
- Carriageway fall toward the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to combined network DN225, need to be connect to proposed drainage network
- ADR: not required
- $VVol_{att}$: not required

Chainage A7755-A7895 (left hand side)
- Carriageway falls towards the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 272 m²
- Net increase in impermeable area - not applicable
- Existing gullies probably connected to combined water network - further survey required (location, size and cover depth unknown)
- In case gullies' discharge to combined network, proposed surface water network is necessary DN225
- Discharge to existing surface water network DN450
- Potential clash with ESB MV utilities and existing trees
- ADR: 60 l/s
- $VVol_{att}$: 32.0-92.0 m³

Chainage A7730-A7895 (right hand side)
- Carriageway falls toward this right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 31 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN450
- ADR: not required
- $VVol_{att}$: not required

Outlet to existing drainage network (River Tolka).
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A7600
- CL: ~26.64
- IL: ~25.40
- Depth: ~1.50

Outlet to existing drainage network (River Tolka).
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A7710
- CL: ~25.07
- IL: ~TBC
- Depth: ~TBC

Chainage A7520-A7600 (right hand side)
- Carriageway falls toward the right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Proposed drainage network discharge to existing drainage network DN450
- Further survey required to confirm existing gullies's discharge location
- ADR: 8 l/s
- $VVol_{att}$: 22.0-43.0 m³

Chainage A7600-A7730 (right hand side)
- Carriageway falls towards the right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 557 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- $VVol_{att}$: not required

A 7550 A 7600 A 7650 A 7700 A 7750 A 7800 A 7850 A 7900

SHEET 17 SHEET 18 SHEET 18 SHEET 19

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- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

0 5.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 @ A1; 1:1000 @ A3

Chainage A7895-A8270 (left hand side)
- Carriageway falls toward this left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies probably connected to combined sewer network - further survey required (location, size and cover depth unknown)
- In case gullies' discharge to combined sewer network, proposed surface water network is necessary
- Further survey required to confirm existing gullies's discharge location and existing road drainage system
- Proposed new surface water network DN225-DN600
- Discharge to existing surface water network DN450
- Chainage A7895-A8010 - possible clash with FW and ESB MV UG
- ADR: 60 l/s
- $VVol_{att}$: 32.0-92.0 m³

Outlet to the existing network
- DN450
- Chainage A6890

Chainage A7895-A8270 (right hand side)
- Carriageway falls toward right
- Reuse of existing surface water network
- Additional impermeable catchment area = 3 m²
- Additional grassed (permeable area) = 923 m²
- Net increase in impermeable area - not applicable
- Existing gullies and manholes to be relocated beside the new kerb line and road surface
- ADR: not required
- $VVol_{att}$: not required

Outlet to existing drainage network (River Tolka). Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A8235
- CL: ~12.04
- IL: ~10.29
- Depth: ~1.70

A 7900 A 7950 A 8000 A 8050 A 8100 A 8150 A 8200 A 8250

MALAHIDE ROAD

COPELAND AVENUE

GRIFFITH AVENUE

SHEET 18 SHEET 19 SHEET 19 SHEET 20

Nazareth House

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3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE.WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
M01	06/12/21	PP	JH	CA	ISSUE FOR PHASE 4: PLANNING

Client: NTA Údarás Náisiúnta Iompair / National Transport Authority

Engineering Designer: AECOM / MOTT MACDONALD

Programme Title: BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title: CLONGRIFFIN TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Date	Scale	Drawn	Checked	Approved
06/12/21	1:500 @ A1, 1:1000 @ A3	P.POCZATKO	J.HAWE	C.ACTON

Project Code	Originator Code	QMS Code	Drawing File Name	Sheet Number	Status	Rev
BCIDA	ACM		BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0019	19 of 21	A	M01

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Chainage A8270-A8525 (letf hand side)
- Carriageway toward the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Proposed new surface water network DN225 - DN375
- Discharge to existing surface water network DN225
- Existing gullies to be relocated beside the new kerb line and road surface where necessary
- ADR: 33 l/s
- V_{att}: 5.2-29.0m³

Outlet to existing drainage network (Discharge to Tolka River)
Petrol Interceptor requirement to be agreed with DCC.
- DN225
- Chainage A8520
- CL: ~6.79
- IL: ~4.37
- Depth: ~2.40

Chainage A8525-A8640
- Carriageway fall toward the left
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- V_{att}: not required

Chainage A8330-A8640 (right hand side)
- Carriageway superelevated, fall toward this side
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies connected to the surface water network DN 375
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN375
- ADR: not required
- V_{att}: not required

Brian Road
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies connected to the surface water network DN 750
- ADR: not required
- V_{att}: not required

Carleton Road
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 0 m²
- Net increase in impermeable area - not applicable
- Existing gullies connected to the surface water network DN 750, DN300
- ADR: not required
- V_{att}: not required

LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
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0 5.0 10.0 20.0 30.0 40.0 50.0m

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6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
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BCIDA-ACM-DNG_RD-0001_XX_00-DR-CD-0020	20 of 21	A	M01

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CLONTARF ROAD

Tie in to Clontarf to City Centre Cycle & Bus Priority Project

PROPOSED SCHEME

A 8734

A 8700

A 8650

A 8600

C 97

C 50

C 0

B 450

B 400

B 500

B 550

B 600

B 650

B 674

FAIRVIEW PARK

MARINO MART

HAVERTY ROAD

ST. AIDAN'S PARK

MARINO PARK AVE

MARGLANN MARINO

SCHOOL

SHEET 21

SHEET 20

Chainage A8640-A8700
- Carriageway falls toward the right
- Additional impermeable catchment area = 0 m²
- Additional grassed (permeable area) = 71 m²
- Net increase in impermeable area - not applicable
- Existing gullies to be relocated beside the new kerb line and road surface, connected to surface water network DN225
- ADR: not required
- $V_{Vol_{att}}$: not required

Side roads
- The design work for the side roads does not include significant changes
- Reuse of existing surface water network

0 5.0 10.0 20.0 30.0 40.0 50.0m

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NTA
Údarás Náisiúnta Iompair
National Transport Authority

National Transport Authority
Dún Scéine
Harcourt Lane
Dublin 2
D02 WT20

Project Ireland 2040
Building Ireland's Future