

Appendix B11
Proposed Surface Water
Drainage Works



BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS

RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME

DRAWING SERIES NUMBER(S)	DRAWING SERIES DESCRIPTION
BCIDD-ROT-DNG_IX-0016_XX_00-DR-CD-0001	RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. COVER SHEET
BCIDD-ROT-DNG_KP-0016_XX_00-DR-CD-0001	RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. KEY PLAN
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001 to 0012	RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. DRAWINGS.
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-1001	RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. OVERALL CATCHMENT AREAS. DRAWINGS.

\\wddubp1u20191917117117-02_WIP08 MODELS01 CAD01 DWG03 STG 3 - STATUTORY PROCESS (M)01 PLANNING16 RINGSEND\Cover_Sheets\BCIDD-ROT-DNG_IX-0016_XX_00-DR-CD-0001.dwg

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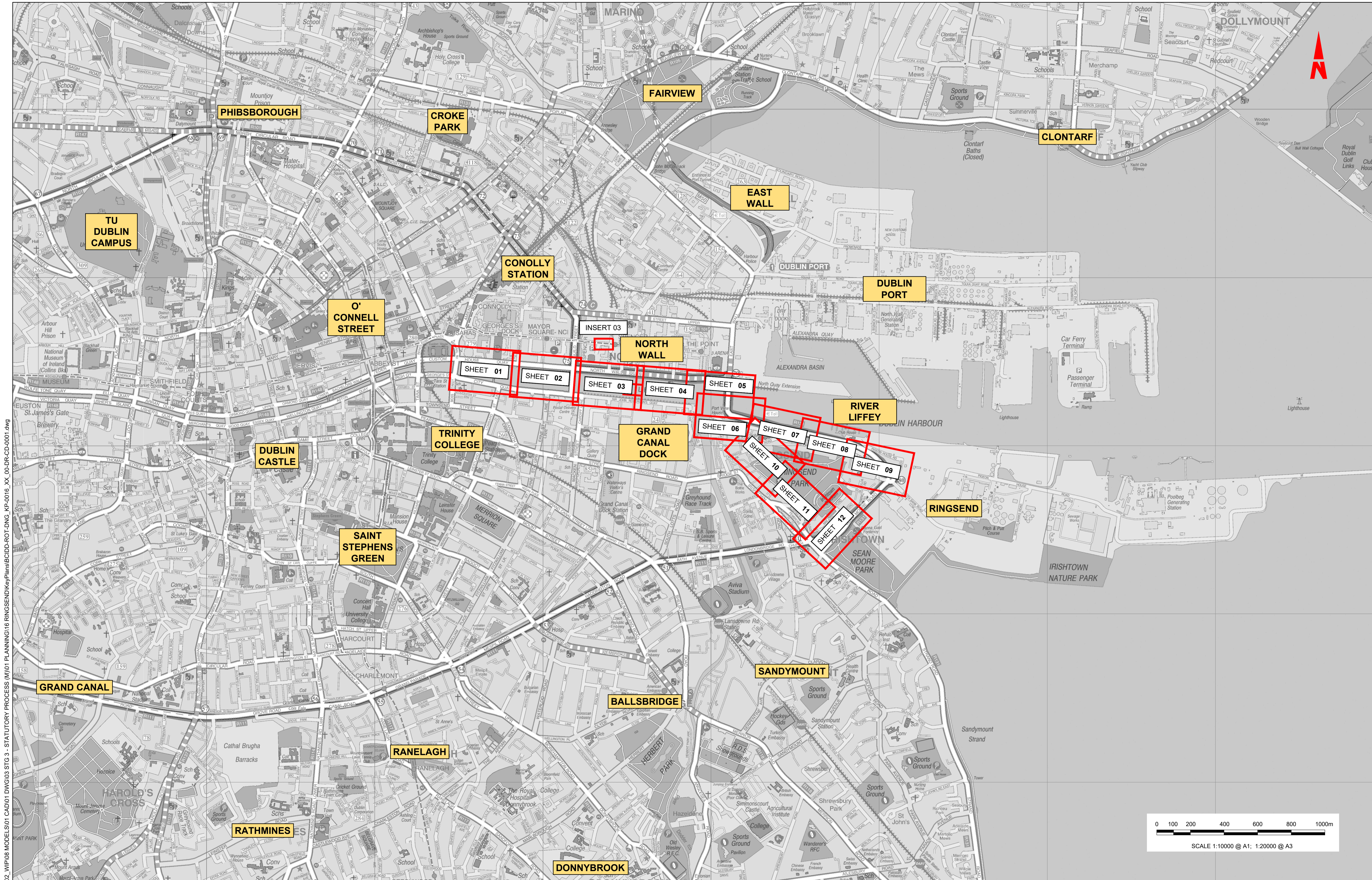


Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client NTA Údarás Náisiúnta Iompair National Transport Authority		Engineering Designer ROD RUGHAN & O'DONOVAN TYPISA		
Date MAR 2023	Scale NTS @ A1 NTS @ A3	Drawn DS	Checked EOC	Approved SMG
Programme Code BCIDD	Originator Code ROT	QMS Code		

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS COVER SHEET			
Drawing File Name BCIDD-ROT-DNG_IX-0016_XX_00-DR-CD-0001	Sheet Number 01 of 01	Status A	Rev M01

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Client

 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer

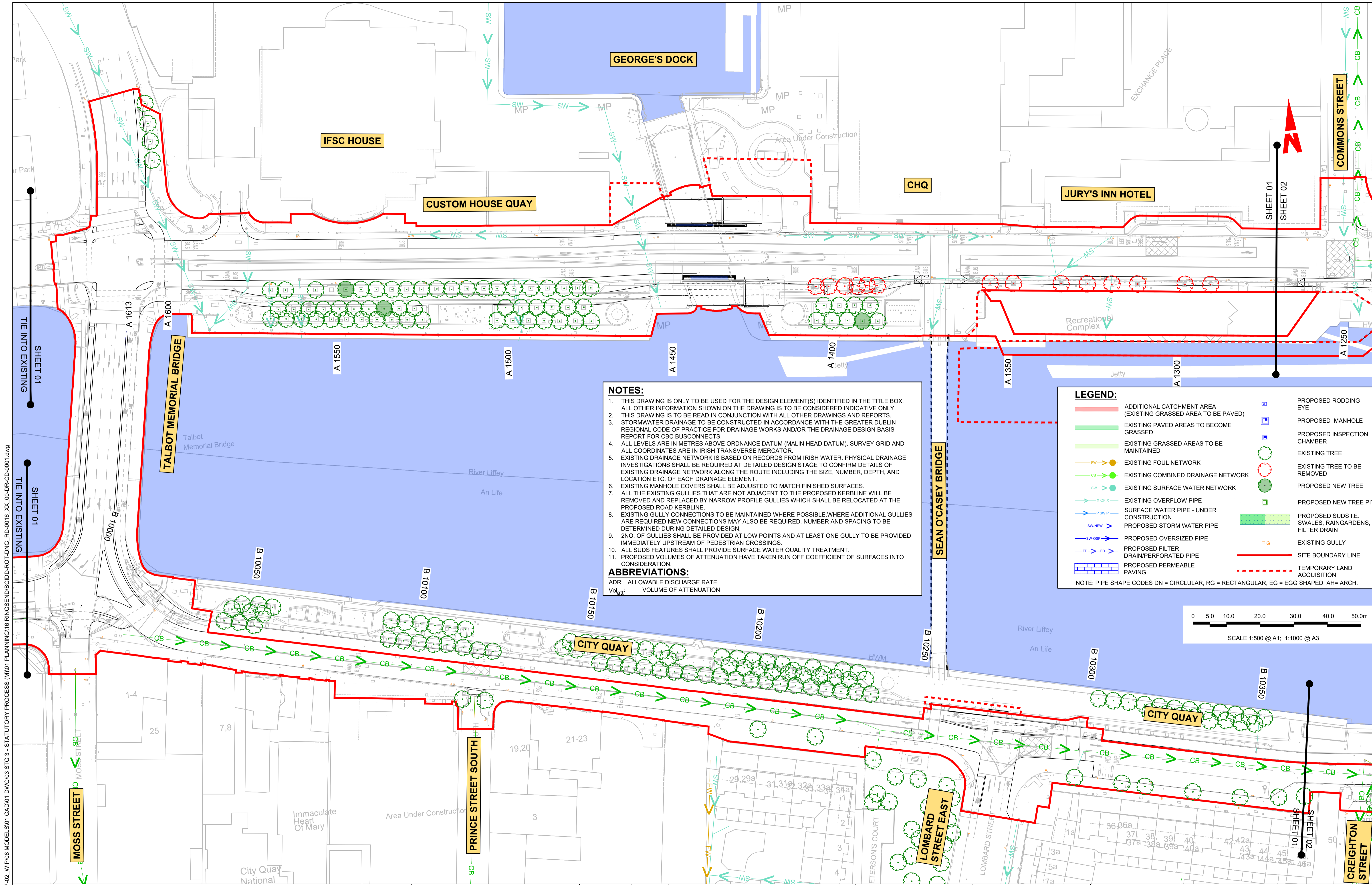
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DS	EOC	SMG

Programme Title
BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title
 RINGSEND TO CITY CENTRE SCHEME CORE BUS CORRIDOR SCHEME
 PROPOSED SURFACE WATER DRAINAGE WORKS
 KEYPLAN

Drawing File Name	Sheet Number	Status	Rev
BCIDD-ROT-DNG_KP-0016_XX_00-DR-CD-0001	01 of 01	A	M01

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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.

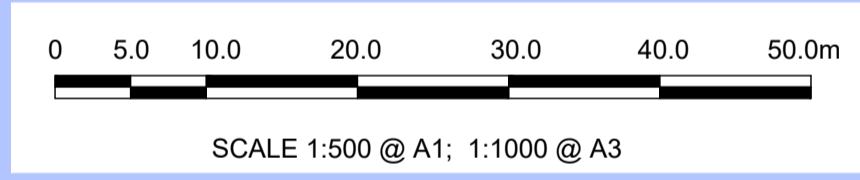
ABBREVIATIONS:

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

LEGEND:

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

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



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M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
Udarás Náisiúnta Iompair
National Transport Authority

Date: MAR 2023 | Scale: 1:500 @ A1, 1:1000 @ A3

Programme Code: BCIDD | Originator Code: ROT

Engineering Designer: **CIROD** TYPSA

Drawn: DS | Checked: EOC | Approved: SMG

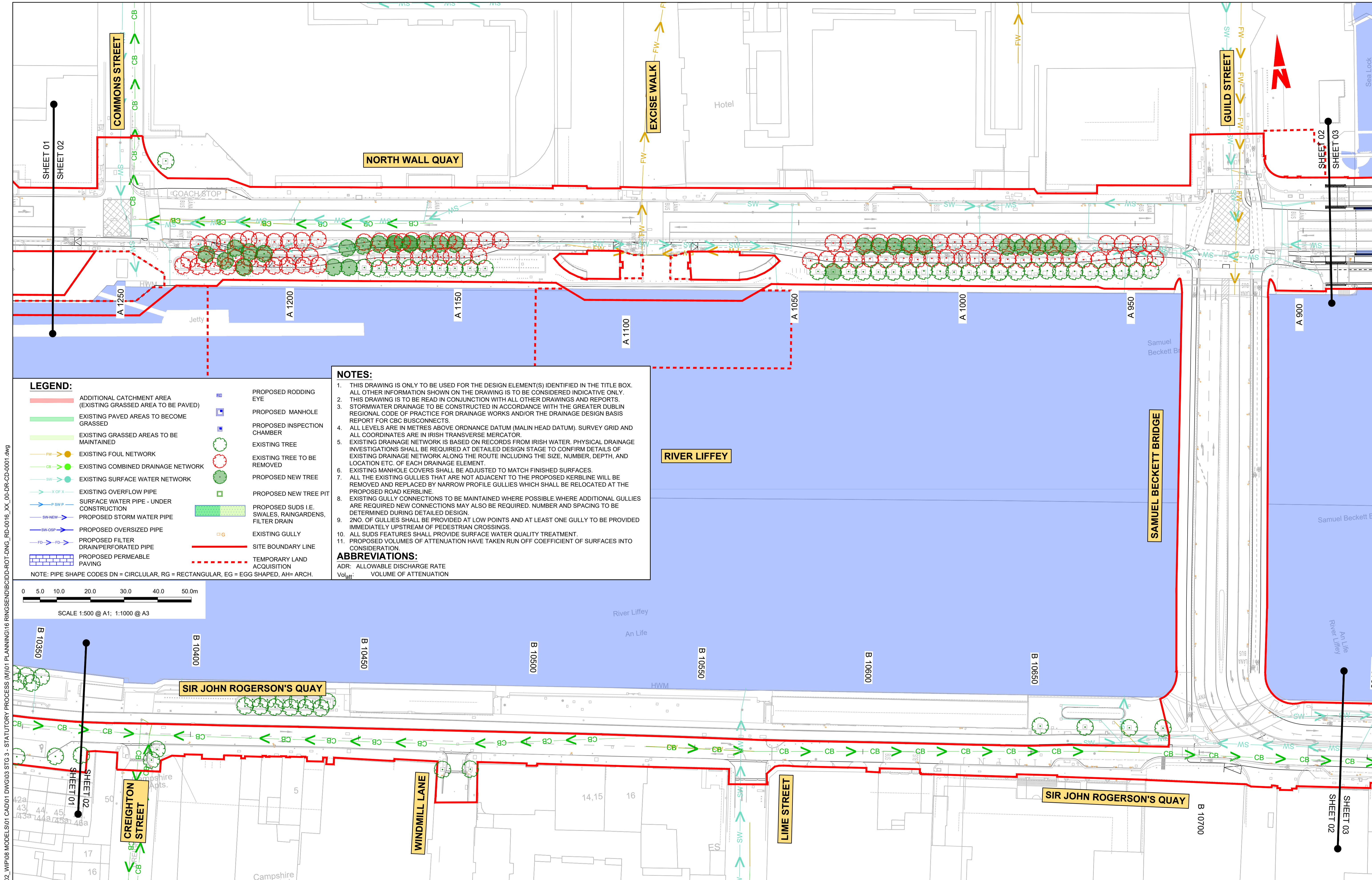
QMS Code: []

Drawing File Name	Sheet Number	Status	Rev
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001	01 of 12	A	M01

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

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

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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
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- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

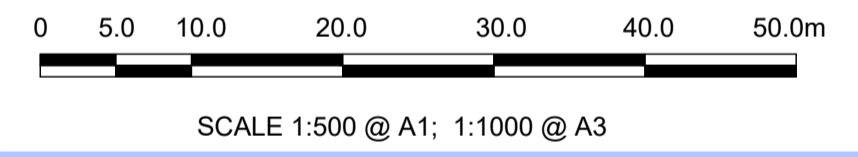
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- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

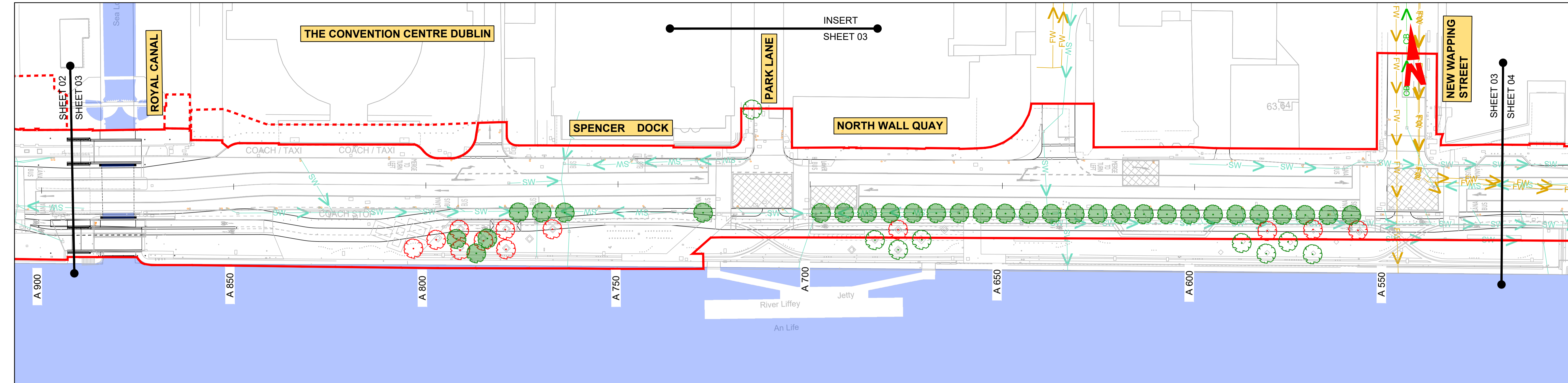
ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION



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<p>Date MAR 2023 Scale 1:500 @ A1 1:1000 @ A3</p>		<p>Drawn DS Checked EOC Approved SMG</p>		<p>Programme Code BCIDD Originator Code ROT</p>		<p>QMS Code</p>			<p>Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS</p>		
<p>Programme Code BCIDD</p>		<p>QMS Code</p>		<p>Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0002</p>			<p>Sheet Number 02 of 12</p>		<p>Status A</p>		<p>Rev M01</p>

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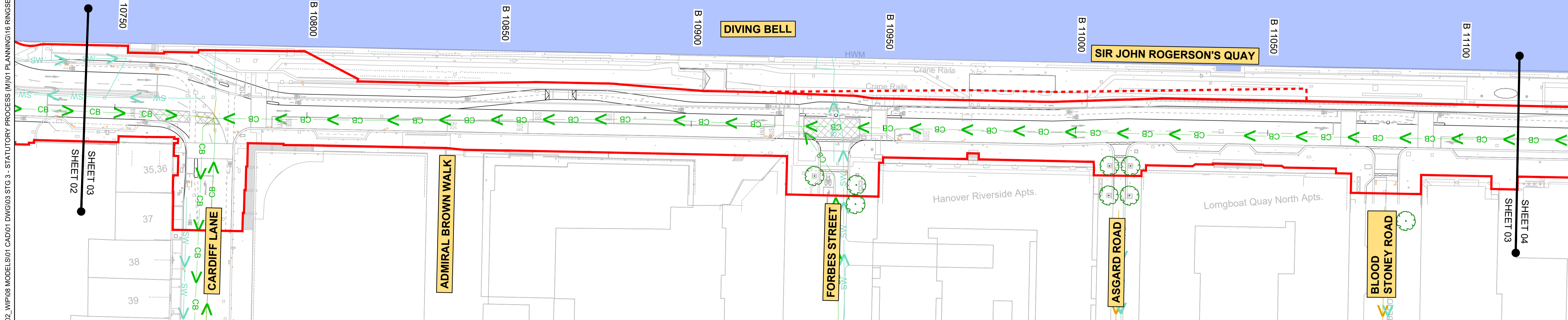
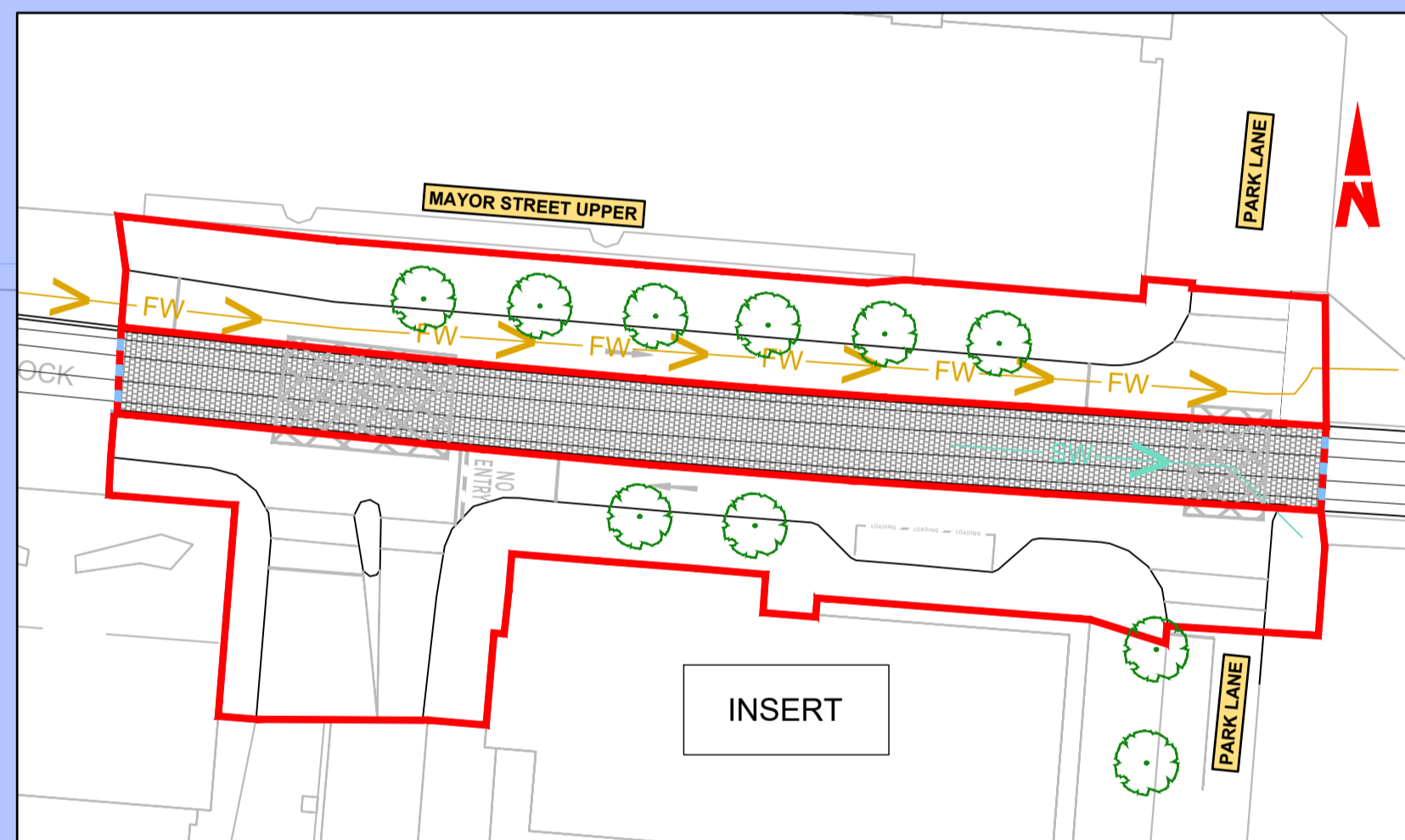
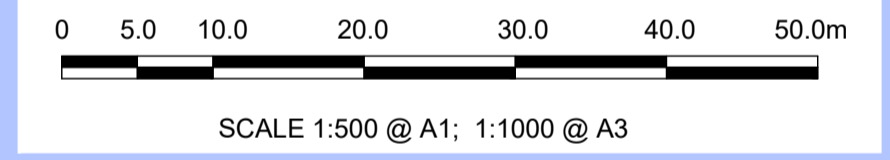


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ABBREVIATIONS:
 AD_R: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION

- LEGEND:**
- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
 - EXISTING PAVED AREAS TO BECOME GRASSED
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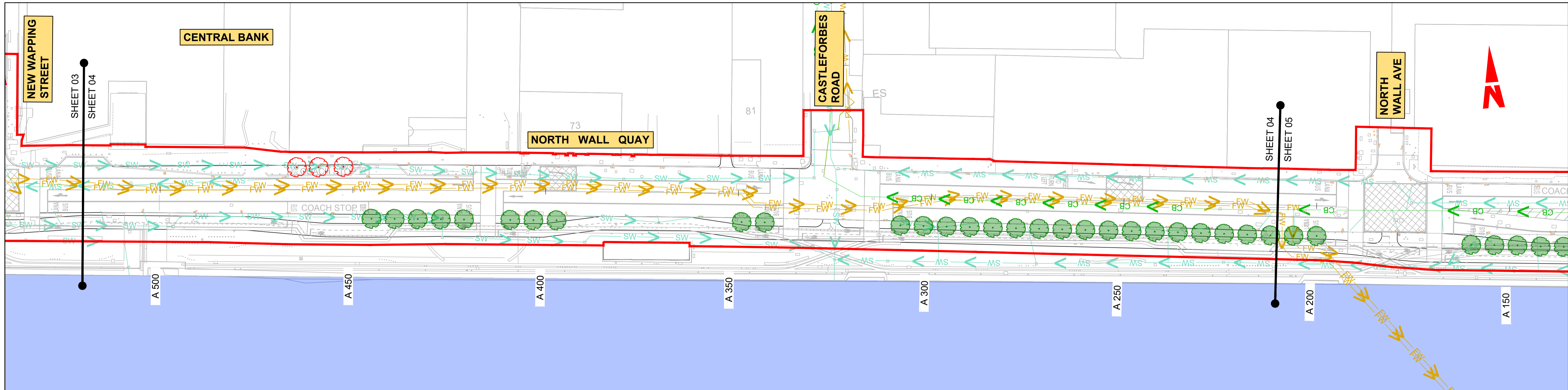
Rev	Date	Drn	Chk'd	App'd	Description
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Date MAR 2023	Scale 1:500 @ A1 1:1000 @ A3	Drawn DS	Checked EOC	Approved SMG
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Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS				
Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0003	Sheet Number 03 of 12	Status A	Rev M01	

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LEGEND:

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

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

NOTES:

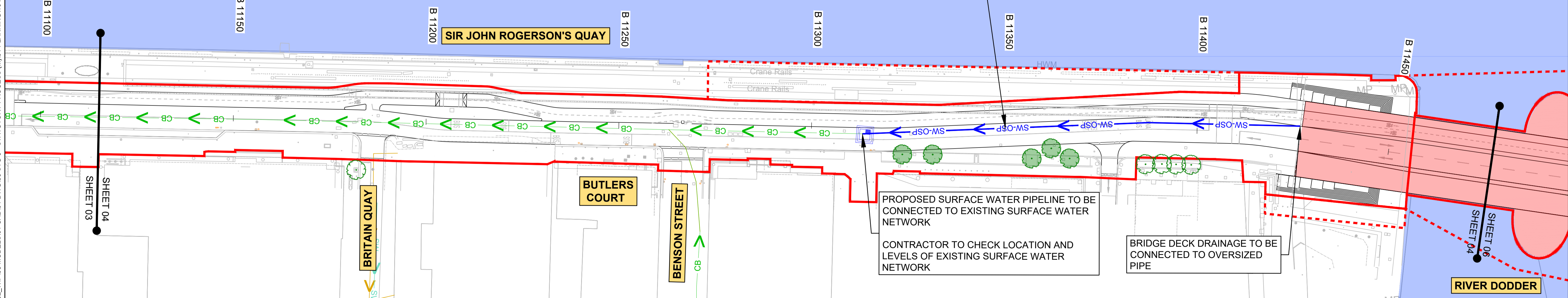
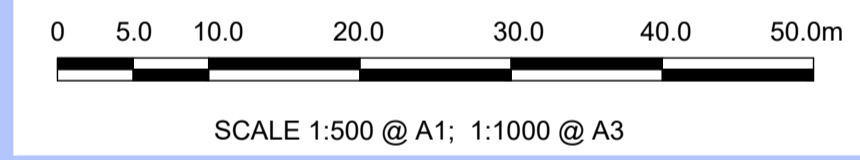
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- ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
- EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
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- ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

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

OVERSIZED PIPE
100m of DN750mm pipe for attenuation purposes
Assumed pipe slope: 1 in 100
Storage required: 33.7m³

Controlled discharge to existing network.
Flow restricted using Hydro-Brake:
Hydro-Brake ref: MD-SHE-0066-2000-1100-2000
Design Flow: 2.0 l/s
Design Head: 1.1 m



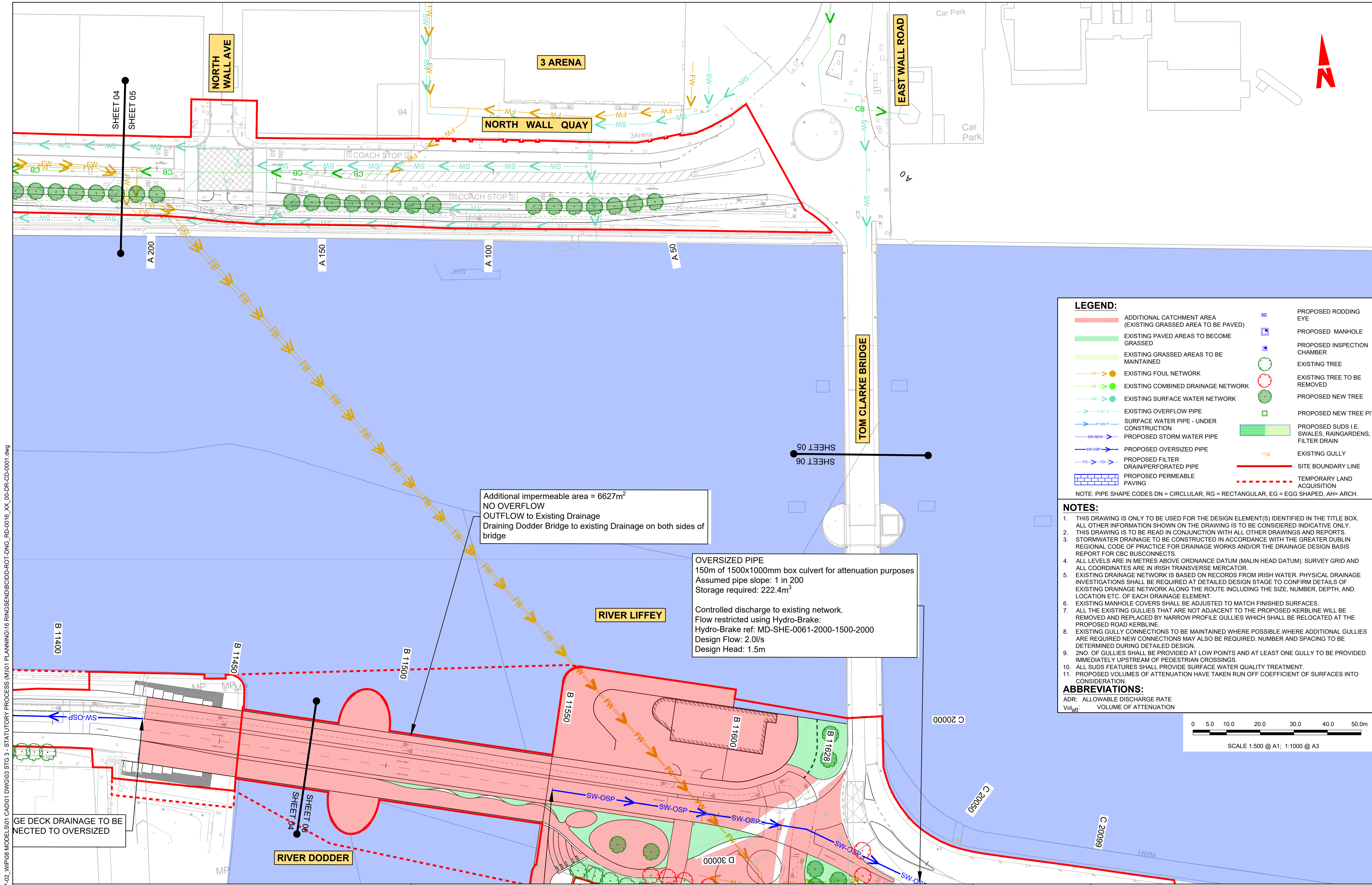
PROPOSED SURFACE WATER PIPELINE TO BE CONNECTED TO EXISTING SURFACE WATER NETWORK

CONTRACTOR TO CHECK LOCATION AND LEVELS OF EXISTING SURFACE WATER NETWORK

BRIDGE DECK DRAINAGE TO BE CONNECTED TO OVERSIZED PIPE

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<p>Project Ireland 2040 Building Ireland's Future</p>		<p>Date MAR 2023 Scale 1:500 @ A1 1:1000 @ A3</p> <p>Programme Code BCIDD Originator Code ROT</p>		<p>Drawn DS Checked EOC Approved SMG</p> <p>QMS Code</p>			<p>Drawing Title</p> <p>RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS</p>					
<p>Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0004</p>		<p>Sheet Number 04 of 12</p>		<p>Status A</p>		<p>Rev M01</p>						

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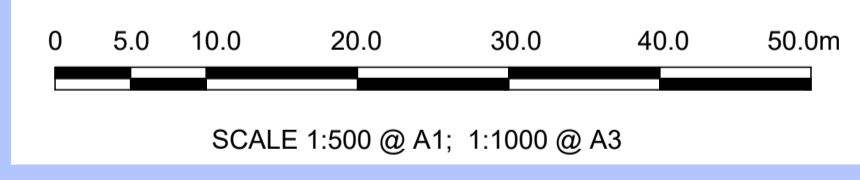


LEGEND:

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

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

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



Additional impermeable area = 6627m²
 NO OVERFLOW
 OUTFLOW to Existing Drainage
 Draining Dodder Bridge to existing Drainage on both sides of bridge

OVERSIZED PIPE
 150m of 1500x1000mm box culvert for attenuation purposes
 Assumed pipe slope: 1 in 200
 Storage required: 222.4m³
 Controlled discharge to existing network.
 Flow restricted using Hydro-Brake:
 Hydro-Brake ref: MD-SHE-0061-2000-1500-2000
 Design Flow: 2.0l/s
 Design Head: 1.5m

GE DECK DRAINAGE TO BE CONNECTED TO OVERSIZED

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Rev	Date	Drm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer: **CIROD**
 TYPSA

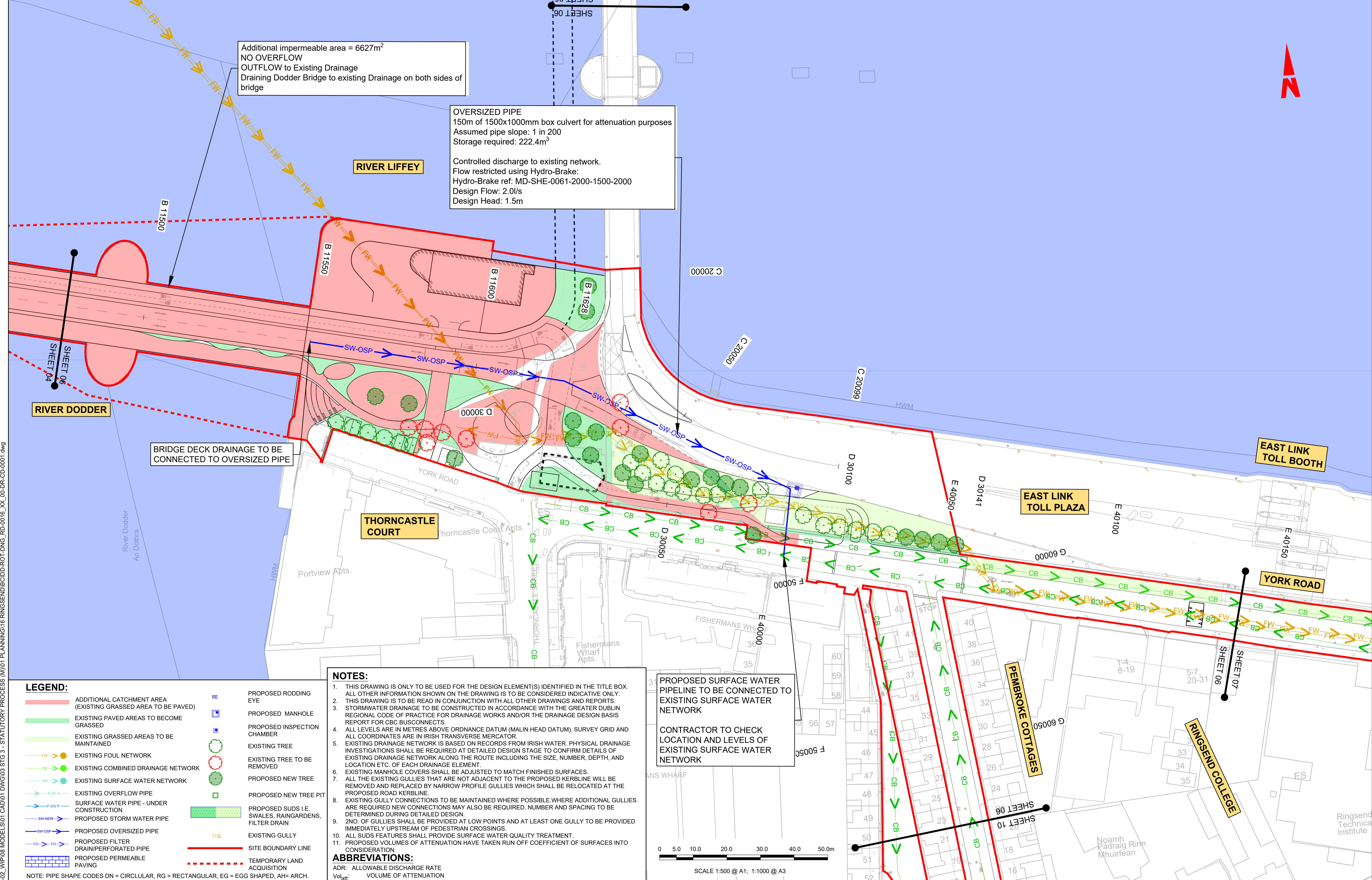
Date: MAR 2023
 Scale: 1:500 @ A1
 1:1000 @ A3

Drawn: DS
 Checked: EOC
 Approved: SMG

Programme Code: BCIDD
 Originator Code: ROT
 QMS Code:

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0005	Sheet Number: 05 of 12	Status: A	Rev: M01

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Additional impermeable area = 6627m²
NO OVERFLOW
 OUTFLOW to Existing Drainage
 Draining Dodder Bridge to existing Drainage on both sides of bridge

OVERSIZED PIPE
 150m of 1500x1000mm box culvert for attenuation purposes
 Assumed pipe slope: 1 in 200
 Storage required: 222.4m³
 Controlled discharge to existing network.
 Flow restricted using Hydro-Brake:
 Hydro-Brake ref: MD-SHE-0061-2000-1500-2000
 Design Flow: 2.0l/s
 Design Head: 1.5m

BRIDGE DECK DRAINAGE TO BE CONNECTED TO OVERSIZED PIPE

PROPOSED SURFACE WATER PIPELINE TO BE CONNECTED TO EXISTING SURFACE WATER NETWORK
 CONTRACTOR TO CHECK LOCATION AND LEVELS OF EXISTING SURFACE WATER NETWORK

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 Vol_{att}: VOLUME OF ATTENUATION

LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSSED		PROPOSED MANHOLE CHAMBER
	EXISTING GRASSSED AREAS TO BE MAINTAINED		EXISTING TREE
	EXISTING FOUL NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING COMBINED DRAINAGE NETWORK		PROPOSED NEW TREE
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	PROPOSED STORM WATER PIPE		SITE BOUNDARY LINE
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	PROPOSED FILTER DRAIN/PERFORATED PIPE		
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<p>Rev M01 MAR 2023 DS EOC SMG</p>		<p>Date Description</p>		<p>Client: NTA (National Transport Authority)</p>		<p>Engineering Designer: IROD (Infrastructure Road Operations Design)</p>		<p>Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS</p>	
<p>Project Ireland 2040 Building Ireland's Future</p>		<p>Scale: 1:500 @ A1, 1:1000 @ A3</p>		<p>Date: MAR 2023</p>		<p>Drawn: DS, Checked: EOC, Approved: SMG</p>		<p>Drawing Title: RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS</p>	
<p>Programme Code: BCIDD</p>		<p>Originator Code: ROT</p>		<p>Date: MAR 2023</p>		<p>Scale: 1:500 @ A1, 1:1000 @ A3</p>		<p>Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0006</p>	
<p>Sheet Number: 06 of 12</p>		<p>Status: A</p>		<p>Rev: M01</p>		<p>Scale: 1:500 @ A1, 1:1000 @ A3</p>		<p>Sheet Number: 06 of 12</p>	

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RIVER LIFFEY

EAST LINK TOLL BOOTH

YORK ROAD

EAST LINK ROAD

PIGEON HOUSE ROAD

RINGSEND PARK

RINGSEND COLLEGE

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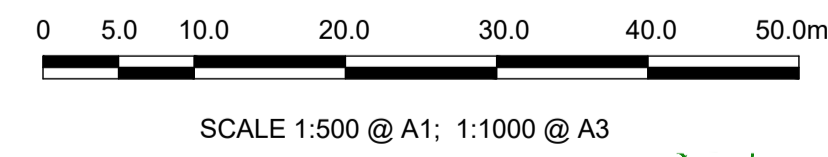
ABBREVIATIONS:

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

LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE CHAMBER
	EXISTING GRASSED AREAS TO BE MAINTAINED		EXISTING TREE
	EXISTING FOUL NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING COMBINED DRAINAGE NETWORK		PROPOSED NEW TREE
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE PIT
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	SURFACE WATER PIPE - UNDER CONSTRUCTION		EXISTING GULLY
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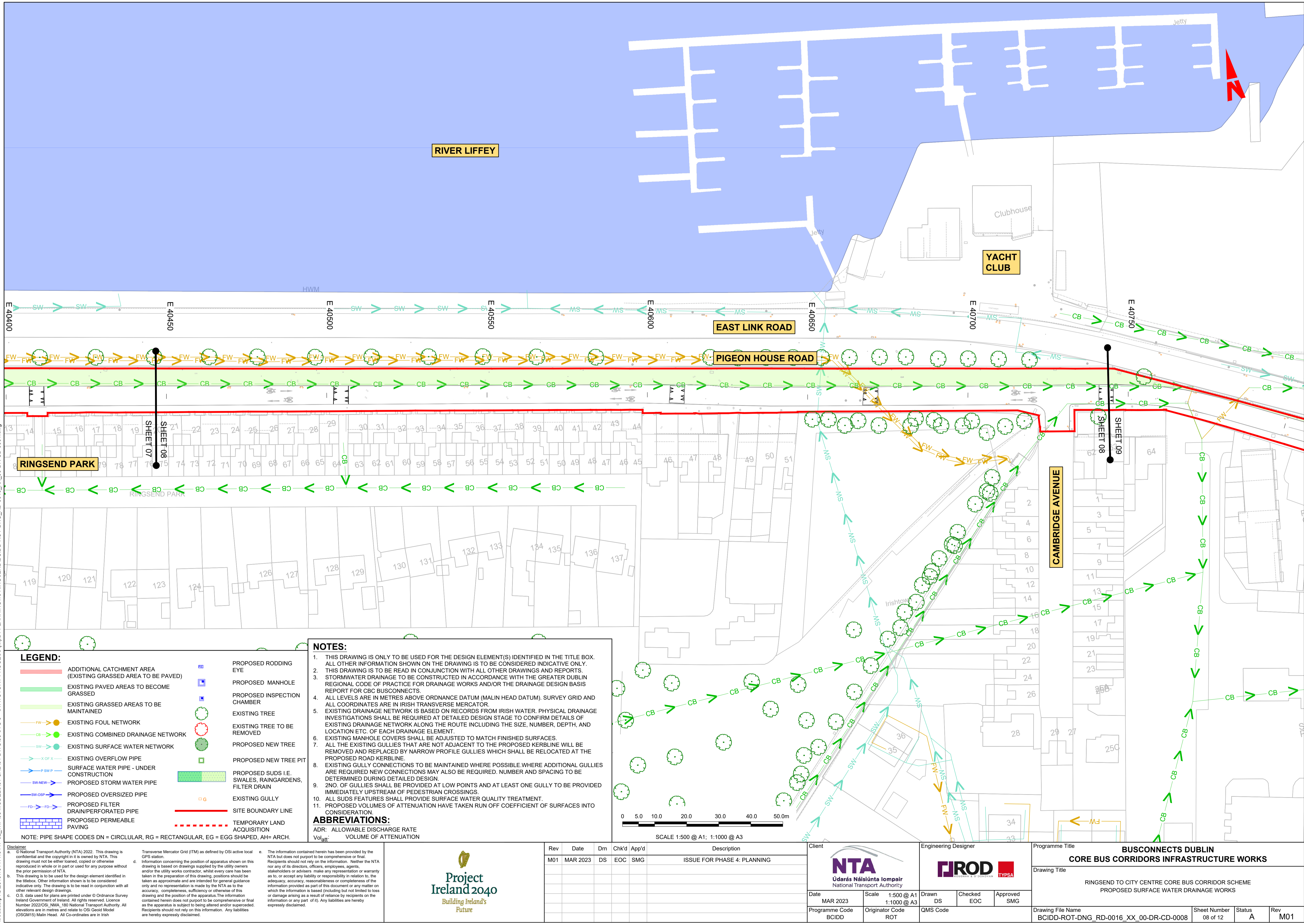


Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client NTA Údarás Náisiúnta Iompair National Transport Authority		Engineering Designer CIROD TYPSA		
Date MAR 2023	Scale 1:500 @ A1 1:1000 @ A3	Drawn DS	Checked EOC	Approved SMG
Programme Code BCIDD	Originator Code ROT	QMS Code		

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0007	Sheet Number 07 of 12	Status A	Rev M01

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LEGEND:

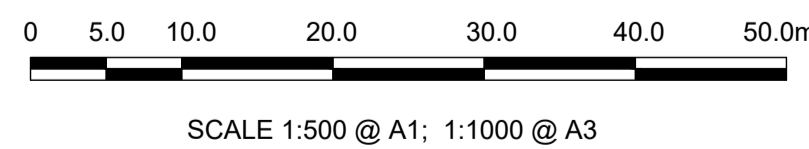
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	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE PIT
	EXISTING OVERFLOW PIPE		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	SURFACE WATER PIPE - UNDER CONSTRUCTION		EXISTING GULLY
	PROPOSED STORM WATER PIPE		SITE BOUNDARY LINE
	PROPOSED OVERSIZED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED FILTER DRAIN/PERFORATED PIPE		
	PROPOSED PERMEABLE PAVING		

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

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- 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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Rev	Date	Drm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer: **CIROD**
 TYPSA

Date: MAR 2023
 Scale: 1:500 @ A1
 1:1000 @ A3

Programme Code: BCIDD
 Originator Code: ROT

Drawn: DS
 Checked: EOC
 Approved: SMG

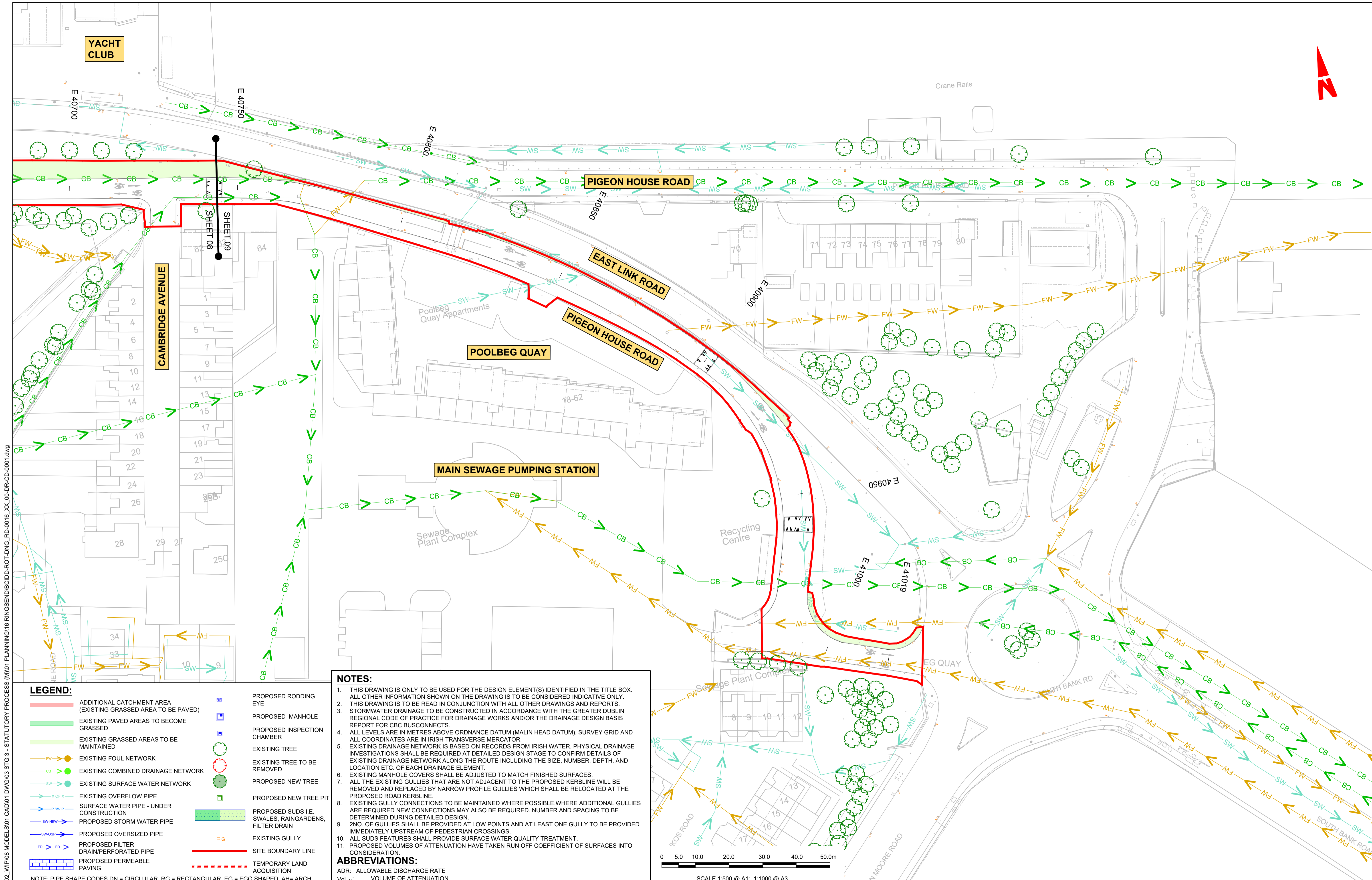
QMS Code	Sheet Number	Status	Rev
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0008	08 of 12	A	M01

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

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

Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0008

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W:\000000\117-02_WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg
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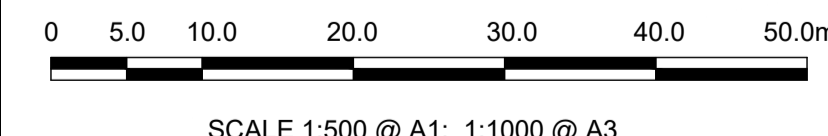
	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE CHAMBER
	EXISTING GRASSED AREAS TO BE MAINTAINED		EXISTING TREE
	EXISTING FOUL NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING COMBINED DRAINAGE NETWORK		PROPOSED NEW TREE
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE PIT
	EXISTING OVERFLOW PIPE		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	SURFACE WATER PIPE - UNDER CONSTRUCTION		EXISTING GULLY
	PROPOSED STORM WATER PIPE		SITE BOUNDARY LINE
	PROPOSED OVERSIZED PIPE		TEMPORARY LAND ACQUISITION
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	PROPOSED PERMEABLE PAVING		

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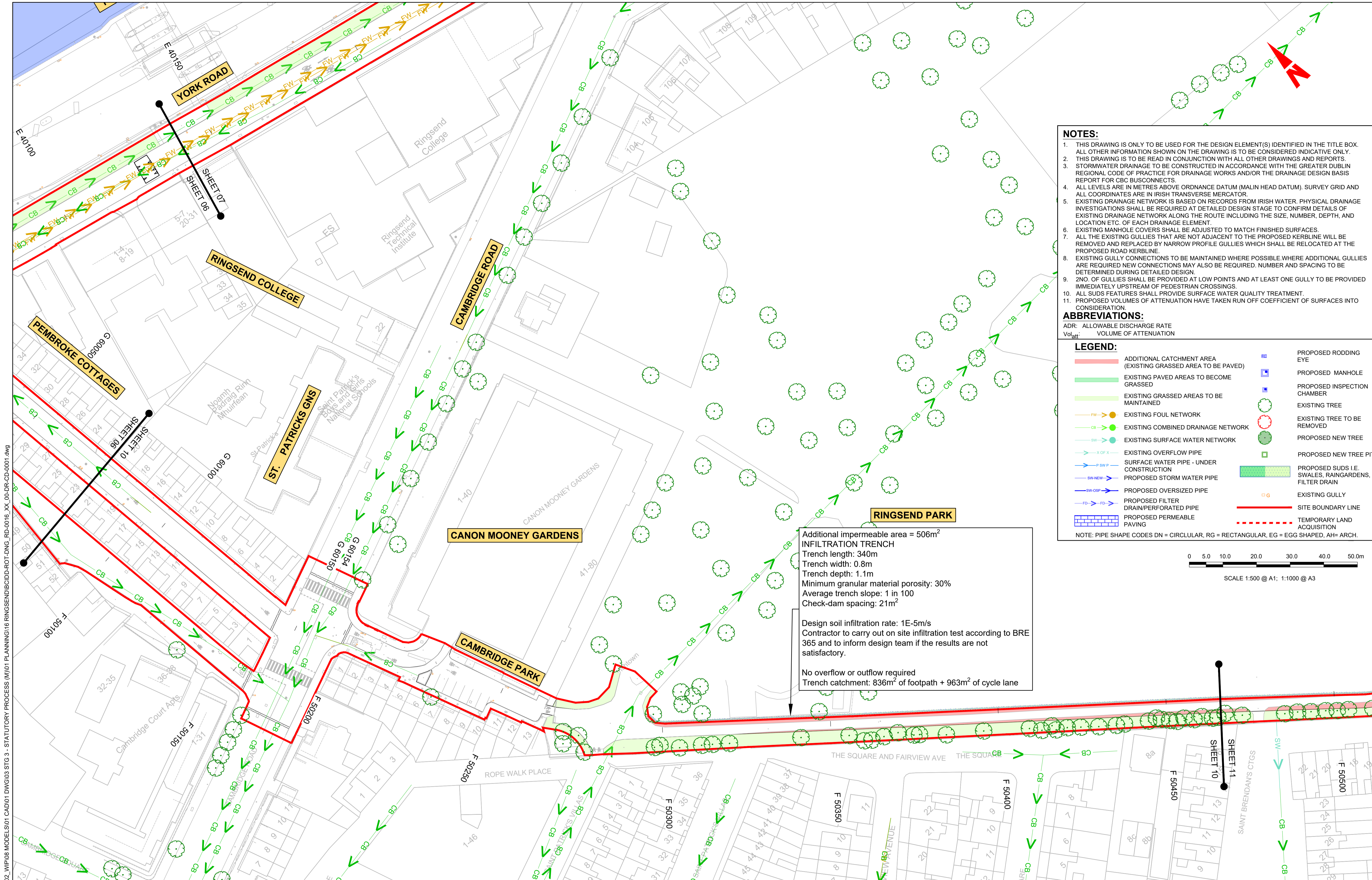
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ABBREVIATIONS:
 ADR: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION



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Rev	Date	Drm	Chk'd	App'd	Description														
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING														
<p>Date: MAR 2023 Scale: 1:500 @ A1, 1:1000 @ A3</p> <p>Programme Code: BCIDD Originator Code: ROT</p>						<table border="1"> <tr> <th>Drawn</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td>DS</td> <td>EOC</td> <td>SMG</td> </tr> </table>	Drawn	Checked	Approved	DS	EOC	SMG	<p>Drawing Title</p> <p>RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS</p>						
Drawn	Checked	Approved																	
DS	EOC	SMG																	
<p>Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0009</p>						<p>Sheet Number: 09 of 12</p> <p>Status: A</p> <p>Rev: M01</p>	<p>DO NOT SCALE USE FIGURED DIMENSIONS ONLY</p>												



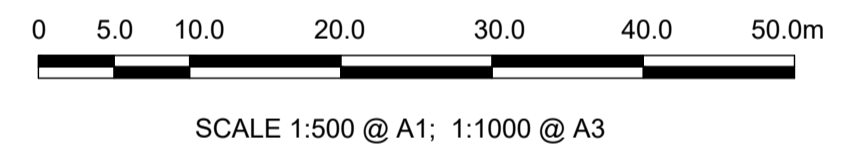
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- ABBREVIATIONS:**
- ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION
- LEGEND:**
- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
 - EXISTING PAVED AREAS TO BECOME GRASSED
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Additional impermeable area = 506m²
INFILTRATION TRENCH
 Trench length: 340m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 21m²

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required
 Trench catchment: 836m² of footpath + 963m² of cycle lane



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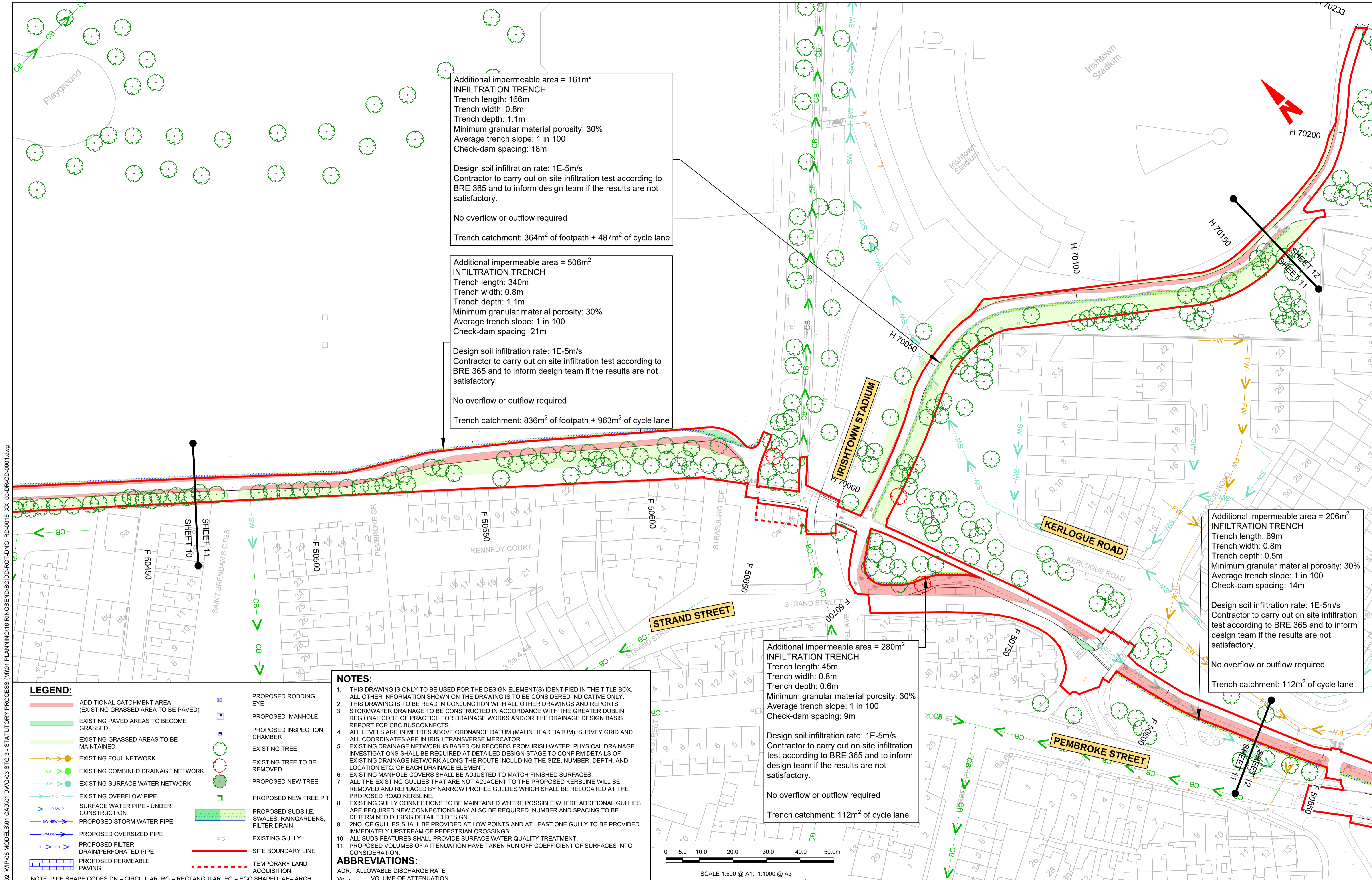


Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client NTA Udarás Náisiúnta Iompair National Transport Authority		Engineering Designer CIROD TYPSA		
Date MAR 2023	Scale 1:500 @ A1 1:1000 @ A3	Drawn DS	Checked EOC	Approved SMG
Programme Code BCIDD	Originator Code ROT	QMS Code		

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS				
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS				
Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0010	Sheet Number 10 of 12	Status A	Rev M01	

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Additional impermeable area = 161m²
INFILTRATION TRENCH
 Trench length: 166m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 18m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 364m² of footpath + 487m² of cycle lane

Additional impermeable area = 506m²
INFILTRATION TRENCH
 Trench length: 340m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 21m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 836m² of footpath + 963m² of cycle lane

Additional impermeable area = 206m²
INFILTRATION TRENCH
 Trench length: 69m
 Trench width: 0.8m
 Trench depth: 0.5m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 14m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 112m² of cycle lane

Additional impermeable area = 280m²
INFILTRATION TRENCH
 Trench length: 45m
 Trench width: 0.8m
 Trench depth: 0.6m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 9m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

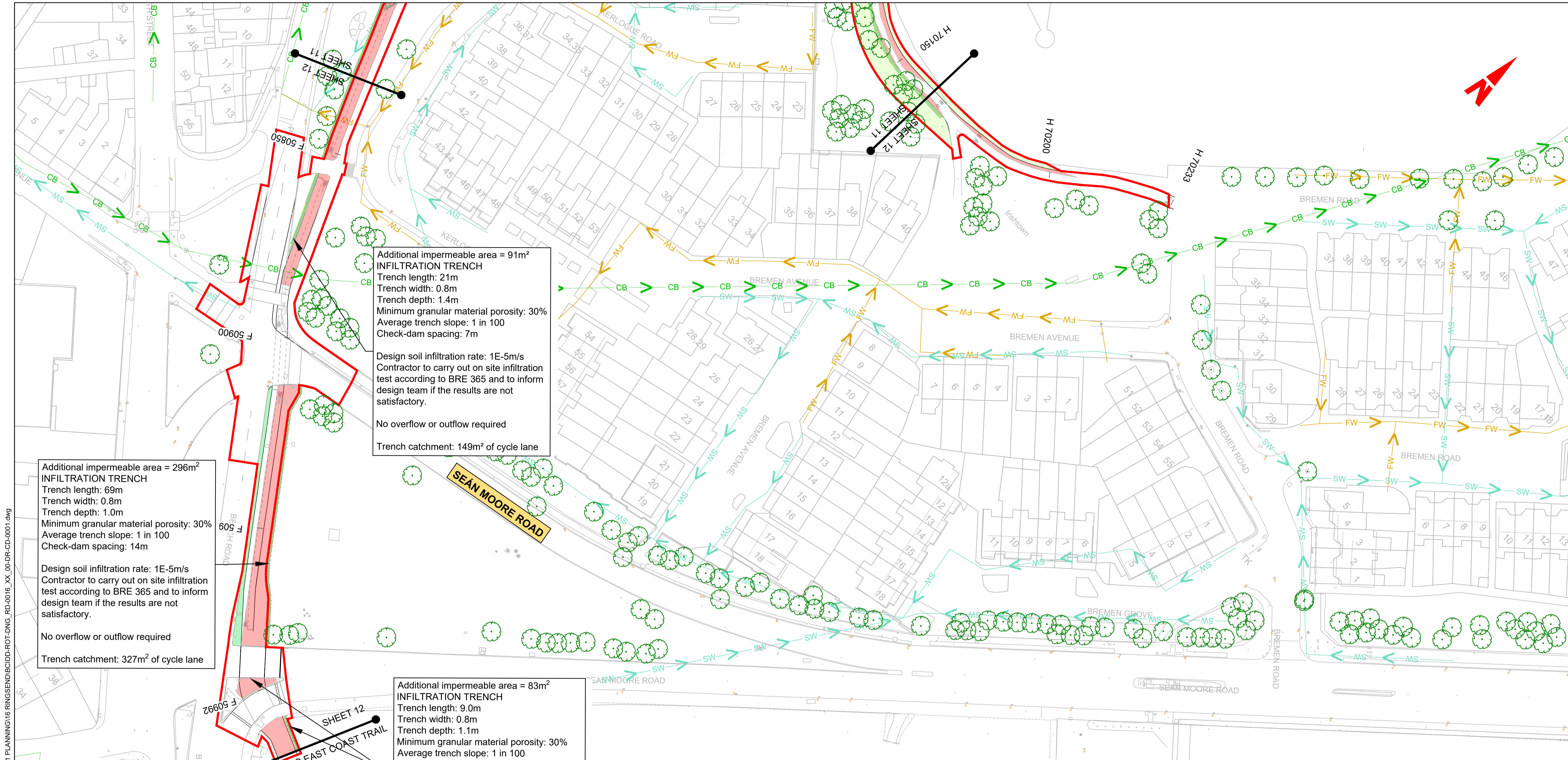
Trench catchment: 112m² of cycle lane

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- ABBREVIATIONS:**
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- LEGEND:**
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<p>Rev M01 MAR 2023 DS EOC SMG</p>		<p>Date Description</p>		<p>Client</p>		<p>Engineering Designer</p>			<p>Programme Title</p>		
<p>Project Ireland 2040 Building Ireland's Future</p>		<p>Issue for Phase 4: Planning</p>		<p>NTA Údarás Náisiúnta Iompair National Transport Authority</p>		<p>CIROD TYPSA</p>			<p>BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS</p>		
<p>Scale 1:500 @ A1 1:1000 @ A3</p>		<p>Drawn DS</p>		<p>Checked EOC</p>		<p>Approved SMG</p>			<p>Drawing Title</p>		
<p>Programme Code BCIDD</p>		<p>Originator Code ROT</p>		<p>QMS Code</p>		<p>BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0011</p>			<p>RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS</p>		
<p>Sheet Number 11 of 12</p>		<p>Status A</p>		<p>Rev M01</p>		<p>Drawing File Name</p>			<p>Sheet Number 11 of 12</p>		

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Additional impermeable area = 91m²
INFILTRATION TRENCH
 Trench length: 21m
 Trench width: 0.8m
 Trench depth: 1.4m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 7m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 149m² of cycle lane

Additional impermeable area = 296m²
INFILTRATION TRENCH
 Trench length: 69m
 Trench width: 0.8m
 Trench depth: 1.0m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 14m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 327m² of cycle lane

Additional impermeable area = 83m²
INFILTRATION TRENCH
 Trench length: 9.0m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 3m
 Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

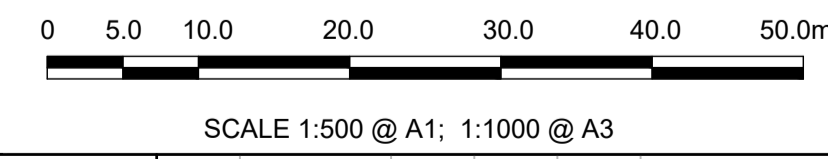
Trench catchment: 51m² of cycle lane

- NOTES:**
- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
 - 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.
 - ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (MALIN HEAD DATUM), SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
 - 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.
 - EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
 - 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.
 - 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.
 - 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
 - ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
 - PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.
- ABBREVIATIONS:**
 ADR: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION

LEGEND:

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

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



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Rev	Date	Drm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
 Údarás Náisiúnta Iompair
 National Transport Authority

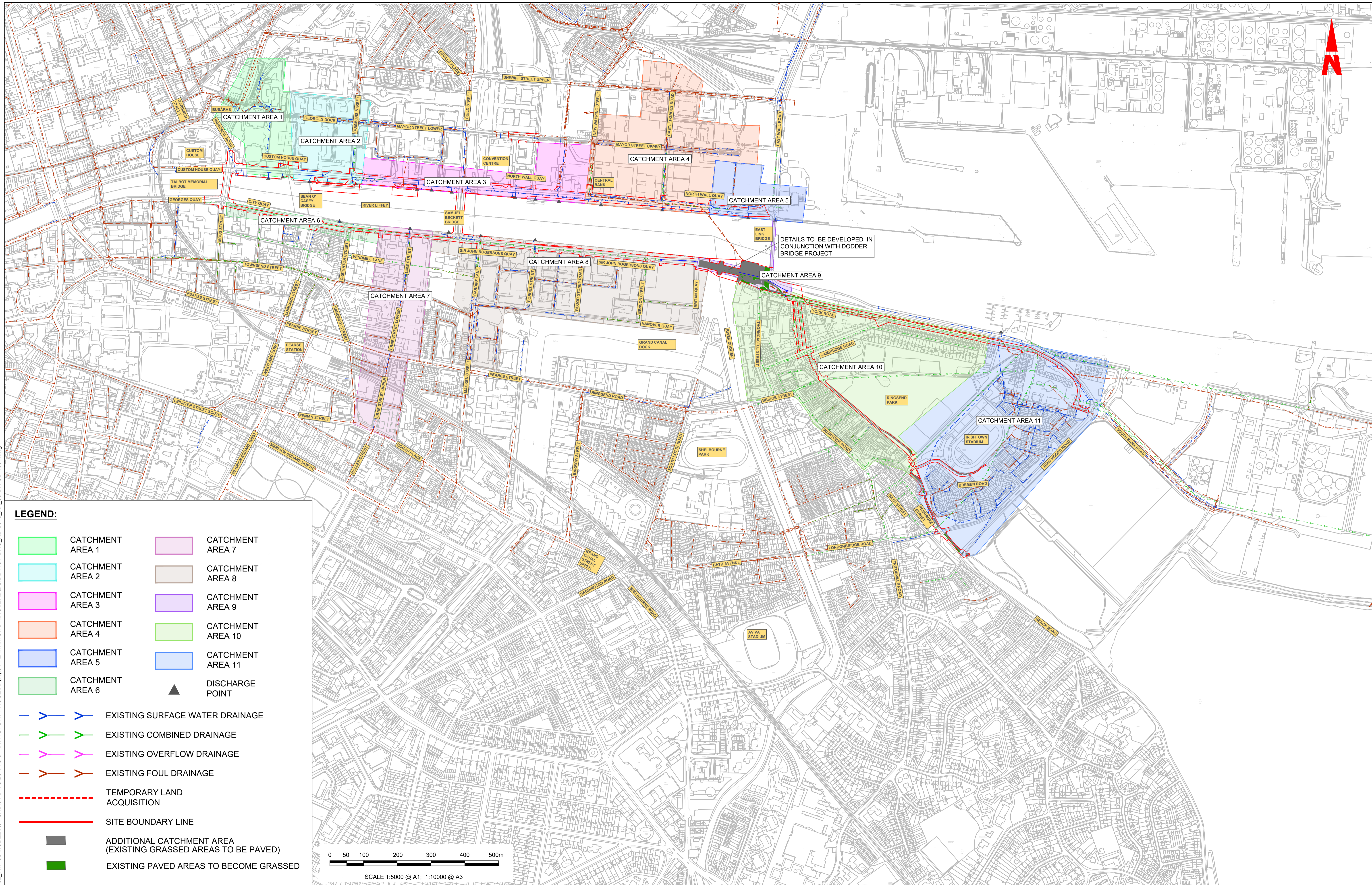
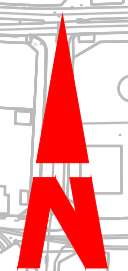
Engineering Designer: **FIROD**
 TYPSA

Date: MAR 2023
 Scale: 1:500 @ A1, 1:1000 @ A3
 Drawn: DS
 Checked: EOC
 Approved: SMG

Programme Code: BCIDD
 Originator Code: ROT
 QMS Code:

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0012	Sheet Number 12 of 12	Status A	Rev M01

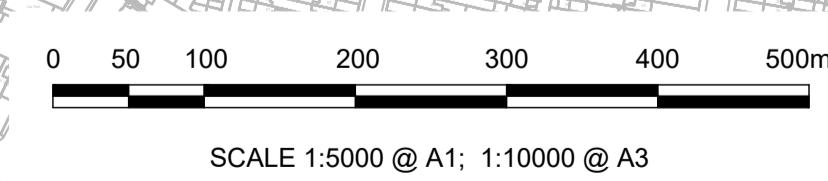
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LEGEND:

	CATCHMENT AREA 1		CATCHMENT AREA 7
	CATCHMENT AREA 2		CATCHMENT AREA 8
	CATCHMENT AREA 3		CATCHMENT AREA 9
	CATCHMENT AREA 4		CATCHMENT AREA 10
	CATCHMENT AREA 5		CATCHMENT AREA 11
	CATCHMENT AREA 6		DISCHARGE POINT

	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



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Rev	Date	Dm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client NTA Udarás Náisiúnta Iompair National Transport Authority		Engineering Designer CIROD TYPSA		
Date MAR 2023	Scale 1:5,000 @ A1 1:10,000 @ A3	Drawn DS	Checked EOC	Approved SMG
Programme Code BCIDD	Originator Code ROT	QMS Code		

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS				
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME OVERALL CATCHMENT AREAS				
Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-1001	Sheet Number 01 of 01	Status A	Rev M01	

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