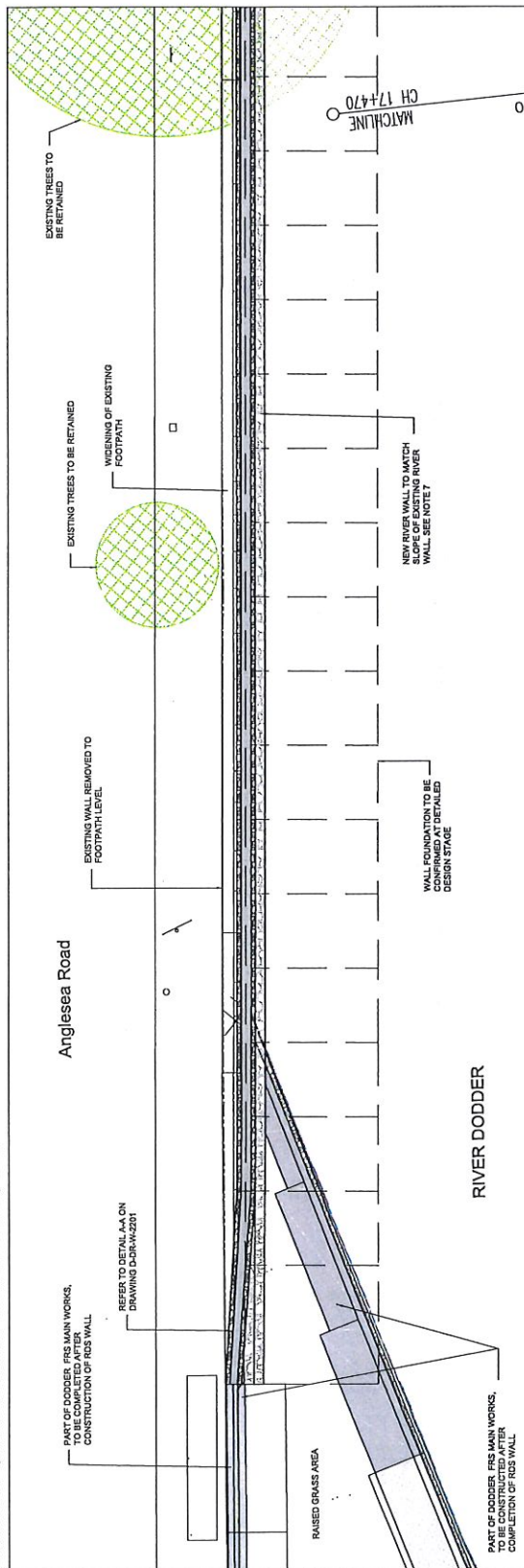


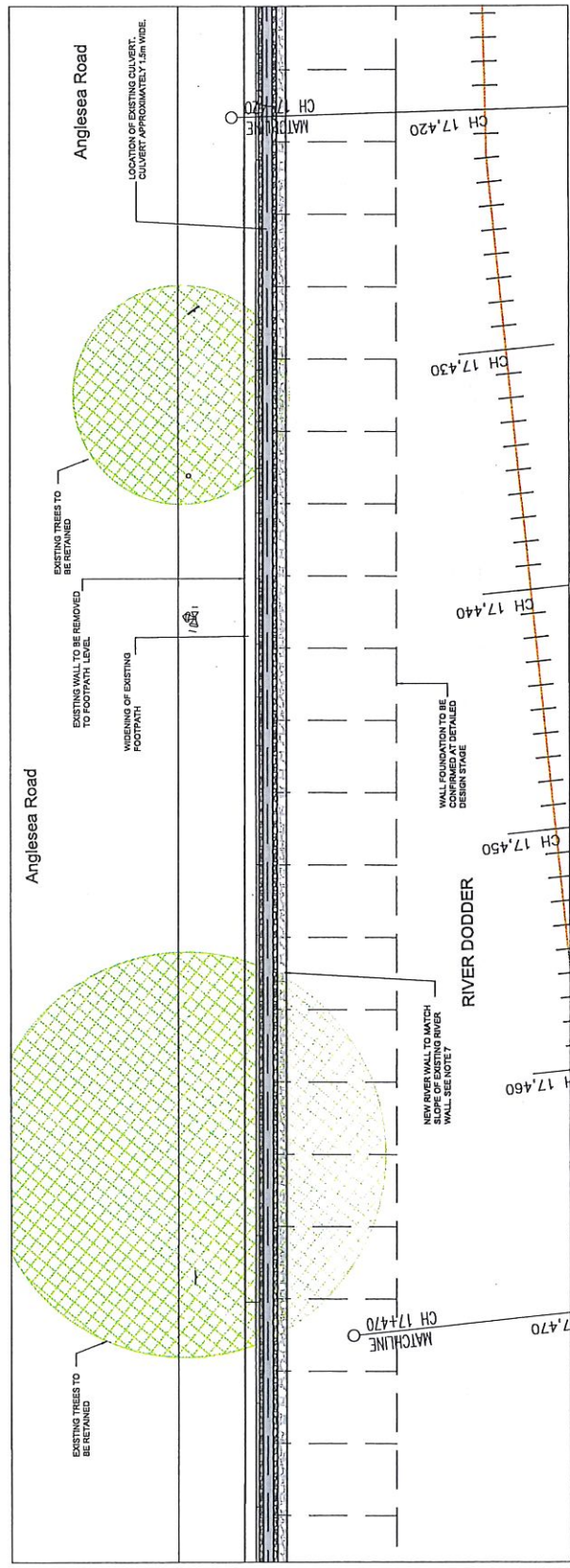
Appendix 1

Drawings

- NOTES:**
1. ALL LEVELS ARE IN M ABOVE O.D. MAUN.
 2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 3. REFER TO DRAWING NO. D-DR-W-2200 FOR TYPICAL SECTION.
 4. CONCRETE CLASS SHALL BE C40/50.
 5. DO NOT SCALE FROM DRAWINGS. USE CONCRETE EXPOSURE SHALL BE K2S.
 6. EXISTING TREES TO BE RETAINED.
 7. EXISTING TREES TO BE RETAINED.
 8. ORIGINAL STONE WALL WILL BE REUSED WHERE POSSIBLE FOR THE CLADDING.
 9. NEW WALL TO HAVE A ROUNDED COPING IN KEEPING WITH SURROUNDING FLOOD DEFENCES.
 10. ALL EXISTING OUTFALLS WILL BE CARRIED OVER THE NEW WALL. ALL WALLS WILL BE FITTED WITH FLAP VALVES. FLAP VALVES WILL ALSO BE FITTED ON WEEP HOLES.
 11. DO NOT SCALE FROM DRAWINGS. USE CONCRETE EXPOSURE SHALL BE K2S.
 12. DO NOT SCALE FROM DRAWINGS. USE CONCRETE EXPOSURE SHALL BE K2S.
 13. DODDER FRS MAN WORKS REFERS TO THE PHASE 20 WORKS CURRENTLY UNDERWAY UNDER A PREVIOUSLY GRANTED PLANNING PERMIT.
 14. DIMENSIONS OF WALL FOUNDATION TO BE CONFIRMED AT DETAILED DESIGN STAGE.

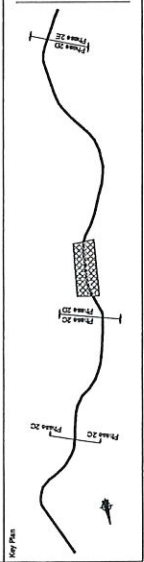


PLAN
Scale 1:100



PLAN
Scale 1:100

- LEGEND:**
- EXISTING WALL
 - REINFORCED CONCRETE CH WALL
 - MASONRY CLADDING
 - FOOTPATH



Issue	Date	By	CHK	Appd
ISS1	15/03/2018	PMV	BT	LA
ISS2	15/03/2018	PMV	BT	LA

Dublin City Council
ENVIRONMENTAL AND DEVELOPMENT DEPARTMENT
An Ionann Comhairle agus Roinn Iompartha
Dublin 1, Ireland



Project Title
Dodder Flood Alleviation Project

Scale of A1 1:100
Date: June 2018

Consultant
ARUP
Area 09 (Regional) Road
150, Oldcastle Industrial Estate
Dublin 15, Ireland
Tel: +353 (0)1 235 4433 Fax: +353(0)1 608 3189
www.arup.com

Drawing Title
Area 2D - RDS River Wall
Proposed Flood wall
Plan Layout Challenge 17520 - 17420

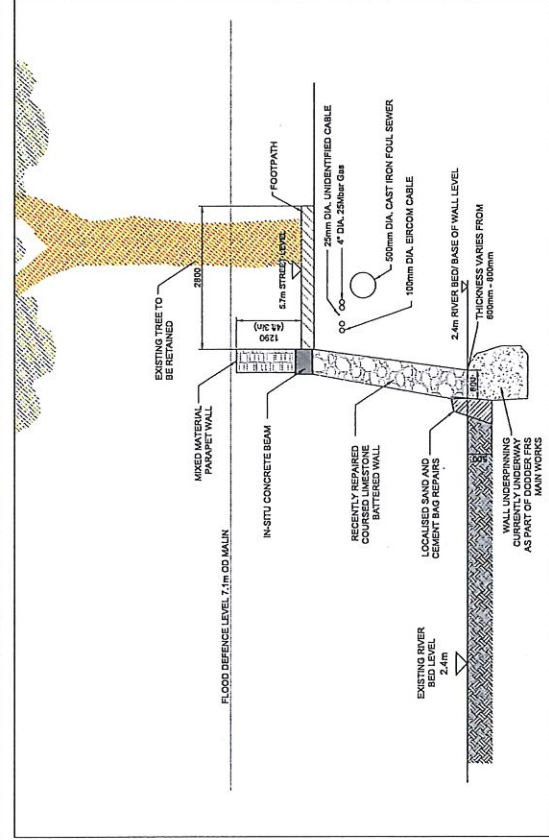
Project No 219346
Drawing No D-DR-W-2200
Revision P02

COMMENTARY ON EXISTING WALL:

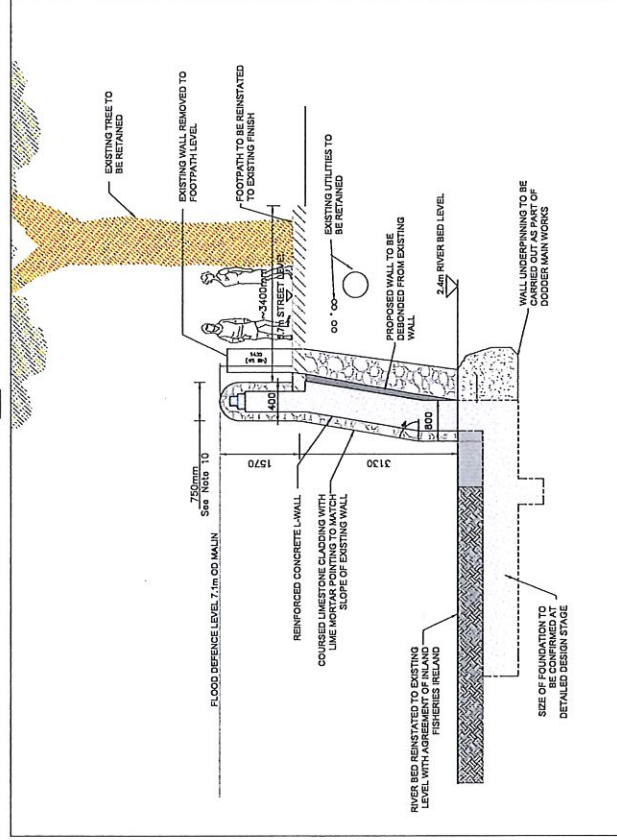
- NO FOUNDATION ON EXISTING WALL
- NO SCOUR PROTECTION PRESENT
- SIGNIFICANT SETTLEMENT OF THE EXISTING WALL
- COLLAPSING CULVERT AND OUTFALL
- SPALLING AND CRACKING EVIDENT THROUGHOUT DUE TO PRESENCE OF TREE ROOTS AND SETTLEMENT
- LOSS OF MORTAR AND LARGE STONES RECORDED THROUGHOUT
- UPPER PARAPET HAS BECOME SEPARATED FROM THE SETTLED LOWER WALL
- LOWER WALL WAS FOUND TO HAVE INSUFFICIENT WALL THICKNESS AND HENCE STRUCTURAL STRENGTH OF THE EXISTING WALL IS INSUFFICIENT TO WITHSTAND DESIGN CONDITION
- LOSS OF MORTAR AND LARGE STONES RECORDED THROUGHOUT
- WALLS REPAIRS WERE CARRIED OUT IN NOVEMBER 2017 AND CONSISTED OF VEGETATION REMOVAL, LOCALISED REPOINTING AND FILLING OF SIGNIFICANT VOIDS

COMMENTARY ON PROPOSED REPLACEMENT L-WALL:

- WIDTH OF THE FOOTPATH WILL INCREASE FROM 2.8m WIDE TO A MAXIMUM OF APPROXIMATELY 5.4m WIDE
- EXISTING TREES WILL BE RETAINED
- EXISTING SERVICES WILL BE UNAFFECTED
- EXISTING WALL TO BE REMOVED ABOVE FOOTPATH LEVEL
- NEW WALL WILL BE CLAD WITH 200mm THICK COURSED LIMESTONE WITH LIME MORTAR POINTING
- NEW WALL WILL HAVE A ROUNDED COPING IN KEEPING WITH SURROUNDING FLOOD DEFENCES
- ORIGINAL EXISTING RIVERBED LEVEL WILL BE REINSTATED FOLLOWING CONSTRUCTION
- CLADDING ON ROADSIDE FACE OF WALL WILL BE ALIGNED FLUSH WITH ADJACENT RIVER WALL



EXISTING RIVER WALL
(1:50)



PROPOSED REPLACEMENT L WALL IN THE RIVER
(1:50)

- FOR PLANNING**
1. ALL LEVELS ARE IN M ABOVE O.D. MAIN, UNLESS OTHERWISE NOTED.
 2. REFER TO DRAWING NO. D-DR-W-2202 FOR PLAN LAYOUT
 3. CONCRETE CLAS SHALL BE C40/50.
 4. DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY.
 5. EXISTING TREES TO BE RETAINED
 6. ALL EXISTING SERVICES TO BE RETAINED AND POINTING TO MATCH EXISTING
 7. ORIGINAL STONE WALL WILL BE REUSED WHERE POSSIBLE FOR THE CLADDING.
 8. WIDTH AT THE TOP OF THE STEM CAN BE ADJUSTED TO BE A MINIMUM OF 50MM.
 9. ALL EXISTING SERVICES TO BE KEPT IN KEEPING WITH SURROUNDING FLOOD DEFENCES
 10. ALL EXISTING OUTFALLS WILL BE CARRIED OVER THE PROPOSED WALL AND WILL BE FITTED WITH FIP VALVES. FIP VALVES WILL ALSO BE FITTED ON WEEP HOLES AS REQUIRED.
 11. REFER TO DRAWING NO. D-DR-W-2202 FOR REINSTATEMENT OF RIVERBED CONSTRUCTION
 12. DODDER FRS MAIN WORKS REFERS TO THE PHASE 2D WORKS CURRENTLY UNDERWAY UNDER A PREVIOUSLY GRANTED PLANNING PERMISSION.
 13. DIMENSIONS OF WALL FOUNDATION TO BE CONFIRMED AT DETAILED DESIGN STAGE

Rev	Date	By	Chd	Appr
001	15/05/2018	PW	BT	IA
002	21/05/2018	PW	BT	IA

Dublin City
Baile Átha Cliath

OPW
Office of Public Works
Ireland

Project Title
Dodder Flood Alleviation Project

Consultant
ARUP
Arup Group Limited
15 Abchurch Lane
London EC4N 3DF
United Kingdom
Tel: +44 (0)20 7654 3200
Fax: +44 (0)20 7654 3201
www.arup.com

Drawing No
215346

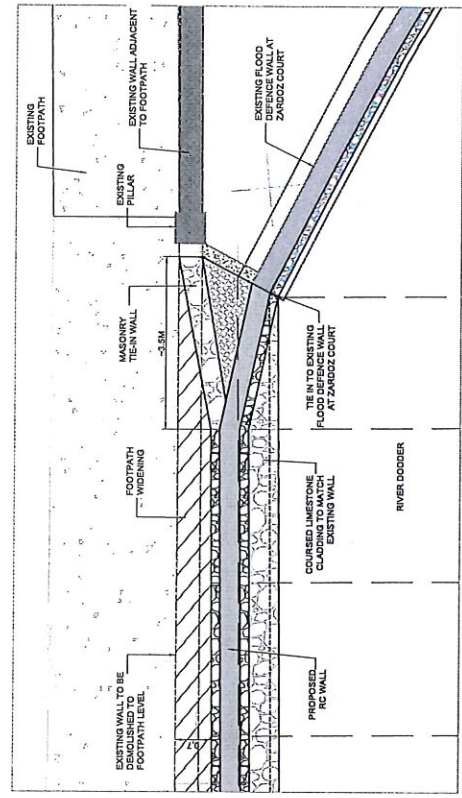
Project No
D-DR-W-2200

Sheet No
P02

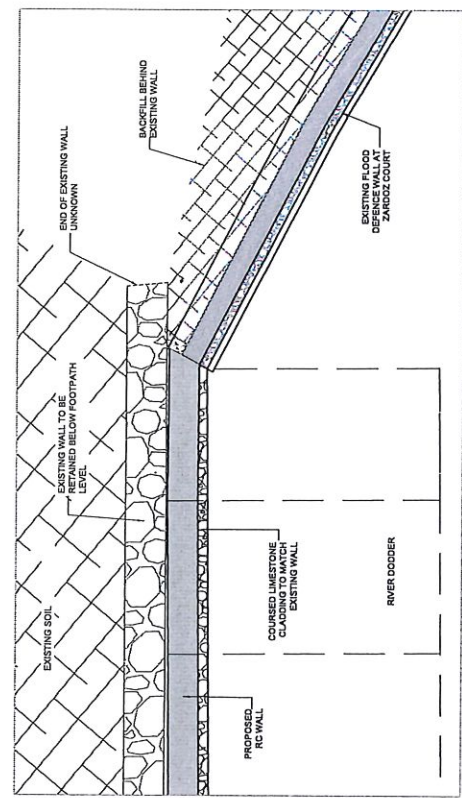
Drawing Title
Area 2D - RDS River Wall
Proposed Flood Wall
Representative Sections at Ch 17420
For Planning

FOR PLANNING

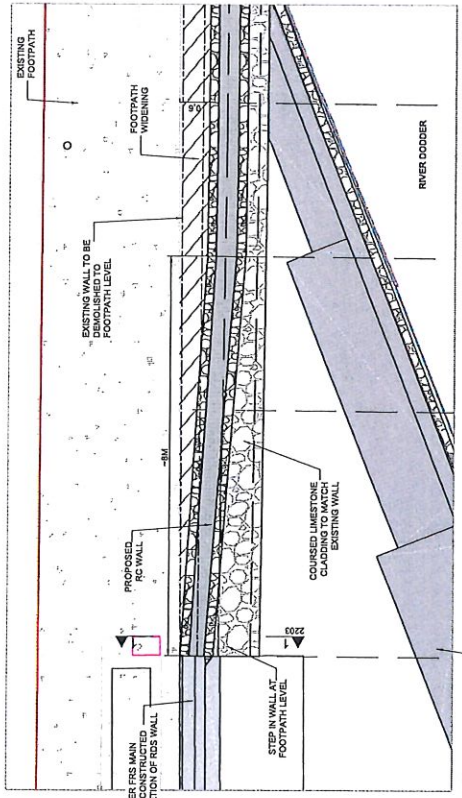
- NOTES:**
1. ALL LEVELS ARE IN M ABOVE O.D. MALIN.
 2. ALL DIMENSIONS IN MM UNLESS OTHERWISE NOTED.
 3. REFER TO DRAWING NO. D-DR-W-2202 AND 030 FOR PLAN LAYOUT.
 4. CONCRETE EXPOSURE SHALL BE 25Z.
 5. DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY.
 6. EXISTING TREES TO BE RETAINED.
 7. NEW WALL TO BE CLAD WITH 200mm THICK COURSED LIMESTONE WITH LIME MORTAR ORIGINAL FOR CLADDING.
 8. ORIGINAL FOUNDATION TO BE REUSED WHERE POSSIBLE FOR THE CLADDING.
 9. WIDTH AT THE TOP OF THE STEM CAN BE CURTAILED TO BE A MINIMUM OF 50MM.
 10. NEW WALL TO HAVE A ROUNDED COPING IN CONCRETE WITH SURROUNDING FLOOD DEFENSES.
 11. ALL EXISTING OUTFALLS WILL BE CARRIED THROUGH THE NEW RIVER WALL AND WILL BE FITTED WITH FLAP VALVES. FLAP HOLES AS REQUIRED.
 12. ORIGINAL EXISTING RIVERBED LEVEL TO BE REINSTATED FOLLOWING CONSTRUCTION UNDER A PREVIOUSLY GRANTED PLANNING PERMIT.
 13. DIMENSIONS OF WALL FOUNDATION TO BE CONFIRMED AT DETAILED DESIGN STAGE.



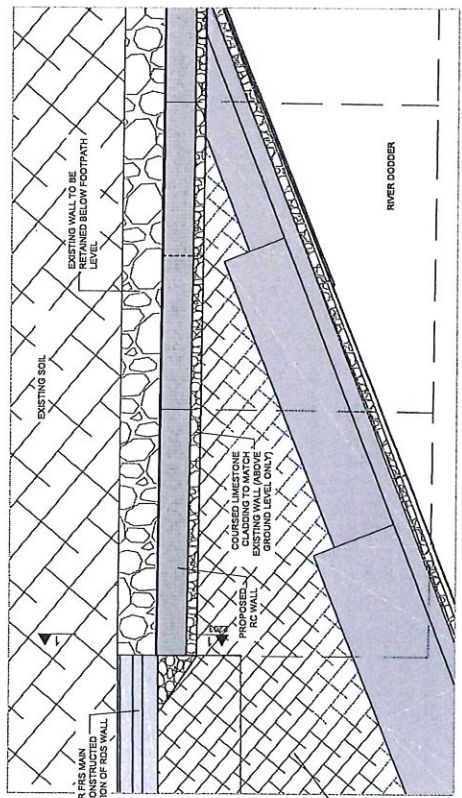
Detail D-D, Upper
at 6.0m OD Malin
Scale 1:50



Detail D-D, Lower
at 3.1m OD Malin
Scale 1:50



Detail A-A, Upper
at 6.0m OD Malin
Scale 1:50



Detail A-A, Lower
at 3.1m OD Malin
Scale 1:50

Client: Dublin City Council
 Dublin City Council
 Council Chamber, Dublin City Council
 100 North Wall, Dublin 1, Ireland

Contractor: OPW
 OPW
 100 North Wall, Dublin 1, Ireland

Consultant: ARUP
 ARUP
 100 North Wall, Dublin 1, Ireland

Project Title: Dodder Flood Alleviation Project

Drawing Title: RDS River Wall
 Area 2D - RDS River Wall
 Park Hotel Bridge

For Planning

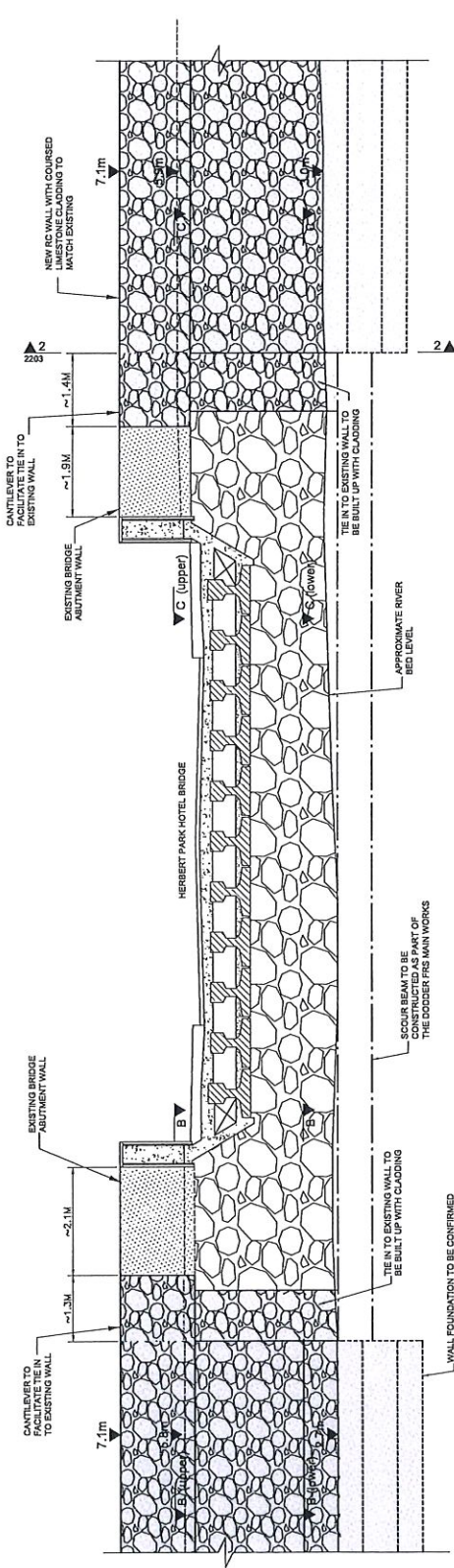
Project No: 219346
Drawing No: D-DR-W-2201
Date: June 2018
Scale: 1:50

Rev	Date	By	Chk	App
1	21/06/2018	VB	BT	JA
2	13/06/2018	VB	BT	JA

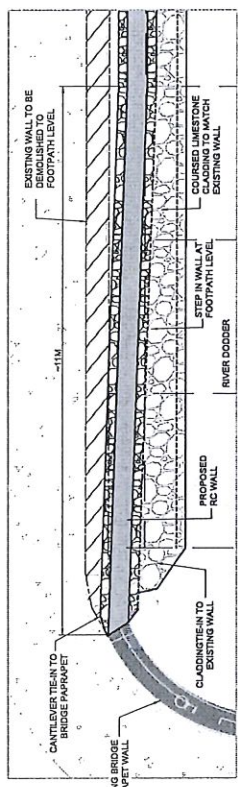
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FOR PLANNING

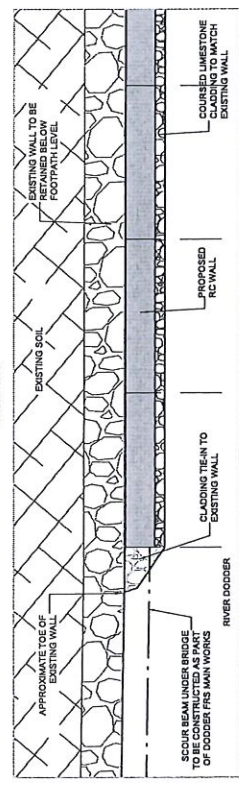
- NOTES:
1. ALL LEVELS ARE IN M ABOVE O.D. MALIN.
 2. ALL DIMENSIONS IN MM UNLESS OTHERWISE NOTED.
 3. REFER TO DRAWING NO. D-DR-W-2022 AND 2023 FOR PLAN LAYOUT.
 4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
 5. DO NOT SCALE FROM DRAWINGS. USE FIGURED DIMENSIONS ONLY.
 6. EXISTING TREES TO BE RETAINED.
 7. NEW WALL TO BE CLAD WITH 200mm THICK COURSED LIMESTONE WITH LINE MORTAR POINTING TO MATCH EXISTING.
 8. ALL EXISTING OUTFALLS WILL BE CLARIFIED THROUGH THE NEW RIVER WALL AND WILL BE FITTED WITH FLAP VALVES. FLAP HOLES AS REQUIRED.
 9. ORIGINAL EXISTING RIVERBED LEVEL TO BE REINSTATED FOLLOWING CONSTRUCTION.
 10. DODDER FRS MAIN WORKS REFER TO THE UNDERGROUND CURRENTLY UNDERWAY UNDER THE HERBERT PARK HOTEL PLANNING PERMIT.
 11. DIMENSIONS OF WALL FOUNDATION TO BE CONFIRMED AT DETAILED DESIGN STAGE.



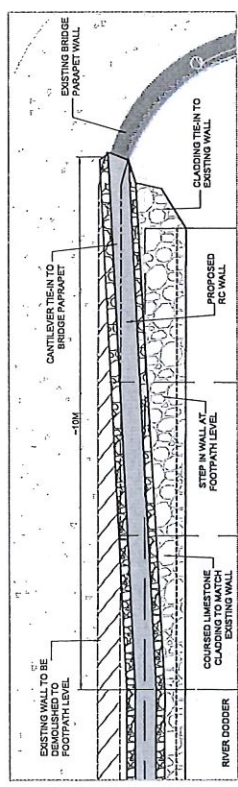
PROPOSED ELEVATION AT BRIDGE
NTS



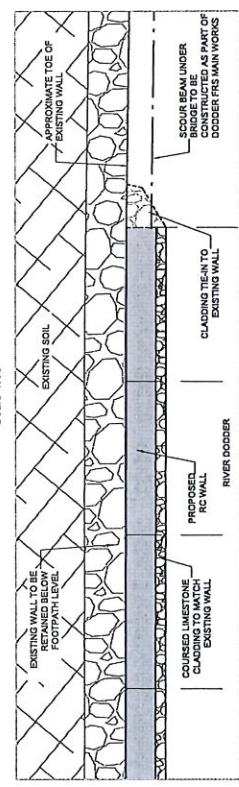
Detail C-C, Upper
at 6.0m OD Malin
Scale 1:50



Detail C-C, Lower
at 3.1m OD Malin
Scale 1:50



Detail B-B, Upper
at 6.0m OD Malin
Scale 1:50



Detail B-B, Lower
at 3.1m OD Malin
Scale 1:50

Client: **ARUP**
Project: **Dublin City Council, Environment and Infrastructure Department**
Project Name: **Dublin City Baths Altna Chain**
Project Title: **Dodder Flood Alleviation Project**
Drawing Title: **Area 2D - RDS River Wall Connection details to Herbert Park Hotel Bridge**
Drawing Number: **D-DR-W-2022**
Drawing Date: **June 2018**
Scale: **As Shown**
Author: **N/A**
Check: **N/A**
Date: **June 2018**

Contractor: **OPW**
Client: **Dublin City Council, Environment and Infrastructure Department**
Project: **Dublin City Baths Altna Chain**

REV	DESCRIPTION	DATE	BY	CHK	APP
001	ISSUED FOR PERMIT	14/06/2018	BT	BT	N/A
002	REVISED	14/06/2018	BT	BT	N/A
003	REVISED	14/06/2018	BT	BT	N/A

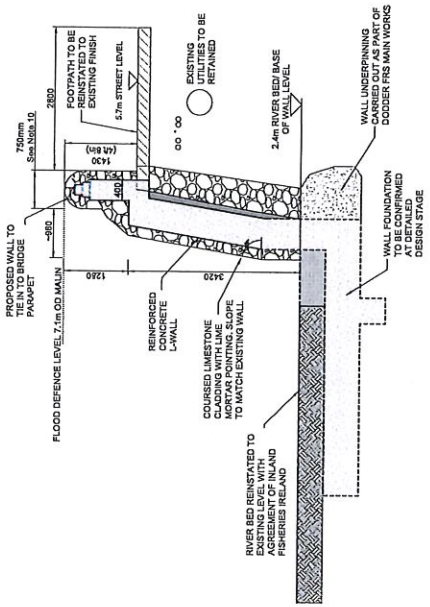
Scale: **As Shown**

A1 1 2 3 4 5 6 7 8 9 10 P O N M L K J I H G F E D C B A

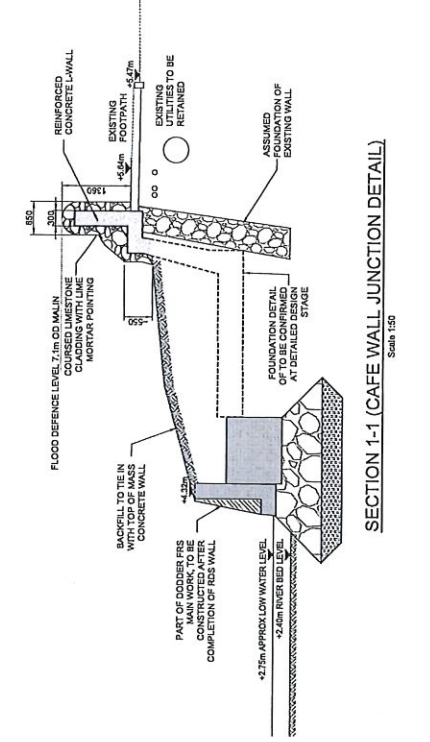
FOR PLANNING

NOTES:

1. ALL LEVELS ARE N M ABOVE O.D. MALIN.
2. ALL DIMENSIONS IN mm UNLESS OTHERWISE NOTED.
3. REFER TO DRAWING NO. D-DR-W-2201 AND 2202 FOR SECTION LOCATIONS.
4. CONCRETE SHALL BE CLASS C32. CONCRETE EXPOSURE SHALL BE X32.
5. DO NOT SCALE FROM DRAWINGS. USE FIGURED DIMENSIONS ONLY.
6. EXISTING TREES TO BE RETAINED
7. NEW WALL TO BE CLAD WITH 200mm THICK COURSED LIMESTONE WITH LIME MORTAR TO MATCH EXISTING
8. ORIGINAL EXISTING DIMENSIONS WHERE POSSIBLE FOR THE CLADDING.
9. WIDTH AT THE TOP OF THE STEM CAN BE CURTAILED TO BE A MINIMUM OF 80MM.
10. NEW WALL TO HAVE A ROUNDED CORING IN DIFFERENCES
11. ALL EXISTING OUTFALLS WILL BE CARRIED THROUGH THE NEW RIVER WALL AND WILL VALUES WILL ALSO BE SETTED ON TRIP HOLES AS REQUIRED.
12. ORIGINAL EXISTING REVERSED LEVEL TO BE REINSTATED FOLLOWING CONSTRUCTION
13. DODDER FRS MAN WORKS REFERS TO THE WORKS UNDER A PREVIOUSLY GRANTED PLANNING PERMIT
14. DIMENSIONS OF WALL FOUNDATION TO BE CONFIRMED AT DETAILED DESIGN STAGE



SECTION 2-2 (BRIDGE CONNECTION DETAIL)
Scale 1:50



SECTION 1-1 (CAFE WALL JUNCTION DETAIL)
Scale 1:50

Drawing Title: RDS River Wall
 Client: Dublin City Council
 Project: Dodder Flood Alleviation Project
 Drawing No: 218346
 Drawing Date: June 2016
 Issue: P02

Contractor: ARUP
 ARUP
 15000
 15000
 15000
 15000

Project Title: Dodder Flood Alleviation Project
 Client: Dublin City Council
 Date: June 2016

Contractor: OPW
 OPW
 15000
 15000
 15000
 15000

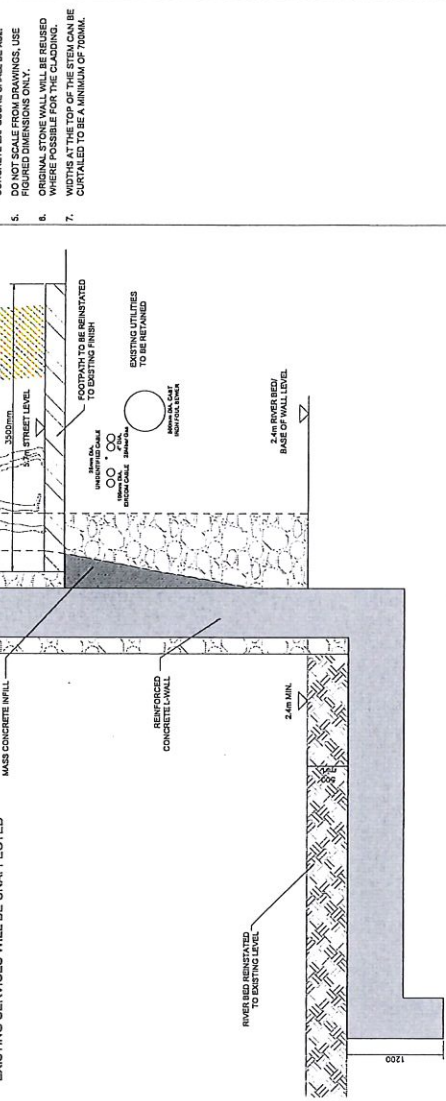
DUBLIN CITY COUNCIL
 ENVIRONMENTAL AND INFRASTRUCTURE DEPARTMENT
 AN tSion Comhairle agus Innealtóireacht
 Warrington
 Dublin 9

Dublin City
 Balaí Átha Cliath

REV	DATE	BY	CHKD	APPD
R02	13/06/2016	RW	BT	JA
R01	14/06/2016	VO	BT	JA
Issue	Date	By	Chkd	Appd

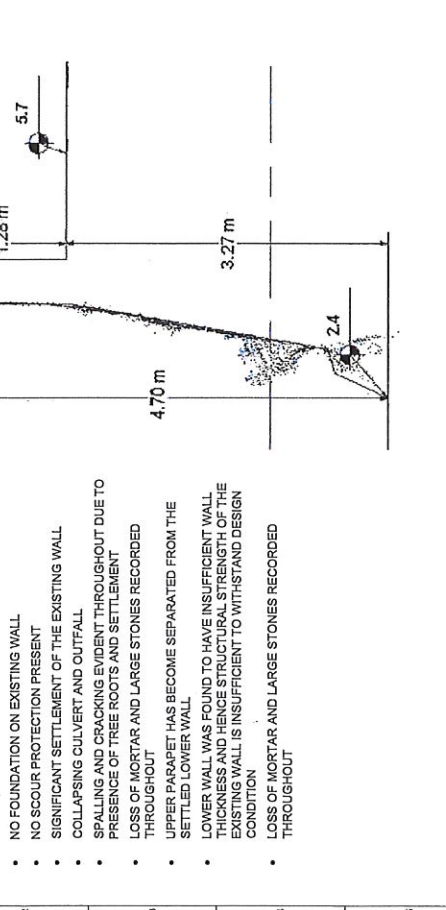
FOR INFORMATION

- NOTES:
1. ALL LEVELS ARE IN M ABOVE O.D. MALIN.
 2. ALL DIMENSIONS IN MM UNLESS OTHERWISE NOTED.
 3. REFER TO DRAWING NO. D-DRW-4033, D-DRW-4030 AND D-DRW-4030 FOR PLAN INFORMATION.
 4. ALL WALLS SHALL BE CAST IN CONCRETE EXPOSURE SHALL BE X22.
 5. DO NOT SCALE FROM DRAWINGS. USE FIGURED DIMENSIONS ONLY.
 6. ORIGINAL STONE WALL WILL BE REUSED WHERE POSSIBLE FOR THE CLADDING.
 7. WITHIN AT THE TOP OF THE STEM CAN BE CORRELATED TO BE A MINIMUM OF 700MM.



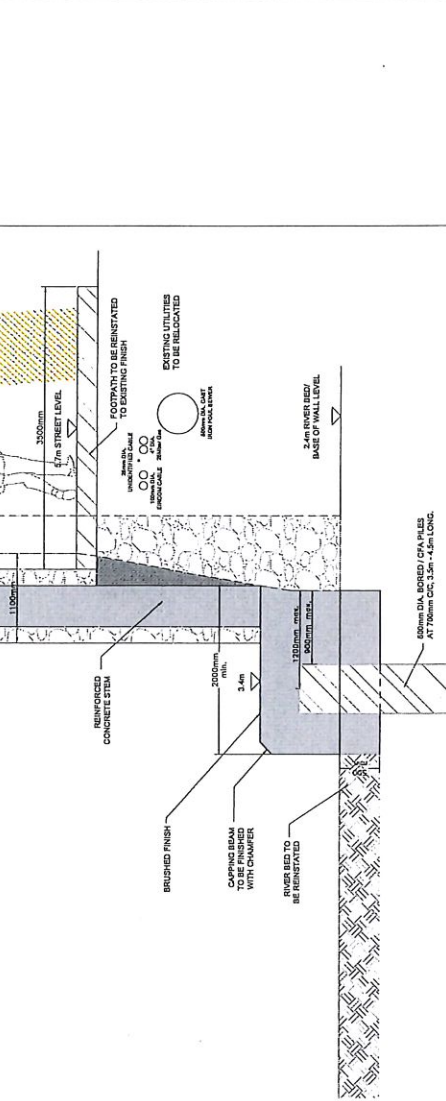
OPTION A - Replacement L wall in the river

COMMENTARY ON OPTION A:
WIDTH OF THE FOOTPATH WILL INCREASE FROM 2.8m WIDE TO 3.5m WIDE
EXISTING TREES WILL BE RETAINED
EXISTING SERVICES WILL BE UNAFFECTED



OPTION B - Conserve the existing wall as much as possible

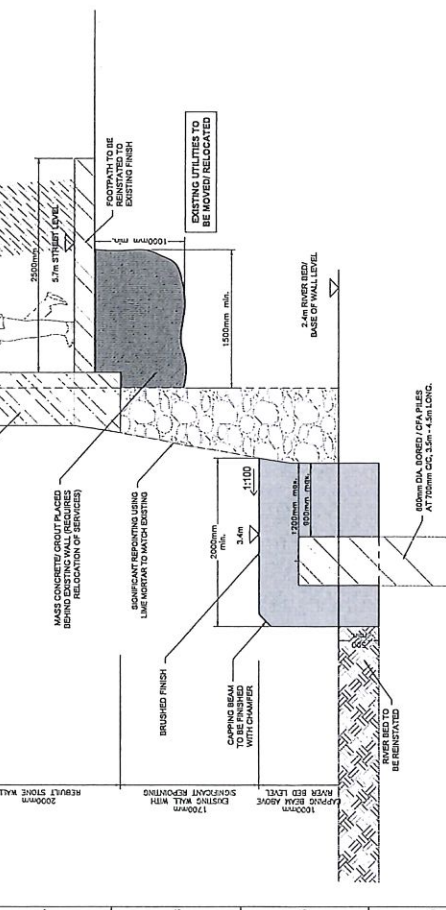
COMMENTARY ON OPTION B:
WIDTH OF FOOTPATH WILL DECREASE FROM 2.8m TO 2.5m
EXISTING TREES WILL BE REMOVED
EXISTING SERVICES WILL BE RELOCATED



OPTION C - Replacement piled wall in the river

COMMENTARY ON OPTION C:
WIDTH OF THE FOOTPATH WILL INCREASE FROM 2.8m WIDE TO 3.5m WIDE
EXISTING TREES WILL BE RETAINED
EXISTING SERVICES WILL BE UNAFFECTED

- COMMENTARY ON EXISTING WALL:**
- NO FOUNDATION ON EXISTING WALL
 - NO SCOUR PROTECTION PRESENT
 - SIGNIFICANT SETTLEMENT OF THE EXISTING WALL
 - COLLAPSING CULVERT AND OUTFALL
 - SPALLING AND CRACKING EVIDENT THROUGHOUT DUE TO PRESENCE OF TREE ROOTS AND SETTLEMENT
 - LOSS OF MORTAR AND LARGE STONES RECORDED THROUGHOUT
 - UPPER PARAPET HAS BECOME SEPARATED FROM THE SETTLED LOWER WALL
 - LOWER WALL WAS FOUND TO HAVE INSUFFICIENT WALL THICKNESS AND HENCE STRUCTURAL STRENGTH OF THE EXISTING WALL IS INSUFFICIENT TO WITHSTAND DESIGN CONDITION
 - LOSS OF MORTAR AND LARGE STONES RECORDED THROUGHOUT



EXISTING WALL AT CHAINAGE 17+420

COMMENTARY ON OPTION D:
WIDTH OF FOOTPATH WILL DECREASE FROM 2.8m TO 2.5m
EXISTING TREES WILL BE REMOVED
EXISTING SERVICES WILL BE RELOCATED

Client: **Dublin City Council**
 Dublin City Council, Dublin City Engineering and Maintenance Department
 100 North Wall, Dublin 1, Ireland
 Tel: +353(0)1 234 4465 Fax: +353(0)1 888 3189
 Email: enquiries@dcu.ie

Contract: **OPW**
 Office of Public Works
 100 North Wall, Dublin 1, Ireland
 Tel: +353(0)1 234 4465 Fax: +353(0)1 888 3189
 Email: enquiries@opw.ie

Project Title: **Dodder Flood Alleviation Project**

Contractor: **ARUP**
 Arup Group Limited
 15000 Westborough Drive, Suite 300
 Irvine, CA 92618, USA
 Tel: +1 949 251 1400 Fax: +1 949 251 1401
 Email: arup@arup.com

Drawing Title: **Area 2D - RDS River Wall Proposed Options Representative Sections at Ch 17+20**

Drawing Status: **For Information**

Project No: **D-DRW-4036**

Revision: **101**

Date: **June 2015**

Scale: **As Shown**

Author: **NA**

Check: **NA**

Drawn: **NA**

Checked: **NA**

Approved: **NA**

