BRUTON CONSULTING ENGINEERS

Title: QUALITY AUDIT

INCLUDING

Road Safety Audit, Access Audit, Cycle Audit and Walking

Audit.

For;

Ballyoulster KDA SHD - Phase 1 Residential Development,

Celbridge, Co. Kildare

Client: **DBFL Consulting Engineers**

Date: **May 2022**

Report reference: 1485R01

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1.0 Introduction

This report was prepared in response to a request from Mr. Mark McKenna, DBFL Consulting Engineers, for a Quality Audit for a proposed strategic housing development at Celbridge Co. Kildare Known as Ballyoulster KDA SHD – Phase 1.

The Quality Audit has been carried out in accordance with the guidance in the Design Manual for Urban Roads and Streets (DMURS), produced by Department of Transport Tourism and Sport in March 2013 and as updated in June 2019.

This portion of the Quality Audit is a design stage audit and includes a Stage 1 Road Safety Audit (in accordance with TII Publication GE-DTY-01024, dated December 2017), an access audit, a walking audit and a cycling audit. (i.e. aspects of a Quality Audit carried out independent of the Design Team and generally included as appendices to the overall Quality Audit)

The Road Safety and Quality Audit Team comprised of;

Team Leader: Norman Bruton, BE CEng FIEI, Cert Comp RSA.

TII Road safety Auditor approval number: NB 168446

Team Member: Owen O'Reilly, B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil. Eng CEng MIEI

TII Auditor Approval no. 00 1291756

This portion of the Quality Audit involved the examination of drawings and other material and a site visit by the Audit Team, on the 16th of May 2022. The weather at the time of the site visit was dry and the road surface was also dry.

The problems raised in this Quality Audit may belong to more than one of the categories of Audit named above. A table has been provided at the start of Section 3 of this report detailing which category of audit each problem is associated with.

Recommendations have been provided to help improve the quality of the design with regard to the areas described above. A feedback form has also been provided for the designer to complete indicating whether or not he/she will accept those recommendations or provide alternative recommendations for implementation.

The information supplied to the Audit Team is listed in **Appendix A.**

A feedback form is contained in **Appendix B.**

A plan drawing showing the problem locations is contained in **Appendix C**.



2.0 Background

It is proposed to construct 344 no. residential units and a creche to the east of Celbridge town centre between the Dublin Road (R403) at Dunaghcumper Cemetery, Willow housing estate, Loughlinstown Road and Shinkeen Road. The development is known as Blalyoulster KDA SHD- Phase 1.

Both the R403 and Shinkeen Road are bus routes. The R403 has intermittent footpath provision and Shinkeen Road has a footpath and an on-road mandatory cycle lane on both sides.

The site location map is shown below.



The Road Safety Authority's website (<u>www.rsa.ie</u>) was not available at the time of writing as the policy on providing collision historic data was being reviewed.



3.0 Issues Identified in the Stage 1 Quality Audit Summary Table of Problem Categories

Problem Reference	Access Audit	Walking Audit	Cycling Audit	Road Safety Audit	Quality Audit
3.1	✓		~	√	✓
3,2		✓			√
3.3			✓	✓	✓
3.4		✓		✓	✓
3.5	✓	✓		✓	✓
3.6				✓	✓
3.7		✓	✓	✓	✓
3.8	✓	✓		✓	√
3.9		✓		✓	✓
3.10			✓	✓	√
3.11		✓	✓	✓	✓
3.12		✓		✓	√
3.13	✓				✓

3.1 Problem

LOCATION

Drawing 180221-DBFL- ZO-SP-DR-C-2001 Rev P02, Main Access Road Ch 80.

ISSUE

It is proposed to have a two-way cycling facility on the northern side of the main access road off Shinkeen Road. There is however no access to the facility from the internal development at chainage 80. This could lead to cyclists using the carriageway or the footpath.





RECOMMENDATION

It is recommended that a crossing facility be provided similar to other internal junctions.

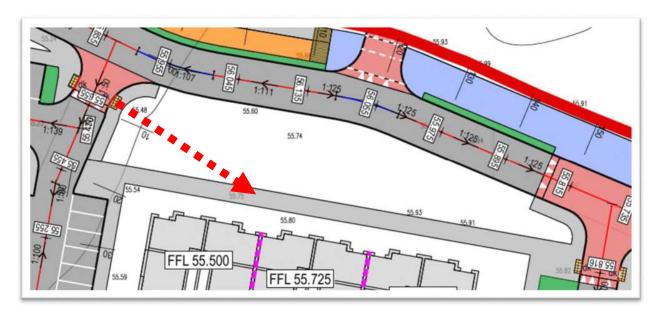
3.2 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2001 Rev P02, Main Access Road Ch 90 to 150.

ISSUE

The footpath does not follow the edge of the carriageway along the access road between Ch 90 and 150. There is a risk that pedestrians will take the most direct route from Shinkeen Road and will travel through the green area. This could lead to slips and falls.





RECOMMENDATION

It is recommended that the footpath network follows desire lines as much as practicable.

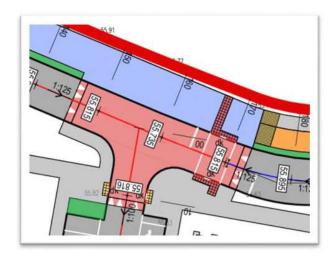
3.3 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2001 Rev P02, Main Access Road Ch 170 & 310

ISSUE

There are proposed signalised pedestrian /toucan crossings at Ch 170 and at Ch 310 of the main access road from Shinkeen Road. There are cycle facilities on the northern side however there are none on the southern side. It is unclear if cyclists are to use this signalised crossing and if so where do they travel once on the pedestrian footpath.



RECOMMENDATION

Ensure that there are continuous facilities for cyclists.

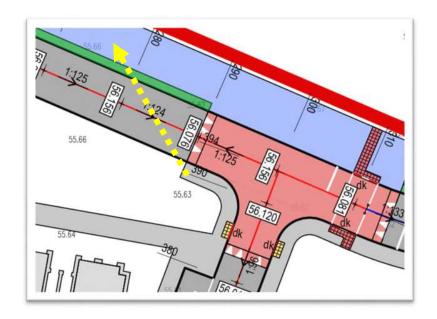
3.4 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2001 Rev P02, Main Access Road Ch 140 & 290.

ISSUE

There are short sections of footpath on the western side of the junctions at Ch 140 & 290. These footpaths terminate at the end of the raised tables. There is a risk that pedestrians will use these footpaths and take a diagonal route to the footpath /shared area on the northern side of the main access road rather than using the signalised crossing. This would increase the likelihood of a collision with a passing vehicle.



RECOMMENDATION

It is recommended that the section of footpath be removed after the uncontrolled pedestrian crossing on the side roads.

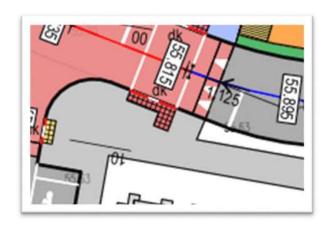
3.5 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2001 Rev P02, Main Access Road Ch 170.

ISSUE

The L- shaped red tactile paving leading to the signalised crossing of the main access road does not extend to the rear of the footpath. There is a risk that a blind or partially sighted pedestrian might not be able to locate the crossing and may cross at an inappropriate location.





RECOMMENDATION

It is recommended that the tactile paving be extended to the rear of the footpath.

3.6 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2001 Rev P02, Internal road with horizontal traffic calming build out. Chainage 190.

PROBLEM

There is a proposed build out on the internal road at the first section of the development to the East of Shinkeen Road. It is unclear if drivers using the on-curtilage parking on the opposite side of the carriageway will have enough room to manoeuvre given the limited carriageway width.



RECOMMENDATION

Carry out a swept path analysis to ensure that the manoeuvre can easily be carried out and if not relocate/reprofile the buildout.

3.7 Problem

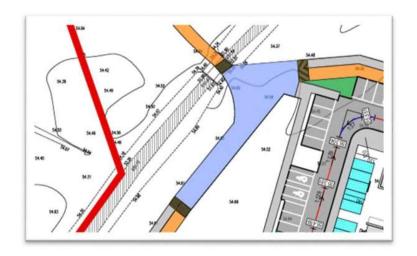
LOCATION

Drawing 180221-DBFL- ZO-SP-DR-C-2001 Rev P02, Shared use path at north eastern end of the site.

ISSUE

There is along section of shared use pedestrian/cyclist path at the north eastern side of the site. The reason for such a long length is unclear. Cyclists will pick up speed and if they collide with pedestrians the severity of the injuries could be higher.





RECOMMENDATION

It is recommended that the shared area be reduced to locally around the junction.

3.8 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2002 Rev P02.

ISSUE

It is proposed to signalise the Dublin Road junction. The existing footpath on the northern side of the Dublin Road is relatively narrow. There is a risk that when traffic signals poles are provided that it will reduce the effective width and lead to inaccessibility for some mobility impaired.



RECOMMENDATION

Ensure that there is sufficient space for pedestrians to pass at the proposed signals.

3.9 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2002 Rev P02, Main access off Dublin Road, Ch 1040.



ISSUE

The footpath on the eastern side of the main access terminated at the first side road junction. There is no crossing provided for pedestrians.



RECOMMENDATION

Provide a continuous route for pedestrians.

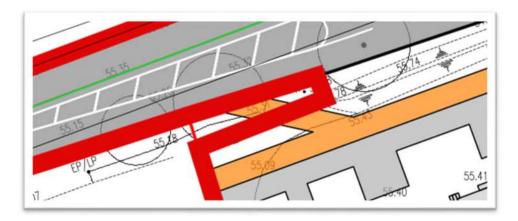
3.10 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2002 Rev P02, Dublin Road cycle track.

ISSUE

It is proposed to merge cyclist back onto the Dublin road at the western side of the development at an acute angle. There is a risk that cyclists may not check for oncoming traffic and drivers might not have sufficient visibility to merging cyclists given the berm and the vegetation.



RECOMMENDATION

It is recommended that the interim tie-in be perpendicular to the Dublin Road whereby cyclists will have to stop and look right. Suitable visibility splays should be provided to this temporary merge point.



Alternatively the temporary merge should be omitted and suitable fencing be placed along this boundary to ensure that pedestrian and cyclists use the signalised junction to access the Dublin Road.

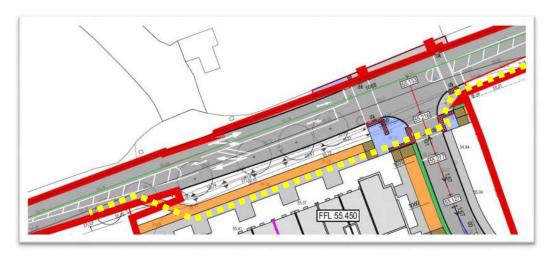
3.11 Problem

LOCATION

Drawing 180221-DBFL- ZO-SP-DR-C-2002 Rev P02, Dublin Road.

ISSUE

Pedestrians travelling along the southern side of Dublin Road towards Celbridge town centre may think that the footpath to the west of the site access continues towards the town centre and travel along it. When they realise that the footpath terminates they may use the cycle merge to regain access to the Dublin Road. There are poor facilities for pedestrian on the southern side of Dublin Road.



RECOMMENDATION

It is recommended that the temporary cycle merge be omitted and suitable fencing be placed along this boundary to ensure that pedestrians use the signalised junction to cross the Dublin Road to the continuous footpath on the northern side.

3.12 Problem

LOCATION

Drawing 180221-DBFL- ZO-SP-DR-C-2002 Rev P02, Tactile paving at internal junctions.

ISSUE

Tactile paving is shown over a portion of the shared use areas that cross internal junctions along the main access road from the Dublin Road. There is a risk that a blind or partially sighted pedestrian may not realise that they are entering a carriageway if the cross outwith the tactile paving. The dropped kerb



only appears to exist over the extend of the tactile paving. There is a risk that pedestrian will trip and cyclists may lose control is they cross where there is a significant kerb upstand.



RECOMMENDATION

It is recommended that the shared use areas be removed and that segregated facilities be provided across the junctions or that tactile paving be provided across the entire shared surface width. Flush kerbs should be provided for both cyclists and pedestrians.

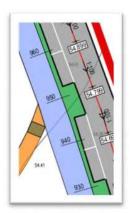
3.13 Problem

LOCATION

Drawing 180221-DBFL- Z0-SP-DR-C-2002 Rev P02, On-road parallel parking.

ISSUE

There is some on-street parking proposed along the main access from Dublin Road. To the rear of the parking it is proposed to have a grassed verge buffer zone. There is a risk that as vehicle occupants cross this buffer zone to get to the footpath /shared use area that they may slip and fall.





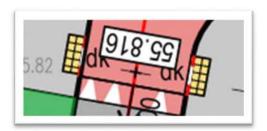
RECOMMENDATION

It is recommended that a suitable hardstanding surface with colour contrast/hatched road markings be provided in the buffer zone.

4 Observations

4.1 Observation

In-line uncontrolled pedestrian crossings should have 1200mm min of tactile paving.



4.2 Observation

Access points should be provided where disabled parking bays are adjacent to a high kerbed footpath.

4.3 Observation

Dropped kerbs at all the internal uncontrolled pedestrian crossing points have not been shown on the drawings.



5 Quality Audit Statement

This portion of the Quality Audit has been carried out in accordance with the guidance given in DMURS and takes into consideration the principles approaches and standards of that Manual.

The quality audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

Norman Bruton Signed: Agree Bruton

(Quality Audit Team Leader) Dated: 7/6/2022

Owen O'Reilly Signed: Ewan O'Reilly

(Quality Audit Team Member) Dated: 7/6/2022



Appendix A

List of Material Supplied for this Quality Audit;

Drawing 180221-DBFL- Z0-SP-DR-C-2001 Rev P02

Drawing 180221-DBFL- Z0-SP-DR-C-2002 Rev P02

Drawing - Landscape Masterplan#

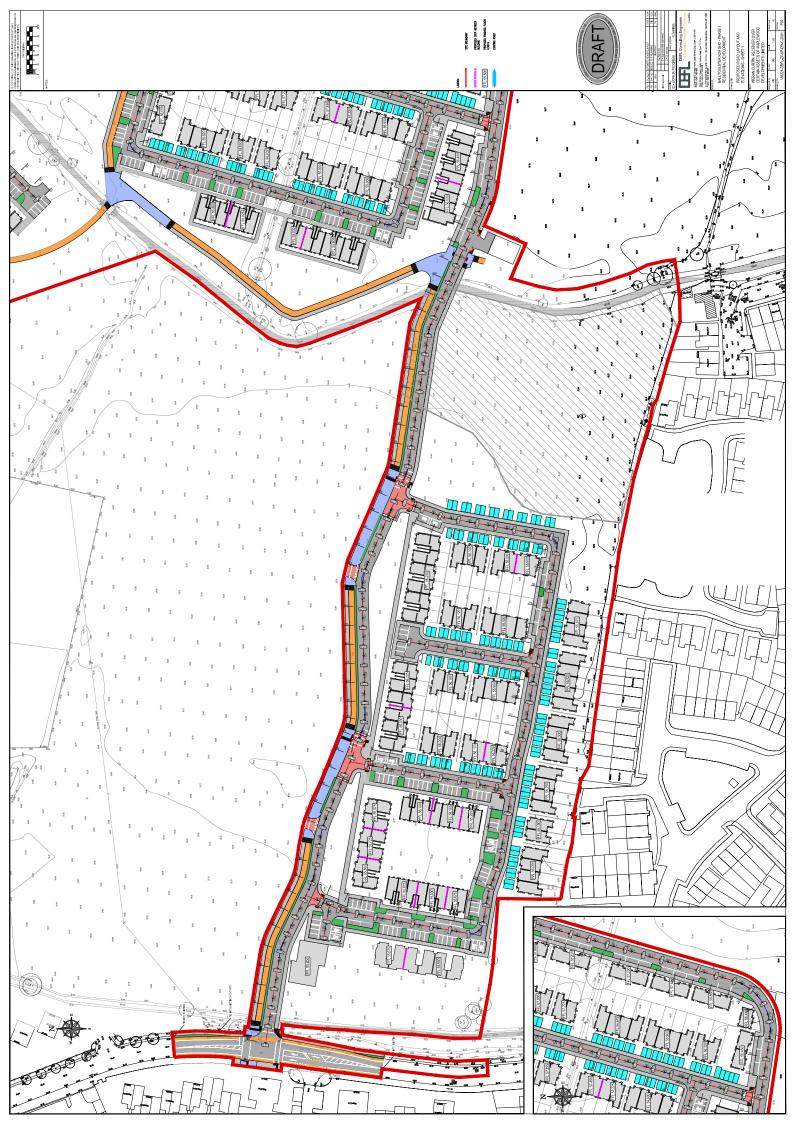
Drawing - Site location Plan OMP

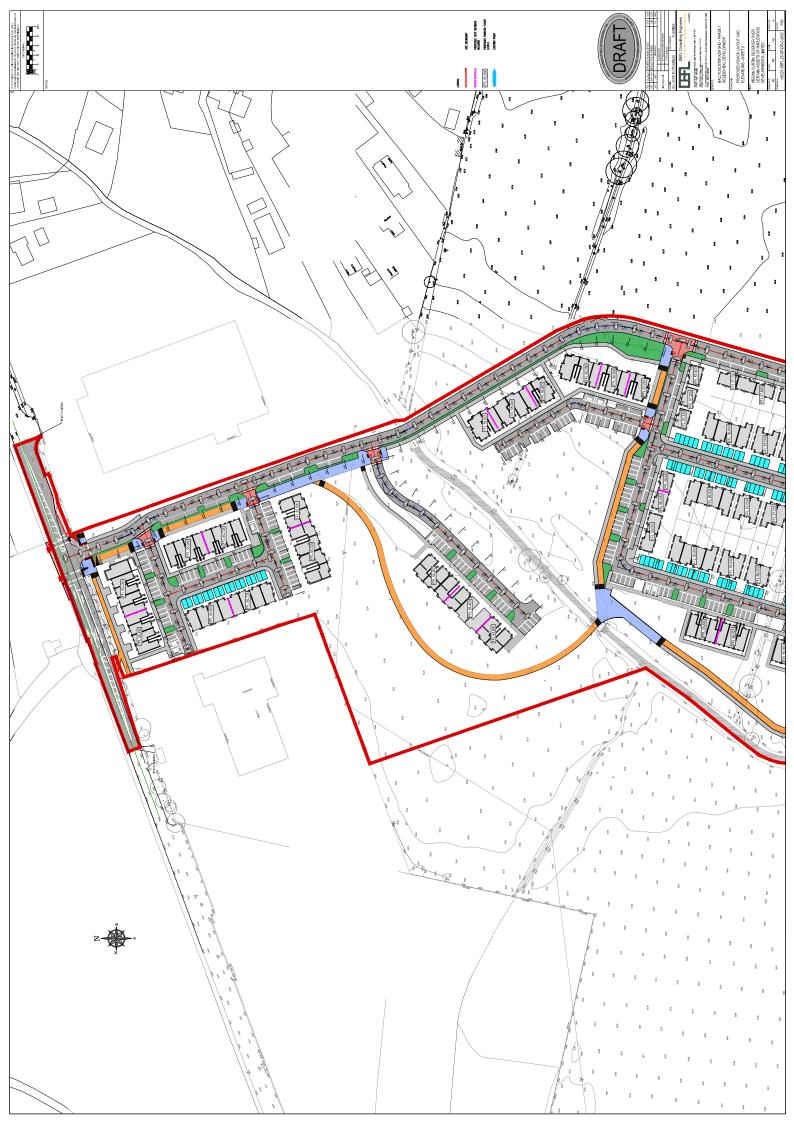
Drawing - Proposed Site Plan OMP

Drawing 180221-DBFL- SW-SP-DR-C-1000 Rev P01

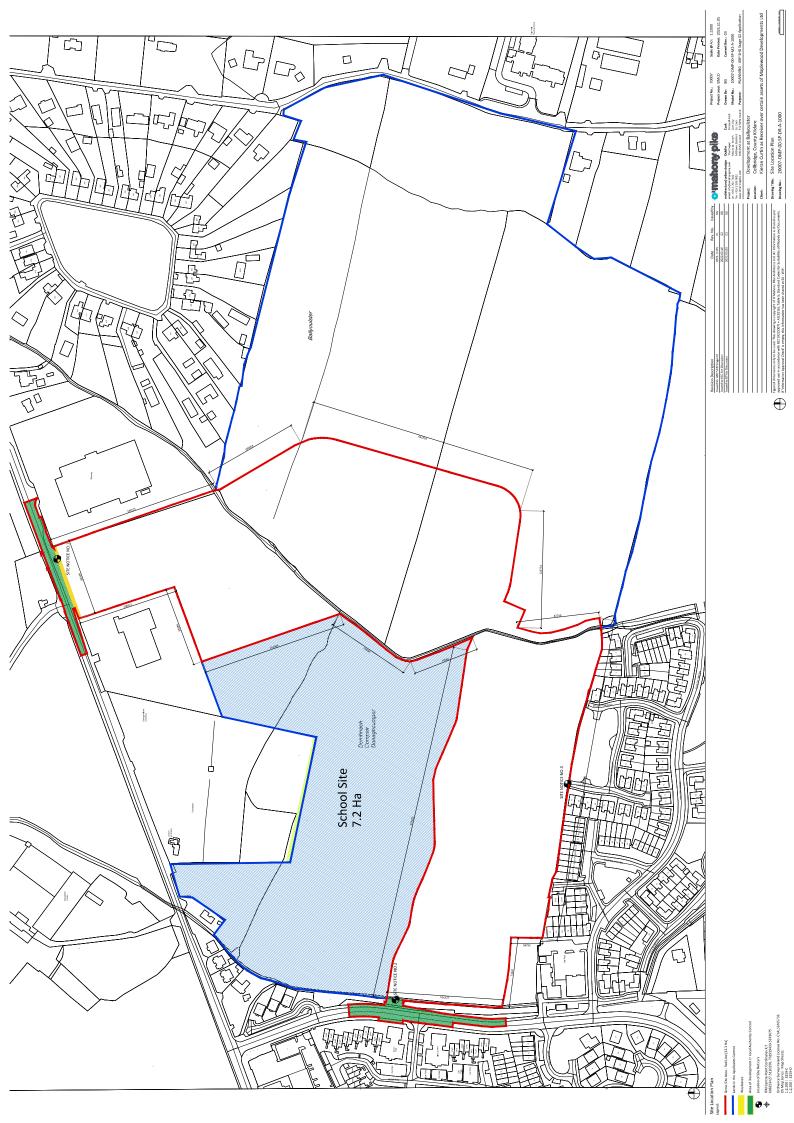
For information

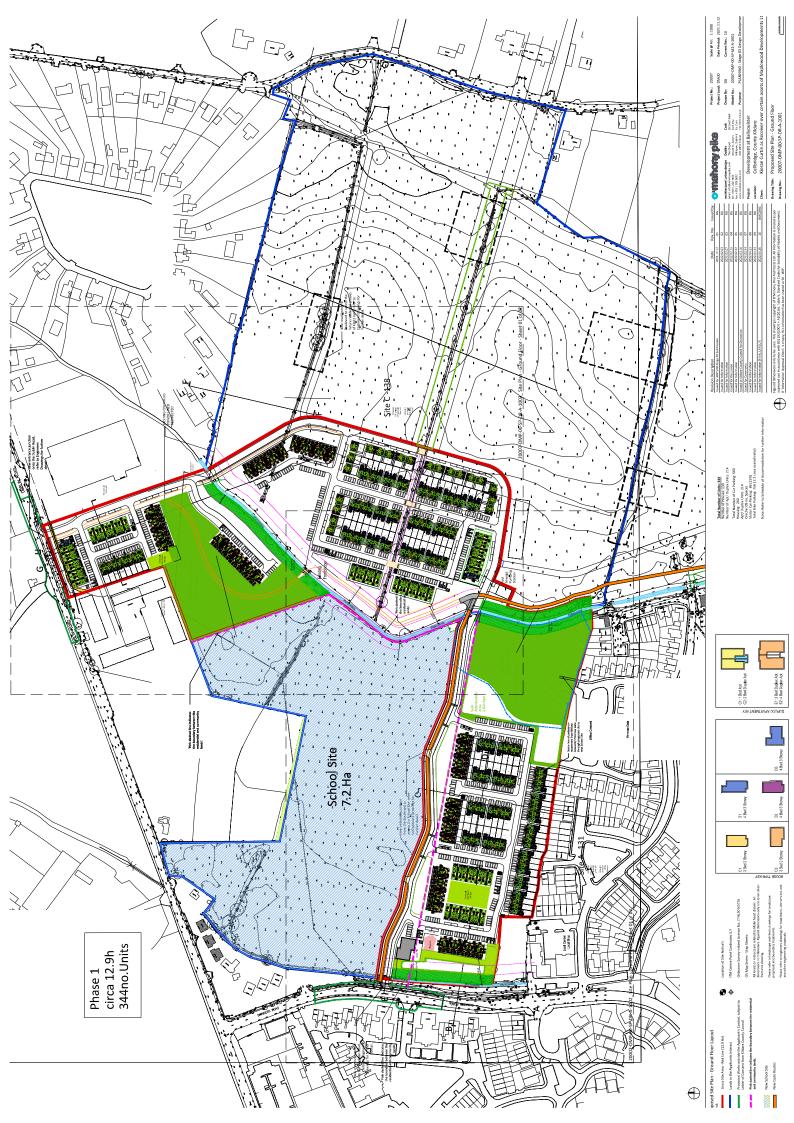
Traffic and Transport Assessment – DBFL Oct 2021.

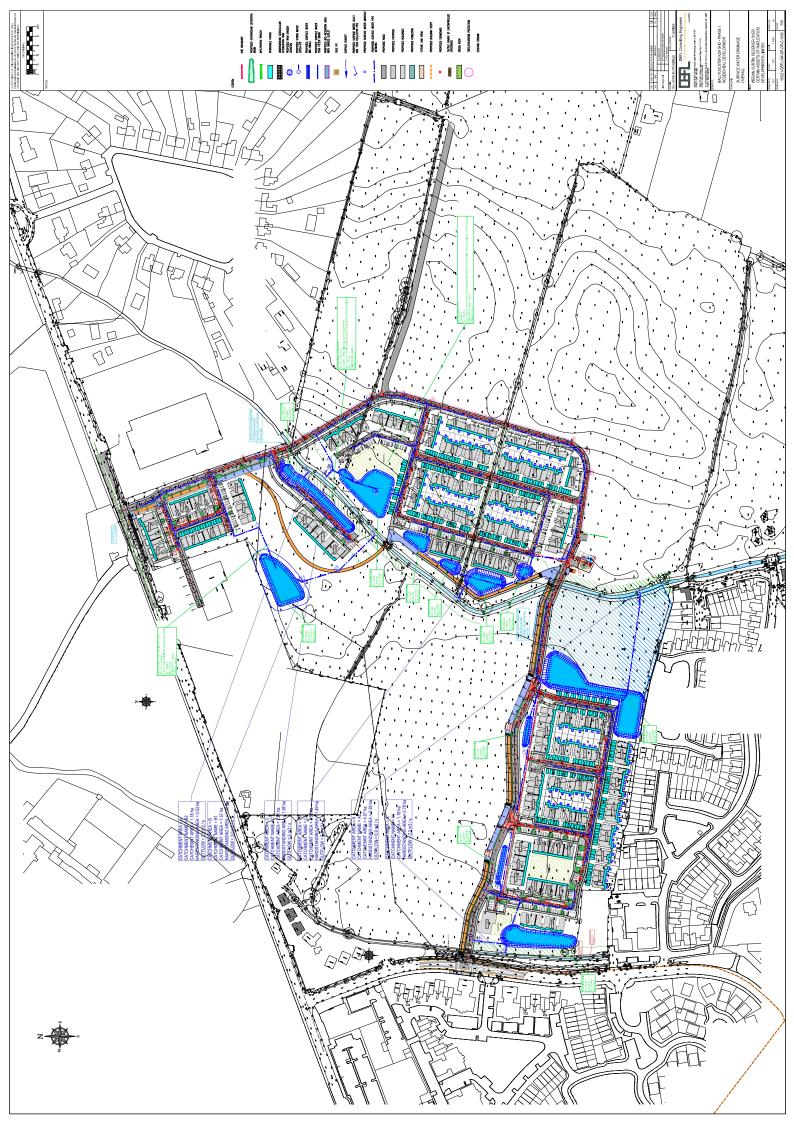














Appendix B

Feedback Form



QUALITY AUDIT FORM – FEEDBACK ON QUALITY AUDIT REPORT

Scheme: Celbridge

Quality Audit- Stage 1 - Planning

Date Audit (site visit) Completed 16-5-2022

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Yes	No	Hard standing with drop kerb provided to allow access to / from the cycle facility	Yes
3.2	Yes	No	The footpath has been aligned to respect drainage design requirements. Obstructions by way of planting will be provided in this area with the aim of making this route through the green area less convenient	Yes
3.3	Yes	Yes		
3.4	Yes	Yes		
3.5	Yes	Yes		
3.6	Yes	Yes		
3.7	Yes	Yes		
3.8	Yes	Yes		
3.9	Yes	Yes		
3.10	Yes	Yes		
3.11	Yes	No	In the short term prior to continuous pedestrian facilities along the southern side of Dublin Road, pedestrians seeking access to the proposed residential units will be directed along this section of footpath. Celbridge bound pedestrians will be directed to the proposed traffic signals.	Yes
3.12	Yes	Yes		





Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.13	Yes	Yes		

Signed Man M R

Date 07/06/2022

Design Team Leader

Audit Team Leader

Date: ...7/6/2022.....



Appendix C

Problem Location Plan

