P & S Consulting Engineers Limited

Fearnley Street/Fall Lane/Brooks Yard, Westtown, Dewsbury, WF13 2SW Stage 1 Road Safety Audit

sanderson associates
consulting engineers

Control Sheet

CLIENT: P & S Consulting Engineers Limited

PROJECT TITLE: Fearnley Street/Fall Lane/Brooks Yard, Westtown, Dewsbury, WF13 2SW

REPORT TITLE: Stage 1 Road Safety Audit

PROJECT REFERENCE: 161464

DOCUMENT NUMBER: 002

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DATE: June 2024

Issue & Approval Schedule	Issue 01 <final>	Name	Signature	Date
	Prepared by01	David Colley	A signed copy is available on request	24/06/2024
	Checked by	Ashley Armitage		24/06/2024
	Approved by	David Colley		24/06/2024

Issue Record	Issue	Date	Status	Description	Name	
	02				Prepared	
					Checked	
					Approved	
	03				Prepared	
					Checked	
					Approved	

Sanderson Associates Consulting Engineers is a trading name of Fairhurst Group LLP, a limited liability partnership registered in Scotland with the registered number SO307306 and registered office at 43 George Street, Edinburgh EH2 2HT.

Acknowledgements

Reference has been made to Crashmap to check the accident history on the local highway network;

Contents

List of Appendices

Project Summary

Report title:	Stage 1 Road Safety Audit
Date:	21 June 2024
Document reference and revision:	161464-002-01
Prepared by:	Sanderson Associates
On behalf of:	P & S Consulting Engineers Limited
	Kirklees Metropolitan Borough Council

1. Introduction

1.1 Sanderson Associates Consulting Engineers has been appointed by Sanderson Associates on behalf of P & S Consulting Engineers Limited to carry out a Stage 1 Road Safety Audit (RSA) of the proposed highway works associated with the temporary access road and services protection design for the Trans-Pennine Route Upgrade. The site is located off Fearnley Street/Fall Lane/Brooks Yard, Westtown, Dewsbury WF13 2SW.

1.2 This Stage 1 Road Safety Audit was instructed by Ian Labrooke of Sanderson Associates on behalf of P & S Consulting Engineers Limited on the 18th of June 2024. A Stage 1 Road Safety Audit Brief (Ref 161464-001-02) has been prepared by Sanderson Associates. The Audit Brief was signed by Dominic Wing of Kirklees Council dated 17 June 2024. The Highway Authority is Kirklees Metropolitan Borough Council. The Audit Team understand that there is no previous road safety audit for the proposals.

1.3 The Audit Team members are as follows:

- → Audit Team Leader – David Colley MCIHT, Associate Director at Sanderson Associates
- → Audit Team Member – Ashley Armitage MIHE, Assistant Engineer at Sanderson Associates

1.4 The purpose of this Stage 1 RSA is to consider the highway works associated with the temporary access road and services protection design shown on drawings reference 7722-26 Rev. C0 and W3B-T-073 P02 and the connection to Fall Lane and junction visibility shown on drawing 161464-01.

1.5 The following drawings and information have been used for Audit purposes. No details of any supplementary street lighting have been provided.

- → 7722-26 Rev. C0 - 11.01.2024 - Temporary haul road and services protection design
- → 7722-30 Rev. C0 - 05.02.2024 - Brooks yard resident temporary access
- → W3B-T-073 Rev. P02 - 13.06.2024 - Temporary Haul Road – Long Section
- → 151667-TSA-36-MDL1-DRG-D-HW-078503 Rev. P03 - 19.04.2024 - MDL1-9 Thornhill Rd & Fall Ln Proposed Highway Geometry General Arrangement
- → 151667-TSA-35-MDL1-DRG-R-SE-021108 Rev. P01 - 03.09.2021 - W3 Lineside Civils Accesses Fall Lane Road RRAP General Arrangement
- → 161464-01 - May 2024 - Visibility Splays
- → 151667-TSA-00-TRU-REP-W-EN-001472 - 15.02.2024 - Land off Fall Lane – Provision of temporary parking area for residents and associated access road, Planning Supporting Statement
- → K14-9SE/10 - 08.05.2024 - Consultation Response from KC Highways Development Management
- → A Stage 1 Road Safety Audit Brief (Ref 161464-001-02) signed by Kirklees Council dated 17 June 2024

1.6 Reference to the Audit Brief under the Collision Data section there have been no recorded accidents in the vicinity of the access on Fall Lane in the 5-year period 2018 to 2022.

1.7 The Audit took place on site on Friday 21 June 2024 in the early morning. During the site visit the weather was dray and sunny. The road surface was dry. Vehicle, pedestrian and cycle flows appeared normal along Fall Lane given its hierarchy in the road network. Pedestrians and a mobility scooter were observed using the southern footway. Cyclists were observed travelling with the one way traffic flow (towards Thornhill Road). No cyclists were seen cycling up hill on the contra-flow cycle lane although it was effectively obstructed in three locations by traffic cones /signs around recent excavations in the carriageway (adjacent to the cycle lane) and for traffic management. No incidents were observed on the street.

1.8 The terms of reference of the Road Safety Audit are as described in GG119. The team has examined the works and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the works to any other criteria.

1.9 All of the problems described in Section 2 of this report are considered by the Audit Team to require action in order to improve the safety of the scheme. However, any recommendation included within this report should not be regarded as being a prescriptive design solution to the problem raised. They are intended only to indicate a proportionate means of eliminating or mitigating the identified problem. It is noted that there may be alternative methods of addressing a problem that would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

1.10 A marked up plan is included in **Appendix A**, which identifies the approximate location of problems that have been raised. General problems or those with multiple locations have not all been shown.

1.11 Following the completion of the Road Safety Audit, the design team should prepare a *'Road Safety Audit Response Report'* in collaboration with the Overseeing Organisation. The response report should incorporate the following:

- → Decision Log spreadsheet, where each Problem and Recommendation in the Road Safety Audit report is reiterated;
- → In the Decision Log, a response should be provided by the Design Team and then by the Overseeing Organisation for each problem raised. This should then be followed by an agreed action.

Further information to assist the preparation of the Road Safety Audit Response Report is provided in **GG119 Sections 4.11 to 4.19 and Appendix F** (that includes a Road Safety Audit Response Report template). In accordance with GG119, the response report should be produced and finalised within one month of the issue of the Road Safety Audit report. A copy of the response report should be issued to the Road Safety Audit Team for information.

2. Items Raised for this Stage 1 Road Safety Audit

2.1 The problems that are raised in the Stage 1 Road Safety Audit are presented in this section. A copy of a marked-up plan showing Stage 1 RSA problem locations is included in **Appendix A** of this Audit Report.

Problem 1.1:

Location: Temporary Haul Road connection with Fall Lane carriageway.

Summary: Drawing 7722-26 Rev. C0 – shows the provision of a transition ramp against the kerb rather providing dropped kerbs.

The kerb face at this location is less than the typical kerb height of 0.1m to 0.125m and is estimated at around 0.05 – 0.06m. A typical gradient of 1 in 20 over 50mm rise would produce a ramp length of 1.0m (less any reduction caused by the cambered road profile). The concern is that a ramp of these dimensions would create a hazard in the wheel track of vehicles and in particular cyclists / powered two wheelers who would need to negotiate the leading and trailing edges of the ramp in conjunction with the carriageway long fall and cross fall on the ramp. This could lead to a cyclist or riders of powered two wheelers becoming unseated or swerving to avoid the ramp obstruction. Alternatively cyclists / powered two wheelers could endeavour to go round the obstruction forcing passing vehicles in to the hatched area or head on in to a cyclist using the contra flow cycle lane.

Recommendation: Provide dropped kerbs and adjust the footway surface level. Alternately, if this cannot be accommodated because of the services in the footway provide road markings to taper the running lane passed the transition ramp together with appropriate traffic management measures on the assumption that there is sufficient lane width taking in to account the mix of vehicles including cyclists / powered two wheelers and the proximity of the contra flow cycle lane.

Problem 1.2:

Location: Temporary Haul Road connection with Fall Lane carriageway.

Summary: No details have been shown to prevent surface water in the channel fanning out into the carriageway to bypass the transition ramp.

Whilst it is recognised that this is a stage 1 RSA no details of proposed highway drainage have been provided prevent surface water in the channel fanning out into the carriageway to bypass the transition ramp. It is recognised that there is an existing gully a short distance before the proposed transition ramp but some water would still potentially bypass the ramp which would be in the wheel tracks of vehicles. The concern is that if adequate drainage is not provided it could lead to skid or loss of control incidents in the carriageway during periods of inclement weather. It is noted that that vehicles could also be braking in this area on a downhill approach to the end of queues developing from the traffic signals on Thornhill Road.

Recommendation: provide appropriate drainage to intercept surface water in the channel before it is deflected into the carriageway or alternatively bypass the ramp in an appropriate manner. It should be ensured that the existing gully is in effective working order.

Problem 1.3:

Location: Temporary Haul Road connection with Fall Lane carriageway.

Summary: There is an existing traffic signal loop in the carriageway surface adjacent to the proposed temporary haul road junction.

The proposed transition ramp could increase the surface course cover over the loop or cut the wire when the edges of the ramp are cut into the existing surface. The concern is that this could affect the operation of the loop for the signalised junction. This could lead to vehicle conflicts at the junction and queues on Fall Lane.

Recommendation: undertake appropriate works to the loop to ensure that it is not disturbed and remains operational and in also in an appropriate location relative the centre of the traffic running lane (see also Problem 1.1).

Problem 1.4:

Location: Temporary Haul Road connection with Fall Lane carriageway.

Summary: No details have been shown to prevent surface water on the haul road running over the footway and into the carriageway the channel.

Whilst it is recognised that this is a stage 1 RSA no details of proposed surface drainage details have been provided to prevent surface water on the haul road (which slopes to Fall Lane) running over the footway into the carriageway. The next highway gully is at the Fearnley Street junction and if this gully is not effective in intercepting all surface and some overshoots there are no further gullies in the signalised junction area. The concern is that if adequate drainage is not provided it could lead to skid or loss of control incidents in the carriageway during periods of inclement weather and where vehicles could be braking to join the queue at the traffic signal junction.

Recommendation: provide appropriate drainage to intercept surface water before it discharges off the haul road into the carriageway. It should be ensured that the existing gully is in effective working order.

Problem 1.5:

Location: Temporary Haul Road as it crosses Fearnley Street.

Summary: No details have been shown to prevent surface water from the eastern end of the haul road running into Fearnley Street.

Whilst it is recognised that this is a stage 1 RSA no details of proposed surface drainage details have been provided to prevent surface water on the haul road (which slopes to Fearnley Street) running onto the carriageway. The next highway gully is at the Fearnley Street / Fall Lane junction. If this gully is not effective in intercepting all surface water and some could overshoot into Fall Lane where there is only one further gully before the signalised junction area. (Read in conjunction with Problem 1.3) The concern is that if adequate drainage is not provided it could lead to skid or loss of control incidents in the carriageway during periods of inclement weather and where vehicles could be braking to join the queue at the traffic signal junction.

Recommendation: Provide appropriate drainage to intercept surface water before it discharges off the haul road / Feanley Road into the Fall Lane carriageway. It should be ensured that the existing gullies are in effective working order.

3. Audit Team Statement

3.1 We certify that the terms of reference of the audit are as described in GG119.

Audit Team Leader:

David Colley MCIHT

Highways England Approved RSA Certificate of Competency

Associate Director at Sanderson Associates Consulting Engineers

Signed: D.J. Colley Dated: 24th June 2024

Audit Team Members:

Ashley Armitage MIHE

Assistant Engineer at Sanderson Associates Consulting Engineers

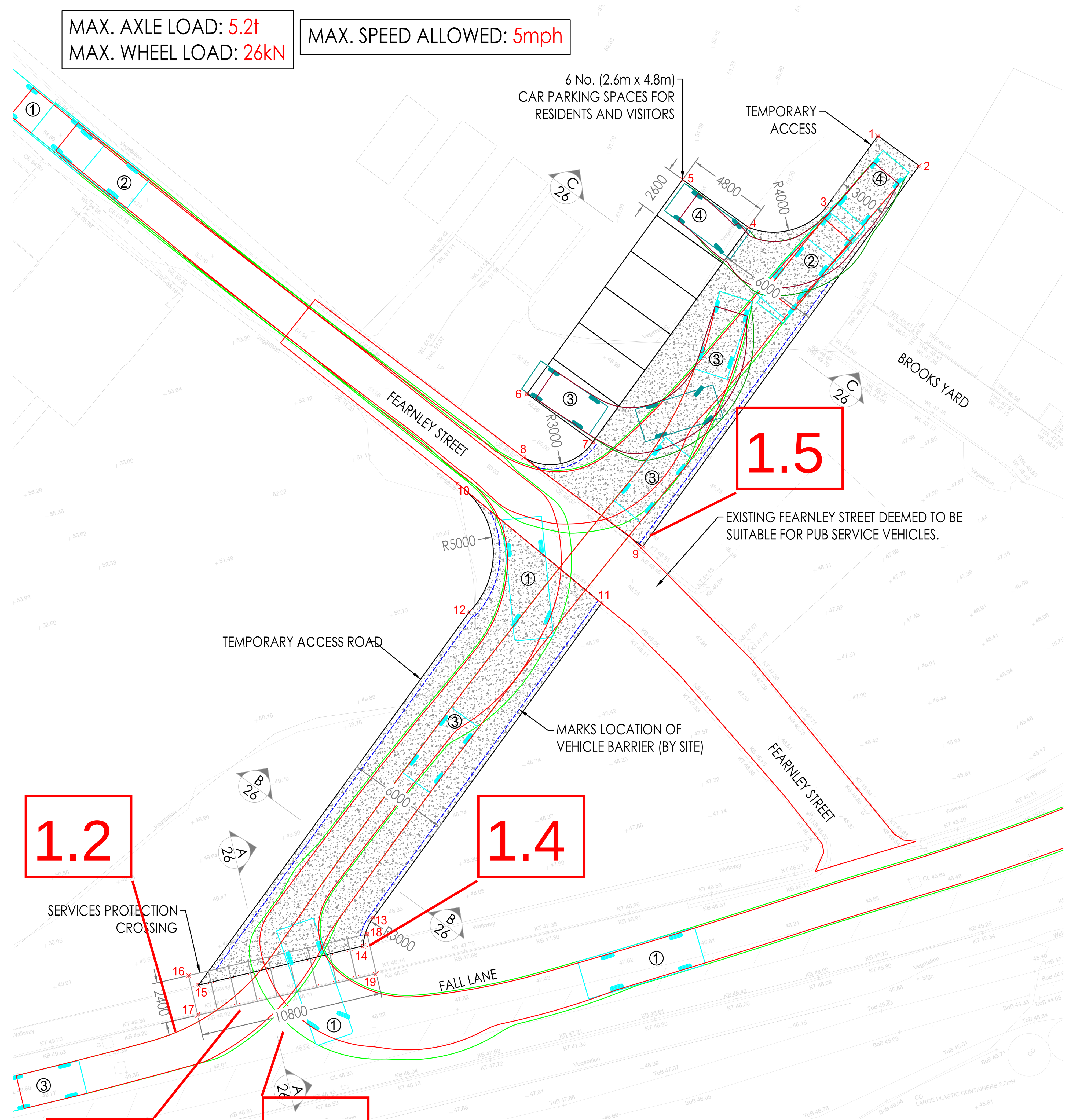
Signed: Dated: 24th June 2024

Appendix A

Stage 1 RSA Mark-up plan.

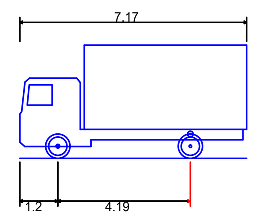
MAX. AXLE LOAD: 5.2t
MAX. WHEEL LOAD: 26kN

MAX. SPEED ALLOWED: 5mph



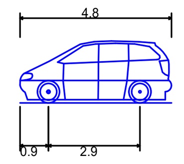
ACCESS ROAD LAYOUT
1:200

ACCESS ROAD DESIGNED FOR THE VEHICLES BELOW:



FTA Design 7.5 Tonne Rigid Vehicle (2016)

Overall Length	7.170m
Overall Width	2.300m
Overall Body Height	3.580m
Min Body Ground Clearance	0.375m
Track Width	2.120m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	7.000m



Standard Design Vehicle (SDV)

Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
Min Body Ground Clearance	0.100m
Track Width	2.000m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	6.000m

ID POINT	EASTING	NORTHING
1	243337.4945	428340.6337
2	243339.9222	428338.8712
3	243334.4101	428336.3853
4	243329.8713	428335.2400
5	243325.9870	428338.0601
6	243316.8218	428325.4363
7	243320.7061	428322.6163
8	243316.6340	428321.6951
9	243323.6354	428316.4384
10	243312.7719	428320.1141
11	243321.2175	428313.1081
12	243313.4276	428312.5913
13	243307.7440	428294.5504
14	243307.1744	428292.9153
15	243297.4635	428290.6029
16	243296.8806	428291.1696
17	243297.4239	428288.8319
18	243307.4002	428293.6146
19	243307.9435	428291.2769

ACCESS ROAD SETTING OUT POINTS

Type of Compaction Plant	Category	Minimum number of passes [N] for maximum layer depths [D]		
Vibratory roller	Mass per metre width of vibratory roll	D = 110mm	D = 150mm	D = 250mm
	700 - 1300kg	16	N/A	N/A
	1300 - 1800kg	6	16	N/A
	1800 - 2300kg	4	6	12
	2300 - 2900kg	3	5	11
	2900 - 3600kg	3	5	10
	3600 - 4300kg	2	4	8
	4300 - 5000kg	2	4	7
	over 5000kg	2	3	6
Vibrating plate compactor	Mass per m^2 of base plate	D = 110mm	D = 150mm	D = 250mm
	1400 - 1800kg	8	N/A	N/A
	1800 - 2100kg	5	8	N/A
	over 2100kg	3	6	12
Vibro-tamper	Mass	D = 110mm	D = 150mm	D = 250mm
	50 - 65kg	4	8	N/A
	65 - 75kg	3	6	12
	75 - 100kg	2	4	10
	over 100kg	2	4	10
Power rammer	Mass	D = 110mm	D = 150mm	D = 250mm
	100 - 500kg	5	8	N/A
	over 500kg	5	8	14

TABLE 1 - COMPACTION REQUIREMENTS

GENERAL NOTES:

This drawing is the property of Independent Design House and no reproduction or disclosure thereof may be made in whole or in part without written permission.

This drawing has been prepared from information supplied to us by our Client / the Contractor and where necessary through direct site measurement by IDH. All information within this drawing is subject to checking by our Client and the Contractor to ensure the requirements have been correctly interpreted. The Client & Contractor must satisfy themselves that all dimensions, setting out, component selection, bay sizes, lift heights, loadings, reactions, erection / striking sequences, access & egress etc., are as required and practicable.

Details and approach shown within this design are only relevant to this specific Project. Adopting details or approaches shown within this design to other applications, no matter how similar, can place you and other personnel at serious risk.

1. No alterations shall be made to the design without the approval of the IDH Design Office
2. Responsibility for and inspection and Certification of the erected equipment shall be that of the Erectors.
3. The arrangement of equipment shown on this drawing applies only to this specific application.
4. Read this drawing in conjunction with the quotation and the Terms and Conditions of Trading.
5. This drawing and the information it contains is the property of Independent Design House.

EXISTING STRUCTURE & FOUNDATIONS:
Our Client / the Contractor / Structural Engineer is to ensure that the existing structure, it's fabric and the ground will safely support the imposed loads unless identified by IDH.

No assessment of the ground conditions have been made in this design and it remains the responsibility of our Client, the Contractor or Structural Engineer to undertake this exercise and confirm suitability or state an allowable bearing pressure IDH can work to unless otherwise identified by IDH.

No assessment has been made of the existing structure to determine whether it can safely support the indicated imposed loads as this is beyond our knowledge and remains the responsibility of our Client, the Contractor or Structural Engineer otherwise unless identified by IDH.

Our Client or the Contractor must prepare all foundations and enabling works to line and level as indicated in this drawing prior to erection. No excavations are to occur in the proximity of the erected structure without prior consent of IDH.

MATERIALS:
Proprietary equipment to be installed and used in in accordance with manufacturer's recommendations.

ALTERATIONS & CHANGES:
No alterations or change of use without prior written confirmation from IDH.
Client to inform IDH immediately of any inaccuracies within this design, changes to site conditions or changes to scope.

The Client / Contractor must verify all site dimensions and notify of any discrepancies prior to erection.

PERMITS AND PERMISSIONS:
The Client / Contractor must obtain all permits and permissions prior to erection.

CONSTRUCTION NOTES

1. Drawings are not to be scaled.
2. All dimensions are in mm.
3. All making good by Contractor.

RESIDUAL RISK NOTES:
It is not the policy of IDH to prepare specific Designer Risk Assessments as design risks are identified within the drawing. Where risks cannot be eliminated and inherently reside within the scheme they are classified as 'Residual Risks' and will be identified with a warning triangle:

⚠ IF IN DOUBT ASK ⚠

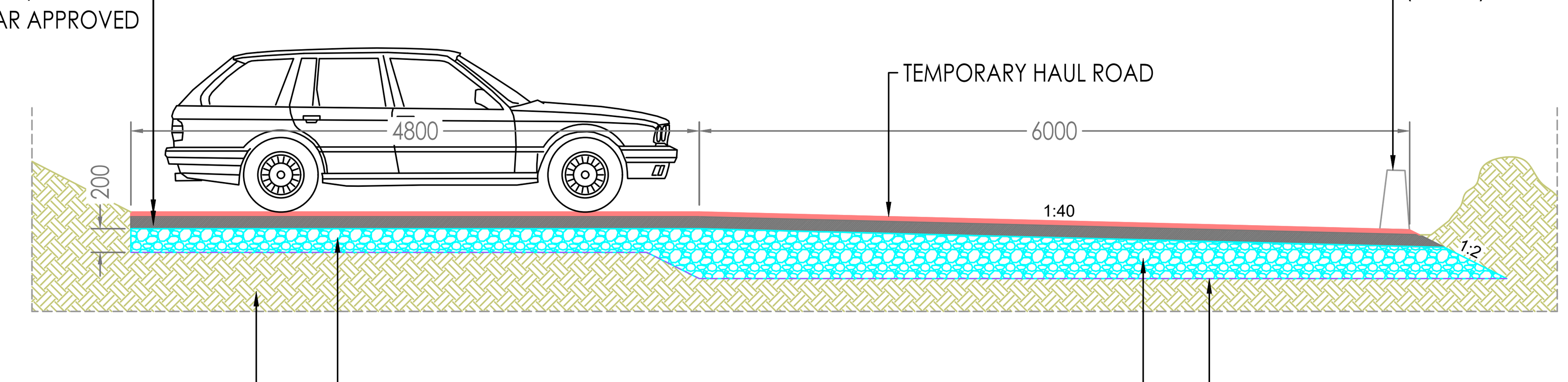
REFER TO ASPHALT STANDARDS: BS EN 13108-1 & BS EN 13108-5.
REFER TO ANCHORS' MANUFACTURER.
REFER TO ROAD PLATE SUPPLIER.
REFER TO SERIES 600 & 900 SPECIFICATION FOR HIGHWAY WORKS.

THE FOOTPRINT OF THE ROAD AND THE CAR PARKING AREA,WITH ALLOWABLE WORKING ROOM, TO BE TOP SOIL STRIPPED DOWN TO FORMATION / BEARING STRATA.

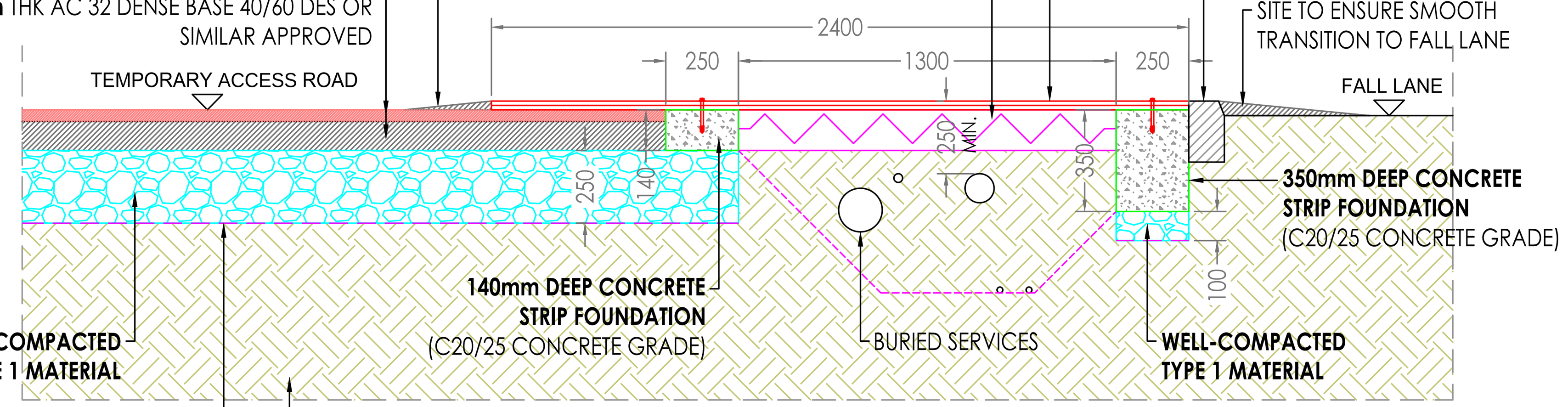
SOFT SPOTS TO BE EXCAVATED AND BACKFILLED WITH AN APPROVED CRUSHED MATERIAL E.G. DoT TYPE 1 OR 6F2.

THE METHOD OF PROTECTION SLAB INSTALLATION SHALL BE CONFIRMED BY SUBMISSION OF A FORMAL WRITTEN METHOD STATEMENT FROM THE CONTRACTOR TO THE SERVICES OWNER.

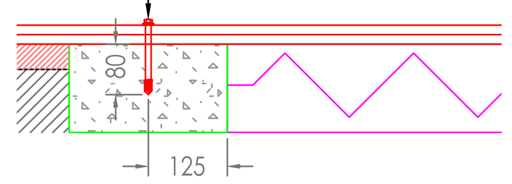
DESIGN TO BE APPROVED BY UTILITY OWNERS.



SECTION C-C
1:50

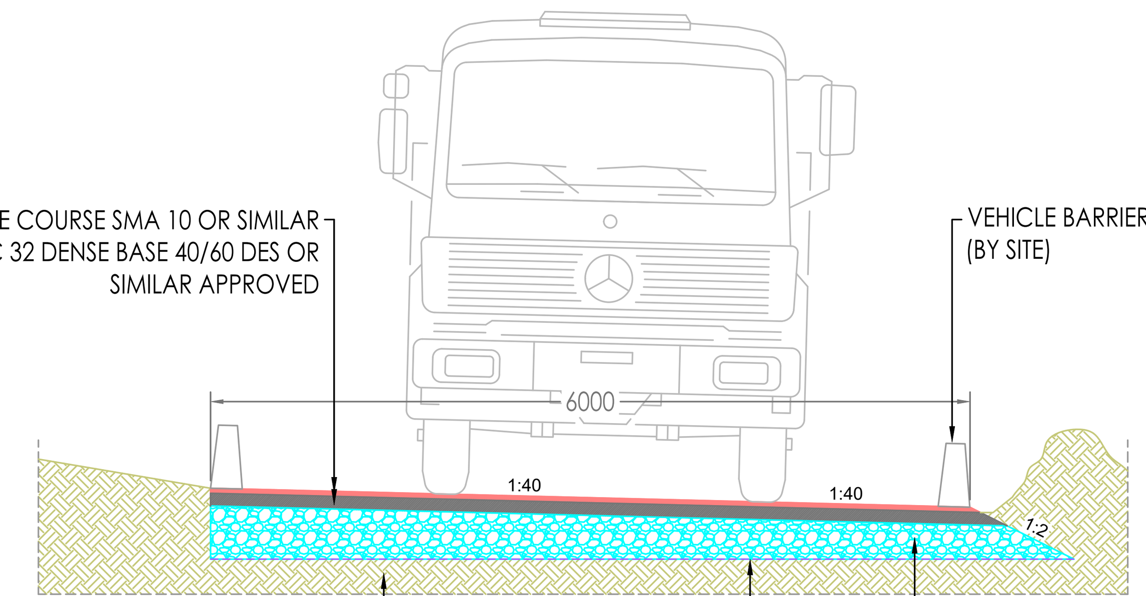


SECTION A-A
1:20

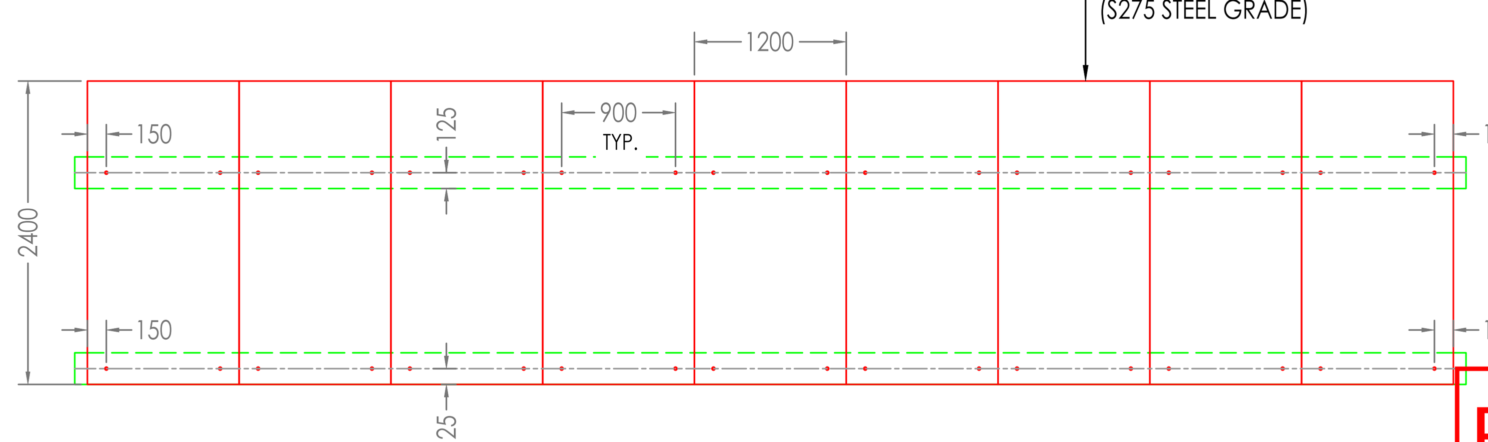


FIXINGS TYPICAL DETAIL
1:10

NOTE: ANCHOR TO FIT TIGHTLY WITH THE PLATE, ANY OVERSIZED HOLES TO BE FILLED WITH RESIN MATERIAL OR STEEL PACKERS IF REQUIRED. MIN. STEEL GRADE OF ROAD PLATES S275.



SECTION B-B
1:50



ROAD PLATES TYPICAL PLAN VIEW
1:50

Road Safety Audit St 1
Marked up plan

NOTES:
1. ALL DIMENSIONS ARE IN MM.
2. DO NOT SCALE FROM THE DRAWING.
3. CONCRETE SHALL BE MINIMUM STRENGTH CLASS C20/25 TO BS EN 206: 2013.
4. STEELWORK SHALL BE GRADE S275 TO BS EN 10025-2: 2004.
5. ANCHORS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

REV	DATE	DESCRIPTION	DRN	CHK
C0	11/01/24	REVISED AS REQUESTED	TY	WF
P0	19/12/23	ISSUED FOR APPROVAL	TY	WF

For Construction

CLIENT
BAM CONSTRUCT & VENTURES UK LTD

PROJECT
TRANSPENNINE ROUTE UPGRADE

DRG TITLE
TEMPORARY ACCESS ROAD AND SERVICES PROTECTION DESIGN

Independent Design House
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BAHRAIN OFFICE Tel: +966 736 1868 info@idh-design.com www.idh-design.com

DRG NO	REV	SCALE	DRN	DATE	CHK	DATE
7722-26	C0	As Shown @ A1	TY	11/01/24	WF	11/01/24

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