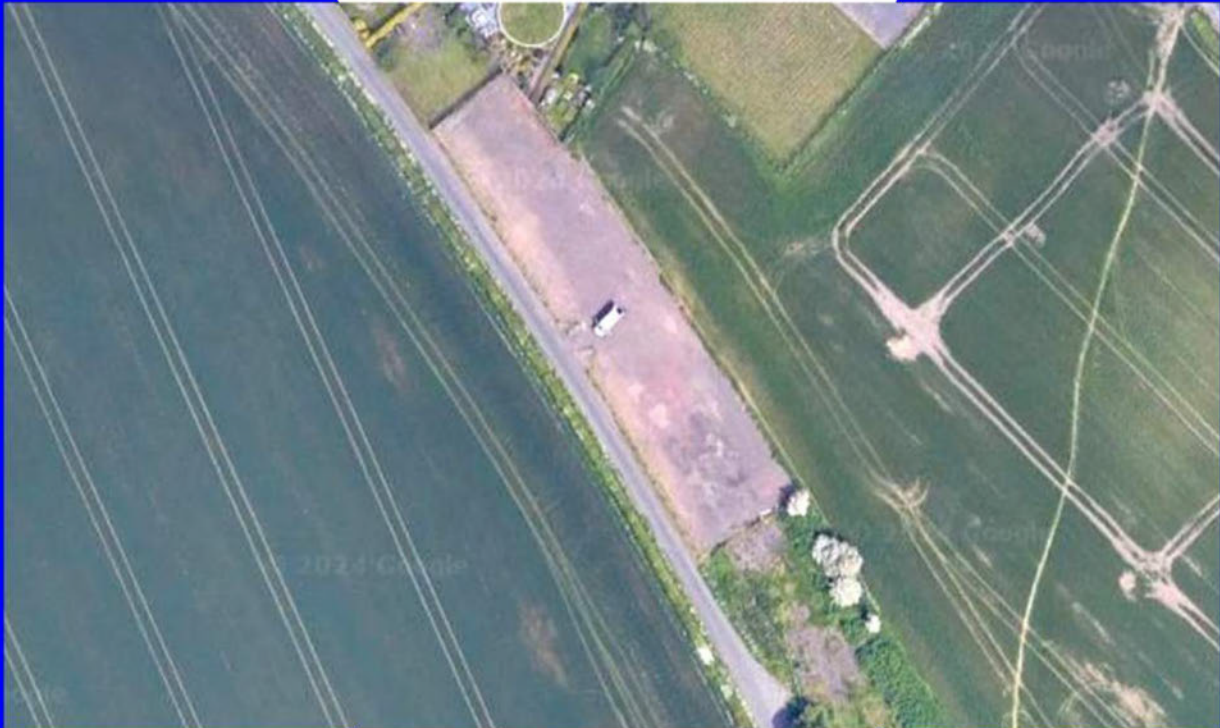


ACCESS ASSESSMENT ADDENDUM

**CHANGE OF USE OF LAND
TO TRAVELLER SITE WITH 4 PITCHES
AT
STRYT Y BYDDEN
NEW BROUGHTON WREXHAM**



**FOR
PATRICK BERRY**

REPORT VERIFICATION

SITE ADDRESS	Stryt Y Bydden New Broughton Wrexham LL11 6SN
REPORT TITLE	Access Assessment Addendum
JOB NUMBER	963-24
PREPARED BY	JRS

ISSUE NO.	DATE	STATUS	REPORT VERSION	ISSUED BY
1	09-01-25	for Planning	01	JRS

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APPENDICES

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1. BRIEF

- 1.1. Sumner Consultancy has been appointed by Patrick Berry to carry out an access assessment for his proposal change of use of his land to a traveller site with 4 pitches. Following the submission of the Access Assessment the Highway Authority made a number of comments and this addendum is provided to address these comments. A copy of the Memorandum from the Chief Officer, Environment & Technical from Wrexham Council dated 21-10-24 is in Appendix 1.

2. WREXHAM COUNCIL COMMENTS

- 2.1. *Passing places noted should be demonstrated with swept path analysis reflecting HGV's and vans that have potential to be passing on the road.*

A swept path analysis for a 11.6m long Dennis Eagle refuse vehicle passing a 4.599m long Land Rover are shown on Vehicle Swept Paths drawing 963-24-70 in Appendix 2.

- 2.2. *Calculations should be provided demonstrating the additional traffic flow that would be created by this application as a percentage increase along Stryt y Bydden.*

- 2.2.1. A vehicle count took place adjoining the Site access commencing on 05-11-24 until 11-11-24, and a copy of the results 963-24 Peak Vehicle Movements 08:00 & 17:00 are in Appendix 3.
- 2.2.2. To obtain the possible traffic generation for the Site for Residential Accommodation the TRICS Database was assessed based on the number of units during a week.
- 2.2.3. In the TRICS Database, the 7 most appropriate sites from Land Use 03 – Residential – Mixed Private-Affordable Housing for weekdays were analysed with unit numbers between 14 & 22. A copy of the TRICS Database Results are in Appendix 4.
- 2.2.4. The Trip Rate Calculations for the peak hours for the 7 sites during 7 days are in Appendix 5.
- 2.2.5. If the weekday am peak hour is between 08:00 - 09:00, and the pm peak hour is 17:00 - 18:00 then the number of vehicles arriving and departing the Site are calculated to be:

VEHICLES	AM 08:00 – 09:00	PM 17:00 – 18:00	TOTAL
Arriving	0.8	1.1	1.9
Departing	1.1	1.1	2.2
Total	1.9	2.2	4.1

- 2.2.6. From the vehicle count for the 5-day peak hours for 08:00 and 17:00 the number of vehicles passing the site are:

VEHICLES	AM 08:00	PM 17:00	TOTAL
NW Bound	0	3	3
SE Bound	94	9	103
Total	94	12	106

- 2.2.7. The additional percentage traffic flow created by the development will therefore be 4.0%

- 2.3. *There are no dimensions shown on the proposed site entrance drawing prior to the LHA being able to approve or otherwise. Swept path analysis should also be provided to show that an 11.5m long refuse wagon and average family car could pass at the entrance.*

The dimension for the proposed site entrance are shown on Construction Proposals drawing 963-24-20 in Appendix 6.

A swept path analysis for a 11.6m long refuse vehicle passing a family car is shown on Vehicle Swept Paths drawing 963-24-70 in Appendix 2.

- 2.4. *Active travel improvements. Pedestrians and cycling access via An illuminated footpath and cycle way to and from neighbouring streets should be provided to standards. These are as set out in Welsh Government guidelines on active travel.*

2.4.1. This is an extremely excessive request. The nearest public footpath is 107m to the south-east of the Site. The public footpath from Stryt y Bydden then goes in a north-easterly direction across an open field to the B5101 Berse Road. I'm sure the farmer/landowner would not be happy with an illuminated footpath and cycleway crossing their field.

2.4.2. The closest footway to the Site is 325m to the north-west along Berslam Road.

2.4.3. The closest cycleway to the Site would appear to be on the western side of Wrexham approximately 1350m to the south-east of the Site.

- 2.5. *Approval of the drainage proposal can only be accepted by the local highways authority on receipt of witnessed soakway testing and design to BRE industry accepted standards. It is noted that the applicant should apply for sab officer approval and that this site will require a sab surface water drainage application.*

2.5.1. Porosity tests were carried out by Clarke Contractors on 15th & 16th February 2024 in accordance with the procedures in Building Regulations H Drainage & Waste Disposal 2015 Paragraphs 1.34 to 1.38. A copy of the Soakaway Porosity Test Results are in Appendix 7.

2.5.2. Building Regulations H Drainage & Waste Disposal 2015 states:
Paragraph 3.26 - Soakaways for areas less than 100m².
Paragraph 3.28 - Percolation tests should be carried out to determine the capacity of the soil (see approved Document H2 paragraphs 1.34 to 1.38.

2.5.3. The area of the proposed access impermeable surfacing is only 47m², which is less than 100m² and therefore is considered an acceptable test procedure and carrying out a test to BRE Digest is in this instant not necessary.

2.5.4. The design for the surface water is shown on Surface Water Drainage drawing 963-24-15 in Appendix 8.

2.5.5. The calculations for the proposed soakaway based on an average Vp of 17 (2.491x10⁻⁵ m/hr), 963-24 SW Calculations 02 are in Appendix 9.

2.5.6. The construction details for the surface water drainage are shown on Construction Details drawing 963-24-35 in Appendix 10.

- 2.6. *If the entrance widening is proposed as a passing place, Increased surfaced highway Construction to highways standards Should be provided along The length and width of the visibility splays. This should be clarified and noted on updated drawings.*

2.6.1. The entrance proposals are shown on Construction Proposals drawing 963-24-20 in Appendix 6.

- 2.6.2. In respect of the specification for the passing places a search was made on Wrexham County Borough Council's website for the construction specification for an adoptable highway, however no specification could be found.
- 2.6.3. An email was therefore sent to highwayroadworks@wrexham.gov.uk on 20-11-24 requesting a specification. A reply was received from Cerys Jones on 21-11-24 saying that *"unfortunately the Design Guide is currently being updated. Can you please advise me which site you are referring to in your email and I can forward your request to the relevant Development Control Engineer"*.
- 2.6.4. Despite several emails to Cerys, who has been very helpful and doing his best, I have not been contacted by the Highway Engineer, which is disappointing.
- 2.6.5. I have therefore made an assumption on the specification based on a specification from a neighboring Highway Authority, and the construction details are shown on the Construction Details drawing 963-24-35 in Appendix 10.
- 2.7. *Does the footpath on the on the south eastern boundary fall within the applicants title? To comply with Sustainable development and Active Travel guidelines, improvements to this footpath with surfacing, illumination and ped/cycle segregation improving the links to Wrexham City Centre via the old railway line active travel route.*
- The to the south-east of the Site does not fall within the applicant's title.
- 2.8. *We also request provision of a footpath along the frontage of the site to demonstrate an improvement to pedestrian access. Recent appeal evidence reinforced that development on lanes without footpaving cannot be supported without adequate improvements to pedestrian and cycle routes to mitigate the risks.*
- 2.8.1. I cannot see the reason for this excessive request. The length of the site road frontage is 90m, and the nearest footway from the north-western corner of the Site is 290m to the north-west along Berslam Road. Who will then be constructing a 290m long footway along Stryt y Bydden?
- 2.8.2. The nearest footway from the south-eastern corner of the Site south-east of the Site is 655m to the south along the A525. Again, who will then be constructing a 655m long footway along Stryt y Bydden?
- 2.8.3. In conclusion to this point and Paragraph 2.4, it is totally impractical to provide a footway along the site road frontage when the closest footway is 290m away. Pedestrians would only have a short distance to walk along the footway before having to step off into the road to the detriment of pedestrian safety. The same also applies in a south-easterly direction.

John Sumner IEng MICE
Director
Sumner Consultancy Ltd
January 2025

APPENDIX 1

**MEMORANDUM FROM THE CHIEF OFFICER,
ENVIRONMENT & TECHNICAL FROM
WREXHAM COUNCIL DATED 21-10-24**

MEMORANDUM



From:	Chief Officer, Environment & Technical	To:	Chief Officer Economy & Planning
		FAO::	Matthew Phillips
Our Ref:	ET/DC/P/2023/0865 Rev A Reconsult	Your Ref:	P/2023/0865
Date:	21 st Oct 2024		

TOWN AND COUNTRY PLANNING ACT 1990

NEWID DEFNYDD TIR I SAFLE I DEITHWYR GYDA 4 LLAIN / CHANGE OF USE OF LAND TO TRAVELLER SITE WITH 4 PITCHES

LAND AT STRYT Y BYDDEN NEW BROUGHTON WREXHAM

Grid Ref: E 331430 N 350770

I refer to your consultation / email dated 05/01/2024 in respect of the above.

Stryt y Bydden is a rural classified road subject to National Speed Limit (up to 60 mph).

We acknowledge receipt of the following additional information in response to the Local Highway Authority (LHA) Consultation response dated 2nd Feb 2024:

- Sumner consultancy access statement dated 5th of September version.01
- Drawing 71353 1001 Rev A. Proposed Block Plan with Drainage
- Drwg 71353 1004 Rev A. Entrance Construction and Details.

It is noted within the report that the roadway is 3.9m wide outside the site

We agree with the estimated 85th percentile speeds assessed, which are 30 mph from the Northwest and 22 mph approaching from the bend to the Southeast.

Consequently, the calculation for the visibility splays is accepted but all site layouts should be updated and re-issued to show the laurel hedging and fencing set back outside the visibility splays. Whilst the hedging may currently be below 1.05 m in height, they have potential to grow and cannot be cut during summer months. So the potential risk should be avoided by relocating, as is noted in the access statement.

Passing places noted should be demonstrated with swept path analysis reflecting HGV's and vans that have potential to be passing on the road.

Calculations should be provided demonstrating the additional traffic flow that would be created by this application as a percentage increase along Stryt y Bydden.

There are no dimensions shown on the proposed site entrance drawing prior to the LHA being able to approve or otherwise. Swept path analysis should also be provided to show that an 11.5m long refuse wagon and average family car could pass at the entrance.

No references are made within the proposals for the following:

Refuse collection. This should be agreed with WCBC refuse collection Department and details of collection points shown on the plan.

Active travel improvements. Pedestrians and cycling access via An illuminated footpath and cycle way to and from neighbouring streets should be provided to standards. These are as set out in Welsh Government guidelines on active travel.

Approval of the drainage proposal can only be accepted by the local highways authority on receipt of witnessed soakway testing and design to BRE industry accepted standards. It is noted that the applicant should apply for sub officer approval and that this site will require a sub surface water drainage application.

If the entrance widening is proposed as a passing place, Increased surfaced highway Construction to highways standards Should be provided along The length and width of the visibility splays. This should be clarified and noted on updated drawings.

Does the footpath on the on the south eastern boundary fall within the applicants title? To comply with Sustainable development and Active Travel guidelines, improvements to this footpath with surfacing, illumination and ped/cycle segregation improving the links to Wrexham City Centre via the old railway line active travel route. We also request provision of a footpath along the frontage of the site to demonstrate an improvement to pedestrian access. Recent appeal evidence reinforced that development on lanes without footpaving cannot be supported without adequate improvements to pedestrian and cycle routes to mitigate the risks.

The site plan should be annotated to show numbered parking provision in accordance with LPG16. Adequate vehicular access and separate pedestrian and cycle access around the site should be highlighted on the plan in accordance with industry standards demonstrating how delivery vans, visitors, refuse collection etc can all access and enter and leave in a forward gear.

Surface materials and drainage should also be added to the design.

Is there any provision for disabled spaces and access?

Conclusion

Further design information is required to enable the local highways authority to remove objections to the proposals submitted to date.

It is noted that the applicant has already commenced works adjacent to the highway in advance of gaining planning permission. Should the applicant carry out any additional works on or immediately adjacent to the adopted highway, we request the applicant is reminded of the procedures when working on or adjacent to the public highway, and include the Standard Highway Advisory Notes below.



On behalf of The Chief Officer, Environment & Technical

Highways Development Control Standard Advisory Note

In the interests of maintaining highway safety, and to avoid obstruction of the public highway (in contravention of the Highways Act), The Applicant is advised to coordinate with the highway authority at highwayroadworks@wrexham.gov.uk in advance of commencement of the development/works with respect to:

1. Skip, scaffolding, hoarding or A frame/signage (Permit required for these items, if on the public highway);
2. Use of a parking space for a set down/delivery area;
3. Record a dilapidation survey of the adjacent carriageway prior to commencement (to avoid being asked to repair damage by the Applicant whilst carrying out their works);
4. If any lane closure or obstruction of the highway is required for a crane or similar;
5. Protection against dust and debris blowing onto the public highway
6. Construction traffic parking locally avoiding nuisance to others;
7. If the Applicant's scope of work includes new apparatus in the highway, such as new mains services then a Section 50 licence will be required. *Insurances and demonstration of competency to carry out works in the public highway will be required.*
8. Lowering of kerbs or minor pavement alterations require Section 184 agreement. *Insurances and demonstration of competency to carry out works in the public highway will be required.*
9. A section 278 agreement works agreement is required for more significant alterations to the existing highway
10. Any temporary works affecting traffic lights, [pedestrian/cycle road crossings, or bus stops require pre-planning and permits;
11. For applications with a private driveway (either existing or proposed) connecting onto the public highway, the following conditions of approval apply:
 - No surface water from the applicants site should be allowed to drain onto the public highway,
 - The first 5m* minimum (for residential property) should be hard paved, avoiding gravel or loose chippings from spreading.
 - No gate should be built in a location where it would result in a car obstructing the highway whilst being unlocked, and it should not swing out and over a pavement or any other part of the highway.

*The hard paved length and set back if required is subject to the applicants proposed vehicular length

The applicants should allow a minimum of 4 weeks' notice for any of the above standard requirements, and 6-8 weeks for lane closures & road closures (lead times may change without notice subject to workload and complexity). Any works involving Trunk roads should be coordinated separately and directly with the North & Mid Wales trunk Road Agency. For larger sites with a significant impact upon the highway, a Construction Traffic Management Plan will be required.

APPENDIX 2

VEHICLE SWEPT PATHS DRAWING 963-24-70

APPENDIX 3

963-24 PEAK VEHICLE MOVEMENTS 08:00 & 17:00

Wrexham ATC, Stryt y Bydden

Direction: Southeastbound

Hour	Tue	Wed	Thu	Fri	Sat	Sun	Mon	5-Day Ave.	7-Day Ave.
Beginning	05/11/2024	06/11/2024	07/11/2024	08/11/2024	09/11/2024	10/11/2024	11/11/2024		
00:00	0	1	0	0	0	0	1	0	0
01:00	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0
05:00	2	1	0	1	0	0	0	1	1
06:00	1	2	2	1	0	0	2	2	1
07:00	19	18	23	22	3	2	18	20	15
08:00	102	98	104	68	3	2	100	94	68
09:00	7	5	6	10	4	5	7	7	7
10:00	2	0	3	0	8	3	4	2	3
11:00	2	0	2	3	15	4	4	2	4
12:00	2	1	2	6	24	1	2	3	5
13:00	8	5	4	5	3	11	5	5	6
14:00	7	6	5	12	6	8	9	8	8
15:00	9	6	5	11	7	5	5	7	7
16:00	8	12	9	10	2	4	10	10	8
17:00	13	11	6	10	2	1	5	9	7
18:00	1	2	3	3	4	5	3	2	3
19:00	1	2	3	2	0	0	2	2	1
20:00	2	2	1	0	0	0	2	1	1
21:00	0	1	1	1	1	0	1	1	1
22:00	2	1	1	2	3	1	2	2	2
23:00	1	0	0	0	0	0	0	0	0
Total	180	164	172	160	81	51	174	170	140
12H(7-19)	184	171	179	164	82	51	181	176	145
16H(6-22)	187	172	180	166	85	52	183	178	146
24H(0-24)	189	174	180	167	85	52	184	179	147
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00
	102	98	104	68	3	2	100	94	68
PM Peak	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00
	13	11	6	10	2	1	5	9	7

Paul Castle Associates

Direction: Northwestbound

Hour	Tue	Wed	Thu	Fri	Sat	Sun	Mon	5-Day Ave.	7-Day Ave.
Beginning	05/11/2024	06/11/2024	07/11/2024	08/11/2024	09/11/2024	10/11/2024	11/11/2024		
00:00	0	0	1	0	0	1	0	0	0
01:00	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0
09:00	1	1	0	0	2	1	2	1	1
10:00	1	0	0	0	1	3	2	1	1
11:00	3	2	2	1	1	2	3	2	2
12:00	1	0	2	4	1	1	2	2	1
13:00	0	0	2	1	3	0	3	1	1
14:00	0	2	1	0	0	1	1	1	1
15:00	3	1	1	0	1	3	4	2	2
16:00	3	3	2	3	2	4	0	2	2
17:00	1	3	4	4	2	1	3	3	3
18:00	1	2	1	1	3	4	4	2	2
19:00	0	4	1	0	2	1	0	1	1
20:00	1	1	1	0	0	0	2	1	1
21:00	0	0	1	0	1	0	0	0	0
22:00	0	0	0	1	1	0	0	0	0
23:00	1	0	1	0	0	0	1	1	0
Total	14	12	15	14	15	19	24	16	16
12H(7-19)	15	17	18	14	18	20	26	18	18
16H(6-22)	16	17	19	15	19	20	27	19	19
24H(0-24)	16	17	20	15	19	21	27	19	19
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00
	0	0	0	0	0	0	0	0	0
PM Peak	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00
	1	3	4	4	2	1	3	3	3

Paul Castle Associates

APPENDIX 4

**TRICS DATABASE TRIP RATE 03
RESIDENTIAL – M MIXED
PRIVATE-AFFORDABLE HOUSING**

Filtering Summary

Land Use	03/M	RESIDENTIAL/MIXED PRIVATE/AFFORDABLE HOUSING
Selected Trip Rate Calculation Parameter Range	14-32 DWELLS	
Actual Trip Rate Calculation Parameter Range	16-32 DWELLS	
Date Range	Minimum: 01/01/11	Maximum: 16/11/16
Parking Spaces Range	All Surveys Included	
Percentage of dwellings privately owned:	All Surveys Included	
Days of the week selected	Tuesday	1
	Wednesday	1
	Thursday	1
	Friday	4
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	2
	Edge of Town	5
Population <1 Mile ranges selected	1,001 to 5,000	3
	25,001 to 50,000	4
Population <5 Mile ranges selected	5,001 to 25,000	3
	75,001 to 100,000	1
	250,001 to 500,000	3
Car Ownership <5 Mile ranges selected	0.6 to 1.0	5
	1.1 to 1.5	2
PTAL Rating	No PTAL Present	7

Calculation Reference: AUDIT-700101-190927-0947

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : M - MIXED PRIVATE/AFFORDABLE HOUSING
VEHICLES

Selected regions and areas:

05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	LE LEICESTERSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	2 days
09	NORTH	
	CB CUMBRIA	1 days
	TW TYNE & WEAR	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	MG MONAGHAN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
 Actual Range: 16 to 32 (units:)
 Range Selected by User: 14 to 32 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 16/11/16

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	1 days
Wednesday	1 days
Thursday	1 days
Friday	4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	6
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3

7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000

3 days

25,001 to 50,000

4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000

3 days

75,001 to 100,000

1 days

250,001 to 500,000

3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

5 days

1.1 to 1.5

2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

7 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

7 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

Site(1):	CB-03-M-04	Site area:	0.46 hect
Development Name:	SEMI-DETACHED & TERRACED	Number of dwellings:	20
Location:	CARLISLE	Housing density:	56
Postcode:	CA2 7BP	Total Bedrooms:	48
Main Location Type:	Suburban Area (PPS6 Out of Centre)	Survey Date:	24/06/16
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	n/a	Parking Spaces:	15
Site(2):	DS-03-M-01	Site area:	0.78 hect
Development Name:	TERRACED/SEMI DETACHED	Number of dwellings:	32
Location:	DERBY	Housing density:	54
Postcode:	DE24 8JQ	Total Bedrooms:	78
Main Location Type:	Suburban Area (PPS6 Out of Centre)	Survey Date:	21/10/14
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	n/a	Parking Spaces:	40
Site(3):	LE-03-M-01	Site area:	0.49 hect
Development Name:	SEMI DETACHED	Number of dwellings:	16
Location:	LEICESTER	Housing density:	38
Postcode:	LE3 6UP	Total Bedrooms:	42
Main Location Type:	Edge of Town	Survey Date:	27/09/12
Sub-Location Type:	Residential Zone	Survey Day:	Thursday
PTAL:	n/a	Parking Spaces:	18
Site(4):	MG-03-M-01	Site area:	0.47 hect
Development Name:	TERRACED & SEMI-DETACHED	Number of dwellings:	17
Location:	MONAGHAN	Housing density:	36
Postcode:		Total Bedrooms:	34
Main Location Type:	Edge of Town	Survey Date:	16/11/16
Sub-Location Type:	No Sub Category	Survey Day:	Wednesday
PTAL:	n/a	Parking Spaces:	29
Site(5):	MS-03-M-02	Site area:	0.75 hect
Development Name:	TERRACED	Number of dwellings:	27
Location:	LIVERPOOL	Housing density:	54
Postcode:	L24 3UH	Total Bedrooms:	79
Main Location Type:	Edge of Town	Survey Date:	21/06/13
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	n/a	Parking Spaces:	48
Site(6):	MS-03-M-03	Site area:	0.75 hect
Development Name:	SEMI DETACHED/TERRACED	Number of dwellings:	24
Location:	LIVERPOOL	Housing density:	53
Postcode:	L24 0SX	Total Bedrooms:	72
Main Location Type:	Edge of Town	Survey Date:	21/06/13
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	n/a	Parking Spaces:	11
Site(7):	TW-03-M-01	Site area:	1.57 hect
Development Name:	DETACHED & BUNGALOWS	Number of dwellings:	27
Location:	NEWCASTLE	Housing density:	20
Postcode:	NE5 1AF	Total Bedrooms:	110
Main Location Type:	Edge of Town	Survey Date:	13/11/15
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	n/a	Parking Spaces:	99

Trip Rates for Key Periods		Trips per 1 dwells DWELLS	
Period	Inbound	Outbound	Total
0800-0900	0.196	0.270	0.466
1700-1800	0.282	0.270	0.552

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING

VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	23	0.067	7	23	0.129	7	23	0.196
08:00 - 09:00	7	23	0.196	7	23	0.270	7	23	0.466
09:00 - 10:00	7	23	0.178	7	23	0.258	7	23	0.436
10:00 - 11:00	7	23	0.172	7	23	0.153	7	23	0.325
11:00 - 12:00	7	23	0.294	7	23	0.282	7	23	0.576
12:00 - 13:00	7	23	0.215	7	23	0.221	7	23	0.436
13:00 - 14:00	7	23	0.141	7	23	0.178	7	23	0.319
14:00 - 15:00	7	23	0.196	7	23	0.153	7	23	0.349
15:00 - 16:00	7	23	0.239	7	23	0.233	7	23	0.472
16:00 - 17:00	7	23	0.239	7	23	0.209	7	23	0.448
17:00 - 18:00	7	23	0.282	7	23	0.270	7	23	0.552
18:00 - 19:00	7	23	0.307	7	23	0.215	7	23	0.522
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.526			2.571			5.097

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 16 - 32 (units:)
Survey date range: 01/01/11 - 16/11/16
Number of weekdays (Monday-Friday): 7
Number of Saturdays: 0
Number of Sundays: 0
Surveys automatically removed from selection: 0
Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX 5

963-24 ANALYSIS - TRIP RATE CALCULATIONS 01

TRIP RATE CALCULATIONS



PROJECT **STRYT Y BYDDEN NEW BROUGHTON WREXHAM**

PROJECT No. **963-24**

DATABASE SITES

- a) Parameter – dwellings
- b) Calculated on average of the sites
- c) Vehicles only

TRIP RATE FOR LAND USE

03 Residential
M Mixed Private/Affordable Housing

VEHICLE TRIP RATE

Number of Houses 4

Morning Peak	08:00 - 09:00	0.466
Evening Peak	17:00 - 18:00	0.552

MORNING PEAK HOUR

	Peak Hour	Trip Rate
Arrivals	08:00 - 09:00	0.196
Departures	08:00 - 09:00	0.270
Total	08:00 - 09:00	0.466

EVENING PEAK HOUR

	Peak Hour	Trip Rate
Arrivals	17:00 - 18:00	0.282
Departures	17:00 - 18:00	0.270
Total	17:00 - 18:00	0.552

TRIP RATE

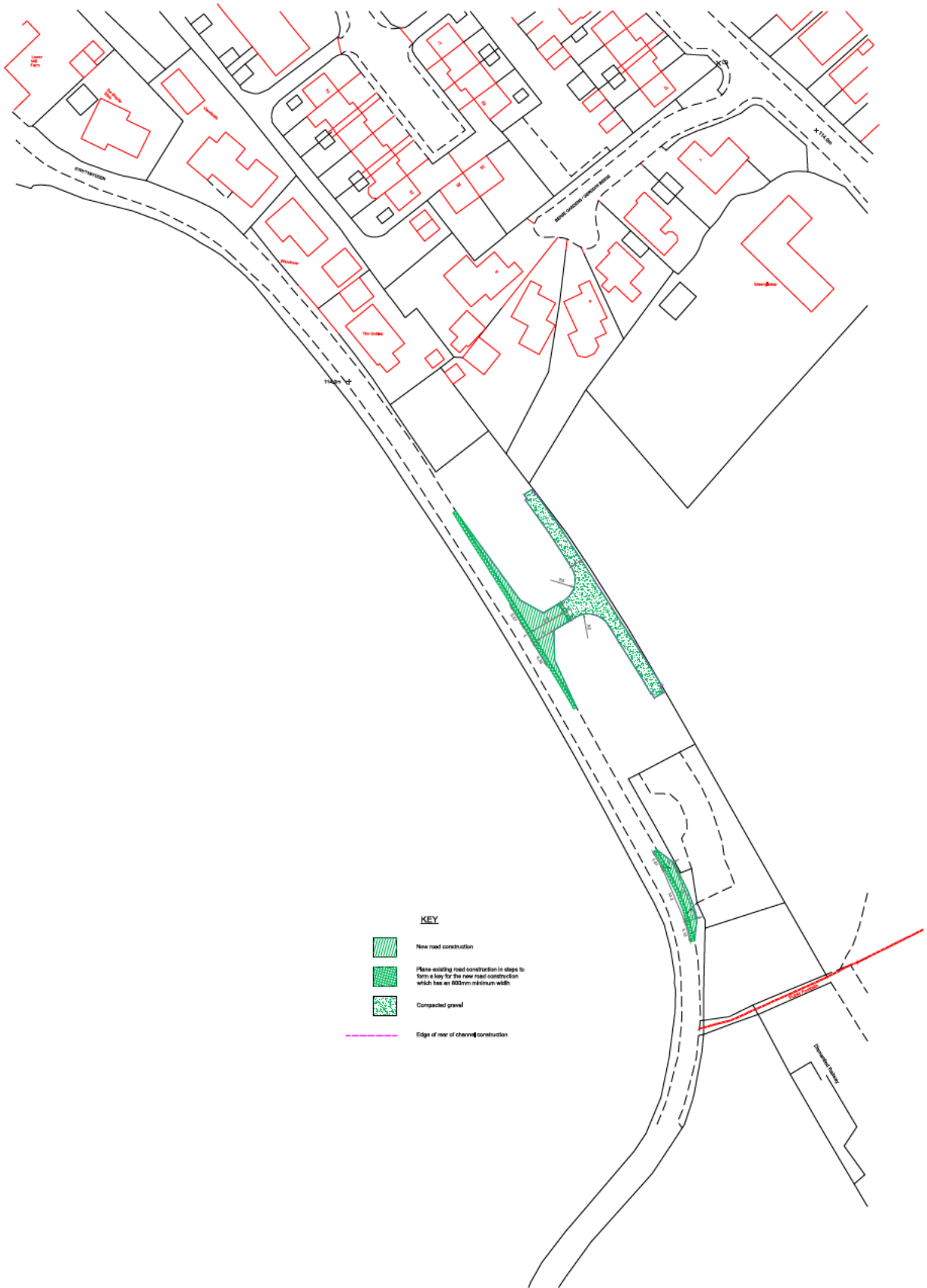
	Peak Hour	Vehicles
Arrivals	08:00 - 09:00	0.8
Departures	08:00 - 09:00	1.1
Total	08:00 - 09:00	1.9

TRIP RATE

	Peak Hour	Vehicles
Arrivals	17:00 - 18:00	1.1
Departures	17:00 - 18:00	1.1
Total	17:00 - 18:00	2.2

APPENDIX 6

CONSTRUCTION PROPOSALS DRAWING 963-24-20



Notes

1. Do not scale from this drawing.
2. All drawings are to be checked by the contractor and setting out engineer and must in conjunction with one another to ensure they are mutually compatible with each other before any setting out or construction commences.
In the event of apparent ambiguity or contradiction the engineer and/or architect shall be notified immediately. Summer Consultancy accepts no liability in the event of not being so notified and where construction work has commenced.
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4. All Highway works are to be constructed to the satisfaction of the Highway Authority, and in accordance with Wrexham Borough Council's Design Guide.

**ISSUED FOR PLANNING
NOT FOR CONSTRUCTION**

Revisions		
Rev	Date	Description

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Drawing Size: A1

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Client: **PATRICK BERRY**

Project: **STRYT Y BYDDEN NEW
BROUGHTON WREXHAM**

Drawing Title: **CONSTRUCTION PROPOSALS**

Scale: 1:500 Drawn by: JRS Date: November 2024

Drawing Number: **963-24-20** Revision:

APPENDIX 7

SOAKAWAY POROSITY TEST RESULTS

Porosity Test Record

Proposed Drainage: Possible Request for Soak aways from hard standing/fixed buildings

Location/Site: P Berry Site, Stryt Y Bydden, Caego, Wrexham LL11 6TQ

Undertaken By: Gareth Clarke & David Sharp Date: 15th February & 16th February 2024

Weather Conditions: Dig Day: Light rain Test Day: Sunny

2 trial Holes to be dug at invert level. 300mm x 300mm x 300mm. Dill with water on Dig day and leave overnight.

Test 1:.. Trial hole 3 was filled. Natural drainage from 75% to 25% too: 48 minutes = 2880 secs

.....

Test 2:.. trial Hole 3 was filled. Natural drainage from 75% to 25% took: 52 Minutes = 3120 Secs

.....

Test 3:.. Trial hole 4 was filled. Natural drainage from 75% to 25% took: 33 minutes = 1980 secs

.....

Average time taken for natural drainage from 75% to 25% (test 1+ test 2+ test 3 = ????) (???? ÷ 3 =)

$2880 + 3120 + 1980 = 7980 \div 3 = 2660 \div 150 = 17.73333$

.....

$V_p = 18V_p$

The V_p of 18 vp falls within the scope of 12 to 100 therefore the ground is deemed suitable for drainage from the proposed: Rainwater run off Soak away.

I can confirm that the test was carried out as stated above and the results were recorded as accurate as possible.



Porosity Test Record

Proposed Drainage: STP Drainage Field & Designed Soak away For surface water run off.

Location/Site: P Berry Site, Stryt Y Bydden, Caego, Wrexham LL11 6TQ

Undertaken By: Gareth Clarke & David Sharp Date: 15th February & 16th February 2024

Weather Conditions: Dig Day: Light rain Test Day: Sunny

2 trial Holes to be dug at invert level. 300mm x 300mm x 300mm. Dill with water on Dig day and leave overnight.

Test 1:.. Trial hole 1 was filled. Natural drainage from 75% to 25% too: 39 Minutes = 2340 Secs

Test 2:.. trial Hole 1 was filled. Natural drainage from 75% to 25% took: 41 Minutes = 2460 Secs

Test 3:.. Trial hole 2 was filled. Natural drainage from 75% to 25% took: 36 Minutes = 2160 secs

Average time taken for natural drainage from 75% to 25% (test 1+ test 2+ test 3 = ????) (???? ÷ 3 =)

$$2340 + 2460 + 2160 = 6960 \div 3 = 2320 \div 150 = 15.4666$$

Vp = 16Vp

The Vp of 16vp falls within the scope of 12 to 100 therefore the ground is deemed suitable for drainage from the proposed: 12 People x 16Vp x 0.20 = 38m Drainage field.

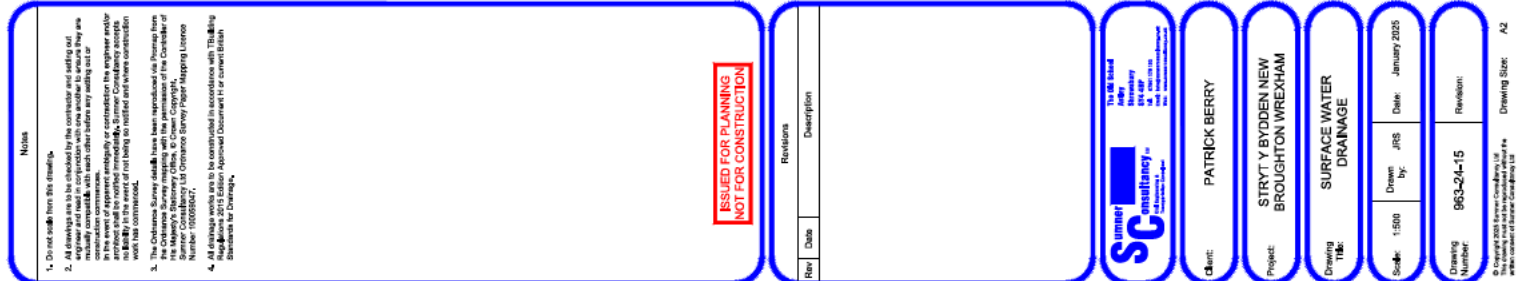
I can confirm that the test was carried out as stated above and the results were recorded as accurately as possible.

Name: DAVID SHARP Signed: [Signature] Date: 16-2-24



APPENDIX 8

SURFACE WATER DRAINAGE DRAWING 963-24-15



APPENDIX 9

963-24 SW CALCULATIONS 02

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.300	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Width (mm)	Depth (m)
S1	0.005	5.00	111.000	500	350	0.880
S2			111.000	225		0.930

Links

Name	US Node	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
S1 - S2	S1	S2	S2	5.000	0.600	110.120	110.070	0.050	100.0	150	5.08	50.0
Name												
	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)			
S1 - S2	1.005	17.8	0.7	0.730	0.780	0.005	0.0	20	0.484			

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
S1 - S2	5,000	100:0	150	Circular	111.000	110.120	0.730	111.000	110.070	0.780
Link	US Node	Dia (mm)	Width (mm)	Node Type	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
S1 - S2	S1	500	350	Manhole	Private	Private	S2	225	Manhole	Private

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)
S1	111.000	0.880	500	350				
S2	111.000	0.930	225		0 S1 - S2 1 S1 - S2	S1 - S2	110.120 110.070	150 150



Simulation Settings

Rainfall Methodology	FSR	Summer CV	0.750	Drain Down Time (mins)	240
FSR Region	England and Wales	Winter CV	0.840	Additional Storage (m³/ha)	0.0
M5-60 (mm)	17.000	Analysis Speed	Detailed	Check Discharge Rate(s)	x
Ratio-R	0.300	Skip Steady State	x	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	40	0	0



Sumner Consultancy Ltd
The Old School
Astley
Shrewsbury SY4 4BP

File: 963-24 SW Calculations 02.pfd
Network: Storm Network
John Sumner
09/01/2025

Page 3
963-24 Stryt Y Bydden New Broughton
Wrexham

Node S2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Pit Width (m)	2.200	Inf Depth (m)	0.570
Side Inf Coefficient (m/hr)	0.10590	Invert Level (m)	109.500	Pit Length (m)	2.200	Number Required	1
Safety Factor	2.0	Time to half empty (mins)	197	Depth (m)	1.500		

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 95.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	456	110.784	0.664	0.4	0.1162	0.0000	FLOOD RISK
480 minute winter	S2	456	110.784	0.714	0.3	1.8931	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
(Upstream Depth)							
480 minute winter	S1	S1 - S2	S2	0.3	0.331	0.017	0.0880
480 minute winter	S2	Infiltration		0.1			

APPENDIX 10

CONSTRUCTION DETAILS DRAWING 963-24-35

New construction to match existing as far as reasonable. Layer thickness and crossfall should be constructed such that any water percolating through the pavement cannot be 'trapped' by the new construction.

WIDENING DETAIL FOR AN EXISTING ROAD WITH VERGE

DTA Clause	Material	Grade of Binder	Thickness (mm)	Special Requirements
910	HRA 55/4F surf	100/150 pen	40	HRA to BS EN 13108-2:2006 and PO 6987:2007 - Table C.2.a column 12
906	AC 20 dense bit	100/150 pen	60	AC to BS EN 13108-2:2006 and PO 6987:2007 - Table B.11
903	AC 32 dense base	100/150 pen	125	AC to BS EN 13108-2:2006 and PO 6987:2007 - Table B.11
803	Type 1 Crushed Rock or Concrete		225	The depth of sub-base shown (225) is for an assumed formation CBR of 5% to 15%. If formation CBR's are >15% or <5%, refer to the table below. Min CBR for material, 30%.
613	Type #F2 or #F5			Capping layer (if needed) must be tested to demonstrate an In-situ CBR of 15%.
* Teram (or similar)	1000			300mm tapered joint. Constructed to be taken down any sewer trench to facilitate the joint bedding. Groundwater should be below the level of any statutory services.

CBR	Sub-base at 15%	Sub-base or Caping	
		Thickness	TOTAL
15	150	-	-
10	175	150	325
5	200	150	350
4	225	150	375
3	300	150	450
2.5	300	150	450
2	-	150	600

SPECIAL REQUIREMENTS:
 * The requirement for a geotextile such as Teram is dependent on the condition of the formation. Geotextile is generally required for CBR's of 2% or less.

CARRIAGEWAY CONSTRUCTION - COLLECTOR ROAD

Nominal Size of Pipe (mm)	Nominal Particle Size (mm)	Maximum CF value	Materials specified in British Standards
100	10	0.15	10mm nominal single-size
Over 100 to 150	15	0.15	10 or 14mm nominal single-size or 14mm to 5mm graded,
Over 150 to 300	20	0.15	10, 14 or 20mm nominal single-size or 14mm to 5mm graded, or 20mm to 5mm graded,
Over 300 to 550	20	0.15	14 or 20mm nominal single-size or 14mm to 5mm graded, or 20mm to 5mm graded,
Over 550	20	0.15	14, 20 or 40mm nominal single-size or 14mm to 5mm graded, or 20mm to 5mm graded, or 40mm to 5mm graded.

The table (A2 from WIS A-08-A2) shows specification for processed granular material. Processed granular materials may include aggregates to BS 882, air-cooled blast furnace slag to BS 1047 and lightweight aggregate to BS 3747.

FLEXIBLE PIPE BEDDING - CLASS S

Box-External pipe diameter
 No Trench width (B=300 mm, B=450 max)
 Bedding and saddle materials shall be placed in layers not exceeding 100mm. Hand tamp the material fully at the sides of the pipes to ensure full contact between bedding and pipe. Compact and tamping until a finished layer of 300mm has been placed over the pipe.
 Subsequent bedding shall be deposited in layers not exceeding 220mm and fully compacted.
 Selected fill should be readily compressible, and should not contain stones larger than 40mm, lumps of clay over 75mm, timber, frozen material, vegetable matter or foreign matter.
 Refer to table for specification for granular material.