Public Document Pack

Executive Member Decisions

Friday, 7th December, 2018

AGENDA

Date Published: Date Not Specified
Harry Catherall, Chief Executive

EXECUTIVE MEMBER DECISION

REPORT OF:	Executive Member for Health and Adult Social Care
LEAD OFFICERS:	Director of Adult Social Services (DASS)
DATE:	7th December 2018

PORTFOLIO/S AFFECTED:	Health and Adult Social Care
WARD/S AFFECTED:	All

SUBJECT: Commencement of a Tendering and Procurement Activity to commission Self Directed Support Services under a dynamic purchasing framework.

1. EXECUTIVE SUMMARY

This paper sets out a series of recommendations whilst also providing an summary of historic arrangements with regards to the commissioning of Self Directed Support Services.

It is recommended that the Blackburn with Darwen Borough Council (BwDBC) commissions a newly agreed Dynamic Purchasing System (DPS) which is similar to a framework agreement. This system includes the following features: -

- New suppliers can join the DPS at any time as long as they meet the specified criteria
- Entry to and exit from the DPS will be managed completely via an electronic process
- BwDBC as the contracting authority will not impose any limit on the number of suppliers that may join the DPS
- All prospective suppliers must be assessed by BwDBC as the contracting authority within 10 working days of their application once it has been established for the first time.

By tendering a DPS our local provision can be aligned to a series of refreshed service specifications which will meet local and national requirements and of the Better Care Fund and the Care Act 2014 Compliant, whilst improving overall outcomes for people who reside in Blackburn with Darwen (BwD).

It is necessary under procurement legislation that a full tender exercise be completed for Self-Directed Support. The procurement exercise will seek to secure a sustainable viable service and increase the capacity of quality assured providers, whilst at the same time allowing flexibility and responsiveness to changing levels and types of need.

2. RECOMMENDATIONS

1. To approve the request to commence a tendering and procurement process to offer this service to the wider market through a Dynamic Purchasing framework, for a contract period of two years plus the option to extend for up to a further two years. This will commence in April 2019.

3. BACKGROUND

From April 2011, every person starting to receive on-going council funded support should have been offered the option of receiving this via a personal budget, and by April 2013, all people eligible for such support; both new and ongoing; -should have been offered the option of a personal budget. This personal budget could then be used to ask the Council to purchase support on their behalf or take as a direct payment.

This process became a duty through the 2014 Care Act which states that councils need to assign a personal budget to all people who are eligible for support so they can have more control over their support. The personal budget is the amount of money needed to cover the cost of the support for which a person is eligible. The process which underpins this is through a social care assessment which identifies the areas of support aligned to the care Act 2014 with which individuals require support.

All people who are eligible for support from their council are then given a support plan which explains what support they need, how this support will be arranged, and an indicative budget as to how much the support will cost. People are invited and encouraged to be involved in writing up their support plan as much as possible, so that it makes sense to them and reflects their views and wishes.

And as many people as possible who are eligible for support should then be offered the chance to receive a direct payment which they can then use to arrange and pay for their care and support themselves, so that they can stay in control of their care arrangements and in control of their lives.

In order to support the use of a dynamic purchasing system updates have been made to policies and procedures as detailed below.

a. Overarching Self Directed Support Policy Statement

The updated 2018 Policy statement is Care Act compliant and reflects the Council's position on the principles of this approach which encourages service users to adopt strength based and personalised approach to their care and support needs. The statement explains the key components of personal budgets, eligibility and the process by which service users will be encouraged and enabled to take control of their support plan.

In addition the statement sets out the responsibilities both for the Council as well as service users in both using the personal budget flexibly whilst discharging council finances appropriately and with due safeguards for all parties.

The statement outlines the three main ways a recipient can use their personal budget-

a. A managed account held by the local authority
b. A managed account held by a third party (this is in development locally)
c. A direct payment

Finally the statement makes clear reference to the step through the reablement process which all clients are encouraged to take, particularly those looking to take up a direct payment.

b. Direct Payments Policy 2018

The updated 2018 Policy is also Care Act compliant and builds on the principles of the Policy statement. The Policy sets out the step by step process and legal context to the provision and management of direct payments which is the system whereby a personal budget is directly managed by a user or representative on their behalf and how issues of capacity, for example, are managed

during the process.

This responsibility is underpinned by the new DPS of providers (detailed separately below) which will provide information, advice and systems to enable the direct payment recipient to manage and evidence the correct use of monies.
Social workers and other relevant officers are reminded of their responsibilities to provide the support plan and indicative budget to enable potential recipients to plan how they will arrange their support and the information and advice given at various points of the process are made clear so that recipients are informed at all stages through the council and by reference to other organisations who can provide support.

An initial period of funding following a period of reablement wherever possible (rather than a set budget from Day 1) for new recipients is also being introduced which will be reviewed through a Promoting Independence review (PIR) within twelve weeks; this will reduce the number of reclaims and ensure where possible that the ongoing budget is reflective of need.

The Policy has clear guidance on the use of budgets to pay for agencies and personal assistants and reinforces the Council's position that, except in exceptional circumstances, recipients are expected to manage within their indicative budget or use their personal funds as a top up.

Importantly it also clearly defines the Council's position on the auditing and governance of the monies allocated in this way including the expectations on users to comply with certain obligations as a recipient so that the Council can be assured that monies are being used appropriately. A risk assessment process has been introduced to agree the regularity of financial monitoring based on the direct payment amount and other factors eg if the recipient is new to the process.

The Policy now reflects the audit and assurance recommendations set out from the Audit and Assurance 2017/18 Personalised Budgets Report.

The final Policy, once signed off, will be introduced later in 2018.

c. Dynamic Purchasing System

In order to stimulate this important market and increase choice, quality and flexibility it is recommended that a dynamic purchasing system be established in the following six areas within a costing framework.

1. Support planning and brokerage
2. Managed account service
3. PA recruitment and a Disclosure and barring service
4. Payroll service
5. Ongoing employer support

This will have a number of benefits including-

- Encourage market development especially for small, voluntary, third sector and social enterprise organisations which will stimulate the market and provide greater choice to the DP user.
- More specialised advisory services that help people to explore options including peer support, use of charities and specialist organisations e.g. dementia as well as per support and experts by experience
- Ensure comprehensive and impartial information and advice is available
- Service user choice
- Underpin the auditing and oversight of direct payments and greater assurance by encouraging the take up of a managed account

- Provide strength based and personalised services which encourage community capacity building and the use of universal services
- Simplify systems and give maximum control to DP users
- Establish a level of quality standards and associated quality assurance through the DPSof accredited providers
- Standardise costings across the market and oversight at centre within the Department; currently a 'clawback' system is used for overpayments; this system would allow for a higher level of oversight and reduce or negate the need for such activity resulting in efficiencies for the Council.

An additional benefit is that the small team of in-house officers will be enabled to spend more time overseeing and reviewing direct payment packages, reducing the number and amount of reclaims and thereby providing a more accurate forecast of direct payment budget forecasting as well as timely reviews.

A service specification has been drawn up for the proposed service; this included the expected outcomes and quality standards to be delivered within a ceiling target price.

4. KEY ISSUES & RISKS

Development of a mixed economy of providers for direct payments

It is acknowledged that currently access to, and support to take up and manage a direct payment is, apart from the instances below, a council led function. Potential DP users are provided with a support and care plan through the social work assessment process and an indicative budget calculated through the framework price agreement linked to domiciliary care providers in the Borough.

At this point, if the individual requires further support planning or some level of brokerage, this can be provided by the in-house team or, more frequently local providers are charging the department a non-fixed rate (as there is no DPS in place) to provide this service.

The council has an implied contract with two payroll services; it would be advantageous to develop this market particularly along the lines of credit unions who can also provide wider financial advice and support to help people manage their general budgets.

In addition given that no pricing framework is currently in place apart from that established with the managed account organisations, self-directed support providers have been able to set their own fees and charges which has led to an increased cost to the department as users of direct payments are currently free to use any organisation they choose. By establishing cost and quality controls this situation will be addressed and equity established across providers.

5. POLICY IMPLICATIONS

There are no negative implications to current policy and indeed the specifications for services will support the policy directions around prevention, the promotion of independence; recovery and personalisation.

6. **6. FINANCIAL IMPLICATIONS**

Over the last twelve months there has been a steady increase in the number and cost of direct payment packages as below-

March 2017
Number of clients 377 Weekly overall budget £103,000 average per person £273

April 2018
Number of clients 395 Weekly overall budget £113,000 average per person £286

In order to support the growing take up of personal budgets and direct payments and to ensure the Council is compliant with the relevant aspects of the Care Act relating to self-directed support, a work-plan has been developed to achieve the 2018/19 Business Plan priorities.

The work-plan has also been cross referenced to good practice guidance eg the Think Local Act Personal (TLAP) minimum process framework.

7. LEGAL IMPLICATIONS

The tender process will need to comply with the EU procurement rules and the Councils Contract and procurement procedure rules and be sufficiently wide in scope to allow other interested organisations to benefit from the framework agreements if they chose to do so.

The DPS Contract will be in a form approved by Legal Officers in the Council's legal team.

8. RESOURCE IMPLICATIONS

The management and implementation of the tender will be undertaken by Blackburn with Darwen Strategic Commissioning Team.

9. EQUALITY AND HEALTH IMPLICATIONS

Please select one of the options below. Where appropriate please include the hyperlink to the EIA.

Option 1 ☐ Equality Impact Assessment (EIA) not required – the EIA checklist has been completed.

Option 2 ☒ In determining this matter the Executive Member needs to consider the EIA associated with this item in advance of making the decision. *(insert EIA link here)*

Option 3 ☐ In determining this matter the Executive Board Members need to consider the EIA associated with this item in advance of making the decision. *(insert EIA attachment)*

10. CONSULTATIONS

A consultation event will be held in September 2018 with all local providers.

11. STATEMENT OF COMPLIANCE

The recommendations are made further to advice from the Monitoring Officer and the Section 151 Officer has confirmed that they do not incur unlawful expenditure. They are also compliant with equality legislation and an equality analysis and impact assessment has been considered. The recommendations reflect the core principles of good governance set out in the Council's Code of Corporate Governance.

12. DECLARATION OF INTEREST
All Declarations of Interest of any Executive Member consulted and note of any dispensation granted by the Chief Executive will be recorded and published if applicable.

VERSION:	**1**

CONTACT OFFICER:	**Lynne Haworth – Adults Communities and Prevention**
DATE:	18th September 2018
BACKGROUND PAPER:	

INITIAL EQUALITY IMPACT ASSESSMENT

Name of the activity being assessed	Commencement of a Tendering and Procurement Activity to commission Self Directed Support Services under a dynamic purchasing framework				
Directorate / Department	Adult Services	**Service**	Self-Directed Support	**Assessment Author**	Lynne Haworth
Is this a new or existing activity?	☒ New ☐ Existing	**Responsible manager / director for the assessment Sayeed Osman**			
Date EIA started	20/08/2018	**Implementation date of the activity**		01/04/2019	

SECTION 1 - ABOUT YOUR ACTIVITY

How was the need for this activity identified? i.e. Why are we doing this activity?	The current commissioning arrangements for self-DP are no longer fit for purpose and it is therefore necessary under procurement legislation that a full tender exercise must be completed. A procurement exercise is necessary to increase the capacity in the list of quality providers, whilst at the same time allowing flexibility and responsiveness to changing levels and types of need. From April 2011, every person starting to receive on-going council funded support should have been receiving this via a personal budget, and by April 2013, all people receiving such funded support – new and ongoing- should have been offered a personal budget which they could use to ask the Council to purchase support on their behalf or take as a direct payment. This process became a duty through the 2014 Care Act which states that councils need to assign a personal budget to all people who are eligible for support so they can have more control over their support. The personal budget is the amount of money needed to cover the cost of the support for which a person is eligible. The process which underpins this is through a social care assessment which identifies the areas of support aligned to the Care Act 2014 with which individuals require support.
What is the activity looking to achieve? **What are the aims and objectives?**	By law the authority has to re-tender services to ensure that services provide good value for money and continue to be fit for purpose. There has been an increased demand for services. The procurement exercise allows the authority to re-specify the services it intends to purchase and make clear the outcomes and quality requirements it expects providers to meet in delivering services to vulnerable people. It is intended that within the procurement there will be separate lots to ensure better delivery of Payroll Services; Disclosure and Barring Service; Managed Account Service; Brokerage Services. Separating these lots, and differentiating terms and conditions is intended to ensure that there is sufficient capacity to meet needs, whilst ensuring enough demand and at a reasonable cost to make the service viable to a provider. It is the intention within the specification to ensure a responsive service that is flexible that service users have greater control over their direct payments.

Aims
The Commissioner aims to achieve this by means of a mixed approach of the Commissioner's directly employed DP Support team, social work teams and an approved list of providers, from which service users can purchase their own support from their direct payment, according to their needs and preferences.

As service users will be able to choose freely from the services and provider(s) on the approved list, there can be no guarantee of numbers for service users for any provider. We do, however, expect the number of service users in receipt of a direct payment and eligible for support services to grow in line with national and local policy in the future.

It is expected that approximately 90% of service provision will relate to adult service users eligible for services under Care Act 2014 Criteria with 10% relating to Service Users referred via Children's social care.

To meet the statutory obligations within the Care Act 2014; National Health Service (Direct Payments) Regulations 2013, as amended by the National Health Service (Direct Payments) (Amendment) Regulations 2013; and the Children's and Families Act 2014 in a manner that delivers best value to the public purse.

- Improve the delivery of the essential services that people need to live as independently as possible, in particular to:
- Plan how to best meet their assessed eligible needs in a way that is personalised to them;
- Obtain and retain maximum control over their Personal Budget by utilising a Direct Payment.

Objectives
The general aim of the service, included in this Contract is to provide pre-employment checks, payroll and managed account services for recipients of direct payments and to provide a framework of brokers/planners who will help residents utilise their personal budget to its maximum potential

The provider(s) will assist the service users in Blackburn with Darwen to effectively manage payments and arrangements in a way which is cost effective and good value for money.

Service users should:
- Receive prompt, appropriate and personalised attention and services from the provider(s)
- Be able to make informed choices about provider(s) based upon transparent and accessible information
- Be enabled to manage their own direct payments and achieve increasing independence over a period of time agreed between individuals, based on need and risk. This must be demonstrated through the provider's annual review.
- Receive specialist support in relation to physical disabilities, learning disabilities, mental health needs, older people, carers, younger disabled people, and parents of disabled children.
- Be safeguarded

Expected Outcomes
- Service users are enabled to optimise the opportunities available to them through increased choice and control.
- Through an ethos of self-help Service User's feel empowered and have the ability and confidence to manage their own Direct Payment over an agreed period.

	• Service users feel safe, secure and supported to achieve greater independence with minimal support. • Service users have improved quality of life. • Enjoy happy & fulfilled lives; • Achieve their full potential; • Experience choice and control; and • Enjoy personal dignity and respect.
Services currently provided (if applicable)	Blackburn with Darwen Council's adult services department through our social work function , provide assessments and support plans for individuals to enable them to have choice and flexibility in meeting their social care needs and focus on their goals in life and wider community networks. Where individuals go on to choose a direct payment to arrange their own care, the Self Directed Support team provide the following for people who are considering or have decided to use a direct payment – • PA recruitment • Support and practical guidance to become an employer of Personal Assistants including DBS checks and contracts of employment, insurance etc. • Establishing a system to provide the necessary financial documents to show how the direct payment is being used • Signposting to other services e.g. managed accounts and payroll The Council will fund certain activities aligned to the uptake and ongoing use of a personal budget and direct payment. Where individuals do wish to use another organisation or individual to provide these services, these costs must be agreed as part of the support plan with the social worker and individual prior to commencement and documented within the support plan as to the reasoning for the funding being provided, all costed services are to be reviewed at 12 weeks for new DPs and annually thereafter.
Type of activity	☐ Budget changes ☐ Decommissioning ☐ New activity ☐ Change to existing activity ☒ Commissioning ☐ Other [**please state here**]

SECTION 2 - UNDERSTANDING YOUR CUSTOMER

What resources will support in undertaking the equality analysis and impact assessment?
Please identify additional sources of information you have used to complete the EIA, e.g. reports; journals; legislation etc.

Service activity and financial data
Providers will be providing information on costs to ensure that the authority meets its care act responsibilities in terms of commissioning services at sustainable local market rates.

Who are you consulting with? How are you consulting with them? (*Please insert any information around surveys and consultations undertaken)*

A consultation meeting was held on the 20th September 2018 to generate market intelligence around current market position.

Who does the activity impact upon?*	Service users	☒ Yes	☐ No	☐ Indirectly			
	Members of staff	☐ Yes	☒ No	☐ Indirectly			
	General public	☐ Yes	☒ No	☐ Indirectly			
	Carers or families	☒ Yes	☐ No	☐ Indirectly			
	Partner organisations	☒ Yes	☐ No	☐ Indirectly			
Does the activity impact positively or negatively on any of the protected characteristics as stated within the Equality Act (2010)?* **The groups in blue are not protected characteristics** *(please refer to p. 3 of the guidance notes)*	Positive impact	☒ Age	☒ Disability	☒ Gender reassignment	☒ Marriage & Civil Partnership	☐ Pregnancy & maternity	☒ Vulnerable groups
		☒ Race	☒ Religion or belief	☒ Sex	☒ Sexual orientation	☒ Deprived communities	☒ Carers
	Negative impact	☐ Age	☐ Disability	☐ Gender reassignment	☐ Marriage & Civil Partnership	☐ Pregnancy & maternity	☐ Vulnerable groups
		☐ Race	☐ Religion or belief	☐ Sex	☐ Sexual orientation	☐ Deprived communities	☐ Carers
	No impact	☐ Age	☐ Disability	☐ Gender reassignment	☐ Marriage & Civil Partnership	☒ Pregnancy & maternity	☐ Vulnerable groups
		☐ Race	☐ Religion or belief	☐ Sex	☐ Sexual orientation	☐ Deprived communities	☐ Carers

***If no impact is identified on any of the protected characteristics a full EIA may not be required. Please contact your departmental Corporate Equality & Diversity representative for further information.**

Does the activity contribute towards meeting the Equality Act's general Public Sector Equality Duty? *Refer to p.3 of the guidance for more information* ***A public authority must have 'due regard' (i.e. consciously consider) to the following:***	
DUTY	**DOES THE ACTIVITY MEET THIS DUTY? EXPLAIN**
Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act *(i.e. the activity removes or minimises disadvantages suffered by people due to their protected characteristic)*	The provider will be non-stigmatising and non-discriminatory, providing fair and equitable access. The service will comply with the Equality Act 2010. The provider will work in a way that it does not discriminate against individuals on the grounds of gender, race, disability, sexual orientation, sexual practices, gender reassignment, age, pregnancy or maternity, marriage/civil partnership or belief system and will ensure that all applicable legislation is adhered to.
Advance equality of opportunity between those who share a protected characteristic and those who do not *(i.e. the activity takes steps to meet the needs of people from protected groups where these are different from the needs of other people)*	The service specification promotes community engagement and inclusion. The provider will be non-stigmatising and non-discriminatory, providing fair and equitable access. The service will comply with the Equality Act 2010.
Foster good relations between people who share a protected characteristic and those who do not *(i.e. the function encourages people from protected groups to participate in public life or in other activities where their participation is disproportionately low)*	It is an expectation that providers will link into other statutory and non-statutory services to enable the individual to maximise potential and achieve outcomes.

ASSESSMENT	**Is a full EIA required?**	☐ Yes	☒ No

Please explain how you have reached your conclusion *(A lack of negative impacts must be justified with evidence and clear reasons, highlight how the activity negates or mitigates any possible negative impacts)*

The re-tendering exercise looks to promote the increased availability for DP that is reliable, provides continuity of relationships and a competent workforce. It is likely that rates payable for some elements of the service will increase to allow future national living wage rises to be accommodated. The ethos of service specifications is for the services to support increased personalisation; health and well-being and participation in people's own care.

Author Signature		**Date**	**20/08/2018**
Head of Service/Director Signature		**Date**	**13/11/2018**

The above signatures signify acceptance of the ownership of the Initial EIA and the responsibility to publish the completed Initial EIA as per the requirements of the Equality Act 2010.			
Departmental E&D Lead Signature	G.M.Rud	**Date**	**08/11/2018**

FULL EQUALITY IMPACT ASSESSMENT

SECTION 3 – ANALYSIS OF IMPACT

Does the activity have the **potential** to:
- **positively** impact (benefit) any of the groups?
- **negatively** impact/exclude/discriminate against any group?
- **disproportionately** impact any of the groups?

Explain how this was identified – through evidence/consultation.
Any negative impacts that are identified within the analysis need to be captured within the action plan in **Section 4**

NB. Marriage & Civil Partnership is only a protected characteristic in terms of work-related activities and NOT service provision

Characteristic	Positive	Negative	Don't know	Reasons for positive and/or negative impact Please include all the evidence you have considered as part of your analysis	Action No.
Age	☐	☐	☐		
Disability	☐	☐	☐		
Gender reassignment	☐	☐	☐		
Marriage & Civil Partnership	☐	☐	☐		
Pregnancy & Maternity	☐	☐	☐		
Race	☐	☐	☐		
Religion or Belief	☐	☐	☐		
Sex	☐	☐	☐		
Sexual orientation	☐	☐	☐		

Vulnerable Groups	☐	☐	☐		
Deprived Communities	☐	☐	☐		
Carers	☐	☐	☐		
Other [please state]	☐	☐	☐		

Does the activity raise any issues for community cohesion? **Does the activity contribute positively towards community cohesion?**	**No**
Does the activity raise any issues in relation to human rights as set out in the Human Rights Act 1998? Details of which can be found here	**No**
Does the activity support / aggravate existing departmental and/or corporate risk?	*Is the activity on the departmental risk register? If it is not, should it be?* **No**

CONCLUSIONS OF THE ANALYSIS

Action following completion of the impact assessment			
It is important that the correct option is chosen depending on the findings of the analysis. *The action plan must be completed as required.*			
☐ No major change in the activity	☐ Adjust activity	☐ Continue with activity	☐ Stop and reconsider activity
Please explain how you have reached your conclusion			

Informal consultations have taken place with service users and the feedback has been analysed. The outcome of the feedback received highlighted service users want greater freedom of choice which under the DPS will provide.

SECTION 4

ACTION PLAN

Action No.	What is the negative / adverse impact identified?	Actions required to reduce / mitigate / eliminate the negative impact	Resources required	Responsible officer(s)	Target completion date
	N/A				

MONITORING AND REVIEW

The responsibility for establishing and maintaining the monitoring arrangements of the EIA action plan lies with the service completing the EIA. These arrangements should be built into the performance management framework. Monitoring arrangements for the completion of EIAs will be undertaken by the Corporate Equality & Diversity Group and the oversight of the action plans will be undertaken by the Management Accountability Framework.	
If applicable, where will the EIA Action Plan be monitored?	*e.g. via Service Management Team; Service Leadership Team; Programme Area Meetings* **N/A**
How often will the EIA Action Plan be reviewed?	*e.g. quarterly as part of the MAF process* **N/A**
When will the EIA be reviewed?	*It should be reviewed at least every 3 years to meet legislative requirements* **N/A**
Who is responsible for carrying out this review?	**N/A**

SIGN-OFF

Author Signature		**Date**	
Head of Service/Director Signature		**Date**	
The above signatures signify acceptance of the ownership of the full EIA, the responsibility for the associated Action Plan (if applicable) and the responsibility to publish the completed full EIA as per the requirements of the Equality Act 2010.			
Departmental E&D Lead Signature		**Date**	

EXECUTIVE MEMBER DECISION

REPORT OF:	Executive Member for Leisure Culture and Young People (Please Select) (Please Select...)
LEAD OFFICERS:	Director of Public Health (Please Select)
DATE:	**7th December 2018**

PORTFOLIO/S AFFECTED:	Leisure Culture and Young People	(Please Select...)
WARD/S AFFECTED:	Blackburn South East	(Please Select...)

SUBJECT: Leisure Review - Future of Shadsworth Leisure Centre

1. EXECUTIVE SUMMARY

In 2012/13, the Leisure, Culture and Young People's portfolio undertook a Leisure review with support from Sport England. The review resulted in the Council approving the building of Witton Park Arena and Blackburn Leisure Centre which replaced the ageing and dilapidated facilities at Waves Water Fun Centre.

In 2015 and 2016, in the face of continuing and severe cuts in funding from central government, the portfolio held public meetings to discuss the future operational management of Audley Sports Centre, Daisyfield Pools and Shadsworth Leisure Centre. Following consultation processes, the Council subsequently transferred the operational management of the three Council owned leisure facilities to third party operators.

In 2017, it was clear that the alternative management arrangements at Shadsworth Leisure Centre involving the Centurions Swimming Club were not able to be fully implemented with the club unable to pay the Council the agreed pool hire fee. As a result the operating costs for the swimming pool remained significant and unaffordable within the cash limited budget for the Leisure and Culture portfolio The Council made the decision to close the pool at Shadsworth Leisure Centre effective 1st February 2018

Dry-side operating costs at Shadsworth Leisure Centre in 2018/19 have remained higher than predicted primarily due to a continued decline in revenue income; due to a drop in block bookings and casual use and reduced time allocation and therefore payments from the Dance School.

The income targets for the three main leisure centres has increased from £2.355m in 2015/16 to, £2.957m in 18/19 and whilst the three leisure centres are on track to achieve this targeted level of income, there is little scope to generate the additional income required to offset the budget pressure from Shadsworth Leisure Centre, for which there is no budget.

A further consultation meeting took place on 22nd August 2018 followed by an expression of interest (EoI) process between September and November 2018. Only one organisation expressed an interest in operating Shadsworth Leisure Centre at nil cost to the Council. However, during the evaluation of the EoI submission, significant concerns were raised by Finance colleagues, primarily around the expected level of income generated in the first two years which was deemed to be over ambitious and

as such the business plan was considered unsustainable.

Asset transferring a Council building on this basis would be considered unsustainable and high risk and, given the continuing financial pressures and budget cuts from Central Government, there is no 'fall-back' Council funding to assist.

2. RECOMMENDATIONS

That the Executive Member:

- Notes the report and the Leisure Review consultation processes outlined within the report.
- Notes the outcome of the Expression of Interest process
- Approves the closure of Shadsworth Leisure Centre from 1 January 2019 and the reallocation of block bookings and casual use to other council or community facilities across the Borough where possible.

3. BACKGROUND

2012 - 2016

The Leisure, Culture and Young People's portfolio undertook a Leisure review with support from Sport England in 2012/13. The review resulted in the Council approving the building of Witton Park Arena at a cost of £2.6m which opened in March 2014 and Blackburn Leisure Centre which was built in partnership with Blackburn College at a cost of £13.5m and opened in April 2015 and replaced the ageing and dilapidated facilities at Waves Water Fun Centre.

These two leisure facilities coupled with Darwen Leisure Centre, which opened in 2010, are extremely popular and provide modern state of the art facilities for residents across the Borough. These three leisure facilities are responsible for generating the vast majority of the income and attendances across leisure services.

As part of the Council's efficiency savings, the portfolio had to consider the future operation of its other leisure facilities which were ageing, expensive to operate and unaffordable in the face of continuing and severe cuts in funding from central government.

In 2015 and 2016, public consultation meetings were organised to discuss the future management arrangements for Shadsworth Leisure Centre, Daisyfield Pools and Audley Sports Centre. The following information provides details related to Shadsworth Leisure Centre:-

Initial Public Consultation – October 2015

On 20 October 2015 a public consultation meeting was held at Shadsworth Leisure Centre to discuss the future management arrangements for the Centre. In addition to the public meetings, adverts were placed locally and requested that organisations which were interested in managing and operating Shadsworth Leisure Centre should contact the Council to declare their interest.

The Council also organised customer and stakeholder surveys to be available at the site and provided a PC on site to enable people to complete the survey on line, along with paper copies for customers who didn't wish to complete the survey on line.

Blackburn Centurions Swimming Club was the only organisation to declare an interest in the Centre and their interest related solely to the swimming pool. Following negotiations with the club, the Council agreed to transfer the operation of the swimming pool to the club with effect from Monday 4th April 2016. However the Council continued to operate the dry side facilities as no other organisations had declared any interest in doing so.

Unfortunately, and despite best endeavours, the arrangements with the Centurions didn't work as

effectively as we had hoped. The Council had to provide lifeguard cover for some swim sessions at considerable cost because the club had been unable to lifeguard all the swim sessions. The swimming club membership did not expand as much as anticipated; consequently, the club was unable to pay the agreed pool hire fees.

As a result, the costs associated with operating Shadsworth Leisure Centre were forecasted to be £136,000 in 2017/18 and were not affordable within the cash limited budget for the Leisure, Culture and Young People's portfolio.

Further Public Consultation – December 2017

The Council entered into a further consultation process with regards to the future operation of Shadsworth Leisure Centre in 2017. The consultation process included hosting an open public meeting on Tuesday 5th December 2017 and making available a customer questionnaire from 27th November 2017 to 24th December 2017 to enable users and non-users to provide feedback and make suggestions about the future operation of the swimming pool.

The results of the consultation were reported to the Executive Board meeting in January 2018 along with recommendations about the future operation of the swimming pool at Shadsworth Leisure Centre. Accordingly, Executive Board agreed to close the swimming pool with effect from 1 February 2018 and the main user of the pool, the Centurions swimming club, were relocated to Daisyfield Pools and Darwen Leisure Centre.

Current Position

The Council has continued to operate the dry side facilities since the closure of the swimming pool. A small number of casual staff and one contracted member of staff are currently employed to supervise the use of the dry side facilities including the sports hall, fitness gym, squash court, school gym and dance studio. Despite lower staffing costs significant building expenditure remains including repairs and maintenance and utilities. In addition the cost of rates has remained unchanged at £27,000 pa.

Since the pool closed, the usage of the sports hall, squash courts and gym has declined significantly in recent months. Weekly income from casual use is circa £150 and with income from block bookings; the total annual income is projected to be £19,000

Despite the closure of the pool and its reduced operating costs Shadsworth Leisure Centre in 2018/19 continues to create a budget pressure of £122,300 which cannot be managed by the portfolio.

Based on 6 month actuals projected 2018/19 income / expenditure is shown below

SHADSWORTH LEISURE CENTRE	
EXPENDITURE	
Premises related	66,100
Salaries	73,300
Supplies and services	1,900
Total costs	**141,300**
INCOME	
Income from dry side facilities	**(19,000)**
NET OPERATING COST 2018/19	**122,300**

In August 2018 a further public consultation commenced, specifically focussing on identifying local organisations with an interest in operating Shadsworth Leisure Centre at nil cost to the Council. A public meeting took place on 22nd August and was attended by 4 people. On 3rd September an Expression of Interest (EoI) process commenced. Only one organisation submitted an EoI.

A robust assessment process including financial analysis was undertaken and evidenced a business plan that was over optimistic and would not provide the Council with an assured, viable or sustainable asset transfer arrangement.

4. KEY ISSUES & RISKS

Shadsworth Leisure Centre is creating a projected budget pressure of £122,300 in 2018/19 which is unaffordable and cannot be managed by the portfolio.

The Council embarked on a consultation process on 22nd August with a public meeting to assist the identification of any organisations or groups who wished to consider operating the leisure centre at no cost to the Council.

On 3rd September 2018 the full Information Pack and Expression of Interest documents were sent to the only organisation who requested them. The deadline for the completed submission was set as 5pm 14th September.

It was noted that the completed expression of interest was not received by 5pm on Friday 14th September; however given that it was the only expression of interest received it was decided to continue the evaluation process without prejudice.

Following an initial review of the submission a meeting was held on 9th October, 2018 to raise initial concerns regarding the business plan, specifically the income projections. Revised figures were subsequently submitted and this was used to undertake a due diligence exercise. Whilst the submitted documents clearly demonstrated an interest and vision, scrutiny of the financial planning projections raised significant concerns and an assessment that the expression of interest did not establish a model for a sustainable asset transfer.

The main area of concern focussed on the financial information and over optimistic income projections which when assessed by a Senior Finance Officer identified a gap in projected income versus forecast income 18/19 (based on 6 month actuals) of circa £90,000

If the process went ahead and the proposed business plan failed then it would expose the council to risk as the building would come back into the Council along with potentially unpaid bills and accrued debt.

Given the information provide in this report the following **options** should be considered:-

- Do nothing – the council continues to operate Shadsworth Leisure Centre accepting that there will continue to an operating budget pressure of £122,300 that cannot be managed within the Portfolio's allocated cash limit
- Extend the consultation process – widen the scope in an attempt to attract additional interest from unknown organisations to operate the leisure centre at nil cost to the Council. During the timescale needed to conduct further consultation, tender and evaluation processes levels of expenditure and low income generation will continue thus perpetuating ongoing budget pressures which cannot be managed within the Portfolio's allocated cash limit.
- Close Shadsworth Leisure Centre – relocating block bookings and casual use to alternative council owned or community facilities within the Borough wherever practicable. Closing the centre would remove the portfolio's budget pressure associated with Shadsworth Leisure Centre.

5. POLICY IMPLICATIONS

The Sport England facilities planning model which was completed in 2012 demonstrated that the

Borough had an over-provision of swimming pool facilities. With the closure of the pool at Shadsworth there is currently still sufficient swimming pool facilities for the residents of the Borough as highlighted by Sport England in the facilities planning model for pool provision (2 swimming pools in Blackburn and 1 pool in Darwen).

With community access to sports halls at Council operated BSF schools and those available at Darwen Leisure Centre and Blackburn Sports and Leisure Centre there is sufficient space to relocate the remaining block bookings and casual use hall use.

6. FINANCIAL IMPLICATIONS

Despite the closure of the pool and its reduced operating costs Shadsworth Leisure Centre in 2018/19 continues to create a budget pressure of £122,300 which cannot be managed by the portfolio.

Based on 6 month actuals projected 2018/19 income / expenditure is shown below

SHADSWORTH LEISURE CENTRE	
EXPENDITURE	
Premises related	66,100
Salaries	73,300
Supplies and services	1,900
Total costs	**141,300**
INCOME	
Income from dry side facilities	(19,000)
Total income	
NET OPERATING COST 2018/19	**122,300**

If the centre were to be transferred to an alternative organisation, it would need to transfer on the basis that the operator would not require any revenue or capital support from the Council. To achieve this the Council would need to be confident that the transfer proposal is financially viable and sustainable.

If the centre was to close there would be some remaining costs associated with rates and utilities but these would be reduced greatly.

7. LEGAL IMPLICATIONS

Whilst the council has no statutory duty to provide leisure centres, it does have a duty to address health inequalities, and therefore wishes to continue to offer high quality leisure centres which are affordable and accessible to those who will benefit most from regular participation in sport and healthy physical activity.
At all stages through the Leisure Review process commencing in 2015 the Council embarked on consultation processes with regards to the future management and operation of leisure provision at Daisyfield Pools, Shadsworth Leisure Centre and Audley Sports Centre. The consultation processes included hosting public meetings and making available a customer and stakeholder questionnaire to enable customers and stakeholders to provide feedback and make suggestions about the future

operation of the three sites.

Following further consultation in November and December 2017, including a public meeting and 3 stakeholder meetings with the swimming club the Council decided to close the pool from 1st February 2018.

As the previous consultation processes were undertaken in 2015, 2016 and 2017 the Council wished to enter into a further consultation process with regards to the future operation of Shadsworth Leisure Centre starting in August 2018.

The consultation process included a public meeting, advertised in the centre itself and on the Council's website which was held on 22nd August to identify interested local organisations. This progressed to an Expression of Interest and assessment process, informed and advised by colleagues in Procurement and Contracts and supported by Finance.

8. RESOURCE IMPLICATIONS

If there are no changes to the operation of Shadsworth Leisure Centre, the Council will have to allocate an additional £122,300 to subsidise the operation of the centre.

If the centre were to be transferred to an alternative organisation, it would need to transfer on the basis that the operator would not require any revenue or capital support from the Council. To achieve this the Council would need to be confident that the transfer proposal is financial viable and sustainable.

If the centre was to close there would be some costs associated with rates and utilities but these would be reduced greatly.

There is only 1 member of staff currently employed at Shadsworth Leisure Centre and they can be redeployed to an identified vacant post within the portfolio so there would be no redundancies as a result of the closure.

9. EQUALITY AND HEALTH IMPLICATIONS
Please select one of the options below. Where appropriate please include the hyperlink to the EIA.

Option 1 ☐ Equality Impact Assessment (EIA) not required – the EIA checklist has been completed.

Option 2 ☒ In determining this matter the Executive Member needs to consider the EIA associated with this item in advance of making the decision. *(insert EIA link here)*

Option 3 ☐ In determining this matter the Executive Board Members need to consider the EIA associated with this item in advance of making the decision. *(insert EIA attachment)*

10. CONSULTATIONS

A full public consultation was carried out as part of the Leisure Review process in 2015 and 2016. This included public meetings for each of the three centres including Shadsworth Leisure Centre, survey questionnaires for customers, stakeholders and the general public and local adverts.

A further public consultation process was carried out to determine the future operation of the swimming pool at Shadsworth Leisure Centre. The consultation process included a public meeting on Tuesday 5th December 2017 and making available a customer questionnaire from 27th November

2017 to 24th December 2017 to enable users and non-users to provide feedback and make suggestions about the future operation of the swimming pool. No organisations were identified who wished to consider operating the swimming pool at no cost to the Council.

The most recent consultation commenced on 15th August 2018 and finished with the Expression of Interest deadline on 14th September 2018. Posters were put up in the building and a notice was posted on the Council's website regarding potential changes to Shadsworth Leisure Centre. A public meeting was advertised via posters and the Council's website and held on 22nd August 2018 inviting organisations who may have an interest in operating the dry side of Shadsworth Leisure Centre at no cost to the Council. Four people attended. The meeting clearly laid out the Council's and the Portfolio's financial challenges and the information provided to attendees was explicit that the Council could not afford to continue to operate the leisure centre and may need to consider closure.
Questions asked at the public meeting were:-

Q: What if there are no expressions of interest to run the centre when would it close?
A: Expressions of Interest would be known by mid-September followed by an evaluation period which would mean it's unlikely any changes would happen this calendar year

Q: What will happen to block bookings?
A: We will work with users to relocate them to alternative sites, but can't guarantee same day / time of bookings.

Q: What was the plan for the school site?
A: That is a Secretary of State decision not a Council one

Q: Will the closure of the school impact?
A: There are shared utility services between the 2 buildings which does make it difficult. Separate supply and meterage would need to be explored.

Q: What about the rates – will the Council pay them?
A: No. Some organisations may be eligible for rate relief

Following the meeting only one organisation came forward expressing an interest in operating the building; requested the EoI Information Pack and response template and entered into an initial Expression of Interest process. This submission and evaluation period was undertaken between 3rd September and 14th November. A decision not to proceed with an asset transfer process was communicated to the only interested party in a letter dated 16th November, 2018.

Block Bookings Consultation - Individual consultation took place with the 9 block booking hirers who used the centre at the start of the consultation period. Discussions included options regarding alternative provision available. Since the consultation process 3 of the block bookings have moved to alternative Council operated facilities. There are 6 remaining block bookings at the centre throughout the week; details of these bookings are listed below:

Karate	Monday, Wednesday, Friday Evening
Majorettes	Tuesday Evening
5 a side	Wednesday Evening
5 a side	Friday Evening
Volley Ball	Tuesday Evening, Saturday & Sunday
Dance School	Tuesday, Wednesday and Friday Evenings and Saturday

The Council is able to accommodate the Majorettes, Karate and five a side bookings in leisure centres throughout the Borough. The Volleyball booking is more problematic and we are still reviewing options in Council owned sites operated by third party organisations.

A Dance School occupies the first floor of the centre on Tuesday, Wednesday, Friday and Saturday. The dance school has confirmed that they have secured space at another venue and will be relocating from Shadsworth if the leisure centre was to close in the future.

Casual Attendances – the average casual attendances at the centre for April through October are detailed below:

Regency Gym	An average of 14 customers a night
Squash	An average of 6 customers a night
Badminton	An average of 4 customers a night

A total of 274 individual customers have used the centre over the last 7 months, including the block bookings.

Staff Consultation - The only contracted member of staff has been consulted with as part of this process and has accepted an alternative post (currently on secondment) which is a permanent and acceptable redeployment opportunity for them.

11. STATEMENT OF COMPLIANCE

The recommendations are made further to advice from the Monitoring Officer and the Section 151 Officer has confirmed that they do not incur unlawful expenditure. They are also compliant with equality legislation and an equality analysis and impact assessment has been considered. The recommendations reflect the core principles of good governance set out in the Council's Code of Corporate Governance.

12. DECLARATION OF INTEREST

All Declarations of Interest of any Executive Member consulted and note of any dispensation granted by the Chief Executive will be recorded and published if applicable.

VERSION:	**3**

CONTACT OFFICER:	**Claire Ramwell**
DATE:	30.11.18
BACKGROUND PAPER:	Sport England's Facilities Planning Model for Pool Provision

INITIAL EQUALITY IMPACT ASSESSMENT

Name of the activity being assessed	Leisure Review Update - Recommendation to Close Shadsworth Leisure Centre November 2018				
Directorate / Department	Public Health & Wellbeing	**Service**	Leisure	**Assessment Author**	C Ramwell
Is this a new or existing activity?	☐ New ☒ Existing	**Responsible manager / director for the assessment**		M Eden	
Date EIA started	19/11/2018	**Implementation date of the activity**		01/01/2019	

This EIA is the 4th update on the impact of the Review of Leisure which started in 2015

SECTION 1 - ABOUT YOUR ACTIVITY

How was the need for this activity identified? i.e. Why are we doing this activity?	Budget reductions for 2015-18 approved at Council Forum on 25th September 2014 included the requirement for a further review of options for the provision of leisure services and costs to deliver savings longer term. The council papers can be found here: http://blackburn.cmis.uk.com/blackburn/Meetings/tabid/70/ctl/ViewMeetingPublic/mid/397/Meeting/1040/Committee/397/SelectedTab/Documents/Default.aspx Given the Council and the Department's financial challenges the Executive Board, December 2017 approved the closure of the swimming pool at Shadsworth Leisure Centre from 1.2.18 having considered an ongoing budget pressure of £145,000 unsustainable within the Leisure portfolio's budget allocations. Despite the closure of the pool and its reduced operating costs Shadsworth Leisure Centre in 2018/19 continues to create a budget pressure of £122,300 which cannot be managed by the portfolio
What is the activity looking to achieve? **What are the aims and objectives?**	To identify and deliver a model of leisure provision for citizens which can be maintained within the ongoing budget pressures from cuts in central government funding, whilst maintaining the income generating potential achieved through investment in modern facilities. The review must provide a sustainable delivery model beyond 2018/19 To significantly reduce budget pressures and to provide operating sustainability across leisure services the recommendation is to close Shadsworth Leisure Centre
Services currently provided (if applicable)	Leisure services through in-house council provision operate: Darwen Leisure Centre, Blackburn Sports and Leisure Centre, Witton Park Arena, Shadsworth Leisure Centre, 3 x BSF Community Use schools and outdoor courts and pitches. Excluding the BSF community use schools this includes 3 centres with sports halls; 4 swimming pools;1 athletics track and indoor sprint lanes; 4 sites with fitness gyms (of which Shadsworth Leisure Centre has a small community facility); 2 squash courts and all centres having at least 1 room for training / aerobics studio / community use.

	November 2018 update: Through the Leisure Review, starting 2015 the following changes have taken place:- • Audley Sports & Community Centre – asset transferred on 25 year Full Repairing Lease to Jamia Ghosia Association • Daisyfield Pools – Landlord/ Tenant arrangement with Half Fish (a local organisation) who now operate the pools and are responsible for staffing costs – some premises costs currently remain with the council including utilities / maintenance • Shadsworth Leisure Centre – Pool closed 1st February 2018
Type of activity	☒ Budget changes ☐ Decommissioning ☐ New activity ☐ Change to existing activity ☐ Commissioning ☐ Other [**please state here**]

SECTION 2 - UNDERSTANDING YOUR CUSTOMER

What resources will support in undertaking the equality analysis and impact assessment?
Please identify additional sources of information you have used to complete the EIA, e.g. reports; journals; legislation etc.

Richard Brown – Leisure & Health Partnerships Manager
Heath Brandwood – Commercial Leisure Manager

Other information has been used from:-
EIAs from the original Leisure Review 2015 and update in Dec 2017
Leisure attendance data
Budget monitoring information

Who are you consulting with? How are you consulting with them? (*Please insert any information around surveys and consultations undertaken)*

Since the Leisure Review started in 2015 there has been ongoing communication and periodic consultations with:

- Members
- Ongoing consultation and discussion with Executive Member for Culture, Leisure and Young People
- All councillors are aware of the leisure review process
- Briefings for all ward councillors affected by the decision
- Briefings and discussions regarding the update on the Leisure Review to shape recommendations have taken place with the Council Leadership, Executive Members and Lead Portfolio Members.

Sport England – Facilities Planning Model Report for Swimming Pools in Blackburn with Darwen produced

2015 Public & Stakeholders
A public meeting was held at Shadsworth attended by 28 people
On-line & paper survey - **176 responses** were received to the consultation related to Shadsworth Leisure Centre and 5 were received from stakeholder organisations

Leisure Review Update 2017 (Pool closure)
There were 3 consultations meetings with Blackburn Centurions Swimming Club (the primary users of the pool) explaining the budget pressures and discussing alternative options. Following the November 16th 2017 meeting alternative arrangements were identified, communicated and agreed with the club should a decision to close the pool be made.

A Public Consultation ran for 28 days from 27th November to 24th December 2017. This included paper surveys and a public meeting on 5th December.
34 people attended the public meeting; all members of Blackburn Centurions Swimming Club
44 responses were received from the survey questionnaires; no alternative options or providers came forward.

Leisure Review Update 2018
A public meeting was advertised and held on 22nd August inviting organisations who may have an interest in operating the dry side of Shadsworth Leisure Centre - 4 people attended.
Stakeholders – individual consultations with 7 block booking hirers to identify alternate venues
Dance School - confirmed that they have secured space at another venue and will be relocating from Shadsworth if the leisure centre was to close.

Staff: There is only one member of staff contracted at Shadsworth Leisure Centre and they have had an initial consultation meeting which identified an alternative redeployment option within the Portfolio.

Who does the activity impact upon?*	Service users	☒ Yes	☐ No	☐ Indirectly	Attendance data show that there were only a total of 274 individual customers who used Shadsworth Leisure Centre over the last 7 months (April –Oct), including casual users and 6 block bookings.		
	Members of staff	☒ Yes	☐ No	☐ Indirectly			
	General public	☒ Yes	☐ No	☐ Indirectly			
	Carers or families	☒ Yes	☐ No	☐ Indirectly			
	Partner organisations	☒ Yes	☐ No	☐ Indirectly			
Does the activity impact positively or negatively on any of the protected characteristics as stated within the Equality Act (2010)?* **The groups in blue are not protected characteristics** *(please refer to p. 3 of the guidance notes)*	Positive impact	☐ Age	☐ Disability	☐ Gender reassignment	☐ Marriage & Civil Partnership	☐ Pregnancy & maternity	☐ Vulnerable groups
		☐ Race	☐ Religion or belief	☐ Sex	☐ Sexual orientation	☐ Deprived communities	☐ Carers
	Negative impact	☐ Age	☐ Disability	☐ Gender reassignment	☐ Marriage & Civil Partnership	☐ Pregnancy & maternity	☐ Vulnerable groups
		☐ Race	☐ Religion or belief	☐ Sex	☐ Sexual orientation	☒ Deprived communities	☐ Carers
	No impact	☒ Age	☒ Disability	☒ Gender reassignment	☒ Marriage & Civil Partnership	☒ Pregnancy & maternity	☒ Vulnerable groups
		☒ Race	☒ Religion or belief	☒ Sex	☒ Sexual orientation	☐ Deprived communities	☒ Carers

***If no impact is identified on any of the protected characteristics a full EIA may not be required. Please contact your departmental Corporate Equality & Diversity representative for further information.**

Does the activity contribute towards meeting the Equality Act's general Public Sector Equality Duty? *Refer to p.3 of the guidance for more information* ***A public authority must have 'due regard' (i.e. consciously consider) to the following:***	
DUTY	**DOES THE ACTIVITY MEET THIS DUTY? EXPLAIN**
Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act *(i.e. the activity removes or minimises disadvantages suffered by people due to their protected characteristic)*	The provision currently available at Shadsworth Leisure Centre is limited to a total of 22.5 hrs per week (opening hours on-Fri 5.00- 9.30pm). Attendance data show that only 274 users (casual and block bookers) have used the centre in the last 7 months; an average of 14 casual gym users per night, 6 squash players and 4 badminton users. The borough's newer facilities at DLC & BSLC (opened in 2010 and 2015 respectively) and BSF community use facilities provide public access to high quality modern facilities, changing facilities and are accessibly designed and better able to provide access for all customers for over 96 hours per week. The council continues to recognise the importance of being physically active and to promote and provide affordable access to leisure activities through the re:fresh programme for just £1 for adults and 50p for a junior swim at DLC, BSLC and WPA as well as a number of community venues and locations across Blackburn with Darwen. These opportunities will continue to be available. The nearest venue offering dry-sport re:fresh activities is Blackburn Central High School which is located 1.1 miles away by road or 0.8 miles on foot which offers a gym for casual use and sports hall for block bookings and will provide an extended programme of re:fresh activities with the closure of Shadsworth Leisure Centre
Advance equality of opportunity between those who share a protected characteristic and those who do not *(i.e. the activity takes steps to meet the needs of people from protected groups where these are different from the needs of other people)*	Reducing / removing the budget pressure created by operating Shadsworth Leisure Centre will negate an over expenditure of council resources on leisure services. Reducing the budget pressure on leisure service provision ensures that the remaining leisure centres are able to be maintained at a high standard, including the provision of any appropriate specialist equipment.
Foster good relations between people who share a protected characteristic and those who do not *(i.e. the function encourages people from protected groups to participate in public life or in other activities where their participation is disproportionately low)*	Services at all other council operated leisure centres will still be provided for all customers including those who share protected characteristics

ASSESSMENT	**Is a full EIA required?**	☐ Yes	☒ No
Please explain how you have reached your conclusion *(A lack of negative impacts must be justified with evidence and clear reasons, highlight how the activity negates or mitigates any possible negative impacts)*			
Whilst it is recognised that closing Shadsworth Leisure Centre will reduce access from 4 council owned leisure sites to 3 key modern leisure centres in the borough (DLC, BSLC, WPA) as well as evening and weekend access to facilities at 3 BSF Schools. Consultation and programme analysis has identified that there are suitable alternative facilities that are available for customers to use. Access to available sports hall time has been secured through the consultation process. As such block bookings can be relocated so the decision will have minimal impact on the young swimmers' access to water time In approving the decision the council will still be providing adequate and accessible leisure provision as a local authority under the Equality Act 2010.			

Author Signature	**Claire Ramwell**	**Date**	**29/11/2018**
Head of Service/Director Signature	**Dominic Harrison**	**Date**	**30/11/2018**
The above signatures signify acceptance of the ownership of the Initial EIA and the responsibility to publish the completed Initial EIA as per the requirements of the Equality Act 2010.			
Departmental E&D Lead Signature	**Gwen Kinloch**	**Date**	**03/12/2017**

FULL EQUALITY IMPACT ASSESSMENT

SECTION 3 – ANALYSIS OF IMPACT

Does the activity have the **potential** to:
- **positively** impact (benefit) any of the groups?
- **negatively** impact/exclude/discriminate against any group?
- **disproportionately** impact any of the groups?

Explain how this was identified – through evidence/consultation.
Any negative impacts that are identified within the analysis need to be captured within the action plan in **Section 4**

N.B. Marriage & Civil Partnership is only a protected characteristic in terms of work-related activities and NOT service provision

Characteristic	Positive	Negative	Don't know	Reasons for positive and/or negative impact Please include all the evidence you have considered as part of your analysis	Action No.
Age	☐	☐	☐		
Disability	☐	☐	☐		

Gender reassignment	☐	☐	☐		
Marriage & Civil Partnership	☐	☐	☐		
Pregnancy & Maternity	☐	☐	☐		
Race	☐	☐	☐		
Religion or Belief	☐	☐	☐		
Sex	☐	☐	☐		
Sexual orientation	☐	☐	☐		
Vulnerable Groups	☐	☐	☐		
Deprived Communities	☐	☐	☐		
Carers	☐	☐	☐		
Other [please state]	☐	☐	☐		

Does the activity raise any issues for community cohesion? **Does the activity contribute positively towards community cohesion?**	
Does the activity raise any issues in relation to human rights as set out in the Human Rights Act 1998? Details of which can be found here	
Does the activity support / aggravate existing departmental and/or corporate risk?	*Is the activity on the departmental risk register? If it is not, should it be?*

CONCLUSIONS OF THE ANALYSIS

Action following completion of the impact assessment			
It is important that the correct option is chosen depending on the findings of the analysis. *The action plan must be completed as required.*			
☐ No major change in the activity	☐ Adjust activity	☐ Continue with activity	☐ Stop and reconsider activity
Please explain how you have reached your conclusion			

SECTION 4

ACTION PLAN

Action No.	What is the negative / adverse impact identified?	Actions required to reduce / mitigate / eliminate the negative impact	Resources required	Responsible officer(s)	Target completion date

MONITORING AND REVIEW

The responsibility for establishing and maintaining the monitoring arrangements of the EIA action plan lies with the service completing the EIA. These arrangements should be built into the performance management framework. Monitoring arrangements for the completion of EIAs will be undertaken by the Corporate Equality & Diversity Group and the oversight of the action plans will be undertaken by the Management Accountability Framework.	
If applicable, where will the EIA Action Plan be monitored?	*e.g. via Service Management Team; Service Leadership Team; Programme Area Meetings*
How often will the EIA Action Plan be reviewed?	*e.g. quarterly as part of the MAF process*
When will the EIA be reviewed?	*It should be reviewed at least every 3 years to meet legislative requirements*
Who is responsible for carrying out this review?	

SIGN-OFF

Author Signature		**Date**	Click here to enter a date.
Head of Service/Director Signature		**Date**	Click here to enter a date.
The above signatures signify acceptance of the ownership of the full EIA, the responsibility for the associated Action Plan (if applicable) and the responsibility to publish the completed full EIA as per the requirements of the Equality Act 2010.			
Departmental E&D Lead Signature		**Date**	Click here to enter a date.

Document is Restricted

EXECUTIVE MEMBER DECISION

REPORT OF:	Executive Member for Resources
LEAD OFFICERS:	Director of Digital & Business Change
DATE:	**08th November 2018**

PORTFOLIO/S AFFECTED:	Resources
WARD/S AFFECTED:	All

SUBJECT: Microsoft agreement including Office 365.

1. EXECUTIVE SUMMARY

This report seeks approval to replace the current Microsoft Enterprise agreement for the Council which expires on the 30th June 2019 and to move the Council's email estate to Office 365 on a 3 year contract. The current agreement provides licencing for Council devices to utilise Windows software on its estate.

2. RECOMMENDATIONS

That the Executive Member:
Approves awarding the contract for the replacement of the current Microsoft Licensing Agreement to include Office 365 with the likely financial implications associated with this.

3. BACKGROUND

The Council previously held a perpetual agreement for Microsoft end user device licences covering Windows, Office & Client Access Licenses (CALS) (required to access servers) which expired in 2016. At this time the large discount on perpetual licenses was removed pushing organisations down the subscription route, moving the expenditure from capital funding to revenue. The Executive Board agreed in April 2016 to the change in funding, with a budget increase to the department rising to £167k in the 2018/19 financial year. Subsequent to this, following discussion with the Head of Licencing at Crown Commercial Services, a decision was made to 'sweat' the majority of licence assets, just retain Windows licences instead and re-visit the licencing position in 2018/19, delaying the budget increase. The latest pricing agreements between the Government and Microsoft have now seen the cost for on-premise licences increase considerably with preference being given to Cloud licencing with Office 365.

The department is currently in a position where it needs to replace the current Microsoft Exchange service which provides e-mail capability, due to the hardware going 'out of life' and the software due to become unsupported. This is a critical service for the council and as such there is no "do nothing" option, as this eventually would leave the Council's email service vulnerable to Cyber threats and service outages. There is a further requirement for an improved secure e-mail solution to allow the Council to continue to manage personal and sensitive data after it has been shared and also to replace the current, outgoing GCSX secure mail solution.

The department has therefore evaluated two options over a 5 year period;

Option 1 – Remain on premise
Upgrade and migrate to a new version of Microsoft Exchange
Purchase additional storage for new solution
Implementation of a new secure e-mail solution
Retaining existing on premise solutions for mail filtering with removal of mail archiving after year one.
Retain Windows licences for corporate devices
Entering into a new agreement to cover Microsoft server licences in year 3

Option 2 – Move to Office 365
Migration of all Council staff to the Office 365 platform
Purchase the Core CAL bridge which will allow the Council to cover server licences more cheaply.
Implementation of Microsoft secure email for 700 users (for roles handling personal and sensitive information)
Retain Windows licences for corporate devices

Anticipated costs for both solutions are outlined below; the costs for licences after Year 3 are included at the current price list and will be subject to increase following the next pricing review;

Option 1		Year 1 (£)	Year 2 (£)	Year 3 (£)	Year 4 (£)	Year 5 (£)	Total (£)
On Premise	Capital	236,796.00	0.00	0.00	0.00	0.00	236,796.00
	Revenue	149,287.00	134,766.00	195,596.00	195,596.00	195,596.00	870,841.00
	Total	386,083.00	134,766.00	195,596.00	195,596.00	195,596.00	1,107,637.00

Option 2		Year 1 (£)	Year 2 (£)	Year 3 (£)	Year 4 (£)	Year 5 (£)	Total (£)
Office 365 E1	Capital	42,813.00	0.00	0.00	0.00	0.00	42,813.00
	Revenue	162,466.56	162,466.56	162,466.56	162,466.56	162,466.56	812,332.80
	Total	205,279.56	162,466.56	162,466.56	162,466.56	162,466.56	855,145.80

Aside from any financial benefit, there are additional benefits with Office 365 around partnership working and data sharing that will inevitably lead to further savings and efficiencies in the future. It is therefore recommended that the Council proceed with the migration to Office 365.

Microsoft have released an early commitment scheme which will allow access to the September pricing for licences up until the start of December, costs within this paper are based on these costs. If the Council does not commit by this date the new price book will apply which would result in a cost increase of £15k per annum.

Pricing for the new agreement is set by government as part of the CTA (Cloud Transition Agreement) with Microsoft, the department is planning to execute the agreement with Phoenix Software Limited through the KCS framework with the supplier providing the licences at cost.

4. KEY ISSUES & RISKS

- Over a five year period there is a cost saving to migrating the service to Office 365.
- Strategically migration to Office 365 aligns the council with its partners, enabling capability for managed and secure data sharing across organisations.
- Support for the Office 365 service provided 24/7.
- Benefits around GDPR compliance from an increased security infrastructure.
- Migration to Office 365 allows migration of personal and shared data folders to the cloud infrastructure at no additional cost. This will result in significant further savings in network

storage in the future.

- Adoption of Office 365 will provide future expansion opportunities which may further reduce costs to the council or provide more resilient and accessible services to the council. These include mobile device management (Intune), remote storage (One Drive), hosted applications (Productivity Suite) and bring your own device (Hardware Savings).
- Upgrading to Office 365 will provide seamless upgrades in the future with full feature set availability. Some on premise features are to be deprecated from Office 2019.
- The pricing for Microsoft would be set for the next 3 years, the Council will be subject to any future increases in costs to licences.

5. POLICY IMPLICATIONS

Having the facility to update to the latest software versions is a key enabler for the Council. The *'Customer Access and Digital Services Strategy'* states BwD has committed to *"Support and develop staff with the necessary digital skills to allow technology to be used effectively within the organisation, ensuring that value for money is maximised and services are delivered efficiently."*

6. FINANCIAL IMPLICATIONS

The breakdown of the approximate capital and revenue costs for the new agreement over the next 3 years as noted above are;

	Capital Costs	Annual reveue Costs
Software Licences	3213	
ITM&G Resources	22500	
Third party implementation support	17100	
Windows Licences		59766
Office 365		68044
Secure email for 700 users		19704
CAL licences		14952
Total	42813	162466

The department already has an existing budget for Windows and by implementing Office 365 will be able to remove some existing solutions from the estate as follows;

Windows Licences	30000
McAfee E-mail licences	25000
Mail archiving costs	14000
GCSX mail	13000
	82000

Although this new agreement will commence in July 2019 the department will have a phased approach for the implementation running up to this date to ensure that the Council will be fully utilising its licence commitment by the end of June 2019. A cash limit revenue increase of £70k will be required in the 2019/20 financial year rising to £80k in the 2020/21 and subsequent financial years; in addition, £43k will be required for the project within the Capital Programme.

7. LEGAL IMPLICATIONS

The procurement process shall be in accordance with the Public Contracts Regulations 2015 and the Council's Contract Procurement Procedure Rules.

All contracts will be in a form approved by legal officers in the Commissioning and Procurement team.

8. RESOURCE IMPLICATIONS

There will be an impact on the existing resources within ITM&G currently estimated as approx. 100 man days, this will be factored into existing work plans.
There will be some impact to the rest of the organisation in familiarising themselves in the use of Office 365.

9. EQUALITY AND HEALTH IMPLICATIONS

Please select one of the options below. Where appropriate please include the hyperlink to the EIA.

Option 1 ☒ Equality Impact Assessment (EIA) not required – the EIA checklist has been completed.

Option 2 ☐ In determining this matter the Executive Member needs to consider the EIA associated with this item in advance of making the decision. *(insert EIA link here)*

Option 3 ☐ In determining this matter the Executive Board Members need to consider the EIA associated with this item in advance of making the decision. *(insert EIA attachment)*

10. CONSULTATIONS

No public consultations have occurred.

11. STATEMENT OF COMPLIANCE

The recommendations are made further to advice from the Monitoring Officer and the Section 151 Officer has confirmed that they do not incur unlawful expenditure. They are also compliant with equality legislation and an equality analysis and impact assessment has been considered. The recommendations reflect the core principles of good governance set out in the Council's Code of Corporate Governance.

12. DECLARATION OF INTEREST

All Declarations of Interest of any Executive Member consulted and note of any dispensation granted by the Chief Executive will be recorded and published if applicable.

VERSION:	**1**

CONTACT OFFICER:	**Peter Hughes**
DATE:	08/11/2018
BACKGROUND PAPER:	None.

EQUALITY IMPACT ASSESSMENT CHECKLIST

This checklist is to be used when you are uncertain if your activity requires an EIA or not.

An Equality Impact Assessment (EIA) is a tool for identifying the potential impact of the organisation's policies, services and functions on its residents and staff. EIAs should be actively looking for negative or adverse impacts of policies, services and functions on any of the nine protected characteristics.

The checklist below contains a number of questions/prompts to assist officers and service managers to assess whether or not the activity proposed requires an EIA. Supporting literature and useful questions are supplied within the EIA Guidance to assist managers and team leaders to complete all EIAs.

Service area & dept.	Resources, ITM&G	**Date the activity will be implemented**	30/06/2019

Brief description of activity	Migration of the Councils email estate to Office 365

Answers favouring doing an EIA	Checklist question	Answers favouring not doing an EIA
☐ Yes	Does this activity involve any of the following: - Commissioning / decommissioning a service - Budget changes - Change to existing Council policy/strategy	☒ No
☐ Yes	Does the activity impact negatively on any of the protected characteristics as stated within the Equality Act (2010)?	☒ No
☐ No ☐ Not sure	Is there a sufficient information / intelligence with regards to service uptake and customer profiles to understand the activity's implications?	☒ Yes
☐ Yes ☐ Not sure	**Does this activity:** Contribute towards unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act *(i.e. the activity creates or increases disadvantages suffered by people due to their protected characteristic)*	☒ No
☐ Yes ☐ Not sure	Reduce equality of opportunity between those who share a protected characteristic and those who do not *(i.e. the activity fail to meet the needs of people from protected groups where these are different from the needs of other people)*	☒ No
☐ Yes ☐ Not sure	Foster poor relations between people who share a protected characteristic and those who do not *(i.e. the function prevents people from protected groups to participate in public life or in other activities where their participation is disproportionately low)*	☒ No
FOR = 0	**TOTAL**	**AGAINST = 6**

Will you now be completing an EIA? ☐ Yes ☒ No

The EIA toolkit can be found here

Assessment Lead Signature	P. Hughes
Checked by departmental E&D Lead	☒ **Yes** ☐ **No** **N.Master**
Date	08/11/2018

EXECUTIVE MEMBER DECISION

REPORT OF:	Executive Member for Regeneration
LEAD OFFICERS:	Director of Environment and Operations
DATE:	**23/10/2018**

PORTFOLIO/S AFFECTED:	Regeneration
WARD/S AFFECTED:	All

SUBJECT: Resurfacing Procedure

1. EXECUTIVE SUMMARY

This procedure identifies and documents best practice techniques to ensure that carriageway resurfacing carried out in the Borough is to the highest standards.

2. RECOMMENDATIONS

That the Executive Member:

1. Approves the Resurfacing Procedure and authorises it's review within two years.
2. Authorises publication of this procedure on the Council's website.

3. BACKGROUND

The attached Resurfacing Procedure document identifies best practice techniques to be adopted by the council to ensure that the greatest value for money is achieved when carriageway resurfacing is undertaken. The procedure includes sections on:

- Lifecycle planning,
- Site Investigation,
- Estimating,
- Resurfacing options,
- Guidance on specifications,
- Other surfacing techniques,
- Pavement materials.

The procedure draws together advice from the Highways Maintenance Efficiency Programme, the UK Roads Liaison Group, Highways England and Hampshire County Council.

4. KEY ISSUES & RISKS

The procedure promotes the continued use of lifecycle planning techniques to:

- Identify long term investment for resurfacing,
- Predict the future performance of elements of the network,
- Determine the level of investment required to achieve performance targets,
- Determine the condition achieved for different funding scenarios,
- Support decision making and demonstrate the effects of funding scenarios,
- Minimise maintenance costs over the lifecycle whilst maintaining the required condition.

It also advocates the continued use of the lifecycle planning toolkit provided by the Highways Maintenance Efficiency Programme, which has demonstrated how various asset groups perform over periods of 10 to 20 years, under different funding scenarios and provides advice on ascertaining and catering for a wide range of site conditions and design issues.

Estimating the anticipated costs of schemes is one of the key topics of the procedure and is covered in some depth. The factors affecting costs are described as well as the management of the inherent risks; stress is placed on revising and updating estimated costs in the light of new information at significant points in the programme to ensure that budgets can be adequately monitored throughout the financial year.

Options available to engineers specifying resurfacing materials and techniques are described for a range of site conditions and traffic volumes.

5. POLICY IMPLICATIONS
This procedure compliments the asset management policy and strategy.

6. FINANCIAL IMPLICATIONS
This procedure embodies best practice, as such it ensures the most efficient use of resurfacing budgets.

7. LEGAL IMPLICATIONS
The Council has a duty under section 41 of the Highways Act 1980 to maintain the public highway network in a condition that is safe for users. This includes all roads, footways, footpaths and verges for which the highway authority has responsibility. The Act does not define what comprises maintenance nor does it set specific or minimum standards. Risk based asset management is considered good practice by the UK Roads Liaison Group and HMEP and is recommended by DfT.

8. RESOURCE IMPLICATIONS
No additional internal resources are required to comply with this procedure.

9. EQUALITY AND HEALTH IMPLICATIONS
Please select one of the options below. Where appropriate please include the hyperlink to the EIA.

Option 1 ☒ Equality Impact Assessment (EIA) not required – the EIA checklist has been completed.

Option 2 ☐ In determining this matter the Executive Member needs to consider the EIA associated with this item in advance of making the decision. *(insert EIA link here)*

Option 3 ☐ In determining this matter the Executive Board Members need to consider the EIA associated with this item in advance of making the decision. *(insert EIA attachment)*

10. CONSULTATIONS
Consultations have taken place with the Director of Environment & Operations, the Executive Member for Regeneration and with Audit and Assurance.

11. STATEMENT OF COMPLIANCE

The recommendations are made further to advice from the Monitoring Officer and the Section 151 Officer has confirmed that they do not incur unlawful expenditure. They are also compliant with equality legislation and an equality analysis and impact assessment has been considered. The recommendations reflect the core principles of good governance set out in the Council's Code of Corporate Governance.

12. DECLARATION OF INTEREST

All Declarations of Interest of any Executive Member consulted and note of any dispensation granted by the Chief Executive will be recorded and published if applicable.

VERSION:	**1**

CONTACT OFFICER:	**Matthew Joyce**
DATE:	26/10/2018
BACKGROUND PAPER:	Resurfacing Procedure.

EQUALITY IMPACT ASSESSMENT CHECKLIST

This checklist is to be used when you are uncertain if your activity requires an EIA or not.

An Equality Impact Assessment (EIA) is a tool for identifying the potential impact of the organisation's policies, services and functions on its residents and staff. EIAs should be actively looking for negative or adverse impacts of policies, services and functions on any of the nine protected characteristics.

The checklist below contains a number of questions/prompts to assist officers and service managers to assess whether or not the activity proposed requires an EIA. Supporting literature and useful questions are supplied within the EIA Guidance to assist managers and team leaders to complete all EIAs.

Service area & dept.	Environment & Operations, Highways	**Date the activity will be implemented**	01/01/2019

Brief description of activity	Carriageway Resurfacing Procedure

Answers favouring doing an EIA	Checklist question	Answers favouring not doing an EIA
☐ Yes	Does this activity involve any of the following: - Commissioning / decommissioning a service - Budget changes - Change to existing Council policy/strategy	☒ No
☐ Yes	Does the activity impact negatively on any of the protected characteristics as stated within the Equality Act (2010)?	☒ No
☐ No ☐ Not sure	Is there a sufficient information / intelligence with regards to service uptake and customer profiles to understand the activity's implications?	☒ Yes
☐ Yes ☐ Not sure	**Does this activity:** Contribute towards unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act *(i.e. the activity creates or increases disadvantages suffered by people due to their protected characteristic)*	☒ No
☐ Yes ☐ Not sure	Reduce equality of opportunity between those who share a protected characteristic and those who do not *(i.e. the activity fail to meet the needs of people from protected groups where these are different from the needs of other people)*	☒ No
☐ Yes ☐ Not sure	Foster poor relations between people who share a protected characteristic and those who do not *(i.e. the function prevents people from protected groups to participate in public life or in other activities where their participation is disproportionately low)*	☒ No
FOR =	**TOTAL**	**AGAINST =6**

Will you now be completing an EIA? ☐ Yes ☒ No

The EIA toolkit can be found here

Assessment Lead Signature	M. Joyce
Checked by departmental E&D Lead	☒ **Yes** ☐ **No**
Date	05/11/2018

Blackburn with Darwen Borough Council.

Environment and Operations, Highways

Carriageway Resurfacing Procedure, Options and Guidance

Contents

NOTE: This document is based upon standards, best practice and specifications current at the time of writing. This document will be reviewed every two years, or sooner if circumstances dictate, and will be revised if necessary. Accordingly the contents are to be treated as guidance only and should not be relied upon as definitive or binding.
Formal approval of designs or proposals relying, or based upon this guidance, should be obtained before entering into any contractual or other form of binding commitment.
The value and quality of the work undertaken by both Highways England and Hampshire County Council is generously and gratefully acknowledged.

1.0 Introduction

Blackburn with Darwen Borough Council's highway network is extensive; some 512 km of carriageway with a replacement value in excess of £630 Million, which makes it the single most valuable asset owned by the Council. Given the value and importance of the network to commuters and the broader economy, correct choices regarding maintenance techniques are essential to ensure the safety of road users, minimisation of disruption and value for money.

Correct choice of materials and techniques are prerequisite to the most efficient use of budget and resources.

The majority of the Borough's network is surfaced with bitumen bound products; either asphalt or surface dressing[1].

The aim of this document is to provide Engineers with information, advice and guidance on the common options available to them.

This document has been formulated as a guide to lifecycle planning, site investigation, estimating and the selection of surface treatments for highway maintenance works, in areas not subject to special requirements. It also provides sufficient guidance for Engineers to specify safe and durable surface treatments which will give an adequate level of performance over an acceptable service life.

Reconstruction and more extensive treatments are outside of the scope of this document and such operations (e.g. base and sub-base) are covered in only the broadest of terms, as are public realm works carried out in town centres. Reference should be made to sections 600, 700 & 800 of the Specification for Highway Works (SHW), in the event that such works are to be considered.

Specified requirements and assessments of relevant characteristics are contained within Section 6. Further supporting information and guidance is given within section 7 and section 8 gives guidance on other ancillary processes. Section 9 contains a list of asphalt mixes.

[1]For the purposes of this document the term 'asphalt' is used throughout in the generic sense to refer to the range of mixtures as used in the UK;
Asphalt Concrete (AC)
Hot Rolled Asphalt (HRA)
Stone Mastic Asphalt (SMA)
Clause 942 Surface Course (942) previously known as 'Thin Surface Course'.

2.0 Lifecycle Planning

2.1 Approach. Lifecycle planning comprises the approach to the maintenance of an asset from construction to disposal. It is the prediction of future performance of an asset, or a group of assets, based on investment scenarios and maintenance strategies. The lifecycle plan is the documented output from this process. The process is well documented in Highway Infrastructure Asset Management, published by HMEP which explains the following stages of any asset.

a. Creation of a new asset
b. Routine maintenance.
c. Renewal or replacement.
d. Decommissioning of the asset.

2.2 Maintenance strategies should be developed to balance renewal with routine maintenance; these will take into account their effective life and unit cost over that period of time. The fundamental purpose is to minimise the overall costs whilst maintaining an acceptable standard.

The authority's asset management strategy defines the performance levels required of various road categories.

Lifecycle plans are maintained for various asset groups and are updated when survey information is updated as described in the data management strategy. A number of maintenance strategies should be considered.

a. Do minimum, limited to routine maintenance.
b. Reducing the service standard below the existing level.
c. Maintaining the current service standard.
d. Prioritised maintenance, aimed at specific, defined, sections of the asset.
e. Enhanced maintenance to meet particular performance targets.

2.3 Strategies

All strategies should consider how to:

a. Minimise the whole life costs.
b. Meet statutory requirements.
c. Meet performance targets.
d. Manage risk.

Priority should be given to assets which pose the greatest risk and demand the greatest investment.

2.4 A useful toolkit has been provided by the HMEP. This excel based model evaluates the condition of asset groups over various funding scenarios over a period of time specified by the user. This is updated to reflect new condition information. A network model has been developed, and should be maintained, which identifies the extent of each component element of the asset and assigns it to a particular group.

2.5 Work plans should be developed for periods of up to five years. These should be revised and refined to reflect the accelerated decline and deterioration of elements of the network. The work should be prioritised to

reflect not only the condition of the network but also the volume of traffic using the road and facilities, such as schools, hospitals and health centres that are accessed via that road. Whilst it is acceptable to determine only indicative costs for the third, fourth and fifth years, and the first two years of the proposed programme should be fully costed, advice and guidance is given in section four.

3.0 Site Investigation.

3.1 Condition surveys should be carried out as specified in the data management strategy. The results of carriageway condition surveys comprising Scanner, CVI, Gaist type video surveys and skid resistance should be examined to determine long lists of possible schemes. The hierarchy of individual roads should also be used to aid the prioritisation the process.

3.2 Prioritisation. Prioritising the long list of potential schemes will result in a short list of probable schemes. This is achieved by identifying those schemes which require the most immediate action. Generally these are likely to include, in descending order of priority:

a. Safety critical.
b. Carry a high level of risk, heavily trafficked main roads.
c. Those whose condition is below the stipulated intervention level.
d. Those that receive significant stakeholder support.
e. Support the corporate vision.

3.3 The final aspect of prioritisation requires all the cost of all the possible schemes to be estimated, this enables the schemes that provide the greatest gain for the least cost to be identified so ensuring the maximum value for money.

3.4 Construction. The existing construction of the road to be resurfaced should be determined to support the design process. The presence of tar as a binding agent also needs to be determined at an early stage as the removal of tar bound macadam is very expensive. If this is detected the design process should favour an overlay as this ensures that tar remains in-situ.

3.5 Drainage. The condition of the carriageway drainage system should be investigated to determine if any repairs are required prior to resurfacing work.

3.6 Topography. The topography of the existing highway should be examined to determine that gradients are sufficient and adequate to provide a free draining surface. In the event that gradients are inadequate the design process should incorporate summits and valleys.

3.7 Road Markings. The existing road-markings should be assessed to determine if they are still appropriate or if other road-markings are required.

3.8 Traffic signals. Any existing traffic signals ducts and chambers should be assessed to determine if they require renewal.

4.0 Estimating the cost of Resurfacing work.

4.1 Estimate. The cost of schemes on the short list should be estimated and discussed with the executive member, whose approval should be sought via a decision paper.

a. Estimating the cost of resurfacing works is inherent to the design process and is fundamental to setting budget levels and avoiding both overspend or underspend.

b. It is an iterative process which is refined over time. Revised costs should be determined at the following significant stages:

c. Initial estimate prior to executive member approval.

d. After approval prior to issuing tender documents.

e. After tenders are received.

f. After each valuation is received.

4.2 Risk. As with all construction work there an element of risk which may or may not be realised. Cost estimates should include a contingency to cover this element of risk.

4.3 Rates. Tendered rates vary with overall area, complexity, depth of regulating, risk, and availability of other work, time of year, expected inclement weather, traffic management, road closures and diversion routes.

4.4 Other factors affecting the overall cost include the presence of tar in existing material that has to be removed, accommodation works, blocked drains, drainage costs and ironwork. Equally costs will increase if unintentional rip out occurs, below the desired final surface whilst planning. Claims for increased overheads maybe received from contractors if the overall amount of work is reduced. Other factors affecting the eventual costs include traffic signals loops, design and supervision fees, Temporary Traffic Regulation Order (TTRO) and advertising costs.

4.5 Costs. In order to estimate the costs of proposed resurfacing schemes estimators and quantity surveyors should refer to the costs of similar work carried out in the recent past as well as having basic understanding of the build-up of unit costs from material costs, and labour & plant productivity.

4.6 Similar scheme. The similarity of a proposed scheme to an historic scheme involves the consideration of numerous factors discussed in section 5.2.

4.7 Revised estimate. The estimated cost of each scheme within a programme of work should be evaluated at each significant stage and this should be reported to the budget holder.

4.8 Variation. If there is a wide variance in the anticipated total cost the budget holder should report this to the executive member and may recommend a suitable course of action, such as adding or substituting schemes from the reserve list or curtailing or delaying the construction programme.

5.0 Cost Factors

5.1 Initial estimates should compiled by the Quantity Surveyor or estimator in conjunction with the designer and should be based on:

a. The costs of similar historic schemes.
b. A consideration of the costs of labour, plant and materials needed to carry out the work and the anticipated production rates.

5.2 Factors. A number of factors should be considered to ensure an appropriate comparative scheme is used:

a. Extent of the individual scheme.
b. Scale of the overall programme of work.
c. Depth of construction.
d. Specification.
e. Volume of traffic.
f. Time of year, anticipated downtime due to inclement weather.
g. Time of year, historically work is plentiful in the fourth quarter of any given financial year; this tends to increase unit rates as contractor's resources are finite.
h. Traffic management requirements.
i. Proximity of:
    - Emergency services offices/depots/stations.
    - Hospitals.
    - Schools.
    - Shops.
    - Factories.
j. Restricted hours.
k. Complexity of the work.
l. Proportion of hand lay.
m. Bed ends.
n. Number of resurfacing mats.

5.3 Incidental work. In addition to the basic cost, governed by the factors above, it is necessary to make due allowance for incidental works alongside the main resurfacing:

a. TTRO.
b. Advertising.
c. Gully cleaning.
d. Drain testing.
e. Kerb repairs.
f. Road studs
g. Cats eyes.
h. Road-marking.
i. Road closure and diversion costs.
j. Traffic signal loops.
k. High friction surfacing.

l. Ironwork.
m. Testing.

5.4 Risks. An assessment should be made of the likelihood of potential risks and a suitable contingency should be made in the estimate for the costs of:

a. Failure of underlying layers.
b. Rip out/ partial rip out of underlying surfacing layers whilst planning.
c. Presence of tar bound material which has to be removed from site.
d. Highway drain repair.
e. Exceptionally adverse weather conditions.
f. Other risks inherent to the individual site.

5.5 Revised estimates

a. Once tenders have been received the full cost of each scheme should be re-evaluated using the contractor's tendered rates by the Quantity Surveyor or estimator in conjunction with the designer, together with the ancillary costs identified previously. The revised anticipated cost of each scheme and of the full programme should be reported to the budget holder who may decide to recommend to the executive member that the resurfacing programme be adjusted to take into account changes in the overall anticipated cost of the programme.
b. During the resurfacing works one or more of the risks described in section 5.4 maybe realised. In this case the scheme estimate should be revised accordingly by the site manager who should advise the budget holder, who, again, may wish to recommend to the Executive Member that the overall programme be revised.
c. If the contractor successfully claims extra costs for any aspect of the work, the site manager should revise the estimate for the scheme and inform the budget holder.

6.0 Surfacing Options

There have been significant swings of opinion regarding the specification of asphalts in the UK over the past decade. Highways England was instrumental in the move away from the use of HRA with pre coated chippings in favour of SMA materials. Suffice to say that early derivations of this material, did not meet expectations in term of durability in that deterioration, once a defect occurred, was much faster than the materials that they replaced.

There were also concerns with a lack of early life skid resistance that prompted the issuing of an interim advice note, IAN 49/03 specifying the need for use of temporary slippery road surface signs. Some authorities also specified the use of hard-stone grit to aid abrasion of the bitumen from the road surface. Latterly IAN 49/13 has now been issued which confirms that these measures are not warranted.

The understanding of these issues has matured and an accepted hierarchy of the performance characteristics has evolved.

6.1 Service life of Surface Courses

When selecting an appropriate resurfacing option, whilst safety must be the primary consideration, durability and value for money should be a significant factor.

Table 1: Typical Service Life for Asphalt Surfacing[2]

Type of surface	Material	Service life (years)	
		From	To
Asphalt	Asphaltic concrete (macadam)	6	10
	Hot rolled asphalt & pre coated chippings	20	25
	High stone content hot rolled asphalt	20	25
	Clause 942/942 surface course & SMA	10	20
Surface Treatments	Surface dressing	6	8
	Micro-surfacing (Micro asphalt)	8	10
	High friction surfacing (hot applied)	3	4
	High friction surfacing (cold applied)	4	6

[2]*Figures within this table are based upon the joint report of the Association of Directors of Environment, Economy, Planning and Transport (Adept) and the Mineral Products Association (MPA), entitled 'Service Life of Asphalt Materials for Asset Management Purposes'. They are not applicable to every road as other variables will influence or dictate actual service life.*

The largest single variance between lower and higher levels of expectation is the 942/SMA class of materials. Early experience with the first generation of the UK derivatives of ‘SMA’ was extremely poor for a variety of reasons all of which have to be addressed for acceptable levels of service life to be achieved. Further guidance on the use of clause 942 surface courses and SMAs generally is contained within section 2.6 below.

The first choice material for heavily trafficked roads in Blackburn with Darwen is Hot Rolled Asphalt (HRA) with pre-coated chippings.

High stone content Asphalt is an HRA without the addition of PCC so is as durable but cannot be used where skid resistance is an issue.

Where HRA is not an option, clause a 942 SC should be specified. 10mm material 40mm thick is the preference for carriageways, subject to acceptable skid resistance and low void content.

Asphaltic concretes or ACs are the least durable option but are appropriate and good value for money on lightly trafficked, low speed roads.

6.2 Relative attributes

Table 2: Surface Course attributes

Material		Attribute							
		Skid Resistance	Durability	Wheel Tracking	Cracking Resistance	Ride Quality	Structural Contribution	Noise Level	Spray Control
Design Mix HRA	Performance Mixture Clause 943 L2	5	6	6	5	4	6	2	3
	Design Mix	5	6	4	4	4	6	2	3
	High Stone Content	2	5	4	3	5	6	4	1
Asphalt concrete		2	5	4	3	5	6	4	1
Surface Course Clause 942/SMA		5	4	6	5[3]	6	4	6	4
Micro-asphalt Surface Course (10mm to 15mm)		3	2	2	2	2	2	4	3
Surface Dressing	Single	5	2	Na	3	2	1	1	3
	Racked In	4	2	Na	3	2	1	1	3
High Friction Surface Treatment		6	1	Na	1	1	1	1	1

Key	0	1	2	3	4	5	6
Suitability	Not applicable	Poor		Better			Excellent

[3]Polymer modified & low void content 942 derivatives have proven best at crack inhibition (concrete overlays).
Where a proposed option achieves a score of 2 or less careful consideration should be given to ensure that the relevant attribute is not important or relevant for the scheme in question.

6.3 Site Classification

In order to provide consistency of approach in classifying sites, the following tables offer appropriate guidance. These tables should be referred to for selection of appropriate materials, dependent on speeds and traffic volumes.

The notes for guidance that follow the tables are particularly useful if selection of a particular classification is not immediately obvious.

Blackburn with Darwen Borough Council's approach on the monitoring of skid resistance is described in the Skid Resistance Strategy. There are a number of options for a site which has too low a level of skid resistance, including retexturing or reducing permitted speeds. A further option is to resurface with either asphalt or surface dressing, depending on the structural condition of the pavement. Where these are appropriate, the specification of the correct materials containing suitable aggregates is essential, not only in terms of achieving appropriate skid resistance but also durability which ultimately equates to value for money.

Although surface texture (macro-texture) as achieved by adequate texture depth, is important in aiding good skid resistance, particularly at higher speeds, the micro-texture of the coarse aggregate as measured by the PSV has the greatest effect on skid resistance and safety in wet conditions. As the surface ages this becomes increasingly relevant.

It is important to understand that there is growing demand for high PSV aggregate, which is un-sustainable, so 'over specification' should be avoided. Safety is the primary concern but this should not prevent a proper assessment of the risks on sites to avoid the unnecessary use of a diminishing resource.

Proposals for use of alternative, often recycled aggregates should be favourably considered. There are aggregates currently in use e.g. Steel Slag that have been demonstrated to offer better skid resistance than would be expected from declared PSV results. Any such proposals should only be supported if they are underpinned by robust, independent research.

With PSV measurements a higher value indicates greater resistance to polishing and therefore a 'high risk' site would use higher PSV aggregate. For AAV the higher the figure quoted the more the stone abrades so a lower figure is more resistant to wear.

The following tables are based on advice given in Highways Agency standard, HD 36 and amendment (IAN 156/12 Sept 2012). This advice note is based principally around the Highways England network and can be considered as 'cautious'.

In these tables the site categories and target skid resistance values, reflect the level of risk and the intensity of polishing that the aggregate will be subjected to, hence a higher number of commercial vehicles results in the specification of a higher psv. In the absence of specific growth figures the commercial traffic flow shall be estimated to increase at a rate of 2% per annum.

Tables 5, 6 & 7 give guidance on the required properties for coarse aggregates whichever option is taken.

As traffic speed is the key driver in the requirement for surface skid resistance, options are given on the basis of roads being above or below the threshold of the 85th percentile speeds of 40mph (64km/h) This distinction is made due to the greater need for macro-texture at higher speeds where there is a greater risk of aquaplaning.

HRA with chips is the first choice material for highly trafficked roads. However the laying of HRA and chippings requires sufficient width of carriageway to allow the chipping machine to be fed.

Where there are a high number of commercial vehicles, a resistance to rutting is to be specified. A performance mix HRA, clause 943 (level 2), should be specified. As an alternative 942 products whilst being less durable in terms of wear do achieve acceptable levels of rut resistance.

For the five year guarantee included within clause 942 to be effective details of site layout, traffic volumes and speed must be provided to the contractor to allow them to propose the appropriate material.

Guidance on the preferred resurfacing materials and surface texture requirements are based on the combination of site category and projected commercial vehicle traffic flow at the design life (i.e. in 20 years' time allowing for the projected growth rate)

The 'Site Categories' as defined below are derived from HD36 in the Design Manual for Roads and Bridges (DMRB) with minor amendments applicable to the Borough's roads.

Table 3: Classification of Sites by Traffic and Stress Condition - Speed Limit 40mph or Greater

			Road Hierarchy						
			4a & 4b	3a & 3b	2				
			Traffic design Life (20yrs) Commercial vehicles per lane per day						
Section	Site Category	Site Definition	Upto 50	51 - 500	501-1000	1001-1500	1501-2000	2001-2500	>2500
3.1	C	Estate Roads	AC, HRA	N/A					
3.2	B	Dual carriageway (non-event sections and minor junctions)	HRA or 942SC		943 HRA or 942 SC				
3.3	C	Single carriageway (non-event sections and minor junctions)	AC, HRA or 942SC	943 HRA or 942 SC					
3.4	As above but with slow moving traffic during summer months.		HRA or 942SC		943 HRA or 942 SC				
3.5	Q1, Q2, Q3, G1	Approaches to and across major junctions. Dual carriageways. Single carriageways.	HRA or 942SC		943 HRA or 942 SC				
3.6	As above but with slow moving traffic during summer months or in a south facing cutting.		HRA or 942SC		943 HRA or 942 SC				
3.7	G2	Gradient steeper than 10%, longer than 50m. Dual carriageways. Single carriageways.	HRA or 942SC		943 HRA or 942 SC				
3.8	R	Roundabouts	HRA		943 HRA				
3.9	As 3.7 but with slow moving traffic during summer months or in a south facing cutting.		HRA or 942SC	942 HRA or 942 SC					
3.10	As 3.7 but with slow moving traffic during summer months or in a south facing cutting.		HRA or 942SC	943 HRA					
3.11	K	Approach to roundabouts, signals, pedestrian crossings, etc.	HRA	943 HRA					

General notes to table 3: Speed Limit 40mph or Greater

The above table represents permitted options; preference should be given to the option that represents the best value based on predicted service life unless there are scheme specific issues that justify alternative choice.

Key

AC	Asphalt Concrete 14mm or 10mm close graded
942 AC	Stone Mastic asphalt 6mm, 10, or 14mm.
HRA	Deign mix, 4kN to 8kN, with 20mm pre-coated chips of HSCA where surface texture is not a consideration.
943 HRA	Performance design mix conforming to level 2 wheel tracking resistance requirements.

a. Shared service & residential roads serving up to 50 dwelling

These roads are unlikely to have a speed limit of 40mph, it should be considered against the most appropriate of the other site categories with consideration for inherent risks.

b. Dual carriageway (non-event sections and minor junctions)

This category will require a material resistant to deformation (rutting) and loss of surface texture. The preferred option is an HRA, on heavily trafficked sites traditional HRA is liable to rut and hence, a clause 943, asphalt should be specified. On lightly trafficked sites where rutting is unlikely to be an issue, then standard ‘design mix’ HRA is appropriate. A proprietary 942 surface course may be a second choice alternative if the laying of HRA is not practical. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

c. Single Carriageway (non-event sections and minor junctions)

The requirements for these sites are similar to those for dual carriageways. The exception being in the, ‘up to 50 cvd’ category where an AC or SMA surface course is an option if texture is not a requirement. For more highly stressed areas an HSCA could also be considered but as with the AC & SMA options, macro texture for this material is poor so it should not be used where macro texture is required. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in

accordance with IAN 154/12 (average 0.9mm – maximum 1.8, for 14mm nominal size aggregates & 0.8mm – maximum 1.6 for 10mm).

d. Dual or Single Carriageways (include. minor junctions) with slow-moving traffic anticipated during summer months

In periods of hot weather road temperatures can cause the bitumen within asphalt to soften. Slow moving traffic results in intensified loading which can cause rutting and/or deformation, hence the requirement for specified levels of rut resistant performance. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm)

e. Major Junctions (within 50m) and Gradients of 5% to 10% for more than 50m

These sites are similar in nature to those in the previous category, Gradients (uphill) and major junctions tend to suffer from deformation/rutting due to increased traffic loading times. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

f. Major Junctions and Gradients of 5% to 10% with slow moving traffic anticipated during summer months or a south-facing carriageway.

Some south facing and sloping carriageways will be exposed to more sun/heat. This can increase deformation and hence increased resistance to rutting is needed. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

g. Gradient Steeper than 10% (for longer than 50m)

Steep gradients require good resistance to deformation (uphill) and high levels of texture to prevent aquaplaning (downhill). Increased stresses from braking, at these sites make the specification of 942 materials less desirable and they should only be specified if HRA cannot be laid. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

h. Roundabouts (including exits)

Roundabouts require high levels of deformation resistance. On small diameter roundabouts the turning action of traffic can cause excessive chipping loss if too high a rate of spread of chippings is used. To prevent this, BS 594987 recommends a

lower surface texture (1.2mm). However, on larger diameter roundabouts where vehicles are able to maintain speed, a 1.5mm surface texture is appropriate Clause 942 should not be chosen if HRA with pre-coated chips can be laid. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

i. Gradients steeper than 10% for more than 50m with slow moving traffic anticipated during summer months or an uphill, south- facing carriageway.

Gradients result in longer loading times for the road surface which can result in deformation. The importance of surface texture is greater to prevent skidding. Consequently, minimal textured surfaces AC or HSCA materials are not advisable. For HRA a 1.5mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

j. Roundabouts with slow moving traffic anticipated during summer months or an uphill, south facing carriageway

Clause 943 materials, with their characteristic resistance to rutting, are more of a requirement for the reasons of potential rutting. On small diameter roundabouts the turning action of traffic can cause excessive chipping loss if too high a rate of spread of chippings is used. To prevent this, BS 594987 recommends a lower surface texture (1.2mm). However, on larger diameter roundabouts where vehicles are able to maintain speed, a 1.5mm surface texture is appropriate Clause 942 should not be chosen if a HRA with pre-coated chips can be laid. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

k. Approaches to Roundabouts, Traffic Signals, Pedestrian Crossings, Railway Level Crossings and similar features.

These are often subjected to extreme traffic forces. The continual braking and acceleration combined with long traffic loading times due to low speeds are likely to result in deformation. Any rutted material at a lower layer may need replacement for a 'long term' solution. If this is required the underlying material should also be selected on the basis of an ability to resist wheel tracking. For HRA a 1.5mm surface texture shall be specified. Clause 942 should not be chosen if a chipped HRA can be laid. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.8mm, for 14mm nominal size aggregates & 0.8mm – maximum 1.6mm for 10mm).

Other Considerations;

l. Bends of Radius - 250m to 500m

Bends of this type do not suffer 'structurally' from vehicle loading forces beyond the

normal for the nature of the road. Consequently, the category can be as per the appropriate preceding classification.

m. Bends of Radius - up to 250m

The guidance given for the preceding category is also valid for these tighter bends. Given the high braking stresses, a HRA with pre-coated chips is preferable.

Where visibility is poor or where there is a history of wet skid accidents additional measures may need to be considered.

The PSV and AAV of the PCCs and coarse aggregates shall be specified in accordance with tables 3, 4, and 5 of this document.

Table 4 Classification of sites by traffic & stress condition - Speed limit less than 40mph

				Road Hierarchy					
			4a & 4b	3a & 3b	2				
			Traffic design Life (20yrs) Commercial vehicles per lane per day						
Section	Site Category	Site Definition	Upto 50	51 - 500	501-1000	1001-1500	1501-2000	2001-2500	>2500
4.1	C	Estate Roads (level/straight)	AC or 942SC	N/A					
4.2	C	Estate Distributor roads and Estate Roads with steep gradients or tight bends.	AC or 942SC	N/A					
4.3	B	Dual carriageway (non-event sections and minor junctions)	HRA or 942SC	HRA or 942 SC			943 HRA or 942 SC		
4.4	C	Single carriageway (non-event sections and minor junctions)	AC ,HRA or 942SC		HRA or 942 SC				
4.5	Q1, Q2, Q3, R	Approaches to and across major junctions. Roundabouts.	HRA		943 HRA				
4.6	G1	Gradient 5% to 10%, longer than 50m. Dual and single carriageway.	HRA or 942SC		943 HRA				
4.7	As 4.6, above, but in a south facing cutting		HRA or 942SC		943 HRA				
4.8	G2	Gradients steeper than 10%, longer than 50m. Dual and single carriageway.	HRA		943 HRA				
4.9	As 4.8, above, but in a south facing cutting.		HRA		943 HRA				
4.10	K	Approach to roundabout, traffic signals, pedestrian crossings, railway level crossings.	HRA or 942SC	943 HRA or 942 SC					

General notes to table 4: Speed limit less than 40mph

The above table represents permitted options; preference should be given to the option that represents the best value based on predicted service life unless there are scheme specific considerations that justify alternative choice

Key:

AC	Asphalt Concrete 14mm or 10mm close graded
942 AC	Stone Mastic asphalt 6mm, 10, or 14mm.
HRA	Deign mix, 4kN to 8kN, with 20mm pre-coated chips of HSCA where surface texture is not a consideration.
943 HRA	Performance design mix conforming to level 2 wheel tracking resistance requirements.

a. Shared service & residential roads serving up to 50 properties, level/ straight.

Most estate roads carry very few commercial vehicles. Consequently, an AC or SMA surface course is normally adequate for the loads imposed. Low vehicle speeds mean that only nominal surface texture is necessary. In the unlikely event that such a road is expected to carry more than 50 cvds by the end of the surfacing 'design life' then it should be considered to be within the most appropriate of the other site categories covered by this table.

b. Estate distributor roads and estate roads with steep gradients and/or tight bends

These sites are similar to those in (a), except that the gradients/bends require greater texture than that given by a 6mm nominal size material desirable so where possible larger nominal size ACs or SMA should be considered.

c. Dual Carriageway (non-event and minor junctions)

Sites of this type require a material resistant to rutting but due to lower traffic speeds surface texture is less important unless there is a history of skidding accidents. High Stone Content (HSC) asphalt is an option for sites carrying up to 500 cvd where no history of skidding accidents exists. 55/14 (14mm nominal size) material gives more texture than 55/10 (10mm) material but the latter is less liable to segregation during hand laying/raking. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

d. Single Carriageways (non-event sections and minor junctions)

These sites are similar in terms of traffic stresses to those in (c) above and hence the same vehicle flow/material parameters have been used. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

e. Approaches to and across major junctions and roundabouts

At speeds below 40 mph these sites are similar in terms of the vehicle stresses. Additionally, roundabouts in areas with speed limits less than 40mph tend to be smaller and hence the lower surface texture level need be specified. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

f. Gradient of 5% to 10% for more than 50m

As gradients can result in longer loading times, deformation can result. The requirement for surface texture is greater for sites with gradients to help prevent skidding. Surface courses with minimal macro texture (e.g. High Stone Content asphalt) are not appropriate. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

g. Gradient of 5% to 10% for more than 50m on a south facing carriageway

A site where extra surface heat results from facing south makes deformation resistance more important. Minimal textured surfaces (e.g. High Stone Content asphalt) are not appropriate. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

h. Gradients steeper than 10% for longer than 50m

Sites of this type require similar resistance to deformation to those in (g) above. The steeper nature of these sites makes texture micro and macro, very important despite traffic speeds below 40mph. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

i. Gradients steeper than 10% more than 50m in a south facing carriageway

As (h) above but a slightly greater resistance to deformation is necessary due to the higher road temperatures commonly occurring in south facing carriageways. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials

will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

j. Approaches to roundabouts, traffic signals, pedestrian & railway level crossings and similar features

These sites are subjected to braking/acceleration forces and relatively long vehicle loading times. This will result in deformation. It is important to note on such sites that any rutted material at a lower layer may need replacement for a 'long term' solution. If this is required the underlying material should also be selected on the basis of their ability to resist wheel tracking. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates)

k. Bends of Radius - less than 500m

At speeds below 50 mph bends of radius less than 500m are not considered as specific site categories. At such speeds there is little risk of aquaplaning and hence such sites should be designed to the most appropriate site category. However, where sites include bends of radius less than 100m, accident history and traffic flows will need to be taken into account as part of this exercise. For HRA a 1.2mm surface texture shall be specified. Texture depths for 942 materials will be in accordance with IAN 154/12 (average 0.9mm – maximum 1.5mm, for 14mm or less nominal size aggregates

The PSV and AAV of the PCCs and coarse aggregates shall be specified in accordance with tables 5, 6, & 7 of this document.

6.4 Selection of resurfacing aggregate

Aggregate used in the production of asphalt shall be hard, durable and clean. It should be of a suitable shape and for trafficked surfaces, provide a level of skid resistance by virtue of surface roughness (micro texture).

The following key characteristics are measured as follows:

Hardness:	Los Angeles coefficient (LA)
Durability:	Aggregate abrasion value (AAV), Magnesium sulphate soundness value (MSSV), Water absorption (WA)
Cleanness:	Sieve test (% less than 0.075mm)
Shape:	Flakiness index (FI)
Micro texture:	Polished stone Value (PSV)

The physical requirements for aggregates are stated in BS EN 13043 and the associated guidance document PD 6682-2.

Limestone coarse aggregate is not currently permitted in any surface course materials. (Potentially 50+psv material may be proposed subject to acceptable trials).

Specification of Polished Stone Value (PSV) & Aggregate Abrasion Value (AAV):

The tables below are extracts of IAN 156/12 & 56/06 respectively and should be used in conjunction with the following guidance:

General: Except where stated otherwise in the specific guidance below, the higher levels of Target Skid Resistance (SFC) should only be specified where there is a known history of wet skid accidents showing a significantly higher level than the county average for that type of site.

Site category K: Where approach speeds are slow and visibility is good the lowest target skid resistance should be used (0.50). For crossings in 40mph or greater zones, or where, for other reasons, heavy braking is anticipated the higher level should be used (0.55).

Site category Q: For approaches to roundabouts (incl. mini roundabouts) and signals in zones of 40mph or less, approaches to junctions on major roads in 40mph zones and approaches to junctions on minor roads with any speed limit, the lowest figure should be used (0.45). For roundabouts, signal approaches and across junctions on major roads in 50mph or greater zones 0.50 should be used. Only where there are significantly higher risks should the highest level be applied (0.55)

Site category R: Generally the lowest value should be used (0.45). However, where circulation speeds are high, where there is frequent use by cyclists and motorcyclists or where there is an absence of signalised control on grade-separated junctions, then higher level 0.55 is appropriate.

Site category S1: (Dual Carriageway bends). Where traffic needs to slow down to safely negotiate the bend, where there is adverse camber or where the road geometry presents an increased hazard and for bends on dual carriageways the target skid resistance should be raised to 0.50. Otherwise select the lower target skid resistance (0.45).

Site Category S2: (Single Carriageway bends). The default target skid resistance of 0.50 should be lowered to 0.45 unless there is evidence that the bend has an enhanced accident risk. The highest target of 0.55 should be used only where a risk assessment identifies significantly enhanced risks such as adverse camber or very poor road geometry.

Table 5 Minimum PSV for chippings or coarse aggregate in bituminous surfacing (excluding clause 942 surface courses)

Site Description	Site Category	Investigatory Levels	Estimated commercial traffic flow at the end of service life(cv per lane per day)								
			0 to 250	251 to 500	501 to 750	751 to 1000	1001 to 2000	2001 to 3000	3001 to 4000	4001 to 5000	Over 5000
Dual carriageways free flowing traffic, relatively straight line	B1	0.30	50	50	50	50	50	55	55	60	65
		0.35	50	50	50	50	50	60	60	60	65
		0.40	50	50	50	55	60	65	65	65	65
Dual carriageways where some braking	B2	0.35	50	50	50	55	55	60	60	65	65
		0.40	55	60	60	65	65	68+	68+	68+	68+
Single carriageways free flowing traffic relatively straight line	C	0.35	50	50	50	55	55	60	60	65	65
		0.40	55	60	60	65	65	68+	68+	68+	68+
		0.45	60	60	65	65	68+	68+	68+	68+	68+
Gradients 5% to 10%	G1/G2	0.45	55	60	60	65	65	68+	68+	68+	68+
Gradients >10%		0.50	60	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS
As above – elevated risks		0.55	68+	HFS	HFS	HFS	HFS	HFS	HFS	HFS	HFS
Approaches to pedestrian crossings and other high risk situations	K	0.50	65	65	65	68+	68+	68+	HFS	HFS	HFS
		0.55	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS	HFS

Continued

Site Description	Site Category	Investigatory Levels	Estimated commercial traffic flow at the end of service life(cv per lane per day)								
			0 to 250	251 to 500	501 to 750	751 to 1000	1001 to 2000	2001 to 3000	3001 to 4000	4001 to 5000	Over 5000
Approaches to major & minor junctions on dual and single carriageways. Approaches to roundabouts	Q	0.45	60	65	65	68+	68+	68+	68+	68+	68+
		0.50	65	65	65	68+	68+	68+	HFS	HFS	HFS
		0.55	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS	HFS
Roundabout circulation areas and exist (incl mini)	R	0.45	50	55	60	60	65	65	68+	68+	68+
		0.50	68+	68+	68+	68+	68+	68+	68+	68+	68+
Bends radius less than 500m on all roads (50mph & above or with other hazards resulting in braking or cornering)	S1/S2	0.45	50	55	60	60	65	65	68+	68+	HFS
		0.50	68+	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS
		0.55	HFS	HFS	HFS	HFS	HFS	HFS	HFS	HFS	HFS

Table 6 Minimum PSV for coarse aggregate in clause 942 surface courses.

Site Description	Site Category	Investigatory Levels	Estimated commercial traffic flow at the end of service life(cv per lane per day)								
			0 to 250	251 to 500	501 to 750	751 to 1000	1001 to 2000	2001 to 3000	3001 to 4000	4001 to 5000	Over 5000
Dual carriageways free flowing traffic, relatively straight line	B1	0.30	50	50	50	50	50	50	50	53	63
		0.35	50	50	50	50	50	53	53	53	63
		0.40	50	50	50	55	53	58	58	58	63
Dual carriageways where some braking regularly occurs	B2	0.35	50	50	50	55	55	60	60	65	65
		0.40	55	60	60	65	65	68+	68+	68+	68+
Single carriageways free flowing traffic relatively straight line	C	0.35	50	50	50	50	50	53	53	58	63
		0.40	50	53	53	58	58	63	63	63	68+
		0.45	53	53	58	58	63	63	63	63	68+
Gradients 5% to 10%	G1/G2	0.45	55	60	60	65	65	68+	68+	68+	68+
Gradients >10%		0.50	60	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS
As above – elevated risks		0.55	68+	HFS	HFS	HFS	HFS	HFS	HFS	HFS	HFS

Continued											
Site Description	Site Category	Investigatory Levels	Estimated commercial traffic flow at the end of service life(cv per lane per day)								
			0 to 250	251 to 500	501 to 750	751 to 1000	1001 to 2000	2001 to 3000	3001 to 4000	4001 to 5000	Over 5000
Approaches to pedestrian crossings and other high risk situations	K	0.50	65	65	65	68+	68+	68+	HFS	HFS	HFS
		0.55	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS	HFS
Approaches to major & minor junctions on dual and single carriageways. Approaches to roundabouts	Q	0.45	60	65	65	68+	68+	68+	68+	68+	68+
		0.50	65	65	65	68+	68+	68+	HFS	HFS	HFS
		0.55	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS	HFS
Roundabout circulation areas and exit (incl mini)	R	0.45	50	55	60	60	65	65	68+	68+	68+
		0.50	68+	68+	68+	68+	68+	68+	68+	68+	68+
Bends radius less than 500m on all roads (50mph & above or with other hazards resulting in braking or cornering)	S1/S2	0.45	50	55	60	60	65	65	68+	68+	HFS
		0.50	68+	68+	68+	HFS	HFS	HFS	HFS	HFS	HFS
		0.55	HFS	HFS	HFS	HFS	HFS	HFS	HFS	HFS	HFS

Table 7: <u>Maximum</u> AAV of chippings or coarse aggregate in un-chipped surfaces for new surface as per HD 36/06

Traffic (cv/lane/day) at design life	**<250**	**251 to 1000**	**1000 to 1750[3]**	**1751 to 2500**	**2501 to 3250**	**>3250**
Max AAV for chippings for HRA and surface dressing and for aggregate in slurry and micro surfacing systems.	14	12	12	10	10	10
Max AAV for aggregate in thin surface courses, SMA, exposed aggregate concrete surfacing and asphalt concrete surface course.	16	16	14	14	12	12

[3] For roads carrying less than 1750 cv/lane/day, aggregate of higher AAV may be used where evidence is available to show that satisfactory performance has been is achieved

6.5 Bitumen Specification

Paving grade binders are specified in accordance with BS EN 12591.

Hot Rolled Asphalt (HRA) surface courses use a 40/60 pen binder. The stiffer binder aids resistance to rutting. To conform to wheel tracking levels it is likely for mix designs to utilise polymer modified binder (PMB). Thin Surface Course (TSC) mixtures almost exclusively use a PMB

For Asphalt Concrete (AC) mixtures including footways 100/150 pen has been the appropriate option. A stiffer 40/60 option can offer better durability when laid by machine and should be considered.

The use of 160/220 pen binder is now generally limited to materials for footway works only or for particularly cold periods. It is **not** recommended.

There are also many binder additives, e.g. polymers and waxes, available which improve specific aspects of a bituminous materials performance. Before approval of the use of any additive, evidence of satisfactory performance or agreed regime of trials need to be in place.

Polymer modified bitumen is now covered by a framework specification in BS EN 14023, however this is not a performance specification so type testing and/or certification should be used to demonstrate enhanced properties and performance.

6.6 Clause 942 Surface courses (Thin Surface Courses)

This group of surface courses are ‘higher end’ SMAs, originally promoted as a favourable alternative for HRA and chippings. These materials have not been as durable but they do have advantages in terms of ease of laying, noise reduction and ride quality.

BBA certificates will indicate which class any particular material falls into and sets out any limitations as to use e.g. traffic loadings, temperature/general weather constraints, etc.;

Type C Thin Surface Course - products laid 26mm to 50mm thick

Type B Thin Surface Course - products laid 18mm to 25mm thick[4]

Type A Thin Surface Course - products laid 12mm to 18mm thick[4]

[4]*Type A or B TSC materials are not used in Blackburn with Darwen owing to poor durability.*

BBA certificate to check approval is still current and to ensure any restrictions on use/application are obeyed. Certificates are downloadable from BBA certificates

HAPAS approval allows manufacturers to substitute constituents within approved mixes, principally coarse aggregate. If the material proposed differs in any way from those detailed in the certificate, engineers should request information that demonstrates performance will not be compromised, More details can be found within IAN 157/11 2011.

These proprietary products carry a five year guarantee period subject to sufficient information being made available to the supplier to enable them to supply an appropriate product.

6.7 Traffic noise considerations

The implication of an increase in road traffic noise could be a consideration for certain sites. The introduction of the Environmental Noise (England) Regulations in 2006 resulted in plans being developed to manage and reduce environmental noise generally. Defra has provided a framework to support transport authorities in the investigation and, treatment of 'Important Areas' by publishing the second round of 'Noise Action Plans'.

If it is necessary to specify a resurfacing material to a given noise level care should be taken that this is balanced appropriately against cost and durability.

Permitted Road/Tyre noise levels are given in Table 8, below. Levels 2 and 3 are necessary in noise-sensitive areas. In the interest of sustainability, Level 3 should only be specified in very noise sensitive areas. Level 0 must not be specified at sites where existing noise barriers or earth bunds have been installed as a noise mitigation measure or at locations that have been identified as an Important Area, in any of England's Noise Action Plans published by DEFRA.

Road/Tyre Noise Levels are demonstrated by the optional value stated on HAPAS Certificates, or equivalent certification.

Table 8: Surfacing Noise Levels

Level	Equivalence to Traditional Surfacing Materials	Road Noise
3	Very quiet surfacing materials	-3.5dB(A)
2	Quieter than HRA surfacing materials	-2.5dB(A)
1	Equivalent to HRA surfacing materials	-0.5dB(A)
0	Equivalent to Cold Applied Ultra-Thin Surfacing	+1.2dB(A)

7.0 General Guidance

Until recently asphalt surface course was referred to as ‘wearing course’; this title reflected the fact that the top layer of asphalt was likely not to last as long as the underlying pavement. However if basic principles of pavement maintenance are not adhered to, the pavements structural life will be compromised and more substantial maintenance or even reconstruction will be required.

Routinely the most common option for resurfacing consists of the replacement or covering of the existing surface course and the first step is to assess the condition of the existing road surface and the supporting foundation.

The ‘basics’ of pavement construction remain unaltered since the time of the Romans:

a. The base should be sound and dry.
b. The road, including sub-base foundation, should be thick enough to sufficiently dissipate the loading applied to avoid damage or deformation to the underlying formation or sub-grade.
c. All layers of the pavement, including the formation should be well drained.
d. Moisture should be prevented from permeating through the pavement.

From a maintenance perspective it is not always easy to address the first two of the above issues as options are restricted by the original design. There are occasions when, on engineering grounds it may be desirable to reconstruct a highway but considerations of disruption and cost, effectively rule it out. This document provides a pragmatic interpretation of current standards and the specification’s referred to below. There are a number of commonly encountered issues that are not addressed in any of those documents, for which solutions have been developed, based on experience and research.

Given the size of the Council’s network it is important to prioritise maintenance spend effectively. Unless a robust system exists to identify and prioritise which sections of carriageway are in need of work, limited funds will be spent ineffectively. The best value for money is achieved by assessing the cost of resurfacing against the cost of numerous less expensive interventions (patching, joint-sealing etc.). Included in the assessment of the need for resurfacing, there should be consideration of the increased risk of accidents as more defects occur, especially on high speed roads with an increased likelihood of serious or fatal accidents.

Numerous drivers exist that necessitate resurfacing works. Safety is the key consideration when assessing if a carriageway needs treatment. Whilst individual defects such as potholes often have to be repaired as small patches, the management of the pavement asset is a fine balance between obtaining the maximum life out of the resurfacing and reducing maintenance costs which are poor value for money if they become too frequent or are ineffective.

Where there is justification to patch or repair small defects, maximum value is achieved by adopting best practice. The cost of numerous poorly undertaken repairs soon outweighs the marginally increased cost of undertaking a repair to the appropriate standards.

There are occasions when it is appropriate to respond to ‘emergency’ situations using temporary repair techniques but these are inherently wasteful so should be restricted to genuine emergencies.

Any resurfacing or surface treatment is only as good as the base upon which it is laid. The surface upon which any resurfacing is to take place should be sound, clean and dry.

Before resurfacing, the condition of the existing pavement should be considered carefully and the new material specified accordingly. Sufficient investigation or testing should be carried out to establish the extent of existing defects.

Many roads have evolved over time and are not constructed to modern standards; they are often thin and exhibit more flexibility than a modern designed carriageway. New surfacing materials need to be able to accommodate this movement, if they are to provide a durable surface. It is essential that evolved highways are sealed effectively to prevent deterioration. Surface courses are not impervious, although HRAs are significantly less permeable than ACs, but where there is little depth of construction, additional waterproofing measures such as a binder course or a thick bond coat, must be considered. Water penetration through new surface course will cause the underlying formation to soften, leading to premature failure.

Where and whenever formation or subgrade is exposed it is essential that due consideration is given to its protection from weather and/or site traffic during construction.

7.1 Relevant Specifications

Works to construct, reconstruct or resurface roads have standards and specifications set out within the suite of documents as published by the Department of Transport, i.e. Standards for Highways. These include The Design Manual for Roads and Bridges (DMRB), The Manual of Contract Documents for Highway Works (MCHW), and Interim Advice Notes (IANs) which are routinely used to issue amendments before a formal redrafting of a specification.

The most relevant sections of this document are;

a. Series 700: Road Pavements, General
b. Series 800: Road Pavements, Unbound, Cement & Other Hydraulically Bound Mixtures.
c. Series 900: Road Pavement – Bituminous Bound Materials

The production, transportation and laying of asphalt materials are addressed in detail within European and British Standards. The old British Standards, BS594 (Hot Rolled Asphalt) and BS4987 (Coated Macadam), were superseded by the new EU standard, BS EN 13108. This series of documents did not deal with the laying of asphalt, as had its predecessors and as a result it has been added to by the publication of BS594987. The new EN 'harmonised' standard, was further added to by the publication of PD (published document) 6691, which gives guidance on the use of BS EN13108.

For new construction, areas of full depth reconstruction and general pavement design the relevant documents are:

DMRB Volume 7 HD 24/06 Traffic assessment. The method for the estimation and calculation of traffic loading for the design of road pavements. Design aids are provided for easy determination of the number of standard axles for use in the pavement design standard HD 26 (DMRB 7.2.3).

IAN 73/06 Rev 1.(Draft of HD25). Design guidance for road pavement foundations adding around 20% to the thickness of subbase based upon Highways Agency input.

DMRB Volume 7 HD26/06 Pavement design. Details of permitted materials and design thickness for the construction of pavements for new trunk roads. This revision updates the previous standard and introduces different permitted designs that relate to the strength of the available foundation.

This document assumes a basic understanding of the above standards, referral to which is advisable in many instances. However the evolved nature of the Hampshire highway network means a fair degree of interpretation and pragmatism is needed.

7.2 Common Defects

A basic understanding of the most prevalent defects assists in assessing effective solutions. Commonality in the description of defects is also helpful comparing and prioritising potential sites.

Potholes – "a defect in the highway surface which in general is circular in shape and is deeper than the (surface) wearing course". A generic term used to describe a failure within the surface course of a pavement that may be caused by a host of factors, most commonly, worn out surface course. This wear is greatly accelerated by poor material choice or workmanship during installation.

Fretting or Ravelling – This is the disintegration of the surface course due to the larger aggregate within the material breaking away from the general matrix. This is particularly a problem with early generation SMAs, where the degeneration of the surface course accelerates rapidly around small defects. This is also com-mon with longitudinal joints, especially if poorly formed or sealed during construction.

Delamination – To perform to its potential, a flexible pavement should act as a homogenous mass and the adhesion of layers and sealing against the ingress of water is essential. Delamination manifests itself in large potholes to the depth of the surface course where the surface course de-bonds from the underlying pavement and fractures causing the breakup of the top surface. Improvements in the use of tanker applied bond coats as opposed to hand-applied tack-coat should reduce the likelihood of delamination considerably

Reflective Cracking – Is a common fault where a rigid foundation has been overlaid with flexible surfacing. Rigid pavements should be either continuously reinforced with induced cracks or cast in slabs linked by dowel bars to allow for movement. When flexible surfacing is placed on this type of road it is unable to flex sufficiently to resist cracking.

Alligator Cracking – The failure of underlying layers (usually formation) manifests itself by the top surface continuing to adhere to the underlying layer but being unable to flex sufficiently to resist cracking. This usually indicates a significant structural fault within the underlying foundation. In severe cases moisture can be seen to have been forced upwards through the surfacing; a clear sign that resurfacing alone is unlikely to be successful.

Loss of Surface Texture/Skid Resistance – Usually assessed by mechanical survey, the texture loss can be attributed to the polishing of the coarse aggregates (micro texture) or by a reduction in the surface voids/irregularity (macro texture), both of which are usually associated with wear by heavy trafficking. A loss of texture can also be caused by materials ‘fatting’ up, when bitumen is flushed to the surface, filling surface voids and covering coarse aggregates. This is more prevalent in hot weather.

Deformation – Poorly constructed roads either designed for smaller volumes of traffic or to less demanding standards often deform without actually breaking up. This is common on estate roads where a thin crust of asphalt may have been overlaid with one or more surface dressings which have remained flexible enough to move without cracking. In the case of thicker pavements, softer binders used in older base (binder) courses and road base (base) layers have de-formed over time. In the most dramatic cases, subsidence or lateral movement in the underlying sub soils may cause surface deformation.

Rutting – It is sometimes difficult to distinguish from deformation but rutting is the formation of pronounced longitudinal depressions in the line of wheel tracks. In severe cases this leads to noticeable channels, which can hold water and create significant hazards. Rutting on the trunk road network was a significant driver towards the Highways Agency’s decision to drop HRA in favour of Thin Surface Courses.

Structural Failure – Wherever there is a failure throughout the depth of the pavement, then the failure is structural. In localised examples a crack or soft area can be treated individually but where the failure is extensive it is an indication that reconstruction rather than resurfacing is appropriate.

7.3 Inlay or Overlay

As a basic principle overlaying the existing surface is a cheaper and less invasive option than inlay. The removal of existing surfacing material is expensive, time consuming and environmentally unsound; if it can be avoided it should be.

Inlay is most effective for roads where the removal of the surface and in some cases binder courses, leaves a sound layer capable of supporting the new layers.

If however new surface course is laid over an existing surface that is failed or failing the new material will not last and will represent poor value for money. It is therefore important to properly assess the options.

These are the basic advantages of opting for an overlay;

a. Cost, duration and environmental impact are all reduced by the reduction or removal of planing operations.
b. Reduced risk of encountering poor underlying ground conditions
c. In cases where tar binder exists it is possible to negate the requirement to remove or process this hazardous material
d. For evolved roads, overlay increases the overall structural integrity of the pavement.

Sites that are kerbed, or contain numerous entrances to properties will need to be carefully reviewed for suitability for an overlay as to retain access at existing levels will require planing. This can affect the existing long or cross profile of the road. Careful consideration must be given to avoid this causing standing water.

Manhole and drainage covers and frames will need adjustment which can offset other advantages of the overlay option.

Where overlay is decided upon the detail to ‘tie-in’ to the existing levels should also be properly defined. An effective tie-in will ensure the full depth of the surface layer can properly abut the existing surface material where it is sound. The length of the ‘tie in’ should be sufficient to provide a smooth alignment.

Where a road is kerbed or there are numerous entrances, channel planing can be an option. This is equivalent to forming a longitudinal tie-in. Care must be taken, especially on narrow roads that planing along the edge or edges of the existing road does not accentuate the camber or cross-fall of a road to the point it is excessive.

Once the decision that an inlay is appropriate has been made, it is necessary to assess if the removal and replacement of only the surface course will be sufficient.

Surface courses, whilst having various degrees of durability, flexibility and imperviousness are formally not a significant factor in adding strength to a full depth, flexible pavement structure. However evolved county roads do rely to a significant extent, upon the strength of the surface course as by definition the underlying structure is not designed, so durability of a surface course is an important factor.

7.4 Depth of Treatment

As a part of the design process, core samples should be taken through bound layers at sufficient spacing to form a representative picture of the thickness and type of the pavement. These samples will inform the design process by confirming the condition of underlying layers. The cores can also identify the presence of tar and provide a sample for analysis.

On evolved roads removal of the existing surface course can be akin to reconstruction as there is little structural substance beneath the removed layers. More investigation will be required to assess if the foundation is suitable. This will be by means of trial holes to allow an appropriate assessment of the condition of the existing formation to be made: The Drop Weight Penetrometer (DWP) or Dynamic Cone Penetrometer (DCP) can be used to provide this information. Care should be taken in the interpretation of results if these are undertaken through cores holes as the small area of formation or sub formation exposed may not be representative.

Whilst core samples provide verification of the condition and make-up of the existing pavement they do not provide information regarding the under laying foundation. Information should be obtained to establish the condition and suitability of the foundation to withstand traffic levels and also to be suitable for the construction process. See extract from the DMRB:

“It is expected that loads will be applied to the foundation by delivery vehicles, pavers and other construction plant. At any level where such loading is applied, the strength and material thickness have to be sufficient to withstand the load without damage occurring that might adversely influence, to any significant extent, the future performance of the pavement capping & sub-base design”.

It is inadvisable to remove existing bound layers and attempt to replace them without confidence in the ability of the underlying foundation to withstand the construction process.

For an inlay option it may be necessary to replace more than the surface course. The nature of the defects that are apparent from a good visual inspection will normally indicate if there is some deeper failure within the pavement. Typically binder courses are 50mm to 60mm nominal thickness when laid, beneath a 40mm to 45mm surface course. If defects are deeper than these layers (except in isolated areas) then the pavement requires reconstruction rather that resurfacing for which the standards and

specifications within the Manual of Contract Documents for Highway Work are appropriate.

Defects associated with surface course failure only, are ravelling (often associated with failing joints), potholes or stripping of coarse aggregates be that pre-coated or surface dressing chippings, or coarse aggregate from the surface courses layers.

Some surfaces, with varying degrees of wear, loose texture and become less resistant to skidding.

Cracks can be reflective of underlying construction joints. This is prevalent with composite pavements. Whilst the cracks should be sealed to prevent the ingress of water, deeper treatment is unlikely to be justified unless there is evidence that the base layer has failed.

Deeper cracks or failures within pavement structural layers tend to lead to more random cracking, often with evidence of water pumping through the crack.

If fully flexible pavements crack significantly it is likely that there is a major structural failure which resurfacing alone is unlikely to resolve. As a general rule cracks through rigid pavements can be sealed if the slabs are sound and not rocking. Within a flexible or bituminous pavement, cracks tend to seriously reduce the pavements load bearing performance and will develop into larger defects. In such cases it is probable that reconstruction will be required.

On poor quality estate roads or rural evolved roads, where the surface appears randomly cracked in a tight matrix (alligator cracking), it is usually caused by the surface layer failing to flex sufficiently to resist cracking as the underlying road deflects under load. As referred to above the risk that the underlying foundation is inadequate for construction traffic or predicted traffic flows should be considered and addressed.

To strip off the surface course and trust to fate that the underlying layer is fit for purpose when it comes to machine laying the new material is a poor option as costs and timescales quickly escalate. Appropriate investigation, trial holes and cores are essential to properly assess what works are appropriate and to check for the presence of tar bound materials.

It can be difficult to establish the extent of rutting. Whether it exists within one or more layers of the pavement is not always clear from visual inspection or even coring but as a general rule, plastic upward heave at the rut’s edges suggest surface course failure whereas a downward rut only suggests displacement and failure within underlying layers.

HRA as a material type, especially those made with softer penetration grade binders is particularly susceptible to rutting. This was a major driver in the Highway Agency (Highways England) choice to move towards thin surface courses; however, whilst

rutting in extreme situations can be considered dangerous, less dramatic deformation is not likely to require emergency repairs or develop into dangerous defects. Rutting tends to progress steadily, although the rate of increase accelerates during prolonged spells of hot weather.

It is important to understand the thickness of the existing pavement and the condition of the foundation upon which the bound layer(s) sits. As discussed earlier the evolved nature of a county highway network means that a large amount of the roads requiring maintenance could not be classed as ‘designed’. Cores will provide detail of the thickness and type of the bound layers but trial holes and other tests may also be worthwhile to establish the strength and suitability of what lies beneath.

7.5 Planing

When specifying planing for a full inlay or channel planing it is important to understand various aspects of the planing process.

- Planing widths range from 350mm to 2.2m
- Planers are usually fitted with elevators that remove the broken material into the back of a lorry leaving a ridged surface that requires sweeping by mechanical sweeper before resurfacing can commence.
- Bituminous planings are a saleable commodity and traditionally are sold as a material suitable for tracks or hardened parking areas. The Schedule for Highway works now identifies a range of acceptable uses including as recycled asphalt pavement for incorporation in hot mix asphalts.
- Modern planers work with electronic sensors and are usually accurate to around ±5mm.
- Bigger machines can plane at up to 250mm in a single pass for typical bituminous materials.

Planing allows for the removal and disposal of bituminous surfacing material only. Any underlying granular material or soils should be measured and billed as excavation and disposal of unsuitable material. Planing of concrete is not included for within normal planing rates. Specialist advice should be sought if the planing of concrete is being considered as this is can be time and cost prohibitive.

If sites are to be opened for public use, vehicle or pedestrian, between planing and resurfacing, all joints, covers and other hazards need to properly ramped and signed using deferred set material. (See section 3.12)

Tar Bound Planings - The Environment Agency takes the view that all arisings from construction processes should be classed as waste. As such anyone carrying these materials, recycling them, or reprocessing them, must possess appropriate permits and licenses.

“If you have waste you have a legal 'Duty of Care'. The Duty of Care applies to everyone involved in handling the waste: from the person who produces it to the person who finally disposes of or recovers it.”

Planings should be the categorised in accordance with the ‘List of Wastes’ (also known as the European Waste catalogue, EWC). This is essentially a list of descriptions of waste from various sources.

Planings fall within the 17 03 category which has three sub divisions 01, 02 & 03. Two of these are hazardous waste, 17 03 03 and 17 03 01. 17 03 03 is an absolute hazardous waste code that is used whenever tar is present.

17 03 02 is the appropriate code for the bituminous planings.

As tar is classed as a category 1 carcinogen it must not be present at a concentration greater than or equal to 0.1% (1000 mg/kg). The Environment Agency considers that if benzo(a)pyrene is present at a concentration of 50 mg/kg or more, the waste is EWC code 17 03 01. There is data corroborating this assertion that 50mg/Kg of benzopyrene correlates to around 1000mg/kg road tar.

Formerly such materials were disposed of to tips authorised to handle hazardous wastes at considerable cost.

7.6 Layer thicknesses and weather

All material thicknesses and laying temperatures shall be in accordance with the requirements of BS 594987, 2015 or the appropriate BBA HAPAS Certificate applicable to proprietary materials.

The requirements for wind speed and air temperatures in Clause 945 of the Specification for Highway Works should be adhered to whenever bituminous materials are laid. Failure to do so adversely affects material compaction and chipping embedment. In the event that materials are laid outside of these requirements then liability for premature failure rests with the contractor.

Table 9: Asphalt Temperatures

Materials For specific minimum temperatures for materials refer to BS594987	Temperature (°C)		
	Material Delivery		Rolling
	Max	Min	Min
HRA surface course 50 Pen	190	140	85
HRA surface course 50 Pen with PCC	190	155	85
HRA binder course/ subbase 50 Pen	170	120	85
Close graded macadams 100 Pen	160	120	95
Close graded macadams 200 Pen	150	110	95

Increases in layer thicknesses may be beneficial if laying materials in periods of cold weather to assist heat retention which in turn assists compaction.

The laying of HRA with pre-coated chips surface courses in cold weather causes problems with workability and chipping embedment. The preferred thickness for HRA resurfacing is 45mm, but this does not overcome these issues. Unless other circumstances dictate the laying of HRA with pre-coated chips surface courses should be avoided during the months of November through to the end of February. Close attention to weather forecasts and communications between laying gangs and suppliers is essential.

Modified binders can be used to improve the 'cold weather working' properties of some asphalts. Proprietary products can also have specific requirements regarding ambient temperatures which should be adhered to.

Freshly laid materials being by nature dark will absorb more solar radiation than existing ‘weathered’ surfaces. In periods of hot weather asphalts will take significantly longer to cool and should not be subjected to loading by public or site traffic as these are likely to result in the surface becoming overly rich with binder (fatting) and/or becoming deformed.

For similar reasons the planning of resurfacing works should make allowance for time for layers to cool. It is rarely possible to lay more than two layers in a single shift as with each successive layer the heat retention is increased and significantly slows the cooling of underlying layers.

Low temperature asphalts are a new development and are referred to in more detail at 4.2 below.

7.7 Reinstatement around Utility Covers

It is desirable that ironwork is raised before resurfacing work is undertaken to enable the machine laid surface course to butt up against the frame in question. This provides a better ride quality and appearance. By raising ironwork before resurfacing no patching is needed and this reduces the likelihood of premature failure around the cover and frame. If, for whatever reason, ironwork cannot be raised until after resurfacing has been completed, consideration should be given to the process of reinstatement with the use of a hot rolled asphalt and adequate painting of all vertical faces. Proprietary systems also exist and whilst these are more costly, they are usually more durable and generally successful.

7.8 Bond Coats

There has been an increased understanding of the importance of a good bond between pavement layers and this has led to a number of developments of the specification over recent years

Bond coats have higher binder contents than the traditional K1-40 tack coat which they have replaced. The bitumen is very often polymer modified or a harder grade of bitumen, and is usually applied hot.

All bond coats used in this country are cationic (as opposed to anionic) as these are more effective given that the positively charged emulsifiers react with the negatively charged aggregate surface to break more effectively.

As the use of bond coats have increased it is now sold in smaller quantities as well as in bulk. Therefore, bond coat in accordance with BS EN 13808 should be used for all resurfacing, patching or hand lay including between all bound layers.

The Specification for Highway Works also now requires bond coats to be applied by a metered spray tanker whenever practical. Only in genuinely inaccessible areas should hand sprayers be permitted as an alternative. Pavers with integrated spray tanks offer the benefit of applying bond coat directly in front of paving preventing bond coat being removed by delivery vehicles which is beneficial and should be encouraged.

The rate at which bond coat is to be applied is now given as a measure of the residual bitumen left after the emulsion has broken i.e. the water has evaporated.

Bond coats are denominated using the following four factors;

- C or A for Cationic or anionic – UK bond coats are almost exclusively cationic
- Nominal binder content as a %
- Type of binder: B = paving grade bitumen, P = polymer added, F more than 2% of fluxing agent.
- Breaking behaviour, classes 1 to 7. Most available bond coats in this country fall into categories 3 to 4 (1 is the highest category and 7 the lowest).

Therefore a typical Bond coat could be described thus: C 50 BP 3 with the percentage of bitumen shown as 50%.

BS594987, 2015 specifies that the rate of spread of bond coat shall be at least 0.35 kg/m² of residual binder for planed surfaces and at least 0.20 kg/m2 when laid on to new binder course or existing asphalt.

Certain proprietary products (clause 942 surface courses especially) will contain a specified rate of spread on the BBA certification.

In rural scenarios the specified quantities can cause issues with pollution of water courses and tracking onto adjacent roads or footways. Accordingly the requirement should not usually exceed 0.2kg/m² residual bitumen.

(For the example of the C 50 BP 3 product referred to above, this would require 0.4 litres of the bond coat per sqm of the area to be resurfaced).

7.9 Regulating

In accordance with the Specification for Highway Works (SHW), surface and binder courses should be laid within a tolerance of ± 6mm. However it is important to understand that these tolerances are based upon the underlying surface being of a similar standard.

Contractors should not be encouraged to lay to the lower end of these tolerances as thinner layers will reduce durability. In order to achieve layers of the required nominal thickness and in order to improve ride quality it is important to understand that some degree of regulating is desirable.

It is important that contractors take responsibility for ordering materials and for assessing the amount of regulating that will be required. This assessment should be regularly checked as works progress to ensure excessive material is not sent to site.

On sites where more than one layer is being laid, regulating should only be paid for on the first layer. Liability for over ordering of materials should rest with the contractor

The figures shown in table 10 are examples of an appropriate way of fairly assessing regulating volumes on machine resurfacing sites. The alternative of submitting relative densities for each and every material and adding allowances for site contours and laying tolerances is not usually practical. The process requires the respective parties to agree the area of works completed, the volume of material delivered and the calculation of regulating using the following conversion figure. This should be clearly shown on a signed and agreed record of measurement.

Where the amount of material delivered to site is excessive it should be quantified and recorded. It is accepted that ordering of materials for this type of works cannot be precise given the absence of design or existing level information; however excessive wastage should not be paid for as regulating.

Table 10 Regulating calculations

Spread rates								
tonnes per m^3	2.353		tonnes per m^3	2.353		tonnes per m^3	2.353
kg per m^3	2353		kg per m^3	2353		kg per m^3	2353
m^3 per tonne	0.425		m^3 per tonne	0.425		m^3 per tonne	0.425
thickness, mm	40		thickness, mm	45		thickness, mm	60
m^2 per tonne	10.6		m^2 per tonne	9.4		m^2 per tonne	7.1

7.10 CE Marking

Since 1st July 2013, under the Construction Products Regulation 2011 (CPR) it has been mandatory for manufacturers to produce a declaration of performance and apply CE Marking to products covered by a harmonised European standard. CE

marking is a European regulatory mark indicating ‘fitness for intended use’ and as such signifies that appropriate, reliable performance information is being declared.

In varying degrees the major producers of asphalt and aggregate have online capability offering evidence of compliance regarding products delivered. This is a useful tool in checking compliance with standards by reference to unique delivery ticket numbers.

7.11 Quality Assurance Schemes 14 & 16

All suppliers of coated materials into Blackburn with Darwen are required to operate quality systems complying with ‘QA Sector Scheme No. 14 – Production of Asphalt Mixtures’ to assure the quality of their products.

Plants not registered under Sector Scheme 14 should not be approved to supply materials to any works within the Borough.

Sector Scheme 14 measures the ability of a production plant to mix material of consistent quality in terms of an Operating Compliance Level (OCL). The OCL is a measure of the effectiveness of production processes based on a rolling mean of the compliance of 32 results from across all product types. The testing frequency is based on non-conformity of results;

OCL A is achieved if there are no more than two non-compliances with the 32 samples taken for a range of 600 to 1000 tonnes.

OCL B is achieved if there are 3 to 6 non compliances within a smaller range of 300 to 500 tonnes.

OCL C is for more than 6 non compliances within a range of 150 to 250 tonnes. If there are more than 8 non compliances within this range there must be an immediate and comprehensive review of plant and procedures.

Any plant supplying materials for incorporation onto Blackburn with Darwen’s network should consistently achieve an OCL A. For plants that regularly fall below this standard the supplier should be asked to provide evidence of measures to be taken to revert to this standard.

Non conformities must be reported to the customer.

In addition to quality assured supplies, the authority requires that contractors carrying out surfacing and/or re-surfacing be accredited under Sector Scheme 16, for the Laying of Asphalt Mixes.

One of the key elements of this scheme is the provision of a Quality Manual. This should be formed of “Generic” elements which are common to all resurfacing works and “Specific” requirements that are applicable to individual sites.

It is important to maintain an accurate record of where each load of asphalt as referenced by ticket numbers, starts and finishes on each site. This provides a record in the event that a load is subsequently found to be non-compliant. Laying Records also represent an appropriate means of complying with the requirements of The Police Road Death Investigation Manual which obliges highway authorities and operators to maintain, and provide for investigation, records of highway construction and maintenance activities, particularly if the road surface is suspected to be a contributory factor in an accident.

All Quality Manuals should contain a specific reference to the provision of laying records.

7.12 Deferred Set Materials

The use as an emergency fill to potholes or other defects should be limited to occasions where a permanent fix is not practical.

When surfacing or resurfacing sites are to be opened to traffic before they are completed any up-stands greater than 10mm, such as joints or utility covers, should be properly protected by the formation of temporary ramps in deferred set material which should be lightly compacted. Care should be taken that all deferred set material is removed and not inadvertently covered with permanent materials during resurfacing.

Deferred set materials, (usually 6mm CG surf with addition of flux), shall not be used for permanent works as they are liable to excessive deformation and are designed to be easily removed.

7.13 Joints in resurfacing

Careful consideration and attention should be paid to all joints in bituminous layers of a pavement. Any joint is a weakness so the fewer joints the better. Paving in echelon is an obvious way to eliminate joints however opportunities for this method of working are rare. Where joints cannot be avoided they shall be positioned to avoid areas of stress, away from vehicle wheel paths and highly stressed areas.

Joints can be avoided by paving the full width of the carriageway rather in two separate ‘mats’. For more than a single lane width this can usually only be achieved using two paving machines; paving in echelon. For lesser category roads a similar result can be achieved by ‘hot matching where the paver lays each load in two mats in quick succession allowing the joint to be fully compacted whilst both mats are well within the specified rolling temperature.

Whilst both of these techniques can reduce the inherent weaknesses created by joints, the supply of hot asphalt material must be carefully managed to ensure the deliveries arrive in good time to avoid the placed material cooling below acceptable rolling temperatures before the adjacent material is laid.

Where joints cannot be avoided they must be properly formed, prepared and constructed in accordance with the requirements of the Specification for Highway Works and BS 594987 2015 and SHW clause 903 paragraph 21.

All longitudinal asphalt joints should be cut with a roller mounted cutting wheel and transverse joints must be saw cut. The width of the cutting should be sufficient to ensure the remaining material has been fully compacted. The exposed face of the joint should be painted with either hot applied bitumen or a thixotropic bitumen emulsion. Hot applied bitumen has had inherent safety concerns arising from the use of gas fired bitumen boilers and the handling of hot bitumen, however many of the tankers supplied for the application of bond coats now have a separate tank and lance for the application of hot bitumen.

The width by which a joint should be offset from joints beneath is given within the Specification for highway works as 300mm. In an urban setting it is often impractical to achieve this dimension and so 150mm is accepted as adequate. It is often beneficial to request a joint layout from the contractor responsible, as good pre-planning is essential to ensure joints are not inadvertently placed incorrectly, i.e. in, or near to, wheel tracks.

Attention to the formation and treatment of joints is essential in achieving acceptable durability of surface courses. Workmanship is a key factor and only competent contractors with Sector 16 (see section 3.11) accreditation should be used.

7.14 Site Testing

Increasingly suppliers are required to implement sector scheme 16 to demonstrate that materials are compliant with the specification. In the event that materials are suspected to be non-compliant and records of production tests reveal no issues, samples should be taken and tested jointly where ever possible.

The Quality Plan as drafted for any resurfacing works undertaken for Blackburn with Darwen should make specific reference to the tests required under appendix 1/5 or other contractual or specification requirements. The plan should specify how compliance will be verified and records of tests made available to the client as reasonably required. Wherever possible a collaborative approach should be taken to gain confidence in methods of working to ensure testing is not undertaken where it has no intrinsic value.

7.15 Use by Horses

It has been suggested that new asphalt can sometimes pose an enhanced risk of slipping for horses as outlined within “Horses and Highway Surfacing” the CSS/British Horse Society Report (ref. ENG/3-05). “This applies to any ‘negatively’ textured surface courses during early life”.

Where there is a site that is used by horses and there is a significant gradient it is recommended that grit be applied during or immediately after the laying of new surfacing.

7.16 Long Life Pavements

The base layer (formerly known as road base) is a significant part of the pavement structure. If the layers above and the drainage are properly maintained then the base should last considerably longer than the surfacing. Well-maintained and thick pavements fall into the Long Life Pavement category.

If a pavement is of relatively modern construction or has been overlaid on numerous occasions and has an overall thickness of bound material in excess of 250mm then it is expected that the ageing of the bitumen will effectively increase the stiffness of the base layer to the extent that it no longer deflects under loading and as such is likely to perform as a rigid pavement which should only require resurfacing. Again appropriate investigatory works are important to properly identify extent and depth of the proposed inlay.

7.17 Extent of work

Junction areas wear and deteriorate more rapidly than the main body of a carriageway, consequently these, ‘bed-end’, areas should be renewed when adjacent carriageways are resurfaced, it would be false economy not to do so.

The gradients and falls of the carriageway should be checked as part of the design process to ensure that they are sufficient to drain the carriageway, it may be necessary to introduce false summits and valleys to ensure adequate drainage characteristics.

Many roads still have concrete channel blocks, as well as an upright kerb, careful consideration should be given before a decision is taken as to their removal as they may contribute to the efficiency of the drainage of the carriageway.

Gullies and gully connections should be cleaned, tested and, if necessary, repaired before resurfacing commences, as should ducts used for street lighting or traffic signals. Ironwork should be replaced if its current condition indicates that it will not last for the design life of the proposed resurfacing. Utility companies should be asked to provide replacement covers and frames.As well as liaising with utility companies, resurfacing should be programmed to take place before or immediately after, rather than well after, routine safety defect inspections.

8.0 Other Options

8.1 Micro- Asphalts (less than 25mm thick)

Micro asphalts are generally laid cold (although some may be laid hot) and can be considered as a solution for heavy fretting or ravelling. These products should be in accordance with clause 918 of the Specification for Highway Works.

The decision whether to use a Micro asphalt as a preference over asphalt or surface dressing will require engineering judgement; the following are factors to be considered;

- Micro asphalt should typically be considered for any site which would require more than 1% by area to be patched prior to surface dressing.
- Micro asphalt is likely to be more practical than a conventional resurfacing where kerb heights are limited.
- Micro asphalt can be an alternative to surface dressing on sites where the existence of surplus chippings would be unacceptable.
- Micro asphalt can be used to improve the appearance and ride quality of roads which have suffered from poor or numerous utility reinstatements
- The relative lack of surface texture for micro asphalts make them unsuitable for use on anything other than estate roads/estate distributor roads.
- As Micro asphalt is often used to overlay concrete pavements, resealing and repair of any failed joints should be undertaken in advance

Micro asphalts are thick enough to regulate minor surface imperfections and offer better ride quality than surface dressings. They do not add to the structural strength of a pavement and should not be used where there is significant cracking or deformation.

8.2 Surface Dressing

Surfacing Dressing should be carried out in accordance with BS EN 12271 & PD6889.

Surface dressing should be used where the road is sound structurally and the existing ride quality is acceptable. Dressings are largely unsuitable in locations where aggressive manoeuvring can be anticipated e.g. tight cul-de-sacs.

Surface dressing will seal the surface and improve skidding resistance. If carried out at an appropriate time, dressing can prolong the life of the pavement but will not strengthen or reshape the road.

Surface Dressing works are let under 'end-performance' contracts. The 'Client' specifies the required PSV of the aggregate and recommends chipping size but the Contractor is otherwise responsible for the design of the dressing. Design should be generally in accordance with the requirements of Road Note 39 (6th Edition) and

RSTA (Road Surface Treatment Association) current guidance. Due consideration should be paid to other design criteria such as traffic flow, road surface hardness, etc.

K1-70 emulsion can be used on minor rural roads, but the use of polymer modified emulsion binders is now more common. Chippings will generally be 14mm, 10mm or 6mm nominal size aggregate with the smaller sizes being ‘racked in’. 14mm chippings shall not be used in the fast lane of dual carriageways or on urban residential roads where noise from the surface would be excessive. The largest possible size chipping shall be used where noise is not an issue. This should ensure the dressing does not suffer from premature loss of texture and reduced skid resistance.

Where appropriate, patching prior to surface dressing may be required but is should not exceed 5% of the overall area. All such patching should be completed to a standard which will not adversely affect the ride quality of the completed surface dressing. Asphalt using aggregate of an appropriate PSV should be used and as the patching should be carried out in the year prior to surface dressing it should be carried out to the standard for a permanent repair.

8.3 Warm Mix Asphalts 100ºC to 150ºC (WMA)

There are a number of trials in progress using low temperature asphalts or WMAs. These products have clear, cost and environmental advantages and are already widely used in the USA where, it is claimed that they now make up around 25% of the asphalt market.

Typically these products can incorporate up to 40% reclaimed asphalt and are based upon an additive which creates a micro-foam which lowers the viscosity of the binder, coating aggregates and increasing workability which allows transportation and laying at significantly reduced temperatures.

These materials are likely to become significantly more prevalent in the next few years.

8.4 High Friction Surfacing (HFS)

High Friction Surfacing is expensive and maintenance intensive as it is not durable, so it should be used sparingly. Sites should be properly risk assessed in accordance with ‘well maintained Highways code of practise’ and high friction surfacing should not be used unless there is a clear and demonstrable need. (See tables 5 and 6).

High Friction Surfacing is a genre of ultra-thin, resin bound surfacing systems incorporating, calcined bauxite, with the potential to provide and retain a higher level of wet grip but these are not durable and do not last as long as most other surfaces. It should only be used where the level of wet grip required cannot be provided by naturally occurring aggregates and/or where the risk of skidding cannot be reduced

by other measures. The potential need for high friction surfacing in conservation areas, etc. should be a last resort and will require consideration of maintenance planning. The kinds of sites where high friction surfacing might be required include;

- Approaches to traffic lights/pedestrian crossings.
- Downhill approaches to junctions.
- Approaches to blind features.
- Tight Bends.
- & especially combinations of the above.

On kerbed carriageways there should be a 100mm gap between the high friction surfacing and the kerb face except where there are road markings adjacent to any kerbs in which case the high friction surfacing should be installed to the outside edge of those markings.

High friction surfacing can be applied either as a surface dressing system with the aggregate broadcast over a two part liquid thermosetting resin Cold Applied; or as a hot screed system where the aggregate is wholly embedded within a thermoplastic resin Hot Applied. There are seasonal constraints on the laying of the cold applied products that need to be carefully checked against relevant certification.

The cold applied systems have proven to be the more durable and should be used in preference to the cheaper but less durable hot applied systems. The hot applied systems can be applied throughout the year but are only suitable for areas that are not heavily trafficked.

Both of the above systems should not be applied to new asphalt before the volatile elements within the bitumen have had an opportunity to evaporate and/or wear. Confirmation from the supplier will be needed to confirm the appropriate delay. For general guidance refer to RSTA Guide, The Code of Practice for High Friction Surfacing.

MMA (Methyl Methacrylate) systems are cold applied. It has been claimed that these can be applied more quickly after resurfacing has been completed. Written confirmation must be obtained that the installer's guarantees are applicable in these instances. MMA is a more expensive option.

Extents of High Friction Surfacing

Bends - Where High friction surfacing is required, it should be provided over the full length of the bend to avoid significant variances in grip whilst cornering. On dual carriageways the need for high friction surfacing should be considered individually. On single carriageway sites high friction surfacing should be provided in both directions to avoid differential grip.

Braking Areas - In braking areas, the length must consider the speed of approaching traffic and anticipated queuing lengths. The minimum length of high friction surfacing required under any given circumstances should be equivalent to a three second gap at the posted speed limit. The minimum lengths required are typically as follows;

Table 11. Minimum lengths of high friction surfacing.

Speed (mph)	Length (m)
30	50
40	60
50	70
60	90
70	100

Continuity - Where braking areas and/or bends run into one another a consistent level of grip should be maintained. This may lead to excessive lengths being proposed for high friction surfacing. In such instances alternatives should be considered to avoid the maintenance liability. In braking areas, high friction surfacing should be applied to all lanes approaching the hazard.

Colours for high friction surfacing - materials are generally limited to two colours, buff and dark grey, the intrinsic colours of calcined bauxite. It is not generally advised that high friction surfacing be used as a visual trigger due to the high cost and ongoing maintenance liability. However, where it is necessary to provide both high wet grip and a conspicuous colour then high friction surfacing can be used.

Where it is intended that high friction surfacing should provide a visual warning of increased risk as well as improved grip then buff material should generally be used.

Where the intention is purely to improve grip but without the visual trigger which may encourage higher speeds (especially for bends) then dark grey material should be used.

Where high friction surfacing is installed straddling a stop line it is generally sensible to employ buff material up to the stop line and dark grey material beyond.

On approaches to pedestrian crossings with zigzag markings it is possible to achieve a visual narrowing and heighten contrast by using buff material in the running lane and grey material at the margins.

It is possible to pigment the high friction surfacing for a more vivid effect initially but this is not a durable option.

Substrate Issues

Because of the stresses generated by vehicles when braking, it is imperative that such treatments are only laid on a 'sound' surface. Where the existing surface is old, cracked, rutted, polished, fatted and/or contaminated in some other way, pre-treatment will be necessary.

Where high friction surfacing is to be applied to a newly surfaced road then the resurfacing should be comprised of a material resistant to embedment of the resin system. Excess texture requires extra resin to be applied which will increase costs. The recommended receiving course for High Friction Surfacing is High Stone Content HRA or lightly HRA with pre-coated chips.

The application of high friction surfacing to un-chipped 30/14 HRA is not permitted, as there would be no 'back up' skid resistance once high friction surfacing wears. Experience indicates a high risk of de-bonding problems where scratch coats have been used and these should not be permitted. Only products holding appropriate BBA/HAPAS certification are to be used.

A three year 'end-performance' specification for high friction surfacing treatments has been incorporated within all of the authority's standard contracts.

A re-application of high friction surfacing on top of an older application may be possible providing the old treatment is not de-bonding. In general cold applied treatments can only be used to overlay cold applied treatments whereas hot applied treatments can be used to overlay both types. Removal or repair of these products including superimposed road markings should be carried out using grinding/planing techniques (specialist fine planers now exist) or very high pressure water jetting, as burning off can generate toxic fumes.

All road markings on high friction surfacing shall be at least level with the surrounding high friction surface after treatment. It is accepted that markings may need to be applied in advance and it is sometimes expedient to 'mask' road markings prior to re-treatment. This practice can leave the markings lower than the HFS which can hold surface water, under such circumstances, it will be necessary to reapply markings on completion of high friction surfacing works.

8.5 Grouted Macadam

Grouted macadam surfacing has been developed for use in very highly stressed areas to withstand 'exceptional' forces. They consist of an open-graded bituminous 'receiving course' (usually an SMA) into which is vibrated a cementitious grout to provide an extremely strong material that is highly resistant to deformation, fuel spillages and fretting. These materials offer solutions to highly stressed sites such as bus stops, HGV laybys or turning areas.

To be effective the treatment must be applied to a sound substrate and be allowed to ‘cure’ fully before trafficking. It is important to ensure the grout penetrates well into the voids.

It is not a suitable process for sites that need to offer skid resistance unless shot blasting or similar process is used to expose coarse aggregate.

The material must have BBA/HAPAS certification

8.6 Concrete pavements

Concrete carriageways present significantly different maintenance issues than bituminous ones. The principal difference being that the opportunities to plane and relay a surface course does not exist.

Within the borough there are many composite/rigid pavements due to clay or other poor formation. Some of these have been overlaid with varying thicknesses of asphalt.

When considering maintenance options the following matters should be taken into account:

Joints - Where the edges of concrete slabs are sound, joint sealing treatment should be considered. Where the concrete edge (arris) has deteriorated consideration should be given to the use of a ‘rout and seal’ joint treatment. The depth and width needing to be routed out will vary. However unless all deteriorated material is removed, any treatment will not be effective.

Exposed Slabs - Where the concrete surface is exposed there are various specialist repair materials that can be used for ‘thin bonded’ and ‘arris repairs’. Retexturing can also reinvigorate the existing slabs. Detailed guidance on repairs to concrete carriageways is contained in the Highways Agency/Brit-pave manual entitled ‘Concrete Pavement Maintenance Manual’ (ISBN 0-946691-89-4) and HD 32/94 of Volume 7 of the Design Manual for Roads and Bridges.

Overlaying - Where an asphalt overlay is appropriate, consideration must be given to possible movements at joints. It is important to ascertain whether any movement occurring is thermal in nature or whether the concrete slabs are 'rocking'. With 'rocking slabs' it may be possible to see the slabs move under the weight of traffic. Overlaying should not take place when such movement is apparent.

For rocking or moving slabs it may be possible to rectify the issue with specialist grouting techniques.

The consequences of thermal movement (reflective cracking) may be overcome in one of the following ways:

- By applying a very thick overlay, usually 150mm minimum to negate thermal stresses. This is expensive and often not a practical solution. A nominal reduction in the thickness of overlay required can be achieved in one of two ways as follows:
- By reinforcing the overlay. Various grids have can be used, glass fibre and steel (see section 4.8).
- By employing a Stress Absorbing Membrane (SAM), at the interface. SAMs ensure that localised stresses are dissipated within the overlay such that reflected cracking does not occur. A number of proprietary SAMs are available, some preformed, and others applied hot.

Recent thinner overlays have been successful using proprietary 942 surface courses incorporating Polymer Modified Binders (PMBs) and low void content. These have been laid at a nominal thickness of 50mm and have proven more able to tolerate underlying movement than stiffer hot rolled asphalts as the PMB gives increased flexibility and resistance to fatigue and reflective cracking.

Where slabs are badly deteriorated and where an overlay would otherwise be suitable, it may be possible to convert the existing pavement into a flexible sub-base/base layer using a “crack and seat” technique. However, cracking and seating is only likely to be appropriate for major routes and is not an option for most ‘local roads’.

8.7 Retexturing

Where the only defect with an existing road surface is a localised loss of surface texture it may be possible to reintroduce texture. For this process to be appropriate the existing surfacing must be structurally sound. Retexturing can have a considerable effect on reducing the service life of the surface course. Various methods are available but they need to be applied selectively and are only a short term fix.

Table 12. Guidance on Retexturing

Item	Surfacing Type	Current Condition	Effect required from Treatment	Suitability of Process		
				Bush hammering	Shot Blasting	High Pressure Water Jetting
1.	HRA with pre-coated chips	Polished aggregate	Restore Micro Texture	Likely to be effective	*Likely to be most effective	Unsuitable
2.	HRA with pre-coated chips	Embedded Chippings	Restore Macro Texture	Unsuitable	Likely to be effective	*Likely to be most effective
3.	HRA with pre-coated chips	Embedded Chippings and Polished aggregate	Restore Micro and Macro Texture	Unsuitable	*Likely to be most effective	Unsuitable
4.	Close Graded Macadam HSCA/NTSA	Polished aggregate	Restore Micro Texture	Likely to be effective	*Likely to be most effective	Unsuitable
5.	Close Graded Macadam HSCA/NTSA	Inadequate surface texture due to abrasion	Restore Macro Texture	Unsuitable	*Likely to be most effective	*Likely to be effective
6.	Close Graded Macadam HSCA/NTSA	Excess binder on or in surface	Restore Micro and Macro Texture	Unsuitable	Unsuitable	*Likely to be most effective
7.	Surface Dressing	Excessive embedment/ Fatting	Restore Macro Texture	Unsuitable	Unsuitable	*Likely to be most effective
8.	Concrete	Polished aggregate	Restore Micro Texture	Likely to be effective	*Likely to be most effective	Unsuitable
9.	Concrete	Loss of Surface Texture	Restore Macro Texture	*Grooving necessary for high speed roads	Only suitable on low speed sites	Unsuitable

HSCA = High Stone Content Asphalt NTSC = Negative Textured Surface Course
*Denotes preferred option.

8.8 Asphalt Reinforcement Grids

The inclusion of an ARG assists in the dissipation of the tensile strain exerted by traffic loading, which increases resistance to cracking. Placing the grid deep in the bound layers gives the greatest resistance to tensile stresses.

Grids will not rectify or resolve significant underlying faults in the structure of the pavement. They are commonly used to bridge existing utility reinstatements, delaying the onset of reflective cracking. Caution should be exercised when specifying grids beneath surface course only as there is an inherent problem with the grid failing to adhere to the underlying surface especially when this has been planed. The forces exerted by the floating screed of a paving machine can often drag the grid to the point where the adhesion fails and the grid drags or becomes rumpled.

There are many forms of reinforcing grid but the most common three categories are:

- Glass Fibre Mesh, self-adhesive or stuck with hot applied bitumen spray.
- Steel mesh physically fixed to under lying layers. Whilst this has proven performance credentials it is difficult to remove as it cannot be planed.
- Glass fibre mesh/fabric composites absorb bitumen to form an additional barrier to water.

Glass fibre mesh/fabric composite is the preferred option as these are ‘glued’ to the surface by the application of the bond coat which also provides an impermeable barrier.

The following are common problems where specification of a grid may be worthwhile:

Thermal Cracking

'Fine' cracks with no vertical displacement (e.g. reflective cracking over lean concrete). Glass Fibre Grid with/without geotextile backing depending on site circumstances. The grid shall comply with the following requirements:

- Glass-fibre mesh or a composite glass-fibre mesh on geotextile backing.
- Minimum tensile strength of 100kn/m in both longitudinal and transverse directions.
- The minimum overlay thickness for the grid should be 70mm

The grid shall be fixed to the carriageway using a bond coat approved by the grid supplier/manufacturer or may be self-adhesive.

As an alternative consider a dense, 943 Asphalt with PMB, or proprietary SAMI (stress absorbing interlayer membrane) asphalt which can also offer crack suppression.

Cracking with Anticipated Vertical Displacement

Glass Fibre Composite Grid

Composite glass-fibre mesh on geotextile backing with a minimum tensile strength of 100kN/m in both longitudinal and transverse directions shall be specified.

Manufacturers specify a minimum of 40mm or 50mm overlay, however this can cause issue with de-bonding during the overlay operation, thicker overlays are preferable. There is also little value when the grid is incorporated into the pavement at such a high level. The grid shall be fixed to the carriageway using an emulsified bond coat or hot bitumen in accordance with the supplier/ manufacturer product certification.

This type of grid does provide a waterproof membrane within the pavement reducing ingress of water.

Clay Shrinkage Cracking

For wider cracks a polypropylene grid with or without a geotextile backing may be appropriate. These grids can be difficult to install as some need to be tensioned. The minimum overlay thickness is 70 mm.

The grid shall be fixed to the carriageway using an emulsified bond coat or hot bitumen in accordance with the supplier/ manufacturer product certification.

Grids cannot be expected to cover major underlying failures or the significant swell or shrinkage often associated with clay foundations.

Concrete Joint problems/severe Clay Shrinkage cracking

More severe movement can be resolved using a metal mesh. These are to be installed and fixed to manufactures specification. It should be noted that there is a potential liability with future maintenance when the need to plane into layers containing a mesh.

In all cases grids must be laid by contractors experienced with the laying of that type of product and in accordance with the manufacturer's instructions.

8.9 Crack Sealing Techniques

Where there is surface cracking in an otherwise sound condition then consideration should be given to sealing the cracks to prevent the ingress of water.

Excess sealant can be slippery and is hazardous to two wheeled vehicles so sealant on the surface should be kept to a minimum with a maximum band width of 40mm and a maximum thickness of 3mm.

Grit (3mm) with a minimum PSV of 55 should be applied to all bituminous over-band sealing. The requirement for grit may be waived for non-bituminous (e.g. resin based) sealants where an equivalent skid resistance can be demonstrated.

For joint sealing beneath surface course there is no requirement for a skid resistance although certain systems may require a coating of grit to prevent bleeding or tracking of the applied joint during construction.

Approved non-bituminous sealant shall be applied strictly in accordance with the manufacturer's method statement and HAPAS/BBA certification.

8.10 Asphalt Rejuvenation/Preservation

Asphalts degrade over time by the combined effects of temperature, oxidation, moisture, ultra-violet light and wear which strip the volatile fractions from the bitumen, reducing flexibility.

The service life of surface courses can be extended by the application of rejuvenation sprays. These sprays replace the volatile fractions without denuding or masking surfacing texture.

Asphalt rejuvenator/preservatives will only help to bind the surface aggregates together in order to reduce fretting and other aggregate loss. It does not fully penetrate low void content asphalt. Treatment prior to significant deterioration, topped up at five yearly intervals is likely to provide the greatest whole life cost benefit.

This process is particularly appropriate for the treatment of SMA or clause 942 materials.

8.11 In-situ Recycling Techniques

Given the commercial and environmental advantages of recycling aggregates contained within existing roads a number of effective proprietary 'in-situ' treatments have evolved. Some proprietary processes are appropriate on lower category roads. Cement or other hydraulic binders may be used as a binder for recycling works. On lightly trafficked roads it may suffice to apply only surface course over the recycled material. Recycled material should only be used as a base layer on more heavily trafficked roads.

Sites with extensive ironwork in the road, shallow services, variable construction or clay sub grades are unsuitable and/or uneconomic to recycle.

Where such options are considered, an investigation may be necessary to assess the existing surfacing materials for suitability (HD31/94).

Most in-situ recycling processes are only likely to be viable for large schemes.

8.12 Ex-Situ Recycling (Cold Recycled Materials)

Recycled material produced remotely should be better in quality than in situ options due to increased quality control at the production unit. It can be laid and compacted using conventional paving equipment. This process has been used extensively for base or sub-base substitution in all classes of road. It has also been used to replace sub-base and binder course material in footways,

Hydraulically Bound Material (HBM) is a recycled construction material made from arisings from the highway network. This cold produced material has environmental, economic and operational benefits. It can be used as sub base, base or binder course material. The compressive strength should be limited to 5 N/mm² to 6 N/mm² to avoid cracking. Less energy is needed to produce this cold material which is safer to lay and can be stored for longer periods of time.

HBM sets and hardens by hydraulic action and its water content is suitable for compaction by rolling. HBM can be produced as either a quick setting material (with cement) or as a slow setting material (with other binders, such as fly ash), depending on the client requirement. It is more sensitive to moisture than traditional materials, should be stored under cover and protected from wind and rain to minimise loss or gain of moisture. It also needs to be protected from extreme changes in temperature to prevent deterioration.

The setting and hardening of slow set HBM is protracted when the ambient temperature is 5^{o}C or less so careful consideration must be given to the use of HBM during late autumn or winter.

Quick set HBM can suffer from the formation of thermal stress cracks, due to shrinkage during the curing period. HBM can be pre-cracked in order to control the location and size of surface cracks as with rigid pavement construction.

The permeability and strengths of HBM change with time therefore curing time is crucial to durability testing. Factors such as aggregate gradation, requirements for immediate trafficking and laying temperature, are critical to attaining acceptable durability.

Local ground conditions should be considered when specifying HBM as it can be susceptible to aggressive ground and organic impurities which may interfere with the hydraulic reaction. Due to the sensitivity of HBM to moisture, HBM should not be laid in heavy rain, or on wet or saturated ground.

9.0 Appendix 7/1: Permitted Pavement Materials

9.1 Requirements for Regulating Course

Regulating thicknesses of less than 10mm/15mm (dependent upon the materials permitted within each surfacing appendix) shall be achieved within the thickness of the overlying bituminous material, unless otherwise agreed.

<table>
<tr><th>Ref No</th><th>Layer thickness, mm</th><th colspan="2">Regulating Material</th><th>Binder grade, pen</th><th>Special Requirements</th></tr>
<tr><td>1</td><td>0 – 20</td><td colspan="2">HRA0/2 F surf 40/60 des to BS EN 13108-4</td><td>40/60</td><td rowspan="6">Wheel tracking, stability criteria to match that of the specified surface course.</td></tr>
<tr><td>2a</td><td>15 – 25</td><td>SMA 6 reg 40/60</td><td rowspan="3">Stone Mastic Asphalt to Clause 937</td><td rowspan="3">40/60</td></tr>
<tr><td>2b</td><td>25 – 35</td><td>SMA 10 reg 40/60</td></tr>
<tr><td>2c</td><td>35 – 45</td><td>SMA 14 reg 40/60</td></tr>
<tr><td>2d</td><td>50 – 60</td><td>SMA 20 reg 40/60</td><td></td><td></td></tr>
<tr><td>3</td><td>35 - 65</td><td colspan="2">HRA 50/14 bin des 40/60
to BS EN 13108-4</td><td>40/60</td></tr>
<tr><td>4a</td><td rowspan="3">50-100</td><td colspan="2">AC 20 dense bin 40/60 des to BS EN 13108-1 & clause 929</td><td>40/60</td><td rowspan="3">Coarse aggregate to be crushed rock or slag.
Fine aggregate to exclude natural fine sands.
Wheel tracking criteria to match that of the specified surface course.
Where no requirement is stated these maybe recipe mixes.</td></tr>
<tr><td>4b</td><td colspan="2">AC 20 dense bin 100/150 des to BS EN 13108-1 & clause 929</td><td>100/150 For possible use in cold winter weather conditions</td></tr>
<tr><td>4c</td><td colspan="2">AC 20 HDM bin 40/60 des to BS EN 13108-1 & clause 929</td><td>40/60</td></tr>
<tr><td>5a</td><td rowspan="3">70-120</td><td colspan="2">AC 32 dense bin 40/60 des to BS EN 13108-1 & clause 929</td><td>40/60</td><td rowspan="3">Coarse aggregate to be crushed rock or slag.
Fine aggregate to exclude natural fine sands.
Wheel tracking criteria to match that of the specified surface course.
Where no requirement is stated these maybe recipe mixes.</td></tr>
<tr><td>5b</td><td colspan="2">AC 32 dense bin 100/150 des to BS EN 13108-1 & clause 929</td><td>100/150</td></tr>
<tr><td>5c</td><td colspan="2">AC 32 HDM bin 40/60 des to BS EN 13108-1 & clause 929</td><td>40/60</td></tr>
</table>

9.2 Surface Course Materials

a. HRA 30/14 F or C surf 40/ 60 4-8kn des: Hot Rolled Asphalt (design mix)

1	Location as instructed	
2	Grid for checking surface levels of pavement courses (702.4)	
	Longitudinal dimension:	10m
	Transverse dimension:	2m
3	Surface regularity (702.7):	Category of road, A
4	Coated chippings (915):	Nominal size 20mm
	Minimum PSV:	60 or 65 (see table 5)
	Maximum AAV:	12 (see table 7)
5	Surface texture required (921):1.5mm (sand patch) or 1.2 mm (sand patch) see note 2.	
6	Regulating course (907)	
	Surfacing	Surface course
	Clause:	911
	Material:	Rolled Asphalt
	Binder:	40/60 pen
	Thickness:	45mm (see note 3)
	Special requirements:	BS EN 13108-4 Table 4 Column No 30/14 F or C or 35/14F or C Coarse Aggregate – minimum PSV = 50
	Marshall Stability Range;	4kN to 8kN (across the whole of the ± 0.6% binder content tolerance) Or to appropriate level of Wheel Rut resistance (L1)

	Binder Content:	Determined in accordance with BS594987/PD6691:2010 Annex H. 7.5% suggested mid-point for trial mixes (Table H.4)

Notes:

1. CE Type Test Data shall be forwarded to the overseeing organisation for approval, at least 10 working days before laying is due to commence, clearly stating the proposed source of supply.

2. On roads with speed limits of 40mph or greater a minimum surface texture of 1.5mm shall be specified, for roundabouts and roads with speed limits less than 40 mph a texture of 1.2mm will be sufficient.

3. On new works or where resurfacing a thickness of 45mm should be specified wherever possible for better heat retention and chipping embedment.

b. HRA 35/14 F or C surf 40/60 des L2 WT: Hot Rolled Asphalt (design mix performance related)

1	Location as instructed			
2	Grid for checking surface levels of pavement courses (702.4)			
	Longitudinal dimension:		10m	
	Transverse dimension:		2m	
3	Surface regularity (702.7):		Category of road, A	
4	Pre-coated Chippings:		Nominal size 20mm	
	Minimum PSV:		65 or 68 (see table 5)	
	Maximum AAV:		12 (See table 7)	
5	Surface texture required (921):		Sand patch texture requirements	
	Level	Minimum sand patch texture depth new (mm)	Minimum sand patch texture depth at 2 yrs. (mm)	Loss of texture between 12 months and 2 years (%)
	2	1.5	1.5	40 max
	1	1.2	1.2	40 max
	No individual 50m section shall be less than 80% of that specified for the relevant ‘level’, nor			

<table>
<tr><td></td><td colspan="4">more than 2.2 mm.</td></tr>
<tr><td>6</td><td colspan="4">Regulating course (907)</td></tr>
<tr><td>7</td><td colspan="4">Coring and testing for the determination of wheel tracking shall be carried out in accordance with Clause 943 & BS 594987</td></tr>
<tr><td>8</td><td colspan="4">Wheel-tracking test temperature, rate and rut depth (to BS EN 12697) Wheel-tracking levels (See Notes 3 and 4)
<table>
<tr><td rowspan="2">Level</td><td rowspan="2">Test Temperature</td><td colspan="2">Wheel tracking requirements</td></tr>
<tr><td>Rate (mm/hr)

Mean (max)</td><td>Rut depth (mm)

Mean (max)</td></tr>
<tr><td>2</td><td>60</td><td>5.0 (7.5)</td><td>7.0 (10.5)</td></tr>
</table>
‘Mean’ is the mean result of 6 consecutive results and ‘max’ is the maximum value measured on a single core.
<table>
<tr><td>Surfacing:</td><td>Hot Rolled Asphalt (performance Design Mixture)</td></tr>
<tr><td>Clause:</td><td>943 and BS EN13108-4: Table No 4

Column No 35/14F or C</td></tr>
<tr><td>Special Requirements</td><td>If modified Binders are to be used, only Pre-blended modified binders are acceptable</td></tr>
<tr><td>Material</td><td>HRA 35/14 F or C surf 40/60 des PSV (see note 2)</td></tr>
<tr><td>Binder</td><td>40/60</td></tr>
<tr><td>Thickness</td><td>45mm</td></tr>
<tr><td>Coarse aggregate</td><td>Minimum PSV = 60</td></tr>
<tr><td>Air voids</td><td></td></tr>
<tr><td>Binder content</td><td>Determined in accordance with BS594987/PD6691:2010 Annex H.

7.0% suggested mid-point for trial mixes (Table H.4)

Not greater than 7.5% for any pair of cores and not greater than 5.5% for the mean of any six consecutive cores.</td></tr>
</table></td></tr>
</table>

Notes:

1. CE Type Test Data shall be forwarded for approval, at least 15 days before laying, stating the proposed source of supply. A Mixture Approval trial may be required where relevant wheel-tracking/air voids data is not available.
2. The surface texture should be assessed on a site specific basis and a maximum in accordance with IAN 154/12.
3. The wheel tracking level needed should be assessed on a site specific basis taking account of the nature of the site and commercial vehicle flows. Refer to the Section 1 of this document.

4. Wheel-tracking testing shall be carried out at 60°C. All results shall be no more than 12 months old.
5. Where such data is not available, a Job Mixture Approval Trial shall be required for each unique mixture.

c. AC 14 close surf 100/150 (or 40/60): Asphaltic Concrete 14

1	Location as instructed	
2	Grid for checking surface levels of pavement courses (702.4)	
	Longitudinal dimension:	10m
	Transverse dimension:	2m
3	Surface regularity (702.7):	Category of road, A
4	Surface texture required (921)	N/A
5	Regulating course (907)	
	Surfacing	Surface Course
	Clause:	912
	Material:	AC 14 close surf 100/150 PSV (see note 2)
	Binder:	100/150 or 40/60 (see Note 1)
	Thickness:	40mm
	Special requirements:	BS EN 13108-1
	Coarse Aggregate:	Crushed rock or slag only excluding limestone. Adhesion agent required if quartzite, basalt or other igneous rock.
	Minimum PSV:	55 or 60 (see Note 2)
	Maximum AAV:	16 (see Note 2)
	Fine Aggregate:	Crushed rock and natural sand mixture

Notes:

1. 160/220 pen binder may be considered for use during the winter months only but care must be exercised as such materials is likely to deform during later

periods of warm weather. 40/60 pen binder is only practical for machine laying.

2. For selection of coarse aggregate properties refer to tables 5 and 7.

d. AC 10 close surf 100/150 (or 40/60): Asphalt Concrete 10

1	Location as instructed	
2	Grid for checking surface levels of pavement courses (702.4)	
	Longitudinal dimension:	10m
	Transverse dimension:	2m
3	Surface regularity (702.7):	Category of road, A
4	Surface texture required (921)	N/A
5	Regulating course (907)	
	Surfacing	Surface Course
	Clause:	912
	Material:	AC 10 close surf 100/150 PSV (see note 2)
	Binder:	100/150 or 40/60 Pen – See Note 1
	Thickness:	40mm (absolute minimum of 30mm)
	Special requirements:	BS EN 13108-1
	Coarse Aggregate:	Crushed rock or slag excluding limestone
		Adhesion agent required if quartzite, basalt or other igneous rock.
	Minimum PSV:	55 or 60 (see Note 2)
	Maximum AAV:	16 (see Note 2)
	Fine Aggregate:	Crushed rock and natural sand mixture

Notes:

1. 160/220 pen binder may be considered for use during the winter months but care must be exercised as such materials may deform during later periods of warm weather. 40/60 pen binder is only practical for machine laying.
2. For selection of coarse aggregate properties refer to tables 5 & 7

e. HRA 55/14 F or C surf 40/60 des 7kn: High Stone content Hot Rolled Asphalt (design mix).

1	Location as instructed	
2	Grid for checking surface levels of pavement courses (702.4)	
	Longitudinal dimension:	10m
	Transverse dimension:	2m
3	Surface regularity (702.7):	Category of road, A
4	Surface texture required (921)	N/A
5	Regulating course (907)	
	Surfacing	Surface Course
	Clause:	911
	Material:	High Stone Content Asphalt
	Binder:	40/60
	Thickness:	45mm
	Special requirements:	BS EN 13108-4 Table No 4 Column No 55/14F or C
	Marshall Stability Range:	7kN minimum (across the whole of the ±0.6% binder content tolerance)
		Or to appropriate level of Wheel Rut resistance (L1)
	Binder Content:	Determined in accordance with BS594987/PD6691:2010 Annex H.
		5.5% suggested mid-point for trial mixes (Table H.4)
	Maximum Flow	5.0mm
	Wheel Tracking Requirement	Level 1
	Coarse Aggregate:	Crushed rock or slag excluding Limestone
	Nominal size:	0/14mm
	Minimum PSV:	60 or 65 (see Note 2)
	Maximum AAV:	12 (see Note 2)

Notes:

1. CE Type Test Data shall be forwarded to the Overseeing Organisation for approval, at least 10 days before laying is due to commence, clearly stating the proposed source of supply.
2. For selection of coarse aggregate properties refer to tables 5 & 7.

f. Clause 942 Proprietary Surface Course14mm

1	Location as instructed		
2	Grid for checking surface levels of pavement courses (702.4)		
	Longitudinal dimension:	10m	
	Transverse dimension:	2m	
3	Surface regularity (702.7):	Category of road, A	
4	Coarse Aggregate:	Nominal size: 0/14mm	
		Minimum PSV 68, 65 or 60 – See table 6.	
		Maximum AAV: See table 7.	
5	Surface texture required (921): As per IAN 154/12 – see tables 3 & 4		
6	Regulating course (907):		
7	Wheel-tracking test temperature:		60°C
8	Wheel-tracking test temperature, rate and rut depth (to BS EN 12697) Wheel-tracking levels (see Note 5)		

Level	Test Temperature	Wheel tracking requirements	
	°C	Rate (mm/hr) Mean/[max]	Rut depth (mm) Mean / [max]
3	60	5.0/[7.5]	7.0 / [10.5]

‘Mean’ is the mean result of 6 consecutive results and ‘max’ is the maximum value measured on a single core.

	Surfacing:	Surface Course

	Clause:	942
	Material:	Proprietary Surface Course 14 mm
	Binder:	
	Thickness:	50mm (subject to BBA certification)
	Special Requirements:	
	Minimum target binder content:	B_{act} 6.0%
	Binder volume:	Not less than 12%
	Binder drainage composition:	Not more than 0.3% by mass at target binder
	Laboratory air voids content:	2.0% to 4.0% within the range ± 0.6% of target binder

Notes:

1. CE Type Test Data shall be forwarded to the Overseeing Organisation for approval, at least 10 days before laying is due to commence, clearly stating the proposed source of supply. This should be taken into account when programming works.
2. Texture depths shall be in accordance with IAN 154/12 for minimum and maximum textures.
3. Where required, by the Overseeing Organisation, proprietary thin surface courses shall be gritted in accordance with clause 973AR.
4. For selection of coarse aggregate properties refer to tables, pages 6 & 7.
5. Results from wheel-tracking tests to BS 598 Part 110 shall be provided at the approval stage to the Overseeing Organisation. Testing shall be carried out at 60°C with results being no more than 12 months old.
6. If traffic noise is an issue refer to Section 2.7.

g. Clause 942 Proprietary Surface Course 10mm

1	Location as instructed	
2	Grid for checking surface levels of pavement courses (702.4)	
	Longitudinal dimension:	10m
	Transverse dimension:	2m
3	Surface regularity (702.7):	Category of road, A

4	Coarse Aggregate:	Nominal size: 0/10mm
		Minimum PSV 68, 65 or 60 – See table 6.
		Maximum AAV: See table 7.
5	Surface texture required (921): As per IAN 154/12 – see tables 3 & 4	
6	Regulating course (907):	
7	Wheel-tracking test temperature:	60°C
8	Wheel-tracking test temperature, rate and rut depth (to BS EN 12697) Wheel-tracking levels (see Note 5)	

Level	Test Temperature °C	Wheel tracking requirements	
		Rate (mm/hr) Mean/[max]	Rut depth (mm) Mean / [max]
3	60	5.0/[7.5]	7.0 / [10.5]

'Mean' is the mean result of 6 consecutive results and 'max' is the maximum value measured on a single core.

	Surfacing:	Surface Course
	Clause:	942
	Material:	Proprietary Surface Course 10 mm
	Thickness:	30mm to 40mm (subject to BBA certification)
	Special Requirements:	
	Minimum target binder content:	B_{act} 6.2%
	Binder volume:	Not less than 12%
	Binder drainage composition:	Not more than 0.3% by mass at target binder
	Noise Level:	0, 1, 2, or 3 as instructed (See note 4)
	Laboratory air voids content:	2.0% to 4.0% within the range ± 0.6% of target binder

Notes:

1. CE Type Test Data shall be forwarded to the Overseeing Organisation for approval, at least 10 days before laying is due to commence, clearly stating the proposed source of supply. This should be taken into account when programming works.
2. Texture depths shall be in accordance with IAN 154/12 for minimum and maximum textures.
3. Where required, by the Overseeing Organisation, proprietary thin surface courses shall be gritted in accordance with clause 973AR.
4. For selection of coarse aggregate properties refer to tables 6 & 7.
5. Results from wheel-tracking tests to BS 598 Part 110 shall be provided. Testing shall be carried out at 60°C with results being no more than 12 months old.
6. If traffic noise is an issue refer to Section 2.7.

h. Clause 942 Proprietary Surface Course 6mm

1	Location as instructed	
2	Grid for checking surface levels of pavement courses (702.4)	
	Longitudinal dimension:	10m
	Transverse dimension:	2m
3	Surface regularity (702.7):	Category of road, A
4	Course Aggregate:	Nominal size: 0/6mm
		Minimum PSV 55, or 60 (see note 4)
		Maximum AAV: 16
5	Regulating course (907)	Table 1 mixture options: 2a to 2d, 4a, 4c, 5a or 5c
	Surfacing:	Surface Course
	Clause:	942
	Material:	6mm Proprietary Thin Surface Course
	Binder:	
	Thickness:	30mm

	Special Requirements:	
	Minimum Target Binder Content	B_{act} 6.8%
	Binder volume	Not less than 12%
	Binder drainage composition	Not more than 0.3% by mass at target binder
	Laboratory air voids content	2.0% to 4.0% within the range ± 0.6% of target binder

Notes:

1. CE Type Test Data shall be forwarded to the Overseeing Organisation for approval, at least 10 days before laying is due to commence, clearly stating the proposed source of supply. This should be taken into account when programming works.
2. Texture depths shall be in accordance with IAN 154/12 for minimum and maximum textures.
3. Where required, by the Overseeing Organisation, proprietary thin surface courses shall be gritted in accordance with clause 973AR.
4. For selection of coarse aggregate properties refer to tables, pages 6 & 7.
5. Results from wheel-tracking tests to BS 598 Part 110 shall be provided at the approval stage to the Overseeing Organisation. Testing shall be carried out at 60°C with results being no more than 12 months old.
6. If traffic noise is an issue refer to Section 2.7.

i. HRA 15/10 F or C surf 40/60 rec or des: Hot Rolled Asphalt (for hand laid reinstatements)

1	Location:	This material shall only be used in hand patching and for reinstatement in front of kerbs, to transverse trenches and around ironwork
2	Coated chippings (915):	Nominal size: 14/20mm
		Minimum PSV: 60
		Maximum AAV: 12
3	Surface texture required (921):	0.90 (SMTD) / 1.2 mm (sand-patch)
4	Regulating course (907):	NA
	Surfacing:	Surface Course
	Clause:	910/911 recipe or design mix
	Material:	Hot Rolled Asphalt
	Binder:	40/60 Pen
	Thickness:	45mm
	Special Requirements:	BS EN 13108-4
		Table 4, Column No 15/10 F or C
	Coarse Aggregate:	Crushed rock or Slag – minimum PSV = 50
	Binder Content:	Determined in accordance with BS594987/PD6691:2010 Annex H 8.5% suggested mid-point for trial mixes.

9.3 Binder Courses

Schedule of Binder Course Mixtures

Element	Clause	Material	Binder Grade	Layer Thickness (mm)	Special Requirements
Binder Course	905	HRA 50/14 bin 40/60	40/60 pen	As instructed	BS EN 13108-4Coarse Aggregate to be crushed rock or slag
Binder Course	906	AC 20 dense bin 40/60 recipe	40/60 pen	As instructed	BS EN 13108-1 Coarse Aggregate to be crushed rock or slag
	906	AC 20 dense bin 100/150 recipe*	100/150 pen		
	929	AC 20Dense bin 40/60 design	40/60 pen		
Binder Course	937	SMA 14 bin 40/60	40/60 pen	As instructed (between 50mm and 65mm)	60˚C Wheel-tracking criteria applies: Max. wheel-tracking rate to PD6691 Annex D
Binder Course	894AR	Hydraulically Bound Materials	NA	100mm	

*For possible use in cold winter weather conditions

9.4 Base Mixtures

Schedule of Base Mixtures

Element	Clause	Material	Binder Grade	Layer Thickness (mm)	Special Requirements
Base	906	AC 32 dense base 40/60 rec	40/60 pen	As instructed (between 70mm and 120mm)	BS EN 13108-1 Coarse Aggregate to be crushed rock or slag. Compaction to Clause 929
	906	AC 32dense base 100/150 rec *	100/150 pen		
	929	AC 32 HDM base 40/60 des	40/60 pen		
	894AR	Hydraulically Bound Materials	N/A		
	1030	C8/10 Wet Lean Concrete	N/A	As instructed (minimum 150mm)	To be fully compacted by internal vibration only. Crack inducers to be max 3m centres. Mixes must achieve equivalent of 7 days strength before overlaying permitted. Maximum strength of 10N/mm² at 7 days ST mixes not permitted.
	930	AC 10 EME2 Base	10/12 or 15/25 pen	60 to 100mm	Has to be laid on well compacted sub base surface stiffness 120mpa.

*For possible use in cold winter weather conditions

EXECUTIVE MEMBER DECISION

REPORT OF:	Leader
LEAD OFFICERS:	Director of Finance and Customer Services
DATE:	**30th November 2018**

PORTFOLIO/S AFFECTED:	Resources
WARD/S AFFECTED:	All

SUBJECT: ALLOCATION OF MONIES FROM THE COUNCIL CHARITY: GARSTANG LECTURE FUND

1. EXECUTIVE SUMMARY

To deliver the Council's proposal to allocate the monies held in the Council's dormant charity account of the Garstang Lecture Fund.

2. RECOMMENDATIONS

That the Leader approves:

1. The transfer of the cash balance held by the fund as at 30th November 2018, in the sum of £26,277.67 to The Making Rooms and £2,000 to The Peel Foundation
2. Upon realisation of the external investments currently held by the fund (which held a market value of £9,903.16 as at 31st March 2017), to transfer the funds to The Making Rooms
3. Further to completion of Recommendations 1 and 2 above, to close the accounts and all business relating to the Garstang Lecture Fund
4. To request the Director of Finance and Customer Services and Director of HR, Legal and Governance to carry out all necessary legal formalities to remove the charity from the Charities Commission and to close all business and dealing, transferring the amounts as determined.

3. BACKGROUND

A report was previously presented to the Council's Executive Board in August 2018 which resolved to close the accounts of the Garstang Lecture Fund and approved the transfer of funds to other charities which were identified by the Director of Finance and Customer Services, in consultation with the Executive Member for Resources, as having the same purpose.

The decision has been deferred to the Leader of the Council in accordance with the Constitution, as the Executive Member for Resources cannot act on this occasion due to a declared conflict of interest.

It was agreed by the Executive Board in August to change the purpose of the Garstang Lecture Fund to;

"to support educational development of children and young people in the Borough",

to ensure the monies are applied to benefit the educational needs of people in the Borough.

In the financial statements prepared at 31st March 2018, the Garstang Lecture Fund held funds of £37,997.11, comprising;

- £28,093.95 held in an interest bearing bank account, and
- £9,903.16 in external investments (preference shares and debentures).

Since that date, interest has been earned on the bank balance and the value of the external investments have been subject to fluctuation according to market rates.

4. KEY ISSUES & RISKS

The Council has since received expression of interests from various charities and organisations in the Borough for the allocation of these funds. The two main applicants that met the criteria for this charity were The Making Rooms and The Peel Foundation.

Having considered all the information submitted, the Council considers that these two charities are the appropriate recipients of the funds with the distribution as follows:

Bank Balance
£2,000.00 to be transferred to The Peel Foundation
£26,277.67 to be transferred to The Making Rooms

External Investments
Once the value of these investments has been realised upon sale, the resulting funds to be transferred to The Making Rooms.

The Peel Foundation is a registered charity (charity no 526101) and provides scholarships to students and is open to and promoted in all Blackburn with Darwen Year 13 schools. Awards are made of £500.00 each and are made annually on the basis of applications submitted

The Making Rooms is a Community Interest Company Limited by Guarantee and its objective is to "carry on activities which benefit the community and in particular (without limitation) to provide facilities, training and support to encourage entrepreneurial talent". The Making rooms will utilise the funds for their proposed education programme aimed more widely at secondary schools in the borough over the next 2 years.

Both applicants will be required to utilise the monies specifically within this Borough, for the benefit of young people in education.

5. POLICY IMPLICATIONS
The Council supports a range of services in the local community and transferring money from a dormant charity account to support local services reflects the Council's objectives of improving health and wellbeing of all persons in our community**.**

6. FINANCIAL IMPLICATIONS

There are no direct financial costs to the proposals to transfer money from a dormant account to a local charity as set out in the report, other than internal officer time and resources.

7. LEGAL IMPLICATIONS

Charities are encouraged by the Charities Commission to dispose of dormant funds to suitable recipients who will use the funds for the same purpose. The Council will therefore require that the monies are utilised for the current purpose of this charity, as set out in this report.

After the charity is wound up, the Council must arrange for its accounting books and records (including cash books, invoices and receipts) to be kept for at least six years after the year they were made. The former charity trustees remain responsible for the decisions they made while they were in office.

The charity will be closed in accordance with all legal requirements and in consultation with the Charities Commission.

8. RESOURCE IMPLICATIONS

The legal processes required will be funded from within existing resources and once completed the transfer will result in a small resources utilisation saving within the Financial Services Team which is factored into the current restructuring programme.

9. EQUALITY AND HEALTH IMPLICATIONS
Please select one of the options below. Where appropriate please include the hyperlink to the EIA.

Option 1 ☒ Equality Impact Assessment (EIA) not required – the EIA checklist has been completed.

Option 2 ☐ In determining this matter the Executive Member needs to consider the EIA associated with this item in advance of making the decision. *(insert EIA link here)*

Option 3 ☐ In determining this matter the Executive Board Members need to consider the EIA associated with this item in advance of making the decision. *(insert EIA attachment)*

10. CONSULTATIONS

The Council has previously consulted with the Charities Commission.

11. STATEMENT OF COMPLIANCE
The recommendations are made further to advice from the Monitoring Officer and the Section 151 Officer has confirmed that they do not incur unlawful expenditure. They are also compliant with equality legislation and an equality analysis and impact assessment has been considered. The recommendations reflect the core principles of good governance set out in the Council's Code of Corporate Governance.

12. DECLARATION OF INTEREST
All Declarations of Interest of any Executive Member consulted and note of any dispensation granted by the Chief Executive will be recorded and published if applicable.

VERSION:	**2**

CONTACT OFFICER:	**Louise Mattinson**
DATE:	6th December 2018
BACKGROUND PAPER:	None

EQUALITY IMPACT ASSESSMENT CHECKLIST

This checklist is to be used when you are uncertain if your activity requires an EIA or not.

An Equality Impact Assessment (EIA) is a tool for identifying the potential impact of the organisation's policies, services and functions on its residents and staff. EIAs should be actively looking for negative or adverse impacts of policies, services and functions on any of the nine protected characteristics.

The checklist below contains a number of questions/prompts to assist officers and service managers to assess whether or not the activity proposed requires an EIA. Supporting literature and useful questions are supplied within the EIA Guidance to assist managers and team leaders to complete all EIAs.

Service area & dept.		**Date the activity will be implemented**	Click here to enter a date.

Brief description of activity	**SUBJECT: ALLOCATION OF MONIES FROM THE COUCIL CHARITY: GARSTANG LECTURE FUND**

Answers favouring doing an EIA	Checklist question	Answers favouring not doing an EIA
☐ Yes	Does this activity involve any of the following: - Commissioning / decommissioning a service - Budget changes - Change to existing Council policy/strategy	☒ No
☐ Yes	Does the activity impact negatively on any of the protected characteristics as stated within the Equality Act (2010)?	☒ No
☐ No ☐ Not sure	Is there a sufficient information / intelligence with regards to service uptake and customer profiles to understand the activity's implications?	☒ Yes
☐ Yes ☐ Not sure	**Does this activity:** Contribute towards unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act *(i.e. the activity creates or increases disadvantages suffered by people due to their protected characteristic)*	☒ No
☐ Yes ☐ Not sure	Reduce equality of opportunity between those who share a protected characteristic and those who do not *(i.e. the activity fail to meet the needs of people from protected groups where these are different from the needs of other people)*	☒ No
☐ Yes ☐ Not sure	Foster poor relations between people who share a protected characteristic and those who do not *(i.e. the function prevents people from protected groups to participate in public life or in other activities where their participation is disproportionately low)*	☒ No
FOR =	**TOTAL**	**AGAINST =**

Will you now be completing an EIA? ☐ Yes ☒ No

The EIA toolkit can be found here

Assessment Lead Signature	
Checked by departmental E&D Lead	☒ **Yes** ☐ **No**
Date	06/12/2018