Commuted Sums for Maintaining Infrastructure Assets in Association with Section 278 and Section 38 Highway Agreements

1.0 Introduction

1.1 The aim of this chapter is to offer a transparent and consistent approach to commuted sums levied where new highway infrastructure is being adopted by North Yorkshire Council (NYC) as Local Highway Authority (LHA). This should reduce uncertainty and risk for developers so that they can consider commuted sum requirements at an early stage in the development process. This chapter is a working document that will be subject to periodic review.

1.2 Historically there has been considerable variation in approach by local highway authorities to the collection and use of commuted sums, and recognising this, the Association of Directors of Environment, Economy, Planning & Transport's (ADEPT) published guidance documentation which has been widely adopted by local highway authorities and has been broadly accepted as the national standard procedures and principles for the assessment and collection of commuted sums.

1.3 North Yorkshire Council's approach to commuted sums will be closely aligned to ADEPT's 'accepted national standard,' but further recognises the benefits to all parties of introducing local guidance which forms the catalyst for this document.

1.4 The legal definition for the term 'Commuted Sum' in relation to the adoption of new infrastructure is:

"A payment of a capital sum by an individual, authority or company to the highway authority, local authority or other body, as a contribution towards the future maintenance of the asset to be adopted or transferred."

1.5 This guidance sets out a best practice approach for the application of commuted sums including understanding 'whole life costs' to ensure undue burdens are not placed on maintenance budgets and the public purse. However, it stresses that commuted sums should be applied in a reasonable manner that does not stifle innovation and is fair to all parties.

1.6 In the main, a commuted sum is expected to relate to a payment by a developer to the highway authority as a contribution towards the future capital maintenance of 'non-standard' and 'extra-over' features of that development.

1.7 The payment of a commuted sum discharges the responsibility of a developer of any obligations to the future maintenance of that asset following the issue of the final completion certificate (adoption). The obligation and associated risks upon adoption then lie with the highway authority to maintain the asset.

2.0 Background

2.1 The Council, as the Local Highway Authority, has a statutory responsibility for the maintenance and management of adopted highways in North Yorkshire. This duty extends beyond the surface and includes the structure and fabric of the highway. Highway assets would typically consist of carriageways, footways, drainage systems, traffic signals, bridges, culverts, ditches, walls, fences, gates, landscaping and lighting systems and all objects legitimately located in or on the highway with the permission of the Highway Authority, and by accepting these assets, a further financial burden is placed upon the authority for their management and upkeep.

2.2 The rationale for seeking commuted sums is to ensure that highway authorities have sufficient financial resources to fund the future maintenance, associated works and, where appropriate replacement of these additional assets, for which any funding received from Government through the Revenue Support Grant is insufficient. Please be advised that commuted sums are applied to highway schemes at the discretion of the highway authority.

2.3 Regardless of the potential offer of a commuted sum payment, the highway authority will retain discretion as to what it is prepared to adopt, particularly where a proposal may not be acceptable in principle, for example on the grounds of highway safety, or where it would be inappropriate for it to do so (e.g. street art, play areas) or where materials are considered to be of an unacceptable or inappropriate specification.

3.0 Legal Status

3.1 For highway infrastructure, the statutory authority for commuted sum payments comes from Sections 38 and 278 of The Highways Act 1980, with both section of the Act containing enabling powers for authorities to secure contributions (commuted sums) from third parties for the future maintenance of highway assets.

3.2 Section 38 applies to new roads constructed on private land which the developer, upon completion, wishes to be adopted by the highway authority as highway maintainable at the public expense, and;

3.3 Section 278 Agreements provide developers with a mechanism to either fund works, or undertake works themselves, to the existing public highway. The works are often termed 'off site works' as they are usually separate from the developer's site and the works are necessary to provide improved access to, or mitigate the effects of, the new development.

3.4 A court of appeal decision known as "the Redrow case", confirms that it is appropriate for authorities to use these powers to seek commuted sums for all elements of future highway maintenance after adoption.

4.0 Scope for Applying Commuted Sums

4.1 This guidance is equally applicable to both Section 278 and Section 38 agreements, albeit, as detailed above, they are different situations, and as far as possible, all assets will be treated on the same basis for commuted sum calculation purposes, with North Yorkshire Council as the Local Highway Authority entering into multiple S278/38 Agreements each year with developers.

4.2 The LHA has taken the approach that commuted sums will generally be sought for all 'non-standard' assets, 'extra over areas' and 'extra over (bespoke) cost items' that place additional burdens on maintenance budgets where there are no other sources of funding available to cover on-going maintenance. For example, the Revenue Support Grant system which local highway authorities rely upon for their highway maintenance budgets recognises increased highway length within the overall grant allocation and that, as such, commuted sums for 'standard' network adoptions are not appropriate.

4.3 All new works that do not entail the creation of a new length of road and/or footway or cycleway, carried out as part of a Section 278 Agreement, are appropriate for the application of commuted sums.

5.0 Identifying Infrastructure Assets subject to Commuted Sum payments

5.1 The purpose of this guidance is to set out which assets are defined as 'standard' and, as such, would not attract commuted sums and which assets would be classed as 'non-standard' and would attract commuted sum payment for future maintenance.

6.0 'Standard' Construction Assets (not liable for commuted sum payments)

6.1 The following table defines a list of 'standard' construction assets. These assets will not attract a commuted sum payment where they are in compliance with the LHA's standard highway construction details, and form part of a standard new length of road which the authorities Revenue Support Grant would typically cover.

Category	**Asset**
Carriageway Surfacing	• Hot Rolled Asphalt (non-pigmented binder and non-colour aggregates) • Close graded macadam • Asphalt Concrete • Thin Coat Surfacing • Concrete Block Paving – standard colours of Red, Charcoal, Brindle and 200mmx100mx80mm
Carriageway Ancillaries	• Pre cast concrete Kerbs • Granite Kerbs • Granite setts for demarcation of highway boundary • PCC Channels • Road Markings • Road studs
Footways, Cycleway & Paved Areas (including PROW)	• Hot Rolled Asphalt (non-pigmented binder and non-colour aggregates) • Close graded macadam • Asphalt Concrete • Concrete Block Paving– standard colours of Red, Charcoal, Brindle and 200mmx100mx80mm • Modular Paving • Tactile Paving
Footway Ancillaries	• Vehicle Crossovers • Tactile Paving • PCC Edgings • Timber Edgings • Markings • Bollards – NYC Standard Specification
Fences & Barriers	• Steel Safety barriers • Standard Galvanised Pedestrian Guardrail
Street Lighting	• Standard Street Lighting as per NYC's Street Lighting Specification.
Traffic / Pedestrian Management	• Non/Illuminated Traffic Signs • Non/Illuminated Pedestrian Signs • Non/Illuminated Bollards • Non/Illuminated Beacons • Passively safe sign posts (for road safety)
Drainage	• Gullies • Catchpits • Pipework less than 500mm dia
Verges / Landscaping	• Grass Verge – Required for highway purposes

7.0 Non-Standard Construction Assets (liable for commuted sum payments)

7.1 Commuted sums for future maintenance would generally be sought when satisfying the five broad situations as summarised below. This is not an exhaustive detailed list, but is intended to illustrate the basic principles.

7.1.1 Alterations to the existing highway to form an access to a development that would not have been required should the development not take place. Usually these comprise the construction of roundabouts, traffic signal-controlled junctions and standard priority junctions often requiring additional street lighting, signage, road markings, highway drainage, safety fencing, landscaping, additional carriageway and footway construction over and above areas of existing highway, often in the form of dedicated turn lanes and increased lane widths.

7.1.2 'Additional' areas of carriageway, footway, landscaping etc. over and above the minimum requirements required, in the opinion of the highway authority, for the safe functioning and operation of the highway:

- *Examples can include additional areas of carriageway, such as a square surrounding a turning head or additional grassed areas not required for highway purposes to the rear of a visibility splay, the installation of Traffic Calming measures, carriageway widening to accommodate on-street parking facilities, new trees/shrubs.*

7.1.3 'Extra over' cost items such as:

- *Any street furniture not required for road safety purposes (as would normally be the situation on residential streets.)*
- *Proprietary or coloured surfacing materials not required for highway safety purposes but specified for aesthetic reasons only such as coloured high friction surfacing*
- *Any culvert, bridge, retaining wall or other structure*
- *Special features such as noise fencing, vehicle restraint barriers, pedestrian guard railing, fences, gates, traffic signals, traffic calming, safety fencing, bus shelters, intelligent warning signs or traffic systems etc.*
- *Landscaping features such as planting, trees, root protection systems, hedging, etc.*

7.1.4 Permitted alternative materials or equipment to those specified in the definition of standard construction such as:

- *The installation of specialist or 'non-standard' equipment (e.g. street lighting equipment) that is not of the authority's standard type, and/or such items as decorative luminaires, or columns with embellishments applied etc.*
- *The additional columns (and equipment) from the provision of street lighting to a standard above that which is normally provided by the authority (and indicated in its lighting policy).*
- *The use of any materials (e.g. surfacing materials), which whilst being approved will result in maintenance or replacement costs over and above the authority's 'standard' highway construction.*
- *Any other 'non-standard' construction types or materials.*

7.1.5 Sustainable Drainage Systems (SuDS) or non-standard highway drainage features such as:

- *Flow control devices and attenuation storage*
- *Sustainable drainage systems (SuDS) including maintenance of any landscaping*
- *Oil or petrol interceptors including the disposal of contaminated waste*
- *Pumping stations and their energy charges*
- *Watercourses and swales*
- *Combined kerb drainage units*
- *The utilisation of existing highway infrastructure by the proposed development, an example being the discharge of highway surface water runoff into an existing highway drain or culvert*

7.2 When proposing SUDS the developer must hold early discussions with all relevant parties (and certainly before any planning application) to agree ownership and responsibility for the infrastructure proposed.

7.3 With the national trend towards innovation, and higher quality design the highway authority are flexible in their approach to asset specification and may reduce, or waive, any commuted sums requirements if it can be proven, or experience has shown, that the specified asset will not present an undue maintenance burden when compared to the 'standard' highway assets defined in section 6.0 above.

7.4 The designer is encouraged to consider minimising the future maintenance liability of the asset as part of the design process. This could include enhanced construction (i.e. to reduce any maintenance requirements) or for the provision of higher quality materials, which could then offset all or part of the need for any commuted sum requirement.

7.5 The table below features a list of 'non-standard' assets that would attract a commuted sum payment for their future maintenance. The list is not exhaustive, but is based on the type of assets that most frequently come forward for adoption in association with S278/38 Agreements.

Category	Asset
Carriageway Surfacing	• High Friction Surfacing • Pigmented / Decorative Surfacing • Granite sett / Block paving to overrun Areas • Non-standard blockwork
Footways, Cycleway & Paved Areas (Including PROW)	• Pigmented / Decorative Surfacing • Non-standard blockwork
Fences & Barriers	• Acoustic Fences • Non-standard pedestrian guardrails
Street Lighting	• Street Lighting not compliant with as NYC's Street Lighting Specification.
Drainage	• Underground storage incl. oversized pipes, cellular storage and/or in-situ storage tanks, petrol interceptors) • Above ground storage incl. (swales, ditches, rainwater gardens, dry and wet ponds) • Precast Concrete Ring Soakaways / Trench Soakaways • Weirs, Flow Control Devices, Hydro-brakes / Flow Control (vortex) Chambers • Filter Strips / Filter Drains • Slot Drains / Aco Drains • Combined Kerb Drainage Systems (beanie blocks) • Concrete Bagwork Headwalls (Precast units will not be subject to a Commuted Sum) • Permeable Paving (if subject to adoption agreement) • Petrol Interceptors • Oversized Pipes >500mm
Traffic Signals	• Signal Controlled Junctions • Signal Controlled Crossings
Traffic / Pedestrian Management	• Gateway Signs • Speed Cushions • Chicanes • Wig Wag Signs • Vehicle Activated Signs
Highway Structures	• Bridge, buried structure, subway, underpass, culvert and any other structure supporting the highway with a clear span or internal span or internal diameter of 0.9m or greater. • Retaining wall (including pipe headwalls) with a retained height of greater than 1.0m.
Verges / Landscaping / Street Furniture	• Trees • Root Protection Systems • Soft Landscaping • Hedges • Seats/Benches • Planters • Grassed verges - not required for highway purposes
Other	• Real Time Bus Information • Bus Shelters • Automated Rising Bollard Systems • EV Charging Systems

	• Wildlife Accessories – i.e. Wildlife Kerbs, Newt Ladders, Tunnels.

7.6 It is acknowledged that many of the current problems experienced by developers in respect of commuted sums, and other procedures, are as a result of inadequate knowledge of the highway authority's requirements, leading to the potential burden of costs at a very late stage in the design process.

7.7 North Yorkshire Council actively encourage developers to establish an early dialogue with the Council's Development Management Engineer or Area Highways Office Engineer who is/will be dealing with the Planning Application at the earliest possible stage in the process and should preferably be before a planning application is submitted.

7.8 Whilst the application of commuted sums will relate to the final scheme design and that design may not be decided on until after land has been purchased, early dialogue can remove many uncertainties. Continuous dialogue throughout the design process ensures that, as the scheme evolves, the financial implications are clearly understood.

8.0 Payment Triggers

8.1 Where commuted sums are required, they will be calculated provisionally at the detailed design stage of Section 278/38 Agreements being calculated. The sums will be identified and included in the draft legal agreements that are circulated following technical approval.

8.2 The legal Agreement will include conditions requiring the payment of commuted sums and specify when such payments will need to be made. However, as it is unlikely that the full cost implications of the site will be known by the authority at the time that the legal Agreement is entered into, the amounts specified may be 'provisional'.

8.3 The Agreement will therefore contain provision for recalculating the 'provisional' commuted sums based on the final infrastructure design, actual quantities, revised time periods to maintenance operations if appropriate, and a price fluctuation factor to adjust current costs and maintenance operations specified in the Agreement.

8.4 The time period between the Agreement and completion of the development can be quite long. As such, recalculation of the sum calculated at the time of the Agreement will be necessary to arrive at the commuted sum payable prior to the issue of the Final Certificate of Adoption.

8.5 For Section 278 Agreements (works within existing highway) the Commuted Sum is required prior to works commencing. For Section 38 Agreements (works on private land) the Commuted Sum is required prior to adoption.

8.6 To secure the provision of commuted sums in default, they should be included in the Bond required under the Agreement, unless payment is made prior to engrossment. This should be based on the 'provisional' commuted sums calculated when the Agreement is completed, and the security will be released following satisfactory completion of the maintenance period and payment of the actual commuted sum due.

8.7 Appendix 'A' of this guidance document contains S38/278 Commuted Sum example agreement clauses.

9.0 Methodology for Calculation of Commuted Sums

9.1 The commuted sum paid needs to be discounted to allow for the fact that it will be earning interest that will make up part of the maintenance payment when it is required. It is, therefore, necessary to determine the Net Present Value (NPV) of a future expense. The following formula is used to calculate the maintenance obligation:

Net Present Value (NPV) = Mp/(1+D/100)T

Commuted Sum = summation of all Net Present Values for appropriate future costs.

Maintenance Cost (Mp) = Estimated future maintenance cost T years from now

The maintenance regime applied to the asset are generally based on a 'whole life costing' approach with the frequency of inspection, treatment, and/or the intervals of replacement, based on planned frequencies or historic information. It may also be appropriate to add an agreed percentage to the works costs to cover the highway authority design and supervision costs.

Therefore, the associated activities/functions that may be included in the calculation of commuted sums are as follows:

- Inspections and surveys
- Routine and cyclic maintenance
- Winter maintenance
- Energy charges
- Design and supervision fees
- Asset replacement

The maintenance unit costs are based on term maintenance contract rates and staff hourly rates as the time of calculation.

Periodic Discount Rate (D) (effective annual interest rate) (2.2%)

The Council uses the discount rate (effective annual interest rate) of 2.2%, which is recommended in the Association of Directors of Environment, Economy, Planning and Transport (ADEPT) guidance document.

This is worked out as follows:

D = ((1.045 / 1.0225) – 1) x 100 = 2.2%

Where: 1.045 is the interest rate (4.5% based on long-term neutral base rate (LTNBR)) and 1.0225 is the inflation rate (2.25% based on RPI-X rate (published monthly by the office of National Statistics) that is RPI excluding mortgage payments).

The formula ensures that both the interest earned on the commuted sum, and the effect of inflation in increasing the cash sums eventually required, are taken into account.

Time Period (T) = Time period before expenditure will be incurred or cyclical period (years)

The period of 60 years is conventionally used as the life of housing and highway assets. A figure of 60 years represents a reasonable compromise between covering future costs and the uncertainties over how far into the future the assets will be required.

Therefore, 60 years has been adopted as the time period for all assets apart from traffic signals and highway structures. The latter will be calculated using 120 years as recommended by the Bridge Management Code produced by the ADEPT. A Whole Life Costing period of 30 years will be applied to traffic signal infrastructure, as it is difficult to predict the use of technology over a longer period and the potential for signals to be superseded by the likes of autonomous vehicles.

10.0 Example Calculation:

10.1 For a sum deposited in respect to a future maintenance activity, interest will be accrued up until the activity must be carried out, although over the same period inflation will tend to reduce the value of the deposit. This effect is taken into account by the use of the Periodic Discounted Rate, which represents the effective interest rate.

10.2 The calculation is based on the conversion of future expenditure, (the cost of which is known at today's prices), being converted into a Net Present Value (NPV). This is the sum, which if deposited today and invested at the Periodic Discounted Rate, would provide the sum required for the activity to be undertaken when it becomes due in 'T' years.

Worked Example - considering the costs for a typical 'Asset':

The commuted sum must include for the inspection, cleaning and replacement of that 'Asset' every 10 years.

The cost of undertaking the inspection, cleaning and replacement of the 'Asset' requires labour, materials and plant, the cost of which has been determined to be £850 at current rates. The activity will be required in 10, 20 and 30 years' time.

Using the formula:

NPV factor = Σ 1 / (1 + D / 100) ^{T} where D is the Periodic Discounted Rate calculated at 2.2% as outlined above.

NPV factor $= 1 / (1 + D / 100)^{10} + 1 / (1 + D / 100)^{20} + 1 / (1 + D / 100)^{30}$

$= 1 / (1 + 2.2/100)^{10} + 1 / (1 + 2.2/100)^{20} + 1 / (1 + 2.2/100)^{30}$

$= 0.80444 + 0.64712 + 0.52056$

$= 1.97211$

Commuted sum for Asset = Current Cost x NPV factor
= £850.00 x 1.97211
= £1,676.30

Commuted sums are rounded to the nearest pound and therefore the commuted sum required would be £1,676. For ease of manual calculation, NPV factors for various periods are listed in Appendix B

A typical commuted sum expenditure example based on the above 'Asset' example scenario is shown in Appendix C

The list in Appendix D reflects highway assets which attract commuted sums and may be reviewed from time to time including the amount which is based on the LTNRB and RPI-X interest rates published by the Office of National Statistics.

The commuted sums based upon term maintenance contract tender rates are reviewed on a regular basis and updated accordingly.

APPENDIX - A

Typical References to Commuted Sums in agreements under Section 38 and 278 Highways Act 1980

Section 278 Clauses

Definitions

Commuted Sum(s)"	means the sum to be paid by the Developer to the Council for the future maintenance of an asset which will be adopted by the Council

Financial Provisions

Pay to the Council the [Asset Description] Commuted Sum prior to the date on which the [Asset Description] forming part of the Highway Works are commissioned by the Council and become operative or within 7 days of the issue of the Certificate of Completion, if earlier.

Pay to the Council within 7 days of receipt of a demand in writing from the Council its reasonable and proper costs for maintenance of the [Asset Description] forming part of the Highway Works for the period commencing on the date on which the [Asset Description] are commissioned by the Council to the date immediately prior to the date on which the Final Certificate for the Highway Works is issued

Pay the Commuted Sum(s) to the Council prior to [insert timing provision] and not to permit cause or allow [insert timing provision] unless and until the Commuted Sum has been paid to the Council

Section 38 Clauses

Definitions

"Commuted Sum(s)"	means the sum of POUNDS (£) being the amount which the Developer has agreed to contribute towards the costs likely to be incurred by the Council following adoption of the road or roads for the maintenance of the (item in question)

Developer's Liability

"THE Developer shall pay the Commuted Sum to the Council on the date hereof" (hereof being the date the s.38 is signed although sometimes payment has been required on issue of Final Certificate)

Alternatively, we will add a Clause and Schedule, example as follows:

(Clause No.) Commuted Sum:

On the date hereof the developer shall pay to the Council the sum specified in the second column of Part 3 of the Schedule in respect of the future maintenance of the corresponding item described in the first column of Part 3 of the Schedule

Part 3

Item	Commuted Sum
Commuted Sum Description of the highway elements attracting the commuted sum	£(Value)

APPENDIX – B

NET PRESENT VALUE FACTORS

FORMULA = NPV Factor = Sum 1/ $(1+D\%)^T$	LTNBR = 4.5% RPI-X = 2.25% There Periodic Discount Rate (D) = 2.20% And (1+D%) = 1.0220	Table 1 shall be applied to Traffic Signal Assets Table 2 shall be applied to all other Highway Assets Table 3 shall be applied to Highway Structures

Table 1 – NPV Factors for 30 Years (Applied to Traffic Signal / Technology Assets) & with agreement (Smaller Sites) — **NPV Factors for £1.00 expenditure at various intervals within a 30 Year period**

Interval	Every Year	Every 2 Years	Every 3 Years	Every 4 Years	Every 5 Years	Every 6 Years	Every 10 Years	Every 15 Years	Every 20 Years	Every 25 Years	Every 30 Years	Twice per Year	4 Times per Year	6 Times per Year	12 Times per Year
NPV Factor $1 / (1+D\%)^T$	21.79260	10.77774	7.10671	4.24683	4.17092	3.43740	1.97211	1.24206	0.64712	0.58040	0.52056	43.58520	87.17040	130.75560	261.51120

Table 2 – NPV Factors for 60 Years – (Applies to most Infrastructure Assets) — **NPV Factors for £1.00 expenditure at various intervals within a 60 Year period**

Interval	Every Year	Every 2 Years	Every 3 Years	Every 4 Years	Every 5 Years	Every 6 Years	Every 10 Years	Every 15 Years	Every 20 Years	Every 30 Years	Every 60 Years	Twice per Year	4 Times per Year	6 Times per Year	12 Times per Year
NPV Factor $1 / (1+D\%)^T$	33.3455	16.57194	10.80608	8.11761	6.52581	5.22677	2.99871	1.88862	1.33686	0.791545	0.27098	66.6910	133.382	200.073	400.146

Table 3 – NPV Factors for 120 Years (Applies to Bridges and Structures) — **NPV Factors for £1.00 expenditure at various intervals within a 120 Year period**

Interval	Every Year	Every 2 Years	Every 3 Years	Every 4 Years	Every 5 Years	Every 6 Years	Every 10 Years	Every 15 Years	Every 20 Years	Every 25 Years	Every 30 Years	Every 60 Years	Every 120 Years	2 Times per Year	4 Times per Year
NPV Factor $1 / (1+D\%)^T$	41.60823	20.82921	13.73452	10.18801	8.06077	6.64317	3.81133	2.40043	1.69913	1.22626	1.00605	0.34442	0.07343	166.43291	332.86582

APPENDIX – C

Example of Commuted Sum Expenditure

As shown in the example 'Asset' calculation given in Section 10.0:

Expenditure of £850 every 10 years

RPI-X = 2.25% (Inflation Rate)

LTNBR = 4.50% (Interest Rate)

NPV Factor = 1.97211

Commuted Sum for 30 years = £850.00 x 1.97211 = £1,676.30 or £1,676 to the nearest pound

Effect of Inflation on Maintenance Cost (RPI-X)

Years	Cost	RPIX (%)	Increase In Maint Cost	Cost of Maintenance
1	850.00	2.25	19.13	
2	869.13	2.25	19.56	
3	888.68	2.25	20.00	
4	908.68	2.25	20.45	
5	929.12	2.25	20.91	
6	950.03	2.25	21.38	
7	971.40	2.25	21.86	
8	993.26	2.25	22.35	
9	1015.61	2.25	22.85	
10	1038.46	2.25	23.37	1061.82
11	1061.82	2.25	23.89	
12	1085.71	2.25	24.43	
13	1110.14	2.25	24.98	
14	1135.12	2.25	25.54	
15	1160.66	2.25	26.11	
16	1186.78	2.25	26.70	
17	1213.48	2.25	27.30	
18	1240.78	2.25	27.92	
19	1268.70	2.25	28.55	
20	1297.24	2.25	29.19	1326.43
21	1326.43	2.25	29.84	
22	1356.28	2.25	30.52	
23	1386.79	2.25	31.20	
24	1418.00	2.25	31.90	
25	1449.90	2.25	32.62	
26	1482.52	2.25	33.36	
27	1515.88	2.25	34.11	
28	1549.99	2.25	34.87	
29	1584.86	2.25	35.66	
30	1620.52	2.25	36.46	1656.98

Interest earned on Deposited Sum (LTNBR)

Years	Deposited Sum	LTNB (%)	Interest	Deposited Sum plus interest	Expenditure	Deposited Sum + Interest Expenditure
1	1676.00	4.50	75.42	1751.42		1751.42
2	1751.42	4.50	78.81	1830.23		1830.23
3	1830.23	4.50	82.36	1912.59		1912.59
4	1912.59	4.50	86.07	1998.66		1998.66
5	1998.66	4.50	89.94	2088.60		2088.60
6	2088.60	4.50	93.99	2182.59		2182.59
7	2182.59	4.50	98.22	2280.80		2280.80
8	2280.80	4.50	102.64	2383.44		2383.44
9	2383.44	4.50	107.25	2490.70		2490.70
10	2490.70	4.50	112.08	2602.78	1061.82	1540.95
11	1540.95	4.50	69.34	1610.30		1610.30
12	1610.30	4.50	72.46	1682.76		1682.76
13	1682.76	4.50	75.72	1758.48		1758.48
14	1758.48	4.50	79.13	1837.62		1837.62
15	1837.62	4.50	82.69	1920.31		1929.31
16	1920.31	4.50	86.41	2006.72		2006.72
17	2006.72	4.50	90.30	2097.03		2097.03
18	2097.03	4.50	94.37	2191.03		2191.39
19	2191.39	4.50	98.61	2290.00		2290.00
20	2290.00	4.50	103.05	2393.05	1326.43	1066.62
21	1066.62	4.50	48.00	1114.62		1114.62
22	1114.62	4.50	50.16	1164.78		1164.78
23	1164.78	4.50	52.41	1217.19		1217.19
24	1217.19	4.50	54.77	1271.19		1271.97
25	1271.97	4.50	57.24	1329.20		1329.20
26	1329.20	4.50	59.81	1389.20		1389.02
27	1389.02	4.50	62.51	1451.52		1451.52
28	1451.52	4.50	65.32	1516.84		1516.84
29	1516.84	4.50	68.26	1585.10		1585.10
30	1585.10	4.50	71.33	1656.43	1656.90	-0.55

The above table shows that the commuted sum invested and earning interest at the LTNBR rate will be sufficient to cover maintenance costs, which will increase annually at the RPI-X rate, over a period of 30 years.

APPENDIX – D

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Traffic Signals

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 30 Years	Total Commuted Sum – 30 Years	Comments
1	**Traffic Signal Junction – (Typical of a 4-Arm Crossroads)**	Pole and Sockets	8	No.	1 every 15 years	1.24206	£780.00	£7,750.45		
		Power Supply Pillar	1	Item	1 every 30 years	0.52056	£390.00	£203.02		
		Controller / Monitoring	1	Item	1 every 15 years	1.24206	£9,100.00	£11,302.75		
		Signal Heads /Detection	8	No.	1 every 15 years	1.24206	£1,560.00	£15,500.91		
		Low voltage MVD	4	No.	1 every 15 years	1.24206	£325.00	£1,614.68		
		Stop line detector	4	No.	1 every 15 years	1.24206	£910.00	£4,521.10		
		Cabling	700	Metres	1 every 15 years	1.24206	£7.80	£6,781.65		
		Specialist Signals Operative Labour with van & equipment	250	Hours	1 every 15 years	1.24206	£123.50	£38,348.60		
		2x Civils operatives with van & equipment	140	Hours	1 every 30 years	0.52056	£130.00	£9,474.19		To be recalculated on a site specific basis to take into consideration the number of posts and traffic signal heads etc.
		Chambers	12	No.	1 every 30 years	0.52056	£975.00	£6,090.55		
		Supply and Install pole retention socket	8	No.	1 every 30 years	0.52056	£975.00	£4,060.37		
		Ducting in footway & Reinstatement	150	Metres	1 every 30 years	0.52056	£260.00	£20,301.84		
		Ducting in carriageway & Reinstatement	50	Metres	1 every 30 years	0.52056	£810.00	£21,082.68	**£278,074.48**	
		Tactile Paving & Edging	400	No.	1 every 30 years	0.52056	£130.00	£27,069.12		
		Road crossing studs	100	No.	1 every 30 years	0.52056	£26.00	£1,353.46		
		Maintenance & Testing	1	Item	1 every 1 year	21.7926	£1,560.00	£33,996.46		
		NYC Traffic Signals Engineer refurbishment design and supervision	150	Hours	1 every 15 years	1.24206	£83.20	£15,500.91		
		Communications	1	Item	1 every 1 year	21.7926	£104.00	£2,266.43		
		Electricity cost	1	Item	1 every 1 year	21.7926	£1,690.00	£36,829.49		
		Decommission	1	Item	1 every 15 years	1.24206	£7,800.00	£9,688.07		
		Refresh road markings	1	Item	1 every 5 years	4.17092	£1,040.00	£4,337.76		

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Traffic Signals

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 30 Years	Total Commuted Sum – 30 Years	Comments
2	**Puffin Crossing**	Pole & Sockets	4	No.	1 every 15 years	1.24206	£780.00	£3,875.23		
		Power Supply Pillar	1	No.	1 every 30 years	0.52056	£390.00	£203.02		
		Controller / Monitoring	1	No.	1 every 15 years	1.24206	£6,500.00	£8,073.39		
		Signal Heads / Detection Equipment	6	No.	1 every 15 years	1.24206	£1,560.00	£11,625.68		
		Tactile indicator / Demand Units / Audible Units / Detectors	2	No.	1 every 15 years	1.24206	£1,300.00	£3,229.36		
		Low voltage MVD	2	No.	1 every 15 years	1.24206	£325.00	£807.34		
		Cabling	200	Metres	1 every 15 years	1.24206	£7.80	£1,937.61		
		Specialist Signals Operative Labour + Van and Equipment	40	Hours	1 every 15 years	1.24206	£123.50	£6,135.78		To be recalculated on a site specific basis to take into consideration the number of posts and traffic signal heads etc.
		2 Civils operatives with van & equipment	60	Hours	1 every 30 years	0.52056	£130.00	£4,060.37		
		Chamber	3	No.	1 every 30 years	0.52056	£975.00	£1,522.64		
		Supply and Install pole retention socket	4	No.	1 every 30 years	0.52056	£975.00	£2,030.18		
		Ducting in footway & Reinstatement	50	Metres	1 every 30 years	0.52056	£260.00	£6,767.28	**£178,582.10**	
		Ducting in carriageway & Reinstatement	10	Metres	1 every 30 years	0.52056	£910.00	£4,737.10		
		Tactile Paving & Edging	100	No.	1 every 30 years	0.52056	£130.00	£6,767.28		
		Road crossing studs	25	No.	1 every 30 years	0.52056	£26.00	£338.36		
		Maintenance & Testing	1	Item	1 every 1 year	21.7926	£1,560.00	£33,996.46		
		NYC Traffic Signals Engineer refurbishment design and supervision	75	Hours	1 every 15 years	1.24206	£83.20	£7,750.45		
		Communications	1	Item	1 every 1 year	21.7926	£104.00	£2,266.43		
		Electricity cost	1	Item	1 every 1 year	21.7926	£1,144.00	£24,930.73		
		Decommission	1	Item	1 every 15 years	1.24206	£4,550.00	£5,651.37		
		Refresh road markings	1	Item	1 every 5 years	4.17092	£10,040.00	£41,876.04		

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Traffic Signals

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 30 Years	Total Commuted Sum – 30 Years	Comments
3	**Toucan Crossing**	Pole & Sockets	4	No.	1 every 15 years	1.24206	£780.00	£3,875.23	**£133,293.36**	To be recalculated on a site specific basis to take into consideration the number of posts and traffic signal heads etc.
		Power Supply Pillar	1	No.	1 every 30 years	0.52056	£390.00	£203.02		
		Controller & Monitoring	1	No.	1 every 15 years	1.24206	£6,500.00	£8,073.39		
		Signals Head / Detection Equipment	6	No.	1 every 15 years	1.24206	£1,560.00	£11,625.68		
		Tactile indicator / Demand Units / Audible Units / Detectors	2	No.	1 every 15 years	1.24206	£1,300.00	£3,229.36		
		Low voltage MVD	2	No.	1 every 15 years	1.24206	£325.00	£807.34		
		Cabling	200	Metres	1 every 15 years	1.24206	£7.80	£1,937.61		
		Specialist Signals Operative Labour + Van and Equipment	40	Hours	1 every 15 years	1.24206	£123.50	£6,135.78		
		2 Civils operatives with van & equipment	60	Hours	1 every 30 years	0.52056	£130.00	£4,060.37		
		Chamber	3	No.	1 every 30 years	0.52056	£975.00	£1,522.64		
		Supply and Install pole retention socket	4	No.	1 every 30 years	0.52056	£975.00	£2,030.18		
		Ducting in footway & Reinstatement	50	Metres	1 every 30 years	0.52056	£260.00	£6,767.28		
		Ducting in carriageway & Reinstatement	10	Metres	1 every 30 years	0.52056	£910.00	£4,737.10		
		Tactiles and Edging	100	No.	1 every 30 years	0.52056	£130.00	£6,767.28		
		Road crossing studs	25	No.	1 every 30 years	0.52056	£26.00	£338.36		
		Maintenance & Testing	1	Item	1 every 1 year	21.79260	£1,560.00	£33,996.46		
		NYC Traffic Signals Engineer refurbishment design and supervision	75	Hours	1 every 15 years	1.24206	£83.20	£7,750.45		
		Communications	1	Item	1 every 1 year	21.79260	£104.00	£2,266.43		
		Electricity cost	1	Item	1 every 1 year	21.79260	£1,144.00	£24,930.73		
		Decommission	1	Item	1 every 15 years	1.24206	£4,550.00	£5,651.37		
		Refresh road markings	1	Item	1 every 5 years	4.17092	£1,040.00	£4,337.76		

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Traffic Signals

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 60 Years	Total Commuted Sum – 60 Years	Comments
4	**Pedestrian Crossing (Zebra)**	LED Flasher Unit	2	No	1 every 10 years	2.99871	£65.00	£389.83	**£5,787.91**	
		Globe	2	No	1 every 10 years	2.99871	£130.00	£779.66		
		Posts	2	No	1 every 20 years	1.33686	£455.00	£1,216.54		
		Refresh Road Markings / Studs		Item	1 every 10 years	2.99871	£650.00	£1,949.16		
		Inspection / Testing		Item	1 every 6 years	5.22677	£195.00	£1,019.22		
		Electricity Usage		Item	1 every 1 year	33.3455	£13.00	£433.49		

Structures

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 120 Years	Total Commuted Sum – 120 Years	Comments
5	**Road Bridge (Site by Site basis)**	Inspection		Item	1 every 2 years	20.82921	£325.00	£6,769.49	**£98,825.68**	Costs to be determined on an individual scheme basis. Figures given are guidance only
		Bearnings		Item	1 every 60 years	0.34442	£32,500.00	£11,193.65		
		Expansion Joints		Item	1 every 20 years	1.69913	£19,500.00	£33,133.04		
		Replacement		Item	1 every 120 years	0.07343	£650,000.00	£47,729.50		
6	**Footbridges**	Inspection		Item	1 every 2 years	20.82921	£325.00	£6,769.49	**£16,315.39**	
		Replacement		Item	1 every 120 years	0.07343	£100,000	£7,343.00		
7	**Retaining Structure / Wall**	Inspection		Item	1 every 2 years	20.82921	£325.00	£6,769.49	**£10,587.85**	
		Replacement		Item	1 every 120 years	0.07343	£52,000.00	£3,818.36		

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Drainage

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 60 Years	Total Commuted Sum – 60 Years	Comments
8	**Culverted Watercourse**	Inspection / Desilting / Cleaning per metre	1	lin. m.	1 every 5 years	6.52581	£13.00	£84.84	**£84.84**	
9	**Combined Kerb / Drainage Units (Beaney Blocks) Slot-Drains / ACO Drains**	Inspection / Desilting / Cleansing per meter	1	lin. m.	1 every 5 years	6.52581	£13.00	£84.84	**£84.84**	
10	**Drainage Gully**	Inspection / Cleansing	1	No	1 every 1 year	33.3455	£7.80	£260.09	**£260.09**	
11	**Drainage Ditch**	Inspection / Desilting / Cleaning per meter	1	lin.m.	1 every 5 years	6.52581	£45.50	£296.92	**£307.70** base cost of 1sq.m & 1 lin.m	
		Grass Cutting per Sq.m	1	Sq.m.	1 every 2 years	16.57194	£0.65	£10.77		
12	**Soakaways**	Inspection / Desilting / Cleansing per Sq.m	1	Sq.m.	1 every 5 years	6.52581	£3.90	£25.45	**£25.45**	Based upon gross impermeable area draining to the soakaway.
13	**Oil Separator**	Inspection		Item	1 every 1 year	33.3455	£1,170.00	£39,014.24	**£39,065.14** + tank cubic meterage	
		Desilting / Cleansing		Cub.m.	1 every 5 years	6.52581	£7.80	£50.90		
14	**Attenuation Tanks**	Inspection		Item	1 every 5 years	6.52581	£1,170.00	£7,635.20	**£25,611.98** base cost per tank – figure will increase per square meter of impermeable area draining to the tank	
		Desilting / Cleansing		Sq.m	1 every 5 years	6.52581	£3.90	£25.45		
		Structural Inspection		Item	1 every 10 years	2.99871	£1,950.00	£5,847.48		
		Flow Control Inspection		Item	1 every 2 years	16.57194	£195.00	£3,231.53		
		Flow Control Maintenance		Item	1 every 5 years	6.52581	£650.00	£4,241.78		
		Flow Control Replacement		Item	1 every 30 years	0.791545	£5,850	£4,630.54		
15	**Attenuation Ponds**	Inspection		Item	2 every 1 years	66.6910	£195.00	£13,004.75	**£91,393.45** base cost only per Pond – figure will increase per Sq.m	Based on CIRIA Report C597 Guidance, with items omitted if not applicable.
		Clear Inlet / Outlet		Item	2 every 1 years	66.6910	£195.00	£13,004.75		
		Litter picking per Sq.m	1	Sq.m	6 every 1 year	200.073	£0.01	£2.60		
		Grass Cutting / Strimming per Sq.m	1	Sq.m	6 every 1 year	200.073	£0.07	£13.00		

		Replace / Maintain Fence per metre	1	Lin m.	1 every 15 years	1.88862	£104.00	£196.42		Large areas of grass cutting may require commuted sum to be worked out over a 120 year period.
		Reinstate Erosion		Item	1 every 5 years	6.52581	£650.00	£4,241.78		
		Desilting / cleansing		Item	1 every 5 years	6.52581	£1,950.00	£12,725.33		
		Clear Dead Vegetation / Weedkilling		Item	1 every 1 year	33.3455	£390.00	£13,004.75		
		Prune vegetation / trees / shrubs		Item	1 every 3 years	10.80608	£650.00	£7,023.95		
		Inspect / Maintain Safety Equipment / Signage (where required)		Item	2 every 1 year	66.6910	£65.00	£4,334.92		
		Structural Inspection / Report Compilation		Item	1 every 15 years	1.88862	£1,040.00	£1,964.16		
		Flow Control Inspection		Item	2 every 1 year	66.6910	£195.00	£13,004.75		
		Flow Control Maintenance		Item	1 every 5 years	6.52581	£650.00	£4,241.78		
		Flow Control Replacement		Item	1 every 30 years	0.791545	£5,850.00	£4,630.54		
16	**Flow Control Devices**	Inspection		Item	2 every 1 year	66.6910	£195.00	£13,004.75	**£21,877.06**	
		Cleaning / Adjustment / Repairs		Item	1 every 5 years	6.52581	£650.00	£4,241.78		
		Replacement / Refurbishment		Item	1 every 30 years	0.791545	£5,850.00	£4,630.54		
17	**Permeable Paving**	Replacement / Maintain per Sq.m		Sq.m	1 every 15 years	1.88862	£97.50	£184.14	**£184.14**	

Traffic Calming Measures

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 60 Years	Total Commuted Sum – 60 Years	Comments
18	**Chicane**			Item	1 every 20 years	1.33686	£13,780.00	£18,421.93	**£18,421.93**	Based upon indicative costs per feature
19	**Speed Table**			Item	1 every 20 years	1.33686	£18,070.00	£24,157.06	**£24,157.06**	
20	**Speed Cushion**			Item	1 every 15 years	1.88862	£1,300.00	£2,455.21	**£2,455.21**	
21	**Speed Hump**			Item	1 every 15 years	1.88862	£2,600.00	£4,910.41	**£4,910.41**	
22	**Raising Bollard System**			Item					**£120,000.00**	
23	**Vehicle Activated Sign**			Item	1 every 5 years	4.14092	£6,500.00	£26,915.98	**£26,915.98** (based on 30 years Whole Life Cost)	TBC based on NYC VAS Protocol

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Street Lighting and Signage & Bollards

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 60 Years	Total Commuted Sum – 60 Years	Comments
24	**Street Lighting Columns**	Electricity Usage		Item	1 every 1 year	33.3455	£39.00	£1,300.47		Based upon LED units
		Lantern Replacement		Item	1 every 30 years	0.791545	£208.00	£164.64		
		Inspection / Testing		Item	1 every 5 years	6.52581	£13.00	£84.84	**£2,253.05**	
		Structural Testing		Item	1 every 20 years	1.33686	£78.00	£104.28		
		Column Replacement		Item	1 every 40 years	0.41876	£1,430.00	£598.83		
25	**Ornamental Lighting Columns**	Electricity Usage		Item	1 every 1 year	33.3455	£39.00	£1,300.47		Based upon LED units
		Lantern Replacement		Item	1 every 30 years	0.791545	£600.00	£474.93		
		Inspection / Testing		Item	1 every 5 years	6.52581	£780.00	£617.41	**£3,086.89**	
		Structural Testing		Item	1 every 20 years	1.33686	£13.00	£84.84		
		Column Replacement		Item	1 every 40 years	0.41876	£78.00	£104.28		
26	**Illuminated Traffic Sign**	Electricity		Item	1 every 1 year	33.3455	£6.50	£216.75		Based upon LED units
		Inspection Testing		Item	1 every 6 years	5.22677	£13.00	£67.95		
		Post & Plate Replacement		Item	1 every 20 years	1.33686	£1,170.00	£1,564.13	**£1,848.82**	
27	**Illuminated Traffic Bollard**	Electricity Usage		Item	1 every 1 year	33.3455	£6.50	£216.75		Based upon LED units
		Inspection Testing		Item	1 every 6 years	5.22677	£7.80	£40.77	**£1,730.64**	
		Replacement Bollard		Item	1 every 15 years	1.88862	£780.00	£1,473.12		
28	**Non-illuminated Retro-reflective Traffic Bollard**	Replacement Bollard		Item	1 every 20 years	1.33686	£520.00	£695.17		
									£695.17	
29	**Bollard (standard)**	Bollard	1	No.	1 every 20 years	1.33686	£260.00	£347.58	**£347.58**	Based on standard highway bollard
30	**Non-illuminated Single Post Traffic Sign**	Inspection / Cleaning		Item	1 every 6 years	5.22677	£97.50	£509.61		
		Post and Plate Replacement		Item	1 every 20 years	1.33686	£325.00	£434.48	**£944.09**	
31	**Non-illuminated Advance Direction Sign**	Inspection / Cleaning		Item	1 every 6 years	5.22677	£156.00	£815.38		Actual Cost to be based upon Sign Design Schedule
		Post Replacement	1	No.	1 every 20 years	1.33686	£650.00	£868.96	**£2,205.71**	
		Sign plate Replacement	1	Sq.m	1 every 20 years	1.33686	£390.00	£521.38		

LIST of COMMON HIGHWAYS ASSETS with indicative COMMUTED SUM AMOUNTS (2023)

Miscellaneous

Item No.	Asset Type	Element Description	Quantity	Unit	Frequency of Intervention	NPV Factor	Unit Cost @ 2023 Rates	Commuted Sum Element @ 60 Years	Total Commuted Sum – 60 Years	Comments
32	**Cantilever Bus Shelter**	Shelter		Item	1 every 20 years	1.33686	£6,500.00	£8,689.59	**£12,557.67**	
		Maintenance		Item	1 every 1 year	33.3455	£103.00	£3,434.59		
		Change Time Table		Item	1 every 1 year	33.3455	£13.00	£433.49		
33	**Enclosed Bus Shelter**	Shelter		Item	1 every 20 years	1.33686	£9,100.00	£12,165.43	**£16,933.83**	
		Maintenance		Item	1 every 1 year	33.3455	£130.00	£4,334.92		
		Change Time Table		Item	1 every 1 year	33.3455	£13.00	£433.49		
34	**Bus Stop Flag Pole**	Pole, Flag & Timetable Case		Item	1 every 15 years	1.88862	£260.00	£491.04		
		Change Timetable		Item	1 every 1 year	33.3455	£13.00	£433.49	**£924.53**	
35	**Real-time Bus Info systems**	Real-time Shelter mounted		Item					**£9,000**	Indicative Figure given
		Real-time Post Mounted		Item					**£12,500**	
36	**Safety Barrier (Galvanised)**	Safety Barrier Replacement	1	Lin.m	1 every 20 years	1.33686	£195.00	£260.69	**£260.69**	Based upon Open Box Beam RRS
37	**Safety Barrier End Post**	Replacement	1	No.	1 every 20 years	1.33686	£4,550.00	£6,082.71	**£6,082.71**	
38	**Pedestrian Guardrail (St/ard Galvanised)**	Replacement	1	Lin.m.	1 every 15 years	1.88862	£130.00	£245.52	**£245.52** per metre	Based on standard galvanised off the shelf pedestrian guardrail
39	**Carriageway as part of a Highway Agreement as 'Additional width'**	Plane and resurface	1	Sq.m.	1 every 20 years	1.33686	£26.00	£34.76	**£240.05**	For example localised widening for traffic signals, roundabouts and ghost island right turn pockets
		High Friction Surfacing	1	Sq.m	1 every 20 years	1.33686	£91.00	£121.65		
		Pigmented Binders / Decorative Surfacing	1	Sq.m.	1 every 20 years	1.33686	£52.00	£69.52		
		Surface Dressing	1	Sq.m.	1 every 7 years	1.085870	£13.00	£14.12		
40	**Road Markings as part of Highway Agreement as 'Extra-over' eg new lanes created**	Refresh Markings	1	Lin.m	1 every 10 years	2.99871	£3.90	£11.69	**£89.66**	For example localised widening for traffic signals, roundabouts, ghost islands
		Refresh Markings (letters / numbers / arrows)	1	No	1 every 10 years	2.99871	£26.00	£77.97		

41	**Grassed / Hard Landscaped Areas as part of Highway Agreement as 'Extra Over' eg behind Visibility Splays**	Grass Cutting / Strim	1	Sq.m	6 every 1 year	200.073	£0.65	£130.05	**£150.90**	
		Plane and resurface	1	Sq.m.	1 every 20 years	1.33686	£15.60	£20.86		
42	**Soft Landscaping (Shrubs)**	Maintenance/re-planting		Sq.m.	1 every 3 years	0.936855	£32.50	£30.45	**£30.45** per Sq.m	
43	**Seats and Benches**	Replacement		Item	1 every 15 years	1.88862	£520.00	£982.08	**£982.08**	
44	**Trees**	Replacement		Item	1 every 30 years	0.791545	£910.00	£720.31	**£933.44** per tree	
		Tree Inspection		Item	1 every 3 years	0.936855	£97.50	£91.34		
		Tree Maintenance		Item	1 every 3 years	0.936855	£130.00	£121.79		
45	**Tree Root Protection Systems (indicative)**	Maintenance / Replacement	1	Sq.m	1 every 20 years	1.33656	£617.50	£825.33	**£825.33**	
46	**Hedges**	Maintenance		Lin.m.	1 every 1 years	33.3455	£6.50	£216.75	**£216.75**	
47	**Wildlife Kerbs**	Replacement		Item	1 every 20 years	1.33686	£56.30	£75.27	per metre	
48	**Newt Ladders**	Replacement		Item	1 every 10 years	2.99871	£73.19	£97.84	**£97.84**	