

STAFFORDSHIRE COUNTY COUNCIL

DEVELOPMENT SERVICES DEPARTMENT

HIGHWAY SAFETY INSPECTION CODE OF PRACTICE

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HIGHWAY SAFETY INSPECTION CODE OF PRACTICE

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CODE OF PRACTICE FOR HIGHWAY SAFETY INSPECTIONS

FOREWORD

This revision of the Highway Safety Inspection Code of Practice encompasses several major changes at both a strategic and operational level. Staffordshire County Council's carriageway, footway and cycle route network have been redefined, to take account of their functionality and Hierarchical standing, in order to fall in line with the recommendations of Well-maintained Highways, code of practice for Highway Maintenance Management July 2005. The redefinition of the network, as detailed in this code, has implications with regard to both; existing inspection routes and inspection frequencies. New safety inspection routes will be devised by the asset management team through close liaison with the area teams, however, until such time that the new routes have been developed, the area teams should continue to inspect their existing routes inline with the previous code of practice, dated July 2006.

In addition to the redefined network, there is to be a staged replacement of the existing ROMIS software and works planning tool, and the implementation of the replacement system is programmed to coincide with the new inspection regime. By way of introduction, this replacement comes in the form of the Integrated Highway Management System (IHMS), the product is supplied by a company known as WDM, with whom the Authority has procured a 5.5 year provision and support software contract which is extendable to 10.5 yrs based upon satisfactory performance. The system is made up of numerous modules which include the; Routine Maintenance System (RMS) the module on which the safety inspections are conducted and defects noted, Works Instruction Manager (WIM) the replacement for the works planning tool, Pavement Management System (PMS) the database that holds the condition survey results, Network Management System (NMS), and the Customer Relation Module (CRM), nevertheless, for the purpose of this code the system will be referred to as the Integrated Highway Management System (IHMS).

The revision to the code has also addressed the requirement for double manned safety inspections. In the interests of Inspector and network safety, it has been deemed necessary to conduct a double manned inspection regime on all carriageway safety inspection routes that are attributed with a monthly inspection frequency.

As stated previously this revised Code of Practice, will be subject to a staged implementation on an area by area basis, with completion expected by Spring 2008.

1. INTRODUCTION

1.1 *DUTY TO MAINTAIN THE PUBLIC HIGHWAY*

- 1.1.1 Staffordshire County Council (SCC) is the Highway Authority for all adopted roads and footways within Staffordshire excluding Stoke-on-Trent.
- 1.1.2 If a person sustains damage or injury, due to what appears to be a safety related defect (e.g. a trip or pothole) in the public highway, they may have grounds to make a claim for damages, against the Highway Authority, if they can demonstrate that the Authority has failed to fulfill its obligations, in relation to statutory duty of care.

1.2 *SAFETY INSPECTIONS*

- 1.2.1 The safety inspection process will help to provide a legal defence, against such claims, and relevant legislation relating to the County Council's Highway Safety Inspection Regime, is detailed in Appendix 1.
- 1.2.2 In Staffordshire, Safety Inspectors patrol the adopted highway network at pre determined intervals based upon Hierarchical standing. The Authority endeavor's to ensure that identified hazards are rectified, or made safe within specified time scales dependant on the severity and location of the defect, thereby protecting users of the highway network from injury or loss.
- 1.2.3 Restrictions in highway maintenance funding coupled with increasing traffic volumes, indicate that the level of funding available for maintenance services may not keep pace with the level of expenditure required. Therefore, in order to reduce their potential liability, Staffordshire County Council as the Highway Authority must routinely inspect the highway network, so that defects can be identified, risk assessed, categorised and thus prioritised in line with this code of practice. This approach will ensure that identified defects are rectified within appropriate timescales in a consistent, cost effective and efficient manner.
- 1.2.4 It must be emphasised that safety inspections are not just a way for the Highway Authority to mitigate its liability, but are, first and foremost, the means by which the County Council can keep its network as safe as possible, for all categories of highway user.

1.3 PURPOSE OF INSPECTIONS AND SUBSEQUENT COURSE OF ACTION

- 1.3.1 The primary purpose of the safety inspection regime is to identify defects, which constitute an immediate or imminent danger to road users.
- 1.3.2 By utilising a risk management approach, highway safety inspections are used to identify those defects that will require urgent attention (within 24 hours), as well as those, where the locations and sizes are such, that longer periods of response would be acceptable.
- 1.3.3 During safety inspections, all observed defects that give rise to any degree of risk to users should be recorded, irrespective of the likely level of response. The degree of deficiency in a particular element of the highway in conjunction with a risk management approach, are crucial to determining the nature and speed of response in repairing that defect.
- 1.3.4 This Code defines defects in two categories, which correspond with those recommended in Well-maintained Highways code of practice for Highway Maintenance Management July 2005, they are;

Category 1 – Defect 1: Those defects that require prompt attention because they represent an immediate or imminent hazard, or because there is a risk of short-term structural deterioration.

Three alternative actions arise:

- (a) Make the defect safe at the time of inspection and summon a maintenance crew to break off their existing work to carry out immediate repairs. In certain instances an Inspector may be required to wait on site until the relevant crew arrives to carry out remedial action.
- (b) Request a maintenance crew to make the site safe or carry out repairs within 24 hours.
- (c) Request a maintenance crew to make the site safe and make arrangements for permanent repairs to be carried out within 28 calendar days.

Category 2 – Defects 2, 3, 4.

- Defect 2: High Risk Category 2 defect; Make safe or repair within 7 calendar days
- Defect 3: Medium Risk Category 2 defect; Repair within 28 calendar days
- Defect 4: Low Risk Category 2 defect; Carry out repair during the next available programme, add to scheme request log, consider for community gang programme, schedule a more detailed inspection or schedule intermediate inspections before next standard inspection to monitor site condition.

1.4 CLAIMS RESULTING FROM WORKS CARRIED OUT BY CONTRACTORS (EMPLOYED BY THE HIGHWAY AUTHORITY)

- 1.4.1 The vast majority of the Authorities work with regard to Highway related services is carried out by the Authorities partners, term maintenance contractor Enterprise and term construction contractor Wrekin. The partnership, collectively known as Staffordshire Highways, prides itself on early contractor involvement (ECI). ECI enables the partnership to identify efficient, safe working practices and eliminate potential hazards that may result in an injury to the workforce or a third party. Method statements and risk assessments are provided by our partners for all activities carried out on the highway, which are checked by a pertinent member of staff from SCC. Our partners indemnify the County Council against any claims arising from their works and such claims are referred to the contractor to resolve direct with the claimant.
- 1.4.2 Other contractors employed by the County Council outside of the partnership are normally required to indemnify the County Council against any claims arising from the works, and again method statements and risk assessments are requested and checked to ensure safe working practices. Any such claims are normally referred to the contractor to resolve direct with the claimant, and it is only when there is a need for litigation, that the County Council may need to address the claim. Thus claims arising from defective workmanship during the maintenance period of new works would be referred to the contractor. However, where the defect is due to “fair wear and tear”, then the County Council would remain responsible for the defect and any associated claims.
- 1.4.3 In all cases, the County Council remains responsible for the safety of the highway and where defects or claims are referred on to our partners or other contractors, the County Council remains responsible for ensuring that appropriate and timely action is taken.

1.5 CLAIMS ARISING IN CONNECTION WITH STATUTORY UNDERTAKER'S & THIRD PARTIES WORKS/APPARATUS

- 1.5.1 Statutory Undertakers have a legal right to work in the public highway. Any claims arising from their works or apparatus will be referred towards the appropriate company. However, this does not relieve the County Council of its statutory duty of care and therefore responsibility to take note of defective inspection covers and trenches etc., which would endanger the public. Defects in the reinstatement of the highway structure in the vicinity of the utility's underground apparatus or surface cover are the responsibility of the Highway Authority except where the reinstatement is within the two or three year guarantee period under the New Roads and Street Works Act 1991 or except where it can be demonstrated that the original workmanship was defective.
- 1.5.2 In order for the Highway Authority to avoid the possibility of being held jointly liable for a claim, upon the identification of such defects, they should be; risk assessed and categorized in line with this code of practice, photographed where safe to do so (minimum of 2 photographs, 1 location & 1 plan, it is vital that the plan photograph shows the scale of the defect i.e. use of tape measure/ruler. A third photograph will be required for dangerous defects that have been made safe either by the Highway Authority or third party, detailing the make safe) and promptly referred in electronic format via the relevant network inspector, to the

undertaker/third party responsible. It is also necessary for the Highway Authority to ensure that the defect is repaired within the allocated time period. If an undertaker/third party fails to orchestrate remedial action within the specified timescale the County Council must take the appropriate action to eliminate the hazard (for further guidance on defects that are the responsibility of others see the process map in section 2.9).

- 1.5.3 Associated costs for conducting remedial works should be compiled at the relevant area office and forwarded to the network management unit, in order that the Authority can claim reimbursement from the undertaker/third party concerned.

2. HIGHWAY SAFETY INSPECTION PROCEDURES

2.1 *ITEMS FOR INSPECTION*

- 2.1.1 This section of the code is a schedule of deficiencies to be identified during safety inspections. The list is by no means exhaustive and is provided as a check list for purposes of guidance **only**; the term running surface applies to carriageway, footway or cycle route.

The schedule is as follows:

- debris, spillage or contamination on running surface or hard shoulder;
- displaced road studs lying on the running surface;
- overhead wires damaged or unstable;
- damaged and exposed electrical wiring;
- embankments and cuttings apparently unstable;
- trees with loose branches or apparently unstable;
- hedges, fences and walls impeding the width of the running surface;
- signs, signals or lighting damaged, defective, blatantly incorrect, missing or unstable;
- road markings and studs missing, misleading or badly worn;
- signs, signals or lighting dirty or obscured;
- sight-lines obscured by trees, unauthorised signs and other obstructions;
- safety fencing, parapet fencing, handrail, and other barriers missing or defective;
- abrupt level differences in the running surface;
- potholes, cracks or gaps in the running surface;
- crowning, depression and rutting in the running surface;
- defective trenches in the running surface;
- edge deterioration of the running surface;
- overriding of verges;
- significant weed growth within the running surface;
- kerbing, edging, setts or channel defects;
- rocking or otherwise unstable footpath or cycleway surfaces;
- apparently slippery running surface;
- ironwork (gully lids, manholes etc) broken, missing, faulty or worn smooth;
- gullies, drains or grips blocked or defective;
- standing water, water discharging onto or overflowing across the running surface.

2.2 INVESTIGATORY LEVELS

2.2.1 Table 1 below details guidance investigatory levels for items of inspection, the investigatory level is the point at which a risk assessment should be conducted. It must be stressed that these investigatory levels are for purposes of guidance **only**, and that in particular circumstances, inspection items with a lesser degree of deficiency, may pose an equal or greater safety hazard (further guidance notes on typical highway defects are contained in section 4 of this code).

TABLE 1: INVESTIGATORY LEVELS		
Feature	Defect	Investigatory level
Carriageway	Pothole/Spalling Crowning Depression Rutting Crazing/cracking Sunken ironwork Raised ironwork Edge deterioration	40mm depth Dependant on reinstatement width(NRSWA) 50mm level difference (area 2m ²) 40mm depth 25mm width (40mm depth) 40mm level difference 20mm level difference 100mm level difference
Pedestrian Crossing	Pothole Trip	20mm depth 20mm level difference
Footway	Pothole Trip Rocking slab/blocks Open joints Sunken/raised ironwork Cellar covers etc. Tree root damage	20mm depth 20mm level difference 20mm vertical movement 20mm width x 300mm length (depth 20mm) 20mm level difference 20mm level difference 20mm level difference
Cycle route	Pothole Trip Rocking slab/blocks Open joints Sunken/raised ironwork Tree root damage	20mm depth 20mm level difference 20mm vertical movement 20mm width x 300mm length (depth 20mm) 20mm level difference 20mm level difference
Kerbing/Setts	Dislodged Loose/rocking Missing	50mm horizontally 20mm vertically Yes/no
Ironwork	Level difference within framework Broken/missing/faulty badly fitting/worn smooth	20mm Yes/no
Signs	Damaged Blatantly incorrect Mis-aligned Obscured Dirty	Non specifiable Non specifiable Non specifiable Non specifiable Non specifiable
Verge	Overriding	100mm depth (length 10m)
Trees/Hedges/Shrubs	Dead/dying/overgrown Overhanging branches: Carriageway Cycle route Footway	Yes/no < 5.1m clearance from running surface < 2.4m clearance from running surface < 2.1m clearance from running surface

2.3 DEFECT RISK ASSESSMENT

2.3.1 A Highway Inspector's on-site judgement will always need to take account of the particular circumstances that prevail. For example, the degree of risk from a pothole depends upon not merely its depth, but also on its surface area and location, and as such may warrant differing response times. When an inspection item is imminently approaching, has reached or is in excess of the investigatory level, the safety inspector should conduct a risk assessment in order to determine the appropriate level of response. The following procedure as detailed in paragraphs 2.3.2 to 2.3.8 should be followed for each identified defect (Further guidance and defect risk assessment scenarios are detailed in the 'GUIDANCE ON DEFECT CATEGORISATION' document, which accompanies the Highway Safety Inspection Code of Practice).

2.3.2 **Risk Identification:** As stated previously, this is any inspection item with a defect level that is imminently approaching, corresponds to, or is in excess of the stated defect investigatory level.

2.3.3 **Risk Evaluation:** All identified risks have to be evaluated in terms of their significance, which means assessing the likely impact should the risk occur and the probability of it actually happening.

2.3.4. **Risk Impact:** The impact of a risk occurring should be quantified on a scale of 1 to 4:

1. Little or negligible impact
2. Minor or low impact
3. Noticeable impact
4. Major, high or serious impact

The impact is quantified by assessing the extent of damage likely to be caused should the risk become an incident. As the impact is likely to increase with increasing speed, the amount of traffic and type of road are clearly important considerations in the assessment.

2.3.5 **Risk Probability:** The probability of a risk occurring should also be quantified on a scale of 1 to 4.

1. Very low probability
2. Low probability
3. Medium probability
4. High probability

The probability is quantified by assessing the likelihood of users, passing by or over the defect, encountering the risk. As the probability is likely to increase with increasing vehicular or pedestrian flow, the network hierarchy and defect location are, consequently, important considerations in the assessment.

2.3.6 **Risk Factor:** The risk factor for a particular risk is the product of the risk impact and the risk probability and is therefore in the range of 1 to 16. It is the factor that identifies the overall seriousness of the risk and consequently the appropriateness of the speed of response to remedy the defect. Accordingly, the priority response time for dealing with a defect can be determined by correlation with the risk factor, as shown in the risk matrix (Table 2).

2.3.7 **Risk Management:** Having identified a particular risk, assessed its likely impact and probability and calculated the risk factor, the category and the timescale to

rectify the defect should be determined and the relevant defect category apportioned. The response category is represented by the coloured cells in the risk matrix.

2.3.8 **Risk Matrix:** Using the approach detailed above, having determined a Risk Impact and Risk Probability by simply multiplying the two to give the Risk Factor, the Risk Matrix detailed in table 2 below can be utilised to determine the defect category and hence associated response time. For example:

- A:** Low Risk Impact of 2 x Low Risk Probability of 2 = 4 = Category 2 Defect 4
- B:** Low Risk Impact of 2 x Medium Risk Probability of 3 = 6 = Category 2 Defect 3
- C:** Noticeable Risk Impact of 3 x Medium Risk Probability of 3 = 9 = Category 2 Defect 2
- D:** High Risk Impact of 4 x High Risk Probability of 4 = 16 = Category 1 Defect 1

TABLE 2: RISK MATRIX				
PROBABILITY ▶	Very Low [1]	Low [2]	Medium [3]	High [4]
▶ IMPACT ▼				
Negligible [1]	1	2	3	4
Low [2]	2	A 4	B 6	8
Noticeable [3]	3	6	C 9	12
High [4]	4	8	12	D 16

Category 2 Defect 4 (Low Risk) Carry out repair during next available programme	Category 2 Defect 3 (Medium Risk) Repair within 28 calendar days	Category 2 Defect 2 (High Risk) Make safe or repair in 7 calendar days	Category 1 Defect 1 Various responses within 24 hrs
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2.4 HIERARCHIES AND INSPECTION FREQUENCIES

2.4.1 Tables 4, 5 & 6 set out the hierarchies and inspection frequencies for carriageways, footways and cycle routes in Staffordshire. They are based upon the recommended frequencies of safety inspections as promoted in Well-maintained Highways, code of practice for Highway Maintenance Management July 2005.

2.4.2 In all cases where practicable to do so, carriageway, footway and cycle route inspections will be combined, to mitigate issues associated with network congestion whilst making the best use of resource.

2.4.3 By definition this means that there will be no separate inspection routes for category 'F3' & 'F4' footways or category 'A' & 'B' cycle routes, where a carriageway route exists with a 3 monthly frequency or greater. Except in the circumstance where substantial lengths or numerous sections of the footway or cycle route are not visible from the carriageway, in which case, the relevant Asset Management Technician should be informed so that the relevant sections can be included in a designated walked/cycled route. Short isolated sections of footway or cycleway that are not visible from the carriageway should be walked during the driven inspection at the desired frequency.

- 2.4.4 All category 'F1' & 'F2' footways and category 'C' cycle routes will have designated routes, and will be walked or cycled at the required frequency.
- 2.4.5 Where ever possible inspections should be carried out at the specified frequency as detailed in tables 4, 5 & 6. In the scenario that the pertinent Inspector is unable to conduct the required inspection, in the first instance, if practicable, the Area Highway Manager, or his delegated representative should carry out the inspection using appropriate alternative staff. However, in order to offer some degree of flexibility to accommodate events such as staff sickness, training or annual leave an element of tolerance is required in relation to inspection frequency. For the purposes of this code the tolerance levels are as detailed in table 3, notwithstanding, any deviation in the inspection calendar, should not be such as to reduce the annual number of inspections undertaken. Where a monthly inspection is specified, the requirement is to undertake 12 inspections per year.
- 2.4.6 The relevant Asset Management Technician will carry out random checks on 10% of completed inspection routes, in order to ensure acceptable tolerance levels are being achieved as part of a Quality Assurance procedure.

TABLE 3: SAFETY INSPECTION TOLERANCE LEVELS	
Inspection Frequency	Acceptable Tolerance Level + or -
Monthly	7 Calendar days
3 Monthly	14 Calendar days
6 Monthly	28 Calendar days
Annual	28 Calendar days

TABLE 4: CARRIAGEWAY HIERARCHY AND INSPECTION FREQUENCY			
Road Category	Hierarchy Description	Definition	Inspection Frequency
C1	Strategic Route	Principal 'A' roads, that form part of a strategic network at a regional level	Monthly - driven
C2	Main Distributor	Remaining 'A' roads	Monthly - driven
C3	Secondary Distributor	'B' roads, 'C' roads with a total traffic flow > 1000 in a 12hr period, unclassified urban bus routes with an hourly or more frequent service	Monthly - driven
C4	Link Road	Remaining 'C' roads, roads linking the main and secondary distributor network, 'D' & 'U' roads with exceptionally high traffic flow, industrial estate service roads, residential distributor roads with considerable H.C.V. flow	3 Monthly - driven
C5	Local Access Road	Remaining 'D' & 'U' roads i.e. residential loop roads, housing estate roads, residential cul-de-sacs, rear access roads, green lanes, lay-bys	Annual – driven if accessible otherwise walked

N.B.¹ The designation of Green Lane is an informal one, and Green Lanes are in fact unclassified County Highways. They are listed on the Departmental Geographic Information System (GIS) by their road number i.e. G3025 and the prefix G designates their prevailing condition and usage as Green Lanes.

TABLE 5: FOOTWAY HIERARCHY AND INSPECTION FREQUENCY			
Footway Category	Hierarchy Description	Definition	Inspection Frequency
F1	Primary Walking Route	City/Town centres, busy urban shopping and business centres with high pedestrian volumes	Monthly - walked
F2	Secondary Walking Route	Schools, local shopping precincts, industrial outlets	3 Monthly – walked
F3	Link Footways	Strategic footways in urban areas connecting local access footways to higher category footways (i.e. footways leading to City/Town centres), footways leading to large employment establishments	6 Monthly – walked/driven
F4	Local Access Footways	Non strategic housing estate footways, cul-de-sacs, divergent footways & rural footways.	Annual – walked/driven

TABLE 6: CYCLE ROUTE HIERARCHY AND INSPECTION FREQUENCY		
Cycle Route Category	Definition	Inspection Frequency
A	Part of Carriageway	As for carriageway, minimum frequency 6 monthly - driven.
B	Remote from carriageway	6 Monthly - driven/cycled/walked
C	Cycle Trails	Annual - cycled/walked

2.5 DOUBLE MANNED SAFETY INSPECTIONS

2.5.1 In the interests of Inspector and network safety, all carriageway inspection routes that are attributed with a monthly inspection frequency, as detailed in table 4, will be subject to a double manned inspection regime. These categories of road are targeted for double manned inspections due to their associated characteristics such as higher traffic volumes, higher traffic speeds and numerous carriageway events (e.g. frequent major junctions, traffic lights, pedestrian crossing points, bus stops etc) which could potentially render a single man inspection impractical or unsafe.

2.5.2 During these inspections there will be a designated driver and the inspection will be conducted from the passenger seat of the vehicle. Hence, the Inspector’s attention can be purely focused on conducting the inspection, enabling defects to be effectively noted.

2.6 VARIATIONS TO STANDARD INSPECTION FREQUENCIES

2.6.1 Well-maintained Highways, code of practice for Highway Maintenance Management July 2005, recommends that a risk management approach should be adopted in determining the inspection frequencies appropriate to a particular road. Although the maintenance category is the main determinant, the frequency of inspection should be governed by the functionality of the road and take into account the following factors:-

- Category within the network hierarchy
- Traffic usage, characteristics, and trends
- Incident and inspection history
- Characteristics of the highway corridor
- Network management policies
- Special designation of routes
E.g. Safer routes to schools, temporary diversion routes,
or roads subject to intensive traffic during holiday periods

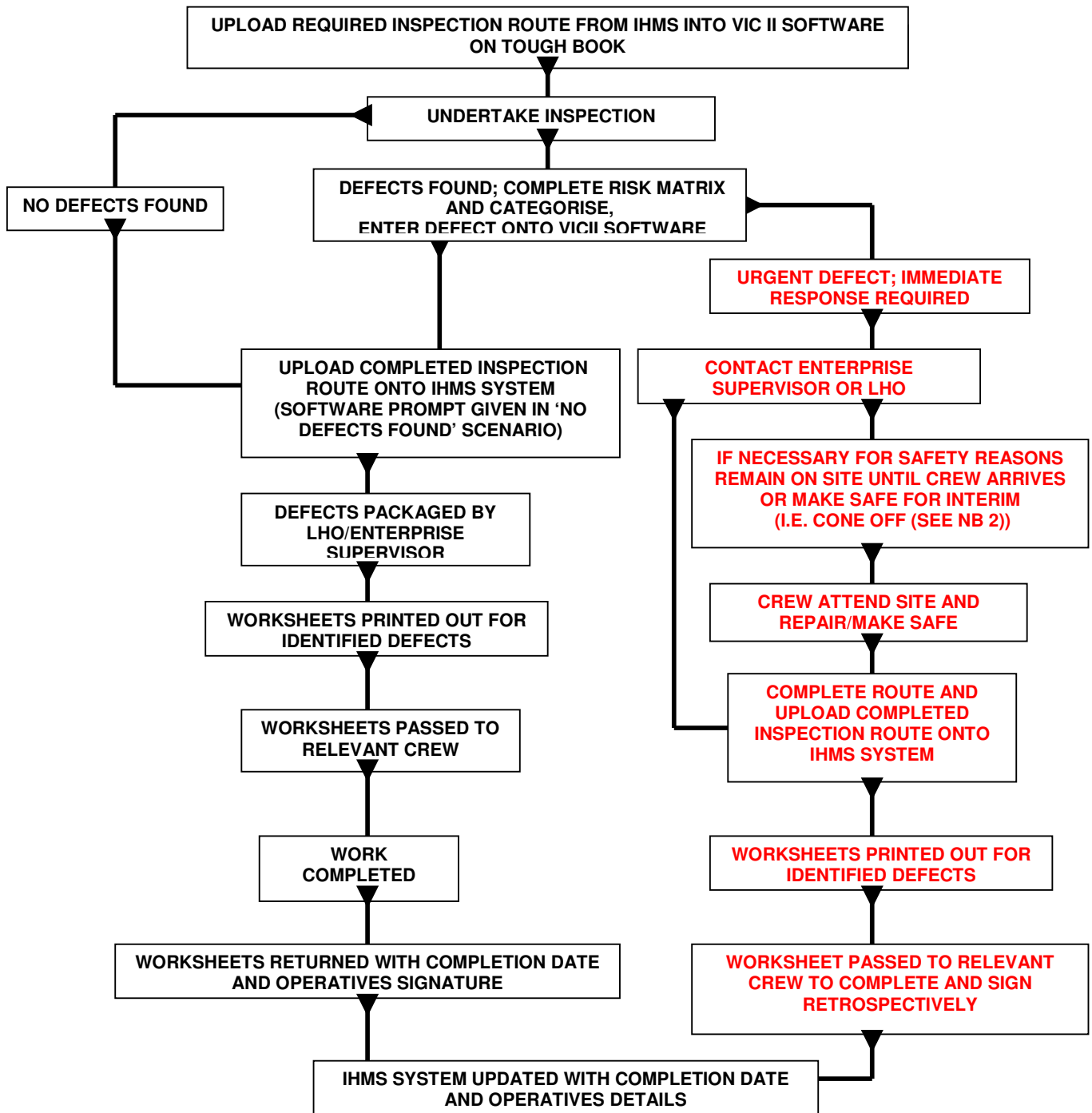
2.6.2 The frequencies set out in Tables 4, 5 & 6 should be regarded as “starting point” frequencies, which may be modified in the light of a consideration of the above factors. Thus for the purposes of the Code, the frequencies should be regarded as minimum values, with enhanced frequencies being determined by a simple risk assessment of these factors, carried out by a Divisional Highway Manager in consultation with the relevant Highway Inspector. The details of the risk assessment should be documented on the form shown in Appendix 2 and presented to the relevant Asset Management Technician, following which; the enhanced frequency will be incorporated into the IHMS system. By way of example; a carriageway may form part of a diversion route for a long term road closure and as such is subject to a substantially increased traffic flow, hence may warrant an increased inspection frequency. In many cases, an increased inspection frequency will only be necessary for a finite period (i.e. the period of the closure), when the circumstances giving rise to the enhanced frequency no longer apply, then the relevant Asset Management Technician should be advised and the IHMS system will again be amended.

2.7 VARIATIONS TO INSPECTION ROUTES

2.7.1 If, for any reason (i.e. a road closure) it is not possible to inspect all sections of the assigned route, the details of the section or sections not inspected should be noted on the IHMS system against the relevant road name upon completion of the route, non inspection is denoted by a cross against the relevant road/section.

2.7.2 However, consideration must always be given to the potential of the closed section forming part of a combined inspection route, for example, the carriageway may be closed but the footway or cycleway remains open to pedestrians and cyclists or access is being maintained to other roads or numerous frontages. If these circumstances prevail steps should be taken to inspect the restricted section.

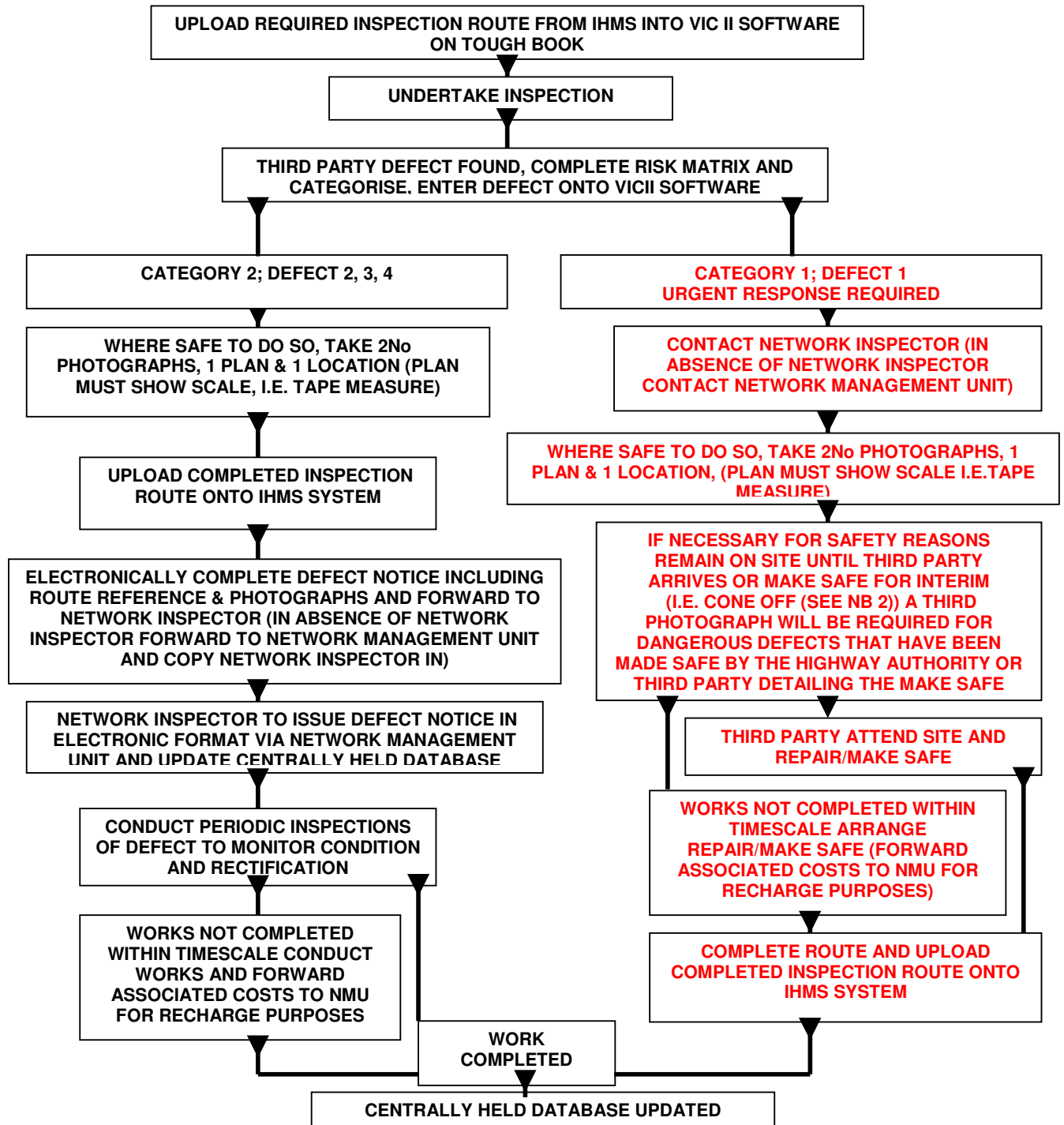
2.8 PROCESS MAP FOR CARRIAGEWAY, FOOTWAY AND CYCLEWAY SAFETY INSPECTIONS



NB1: Where defects with potentially serious consequences for network safety are made safe by temporary signing or repair, arrangements should be made for a special inspection regime to ensure the continued integrity of the signing or repair is maintained until a permanent repair can be made.

NB2: Defects should only be coned off when the defect location makes coning a viable option (i.e. adjacent to kerb, in a verge, in a f/way) and it is safe to do so.

2.9 PROCESS MAP FOR HIGHWAY DEFECTS WHICH ARE THE RESPONSIBILITY OF OTHERS (I.E. PUBLIC UTILITY COMPANIES AND PRIVATE ROAD OPENINGS, FOR TREES, HEDGES, FENCES & WALLS SEE 4.13.1 & 4.19.1)



NB1: Where defects with potentially serious consequences for network safety are made safe by temporary signing or repair, arrangements should be made for a special inspection regime to ensure the continued integrity of the signing or repair is maintained until a permanent repair is made.

NB2: Defects should only be coned off when the defect location makes coning a viable option (i.e. adjacent to kerb, in a verge, in a f/way) and it is safe to do so.

2.10 DEFECT CATEGORIES AND RESPONSE TIMES

2.10.1 Well-maintained Highways, code of practice for Highway Maintenance Management July 2005 defines two categories of defects:-

Category 1 Defects, requiring prompt attention, because they represent an immediate or imminent hazard, or because there is a risk of short-term deterioration.

Category 2 Defects are defined as “all other defects”, which are of a non-urgent nature and may be included in planned programmes of work, according to overall maintenance priorities.

2.10.2 The Code recommends that “Highway Authorities should adopt a range of local response times and apply them in responding to various types of defects, according to the perceived degree of risk, having regard to the characteristics and use of the network”. It states that “the degree of deficiency in a particular element of the highway is crucial to determining the nature and speed of response in repairing that defect”.

2.10.3 The Code gives general guidance on the speed of response, but recommends that on-site judgement should be used to determine the need and timescale to respond to particular local circumstances. As stated previously, the degree of risk from a pothole depends upon not merely its depth, but also on its surface area and location.

2.10.4 Following a risk assessment, the actual response time to repair a defect should be specified by the Inspector, having regard to the following factors:-

- Category of road/footway/cycle route within network hierarchy
- Traffic and/or pedestrian use, characteristics and trends
- Location (if the defect is in a vulnerable location, i.e. in the carriageway wheel track or in the vicinity of a hospital or school)
- Specially designated route (i.e. Safer Routes to School or a traffic diversion route)
- Existing or predicted climatic conditions (sensitive locations – flooding etc)

2.10.5 In all cases, utilising a risk management approach, the Inspector should make a conscious decision to, either treat the defect as one which requires immediate attention, or, alternatively, specify the response time which, taking all of the above factors into account, is deemed to be appropriate. In relation to urgent Category 1 defects, in certain instances a defect may be deemed so dangerous that an inspector is required to immediately make the defect safe (i.e. cone off, where coning is a viable option and it is safe to do so) or alternatively wait on site until a relevant crew arrives to carry out remedial action.

2.10.6 It will thus be seen that a degree of flexibility is available to tailor the defect response time to the particular circumstances which prevail. Having decided on an appropriate response time, this should be entered onto the IHMS database, and the Authority will endeavour to ensure that the actual response time is not allowed to extend beyond the specified period. Systems are in place to monitor performance on the response times being achieved, and it is important to ensure that the specified response times are not exceeded, except in exceptional circumstances, so that the County Council's adherence to their stated policies can be adequately demonstrated.

2.11 CATEGORY 1 DEFECTS (Defect 1)

2.11.1 Defect 1: These are defects which require prompt action because they represent an immediate or imminent hazard, or because there is a risk of short term deterioration.

Three alternative actions arise:

- (a) Make the defect safe at the time of inspection (i.e. sign and cone off) and summon a maintenance crew to break off their existing work to carry out immediate repairs. In certain instances an inspector may be required to wait on site until the relevant crew arrives to make carry out remedial action.
- (b) Request a maintenance crew to make the site safe or carry out repairs within 24 hours.
- (c) Request a maintenance crew to make the site safe and make arrangements for permanent repairs to be carried out within 28 days.

NB1: Where defects with potentially serious consequences for network safety are made safe by temporary signing or repair, arrangements should be made for a special inspection regime to ensure the continued integrity of the signing or repair is maintained until a permanent repair can be made.

NB2: The decision on which course of action to adopt would depend on an ad hoc risk assessment, which would typically include a consideration of the following factors.

- The nature and severity of the defect
- Traffic and/or pedestrian usage
- Location e.g. wheel track, o/s hospital or school, proximity to a road junction
- Congestion/disruption caused by temporary traffic control
- Diversion Route
Special Designation Route e.g. Marathon
- Existing or predicted climatic conditions

2.12 CATEGORY 2 DEFECTS (Defects 2, 3 & 4)

2.12.1 Category 2 Defects consist of all types of defects other than Category 1 defects and here again, the nature and timing of the response will be determined by assessing the degree of risk and taking into account the same factors detailed in respect of the response to Category 1 defects. Category 2 defects have been divided into three risk classifications, High, Medium and Low risk as suggested by Well-maintained Highways Code of Practice for Highway Maintenance Management July 2005. These defects will be referenced as defects 2, 3 and 4 respectively, and the following response times should be apportioned;

- Defect 2: High Risk Category 2 defect; Make safe or repair within 7 calendar days
- Defect 3: Medium Risk Category 2 defect; Repair within 28 calendar days
- Defect 4: Low Risk Category 2 defect; Carry out repair during the next available programme, add to scheme request log, consider for community gang programme, schedule a more detailed inspection or schedule intermediate inspections before next standard inspection to monitor site condition.

2.13 COMMENCEMENT OF DEFECT RESPONSE TIMES

2.13.1 The response time for carrying out remedial work varies with the Category of defect.

2.13.2 The response times stated in sections 2.11 & 2.12 commence from the time that the County Council first became aware of the existence of a defect (i.e. if the Authority is notified via electronic mail, it first becomes aware of the defect when the electronic mail is opened). This is particularly important in relation to defects which require an urgent response. Because the 24 hour response time starts when the County Council was first informed of the defect by a member of the public, **only** CLARENCE reports that are attributed an emergency or high priority will be assumed to be a category 1 defect. In relation to defects noted by the highway inspector the 24 hour response time commences from the point that the defect was noted.

2.13.3 Category 2 defects will be submitted to the IHMS system and dealt with by the appropriate Local Highway Officer or Enterprise Supervisor, on the understanding that the work will be included in a planned programme of work at the earliest opportunity, but that no undue risk is judged to exist in the intervening period.

2.14 GUIDELINES ON CATEGORY 1 DEFECTS

2.14.1 Tables 7 & 8 are intended to give general guidance **only**, to Highway Inspectors on the existence of category 1 defects; they are by no means exhaustive.

TABLE 7: CATEGORY 1 DEFECTS (Defect 1): Defects presenting an immediate or critical hazard to road users requiring **IMMEDIATE ACTION** to make safe or repair. Such defects include, but are not limited to the following:-

Defect	Intervention Criteria
- Major debris or spillage on the highway	None specifiable
- Critically unstable overhead wires, trees or structures	None specifiable
- Exposed live wiring	None specifiable
- Carriageway / footway / cycleway collapse with high risk of accidents / loss of control	None specifiable
- Isolated standing water with high risk of loss of control	Standing water in wheel tracks
- Missing or seriously defective ironwork with high probability of injury to highway users	None specifiable

TABLE 8: CATEGORY 1 DEFECTS (Defect 1) CONTINUED: Defects presenting an urgent or imminent hazard, or risk of rapid structural deterioration requiring urgent repairs or to be made safe **WITHIN 24 HOURS**. Such defects will include, but are not limited to the following:

Defect	Intervention Criteria
- Rapid deterioration in stability of overhead wires, trees or structures	Non specifiable
- Damaged, defective or obscured traffic signals	One or more signal heads defective
- Missing, obscured or dirty 'Stop' signs and road markings	None specifiable
- Missing, obscured or dirty 'Give Way' signs and road markings at a location of potential high risk (i.e. a junction joining a major road)	None specifiable
- Missing or seriously damaged safety or pedestrian fencing	Fencing unable to serve the intended function
- Pothole, trench or other abrupt carriageway level difference, of a size and location likely to cause vehicle damage / loss of control	Risks associated with depth / size will vary according to location
- Edge deterioration with abrupt level difference of a size and location likely to cause loss of control	Exceeding 100mm in depth
- Pothole, trench or other abrupt level difference on remote or carriageway – located cycle track, of a size and location likely to cause injury / loss of control	Exceeding 20mm in depth
- Pothole, trip or other abrupt level difference in footway or kerb line of a size and location likely to cause injury to users	Exceeding 20 mm in depth
- Gap / joint in footway of a size and location likely to cause injury to users	Exceeding 20mm in width

2.15 THIRD PARTY DEFECT REPORTS

2.15.1 Additional safety inspections will also be required in response to reports of defects on the highway, received from third parties. Following inspection of the site, when they are found to be valid, such defects will be risk assessed and attended to in accordance with the response times for Category 1 or 2 defects. In the case of CLARENCE reports, pertinent staff, should record their findings and the attributed defect category in the close notes of the relevant report, and the IHMS system updated to reflect the same.

2.16 CARRIAGEWAY INSPECTIONS

2.16.1 Safety inspections on carriageways will normally be carried out from a slow moving vehicle, and will either be subject to a double manned inspection regime or carried out by an unaccompanied inspector dependant on hierarchical standing.

2.16.2 Vehicle based safety inspections should be carried out in accordance with the established risk management control procedures contained in the Area Office Health and Safety File. Inspectors, whilst recording defects, should avoid parking on the highway, in a manner which is likely to compromise their personal safety or that of other road users.

2.17 PERFORMANCE INDICATORS

2.17.1 Each year, the County Council is required, under the Local Government Act 1999, to publish details of its performance on certain key aspects of its work, and the calculations on which the performance is based, are audited by the District Auditor. The County Council also publishes various Local Performance Indicators which are included in the Department's Delivery Plan/Service Plan. In the context of the County Council's highway safety inspection regime, the key local performance indicator relates to our response to Category 1 defects within 24 hours.

2.17.2 The publication of the indicators is intended to demonstrate the County Council's ability to deliver best value, and achieve continuous improvement, in service provision to our customers. It is, therefore, important to pay particular attention to ensuring that all such defects are dealt with promptly, and that proper records are kept, to enable the County Council to substantiate its performance.

2.17.3 A second indicator is that relating to the number of highway-related third party claims for compensation, which the County Council receives each year and, here again, an effective safety inspection regime is crucial to the minimisation and repudiation of such claims.

2.17.4 Other indicators are likely to be introduced as part of the developing performance management regime.

2.18 DEFECT RECORDING PROCEDURES FOR SAFETY INSPECTIONS

- 2.18.1 All highway defects which are noted should be recorded on the tough book recording devices, separate instructions are available on the operation of these facilities. (Refer to Asset Management Technician).
- 2.18.2 Where no tough book computer facility is available the defects should be recorded on site via a hand-held tape recorder or notebook and transferred to the IHMS system on return to the office.
- 2.18.3 When an inspector has completed the designated inspection route, the IHMS system will present him/her with a list of road names contained within that route each of which is accompanied by a tick box. A tick within that box represents inspection of that section of the route, conversely a cross indicates no inspection, this is a mechanism by which completion of a route can be guaranteed and makes it absolutely clear, in the context of any legal scrutiny of our documentation and records that an inspection took place. In the scenario of no defects being identified on an inspection route, the software will provide a prompt to that effect prior to the completed route being loaded back into the IHMS system, as a confirmation of no defects being identified.

3.0 STAFF OBLIGATIONS

3.1 *GENERAL OBLIGATION OF HIGHWAYS MANAGEMENT STAFF TO NOTE AND RELAY DEFECTS TO APPROPRIATE TEAM MEMBERS*

- 3.1.1 All maintenance staff have a general responsibility for observing and reporting defects on all categories of road, during the course of their normal duties of managing the maintenance of the highway network. Such defects should be notified to the relevant highway inspector on his/her return to the office, or, in the case of Category 1 defects, to the relevant Local Highway Officer or Enterprise Supervisor for immediate action to be taken. In order to deliver best value to our customers, we all need to work as a team and, therefore, staff should not be reluctant to provide or receive information which assists the achievement of our service objectives.

4. NOTES ON TYPICAL HIGHWAY DEFECTS

Note where investigatory levels are quoted in the following notes, these are for purposes of guidance only, and inspection items with a lesser degree of deficiency may, in particular circumstances; pose an equal or greater safety hazard.

4.1 *CARRIAGEWAY POTHOLES / DEPRESSIONS*

4.1.1 Potholes of any depth should be noted where their location and shape significantly affect carriageway riding quality and/or pose a safety risk. Potholes imminently approaching, corresponding to or is in excess of 40mm depth should normally be recorded and risk assessed, any pothole greater than 100mm in depth is considered to be a dangerous defect. Where wheel tracking is present in the carriageway, this should be recorded where there is a risk of standing water or where the passage of vehicles, especially motorcycles, are likely to be affected.

4.2 *SAFETY FENCE AND BARRIERS*

4.2.1 Any impact to safety fence or barriers that has caused structural damage; corroded parts, missing parts and any noticeable parts not to standard. Following the initial identification of a defect, consideration should be given to the need for a more detailed inspection of the whole fence or barrier.

4.3 *DAMAGED SIGNS OR BLATANTLY INCORRECT SIGNS*

4.3.1 Sign face or post damage, missing parts, inconspicuous, mis-aligned, misleading.

4.4 *OBSCURED SIGNS*

4.4.1 Signs not easily visible, e.g. obscured by vegetation, moss, or other signage & street furniture. Particular note should be taken of signs located in the vicinity of trees which become contaminated or obscured by lichen.

4.5 *LIGHTING COLUMNS, ILLUMINATED SIGNS/BOLLARDS*

4.5.1 Evidence of vehicle impact, exposed wiring, missing or loose inspection covers, vandal damage or severely corroded columns. Such defects should be referred to the County Council's PFI Contractor via the "CLARENCE" defect reporting facility.

4.6 *RECESSED ROAD STUDS*

4.6.1 Dislodged or missing metal road studs. (If found, remember to book a pothole so that a temporary repair can be undertaken on the resulting hole.)

4.6.2 Where more than 10% of the studs or individual cat's eyes are ineffective or missing then the marking system is considered to be substandard.

4.7 *OVERRIDING OF VERGES*

4.7.1 Overriding of verges causing rutting along the edge of the carriageway greater than 100mm deep and 10m in length.

4.8 DEFECTIVE IRONWORK

- 4.8.1 Ironwork which is broken, missing, faulty, badly fitting, worn smooth or has sunk abruptly more than 40mm, or protrudes above the carriageway or footway surface more than 20mm.

Where ironwork is missing or seriously defective with a high probability of injury to highway users it should be regarded as a dangerous defect.

(Following a risk assessment and categorisation, defective utility ironwork should be recorded on the IHMS system. A defect notification form should be completed in electronic format accompanied by the route reference and photographic evidence; this should then be forwarded to the relevant Network Inspector in order that they can notify the utility company concerned via the Network Management Unit. In the absence of the Network Inspector the completed defect notification form should be sent to the Network Management Unit and the Network Inspector copied in.)

4.9 DISLODGED OR LOOSE KERBS

- 4.9.1 Any kerb, which is loose or projects more than 50mm into the carriageway/footway or presents a trip hazard greater than 20mm.

4.10 DISLODGED OR LOOSE SETTS

- 4.10.1 Any sett, which is loose or projects more than 50mm into the carriageway/footway or presents a trip hazard greater than 20mm.

4.11 TRENCHES

- 4.11.1 Any trench, which has settled in the carriageway or footway. If the trench is associated with utility works and is within the two or three year guarantee period, the utility concerned must be approached to take the necessary remedial action in accordance with the defective reinstatement procedure as defined in NRSWA. (Even outside the guarantee period, where the subsidence can be attributed to defective workmanship, then the utility is liable for the reinstatement).

4.12 OBSTRUCTIONS – GENERAL

- 4.12.1 Any obstruction on any part of the highway network which is considered dangerous for vehicle drivers, pedestrians or cyclists. This item includes unauthorised roadside posts and boulders and tree debris. (See relevant standard letters in Appendix 4 and paragraph 4.2.8.2 of the County Highways Network Management Policy Document).
- 4.12.2 This item also includes the presence of plastic fixing ties, on sign or lamp columns, used in connection with fly posters, particularly those fixed at eye height of children or adults, which are thus likely to cause a hazard.

4.13 TREE DEFECTS

4.13.1 Applies to any tree located within the highway boundary, or located outside the highway boundary, but within falling distance of the highway, which has overhanging branches (refer to table 1 for investigatory levels), shows evidence of being dead, diseased, or of a generally unsafe or unsound nature. Also applies to any significant tree debris left within the highway boundary after felling. In cases of doubt, or where large scale remedial works are proposed, the advice of the relevant Divisional Highway Manager should be sought. Appendix 5 sets out general guidelines on the recognition of hazardous trees.

N.B. For non-highway trees, except where the defect constitutes immediate safety hazard, the relevant standard letter contained in Appendix 4 should be used in the first instance to affect a response from the frontager concerned.

4.14 INADEQUATE VISIBILITY

4.14.1 Covers any impaired visibility at road junctions caused by overgrown vegetation, badly sited signs, or other obstruction.

4.15 STANDING WATER

4.15.1 Caused by depressions of the highway surface, a blocked drainage system, or water discharging on to, or flowing across the highway. Applies to carriageway standing water more than 500mm from the kerb face, or found in wheel track rutting depressions.

4.15.2 Also applies to footway standing water more than 10mm deep that restricts the footway width to less than 0.5m, or is likely to cause pedestrians to use the adjacent carriageway.

4.16 DETRITUS, SPILLAGE OR CONTAMINATION

4.16.1 Motorcycles and cycles are particularly vulnerable to this type of defect, primarily on bends and junctions. It applies to situations where there is a need to clear the highway network of detritus, spillage or contamination, which has arisen because of e.g. leaf fall, loose aggregate or load spillage.

N.B.1 Except where the deposits on the highway prevent the safe passage of vehicles or pedestrians, such matters should be referred in writing to the appropriate environmental health authority or land owner using the relevant standard letter contained in Appendix 4.

N.B.2 Includes accumulation of detritus at junctions, traffic islands and hatched areas of carriageway.

4.17 WEED GROWTH

4.17.1 Any significant ingress of weeds within the wearing course, of a carriageway, footway or cycleway, or within kerb drainage channels, which has caused disruption of the highway fabric, and/or will impede the flow of surface water.

4.18 FOOTWAY POTHoles, TRIPS, DEPRESSIONS OR UNEVEN SURFACES

- 4.18.1 Potholes, trips and rocking flags imminently approaching, corresponding to or in excess of 20mm should normally be recorded and risk assessed. Rapid change of footway profile greater than 25mm, particularly sites extending in plan dimension less than 600mm.

4.19 HEDGES, FENCES AND WALLS

- 4.19.1 Covers any situation where a hedge, fence or wall is impeding, the passage of vehicles, cyclists or pedestrians.

N.B. For non-highway hedges, fences, and walls and except where the defect constitutes an immediate safety hazard, the relevant standard letter contained in Appendix 4 should be used in the first instance to affect a response from the frontager concerned.

4.20 ROAD MARKINGS

- 4.20.1 Covers any noticeable defect with Road Markings, e.g. faded lines, missing or loose road studs. Where satisfactory response times cannot be achieved, due to the non-availability of a road marking contractor, it will be acceptable to place a "No Road Markings" sign for the interim period. Particular care should be taken to monitor the condition of mandatory road markings e.g. stop lines or double lines.

- 4.20.2 Road markings should be considered to be inadequate when more than 30% of the marking material is worn away.

4.21 ACCIDENT DAMAGE

- 4.21.1 Damage to any part of the Highway Network or infrastructure, which has been caused by a third party.

N.B. A note of all available details of the third party should be recorded.

4.22 BLOCKED DRAINAGE SYSTEMS

- 4.22.1 Flooding of the Highway Network caused by inadequate or a blocked drainage system e.g. blocked gully or grips. Specific attention should be given to the condition/operation of grips and gullies in sensitive locations, for example, at or near low points so as to prevent flooding.

4.23 OTHER

- 4.23.1 Covers any other defect not mentioned in the above list, but which is considered to constitute a safety hazard.

5. ADDITIONAL NOTES

5.1 *NOTES FOR HIGHWAY SAFETY INSPECTORS*

- 5.1.1 During all inspections, the inspector must be constantly on the lookout for any of the types of defect defined in this code, for which some form of action is required. Inspectors should consider the particular needs of vulnerable road users such as children, the elderly and the disabled as well as pedestrians, cyclists, motorcyclists, and motor vehicle users, in general, in assessing the severity of the defect and the appropriate response time.
- 5.1.2 For all highway defects logged on IHMS the following information will be recorded:-
- Nature of defect
 - Location/Route No.
 - Time/Date the defect was noted
 - Time/Date the defect was rectified
 - Weather Conditions
- 5.1.3 The inspector shall maintain a record of inspections which includes all inspections which have been carried out, together with his or her leave/absence details.
- 5.1.4 Where a length of carriageway is 'extensively' potholed, each pothole should be recorded, as opposed to an aggregated area.
- 5.1.5 In the event of an identified defect being a Pothole, the size must be recorded as follows; the area in m² and the depth in mm.
- 5.1.6 A text description in addition to location must be given to aid the identification of the defect.
- 5.1.7 Where no defects are observed, this is confirmed by a software prompt before loading the completed route into the IHMS system.
- 5.1.8 Where action is taken on site to remedy a defect either by the Inspector or by the Contractor whilst the Inspector is still in attendance, the defect should still be recorded on the IHMS system.
- 5.1.9 Reports are available in a wide variety of formats and content, however, the principal reports which will be used in connection with the safety inspection regime are as follows:-
- GIS based display of the incidence of highway defects by type.
 - Record of inspections undertaken on a specific section of road.
 - Actual defect response time compared with required response time.

APPENDIX 1

HIGHWAY INSPECTIONS - RELEVANT LEGISLATION

- **Section 41 Highways Act 1980.** Highway Authorities are under a duty to maintain the highway.
- If it does not maintain, the Highway Authority is liable to be charged with statutory negligence and potentially manslaughter in the event of a fatality.
- **Section 58 of Highways Act 1980.** Provides a defence, such that if the Highway Authority can prove that it took such care, as in all the circumstances, was reasonably required, considering the following factors, then the defence is likely to be valid:-
 - The character of the highway and traffic reasonably expected to use it.
 - The standard of maintenance appropriate for a highway of that character.
 - The state of repair which a reasonable person would have expected to find the highway.
 - Whether the Highway Authority knew, or could reasonably have been expected to know, that the condition of the highway was likely to cause danger to the users (e.g. evidence of previous complaints).
 - What warning notices had been displayed.

N.B.

1. For a Highway Authority to plead that there was no regular inspection of the highway and, even if there had been, it had insufficient resources to make road safe is NOT a sufficient defence. Therefore, in order to reduce their potential liability, the Highway Authority must routinely inspect the highway network, so that defects can be identified, categorised and therefore prioritised, to ensure that defects are rectified within appropriate timescales in a cost effective and efficient manner.
2. If the HA can establish that it exercised reasonable care, but through no fault of his own, had been unable to take steps to make the highway safe, it may potentially escape liability.
3. In *Meggs v Liverpool Corporation*, it was held that a footway was reasonably safe, even though it had an occasional ridge of $\frac{1}{2}$ to $\frac{3}{4}$ of an inch (13mm to 19mm).
4. In *Griffiths v Liverpool Corporation*, the Highway Authority was held liable for an unsafe footway, because it was shown that there had been an inadequate system of inspection and repair.
5. It is worthy of note that the legal cases stated in 3 & 4 above are there by way of example, and may not necessarily represent a Court's view on any particular case as other precedent may also be relied on.

APPENDIX 2

<p><u>STAFFORDSHIRE COUNTY COUNCIL</u> <u>DEVELOPMENT SERVICES DEPARTMENT</u></p> <p><u>Risk Assessment for Variation in Inspection Frequency</u></p>	
Road No.	
From	To
Circumstances giving rise to the need to vary the inspection frequency	
Existing Inspection Frequency	_____
Proposed Inspection Frequency	_____
Period of varied Inspection Frequency	_____
Risk Assessment Completed By	_____
Date	_____
Varied Inspection Frequency Endorsed By	_____
Date	_____

APPENDIX 3

RISK MATRIX				
PROBABILITY ►	Very Low [1]	Low [2]	Medium [3]	High [4]
IMPACT ▼				
Negligible [1]	1	2	3	4
Low [2]	2	4	6	8
Noticeable [3]	3	6	9	12
High [4]	4	8	12	16

Category 2 Defect 4 (Low Risk) Carry out repair during next available programme	Category 2 Defect 3 (Medium Risk) Repair within 28 calendar days	Category 2 Defect 2 (High Risk) Make safe or repair in 7 calendar days	Category 1 Defect 1 Various responses within 24 hrs
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**APPENDIX 4: STANDARD LETTERS
(FILE PATH FOR LETTERS = H:\Highways\General Info\Standard Documents)**

STANDARD LETTER: A4.1 DEAD OR DYING TREE: INITIAL LETTER

Our Ref	Your Ref	Date
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Dear Sir/Madam,

DEAD OR DYING TREE(S):

..... (**LOCATION**)

During routine highway inspections within your area, it has been noted that the (**Description of tree(s)**) located on your land which is situated alongside the (**Road Number/Road Name**) poses a potential danger to road users or pedestrians, because it appears to be dead or dying and is within falling distance of the highway.

The purpose of this letter is to ensure that you understand that you will be held liable for any claim for injury or damages which may arise, due to the condition of the tree.

I would therefore be grateful if you could arrange to have (**it/them**) inspected by a competent tree surgeon and for the appropriate remedial work to be carried out as soon as possible. Our general policy in this respect is to favour pruning and lopping work, as opposed to felling the tree, unless this is absolutely necessary.

I can, if you wish, provide you with a copy of the County Council's approved list of tree surgeons.

Prior to undertaking any work on the tree(**s**) in question, you will need to contact your District Council, to check if there is a tree preservation order or other restriction governing any work on the tree, in which instance, the District Council will advise you on what actions to take.

Will you please let me know what arrangements you have made to render the tree(**s**) safe, a follow up inspection will be conducted within the next (**7/14/21/28**) days in order to monitor progress. If you believe that the tree(**s**) (**is/are**) not owned by you, please let me know and if possible let me have the name and address of the owner.

If necessary, the Highways Act 1980: Section 154, provides the County Council with powers to serve a formal notice, requiring you to carry out the necessary work within 14 days, after which, the County Council can arrange for the work to be carried out and for any associated costs, including administration and supervision, to be charged to you. However, I trust that it will not be necessary to resort to this procedure.

If you have any questions about the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

STANDARD LETTER: A4.2 DANGEROUS TREE: INITIAL LETTER

Our Ref

Your Ref

Date

Dear Sir/Madam,

DANGEROUS TREE(S):

..... **(LOCATION)**

During routine highway inspections within your area, it has been noted that the **(Description of tree(s))**located on your land which is situated alongside the **(Road Number/Road Name)** poses a potential danger to road users or pedestrians, because of..... **(e.g. overhanging boughs less than 5.1m (16'6") above road level or unsafe weak boughs)** which are within falling distance of the highway.

The purpose of this letter is to ensure that you understand that you will be held liable for any claim for injury or damages which may arise, due to the condition of the tree.

To maintain the safety of road users and pedestrians, I would be grateful if you could arrange for the bough**(s)** to be attended to as soon as possible.

I can, if you wish, provide you with a copy of the County Council's approved list of tree surgeons.

Prior to undertaking any work on the tree**(s)** in question, you will need to contact your District Council, to check if there is a tree preservation order or other restriction governing any work on the tree, in which instance, the District Council will advise you on what actions to take.

Will you please let me know what arrangements you have made to render the tree**(s)** safe, a follow up inspection will be conducted within the next **(7/14/21/28)** days in order to monitor progress. If you believe that the tree**(s)** **(is/are)** not owned by you, please let me know and if possible let me have the name and address of the owner.

If necessary, the Highways Act 1980: Section 154, provides the County Council with powers to serve a formal notice, requiring you to carry out the necessary work within 14 days, after which, the County Council can arrange for the work to be carried out and for any associated costs, including administration and supervision, to be charged to you. However, I trust that it will not be necessary to resort to this procedure.

If you have any questions about the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

**STANDARD LETTER: A4.3 DEAD, DYING OR DANGEROUS TREE(S):
FOLLOW UP LETTER**

Our Ref

Your Ref

Date

Dear Sir/Madam,

**NOTIFICATION OF DEAD, DYING OR DANGEROUS TREE(S)
HIGHWAYS ACT 1980 – SECTION 154**

I wrote to you on **(Date)** to explain my concerns regarding the condition of the tree(s) located on your land situated alongside the **(Road Number/Road Name/Location Details)** because **(they/it) (is/are)** within falling distance of the highway.

Since I have not heard from you regarding your arrangements for dealing with the tree(s), I would be grateful if you could advise me, without further delay, of what action you propose to take.

This correspondence is Formal Notice under Section 154 of the Highways Act 1980, the Statutory Notice in this respect is enclosed. Failure to act on this Notice within 14 days, will entitle the County Council to enter your land and take the necessary action on a rechargeable basis. You have the right to appeal to the local Magistrates Court against this Notice.

Our general policy is to encourage pruning and lopping work in preference to felling trees and I recommend that you seek advice from a qualified tree specialist to decide what work needs to be done.

I can, if you wish, provide you with a copy of the County Council's approved list of tree surgeons.

Prior to undertaking any work on the tree(s) in question, you will need to contact your District Council, to check if there is a tree preservation order or other restriction governing any work on the tree, in which instance, the District Council will advise you on what actions to take.

/Cont'd...

I would like to point out that our inspection of private trees that are located outside the highway boundary, is limited to a roadside viewpoint and we recommend that you inspect all such trees regularly and also arrange for them to be examined, from time to time, by a qualified tree specialist, since the full extent of the work which may be necessary can only be determined by a detailed inspection. It is for this reason that we cannot accept any liability for any costs which you incur in arranging for such an inspection, in this particular case, irrespective of the results.

If you have any questions about the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you in anticipation of your co-operation in dealing with the above matter in a prompt manner.

Yours faithfully,

**STANDARD LETTER: A4.4 OVERGROWN HEDGES, TREES OR SHRUBS:
INITIAL LETTER**

Our Ref

Your Ref

Date

Dear Sir/Madam,

OVERGROWN HEDGES (TREES OR SHRUBS)

..... (ROAD NUMBER/ROAD NAME/LOCATION DETAILS)

During routine highway inspections within your area, it has been noted that the **hedges/trees/shrubs** located on land which is believed to be owned by you are:

- **likely to endanger road users (or pedestrians)**
- **likely to obstruct road users (or pedestrians)**
- **likely to obstruct or interfere with the view of vehicle drivers**
- **likely to obstruct the light from the adjacent street light**
(delete as appropriate)

The purpose of this letter is to ensure that you understand that you will be held liable for any claim for injury or damages which may arise, due to the condition of the **(hedges/trees/shrubs)**.

I would therefore be grateful if you could arrange to prune or cut back the **(hedges/trees/shrubs)** so as to remove the danger or obstruction as soon as possible. A follow up inspection will be conducted within the next **(7/14/21/28)** days in order to monitor progress. If you believe that the **(hedges/trees/shrubs)** *(is/are)* not owned by you, please let me know and if possible let me have the name and address of the owner.

If necessary, the Highways Act 1980: Section 154, provides the County Council with powers to serve a formal notice, requiring you to carry out the necessary work within 14 days, after which, the County Council can arrange for the work to be carried out and for any associated costs, including administration and supervision, to be charged to you. However, I trust that it will not be necessary to resort to this procedure.

If you have any questions about the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

**STANDARD LETTER: A4.5 OVERGROWN HEDGES, TREES OR SHRUBS:
FOLLOW UP LETTER**

Our Ref

Your Ref

Date

Dear Sir/Madam,

**NOTIFICATION OF OVERGROWN HEDGES (TREES OR SHRUBS)
HIGHWAYS ACT 1980 – SECTION 154**

I wrote to you on..... *(Date)*to explain my concerns that the **(hedges/
trees/shrubs)** *(Location)*
.....are..... *(Identify problem as per previous letter)*
and pose a potential safety hazard.

Since I have not heard from you regarding your arrangements for dealing with the **(hedges/trees/shrubs)**, I would be grateful if you could advise me, without further delay, of what action you propose to take.

This correspondence is Formal Notice under Section 154 of the Highways Act 1980, the Statutory Notice in this respect is enclosed. Failure to act on this Notice within 14 days, will entitle the County Council to enter your land and take the necessary action on a rechargeable basis. You have the right to appeal to the local Magistrates Court against this Notice.

If you have any questions about the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you in anticipation of your co-operation in dealing with the above matter in a prompt manner.

Yours faithfully,

**STANDARD LETTER: A4.6 NOTIFICATION OF DISTRICT COUNCIL
DEBRIS/DANGEROUS FENCING ON THE HIGHWAY (SEND IN CONJUNCTION
WITH A4.7)**

Our Ref

Your Ref

Date

Dear Sir/Madam,

DEBRIS / DANGEROUS BOUNDARY FENCING ON THE HIGHWAY

During a routine inspection of the highway, the following matter was noted as requiring attention.

LOCATION

DEFECT

- | | | |
|-----|-----------------------------------|----------------------|
| (1) | Build up of debris in Channel | <input type="text"/> |
| (2) | Build up of debris in Carriageway | <input type="text"/> |
| (3) | Sweeping required to aid Drainage | <input type="text"/> |
| (4) | Footway sweeping required | <input type="text"/> |
| (5) | Litter on Highway verge | <input type="text"/> |
| (6) | Fly Tipping | <input type="text"/> |
| (7) | Dangerous Boundary Fencing | <input type="text"/> |

If you require further information, this matter was noted by.....

Thank you very much for your co-operation in this matter.

Yours faithfully,

STANDARD LETTER: A4.7 DANGEROUS BOUNDARY FENCING (SEND IN CONJUNCTION WITH A4.6)

Our Ref

Your Ref

Date

Dear Sir/Madam,

DANGEROUS BOUNDARY FENCING

During routine highway inspections within your area, it has been noted that the boundary fencing fronting onto the (**.....Location...**), is likely to (**obstruct/cause danger to**) the safe passage of vehicles or pedestrians.

The purpose of this letter is to ensure that you understand that you will be held liable for any claim for injury or damages which may arise, due to the condition of the fence.

I would therefore be grateful if you could repair the fence and/or make it safe, so as to eliminate the (**danger/obstruction**). A follow up inspection will be conducted within the next (**7/14/21/28**) days in order to monitor progress, in order to keep the highway in a safe condition, it may be necessary for us to undertake the relevant action on your behalf on a rechargeable basis. If you believe that the fence is not owned by you, please let me know and if possible let me have the name and address of the owner.

The (**District/Borough**) Council have also been informed of this issue, as they possess powers of enforcement should they be required. However, I trust that it will not be necessary to resort to this procedure.

If you have any questions relating to the above matter, you are welcome to contact us on the telephone number at the top of this letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

STANDARD LETTER: A4.8 MUD OR DEBRIS CAUSING A HAZARD ON THE HIGHWAY

Our Ref.

Your Ref

Date

Dear Sir/Madam,

MUD OR DEBRIS CAUSING A HAZARD ON THE HIGHWAY

.....(LOCATION).....

During routine highway inspections within your area, it has been noted that deposits of mud and other debris have been left on the road in the vicinity of your property.

Whilst I appreciate that, on occasions, your activities may lead to deposits of mud and other debris on the highway, it is important that this is promptly cleared on each occasion from the length of road in question, in order to keep it in a safe condition.

The deposition of mud or debris in this manner is an offence under the Highways Act 1980 and any failure to address this problem may lead to a formal notice being served. Similarly, in order to keep the road in a safe condition, it may be necessary for us to undertake the clearance work on your behalf on a rechargeable basis.

If you have any questions relating to the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

STANDARD LETTER: A4.9 OBSTRUCTION PLACED AT THE EDGE OF THE HIGHWAY: INITIAL LETTER

Our Ref

Your Ref

Date

Dear Sir/Madam,

**OBSTRUCTION(S) PLACED AT THE EDGE OF THE HIGHWAY
(.....LOCATION.....)**

During routine highway inspections within your area, it has been noted that **(Describe the nature of the obstruction) (have/has)** been placed adjacent to your property on highway land, which pose(s) a potential danger to road users.

The purpose of this letter is to ensure that you understand that you will be held liable for any claim for injury or damages which may arise, as a result of the obstruction(s), and because of the illegal nature of the obstruction(s), it is unlikely that any insurance cover, which you may possess, could be invoked.

I would therefore be grateful if you could ensure that **(it/they) (is/are)** removed without delay.

Will you please let me know what arrangements you have made to remove the obstruction(s), a follow up inspection will be conducted within the next **(7/14/21/28)** days in order to monitor progress. If you believe that the obstruction(s) **(is/are)** not owned by you, please let me know and if possible let me have the name and address of the owner.

If necessary, the Highways Act 1980: Section 143, provides the County Council with powers to serve a formal notice, requiring you to carry out the necessary work within 28 days, after which, the County Council can arrange for the work to be carried out and for any associated costs, including administration and supervision, to be charged to you. However, I trust that it will not be necessary to resort to this procedure.

If you have any questions relating to the above matter, you are welcome to contact us on the telephone number at the top of this letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

STANDARD LETTER: A4.10 OBSTRUCTION PLACED AT THE EDGE OF THE HIGHWAY: FOLLOW UP LETTER

Our Ref

Your Ref

Date

Dear Sir/Madam,

NOTIFICATION OF OBSTRUCTION PLACED AT THE EDGE OF THE HIGHWAY: HIGHWAYS ACT 1980 – SECTION 143

I wrote to you on **(Date)** to explain my concerns regarding the obstruction(**s**) placed adjacent to your property on highway land which pose(**s**) a potential danger to road users.

Since I have not heard from you regarding your arrangements for dealing with the obstruction(**s**), I would be grateful if you could advise me, without further delay, of what action you propose to take.

This correspondence is Formal Notice under Section 143 of the Highways Act 1980, the Statutory Notice in this respect is enclosed. Failure to act on this Notice within 28 days, will entitle the County Council to enter your land and take the necessary action on a rechargeable basis. You have the right to appeal to the local Magistrates Court against this Notice.

If you have any questions about the above matter, you are welcome to contact us on the telephone number at the head of this letter.

Finally, please may I thank you in anticipation of your co-operation in dealing with the above matter in a prompt manner.

Yours faithfully,

STANDARD LETTER: A4.11 BLOCKED DRAINAGE DITCHES ADJACENT TO THE HIGHWAY

Our Ref

Your Ref

date

Dear Sir/Madam,

BLOCKED DRAINAGE DITCH(ES) ADJACENT TO THE HIGHWAY
.....LOCATION.....

During routine highway inspections within your area, it has been noted that the ditch(es) alongside (.....Location...) have become (**silted/blocked/overgrown**) and this is preventing the proper drainage of the highway.

Whilst the County Council does not normally own the ditches adjacent to the highway, under the provision of the Highways Act 1980 we have the right to channel highway surface water into these ditches and we can also request the landowner concerned to make sure that the ditches are maintained in a free-flowing condition.

I understand that you are the owner of the ditch(es) in question and therefore, I would be grateful if you would arrange for the necessary maintenance work to be carried out and advise me of the associated timescale. If you believe that the ditch(es) (**is/are**) not owned by you, please let me know and if possible let me have the name and address of the owner.

If you have any questions relating to the above matter, you are welcome to contact me on the telephone number at the top of the letter.

Finally, please may I thank you for your co-operation in this matter.

Yours faithfully,

STANDARD LETTER: A4.12 DEFECT RECORDING FORM

Staffordshire County Council		DEFECT RECORDING FORM	
Type of Inspection		Name of Inspector	
Routine (on passing)		Date Identified	
Third Party Report / Complaint		Time Identified	
Third Party Ref No (Clarence, Police Ref, etc)		Detailed Location	
Sample/Policy Inspection		Prior to registration NSG, road no. and grid refs must be confirmed and added to these details	
RMS Defect Ref No.:		Carriageway	
(Safety Inspector enters RMS Defect No.)		Footway	
(Network Inspector enters 'his')		Verge	
Responsible Party Name		Is this a Sc.81 Apparatus Defect?	
(note their ref for the defect here if obtained)		Notice or Permit No.	
Detailed Description of Defect		Tick here if unregistered	
DEFECTIVE ITEMS (tick items contributing to defect and ensure detailed in description)			
PROTECTIONS (In progress works / activity)	EXCAVATIONS (Backfill and reinstatement)	REINSTATEMENT QUALITY (Profile and structure)	CONSEQL DAMAGE, Sc 81's & MISC (After works / activity, apparatus defects)
Reflective Markers / Tape	Apparatus surround	Edge depression	Damage to highway detail in description
Promoter / Owner Details	Material	Edge cracking	Reinstatement of markings/lines
Incorrect placement (obstruction)	Compaction	Surface depression	Reinstatement of special surfaces
Signs	Sub-base	Crowning	Topsoil and seed
Lights	Base (Roadbase)	Texture depth	Insufficient trim back
Barriers	Binder Course (Basecourse)	Surface regularity	Equipment/spoil left on site
Distance	Surface Course (Wearing Course)	Structure	Apparatus:
Safety Zone	Other (see description of defect)	As laid profile	Cracked lids
Traffic Control		Unacceptable overbanding	Missing/broken lids
Pedestrian Control		Other (see description of defect)	Sunken frame and cover
Unsatisfactory progress of works			Rocking frame and cover
Other (see description of defect)			Worn smooth cover
			Other (see description of defect)
CATEGORISATION OF DEFECT (determine response time and repair due by date using Safety CoP)			
Category 1 Dangerous Defect (2hr - 24hr response)	Category 2 High Risk Defect (7 day response)	Category 2 - Medium Risk Defect (28 day repair)	Category 2 - Low Risk Defect (Combine with programmed works)
Comments:	Comments:	Comments:	Comments:
Please note: Dangerous and high risk defects require the highway authority to either stay on site or make safe.			
Actions taken to fulfill duty of care (where the defect is dangerous):			
Date repair due by: (where made safe, enter date permanent repair required)			
Two photographs must be taken of the defect - one showing the defect detail and scale (i.e. tape measure) and one to locate the defect (put in perspective to surrounding area)			
A third photograph will be required for dangerous defects that have been made safe either by the highway authority or third party			

APPENDIX 5

Guidelines on the Recognition of Hazardous Trees

The leaflet reproduced on the following pages gives general guidance on the most common signs that a tree has become unsound.

There is no absolute duty on a highway authority to inspect all its own trees, nor is there any duty on it to inspect roadside trees on private land. However, where a tree belonging to a highway authority is clearly defective, the highway authority is at risk of legal action if it knows, or ought to have seen, that the tree in question could be dangerous. Even when an accident has not occurred, a highway authority could be held liable for a failure to prevent a nuisance (i.e. a dangerous tree).

In the case of privately owned trees, whilst there is no legal obligation for the highway authority to survey these, where a dangerous tree is noted on private land which is within falling distance of the highway boundary, to minimise liability for any negligence, the authority will clearly be in a stronger position if it informs owners that they have a dangerous tree. This should be done using the standard letter contained in the County Highways Network Management Policy Document.

As part of the highway inspection process, Inspectors should, therefore, make a note of any obviously dead, dying or dangerous trees, whether within the highway, or within falling distance of the highway.

The following situations should be noted:-

- Accident damage
- Damage associated with utility works or other roadworks
- Large branches partially broken
- If the tree is in leaf, any obvious signs of wilting or die-back
- Damage to footways, kerbs and street furniture, caused by roots
- Branches overhanging the carriageway which are likely to impede the movement of high sided vehicles.
(**N.B.** The minimum clearance should be 5.1m).
- Branches overhanging the footway which are likely to impede the movement of pedestrians.
(**N.B.** The minimum clearance should be 2.1m).
- Branches overhanging the cycleway which are likely to impede the movement of cyclists.
(**N.B.** The minimum clearance should be 2.4m).

Liability of tree owners

Where a tree shows external evidence of decay or structural weakness the owner of the land on which it stands is normally liable for any damage it causes by breaking or falling. The Courts expect owners to inspect their trees regularly and obtain specialist guidance on interpretation of symptoms and assessment of tree safety.

N.B. With certain exceptions, it is an offence to fell or prune a tree:

subject to a Tree Preservation Order* without the permission of the local planning authority that made the order;
in a Conservation Area* without giving the local planning authority 6 weeks notification of intention to do the work.
In addition, and also with certain exceptions, it is an offence to fell trees without having first obtained a Felling Licence† from the Forestry Commission.

If in any doubt, and before starting the work, check first with the local planning authority and Forestry Commission's local offices as contravention of these requirements could result in a substantial fine.

Inspection

Annual inspections of trees are best made in September or early October, preferably on clear days. At this time fresh fungal fruit bodies are most likely to be present (but look out for old, dead fruit bodies at any time of year) and, in most tree species, crown symptoms will not have been unduly obscured by autumn colouration and leaf fall. Immediate inspections should be made when it is suspected that trees are dangerous. If such trees are not to be felled immediately they should be re-inspected in the autumn. Binoculars are essential for adequate examination of large trees.

Following a visual inspection possible action includes:

- identification of any fruit bodies found on the tree or near its base;
- excavation and examination of the roots if decay is suspected;
- use of Pressler borer or Shigometer to check the extent of any internal decay.

If decay is found but there are no associated fungal fruit bodies, wood samples may be submitted to a laboratory where the cause of decay can be investigated further. However, given the presence of decay in a tree, its precise cause may well be irrelevant to assessing the risk.

Risk assessment

In assessing the hazards posed by a tree the following points should be considered.

- Location of the tree in relation to the presence of people, buildings, etc.
- Species of tree. Some trees are known to be able to 'tolerate' amounts of decay that are regularly associated with collapse of other species.
- Type and location of decay. Some fungi, especially root and butt rotting species, are so frequently associated with tree collapse that merely their presence should be regarded as an indication that the tree is dangerous.
- Severity of symptoms and degree of structural weakness.
- Length of time during which symptoms have been evident.

To render a dangerous tree safe

Trees with rotten roots and hollow stems usually need felling, although this may sometimes be avoided if people can be excluded from the vicinity and property is not at risk. Branches weakened by decay may be pruned. Structural weaknesses in a tree may be pruned out or supported with braces or props.

Sources of advice

Assistance can be obtained from people with varying degrees of specialism. Qualified arboriculturists are employed by many local authorities and some government departments. The Arboricultural Association and the Institute of Chartered Foresters maintain lists of consultants who have experience in assessing tree safety. General information on questions of tree health and safety can be obtained from the Arboricultural Advisory and Information Service funded by the Department of the Environment and operating from the Forestry Commission's Forest Research Station.

Your local Forestry Commission office (listed in the telephone directory) will be pleased to advise you on Felling Licence requirements and you should approach your local planning authority with any enquiries about Tree Preservation Orders and Conservation Areas.

Further information can be found in: *The External Signs of Decay in Trees*, Arboricultural Leaflet 1 (2nd edition, 1984). HMSO, £1.00.

† *Control of Tree Felling*, a free leaflet available at any Forestry Commission office.

* *Protected Trees – a guide to tree preservation procedures*, a free leaflet issued by the Department of the Environment and available from your local planning authority or from the Arboricultural Advisory Service address below.

Addresses

Arboricultural Association, Ampfield House, Ampfield, Nr Romsey, Hants SO51 9PA
(Telephone: Braishfield (0794) 68717).

Institute of Chartered Foresters, 22 Walker Street, Edinburgh EH3 7HR
(Telephone: 031-225 2705).

Arboricultural Advisory and Information Service, Forest Research Station, Alice Holt Lodge, Wrecclesham, Farnham, Surrey GU10 4LH
(Telephone: Bentley (0420) 22255).

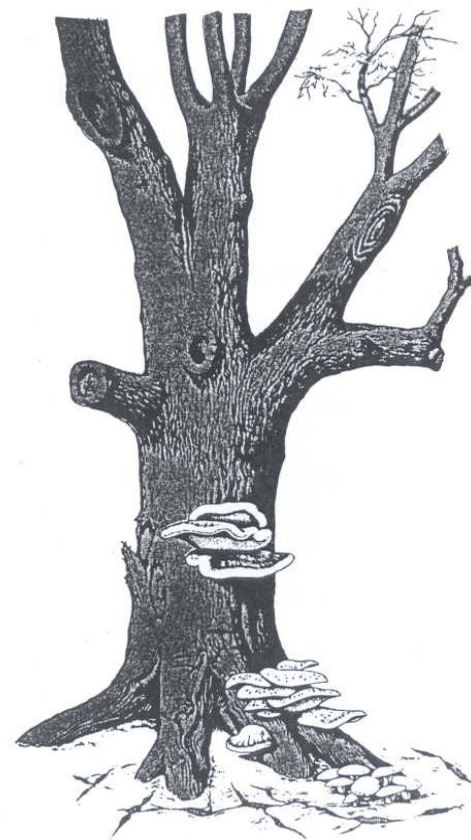
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The Recognition of Hazardous Trees



Forestry Commission

The Recognition of Hazardous Trees

Pollards

Often indicated by a sudden change in stem diameter. Decay may be present but hidden by regrowth.

Break-out cavity

Decay may develop in wounds caused by branches breaking.

Weak fork

V-shaped crotches are structurally weak and decay may develop in them.

Pruning wound cavities

A layer of paint (if present) may appear to be sound but decay may have developed in the wood.

Loose bark

Bark coming away from stem may indicate the presence of rotten wood beneath.

Basal cavities

These are particularly dangerous if present between more than one pair of buttresses.

Damaged roots

Site disturbance or poor soil conditions may lead to restricted rooting.

Crown dieback. Foliage small, sparse or pale. Tree flushes late or drops its leaves early

These symptoms often indicate root damage or decay.

Perennial or target canker

Such cankers may result in weakness of branch or stem.

Abrupt bends

Resulting from pruning in the past. Decay may be present.

Fungal fruit bodies

Bracket fungi on the stem are a positive indication of internal decay. Fruit bodies on or near roots may also indicate decay but many harmless or beneficial toadstools also grow near roots.

Soil cracks

Heaving of ground may occur when a tree with an unstable root system moves in a wind.

