

Agenda Item	6
Report No	NC/13/20

HIGHLAND COUNCIL

Committee: Nairn Area Committee

Date: 02 December 2020

Report Title: Area Road Structures Annual Report 2019/20

Report By: Executive Chief Officer Infrastructure and Environment

1. PURPOSE/EXECUTIVE SUMMARY

1.1 This report provides an Area update on the inspection regime and the work undertaken as part of the overall Structures Programme for the 2019/20 financial year.

2. RECOMMENDATIONS

2.1 Members are asked to note the contents of the report.

3. IMPLICATIONS

3.1 **Resource** – There is still a local backlog of work, but the rolling programme will be added to annually as inspections are completed.

3.2 **Legal** - The Highland Council has a duty to maintain structures to a reasonable standard and to manage risk effectively.

3.3 **Community (Equality, Poverty, Rural and Island)** - Due to the geographic nature of the Highlands, many structures are in remote areas where failure may result in communities being cut off or having to travel significant distances via alternative routes.

3.4 **Climate Change / Carbon Clever** - There are no known Climate Change / Carbon Clever, implications arising as a direct result of this report. Although improving road structures is unlikely to have a significant effect on carbon emissions, keeping the road network in a condition which allows the free flow of traffic will assist in reducing them.

3.5 **Risk** - Although not specifically mentioned in CR10 Condition of our Roads, structures are a vital part of the road network and require active management.

3.6 **Gaelic** - There are no known Gaelic implications arising as a direct result of this report.

4. STRUCTURES ASSETS

4.1 This report applies only to structures which are considered to be part of the adopted road network under the Roads (Scotland) Act 1984 and are the responsibility of The Highland Council. It does not include structures that are the responsibility of other Council Services or those owned by other parties which are part of the adopted road network.

4.2 The term ‘road structure’ is used to describe bridges, culverts, retaining walls and cattle grids. A breakdown of The Highland Council owned/maintained road structure numbers per Operational Area is shown in **Table 1** below (as at 20/08/20). It is important to note that footbridges which are part of the adopted road are also included.

4.2.1 **Table 1: Adopted Road Structures per Operational Area**

Area	Bridges (5.0m plus)	Bridges (under 5.0m)	Minor Culverts	Retaining Walls	Cattle Grids
Badenoch & Strathspey	60	56	14	23	16
Caithness	33	98	18	18	27
Inverness	112	131	79	160	40
Lochaber	126	176	78	217	82
Nairn	26	30	7	20	4
Ross & Cromarty	145	201	93	251	79
Skye & Lochalsh*	87	133	64	139	202
Sutherland	146	269	77	248	146

* Includes Lochalsh area – database to be updated.

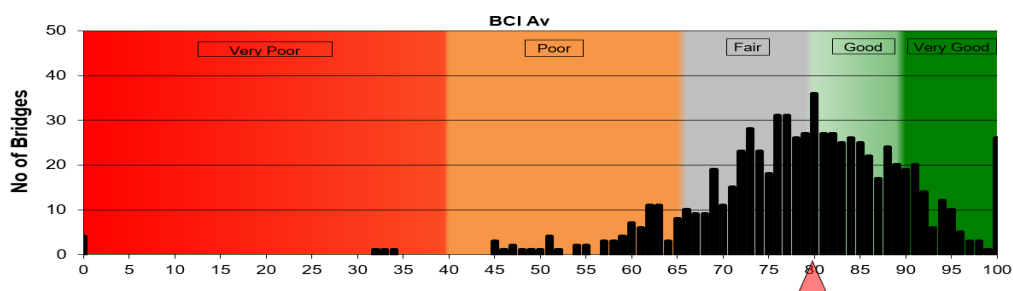
5. FINANCE

5.1 A decision was made for 2017/18 to remove the costs for Principal Inspections (PIs) from Area revenue budgets. This removes the annual fluctuation in the Bridges Structural Maintenance budget for each Area which was dependent on the number of Principal Inspections that required to be completed.

5.2 The replacement and maintenance of structures is funded from either Capital or Revenue budgets. As would be expected, Area revenue budgets are used to effect relatively small repairs, maintenance or minor replacements, in comparison to Capital works. The Nairn Area revenue budget for 2019/20 was £11,532.

6. BRIDGE STOCK CONDITION

6.1 As inspections are completed, information gathered is used to calculate the Bridge Stock Condition Index (BSCI). Currently, principal inspection results are used as they generate a condition score for each bridge >5m. The 2019/20 Highland BSCI average is 79.0 and BSCI critical is 64.0. The distribution of BCI average values for each bridge which has had a PI are shown in the diagram.



6.2 There are 12 bridges identified in Nairn Area with an index below 65. These are listed in **Table 2** below. This represents nearly half of the 26 Nairn Area bridges

which are over 20m in length, and they continue to be monitored. Their locations are shown in the map in **Appendix A**.

6.2.1 **Table 2: Nairn Area bridges scoring below BCI 65**

Bridge Name	Overall Length of Structure (m)
Blar An Dualt	5.2
Howford	36.8
Cawdor	19
Whitebridge	20.9
Dulsie	56
Highland Boath	11.5
Keppernach Ford	8
Daltullich* <small>shared with Moray Council</small>	22.3
Carnoch Burn 1	5.6
Leacainn No2	8.5
Drynachan	12.5
Nairn Harbour	57.9

7. STRUCTURES INSPECTION PROGRAMME

7.1 There are several types of inspections undertaken on structures. These include General and Principal Inspections (GIs and PIs). Currently, PIs are undertaken by the Structures Section of the Project Design Unit (PDU) on bridges with an overall length of 5m or more. PIs are a more detailed inspection, compared to a GI. The Area Structures Technicians, along with other Area staff when necessary, will undertake the majority of GIs. Some GIs on the larger structures (20m length or more) will be completed by the Structures Section (PDU). The Area Structures Technicians will assist the Structures Section in completing inspections whenever possible.

7.2 Members approved the 'Structures Inspections' policy at EDI committee in August 2019 to move towards a risk-based approach to inspections. Inspections are generally undertaken within a calendar, rather than financial year. This is to allow for programming.

8. 2019/20 NAIRN AREA PRINCIPAL INSPECTION PROGRAMME UPDATE

8.1 For 2019/20, 4 bridges were programmed for Principal Inspections. Members are reminded that the PDU Structures Section undertakes these inspections.

8.2 At the end of March 2020, 4 bridges had been inspected. This is a completion rate of 100%. The bridges inspected are listed in **Appendix B** by area.

9. 2019/20 NAIRN AREA GENERAL INSPECTIONS PROGRAMME UPDATE

9.1 The Nairn Area General Inspections (GI) completed in 2019/20 by the Area Structures Technician are recorded in **Table 3** below. These comprise programmed and backlog general inspections:

9.1.1 Table 3: Nairn Area GI 2019/2020

Bridge ID Number	Bridge Name
B91010010	Raitloan
B91010010C67	Un-named
B91119910	Kinnudie
C11540070C44	Blarandualt
A09390110	Littlemill
A09390120	Blar An Dualt
U31510010	Achindown
U32080019	Tirforgrean
C11540070	Bruachmary
U11690020	Barevan
C10520000C49	Galcantray
B90900030	Cawdor
U30620010	Milton of Moyness
C11570020	Muckle Burn
U31010010	Carnoch Burn 1
A09390080	Bridge of Dava
F00000160	Cawdor Village
U32080010	Drynachan
U11690030	Glengeoullie
U31140010	Leacainn No2

9.2 This does not include ad-hoc inspections, which take place in response to complaints, for asset management, work programming, or responding to weather events for example.

9.3 Area Structures Technicians carry out the Area General Inspections. There are 4 area Structures Technicians covering the Highlands. They are now established in post, since commencement around May 2019, bringing The Highland Council's inspection regime back on programme. 100% of the planned 11 Nairn Area General Inspections were completed. Also, the backlog of Nairn Area General Inspections is significantly improved; 10 were undertaken in 2019/20 and there are 9 remaining.

10. INSPECTION FREQUENCY

10.1 General Inspections are undertaken on a risk-based inspection cycle of either two or three years, as approved at the November 2018 EDI Committee (report EDI/81/18). The risk-based inspection intervals are dependent on condition, exposure and risk of deterioration as set out in the guidance issued by the Society of Chief Officers of Transportation in Scotland (SCOTS).

10.2 Principal Inspections are undertaken at 6, 9, or 12-year intervals on the same basis.

11. NAIRN AREA BRIDGE WORKS

11.1 Following inspections, staff duties include: -

- Compiling lists of work to be undertaken;
- Designing and supervising repairs and maintenance works;
- Approving design work;
- Award of contract for any works externally sourced; and
- Compliance with industry and quality assurance procedures.

- 11.2 Various minor works to bridges that are undertaken from the area budget, and generally do not include expensive structural repairs or large scaffolding requirements, include: -
- Steel, masonry or concrete parapet repairs (e.g. after Road Traffic Collision bridge-strike accidents)
 - Wing-wall or abutments repairs (e.g. to concrete or founds)
 - Bridge deck cleaning, drainage and repairs (e.g. pothole patching)
 - Removal of weeds, vegetation, tree-logs and flood-debris
 - Masonry pointing (e.g. winter frost damage)
 - Timber parapet repairs and maintenance (e.g. hand-rail replacement)

- 11.3 Nairn Area bridges minor works identified in 2019/20 include those listed in **Table 4** below: -

11.3.1 **Table 4 – Nairn Area Bridge Works**

Bridge	Works	Indicative Cost
Drynachan	Deck repair	£10,000
Dulsie	Masonry parapet pointing	£6,000
Daltullich	Masonry parapet repair and pointing	£13,000
Millhill	Masonry parapet repair and pointing	£3,000
Stockdhu	Masonry parapet repair and pointing	£3,000
Wester Barevan	Masonry parapet pointing	£3,000

- 11.4 Major Works – The new Whitebridge project funded by The Highland Council Capital Programme was delivered by the PDU and the new bridge successfully opened to the travelling public on 26 May 2019. The old Whitebridge is now pedestrianised (it also has minor masonry pointing works identified).

- 11.5 As stated in 6.1 of this report, completed inspections continue to inform the area bridge stock condition, and this highlights the requirement for further works and funding.

12 OTHER STRUCTURES

- 12.1 An inspection programme for all other structures (retaining walls, large culverts, cattle grids) is being prepared based on a three-yearly cycle of inspections and will be implemented in phases.
- 12.2 Significant clearing work was undertaken to remove vegetation growth from the banks adjacent to the large Lochdhu culvert (Moss-side Road opposite the Co-op store) in January 2020. These works comprised Watercourse Maintenance (rather than structural maintenance).
- 12.3 The condition of Nairn cattle grids is currently good, with no imminent replacements required. Drynachan cattle grid was renewed in 2018/19.
- 12.4 Area Structures Technicians will also assist in the inspection of Coastal Defences and Road Restraint Systems (RRS, safety barriers).

Date: 12 November 2020

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Appendices: Appendix A – Nairn Area Bridges Map
Appendix B - 2019/20 Principal Inspection Programme – Nairn

Background Papers: TEC 77/13 Cattle and Deer Grids Policy
COM 58/15 Bridges and Road Structures
EDI 23/17 Road Structures Annual Report
EDI 81/18 Road Structures Annual Report
EDI 61/19 Risk Based Approach to Structures Inspections
EDI 83/19 Road Structures Annual Report
NAC 1719 Area Roads & Bridges Progress Report 18/19
AS 16/19 Six-monthly Review of Corporate Risks, (CR10)

Appendix A



2019/20 Principal Inspection Programme – Nairn

Structure Ref	Name
B90900020	HOWFORD
B90900030	CAWDOR
C11540010	TOMLACHLAN
C11540060	HIGHLAND BOATH