

Drainage

Council Policy Number

135

Date adopted

16 February 2022

Scheduled for review

February 2026



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1. Preamble

Campaspe Shire Council (Council) has overarching objectives to become 'Water Sensitive', to minimise flooding and nuisance, and to improve stormwater quality prior to discharge into our stormwater system and the environment.

2. Purpose

To enable Council, in consultation with the community, to set sustainable and affordable Levels of Service.

To provide a framework to consider future drainage works and how they will be prioritised and funded.

To assist Council manage its legal drainage obligations.

3. Definitions

| | |
|-----------------------------|--|
| Benefit Cost Ratio | An assessment based on the benefit in reducing or eliminating impacts of a drainage system by providing an upgrade of that system versus the costs of the upgrade works. The impacts to be included in the assessment may include direct infrastructure repair costs, environment, public health and safety, public image, liability for damage, business costs and/or loss of service to customers. |
| Dwelling | A structure in which people reside. This includes such structures as a house, a unit, residential accommodation but does not include sheds, garages, verandas whether or not they are attached or not to a structure in which people reside. |
| High or Extreme Risk | Is the risk resulting from an assessment against the Risk Assessment Methodology and is the combination of likelihood and consequence of a particular event occurring resulting in the risk rating "HIGH" (H) or "Extreme" (E). |
| Level of Service | For drainage refers to the actual Standard of Service provided, in a particular location or area. |
| Minor Drainage Projects | Projects meeting the criteria for works that have an estimated cost of less than \$10,000. |
| Risk Assessment Methodology | An assessment approach for drainage issues based on likelihood of an event occurring and the consequences of the event of that event occurring. Consequences potentially include public safety, damage to property, damage to environment, damage to reputation and affects on community wellbeing. |
| Standard of Service | Is the standard of service as defined by a 5 Star rating system with reference to a particular Annual Exceedance Probability as set out in Clause 4.1. |
| Table Drains | Open earthen drains alongside a road to provide drainage for the road and ensure the road formation does not adversely impact on drainage of the land in the area. |

| | |
|-----------------|--|
| Urban Areas | For the purposes of this policy urban areas relate to all parts of the municipality zoned as residential, low density residential, business, industrial and township zones. |
| Water Sensitive | The knowledge and desire to make wise choices about water and an understanding of the value of our waterways and the value of fit for use water. It ensures that urban water management is sensitive to natural hydrological and ecological processes. |
| WSUD | Water Sensitive Urban Design is an approach to minimise harmful effects to the environment when designing drainage systems. |

4. Policy Statement

Council will meet its legal obligations in relation to drainage.

Council will use the powers provided to it under the *Local Government Act 2020* in the provision of drainage systems for the community.

The cost of new or upgraded drainage systems should be met by benefitting landowners.

Council has limited resources and therefore will investigate and resource works in accordance with a Risk Assessment Methodology and a Benefit Cost Ratio assessment to prioritise which drainage issues will be investigated.

4.1. Council's Drainage Roles and Responsibilities

Council has three roles and/or responsibilities in drainage:

- a. Compliance
Under Section 16 of the *Water Act 1989* Council (as a landowner) is not to allow unreasonable water flow from its land (including infrastructure) that is likely to cause damage or loss to other persons.
- b. Provision of Drainage Systems
Under the *Local Government Act 2020*, Council has powers to provide drainage systems for the benefit of the community. Typically, this applies to urban developed land.
- c. Statutory Responsibilities
Council has statutory responsibilities to administer its planning scheme, which contains requirements that relate to drainage impacts (e.g. earthworks in rural land), development contributions and planning permit conditions to ensure that developers provide adequate drainage system. Under the Building Regulations 2018, Council has responsibilities for nominating drainage discharge points. Planning and building regulations have their own processes for Council to address those matters, they are not canvassed in this Policy.

4.2. Standards of Service

Council will use a five-star rating system to define Standards of Service when it provides a drainage system to drain private land. Accordingly, this usually occurs in urban areas only as Council rarely provides drainage systems in rural areas.

4.3. Table Drains

Council is committed to:

- a. Meeting its legal obligations, by considering each case brought forward by the community and responding accordingly.
- b. Reviewing the practice of allowing table drains to be constructed as part of the provision of infrastructure for low density residential developments.
- c. Informing the public about the purpose of table drains and Council's responsibilities.

4.4. Assessment of Drainage Issues

An applicant may report any drainage issue to Council at any time and Council will register the issue, to be processed in accordance with this policy.

Should a significant number of drainage issues be reported to Council over a short period of time, Council will prioritise the order of required investigations.

Once a particular initial investigation is concluded, further consideration and/or action on the matter will only proceed when the impacts are related to Council's infrastructure.

4.5. Funding

Funding for the provision and/or upgrade of drainage systems for the community will be through one or more of the following methods:

- a. Developers, through development contribution arrangements and planning permit requirements.
- b. Agreement by all parties to fund the works.
- c. A special rate or charge scheme, under the provisions of the *Local Government Act 2020* and Council Policy 134 - Rates and Charges.
- d. Grants, if they become available.
- e. Funds that are specifically allocated by Council, to fully or partially fund works, after consideration of an Officer report if it is not considered reasonable to only charge benefitting landowners.

The priority of drainage projects (and consequently the allocation of any Council funds) will be prioritised in accordance with each project's Benefit Cost Ratio.

Minor drainage projects will be fully funded by Council, also prioritised in accordance with each project's Benefit Cost Ratio.

5. Exclusions

Nil

6. Human Rights

This policy has considered and complies with the Human Rights and Responsibilities contained in the Victorian Charter of *Human Rights and Responsibilities Act 2006*.

7. Related Legislation

Building Regulations 2018

Local Government Act 2020

Water Act 1989

8. Related Policies, Procedures and Strategies

Australian Rainfall and Runoff Engineering Handbook: is the code of practice for estimating and calculating rainfall when assessing drainage systems.

Preparing for Climate Change in the Shire of Campaspe: Council's adopted Climate Change Strategy.

9. Attachments

PR 146 Drainage

10. Review Period

Four years

Responsible officer

Manager Assets


11. Administrative Updates

It is recognised that, from time to time, circumstances may change leading to the need for minor administrative changes to this document. Where an update does not materially alter the policy, such a change may be made administratively. Examples include a change to the name of a Council department, a change to the name of a Federal or State Government department, and a minor update to legislation which does not have a material impact. However, any change or update which materially alters this document must be by resolution of Council.

12. Approval History

Revised 16 February 2022

Minute Book Reference No 5 (Item 9.1)

Chief Executive Officer: 

Date: 21/2/2022

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| Procedure Number | 146 |
| Date adopted | 16 February 2022 |
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Purpose

To provide a framework to consider future drainage works and how they will be prioritised and funded.

Definitions

| | |
|--|---|
| Annual Exceedance Probability (AEP) | Is the probability that a given discharge of stormwater is exceeded in any particular year. This is normally expressed in % terms i.e. 1% AEP means that the runoff resulting from a 100 year ARI has a 1% chance of being equalled or exceeded in any single year. |
| Average Recurrence Interval (ARI) | The average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration. For example, a 10 year flood has a $1/10 = 0.1$ or 10% chance of being exceeded in any one year and a 50-year flood has a 0.02 or 2% chance of being exceeded in any one year. |
| Commercial or Industrial premises | Includes any structure in which a commercial or industrial business is conducted from including offices, shops, retail business, manufacturing areas that are located on appropriately zoned land for that use in the Campaspe Planning Scheme. This definition does not include a premise that is operating outside the Planning/Building framework. |
| High Risk or Greater | Is the risk resulting from an assessment against the Risk Assessment Methodology and is the combination of likelihood and consequence of a particular event occurring resulting in the risk rating "HIGH" (H) or "Extreme" (E). |
| Risk Assessment Methodology | An assessment approach for drainage issues based on likelihood of an event occurring and the consequences of the event of that event occurring. Consequences potentially include public safety, damage to property, damage to environment, damage to reputation and effects on community wellbeing. |
| WSUD | Water Sensitive Urban Design is an approach to minimise harmful effects to the environment when designing drainage systems. |

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Procedure Statement

This procedure must be read by staff in conjunction with Council's Policy 135 – Drainage.

As a general rule, the cost of new or upgraded drainage systems will be met by benefitting landowners.

Council has limited resources and therefore will investigate and resource works in accordance with a Risk Assessment Methodology and a Benefit Cost Ratio assessment in order to prioritise which drainage issues will be investigated. This policy will set the mark at which Council must consider action to improve drainage infrastructure.

1. Compliance – Council and its legal responsibilities and obligations

Section 16 of the *Water Act 1989* identifies the potential liability resulting from the unreasonable flow of water from land (including infrastructure) belonging to or under the management of Council onto any other land, where that flow causes or is likely to cause damage or injury to persons or property or causes a person to suffer economic loss.

Council is committed to ensuring compliance with legislation through:

- a. Ensuring that complaints and requests for service are assessed against compliance requirements of various Acts, Regulations and Codes of Practice and, if appropriate, a risk assessment of the issue will be undertaken. Council will utilise the Risk Assessment Methodology to determine whether works should be initiated.
- b. Ensuring that any new Council constructed roads and other infrastructure are designed and constructed so that any unreasonable drainage impacts on adjoining land and on the receiving waters is minimised.

Funding of remedial works to meet compliance obligations may be sourced by Council from grants, benefiting landowners, or direct Council funding as appropriate and approved by Council. Projects under this program will be prioritised using a Benefit Cost Ratio assessment.

2. Provision of Drainage Systems

Council provides and maintains drainage infrastructure mainly in urban areas, less commonly in rural areas. The types of drainage infrastructure provided includes:

Urban

- a. Underground piped drains.
- b. Open drains.
- c. Pump stations.
- d. Retardation basins.
- e. Wetlands.
- f. Gross Pollutant Traps.
- g. Litter traps.
- h. Outfall structures.

Rural

- a. Open earthen drains in Council drainage reserves or easements.
- b. Outfall structures.

Council will endeavour to achieve levels of drainage services that are sustainable, affordable and consistent with community expectations.

It will pursue these objectives by:

- a. Developing Standards of Service using a Star Rating System.
- b. Developing targeted Levels of Service, in consultation with the community, taking into consideration the affordability of each Level of Service.
- c. Informing the community about Council and landowner drainage responsibilities.
- d. Developing a Risk Assessment model to determine when Council resources should be deployed.

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- e. Developing a funding model and prioritisation process, based on a Benefit Cost Ratio assessment, for the provision of drainage upgrades.
- f. Considering the projected impacts of climate change in designing and maintaining drainage infrastructure, and in reviewing levels of service.

3. Standards of Service

Council will use a five-star rating system to define Standards of Service when it has provided a drainage system to drain private land. This usually occurs in urban areas only; Council rarely provides drainage systems in rural areas.

The star ratings are based on the probability that a rainfall event will exceed a specified rainfall event. The Annual Exceedance Probability (AEP) is the probability of exceeding that specified event within any one year.

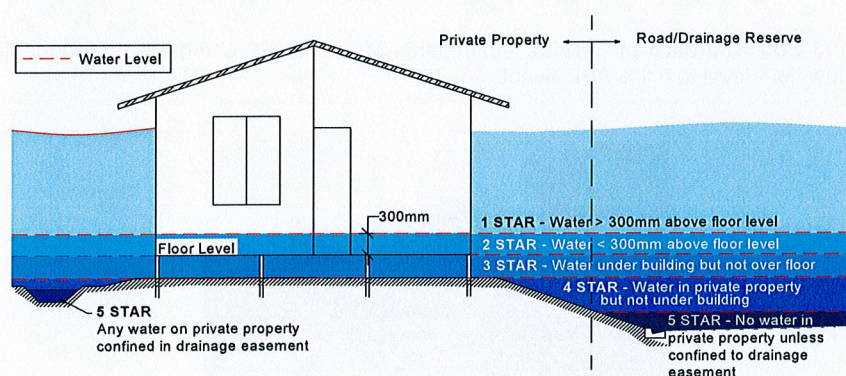
The Standards of Service in this policy are only applied to privately owned land and do not include roads or streets.

Table 1: Standard of Service for Urban Areas

| Standard of Service | Urban Areas |
|---------------------|--|
| 5 Star | A 1% chance of property inundation in any year. |
| 4 Star | A 1% chance of inundation of property but no water lapping or under a dwelling or commercial or industrial premises in any year. |
| 3 Star | A 1% chance of a dwelling or commercial or industrial premises having inundation below floor level in any year. |
| 2 Star | A 1% chance of inundation of dwelling or commercial or industrial premises up to 300mm above floor level in any year. |
| 1 Star | A 1% chance of inundation of dwelling or commercial or industrial premises 300mm or higher above floor level in any one year. |

The above Standards of Service for dwelling and commercial and industrial premises are represented in Figure 1 Standards of Drainage Service.

Figure 1: Standard of Service



To assist understand the Standards of Service for dwellings, commercial and industrial premises are also shown by photographic examples in Figures 2 to 6 below. These photographs are provided for guidance purposes only.

Figure 2: 5 Star Standard of Service - No inundation of property in a 1% AEP (water contained within Road Reserve).



Figure 3: 4 Star Standard of Service - Inundation of property but no water lapping or under dwelling or commercial or industrial premises in a 1% AEP.



Figure 4: 3 Star Standard of Service - Inundation of dwelling or commercial or industrial premises, water below floor level in a 1% AEP event.



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Figure 5: 2 Star Standard of Service - Inundation of dwelling or commercial or industrial premises, water up to 300mm above floor level in a 1% AEP event.



Figure 6: 1 Star Standard of Service - Inundation of dwelling or commercial or industrial premises, water greater than 300mm above floor level in a 1% AEP event.



4. Current Levels of Service

Council has carried out a desktop analysis to estimate the current Levels of Service being provided in the particular urban areas of the municipality (Table 2).

This estimation has the purpose of providing context to assist in understanding the policy. The estimation is not based on modelling studies and is provided for guidance purposes only.

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Table 2: Estimated Current Level of Service – Urban Areas

| Urban Area | Level of Service for Urban Drainage Systems excluding Riverine Flooding | | |
|-------------|---|--|--|
| | CBD areas (property) | Industrial areas (property) | Residential areas (property) |
| Echuca | 4 Star | New areas 4 Star, isolated industrial premises 3 Star | New areas 4 Star, old areas generally 4 Star, isolated dwellings 3 Star |
| Kyabram | Isolated commercial premises 1, 2 or 3 Star, remainder 4 Star | Isolated industrial premises 2 Star, others and newer Council areas 4 Star | 9 dwellings 2 Star, isolated dwellings 4 Star, majority 5 Star |
| Rochester | 4 Star | 4 Star | Possibly isolated dwellings 3 Star, generally 4 Star |
| Tongala | N/A | 5 Star within town boundary | 5 Star |
| Rushworth | N/A | N/A | 2 commercial premises 1 Star, isolated dwellings 3 Star, majority 4 Star |
| Stanhope | No data | No data | No data |
| Girgarre | N/A | N/A | 5 Star |
| Lockington | N/A | N/A | 4 Star |
| Colbinabbin | N/A | N/A | 1 commercial premises 2 Star, remainder 4 Star |
| Gunbower | No data | No data | No data |

5. Levels of Service in Urban Areas

Council undertakes that in the provision of drainage services for urban properties that:

- Existing Levels of Service will be maintained.
- It will target the achievement of a Level of Service of 4 Star for existing dwellings, commercial and industrial premises within its urban areas.

The Level of Service required for all new development within the municipality is 5 Star.

6. Impact of Climate Change

"Preparing for Climate Change in the Shire of Campaspe" ("**Climate Change Strategy**") prepared in 2009 identified the following impacts on Council's drainage system:

- Reduced rainfall in all seasons, with the greatest decrease expected to occur in spring and winter. Annual average rainfall is projected to fall between 6% and 11% by 2070 and occur on fewer rainy days.
- Extreme rainfall and other storm events that are more intense.
- Capacity of stormwater systems exceeded, with resulting damage to Council and private assets.

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Council through the adoption of the Climate Change Strategy is committed to:

- a. Review stormwater management planning in light of projected climate change and the revised *Australian Rainfall and Runoff Engineering Handbook*.
- b. Revise infrastructure planning as required in light of changes to designs for predicted storm events.
- c. Prioritise investment to balance Level of Service expectations with resources.
- d. Incorporate WSUD to improve the quality of stormwater discharge to outfalls.

7. Assessment of Drainage Issues

Should a significant number of drainage issues be reported to Council over a short period of time then Council will prioritise the required investigations.

Once a particular initial investigation is concluded further consideration and/or action on the matter will only proceed where the impacts are related to Council infrastructure and:

- a. in an urban area, the existing Level of Service for the relevant dwelling, commercial or industrial premises is less than 4 Star.

OR

- b. in a rural area, impacts are being experienced as follows:
 - i. Water under or over the floor of a dwelling.
 - ii. Crops, vineyards and similar inundated for periods in excess of 5 days (based on Goulburn-Murray Water design guidelines for its drainage system).
 - iii. Sole vehicular access to properties with dwellings, dairies, piggeries, rural industries, quarries, or similar denied for periods greater than 1 day.
- c. in other situations where Council infrastructure has caused scouring of public or private land.

Matters meeting these criteria will then be assessed in accordance with the Risk Assessment Methodology, and those rated as "High" or above will be actioned and prioritised according to a Benefit Cost Ratio.

The Risk Assessment Methodology is based around the matrix below:

| LIKELIHOOD | CONSEQUENCES | | | | |
|----------------|--------------|-------|----------|-------|--------------|
| | Negligible | Minor | Moderate | Major | Catastrophic |
| Rare | L | L | L | M | H |
| Unlikely | L | L | M | H | H |
| Possible | L | M | M | H | E |
| Likely | M | M | H | E | E |
| Almost Certain | M | H | H | E | E |

E = Extreme, H = High, M = Medium, L = Low

The process is outlined in more detail in the flow chart shown in Figure 7 Drainage Assessment Flowchart.

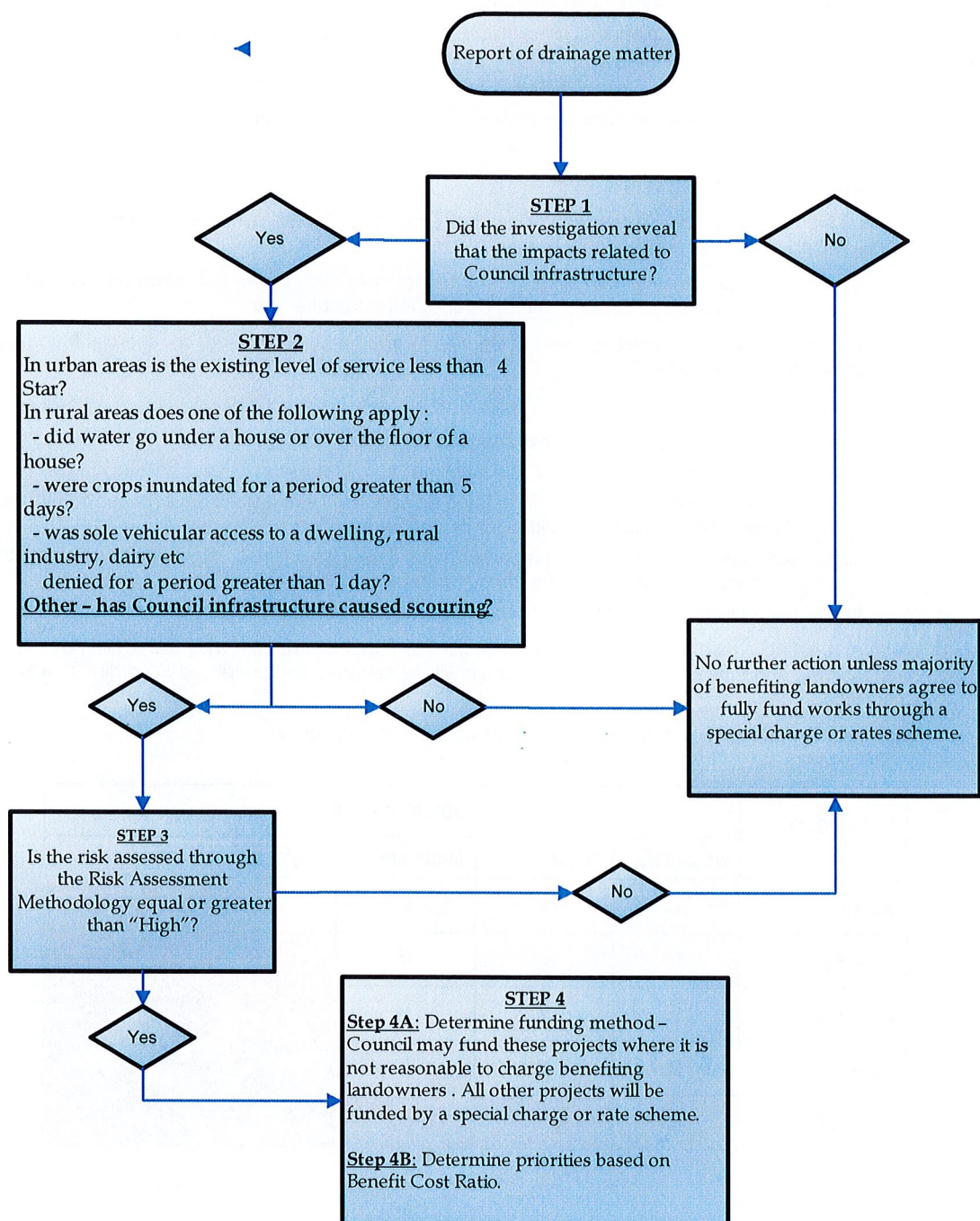
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Figure 7: Drainage Assessment Flowchart



The response times for Council to process drainage issues are outlined below:

| Completion of Step | Response Time |
|--|--|
| Acknowledgement of drainage issue being reported and registered with Council. | In accordance with response times laid out in Council's Customer Service Charter |
| Completion of Step 1 <ul style="list-style-type: none">Initial investigation | 30 days * |
| Completion of Step 2 and 3 <ul style="list-style-type: none">Assessment of impact of issue against intervention measure and Risk Matrix Analysis | 90 days * |
| Undertaking of Step 4 <ul style="list-style-type: none">Project/scheme implementation | Inclusion of projects into the capital works program charter process. |

*Note: In the event of a large storm event generating many issues. Council may extend these timeframes. Response times are measured from the time a drainage issue is registered with Council.

Exclusions

Nil

Human Rights

This procedure has considered and complies with the Human Rights and Responsibilities contained in the Victorian Charter of *Human Rights and Responsibilities Act 2006*.

Related Legislation

Building Regulations 2018

Local Government Act 2020

Water Act 1989

Related Policies, Procedures and Strategies

Policy 135 Drainage

Review Period

Four years

Responsible officer

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Administrative Updates

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Approval History

Adopted 16 February 2022

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Chief Executive Officer:

[Signature]

Date:

21/2/2022

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