

RAIN GARDENS NORTH KELLYVILLE RELEASE AREA

Environment and Planning Services

THE
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Sydney's Garden Shire



The purpose of this fact sheet is to provide guidance to developers, builders and home owners with respect to the purpose, design, approval and construction of rain gardens on individual residential lots in the North Kellyville Release Area.

For more information concerning the design and construction of these rain gardens refer to the separate "installation guide and specifications" and "standard drawing" available on Council's website.

For information concerning the ongoing maintenance of these rain gardens refer to the separate "maintenance and operations plan" available on Council's website.

All development within Sydney's growth centres must comply with prescribed water quality treatment targets set by the NSW Department of Planning and Infrastructure. The mechanism by which compliance with these targets is achieved varies for each precinct and is affected by the characteristics and constraints of each. The North Kellyville Release Area differs from a lot of other release areas in that it is characterised by sloping land and high value remnant native vegetation along Smalls Creek and Cattai Creek. Consequently, compliance with the water quality treatment targets in North Kellyville is met through a combination of rain gardens and rainwater tanks on individual residential lots, roadside swales for the majority of streets and smaller basins/ wetlands at key locations. This differs from other, flatter, release areas in that all of these requirements cannot be catered for in larger basins/ wetlands etc; at the bottom of the catchment.

This fact sheet relates to rain gardens on individual residential lots.

WHAT IS A RAIN GARDEN AND WHAT DOES IT DO?

A rain garden is a form of bio-retention and consists of a localised depression (with a typical depth of 150mm) within which water ponds during rain but is otherwise dry. The rain

garden is required to be landscaped using native sedges and grasses, it cannot be turfed. If considered early in the design process the rain garden can be an attractive addition to the landscape of either the front or rear yard of a dwelling, as shown in the photograph above:

Below the surface are layers of sand, gravel etc; with a typical combined depth of 650mm. The treated stormwater at the base of the rain garden is collected via a sub-soil drain which is connected to the inter-allotment drainage pit located at the front or rear of the lot.

For lots that fall to the street, the rain garden is required in the front setback. For lots that fall to the rear, the rain garden is required in the rear yard. On a typical 450m² residential lot the rain garden will have a surface area of approximately 10m² and a volume of approximately 1.5m³, however the exact requirements for each and every lot in the precinct is determined when the lots are created at the subdivision stage.

The rain garden temporarily detains and treats stormwater runoff before it leaves the site, contributing to the prescribed water quality treatment targets discussed above.

HOW DO I KNOW IF I NEED A RAIN GARDEN? HOW IS THIS ENFORCED WHEN A DWELLING IS BUILT?

The North Kellyville Development Control Plan prepared by the NSW Department of Planning and Infrastructure includes development standards requiring rain gardens.

When lots are created at the subdivision stage the volume and area of the rain garden required for each lot is determined. These requirements are included as a restriction that appears on the title of the property once the lot has been created. This restriction burdens all current and future owners and requires:

- The construction of the rain garden when a dwelling is built on the lot;

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(b) The retention of the rain garden in perpetuity (as built and without modification).

A separate positive covenant is also created on the title of the property requiring that all current and future owners maintain the rain garden so that it continues to operate as expected.

If a dwelling is approved by Council by the lodgement of a development application, conditions will be imposed as part of this approval requiring the rain garden, should a rain garden be required for that lot.

Conversely, if a dwelling is approved by either Council or a private certifier as complying development, a rain garden is still required to be provided as per the restriction on title. Further, Clause 3.32(2)(b) of the Codes SEPP relating to complying development requires compliance with "any requirements for the disposal of stormwater drainage contained in a development control plan that is applicable to the land". Private certifiers must be aware of this requirement to ensure the rain garden can be appropriately sited, designed and constructed with the dwelling.

WHAT INFORMATION IS AVAILABLE TO ASSIST IN DESIGNING, CONSTRUCTING AND MAINTAINING THE RAIN GARDEN?

Firstly, this fact sheet.

Secondly, Council has prepared a "standard drawing" for these rain gardens that can be adopted, shaped and sized for each individual lot. A separate set of "installation guidelines and specifications" which include a "construction checklist" has also been prepared. All of these documents are available on Council's website.

Lastly, a standard "maintenance and operations" plan for these rain gardens has also been prepared and is available on Council's website.

The purpose of providing a "standard drawing" is to:

- Remove the need for each builder or owner to engage an engineer to prepare a design for each dwelling; and
- To ensure consistency is the way these rain gardens are constructed across the precinct.

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In addition to the design of the rain garden itself, the following other requirements apply:

- The rain garden must be located in the lowest part of the lot. Every lot has been provided with a grated inter-allotment drainage pit at the lowest point, including lots that fall to the street. The sub-soil drain at the base of the rain garden must be connected to this pit.
- The entire site area should be directed towards the rain garden, including overflow from the rainwater tank.
- The layout and shape of the rain garden can be varied to fit the proposed dwelling, driveway, landscaping etc; so long as the required surface area and volume is provided.
- The rain garden should be constructed at the end of the project so that the potential for damage caused by sediment runoff or construction traffic is minimised.
- The landscaping within the rain garden, both with respect to species choice and planting density, must comply with the notes included on the "standard" rain garden detail referred to above.

WHO CAN CONSTRUCT THE RAIN GARDEN?

Because the rain garden includes stormwater connections from the dwelling, a surcharge pit and a sub-soil drain connecting to the grated inter-allotment drainage pit in the corner of the lot it should be constructed by, or under the supervision of, a licensed plumber (at a minimum). The photograph on the right shows a rain garden under construction:

WHAT INSPECTIONS NEED TO OCCUR AS THE RAIN GARDEN IS CONSTRUCTED?

To ensure the rain garden is properly constructed and functions correctly Council's "installation guidelines and specifications" must be followed. The "construction checklist" included with that document must be completed by the person responsible for, or overseeing, the works and submitted to the principal certifying authority (PCA) at the end of the project. Where Council is not the PCA a copy of the completed checklist must be provided to Council for record keeping.

The checklist requires that receipts/ dockets be kept showing the materials used for each layer in the construction of the rain garden, demonstrating compliance with the specifications for each as set out in Council's "installation guidelines and specifications". The use of improper materials or incorrect construction will affect the performance of the rain garden and likely result in nuisance flooding of the surrounding area.

HOW IS THE AS-BUILT RAIN GARDEN SIGNED OFF ON?

An Occupation Certificate should not be issued by either Council or a private certifier before the rain garden is completed and the completed checklist submitted to the PCA and Council.

The rain garden must be built when the dwelling is constructed.

The only exception to this is where the rain garden is proposed to be landscaped by the owner separately from the building works, the builder must ensure the rain garden is completed, except for the landscaping, before they can issue practical completion for the project. This includes earthworks and battering in and around the rain garden. A separate sacrificial layer of geotextile fabric lining must be provided over the rain garden to protect the rain garden from sediment and gross pollutants.

FURTHER INFORMATION:

Being a (relatively) new practice/ requirement; and noting that rain gardens are required for every residential lot across the entire North Kellyville Release Area, Council's Subdivision and Development Certification team are committed to working with and assisting builders and landowners in the construction and ongoing maintenance of these rain gardens.

Council's Subdivision and Development Certification team are happy to offer any assistance possible with respect to overseeing construction, design advice, material sourcing and the like (subject to inspection costs for certification matters). We are also interested in any feedback you may have with respect to this process and the advice contained in this fact sheet.

If you are unsure, please ask. Time spent early may avoid delays later.

Customer Service Centre:
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