

# STORMWATER MANAGEMENT TOOLS FOR RESIDENTIAL DEVELOPMENT

## TOOL ⑥ ROOF-BASED STORMWATER SYSTEMS

Green roofs and “blue roofs” are two types of engineered roofs that are designed to slow rainwater runoff.

**Green roofs** can be designed to temporarily store rainwater in a soil layer. Vegetation helps disperse water through transpiration. Green roofs with thick layers of soil (called “intensive” green roofs) are most effective for rainwater storage than those with thin layers of soil (called “extensive” green roofs). They typically have drought-tolerant vegetation.

**Blue roofs** temporarily store rainwater in trays or drainage mats, and then slowly let it drain.

The underlying roof for both systems must be strong enough to support the extra weight of the roof materials. Some existing rooftops can be retrofit to accommodate green or blue roofs but it is usually easier to incorporate a green or blue roof in new construction.

Roof-based stormwater systems are intended to be used in addition to the recommended stormwater management tools.



Example of green roof on Boundary Bay Beach home (Photo: NATS Nursery Ltd.)



Example of blue roof in New York (Photo: Geosyntec Consultants)

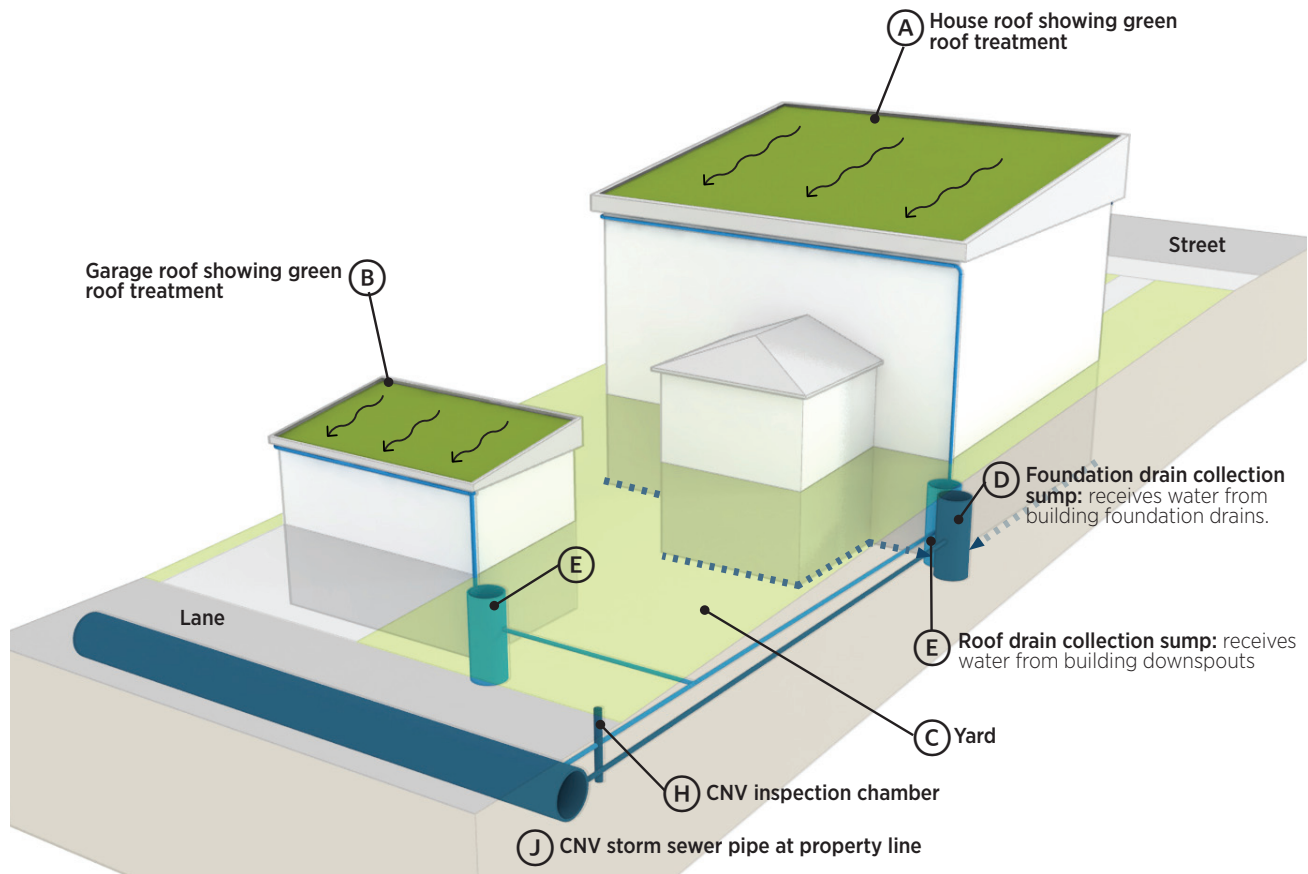
### WHERE CAN I GET THE PARTS I NEED?

- **Green-roof systems** are available through a number of local suppliers, including [Soprema](#): 604-576-3633
- **Green-roof plants** are widely available. [NATS Nursery Ltd](#) is a local [LiveRoof](#) representative: 604-530-9300
- **Blue-roof materials** are available from [Soprema](#): 604-576-3633

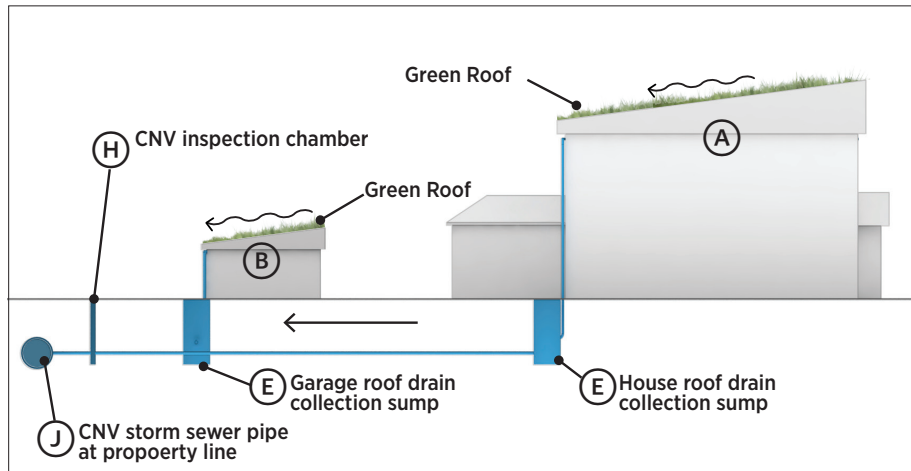
### WHERE DO THE TOOLS GO ON MY PROPERTY?

The illustrations on the following pages show different layouts for green roofs. Two examples are given: one for a typical south-facing lot and one for a typical north-facing lot. In both examples the green roof drains to the roof drain collection sump, which then connects to the City of North Vancouver storm sewer pipe. The circled letters correspond to different parts of the accompanying worksheet.

# ROOF BASED DETENTION ON A TYPICAL NORTH-FACING LOT



## PERSPECTIVE VIEW

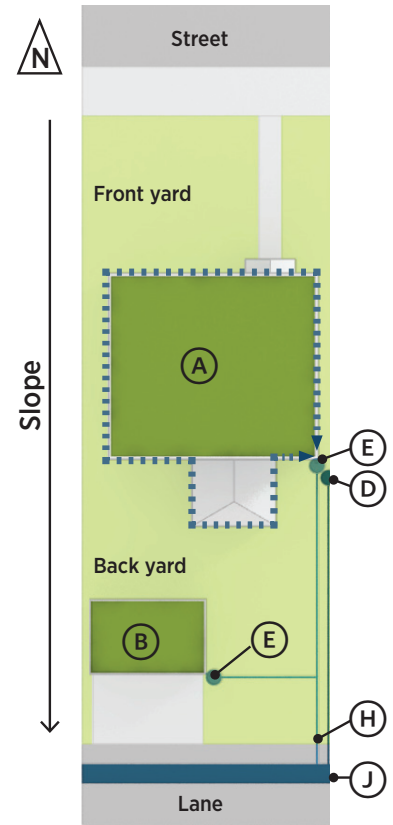


## SECTION

Note: foundation drain sump connection to CNV storm sewer pipe not shown

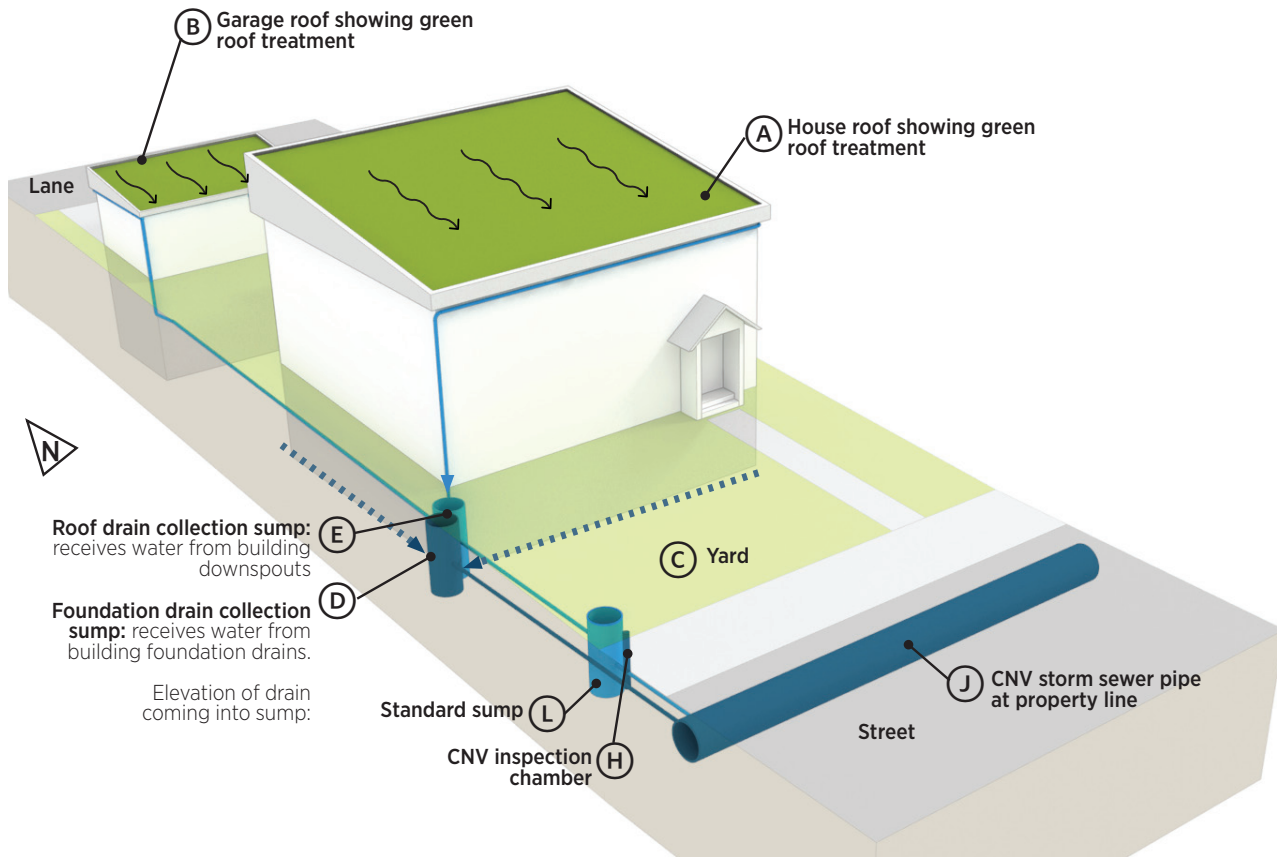
## LEGEND:

- ..... Perforated foundation drain pipe:**  
Drains water to foundation drain sump (D). Minimum 1% slope.
- Solid foundation drain pipe:**  
Drains directly to CNV storm sewer (J). Minimum 1% slope.
- ..... Perforated stormwater drain pipe:**  
Allows rainwater to infiltrate and soak into ground. Minimum 1% slope.
- Solid stormwater drain pipe:**  
Minimum 1% slope.

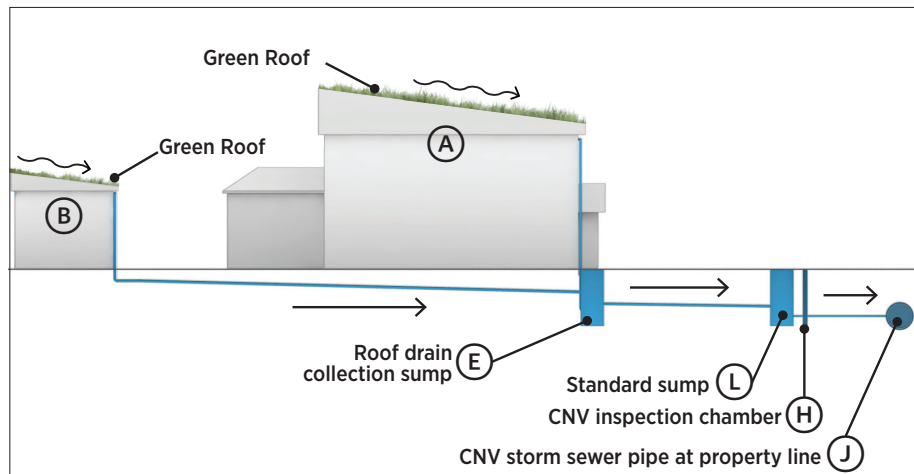


## PLAN VIEW

# ROOF BASED DETENTION ON A TYPICAL SOUTH-FACING LOT



## PERSPECTIVE VIEW

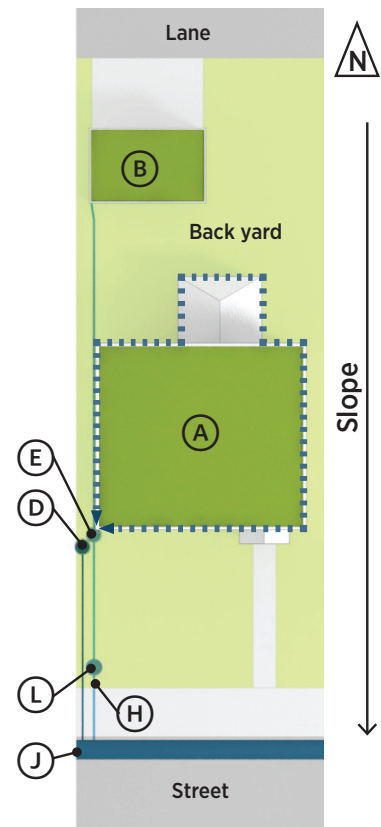


## SECTION

Note: foundation drain sump connection to CNV storm sewer pipe not shown

## LEGEND:

- ..... **Perforated foundation drain pipe:**  
Drains water to foundation drain sump (D). Minimum 1% slope.
- **Solid foundation drain pipe:**  
Drains directly to CNV storm sewer (J). Minimum 1% slope.
- ..... **Perforated stormwater drain pipe:**  
Allows rainwater to infiltrate and soak into ground. Minimum 1% slope.
- **Solid stormwater drain pipe:**  
Minimum 1% slope.



## PLAN VIEW