



## Laois County Council

# Code of Practice for Chamber & Gully Top Installations

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<b>Authors:</b>	Mark Macaulay, Seamus Quinn
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### Version History:

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1.0	12/04/2007	MMac, SQ	Initial Release
1.1	05/05/2007	MMac, SQ	Internal version
1.2	27/07/2007	MMac, SQ	Minor Additions, revision to location and orientation of covers and Sluice valve cover markings

### Document Approval:

Approved by	Position	Date
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## **1 Objective**

To ensure a standardised approach to the selection and installation of service covers in Laois to maximise service life and minimise maintenance requirements.

## **2 Scope**

This document provides recommendations for the standards, materials and specifications to be used for the installation of service covers in County Laois. The document deals with the infrastructure for all drinking water, waste water, surface water and other utilities.

## **3 Responsibility**

Compliance with these guidelines does not relieve the contractor, developer or designer of their obligations to comply with Health and Safety regulations and to ensure that the materials and workmanship are fit for purpose. The selection of the appropriate class/grade of cover and frame is the responsibility of the designer for the development.

## **4 Materials and Standards**

All frames and covers shall be certified to IS EN 124 or IS 261.

## **5 Document Location**

A copy of this document can be downloaded in .PDF format from [www.laois.ie](http://www.laois.ie)

## 6 Design Requirements

### 6.1 Road Gullies

#### 6.1.1 Manhole/Chamber

Gullies shall be constructed in accordance with the NRA's Manual of Contract Documents for Roadworks, Volume 1, Clause 508 Gullies & Pipe Junctions and in accordance with Volume 4, Road Construction Details, RCD 500/14 or RCD 500/15. Guidance should also be taken from the UK DMRB 4.2.5 HA 104/02.

#### 6.1.2 Frames & Covers

Road gully gratings and frames shall conform to IS EN 124. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
D 400	Carriageways of roads (including pedestrian streets), hard shoulders and parking areas for all types of vehicles and footpaths
E 600	Carriageways of any public road with areas of high wheel loads

Note: The minimum classification for gully tops in carriageways shall be D400; where there is any doubt the stronger class shall be selected. The frame shall have a minimum depth of 100mm. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

#### 6.1.3 Position & Orientation

Gullies shall be located in accordance with NRA's Manual of Contract Documents for Roadworks, Volume 4, Road Construction Details, RCD 500/16. Gullies shall be hinged at right-angles to the kerb line, so that they close with the direction of traffic. The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic.

#### 6.1.4 Markings

Both grating and frame shall be clearly marked with

- The name of manufacturer
- The standard to which it is certified (IS EN 124)
- The certifying authority for the standard (NSAI, BSI, NF)
- The load classification of the frame and cover
- The direction of traffic

#### 6.1.5 Lock

Gully gratings shall be provided with a stainless steel M16 locking nut and bolt, which shall be locked after installation. The locking nut and bolt shall be replaceable.

## 6.2 Manholes

### 6.2.1 Manhole/Chamber

Manholes and chambers shall be constructed in accordance with the NRA's Manual of Contract Documents for Roadworks, Volume 1, Clause 507 Chambers and in accordance with Volume 4, Road Construction Details, RCD 500/3 to RCD 500/13. Guidance should also be taken from the UK DMRB 4.2.5 HA 104/02.

### 6.2.2 Frames & Covers

All manhole covers and frames shall conform to IS EN 124. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
D 400	Carriageways of roads (including pedestrian streets), hard shoulders, footpaths and parking areas for all types of vehicles.
E 600	Carriageways of any public road with areas of high wheel loads

Note: The minimum classification for covers and frames in footpaths and carriageways shall be D400 with a clear opening of 600mm and minimum frame and cover depth of 100mm; where there is any doubt the stronger class shall be selected. Covers shall have a minimum mass per unit area of 250Kg/m<sup>2</sup>. Class E600 shall be used for heavily trafficked main roads. Manhole covers shall incorporate a non-rock feature. Circular manhole covers shall be used where possible. Manhole covers with brick paving inserts are not acceptable in carriageway or other vehicular trafficked areas. Class D400 (or E600 on heavily trafficked roads) self levelling covers and frames may be used subject to installation in accordance with manufactures instructions and approval by Laois County Council. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

### 6.2.3 Position & Orientation

Manhole Covers shall be hinged at right-angles to the kerb line, so that they close with the direction of traffic. Where reasonably practicable, manholes should be located off carriageway. Otherwise covers shall be located in the centre of the trafficked lane inside the wheel track. The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic.

### 6.2.4 Markings

Both cover and frame shall be clearly marked with

- The name of manufacturer
- The standard to which it is certified (IS EN 124)
- The certifying authority for the standard (NSAI, BSI, NF)
- The load classification of the frame and cover



- The following labels shall be used to identify the service type. Items in ( ) are mandatory, items in [ ] shall be included where there is sufficient space to display them clearly
  - (SW) Min. text height = 70mm
  - [Surface Water] Min. text height = 30mm
  
  - (FS) Min. text height = 70mm
  - [Foul Sewer] Min. text height = 30mm
  
  - (CS) Min. text height = 70mm
  - [Combined Sewer] Min. text height = 30mm

*(The use of the CS badge will be subject to approval by Laois County Council)*

#### 6.2.5 Lock

Manholes shall be provided with a locking device, which shall be locked after installation.



### 6.3 Hydrants

#### 6.3.1 Manhole/Chamber

Chambers shall be constructed in accordance with the current "Recommendations for Site Development Works for Housing Areas" published by the Department of Environment and Local Government (DEHLG). A copy of this document is available on [www.environ.ie](http://www.environ.ie)

#### 6.3.2 Frames & Covers

Covers and frames shall conform to IS 261. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
Grade A	Carriageways of roads (including pedestrian streets), hard shoulders, footpaths and parking areas for all types of vehicles
Grade B	Areas not accessible to vehicles

Where there is any doubt about the required load rating, the stronger class shall be selected. The frame shall have a minimum opening of 445x245mm. The cover shall have a minimum mass per unit area of 200Kg/m<sup>2</sup>. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

#### 6.3.3 Position & Orientation

A hydrant shall not be located in an area where it is likely to be covered by a vehicle etc. The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic. Where reasonably practicable, hydrants should be located off carriageway. Otherwise covers shall be located away from the wheel track area of the carriageway.

#### 6.3.4 Markings

Each cover shall be clearly marked with

- The name of manufacturer
- The standard to which it is certified (IS 261)
- The certifying authority for the standard (NSAI)
- The load classification of the frame and cover
- The following labels shall be used to identify the service type. Items in ( ) are mandatory
  - (H) Min. text height = 70mm
  - (Fire Hydrant) Min. text height = 30mm

#### 6.3.5 Lock

No lock is required



## 6.4 Air Valves

Chambers shall be constructed in accordance with the current “Recommendations for Site Development Works for Housing Areas” published by the Department of Environment and Local Government (DEHLG). A copy of this document is available on [www.environ.ie](http://www.environ.ie)

### 6.4.1 Frames & Covers

Covers and frames shall conform to IS 261. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
Grade A	Carriageways of roads (including pedestrian streets), hard shoulders, footpaths and parking areas for all types of vehicles.
Grade B	Areas not accessible to vehicles

Where there is any doubt about the required load rating, the stronger class shall be selected. The cover shall have a minimum mass per unit area of 200Kg/m<sup>2</sup>. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

### 6.4.2 Position & Orientation

The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic. Where reasonably practicable, air valves should be located off carriageway. Otherwise covers shall be located away from the wheel track area of the carriageway.

### 6.4.3 Markings

Each cover shall be clearly marked with

- The name of manufacturer
- The standard to which it is certified (IS 261)
- The certifying authority for the standard (NSAI)
- The load classification of the frame and cover
- The following labels shall be used to identify the service type. Items in ( ) are mandatory, items in [ ] shall be included where there is sufficient space to display them clearly
  - (AV) Min. text height = 70mm
  - [Air Valve] Min. text height = 30mm

### 6.4.4 Ventilation

The cover shall include a ventilation hole.





#### 6.4.5 Lock

Air valves shall be provided with a stainless steel M16 locking nut and bolt, which shall be locked after installation. The locking nut and bolt shall be replaceable.

## 6.5 Sluice Valves

### 6.5.1 Manhole/Chamber

Chambers shall be constructed in accordance with the current “Recommendations for Site Development Works for Housing Areas” published by the Department of Environment and Local Government (DEHLG). A copy of this document is available on [www.environ.ie](http://www.environ.ie)

### 6.5.2 Frames & Covers

Covers and frames shall conform to IS 261. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
Grade A	Carriageways of roads (including pedestrian streets), hard shoulders, footpaths and parking areas for all types of vehicles.
Grade B	Areas not accessible to vehicles

Where there is any doubt about the required load rating, the stronger class shall be selected. The cover shall have a minimum mass per unit area of 200Kg/m<sup>2</sup>. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

### 6.5.3 Position & Orientation

The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic. Where reasonably practicable, sluice valve covers should be located off carriageway. Otherwise covers shall be located away from the wheel track area of the carriageway.

### 6.5.4 Markings

Each cover shall be clearly marked with

- The name of manufacturer
- The standard to which it is certified (IS 261)
- The certifying authority for the standard (NSAI)
- The load classification of the frame and cover
- The following labels shall be used to identify the service type. Items in ( ) are mandatory, items in [ ] shall be included where there is sufficient space to display them clearly
  - (SV) Min. text height = 70mm
  - [Sluice Valve] Min. text height = 30mm

### 6.5.5 Lock

No lock is required



## 6.6 Water Meters/Water Services Box

### 6.6.1 Frames & Covers

Covers and frames shall conform to IS EN 124. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
B 125	Footpaths, occasionally accessed by car only, but not accessible to vans and HGVs
C 250	On or within 1m from a carriageway

Where there is any doubt about the required load rating, the stronger class shall be selected. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

### 6.6.2 Position & Orientation

Frames and covers in this section are not recommended for use in carriageways. The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic.

### 6.6.3 Markings

Each cover shall be clearly marked with

- The name of manufacturer
- The standard to which it is certified (IS EN 124)
- The certifying authority for the standard (NSAI, BS)
- The load classification of the frame and cover
- The following labels shall be used to identify the service type. Items in ( ) are mandatory, items in [ ] shall be included where there is sufficient space to display them clearly
  - (UISCE) Min. text height = 30mm
  - (M) Min. text height = 30mm
  - [Water Meter] Min. text height = 30mm

### 6.6.4 Lock

Water Meters and Water Services Boxes shall be provided with a stainless steel M16 locking nut and bolt, which shall be locked after installation. The locking nut and bolt shall be replaceable.



## 7 Other Utilities

### 7.1.1 Frames & Covers

All manhole covers and frames shall conform to IS EN 124. The load rating for the frames and covers shall be selected using the following:

Load Rating	Application Area
D 400	Footpaths, pedestrian streets, hard shoulders parking areas for all types of vehicle, but not in a carriageway or wheel track
E 600	Carriageways of any public road and areas commonly within vehicle wheel tracks

Note: The minimum classification for covers and frames in footpaths and carriageways shall be D400; Where there is any doubt the stronger class shall be selected. Manhole covers shall incorporate a non-rock feature. Manhole covers with brick paving inserts are not acceptable in carriageway or other vehicular trafficked areas. A third party test report showing compliance with the standard must be made available in English for each frame and cover if requested by the Laois County Council.

### 7.1.2 Position & Orientation

Hinged Manhole Covers shall be orientated so that they close with the direction of traffic. Where reasonably practicable, manholes should be located off carriageway. Otherwise covers shall be located away from the wheel track area of the carriageway. The frame and cover shall be installed so that no part of the unit is raised or sunken in a way that could create a hazard to pedestrian or vehicular traffic.

### 7.1.3 Markings

Both cover and frame shall be clearly marked with

- o The name of manufacturer
- o The standard to which it is certified (IS EN 124)
- o The certifying authority for the standard (NSAI, BSI, NF)
- o The load classification of the frame and cover
- o The utility type, e.g. Gas, Electricity, Telecoms etc.

### 7.1.4 Lock

The locking devices shall be included in accordance with the utility provider's requirements.

## 8 Cover Markings

### 8.1 General

All cast metal cover markings shall be cast-in by the manufacturer. Painted, engraved or other methods of marking are not acceptable. No markings shall be mechanically or otherwise removed from any cover. All covers will be appropriate to the underground service over which they are located.

### 8.2 Optional Markings

The Laois County Council Crest may be displayed on the manhole cover. An electronic copy of the image is available from Laois County Council on request.

## 9 References

This document contains references to the following:

Irish Standards:	IS EN 124:1994
British Standards:	BS EN 124:1994
Irish Standards:	IS 261:1994
National Road Authority:	Manual of Contract Documents for Road Works, Volumes 1-4
DEHLG:	Recommendations for Site Development Works for Housing Areas
UK DMRB:	Vol. 4.2.5 HA 104/02 Chamber Tops and Gully Tops for Road Drainage and Services: Installation & Maintenance