

Flooding in the Shanganagh Catchment
27 November 2002

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December 2002

FLOODING IN THE SHANGANAGH CATCHMENT 15 NOVEMBER 2002

Introduction

Dún Laoghaire-Rathdown County Council maintains two hydrometric stations in the Shanganagh Catchment where hydrometric data has been collected for a number of years. They are Station 10021 Common's Road on the Shanganagh River and Station 10022 Carrickmines on the Cabinteely River.

The Environmental Protection Agency (EPA) assists Dún Laoghaire-Rathdown County Council with its hydrometric Programme through site selection, undertakes calibration flow measurements at hydrometric stations, digitises water level records, downloads the data logger values, edits the data and processes the water level records into flow data, where there is a rating available for the station.

Available Data

Hydrometric data has been collected at Station 10021 Common's Road on the Shanganagh by the then Dublin County Council and later by Dún Laoghaire-Rathdown County Council since 12 May 1980. The OTT chart recorder was upgraded to an OTT Thalimedes data logger on 27 March 2002.

Hydrometric data has been collected at Station 10022 Carrickmines on the Cabinteely River by the then Dublin County Council and later by Dún Laoghaire-Rathdown County Council since 13 November 1980. The OTT chart recorder was upgraded to an OTT Thalimedes data logger on 27 March 2002.

Flow Measurements

Flood flow measurements were taken by the EPA Dublin regional hydrometric team of the flow in the Shanganagh and Carrickmines River which allowed the EPA to expand the rating curve for this station.

Station details

The catchment area to Station 10021 Common's Road on the Shanganagh River is estimated at 30.9 km² and to Station 10022 Carrickmines on the Cabinteely River 10.4 km². The Irish Grid Reference of the location of Station 10021 Common's Road is O 252 230 and to Station 10022 Carrickmines is O 234 242.

Flood Records

(1) Station 10021 Common's Road

Shanganagh River

The data for the period 12 May 1980- 2 December 2002 is presented in Appendix 1. The first graph is the hydrograph of the water level record at Station 10021 Common's Road and the second graph is the hydrograph of flow for the same period at the same station.

The hydrographs of (1) water level and (2) flow for the floods of 6 November 1982, 26 May 1993 and 27 November 2002 at Station 10021 Common's Road are presented in Appendix 2.

(2) Station 10022 Carrickmines

Cabinteely River

The data for the period 13 November 1980- 2 December 2002 is presented in Appendix 3. The first graph is the hydrograph of the water level record at Station 10022 Cabinteely and the second graph is the hydrograph of flow for the same period at the same station.

The hydrographs of (1) water level and (2) flow for the floods of 6 November 1982, 26 May 1993, 18 December 1997 and 27 November 2002 at Station 10022 Carrickmines are presented in Appendix 4.

Flood of 27 November 2002

(1) Station 10021 Common's Road

Shanganagh River

At 17:45 hrs on Tuesday 26 November 2002 the water level in the Shanganagh River started to rise at Station 10021 Common's Road. The water level rose fairly steadily from 0.55 m and peaked at a water level of 0.92 m at 01:00 hrs (GMT) on 27 November 2002. Water levels then began to decline to 0.84 m at 07:15 hrs on 27 November 2002. There was a subsequent rapid increase in level from this time until the final peak of 1.59 m at 13.15 hrs on Wednesday 27 November 2002.

There was then a steady decline in water levels until approx. pre-flood levels were recorded at 06:00 hrs on 28 November 2002.

Using the rating curve at Station 10021 Common's Road, the peak flowrate, corresponding to a staff gauge reading of 1.59 m at 13.15 hrs on 27 November 2002, was estimated at a flowrate of 12.2 m³/s.

(2) Station 10022 Carrickmines

Cabinteely River

At 15:45 hrs on Tuesday 26 November 2002 the water level in the Cabinteely River started to rise at Station 10022 Carrickmines. The water level rose fairly steadily

from 0.52 m and peaked at a water level of 0.73 m at 23:30 hrs (GMT) on 26 November 2002. Water levels then began to decline to 0.68 m at 07:45 hrs on 27 November 2002. There was a subsequent rapid increase in level from this time until the final peak of 1.16 m at 11:45 hrs on Wednesday 27 November 2002.

There was then a steady decline in water levels until approx. pre flood levels were recorded at 19:00 hrs on 27 November 2002.

Based on the rating curve, the peak flowrate, corresponding to a staff gauge reading of 1.16 m at 11:45 hrs on 27 November 2002, was estimated at a flowrate of 5.7 m³/s.

Appendix 1

Hydrograph of water level and flow at Station 10021 Common's Road on the Shanganagh River

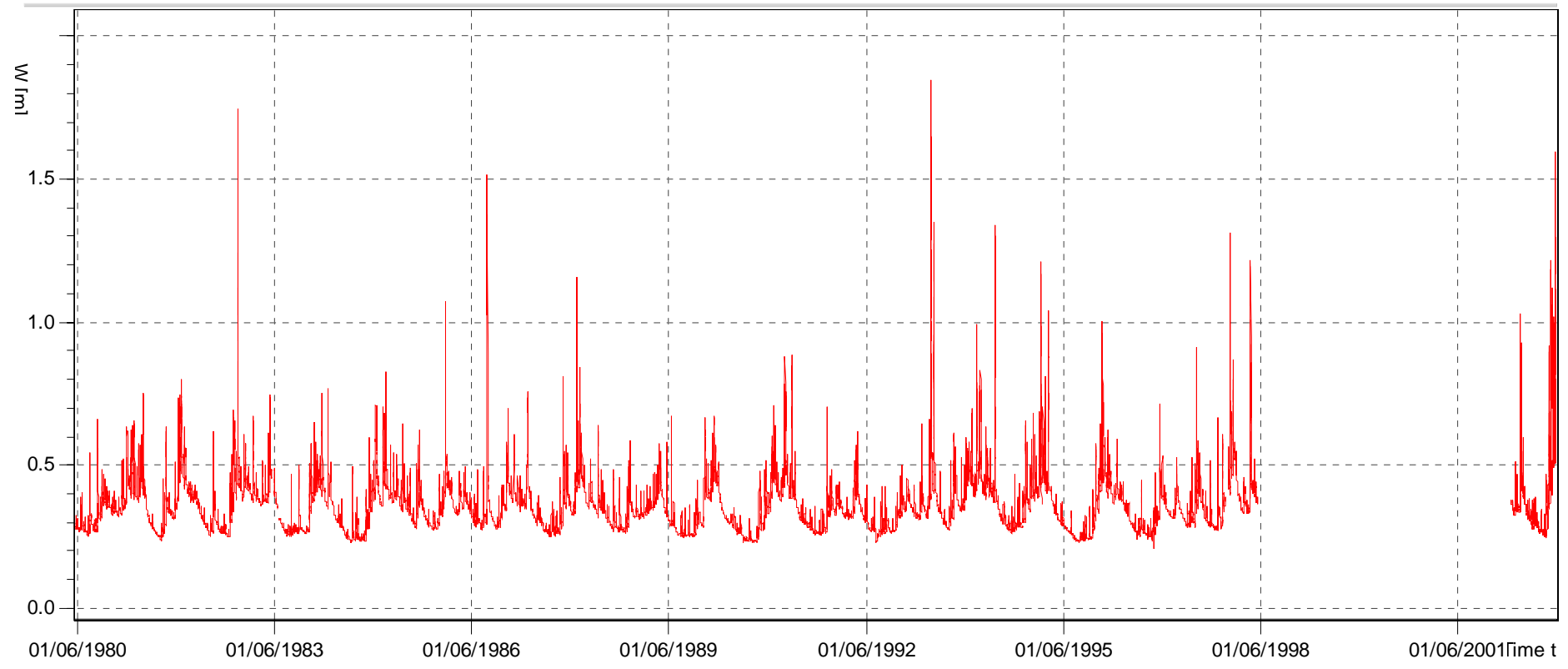
Hydrograph of Water Level

Station number: 10021

Station name: COMMON S ROAD

	COMMON S ROAD.W.1
	COMMON S ROAD.W.15

River: SHANGANAGH



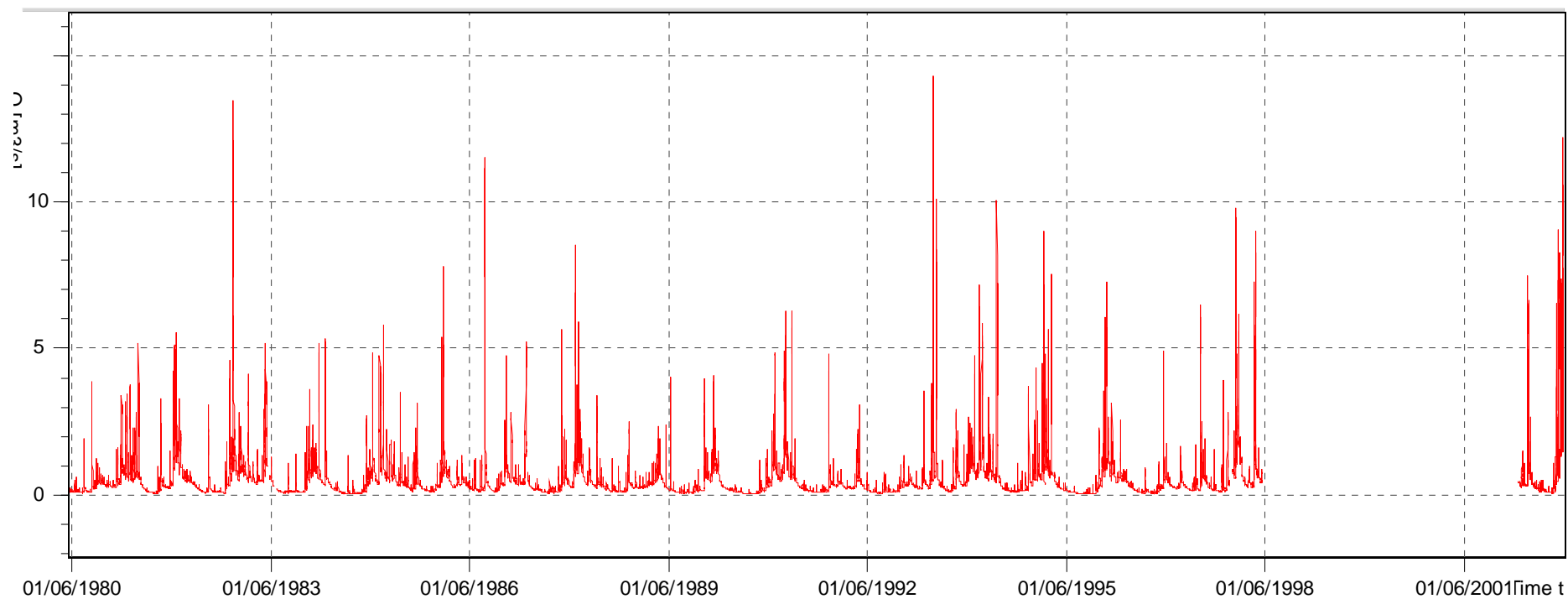
Hydrograph of Flow

	COMMON S ROAD.Q.1
	COMMON S ROAD.Q.15

Station number: 10021

Station name: COMMON S ROAD

River: SHANGANAGH



Appendix 2

**Hydrograph of water level and flow at
Station 10021 Common's Road
on the Shanganagh River
for 6 November 1982, 26 May 1993
and 27 November 2002**

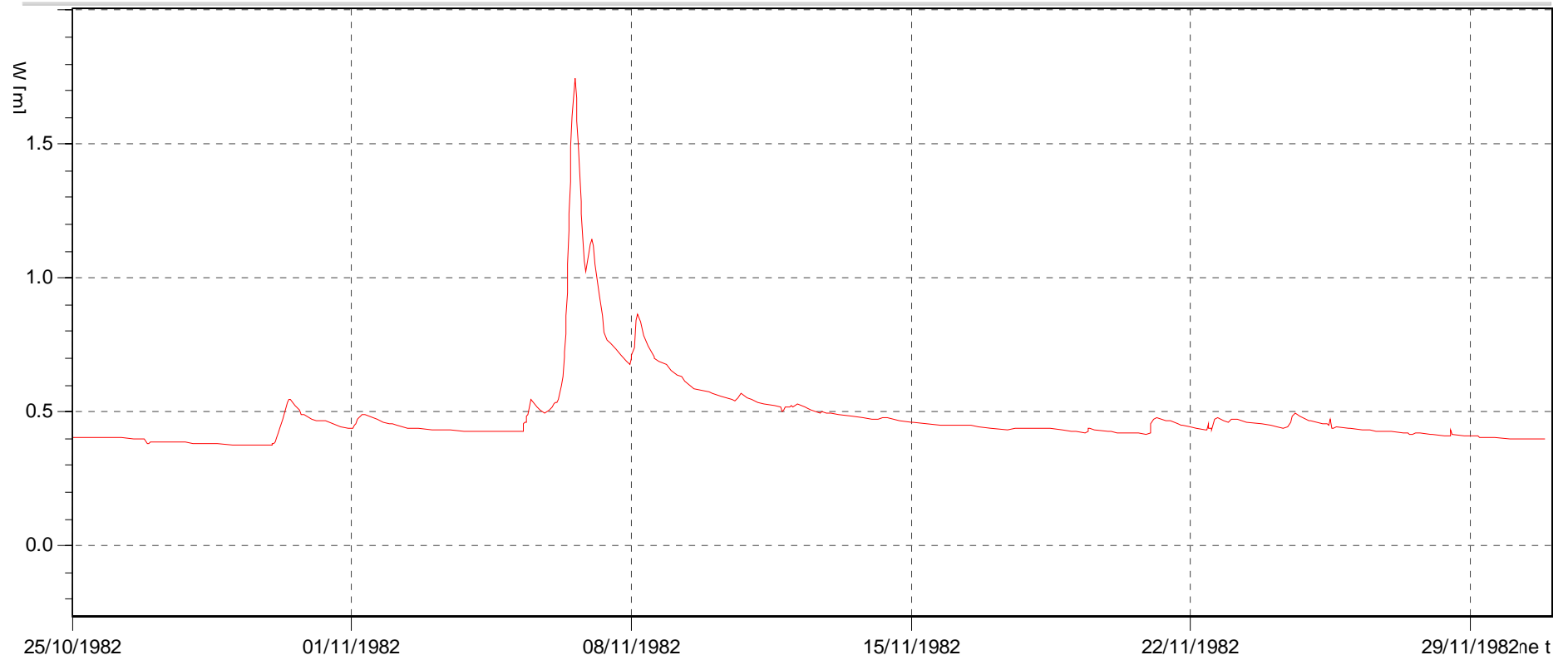
Hydrograph of Water Level

Station number: 10021

Station name: COMMON S ROAD

	COMMON S ROAD.W.1
	COMMON S ROAD.W.15

River: SHANGANAGH



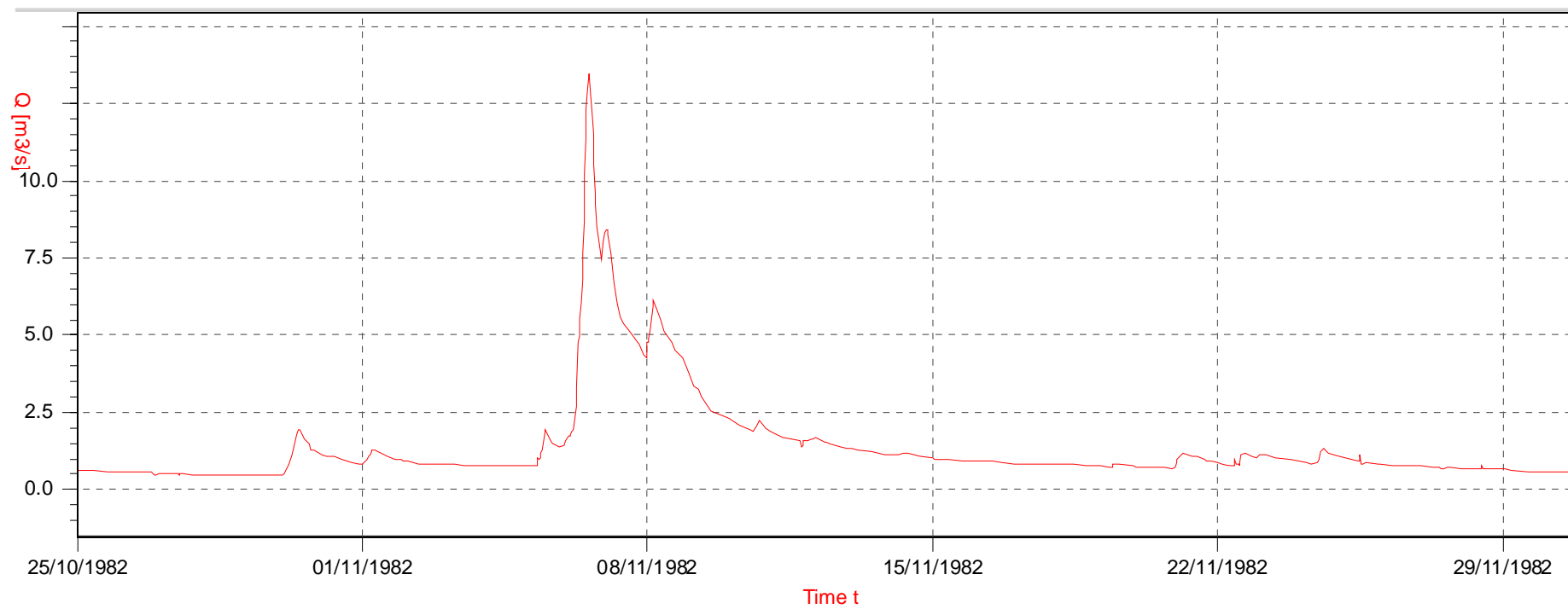
Hydrograph of Flow

COMMON S ROAD.Q.1

Station number: 10021

Station name: COMMON S ROAD

River: SHANGANAGH



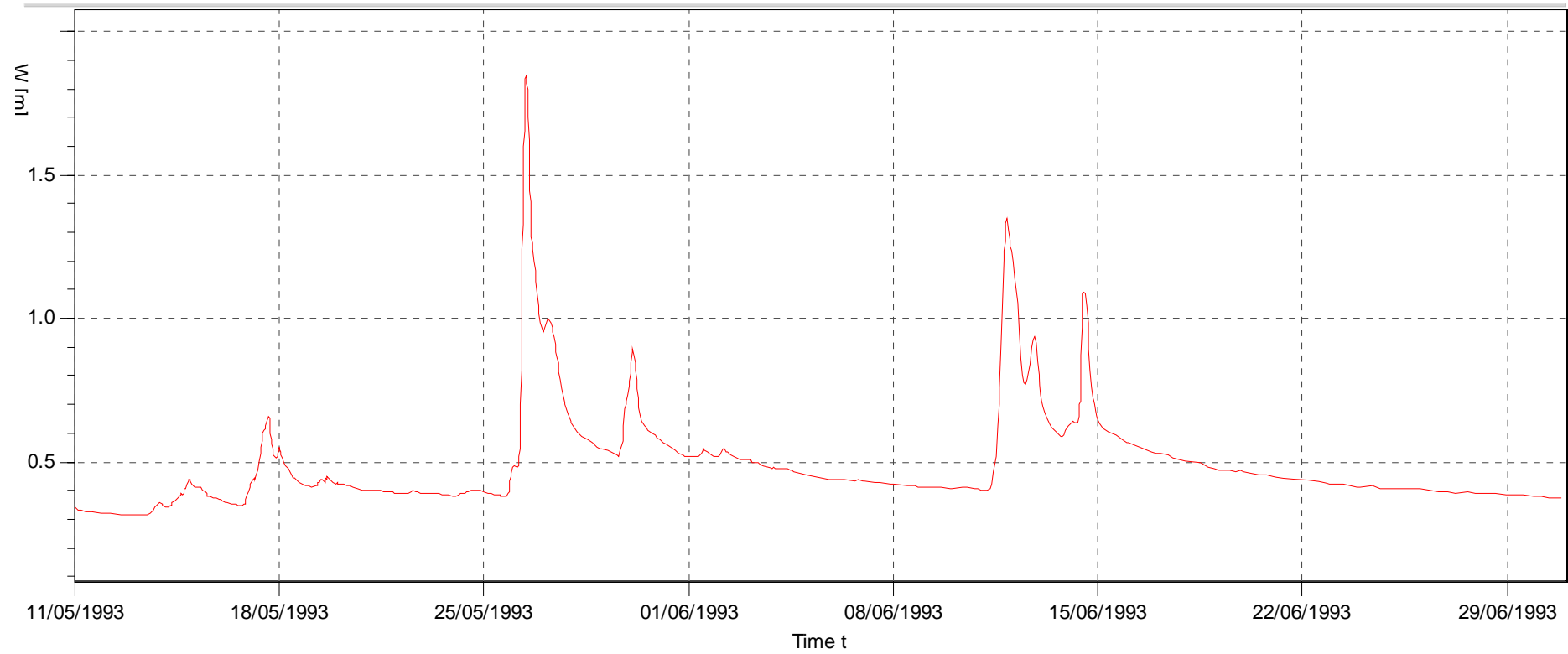
Hydrograph of Water Level

COMMONS ROAD.W.1.O

Station number: 10021

Station name: COMMON S ROAD

River: SHANGANAGH



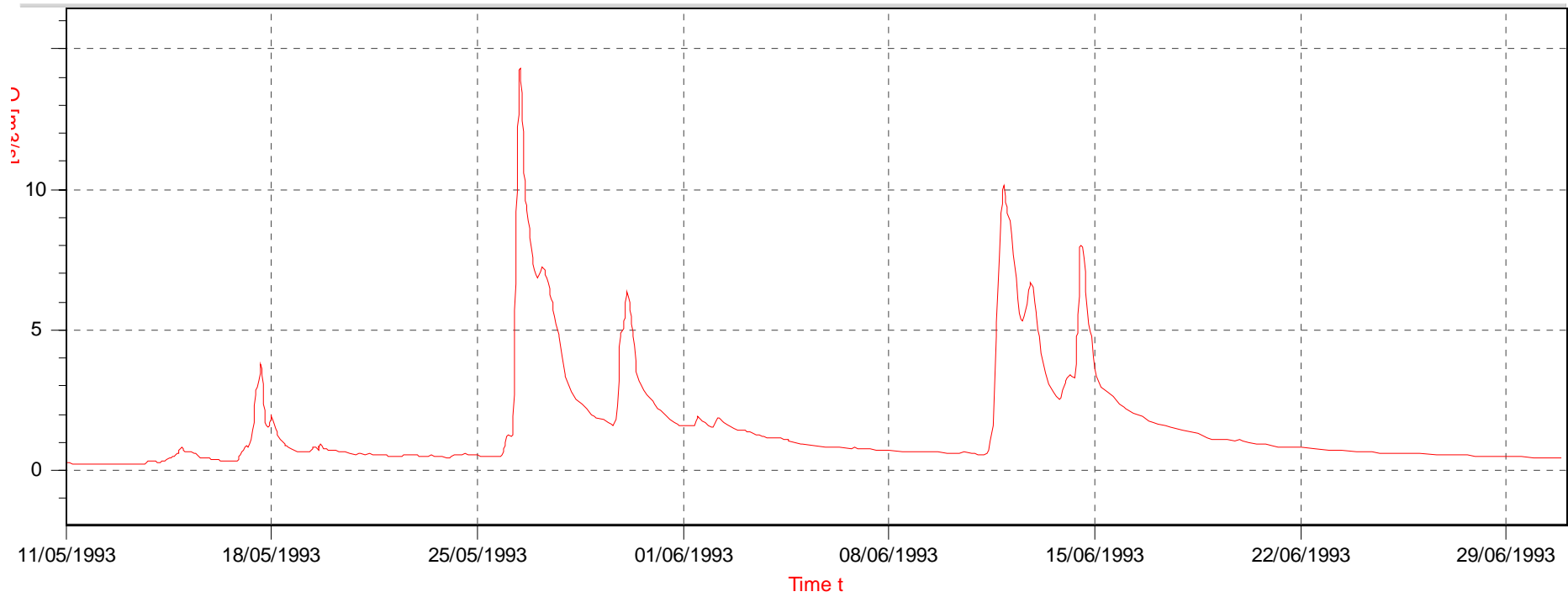
Hydrograph of Flow

COMMON S ROAD.Q.1

Station number: 10021

Station name: COMMON S ROAD

River: SHANGANAGH



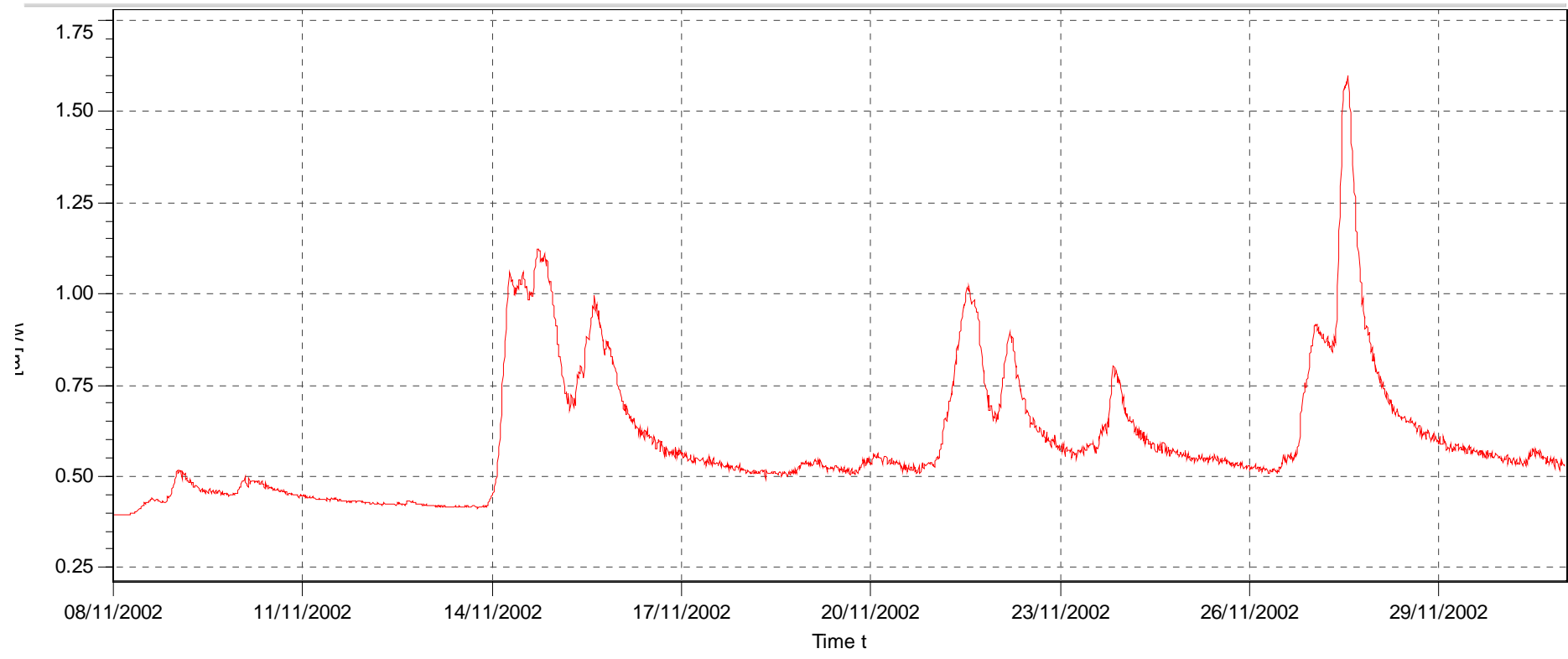
Hydrograph of Water Level

COMMON S ROAD.W.15

Station number: 10021

Station name: COMMON S ROAD

River: SHANGANAGH



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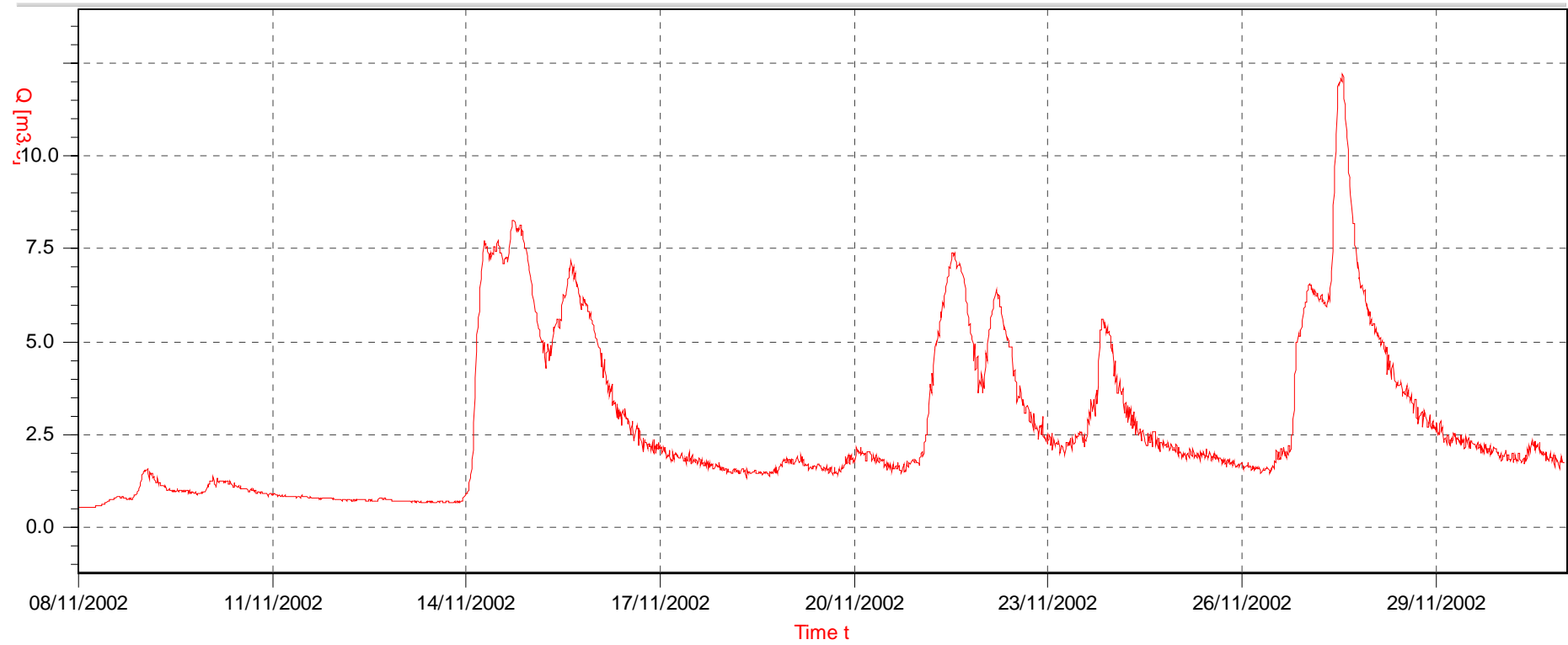
Hydrograph of Flow

COMMON S ROAD.Q.15

Station number: 10021

Station name: COMMON S ROAD

River: SHANGANAGH





Appendix 3

Hydrograph of water level and flow at Station 10022 Carrickmines on the Cabinteely River

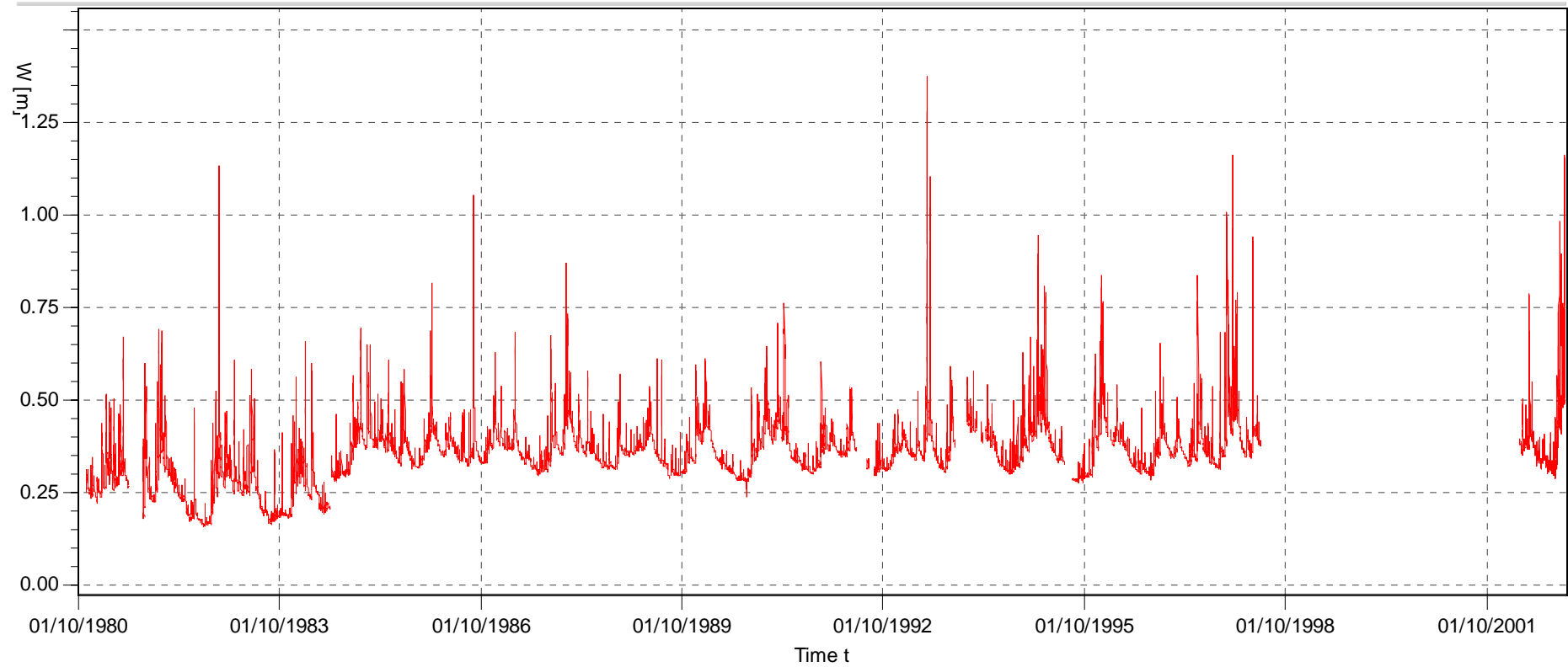
Hydrograph of Water Level

Station number: 10022



Station name: CARRICKMINES

	CARRICKMINES.W.1
	CARRICKMINES.W.15

River: CABINTEELY



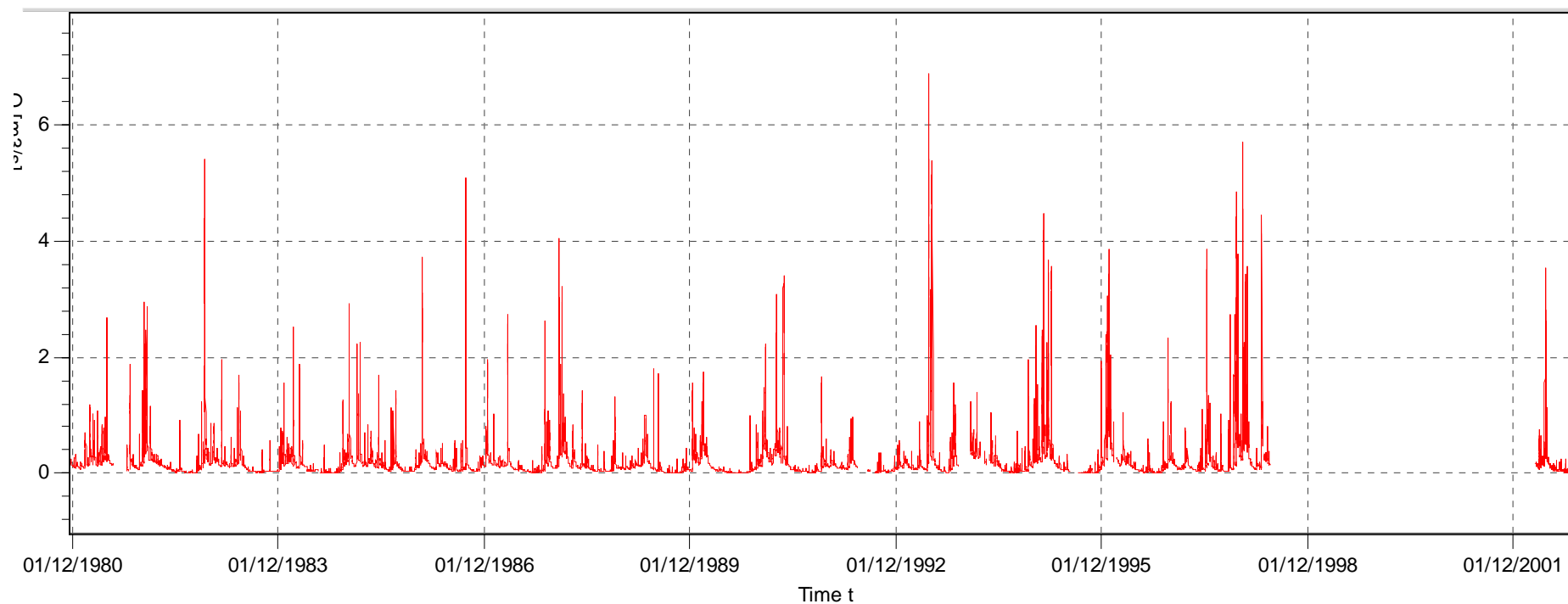
Hydrograph of Flow

	CARRICKMINES.Q.1
	CARRICKMINES.Q.15

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



Appendix 4

**Hydrograph of water level and flow at
Station 10022 Carrickmines on the Cabinteely River
for 6 November 1982, 26 May 1993, 18 December 1997
and 27 November 2002**

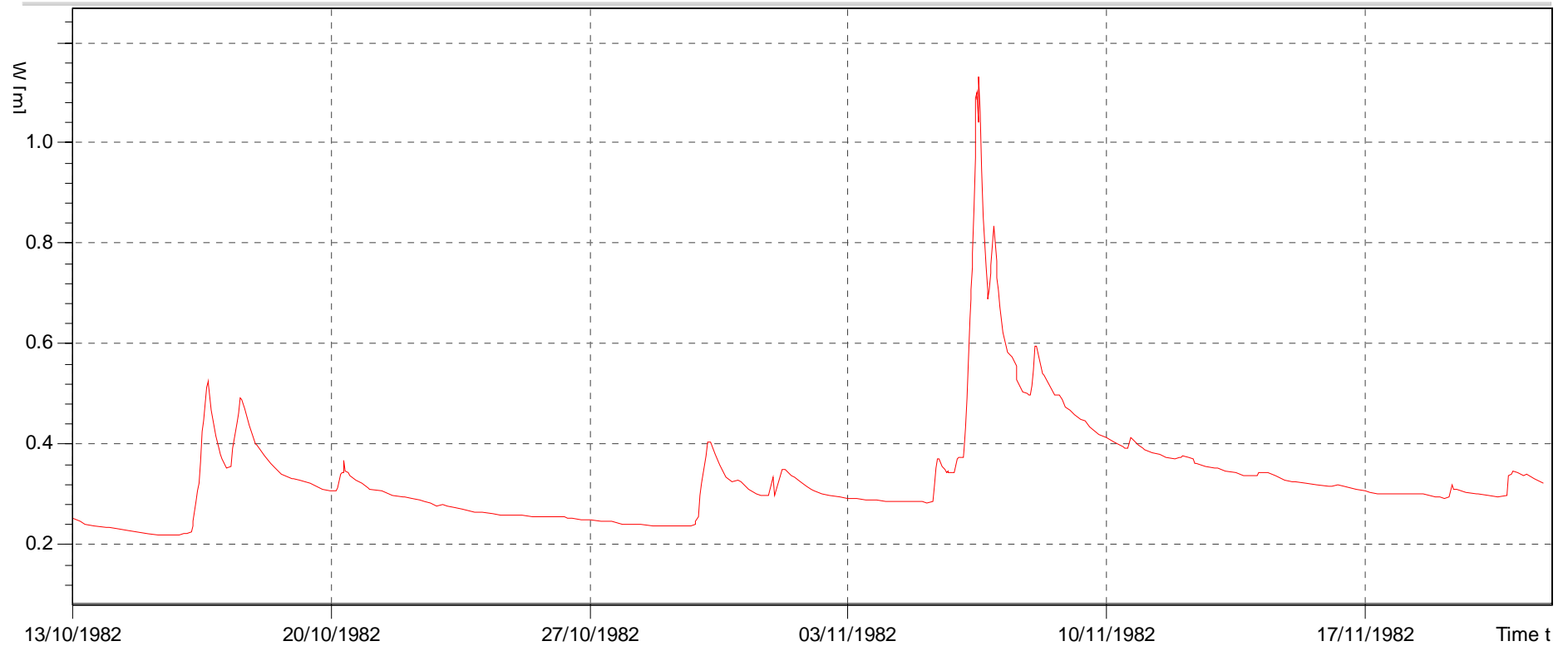
Hydrograph of Water Level

CARRICKMINES.W.1.O

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



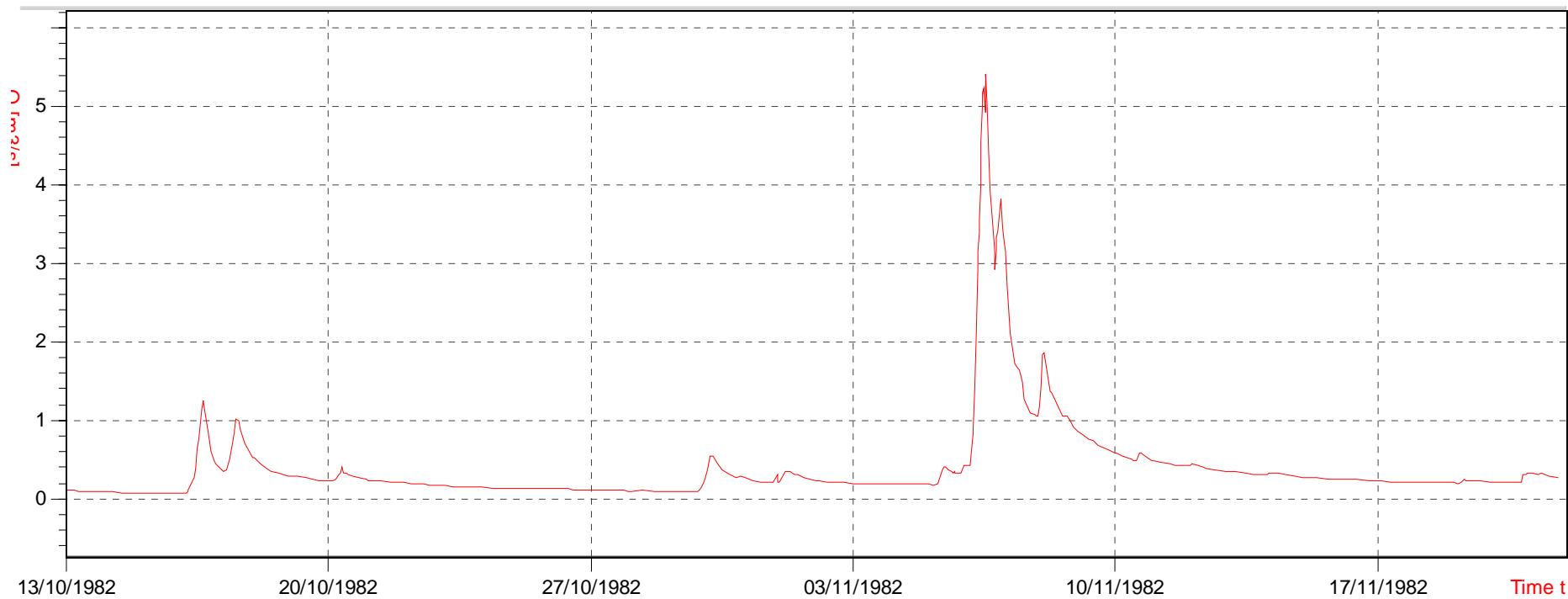
Hydrograph of Flow

CARRICKMINES.Q.1

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



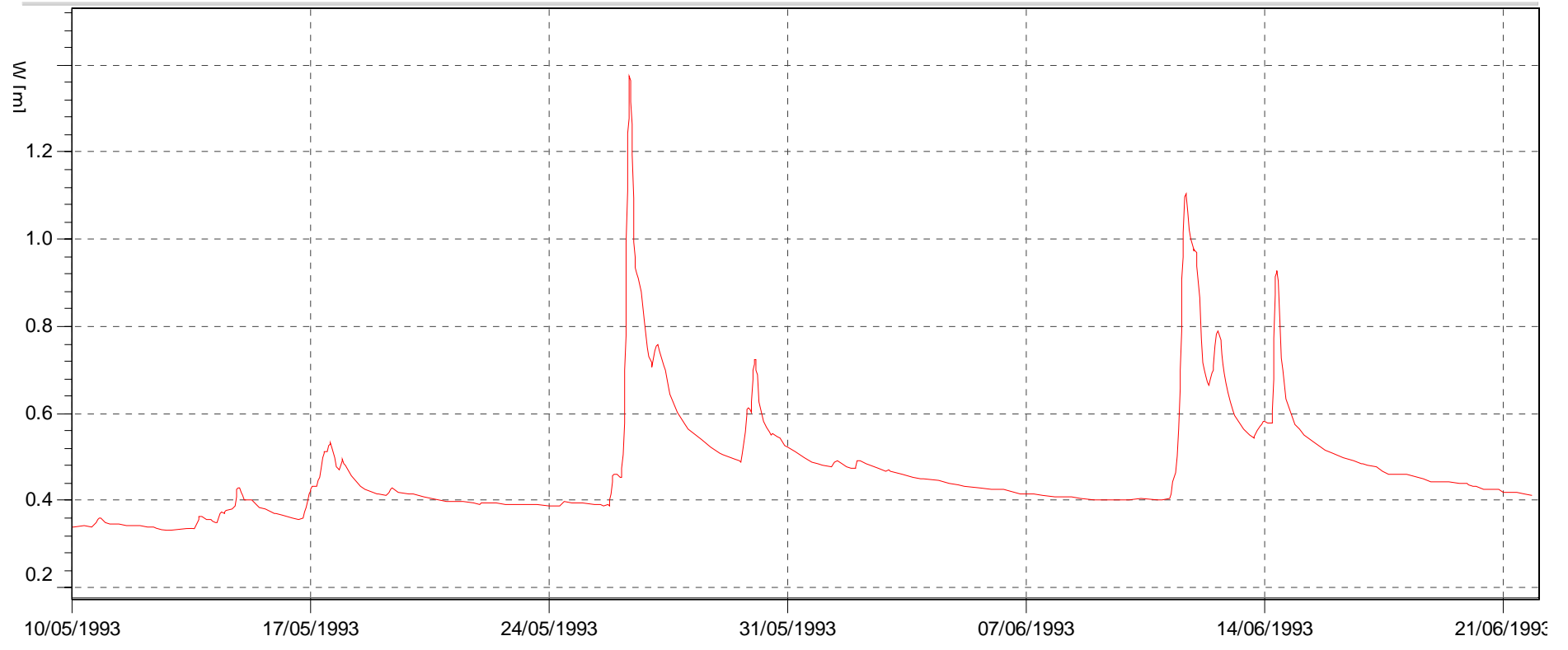
Hydrograph of Water Level

CARRICKMINES.W.1

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



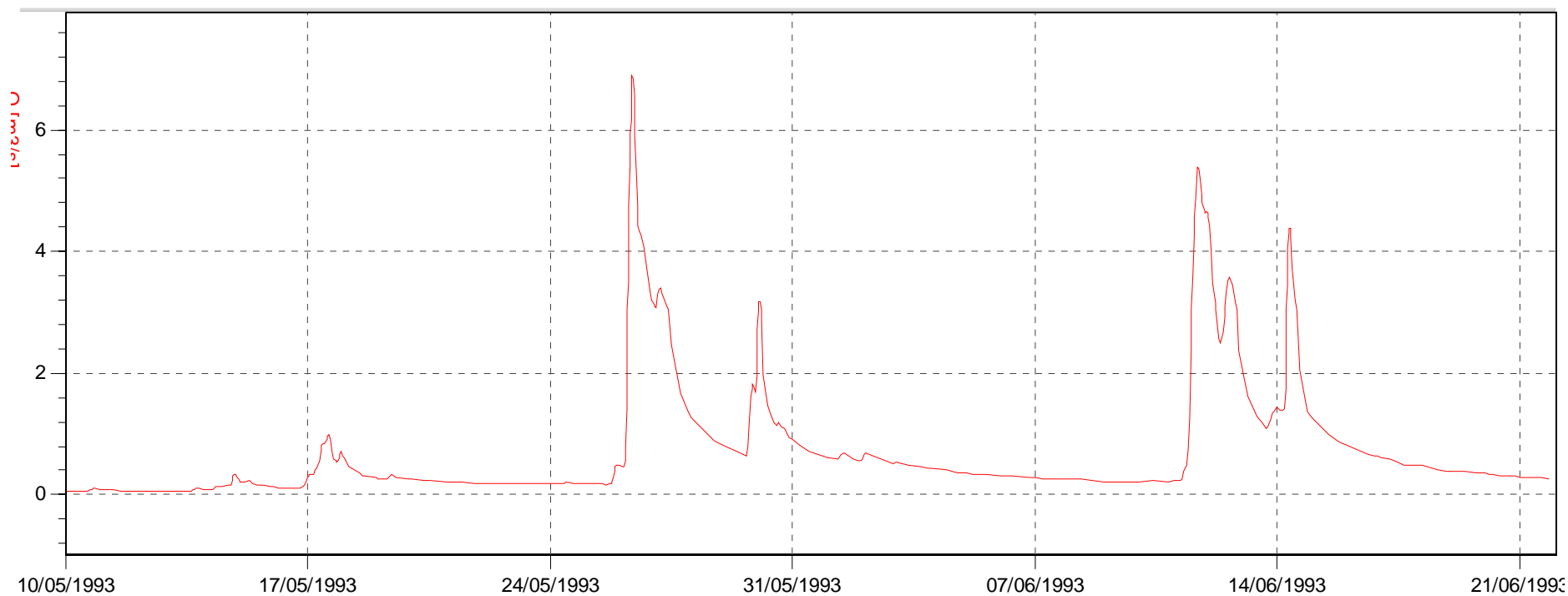
Hydrograph of Flow

CARRICKMINES.Q.1

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



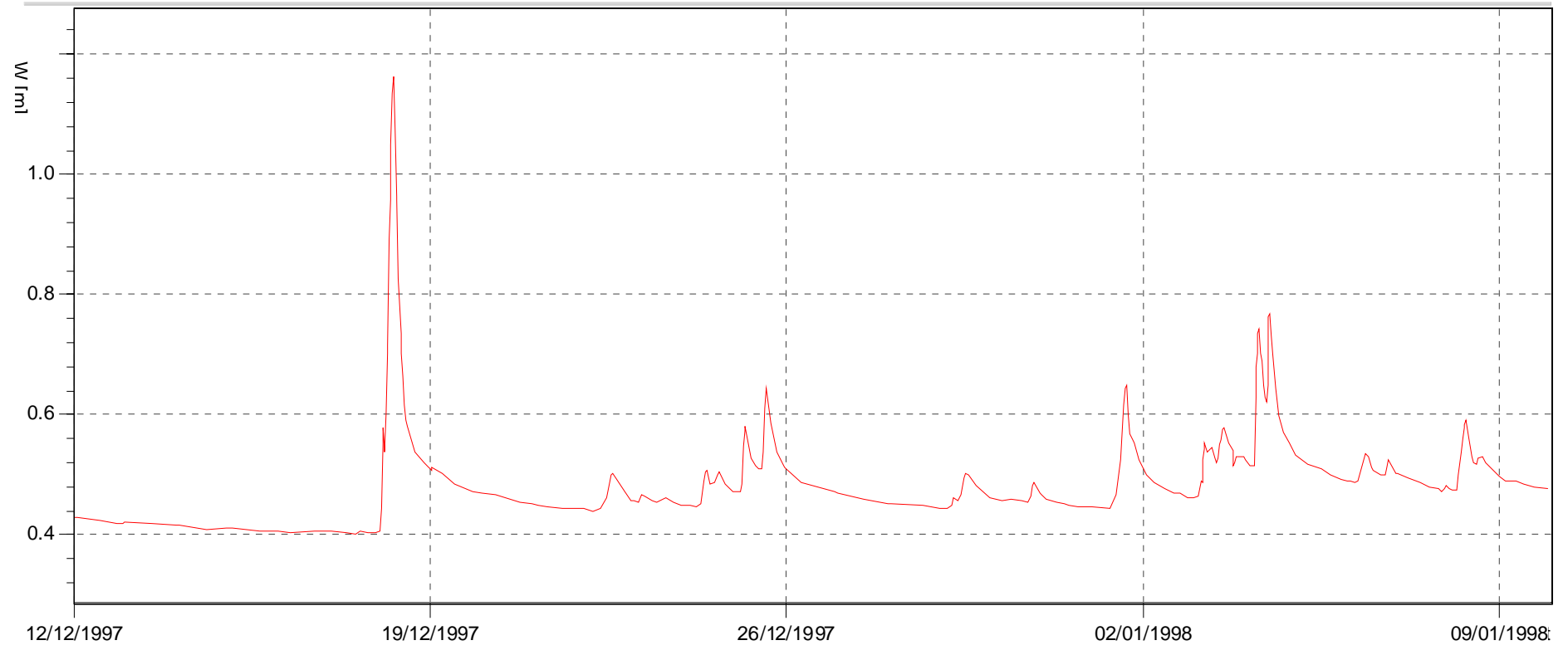
Hydrograph of Water Level

CARRICKMINES.W.1

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



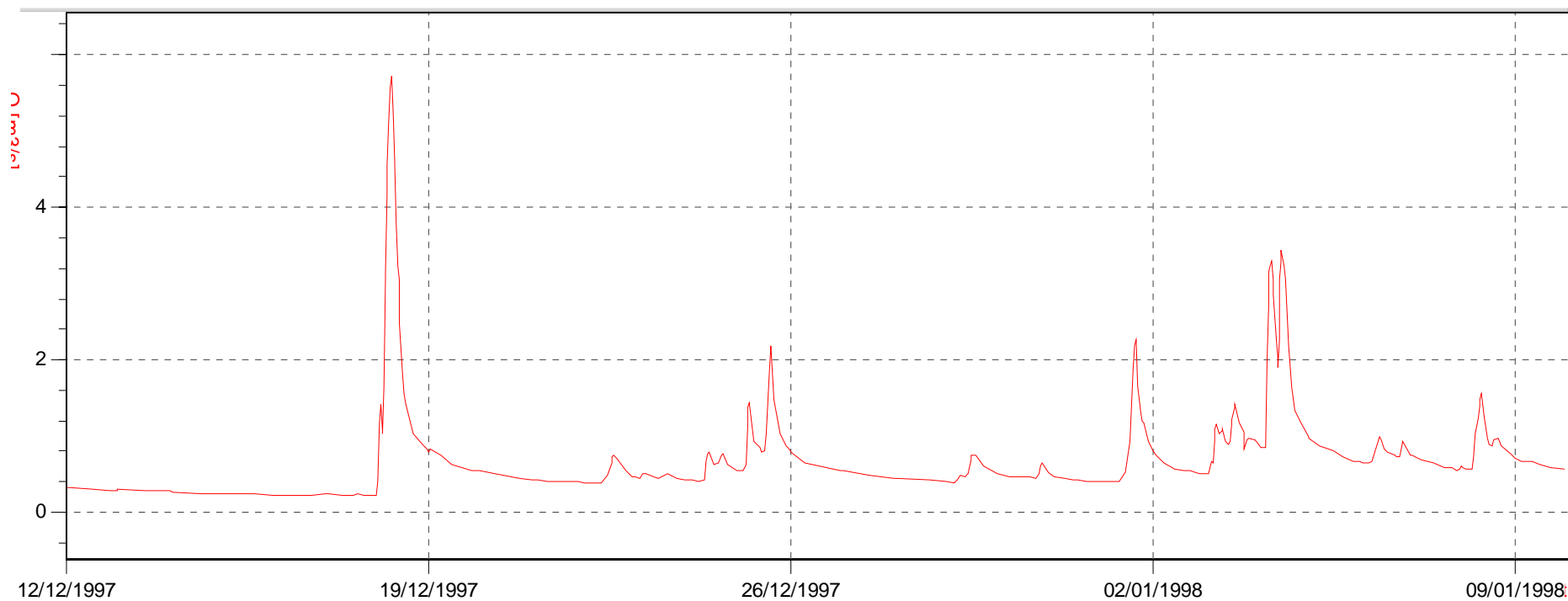
Hydrograph of Flow

CARRICKMINES.Q.1

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



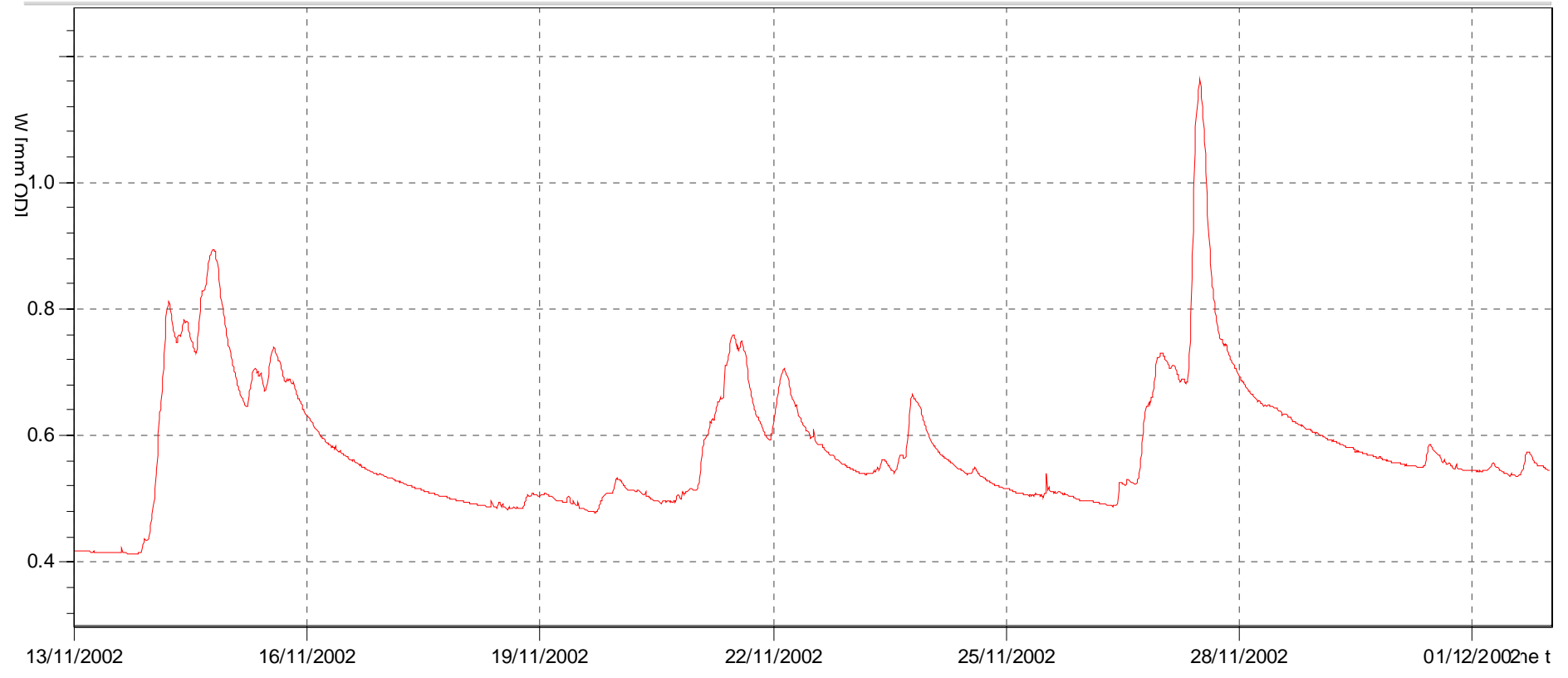
Hydrograph of Water Level

CARRICKMINES.W.15

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY



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Hydrograph of Flow

CARRICKMINES.Q.15

Station number: 10022

Station name: CARRICKMINES

River: CABINTEELY

