

COMPREHENSIVE DISCHARGE REGISTER

CWR NO.6

TITLE: Puhinui Stream.

WATER RIGHT/RESOURCE CONSENT No.928511

COMPREHENSIVE DISCHARGE CONSENT No.14/10/Br/8511

EXPIRY DATE: 31 Dec. 2027

CATCHMENT SIZE: 2220 ha.

POINT OF DISCHARGE: Puhinui Stream, NZMS 260 R11 741633

PEAK DISCHARGE:

146 m³/s (1% AEP). This is based on the ultimate fully urbanised catchment.

PRIMARY DESIGN STANDARD: 20% AEP.

SECONDARY DESIGN STANDARD: 1% AEP.

FLOOR LEVEL RESTRICTION:

1m above 1% AEP, or refer to the Proposed District Plan (Section 9.9.1.2 (c)), **whichever is the more rigorous.**

OTHER CONDITIONS: -works to the Plunket Ave bridge and weir near outlet are to be undertaken by 1996/97.

- reinstatement of weir to include a fish by-pass.

- the flood peak detention pond proposed for the site upstream of the Southern Motorway adjacent to the northbound off-ramp to Manukau City is to be built before any further upstream catchment development.

- prior to urban development in the catchment upstream of the Southern Motorway resulting in increased flood flows either a flood peak detention pond is built on the Totara Park site (see attached map) or the Plunket Ave Bridge is upgraded or replaced.

*Refer to Financial Contributions Register for updated figures.

COMMENTS: Refer to CWR file for original consents dealing with various sub-catchment areas.

Flood Risk Areas: Two areas have been identified as being susceptible to flooding under the 1% AEP flood event: Diversey Lane and Plunket Ave Bridge. These are identified on the attached maps.

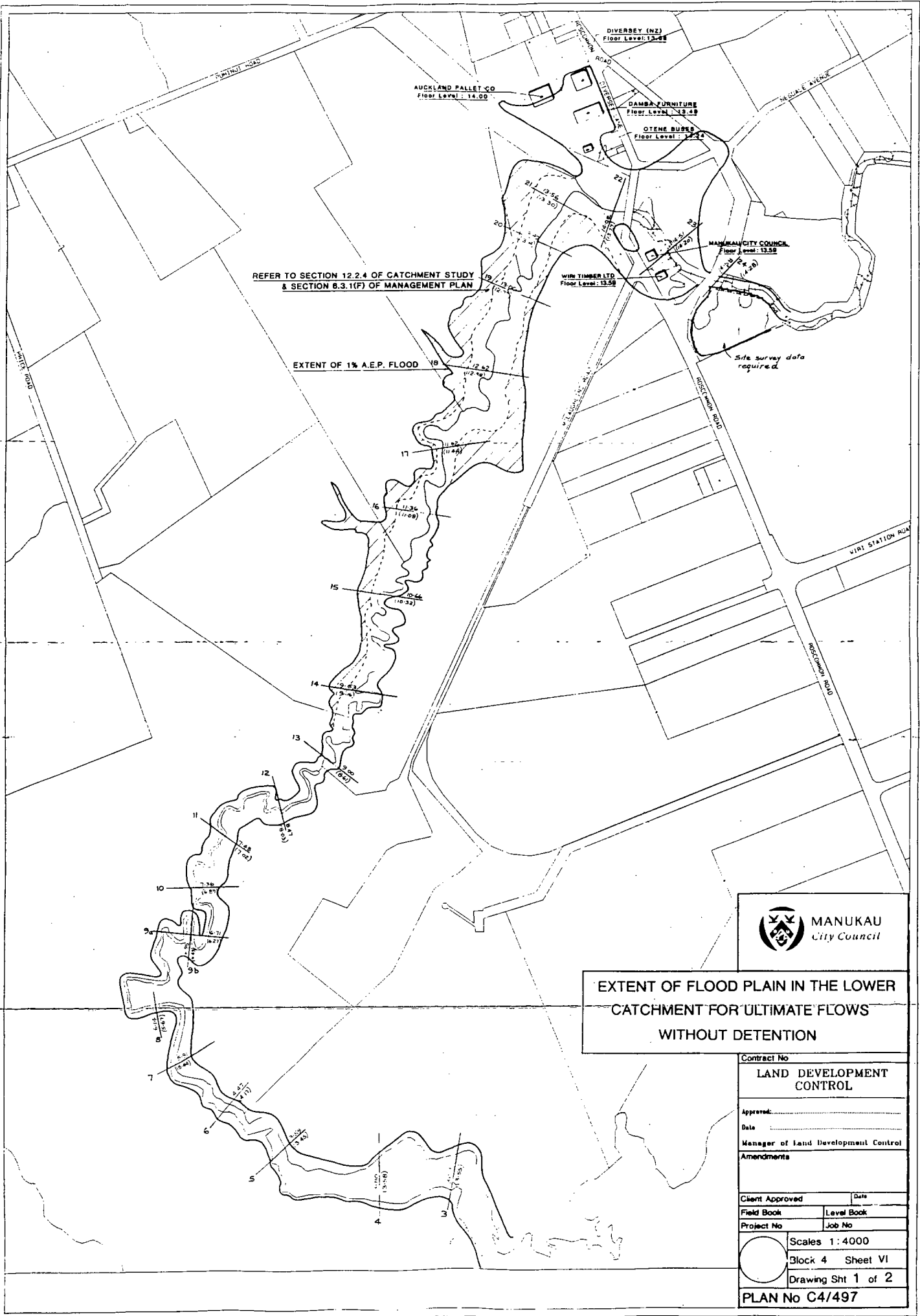
Erosion Control: This is considered important in this catchment as erosion can not only increase the sediment load delivered to the sea but it can also reduce the channel capacity and increase the risk of flooding. It is recommended that erosion is controlled through the use of rock banks and vegetation planting on flood berms and stream banks. Refer to plan attached.

Rainfall Data: The calculated 1% AEP flood event was calculated using rainfall records from the adjacent Otara Stream catchment. A rainfall recording station existed in this area from 1952-1986.

It is recommended that all hydrological design for the Puhinui catchment is based on the depth-duration-frequency data derived from the Otara Stream catchment data.

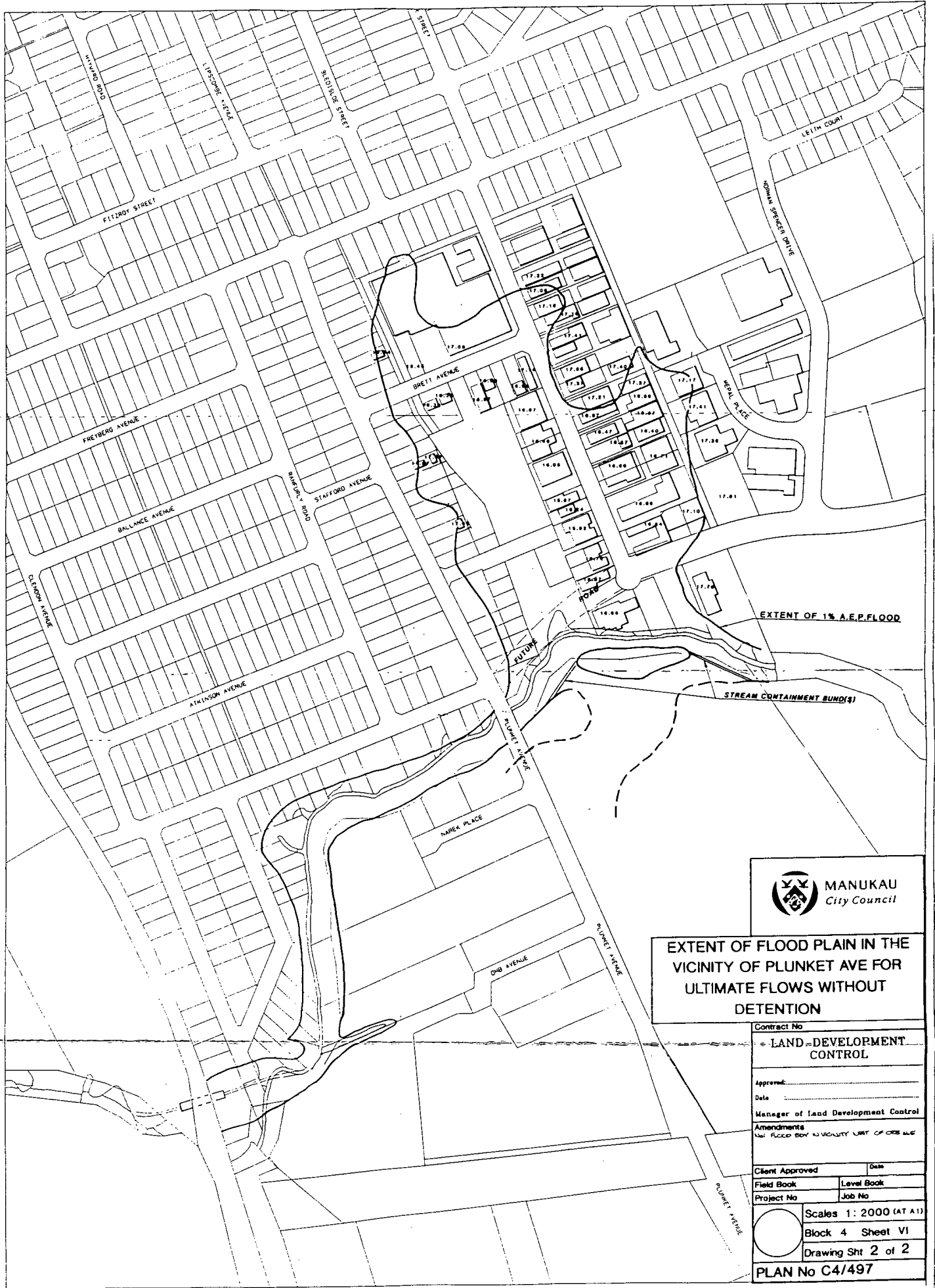
A further recommendation was made that the rainfall station for the Otara catchment be re-established as soon as possible.

Diagrams Included: Possible ponding areas and general layout of Puhinui catchment
Diversey Lane flood risk area
Plunket Ave Bridge flood risk area



EXTENT OF FLOOD PLAIN IN THE LOWER CATCHMENT FOR 'ULTIMATE' FLOWS WITHOUT DETENTION

Contract No	
LAND DEVELOPMENT CONTROL	
Approved:	
Date	
Manager of Land Development Control	
Amendments	
Client Approved	Date
Field Book	Level Book
Project No	Job No
Scales 1:4000	
Block 4 Sheet VI	
Drawing Sht 1 of 2	
PLAN No C4/497	



EXTENT OF FLOOD PLAIN IN THE VICINITY OF PLUNKET AVE FOR ULTIMATE FLOWS WITHOUT DETENTION

Contract No	
LAND DEVELOPMENT CONTROL	
Approved: _____	
Date: _____	
Manager of Land Development Control	
Amendments No. FLOOD BY VICINITY UNIT OF CDS 416	
Client Approved	Date
Field Book	Level Book
Project No	Job No
Scales 1: 2000 (AT A1)	
Block 4 Sheet VI	
Drawing Sht 2 of 2	
PLAN No C4/497	