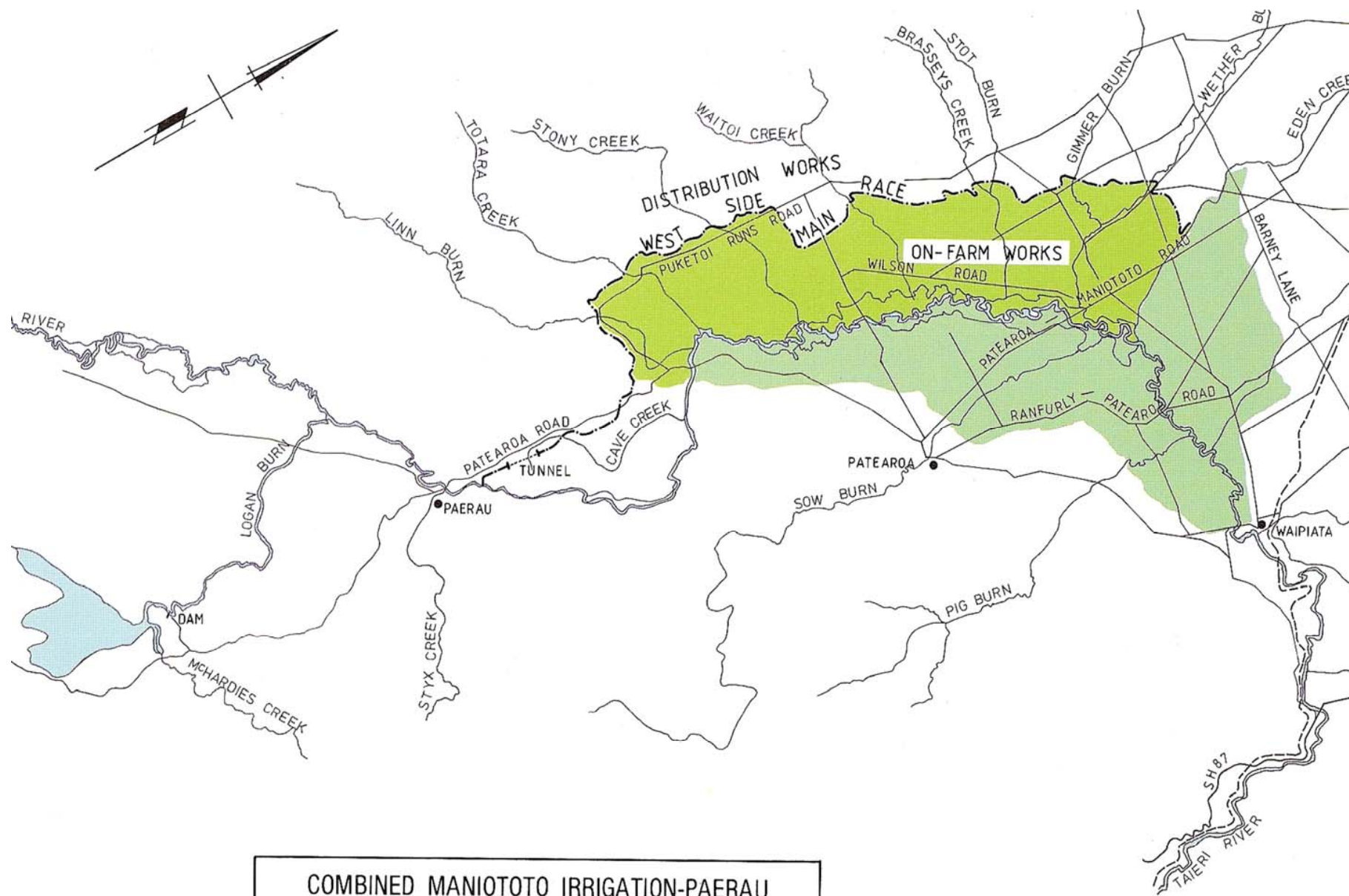


Maniototo Irrigation Scheme

- Last of the large community irrigation schemes constructed by the Ministry of Works and Development.
- Construction began 1973, estimated cost \$6.2 M
- Commissioned 1984, cost \$32 M





COMBINED MANIOTOTO IRRIGATION-PAERAU
GORGE POWER SCHEME LAYOUT

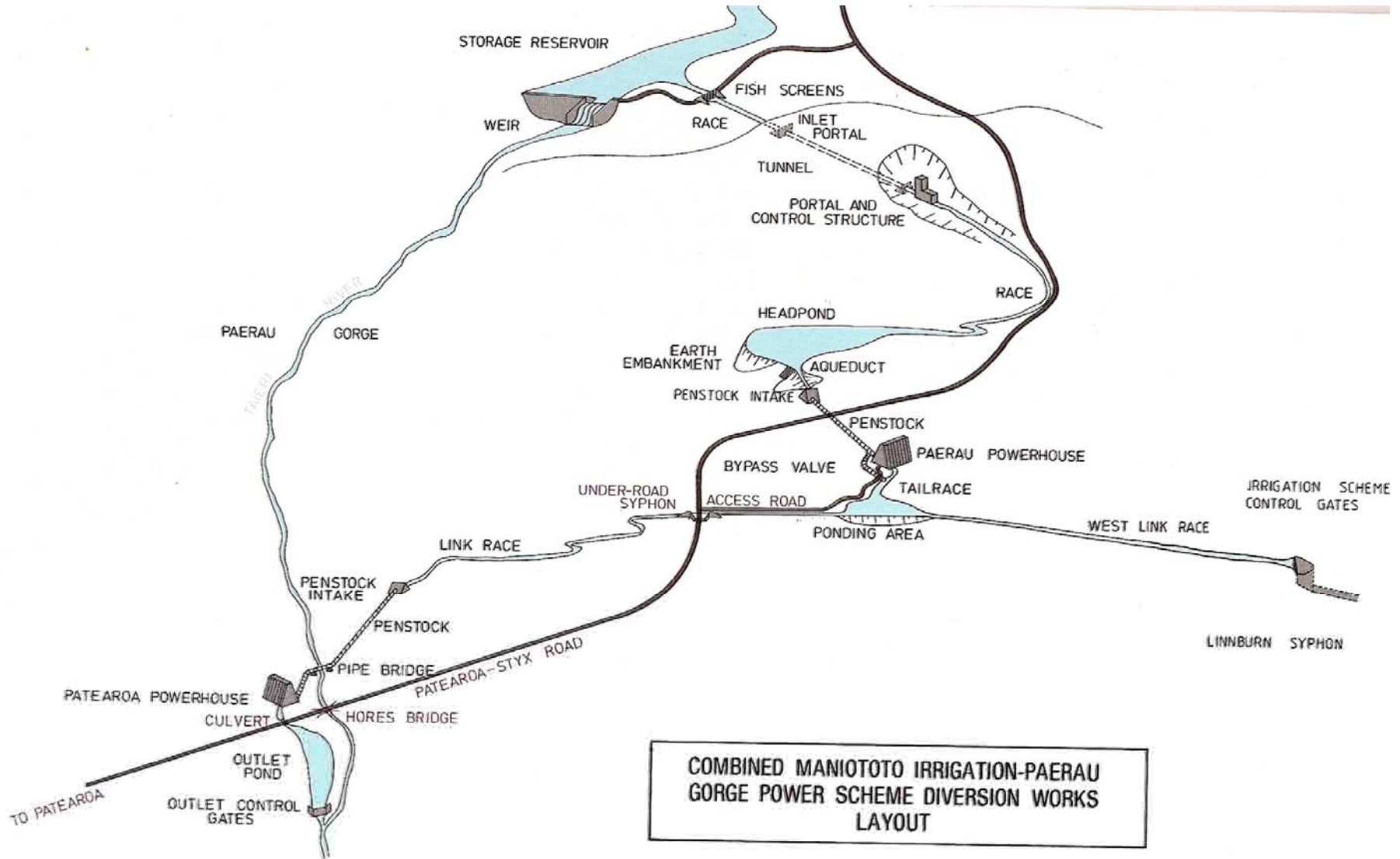


EXTREME DANGER
KEEP WELL CLEAR
AUTOMATIC GATES MAY
OPEN WITHOUT WARNING

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Head works





Special features

- Hydro Electric component
 - Potential multi-season storage
 - Small water source
 - Very low rainfall area
 - Extensive farming systems
 - Over allocated river
 - Mining history
-

Scheme development

- ◆ Monitoring and control system upgrade – 1986 and ongoing - \$100,000
- ◆ 1990 - Completion of East and Waipiata sections – \$1.3 M
- ◆ Increase storage capacity – current - \$400,000?

Monitoring and control

- Remote telemetry in place for:
 - Management of Paerau diversion weir by close monitoring of natural inflow and controlled release from storage.
 - Measurement and recording of minimum flow below diversion and inflows to main distribution systems - compliance.
 - Policing of user operated turnouts throughout the distribution systems.


Completion of scheme extensions

- Constructed at a lower specification to serve the original concept area
- Fully funded by the farmer beneficiaries who formed two separate companies to own and operate their own systems
- Headworks owned by all three distribution companies as shareholders in MIC

Increasing storage capacity

- On hold, pending Project Hayes decision
 - Consenting process complete
- Potential addition of 11 M m³ (12 %)
 - Objective to improve reliability, no increase in irrigated area
 - Approximate practical limit for catchment

Problems

- **Resolved**
 - Major cost over runs
 - Tunnel construction (technical difficulties)
 - Loganburn Dam access and control
 - Operational efficiency
 - Completion of distribution systems
 - Ownership of headworks
 - **Unresolved**
 - Land use issues
 - Public Relations / Consenting
 - Catchment management
- 

Lessons learned

- Community management
- Linkage of land to water
 - Share transfers
 - Supply agreements
- Ownership of key assets
- Maximum engagement with other groups