Tamaki at Hartridge's Rating

Overview:

This site does not have a standard sensor setup. History: One plan has consents issued against a site called "Tamaki at Stephensons" which was closed in 2016 after long term issues with bed degradation.

A new site was built at the Hartridge's site with two water level recorders. The primary recorder is a shaft encoder in a mini tower located above the weir. The backup sensor (bubble unit) is located downstream of the weir so the stage is completely different to the upstream recorder. We are hoping the downstream recorder will provide better record at low flows. Both recorders have been set up from the same benchmark with an assumed datum of 100.000 metres. The assumed RL for the site is 97.000 metres.

Rating the shaft encoder:

As per all other eastern sites, rating is located in Eastern.hts, gaugings are imported as per any other gauging. Ratings are drawn as per normal.

Rating the downstream / backup sensor:

After importing the gauging to the Tamaki at Hartridges site, (best QA'ing it before following the next step):

- Copy the gauging to the site "Tamaki at Hartridges DS Weir" site also in Eastern.hts.
- Edit the copied gauging stage to the logger stage for the backup sensor
- Edit the rating for "backup stage to flow" for this site –i.e copy new rating as per normal
- Copy this backup stage rating to the hydrotelemetry and public hilltop files

Getting the flow to Tamaki at Stephensons:

This should take place automatically, however here is an overview on how this happens:

1) In the Tamaki at Stephensons flow site in public telemetry there is a vitual measurement called "VM Modelled flow" with the following code:

```
'Tamaki at Stephenson shut down on 10-08-2016 flow record must be maintained for one plan.
'Written 15-08-2016 David Brown

Get "{Tamaki at Hartridges} Flow [Water Level]" as High_Flow                    'Flow from tower upstream of weir
'Get "{Tamaki at Hartridges} Flow [Water Level Backup Sensors]" as Low_Flow     'Flow from bubbler downstream of weir

'Do the maths here to flick between us & ds recorders

Flow = High_Flow

   if High_Flow < 2000 then
     Flow = Low_Flow
   end

Put Flow
_Quality = 300
```

This VM automatically switches between the two recorders when the flow is under 2000 litres per second.

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2) A model then picks up this VM data set, and makes no conversions to this data, and outputs this as "Stage Backup" for Tamaki at Stephensons in the public telemetry file.
3) A 1:1 rating in Public telemetry [(0,0), (100000,100000)] creates the flow series for the Stephensons site.
4) This data then feeds the website and is the flow value reported for consenting purposes.