

RE: S2526062 - Preston Manor Brewery - Wastewater discharge calculations

From julian@thebrewerymentors.com <julian@thebrewerymentors.com>

Date Tue 14/04/2026 12:38 PM

To 'Michael Gunther' <michaelg@kehoemyers.com.au>

Cc 'Alister @ Preston Manor' <alister@prestonmanor.com.au>; beth_clark@outlook.com
<beth_clark@outlook.com>

 2 attachments (662 KB)

QUEL CIP HD caustic.pdf; PT SAN 5 acid.pdf;

Hey Michael,

First and foremost, this is a very small scale artisan brewery, not a large scale operation like CUB or Lion. The system does not even justify a full time brewer and overall wastewater volumes are minimal.

To give you a clear picture, I've outlined our weekly production and associated wastewater below.

Day 1 – Keg cleaning and packaging

We operate a keg washer with two 50L tanks, one containing 1.5% caustic and one 0.03% food grade acid. Both solutions are recirculated during cleaning and reused across multiple kegs.

After use:

- Acid is discarded once neutralised into oxygen and water
- Caustic is either reused or transferred off site to an approved wastewater facility

During packaging, remaining beer and yeast are collected in an IBC for agricultural use.

Wastewater to drain: approximately 130L

Day 2 – Cleaning (CIP)

We clean tanks and heat exchanger using a CIP system with heated caustic (80°C) and food grade acid. All chemicals are recirculated and reused within the system.

The process includes:

- Water rinses totalling approximately 25L per cycle
- Final acid rinse (approx. 50L), which neutralises the caustic before discharge

Wastewater to drain: approximately 125L

Brew day (once per week, 1000L batch)

- Spent grain and hop material are collected and removed off site for use as cattle feed
- Drainage is fitted with filter boxes to capture solids
- Tanks are rinsed with water only

Wastewater to drain: approximately 300L

Summary

- Very low daily discharge volumes
- No organic solids entering the drain
- Chemical waste is either reused, neutralised, or removed off site

- Remaining wastewater is primarily water with minimal residue

I have also attached the SDS for both caustic and acid used. Concentrations are very low, for example 0.03% acid equates to approximately 300ml per 100L and caustic is reused across multiple cleaning cycles.

Happy to talk this through in more detail if needed.

Regards,



From: Michael Gunther <michaelg@kehoemyers.com.au>
Sent: Tuesday, 14 April 2026 9:42 AM
To: julian@thebrewerymentors.com
Cc: 'Alister @ Preston Manor' <alister@prestonmanor.com.au>; beth_clark@outlook.com
Subject: RE: S2526062 - Preston Manor Brewery - Wastewater discharge calculations

Julian,

Unfortunately, we don't have an approved Plumbing and drainage (P & D) application yet from Toowoomba Regional Council and as such they don't permit any sanitary plumbing/drainage or water services works (until we secure P & D approval).

The P & D application has been lodged but TRC have requested additional information (attached). Some of these items have since been resolved (items 1, 4, potentially item 5?, 6 and 8) with the wastewater loadings items (items 2 and 7) yet to be addressed as we require a more detailed breakdown of the brewery wastewater discharge.

If we could receive the wastewater discharge summary later today, we could submit our responses to TRC Information Request tomorrow to try to move the P & D application along.

Kind Regards,

MICHAEL GUNTHER HYDRAULIC DESIGN TECHNICIAN

TELEPHONE 07 4632 8100 MICHAELG@KEHOEMYERS.COM.AU

124 RUSSELL STREET, TOOWOOMBA QUEENSLAND 4350

OFFICE RENOVATION

We're currently extending our office to support our growing team, along with giving our interiors a much-needed refresh and refurbishment.

While we're in this transition phase, things may look a little messy with people and furniture temporarily on the move. Please also note that our rear car park is unavailable during the works, so we kindly ask visitors to park on the street.

Thank you for your patience and understanding — we can't wait to welcome you into our newly refreshed space once everything is complete!

Kehoe
Myers

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From: julian@thebrewerymentors.com <julian@thebrewerymentors.com>

Sent: Tuesday, 14 April 2026 9:25 AM

To: Michael Gunther <michaelg@kehoemyers.com.au>

Cc: 'Alister @ Preston Manor' <alister@prestonmanor.com.au>; beth_clark@outlook.com

Subject: RE: S2526062 - Preston Manor Brewery - Wastewater discharge calculations

Thanks for that. I'll have a chat with John Bennett from Mouse Proof today regarding the wastewater, he had some good recommendations.

I'll also send through a summary of our expected discharge later today.

Just on the timeline, I wanted to check if we can proceed with the water plumbing in the shed or if we need to wait for wastewater approval first. From my understanding, we won't be discharging anything initially, but it could hold us up if we need to wait for formal approval.

Regards,



THE BREWERY MENTORS

Julian Widera

0490 665 810

julian@thebrewerymentors.com

www.thebrewerymentors.com

From: Michael Gunther <michaelg@kehoemyers.com.au>
Sent: Tuesday, 14 April 2026 9:09 AM
To: julian@thebrewerymentors.com
Cc: Alister @ Preston Manor <alister@prestonmanor.com.au>; beth_clark@outlook.com.au
<beth_clark@outlook.com>
Subject: S2526062 - Preston Manor Brewery - Wastewater discharge calculations

Good morning, Julian,

Shed plans and the current hydraulic plans attached for your information as requested.

Once you are close to your final design could you also assist me with calculated wastewater flows from the brewery? This site does not have a mains sewer connection, so our only wastewater discharge options (from the brewery) are to either discharge to the existing SuperTreat wastewater treatment system installed on the site or to a new and dedicated greywater system which we could then use the treated wastewater for landscape irrigation. The existing SuperTreat wastewater treatment system has a total capacity of 8000L and a working capacity of the system is 1500L/day but this is also taking the wastewater discharge from the commercial kitchen and amenities on the premises so it may not have sufficient capacity for the additional brewery discharge.

To determine if we can discharge to the existing SuperTreat wastewater treatment system, I will require daily wastewater discharge volumes from the brewery. By that I mean whatever would be the expected discharge on brewing days etc or when the discharge will be greatest. Also, I will need a bit more understanding of the type of chemicals used in the process and volumes used as Council will require that information.

The below is taken from an email I had sent to Tim Anderson, but I haven't yet received a reply so hopefully you could assist me when you get your design and process in place.

From our discussions on site the discharged wastewater during the cleaning process would have traces of malt, grain, hops and yeast from the previous brew. Any solids would settle out in the proposed Halgan brewery trap so it would just be traces of these organic compounds plus any cleaning agent remaining.

From earlier discussions, you will be using a 5% cleaning agent, and the combined discharge (cleaning agent plus water dilution) will be approximately 100 Litres. Question: From this cleaning agent stage will you be using 5 Litres of cleaning agent and 95 Litres potable water? If not, please advise on quantities (cleaning agent & potable water) and the brand name of the cleaning agent. I also have a note saying 500 Litres of potable water to do a clean, does this 500 Litres include both the cleaning agent stage and the sanitising stage?

Can you please advise of brand name of sanitising agent and is the sanitising agent first diluted with potable water prior to adding to the brewing equipment? If so what would be the mix, ie what volume of sanitising agent and what volume of potable water? Is excess sanitising agent drained from the brewing equipment prior to doing a brew? I understand a film of sanitising agent on brewing equipment and internal pipework is fine but I assume you want the excess drained? If that is the case what would be the volume of this diluted excess sanitising agent?

Additionally, from our site discussions you mentioned there would also likely be a basin and a sink installed. The basin would just be for handwashing and the sink for filling containers of potable water for the brewing process? What about hosing down the brew room, how often is this done and at what stage ie. After a clean or after a brew? Approximately how long would the hose be running during this clean (just so I can do a rough calculation of water volume).

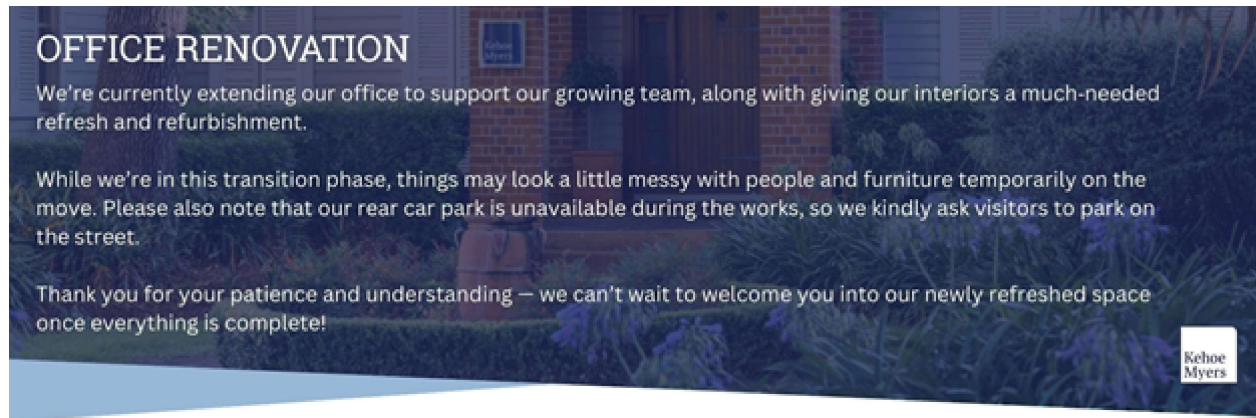
Is there anything else to include?

Kind Regards,

MICHAEL GUNTHER HYDRAULIC DESIGN TECHNICIAN

TELEPHONE 07 4632 8100 MICHAELG@KEHOEMYERS.COM.AU

124 RUSSELL STREET, TOOWOOMBA QUEENSLAND 4350



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