Environmental Design RFI Questions and Responses

Record Number	Submitted By	Date Submitted	Reviewed By	Date Reviewed	Attachments (Yes/No)	Question	Proposed Solution (Optional)	Response	Comments
1	SDSU	1/7/2026	Estefania Ayala	1/29/2026	No	For the design and build, we are allowed the use of electricity for an aerator or other tools?		**On-site electricity will not be provided.** Teams may incorporate **passive aeration** (recommended) and/or **self-contained, non-grid power sources** (e.g., battery-powered, hand-powered, gravity-driven) **as long as the system stays safe, within size limits, and does not rely on organizer-provided power.**	
2	SDSU	1/7/2026	Estefania Ayala	1/29/2026	No	In the rules it says that we can operate our system for several days or weeks before compeititions, is that the same system that we will be using on competition day or do we have to build a brand-new system within the 20 minute window?		Teams are **encouraged to pre-build and operate the same system** for several days/weeks prior to competition day (per Sections 1–2). **A brand-new build within 20 minutes is not required**. The 20 minutes is the **operation/treatment window** on competition day (Section 5).	
3	SDSU	1/7/2026	Estefania Ayala	1/29/2026	No	On competition day, are the four people who construct and operate the system also in charge of the poster/presentation or can other members/PMs do that?		A: Per Section 11: the team consists of four members who "construct and operate the system," plus optional one Project Manager (PM) who may oversee/direct but may not physically participate. Therefore, presentations and judge discussions should be delivered by the official team members (the four) and/or the PM, with the understanding that the PM does not physically touch/construct/operate the system.	
4	SDSU	1/7/2026	Estefania Ayala	1/29/2026	No	For the report, is a full-scale design required for the HWRT? Or do we mainly just focus on the system schematic and design of the bench scale system?		The core deliverable is the **bench-scale system design + performance evaluation** (Section 5 and 8). The report should include **"lessons learned and recommendations for full-scale design"** (Section 8), but a detailed full-scale HWRP engineering package is **not required.**	
5	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Do we have to contruct anything at the competition?		**Not necessarily.** Teams may bring a pre-constructed system and perform only setup and operation on-site, provided they comply with footprint/height/media-volume limits and can complete the required 20-minute treatment/collection.	
6	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Are we designing full scale in addition to building a small prototype?		You are primarily designing and building the **small-scale wetland** for competition. You should include **reccommendations/considerations** for scaling up in the report (Section 8), but full-scale design is not required.	
7	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Are there more points for smaller footprint?		The scoring rubric does **not** explicitly award points for being smaller than the maximum. However, thoughtful compact design may support **Innovation, hydraulic performance,** and **design logic** (Sections 7 and 10). There is **no automatic bonus** solely for smaller footprint.	
8	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Does the 20 minutes for contruction during the competition only account for pouring the influent?		The call defines the 20 minutes as the operation/treatment window (Section 5): "Operate the wetland for 20 minutes to treat 5 gallons and collect effluent." Teams should interpret this as: once the operation begins (including influent introduction), everything needed to produce effluent for sampling must occur within 20 minutes. Setup/positioning beforehand is acceptable if it does not involve "treatment time." Note: This is a bench-scale demonstration test. Teams are evaluated on measurable improvements and sound engineering logic (hydraulics, media selection, flow distribution), not on achieving full-scale wetland removal typical of long HRT systems.	
9	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Does the height of the plant count in the max system height?		**Maximum system height (50 cm) applies to the constructed wetland structure**, defined as the container/reactor body, media bed, and all plumbing or hardware required for treatment. **Vegetation may extend above 50 cm**, provided the system remains stable, safe, and contained within the team's allocated workspace.	
10	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Does the internal media volume only count the soil media or does it also include plants and plumbing?		The "maximum total internal media volume: 60 L" (Section 5) refers to the volume of **reactive treatment substrates** and excludes plants, plumbing, and equipment. Plumbing volume is typically not counted as "media." Plant biomass is not "media," though roots occupy a small space within the media. Teams should document how they estimated media volume.	
11	CP SLO	1/13/2026	Estefania Ayala	1/29/2026	No	Do we need to consider impacts to wildlife?		Yes, at least at the level of safe, responsible design. The call emphasizes "**aesthetic and ecological design aspects**" and safety/ethical conduct (Sections 4.5 and 9). Teams should avoid harmful practices, (e.g., toxic additives, invasive species) and prevent spills.	

12	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Do we need to construct the wetland system at PSWS or can we bring in a pre-constructed system? If we are building the system on-site, what are the physical space and equipment specifications for the construction team?		If a team chooses to assemble on-site, they must do so within their allocated workspace **(~10 ft × 10 ft),** should not violate system constraints (footprint/height/media volume as described in section 5), and must remain compliant with system constraints. Teams should assume **no special equipment, no electricity, and minimal logistics support** will be provided**. No tools or electricity are assumed provided** beyond the space allocation. Teams should plan to be fully self-sufficient with any tools/equipment they require, consistent with event safety rules.
13	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Should the plants be new for the competition or is it ok to bring plants that have had time to simulate microbial growth?		It is **acceptable and encouraged** to bring plants/systems that have time to develop microbial activity and acclimate (Section 1-2). This aligns with the competition's emphasis on pre-operation and biolgical matruation.
14	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	What is the team's "allocated space" (dimensions)?		Teams assembling on-site must do so within their **allocated workspace of approximately 10 ft × 10 ft**. This space is intended for system setup and operation. The wetland system itself must still comply with the formal system constraints, including a **maximum footprint of 1 m², maximum height of 50 cm**, and **maximum internal media volume of 60 L** (Section 5).
15	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Will the discussion session with the judges allow for powerpoint slides to provide visuals or only the poster?		The call specifies "present results... in a brief discussion session" and encourages "visual aids and concise summaries" (Section 7). Therefore, we allow teams to use a poster or powerpoint slides.
16	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Could you please provide further specifications regarding the use of microbes in our systems? Are there potential quality standards for the types of microbial strains that we use?		The call encourages simulating microbial growth and biofils (Sections 1-2) but does not prescribe specific strains. Teams may rely on **natrually developing microbial communities** in wetland media/plants. Any added biological amendments must comply with safety rules (Section 9) and should be explained/justified in the report.
17	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Will each team be allowed to have more than 4 members, such as additional members to represent the team in the discussion session? Or is there a maximum number of teammates?		The competition call limits teams to **four competing members + one optional PM** (Section 11). So the maximum team size is 5. The judge discussion session should be limited to these official participants.
18	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Does the prescribed 5-page count for the design report include the title page / references / appendices?		The 5-page limit applies to the main report content only. The title/cover page,references, and any appendices are excluded from the 5-page count.
19	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Are we only allowed to use materials typically found in real, common wetland systems or are manmade products such as GAC allowed?		Engineered media such as **GAC** can be considered consistent with real-world constructed wetland practice (and is referenced indirectly by the "hybrid media" innovation examples in Section 7). Materials must be **safe, non-reactive/harmful** (Section 9), and justified in the design rationale.
20	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	How many points in the rubric will be allotted towards the design report?		The rubric categories tied directly to the report content include: - **Design Rationale & Technical Logic : 25** **- Data Analysis & Interpretation : 20** And parts of **Communication & Presentation: 10** may draw from how well the reports support the team's explanation. (Section 7)
21	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	How much time may be allotted for pretreatment? Is this part of the given 20 minutes for system operation?		If pretreatment is part of the treatment train for the 5 gallons (e.g., a pre-filter, settling, dosing, etc.), it should be considered part of the same 20-minute operation window, because the competition measures performance over that operational period.
22	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Is the effluent collection bucket supposed to be included in the 1 m^2 area?		The 1 m² requirement applies to the **wetland system footprint (plan area)** (Section 5.1). The effluent collection bucket can be placed **outside the wetland footprint** within the team's allocated workspace, as long as the wetland itself remains ≤ 1 m².
23	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Does the 1m^2 indicate that the geometry has to be a square?		**No**. The system may be any geometry (rectangular, circular, serpentine, etc.) as long as the **plan area ≤ 1 m².**
24	UCI	1/13/2026	Estefania Ayala	1/29/2026	No	Are battery-powered elements allowed in our wetland treatment system?		**Yes,** battery-powered elements are acceptable if fully self-contained (teams bring them), safe, and do not violate system constraints (footprint/height/media volume). Teams should be prepared to operate without any external power access.
25	UHM	1/20/2026	Estefania Ayala	1/29/2026	No	Out of the 5 gallons that enter our system, are all 5 gallons required to exit our system?		The intent is to treat **5 gallons of influent** and collect effluent samples within the operation period (Section 5). Teams should design for meaningful effluent recovery sufficient for sampling and evaluation. Minor retention is normal in porous media systems, but **insufficient effluent** may limit testing and could reduce performance scoring.
26	UHM	1/20/2026	Estefania Ayala	1/29/2026	No	Are we allowed to bring our system pre-constructed or partially constructed?		**Yes**. Bringing a **pre-constructed** (and biologically matured) system is consistent with the competition intent and is recommended.
27	UHM	1/20/2026	Estefania Ayala	1/29/2026	No	Are electronics allowed in our system?		**Yes,** electronics are allowed if they are self-contained and safe. Organizers will not provide power outlets or charging.
28	UHM	1/20/2026	Estefania Ayala	1/29/2026	No	Wanted to confirm, once the influent is poured into the system, are we allowed to touch/operate our system during or after treatment?		Yes—teams may **operate** their system (e.g., manage valves, ensure flow stability, troubleshoot safely), consistent with "Experimental Execution & Operation" (Section 7). The key is that the operation must be safe and within time constraints.

29	UHM	1/20/2026	Estefania Ayala	1/29/2026	No	Does the treated influent water need to actively flow out of our system during the 20 minutes? For example, would it be allowed to have a valve that retains the water, then manually open this valve at or near the end? It is assumed that sampled of our treated water will be taken at the end of the 20 minutes.		A: The system must complete treatment and provide effluent for sampling by the end of the 20-minute operation window. A design that retains water and releases near the end may be acceptable if it still represents the system's intended hydraulic behavior and allows sampling on time. Teams should clearly explain the approach in their design logic and be prepared for judges to evaluate practicality and hydraulic reasoning.
30	UHM	1/20/2026	Estefania Ayala	1/29/2026	No	The rules state that the maximum footprint and plan area is 1 sqaure meter. Is our system restricted tp fit within the shape of the a 1m by 1m square? For example, would a rectangular shape of 0.5 meters by 2 meters by allowed?		No. The **1 m² maximum footprint** refers to the total **plan area**, not a required square geometry. The system may be **any shape** (rectangular, circular, serpentine, etc.) as long as the total plan area does not exceed **1 m²**. Therefore, a configuration such as **0.5 m × 2 m** is acceptable, provided all other system constraints are met.
31	UGM	1/20/2026	Estefania Ayala	1/29/2026	No	Lastly, will there be a document with all the RFIs available for the team?		Yes. All RFI content and official responses will be compiled and distributed through the competition mailers so that the same information is available to all teams.
32	USC	1/23/2026	Estefania Ayala	1/29/2026	No	The rules state that teams will "operate the wetland for 20 minutes to treat 5 gallons of influent and collect effluent samples". By the end of the 20-minute period, is there an expectation that all 5 gallons fully pass through the system? Is the volume treated within the 20 minutes a grading criterion, or is the primary goal just to obtain a representative effluent sample for analysis?		The intent is to **operate the wetland for 20 minutes and collect effluent samples** for evaluation (Section 5). Teams are not required to have all **5 gallons fully pass through the system** within the 20-minute window. Minor retention within porous media is expected. The primary goal is to obtain **sufficient, representative effluent** for sampling and analysis. Systems that produce **insufficient effluent** may limit testing and could reduce performance evaluation.
33	USC	1/23/2026	Estefania Ayala	1/29/2026	No	Are teams permitted to use pumps as part of their system design. If so, will access to electrical outlets be provided, or should pumps be battery-powered?		Yes. Teams may use **pumps** as part of their system design, provided they are **self-contained and safe**. **On-site electricity will not be provided**, so any pumps must be **battery-powered, hand-powered, gravity-driven, or otherwise non-grid dependent**. Teams should be prepared to operate their systems without access to external power.
34	USC	1/23/2026	Estefania Ayala	1/29/2026	No	How much of the wetland system is expected to be assembled on-site versus arriving pre-assembled? In years past, there has been an expectation that we build our treatment system on site at competition, but we're not sure if that still applies given the allowance for pre-maturation. We see in the prompt that our team must "construct and operate" the system, but are not sure to what extent there must be onsite construction.		Teams are **not required to build a brand-new system on-site**. The competition allows and encourages teams to **pre-construct and pre-operate (pre-mature) the same system** prior to competition day (Sections 1–2). On competition day, teams must be able to **set up and operate** their system within their allocated workspace and complete the required **20-minute treatment and effluent collection** (Section 5). The phrase "construct and operate" refers to the team's responsibility for the design, assembly, and operation of the system, but it does not require full on-site construction during the event. Limited on-site assembly or positioning is acceptable, provided all system constraints are met and the system functions as intended during operation.
35	USC	1/23/2026	Estefania Ayala	1/29/2026	No	How will influent water be provided to teams on competition day? Are we allowed to introduce the five gallons of water at a chosen flow rate, or will it need to be all at once?		All teams will be provided the **same standardized influent water on-site** on the day of competition. Teams may introduce the **five gallons at a flow rate of their choosing**, provided that the **entire treatment process and effluent collection occur within the 20-minute operation window** (Section 5). The influent does **not need to be introduced all at once**, but any pretreatment or staged dosing that is part of the treatment train must be included within the same 20-minute period.
36	USC	1/23/2026	Estefania Ayala	1/29/2026	No	Is it acceptable for the wetland to contain water prior to the start of testing at competition (for example, to support obligate wetland plants)?		Yes. It is acceptable for the wetland system to **contain water prior to the start of testing**, including to support obligate wetland plants or biological maturation. The key requirement is that the **five gallons of provided influent must be treated during the designated 20-minute operation window** and that effluent samples are collected within that period (Sections 1–2, Section 5). Pre-existing water in the system does not count toward the influent volume treated during the test.