Design Assessment Form

Diploma Apprentice's Name	**Mark D'Cruz**
Date Apprentice started Diploma	**July 4th 2023**
Project Title	**Vila Pinheiro Water Self-Sufficiency**
Design Number	**5 of 10**
Date Design Started	**March 2024**
Date Design Completed	**September 2024**
Has the Design been implemented?	**Beginning Implementation (Phase 1 mostly complete)**
Online Link to Design (if available)	**https://www.vila-pinheiro.com/diploma-journey**
Type of Design (delete all that don't apply)	**Land Based**
Design Category (delete all that don't apply, more than one could apply)	**Tools & Technology / Land & Nature Stewardship**
Name of Personal Tutor	**Tom Henfrey**
Ready for Presentation	**Yes Ready**
Name & Signature of Assessing Tutor	**Tom Henfrey** 
Date of Assessment	**Sept 19th 2024**

If this design is included in the FPA2 sample assessed by a Senior Tutor:	
Comments from Senior Tutor	An excellent in-depth design to make the site resilient in terms of water. Good to see the focus on soil infiltration and natural water bodies. Only minor thoughts on improvement to the design as far as the diploma is concerned – these are covered in comments below. Some additional thoughts on the subject: June- August is the critical period for ensuring water storage, and this would determine the size of your storage options. (Storage need = Length of expected dry season x average water need per day). Given that irrigation is by far the larges user of water in this period, are there strategies/choices that could reduce your reliance on well water in dry times? Is a silt trap an option to reduce the need for dredging? And similarly, an inlet trap on the rainwater tank?
Name, Date & Signature of Senior Tutor	

Section 1: Demonstrating Design Skills

		What's gone well?	What could have been done differently?
1a	The design uses an appropriate **design framework** or intentional process accurately (e.g does the design visit every step of the process)	The design used PERMA-SADIMET, an original adaptation of the familiar SADIMET framework that emphasises a different Holmgren design principle at each stage. A brief appendix provides a step-by-step breakdown and justification.	
1b	It utilises the **permaculture ethics** appropriately	Goal-setting and evaluation are both explicitly framed in relation to the three ethics. Specific ethics are mentioned at various other points in the report, highlighting their particular relevance	

		at that step in the design.	
1c	The design uses **permaculture principles & theory** that are appropriate to the situation	The Holmgren principles are woven into the design process through their integration into the design framework, and within this employed at various points to help inform and guide design decisions. Great example of a permaculture-based water strategy and plan. Also appropriate use of the slow-spread-sink principle of water regeneration	
1d	It uses a **variety of tools** to suit the needs of the situation / design brief	Yes: aside from the swales, strategic zoning, PMI and FSE (Functional, Structural, Elemental) mentioned in the summary, the design employs an elevation profile, rainfall charts, water sector analysis, catchment mapping, design patterns, a GANTT chart (implementation plan), and maintenance plan, as well as making repeated and effective use of principles and ethics as design tools.	Perhaps worth trying out a conventional FSE (Functions, Systems, Elements) analysis in a future design (e.g as described by Aranya and Jasmine Dale in their books on design). I see *swales* as a design element rather than a tool. The tool that allows us to place them appropriately is *contour design*. P12 mentions *keyline swales*. *Swales* are channels on contour, *keyline channels* are off contour – they are two distinct things.
1e	The design is intelligible, coherent and effective, **meeting the client's needs**	The design plan is clearly laid out as a set of strategic patterns and detailed description of components and analysis, with a robust plan for incremental implementation and a maintenance plan that also accommodates in-design evaluation and tweaking, with some attention to resilience to potential future impacts of climate change.	One nice addition, to make it even better, could have been a map of water flows across the site post-design, showing changes from those depicted in the sector analysis.
1f	The **documentation is appropriate** to present to the clients and others	The report is very clearly laid out and well-presented, well illustrated with suitable maps, graphs and other diagrams and occasional photographs - the latter more decorative than illustrative, but adding nicely to the overall visual impact. Several accompanying appendices are well-used, providing quantitative detail without disrupting the narrative account of the design.	The overall design map on page 16 is really useful, but a little small - could perhaps be expanded to fill the whole slide. I would also have found it easier to follow if a more distinctive colour was used to identify the storm drains. A few minor typos - nothing important for evaluation purposes, but marked on the report in case you want to correct before making it public.

			P9- Well (28) is on the key but not on the map. This only matters because it's the first time it appears in the illustrations. P28 – under Aquaculture, what does *caters* mean in this context?

Please fill in Section 2.1 or 2.2.
Use Section 2.1 for all design frameworks. If the designer has used the Design Web then you may wish to use Section 2.2 instead

Section 2.1: Applying Permaculture Design (For Designs using processes such as SADIM, OBREDIM, CEAP)			
		What's gone well?	**What could have been done differently?**
2.1a	There is a clear explanation of how the **design brief was investigated** through surveying the situation and gathering the information.	The design brief is clearly laid out at the outset in relation to three overarching goals, translated into a 'water regeneration' strategy on the basis of a comprehensive and wide-ranging survey and analysis of water flows into and within the site, potential capture strategies, and usage requirements, summarised in the report itself and described in more detail in the appendices. A more detailed design brief is developed after Analysis (p21)	The large difference between monthly rainfall averages and peaks suggests high inter-annual variability in the volume and timing of rain. If this is the case, it would be worth noting explicitly as a key factor affecting resilience of water supply. Would developing SMART goals after Analysis made a difference to your subsequent approach?
2.1b	There is a clear explanation of how the **design decisions and solutions** were developed.	A 'Functional, Structural, Elemental' analysis, an original and appropriate variation upon the common Functions, Systems, Elements Tool, translates a wide range of factual information and analysis into well-justified decisions concerning the selection and placement of elements.	
2.1c	The **solutions are relevant** and **appropriate** to the area and design brief.	Solutions (summarised in the report itself and described in detail in an appendix) are well justified in relation to the analysis of resources, needs and constraints, chosen and located with close attention to interactions within the water system and wider site design.	I'd be interested to see information on costs (referred to in the evaluation but not explored in detail), also whether you were working within any financial constraints and if this had any influence on your design decisions.

Section 3: Learning from and Developing your Permaculture Practice			
		What's gone well?	**What could have been done differently?**
3a	The design report includes an **evaluation of the design's effectiveness**.	Nice, succinct evaluations based on objective factors (PMI) and in relation to the three ethics, echoing the goals listed in the design brief. The implementation plan also schedules periodic future evaluations, findings of which could be added to the design report as they happen.	It's always worth referring to the goals or brief you set early on in the design process.
3b	There is a **critical reflection** on what you have learnt about the design processes, tools, ethics, principles and theory that you have used.	Nicely structured in relation to emergence within the design, learning as a designer, headline findings and overall conclusions.	
3c	The design shows how **design skills and competence have progressed** and some next steps for design practice.	Another great design, and clear further progress in your fluency in permaculture concepts and skill in bringing them into dialogue with design practice. Particularly good to see you pushing your edge concerning use of the principles and ethics - well done.	Any lessons you would take forward into future designs?

Section 4: The Next Steps	
What are the apprentice's **next steps with this design**, towards its accreditation.	Ready for accreditation. You might wish to add data from your scheduled evaluations and tweaks as they become available, especially if any take place before your FPA1.
What other **general or specific issues** might help with the	Consider adding more depth and specificity to your reflections, emphasising and making visible from your own perspective how your learning is developing across designs

apprentice's next steps, eg. to take into future designs.	
Any other comments about the **format** of the project presentation,	Really good use of appendices and balance between narrative flow and providing numerical detail - very useful both for communicating this design and as an example for others doing similar ones.
The highlight of this design for me is…	The weaving in of the principles at multiple levels gives a consistent organic feeling to a report also extremely rich in technical detail - wonderful balance and synergy.

Space for any other notes and comments to the apprentice