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Reverse industrialization : an architectural transition through ecology

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REVERSE INDUSTRIALIZATION



This research report revolves around the topic of Reverse Industrialization, which is being thoroughly explored through an architectural typology that is often overlooked within our Johannesburg context. This typology is the use of Ecology and the integration of Biophilic design within an industrial environment. Reverse Industrialization is all about going back, rejuvenating, recycling, rebuilding, but more specifically it targets old and abandoned industrial buildings - peeling back the layers and integrating new program and form. In order to formally establish this new architectural typology, the concept engaged with a set of predetermined criteria. These 'constraints' aided in locating the most suitable site, choosing the most effective biophilic approach & informed the nature of the design.

The first most significant criteria is an old and/or abandoned industrial building. The building that has been chosen is the former City of Johannesburg Engineering Foundry, located on Main Reef Road in Westgate Johannesburg. The richness for this building and its site is complimented by its strategic central location to the surrounding suburbs, namely Newtown to the north, Fordsburg to the West, Westgate to the South and Ferreirasdorp to the East.

The next criteria which needed to be met is to understand the role of ecology in the design process & to use this knowledge to approach the design of the building in the most effective manner. There is a river which flows southward along the western edge of the site. The river is heavily polluted and serves as a storm sewer. The ecological & architectural intervention has engaged with the river and utilised a passive filtration system to not only cleanse the water to a level in which it can be effectively used to nourish an urban agricultural farm, but also is used as inspiration for the formation of the building design. This new river will provide a new source of cleaner water to those that are in the immediate area & to the south of the site.

The architectural intervention placed within this industrial context has manifested itself in a new ecological centre, The Floating Gardens. This centre provides a fresh new outlook to an endemic problem with our city, the issue of industrial buildings outliving their function due to advancements in technology. The Floating Gardens gives strong precedent to the opportunities that Biophilic design can offer to old industrial structures, giving them new life & a rejuvenated purpose.



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ARCHITECTURAL TRANSITION

THROUGH ECOLOGY

BY

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