

TRANSNET NATIONAL PORTS AUTHORITY
CONDITIONAL ASSESSMENT REPORT
STRUCTURAL REPORT



SITE: EXPRESS WAREHOUSE, MAYDON WHARF,
DURBAN
COMPILED: TNPA PORT ENGINEERING
DEPARTMENT
DATE: JUNE 2023

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1. Introduction

2. Site location and description

The Express warehouse site is located at 95-99 Maydon Road, Maydon Wharf, Durban. The site has 2 access gates with an access point located on Maydon Road and another access point located on McBride Road. The site was initially a warehousing complex with multiple sheds and warehouses present however the structures were demolished and the site was repurposed to store bulk material such as chrome, iron ore, coal and manganese. The bulk material was stored in open stockpiles on site. The site is secured either by perimeter fencing or by adjacent structures.

The current site consists of the following structures:

1. Main administration building,
2. Office block,
3. Workshop,
4. Weight bridge, located in stockpile yard.



Figure 1: Site location of Express Warehouse

3. Assessment of existing structures

3.1. Main administration building

The main administration building is situated to the left side of the Maydon Road entrance. The building is a 3-storey reinforced concrete structure with a flat concrete roof. The building has no lift facility and is fitted with a galvanized sheeted car port at the entrance of the building. Internally, the building is partitioned with a mixture of dry wall and brick partitioning. The fire rating of the partitioning could not be confirmed on site. The layout on the building consists of boardrooms, ablutions, kitchens, mess room, storerooms and numerous offices. It is noted that the third floor was not in use.



Figure 2: Main admin building exterior

3.1.1. Observations

Observations	Photographic records
<p>Water Ingress</p> <p>It was noted that throughout the building, there was apparent signs of water ingress on the floor, walls and ceilings. It was noted that the water ingress was concentrated on the McBride Road side of the building. The water ingress can be</p>	

attributed to poor seals on the windows, or failure of roof water proofing.



Refurbished rooms

It was noted that some rooms on the ground floor was recently refurbished (painted and flooring redone) to be used for employee engagements.



General aesthetics

The general aesthetics of the building is in a poor state especially in the upper floors, however there was not structural defects noted on the main structural elements.



3.1.2. Summary

The building overall is structurally sound with no major defects noted on the main structural elements. The façade brickwork doesn't show any signs of cracking nor does the columns or beams of the structure. The building does display significant water damage to the walls, ceilings and floor. The damage is indicative of unsealed windows and water ingress from openings in the wall via old aircon units. The water proofing and drainage on the roof will have to be investigated further to determine the extent of the damage however signs of waterproofing failure of the roof is evident from the water damage noted on the underside of the slab.

3.1.3. Recommendations

It is recommended that the following actions are taken to address the water ingress within the building:

- Strip and reapply roof waterproofing,
- Unblocking roof fullbores and gutters,
- Remove and seal old aircon unit cavities in walls,
- Replace or repair all existing windows.



3.2. Office block

The office block is located to the right of the Maydon Road entrance of the facility. The building is a double story brick and mortar structure. The ground floor houses a mess and ablution facility with showers as well as a security guard house. The second floor are office and boardroom facilities with a kitchenette and ablutions. The roof structure is a timber dual pitched roof.



Figure 3: Office block exterior

3.2.1. Observations

Observations	Photographic record
<p>Minor Cracking</p> <p>Minor plaster cracks were noted on the second floor northwest facing wall. The crack with in consistent with plaster crack and should pose no structural significance.</p>	
<p>Loose Brickwork</p> <p>There was loos brickwork noted on the partitioning wall between two office rooms on the second floor. The brick work was constructed to fill in an opening in the wall. Due to poor construction the brickwork shows signs of dislodging from the existing brickwork.</p>	

3.2.2. Summary

The overall condition of the building is good with no major structural defects noted in the visual assessment. There were no leaks detected from the roof and office space on the second floor was well kept. The cracking noted on the walls on the second floor pose no structural risk and can be repaired. The ground floor displayed no indications of damage to the structure. The overall condition of the ground floor is good with only aesthetic issue noted.

3.2.3. Recommendations

It is recommended that the following interventions are taken:

- Cracking patched with suitable structural repair mortar,
- Partitioning brickwork be broken out and replace with new brickwork with stitching bars inserted to form a brickwork joint.

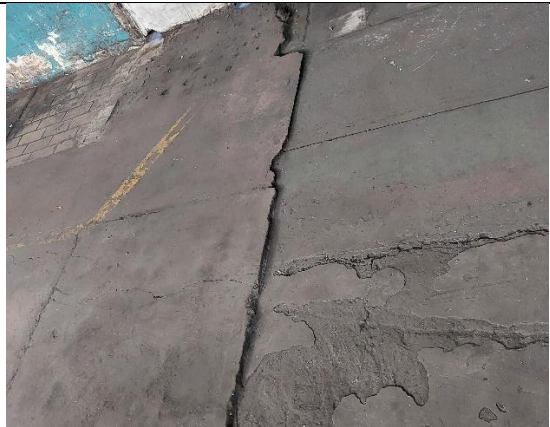
3.3. Workshop


The workshop is located to the left of the site near the McBride Road access point. The structure is constructing using reinforced concrete columns and brickwork which supports a steel roof truss. The workshop is used for manufacturing and storage of bulk material. The building has 3 roller shutter doors as access points as well as a pedestrian entrance at the front of the building.



Figure 4: Exterior and interior of the workshop

3.3.1. Observations

Observations	Photographic record
Warehouse surfacing It was noted that the warehouse surfacing is uneven. This could be a result of multiple layers of the surfacing constructed above the previous surface.	

<p>Damaged brickwork</p> <p>It was noted that the brickwork and lintel on the eastern face of the workshop is damaged. The brickwork is completely detached and represents a safety hazard.</p>	
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3.3.2. Summary

The workshop structure is in good condition with the only serious damage noted on the brickwork on the eastern entrance of the structure. The remainder of the structure does not display any serious structural defects. The roof trusses are in good condition and does not display any notable corrosion. The roof sheeting has some holes visible from the inside of the building which may lead to leaks into the structure.

3.3.3. Recommendations




It is recommended that the following actions are taken:

- Roof sheeting to be tested for leaks,
- Outer sheeting to be fixed and loose sheeting removed,
- Interior surface to be repaired and leveled,
- Eastern brickwork to be removed and rebuilt with new supporting beam.

3.4. Stockpile yard

The stockpile yard is a flat area located centrally in the site. The yard is used for storage of bulk material and equipment. There was no drainage system noted within the yard complex. The only permanent structure is the weigh bridge. The surfacing of the yard consists of a mixture of concrete and asphalt surfaces.

3.4.1. Observations

Observations	Photographic record
<p>Damaged perimeter fence</p> <p>The perimeter fence on the McBride side of the site is damaged and patched up with wooden boarding.</p>	
<p>Exposed reinforcement</p> <p>The mesh reinforcement on the surfacing is exposed in certain areas of the stacking yard. The exposed rebar is a safety hazard and exposed to accelerated corrosion.</p>	
<p>Cracked surface and deformed grating</p> <p>It was noted that the surfacing in the yard has multiple potholes and cracks. This leads to an uneven surface and pooling of water.</p> <p>The grating used over the slot drains are also deformed and need to be strengthened.</p>	

3.4.2. Summary

The stacking yard needs resurfacing and reprofiling to ensure a safe operating surface and efficient drainage of the yard. There are no visible drainage points within the yard and therefore the runoff generated on the site is uncontrolled and may have environmental impacts if allowed to go into the municipal system. The perimeter fencing needs repair as the wooden boarding may not provide sufficient security.

3.4.3. Recommendations

It is recommended that the following actions are taken:

- Yard surfacing is reprofiled and resurfaced,
- Proper drainage and pollution measures are implemented to control runoff and contain pollution,
- Perimeter fence is repaired.

4. Limitations

The assessments carried out thus far is a visual assessment only. The visual assessment was limited by access granted as well as permanent fixtures such as ceiling boards, material and machinery that could not be moved. The following tests was excluded from the scope:

- Material testing,
- Leak detection,
- Flood testing,
- Service detection,
- Load capacity testing.

The structures assessed and the conclusion and recommendations thereof were based on the current function of the structures. The study did not consider any change in operations.

5. Conclusions

It can be concluded that the structures assessed in the report are structurally sound on condition that the recommendations mentioned in the report are enacted. The buildings do not show any critical structural defects that indicate that the buildings are not fit for use.

TRANSNET NATIONAL PORTS AUTHORITY CONDITIONAL ASSESSMENT REPORT



SITE: DG WAREHOUSE, MAYDON WHARF,
DURBAN

COMPILED: TNPA PORT ENGINEERING
DEPARTMENT

DATE: 23/06/2023

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1. Site Location and Description

This site is located off McBride Road and Maydon Road, it is currently occupied by DG Warehouse. The extent of the warehouse is approximately 13 310m². The site is accessed through two entrances, viz., on Mc Bride road and the Maydon wharf quayside. Currently, the site is undeveloped with structures, the site however is repurposed to store general cargo. The cargo is stored in without any covered structures. The site is secured by perimeter fencing.


The site consists of only fencing and surfacing. The site location is depicted in the figure below.





Figure 1: DG Warehouse Location

2. Assessment of existing structures

The site has no buildings or warehouses, therefore the elements that were inspected include the pavement surface and boundary walls. The findings are contained in the table below:

Element	Observations	Photographic records
Boundary Wall	Deep cracks on the wall were observed at various location. These cracks could be because of accidental damage from stacking of goods.	



		 A photograph showing a corner of a brick wall. The wall is constructed from red and dark grey bricks. In the foreground, there is a stack of grey concrete blocks. To the left, a chain-link fence is visible behind the wall. Some green plants are growing at the base of the wall.
Ablution	There is a lack of proper ablution facilities on site. There is a temporary ablution facility present on site, but it is not stationed in a current position	 A photograph of a temporary ablution facility. It is a small, rectangular structure with a blue frame and white corrugated metal siding. The structure is positioned against a brick wall that has some peeling paint. A green bush is to the left of the structure, and a dark metal frame is visible to the right.

Surface	<p>Partially in good conditions with some sections that require resurfacing.</p>	
Drainage	<p>The stormwater drains and manholes are blocked.</p> <p>The site does not show any visible signs of flooding, but the condition of the drainage infrastructure requires attention.</p>	



Housekeeping
/ other

There are mounds and stockpiles of rubble in different areas of the site. There is untidiness, disorder and poor storage of material cross the length of the site.



3. Recommendations

The stormwater drainage manholes were found to be blocked, the boundary walls contains cracks and are damaged, and some sections of the surface requires resurfacing. The there are mounds of debris around certain sections in this site.