

CHAPTER 8

Composite Summary & Strategic Issues

Final Draft March 2009

A Local Area Plan and Land Use Management Scheme for the Back of Port Interface Zone

Multidisciplinary Perspective

Prepared by the Graham Muller Associates Consortium

eThekweni Municipality



Contents

0. INTRODUCTION.....	1
1. MULTIDISCIPLINARY PERSPECTIVE – NATIONAL CONTEXT.....	2
2. MULTIDISCIPLINARY PERSPECTIVE – PROVINCIAL CONTEXT.....	4
3. MULTIDISCIPLINARY PERSPECTIVE – METROPOLITAN CONTEXT.....	5
4. MULTIDISCIPLINARY PERSPECTIVE – SOUTH DURBAN BASIN CONTEXT.....	7
5. MULTIDISCIPLINARY PERSPECTIVE – PLANNING AREA CONTEXT.....	10

0. INTRODUCTION

The composite summary and strategic issue tables below attempt to succinctly summarise and present singularly the various elements that have arisen from the multidisciplinary *status quo* analysis. With such a wide range of material and a depth of important issues, the challenge has been to find a balance between being thoroughness and being concise. It is a multidisciplinary perspective that highlights all of the pertinent concerns, issues and possibilities that have arisen collectively from the *status quo* analysis.

Columns have been set up according to three related heading:

1. Challenges

Referring to **challenges** that have arisen out of *status quo* analysis;

2. Possibilities

Referring to the **possibilities, opportunities and options** available to address the challenges within the scope of this project only;

3. Strategic issues for BoP project

Highlighting the **strategic issues** involved in planning optimally according to the challenges and possibilities of being able to address them within this planning process.

In order to frame the findings suitably it has been necessary to explore the challenges, possibilities and strategic issues across the following five contexts:

1. National context;
2. Provincial context;
3. Metropolitan context ;
4. South Durban Basin context ;
5. Planning area context.

BACK OF PORTS: COMPOSITE SUMMARY AND STRATEGIC ISSUES

1. MULTIDISCIPLINARY PERSPECTIVE – NATIONAL CONTEXT

	CHALLENGES	POSSIBILITIES	STRATEGIC ISSUES FOR BoP PROJECT
NATIONAL CONTEXT			
ECONOMIC	<ul style="list-style-type: none"> The need for additional container capacity at a port (and the imperative to develop a “super” port / hub port) Inefficiencies in the logistics chain at the Port of Durban affect costs at a national level and prejudice the competitiveness of exports 	<ul style="list-style-type: none"> Dig-out port options at Richard’s Bay, Coega or Durban (Bayhead and/or Durban International Airport (DIA) site) Re-design infrastructure and systems in the BoP area adjacent to Port of Durban to effect a decrease in the overall cost of logistics 	<ul style="list-style-type: none"> Transnet is effectively a gatekeeper to any decision to expand port facilities in Durban – this affects planning and investment – and the future direction of the Durban metropolitan economy The South Durban Basin (SDB) is a challenging area to re-plan (comprising highly contested space and being extremely busy and productive)
PLANNING	<ul style="list-style-type: none"> A core issue is the potential loss of competitiveness of Durban as a city in terms of port related development and associated global trends relating to Port / City development. There is essentially only a single road link to Gauteng – the major node of the entire country No formal intermediate/“island” logistics hubs Inappropriate land use mix Inappropriate logistics and infrastructure platform 	<ul style="list-style-type: none"> The DIA site offers a unique opportunity to expand the port capabilities of the city of Durban There is a need to create appropriate zones for newer forms of businesses to ensure national competitiveness The existing backbone of rail, and its regional and local network needs to be improved and enhanced as part of the logistics platform 	<ul style="list-style-type: none"> Facilitate the expansion of the existing Port and the development of DIA as a world class Port Need to ultimately create an alternate road link to Gauteng Create new zones to allow for newer forms of businesses Port Expansion strategies required Appropriate infrastructure platform which combine, sea, road and rail movements is required
TRANSPORT	<ul style="list-style-type: none"> Lack of sufficient port access to National Road Network 	<ul style="list-style-type: none"> Add additional interchange on N2 south of the M7/N2 interchange Improve existing interchange at the DIA Improve Prospecton Road interchange Introduce a Dedicated Freight Route from Port to the National Road Network away from the already congested road network 	<ul style="list-style-type: none"> Provide direct access to national road network with limited influence from local and regional traffic Provide improved and direct access to the DIA area and the future possible Dig-out port Allow for an additional access to the DIA (Dig-out) port and improve access to the Prospecton area Allow for dedicated freight movement that could be easily controlled and managed to reduce traffic congestion
INFRASTRUCTURE	<ul style="list-style-type: none"> Not significant 	<ul style="list-style-type: none"> Not significant 	<ul style="list-style-type: none"> Not significant
SOCIAL	<ul style="list-style-type: none"> Need for additional container capacity at a port (Super Port / Hub Port) which will intensify the relationship between industry and residential areas in the South Durban Basin. Legacy of spatial engineering based on race: industry in close proximity to residential areas. National focus on South Durban as key petro-chemical hub – industrial growth zone and the local desire of communities to continue living in South Durban. Poverty, unemployment and slow pace of transformation impacts on social character and conditions of neighbourhoods. Social decline of large inner city zones as a result of the lack of intervention into critical social issues: crime, drugs, alcohol abuse, life skills, social norms and activities for the youth, and HIV/Aids. Crime and the inability to manage the problem at all levels of government impacts on quality of life and stability of neighbourhoods 	<ul style="list-style-type: none"> National programmes in key strategic areas to address social problems: crime prevention, drugs and alcohol and programmes for the youth. 	<ul style="list-style-type: none"> Recognition of a key residential system within an industrial zone of national significance. Recognition and protection of key heritage sites in cities. Need to raise the profile and power of social concerns in decision making in cities. The South Durban Basin (SDB) is a challenging area to re-design (highly contested spaces and extremely busy / productive) with tension between residential areas and industry.
ENVIRONMENTAL	<ul style="list-style-type: none"> The dig out port at the airport site could create greatest pressure on 	<ul style="list-style-type: none"> The use of existing industrial areas for Back of Port development 	<ul style="list-style-type: none"> A significant area will be displaced, compensation may require

	<p>biodiversity due to the need to develop on green field sites close to the airport. This will result in significant loss of habitat area for species included on the red data lists</p>	<p>could help to mitigate this issue.</p> <ul style="list-style-type: none"> • It may be necessary to plan compensatory reserve areas for airport site and associated Back of Port development 	<p>remaining areas of coastal grassland such as the racecourse in addition to significant areas outside the area.</p> <ul style="list-style-type: none"> • The loss of habitat associated with port development may not be replaceable in the location. It may be necessary to conserve other areas within the Municipal Area.
PUBLIC PARTICIPATION	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input

2. MULTIDISCIPLINARY PERSPECTIVE – PROVINCIAL CONTEXT

	CHALLENGES	POSSIBILITIES	STRATEGIC ISSUES FOR BoP PROJECT
PROVINCIAL CONTEXT			
ECONOMIC	<ul style="list-style-type: none"> • KwaZulu-Natal (KZN) contains a strategically valuable freight corridor between Durban and Gauteng – this needs to be optimized and operated efficiently • Business activity (manufacturing, commerce etc.) in the SDB has a national and provincial significance and high opportunity costs associated with relocation and displacement 	<ul style="list-style-type: none"> • Linking Gauteng to Durban and directly into the port through planned and coordinated interventions will greatly enhance the province's economic base, particularly in its economic hub, Durban • Develop new industrial area/s at a regional level to accommodate any displacement from the SDB over the next 40 years 	<ul style="list-style-type: none"> • Integrating the port and Durban and the new port at the DIA site with a back of port (BoP) zone with local, metropolitan, regional and national transport routes (road, pipeline and rail) • There is no easy solution to finding sufficient land for additional industrial development in and around Durban
PLANNING	<ul style="list-style-type: none"> • Dependence on a single mode of transportation to link major centres of economic development and the Port • Dependence on a few routes to facilitate the flow of goods within the province 	<ul style="list-style-type: none"> • Need to interact with a series of alternate logistics hubs at Cato Ridge, Dube Trade Port, etc. • Need to build on the existing regional rail system as an alternative to current dependence on National Roads (N2, N3) • The need to improve alternate road based regional routes such as the R613 	<ul style="list-style-type: none"> • There is a need to development a Regional Logistics Framework that considers all major installations at a provincial level.
TRAFFIC / TRANSPORT	<ul style="list-style-type: none"> • Lack of sufficient access to Provincial Road Network 	<ul style="list-style-type: none"> • Allow for an additional links from the DIA / Dig-out port to provincial roads such as the R603 (Umbumbulu Road) 	<ul style="list-style-type: none"> • Improve accessibility to an already access limited road network
INFRASTRUCTURE	<ul style="list-style-type: none"> • Not significant 	<ul style="list-style-type: none"> • Not significant 	<ul style="list-style-type: none"> • Not significant
SOCIAL	<ul style="list-style-type: none"> • Business activity (manufacturing etc.) in the SDB has a national and provincial significance and high opportunity costs associated with relocation and displacement and loss of jobs in close proximity to residences which impacts on already vulnerable communities. 	<ul style="list-style-type: none"> • Develop new industrial area/s at a regional level to accommodate any displacement from the SDB over the next 40 years, however, this will impact on those that live and work in the South Durban Basin – transport costs will be high both in terms of time and money (see Riverhorse Valley). • Alter the regional transport system to include more rail which will impact significantly on social sustainability of transport in the Province and the city. 	<ul style="list-style-type: none"> • Integrating the Port and Durban and the new Port at the DIA site with a BoP zone with local, metropolitan, regional and national transport routes (road, pipeline and rail) – this will improve transport for all (workers, residents) and so will enhance quality of life. • Danger of trucks on residential roads will be dramatically reduced. • There is no easy solution to finding land for additional industrial development in and around Durban and this has serious social implications re place of work and place of residence.
ENVIRONMENTAL	<ul style="list-style-type: none"> • The dig out port at Bayhead and associated Back of Port will largely make use of Brownfield Sites. There are however, key remnant habitats that maybe displaced or threatened. 	<ul style="list-style-type: none"> • The use of existing industrial areas for Back of Port development could help to mitigate this issue. • It may be necessary to plan compensatory reserve areas for airport site and associated Back of Port development 	<ul style="list-style-type: none"> • A significant area will be displaced; compensation may require remaining areas of coastal grassland such as the racecourse in addition to significant areas outside the area. • The loss of habitat associated with port development may not be replaceable in the location. It may be necessary to conserve other areas within the Municipal Area.
PUBLIC PARTICIPATION	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input

3. MULTIDISCIPLINARY PERSPECTIVE – METROPOLITAN CONTEXT

	CHALLENGES	POSSIBILITIES	STRATEGIC ISSUES FOR BoP PROJECT
METROPOLITAN CONTEXT			
ECONOMIC	LOGISTICS ACTIVITIES IN eTHEKWINI MUNICIPALITY <ul style="list-style-type: none"> There is a lack of understanding on the part of planners of the container and freight logistics chain There is no inherent logic behind the location of port-related activities outside of immediate port area even if still within the metropolitan area Road and rail linkages between industrial and distribution centres throughout the municipality (e.g. Pinetown, Springfield, SDB) are not always adequate, particularly, because of its location close to the port, in the case of the SDB 	LOGISTICS ACTIVITIES IN eTHEKWINI MUNICIPALITY <ul style="list-style-type: none"> Current research as well as ongoing involvement in BoP activities by eThekwini Municipality's planners Port-related activities (specifically BoP) can be planned and coordinated optimally and logically in the future New linkages into the port area should enhance and integrate with existing metropolitan-wide routes to improve the broader network 	LOGISTICS ACTIVITIES IN eTHEKWINI MUNICIPALITY <ul style="list-style-type: none"> Closer co-operation with corridor stakeholders as well as with stakeholders at inland destinations is needed Effective planning of BoP activities involving all stakeholders is required Ensuring that infrastructure interventions integrate with and enhance the metropolitan network
	CONTAINER TERMINAL / PORT ACCESS <ul style="list-style-type: none"> There is a lack of seamless and /or efficient metropolitan wide connectivity to the container terminal and the port hinterland Ill-planned terminal access results in trucks choosing inappropriate routes through the city 	CONTAINER TERMINAL / PORT ACCESS <ul style="list-style-type: none"> Development of a container terminal access system that links efficiently to metropolitan wide routes Design and construction of new, possibly dedicated routes to the terminal that both complement the metropolitan road lattice and take trucks out of inappropriate areas 	CONTAINER TERMINAL / PORT ACCESS <ul style="list-style-type: none"> None: redesign of port access is a net gain for the municipality None: redesign of terminal access will benefit the whole metropolitan area
	ECONOMIC DYNAMICS <ul style="list-style-type: none"> The SDB is both one of the most concentrated industrial and business areas within the city and is extremely saturated (the possibility of intensifying activity is limited) At metropolitan level the SDB plays multiple roles: <ul style="list-style-type: none"> As the interface with Port of Durban (the southern part of the bay viz. Maydon Wharf, Island View and the container terminal/s DCT and Pier 1) As the logistics centre of the city As a very strong 'service centre', i.e. non-manufacturing services etc. As an important manufacturing base (especially the Toyota plant, the oil refineries and the Mondi mill) As a centre for refined petroleum products, viz. the Island view complex, two large refineries, the (old and forthcoming) pipelines and the single buoy mooring As a very significant residential and social centre (many residential suburbs and communities etc.) As the current location of the international airport 	ECONOMIC DYNAMICS <ul style="list-style-type: none"> Development, in the long term, of an area for concentrated logistics activity in the SDB would greatly benefit the port and create opportunities within the broader logistics and distribution industries The reconsidering of the SDB's role allows planners to intelligently prioritise certain activities and provide the correct levels and types of services and infrastructure moving forward into the future 	ECONOMIC DYNAMICS <ul style="list-style-type: none"> The opportunity cost for logistics development in the BoP area is the displacement of other non port-related activities that will need to be accommodated elsewhere in the metropolitan area if such activities are not to be lost to the municipality Resolving the competing alternative roles for the SDB and finding alternative locations within the metropolitan area for those that cannot be accommodated within the study area is challenging (and strictly speaking falls outside of the scope of this project) and yet is a vital success factor for the future performance of the economy of the eThekwini Municipality
PLANNING	<ul style="list-style-type: none"> There is no clear integrated movement matrix in the Southern arm of the metropolitan system. The SDB does not form part of an emerging polycentric model. 	<ul style="list-style-type: none"> Limited road connection, but a few potential new connections. To create appropriate nodes within the Southern arm. As a consequence of the expansion the possibility exists to create a specific major node in the south to play a major role. 	<ul style="list-style-type: none"> Create an integrated road matrix Identify a dedicated truck route Identify a major node for the southern arm.
TRAFFIC / TRANSPORT	<ul style="list-style-type: none"> Road congestion on wider road network influence movement in BOP area 	<ul style="list-style-type: none"> Upgrading of wider area road network according to ITP document 	<ul style="list-style-type: none"> Metropolitan road upgrades should focus on the BOP area
INFRASTRUCTURE	<ul style="list-style-type: none"> Not significant 	<ul style="list-style-type: none"> Not significant 	<ul style="list-style-type: none"> Not significant
SOCIAL	<ul style="list-style-type: none"> South Durban Basin is significant to the economic development of 	<ul style="list-style-type: none"> Many of the social problems in the residential areas of South 	<ul style="list-style-type: none"> Key interventions required in terms of crime control, the control of

	<p>the city and has a key role to play in terms of Durban's position as a global port.</p> <ul style="list-style-type: none"> • South Durban Basin has a long and contested history within the city as a site of residential and social struggles. • Relationship between the city and South Durban communities has not been built on trust and mutual co-operation. • South Durban Basin has been exposed to a wide range of planning processes and exercises, many of which have not been implemented. • The use of space in the South Durban Basin is intense and conflictual and the city has attempted to address this through a wide range of interventions but it is a complex and difficult problem to solve. • The pollution problems in South Durban and their relationship to residential areas are challenging to resolve. The increase in height of the stacks once the airport moves may reduce some of this impact, however, this solution raises serious questions about broader sustainability choices. 	<p>Durban can be resolved using reasonably simple interventions that reflect the basic qualities that residents hope for in neighbourhoods – open spaces for sport and recreation, a secure and safe environment and well maintained services and facilities.</p> <ul style="list-style-type: none"> • The South Durban Basin provides a relatively good living environment in relation to other neighbourhoods in the city where lower income people live – the area contains formal housing, although this is overcrowded in many places, and it has basic services and facilities. A large number of residents have indicated that they value the convenience of their neighbourhood as everything they need is available close by. • Services and facilities are available in South Durban and had resulted in the presence of stable and coherent neighbourhoods, however, these services and facilities need to be maintained. 	<p>drug and alcohol abuse, the provision of sport and recreation and programmes for the youth, and the maintenance of services and facilities.</p> <ul style="list-style-type: none"> • City needs to maintain and enhance positive attributes of stable neighbourhoods where residents have a sense of belonging. • City needs to create partnerships with well established social organisations in the area.
ENVIRONMENTAL	<ul style="list-style-type: none"> • Intermittent sewage spills are affecting most water courses are causing water quality problems that possibly extend into Durban Bay and out to sea. Intensification of development due to port expansion could exacerbate this issue. 	<ul style="list-style-type: none"> • Greater monitoring and enforcement • Provision of adequate warning of poor water quality. • If water courses are to be included within local upgrading projects, it will be necessary to review all sources of pollution and put in place an action plan to address it prior to development occurring 	<ul style="list-style-type: none"> • Downstream uses are affected. It seems that whilst treated effluent is pumped into water courses then there is a risk. A monitoring and warning system such as is employed on local beaches might be employed. • It is possible that part of the problem is emanating from illegal sewer connections (to surface water drains). This is known to be problematic throughout the Municipal Area. The Municipality are addressing this issue. • Poor water quality can create health hazards for people who come into contact with it. • Poor water quality can have adverse biodiversity impacts
PUBLIC PARTICIPATION	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input

4. MULTIDISCIPLINARY PERSPECTIVE – SOUTH DURBAN BASIN CONTEXT

	CHALLENGES	POSSIBILITIES	STRATEGIC ISSUES FOR BoP PROJECT
SOUTH DURBAN BASIN CONTEXT			
ECONOMIC	LOGISTICS ACTIVITIES IN THE SDB <ul style="list-style-type: none"> Logistics activities are unsurprisingly a major activity within the SDB. However they are scattered and not adequately catered for in terms of infrastructure (access) and in terms of guidelines in land use management (LUM) schemes The extent of facilities is insufficient for current and future container throughput 	LOGISTICS ACTIVITIES IN THE SDB <ul style="list-style-type: none"> As port activity, particularly containerisation, increases, logistics activities can be planned for and accommodated in LUM schemes Make provision for more logistics in the SDB 	LOGISTICS ACTIVITIES IN THE SDB <ul style="list-style-type: none"> There are several challenges to improving the logistics platform in the study area: <ul style="list-style-type: none"> Lack of space The area is contested (other economic as well as environmental uses and residential and social activities) Land is generally expensive in the study area There is a need for new and improved access infrastructure (road, rail and pipelines) Land requirement forecasts indicate that 769 hectares will be required by 2043
	CONTAINER TERMINAL ACCESS <ul style="list-style-type: none"> The broader SDB is negatively affected by trucks struggling to access the container terminals Access problems adversely impact on time and operational efficiencies and add cost to logistics chains that pass through the Port of Durban 	CONTAINER TERMINAL ACCESS <ul style="list-style-type: none"> Improved access would have a dramatic effect on overall congestion in the SDB (business and residential and social) Improved access would improve performance and reduce costs 	CONTAINER TERMINAL ACCESS <ul style="list-style-type: none"> None: Despite the challenge of designing appropriate access, the result can only be of benefit to the area at large None: Strengthening of logistics chains that pass through the Port of Durban will enhance the city's claim to be developed into a super port / hub port
	ECONOMIC DYNAMICS OF THE SDB <ul style="list-style-type: none"> Port-related activities have clustered in the SDB but are sharing the space with a host of other economic activities Increased port activity over time will induce demand for port-related businesses – there is insufficient space in the study area without displacing existing businesses Opportunities for conversion from existing uses to logistics depend partly on the economic feasibility and opportunity costs of relocation 	ECONOMIC DYNAMICS OF THE SDB <ul style="list-style-type: none"> Creation of a zone for logistics has to occur in the study area if it happens at all, i.e. port-related logistics businesses require proximity to the port The creation of the zone for logistics in the immediate proximity of the Port of Durban (viz. in the study area) will strongly complement the port's maritime functions Investment, change and redevelopment in the SDB is positive for the economy of the eThekweni Municipality 	ECONOMIC DYNAMICS OF THE SDB <ul style="list-style-type: none"> The space is contested and finding the required amount of suitable land for logistics is a challenge Displaced non port-related businesses from the study area will need suitable areas within the metropolitan area to move into if such activities are not to be lost to the municipality Change can only occur once a number of related hurdles are overcome: <ul style="list-style-type: none"> Social displacement, particularly in Clairwood Business related displacement – where could businesses move to? Implementation, coordination and financing of infrastructure interventions and investments
PLANNING	<ul style="list-style-type: none"> There are limited east/west connections onto the M4 freeway and South Coast Road Lack of linkage to southern extremity of study area Road networks are shared with residential and industrial traffic. There are only two connections onto the N2. There is limited industrial land available in SDB. Inappropriateness of noxious industry. Growth of service industry and a lack of appropriate and adequate facilities for service industry and the resultant spill-over onto the streets. To a large degree the rivers that penetrate through the study area are canalized. 	<ul style="list-style-type: none"> Opportunities exist to create parallel road routes to improve limited connections. uMlatuzane river area offers a opportunity for new development or redevelopment. Review the Town Planning Scheme. improve and maximize rail network 	<ul style="list-style-type: none"> Create alternate and additional N-S routes Evaluate uMlatuzane river area for additional "logistics" facilities Review the Town Planning Scheme. Upgrade and extent rail network and integrate with logistic platform Need for dedicated routing system

	<ul style="list-style-type: none"> • High levels of pollution within the SDB. • Under utilization of rail systems 		
TRAFFIC / TRANSPORT	<ul style="list-style-type: none"> • Congestion at critical intersections along the major route within the area: <ul style="list-style-type: none"> ○ South Coast / Edwin Swales Drive ○ Bayhead Road / Edwin Swales Drive ○ Langeberg / Bayhead Road • Congestion on certain sections of road network: <ul style="list-style-type: none"> ○ South Coast Road in the Clairwood CBD area ○ South Coast Road between Edwin Swales Drive and Bayhead Road ○ Edwin Swales Drive between Bluff and South Coast Road • No proper Traffic Management • Lack of Traffic Demand Measure • Lack of a well structured road hierarchy within the BOP area • Number of freight vehicles parking and staying over night in the area • Intersection congestion and flow • Limit rail access to DIA site • Rail transport efficiency and usage • Operational hours and effective management thereof • Wide spread locations of Empty containers • Wide spread locations of Third Party Logistic Operations 	<ul style="list-style-type: none"> • Upgrade intersections and introduce dedicated freight movements and routes • Introduce dedicated routes and increase number of lanes where light and heavy vehicles share roads • Introduce Traffic Demand Measure within the area. Limit access of Freight vehicles onto local residential roads • Introduce dedicated freight routes to limit freight and light vehicle conflict • Ensure effective law enforcement to reduce freight movement on local roads • Introduce Truck Stops and Parking areas away from the BOP area • Maintenance and replacement of defective traffic signals • Improve rail infrastructure to DIA area • Encourage the use of rail instead of road to reduce the impact of road network • Encourage 24 hours operations and introduce incentives to operate during off peak hours • Consolidation of empty containers to reduce the need for traffic to operate between these different areas • Consolidation of 3PL's to reduce the need for traffic to operate between these different areas 	<ul style="list-style-type: none"> • Allow for direct freight access and limit freight vehicle movement on mainly residential road network • Allow for direct freight access and limit freight vehicle movement on mainly residential road network • Improve traffic flow in general in the area and allow for more capacity on the road network • Improve traffic flow in general in the area and allow for more capacity on the road network • Improve traffic flow in general in the area and allow for more capacity on the road network • Improve the character of the area, reduce damage to road infrastructure • Ensure proper traffic flow • Reduce the need for additional freight vehicles on road network and free up critical road capacity • Reduce the need for additional freight vehicles on road network and free up critical road capacity • Increase capacity of the road system and allow for the more even distribution of vehicles through-out the day • No double movement of containers and the management of empty container to reduce traffic congestion • No double movement of containers and the management of 3PL's to reduce traffic congestion
INFRASTRUCTURE	<ul style="list-style-type: none"> • Sewerage system is aged • Storm water is entering the sewer system • Storm water system inadequate in residential areas 	<ul style="list-style-type: none"> • Replacements/upgrades should take cognizance of BoP strategy • Take measures to prevent this • Replacements/upgrades should take cognizance of BoP strategy 	<ul style="list-style-type: none"> • Replacements/upgrades should take cognizance of BoP strategy • Replacements/upgrades should take cognizance of BoP strategy
SOCIAL	<ul style="list-style-type: none"> • Middle to working class area with relatively high levels of unemployment and vulnerable communities. • Residential areas that appear coherent as neighbourhoods in terms of housing, services and facilities and social capital which is offset against serious social problems – impacts of disruptions of BOP to this coherence. • Residential displacement of key concern to residents. • Thus far it appears that there is a strong relationship between place of work and place of residence in the South Durban Basin and adjacent suburbs. People both live and work in this area. Displacement of businesses will therefore have high social impacts. • Relocation of non-port related activities to alternative (hopefully more suitable locations) will have social impacts • Residents value what the South Durban Basin offers as a residential space and hence do not want to move away from the area – convenience, strong identity and community and family support, facilities and services available. • Key social problems will increase with the second port as drugs and prostitution are associated with ports in cities. • Some argue that the area is declining in terms of its general quality and character, needs to be upgraded, with housing and services 	<ul style="list-style-type: none"> • Socio-economic conditions and provision of services and facilities in SDB relatively better than many other parts of the city – can build and enhance the capacity of this area to create stable neighbourhoods through increased employment through BOP, improvement in infrastructure and services, and improved transport networks. • Residents value this space as a space of tolerance and diversity - it may represent, in part, the social transformation that South Africa is trying to achieve so use this and build on this by the city showing a willingness to engage with and support these communities – ie build on goodwill that exists. • Rail traffic, Port traffic (trucks) and general traffic (residential and general business) can be segregated, i.e. dedicated truck routes with alternative routes for residents. • Residents value parks and sporting facilities and these could be upgraded or added in buffer zones on edges in the BOP zone. • Investment, change and redevelopment in the SDB is positive for general image of the area. • To create a historical precinct out of Clairwood and to ensure its protection through the National Heritage Act and to incorporate it as a special residential zone with indefinite protection as part of the BOP development – key heritage resource, desirable residential 	<ul style="list-style-type: none"> • South Durban neighbourhoods are coherent and relatively stable in terms of what a neighbourhood should offer. • Social problems undermine and shift this neighbourhood stability and quality of life. • Religious groups and sport plays a key role in social cohesion and quality of life in the area. • Imperative to ensure road and rail design to meet the needs of the port and residential communities. • Dedicated routes should be put in place, giving segregated access to different systems. • To consider overall how the new transport routes and systems impact on the social environment and as they will produce new edges and new impact zones. • To produce a conceptual access model that addresses access for all stakeholders including residents. • To address the issue of Clairwood and to make decisions about Clairwood at the conceptual phase of the project design. • To explore further the relationship between current businesses and place of residence. • To think about the meaning of the social data in relation to the BOP project: what are the real social issues, what about the little bits of the social and the big little bits of the social eg Clairwood,

	<p>improved.</p> <ul style="list-style-type: none"> Trucks are a critical issue in the area: danger, parking illegally on all open spaces, congestion, and noise and pollution. Open spaces and sporting facilities are highly valued in this area, but need to be managed and not left unattended and unkempt as they are then taken over by vagrants and criminals. Highly congested area in relation to traffic movement but still considered to be a highly accessible area in the city. Road access to the terminal is currently concentrated on South Coast Road and Maydon Road (via Edwin Swales and Francois) into Bayhead Road – roads cannot cope with truck volumes at peak times and these roads have to be shared with residential communities - has high impacts on QOL. Access to Bayhead road is shared with general businesses and residents in the area Residents use the Fresh Produce Market to purchase food and the relocation of this market may impact on those shopping there (need more detailed analysis). Clairwood is a space that is defended – the residents that remain here have resisted invasions of all kinds and show their staying power and desire to live here. The broader SDB community values the social and historical significance of this area. There are already housing shortages and overcrowding in the area, housing stock should therefore not be decreased further. 	<p>area and goodwill. But what number of the activities in the rest of Clairwood (and in other areas) that will be displaced are associated with the people living in Clairwood?</p>	<p>Woodlands, etc.</p> <ul style="list-style-type: none"> To consider the edges of the BOP and their relationship to the social environment. Social displacement especially of work places is critical in this project. To explore the informal settlements in buildings that may be hiding a subverted residential layer in the city. Green spaces – parks and sportsfields are critical to people living in this area (a global response). These spaces also have ecological value and are being used for their replacement value, but this then is contested socially as a result of the lack of social issues in the area. The role of the Clairwood racecourse. The youth are an extremely vulnerable group in this area, BOP related changes must recognise the pressure and problems with the youth in this area and should not induce further impacts on this group. Flooding and wetlands appear to be a problem in relation to housing. Reduce pollution and associated health impacts in the area. New roads should not divide up communities. Adequate compensation for any significant social impacts on communities. To develop buffer zones that serve as safe and well maintained parks, sports fields and open spaces.
ENVIRONMENTAL	<ul style="list-style-type: none"> Intermittent industrial spills are likely to be affecting some water courses and causing water quality problems that possibly extend into Durban Bay and out to sea. Intensification of development due to port expansion could exacerbate this issue. 	<ul style="list-style-type: none"> Greater monitoring and enforcement Provision of adequate warning of poor water quality. If water courses are to be included within local upgrading projects, it will be necessary to review all sources of pollution and put in place an action plan to address it prior to development occurring 	<ul style="list-style-type: none"> It is possible that part of the problem is emanating from illegal disposal (to surface water drains) This is known to be problematic throughout the Municipal Area. The Municipality are addressing this issue Poor water quality can create health hazards for people who come into contact with it. Poor water quality can have adverse biodiversity impacts
	<ul style="list-style-type: none"> Development of Bayhead area is likely to increase PM₁₀ and NO₂ concentrations to the extent that they will exceed SA limit values. This is particularly the case during winter months. Considering the increased traffic congestion and background dust in the area, it is possible that levels already exceed the limit values. 	<ul style="list-style-type: none"> Undertake monitoring and enforcement. Improve traffic flow. Ensure that truck and container parking areas are paved. 	<ul style="list-style-type: none"> It is possible that poor air quality could be creating health problems for local residents and workers.
	<ul style="list-style-type: none"> Port development at the airport site could exacerbate SO₂ concentrations in the area. Isipingo is a particular problem area. The increase in heavy traffic in adjacent industrial areas could also exacerbate PM₁₀ and NO₂ concentrations. 	<ul style="list-style-type: none"> Undertake monitoring and enforcement. Ensure that transport sources of pollution are included in strategic air quality modeling. Ensure that truck and container parking areas are paved. 	<ul style="list-style-type: none"> It is possible that poor air quality could be creating health problems for local residents and workers.
	<ul style="list-style-type: none"> MHI type risks in the residential areas of Merewent West and Clairwood are not unacceptably high but are also not at low as would be ideal for residential areas. 	<ul style="list-style-type: none"> Remove the industrial risk. 	<ul style="list-style-type: none"> Consider industrial risk in planning the Back of Port area to ensure that new uses do not exacerbate this problem.
	<ul style="list-style-type: none"> Due to high water table, additional drainage, special foundation design, special drainage design and increased filling may be required for development around and associated with the airport port option and Clairwood. 	<ul style="list-style-type: none"> Ensure that appropriate budgets are allowed for construction. Try to keep development to existing developed areas 	<ul style="list-style-type: none"> Additional cost of development. Additional risk of pollution
PUBLIC PARTICIPATION	<ul style="list-style-type: none"> Awaiting input 	<ul style="list-style-type: none"> Awaiting input 	<ul style="list-style-type: none"> Awaiting input

5. MULTIDISCIPLINARY PERSPECTIVE – PLANNING AREA CONTEXT

	CHALLENGES	POSSIBILITIES	STRATEGIC ISSUES FOR BoP PROJECT
PLANNING AREA CONTEXT			
ECONOMIC	LOGISTICS ACTIVITIES IN THE PLANNING AREA <ul style="list-style-type: none"> Premises used for packing and unpacking of full containers are scattered and poorly accessed (road and rail) Premises used for packing and unpacking of full containers are insufficient for current levels of port throughput Empty container storage premises are scattered and poorly accessed (road and rail) Empty container storage premises are also insufficient for current levels of port through-put Space is needed for BoP logistics: <ul style="list-style-type: none"> Regardless of any terminal expansion, taking into account Durban Container Terminal reengineering and Salisbury Island Container Terminal extension In the instance of Bayhead dig-out considerable space is needed for displaced logistics activity currently accommodated in the Bayhead area Under all scenarios as terminal capacity increases over the next 30 years Lack of co-ordinated facilities to handle bulk and break bulk cargoes 	LOGISTICS ACTIVITIES IN THE PLANNING AREA <ul style="list-style-type: none"> Packing and unpacking facilities should be clustered and extremely well accessed to and by regional and local routes (road and rail) More space needs to be provided for packing and unpacking activities Empty container storage premises need to be clustered and very well accessed to and by regional and local routes (road and rail) More space and larger, more consolidated sites should be provided for empties depots Plans should seek to unlock land for logistics in close proximity to the port: <ul style="list-style-type: none"> At Bayhead, by consolidating current scattered facilities and container terminal increases prior to DCT reengineering and Salisbury Island expansions and prior to either of the dig-out expansions On the Bayhead side by housing displaced activity from Bayhead ahead of the area being dug out On the Bayhead side (DCT / Salisbury Island) and on the DIA side should the DIA be dug out first Land in between the ports (Mobeni) is best suited for consolidating and clustering empty container storage facilities Liquid and dry bulk and break bulk facilities should be planned in a coordinated fashion 	LOGISTICS ACTIVITIES IN THE PLANNING AREA <ul style="list-style-type: none"> Space for clustering of packing and unpacking facilities requires re-development of existing areas; adequate access routes still need to be designed and built No greenfields space exists; provision of this space is a challenge and will involve changes of land use Space for clustering of empties depots requires consolidation of land parcels and re-development of existing areas; adequate access routes still need to be designed and built No greenfields space exists, provision of this space is a challenge and will involve changes of land use Space is highly contested with limited 'catalytic' opportunities: <ul style="list-style-type: none"> Bayhead side initially – Fresh Produce Market site, Transnet Freight Rail (TFR) diesel depot and the Clairwood area offer the best located land Additional land is required once the dig-out happens on Bayhead side When the DIA site is dug out, pressure will be placed on areas such as Reunion, Mobeni, Isipingo Rail and Prospecton where large acreages will increasingly need to be devoted entirely to BoP activities The military stores and Telkom warehouse in Mobeni (both Government owned) present the best catalytic opportunity for empties depots 769 ha needed by 2043 Finding space for bulk and break bulk facilities is a challenge
	CONTAINER TERMINAL ACCESS <ul style="list-style-type: none"> Road access to the terminal is currently concentrated on South Coast Road and Maydon Road (via Edwin Swales VC Drive and Francois Road) into Bayhead Road – roads cannot cope with truck volumes at peak times Access to Bayhead Road is shared with general businesses and residents in the area Container terminal access is shared with access to third party logistics (packing and unpacking) and empties depots Container terminal access is shared with the Island View complex (liquid bulk terminals and storage) 	CONTAINER TERMINAL ACCESS <ul style="list-style-type: none"> Terminal access can be completely re-designed to cope with large numbers of railway trains (tracks, grade separation and custom designed marshalling yards) and heavy vehicles (road surface, width of road reserve, increased number of lanes etc.) Rail traffic, Port traffic (trucks) and general traffic (residential and general business) can be segregated, i.e. dedicated truck routes with separate routes for residents and other local traffic Routes and infrastructure can be designed such that sharing of routes and congestion are minimized Adequate access to Island View can be provided 	CONTAINER TERMINAL ACCESS <ul style="list-style-type: none"> Imperative to ensure road and rail design to meet the needs of the port and logistics operators Dedicated routes should be put in place, giving segregated access to different systems (e.g. port-related freight, residential and other local traffic) To produce a conceptual access model that addresses access for all stakeholders To produce a conceptual access model that addresses access to the Island View complex
	ECONOMIC DYNAMICS IN THE PLANNING AREA <ul style="list-style-type: none"> Opportunities for conversion from existing uses to logistics uses depends partly on economic feasibility and opportunity costs The economic activities in all of the areas are varied and considerable and hence problematic to disrupt 	ECONOMIC DYNAMICS IN THE PLANNING AREA <ul style="list-style-type: none"> Investment, change and redevelopment in the SDB is positive Market forces are expected to be the dominant mechanism to effect the gradual change to port-related logistics However, zoning, prescriptive land use guidelines, existing land 	ECONOMIC DYNAMICS IN THE PLANNING AREA <ul style="list-style-type: none"> Change can only occur once a number of related hurdles are overcome: <ul style="list-style-type: none"> Social, particularly Clairwood Business related – where could businesses move to?

	<ul style="list-style-type: none"> Land is generally expensive rendering the buying up of large tracts for redevelopment extremely costly Inhibiting economic factors and challenges per area: <ul style="list-style-type: none"> R 9.2 billion in upstream GDP and 40% of jobs would be displaced if activities in Jacobs are replaced by logistics Re-development is required (street layout and bulk infrastructure) in Jacobs and the residential portion of Clairwood – this has a cost implications Relocation of non-port related activities to alternative (hopefully more suitable locations) 	<p>use right and incentives will need to be used as inducements. Parts of Clairwood present a strong opportunity for grouped redevelopment as land here is still relatively inexpensive</p> <ul style="list-style-type: none"> Economic factors that present opportunities in certain areas: <ul style="list-style-type: none"> The municipal-owned fresh produce market site (Clairwood) The TFR-owned diesel depot (Clairwood) The military stores site in Richard Carte Road Low land prices in the residential portion of Clairwood (high level of invasion) Relatively low levels of productivity in Mobeni (relatively low upstream GDP and employment) The existing street layout and road and rail network in Mobeni is largely (and uniquely) suitable for logistics activities (implying low re-development costs) Logistics activities are relatively high generators of employment and upstream GDP and thus would greatly benefit the local economy 	<ul style="list-style-type: none"> Coordination and financing of infrastructure interventions Planning must carefully consider and weigh the options viz. zoning, infrastructure, incentives, Market forces can be guided through certain mechanism; these require both clever design and balance: <ul style="list-style-type: none"> Infrastructure (roads) unlocking opportunity Zoning, development guidelines and existing land use rights Incentives (e.g. rates rebates) Interrogation of the implications of conversion in each area and for each scenario Factors outside of this project will determine the possibility of success with relocating industries from the study area to other locations within eThekweni Municipality
PLANNING	<p>MOVEMENT: ROADS</p> <ul style="list-style-type: none"> Stressed intersections on SC Road and M4 intersection in the Clairwood area Stressed roads along SC Road, Congella area and Edwin Swales Drive. Shared roads such as Tara Road, Edwin Swales. Loading and parking in roads, especially in Congella, Clairwood and Jacobs Lack of linkage between areas such Portside and Clairwood, Clairwood and Jacobs, Jacobs and Mobeni. Lack of linkage between Mobeni and Dig-out port No clear convenient link between old port and new port <p>MOVEMENT: RAIL</p> <ul style="list-style-type: none"> Limited rail facilities in Jacobs Limited rail connections to the DIA and Port sites 	<p>MOVEMENT: ROADS</p> <ul style="list-style-type: none"> Umhlatuzana link (Dedicated Link) Potential link from the Bluff through towards Mahatma Gandhi Road (pedestrian, vehicular, a water connection) to allow for residential connectivity. Create / realign roads to link two ports <p>MOVEMENT: RAIL</p> <ul style="list-style-type: none"> Latent Rail facilities in Mobeni. Maximize rail network in Mobeni 	<p>MOVEMENT: ROADS</p> <ul style="list-style-type: none"> Realigned Bayhead Road New entry to Bayhead Umhlatuzana link (Dedicated Link) Improve links to SC Road, M4, and N2 Proposed link from the Bluff through towards Mahatma Gandhi Road (pedestrian, vehicular, a water connection) to allow for residential connectivity. <p>MOVEMENT: RAIL</p> <ul style="list-style-type: none"> Maximize and improve Rail facilities in Mobeni.
	<p>ZONING</p> <ul style="list-style-type: none"> Inappropriateness of noxious industry zone in Congella, Maydon Wharf, Clairwood, Jacobs and Mobeni. Inappropriateness of the development controls for the logistic uses. 	<p>ZONING</p> <ul style="list-style-type: none"> Creation of new appropriate zones. Creation of appropriate development controls. Rezone areas for Back of Port Activities (Zone 3) such as Mobeni, portions of Clairwood, Isipingo, Reunion. Relook at other areas within the Basin to accommodate relocated businesses. Modify TPS in and around the Dig-out port 	<p>ZONING</p> <ul style="list-style-type: none"> Review current TPS Creation of new appropriate zones. Creation of appropriate development controls. Need to recognize newer development format Rezone areas for Back of Port Activities (Zone 3) such as Mobeni, portions of Clairwood. Relook at other areas within the Basin to accommodate relocated businesses. Modify TPS in and around the Dig-out port
	<p>LAND USE</p> <ul style="list-style-type: none"> High intensity invasion of Service industry into Jacobs and Congella Growth of Logistics uses. Insufficient land available to accommodate growth of logistics activities generated by the expansion of the harbour. The expansion of the port is going to push land uses within the port to areas outside of its boundary - this will result in demand for land 	<p>LAND USE</p> <ul style="list-style-type: none"> Re-use of Market site and Diesel workshop area. Mobeni can be orientated/induced to be “logistics” orientated. Extend existing industrial areas in relation to dig-out port 	<p>LAND USE</p> <ul style="list-style-type: none"> Reuse of Market site and Diesel workshop area for Logistics activities. Mobeni can be orientated/induced to be “logistics” orientated. Extend existing industrial areas in relation to dig-out port

	<p>elsewhere</p> <ul style="list-style-type: none"> Limited large unencumbered land parcels Limited opportunities for “Logistic” uses in Jacobs The role of Clairwood Racecourse needs to be defined. Competition between different land uses. 		
	<p>LAND OWNERSHIP</p> <ul style="list-style-type: none"> Majority of the land is in private ownership and one can only induce change. 	<p>LAND OWNERSHIP</p> <ul style="list-style-type: none"> They are some parcels of land such as the Diesel Workshop and Fresh Produce Market that can be assembled for a logistic park. 	<p>LAND OWNERSHIP</p> <ul style="list-style-type: none"> Consolidate/Coordinate /assemble public land parcels such as the Diesel Workshop and Fresh Produce market to become a logistics park.
	<p>LAND VALUE (To be discussed and or integrated with GMA)</p> <ul style="list-style-type: none"> Land values are extremely high in Jacobs and Clairwood and is unlikely that large scale land assembly can easily happen. 	<p>LAND VALUE</p>	
	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> Existing water courses throughout this area is canalized creating hard interfaces . The Umlazi river is canalised and redirected into the sea. Mhlatuzana and Umbillo river are canalized through the Bayhead area. 	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> Water front areas can be benefited to interact with adjacent land uses. Utilise, soften and incorporate these waterways explicitly into the various areas. 	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> Upgrade and link Water front areas with adjacent land uses. Formulate appropriate interface between industry and residential Extend and link waterways/waterfronts through to Clairwood racecourse and through to airport site.
TRAFFIC / TRANSPORT	<ul style="list-style-type: none"> Congestion at critical intersections along the major route within the area: <ul style="list-style-type: none"> South Coast / Edwin Swales Drive Bayhead Road / Edwin Swales Drive Langeberg / Bayhead Road Congestion on certain sections of road network: <ul style="list-style-type: none"> South Coast Road in the Clairwood CBD area South Coast Road between Edwin Swales Drive and Bayhead Road Edwin Swales Drive between Bluff and South Coast Road No proper Traffic Management Lack of Traffic Demand Measure Lack of a well structured road hierarchy within the BOP area Number of freight vehicles parking and staying over night in the area Intersection congestion and flow Limit rail access to DIA site Rail transport efficiency and usage Operational hours and effective management thereof Wide spread locations of Empty containers Wide spread locations of Third Party Logistic Operations 	<ul style="list-style-type: none"> Upgrade intersections and introduce dedicated freight movements and routes Introduce dedicated routes and increase number of lanes where light and heavy vehicles share roads Introduce Traffic Demand Measure within the area. Limit access of Freight vehicles onto local residential roads Introduce dedicated freight routes to limit freight and light vehicle conflict Ensure effective law enforcement to reduce freight movement on local roads Introduce Truck Stops and Parking areas away from the BOP area Maintenance and replacement of defective traffic signals Improve rail infrastructure to DIA area Encourage the use of rail instead of road to reduce the impact of road network Encourage 24 hours operations and introduce incentives to operate during off peak hours Consolidation of empty containers to reduce the need for traffic to operate between these different areas Consolidation of 3PL’s to reduce the need for traffic to operate between these different areas 	<ul style="list-style-type: none"> Allow for direct freight access and limit freight vehicle movement on mainly residential road network Allow for direct freight access and limit freight vehicle movement on mainly residential road network Improve traffic flow in general in the area and allow for more capacity on the road network Improve traffic flow in general in the area and allow for more capacity on the road network Improve traffic flow in general in the area and allow for more capacity on the road network Improve the character of the area, reduce damage to road infrastructure Ensure proper traffic flow Reduce the need for additional freight vehicles on road network and free up critical road capacity Reduce the need for additional freight vehicles on road network and free up critical road capacity Increase capacity of the road system and allow for the more even distribution of vehicles through-out the day No double movement of containers and the management of empty container to reduce traffic congestion No double movement of containers and the management of 3PL’s to reduce traffic congestion
INFRASTRUCTURE	<ul style="list-style-type: none"> Sewerage system is aged Storm water is entering the sewer system Storm water system inadequate in residential areas 	<ul style="list-style-type: none"> Replacements/upgrades should take cognizance of BoP strategy Replacements/upgrades should take cognizance of BoP strategy 	<ul style="list-style-type: none"> Replacements/upgrades should take cognizance of BoP strategy Replacements/upgrades should take cognizance of BoP strategy
SOCIAL	<ul style="list-style-type: none"> Displacement of residential properties as a result of development of BOP zone is problematic. Future of Clairwood needs to be addressed, residents do not wish to move away from the area. 	<ul style="list-style-type: none"> Planning interventions related to BOP can enhance the social environment by separating trucks and residential roads, ordering and managing the landscape, controlling land use zoning and invasion of industry into residential areas 	<ul style="list-style-type: none"> Industrial-residential interface needs to be managed through creative use of buffer zones New transport routes need to be sensitive to local residential environment

	<ul style="list-style-type: none"> • Planning interventions must not increase the loading on vulnerable communities, especially in relation to crime, drug and alcohol abuse and pollution. • New transport routes will impact on residential areas they move through - and they should not divide communities. 	<ul style="list-style-type: none"> • Opportunity to develop Clairwood into a historical precinct thereby cleaning it up, ordering it and ensuring its long term future 	<ul style="list-style-type: none"> • Clairwood should be preserved as a historical precinct within the BOP zone • Residents need to be involved in decision making process re BOP • City to intervene to improve social problems in South Durban Basin as second product of this project
ENVIRONMENTAL	<ul style="list-style-type: none"> • The washing / cleaning of haulage trucks into road drains is likely to be exacerbating water quality problems within the area. This is likely to be particularly problematic with organic materials such as grains. Sludge from these operations accumulates on roadsides in the area. An increase in port operations could exacerbate this problem. 	<ul style="list-style-type: none"> • Greater monitoring and enforcement ensuring that trucking companies provide appropriate facilities. • Provision of adequate warning of poor water quality. • Provision of appropriately located and engineered truck washing bays. 	<ul style="list-style-type: none"> • Poor water quality can create health hazards for people who come into contact with it. • Poor water quality can have adverse biodiversity impacts.
	<ul style="list-style-type: none"> • Many old underground fuel storage tanks exist in the back of port area, some of these are known to be located in close proximity to the harbor and water courses running into the harbor. These are possibly causing water quality problems that possibly extend into Durban Bay and out to sea. Intensification of development due to port expansion could exacerbate this issue. 	<ul style="list-style-type: none"> • Greater monitoring and enforcement ensuring that trucking companies provide appropriate facilities. • Provision of adequate warning of poor water quality. • Currently there is no monitoring of these tanks. Seepage tends to be slow so it probably does not pick up as a significant source in the Municipality's current water quality testing program. The best way of addressing this is possibly through inspection. Vigilance is also needed for new installations. 	<ul style="list-style-type: none"> • Poor water quality can create health hazards for people who come into contact with it. • Poor water quality can have adverse biodiversity impacts.
	<ul style="list-style-type: none"> • Surface water drainage from bulk goods handling operations associated with the Port extends directly into local water courses. Breakages and spillage of goods that can include bulk chemicals such as fertilizers is washed directly through the drainage system and into water courses. This is possibly causing water quality problems that possibly extend into Durban Bay and out to sea. Intensification of development due to port expansion could exacerbate this issue. 	<ul style="list-style-type: none"> • Greater monitoring and enforcement ensuring that trucking companies provide appropriate facilities. • Provision of adequate warning of poor water quality. 	<ul style="list-style-type: none"> • Poor water quality can create health hazards for people who come into contact with it. • Poor water quality can have adverse biodiversity impacts.
	<ul style="list-style-type: none"> • The risks over the entire study area are suitably low to allow for industrial type developments that would typically be associated with back of port activities. There may however be some restrictions on the population density at these facilities if they are located within 0.1 – 0.2 km of small MHI's (e.g. Valspar, Durban Fresh Produce Market etc) and 0.5 – 1 km of large MHI's (e.g. SAPREF, ISEGEN). In this regard the area of the current airport would require the most attention to ensure minimization of risks to possible future activities. 	<ul style="list-style-type: none"> • Low intensity industrial use such as container handling is probably appropriate. 	<ul style="list-style-type: none"> • There is a need to ensure that existing industrial risk is considered in planning.
	<ul style="list-style-type: none"> • There are likely to be numerous areas of contamination within the study area 	<ul style="list-style-type: none"> • Undertake environmental audit as part of detailed planning exercise. 	<ul style="list-style-type: none"> • Additional cost of development. • Health risks for workers / residents. • Additional risk of pollution.
PUBLIC PARTICIPATION	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input 	<ul style="list-style-type: none"> • Awaiting input