

REHABILITATION OF ROADS IN HIGH RISK AREAS

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ABSTRACT

Knight Piésold was appointed on 17 November 2014 by the City of Cape Town (TDA) to rehabilitate various roads in Bishop Lavis, Cape Town. The R124 million works contract with a construction period of 28 months was awarded to NMC Civils. Construction works commenced on 21 April 2016 and the anticipated completion date is 9 October 2018.

Several roads are to be rehabilitated by the following methods:

- Milling of existing asphalt ($\pm 12\,980\text{ m}^3$);
- Cold in-situ recycling of existing base course layers ($\pm 93\,600.00\text{ m}^3$);
- Crack and seat of existing concrete roads ($\pm 81\,000\text{ m}^2$);
- Construction of asphalt base ($\pm 9\,770\text{ ton}$);
- Construction of med asphalt using 50/70 pen grade bitumen ($\pm 3\,900\text{ ton}$);
- Construction of med asphalt using A-E2 modified binder using 70/100 pen grade bitumen ($\pm 10\,405\text{ ton}$);
- Construction of med asphalt using A-R1 modified binder ($\pm 7\,825.00\text{ ton}$).

As the project team regard the involvement and co-operation of the local community as a high priority, monthly meetings are held with community and business leaders. The professional conduct of the site personnel is also promoted on a daily basis.

Some of the major challenges experienced to date are:

- Public safety and preventing children from playing in work areas and on construction plant;
- Effective and safe traffic accommodation as a result of major traffic congestion during peak hours which are exasperated by especially taxis and horse drawn carts;
- The theft of temporary traffic accommodation signs on almost a daily basis;
- The safety of site personnel and theft of construction equipment as a result of high criminal and gang related activities. Gunshots are heard on a regular basis.

1. INTRODUCTION

In terms of clause 8.4.1.1 of the General Conditions of Contract for Construction Works, Third Edition (2015) (for the remainder of this paper refer to as "GCC 2015") the Contractor indemnifies the Employer against any liability in respect of damage to, or physical loss of the property of any person, or injury to or death of any person, arising directly from carrying out the works.

If we focus in on "or injury to or death of any person" the Contractor has the responsibility to take and meet all necessary actions, precautions and requirements as deemed necessary to prevent the injury or death of any person for example securing the perimeter of the works, dangerous features such as excavations, partly completed structures and stockpiles must be made inaccessible, the public traffic and pedestrians must be safely accommodated and his site staff must be protected as required in terms of the OHS Act, i.e. the wearing of Personal Protective Clothes (PPC) and the wearing of Personal Protective Equipment (PPE).

Following the above-mentioned it is clear that the Contractor must have control over the construction related activities in order to prevent injury to or death of any person. The follow question comes to mind - what happens if the Contractor does not have control over the activities, i.e. when they are not construction related?

Clause 8.3 (Excepted Risks) in the GCC 2015 only allows for non-construction risks that are unforeseen and unpredicted. The question now is - what about risks that are known and a daily reality? For example a life threatening incident, such as stray bullets or an armed robbery as a result of crime/gangster related activities on the construction site. Are they excepted risks? The question must also be asked whether the mentioned activities have a psychological effect on the supervisory and construction personnel and the project in general with regards to the quality and productivity, especially if they occur on a regular and sporadic basis.

2. THE REALITY OF WORKING IN A HIGH RISK CONSTRUCTION AREA

2.1 The definition of a High Risk Construction Area (HRCA)

According to the Oxford dictionary "High Risk" is defined as: "involved or exposed to a high level of danger". What would then constitute a HRCA, and how should it be defined?

For the purpose of this paper a HRCA is defined as geographical area or community, where:

- Supervisory and construction personnel can be seriously injured, killed or traumatised, due to non-construction activities;
- Exceptionally high criminal activities occur.

It is important to note that the above-mentioned events can have a negative impact on the project with respect to quality, productivity and costs.

2.2 High risk activities

For the purpose of finding especially non-construction related risk solutions and counter measures, a Project Risk Management System has been implemented in co-operation with the City of Cape Town (TDA) for the project in Bishop Lavis. Risk events are recorded on the system as they occur and then evaluated/analysed in terms of impact, likelihood, severity, risk rating, risk owner, risk mitigation method and contingency. The table below summarises the possible non-construction related high risks recorded in Bishop Lavis to date.

The following crime/gangster activities occurred in the past year within the project area:

- Approximately fifteen (15) shootings were heard;
- Approximately seven (7) shootings occurred in close proximity ($\pm 30\text{ m}$) of construction workers;
- On five (5) occasions construction workers were threatened at gunpoint;
- The theft of temporary traffic accommodations signs, worth approximately R60 000.00;
- Several smash and grab related thefts at traffic light controlled intersections. The theft of approximately 35 mobile phones/tablets were reported on a single day out of queuing public vehicles, as a result of one lane being closed for construction related activities. Several of the thefts were observed by the construction workers.

2.3 The effect/consequences of working in a HRCA

What effect does it have on the supervisory and construction personnel working in a HRCA on a daily basis? The author is of the opinion that it must have both a psychological impact on the supervisory and construction personnel and a practical impact on the project.

2.3.1 Psychological impact on the supervisory and construction personnel

Private interviews were conducted with fourteen (14) site staff members, on how it personally affects them.

TABLE 2.1: Possible non-construction related high risk events

ID	Possible Risk Event	Impact Description	Risk Rating
1	Safety of site staff at site offices.	Serious injury, trauma or death of site staff.	Medium
2	Safety of site staff and workers on site especially stray bullets.	Serious injury, trauma or death of site staff and workers.	High
3	Too dangerous to work due to gangster related activities.	Work not possible which could result in delays on project completion date with resulting financial implications.	High
4	Increased theft of personal effects from stationary public vehicles due to construction works.	Public trauma and financial implications and negative reflection on the project and parties involved.	High
5	Increased theft of personal effects from stationary public vehicles at robots by criminals wearing reflective vests with house brooms pretending they are construction workers.	Trauma, financial implications and negative reflection on project and parties involved.	High
6	Psychological stress and trauma of site staff and workers. Always on a high alert and vigilant.	Negative impact on work performance, production and quality of the works as a result of divided focus and concentration.	High
7	Theft of road signs and delineators.	Serious accidents, lawsuits and financial implications.	High
8	Theft of manholes on sidewalks	Serious injuries to workers, site staff and public.	Medium
9	Ignorance of temporary signs for traffic accommodation purposes especially taxis and horse carts.	Serious accidents and/or traffic congestions with resulting road rage.	High
10	Threats from local individuals regarding identification of them towards SAPS & Law Enforcement as result of criminal activities.	Serious injury, trauma or death of site staff and workers.	Medium
12	Working too late and on weekends is too dangerous due to crime/gangster related activities.	Serious injury, trauma or death of site staff and workers. Also affects the quality of the work and productivity with resulting financial implications.	High
13	Threats if certain manhole covers located in work areas are opened.	Trauma of site staff and workers. Also effect on the quality of the work and productivity.	High

The following responses were received:

- "It's very dangerous to work here"
- "I don't feel safe"
- "I'm scared a stray bullet may hit me"
- "When they start shooting I run for safety"
- "A bullet hit a lamp post above my head"
- "My family worry about me"
- "I don't tell my family the truth about where I work so that they don't have to worry"
- "My family read in a local newspaper about the shootings and killings in the area I am working in and asked me how can I work in such a dangerous area"
- "Since working on the project I experienced high levels of stress and anxiety resulting in me being short tempered and moody towards my family members"
- "I know the area is dangerous but I do not have a choice because I must earn a salary' I am worried about my family if something should happen to me"
- "I'm very stressed every day for my life to work in this area"
- "Sometimes I have to leave the area for a short while just to find a place where I could feel safe for a while, that is when I come to sit in the site office"
- "I am scared to work alone, it would be better if we could be in groups"
- "We know we are being watched every day and they can hit at any time"
- "I felt anxious when I was approached in an threatening/intimidating manner by individuals to organise work for them"
- "The fact that I am not in control of my environment or circumstances especially with respect to the unknown/sporadic occurrence of criminal/gangster related activities makes me anxious"

- "I saw a friend who was busy dying after he was shot and realised how dangerous it is to work in this area"
- "I cannot focus properly on my tasks as I have to be alert and vigilant as a result of crime/gangster related activities in the area"

Based on the feedback received the author is of the opinion that the continuous, unnaturally high levels of stress, fear, alertness and vigilance the individuals experience can be defined as "psychological trauma". Wikipedia defines psychological trauma as follows:

"A type of damage to the mind that occurs as a result of a severely distressing event. Trauma is often the result of an overwhelming amount of stress that exceeds one's ability to cope, or integrate the emotions involved with that experience. A traumatic event involves one's experience, or repeating events of being overwhelmed that can be precipitated in weeks, years, or even decades as the person struggles to cope with the immediate circumstances, eventually leading to serious, long-term negative consequences. However, trauma differs between individuals, according to their subjective experiences.

People will react to similar events differently. In other words, not all people who experience a potentially traumatic event will actually become psychologically traumatized.

This discrepancy in risk rate can be attributed to protective factors some individuals may have that enable them to cope with trauma. Some examples are mild exposure to stress early in life, resilience characteristics, and active seeking of help."

2.3.2 Practical impact on the project

The following risk events which occur as a result of the crime/gangster related activities may have an impact on the project in terms of quality, production and costs.

TABLE 2.2: Possible risk events that may have a practical impact on the project

ID	Possible Risk Event	Impact Description
1	Too dangerous to work due to gangster related activities.	Work not possible, which could result in delays on project completion date with resulting financial implications.
2	Psychological stress and trauma of site staff and workers. Always on a high alert and vigilant.	Negative impact on work performance, production and quality of the works as a result of divided focus and concentration.
3	Theft of road signs and delineators	Serious accidents, lawsuits and financial implications.
4	Increased theft of personal effects from stationary public vehicles due to construction works.	Public trauma and financial implications with resulting negative reflection on the project and parties involved.
5	Ignorance of temporary signs for traffic accommodation purposes especially by taxis and horse carts.	Serious accidents and/or traffic congestions with resulting possible road rage.
6	Working too late and on weekends is too dangerous due to crime/gangster related activities.	Serious injury, trauma or death of site staff and workers. Also effect on the quality of the work and productivity with resulting financial implications.

3. CONCLUSIONS

"The problem of gangsterism is a deeply entranced one in the cluster of Cape Town suburbs known as the Cape Flats. Here, many communities are held hostage by street violence that claims countless innocent lives. It's become a big part of everyday life." (extract from an article in the INSIDE|OUT newspaper by Khethiwe Cele, published 25 October 2014)

Extracts from an article in Weekend Argus by Lee-Ann Olwage, published 27 May 2017), read as follows:

"Hanover Park has one of the highest murder rates in the world and like most parts of the Cape Flats, is plagued by gang violence."

"It is estimated that someone is killed nearly every day in the Western Cape due to gang violence. This is the reality for those who live in Hanover Park and communities like it across the Cape Flats."

"You are constantly bombarded with violence, and the stress of dealing with high-risk individuals. It's like constantly being in a war zone."

(Note: Hanover Park is a neighbourhood, approximately 5 km from Bishop Lavis.)

With reference to the above-mentioned extracts, the private interviews conducted, articles in local community newspapers and observations the author is of the opinion that supervisory and construction personnel working in HRCA, are exposed to the following unexpected, non-constructed related risks, namely:

- The daily possibility of being seriously injured or killed by a stray bullet or being the victim of an attempted armed robbery;
- Being threatened and/or intimidated with a dangerous weapon;
- The observing of acts of violence.

With reference to item 2.3.1 the above-mentioned, imminent risks could eventually lead to serious, short and/or long-term psychological trauma for the individual/s or their families. As discussed under item 2 the divided focus of the individual/s as a result of constant alertness and vigilance could also have a negative impact on the project with respect to quality, productivity and costs.

In terms of sub-clause 8.4.1.1 (under clause 8.4 – Indemnifications) of the GCC 2015 the Contractor indemnifies the Employer against any liability in respect of damage to, or physical loss of the property of any person, or injury to or death of any person, arising directly from carrying out the works. The question is - how can the Contractor prevent non-construction related injury to or death of any person, if he does not have any control over the imminent source/threat. Must he negotiate with the gang leaders on "their turf" where they rule? According Pastor Craven Engel who runs CeaseFire in Hanover Park: "Only a gangster can work with a gangster." (extract from an article in the Weekend Argus by Lee-Ann Olwage, published 27 May 2017)

Do the National and Local Government have control over the crime/gangster activities?

With reference to the Report on the Expert Workshop on National Anti-Gangsterism Strategy held on 2 December 2016 at Chrysalis Academy, Tokai, organised by the Western Cape Government Department: Community Safety and issued on 10 February 2016, we wish to emphasize the following extract as mentioned by Dr Pinnock under Section 4, Summary of Dr Pinnock's presentation:

"Dr Pinnock expressed the view that the National Anti-Gangsterism Strategy in its current form is un-implementable as the strategy provides a broad overview of what must be done but it does not succinctly state how it must be done. The governance and implementation structure emulates a 'roman courtroom' indicating a heavy top down control while implementation of a strategy of this nature should ideally include a bottom up approach, so as to include people at grassroots level and to ensure buy-in into the strategy."

The following is an extract from an article posted by "news24"

"Gang fighting forces closure of four Cape Town schools (published on 30 May 2017 by Jenni Evans)

"Cape Town - Four schools were still closed in Lavender Hill on Tuesday after gang violence flared up in the area last week. And it is understood three people have suffered strokes as a result of the fighting.

A News24 user said teachers decided to lock the schools to keep everybody out of the area for their own safety, while bullets whizzed past the school grounds. "The school, sometimes the learners' only sanctuary, found itself in the middle of this gang war," said the concerned user, who asked not to be named.

One teacher even had to step inside the school safe because gun shots were going off near her window.

Pupils in matric were too traumatised to write an important exam paper, the source said."

According Ryland Fisher the solution to gang scourge lies with the community:

"Over the years I have watched how generations of leaders and politicians have grappled with what to do about gang problems on the Cape Flats – all with little success." (extract from an article in "Opinion" by Ryland Fisher, published 16 April 2016)

Following the above-mentioned it appears that the Safety and Security Authorities do not have control.

With reference to page 131 of the Guide to the General Conditions of Contract 2015 the Employer is responsible for the risks as listed under clause 8.3 "Excepted Risks" of the GCC 2015. If we focus in on item 8.3.4.1, we notice the following "... or any form of civil disturbance ...". The question is – can gangsterism be classified as a civil disturbance? The author is of opinion that it is not a civil disturbance, based on the following Wikipedia definitions:

“Civil disorder, also known as civil unrest, is a broad term that is typically used by law enforcement to describe unrest that is caused by a group of people. Civil disorder is also described as “any public disturbance involving acts of violence by assemblages of three or more persons, which cause an immediate danger of or results in damage or injury to the property or person of any other individual”. During civil disorder people generally choose not to observe a certain law, regulation to rule, this is usually to bring attention to their cause or concern. Civil disturbance can include a form of protest against major socio-political problems. It is essentially the breakdown of orderly society, of which examples can include: illegal parades, sit-ins, riots, sabotage, and other forms of crime. Even on occasions where it is typically intended to be a demonstration to the public or the government, such can escalate into general chaos.”

Whereas Wikipedia defines gangsterism as follows:

“In today’s usage, the term “gang” is generally used for a criminal organization, and the term “gangster” invariably describes a criminal. Much has been written on the subject of gangs, although there is no clear consensus about what constitutes a gang or what situations lead to gang formation and evolution. There is agreement that the members of a gang have a sense of common identity and belonging, and this is typically reinforced through shared activities and through visual identifications such as special clothing, tattoos or rings.”

To summarize. “Civil unrest” is the gathering of a group of like-minded non criminals to bring attention to their cause and concerns whereas “gangsterism” is directly linked with criminals and criminal activities with a sense of common identity and belonging for personal gain.

The author is also of the opinion that the excepted risks listed under clause 8.3 of the GCC 2015 are unforeseen. Can we predict a war or riot next year? – no. Can gangsterism and the consequences be foreseen – yes, as it is a known and daily reality in certain communities in the Cape Flats.

As long as criminals and gangsters are active in a community where they rule with fear, violence, threats, intimidation and death the author is of the opinion that the possible serious injuries and/or killing/s of supervisory and construction personnel cannot be prevented, unless extreme measures are taken by the National and Provincial Government.

With respect, the management of a construction company can sympathise and explain the death of worker to his family as he and they were aware of the possible construction related dangers. But how must they explain the death as a result of known, non-constructed related reasons!

4. RECOMMENDATIONS

To limit/prevent any possible serious injury and or death to construction and supervisory site personnel as well as trauma related consequences with resulting possible negative effects on the project, we recommend the following possible solutions. The author also recommends that gangsterism be properly addressed under clause 8.3 of the GGC 2015, especially with respect to liability, responsibility and preventive actions.

Possible short-term steps to limit the injury and/or death of construction and supervisory personnel:

i. Pre-construction measures to be implemented by the Employer and the Consulting Engineer:

During the Inception Phase of the project the local community and its leaders as well as other affected and interested parties must be well informed during public meetings (and kept informed on a regular basis) of the project, especially with respect to the impact on the community during the construction phase, the appointment requirements of local residents as labourers as well as long term advantages. Also important is the

support and co-operation of the local community. The mind-set must be, let’s take hands and work together; to make sure the project is a success and an asset to the community.

With reference to item 2.2 all possible risk events must be identified and evaluated in terms of impact, likelihood, severity, risk rating, risk owner, risk mitigation method and contingency.

The provision of the following items in the contract document must be considered:

- The exceptional high theft of temporary road signs;
- The appointment of a Community Liaison Officer (CLO)
- The possible appointment of a psychological Counselor/s on a part-time basis;
- The appointment of local conflict mediators;
- Monthly meetings with local community leaders, SAPS and other Affected and Interested Parties;
- The appointment of on-site local safety marshals;
- An effective two-way radio communication system;
- The appointment of 24/7 security officers at the site offices and parking area of construction plant;
- The appointment requirements of local labour especially with respect drug tests and screening process.

ii. Measures to be implemented by the Contractor during the construction phase:

- Be friendly and treat all members of the local community with respect and dignity. Treat other people the way you want to be treated;
 - Always act and behave in a professional manner;
 - If possible work and walk in groups;
 - Do not be complacent but be alert and vigilant at all times;
 - Don’t wear valuable items or display your mobile phone;
 - Be careful who you talk to and what you say;
 - Focus on the work and avoid eye contact with possible suspect persons. It can be seen as a challenge and you may become a marked person;
 - If you observe crime activities do not report the person/s identified by you to law enforcement authorities. You may become a marked person.
- During the author’s interviews with site staff members several members requested the patrol of law enforcement vehicles at regular intervals during the day as the visibility of the vehicles will make them feel safer and more relaxed (regarding the urge for protection, the author refer to the third paragraph of item 2.3.1).

Possible short-term steps to prevent the injury and/or death of construction and supervisory personnel (to be implemented by the National/Local Government and the Employer):

- In respect of new projects remove the threat with an “iron fist” before construction commences and let law and order prevail as it is supposed to be;
- In respect of projects currently in progress appoint full time law enforcement to ensure that law and order prevails in the areas where construction works are in progress.

The following paragraph from an article in the “*INSIDE|OUT*” newspaper (dated 25 October 2014, Issue 5) reinforced the above mentioned proposed short-term solutions:

“The first is traditional law enforcement, which promotes bringing perpetrators to justice and sentencing them to years behind bars – or else bringing in the army to address gang violence, as seen in Cape Town. This is often an ineffective and short-term solution. Why? Because prisons are not good at rehabilitating prisoners and correcting their behaviour. Many

of them leave prison more violent than when they were interned and, due to a lack of economic opportunities on the outside, many also end up returning to prison shortly after release.”

Possible long-term steps to prevent the injury and/or death of construction and supervisory personnel:

For the strategy behind this proposed solution, the author refers to the following articles:

“The second, and more medium- to long-term approach, is to try and address socio-economic issues by seeing them as drivers of crime in low-income communities. These issues include bad structural design, poor or no education, and little economic opportunity for residents in the area.” (a paragraph from an article in the INSIDE|OUT newspaper, dated 25 October 2014, Issue 5)

“In trying to understand gangs, we need to move past the sensational newspaper headlines and ask what can be done to help young people live meaningful, resilient lives in environments that characteristically favour the development of crime and violence,” said Don Pinnock, criminologist and author of the book *Gang Town*.”

The author also refers to the following existing initiatives namely CASE and CeaseFire that are attempting to address the gangster crises in certain areas of the Cape Flats.

CASE (break the cycle of violence):

“The Community Action towards a Safer Environment” (CASE) strives to break the cycle of violence in the communities inflicted by years of trauma. Various projects and techniques are implemented to transform the community through the development of community members, creating a positive cycle of healthy individuals, families and community.

CeaseFire (cease and assist – then interrupt):

“CeaseFire” in Hanover Park is managed by Pastor Craven Engel and is a Cure Violence initiative that was founded by Gary Slutkin, the former head of the World Health Organisation’s Intervention Development Unit and professor of epidemiology and international health at the University of Illinois at Chicago School of Public Health. The programme is implemented in eight countries over five continents. “CeaseFire” in Hanover Park is partially funded by the City of Cape Town.

Engel explains: “CeaseFire is a public health programme that reduces violence particularly with regard to gang-related shootings. It’s based on epidemiology. We treat violence like a disease. So we look at the transporter of violence and quarantine him, and then we look at who is most likely to get the disease and who he can contaminate. We alter their behaviour and offer them a better life. Unfortunately, in a community like this (Hanover Park) violence has become normal and that is what we are trying to change. Violence is abnormal.”

5. REFERENCES

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