पर्यावरणीय अहवालाचा सारांश

आमीर हाऊस

प्रकल्प स्थान

गट क्र. ७९, कुलाबा डिव्हिजन,
नाथालाल पारेख मार्ग जवळ,
'अ' विभाग, मुंबई महाराष्ट्र.

प्रकल्प आयोजक

मे. एम्.आर.के. एन्टरप्रायझेस्

प्रस्तावना :

मुंबई ही महाराष्ट्राची अर्थशास्त्रीय राजधानी असुन बरेचसे कॉरपोरेट कार्यालये मुंबईत स्थित आहेत. मुंबई सदैव गबजलेले शहर असुन दिवसागणीक मुंबईत येणारी व काही काळ राहाणारी लोकसंख्या हि इतर शहरांपेक्षा जास्त आहे. ब–याचशा व्यावसाईक कामानिमीत्त होणा–या सभेसाठी बरेच व्यावसायिक मुंबईस भेट देतात. अशा वेळी हॉटेल मध्ये राहाणे व बरेच दिवस राहाणे ब–याचदा खर्चिक व काही कार्यालयांना परवडण्यासारखे नसते. म्हणुन अशा व्यावसायिकांसाठी **लॉजींग हाऊसींग** हा नविन पर्याय सध्या मुंबईत रूजु होत आहे. ब–याचदा व्यवसाय निमीत्त आलेल्या लोकांना हॉटेलची महागडी चैनीची गरज नसते. उदा: स्विमींग पुल, जॅक्युजी, सोनाबाथ, गेमींग. अशा वेळी उत्तम परंतु कार्यालयाच्या जवळ च्या भागात राहाण्याच्या सोयीची लोकांना गरज वाटते.

प्रकल्प ओळख :

व्यवसायिकांची हिच गरज ओळखुन **मे. एम.आर.के. एंटरप्रायझेस** या विकासकांनी **गट क्र. ७९, कुलाबा डिव्हिजन, नाथालाल मार्ग जवळ, (वुड हाऊस रोड) 'अ' विभाग, मुंबई, महाराष्ट्र** येथे लॉजिंग व्यवस्था निर्मीतीचा प्रस्ताव ठेवला आहे. सध्या येथे तळ + ३ मजल्याची मोडकळीस आलेली व धोकादायक असलेली इमारत आहे. या इमारतीत एक राहाते घर व तीन दुकाने आहेत. त्यातील एक दुकान फुल व्यवसायिकाचे असुन एक दुकान सायकल दुरूस्तीचे आहे. बाकी राहाते घर व एक दुकान घर मालकाचे आहे. येथे एकुण १७ माणसे राहात असुन ही इमारत अत्यंत धोकादायक अवस्थेत आहे. या जमीनीचा वापर विकास आराखडयानुसार रहिवासी वापरासाठी असुन येथे हि इमारत तोडुन येथे **तळ + १७** मजल्याची इमारत बांधण्याचा प्रस्ताव आहे. या इमारतीतील तळ व पहिला मजला येथील राहाणा–या रहिवाशांसाठी राखुन ठेवला आहे तर दुसरा मजला सर्व्हिस मजला म्हणुन राखिव ठेवला आहे. तीसरा मजला हा युटीलीटी गरजेसाठी असुन, चौथा–पाचवा, सातवा ते बारा व चौदा ते सोळा हे मजले रहिवाशी असुन यात प्रत्येक मजल्यावर दोन लॉज रूम व एक कार्यालयीन विभाग असेल. सहाव्या व तेराव्या मजल्यावर अग्निशमन दलाने दिलेल्या परवान्यानुसार रेफयुज विभाग आरक्षीत केला आहे. तर सतराव्या मजल्यावर दोन रूम व वातानुकुलीत यंत्रणा ठेवण्यासाठी जागा देण्यात आली आहे.

सद्य स्थितीतील क्षेत्र हे **सागरतटीय निर्बंधीत क्षेत्र–II** विभागात असुन हि जागा **शहिद भगतसिंग मार्गाच्या जमीनीच्या दिशेकडे आहे**. वरील उल्लेखीत रोड हा सागर

तटीय व्यवस्थापन आराखडयात स्पष्टपणे दिसतो. म्हणुन या प्रकल्प निर्मीती अगोदर सागर तटीय निर्बंध कायदयानुसार महाराष्ट्र कोस्टल झोन मॅनेजमेंट ऑथोरीटी कडुन परवाना घेणे गरजेचे आहे. सदर जागा ही पर्यावरणीय संवेदिनशील क्षेत्रात मोडत नसुन फक्त सागरतटीय निर्बंधीत क्षेत्रात मोडते. वरील प्रकल्पाचा एकुण खर्च रजिस्टर मुल्यांकना नुसार रू. ४,४७,३५,०४०/— इतकी आहे.

प्रकल्पाचे महत्व :

कुलाबा डिव्हिजन मध्ये असलेली सद्य स्थितीतील तळ + तीन मजल्याची इमारत अत्यंत धोकादायक झालेली आहे. या मोडळीस आलेल्या इमारतीचा विकास करणे गरजेचे असुन त्यासाठी घर मालकाने मे. एम्.आर.के. एटरप्रायझेस बरोबर करार नामा करून ही जमीन विकास करण्यासाठीचे हक्क विकासकाकडे दिलेले आहेत. ही जमीन विकासीत करताना विकासक येथील राहाणा—या लोकांना स्थायी रहिवास देणार असुन हा रहिवास त्यांच्यासाठी सुरक्षित असेल. हा विकास करतांना विकासकाला **४१.४६ स्क्वेर मीटर विभाग हा रस्ता रूंदीकरणासाठी बृहनमुंबई महानगर पालिकेच्या हवाली करावयाचा आहे.** कुलाबा हे व्यावसायीक दुष्टया महत्वाचे ठिकाण आहे. म्हणुन येथे लॉजींग व्यवस्था असणे गरजेचे आहे. कुलाब्यापासुन बरीच कॉरपोरेट कार्यालये जवळ आहेत. त्यामुळे परवडण्यासारखी लॉजींग व्यवस्था हॉटेलला उत्तम पर्याय निर्माण करू शकते. अशा लॉजींग व्यवस्थेची मुंबईत सध्या गरज आहे.

प्रकल्पाची माहिती :

प्रकल्पाचे नाव व ठिकाण	:	**आमीर हाऊस पुर्नबांधकाम प्रकल्प : गट क्र. ७९, कुलाबा डिव्हिजन, नाथालाल मार्ग जवळ, (वुड हाऊस रोड) 'अ' विभाग, मुंबई, महाराष्ट्र**
प्रकल्प विकासकाचे नाव	:	**मे. एम्. आर. के. एन्टरप्रायझेस**
सध्य स्थितीतील प्रकल्प	:	**मोडकळीस आलेली तळ + तीन मजल्याची इमारत**
आयोजित प्रकल्प	:	**तळ + १७ मजल्याची इमारत**
प्रकल्प क्षेत्र	:	**१८३.११ स्क्वेअर मीटर**
रस्ता रूंदीकरणासाठी गेलेले क्षेत्र	:	**४१.४६ स्क्वेअर मीटर**
उर्वरीत क्षेत्र	:	**१४१.६५ स्क्वेअर मीटर**
एफ.एस.आय. (प्रमाणीत)	:	**२.८९**

एफ.एस.आय. (सद्य इमारतीत वापरला गेलेला)	:	२.८३
एफ.एस.आय. (नविन विकासनामध्ये आयोजलेला)	:	२.८७
एकुण क्षेत्रफळ	:	५२५.३६ स्क्वेअर मीटर
एकुण बांधकाम क्षेत्रफळ	:	१४९६.२४ स्क्वेअर मीटर
प्रकल्प खर्च	:	रू. ४,४७,३५,०४०/—
पार्किंग व्यवस्था	:	आवश्यक पार्किंग ७ (स्थानिय मानदंडानुसार) परंतु प्रकल्पात महानगरपालीकेकडून घेतलेल्या सवलतीनुसार पार्किंग देण्यात आलेली नाही.
पाण्याची गरज व स्त्रोत	:	<u>बांधकामा दरम्यान</u> — महानगरपालीकेकडून (कामगारांसाठी) : १८ घन लिटर प्रती दिवस टॅंकर (बांधकामासाठी) : १० घन लिटर प्रती दिवस <u>प्रकल्पासाठी :</u> एकुण पाण्याची आवश्यकता : १९ घन लिटर प्रती दिवस घरकामासाठी : ८घन लिटर प्रती दिवस फ्लशिंगसाठी : ६ घन लिटर प्रती दिवस वातानुकुलीत यंत्रणेसाठी : ४घन लिटर प्रती दिवस बागकामासाठी : १ घन लिटर प्रती दिवस
सांडपाणी निर्मीती	:	१३ घन लिटर प्रती दिवस
विद्युत गरज	:	बांधकामादरम्यान — स्थानिक प्राधिकरणाकडून — १०० कि.वॅ.

		बांधकामानंतर प्रकल्पासाठी – स्थानिक प्राधिकरणाकडून लागणारी अधिकत्तम विद्युत – १५७३ कि.वॅ. डिजेल जनरेटरचा वापर फक्त आवश्यक गरजेसाठी केला जाईल उदा: आगीसाठी वापरात येणारे उद्‌वाहन, पाण्याचे पंप इ. यासाठी एक डिझेल जनरेटर ४०० के.व्ही.ए क्षमतेचा वापरला जाईल.
गॅस उत्सर्जन	:	डिझेल जनरेटरच्या वापरामुळे निर्माण होणा–या तरंग धुलीकण व सल्फरडाय ऑक्साईडचा त्रास कमी करण्यासाठी डिझेल जनरेटरला आवश्यकत्या उंचीची चिमणी बसवण्यात येईल जेणे करून हवेतील गॅस उत्सर्जन निर्धारीत मानकांप्रमाणे राहिल.
घन कचरा १) ओला कचरा २) सुका कचरा ३) एकुण कचरा	:	 १८ कि.ग्रॅ. प्रती दिवस ३९ कि.ग्रॅ प्रती दिवस ५७ कि.ग्रॅ प्रती दिवस

परिसराची माहिती :

संबंधित क्षेंत्र हे आजुबाजुच्या परिसरापेक्षा उंच स्तरावर असुन सागरतटीय निर्बंधन क्षेत्र–II विभागांत आहे. या क्षेत्राचे अंक्षांश 18°54'44.06"N रेखांश 72°49'18.02"E असे असुन हे क्षेत्र मुंबई विभागातील कुलाबा क्षेत्रात मोडते. येथे अस्तित्वात असलेली व मोडकळीस आलेली जुनी इमारत तोडून लॉजींग व्यवस्था निर्माण करण्याचा प्रस्ताव आहे. त्यासाठी आवश्यक असणा–या विकास गरजा येथे सहज उपलब्ध आहेत. स्थानिय विकास आराखडयानुसा हे क्षेत्र रहिवासी विभागात मोडत असुन येथे राहाणा–या लोकांना पुर्ननिर्वासीत करण्याचा प्रस्ताव आहे. यामुळे त्यांचे राहाते ठिकाण बदलण्याची संभावना नाही. हा विकास करताना वरील मजल्यांचा

वापर लॉजींग व्यवस्थेसाठी व व्यावसायीक कार्यालयासाठी वापरण्यात येणार आहे. म्हणुन या ठिकाणी आवश्यक सुविधांचा उदा : जवळ असलेली वहातुक यंत्रणा व दळणवळणाची साधने (जल, वायु, रोड, रेल्वे), हॉस्पीटल, बॅका, आवश्यक खरेदीसाठीची दुकाने इत्यादी. कुलाबा हा विभाग आधीच उत्तमरित्या विकासीत असल्याने वरील सर्व सुविधा या प्रकल्पा पासुन ३ कि.मी अंतरातच आहेत. या प्रकल्पामुळे नैसर्गिक साधनांवर परिणाम होणार आहे. ज्याचा विचार करून व होणा–या परिणामांचे विश्लेषण करून त्यावरती वेळीच उपाययोजना करणे आवश्यक आहे.

१) **पाण्याची आवश्यकता :**

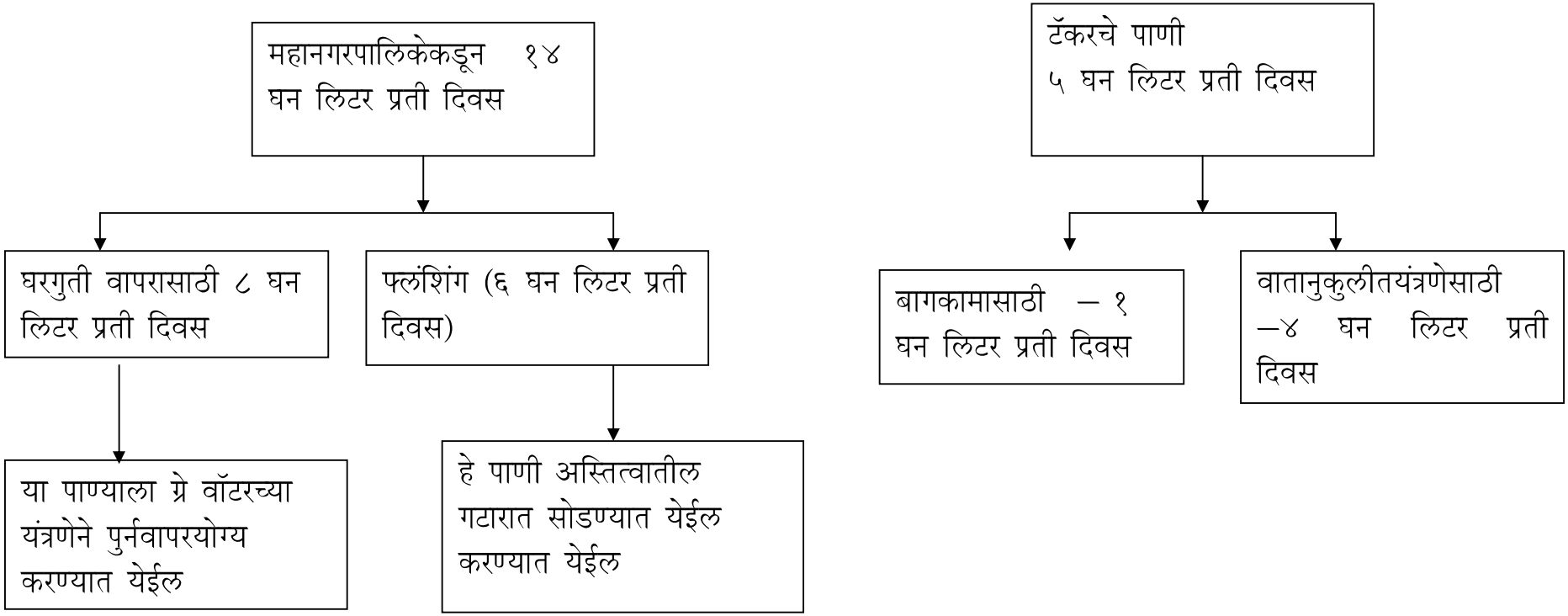
अ) बांधकामा दरम्यान : बांधकामा दरम्यान पाण्याची आवश्यकता एकतर बांधकामासाठी व दुसरी कडे प्रकल्पात काम करणा–या कामगारांसाठी आहे. यातील पिण्याच्या पाण्याची सुविधा बृहन्मुंबई कडून करण्यात येईल तर बांधकामासाठी लागणारे १० घन लिटर प्रती दिवस पाणी हे पाण्याच्या टॅंकरद्वारे पुरविण्यात येईल.

ब) प्रकल्प पुर्ततेनंतर :

क्रमांक	माहिती	सद्य स्थिती	निर्मीती नंतर	एकुण
१	एकुण लोकसंख्या	१७ माणसे	७९ माणसे	९६ माणसे
२	घरगुती वापरासाठी लागणारे पाणी (एकक : घन लिटर प्रती दिवस) (९० लीटर प्रती व्यक्ती)	०.७	७.१	८
३	फ्लशिंगसाठी लागणारे पाणी (एकक : घन लिटर प्रती दिवस) (४५ लीटर प्रती व्यक्ती)	०.५	५.८	६
४	पाण्याची आवश्यकता (घन लिटर प्रती दिवस)	१.२	१३.०	१४
५	बागकामासाठी लागणारे पाणी (घन लिटर प्रती दिवस)	१		१

६	वातानुकूलीत यंत्रणेसाठी लागणारे पाणी (घन लिटर प्रती दिवस)	—	४	४
७	एकुण पाण्याची गरज (घन लिटर प्रती दिवस)	१९		१९
८	एकुण सांडपाणी निर्मीती	१३		१३
९	एकुण स्वयंपाकघर व नहाणीघर वापरानंतरचे पाणी	७		७
१०	आयोजीत सांडपाणी प्रक्रिया	या प्रकल्पात फक्त स्वयंपाकघर व नहाणीघर वापरानंतरचे जमा होणारे पाणी एकत्र करून त्यावर प्रक्रिया करण्यात येईल परंतु फ्लशिंगचे पाणी हे वेगळे गोळा करून येथे उपलब्ध असलेल्या गटाराला जोडण्यात येईल. या ग्रे पाणी प्रक्रिया नंतर मिळणारे पाणी हे बागकामासाठी व प्रकल्पातील फ्लशिंगच्या पाण्याची गरज भागवण्यासाठी वापरण्यात येईल.		
११	पुर्नवापर केलेले पाणी (घन लिटर प्रती दिवस)	७		
१२	उपलब्ध असलेल्या गटारात टाकण्यात येणारे पाणी (घन लिटर प्रती दिवस)	६		

पाण्याचा दैनंदिन वापर :



क) सांडपाणी निर्मीती व त्याची विल्हेवाट : या प्रकल्पात एकुण १३ घन लिटर प्रती दिवस सांडपाणी निर्माण होईल पण जागेच्या अभावी व एकुण निर्माण होणारे सांडपाणी हे १५ घन लिटर प्रती दिवस पेक्षाही कमी असल्या कारणाने केवळ किचन व बाधरूम वापरानंतरचे येणारे पाणी प्रकल्पात असलेल्या ग्रे वॉटर ट्रिटमेंट द्वारे दिलेल्या मानकांनुसार करण्याचा प्रयत्न केला जाईल. यातुन निर्माण होणारे स्वच्छ पाणी बागकामासाठी किंवा प्रकल्पातील फ्लशिंग पाण्याची कमतरता कमी करण्यासाठी वापरण्यात येईल. म्हणजेच या प्रकल्पात फक्त ८ घन लिटर प्रती दिवस पाण्यावर प्रक्रीया करण्यात येईल व उर्वरित पाणी हे वेगळया पाईप लाईन द्वारे अस्तित्वात असलेंल्या गटाराला जोडण्यात येईल. येथे सांडपाणी प्रक्रिया केंद्र न देण्याचा प्रस्ताव रास्त आहे कारण येथे लॉजींग व्यवस्था असल्या कारणाने उपलब्ध असणारी लोकसंख्या हि सदैव कमी जास्त होत राहील त्यामुळे पाण्याची त्याचप्रमाणे तयार होणा—या सांडपाण्याची उपलब्धता हि कमी जास्त होत राहिल. अशा वेळी दिलेला सांडपाणी प्रक्रिया केद्र चालवणे कठिण होईल म्हणुन फक्त स्वयंपाकघर व नहाणीघर सांडपाणी प्रक्रियेकरीता वापरण्यात येईल.

ड) पावसाच्या पाण्याचे संचयन :

ही जागा पुर्वीपासूनच मोडकळीस आलेल्या संरचनेने आच्छादित असल्याने नविन बांधण्यात येणा—या तळ + १७ मजल्याच्या इमारतीमुळे पावसाचे वाहून जाणारे पाणी फक्त ०.०११ घन मीटर प्रती सेकंदानेच वाढणार आहे. जे अत्यंत नगण्य आहे. कारण येथे पुर्वी वाहून जाणारे पाणी ०.००३९ घन मीटर प्रती सेकंद असुन नविन बांधकामामुळे ते ०.०१४९ घन मीटर प्रती सेकंद असेल. हे वाहुन जाणारे पाणी येथील जवळ उपलब्ध असलेल्या व पावसाचे पाणी वाहून नेण्यासाठी बांधलेल्या नाल्यामधुन वाहून जाण्याची सुविधा करण्यात येईल. पावसाचे जास्तीत जास्त पाणी जमीनीत मुरावे या करीता येथे सर्व ठिकाणी पेवर ब्लॉक्सची उपाययोजना करण्यात येईल. त्याचप्रमाणे दोन रिचार्ज पिट बांधण्याचा प्रस्ताव आहे. जेणे करून पावसाचे पाणी जमीनीत मुरून जमीनीतील पाण्याची पातळी वरती येईल.

इ) पावसाच्या पाण्याचे निर्गमन :

पावसाचे पाणी वाहून जाण्यासाठी दिलेल्या मानकांनुसार उपाययोजना करण्यात येईल. तसेच रिचार्ज पीट व पेवर ब्लॉक्स वापरून पावसाचे पाणी जास्तीत जास्त जमीनित मुरवण्याचा प्रयत्न केला जाईल. जेणे करून पावसाचे पाणी वाहून जाण्यासाठी बांधलेल्या नाल्यावर ताण पडणार नाही.

२) घन कचरा निर्मीती :

१) बांधकामादरम्यान :

बांधकामादरम्यान येथे दोन प्रकारचा कचरा निर्माण होईल. एकतर मोडकळीस आलेल्या इमारतीची व्हिलेवाट लावल्याने निर्माण होणारा कचरा व दुसरी कडे बांधकामा दरम्यान निर्माण होणारा कचरा.

२) प्रकल्प सुरू झाल्यानंतर :

हा प्रकल्प पुर्नबांधणी प्रकल्प असुन येथे निर्माण होणारा कचरा ओला व सुका या पध्दतीने वेगळा करण्यात येईल. त्यातील ओला कचरा खत निर्मीती साठी वापरण्यात येईल तर सुका कचरा उदा : पेपर, प्लॅस्टिक, ग्लास इत्यादी पुर्नविनिकरण केले जाईल.

क्रमांक	माहिती	लोकसंख्या	सुका (कि.ग्रॅ प्रती दिन)	ओला (कि. ग्रॅ प्रती दिन)	एकुण (कि. ग्रॅ प्रती दिन)
१	सद्य रहिवाशी	१७	३	२	५
२	भविष्यातील रहिवाशी	७९	३६	१५	५१
	एकुण	**९६**	**३९**	**१८**	**५७**

विजेची गरज :

१) बांधकामादरम्यान :

बांधकामादरम्यान बांधकामासाठी लागणारी विजेची गरज येथील स्थानीक प्राधिकरणाकडून भागवली जाईल ही गरज जवळ जवळ १०० कि.वॅ पर्यंत असेल.

२) प्रकल्प सुरू झाल्यानंतर :

प्रकल्प सुरू झाल्यानंतर या प्रकल्पासाठी लागणारी विजेची गरज अधिकतम १५७३ कि.वॅ असुन ती स्थानीक प्राधीकरणाकडून भागवण्यात येईल. विजेचा पुरवठा खंडीत झाल्यानंतर लागणा—या विजेची गरज ४०० के.व्ही.ए. क्षमतेच्या डिझेल जनरेटर ने भागवली जाईल. डिझेल जनरेटर फक्त गजरजेच्या वीज निर्मीती साठी असेल. आगीच्या वेळेस वापरण्यात येणारे उद्‌वाहन, पाण्याचे पंप, इमारतीतील

सर्वांसाठी वापरात असणारे विद्युत बल्ब इत्यादी. मुंबईत फारशी वीज जात नसल्या कारणाने फक्त आवश्यक वापरासाठीच डिझेल जनरेटरचे प्रयोजन केले आहे. परंतु भविष्यात लागल्यास ८० टक्के वीज वापर लॉजींग सुविधा असल्या कारणाने डिझेल जनरेटरवर विद्युत नसताना घेण्यात येईल. सद्य प्रकल्पात विज बचतीचे बरेचसे उपास अंमलात आणण्यात येतील.

१) उद्‌वाहन व पंप वेरीयेबल फ्रिक्वेन्सी ड्राईव्ह वर चालवण्यात येतील. यामुळे ३० टक्के वीज बचत होईल.

२) सर्व ठिकाणी सी.एफ.एल. दिव्यांचा प्रस्ताव आहे.

३) इमारतीबाहेरील दिवे सुर्यप्रकाशावर चालवण्यात येतील.

४) लॉजींग व्यवस्थेंत सुर्यप्रकाशावर चालवण्यात येणारे गरम पाणी पुरविण्यात येईल.

५) सर्व ठिकाणचे दिवे हे स्वयंचलीत टायमर आधारीत असतील.

४) वृक्षारोपण :

सद्य स्थितीतील मोडकळीस आलेल्या इमारतीच्या जागी एकही झाड नसल्या कारणाने प्रस्तावित बांधकामामुळे वृक्ष तोड होणार नाही. वरील जागेत ७ वृक्ष लावण्याचा प्रस्ताव आहे. ही झाडे इमारतीच्या कुंपणा शेजारी लावण्यात येणार असुन त्यांचा वापर धुलीकण रोखण्यासाठी व बाहेरील रत्यावरील आवाज रोखण्यासाठी होईल. येथे कांचन, पांगारा, सप्तपर्ण, कण्हेर, जास्वंदी इत्यादी झाडे लावण्याचा प्रस्ताव आहे.

प्रकल्पाचा कालावधी व येणार खर्च :

हा प्रकल्प पुर्नबांधणी प्रकल्प समुद्रतटीय निर्बंध क्षेत्रात मोडतो. म्हणुन या प्रकल्पाचे बांधकाम आवश्यकते परवाने मिळाल्यानंतरच सुरूवात करण्यात येईल. या प्रकल्पाची बांधकाम बांधणी ऑक्टोबर २०१२ मध्ये करण्याचा प्रस्ताव आहे. जर ठरवलेल्या दिनांकानुसार सुरूवात झाली तर हा प्रकल्प पुर्ण होण्यास जानेवारी २०१५ पर्यंतचा कालावधी अपेक्षीत आहे. या प्रकल्पाचा खर्च प्रमाणीत मुल्यांकना नुसार काढण्यात आला आहे.

बांधकामा दरम्यान घ्यावयाची काळजी :

या प्रकल्पात बांधकामामुळे आजुबाजुच्या परिसरावर परिणाम होऊ नये म्हणुन खालील उपाययोजना या प्रस्तावात मांडली आहे.

१) या प्रकल्पात पुर्वबांधणी केलेले ब्लॉक्स वापरण्यात येतील. जेणे करून पाण्याची आवश्यकता कमी करता येईल व बांधकाम जागेवर निर्माण होणार धुराळा टाळण्यात येईल.

२) बांधकाम हे पुर्वयोजने नुसार आखण्यात येईल. जेणे करून आजुबाजुच्या रहिवाशी लोकांना त्याचा त्रास होणार नाही.

३) ज्या बांधकाम कार्यामुळे आवाज निर्माण होईल अशी कामे रहिवाशी क्षेत्रापासून दुर ठेवण्यात येईल.

४) संबंधीत बांधकाम क्षेत्र पुर्णपणे १० ते १५ मीटर उंचीच्या कुंपणाने झाकण्यात येईल.

५) हवा, पाणी, ध्वनी, माती, या सर्व घटकांचे ठराविक वेळेत मापन करण्यात येईल व दिलेल्या मानकांप्रमाणे त्यांची पडताळणी करण्यात येईल. या गुणवत्तेत दिलेल्या मानकांनुसार फरक आढळल्यास तो फरक कोणत्या गोष्टींमुळे आला आहे याची पडताळणी करून त्यावर उपाय योजना करण्यात येईल.

सद्य स्थितीतील पर्यावरण स्थिती :

१) **भौतिक पर्यावरण :**

जागेची स्थलाकृती व भौगोलीक स्थान : हि जागा रहिवासी व वाणिज्य विकासाठी उपयुक्त आह.

अंक्षांश	:	18°54'44.06"N
रेखांश	:	72°49'18.02"E
तहसील	:	मुंबई
जिल्हा	:	मुंबई
राज्य	:	महाराष्ट्र

जागेभोवतीची सामाजिक संरचना :

१) हा पुर्नविकास प्रकल्प मुंबईतील कुलाबा ठिकाणी असून येथे रहिवासी जागेसाठी आवश्यक ती संरचना उपलब्ध आहे.

२) लॉजींग व्यवस्थेसाठी उत्तम दळणवळण व वाहतूक व्यवस्था आवश्यक आहे. तसेच आगीपासूनची सुरक्षा व इतर सुरक्षा व्यवस्था सुध्दा आवश्यक आहे. त्यासाठी अग्निशामनदल व पोलीस स्टेशन जवळ असणे गरजेचे आहे.

३) या सर्व व्यवस्था तसेच हॉस्पीटल, बॅका, दुकाने या जागेच्या ३ कि.मी अंतरा दरम्यानच आहे.

४) कुलाबा हे आधीच विकसीत असून या लॉजींग व्यवस्थेसाठी आवश्यक गरजेंसाठी फार लांब जावे लागणार नाही.

उदा :

सी.एस.टी. रेल्वे स्टेशन (सेट्रल).	:	३.३२ कि.मी.
चर्चगेट रेल्वे स्टेशन (वेर्स्टन)	:	२.५ कि.मी.
कुलाबा पोलीस स्टेशन	:	१.४५ कि.मी.
कुलाबा बस स्टॅण्ड	:	०.२५ कि.मी.
कुलाबा पोस्ट ऑफिस	:	०.२५ कि.मी.
सांताक्रुज विमानतळ	:	२० कि.मी.
वेगवेगळया उपचारांकरीता ५—७ हॉस्पीटल	:	०.३५ कि.मी

तसेच पावसाचे पाणी वाहून जाण्यासाठी व सांडपाणी वाहून जाण्यासाठी गटारे या जागेच्या बाजूला उपलब्ध आहेत.

प्रकल्प संपर्क सुविधा :

- हा प्रकल्प रोड, रेल्वे व जल वाहतूकीने जोडला गेला आहे.
- रोड – वुडन हाऊस रोड, कुलाबा कॉजवे, शहिद भगत सिंग रोड.
- जवळचे रेल्वे स्टेशन – चर्चगेट रेल्वेस्टेशन (वेस्टर्न) सी.एस.टी. रेल्वे स्टेशन (सेंट्रल)

- हि जागा बस, टॅक्सी या दळणवळण साधनांनी सुध्दा जोडलेली आहे. बस डेपो सुध्दा १ कि.मी. अंतराच्या टप्प्यात आहे.

१) **पाण्याचे पर्यावरण :**

महानगर पालिकेकडचे पाणी :

महानगरपालिकेडून होणा–या पाणी पुरवठयाची तपासणी केली असता ते पिण्यायोग्य असुन बांधकामा दरम्यान तसेच प्रकल्प पुर्तीनंतर ते पिण्यासाठी वापरण्यात येईल. बांधकामा दरम्यान हे पाणी गाळण्यासाठी ॲक्वागार्डचा वापर करण्यात येईल तसेच नित्यनेमाने या पाण्याची तपासणी होईल.

२) **हवामान अंदाज :**

वा–याचा वेग व दिशेचा अंदाज भारतीय हवामान खात्याकडून १ मार्च २०११ ते ३१ मे २०११ दरम्यान साठी गोळा करण्यात आला. यात वा–याची दिशा जास्तीत जास्त साऊथ वेंस्ट आढळली. प्रकल्प ठिकाणी हवामान दमट असुन तेथील तापमान ३३ ते १७ अंश सेल्सिअस दरम्यान आढळले.

३) **मातीची गुणवत्ता :**

प्रकल्प ठिकाणी गोळा केलेले मातीचे नमुने समाधानकारक आढळले.

४) **ध्वनीची तिव्रता :**

ध्वनीची तिव्रता चार ठिकाणी मोजण्यात आली. ही तिव्रता बरेचदा वहातुकीच्या वाहनांमुळे काही ठिकाणी दिलेल्या मानकांपेक्षा जास्त आढळली.

५) **जमीनीचा वापर :**

हि जमीन कुलाबा स्थित असुन जमीनीचा वापर हा रहिवाशी व व्यापारी कामासाठी राखीव आहे.

६) **वनस्पती व जिवजंतु :**

या प्रकल्पाच्या आजुबाजुस निलगिरी, कडुलींब, गुलमोहोर, बदाम, नारळ, वड, अशोक इत्यादी झाडे आहेत. महानगरपालिकेने रस्त्याच्या कडेस झाडे लावलेली आहेत. प्रकल्प जागा मुंबईत असुन येथे सर्व साधारण पक्षी उदा: चिमणी, कावळे, कोकीळा, पोपट इत्यादी आढळतात. बोरविली नॅशनल पार्क या प्रकल्पा पासुन ३५

किं.मी दुर आहे. तर आर.ए.कॉलनी १५ कि.मी दुर आहे. या दोन्ही ठिकाणी वन्य जीव सापडतात.

७) शेती व पशु संपत्ती :

हा प्रकल्प मुंबई सारख्या विकसीत जागेत असल्यामुळे येथे शेती होत नाही. हि जागा मुख्यत्वे कॉरपोरेट कार्यालय शेअरबाजार व बहुराष्ट्रिय कंपन्यांसाठी प्रसिध्द आहे.

८) सामाजिक व आर्थिक पर्यावरण :

अ) जनसांखिय माहिती :

२००१ च्या जनगणनेनुसार मुंबईत ११, ९१४, ३९८ इतकी लोकसंख्या आहे. लोकसंख्येची घनता ही २२ हजार व्यक्ती प्रती स्क्वेअर कि.मी. आहे. मुंबई ही बृहन् मुंबई पालीकेच्या प्रशासनाखाली येत असुन साक्षरता दर ७७.४५ टक्के असुन राष्टिय दरापेक्षा तो ६४.८ टक्क्यांनी जास्त आहे. मुंबईचा लैंगिक दर हा ७७४ महिला प्रती हजार पुरूष इतका आहे. तोच दर सर्बब जागेत ८२६ असुन ग्रेटर मुंबई मध्ये ८११ आहे. हा दर राष्ट्रिय सरासरीपेक्षा कमी आहे. लैंगिक दर कमी असण्याचे कारण मुंबईत बरीच पुरूष माणसे कामानिमीत्त रहिवास करतात.

ब) भाषा आणि धर्म :

मुंबई हे एक सर्व देशीय नगर असुन विभिन्न भाषा, धर्म येथे जोपासले जातात. येथे मराठी, हिंदी, गुजराती, तामील, कन्नडा, तेलगु आणि सिंधी इतक्या भाषा बोलणारे लोक आढळतात. मुळ महाराष्टीय लोकांशिवाय येथे गुजराती, मारवाडी, दक्षिण भारतीय व पंजाबी लोकांची बरीच लोकसंख्या आढळते.

क) दुरसंचार व इतर सामाजिक सेवा :

राज्य परिवहन मुंबई बस सेवा, पश्चिमी व मध्य रेल्वे या मुंबईतील मुख्य परिवहन सेवा आहेत. आंतरराष्ट्रिय संचारासाठी जलमार्ग व हवाई मार्गांचा वापर येथे होतो. या क्षेत्रात राहाणा–या लोकांना ब–याच सुविधा उपलब्ध असुन उत्तम सागरीकिनारा लाभला आहे. म्हणुन मुंबई राहाण्यासाठी योग्य ठिकाण आहे.

पर्यावरण प्रभावाची ओळख, आकलन व त्यावरील उपाययोजना :

पर्यावरण प्रभावाची ओळख व आकलन करण्यासाठी वेगवेगळया पध्दतींचा वापर केला जातो. जेणे करून नैसर्गिक पर्यावरणावर व सामाजिक पर्यावरणावर पडणारा प्रभाव ओळखुन त्याचे नियमन करण्याची उपाययोजना करता येते. यासाठी वेगवेगळया पर्यावरणाच्या घटकांची गुणवत्ता वेळोवेळी तपासणे गरजेचे ठरते. गुणवत्तेत होणारा फरक समजुन व होणा–या बदलाची स्वीकार्यता ठरवुन भविष्यात होणा–या बदलांची आखणी व उपाययोजना प्रकल्प चालु करण्या अगोदरच करता येते.

१) **हवेचे पर्यावरण :**

बांधकामावेळी उडणा–या धुलीकणांचे व बांधकामा दरम्यान होणा–या वहातुक प्रदुषणाने प्रकल्प ठिकाणाच्या पर्यावरणाची हानी होऊ शकते. तसेच प्रकल्प पुर्तीनंतर विजेअभावी वापरात येणा–या डि.जी.सेट मुळे तसेच प्रकल्प ठिकाणी येणा–या वहानांमुळे हवा प्रदुषण होण्याची संभावना आहे. याकरीता बांधकामादरम्यान धुळ नियंत्रण योजना, उत्तम बांधकाम जागा व्यवस्थापन व येणा–या जाणा–या वहातुकीचे नियंत्रण या सारख्या उपाय योजना या प्रकल्पात योजल्या आहेत. तसेच प्रकल्प पुर्तीनंतर प्रकल्प जागेत उत्तम वहातुक नियमन करण्यात येईल.

२) **ध्वनीचे पर्यावरण :**

बांधकामादरम्यान वापरात येणा–या यंत्र सामुग्रीमुळे ध्वनी प्रदुषण होऊ शकते. तसेच बांधकाम सामुग्री वाहुन नेणा–या वहातुकीमुळे ध्वनी प्रदुषण होण्याची संभावना आहे. तर प्रकल्प पुर्तीनंतर वहातुकीमुळे ध्वनी प्रदुषण होऊ शकते. यासाठी बांधकामा दरम्यान पुर्ण प्रकल्प मोठे पत्रे लावुन सीमीत करण्यात येईल. तसेच बांधकामासाठी वापरात येणा–या यंत्र सामुग्रीची योग्य ती देखभाल करण्यात येईल. तर प्रकल्प पुर्तीनंतर संपुर्ण कुपणाभोवती मोठी झाडे लावण्याचा प्रस्ताव आहे. जेणे करून झाडांमुळे बाहेरील वाहनांच्या आवाजाचा त्रास होणार नाही.

३) **पाण्याचे पर्यावरण :**

बांधकामादरम्यान होणा–या खोदकामामुळे जमीनी खालील भुगर्भपाणी तसेच पाण्याच्या वहनामुळे मातीची होणारी झिज या संभावना आढळुन येतात. त्यामुळे झिज झालेली माती प्रकल्पा जवळील पावसाचे पाणी वाहुन नेण्याकरीता बांधलेल्या गटारामध्ये साचुन आजुबाजुच्या परीसरात पुर सदृष्य परिस्थिती निर्माण करू शकतो.

यासाठी बांधकामादरम्यान साठवण टाक्या बांधण्यात येतील. तसेच मातीची झिज होऊ नये म्हणुन उपाययोजना करण्यात येतील. प्रकल्प पुर्तीनंतर निर्माण होणा–या लॉजींग व्यवस्थेमुळे एकुण १३ घन लिटर सांडपाणी तयार होईल. त्यातील केवळ स्वयंपाकघर व नहाणीघराचे पाणी वेगळे करून त्यावर प्रक्रिया करून ते पाणी शौचालयासाठी वापरण्या योग्य करण्यात येईल. त्यासाठी ग्रे पाणी प्रक्रिया प्रकल्पाचा प्रस्ताव आहे. ज्यावेळी लॉजींग व्यवस्था पुर्णपणे वापरात नसतील त्यावेळी प्रक्रिया केलेल्यातील काही पाणी कुंपणा बाजुला असलेल्या बागकामासाठी वापरण्यात येईल.

४) सामाजिक व आर्थिक पर्यावरण :

प्रस्तावित प्रकल्प हा गजबजलेल्या शहरात असुन या प्रकल्पामुळे मोडकळीस व धोकादायक असलेली इमारत उत्तम पध्दतीने बांधण्यात येईल. त्यामुळे येथील रहिवाशांचे जीवन सुरक्षित होईल. तसेच अशा मोडकळीस आलेल्या बांधकामामुळे शहराला आलेले गबाळे स्वरूप सुधारता येईल. या प्रकल्पामुळे सामाजिक व आर्थिक पर्यावरण सुधारण्यास मदत होईल.

या प्रकल्पाचे सामाजिक व आर्थिक फायदे :

अ) या प्रकल्पामुळे येथे राहाणा–या रहिवाशांना उत्तम व सुरक्षित घर मिळु शकेल तसेच येथील राहाणा–या रहिवाशांचे विस्थापन होणार नाही.

ब) या प्रकल्पामुळे बांधकामादरम्यान व बांधकाम पुर्तीनंतर व्यावसायिक संधी उपलब्ध होतील. ज्यामुळे कुशल व अकुशल लोकांना प्रत्यक्ष व अप्रत्यक्ष रित्या रोजगार उपलब्ध होईल.

क) या प्रकल्पामुळे या संपुर्ण जागेचा विकास होऊन शहराचा विकास होईल.

ड) आवश्यक असलेली लॉजिंग व्यवस्था मुंबईत निर्माण झाल्याने ब–याच लोकांना याचा फायदा होईल.

सारांश :

प्रकल्प विकासक मे. एम.आर.के. एंटरप्रायझेस हा एक पर्यावरण दक्ष विकासक असुन पर्यावरणाची हानी होऊन न देता भविष्यात सर्वांना फायदेशिर होणारा प्रकल्प निर्माण करू इच्छितो. हा प्रकल्प मुंबईच्या कुलाबा परिसरात असुन सी. आर.झेड–२ नी बाधीत आहे. परंतु हि जागा शहिद भगतसिंग रोडच्या दुस–या बाजुला असुन जमीनीकडच्या दिशेने आहे. हा प्रकल्प उत्तम प्रकारे विकसित केला असुन यात आगीची सुरक्षितता, पर्यावरणाची सुरक्षितता व महानगर पालिकेने घालुन दिलेल्या नियमांची पुर्ततेप्रमाणे योजलेला आहे. येथे पावसाच्या पाण्याचे संचयन, घन कचरा व्यवस्थापन, उत्तम बागकाम व ग्रे पाणी प्रक्रिया प्रकल्प या आणि अशा अनेक पर्यावरण सुधार कार्यक्रमांनी संयोजित केला आहे. येथे हवा, पाणी, ध्वनी व जमीन या पर्यावरण घटकांचे अध्ययन करून त्यावर होणा–या परिणामांची दखल घेऊन त्यावर उपाययोजना केलेली आहे. यासाठी **पर्यावरण व्यवस्थापन योजना व आपात कालीन व्यवस्थापन योजना** यांचा समावेश करण्यात आला आहे. या प्रकल्पात सात झाडे लावणार असुन सुर्य उर्जेचा वापर पाणी तापवण्यासाठी करण्यात येईल. तसेच संपुर्ण इमारत ही उर्जा बचत करणा–या दिव्यांनी प्रकाशित असेल. प्रकल्पाच्या कॉंक्रिट कामात फ्लाय ॲशचा वापर करण्यात येईल. तसेच सध्याच्या पर्यावरणाची हानी होणार नाही याची काळजी घेण्यात येईल.

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EXECUTIVE SUMMARY

Mumbai the capital of Maharashtra is also the financial capital and the most populated city of India. Being Economic capital and many business head offices are in Mumbai, this lead Mumbai most frequently visited. A high percentage of Daily visitors to Mumbai are ever-increasing because of many business meet. Many Businesses sometimes require a prolonged stay. As Hotel concept is raised first for tourism and now to support the residence to frequent visitors, But it is quite expensive and living there for prolonged days is not possible or rather affordable for many companies. Thus a concept of lodging housing/ residential lodging arises. In this, person can reside for a longer period. Residing person don't need the facilities like Swimming pool, Jacuzzi, Game area etc. like hotel. Most important is that the residential lodging should be very near to the destination. In such building with residential lodging facility is the basic need which suffices prolonged holidays.

INTRODUCTION TO PROJECT

After recognizing this need **M/s MRK Enterprises** a developer of the plot at **C. S. No.: 79 of Colaba Division at Nathalal Parekh Marg (Wood House Road), A Ward, and Mumbai Maharashtra** is developing a Lodging facility at the existing dilapidated unsafe structure.

The scheme for the same is approved byBMC under DCR 33(6). The structure was declared as dangerous by the office of Assistant Engineer A ward vide their notice under section 354 of MMC Act on 1/6/2010. As per MoEF Notification dated 6/1/2011, redevelopment of dilapidated, cessed and unsafe buildings in CRZ areas are permitted with special advantages, in which the project is planned as per DCR's in force as on 6/1/2011 and staircase/ lobby/ lift area is claimed free of FSI, as per clause 35(2)c of DCR 1991. The Dilapidated status of the structure was already taken on record by MCZMA, while granting earlier clearance as per old CRZ Notification-1991. This CRZ NOC was issued on 9th June 2010.

The project under reference is in **Residential zone as per the DP Remarks** and surrounded by many more authorized structures.

The site under reference is affected by CRZ-II zone. It is the landward side of the Shahid Bhagat Sing Road. Thus property attracts the CRZ legislation, which is reflected in CZMP plan.

The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification.

The total cost of the project is Rs. 4,47,35,040/- as per the valuation report carried by certified registered valuer.

PURPOSE OF REPORT AND IMPORTANCE OF THE PROJECT

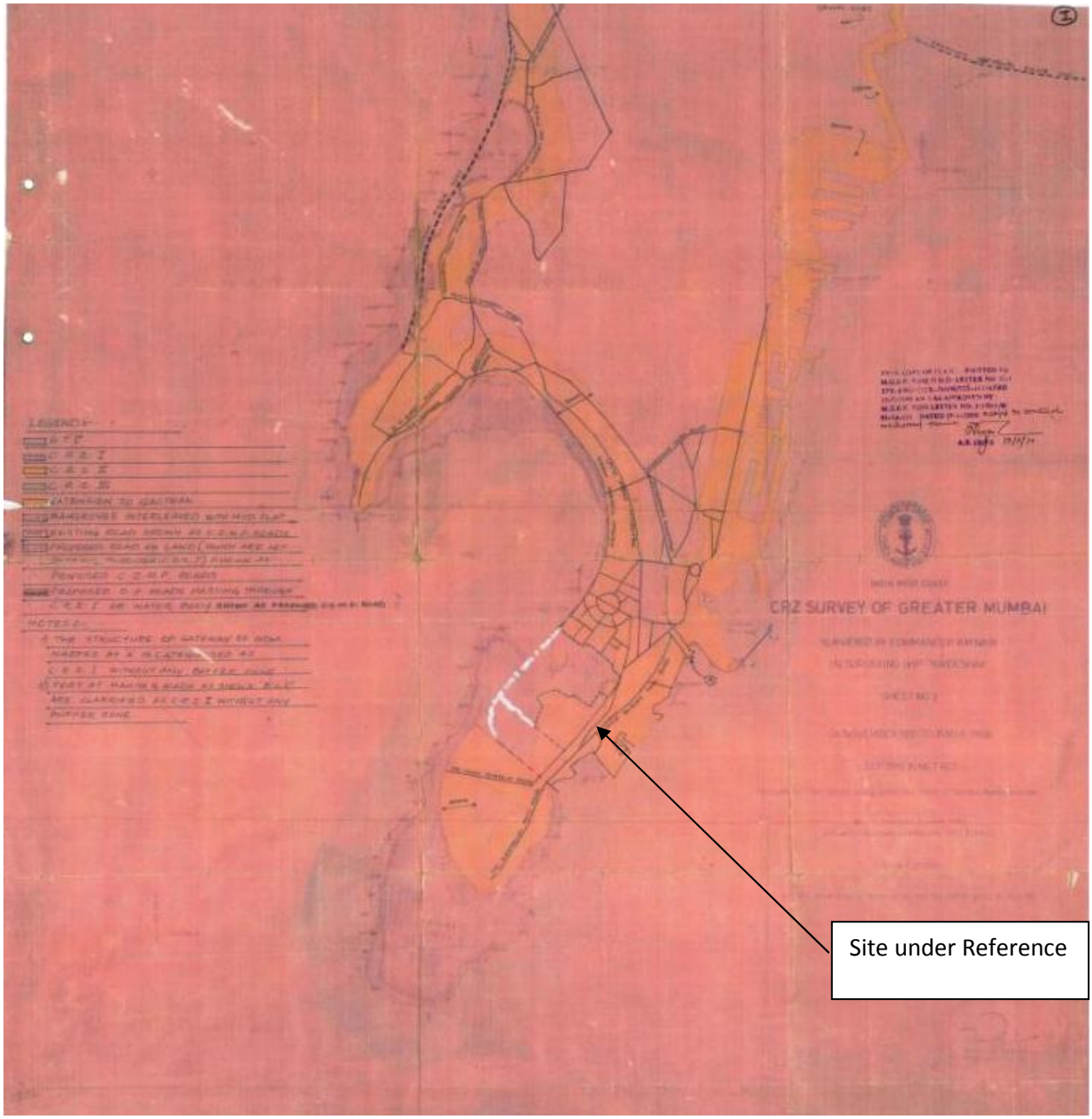
The site is situated at **C. S. No.: 79 of Colaba Division at Nathalal Parekh Marg (Wood House Road), A Ward, Mumbai Maharashtra** is currently having 4 Shops of Tailor, cycle and Flower business and the owner of the plot is having his residence at 2st floor and commercial shop on 1st Floor. On 3rd floor same commercial business is run by owner. The same can be seen by the Inspection extract of the property. The said property thus has G+3 Structure and now because of dilapidated condition is sold to M/s MRK Enterprises for the development purpose.

The Owner and the existing shops will be accommodated in new proposed building of G+17 Floors. In this proposed Building Ground and 1st floor is accommodated by the existing tenants and Second Floor is proposed for Service area while third floor will be for utility purpose, while 4,5,7 to 12 and 14 to 16 are the habitable floors where 2 Lodge rooms with one office area is proposed on each floor. 6th and 13th Floor is Refuge area as per the CFO requirements for which CFO NOC is already obtained. On 17th Floor 2 rooms and one AC plant area is proposed.

Current development thus will help the existing tenant to get permanent, safe structure. At present they are residing in unsafe building. Photos of the same are attached in annexure.

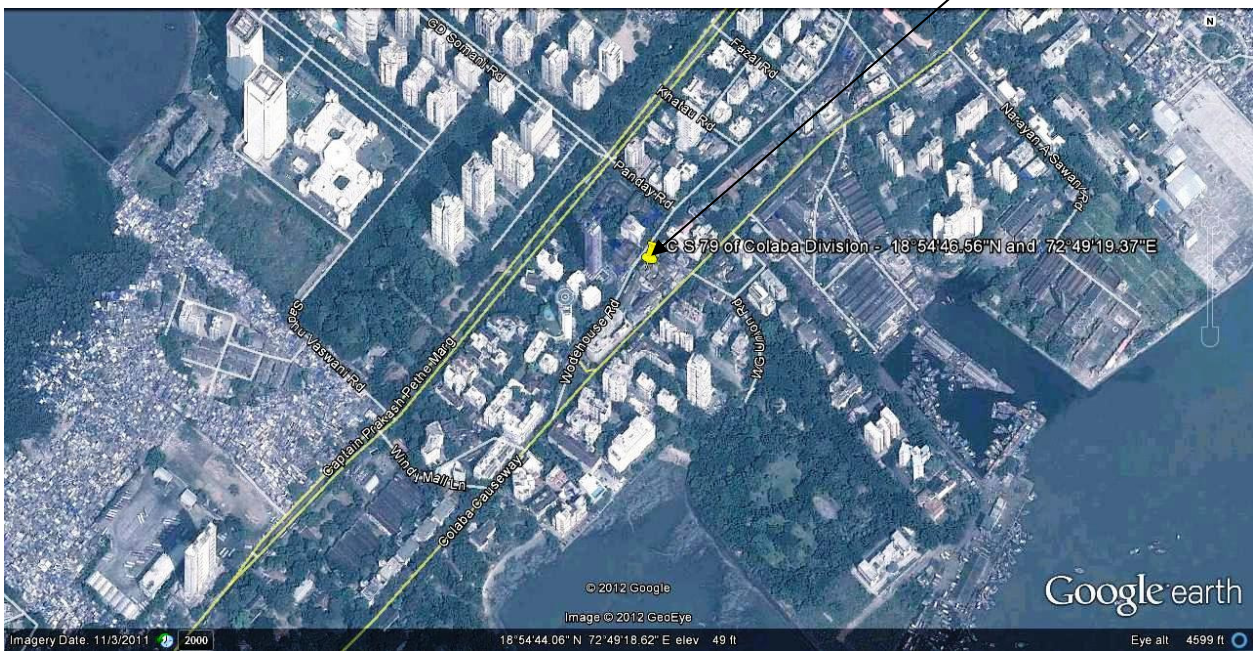
As the site under reference is affected by CRZ-II zone, it attracts the CRZ legislation as per 6th January 2011 notification for Coastal Regulation Zone (CRZ and the regulating activities in the CRZ.

CZMP Plan Showing Location of Reference Plot



Google Map and Google Image Showing Location of the Plot

Site under Reference



The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification. The property fall landward side of the existing Shahid Bhagat Singh road, which is reflected in CZMP plan.The total cost of the project is Rs.4,47,35,040/- Crores as per the valuation report carried by certified registered valuer.

Need of the Project:

- 4 Shops and one residential structure are residing in a very unsafe condition building.
- Total 17 Person's life is in danger.
- Development of this building is necessary to improve their living standards.
- Also road set back of 41.46 sq. mtrs will be released because of the development of the current plot.
- The proposed use of residential lodging is the extreme necessity of the Coloba area.
- Coloba is also becoming business hub and many head offices are in nearby area.
- Affordable residential lodging instead of Hotel is necessary and in Mumbai count of such residential lodging is very less.

BRIEF DESCRIPTION OF THE PROJECT

The project involves development of existing dilapidated structure under DCR 33 (6) as per the BMC norms. It involves development of 1buildingof G+17 floors.

	Existing building	**Proposed building**
Configuration of the buildings	Gr. + 3 floors	G+ 17 Floors
Maximum height of building	12.0 m	63.96 m

Area Statement:

A	**Area Statement**	**Total (in sq.mt)**
1	Area of plot considered	183.11
2	Deductions for setback area	41.46
3	Balance area of plot(1-2)	141.65
4.	F.S.I. permissible	2.89
5.	F.S.I. consumed (in existing)	2.83
6.	F.S.I. consumed (in proposed)	2.87
7.	**Total Built up area proposed**	**525.36**

BREAKUP OF FSI & NON-FSI:

Sr. No.	Description	Area in Sq.mt.
1	FSI Area	529.85
2	NON FSI Area	
2.1	Services	184.25
2.2	Basement (Parking)	0
2.3	Refuge	70.9
2.4	Passages, Lift Lobbies & Staircase	592.62
2.5	Amenities	0
2.6	Elevation & Projections	0
2.7	Stilt	0
2.8	Balcony	39.05
2.9	Servant Toilet	49.86
2.1	Terrace floor (staircase, lift areas, etc)	29.71
3	Total Non SFI	966.39
	Total FSI + Non FSI Area (A)	1496.24
	Buildable reservation of School(included in NON FSI area) (B)	
	Total Construction Built up Area (A+B)	say 1600 sq mtrs

Parking Statement:

Sr. No.	**Parking Required**	**Parking Provided**
1.	For Existing Commercial area 1/40 sq.mt = 1.53	The plot size is as small as 183.11 sq mtrs out of which 41.46 sq mtrs is in road set back area. Considering this fact the concession on parking is desirable and thus parking is not provided in the building.
2.	For Residential lodging Area 1/120 sq.mt =3.35	
3.	25% visitors Parking =1.22	
4.	Total Parking Required = 6.11=6 nos.	

1. **PROJECT DETAILS**

Name and Location	**:**	**Redevelopment project atPlot bearing C. S. No.: 79 of Colaba Division at Nathalal Parekh Marg (Wood House Road), A Ward, Mumbai Maharashtra**
Total no. Of workers to be employed during the construction phase	**:**	Peak : 200 Nos. Average: 100 Nos.
Project cost	**:**	Rs. 4,47,35,040/-
Project infrastructure	**:**	Existing building G+ 3 Floors Which is dilapidated and will be demolished. Proposed Building : G+17 Floors

		G+1 is for rehab tenants. 2nd Floor : Service Area 4,5,7,12 and 14 and 16 : Habitable Floors with 2 rooms of residential lodge and one Office area 6, 13 Floors : Refuge area 17 Floor: 2 Rooms +AC Plant area.
FSI		F.S.I. permissible : 2.89 F.S.I. consumed (in existing) : 2.83 F.S.I. consumed (in proposed): 2.87
Area Break up	**:**	Total plot area: 183.112Sq. meter Road Set back: 41.46 Sq. meter BUA as per FSI: 529.85Sq. meter Total Construction area: 1496.24 Sq. meter
Vehicular Parking Details		Total Parking required as per Local norms : For Four Wheeler : 6 Total Parking Provided as per Local norms: nil
Water Requirement & Sources	**:**	**During Construction Phase -** From M.C.G.M (For Workers): 18m^3/day. • From Tankers: 10m^3/day. (depending on construction activity) **During Operational Phase :** Total Water Requirement: 19 m^3/day. Domestic: 8 m^3/day. Flushing: 6 m^3/day. HVAC make up: 4 m^3/day. Gardening: 1.0m^3/day.
Sewage generation	**:**	13 KLD
Power	**:**	**During Construction Phase -** 1. From Local Authority: 100 kW **During Operational Phase –** 1. From Local Authority Maximum Demand: 1573 KW DG set with Acoustic enclosures and with synchronizing Panel 1 No. DG set of 400 KVA capacity
Gaseous emissions	**:**	Pollutants like SPM, SO_2 may arise from emissions from DG Sets working during operational phase. All the D.G. Sets will be connected to chimney of proper height and appropriate equipment and systems shall be installed to contain the emissions within prescribed norms.
Solid waste from : **1. Biodegradable wet waste** **2. Non-Biodegradable dry waste** **3. Total Waste**	**:**	18 Kg/day 39 Kg/day 57 Kg/day

SITE DESCRIPTION:

The site is at higher level than the surrounding area. The site under reference is affected by CRZ-II zone and the property fall landward side of the existing Shahid Bhagat Sing Road, which is reflected in CZMP plan.Thus property attracts the CRZ legislation as per CRZ 2011

The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification. Total plot Area in CRZ is 183.112sq.mt out of that 41.46 sq.mt is road set back area being handed over to BMC. Balance plot area is 141.65sq.mt and the same will be used for construction activity and will be proposed as ground RG area.

Town / Tehsil	:	Mumbai
District	:	Mumbai
State	:	Maharashtra
Latitude	:	18° 54'44.06"N
Longitude	:	72°49'18.62"E

Existing dilapidated structure will be developed as lodge and office. The all infrastructures are almost readily available for the current development. The site is surrounded by residential and commercial development and is in urban developed area.The current development is redevelopment project and the affected tenant will be rehabilitated in situ and also lodge rooms and office area will be developed in above floors in the same proposed building. Hence the main required amenities are better connectivity to the residential development by roads, rail and air. Also with respect to fire and security of the development, the availability of fire station and Police station are the basic amenities which should be present in the area not far than 3 KM. Other than this basic need such as hospitals, banks, Grocery shops, Malls etc are also required to be in nearby area. As the Colaba is already developed area all the above mentioned amenities are present within 3 KM area.

The above project development will have impact on natural resources due to burden on resources. Following is the brief details of all resources and mitigation measures to avoid the impact of project development on these resources.

1. **WATER REQUIREMENT:**
   a. **During Construction Phase :**

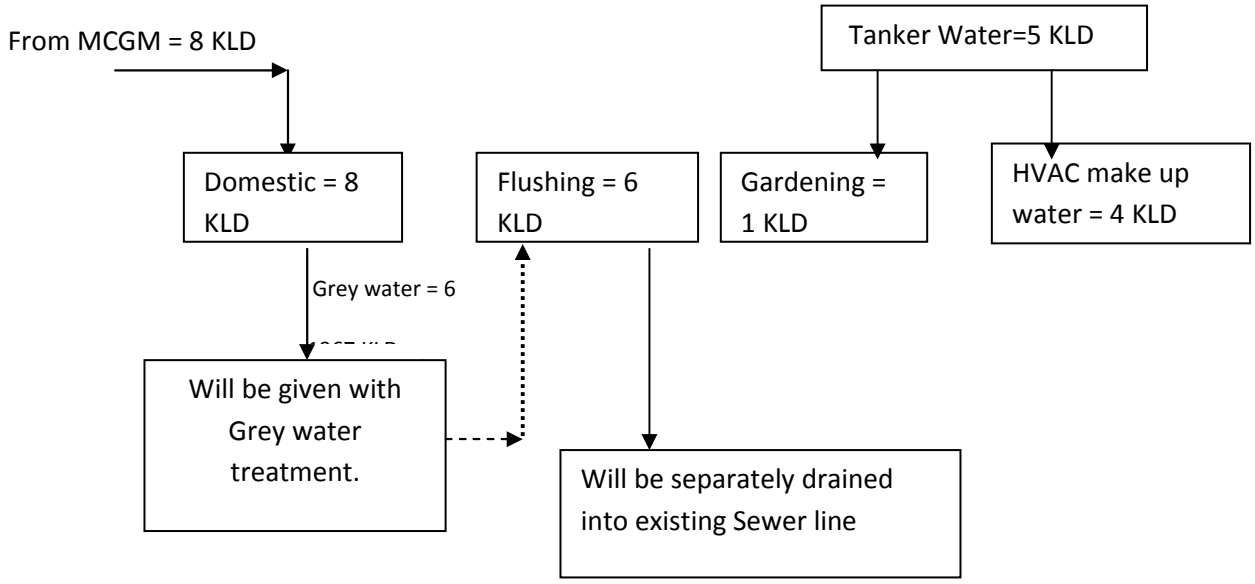
      Total water requirement during construction phase shall be approximately 18 M^3 /day for domestic use for the workers working on the site. This water will be made available from M.C.G.M.

Water required for construction will be approximately 10 M^3 /daywill be made available from water tankers.

b. During Operational Phase :

SR.NO.	PARTICULARS	EXISTING	PROPOSED	TOTAL
1.	Total Occupancy (Nos.)	17	79	96
2.	Domestic Water Requirement (cum/ day)	0.7	7.1	8
3.	Flushing Water Requirement (cum/ day)	0.5	5.8	6
4.	Water Requirement (cum/ day)	1.2	13.0	14
5.	Landscape Water Requirement (cum/ day)	1		1
6.	HVAC make up water (cum/day)		4	4
7.	Total Water Demand (cum/ day)	19		
8.	Total Sewage Generation (cum/ day)	13.4		13
9.	Total Grey Water (cum/ day)	7		7
10.	Treatment proposed	Only Grey water treatment ie. Water coming from kitchen and bathrooms will be collected and treated while sewage from Toilets will be separately connected to existing sewer line for disposal.Grey treatment water will be reused for Gardening and Flushing.		
11.	Recycled Water (cum/ day)	7		
12.	Water drained to existing sewer line (cum/ day)	6		

Water Balance per Day Basis



c. Sewage Generation and its disposal:

Total Sewage generated by development is 13 KLD but only kitchen and bathroom usage water will be collected separately and will be given with Grey water treatment.As the project sewage quantity is not more than 15KLD and even the sewage quantity will very according to accommodation of lodging rooms. Hence if STP is suggested it either can be oversized or undersized. Also it will be difficult to operate in very small plot area. Hence only 8 KLD will be treated. The same water after treatment will be used for flushing when occupancy is full and even for gardening when lodge rooms are not fully occupied. For HVAC make up water tanker soft water will be used. The Plumbing line will be thus different for Toilets and sullage water. The Flushing water will be separately connected to the existing sewer line.

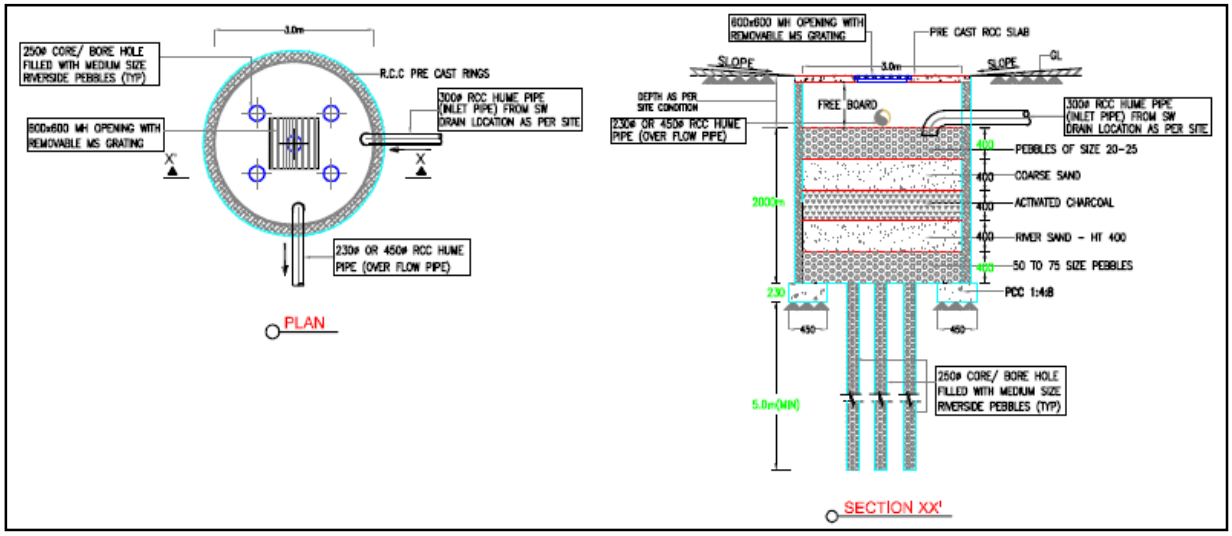
d. Rain Water Harvesting :

The plot is already covered with dilapidated structure and same will be developed in G+17Floor building hence 0.0039 cum/sec is the previous run off of the plot while 0.0149 cum/sec will be the run off after development of the proposed building. Hence incremental run off will be very negligible ie.0.011 cum/sec.

The same will be drained into existing sewer line. The permeable paver blocks are proposed along with 2 Recharge pits to increase the percolation of rain water into the soil rather than flowing to the drain.

*** (AS PER MOEF GUIDELINES)**

- **Percolation Pits: 2 nos. (0.5 * 0.5 * 2m)**



e. Storm Water Discharge:

Storm water drains will be constructed for proposed facility as per the norms.The recharge pits and Rain water recharge pits will help to reduce the run off and reduce the load on external storm water drain.

2. SOLID WASTE GENERATION:

i. During Construction Phase:

Solid waste would be generated mainly due to construction activity. The debris and waste material will be handed over to authorized contractors for land filling at other sites. The preconstruction debris is expected because of demolition of existing G+3 structure shed.

ii. During Operation Phase:

As this is Redevelopment Project the solid waste will be segregated based on Dry and Wet waste. The Wet waste will be treated in Organic waste converter within the site, while the dry waste such as papers, plastic, glass etc. will be recycled.

#	PARTICULARS	POPULATION (Nos.)	Dry (KG/ day)	Wet (KG/ day)	Total (KG/ day)
1	Existing Tenants	17	3	2	5
2	Proposed Tenants	79	36	15	51
	Grand Total	**96**	**39**	**18**	**57**

3. POWER REQUIREMENT:

a. During Construction Phase:

Power required for the general purpose will be approx. 100 kW & shall be taken from Local Authorityfrom the existing connection.

b. During Operational Phase:

- **Source of Power –** Local Authority
- **Maximum Demand –** 1573 KW
- **DG Back up –**DG set with Acoustic enclosures and with synchronizing Panel

1 No. DG set of 400 KVA capacities. The same will be operated for essential power requirements such as fire lifts, water pumps and passage lighting etc. As in Mumbai there is hardly any power failure is observed, but if required 80% back up of lodging will be proposed in future.

The building will have following energy saving measures

- All lifts and pumps are proposed on VFD drives which results in 30% saving in consumption.
- All internal common area are proposed to work on high energy efficient lamps (CFL) as specified in bureau of energy efficiency. The LPD is working less than 1W/ m2 but still achieving the required 200LUX for ambient lighting.
- External lighting is assumed to be 9.75 KW. 30% of the external lighting is proposed on solar. These are set of lightning which are placed at critical junctions and which be lit round the night. Otherwise the other 70% lighting is on timer circuits to achieve the maximum savings.
- The Apartments in floors are provided with solar geysers.
- Also total lighting to be proposed on 30% stages operation with automatic switch on and timer based. Also presence and photo sensors are proposed at critical junctions.

4. LANDSCAPING AND TREE PLANTATION:

SR. NO.	PARTICULARS	DETAILS
1	Existing tree cover	No existing trees, no tree cutting
2	Total trees	7 Nos.
3	Tree density	2Tree per 100sq.mt. in open space and 1 tree per 100 sq.mt as per garden department guideline given in Tree NOC no.UUA/VP/1294 dated 29.10.10
4	Total green area	As the plot area is very small no landscape RG is proposed only peripheral compound wall will be planted with following trees.

List of Trees & Shrubs:

Sr. No.	Botanical Name	Common Names
TREES		
1	ErythrinaIndica	Pangara
2	Alstoniascholaris	Saptaparna
3	Bauhinia variegata	Kanchan
LIST OF SHRUBS		
Sr. No.	**Botanical Name**	**Common Names**
1	Cassia tora	SennaTora
2	NeriumOlender	Kaner
3	Acalyphawilkesiana	MulticolourAcalypha
4	Durantaerecta	Golden Dewdrop
5	Hamelia patens	Scarlet firebush
6	Hibiscus rosa-sinensis	Jaswanti
7	Allamandablanchetii	Cherries Jubilee
8	Wrightiacoccinea	Strikutaja
9	Hymenocallislittoralis	Spider Lily
10	Plumbagozeylanica	White Plumbago

PROJECT SCHEDULE AND COST ESTIMATES:

The Proposed Project is Redevelopment project and will be started as soon as all government NOC's and CRZ Clearance is received to start the work. The projected Date of Start is Oct 2012 while the Date of completion will be Jan 2015if everything went as per planning.

Construction Precautions

The Proposed Redevelopment project has drafted certain construction precaution measures to minimize the environmental impact on the abutting and surrounding area.

- We are proposing the precast construction to reduce dusting in the nearby area and to speed up the construction as well as to reduce water wastage at site. This will also reduce water pollution due to construction activity water (contaminated with stilt and oil) draining to the nearby storm water drain.
- Proper Planning of the construction activity so that the construction activity will not disturb the nearby residence.
- The noisy activity and the labor area will be apart from the nearby residential area by at least 15 feet.
- The area will be fully barricaded with 10-15 mt height.
- Air, water, noise analysis will be periodic and will be strictly maintained into the record to take the precautionary measures immediately to maintain it below limits if found exceeding the prescribed limits.

EXISTING ENVIRONMENTAL SETTINGS

1. PHYSICAL ENVIRONMENT:

a. Site Topography and Geographical Location:

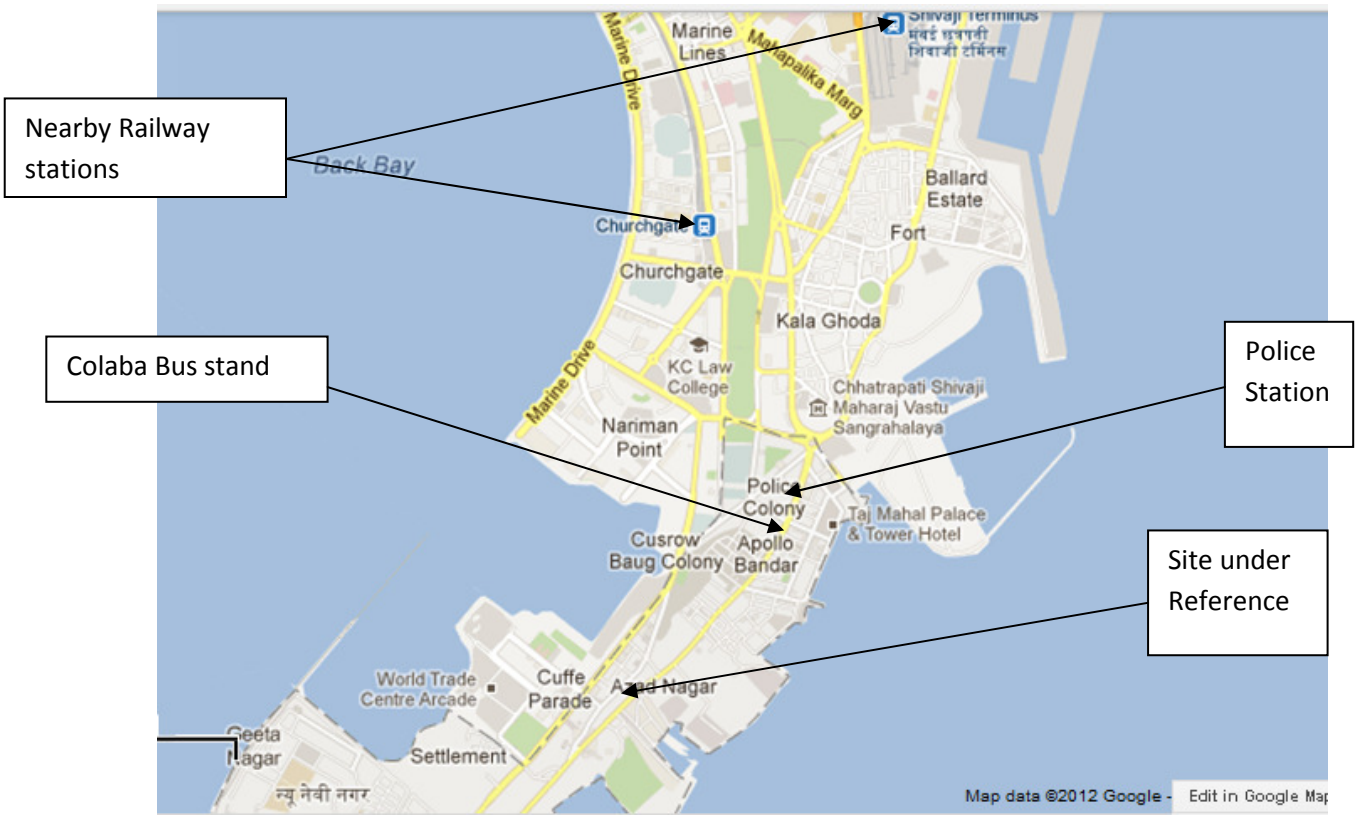
The plot is located within predominant residential & commercial developments.

Geographical location of site:

Latitude	:	18° 54'44.06"N
Longitude	:	72°49'18.62"E
Tehsil	:	Mumbai
District	:	Mumbai
State	:	Maharashtra

Social Infrastructure available at site

- Existing Redevelopment Project is in Colaba area of Mumbai where all infrastructures are almost readily available.
- Hence the main required amenities are better connectivity to the residential lodging development by roads, rail and air.
- Also with respect to fire and security of the development the availability of fire station and Police station are the basic amenities which should be present in the area not far than 3 KM. Other than this basic need such as hospitals, banks, Grocery shops, Malls etc are also required to be in nearby area.
- As the Colaba is already developed area all the above mentioned amenities are present within 3 KM area.
- To name few…
    - CST Railway Station (Central) : 3.32 KM
    - Churchgate Railway Station (Western) : 2.5 KM
    - Colaba Police Station: 1.45 KM
    - Colaba Bus Stand: 0.25 Km
    - Colaba Post Office : 0.25 Km
    - Santacruz Airport : 20 Km
    - 5-7 Hospitals of different specialties as well as general hospitals : 0. 35 Km
    - Also the Storm water drainage and Sewer line is already present near the existing Plot.



Connectivity to Project:

- The Scheme is well connected by rail, road,Air , water transport
- Road: Wood House Road, Colaba Causeway (Shahid Bhagat Sigh Road).
- Nearest Railway station: Churchgate Railway station(Western Railway) and CST Railways station (Central Railway)
- The site is well connected by BEST routes and also easily accessible by Taxis. Bus Depot is also within 1Km Distance

C. Ambient Air Quality:

Ambient Air Quality (AAQ) data has been collected for Suspended Particulate Matter (SPM)Respirable Suspended Particulate Matter (RPM), Sulphur Dioxide (SO_2) and Oxides of Nitrogen (NOx) for ascertaining baseline status. Besides base station, four monitoring stations surrounding the sites were selected for collection of baseline data. The results for the same were within limits as per the National Ambient air quality standards. The locations near to vehicular traffic junctions showed marginal high values.

c. Setting of Water Environment:

M. C. G. M. Water:

The present status of water quality in the vicinity of the site was studied. Quality of water supplied by Municipal Corporation of Greater Mumbai is checked and is as per the **Permissible Standards for Drinking Water (IS 10500 -1983).** The water quality is potable and hence same will be used in both construction and operation phase. Still at construction phase filtration system (aqua guard) will be used for drinking purpose. Even regular monitoring of water is proposed in monitoring plan.

iii. Meteorological Conditions at the Site:

Micro-meteorological data including wind speed and direction was collected from the Indian Meteorological Department during the study period (1st March, 2011 to 31th May, 2011). The wind rose for the same is drawn and South West is the predominant wind direction.

e. Climatologically Conditions:

The climate at the site is humid with maximum and minimum temperature varying between 33^{o}C to 17^{o}C defines the seasonal variations also. (Using data from met tables).

f. Soil Quality:

The soil sample was collected from the site at different locations& was analyzed for the relevant parameters and found satisfactory.

g. Noise Levels:

The noise levels were measured at four (AAQM) locations on around base station. The Noise levels are measured as hourly reading twice in a week at each location. The Average Noise levels are within limits at some locations while at some locations it is exceeding limit because of Vehicular Traffic.

h. Land Use Pattern :

The proposed site is located at Colaba, Mumbai which has mixed land use pattern comprising of residential and commercial.

i. Flora and Fauna:

Major Trees in surrounding area are Palm, Jamun, Nilgiri, Neem, Gulmohar, Pimpal, Wad, Ashok and Almond etc. The tree plantation has been developed,

mainly, by individuals or the Brihan Mumbai Municipal Corporation. The birds in the vicinity include Crow, Sparrow, Pigeon, Cuckoo, and Parrot etc. National Park is about 35 Km away from the site and situated at Borivali and it has more than 1000 species of plants, 40 species of mammals, 251 species of birds - migratory, and water birds, 38 species of reptiles, 9 species of amphibians besides a large variety of fish, insects and other life forms. Part of Aarey Colony, having large variety of trees is around 15 kms. from the project site.

j. Agriculture / Livestock:

There is no agricultural activity in the vicinity of the proposed area. Mainly the district is well known as the Economic Capital of India with many corporate offices, multinational companies and stock exchange.

2. SETTING OF SOCIO-ECONOMIC ENVIRONMENT:

a. Demographic Data:

According to the 2001 census, the population of Mumbai was 11,914,398. The population density is estimated to be about 22,000 persons per square kilometre. As Per 2001 census, Greater Mumbai, the area under the administration of BMC, has literacy rate of 77.45%, higher than the national average of 64.8%. The sex ratio was 774 (females per 1,000 males) in the island city, 826 in the suburbs, and 811 as a whole in Greater Mumbai, all numbers lower than the national average of 933 females per 1,000 males. The low sex ratio is due to a large number of male migrants who come to the city to work.

b. Languages and religion:

Mumbai being a cosmopolitan city we found the people of different religion and cast. Main languages spoken in the district are Marathi, Hindi, Gujarati, Tamil, Kannada, Telagu and Sindhi.

Apart from the original Maharashtrian settlers, this area has a considerable population of Gujarathis, South Indians, Marwaris and Punjabis.

c. Communication and Other Social Services:

State Transport, BEST Bus Service and Western Railways as well as central railways are the main transport services. For international communication many people use airways as well as waterways.

The cost of living is very high in this area as the basic amenities are very nearby and due to beautiful sea beach and the calm, joyful atmosphere in this area is ideal for the residential development.

IMPACT IDENTIFICATION AND IMPACT ASSESSMENT

Prediction of Impacts

Several techniques and methodologies are used for predicting the impacts due to proposed project on natural and social aspects of the environment. Such predictions are superimposed over the baseline (pre-project) status of the environment to derive the ultimate scenario of environmental conditions. Those conditions are subsequently evaluated for acceptability by screening them against standards for ambient environmental quality, against toxic effect thresholds, etc. This prediction and evaluation helps in designing of the mitigation measures for construction and after commissioning of the Project.

1. Air Environment

During the construction phase due to construction activity, dust emissions are expected. All other emission sources are intermittent and include emissions from materials transport, from heavy vehicles on site etc.

During Operational phase minimal impacts on air quality due to vehicular emissions in the premises and emissions from the D.G. Sets while in operation due to power failure are expected. But DG will be in open spaces hence negligible impact.

2. Meteorology

The micro-meteorological data for the region during post monsoon season indicates the predominant winds from South west sector. The wind speed of 6-10 km/hr dominated the wind pattern.

3. Noise Environment

The noise levels have been measured during the study period. Construction equipment noise will be the source of noise pollution during construction phase.

During operational phase Noise pollution will occur due to vehicular noise. Wide internal roads, proper parking provision and compound wall with barrier of compound trees will minimize impact of noise.

4. Water Environment

Being Redevelopment scheme sewage will be generated from Lodging Facility. Total Sewage generated by development is 13 KLD but only kitchen and bathroom usage water will be collected separately and will be given with Grey water treatment. As the project sewage quantity is not more than 15KLD and even the sewage quantity will vary according to accommodation of lodging rooms. Hence if STP is suggested it either can be oversized or undersized. Also it will be difficult to operate in very small plot area. Hence only 8 KLD will be treated. The same water after treatment will be used for

flushing when occupancy is full and even for gardening when lodge rooms are not fully occupied. For HVAC make up water tanker soft water will be used. The Plumbing line will be thus different for Toilets and sullage water. The Flushing water will be separately connected to the existing sewer line.

5. Socio-economic Environment

Critically analyzing the socio-economic baseline in the context of the proposed project, the impacts of the project could be variable in nature. Development of dilapidated structures will not only raise their living standards but also help to develop the city. Also shabby look of city will be no more in existence and risk of the damaged structures and its consequences will be minimized.Hence it is seen that the overall impact on Socio-Economic Environment is positive and permanent in nature.

The impacts on socio-economic environment due to the proposed project are listed below:

- The proposed project does not involve any displacement of inhabitants. It is in situ development of residential flats for residing tenants.
- Proposed project requires manpower during construction phase & operational phase thereby creating enormous job opportunities. Local skilled and unskilled laborers will have an opportunity for employment directly or indirectly.
- Due to the proposed project, development of that area will be possible.

MITIGATION MEASURES

1. POLLUTION CONTROL:

A. Water Pollution Control:

Construction Phase:-

Sewage from labors will be drained into existing sewer line. While the existing storm water drain will be utilized to drain the construction related storm water. Labours will be provided with proper toilet and bathing facility. This will avoid land and surface water pollution.

Operational Phase:-

Being Redevelopment scheme sewage will be generated from Lodging Facility.Total Sewage generated by development is 13 KLD but only kitchen and bathroom usage water will be collected separately and will be given with Grey water treatment. As the project sewage quantity is not more than 15KLD and even the sewage quantity will vary according to accommodation of lodging rooms. Hence if STP is suggested it either can be oversized or undersized. Also it will be difficult to operate in very small plot area. Hence only 8 KLD will be treated. The same water after treatment will be used for flushing when occupancy is full and even for gardening when lodge rooms are not fully occupied. For HVAC make up water tanker soft water will be used. The Plumbing line will be thus different for Toilets and sullage water. The Flushing water will be separately connected to the existing sewer line.

B. Air Pollution Control:

Construction Phase:-

The project will contribute in higher dust levels during construction phase. The dust control plan and good site management practices will be followed.

Operational Phase:-

The proposed project will not have any direct impact on air environment after completion. To ease the traffic congestion project proponent will provide adequate open spaces inside the plot.

The emissions from D.G. sets while in operation during power failures would be diluted by providing vent of proper heights.

C. Green belt development:

Around 7trees will be planted in whole plot at periphery to act as noise and dust barrier. There will not be any separate RG provision due to small shaped plot.

D. Noise Pollution Control:

Construction Phase:

During construction phase, sources of noise pollution will be due to operation of machinery like compressors, compactors, concrete plant, cranes etc. as well as transportation vehicles. This will cause nuisance to the occupants of the nearby area. The project proponents have agreed to take precautions and will follow Noise Control Plan for the same.

E. Solid Waste Management:

During Construction:

Solid waste would be generated mainly due to construction activity. This debris will be disposed as per the MCGM rules and for that Solid waste management certificate is obtained from relevant departments.

Operation Phase:

Solid waste generated from the Residential tenants and lodging facility will be segregated into wet and dry waste. Wet waste will be treated in organic waste converter while dry waste will be recycled. The manure formed from the wet waste will be utilized in Garden area and even Grey water treatment sludge will be utilized in Garden area.

ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

The Environment Management Plan would consist of all mitigation measures for each activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.

It briefly describes the every environmental Component such as Ambient Air Quality & Noise level, Water, Soil, Ecology, Socio economic environment etc in both construction and operation phase along with different activities with expected impacts and precautionary measures.

Also monitoring plan gives brief idea about the schedule for checking all environmental components with no. of stations to be analyzed.

Thus integration of both plans is to protect the environment because of development activity and to reduce the impact of the same. Nevertheless it is essential to develop the project with a vision to develop the environment better for better tomorrow.

ENVIRONMENTAL IMPACT AND MANAGEMENT PLAN FOR THE PROJECT

EMP for Construction Phase

Sr. no.	Environmental Component	Activity	Impacts	Precautionary measures
1	Ambient Air Quality& Noise level	• Site Clearance • Excavation • Construction of Structures • Heavy vehicle traffic • Use of DG Set • Open burning of waste	• Increased level of dust & other air pollutants • Increased Noise level.	**For controlling air pollution :** • Water Sprinkling • Cover on trucks • Use of RMC • Vehicles with valid PUC • Maintaining smooth traffic Flow DG sets: As per CPCBNorms, Proper Maintenance, Use of Low sulphur fuel. Restricting open burning of solid waste **For controlling noise pollution :** • Barricades along the Periphery of the site. • Ear Plugs for Laborers • D.G. sets with acoustic Enclosures. • No noise polluting work in Night shifts. • Using electrically operated Construction equipment.
2	Water	•Use of fresh water for Construction activity /	• Strain on the water supply in the vicinity • Sedimentation, • Pollution of nearby water	• Use of tanker water for construction. No burden on municipal supply • Provision of temporary toilets and bathing facilities. • Use of septic tanks soak pits

		labours •Wastewater generation •Disposal of site Run off into SWD •Water logging	courses. • Unhygienic condition for surrounding residents.	• Construction water will be channelised properly and silt traps will be provided before disposal into municipal drain. • Disposal of logged water periodically.
3	Soil	• Preconstruction and excavation debris • Storage of construction material / chemicals • Transportation of hazardous material • Residual paints Solvents/ bituminous material etc. • Heavy vehicle operation / maintenance • Generation of garbage by labourers	• Loss of good fertile soil • Soil erosion, • Soil contamination due to mixing of construction material/ accidental spillage of chemicals /oils	• Top soil will be stock piled and maintained for green belt development. • Contouring and minimizing the steepness of site; Mulching in exposed areas • Recycle of Debris as far as possible in construction area. • Disposal of debris to authorized sites/ recognized landfill sites • Proper and Separate storage of construction material • Storage of all petroleum products on impervious layers viz. concrete. • Usage of Oil trays wherever oil spillage is expected. • Transportation, storage and handling, disposal of HW as per their guidelines and handing it over to authorized agencies. • Most use of electrically operated machinery. • Segregation of garbage
	Even after taking precautions if soil is found to be contaminated, it shall be removed and disposed off to authorized site.			
4	Ecology	• Site clearance, • Construction of structures	• Disturbing natural flora and fauna	• Plantation of local tree species. • Plantation of trees will start in mid of construction phase.

		• Cutting of trees.	• Loss of vegetation from chemical spills from vehicles	• Well grown and healthy saplings will be planted. • Regulation of vehicular trips and speed and proper maintenance of machinery.
5	Socio economic environment	Construction work Labour hutments	• Positive impact : Employment generation • Safety and hygiene at site may be affected during construction	• Adequate drinking water, Toilet and bathing facilities.Regular analysis of drinking water. • Personal protective and Safety equipment will be Provided. • First aid facility. • Regular health check up • Regular pest control at site. Educational and awareness programme for safety measures.

EMP for Operation Phase

Sr. no.	Environmental Component	Activity	Impacts	Precautionary measures
1	Ambient Air Quality& Noise level	Increased vehicular trips, Use of DG sets Firing activity	• Traffic congestion, • Air pollution • Increase in noise level	• Adequate Parking provision; well organized traffic management plan for smooth flow of vehicles. • Regular PUC check-up for vehicles. • DG sets: As per CPCB norms, Proper Maintenance, Use of Low sulphur fuel. • Acoustic Enclosures for DG sets • Provision of green belt around the Site which will reduce air pollution and also act as noise buffer. • Provision of PPE to all participants to combat noise pollution • Provision of thick Wall all around site to minimize noise pollution impact on surroundings.
2	Water	• Increased demand of natural water, • Generation of waste water • Increased paved structure	• Stress on existing water supply, Pollution of water bodies •Increased run off from site.	• Use of water saving practices • Rain water harvesting and use of rain water for building • Plantation of less water consuming trees. • Disposal of sewage in to existing municipal sewer line in safe mode through closed sewer line. • Use of paver blocks instead of fully impervious pavement to control run off along with green belt development
3	Land	• Solid waste generation, • Transportation of hazardous material • Increased paved structure	• Improper disposal of waste, • accidental spillage of hazardous chemicals leads to soil contamination	• Waste minimization recovery and reuse • Segregation at source for all solid waste streams • Recycling of dry garbage • Treatment of wet garbage by vermicomposting and its use as manure • Transportation, storage and handling, disposal of HW/E waste

Sr. no.	Environmental Component	Activity	Impacts	Precautionary measures
			• Increased run off from site.	as per their guidelines and handing it over to authorized agencies. • Strom water drainage of adequate capacities. • Use of paver blocks for percolation of rain water along with green belt development • CHWDF will be utilized to dispose the Hazardous waste
	Even after taking precautions if soil is found to be contaminated, it shall be removed and disposed off to authorized site			
4	Ecology	Introduction of new tree species	• Disturbing natural flora and fauna • Increased Exposure to anthropogenic activities.	• Landscaping, avenue plantation • Plantation of local tree species. • Green line will be used at periphery of the roads and compound to separate the vehicular pollution and noise pollution from public utility area.
5	Socio economic environment	Development of new land use, influx of people	• Stress on all utilities, risk and danger due to natural and manmade disaster Positive impact : Employment generation	• Environmental awareness programme for surrounding area. • Emergency preparedness plan and Disaster management plan will be prepared and explained with the help of local NGO's and surrounding people and authority.

Note: Environmental monitoring plan will be prepared based on Environmental management Plan. All environmental parameters will be studied as and when required and based on analysis result mitigation measures will be implemented.

Hazardous Waste Management Plan:

Construction Phase:

Environmental Management Plan for Hazardous Waste Generation

Sr. No.	Source of Hazardous Waste Generation	Mitigation Measures
1	Leakages and spillage oil or fuel	* Contaminated soil if any shall be disposed off to Authorized Disposal Site. * Bituminous materials /any other chemicals shall not be allowed to leach into the soil.
2	Residual Paints/Solvents	--do--

Other hazardous wastes, if any, shall also be handled in the similar way through authorized dealers only.

Operational Phase:

Sr. No.	Source of Hazardous Waste Generation	Mitigation Measures	Disposal
1.	Waste Oil from D.G Sets	-	Waste oil will be handed over to authorized recyclers.
2.	Fired Bullets from the Firing activity	CHWDF	The fired bullets will be collected as per the guidelines, even the contaminated soil at the target points will be also segregated. The cartons and packaging material of contaminated waste will be piled at safe place and monthly disposed of to the Common hazardous waste disposal facility.

Environmental Monitoring Plan

During Construction Phase				
	ITEM	**PARAMETERS**	**FREQUENCY**	**LOCATION**
1.	Ambient Air Quality	SPM,RSPM,SO2 NOX , HC & CO	Quarterly	At major construction area. (total 1 station)
2.	Noise Level	Equivalent noise Level dB (A)	Daily	At major construction area. (total 1 station)
3.	Drinking Water	Analysis of water for physical, chemical, biological parameters.	Quarterly	Municipal supply

DURING OPERATION PHASE				
	ITEM	**PARAMETERS**	**FREQUENCY**	**LOCATION**
1.	Ambient Air Quality	SPM,RSPM,SO2, NOX,HC, & CO	Quarterly	Total 1 Station
2.	Noise Level	Equivalent noise level	Quarterly	Total 1 Station
3.	Exhaust from DG Set	SPM, SO2	Quarterly	Stacks of DG sets.
4.	Drinking water	Physical, chemical and Biological parameters	Quarterly	Municipal Supply

CONCLUSION

The project proponents **M/s MRK Enterprises**seems to be safety conscious and alert about good housekeeping and is environment friendly.We may conclude as under:

- Proposed Redevelopment project is in Colaba area of Mumbai is affected by CRZ-II zone. The property fall landward side of the existing Shahid Bhagat Singh Road, which is reflected in CZMP plan.
- The required proper planning is considered in design aspects while designing the proposal with respect to CRZ.
- The proponents are following all the Firefighting safety rules and regulations as prescribed by M.C.G.M. and CFO regulations. CFO approval is already obtained
- Building is designed to meet requirements of seismic zone III.
- Rain water harvesting is proposed to recharge the run off water.
- Ambient Air Quality of the project site will be within the permissible limit as prescribed by National Ambient Air Quality Standards.
- Solid waste will be collected and segregated and kept separately for wet and dry garbage. Dry garbage will once again sort into recyclable and non recyclable. Recyclable dry garbage will be disposed to recycling agencies and non recyclable will be sent to land fill sites by the municipality. Wet garbage will be treated by Organic waste converter and will be used as manure in garden area.
- Air, water, Noise, soil parameters will be studied during construction as well as after construction to minimize the environmental impacts by taking proper precautionary measures.
- No significant impact is seen on flora and fauna.
- Fly-ash will be used in concrete work.
- Total 7trees will be planted along with landscape development to improve microclimate.
- The project will generate employment opportunities during construction stage and also at operational phase.
- Proposed buildings have considered energy efficient lighting and use of non conventional energy source such as solar for water heating.

DISASTER MANAGEMENT PLAN

The critical elements which form the backbone of Disaster Management Plan (DMP), they are:

1. Reliable and early detection of an emergency and immediate careful planning.
2. The command, co-ordination and response organization structure along with availability of efficient trained personnel.
3. The availability of resources for handling emergencies.
4. Appropriate emergency response action.
5. Effective notification and communication facilities.
6. Regular review and updating of DMP.
7. Protect training of the concerned personnel.
8. Minimizing the effects may include rescue, first aid, evacuation, rehabilitation and giving information promptly to people living nearby and scrutinized information's to media.

On-Site & Off-Site Emergency Plan:

An important element of mitigation is emergency planning, i.e. recognizing that accidents are possible, assessing the consequences of such accidents and deciding on the emergency procedures, both on-site and off-site, that would need to be implemented in the event of an emergency: -

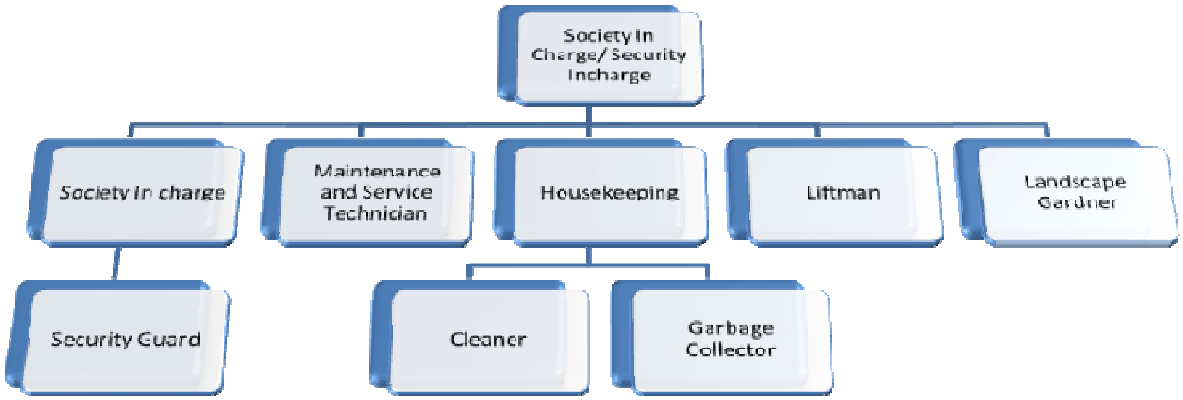
1. To protect building personnel and nearby private citizens.
2. To prevent or minimize damage of property or the environment.
3. To render help to the person at site to provide him relief.
4. To restore the affected area as soon as possible.
5. To review incident to evaluate and strengthen the emergency management response for future emergencies.

On-Site Disaster Management
Formation of the Disaster Management Committee & Groups

The Disaster Management Committee will be formed by the developer. The Lodge In-charge, competent to handle various disasters will be the In-charge to look after the complete process of DMC (Disaster Management Committee). The roles and responsibilities of various groups are defined in subsequent paragraphs.

The building will have one Security In-charge/Society In-charge (and alternate), one assistant Security guard (and alternate), and who will direct the evacuation of persons from their respective areas as quickly as possible in a safe and controlled manner. The list of building evacuation team members is maintained by Lodging Facility.

The following figure demonstrates the structure of organization structure of the Disaster Management Committee.



Organization structure of the Disaster Management Committee

Roles and Responsibilities of Disaster Management Committee:

1. To have custody of all the Disaster management assets, their up keep and maintenance including documentation pertaining to their usage.
2. To maintain drawings indicating the location of each of these assets and their operating manuals.
3. Look into the structural safety requirements for various hazards (earthquake, fire, floods, cyclone, etc.). Get the buildings assessed for the hazards identified and take prompt remedial measures, as required.
4. The members of the DMC shall have an understanding of the disaster management policy and planning principles.
5. Evaluation of the Disaster Management plan.
6. Carrying out the mock drill twice a year.
7. Updating of the plans at regular intervals (at least once a year, and after any significant disaster) to ensure that the plan is workable.
8. Earmark fund arrangements for carrying out preparedness and mitigation measures in the building.
9. Accessing and stabilizing the environment; Assessing and obtaining emergency services, supplies and equipment; Ensuring the safety of occupants and volunteers at all times during an emergency;
10. Arranging for off-site storage and work facilities;
11. Contacting, training and supervising volunteers;
12. Documenting all aspects of the response / recovery procedures;
13. Meeting with the press;
14. Preparing post-emergency reports.

Off-Site Emergency Coverage
Identification of Off-site hazards:

1. Rail/ Air Accidents:

The effects at the proposed project are not likely to be felt, as the project is 20 km away from the airport and about 3-3.5 km away from the railway station.

2. Nuclear radiation hazards:

The project site is outside the critical zone of radiation. The normal wind directions are not likely to blow from the BARC towards the proposed project site. Hence, there is no imminent danger fromradiation effects andthere is no need for immediate evacuation oruse of dosimeters.

3. Fires due to Fire crackers

During celebration time, many people will burst fire crackers. Fire should not be allowed to burst inside the building compound and care should betaken that the fire crackers are busted out in open. The fire crackers usually jump to heights of 100-200 m and then bursting are in vogue. Such crackers may result into sparks entering the residential buildings and setting fires. It needs to be ensured that the open space within the building should not be used for fire crackers bursting. The security staffs needs to be vigilant. The residents also need to be vigilant in ensuring that no combustible material is dumped on the window or veranda grills.

Roles and Responsibilities of External Service Provider

Off-site plan addresses all issues which can have impact out-site of the site. Off-site Emergency

Plan has many components which need to be in place for effective plan.

1. Voluntary organizations and NGOs:

A complete list of details of organizers, telephone numbers, resource availability that is in the vicinity will need to be maintained. They would be asked to share their views on improving the environmental awareness and structure of the society.

2. Role of the Implementing Authority (Local Authority):

The local authority will carry out his duty in preparing for a whole range of different emergencies within their jurisdiction area. (Ward-wise areas in case of MCGM). The responsible person will coordinate to obtain the information to provide the basis for the plan. This liaison should ensure that the plan is continually up dated and communicated to all stake holders. It will be the responsibility of the local authority to ensure that all those organizations, which will be involved off site in handling the emergency, know of their roles and responsibility.

3. Role of Police Department:

Formal duties of the police during an emergency include protecting life and property and controlling traffic movements. Their functions should include controlling bystanders, evacuating the public, identifying any serious problems, and informing all concerned.

4. Role of Fire Authorities:

The control of a fire should normally be the responsibility of the senior fire brigade officer who would take over the handling of the fire from the site controller on arrival at the site. The senior fire brigade officer should also have a similar responsibility for other events, such as explosions and toxic release. Fire authorities in the region should be apprised about the location of all stores of flammable materials, water and foam supply points, and fire-fighting equipment. They should be involved in on-site emergency rehearsals both as participants and, on occasion, as observers of exercises involving on-site personnel.

5. Role of Health Authorities:

Health authorities, including doctors, surgeons, hospitals, ambulances, and similar other persons/institutions should have a vital part to play following a major accident, and they should form an integral part of the emergency plan. Major off-site incidents are likely to require medical equipment and facilities in addition to those available locally, and a medical "mutual aid" scheme should exist to enable the assistance of neighboring authorities to be obtained in the event of an emergency.

DISASTER MANAGEMENT DURING CONSTRUCTION

Safety Plan:

Safety of both men and materials during construction and operation phases will be undertaken. Project will have proper safety plan and the same will be made available during construction, operation and maintenance phases.

1. Safety rules or policy will be formed and will be implemented on site.
2. Necessary protective equipment, safety appliances and clothing, will be provided and to ensure their proper use.
3. Providing appropriate facilities for first aid and prompt treatment of injuries and illness.
4. Proper implementation of fire prevention methods and an appropriate firefighting service.
5. Maintaining collection of data on accidents with a view to take corrective, remedial and preventive action.
6. Regular safety inspection by a competent person at suitable intervals of all buildings, equipment.

Safety Rules (Policy) at Sites:

1. Observe "No Smoking" regulations.
2. Consuming or using alcohol or illegal drugs in the workplace is prohibited. Occupants will not be allowed to work or to continue their shift if their ability to work is impaired.
3. Where required, you must wear protective equipment appropriate to the task.
4. Maintain floor coverings in good condition to avoid tripping hazards caused by loose tile and frayed carpet edging.
5. Keep designated walkways and doorways clear, unobstructed, and free of electrical cords, boxes and office equipment.
6. Use proper step stools, not chairs, when climbing to reach high items.
7. Properly store and handle any potentially hazardous chemicals.
8. Occupants should report hazardous workplace conditions to a supervisor immediately.
9. The existing medical hospital facilities will be made available round the clock for attending to emergency arising out of accidents, if any.
10. The working personnel will be given the following appropriate personal protective safety gears.

On-site PPE

PPE (Personal protective equipment)	**Purpose**
Safety Boot	Foot Protection
Safety Helmet	Head Protection
Safety Gloves	Hand Protection
Safety Glasses	Eye Protection
Safety Goggles	Eye Protection
Face Shields	Eye Protection
Ear Plugs & Muffs	Hearing Protection
Dust & Gas Respirators	Respiratory Protection

DISASTER MANAGEMENT DURING OPERATION

1. Fires and Fire Alarms

Despite the fact that fires are rare occurrences, if one does occur, everyone in a building must react quickly. For that alarming system is proposed.

Roles & Responsibility to handle Fire Emergencies

EMERGENCIES/DISASTER RESPONSE TEAM

Building Property In-charge/Security Officer and alternate society In-charge responsibilities includes:

1. Follows procedures for emergency response and reporting.
2. Determining and co-coordinating emergency response actions for a particular floor or portion of a floor;
3. Ensuring that all occupants, including those with disabilities, are completely out of unsafe areas;
4. Making sure evacuees use stairwells and not building elevators; and
5. Keeping evacuated or relocated persons at the safe refuge area until building management or the fire department authorizes them to return to their workstations.
6. Communications: Communicating the emergencies to the nearby emergencies centers, such as fire brigade, Ambulance, Fire Station etc. And well informing the details of the incident.

Following are the various Fire Protection systems proposed:

1. Fire Fighting Tank
2. Fire Pump
3. Heat detector and smoke detectors.
4. Fire Detection & Alarm System.
5. Automatic Fire Sprinkler Systems
6. Hooters
7. Hose Reel
8. Fire Hydrant System
9. Portable Fire Extinguishers
10. Fire Engine Access Movement
11. Evacuation Plan

2. Power Failures

Failure of electrical power to a building will have a serious impact on its operations, particularly if the failure occurs during normal operating hours when the building is fully occupied. A power failure may be a brownout (a partial reduction in service) or a total blackout.

Roles & Responsibility during Power Failure
EMERGENCIES/DISASTER RESPONSE TEAM

Building Property In-charge/Security Officer and alternate Facility In-charge responsibilities includes:

c. Activating emergency backup system, i.e. DG sets, if not activated automatically. All emergency light powered by battery or emergency generator must be maintained. Custodial, electrical, or staff should test accessible emergency lights weekly. The electrical shop staff must check those lights that are not accessible at least annually.
d. Determining and co-coordinating emergency response actions for a particular floor or portion of a floor;
e. Ensuring that all occupants, including those with disabilities, are completely out of unsafe areas, in case of black-outs;

f. Ensures that every incident is thoroughly documented andthat required notifications and reports to the appropriate authorities are carried out.

OCCUPANT

Generally, if occupants discover a power failure they should:

1. Try to stay as calm as possible. React immediately. Move quickly but do not run.
2. Keep noise to a minimum and listen for instructions, particularly those over the PA system. Follow the directions of Society In-charges.
3. Occupants should immediately vacate any parts of the building which are not illuminated either by emergency lighting or by natural daylight; If power is not restored within five minutes, building occupants should vacate any parts of the building which are illuminated by emergency lighting only Before leaving, building occupants should disconnect from the electricity supply any equipment which was in use prior to the power failure.

Maintenance of DG sets

A well-planned maintenance program is essential to the operation of any power generation system. Because of the durability of diesel engines, most maintenance is preventive in nature. Preventive diesel engine maintenance consists of the following operations:

1. General inspection
2. Lubrication service
3. Cooling system service
4. Fuel system service
5. Servicing and testing starting batteries
6. Regular engine exercise

It is generally a good idea to establish and adhere to a schedule of maintenance and service based on the specific power application and the severity of the environment. For example, if the generator set will be used frequently or subjected to extreme operating conditions, the recommended service intervals should be reduced accordingly. The annual maintenance cost for DG Sets, will be 10-15% of system cost. These systems shall have the annual maintenance contract which will be regularly renewed by the developer until the formation of society; thereafter the housing society's committee will manage it.

3. Natural Disasters

Each natural disaster (earthquake, tsunami, volcano, winter storm, tornado, hurricane, or flood) requires a separate life safety approach and should be independently covered in the Building Emergency Procedures Manual.