

पर्यावरणीय अहवालाचा सारांश

प्रकल्प

रहिवासी गृह योजना

दानी चाळीची पुर्नविकास योजना,

सी.आर.झेड —२ प्रकल्प

गट क्र. २८०, मलाबार हिल विभाग,

वाळकेश्वर रोड, मुंबई, महाराष्ट्र

प्रकल्प संयोजक

मे. अर्थ विकासक

मुंबई हि महाराष्ट्राची अर्थिक राजधानी असून भारतातील सर्वात जास्त लोकसंख्या असणाऱ्या शहरांपैकी एक आहे. मागील दशकामध्ये मुंबईची रहिवासी व व्यापारी विकासासाठी फार झपाट्याने वाढझाली आहे. त्यातील बरीच औद्योगिक क्षेत्रे हि मुंबई पासून दूर गेल्यामुळे मुंबईचा अधिकाधिक विकास रहिवासी व व्यापारी प्रकल्पांसाठी होत आहे.

मुंबई चे शांघाय होण्याची परिस्थिती आता दूर नाही त्यातच खूप पूर्वापार राहत असलेल्या चाळी आता मोडकळीस आलेल्या आहेत ज्यांचा विकास करणे अत्यंत गरजेचे आहे. त्यातील काही चाळी सी.आर.झेड क्षेत्राने बाधित आहेत. या चाळींचा विकास करणे आता सी.आर.झेड च्या २०११ च्या कायद्यान्वये शक्य होईल कारण पूर्वापार राहत असलेल्या लोकांना त्याच जागी घर देऊन विकासाचा खर्च विकासकाला जून्या कायद्यान्वये एफ.एस. आय च्या अभावी शक्य नव्हते. भविष्यात अशा मोडकळीस आलेल्या संरचनांचा विकास होण्यासाठी मुंबईतील डी.सी.आर ३३ (७) मुळे शक्य आहे.

अशाच एका योजनेची परीओळख येथे केली आहे.

प्रकल्प परिचय :

मलाबार हिल विभागातील दानी चाळ हि एक मोडकळीस आलेली असुरक्षित संरचना हि खालील तळ मजला + वरील तळ मजला + २ वरील मजले अशी ४२ गृहसंकुलाची इमारत वाळकेश्वर रोड येथे गट क्र. २८० येथे स्थित होती. सन २००० साली झालेल्या दुर्घटनेत या इमारतीचा काही भाग कोसळला. त्याची नोंद अग्निशमन दलाने घेऊन तेथे उपस्थित असलेल्या १६ घरांमधील लोकांना सुरक्षित बाहेर काढण्यास ते यशस्वी

ठरले. उरलेली २३ घरे हि धोकादायक असल्यामुळे रिकामी होती. अशा ४२ रहिवासी धारकांना या दुर्घटनेमुळे बेघर व्हावे लागले म्हणून मे. अर्थ विकासकाने हा प्रकल्प पुनर्वसनासाठी हाती घेतला.

हा प्रकल्प वाळकेश्वर रोडच्या समुद्र तीराकडे असून समुद्र तीरावर असलेल्या तळ मजला + ३ मजल्याच्या अधिकृत इमारतीच्या जमिनीकडील बाजूस आहे. यामुळे या प्रकल्पास समुद्र क्षेत्र आरक्षणाच्या कायदयानुसार ना हरकत परवाना घेणे आवश्यक आहे. सदर प्रकल्प हा पर्यावरण दृष्टीने संवेदनशील क्षेत्रात मोडत नाही. या प्रकल्पाचा एकूण खर्च अधिकृत मुल्यांकनाकडून आलेल्या अहवाला प्रमाणे रु. ४,४६,००,०००/- इतका आहे.

पर्यावरण अहवालाचा उद्देश :

गट क्र. २८०, मलाबार हिल विभाग, वाळकेश्वर रोड, मुंबई, महाराष्ट्र येथे स्थित असलेल्या दानी चाळीचा पुर्नविकास शासनाच्या डीसीआर ३३(७) च्या तरतूदीनुसार क्र. ईबी/५०४०/डी/ए दि. ०३/०३/२०१० च्या मंजुर आराखडयाप्रमाणे पुढीलप्रमाणे आहे. प्रस्तावित योजनेची इमारत हि ४ बेसमेंट + स्टील्ट + १२ मजले बांधण्याचे प्रस्तावित आहे. हया प्रकल्पाचे विकासक म्हणून मे. अर्थ विकासक यांची निवड करण्यात आली आहे. अस्तित्वात असलेल्या ४२ सदनिकांना नविन विकसित होणाऱ्या इमारतीत १ बिएचके ची सदनिका देण्यात येणार आहेत. या इमारतीतील पहिले ६ मजले अस्तित्वात असलेल्या रहिवाश्यांच्या पूर्नवसनासाठी राखीव ठेवण्यात येणार आहेत. प्रस्तावित प्रत्येक मजल्यावर ७ सदनिका प्रस्तावित आहेत. ७ व्या मजल्यावर अग्निशमन दलाच्या गरजेनुसार मोकळी जागा देण्यात येईल व उरलेल्या भागात एक सदनिका प्रस्तावित केली आहे. तसेच ८ ते १२

मजल्यापर्यंत एकूण पाच सदनिका असून विक्री घटकासाठी वापरण्यात येतील व त्या ३ बिऍचके च्या प्रस्तावित करण्यात आल्या आहेत. बेसमेंटचा वापर पार्कींग व रहिवाश्यांच्या सोयी सुविधासाठी (पिण्याच्या पाण्याच्या टाक्या, डी.जी. सेट, सांडपाणी प्रक्रीया प्रकल इ.) करण्यात येणार आहे. हा प्रकल्प सी.आर.झेड क्षेत्र २ याने प्रभावित असल्यामुळे समुद्र नियमन क्षेत्र जाने २०११ कायद्यान्वये या प्रकल्पासाठी ना हरकत परवाना आवश्यक आहे. या करीता पर्यावरणीय अहवालाचा सारांश येथे मांडला आहे. जेणेकरून भविष्यात येणाऱ्या प्रकल्पामुळे पर्यावरणावर होणारा चांगला, वाईट परिणाम ओळखता येईल व त्यावर आधिच उपाय योजना करून त्या परिणामांची तीव्रता कमी करता येईल किंवा तो परिणाम होऊ नये म्हणून दक्षता घेता येईल.

प्रकल्पाची आवश्यकता :

या प्रकल्पात एकूण ४२ सदनिकांत अत्यंत धोकादायक व असुरक्षित इमारतीत बरेच वर्षे रहिवासी राहत होते. त्यातील २३ सदनिकांमधील रहिवाश्यांनी वेळीच दुसरा पर्याय शोधला परंतु उर्वरित १६ सदनिकांमधील रहिवासी येथे बरेच वर्ष या इमारतीची पुर्नबांधणी न करता राहत होते. सन २००० मध्ये हया इमारतीचा काही भाग कोसळला. दैव कृपेने येथे कोणतीही जिवितहानी झाली नाही. परंतु आज हे सर्व रहिवाशी बेघर आहेत त्यांच्या उपजिविकेचे साधन हे मुंबईतच असल्यामुळे त्यांना येथे घर मिळणे आवश्यक आहे. मुंबईचा विकास पाहता तुटपूंजा वेतनावर येथे घर मिळणे दुरापास्त आहे म्हणून या सदर इमारतीचा पुर्नविकास करून त्यांना या जागेत घर देणे आवश्यक आहे परंतु हा प्रकल्प सी.आर.झेड क्षेत्राने बाधित असल्याने पूर्वीच्या सागर नियमन क्षेत्र कायदा १९९१ च्या अन्वयेच्या एफ.

एस.आय नुसार याचा विकास होणे शक्य नव्हते परंतु सागर नियमन क्षेत्र कायदा २०११ नुसार मिळणाऱ्या वाढीव एफ.एस.आय मुळे पुर्नविकास शक्य आहे. अस्तित्वातील रहिवाश्यांना घरे देऊन त्या व्यतिरिक्त अतिरीक्त घरे विक्री करिता बांधण्यासाठी डी.सी.आर ३३ (७) मुळे शक्य आहे. यातूनच विकासक प्रकल्प खर्च करू शकतो व तेथील बेघर असलेल्या रहिवाश्यांना राहण्यास सुरक्षित सदनिका प्राप्त करून देऊ शकतो म्हणून हा प्रकल्प रहिवाश्यांच्या पुनर्वसनासाठी आवश्यक आहे.

प्रकल्प ओळख :

| | | | |
|------------|--|---|--|
| अ. क्र. | | | |
| | प्रकल्प जागेचा पत्ता | : | रहिवासी गृह योजना दानी चाळ पुर्नविकास योजना, सी. आर. झेड -२ प्रकल्प) गट क्र. २८०, मलाबार हिल विभाग, वाळकेश्वर रोड, मुंबई, महाराष्ट्र |
| | विकासक | : | मे. अर्थ विकासक |
| | प्रकल्पाचा एकूण खर्च | : | रु. ४,४६,००,०००/- |
| १ | पूर्वी अस्तित्वात असलेल्या इमारतीची संरचना | : | तळ मजला + वरील तळ मजला + २ वरील मजले उंची १२ मी. अंदाजे |
| २ | प्रस्तावित इमारतीची संरचना | : | ४ बेसमेंट + स्टील्ट + १२ मजले उंची ५८ मी. अंदाजे |
| ३ | एकूण प्रकल्प क्षेत्र मोडकळीस आलेल्या इमारतीचे क्षेत्र अफगाण क्षेत्र (या प्रस्तावित इमारतीस वाळकेश्वर रोड | : | ११३५.७७ चौ.मी. : ६७९.७७ चौ.मी. : ४५६.०० चौ.मी. |

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|---|---|---|--|
| | येथून ये—जा करण्याकरीता मार्ग नसल्याकारणाने प्रकल्प आयोजकाने बाजूच्या अफगाण इमारती प्रकल्प धारकाकडून काही भाग विकत घेतला असून या भूभागावर ये—जा करण्याकरीता मार्ग प्रस्तावित आहे. सदर जागा बांधकामाकरीता वापरण्यात येणार नाही.) | | |
| ४ | आर.जी. | : | ६८.४ चौ.मी. |
| ५ | एफ.एस.आय. अफगाण क्षेत्रावरील एफ.एस. आय. पूर्वीच्या अस्तित्वात असलेल्या इमारतीवरील एफ.एस.आय. | : | १.३३ २.०० (हा एफ.एस.आय पूर्वीच्या सागर नियमन १९९१ नुसार वापरण्यात येणार आहे.) |
| | एकूण प्रस्तावित एफ.एस. आय. | : | १८७५.०५ चौ.मी. |
| | एकूण प्रस्तावित जागेचे क्षेत्रफळ | : | ७१००.०० चौ.मी |
| | प्रकल्प संरचना | : | ४ बेसमेंट : ६९ पार्कींग (आवश्यक पार्कींग ६५) + रहिवासी सोयी सुविधा (पिण्याच्या पाण्याच्या टाक्या, डी.जी. सेट, सांडपाणी प्रक्रीया प्रकल इ.) १ ते ६ मजले : प्रत्येकी ७ सदनिका पुनर्वसन घटकासाठी (१ बिएचके) ७ मजला : रिफ्युज मजला + १ सदनिका ८ व १० ते १२ मजले : एकूण ५ सदनिका (४ बिएचके) ९ मजला : गार्डन |

जागेचे वर्णन :

सदर दानी चाळ ची धोकादायक इमारत हि समुद्रालगत असून उंच भागावर आहे. सदर इमारत वाळकेश्वर रोडच्या समुद्राकडील भागाकडे असून अधिकृत तळ मजला + ३ मजले जमिनीकडील भागात आहे त्यामुळे सागरी नियमन क्षेत्र २०११ नुसार याचा पुर्नविकास शक्य आहे. सदर इमारतीची जागा नविन इमारत बांधण्यासाठी वापरण्यात येईल त्यावेळी जुन्या इमारतीच्या जोत्यानुसार नविन इमारतीचा जोता प्रस्तावित आहे. हि जागा पर्यावरण संवेदनशील क्षेत्रात मोडत नाही. विकास आराखडयाप्रमाणे सदर जागेचा वापर रहिवासी क्षेत्र म्हणून उल्लेखिलेला आहे.

शहर / तहसिल : मुंबई

जिल्हा : मुंबई

राज्य : महाराष्ट्र

अक्षांश : १८°५६'५६.९३"N

रेखांश : ७२°४८'०५.८१"E

पाण्याची आवश्यकता :

अ. बांधकाम चालू असताना लागणारे पाणी : काम करीता असलेल्या मजदुरांच्या घरगुती वापराकरीता अंदाजे १८ मी^३ प्रति दिवस पाणी लागेल. सदर पाण्याची पूर्तता महानगरपालिकेकडून करण्यात येईल.

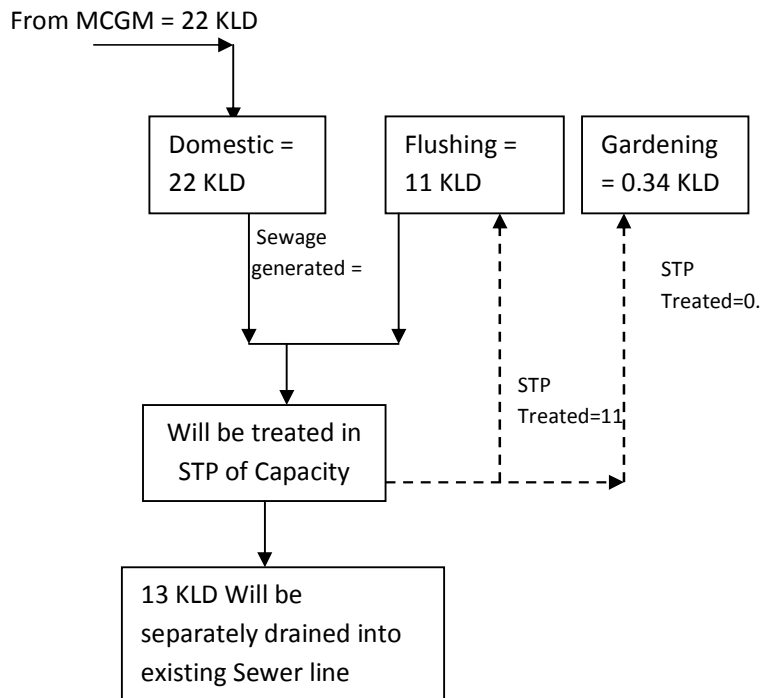
इमारतीच्या बांधकामासाठी अंदाजे १० मी^३ प्रति दिवस पाणी लागेल.
ते टॅकरने पूरविण्यात येईल.

ब. बांधकाम चालू असताना व पूर्ण झाल्यानंतर :

| अ.क्र | | उपलब्ध | प्रस्तावित | एकूण |
|-------|--|---|------------|------|
| १ | एकूण रहिवासी | ४२ | ५ | ४७ |
| २ | एकूण रहिवासी लोकसंख्या | २१० | ३५ | २४५ |
| ३ | घरगुती वापराचे पाणी (cum/ day) | १९ | ३ | २२ |
| ४ | फलशिंग वापराकरीता लागणारे पाणी (cum/ day) | ९ | २ | ११ |
| ५ | पाण्याची एकूण आवश्यकता (cum/ day) | २८ | ५ | ३३ |
| ६ | बागकामाकरीता लागणारे पाणी (cum/ day) | ०.३४ | | ०.३४ |
| ७ | रहीवासी संकूलाकरीता लागणारे पाणी (cum/ day) | ३३.३४ | | |
| ८ | एकूण सांडपाणी निर्मिती (cum/ day) | ३१ | | ३१ |
| ९ | प्रस्तावित सांडपाणी प्रक्रीया | सांडपाणी प्रक्रीया केंद्र हा बेसमेंट मध्ये प्रस्तावित असून त्याची तो ५० केएलडी चा असेल. त्यातून प्रक्रीया झालेले चांगले पाणी (११.३४ केएलडी) बागकामासाठी व | | |

| | | |
|----|---------------------------------|---|
| | | फलशिंग साठी वापरण्यात येईल. उर्वरीत १३ केएलडी सांडपाणी निचरा करण्यात येणाऱ्या गटरात सोडण्यात येईल. |
| १० | पुर्नविनिकरण पाणी (cum/ day) | ११.३४ |

१. प्रतिदिवस लागणाऱ्या पाण्याचा समतोल :



२. सांडपाणी निर्मिती व त्याचा निचरा :

या प्रकल्पातून एकूण ३१ केएलडी सांडपाणी निर्माण होईल. ते ५० केएलडी क्षमतेच्या सांडपाणी प्रक्रीया प्रकल्पाद्वारे पुर्नवापरायोग्य करण्यात येईल. हा प्रकल्प बेसमेंट मध्ये बांधण्यात येईल. त्यातून प्रक्रीया झालेले चांगले पाणी (११.३४ केएलडी) बागकामासाठी व फलशिंग साठी वापरण्यात

येईल. उर्वरीत १३ केएलडी सांडपाणी निचरा करण्यात येणाऱ्या गटरात सोडण्यात येईल.

३.पावसाच्या पाण्याचे संचयन :

ही जागा पुर्वीपासूनच मोडकळीस आलेल्या संरचनेने आच्छादित असल्याने नविन बांधण्यात येणा-या ४ बेसमेंट + स्टील्ट + १२ मजल्याच्या इमारतीमुळे पावसाचे वाहून जाणारे पाणी फक्त ०.११८ घन मीटर प्रती सेकंदानेच वाढणार आहे. जे अत्यंत नगण्य आहे. कारण येथे पुर्वी वाहून जाणारे पाणी ०.०२२४ घन मीटर प्रती सेकंद असून नविन बांधकामामुळे ते ०.१४०९ घन मीटर प्रती सेकंद असेल. हे वाहून जाणारे पाणी येथील जवळ उपलब्ध असलेल्या व पावसाचे पाणी वाहून नेण्यासाठी बांधलेल्या नाल्यामधून 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.

४.पावसाच्या पाण्याचे निर्गमन :

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

५.घन कचरा निर्माती :

१) बांधकामादरम्यान :

बांधकामादरम्यान येथे दोन प्रकारचा कचरा निर्माण होईल. एकतर मोडकळीस आलेल्या इमारतीची विल्हेवाट 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 निर्माती साठी वापरण्यात येईल तर सुका कचरा उदा : पेपर, प्लॅस्टिक, ग्लास इत्यादी पुर्नविनिकरण केले जाईल.

| क्रमांक | माहिती | लोकसंख्या | सुका (कि. ग्रॅ प्रति दिन) | ओला (कि.ग्रॅ प्रति दिन) | एकुण (कि.ग्रॅ प्रति दिन) |
|---------|--------------------|-----------|---------------------------|-------------------------|--------------------------|
| १ | सद्य रहिवाशी | ४२ | २८ | ६६ | ९५ |
| २ | भविष्यातील रहिवाशी | ५ | ५ | ११ | १६ |
| | एकुण | ४७ | ३३ | ७७ | ११० |

६. 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 १७५२ कि.वॅ असुन ती स्थानीक प्राधिकरणाकडून भागवण्यात येईल. विजेचा पुरवठा खंडीत झाल्यानंतर लागणा—या विजेची गरज ५०० के.व्ही.ए. क्षमतेच्या डिझेल जनरेटर ने भागवली जाईल. डिझेल जनरेटर फक्त गरजेच्या 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. सद्य प्रकल्पात विज बचतीचे बरेचसे उपाय 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) विक्री साठी असणाऱ्या सदनिकांना सुर्यप्रकाशावर चालवण्यात येणारे

गरम पाणी पुरविण्यात येईल.

५) सर्व ठिकाणचे दिवे हे स्वयंचलीत टायमर आधारीत असतील.

७. वृक्षारोपण :

सद्य स्थितीतील मोडकळीस आलेल्या इमारतीच्या जागी एकूण ४ झाडे आहेत. १ पिंपळ, १ बोर, १ उंबर, १ फायकस इ. हि झाडे तोडण्यासाठी बृहन्मुंबई महानगरपालिकेकडून योग्य तो परवाना DySG/TA/DD/MC/123 dated 4.05.06 पत्राद्वारे मिळविला आहे. वरील जागेत ८ वृक्ष लावण्याचा प्रस्ताव आहे. ही झाडे इमारतीच्या कुंपणा शेजारी लावण्यात येणार असून त्यांचा वापर धुलीकण रोखण्यासाठी व बाहेरील रत्यावरील आवाज रोखण्यासाठी होईल. येथे कांचन, पांगारा, सप्तपर्ण, कण्हेर, जास्वंदी इत्यादी झाडे लावण्याचा प्रस्ताव आहे. बागकाम सल्लागारांस पर्यावरण विभागाने दिलेल्या वृक्षसूचीनुसार झाडे लावण्यास सांगितले आहे.

प्रकल्पाचा कालावधी व येणार खर्च :

हा प्रकल्प पुर्नबांधणी प्रकल्प समुद्रतटीय नियमन क्षेत्र २ मध्ये मोडतो. परंतु या प्रकल्पाचे महत्व जाणून हा प्रकल्प विकासकाने चालू केला आहे त्यासंदर्भात महाराष्ट्र कोस्टल झोन व्यवस्थापन अधिकाऱ्यांनी याची नोंद घेतली असून प्रकल्प सी.आर.झेड कायदा जाने २०११ नुसार दाखल करण्यास सांगितला आहे. हा प्रकल्प पुर्ण होण्यास अंदाजे डिसे २०१३ पर्यंतचा कालावधी अपेक्षित आहे. या प्रकल्पाचा खर्च प्रमाणीत मुल्यांकना नुसार काढण्यात आला आहे.

बांधकामा दरम्यान घ्यावयाची काळजी:

या प्रकल्पात बांधकामामुळे आजुबाजुच्या परिसरावर परिणाम होऊ नये म्हणून 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 पुर्वयोजनेनुसार 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.

पर्यावरणाचे आकलन :

- १) भौतिक पर्यावरण :

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

शहर / तहसिल : मुंबई
जिल्हा : मुंबई
राज्य : महाराष्ट्र
अक्षांश : 18°56'56.93"N
रेखांश : 72°48'05.81"E

२) जागेभोवतीची सामाजिक संरचना :

- १) हा पुर्नविकास प्रकल्प मुंबईतील वाळकेश्वर ठिकाणी असून येथे रहिवासी जागेसाठी आवश्यक ती संरचना उपलब्ध आहे.
- २) रहिवाशी 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 हॉस्पिटल, बँका, दुकाने या जागेच्या ३.५ कि. मी अंतरा दरम्यानच आहे.
- ४) वाळकेश्वर हे ठिकाण आधीच विकसीत असून रहिवाशी व्यवस्थेसाठी आवश्यक गरजेसाठी फार लांब जावे लागणार नाही.

उदा : सी.एस.टी. रेल्वे स्टेशन (सेट्रल) : ३.७४ कि.मी.
ग्रान्ट रोड रेल्वे स्टेशन (वेस्टर्न) : २.१३ कि.मी.
चर्नी रोड रेल्वे स्टेशन (वेस्टर्न) : १.९२ कि.मी.
मलबार हिल पोलीस स्टेशन : ०.२३ कि.मी.
वाळकेश्वर बस स्टॅण्ड : जागेलगत

| | | |
|---------------------------|---|--------------|
| सांताक्रुज विमानतळ | : | १६.८६ कि.मी. |
| गोपी बिल्ला मेमोरियल शाळा | : | ०.२२ कि.मी. |
| वेगवेगळ्या उपचारांकरीता | | |
| ५-७ हॉस्पिटल | : | ०.३५ कि.मी |

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

३) प्रकल्प संपर्क सुविधा :

- हा प्रकल्प रोड, रेल्वे व जल वाहतूकीने जोडला गेला आहे.
- रोड —वाळकेश्वर रोड.
- जवळचे रेल्वे स्टेशन —ग्रान्ट रोड व चर्नी रोड 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.

४) पाण्याचे पर्यावरण :

१) महानगर पालिकेकडचे पाणी :

महानगरपालिकेकडून होणा—या पाणी पुरवठ्याची तपासणी केली असता ते पिण्यायोग्य असून बांधकामा दरम्यान तसेच प्रकल्प पुर्तीनंतर ते पिण्यासाठी वापरण्यात येईल. बांधकामा दरम्यान हे पाणी गाळण्यासाठी अॅक्वागार्डचा वापर करण्यात येईल तसेच नित्यनेमाने या पाण्याची तपासणी होईल.

५) हवामान अंदाज :

वा—याचा वेग व दिशेचा अंदाज भारतीय हवामान खात्याकडून १ ऑक्टोबर २०११ ते ३१ डिसेंबर २०११ दरम्यान साठी गोळा करण्यात आला. यात वा—याची दिशा जास्तीत जास्त उत्तर पूर्व आढळली. प्रकल्प ठिकाणी हवामान दमट असून तेथील तापमान २० ते २५ अंश सेल्सिअस दरम्यान आढळले.

६) मातीची गुणवत्ता :

प्रकल्प ठिकाणी गोळा केलेले मातीचे नमुने समाधानकारक आढळले.

७) ध्वनीची तिब्रता :

ध्वनीची तिब्रता चार ठिकाणी मोजण्यात आली. ही तिब्रता बरेचदा वाहतुकीच्या वाहनांमुळे काही ठिकाणी दिलेल्या मानकांपेक्षा जास्त आढळली.

८) जमीनीचा वापर :

हि जमीन वाळकेश्वर स्थित असून जमीनीचा वापर हा रहिवाशी व व्यापारी कामासाठी राखीव आहे.

९) वनस्पती व जिवजंतु :

या प्रकल्पाच्या आजुबाजुस पांगारा, पिंपळ, बोर व फायकस, नारळ, वड, अशोक इत्यादी झाडे आहेत. महानगरपालिकेने रस्त्याच्या कडेस झाडे लावलेली आहेत. प्रकल्प जागा मुंबईत असून येथे सर्व साधारण पक्षी उदा: चिमणी, कावळे, कोकीळा, पोपट इत्यादी आढळतात. बोरविली नॅशनल पार्क या प्रकल्पा पासून ३५ किं.मी दुर आहे. तर आर.ए.कॉलनी १५ कि.मी दुर आहे. या दोन्ही ठिकाणी वन्य जीव सापडतात.

१०) शेती व पशु संपत्ती :

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

११) सामाजिक व आर्थिक पर्यावरण :

अ) जनसांख्यिक 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 राष्ट्रिय दरापेक्षा तो ६४.८ टक्क्यांनी जास्त आहे. मुंबईचा लैंगिक दर हा ७७४ महिला प्रती हजार पुरुष इतका आहे. तोच दर सर्वब जागेत ८२६ असुन ग्रेटर मुंबई मध्ये ८११ आहे. हा दर राष्ट्रिय सरासरीपेक्षा कमी आहे. लैंगिक दर कमी असण्याचे कारण मुंबईत बरीच पुरुष 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 महाराष्ट्रीय 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. आंतरराष्ट्रीय संचारासाठी जलमार्ग व हवाई मार्गांचा वापर येथे होतो. या क्षेत्रात राहाणा-या लोकांना ब-याच सुविधा उपलब्ध असून उत्तम सागरीकिनारा लाभला आहे. म्हणून मुंबई राहण्यासाठी योग्य ठिकाण आहे.

पर्यावरण प्रभावाची ओळख, आकलन व त्यावरील उपाययोजना :

पर्यावरण प्रभावाची ओळख व आकलन करण्यासाठी वेगवेगळ्या पध्दतींचा वापर केला जातो. जेणे करून नैसर्गिक पर्यावरणावर व सामाजिक पर्यावरणावर पडणारा प्रभाव ओळखून त्याचे नियमन करण्याची उपाययोजना करता येते. यासाठी वेगवेगळ्या पर्यावरणाच्या घटकांची गुणवत्ता वेळोवेळी तपासणे गरजेचे ठरते. गुणवत्तेत होणारा फरक समजून व होणा-या बदलाची स्वीकार्यता ठरवून भविष्यात होणा-या बदलांची आखणी व उपाययोजना प्रकल्प चालू 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 वाहतुकीचे 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 वाहतुकीमुळे ध्वनी प्रदुषण होण्याची संभावना आहे. तर प्रकल्प पुर्तीनंतर वाहतुकीमुळे ध्वनी प्रदुषण होऊ शकते. यासाठी बांधकामा दरम्यान पुर्ण प्रकल्प मोठे पत्रे लावून सीमित 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 आढळून येतात. त्यामुळे झिज झालेली माती प्रकल्पा जवळील पावसाचे पाणी वाहुन नेण्याकरीता बांधलेल्या गटारामध्ये साचून 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 रहीवाशी व्यवस्थेमुळे एकुण ३१ घन लिटर सांडपाणी तयार होईल.

४) सामाजिक व आर्थिक पर्यावरण :

प्रस्तावित प्रकल्प हा गजबजलेल्या शहरात असून 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. ते ५० केएलडी क्षमतेच्या सांडपाणी प्रक्रीया प्रकल्पाद्वारे पुर्नवापरायोग्य करण्यात येईल. हा प्रकल्प बेसमेंट मध्ये बांधण्यात येईल. त्यातून प्रक्रीया झालेले चांगले पाणी (११.३४ केएलडी) बागकामासाठी व फ्लशिंग साठी वापरण्यात येईल. उर्वरित १३ केएलडी सांडपाणी निचरा करण्यात येणाऱ्या गटरात सोडण्यात येईल.

या प्रकल्पाचे सामाजिक व आर्थिक फायदे:

- अ) या प्रकल्पामुळे येथे राहाणा—या रहिवाशांना उत्तम व सुरक्षित घर मिळू 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 रहिवाशी व्यवस्था मुंबईत निर्माण झाल्याने लोकांना याचा फायदा होईल.

सारांश :

प्रकल्प विकासक मे. अर्थ विकासक हा एक पर्यावरण दक्ष विकासक असुन पर्यावरणाची हानी होऊन न देता भविष्यात सर्वांना फायदेशिर होणारा प्रकल्प निर्माण करू इच्छितो. हा प्रकल्प मुंबईच्या वाळकेश्वर परिसरात असुन सी.आर.झेड-२ नी बाधीत आहे. परंतु हि जागा वाळकेश्वर रोडच्या दुस-या बाजुला असुन समुद्राच्या दिशेने आहे. तर तळ + ३ मजल्याच्या इमारतीच्या जमीनीकडील बाजूस 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 सांडपाणी 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 ८ झाडे लावणार असुन विक्रीसाठी असलेल्या सदनिकांना सूर्य उर्जेचा वापर पाणी तापवण्यासाठी करण्यात येईल. तसेच संपुर्ण इमारत ही उर्जा बचत करणा-या दिव्यांनी प्रकाशित असेल. प्रकल्पाच्या कॉंक्रीट कामात फ्लाय अॅशचा वापर करण्यात येईल. तसेच सध्याच्या पर्यावरणाची हानी होणार नाही याची काळजी घेण्यात येईल.

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

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| EXECUTIVE SUMMARY |
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Mumbai the capital of Maharashtra is also the financial capital and the most populated city of India. Mumbai has grown in recent decades for many residential and commercial developments. Diminishing of Industrial zones and development of corporate offices, mall culture in very short period is one of the features of today's Mumbai.

The Mumbai has many old, dilapidated structures. They are very unsafe to retain. Many of them are in CRZ zones. Development of those by rehabilitant those tenants along with development of new flats to compensate the development charges will not be possible if Extra FSI is not used. Because of CRZ conditions the FSI restriction makes those structures unattended.

But because of New CRZ notification 2011, it is possible to compensate development charges by developing these structures. The one of such project of unsafe, Cessed building of residential use is discussed here.

INTRODUCTION TO PROJECT

After recognizing the need of Development of **Dani Chawl** having total 42 nos. of tenants residing at very dangerous building structure is now being developed by **M/s Earth Builders a** developer of the plot at **CS no. 280 of Malabar hill division Walkeshwar Road, Mumbai Maharashtra** is developing a Residential Building at the existing dilapidated unsafe structure.

The scheme and last amended Plans for the same is approved by BMC under DCR 33(7) vide letter no. EB/5040/D/A of 3/03/10. The structure is now demolished and started the construction as per approved plan. The dilapidated structure was of Lower Ground Floor+ Upper ground Floor and Two upper Floors having 42 nos. of Residential tenants. The land use of the Existing plot is Residential as per the Development Plan Remarks. The same way partly collapsed in the year 2000. At that time 26 rooms were vacant for several months and 16 rooms were occupied.

The same is now developed into a Residential building of **4 Basement + Stilt + 12 upper Floors**. The surrounding of the existing plot is also of mixed use i.e. Residential and commercial. The site is surrounded by many more authorized structures.

The site under reference is affected by **CRZ-II zone**. It abuts HTL. It is the seaward side of the existing Walkeshwar Road but at the landward side of the authorized G+ 3 developed structure. Hence the work is permitted subject to the approval of CRZ clearance. Thus property attract the CRZ legislation, which is reflected in CZMP plan.

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

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. 4,46,00,000/-as per the valuation report carried by certified registered valuer.

PURPOSE OF REPORT AND IMPORTANCE OF THE PROJECT

The site is situated at **CS no. 280 of Malabar hill division Walkeshwar Road, Mumbai Maharashtra** is currently being developed into a residential tower of 12 Floors. The said property has **dilapidated structure of Lower Ground Floor + Upper ground Floor and Two upper Floors having 42 nos. of Residential tenants** which was partly collapsed in the year 2000 and now being under development by **M/s Earth Builders**.

The existing building has total 42 nos. of tenants and will be accommodated in 1 RK Flats. These flats are proposed on first six floors of the building with each Floor having 7 Flats. Seventh Floor is having a Flat and refuge Floor as per the CFO Norms. While 8th Floor and 10th to 12th Floor is having 4 BHK Flat.

In all 12 floor Building will have 42 existing Tenants and 5 proposed Tenants.

The new building fabric will be as under :

1. 4 Level Podium below ground level
2. Stilt
3. 1st - 7th for Rehab
4. 8th Floor for sale
5. 9th Floor for covered Garden with additional height
6. 10th - 12th Floor

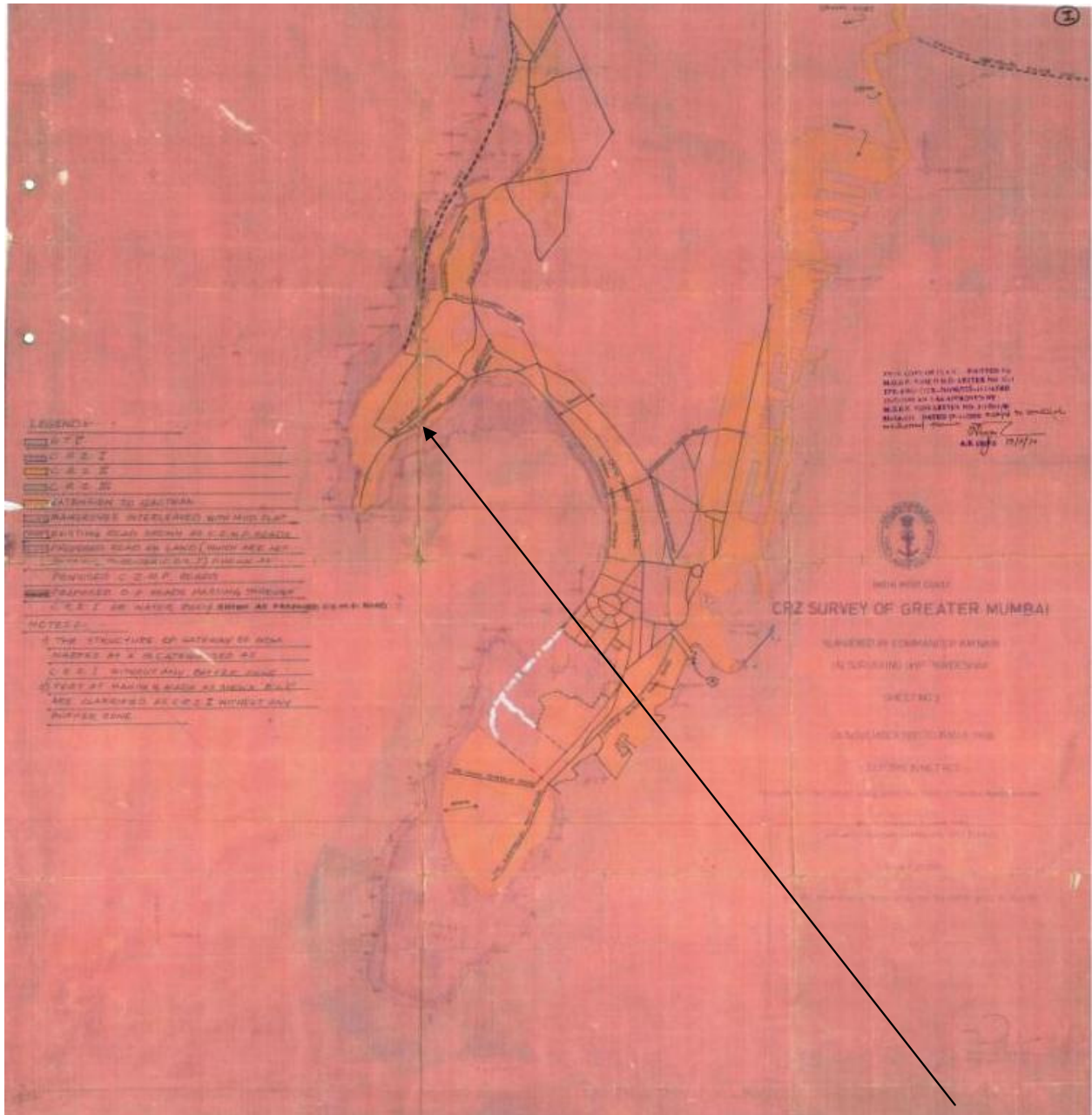
Parking and other utilities are proposed in basement area. In all Project will have 4 Basements and are proposed based on the soil survey reports and structural stability.

Current development thus will help the existing tenant to get permanent, safe structure. Previously they were residing in unsafe building.

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

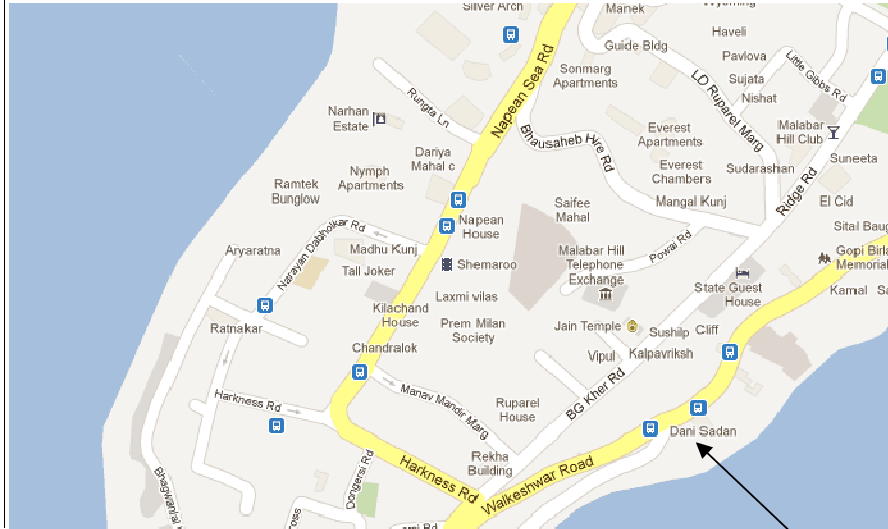
**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

CZMP Plan Showing Location of Reference Plot.....



Site under Reference

Redevelopment of Cess Building Dani Chawl M/s Earth Builders



Google Map and Google Image Showing Location of the Plot

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification. The property fall seaward side of the existing Walkeshwar road, which is reflected in CZMP plan and landward side of the authorized G + 3 developed structure. Hence the work is permitted subject to the approval of CRZ clearance. Thus property attract the CRZ legislation, which is reflected in CZMP plan.

The total cost of the project is Rs. 4,46,00,000/-Crores as per the valuation report carried by certified registered valuer.

Need of the Project:

- 42 Tenants were residing in dilapidated, unsafe, cess structure since long.
- Out of that 16 tenants faced the unpredicted consequence of collapse of building in the year 2000.
- 80 Person's life was in danger at that time because of non-development.
- Incidentally no person was harmed during the event of collapse.
- Now the question of permanent housing is in question till date.
- Development of this building is necessary to improve their living standards.
- With the development of these tenants compensation of development charges can be compensated only with additional Residential Flats.
- Also Residence near sea at prime location is always in demand.
- Hence Development of 5 flats may help 42 Tenants to get the safe life by developing their structures in situ.

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

BRIEF DESCRIPTION OF THE PROJECT

The project involves development of existing dilapidated structure **4 B+ ST+ 12 upper Floors** +17 floors.

| | Existing building | Proposed building |
|--------------------------------|--|---|
| Configuration of the buildings | Lower Ground Floor + Upper Ground Floor + Two upper Floors | 4 Basement + Stilt + 12 upper Floors |
| Maximum height of building | 9.0 m | 58.0 m |

Area Statement:

| A | Area Statement | Total (in sq.mt) |
|----------|-------------------------------------|---|
| 1 | Area of plot considered | 1135.77 |
| 2 | Cess structure Plot area | 679.77 |
| 3 | Afghan consulate land area | 456 |
| 4. | RG area | 68.4 |
| 5. | F.S.I. permissible | 2.00 on Cess structure and 1.33 on Afghan Plot (Non Cess structure) i. e. 1875.05 |
| 7. | F.S.I. Proposed(in sq.mt) | 1854.08 |
| 8. | Total Built up area proposed | 7100.00 |

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

BREAKUP OF FSI & NON-FSI:

| Sr. No. | Description | Area in Sq.mt. |
|---------|---|------------------|
| 1 | FSI Area | 1854.08 |
| 2 | NON FSI Area | |
| 2.1 | Services | 0 |
| 2.2 | Basement (Parking) | 2389.84 |
| 2.3 | Refuge | 56.12 |
| 2.4 | Passages, Lift Lobbies & Staircase | 1171.44 |
| 2.5 | Amenities / Garden Area | 232.20 |
| 2.6 | Elevation & Projections | 607.20 |
| 2.7 | Stilt | 415.21 |
| 2.8 | Balcony | 187.56 |
| 2.9 | Servant Toilet | 0 |
| 2.1 | Terrace floor (staircase, lift areas, etc) | 153.54 |
| 3 | Total Non SFI | 5213.11 |
| | Total FSI + Non FSI Area (A) | 7067.19 |
| | Buildable reservation of School(included in NON FSI area) (B) | |
| | Total Construction Built up Area (A+B) | Say 7100 sq mtrs |

Parking Statement:

| Norm | No. of Flats | Under Rule No. | Required Car Park | Provided Car park |
|------------------------------------|--------------|----------------|-------------------|-------------------|
| Up to 45 sq.mt 1 car park per Flat | 42 | 36(2) 1 (A) a | 42 | 69 |
| 45-100 sq.mt 2 car Park per flat | nil | | | |
| above 100 sq.mt | 5 | | 10 | |
| Visitors 25% | | | 13 | |
| Total | | | 65 | 69 |

Redevelopment of Cess Building Dani Chawl
M/s Earth Builders

1. PROJECT DETAILS

| | | |
|--|---|---|
| Name and Location | : | Redevelopment of Cess building 'A' Category, Dani Chawl. Located at CS no. 280 of Malabar hill division walkeshwar Road, Mumbai |
| Total no. Of workers to be employed during the construction phase | : | Peak : 200 Nos. Average: 100 Nos. |
| Project cost | : | Rs. 4,46,00,000/- |
| Project infrastructure | : | Existing Lower Ground Floor+ Upper ground Floor and Two upper Floors Which is dilapidated and already collapsed in year 2000. Proposed Building : 4 B+ ST+ 12 upper Floors 4 Basements for 69 Car parks + Services such as water tanks, Fire tanks, STP, OWC, etc. 1 st to 6 th Floor: 7 Flats of 1 RK on each floor for Existing Tenants. 7 th Floor : Flat + Refuge 8 th Floor + 10 th to 12 Floor: Total 5 Flats of 4 BHK types. |
| FSI | : | F.S.I. permissible: 2 on Cess structure and 1.33 on strip of land. i.e. 1966.03 sq.mt. |
| Area Break up | : | Total plot area: 1135.77 Sq. meter BUA as per FSI: 1854.08 Sq. meter Total Construction area: 7100.00 Sq. meter |
| Vehicular Parking Details | : | Total Parking required as per Local norms : For Four Wheeler : 65 nos. Total Parking Provided as per Local norms: 69 nos. |
| Water Requirement & Sources | : | During Construction Phase - From M.C.G.M (For Workers): 18m ³ /day. <ul style="list-style-type: none"> • From Tankers: 10m³/day. (depending on construction activity) During Operational Phase : Total Water Requirement: 33 m ³ /day. Domestic: 22 m ³ /day. Flushing: 11 m ³ /day. Gardening: 0.34 m ³ /day. |
| Sewage generation | : | 32 KLD |
| Power | : | During Construction Phase - 1. From Local Authority: 100 kW During Operational Phase - 1. From Local Authority 2. Total Connected load: 2695 KW 3. Maximum Demand: 1752 KW |

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

| | | |
|---------------------------------------|---|---|
| | | DG set with Acoustic enclosures and with synchronizing Panel 1 No. DG set of 500 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 | | 77 Kg/ day |
| 2. Non-Biodegradable dry waste | | 33 Kg/ day |
| 3. Total Waste | | 110 Kg/ day |

SITE DESCRIPTION:

The site is at higher level than the surrounding area and is flat land having plinth of existing structure at a distance of 1.5 mt from south. The property falls on seaward side of the existing Walkeshwar road, which is reflected in CZMP plan and landward side of the authorized G + 3 developed structure. Hence the work is permitted subject to the approval of CRZ clearance. Thus property attract 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. Total plot Area in CRZ is 1135.77 sq.mt. out of that 679.77 sq.mt is Cess structure and 456 sq.mt is of strip of land (Non Cess), which was purchased by Earth Builders for the purpose of access as the Existing Cess building was not having access to the plot. Hence by buying that strip of land, the access from Walkeshwar road is now available to the plot. For which 1.33 FSI is granted. The Plinth area will be as per the existing building only. 68.40 sq.mt is the RG area which will be developed into landscape.

Town / Tehsil : Mumbai
District : Mumbai
State : Maharashtra
Latitude : 18° 56'56.93"N
Longitude : 72°48'05.81"E

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

Existing dilapidated structure will be developed as Residential Building. 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 5 new Flats of 4 BHK are proposed in same 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 Walkeshwar 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 M³ /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 M³ /day will be made available from water tankers.

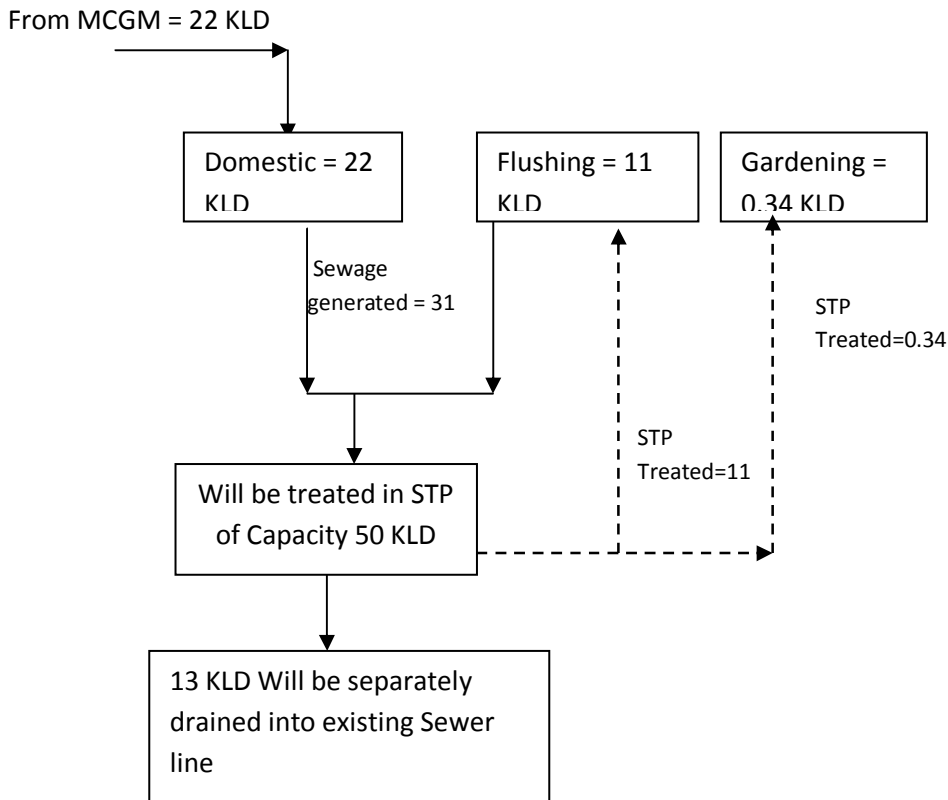
b. During Operational Phase :

| SR.NO. | PARTICULARS | EXISTING | PROPOSED | TOTAL |
|--------|--|----------|----------|-------|
| 1. | Total Tenents (Nos.) | 42 | 5 | 47 |
| 2. | Total Occupancy (Nos.) | 210 | 35 | 245 |
| 3. | Domestic Water Requirement (cum/ day) | 19 | 3 | 22 |
| 4. | Flushing Water Requirement (cum/ day) | 9 | 2 | 11 |
| 5. | Water Requirement (cum/ day) | 28 | 5 | 33 |
| 6. | Landscape Water Requirement (cum/ day) | 0.34 | | 0.34 |

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

| | | | |
|-----|---|---|----|
| 7. | Total Water Demand (cum/ day) | 33.34 | |
| 8. | Total Sewage Generation (cum/ day) | 31 | 31 |
| 9. | Treatment proposed | Sewage treatment Plant is proposed of capacity 50 KLD in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into existing sewer line. | |
| 10. | Recycled Water (cum/ day) | 11.34 | |
| 11. | Water drained to existing sewer line (cum/ day) | 13 | |

Water Balance per Day Basis



Redevelopment of Cess Building Dani Chawl
M/s Earth Builders

c. Sewage Generation and its disposal:

Total Sewage generated by development is 31 KLD. The same will be treated in Sewage treatment Plant of capacity 50 KLD which is proposed in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into existing sewer line.

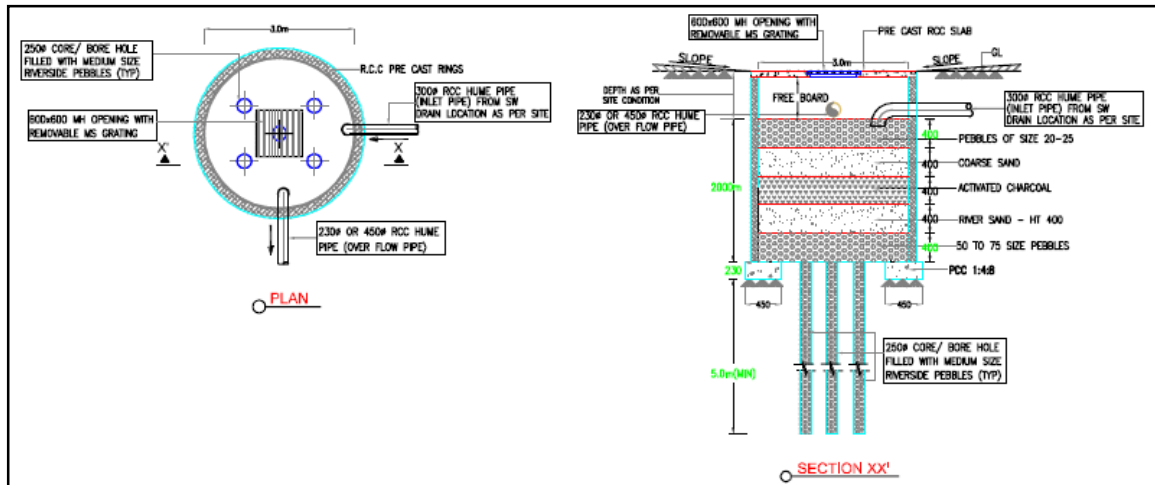
Rain Water Harvesting:

The plot is already covered with dilapidated structure and same will be developed in 4 B+ ST+ 12 upper Floors building hence 0.0224 cum/sec is the previous run off of the plot while 0.1409 cum/sec will be the run off after development of the proposed building. Hence incremental run off will be very negligible ie.0.118 cum/sec.

The same will be drained into existing Storm water 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.

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

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 Lower Ground Floor+ Upper ground Floor and Two upper Floors.

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 | 42 | 28 | 66 | 95 |
| 2 | Proposed Tenants | 5 | 5 | 11 | 16 |
| | Grand Total | 47 | 33 | 77 | 110 |

3. POWER REQUIREMENT:

a. During Construction Phase:

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

b. During Operational Phase:

- **Source of Power** - Local Authority
- **Connected Load**- 2695 KW
- **Maximum Demand** - 1752 KW
- **DG Back up** -DG set with Acoustic enclosures and with synchronizing Panel

1 No. DG set of 500 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 for essential back up DG set is proposed.

**Redevelopment of Cess Building Dani Chawl
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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 is 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 is lit round the night. Otherwise the other 70% lighting is on timer circuits to achieve the max. Savings.
- The upper Saleable Flats will be 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 | 5 out of 34 existing trees will be cut as per Tree NOC issued. |
| 2 | Total trees | 3 Nos. will be planted as per the Tree NOC |
| 3 | Tree density | 2 Trees per 100sq.mt. in open space and 5 trees per 100 sq.mt as per garden department guideline given in Tree NOC DySG/TA/MC/785 dated 09.02.07 |
| 4 | Total green area | RG area proposed : 68.4 sq.mt The same is provided on podium as well as at compound wall area along the periphery of the plot. |

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

List of Trees & Shrubs:

The list is published on the EC: Maharashtra website. The same will be distributed to landscape consultant. The consultant will suitably select those trees which are preferable in landscape design. Following is the tentative list given by landscape consultant based on Annexure A list given in EC Maharashtra Website.

| 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 |

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

PROJECT SCHEDULE AND COST ESTIMATES:

The Proposed Project is Redevelopment project which has been started as government NOC's and CRZ Clearance was received in May 1999 from UD Department to start the work. The projected Date of Start is Feb 2006 while the Date of completion will be Dec 2013 if everything goes 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 silt 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° 56'57.41"N |
| Longitude | : 72°48'05.20"E |
| Tehsil | : Mumbai |
| District | : Mumbai |
| State | : Maharashtra |

Redevelopment of Cess Building Dani Chawl M/s Earth Builders

Social Infrastructure available at site

- Existing Redevelopment Project is in Walkeshwar area of Mumbai where all infrastructures are almost readily available.
- 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 Walkeshwar is already developed area all the above mentioned amenities are present within 3 KM area.
- To name few...
 - CST Railway Station (Central) : 3.74 KM
 - Grant Road Railway Station (Western) : 2.13 KM
 - Charni Road Railway Station (Western) : 1.92 KM
 - Malabar Hill Police Station: 0.23 KM
 - Santacruz Airport : 16.86 Km
 - Gopi Birla Memorial School : 0.22 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.



**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

Connectivity to Project:

- The Scheme is well connected by rail, road, Air , water transport
- Road: Walkeshwar Road.
- Nearest Railway station: Grant Road Railway station (Western Railway), Charni Road 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 (SO₂) and Oxides of Nitrogen (NO_x) 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 Oct, 2011 to 31st December, 2011). The wind rose for the same is drawn and North East was the predominant wind direction.

**Redevelopment of Cess Building Dani Chawl
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e. Climatologically Conditions:

The climate at the site is humid with maximum and minimum temperature varying between 20°C to 25°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 Walkeshwar, 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, insect 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.

**Redevelopment of Cess Building Dani Chawl
M/s Earth Builders**

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 Impact

Several techniques and methodologies are used for predicting the impact due to proposed project on natural and social aspect 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 impact 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 North East sector. The wind speed of 3-5 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 Residential Development. Total Sewage generated by development is 31 KLD. The same will be treated in Sewage treatment Plant of capacity 50 KLD which is proposed in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into existing sewer line.

**Redevelopment of Cess Building Dani Chawl
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5. Socio-economic Environment

Critically analyzing the socio-economic baseline in the context of the proposed project, the impact 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 impact 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 31 KLD. The same will be treated in Sewage treatment Plant of capacity 50 KLD which is proposed in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into 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 8 trees will be planted in whole plot at periphery to act as noise and dust barrier. Separate RG will be provided in area of 68.4 sq.mt of the 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

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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 will be obtained from relevant departments.

Operation Phase:

Solid waste generated from the Residential tenants 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 Sewage treatment sludge will be utilized in Garden area.

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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 impact 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 impact 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.

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ENVIRONMENTAL IMPACT AND MANAGEMENT PLAN FOR THE PROJECT

EMP for Construction Phase

| Sr. no. | Environmental Component | Activity | Impact | Precautionary measures |
|---------|-----------------------------------|---|---|--|
| 1 | Ambient Air Quality & Noise level | <ul style="list-style-type: none"> • Site Clearance • Excavation • Construction of Structures • Heavy vehicle traffic • Use of DG Set • Open burning of waste | <ul style="list-style-type: none"> • Increased level of dust & other air pollutants • Increased Noise level. | <p>For controlling air pollution :</p> <ul style="list-style-type: none"> • Water Sprinkling • Cover on trucks • Use of RMC • Vehicles with valid PUC • Maintaining smooth traffic Flow <p>DG sets: As per CPCB Norms, Proper Maintenance, Use of Low sulphur fuel.</p> <p>Restricting open burning of solid waste</p> <p>For controlling noise pollution :</p> <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Use of fresh water for Construction activity / | <ul style="list-style-type: none"> • Strain on the water supply in the vicinity • Sedimentation, • Pollution of nearby water | <ul style="list-style-type: none"> • Use of tanker water for construction. No burden on municipal supply • Provision of temporary toilets and bathing facilities. • Use of septic tanks soak pits |

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| | | | | |
|---|---|--|---|---|
| | | labours <ul style="list-style-type: none"> •Wastewater generation •Disposal of site Run off into SWD •Water logging | courses. <ul style="list-style-type: none"> • Unhygienic condition for surrounding residents. | <ul style="list-style-type: none"> • Construction water will be channelised properly and silt traps will be provided before disposal into municipal drain. • Disposal of logged water periodically. |
| 3 | Soil | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Loss of good fertile soil • Soil erosion, • Soil contamination due to mixing of construction material/ accidental spillage of chemicals /oils | <ul style="list-style-type: none"> • 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 product 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. | | | |

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| | | | | |
|---|----------------------------|--|---|---|
| 4 | Ecology | <ul style="list-style-type: none"> • Site clearance, • Construction of structures • Cutting of trees. | <ul style="list-style-type: none"> • Disturbing natural flora and fauna • Loss of vegetation from chemical spills from vehicles | <ul style="list-style-type: none"> • Plantation of local tree species. • Plantation of trees will start in mid of construction phase. • Well grown and healthy saplings will be planted. • Regulation of vehicular trips and speed and proper maintenance of machinery. |
| 5 | Socio economic environment | <p>Construction work</p> <p>Labour hutments</p> | <ul style="list-style-type: none"> • Positive impact : Employment generation • Safety and hygiene at site may be affected during construction | <ul style="list-style-type: none"> • 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. |

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EMP for Operation Phase

| Sr. no. | Environmental Component | Activity | Impact | Precautionary measures |
|---------|-----------------------------------|--|---|--|
| 1 | Ambient Air Quality & Noise level | Increased vehicular trips, Use of DG sets Firing activity | <ul style="list-style-type: none"> • Traffic congestion, • Air pollution • Increase in noise level | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Increased demand of natural water, • Generation of waste water • Increased paved structure | <ul style="list-style-type: none"> • Stress on existing water supply, • Pollution of water bodies • Increased run off from site. | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Solid waste generation, • Transportation of hazardous material • Increased paved structure | <ul style="list-style-type: none"> • Improper disposal of waste, • accidental spillage of hazardous chemicals leads to soil | <ul style="list-style-type: none"> • 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 |

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| Sr. no. | Environmental Component | Activity | Impact | Precautionary measures |
|--|----------------------------|---|---|--|
| | | | contamination • Increased run off from site. | <ul style="list-style-type: none"> • Transportation, storage and handling, disposal of HW/E waste as per their guidelines and handing it over to authorized agencies. • Storm 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 | <ul style="list-style-type: none"> • Disturbing natural flora and fauna • Increased Exposure to anthropogenic activities. | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Stress on all utilities, risk and danger due to natural and manmade disaster Positive impact : Employment generation | <ul style="list-style-type: none"> • 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.

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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. |

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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 |

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CONCLUSION

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

- Proposed Redevelopment project is in Walkeshwar area of Mumbai. The site under reference is affected by **CRZ-II zone**. It abuts HTL. It is the seaward side of the existing walkeshwar Road but at the landward side of the authorized G+ 3 developed structure. Hence the work is permitted subject to the approval of CRZ clearance. Thus property attract the CRZ legislation, which is reflected in CZMP plan.
- 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 runoff 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 impact by taking proper precautionary measures.
- No significant impact is seen on flora and fauna.
- Fly-ash will be used in concrete work.
- Total 8 trees 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.

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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 effect 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

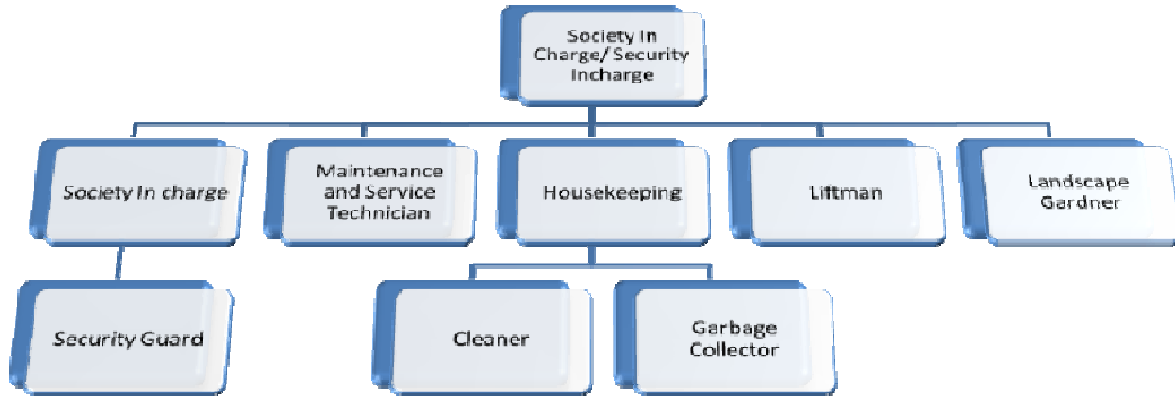
The Disaster Management Committee will be formed by the developer. The Lodge In-charge, competent to handle various disasters will be the In-charge to look after the complete process of DMC (Disaster Management Committee). The roles and responsibilities of various groups are defined in subsequent paragraphs.

The building will have one Security In-charge/Society In-charge (and alternate), one assistant

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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 Society.

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 aspect 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 effect 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 from radiation effect and there is no need for immediate evacuation or use 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 be taken 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

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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.

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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.

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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.

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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 and that 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.

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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.

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Annexure-IV

Form-I for seeking clearance for project attracting CRZ notification

Basic information:

| | |
|---|--|
| Name of the Project | Redevelopment of Cess building 'A' Category, Dani Chawl |
| Location or site alternatives under consideration | Located at CS no. 280 of Malabar hill division Walkeshwar Road, Mumbai |
| Size of the project (in terms of total area) | Plot area: 1135.77 sq.m F.S.I. permissible: 2 on Cess structure and 1.33 on Afghan Plot. i.e. 1966.03 sq.mt. F.S.I. Proposed(in sq.mt): 1854.08 Total Built up area proposed: 7100 sq.mt |
| CRZ classification of the area | CRZ II |
| Expected cost of the project | Rs. 4,46,00,000/- |
| Contact Information | M/s.Earth Builders Mr. Bhupesh Jain 101, Akruti Aditya, 36 Noshir Bharucha Marg, Mumbai-400007 Email id – jain_earth@outlook.com |

(II) Activity

- 1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, and the like)**

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data |
|---------------|---|---------------|--|
| 1.1 | Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan) | No | The land is covered with Existing Lower Ground Floor+ Upper ground Floor and Two upper Floors Which were dilapidated and already partly collapsed in year 2000.use. The proposed project is a residential project keeping the existing tenants in the same proposed building of 4 B+ ST+12 Floors redeveloped building. Thus the land use remains the same. |
| 1.2 | Details of CRZ classification as per the | Yes | As per Approved CZMP and the DP Remarks the land comes under CRZ-II. |

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| | | | |
|------|---|-----|---|
| | Approved Coastal Zone Management Plan? | | |
| 1.3 | Whether located in CRZ-I area? | No | Land is in CRZ II as per approved CZMP |
| 1.4 | The distance from the CRZ-I areas. | NA | - |
| 1.5 | Whether located within the hazard zone as mapped by Ministry of Environment and Forests/National Disaster Management Authority? | No | Yet the mapping of hazard zone is not conducted. |
| 1.6 | Whether the area is prone to cyclone, tsunami, Tidal surge, subduction, earthquake etc.? | No | No such evidence in the area was observed in last 10 years. |
| 1.7 | Whether the area is prone for saltwater Ingress? | No | |
| 1.8 | Clearance of existing land, vegetation and Buildings? | Yes | The existing dilapidated structure is demolished. |
| 1.9 | Creation of new land uses? | No | The Plot is in R zone and the activity is allowed by Development plan. |
| 1.10 | Pre-construction investigations e.g. bore hole, soil testing? | Yes | Soil investigation and hydro-geological have been carried out. |
| 1.11 | Construction works? | Yes | Development of 4B+ST+12 upper Floor structure at the place of dilapidated Structure out of which podium + stilt + 7 Upper Floor have already been constructed as per approved plans |
| 1.12 | Demolition works? | Yes | The existing dilapidated structure has been demolished. |
| 1.13 | Temporary sites used for construction works or housing of construction workers? | No | Construction workers will be hired from adjoining areas and will commute daily to the site. |
| 1.14 | Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations | Yes | The proponent has proposed to develop a Residential building of 4B+ST+12 upper Floors after demolition of existing structure out of which podium + stilt + 7 Upper Floor have already been constructed as per approved plans. |
| 1.15 | Underground works including mining or tunneling? | Yes | Lay down of pipes, electric cable and basements etc. |
| 1.16 | Reclamation works? | No. | -- |
| 1.17 | Dredging/reclamation/land filling/disposal of | No | -- |

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| | dredged material etc.? | | |
| 1.18 | Offshore structures? | No | -- |
| 1.19 | Production and manufacturing processes? | No | -- |
| 1.20 | Facilities for storage of goods or materials? | Yes | The podiums and stilts already constructed will be used for the storage of construction materials during construction of upper floors. |
| 1.21 | Facilities for treatment or disposal of solid waste or liquid effluents? | Yes | <p>Construction Phase</p> <p>During the construction phase, the existing facilities will be utilized for liquid effluent and solid waste disposal</p> <p>Operation Phase</p> <p>Total 110 Kg/day solid waste will be generated in the project. The biodegradable waste (77 Kg/day) will be generated while the non-biodegradable waste generated (33 Kg/day). Dry waste will be handover to municipal Corporation for further treatment at disposal site. The wet waste will be treated in organic waste converter.</p> <p>Total Sewage generated by development is 31 KLD. The same will be treated in Sewage treatment Plant of capacity 50 KLD which is proposed in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into existing sewer line.</p> |
| 1.22 | Facilities for long term housing of operational Workers? | No | No long-term housing facilities proposed as most of the skilled/unskilled manpower required for the construction /operation activities will be hired from the nearby areas. |
| 1.23 | New road, rail or sea Construction or operation? | No | The existing road near the site will be utilized. |
| 1.24 | New road, rail, air waterborne or other Transport infrastructure including new or altered routes and stations, ports, airports etc? | No | No new Rail/road is required. The entire essential infrastructure is already available. |
| 1.25 | Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements? | No | There will be no diversion or closure of the existing transport routes and infrastructure. |
| 1.26 | New or diverted Transmission lines or | No | Not Envisaged |

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| | pipelines? | | |
| 1.27 | Impoundment, damming, Realignment or other changes to the hydrology of watercourses or aquifers? | No | Not Envisaged |
| 1.28 | Stream and river crossings? | No | There is no stream passing through the site. |
| 1.29 | Abstraction or transfers of water from ground Or surface waters? | No | Fresh water requirement of 22 KLD will be met from MCGM. No Ground Water extraction is proposed. |
| 1.30 | Changes in water bodies or the land surface Affecting drainage or run-off? | No | There will be no change in the drainage pattern. The project will not affect the drainage or run-off in the area. |
| 1.31 | Transport of personnel Or materials for Construction, operation or decommissioning? | Yes | The existing road near by the site will be utilized for the transportation of material and personal. |
| 1.32 | Long-term dismantling or decommissioning or Restoration works? | No | Not Applicable |
| 1.33 | Ongoing activity during decommissioning which could have an impact on | Yes | Noise pollution due to machineries and air pollution because of dust. |
| 1.34 | Influx of people to an area in either temporarily or permanently? | Yes | <p><u>Construction Phase</u></p> <p>During the construction phase about 100 persons will be deployed on the site from nearby places. Influx of these people will be temporary in nature.</p> <p><u>Operation Phase</u></p> <p>As the proposed project is a Residential development along with settlement of existing tenants in the same building. Hence Existing Population is 210 nos. while proposed new Flats will have population about 35 nos. Hence proposed expected total population is 245 Nos.</p> |
| 1.35 | Introduction of alien species? | No | Not envisaged |
| 1.36 | Loss of native species or genetic diversity? | No | Not envisaged |
| 1.37 | Any other actions? | No | - |

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2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

| S. No. | Information/checklist confirmation | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data |
|--------|---|--------|---|
| 2.1 | Land especially undeveloped or agricultural land (ha) | No | The land was covered with dilapidated structure and was partly collapsed in year 2000. The same will now be developed into a residential building. |
| 2.2 | Water (expected source & competing users) unit: KLD | Yes | <p><u>Construction Phase</u></p> <p>Total water requirement is expected to be 10 KLD The water demand will be met by water tankers</p> <p><u>Operation Phase</u></p> <p>Total water demand of the project is expected to be 33 KLD approximately and the water requirement will be met by the MCGM & Recycle and tanker water.</p> |
| 2.3 | Minerals (MT) | No | Not Applicable |
| 2.4 | Construction material – stone, aggregates, sand/soil (expected source – MT) | Yes | The construction materials, which will be used in the project site will be bought from authorized local dealer |
| 2.5 | Forests and timber (source – MT) | Yes | Apartments will use timber for windows etc. |
| 2.6 | Energy including electricity (source, competing users) Unit: fuel (MT), energy (MW) | Yes | <p>During Construction Phase: Source: From Local Authority Maximum Demand: 100 KVA</p> <p>During Operational Phase: Source: Local Authority Connected Load: 2695KW Maximum Demand: 1752 KW DG set with Acoustic enclosures and with synchronizing Panel 1 No. DG set of 500 KVA capacity is proposed only for the use in emergency in case of power failure to operate water pumps, lifts and passage lighting etc.</p> |
| 2.7 | Any other natural resources (use appropriate standard units) | No | Not envisaged |

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3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

| S. No. | Information/Checklist confirmation | Yes/ No | Details thereof (with Approximate quantities/rates, wherever possible) with source of information data |
|---------------|--|--------------------|--|
| 3.1 | Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies) | Yes | Since this is a construction project, no storage of hazardous chemical (as per MSIHC Rules) will be done. |
| 3.2 | Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases) | No | Not envisaged |
| 3.3 | Affect the welfare of people e.g. by changing Living conditions? | Yes | It will provide employment opportunities to the local people in terms of skilled and unskilled labor during construction and service personnel during operational phase. |
| 3.4 | Vulnerable groups of people who could be Affected by the project e.g. hospital patients, children, the elderly etc., | No | Noise and Air Pollution control measures will be implemented so as to cause no harm to people in the adjoining area. |
| 3.5 | Any other causes, that would affect local communities, fisher folk, their livelihood, dwelling units of traditional local communities etc | No | No other causes identified. |

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4. Production of solid wastes during construction or operation or decommissioning (MT/month)

| S. No. | Information/Checklist confirmation | Yes/ No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|---------------|--|----------------|---|
| 4.1 | Spoil, overburden or mine wastes | No | Not Applicable |
| 4.2 | Municipal waste (domestic and or commercial wastes) | Yes | There would be both degradable and non-degradable solid waste produced during the operational phase, which will be around 110 Kg/day Biodegraded able waste: 77 Kg/day Non-biodegradable waste : 33 Kg/day Bio degradable waste will be composted on site using an OWC of adequate capacity. The non-bio-degradable waste will be handed over regularly to an authorized vendor. |
| 4.3 | Hazardous wastes (as per Hazardous Waste Management Rules) | Yes | Used oil from DG set will be stored carefully and will be handed over to authorized vendor for disposal. |
| 4.4 | Other industrial process wastes | No | Not Applicable |
| 4.5 | Surplus product | No | Not Applicable |
| 4.6 | Sewage sludge or other sludge from effluent treatment | Yes | Dewatered / dried sludge from STP will be used as manure for gardening. |
| 4.7 | Construction or demolition wastes | Yes | All construction waste will be collected and segregated properly and will be disposed off at proper site as per the norms. |
| 4.8 | Redundant machinery or equipment | No | Not Applicable |
| 4.9 | Contaminated soils or other materials | No | Not Applicable |
| 4.10 | Agricultural wastes | No | Not Applicable |
| 4.11 | Other solid wastes | No | Only Municipal solid waste: 110 kg/day (Dry waste: 33 Kg/ day Wet waste: 77 kg /day & sludge from STP will be generated. |

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5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with Approximate quantities/rates, wherever possible) with source of information data |
|--------|---|--------|--|
| 5.1 | Emissions from combustion of fossil fuels from stationary or mobile sources | Yes | Emissions form DG set only in case of emergency. The operation of proposed project does not envisage any major source of air pollution. |
| 5.2 | Emissions from production processes | No | There is no production as the proposed project is a Residential building construction. |
| 5.3 | Emissions from materials handling storage or transport | Yes | Fugitive emissions will be generated, while handling and transportation of materials to site, this will be temporary in nature. |
| 5.4 | Emissions from construction activities including plant and equipment | Yes | During the Operation Phase, DG sets will be operated only as a backup power at project site. Adequate provision made to mitigate the problem. Enough mechanical ventilation will be provided to reduce the odor problem from the Sewage Treatment Plant |
| 5.5 | Dust or odours from handling of including construction materials, sewage and waste | Yes | <p><u>Construction Phase</u></p> <p>Fugitive dust emissions will be generated due to movement of vehicles and material handling.</p> <p><u>Operation Phase</u></p> <p>During Operation Phase, emissions will be generated from Operation of DG sets.</p> <p>Minimal emissions will be generated from movement of vehicles as fugitive dust as the roads will be paved roads.</p> <p>Odor can be from Sewage Treatment Plant. However, it will work on appropriate technology, so as to minimize odor problems; It will be strategically located so that no adverse impact is caused.</p> |
| 5.6 | Emissions from incineration of waste | No | Not Applicable |
| 5.7 | Emissions from burning of waste in open air (e.g. slash materials, construction debris) | No | Not Applicable |
| 5.8 | Emissions from any other sources | No | Not Applicable. |

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6. Generation of Noise and Vibration, and Emissions of Light and Heat:

| S. No. | Information/Checklist confirmation | Yes/ No | Details thereof(with approximate quantities/rates, wherever possible) with source of information data with source of information data |
|---------------|---|--------------------|---|
| 6.1 | From operation of equipment e.g. engines, ventilation plant, crushers | Yes | <p>Noise generation from construction equipment used for drilling, cutting operations.</p> <p>During Operation Phase, Noise will be generated due to operation of DG sets.</p> <p>This will be about 90-105 dB (A). All DG sets will be as per rules and will confirm to noise standards.</p> |
| 6.2 | From industrial or similar processes | No | Not Applicable |
| 6.3 | From construction or demolition | Yes | <p>The construction noise will be localized, intermittent in nature. This will subside with the completion of the construction phase. The resultant ambient air noise levels will be well within the prescribed norms. The operation will be restricted to day time. Adequate measures taken to keep noise and vibrations under control. No heat or light emission.</p> |
| 6.4 | From blasting or piling | No | Not Applicable. |
| 6.5 | From construction or operational traffic | Yes | <p>Workers will be provided with protective equipment such as earmuffs etc. The noise levels will be < 70 dB(A).</p> |
| 6.6 | From lighting or cooling systems | Yes | <p>High quality cooling system will be provided with acoustic enclosures in order to reduce noise levels.</p> |
| 6.7 | From any other sources | No | Not Applicable. |

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7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

| S. No. | Information/Checklist confirmation | Yes/ No | Details thereof (with Approximate quantities/rates, wherever possible) with source of information data |
|---------------|---|----------------|--|
| 7.1 | From handling, storage, use or spillage of hazardous materials | No | Not Applicable. |
| 7.2 | From discharge of sewage or other effluents to water or the land (expected mode and place of discharge) | No | Total Sewage generated by development is 31 KLD. The same will be treated in Sewage treatment Plant of capacity 50 KLD which is proposed in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into existing sewer line. |
| 7.3 | By deposition of pollutants emitted to air into the land or into water | No | Whole generated Sewage will be treated in Sewage treatment Plant of capacity 50 KLD which is proposed in the basement. Total 11.34 KLD treated water will be reused for flushing and gardening while 13 KLD excess treated sewage will be disposed of into existing sewer line. Hence no impact on surrounding land and water. |
| 7.4 | From any other sources | No | Not Envisaged |
| 7.5 | Is there a risk of long term buildup of pollutants in the environment from these sources? | No | D.G sets will be used as a backup source only. |

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

| S. No. | Information/Checklist confirmation | Yes/ No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|---------------|---|----------------|--|
| 8.1 | From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances | No | Only 'HSD' from DG set is involved but still Fire Fighting System will be provided. |
| 8.2 | From any other causes | No | Not Envisaged |
| 8.3 | Could the project be affected by natural disasters Causing environmental damage (e.g., | No | The project falls under seismic zone-III as per IS1893 (Part-1):2002, care will be taken in designs to withstand earthquake of maximum Richter scale in that area. Further it is not flood prone or landslide prone areas. Hence, no risk due to natural hazards is envisaged. |

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9. Factors which should be considered (such as consequential development) which could lead to environmental effect or the potential for cumulative impact with other existing or planned activities in the locality

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible)with source of information data |
|--------|---|--------|---|
| 9.1 | Lead to development of supporting. utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: | Yes | Supporting and ancillary development will take place. |
| | Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) | Yes | Internal Roads, Rainwater Harvesting, Sewage Treatment Plant etc. will be provided |
| | housing development | Yes | Residential project under Redevelopment Scheme |
| | Extractive industries | No | |
| | supply industries | No | |
| | other | No | |
| 9.2 | Lead to after-use of the site, which could have an impact on the environment | No | Not Applicable. |
| 9.3 | Set a precedent for later developments | No | Not Applicable. |
| 9.4 | Have cumulative effect due to proximity to other existing or planned project with similar effect | No | Not Applicable. |

III. Environmental Sensitivity

| S. No. | Areas | Name/ Identity | Aerial distance (within 15 km.) Proposed project location boundary |
|--------|---|----------------|--|
| 1 | Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other | No | Not Applicable. |

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| | related value | | |
|----|--|-----|---|
| 2 | Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests | Yes | Coastal zone abutting to site. |
| 3 | Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration | No | Not Applicable. |
| 4 | Inland, coastal, marine or underground waters | No | Not Applicable. |
| 5 | State, National boundaries | No | The project is located within MCGM area. |
| 6 | Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas | No | Not Applicable. |
| 7 | Defense installations | Yes | Navy Nagar is within 5 km area |
| 8 | Densely populated or built-up area | Yes | Residential & Commercial area all around the site. |
| 9 | Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) | Yes | Schools, hospitals and small temples are observed within 2 km radius. |
| 10 | Areas containing important, high quality or scarce Resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals) | Yes | It is near the Mumbai Port area |
| 11 | Areas already subjected to pollution or Environmental damage. (those where existing legal environmental standards are exceeded) | No | Not Applicable. |
| 12 | Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme | No | This area is generally plain & come under seismic zone -III. |

Signature of Applicant

Date:

Place: