



Sample Feasibility Report
Sample Co-Operative Housing Society Ltd.

2015

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Background

Sample Co-Operative Housing Society formed under the Maharashtra Co-operative Societies Act, 1960 bearing no. XXX/HSG/527 of 1972 is located on the FP no. XX of Town planning Schema no. x of Thane. The society houses 106 members within a plot area of 6141 sqmt as per the property card.

The society is looking for conducting the feasibility study for their endeavor of society redevelopment. The society had published tender in Times of India and Maharashtra Times inviting architects for preparing Feasibility Study. The tender was published on XX Day of Month Year and based upon it 'project maitree' submitted its proposal on the XX Day of Month Year. After detail due diligence and scrutinization of various proposals, committee members and subcommittee members have appointed 'project maitree' as an independent consulting firm for the conducting the Feasibility Report for Redevelopment of Sample Co-operative Housing Society.

Scope of work

1. Total Area Statement of the society plot
2. Advantage of existing recreational ground
3. T.D.R. incentive against road handed over to Thane Municipal Corporation (TMC)
4. Total Permissible Built up Area (BUA) in two categories with details of the Non-BUA area like, parking, staircase, passages, lift, ducts, etc.
 - a. Only Residential
 - b. Residential as well as non-residential (non-shopping)
5. The total cost of the project considering above two categories and the building age of 55 to 60 years. The construction cost to be inclusive of essential green building features like cross usage of solar energy in common area, rainwater harvesting, and building orientation, et al.
 - a. Define the change in construction cost with reference to improvement in building specification from Standard, Premium to Deluxe.
 - b. Total cost should be inclusive of TDR Cost, Approval Cost, and Rent Allowance.
6. Estimation of the income from this project for above two categories.
7. Propose corpus and additional area can be offered by the developers.
8. List of the required document, its availability and method and timeline for procurement if not available
9. Possibility of the phase wise redevelopment with minimum or no member migration.
10. List of mandatory as well as optional indoor and outdoor amenities/ facilities considering total project cost.
11. Monetary benefits/ Subsidy by government authorities & financial institutes for green building project.

12. List of Agreement to be signed in case of self redevelopment and redevelopment via developers.
13. Sequence of operation to implement the redevelopment project in case of self redevelopment and redevelopment via developers, along with the estimated timelines.
14. Suggestion on the self redevelopment or redevelopment via developers based upon feasibility report.

Report structure

Report is primarily divided into three sections. Section one discusses the site location, land ownership, TP Remark, property survey and the area statement. Section two defines the development potential of the land as well as consumed area based upon the property tax and approved layout. Section three discusses the financial aspects related to projects such as, project cost, profitability, return on equity, self redevelopment versus redevelopment through developer.

Additional information such as deviation in the construction cost based upon the specification change, copy and list of document available with the society, project timelines for self redevelopment and redevelopment through developers, etc. is specified in Annexure of the report.

Disclaimer

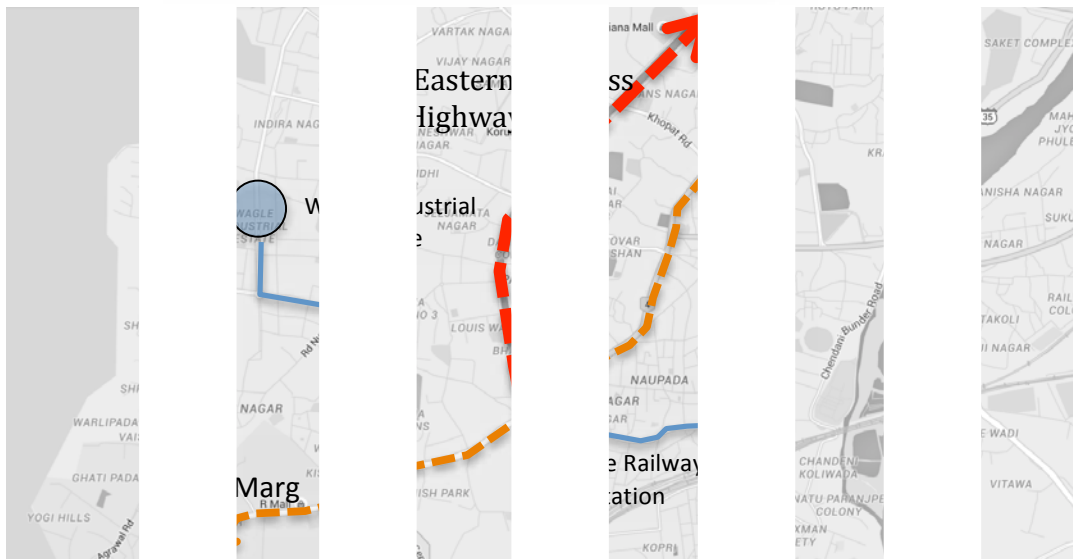
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Chapter: 1: Site appraisal

Location and Connectivity

The Sample Co-Operative Housing Society located on Final Plot no XX/1, XX/2 and XX/5 of the Town Planning Schema No. X of Thane Municipal Corporation. The site is located just 10 minutes away from the Thane Railway Station and Wagle Industrial Estate. Following schematic diagram depict the Road, Rail and Local CBD connectivity of Sample Co-Operative Housing Society.

Figure 1 Site Location in Context of Railway Station and Local CBD



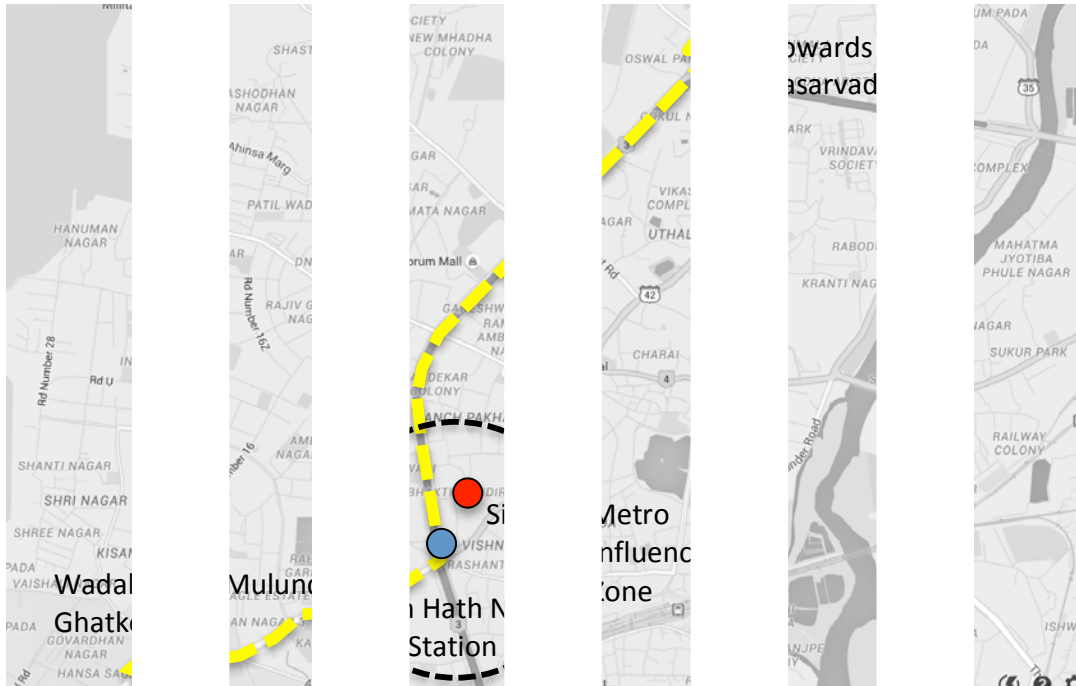
The site has direct connectivity to the mainland of Mumbai City through eastern express highway and LBS Marg. The residents can easily reach mainland central business district (Fort) within 45 minutes through eastern express highway and eastern freeway.

Proposed improvement in Infrastructure

The government is keen on improvising the public transport through various means such as elevated bus lane, monorail, metro rail et al. The proposed urban mobility plan prepare by the Mumbai Metropolitan Regional Development Authority is envisioning development of Wadala to Teen Hath Naka Metro line Via Ghatkoper and Mulund. The proposed line is likely to be extended further to Dahisar via Kasarvadavli in subsequent phases. The line will further get connected to the proposed Dahisar- Andheri Metro Line.

The proposed infrastructure will possibly draw population from central as well as western side of Mumbai. Teen hath naka will be the critical junction for commuter. If TMC follows the transport oriented development like Mumbai, there are likely chances of increasing FSI on the society's plot due to its proximity to proposed metro station.

Figure 2 Alignments of the Proposed Metro and its Influence Zone



Existing Social infrastructure

The location of the site can be categorized as fully developed. The daily needs of an individual or a family is easily available within 10 minutes of walking distance. Following schematics showcase the existing social infrastructure from the perspective of retail, education, hospitals and malls in proximity of the Sample Co-Operative Housing Society.

Figure 3 Retail Spaces

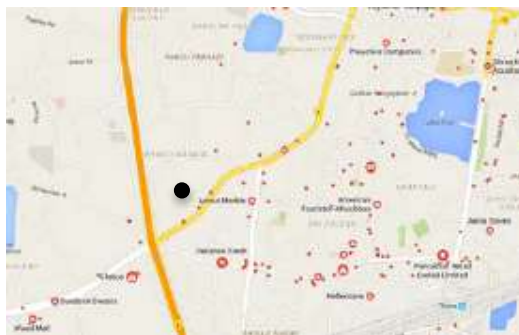


Figure 4 Hospital and Health Centers

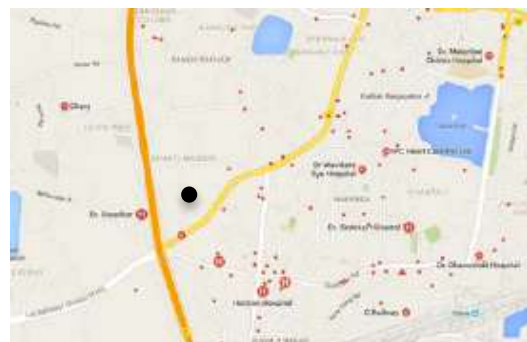


Figure 5 Education Institutes



Figure 6 Malls



Chapter: 2: Land subdivision and ownership

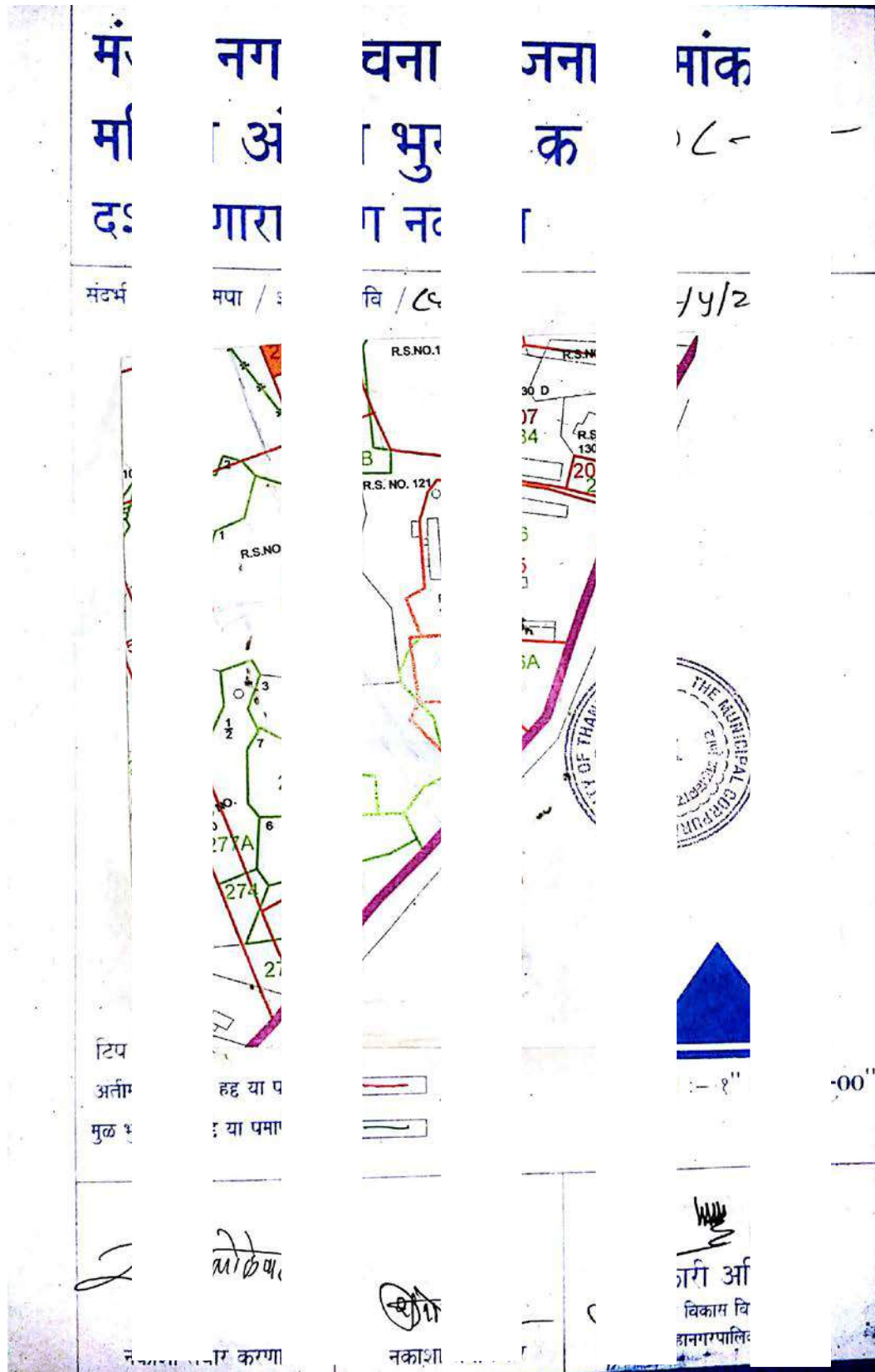
TP Remark

The site is located on the final plot (FP) No. XX of the Town Planning Schema (TPS) No. 1. The FP XX admeasures 22,942.26 sqmt of land area as per the form-B received from TMC. Based upon the TP remark issued on 19th May 2015 entire plot XX falls under the residential zone and neither of its part is under forest reserved land, salt pan neither NDZ nor CRZ chemical zone.

Figure 7 Copy of TP Remark from TMC

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Figure 8 Copy of TP plan for plot no XX from TMC



Feasibility study for Sample CHSL, Thane (W) | July 2015 | 13

Land subdivision

As per the Thane Municipal Corporation order dated 2nd February 2000, order no TMC/TDD/793 on possession of final plot no. XX, Sanctioned TPS, Thane X. The FP was subdivided into six plots for residential, a plot for playground and a shopping plot. The area statement for the subplot as per the above said order is as follows.

Table 1 Subplot wise area statement

Subplot No.	Area in sqmt	Subplot No.	Area in sqmt
1	1,487	5	3,179
2	1,475	6	495
3	1,798	Shopping	465
4	7,801		

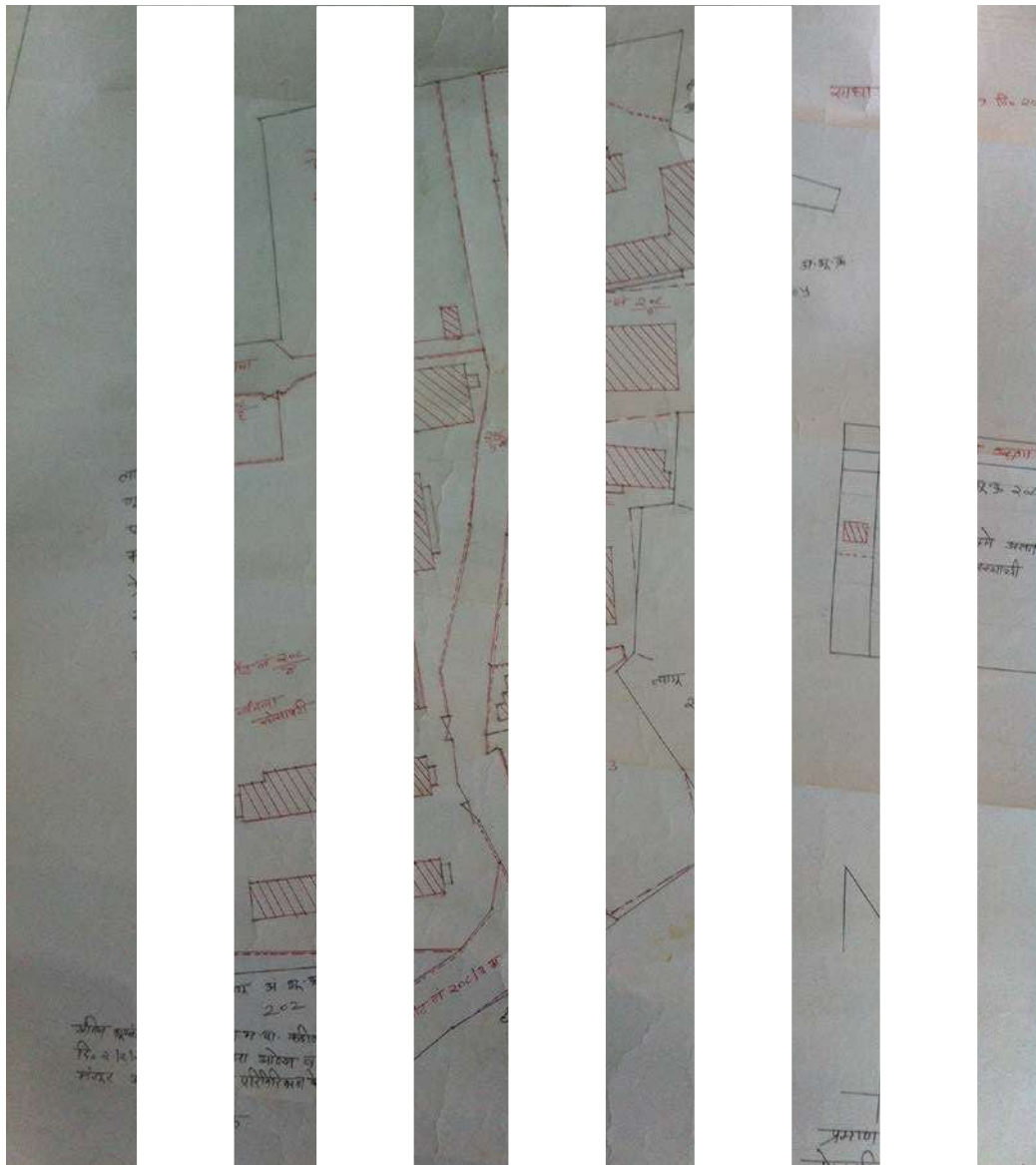
The layout subdivision consists of road area of 2007sqmt and recreation ground of 3317 sqmt as per sanctioned layout (3679 sqmt as per the TMC order TMC/TDD/793 dated 2nd February 2000). PG and road had been conveyed to Sample Co-operative housing society on the condition that its use and benefits should be allowed & permitted to the owners and occupier of other sub-divided plot.

Table 2 Plot no wise ownership

Plot No.	Name of Owner/Society	Area under Ownership
1,2,5	Sample Co-Operative Housing Society	6141* Sqmt
5A-Recreational	Sample Co-Operative Housing Society, Access Write to plot owners of XX	3679 Sqmt
5B-Road	Sample Co-Operative Housing Society, Access Write to plot owners of XX	2005.26 sqmt
4	ABC Co-operative Housing Society	7801 Sqmt
6	New DEF Co-Operative Housing Society	495 Sqmt
3	ASDF (734 sqmt) and Champavti Lodhia (1064 sqmt)	1798 sqmt
3C	Shopping Plot	465 sqmt
3A&B	Traffic post and Old Rotary	-NA-

* Portion of the plot is encroached and possession is yet to obtain from TMC.

Figure 10 Subdivision Layouts



Plot holdings under Sample Co-Operative Housing Society

The Sample Co-operative Housing Society owns the 6141 sqmt of the land along with possession of 3679sqmt of PG area and 2005.26 sqmt of the road area. The 6141sqmt plot comprises of subplot no. 1, 2 and 5. The encroached part is located in north part of subplot no. 5. The encroached area is highlighted with grey hatch. The unencumbered land area is 5,763.20 sqmt as per the survey conducted by the SP surveyor during April-May 2015. Please Refer to Annexure-1 for the Survey Plan.

Chapter: 3: Development potential assessment

The section is divided into the two parts, part one discusses the key Development Control Regulation which are applicable for the development and establishment of the gross development potential. The second part discusses the FSI consumed by the society as per the property tax assessment and the approved plan of TMC for the society.

Applicable Development Control Regulations

The base FSI as per the Appendix N.1.2.1 Residential Building Note 1 is 1.00 subjected to marginal open space.

Note 5 of Appendix N.1.2.1: *"If the owner of the Final Plot in the T.P.S. No.1 Thane accepts the possession of the plot along with encroachments and proposes development retaining encroachments on his plot he shall be allowed to avail of permissible F.S.I. on the entire F.P. area on the following conditions.*

- a) He shall demarcate the area in his plot which is occupied by the slum and ensure that extent of the encroachment does not increase.*
- b) To ensure the requirements (a) above the Corporation shall record the no. of hutments, name of the occupiers etc. at the time of granting permission.*
- c) In case the owner of the final plot proposes to develop the portion of his plot occupied by slums, as per the provisions of Appendix 'S' he will be entitled for the FSI up to 1.5 maximum on the area occupied by slum."*

The site is part of the layout subdivision and has already allocated the reservation of approximately 16% as recreational space in the layout subdivision (discussed in chapter 1). Thus, subject site is not entitled to deduct 15% of the area for FSI computation mentioned in the sub-regulation 3 of Regulation 54 of Development Control Regulation for Thane Municipal Corporation.

TDR applicability: The site falls under the planning sector II of TMC (Thane Municipal Corporation) as per the note 1, regulation 10 of Appendix W of Development Control Regulation TMC, *"Development Rights generated, through surrender of land for the purposes as mentioned in these regulations from Sector - I, II and III shall be utilized in respective sectors only to the extent of 40% of area of receiving plot. While granting TDR no relaxation will be given in marginal open spaces, tenement density, height, parking spaces and relevant provisions as applicable under sanctioned Development Control Regulation."*

Balcony: As per the sub regulation (iii) of Regulation 80 of Development Control Regulation TMC, *"In any residential zone (R-1) and residential zone with shop line (R-2), or in a purely residential building in any other zone, balconies may be permitted free of FSI at each floor, excluding the grounds and the terrace floors, of an area not more than 10 percent of the area of the floor from which such balcony projects subject to the following conditions -*

a) No balcony shall reduce the minimum marginal open space to less than 3 m. at the rear and sides and 1.5 m. in the front. The width of the balcony will be measured perpendicular to the building line and reckoned from that line to the balcony's outermost edge.

b) Balconies may be allowed to be enclosed subject to payment of premium. When balconies are enclosed one-third of the area of their faces shall have louvers glass shutters or grills on the top and the rest of the area except the parapet shall have glazed shutters.”

Thus as per the existing condition of the site, **plot area for computation works out to be 6141sqmt.** The basic calculation for the development is as follow.

Table 3 Development potential as per existing condition

	Factor	Allowable BUA in Sqmt (Factor*Plot area in Sqmt)	Allowable BUA in Sqft (Factor*Plot area in Sqft)
Base FSI (A)	1.00	6,141	66,108
TDR (B)	0.40	2,456	26,443
Balcony area (C = (A+B)*10%)		860	9,255
Allowable (D=A+B+C)		9,457	1,01,806

Under the current situation site has the development potential of 9,457 sqmt of built up are or 1,01,806 sqft of built up area including permissible balcony and is exclusive of any non-FSI area such as dry balcony (emerging from ducts), etc.

Expected changes in Regulation 165 Appendix R of the DCR and its impact on the development potential

Municipal Corporation has also put the special provision for the additional 15% of FSI for the reconstruction/redevelopment schemes undertaken by the corporation/owners for the existing residential development. However, the reconstruction under this regulation shall be allowed only with respect to the buildings existing prior to the 4th November 1974 (The date of coming into force of the sanctioned Development Plan of Thane) for the areas covered under the sanctioned Development Plan of the Erstwhile Municipal Council limits and 16th August 1973 (The date of coming into force of the sanctioned Regional Plan of the Bombay Metropolitan Region.)

Based upon the industry sources, there is a likely chance of the modification in the eligibility timeline for the development. Considering this fact we tried to establish a scenario in which we have assessed the development potential using Regulation 165 Appendix R.

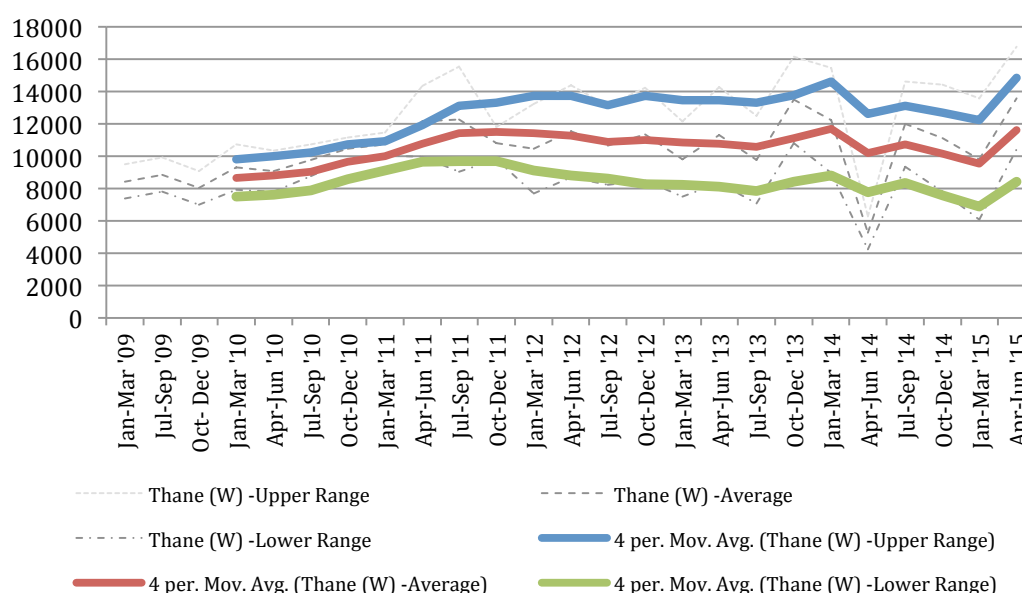
Table 4 Development potential considering amendment in Regulation 165 Appendix R

	Factor	Allowable BUA in Sqmt (Factor*Plot area in Sqmt)	Allowable BUA in Sqft (Factor*Plot area in Sqft)
Base FSI (A)	1.00	6,141	66,108
TDR (B)	0.40	2,456	26,443
Additional under Regulation 165(C)	0.15	921	9,916
Balcony area (D = (A+B+C)*10%)		952	10,247
Allowable Ratio (E=A+B+C+D)		10,470	1,12,714

If the regulation 165 Appendix R is modified in a presumed manner then it will increase development potential by 15%. The cumulative development potential would be 10,378 sqmt of built up area or 1, 11,722 sqft of built-up area including permissible balcony.

Viability assessment of the commercial

Commercial (office space) market in Thane in comparison to Mumbai is very limited and fragmented. Key business district for Thane is Waghle Industrial Estate and remaining commercial supply is fragmented in various parts of Thane. Following graph shows the capital value trend of the commercial property in the Thane West.



Commercial real estate pricing remains almost equivalent to the residential real estate pricing. Based upon the magicbricks.com real estate portal the average price quoted for commercial property during the Apr-Jun '15 period was Rs 13,594 psf for outright purchase.

Recommendation on the development mix

The site is located in the center of the residential neighborhood and it is limited to traffic volume that it can handle. Typically, the commercial or retail flourishes in the proximity of similar nature of activity abutting at least 12mt road width. Moreover, there are no further FSI incentives attached to the commercial and retail development. As observed from the point of view of commercial and retail development, achievable price point in these asset classes would be significantly lower than the residential due to location characteristics. Hence, it is recommended to go for complete residential development with 2BHK and 3BHK as standard product mix.

Consumed Area

Area consumption is derived considering the maximum built up area mentioned either in sanctioned building plan or property tax record.

Area statement as per sanctioned plan

The sanctioned layout plan shows the consumption upto 99% of allowable FSI 1.

Area Statement as per the Property card assessment

The property tax assessment shows the area consumption including balcony area is 5,593.66 sqmt, which means the built-up area of 6,153.02 sqmt.

Table 5 Absolute assessed areas in Sqft

	Absolute Assessed Area (SQFT)	Net Assessed Area (SQFT)
Total Carpet Including Balcony (sqft)	60,215.75	52,412.14
Total Carpet Including Balcony (Sqmt)	5,593.66	4,868.75

Remaining development potential

The site has development potential of 1, 01,806 sqft including FSI, TDR and balcony area. As per the property tax records, consumed BUA is 66,237 sqft.

Table 6 Statement of the remaining BUA

Development Potential (A)	1,01,806 Sqft
Consumed Carpet Area (B)	60,215.75 sqft
Consumed BUA (C=B*1.1)	66,237.32 Sqft
Remaining BUA (D=C-A)	35,568.68 sqft

Possibility of no Member Migration

As per the existing development guidelines, for any construction site total consumed FSI should not be greater than allowable FSI. In given case we have very limited unutilized FSI and hence it's difficult to reduce number of members to be migrated.

TDR Generation Potential from Road

(With regards to the TDR matter, it is requested that the society should get a separate legal expertise opinion. The current interpretation assumed for this report is, “street/road is public and all the subplot holders are entitled for the benefit of TDR generating from it.”)

The Case of TDR entitlement

Plot no. XX has internal private road with survey no. XX/5B admeasuring 2005.26 sqmt of the land area. Currently the road is under the possession of the Sample Co-Operative Housing Society and as per the TMC order dated 2nd February 2000, order no. TMC/TDD/793; *“....recreational space of 4400 sq. yd. and internal road admeasuring 2401 sq. yd. had been conveyed to Sample Co-operative Housing Society free of cost on the condition that it’s use and benefit should be allowed & permitted to the owners and occupiers of other subdivided plot.”*

The citizens have uninterruptedly used the 2005.24 sq. mt of the private internal road since the inception of the layout subdivision having an average road width in the range of 9 mt. In given circumstances, under sub regulation no. 13 of regulation no. 47 of Development Control Regulation of TMC, *“...a private passage is unrestrictedly used by the public for more than 20 years as a means of access to a number of plots and the width of such means of access is not less than 9 m. the Commissioner may (with the sanction of the Standing Committee) improve the passage at municipal cost and thereafter take steps under the Act to declare it to be public street, subject to the provisions of section 223 and 224 of the B.P.M.C. Act.”*

In the given case, if the street is declare as a public street then as per the Regulation no. 1 & 5 of Appendix –W of Development Control Regulation of Thane Municipal Corporation suggest that *“The owner (or lessee) of a plot of land which is reserved for a public purpose in the development plan and to be developed by Corporation and for additional amenities deemed to be reservations provided in accordance with these Regulations, excepting in the case of an existing or retention user or to any required compulsory or recreational open space, shall be eligible for the award of Transferable Development Rights (TDRs) in the form of Floor Space Index (F.S.I.) equivalent to the gross area of the reserved plot to be surrendered and will proportionately increase or decrease according to the permissible FSI of the zone where from the TDR has originated”*

Thus, the sub plot owners of the XX should be entitled for the TDR of 2005.24 sqmt, and this TDR should be distributed, based upon their current land holding excluding the Reserved Green/PG and Road area.

Table 7 TDR entitlement Calculations

Total Plot area of the FP no XX (A)	22,942.26 Sqmt
Road Area (B)	2,005.26 Sqmt
Recreational Garden (C)	3,679 Sqmt

Remaining Land excluding Road and Recreational Space (D=A-(B+C))	17,258 Sqmt
Subplot area of the Sample Co-Operative Housing Society (E)	6,141 Sqmt
Ration entitlement of the TDR (F=E/D)	0.35
Rights on the TDR Generating from the Road (G=B*F)	713.54 Sqmt

Parking, Amenities & Specification

Parking

As per the Table no. 6 of Development Control Regulation of TMC, “for non-congested area Corporation limits,

- One car parking space for every 4 tenements having carpet area above 35sq.mt. (377 sqft) each
- One car parking space for every 2 tenements with carpet area exceeding 45 sq. mt (484 sqft) but not exceeding 70 sq.m. (753.55sqft).
- One car parking space for every 1 tenement with carpet area exceeding 70 sq.mt. (753.55sqft)

In addition to the parking spaces specified above, parking spaces for visitor’s parking shall be provided to the extent of 10 percent of the total number of parking allotted.”

Considering the above dynamics and emerging parking requirements developer should give one parking to each 1BHK (current) owners and two parking to each 2BHK (current) owners. This turns out to be a provision of 122-car parking space for the existing members. The new members should also get the parking space in similar fashion i.e. 2BHK owners should have at least 1 car park and 3BHK owners should have at least 2car parks. An approximate 20 car parks is estimated as provision for visitor’s car park. The revenue for the parking construction is to be obtained from the sale of car parks to flat purchaser. The cost for construction of podium parking would be approximately Rs. 1000 per sqft.

Amenities

The society is looking for low or medium maintenance amenities only. Society is not keen to have high maintenance amenities like swimming pool, Jacuzzi, sauna, et al. The key amenities society would like to have in the newly constructed buildings are as follow.

- Double heighted entrance lobby for all the buildings with entrance porches.
- Landscape garden with children’s play area and senior citizen seating.
- Clubhouse
 - Gymnasium with changing Rooms
 - Banquet/ multipurpose hall (can be partially covered and partially semi-covered)
 - Indoor activity center with basic sports equipment like table tennis, carom board, chess boards, et al

- Society office 15sqmt or 161sqft for every two buildings (developer can club two or more such offices)
- Separate Toilet Block in the clubhouse, with direct access from Garden Area
- Sewage treatment plant along with special water supply system for reutilizing the recycled gray water consumption.
- Rainwater harvesting system
- Solar plant and Solar lighting
- Watchman cabin at all the entry and exist point with servant toilet and driver room.
- Intercom facility with face recognition.
- Meter room and letter room

Specification

FLOORING	
Master Bedroom FLOORING	Vitrified Tiles
Bedrooms FLOORING	Vitrified Tiles
Living FLOORING	Vitrified Tiles
Kitchen FLOORING	Vitrified Tiles
Toilet FLOORING	Anti-Skid Tile

DOORS	
Frame	Marble
Shutter	Flush Door

WINDOW	
Frame	Marble
Shutter	Aluminium Sliding with Glass and Mosquito Mesh

TOILET	
Fittings	Jaguar or Equivalent
Fixtures	Jaguar or Equivalent
Dado Height	Full Height
Dado Material	Ceramic Tiles

KITCHEN	
Platform Material	Granite
Sink	Single
Dado Height	Up to 7'
Dado Material	Ceramic Tiles
Fixtures	
Chimney	No
RO System	No
Fridge Space (Single/ double door)	Yes
Modular Kitchen	No
Dry Balcony	Yes

Electrical	Concealed Copper Wiring
Plumbing	CP Finish
Home Automation	No
Ceiling Height	9.5'

Chapter: 4: Assumption

In the previous chapter the development potential and key expectation of the development were discussed. This chapter focuses on the key assumption for the financial analysis and its impact for the various development options.

Construction Cost

The project construction costs are derived assuming the 12 to 15-story Earthquake proof RCC frame structure with defined specification and amenities. The average construction cost adds up Rs 2,000/- per sqft excluding the podium/ other parking cost. To make this cost effective model, the parking cost needs to be balanced from the sale of parking space to flat buyers. Thus, multiplying built up area with 1.30 derives the total construction area. The construction area includes FSI area as well as non-FSI area such as staircase, lifts, lobby, balcony, compound wall, water tank, et al.

Approval & Consultant Cost

Approval cost is considered as Rs 25 per sqft including soft cost. The consultant's fees are calculated at 6% of the average construction cost. The TDR cost is assumed based upon the industry survey of the TDR cost at rate of Rs 5,400 per sqft, the assumed cost of the 'pakka TDR'.

Pricing determination for the Site

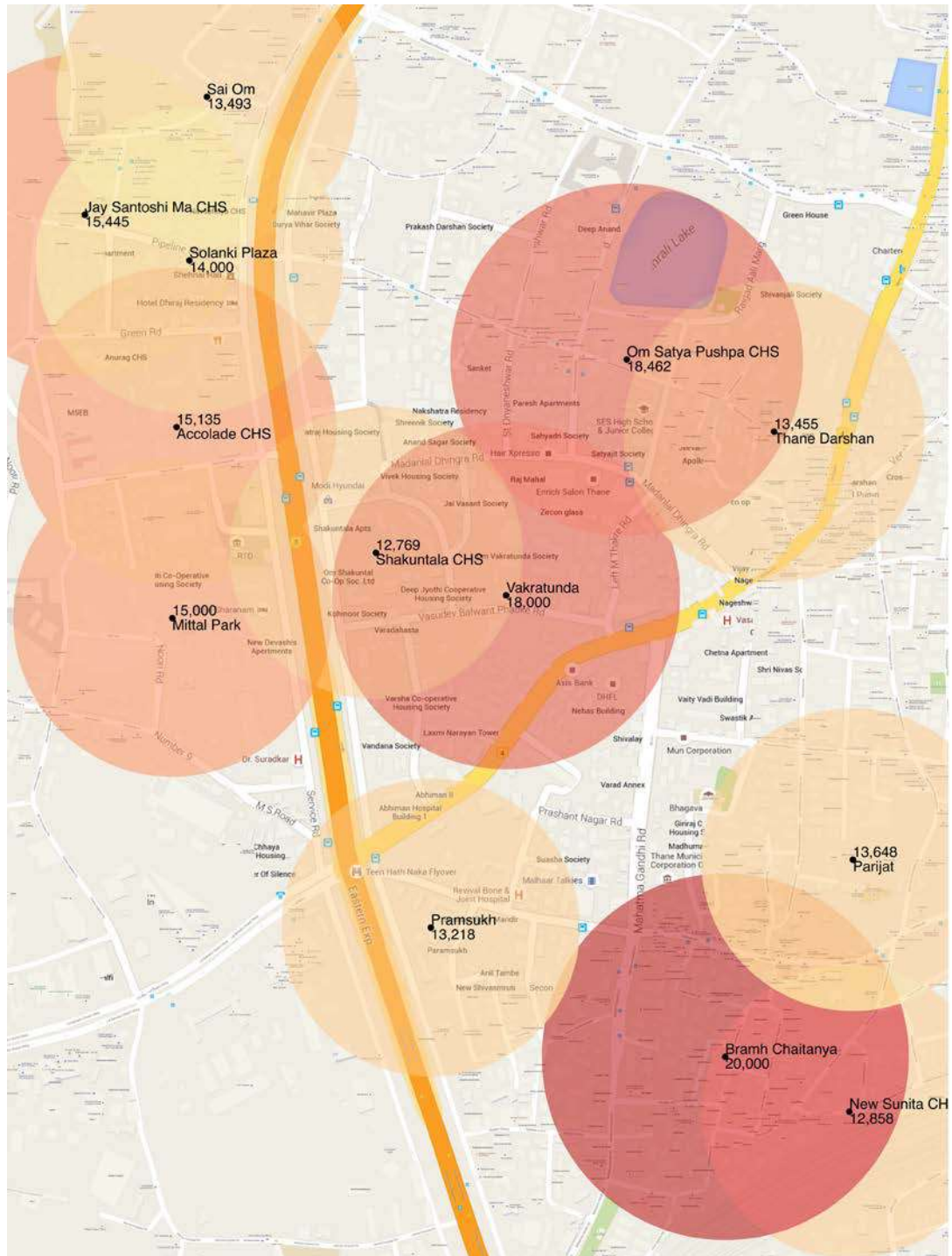
The site is located in the Panchpakhadi area in Thane. To determine the market price of the project a thorough study of the marketed projects in Naupada, Louis wadi, Rajendra Nagar and Dharmeev Nagar was conducted. Following diagram explains the quoted price of the various under construction and ready projects.

The comparative analysis of these projects highlighted the following things

- Although property prices differ from ready to under construction level, it has a huge difference at immediate catchment level.
- Property price appreciated at just 6.5% in last one year.
- Pre launch stage projects are offered at Rs 10,000 psf to Rs 10,500 psf. Now, considering the 6.5% of CAGR of price appreciation launch price for the product after two years would be in the range of Rs 11,500 psf to Rs 12,000 psf.
- The ready property price around the site is Rs 13,000/- psf. The ready property price after five year would fall in the range of Rs 18,000 psf to Rs 18,500 psf after five years. (6.5% of CAGR of price appreciation)

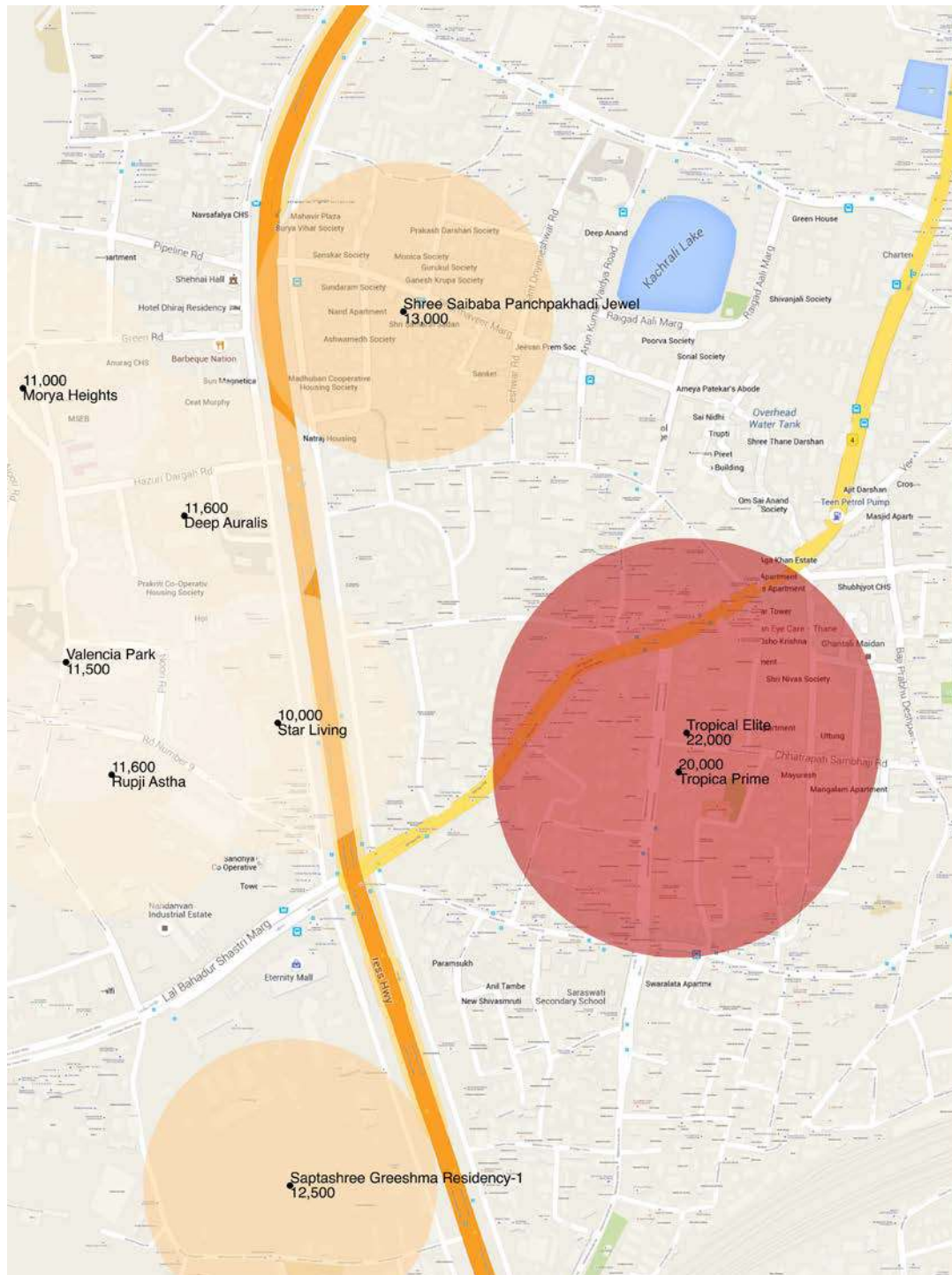
Thus, for the financial computation of revenue the average realization price of Rs. 15,000/- psf has been considered with predominating product mix of 2BHK and 3BHK.

Figure 11 Ready Property Price in catchment



Source: Lias Foras, 99acres.com, housing.com

Figure 12 UC Property Price in Catchment

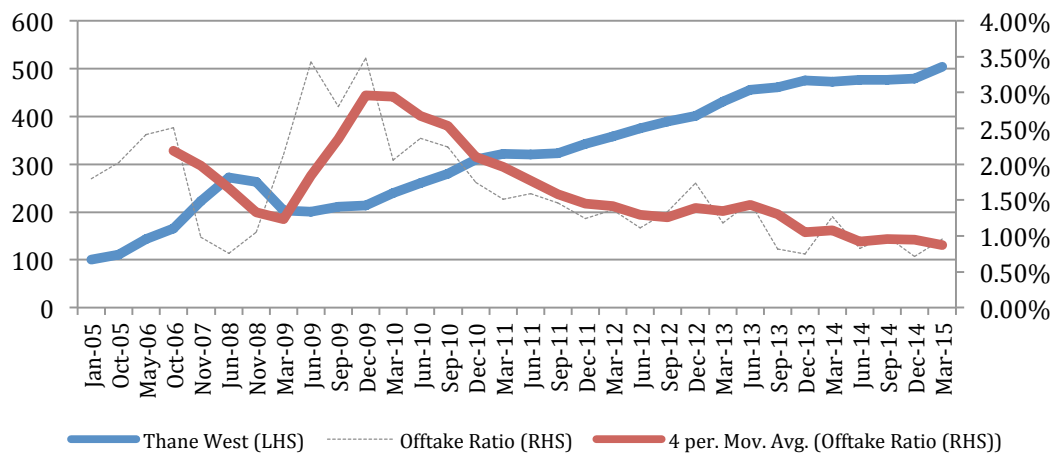


Source: Lias Foras, 99acres.com, housing.com

Price and Project Duration

Residential real estate market in Thane has outperformed during the last two years. Thane west had shown the compounded annual growth rate of 17% in last decade (Jan 2005 to March 2015). The average annual demand for thane west region is in the range of 48lac sqft (last six years FY 09-10 to FY 14-15). Average off take ratio against the supply had moved from the 3.48% in Dec-2009 to 0.96% in March 2015. This 0.96% of off take ratio represents that at the current price, 100 units project will required approximately 104 months to clear its inventory.

Figure 13 Price Trend at Index level and Sales Velocity for Thaness West



Source: Liases Foras

Sales velocity or off take ratio for a realization price of Rs 15,000/- psf would be less than 1% or less than 1 units per month. The project is likely to have a total of sales units ranging from 28 to 34 (1200 saleable area). This means project may require approximate 36 months to sell completely considering 0.9 units per month and around 32 units sale. This indicates for the healthy project cash flow we have should have project duration of 36 months for construction. If the project finishes prior to timeline remaining rental amount can be consider as corpus.

Rentals

The current market rent is studied with reference to locality and typology. Based upon the information collected through various property portals and our discussion with broker, Following table explain the area and typology wise per sqft weighted average rent.

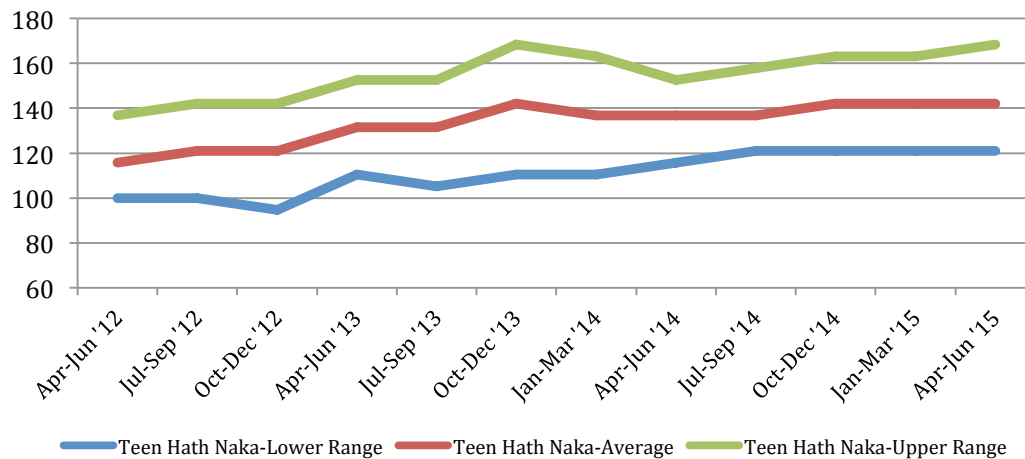
Table 8 Location wise per sqft rent for 1BHK and 2BHK within Catchment

Location	1BHK	2BHK	Average
Dharamveer Nagar	29	30	30
Louis wadi	31	26	29
Naupada	30	33	32

Panchpakhadi	35	-	35
Raheja Gardens	-	40	40
Average	31	33	32

Above analysis gave us the current lease value of the 1BHK and 2BHK property in the vicinity. To estimate the rent after two years from now, the historical rent trend in and around Teen Hath Naka market was studied. Following are the index value trend of the quoted rent per sqft.

Figure 14 Rental Value Trend Quarter on Quarter



Source: magicbricks.com

The rental value trend had shown that in last two years, the rental value is grown at compounded annual growth rate of 4.5%. Considering the similar phenomena currently market is quoting rental value of Rs. 32 psf. After two years it is anticipated that rent would increase to Rs 35 psf. Let us presume that rent will be given in advance to society members. Hence, the rental deposits and further rent increase for next three years shall not be accounted for.

Summary Table of Assumptions

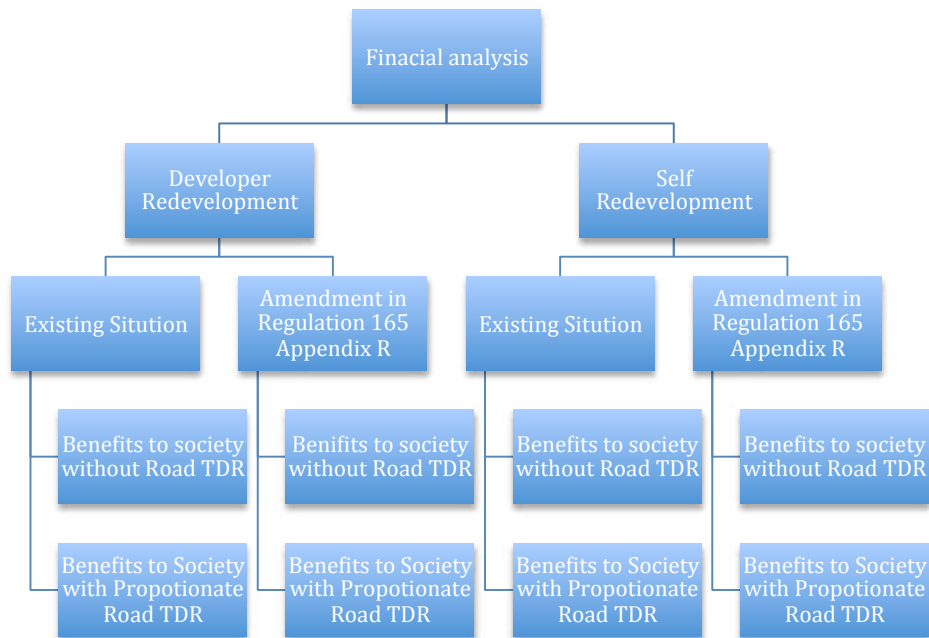
Table 9 Assumptions for the financial

Construction Cost (Excluding Podium and Parking)	2000
Approval Cost(Rs/per sqft)	25
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost	120
TDR Cost (O)	5,400
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260
Average Realization during the project time line	15,000
Project Duration	36 months

Chapter: 5: Recommendations and Financial analysis

To arrive at additional area entitlement and corpus calculation we have done the basic level financial calculation. Due to the probability of entitlement of the proportionate road TDR, and amendment in Appendix R of Regulation 165, we have prepared the comparative financial analysis matrix for the society members. Care has been taken that the financial analysis is done considering an option of self-development as well as developer-redevelopment. Following diagram denotes the list of development scenarios prepared for financial analysis.

Figure 15 Structured options for Financial Analysis



Developer Redevelopment (Refer Annexure-1, Pg-34)

Existing Situation- without entitlement of proportionate Road TDR

As discussed in development potential analysis chapter site has potential of 1,01,806 sqft of BUA as per the prevailing DCR. The total project cost including construction costs, rental allowance, TDR, Approval and Consultant's fess would be approximate Rs. 50.26 Cr. Developer will get approximately 38 units of average 1200 sqft of super built-up area for sale to recover its cost and profit. In this case, he can offer additional 7% of the area to members with Rs 35 psf of Rental allowance for 36 months. Additional 7% of the area means increase of 38.5sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Existing Situation- with entitlement of proportionate Road TDR

In this case due to the entitlement of 713.54sqmt of the Road TDR, TDR cost for the developer is getting subsequently reduced from Rs 14.28Cr to Rs 10.13Cr. This reduction of approximate Rs 4.15Cr resulted into enhanced profitability for the

developer. Thus, to recover its cost and profit, revenue of Rs 63.22Cr is required against the cost of Rs 46.11cr. This will help the society members to entitle addition area of 11% on their existing carpet including balcony and Rs 35 Rental allowance for 36 months. An additional 11% of the area means increase of 60.5sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Amendment in Appendix R -without entitlement of proportionate Road TDR

The expected amendment in the Appendix R will fetch additional 15% of the extra built up area for the society members. This will result into overall built up area of 1,12,714 sqft. The total project cost inclusive construction costs, rental allowance, TDR, approval and consultant's fess would be approximate Rs. 53.30cr. Developer will get approximately 41 units of average 1200 sqft of super built-up area for sale to recover its cost and profit. The members will be entitled for additional 21% of the area to members with Rs 35 psf of Rental allowance for 36 months. The 21% of the additional space will increase area of typical 550 sqft to 665.5sqft or increase of 115 sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Amendment in Appendix R -with entitlement of proportionate Road TDR

The entitlement of the proportionate TDR will further reduce the project cost by Rs 4.15Cr. In this case, the total cost of the project will be Rs 49.15cr and revenue will be Rs 67.43cr. The developer will be able to offer additional 25% to society members with Rs 35 psf rent for 36 months. Developer shall have approximately 37 units of average 1200 sqft of super built-up area for sales to recover its cost and profit. The 25% excess of the additional space will increase area of typical 550 sqft to 687.5sqft or increase of 137.5sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Summary developer redevelopment

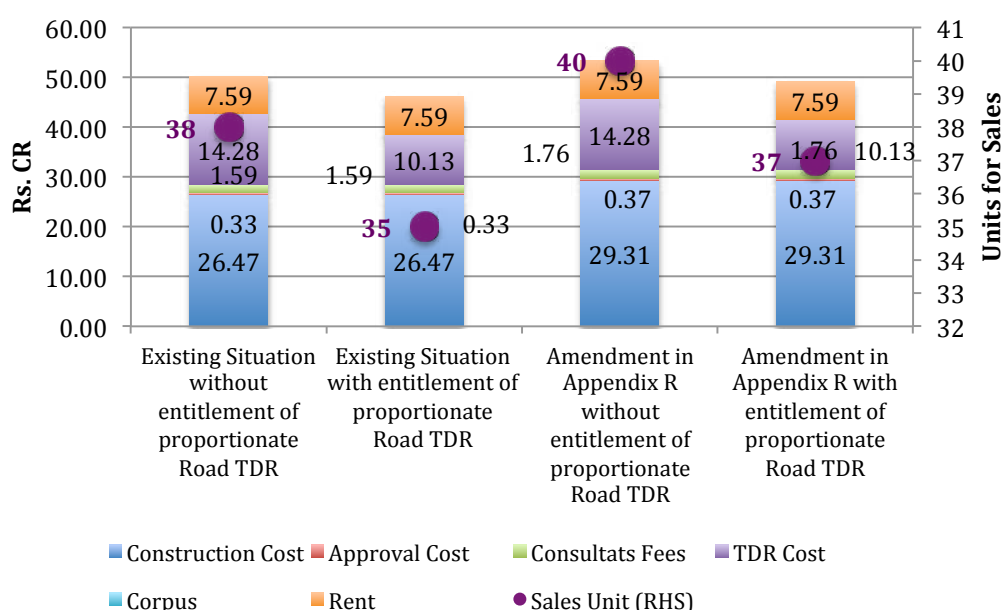
Following table and chart shows the comparative representation of all the options discussed above.

Table 10 Comparative analysis of the Developer Redevelopment Options

	Existing Situation		Amendment in Appendix R	
	without entitlement of proportionate Road TDR	with entitlement of proportionate Road TDR	without entitlement of proportionate Road TDR	with entitlement of proportionate Road TDR
Area	7%	11%	21%	25%
Corpus	0.00	0.00	0.00	0.00
Rent (Rs/ Sqft)	1,260	1,260	1,260	1,260

ROE	40%	40%	40%	40%
No of Additional Unit considering average 1200 sqft of super built-up area	38.00	35.00	41.00	37.00
Cost	50.26	46.11	53.30	49.15
Revenue	68.94	63.22	73.11	67.43
Profitability	18.69	17.11	19.81	18.28

Figure 16 Cost difference and increase in number of units for various development proportions



Value propositions considering the fixed demand of 32% additional area.

The optimum required area for 1BHK to 2BHK up gradation should be in the range of 160 to 180 sqft of carpet area or proposed carpet area for 2BHK to be greater than 720 sqft. Similarly for 2BHK to 3BHK up gradation 200sqft to 250sqft of additional carpet is required. This means on average additional carpet area required is 32% to fulfill the up gradation demand.

In case of the developer redevelopment all the options discussed are estimated to give less than the ideally desired area. The society members can avail the additional area by paying a fixed amount to developer, following two matrixes explains the payable to developers from existing 1BHK and 2BHK owners. For, calculations an area of 550sqft for 1BHK and 750sqft of carpet area for 2BHK has been considered.

Table 11 Additional cost to be paid by existing owner of 550 sqft 1BHK to avail 726sqft of 2BHK (area in carpet)

For Existing 1BHK Owners	Existing Situation without entitlement of proportionate Road TDR	Existing Situation with entitlement of proportionate Road TDR	Amendment in Appendix R without entitlement of proportionate Road TDR	Amendment in Appendix R with entitlement of proportionate Road TDR
Free Additional Area from Developers (A)	7%	11%	21%	25%
Percentage of area to be purchased from the Developer considering 32% requirement (B=32%-A)	25%	21%	11%	7%
Absolute carpet area to be purchased from the developer (C=B*550 Sqft)	135	114	60	39
Cost in Rs lac for purchasing the additional carpet area (D, From financial analysis)	24.40	20.61	10.80	7.01
Rs per sqft on carpet for purchase of additional area (E=D*10 ⁵ /E)	18,065	18,094	18,043	18,020
Rs per sqft on saleable area for purchase of additional area (F=E/1.5, +50% plus loading)	12,043	12,062	12,028	12,014

Table 12 Additional cost to be paid by existing owner of 750sqft of 2BHK to avail 990 sqft of 3BHK (area in carpet)

For Existing 2BHK Owners	Existing Situation without entitlement of proportionate Road TDR	Existing Situation with entitlement of proportionate Road TDR	Amendment in Appendix R without entitlement of proportionate Road TDR	Amendment in Appendix R with entitlement of proportionate Road TDR
Free Additional Area from Developers (A)	7%	11%	21%	25%
Percentage of area to be purchased from the Developer considering 32% requirement (B=32%-A)	25%	21%	11%	7%

Absolute carpet area to be purchased from the developer (C=B*750 Sqft)	184	155	82	53
Cost in Rs lac for purchasing the additional carpet area (D, From financial analysis)	33.27	28.11	14.73	9.56
Rs per sqft on carpet for purchase of additional area (E=D*10 ⁵ /E)	18,065	18,094	18,043	18,020
Rs per sqft on saleable area for purchase of additional area (F=E/1.5, +50% plus loading)	12,043	12,062	12,028	12,014

Self Redevelopment Proposition (Refer Annexure-2, Pg-38)

The self-redevelopment option naturally increases the additional area entitlement for the members. The overall cost proposition for this option remains similar to developer redevelopment but the revenue requirement decreases due to zero profitability or marginal profitability. In following models we have consider the zero profitability to understand maximum entitlement of the area.

Existing Situation- without entitlement of proportionate Road TDR

In case of the existing situation without proportionate entitlement of TDR cost of the project comes to approximate Rs. 50.26 Cr. To recover this cost society will required at least 28 units of average 1200 sqft of super built-up area to sell in open market. The society members can have additional 12,030 sqft of carpet area for proportionately distribution between all the members. This means by self-development option each society members will get an additional area of 20% with 36 months of rent at the rate of Rs 35 psf on existing consume carpet. Additional 20% of the area means increase of 110 sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Existing Situation- with entitlement of proportionate Road TDR

With the entitlement of proportionate road, TDR cost of the project is likely to reduce from Rs. 50.26 Cr. to Rs 46.11 Cr. This also infers that the area or unit required for sales will also reduce from 28 units of average 1200 to 26 units of average 1200 sqft of super built-up area. The reduction in sales area will increase area for members from 12,030 sqft of carpet area to 13,706 sqft of carpet area. This means members will have an additional area of 23% along with rent for 36 month at Rs 35 PSF. Additional 23% of the area means increase of 126.5sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Amendment in Appendix R -without entitlement of proportionate Road TDR

The expected amendment will increase the built up area from the 1, 01,06 sqft of BUA to 1,12,714 sqft of BUA. This increase is bound to increase the cost of the project, however due to additional 15% of the free FSI it also enables to enhance a significant share to society members. In given case, project cost would account to approximate Rs 53.30Cr. and society would need to sell approximate 30 units of average 1200 sqft of super built-up area to recover the cost. The members will be entitled for additional area of 34% and 36 months rent at the rate of Rs 35 PSF. Additional 34% of the area means increase of 187sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Amendment in Appendix R -with entitlement of proportionate Road TDR

The entitlement of the proportionate TDR will help decrease project cost from Rs 53.30Cr. to Rs. 49.15Cr. The reduction in cost will further reduce the sales unit/area requirements from 30 to 27 of 1200 sqft average saleable area. The members will get 37% additional area along with 36 months' rent at Rs 35 PSF. An additional 37% of the area means increase of 203.5sqft of space including balcony for 550 sqft apartment. (Additional Space is exclusive of Dry balcony area or any other non-FSI area excluding Balcony).

Summary self redevelopment

Following chart and table is a comparative representation of all the four options discussed for self redevelopment.

Figure 17 Cost difference and increase in number of units for various development proportions

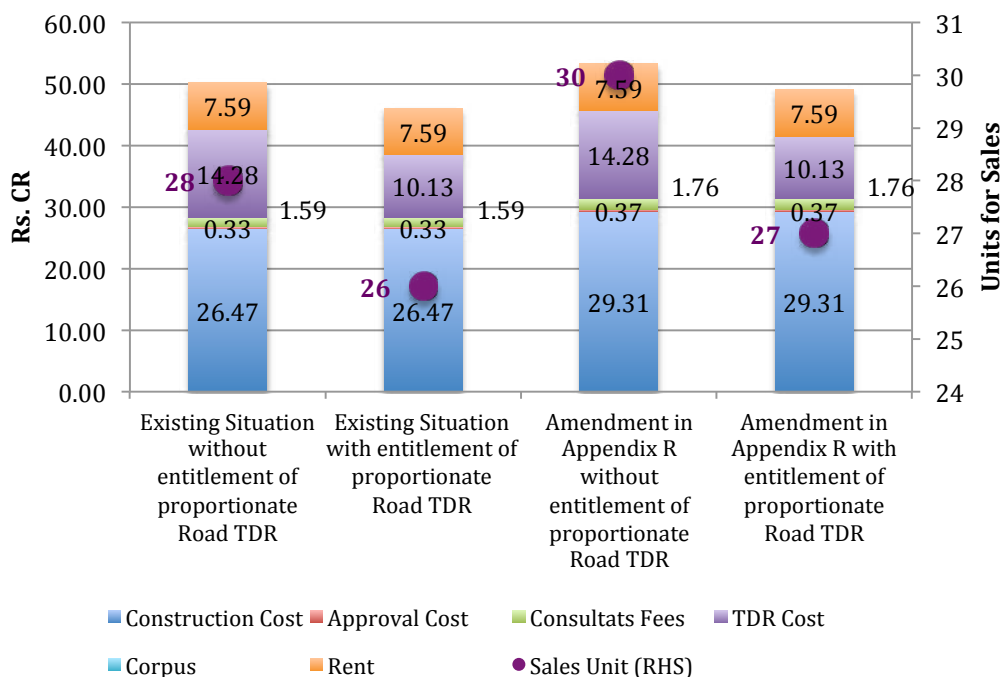


Table 13 Comparative analysis of the Self Redevelopment Options

	Existing Situation		Amendment in Appendix R	
	without entitlement of proportionate Road TDR	with entitlement of proportionate Road TDR	without entitlement of proportionate Road TDR	with entitlement of proportionate Road TDR
Area	20%	23%	34%	37%
Corpus	0.00	0.00	0.00	0.00
Rent (Rs/ Sqft)	1,260	1,260	1,260	1,260
ROE	26%	26%	26%	26%
No of Additional Unit considering average 1200 sqft of super built-up area	28	26	30	27
Cost	50.26	46.11	53.30	49.15
Revenue	50.26	46.11	53.30	49.15
Profitability	0.00	0.00	0.00	0.00

Recommendation

The additional space in case of the developer redevelopment - existing case is falling short in fulfilling the up graduation requirements of society members. Existing buildings are not in a bad shape. Thus, if society is looking for the redevelopment through developers then it is advisable that member should wait for the amendment in the Appendix R of the Regulation 165 DCR TMC. Following Table shows the achievable additional area along with 36 months' rent at Rs 35 PSF.

Table 14 Comparative Analysis for self redevelopment option

Comparative Analysis		Developer Redevelopment	Self Redevelopment
Existing Situation Analysis	Benefits to Society Without Road TDR	7%	20%
	Benefits to Society With Road TDR	11%	23%
Amendment in Regulation 165 Appendix R	Benefits to Society Without Road TDR	21%	34%
	Benefits to Society With Road TDR	25%	37%

Real Estate development is dynamic in the nature. If the society adopts self-redevelopment option the most critical element would be defining the decision making process against approvals, construction, sales or financing the project.

Annexure: 1: Developer Redevelopment Financial Calculation

Existing Situation- without entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	9,457	1,01,806	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	416	4,480	7%
Additional BUA (H=G*1.1)	458	4,928	
Remaining BUA for Sale (I=D-(F+H))	2,846	30,641	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	4,269	45,961	
Total Construction Area (K=D*1.3)	12,294	1,32,348	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	26,46,95,891	26.47
Approval Cost(M=L*25)	25	33,08,699	0.33
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,58,81,753	1.59
TDR Cost (O)	5,400	14,27,92,988	14.28
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		50,25,51,177	50.26
Average Realization (T)	15,000		
Revenue (U=T*J)	68,94,16,749		68.94
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	25,12,75,588		25.13
ROE (X=((U/W)^(1/(V/12)))-1)	40%		
Profitability (Y=U-S)	18,68,65,572		18.69

Existing Situation- with entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	9,457	1,01,806	
TDR Generation form the Road	714	7,681	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	631	6,793	11%
Additional BUA (H=G*1.1)	694	7,473	
Remaining BUA for Sale (I=D-(F+H))	2,610	28,096	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	3,915	42,144	
Total Construction Area (K=D*1.3)	12,294	1,32,348	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	26,46,95,891	26.47
Approval Cost(M=L*25)	25	33,08,699	0.33
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,58,81,753	1.59
TDR Cost (O)	5,400	10,13,14,195	10.13
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		46,10,72,383	46.11
Average Realization (T)	15,000		
Revenue (U=T*J)	63,21,60,656		63.22
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	23,05,36,192		23.05
ROE (X=((U/W)^(1/(V/12)))-1)	40%		
Profitability (Y=U-S)	17,10,88,272		17.11

Amendment in Appendix R -without entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	10,470	1,12,714	
TDR Generation form the Road	0	0	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	1,181	12,712	21%
Additional BUA (H=G*1.1)	1,299	13,983	
Remaining BUA for Sale (I=D-(F+H))	3,018	32,494	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	4,528	48,741	
Total Construction Area (K=D*1.3)	13,612	1,46,528	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	29,30,56,166	29.31
Approval Cost(M=L*25)	25	36,63,202	0.37
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,75,83,370	1.76
TDR Cost (O)	5,400	14,27,92,988	14.28
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		53,29,67,571	53.30
Average Realization (T)	15,000		
Revenue (U=T*J)	73,11,08,624		73.11
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	26,64,83,785		26.65
ROE (X=((U/W)^(1/(V/12)))-1)	40%		
Profitability (Y=U-S)	19,81,41,053		19.81

Amendment in Appendix R -with entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	10,470	1,12,714	
TDR Generation form the Road	714	7,681	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	1,394	15,007	25%
Additional BUA (H=G*1.1)	1,533	16,508	
Remaining BUA for Sale (I=D-(F+H))	2,784	29,969	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	4,176	44,953	
Total Construction Area (K=D*1.3)	13,612	1,46,528	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	29,30,56,166	29.31
Approval Cost(M=L*25)	25	36,63,202	0.37
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,75,83,370	1.76
TDR Cost (O)	5,400	10,13,14,195	10.13
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		49,14,88,777	49.15
Average Realization (T)	15,000		
Revenue (U=T*J)	67,42,96,802		67.43
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	24,57,44,389		24.57
ROE (X=((U/W)^(1/(V/12)))-1)	40%		
Profitability (Y=U-S)	18,28,08,025		18.28

Annexure: 2: Self Redevelopment Financial Calculation

Existing Situation- without entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	9,457	1,01,806	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	1,118	12,030	20%
Additional BUA (H=G*1.1)	1,229	13,233	
Remaining BUA for Sale (I=D-(F+H))	2,075	22,336	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	3,112	33,503	
Total Construction Area (K=D*1.3)	12,294	1,32,348	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	26,46,95,891	26.47
Approval Cost(M=L*25)	25	33,08,699	0.33
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,58,81,753	1.59
TDR Cost (O)	5,400	14,27,92,988	14.28
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		50,25,51,177	50.26
Average Realization (T)	15,000		
Revenue (U=T*J)	50,25,51,177		50.26
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	25,12,75,588		25.13
ROE (X=((U/W)^(1/(V/12)))-1)	26%		
Profitability (Y=U-S)	0		0.00

Existing Situation- with entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	9,457	1,01,806	
TDR Generation form the Road	714	7,681	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	1,273	13,706	23%
Additional BUA (H=G*1.1)	1,401	15,077	
Remaining BUA for Sale (I=D-(F+H))	1,904	20,492	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	2,855	30,738	
Total Construction Area (K=D*1.3)	12,294	1,32,348	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	26,46,95,891	26.47
Approval Cost(M=L*25)	25	33,08,699	0.33
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,58,81,753	1.59
TDR Cost (O)	5,400	10,13,14,195	10.13
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		46,10,72,383	46.11
Average Realization (T)	15,000		
Revenue (U=T*J)	46,10,72,383		46.11
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	23,05,36,192		23.05
ROE (X=((U/W)^(1/(V/12)))-1)	26%		
Profitability (Y=U-S)	0		0.00

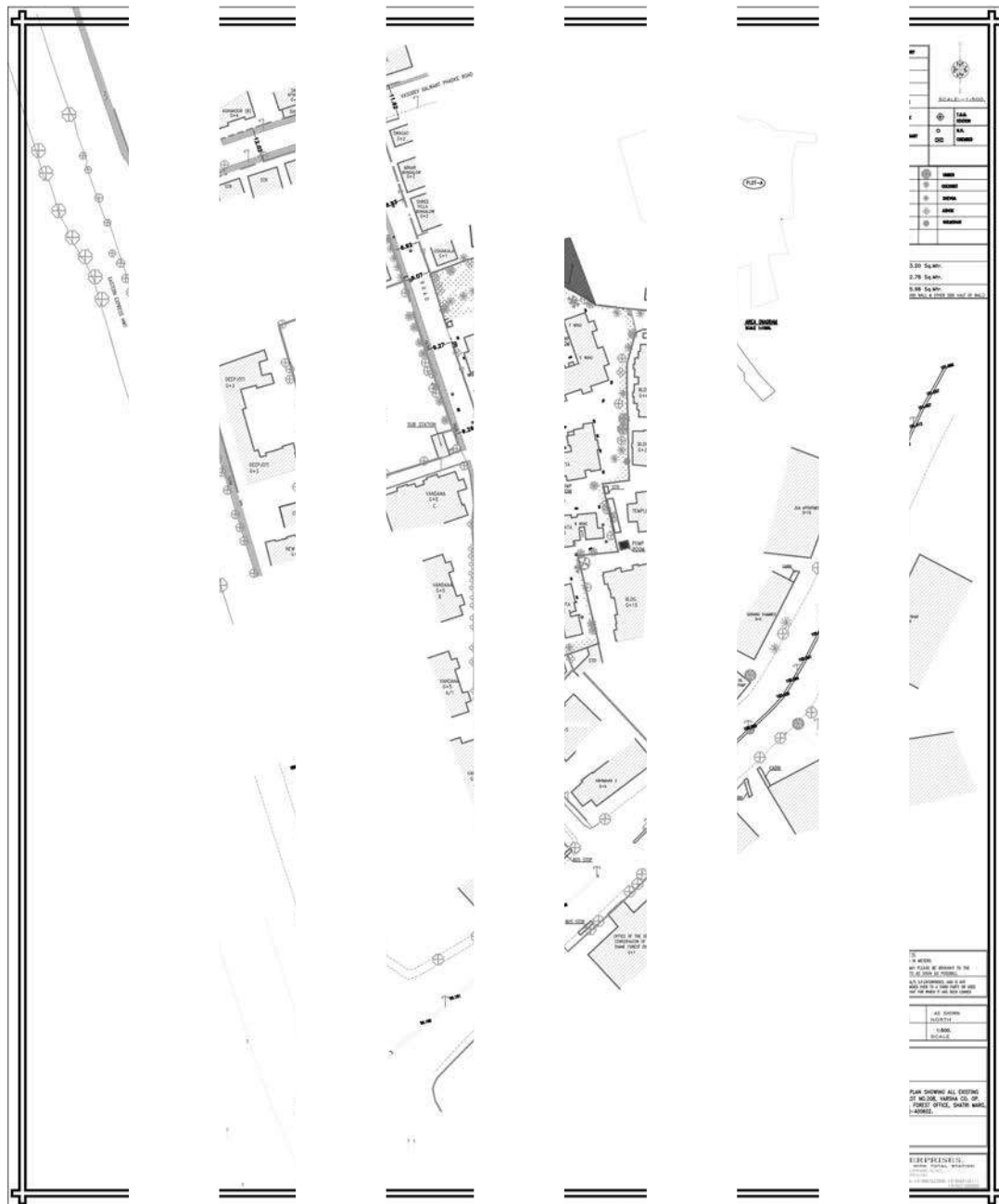
Amendment in Appendix R -without entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	10,470	1,12,714	
TDR Generation form the Road	0	0	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	1,925	20,717	34%
Additional BUA (H=G*1.1)	2,117	22,789	
Remaining BUA for Sale (I=D-(F+H))	2,200	23,687	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	3,301	35,531	
Total Construction Area (K=D*1.3)	13,612	1,46,528	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	29,30,56,166	29.31
Approval Cost(M=L*25)	25	36,63,202	0.37
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,75,83,370	1.76
TDR Cost (O)	5,400	14,27,92,988	14.28
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		53,29,67,571	53.30
Average Realization (T)	15,000		
Revenue (U=T*J)	53,29,67,571		53.30
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	26,64,83,785		26.65
ROE (X=((U/W)^(1/(V/12)))-1)	26%		
Profitability (Y=U-S)	0		0.00

Amendment in Appendix R -with entitlement of proportionate Road TDR

	Sqmt	Sqft	
Plot Area (A)	6,141	66,108	
Plot area deduction under the reservation (B)	NA	NA	
Plot Area For BUA Computation (C=A-B)	6,141	66,108	
BUA Allowable (D=C*Allowable Ratio)	10,470	1,12,714	
TDR Generation form the Road	714	7,681	
Carpet Area Consumed (E)	5,594	60,216	
BUA Consumption (F=E*1.1)	6,153	66,237	
Additional Carpet Area (G)	2,080	22,393	37%
Additional BUA (H=G*1.1)	2,288	24,633	
Remaining BUA for Sale (I=D-(F+H))	2,029	21,844	
Super Built Up are for sale considering 50% loading (J=I*(1+50%))	3,044	32,766	
Total Construction Area (K=D*1.3)	13,612	1,46,528	
COST Table	Rs per SQFT	Cost in RS	Cost in RS CR
Construction Cost (Excluding Podium and Parking)(L=K*2000)	2,000	29,30,56,166	29.31
Approval Cost(M=L*25)	25	36,63,202	0.37
Consultants Fees (Architect, PMC, Structural, Legal) @ 6% of Construction Cost (N)	120	1,75,83,370	1.76
TDR Cost (O)	5,400	10,13,14,195	10.13
Corpus (P)	0	0	0.00
Balcony Premium (Q)			
Three Years Rent PSF (R) (Rs 35 Monthly PSF Rent considering the future escalations)	1,260	7,58,71,845	7.59
Total Cost (S=L+M+N+O+P+Q)		49,14,88,777	49.15
Average Realization (T)	15,000		
Revenue (U=T*J)	49,14,88,777		49.15
Project Duration (V)	36		
Equity (W) (Assuming initially developer will only required 50% of total cost, remaining will be managed from the sales revenue)	24,57,44,389		24.57
ROE (X=((U/W)^(1/(V/12)))-1)	26%		
Profitability (Y=U-S)	0		0.00

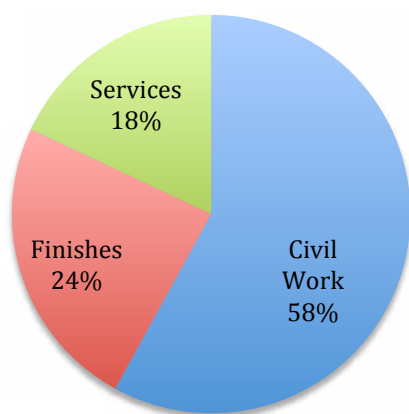
Annexure: 3: Survey Plan



Annexure: 4: Construction Cost Variation based upon Specification

Typical project cost bifurcation

Cost Bifurcation in Percentage



Typical project cost can be bifurcated into three parts. Civil Work cost which includes Sub structure work like foundation, brick work, RCC, termite protection cost etc. Second part is finishes, which includes flooring, door-window, and kitchen and toilet internal work. The third part can be understood as services cost like plumbing, electrification, lifts, solar water systems, etc.

Civil Work contributes the 58% of project construction cost while the finishes contribute 24% and remaining 18% comes from construction of building services.

	Average	High end	Premium
FLOORING			
Living room	Vitrified tiles	Imported marble	Imported Marble/Granite/Engineered Stone/ Italian Marble
Bedroom	Vitrified tiles	Vitrified tiles	Engineered laminated Wooden flooring, Hardwood flooring for Master Bed, laminated for rest
Toilets	Anti-skid ceramic tiles	Anti-skid ceramic tiles	Marble/Granite/Engineered Stone
Balcony/ Deck	Anti-skid ceramic tiles	Wooden Tile	Solid Wood Flooring/Granite
Kitchen	Vitrified tiles flooring/ceramic tile dado for 2 feet over a granite counter	Polished vitrified tiles & dado in ceramic	Italian Marble

OTHER FIXTURES			
Kitchen Fixtures	Single bowl single drain steel sink	Granite platform with stainless steel sink and drain board	Kitchen furnished with hob and hood, under counter and overhead cabinets with pull out systems and appliances - washing machine, dryer, dish washer, refrigerator, geyser and oven.
Bathroom Fixtures	Parryware, Cera or equivalent	Jaguar or equivalent	Grohe, ToTo or Equivalent
Door Shutter	Flush shutters	Teak wood	Solid Wood
Door Frame	Marble	Marble	Teak wood
Windows	Aluminum/ UPVC framed windows with clear glass and provision for mosquito mesh shutters.	Aluminum/ UPVC framed windows with clear glass and provision for mosquito mesh shutters.	Powder coated Aluminum frames and shutters with clear glass and mosquito mesh shutters
Specification Cost Increase	Bench mark	15% to 20%	25% to 30%

Annexure: 5: List of Documents Required

1. Conveyance deed
2. Society Registration Certificate
3. General Body Resolution to go for redevelopment.
4. List of member with their respective carpet areas
5. C.T.S. plan & property card for the plot.
6. T.P. remarks
7. Copy of municipal approval plans

Annexure: 6: Benefits of Green Building

A green building is known for lower resource consumption against the conventional buildings. We are here with tried to assemble some of the key information from leading green building rating system in India to explain cost to benefit analysis for same. The following are the percentage reduction of various resources in a building and their respective reasons based upon the GRIHA rating system.

- *Green buildings consume 40% to 60% (depending on the range of measures adopted) lesser electricity as compared to conventional buildings. This is primarily because they rely on passive architectural interventions in the building design, and high efficiency materials and technologies in the engineering design of the building.*

- *Green Buildings also attempt to work towards on-site energy generation through renewable energy utilization to cater to its energy needs. For instance, solar thermal systems can help generate hot-water and replace the conventional electrical geyser in buildings. Solar PV panels can help generate electricity which can reduce the buildings dependence on grid power.*
- *Green buildings consume 40% to 80% (depending on the range of measures adopted) lesser water as compared to conventional buildings. By utilizing ultra low-flow fixtures, dual plumbing systems, waste-water recycling systems and rain-water harvesting, green buildings not only reduce their demand for water use but also look at on-site supply options to cater to its internal and external (landscape) water demands.*
- *Green buildings generate lesser waste by employing waste management strategies on site. They may also employ waste to energy or waste to resource (like manure, or compost) strategies on site, to minimize their burden on municipal waste management facilities and landfills.*
- *Green buildings generate lesser pollution both during construction as well as while in use. Through best-practices such as proper storage of construction materials, barricading of the site to prevent air and noise pollution during construction, proper storage and disposal of waste during construction and operation, and so on, ensures reduced impact on the surrounding environment.*
- *Green buildings ensure proper safety, health and sanitation facilities for the labourers (during construction) and the occupants (while in use).*
- *Green buildings restrict the use of high ODP (ozone depleting potential) substances in their systems as well as in finishes.*

All of these can be achieved at a minimal incremental cost with an estimated payback period of about 3–5 years (excepting renewable energy for power generation).

Cost to benefit analysis

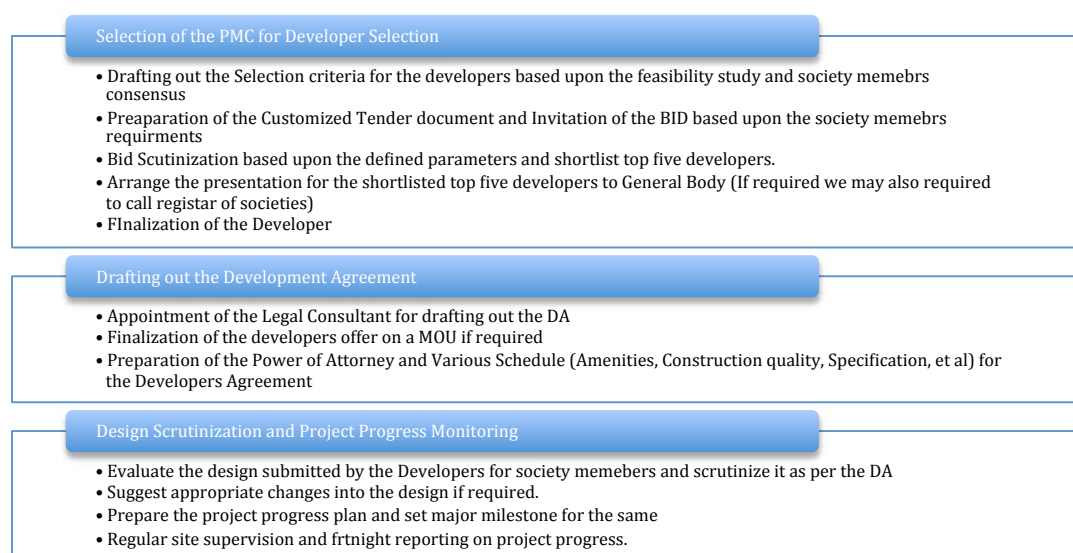
	Certified	Silver	Gold	Platinum
LEED Points	26 to 32	33 to 38	39 to 51	52 to 69
Energy Savings	25% to 35%	35% to 50%	50% to 60%	>60%
Overall Cost Increase	Upto 5%	5% to 10%	12% to 15%	15% to 18%
Payback period	Within first five years	5 to 7 Years	7 to 10 years	10 plus years
Savings on monthly maintenance	Rs. 1.66 PSF	Rs. 2.3 PSF	Rs. 2.5 PSF	Rs. 2.5 PSF

Annexure: 7: List of agreement to be signed in case of Self Redevelopment and Redevelopment through Developers

1. Power of attorney to the developer/committee members
2. Development agreement
3. If required Supplementary agreements

Annexure: 8: Sequence of Operation in case of Redevelopment through Developers and Self Redevelopment.

Developer Redevelopment



Self redevelopment

