Plan Proposal
PROGRAM FOR THE RESIDENTIAL AREA

This program is thought to better explain my idea with the plan proposal, it takes its starting point in my conclusions from the analysis.

UNIQUE CITY
Creating a distinct feeling that you are entering a unique residential area in the new town, the different parts in the area shall be joined together by organically designed roads and walking paths and be designed in different ways to create an interesting neighbourhood where people want to move around and explore other parts of the project area.

WALKABLE AND WELL CONNECTED CITY
Make the project area a part of the entire city. Have good connections with the other parts of the new town including the existing settlements and true feeling that it is a part of Rajarhat as well as a good connection spot for bus, bicycle and auto rickshaws and taxis in the project area. The main focus is on good connections for pedestrians as well as public transport. The possibility to live here without the need of a car is important, good public transport, short walking distance to bus stop and a grid of walking paths as well as bicycle roads. With a road design which have well defined lanes for all different road-users and is sufficient, the area will become more liveable.

SOCIAL SUSTAINABLE CITY
Make a residential area where people from different backgrounds can live together. Public places for social meetings, spontaneously and planned this by creating different “rooms” for meetings throughout the area. Create a flow of greenery and people through the area. Create building blocks where the inhabitants in the blocks and buildings can spend time in a semi public and semi private spaces and this way meet neighbours. Make it illegal for the owners to make gated communities with guarded entrées. Make it possible for the inhabitants to change accommodation within the area.

ENVIRONMENTAL SUSTAINABLE CITY
With good public transport close by and good connections for pedestrians the city will become more environmental friendly, when the inhabitants leave the car and take the bicycle or walk instead. A reduction of the number of parking lots from 1/100 square metre residential floor area to 1/140 square metre, will hopefully lead to less cars and pollution in the area. Recycle and garbage stations in every building block and solar panels on every roof top to become self-sufficient on electricity is two other steps in the right direction to become a more sustainable city.
The project area is divided into three different residential areas with three different planning structures, all good connected with each other and the central part of the area. The central part around the small forest and lake is a mix of meeting points, commercial service and recreation, all joined together to create a flow of people and this way make this residential area a social sustainable neighbourhood. The good connections to the existing settlements and other parts of the new town will make this area a part of Rajarhat and not an island. As no dwelling in the project area have no longer than 300 metres to the bus stop, near the bridge, the area will also be easy to access and departure from by public transport.

Each residential area can be developed separately and to this way make the whole development in three steps, but to create an interesting area I believe that all three parts of the residential area needs to be present.

All three areas have a mixture of different types of accommodation and dwelling sizes, this to create an interesting mixture of inhabitants from various backgrounds and income groups. All building blocks are a part of a small neighbourhood with the buildings next to them.

The buildings closest to the main road are shaped to point the attention on the small forest better and this way the landmark will continue to be a unique part of the area.

**ACHIEVED DENSITY AND POPULATION**

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
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<tbody>
<tr>
<td>Project area</td>
<td>14.5 he</td>
</tr>
<tr>
<td>Total number of square metre</td>
<td>residential floor area</td>
</tr>
<tr>
<td>Southern area</td>
<td>25 350 m²</td>
</tr>
<tr>
<td>Western area</td>
<td>22 990 m²</td>
</tr>
<tr>
<td>Northern area</td>
<td>32 250 m²</td>
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<tr>
<td>Total</td>
<td>80 590 m²</td>
</tr>
<tr>
<td>Square metre / dwelling</td>
<td>70 m² incl. stairs</td>
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<tr>
<td>Number of people / apartment</td>
<td>5</td>
</tr>
<tr>
<td>Total number of dwellings</td>
<td>1 150</td>
</tr>
<tr>
<td>Total number of inhabitants</td>
<td>5760</td>
</tr>
<tr>
<td>Achieved density</td>
<td>400 inhabitants / he</td>
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</table>
Bird view over the residential area from south
THE SOUTHERN AREA

Number of inhabitants: 1810

The planning structure is organic and the curved roads and buildings will encourage more people to explore the residential area. All the buildings stand close to the street, this to give the streets a compact and “city like” structure. All the apartment buildings have external galleries, this way each floor can become a small semi private area for the neighborhood.

The largest part of this area is one to three family houses, but the area also contains a ten floor high apartment building as well as several four and five floors high apartment buildings. In the middle of the one to three family house area a small park is situated by the large old tree. This park is next to the local centre and will function as a recreation area as well as passageway between the existing and new settlements and the central parts of the residential area. This park can also be used by the children at the nursery school.

View from the large old tree against the nursery school and local centre, in the southern area.

THE WESTERN AREA

Number of inhabitants: 1650

In this area I have worked a lot with one house shape where four apartments with different square metre are joined, each floor have and a semi private common area. As the buildings have different number of floors and preferably will have various facade designs the area will not become monotone.

The path from the central parts and the small forest passes a park and the local centre before entering the existing settlements. The park has the same function as the park in the southern area, that is to say it will function as recreation area, as well as passageway and playground for the children at the primary school, just north of the park.
There is one small building block that does not have the same structure as the rest in this area. This part of the area include the local centre and is thought to be an area similar to the one to three family house area in the south, but with a different structure and an interesting inner court yard for social meetings and recreation.

The primary school is located in this area, the location is a deliberate attempt to put the school central in the whole area, in other words for all the inhabitants including the existing inhabitants.

In this area the small lake will be improved to function as a nice recreation area for the inhabitants as well as water container for the rainwater during the monsoon.

### THE NOTHERN AREA

**Number of inhabitants: 2300**

Here the structure is a bit similar to the way some Swedish residential areas are shaped, with an inner court yard. To cope with climate, I have chosen to make the entrances wider, this way fresh air can blow through the building block.

In the far north is a mixture of apartment buildings and two to four family houses. All the streets in the area excluding the main street are continuing into the existing settlements, and this way welcoming the inhabitants in these areas into this new area and creating shortcuts for pedestrians. The ground floors in the buildings closest to the lake and forest are a part of neighborhood centre in the area.

The structure with path and local centre is also applied here as in the other parts of the residential area. Here there is no specific park close by as in the other areas, but with large open spaces inside every building block and the lake and forest close by I believe there will not be a lack of park area.

Here, as in the southern area, all the apartment buildings have external galleries, this way each floor can become a semi private area.
COMMERCIAL AND RECREATIONAL AREA

The forest together with the lake and the buildings surrounding the open area will function as a neighbourhood centre. On ground floor in these apartment buildings, commercial service will be provided. The aim with this area is to create an attractive centre with service and good green spots for recreation.

The grass area just north of the lake will be kept almost like it is today and can be used for social gatherings in the area, for temporary temples, local cricket games, etc. The close contact with the bus stop and bridge over the main road will also make it easy to access and departure from this residential area.
Many thoughts have been laid on the different open spaces in this residential area.

As the illustration show the area is divided into two types of spaces. The yellow color views the public space and planned paths, here everyone can feel free to hang out, walk, meet people, etc.

More semi public areas are viewed with the orange color, no paths pass these spaces and the areas it thought to be only for the people living in there. No walls will keep other people out, but as these buildings are designed to create a garden for the neighbors I believe that people will feel that they are intruding, and choose the public paths and spaces instead. In the far south the space can be seen as semi public, but the local streets make the area more like a mixture between public and semi public.

As this residential area is mainly planned for pedestrians the streets is not highlighted in this illustration.
NUMBER OF FLOORS

I have chosen to make the buildings closest to the small forest five floors high and this way “frame” the beautiful 12 meters tall forest. South of it the closest buildings will have a nice roof terrace among the tree tops on the 4th floor. Closer to the existing settlements, the buildings are lower, to better interplay with this structure.

The 10 floors high building in the southern area will become an exclamation mark when seeing the area from the south and a new landmark within the area.

The 10 floor high building stand as an exclamation mark in the southern part of the residential area.
This area is a residential area, with some service in the central parts. According to the contemplate made by the planning office this area must have a neighborhood centre/ every 6000 – 7500 inhabitants. I have chosen to make more space for the neighborhood centre as well as for the primary and nursery school. This to make it possible for the inhabitants in the existing settlements to also use the service that is planned. Three local centers are located in the residential areas, these centers can contain local store, assembly hall, etc.

The neighborhood centre floor area is located on the ground floor in the buildings on the main street and the street against the bridge. The local centers floor area is also located on the ground floor in residential buildings, these centers are placed beside the small squares in the three residential areas.

**ACTIVITY**

<table>
<thead>
<tr>
<th>Neighborhood centre floor area: 3900 m²</th>
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<tbody>
<tr>
<td>3 Local centers: 1000 m²</td>
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<tr>
<td>2 Nursery schools: 1680 m²</td>
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<tr>
<td>1 primary school incl. a nursery school: 3700 m²</td>
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Giving service for at least: 11 000 inhabitants
My focus when designing this residential area has been to provide good, safe and interesting paths and streets for the pedestrians. Wide pavements and nice tree plantings along the streets I hope it will be a joy walking down the streets here!

A bridge over the main road for pedestrians, bicycles, bicycle- and auto rickshaws and motorbikes will make it easy for people to get across. This bridge will also be useful for all the people traveling with the public buses which will go on express lanes out on the main road. In the area is total 575 parking lots provided in car parks and along the streets. I have calculated with 0,5 parking lots/dwelling.

I have chosen not to apply the road types the road construction company has worked out in the project area. One reason is that I have not seen the design on the different roads and I feel that it is important to have generous space for the pedestrians as well as for bicycle rickshaws, parking and drainage systems along the streets. The main road through Rajarhat as well as the connecting road south of the area is as planned by the already made templates, it was also planned to be traffic light crossings on the main road and on the connecting road.
**Road Types**

**Main street or Collector Streets, 21 m, section nr 1**

**Local Street I, 16.5 m, section nr 2**

**Local street II, 10 m, section nr 3**

**Local street III, 6.75 m, section nr 4**
As I have worked with the slogan, “all paths go to the forest” it is easy to see that it is true. All paths have a narrow and good connection to the small forest and also the service in the area. Three main paths lead to the three different areas, and are also continuing into the existing settlements. Central in every residential area a local centre and a small open space which will become a nice meeting point.

In the small forest sitting furniture will help to turn the forest into a nice “living room” with pleasant shadow.

Path from the central parts of the residential area towards the western residential area, with the local centre including a square and local store in the background.
Sitting furniture in the small forest
Throughout the whole area a drainage system for the heavy rains during the monsoon is applied. The two small lakes will function as water containers during this period. The streets have a small rake against the drainage canal on one side on the street, and as the project area is totally flat, the systems will have a rake against one of the two lakes. For more illustrations see sections under the headline Road types.

As inspiration on how the drainage system can come out I have looked at specially one residential area in Sweden, Bo01 in Malmö, here the rainwater is lead in small canals to the sea (see pictures on next page). The amount of rainwater in Malmö is of course less compared to Kolkata, so the drainage system here must be able to contain larger amount of water.
Inspiration from Bo01 in Malmö Sweden, no water in the rainwater canals when the pictures were taken.
I have chosen to only develop the west side of the main road. In the future when the west side is fully developed it is possible to also develop the east side, if more good connections over the main road are provided. It is important for this development to interplay with the existing settlements close by and also have good connections to other areas north and south of this area.
If we look a bit closer at the central parts of the project area, we will see a summary of what been mentioned earlier about the project area. We will also see; that everything is organised; well connected with other parts of the area and also the surroundings, the parking lots along streets, how all the paths have a narrow and good connection with the lake and forest and also the bridge over to the other side of the main road.

I believe that this will be the focal point needed for a residential area like this, in a new town like Rajarhat in a blustering country like India!
If we compare my plan proposal with the planning office proposal it is easy to see the differences in planning structure. In the planning office proposal for the exact same area as I have worked with 89 housing plots are provided, only 15 is provided for people from the MIG, the rest is for people from the HIG. I have accomplished to give housing for 5760 people while the planning office only has provided homes for 2950 people. The planning office proposal is also providing space along the main road for other activities while I have followed the Master landuse plan and not provided plots for any other activates than the ones named in the contemplate.

As a final conclusion my plan proposal have provided housing for more people, achieved a higher density, have used a more organic and interesting planning structure and have an aim of providing homes for people from different income groups. I have tried creating one community while the planning office is creating at least two, divided by the 20 meter wide canal.
**Sources**

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**West Bengal Housing Infrastructure Development Corporation, (2007).** *Revised Master Landuse Plan (Without wetland area), 14.02.2007.* Salt Lake, India

All photographs, maps and illustrations without a written source are produced my, Ms Hanna Bäckgren