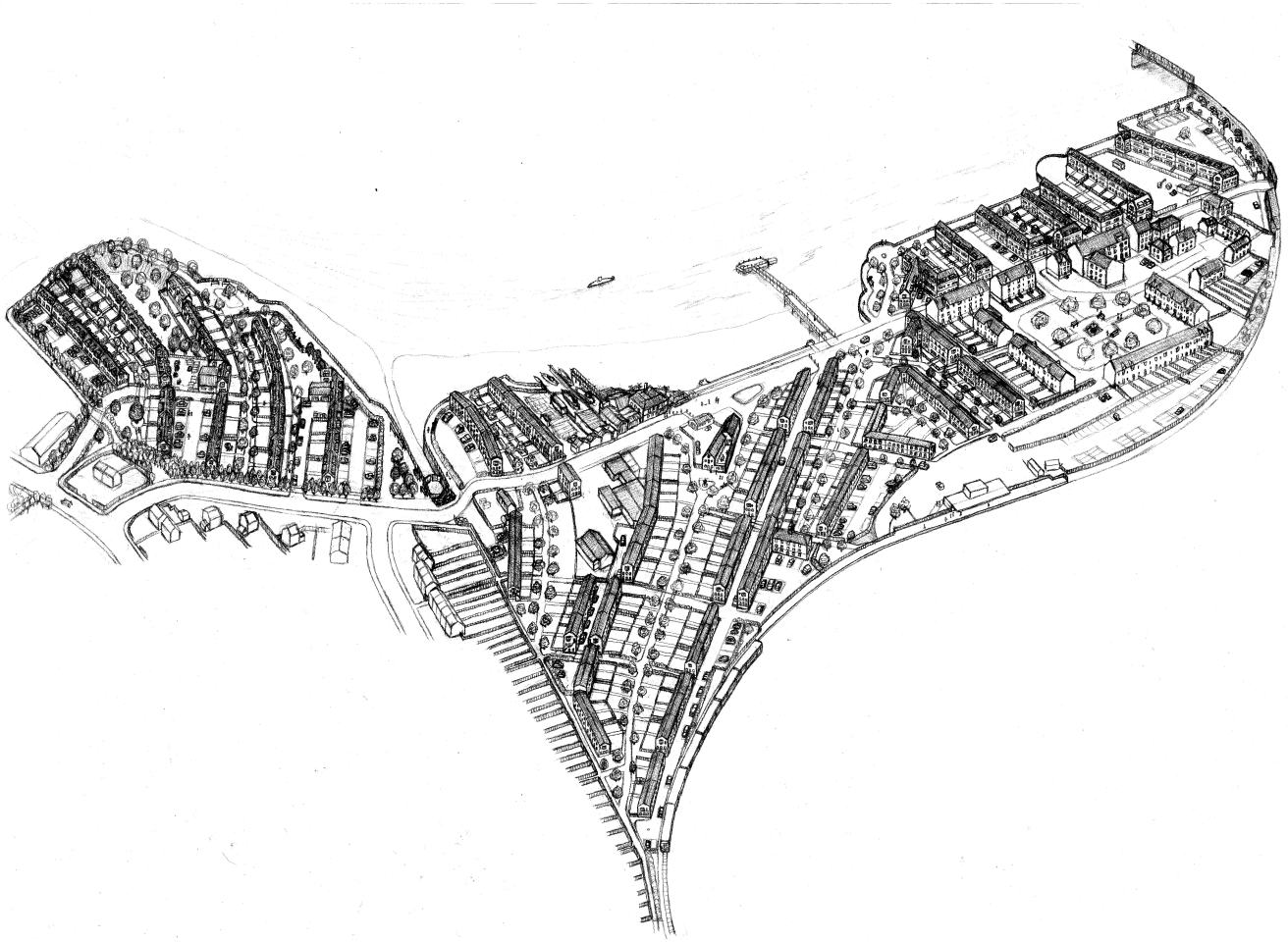
Unfolding of A Community from a Generative Code: The Riverside Community of Strood

DRAFT Version 18, Oct 28, 2005

Christopher Alexander

with Brian Hanson, Michael Mehaffy, Maggie Moore Alexander, Bankoku Sasagawa, and further help from workshop participants



Bird's eye view of the result of this unfolding, as we currently envisage it, looking south towards the Medway,

Introduction

The current policy of the labour government in the United Kingdom, to rebuild massive amounts of housing, has a positive side, and a negative side. To the extent that new houses are genuinely needed, it is vital that they should be built, and the decision to rebuild on so-called brownfield sites is constructive.

However, the policy has recently come under growing, and sharp criticism, for a number of reasons, namely:

- The policy has run rough shod over the long standing tradition of caring for England as a precious landscape, and the role of planners in helping to protect this precious structure has been seriously undermined.
- People and their communities have been damaged, and some people forced to evacuate or leave places where they have lived for years.
- The policy has encouraged some rampant commercialism, and given leave to developers to ignore all inputs. The requirement of involvement by the community has, so far, been pure tokenism.
- There is, in addition, a scepticism voiced by many that the need has been exaggerated. Originally a figure of 700,000 in the south of England was mentioned. Recent press releases have mentioned the figure of 4 million new houses.

We have undertaken this work at Strood, in the hope that we may demonstrate the following:

- The meaning of genuine involvement, where people do have a chance to experience, then influence, and feel that they have influenced, the places that are being created.
- A modification of the “pure housing” policy, and greater acceptance of mixed use as fundamental.
- What it means to protect, genuinely, the beauty of a landscape, so that the whole area is genuinely enhanced by the act of development, not further destroyed.
- That it is possible to build real community, and a feeling belonging, on the part of the new households, in a way that is not being accomplished in the developer-inspired new neighborhoods which presently continue the alienated and abstract nastiness of the older examples of “redevelopment,” even though it is done in the guise of greater sensitivity.

Preface

The work presented in this report was done by the Strood Riverside Workgroup, a project team of the Centre for Environmental Structure Europe. It started with a three-day workshop given to professionals, officers of local authorities, students and community leaders, starting in London on September 13, and continuing in Strood itself on September 14-15. The purpose of our work was three-fold:

First: To examine the possibilities and best practice we could imagine, in outline form, for housing development on the Strood Riverside site.

Second: To give workshop attendees a broad overview of newly introduced technique of development, known as Generative Codes. The purpose of these generative codes is to provide a possibility of a more organic and more humanitarian form of development, and better architecture, which holds precious the people of the community and the land of the community. It is believed that this new technique has the power to make substantial improvements in construction of new neighborhoods.

Third: As a third purpose, it was also our intention to create the possibility of a landmark project, dealing with brown field sites in a new way that is more vigorous than recent efforts have been, and follows the will, intent, and inspiration of the brown field site proposals put forward by Deputy Prime Minister John Prescott. We believe it will be more inspiring for the people who work and live in the vicinity, and for the local authorities who support it.

A Generative Code for the Riverside Community of Strood

The generative code which follows is intended as an pilot which may give us a first step towards providing a new way of building communities, and providing large numbers of houses in an integrated work and small business setting, without ruining the land of England.

People Come First

The aim and purpose of this code, is easy to define. The project generated by the code is meant to satisfy the people who live and work there, deeply. It is not especially meant to satisfy developers, or Medway councillors, or journalists or politicians. This is in no way meant to be disrespectful to these groups. It is said, merely to underline the current state of affairs in contemporary planning and development practice which pays too little attention to people as real people, and to help everyone shift the focus to a new, and more genuinely people-oriented process. Our purpose is to achieve what has, by now, become almost unthinkable: To allow formation of a community in which people who live there are genuinely at home -- where they can be well, happy, sad, ordinary, and joyful. It is intended to construct a fabric of businesses, jobs, place, local economy, interwoven with families and houses and the beauty of the place. It is not to be defined by someone else. It is to be defined by ***them***.

We hope that people who read this will in no way view it as an attack on established professional territories, but that everyone (inhabitants, planners, developers, and communities) will, rather, join hands to try and achieve, now, what we should perhaps have achieved long ago, but for the first time today now have the wealth and knowledge to accomplish it on behalf of our genuinely democratic society, and the real needs of hundreds of thousands of people like ourselves.

The Sequence of Unfolding Provided by the Code

Aerial photo of Strood riverside. The red outline depicts the site earmarked by Medway council for development

The following five cycles of decision steps, provide successive approximations to a correct unfolding for overall regeneration of this site. If these steps are done correctly, as we envisage the process, it will ensure full participation by the existing and new members of this community, and will focus, we hope, on a very strong sense of ownership for all residents and owners in the area.

First cycle of unfolding and approximation

1. **Physical context of the neighborhood, aerial photograph, and site boundary.**
2. **Structures which will be preserved, including ugly public housing (that urgently needs to be repaired), the railway station, and the tavern, a prominent and successful meeting place.**
3. **Precious places, and beautiful views which should be enhanced.**
4. **Promenade along the water**
5. **Points of connection to next-door neighborhoods which must be strengthened**

6. **Possible types of housing and typical layouts to benefit from river view**
7. **Calculation of number of dwellings**
8. **Calculation of total parking needed**

Second cycle of unfolding and approximation

9. **Rough extent of overall pedestrian precinct**
10. **Diagnosis of public housing**
11. **Creation of a common green, with enlarged openings**
12. **Construction of new houses to connect and integrate with public housing**
13. **View axis of Rochester from the site**
14. **Three main tree lined avenues**
15. **Existing businesses to be preserved, and married into the housing buildings**
16. **Enhancement of needed links to next-door neighborhoods**

Third cycle of unfolding and approximation

17. **Identify the remaining available sites**
18. **Place new house groups to form positive space around open gardens**
19. **Place a green or garden inside each space formed by the positive space of one of these house groups**

Fourth cycle of unfolding and approximation

20. **Enlarge the railway bridge by the station to take traffic**
21. **The path to the green park high above the site**
22. **The first crossing paths connecting with the next neighborhood**
23. **Division of houses to allow further crossing paths and loops**
24. **Car roads, large and small, between the pedestrian ways**
25. **Parking distribution in small parking lots and narrow parking lanes towards the edge**
26. **Further house groups filling out the space around existing businesses**
27. **A neighborhood town hall**
28. **A public walkway above the mud**

Fifth cycle of unfolding and approximation

29. **Embellishment around the dock**

30. **Adding greens for remaining houses groups**
31. **Subdivision of house buildings into lengths**
32. **Shaping local positive space**
33. **Families choose and stake out terraces and front gardens**
34. **Locating the entrance and the living room of each house**
35. **Full layout of interior**
36. **Placing and sizing windows by the family**

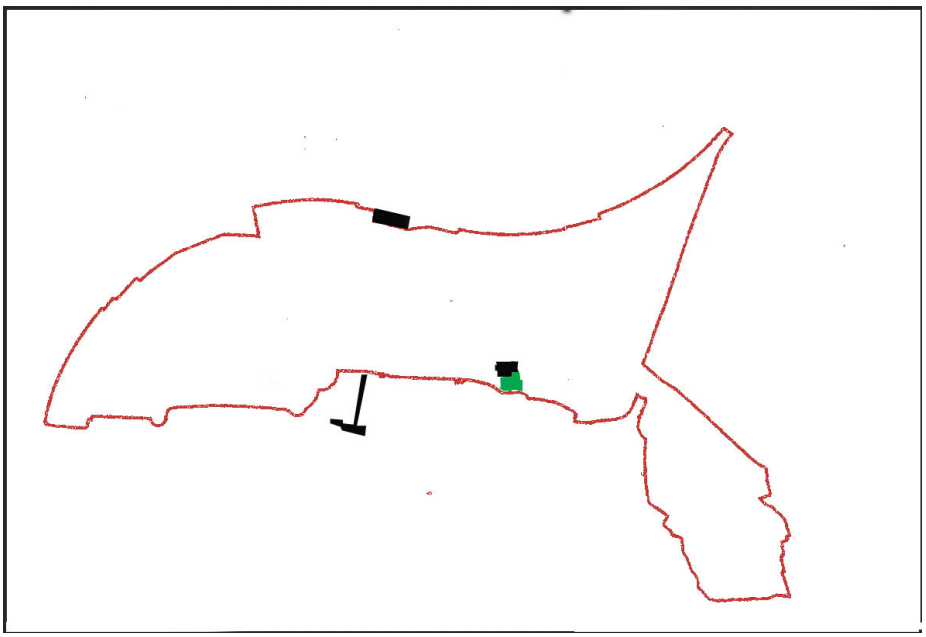
In the next pages we shall go through these steps, one by one, and see how the whole unfolds from the action of these steps.

FIRST CYCLE OF UNFOLDING

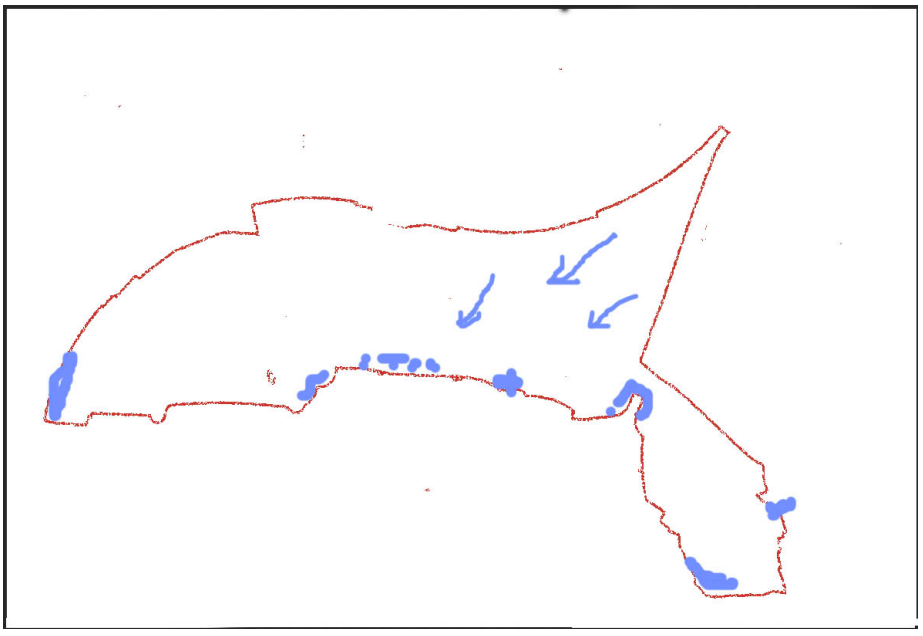
Overall diagnosis, fixed points, and broad structure

1. **Physical context of the neighborhood, aerial photograph, and site boundary.**

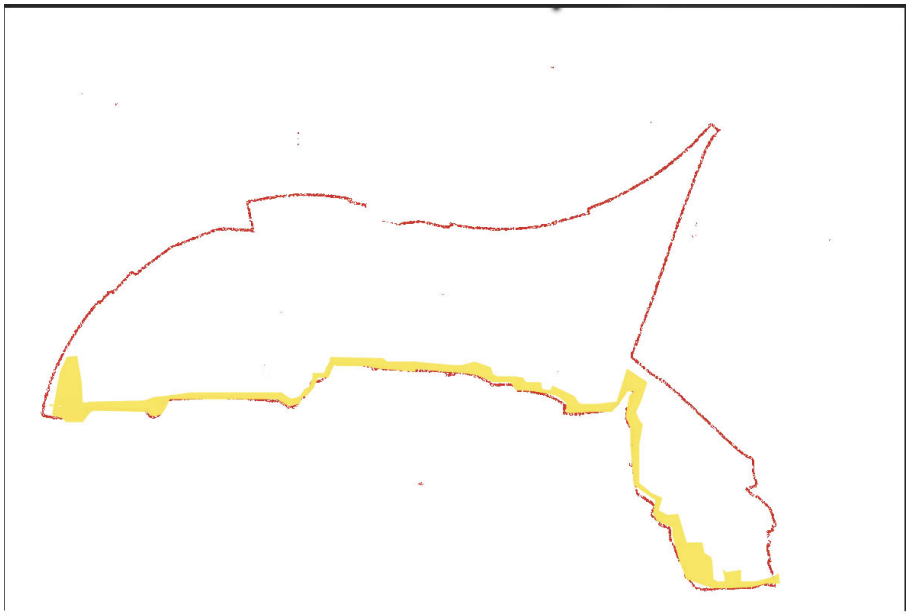
2. **Structures which will be preserved, including ugly public housing (for partial preservation, but that urgently needs to be repaired), the railway station, and the tavern(a prominent and successful meeting place).**



3. **Precious places, and beautiful views which are an important part of the land, and which must be protected and enhanced.**

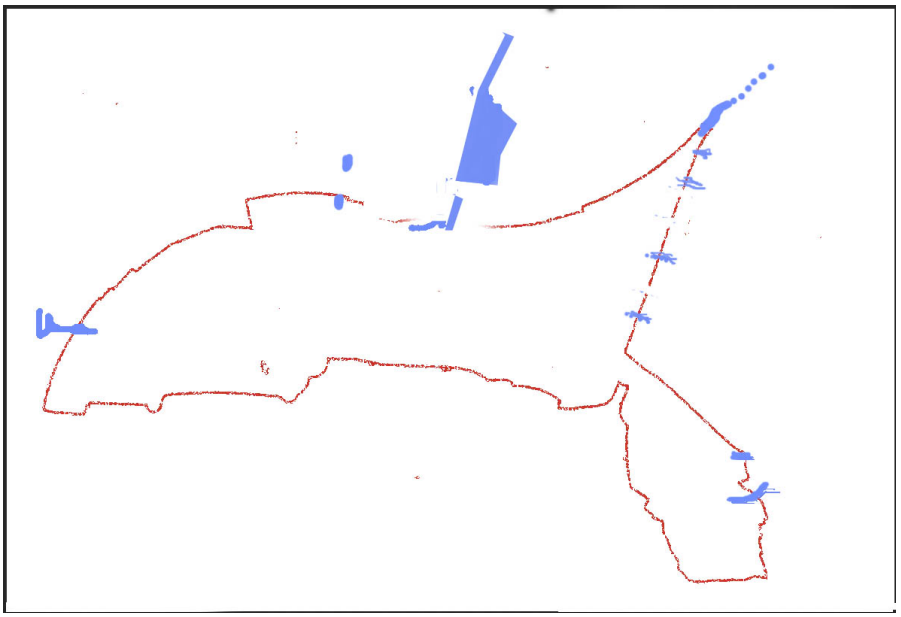


4. Pedestrian promenade along the water as one most natural main center of the neighborhood



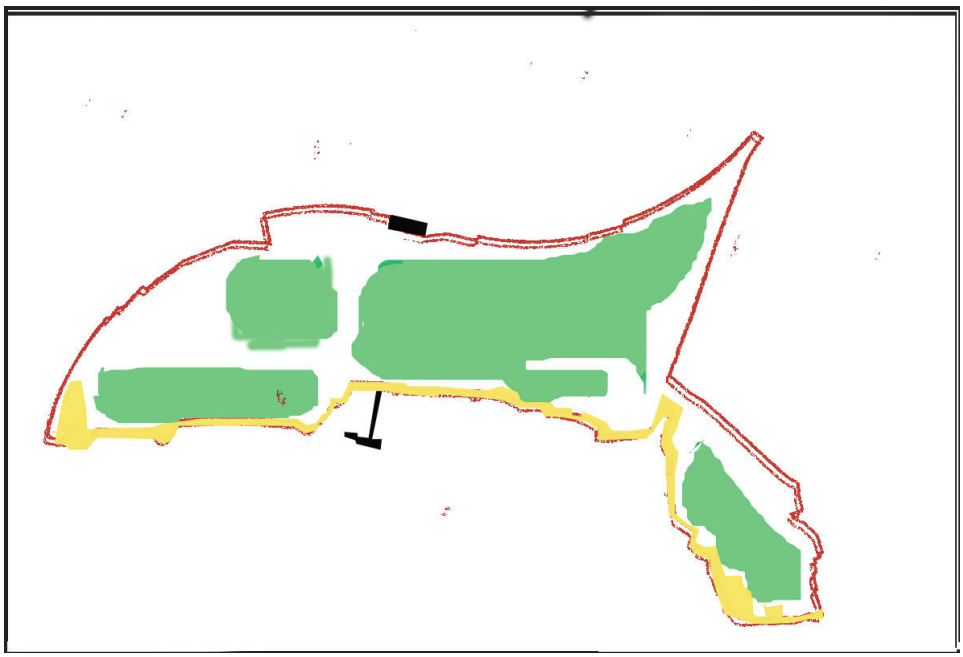
The promenade can run all along the waters edge, almost uninterrupted. Other pedestrian traffic may run into it.

5. Points of connection to next-door neighborhoods which must be strengthened to integrate this neighborhood into the rest of the town



These are the places on the boundary where adjacent neighborhoods need to be connected

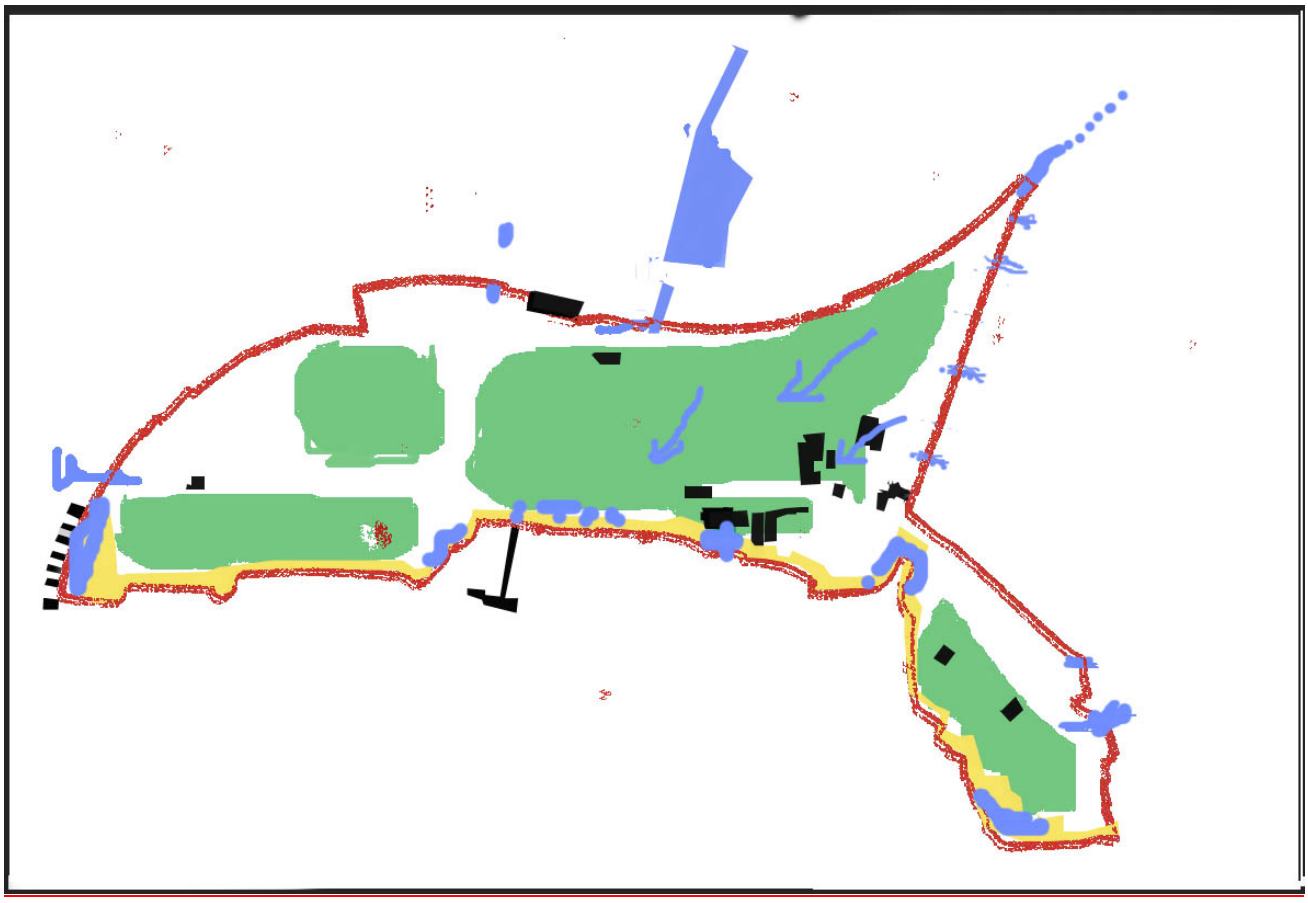
6. Map rough extent of an overall pedestrian precinct



An approximate picture of the pedestrian dominated space, with the assumption that most car traffic and parking (except for emergency vehicles, which may use pedestrian paths) will be kept to the areas shown white in this map.

On the next page we show a composite diagram, which shows the result of applying the six steps described so far.

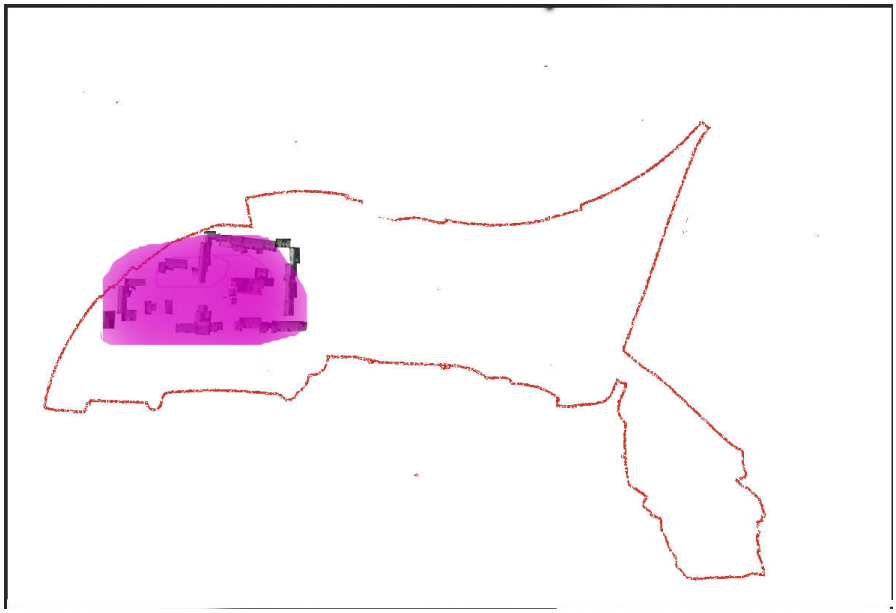
Composite Map At The End Of Cycle 1, Showing Unfolding Of Diagnosis, Special Places, Links To Nearby Neighborhoods, And The Probable Extent Of A Pedestrian Area.



SECOND CYCLE OF UNFOLDING

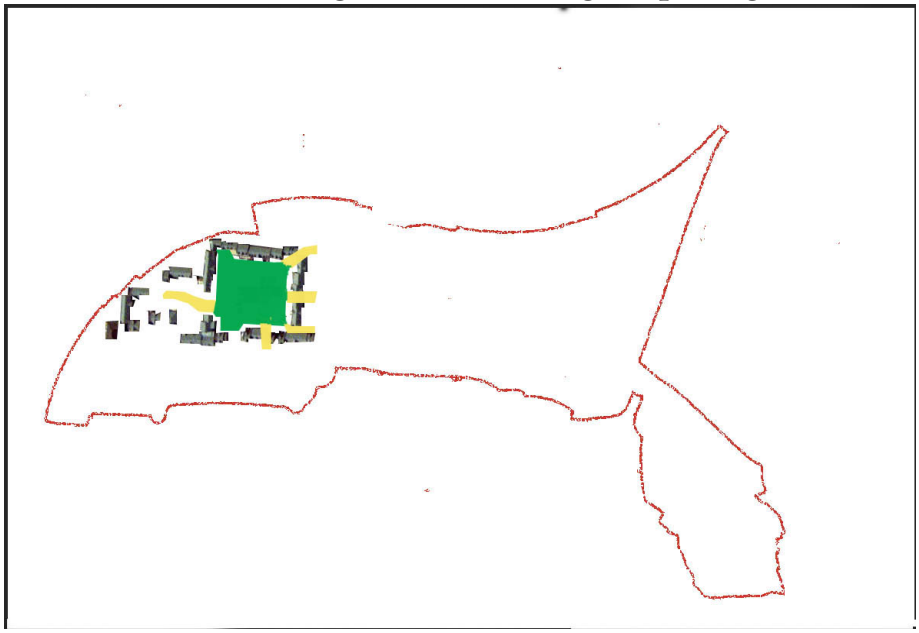
Main gardens, avenues, businesses and groups of houses

7. Diagnosis of existing public housing



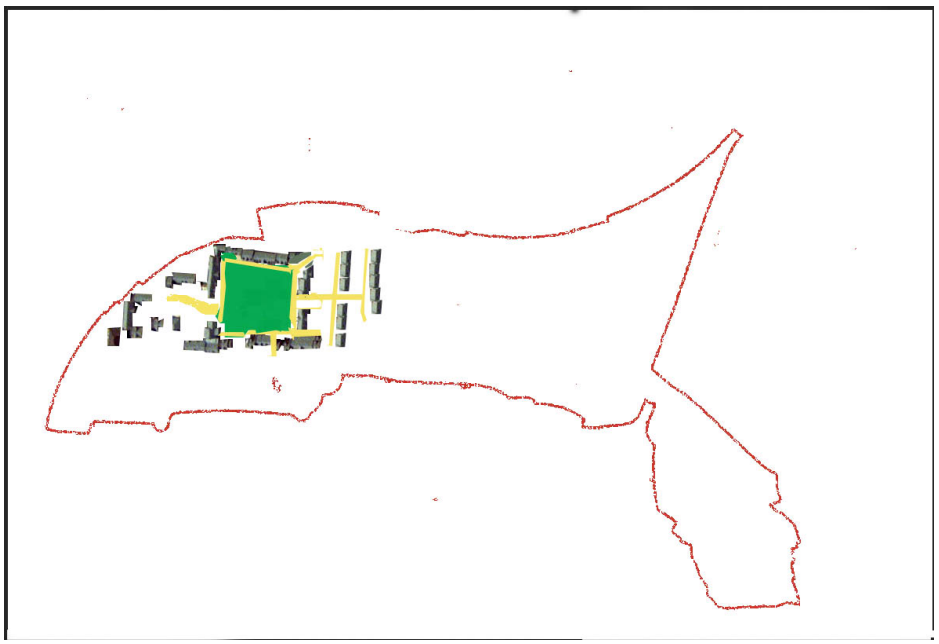
This complex is in very bad condition currently, with hostility, drugs, and a bad attitude to the overall community.

8. Creation of a common green, with enlarged openings



To bring the place in line with the intended emphasis on friendly green space, we propose removing a small number of units, to create a large garden in the middle, with openings that generate connection to and from the remainder of the community.

9. Construction of new houses to connect and integrate with public housing



Here streets and rows of new houses are placed as an extension of the present low income project, thus further ensuring an integration of public housing and market housing.

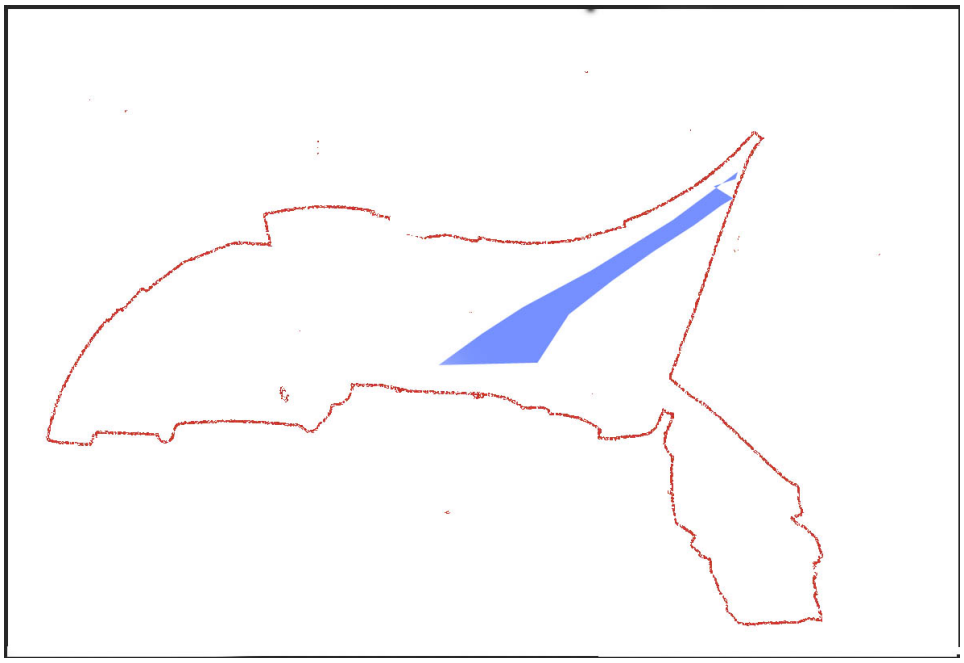
10. Existing businesses are to be preserved, not bulldozed, and then married into new houses, workshops and other buildings.

The buildings marked here in black are existing businesses which we believe might be kept to the advantage of community life, and to the owners of these businesses . The black-marked items at extreme left are new businesses potentially in the arches of the bridge.

11. A general approach to the space serving housing layout which will benefit all houses and their pedestrian common space, with views of river

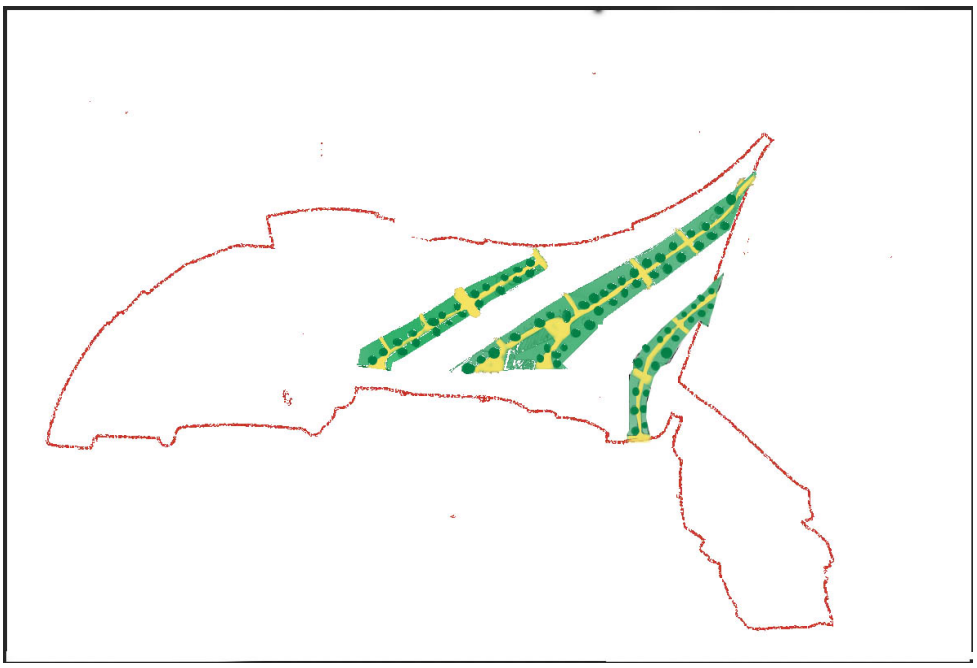
Trumpet shaped greens providing commons for houses, and looking towards the water, and opening out, flared, at the end, so that everyone who lives on each green can see the water, and the curve gradually opens the view as you walk towards the water.

12. View axis of Rochester from the site



The view axis, from the center of the site, which gives the most beautiful view of Rochester, focusing on the castle and the cathedral

13. Create main tree lined avenues along the line of sight to Rochester



The spaces that form the centers of the new housing area, three wide pedestrian avenues lined with trees. As we see in the subsequent steps of the unfolding, the idealized trumpet shape spaces, have given way to something more formal, which fits more easily, and which emerges in a natural way from the geometry of the site, and businesses.

14. Then the first building groups containing houses, are placed to form, shape, and enclose the first public greens – the avenues.

First groups of houses in the shape of long rows, 2 and 3 stories high, with a cottage format, and each house on a single level, with long frontages and plentiful light for all rooms – these long buildings forming the space of the avenues

On the next page we show a composite diagram, which shows the result of applying the fourteen steps described so far.

15. Calculation of number of dwellings
16. Calculation of total parking needed

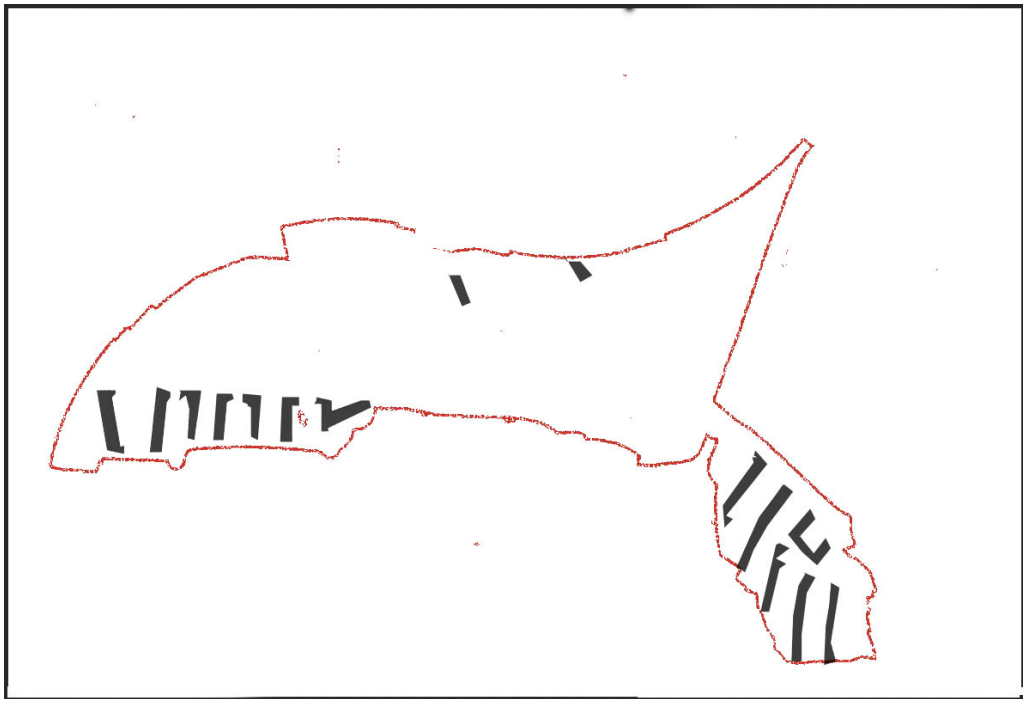
Composite Drawing for Cycle 2, Showing Results Of Unfolding For Improved Public Housing, New Avenues, Green Space, Businesses, And Pedestrian Paths

THIRD CYCLE OF UNFOLDING

Secondary gardens and groups of houses

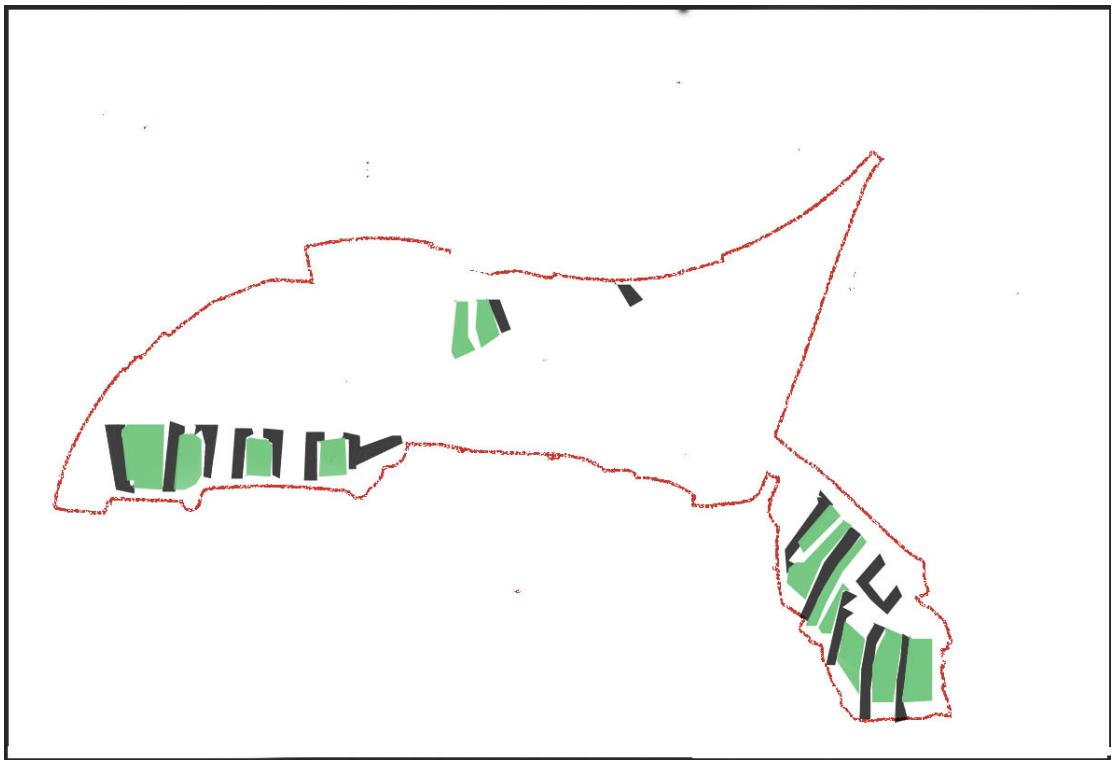
17. Additional areas to fill in unused areas of the site, are now devoted to groups of houses around gardens.

18. First place groups of houses, to form positive space, in the unused areas.



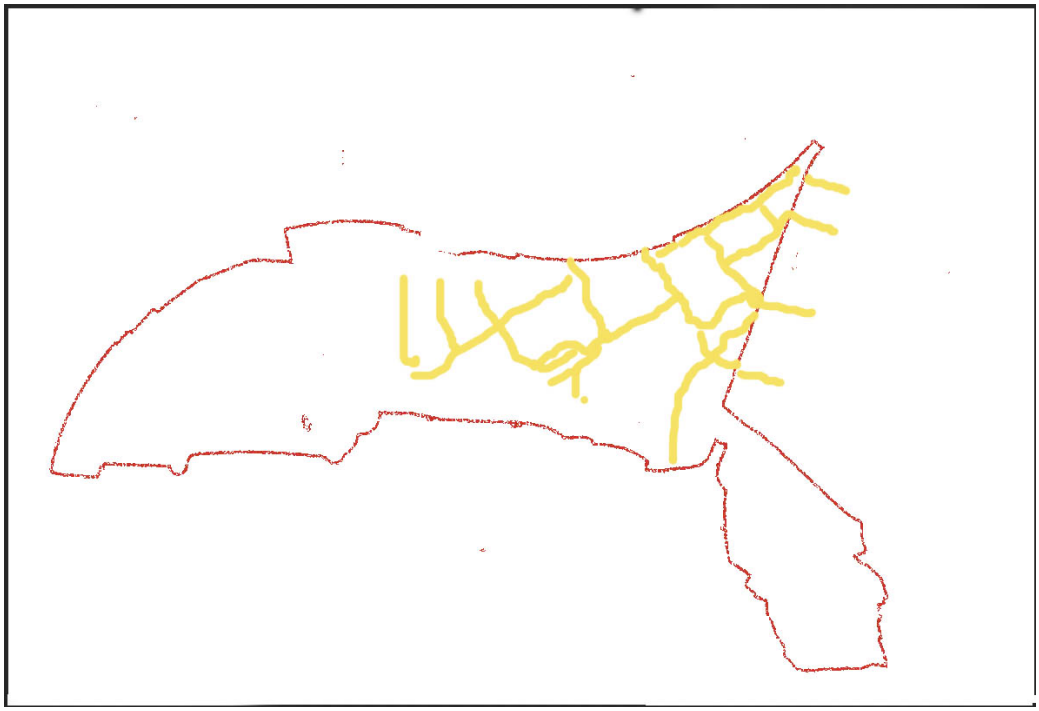
Houses forming positive space in peripheral areas

19. Next, place secondary greens to fill the positive space created by the new house groups.



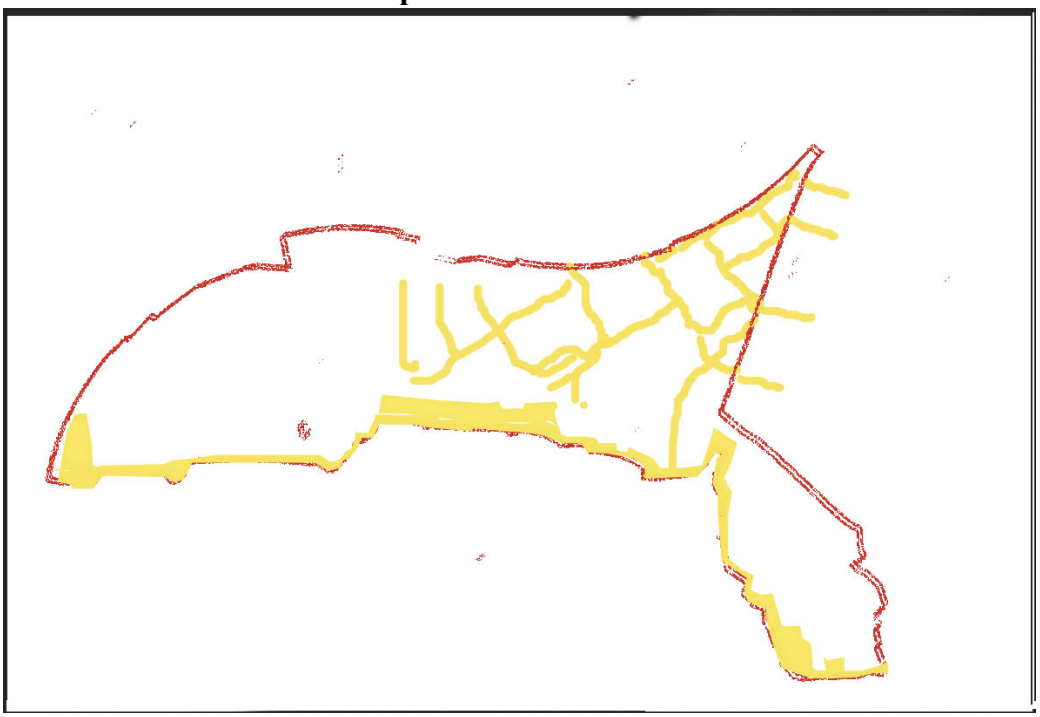
The common space in each house group is given a green lawn for the inhabitants

20. Next, create a system of crossing paths and loops which connect the avenues and make enormous variety of pleasant walks



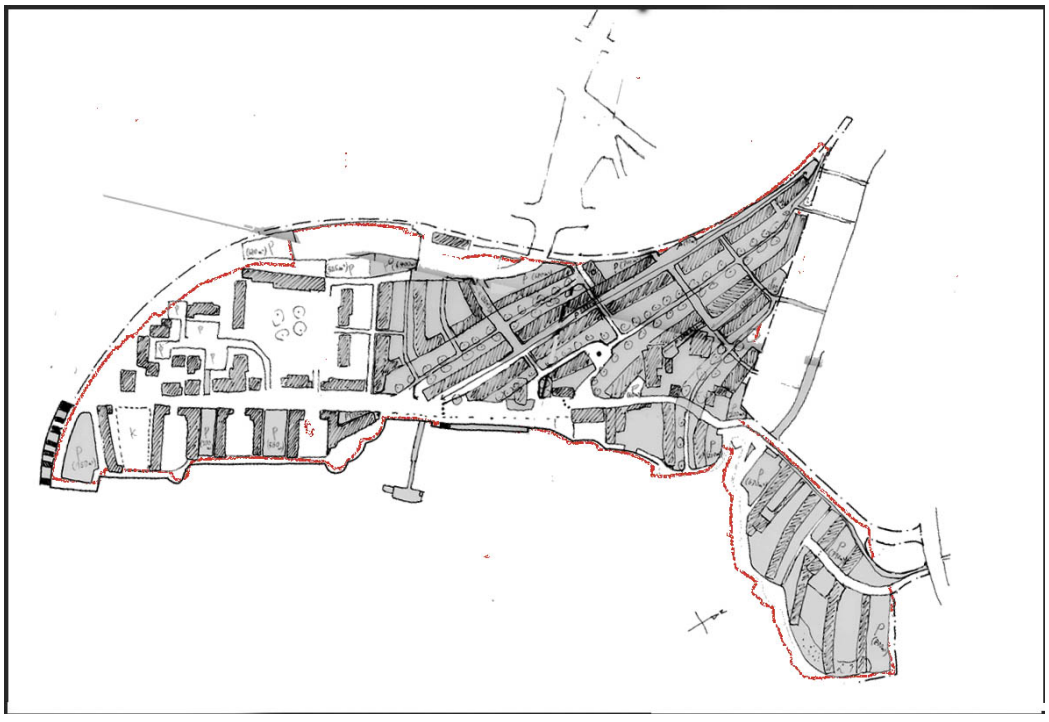
The criss cross network of paths is then made of the main paths along the greens, and the connection points
that come in naturally from next door properties.

21. At the core of the whole precinct, a main drag is enlarged to make a pedestrian hub in the area which was chosen by community members as the natural center of the place

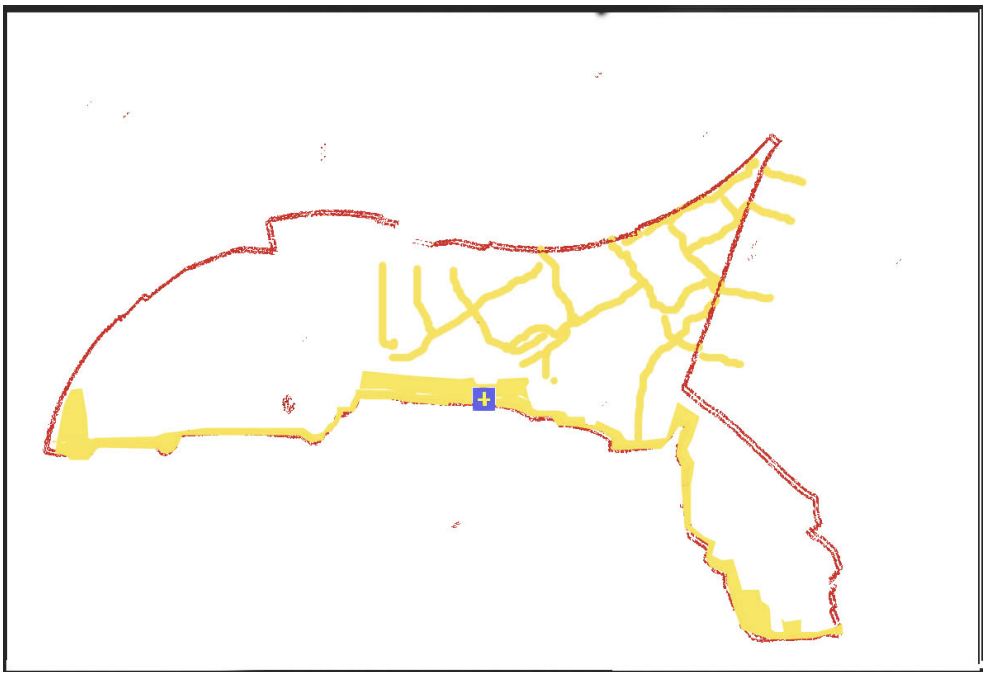


The broad portion of the promenade is a pedestrian use, of the present roadway, stopped at each end by bollards. This main drag is the point where the principal axis reaches the water, and it is also directly connected to the tavern.

22. Now the systems of public greens, house volumes and crossing paths can be put together easily to provide easy access to every house.



23. As a center for the neighborhood, place a local town hall for the neighborhood, at the very core, to be a community gathering place for the neighbors and their businesses



24. <u>Make a path to the western green park high above the site so that the new neighborhood has its own green park with a beautiful view.</u>

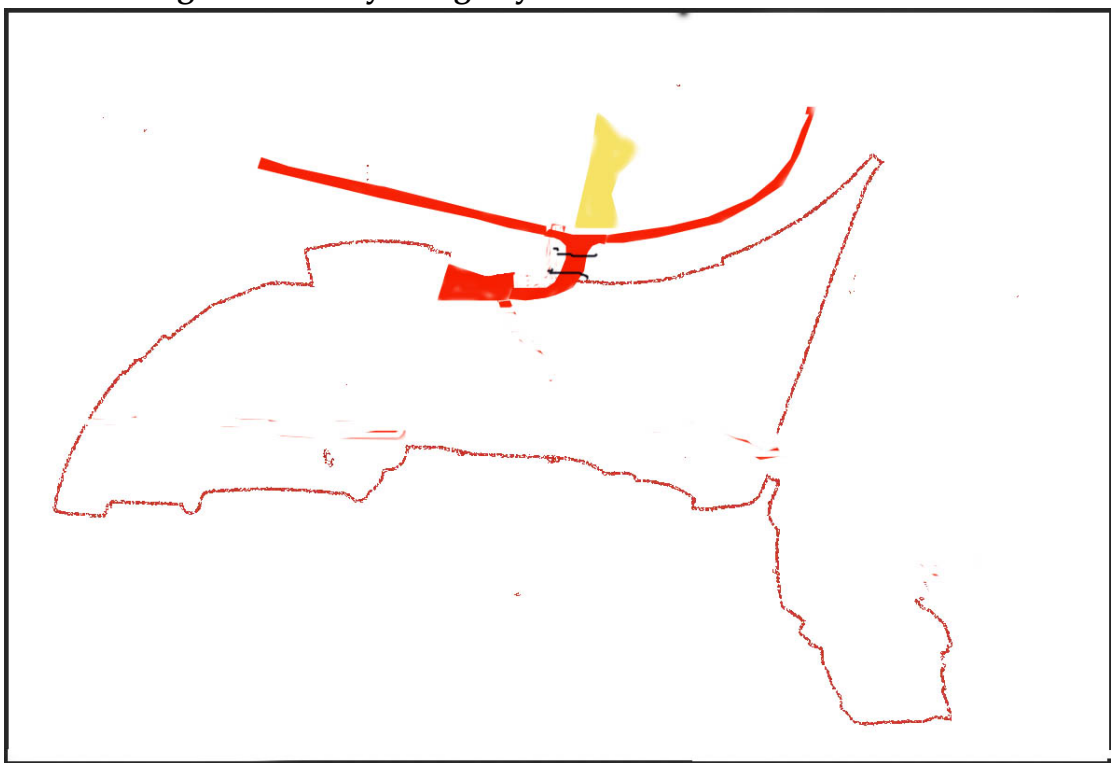
This charming park, high above the site, and overlooking the Medway, is easy to access: a path can be built on the steep part near the tunnel.

Composite Drawing After Cycle 3, Showing Unfolding Of All Buildings, Main Drag, And Neighborhood Town Hall

FOURTH CYCLE OF UNFOLDING

Cars, parking, and connectors, unfolded in relation to pedestrian areas and houses which are priamry

25. Enlarge the railway bridge by the station to take traffic



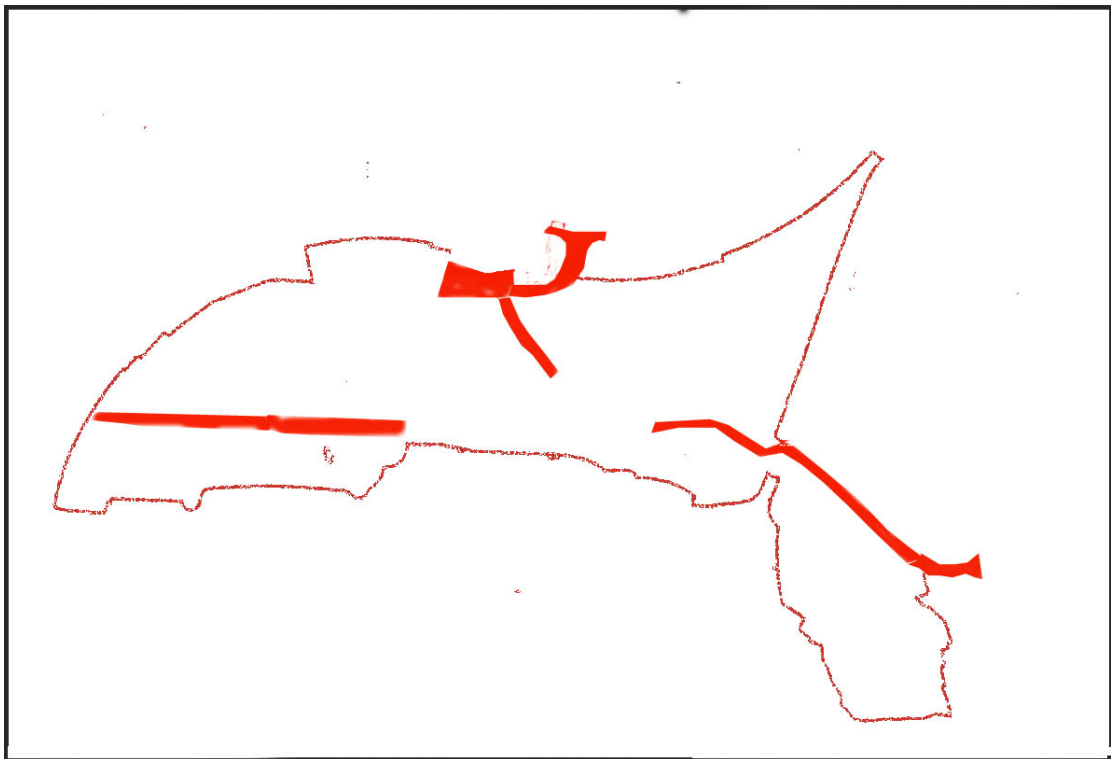
The existing pedestrian underpass is made into a wide road bridge, connecting this part of Strood with the rest of the town

26.

27. The first crossing paths connecting with the next neighborhood

28. Division of houses to allow further crossing paths and loops

29. Car roads, large and small, between the pedestrian ways



Car roads to reach the parking lots and access to pedestrian paths for emergency vehicles

30. First rough parking distribution in small parking lots and narrow parking lanes towards the edge: infill with other, small lots will be required later.

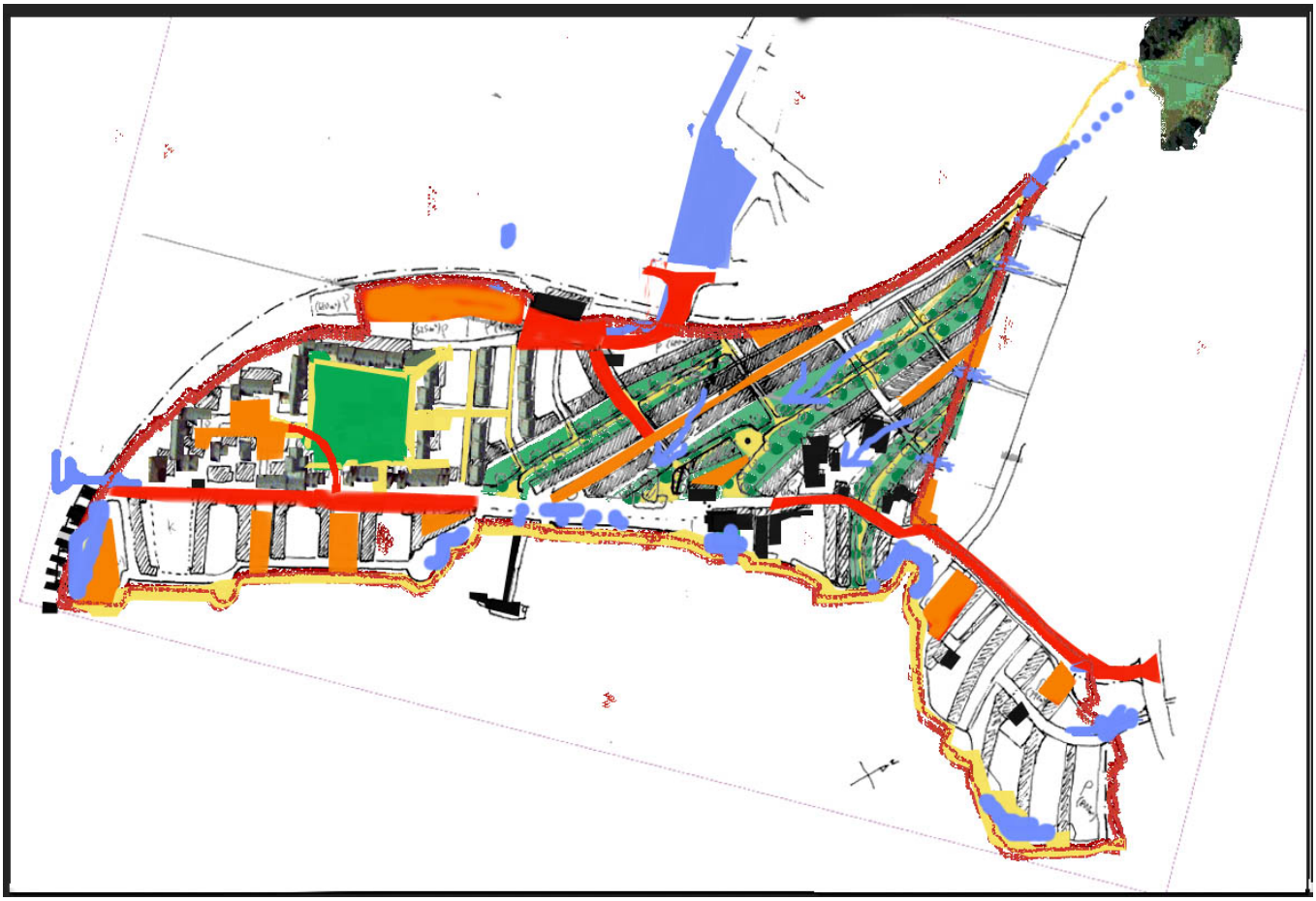
31. Additional house groups filling out the space around existing businesses

32. Locating, and building a neighborhood town hall

At the end of the widest avenue, and next to the waterfront

33. A public walkway above the mud

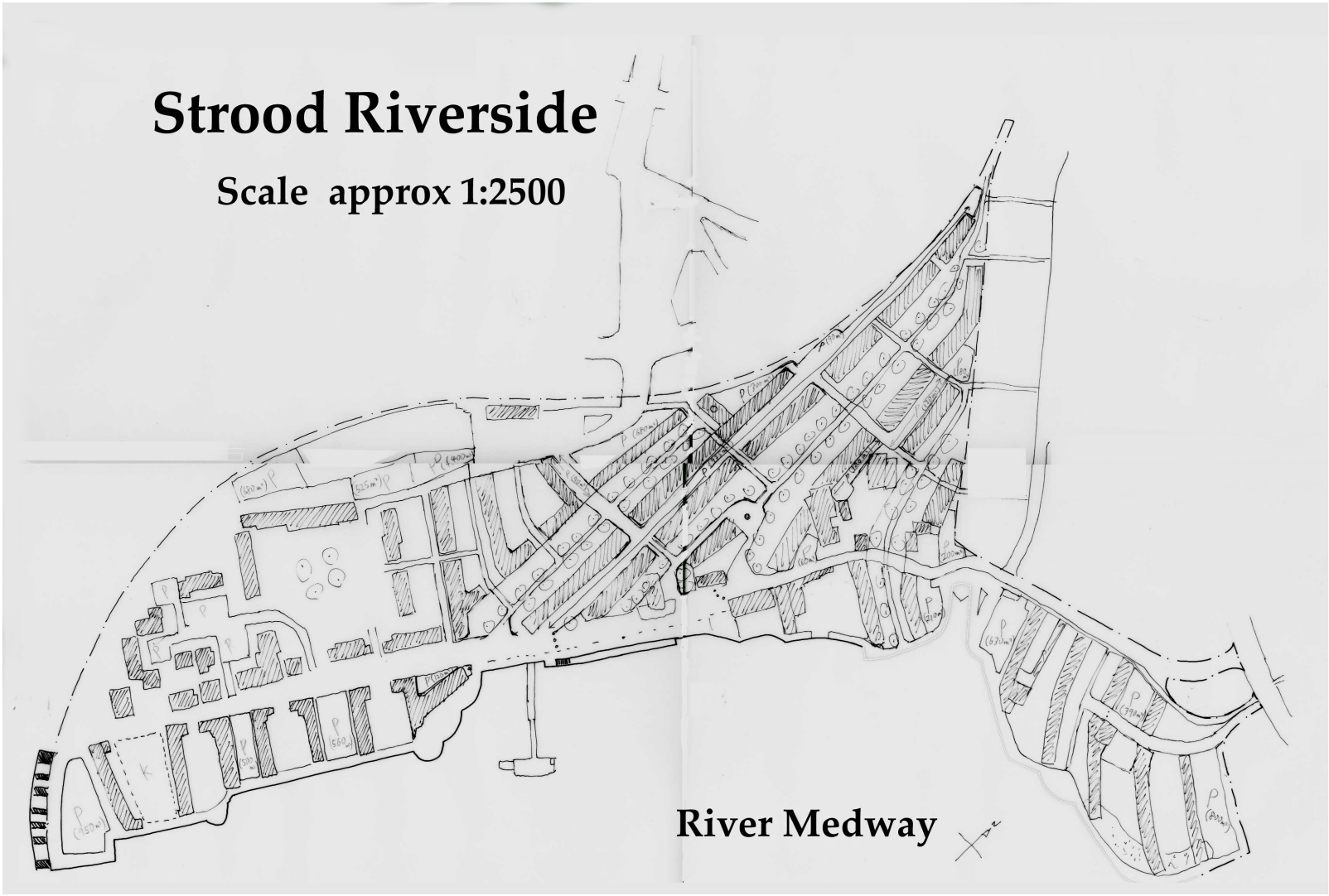
Composite Drawing After Cycle 4, Showing Unfolding Of Improved Public Housing, New Avenues, Green Space, Businesses, And Pedestrian Paths



FIFTH CYCLE OF UNFOLDING

Detailed treatment of private gardens and houses

37. Embellishment around the dock
38. Adding greens for remaining house groups
39. Subdivision of house buildings into lengths
40. Shaping local positive space
41. Families choose and stake out terraces and front gardens
42. Locating the entrance and the living room of each house
43. Full layout of interior
44. **Placing and sizing windows by the family**



Site plan resulting from the second cycle through the Generative code

Proposal

In order to pursue the rough first-draft plan put forward, with the generative code approach, we propose to undertake the following relatively low budget series of actions which will determine the feasibility of the plan, and would be, in any case, a prerequisite for adopting this type of plan.

Preliminary Engineering

1. Check cost of a reliable a low budget flood control system.
2. Check cost of railway arch enlargement.
3. Negotiate with business people to resolve their participation and needs
4. Negotiate with inhabitants of public housing project, to resolve their participation and needs

Preliminary Generative Code for the project

5. Write a detailed generative code to be used in conjunction with the design of the project, in conjunction with the affected community members, members of Medway council, and the Medway planning department.

A Technical Note on the Nature of Unfolding

The unfolding which is described in this document, has two or three features which may be unfamiliar to the reader. They need comment.

First, as one reads through the steps which have been taken, in applying the generative code, to the community of Strood Riverside, one sees, at once, that each step is taken piecemeal – it focuses on a particular topic, and examines that one topic to the exclusion of others. This seems to fly in the fact of conventional wisdom. Is it, after all, not a given that in creating a complex whole one must take the whole into account, and cannot assemble it piece by piece.

The answer is, that one can achieve clarity, only by grasping things deeply enough, so that one really understands the implication of each point, taken singly. But of course, in order to achieve that, successfully, one must take the different, single issues, in the right order. The right order is essential, and it is precisely this which allows the unfolding to work.

Secondly, the individual issues are all – each one of them -- applied to the ***whole***. Thus, the points that emerge at each step in the unfolding, are not particles, or parts. They are, rather, the aspect of the whole, which develops and emerges from single minded examination of that issue. Thus, each step takes a further step in unfolding, or elaborating, our understanding of ***the whole.***

Finally, it is precisely the single-minded focus on the aspects of the whole, which allows communal action, and communal work, to take place. So long as topics are considered as if they were all floating in one enormous bowl of minestrone, the issues are confusing, communal discussion usually fails to achieve its proper and needed sharpness, and the community process gives very much less benefit than it might do. When its features – aspects of the whole – are instead examined one by one, and in the right order, then the community, all the players together, can reach accord on how that one feature should be handled, in its best aspects, what it does to transform the emerging whole further, and all this then gets fused by the long line of morphological development, into a coherent, complex entity which provides the finished result.

The Naturalness of the Physical Environment in a Community Created by Unfolding

We are nowadays, sadly, used to the consequences of development as it is practised today. Almost always, with only the very barest of exceptions, the projects brutalize land, character, and feeling. The shapes of buildings are incongruous with what is there, and what stands around it. The open space between buildings is not pleasant to be in – it is, rather, a left over from accidents of planning law, and botched up dreams of less than competent architects who seek to impress their will on the neighborhood.

The evolved plan of Strood, as shown in the sequence of steps preceding this comment, is rather different. It looks and feels like something that grew, instead of being shoved into place. This feeling, visible even in the small sketch, is real. Each step in the preceding sequence, allows morphological features, to grow from what is there, and what was there before. If you continue a small series of small steps, with this philosophical and practical attitude, then the result inevitably does respect the land, does respect the place, and does respect the people. It is this respect that we see and feel , and then sum up in the phrase, “it seems as if it grew there.”

The entire process is morphogenetic. That means, that it allows the coherent unfolding to take place, one step at a time, just as an embryo grows, and it is the growing, changing, evolving morphogenetic field which gradually develops, and leads to a good result. It takes all sides into account, and cements them into a workable physical and architectural whole that will last.[i]

[i] The theory of this morphogenetic view of planning and architectural design, in the context of community and individual involvement of inhabitants and users, is presented in the four volumes of *The Nature of Order*, and is also summarised in the Schumacher Lecture, Sustainability and Morphogenesis, given in Bristol, October 30, 2004, by Professor Alexander, and reprinted in two issues of *Resurgence*, Nov-Dec 2005, and Jan-Feb 2006.