Theme
This project is rooted in my personal understanding of what is sustainable design. The theme of this project follows from an understanding of resource use and waste, giving birth to the two principal areas of study: first materials and construction, and secondly adaptation and flexibility of buildings.

Questions raised by this project
Taking alteration as its point of departure this project follows on Rossi’s ideas of the progressive city, in contrast to modernist obsolescence and demolition. It takes an interest in understanding the greater dynamics that drive change including land rights, profitability and politics. It poses the question of which locations in the city have urban qualities. And it argues that the older industrial areas do. How could they be developed with respect to existing users? How can a city or a district acquire stability while at the same time remaining open to different usages, new models of living, and to the future? And can it be done through non-disruptive change? Several interesting areas at the outskirts of the old city are living, or will be, developed in the years to come. Surely we need practice and reflection to be prepared for this.

This project takes as its study area a block of industrial land in a changing context. Starting from the idea of resource use can it be developed in a way to avoid obsolescence and demolition? What urban qualities could this imply? And how can densification be designed to reduce waste, and remain open to future change? Hence what I’m exploring in this project is materials and construction, and adaptability/flexibility in response to urban dynamics. Ultimately this project is about the reuse of buildings, and by that the preservation of their physical and cultural resources, as well as what creative possibilities this implies.

Methodology and Intentions
I will in a first phase look at the densification of a block, and in a second phase the alteration of one single building. An important part of this project is its design method, in short working from the outside-in, in model and facade, and solving the plans last of all, integrating material choices and construction in each phase. The purpose of this method is to achieve inherently flexible structures. Aside from the method one intent of the project is to explore material and construction. A second is urban dynamics and flexibility seen at the architectural scale of a block or a single building. And lastly it is my intent to relate to the theory surrounding alteration work and its historical development, as well as gain a critical understanding of reference projects.
# TABLE OF CONTENTS

1. Background ........................................................................................................................................................................... 7  
2. Theory and existing discussion ..................................................................................................................................................... 11  
3. Intentions and goals of the project .............................................................................................................................................. 33  
4. References ................................................................................................................................................................................ 37  
5. The site .................................................................................................................................................................................... 47  
6. Program .................................................................................................................................................................................... 53  
7. Methodology ............................................................................................................................................................................... 55  
8. Time planning .............................................................................................................................................................................. 57  
9. Literature list .............................................................................................................................................................................. 63
Alteration in its wider context

Alteration is a process in many scales. We may trace it in the evolution of cities (morphology) changes in lifestyle and subsequent demands on spaces for activities (typology), we may look at the renovation/alteration of a single building or even of the retrofit of a single functional unit (apartment/store/office). My interest in the subject of alteration comes from its wider socio-economic context. I’m on a more general level concerned with the legality of industrialization and the development of cities. In the course of their lifetime factories changed our cities and created new situations for life, and social and economic development followed the different eras of industrialization. Later economic development however has led to the decline of industry, pointing to new directions for cities, or perhaps even the return to old ones. We speak now of the knowledge city. This inevitably will, and already has, started to change our cities and the way we need to plan them.

The modernist heritage

Modernism became primarily concerned with the issue of mass housing. A need brought on by industrialization and the rapid urbanization that followed. Modernist planning, in the form of zoning, is today no longer a preferred model. We look instead to recreating mixed-use, traditionally urban, environments. Keeping in mind that not everyone prefers the dense urban fabric to suburbia, if we accept that the urban environment is in demand right now we must at the same time acknowledge that we are left with many mono-functionalist islands in the city. It is my belief that in examining the conversion of a formerly mono-functionalist industrial area one could also draw important lessons for the restructuring of other mono-functionalist areas in the city, notably residential islands, of which there is a great number in Stockholm, or for reinvigorating the ABC-cities planned around Stockholm.

Looking ahead

Now how cities change, what events act as triggers and what dynamics are at play, is a very interesting question. A diploma of a more practical nature is not the best arena for coming to terms with all these questions. But it can serve as one pillar in an inquiry into them, which may well continue to interest me for many years to come. A final thing to point out here is the current trend in construction where alteration is taking over more and more of the market from new-build. The work of architects in the near future, if not already today, looks set to change, making understanding alteration a vital professional skill in the near future.

1 The term "knowledge worker" was coined in 1959 by Peter Drucker implying someone who thinks for a living. He foresaw that they would be “the most valuable asset of any 21st-century institution, whether business or non-business”. Source http://en.wikipedia.org/wiki/Peter_Drucker

2 Alteration: Theories, Strategies, Works, Orientation Course Autumn 2011 given at Arkitekturskolan KTH claimed 90% of future commissions could be in alteration.
Binary sustainability
Sustainability is for me a fundamentally binary term. Most things and processes can be said to be either sustainable or not. To paraphrase the cradle-to-cradle philosophy to be less bad is not to be good. But that is not to say that all things must be sustainable, at least not in the short run.

Green design today
I do not consider energy the major issue of sustainability, nor necessarily CO\(_2\). Both are relevant of course and should be considered; but the real issue of sustainability for me is resource use. I will only briefly explain this. Regarding energy production (and thus our need to acknowledge energy use) I believe the critical tipping point has been reached. I also believe new economies will lead the way to the democratization of energy production. On a short-term basis energy use is still important, in the long term I think less so. Greenhouse gases tied to fuel are still a problem, but with clean energy and a revamped vehicle fleet looming on the horizon, CO\(_2\) looks set to take a drop. Electrical vehicles (plain more efficient than combustion engines) are gaining market shares although still too expensive for many consumer segments. Given the economies of scale and technology improvements that will likely change. And the first commercially available hydrogen car will hit the markets in 2015.

Sustainable design today and tomorrow
I think there are other issues at hand potentially more detrimental. Loss of bio-diversity would be one. The issue most pressing for buildings in the mid- to long-term foreseeable future I would thus say is resource use. The physical stuff they’re made of. This is perhaps really what this project is all about, and where its two main focuses comes from. Because I would say that there are two issues at hand here. The first is how and with what we build; construction and materials. The second issue springs from the idea of claiming that a former resource put into a functioning building is wasted only when the building permanently ceases to have a function, or when it is demolished (assuming that it is its parts cannot be reused which brings us back to the first issue: construction and materials). Hence it’s a good idea not to demolish a building unless actually necessary. And it is an equally good idea to try to design new buildings, or additions, in such a way that they won’t need to be knocked down anytime soon. Here once again we return to construction and materials in the form of quality, but also to flexibility in housing different uses over time thus avoiding obsolescence when economic, social or political factors drive change in the city.
Alteration and Preservation

Alteration in architecture comes under the guise of many names. Some would pretend not to be alteration at all, but any intervention in an existing building is an alteration of sorts. Yet the degree of alteration, and the reason for it, may differ with the different words we use to describe it. These words range from conservation, via restoration, renovation, extension and adaptation to transformation. Of them restoration is perhaps the most ambiguous and the one that has caused the most debate over time.

Historical view

(Gothic, Renaissance & Viollet-le-Duc)

Let us first briefly track the historical development of thought on the issue of alteration. Throughout history it seems, it has been man’s habit to make himself comfortable with the means he has at hand. Investment in large construction endeavours was often a burden before modern engines and fuel came along and wherever possible conversions, extensions and adaptations were preferable to save money, time and other resources. A form of bricolage was thus the modus operandi for most construction work. Even if we look to architectural history which like most architectural theory tends to be biased towards new construction we find that many of the great projects of old were alterations and extensions of existing structures. Many of the largest buildings, cathedrals and palaces, are excellent examples of buildings that have undergone many often quite brutal alterations in order to satisfy the commodity of their users. As architectural history was not an academic study before the 19th century little was known of the real origins of buildings, lost in the passage of centuries. Thus the first thorough discussion on alteration arrives in the 19th century when academics try to clear out and distinguish historical styles. The "vulgarity" of the renaissance is discovered based as it was on as-found buildings without much knowledge of what had been built 1000 or 500 years ago.

One of the first and most influential theoreticians on the subject was Viollet-le-Duc. He produced an enormous amount of writing and research throughout his life of which his 'Dictionnaire' (Dictionnaire raisonné de l’architecture française du XIe au XVIe siècle) is the most well-known of all. In it he tries to catalogue the historical building stock of France in different typologies and models searching for something like the platonic ideal of the house in different times. He even takes it on himself to draw the ‘ideal’ Gothic cathedral, towards which all the cathedral builders presumably strived but failed to reach. Aside from his

Copyright © 2006, 2008 by Harvard University Press. All rights reserved. The增持的页脚有形同的版权信息。
research Viollet-le-Duc involved himself in practice with the restoration of buildings, of reversing history, of clearing buildings of later additions and returning them to their ‘initial’ status or even ideal states to which the original builders had never reached. Others were in the same practice and from the many mistakes committed by such men the destruction of the original frieze of the Pantheon in Rome can be mentioned here.

Birth of the preservationist movement (Ruskin & Arts and Craft)

Writing at about the same time as Viollet-Le-Duc on the other side of the English Channel John Ruskin was a fierce critic of this newfound zeal for restoration works. If Viollet-le-Duc was the major proponent of restoration then Ruskin was the major proponent for conservation. Ruskin wrote on the subject of old buildings that “We have no right whatsoever to touch them. They are not ours. They belong partly to those who built them, and partly to all the generations of mankind who are to follow us.” Ruskin’s disciple the much more active William Morris later created the Society for the Protection of Ancient Buildings, and similar societies in other countries followed. This was the birth of the idea of buildings as cultural heritage that should be protected and conserved for prosperity, and thus of listing buildings. One of the problems with Ruskin’s and Morris’ ideology is that it removes all buildings from use. Ruskin writes that one can restore a building only as one can animate a corpse, and herein lies the problem; for any building worthy of saving can henceforth be no more than a corpse. And while this may be justified for certain very old buildings it seems rather impractical for the larger number of buildings in the city, ideally almost every building if we are to believe Ruskin. Our cities would then have to grow like the trunks of trees leaving an ever larger dead core in its center. Another problem of their ideology is that they acknowledge the validity of ancient alterations done to old buildings in a contemporary style as equal in value to older parts. But today’s builders will be the ancient builders of tomorrow and if one is to respect the work of ancient craftsmen then the highest and qualitative work of living craftsmen should be equally respected. Morris eventually acknowledged this, but with the reservation that any alteration should be completely reversible. Which is again inconsistent since it acknowledges the validity of restoration work, the very thing he vehemently detested, and the whole reason he turned to conservation.

5 “Restaurer un édifice, ce n’est pas l’entretenir, le réparer ou le refaire, c’est le rétablir dans un état complet qui peut plus jamais existé à un moment donné.” from Dictionnaire raisonné de l’architecture française du XIe au XVIe siècle - Tome 8, Restauration, source http://fr.wikipedia.org/wiki/Eugéne_Viollet-le-Duc

Modernist rejection of preservation

(Le Corbusier, Cedric Price)

The early modernists efficiently dealt with the infected debates of the late 19th century much like the Gordian knot, simply claiming that architecture had absolutely nothing to do with history. Thus both the question ‘how do we reconcile traditional forms with modern construction in new materials and with new technologies?, and ‘how do we relate to work on historical buildings?’ was solved by a simple answer – we don’t. Modernism placed a taboo on architects to deal with historic buildings. And to a large extent perhaps rightly so; few people would like to see an architectural debate return to the 19th century, although many laymen practice restoration work as is well evident if one only peruses a normal magazine shelf at the supermarket.

Modernist city building was based on the idea of tabula rasa-planning. Le Corbusier’s La ville radieuse is the principal example of this mind-set, and although never realized it served as the mental model for many of the projects that later came to be developed. (Another functionalist planning model was of course Howard’s Garden city.) According to the functionalists buildings would either fulfill their purpose or be demolished. Alteration would be unknown. Through the immaculate and previsioning design of the architect the building would fulfill all the needs of its inhabitants until its eventual demise when it would be replaced by another equally immaculately designed building. The evident problem faced by functionalism is that there is no scientific exactitude in space for functions. A sandwich can be eaten in any size of room. Nor can one person with exactitude foresee the needs of many. Real life is always more messy than the architect’s will.

The idea of obsolescence and destruction makes a certain amount of sense following the reasoning of functionalism, however it does not necessarily follow from the historical taboo that all alteration should be banned. If we take Le Corbusier literally for a moment in considering the house as a machine for living in then it would be quite obvious that machines are tinkered with. Parts are replaced and updated in a machine, it is reconfigured if gains in efficiency can be achieved. Just think of old cars. Now functionalism was quite consumed with tight fit, and a building that could only very loosely fit program might be considered due for demolition. But that does not explain why alteration in itself should be considered taboo. The answer to that question may lie somewhere else. The reason for the taboo on alteration may well have been their view of the architect as artist, and thus of his buildings as works of art. It is very hard to
imagine someone coming along and altering a painting or a sculpture. Art cannot be touched after its completion. But a piece of artwork does not fulfil function in the same way as does architecture, which is exactly what separates architecture from all the other arts. And this is exactly what arguably creates license for alteration. To whom does architecture belong? According to Ruskin it belonged to the dead workmen and to all prosperity, but not to the living. According to the modernists, I would argue it belonged to no one but itself, and just as a work of art it lived its own life, inviolable. Which in a sense seems paradoxical to the idea of modernism as a socially driven movement, but isn’t necessarily. Another way to see it is that if a building is considered as a work of art and not as a functional object, then according to one definition of art, nothing could be added or removed that did not lessen its perfection, hence all alteration would equal destruction. But the occupants would be slaves to their habitats, making of what was to be utopia a dystopia. This seems to be a problem shared with Morris and Ruskin, how buildings relate to users. Real lived-in architecture tends to be progressive, but this brings us to our next issue.

First let us just pause for a moment on a peculiar case of a functionalist architect. Namely Cedric Price, a latter day proponent of functionalist ideals he long argued for the demolition of buildings that had outlived their usefulness. His fight against the Camden Council to stop their listing of one of his own buildings, which would have stopped its demolition, is particularly famous. What is remarkable however is that he was also one of the very first architects in modern time to propose an alteration project, for the reuse of a discarded industrial complex to serve technological and social innovation, in his 1965 ‘Potteries Thinkbelt’ project at a former ceramics industry in Staffordshire.

Rebirth of critical alteration (Rossi, Rowe, Jacobs)

When we think of the people who made themselves a name challenging the mind-set of modernist planning and the functionalist view of the existing urban fabric, two names pop up: Aldo Rossi (although he claimed it was not necessarily his intention) and Jane Jacobs. In a European perspective Aldo Rossi, perhaps together with Colin Rowe, came to be the principal champions of a new different way of looking at the city and its buildings (in a North American perspective Jane Jacobs and Kevin Lynch made a more immediate impact). Rossi’s idea is that of the progressive city, in contrast to Ruskin’s corpses and to modernist obsolescence and demolition, his city is...
city that is alive and adapts to change, yet at the same time keeps its vital identity through primary elements and collective memory. At around the same time Robert Venturi also challenged the formal aspects of modernism and its relation to architectural history. Another of the early and influential writers on the subject was Perez de Arce whose essay in an issue of Architectural Design edited by Kevin Lynch gained widespread recognition.

Thus the 1960’s saw the publication of the books by Jacobs, Rossi, and Venturi, as well as the disappearance of the first manufacturing from urban areas, and the emergence of Pop Art. Taken as a whole it can be said to have constituted a reconsideration of context; of our relationship to the city, to mundane commercial “stuff” and perhaps most importantly our relationship to the past, and the world as it is. Jacobs defended the validity and value of seemingly chaotic urban life in the face of rationalism planning. Rossi changed our view on cultural continuity in the city’s fabric, and Venturi declared the validity of architectural historical precedents as well as the value of complexity over simplicity. He made the case for the difficult whole which he defined as: “the difficult unity of inclusion rather than the easy unity of exclusion”. An idea I believe adaptive reuse is deeply indebted to. The immediate result in architecture to all these ideas however was the postmodern infatuation with formal historic quotations.

Carlo Scarpa said “The problem of historical materials, which we can never ignore but can’t imitate directly either, is an issue that has always concerned me. I’ve had nothing but trouble from planning rules in Venice and the bureaucracies who interpret them. They order you to imitate the style of ancient windows forgetting that those windows were produced in very different times by a different way of life with ‘windows’ made of other materials in other styles and with a different way of making windows. Anyway stupid imitations of that sort always look mean. Buildings that imitate look like humbug and that’s just what they are”.

At around this time society was reaching a changing-point, marked perhaps most notably by the ’67 revolution. Many factors converged for creating new situations for life. In New York artists were starting to move back into so called abandoned districts of the inner city, the most well-known of which was to become SoHo. Here they created their studios in old discarded buildings, the large rough spaces was just what was needed to create the new forms of art that were emerging. The New York loft was born.

THEORY

CONTINUED
Loft

A loft in City as Loft is defined as a dynamic-stable structure. Characterized by a strong architectural language they refer to the past and the collective memory of the city. This makes them stable frameworks in the city. On the other hand they are adaptable and flexible structures offering the possibility to appropriate and modify space, as well as to integrate new elements. Thus a loft is any space that is characterized simultaneously by stability and openness. This is equally valid for monuments, everyday functional buildings as well as for urban spaces. Thus an urban fabric can also be defined as a loft.

The transformation of former industrial areas into integrated parts of the city is a development visible throughout the world in societies that have made the transition from an economy based on industry into a knowledge- and service-based economy. Conversions in Europe and North America have been taking place for some decades now. One of the first, and one of the most well-known, was the Soho district in New York in the 1970’s, and there was a boom of industrial conversions in the 1990’s following the evolution of finance and the western economies in the 1980’s. These conversions include Stockholm’s Hammarby Sjöstad and Malmö’s Västra Hamnen. However, these Swedish examples were based on a tabula rasa approach differentiating them from several other developments in central Europe. The transformation of former industrial areas into integrated parts of the city is a development visible throughout the world in societies that have made the transition from an economy based on industry into a knowledge- and service-based economy. Conversions in Europe and North America have been taking place for some decades now. One of the first, and one of the most well-known, was the Soho district in New York in the 1970’s, and there was a boom of industrial conversions in the 1990’s following the evolution of finance and the western economies in the 1980’s. These conversions include Stockholm’s Hammarby Sjöstad and Malmö’s Västra Hamnen. However, these Swedish examples were based on a tabula rasa approach differentiating them from several other developments in central Europe.

Although structures that conform to the idea of loft tend to be pre-modernist the very concept of loft, or how space is inhabited can be said to owe much of its ideas from early modernist thought. Le Corbusier together with his cousin Jeanneret proposed the Maison Dom-ino in 1914. Simple frames that adapt themselves easily to the idea of the plan libre, another idea championed by him as one of the five points. The loft can perhaps be said to be based on these two ideas but applying them not to new-built, but to existing, structures. In that way it is a hack on modernism. Practical examples of loft buildings often take advantage of clustered space with free-flowing space around them. This would clearly point to an intellectual inheritance from the plan libre of early modernist villas.

Flexible accommodation

The loft typology is clearly an interesting example of flexible accommodation. Here we have an open structure with a changeable plan, based on some of the ideas of the plan libre. But there is also another strategy of flexible accommodation that interests me: the pre-functionalist plan, before the whole the plan libre, another idea championed by him as one of the five points. The loft can perhaps be said to be based on these two ideas but applying them not to new-built, but to existing, structures. In that way it is a hack on modernism. Practical examples of loft buildings often take advantage of clustered space with free-flowing space around them. This would clearly point to an intellectual inheritance from the plan libre of early modernist villas.

Flexible accommodation

The loft typology is clearly an interesting example of flexible accommodation. Here we have an open structure with a changeable plan, based on some of the ideas of the plan libre. But there is also another strategy of flexible accommodation that interests me: the pre-functionalist plan.
discussion of tight fit. A plan with spaces well dimensioned and well connected that did not necessarily have specific functions assigned to them. Or rather the room did not necessarily reflect the function. Many of the pre-functionalist buildings we have in the city tend to adapt themselves with surprising ease to fulfill other functions than the ones originally intended.

Both strategies seem to offer possibilities and the further study of flexible accommodation will be an integral part of my process. It could perhaps be added that while looking at flexible accommodation primarily for changing functions such flexibility also has a value for changes within the same function, notably offering different forms of living configuration for example. That is not necessarily a main focus of this project, but something I will touch upon.

**Typology**

Tied to the concept of flexible accommodation is that of typology. Typology as far as I know was a concept first elaborated in the field of architecture and urban planning by the French Beaux-Arts architects in their different treatises. Rossi picks up on the topic in *The Architecture of the City* but does not evolve on it greatly. Much of his later teaching however was based around the research on typology, and clearly it is a theme that I am interested in exploring further in the project. Hence there will be more under this title later. Of a different nature but perhaps worthy of mentioning here is the Frankfurt exhibition *Die Wohnung für das Existenzminimum* organized by CIAM in 1929 that proposed a typological catalogue of early functionalist housing.

**Structuralism**

Yet another movement that characterized the 1960’s was that of structuralism which traces its origins back to CIAM though Team 10 but opposed the ideas of functionalism. Structuralism too can be described as being primarily contextual in its nature. Structuralism as a general strain of thought proposed that all cultural expression must be understood through overarching structures, or systems. As such it is related to the cybernetics of the 1950’s and the systems approach to thinking. In architecture structuralism involved itself with open-ended systems and solutions to design, where different forms of module building became predominant. The basic ideas are often those of repetition, growth and change. Structuralism in the form of Metabolism became particularly popular in Japan where the ideas of structuralism were fused with ideas taken more directly from biology. The structuralism movement is particularly relevant for me for its focus on adaptability.

---

11 As such it is used by Durand in 1801, by Quatremère de Quincy in 1832, and of course by Viollet-le-Duc in 1856. Traces of it can be seen in Blondel’s treatise from 1737 and it can be traced back to the early enlightenment’s zeal for classification; in a Swedish context best exemplified by the extensive work of Carl Linnaeus.
in architecture, and how it saw buildings as made up of interchangeable components. Stuart Brand later proposed the concept of 'shearing layers,' that different components of buildings lived out their life in different time scales, and that buildings should be designed to embrace this, which is to say they should be designed and constructed in a way that 'slower' components didn't hinder faster ones from being replaced. His six 'components' in reducing order of life span was Site, Structure, Skin, Services, Space plan and Stuff.

Adaptive reuse
As of late the term 'adaptive reuse' has become more prominent in categorizing projects of alteration that can be said to be based on some of the ideas of Rossi. Adaptive reuse tends to signify rather drastic alteration projects that while respecting some of the integrity of the original building takes large freedom in shaping it to fit present day commodity and use. It can perhaps be seen as a merger of new architecture and old where both are equal parts, ultimately serving to avoid having what Rossi defined as patholog-ical buildings in the city. It is in a sense a nor-malization in our relationship to the existing city, avoiding the over-zealous historicism of the 19th century and post-modernism, and the equally extremist rejection of all things old by modernism.

The ideological backbone of adaptive reuse bears witness to the modern art scene from the 60's onwards and how it questioned what could be considered art. The use in compositions and installations of 'as-found' objects either re-staged or physically transformed rep-reresents many of the same basic ideas as those raised by adaptive reuse-projects. Perhaps the main point here was that artists took use of their urban and post-industrial surroundings, and found value in them.

While the existing building is the base, and often the generator of design, the overall ex-pression of the work is clearly contemporary. Even Morris had to acknowledge the validity of alterations done to old buildings in a con-temporary style.

Old buildings can be heroic or modest, they can be 'Architecture' or vernacular. But they are always complex cultural objects. Old build-ings are still often seen as obstacles to plan-ning, relentlessly existing as they are, but they could also be seen as excellent foundations for continued, instead of disruptive, change. Old buildings are not only testimonials to failed social orders and tired reactionary ob-stacles to change and vitality as the modernist would have it. They can be put to use to bring
about that sought after change and vitality as several high profile examples have shown (SoHo, Battersea, Zollverein for example, or why not Färgfabriken, and since I’m writing this from Switzerland: Zürich West). Adaptive reuse is about incorporating existing buildings in a combined work of contemporary architecture. It bypasses the undecidable frontiers of reconstruction and restoration to focus on life and commodity, similarly to the alterations of older times. Many examples show that the ‘problems’ encountered in such a process can generate unexpected outcomes and fresh perspectives. Surely also one of the reasons for the use of ‘as-found’ objects in art. And just as artists found an interest in working with mundane objects, so too is there an architectural interest in working with mundane buildings. Before their alteration such original structures would not have been conceived as architecture, but their integration into a contemporary assemblage gives them a different allure. These buildings would also probably not have been preserved. Preserving old buildings means supporting and enriching their contribution to the present and to the future, and supporting and enriching the resiliency of the city. Ultimately this project is about the reuse of buildings, and by that the preservation of their physical and cultural resources, as well as what creative possibilities this implies. Adaptive reuse and sustainability As has already been discussed the 1960’s were in many senses one of the most disruptive periods of history. It’s implications for architecture and urban planning have been discussed. The 1960’s however also marked the birth of environmentalism with the publication in 1962 of Rachel Carson’s Silent Spring and the debates and legal ramifications that ensued from it. Reading Silent Spring today is still a frightening experience, one that raises many of the same questions on individual responsibility as does war. Added to our list of reconsiderations of context we must add that of our relationship to nature. The Club of Rome was founded in 1968, conducting system dynamics analyses on the global ecosystem and eventually publishing its Limits to Growth in 1972 from which we trace much of our discussion today on resource use and sustainable economics. And in the same year we were given the first high resolution color image of earth from space, the so called “Blue Marble” shot, which perhaps more clearly than ever showed us that indeed our earth was not without limits. In 1987 we had the Brundtland report and sustainable development became a concept. The building industry famously accounts for 40% of all greenhouse emissions. As thanks to
green design buildings start to use less energy their embodied energy becomes progressive- 
ly more important for their green footprint. Hence we have life-cycle reports to tell us 
how ‘good’ or ‘bad’ our buildings are. But as I stated already in background energy isn’t 
necessarily my main concern here. Looking beyond energy as long as we are producing 
waste we have a serious resource issue to 
come to terms with. Hence my concern in 
this project for materials. How can we build to avoid waste? Aside from the purely mate-
rial and constructional aspect of that ques-
tion the answer also lies in our definition of 
waste. At some point something that was not 
lose before crosses that existential border 
to become waste. And we have no longer the 
luxury of naïveté; waste does not ‘go away’. 
There is no ‘away’. When do spaces, and when 
do buildings become waste? I’d say when they 
can fulfill no functional or symbolic purposes. 

Thus my interest in two questions, first why, 
how and when does that condition arise, and 
secondly if it happens can we do something 
about it? 

Alteration and adaptive reuse may serve as an 
answer to the second question; the first must 
be answered on a more theoretical level of 
urban dynamics. 

On the scale then of urban dynamics Jacobs 
argued for the economic value of old build-
ings. She even wrote a book on the econ-
omies of cities, and another on trade and 
governance. She wrote that “the economic 
value of new buildings is replaceable in cities. 
It is replaceable by the spending of more 
construction money. But the economic value 
of old buildings is irreplaceable at will. It is 
created by time. This economic requisite for 
diversity is a requisite that vital city neigh-
bourhoods can only inherit, and then sustain 
over the years.” 12 

A further economic argument for alteration is 
that it spends more of the budget on labour, 
making it beneficial to the local economy and 
employment. Also since jobs are often on a 
different scale (more discrete) than for new-
build smaller businesses can often compete 
on the bid, increasing the dynamics and 
plurality of the market. Investing in labour 
instead of materials also has positive spill-
over on the local service economy. Concrete 
doesn’t go out for lunch, nor does drywall 
get a haircut. Thus money re-circulates in the 
local community, and if money is to boost the 
real economy it needs to circulate. 

What we tend to mean with ‘urbanity’ is 
in fact closely tied to a strong local econo-
my, if by urbanity we mean such things as a
The whole range of available services, and vibrant streets. Sustainability sometimes looks to wards self-sufficiency with respect to different resources, I’d argue that if we want urbanity we need to be concerned about the degree of self-sufficiency of our local economies. Although it must be remembered that one of the main strengths of economies comes from their non-self-sufficiency. And let’s on a side-note not forget that the whole reason why we have both economies and cities to start with is the fact that we once stopped being self-sufficient and started to depend on others.

One of the main resources we have in the city is the physical city itself: the structures that make it, and the work, thought, money, materials and time that previous generations have invested into it. If we are to be more concerned about our other resources like our forests, water, oil, grasslands et cetera then we should also be concerned with the resource that is our cities. To destroy its structures without much consideration seems at odds with those ideas. Of course we may consider and find destruction the best choice, cities will forever change, but if we destroy the resource that is our city without intelligent reflection simply because the dynamics of construction are geared towards it then we are no better than the farmers in Silent Spring.

To paraphrase Rossi the first fact of the polis is politics; i.e. the choices the city makes between its members, and the city is the physical form of their politics, the sign of their collective will.

Today the building complex is to a large extent based on the same dynamics as those of the 1960’s. That reflects itself in laws, regulations, customs, the education of engineers, architects and artisans as well as in the market mix and construction processes of contractors, and that affects economic choices. Today there is little possibility (or little will?) to construct in any other way than through the tabula rasa-approach championed by Le Corbusier although research and theory has evolved much in the last 100 years. This project then is an exercise in reflection to coun-terbalance the structural bias to demolition and tabula rasa planning and construction.
One of the first intentions of this project is to understand the theoretical discussion around alteration and to position it in a historical development. That I have to a large extent tried to do though this booklet, and as such I consider this text to be a work-in-progress.

Having identified the two themes I want to explore in this project as:

- Adaptability in response to urban dynamics
- Construction & Materials

it seems appropriate to develop these issues further. So what is it I want to learn from this project? First of all I would like to break out from the first theme a design method and thus I will treat these issues here: adaptability & dynamics, the method, and construction & materials.

Adaptability in response to urban dynamics

I've always been interested in complex system dynamics, thus my interests in economy, chemistry and sustainability among other things. Although my initial idea concerning an alteration project mainly dealt with an isolated building I have since decided to take a more holistic view on the issue. I'm interested in how property lines, politics, regulation, speculation et cetera are forming the dynamics of change. Of course one could devote an academic career to these issues and that is not my intent. The focus of my project rests on the level of the block and of the building, the tangible design artefacts of the city. But in addition to it, and so as to not shelter myself too much from reality, I feel that an understanding of the basic dynamics at play in changing the district and the city is something I need to relate to in an alteration project.

Specifically I intend to do this through the use of scenarios or cases. I do realize I may not have much time to study the issue once my project is up and running, and thus any research into the topic needs to be more or less done before the start-up of my project.

The main issue of change I'm exploring in the project is the inherent flexibility of buildings. Principally I will do this through the application of my method, but also through the study of precedents and references of flexible accommodation and typology. To summarize I'm interested in dynamics and change in two scales. The first is that of the city and district. The second scale is that of the block and building. The first I will predominantly need to study pre-project, and the other one I will study throughout my work process.

The method

One of my clearly stated intentions of this pro-
ject is to try out a design method, somewhat foreign to my own ‘normal’ way of working. This method is something I came across in Switzerland from two different professors there. They only slowly developed them, and from different starting points using different ideologies and vocabulary. Thus I did not immediately understand how similar they were. The first professor was a principal of Baum-schlager Eberle and he proposed a method of design used by their firm to create sustainable buildings. The other professor had studied under Rossi during the time he taught at the ETH and his preferred method of design was based on Rossi’s and others’ ideas on typology. What inevitably links the two was that they were both very much based on flexibility and thus they came to very similar results. I’ve synthesized their two methods into one of my own. I would also like to put some energy into façade design, and building models, something I often spend too little time doing in most projects, but the layout of the method should let to do just that.13

Construction and materials
As this project is based on the ideas of resource use and non-waste one of the main intentions of this project is to further my knowledge of building materials, and of their selection. Building materials cannot be properly understood separated from construction. Choosing materials must also mean knowing how to built with them. This is particularly true of structural materials but most materials their own type of details. While this is something one can learn in practice experience tells me that materials are not well understood in many offices, and thus it may be better to acquire a solid base in academia. The design method I will follow deals with materials and construction in each stage of the process which will hopefully give me more time to develop my understanding of it.

Additional considerations
As has already been discussed much of the ideological inheritance that I draw upon stems from simultaneous developments that took place around the 1960s. Somehow this project is leading me to look back at that period in time. Although modernism didn’t survive the war, some of its ideas clearly lingered on and caught momentum. Tabula rasa planning was definitely one of them, and to this day it seems to reign almost supreme in Stockholm if we look at how development is taking place. It would be interesting to look back at this decade when it was both at its peak and at its fall. What was the economic and social situation of the city faced by theoreticians like Rossi, Rowe or Venturi in the 1960s? And how relevant can they be in today’s cities?

13 To summarize the stages of this method are: Urban context, Figure - Ground (exterior space), Solid - Void (volumes), Structure, Façades, Plans; with details and materials resolved in each stage.
ill. 15 Slakthusområdet in Stockholm is an area with several similarities to Ulvsunda.

ill. 16 Example of new meets old in Zürich West, most of the developments in the area however are boring examples of ‘world class’ architecture.

As a preparatory stage for identifying my site I also looked into several other areas both in and outside of Stockholm. Stockholm offers a large number of areas either in or entering development. Among them are Kvarnsom- men, Liljeholmen, Lövholmen, Slakthusområdet, Karolinska-området, Hjorthagen/Väst- tahamnen and Västberga. The conversions in and around Sickla offer examples of completed developments.

The area most resembling Ulvsunda is probably Slakthusområdet, and it’s mostly by chance that I didn’t choose to place my project there.

Nordic examples

Norrköping offers an Swedish example of a recent successful conversion of an industrial district into a mixed use urban district. Here as in many other cases educational program was to a large extent used to give new meaning to the old district.

Another interesting reference for me is the Norra Sorgenfri district in Malmö that is being planned right now. A large focus has been placed on non-disruptive development in respect of current occupants of the district.

European examples

Two regions that made out the traditionalal heartland of European industry are the Ruhr-area in Germany and Manchester / Liverpool in England. The Ruhr I have already visited with school and I plan to take a brief study-trip to Manchester and Liverpool as part of this project.

Those examples are however quite different from the example offered by Ulvsunda as it was developed later and lacks the traditional brick façades of the mill type industrial buildings, found in Lövholmen, Nacka, Hjorthagen and Norrköping.

Yet another reference is the redevelopment being planned and taking place in the Example quarters of Barcelona where additional density is being added to the mixed building stock of the area. Lastly, Zürich West can be mentioned as a local example from Switzerland. It is often mentioned as a successful re-development yet I would say it is problematic in many ways and boasts a better image than what reality would warrant.

Non-european examples

A very interesting example for me would be SoHo, and the many followers it had. Not so much for the physical objects as for the culture and processes behind it.

REFERENCES - URBAN

15 See Vision Norra Sorgenfri, Malmö stadsbyggnadskontor 2006

16 Example of new meets old in Zürich West, most of the developments in the area however are boring examples of ‘world class’ architecture
Brief typology of intervention - Part 1

Perhaps the simplest and most common form of intervention is the horizontal extension, although that is by no means to say that it’s a simple business. Questions are raised as to how to relate the expression of the extension to the existing building/s. Two answers are given here as reference. Yet another rather famous extension debate was that of the National Gallery in London, finally designed by Venturi and Scott Brown.15

The potential list of references for horizontal extensions would be almost endless. If one is to make some brief classifications most extensions are on a programmatic and spacial level exercises in weaving where parts of the new become old and parts of the old become new. If and how that takes place, and if and how it is reflected in the façades of the building is one of the principal questions to resolve.

Gothenburg Law Courts
Program: Administration
Extension by Gunnar Asplund in 1936

The older part of the building was designed by Nicodemus Tessin, the Elder and was completed in 1672. This example became famous for showing how modern architecture could indeed co-exist in a composition with a classical building. It does so by picking up on the rhythm, levels and color scheme of its host, but does not mimic it in style. In style it clearly keeps its own modern identity. This building also displays a clear example of what Venturi later defined as inflecting elements. The asymmetrical stone frieze and the placement of the windows in the bays clearly points towards its host. The building is much less quiet in its interior where it demolishes the wing it is attached to in order to create a complete space.

REFERENCES - OBJECTS
EXTENSION - HORIZONTAL

15 In this example a mimicking approach was chosen, yet it keeps a certain identity of its own and treats its historical loans with an intelligent flair. Among the other proposals for the extension that of James Stirling stands out.

Higgins Hall, Pratt Institute, New York
Program: Educational, Architecture School
Extension by Stephen Holl in 2005

The older buildings date from 1869 (north wing) and 1887 (south wing) Higgins Hall would have to be said to be in the same spirit as that introduced by Asplund. Here too the extension has its own clear identity, yet stays a little quietly to the side of its host. We see the same alignment of levels and the use of the same color in these elements as that of its hosts. Here too the contemporary means of construction are brought to the forefront with the use of channel glass, transparent insulation and steel, just as Asplund highlight the concrete construction of his addition. What makes the composition more complex is that the buildings have two different floor levels and the resolution of that puzzle is the design generator of its facade.
Brief typology of intervention - Part 2

The second most common type of alteration must likely be the vertical extension. In many respects the same questions are raised here as with a horizontal extension with respect to style and mimicry. A vertical extension given that it does not mimic its host often tends to be a more violent affair than a horizontal extension. We are more used to seeing buildings of different styles side by side, as it is in fact quite the normal state in the city. We are not so used to seeing buildings piggy-back-riding on other buildings. Often when additions are made on top of other buildings they are pulled back and of moderate height, but that must not always be the case.

The Porter House, New York
Program: Housing
Extension and transformation by SHoP Architects in 2003
The building was originally constructed as a warehouse in 1905
Located in the Meatpacking District of Manhattan this project called for the creation of condominiums in and on top of a former warehouse building. Building to the very limits permitted by the zoning regulations a new volume was created on top of, and cantilevering out over, the original building. The materials and differentiated facade treatments creates an ambiguity in the reading of the two volumes and the extension appears to be cutting into and intersecting the original building. This perceived effect paradoxically leaves both buildings with the integrity of remaining separate wholes.

The Culture Bunker, Frankfurt
Program: Housing and Rehersal spaces
Extension and transformation by Index Architekten in 2005
The building was originally built as a World War II munitions storage bunker
I find this project interesting partly because it takes as ‘host’ a rather mundane looking building and partly as an example of strict functional division. The new superstructure simply treats the old building as ‘ground’, a simple topological curiosity. It does relate formally to its ground however. The use of the metal mesh screens and wood facing as ‘light’ materials clearly distinguishes it from its heavy base, and the cantilever of the structure both helps to emphasize this lightness, as well as the line, or stratum, of the ‘ground’; it invokes the idea of it having been placed there like an object on a table.

REFERENCES - OBJECTS
EXTENSION - VERTICAL

ill. 21 The Porter House by SHoP Architects
ill. 22 The Culture Bunker sits housing on top of music rehearsal spaces
1. ill. 23 & ill. 24
The ECAL school of arts and design in Lausanne, transformation project by Bernard Tschumi of former women’s socks factory

ill. 25, ill. 26 & ill. 27
The façades of Museum Küppersmühle are treated similarly to the later Caixa Forum project in Madrid

STRUCTURAL TRANSFORMATION (CUTS) & INSERTS
Brief typology of intervention - Part 3
The next typology has a certain affinity to the work of Gordon Matta-Clark. While I interpret his early work as demonstrating the precariousness of our assumptions and ideas the later work seems to take on a more formal quality of geometry, intersection and projection. In this way I think his work has been very mind-provoking to many architects. The precise cut, as remarks Scott, immediately transcends the structure into something like a ruin. Yet it is full of dynamic energy.

Inserts tend to be particularly found in residential architecture where mills, barns and other buildings are gutted, lined and repurposed as housing. Yet another example are many current-day loft-convertions in the US. However there are also examples of larger projects adopting a similar strategy.

The Ecole Cantonale d’Art de Lausanne
Program: Educational, Art & Design School
Transformation by Bernard Tschumi in 2007
The building was originally a knitwear factory, built in the 1950’s
The ECAL is a design school that has gained a lot of international reputation over the last few years picking up several prizes in Milan and collaborating with practitioners all over the world. When they moved into a former stocking factory in the industrial area of Renens architect Bernard Tschumi stripped the building and opened it up by cutting out several atriums and a large ‘avenue’ throughout its length to create transparent and collaborative dynamic spaces. Bright primary colors are in contrast to the exposed concrete and steel surfaces. There is of course a parallel to be drawn here to the locating of Konstfack in the former L.M. Ericsson factory at Telefonplan.

Museum Küppersmühle, Duisburg
Program: Museum
Transformation by Herzog & de Meuron in 1999
The design scheme of Herzog & de Meuron involved the gutting of a large volume of the building creating vast spaces in its interior. The original windows were walled up from the inside and the scale of the new spaces is readable on the rear facade with the superimposition of the new windows on top of the old ones. A large glazed cut was made for the entrance and the only volumetric addition was a new stair tower on the front to serve the newly created exhibition spaces. It is clad in corten steel to blend in with the red brick facade of the main building.

REFERENCES - OBJECTS
16 Fred Scott, On Altering Architecture, p. 133
Another interesting type of intervention, with a long history in urban design, is what I call wraps. A wrap is a layer added to the existing structures often with the goal of formal unification, or of providing buffer space and/or protection to the original structures. Two examples are given. In addition to the aforementioned typologies there exists several other ways of intervention. Of these the parasite would perhaps be the most well known in architectural academic circles. Many others could be found and catalogued.

When Giorgio Vasari designed the Palazzo Uffizi for the Medici family in Florence he used a strategy that I must refer to here as wrap. The palazzo in fact is composed of several blocks of medieval Florence that he united behind a single monumental arcaded facade. What makes it all the more spectacular is that this facade is on the ‘inside’ of the building. The ‘building’ if it can be called such has no other exterior facade than that towards its court since it is entirely swallowed up on all sides by the surrounding city structure out of which it was carved.

When Giorgio Vasari designed the Palazzo Uffizi for the Medici family in Florence he used a strategy that I must refer to here as wrap. The palazzo in fact is composed of several blocks of medieval Florence that he united behind a single monumental arcaded facade. What makes it all the more spectacular is that this facade is on the ‘inside’ of the building. The ‘building’ if it can be called such has no other exterior facade than that towards its court since it is entirely swallowed up on all sides by the surrounding city structure out of which it was carved.

When Giorgio Vasari designed the Palazzo Uffizi for the Medici family in Florence he used a strategy that I must refer to here as wrap. The palazzo in fact is composed of several blocks of medieval Florence that he united behind a single monumental arcaded facade. What makes it all the more spectacular is that this facade is on the ‘inside’ of the building. The ‘building’ if it can be called such has no other exterior facade than that towards its court since it is entirely swallowed up on all sides by the surrounding city structure out of which it was carved.

The Palazzo Uffizi, Florence
Program: Originally a palazzo, today cultural and commercial space
Extension and transformation by Giorgio Vasari in 1529
The older buildings date from several epochs, but are mostly medieval in origin
When Giorgio Vasari designed the Palazzo Uffizi for the Medici family in Florence he used a strategy that I must refer to here as wrap. The palazzo in fact is composed of several blocks of medieval Florence that he united behind a single monumental arcaded facade. What makes it all the more spectacular is that this facade is on the ‘inside’ of the building. The ‘building’ if it can be called such has no other exterior facade than that towards its court since it is entirely swallowed up on all sides by the surrounding city structure out of which it was carved.

The Santa Caterina Market in Barcelona
Program: Housing and Commercial
Extension and transformation by Miralles Tagliabue - EMBT in 2005
The building was originally built to the same function as it has today: a marketplace
This design in the middle of the old town of Barcelona called for the redevelopment and expansion of an existing market hall with the addition of 52 apartments, a parking garage and a waste treatment facility. The architects who wished to keep what they could of the original structure after what they saw as the uncalled for demolition of the city in preparation for the 1992 Olympics resolved their composition between new and old, and the need for a trademark identity, by wrapping the entire building under a single monumental undulating roof clad in colorful ceramic tiles.
Ulvsunda in the greater urban context
Ulvsunda is one of the areas identified as a new gravity center in the general plan of Stockholm, joining the ring of waterside development outside the inner city of which Ljusnedömen and Johanneshov are also part. With the new extension of the tram line ‘Tvärbanan’ completed its connectivity to the rest of the city has changed dramatically, and another extension between Ulvsunda and Kista will change that connectivity once again. 17 Developement of Hagastaden north of the inner city may begin a healing process between Stockholm and Solna, bringing the inner city closer to Ulvsunda.

The special relationship Ulvsunda has however is not that to the inner city of Stockholm, but that to the city of Sundbyberg; the only real historical urban center in the central city outside of ‘malmarna’.

History
Ulvsunda has been a geographical name since at least the 11th century. A castle was built south of the strait in the 17th century, and later modified in the 19th century. Residential development began in the first years of the 20th century south of the strait when land was sold for the construction of private villas in what was called ‘Kungsholms villastad’ and later, in 1926, changed its name to Ulvsunda. The industrial development north of the strait started at around the same time with the acquisition by the city of the land. The first industries were established here in 1910, but development did not catch on until in the 1940s -50’s and -60’s. The most important building here was the Pripps brewery.

Urban structure
Ulvsunda industriområde has a fairly well developed infrastructure. Arguably several of the present or former old industrial areas in Stockholm do. While many newer industrial areas are of a scale that makes it difficult to relate to them as urban spaces the older to the property limits and to the street, deriving from pragmatic needs for plot efficiency and access to transportation. The street layout is also generally fairly well organized and as city districts they present fairly open structures with certain clear urban qualities.

The area has plenty of ‘blue’ spaces along its water front but evidently lacks green spaces. It is further characterized by low density.

The questions posed are how could these qualities be developed, and the ‘problems’ overcome, while still respecting existing users of these districts? The new tramline is a strong incentive for increasing density and value in the area.
Development plans
Having been identified as a gravity center in the general development plan of Stockholm, an invited competition was organised in 2009 for new ideas on the area’s development. It was won by White but the project was halted because of the uncertain situation concerning Bromma City Airport, and the inability to plan for housing in the area. Today only minor development is taking place in the northernmost part of the area. The tram-line has been completed however.

Bromma Airport
The airport currently has a lease for its land until 2038. It could be prolonged after that. The new majority in city hall has proposed that the airport will close before that date however, and be replaced by a large new residential and work district under the name of Bromma Parkstad. What will really happen seems more unclear than ever. Closing the airport would have to be a national decision, and it could be overturned by a new majority before it could be carried out. As long as the airport remains operational housing cannot be proposed south of the tramline, and strict height regulations apply to all development here. Should Bromma Parkstad be realized however it drastically changes the context of the area. No matter what the scenario be, densification of some sort will likely take place along the new tram-line. The uncertainty of the area’s future context makes it particularly intriguing for my project (immediate closure, distant closure, no closure). Might it not actually be interesting to look at increasing density and value in the area without knowing the scenario of the airport? That calls for true ‘loft’ architecture. Does Ulvsunda have the urban qualities of loft? I might argue so, and it might even be saved as a dynamic-stable structure due to the airport and the delay on land speculation that it implies. The question here is how can a city or a district acquire stability while at the same time remaining open to different usages, new models of living, and to the ever uncertain future?

Uppsala as a conceptual model
While looking at the relationship between Ulvsunda and neighbouring Sunbyberg I realized it displayed a close affinity to the city plan of Uppsala, a city just north of Stockholm. The scales are not exactly the same, but I still find their comparison an interesting thought exercise. Uppsala is also split in two by a water barrier, and in fact the situation of bridges is very similar to that of Sunbyberg/Ulvsunda. It has a denser grided street layout to the east of the water, and arms spreading out to the west and south-west. The south-western arm joins Våröbadet as would the south-west...
Communications and urban integration

The new tram line marks the eastern border of my study area, and there is a stop close to the former Pripps brewery. Currently the tram acts as a barrier. Any scenario of mine will take for granted a certain development of the area east of the tramline and thus of the creation of a street where the tram is integrated so that passage between east and west is made possible.

Morphology

The current urban structure is open in the north-south axis but only partially open in the east-west axis. It is the properties closest to the tram that close off the east-west streets and some further openings for pedestrian, bicycle and vehicle traffic would probably need to be created here. The courts of these properties would thus become public spaces.

Structural potential

A fairly large number of buildings regrettably do not display great potential for alteration. Many are economy and service buildings of one or two floors with low structural integrity, poor materials and few architectural qualities. That said there are also many buildings that although mundane offer good potential for being repurposed or extended.

Listing and other cultural considerations

Some of the properties have a green listing which often tends to correlate with office functions. The main exception is the old Frutas factory in the bottom south-west which has the highest protection after the Pripps brewery (outside of my actual study area).
Preliminary program

The exact program of my building cannot be decided at this moment since it depends on my final choice of host building. Thus my program will be defined at the time of its selection, in week 8 according to my schedule.

Another thing to say is that once I have my building and my program I will proceed with the preliminary design holding the program in the back of my head but at a certain distance. The building must reflect and respect the program, but not be limited to it. The detailed laying out of the program will take place only in the last phase of the design process.

In the first stage of whole block design I will explore different ways of increasing density and introducing new functions. Here too it depends a little on the existing conditions, but a preliminary benchmark is to double the existing density. As a working method I also envision to try out matching the density of different districts in Stockholm in the block.

It is also worth pointing out here that depending on the scenario of the airport different limitations on height and uses apply, most notably the airport precludes housing. My intent is that the block design will consist of different scenarios, however for a detailed building scenario I will most likely settle for one single scenario, one which will include housing.

My rough program for a mixed use development at this stage is as follows:

<table>
<thead>
<tr>
<th>APARTMENTS (1-5 ROK)</th>
<th>45 % of which:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartments</td>
<td>83%</td>
</tr>
<tr>
<td>Common areas</td>
<td>5%</td>
</tr>
<tr>
<td>Storage</td>
<td>5%</td>
</tr>
<tr>
<td>Circulation/Access</td>
<td>7%</td>
</tr>
</tbody>
</table>

These numbers are based on a mid-size development.10

10 Notably they were calculated on a development of 2700 sqm approximately. A total surface deviating largely from this will of course change certain of the proportions as not all things scale uniformly. In any case it may change depending on the urban location of the building, or by other choices.
Pre-project
Until January I will conclude mapping and analysis of the study area and select a final site to work with. I will also continue my studies of literature and urban dynamics. At the start-up of my project I will consolidate this into a set of scenarios for the development of the district at large.

Two-stage process: Stage One
The first part of my project will concern the development and densification of my block according to the established scenarios. This work will focus on density strategies, exterior spaces, figure-ground and volumetric studies. It will to a large extent be done in model. As mentioned, height and use regulations depend on the airport’s continued existence leading to more than one design scenario being developed.

Stage Two
Stage two involves the development in detail of an excerpt of the block. It will commence with the definition of the block, and the program sketched out in the volume. After this stage I will define the structure of the building according to design concept, typology and volume. This is where the level of flexibility permitted will be pinned down to a large extent. I then intend to develop the facade / envelope strategy and finally lock down my program in the building through the development of plans in detail. Materials and details will be studied in each phase of the project and not saved for last.

I personally love to work in plan, and Modernist tradition allows me to indulge in it. Le Corbusier stated that the plan is the generator. Wright said that an architect’s façades should surprise him. But working in plan is most likely not the best way to achieve the flexibility I seek. Since I tend to be inside-out biased I have decided to adopt a fairly strict opposite approach, progressively working from the outside-in, solving the plans only in the very last stage of the process (i.e. functions last).

Parallel track - theory and references
Part of this project is also to relate to the theoretical discussion around alteration projects, as mentioned principally through literature studies and the continued development of this text. Another part of my method would be to collect, analyse and compile in a booklet form references of alteration projects, in order to learn from precedents and to develop a critical understanding of the choices and driving forces behind the design of such projects.
<table>
<thead>
<tr>
<th>DATE</th>
<th>WHAT / TASK</th>
<th>DURATION</th>
<th>DELIVERY / OUTPUT</th>
<th>DEADLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 jan</td>
<td>Diploma start-up</td>
<td></td>
<td>Booklet</td>
<td>15 nov.</td>
</tr>
<tr>
<td>21 jan</td>
<td>District analysis</td>
<td></td>
<td>Revised booklet</td>
<td>6 jan.</td>
</tr>
<tr>
<td>27 jan</td>
<td>Block design (sketches)</td>
<td>10 days</td>
<td>Site plan 1:1000, diagrams to scale</td>
<td>26 jan.</td>
</tr>
<tr>
<td>9 feb.</td>
<td>Block design (development)</td>
<td>11 days</td>
<td>Final sketch in plans and/or model</td>
<td>6 feb.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Block proposition in plans and model</td>
<td>20 Mar.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Choise of object to develop, Program</td>
<td>20 Jan.</td>
</tr>
<tr>
<td>23 feb</td>
<td>Object design (sketches)</td>
<td>14 days</td>
<td>Concept drawings and/or models</td>
<td>11 Mar.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mid review</td>
<td>12 Mar.</td>
</tr>
<tr>
<td>16 mar</td>
<td>Design development</td>
<td>10 days</td>
<td>Drawings and models (scale?)</td>
<td>27 Mar.</td>
</tr>
<tr>
<td>21 mar</td>
<td>Study visit to Manchester</td>
<td>4 days</td>
<td>Study visit rapport</td>
<td>30 Mar.</td>
</tr>
<tr>
<td>DATE</td>
<td>WHAT / TASK</td>
<td>DURATION</td>
<td>DELIVERY / OUTPUT</td>
<td>DEADLINE</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------</td>
<td>----------</td>
<td>------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>30 mar.</td>
<td>Design development</td>
<td>15 days</td>
<td>Drawings and models (scale?)</td>
<td>17 apr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Intermediary presentation</td>
<td></td>
</tr>
<tr>
<td>20 apr.</td>
<td>Design development</td>
<td>10 days</td>
<td>Drawings and models (scale?)</td>
<td>4 may</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Intermediary presentation</td>
<td></td>
</tr>
<tr>
<td>5 may</td>
<td>Final layout</td>
<td>2 days</td>
<td>Layout dummy</td>
<td>7 may</td>
</tr>
<tr>
<td>7 may</td>
<td>Presentation drawings</td>
<td>7 days</td>
<td>Presentation drawings</td>
<td>14 may</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Final review</td>
<td>12 may</td>
</tr>
<tr>
<td>15 may</td>
<td>Presentation model building</td>
<td>8 days</td>
<td>Presentation models</td>
<td>22 may</td>
</tr>
<tr>
<td>23 may</td>
<td>Final renderings and 3D-modelling</td>
<td>6 days</td>
<td>Presentation images</td>
<td>29 may</td>
</tr>
<tr>
<td>29 may</td>
<td>Retouching</td>
<td>2 days</td>
<td>Pin-Up</td>
<td>31 may</td>
</tr>
</tbody>
</table>
### LITERATURE LIST

<table>
<thead>
<tr>
<th>ADAPTIVE REUSE</th>
<th>URBAN PLANNING</th>
<th>MATERIALS</th>
<th>CONSTRUCTION</th>
<th>LITERATURE LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Altering Architecture</td>
<td>L’art de bâtir les villes</td>
<td>Cradle to Cradle</td>
<td>Bois – Systèmes Constructifs</td>
<td>City as Loft - Adaptive Reuse as a Resource for Sustainable Urban Development</td>
</tr>
<tr>
<td>Fred Scott</td>
<td>Camillo Sitte</td>
<td>William McDonough &amp; Michael Braungart</td>
<td>Josef Kolb</td>
<td>Matthias Baum &amp; Kees Christiaanse (Editors)</td>
</tr>
<tr>
<td>A well-advanced manifesto</td>
<td>Still one of the best books ever written on practical urbanism and the design of public spaces</td>
<td>A seminal text on resource use, arguing for binary sustainability and rejection of present-day “greening.”</td>
<td>A comprehensive guide to modern wood construction</td>
<td>A seminal text arguing for acceptance of change</td>
</tr>
<tr>
<td>Alvar Aalto</td>
<td>Jane Jacobs</td>
<td>Fred Scott</td>
<td>Christian Schöttl (Editor)</td>
<td>Stuart Brand</td>
</tr>
<tr>
<td>Critique on modernism (tabula-rasa) city planning</td>
<td>Particularly chapter 10 “The Need for Aged Buildings.”</td>
<td>A self-proclaimed manifesto</td>
<td>Exploring flexibility</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>College City</td>
<td>Flexible Housing</td>
<td>The Architecture of the City (Oppositions Books)</td>
<td>How Buildings Learn: What Happens After They’re Built</td>
<td>L’habitat évolutif: du mythe aux réalités</td>
</tr>
<tr>
<td>Colin Rowe &amp; Fred Koetter</td>
<td>Tatjana Schneider &amp; Jeremy Till</td>
<td>A critique on modernist city planning</td>
<td>Christian Schöttl (Editor)</td>
<td>Manuel Herzog</td>
</tr>
<tr>
<td>Another well-known critique on modernist city planning</td>
<td>Examining flexibility in the past, present and future</td>
<td>Frame and Generic Space</td>
<td>L’habitat évolutif: du mythe aux réalités</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>Rodrigo Peix de Arca</td>
<td>Avi Friedman</td>
<td>Loïc Layani</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>City as Loft - Adaptive Reuse as a Resource for Sustainable Urban Development</td>
<td>The Adaptable House</td>
<td>Caucas Bernard</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>Marthe Bauk &amp; Kevin Christian (Editors)</td>
<td>The Adaptable House</td>
<td>Caucas Bernard</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>Linking alteration and flexibility to sustainability issues</td>
<td>Exploring flexibility</td>
<td>Caucas Bernard</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>How Buildings Learn: What Happens After They’ve Built</td>
<td>The Adaptable House</td>
<td>Caucas Bernard</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>Stuart Brand</td>
<td>The Adaptable House</td>
<td>Caucas Bernard</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
<tr>
<td>A seminal text arguing for acceptance of change</td>
<td>The Adaptable House</td>
<td>Caucas Bernard</td>
<td>Nadia Hoyet</td>
<td>A seminal test arguing for acceptance of change</td>
</tr>
</tbody>
</table>

---

![Image 1](https://via.placeholder.com/150)

![Image 2](https://via.placeholder.com/150)

---

**ILL U 39**


---

**ILL U 31**


---

63