COBRAMAN

Manager Coordinating Brownfield Redevelopment Activities

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# Brownfield regeneration Management plan

**WP 4**
**Output 4.2.2**

**Prepared by:**
**Dr. Thomas Ertel**
**Et environment & technology Dr. Ertel**

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# 1. Introduction to the brownfield regeneration management plan

Brownfield redevelopment is a multidisciplinary subject with a complex structure. It is for sure that Stakeholders involvement is needed and that also a project framework is needed. Not at last today it is already good management practice to build a project on a project management plan.
As soon as the political decision is made by the respective municipality or a contract for site development is closed the project manager should create the project management plan, reflecting all input already provided by the project team and key stakeholders.
The brownfield regeneration management plan is a living entity which will change and transform until the project is complete. Retrospectively this plan includes a map to guide your decisions and actions and helps to meet your objectives
Note: If you fail to plan you plan to fail!!
This plan is similar to a classical project management plan. It is a formal, approved document that defines how the redevelopment project is executed, monitored and controlled. Depending on the complexity of the site it may be summary or detailed and may be composed of one or more subsidiary management plans and other planning documents.
It is like a roadmap for all project team members but especially dedicated to the BM. It explains how the intended project scope will be reached, guides through the stations from initiating, planning, executing, monitoring and closing the redevelopment project and helps to take care of various project constraints like scope, quality, schedule, budget, resources and risks. Once agreed and approved by at least the project team and its key stakeholders the plan is the binding framework for all activities during the redevelopment process.
What makes the difference? As in general project management matters it is all about persons, their aims & goals, the financial framework, the time planning, public relation and documentation. But the special situation in a redevelopment projects even enlarge the complexity of a project. This complicates the definition of clear and broadly accepted objectives, structures and main work flows and subsequently setting up of subsidiary plans for schedule, cost, risk and quality management as well as stakeholder engagement plans. Although at project start the urban development framework and targets seem to be well defined, the longevity of the processes or technical risks and related modifications may imply changing boundary conditions, entrance of new stakeholders or substantial shifts in stakeholders' attitude towards the development.
These imponderabilities hamper the setup of well defined management plans. On the other hand, they underline the particular importance of their strict application.
The COBRAMAN recommendations to build a brownfield regeneration management plan (BRMP) described in this document are based on the standard set and described by the PMBOK® Guide, Project Management Institute (2008), a guide to the project management body of knowledge, 4th edition (see http://www.pmi.org/en/PMBOKGuideand-Standards/StandardsLibraryofPMIGlobalStandards.aspx). Free templates for all plans and subsidiary plans are available at http://www.projectmanagementdocs.com.
This format according to a generally accepted world wide standard on the one hand facilitates cooperation among the experts involved and on the other hand offers sufficient flexibility for brownfield specific adaptations.
This document is dedicated to brownfield regeneration managers, which are in charge of coordinating projects. It gives clear guidance how the project management can practically be set in place. By going through the four categories of the management plan and the related subchapters it is guaranteed that each aspect is tackled adequately. The more complex chapters are amended with detailed subsidiary management plans or at least with templates for key documents in order to provide the user with some practical help. Thus these annexes should be seen as a kind of toolbox to enhance daily work.

## 2. Structure

The general structure is divided in 4 categories and helps to keep the overview. The structure is as simple as possible but as complex as needed to cover all aspects of the redevelopment project in an adequate way. The importance of the single elements may vary from case to case but the general structure can be applied to all kind of redevelopment projects. The number of categories is not indicating the importance of the elements but is reflecting the logical and partly chronological sequence or a redevelopment process.

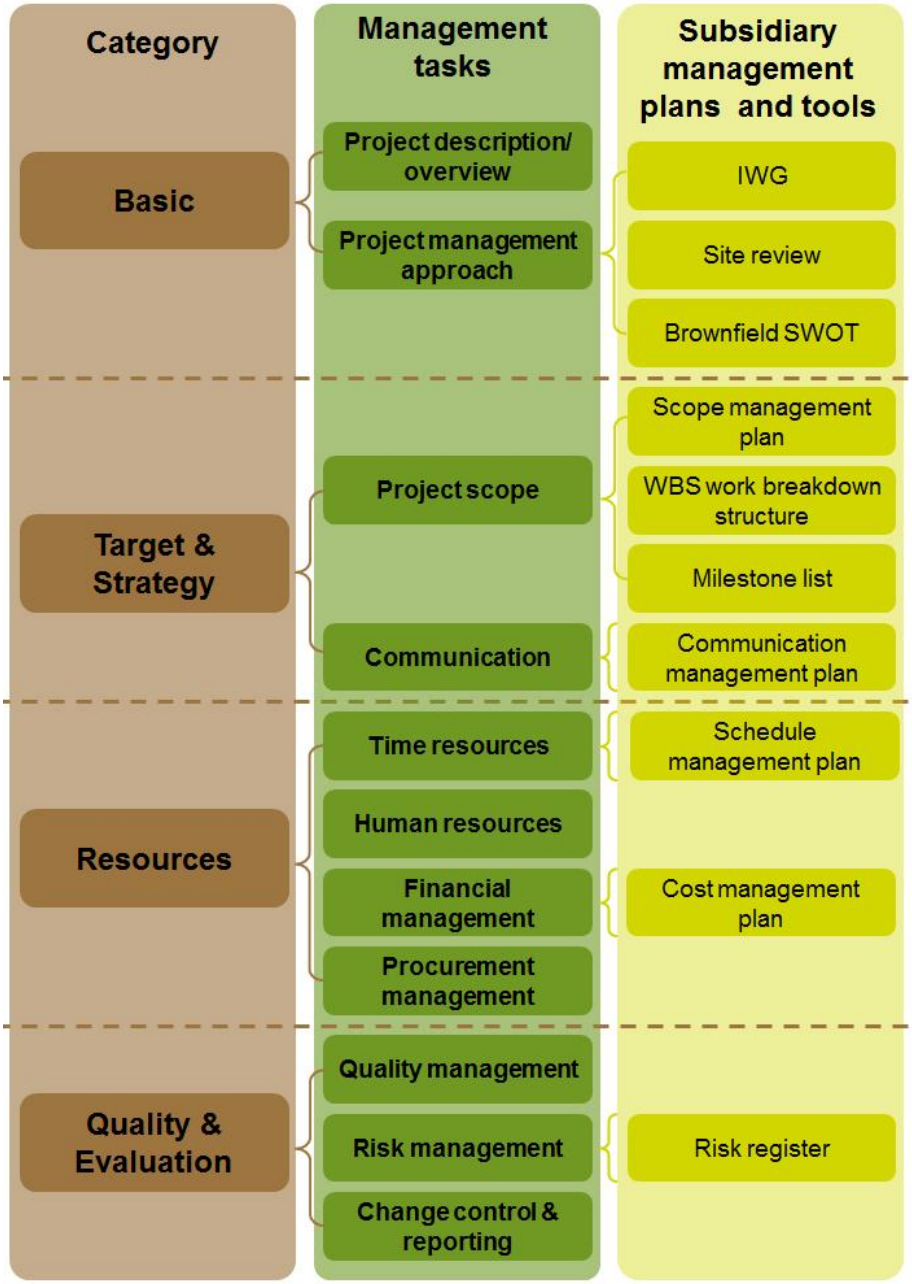


Figure 1 Key elements of a Brownfield regeneration management plan (BRMP)

The first category is dedicated to collect the basic organization structure of the redevelopment project and lay down the key facts of the site. It serves as reference paper with regular updates. The SWOT analyses already show which potentials the brownfield site offers but also where are the risks and obstacles.
Under the headline target and strategy the second category comprises the scoping process as well as the communication processes. Both processes are continuously ongoing and have

a very close link. Especially during complex redevelopment projects the communication with stakeholders is of outstanding importance as they may influence the scoping process.
The third category is dealing with resources and the way of managing these during the whole process. Time, human resources as well as budget issues are described. Due to the fact that during a redevelopment project a large number of external experts are consulted, also a chapter how to manage the procurement with time consuming tendering procedures was introduced.
Last but not least with a very close link to the scoping process quality aspects of the project are treated in the fourth chapter “Quality and Evaluation”. Which quality standards should be followed during the process and which quality standard should be reached with the final redeveloped site? The aspect of sustainability and criteria to check the envisaged goals are discussed. Another important task regarding quality is the risk management. How to monitor and evaluate quality criteria of the redevelopment process and how to follow up changes in the process which are for sure in such a long term complex project are described as well.
Each category comprises several aspects which have to be taken into consideration in the management of a brownfield regeneration processes. Some of these aspects are simple and self-explaining but mentioned here just not to be forgotten whereas some are demanding as they are complex, long termed, continuously under change or threatened by various risks. They are included as subsidiary plans in the detailed project documents of the pilot projects.

# 3. Basics

## *3.1 Overview description of the project*

This should be a high-level description of the project summarizing

- the purpose, objectives and main desired outputs,
- a description of work and the framework for time and budget,
- success criteria, approval requirements and
- the management team.

This overview should be based on the project charter or any other document, which was used to describe the project in the initiation or approval phase.

## *3.2 Project Management Approach*

### 3.2.1. Interdisciplinary working group IWG

It is consensus that a working group with all actors represented is a must for coordinating the manifold activities around the brownfield regeneration process. The term “interdisciplinary working group” reflects the composition of this group comprising various departments and specialists involved. However, the name used for such a project specific working group might be chosen differently.
The working group structure will depend on the specifics of each case and it might vary during the subsequent phases of project implementation. It is recommendable to set up a formal statute for the working group, outlining:

- aims and objectives, lifetime, meeting schedule,
- membership, representation and participation,
- competences and duties of the members,
- rules for decision making,
- chair and secretariat.

The more responsibilities and decision making power can be assigned from the different departments to such a group, the more effective their work will be. It is a key role for the regeneration manager to take over the chair or secretariat of the working group.

### 3.2.2. Site review

From the beginning of a project a multitude of information, planning documents, technical reports etc. will be produced by various participants involved. Keeping the overview, structuring and filing, assessing according to relevance and target groups as well as drawing appropriate conclusions are fundamental tasks to ensure the information flow within the project and its environment.
The site review is the mother document, outlining and summarising all relevant aspects, and linking to the wealth of existing specific documents. It is an internal working document continuously updated, collecting information from all members of the working group. It helps to bring all working group members to the same level of knowledge; it should be easily accessible for them. It should not be focusing on different target groups, but be considered as the source for specific documents (e.g. SWOT) and target group related information as e.g. marketing communication activities.
**Annex 1 Template for a site review**

### 3.2.3. Brownfiled SWOT

SWOT Analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities and Threats involved in a project or in a business venture.
In SWOT analysis a careful identification of individual SWOT items is essential because

subsequent steps in the process of planning for achievement of the selected objective may be derived from the SWOT. For a brownfield regeneration specific SWOT ( see fig. 2) these items have been categorised into:

- **microsite aspects**, e.g. current and future use, ecological aspects, financial issues, social and cultural aspects etc.
- **macrosite aspects**, e.g. neighbourhood uses, infrastructure / transport situation, market situation & competitors etc.
- **stakeholder engagement**, e.g. owners, investors, citizens in neighbourhood, politicians etc.

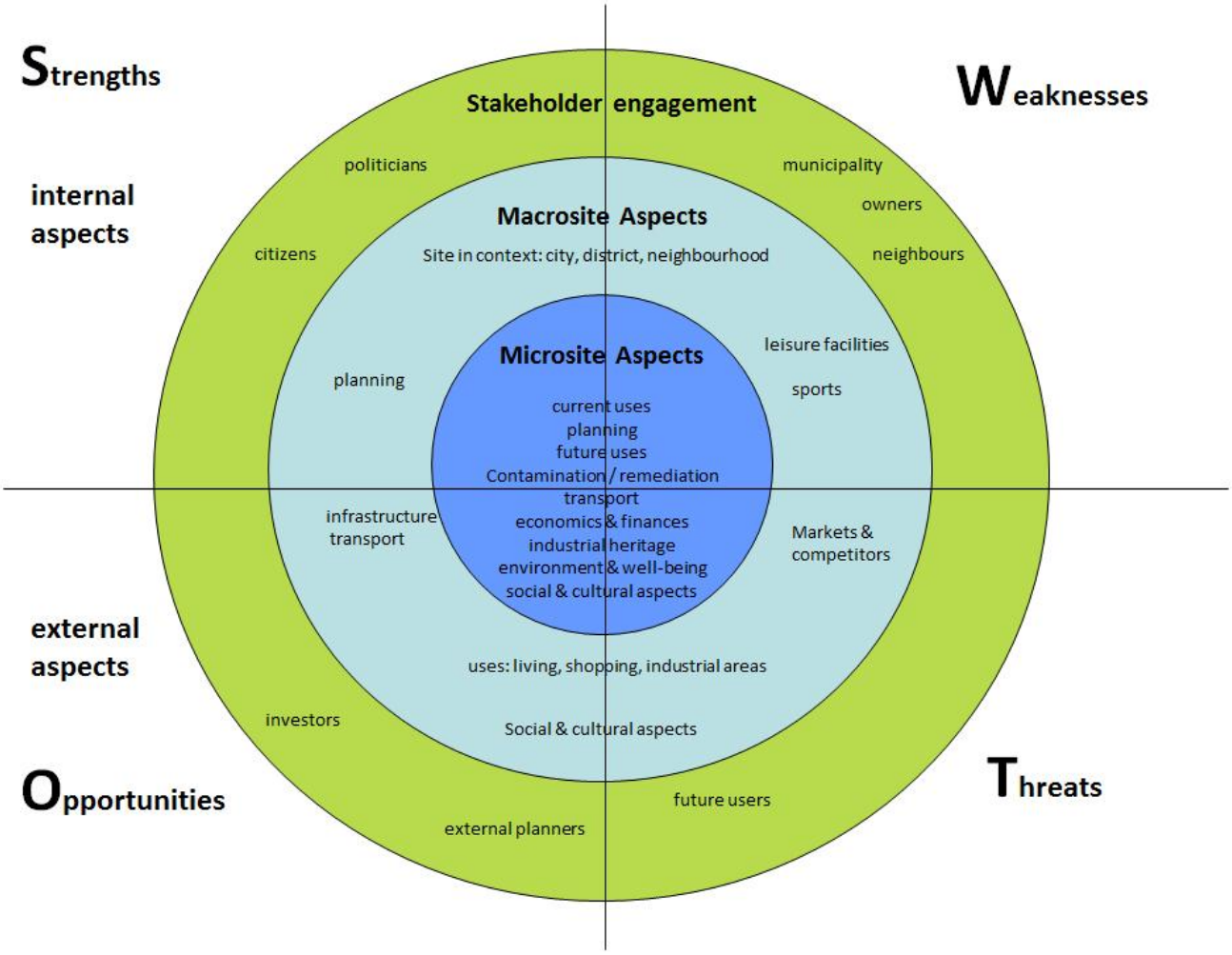


**Fig. 2: Brownfield SWOT systematic approach including external and internal aspects at different scales**

This third category “stakeholder engagement” is considered to be the key function driving or blocking development, as their **interests and activities are superposing site aspects (micro- and macrosite).** This is well represented in the windmill principle, see figure 3. “The stronger the wind is blowing, the faster the wings are moving”. This might be conveyed to “the strength of the interests and of the voices of certain stakeholders will define the progress in regeneration processes”.

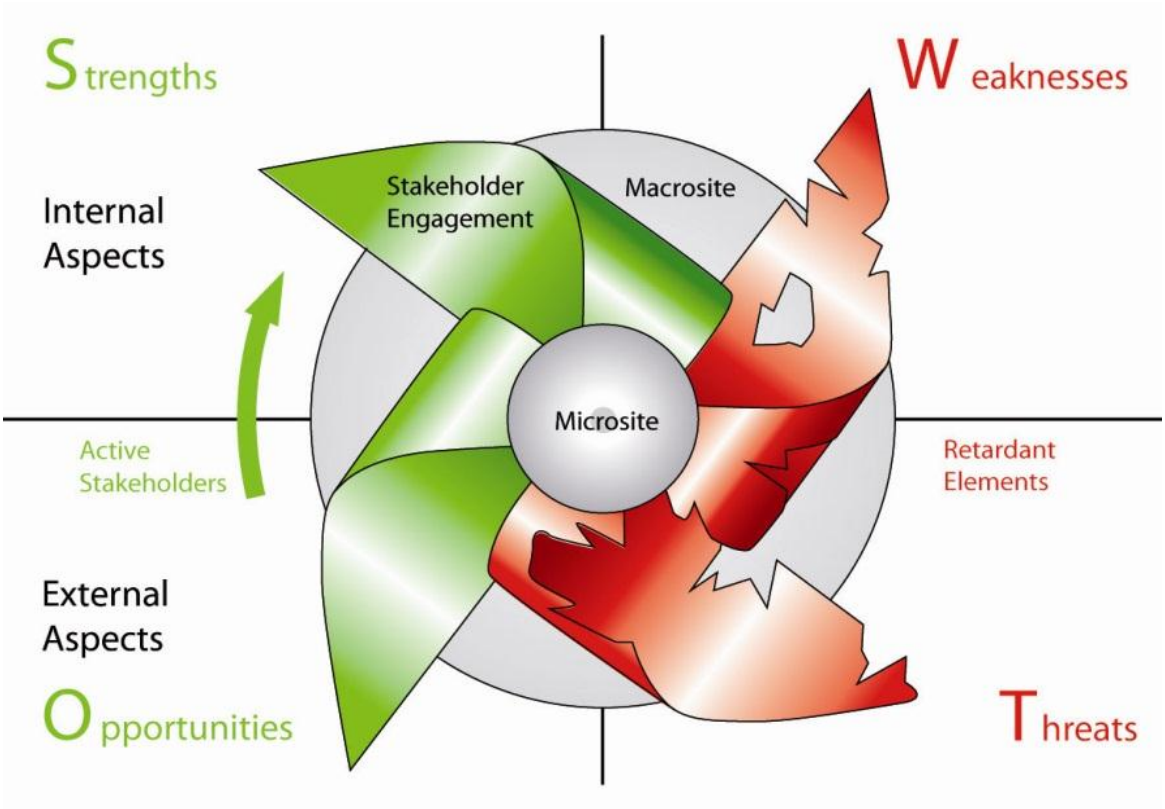


**Fig. 3: Windmill principle in brownfield regeneration**

For the practical work on setting up a SWOT it is recommendable to work with a matrix for each category, see annex 2.

**Annex 2 Template for a brownfield SWOT**

# 4. Target & Strategy

## *4.1 Scope Management*

Following the PBBOK the "Scope Management is the collection of processes which ensure that the project includes all the work required to complete it while excluding all work which is not necessary to complete it. The Scope Management Plan details how the project scope will be defined, developed, and verified. It clearly defines who is responsible for managing the projects' scope and acts as a guide for managing and controlling the scope."
In general the scope management can be described in 5 steps:
Step 1 Collect requirements: The scoping process should start with the definition of responsibilities. Who is responsible for environmental aspects, who for planning, who for building and who for investor relation? How do the decision making processes look like and how long do they take?
Once the responsibilities are clarified the stakeholders should be identified. Both internal and external stakeholders have to be included in the scoping process and their expectations to the projects should be taken into account. Already at this point a stakeholder consultation should be started (explained under communication) to ensure a smooth implementation and a sustainable acceptance of the projects.
Step 2 Define scope: Bringing different expectations of various stakeholders together the redeveloped site should be described in detail. The SWOT worked out under 3.2.3 may help to establish a realistic scenario.
Step 3 Create WBS: The WBS describes each component of the work which has do be done or might have to be done during the revitalisation process, while each component should result in a specific outputs (deliverables) which either can be physically (contract with external expert, master plan, …) or a project stage (end of environmental investigation, end of demolition phase, ..). It also describes interdependencies between single components (for example: removal of environmental pollution before starting building activities, typical finish-to-start dependency). The interdependencies should be also analysed and marked whether they are internal or external dependencies which cannot be influenced by the BM. For each component of work the responsibilities and their approximate duration should be listed. The WBS is part of the scope management plan but can be seen as a key tool for the brownfield manager for daily work.
Within the development process milestones should be identified which are significant points or events in the project, e.g. the political decision to start with the project, or beginning of building activities.
Step 4 Verify scope: Define how the deliverables will be verified against the original scope. Who will be monitoring the delivery of the outputs and how as well as by whom will they be accepted?
Step 5 Control scope: Controlling the scope means monitoring the project progress. The BM may use the WBS and the milestone list to control whether the project is in line with the original scope. As brownfield redevelopment projects are often influenced by external factors (weather, political decision, financial issues, participation processes …) the basic plans (baselines) will need to be adapted and changed. Therefore in this step the change process for making changes to the scope baseline should be defined. How should requests for changes be submitted; when, by whom? Who decide about the changes? This section is closely linked to the category 6 Quality and Evaluation which goes beyond the description of the process but gives clear advices and tools how to implement the monitoring of the whole redevelopment process.
A template scope management plan is available at
http://www.projectmanagementdocs.com/templates/scope-management-plan.html
A template work breakdown structure is available at
http://www.projectmanagementdocs.com/templates/work-breakdown-structure-wbs.html

### *4.2 Communication Management*

Reason why communication and scope are combined together in one category is their strong interaction within urban development projects. Whereas the development of a common product can be tackled mostly internal within the developing organisation, a large urban project needs to continuously involve stakeholders, which mean not only politicians but also interest groups, neighbours or interested public. The extent of involvement may vary from solely information to active contribution to planning and execution. Thus the scope and its management is strongly depending on communication with those stakeholder groups. Therefore it is recommended to follow the stakeholder engagement process toolkit to manage this involvement process in an efficient way.
The responsibility to manage stakeholder engagement process should be identified already in the communication plan whereas the process description itself should be documented in a separate file. The toolkit with checklists and templates for reporting can be downloaded here: http://www.revit-nweurope.org/selfguidingtrail/27_Stakeholder_engagement_a_toolkit.pdf
However dealing with communication should always distinguish between internal- and external communication and the way how the project communication is managed.
A template communication management plan is available at http://www.projectmanagementdocs.com/templates/communications-management-plan.html

The communicant management plan defines the roles and responsibilities for:

- Interdisciplinary Working Group (IWG) / Change Control Board
- Brownfield Manager
- Staff only temporarily involved in the IWG
- Key Stakeholders
- Program Managers (superior authority, mayors office, public funds office)

As well as give advice how to

- set up project team register
- defines the responsibilities and approach on external communication (marketing)
- defines responsibilities and approach on stakeholder engagement process

# 5. Resources

### *5.1 Schedule Management*

Building on the WBS and milestone list the time planning for the whole revitalisation process has to be developed. The baseline is core output of the time management plan which contains further details to the time planning such as responsibilities of time estimates, of monitoring etc. and is as subsidiary plan part of this BMP. It also receives input from the procurement management plan. As some parts of work might have to be delivered by externals time planning for procurement activities should be included in the schedule baseline.
Most often the format of a gantt chart is used to integrate the time planning in the WBS. A lot of freeware software is available to draw gantt charts. One of these can be found here: http://openproj.org/
A template schedule management plan is available at http://www.projectmanagementdocs.com/templates/schedule-management-plan.html

### *5.2 Financial resources*

Project costs management includes the processes involved in ***estimating***, ***budgeting*** and ***controlling*** costs so that the project can be completed within the approved budget (Definition taken from BMBOK©, 2008). In the initiating phase of a project basic issues needs to be defined which are:

- Who is *responsible* for managing costs
- Define budget flexibility rules (control thresholds) and identify responsibility who has the *authority to approve changes* to the budget
- How cost performance is followed up, control account(WBS component) vs. current costs
- *Define reporting periods, Report* formats and to whom they are presented

Once responsibilities and controlling processes are defined the budget for the whole brownfield redevelopment project should be set up. Key document to plan and control the project financials is a table, built on the WBS. For each component of the work to be done cost estimates should be calculated as realistic as possible. For future follow up it is important not only to give final figures but also to indicate in detail how the costs were estimated and by whom the estimation was calculated. For a better overview the costs should be allocated not only to work components but also to cost categories (staff costs, subcontractor costs, …). The table, established in the planning phase of the project is called cost baseline. It is out of discussion that estimation of brownfield projects costs is a challenging task as numerous external and internal factors can easily change the estimated costs in a wide range. However for the estimation the following tools available which are described in detail in the cost management template.

- Expert judgement
- Analogous Estimating (from previous projects)
- Bottom-up estimating (starting from very detailed estimation per work-package and than summarising to higher level)
- Three point Estimation PERT (Most likely CM, Optimistic CO, Pessimistic CP)
- Reserve Analysis

A template cost management plan is available at http://www.projectmanagementdocs.com/templates/cost-management-plan.html

Besides the general financial project management brownfield projects are frequently supported by different national or regional funding schemes. These funding schemes might have their own regulations for handling eligible costs and subsidies, which should be taken into account in the financial management plan.

The same may be applicable for potential PPP establishments to be considered. If any their financial management specifications should be investigated, described in detail and should be taken into account in the cost management plan.

### *5.3 Human resources*

Building on the communication rules for each component of the work in the WBS the responsibilities must be clearly defined. Only in this way each team member as well as all stakeholders can fully understand what are their roles to play within the project team and which kind of authorities and possibilities they have to influence the project. When listing roles and responsibilities according to WBS the availability of the human resources should also be indicated: is staff available full time, or only part time, are there periods where staff is blocked because of other activities in the department.
In many software programs the human resource management plan can be shown as part of a gantt chart. This enables thorough analysis and realistic estimation of time and staff costs for dedicated tasks at work package and action level.

An example for a human resource plan such is available at
http://www.projectmanagementdocs.com/templates/human-resource-plan.html

### *5.4 Procurement Management*

Also to be included in the gantt should be the procurement management. More than in the classical projects the procurement is playing an important role during brownfield redevelopment. There is usually a brought variety of external experts involved and for the tendering procedures a significant time buffer has to be foreseen. What even makes it more difficult in time and resource management are the interdependencies between the single compounds of work to be done by different externals, so that for example Start-to-finish (building can only be started when demolition is finished) or Start-to-start (monitoring has to start together with remediation activities) dependencies demand also flexibility in time planning of the externals.
In public procurement national and local regulation are defining tight framework conditions for the brownfield managers, which hamper the outline of a generally applicable template at sufficient level of detail. Different kinds if services have to be considered as e.g.

- External expert and consultancy services
- Services for delivery of goods and materials
- Construction services

Further tenders can be public or restricted and competitive dialogue processes as well as framework contracts might also be taken into account.
An example of a procurement management plan is available at
http://www.projectmanagementdocs.com/templates/procurement-management-plan.html

# 6. Quality and evaluation

## *6.1 Quality Management*

It is a challenging task to describe how quality will be managed during the lifetime of a brownfield regeneration process, which can be lasting even for a decade. This has to be laid down in a quality management plan including the processes and procedures for ensuring quality planning, assurance and control.
Dealing with the revitalization of city areas it is of utmost importance to consider "quality" from 3 different perspectives:

1. The product perspective, comprising technical aspects of the works on renewal including remediation, construction of buildings and infrastructure etc.
2. The process perspective of the regeneration project as such
3. The urbanistic perspective, which means the overall "urban quality" to be achieved with the entire area through the revitalization.

Where as for the product and process perspective numerous established procedures and standards can be adapted and applied, it is much more difficult to address the topic of urban quality. Criteria to be applied for a definition of urban quality could be

- Functional aspects as e.g. types of land use, level of variety of businesses, structures etc.
- Economic aspects as e.g. housing / working mix, allotment and provision of public services, logistics and infrastructure etc.
- Ecological aspects and sustainability as e.g. renewable energy, building materials, resource efficiency,minimal soil sealing, nature conservation etc.
- Aspects of beauty in urban design and emotional well-being for inhabitants, which might include scaling, perspectives, open spaces, mterials and colours used etc.

Reflecting these perspectives, criteria and aspects the quality management plan shall be structured in the quality management approach, quality requirements / standards, quality assurance, quality control and control measurements.
A generic example of a quality management plan is available at
http://www.projectmanagementdocs.com/templates/quality-management-plan-template.html

## *6.2 Risk Management*

It is the objective of the risk management to Increase the probability and impact of positive events, and decrease the probability and impact of negative events in the project. (Definition taken from BMBOK©, 2008)
To set up an efficient risk management 3 steps should be taken
Step 1: define risk categories such as technical, external, organizational, project management. *Note:* in each category risks on several project objectives can be listed. For example: technical risk; unknown groundwater pollution, risk on project objective time (significant time increase) risk on project objective cost (significant cost increase), external risk; extremely cold winter, risk on project objective time (significant time increase)
Step 2: identify risks. There are several techniques existing like Brainstorming, Delphi technique, Interviewing. As brownfield redevelopment projects are highly multidisciplinary and each discipline bears his one risks, it is recommended to organise a risk identification workshop with all experts involved in the project. During this workshop all possible risks should be listed and even more important their potential responses (measure to be taken and responsible persons) should also be included in this list.
Step 3: Once this list is set up, the performance of qualitative risk assessment should start by allocating risk probability and possible impact to each risk mentioned in the list. The amended and updated list – the risk register - now should be prioritised according the following factors:

- risks of high probability – high impact
- risks of low probability – high impact
- risks of high probability – low impact
- watch-list of low–priority risks

A template for a risk management plan and a risk register is available at http://www.projectmanagementdocs.com/templates/risk-management-plan.html and http://www.projectmanagementdocs.com/templates/risk-register.html

### *6.3 Change control and reporting*

It is in the nature of large and long lasting brownfield regeneration processes that significant changes may occur frequently in planning and implementation of the project. Therefore definitions for types of changes and different level of significance are required. Accordingly the roles and responsibilities can be assigned and the processes *"what to do, if….."* can be described. These are the main contents of a project change management plan.

A template for such a change management plan is available at http://www.projectmanagementdocs.com/templates/change-management-plan-template.html

## Annex 1: Model structure and key topics to be covered by a site review report

| Chapter | Content |
|---|---|
| Rationale and goals | • Structuring available information<br>• Bringing working group members to same level of knowledge<br>• Basis for SWOT and vision development<br>• Basis for marketing communication activities |
| Project site and its | • Location within the city |
| Surrounding / Macrosite | • Background project name, delineation neighbourhood<br>• How does it look “on site”<br>• Development plans of neighbourhood |
| Historical and current use of the site | • Type of use<br>• Ownerships<br>• Site specifics? |
| Conflicts and constrains for developments | • Contamination & remediation<br>• Heritage/nature protection<br>• General urban planning constrains (fresh air corridors, green belts, large scale future projects,…)<br>• Ownership structure, pre-emption rights<br>• Political interest |
| Current state of planning | • General planning principles of the city<br>• Existing planning framework, land use plan and urban design<br>• Zoning plan<br>• Infrastructure and transport planning |
| Available investigation reports and studies | • External expertise / feasibility studies related to planning<br>• Cost benefit models of various land use options<br>• Any other expertise closely related in terms of location as well as in terms of “circumstances” to the development site |
| Currently ongoing activities | • Describe all activities (incl. political/public interest)<br>• Keep the document updated! |
| Visions and potentials for development | • The brownfield SWOT<br>• Strategies, development objectives, general principles<br>• Mission statement |
| Basis requirements for preparation of land for building, contamination | • Soil and groundwater contamination, remediation concepts<br>• Waste management<br>• Geotechnical aspects<br>• Social infrastructure required |
| Technical activities for preparation of land for building | • Demolition of buildings and infrastructure<br>• Installation of public infrastructure<br>• Geotechnical investigation<br>• Explosive ordnance investigation and clearance |
| Impact assessment of building activities | • Occupational health and safety<br>• Neighbourhood<br>• Nature conservation |
| Finances and marketing | • Market and risk analysis, marketing concept<br>• Project costs and revenues<br>• Potential funding opportunities<br>• Financial engineering<br>• Partners in finance and marketing |
| Time schedule | • Definition of milestones and critical stages<br>• Draft of project development schedule<br>• Ongoing activities which might affect the schedule |

| | |
|---|---|
| Summary and conclusions | • Summary of decisions taken within the interdisciplinary working group regarding direction of development<br>• Identification of the next steps to be taken<br>• Updated regularly in parallel to the work progress |
| Bibliography, guide to project documentation | • Literature cited<br>• Title and storage location of related expertise/reports<br>• Table of people or organisations /departments involved including contact details<br>• Annexes |

# Annex 2: Template for Brownfield SWOT

## Brownfield-SWOT-Matrix: microsite aspects

| microsite aspects | aspect | strengths | weaknesses | chances | risks |
|---|---|---|---|---|---|
| | current uses | | | | |
| | future uses | | | | |
| | planning | | | | |
| | industrial heritage | | | | |
| | transport | | | | |
| | remediation | | | | |
| | financial aspects | | | | |
| | ecological aspects | | | | |
| | social & cultural aspects | | | | |

## Brownfield- SWOT-Matrix: macrosite aspects

| macrosite aspects \| area in context | aspect | strengths | weaknesses | chances | risks |
|---|---|---|---|---|---|
| | city, district, neighbourhood | | | | |
| | uses at surround | | | | |
| | infrastructure / transport | | | | |
| | plannings at surround | | | | |
| | industrial heritage | | | | |
| | realisation | | | | |
| | markets & competitors | | | | |
| | remediation | | | | |
| | ecological aspects | | | | |
| | sports / leisure | | | | |
| | social & cultural aspects | | | | |

## Brownfield-SWOT-Matrix: stakeholder engagement

| stakeholder: interests & actions | aspect | strengths | weaknesses | chances | risks |
|---|---|---|---|---|---|
| | politicians | | | | |
| | municipality | | | | |
| | departments of municipality | | | | |
| | owners | | | | |
| | aquirer | | | | |
| | investors | | | | |
| | future users | | | | |
| | external planners | | | | |
| | neigbours | | | | |
| | district´s citizens | | | | |