



HØGSKOLEN  
I BERGEN

BERGEN UNIVERSITY COLLEGE

## PROSJEKTLEDELSE MED BRUK AV "BIM".

PROJECT MANAGEMENT BY "BIM"

Welcome to the world of the construction.

Do you want to know what is happening now  
in this area and make your live more esay?

In this document yo will learn about Project  
Management,BIM, and the most important,what  
about the future?

You must evolve with the new generation of  
make a project and manage ti along the life cycle  
life.

If you what to know it, you should read this  
project, you will enjoy it.

bybanen utbygging 



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA



ESCUELA TÉCNICA SUPERIOR  
INGENIERÍA DE  
EDIFICACIÓN

Eliecer Escrivà Orozco

Education Program: Bachelor of Engineering  
Department of Civil Engineering  
Faculty of Engineering and Business Administration  
Submission date: 02/June/2014

*Agradecimientos a alguien especial*

***Adrian Royo Sanahuja***

***Ingeniero de Edificación,compañero y amigo***

# PREFACE

Welcome to the world of the construction.

Do you want to know what is happening now in this area and make your life more easy?

In this document you will learn about Project Management, BIM, and the most important, what about the future?

You must evolve with the new generation of make a project and manage it along the life cycle life.

If you want to know it, you should read this project, you will enjoy it.

## **SUMMARY**

The main issue of this project is going to be the influence of the BIM system in the project management, specific using Navisworks manage.

Taking advantage of this, will try to into this program to the company Bybanen Utbugging, because is a better solution to manage.

# LIST OF ILLUSTRATIONS

## CHAPTER 1

Figure 1.2.1 Life cycle of the project.....	4
Figure 1.2.2 Project management Plan.....	5

## CHAPTER 2

Figure 2.3 The process of BIM.....	11
Figure 2.4 Flow chart BIM coordination.....	12
Figure 2.5 The cloud.....	13

## CHAPTER 3

Figure 3.2 Floward planin flow chart.....	21
Figure 3.3 Organization and coordination.....	22
Figura 3.4.1 Usual operation in the company.....	24
Figura 3.4.2 Cycle before build.....	25

## CHAPTER 4

Figure 4.1 Post Navisworks.....	29
Figure 4.2.1 navisworks images.....	30
Figure 4.2.2 Overview drawing.....	31
Figure 4.2.3 Vertical section drawing.....	31
Figure 4.3.1 Navisworks view 1.....	32
Figure 4.3.2 Navisworks view 2.....	32
Figure 4.3.3 Navisworks view 3.....	33
Figure 4.3.4 Navisworks view 4.....	33
Figure 4.3.5 Navisworks view 5.....	34

# TABLE OF CONTENTS

## PREFACE

## SUMMARY

## LIST OF ILLUSTRATIONS

## TABLE OF CONTENTS

<b>INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 1: PROJECT MANAGEMENT.....</b>	<b>2</b>
1.1 Introduction.....	3
1.2 life cycle of the project.....	3
1.3 Project Management.....	6
1.4 The Project Manager.....	6
1.5 Developing a Working System.....	7
1.6 Risk in project management (Plan B).....	7
1.7 Tools to manage.....	8
<b>CHAPTER 2: BUILDING INFORMATION MODELING.....</b>	<b>9</b>
2.1 Introduction.....	10
2.2 BIM.....	10
2.3 The process of BIM.....	11
2.4 Flow chart BIM coordination.....	12
2.5 The cloud.....	13
2.6 Gain Control Over Construction Projects.....	14
2.7 How BIM is involved in major construction agents?.....	15
2.7.1 Promoter.....	15

2.7.2 Designer.....	16
2.7.3 Constructor.....	17
2.7.4 Project Manager.....	18

## **CHAPTER 3: BYBANEN UTBYGGING COMPANY.....19**

3.1 Introduction.....	20
3.2 Forward Planning.....	21
3.3 Organization and coordination.....	22
3.4 Usual operation in the company.....	23
3.5 Selection criteria of the contractors.....	25
3.6 How is the coordination about these issues?.....	26
3.7 Do exist a "plan B?" .....	26
3.8 Environment.....	27
3.9 Software tools to manage.....	27

## **CHAPTER 4: NAVISWORKS MANAGEMENT.....28**

4.1 Introduction.....	29
4.2 Features.....	30
4.3 Use of Navisworks management.....	32
4.3.1 Overview.....	32
4.3.2 Bybanen parking.....	32
4.3.3Add documents.....	33
4.3.4 Clash detection tool.....	33
4.3.5 Construction element.....	34

**CONCLUTION.....35**

**LITERATURE LIST.....38**

CHAPTER 1.....39

CHAPTER 2.....39

CHAPTER 3.....40

CHAPTER 4.....40

**APPENDICES.....41**



## INTRODUCTION

The main objective of this project is to analyze how to generate projects and manage them using virtual reality environments that facilitate and enhance the design, planning and control process of building construction from the BIM system (building information modeling) . All this are applied to a real company "Bybanen Utbygging" to see how this system is involved in it. How is the operation of the business? Does it improve the project management process? What about the building process? Will it revolutionize the construction world? Is it the future?

To get to answer these questions, it is important to have knowledge of the most basic concepts that will intervene in this analysis in order to draw conclusions. To this end, this essay will start with a general idea of the blocks which will form this project, and deepen each of them further on under the general theme.

To begin with, let us have a clear concept about **Project Management**.



## ***CHAPTER 1: PROJECT MANAGEMENT***

---

## 1.1 INTRODUCTION

### What is a project?

A project is a document called “project” which connect activities to achieve a specific purpose made up of a group of interrelated work activities constrained by a specific scope, budget, and schedule to deliver capital assets needed to achieve the strategic objectives. This document is going to be the base, the soul where it must focus the desired purpose. This step is essential because we cannot program, build, control or manage anything without a well-defined project.

The Project must be viable, sustainable and measurable.

## 1.2 LIFE CYCLE OF A PROJECT

The projects are divided into phases to facilitate their management, improve control, and keep the project aligned with the objectives. Each of the phases can be considered as a sub project. The end of each phase is accompanied by a review process producing reports to assess the performance of the project so far.

The composition of stages of the project is called project life cycle, which can be distinguished from that of product life cycle of the project.

A project has a life cycle, which is the sequence of activities needed to achieve the project's product. Typically, the life cycle of the project covers from the completion of the feasibility study, requirements specification, product design, manufacturing and testing, to delivery for operational use .

The time horizon of the product life cycle concept is broader, ranging from the idea or need reason for the project until it ends the life of the product, ie the building.

The definition of the project life cycle is important as it defines the transition activities at the beginning and end of it, and therefore interfaces with the performing organization.

Here are the phases of the life cycle of a generic project, with no claim to generality nor with regard to their names, number of phases, or activities and deliverables of each. These may change depending on the type of project.

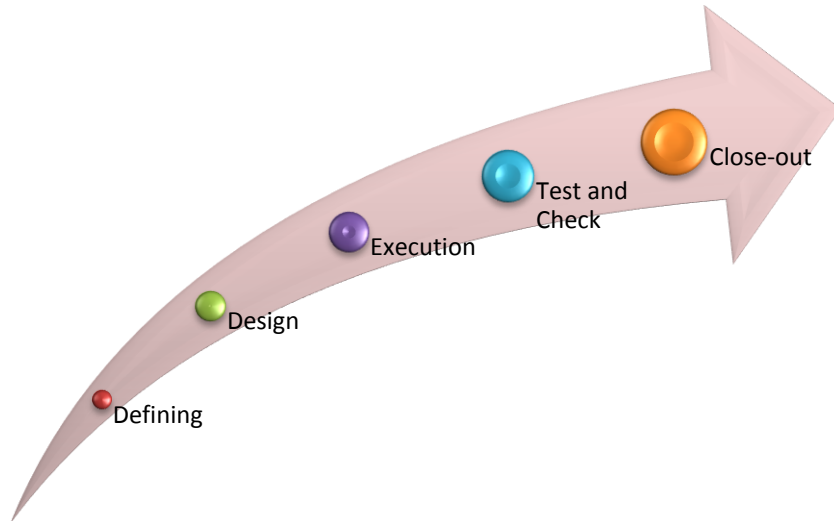


Figure 1.2.1

The project life cycle begins with the initiation of planning and design. During these phases the project develops through consideration of various alternatives and the concept is formed for the chosen alternative.

The design phase continues through the preliminary engineering effort to further analyze, validate, and define the preferred alternative and arrive at the baseline scope, budget, and schedule. The design phase concludes with the final design.

The construction phase continues with the bid and award process. At the end of the construction phase, the work of the contractor needs to be integrated with operations and company activities, technology, and equipment, and evaluated for acceptance through the commissioning phase to bring the project to a successful conclusion

## EACH OF THESE PHASES MEANS:

Define phase: the moment when the company poses an issue and it requires a solution

Design phase: the stage in which shows the different objectives pursued by the project requested.

Execution phase: the project itself. It is at this moment that problems will be revealed, and solutions be set for project implementation.

Test and Check phase: have control over the project in the face of not arising unforeseen problems and it doesn't obtain an invalid project for the company.

Closing phase: Review of objectives to ensure that those are achieved. In this phase we will check the success of the project

What is managed in a project?

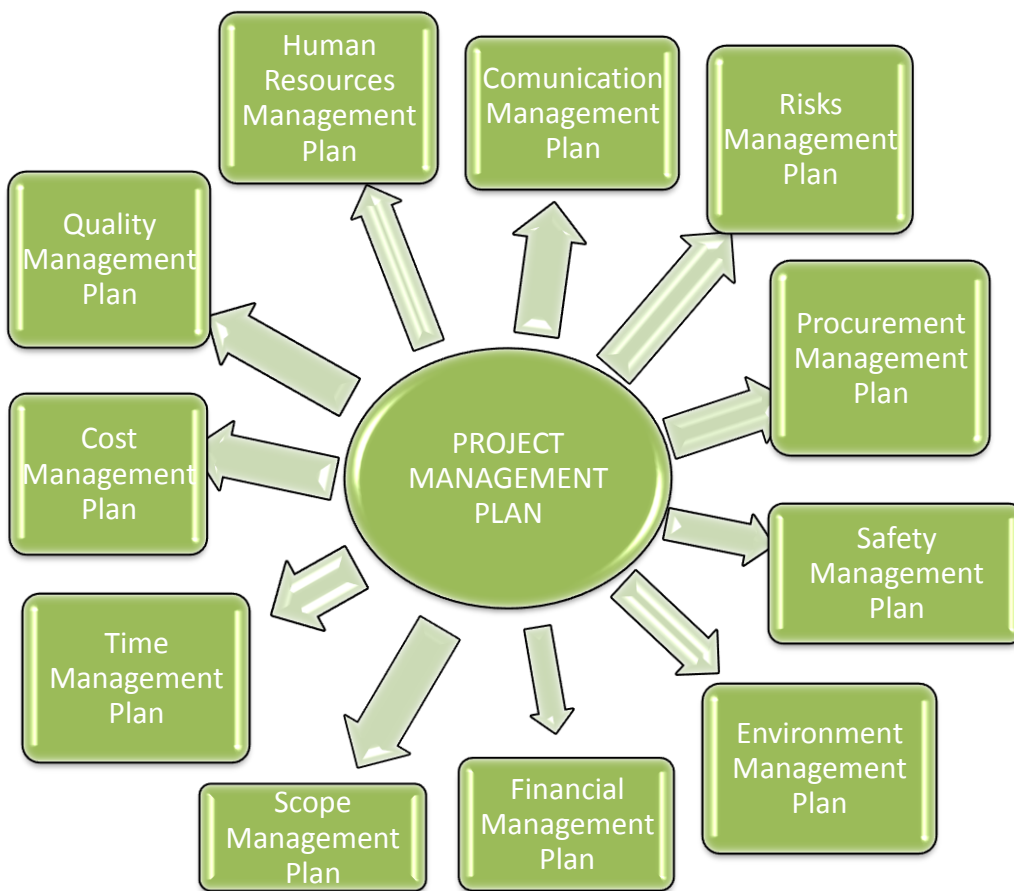


Figure 1.2.2

## 1.3 PROJECT MANAGEMENT

Is a process of planning, execution and control development of a system, a project, whose aim is to reach a final objective with a timeframe, cost and quality specific through technical, financial and human resources, looking for the best result.

The application of knowledge, skills, tools and techniques to project activities is necessary to meet the requirements thereof.

In brief, project management connects areas as diverse as the incorporation of the project, costs management, quality management, time management, human resources management and communication management. Thus, project management forms a dynamic cycle that elapse from approach to the implementation and control.

## 1.4 THE PROJECT MANAGER

Mainly the project manager coordinates all plans named in the above diagram.

The project manager is the person responsible to take needed decisions such that the risk be controlled and the uncertainty reduced to the minimum. Also it could understand as who has the discipline of plan, organize, ensure and coordinate resources and persons to achieve the objectives and criteria of success of projects.

The project manager's chances will be improved if the principles, which govern the project manager's activities, are adhered to. Exactness is not always attainable, so the project manager should have the ability to plan, follow and execute the project.

The project manager needs to draft a schedule that best depicts the data gathered from the estimate and the subcontractors.

Therefore the knowledge to be used control all always scarce resources: time, budget and personal.

In short, all the knowledge in interdisciplinary, social and organizational fields are required to provide an efficient, professional and quality service.

The project manager is the leader, "Captain of his Ship"

CONSTRUCTION MANAGER is the application of Project Management as a prime contractor who manages the recruitment process and shopping. He oversees the construction and supplies a wide range of additional services.

He works during the planning and construction of the project and accepts the responsibility for the construction and financial aspects.

His responsibility is to exercise the management optimizing all available resources to get results and benefits

## 1.5 DEVELOPING A WORKING SYSTEM

A manageable system is one that establishes a timetable guaranteeing the performance of tasks; sequenced to meet the time limitations of the developed schedule which was the foundation of the general conditions. The efficiency of the project must be measured in order to evaluate the success of the established goals.

From the general conditions, the project manager delineates the "when" and "how much" of each resource needed to perform each supervised task. The project manager then assigns the field performance conditions needed to measure start and completion times of tasks. On paper the project manager must ensure that each resource is provided within the correct task at the desired time.

In the field, the superintendent coordinates this function with each of the trade foreman, reporting back to the project manager the direction he chose to accomplish these tasks.

Resource management should be a shared activity with the project superintendent validating the manpower demands as anticipated by the estimate and field conditions. Proper management of resources is an important procedure for project team members as it supports the efforts to control cost and time.

With respect to resources allocations, each decision made equates to profits and losses. Knowing each procedure and translating its resources into costs allows for the accurate prediction of the money needed to finance the project. At this stage of cost analysis we can accept material costs as fixed

## 1.6 RISKS IN PROJECT MANAGEMENT (PLAN B)

Managing risk in a project is extended throughout the duration of the project, thus becoming a continuous process. Good management with risks makes an important contribution to the success of future projects performed, especially in the final stages.

The person responsible for this process is the project manager who has to keep an eye on the risks and opportunities that arise throughout the project.

Each organization decides the risk measurement you want to deal with a project.

All existing risks should be governed by a response plan that will be prepared by those skilled in each project task and will lay the foundation of success for overall project and the improvement of future projects.

We could call this plan “Plan B” of the Project.

## 1.7 TOOLS TO MANAGE

In each of the Plans of manage described above, it is necessary to use a different software to enable these activities, since there is numerous different information in different documents and a lot of people working, and it is very hard to manage all of that.

Due to that, it is of vital importance the communication between the members of the team who are working together along the life cycle of the project. The project manager should hold regular general team meetings to discuss the project status as well as focused technical meetings on design, construction, and project control issues.



***CHAPTER 2 : BUILDING INFORMATION MODELING***

---

## 2.1 INTRODUCTION

Having to manage many aspects of a project using many different programs to develop a project and coordinate the whole team is really hard work, so an evolutionary solution to this new work structure with the appearance of the project is needed, and this is BIM.

## 2.2 BIM (building information modeling)

### ***“Anticipate and reduce problems before construction “***

The concept of BIM was raised by its pioneer Charles Eastman in the early 70's digital media representation of construction processes in order to facilitate information management and enable the exchange of the same, and processes that not only focus on the steps planned to build, but can be used in the development life cycle of the project and later building.

The implementation of BIM involves a change even in the way we conceive the architectural design and engineering, which causes the appearance of a new professional profile in the construction sector, BIM Manager would be found between these project managers.

BIM radically transforms the process by which building structures in buildings are designed and constructed. A better coordination save time and money, while in the delivery of the structure engineering information is of a complete and understandable shape.

These new methods of delivering structural information go hand in hand with the idea of building lifecycle management. In addition, cloud computing enlarge further the application of these concepts by allowing BIM to be used in multiple places at the same time computerized Modeling (BIM): The creation and use of coordinated, consistent information. Interoperability: The ability to send digital information exchange between BIM models.

### **Cloud Computing (Cloud):**

The tasks to a third-party server located offsite, where the server returns a copy of completed tasks.

A BIM manager can obtain information from all users and insert data in a federated model, which in turn provides greater clarity, consistency and quality to the construction process. Here are two diagrams to help illustrate how BIM Works

## 2.3 THE PROCESS OF BIM

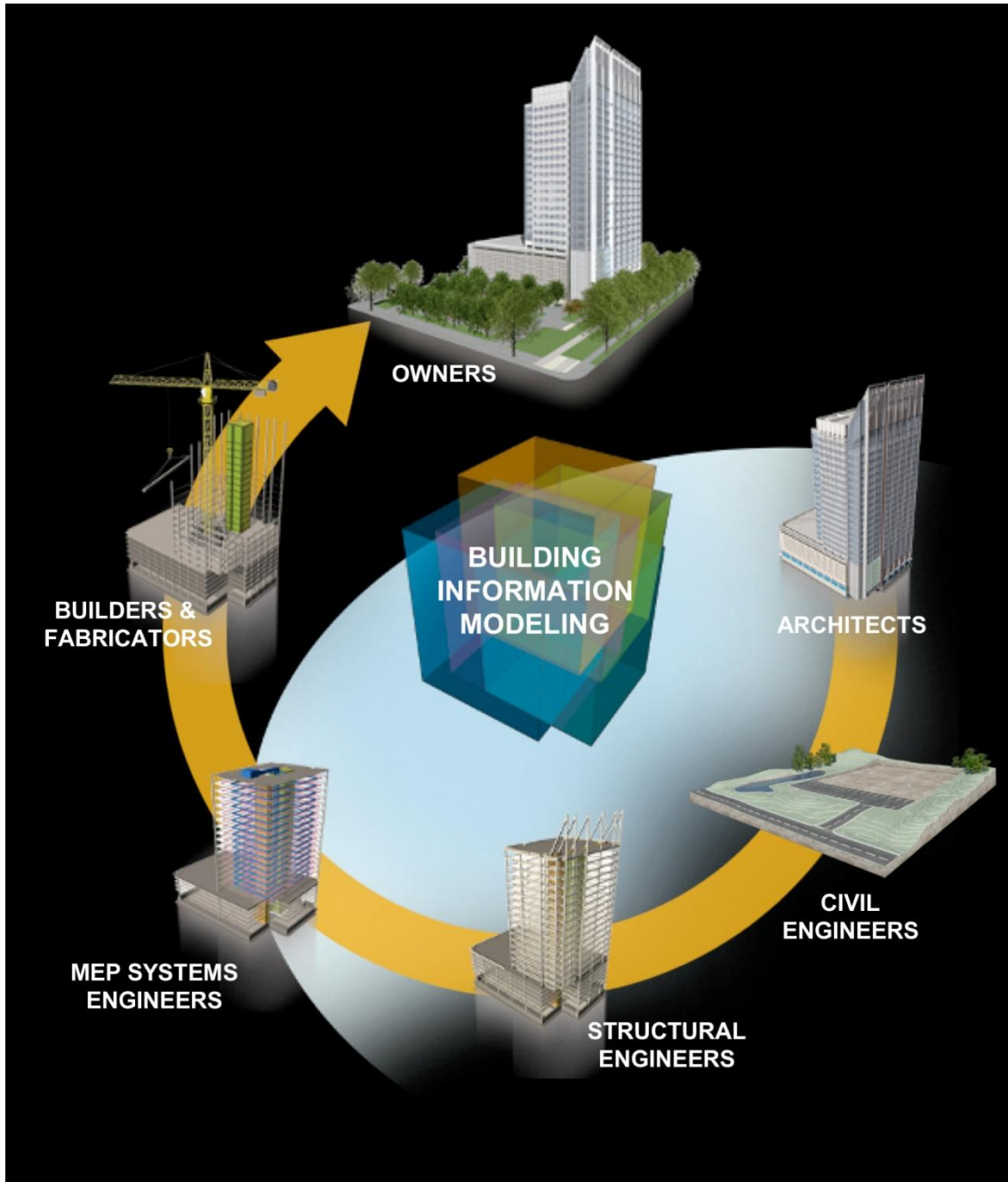


Figure 2.3

The industries of architecture, engineering and construction (AEC) have many companies who work with their own related 3D building models that can communicate electronically with other stakeholders models data. The federated model construction is a collection of customer information, architect, structural engineer, Mechanical,

Electrical and Plumbing Engineering (MEP), and contractors who assist in the completion of construction of the client. This provides higher quality, more economically avoiding to share information in a way based purely on paper.

## 2.4 FLOW CHART BIM COORDINATION

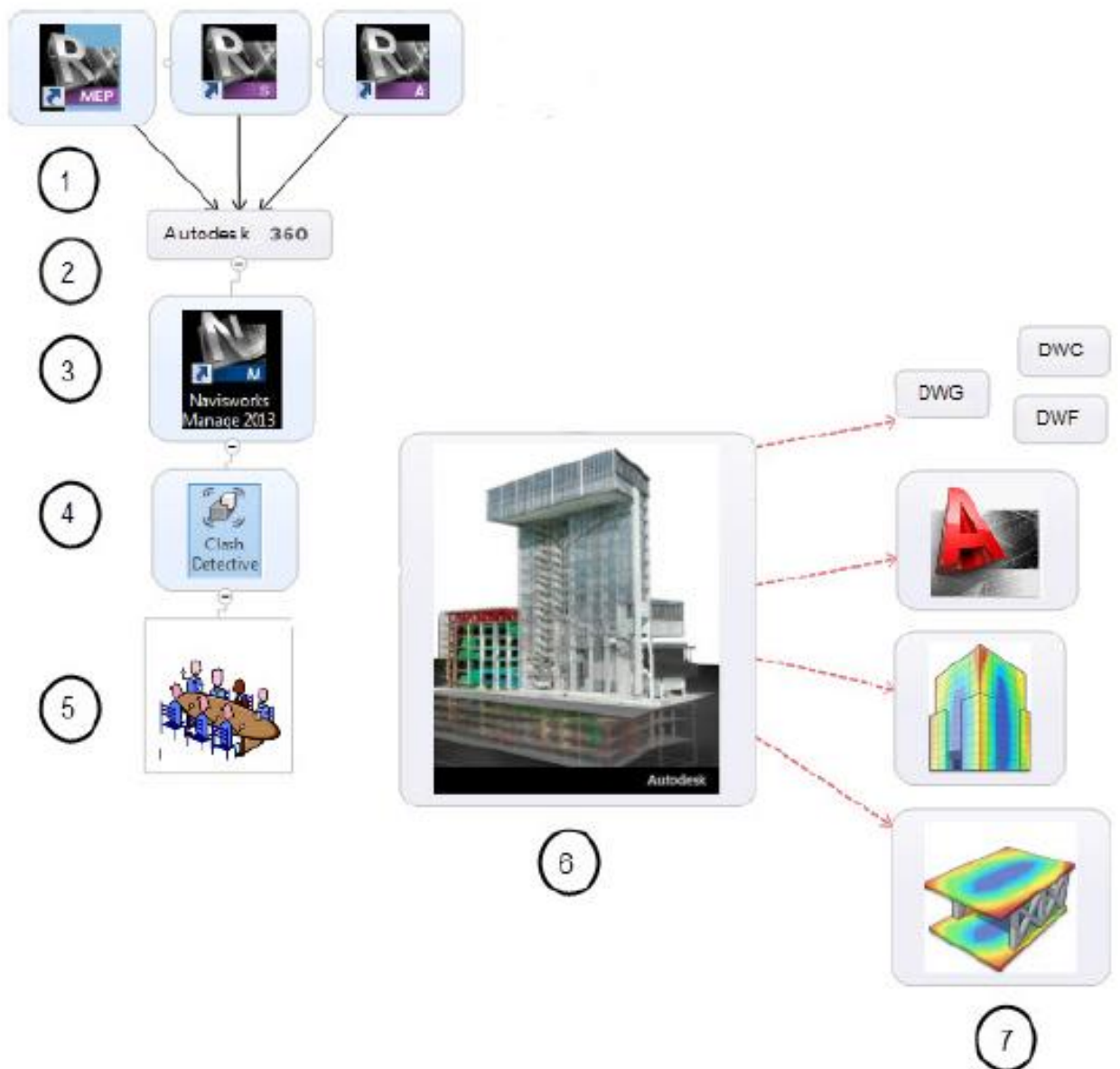


Figure 2.4

The icons in step 1 represent information (or models) of the operations involved in the construction process. All offices are responsible for creating and uploading their own models to a project website online. Autodesk 360 cloud-based service offers online storage space for the same purpose, supporting greater coherence and better coordination between all trades ( 2). Autodesk 360 takes information from disparate model and creates a federated model, or combined models using the program Autodesk Navisworks Manage for project review.

Navisworks Manage is able to process many types of documents and combine them into a model ( 3).

With Navisworks Manage, the Clash Detective module runs ( to remove conflicts in the area that may occur during the pre - construction services ) ( 4). All specialties come together to resolve conflicts that arise ( 5). Once conflicts are resolved, the result is a finished product in BIM ( 6). It is important to consider the type of information in this model after completion. The AutoCAD ® ( DWGTM ) , and Autodesk ® Design Review software ( DWF ™ ) software is highlighted first. As seen in step 7, the first icon represents AutoCad , second, energy analysis , and the third structural analysis. Step 7 also highlights the BIM process as disparate pieces of information used to manage and maintain a project construction. The types of information that can be stored in the BIM model ( 7 ) extend far beyond what is shown in this introduction.

## 2.5 THE CLOUD

Using this computing cloud, you can make tasks in any computer with access to internet.

For example, you can instantly send a Revit project to a local computer to the cloud. Computers belonging to third parties will visualize the image of the project and return it already completed. You reap the benefits that a local computer can be let free from processing all the informatic representation, with which you can save time and resources.

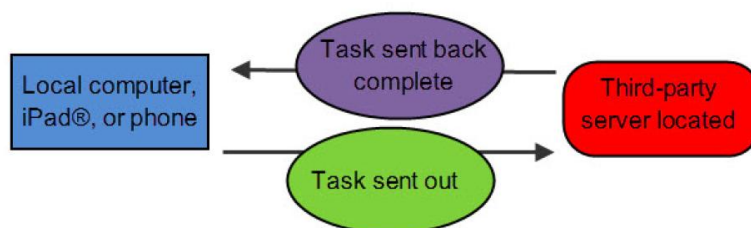


Figure 2.5

## 2.6 GAIN CONTROL OVER CONSTRUCTION PROJECTS

### TEAMWORK

Search the participation of all those involved in construction (client, designers, developers, builders, input suppliers, subcontractors, workers, maintenance managers, customers) is a claim for viable, efficient, economic projects, and user satisfaction. Several proposals are on this line.

The ambition is to involve all parties. The method and tools of BIM could be used to count the interaction between different members of the group involved in the building. In so-called Integrated Projects (one contract for final delivery of the building), BIM will facilitate communication between the parties involved in the contract and the development and implementation of the project.

“BIM (Building Information Model) is a digital representation of physical and functional characteristics of a facility. Supported by open standards for interoperability , BIM model serves as a shared source of knowledge through information about the facility and provides the basis for decisions during its life cycle . A basic premise of BIM is to develop and use optimal collaboration of participants throughout the life cycle of the facility to insert, extract , update or modify information in the model. The result of a proper application of BIM is an accurate, dynamic, and multidimensional design registration , construction, and operation of the facility”. (buildingSMART Alliance)

Another great benefit is that because of the model is the center where agents meet, it is no longer necessary for them to be in the same place and can work together on a project with people from around the world.

BIM has advantages in the design process for architects as well. It is a highly efficient tool for processes such as conceptual massing, conceptual energy modeling, presentation, project drawings and so on.

***“Concept to Reality:  
WORKING IN MULTIPLE VIEWS at the same moment! “***

## 2.7 HOW BIM IS INVOLVED IN MAJOR CONSTRUCTION AGENTS?

### 2.7.1 PROMOTER

As has been explained in the first part, to achieve a successful project, it is necessary to properly manage risks. The system work under the BIM concept allows us to control a building project in a more predictable way. With the first ideas, a prototype, a virtual model of the building is already created, which can be tested in the feasibility phase before it is built. The decisions in the early stages are crucial to **reduce risks**.

Similarly, throughout the project life cycle, the system will allow us to incorporate BIM virtual model variables so that they can identify risks and take appropriate decisions before they are implemented on site, thus avoiding surprises, which can be costly and problematic and affect costs and delivery times. The BIM technology incorporates tools that allow you to link time and costs to units of work so for any modification or unforeseen can automatically assess deviations in **time and costs** and take steps to correct them.

A complete, detailed documentation which is attractive to clients is an added advantage when deciding on the purchase of a product, in addition to the confidence and satisfaction of knowing what you are getting. Obviously, the BIM to work on a virtual model that offers tools for 3D visualization and animation can offer a touch of quality products from the first designs, besides being able to communicate quickly and clearly any modification to the prospective buyer.

Management processes like BIM provides a higher degree of quality to traditional methods. Working in a unique database, all actors get better coordination and information flow, to provide quality buildings. In addition, 4D and 5D dimensions linked to the virtual model will enable better management of timelines, delivering buildings on time.

The legislation requires the delivery throughout the construction process. Not only the generation of the above documentation will be faster but it will be more complete and thorough. **To** develop final construction documents to the owner, the BIM system contained in a single file all necessary documentation of the building process , with the amendments that have been incorporated.

## 2.7.2 DESIGNER

In the current system, an architectural program is required for each task and a file for each representation. In the traditional process, the designer must re-enter the information for each item in each new software required. BIM allows all project documentation in a centralized manner, avoiding duplication of data entry, which saves time which results in **increased productivity**.

The system works with BIM concepts and building blocks, not lines. Any construction element is an object that are associated a geometrical, materiality, cost, time, reflected in any view or via parameters. Any change in a constructive element to act on a single database automatically modifies all documents; plans, sections, virtual models, budgets, etc.

The projects are carried out by multidisciplinary teams, which may or may not take partial responsibility, formed by a technician or turn a team of collaborators.

BIM promotes the flow of documentation and **coordination between the various partners** an architectural project to have all a common working basis. The BIM also offers tools to detect interference that may occur between two different disciplines of work.

The BIM changes the traditional operating mode from 2D architectural studies to a three-dimensional database from which we can extract any kind of data and representations. The customer appreciates a three-dimensional model that allows you to visualize and better understand the project.

But programs for creating three-dimensional models already existing for a while. What then is the advantage of BIM? The incorporation of BIM technology in the design phase, working on a centralized database allows us to immediately submit any changes to the client, improving the ability of **communicating ideas**. The use of BIM can generate attractive virtual models, without the disadvantage that become obsolete by incorporating design changes. To show the customer how the design progresses the work is in 3D is definitely highly valued.

Simplification of documents, the system and the bidirectional flow of information transfer allows more time for design which will result in project quality. The BIM system requires defining all the details generating **more comprehensive projects**, thus avoiding problems in advanced stages by uncertainties or omissions. Well defined and complete projects avoid problems in the execution of the work.



### 2.7.3 CONSTRUCTOR

Having all the definition and integrated project data into a single **virtual building is a guarantee for construction companies** to own a complete project documentation so that they can engage in competitive but real deals, thus avoiding the problems associated with the award of defective works as incomplete.

The construction sector is increasing its complexity, new materials and construction systems.

In turn, the construction process is dynamic, since the same work can work several companies at once , and contractors due to the specialties sector will vary with the phases of the project; excavation, foundation, structure , partitions ..

Do not forget another important factor that construction is influenced by the weather , which can delay the timing of planned execution.

The BIM, centralizing all these variables into a single virtual container, **facilitates the work of planning and coordination of human and material resources** .

The BIM system covers all stages of the building and has computer tools to manage all facets of the usual building process , scheduling times, costs, budgets, construction details listed for suppliers.

#### 2.7.4 PROJECT MANAGER

The work on a virtual base in which all elements are referenced; structure, facilities, finishes, materials, etc, is a very useful when carrying out the direction of the physical implementation tool. Interference with the traditional system appeared when it was too late (the downspout of a bathroom that matches a beam, for example) may be located in the virtual model, prior to its execution and power and resolve. These interferences are usually more common in traditional systems when the project achieves welcome forgetting factors that preclude making that decision when it's late. The BIM will help us **detect conflicts and avoid oversights**.

B) It facilitates the management of quality control

**Quality is a key factor in achieving success in the building process.**

One of the benefits of BIM is to be a database where each element has an associated constructive information contained geometric features, materials in it. The BIM system has tools based on virtual information model to **manage quality control of a building**. These BIM tools relate the different control actions (batch inspection units, samples, coupons, ..) with the components, which allows both the forecast control actions to perform as monitoring of actions taken on those control objects.

The execution of the work is a dynamic process where changes are made with variables affecting quality programming originally scheduled, such as modifying the quantities of a given material, the incorporation of a new one, the size of a building block, .

The associativity of information on each element and linkage control programming will be reflected in the estimates of control. Besides these tools generate and modify the appropriate documentation that manages the actions to be taken as a basis for control laboratories for the tests.

After exposure of the fundamental concepts, the time has come to apply it in a real case and start routing the answers to questions that give meaning to this research.

***CHAPTER 3: BYBANEN UTBYGGING COMPANY***

---

### 3.1 Introduction

Bybanen Bergen Light Rail is a public transport system operating since 22nd June 2010 in Bergen.

Nowadays , A third section is now under planning and will complete the line from the city centre to the Bergen airport at Flesland. This 7-kilometer section will add 7 new stations and a new workshop to the system. Additional extensions to the northern and western areas of the city are also being planned.

**Skyss** is responsible for Bybanen, including managing the tender process, planning timetables, prices and discounts, sales and tickets, marketing and information.

**Bybanen AS** has been established by Hordaland fylkeskommune to manage, operate and maintain the system's infrastructure and to manage the vehicle fleet.

**Bybanen Utbygging** is responsible for the management, design and construction of approved extensions to the system.

As additional information in the appendices section, is attached a hierarchical diagram of the company

**To comprehend the role of a project manager you must first understand the organizational structure of the company**

### 3.2 FORWARD PLANING, COORDINATION AND MANAGEMENT

is briefly described in the following flow chart:

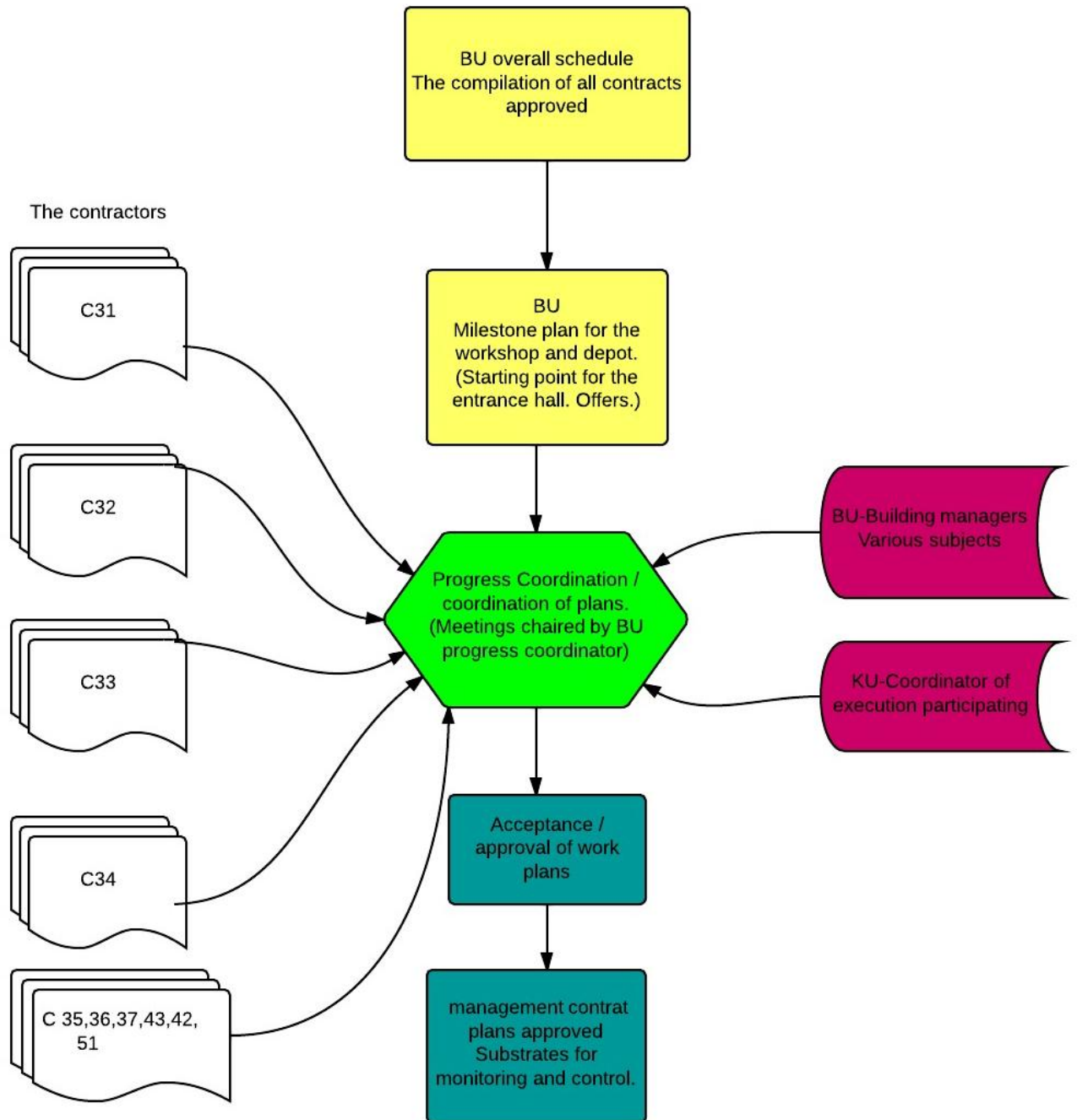


Figure 3.2

### 3.3 ORGANIZATION AND COORDINATION

Of the company with the different companies, constructors and engineers

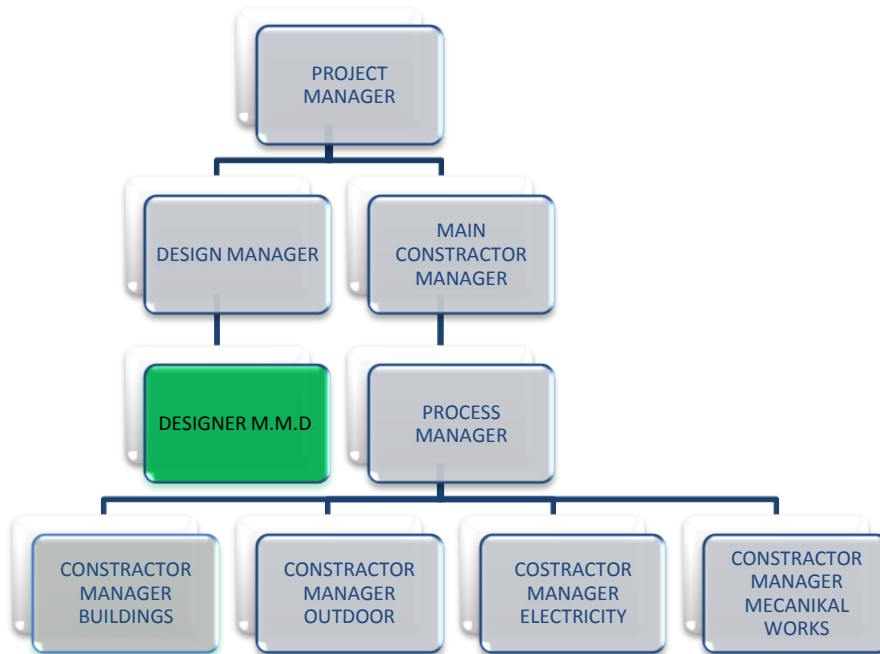


Figure 3.3

Here we can see the team involved in the project hierarchically. All of them are part of the company Bybanen utbygging except the designer company MMD (Mott Mac Donald) from Ireland.

When you have to discuss something about the design of the project you only meet the design manager and MMD Company. But if the issue is about the execution, you meet the rest of the team who are working together. Also with the other contractors involved in the project, we can see this contracts averal in the following relationship graphic

Whole equip have weekly meetings. One week they meet to review about the design, another week to review about the coordination and the same with other different points. At least a measure, there is a meeting in the office and another on the work site.

It Is important to have a program of meetings to coordinate how many meetings is necessary and fix with who and topics that will be discussed at the meeting.

### 3.4 USUAL OPERATION IN THE COMPANY in general description

In the design phase the interaction is between the designers (engineers) and the design manager who supervise the work which is making the designer and when he agrees the next step is start execution phase.

The usual routine in this phase is start having a meeting whole equip to discuss the drawings with which it will work soon and if there is not any problem to solve, then proceed to the implementation phase. When the work is done, turns to do the same process with another activity and so on until the project is finish and finally, if after the checking is everything correct, the last step is close-out the work.

You can see more clearly and comfortably in the following flowchart all described above

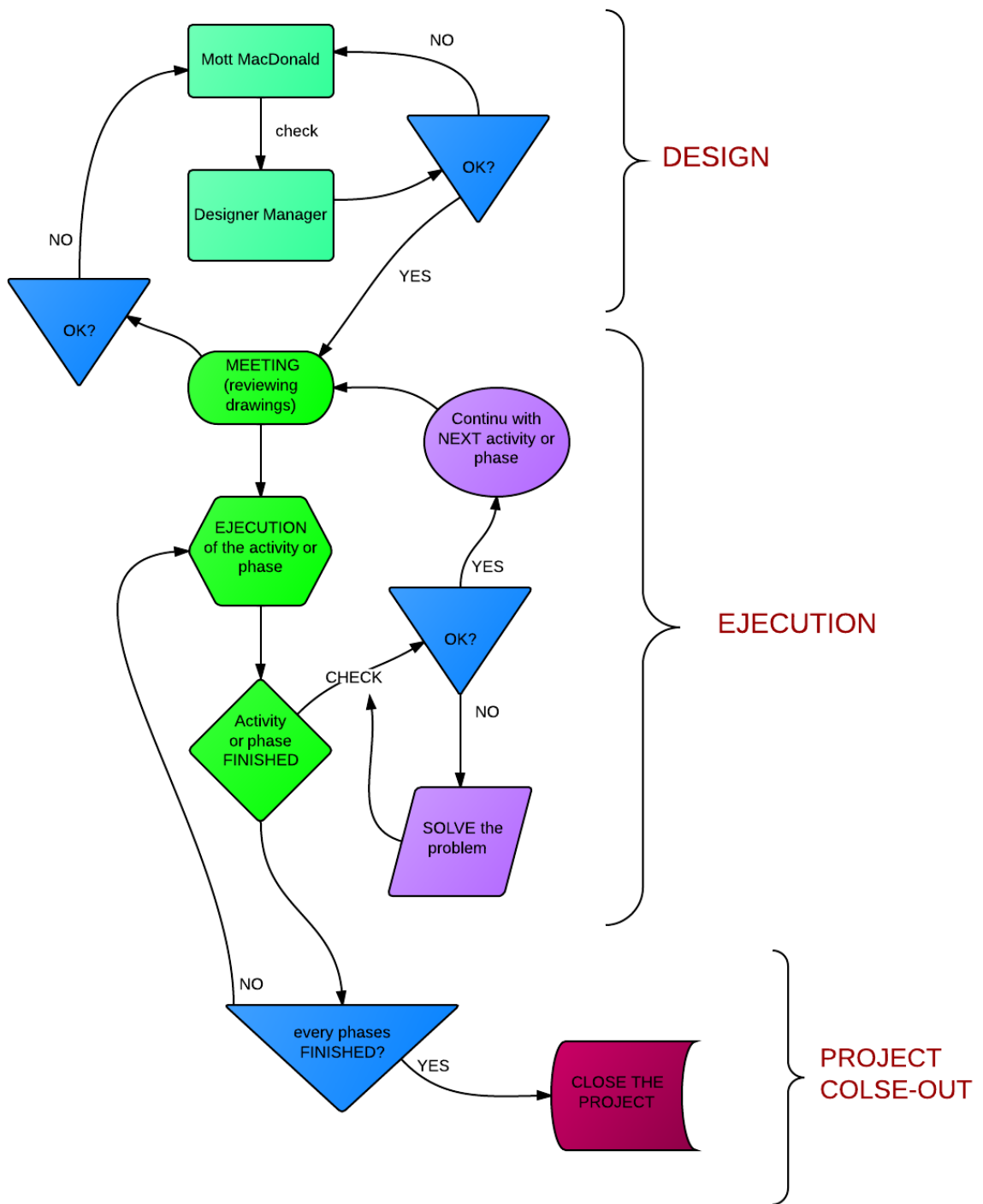


Figure 3.4.1



This chart shows in general the lifecycle, or steps which the company follows to start to develop a project, “the birth of the project”.

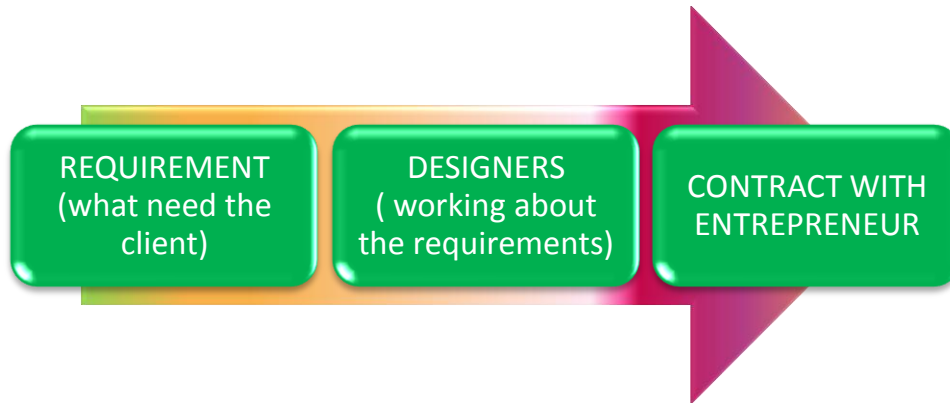


Figure 3.4.2

The most important is the client, so that this is the first meeting, where their needs get exposed which are the motor of the future project. In this case, the client is Bybanen Utbygging.

With these requirements, the designers can start the elaboration of the project. They are Mott Mac Donald under the leadership of design manager.

After the design phase, the client, design manager, designers and project manager get together to check everything and if it is right, then the next step is to fix the contract with the entrepreneur and let the rest start to run..

## 3.5 SELECTION CRITERIA OF THE CONTRACTORS

They choose the contractors mainly for the price which they work. Another factor is the experience what each contractor have and also is important to know if they are reliable or not. And of course, everything exposed before, depends on the area of work which we are talking about. In each area there will be a specific contractor.

The fact that have contractor from different countries is a handicap, but is not a really bad issue. The biggest problem is that each of them has different ways to work, and the whole team should keep in agreement.

The communication between the members who integrate the development of the project is very important. Instead of using primary ways of communication which is usually slow, instant communication can be created to improve efficiency. Members are in contact using an e-mail program called “outlook”.

### 3.6 HOW IS THE COORDINATION ABOUT THESE ISSUES?

**Coordination:** weekly meetings with all contractors. Also exist documents As an example, there are documents, such as tables shown in the appendices section, which are used for coordination.

**Time:** meeting every week and also every 3 or 6 weeks to check what is done and to know what is going to happen in the next weeks. For more information, is attached in the appendices section a general Gantt's work

**Quality:** each contractor is responsible of the quality of their works and they check 1/3 part of this more or less. Besides, periodically, an external company is checking the quality by tests as well.

**Comunication:** meetings by Outlook and mail program

#### **Human resources :**

The contractors are responsible of the human resources. The company doesn't decide how many employers are needed in each task, neither how to elaborate the pre-time planning. To do that, the company asks to the contractors the amount of employers they need to make an activity in X time. Then the contractors decide how many people should be working to attain the estimated time for this. Finally, when the activity starts they check if it is going well as estimated or if it needs more workers on the worksite. In other words, they don't calculate the duration of the activity unless the amount of employers is fixed. If it is the opposite case, where the managers know how much time they want for the project, the contractors will then decide from that how many human resources are going to work.

### 3.7 DO EXIST A" PLAN B"?

In the managing process of BYBANEN UTBYGGING , there is no specific response to potential problems, thus risks always exist. It is recommended that there should always be a safety margin in face of every aspect.

In the case of this project, for example, there are difficulties with the dig.

Another example is that the slabs have to be done before the roof, which is a problem due to the frequent rain in Bergen. It is necessary to have a temporary structure covering the building running to solve the problem, namely, until the roof is done.

If they could use a tool which would make it more easy, will they have a Plan B?

### 3.8 ENVIRONMENT

There are many lakes around the work site which are apt to be polluted by the construction work. To solve it, weekly tests should be made by an external company to check that the water is not polluted. This is planned to be carried out in this case, and the company will communicate on this issue with the government about the solutions. However, since the government organism has confidence on the company, it is not a compulsory conduct for the company to execute the tests.

In the overview provided in the section appendices, you can see the lakes referred to above, and how close they are to the building.

### 3.9 SOFTWARE TOOLS TO MANAGE

**Design and draw tools:** 3D Model, REVIT and Navisworks Freedom 2014

**Management tool:** Project Place

***CHAPTER 4: NAVISWORKS MANAGEMENT***

---

## 4.1 Introduction

After analyze the operating of this company we can note that they are using REVIT. That is a tool of BIM, but this program is only useful to design, and we need more. The proposal of this project is to use “Navisworks manage”.



Figure 4.1

Autodesk Navisworks software provides a flexible development platform for viewing and analysis of large projects, allowing users to combine models created by software such as AutoCAD, Revit, and Inventor.

It is a comprehensive review solution for analysis, simulation, and coordination of project information. Multidisciplinary design data can be combined into a single integrated project model for interference management and clash detection. Navisworks Manage helps design and construction professionals anticipate and avoid potential problems before construction.

Autodesk Navisworks has a feature of model file and data aggregation which enable users to combine design, construction, and other project data into a single integrated project model. The software incorporates files in any major 3D design or laser scan file format, reads intelligent data from original design files for viewing beside the model, and imports data from external databases and displays it within the model.

## 4.2 FEATURES

- Clash Detection and Interference Checking
- Interference Management
- 3D file and data aggregation capabilities
- Incorporate files in many major 3D design or laser scan file formats.
- Integrate all project models, even the largest datasets.
- Read intelligent data from original design files. View it beside the model.
- Import live data from external databases. Display it within the model.

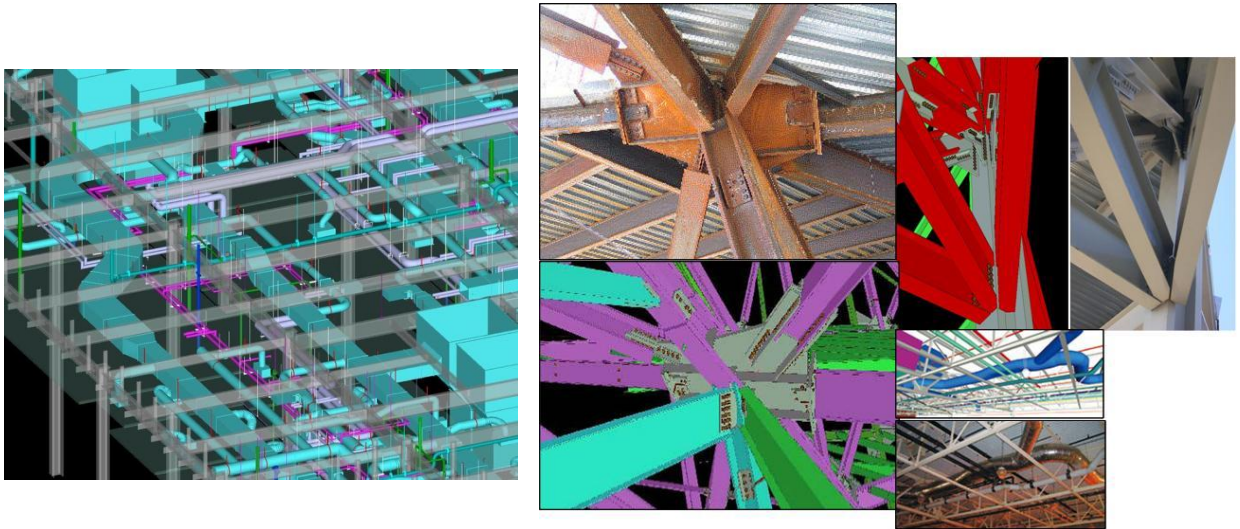


Figure 4.2.1

As a tool to “Collaborate, Coordinate, Communicate”, Autodesk Navisworks brings together the contributions of project designers and building professionals into a single, synchronized building model rich in information.

**How we can use this program with the Bybanen project?**

To answer to this question, we should introduce the building, the parking lot of the bybanen (area 3 and 4) to get a general idea of the project.

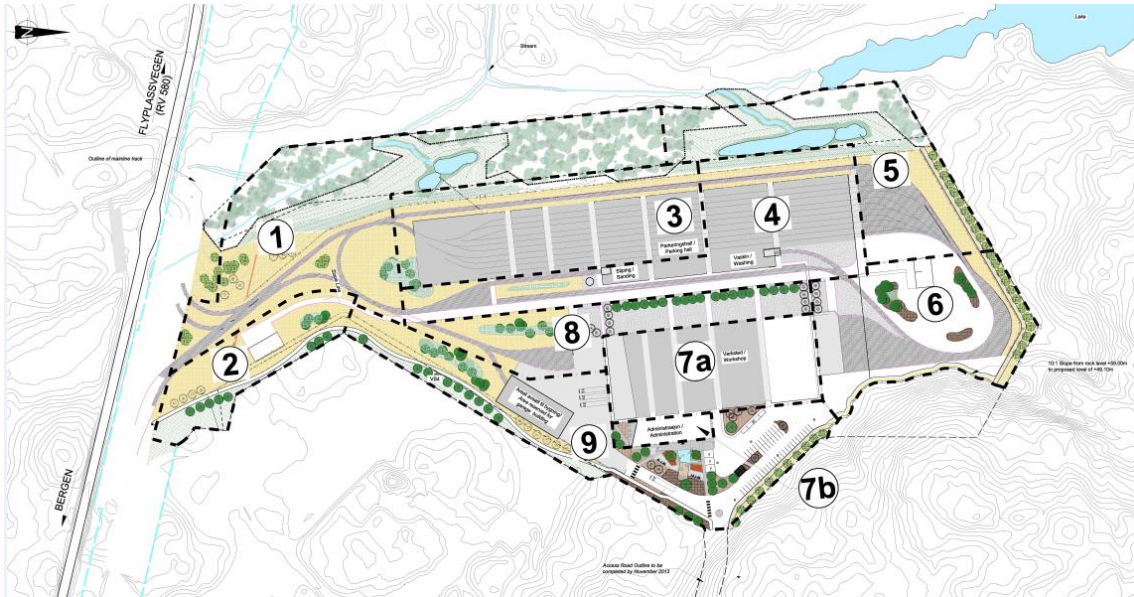


Figure 4.2.2

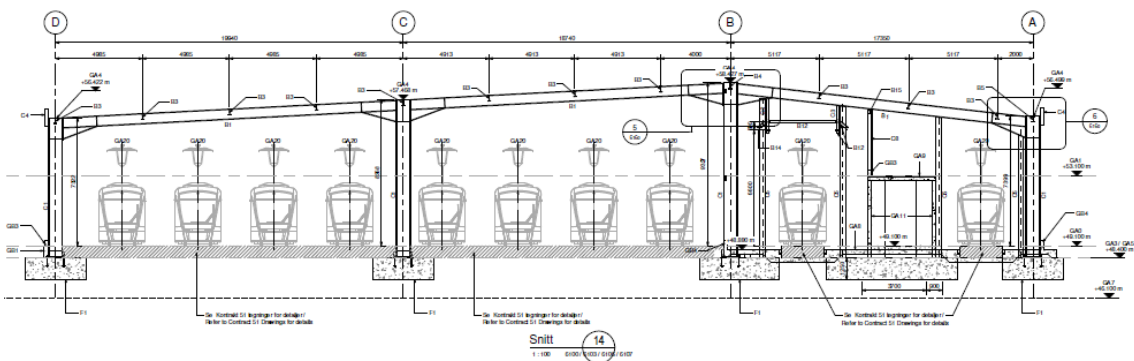


Figure 4.2.3

In the appendices there are drawings to visualize it better.

### 4.3 USE OF NAVISWORKS MANAGEMENT

Then some actual images of the Bybanen project is using Navisworks Manage

#### 4.3.1 OVERVIEW

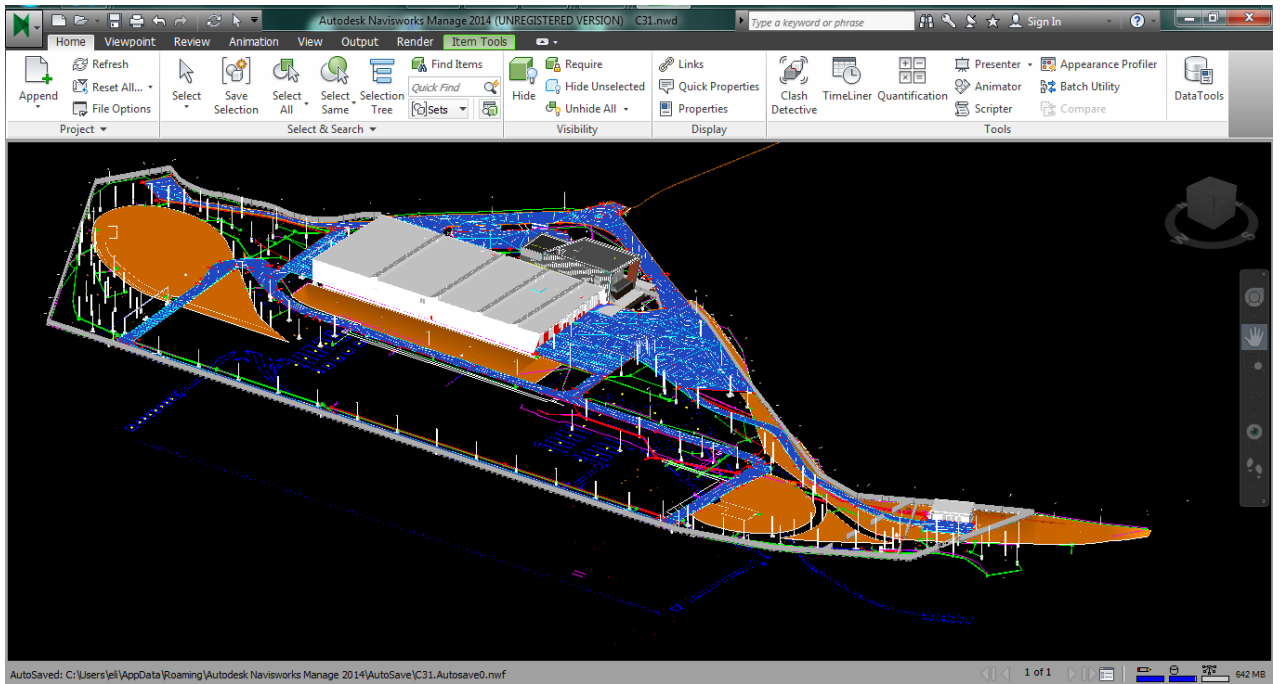


Figure 4.3.1

#### 4.3.2 BYBANEN PARKING

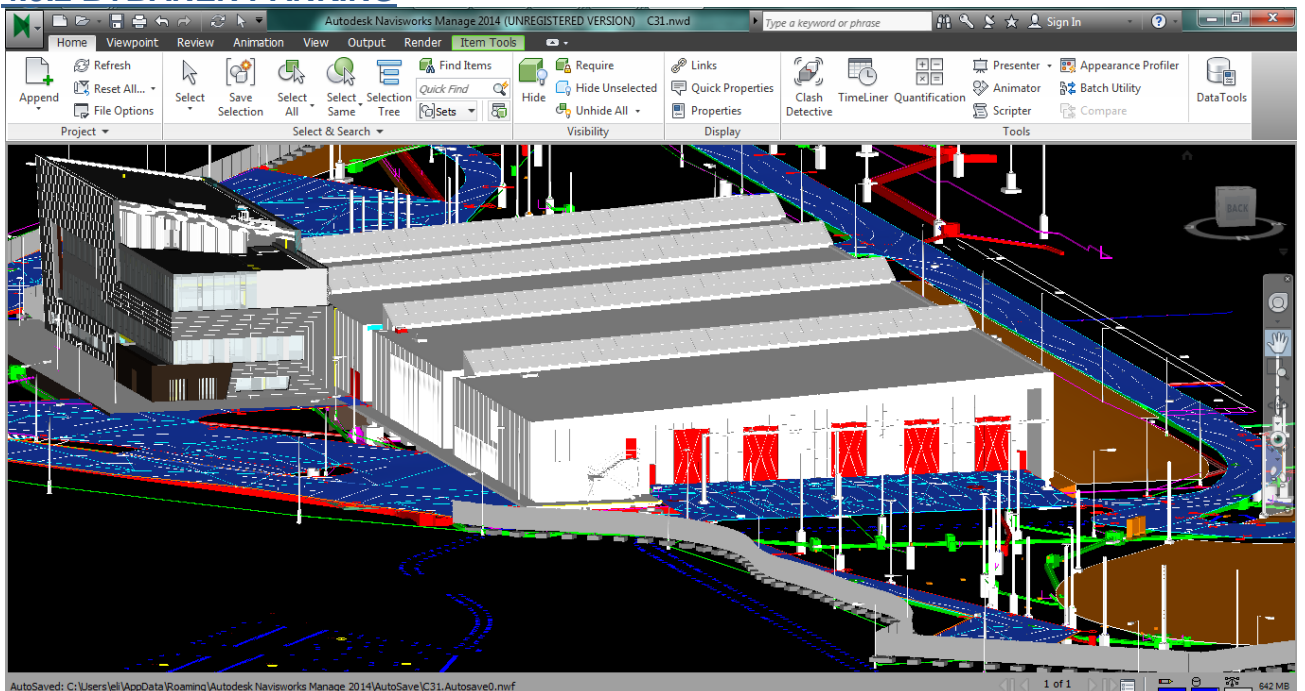


Figure 4.3.2



## 4.3.3 WE CAN ADD AS MANY DOCUMENTS AS WE NEED

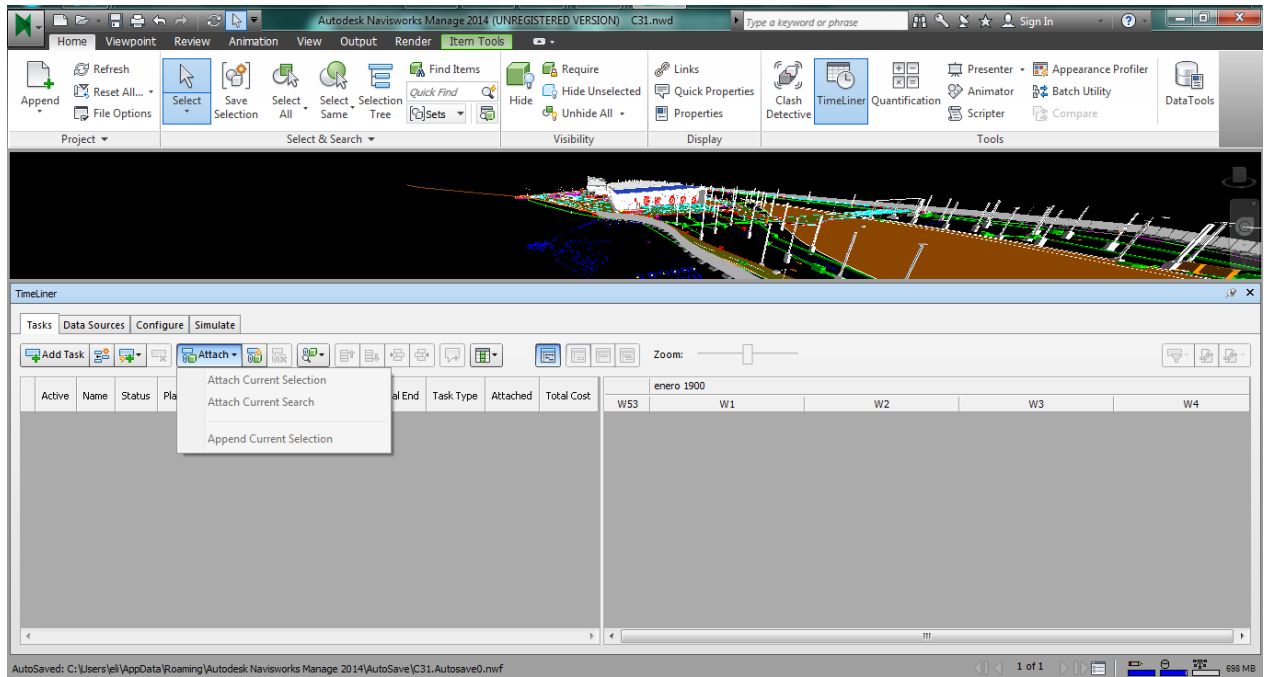


Figure 4.3.3

## 4.3.4 CLASH DETECTION TOOL

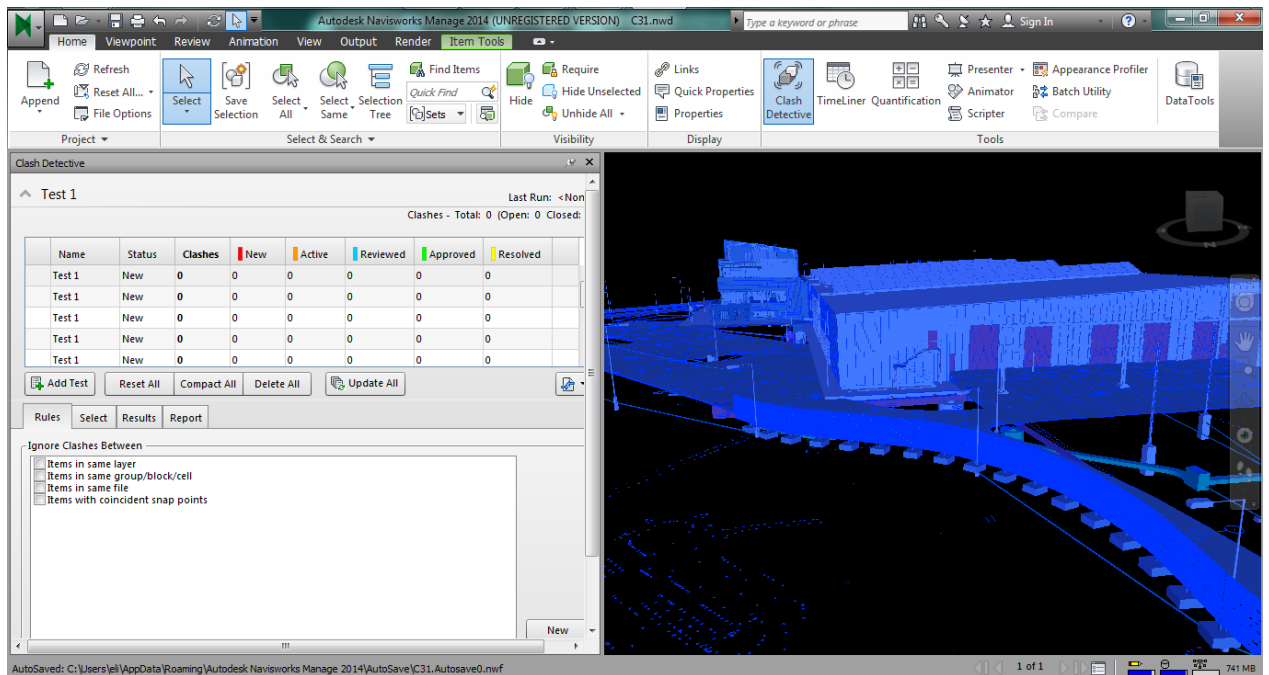


Figure 4.3.4

### 4.3.5 ALL INFORMATION ABOUT EACH CONSTRUCTION ELEMENT

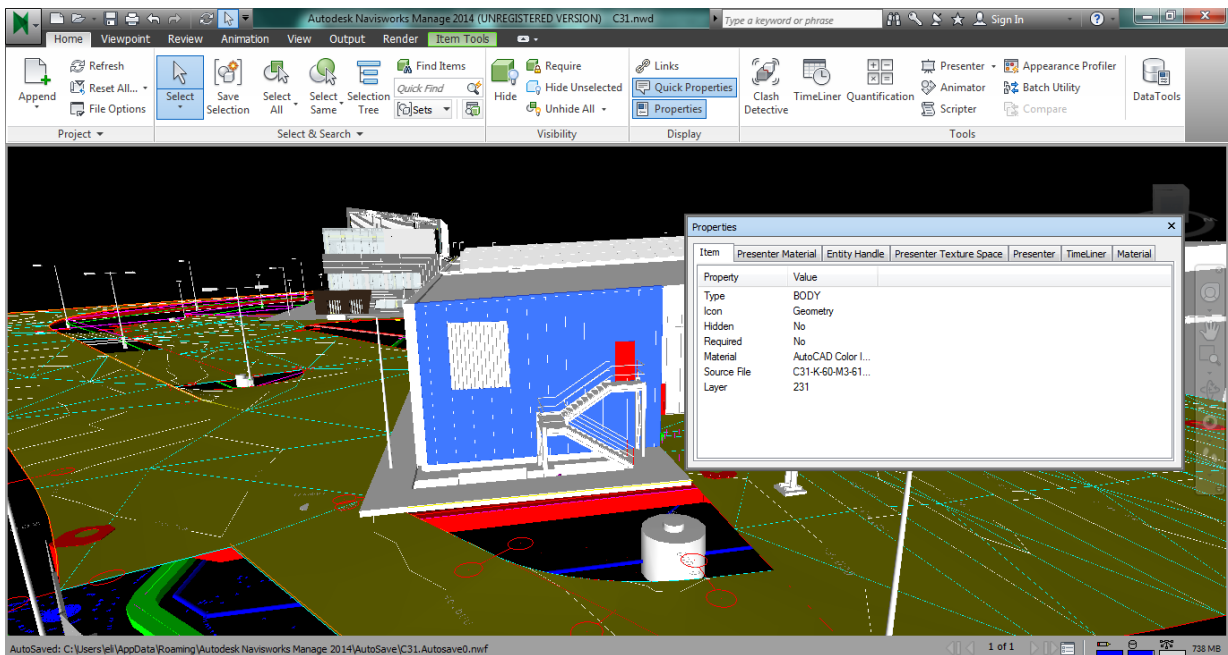


Figure 4.3.5

These are a few options among lots of others that you can use to manage the project, and everything is just in one software.

That is a revolution in a great sense.

***CONCLUSION***

---

To draw the conclusion, I will intercalate my personal opinion and conclusions with the answers proposed at the beginning of the project .

First, we should be aware of the fact that we are in the new era of development of the construction and engineering, which requires the appearance of the leaders in the Project Management in any project for the objectives set out in the project. now let's play with the conjectures that we bring this knowledge to understand this great evolution.

BIM is the development and integration of existing tools, so that costs are lowered and the efficiency is improved from the design stage to the end. It has a very important feature of instant communication , especially in companies in such immense size as Bybanen Utbygging . This means that an enormous number of agents are working together and know each other or is therefore necessary to create a space, whereas the fact can not be ignored that in this case almost all contractors are from different countries. This space is defined as "the cloud" which is provided by BIM. This company used the " Projectplace " . It is a good idea but it would be better to use a tool that could cover all areas of the administration of a project they were handling. Is this an utopia? Not anymore if we use Navisworks manage.

With this program you can realize your project before you build it, without exaggeration, everything. From watching the remaining project aesthetically to seeing the consequences of climate, terrain, miscalculation, etc. ...all these can be done for building the future. Even doing simulations, such as a fire, to see if this building is trained with security. And with that we could answer the second question proposed: it clearly improves the system significantly with BIM project management.

Knowing this, after analyzing the company Bybanen Utbygging, I think about the way they work.

On the one hand , they had no concrete answer on developing plans against possible risks , just stating that they were always alert, because there are always dangers and say they are prepared in advance, and of course using its certainly great experience in the field. But ultimately, it's going a bit blind. In fact that they had had problems in the excavation because unexpected mishaps found and that delayed the execution , resulting in the loss of money and added stress . Surely if they had developed a Plan B in advance , the chance to avoid this situation would have been greater. Clearly it is a huge job to do to have this type of plan, since they appear in every minimal activity during the execution of the building, but neither can be avoided. Now that is not a problem , because this massive work is reduced with the use of Navisworks Manage program. What could also be unified in the same program is the interaction and communication of all members involved in the project. This issue is solved in the company using " Projectplace " but it is much easier to be working with one tool.

Moreover, being aware that we are in the world of using BIM, the company is already using REVIT, which is another tool as Navisworks. But it is shown that REVIT does not maximize the BIM system.

Revit does not do the type of design we need in the construction world. For exemple: Can it hydraulically calculate a fire sprinkler system? Can it generate a fabrication stocklist of That piping system? Can it generate a cost report and handle warehouse inventory based on the stocklist ? Can it Automatically generate diagrams for the weld fabricator ? Can it automatically tag the shop drawing so fabricate Those pieces can be located in the shipment of piping and installed in the field ? I would assume that Revit does not actually perform any of ductwork systems engineering or electrical systems. Does it perform required calculations for sizing of ductwork ? However, in the future it may indeed do those things so that everyone can use it seamlessly, which brings me to my point that Revit is not a good tool at the manager level for construction trades and coordination Between Navisworks That is much better suited as it can read files from each discipline of work .

It would appear to me that Navisworks should be used " at the jobsite " to coordinate the installation and Revit end should be used at the Engineering / Architectural level as the foundation for the more specific installation That happens on the jobsite utilizing Navisworks .

In my opinion, REVIT may become outdated and Navisworks Manage is almost certainly going to be the future.

With this the last remaining question that has been proposed is answered. Of course this will be the revolution and the future of construction.

I'm not provoting Navisworks , but apparently seeing this as the best method to get ahead the world of construction , which is almost the fourth primary sector in many countries, and ellow workers who are among those must help it evolve .

The investment in this program will be worthwhile because of the results and benefits.

In closing I conclude with a quote that is well worth it :

*"Using Building Information Modelling to work together for a better industry"*

***LITERATURE LIST***

---

## CHAPTER 1

### -PDF Documents

#### **From internet:**

“Construct\_Proj\_Managmnt\_CD”

“ Dr. David Riley 2011. HD woodson hig school construction project management”

“PFG Patricia Rodríguez Luque. 2010.Desarrollo de práctica de obra para el control,ejecución, coste-tiempo de un almacén para entidades culturales y talleres de formación para adultos en Begues, Barcelona”

“PLAN DE EMPRESA PARA UN PROJECT MANAGEMENT”

#### **By contacts in Spain and own information acquired along the degree in Spain:**

“GESTION DE RIESGOS”

“GESTION DE DOCUMENTACION”

“EQUIPO”

“RIESGO”

“APROVISIONAMIENTO”

“COMUNICACIONES!”

“BENEFICIOS DEL BIM”

#### **-Links of internet:**

<http://aeipro.com/index.php/es/menusup-congresos/142-espanol/project-management/project-management>

<http://www.method123.com/project-lifecycle.php>

<http://elopez-projectmanagement.blogspot.no/2012/01/definiciones.html>

<http://elopez-projectmanagement.blogspot.no/>

<https://www.youtube.com/watch?v=Pc40yA0eyZo>

<http://www.slideshare.net/mgarcianaranjo/planificacin-y-control-de-proyectos-de-construccion>

## CHAPTER 2

### -PDF Documents

#### **From internet:**

“BIM”

“BIM for Project Managers”

“SE\_Unit1\_Spanish\_Instructor”

**-Links of internet**

[https://www.youtube.com/results?search\\_query=Project+management+with+BIM](https://www.youtube.com/results?search_query=Project+management+with+BIM)

### **CHAPTER 3**

**-PDF Documents**

**From the company**

The entire project

**-Link from internet**

<http://www.hordaland.no/bybanen-utbygging/Om-oss/Bergen-light-rail/>

### **CHAPTER 4**

**-PDF Document**

**By a contact from Spain**

“ Navisworks BIM for Contractors”

**From internet**

“hntb\_Customerstory”

“autodesk-navisworks-2014-brochure”

**-Links from internet**

<http://www.augi.com/library/navisworks-manage-implementation-tips-for-general-contractors>

<http://www.autodesk.com/education/free-software/navisworks-manage>

[http://www.varisys.com/vs2007/BIM\\_SoftwareNAV.html](http://www.varisys.com/vs2007/BIM_SoftwareNAV.html)



***APPENDICES***

---

## **APPENDICE 1**

Hierarchical graph of the company bybanen utbygging

Reference "3.1" Page 20

## **APPENDICE 2**

Coordination tables

Reference "3.6" Page 26

## **APPENDICE 3**

General work Gantt

Reference "3.6" Page 26

## **APPENDICE 4**

Hierarchical graph of the company bybanen utbygging

Reference "3.1" Page 20

## **APPENDICE 5**

Overview drawing

Reference "3.8" Page 27

## **APPENDICE 6**

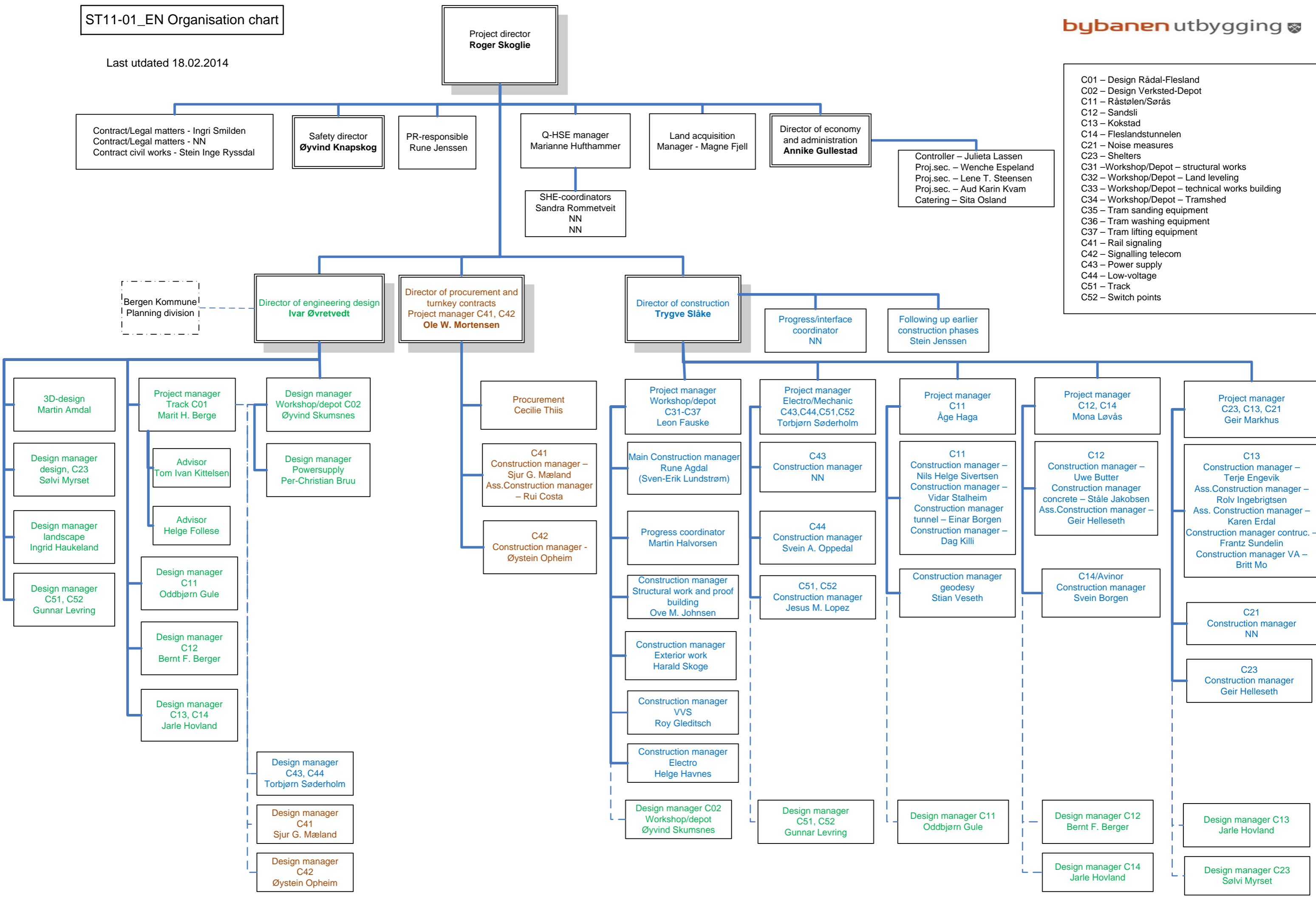
Daily table

Reference "3.1" Page 20

ST11-01\_EN Organisation chart

Last updated 18.02.2014

- C01 – Design Rådal-Flesland
- C02 – Design Verksted-Depot
- C11 – Råstølen/Sørås
- C12 – Sandsli
- C13 – Kokstad
- C14 – Fleslandstunnelen
- C21 – Noise measures
- C23 – Shelters
- C31 – Workshop/Depot – structural works
- C32 – Workshop/Depot – Land leveling
- C33 – Workshop/Depot – technical works building
- C34 – Workshop/Depot – Tramshed
- C35 – Tram sanding equipment
- C36 – Tram washing equipment
- C37 – Tram lifting equipment
- C41 – Rail signaling
- C42 – Signalling telecom
- C43 – Power supply
- C44 – Low-voltage
- C51 – Track
- C52 – Switch points







Pack 4 - Issue date on 14-02-2014
Pack 5 - Issue date on 28-02-2014
Pack 5A - Issue date of 14-03-2014
Pack 6 - Issue date on 28-03-2014
Pack 7 - Issue date on 11-04-2014

Tegn.nr.	Revisjon	Projectplace Folder Reference	Tegningstittel	Tegningstittel	Last Issue Date	13/02/2013	20/02/2013	17/01/2014	2/01/2014	27/01/2014	29/01/2014	31/01/2014	04/02/2014	07/02/2014	11/02/2014	13/02/2014	14/02/2014	17/02/2014	Merknader
C31-K-62-TG-6214		K [Generell Struktur] - Administration - Civil/Structural	Scheme 2 Niva 04 Plan	Scheme 2 Level 04 Plan															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6215		K [Generell Struktur] - Administration - Civil/Structural	Scheme 2 Takplan	Scheme 2 Roof Plan															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6217	04C	K [Generell Struktur] - Administration - Civil/Structural	Administrasjonsbygget Niva 01 Plan	Depot Administration Building - Level 01 Plan	13/02/2014	01C													
C31-K-62-TG-6218	01C	K [Generell Struktur] - Administration - Civil/Structural	Administrasjonsbygget Fundamentplan i henhold til Gulv Tjenester	Depot Administration Building - Foundation Plan Underfloor Services	31/01/2014														
C31-K-62-TG-6220		K [Generell Struktur] - Administration - Civil/Structural	Administrasjonsbygget	Administration Building - Loading															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6221	01C	K [Generell Struktur] - Administration - Civil/Structural	Administrasjonsbygget Fundamentplan 9 (Rocke Anker Oppsett)	Depot Administration Building - Foundation Plan (Rock Anchor layout)	21/01/2014				01C										
C31-K-62-TG-6261		K [Generell Struktur] - Administration - Civil/Structural	Administrasjonsbygget - Stiltrapp 1	Administration Building - Steel Stair 1															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6601		K [Generell Struktur] - Refitler - Civil/Structural	Likeretter Bygningen Plan Niva 01 Plan	Rectifier Building Level 01 General Arrangement Plan															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6602		K [Generell Struktur] - Refitler - Civil/Structural	Likeretter Bygningen Plan ved Elevation +3.100	Rectifier Building Plan at Elevation +3.100															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6603		K [Generell Struktur] - Refitler - Civil/Structural	Likeretter Bygningen Takplan	Rectifier Building Roof General Arrangement Plan															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6620		K [Generell Struktur] - Refitler - Civil/Structural	Likeretter Bygningen Snitt og Detaljer - Ark 1	Rectifier Building Sections and Details - Sheet 1															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-6621		K [Generell Struktur] - Refitler - Civil/Structural	Likeretter Bygningen Fasadere	Rectifier Building Elevations															Pack 5 - Issue date on 28-02-2014
C31-K-62-TG-7100	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan - Pit Niva	Workshop - General Arrangement Plan - Pit Level	14/02/2014	01C													
C31-K-62-TG-7101	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan - Niva 01	Workshop - General Arrangement Plan - Level 01	14/02/2014	01C													
C31-K-62-TG-7102	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan - Niva 02	Workshop - General Arrangement Plan - Level 02	14/02/2014	01C													
C31-K-62-TG-7103	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan - Tak niva	Workshop - General Arrangement Plan - Roof Level	14/02/2014	01C													
C31-K-62-TG-7104	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 01 (Zone A)	Workshop - Plan Level 01 (Zone A)	14/02/2014	01C													
C31-K-62-TG-7105	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 01 (Zone B)	Workshop - Plan Level 01 (Zone B)	14/02/2014	01C													
C31-K-62-TG-7106	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 01 (Zone C)	Workshop - Plan Level 01 (Zone C)	14/02/2014	01C													
C31-K-62-TG-7107	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 01 (Zone D)	Workshop - Plan Level 01 (Zone D)	14/02/2014	01C													
C31-K-62-TG-7111	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 02 (Zone A)	Workshop - Plan Level 02 (Zone A)	14/02/2014	01C													
C31-K-62-TG-7112	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 02 (Zone B)	Workshop - Plan Level 02 (Zone B)	14/02/2014	01C													
C31-K-62-TG-7113	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 02 (Zone C)	Workshop - Plan Level 02 (Zone C)	14/02/2014	01C													
C31-K-62-TG-7114	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Plan niva 02 (Zone D)	Workshop - Plan Level 02 (Zone D)	14/02/2014	01C													
C31-K-62-TG-7120	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Snitt	Workshop - Sections	14/02/2014	01C													
C31-K-62-TG-7130	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Interne Gulv & Vegg Ferdig - Pit Niva	Workshop - Internal Floor & Wall Finishes - Pit Level	14/02/2014														
C31-K-62-TG-7131	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Interne Gulv & Vegg Ferdig - Niva 01	Workshop - Internal Floor & Wall Finishes - Level 01	14/02/2014														
C31-K-62-TG-7132	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Interne Gulv & Vegg Ferdig - Niva 02	Workshop - Internal Floor & Wall Finishes - Level 02	14/02/2014														
C31-K-62-TG-7140	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Fasadere	Workshop - Elevations	14/02/2014	01C													
C31-K-62-TG-7141	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Nord og sør fasader	Workshop - North & South Elevations	14/02/2014	01C													
C31-K-62-TG-7142	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Øst fasade	Workshop - East Elevation	14/02/2014	01C													
C31-K-62-TG-7143	02C	K [Generell Struktur] - Workshop - Architectural	Verksted - Vest fasade	Workshop - West Elevation	14/02/2014	01C													
C31-K-62-TG-7200		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Generell ordning plan - Niva 01	Admin Building - General Arrangement Plan - Level 01															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7201		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Generell Ordning Plan - Niva 01	Administration Building - General Arrangement - Level 01															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7202		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Generell Ordning Plan - Niva 02	Administration Building - General Arrangement - Level 02															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7203		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Generell Ordning Plan - Niva 03	Administration Building - General Arrangement - Level 03															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7204		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Generell Ordning Plan - Tak	Administration Building - General Arrangement - Roof															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7211		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Interne Gulv og Vegg Ferdig - Niva 01	Administration Building - Internal Floor & Wall Finishes Plan - Level 01															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7212		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Interne Gulv og Vegg Ferdig - Niva 02	Administration Building - Internal Floor & Wall Finishes Plan - Level 02															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7213		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Interne Gulv og Vegg Ferdig - Niva 03	Administration Building - Internal Floor & Wall Finishes Plan - Level 03															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7214		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Interne Gulv og Vegg Ferdig - Niva 04	Administration Building - Internal Floor & Wall Finishes Plan - Level 04															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7216		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Reflektert Taket plan - Niva 01	Administration Building - Reflected Ceiling Plan - Level 01															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7217		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Reflektert Taket plan - Niva 02	Administration Building - Reflected Ceiling Plan - Level 02															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7218		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Reflektert Taket plan - Niva 03	Administration Building - Reflected Ceiling Plan - Level 03															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-7220		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Seksjoner - Ark 1	Administration Building - Sections - Sheet 1															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7221		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Seksjoner - Ark 2	Administration Building - Sections - Sheet 2															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7240		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Forhøyninger - Ark 1	Administration Building - Elevations - Sheet 1															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7241		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Forhøyninger - Ark 2	Administration Building - Elevations - Sheet 2															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7600		K [Generell Struktur] - Refitler - Architectural	Likeretter Bygning - Generelle Ordning Plan - Niva 01 & Hulledekke	Rectifier Building - General Arrangement Plan - Level 01 & Roof															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7620		K [Generell Struktur] - Refitler - Architectural	Likeretter Bygning - Seksjon A-A	Rectifier Building - Section A-A															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7621		K [Generell Struktur] - Refitler - Architectural	Likeretter Bygning - Seksjon B-B	Rectifier Building - Section B-B															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-7640		K [Generell Struktur] - Refitler - Architectural	Likeretter Bygning - Heide	Rectifier Building - Elevations															Pack 6 - Issue date on 28-03-2014
C31-K-62-TG-TBC		K [Generell Struktur] - Architectural Details		Workshop - Plan Ancillary Workshops East - Level 01															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-TBC		K [Generell Struktur] - Architectural Details		Workshop - Plan Ancillary Workshops South - Level 01															Pack 7 - Issue date on 11-04-2014
C31-K-62-TG-TBC		K [Generell Struktur] - Architectural Details		Workshop - Plan Ancillary Workshops South - Level 02															Pack 7 - Issue date on 11-04-2014
C31-K-63-TG-TBC		K [Generell Struktur] - Architectural Details		Workshop - Plan Ancillary Workshops South - Level 02															Pack 7 - Issue date on 11-04-2014
C31-K-63-SC-7211		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Der Planlegg Ark 2	Administration Building - Door Schedule - Sheet 1															Pack 7 - Issue date on 11-04-2014
C31-K-63-SC-7215		K [Generell Struktur] - Administration - Architectural	Administrasjonsbygging - Rom overflate oversikt	Administration Building - Room Finishes Schedule															Pack 7 - Issue date on 11-04-2014
C31-K-63-TG-6100		K [Generell Struktur]		Fencing Layout															Pack 6 - Issue date on 28-03-2014
C31-K-63-TG-6241		K [Generell Struktur] - Administration - Civil/Structural	Stålværk tverrsnitt og oppress - Ark 1	Steelwork Sections & Elevations Sheet 1															Pack 6 - Issue date on 28-03-2014
C31-K-63-TG-6242		K [Generell Struktur] - Administration - Civil/Structural	Stålværk tverrsnitt og oppress - Ark 2	Steelwork Sections & Elevations Sheet 2															Pack 6 - Issue date on 28-03-2014
C31-K-63-TG-6243		K [Generell Struktur] - Administration - Civil/Structural	Stålværk tverrsnitt og oppress - Ark 3	Steelwork Sections & Elevations Sheet 3															Pack 6 - Issue date on 28-03-2014
C31-K-63-TG-6260		K [Generell Struktur] - Administration - Civil/Structural	Administrasjonsbygging - Trapp 01 - Ark 1	Administration Building - Stairs 01 - Sheet 1															Pack 5 - Issue date on 28-02-2014
C31-K-63-TG-6261		K [Generell Struktur] - Administration - Civil/Structural	Detaljer - Ark 1	Details - Sheet 1															Pack 5 - Issue date on 28-02-2014
C31-K-63-TG-6262		K [Generell Struktur] - Administration - Civil/Structural	Detaljer - Ark 2	Details - Sheet 2															Pack 5 - Issue date on 28-02-2014
C31-K-63-TG-6263		K [Generell Struktur] - Administration - Civil/Structural	Detaljer - Ark 3	Details - Sheet 3			</												



- Pack 4 - Issue date on 14-02-2014
- Pack 5 - Issue date on 28-02-2014
- Pack 5A - Issue date of 14-03-2014
- Pack 6 - Issue date on 28-03-2014
- Pack 7 - Issue date on 11-04-2014

Tegn.nr.	Revisjon	Projectplace Folder Reference	Tegningstittel	Tegningstittel	Last Issue Date	13/12/2013	20/12/2013	17/01/2014	2/10/2014	27/01/2014	29/01/2014	31/01/2014	04/02/2014	07/02/2014	11/02/2014	13/02/2014	14/02/2014	17/02/2014	Merknader	
C31-K-64-SC-6200	02C	K (Generell Struktur) - Civi/Structural Reinforcement (Administration)	Administrasjonsbygget Fundament I Armet Betong - Bøyeliste	Depot Administration Building - RC Details of Foundations - Schedule	27/01/2014					01C	02C									
C31-K-64-SC-6201		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Foundations RC details sheet 2 BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6202		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Lift pit RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6203	01C	K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 1 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6204		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 2 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6205		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 3 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6206		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 4 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6207		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 5 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6208		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 6 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6209		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 7 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6210		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 8 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6211		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 9 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6212		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Core wall elevation 10 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6213		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Wall on Grid line 6 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6214		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Wall on Grid line 8 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6215		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Floor Slab level 2 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6216		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Floor Slab level 3 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6217		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Floor Slab level 4 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6218		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Stairs 1 - 2 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6219		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Stairs 2 - 3 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-SC-6220		K (Generell Struktur) - Civi/Structural Reinforcement (Administration)		Stairs 3 - 4 RC details BBS																Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6102	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament Ark 1	Workshop Reinforcement Details Pad Foundations Sheet 1	17/01/2014	01C	02C													
C31-K-64-TG-6103	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament Ark 2	Workshop Reinforcement Details Pad Foundations Sheet 2	17/01/2014	01C	02C													
C31-K-64-TG-6104	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament Ark 3	Workshop Reinforcement Details Pad Foundations Sheet 3	17/01/2014	01C	02C													
C31-K-64-TG-6105	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Omskjøt til søyle	Workshop Reinforcement Details Column Starter bars	04/02/2014	01C	02C					02C								
C31-K-64-TG-6106	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett A-D/1-2	Workshop Reinforcement Details Foundations Grid A-D/1-2	17/01/2014	01C	02C													
C31-K-64-TG-6107	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett F-J/1-2	Workshop Reinforcement Details Foundations Grid F-J/1-2	17/01/2014	01C	02C													
C31-K-64-TG-6108	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett K-L/1-2	Workshop Reinforcement Details Foundations Grid K-L/1-2	17/01/2014	01C	02C													
C31-K-64-TG-6109	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett M-V/1	Workshop Reinforcement Details Foundations Grid M-V/1	13/12/2013	01C														
C31-K-64-TG-6110	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett R-V/2-3	Workshop Reinforcement Details Foundations Grid R - V/2-3	27/01/2014						01C									
C31-K-64-TG-6111	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett R1-2	Workshop Reinforcement Details Foundations Grid R1 - 2	13/12/2013	01C														
C31-K-64-TG-6112	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett R-S/2a-2b	Workshop Reinforcement Details Foundations Grid R - S/2a-2b	13/12/2013	01C														
C31-K-64-TG-6113	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett L-U/1-2	Workshop Reinforcement Details Foundations Grid L-U/1-2	27/01/2014						01C									
C31-K-64-TG-6114	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett B-H/6	Workshop Reinforcement Details Foundations Grid B-H/6	13/12/2013	01C														
C31-K-64-TG-6115	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett G-M/6	Workshop Reinforcement Details Foundations Grid G-M/6	13/12/2013	01C														
C31-K-64-TG-6116	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett N-R/6	Workshop Reinforcement Details Foundations Grid N-R/6	13/12/2013	01C														
C31-K-64-TG-6117	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Fundament rutenett S-V/6	Workshop Reinforcement Details Foundations Grid S-V/6	13/12/2013	01C														
C31-K-64-TG-6119	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Pumpestasjon	Workshop Reinforcement Details Pumping Station	17/01/2014						01C									
C31-K-64-TG-6120	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning og inspeksjonskum - Ark 1	Workshop Reinforcement Details Access Chamber - Sheet 1	17/01/2014						01C									
C31-K-64-TG-6121	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning og inspeksjonskum - Ark 2	Workshop Reinforcement Details Access Chamber - Sheet 2	17/01/2014						01C									
C31-K-64-TG-6125	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 1 Ark 1	Workshop Reinforcement Details Pit 1 Sheet 1	20/12/2013						01C									
C31-K-64-TG-6126	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 1 Ark 2	Workshop Reinforcement Details Pit 1 Sheet 2	20/12/2013						01C									
C31-K-64-TG-6128	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 2 Ark 1	Workshop Reinforcement Details Pit 2 Sheet 1	20/12/2013						01C									
C31-K-64-TG-6129	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 2 Ark 2	Workshop Reinforcement Details Pit 2 Sheet 2	20/12/2013						01C									
C31-K-64-TG-6130	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 2 Ark 3	Workshop Reinforcement Details Pit 2 Sheet 3	20/12/2013						01C									
C31-K-64-TG-6132	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 4 Ark 1	Workshop Reinforcement Details Pit 4 Sheet 1	20/12/2013						01C									
C31-K-64-TG-6133	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 4 Ark 2	Workshop Reinforcement Details Pit 4 Sheet 2	20/12/2013						01C									
C31-K-64-TG-6134	01C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 4 Ark 3	Workshop Reinforcement Details Pit 4 Sheet 3	20/12/2013						01C									
C31-K-64-TG-6135		K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)		Workshop Walls Number 1 to 6 RC Details																Pack 4 - Issue date on 14-02-2014
C31-K-64-TG-6136	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 5 og 7 Ark 1	Workshop Reinforcement Details Pit 5 & 7 Sheet 1	07/02/2014						01C		02C							
C31-K-64-TG-6137	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 5 og 7 Ark 2	Workshop Reinforcement Details Pit 5 & 7 Sheet 2	07/02/2014						01C		02C							
C31-K-64-TG-6138	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 5 og 7 Ark 3	Workshop Reinforcement Details Pit 5 & 7 Sheet 3	07/02/2014						01C		02C							
C31-K-64-TG-6140	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 6 og 8 Ark 1	Workshop Reinforcement Details Pit 6 & 8 Sheet 1	07/02/2014						01C		02C							
C31-K-64-TG-6141	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 6 og 8 Ark 2	Workshop Reinforcement Details Pit 6 & 8 Sheet 2	07/02/2014						01C		02C							
C31-K-64-TG-6142	02C	K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Grp 6 og 8 Ark 3	Workshop Reinforcement Details Pit 6 & 8 Sheet 3	07/02/2014						01C		02C							
C31-K-64-TG-6143		K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Nivå 01 armet betongplate Ark 1	Workshop Reinforced Concrete Details - Level 01 Slab Sheet 1																Pack 4 - Issue date on 14-02-2014
C31-K-64-TG-6144		K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Nivå 01 armet betongplate Ark 2	Workshop Reinforced Concrete Details - Level 01 Slab Sheet 2																Pack 4 - Issue date on 14-02-2014
C31-K-64-TG-6145		K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Nivå 01 armet betongplate Ark 3	Workshop Reinforced Concrete Details - Level 01 Slab Sheet 3																Pack 4 - Issue date on 14-02-2014
C31-K-64-TG-6147		K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Nivå 01 armet betongplate Ark 4	Workshop Reinforced Concrete Details - Level 01 Slab Sheet 4																Pack 4 - Issue date on 14-02-2014
C31-K-64-TG-6148		K (Armering) - Civi/Structural Reinforcement (Workshop & Depot)	Verksted - Armeringstegning - Nivå 01 armet betongplate Ark 5	Workshop Reinforced Concrete Details - Level 01 Slab Sheet 5																Pack 4 - Issue date on 14-02-2014
C31-K-64-TG-6																				



Pack 4 - Issue date on 14-02-2014
Pack 5 - Issue date on 28-02-2014
Pack 5A - Issue date of 14-03-2014
Pack 6 - Issue date on 28-03-2014
Pack 7 - Issue date on 11-04-2014

Tegn.nr.	Revisjon	Projectplace Folder Reference	Tegningstittel	Tegningstittel	Last Issue Date	13/12/2013	20/12/2013	17/01/2014	2/01/2014	27/01/2014	29/01/2014	31/01/2014	04/02/2014	07/02/2014	11/02/2014	13/02/2014	14/02/2014	17/02/2014	Merknader
C31-K-64-TG-6208		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Core wall elevation 6 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6209		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Core wall elevation 7 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6210		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Core wall elevation 8 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6211		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Core wall elevation 9 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6212		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Core wall elevation 10 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6213		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Wall on Grid line 8 RC details - Sheet 1															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6214		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Wall on Grid line 8 RC details - Sheet 2															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6215		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Floor Slab, level 2 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6216		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Floor Slab, level 3 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6217		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Floor slab, level 4 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6218		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Stairs 1 - 2 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6219		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Stairs 2 - 3 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6220		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Stairs 3 - 4 RC details															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6221		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Detail sheet 1															Pack 5 - Issue date on 28-02-2014
C31-K-64-TG-6222		K (Generell Struktur) - Civil/Structural Reinforcement (Administration)		Detail sheet 2															Pack 5 - Issue date on 28-02-2014
C31-K-68-TG-7000	03C	K (Generell Struktur) - Workshop - Architectural	C31 Keynote Legend	C31 Keynote Legend	14/02/2014	01C		02C										03C	
C31-K-68-TG-7100	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Plan Detaljer - Arket 1	Workshop - Wall Cladding Plan Details Sheet 1	21/01/2014			01C											
C31-K-68-TG-7101	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Plan Detaljer - Arket 2	Workshop - Wall Cladding Plan Details Sheet 2	21/01/2014			01C											
C31-K-68-TG-7102	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Plan Detaljer - Arket 3	Workshop - Wall Cladding Plan Details Sheet 3	14/02/2014													01C	
C31-K-68-TG-7103	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Plan Detaljer - Arket 4	Workshop - Wall Cladding Plan Details Sheet 4	21/01/2014			01C											
C31-K-68-TG-7120	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Seksjoner - Arket 1	Workshop - Wall Cladding Sections Sheet 1	21/01/2014			01C											
C31-K-68-TG-7121	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Seksjoner - Arket 2	Workshop - Wall Cladding Sections Sheet 2	21/01/2014			01C											
C31-K-68-TG-7122	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Seksjoner - Arket 3	Workshop - Wall Cladding Sections Sheet 3	21/01/2014			01C											
C31-K-68-TG-7123	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Seksjoner - Arket 4	Workshop - Wall Cladding Sections Sheet 4	21/01/2014			01C											
C31-K-68-TG-7124	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Veggkledding Seksjoner - Arket 5	Workshop - Wall Cladding Sections Sheet 5	21/01/2014			01C											
C31-K-68-TG-7130	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Male / liming rom detaljer	Workshop - Painting / Bonding Room Details	14/02/2014													01C	
C31-K-68-TG-7150	01C	K (Generell Struktur) - Workshop - Architectural	Verksted	Workshop - Internal Elevations	14/02/2014													01C	
C31-K-68-TG-7160	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Verksted Takkonstruksjon	Workshop - Roof - Typical Roof	21/01/2014			01C											
C31-K-68-TG-7161	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Tak - Rooflight	Workshop - Roof - Rooflight	21/01/2014			01C											
C31-K-68-TG-7162	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Takkonstruksjon - Arket 1	Workshop - Roof Details - Sheet 1	21/01/2014			01C											
C31-K-68-TG-7170	01C	K (Generell Struktur) - Workshop - Architectural	Verksted - Bifold dører	Workshop - Glazed Walling - Bifold Doors	21/01/2014			01C											
C31-L-01-TG-6001	01C	L (Skilt og merkningsplaner) - Side Wide - Roads	Trafikkskilt adkomstvei	Traffic Signs Access Road	13/12/2013			01C											Pack 5A - Issue date of 14-03-2014
C31-L-01-TG-6002	01C	L (Skilt og merkningsplaner) - Side Wide - Roads	Trafikkskilt ved Depot	Traffic Signs at Depot	13/12/2013			01C											Pack 5A - Issue date of 14-03-2014
C31-L-01-TG-6100	01C	L (Skilt og merkningsplaner) - Side Wide - Roads	Vegmerking og trafikkskilt ved Depot - Ark 1 av 2	Road Marking and Traffic Signs at Depot Sheet 1 of 2	13/12/2013			01C											Pack 5A - Issue date of 14-03-2014
C31-L-01-TG-6101	01C	L (Skilt og merkningsplaner) - Side Wide - Roads	Vegmerking og trafikkskilt ved Depot - Ark 2 av 2	Road Marking and Traffic Signs at Depot Sheet 2 of 2	13/12/2013			01C											Pack 5A - Issue date of 14-03-2014
C31-L-01-TG-6365	01C	L (Skilt og merkningsplaner) - Side Wide - Roads	Vegmerking og trafikkskilt adkomstvei ST 000 til 280	Road Markings and Traffic Signs Access Road CH 000 to 280	13/12/2013			01C											Pack 5A - Issue date of 14-03-2014
C31-L-01-TG-6366	01C	L (Skilt og merkningsplaner) - Side Wide - Roads	Vegmerking og trafikkskilt adkomstvei ST 280 til 442	Road Markings and Traffic Signs Access Road CH 280 to 442	13/12/2013			01C											Pack 5A - Issue date of 14-03-2014
C31-N-02-TG-6003	01C	N (Belysningsplaner og høyspenning) - Side Wide - Earthing	Kokstad Verksted og Depot Jording - Tegneskett 3	Kokstad Workshop and Depot Earthing Layout Sheet 3	17/02/2014									01C			02C		
C31-O-01-TG-6099		O (Landskapsform) - Side Wide - Roads	Landskapsplan - Dekkeplan - Område: Verksted og Depot, Flesland	Landscape Drawing - Surface - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6000		O (Landskapsform) - Side Wide - Roads	Oversiktsplan - Område: Verksted og Depot, Flesland	Site Plan - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6001		O (Landskapsform) - Side Wide - Roads	Landskapsplan Ost - Landskap og vegetasjonsplan - Område: Verksted og Depot, Flesland	Landscape drawing east - Landscape and Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6002		O (Landskapsform) - Side Wide - Roads	Landskapsplan vest - Landskap og vegetasjonsplan - Område: Verksted og Depot, Flesland	Landscape drawing West - Landscape and Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6003		O (Landskapsform) - Side Wide - Roads	Landskapsplan sør - Landskap og vegetasjonsplan - Område: Verksted og Depot, Flesland	Landscape drawing South - Landscape and Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6099		O (Landskapsform) - Side Wide - Roads	Landskapsplan - vegetasjon - Område: Verksted og Depot, Flesland	Landscape Drawing - Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-03-TG-6099		O (Landskapsform) - Side Wide - Roads	Landskapsplan - Teknisk plan - Område: Verksted og Depot, Flesland	Landscape Drawing - Technical Plan - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-04-TG-6099		O (Landskapsform) - Side Wide - Roads	Landskapsplan Ost - Dekkeplan og teknisk installasjon - Område: Verksted og Depot, Flesland	Landscape drawing east - Surface and Technical Installation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-04-TG-6091		O (Landskapsform) - Side Wide - Roads	Landskapsplan vest - Dekkeplan og teknisk installasjon - Område: Verksted og Depot, Flesland	Landscape drawing west - Surface and Technical Installation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-04-TG-6092		O (Landskapsform) - Side Wide - Roads	Landskapsplan sør - Dekkeplan og teknisk installasjon - Område: Verksted og Depot, Flesland	Landscape drawing south Surface and Technical Installation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-X-01-TG-6001		X (Miljø og naturressurser) - Side Wide - Roads	Depot and access road. Site preparation works. Water Quality Protection Measures	Depot og adkomstvei. Opparbeidning av tomt. Beskyttelses tiltak for vannkvalitet															Pack 6 - Issue date on 28-03-2014
C31-Z-00-RP-6001		Z (Helse, miljø og sikkerhet) - Side Wide - Roads	Bybanen Detailed Design of Workshop and Depot - Automatic Gates - Electrical & Automation Equipment Specification (English)	Bybanen Detailed Design of Workshop and Depot - Automatic Gates - Electrical & Automation Equipment Specification (English)															Pack 6 - Issue date on 28-03-2014
C31-Z-00-RP-6100		Z (Helse, miljø og sikkerhet) - Side Wide - Roads	Detaljert utforming av verksted og depot for bybanen Vertikal transportspekifikasjon	Bybanen Detailed Design of Workshop and Depot Vertical Transportation Specification															Pack 6 - Issue date on 28-03-2014
C43-R-00-SC-0802	01C	R (Pårestreng) - Side Wide - Roads	Depot CCS Mast listing	Depot CL Mast listing	13/12/2013			01C											Pack 6 - Issue date on 28-03-2014

Pack 2 - Issue date on 17/21-01-2014
Pack 3 - Issue date on 31-01-2014
Pack 4 - Issue date on 14-02-2014
Pack 5 - Issue date on 28-02-2014
Pack 6 - Issue date on 28-03-2014
Pack 7 - Issue date on 11-04-2014

Project No: 304924

Tegn.nr.	Revisjon	Projectplace Folder Reference	Tegningstittel	Tegningstittel	Last Issue Date	13/12/2013	20/12/2013	17/01/2014	21/01/2014					Merknader
C02-MMD-RAP-055	01C	-	Foldeder Spesifikasjon	Folding Doors Specification	21/01/2014									
C31-A-00-SC-0001	-	A [Frontpage, Contents, Drawing List]	Revisjonsnumrene	Revision Numbers										
C31-D-01-TG-6100	01C	D [Veggeometrien] - Site Wide (Roads & Landscaping)	Plan og profil av veier, ved Depot Plan and Profile MA01 - Ark 1 av 2	Plan and profile of roads at Depot Plan and Profile MA01 Sheet 1 of 2	13/12/2013	01C								
C31-D-01-TG-6101	01C	D [Veggeometrien] - Site Wide (Roads & Landscaping)	Plan og profil av veier, ved Depot Plan and Profile MA01 - Ark 2 av 2	Plan and profile of roads at Depot Plan and Profile MA01 Sheet 2 of 2	13/12/2013	01C								
C31-D-01-TG-6102	01C	D [Veggeometrien] - Site Wide (Roads & Landscaping)	Plan og profil av Gang/sykkelveier ved Depot Plan and Profile MB02 - Ark 1 av 2	Plan and profile of , pedestrian / bicycle at Depot Plan and Profile MB02 Sheet 1 of 2	13/12/2013	01C								
C31-D-01-TG-6103	01C	D [Veggeometrien] - Site Wide (Roads & Landscaping)	Plan og profil av Gang/sykkelveier ved Depot Plan and Profile MB02 - Ark 2 av 2	Plan and profile of , pedestrian / bicycle paths at Depot Plan and Profile MB02 Sheet 2 of 2	13/12/2013	01C								
C31-D-01-TG-6104	01C	D [Veggeometrien] - Site Wide (Roads & Landscaping)	Plan og profil av veier, ved Depot Plan and Profile MH01	Plan and profile of roads at Depot Plan and Profile MH01	13/12/2013	01C								
C31-E-01-TG-6100	01C	E [Vei layout detalj] - Site Wide (Roads & Landscaping)	Vei layout detaljtegning på Depotet - Ark 1 av 4	Road Layout Detail Drawing at Depot Sheet 1 of 4	13/12/2013	01C								
C31-E-01-TG-6101	01C	E [Vei layout detalj] - Site Wide (Roads & Landscaping)	Vei layout detaljtegning på Depotet - Ark 2 av 4	Road Layout Detail Drawing at Depot Sheet 2 of 4	13/12/2013	01C								
C31-E-01-TG-6102	01C	E [Vei layout detalj] - Site Wide (Roads & Landscaping)	Vei layout detaljtegning på Depotet - Ark 3 av 4	Road Layout Detail Drawing at Depot Sheet 3 of 4	13/12/2013	01C								
C31-E-01-TG-6103	01C	E [Vei layout detalj] - Site Wide (Roads & Landscaping)	Vei layout detaljtegning på Depotet - Ark 4 av 4	Road Layout Detail Drawing at Depot Sheet 4 of 4	13/12/2013	01C								
C31-E-01-TG-6365	01C	E [Vei layout detalj] - Site Wide (Roads & Landscaping)	Vei layout detaljtegning adkomstvei ST 000 til 280	Road Layout Detail Drawing Access Road CH 000 to 280	13/12/2013	01C								
C31-E-01-TG-6366	01C	E [Vei layout detalj] - Site Wide (Roads & Landscaping)	Vei layout detaljtegning adkomstvei ST 280 til 442	Road Layout Detail Drawing Access Road CH 280 to 442	13/12/2013	01C								
C31-F-03-TG-6001	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Typisk tversnitt adkomstvei	Typical Cross Section Access Road	13/12/2013	01C								
C31-F-07-TG-6001	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Landskapstegning, snitt/oppriss ark 1 - Område: Verksted og Depot, Flesland	Landscape Drawing - Cross Section Sheet 1 - Area: Workshop and Depot, Flesland										Pack 6 - Issue date on 28-03-2014
C31-F-07-TG-6002	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Landskapstegning, snitt/oppriss ark 2 - Område: Verksted og Depot, Flesland	Landscape Drawing - Cross Section Sheet 2 - Area: Workshop and Depot, Flesland										Pack 6 - Issue date on 28-03-2014
C31-F-07-TG-6003	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Landskapstegning, snitt/oppriss ark 3 - Område: Verksted og Depot, Flesland	Landscape Drawing - Cross Section Sheet 3 - Area: Workshop and Depot, Flesland										Pack 6 - Issue date on 28-03-2014
C31-F-07-TG-6004	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Landskapstegning, snitt/oppriss ark 4 - Område: Verksted og Depot, Flesland	Landscape Drawing - Cross Section Sheet 4 - Area: Workshop and Depot, Flesland										Pack 6 - Issue date on 28-03-2014
C31-F-07-TG-6005	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Landskapstegning, snitt/oppriss ark 5 - Område: Verksted og Depot, Flesland	Landscape Drawing - Cross Section Sheet 5 - Area: Workshop and Depot, Flesland										Pack 6 - Issue date on 28-03-2014
C31-F-07-TG-6006	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Landskapstegning, snitt/oppriss ark 6 - Område: Verksted og Depot, Flesland	Landscape Drawing - Cross Section Sheet 6 - Area: Workshop and Depot, Flesland										Pack 6 - Issue date on 28-03-2014
C31-F-09-TG-6002	01C	F [Tversnitt] - Site Wide (Roads & Landscaping)	Generell vei detaljer for veier og gangveier	General Road Details of Roads and Footpaths	13/12/2013	01C								
C31-G-01-TG-6001	01C	G [Dreneringsplaner] - Drainage	Dreneringsarbeider - Ark 1 av 4	Site Drainage Works - Sheet 1 of 4										Pack 5 - Issue date on 28-02-2014
C31-G-01-TG-6002	01C	G [Dreneringsplaner] - Drainage	Dreneringsarbeider - Ark 2 av 4	Site Drainage Works - Sheet 2 of 4										Pack 5 - Issue date on 28-02-2014
C31-G-01-TG-6003	01C	G [Dreneringsplaner] - Drainage	Dreneringsarbeider - Ark 3 av 4	Site Drainage Works - Sheet 3 of 4										Pack 5 - Issue date on 28-02-2014
C31-G-01-TG-6004	01C	G [Dreneringsplaner] - Drainage	Dreneringsarbeider - Ark 4 av 4	Site Drainage Works - Sheet 4 of 4										Pack 5 - Issue date on 28-02-2014
C31-G-02-TG-6020	01C	G [Dreneringsplaner] - Drainage	Depot område tak drenering plan og profil - Ark 1 av 3	Depot Site Roof Drainage Plan & Profile Sheet 1 of 3										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6021	01C	G [Dreneringsplaner] - Drainage	Depot område tak drenering plan og profil - Ark 2 av 3	Depot Site Roof Drainage Plan & Profile Sheet 2 of 3										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6022	01C	G [Dreneringsplaner] - Drainage	Depot område tak drenering plan og profil - Ark 3 av 3	Depot Site Roof Drainage Plan & Profile Sheet 3 of 3										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6023	01C	G [Dreneringsplaner] - Drainage	Depot område tak drenering plan og profil - Ark 4 av 5	Depot Site Roof Drainage Plan & Profile Sheet 4 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6024	01C	G [Dreneringsplaner] - Drainage	Depot område tak drenering plan og profil - Ark 5 av 5	Depot Site Roof Drainage Plan & Profile Sheet 5 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6040	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 1 av 3	Depot Site Road Drainage Plan & Profile Sheet 1 of 3										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6041	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 2 av 3	Depot Site Road Drainage Plan & Profile Sheet 2 of 3										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6042	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 3 av 3	Depot Site Road Drainage Plan & Profile Sheet 3 of 3										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6043	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 1 av 3	Depot Site Road Drainage Plan & Profile Sheet 4 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6044	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 2 av 3	Depot Site Road Drainage Plan & Profile Sheet 5 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6045	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 3 av 3	Depot Site Road Drainage Plan & Profile Sheet 6 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6046	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 2 av 3	Depot Site Road Drainage Plan & Profile Sheet 7 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6047	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 3 av 3	Depot Site Road Drainage Plan & Profile Sheet 8 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6048	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 1 av 3	Depot Site Road Drainage Plan & Profile Sheet 9 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-02-TG-6049	01C	G [Dreneringsplaner] - Drainage	Depot område veg drenering plan og profil - Ark 2 av 3	Depot Site Road Drainage Plan & Profile Sheet 10 of 10										Pack 4 - Issue date on 14-02-2014
C31-G-03-TG-0001	01C	G [Dreneringsplaner] - Drainage	Road Drainage Schedule Sheet 1 of 1	Road Drainage Schedule Sheet 1 of 1										Pack 4 - Issue date on 14-02-2014
C31-G-03-TG-0010	01C	G [Dreneringsplaner] - Drainage	Road Drainage Schedule Sheet 1 of 1	Road Drainage Schedule Sheet 1 of 1										Pack 4 - Issue date on 14-02-2014
C31-G-04-TG-0001	01C	G [Dreneringsplaner] - Drainage	Roof Drainage Manhole Cards Sheet 1 of 5	Roof Drainage Manhole Cards Sheet 1 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-04-TG-0002	01C	G [Dreneringsplaner] - Drainage	Roof Drainage Manhole Cards Sheet 2 of 5	Roof Drainage Manhole Cards Sheet 2 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-04-TG-0003	01C	G [Dreneringsplaner] - Drainage	Roof Drainage Manhole Cards Sheet 3 of 5	Roof Drainage Manhole Cards Sheet 3 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-04-TG-0004	01C	G [Dreneringsplaner] - Drainage	Roof Drainage Manhole Cards Sheet 4 of 5	Roof Drainage Manhole Cards Sheet 4 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-04-TG-0005	01C	G [Dreneringsplaner] - Drainage	Roof Drainage Manhole Cards Sheet 5 of 5	Roof Drainage Manhole Cards Sheet 5 of 5										Pack 4 - Issue date on 14-02-2014
C31-G-04-TG-0010	01C	G [Dreneringsplaner] - Drainage	Road Drainage Manhole Cards Sheet 1 of 5	Road Drainage Manhole Cards Sheet 1 of 5										Pack 5 - Issue date on 28-02-2014
C31-G-04-TG-0011	01C	G [Dreneringsplaner] - Drainage	Road Drainage Manhole Cards Sheet 2 of 5	Road Drainage Manhole Cards Sheet 2 of 5										Pack 5 - Issue date on 28-02-2014
C31-G-04-TG-0012	01C	G [Dreneringsplaner] - Drainage	Road Drainage Manhole Cards Sheet 3 of 5	Road Drainage Manhole Cards Sheet 3 of 5										Pack 5 - Issue date on 28-02-2014
C31-G-04-TG-0013	01C	G [Dreneringsplaner] - Drainage	Road Drainage Manhole Cards Sheet 4 of 5	Road Drainage Manhole Cards Sheet 4 of 5										Pack 5 - Issue date on 28-02-2014
C31-G-04-TG-0014	01C	G [Dreneringsplaner] - Drainage	Road Drainage Manhole Cards Sheet 5 of 5	Road Drainage Manhole Cards Sheet 5 of 5										Pack 5 - Issue date on 28-02-2014
C31-G-09-TG-6086	01C	G [Dreneringsplaner] - Drainage	Verksted - Fastspor - Drenering detaljer	Workshop - Embedded Track - Drainage Details										Pack 4 - Issue date on 14-02-2014
C31-G-09-TG-6090	01C	G [Dreneringsplaner] - Drainage	Groft og kum detaljer for overvannskum	Trench and Manhole Details for Stormwater Drainage										Pack 4 - Issue date on 14-02-2014
C31-G-09-TG-6091	01C	G [Dreneringsplaner] - Drainage	Typisk detaljer - Sandfang, inspeksjonskum og overvannskum	Typical Details - Sandtrap, Inspection Chamber and Storm Manhole										Pack 4 - Issue date on 14-02-2014
C31-G-09-TG-6101	01C	G [Dreneringsplaner] - Drainage	Workshop detaljer	Workshop Roof Drainage Details										Pack 4 - Issue date on 14-02-2014
C31-G-09-TG-6201	01C	G [Dreneringsplaner] - Drainage	Administration Building detaljer	Administration Building Roof Drainage Details										Pack 4 - Issue date on 14-02-2014
C31-G-09-TG-6601	01C	G [Dreneringsplaner] - Drainage	Rectifier Building detaljer	Rectifier Building Roof Drainage Details										Pack 4 - Issue date on 14-02-2014
C31-H-01-TG-6001	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Område vann og avløp arbeider - Ark 1 av 4	Site Water & Foul Works - Sheet 1 of 4										Pack 4 - Issue date on 14-02-2014
C31-H-01-TG-6002	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Område vann og avløp arbeider - Ark 2 av 4	Site Water & Foul Works - Sheet 2 of 4										Pack 4 - Issue date on 14-02-2014
C31-H-01-TG-6003	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Område vann og avløp arbeider - Ark 3 av 4	Site Water & Foul Works - Sheet 3 of 4										Pack 4 - Issue date on 14-02-2014
C31-H-01-TG-6004	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Område vann og avløp arbeider - Ark 4 av 4	Site Water & Foul Works - Sheet 4 of 4										Pack 4 - Issue date on 14-02-2014
C31-H-01-TG-6062	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Varmt vann, Sprinkler rør og Fjernvarme Målestokk 1:500. Tegnearket 1/2	Hot Water, Sprinkler Water and District Heating Scale 1:500. Sheet 1/2	13/12/2013	01C								Pack 4 - Issue date on 14-02-2014
C31-H-01-TG-6063	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Varmt vann, Sprinkler rør og Fjernvarme Målestokk 1:500. Tegnearket 2/2	Hot Water, Sprinkler Water and District Heating Scale 1:500. Sheet 2/2	13/12/2013	01C								Pack 4 - Issue date on 14-02-2014
C31-H-02-TG-6020	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Depot område avløpsledning plan og profil - Ark 1 av 3	Depot Site Foul Sewer Plan & Profile Sheet 1 of 3										Pack 4 - Issue date on 14-02-2014
C31-H-02-TG-6021	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Depot område avløpsledning plan og profil - Ark 2 av 3	Depot Site Foul Sewer Plan & Profile Sheet 2 of 3										Pack 4 - Issue date on 14-02-2014
C31-H-02-TG-6022	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Depot område avløpsledning plan og profil - Ark 3 av 3	Depot Site Foul Sewer Plan & Profile Sheet 3 of 3										Pack 4 - Issue date on 14-02-2014
C31-H-02-TG-6030	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Depot område vannledning plan og profil - Ark 1 of 4	Depot Site Watermain Plan & Profile Sheet 1 of 4										Pack 4 - Issue date on 14-02-2014
C31-H-02-TG-6031	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Depot område vannledning plan og profil - Ark 2 of 4	Depot Site Watermain Plan & Profile Sheet 2 of 4										Pack 4 - Issue date on 14-02-2014
C31-H-02-TG-6032	01C	H [Offentlig privat vann- og avløpsrør] - Drainage	Depot område vannledning plan og profil - Ark 3 of 4	Depot Site Watermain Plan & Profile Sheet 3 of 4										Pack 4 -

C31-01-TG-6003	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:500. Tegnearket 3	Kokstad Workshop and Depot New Ducting Scale 1:500. Sheet 3	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-01-TG-6004	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:500. Tegnearket 4	Kokstad Workshop and Depot New Ducting Scale 1:500. Sheet 4	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-01-TG-6005	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:500. Tegnearket 5	Kokstad Workshop and Depot New Ducting Scale 1:500. Sheet 5	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-01-TG-6006	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:500. Tegnearket 6	Kokstad Workshop and Depot New Ducting Scale 1:500. Sheet 6	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6001	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 1	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 1	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6002	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 2	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 2	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6003	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 3	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 3	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6004	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 4	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 4	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6005	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 5	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 5	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6006	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 6	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 6	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6007	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 7	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 7	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6008	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 8	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 8	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6009	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 9	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 9	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6010	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 10	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 10	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6011	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 11	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 11	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6012	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 12	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 12	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6013	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 13	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 13	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6014	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 14	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 14	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6015	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 15	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 15	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6016	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Målestokk 1:200. Tegnearket 16	Kokstad Workshop and Depot New Ducting Scale 1:200. Sheet 16	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-09-TG-6001	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Grefesnit	Kokstad Workshop and Depot New ducting Typical ductbank sections	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-09-TG-6003	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Trekkekkum Type 1 to Type 5	Kokstad Workshop and Depot New Ducting Pulling Manhole Type 1 to Type 5	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-09-TG-6005	02C	I[Trekkerør] - Site Wide - Ducting	Kokstad Verksted og Depot Nye farrisveier Rogerkorsum Type 7 (ø650mm)	Kokstad Workshop and Depot New Ducting Signal Pole Manhole Type 7 (ø650mm)	13/12/2013	01C				Pack 5 - Issue date on 28-02-2014
C31-06-TG-6001	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Grunn- og Betong Arbeier Typiske Snitt og Detaljer Ark 1	Depot Wide Ancillary Items - Sheet 1						Pack 4 - Issue date on 14-02-2014
C31-06-TG-6002	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Kontakledning Portal Fundamenter - Ark 1	Overhead Catenary System Portal Foundations - Sheet 1						Pack 4 - Issue date on 14-02-2014
C31-09-TG-6001	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Allmanna detaljer om veier og gangstier - Ark 1 av 4	General Road Details of Roads and Footpaths Sheet 1 of 4	13/12/2013	01C				
C31-09-TG-6002	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Allmanna detaljer om veier og gangstier - Ark 2 av 4	General Road Details of Roads and Footpaths Sheet 2 of 4	13/12/2013	01C				
C31-09-TG-6003	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Allmanna detaljer om veier og gangstier - Ark 3 av 4	General Road Details of Roads and Footpaths Sheet 3 of 4	13/12/2013	01C				
C31-09-TG-6004	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Allmanna detaljer om veier og gangstier - Ark 4 av 4	General Road Details of Roads and Footpaths Sheet 4 of 4	13/12/2013	01C				
C31-09-TG-6010	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Fundamenter for Skyvegrinder for Depot	Foundation for Sliding Gates for Depot						Pack 4 - Issue date on 14-02-2014
C31-09-TG-6011	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Fundamenter for Sikkerhets- og Grense Gjerde	Foundation for Security Fence and Boundary Fence						Pack 4 - Issue date on 14-02-2014
C31-09-TG-6012	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Parkering splasser Gjerde og Skyvegrinder for Depot	Depot Carpark Fence and Sliding Gate						Pack 4 - Issue date on 14-02-2014
C31-09-TG-7000	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Skyvegrinder Og Depot - Ark 1	Sliding Gates For Depot - Sheet 1						Pack 4 - Issue date on 14-02-2014
C31-09-TG-7001	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Skyvegrinder Og Depot - Ark 2	Sliding Gates For Depot - Sheet 2						Pack 4 - Issue date on 14-02-2014
C31-09-TG-7002	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Skyvegrinder Og Depot - Ark 3	Sliding Gates For Depot - Sheet 3						Pack 4 - Issue date on 14-02-2014
C31-09-TG-7005	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Sikkerhetsgjerd - Område: Verksted og Depot, Flesland.	Safety fence, security fence - Area: Workshop and Depot, Flesland						Pack 4 - Issue date on 14-02-2014
C31-09-TG-7010	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Infiltrasjon områder - Område: Verksted og Depot, Flesland.	Infiltration areas - Area: Workshop and Depot, Flesland						Pack 4 - Issue date on 14-02-2014
C31-09-TG-7020	01C	J [Anlegg tekniske detaljer] - Site Wide - Roads/Paths/Gates/Fences	Detaljer adkomst område - Område: Verksted og Depot, Flesland.	Details access area - Area: Workshop and Depot, Flesland						Pack 4 - Issue date on 14-02-2014
C31-K-00-RP-6100	01C	K [Generell Structure] - Overhead Travelling Cranes	Traverskraner Rapport (NO)	Overhead Travelling Cranes Report (NO)						Pack 5 - Issue date on 28-02-2014
C31-K-00-RP-6100	01C	K [Generell Structure] - Overhead Travelling Cranes	Traverskraner Rapport (EN)	Overhead Travelling Cranes Report (EN)						Pack 5 - Issue date on 28-02-2014
C31-K-02-TG-6201	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 1	OCS Mast Foundations Layout Depot Sheet 1	13/12/2013	01C				
C31-K-02-TG-6202	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 2	OCS Mast Foundations Layout Depot Sheet 2	13/12/2013	01C				
C31-K-02-TG-6203	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 3	OCS Mast Foundations Layout Depot Sheet 3	13/12/2013	01C				
C31-K-02-TG-6204	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 4	OCS Mast Foundations Layout Depot Sheet 4	13/12/2013	01C				
C31-K-02-TG-6205	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 5	OCS Mast Foundations Layout Depot Sheet 5	13/12/2013	01C				
C31-K-02-TG-6206	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 6	OCS Mast Foundations Layout Depot Sheet 6	13/12/2013	01C				
C31-K-02-TG-6207	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 7	OCS Mast Foundations Layout Depot Sheet 7	13/12/2013	01C				
C31-K-02-TG-6208	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 8	OCS Mast Foundations Layout Depot Sheet 8	13/12/2013	01C				
C31-K-02-TG-6209	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	KL Mast Foundations Layout Depot Ark 9	OCS Mast Foundations Layout Depot Sheet 9	13/12/2013	01C				
C31-K-32-TG-6004	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	OCS Mast Foundations Layout Alternative Parking Hall Depot Sheet 1	OCS Mast Foundations Layout Alternative Parking Hall Depot Sheet 1						Pack 4 - Issue date on 14-02-2014
C31-K-39-TG-6020	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Fundament for KL-Mast	Foundation for OCS-Mast	13/12/2013	01C				Pack 4 - Issue date on 14-02-2014
C31-K-39-TG-6021	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Fundament for KL-Mast på berg	Foundation for OCS-Mast on rock	13/12/2013	01C				
C31-K-39-TG-6050	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Fundament til enkeltspor fordelingskapp	Foundation for Single Track Distribution Cabinet	13/12/2013	01C				
C31-K-56-TG-6001	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kontroll og Distribusjon Kabinett Fundament Generell Utforming	Control and Distribution Cabinet foundation General Arrangement	13/12/2013	01C				
C31-K-56-TG-6002	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kontroll og Distribusjon Kabinett Fundament Generell Utforming	Control and Distribution Cabinet Foundation General Arrangement	13/12/2013	01C				
C31-K-59-TG-6000	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kokstad Verksted og Depot Lys og CCTV stolpe fundament layout Side 1 av 4	Kokstad Workshop and Depot Lighting and CCTV Pole Foundation Layout Sheet 1 of 4	13/12/2013	01C				
C31-K-59-TG-6001	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kokstad Verksted og Depot Lys og CCTV stolpe fundament layout Side 2 av 4	Kokstad Workshop and Depot Lighting and CCTV Pole Foundation Layout Sheet 2 of 4	13/12/2013	01C				
C31-K-59-TG-6002	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kokstad Verksted og Depot Lys og CCTV stolpe fundament layout Side 3 av 4	Kokstad Workshop and Depot Lighting and CCTV Pole Foundation Layout Sheet 3 of 4	13/12/2013	01C				
C31-K-59-TG-6003	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kokstad Verksted og Depot Lys og CCTV stolpe fundament layout Side 4 av 4	Kokstad Workshop and Depot Lighting and CCTV Pole Foundation Layout Sheet 4 of 4	13/12/2013	01C				
C31-K-59-TG-6004	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kokstad Verksted og Depot Lysmast og CCTV mast Master og fundament Detaljgeometri og snitt	Kokstad Workshop and Depot Lighting and CCTV Column Foundation Details	13/12/2013	01C				
C31-K-59-TG-6005	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Kanalsystem Utbyggere Fungere Typiske Detaljer	Ducting Builders Works Typical Details						Reserved for future use if required
C31-K-62-TG-6001	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Verksted Layout - Ark 1 Mulig endring i addendumet til konkurransegrunnlaget	Workshop Layout - Sheet 1 Possible changes in Tender Addendum						Reserved for future use if required
C31-K-62-TG-6002	01C	K [Generell Structure] - Site Wide - OCS Mast/Lighting/CCTV & Cabinet Foundations	Verksted Layout - Ark 2 Mulig endring i addendumet til konkurransegrunnlaget	Workshop Layout - Sheet 2 Possible changes in Tender Addendum						Reserved for future use if required
C31-K-62-TG-6101	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Fundamentplan	Workshop Foundation General Arrangement Plan	13/12/2013	01C				
C31-K-62-TG-6103	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Nivå 01 Gulvplan	Workshop Level 01 General Arrangement Plan	20/12/2013	01C				
C31-K-62-TG-6104	01C	K [Generell Structure] - Workshop Civil/Structural	Utsper/Søyler 1 og Dekke/Platform Over Nivå 01	Level 01 Walls and Columns and Slab and Platform Above						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6105	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Takplan	Workshop Roof General Arrangement Plan						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6106	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Fundamentplan Generell Ordning Plan Grid A-L /1-2	Workshop Foundations General Arrangement Plan Grid A-L /1-2	13/12/2013	01C				
C31-K-62-TG-6107	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Fundamentplan Generell Ordning Grid M-V /1-3	Workshop Foundations General Arrangement Plan Grid M-V /1-3	13/12/2013	01C				
C31-K-62-TG-6110	01C	K [Generell Structure] - Workshop Civil/Structural	Verkstedskranbelegplan	Workshop Crane Runway Beam Layout						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6111	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Sør Canopy Plan	Workshop South Canopy General Arrangement Plan						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6113	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Mesaninetasje Nivå 02 Generell Plan (Viser Konstruksjoner Ovenfor)	Workshop Mezzanine Level 02 General Arrangement Plan (Showing Structures Above)	20/12/2013	01C				
C31-K-62-TG-6115	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted murer lokaliseringstegning nordre mesanin	Workshop - Walls below north mezzanine	17/01/2014			01C		
C31-K-62-TG-6116	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted murer lokaliseringstegning søndre mesanin	Workshop - Walls below south mezzanine	17/01/2014			01C		
C31-K-62-TG-6117	01C	K [Generell Structure] - Workshop Civil/Structural								Reserved for future use if required
C31-K-62-TG-6118	02C	K [Generell Structure] - Workshop Civil/Structural	Verksted - Grop 1,2,5,7 Generell Ordning Plan B-K	Workshop - Pit 1,2,5,7 General Arrangement Plan B-K	17/01/2014		01C	02C		
C31-K-62-TG-6119	02C	K [Generell Structure] - Workshop Civil/Structural	Verksted - Grop 4,6,8 Generell Ordning Plan M-V	Workshop - Pit 4,6,8 General Arrangement Plan M-V	17/01/2014		01C	02C		
C31-K-62-TG-6121	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Snitt - Ark 1	Workshop Sections - Sheet 1						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6122	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Snitt - Ark 2	Workshop Sections - Sheet 2						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6123	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Snitt - Ark 3	Workshop Sections - Sheet 3						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6124	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Snitt - Ark 4	Workshop Sections - Sheet 4						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6129	01C	K [Generell Structure] - Workshop Civil/Structural	Verksted Snitt - Ark 5	Workshop Sections - Sheet 5						Pack 4 - Issue date on 14-02-2014
C31-K-62-TG-6130	01C	K [Generell Structure] - Workshop Civil/Structural	Gulvplate ved nordre mesanin ark 1 av							

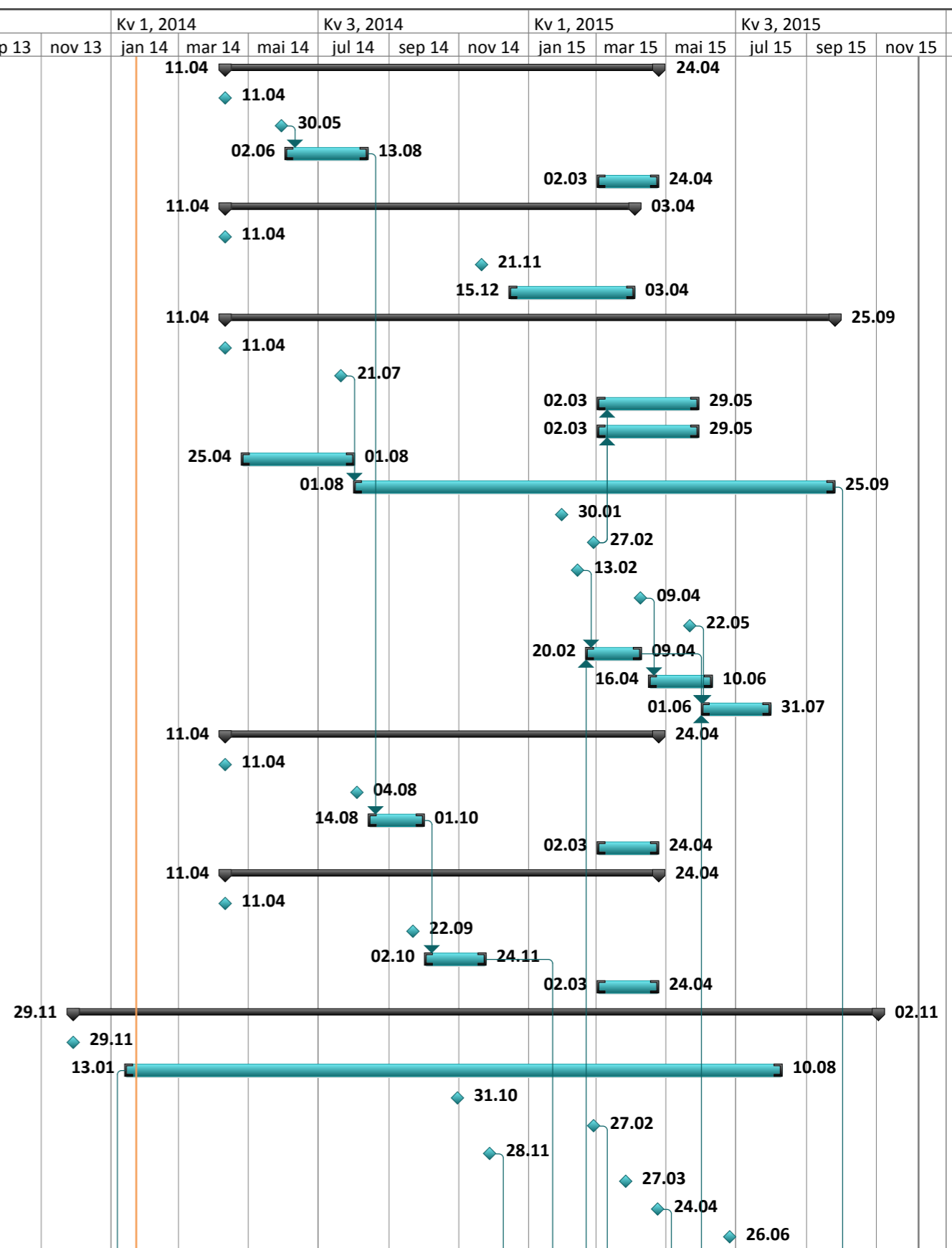






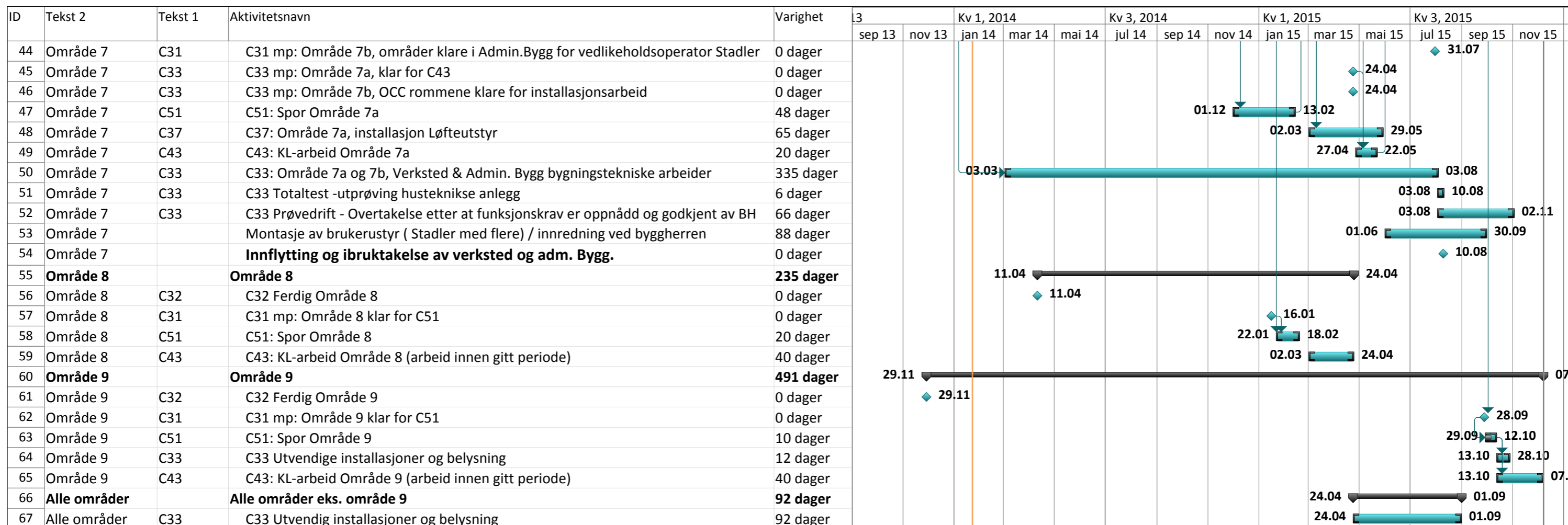
C31-K-68-TG-7100	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Plan Detaljer - Arket 1	Workshop - Wall Cladding Plan Details Sheet 1	21/01/2014					01C									
C31-K-68-TG-7101	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Plan Detaljer - Arket 2	Workshop - Wall Cladding Plan Details Sheet 2	21/01/2014					01C									
C31-K-68-TG-7102	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Plan Detaljer - Arket 3	Workshop - Wall Cladding Plan Details Sheet 3															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-7103	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Plan Detaljer - Arket 4	Workshop - Wall Cladding Plan Details Sheet 4	21/01/2014					01C									
C31-K-68-TG-7120	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Seksjoner - Arket 1	Workshop - Wall Cladding Sections Sheet 1	21/01/2014					01C									
C31-K-68-TG-7121	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Seksjoner - Arket 2	Workshop - Wall Cladding Sections Sheet 2	21/01/2014					01C									
C31-K-68-TG-7122	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Seksjoner - Arket 3	Workshop - Wall Cladding Sections Sheet 3	21/01/2014					01C									
C31-K-68-TG-7123	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Seksjoner - Arket 4	Workshop - Wall Cladding Sections Sheet 4	21/01/2014					01C									
C31-K-68-TG-7124	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Veggkledning Seksjoner - Arket 5	Workshop - Wall Cladding Sections Sheet 5	21/01/2014					01C									
C31-K-68-TG-7130	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Male / liming rom detaljer	Workshop - Painting / Bonding Room Details															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-7160	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Verksted Takkonstruksjon	Workshop - Roof - Typical Roof	21/01/2014					01C									
C31-K-68-TG-7161	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Tak - Rooflight	Workshop - Roof - Rooflight	21/01/2014					01C									
C31-K-68-TG-7162	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Takkonstruksjon - Arket 1	Workshop - Roof Details - Sheet 1	21/01/2014					01C									
C31-K-68-TG-7170	01C	K [Generell Struktur] - Workshop - Architectural	Verksted - Bifold dører	Workshop - Glazed Walling - Bifold Doors	21/01/2014					01C									
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details	Verksted - Veggkledning Typiske Plan Detaljer - Ark 1	Workshop - Wall Cladding Details															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details	Verksted - Veggkledning Plan Detaljer - Ark 2	Workshop - Wall Cladding Details															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details		Workshop - Internal details															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details		Workshop - Internal details															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details	Verksted - Veggkledning Snitt - Ark 6	Workshop - Wall Cladding Sections - Sheet 6															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details	Verksted - Veggkledning Snitt - Ark 7	Workshop - Wall Cladding Sections - Sheet 7															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details		Workshop - Wall / Part Elevation Detail Sheets															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details		Workshop - Wall / Part Elevation Detail Sheets															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details		Workshop - Wall / Part Elevation Detail Sheets															Pack 4 - Issue date on 14-02-2014
C31-K-68-TG-TBC	01C	K [Generell Struktur] - Architectural Details		Workshop - Wall / Part Elevation Detail Sheets															Pack 4 - Issue date on 14-02-2014
C31-L-01-TG-6001	01C	L [Skilt og merkningsplaner] - Side Wide - Roads	Trafikkskilt adkomstvei	Workshop - Wall / Part Elevation Cladding RCP															Pack 4 - Issue date on 14-02-2014
C31-L-01-TG-6002	01C	L [Skilt og merkningsplaner] - Side Wide - Roads	Trafikkskilt ved Depot	Traffic Signs Access Road	13/12/2013	01C													
C31-L-01-TG-6100	01C	L [Skilt og merkningsplaner] - Side Wide - Roads	Vegmerking og trafikkskilt ved Depot - Ark 1 av 2	Traffic Signs at Depot	13/12/2013	01C													
C31-L-01-TG-6101	01C	L [Skilt og merkningsplaner] - Side Wide - Roads	Vegmerking og trafikkskilt ved Depot - Ark 2 av 2	Road Marking and Traffic Signs at Depot Sheet 1 of 2	13/12/2013	01C													
C31-L-01-TG-6365	01C	L [Skilt og merkningsplaner] - Side Wide - Roads	Veimerking og trafikkskilt adkomstvei ST 000 til 280	Road Marking and Traffic Signs at Depot Sheet 2 of 2	13/12/2013	01C													
C31-L-01-TG-6366	01C	L [Skilt og merkningsplaner] - Side Wide - Roads	Veimerking og trafikkskilt adkomstvei ST 280 til 442	Road Markings and Traffic Signs Access Road CH 000 to 280	13/12/2013	01C													
C31-N-02-TG-6001	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing	Kokstad Verksted og Depot Jording - Tegnearket 1	Road Markings and Traffic Signs Access Road CH 280 to 442	13/12/2013	01C													To Be Confirmed
C31-N-02-TG-6002	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing	Kokstad Verksted og Depot Jording - Tegnearket 2	Kokstad Workshop and Depot Earthing Layout Sheet 3															To Be Confirmed
C31-N-02-TG-6003	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing	Kokstad Verksted og Depot Jording - Tegnearket 3	Kokstad Workshop and Depot Earthing Layout Sheet 3															To Be Confirmed
C31-N-02-TG-6004	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing	Kokstad Verksted og Depot Jording - Tegnearket 4	Kokstad Workshop and Depot Earthing Layout Sheet 3															To Be Confirmed
C31-N-09-SC-6001	02C	N [Belysningsplaner og høyspenning] - Side Wide - Lighting	Armaturtabell	Kokstad Workshop and Depot - Luminaire Table	13/12/2013	01C													To Be Confirmed
C31-N-09-SC-6002	01C	N [Belysningsplaner og høyspenning] - Side Wide - CCTV		Kokstad Workshop and Depot - External CCTV Table															To Be Confirmed
C31-N-09-TG-6001	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing	Typiske Jording Detaljer	Typical Earthing Details															To Be Confirmed
C31-N-09-TG-6002	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing		Earthing Bybanen OCS Field Zone section															To Be Confirmed
C31-N-09-TG-6003	01C	N [Belysningsplaner og høyspenning] - Side Wide - Earthing		Earthing Kokstad Depot Overview Arrangement															To Be Confirmed
C31-O-01-TG-6099	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan - Dekkeplan - Område: Verksted og Depot, Flesland	Landscape Drawing - Surface - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6000	01C	O [Landskapsform] - Side Wide - Roads	Oversiktsplan - Område: Verksted og Depot, Flesland	Site Plan - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6001	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan Ost - Landskap og vegetasjonsplan - Område: Verksted og Depot, Flesland	Landscape drawing east, Landscape and Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6002	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan vest - Landskap og vegetasjonsplan - Område: Verksted og Depot, Flesland	Landscape drawing West, Landscape and Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6003	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan sor - Landskap og vegetasjonsplan - Område: Verksted og Depot, Flesland	Landscape drawing South, Landscape and Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-02-TG-6099	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan - vegetasjon - Område: Verksted og Depot, Flesland	Landscape Drawing - Vegetation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-03-TG-6099	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan - Teknisk plan - Område: Verksted og Depot, Flesland	Landscape Drawing - Technical Plan - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-04-TG-6090	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan Ost - Dekkeplan og teknisk installasjon - Område: Verksted og Depot, Flesland	Landscape drawing east, Surface and Technical Installation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-04-TG-6091	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan vest - Dekkeplan og teknisk installasjon - Område: Verksted og Depot, Flesland	Landscape drawing west, Surface and Technical Installation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-O-04-TG-6092	01C	O [Landskapsform] - Side Wide - Roads	Landskapsplan sor - Dekkeplan og teknisk installasjon - Område: Verksted og Depot, Flesland	Landscape drawing south, Surface and Technical Installation - Area: Workshop and Depot, Flesland															Pack 6 - Issue date on 28-03-2014
C31-X-01-TG-6001	01C	X [Miljø og natursresser] - Side Wide - Roads	Depot og adkomstveien. Site preparation works. Water Quality Protection Measures	Bybanen Detailed Design of Workshop and Depot - Automatic Gates - Electrical & Automation															Pack 6 - Issue date on 28-03-2014
C31-Z-00-RP-6001	01C	Z [Helse, miljø og sikkerhet] - Side Wide - Roads	Bybanen Detailed Design of Workshop and Depot - Automatic Gates - Electrical & Automation	Equipment Specification (English)															Pack 6 - Issue date on 28-03-2014
C31-Z-00-RP-6100	01C	Z [Helse, miljø og sikkerhet] - Side Wide - Roads	Detaljert utforming av verksted og depot for bybanen Vertikal transportspesifikasjon	Bybanen Detailed Design of Workshop and Depot Vertical Transportation Specification															Pack 6 - Issue date on 28-03-2014
C43-R-00-SC-0802	02C	R [Kjørestrøm] - Side Wide - Roads	Depot OCS Mast listing	Depot KL Mast listing	13/12/2013	01C													Pack 6 - Issue date on 28-03-2014

ID	Tekst 2	Tekst 1	Aktivitetsnavn	Varighet	3		Kv 1, 2014			Kv 3, 2014			Kv 1, 2015			Kv 3, 2015		
					sep 13	nov 13	jan 14	mar 14	mai 14	jul 14	sep 14	nov 14	jan 15	mar 15	mai 15	jul 15	sep 15	nov 15
1	<b>Område 1</b>		<b>Område 1</b>	<b>235 dager</b>														
2	Område 1	C32	C32 Ferdig Område 1	0 dager														
3	Område 1	C31	C31 mp: Område 1 klar for C51	0 dager														
4	Område 1	C51	C51: Spor Område 1	30 dager														
5	Område 1	C43	C43: KL-arbeid Område 1 (arbeid innen gitt periode)	40 dager														
6	<b>Område 2</b>		<b>Område 2</b>	<b>220 dager</b>														
7	Område 2	C32	C32 Ferdig Område 2	0 dager														
8	Område 2	C31	C31 mp: Likeretterstasjon klar for C43	0 dager														
9	Område 2	C43	C43 / Likeretterstasjon	73 dager														
10	<b>Område 4</b>		<b>Område 3 og 4</b>	<b>345 dager</b>														
11	Område 4	C32	C32 Ferdig Område 4	0 dager														
12	Område 3 og 4	C31	C31 mp: Område 3 og 4, Klar for C34	0 dager														
13	Område 4	C35	C35: Område 4, Installasjon av sandingsutstyr	65 dager														
14	Område 4	C36	C36: Område 4, Installasjon av vaskemaskinen	65 dager														
15	Område 4	C34	C34 Vognhall: Tilrigging, forberedende arbeider, prefab. Stål og bygningselementer.	48 dager														
16	Område 3 og 4	C34	C34 Vognhall	294 dager														
17	Område 4	C34	C34 mp: tett hus	0 dager														
18	Område 4	C34	C34 mp: klar for C35 & C36	0 dager														
19	Område 4	C34	C34 mp: klar for C51 område 4	0 dager														
20	Område3	C34	C34 mp: klart for C51 område 3	0 dager														
21	Område 4	C34	C34 mp: klar for C43	0 dager														
22	Område 4	C51	C51: Spor Område 4	35 dager														
23	Område 3	C51	C51 : Spor område 3	40 dager														
24	Område 4	C43	C43: KL-arbeid Område 3 og 4	45 dager														
25	<b>Område 5</b>		<b>Område 5</b>	<b>235 dager</b>														
26	Område 5	C32	C32 Ferdig Område 5	0 dager														
27	Område 5	C31	C31 mp: Område 5 klar for C51	0 dager														
28	Område 5	C51	C51: Spor Område 5	35 dager														
29	Område 5	C43	C43: KL-arbeid Område 5 (arbeid innen gitt periode)	40 dager														
30	<b>Område 6</b>		<b>Område 6</b>	<b>235 dager</b>														
31	Område 6	C32	C32 Ferdig Område 6	0 dager														
32	Område 6	C31	C31 mp: Område 6 klar for C51	0 dager														
33	Område 6	C51	C51: Spor Område 6	38 dager														
34	Område 6	C43	C43: KL-arbeid Område 6 (arbeid innen gitt periode)	40 dager														
35	<b>Område 7</b>		<b>Område 7a og 7b</b>	<b>466 dager</b>														
36	Område 7	C32	C32 Ferdig Område 7a og 7b	0 dager														
37	Område 7	C31	C31: Område 7a og 7b, Verksted & Admin. Bygg	375 dager														
38	Område 7	C31	C31 mp: Område 7a og 7b, Verksted og Admin. Bygg tett hus	0 dager														
39	Område 7	C31	C31 mp: Område 7a, klar for C37	0 dager														
40	Område 7	C31	C31 mp: Område 7a, klar for C51	0 dager														
41	Område 7	C31	C31 mp: Område 7b, OCC rommene i Admin. Bygg klare for C33	0 dager														
42	Område 7	C31	C31 mp: Område 7a, klar for C43	0 dager														
43	Område 7	C31	C31 mp: Område 7a, overbygget oppstillingsplass for 1 trikk	0 dager														



Prosjekt: Contract Area program C Dato: to 23.01.14	Aktivitet		Eksterne aktiviteter		Manuell aktivitet		Bare slutt		
	Deling		Ekstern milepæl				Tidsfrist		
	Milepæl		Inaktiv aktivitet		Manuell sammendrag		Fremdrift		
	Sammendrag		Inaktiv milepæl		Manuelt sammendrag				
	Prosjektsammendrag		Inaktivt sammendrag		Bare start				

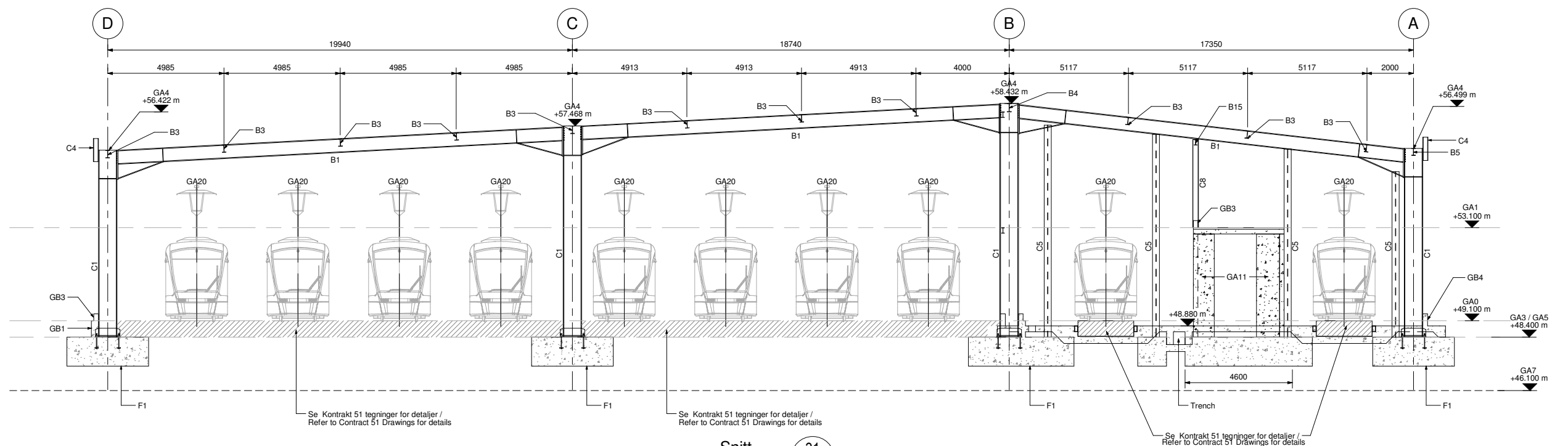




Prosjekt: Contract Area program C  
Dato: to 23.01.14

Aktivitet		Eksterne aktiviteter		Manuell aktivitet		Bare slutt	
Deling		Ekstern milepæl		Bare varighet		Tidsfrist	
Milepæl		Inaktiv aktivitet		Manuell sammendrag fremheving		Fremdrift	
Sammendrag		Inaktiv milepæl		Manuelt sammendrag			
Prosjektsammendrag		Inaktivt sammendrag		Bare start			





**Snitt 31**  
1 : 100 6101 / 6104 / 6106 / 6108

Se Tegning C34-K-62-TG-6120 for Anmerkninger  
Refer to Drawing C34-K-TG-6120 For Section Notes

- Notater:**
1. For generelle merknader, se tegninger C34-K-62-TG-6190 til 6192.
  2. For stålbejelke og stålsøyler størrelser, se tegninger C34-K-62-TG-6103 og 6107.
  3. For fundament størrelser, se tegninger C34-K-62-TG-6100.
  4. For Armert betongbejelke størrelser, se tegninger C34-K-62-TG-6100 and 6107.

- Notater:**
1. For General Notes, see drawings C34-K-62-TG-6190 to 6192.
  2. For Steel Beams and Steel Columns sizes, see drawings C34-K-62-TG-6103 and 6107.
  3. For Foundation sizes, see drawing C34-K-62-TG-6100.
  4. For Reinforced Concrete Beams sizes, see drawing C34-K-62-TG-6100 and 6107.

© Mott MacDonald  
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.  
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

Rev	01B	For Tender / På Anbud	11/12/13	RA	JB	JS
		Beskrivelse	Date	Tegnet	Kontrollert	Godkjent
		Description	Date	Drawn By	Checked By	Approved By

TITTEL  
**Parkering Hall  
Snitt 31**

TITTEL  
**Parking Hall  
Section 31**

**bybanen**  
utbygging

HORDALAND  
FYLKESKOMMUNE

**Mott MacDonald**

South Block  
Rockfield, Dundrum  
Dublin 16  
Ireland

+353 (0)1 2916700  
+353 (0)1 2916707  
www.mottmac.com

**C02 Bybanen  
Kokstad Workshop And Depot**

Målestokk  
@ A1  
1:100

Tegningsnummer  
**C34-K-62-TG-6123\_01B**

DAY	TIME	DESCRIPTION
3/11/2014	2.30h	First contact with the tutor of the project, Arve Leiknes, having a meeting with him and Irene to deliberate what about my project. Finally, the result is that I have to do the project with Irene at the same company. Then, I sent an e-mail to the counselor in the company, Marttin, to introduce myself
3/12/2014	5h	Go to the company with Irene for first time, meet Marttin and have the first contact with the project of Bybanen, getting all information about it.
3/13/2014	5h	Start to read and study the project of Bybanen
3/14/2014	5h	Be reading and translating the project of Bybanen
3/17/2014	5h	Continuing the reading and meeting with Imma Oliver, our tutor in Spain, by e-mail to inform her about our situation in the company with the project. We must start to think to fix a proposal for our bachelor project.
3/18/2014	5h	Be reading and translating the project of Bybanen
3/19/2014	5h	Be reading and translating the project of Bybanen
3/20/2014	5h	Be reading and translating the project of Bybanen
3/24/2014	5h	Meeting with Imma by e-mail talking that is not possible to do the project together, in Spain don't agree about it. Then we comunicated it to Marttin and the solve was that we can work about diferet buildings each of us. And mine is now the parking of the bybanen, so I started to read about this part of the project. Imma also share with us a folder in "Dropbox" with information about the university in Spain and the rules to make the project and a document where propouse us areas and topics on which we can develop the project.
3/25/2014	5h	Be reading the new part of the project of Bybanen
3/26/2014	5h	Be reading the new part of the project of Bybanen
3/27/2014	5h	I keep reading and thinking to fix about which area and issues I want to develop in my work between the options which the university from Spain gave us
3/28/2014	5h	I made a possible proposal to the bachelor project, using the options which Imma gave us from the university and topics that I find interesting and which I would like work about. Then I sent it to Marttin to give me his opinion. I also contacted with someone by e-mail who recommended us Imma because he could help me with the software Navisworks.
3/31/2014	5h	Meeting with Marttin to pooling data, my suggested points and his points. Few minutes after he sent me the bachelor assignment. Then I sent a e-mail to Imma to let her know the news
4/1/2014	7h	Working about the new topics
4/2/2014	9h	Working about the new topics
4/3/2014	9h	Meeting in the company with Irene, Martin and substitute of Arve to talk about the topics. The result is that we have to change every thing, we have now another point to focus our bachelor project
4/4/2014	7h	Try to focus in the new direction of the project looking for information
4/7/2014	7h	elaborating the new official proposal
4/8/2014	7h	elaborating the new official proposal
4/10/2014	9h	elaborating the new official proposal
4/11/2014	6h	elaborating the new official proposal
4/14/2014	9h	continue searching information to know the main points of the project which I want to accomplish
4/15/2014	11h	continue searching information to know the main points of the project which I want to accomplish and try to download the program "Microsoft Project"

4/16/2014	9h	continue searching information to know the main points of the project which I want to accomplish and try to download the program "Microsoft Project"
4/17/2014	5h	sending to Imma the idea of the final proposal almost made for it correction
4/18/2014	5h	Reading the new information for the new proposal and looking for more information
4/22/2014	7h	response received from imma about the proposal, I must change some things. Working around this. And finally the Microsoft Project is downloaded.
4/23/2014	9h	Working about the correction of the proposal and preparing all information that I need
4/24/2014	9h	Working about the correction of the proposal and preparing all information that I need
4/25/2014	7h	Finish of the correction of the proposal and start to work with the power point document to the presentation at the university
4/26/2014	9h	Elaborating the presentation
4/27/2014	9h	Elaborating the presentation
4/28/2014	9h	Finish of the document power point and start to practice the oral part
4/29/2014	11h	Sent of the official proposal by e-mail to Imma, Marttin and Arve. Continue practicing with the oral part of the presentation.
4/30/2014	4h	Presentation at the university
5/1/2014	8h	Studying the information gathered so far to clarify ideas
5/5/2014	10h	continue Studying the information gathered and start a "brain storming"
5/6/2014	10h	continue Studying the information gathered and start a "brain storming"
5/7/2014	10h	continue the "brain storming" and looking for mor information.
5/8/2014	10h	make word documents with a "collage" of information and the ideas that I have. Trying to download the software Navisworks manage.
5/9/2014	6h	Trying to download the software Navisworks manage and read a handbook about this.
5/10/2014	8h	Trying to download the software Navisworks manage and read a handbook about this.
5/11/2014	6h	Trying to download the software Navisworks manage and read a handbook about this.
5/12/2014	9h	Provide more information to my word documents to draft mode
5/13/2014	12h	Working about the elaboration of the real document abot the project to show it to Arve and correct me
5/14/2014	13h	trying to write something official to show it to Arve and correct me
5/15/2014	6h	Meeting with Arve and Irene at university, nothing to show him,so continue working
5/16/2014	7h	writing about the project translating a lot of information
5/17/2014	14h	writing about the project translating a lot of information
5/18/2014	8h	writing about the project translating a lot of information
5/19/2014	10h	send an e-mail to the contact in Spain to request more information and trying to redact.
5/20/2014	6h	Prepare a type of questionnaire to Martin to ask him about the company information and searching more information to apply in the project
5/21/2014	13h	Send an e-mail to Marttin to have a meeting to solve my cuestions. Finally the download of the program Navisworks is successful. Continue studing the new information found few days ago.
5/22/2014	7h	writing about the project translating a lot of information and study the information received by my contact in Spain
5/23/2014	10h	Meeting with Marttin to solve my questions and after that,write all this information and complete it making flow charts

5/24/2014	10h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/25/2014	10h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/26/2014	12h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/27/2014	20h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/28/2014	15h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/29/2014	22h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/30/2014	20h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
5/31/2014	21h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
6/1/2014	19h	Elaborating the project using all the information which I have collected and drawing my own conclusions.
6/2/2014	15h	DELIVERY