

Execution & Organization

Project Plan Stadhoudersplantsoen The Hague



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FOREWORD

My name is Nadia Monsengo and I am an HBO-Architecture student at the NCOI. I proudly present this project plan, drawn up in preparation for the construction and execution of the Stadhoudersplantsoen construction project. This document aims to provide a clear and structured overview of the necessary steps and considerations involved in the realization of this project.

In recent months, I have conducted intensive research into the requirements and wishes of the parties involved, as well as the technical and logistical aspects that influence the execution of the project. This plan includes not only the technical specifications, but also the planning and risk management.

I would like to thank all stakeholders for their contribution and support during this process. I look forward to working together on the implementation and achieving a result that not only meets expectations, but exceeds them.

Nadia Monsengo, July 20, 2024

SUMMARY

The Implementation and Organization report is a detailed project plan explaining how the building was constructed, particularly from work preparation to completion.

The Stadhoudersplantsoen project involves the construction of a 9-story apartment complex with 28 luxury apartments in The Hague.

To accommodate the limitations of the location and storage space, both traditional and industrial construction methods are used. This approach uses prefabricated elements that are placed directly in the structure, while

traditional methods are used to build the structure and finish on site.

For efficient organization, the project follows the three main phases of work preparation, execution and completion, with close cooperation between the teams of the technical staff, administration and execution.

The construction process requires careful planning and coordination between various team members, such as planners, project leaders and craftsmen, to ensure progress and quality.

Potential project risks have been identified through a risk assessment and control measures determined. Examples include measures against accidents and bad weather, with the project plan providing for protocols and preventive measures such as protective equipment, warning signs and safety training.

To functionally organize the construction site, temporary facilities have been placed, such as infrastructure for material transport and accommodation for personnel and project management. Temporary installations are also used, including electrical distribution boxes, water connections and mobile communication equipment. These facilities ensure that construction activities can proceed smoothly and safely.

Another important part of the project is the H&S plan, which analyzes the risks and draws up measures to ensure the safety and health of employees. Various control measures have been taken, such as the use of personal protective equipment, safety instructions, and a plan for emergencies. By closely monitoring compliance with safety guidelines and through regular consultation and coordination, risks are minimized and working conditions improved.

The quality management of the project is based on inspection plans and quality criteria, which include checks for material selection, construction safety and compliance with construction standards. By using a project quality plan that focuses on the highest risk factors, such as accidents and weather influences, the end result of high quality is guaranteed.

This report provides a complete overview of the construction phases and the planning for execution and completion. It emphasizes the importance of a well-organized approach, cooperation and careful compliance with safety standards, which is essential for the successful course and final completion of the Stadhoudersplantsoen in The Hague.

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INTRODUCTION

Reason

How is a building put together when it is surrounded by other buildings and the construction company has to set up a construction site with little space? What are the activities and events that take place when building an apartment complex?

The Stadhoudersplantsoen project in The Hague focuses on the realization of a

nine-story apartment complex with 28 high-quality apartments, two underground parking garages, 52 parking spaces, and 24 storage rooms. This ambitious project, designed by Geurst and Schulze Architects and developed by Stadhoudersstaete B.V., is located in the Zorgvliet district. The building combines traditional and industrial construction methods to address the logistical and spatial challenges of the location. This report highlights the execution and organization of the project and delves deeper into the construction methods used, risk management, quality control, safety and health measures, and the layout of the construction site.

As with many other projects, this project also uses the industrial and traditional construction method. Chapter 1 substantiates the choice for the application of these construction methods. The construction method is a strategic choice, in which both traditional and industrial techniques are used. The traditional method is mainly used for work on location, while prefabricated elements, which are directly incorporated into the building, help to save space on the limited construction site. This ensures efficient execution and optimal use of materials and resources.

Chapters 2 and 3 describe how the organization of the construction project is structured and how the construction site is organized. For a smooth and well-organized execution, the three execution phases are followed: Work preparation, execution and completion. Each phase brings with it specific teams and roles, such as planners, executors and teams of specialists, who jointly are responsible for the progress and success of the project. To organize the construction site efficiently, temporary facilities have been set up, including infrastructure, staff accommodation and storage. Attention has also been paid to temporary installations such as electricity, telecom, water and gas installations.

In the following chapters, a schedule has been made for the implementation phase, a risk analysis with the associated control measures, a project quality plan and information about the H&S plan.

Risk management is integrated into the project plan, with measures drawn up for accidents, weather conditions and quality management. The report contains a safety and health plan (H&S plan), which describes the risks and clarifies the preventive measures. Finally, this report highlights the preparations for completion, safety and quality inspections and the cooperation between all parties involved.

CONTENTS

1. APPLICABLE CONSTRUCTION METHOD

PROJECT INFORMATION

Project:	Residential Block Stadhoudersplantsoen
Type of building:	Apartment complex
Architect:	Guerst en Schulze Architecten B.V.
Client:	Stadhoudersstaete B.V. Den Haag
Number of dwellings:	28
Number of floors:	9
Number of parking garages:	2
Number of parking spaces:	52
Number of storage rooms:	24
Elevator:	1
Stairwell:	1
Meter room:	1
District:	Zorgvliet
City:	The Hague
Construction year:	2015-2019



CONSTRUCTION METHOD

There are 2 types of construction methods:

- The traditional construction method (stack construction)
- The industrial construction method. The industrial construction method can be divided into:
 - Skeleton construction
 - Hall construction
 - Cast-in-place construction and
 - Element construction/assembly. ¹

Substantiation

Appendix 1 includes a table with the building components. Each component indicates whether it belongs to the traditional construction method or the industrial construction method. Both construction methods are used for this project. This has to do with the limited space for material and equipment storage and accommodation for the personnel. The building is surrounded by 2 streets (Stadhoudersplantsoen and Jacob de Graefflaan), other buildings, houses and a canal.

Due to lack of space, it is not possible to store a lot of material. Prefabricated building components that are delivered must be processed immediately in the building. Most components belonging to the traditional construction method are built in the finishing phase. Here, too, the intention is that the components are processed directly into the building in order to occupy as little storage space as possible.

2. ADVICE ORGANIZATION CONSTRUCTION PROJECT

An implementation process consists of 3 phases:

- Work preparation
- Execution
- Completion

The construction company that carries out the building consists of three groups:

- The technical staff, consisting of calculators, planners and buyers
- The administrative staff, consisting of accountants and

¹Basic Book of Architecture, Thieme Meulenhoff

- The implementation team consisting of project leaders, implementers, work preparers and trade teams.

It is important for the construction project that the parties mentioned participate. Appendix 2 includes a table with the roles, tasks and responsibilities per function and in which phases the responsible parties are active.

3. PROPOSAL CONSTRUCTION SITE LAYOUT INCLUDING REQUIRED MATERIAL

Appendix 3 includes a drawing in A3 format of the construction site layout.

Substantiation

To build the Stadhoudersplantsoen, a temporary production company must be set up, which will be dissolved after completion. During the execution, materials must be able to be transported from the public road to the construction site. In addition, the construction site staff and management need accommodation that is not far from the construction site. Energy and water are also needed for the work and temporary accommodation.

The layout of the construction site is divided into 3 parts:

1. The temporary infrastructure
2. The temporary accommodation and
3. The temporary installations.

Temporary infrastructure

The purpose of the infrastructure is to get the necessary building materials from the public road to the construction site. For this we need the following:

- Access to the construction site:
 - A route map is made for drivers who come to deliver materials to the construction site. This route map prevents any delay by the driver. A sign will be placed at the entrance gate with "Access". The drivers are only allowed to enter the construction site the construction site with the permission of the contractor. This prevents drivers from unloading material where they want and blocking access to the construction site. Because the building is located near the public road, an entrance gate is placed and the drivers drive directly onto the construction site.
- Construction roads:
 - Materials that are moved with a crane are moved from the public road under a crane reach. A ring road is placed around the structure placed. This way trucks do not have to reverse. There is also a staging area for a concrete mixer and a concrete pump. The concrete mixer delivers liquid concrete and with the concrete pump the concrete is pumped into the formwork. The use of driving plates is not necessary. The construction site has paved streets. Repair of the pavement is expected, mainly in the bends.
- Crane track:
 - A concrete mixer and a concrete pump do not need a crane track. The formwork elements are delivered in parts and placed on the construction site in each other. Because the formwork is made of steel and therefore has a heavy weight, mobile cranes are used to move the formwork to the correct position hoist. No crane track is required for this either.
- Space for material storage and zones:

- The construction site is divided into different zones: Zone of the building, transport zone, zone for unloading materials and zone for the storage of materials.

Temporary Accommodation

A temporary accommodation is required for the project for the construction site personnel, construction site management and a temporary space for storing materials that are sensitive to the weather.

Accommodation construction site personnel:

The number of personnel required is 20 people. This means that the break room has a surface area of 23.8m². There are 4 washing areas available. Each with a surface area of 4m² and a toilet room of 3m². A changing room is not required for personnel under 20 people.

Accommodation construction site management:

The management consists of approximately 20 people. The following are required for this: A room for the contractors and their drawings, a room for the project leader and their meetings, toilet room, pantry and possibly a room for the construction management. A room for several contractors is 36 m².

Accommodation:

Personnel and management are accommodated in container chains of 3 by 6 meters each. The container chains consist of end containers and intermediate containers and are fully equipped with a desk, toilet/washroom and pantry. The containers are loaded and unloaded by means of the leg system.

Space storage:

Electric hand tools and fasteners are stored in a sea container/warehouse container, of 2.4 by 6 meters. Large materials and equipment are temporarily stored on the storage site and smaller materials such as wood and sheet material are stored in the carpentry shed.

Temporary Installations

In addition to infrastructure and accommodation, the following installations are also important in creating a temporary production company:

Electrical installation:

Electricity is required for the processing of building materials, construction cranes, lighting and security. The electricity is distributed from one connection point on the construction site. The contractor draws up a Program of Requirements for the electrical installation. Before the start of the construction work, a residential connection is requested from an energy company. The construction company provides a

construction power cabinet that is connected to the electricity grid. In connection with lighting and security, a group is created for the site hut for the work switch. In this way, the electrical installation can be switched off on the construction site. Because 6 sockets of 230V and a socket of 400V are not enough, electrical distribution boxes (EVK) are placed in various places and the power is distributed with cable reels.

Telecom and data:

Personnel and management must be able to reach each other and the head office at the construction site. There must be a connection for telephone, fax and e-mail. The options for telecommunications are as follows: Wireless telephone, walkie-talkie, to be used by personnel on the construction site among themselves and mobile phones. With a

² Jellema 12A; Execution, The Technique, page 18-28

a cordless phone on the landline allows someone to be reached within a certain distance of the construction site. A walkie-talkie is used when there is no line of sight and communication with a gesture code cannot be performed. To use a walkie-talkie, a broadcasting license must be requested from KPN. The last option is to use a mobile phone. In the event that people cannot understand each other, there is the option to send messages. For this project, the last 2 options are the most suitable: A mobile phone and a walkie-talkie. Drawings are also needed on the construction site. The drawings are not printed out, but managed by an external software company. Only moderates have access to the drawings that are on a central server.

Security and surveillance:

The construction site is secured by detectors that forward a notification to a security company that then checks the construction site. A

security system for a construction site has standard two fire detectors, three detectors, an outdoor and an indoor siren, a flashing light, a code for the control panel, a security center, an automatic telephone dialer, loop lighting and a key for 100 keys.

Water installation:

A water connection is required for, among other things, the pantry, toilets, formwork, concrete buckets and vibrating needles. Water taps are installed around the building with a hose that reaches the various workplaces. A water meter pit is located at the connection to the construction site. This pit must have a

main tap, a water meter and a drain tap. The purpose of the main tap is to shut off the entire construction management network. The purpose of the water meter is to measure water consumption and the purpose of the drain tap is to empty water pipes in the event of frost. For the toilets it is arranged that these

are connected to the public sewage system. The connection of the building to be built is used for this. This is requested before the start of construction.

Gas installation:

Heat is needed for hardening concrete and for the construction site offices. For a construction project with a construction time of less than a year, an electric heater is purchased. So an electric heater will be purchased for this project.

PLANNING IMPLEMENTATION PHASE A3 FORMAT

An overall planning for the implementation phase is included in appendix 4.

RISK ANALYSIS IMPLEMENTATION PHASE + CONTROL MEASURES

The risk analysis is included in appendix 5

The risk analysis mentions 4 control measures, namely:

1. Avoid: This involves changing or stopping the activities that cause the risk. stopped.
2. Reduce: This involves taking a measure to reduce the impact.
3. Transfer: The risk is transferred to an external party, such as an insurance company or an internal party, such as a subcontractor.
4. Accept: The risk is accepted and monitored, but there is no further action is taken.

³ Jellema 12A; Execution, The Technique, page 29-37

PROJECT QUALITY PLAN

In connection with the management of quality during the implementation phase, a project quality plan is created. This is done to take action in time or to prevent it in case something goes wrong and to guarantee the quality upon delivery.

For the project quality plan, the two highest risk factors have been taken as an example. These are:

- Accident on the construction site
- Unpredictable bad weather

Quality processes are created from these risks. A quality process consists of 5 steps:

1. An inspection plan: This indicates when what is approved or rejected becomes.
2. A quality specification: This states the requirements that the process must meet
3. Registration of the results of the inspections.
4. A report of the deviations that have been observed.
5. Taking a decision regarding the measures.

The inspection plans for the risks are included in appendix 6.1. The quality specification of the risks are included in appendix 6.2.

The inspection plan with the registration of the inspections are included in appendix 6.3. An example of a report with deviations is included in appendix 6.4.

PARTS H&S PLAN IMPLEMENTATION PHASE

H&S stands for Health and Safety. The purpose of an H&S plan is to control safety and health risks and to create a safe working environment for those involved. In this way, all parties involved are aware of the risks and are aware of the actions they must take to work safely.

The most important parts in an H&S plan implementation phase are as follows: Description of risks.

- Description of the safety and health risks
- An analysis and assessment is made of the risks

Translate risks into implementation measures and procedures

- The preventive measures are described. Examples of this are the use of personal protective equipment or the application of safety facilities, such as fences, warning signs and fall protection.
- A description of detailed procedures for safe working, such as:
 - Description of a working methods
 - Use of tools and machines
 - Use of emergency services

Consultation structure/The way of working together and coordinating.

- A specification of the roles and responsibilities of all parties involved.

How is compliance monitored and measures for training and instructions to staff?

⁴Jellema 12B; Implementation, The Organization, pages 251-256

- A plan for training staff in the area of safety and health, such as giving instructions on working safely with certain machines.

Supervision and control:

- A plan of checks and inspections to ensure safety
- Protocols for dealing with accidents and emergencies, such as emergency plans, escape routes, first aid and communication protocol.

Measures to prevent unwanted persons on the construction site.

Collaboration agreements between possibly multiple employers about activities that take place at the same time:

- Facilities that are used by multiple parties, such as scaffolding.
- Measures to prevent risks from one employer to the personnel of the other employer, such as work that is performed above each other.
- A planning that does not conflict with the safety and health of the staff.

For the implementation phase, the implementing party is required to appoint a coordinator. This obligation is laid down in a written agreement. The H&S coordinator is responsible for the coherence and coordination of the H&S measures. So not for the safety and health itself.

⁵ Jellema 12B; Implementation, The Organization, page 126-127

LITERATURE LIST

Jellema 12A; Execution, The Technique,
Jellema 12B; Execution, The Organization
Basic Book Architecture, Thieme Meulenhoff

APPENDIX

APPENDIX 1: BUILDING COMPONENTS

Traditional construction method	Industrial construction method
Foundation: Concrete pile foundation such as a pipe segment pile (if applicable)	Basement: Walls, ceilings and floor of concrete.
Facade: On the street side it is made with bricks	Floor: The floors in the apartment are made of system floors made of concrete.
<p>Floor finish:</p> <ul style="list-style-type: none"> - At the entrance hall on the ground floor made of natural stone - The floor in the elevator is also finished with natural stone - Carpet at the elevator halls - Floating anhydrite screed is used for the apartment floors (except bathroom and toilets). - Sand cement screed is used for bathrooms and toilets. 	<p>Load-bearing/Constructive walls:</p> <ul style="list-style-type: none"> - These consist of gray concrete at the core and as apartment- separating walls. - At the facade, the load-bearing walls consist of a steel construction (skeleton construction) - The walls at the elevator halls are equipped with a niche.
<p>Wall finish interior wall:</p> <ul style="list-style-type: none"> - Paneling of natural stone on the ground floor. Other wall parts (except storage room) are finished with spray work. - Wooden plinths are applied to the walls. - Basement walls finished with sauce - Other walls, except the technical cabinet, bathroom and toilet, are finished with sauce. 	<p>Facade:</p> <ul style="list-style-type: none"> - Prefab concrete bands and weather moldings are used on the street side. - The inner wall on the street side consists of wooden elements with insulation and plasterboard.
<p>Ceiling:</p> <ul style="list-style-type: none"> - Acoustically lowered with lighting - Finished with spray work. Except for the storage room) 	Balconies: The load-bearing parts of the balconies are made of concrete.
<p>Installations:</p> <ul style="list-style-type: none"> - Passenger elevator from the basement to the seventh floor. - Passenger and goods elevator from the basement to the ground floor - Drainage and downpipes and sewers consist of plastic - Rainwater drainage pipes also consist of plastic. 	<p>Installations:</p> <ul style="list-style-type: none"> - The main roof is equipped with solar panels (PV panels). - Wall, ceiling and escape route fixtures in the common areas. - A central hydroof installation is placed in the basement. - WTW (heat recovery) is installed in every home
Roof: Roof tiles are applied to the main roof	<p>Frames:</p> <ul style="list-style-type: none"> - Exterior frames (except at the storage room) are made of aluminum with HR++ glazing. - Frames of storage rooms 1 to 4 are made of wood - The inner frames are made of wood.
Load-bearing wall: Storage wall of building no. 1 to 4 is masoned	Roof: Storage roof of building no. 1 to 4 consists of concrete
<p>Outdoor space:</p> <ul style="list-style-type: none"> - At the entrance there are garden walls (masoned), the paving is made of natural stone and planting is applied. - The entrance also has a masonry column - Rear entrance has a tiled paving - Facade, at the main entrance on the ground floor 	<p>Doors:</p> <ul style="list-style-type: none"> - Elevator doors made of stainless steel (stainless steel) - Speedgate with wicket door at the parking garage. - HPL doors with a door spy as apartment entrance doors

Non-load-bearing walls: Made of plaster or aerated concrete	Ramp: Made of concrete and runs from ground level to -2 (if applicable)
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APPENDIX 2: ROLES, TASKS AND RESPONSIBILITIES

Tasks	Responsible and authorized	Phase
Role: Constructor		
Provide advice on technical matters during the construction phase	Constructor	Work preparation and Execution
Role: Management construction company		
Responsible for the success and growth of a company.	Management construction company	All 3 phases
Choose a construction site manager and possibly assemble a management team.	Management construction company	Work preparation
Responsible for operational management	Management construction company	All 3 phases
Responsible for financial management (monitoring budgets, managing cash flow and ensuring profitability)	Management construction company	All 3 phases
Maintain relationships with stakeholders.	Management construction company	All 3 phases
Draw up quality and safety policies and ensure that the projects comply with these and that the working conditions are safe.	Management construction company	Work preparation Execution
Role: Calculator		
Supporting construction works in the execution of additional and less work	Calculator	Execution
Calculate expected costs (materials, labor, machines, subcontractors, etc.) of a construction project	Calculator	Work preparation
Keep track of cost calculations and quotations for detailed reporting.	Calculator	All 3 phases
Stay informed of market developments, such as material cost changes, economic situations and new technologies	Calculator	All 3 phases
Role: Planner		
Draw up a detailed plan for the entire project.	Planner	Work preparation
Coordinate the different phases of the project and ensure that it proceeds according to plan.	Planner	Work preparation
Keep track of the progress of the project and adjust the schedule if necessary.	Planner	Work preparation
Collaborate with other parties, including project leaders, contractors and subcontractors, and ensure that everyone is aware of the planning and any changes.	Planner	All 3 phases
Create reports on the progress of the project.	Planner	All 3 phases

Role: Buyer		
Determine material prices	Buyer	Work preparation
Determine subcontractor prices for tender budget	Buyer	Work preparation
Support contractors in purchasing materials and contracting subcontractors.	Buyer	Work preparation
Role: Accountant		
Managing the company administration, income and expenses.	Accountant	Work preparation Execution Completion
Managing the project administrations, income and expenses	Accountant	Work preparation Execution Completion
Managing payroll administration	Accountant	Work preparation Execution Completion
Role: Project leader		
Lead, manage, coordinate and execute construction works	Project leader	Execution
Act as the central point of communication internally and externally.	Project leader	All 3 phases
Identify and prevent risks and problems	Project leader	All 3 phases
Monitor the project budget and make adjustments where necessary	Project leader	Work preparation and Execution
Monitor the progress of the project and ensure that the deadline is met.	Project leader	All 3 phases
Ensure that the end result meets the quality standards and specifications.	Project leader	Completion
Regularly report on the progress of the project to stakeholders.	Project leader	All 3 phases
Role: Supervisor		
Leading the execution process on the construction site	Supervisor	Execution
Drawing up and maintaining the planning of the construction project.	Supervisor	Execution
Function as a communication person between the various parties, such as the contractors, architect and client, and report progress to the project leader or architect.	Supervisor	Work preparation Execution
Carry out checks and inspections on the project	Supervisor	Execution Completion
Keep track of the project administration, such as daily reports and work permits.	Supervisor	Work preparation Execution
Role: Work planner		

Create technical and working drawings based on the specifications and design.	Work Planner	work preparation
Support Project Manager with the construction	Work Planner	Work Preparation Execution
Draw up detailed planning with schedules, material delivery and personnel deployment.	Work Planner	Work Preparation
Order required materials and tools	Work Planner	work preparation
Role: Trade Team		
Perform a specific activity, such as carpentry, formwork and shuttering work.	Foreman	Execution
Responsible for the delivery of high quality work.	Foreman	Execution Completion
Responsible for maintaining and using tools correctly.	Foreman	Execution
Find solutions to technical problems that occur during the work in consultation with the foreman	Foreman	Execution
Ensure that the work components are ready for inspection and delivery.	Foreman	Execution Completion

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APPENDIX 3: CONSTRUCTION SITE LAYOUT A3 FORMAT

See separate file

APPENDIX 4: OVERALL PLANNING IMPLEMENTATION PHASE - A3 FORMAT

See separate file

⁶ Jellema 12B: Execution: The Organization

APPENDIX 5: RISK ANALYSIS EXECUTION PHASE

Risk	Probability (frequency)	Impact	Risk score	Control measure
	1= very unlikely/low impact 5= very likely/high impact		Probability x impact	
Unpredictable bad weather	3	3	9	Reduce
Delay in the delivery of prefabricated materials	2	4	8	Reduce
Delay in the delivery of raw materials	1	4	4	Reduce
Wrong materials are delivered	2	3	6	Avoid
Unexpected costs during the project	3	2	6	Avoid
Errors in the design	2	4	8	Reduce
Errors in the execution of the foundation	1	5	5	Reduce
Accident on the construction site	3	5	15	Transfer
Accident on the road	2	2	4	Transfer
Design does not comply with regulations	1	1	1	Reduce
Permit is not granted	2	1	2	Reduce
Pandemic (Covid) returns	1	3	3	Transfer
The connection for electricity and water is not arranged on time	1	2	2	Reduce
The stakeholders (local residents) are not happy with the project due to possible noise pollution. Relationships are poorly maintained.	2	2	4	Reduce
The constructor has made a mistake in the calculations	3	2	6	Reduce
An economic crisis arises	1	1	1	Transfer
The end result does not meet the quality standards and specifications.	2	1	2	Reduce
Hand tools and materials are stolen	3	2	6	Avoid

APPENDIX 6: PROJECT QUALITY PLAN

APPENDIX 6.1: INSPECTION PLANS RISKS

Inspection plans

Risk: Accident on the construction site	
Time of inspection	Quality specification
1. Upon assignment	<ul style="list-style-type: none"> • Is the workplace cleaned up at the end of the day? • Has training been given in the use of tools? • Has training been given in lifting technique?
2. Upon delivery (delivery)	<ul style="list-style-type: none"> • Have the correct materials for lighting been delivered? • Have anti-slip mats been delivered? • Is the workplace cleaned up at the end of the day? • Has reflective clothing been ordered and delivered? • Have warning objects been delivered?
3. Before starting (preparation)	<ul style="list-style-type: none"> • Is there sufficient lighting? • Is the workplace cleaned up at the end of the day? • Are pedestrian paths and vehicles clearly marked and separated? • Have warning signals been placed on the construction site? • Is everyone using a safety helmet? • Have safety nets or edge protection been installed? • Have the electrical installations been checked against shocks or electrocution? • Are the work areas ventilated? • Is there a safe storage area for chemicals?
4. During processing (execution)	<ul style="list-style-type: none"> • Is fall protection being used? • Does the fall protection meet the requirements? • Do the scaffolding meet the requirements and are they approved? • Are railings and safety harnesses used? • Is the workplace cleaned up at the end of the day? • Does every staff member and visitor wear reflective clothing? • Have warning signals been placed on the construction site? • Is everyone using a safety helmet? • Have safety nets or edge protection been installed? • Have the electrical installations been checked against shocks or electrocution? • Do the contractors and visitors wear personal protective equipment such as gloves, safety glasses and respiratory protection? • Are there fire extinguishers on the construction site?
5. After processing (ready)	<ul style="list-style-type: none"> • Is the workplace cleaned up at the end of the day? • Is everyone using a safety helmet? • Does every staff member and visitor wear reflective clothing? • Have warning signals been placed on the construction site? • Have the electrical installations been checked against shocks or electrocution? • Are there fire extinguishers on the construction site?
6. Upon delivery	<ul style="list-style-type: none"> • Is the workplace cleaned up at the end of the day? • Is everyone using a safety helmet? • Are there fire extinguishers on the construction site?

Risk: Unpredictable bad weather

Time of inspection	Quality specification
1. Upon assignment	<ul style="list-style-type: none"> ● Are possible weather delays included in the planning for the execution? ● Is there room for postponement of milestones? ● Is there an extra budget available for unexpected costs? ● Is everyone aware of the weather updates?
2. Upon delivery (supply)	<ul style="list-style-type: none"> ● Have materials been ordered and delivered that the building materials and protect unfinished structures? ● Have electric construction heaters, blowers or drying machines been ordered and delivered? ● Have windscreens and fences been ordered and delivered? ● Have storage containers been ordered and delivered? ● Is everyone aware of the weather updates?
3. Before commencement (preparation)	<ul style="list-style-type: none"> ● Staff must be rescheduled. Are these costs covered? ● Machines have to be rented for a longer period of time. Are these costs covered? ● Are the costs for ordering materials that the building protect covered? ● Have the windscreens and fences been placed? ● Is everyone aware of the weather updates?
4. During processing (execution)	<ul style="list-style-type: none"> ● Are tarpaulins and waterproof films used to protect the construction and covering of machines? ● Is heating and drying equipment used for drying paint and promoting working conditions? ● Are small building materials and equipment stored in the storage containers? ● Have the windscreens and fences been placed? ● Is everyone aware of the weather updates?
5. After processing (ready)	<ul style="list-style-type: none"> ● Are small building materials and equipment stored in the storage containers? ● Is everyone aware of the weather updates?
6. Upon delivery	<ul style="list-style-type: none"> ● Is everyone aware of the weather updates?

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APPENDIX 6.2: QUALITY SPECIFICATION RISKS

	Accident on the construction site		Unpredictable bad weather
Upon assignment			
<input type="checkbox"/>	Provide training in the use of tools according to the Working Conditions Act	<input type="checkbox"/>	Presence of communication means to inform those involved of weather updates
<input type="checkbox"/>	Training: Use of electrical hand tools according to NEN 3140		
<input type="checkbox"/>	Training: Use of personal protective equipment according to NEN 3140		
<input type="checkbox"/>	Training: Use of equipment according to the manufacturer's manual of the construction tool		
<input type="checkbox"/>	Training VCA Basic Safety and/or VCA VOL according to the requirements of VCA (Safety, Health and Environment Checklist Contractors)		
Upon delivery (supply)			
<input type="checkbox"/>	Provision of reflective clothing according to European regulations PPE regulation 2016/425	<input type="checkbox"/>	Presence of all parts of windshields
<input type="checkbox"/>	Check anti-slip mats according to NEN-7909 ⁸	<input type="checkbox"/>	Presence of all necessary storage containers
<input type="checkbox"/>		<input type="checkbox"/>	Presence of electric construction heaters, blowers or drying machines
Before starting (preparation)			
<input type="checkbox"/>	Presence of fire extinguishers according to the Working Conditions Act	<input type="checkbox"/>	Check usability of windshields according to Building Decree
<input type="checkbox"/>	Requirements type of fire extinguishers according to the Building Decree	<input type="checkbox"/>	Check wind load according to NEN 6702
<input type="checkbox"/>	Check ventilation according to Building Decree	<input type="checkbox"/>	Check fire resistance according to NEN6069
During processing (execution)			
<input type="checkbox"/>	Presence of fire extinguishers according to the Working Conditions Act	<input type="checkbox"/>	Check usability of windshields according to Building Decree
<input type="checkbox"/>	Type of fire extinguishers according to the Building Decree	<input type="checkbox"/>	Check moisture resistance of materials according to Building Decree
<input type="checkbox"/>	Maintenance of fire extinguishers according to NEN 4001 and	<input type="checkbox"/>	Check wind load according to NEN 6702

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<https://www.profishop.nl/nl/profi-gids/antislip/?srsltid=AfmBOooZLH0YzSLgNiRUc6UWn-nuE-IFuJbgU5WIyzNAA-IHYKbFjEo>

		NEN 2559		
	<input type="checkbox"/>	Electrical installation inspection according to NEN 3140	<input type="checkbox"/>	Fire resistance inspection according to NEN 6069
	<input type="checkbox"/>	Visibility of reflective clothing according to the Working Conditions Decree	<input type="checkbox"/>	Inspection of water-resistant material requirements according to NEN 2778
	<input type="checkbox"/>	Minimum, moderate and highest visibility reflect clothing according to NEN-EN-ISO 20471 standard	<input type="checkbox"/>	Check safe use of protective materials according to the Working Conditions Act and Working Conditions Decree
	<input type="checkbox"/>	Check anti-slip mats according to NEN-7909	<input type="checkbox"/>	Check use of materials according to CE marking
	<input type="checkbox"/>	Fall protection check according to the Building Decree and Working Conditions Decree ⁹	<input type="checkbox"/>	Check use of materials according to KOMO quality mark
	<input type="checkbox"/>	Inspection of scaffolding according to the Scaffolding Guideline ¹⁰	<input type="checkbox"/>	Presence of communication tool to inform those involved of weather updates
Upon delivery				
	<input type="checkbox"/>	Presence of fire extinguishers according to the Working Conditions Act	<input type="checkbox"/>	Presence of communication tool to inform those involved of weather updates
	<input type="checkbox"/>	Requirements for type of fire extinguishers according to the Building Decree		

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APPENDIX 6.3: INSPECTION PLAN

Accident on the construction site				
Time of inspection	Inspected by	Result (example)	Date	Deviation report
Upon assignment	Name of personnel	Positive no correction needed	25-12-2024	No
Upon delivery	Name of personnel	Not enough anti-slip mats delivered	25-01-2025	00.00.1
Before starting	Name of personnel	Positive no correction needed	25-02-2025	No
During processing	Name of personnel	Positive no correction needed	25-03-2025	No
After processing	Name of personnel	Positive no correction needed	25-04-2025	No
Upon delivery	Name of personnel	Positive no correction needed	25-05-2025	No

Unpredictable bad weather

⁹ <https://www.eurosafe.eu/nl/kennisbank/blogs/valbeveiliging-wetgeving>

¹⁰ <https://www.richtlijensteigers.nl/>

¹¹ Jellema 12B; Execution, The Organization, page 253-254

Time of inspection	Inspected by	Result (example)	Date	Deviation report
Upon assignment	Staff name	Positive no correction needed	10-12-2024	No
Upon delivery	Staff name	Positive no correction needed	10-01-2025	No
Before starting	Staff name	Positive no correction needed	15-02-2025	No
During processing	Staff name	Heating and drying equipment must be replaced	20-03-2025	00.00.4
After processing	Staff name	Positive no correction needed	25-04-2025	No
Upon completion	Staff name	Positive no correction needed	27-05-2025	No

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APPENDIX 6.4: EXAMPLE REPORT WITH DEVIATIONS

Accident on the construction site	Reporter:	Inspection time upon delivery
Report 00.00.1	Staff name	Date: wk 5 monday
Description of the deviation: Not enough anti-slip mats delivered. The suppliers have indicated that they do not have enough stock due to delivery problems.		
Decision corrective measure	Name: (personnel)	Date: wk 5 monday
Search for new supplier		
Corrective measure implemented	Name: (personnel)	Date: wk 5 monday

Unpredictable bad weather	Reporter:	Inspection time upon delivery
Report 00.00.4	Staff name	Date: wk 12 monday
Description of the deviation: Heating and drying equipment must be replaced. Damage was detected to the drying equipment. The damage was caused by careless transport and installation.		
Decision corrective measure	Name: (personnel)	Date: wk 12 monday
Order new drying equipment.		
Corrective measure implemented	Name: (personnel)	Date: wk 12 monday