Description of services for

BUILDING AND LANDSCAPE

2018

Foreningen af Rådgivende Ingeniører FRI

DANSKE ARKITEKT VIRKSOMHEDER

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PREFACE

This description of services serves as a basis for consultancy agreements for building and landscape works in connection with construction.

> In case of any discrepancy between the Danish and the English version of the description of services, the Danish version shall prevail.

The consultant's services and fees are contractually based on '*General Conditions for Consulting Services within Building and Engineering' (ABR 18*).

The description of services includes tenders based on a construction project and also describes how to handle disciplines or contracts which, subject to agreement, are tendered earlier on as functional tenders for the purpose of preparing a construction project.

It is understood that functional tendering is based on a prepared project proposal or subsequent more detailed basis.

It should be noted that in connection with tenders based on a construction project, the choice of materials and components (makes) specifically offered by the contractors is yet to be considered.

Tenders based on a design specification or a design specifications and outline proposal are not covered by the description of services, and reference is instead made to Description of Services for Client Consultancy.

An agreement should be drawn up in a form corresponding to the standard agreement form prepared by the Danish Association of Consulting Engineers and the Danish Association of Architectural Firms.

It should be noted that services provided by the consultant comprise only services within the consultant's area of responsibility as clearly defined to be included in the consultancy agreement.

The description of services does not refer to legislation and regulations governing specific building projects, public sector building projects or non-profit housing projects. Such legislation and regulations are assumed to serve as the basis for the actual building project.

The description of services is prepared with a view to defining roles and the division of services between consultants and client, and between individual consultants. Moreover, the description of services is prepared in particular with a view to defining responsibility and services for design manager, design consultants, project follow-up, construction management and site supervision.

Moreover, the description of services defines the consultants' responsibility for describing and coordinating the cooperation with the building contractors

following conclusion of a mutual agreement. This also applies when contractors, after conclusion of an agreement, are to provide design services.

The description of services is suitable for large and/or more complex projects under ABR 18.

For small or simple projects, where ABR 18 is used in a simplified form, a simplified description of services should also be used.

The description of services is not suitable for agreements concluded with a consumer.

Chapter 0 contains a glossary which defines selected terms used in the description of services.

For building works where the client has special requirements for the use of ICT, including digital design and digital delivery, an ICT specification must be prepared as basis for the tender and agreement. The ICT specification defines the digital delivery of the agreed project documentation.

Along with the description of services, FRI and the Danish Association of Architectural Firms have prepared a guide offering good advice on how to understand and use the description of services.

FRI and the Danish Association of Architectural Firms prepare individual codes of practice for a number of specific areas, and reference is made to their websites www.danskeark.dk and www.frinet.dk for the latest versions of the publications.

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0. DEFINITIONS

The following terms used in the description of services must be construed as they are defined below. The translation of ABR 18 does not always correspond with this translation. Therefore, to avoid any misunderstandings, the differing definitions are added.

Works

Works means the services provided by the individual workmen within their own discipline such as floors, ceilings, tiles, ventilation systems, installation, etc.

Work schedule (Working Schedule)

Work schedules are the individual contractors' detailed plans for the execution of their own works. The work schedule comprises a plan for any of the contractor's services related to the design.

Working drawings and bills of quantities

Working drawings and bills of quantities mean the technical drawings and bill of quantities needed by the contractor to be able to deliver a given building element based on the construction project. This includes cutting lists for a window, production drawings for ducts in a ventilation system, etc.

Archive research

Archive research for a site or building comprises search in relevant archives to investigate whether the site or building project is subject to any restriction, clauses or requirements.

Decision plan

A decision plan is a plan for the decisions to be made by the client during the phases of the building project.
The decision plan forms part of the consultant's service plan.

User

A user or groups of users are persons appointed by the client to comment on the consultant's proposal or project to ensure that the building is fit for use.

Users work under the client's management and may not consider proposals or changes without the client's acceptance.

Building meeting (Construction meeting)

Building meeting means meetings with the client's contractors with a view to facilitating the performance of the task and promoting the progress of work.

Client

The client is the entity that hires consultants and contractors to perform the task.

Client meeting

Client meeting means meetings between the client and the consultants during which the performance of the task, progress, budgets and fees are discussed.

Consultant to the client (Client adviser)

The consultant to the client is a consultant who provides consultancy to and assists the client in connection with the performance of the task in cooperation with the client's other consultants and with the contractors.

Construction designer of load-bearing structures

The construction designer of load-bearing structures is the operator (company), who, under the Danish Building Regulations, is responsible for collating and coordinating the structural documentation for the structure.

Certified fire consultant

A certified fire consultant is a consultant (person) who is certified to inspect the fire safety of buildings, see the provisions of the Danish Building Regulations for the building project in question.

Certified structural engineer

A certified structural engineer is a consultant (person) who is certified to inspect the statics of buildings, see the provisions of the Danish Building Regulations for the building project in question.

Split consultancy (Separate consultancy services)

Split consultancy means that the entire task is performed by several consultants, including possibly one or more design contractors, who have each concluded an agreement with the client.

Detailed time schedule

Detailed time schedule for construction means a time schedule that coordinates the contractors' work schedules into an overall plan.

Financial framework

The financial framework means a budget for design and construction of a building or engineering project that governs the consultants' design.

Overall budget

The overall budget for a building project comprises both the financial framework and the client's other expenses in realising the building project.

The client's other expenses include all expenses in addition to the financial framework, typically acquisition of property, the client's internal expenses, external fees, the client's expenses for fitting out and furnishing the construction, relocation expenses, etc.

Digital building model

Digital building model means one or more digital models (typically in 3D) that jointly represent a structure. Individual models from individual consultants or design contractors are termed discipline models, while a collection of discipline models are termed common model.

Operating budget for technical operation and maintenance

An operating budget for the technical operation and maintenance of the building project comprises expenses for supplies to the building project as well as for the operation and maintenance of the building project for a number of years – usually 10 years.

The technical operating budget does not contain administration or property tax costs, etc. just as expenses related to the intended use of the building project are not included.

Operational requirements after delivery

Operational requirements after delivery means specific requirements for the operational condition or performance of the building after delivery and initial operation.

Operating and maintenance manual

The operating and maintenance manual is prepared to optimise and systematise operations for buildings and building parts.

The operating and maintenance manual describes operating activities and inspection routines that are necessary in order for the property to work satisfactorily after delivery to the client.

Operating, inspection and maintenance plan

Concerns the fire safety of the building project and contains a description of the required inspection measures, the organisation of operations, etc., see the requirements of the Danish Building Regulations for the installation or the building, depending on its use.

Contractor

Means the supplier or contractor with whom the client has entered into an agreement on delivery and/or construction of all or parts of the building project.

Subject to agreement, the contractor contributes with a project for its works and regulatory approvals of such works.

The contractor coordinates project, procurement, construction, etc. with its sub-contractors.

Contractor design

Contractor design means design carried out by the contractor at its own risk.

Contract

A contract is a collection of technical services or sub-contracts of an overall contract, e.g. contract for separate works, combined contract or main contract.

Discipline

A discipline is the allocation of contracts into specialist fields, e.g. into the carpenter trade, bricklayer trade, electrical engineering trade, etc.

Proposal phase

The proposal phase consists of outline proposal and project proposal and constitutes the phases during which the client's requirements and wishes are incorporated into the project. The only thing left after the completion and approval of the project proposal is the technical design and completion of the project documents for consideration by the authorities, tendering process and construction.

Functional tendering

Functional tendering for a contract comprises invitation to tender on the basis of functional requirements and a defined project and design and based on defined assumptions and performance requirements. It is up to the contractor to comply with the requirements and document such compliance, including, where necessary, to prepare a construction project as specified in the invitation to tender.

It is assumed that functional tendering of a building part will not take place before an overall and approved project proposal is available.

System products are also normally tendered as functional tendering.

It is assumed that in the tender and agreement documents for the consultant service, the client considers the scope of functional tendering for the building project in question. This is most expediently clarified in a dialogue with the consultant before concluding an agreement.

If the scope of functional tendering is adjusted following conclusion of an agreement, it must be done in the project proposal phase at the latest.

Statement of completion (Notice of completion)

Statement of completion means the consultant's written statement to the client on the completion of a project phase with a view to obtaining the client's approval.

The same term is used for the contractor's written statement to the client on the completion of the contractor project or a phase in the project with a view to obtaining the client's approval, and the term is also used in connection with the contractor's completion of the contract.

Preliminary inspection

Preliminary inspection means an inspection of the progress of the building project and the progress of the contractor's test of technical systems and installations prior to the finishing works on the building project with a view to coordinating such works.

The preliminary inspection comprises an overall assessment of the scope and materiality of defects.

The preliminary inspection can take place at once or be divided into sections or contracts.

Geometry

The **assumed geometry** means that the scale and location of building parts have been coordinated and illustrated so as to form a basis for an overall space allocation. Configuration and location have yet to be established.

Defined geometry means that the configuration and location of building parts have been determined so as to form a basis for a decision on coordinated solutions. Detailed and final processing as well as mutual coordination are yet to be established.

Final geometry means that the configuration and location of building parts are detailed and coordinated so as to form a basis for production preparation and construction without further mutual coordination.

Review

See project review.

Interface

Interface between consultancy tasks means the part of a task that interfaces with another task and depends on or is important for its design, meaning that mutual coordination is required. The relationship with existing buildings or facilities may also constitute an interface.

Interface between contracts means the part of a contract that interfaces with another contract or an existing building and depends on or is important for its design, meaning that mutual coordination is required.

Interface description

An interface description clearly accounts for the following for the functional tendering in question:

- content and scope of service, including requirements for project documentation and other documentation to be provided by the contractor
- design basis

- interfaces to the rest of the building project, including tolerances, absorption of power, absorption of movements, cold bridge conditions, sound conditions, etc.
- performance requirements
- approval procedure.

The interface description may be an independent document or form part of the overall tender design.

Main time schedule (Master programme)

Main time schedule for consultant services means a realistic time schedule specifying the start and completion of the consultant's performance of the task. The main time schedule should also specify a deadline for the consultant's preparation of a service plan, the client's approval deadlines and expected completion date for the contract.

The main time schedule with any agreed amendments is termed 'The agreed main time schedule'.

Main time schedule for contractor services means similar milestones for the individual contractors' performance of and delivery of the works as well as milestones for the contractors' preparation of a work schedule, including for the contractor's documentation, design as basis for the client's approvals, preliminary inspection, etc.

ICT process manual

ICT process manual means a cooperation document that establishes the framework for digital cooperation. As a minimum, the document is updated in connection with each phase to the required extent. The ICT process manual is prepared on the basis of the project ICT specification.

ICT specification

ICT specification means an agreement appended to the description of services establishing any of the client's requirements for ICT (Information and Communication Technology).

Inspection plan

An inspection plan means a plan for the nature, scope and documentation of the contractor's control activities.

Tender quality control plan means a systematic, schematic overview that outlines the client's minimum requirements for the content and scope of the quality documentation, which the contractor must provide to the client, and adjusted to the building project in question. Inspection plans will normally be divided into disciplines.

The contractors will prepare final inspection plans on the basis of the tender quality control plans.

Quality plan

Quality plan for design means a plan for the quality management and quality assurance activities to be carried out in respect of the building project design, including both consultant design and contractor design.

Quality plan for construction means a similar plan for the quality management and quality assurance activities to be carried out in connection with the construction of the building project. The quality plan leads to an inspection plan.

Quality assurance

Quality assurance means activities that serve to prevent defects in a building project and to ensure that a chosen quality is maintained during design and construction.

Care plan

A care plan for landscape architectural works describes routine work during the four seasons as well as the expected development in the vegetation and pavement of the facility and the resulting special works over a fixed term of years. The care plan specifies the quality and care level for various landscape facilities and possibly also for individual components.

Design meeting

Design meetings are meetings between the design consultant and any design contractors.

Project conference (Design review)

Project conference means a conference taking place shortly after conclusion of a construction contract and before the building and engineering works.

In connection with the project conference, the client and its consultant(s) and contractor(s) consider the tendered and agreed project as well as any project contributions and proposals for choice of material from contractors and suppliers. The purpose is to create a common understanding of the project, to give the contractor a chance to impact the construction process by pointing out inexpediencies in the project, to eliminate risks and improve the handling of risks and to eliminate uncertainties and inadequacies in the project.

Subject to agreement, the project conference can be repeated in case of subsequent, material changes to the project.

Project conference can also be understood by the design contractor as an element in its assignment of its project to any sub-contractors and contracting engineers.

Project review (Design scrutiny)

Project review means a coherent and systematic review of a project as part of quality assurance with a view to assessing the project’s ability to meet the project requirements and identifying relevant problems.

Design check

Design check is a systematic review of the prepared project documentation and calculations with a view to eliminating discrepancies, errors and deviations, including in interfaces to the works of others.

The design check is also intended to check that general standard and regulatory requirements are observed.

Project optimisation (Design optimisation)

Project optimisation means assessing and possibly incorporating proposals for alterations, improvements or lowering of costs of specific building parts in respect of an approved project or project conditions.

Project optimisation is usually initiated by proposals from contractors in connection with or following conclusion of the agreement.

Any decision to optimise a project should also clarify any derived consequences for other building parts, and the fee related to the consultant's assessments and redesign should be included in the client's overall assessment of whether the change should be implemented.

Project specification

Project specification means a specification of the technical consultant's project during construction caused by questions from the site supervisor or contractor that necessitates a clarification of the project requirements.

Project specification does not comprise project changes or project optimisation.

Registration of changes and obstacles

Registration of changes and obstacles means an overview of required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees.

Consultant

A consultant is a technical consultant who takes on the job of solving a given task, including typically an architect, landscape architect, structural engineer and installation engineer.

Consultant design

Consultant design means design carried out by the consultant at its own risk.

Consultant design may take place based on proposals from the contractor.

'As built'

'As built' comprises documentation of the construction made, including adapted project documents to reflect the construction.

'As built' documentation should generally comply with the provisions of the Danish Building Regulations. Any rectification of the project in addition to this

is determined in the consultancy agreement and relevant construction contracts.

System delivery

System delivery means that a system provider designs, adapts and delivers one or more system products for a building project, possibly including installation.

System product

A system product is a technologically complex part of a building developed as a ready, modularised and variable product or a catalogue item.

Lead consultant

Lead consultant means a consultant or a group of independent consultants who under one agreement with the client undertake to solve all or the most critical consulting tasks in a project.

Any design contractors do not form part of the lead consultancy.

Tender quality control plan

See inspection plan.

Tender programme

Tender programme means a main time schedule included in the tender design as basis for submission of tenders. The level of detail of the tender programme depends on the type of tendering procedure and allocation of contracts and includes a time schedule for:

- invitation to tender and conclusion of agreement
- project conference
- consultant design, contractor design, etc. after invitation to tender and conclusion of contract
- processing and approval by authorities
- key milestones and significant subordinate milestones for the performance of the individual contracts (start and completion)
- commissioning and testing of technical facilities
- preliminary inspection
- inspection for defects and delivery
- initial operation
- penalty-triggering milestones

The tender documents should also describe other matters that are relevant to the contractor’s planning, including any restrictions on the construction site, expected days lost, etc.

Tender design

Tender design is the consultant design that together with the tender and contract conditions, etc. forms the basis of the invitation to tender for contract works.

The level of detail of the tender design generally corresponds to a construction project, unless it for specific contracts, disciplines or system products is customary or has been agreed that the tendering process should take place as functional tendering.

Construction project

The consultant's updated project that together with the project prepared by contractors constitute the overall, complete and coordinated project as basis for the contractors' purchasing, preparation and construction of the building project.

Deferred works

Deferred works are works that, subject to agreement, will be carried out after the overall building project has been delivered. Deferred works may not prevent the delivery and initial operation of the building project.

An example is planting, which is postponed until the planting season.

Selected parts

Selected parts mean that the consultant selects essential building elements/parts to be detailed in the project. The selected parts illustrate typical parts (something that occurs many times) or critical parts (something that is complex in terms of technical solution or buildability).

Service plan (Service provision schedule)

A service plan is a plan for the services of the consultant and client, including:

- design by phases until tendering
- milestones for the client's provision of information as basis for design and the client's decisions in each phase.
- plan for processing by the authorities
- any user involvement, consultations, etc.
- draft plan for consultant design, contractor design, etc. after invitation to tender and conclusion of contract
- milestones for the consultant's deliverables and the client's approvals.

1. INITIAL CONSULTANCY

Initial consultancy comprises:

1.1 Appraisal

1.2 Design specification

The scope of the services will depend on the current project and the client's needs and is determined in cooperation with the client on the basis of a proposal by the consultant.

1.1 Appraisal

The appraisal represents an initial processing of the client's thoughts, ideas and requirements with a view to deciding whether to implement the task.

1.1.1 Contents

The client's idea is presented in a report. This report analyses the potential of the client's idea and assesses whether and how the idea can be implemented.

Investigations of existing conditions, including agreed research in archives, are summarised in the appraisal.

The appraisal must also include relevant information about the intended building site, including details of soil conditions, pollution.

The appraisal must include an analysis and an assessment of traffic conditions, access conditions, etc. where relevant for the project.

The appraisal may include investigations of alternative proposals, including in respect of location and building options.

The appraisal must include an overall description of the client's requirements and wishes for the building project.

The appraisal must include an analysis of needs and functions, including e.g. an analysis of accessibility conditions.

The appraisal must include an account of any expectations the client may have towards the sustainability and energy requirements of the building project.

The appraisal must include an account of any special requirement the client may have for health and safety during construction and operation.

The appraisal must include accounts of negotiations held with relevant stakeholders.

The appraisal must include an organisational chart for the building project. A description must be given of how decisions are made, including any need for consultation and user involvement in connection with the design specification.

The appraisal must include an assessment of the need for special advisors etc. in relation to the design and construction of the building project.

1.1.2 Commissioning and operation

The appraisal must include the client's special requirements and wishes for the commissioning of the building project, testing of technical systems and installations as well as operation.

1.1.3 Authorities

The appraisal must include a description of zoning and regulatory requirements.

The appraisal must include an overall assessment of public utilities.

The appraisal must include proposals for consideration of regulatory aspects, including zoning.

1.1.4 Programming

The appraisal must include a timeframe for the completion of the project, including particularly critical milestones going forward such as milestones for commitment to site acquisition, financing, etc.

1.1.5 Cost management

The appraisal must include proposals for the overall budget for project implementation, including an estimate of site acquisition costs, construction costs, client deliverables, costs, unforeseen costs, etc.

The budget must include a description of the budget assumptions and definition, price basis and uncertainties.

The appraisal must include an overall operating budget for the technical operation and maintenance of the building project.

The appraisal must include an account of the client's expectations towards the implementation of operational and whole-life cycle cost considerations, and documentation of this in connection with the realisation of the project.

The appraisal must include a preliminary risk analysis focusing on quality, regulatory matters, programming, cost management, etc. The consultant must obtain information for such analysis from the client, relevant authorities, etc.

1.1.6 Quality assurance

The consultant reviews the appraisal and its basis.

1.1.7 Project documentation

The appraisal comprises a report with relevant illustrations and appendices.

The appraisal must include existing drawings detailing the location and size of the site, as well as particulars of its nature, site development, plot ratios, easements and restrictive covenants, zoning, etc.

The appraisal must also include existing relevant drawings detailing existing sites and buildings.

If no drawings are available, the client may charge the consultant with recording, measuring, plotting and digitising any existing open spaces, sites and buildings.

In connection with conversion tasks, the appraisal must include preliminary surveys for use in programme work, including an account of the use of the buildings, the environmental conditions of the area, the combination of materials used in the buildings and a structural survey relative to the intended use.

The project documentation comprises:

- overall report
- appendices on site, facilities, buildings, etc.
- preliminary survey of any existing buildings included
- overall budget
- review report.

1.1.8 Client

The client obtains existing drawings, property details, etc.

The client provides information about the possibilities of realising the project in terms of costs and any wishes in respect of cost effectiveness.

The client participates in necessary meetings, including with a view to commenting on and confirming the basic assumptions for the appraisal and the building project.

After assessing the documentation and its conclusions, the client decides whether further details are needed to supplement the documentation or whether it can form the basis for preparing a design specification.

If the client involves other consultants, such involvement must be coordinated with the lead consultant.

If the design specification is to form the basis for tendering, the client must decide on the type of tendering procedure and allocation of contracts.

The client approves the appraisal before initiating the design specification.

1.2 Design specification

The design specification is a coordinated summary of the client's requirements and wishes for the building project as well as the design and construction of the building project.

The level of detail of the design specification is adapted to the size, complexity and organisation of the building project.

1.2.1 Contents

The design specification is prepared on the basis of the approved appraisal, which lists the necessary conditions for the further development of the project.

The design specification must contain a description of requirements and wishes for the architecture, function and construction method of the building project.

The design specification must include a description of the physical requirements for open spaces, structures, installations and surface quality as well as the sustainability objectives to be met.

The design specification must include a statement of the basic conditions of the building project, i.e. geotechnical, environmental, topographical and climatic conditions, archaeology, area conditions, legal matters as well as special regulatory requirements, existing public utilities, operation and maintenance, etc.

The consultant informs the client of the client's responsibilities in relation to health and safety legislation, including requirements for health and safety coordinators during design and construction, respectively.

The design specification must state any special requirements for health and safety and health and safety coordination during design, construction and operation.

The design specification must state any special requirements for accessibility in addition to those contained in the Danish Building Regulations and other legislation.

The design specification must state any special requirements for thermal, atmospheric, sound and acoustics as well as optical indoor climate in addition to those contained in the Danish Building Regulations and other legislation.

The design specification must state any special energy requirements and specify any related assumptions.

The design specification must state any special sustainability requirements, and specific goals must be defined, including any certification requirements.

The analysis of needs and functions of the appraisal is updated.

If the building project consists of various room types, room descriptions may be prepared in schematic form or as a requirements model that enumerates the net floor area of the rooms, furnishing needs, needs for technical installations, etc.

The design specification must include an overall assessment of the operational conditions.

The design specification must determine the type of tendering procedure and allocation of contracts, including contract for separate works, combined contract, main contract or lead contract.

The design specification must include an organisational chart as well as procedures for communication and cooperation between the parties involved in the building project.

The design specification must determine the scope of meeting activities with external parties, including the consultant's participation in client meetings, user meetings, etc.

The design specification must include the client's requirements for the design and construction of the building project.

The design specification must determine the extent to which tendering processes should be made as functional tendering.

The design specification must include a specification of any requirements the client may have for digital design and the delivery of digital project and operational data. This is stated in an ICT specification.

In connection with digital design, any requirements for the use of a common digital communication platform for exchange and sharing of project documentation are defined.

The design specification must include a proposal for a decision plan for project decisions and approvals, which the designers must incorporate in the service plan and obtain from the client.

The consultant may in cooperation with the client handle user involvement etc. and the design specification must consider the client's expectations for user involvement during design and construction and the related services of the designers.

The design specification must specify any special requirements for quality assuring the design and construction.

The design specification must include the client's requirements in respect of the scope of construction management and site supervision, including the extent to which the consultant must be present on the construction site or be on call.

1.2.2 Commissioning and operation

The design specification must include the client's special requirements for preliminary inspection, commissioning, delivery and initial operation.

The design specification must include the client's special requirements for the operations and maintenance manual for the building project, including requirements for the use of digital tools and specific digital programs in connection with operation and maintenance.

The design specification must include any requirements for assistance to be provided by the consultant in preparing the operating, inspection and maintenance plan for the building project, see the requirements of the Danish Building Regulations.

1.2.3 Authorities

The design specification must include information about overall regulatory requirements, including zoning matters and easements and restrictive covenants as well as title plans, levelling survey, environmental matters, public utility and sewer connections. Particulars of site use, traffic and road conditions and accessibility conditions must also be specified in the design specification.

On the basis of the above and the building project in question, the design specification must specify the expected zoning process and building application processing, and the utility companies relevant for the building project must also be stated.

1.2.4 Programming

The design specification includes a main time schedule that sets out the timeframe for preparing proposal, design and construction, including milestones for the parties' contract negotiations, milestone for presentation of the consultant's service plan, the phases of the design, processing by the authorities, milestones for the client's approval, the tendering phase, contract negotiations with contractor(s), project conference, subsequent consultant design and contractor design, mobilisation and construction as well as for commissioning and test of technical facilities, preliminary inspection, delivery, etc.

1.2.5 Cost management

The design specification must include the overall budget for the building project.

The budget is usually prepared on the basis of estimated square-metre and cubic-metre prices. If the building project consists of different building units, these will be assessed individually.

Available funds are set aside for contingencies, building site costs and winter measures likely to occur during construction.

The budget must contain information about the price index used and the expected price adjustments.

The budget must specify the financial framework, comprising budget items, which the consultant is responsible for budgeting and maintaining.

The budget must also outline any other budget items included in the overall budget and which are budgeted and maintained by the client.

The budget must include a description of the budget assumptions and definition.

The design specification must include an overall operating budget for the technical operation and maintenance of the building project.

The design specification must include an account of the client's requirements for the implementation of operational and whole-life cycle cost considerations, and documentation of this in connection with the realisation of the project.

The design specification must include a risk analysis focusing on quality, regulatory matters, programming, costs, etc., and must assess the need for and the scope of risk management activities during the design and construction phases.

As part of the risk analysis, the consultant must make a critical review of the overall budget and its assumptions and discuss this with the client. In this connection, the consultant and the client must ensure that the overall budget, including the financial framework, is adequately described to form the basis for the further design, and that the financial framework is realistically defined in relation to the building project to be handled by the design consultants.

1.2.6 Quality assurance

The consultant must make a review, i.e. a coherent and systematic review of the design specification and its basis to ensure that requirements for the

quality of the building project (architecture, function, construction method) are adequately described to form the basis for drawing up a proposal.

The review must also comprise the requirements of the design specification for the planning, design, construction, authority processing and time schedule of the building project.

The consultant must review the building project costs to ensure that the budget prepared reflects the requirements and wishes of the design specification.

The design specification is updated after the quality assurance is complete.

1.2.7 Project documentation

The design specification is usually made in an actual programme that describes the client's requirements and wishes for the quality (architecture, function and construction method) of the building project.

The design specification is accompanied by relevant appendices.

Depending on the nature of the project, preliminary designs of rooms may also be prepared indicating functional principles and diagrams that describe e.g. area sizes, functional relationships and proximity criteria, etc.

The gross and net area of the building project is calculated and any area requirements are defined.

Drawings are usually not prepared, but relevant drawings of the building site and any existing buildings and facilities must be included.

The design specification also comprises separate documents etc. that determine the client's requirements for the planning, tendering, design and construction of the building project as well as relevant appendices.

The consultant's review of the design specification and its basis are appended.

Documentation of the client's requirements and wishes for the building project, including related conditions, thus comprises a design specification with appendices, including:

- preliminary studies
- information and relevant drawings regarding the site and existing buildings and facilities
- information about regulatory matters and public utilities.

Documentation of the client's requirements for design and construction also comprises a project-specific description of services with appendices, including:

- organisational description and chart for the design and construction of the building project
- definition and specification of services on the basis of the description of services
- determination of building parts/contracts for which functional tendering can be carried out (see appendix 1 to the description of services)
- ICT specification in case of a requirement for digital design and delivery

- description of required approval process for authorities and utility companies
- any requirements for user involvement etc.
- decision plan for client decisions
- main time schedule
- overall budget for the building project and the financial framework
- operating budget for technical operation and maintenance
- risk analysis
- any requirements for quality assurance

Review of the overall project documentation.

1.2.8 Client

The client assigns the approved appraisal to the consultant as the basis for preparing the design specification.

The client participates in the design specification phase, including the initiation of functional analyses, analyses of room needs, clarification of budget frameworks, etc.

Unless otherwise agreed, the client will convene, preside at and take minutes of client meetings.

The client appoints any representatives and defines their responsibilities.

Prior to preparation of proposals and project, the client must ensure:

- that an approved design specification has been prepared
- the quality level of buildings is determined with consideration to their intended purpose
- programme requirements are consistent with construction and operating finances
- that a description has been prepared of the assumptions and risks related to the design specification, the overall budget for the building project and the financial framework
- that a risk analysis has been prepared and that it is adequate in respect of the design specification, the building project and the overall costs
- that consultant services that clearly defines the consultant's services are described
- that any requirements for classification, digital communication, digital design, digital tendering and digital delivery of project and operational data are specified in an ICT specification
- that a detailed main time schedule has been prepared and that reasonable time is provided for the design for tendering, the tendering process, design for construction, regulatory processing, construction as well as commissioning and delivery.

The client must decide the extent to which its tasks in pursuance of health and safety regulations can be assigned to a third party, including the provision of health and safety coordination, during design and construction, respectively.

The client approves the design specification and related appendices as a basis for initiating the preparation of proposal and design.

2. DESIGN MANAGEMENT

Design management consultancy comprises planning, coordination, management and follow up during the proposal and design phases of the building project and in connection with project follow-up, including in relation to

- consultants and any design contractors
- relationship with authorities
- programming, costs and quality of the building project
- relationship with the client.

The description of services is divided into the following sections:

2.1 Design management

2.2 ICT management in tasks where digital design has been agreed

ICT management is undertaken as part of the design management process, and the ICT manager reports to the design manager.

If one consultant undertakes the overall project, this consultant will be responsible for the design management.

The client may, subject to agreement between the parties, undertake design management.

2.1 Design management

The design manager handles relations between the client and consultants, including any design contractors.

2.1.1 Contents

The design manager ensures that an approved design specification is available.

The design manager ensures, prior to the preparation of proposal and design, that the type of tendering procedure and allocation of contracts have been decided, and the design manager must ensure that it is agreed whether and to what extent the building project is tendered as functional tendering on the basis of functional requirements and proposals in connection with the conclusion of the consultancy agreement.

The design manager is responsible for cooperation between the consultants and ensures coordination of project work performed by the individual consultants, with particular focus on interfaces.

The design manager is also responsible for cooperation between consultants and design contractors in respect of the tendered contracts.

However, the design manager is not responsible for coordination between a contractor and its subcontractors and suppliers.

The design manager is responsible for the coordination of the architecture, landscaping, structures and installations of the building project.

The design manager coordinates in respect of the sustainability objectives of the building project.

The design manager checks that the client has delegated competence and responsibility and has established ways of communication.

The design manager determines the form of cooperation in concert with the individual consultants and the client; this work includes defining the responsibilities of the consultants on the basis of agreements concluded with the client.

The design manager draws up an organisational chart for design and project follow-up.

The design manager is responsible for ensuring that the client receives adequate information, that the client is provided with a basis on which to make decisions and that any approvals and decisions made by the client are communicated to the consultants.

The design manager convenes and presides at design meetings during the design phase and prepares minutes, including meetings with design contractors during the construction project phase.

The design manager participates in client meetings. The scope of such participation must be determined in the consultancy agreement.

The design manager coordinates the process of inviting tenders.

With the assistance of consultants, the design manager prepares tender letter and tender conditions and evaluation.

The design manager prepares a draft for a construction contract and building project specification based on proposals from the consultants.

The design manager ensures that the building project specification, along with the consultants' work descriptions, defines the cooperation and interfaces between consultants and design contractors after contracting, including in relation to any design performed by the consultant and/or the contractor(s).

Where digital design has been chosen, the design manager ensures that requirements for the design contractor's participation in interdisciplinary consistency and collision control are specified in the tender documents.

With assistance from the consultants, the design manager monitors that the client regularly updates the overview of required changes and informs the client of any disagreements with a view to settling such disagreements.

The design manager coordinates services to be provided by the consultants as stipulated in health and safety legislation.

With assistance from the consultants and the construction manager, the design manager prepares a proposal for the building site plan.

The design manager ensures that the health and safety coordinator is informed of structural and installation choices, choice of materials, construction

site plan, any particularly hazardous work, technical aids needed in the construction phase, the scope of safety measures, etc.

The design manager ensures that records of documents, drawings and models, etc. are prepared and updated.

The design manager presents all tender documents to the client for approval.

With assistance from the consultants, the design manager coordinates the evaluation and recommendation of tenders submitted.

The design manager provides consultancy to the client in respect of the scope and nature of construction management and site supervision.

If the client has assigned this to the design manager, the design manager will convene a project conference meeting with each contract and will preside at and take minutes of such meetings.

The design manager coordinates the consultant's work in the construction project phase, including in relation to consultant design and contractor design.

The design manager coordinates project follow-up by the consultants during the construction phase.

The design manager ensures that overall document and drawing records are updated throughout the design and construction process.

2.1.2 Commissioning and operation

The design manager coordinates the consultant's planning and documentation of the preliminary inspection.

The design manager coordinates the consultant's collection and assignment of 'as built' material and operating and maintenance manuals.

2.1.3 Authorities

The design manager handles any advance dialogue and coordinates other negotiations with authorities and utility companies for the purpose of obtaining the building permit and other necessary permits. The design manager is assisted by the consultants.

The design manager ensures that any applications for exemption are prepared by the consultants.

The design manager coordinates the cooperation between the consultants with a view to complying with the energy requirements and indoor climate of the Danish Building Regulations.

The design manager coordinates the cooperation between the consultants with a view to complying with the statics requirements of the Danish Building Regulations.

The design manager ensures that a construction designer of load-bearing structures is appointed for the supporting structures.

The design manager ensures that a certified structural engineer is appointed and, in respect of structural class 4 constructions, that a structural engineer certified for third-party control is appointed.

The design manager coordinates the cooperation between the consultants with a view to complying with the fire safety requirements of the Danish Building Regulations.

The design manager ensures that a certified fire consultant is appointed and, in respect of fire class 4 constructions, that a fire consultant certified for third-party control is appointed.

The design manager ensures that applications for building permit and any applications for exemption are prepared and submitted to the client for approval.

The design manager ensures that an application for a building permit is submitted together with the relevant documentation and oversees that the building permit is granted.

The design manager ensures that any conditions in the building permit are settled in cooperation with the client, consultants and construction management.

In cooperation with the consultants, the design manager will prepare an overview of the required basis for operating permit and will assign it to the designers, the construction manager and the site supervisor.

Following the conclusion of contracts with the contractors, coordination regarding regulatory matters will be handled together with the construction manager and the contractors.

The design manager assists the construction manager in connection with the construction manager's submission of statement of completion and application for operating permit.

2.1.4 Programming

The design manager prepares and updates an overall service plan together with the consultants and will oversee that the service plan is observed.

On the basis of the decision plan of the design specification, the design manager will incorporate the decision plan into the service plan.

The design manager prepares and updates the main time schedule for the tendering and construction of the building project together with the consultants and the construction manager.

The main time schedule must comprise milestones for the tendering phase, milestones for contract negotiations with the contractor(s), milestone for presentation of the contractors' work schedules, milestone for preparation of an overall detailed time schedule for the construction, milestones for the client's approvals, project conference and subsequent consultant design, contractor design, mobilisation and construction and for commissioning and test of technical facilities, preliminary inspection and delivery, etc.

On completion of each proposal and design phase, the design manager will forward a statement of completion to the client together with the project documentation of its own and the consultants' services relevant to the phase.

2.1.5 Cost management

Before preparing proposals based on the design specification and contributions from the individual consultants, the design manager will review, comment on and update the budget and budget limits, etc. for the financial framework forming the basis of the preparation of proposals.

In this connection, the financial framework must be broken down to clearly define which framework the individual consultants must observe.

The design manager reviews, comments and updates the risk analysis of the design specification with contributions from the individual consultants.

Together with the client, it is ensured that the budget for the financial framework is defined with respect to the other budget items prepared and maintained by the client.

Before preparation of proposal and design, the design manager will review the updated budget for the financial framework as well as the updated risk analysis with the client to ensure a mutual understanding of the project costs and risks.

The design manager must notify the client if the financial framework is deemed inadequate to realise the planned building project, and the design manager must, with the assistance of the consultants, provide general guidance to the client in respect of its options.

The design phase is initiated if the updated budget and risk analysis are approved by the client.

If the updated budget and risk analysis are not approved by the client, the design manager must await the client's instructions before initiating further work.

The budget for the financial framework is updated at the end of all design phases and is forwarded for the client's approval together with an overview of required and agreed design changes and their consequences for the budget.

If the design manager, with the assistance of the consultants, becomes aware of circumstances that will affect the financial framework, the design manager must notify the client as soon as possible.

If the financial framework, considering the agreed design changes, is exceeded, an agreement must be made to either adjust the financial framework or the design.

After receipt of tenders, the design manager will update the budget for the financial framework and prepare an overall recommendation to the client that compares the most recently approved budget for the financial framework with the tender results. This recommendation is drawn up on the basis of contributions from the individual consultants.

During the construction project phase and the construction phase, the design manager will assist the construction manager in updating the budget for the financial framework.

With the assistance of the designers, the design manager will prepare the operating budget for the technical operation and maintenance of the building

project during the project proposal phase and will update the operating budget during the construction design phase.

In each proposal and design phase, the design manager must, with the assistance of the designers, prepare a risk analysis focusing on quality, regulatory matters, programming, costs, etc.

2.1.6 Quality assurance

The design manager prepares an overall quality plan for quality assurance in cooperation with and with contributions from the consultants. The plan will determine the scope of and milestones for review and control, including the contractors' review and control of any contractor design.

In connection with digital design, the design manager will make sure that the scope of collision and consistency control is determined, and that collision and consistency controls is carried out.

In connection with digital design, the ICT manager will assist the design manager in its planning and quality assurance, including in relation to consistency and collision control.

The design manager coordinates and collects interdisciplinary project reviews during the proposal and design phases, including in relation to any contractor design.

The design manager collects QA documentation from the consultants and design contractors after the proposal and design phase.

The design manager makes sure that the project is updated following quality assurance.

The design manager coordinates the consultants' preparation of supervision plans.

2.1.7 Project documentation

Overall, the design manager's services comprise services in each of the proposal and design phases below.

In connection with each phase, the design manager must establish the frameworks for the consultants' work in the phase, including:

- cooperation structure with series of meetings and participants
- service plan, including document record of the documentation of the phase
- plan for change management
- plan for processing by authorities and public utility companies
- time schedule and service plan
- financial framework, which each of the consultants is responsible for making budgets for and maintaining
- risk analysis follow-up
- quality plan.

During each phase the design manager must:

- document the decisions made in the phase by means of minutes/memos
- clarify and check off decisions and choices with the client.

At the end of a phase, the design manager must prepare, update or collate:

- statement of completion for the phase
- the project
- review memo
- authority status
- status for negotiation with the utility companies
- main time schedule
- service plan
- budget for the financial framework, which the consultants are responsible for preparing budgets for and maintaining
- risk analysis.

The documentation to be provided by the design manager is specified under the relevant phases.

2.1.8 Client

In connection with the initiation of the proposal phase, the client will approve the budget for the financial framework updated by the design manager as well as the updated risk analysis.

The client grants the design manager appropriate authorisation, etc.

The client approves the type of tendering procedure and the allocation of contracts.

Unless otherwise agreed, the client undertakes health and safety coordination during the design phase and prepares the framework for the health and safety plan and log.

Unless otherwise agreed, the client will convene, preside at and take minutes of client meetings during all phases.

If necessary, in order for the building project to be approved, the client will hire an independent certified structural engineer and/or an independent certified fire consultant and make sure that they will follow the design of the building project in all phases and will endorse the project in accordance with the provisions of the Danish Building Regulations.

The client regularly records required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees and coordinates this with the design manager.

The client’s other services are specified under the relevant phases.

The client approves the project after each phase.

The client approves the updated main time schedule and the consultant’s updated service plan after each phase.

The client undertakes contractual review of the draft tender design prepared by the consultants, including tender conditions, building project specification, construction contracts, etc.

The client approves the updated budget for the financial framework after each phase, including any required and agreed changes during the phase.

The client prepares and updates its own budget for other costs after each phase.

The client approves the recommended tenders and enters into construction contracts.

The client takes out any necessary insurance.

Unless otherwise agreed, the client will convene, preside at and take minutes of project conference meetings.

2.2 ICT management

In respect of agreed digital design work, the ICT manager is responsible for coordinating any digital cooperation between the consultants, design contractors, the client and any authorities together with the design manager.

The digital design cooperation is organised based on the ICT specification of the consultancy agreement. If no ICT specification has been prepared, the ICT manager will organise the digital cooperation together with the consultants.

2.2.1 Contents

The ICT manager establishes and manages the ICT organisation of the building project as part of the overall project organisation.

The ICT manager participates in design meetings to the extent possible with a view to supporting the ICT cooperation and arranges, presides at and takes minutes of other necessary meetings about the ICT cooperation in the project.

The ICT manager must ensure that an ICT process manual is prepared for the agreed digital data exchange and project documentation and that this manual is communicated to all the client's agreement parties.

The ICT manual must describe:

- method for digital communication and data structures
- method for digital design and digital interdisciplinary communication between the parties
- method for handling the interfaces and properties for the technical models
- method for digital exchange and formats
- method for digital phase delivery
- method for digital delivery.

In connection with digital tendering, the ICT manager must manage the process and monitor the digital implementation of the overall tendering process as described in the ICT specification, including plan and coordinate the digital structure of the tender documents.

The ICT manager establishes requirements for the contractor's ICT services in the tendering project.

The ICT manager ensures that the agreed methods are followed.

The ICT manager assists the design manager in connection with its coordination of collision and consistency control based on the technical models.

2.2.2 Commissioning and operation

The ICT manager assists the design manager with its coordination of digital data in connection with commissioning and operation.

2.2.3 Authorities

No special services.

2.2.4 Programming

The ICT manager participates in drawing up and updating a service plan and main time schedule, including programming of exchange and delivery of digital data.

2.2.5 Cost management

No special services.

2.2.6 Quality assurance

The ICT manager establishes the framework to ensure that building models and other digital data can be used to support quality assurance.

2.2.7 Project documentation

In connection with the beginning of the phase, the ICT manager must establish the frameworks for the consultants' digital cooperation in the phase, including:

- the digital communication and use of any shared communication platform
- method for and scope of digital exchanges between the design parties
- assistance to the design manager in connection with incorporation of requirements for the interfaces and properties of the technical models
- in connection with tendering, determination of method and frameworks for digital tendering
- updating of the project's ICT process manual
- plan for performing consistency and collision controls.

At the end of a phase, the ICT manager must prepare, update or collate:

- ICT process manual
- common model
- documentation of consistency and collision control.

2.2.8 Client

- The client provides the consultant with an adequate digital basis in the format and structure agreed.
- The client ensures that other consultants and parties involved in the project are obliged to undertake ICT cooperation.

3. PROPOSALS

Consultancy in connection with proposals comprises

3.1 Outline proposal

3.2 Project proposal

The outline proposal and the project proposal make up the proposal phase and may be implemented on an ongoing basis as one phase.

In connection with the conclusion of a consultancy agreement, it is agreed whether and to what extent the project will be tendered on the basis of functional requirements and proposals.

The services to be provided by the consultant are coordinated with those of the other designers under the management of the design manager, and the consultant participates in design meetings in this connection.

The consultant must thus provide information on its area of responsibility as the basis for this coordination, including in relation to energy requirements, indoor climate, statics, fire safety, etc.

The consultant participates in client meetings. The scope of such participation is determined in the consultancy agreement.

The consultant must perform its obligations as designer in accordance with health and safety legislation, and must within its area of responsibility contribute to the preparation of the basis for a health and safety plan and log.

3.1 Outline proposal

The outline proposal is a motivated proposal for the completion of the task on the basis of an approved design specification.

3.1.1 Contents

The outline proposal contains a description of the basis of the proposal, including its architectural concept, functions, proposals for the general choice of materials, design and installation principles as well as reflections on operation and maintenance.

Information about any material changes in the design specification and its basis must be reported to the design manager on a regular basis.

3.1.2 Commissioning and operation

Requirements for commissioning, delivery and initial operation as well as for operating and maintenance manual are prepared in accordance with the phase.

3.1.3 Authorities

The consultant provides the design manager with relevant material to obtain the required acceptances or basic approvals from the authorities.

The consultant prepares estimates for the building's energy requirements in accordance with the provisions of the Danish Building Regulations.

In cooperation with the design manager, the consultant determines the structural class of the building project, see the provisions of the Danish Building Regulations.

For each structure, the consultant appoints a construction designer of load-bearing structures for the supporting structures, who must collect and coordinate the documentation for the entire structure, see the provisions of the Danish Building Regulations.

In cooperation with the design manager, the consultant determines the fire class of the building project, see the provisions of the Danish Building Regulations.

The consultant prepares a preliminary fire strategy report, in which connection the consultant establishes the overall fire-resisting division and assesses the need for active fire-technical installations.

The consultant participates in any negotiations with authorities and utility companies together with the design manager.

3.1.4 Programming

In cooperation with the design manager, the consultant assists in preparing and updating the service plan.

In cooperation with the design manager, the consultant contributes to preparing main time schedule for the tendering and construction of the building project.

The main time schedule must comprise milestones for the tendering phase, milestones for contract negotiations with the contractor(s), milestone for presentation of the contractors' work schedules, milestone for preparation of an overall detailed time schedule for the construction, milestones for the client's approvals, project conference and subsequent consultant design and contractor design, mobilisation and construction and for commissioning and test of technical facilities, preliminary inspection, delivery, etc.

3.1.5 Cost management

The agreed financial framework from the design specification phase forms the basis for the budgeting of the responsibilities of the individual consultants.

At the beginning of the phase, the individual consultants will provide the design manager with updated cost estimates for the parts of the project they are individually responsible for. All cost estimates must be prepared in accordance with the level of detail and the assumptions on which the financial framework is based.

The individual consultants must notify the design manager if the financial framework for the consultant's responsibilities is considered inadequate to realise the planned building project.

The individual consultants must ensure that the approved financial framework is not exceeded in connection with the design.

The consultant must notify the design manager if a significant risk arises that the cost estimates will be exceeded.

At the end of the phase, the consultant must forward an overall, updated cost estimate to the design manager, which, following the client's approval of the phase, constitutes the approved financial framework.

If the building project consists of different building units, these will be assessed individually.

The consultant must contribute with relevant information for the design manager's processing of the cost assumptions for the financial framework.

On the basis of the risk analysis of the design specification, the consultant assists the design manager in preparing a risk analysis focusing on quality, programming, costs, etc.

3.1.6 Quality assurance

The consultant reviews the outline proposal to ensure:

- that the outline proposal can form the basis of a project proposal
- that the requirements of the design specification for the overall quality of the building project (architecture, function, construction method) and for costs and programming are met

with due consideration to any subsequently agreed changes.

The consultant participates in an interdisciplinary project review and documents this review within its own field of responsibility.

In connection with digital design, the digital models will form part of the quality assurance.

The outline proposal is updated after the quality assurance is complete.

The consultant hands over the QA documentation to the design manager.

3.1.7 Project documentation

Depending on the nature of the project, the following documents are prepared.

Design manager

Assisted by and using the basis prepared by the designers, the design manager will prepare or update the following documentation:

- statement of completion for the phase
- status for the authorities' processing of the building project and related documentation, including the classification of the building project in terms of structural and fire class.
- status for negotiations with utility companies
- main time schedule
- service plan
- budget for the financial framework
- risk analysis
- QA documentation of the quality assurance of the phase

ICT manager

Assisted by and using the basis prepared by the designers, the ICT manager will prepare, update or collect the following documentation:

- ICT process manual
- common model
- documentation of consistency and collision control.

Architect

Descriptions etc.:

- description of the proposal, architectural concept, functions, architectural considerations on design and installation principles, etc.
- proposal for general choice of materials
- report on floorage and of plot ratios.

Drawings:

- site plan/development plan (scale 1:500/1:1,000) showing the mutual location of buildings
- plan and facade drawings (scale 1:200/1:500).

In connection with digital design, a technical model will be prepared and include:

- selected facades, roof, suspended upper floors, columns and walls with doors and windows which describe the assumed geometry of the overall proposal
- the rooms laid out and their net areas as well as the gross and net areas of the structure

Landscape architect

Description:

- a description of the proposal, including preliminary studies and analyses undertaken, a description of site area topography, accessibility, climate, vegetation, soil and designation of utilisation of open spaces, if any
- proposals for the general choice of materials and vegetation.

Drawings:

- plan drawings (scale 1:500/1:1000) giving an overall impression of the site.

In connection with digital design, a technical model will be prepared and include:

- selected terrain, paving and plants and trees, which describe the overall planning and principles of selected terrain adjustment.

Engineer – structures

Descriptions etc.:

- description of the nature and design of structures and description of the main structures and their static mode of action.

Drawings:

- drawings of main structures and design principles.

In connection with digital design, a technical model will be prepared and include:

- selected wall structures, slab structures, roof structures, columns and beams that are important to the overall space allocation to the extent it is necessary to supplement the content of the other technical models.

Engineer – plumbing, heating and ventilation

Descriptions etc.:

- description of the scope and structure of the systems, assessment of capacities, principles for main utilities, technical plant rooms and pipe routings.

Drawings:

- drawings illustrating the scope and structure of the systems, assessment of capacities, principles for main utilities, technical plant rooms and pipe routings.

In connection with digital design, a technical model will be prepared and include:

- volumes of selected supply facilities and main pipe routings, which describe the expected space allocation in technical plant rooms and equipment areas
- volumes of selected horizontal and vertical main pipe routings, which describe the principles of the overall space allocation.

Engineer – electrical installations

Descriptions etc.:

- description of the scope and structure of the systems, assessment of capacities, principles for main utilities, technical plant rooms and pipe routings.

Drawings:

- drawings illustrating the scope and structure of the systems, assessment of capacities, principles for main utilities, technical plant rooms and pipe routings.

In connection with digital design, a technical model will be prepared and include:

- volumes of selected supply facilities and main pipe routings, which describe the expected space allocation in technical plant rooms and equipment areas
- volumes of selected horizontal and vertical main pipe routings, which describe the principles of the overall space allocation.

3.1.8 Client

During the preparation of the outline proposal, the client participates in meetings about e.g. the architecture, functions, constructional solutions, etc.

The client approves the consultant’s service plan for the phase and any updated plans for subsequent phases.

The client approves the updated main time schedule.

The client regularly records required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees.

The client approves the updated budget for the financial framework.

The client updates the overall budget, including its own budget for other expenses.

The above services must be provided several times during the phase as and when needed.

The client approves the project documentation prepared during the phase as set out in the service plan.

The client approves the outline proposal as basis for drawing up the project proposal.

3.2 Project proposal

The project proposal is a processing of the approved outline proposal to such a degree that any decisions that are decisive for the project have been made and incorporated into the proposal.

3.2.1 Contents

The project proposal is the basis upon which the client makes its decisions on the aesthetic, functional, technical and financial solution of the project in question, principles of operation and maintenance as well as financing.

All investigations, including registration of existing conditions needed for the further design process, must be completed.

3.2.2 Commissioning and operation

Requirements for commissioning, delivery and initial operation as well as for operating and maintenance manual are prepared in accordance with the phase.

3.2.3 Authorities

The consultant provides the design manager with relevant material to obtain the required acceptances or basic approvals from the authorities.

The calculated estimate of the building's energy requirement in accordance with the provisions of the Danish Building Regulations is updated.

The construction designer of load-bearing structures updates the documentation for the structure.

The consultant updates the fire-safety documentation.

The consultant updates documentation for the regulatory matters related to the building project, see the provisions of the Danish Building Regulations.

The consultant participates in any negotiations with authorities and utility companies together with the design manager.

3.2.4 Programming

In cooperation with the design manager, the consultant assists in updating the service plan and main time schedule.

3.2.5 Cost management

The budget for the financial framework from the outline proposal phase, as approved by the client and design manager, forms the basis for budgeting of the fields of responsibility of the individual consultants.

At the beginning of the phase, the individual consultants will provide the design manager with updated cost estimates for the parts of the project they are individually responsible for. All cost estimates must be prepared in

accordance with the level of detail and the assumptions on which the financial framework was based when the previous phase was approved.

The individual consultant must ensure that the cost estimates are not exceeded in connection with the design.

Information about any changes in relation to previously approved phases and their assumptions must be reported to the design manager on a regular basis. Similarly, the consultants must notify the design manager if a significant risk arises that the cost estimates will be exceeded.

At the end of the phase, the consultant must submit an overall, updated cost estimate to the design manager.

If the building project consists of different building units, these will be assessed individually.

The consultant must contribute with relevant information for the design manager's processing of the basis for the financial framework.

The consultant prepares the operating budget for the technical operation and maintenance of the building project within its own field of responsibility.

On the basis of the risk analysis of the outline proposal, the consultant assists the design manager in preparing a risk analysis focusing on quality, programming, costs, etc.

3.2.6 Quality assurance

The consultant reviews the project proposal to ensure:

- that the project proposal can form the basis for preparing a tender design
- that the project proposal is consistent with the particulars of the outline proposal
- that the requirements of the design specification for the overall quality of the building project (architecture, function, construction method) and for costs and programming are met

with due consideration to any subsequently agreed changes.

The consultant participates in an interdisciplinary project review and documents this review within its own field of responsibility.

Digital design involves digital quality assurance in the form of collision and consistency control of building models as part of the interdisciplinary project review.

The project proposal is updated after the quality assurance is complete.

The consultant hands over the QA documentation to the design manager.

The consultant informs the design manager of any special or risk-related matters found during the review.

3.2.7 Project documentation

Depending on the nature of the project, the following documents are prepared:

Design manager

Assisted by and using the basis prepared by the designers, the design manager will prepare or update the following documentation:

- statement of completion for the phase
- status for the authorities' processing of the building project
- status for negotiations with utility companies
- main time schedule
- service plan
- budget for the financial framework
- operating budgets for the technical operation and maintenance of the building project
- risk analysis
- documentation of decisions made during the phase
- documentation of the quality assurance of the phase.

ICT manager

Assisted by and using the basis prepared by the designers, the ICT manager will prepare, update or collect the following documentation:

- ICT process manual
- common model
- documentation of consistency and collision control.

Architect

Descriptions etc.:

- description, including a description of the overall architectural approach and substantiated choice of structures and materials
- report on floorage and calculation of plot ratios.

Drawings:

- site plan (scale 1:200/1:500)
- plans, sections and facades (scale 1:100/1:200) and any building sections in greater scale
- principal furnishing plans.

In connection with digital design, a technical model will be prepared and include:

- established main geometry of facades, roofs, walls, suspended upper floors, doors, windows, floors, ceilings, staircases, installation and lift shafts, sanitary installations and fixtures
- established main geometry of selected complementary building parts
- furniture and fixtures and layout and design of selected rooms
- the rooms and their net areas as well as the gross and net areas of the structure.

Landscape architect

Descriptions etc.:

- description of the site's main characteristics and data
- description of important parts and components
- description of surfaces, plants and trees, ground structures and equipment, and all main levels and material terrain adjustments must also be specified
- an account of open spaces.

Drawings:

- plan drawings (scale 1:200/1:500)
- sections describing the extent and nature of planned and existing sites seen in relation to buildings.

In connection with digital design, a technical model will be prepared and include:

- established main geometry of paving and plants and trees as well as terrain adjustment, which describe the overall proposal
- established location of equipment and fixtures in terrain.

Engineer – structures

Descriptions etc.:

- description of main design principles, calculations of estimates, a description of the main structural system and governing load scenarios
- any noise and acoustic calculations with a view to complying with Danish Building Regulations
- a report on ground works.

Drawings:

- plans and sections of main structures (scale 1:100/1:200)
- drawings of critical building sections.

In connection with digital design, a technical model will be prepared and include:

- established main geometry of the supporting structure in the form of foundation structures, roof structures, wall structures, slab structures, columns and beams which describe the design principles for the overall proposal
- building parts with openings and holes that are critical to the functionality and space allocation of the building such as doors, windows and penetrations for main routings for building services.

Engineer – plumbing, heating and ventilation

Descriptions etc.:

- description of the extent, design and main components of systems.

Drawings:

- layout plans indicating the location of building services (scale 1:100/1:200)
- schematic sections of building services
- main layout of technical plant rooms
- schematic diagrams
- schematic diagrams for wiring/piping systems, including important openings through structures.

In connection with digital design, a technical model will be prepared and include:

- established routing systems and branches as well as main space-consuming components in technical plant rooms and technical areas
- established horizontal and vertical main pipe routings
- established routing systems and branches for selected areas
- established main geometry of space-consuming components in selected rooms.

Engineer – electrical installations

Descriptions etc.:

- description of the extent, design and main components of electrical systems
- description of lighting systems.

Drawings:

- layout plans indicating the location of building services (scale 1:100/1:200)
- schematic sections of building services
- main layout of technical plant rooms
- schematic diagrams for wiring/piping systems, including important openings through structures.

In connection with digital design, a technical model will be prepared and include:

- established routing systems and branches as well as main space-consuming components in technical plant rooms and technical areas
- established horizontal and vertical main pipe routings
- established routing systems and branches for selected areas
- established main geometry for space-consuming components in selected rooms.

3.2.8 Client

During the preparation of the project proposal, the client participates in required meetings about e.g. the architecture, functions, constructional solution, etc. of the building project.

The client approves the consultant's service plan for the phase as well as any updated plans for subsequent phases.

The client approves the updated main time schedule.

The client regularly records required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees.

The client approves the updated budget for the financial framework.

The client updates the overall budget, including its own budget for other expenses.

The above services must be provided several times during the phase as and when needed.

The client approves the project documentation prepared during the phase as set out in the service plan.

The client approves the project proposal as basis for the further design process.

4. REGULATORY PROJECT

Consultancy in connection with a regulatory project comprises preparation of application for building permit and collection of the required relevant basis.

Accordingly, the consultant must supplement the project to the required extent to ensure that the application for building permit can be submitted.

The services to be provided by the consultant are coordinated with those of the other designers under the management of the design manager, and the consultant participates in design meetings in this connection.

The consultant must thus provide information on its area of responsibility as the basis for this coordination, including in relation to energy requirements, indoor climate, statics, fire safety, etc.

The consultant participates in client meetings. The scope of such participation must be determined in the consultancy agreement.

The consultant must perform its obligations as designer in accordance with health and safety legislation and must within its area of responsibility contribute to the preparation of the basis for a health and safety plan and log.

4.1 Contents

The consultant prepares an overview of the required basis for applying for building permit in relation to its own field of responsibility.

The individual consultants and any design contractors must therefore prepare any necessary supplementary project documentation for the purpose of the application.

In cooperation with the design manager, the consultant will collect the basis for the application for building permit in respect of its own field of responsibility from the consultants and any design contractors, including necessary documentation, see the provisions of the Danish Building Regulations.

Together with the design manager, the consultant prepares a draft for a possible application for exemption from the provisions of the Danish Building Regulations and a possible application for exemption from other planning, easements and restrictive covenants, etc.

The consultant assists the design manager in connection with the design manager’s preparation of draft application for building permit.

The certified static engineer prepares documentation for building projects in structural class 2-4, see the provisions of the Danish Building Regulations.

The certified fire consultant prepares documentation for building projects in fire class 2-4, see the provisions of the Danish Building Regulations.

The consultant assists the design manager with the design manager's review of draft application for building permit with appendices on behalf of the client with a view to obtaining the client's approval.

The consultant assists the client in submitting the application for building permit. If the client has authorised the design manager or a third party, the consultant will assist either of these parties instead.

4.2 Commissioning and operation

Within its own field of responsibility, the consultant assists the design manager in updating requirements for commissioning, delivery and initial operation as well as for operating and maintenance manual, etc. in relation to the provisions of the Danish Building Regulations.

Any provisions stipulated in the Danish Building Regulations on preparation of the operating, inspection and maintenance plan for the building project are determined.

4.3 Authorities

The consultant assists the design manager in any dialogue with the authorities in connection with the application for building permit and its processing.

4.4 Programming

The consultant informs the design manager of any consequences for the main time schedule and the service plan in connection with the application for building permit and its processing.

4.5 Cost management

The consultant assesses the costs related to the application, including fees and any special costs, and informs the design manager.

In cooperation with the design manager, the consultant prepares a risk analysis of regulatory matters and any quality, programming and cost consequences.

4.6 Quality assurance

The consultant reviews the application for building permit and its basis in respect of its own field of responsibility to ensure that the material is adequate.

The regulatory project is updated after the quality assurance is complete.

The consultant hands over the QA documentation to the design manager.

The consultant informs the design manager of any special or risk-related matters found during the review.

4.7 Project documentation

The project documentation comprises:

Design manager

- risk analysis of regulatory matters
- minutes of any meetings with the authorities
- relevant correspondence
- application for building permit, see the provisions of the Danish Building Regulations.

Project documentation and drawings are provided digitally in accordance with regulatory requirements.

ICT manager

No special services.

Consultants

- basis for application for building permit, including documentation regarding supporting structures, fire safety, etc.

In respect of digital design:

Details of building models are only provided if required, see the Danish Building Regulations.

4.8 Client

The client may grant authorisation to the design manager or a third party for the purpose of preparing applications and engaging in other dialogue with authorities and utility companies.

The client regularly records required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees.

The client approves the draft application for building permit together with its basis and any applications for exemption.

The client approves other documentation prepared by the design manager.

For building projects in construction class 4, the client must ensure that the required documentation from a certified structural engineer approved for third-party control is available and is assigned to the design manager.

For building projects in fire class 4, the client must ensure that the required documentation from a certified fire consultant approved for third-party control is available and is assigned to the design manager.

5. TENDER DESIGN

The tender design describes the project clearly and at such level of detail that it can form the basis for tendering, contracting, preparation of construction project and construction.

Regulatory matters must be clarified so that the tender design together with the construction project ensures final clarification of the provisions of the Danish Building Regulations and the conditions of the building permit in respect of the project.

The tender design is generally determined in accordance with the construction project, see chapter 6.

However, for building parts for which functional tendering as been agreed, the scope of the tender design is adapted, as agreed. However, it should at least correspond to the project proposal, see chapter 3.2.

The services to be provided by the consultant are coordinated with those of the other consultants under the management of the design manager, and the consultant participates in design meetings in this connection.

The consultant must thus provide information on its area of responsibility as the basis for this coordination, including in relation to energy requirements, indoor climate, statics, fire safety, etc.

The consultant participates in client meetings. The scope of such participation must be determined in the consultancy agreement.

The consultant’s services are provided within the consultant’s field of responsibility.

The consultant must perform its obligations as designer in accordance with health and safety legislation and must within its area of responsibility contribute to the preparation of the basis for a health and safety plan and log.

5.1 Contents

The consultant assists the design manager in preparing the tender letter and tender conditions and evaluation.

Within its own field of responsibility, the consultant prepares a proposal for a construction contract and building project specification as well as other general tender documents with a view to supporting the design manager’s coordination and final preparation of such documents.

The consultant prepares work specifications, drawings and bills of quantities as basis for the tendering process.

As part of the tender documents, the consultant determines the scope of the contractor's participation in project conference meetings.

The consultant specifies the scope of any design process to be carried out by the consultant after contracting in the tender documents.

The consultant sets out requirements for the scope of the contractors' design and documentation of such design.

In connection with digital design, the ICT specification forms part of the basis of the contractor design.

In connection with digital design, the tender documents must specify which technical models that may need to be further detailed by the consultant and which models that need to be further detailed or prepared by a design contractor.

As part of the tender documents, the consultant determines the scope of the consultant's assessment of contractor design.

The consultant prepares a tender quality control plan, including requirements for the contractor's documentation of review and control of any contractor design as well as for documentation of performance control.

The consultant prepares a draft supervision plan for site supervision within its own field of responsibility.

Together with the design manager and the other consultants of the project, the consultant assists in inviting tenders, evaluating tenders submitted, technical and cost clarifications, preparing recommendation of tenders and in the final contract negotiation.

5.2 Commissioning and operation

The tender design must include requirements for testing technical systems and installations.

The tender design must include requirements for preliminary inspection, delivery and rectification of defects, etc.

The tender design must include requirements for the contractor's delivery of 'as built' documentation and operating and maintenance manuals, etc.

The tender design must include requirements for the contractor's services in connection with preparation of any operating, inspection and maintenance plan for the building project.

5.3 Authorities

The consultant assists the design manager in assessing the terms and conditions of the building permit and in communicating these to the other relevant consultants and any design contractors.

The construction designer of load-bearing structures updates the documentation for the structure.

The consultant updates the fire-safety documentation.

The consultant participates in any negotiations with authorities and utility companies.

The tender design must specify requirements for the contractors' documentation as basis for obtaining operating permit.

5.4 Programming

In cooperation with the design manager, the consultant assists in updating and providing the final details of the main time schedule as basis for the tendering process.

In cooperation with the design manager, the consultant assists in updating the service plan.

5.5 Cost management

The consultant must regularly update the budget for the financial framework within its own field of responsibility and inform the design manager of any project changes that impact the budget.

The budget is broken down in accordance with the allocation of contracts.

Following receipt of tenders, the consultant assists the design manager in updating the overall budget.

If the overall, updated budget for the financial framework – after receipt of tenders – appears to exceed the agreed variances in relation to the approved financial framework, the client may require that the project be revised in cooperation with the consultant if the project and the agreed terms and conditions of the project revision are specified in the consultancy agreement.

If the overrun of the approved financial framework is the result of:

- an agreed price adjustment
- change in the project as agreed with the client
- change in the specified budget assumptions
- conditions which the consultant is able to render probable that the consultant was not or could not have been aware of at the time when the budget was updated

a project revision is made, if required, with full payment to the consultant.

If an agreement to redesign the project involves another consultant and so results in redesign expenses on the part of that consultant, the client is obligated pay such expenses directly to the consultant in question, possibly with recourse against the consultant being responsible for the overrun.

On the basis of the risk analysis of project proposal and regulatory project, the consultant assists the design manager in preparing a risk analysis focusing on quality, programming, costs, etc.

5.6 Quality assurance

The consultant performs reviews and checks by systematically going over the tender design and the tender documents for the purpose of ensuring that:

- the tender design is consistent with the particulars of the project proposal
- the individual items of the project material are consistent with one another.

with due consideration to any subsequently agreed changes.

The consultant participates in an interdisciplinary project review and documents this review within its own field of responsibility.

Digital design involves digital quality assurance in the form of collision and consistency control of building models as part of the interdisciplinary project review.

The tender design is updated after the quality assurance is complete.

The consultant hands over the QA documentation to the design manager.

5.7 Project documentation

Depending on the nature of the project, type of tendering procedure and allocation of contracts, a tender design is prepared, including the following documentation, as a basis for inviting tenders:

Design manager

Assisted by and using the basis prepared by the consultants and as basis for the tendering, the design manager will prepare the following documentation:

- tender letter
- overall list of documents and drawings
- tendering conditions
- draft construction contract
- building project specification
- main time schedule.

Assisted by and using the basis prepared by the consultants, the design manager will also prepare or update the following documentation:

- status for the processing of the building project by the authorities and related documentation, including application for building permit and building permit.
- status for negotiations with utility companies
- service plan
- budget for the financial framework
- overview of agreed project changes that impact the budget
- risk analysis
- QA documentation of the quality assurance of the phase

ICT manager

In connection with digital design, the ICT manager will prepare, update or collect:

- common model
- description of the digital structure of the tender documents
- description of ICT requirements for the design contractors in the form of e.g. ICT specification and ICT process manual.

In connection with the selected tendering process with volumes, the ICT manager and the consultants will prepare a description of the digital structure of volume extracts and bills of quantities, including any measuring rules applied.

Consultants

The tender documents contain the following documentation:

- work specifications, incl. interface specifications
- bills of quantities
- drawings and/or any digital building models
- tender quality control plans.

The project documents must be structured so as to ensure coherence between bills of quantities, descriptions, drawings and any building models.

5.8 Client

During the preparation of the tender design, the client participates in required meetings about e.g. the architecture, functions, constructional solutions, etc.

The client approves the consultant's service plan for the phase and any updated plans for subsequent phases.

The client approves the updated main time schedule.

The client approves the conditions of the building permit as basis for the further design process and for the tendering process and construction.

The client regularly records required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees.

The client approves the updated budget for the financial framework.

The client updates the overall budget, including its own budget for other expenses.

The above services must be provided several times during the phase as and when needed.

The client approves the project documentation prepared during the phase as set out in the service plan.

On the basis of the consultant's recommendation, the client approves the tender design as basis for inviting tenders.

The client reviews the draft tender documents, construction contracts, etc., drawn up by the consultant for compliance with contract law.

If required, the client participates in a revision of the project as stipulated in 5.5. Cost management above.

The client takes out any necessary insurance.

6. CONSTRUCTION PROJECT

The construction project is based on received and accepted tenders from contractors and constitutes a processing of the tender design into a final project so that it may form the basis for the contractors' purchasing, preparation and construction of the building project.

The construction project must provide final clarification of the provisions of the Danish Building Regulations and the terms and conditions of the building permit.

The construction project is prepared by the consultant or partially by contractors as determined in the tender design.

The services to be provided by the consultant are coordinated with those of the other consultants and any design contractors under the management of the design manager, and the consultant participates in design meetings in this connection.

The consultant must thus provide information on its area of responsibility as the basis for this coordination, including in relation to energy requirements, indoor climate, statics, fire safety, etc.

The consultant participates in client meetings. The scope of such participation must be determined in the consultancy agreement.

The consultant's services are provided within the consultant's field of responsibility.

The consultant must perform its obligations as designer in accordance with health and safety legislation, and must within its area of responsibility contribute to the preparation of the basis for a health and safety plan and log.

6.1 Contents

The consultant's service comprises supplementary design as described in the tender design to the extent that design can most appropriately take place – after entering into the contract – based on the contractor's project or choice of materials.

The consultant participates in project conference meetings with the contractors as set out in the consultancy agreement and the tender design.

The consultant participates in design meetings with other consultants and contractors as set out in the tender design.

The consultant reviews any project documentation prepared by contractors to ensure that the project is consistent with the requirements and intentions of the tender documents, including interfaces with other contracts.

6.2 Commissioning and operation

The requirements of the tender design for testing technical systems and installations of the tender are updated.

The requirements of the tender design for preliminary inspection, delivery and rectification of defects, etc. are updated.

The requirements of the tender design for the contractor's delivery of 'as built' documentation and operating and maintenance manuals, etc. are updated.

6.3 Authorities

The construction designer of load-bearing structures assists the consultants and any design contractors in assessing the consequences of any revised project for the supporting structures of the structure and updates the documentation of the structure.

Any revised project for supporting structures for buildings in structural class 2-4 must be endorsed by the certified static engineer.

This also applies to buildings in structural class 4, where the certified static engineer undertakes third-party control.

Any revised project in relation to the fire safety of buildings in fire safety class 2-4 must be endorsed by the certified fire consultant.

This also applies to buildings in fire safety class 4, where the certified fire consultant undertakes third-party control.

The consultant provides the design manager with the updated regulatory project.

The consultant participates in any negotiations with authorities and utility companies together with the design manager and the contractors.

6.4 Programming

The consultant assists the construction manager in updating the main time schedule for the construction of the building project to the extent that it has not been assigned to the contractors. The main time schedule is updated with agreements concluded with the contractors and is termed the agreed main time schedule.

In cooperation with the design manager, the consultant assists in preparing and updating the service plan.

6.5 Cost management

The consultant assists the construction manager in updating the budget for the financial framework.

The consultant updates the operating budget for the technical operation and maintenance of the building project within its own field of responsibility.

On the basis of the risk analysis of the tender design, the consultant assists the design manager in preparing a risk analysis focusing on quality, programming, costs, etc.

6.6 Quality assurance

The consultant conducts internal review and control of the consultant's construction project.

The consultant participates in an interdisciplinary project review with other consultants and design contractors and documents this review within its own field of responsibility.

Digital design involves digital quality assurance in the form of collision and consistency control of building models as part of the interdisciplinary project review.

The construction project is updated after the quality assurance is complete.

The consultant hands over the QA documentation to the design manager.

6.7 Project documentation

The consultant's tender design is updated with any project revisions following project conference meetings or consultant design following the tendering process.

The consultant's project must refer to the project prepared by contractors, where the contractor's project constitutes the basis for the construction work.

Accordingly, the consultant's updated project, together with any project prepared by contractors, constitutes the overall construction project.

Depending on the nature of the project, the following documents are prepared:

Design manager

Assisted by and using the basis prepared by the consultants, the design manager will also prepare or update the following documentation:

- status for the processing of the building project by the authorities and clarification of the terms and conditions of the building permit.
- status for negotiations with utility companies
- main time schedule
- service plan
- budget for the financial framework
- operating budgets for the technical operation and maintenance of the building project
- risk analysis
- QA documentation of the quality assurance of the phase

ICT manager

Assisted by and using the basis prepared by the designers, the ICT manager will collect or update the following documentation:

- common model
- documentation of consistency and collision control.

Architect

Descriptions etc.:

- updated work specifications or amendment sheets
- updated tender quality control plans

- updating of the calculation of floorage and plot ratio.

Drawings:

- updated drawings comprising general drawings, layout drawings, building component drawings and detailed drawings.

In connection with digital design, discipline models will be prepared and include:

- final geometry of facades, roof, walls, doors, windows, floors, ceilings, staircases, railings and fixtures, which describe the overall structure
- final geometry of non-bearing building parts
- the rooms and their net areas as well as the gross and net areas of the structure.

Landscape architect

Descriptions etc.:

- updated work specifications or amendment sheets
- updated drawings comprising general drawings, layout drawings and detailed drawings
- update of open space calculations in relation to regulatory approvals.

Drawings:

- updated drawings comprising general drawings, layout drawings and detailed drawings.

In connection with digital design, discipline models will be prepared and include:

- final geometry of terrain, paving and plants and trees
- final location of equipment and fixtures in terrain.

Engineer – structures

Descriptions etc.:

- updated work specifications or amendment sheets
- review of other consultants' load requirements that affect structural capacities
- update of any acoustic calculations, see the provisions of the Danish Building Regulations
- updated static calculations.

Drawings:

- updated drawings comprising general drawings, layout drawings, building component drawings and detailed drawings.

In connection with digital design, discipline models will be prepared and include:

- final geometry of the main structure of the structure in the form of foundation structures, roof structures, wall structures, slab structures and pillars and beams
- space-consuming connections, including corbels on the building parts of the main structure
- the building parts include openings and holes for the functionality of the building

- holes for installation penetrations planned to be processed at the site are not included in the discipline models.

Engineer – plumbing, heating and ventilation

Descriptions etc.:

- updated work specifications or amendment sheets
- updated report on openings through structures and their setting out
- updating of documentation for compliance with the requirements of the Danish Building Regulations with respect to energy requirements.

Drawings:

- updated drawings comprising general drawings, layout drawings, building component drawings, diagrams and detailed drawings.

In connection with digital design, discipline models will be prepared and include:

- final geometry of supply facilities, main components, pipe routings and consumption systems for heating, water and sanitary installations
- final location and dimensions of pipe routings, including insulation, and space reserved for components in technical plant room and technical areas
- final location and dimensions of horizontal and vertical main cable routings and distributions, including insulation as well as branches and hubs
- final main geometry of space-consuming components in pipe routings
- final main geometry of space-consuming components in rooms
- final branches and connections to components in rooms.

Engineer – electrical installations

Descriptions etc.:

- updated work specifications or amendment sheets
- updated report on openings in structures and their setting out.

Drawings:

- updated drawings comprising general drawings, layout drawings, building component drawings, diagrams and detailed drawings
- updated drawings of electrical panels, including power circuits.

In connection with digital design, discipline models will be prepared and include:

- supply, distribution plants, cable routings and electrical components
- final location and dimensions of cable routings in technical plant rooms and technical areas
- final location and dimensions of horizontal and vertical main cable routings and distributions, including branches
- final main geometry of space-consuming components in pipe routings
- final main geometry of space-consuming components in rooms
- space reserved for electrical components the number and location of which vary depending on the chosen make/type
- other mounting material may be included in discipline models as objects with 2D symbol representation.

6.8 Client

During the preparation of the construction project, the client participates in required meetings about e.g. the architecture, functions, constructional solutions, etc.

The client approves the consultant's service plan for the phase.

Unless otherwise agreed, the client will convene, preside at and take minutes of project conference meetings.

On the basis of the recommendation from the consultants, the client will consider whether any optimisation proposals from contractors should be incorporated into the construction project and will enter into an agreement on paying the consultants for the incorporation of the proposals into the project, and the client will enter into any addenda with the contractors.

The client regularly records required and agreed changes and any obstacles as well as their consequences for the project in terms of time, costs and fees.

Following recommendation from the construction manager, the client will approve the updated budget for the financial framework.

The client updates the overall budget, including its own budget for other expenses.

The above services must be provided several times during the phase as and when needed.

On the basis of the consultant's recommendation, the client approves the construction project as basis for the construction phase.

7. CONSTRUCTION PHASE

Construction phase consultancy comprises:

7.1 Construction management during the construction phase

7.2 Site supervision during the construction phase

7.3 Project follow-up during the construction phase

Consultancy in connection with the construction phase is undertaken until delivery. However, activities related specifically to preliminary inspection, defects inspection, delivery, rectification of defects and 1-year inspection are described in chapter 8.

7.1 Construction management during the construction phase

A construction manager is appointed before the building project commences.

The construction manager undertakes cost and time management of the construction of the building project, including the coordination of the consultant's site supervision during the construction phase and ensures the coordination of common construction site activities.

The scope of construction management during the construction phase is established in an agreement between the client and the construction manager.

The construction manager draws up a plan for construction management during the construction phase until delivery and the 1-year inspection has taken place.

7.1.1 Contents

The construction manager ensures that the client has delegated competence and responsibility and has established ways of communication.

The construction manager ensures that project conference meetings are held and participates in such meetings as defined in the consultancy agreement and the tender design.

The construction manager ensures that approved quality plans and inspection plans are provided by the contractors.

The construction manager represents the client in matters involving the contractors in respect of organisation and performance of work and has the powers as stipulated in section 28 of AB 18 ('General Conditions for the Provision of Works and Supplies within Building and Engineering'), unless otherwise agreed.

The construction manager updates the construction site plan during the construction phase.

The construction manager assists the health and safety coordinator in completing and updating the health and safety plan.

The construction manager ensures that health and safety coordination takes place during the construction phase.

The construction manager undertakes the preparation of the administrative rules on the overall supervisory function and oversees the compliance with such rules.

The construction manager coordinates overall site supervision.

The construction manager ensures that the ICT requirements specified in the agreement basis on objective and use of digital communication and digital building models are observed during the construction phase.

The construction manager convenes and presides at building meetings and prepares minutes of such meetings.

The construction manager presents problems encountered and any proposals for project changes during the construction phase to the design manager with whom it is agreed how to address such problems or changes.

The construction manager participates in client meetings during the construction phase. The scope of such participation must be determined in the consultancy agreement.

The construction manager prepares reports for the purpose of informing the client of the progress in terms of programming and costs and makes arrangements for the client's approval of transactions during the construction.

7.1.2 Commissioning and operation

No separate activities.

7.1.3 Authorities

The construction manager notifies the construction authorities of the commencement of the construction.

The construction manager handles relations with authorities and utility companies in respect of construction site functions.

The construction manager assists the design manager in connection with the design manager's clarification of the terms and conditions of the building permit.

7.1.4 Programming

The construction manager manages the overall programming of the building project and the related documentation.

The construction manager assists the design manager in preparing the main time schedule forming the basis of the tendering process.

The construction manager updates the main time schedule in respect of the agreed main time schedule in cooperation with the site supervisor and the contractors.

The construction manager collects work schedules from the contractors and assesses their adequacy.

On the basis of the agreed main time schedule and work schedules from the contractors, the construction manager will prepare a detailed time schedule for the final design and construction of the building project.

The construction manager registers the progress of work on the basis of information provided by the site supervisor and records weather conditions and any delays due to bad weather. Such registration normally appears from minutes of site meetings.

The construction manager prepares a monthly report to the client on the progress of the building project in terms of programming and, with the assistance of the site supervisor, arranges for the programming implications of changes made during the building project to be agreed with the parties involved.

7.1.5 Cost management

The construction manager obtains performance bonds from the contractors.

During the construction project phase and the construction phase, the construction manager is in charge of the progress of the building project in terms of costs and updates the monthly budget for the financial framework.

The construction manager approves on-account bills and invoices based on recommendations from the site supervisor and keeps construction accounts.

In cooperation with the site supervisor, the construction manager considers claims made by the contractors.

Depending on the authority given to the construction manager by the client, the construction manager may either consider the claim or present the claim to be settled by client together with its recommendation.

The construction manager prepares a monthly report to the client on the progress of the building project in terms of costs and, in cooperation with the design manger and site supervisor, arranges for additional payments made during the course of the building project to be approved by the client.

The construction manager prepares and updates quarterly risk analyses focusing on quality, regulatory matters, programming and costs during the construction phase.

7.1.6 Quality assurance

With assistance from the design manager and site supervisor, the construction manager reviews the updated budget for the financial framework.

7.1.7 Project documentation

The construction manager’s ongoing reporting to the client, the other consultants and the contractors serves to provide the parties with an overview of the progress of the building project and any challenges in respect of quality,

programming and costs with a view to promoting clarification and construction and delivery of the building project, see the agreements concluded.

Construction manager

- plan for construction management
- quality plan and inspection plans prepared by the contractors
- work schedules prepared by the contractors
- updated main time schedule
- updated detailed main time schedule
- reports on the progress of the building project in terms of programming
- provision of performance bonds from the contractors
- updated budget for the financial framework and report on the progress of the costs of the building project.
- recommendations to the client on any changes that impact quality, regulatory matters, programming or costs
- minutes of site meetings
- risk analyses.

7.1.8 Client

Before provision of consultancy, the client must prepare an organisational chart stating the competences and responsibilities of authorised persons or other persons.

The construction manager's authority, see section 28(2) of AB18, must be stated.

The client convenes, presides at and takes minutes of project conference meetings, but may assign such duties to the design manager.

The client assesses and approves any alterations in writing based on a recommendation from the construction manager.

The client regularly records required and agreed alterations and any obstacles as well as their consequences for the project in terms of time, costs and fees and coordinates this with the construction manager.

The client pays any on-account bills and invoices presented by the construction manager.

The client updates the overall budget, including its own budget for other expenses.

Unless otherwise agreed, the client undertakes health and safety coordination during the construction phase.

7.2 Site supervision during the construction phase

The site supervisor is appointed before the building project commences.

The site supervisor undertakes the quantitative and qualitative control in the form of random supervision.

The scope of such supervision is laid down in an agreement between the client and the site supervisor.

The site supervisor draws up a plan for the agreed site supervision.

7.2.1 Contents

On the basis of the supervision plan, the site supervisor performs on-site checks to ensure that work is undertaken in accordance with the project and as stipulated in the construction contracts.

The site supervisor participates in project conference meetings as set out in the consultancy agreement and the tender design.

The site supervisor obtains any necessary project specifications from the project follow-up and informs the construction manager of any related consequences in terms of timing and costs.

The site supervisor makes sure that the contractors receive revised drawings and any digital building models.

The site supervisor assesses working drawings and calculations, material, colour, design and installation samples within its own field of responsibility.

The site supervisor uses digital building models and ICT tools as described in the project ICT specification and/or ICT process manual.

The site supervisor provides the construction manager with information needed to perform its coordinating and administrative functions.

The site supervisor participates in building meetings to the extent agreed.

The site supervisor participates in client meetings. The scope of such participation must be determined in the consultancy agreement.

7.2.2 Commissioning and operation

No separate activities.

7.2.3 Authorities

The site supervisor makes random checks to verify that the conditions of the authorities and utility companies for the performance of the work are observed.

The site supervisor makes random checks to verify that the contractors arrange for the required inspections by the authorities and utility companies.

7.2.4 Programming

The site supervisor assists the construction manager in drawing up and updating the construction main time schedules.

The site supervisor assists the construction manager in assessing the contractors' work schedules and in connection with the preparation of an overall detailed time schedule for the building project.

The site supervisor prepares progress reports.

7.2.5 Cost management

The site supervisor assists the construction manager in managing the budget in connection with any changes in the scope of contracts.

The site supervisor makes random checks of the contractor's documentation of works provided on a quantities basis in respect of the supervision plan and verifies on-account bills.

The site supervisor checks variation orders for any alteration services and verifies them.

The site supervisor verifies invoices for any alteration services.

The site supervisor verifies invoicing.

7.2.6 Quality assurance

The site supervisor checks that the contractors' quality plans and inspection plans are compliant with the requirements of the tender documents.

The site supervisor performs checks as specified in the supervision plan and prepares supervision notes.

7.2.7 Project documentation

The site supervisor prepareS supervision notes, reports on building site staffing and equipment, work performed, etc., in respect of its own field of responsibility.

Site supervisor

- supervision plan
- progress reports
- documentation of check of services provided on a quantities basis
- verified on-account bills and invoices
- supervision notes.

7.2.8 Client

The client approves material samples and construction tests as stipulated in the project documentation.

7.3 Project follow-up during the construction phase

The service is a design service related to the part of the project prepared by the design consultant.

Project follow-up is undertaken by the design consultant.

Project follow-up must contribute to ensure that the construction, including any design by contractors, is consistent with the intentions of the project.

For information about performance control, see 7.2 Site supervision.

7.3.1 Contents

The services are provided during the construction phase and comprise services in continuation of the preceding design phases in the form of required project clarifications of the design consultant's project.

The design consultant participates in project conference meetings as set out in the consultancy agreement and the tender design.

Project specifications may be documented as memos, minutes and/or a revised project, depending on the nature of the specification.

In connection with project follow-up, it must be ensured that relevant project documentation is handed over to the construction manager and site supervisor.

The design consultant assists the site supervisor in assessing working drawings and calculations and material, colour, design and installation samples within its own field of responsibility.

7.3.2 Commissioning and operation

No separate activities.

7.3.3 Authorities

The construction designer of load-bearing structures assists the construction management and supervision in assessing the consequences of any alterations to the supporting structures of the construction during the construction phase.

7.3.4 Programming

The design consultant assists the site supervisor in assessing the consequences of any project specifications in terms of time.

7.3.5 Cost management

The design consultant assists the site supervisor in inviting tenders and assessing such tenders in connection with project specifications.

7.3.6 Quality assurance

The design consultant regularly performs internal reviews and checks its own project specifications to ensure that the project continues to be consistent with the particulars of the construction project.

The tender design is updated after the quality assurance is complete.

7.3.7 Project documentation

Design manager

The design manager ensures that the following documentation is handed over to the client.

Design consultants

- updated project following project specifications during the construction phase.

7.3.8 Client

On the basis of the design consultant's recommendation, the client approves any project specifications performed by the consultants.

8. DELIVERY

Consultancy in connection with delivery comprises

8.1 Construction management in connection with delivery

8.2 Site supervision in connection with delivery

8.3 Project follow-up in connection with delivery

Consultancy in connection with delivery describes the activities specific to the delivery phase.

8.1 Construction management in connection with delivery

The construction manager undertakes cost and time management of the delivery of the building project, including the coordination of the consultant's site supervision in connection with delivery and ensures the coordination of common construction site activities.

The scope of construction management in connection with delivery is established in an agreement between the client and the construction manager.

8.1.1 Contents

The construction manager organises, convenes and manages the delivery meeting with assistance of the site supervisor. In this connection, the construction manager must:

- manage defects lists from the site supervisor
- prepare a delivery protocol
- ensure that defects and any deferred work are described in the delivery protocol, that a price has been fixed for such work and that a deadline has been set for rectification or performance.
- ensure that the contractors' QA documentation, operating and maintenance manuals, operating, inspection and maintenance plans, etc. are available or that a deadline has been agreed for the provision of such documentation and material
- ensure that the contractors' and consultants' 'as built' documentation etc. is available or that a deadline has been agreed for the provision of such documentation.

The construction manager organises and manages the 1-year inspection with the assistance of the site supervisor. In this connection, the construction manager must:

- collect defects lists from the client and hand these over to the site supervisor
- collect defects lists from the site supervisor
- prepare 1-year inspection protocol

- ensure that any defects are specified in the 1-year inspection protocol, that prices have been fixed for such defects and that a time schedule for rectification has been made
- ensure that a deadline is set for performing the 1-year inspection for any deferred work
- assess whether the performance bond can be reduced.

The construction manager must also ensure that the 1-year inspection of any deferred work is carried out.

8.1.2 Commissioning and operation

With assistance from the site supervisor, the construction manager convenes and conducts preliminary inspections and prepares the preliminary inspection protocol.

The construction manager oversees that technical systems are tested.

The construction manager oversees that operating and maintenance manuals prepared by contractors are collected.

The construction manager monitors that ‘as built’ project prepared by contractors is collected.

8.1.3 Authorities

The construction manager undertakes the submission of statements of completion and obtaining operating permit.

8.1.4 Programming

The construction manager prepares a detailed time schedule for preliminary inspection and delivery.

The construction manager plans the 1-year inspection.

8.1.5 Cost management

The construction manager prepares final construction accounts. The overall construction accounts must be prepared at least 60 working days after delivery and must be updated in final at least 30 days after the 1-year inspection.

The overall and final construction accounts must also specify the budget for any outstanding work or payments as well as any costs related to defects etc.

8.1.6 Quality assurance

The construction manager reviews the delivery protocol and construction accounts with the assistance of the design manager and site supervisor.

8.1.7 Project documentation

Comprises the final documentation of the building project.

Construction manager

- preliminary inspection protocol
- documentation of test of technical systems and installations carried out by the contractors
- delivery protocol with appendices

- 1-year inspection protocol with appendices
- construction accounts and final construction accounts.

8.1.8 Client

The client appoints an independent energy consultant to prepare energy label and submits the energy label to the building authority prior to statement of completion.

The client participates in the preliminary inspection and approves the preliminary inspection protocol.

The client participates in the delivery meeting and signs the delivery protocol.

The client convenes the 1-year inspection.

The client forwards a list of defects to the construction manager, which must be considered at the 1-year inspection.

The client participates in the 1-year inspection and signs the 1-year inspection protocol.

8.2 Site supervision in connection with delivery

8.2.1 Contents

The site supervisor participates in the preliminary inspection to the extent agreed.

The site supervisor prepares a defects list for the delivery meeting, participates in the meeting and ensures at an inspection that the defects are rectified.

The site supervisor prepares a defects list for the 1-year inspection, participates in the inspection and ensures at an inspection that the defects are rectified. The defects list must include any defects stated by the client.

8.2.2 Commissioning and operation

The site supervisor assists the construction manager in planning the preliminary inspection, participates in such inspection for its own contracts and prepares contributions for the preliminary inspection protocol for its own contracts.

The site supervisor monitors that the tests stipulated in the Danish Building Regulations and the project documentation are carried out by the contractors and checks that the outcome is consistent with the conditions.

The operating and maintenance manuals etc. stipulated in the Danish Building Regulations and the project documentation are obtained from the contractors and handed over for project follow-up.

The operating, inspection and maintenance plans, etc. stipulated in the Danish Building Regulations are obtained from the contractors and handed over for project follow-up.

‘As built’ documentation and project are obtained from the contractors and handed over for project follow-up.

8.2.3 Authorities

The site supervisor collects documentation from the contractors as basis for the statement of completion and achieving operating permit, see the provisions of the Danish Building Regulations, and hands over the documentation to the design manager.

The site supervisor assists the construction manager with information for statements of completion to authorities and utility companies.

8.2.4 Programming

The site supervisor assists the construction manager in preparing a detailed time schedule for preliminary inspection and delivery.

The site supervisor assists the construction manager in planning the 1-year inspection.

8.2.5 Cost management

The site supervisor makes random checks of the contractor's documentation of final accounts of services provided on a quantities basis.

The site supervisor verifies final accounts.

8.2.6 Quality assurance

The site supervisor checks the contractors' documentation to the extent specified in the supervision plan and prepares supervision notes to that effect.

8.2.7 Project documentation

Site supervisor

- documentation of final check of services provided on a quantities basis
- verified final accounts
- supervision notes regarding delivery
- defects lists in connection with delivery
- defects lists in connection with 1-year inspection
- verification of the contractor's rectification of defects.

8.2.8 Client

The client approves documentation in connection with the delivery.

8.3 Project follow-up in connection with delivery

8.3.1 Contents

The service comprises the design consultant's activities in connection with delivery.

8.3.2 Commissioning and operation

The design manager organises the method and format of delivery of 'as built' documentation and operating and maintenance manuals, etc. in compliance with any agreements to that effect. If digital delivery has been chosen, the

method and format is organised in accordance with the ICT specification and with support from the ICT manager.

The design consultant receives updated ‘as built’ project documentation from the supervisor, including any digital ‘as built’ building models prepared by the contractors in accordance with the consultant’s requirements, see the agreement basis with the individual contractors.

The design consultant makes an ‘as built’ update of its own project as a result of the consultant’s project changes and project specifications. The update is carried out to the extent that it results in regulatory approval and operating permit within the consultant’s field of responsibility.

The consultant’s digital building models are only updated to the extent that it is necessary for preparing the above documentation.

The design consultant receives operating and maintenance manuals as well as operating, inspection and maintenance plans prepared by the contractors in accordance with the consultant’s requirements, see the agreement basis with the individual contractors.

8.3.3 Authorities

The construction designer of load-bearing structures updates the documentation for the structure as basis for the operating permit.

In respect of buildings in structural class 2-4, the overall documentation for supporting structures, see the Danish Building Regulations, must be endorsed by the certified static engineer.

This also applies to buildings in structural class 4, where the certified static engineer undertakes third-party control.

In respect of buildings in fire class 2-4, the overall documentation related to the fire safety of the construction, see the Danish Building Regulations, must be endorsed by the certified fire-safety consultant.

This also applies to buildings in fire safety class 4, where the certified fire consultant undertakes third-party control.

The design consultant provides the design manager with the updated regulatory project, see 8.3.7 and in accordance with the requirements, see the building permit.

The design manager collects or prepares documentation as basis for the operating permit, see the provisions of the Danish Building Regulations, and hands this over to the construction manager.

8.3.4 Programming

No separate activities.

8.3.5 Cost management

The design consultant provides assistance to the site supervisor in connection with the site supervisor’s assessment of the final accounts.

8.3.6 Quality assurance

The design consultant reviews and checks its own updated ‘as built’ project.

8.3.7 Project documentation

Design manager

The design manager ensures that the following documentation is handed over to the client.

Design consultants

- updated project ‘as built’ to the extent necessary to obtain regulatory approval and operating permit.
- overall operating and maintenance manuals
- overall operating, inspection and maintenance plan

8.3.8 Client

On the basis of the design consultant's recommendation, the client approves the ‘as built’ project.

For building projects in construction class 4, the client must ensure that the required documentation from a certified structural engineer approved for third-party control is available and is assigned to the design manager.

For building projects in fire class 4, the client must ensure that the required documentation from a certified fire consultant approved for third-party control is available and assigned to the design manager.

9. OTHER SERVICES

The consultant may, if agreed with the client, provide the following services or, on behalf of the client, arrange for such services to be provided by other parties.

ICT in construction

If the client wants one or more of the following services (9.1-9-10) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.1 Classification

Classification of digital project information through the use of a common classification system. In making the classification, the system, purpose and scope of the classification must be defined in an ICT specification.

9.2 Digital communication

The service may involve the use of a common digital communications platform for the exchange and sharing of project documentation that is common to several project parties.

The service must be defined in an ICT specification.

9.3 Establishment of communications platform

The service may involve the establishment, administration and operation of a common digital communications platform (project web).

The service must be defined in an ICT specification.

9.4 Digital design

The service comprises the preparation of one or more digital building models as the basis for coordinated design, analysis and project documentation.

Each party is responsible for its own building models and for ensuring that they are well-structured and mutually coordinated and contain objects with properties that enable sorting, filtering and extraction corresponding to the phases of the delivery.

Digital design involves collision and consistency control.

To the extent that technical models form the basis for the project documentation, the technical models must, at the client's request, be provided together with the project documentation.

The exchange and delivery of building models must take place in open formats and must be defined in an ICT specification.

9.5 Digital tendering

The service comprises digital management of the tendering phase, including preparation of structured digital tender documents, selection and management of tendering portal and assessment of the digital quality of digital tenders received. The service must be defined in an ICT specification.

9.6 Bill of quantities

The service comprises the preparation of bills of quantities, and a description of the measuring methods applied.

The service must be defined in an ICT specification.

9.7 Digital delivery

The service comprises the delivery of digital project documentation or digital 'as built' documentation on the basis of specific client requirements. The service must be defined in an ICT specification.

9.8 Digitalisation of existing conditions

The service encompasses the digitalisation of existing areas, buildings and facilities in building models or drawings to the extent agreed.

9.9 Special visualisation

This service may comprise photorealistic visualisation, 3D visualisation, architectural photos, animations, video and interactive presentations. This service may also comprise the preparation of physical models on the basis of the above.

9.10 Other digital services

Other digital services may comprise 4D visualisations (programming), 5D visualisations (programming and costs), assistance in connection with the client's establishment of communications platform, implementation of software in the client's system, etc.

Risks and costs

If the client wants one or more of the following services (9.11-9-13) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.11 Cost analyses

Preparation of special estimates carried out according to the client's special requirements.

Calculations of the cost consequences of alternative scenarios.

Preparation of operating budgets according to the client's guidelines.

Preparation of investment plans and profitability calculations.

Preparation of whole-life cost assessments or whole-life cycle cost calculations comprising capitalisation of the overall construction and operating costs during the building's lifetime.

9.12 Risk analyses

Analysis and management of specific conditions subject to risk besides that already described in the individual phases, including e.g. in respect of:

- soil conditions
- damage to the building or surroundings
- delays
- budget overruns in relation to the design, construction and operation of the building project.

9.13 Risk management

Management (risk management) of identified risks besides those already described in the individual phases.

Preliminary studies and planning

If the client wants one or more of the following services (9.14-9-20) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.14 Public planning

The consultant may offer assistance in connection with public planning that is a condition for the building project to be realised.

Public planning may include:

- EIA screening or EIA statement
- local authority plan
- local development plan.

Including assistance in connection with:

- listing or terms for listing
- nature protection
- environmental protection
- traffic planning.

The client cooperates with the consultant on the conditions for such planning.

9.15 Assessment of building sites

Overall assessment of possible building sites for the client's planned building project.

A report is drawn up, which may contain an evaluation of:

- price of land/property
- zoning
- infrastructure
- possible uses
- ground conditions and accessibility
- soil conditions and environmental aspects
- supplies.

9.16 Registration of existing conditions

Registration of existing conditions may include:

- an assessment of the property's condition as documentation for the property owner and the authorities
- an assessment of the property's possibility of fulfilling accessibility requirements
- inspection, measurement and drawing or digitalisation of existing open spaces, facilities and buildings
- photo registration
- registration of fixtures and fittings
- historical investigations and research in archives.

The registration comprises only what is relevant to the current refurbishment or rebuilding project.

The registration is updated if the conditions change during the further design process or the physical performance of work.

9.17 Geotechnical investigations

Initial geotechnical assessments based on available existing investigations in the area in question, supplemented by individual geotechnical drilling and water table monitoring, if required.

Development of a programme for geotechnical investigations as a basis for design work, including estimates of such investigations.

Any ordering on behalf of the client of geotechnical investigations comprising field work, laboratory tests, geological evaluation and classification, reporting, including drilling profiles as well as determination of strength parameters and design water levels.

Follow-up during the construction phase.

9.18 Environmental investigations, building site

Collection of basic information about the building site and compilation of history, including assessment of the likelihood of pollution and contamination and the nature of such pollution and contamination.

Development of a programme for environmental investigations, including estimates of such investigations.

Any ordering on behalf of the client or performance and documentation of interviews of property owners and other relevant parties with a view to assessing the possibility of pollution/contamination sources and their nature.

Any ordering on behalf of the client of environmental investigations, analysis of samples and processing of test results. Reporting on investigations, including assessment of the extent and nature of pollution and contamination, proposals for remedial action and estimates of the costs of such action.

Follow-up during the construction phase.

Negotiation with authorities.

9.19 Environmental investigations, buildings

Collection of basic information regarding existing buildings and preparation of a report that assesses the likelihood of the presence of pollution environmental and health-harming substances and their nature.

Development of a programme for environmental investigations, including estimates of such investigations.

Any ordering on behalf of the client of environmental investigations comprising analysis of samples, processing of test results, reporting on the investigations, including assessing the extent and nature of environmental and health-harming substances, proposals for remedial action and estimates of the costs of such action.

Follow-up during the construction phase.

Negotiation with authorities.

9.20 Official duties

Preparation of material for and participation in official duties such as inspection and expropriation, including preparation for and negotiations with authorities.

Preparation of relevant documentation of the outcome of such official duties and negotiations etc.

Stakeholders and users

If the client wants one or more of the following services (9.21-9-23) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.21 Stakeholders and users

Assistance in connection with stakeholder analyses.

Assistance in connection with the preparation of communication strategy and communication plan in relation to stakeholders and users.

Organisation and establishment of user involvement, including performance of special user seminars etc.

9.22 Special meeting activities

Assistance and participation in special meetings, including preparation of materials for and participation in:

- client/user meetings
- general meetings and board meetings
- political meetings
- public meetings
- team building
- workshops, start-up seminars, etc.

in connection with the planning and construction of the building project.

9.23 Sales material

Assistance with the preparation of sales and lease material.

Disputes

If the client wants one or more of the following services (9.24-9-25) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.24 Mediation

Assistance in connection with planning, preparation or holding of mediation, see section 65 of AB18, or other conflict management model.

9.25 Inspection and survey or arbitration

Assistance in connection with planning, preparation or holding of inspection and survey or arbitration or in connection with other legal dispute between the client and a third party.

Energy and indoor climate

If the client wants one or more of the following services (9.26-9-30) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.26 Energy requirements

The provision of energy calculations or simulations, in addition to requirements specified in the design specification and the Danish Building Regulations.

Ordering of energy label provided by an independent energy consultant.

9.27 Thermal indoor climate

Calculations or simulations of thermal indoor climate in addition to the provisions of the Danish Building Regulations.

9.28 Atmospheric indoor climate

Calculations or simulations of atmospheric indoor climate in addition to the provisions of the Danish Building Regulations.

9.29 Noise and acoustic indoor climate

Measurements and calculations or simulations of noise and acoustics in addition to the provisions of the Danish Building Regulations, including:

- noise measurements
- acoustic calculations.

9.30 Optical indoor climate

Calculations or simulations or measurements of optical indoor climate in addition to the provisions of the Danish Building Regulations, including:

- calculations of incoming sunlight and sunlight protection
- calculations in terms of lighting technology.

Sustainability

If the client wants one or more of the following services (9.31-9-33) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.31 Sustainability management

Assistance in connection with the listing of requirements for, prioritising and defining levels for sustainability.

Coordination, allocation and management of sustainability-related tasks and services.

Sustainability management may be undertaken as part of the design management or as a separate service in which the sustainability manager reports to the design manager.

9.32 Sustainability certification

Reporting, documentation and communication for compliance with sustainability requirements in relation to a predefined requirements specification, reporting system or certification system for sustainability.

Certification level to be determined.

9.33 Sustainability, individual services

Sustainability consultancy may comprise a number of individual services, including analysing, assessing and optimising the social, environmental, financial, process and technical qualities of the project.

The services can be agreed individually or by referring to an agreed requirements specification or a certification system that can comprise e.g.:

- whole-life cost calculations
- Life-cycle analyses
- resource optimisation
- climate proofing.

Occupational health and safety

If the client wants one or more of the following services (9.34-9-35) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.34 Health and safety coordination during the design phase

The consultant may undertake to handle the client's obligation sin respect of health and safety coordination during the design phases.

9.35 Health and safety coordination during the construction phase

The consultant may undertake to handle the client's obligations in respect of health and safety coordination during the construction phase.

Accessibility

If the client wants one or more of the following services (9.36-9-38) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.36 Special requirements for accessibility

Assistance in ensuring compliance with special accessibility requirements in addition to those provided in the Danish Building Regulations, including instructions and guides to promote accessibility.

9.37 Accessibility audit

Review of accessibility.

9.38 Guides on accessibility

Preparation of guides, including user guides on the accessibility conditions of the property in and outside the building.

Fittings, fixtures and equipment, client deliverables

If the client wants one or more of the following services (9.39-9-42) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.39 Standard fittings, fixtures and equipment

The consultant may assist in specifying fixed/non-fixed standard fittings, fixtures and equipment.

The consultant may prepare furnishing plans.

The consultant may prepare a time schedule for purchasing, delivery and installation and coordinate such activities against the main time schedule.

The consultant may prepare a budget for purchasing, installation, etc.

9.40 Special fittings, fixtures and equipment

The consultant may assist in the design of special fittings, fixtures and equipment.

The consultant may prepare layout plans etc.

The consultant may prepare a time schedule for purchasing, delivery and installation and coordinate such activities against the main time schedule.

The consultant may prepare a budget for purchasing, installation, etc.

9.41 Client deliverables

The consultant may undertake tendering, purchasing and coordination of any client deliverables, including fittings, fixtures and equipment.

9.42 Artistic decoration

The consultant may assist in connection with the organisation and negotiation related to artistic decoration

Tendering procedure

If the client wants one or more of the following services (9.43-9-45) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.43 Prequalification

Assistance in connection with the implementation of a prequalification round.

9.44 Tendering under the Danish Act on Tendering Procedures for Work Contracts or EU directive

Assistance in connection with EU procedure in accordance with the Danish Act on Tendering Procedures for Work Contracts or other EU directive.

9.45 Danish Act on Tendering Procedures for Work Contracts or EU directive

Assistance in connection with negotiations to be conducted in accordance with the Danish Act on Tendering Procedures for Work Contracts or other EU directive.

Other, design and construction

If the client wants one or more of the following services (9.46-9-56) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.46 Project optimisation

The consultant may assist in connection with project optimisation after the tendering procedure, including:

- technical and cost assessment of alternatives proposed by contractors
- recommendation to the client on any choice of alternatives
- coordination of selected alternatives with other consultants and contractors
- updating of the consultant's project with selected alternatives
- quality assurance of updated project

9.47 Project changes

- review of project changes or alternative projects prepared by other consultants
- preparation of project changes or alternative projects ordered by the client, including as a consequence of changes in the projects of other consultants
- assistance in implementing project changes (i.e. redesign works that bring the project forward to the same stage as it had before the change)
- quality assurance of updated project

9.48 Compliance with special regulatory requirements

Assistance to ensure compliance with requirements in addition to existing requirements contained in legislation, provisions, etc., governing the building project in question.

Documentation of technical matters in addition to what is stipulated in the Danish Building Regulations.

Documentation of technical matters provided by an independent, certified consultant, including documentation the statics and fire safety of the building project by an independent, certified consultant.

Assistance to ensure compliance with requirements contained in legislation, provisions, etc., taking effect after the conclusion of the consultancy agreement.

9.49 Detailed time schedules

Preparation of detailed time schedules in addition to those described for the individual phase.

9.50 Special quality assurance

Assistance in connection with quality assurance comprising client requirements for special quality assurance in the form of organisation and documentation of quality assurance as specified by the client in connection with the design and construction processes.

9.51 Extended construction management

Assistance in connection with construction management in addition to what is described in 7.1.

9.52 Extended site supervision

Assistance in connection with site supervision in addition to what is described in 7.2.

In each case, the need for extended site supervision must be assessed on the basis of the nature of the project and the qualifications of the contractors to perform adequate checks.

9.53 Special tests

Completion of laboratory and model testing.

9.54 Working and assembly drawings

Working and assembly drawings are usually provided by the individual contractor. If deemed more expedient in the relevant project that the consultant provides such drawings, a separate agreement must be concluded with the client in this respect.

9.55 Signage

Assistance in connection with signage, in addition to the signage required by the Danish Building Regulations and other legislation, including the choice and design of signage.

9.56 Measurement of work performed

The extent and level of detail of the measurement are subject to agreement between the parties.

Delivery and operation

If the client wants one or more of the following services (9.57-9-60) to be included, it is a condition that the service is clearly specified in the agreement.

If the parties have not made a specific agreement as to the scope of the service, the consultant will determine the scope of the services.

9.57 Commissioning

The service may include management of a detailed commissioning process.

The service may also include assistance in connection with the planning and activities in the commissioning process, including in connection with:

- participation in the commissioning organisation
- documenting that commissioning requirements have been incorporated in all project phases
- contributing to the commissioning manager's commissioning plan
- answering outstanding issues in the commissioning log
- answering comments found in connection with the review carried out by the commissioning group
- contributing to test scenarios and content of test templates
- contributing to training content
- participation in commissioning test.

9.58 'As built'

'As built' services are provided to bring the project documentation to a level at which the documents and the currently completed project are consistent with one another to the extent specified in addition to the update required to obtain regulatory approval and an operating permit within the consultant's field of responsibility.

The level of such consistency may be agreed in accordance with the Danish Association of Architectural Firms' and the Danish Association of Consulting Engineers' description of services 'As built'.

9.59 Assistance in connection with commissioning and operation

Assistance in connection with the client's commissioning of the building project in addition to assistance described in the project, including e.g. in connection with the client's establishment of an operating organisation.

Assistance in connection with the preparation of a care plan for landscape works related to the building project.

Assistance in connection with the client's operation and maintenance of the property, including e.g. documentation of agreed operation and maintenance.

Assistance in connection with registration or measurement of specific requirements for the operational condition or performance of the building after delivery and initial operation.

9.60 5-year inspection

Inspection is performed according to the guidelines laid down by the Danish Building Defects Fund or as otherwise agreed.

The service may also include technical assistance for 5-year inspections carried out by another consultant.

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