

Building and planning

This description of services serves as a basis for providing consultancy in connection with building and planning.

The description of services does not refer to legislation and regulations governing specific building projects or public sector building 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 technical supervision.

The description of services is also to be used for both large and small-scale – complex and less complex – building projects as a frame of reference for determining services in the specific consultancy agreement.

Services, cf. sections 1 and 5-8, are only included to the extent that they have been specified and fees agreed between the parties.

The consultant's services and fees are contractually based on *ABR 89* ("*General Conditions for Consulting Services*").

Agreements should be drawn up using the standard form of agreement prepared by FRI (Danish Association of Consulting Engineers), PLR (Danish Council of Practising Landscape Architects) and DANSKE ARK (Danish Association of Architectural Firms).

It should be noted that services provided by the consultant comprise only services within the consultant's field as expressly specified in the consultancy agreement.

An ICT services specification should be prepared in connection with agreements for digital design and provision of digital project data, possibly in accordance with bips (construction – IT – productivity – cooperation) publication F202 and related project-specific description.

ICT is an abbreviation for information and communication technology.

FRI, PLR and DANSKE ARK issue individual codes of practice for a number of specific areas.

DANSKE ARK has prepared "*Byfornyelse*" 2002 (Urban renewal), "*Produktudvikling*" 2003 (Product development) and "*Ydelsesbeskrivelse for arbejdsmiljø på byggepladsen*" 2009 (Description of services for occupational health and safety on building sites).

DANSKE ARK and FRI have drawn up a general description of services for "Client Consultancy", December 2003, and "Som udført" 2000 (As built) as well as "Anlæg og Planlægning" April 2006 (Construction and planning).

The latter in cooperation with PLR.

Reference is made to the websites of the organisations at:

www.danskeark.org

www.p-l-r.dk

www.frinet.dk

Moreover, the codes of practice of other organisations may be relevant, e.g.: "*Møbeludvikling og produktdesign*" (Furniture development and product design) (Danish Designers).

The general organisation of the building project, including calls for tender for a specialist, large, general, turnkey or partnering contract, is not described. Reference is made to the description of services for "Client Consultancy" in this respect.

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0. Role of consultant

The consultant is the client's independent representative and adviser, see ABR 89 (article 1.1, Work of the Consultant). The services provided by the consultant in connection with building and planning projects comprise both architect-specific, landscape architect-specific and engineer-specific services.

The consultant is trained specifically to manage architecture, technical solution, programming and costing in planning tasks and building projects and also manages human, aesthetic and functional aspects of a holistic solution.

Consultancy may be provided in the following forms:

- 0.1 Client consultancy
- 0.2 Full-service consultancy
- 0.3 Split consultancy
- 0.4 Sub-consultancy

0.1 CLIENT CONSULTANCY

As consultant to the client, the consultant safeguards the interests of the client in matters involving the designers and the contractors.

Consultancy may include the appraisal and conceptual phases and/or may cover the full design and construction periods.

Reference is made to the relevant description of services.

0.2 FULL-SERVICE CONSULTANCY

When a full-service consultant is responsible for the entire project, the client needs only enter into one consultancy agreement.

The full-service consultant engages the services of required sub-consultants and is responsible to the client for their work.

Full-service consultancy may also be provided by a group of consultants.

The full-service consultant appoints the design manager and makes that party responsible for client relations.

0.3 SPLIT CONSULTANCY

Each consultant concludes a separate agreement with the client. The consultants are under an obligation to cooperate with each other, but have no direct contractual obligation to each other.

The client is responsible for consultancy management and coordination and for interaction between the consultants. The client may delegate this responsibility to a design manager (see 2.1).

The client appoints the design manager in dialogue with the consultants. The design manager handles relations between the client and the consultants.

0.4 SUB-CONSULTANCY

A sub-consultant concludes a separate agreement with its 'client', which is often a full-service consultant.

The sub-consultant is in contact with the design manager and the client through this party.

1. Pre-design consultancy

Pre-design consultancy comprises the following services:

1.1 Appraisal

1.2 Design specification

The scope of services to be provided depends 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 is the result of initial work on the client's thoughts and ideas for the purpose of deciding whether to implement the project in question.

1.1.1 Contents

The initial work on the client's ideas is presented in a report. This report analyses the potential of the client's ideas and assesses whether and how these ideas can be implemented. The appraisal may include alternatives to the client's ideas.

The necessary planning and relevant investigations of existing conditions, including research in archives, are summarised in the appraisal.

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

The appraisal may also include investigations into alternative building sites, etc.

The appraisal may include accounts of the outcome of negotiations conducted.

The appraisal may include an analysis of needs and functions, including an analysis of accessibility conditions.

The appraisal may contain an analysis of landscape history, topography, fauna, climate, etc.

The appraisal may include a risk analysis focusing on quality, programming, costing, etc.

The appraisal must include an organisational chart for the building project. An account must be given of how decisions are made, including any need for hearings and user influence in connection with the design specification.

The appraisal must contain an assessment of the need for special advisers.

1.1.2 Project

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

If no drawings are available, the client may let the consultant arrange for existing open spaces, buildings and facilities to be registered, measured and drawn.

In rebuilding projects, the appraisal may include advance details for the programme work comprising an account of the use of buildings, the environmental conditions of the area, the combination of materials used in the buildings as well as a structural survey.

1.1.3 Programming

The appraisal may include a timeframe for the completion of the project, including particularly critical milestones such as deadlines for site acquisition commitment.

1.1.4 Cost management

The appraisal may include proposals for budget limits in connection with project implementation, including an estimate of total construction costs, site acquisition costs, other costs, etc.

1.1.5 Authorities

The appraisal may include a section on regulatory matters and proposals for consideration of other regulatory aspects, including zoning.

1.1.6 Quality assurance

The consultant reviews the appraisal and its basis.

1.1.7 Client

The client obtains existing drawings, details, etc.

The client participates actively in the necessary meetings and provides information about the possibilities of completing the project in terms of costs as well as information about profitability targets, if any.

Having assessed 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 principal consultant.

The client approves the appraisal before the beginning of the design specification.

The client decides on the type of tendering procedure.

1.2 DESIGN SPECIFICATION

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

The level of detail of the design specification is adjusted to match the organisation of the building project.

1.2.1 Contents

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

The design specification may be prepared as a description (possibly in a schematic form) specifying the physical requirements for open spaces, structures, installations and surface quality as well as the environmental objectives to be met.

If required, a statement of preliminary investigations is prepared in cooperation with other consultants, listing the basic conditions of the buildings: these may be geological, environmental, topographical or climatic conditions, archaeology, area conditions,

legal matters as well as specific regulatory requirements, existing supply conditions, operation and maintenance, etc.

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 consultant draws up a draft plan for project decisions and approvals to be obtained from the client by the designers.

The consultant informs the client of its responsibilities in relation to health and safety legislation.

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

The design specification must state any special requirements for thermal, atmospheric, noise and acoustics and optical indoor climate in addition to those contained in Danish building regulations and other legislation.

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

If the appraisal contains no analysis of needs and functions, such analysis may be included in the design specification.

If the building project involves many different types of room, room descriptions may be drawn up in a schematic form specifying the net area of such rooms, furniture needs, need for technical installations, etc.

The design specification may include a risk analysis focusing on quality, programming, costing, etc., and must, if included, assess the need for special risk management activities during the design and construction phases.

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

1.2.2 Project

The nature of the project may call for the preparation of preliminary designs of rooms indicating principles of function and diagrams giving details such as area sizes, functional relationships and proximity criteria.

The gross and net areas of the buildings are assessed.

Drawings are generally not made, but drawings of any existing buildings and facilities should be included.

1.2.3 Programming

The design specification includes an assessment of the project's timeframe for design and construction, including the progress of individual phases, consideration by the authorities, health and safety legislation matters, approvals, etc.

1.2.4 Cost management

An overall budget is prepared for the building project.

The budget limits are normally divided into the following main items:

- site acquisition
- demolition and clearing
- building and landscaping costs
- fittings, fixtures and equipment
- other costs
- VAT

Available funds are set aside for contingencies, building site costs as well as winter and weather conditions likely to occur during the building project.

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

1.2.5 Authorities

Information about general regulatory requirements, including zoning, easements, profits and restrictive covenants, title documentation, levelling survey, environmental conditions and supply and discharge connections, as well as particulars of site use, traffic and road conditions and accessibility conditions are obtained in cooperation with the

client. These details are included in the design specification.

1.2.6 Quality assurance

The consultant describes the QA requirements for design and construction, including requirements for supervision and construction management plans.

The consultant reviews the design specification and its basis systematically to ensure that requirements for the quality of the buildings (form, function, technology) and for costs and programming are adequately described to form the basis for drawing up a proposal.

1.2.7 Client

The client assists in initiating functional analyses, assessing the need for premises, preparing budget limits, etc. If required, the client appoints user representatives and defines their responsibilities.

Together with the consultant, the client must ensure that

- a design specification is prepared before the design process begins;
- a description of consultancy services is drawn up;
- any requirements for digital design and provision of digital project and operating data are laid down in the form of an ICT services specification;
- the quality level of buildings is determined with consideration to their intended purpose;
- programme requirements are consistent with construction and operating finances; and
- sufficient time has been set aside for the design, tender and construction processes.

The client must decide on the extent to which its obligations in pursuance of health and safety regulations are to be assigned to a third party.

If the design specification forms part of a general agreement on consultancy services in connection with design and construction, the client must also prepare a draft plan for supervision (supervision plan) and a draft plan for construction management.

The client approves the design specification as a basis for starting the design process.

2. Design management consultancy

Design management consultancy comprises the following services:

2.1 Design management

2.2 ICT coordination of tasks where digital design has been agreed.

If one consultant handles the total project, this consultant will be in charge of design management, including any ICT coordination agreed upon.

The client may, as agreed between the parties, be responsible for design management.

2.1 DESIGN MANAGEMENT

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

2.1.1 Contents

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. This is also the case if design work is performed by the contractors.

The design manager checks that the client has arranged for competence and responsibility to be delegated, has established ways of communication and also that an approved design specification has been prepared.

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 arranges for approved drawing and description principles to be used.

The design manager convenes and presides at design meetings and any required meetings with the client during the design phase and also prepares minutes.

The design manager recommends the type of tendering procedure and the allocation of contracts to the client and coordinates the process of inviting tenders.

The design manager prepares draft tender conditions, a draft tender letter and a draft construction contract.

The design manager prepares a draft description of the building project on the basis of proposals made by the consultants.

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

Furthermore, when the consultants have undertaken to assist the client in its obligations to coordinate health and safety of the building project during the design phase and to draw up a basis for a health and safety plan, the design manager will coordinate such work, including providing a building site plan for the tender documents.

The design manager presents the full tender documents to the client and obtains its approval.

The design manager coordinates the process of assessing and recommending tenders submitted.

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

The design manager coordinates follow-up by the consultants, including any revision of drawings, drawing lists, etc.

2.1.2 Programming

The design manager draws up a design programme in cooperation with the consultants, is responsible for any revisions and ensures that the design programme is followed.

The design manager draws up a tender programme in cooperation with the consultants.

2.1.3 Cost management

The design manager monitors the costs of the project, including obtaining cost estimates from the individual project consultants for the preparation of a budget defined on the basis of budget items established by the client.

This budget is updated at every design stage.

Following receipt of tenders, the design manager updates the budget and prepares an overall recommendation to the client that compares the most recently approved budget with the tender results. This recommendation is based on contributions from the individual consultants.

2.1.4 Authorities

The design manager handles any advance dialogue, ensures that the consultants submit applications for planning permission in due time and coordinates other negotiations with miscellaneous authorities for the purpose of obtaining planning permission and other permits required and finally clarifies the conditions of such permission and permits.

2.1.5 Quality assurance

If the client has delegated the responsibility for drawing up a QA plan to the design manager, this party will be responsible for drawing up such a plan in cooperation with the other consultants. The quality plan defines the scope of, and programme for, review and control procedures, including suppliers' review and control of any supplier design. The design manager coordinates interdisciplinary project reviews during the project proposal and main project stages, including in relation to any supplier design.

When the consultants have undertaken to assist the client in drawing up a supervision plan, the design manager will coordinate such work.

2.1.6 Client

The client grants the design manager appropriate authorisation, etc.

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

The client draws up the basis for a health and safety plan.

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

The client approves the updated budgets.

The client approves tenders recommended and enters into construction contracts.

The client prepares and updates its budget for other expenses.

The client takes out insurance as needed.

2.2 ICT COORDINATION

In respect of agreed digital designs, the ICT coordinator is responsible for coordinating digital cooperation between the consultants, designing suppliers and contractors, the client and authorities, if any.

2.2.1 Contents

The ICT coordinator must ensure that specifications of services covering the following main areas, as a minimum, have been prepared:

- Exchange of digital documents (including frequency, formats, name convention, method, etc.)
- Handling of digital drawing production (including layout, formats, data structures, systems of coordinates, levels, sectioning, etc.)
- Provision of digital data (including formats, data structures, naming convention, etc.)

- Handling of data security (including virus protection, password, etc.)

The ICT coordinator participates in design meetings to the extent necessary for the purpose of handling ICT coordination and organises, chairs and reports from other necessary meetings about ICT coordination of the project.

2.2.2 Programming

The ICT coordinator participates in drawing up a design programme, including timing of the exchange and provision of digital data.

2.2.3 Client

The client hands over an accessible digital basis to the consultants in the agreed format and structure.

The client specifies any requirements for access rights, data security, etc.

3. Design phase consultancy

Design phase consultancy comprises the following services:

- 3.1 Outline proposal
- 3.2 Project proposal
- 3.3 Preliminary project (regulatory project)
- 3.4 Main project
- 3.5 Project follow-up

As stipulated in ABR 89, the outline proposal and the project proposal make up the proposal phase and may be implemented on an ongoing basis as one phase.

As stipulated in ABR 89, the preliminary project and the main project make up the design 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 put up for tender on the basis of functional requirements.

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.

3.1 OUTLINE PROPOSAL

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

3.1.1 Contents

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

3.1.2 Project

Depending on the nature of the project, for example construction of new buildings or

extension/renovation of existing buildings, the following documents are prepared:

Architect:

- a description of the proposal, the architectural idea, functions and environment, including architectural reflections on design and installation principles
- a proposal for the general choice of materials
- a site plan/layout plan showing the relative location of buildings (scale 1:500/1:1000)
- plan and elevation drawings (scale 1:200/1:500)
- a report on floorage and plot ratios

Landscape architect:

- a description of the proposal, including preliminary studies and analyses undertaken, a description of site area topography, climate, plants and trees, soil and designation of utilisation of open spaces, if any
- a proposal for the general choice of materials and plants and trees
- plan drawings (scale 1:500/1:1000) giving an overall impression of the site.

Engineer – structures:

- a description and sketches of design principles and main systems

Engineer – plumbing and heating installations and ventilation systems:

- a description and sketches of the extent and design of installations, an assessment of capacities, main supply principles, technical rooms and wiring/piping systems

Engineer – electrical installations:

- a description and sketches of the extent and design of installations, an assessment of capacities, main supply principles, technical rooms and wiring/piping systems

3.1.3 Programming

In cooperation with the design manager, the consultant assists in drawing up design, tender and construction programmes.

3.1.4 Cost management

The consultant provides the design manager with a cost estimate for the works in the consultant's scope.

This estimate will generally include the following main items:

- site acquisition
- demolition and clearing
- public utilities connection fees
- ground expenses
- construction costs
- installation costs
- fittings, fixtures and equipment
- environmental and other public taxes
- administration and costs
- contingencies
- VAT

The estimate must include building site costs and any special measures taken in respect of weather conditions.

The estimate is generally prepared on the basis of estimated square metre and cubic metre prices. If the buildings consist of several units, such units are assessed separately.

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

3.1.5 Authorities

The consultant gives a calculated estimate of energy consumption in accordance with Danish building regulations.

In cooperation with the design manager, the consultant establishes the building use category, the overall division into fire sections and assesses any need for active fire safety systems.

In cooperation with the design manager, the consultant submits matters to the relevant authorities and files general applications for exemption, if required.

The consultant participates in any negotiations with the authorities.

3.1.6 Quality assurance

The consultant makes an overall assessment of the solutions contained in the outline proposal.

3.1.7 Client

During the process of drawing up the outline proposal, the client and/or user representatives appointed by this party participate in the required meetings on matters such as the detailed layout of rooms, equipment, etc.

The client prepares a budget for its other expenses such as special fit-out work, relocation expenses and financing.

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

3.2 PROJECT PROPOSAL

The project proposal is a revision of the approved outline proposal to such an extent that all decisions pivotal to the project have been made and included in the proposal.

3.2.1 Contents

The project proposal is the basis on 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.

The project proposal must contain a proposal for the type of tendering procedure and the allocation of contracts.

3.2.2 Project

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

Architect:

- a description, including a description of the overall architectural approach, motivated by the choice of structures and materials
- ground plan (scale 1:200/1:500)
- levels, sections and elevations (scale 1:100/1:200) and any sections on a larger scale
- basic furniture plans
- a report on floorage and a calculation of plot ratios

Landscape architect:

- a description of the site's main characteristics and data
- a description of important parts and components
- plan drawings (scale 1:200/1:500) as well as sections describing for the extent and nature of planned and existing sites seen in relation to buildings
- a description of surfaces, plants and trees, ground structures and equipment, and all main levels and material earthworks must also be specified
- an account of open spaces

Engineer – structures:

- a 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
- structural plans and sections (scale 1:100/1:200) as well as typical components and critical details
- assessment of openings required for building services
- a report on ground works

Engineer – plumbing and heating installations and ventilation systems:

- a description of the extent, design and main components of installations
- layout plans indicating the location of installations (scale 1:100/1:200), schematic sections of installations and the main layout of technical rooms as well as schematic diagrams
- schematic diagrams for wiring/piping systems, including important openings through structures

Engineer – electrical installations:

- a description of the extent, design and main components of installations
- layout plans indicating the location of building services (scale 1:100/1:200), schematic sections of building services and the main layout of technical plant rooms
- schematic diagrams for wiring/piping systems, including important openings through structures
- a description of lighting systems

3.2.3 Programming

In cooperation with the design manager, the consultant assists in updating design, tender and construction programmes.

3.2.4 Cost management

On the basis of its own responsibilities, the consultant submits a budget to the design manager.

The budget is prepared as a summary budget or as a specialist budget on the basis of the project proposal.

In a standard building project, the budget is divided into the following main items:

- site acquisition
- demolition and clearing
- landscaping expenses
- public utilities connection fees
- building basis
- primary building components
- complementary components
- surface finishes
- plumbing and heating installations and ventilation systems
- electrical installations
- fittings, fixtures and equipment
- artistic decoration
- building site costs and special measures taken in respect of weather conditions
- environmental and other public taxes
- administration and costs, possibly broken down by consultant fees, including construction management and technical supervision, reproduction, other costs and client administration
- contingencies
- VAT

This budget is an overall budget to be kept by the consultant and is the economic basis on which the client makes its decisions.

The budget must contain information about:

- the index used and any agreements for index adjustments
- the intended type of tendering procedure
- other conditions and any reservations in respect of the budget and its items such as employment and market conditions as well as other matters essential to the preparation of the budget

3.2.5 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 energy consumption in accordance with Danish building regulations must be updated, and the fire safety documentation may be detailed as a basis for this.

The consultant participates in any negotiations with the authorities.

3.2.6 Quality assurance

The consultant reviews the project proposal to ensure that

- the project proposal is consistent with the particulars of the outline proposal;
- the requirements contained in the design specification for the general quality (form, function, technology) of the buildings and for construction costs and programming have been met; and
- the project proposal can form the basis for preparing a preliminary project and a main project.

The consultant notifies the client of any specific or risk-laden conditions ascertained in the review.

The consultant participates in interdisciplinary project reviews.

3.2.7 Client

The client and/or user representatives appointed by this party participate during the process of drawing up the project proposal in the required meetings on matters such as the detailed layout of rooms, equipment, etc.

The client approves the overall budget and updates its budget for other expenses.

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

3.3 PRELIMINARY PROJECT (REGULATORY PROJECT)

The preliminary project (regulatory project) is a revision of the approved project proposal to such an extent that it can form the basis for approval by the authorities.

The preliminary project (regulatory project) forms an integral part of the main project.

3.3.1 Contents

The preliminary project (regulatory project) contains a statement describing the final design of the project in relation to regulatory requirements, including a description on the project's architecture, choice of design, choice of materials and technical installations.

3.3.2 Project

The architect prepares, possibly in cooperation with the landscape architect, a statement describing zoning, adjacent buildings as well as access and parking conditions for the project.

The engineer makes acoustic calculations, if required, and prepares documentation for the purpose of meeting the requirements contained in Danish building regulations for energy consumption.

The main drawings must comply with regulatory requirements for documenting legislative matters and describe the design, structures and technical installation principles.

3.3.3 Programming

In cooperation with the design manager, the consultant assists in updating design, tender and construction programmes.

3.3.4 Cost management

In cooperation with the design manager, the consultant assists in updating the overall budget of the project proposal in accordance with the general trend in prices and any agreed project changes.

3.3.5 Authorities

The fire safety system documentation must be detailed and any calculations and fire plans prepared.

The consultant submits relevant information to the authorities and notifies the design manager accordingly.

The consultant participates in any negotiations with the authorities.

3.3.6 Quality assurance

The consultant reviews the preliminary project prepared (regulatory project) to ensure that

- the preliminary project (regulatory project) is consistent with the particulars of the project proposal;
- regulatory requirements for the design, function and construction technology of the buildings have been met; and
- the preliminary project (regulatory project), together with the project proposal, can form the basis for preparing the main project and drawing up other tender documents.

3.3.7 Client

The client approves the preliminary project (regulatory project).

The client updates its budget for other expenses.

The client approves any applications for exemption in respect of regulatory matters.

3.4 MAIN PROJECT

The main project describes the project precisely and with such a level of detail that it can form the basis for final clarification of the conditions contained in the planning permission as well as for tendering, contracting and construction.

3.4.1 Contents

The main project must include a list of documents, a description of the building project, work specifications, drawings, a programme and schedules of rates.

The main project must list requirements for operation and maintenance instructions, etc., to be handed over by the contractors.

In cooperation with the design manager, the consultant assists in drawing up a draft description of the building project.

In cooperation with the other consultants involved in the project, the principal consultant assists in handling the process of inviting tenders, assessing tenders submitted, handling technical and financial clarification as well as making recommendations for tenders submitted.

3.4.2 Project

Depending on the nature of the project, the following documents are prepared as a basis for inviting tenders and completing the project:

Architect:

- work specifications and schedules of rates
- drawings comprising general drawings, layout drawings, building component drawings and detailed drawings
- updates of floorage and plot ratio calculations

Landscape architect:

- work specifications and schedules of rates
- drawings comprising general drawings, layout drawings and detailed drawings
- updates of open space calculations in relation to approval by the authorities

Engineer – structures:

- work specifications and schedules of rates
- drawings comprising general drawings, layout drawings, building component drawings and detailed drawings
- reviews of other consultants' requirements that affect structural loads
- updates of acoustic calculations, if any, as stipulated in Danish building regulations
- statistical calculations

Engineer – plumbing and heating installations and ventilation systems:

- work specifications and schedules of rates
- drawings comprising general drawings, layout drawings, building component drawings, diagrams and detailed drawings
- a report on openings in structures and their setting out
- updates of documentation for the purpose of meeting the requirements contained in Danish building regulations for energy consumption

Engineer – electrical installations:

- work specifications and schedules of rates

- drawings comprising general drawings, layout drawings, building component drawings, diagrams and detailed drawings
- drawings of electrical panels, including power circuits
- a report on openings through structures and their setting out

3.4.3 Programming

In cooperation with the design manager, the consultant assists in preparing the tender document programme for the completion of the project, including a statement of the start and end dates of the individual contracts, as well as any milestones which bear penalties in the event of delay.

3.4.4 Cost management

The overall budget of the project proposal is updated in accordance with the general trend in prices and any agreed project changes. The budget is submitted to the design manager.

The budget is allocated on the basis of contracts allocated.

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

If the total updated budget – following receipt of tenders – appears to exceed the agreed variances in relation to the approved budget, the client may require that the project be revised in cooperation with the consultant on the basis of detailed terms and conditions to be agreed upon.

If the overrun of the approved budget is the result of

- an agreed price adjustment
 - changes in the project as agreed with the client
 - changes in the specified budget assumptions
 - conditions of which the consultant was not or should not have been aware 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 the assistance of another consultant and so results in redesign expenses on the part of that consultant, the client will be under an obligation to pay such expenses directly to the consultant in question,

possibly with recourse against the consultant being responsible for the budget overrun.

If the design work is performed on a cost reimbursement basis, the relevant agreement must specify the payment of costs incurred in connection with any such redesign work.

3.4.5 Authorities

The consultant updates the fire safety documentation.

The consultant submits any supplementary material to the authorities and notifies the design manager accordingly.

The consultant participates in any negotiations with the authorities.

3.4.6 Quality assurance

The consultant draws up a tender Quality Control plan.

The consultant performs internal reviews and checks by systematically going over the main project and the tender documents for the purpose of ensuring that

- the main project is consistent with the particulars of the project proposal; and
- the individual items of the project material are consistent with one another.

The consultant participates in interdisciplinary project reviews.

The consultant stipulates requirements to suppliers' and contractors' additional design, if any, and documentation thereof.

The consultant draws up a supervision plan if it has undertaken to assist the client in this respect.

3.4.7 Client

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

The client draws up draft supervision and construction management plans.

If required, the client participates in a revision of the project as stipulated in 3.4.4 above.

The client takes out insurance as needed.

3.5 PROJECT FOLLOW-UP

These services are design services related to project work performed by the consultant.

The purpose of project follow-up is to help ensure that work performed, including any additional design performed by suppliers and contractors, is consistent with the intentions of the project. For information about performance control; see 4.2, Technical supervision.

3.5.1 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.

At project follow-up, efforts must be made to ensure that relevant project documentation is handed over to the construction manager and the technical supervisor.

The consultant assists the technical supervisor in approving and assessing working drawings, working calculations, material samples, colours, structures and building services within its technical field.

3.5.2 Project

The consultant updates the project on the basis of project clarifications made by the consultant. Updates are made at 'level 1' (see PAR's and FRI's description of services for "*Som udført*", 2000).

3.5.3 Programming

The technical supervisor is assisted in assessing the consequences of any project specifications in terms of time.

3.5.4 Cost management

The technical supervisor is assisted in inviting tenders and assessing tenders in connection with project specifications.

3.5.5 Authorities

The consultant provides the design manager with the updated regulatory project (see 3.5.2).

3.5.6 Quality assurance

The consultant makes an overall review of any additional project documentation prepared by suppliers and contractors with a view to ensuring that it is consistent with the intentions of the project.

The consultant regularly reviews and checks the project specifications on an internal basis for the purpose of ensuring that the project continues to be consistent with the particulars of the main project.

To the extent agreed upon, the consultant holds project review meetings with contractors and prepares minutes from such meetings.

4. Construction phase consultancy

Construction phase consultancy comprises the following services:

4.1 Construction management

4.2 Technical supervision

4.1 Construction management

A construction manager is appointed before the building process commences. The construction manager monitors the overall progress of the building project in terms of programming, quality and costs and manages relevant documentation. The construction manager is also responsible for coordinating general building site activities.

The scope of construction management is defined in an agreement between the client and the construction manager.

The construction manager draws up a construction management plan on the basis of the client's draft.

4.1.1 Contents

The construction manager represents the client in matters involving the contractors in respect of organisation and performance of work and has powers and obligations as stipulated in article 17 of AB 92 ("General Conditions for the Provision of Works and Supplies within Building and Engineering").

The construction manager assists the design manager in drawing up a building site plan.

When the consultant has undertaken to assist the client in its obligations to establish a health and safety plan, the construction manager will provide relevant assistance to the design manager.

When the construction manager has undertaken to assist the client in its obligations to complete and update the health and safety plan, the construction manager will handle such coordination.

The construction manager is responsible for drawing up administrative rules on the overall supervisory function and monitors compliance with such rules.

The construction manager coordinates overall technical supervision.

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

The construction manager presents problems encountered and any proposals for project changes during the construction phase to the design manager and makes arrangements for how to address such problems or changes.

The construction manager reports to the client on the progress of the building project in terms of programming and costs and makes arrangements for the client's approval of payment and/or change requests during the project.

The construction manager coordinates activities to obtain operation and maintenance instructions drawn up by suppliers and contractors and hands over such documentation to the client.

The construction manager organises and manages the handing-over meeting with the assistance of the technical supervisor.

The construction manager organises and manages the 1-year inspection with the assistance of the technical supervisor and assesses whether performance bonds can be reduced.

4.1.2 Programming

The construction manager assists the design manager in drawing up a tender programme.

The construction manager monitors the overall progress of the building project in terms of programming and manages relevant documentation.

The construction manager draws up and updates programmes in cooperation with the technical supervisor and the contractors on the basis of the tender programme.

The construction manager registers the progress of work on the basis of information provided by the technical supervisor and records weather conditions and any delays due to bad weather. The construction manager reports to the client and the designers' consultants on the progress of the building project in terms of programming and arranges, in cooperation with the technical supervisor, for the consequences in terms of time resulting from changes made during the course of the building project to be agreed with the parties involved.

4.1.3 Cost management

During the construction phase, the construction manager monitors the overall progress of the building project in terms of costs and manages relevant documentation.

The construction manager keeps building accounts, approves on-account bills and invoices and draws up the final building accounts.

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

The construction manager reports to the client and the design team on the progress of the building project in terms of costs and, in cooperation with the technical supervisor, arranges for additional payments made during the course of the building project to be approved by the client.

4.1.4 Authorities

The construction manager handles relations with authorities in respect of building site functions.

The construction manager is responsible for submitting statements of completion and for obtaining an occupancy permit.

4.1.5 Quality assurance

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

The construction manager makes plans and ensures that a QA plan is available from the contractors and that project review meetings are held.

4.1.6 Client

Before construction phase consultancy is provided, an organisational chart must be drawn up, listing the competences and responsibilities of the person or persons duly authorised.

The client handles project review meetings, but may delegate such responsibility to the construction manager.

The client assesses and approves any alterations in writing or authorises the construction manager to perform such tasks.

The client pays payment requests presented by the construction manager.

The client completes the health and safety plan, holds health and safety meetings and updates the plan. These services may be delegated to the construction manager or to a general or turnkey contractor, if required.

The client appoints an independent energy consultant to prepare an energy certification report and submits it to the building authorities before statement of completion.

The client participates in the handing-over meeting and signs the handing-over documents.

The client starts the 1-year inspection process.

4.2 TECHNICAL SUPERVISION

The technical supervisor is responsible for quantitative and qualitative control procedures in the form of inspections performed on a spot check basis. The scope of such procedures is laid down in an agreement between the client and the consultant.

The technical supervisor draws up the supervision plan on the basis of the client's draft plan for technical supervision.

4.2.1 Contents

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

The technical supervisor requests any necessary project specifications from the party responsible for project follow-up and notifies the construction manager of any consequences in terms of programming and costs.

The technical supervisor ensures that revised drawings, etc., are handed over to the contractors.

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

The technical supervisor participates in building meetings to the extent agreed upon.

The technical supervisor draws up punch lists for the handing-over meeting and checks that defects are remedied.

Operation and maintenance instructions, etc., listed as required in the contract documents are obtained from the contractors and handed over to the construction manager.

The technical supervisor draws up punch lists for the 1-year inspection and checks that defects are remedied.

4.2.2 Documentation

The technical supervisor prepares supervision notes and reports on building site staffing and equipment, work performed, etc., in respect of own contracts.

4.2.3 Programming

The technical supervisor assists the construction manager in drawing up and updating construction programmes.

The technical supervisor prepares progress reports.

4.2.4 Cost management

The technical supervisor reviews invoices issued, including the final accounts.

The technical supervisor assists in managing the budget in connection with any changes in the scope of contracts, measures taken in respect of weather conditions, additional foundation work, etc.

The technical supervisor checks services provided on a volume basis.

4.2.5 Authorities

The technical supervisor performs spot checks to establish that the contractors arrange for the required inspections by the authorities to be made and that the conditions stipulated by the authorities for the performance of work are met. The technical supervisor also provides the construction manager with information for the completion notice to be submitted to the authorities.

4.2.6 Quality assurance

The technical supervisor checks that the inspection plans of the contractors comply with the requirements of the contract documents.

The technical supervisor participates in project review meetings.

The technical supervisor performs checks as specified in the supervision plan.

4.2.7 Client

The client approves supervision plans.

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

5. Operational phase consultancy

The consultant may assist in performing tasks related to occupancy and property operation (buildings and facilities).

The operation and maintenance plan may also cover the concept of a “care plan” for landscape architect services.

The services to be provided by the consultant and the scope of such services may be agreed separately for each service to be provided:

- 5.1 Preparation of operation and maintenance plan
- 5.2 Implementation of operation and maintenance plan
- 5.3 Assistance with property operation

5.1 PREPARATION OF OPERATION AND MAINTENANCE PLAN

The operation and maintenance plan is drawn up for the purpose of optimising and systematising the operation of buildings and building components.

The operation and maintenance plan describes operational activities and inspection routines required to make the property operate adequately when it has been handed over to the client, including activities to be performed for the client to keep 1-year and 5-year guarantees valid.

The operation and maintenance plan must contain relevant information about the operation and maintenance of the property in question.

Unless otherwise agreed, the operation and maintenance plan must include sections on:

- required operational and maintenance activities, including operational and maintenance routines;
- completion dates for maintenance work on conditions specifying the required state of maintenance for the buildings and listing estimated dates for the replacement of building components and installations; and

- financial resources required to comply with the plan.

For landscape architect work, a care plan may be prepared for the purpose of describing routine work to be performed throughout the year as well as the expected development, over a number of years, of facility vegetation and fixing and special work to be performed in this relation. The care plan specifies the level of quality and maintenance activities for various landscape facilities and individual components, if need be.

The operation of the property must be documented in such a way as to produce a systematic overview of the care plan’s implementation.

The scope and system of documentation must be determined in accordance with the client’s needs.

5.2 IMPLEMENTATION OF OPERATION AND MAINTENANCE PLAN

The client is responsible for implementing the operation and maintenance plan. At the request of the client, the consultant may assist in implementing the operation and maintenance plan drawn up.

An agreement may be concluded to provide assistance in setting up an operational organisation for the property in question.

5.3 ASSISTANCE WITH PROPERTY OPERATION

The client is responsible for the operation of the property. At the request of the client, the consultant may provide assistance in connection with such operation. The purpose of providing assistance is to ensure that the intentions of the operation and maintenance plan are met, that the operation and maintenance plan is updated and that buildings and grounds are maintained in a technically correct manner.

The extent of assistance must be defined for the individual property with reference to the operation and maintenance plan and may comprise:

- maintenance routines such as performing inspections and preparing structural surveys as well as monitoring and managing preventive and corrective maintenance work;
- preparation of maintenance budgets for specified periods;

- assistance in drawing up tender documents, implementing calls for tenders, assessing tenders and managing the performance of maintenance work;
- systematisation of experience gained by the operational organisation;
- clarification of questions from the operational organisation and advice in connection with questions relating to the operation of the property;
- quality assurance of the operation of the property by checking that the instructions specified in the operation and maintenance plan are followed;
- proposals for concluding/terminating service and insurance agreements; and
- proposal for and management of the process of revising the operation and maintenance plan.

For landscape architect work, the consultant may supervise that the intentions of the care plan are followed and that the prescribed routines and work are performed correctly. The consultant can monitor the development of the facility and, in consultation with the client, makes any adjustments to the care plan.

The assistance should be provided through regular inspections, recorded as inspection notes, which make up the log book for the landscape facility.

To the extent agreed upon, the consultant checks that routines are implemented as planned and that the operation and maintenance plan is followed.

6. Fittings, fixtures and equipment consultancy

The consultant may, as agreed between the parties, assist in purchasing standard fittings, fixtures and equipment (fixed/non-fixed) and in adjusting such fittings, fixtures and equipment to functions and technical installations.

The consultant may, as agreed between the parties, also provide assistance in connection with the design, etc., of special fittings, fixtures and equipment.

6.1 Standard fittings, fixtures and equipment

In cooperation with the client, the consultant lays down requirements for standard fittings, fixtures and equipment (fixed/non-fixed) and establishes the extent and nature of such fittings, fixtures and equipment. Cost estimates are prepared in respect of deliverables and are approved by the client.

Depending on the nature and scope of the project, furniture plans may be drawn up according to an agreement.

6.1.1 Purchasing

Quantities to be purchased are described and terms of delivery are drawn up on the basis of the client's information, and a programme is prepared for deliverables.

6.1.2 Calls for tender

If receipt of tenders is considered an advantage, the above material must be supplemented with special rules on the process of inviting tenders.

Following receipt of tenders, a financial statement and a recommendation for supply are prepared for final approval by the client.

6.1.3 Client

The client approves estimates. The client draws up special tender conditions and approves tender documents, invites and approves tenders and signs agreements with suppliers.

6.2 DESIGN OF FITTINGS, FIXTURES AND EQUIPMENT

In cooperation with the client, the consultant lays down requirements for special fittings, fixtures and equipment and establishes the extent and nature of such fittings, fixtures and equipment.

Depending on the nature of the project, a programme may, as agreed between the parties, be drawn up to form the basis for the client's decisions, invitation of tenders, agreement and construction.

6.2.1 Contents

Tender documents are drawn up for inviting tenders, including schedules of rates.

6.2.2 Project

Furniture plans, descriptions, bills of quantities for individual rooms as well as detailed production drawings, diagrams, etc., are drawn up, if required.

6.2.3 Programming

Programmes are drawn up for the design, tender, construction, delivery and installation processes.

6.2.4 Cost management

Estimates are prepared for the individual components of the contract.

The consultant assists in inviting tenders, assesses tenders submitted and makes a recommendation to the client on this basis.

6.2.5 Authorities

The consultant obtains approval from the authorities if the nature of the project requires such approval.

6.2.6 Client

The client approves estimates. The client draws up special tender conditions and approves tender documents, invites and approves tenders and signs agreements with the contractors.

7. Planning consultancy

The consultant may, as agreed between the parties, provide assistance in connection with plans regarded as general plans in relation to building and civil engineering projects. Such assistance may typically be provided in connection with urban development, changes in the existing urban layout as well as landscape planning and adaptation of transport structures.

These plans often form the basis for subsequent building and engineering work.

The different types of planning are listed in 7.1 below, whereas consultancy stages and services in connection with planning are specified in 7.2-7.9 below.

7.1 PLANNING TASKS

Planning tasks comprise the following:

- 7.1.1 Summary plans
- 7.1.2 Sector plans
- 7.1.3 EIA
- 7.1.4 Other tasks

7.1.1. Summary plans

- landscape planning contributions
- regional plans
- local authority plans
- urban policy and strategic planning
- local plans
- area and layout plans
- urban district and centre plans
- general urban renewal
- holiday and recreational areas
- open landscape, etc.
- accessibility routes
- sustainable development

Such summary plans are often physical plans covering all matters within a geographically defined area.

7.1.2. Sector plans

- population trends
- improvement of private and public services
- industrial development (local and regional)
- utilities such as electricity, water and heat
- waste treatment
- protection of nature
- areas of interest in terms of culture history
- development of tourism
- extraction of raw materials
- environmental protection
- traffic planning
- urban renewal, etc.

Sector plans often take the form of action plans and so in many cases form the basis for summary physical planning.

7.1.3 EIA (environmental impact assessment)

- large-scale building complexes
- large-scale infrastructural facilities
- large-scale technical facilities

An EIA is made on the basis of a specific, large project and is an assessment of the environmental impacts of the project in general terms. EIAs take the form of regional plan supplements.

7.1.4 Other tasks

- analyses, for example in connection with location and market conditions
- links between physical, economic, social and cultural planning
- contributions in the form of assumptions for, and preparation of, forecasts and similar projections for the future
- organisation of and participation in public hearing procedures, including organisation and arrangement of competitions
- organisation of and participation in conferences and seminars
- preparation of publications, exhibition materials, etc.
- logistics, for example in connection with design and construction of large transport structures
- preparation of programmes and investment plans
- preparation of action plans
- development work, for example in connection with legislative preparation and drafting of guidelines

Such tasks are usually based on needs established in connection with work performed under 7.1.1-7.1.3 above.

7.2 BRIEF AND WORK PROGRAMME

In cooperation with the client, the consultant prepares a brief as well as a work programme as the basis for an agreement on the services to be provided.

Focus must be on matters serving to specify the agreement between the parties.

Such specification must form the basis for regularly assessing whether the nature or scope of tasks to be performed changes during the process and so whether the agreement needs to be amended.

A brief and a resulting work programme must typically specify the following details:

- the purpose of work
- a description of how to perform work
- a programme as well as a work schedule
- information about any necessary background material such as relevant data and maps
- a specification of services to be provided by the client and the consultant, respectively
- form of presentation and communication
- the extent to which meetings are included in the agreement (and a list specifying such meetings, if required)
- a handing-over agreement, for example for public presentation, final approval by local councils, etc.
- a list of employees likely to work on the project in question and a list of persons responsible to the client

7.3 PREPARATORY WORK

Physical planning is often based on a number of existing conditions. This may generate a need for certain preparatory work such as:

- preliminary inspection
- registrations and measurements
- providing updated data and map material
- collecting and processing new data
- interviews, etc., with representatives and reference groups, if required

7.4 PROBLEM DESCRIPTION

An analysis and an assessment of the existing situation and thus an identification of problems are made on the basis of the material obtained. Such

work may take into account both qualitative and quantitative aspects.

One purpose of the problem description is to establish the interdependence of the various factors relevant to the project in question.

7.5 FORECASTS

As a basis for planning work, forecasts may need to be prepared in cooperation with the client. Such forecasts may be projections based on figures or merely assumptions of future conditions.

7.6 OBJECTIVES

On the basis of elements such as forecasts, one or more draft objectives are formulated – usually in cooperation with the client – for the problems to be addressed in the plan.

7.7 ALTERNATIVE PLANS

It may often be expedient or even necessary to provide alternative proposals to perform the tasks in question. In this case, such arrangements must be agreed with the client. Alternatives must be prepared for EIAs.

7.8 IMPACT ASSESSMENT

To assist the client in choosing between alternative proposals, descriptions of impacts may be drawn up for each alternative proposal. The impacts of alternatives must be described for EIAs.

7.9 PUBLIC COMMENT PROCEDURES

The consultant may assist in completing a public comment phase, if needed.

Such work may comprise preparation of discussion papers, exhibition material, organisation of and participation in public meetings and study groups, preparation of leaflets, etc.

8. 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.

The scope of these services included must be specified in the agreement.

8.1 ASSESSMENT OF BUILDING SITES

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

A report is drawn up, and it may contain an evaluation of

- price of land/property
- zoning
- infrastructure
- possible uses and ground conditions
- soil conditions and environmental aspects
- supplies

8.2 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 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 renovation or rebuilding project.

The registration is updated if the further design process or the physical performance of work alters the present conditions.

8.3 GEOTECHNICAL INVESTIGATIONS

Initial geotechnical assessments based on available existing investigations in the area in

question, supplemented by individual geotechnical drilling and water level sounding, if required.

Development of a programme for geotechnical investigations as a basis for design work, including estimates of such investigations.

Completion 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.

8.4 ENVIRONMENTAL INVESTIGATIONS

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.

Completion 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 remediation and estimates of the costs of such remediation.

Follow-up during the construction phase.

Consideration by the authorities.

8.5 OFFICIAL DUTIES

Preparation of material for and participation in official duties such as inspection and expropriation, including preparation for and negotiations with authorities.

8.6 RISK ANALYSES

Analysis and management of specific conditions subject to risk.

8.7 COST ANALYSES

Calculations of the cost consequences of alternative scenarios, preparation of operating

budgets, preparation of investment plans and profitability calculations.

Preparation of special estimates, including successive calculations, etc., specified and implemented according to the client's special requirements.

Overall financial calculations comprising capitalisation of total construction and operating costs during the lifetime of the relevant buildings.

8.8 INSURANCE

Advice on types of insurance in connection with the design, construction and operation of the buildings, including invitation of quotations, if required, through an insurance broker.

8.9 PROCESS MANAGEMENT/CONSULTANCY

Organisation of user involvement, including holding of special user seminars, etc.

Team building, including holding of workshops, start-up seminars, etc., in connection with the planning and completion of the building project.

Implementation of final evaluations.

8.10 DIGITALISATION OF EXISTING CONDITIONS

This comprises digitalisation of existing buildings and facilities in 2D or 3D models.

8.11 DIGITAL COMMUNICATION

This comprises the use of specific digital means of communication such as project websites, internet websites, telecommunications or video conference systems.

8.12 3D DESIGN

This comprises making one or more digital 3D building models. This includes development and sectioning of the various trades' 3D models (trade models). The 3D models can be used as a basis for digital design, including designs, calculations, analyses and simulations. Moreover, the various 3D trade models can be used as a platform for making one overall 3D building model (shared model) for visualising the connection between the various 3D trade models and for digital consistency checks.

The preparation of ICT services specifications describes the level of detail of each phase, e.g. by using defined information levels.

8.13 SPECIAL VISUALISATION

This comprises development of physical or digital models, architectural photos, photo-realistic visualisation, 3D visualisation, animations, real-time visualisation and interactive presentations.

8.14 DIGITAL TENDERING

This comprises digital handling of the tendering phase, including preparation of structured digital tender documents, selection and handling of tendering portal and assessment of the digital quality of digital tenders received.

8.15 PROVISION OF DIGITAL DATA

This comprises provision of digital project material or digital "as built" material on the basis of specific client requirements.

8.16 COMPLIANCE WITH SPECIAL REGULATORY REQUIREMENTS

Assistance to ensure compliance with requirements in addition to existing requirements contained in legislation, provisions, etc., governing the buildings in question.

Documentation of structural calculations in addition to the provisions of Danish building regulations made by a certified structural engineer and documentation prepared by an independent certified structural engineer.

Assistance to ensure compliance with requirements contained in legislation, provisions, etc., taking effect after the conclusion of the consultancy agreement.

8.17 FIRE

Assistance in connection with making function-based, fire safety calculations, fire strategy plans, escape route and site allocation plans and operation, inspection and maintenance plans.

8.18 ENERGY CONSUMPTION

The provision of energy calculations in addition to requirements specified in the design specification and Danish building regulations.

Ordering an energy certification report to be prepared by an independent energy consultant.

8.19 THERMAL INDOOR CLIMATE

Calculations of thermal indoor climate in addition to the requirements contained in Danish building regulations.

8.20 ATMOSPHERIC INDOOR CLIMATE

Calculations of atmospheric indoor climate in addition to the requirements contained in Danish building regulations.

8.21 NOISE AND ACOUSTIC INDOOR CLIMATE

Calculations and measurements of noise and acoustics in addition to the requirements contained in Danish building regulations, including

- noise measurements
- acoustic calculations

8.22 OPTICAL INDOOR CLIMATE

Calculations and measurements of optical indoor climate in addition to the requirements contained in Danish building regulations, including

- calculations of incoming sunlight and sunlight protection
- calculations in terms of lighting technology

8.23 SPECIAL REQUIREMENTS FOR ACCESSIBILITY

Assistance in ensuring compliance with special accessibility requirements in addition to those contained in Danish building regulations and other legislation.

8.24 ENVIRONMENTALLY FRIENDLY DESIGN

Environmentally friendly design is a strategy pursued for the purpose of ensuring environmentally optimum results within the framework of a building project (such framework to be established by the client). Environmentally friendly design documents that environmental considerations form an integral part of the project.

Assistance in connection with environmentally friendly design may be provided at different levels, depending on the nature of the project and the client's environmental ambitions.

The services to be provided by the consultant are incorporated into the individual stages of the design

phase and may comprise the following main activities:

Environmental screening, programming and planning:

- definition of the client's environmental policy and targets, in general
- definition of the client's environmental policy and targets, according to the specific project
- determination of the level of ambition and allocation of roles for environmentally friendly design in the current project
- mapping of relevant and important environmental impacts and effects likely to be caused by the project during the lifetime and disposal of the relevant buildings
- recommendation of priority action areas or objectives to reduce environmental impacts
- prioritisation of environmental impacts and effects to be reduced through specific action
- determination of scope, documentation, allocation of responsibility and financial limits for environmentally friendly design during the individual design stages

Design:

- an assessment of and proposals for measures
- instructions for how and when measures must be established and incorporated as well as documentation of such incorporation
- preparation of environmental status reports at the end of each individual stage for the purpose of making recommendations for subsequent stages

Construction:

- a description of environmental requirements to be met by the contractors in the current project as well as the scope of supervision to be performed to ensure the effectiveness of the measures incorporated

Operation:

- a description of environmental requirements to be incorporated in operation and maintenance guidelines

8.25 ENVIRONMENTAL MANAGEMENT

The consultant may undertake environmental management responsibilities in connection with design management (2.1) or in the form of separate

services. The services may comprise the following main activities:

- interdisciplinary coordination of environmentally friendly design
- interdisciplinary maintenance of environmental programme and plan
- interdisciplinary environmental review

8.26 HEALTH AND SAFETY

The consultant may undertake to assist the client in its obligations to coordinate health and safety of the building project during the design phases.

The consultant may undertake to assist the client in its obligations to establish and complete a health and safety plan.

The consultant may undertake to assist the client in its obligations to coordinate health and safety of the building project during the construction phase, including updating the health and safety plan.

8.27 SPECIAL TESTS

Completion of laboratory and model testing.

8.28 MEASUREMENTS OF QUANTITY

Preparation of schedules of rates with quantities and measurement of work performed.

8.29 PARTS SUPPLIED BY THE CLIENT

Responsibility for tendering, purchasing and coordination of any parts of the works supplied by the client.

8.30 WORKING AND ASSEMBLY DRAWINGS

Working and assembly drawings are usually made by the individual contractor or supplier. If it is more expedient in the relevant project that the consultant make such drawings, a separate agreement must be concluded with the client in this respect.

8.31 SIGNS

Assistance in connection with signs in addition to signs required by Danish building regulations and other legislation, including the choice and design of signs.

8.32 SALES MATERIAL

Assistance with the preparation of sales and lease material.

8.33 COMPLEMENTARY/ALTERNATIVE PROJECTS AND PROJECT CHANGES

- preparation of complementary projects ordered by the client
- review of alternative projects drawn up by other consultants
- assistance in connection with the implementation of project changes (i.e. redesign work bringing the project to the same level as before the implementation of changes)
- project adjustments as a result of changes introduced by the client

8.34 ARTISTIC DECORATION

Assistance in connection with organisation of and negotiations in respect of artistic decoration.

8.35 PREQUALIFICATION

Assistance in connection with the implementation of a prequalification round.

8.36 NEGOTIATIONS UNDER THE DANISH INVITATION TO SUBMIT TENDERS ACT

Assistance in connection with negotiations to be conducted according to the Danish Invitation to Submit Tenders Act.

8.37 EU PROCEDURES

Assistance in connection with the implementation of procedures in accordance with EU public procurement directives.

8.38 NEGOTIATIONS UNDER EU PUBLIC PROCUREMENT DIRECTIVES

Assistance in connection with the implementation of negotiations in accordance with EU public procurement directives.

8.39 "AS BUILT"

'As built' services are services to be provided to bring the project material to a level where such material and the currently completed project are consistent with one another. The level of such consistency is agreed for the current project in accordance with PAR's and FRI's description of services for "*Som udført*", 2000.

8.40 DETAILED PROGRAMMES

Preparation of detailed programmes in addition to those described during the individual stages and phases.

8.41 INCREASED QUALITY ASSURANCE

Assistance in connection with quality assurance comprising client requirements of increased or special internal quality assurance in the form of organisation and documentation of internal quality assurance as specified by the client in connection with the design and construction processes.

The consultant prepares draft technical supervision plans.

The consultant establishes on a spot check basis that the contractors comply with the approved quality control plans and that documentation is drawn up and handed over as agreed.

The consultant collects the quality documentation provided.

8.42 CHANGE OF CONSULTANT

If there is a change of consultants during the design process, the new consultant will review and check the documentation provided by the previous consultant.

8.43 SPECIAL MEETING ACTIVITIES DURING THE DESIGN PHASE

Assistance in connection with special meeting activities such as preparation of material for and participation in client/user meetings, including general meetings, board meetings, political meetings and public meetings where the client's representative participates.

8.44 SPECIAL MEETING ACTIVITIES DURING THE CONSTRUCTION PHASE

Holding of special start-up, coordination and technical meetings.

Participants may be project follow-up, construction management and technical supervision staff.

8.45 INCREASED TECHNICAL SUPERVISION

Assistance in connection with technical supervision in addition to supervision responsibilities as described in 4.2.

In each case, the need for increased technical supervision must be assessed on the basis of the nature of the project and the qualifications of the contractors to perform adequate checks.

8.46 KEY PERFORMANCE INDICATORS

Provision of data for key performance indicators and provision of evaluations in addition to the specifications contained in the relevant Danish executive order.

8.47 DISPUTES

Assistance in connection with legal disputes between the client and contractors or suppliers, work stoppages by the contractors, completion statements, inspections and surveys and suspension of payments, insolvency or liquidation by the contractors.

8.48 FIVE-YEAR INSPECTION

Inspection is performed according to the guidelines laid down by the Danish Building Defects Fund or according to agreement.

Services may also include technical assistance in connection with 5-year inspections performed by other consultants.