



مدیریت ادعاء و اختلافات در طول چرخه حیات پروژه

بخش دوم:

برنامه ریزی استراتژیک در فاز قبل از طراحی (Pre-Design Phase) برای مدیریت ادعاء و جلوگیری از دعاوی و اختلافات در پروژه

ارائه دهنده:

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دانشگاه Illinois Tech آمریکا

What we will learn?

- ❑ Real time claims management
- ❑ Claim management in pre-design phase
 - ❖ Introduction
 - ❖ Recommended framework of pre-design phase related to claim management
 - ✓ Concept development
 - ✓ Value planning
 - ✓ Program development
 - ✓ Risk management
 - ✓ Professional services procurement, documented development, and review
 - ✓ Program/project standards
 - ✓ Project team training

Real Time Claims Management



Introduction

Based on PMBOK Extension

❑ The **goal** for claims management is to

1. **Prevent claims** and,
 2. **If not**, to **resolve them** at the **earliest opportunity** for the least cost and least disruption to the project.
- ❖ **To do so**, one should first be able to **recognize potential claim situations**, either **contractual** or **performance-based**.
- Recognizing potential claim situations starts with sufficient knowledge of
 - Planning processes
 - Project scope
 - Contract requirements

Having a thorough project management plan is a fundamental component and the most important factor in claim prevention.





Introduction

Do you remember this from first session?

❑ An active program of

1. **Claims**
2. **Change order**

identification and **notification** is the only way to inform the owner of **adverse or potentially adverse** job conditions.



Real time claims management

Based on PMBOK Extension

- ❑ The **basic concept** of **Real-Time Claims Management** is to **establish**,
before the **Project starts**,
a **program** that is aimed at
 1. **Identifying problems** as **early as possible**
 2. **Resolving** them as **quickly as possible**

What does it require?



Real time claims management

- ❑ It requires that Project participants
 1. **“War game”** the project before it **starts** and
 2. **Identify** as many **potential problem** areas as they can.
- ❑ Once the **potential problem areas** are **identified**,
the participants then **develop a game plan** and specific approaches to
*prevent these problems from occurring and to manage them
expeditiously if they **do occur**.*

*The overall attitude is that the Project participants will **resolve their problems**
rather than seek a resolution from a judge or jury.*

Real time claims management

What is the difference between owners and contractors in this figure?



Real time claims management

Owner's goals

- ❑ For Owners, program goals are established and monitored.
- ❑ These goals can include initiatives to
 - (1) Make each project "claim-resistant,"
 - (2) Mitigate potential **contract problems** during construction,
 - (3) Remove **contract administration inconsistencies** for **multiple** project programs,
 - (4) Facilitate the **timely resolution** of any claim issues.



Real time claims management

Contractor's goals

- ❑ For Contractors, **goals** can include initiatives to
 - (1) Implement **best practices** for scheduling and change administration
 - (2) Implement effective documentation practices,
 - (3) Satisfy **contract requirements** for changes, claims, and time extensions.



Real time claims management

In both cases, the effective handling of changes and claims calls for advanced preparation and a coordinated strategy in four areas:

1. *Claim avoidance*
2. *Claim mitigation*
3. *Claim evaluation*
4. *Claim resolution*



Real time claims management – Conclusion

The practice of Real-Time Claims Management has been **recommended** by all protocols.

Most often, independent assistance is required when a **delay dispute** goes to arbitration or trial, however at that time the **costs** and **time** will be increased.

Applying the same level of expertise **much earlier** becomes a tool for **prevention** and resolution.

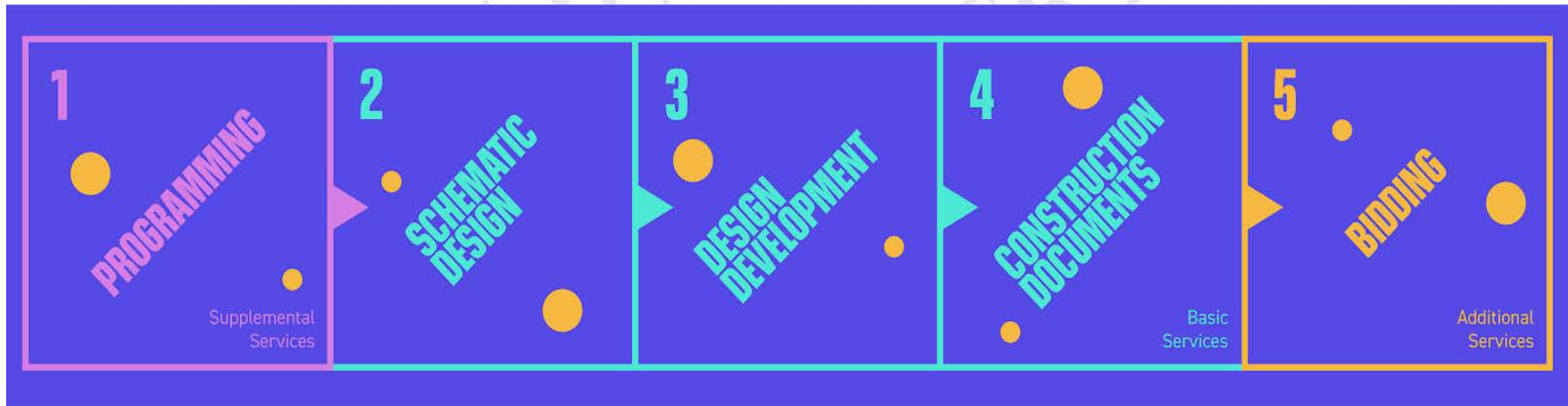
This is far more cost-effective approach to the problem of construction claims



Claim Management in Pre-Design Phase

Introduction

- ❑ At the **earliest stages** of a project, *when developing the initial concept*, **decisions** and **preferences** that are implemented can influence **disputes or claims**.
 - ❖ Therefore, the **belief** that **only the decisions** made **during design and construction** may lead to disputes is **mistaken**.





Introduction

❑ The **first step** that is the **programming or the pre-design phase**, is for **problem-seeking**.

- ❖ During this time, you are determining the **scope of work** to be designed.
- ❖ You will mainly **ask your client** questions to gain an understanding of their **problems, wants, and needs**.

Who is responsible for programming?

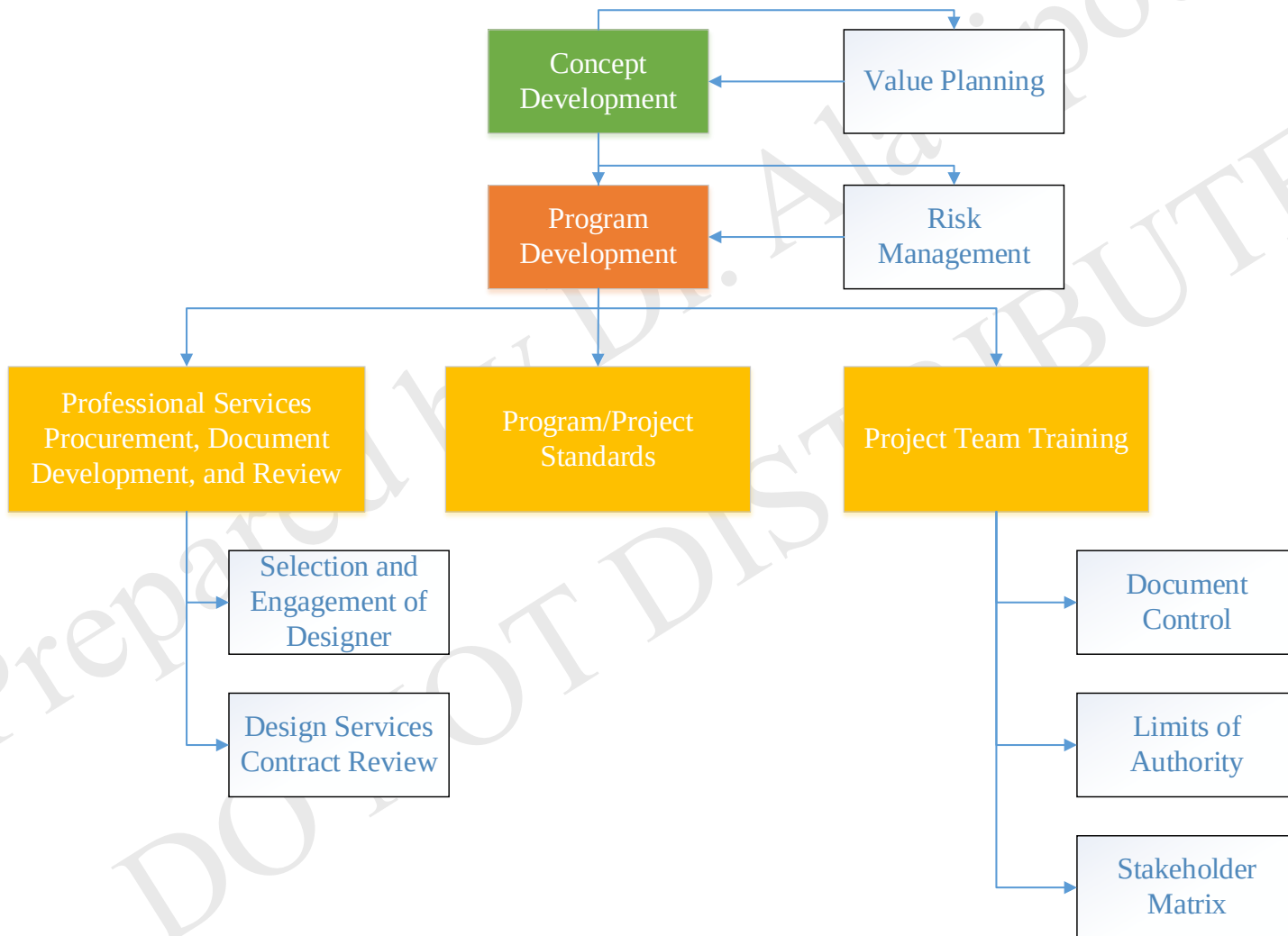


Introduction

- ❑ According to the standard **American Institute of Architects (AIA)** agreements, the **owner** is **responsible** for the programming phase.
 - ❖ Sometimes they will do this phase **themselves**.
 - ❖ Usually, they will hire a programming **consultant (AE or CM)**.
 - ✓ **Most architects/CMs** will offer **programming services** in addition to their services.

*This is considered to be an **additional service** or **add-on**.*

Recommended framework of Pre-Design phase related to claim management





Concept development

❑ An **important step** towards the certainty of a **successful project** is the **confirmation at the outset** of a **common understanding** of all project aspects by **all parties**.

❖ The **CM** should **lead this effort**. Questions may include:

1. *What are the owner's goals for the project?*
2. *What is to be built?*
3. *Who has responsibility for each part of the project?*
4. *In what duration must the project be completed?*
5. *How is risk shared between the parties?*

➤ This understanding should begin when the project is first conceived. If the understanding and expectations differ amongst the project participants at the outset, then the project is at risk since one or more elements – scope, schedule, and budget – may already be compromised.

Concept development

Major Considerations for Need Analysis of a Construction Project

Sr. No.	Points to Be Considered
1	Is the project in line with the organization's strategy / strategic plan and mandated by management in support of a specific objective?
2	Is the project a part of a mission statement of the organization?
3	Is the project a part of a vision statement of the organization?
4	Is the need mandated by a regulatory body?
5	Is the need for meeting government regulations?
6	Is the need to fulfill the deficiency / gap of such type of project(s) in the market?
7	Is the need created to meet market demand?
8	Is the need to meet the research and development requirements?
9	Is the need for technical advances?
10	Is the need generated to construct a facility / project that is innovative in nature?
11	Is the need aiming to improve the existing facility?
12	Is the need a part of mandatory investment?
13	Is the need to develop infrastructure?
14	Is the need necessary to serve the community and fulfill social responsibilities?
15	Is the need created to resolve a specific problem?
16	Is the need going to have an effect on the environment?
17	Does the need have any time frame to implement?
18	Does the need have financial constraints?
19	Does the need have major risks?
20	Is the need within the capability of the owner / client, either alone or in cooperation with other organizations?
21	Can the need be managed and implemented?
22	Is the need realistic and genuine?
23	Is the need measurable?
24	Is the need beneficial?
25	Does the need comply with environmental protection agency requirements?
26	Does the need comply with the government's health and safety regulations?

Source: Abdul Razzak Rumane (2013), *Quality Tools for Managing Construction Projects*, CRC Press, Boca Raton, FL. Reprinted with permission from Taylor & Francis Group.

Concept development

Need Statement

Sr. No.	Points to Be Considered
1	Project purpose and need a. Project description
2	What is the purpose of the project? a. Project justification
3	Why is the project needed now?
4	How is the need of the project determined? a. Supporting data
5	Is it important to have the needed project?
6	Whether such facility / project is required?
7	What are the factors contributing to the need?
8	What is the impact of the need?
9	Will the need improve the existing situation and be beneficial?
10	What are the hurdles?
11	What is the time line for the project?
12	What are funding sources for the project?
13	What are the benefits of the projects?
14	What are the environmental impacts?

Source: Abdul Razzak Rumane (2013), *Quality Tools for Managing Construction Projects*, CRC Press, Boca Raton, FL. Reprinted with permission from Taylor & Francis Group.

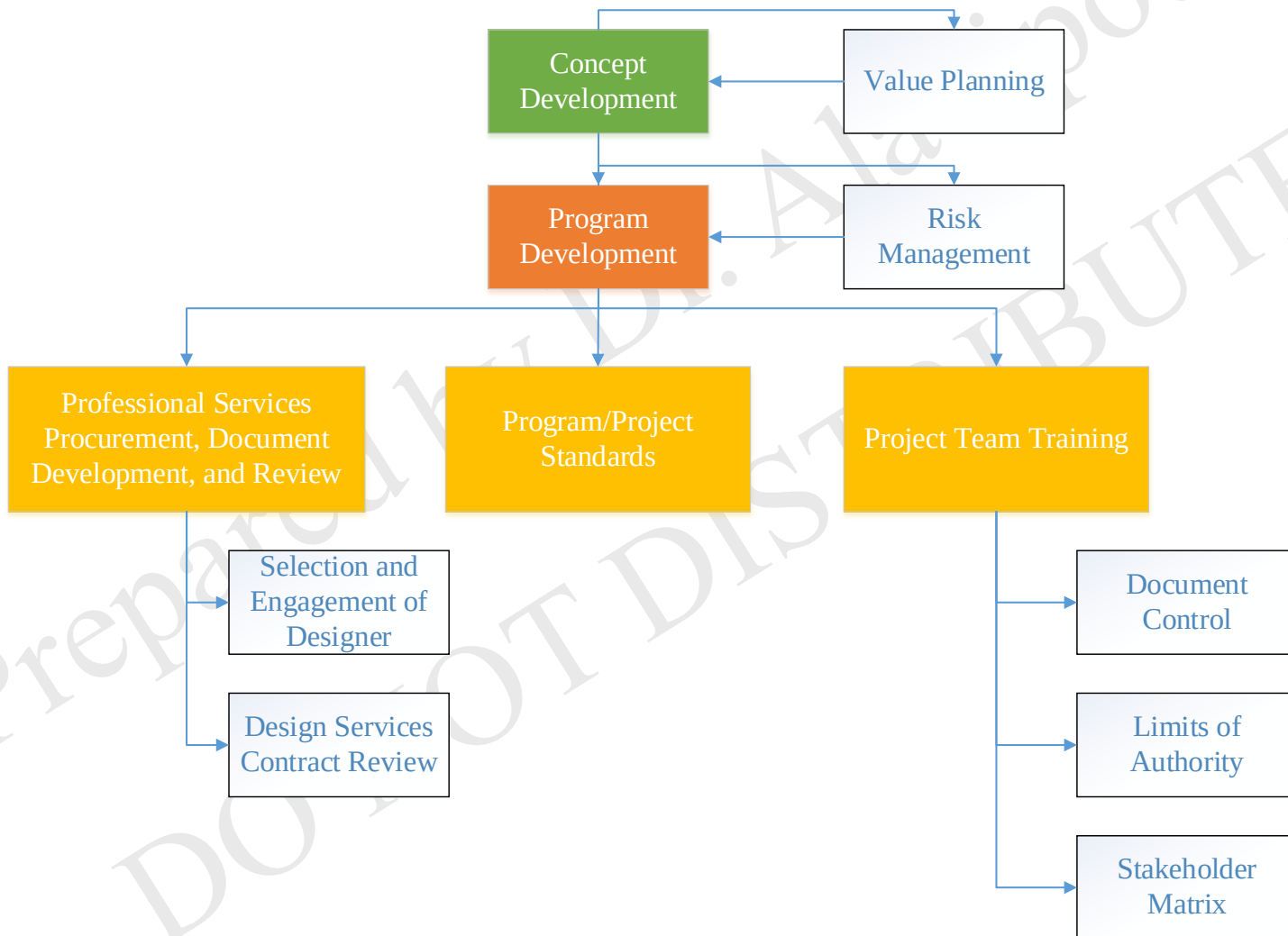


Concept development

- ❑ As the **project concept is further refined**,
additional information enables developing a **more accurate conceptual** project definition, **schedule**, and **budget**.
- ❑ The **CM** should **determine** if there is an **imbalance** between **scope**, **schedule**, and **budget** at this point.
 - ❖ The **imbalance** should be **reconciled** by either
 - *Increase to the budget*
 - *Reduction in scope*
 - *Adjusted project duration*

Identifying this imbalance and taking the **appropriate corrective measure** is perhaps the **earliest opportunity** for **claims avoidance** by the CM on the owner's behalf.

Recommended framework of Pre-Design phase related to claim management



Value planning

While the concept is being developed, the **CM** may recommend that **value planning** be undertaken to **guide the selection** of appropriate techniques, materials, and methods for the location and budget.

❑ Value planning can **minimize**

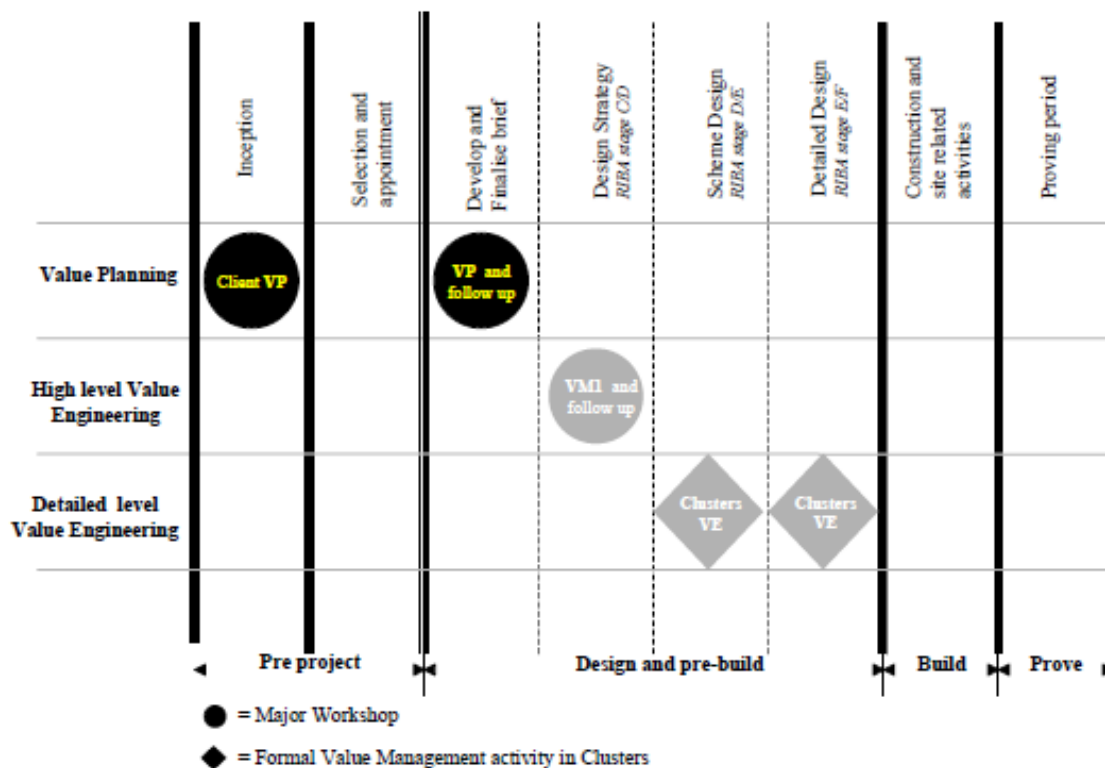
1. Need to engage in **major value engineering** after design is advanced
2. Provide claims avoidance suggestions

❑ Value planning also assesses **local contractor pool experience**.

❖ *For example, selecting construction techniques that are not commonly used in a particular area or industry*

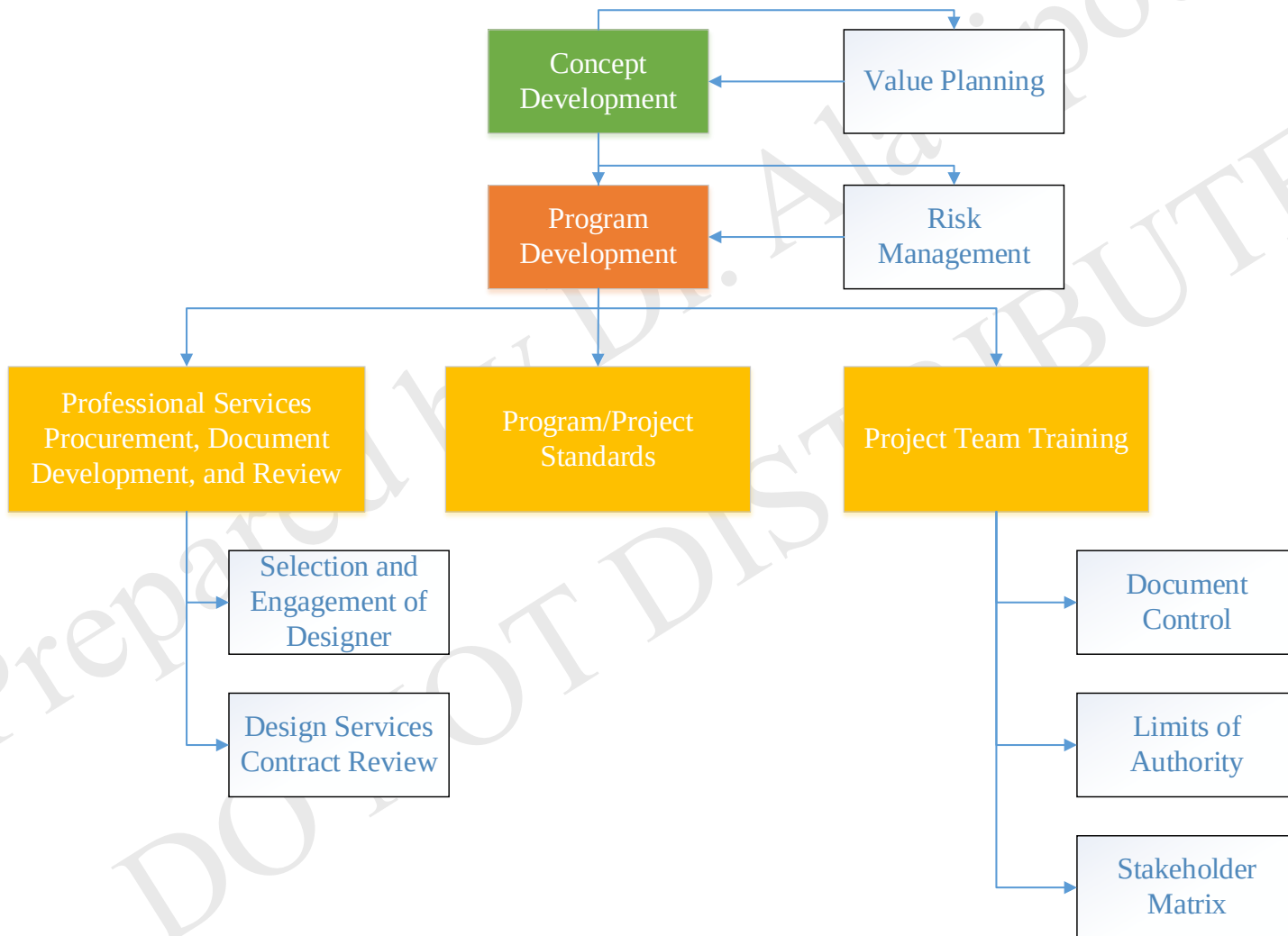
*may **create circumstances** that increase the **potential** for installation problems and difficulties that can increase the **risk of claims**.*

Value planning



[See File #2-1](#)

Recommended framework of Pre-Design phase related to claim management





Program development

Once the project concept is established, a **more detailed program** is developed.

□ Since

project is still conceptual, the **design details** are not yet determined,

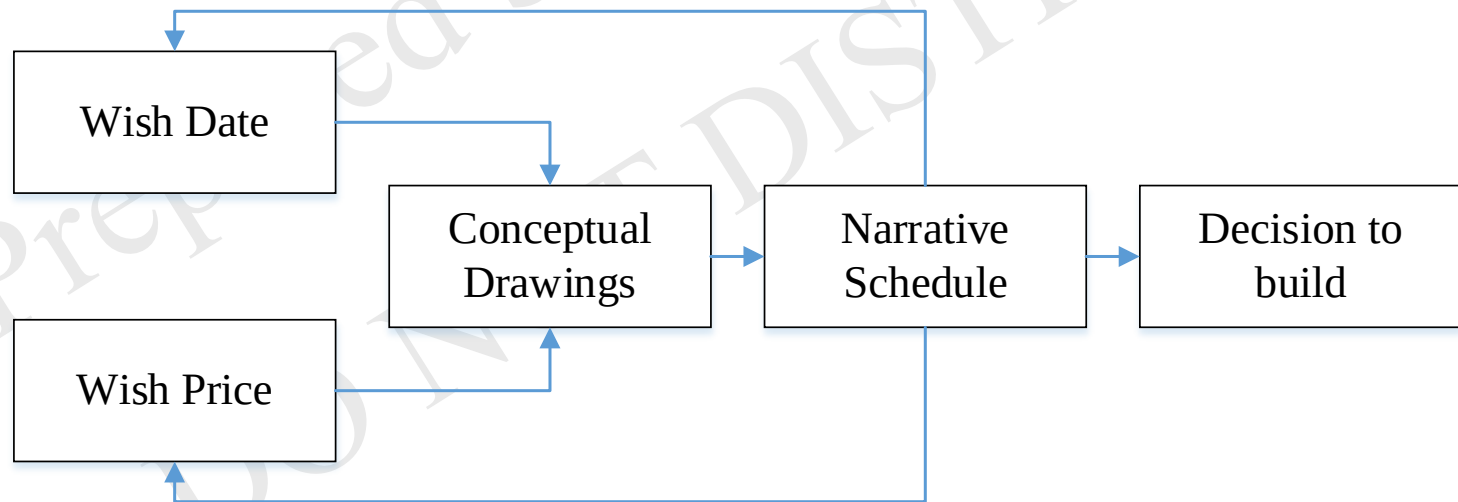
only general categories of **cost budgets** can be established to develop and track project costs.

As in the case of concept development, the **CM** should

1. **Confirm the balance**
2. **Conformance** between the project scope, schedule, and budget

Program development

- ❑ As the **conceptual schedule** is **further developed** to reflect decisions made, **CM** should identify **key project milestones** and **key decision points** to include in the project schedule.
- ❑ **With each step** in the process of program development, the **project scope** and **budget** are further defined.





Program development

- ❑ As this process continues, the **project schedule** becomes an **integral part** of decision making.

Identifying, scheduling, and facilitating timely owner decisions is

***key to disputes** and **claims avoidance** and*

*requires **strong and supportive leadership** by the **CM**.*



Program development

- ❑ The CM should develop a **conceptual budget** that addresses **possible variations**
 - ❖ *The CM should prepare a **conceptual budget** in the format of **multiple “what if” scenarios**.*
- ❑ The CM should **advise** the owner to include **sufficient contingency** in the conceptual budget to adequately address the **impact of final design decisions** and **market conditions** that are **not yet fully determined**.
 - ❖ The **project contingency** should also consider the **known risks**.
 - ❖ The **absence of such contingency** will potentially **increase** the **occurrence of disputes and claims**.

Risk Management

❑ On larger time-sensitive construction programs,

many public agencies, private Owners, and Contractors have instituted ***coordinated measures*** aimed at preempting and mitigating claims and disputes.

These claims-focused risk management programs have proven to be **extremely** cost-effective.

Risk Management

❑ At the **earliest stages of a project**, the **CM** should develop a **risk register**

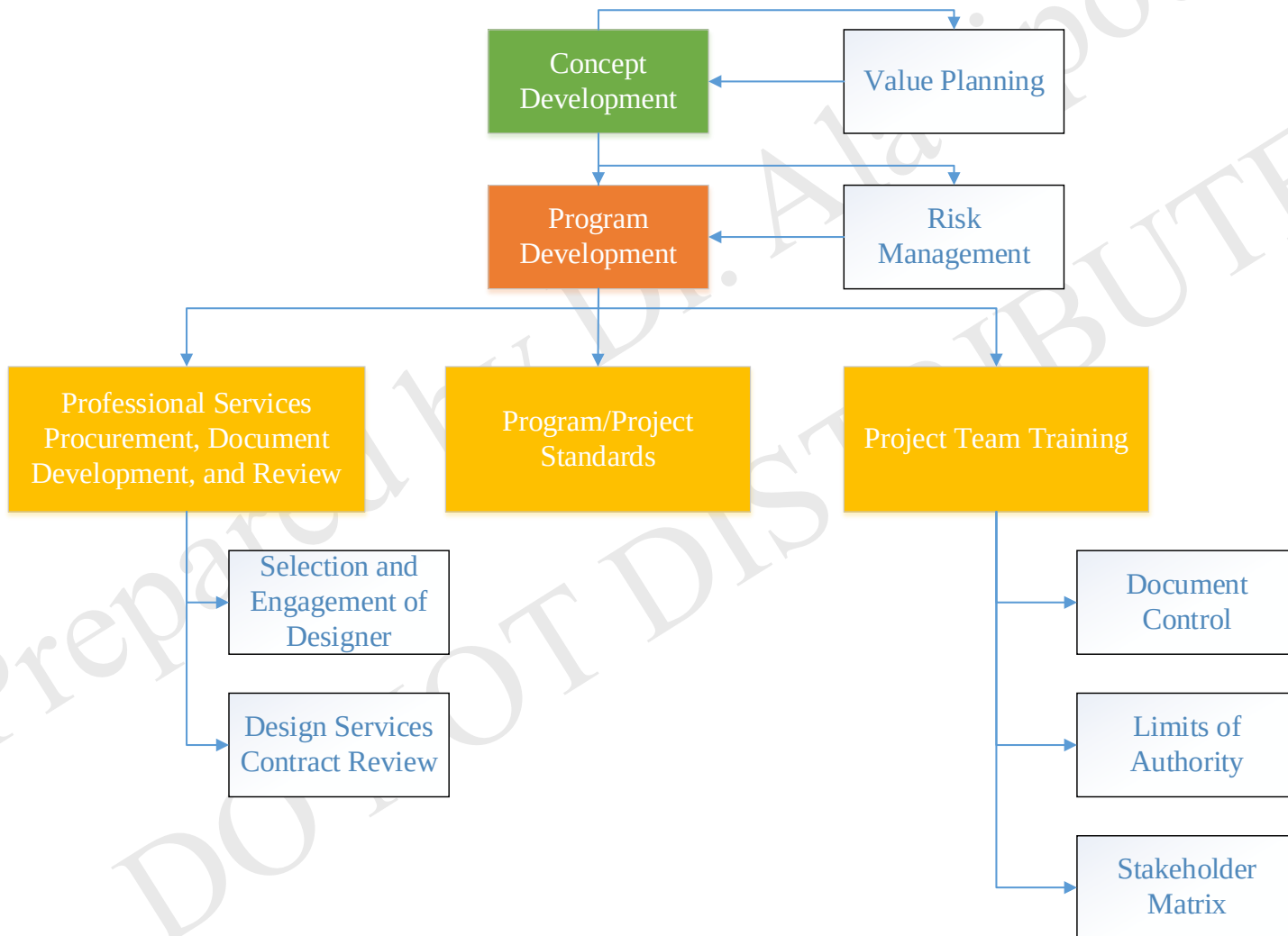
that is **reviewed** with the **owner** and **project team**

1. Understanding each risk,
2. More importantly, developing an appropriate and realistic risk mitigation strategy **minimizes the potential impact** of such risks to the project **scope**, **schedule**, and **budget** later in the project.

Score	± 1	± 2	± 3	± 4	± 5
Probability	< 10%	10%-49%	50%-74%	75%-90%	> 90%
Cost	< \$30k	\$30k - \$99k	\$100k - \$299k	\$300k - \$1m	> \$1m
Time	< 2 weeks	2-4 weeks	1-2 months	2-4 months	> 4 months
Quality	Minimal rework	< 5% rework	5%-14% rework	15%-30% rework	> 30% rework
Overall Score	< ± 3 (low)		± 3 - ± 9.5 (medium)		> ± 9.5 (high)

Project Name										Cost	< \$30k	\$30k - \$99k	\$100k - \$299k	\$300k - \$1m	> \$1m				
Project Risk Register										Time	< 2 weeks	2-4 weeks	1-2 months	2-4 months	> 4 months				
Rev: 7 (Updates for risk responses)										Quality	Minimal rework	< 5% rework	5%-14% rework	15%-30% rework	> %30 rework				
Date: May 31, 2024										Overall Score	< ± 3 (low)		± 3 - ± 9.5 (medium)		> ± 9.5 (high)				

Recommended framework of Pre-Design phase related to claim management



Professional services procurement, document development, and review

- ❑ After the **project concept** is **clearly developed**,
*the CM leads discussions among the project team to
consider **possible alternative project delivery method options**
such as design-build or CM at-risk.*
- ❑ If a **decision** is made by the **owner** at that time to use an **alternative project delivery method**,
the **CM** **assists the owner** in establishing **requirements** for the **design criteria**
or **preliminary design**.

Professional services procurement, document development, and review

- ❑ **Even at this early stage**, it is **critical** that a **clear understanding** of the project is **confirmed** through the development of these documents,
led by the CM,
to ensure the critical balance of scope, schedule, and budget.

*Otherwise, the **potential for unplanned changes** to address **these imbalances** exists and could **increase the likelihood of disputes or claims**.*

Professional services procurement, document development, and review

1. Selection and engagement of designer

- ❖ The **CM** may be required to **assist** the **owner** in the **procurement of the design** professional needed to develop the **conceptual design**.
- ❖ The **selection process** for **design professionals** should be on a **qualifications basis** with **costs** being a **secondary consideration**.
- ❖ The **capabilities and expertise** of the **designer** and their design deliverables has a **direct impact** on
*likelihood of **conflicts**, **errors**, **omissions**, or other circumstances that*
may lead to **claims** at later points in the project.

Professional services procurement, document development, and review

2. Design services contract review

❖ The **scope of work** for the **conceptual designer** must be developed in accordance with

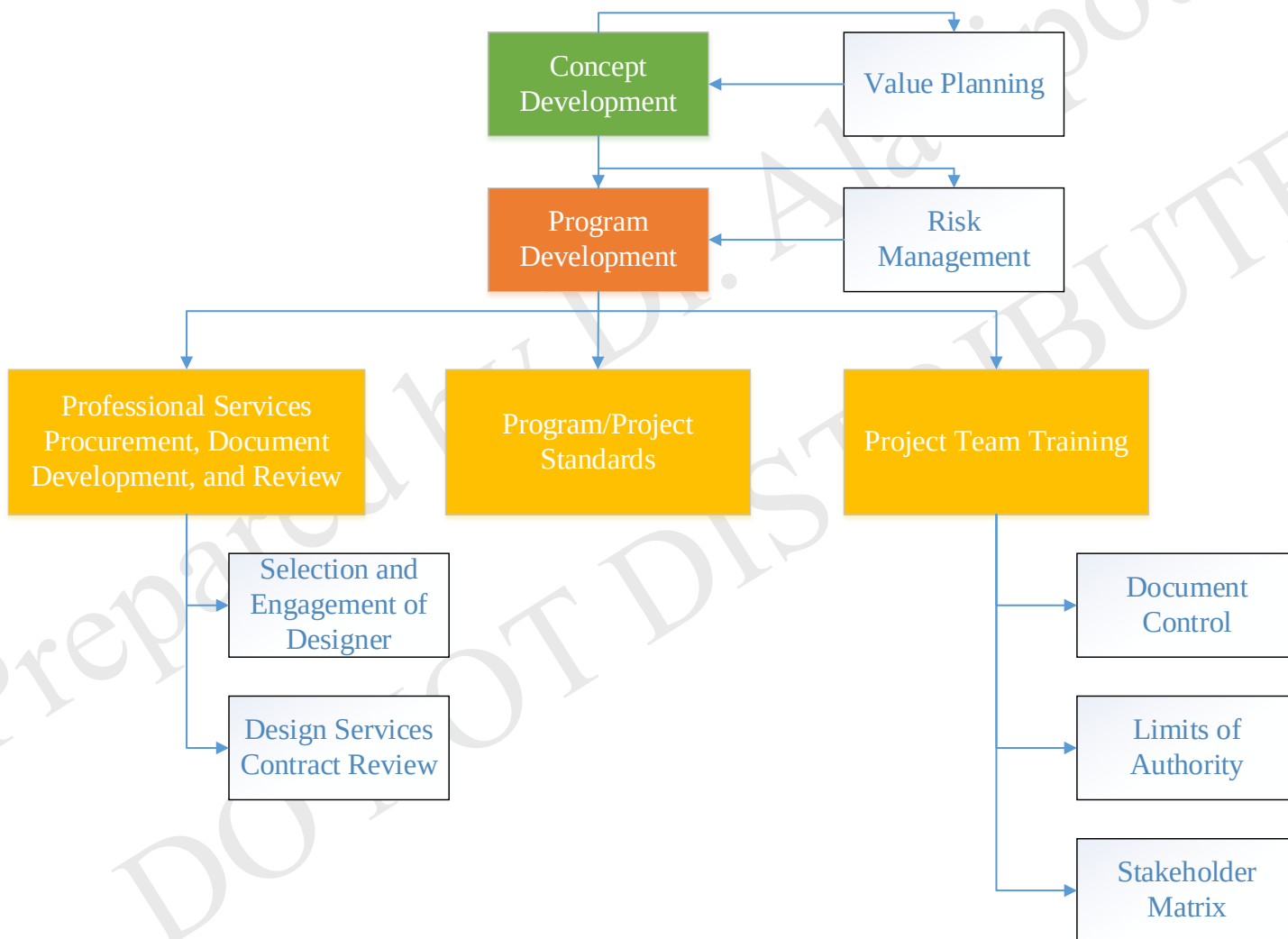
- ✓ Established conceptual plan
- ✓ Project delivery method (if selected)

and be properly **included in the draft design agreement.**

It is recommended that an industry standard suite of contract documents be utilized to ensure that all appropriate terms and conditions are included and coordinated between the different contracts.

- ❑ **AIA Document B101-2017:** Standard form of Agreement between Owner and Architect

Recommended framework of Pre-Design phase related to claim management



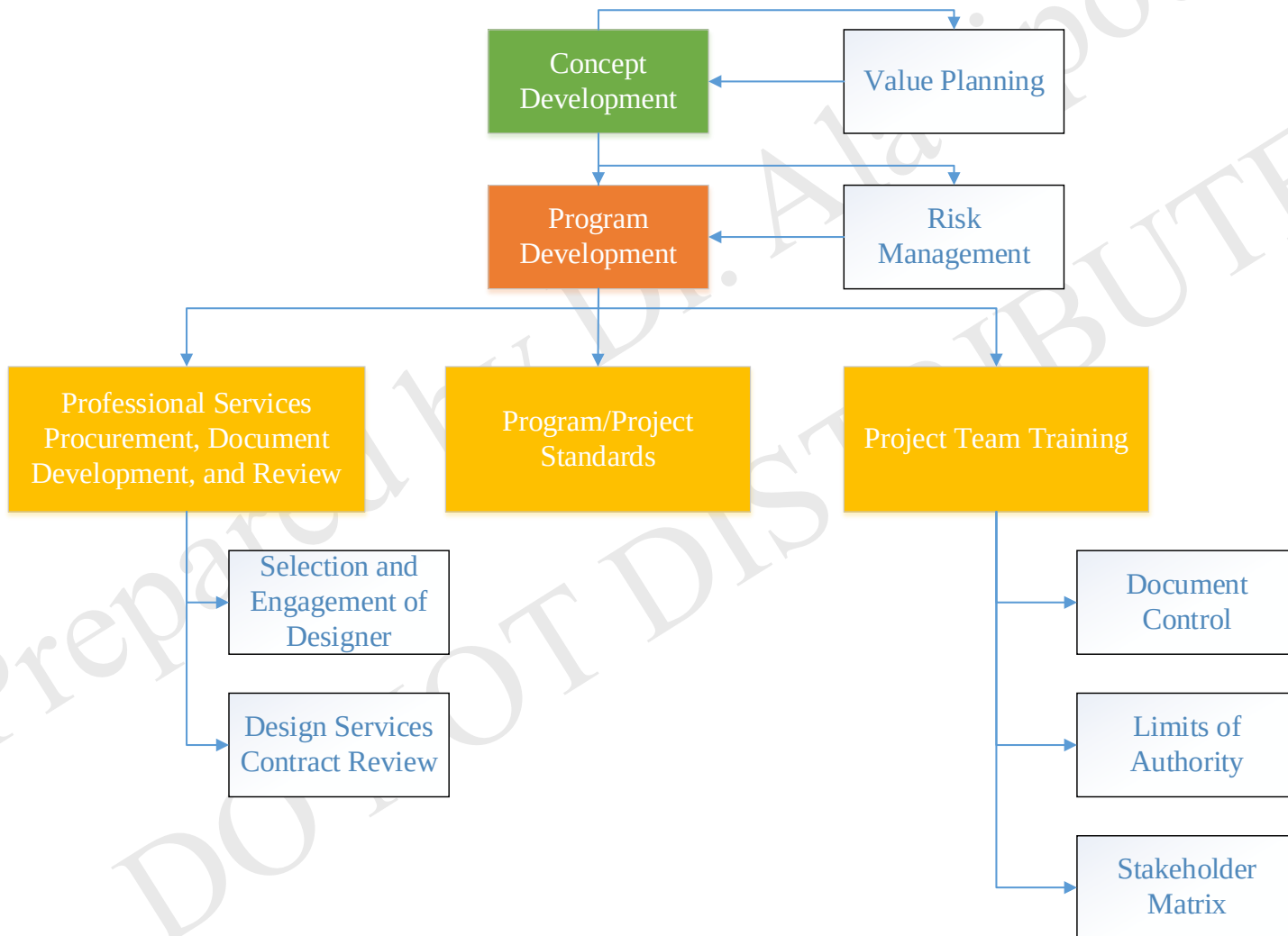
Program/Project standards

- ❑ Minimum design standards and criteria for the project/program should be **established and agreed** upon by all parties during the pre-design phase.
- ❑ The CM should assist in establishing a responsibility matrix for review and approval of **design submittals** to be implemented during design development.
- ❑ Establishing design standards and criteria and a clearly defined design review and approval process **before** the **design begins** in earnest, is critical to the **timely completion** of the design phase.
 - ❖ Otherwise the project may be forced to recover the time in a *later phase, likely at the* expense of either scope or cost, or both.

Program/Project standards

See Files #2-2 and #2-3

Recommended framework of Pre-Design phase related to claim management



Project team training

- ❑ The **project team** should be **informed** of **project scope**.
- ❑ The **project team** should **understand** the **owner's management approach**, philosophy, goals, and objectives.
- ❑ The **project team** should also be **trained** on the **policies and procedures** that are being **developed** by the **CM** or are **currently used by the owner**.
- ❑ This **training** should be **provided by the CM** and include the following areas:
 1. **Document control**
 2. **Limits of authority**
 3. **Stakeholder matrix**

Project team training

1. Document control

☐ The **procedure** should include **how** all documents will be

- ❖ Accepted
- ❖ Reviewed
- ❖ Transmitted
- ❖ Stored

Project team training

2. Limits of authority

- ☐ An **authority matrix** should be developed to indicate the **approval** required for any kind of document.
- ☐ This matrix should clearly indicate the **title of the required approver**
 - ❖ Design professional, the CM, or the owner?
- ☐ Clear **limits** and **assignment** of responsibility help to **avoid delay** and **uncertainty** in the decision-making process, which also assists in **avoiding disputes and claims.**

Project team training

3. Stakeholder matrix

- ☐ During the training process, the team should develop a **stakeholder matrix** that includes all parties that are included in one or more contracts, involved in:
 - ❖ Project approvals
 - ❖ Permits
 - ❖ May otherwise be affected by or have an interest in the project
- ☐ The **matrix** should include all possible interests of the stakeholders and the levels of influence on project success.
- ☐ This **matrix** should be used and **updated** through the project
- ☐ **Overlooking** or **omitting** a **key stakeholder** introduces the possibility of delay or changes to the project.



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بخش سوم:

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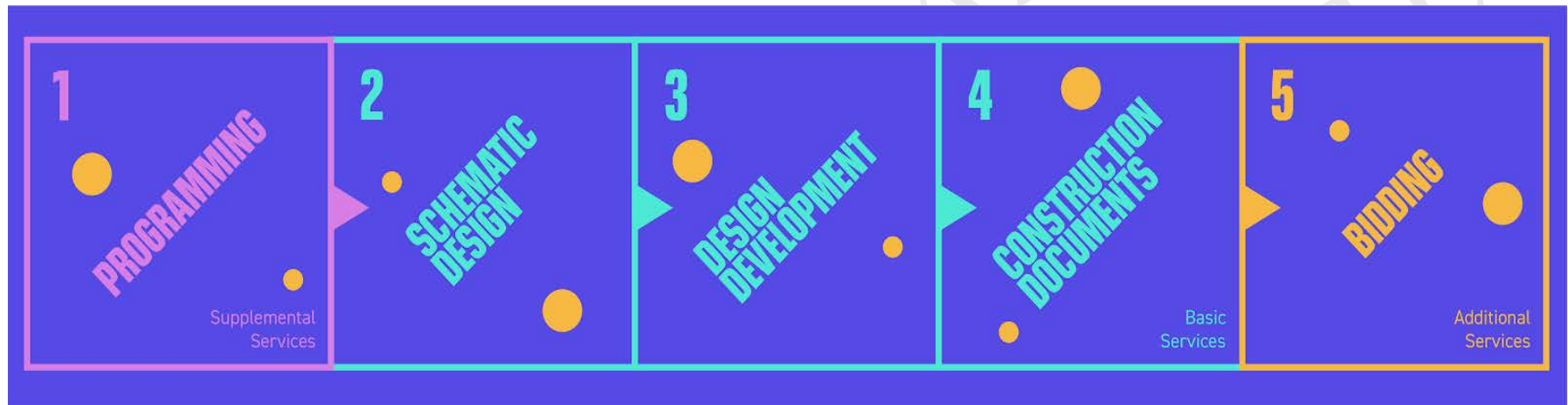
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What we will learn?

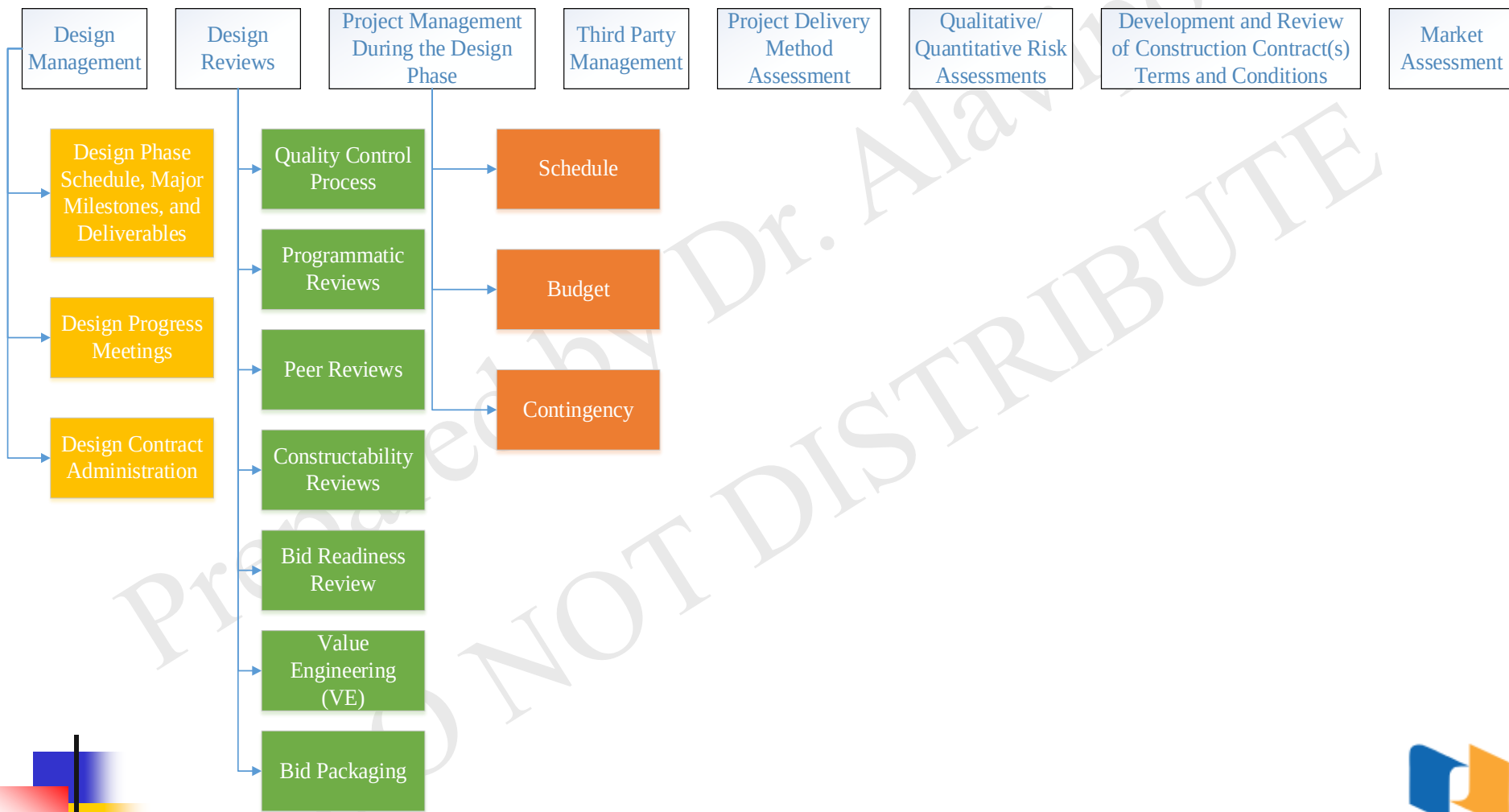
- ☐ Claims management planning
- ☐ Design management
- ☐ Design review
- ☐ Project management during the design phase
- ☐ Other parts of project management
- ☐ Contract documents
- ☐ Development and review of construction contract(s) terms and conditions

Claims Management Planning

Introduction



Recommended framework of Design phase related to claim management



Contract Documents



Importance of contract documents

- ❑ Many forms of contracts are used to make sure that the **owner's objectives** are achieved.
- ❑ The **American Institute of Architects' (AIA)** documents are used **extensively** throughout the construction industry.
- ❑ **Other types of contract forms** are available from trade organizations such as the **Associated General Contractors of America** and **FIDIC**.
- ❑ Whatever forms are used,
it is important to understand that they are **only a starting point** and
CM/GCs lawyers must **review them** for potential risks and
applicability to the project at hand.



Importance of contract documents

❑ The Construction Manager (CM)/PM must also **review** and **understand**

- ❖ All construction contracts
- ❖ Associated general conditions
- ❖ Supplemental conditions.

They are the real “teeth” of the contract.

if a law or organization has **teeth**, it has the power to make people obey it

When a contract is **initially read**,

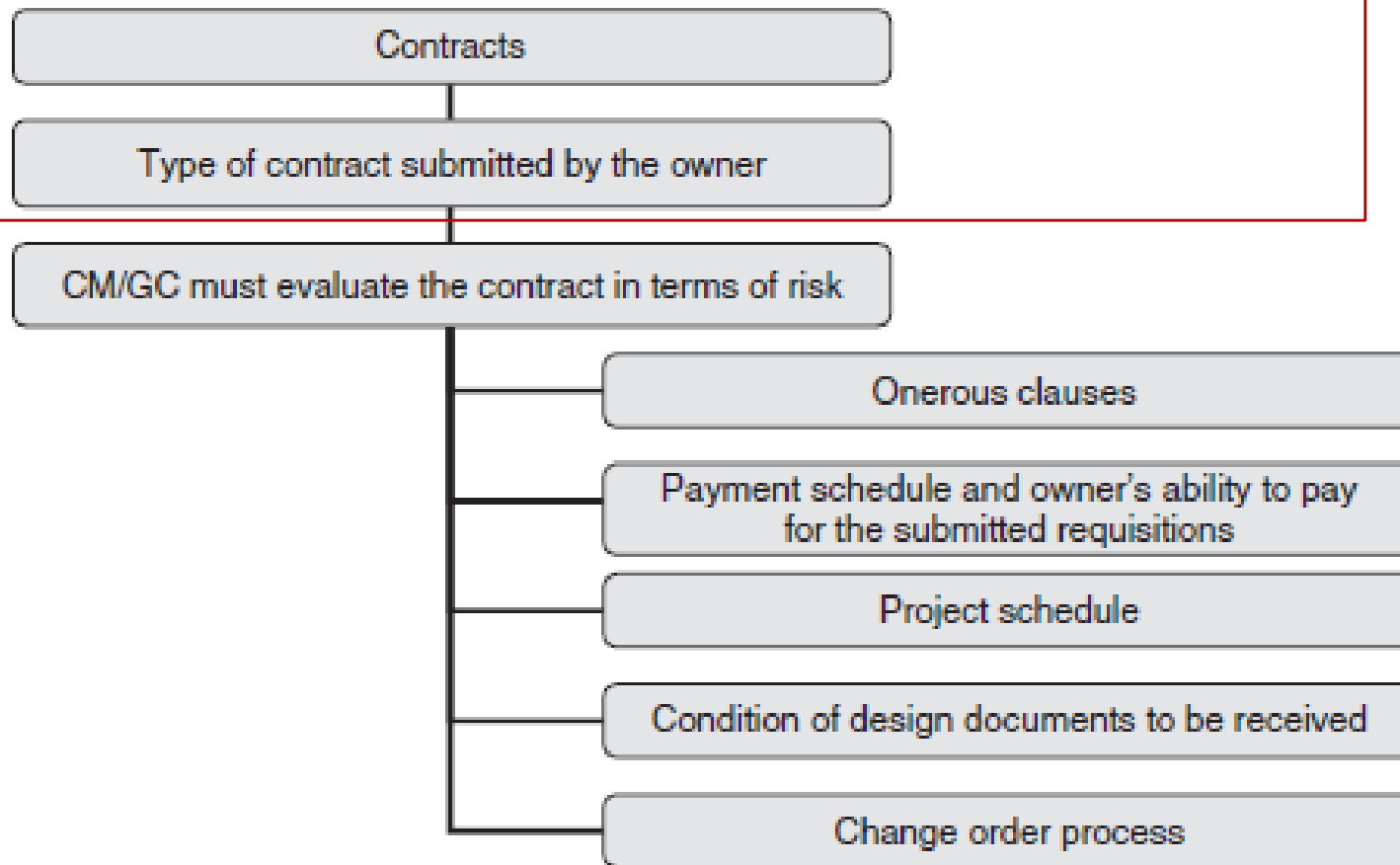
not all of the elements are understood.

*All PMs should read the contract **several times**.*

when a problem arises, the first document to come out is the contract



Preparing for contract risk management





The American Institute of Architects

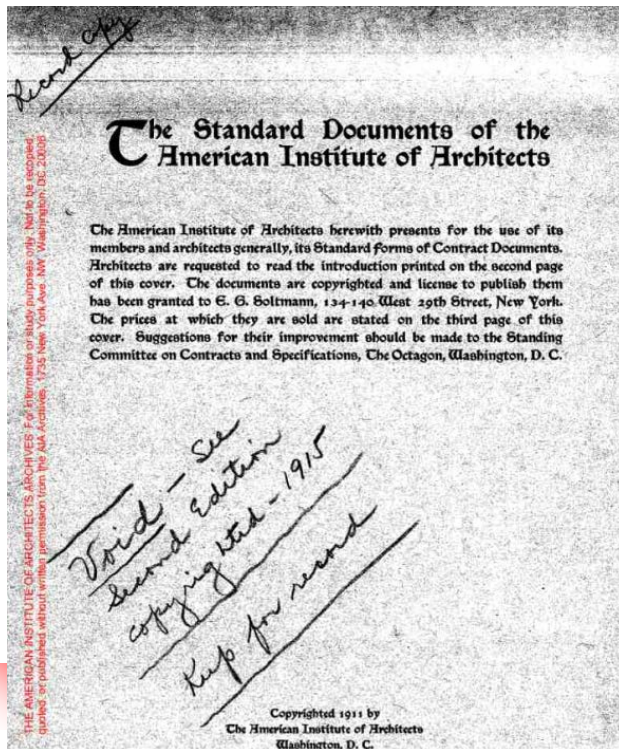
موسسه معماران آمریکا (the American Institute of Architects) یا AIA، در سال ۱۸۵۷ در نیویورک آمریکا و به دست ۱۳ معمار تاسیس گردید. شاید بتوان این موسسه را یکی از قدیمی‌ترین موسسات دنیا در حوزه صنعت ساخت دانست. در ابتدا هدف از راه‌اندازی این موسسه، کمک به سرمایه‌گذاران و کارفرمایان برای انتخاب معماران بود، اما به مرور خدماتش را به بخش‌های مختلف قراردادی، مدیریت پروژه، مدیریت سازمانی و مدیریت کسب‌وکار توسعه داد و با بیش از ۹۵ هزار عضو، امروزه یکی از توانمندترین موسسات دنیا در زمینه اقدامات قانونی و نظارتی پروژه‌ها است و با استفاده از مشارکت فعال اعضای خود در آمریکا، اقدام به سیاستگذاری حقوقی برای پروژه‌ها می‌نماید.

یکی از نقاط قوت AIA، نفوذ در بخش‌های دولتی آمریکا و تلاش برای تعیین سیاست‌هایی شایان توجه در حوزه مدیریت پروژه‌ها بوده است که موفقیت‌های مختلفی را نیز در پی داشته است؛ توسعه ساختمان‌های مقرون به صرفه برای ساکنان آمریکا یکی از دستاوردهای سیاست‌های پیشنهادی AIA تلقی می‌شود.

ارائه اولین قراردادهای ساخت توسط موسسه AIA

شاید بتوان موسسه AIA را جزء اولین موسسات در دنیا دانست که برای صنعت ساخت **قراردادهای همسان** ارائه نموده‌اند. موسسه AIA، برای اولین بار در سال ۱۸۸۸ قرارداد یک‌پارچه‌ای را برای کارفرما و پیمانکار ارائه کرد که به قرارداد Uniform Contract معروف شد.

بعد از آن در سال ۱۹۱۱ بود که اولین نسخه از قرارداد همسان (Standard Form of Contract) توسط این موسسه منتشر شد تا در سال ۱۹۱۵ ویرایش دوم آن انتشار یابد. این قرارداد همان قرارداد A۲۰۱ است که تا سال ۲۰۲۳ حدود ۱۵ بار ویرایش گردیده و سهم به سزایی در توسعه ساختار حقوقی پروژه‌های ساخت داشته است.



<https://dralavipour.com/blog/view/AIA-intro>

Fédération Internationale Des Ingénieurs-Conseils

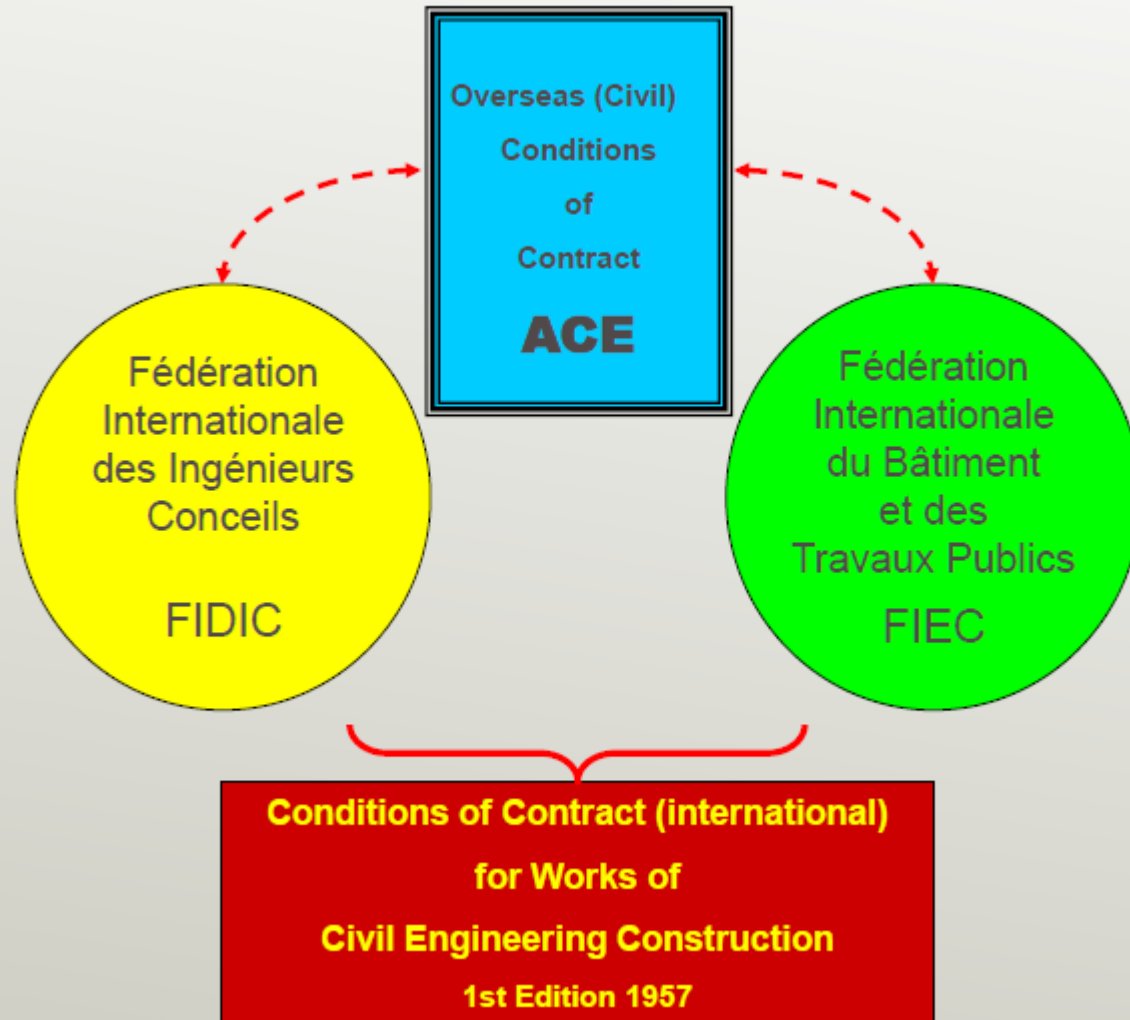
(International Federation of Consulting Engineers)

www.fidic.org

FIDIC is the international federation of consulting engineers founded in 1913 by a French initiative.

Currently over 80 countries have joined the Federation and have pledged to uphold its primary goals:

1. Represent the consulting engineering industry globally,
2. Enhance the image of consulting engineers,
3. Be the authority on issues relating to business practice,
4. Promote the development of a global and viable consulting engineering industry,
5. Promote quality,
6. Actively promote conformance to a code of ethics and to business integrity,
7. Promote commitment to sustainable development.



- ❑ This book was published in 1957 in an easy to recognize red cover.
- ❑ This and its rather lengthy title often caused it to be referred to as

The Red Book

**Conditions of Contract (international)
for Works of
Civil Engineering Construction
1st Edition 1957**

Was based on the ACE-Form.

**But it was still a document based on the
Common Law system...**

What are the most widely used legal systems of the modern world?

❑ The **major legal systems** of the world

- ❖ Common law
- ❖ Romano-Germanic law or Civil law
- ❖ Socialistic law
- ❖ Islamic or Shari'a

It was felt that there was a need for an international Form of Contract, independent of any particular Judicial System.

In answer to this need **FIDIC** updated its **RED BOOK** into what is now known as the fourth Edition 1987.



❑ **At the same time**, FIDIC decided that **in line with its services** to the construction industry, there was also a need for demarcation between the **various contractual agreements** entered into between parties. The result was:

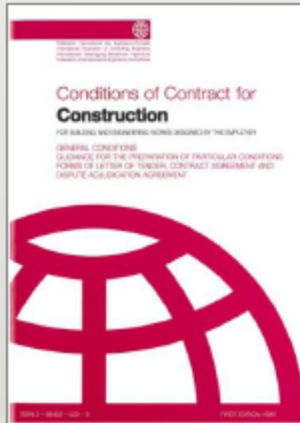
❖ *FIDIC publishes many standard forms, but the most common forms:*

- ✓ Short Form Contract (**Green book**) (2021)
- ✓ Construction Contract (**Red Book**) (2017)
 - o Construction for Subcontract (2011)
 - o Multilateral Development Banks (MDBs) Construction Contract (2006)
- ✓ Plant and Design-Build Contract (**Yellow book**) (2017)
- ✓ Design, Build and Operate (DBO) Contract (**Gold Book**) (2008)
- ✓ EPC/Turnkey Contract (**Silver book**) (2017)

Which FIDIC contract should be used?



The New **RED** Book



Conditions of Contract for Construction

FOR BUILDING AND ENGINEERING WORKS DESIGNED BY THE
EMPLOYER

Recommended for building or engineering works designed
by the Employer or its representative, the Engineer.



FIDIC – Red book

❑ It follows **three basic** concepts:

Concept 1:

Design and Project management are principally done by a consulting **ENGINEER**, who is accepted by both parties as professional and trustworthy.

Concept 2:

Payment is linked to a Bill of Quantities with Unit Prices.

Concept 3:

Responsibility and Damage Liability lies with the party best Suited to handle it or was the cause of that damage, respectively.



FIDIC – Red book

❑ Concept 1

Usually, the **ENGINEER** takes over the following functions in a project:

- ▶▶ Counselling
- ▶▶ Project study before investment of capital
- ▶▶ Planning (design) and project administration
- ▶▶ Survey and control of project execution
- ▶▶ Special Planning and development services
- ▶▶ Project management

It is essential to highlight that the **ENGINEER's** work should be impartial and neutral for the **CONTRACTOR** (*PART I, Art. 2.6*) although the **ENGINEER** is contractually appointed and paid by the **EMPLOYER**.

FIDIC – Red book

❑ Concept 2

In a contract based on a bill of quantities the **CONTRACTOR** is paid for its provided services. In such cases, the **EMPLOYER** generally takes the risk of those quantities. This concept can be retrieved in *PART I, Art. 55-57, 60*.

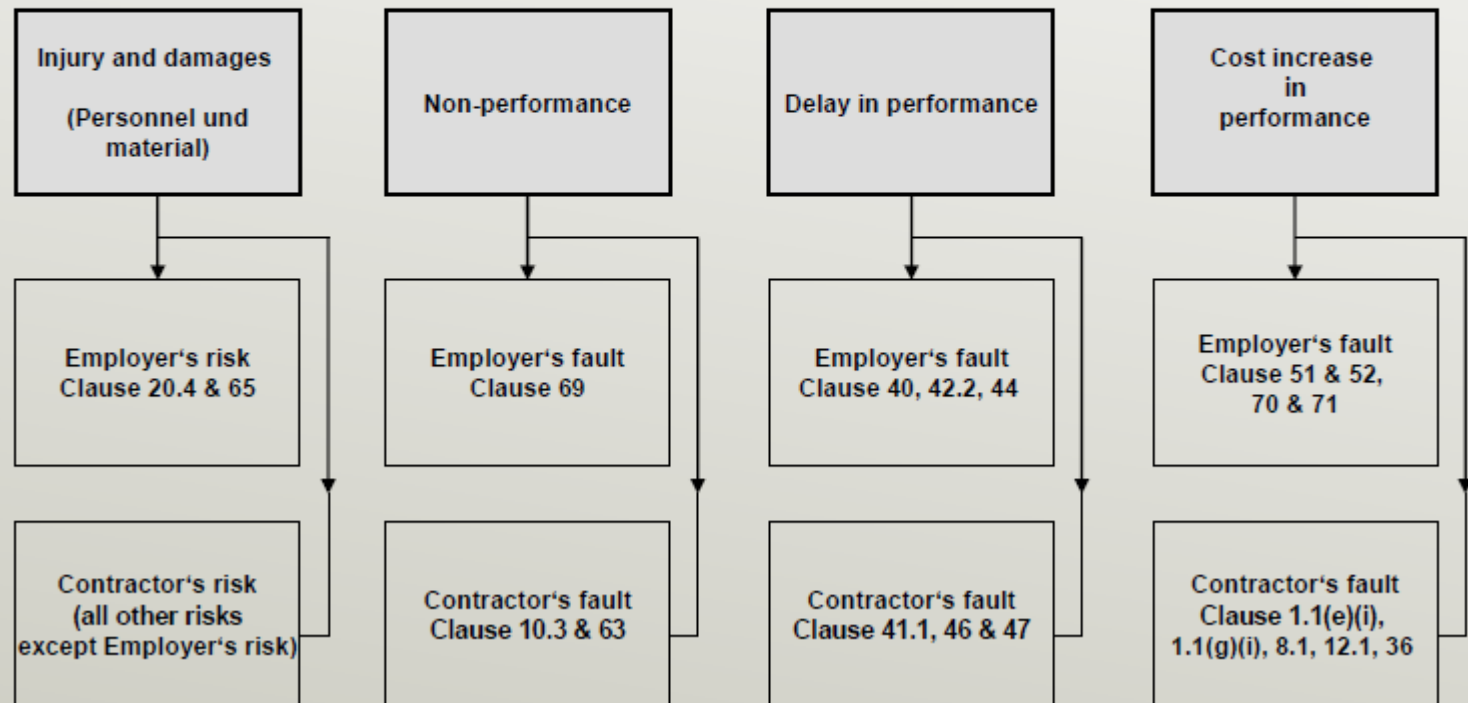
a	b	c	d	e
No.	Position	Planned Quantity	Unit Price	Planned Contract value $c \times d$
155	brickwork	800 sqm	25 € / sqm	20.000 €

f	g
rendered quantity	Final contract value $f \times d$
811 sqm	20.275 €

FIDIC – Red book

❑ Concept 3

The FIDIC **Red Book** (Edition 1987) differentiates between four types of risk. The risk is regulated according to the fault-based liability principle:





Typical contract documents – FIDIC 2017

❑ **FIDIC 2017:** The contract documents will typically comprise the following:

- (a) the Contract Agreement; (موافقت نامه پیمان)
- (b) the Letter of Acceptance; (ابلاغیه پذیرش)
- (c) the Letter of Tender; (نامه پیشنهاد مناقصه)
- (d) the Particular Conditions Part A – Contract Data; (شرایط خصوصی-اطلاعات قرارداد)
- (e) the Particular Conditions Part B – Special Provisions; (شرایط خصوصی-مفاد خاص)
- (f) these General Conditions; (شرایط عمومی)
- (g) the Specification; (مشخصات فنی)
- (h) the Drawings; (نقشه‌ها)
- (i) the Schedules (if bill of quantities exists, it should be included here);
- (j) the JV Undertaking (if the Contractor is a JV); and
- (k) any other documents forming part of the Contract.

Typical contract documents – FIDIC 2017

❑ **FIDIC 2017:** The contract documents will typically comprise the following:

- 1.1.11 “**Contract Agreement**” means the agreement entered into by both Parties in accordance with Sub-Clause 1.6 [Contract Agreement].
- 1.1.50 “**Letter of Acceptance**” means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.
- 1.1.51 “**Letter of Tender**” means the letter of tender, signed by the Contractor, stating the Contractor's offer to the Employer for the execution of the Works.
- 1.1.12 “**Contract Data**” means the pages, entitled contract data which constitute Part A of the Particular Conditions.
- 1.1.75 “**Special Provisions**” means the document (if any), entitled special provisions which constitutes Part B of the Particular Conditions.



Typical contract documents – FIDIC 2017

❑ **FIDIC 2017:** The contract documents will typically comprise the following:

- 1.1.43 **“General Conditions”** means this document entitled “Conditions of Contract for Construction for Building and Engineering Works designed by the Employer”, as published by FIDIC.
- 1.1.76 **“Specification”** means the document entitled specification included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.
- 1.1.30 **“Drawings”** means the drawings of the Works included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.
- 1.1.71 **“Schedules”** means the document(s) entitled schedules prepared by the Employer and completed by the Contractor, as attached to the Letter of Tender and included in the Contract. Such document(s) may include data, lists and schedules of payments and/or rates and prices, and guarantees.

Typical contract documents – FIDIC 2017

❑ **FIDIC 2017:** The contract documents will typically comprise the following:

1.1.47 “**JV Undertaking**” means the letter provided to the Employer as part of the Tender setting out the legal undertaking between the two or more persons constituting the Contractor as a JV. This letter shall be signed by all the persons who are members of the JV, shall be addressed to the Employer and shall include:

- (a) each such member's undertaking to be jointly and severally liable to the Employer for the performance of the Contractor's obligations under the Contract;
- (b) identification and authorisation of the leader of the JV; and
- (c) identification of the separate scope or part of the Works (if any) to be carried out by each member of the JV.

نشریه ۴۳۱۱ – Typical contract documents

□ ماده ۲ موافقت نامه: اسناد و مدارک

- ❖ موافقت نامه
- ❖ شرایط عمومی
- ❖ شرایط خصوصی
- ❖ برنامه زمانی (کلی و تفصیلی)
- ❖ فهرست بها و مقادیر کار
- ❖ مشخصات فنی عمومی
- ❖ مشخصات فنی خصوصی
- ❖ دستورالعملها و استانداردهای فنی
- ❖ نقشه‌ها
- ❖ اسناد تکمیلی

اسناد تکمیلی که حین اجرای کار و به منظور اجرای پیمان، به پیمانکار ابلاغ می‌شود یا بین طرفین پیمان مبادله می‌گردد نیز جز اسناد و مدارک پیمان به شمار می‌آید. این اسناد باید در چارچوب اسناد و مدارک پیمان تهیه شود. این اسناد، ممکن است به صورت مشخصات فنی، نقشه، دستور کار و صورت‌مجلس باشد.

صنعتی جدید EPC – Typical contract documents

بخش اول – موافقت نامه

- ۱- تغییر، حذف یا اصلاح جملات و عبارات موافقت نامه به هیچ نحوی مجاز نمی باشد و تنها جاهای خالی که در موافقت نامه پیش بینی شده است باید تکمیل گردد.
- ۲- در ماده ۱، نام پروژه و محل احداث آن در محل مربوط ذکر می شود.
- ۳- در ماده ۳، مبلغ مشروط مجموع مبالغ مشروطی است که در پیوست شماره ۱ ذکر شده است که نباید از ۱۰ (ده) درصد مبلغ پیمان تجاوز نماید.
- ۴- در تبصره ذیل بند ۵-۲ موافقت نامه، چنانچه شروع کار توسط پیمانکار منوط به انجام برخی کارها توسط کارفرما باشد، باید جزئیات مربوط به این کارها در شرایط خصوصی پیمان بیان شود.

صنعتی جدید EPC – Typical contract documents

بخش دوم – شرایط عمومی

شرایط عمومی باید بدون اعمال هرگونه حذف، تغییر و یا اصلاح استفاده شود.

با هدف تسهیل درک کامل تر مفاد مندرج در شرایط عمومی، مواد ۴۹ (تغییر در کارها)، ۵۳ (صورت وضعیت موقت)، ۵۷ (صورت وضعیت قطعی)، ۵۸ (تکمیل مکانیکی و پیش‌راه‌اندازی)، ۵۹ (راه‌اندازی و آزمایش عملکردی)، ۶۰ (تحويل موقت)، ۶۱ (دوره مسئولیت رفع نقص)، ۶۲ (تحويل قطعی)، ۶۴ (تغییرات مدت پیمان)، ۶۸ (فسخ پیمان توسط کارفرما ناشی از نقض تعهدات پیمانکار) و ۷۵ (حل اختلاف) به صورت فلوچارت‌هایی بیان شده است که جنبه آموزشی داشته و جزیی از اسناد پیمان محسوب نمی‌شود.

صنعتی جدید EPC – Typical contract documents

بخش سوم – شرایط خصوصی

- ۱- شرایط خصوصی در توضیح و تکمیل موادی از موافقتنامه و شرایط عمومی است که تعیین تکلیف برخی از مواد در آنها، به شرایط خصوصی موکول شده است. لذا فقط در مواردی که در مفاد شرایط عمومی، موضوع به شرایط خصوصی ارجاع شده است، بیان شرایط خصوصی مجاز می باشد.
- ۲- تکمیل مفاد شرایط خصوصی باید به نحوی صورت پذیرد که مغایرتی با مفاد موافقتنامه یا شرایط عمومی نداشته باشد. مطابق ماده ۵ شرایط عمومی، هرگاه بین مفاد و مضمون شرایط خصوصی با دیگر اسناد پیمان، تناقض، اختلاف، ابهام و یا اشتباهی بروز کند، اولویت با موافقتنامه و شرایط عمومی است.

صنعتی جدید EPC – Typical contract documents

بخش چهارم – پیوست‌ها

پیوست ۱- جدول تفکیک مبلغ پیمان برای بخش‌های مختلف کار

در این پیوست، مبلغ پیمان برای بخش‌های طراحی و مهندسی، تأمین مصالح و تجهیزات، عملیات ساختمان و نصب به تفکیک هر بخش و در هر یک از تفکیک‌های یاد شده، سهم قسمت‌های ارزی و ریالی برای کارهای مختلف مشخص می‌گردد.

پیوست ۲- فهرست مقادیر و بهای واحد کارها و نرخ عوامل

در کارهایی که بخشی از مبلغ آن‌ها باید براساس فهرست مقادیر و بها پرداخت شود، فهرست مقادیر و بهای کارهای موردنظر، همراه با فهرست دستمزد ساعتی نیروی انسانی و هزینه ساعتی ماشین‌آلات تهیه و قبل از انعقاد پیمان در پیوست شماره ۲، درج می‌شود.

با توجه به ماهیت پیمان‌های EPC، حتی‌المقدور باید از پرداخت صورت‌وضعیت بر اساس فهرست مقادیر و بها در این پیمان‌ها اجتناب نمود.

صنعتی جدید EPC – Typical contract documents

پیوست ۳- نحوه محاسبه و پرداخت مبلغ تغییر کارها

با توجه به مفاد بند ۴۹-۸، در این پیوست باید نحوه محاسبه کارهای افزایش یافته، کاهش یافته و یا کار جدید به تفکیک در سه بخش طراحی و مهندسی، تأمین مصالح و تجهیزات و کارهای ساختمان و نصب، با لحاظ پیوست‌های شماره ۱ و ۲ بیان شود.

در این پیوست باید مواردی از جمله ضرایب بالاسری خرید کالا و تجهیزات از داخل یا خارج، نحوه اخذ استعلام درخصوص مصالح و تجهیزات، نحوه تأثیر تعدیل در محاسبه کاهش کار در بخش کالا و تجهیزات، کاهش کار یا افزایش کار در خدمات مرتبط با آموزش، بیمه و تسهیلات بیان شود.

پیوست ۴- روش تعدیل

با توجه به زیربند ۵۶-۱-۴، مطابق روش ذکر شده در این پیوست (آخرین دستورالعمل تعدیل سازمان برنامه و بودجه یا آخرین دستورالعمل تعدیل دستگاه مرکزی کارفرما) و یا مطابق مقرره قانونی الزام‌آوری که بعد از انعقاد پیمان صادر می‌شود و موضوع پیمان در دامنه شمول آن قرار می‌گیرد، مبلغ پیمان تعدیل می‌گردد.

صنعتی جدید EPC – Typical contract documents

پیوست ۵- پرداختها

۵-۱- نحوه پرداخت

در این بخش از پیوست باید موارد زیر بیان شود:

- مبلغ کل پیش پرداخت، تعداد و موعدهای پرداخت اقساط پیش پرداخت (به تفکیک سه بخش طراحی و مهندسی، تأمین مصالح و تجهیزات و کارهای ساختمان و نصب)، نحوه استهلاك پیش پرداخت و دیگر شرایط مربوط.
- نحوه پرداخت صورت وضعیتهای موقت و کسورات مربوط (با توجه به زیربند ۵۳-۲-۱).

Typical contract documents – In case of discrepancy

What if there is a discrepancy between contract documents?

Typical contract documents – FIDIC 2017

What if there is a discrepancy between contract documents?

- ❑ **Most contracts** will provide that all the documents shall be mutually explanatory, but in the case of ambiguity or discrepancy, they are to be read in a stated order of precedence.

Priority between bill of quantities and schedule goes to the schedule!

(See FIDIC 2017 Red Book, Sub-Clause 1.5 [Priority of Documents])

نشریه ۴۳۱۱ – Typical contract documents

What if there is a discrepancy between contract documents?

□ در صورت وجود دوگانگی بین اسناد و مدارک پیمان،

❖ **موافقت نامه** پیمان بر دیگر اسناد و مدارک پیمان اولویت دارد.

❖ هرگاه دوگانگی مربوط به **مشخصات فنی** باشد، اولویت به ترتیب با

i. مشخصات فنی خصوصی

ii. نقشه های اجرایی

iii. مشخصات فنی عمومی

❖ اگر دوگانگی مربوط به **بهای کار** باشد، فهرست بها بر دیگر اسناد و مدارک پیمان اولویت دارد.

نشریه ۴۳۱۱ – Typical contract documents

What if there is a discrepancy between contract documents?

۳- شرایط خصوصی

۳-۱-

با وجود اینکه در عرف پیمان‌ها، شرایط خصوصی حاوی ویژگی‌های هر پیمان است که نسبت به شرایط عمومی اولویت دارد، در طرح‌های عمرانی که مربوط به یک کارفرمای اصلی یعنی دولت است، شرایط خصوصی به نحوی تنظیم شده است که تنها در چارچوبی که شرایط عمومی برای آن تعیین کرده است قابل تکمیل باشد. بدین روی، درج مطالبی خارج از محدوده تعیین شده، در شرایط خصوصی مجاز نیست.

صنعتی جدید EPC – Typical contract documents

What if there is a discrepancy between contract documents?

ماده ۲ – تفسیرها

۱-۲ روز، ماه، سال: منظور از روز، روز تقویمی و منظور از ماه و سال، ماه و سال شمسی، طبق تقویم رسمی کشور جمهوری اسلامی ایران است.

۲-۲ مفرد و جمع: هر جا معنی عبارت ایجاب کند، کلمات مفرد، معنی جمع و کلمات جمع، معنی مفرد دارد.

۳-۲ عنوان‌ها: عنوان‌های درج شده در شرایط عمومی، تنها به منظور راهنمایی و اطلاع از مفاد موادی است که به طور مشترک، زیر آن عنوان قرار گرفته‌اند و نمی‌توان از آن‌ها در تفسیر مواد استفاده کرد.

۴-۲ عبارات "باید"، "بایستی" و "می‌بایست" و سایر نظایر آن‌ها بر موضوعی الزامی دلالت دارد. عبارات "شامل"، "مشمول بر" و "از جمله" و سایر نظایر آن‌ها دربرگیرنده تمامی مصادیق اعم از ذکر شده و ذکر نشده، بدون هیچ گونه محدودیتی می‌باشند.

صنعتی جدید EPC – Typical contract documents

What if there is a discrepancy between contract documents?

ماده ۵ – اولویت اسناد

هرگاه بین مفاد و مضمون اسناد پیمان، تناقض، اختلاف، ابهام و یا اشتباهی بروز کند با استنتاج منطقی از مفاد اسناد مرتبط با موضوع، تناقض، اختلاف، ابهام و اشتباه برطرف خواهد شد. در هر صورت اولویت اسناد پیمان مطابق ماده ۲ موافقت نامه، به ترتیب با موافقت نامه، شرایط عمومی، شرایط خصوصی، پیوست ها و سایر اسناد و مدارکی است که بر اساس مفاد پیمان در مدت اجرای کار تنظیم می شود و به تأیید دو طرف پیمان می رسد.

صنعتی جدید EPC – Typical contract documents

What if there is a discrepancy between contract documents?

ماده ۶ – استانداردها، مقررات و مراجع

کلیه کارهای موضوع پیمان باید طبق آخرین ویرایش استانداردها، مجموعه مقررات و آیین‌نامه‌های اجرایی (کدها) و مراجع فنی در زمان تاریخ ارائه پیشنهاد قیمت از طرف پیمانکار صورت پذیرد، مگر آنکه به نحو دیگری در پیمان تصریح شده باشد.

در موارد مسکوت در پیمان، پیمانکار باید تا قبل از صحنه‌گذاری اسناد فنی پایه منضم به پیمان، استانداردها و کدهای معتبر پیشنهادی خود را به کارفرما ارائه و تأییدیه نهایی را اخذ نماید، در غیراین صورت از آخرین ویرایش استانداردها و کدهای معتبر و هماهنگ با دیگر استانداردهای پیش‌بینی شده در زمان تاریخ ارائه پیشنهاد قیمت از طرف پیمانکار، با تأیید مشاور کارفرما، استفاده می‌شود.

چنانچه پس از تاریخ ارائه پیشنهاد قیمت از طرف پیمانکار، ویرایش جدیدی از استانداردها، مجموعه مقررات و آیین‌نامه‌های اجرایی (کدها) و مراجع فنی مورد نیاز اجرای کار (مصرّح در اسناد پیمان) تدوین شده باشد، دستور کارفرما مبنی بر استفاده پیمانکار از آخرین ویرایش این اسناد، باید مطابق ماده ۴۹ صورت پذیرد.

Typical contract documents – Other documents

But the problem occurs due to “any other documents”

Let's see!



Typical contract documents – Other documents

- ❑ With regard to the last item on the list ‘Other documents’, there is a **great temptation** for those whose job it is to prepare and compile the contract documents, to **‘dump’ all sorts of documents** into this section.

- ❑ **Typically** these may **consist** of:

correspondence between the parties between the time of tender and the letter of acceptance, tender queries and clarifications, tender bulletins, minutes of meetings during the negotiation process, the Contractor’s proposals for executing the works, offers to complete the project differently from that of the tender documents or value engineering proposals and such like.

So, what is the matter?





Typical contract documents – Other documents

❑ The potential for conflict between **such documents** and the **main contract documents** becomes high in such a situation,

may not reflect the pre-contract negotiations and a subsequent agreement between the parties.

❑ Example:

*If we look at a situation whereby the Contractor has negotiated a reduction in the time for **interim payments** to be made from **56 to 40 days** and this was recorded in meeting minutes included in ‘Other documents’*

*then, on a strictly contractual basis, the 56 days in the general conditions would still have **precedence over such an agreement** and effectively render the agreement null and void.*

Typical contract documents – Other documents

❑ Remember?

- ❖ One of the important factors to **cause disputes** is contract interpretation? And
- ❖ It is true to say that if the contract documents are poorly drafted and compiled, the potential for disputes **increases tremendously**.

How to solve?

Let's see!

Typical contract documents – Other documents

☐ It is infinitely preferable to

1. **Keep** the 'other documents' section as **small as possible**
2. **Amend** the **tender documents**

to **take into account any changes** that have been

- i. Negotiated
- ii. Agreed

between the parties

*within the **appropriate section** of the contract documents.*

Typical contract documents – Other documents

Rather than just including the **tender queries and responses** as an **addendum to the contract**,

as is **often the practice**,

the **contract documents** should be **amended** to

reflect the instructions given in the responses to such queries.

Development and Review of Construction Contract(s) Terms and Conditions



CM's role related to contract administration

❑ An important element of a CM's role is contract administration.

❑ The CM as part of its standard duties is often in a position to

1. Recommend,
2. Review, or even
3. Draft

proposed contract documents or provisions in the various contractual agreements.



Drafting the contract – Recommendation

- ❑ All contract documents should be **written** in clear, unambiguous terms.
- ❑ Requirements for cost, schedule, scope, and specifications should be **clearly stated**.
- ❑ Contract should contain a clause that states a **reasonable time frame** for a response to **RFI**.
- ❑ Do not ignore the contract or defer **its preparation** to the **last minute**
 - ❖ The **contract** spells out the **rules of the game** and is your **most important tool** in claims mitigation.



Drafting the contract – Recommendation

- ❑ Be careful of **exculpatory language** that may be **difficult or impossible** to **enforce**.
- ❖ In a contract, **exculpatory language** is **language** that **frees one party** of **certain liability** that may occur as a result of the agreement and **waives the rights** of the other party.

Exculpatory language for example is “regardless of those conditions, we are not going to pay for those costs.”

- ✓ No-damage clause
- ✓ This is not always enforceable

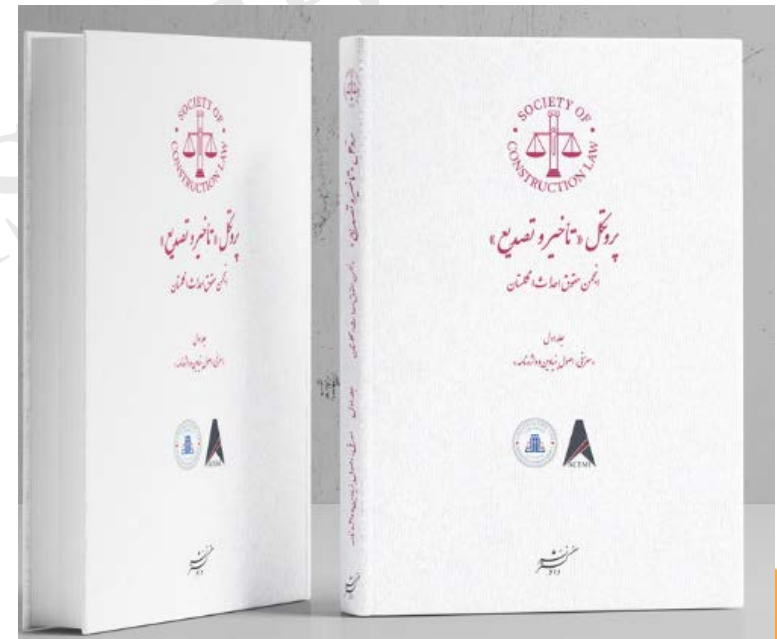


SCL Delay Protocol

- ❑ **2nd edition** published in **2017**
- ❑ Published by the **Society of Construction Law (UK)**
- ❑ The **purpose** is to provide **guidance** on common **delay** and **disruption** when **one party wishes to**:
 1. Recover an **extension of time (EOT)**
 2. **Compensation** for the **additional time** spend and **additional resources** used
- ❑ The purpose is to **avoid unnecessary disputes**
- ❑ Focus is to provide **practical** and **principled guidance** on issues that can be applied in **relation to all projects to**:
 1. **Avoid disputes**
 2. **Limit** the **costs** of disputes if **disputes** are **unavoidable**

SCL Delay Protocol

- ☐ **Protocol** identifies **various options**, leaving people to choose based on **their needs** (e.g., complexity of project, nature of the project, etc.)
- ☐ It is **not** the **contract document**, nor the **international law**.
- ☐ This **guidance** is intended to be generally **applicable** to **any contract**.
- ☐ It is only a **good practice**, not best practice.



Recommended clauses to avoid the occurrence of disputes

❑ There are 22 core principles in SCL Protocol

1. Programme and records
2. Purpose of extension of time (EOT)
3. Contractual procedure requirements
4. Do not 'wait and see' regarding impact of delay events (contemporaneous analysis)
5. Procedure for granting EOT
6. Effect of delay
7. Incremental review of EOT
8. Float as it relates to time
9. Identification of float
10. Concurrent delay – effect on entitlement to EOT

Recommended clauses to avoid the occurrence of disputes

❑ There are 22 core principles in SCL Protocol

11. Analysis time – distant from the delay event
12. Link between EOT and compensation
13. Early completion as it relates to compensation
14. Concurrent delay – effect on entitlement to compensation for prolongation
15. Mitigation of delay and mitigation of loss
16. Acceleration
17. Global claims
18. Disruption claims
19. Valuation of variations
20. Basis of calculation of compensation for prolongation
21. Relevance of tender allowance
22. Period for evaluation of compensation

Recommended clauses to avoid the occurrence of disputes

- ☐ **Changes:** provide for modification to the contract and define a fair method of price adjustment for the changes.
- ☐ **Time extensions:** provide adequate time adjustments for changes to the contract and for delays beyond the contractor's control.
- ☐ **Geotechnical studies:** make all pertinent geotechnical information readily available to the contractor.
- ☐ **Differing site conditions:** provide for an equitable price and time adjustment when differing site conditions are encountered.



Recommended clauses to avoid the occurrence of disputes

- ☐ **Geotechnical design summary report:** prepared by the owner's engineer, it sets forth the geotechnical interpretations regarding anticipated conditions for design and construction.
- ☐ **Escrow bid documents:** all documentation of the successful bidder's estimate are placed in escrow, where they remain the contractor's property; these documents are accessible jointly by the owner and the contractor to assist in resolving pricing issues on claims or disputes.

Recommended clauses to avoid the occurrence of disputes

- ☐ **Suspension of work:** provide for an equitable price adjustment for delays because of a temporary suspension of work.
- ☐ **Liquidated damages:** define a fixed daily cost to the contractor for non-excusable delays.
- ☐ **Variations in estimated quantities:** provide for adjustment or renegotiation of unit price items which substantially vary from bid quantities.

Recommended clauses to avoid the occurrence of disputes

- ☐ **Claims:** provide a rational procedure for processing claims in a timely manner.
- ☐ **Disputes:** provide a process for addressing disputes in their early stages before they affect the progress of the work, create adversary positions and lead to litigation.



Potential killer contract clauses

Some elements of every contract deserve particular attention.

1. **How to discover** these clauses and
2. **What to do about them** during the construction process

is vital to delivering the product and keeping the project team on task and out of difficult situations.

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

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