



Toyota Motor Corporation

Research and Development Center and Test Track

NIKKEN SEKKEI Construction Management ,Inc.

■ SUMMARY

1. Introduction

- (1) About NIKKEN SEKKEI group
- (2) About NCM

2. Project Outline

3. Detail of the main CM service

- Common CM works
- Specific Management Approaches

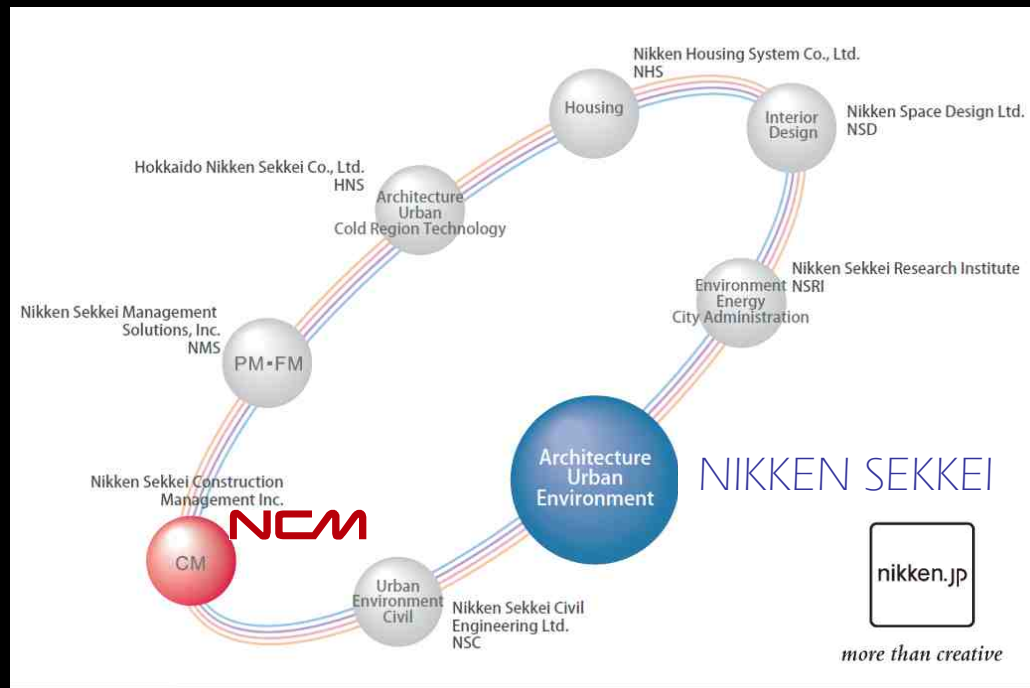
4. Conclusion



1. Introduction

(1) About NIKKEN SEKKEI Group

“Nikken.jp” is a comprehensive professional consultancy group providing one-stop service for a large variety of planning, design and management.



NIKKEN SEKKEI Group

- Established in 1900
- Owns 8 specialized subsidiary companies
- More than 2,400 staff
- Completed over 20,000 projects in over 40 countries

1. Introduction



1. Introduction

(2) About NCM (NIKKEN SEKKEI Construction Management, Inc.)

“NCM” will support setting a goal and develop the most suitable implementation process to yield great benefit to the Client.

NCM

Project Management

Sharing information between project members, organizing and controlling resources to achieve the specific goal.

Quality Management

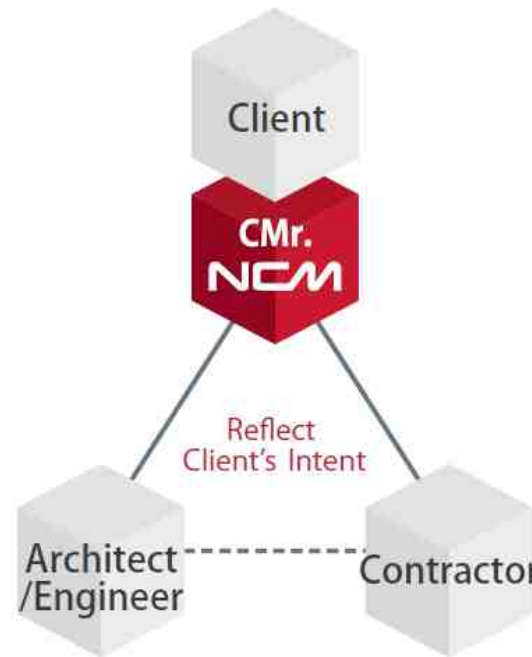
Advice on setting sufficient quality level for the project and assure the desired quality is achieved.

Cost Management

Managing all or partial costs to remain within the budget.

Schedule Management

Preparing and controlling the project schedule to achieve on-time completion, within budget and at the level of quality expected.



- Established in 2005
- More than 180 staff
- Completed over 6000 projects
- CM for Overseas production facilities (Japanese Companies) are increasing

1. Introduction

(2) About NCM (NIKKEN SEKKEI Construction Management, Inc.)



2. Project Outline

Project Toyota Motor Corporation's
Research and Development Center and Test

Location Changshu City, Jiangsu Province,
People's Republic of China



2. Project Outline (1) Location

Changshu City is located about 100Km from Shanghai City.

Due to the mild climate, it has enjoyed a high level of agriculture civilization since ancient times.

In Chinese Chang (常) means “always” and Shu (熟) has the meaning of “ripe”.



2. Project Outline

About 2,000m

About 3,000m

Project Site

Seoul
World-cup Stadium

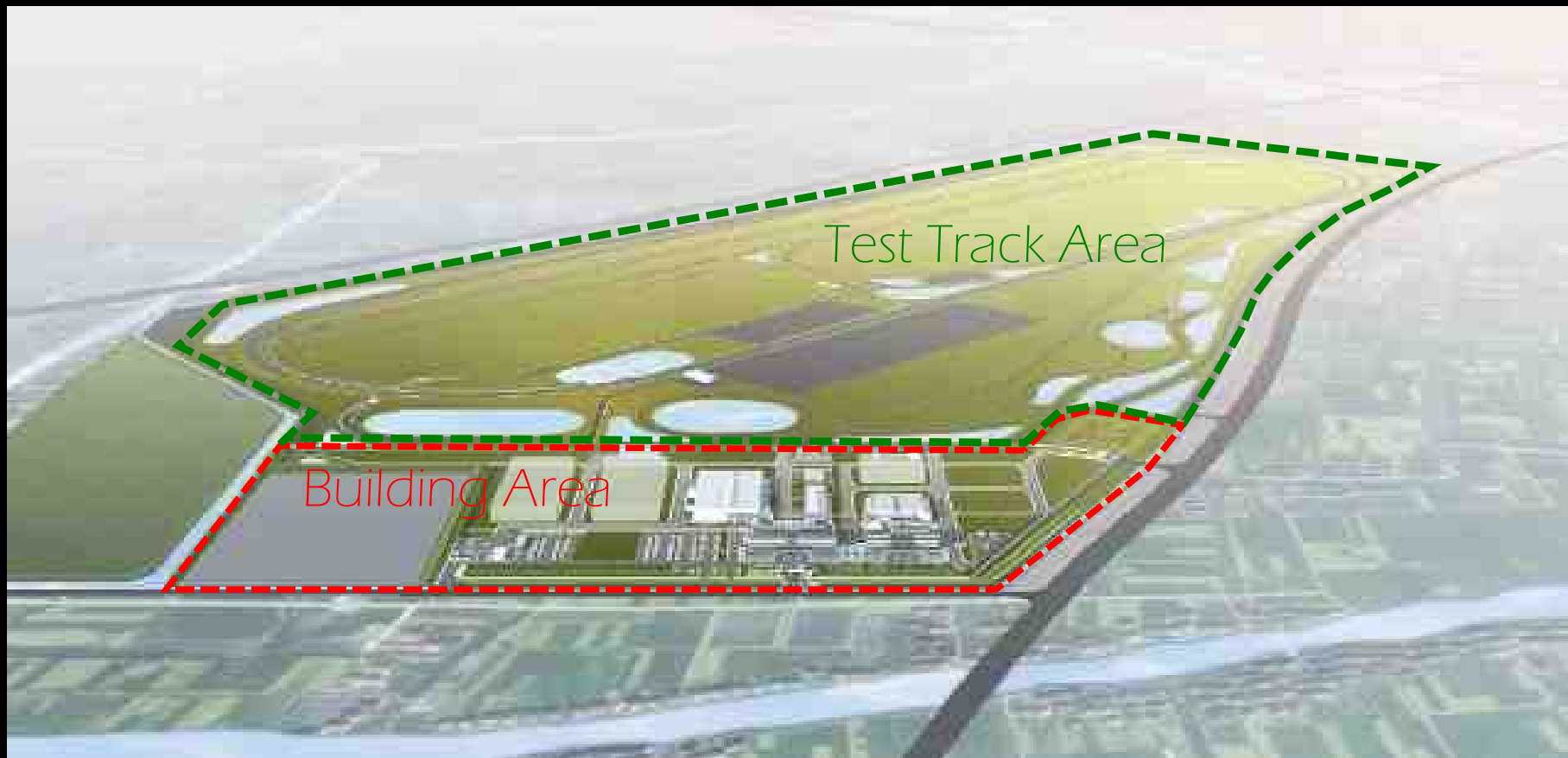


New York Manhattan
Central Park



2 . Project Outline

Site area : 2,345,100 m²
(Building area of it:
400,000 m²)



2. Project Outline



2. Project Outline

Highest Level of sustainable technical center in China

< Project Features >

- Positioned as a Nationally important project in China
- State-of-art R&D center
- Huge site (2.34 million m²)
- Agricultural land conversion
(Reclamation work and infrastructure improvements)
- Environmentally – friendly facilities (Awarded 3stars)

Building construction + Civil Engineering work

2. Project Outline

<Project Concept = Key word>

Highest Level of sustainable technical center in China

“Cutting-edge, Global Environment, Local Contributions”

<Project Goals >

- Achieve a world-top-level R&D center
- Employ a variety of environmentally-friendly technology
- Complete within required date
- Minimize the construction cost



2. Project Outline <Project Stakeholder>

Owner/Client

Toyota Motor Engineering & Manufacturing

(China) Co., Ltd.

Participating parties

●CM : NIKKEN SEKKEI
Construction

Management, Inc.

●Basic Design : Nikken Sekkei Ltd
Nikken Sekkei Civil Engineering

●Architect : Takenaka Corporation
Takenaka (China) Construction Co.,
Ltd

●Main Contractor
: Takenaka (China) Construction

2. Project Outline <Project Organization>

The People's Government of the People's Republic of China

The Central People's Government

Ministry of Commerce • Ministry of Land and Resource
The National Development and Reform Commission (NDRC)

Jiangsu Province

Ministry of Commerce • Ministry of Land and Resource
The National Development and Reform Commission

Changshu City

Commerce Bureau • Water Resource
Land and Resource Bureau

Changshu Economic Development

Investment Promotion Bureau • Planning and Construction Bureau • Infrastructure Bureau
Economic Development Bureau

Infrastructure supplying company

蘇州供電局・常熟供電局・常熟市ガス供給会社・常熟市自來水会社・常熟市 (sewage/rainwater)

Client (Toyota Motor Corporation)

Plant Engineering • Technical Administration • Purchase ..

CM (Nikken Sekkei Construction Management)

Schematic Design : NIKKEN SEKKEI Ltd

(Civil Works NIKKEN SEKKEI CIVIL ENGINEERING)

Water Resource Services (Planning/design)

常熟市水利勘察設計院

Site Overall (Planning/design/consultant/ land reclamation work checking services)

中国汽車技術研究中心・机械工業部汽車工業天津規格設計研究院

Architect (Japan & China)

Takenaka Corporation • Takenaka (China) Construction

Architect (China)

The Eleventh Design & Research Institute

Construction work supervising

机械工業部汽車工業天津規格設計研究院

Building construction

Construction work
Building work/facilities (electric/air-conditioning & plumbing) work
Gas station work
Fueling station/ underground storage tank
Fuel squeeze pump site
Exterior work
Outer-circumference fence work/road paving work
Landscaping/planting work
Cost-on work
Special environmental facility installation work (Cooler/heater air-conditioning facility)
Surrounding work under direct management

Directly-ordering work

Special environmental facility installation work (Cooler/heater air-conditioning facility)
Security work
Server work
Furniture work
Show room work
Communication system work
Kitchen instruments work
Experimental facility work

Site development work supervising

蘇州市水利建設監理・常熟市大通市政建設監理

Site development work (ordered by CEDZ)

Demolition and removal work
Land reclamation work
Site outer-circumferential water channel work (excavating work)
Infrastructure development work (electric power, waterworks, sewage, gas)

Site development work (ordered by client)

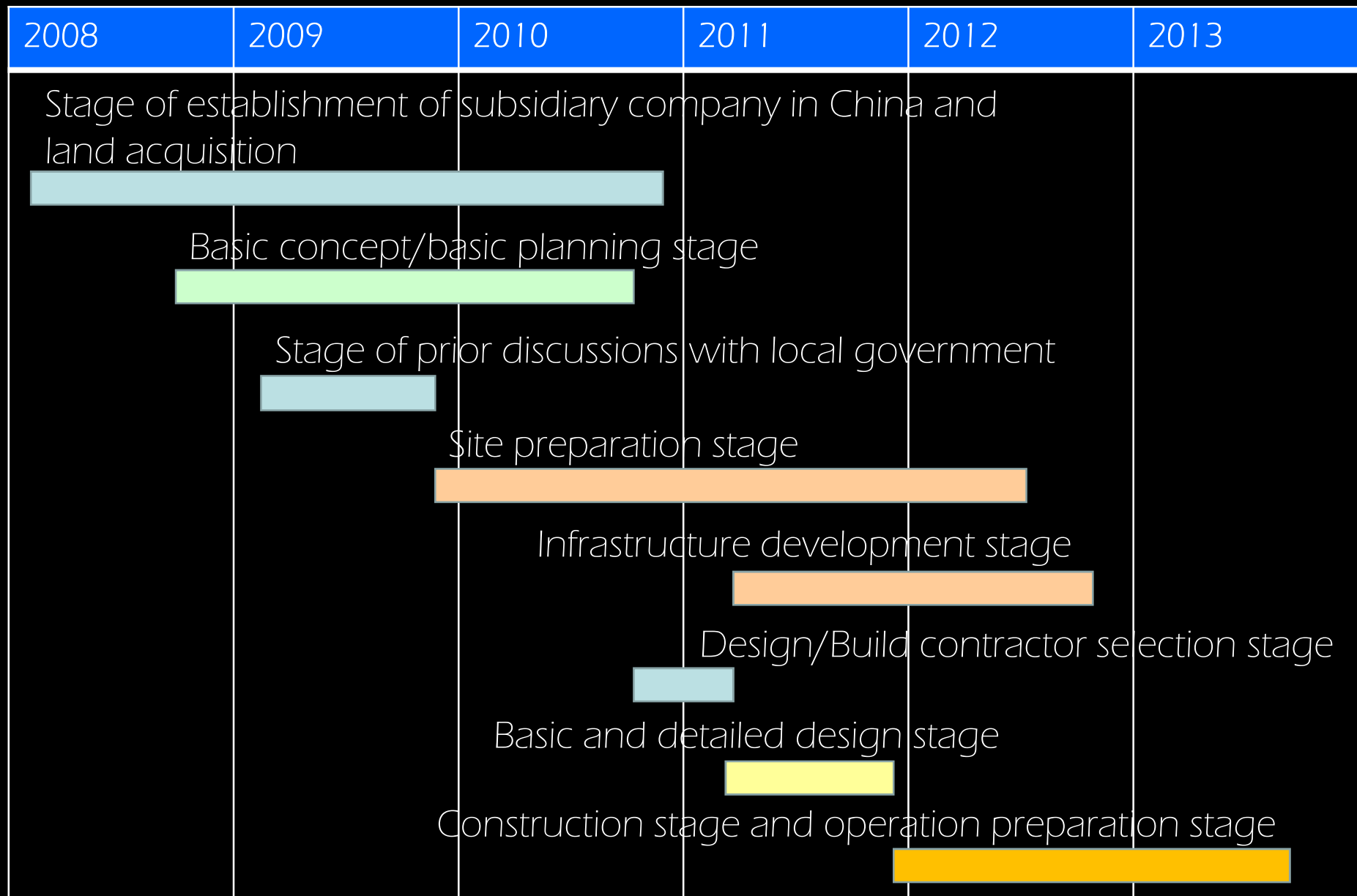
Embankment work (embankment after delivery of site)
Pre-road embankment (Ground-subsidence-prevention work)
Site outer-circumferential water channel work (bank protection work)

Planning stage

Site development stage

Design/Construction stage

2. Project Outline <Project Schedule>



3.1 Specific features of CM work

Project characteristics

Chinese **national-level** project

Huge site (**2.34 million** m²)

Agricultural land conversion

State-of-the-**art** R&D center

Building construction + Civil engineering work

Environmentally-friendly facility

Multiple-client base

Long-term project (**5years**)

Communication

Quality

Cost

Schedule

3.2 Common CM work

Communication

Organization and coordination of **various requirements** for whole facilities

Coordination with **various types of consultants**

Coordination work between **the Client and designer/contractor**



3.2 Common CM work

Quality



Coordination in technical matters **between headquarters and local subsidiary company** of the Client

Consultation support for technical details related to **governmental administrative procedures**

Monitoring work to **ensure quality** at each stage

Coordination between **Experimentation Equipment installation** (separate contract) **and main building** construction work

Support for preparation of **the Client operation**

3.2 Common CM work

Cost

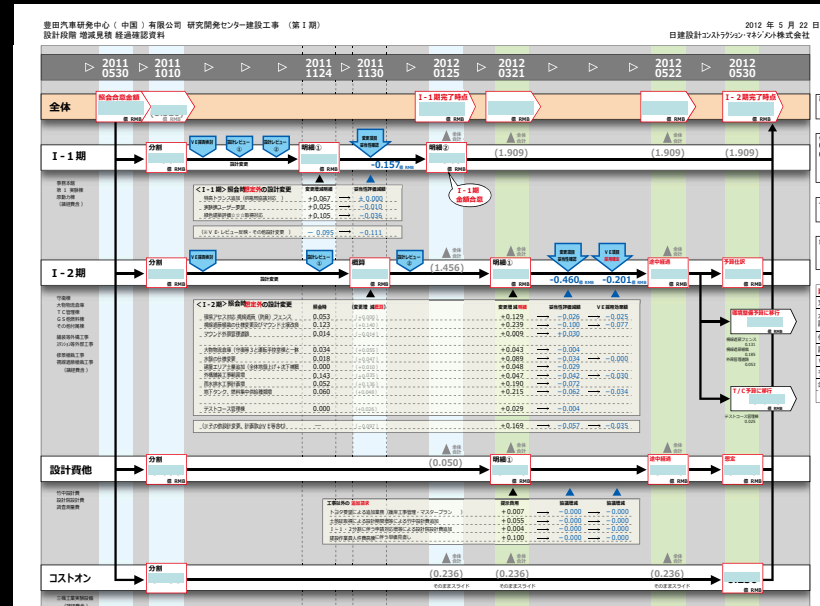
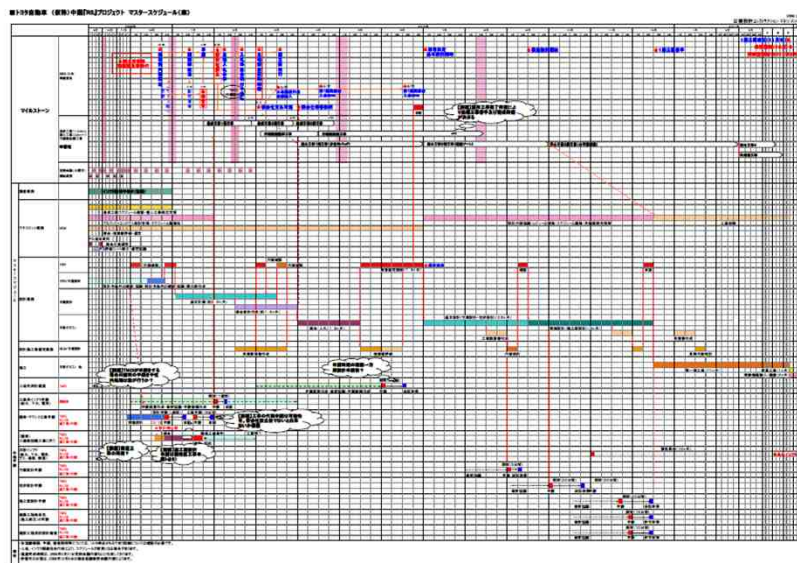
Project **budget** management

Support for **Tendering work** to various consultants, designers and contractors

Evaluation of **design changes** and support related procedures

Schedule

Project **time schedule** monitoring



3.3 Specific Management Approaches

Communication

Assignment

Action and Achievement

Communications for a **wide variety** of stakeholders

Information Management System

Information Management System

Set-up of Information management form

Set-up of **Distribution** and **Approval** rule

Showing the **purpose** of sending materials

Establishment of **efficient** meeting

Utilization of **TV** conference

Pre-adjustment of meeting agenda

Communication

Assignment

Action and Achievement

Approaches to conflict resolution

Pending Issue List

Pending Issue List

[illegible]

3.3 Specific Management Approaches

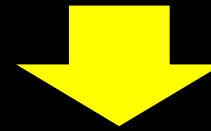
Quality

Assignment

Ensuring and Detecting failure
at an **early** stage

Action and Achievement

Everyday monitoring
on-site



CM achieved ...



The quality meeting
substantially to the Client's
requirement

Point-out quality items

3.3 Specific Management Approaches

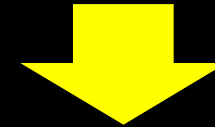
Quality

Assignment

Actual product check
at site

Action and Achievement

Using samples and
mock-up



Sharing the *image* with Client

Interior/exterior finishing

Checking *Local* parts

Fittings and Hardware
Procured in *China*



Mock up

3.3 Specific Management Approaches

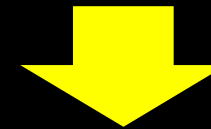
Quality

Assignment

Action and Achievement

Checking the quality **every**
construction steps

KANBAN
system



at-a-glance checking each
construction

Work and Inspection had been
performed in accordance with
the work procedures

Work and Inspection had been
achieved reliable quality
verification

设备安装看板

设备名 _____ 看板点检表

设备编号 _____ 柱编号 _____ 看板张贴日 _____

白色看板			
施工单位	监理单位	业主/OP	缺点修改完成日期
(日期)	(日期)	(日期)	(日期)
(签名)	(签名)	(签名)	(签名)

※ 承认后，更换为粉色看板。

『电源投入禁止!』

KANBAN system

3.3 Specific Management Approaches

Cost

Assignment

Construction stage Cost **large increase**

Action and Achievement

Quotation with **Technical Proposal**

Quotation with Technical Proposal

Compiled the necessary specification clarified the requirements of the client

Set up competition to be able to promote the reception of cost-down oriented proposal



This is a screenshot of a technical specification table for a construction project. The table is organized into columns with headers in Chinese, detailing various construction items and their specifications. The text is dense and includes technical details in Chinese characters.



3.3 Specific Management Approaches

Cost

Assignment

Action and Achievement

Large increase by design
change

Cost-down from the original
budget

Achieved cost-down from the original budget

Thoroughgoing plan and result management by use
of tool

Evaluate design change requested by
designer/contractor

The VE/CD proposal created by CM

Supporting Client in their negotiations against the
government to reduce expenses

3.3 Specific Management Approaches

Schedule

Assignment

Delay in several work by the local government

Action and Achievement

Strive to operate the project with as little backtracking as possible

Strive to operate the project with as little backtracking as possible

CM grasped the delay risk in advance and managed the schedule certainly to prevent the delay

By thoroughly the effort of shortening

By increasing the work efficiency

By early determining the requirements

CM took recovery measures promptly such as request of increasing numbers of worker

4. Conclusion

<Project Goals ⇒ Achievement>

- Achieve a world-top-level R&D center
⇒ Highest quality R&D center in TOYOTA
- Employ a variety of environmentally-friendly technology
⇒ Awarded 3stars Certificate of Green Building Label
- Complete within required date :Autumn 2013
⇒ Opening Ceremony on 14th November 2013
- Minimize the construction cost
⇒ Cost down by about 20% from set-up budget

*Resulting in
Enormous Evaluation from the Client!!*

End of File
