



Contents

- 1 Business brief
- 2 Organization for CM project
- 3 CM major performance outcome

Site Location

1. Project Outline

CM for the newly integrated Gwanak government office

SNU entrance station (subway line 2)

Site

Gwanak Police Office

Previous status

section	size	completion
main Bd.	Base 1F/4 Stories	1974.10.20
annex	Base 1F/5 Stories	1975.05.15
new Bd.	Base 1F/5 Stories	1996.11.19
council	Base 1F/4 Stories	1990.07.08

Project Characteristics

1. Project Outline

Motive for the project

worn-out facilities

narrow space

Resolving problem in the previous office

Correspond to administration and functional change

SNU entrance station (subway line 2)

Site

Gwanak Police Office

Project Characteristics

1. Project Outline

Project Outline

Summary

Location : Seoul Gwanakgu Bongscheon, (570-t)

Land area : 8,808.9㎡ (2,685py)

Total area : 32,579.9㎡ (9,795py)

Size : 2nd basement / 9 stories

Service cost : 1,967,000,000 KRW

Period of CM : 2004.07 ~ 2007.12 (40 months)

Architecture : 2004.06 ~ 2005.01 (6 months)

Construction : 2005.05 ~ 2007.11 (30 months)

Maintenance : 2007.11 ~ 2007.12 (2 months)

The First CM Project for Government Office

SNU entrance station (subway line 2)

Gwanak Police Office

Project Characteristics

1. Project Outline

Background of CM introduction

Completion in the designated construction period

Complete Construction with Optimal Quality under Planned Budget/Designated Construction Period

Highest level of quality management

Completion in the planned budget

High end modern office

SNU entrance station (subway line 2)

The First CM Project for Government Office

Gwanak Police Office

Overall Architectural Plan

1. Project Outline

"Identity with Nature"

Locally Friendly

Intruding passage in the building to show Gwanak Mt, symbol of Gwanakgu

SNU entrance station

Concept

Frontality

Frontality abstract symbolic front elevation to associate Gwanak Mt.

Peak of Gwanak Mt.

Approach

Traditional Form

Introducing traditional architecture space adapted from Yeonjudae, Gwanak Mt.

Gwanak architecture style

Viewing city

Traditional house

Environment Friendly

Symbolizing 'hugging nature' through ecological axis

Concept house

View from south

Overall Architectural Plan

1. Project Outline



Project Schedule

1. Project Outline

- 2002.07 A feasibility study for the project
- 2004.01 Approve & notify the project plan for the urban planning business
- 2004.04 Select CMr for CM project
- 2004.05 Decide the prize winner for the design competition
- 2005.01 Complete basic/actual design
- 2005.03 Transfer to temporary offices
- 2005.03 Select constructors
- 2005.05 Start construction
- 2005.06 Complete clearing building & building waste
- 2007.09 Transfer to integrated new office
- 2007.11 Completion
- 2007.11 Acquire the certificate of eco-friendly building

Overall Architectural Plan

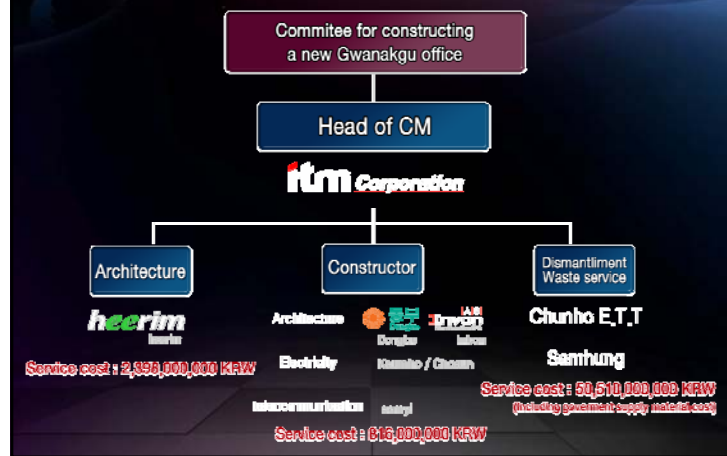
1. Project Outline



2. Organization for CM project



2. Organization for CM project



2. Organization for CM project

● **Project by step primary driving task**

Range of Services	Planning Steps	Design/ Agreement Steps	Construction Steps	After Construction Steps
Task	Review basic business plan	Evaluate validity of the contract	Clearing plan and management	Takeover/transfer completion document
	Review planned construction budget feasibility study	Design VE and constructability review considering in LCC	Manage construction process and cost	Transferring facilities
	Support for transferring office		Manage quality/safety/ environment/IT	Manage claims for defects
	install Gwanak PIMS	Contract management	Manage design changes and claims	Publish the construction paper

2. Organization for CM project

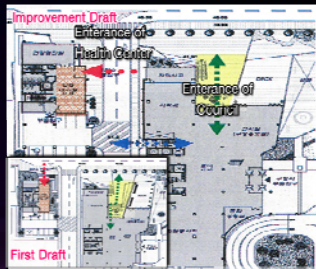


Design Management

3. CM outcome

Design coordination and proposal

Review the flow of human traffic by analyzing land utilizations



Each building entrance level formation (stairs/ramp) wayside/health center, office/health center low-level floor connectivity shortage

Each entrance level elimination health center entrance transfer building entrance for visitor of office/health center

Design Management

3. CM outcome

Design coordination and proposal

Realize the reasonable arrangement by reviewing space programs



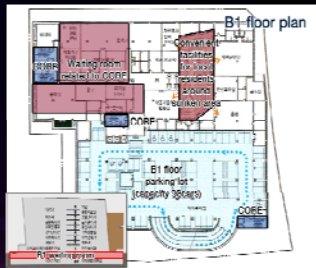
Optimize the efficiency of facilities by locating rooms integrally

Design Management

3. CM outcome

Design coordination and proposal

Realize the reasonable arrangement by reviewing space programs



Minimum parking ramp and reasonable human traffic

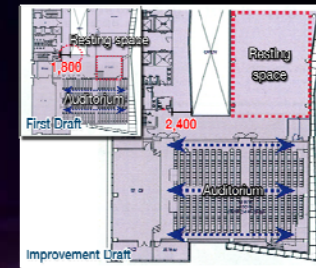
Related to front plaza sunken area, convenient facilities for local residents

Design Management

3. CM outcome

Design coordination and proposal

Realize the reasonable arrangement by reviewing space programs

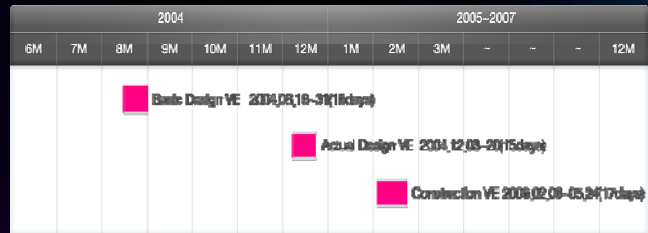


Narrow resting space for auditorium passengers insufficient the flow of human traffic for emergency evacuation

Secure the flow of human traffic for emergency evacuation by installing 1.5m sidewalk aisle. Enlarge the space for passenger convenience

3. CM outcome

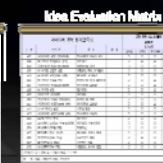
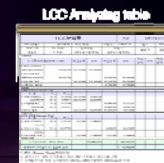
VE Schedule



3. CM outcome

Execution step

- Compile proposal
- Review proposal
- Decide best proposal
- Reflect actual design



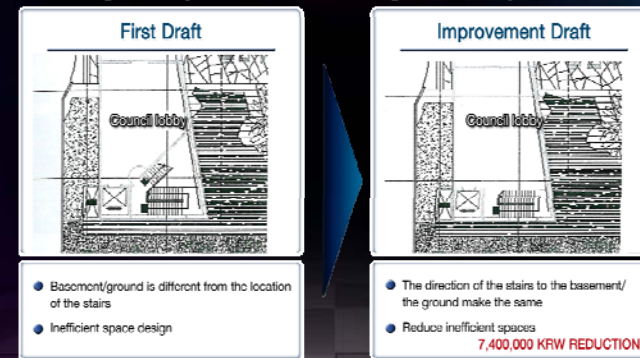
3. CM outcome

Design VE



3. CM outcome

● Basic design VE : Improvements of basement/ground stairway



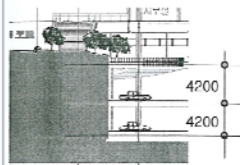
Design Management

3. CM outcome

V.E(Value Engineering) performed

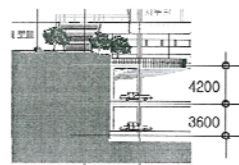
Basic design VE : Improvements of underground parking garage height

First Draft



- Basement floor level excessive design
basement parking lot excavation excessive

Improvement Draft



- Adjust the height of the basement
- Reduced excavation workloads for parking lots in basements

1,200,000,000 KRW REDUCTION

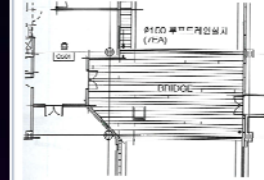
Design Management

3. CM outcome

V.E(Value Engineering) performed

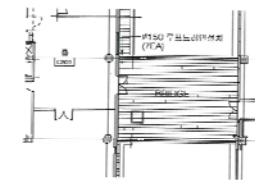
Execution design VE : Improvements of bridge

First Draft



- Bridge 14,900 x 7,800 mm

Improvement Draft



- Bridge 12,900 x 7,800 mm change
- An efficient local use

3,700,000 KRW REDUCTION

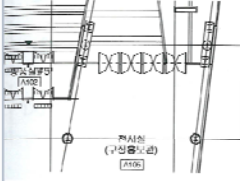
Design Management

3. CM outcome

V.E(Value Engineering) performed

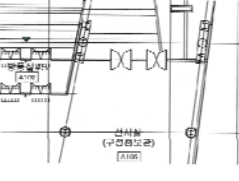
Execution design VE : Improvements of showroom gate

First Draft



- Showroom gates are over-designed

Improvement Draft



- Only 2 gates are designed

8,900,000 KRW REDUCTION

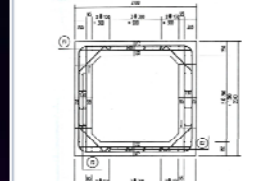
Design Management

3. CM outcome

V.E(Value Engineering) performed

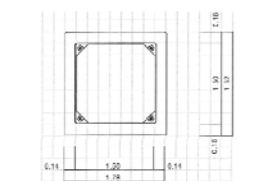
Execution design VE : Improvements of excellent culvert

First Draft



- Use cast in place culvert BOX (1,500 x 1,500)

Improvement Draft



- Use preload culvert BOX
- Improve constructability and reduce the term of works

6,600,000 KRW REDUCTION

Design Management

3. CM outcome

V.E(Value Engineering) performed

Execution design VE : Improvements of rebar processing method

First Draft



- Need open-air storage yard and processing place because on-site processing

Improvement Draft



- Use factory-made rebar
- Maximize the quality with precision

0 KRW REDUCTION

Design Management

3. CM outcome

V.E(Value Engineering) performed



2,120,000,000 KRW Reduction
Construction/Structure



58,000,000 KRW Reduction
Civil engineering/Landscape



1,300,000,000 KRW Reduction
Machine/Fire protection



590,000,000 KRW Reduction
Electricity/Communication

4,070,000,000 KRW Reduction via design VE
(8.05% of entire project cost)

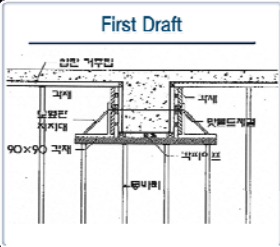
Design Management

3. CM outcome

V.E(Value Engineering) performed

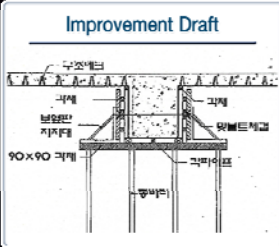
Execution design VE : Improvements of basement floor wall

First Draft



- Construction period and constructability decline

Improvement Draft



- DECK+SYS, puncheon construction change
- Easy constructability and period reduction
- Various waste reduction

0 KRW REDUCTION

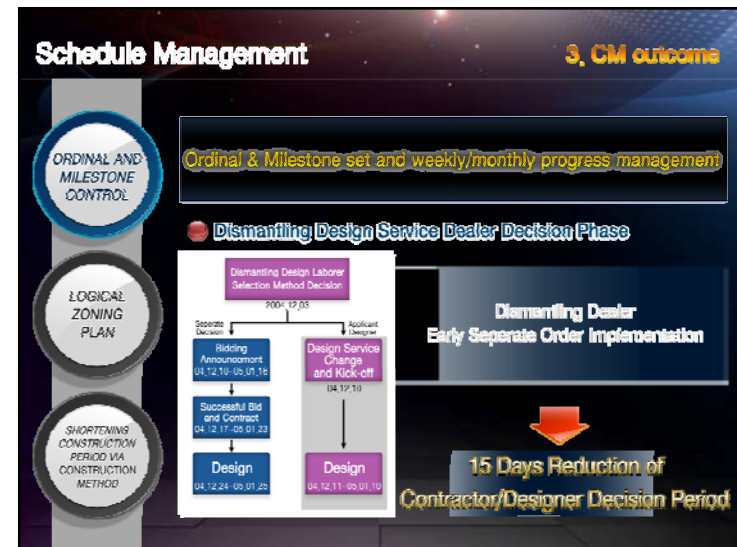
Schedule Management

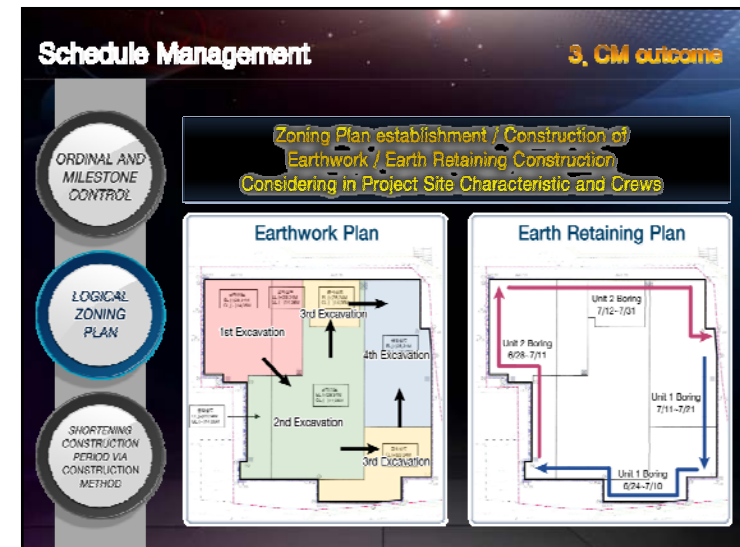
3. CM outcome

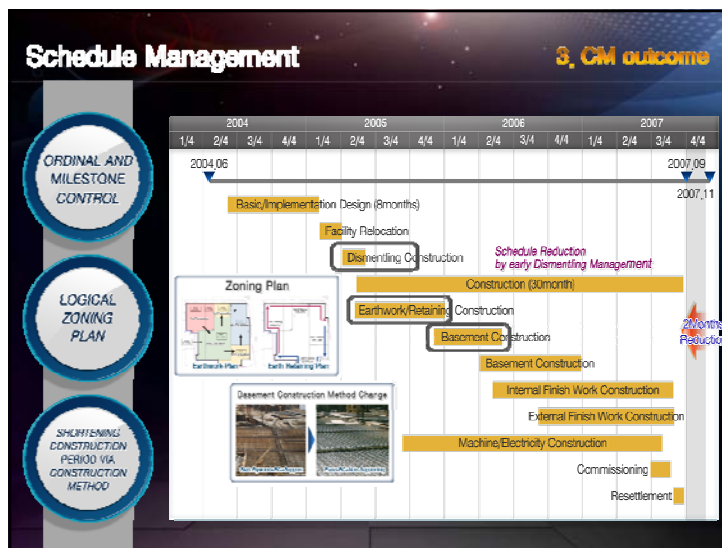
ORDINAL AND MILESTONE CONTROL

LOGICAL ZONING PLAN

SHORTENING CONSTRUCTION PERIOD VIA CONSTRUCTION METHOD







Safety Management

3. CM outcome



Claim Control

3. CM outcome

Main List Management Implementation for claim prevention



- 1 Completion pre-estimation of various design drawing
- 2 Specification application material, construction standard clarification
- 3 Design change in contract, claim list write
- 4 Prospect civil complaint matter from field conditions
- 5 Review of possible factor in project cost change

Claim Zero Actualization from Ambiguous Risk
Understand beforehand for Project Implementation

Safety Management

3. CM outcome

Main Safety Management Factors

Make Shift and Earth Retaining



Surrounding building damage minimization
Heavy rain and snow damage minimization

Structural Construction



T/C installation and stability review
Middle-load material and disaster prevention

Finish Work Construction



Step-by-step curtain-wall installation
Risk prevention from inspection of material

Safety Inspection Performance



Self inspection : 185
External inspection : 69
Special inspection : 10

(Number of call/measure completion)

Claim Control

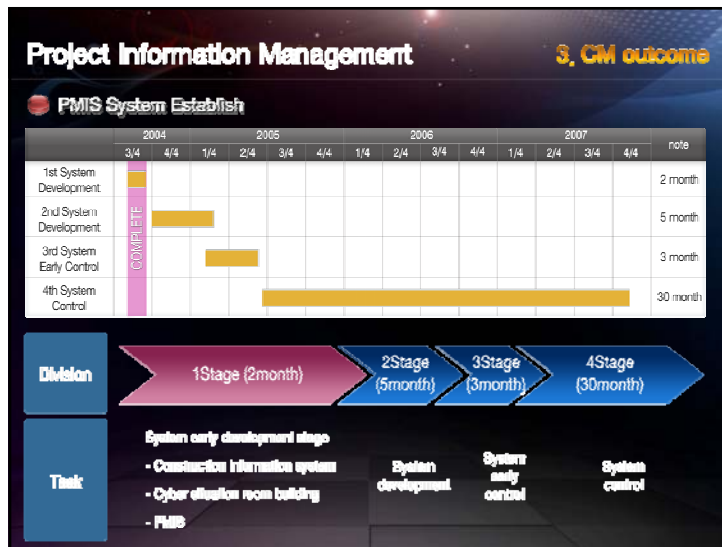
3. CM outcome

Contractor Coordination Performance



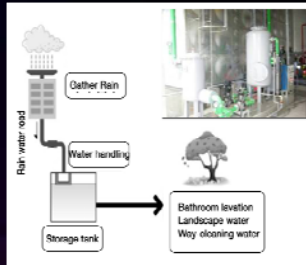
Partnering

Control beforehand from Claim Occurance Factor by Efficient cooperation
between Number of Project Participation and Opinion Mediation



Eco-Friendly Certification Management

Proactive Use of Alternative Energy in Satisfying Eco-Friendly Loaded Policy
Certification Acquisition from Pre-arrangement and Support about Eco-Friendly



● Eco-friendly water reclamation use

- Water reclamation use from rain water and dewatering method
- Bathroom water-purifying utilization
- Lavation utilization for clearing tube road

Eco-Friendly Certification Management

Proactive Use of Alternative Energy in Satisfying Eco-Friendly Loaded Policy
Certification Acquisition from Pre-arrangement and Support about Eco-Friendly



● Electricity/Light auto control system

- Electricity/light super power-saving by central supervisory control
- Maintenance optimization considering LCC
- Electricity/light energy save



1st Domestic Public Government Office Building,
Excellent Eco-Friendly Building Certification Acquisition

Eco-Friendly Certification Management

Proactive Use of Alternative Energy in Satisfying Eco-Friendly Loaded Policy
Certification Acquisition from Pre-arrangement and Support about Eco-Friendly



● Green Roof

- Rest zone for each building users
- Temporary load and skin load reduction
- Energy cost reduction from insulating effect



