University of California, San Diego Cal IT^2

Brian Smith

Schematic Design Presentation
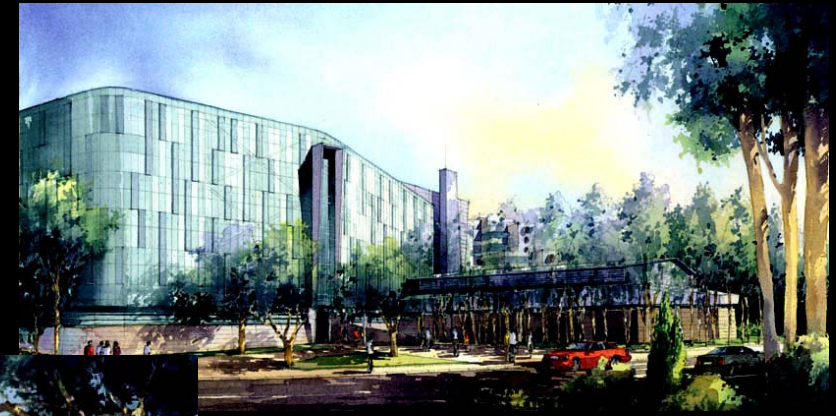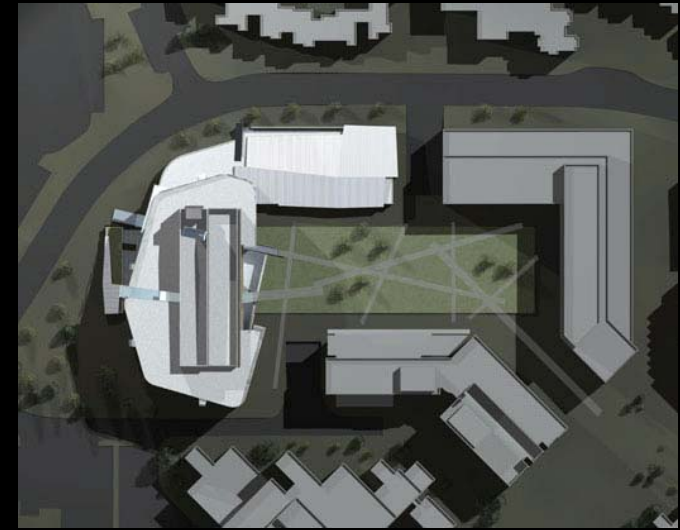06 December 2005

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Building Overview

Location: University of California, San Diego

Size: 220,000 s.f.

Architect: NBBJ (San Francisco, CA)

California Institute for Telecommunications and
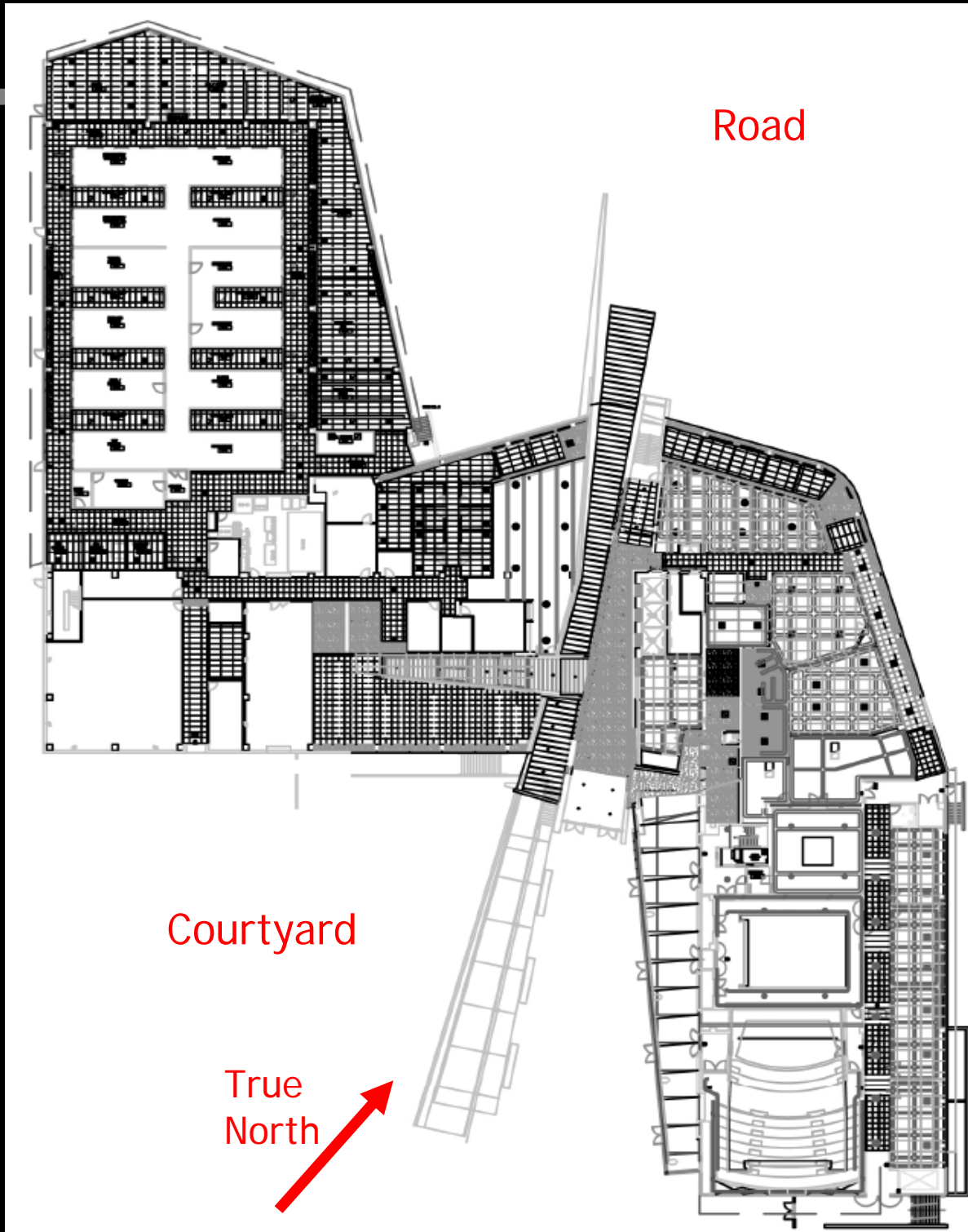Information Technology

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Building Uses:

Research Laboratories

Seminar Rooms

Black-box Theater Space

Private Offices

Multipurpose Room

Computer Laboratories

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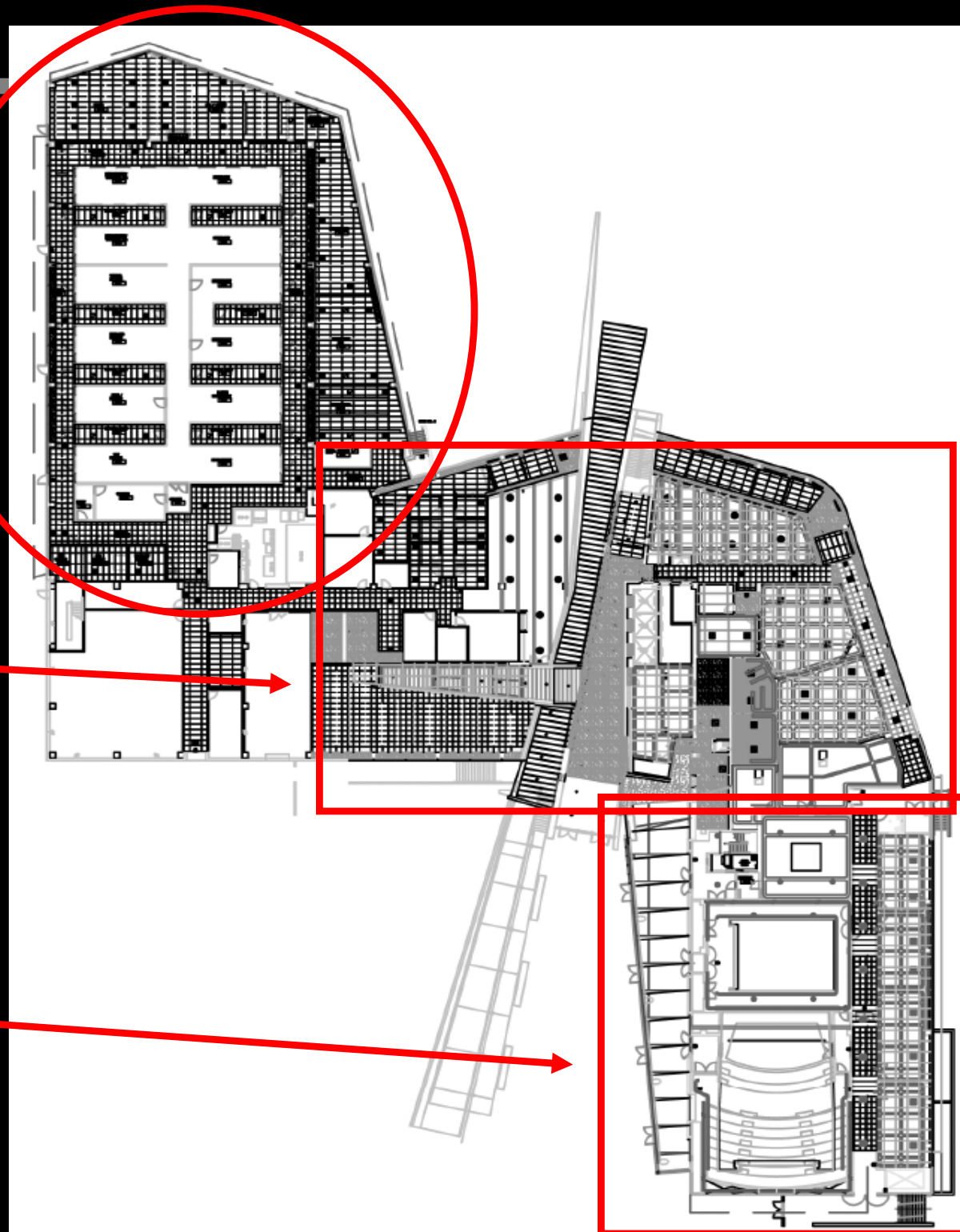
Road

Courtyard

True North

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Entire Building Layout

Section A – 2 Stories

Section B – 7 Stories

Section C – 2 Stories

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Entire 1st Floor Plan Showing:

- Lobby & Gallery Space
- Black Box Theater
- Underground Tunnel
- Laboratories
- Offices and research room

Courtyard Entrance
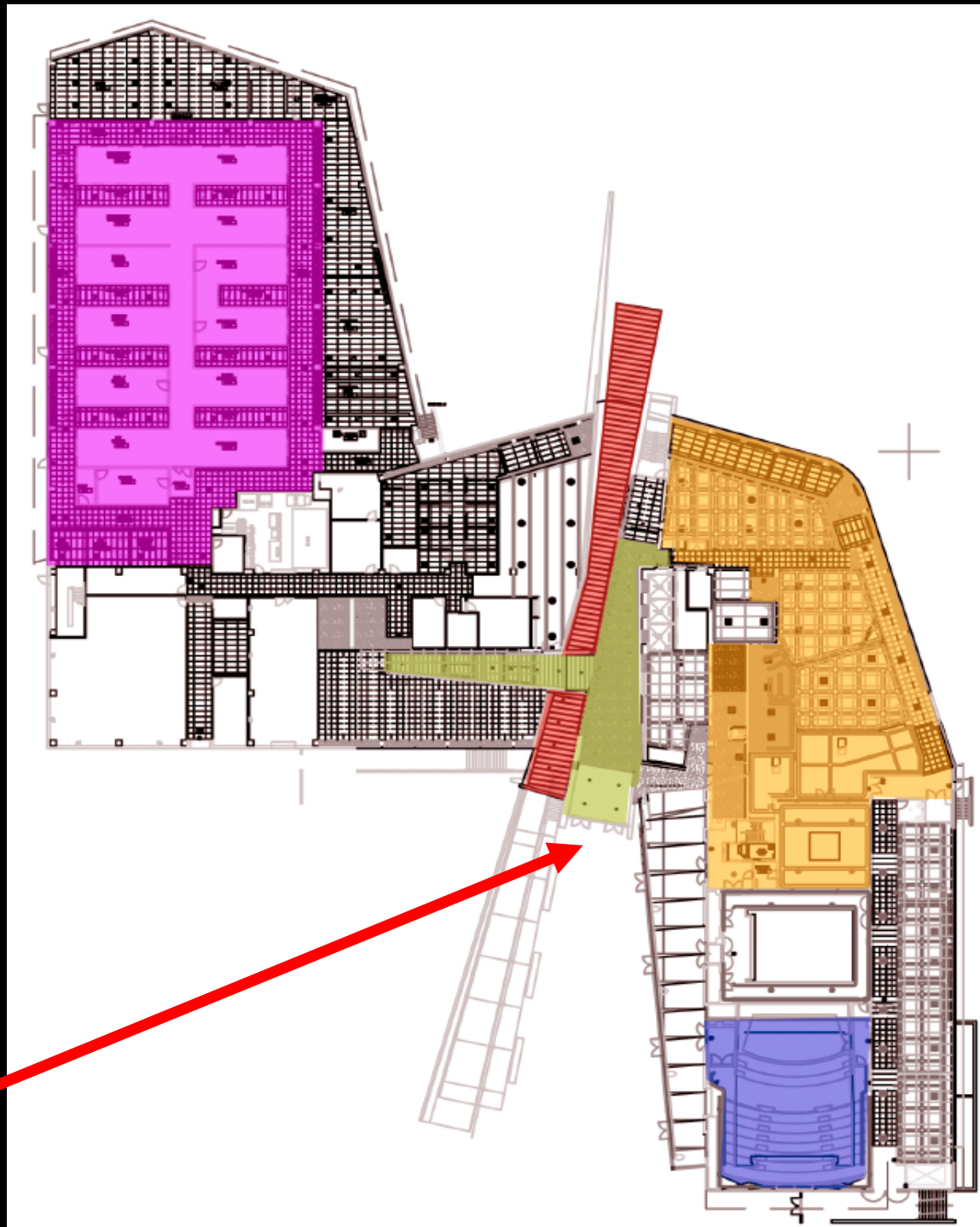
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Section B

Typical Upper Floor Plan

- Cluster Research Area
- Lobby
- Cubicle Research Area
- Elevators
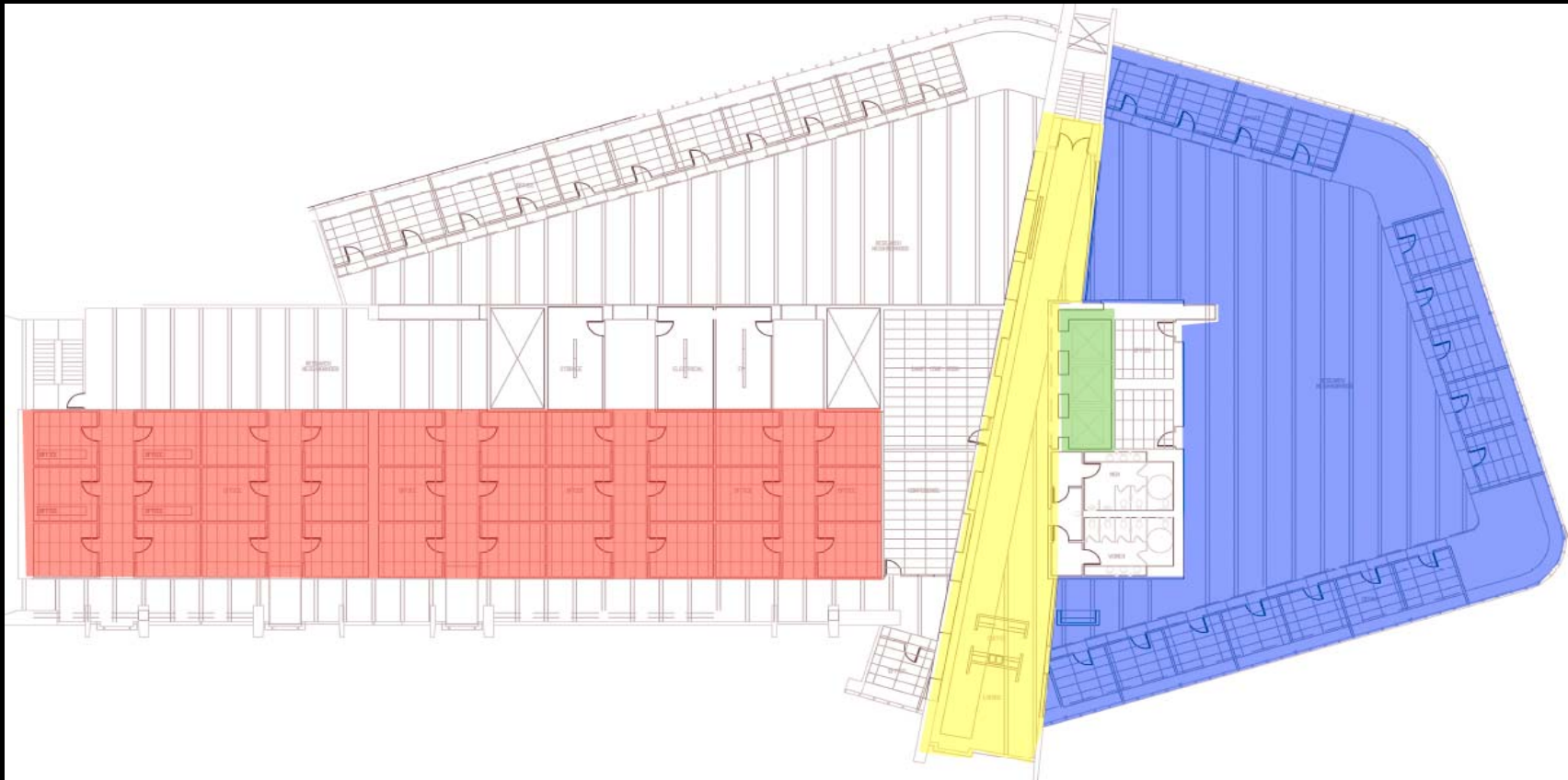
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Spaces chosen for redesign:

Lobby & Gallery Space

Underground Tunnel

& Courtyard

Black-Box Theater

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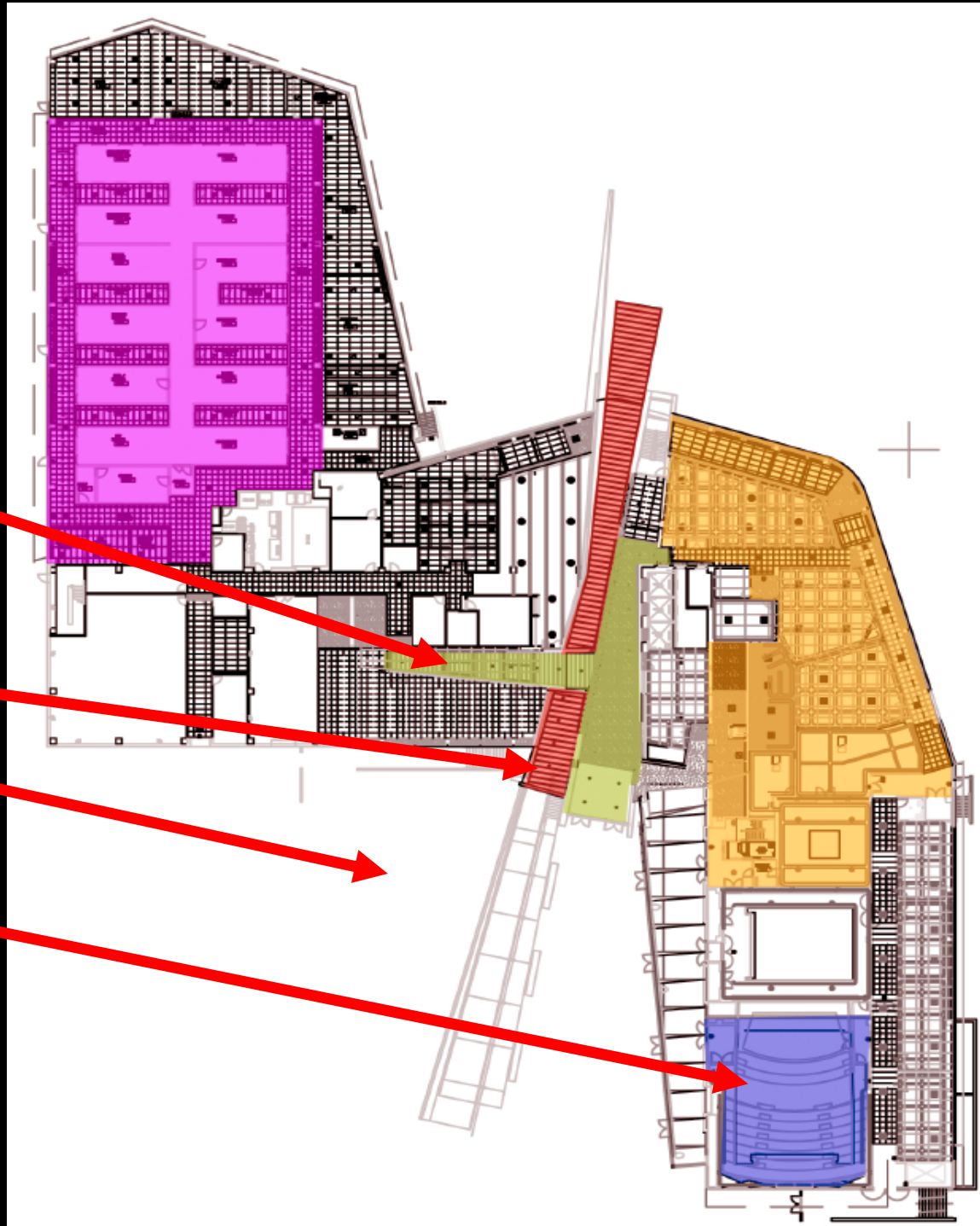
Section B

3rd Floor Plan

Additional Space chosen for redesign:

3100 Cluster Research Area
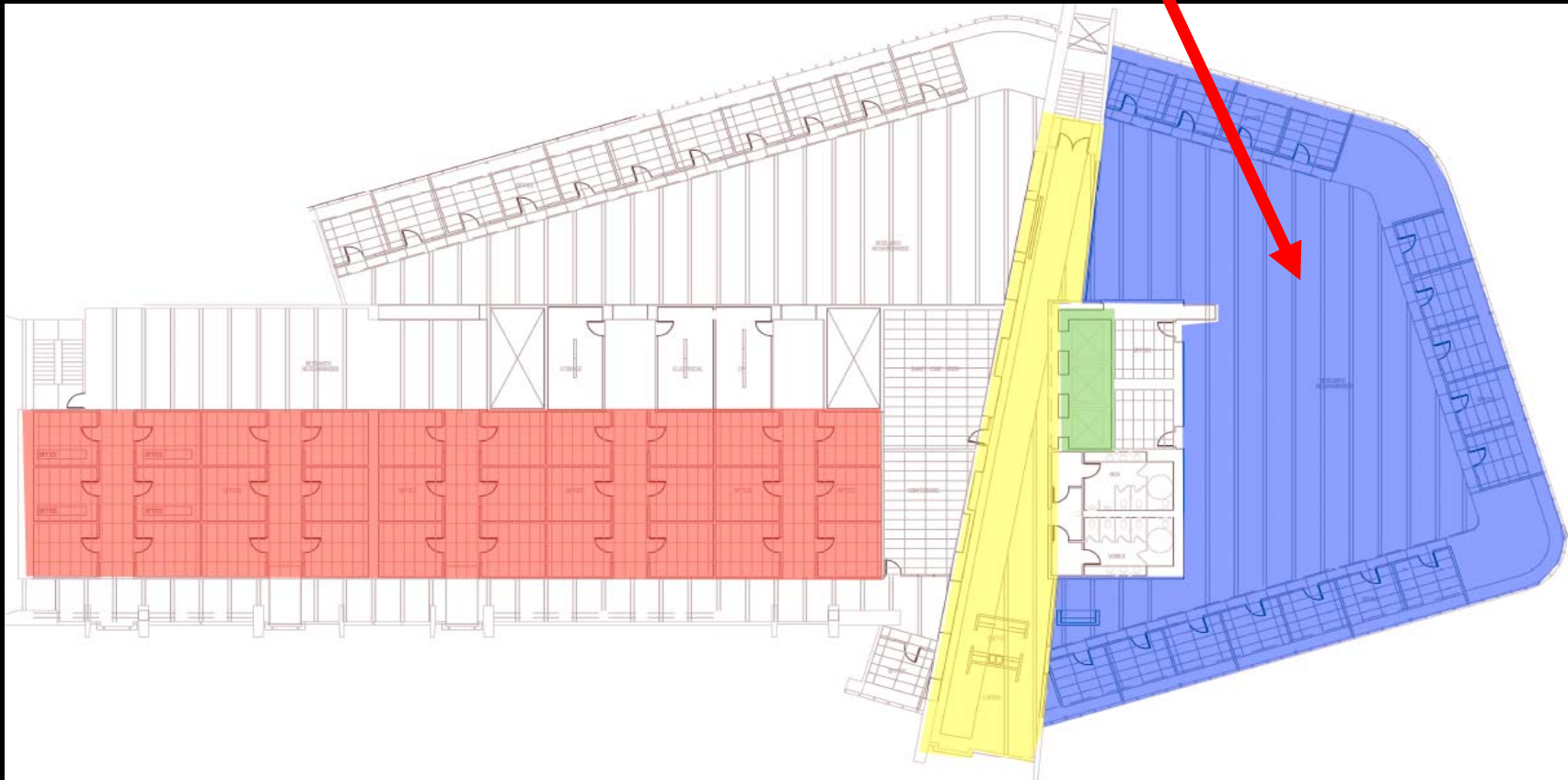
Concepts

Fast Information

Technology

Movement

Computer Chip

Computers

Innovation

Lines of Light

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Concept Metaphor

Computer Server

Moving information fast

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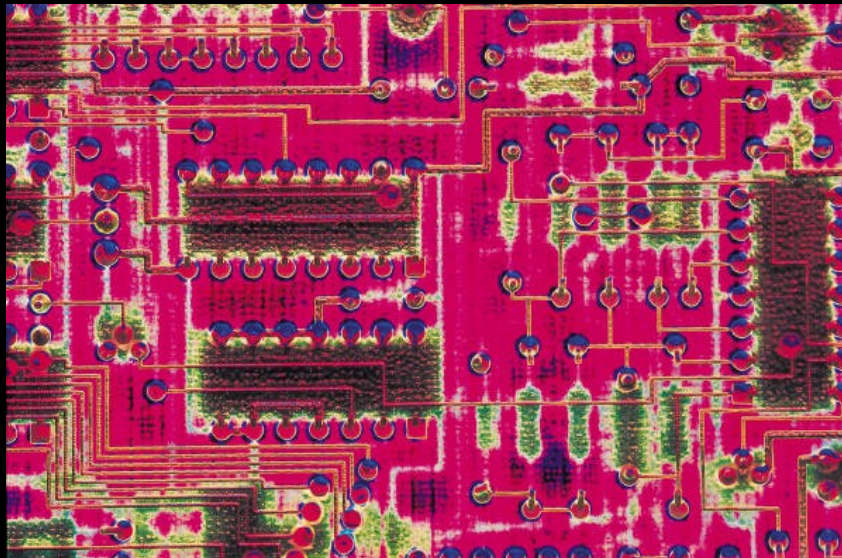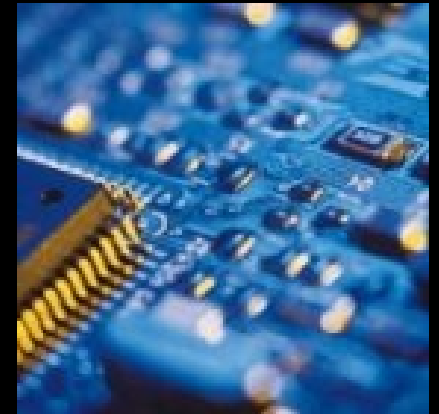
Major Design Goals

-Use light to guide people to their destination fast

-Provide a feeling of technological advancement as you move through the bldg

-Atmosphere to feel comfortable for long periods of time

-Welcoming yet technological atmosphere

Main Lobby

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Main Lobby – Courtyard entrance

Design Goals:

-Provide an innovative space that
        shows the technological
        advancement of the building

-Use lines of light to guide people
        through the space fast and
        efficiently

-Cooler color temperatures

-Impact of the tunnel through the
        lobby

-Emphasize the different ceiling coves
        throughout the gallery and
        lobby

-Highlight photography and works on
        the walls in the open gallery

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Main Lobby – Courtyard entrance

Room Characteristics

Walls: White and Light Green

Floor: Marble tile
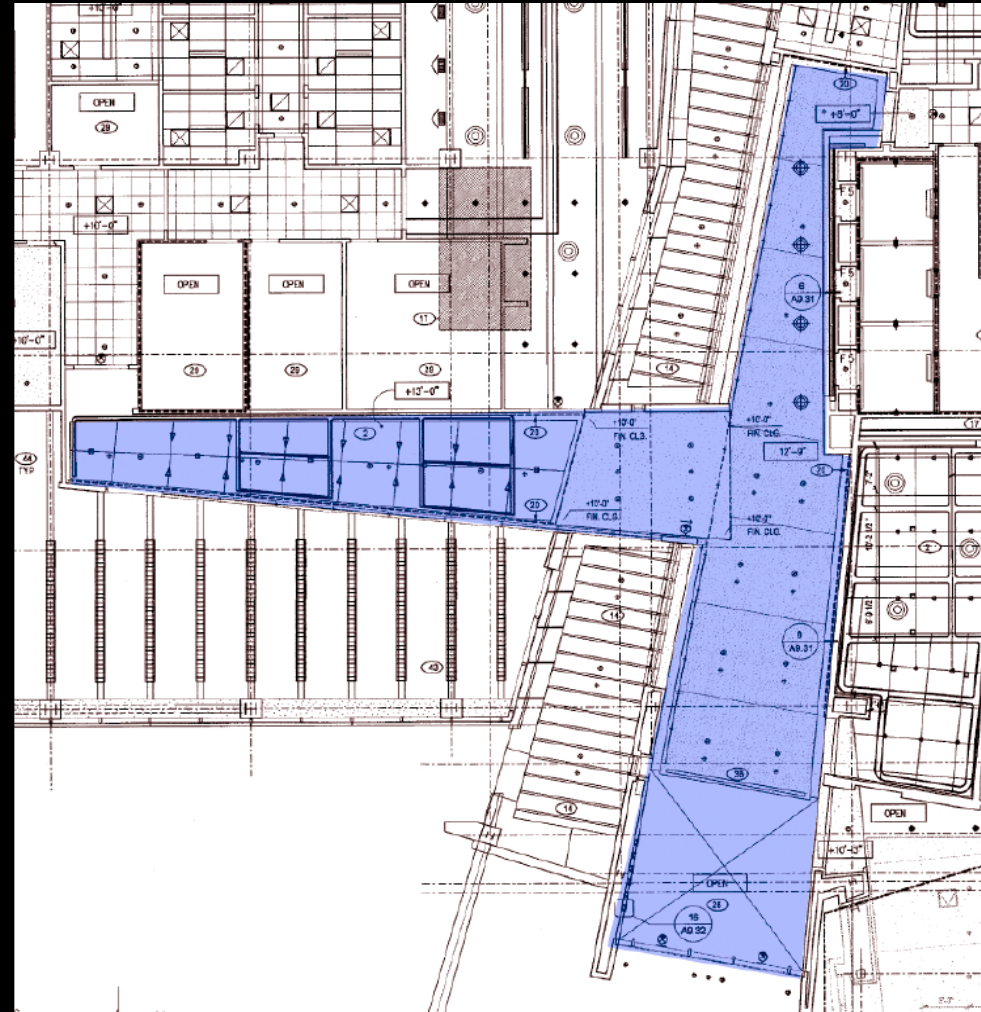
Clear glazing on walls connected to tunnel

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Lobby & Gallery Concepts

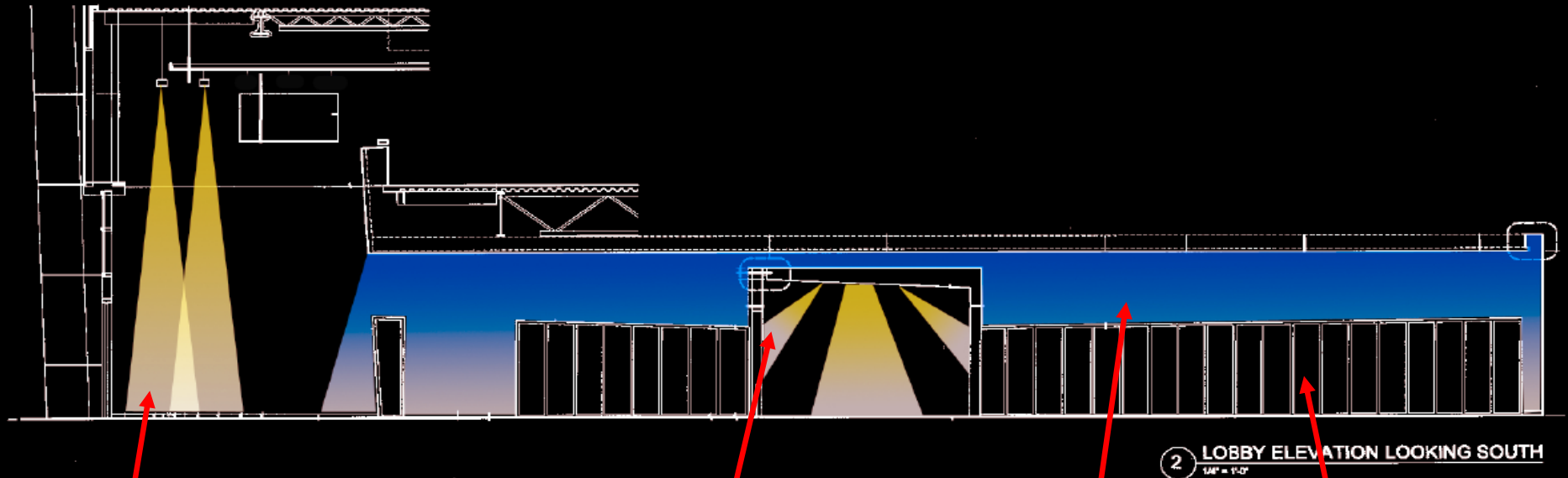# UCSD Cal IT² San Diego, CA
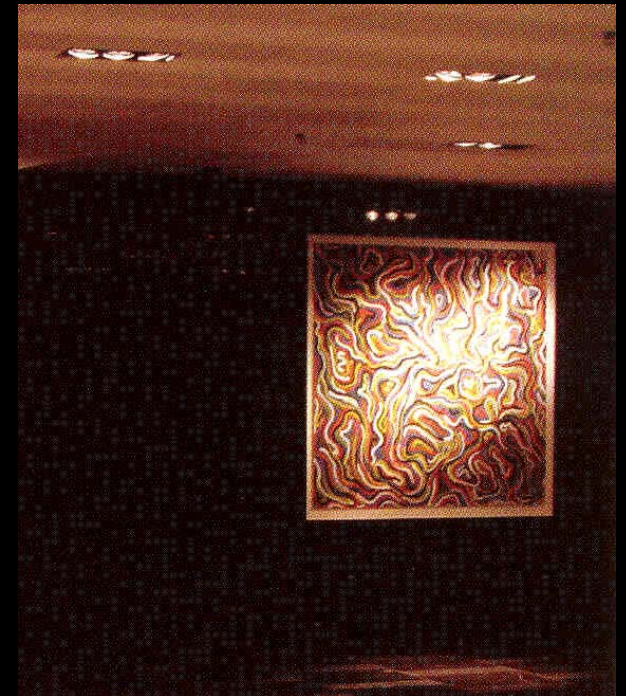
Lobby/Gallery Section

Decorative Pendant Lighting for Entrance

Accent Lighting for Open Gallery Space

Colored light wall-wash

Windows looking into underground tunnel

2 LOBBY ELEVATION LOOKING SOUTH

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Entrance into Lobby Space
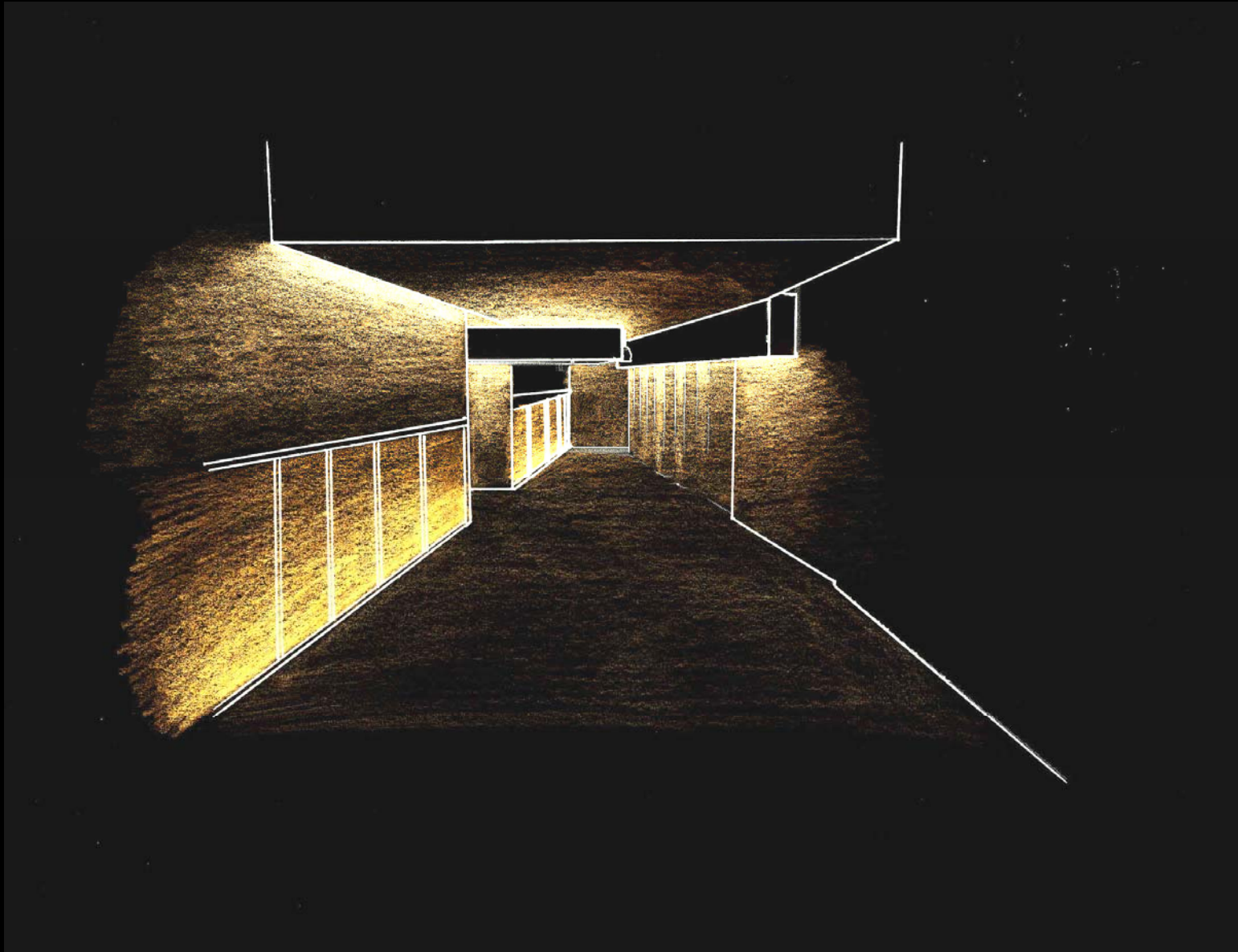
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Open Gallery Space off of Lobby
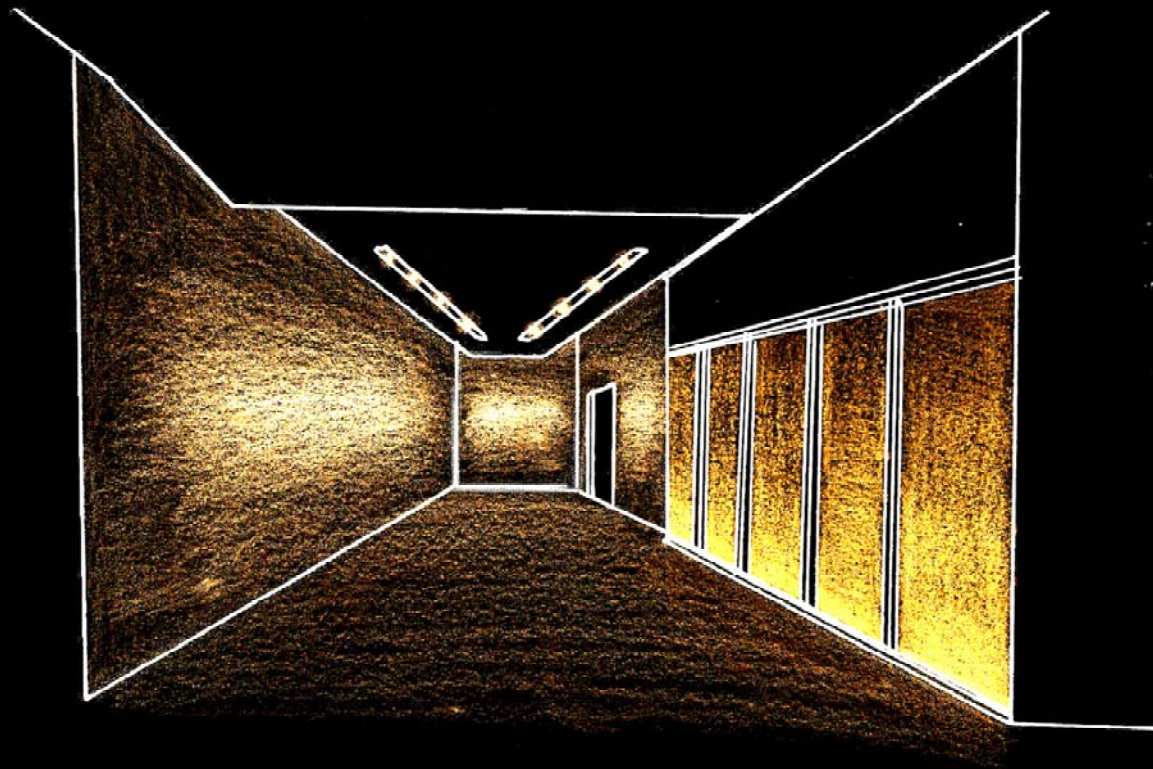
Black-Box Theater

Black-Box Theater

Design Goals:

-Provide two different lighting
    schemes

-Enough light for reading and writing
    during educational sessions

-Apply dimming system to adjust
    lighting levels during
    performances

-Use different color temperatures
    bring technological feel into
    space

-Use very small light sources in ceiling

Theater Concepts

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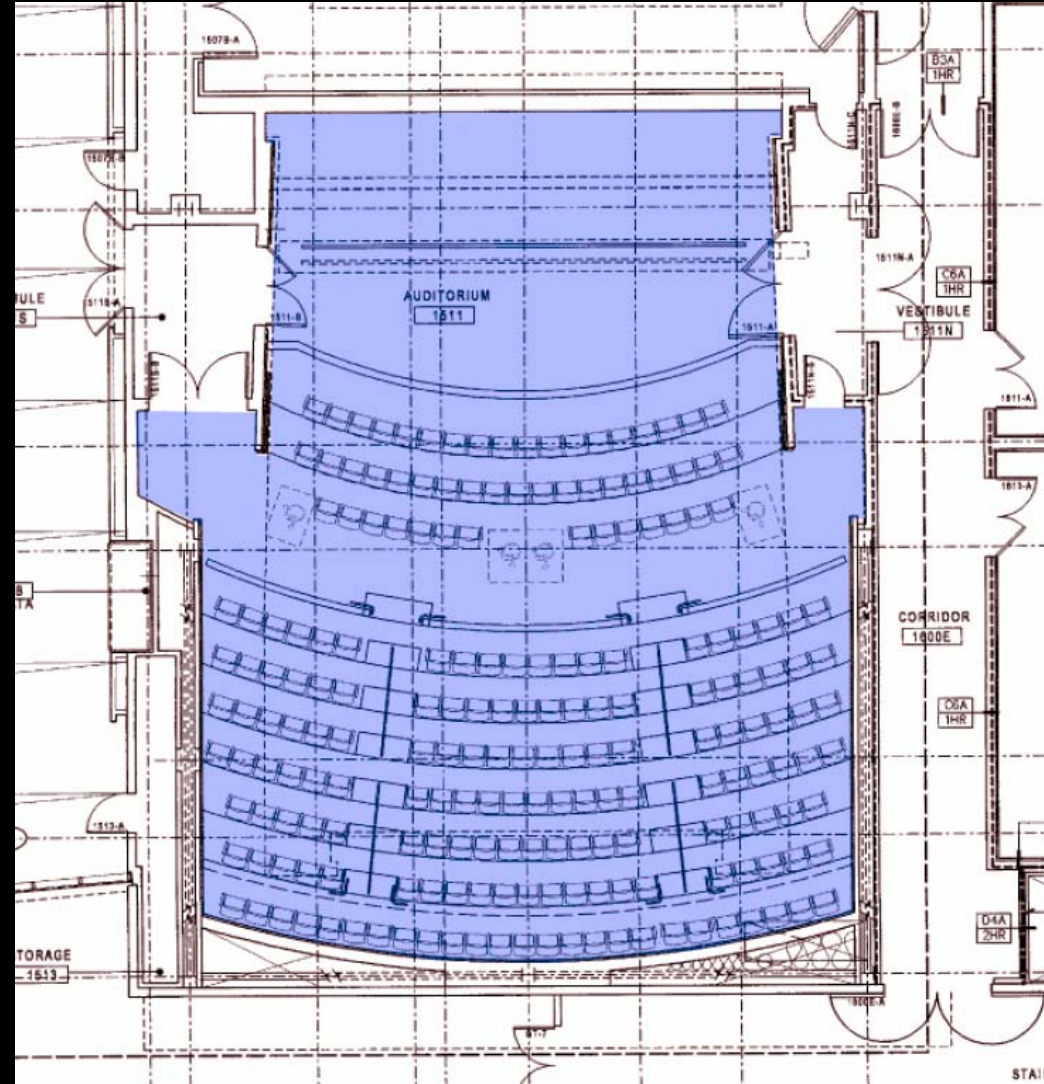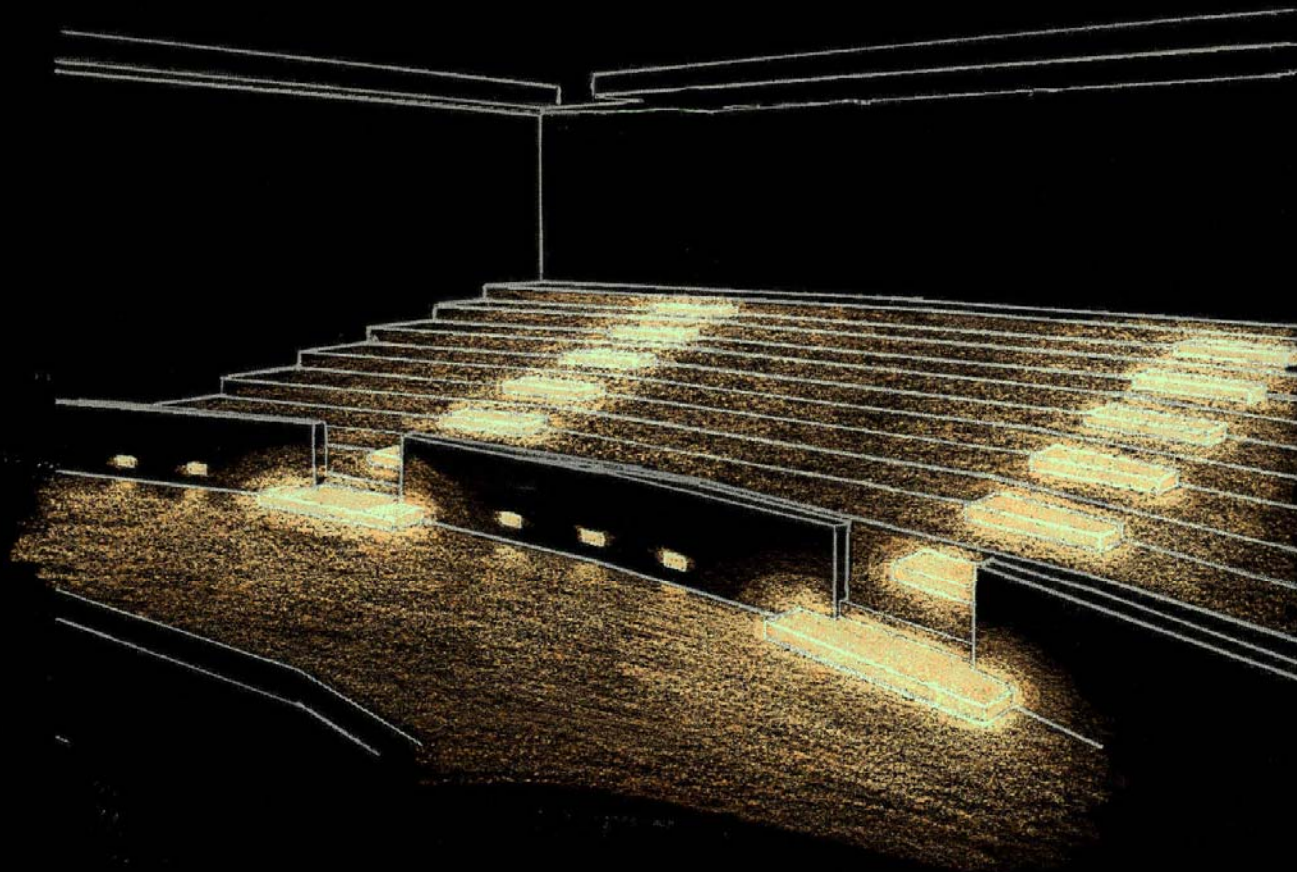Reflected Ceiling Plan showing a general layout for ambient lighting during educational sessions.

A small cylindrical downlight will be used.

This added light is needed for reading and writing during these sessions.

FUTURE SCRE
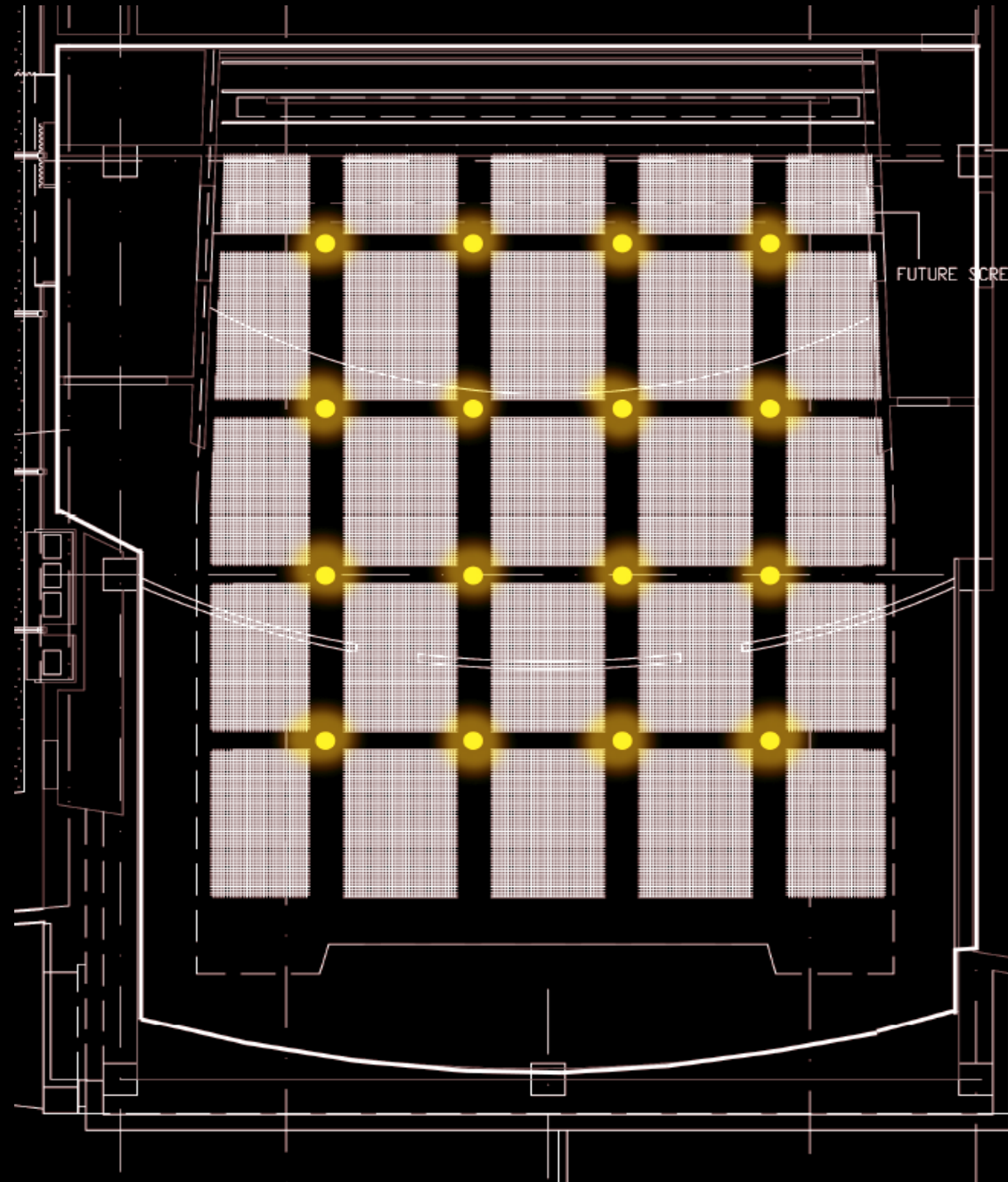
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Black-Box Theater with fully illuminated Floor Boxes

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Black-Box Theater with dimmed Floor Boxes
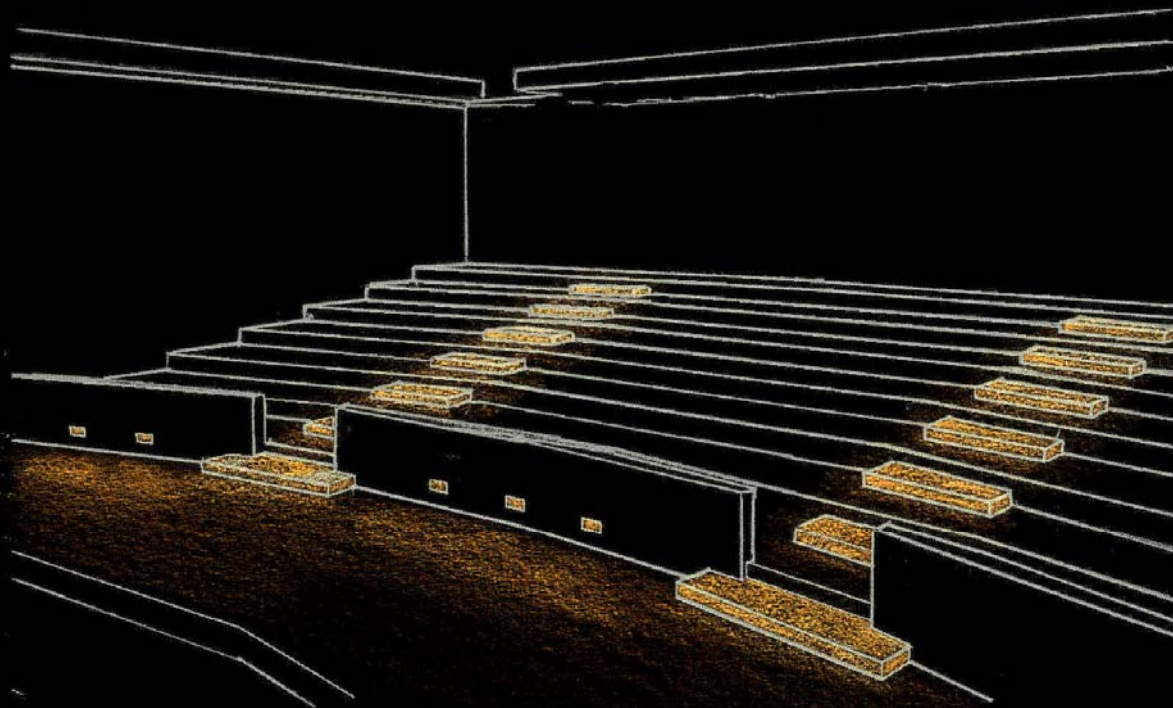
3100 Research Cluster

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3100 Research Cluster

Design Goals:

-Achieve enough light on the workplanes

-Avoid veiling reflections on VDTs

-Bring daylight into the space

-Provide comfortable setting for researchers

-Emphasize the size of the space

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3100 Research Cluster Concepts

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Reflected Ceiling Plan

3100 Research Cluster
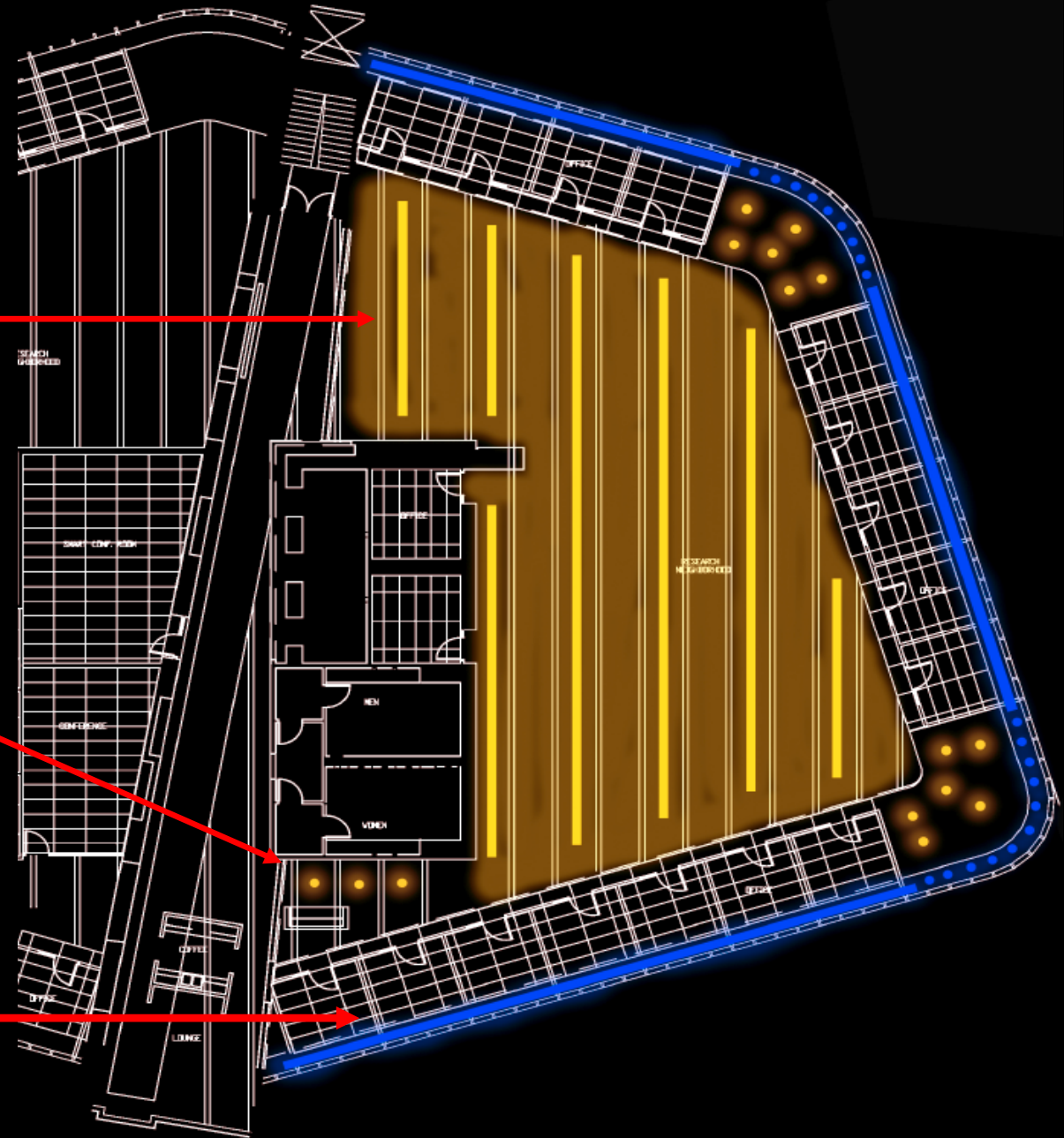
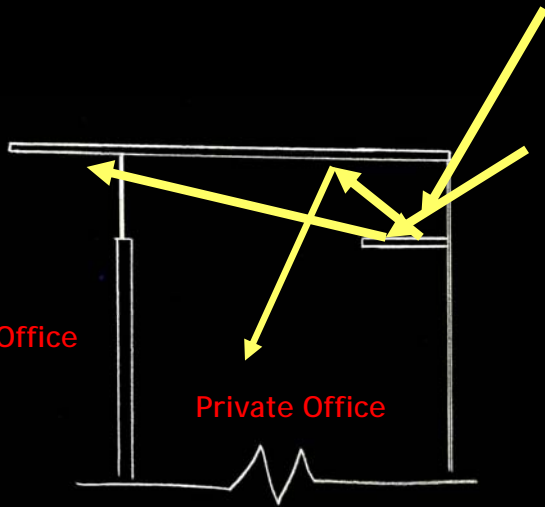Suspended linear fluorescents in line with trusses

Downlighting

Colored LED uplights

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Daylighting Sketch
showing the daylight
integration into the
main research cluster

Open Office

Private Office

Academic Courtyard

Academic Courtyard

Design Criteria:

-Follow University of California's standards for exterior lighting

-Avoid dark patches

-Use a cooler color temperature at entrance to tunnel to lead people into it

-Keep with the technological feel of the building while keeping with the college campus atmosphere

-Minimize light trespass and use full cut-off for pole fixtures

-Avoid glare

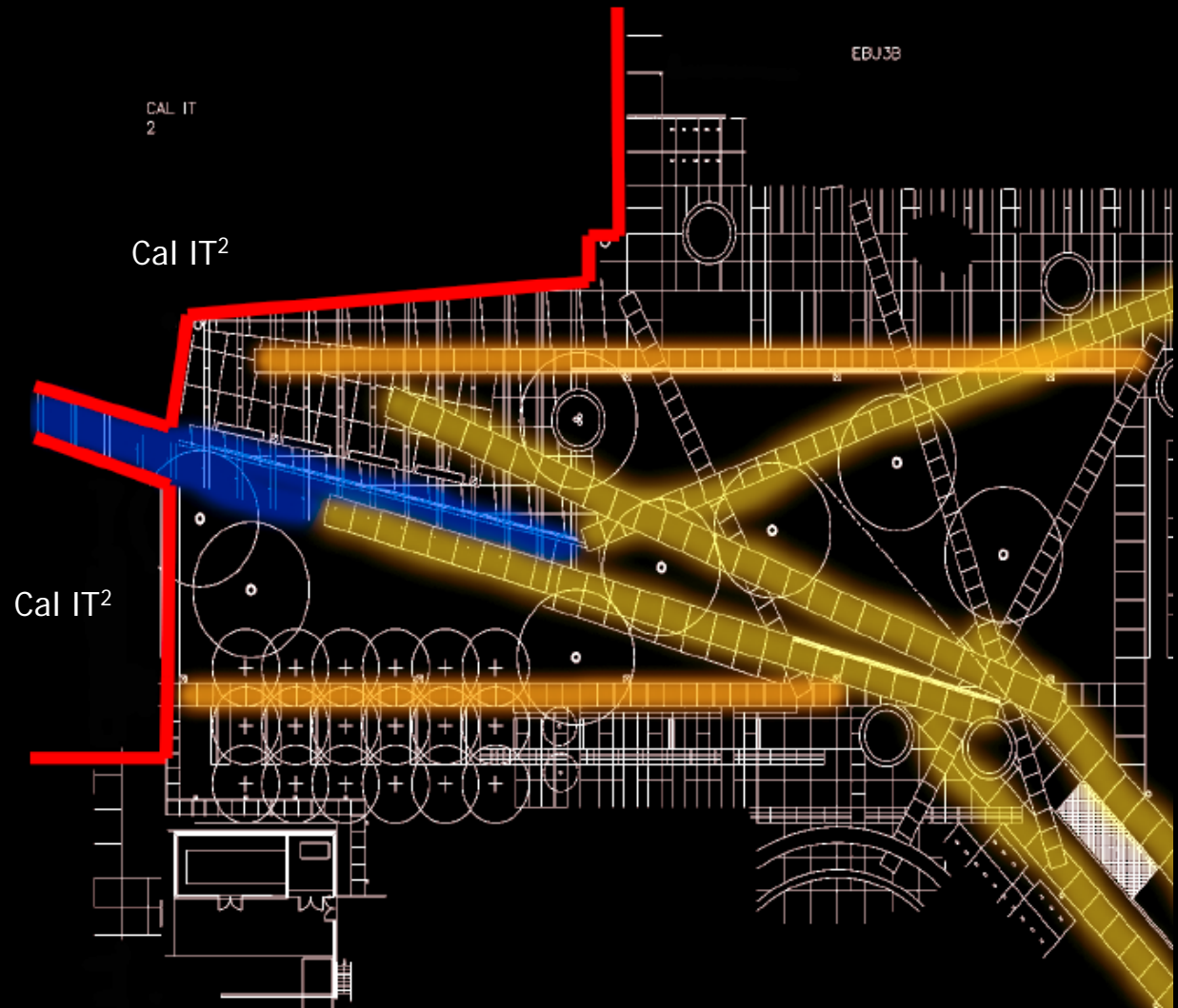# UCSD Cal IT² San Diego, CA
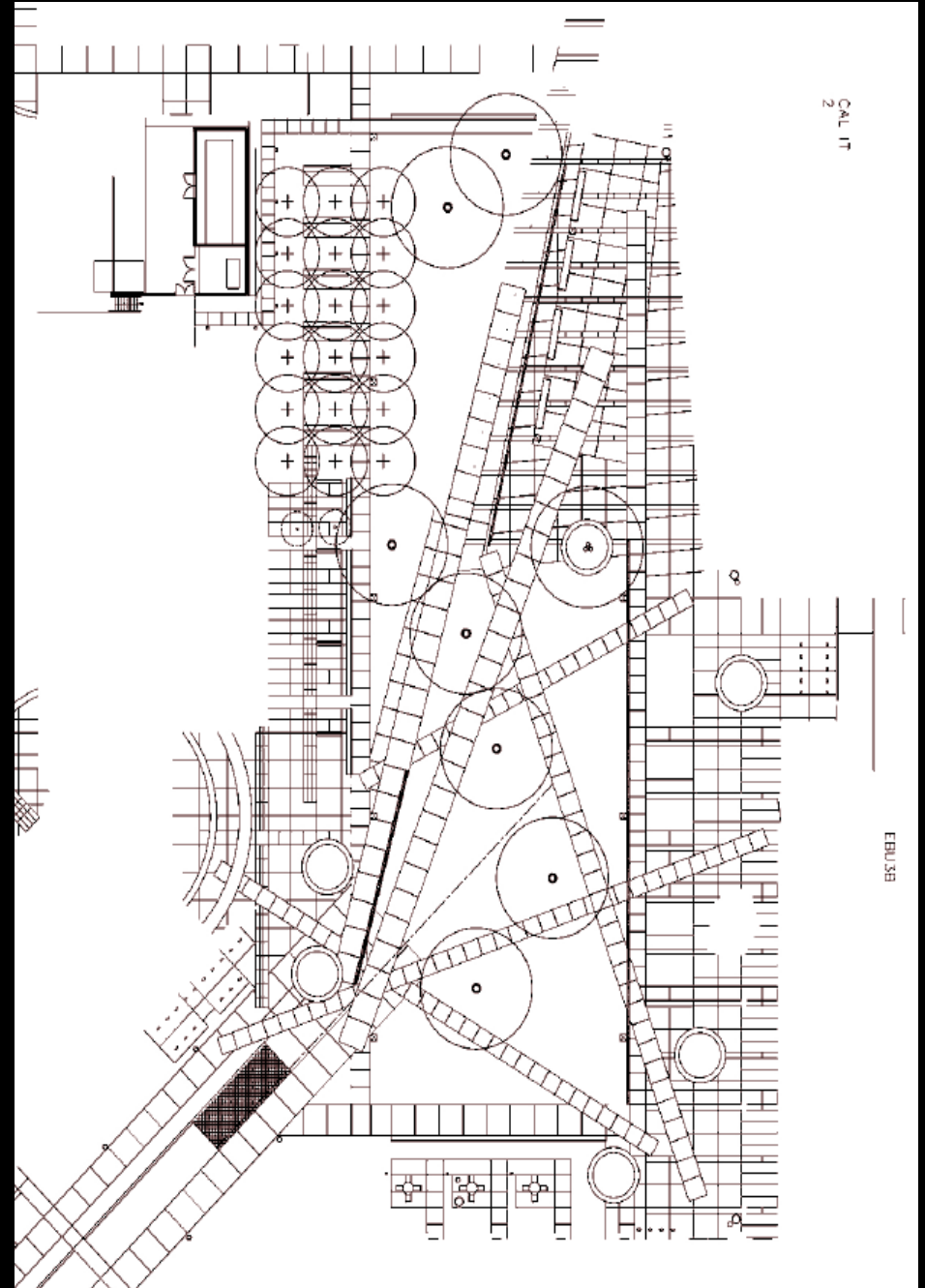
Academic Courtyard Plan

Entrance to Underground Tunnel

Primary Walkways

Secondary Walkways

Poles can be used for Primary walkways

Bollards and tree lighting can be used for secondary walkways

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Some Lighting Concepts
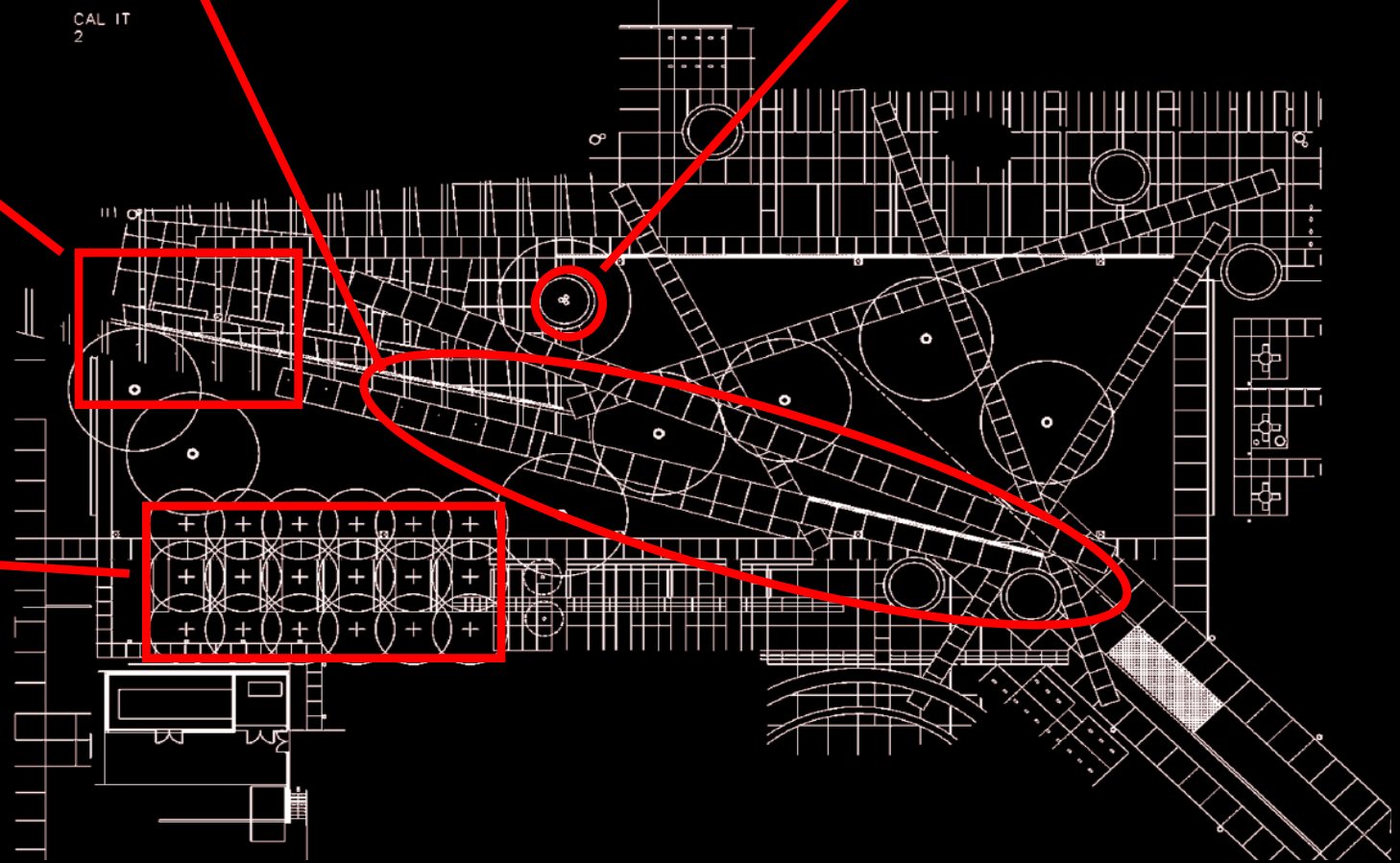
Accent lighting for teddy bear sculpture

Low Pressure Sodium pole lighting for primary walkways to keep continuity with rest of campus. Bollards can be used for secondary walkways.

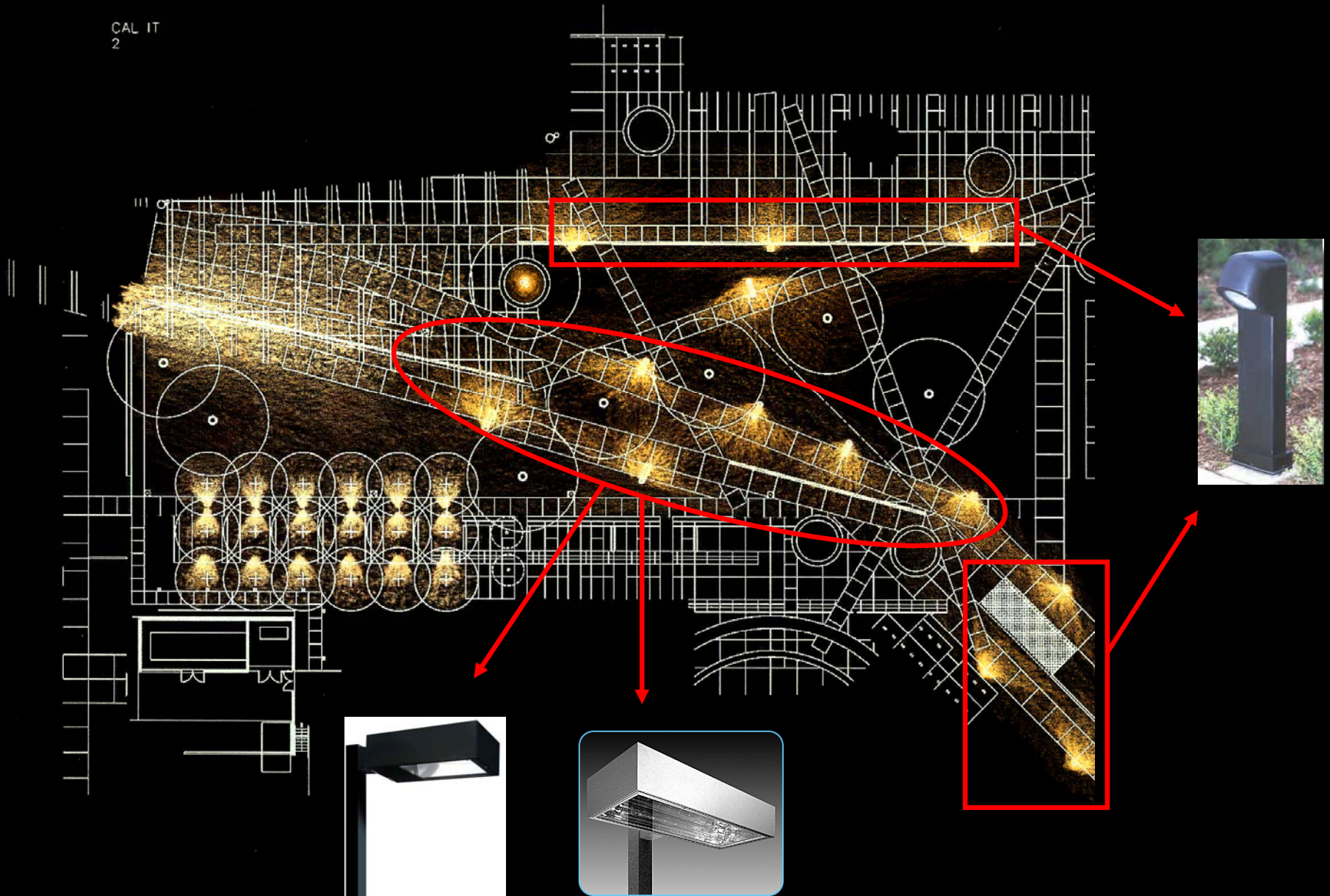Downlighting on open canopy for entrance to tunnel
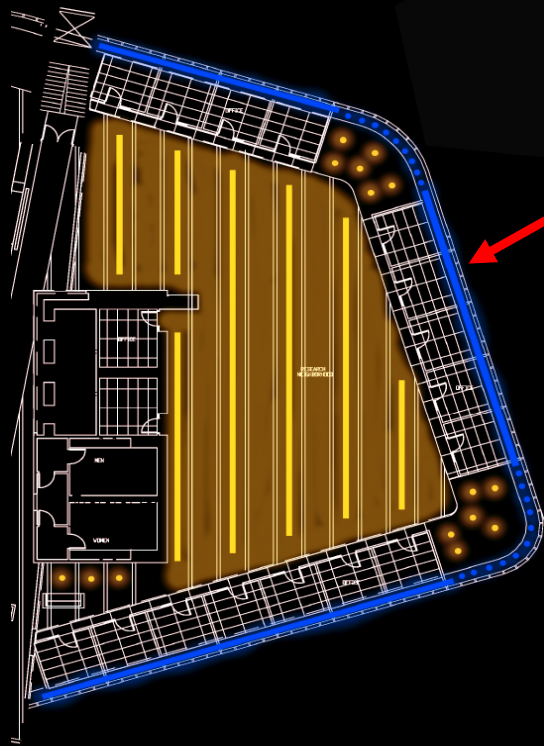
CAL IT 2

Up-lighting for patch of trees

Academic Court Lighting Scheme

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Exterior Concepts from LED up-lights inside building

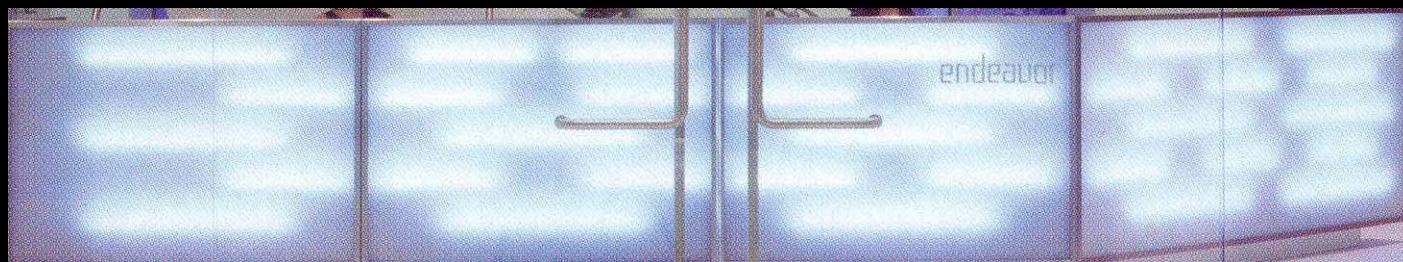Multicolored LED up-lights can generate a nice glow for the exterior of CAL IT^2.

Different colors can be used to accent the large vertical boxes on the courtyard façade as seen in this example.
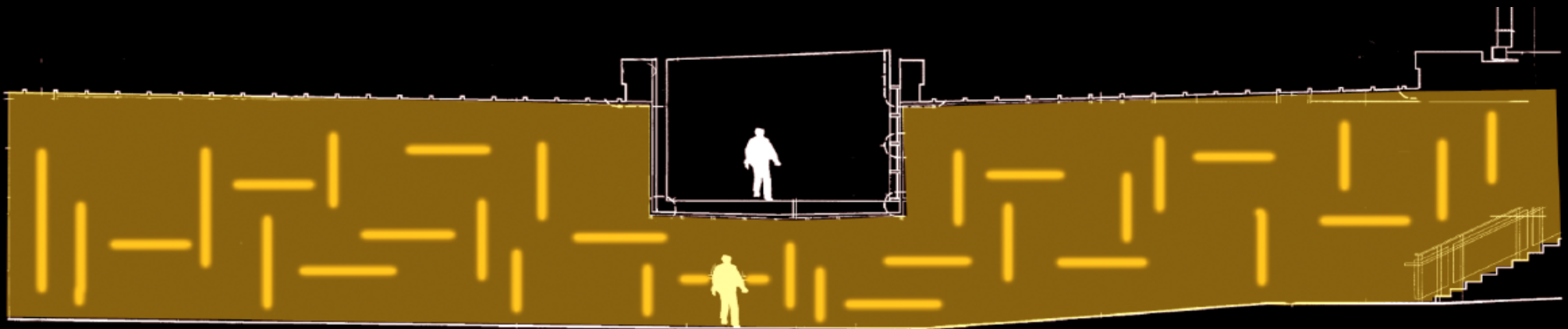
Underground Tunnel

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Underground Tunnel Concepts

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Underground Tunnel Section

A slow movement of light will lead people through the tunnel. The randomly placed fluorescent tubes will illuminate the tunnel while creating a moving information highway.
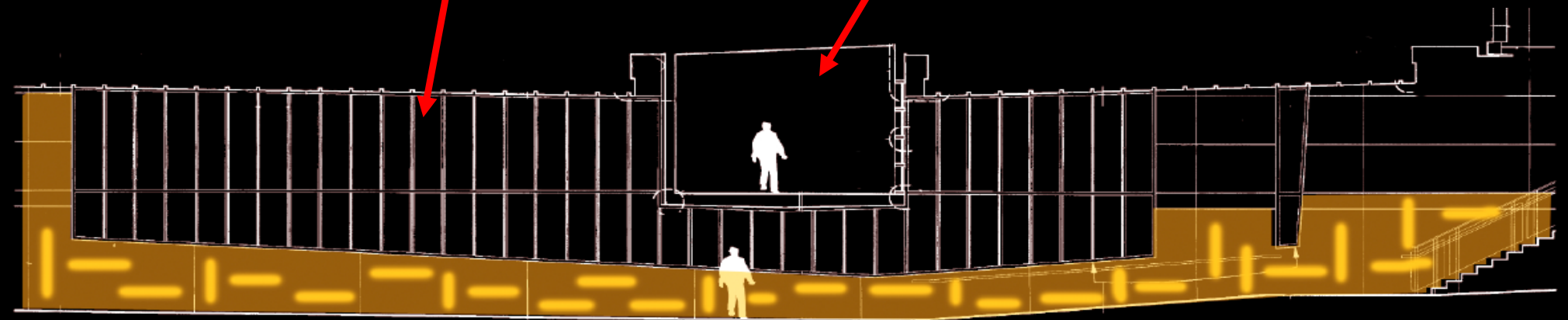
Oscillating Movement

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Underground Tunnel Section

Windows to Lobby

Entrance to open gallery adjacent to lobby

Oscillating Movement

Conclusions

UCSD Cal IT2 is a very advanced, technological building.

Using lines of light to guide people through the building emphasizes the need to move information fast.

The underground tunnel shows the advancement of the building and the inner workings of a computer server through light.

The façade resembles a major hub of communication through the use of different colored light. They emphasize the architectural features of the building.

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Thank You!

Have a Great Day

Questions and Comments are Welcome