

Nature Lab

RHODE ISLAND
SCHOOL OF DESIGN

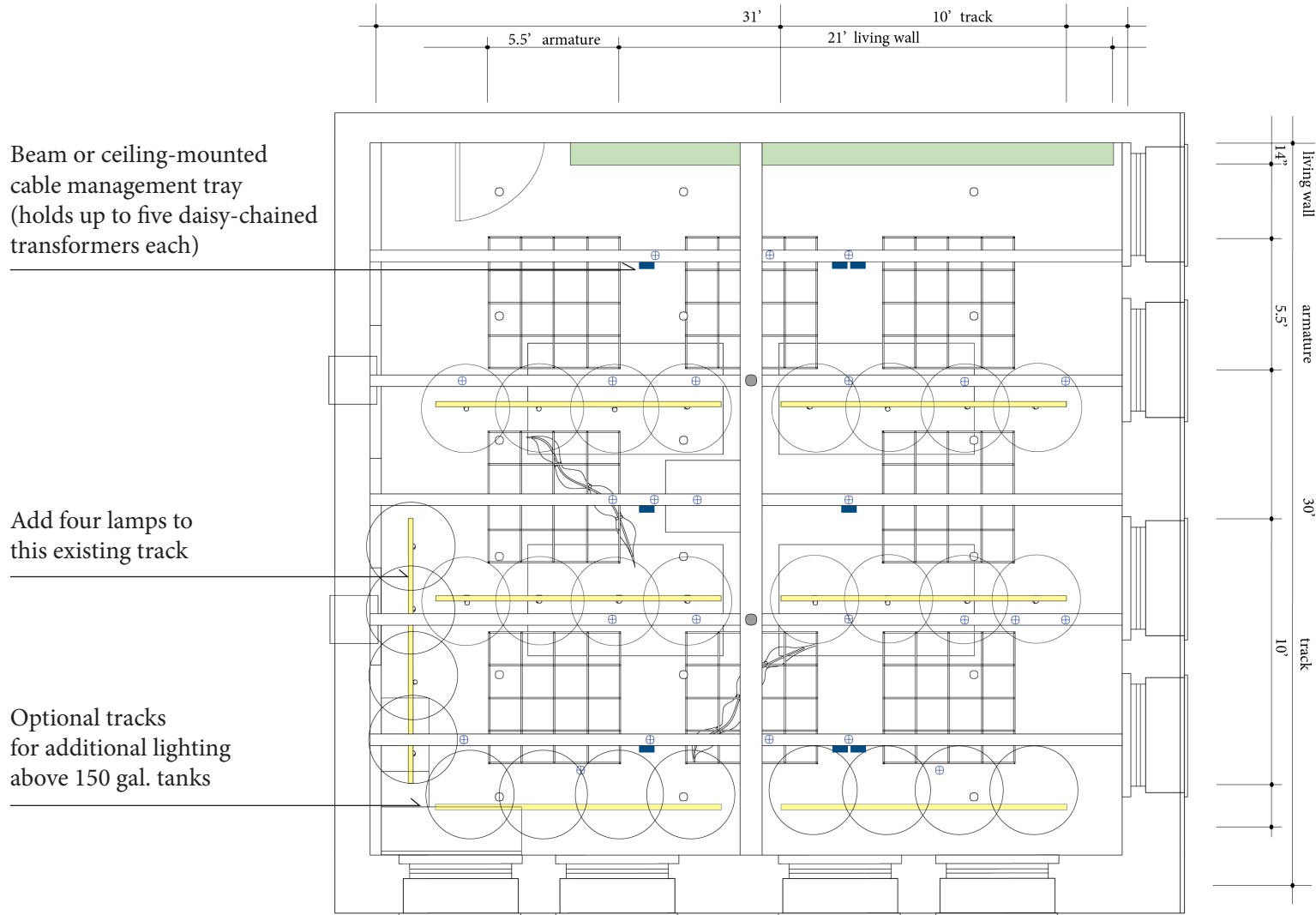
Biophilic Ceiling Installation

Lighting Spec Sheet

Contents:

— Overlaid Plan	— 01
— Reflected Plan	— 02
— Lighting Section	
— Installation Diagram	— 03
— Electrical & Lighting Specs	— 04
— Primary Lighting Materials	— 05

Ceiling Overlay & Reflected Plan



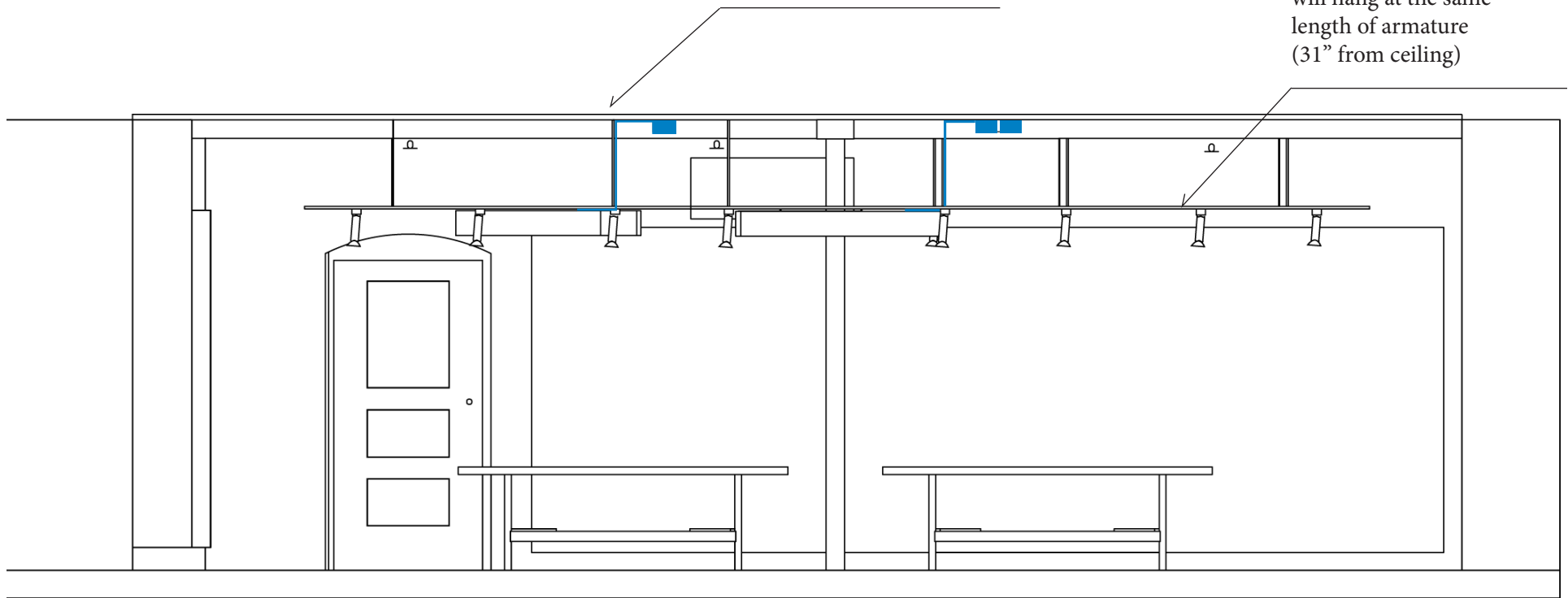
Key

- ⊕ junction box
- sprinkler head
- track lighting
- living wall
- column
- cable box

Lighting Section & Specifications

Up to 5 transformers daisy-chained, placed into cable management box/tray (concealed on north-facing beams)

Suspended lighting tracks will hang at the same length of armature (31" from ceiling)



Measurements:

Ceiling thickness: approx. 2"

Ceiling to end of beams (EW): 10"

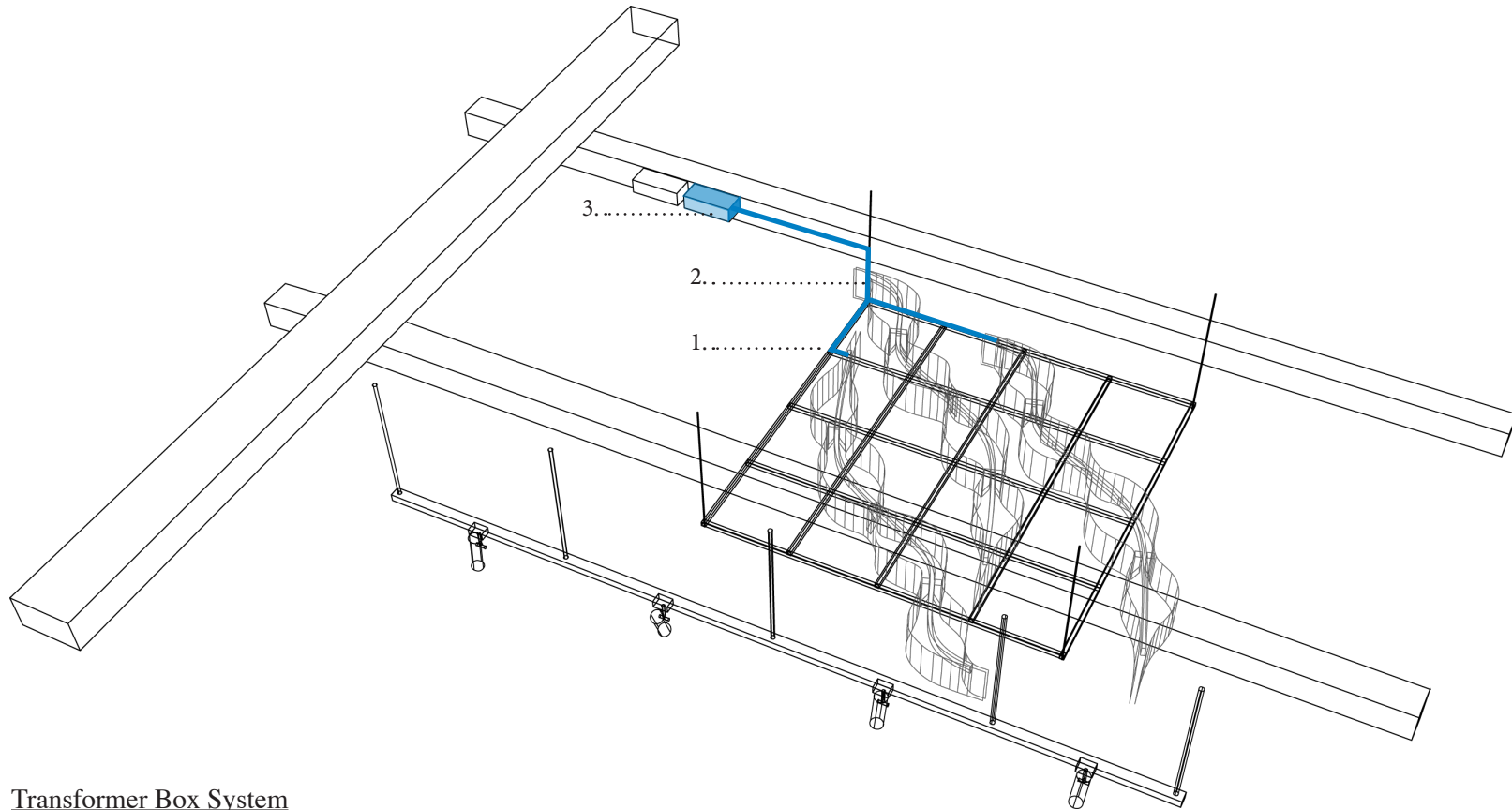
Ceiling to sprinkler heads: 9"

Sprinkler heads to armature/tracks: 24"

Ceiling to armature: 31"

Paper (pod forms) width: 6.5"

Installation Diagram: Transformer Cable Management



Transformer Box System

1. LED lape light transformers to feed through fed through Flexi Cable Tube
2. Flexi Cable Tube to fit around threaded rod and tranformer cables
3. Cut Flexi Cable Tube at ceiling and route tranformer wires to cable management box/tray

Electrial & Lighting Requirements

Room 11 Classification:

Classroom - General

- 30-50 foot candles (FC)
- 300-500 - light level (lux)
- 1.24 - lighting power density
(watts per sq. ft.)

Laboratory (Classroom)

- 50-75 foot candles (FC)
- 500-750 light level (lux)
- 1.43 - lighting power density

RISD Interior Lighting Standards

Option E.

Track Lighting:

- Track: Lightolier Lytespan
- Track Heads: Lightolier 9021MW
- Track Head Lamp: Solais
LED LR30LN/40/30K/1000/GY

Required Lumens:

- 930 sq. ft (Rm. 11)
- 37,200 lumens required
- Phillips LED Solais at 1000
lumens each = 37 lamps
(approx.)

Room 11 Electrical Information:

- # Circuits: 1
- Amps/Circuit: 20
- Efficiency: 0.7
- Total usable (amps): 14
- LED strip pull (amps): 0.22
- # Pods provided for by 1 LED Strip: 1.6
- # LED Strips allowed per circuit: 64
- # Amps Allowed per transformer: 1.5
- # Pods Allowed per Transformer: 7
- # Pods Provided for (max): 104
- # Pods in Sculpture (estimate): 76

Installtion details:

Implementation LED tape lights.

LED tape lights will be 'daisy-chained' to the power limitation of the transformer.

Our working prototype transformer takes in 120V and 1.6amp, and outputs 12V and 3amp.

Primary lighting will operate on a circuit independent of the installation.

Primary Lighting Materials

TYPE	ITEM	MODEL	DESCRIPTION	QUANTITY
Track	Suspended Track	Lightolier Lytespan	10 ft.	6 tracks
Lamp	Head Lamp	Solais LED LR30LN/40/30K/1000/GY		20 - 28 bulbs
Lamp	Track Head	Lightolier 9021MW		20 - 28 heads
Cable Management	Flexi Tube	UT Wire	144 ft. (x3)	356 ft. in total
Cable Management	Cable Tray	RISD standards for cable management?		8 trays/boxes

Cable trays and boxes ideas:
(neither item available in US)

