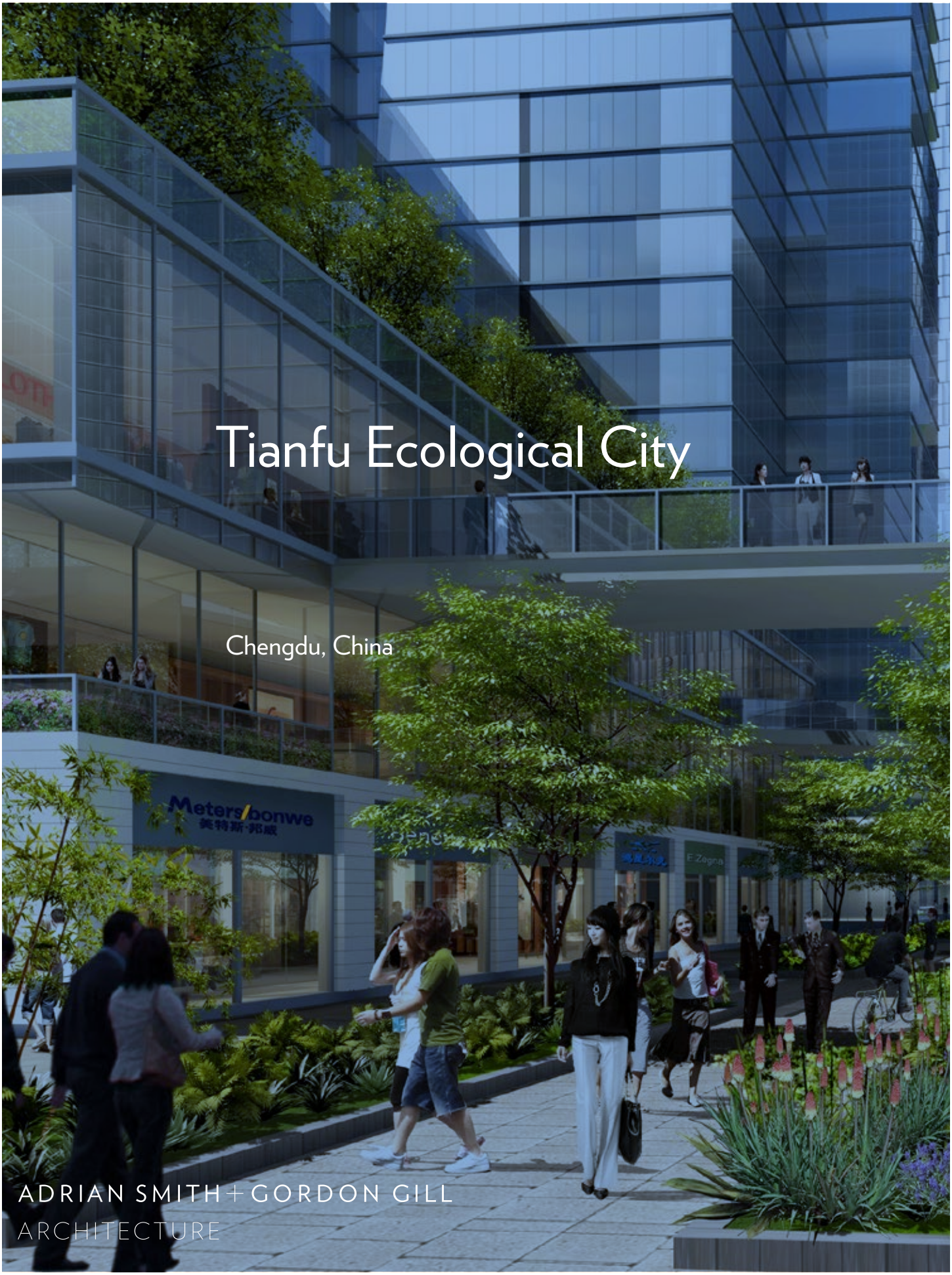


Tianfu Ecological City

Chengdu, China

ADRIAN SMITH + GORDON GILL
ARCHITECTURE

Tianfu Ecological City
Chengdu, China

Adrian Smith + Gordon Gill Architecture's master plan for Tianfu Ecological City is the vision for a self-sustaining, environmentally sensitive 1.3-square-kilometer satellite city outside Chengdu, China.

SERVICES
Architecture
Master Planning

CLIENT
Beijing Vantone Citylogic Investment Corporation

FUNCTION
Mixed-use

FACTS
3.65 sq km

One of the first projects of its kind to be proposed or completed in China, Tianfu Ecological City—developed by Beijing Vantone Real Estate Co., Ltd.—is envisioned as a prototype or model city to be replicated in other locations throughout the country. The development is intended to respond to the problem of overburdened infrastructure in many of China's major urban centers without contributing to the high energy consumption and carbon emissions associated with suburban sprawl.

When completed in about eight years, Tianfu Ecological City will be home to about 30,000 families totaling 80,000 people, many of whom will also have opportunities to work within the development. The distance from any location in the city to any other location will be walkable within about 15 minutes, all but eliminating the need for most automobiles. The city will also be connected to Chengdu and surrounding areas via mass transit to be accessed at a regional transit hub at the Tianfu Ecological City center.

The project has been designed to achieve a remarkable series of sustainable benchmarks. Tianfu Ecological City will use 48% less energy and 58% less water than a conventional development of similar population. It will also produce 89% less landfill waste and generate 60% less carbon dioxide.

The project has been designed to conserve existing farmland, with more than 60% of the 800-acre site area preserved for agriculture and open space. The 320-acre urbanized area will be surrounded by a 480-acre buffer landscape, whose natural topography—including valleys and bodies of water—will be integrated into the city itself. Within the city, 15% of the land will be devoted to parks and landscaped space, while 60% will be parcelized for construction. The remaining 25% will be devoted to infrastructure, roads and pedestrian streets.

The development program within Tianfu Ecological City will include commercial, residential, office, light manufacturing and a medical campus which will provide health services to residents as well as a larger regional and perhaps national constituency. The city's medical campus is also intended to address the needs of the growing Chinese demographic of young married couples who live in combined households with extended families that may include two sets of grandparents.

The city's perimeter is defined by a clear edge, from which the city center can be reached on foot within 10 minutes. An extended recreation system connects the pedestrian network to trails that run through the green buffer and surrounding farmland. The infrastructure and public-realm networks include electric shuttles, plazas, parks and links to the recreation system. As a primarily pedestrian city, only half of the road area is allocated to motorized vehicles. All residential units will be within a two-minute walk of a public park.

In addition to improved efficiencies within buildings, the city will use seasonal energy storage to use waste summer heat to provide winter heating, and a power generation plant will employ the latest co-generation technology to provide both electricity and hot water. AS+GG has worked with the infrastructure consultant Mott MacDonald on plans for an Eco-Park located on the northwest edge of the city will integrate waste water treatment, solid waste treatment and power generation.

AS+GG's master plan includes architectural design guidelines for massing and placement of buildings. Several international design firms, including AS+GG, will begin design work on the architecture later this year. Preparation of the site is scheduled to begin in fall 2012.

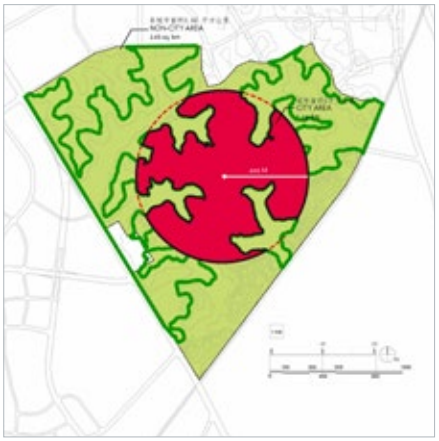

FUTURE DEVELOPMENT
1HA
0
400
800
N
0
100
300
500
1000


立体城市花市


祥楼


ANTA
Samir

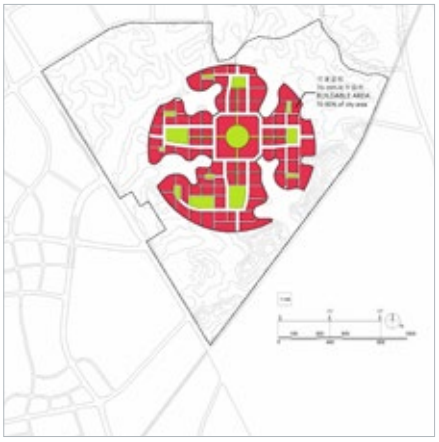
1- PRESERVE THE VALLEYS



2- DEFINE A CLEAR CITY IDENTITY

3- CREATE INTERNAL AND EXTERNAL OPEN SPACE

4- IMPLEMENT A LEGIBLE ROAD NETWORK

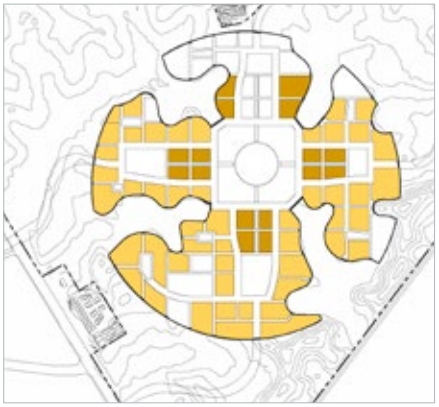


5- DEFINE BUILDABLE DEVELOPMENT PARCELS

6- ESTABLISH A COMPREHENSIVE GREEN NETWORK

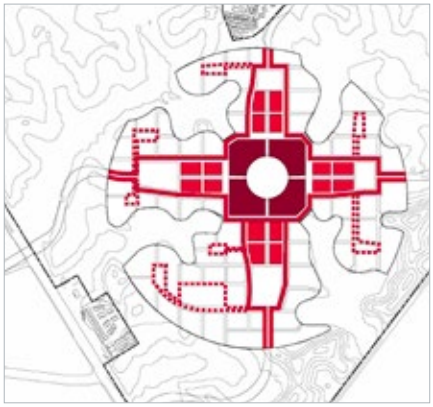
CIVIC / INSTITUTIONAL / PARKS

CIVIC FACILITY
ECO-PARK
PARKS
SUBWAY STATION
LIGHT-RAIL STATION
INTER-MODAL STATION



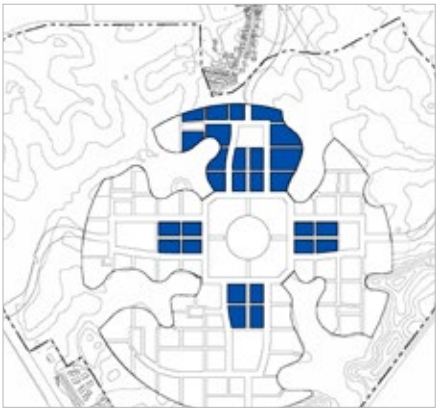
RESIDENTIAL

LOW DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL



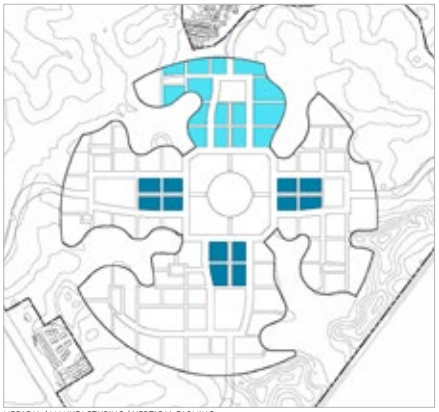
RETAIL

PRIMARY RETAIL (CITY)
SECONDARY RETAIL (DISTRICT)
TERTIARY RETAIL (NEIGHBORHOOD)



OFFICE

OFFICE

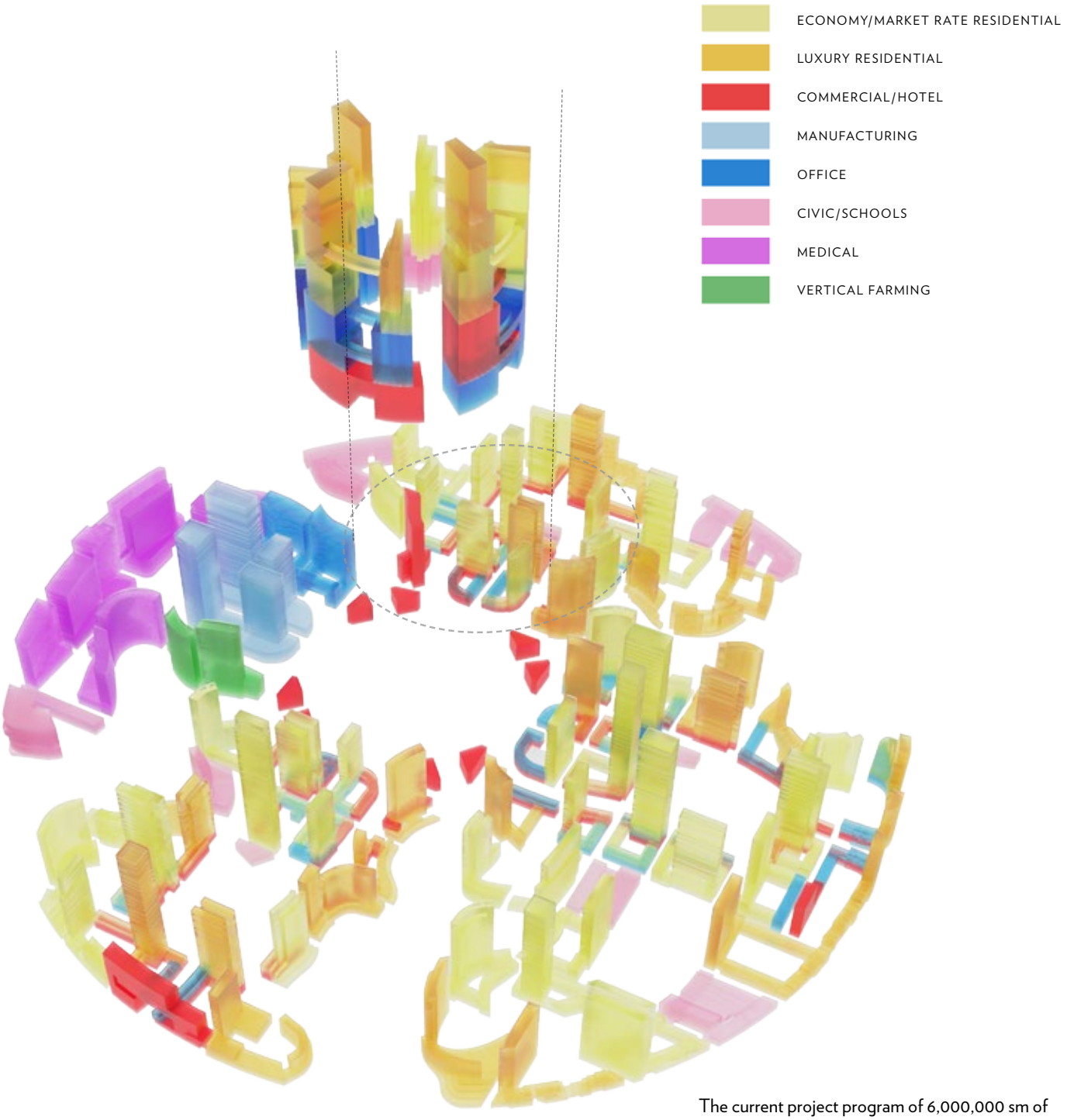


MEDICAL / MANUFACTURING / VERTICAL FARMING

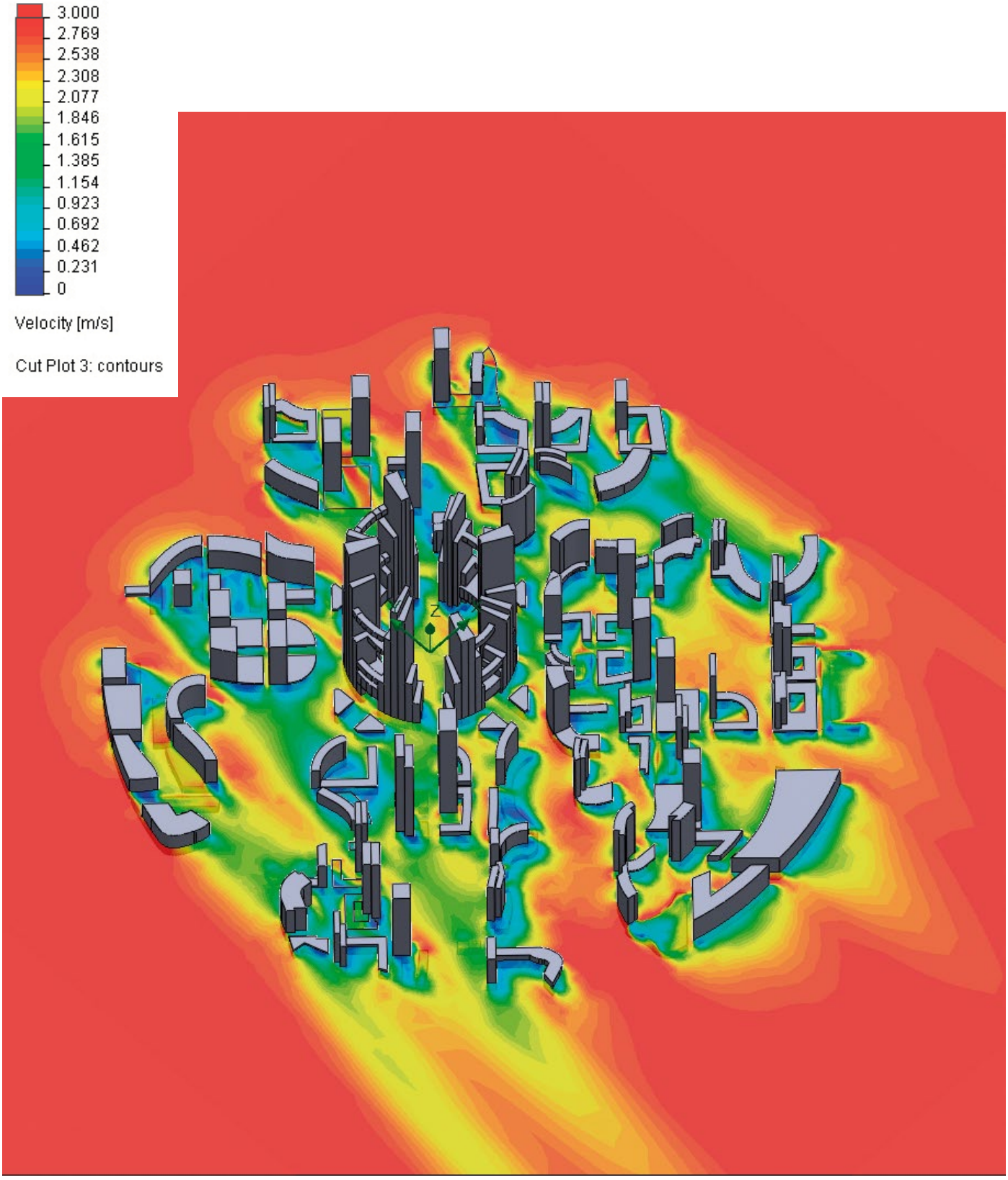
TYPE 1
TYPE 2

EDUCATIONAL

HIGH SCHOOL
PRIMARY SCHOOL



The current project program of 6,000,000 sm of total constructed area is divided into 3,400,000 sm of residential development and 2,600,000 sm of non-residential development. Non-residential uses include 600,000 sm medical , 200,000 sm commercial, 525,000 sm agricultural, 600,000 sm office, 525,000 sm manufacturing, 300,000 sm civic and 150,000 sm transportation. Civic uses include 200,000 sm required by Chinese code plus an additional 100,000 square meters assigned to higher education or training facilities.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2.538
2.308
2.077
1.846
1.615
1.385
1.154
0.923
0.692
0.462
0.231
0
Velocity [m/s]
Cut Plot 3: contours