UNIVERSITY OF THE PHILIPPINES - DILIMAN CAMPUS
LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN
(2020-2038)

13 November 2022

OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

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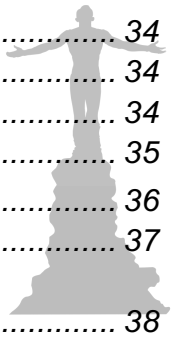

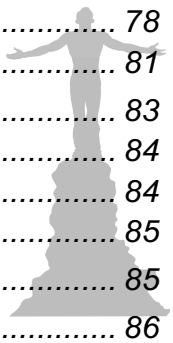

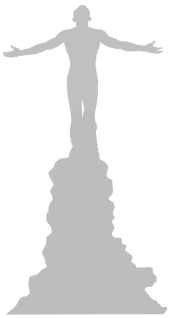

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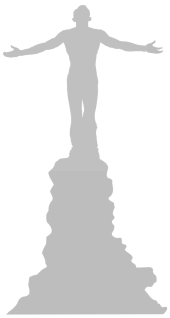

ACKNOWLEDGEMENTS

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The Office of the Chancellor (OC), UP Diliman is recognized for its unwavering support and encouragement in the fulfillment of the tasks at hand.

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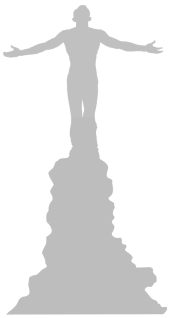
We also recognize and give thanks to all the Deans, Directors, Building Administrators of the colleges, units, and offices in UP Diliman, as well as UP Diliman Extension Program in Pampanga and Olongapo (UPDEPPO).

The technical officers and staff at the Office of Design and Planning Initiatives (ODPI) and Project Management Office (PMO) in UP System, the Office of the Campus Architect (OCA) in UP Diliman, as well as the School of Urban and Regional Planning (SURP) are likewise recognized by the UPD LUDIP team and given thanks for providing much needed maps, plans, and information.

22 October 2021



INTRODUCTION

This UP Diliman LUDIP is a result of a need to better integrate institutional policy mandates and thrusts with the campus' spatial development agenda from a multi-year (and multi-phase) implementation perspective. This is an endeavor anchored on Republic Act 11396, mandating all State Universities and Colleges to prepare and implement a Land *Use Development and Infrastructure Plan* that - aside from its main academic, research and extension agenda, will integrate effective planning, design, and implementation of dormitory facilities for students and housing sites as well as accommodations for employees[1].

Anchored on the vision and support provided by UP System through the Office of the Vice President for Development (OVPD), a core technical group for the Diliman campus was formed by the Office of the Chancellor, with the Office of the Vice Chancellor for Planning and Development (OVCPD) as lead office. Work immediately commenced to collect needed information; the drafting of this UPD LUDIP would not be successful without the strong support from UP Diliman and UP System offices, as well as local, regional and national government institutions that the core group reached-out to and engaged with.

This UPD LUDIP was crafted under an implementation timeframe of eighteen (18) years. This is deemed necessary so that campus spatial investment ideas will be aligned under a coherent generational growth program, and where spatial risks and opportunities (vetted under different planning scales) are studied and used as guide in project proposal formulations reflective of a multi-year development agenda. Moreover, by adopting an 18-year planning timeline, measurable success targets, milestones coinciding with three (3) UP President terms and six (6) UPD Chancellor terms are easily defined. This way, future administrators of UP Diliman will find it easier to operationalize this LUDIP; refining as needed, as consistent with core principles embedded in this document.

The narratives and discussion points in the LUDIP report highlights funding request justification for infra projects in the years to come. This report is not meant to be perfect, nor will it be the end-all and be-all of land use and infra development in UP Diliman for the next decade or so; thus, supplemental studies to further verify and operationalize its policy thrusts are encouraged. It is of note that flexibility in terms of setting the stage for supplemental reports further validates the implementation of the UPD LUDIP, as well as adapt it to future contexts that currently are yet to emerge. Among the supplemental reports that may be crafted later are Heritage Conservation Plan, Building Density Plan, Utilities Management Plan among others. These additional reports are already anchored with LUDIP; its eventual crafting will be used to further guide the development of projects to be proposed in the future.

[1] https://www.officialgazette.gov.ph/downloads/2019/08aug/20190822-RA-11396-RRD.pdf (accessed 26 August 2021)

I. PROFILE OF SUC INCLUDING ITS CAMPUSES

A. GENERAL INFORMATION OF THE SUC AND ITS CAMPUSES

A.1. Legal bases/mandates

- The University of the Philippines Diliman (UPD) is one of the campuses of the University of the Philippines System (UP System), the national university by virtue of Republic Act 9500.

Source: E. Batacan, 2008
Figure 1: Aerial view of UP Diliman

A.2. Brief Profile

- The University of the Philippines Diliman (UPD) which in Filipino is written as *Unibersidad ng Pilipinas Diliman*, is a coeducational, public research university located in Diliman, Quezon City, Philippines. It was established on February 12, 1949 as the flagship campus and seat of administration of the University of the Philippines System, the national university of the Philippines.

- UPD occupies Four Hundred and Ninety-Three (493) hectares of prime land in Quezon City, featuring an array of both old and new buildings housing amidst lush greenery collectively hosting various disciplines that offer comprehensive education - covering all facets of human behavior and development - at the baccalaureate and post baccalaureate levels. However, if all titled and untitled lands are included with emphasis on national roads traversing the campus (e.g., Commonwealth Ave., CP Garcia), areas with informal settlements (e.g., Krus na Ligas), a total land area of 922.92 Ha is assigned to UP Diliman.

- Aside from its main campus in Quezon City, UPD supervises the growth and development of the UP Diliman Extension Program in Pampanga and Olongapo (UPDEPPO), with assets in Clark and Subic; a key research, training and education hub benefitting residents of Central Luzon while strategically complementing the respective spatial academic coverages of both UP Diliman and UP Baguio. In terms of marine research and development, UPD has laboratory assets in Puerto Galera in Oriental Mindoro and Bolinao in Pangasinan; both supervised by the Marine Science Institute (MSI). To be specific, the *Bolinao Marine Laboratory* (BML) is one of Southeast Asia's leading research institutions for the marine sciences, and the *Puerto Galera Biodiversity and Environmental Research and Outreach Center* enables trans-disciplinary and synergistic collaboration between experts across UP campuses, as well as local and foreign researchers and practitioners. (https://upepp.upd.edu.ph/about/unit-history/; https://www.msi.upd.edu.ph/About/about-msi)

- UP Diliman is the biggest constituent university of the UP System in terms of degree-granting academic units, student population, faculty and library resources. In the second semester of Academic Year 2019-2020, UPD had 23,360 students, of which 13,558 were in the undergraduate level, 820 were in the Juris Doctor program and 8,276 in the master's and doctoral levels. UPD has extensive alliances with international institutions of higher learning for joint academic programs, research, and student exchange—providing the institution with opportunities for curricular enhancement, faculty development, resource generation, and sharing of expertise and programs. (https://upd.edu.ph/about/history/)

Source: UPD Office of the Campus Architect
Figure 2: Aerial view of UP Diliman, 1950's

A.3. Brief History of the SUC and Its Campuses

- The University of the Philippines was established in 1908 by Act No. 1870 of the Philippine Legislature to "give advanced instruction in literature, philosophy, the sciences and arts, and to give professional and technical training to every qualified student regardless of age, sex, nationality, religious belief and political affiliation."

- As the student population continued to increase, from 67 in 1908 to 7,849 in 1928, the need for UP to create more buildings and academic units became more apparent. in 1939, the Board of Regents acquired a 493-hectare land in Diliman, Quezon City. Construction began in the same year but the development of the area was stalled by World War II. When the war ended in 1945, the university administration led by UP President Bienvenido Gonzales sought a P13 million grant from the US-Philippines War Damage Commission to restore the damaged facilities and to construct new ones to enable the transfer of the university to Diliman.

- In April 23, 1985, UPD has formally declared a constituent university (CU). Coinciding with the centennial anniversary celebration in 2008, a new UP charter was enacted into law on April 28, 2008. Republic Act 9500, also known as the University of the Philippines Charter of 2008, declared UP as the national university, "a public and secular institution of higher learning and a community of scholars dedicated to the search for truth and knowledge as well as the development of future leaders." (https://upd.edu.ph/about/history/)

- With regard to the UP Diliman Extension Program in Pampanga and Olongapo (UPDEPPO), it started in 1979 as the University of the Philippines Extension Program in San Fernando (UPEPSF), UPDEPPO was created upon the representation of Pampanga Governors Estelito Mendoza and Juanita Nepomuceno. After its old building was rendered useless by Mt. Pinatubo's incessant lahar flows, the unit was moved to the Clark Freeport Zone (CFZ) in 1996 and was given its present name.

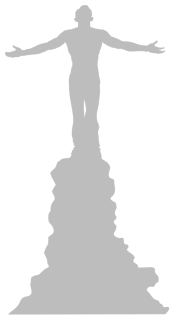


Figure 3: View from Quezon Hall 2nd Floor Balcony (1950s, 2019)

- In 2007, UPDEPPO was awarded a permanent site by the Clark Development Corporation. The site consists of a 3.33-hectare lot within the CFZ which UPDEPPO envisions to transform into a bustling university town. The plan is to develop an “academic complex that includes two academic buildings with modernized facilities, two student dormitories, state-of-the-art library and research facility, gymnasium, auditorium, a student center, and other amenities” (from the General Catalogue of the University of the Philippines – Diliman 2014). Construction of the first academic building was completed in August 2014, and UPDEPPO moved to its permanent home in January 2015.

(https://upepp.upd.edu.ph/about/unit-history/)

- Aside from the main Diliman campus and its Subic and Clark extension programs, UP DIliman through the Marine Science Institute (MSI) has infrastructure assets in Bolinao and Puerto Galera; key built assets that promote vital marine research initiatives for the benefit of government and its citizenry. To be specific, the *Bolinao Marine Laboratory* (BML) is one of Southeast Asia's leading research institutions for the marine sciences, and the *Puerto Galera Biodiversity and Environmental Research and Outreach Center* enables trans-disciplinary and synergistic collaboration between experts across UP campuses, as well as local and foreign researchers and practitioners. (https://www.msi.upd.edu.ph/About/about-msi)

A.4. Current Governing Board/ inter-department bodies

- *Office of the Chancellor*: The Office of the Chancellor is the executive office of UP Diliman. It supervises campus operations through the related offices of the Vice Chancellors.

- *Office of the Vice Chancellor for Academic Affairs*: The OVCAA is in charge of the development and implementation of quality and responsive programs, systems, and mechanisms in curricular, instructional, research and extension work that ensure the attainment of the University of the Philippines Diliman's goals and objectives

- *Office of the Vice Chancellor for Administration*: The OVCA administers the university's physical, financial, and human resources. Under it are the Human Resources Development Office (HRDO), Accounting Office, Budget Office, Cash Office, Supply and Property Management Office, and the PABX and Utilities Monitoring Team

- *Office of the Vice Chancellor for Research and Development:* The OVCRD formulates policies and guidelines on research and development; provides assistance in the generation of resources needed to support R&D thrusts; coordinates with offices, agencies, and institutions in the regular dissemination of information to the UP Diliman research community; and assists UP Diliman personnel in the protection, licensing, patenting and/or copyrighting of their work, as well as the marketing of their publications. The OVCRD also has a reward and incentive system for publication, including commercial applications arising from R&D activities

- *Office of the Vice Chancellor for Student Affairs*: The OVCSA is tasked to attend to several non-academic needs of students such as counseling, discipline, scholarships, food service, housing, tutorials/learning centers, student/graduate assistantships, loans, organizations and visa requirements for international students

- *Office of the Vice Chancellor for Community Affairs*: The OVCCA attends to UPDiliman's community concerns, including management of employee and faculty housing, coordinating business concessions on campus, supervising security and safety, and maintaining campus facilities

- *Office of the Vice Chancellor for Planning and Development*: The OVCPD supervises programs and projects related to the land-use plan, infrastructure development, resource generation, and other development programs for UPD's physical resources. It implements existing policies and guidelines for fund generations, public-private partnerships, construction projects, and other similar programs. (https://upd.edu.ph/about/administration/)

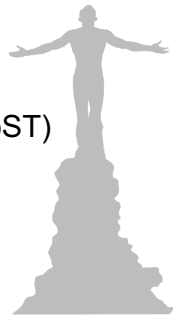
A.5. Programs offered

- As of January 2020, UPD had 250 academic programs, 71 of which were in the undergraduate level, 100 in the master's, professional master's, Juris Doctor, BA-MA Honors, and 48 in the doctoral levels. Seven Associate in Arts and 24 graduate diploma programs are also offered, with extension programs in Pampanga and Olongapo City and currently under development, specialized programs at the UP Professional Schools at the Bonifacio Global City. (https://upd.edu.ph/academics/acad-overview)

A.6. Recognition and awards obtained from international/national/regional or private award-giving bodies

International Awards:

1. The Galileo Galilei Award
2. The Global 500 Roll of Honour
3. The Ramon Magsaysay Award
4. The Southeast Asian Writers Award
5. International Union of Food Science and Technology (IUFoST)
6. Young Scientist Award
7. Premio Feronia
8. John D. Rockefeller III Award
9. Ten Outstanding Young Persons of the World (TOYP)
10. Plinius Medal



11. Cochran-Hansen Prize
12. Green Talents – International Forum for High Potentials in Sustainable Development (Green Talents Award)
13. Philippines Promising Star Awards 2016
14. Japan International Award for Young Agricultural Researchers
15. Fukuoka Prize

(https://upd.edu.ph/academics/acad-overview)

B. DEMOGRAPHIC PROFILE OF THE SUC AND ITS CAMPUSES

B.1.Brief summary of the population (male/female) in each campus

- UPD is the biggest constituent university of the UP System in terms of degree-granting academic units, student population, faculty, and library resources. Using available data from AY 2008-2009 to AY 2018-2019 (source: University Registrar and OVCSA)

- UP Diliman on average has almost 60,000 students yearly; about 67% of this number are enrolled at the Undergraduate level, and the rest are enrolled at its Juris Doctor and Graduate programs (33%). It should be noted that these figures purposely excluded the population data from 2020 and 2021, due to the sharp decline of the population that may be connected with the COVID-19 pandemic (i.e., the recorded student population data fell to almost a third, compared with the average from 2008 to 2019). With regard to personnel, as of December 2020 UPD has almost 6,000 faculty, REPs, and staff; almost 10% of the student population (source: HRDO).

B.2.Projected population of students and employees in the next 18 years (LUDIP planning period for UP Diliman is 18 years; 2020-2038)

- Based on observed statistical patterns and trends, by 2038 UP Diliman's student population may reach a shade above 32,000 (Tab.1). Moreover, as of 2020 the population of UPD employed Faculty, REPs, and staff is observed to be almost a quarter of the student population; using this ratio as basis, it is estimated that by 2038 UPD employed personnel may reach 8,000. Based on the assumptions that were the basis for this estimate, the population of UP Diliman students and employed staff may be a little above 40,000 by the year 2038. As such, consideration of spatial needs as well as vehicular traffic implications are to be considered and prepared for.

- Together with dormers, residents, daily visitors as well as informal settlers on-campus, careful consideration in usage and development of land and

infrastructure assets must be upheld; in this regard, more detailed analysis of these population trends - as they related with land and infrastructure supply and demand, traffic, as well as LUDIP policy formulation - are to be discussed in latter sections of this report.

Table 1: Population Projection Summary (Students, Personnel)

UPD Pop'n by Group	Pop'n as of 2020	Ave. Growth rate	Est. Pop'n by 2038
Students	22,377 (ave)	1.02%	32,267
Personnel	5,762 (*approv 25% of student pop'n)	1.02% (assumed to coincide w/ growth of student pop'n	8,068

Source: OUR, HRDO, OVCSA

Table 2: Distribution of Students per Residence Hall

DISTRIBUTION BY RESIDENCE HALL (2015-2019)

RESIDENCE HALL	2015-2016 *		2016-2017 **		2017-2018 ***		2018-2019 ****		2019-2020 *****	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
ACACIA	124	153	179	197	183	219	175	199	168	136
BALAY				48		44		38		21
CENTENNIAL	203	230	216	250	231	213	231	233	203	196
ILANG-ILANG		243		244		258		242		251
IPIL	49	47	256	77	264	81	319		304	
KALAYAAN	250	248	273	262	258	230	258	251	274	247
KAMAGONG			53	24	49	26	69	20	91	
KAMIA		346		382		364		101		0
MOLAVE	351		362		350		72		0	
SAMPAGUITA		215		303		240		293		269
SANGGUMAY		70		142		144		133		133
YAKAL	185	172	198	178	156	152	63		0	0
SUBTOTAL	1162	1724	1537	2107	1491	1971	1187	1510	1040	1253
TOTAL		2886		3644		3462		2697		2293

Source: UPD-OVCSA, OSH

Table 3: Number of Housing Units inside UP Diliman

Type	Count
Apartment (AP)	134
Bungalow (BU)	139
Cluster (CL)	68
Cottage (COT)	6
Low-Cost (LO)	388
Row House (RO)	135
Walk-Up (WA)	256
Total	***1,126***

Source: UPD Housing Office

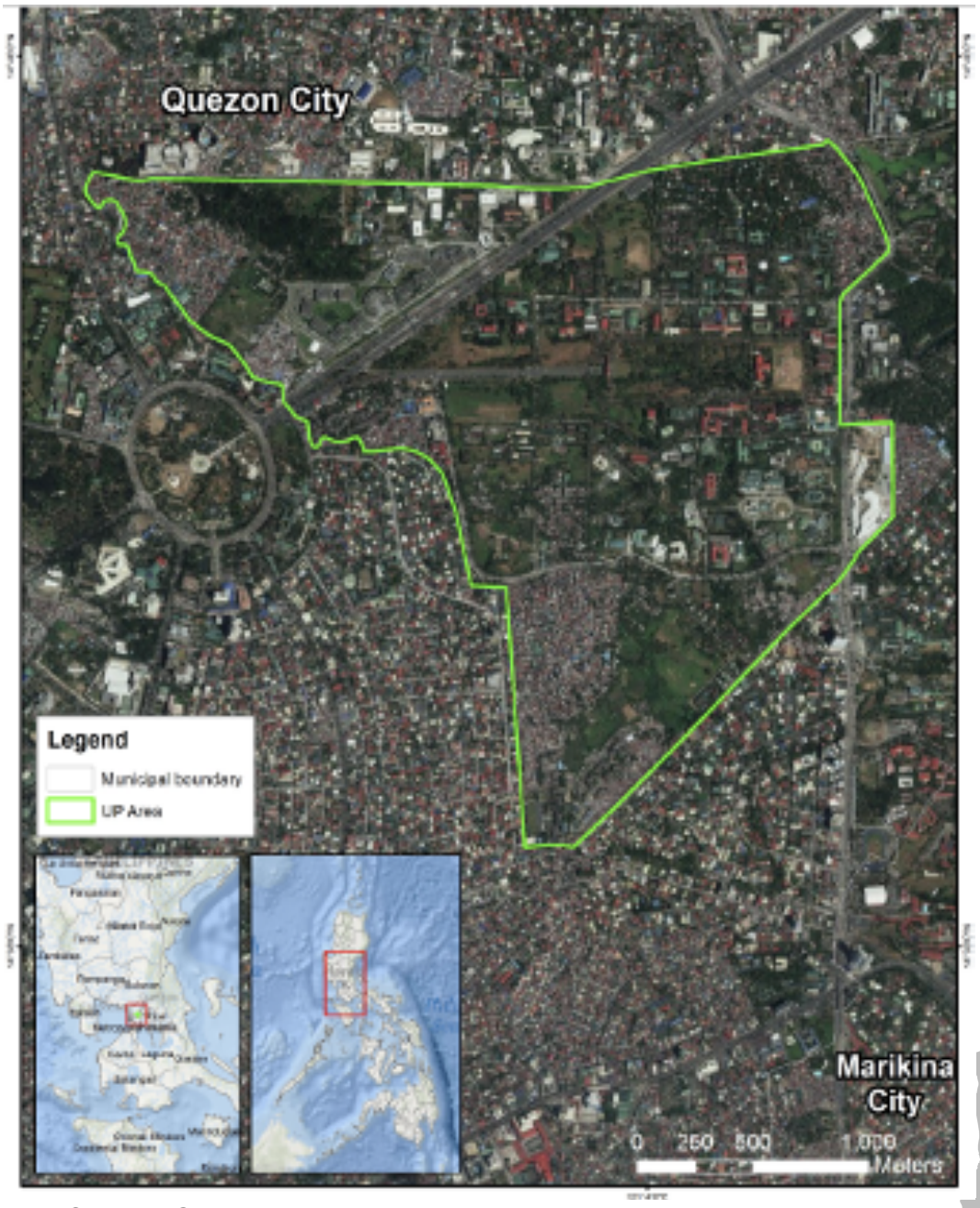
C. GEOGRAPHIC LOCATION OF THE SUC AND ITS CAMPUSES

C.1.Brief profile of the province and municipality (UPD's local and regional context)

- On October 12, 1939, President Quezon signed Commonwealth Act No. 502, also known as the charter of Quezon City. The new city encompassed the aforementioned areas, as well as other areas acquired from nearby towns to form an area originally at 7,300 hectares. With the territory now firmly set in place, it was now time to set up the city's master plan, most especially for the national capital complex which is to be cornerstone of sorts for Quezon City. Creating the city's masterplan fell into the hands of Harry Frost, the American architect who was also serving as the architectural adviser of the Commonwealth government. Assisting him were Alpheus Williams, a former Public Works bureau chief and, more notably, Juan Arellano, the renowned Filipino architect who designed the Manila Post Office Building and the Metropolitan Theater, among others.

- The first phase in this Quezon City masterplan involved the transfer of the main campus of the University of the Philippines from its congested confines in

Ermita. As different government offices chose the areas in which they will set up office, UP chose a 493-hectare property northeast of the planned National Capitol (the present Quezon Memorial Circle) to be its new main campus. By the end of the year, the construction of the campus' first 3 buildings were in full swing (https://www.theurbanroamer.com/up-diliman-part-1/).



Source: Google Maps
Figure 4: Location map showing political boundaries of UP Diliman

- UPD campus is located within the National Capital Region (NCR) occupying 493 hectares of land in Quezon City. However, if we are to include all titled and untitled lands, National roads traversing the campus (e.g., Commonwealth ave.) as well as land assets those occupied by informal settlements, latest data points to an area of 922.92 Ha. From an inter-planning perspective, UP Diliman is a vital spatial development hub for both Quezon City and Metro Manila.

- Aside from the considerable land mass it is entrusted with, UPD is a major knowledge generation and human capital incubator hub that local, regional, and national government offices take advantage of to help in their respective agendas for the people's overall welfare and benefit. From a risk resiliency standpoint, UPD as an academic institution has an opportunity in mainstreaming, and instituting resilience not only in the academic context, but also in a local, regional and national planning scale. The institution's science-based research and development backbone can serve as a major pillar in establishing the value and importance of resilience in the Philippines. (UPRI, n.d., p.2)

- From an intra-planning perspective, old and new buildings are present inside the campus premises; housing different colleges, schools, and academic units that offer specializations at the undergraduate and post-graduate levels. As campus growth in terms of programs offered and student enrollees entering annually, the spatial components of the campus are exposed to potential supply vulnerabilities vis-a-vis demand. As such, proposals to augment, expand, and upgrade said spatial components are subjected to careful study of the inherent characteristics, needs, risk, and opportunities that these built assets are entwined to. Below are some of the vital aspects where land use development and infrastructure proposals are hinged on.

C.2.Description of the land cover, topography

- UP Diliman is a mixture of relatively flat and gently sloping terrain through its environs. It is one of the remaining green reserves not only in Quezon City but in Metro Manila as well (NCR). Due to this distinct feature, aside from its academic role and social responsibilities, UPD in a spatial sense also has a role in its community with its grounds being an open space to the general public. For instance, the Oblation Plaza located in front of the Quezon Hall, where the Oblation statue is staged, serves as one of the main interests of campus visitors. Meanwhile, the academic oval, which is the elliptical campus road, allows recreational activities like jogging, biking, and walking. To accommodate such influx of people, allocation of parking facilities to complement active transport modes mentioned above, are to be considered.

C.3.Brief profile of watershed/sub-watershed coverage and locations, if any

- At the center of the oval is where the Sunken Garden can be found which is popular for activities like football, frisbee, other outdoor sports, or simply as a hang-out place to sit and have picnics. On the other side within the oval is the UP Lagoon. It is an important water ponding area inside the campus and a botanical reserve that is home to different flora and fauna.

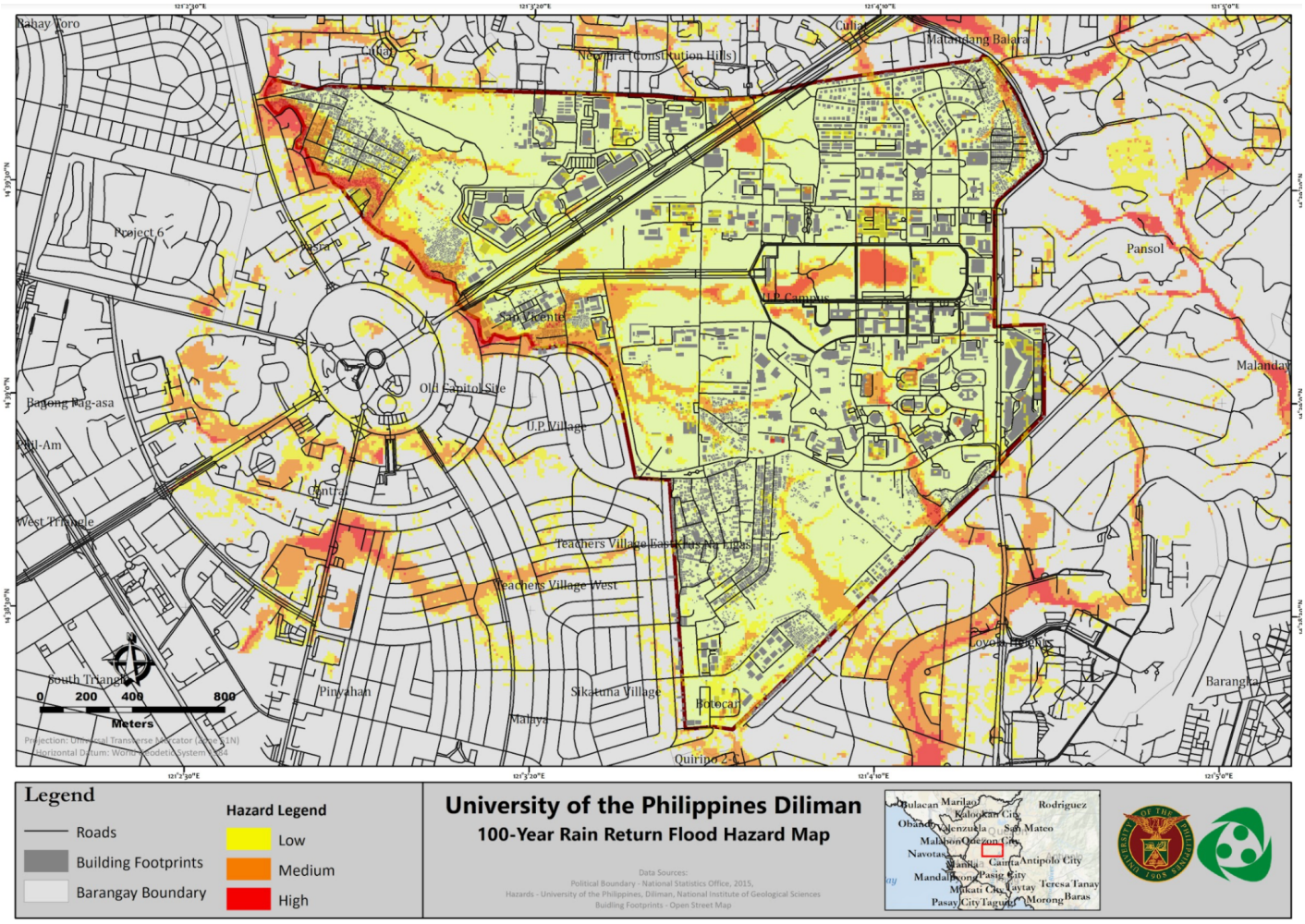
C.4.Significant national or regional/sub-national characteristics or value (e.g. biodiversity, cultural, historical, traditional, or functional)

- As the national university of the country by virtue of RA 9500, UP has the role to uphold its leadership in higher education by being at the forefront of setting academic standards, by serving as a graduate university and a research university in different areas of expertise and specialization, and by being a regional and global university in collaboration with other universities and scholarly associations around the world.

- To add to being an institution of higher learning, UP also has the commitment to national development by utilizing the expertise of the members of the academic community to contribute to solving state issues and public concerns through conducting research and giving advice on crafting policies. There are also institutions inside the university that do not only serve the UP community, but also the general public. For example, the University Library can also be accessed by outside researchers. Moreover, the University Health Service, not only attends to the health needs of the students, but also to their dependents, and the residents within the campus vicinity. UPD is also home to religious institutions namely, the catholic church of The Parish of the Holy Sacrifice and the protestant church of The Church of the Risen Lord. On the cultural side, there are also museums inside the university like the Vargas Museum, and other museums of the different colleges like the Costume Museum of College of Home Economics, UP Biology Invertebrate Museum, UP College of Music Museum of Musical Instruments, and UP NIGS-UPGAA Geology Museum, to name a few.

- In terms of the built environment, UP President Emerlinda Roman observed, and rightly so, that “the rise of structures parallels the development of the

architecture in the country in an almost linear fashion.[2] From the socio-economic and cultural configuration of the UP Diliman populace, to the various physical facilities and spaces under varying styles, scales, and magnitude (even state of decay) spread-out in its environs, the Diliman campus is a veritable microcosm in the developmental timeline of Philippine architecture and urbanism.



Source: UP Resilience Institute

Figure 5: UP Diliman 100-yr Rain Return Flood Hazard Map

[2] Roman, Emerlinda R. The Diliman Campus: The Changing Shape of the Future, Sites and Symbols 2, Office of the Chan- cellor-UP Diliman, Quezon City, 2005. P.3

C.5.Vulnerabilities and risks (landslides, earthquakes, floods, volcanic eruptions, underground caves and karst, erosion, and the like)

- As a backgrounder, The United Nations International Strategy for Disaster Reduction (UNISDR) and the DRRM of 2010 defined **risk** as the *combination of the probability of an event and its negative consequences*. Similarly, risk can also be defined as the function of (1) Hazard, (2) Exposure, and (3) Vulnerability wherein according to UNISDR's Terminology on Disaster Risk Reduction (2017):

    - **Hazard** is defined as a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
    - **Exposure** refers to people, property, systems, or other elements present in hazard zones that are subject to potential losses.
    - **Vulnerability** is the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

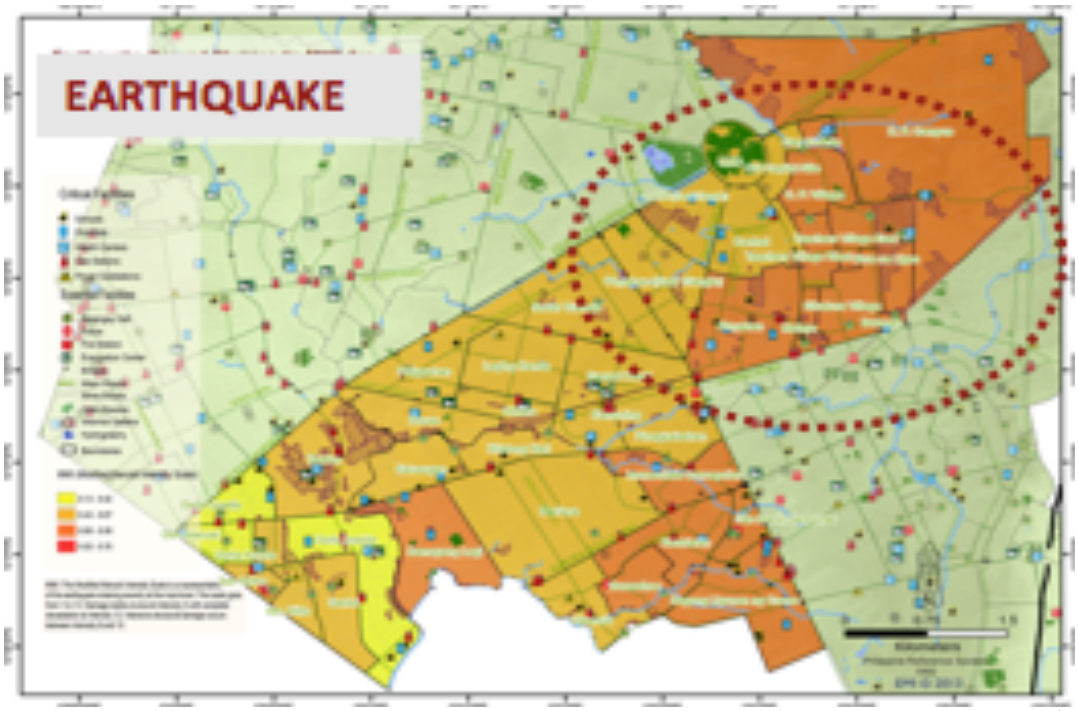
- The exposure to natural hazards, plus our considerable vulnerability to them, puts the Philippines very high in terms of disaster risk. Despite the government implementing policies and laws to reduce the risk to natural hazards, it is still every organization's responsibility to build resilient infrastructures and frameworks that will protect its resources against natural hazards and, more importantly, save lives in times of disasters. Just like any other organization in the Philippines, universities are also exposed and highly vulnerable to various natural hazard conditions.

- UP Diliman is located in the National Capital Region (NCR) of the Philippines, a metropolitan region located between the Central and South part of Luzon Island. The campus is currently exposed to the following hazards: seismic hazards, liquefaction, flood, and severe wind. On the other hand, the location of the UP campus eliminates its exposure to landslides,storm surge,tsunami, and volcanic hazards; thus not included in the hazard assessment (UPRI, n.d, pp. 14 - 15).

- Below are description narratives concerning various aspects of risk concerning the campus, as derived from reputable secondary sources; these will be later

analyzed via **Map Overlay with subsequent Problem-Solution Matrices** as policy option guide to the UPD LUDIP 2020-2038.[3]

- In terms of **Structural Geology** (UPRI, n.d., p.19), The University of Philippines Diliman is situated as part of the Philippine Mobile Belt (PMB) and is surrounded by subduction zones with opposing polarities. On the west are the Philippine trench and East Luzon trough and at the eastern side are the Manila trench, Negros trench and Cotabato trench. In between this is a left-lateral Philippine Fault System (PFS) demarcated into the northern, central and southern segments and cuts the entire archipelago (B. Bautista et al., 2001). The PFS branches in the Central Cordillera region at the north and in Mindanao region at the south, cutting across the Bicol volcanic arc and Visayas provinces. The northern segment of the PFS is characterized by a combination of strike-slip and thrust movement. The NW Luzon has a component of vertical thrust and the other branches out into several strike slip faults.



Source: QC CPDO, DRRMO
Figure 6: UP Diliman Earthquake Hazard Map

[3] Please refer to *LAND USE AND INFRASTRUCTURE HAZARD RISK ASSESSMENT (MAP OVERLAY ANALYSIS; PROBLEM-SOLUTION MATRIX),* a section seen in latter sections of this report.

- The nearest faults of the Philippine Fault system concerning UP Diliman are the Infanta Segment, Casiguran Fault and Digdig Fault. In between the Dingalan Bay and Lingayen Gulf, the Digdig Fault strikes N60W and N45W (Aurelio & Peña, 2002). On 16 June 1990, the Digdig Fault ruptured causing a magnitude 7.8 earthquake, leaving extensive damages and loss of lives in parts of Luzon (R. Punongbayan et al., 2001). The Digdig fault of the PFS accommodates deformation in the region at a rate of ~15mm/year (R. E. Rimando, 2002).

- A major active fault named as the Marikina Valley fault system (MVFS), retained from the standard nomenclature practice, transects the eastern part of Metropolitan Manila and belongs to a system of faults and subductions that accommodates the oblique convergence of the PFS. Based on studies by Daligdig, Punongbayan, Basana, and Tungol (1997) and R. E. Rimando (2002), the fault is considered active due to geomorphologic evidence and aerial imagery.

- These investigations reveal or suggest a dextral strike slip sense of displacement along the MVFS. Based on recurrence of 400–600yr inferred from a paleosiesmic investigation, the MVFS has an average slip rate of 5–7 mm/yr (R. Rimando & Knuepfer, 2006).

Source: UP Resilience Institute

Figure 7: UP Diliman Academic Core Flood Vulnerable Areas

- In terms of **Hydrology** (UPRI, n.d., pp 19 – 20), UP Diliman is located within Metro Manila and lies within Pasig-Marikina River Basin, which has a land area of 8,823 sq km. Majority of its land area covers the San Juan River sub-basin with 85.96 sq km. San Juan River, Pasig River and Marikina River are its main tributaries and drains to Manila Bay. Laguna de Bay also drains to the Manila Bay through Pasig River (River Basin Control Office, 2016).

- The Marikina River flows westward from the Sierra Madre mountain range, coursing through the Marikina floodplain. It is divided into the Upper Marikina River and the Lower Marikina River at the Rosario weir in the left bank of the Manggahan Floodway. The Pasig River converges with Marikina River at the Napindan Junction (River Basin Control Office, 2016).

- The Napindan Channel also flows northward from Laguna de Bay, joining the Marikina River. It flows northwest, crossing the central plateau, to the coastal lowlands of Manila, and out into Manila Bay. In the central plateau is the San Juan River, which is a tributary of the Pasig River (River Basin Control Office, 2016).

- Laguna de Bay is the largest lake in the country, with an area of 900 sq km, covering the middle and southern parts of the Pasig-Laguna River Basin. It occupies about 80% of the entire area of the watershed and around 20 tributaries constitute the lake. Laguna de Bay is shallow in terms of depth but the lake is wide enough to accommodate the water flowing into the lake. The lake also controls floods during extreme weather events. In instances where the water level in Manila Bay is higher than that of Laguna de Bay, the water backflows from the sea into the lake (Disaster Information Laboratory, 2009).

- With regard to **Ground Shaking** (UPRI, n.d., p.25), the primary effect of earthquake hazards is ground shaking. It is a result of rapid ground acceleration and can either radiate to the ground as body waves or move above the ground as surface waves (R. Punongbayan & Torres, 1991). The intensity of ground shaking varies depending on the characteristics of an area such as topography, location, bedrock type, and fault rupture orientation. The degree of movement of and absorbed stress of structures depend on the design, quality, and age of the structure. Casualties from earthquakes are usually due to falling debris and building collapse due to intense ground shaking.

- For information on **Ground Rupture** (UPRI, n.d., p.25), ground rupture occurs on the surface along the fault when said fault moves during an earthquake. The fracturing and displacement at the surface of the fault is defined by its sense of

movement. Fault motion can generally be classified as horizontal, vertical, or oblique. The intensity of ground rupture may vary based on the magnitude of the fault. It can also be as sudden and destructive as during an earthquake or slow and steady in a fault creep.

- With regard to **Fault Source** (UPRI, n.d., p.29), the Marikina Valley Fault System was chosen as the seismic source for the UP Diliman campus based on its seismic activity and distance. The MVFS is a 100 km dextral strike-slip fault and runs from Doña Remedios Trinidad, Bulacan in the north and runs through the provinces of Rizal, Cavite and Laguna and the cities of Metro Manila such as Quezon, Marikina, Pasig, Makati, Taguig, and Muntinlupa. Based on historical records, the fault has moved four times in the last 1400 years and it moves roughly every 400 years. On August 19, 1658, a magnitude 5.7 was recorded on the East Valley Fault (B. Bautista et al., 2001) with no record from the event on MVFS after the 16th century (JICA, MMDA, & PHIVOLCS, 2004). According to PHIVOLCS, the possible earthquake along the MVFS has no less than 7.2 magnitude which poses threat to people, livelihood, and infrastructure. The UP Diliman campus is less than 1 km from the MVFS.

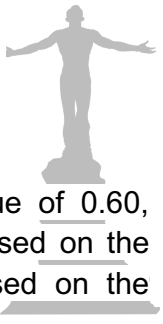
- Results (UPRI, n.d., p97-99) of studies for these risks are as follows: With regard to **Ground Motion Calculation**, Values for peak ground acceleration (PGA) were calculated using Fukushima and Tanaka (1990) seismic attenuation relation and subsurface coefficient. The values for magnitude, subsurface material, subsurface coefficient, and ground motion calculation are presented in Table below:

Table 4: Ground Motion Calculation

Fault	Magnitude	Subsurface Material	Subsurface Coefficient	Ground Motion (g)
MVFS	7.2	Pliocene – Pleistocene (tuff, pyroclastic breccia tuffaceous sandstones)	hard (0.6)	0.318–0.366

The subsurface coefficient at UP Diliman was assigned a value of 0.60, following the classification of Fukushima and Tanaka (1990). Based on the stratigraphy of the area, the campus is classified as rock based on the Pliocene-Pleistocene volcanic deposits.

Source: UP Resilience Institute



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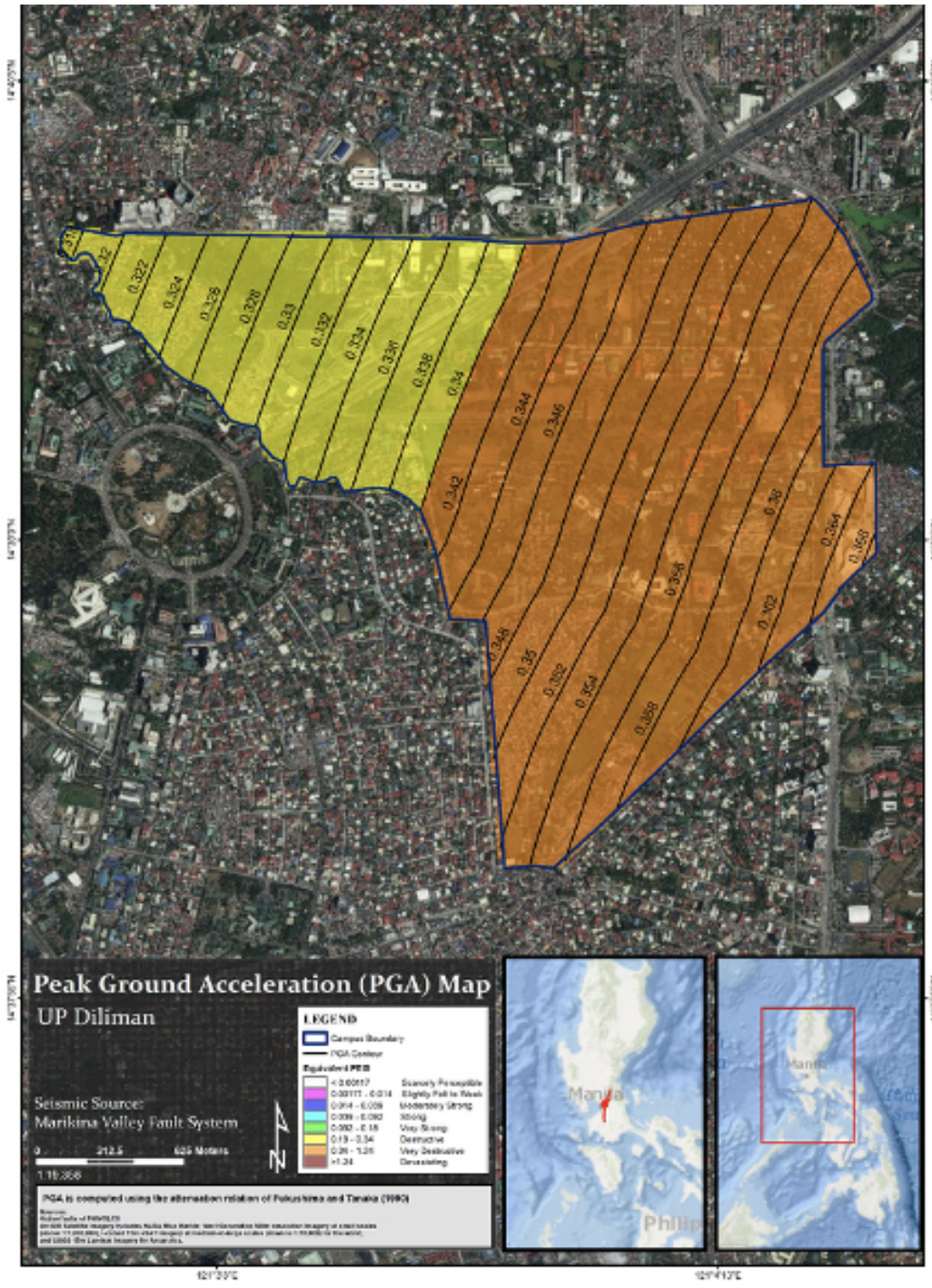


Source: UP Resilience Institute
Figure 8: PGA map of UP Diliman

- The **Peak Ground Acceleration Map** (PGA) was generated for the UP Diliman campus using the Marikina Valley Fault as the seismic source. The figure below shows the effect on the study area of a magnitude 7.2 earthquake along the MVFS. The highest ground acceleration will be felt in the southeasternmost tip of the campus reaching up to 0.366 g and tapers off to a value of 0.318 g in the northwestern part of the campus. The PGA map of the UP Diliman campus using MVFS as a seismic source shows a clear gradient of decreasing ground acceleration away from the fault trace and is generally defined by the strength of the subsurface.

- **Correlation to Intensity**: The USGS developed an Instrumental Intensity scale in relation to the PGA and peak ground velocity on an intensity scale similar to the Modified Mercalli Scale. Values from the instrumental intensity scale are used for ground shaking maps. For this assessment, the equivalent Modified Mercalli scale of USGS was correlated to the PEIS in the Philippines (see table below):

Table 5: Equivalent PEIS of the Instrumental Intensity of USGS

Instrumental Intensity	Modified Mercalli Scale	PGA (g)	Velocity (cm/s)	Equivalent PEIS
I	I	<0.0017	<0.1	Scarcely Perceptible
II–III	II–III	0.0017–0.014	0.1–1.1	Slightly Felt to Weak
IV	IV	0.014–0.039	1.1–3.4	Moderately Strong
V	V	0.039–0.092	3.4–8.1	Strong
VI	VI	0.092–0.18	8.1–16	Very Strong
VII	VII	0.18–0.34	16–31	Destructive
VIII	VIII,IX	0.34–0.65	31–60	Very Destructive
IX	VIII,IX	0.65–1.24	60–116	Very Destructive
X+	X,XI	>1.24	>116	Devastating

Source: UP Resilience Institute

- In the event of a 7.2 earthquake from the MVFS, it is likely that UP Diliman will experience damage. Figure 3.7 shows that the campus will likely experience a Destructive to Very destructive effect (See the description of the Equivalent PEIS in the table above). The campus must be prepared to mitigate potential damage from ground shaking, liquefaction, landslides, and other seismic hazards.

- In terms of **Liquefaction** (UPRI, n.d., p.45, 54-55), soil liquefaction is the sudden loss in soil strength followed by rapid increase in pore water pressure, usually due to ground shaking. Earthquake shaking often triggers an increase

in water pressure but it can also be caused by construction related activities such as blasting and vibratory pile driving (Kramer, 1995). In the Philippines, liquefaction occurrence is limited to specific hydrologic and geologic conditions in areas with high seismicity or within the vicinity of earthquake sources.

- Susceptibility to this hazard is high on flat terrain made up of saturated sandy deposits with little amount of fines, or in areas associated with historical earthquake and liquefaction events. Like many earthquake hazards, liquefaction occurrence cannot be predicted but areas susceptible to liquefaction can be delineated. For this preliminary assessment, the main resources are the liquefaction hazard maps developed by the READY Project in 2012, and supplemented by other data we acquired (see table below):

Table 6: Summary of data gathered for Preliminary Assessment of Liquefaction potential in UP Diliman

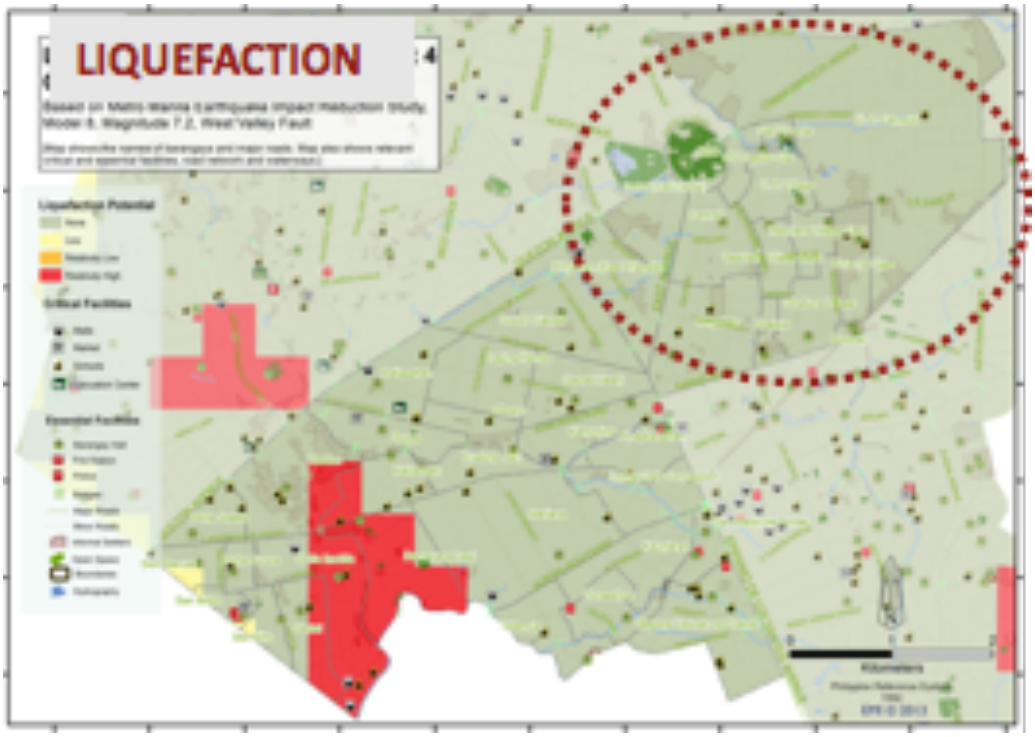
Criteria for liquefaction potential	Acquired information	Reference
Geologic environment	Age: Pleistocene	Peña (2008)
Soil type	Novaliches clay loam adobe	BSWM (1976)
Nearby historical liquefaction events (if any)	None	N/A
Significant active fault within 100km radius of campus	Marikina Valley Fault System	PHIVOLCS et al. (2018)
Magnitude recorded	7.2	D. PHIVOLCS (2015)
PHIVOLCS Susceptibility classification	Susceptible	READY (2012)

Source: UP Resilience Institute

- The assumed lower limit in triggering liquefaction in the Philippines are earthquakes with a surface magnitude of 5.2, as this is equivalent to the smallest recorded event in the country that occurred in Laoag City in Ilocos Norte. Consequently, the upper limit is a magnitude of 8.2 since it is the largest recorded earthquake in the country.

- UP Diliman is 2.3 kilometers away from the Marikina Valley Fault system which is capable of generating an earthquake magnitude of no less than 7.2 on the Richter scale. Despite the location's high seismicity, the READY PROJECT hazard maps of PHIVOLCS classified the whole **Quezon City - where UP Diliman is situated – as non-liquefiable.** Primarily, this is because the geologic deposits within the area are of Pleistocene age. It should be noted

that geological deposits older than Holocene age (> 11,000 years) are considered to have low liquefaction susceptibility. Moreover, holocene deposits (younger than 11,000 years) and man-made fills ranging from very loose to medium dense are susceptible to liquefaction.



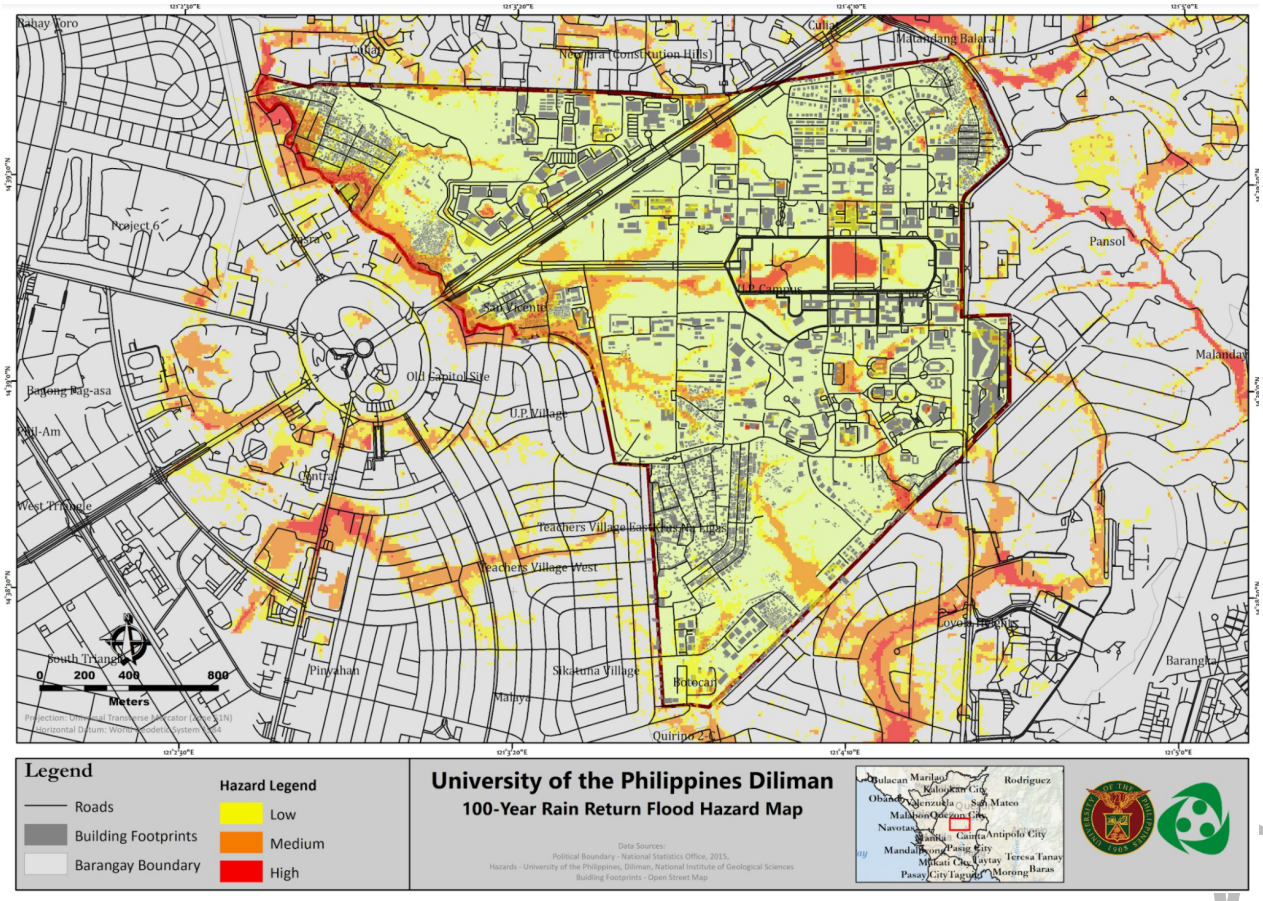
Source: QC CPDO, DRRMO
Figure 9: Liquefaction Map of UP Diliman

- Soils over the campus are generally characterized as Novaliches adobe - compact, cohesive and hard material. The cohesive property of such soils, which most often behave like clays, is another indication that the area is generally not liquefiable. In addition, groundwater data from a 2001 JICA study shows that the groundwater level of Metro Manila is 50–60 meters below msl (Clemente, Abracosa, David, Inocencio, & Tabios, 2001). Sites with potentially liquefiable soils and groundwater table within the upper 50 feet are generally considered to be most susceptible to liquefaction. If this level still persists and does not fluctuate greatly, it can be concluded that the low water level is another indication that the site could be not susceptible to liquefaction.

- Finally, in agreement to the PHIVOLCS liquefaction susceptibility classification, these widely available data collected suggests that the **UP Diliman campus is not liquefiable.** It is important to note that this assessment does not aim to

replace a comprehensive liquefaction hazard assessment as done in pre-construction works of infrastructure since certain liquefiable subsurface layers may still be discovered during borehole drilling that may be significant in building design.

- The generated probabilistic map using the geospatial model for liquefaction susceptibility presents a varied range of probability values from 0 (not susceptible) to 1 (highly susceptible). **Almost all of the academic buildings of the university are within the non-susceptible zones in the model.** Based on the map, it is evident that **areas for medium to high liquefaction probability are found on the Sunken Garden (right side of the map), the lagoon, and the creeks at Philcoa.** These are specific sites wherein the water table could be high which contributes significantly to its liquefaction potential.



Source: UP Resilience Institute
Figure 10: UP Diliman 100-yr Rain Return Flood Hazard Map

- With regard to **Flood** (UPRI, n.d., p.59, 65-66), flooding happens when water overflows onto land that is normally dry. The dry area may either be inundated

by rising water from existing waterways, or by accumulated rainwater (NOAA, 2015). Types of flooding based on place of occurrence include river flooding, coastal flooding, and urban flooding.

- Flooding events based on duration of occurrence, on the other hand, include flash floods and sheet flooding. There are many causes for flooding to occur, such as heavy rains or water control structure failure. In the Philippines, the most destructive are the ones caused by heavy rains, which usually cause billions of damages and claim hundreds, if not thousands, of lives during their onslaught. Flood hazard classification adapts the Swiss and Austrian standards. The hazards are categorized as low, medium, and high levels based on the danger they pose to people and structures and represented by the colors yellow, orange, and red, respectively (see table below):

Table 7: Flood Hazard description according to Severity (source: FLO-2D Hazard Map Manual)

Hazard Level	Map Color	Description
High	Red	Persons are in danger both inside and outside their houses. Structures are in danger of being destroyed.
Medium	Orange	Persons are in danger outside their houses. Buildings may suffer damage and possible destruction depending on construction characteristics.
Low	Yellow	Danger to persons is low or non-existent. Buildings may suffer little damages, but flooding or sedimentation may affect structure interiors.

Source: UP Resilience Institute

- The hazard levels are a function of both flood depth and flood velocity. The values used for the determination of the levels were generally based on those provided in the FLO-2D manual. However, certain changes have also been made to better reflect the variations in the hazard levels. The values considered in the calculations are summarized in Table below:

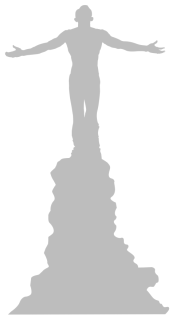


Table 8: Flood Intensity based on Maximum Depth and Velocity

Flood Intensity	Maximum Depth h (m)		Product of Maximum Depth h and Maximum Velocity v (m^2/s)
High	$h \geq 1.5$ m	OR	$v\,h \geq 1.5$ m^2/s
Medium	0.5 m $\leq h < 1.5$ m	OR	0.5 $m^2/s \leq v\,h < 10.5$ m^2/s
Low	0.2 m $\leq h < 0.5$ m	AND	0 $m^2/s \leq v\,h < 0.5$ m^2/s

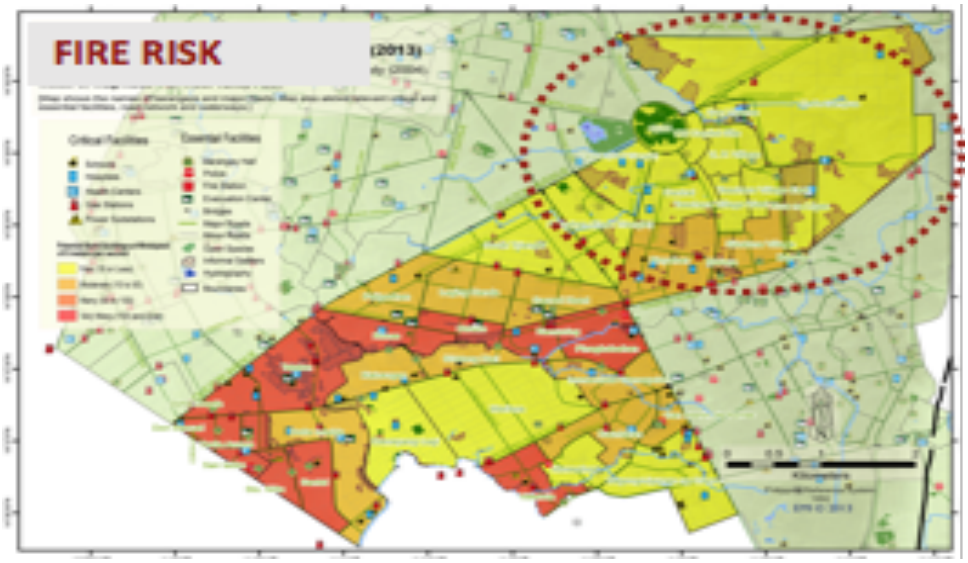
Source: UP Resilience Institute

- Generally, for an average Filipino with a height of 5' 6 ``, areas with flood depths from the knee-down can be considered to have **low hazard** levels. Those with flood depths ranging from the knee to head are considered to have **medium hazard** levels, and those covered with floods that are higher than the head have **high hazard** levels. However, since the flow velocity is also considered, areas that have shallow but fast-flowing flood waters may have a higher hazard level than that denoted by the height of the flood covering it.
- The Figures and matrices below show flood hazard and flood depth maps for UP Diliman campus. In all cases, there are three hazards present (low, medium, and high). The total surface area covered by the flood hazard gets progressively larger with increased rainfall. As expected, areas with lower elevation are exposed to higher flood hazard levels. The highest flood depths are mostly found along stream channels. Given that the classification of flood hazards also takes flow velocity into consideration, high-slope zones and narrow passages are also exposed to higher hazard levels. Streams and channels are considered to be high-hazard areas due to both high flood depth and high flow velocity.

- With regard to **Severe Wind** (UPRI, n.d., p97-99), The Philippines has always been in the forefront of hazards brought in by intense weather systems from the Northwestern Pacific tropical cyclone basin (Yonekura, 2012). The archipelagic topography of the country even increases the risk from these hazards because of the exposure and vulnerability of most coastal Filipino communities. In addition, the effects of climate change also continue to increase the devastating effects of these hazards. The risk brought by these natural hazards are even furthered by the limited capacity of our communities in facing these disasters.

- The severe wind hazard maps for the campus show that the **campus is exposed to 117.1–220 kph of wind velocity from 5-year to 500-year return period scenarios**. These severe wind hazard maps are ideal to be used by

local government agencies as a tool for disaster management and preparation, as well as an early warning tool for extreme weather events.



Source: QC CPDO, DRRMO
Figure 11: UP Diliman Fire Risk Hazard Map

- In terms of Anthropogenic or **Human-Induced Hazards**, these include Fire / Arson and CBNRE (Chemical, Biological, Nuclear, Radiological and Explosive) hazards that exist in the CU/campus.

- Others Identified are Health (e.g., Dengue, Bird Flu, SARS, COVID-19, Meningococcemia, food poisoning), Utility system induced flooding (e.g., Burst pipes, traffic choke points and saturated street curb parking, unscheduled release of water from overflowing dams), Civil unrest, Bomb Threat , Structural building collapse, major vehicular accidents and other road mishaps, Electrical black – out, Armed assault, Kidnapping, armed robbery , hostage taking , red-tagging of students, faculty and staff, cyber-attack or IT-related crisis.

- The above-listed description narratives concerning various aspects of risk concerning the campus will be later analyzed via **Map Overlay with subsequent Problem-Solution Matrices** as policy option guide to the UPD LUDIP 2020-2038.[4]

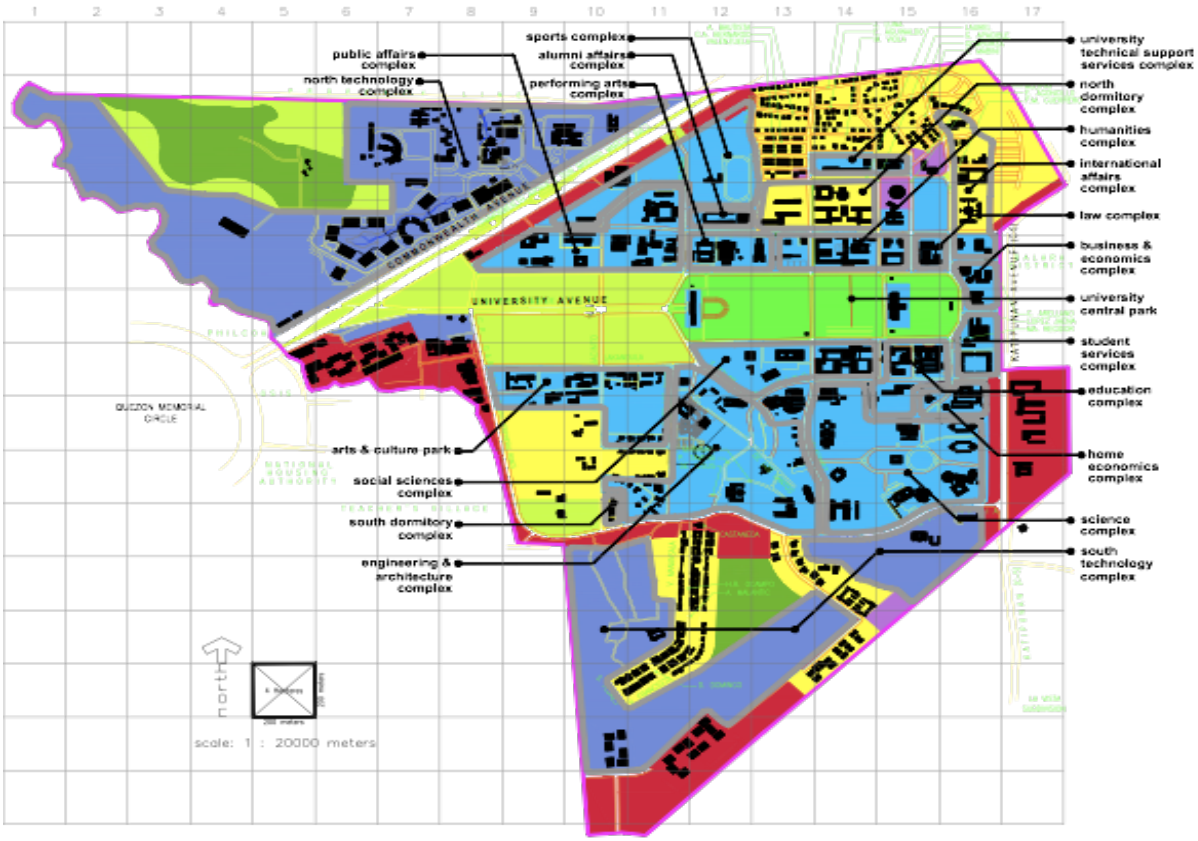
[4] Please refer to *LAND USE AND INFRASTRUCTURE HAZARD RISK ASSESSMENT (MAP OVERLAY ANALYSIS; PROBLEM-SOLUTION MATRIX),* a section seen in latter sections of this report.

II. DETAILED DESCRIPTION OF THE SUC AND ITS CAMPUSES

PHYSICAL FEATURES AND ENVIRONMENTAL CONDITION

A.1. Physical and locational characteristics, including land area, boundaries, covered barangays, and among others

- UP Diliman has a total area of 493 hectares (4,930,000 m²) that is broken down into the following zonal classifications:
  - Campus Core: 21.66 ha
  - Academic/Academic Support Units: 137.70 ha
  - Science and Technology Park: 113.41 ha
  - Resource Generation Zone: 42.51 ha
  - Faculty and Staff Housing: 95.18 ha
  - Dormitories with support facilities: 15.69 ha
  - Community Services: 3.79 ha
  - Parks and Open Spaces: 44.82 ha
  - Protected Forest Area: 18.25 ha



Source: UPD Office of the Campus Architect
Figure 12: BOR-Approved UP Diliman Land Use Map (2012)

- Furthermore, the total number of buildings of the campus is at 949, comprised of the following sub-categories:
  - Academic: 136
  - Administrative: 11
  - Dormitories: 22
  - Service: 16
  - Commercial: 10
  - Other Government Offices: 5
  - Housing: 1,126

- The above listed structures are as per official records of the campus. However, if we are to include all visible structures inside UP Diliman (e.g., from the above-listed official assets to informal and / or temporary structures within the campus property line), according to the UP-Resilience Institute, the total number points to 6,533 structures in total. Moreover, if all titled and untitled lands are included with emphasis on national roads traversing the campus (e.g., Commonwealth Ave., CP Garcia), areas with informal settlements (e.g., Krus na Ligas), a total land area of 922.92 Ha is assigned to UP Diliman.

Symbolic ornamentation amidst modernist forms; N. Abueva's Tribute to Higher Education, Nakpil and Concio's Quezon and Gonzalez Halls

Source: ESPASYO: Journal of Philippine Architecture and Allied Arts, Vol. 2, 2010

Figure 13: Ornamentation amidst Modernist Forms: Architectural design features derived from original UPD Structures

- The very first buildings to be built in the Diliman campus were the twin buildings of Malcolm and Benitez Halls, built in the latter part of the 1930's and both designed along Neo-Classical lines by Juan Arellano. Development was part of President Manuel Quezon's grand vision of a new city, a more humane and organized built environment mirroring the aspirations of a nation nearing the promise of full liberation. However, campus development by the newly

constituted Commonwealth government came to an abrupt halt during the onslaught of World War II in 1941. It was only eight (8) years later that development of the Diliman Campus commenced. Quoting Ruben D.F. Defeo:

> *A massive infrastructure program followed the 1949 exodus from Padre Faura to Diliman with funds largely coming from the United States War Damage Commission to assist the University build the "nucleus of the new campus". One by one, new buildings began to dot the Diliman skyline. The library or Gonzales Hall in 1950. The colonnaded administration building or Quezon Hall in 1951. The College of Engineering or Melchor Hall and its mirror image, the College of Liberal Arts of Palma Hall in 1952.*
> *Until the early 1950s, only these edifices dominated the fabled Academic Oval generously blest with Acacia-lined lanes...the buildings were homogenous in character. And if that were not plausible, at least each building managed to relate to the next in quite a Hellenistic fashion, essaying an architectural harmony made hollowed through time. Today this post Hellenistic consciousness has given way to a disposition favoring an eclectic, albeit confused architectural persuasion.*[5]

- With regard to the UP Diliman Extension Program in Pampanga and Olongapo (UPDEPPO), in 2007, UPDEPPO was awarded a permanent site by the Clark Development Corporation. The site consists of a 3.28-hectare lot within the CFZ which UPDEPPO envisions to transform into a bustling university town. The plan is to develop an "academic complex that includes two academic buildings with modernized facilities, two student dormitories, state-of-the-art library and research facility, gymnasium, auditorium, a student center, and other amenities" (from the General Catalogue of the University of the Philippines – Diliman 2014). Construction of the first academic building was completed in August 2014, and UPDEPPO moved to its permanent home in January 2015 (https://upepp.upd.edu.ph/about/unit-history/).

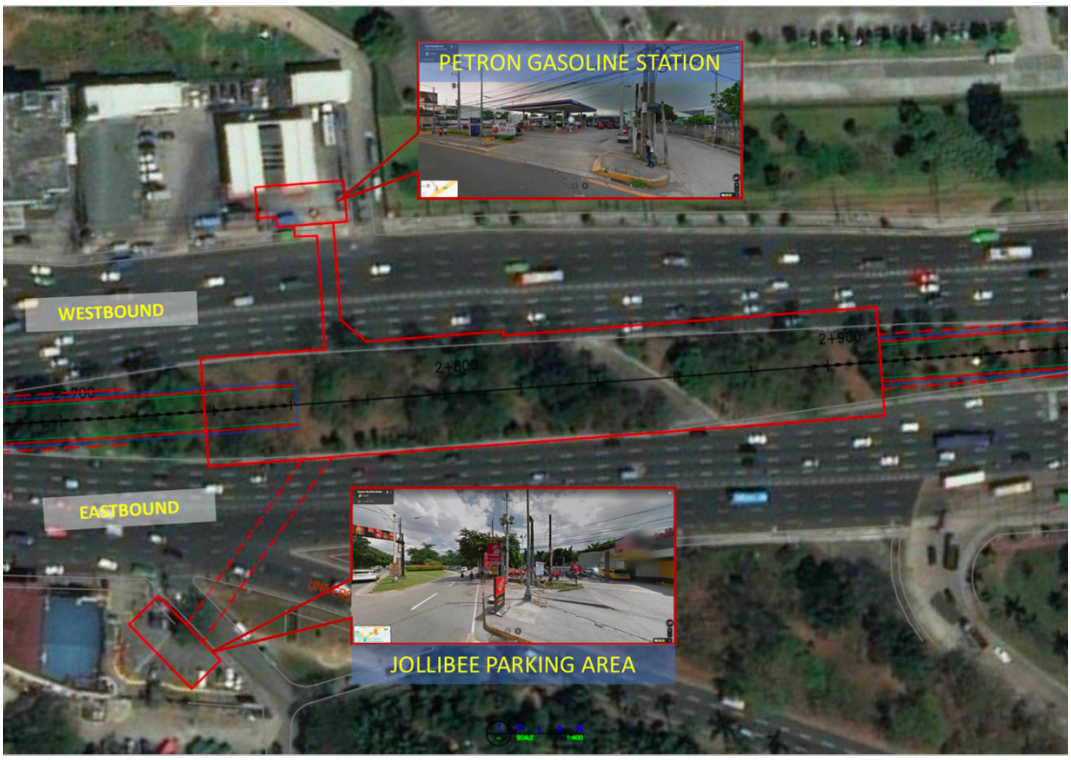
- UPD's academic buildings and public art are set in a landscaped environment which is a result of the evolution of its campus plan in the face of changing architectural theories and styles, as well as its dynamic relationship with the concerns and events of the nation. Thus, UPD fulfills its role as a model of undergraduate instruction, a center for graduate education and research, and

[5] Defeo, Ruben D.F. The Diliman Campus Then and Now, Sites and Symbols: UP Diliman Landmarks, Office of the Chancellor- UP Diliman, Quezon City, 2000. P.4

as a major source leadership and expertise for public service. (https://upd.edu.ph/about/history/)

A.2. Nearby airports, ports, bus terminals, and the like

- In terms of transport connectivity, from humble beginnings of a long stretch of road connecting the then new campus with that of old Manila, to the current iteration of Commonwealth avenue, construction work is on-going for an MRT-7 station that will rise along UPD's University Avenue portal; hence, spatial and mobility integration is being developed to maximize synergy with this landmark transit development corridor. The influx of vehicular ownership brought about especially during the pandemic has seen the daily occurrence of parking demand that will be addressed by relevant traffic management plans, alongside possible mix-use multi-storey parking facilities to control and segregate vehicular assets from the campus' tranquil open green spaces as much as possible.



Source: SMC Mass Rail Transit 7, Inc.
Figure 14: MRT – 7 Station 3, University Avenue, UP Diliman (Scheme as of Sept 2021)

- From a built environment perspective inside campus and as described in the preceding section, the UPD academic core's distinct built character anchored on Neo-classical (Malcolm and Benitez Hall) and Modernist styles (Gonzales,

Quezon, Palma and Melchor Halls) has gradually been surrounded by different spatial forms, scales and design interpretations; from low-rise basic structures to large edifices reflective of the era in which it was built.

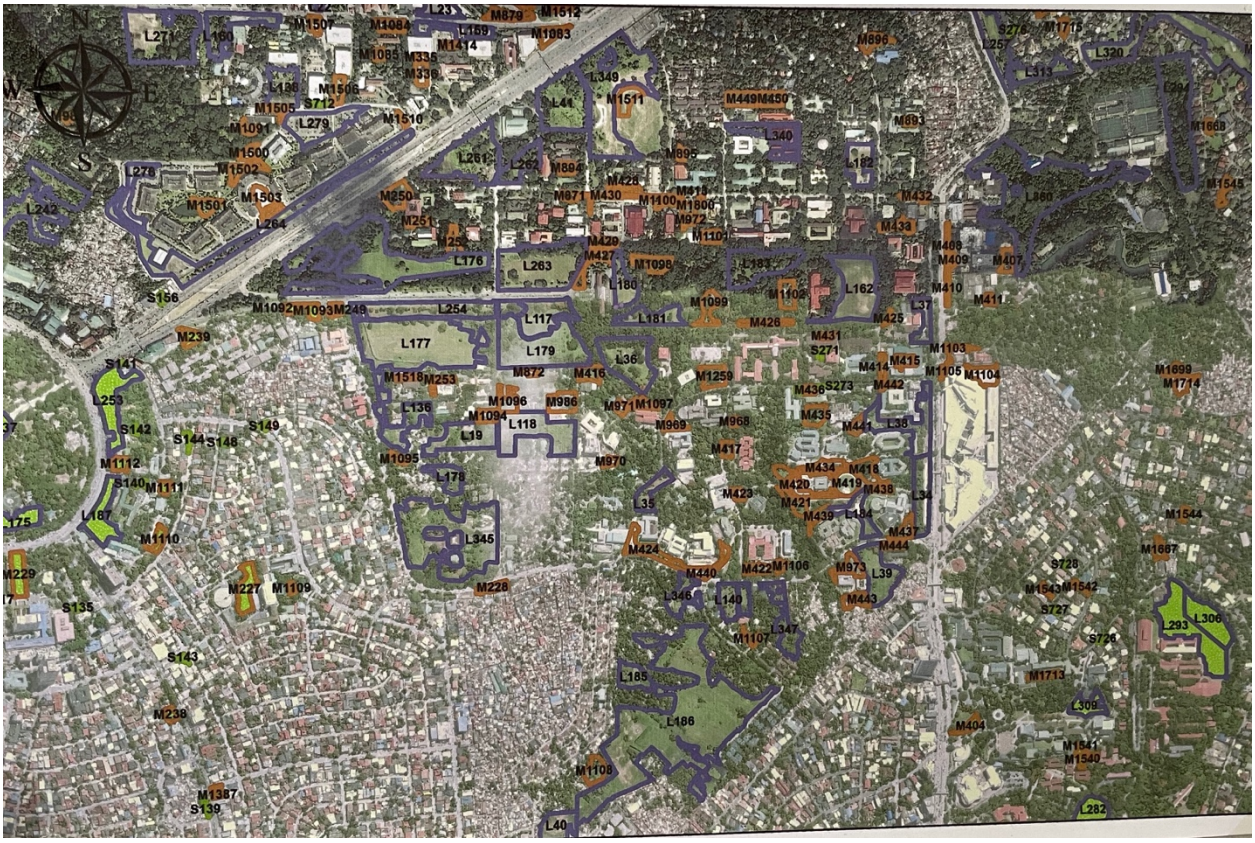
- In terms of the open spaces in and around the campus, there is a need to broaden the positive role of the campus' green infrastructure assets as a nature respite for the community and the city, region it is a part of, as well as a conduit for active transportation / non-motorized transportation (as a means to alleviate traffic choke points brought about by the proliferation and over-dependence on automobiles and road-based vehicular platforms.

- With regard to UPDEPPO's, it is strategically located in the heart of Clark freeport, adjacent to Clark International airport. It is surrounded by notable private developments, Mimosa and Fontana golf estates to name a few. With regard to UPDEPPO's subic asset, it is located along Rizal Highway, a gateway to and from Subic Bay freeport and Subic Bay Gateway Park. It is also situated the Santa Rita Drainage Channel.

A.3. Summary description of the natural and biophysical environment:

- The UP Diliman campus with its notable green open spaces is one of the remaining nature sanctuaries in Quezon City, a place where both flora and fauna inside are thriving amidst an urban metropolis more noted for its concrete, steel and asphalt-laden structures and spaces. As one enters the main campus portal along University Avenue, one is directed to large expanses of greenery flanking both sides of this main road, terminating with a view of Quezon Hall and the iconic symbols of the University, the *Oblation*.

- Behind this structure is another expanse of protected green space leading towards the Main Library (Gonzales Hall) with the famous Sunken Garden completing this green strip of protected land; a central axis that campus development has sprawled outward over the years. Numerous types of birds and nocturnal animals call these green spaces their home; proof of which is the creation of the UP Diliman Biodiversity Committee to ensure that the welfare of UP Diliman's natural assets are preserved. On-going initiatives of preserving these natural features are also integrated into the research and teaching role of UPD; these green spaces with creeks and natural watering holes are likewise packaged as outdoor laboratories for students and professors to study and gain new insights on campus flora and fauna. The potential of these spaces as outdoor congregation areas for both UPD and Quezon City residents during times of emergency were likewise recognized by the local government (Fig.15).



Source: QC DRRMO

Figure 15: Green and Open Spaces Map of UP Diliman

- The Green and Open spaces map as delineated by QC DRRMO (Fig. 15) is used as reference by UP Diliman in its LUDIP; highlighting its role as a means of preserving natural habitat and biodiversity and also serving as evacuation areas in times of emergencies. In the proposed UPD LUDIP (Fig. 16), all spaces classified as Campus Core, Parks and Major Open spaces may serve
- as temporary evacuation areas in times of emergencies; Through priority isfor these spaces to serve the UPD community, UP Diliman may forge collaborative agreements with the local government in the usage of these spaces as aligned with the interests of the University.
- Aside from this central core, other notable open spaces are defined as a part of the network of green open spaces inside UPD; from the Arboretum which is located on the northwest side of the campus, to the National Science Complex on the campus' eastern flank. In between these green patches of nature are a mixture of buildings representing various phases of development that the campus has seen from its beginnings prior to the Second World War, the tumultuous era of Martial rule, to the infrastructure development rush at the turn of the century and its current iteration during the term of UP President Danilo L. Concepcion. From the very simple Quonset huts and 1-storey row house

structures to 4-storey buildings and walk ups, to more recent 7 and 9 storey structures, these built structures (and the road and pedestrian networks connecting them) have a significant effect on the above-mentioned green spaces inside campus.

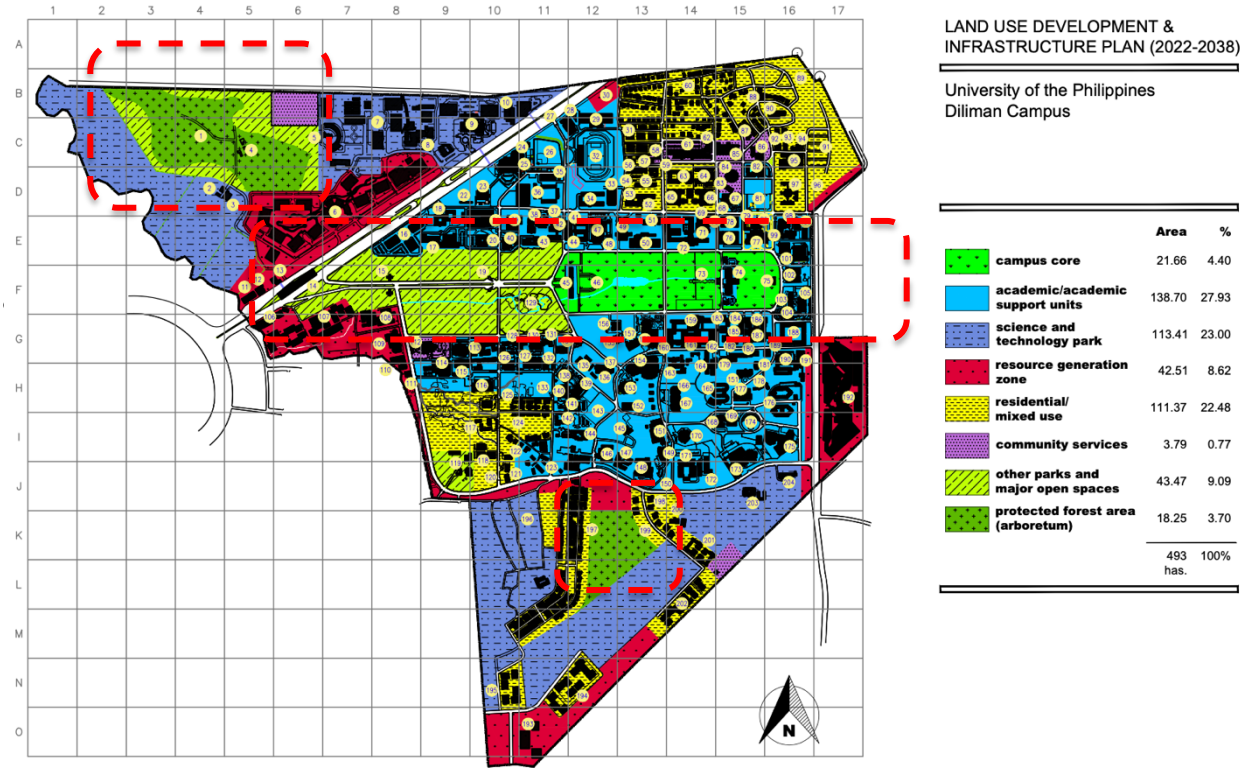


Figure 16: Areas designated as Campus Core, Parks and Major Open spaces may serve as temporary evacuation areas in times of emergencies

INVENTORY OF LANDHOLDINGS

B.1. Status of Ownership

- The land area in which UP DIliman is based on is part of the Philippine Commonwealth-era master plan to create a “national capital center”; the land where the campus is presently located was awarded by the Philippine Commonwealth government during the late 1930’s, as a part of the deemed necessity for government institutions to move to a larger area where there would not only be room for institutional offices to build and expand, but also serve as a showcase of Philippine self-rule. It was decided to build what would become the Capitol City northeast of Manila proper, in the area called Diliman, named after the species of fern that was abundant in the area.

- Being a state university, UP was included in a masterplan for a "national capital center" created by Harry Frost and Juan Arellano in 1939. (https://www.theurbanroamer.com/the-metropolis-and-its-capital-dreams-part-ii/)

B.2. Manner of Acquisition

- On October 12, 1939, President Quezon signed Commonwealth Act No. 502, also known as the charter of Quezon City. The new city encompassed the aforementioned areas, as well as other areas acquired from nearby towns to form an area originally at 7,300 hectares. With the territory now firmly set in place, it was now time to set up the city's master plan, most especially for the national capital complex which is to be cornerstone of sorts for Quezon City. Creating the city's masterplan fell into the hands of Harry Frost, the American architect who was also serving as the architectural adviser of the Commonwealth government. Assisting him were Alpheus Williams, a former Public Works bureau chief and, more notably, Juan Arellano, the renowned Filipino architect who designed the Manila Post Office Building and the Metropolitan Theater, among others.

- The first phase in this Quezon City masterplan involved the transfer of the main campus of the University of the Philippines from its congested confines in Ermita. As different government offices chose the areas in which they will set up office, UP chose a 493-hectare property northeast of the planned National Capitol (the present Quezon Memorial Circle) to be its new main campus. By the end of the year, the construction of the campus' first 3 buildings were in full swing (https://www.theurbanroamer.com/up-diliman-part-1/).

B.3. Technical Description

- The 493-hectare UP Diliman campus is flanked by Commonwealth and Katipunan Avenues on its northern and eastern flanks, with the Quezon Memorial circle serving as a spatial anchor on its south west tip. It is surrounded by key government institutions such as Quezon City Hall, Veteran's Memorial Medical Center, Ninoy Aquino Parks and Wildlife, just to mention a few. Other notable developments nearby are Balara Filters Park, Capitol Hills Golf and Country Club, Ateneo de Manila University, Miriam College. However, if all titled and untitled lands are included with emphasis on national roads traversing the campus (e.g., Commonwealth Ave., CP Garcia), areas with informal settlements (e.g., Krus na Ligas), a total land area of 922.92 Ha is assigned to UP Diliman.

- With regard to UPDEPPO's, it is strategically located in the heart of Clark freeport, adjacent to Clark International airport. It is surrounded by notable private developments, Mimosa and Fontana golf estates to name a few. With regard to UPDEPPO's subic asset, it is located along Rizal Highway, a gateway to and from Subic Bay freeport and Subic Bay Gateway Park. It is also situated the Santa Rita Drainage Channel.

EXISTING LAND USE AND LAND USE TRENDS

- The most recent land-use plan of the campus is the 2012 UPD Land Use Plan (see Figure), approved by the Board of Regents in 2011, and is an update of the 1994 version. Notable infrastructures such as the National Science Complex, ERDT Buildings, and UP-Ayala Land TechnoHub, among others, were now reflected in the latest plan, and areas designated as resource generation zones were indicated more accurately. However, there have been several changes in the campus landscape since then. CASAA, a known canteen within the campus, burned down in 2015 along with the Alumni Center. The Faculty Center, home to hundreds of professors, was also lost to the fire the following year. The Shopping Center also went up in flames in 2018, depriving the community of a one-stop-shop for campus needs. Though certain campus landmarks were lost, new infrastructures have been provided after the 2012 Land Use Plan.

- Various units, such as those located within the Science complex and the Engineering complex, as well as the School of Statistics and the School of Urban and Regional Planning have added buildings to help support the academic needs of the community. In terms of resource generation, he UP-Town Center was opened in 2013, providing the nearby community with its various retail outlets, restaurants, and a supermarket, which resulted in the relocation of the UP Integrated School further within the campus. Business concession establishments were also provided adjacent to the Molave Residence Hall and Acacia Residence Hall to provide much needed service for the dormitory's residents. The rapid increase of vehicle ownership and usage inside campous likewise needs both immediate and long term solutions to address emerging traffic chokepoints and parking needs while preserving biodiversity and a vision of a green and walkable campus.

- An update of the current Land Use Plan is needed to reflect the new infrastructure developments and to reconsider certain zones. The issue on informal settlements within the campus still needs to be addressed, as well as how to increase (and control) vehicular parking alongside revenue generation of the university without transforming significantly the campus landscape.

C.1. Land Use Information at a Glance

- As mentioned in earlier parts of this report, UP Diliman has a total area of 493 hectares (4,930,000 m²) broken down into the following zonal classifications:
    - Campus Core: 21.66 ha
    - Academic/Academic Support Units: 137.70 ha
    - Science and Technology Park: 113.41 ha
    - Resource Generation Zone: 42.51 ha
    - Faculty and Staff Housing: 95.18 ha
    - Dormitories with support facilities: 15.69 ha
    - Community Services: 3.79 ha
    - Parks and Open Spaces: 44.82 ha
    - Protected Forest Area: 18.25 ha

- Furthermore, the total number of listed infrastructure assets on campus is at 949, comprised of the following sub-categories:
    - Academic: 136
    - Administrative: 11
    - Dormitories: 22
    - Service: 16
    - Commercial: 10
    - Other Government Offices: 5
    - Housing: 1,126

- However, if we are to include *all* visible structures inside UP Diliman, from the above-listed official UPD Built Assets, to informal and / or temporary structures within the campus property line, the UP-Resilience Institute points to a total of 6,533 structures in total.

- The dominant land use on-campus is that of the academic and academic support zones; this area contains the primary research, extension, and teaching facilities of UPD. This is followed by Campus core, where UPDs green infrastructure assets are preserved. Next are the residential areas containing dormitory facilities as well as Faculty and staff housing amenities. It is then followed by Science & Technology park; meant to increase opportunities for growth and collaboration in related fields. Rounding up the UPD zones are the protected forest areas (e.g. Arboretum) and community services zones (e.g. Holy Sacrifice parish and Church of the Risen Lord; Post Office). Currently, under construction is the renovation of the International Center (dormitory facility for international students) is underway.

- In terms of residential land usage, renovation of Kamia, Yakal and Molave dorms (KaYaMo) are now done and ready to serve new generations of UPD students. Alongside this, a 7-storey dormitory facility along Balagtas street is likewise being erected at an increasing speed and pace. A Faculty and Staff Housing complex will be finished soon along E. Jacinto street; a three-building cluster meant to provide additional housing accommodations for faculty and staff. Efforts are likewise being made to improve spatial accommodations for the low-density single-detached housing units on-campus; beginning with road and sewer line network rehabilitation as implemented with the DPWH Quezon City 2nd District and UP System Project Management Office (PMO).

C.2. Land Use Trends

- The most recent land use plan of the campus is the 2012 UPD Land Use Plan (see Figure), approved by the Board of Regents in 2011, and is an update of the 1994 version. Notable infrastructures such as the National Science Complex, ERDT Buildings, and UP-Ayala Land TechnoHub, among others, were now reflected in the latest plan, and areas designated as resource generation zone were indicated more accurately.

- However, there have been several changes in the campus landscape since then. Casaa, a known canteen within the campus, burned down in 2015 along with the Alumni Center. The Faculty Center, home to hundreds of professors, was also lost to the fire the following year. The Shopping Center also went up in flames in 2018, depriving the community of a one-stop shop for campus needs. Lately, the rise in vehicle ownership demands parking facilities that will be able to accommodate demand while preserving biodiversity and UPD's vision for a green and walkable campus.

- Aside from the clusters of Informal settlements on campus, a major issue are the Krus na Ligas, and Arboretum sites in UP Diliman. For the former, there were initial discussions with Quezon City Government for the said area, and a possibility for developing multi-storey housing developments in return to benefit UPD faculty and staff; however as of this writing, no concrete policy has been derived that may be basis for concrete land use planning and infrastructure development strategies. As for the latter, there are feasibility studies and design works being made for a proposed UP PGH-Diliman hospital along the fringes of the Arboerutum.

FACILITIES

- Though certain campus landmarks were lost, new infrastructures have been provided after the 2012 Land Use Plan. Various units, such as the science complex, the engineering complex, the School of Statistics, the School of Urban and Regional Planning, to name a few, have added buildings to help support the academic needs of the community.

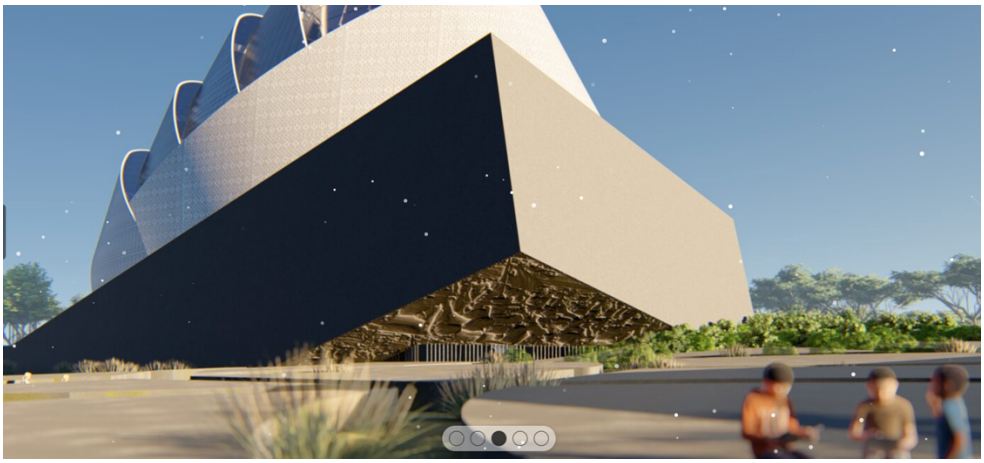
- The UP-Town Center was opened in 2013, providing the nearby community with its various retail outlets, restaurants and a supermarket, which resulted in the relocation of the UP Integrated School further within the campus. Commercial establishments were also provided adjacent to the Molave Residence Hall and Acacia Residence Hall.

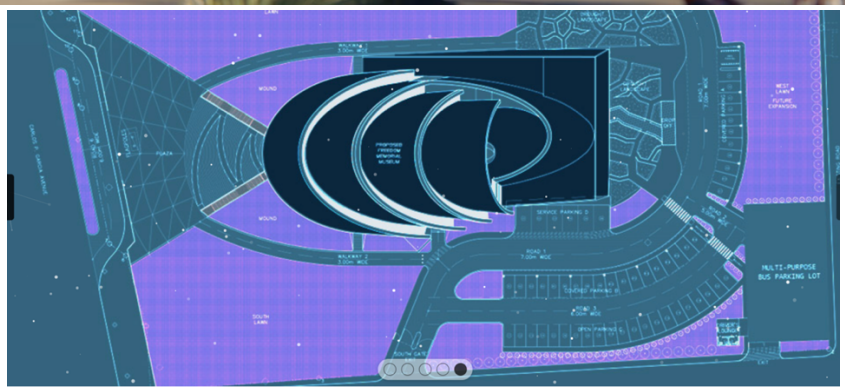
- Currently, under construction are the multi-storey UP Resilience Institute Building along Lakandula street, the new Shopping Center, the Faculty Commons (replacing the Faculty Center which burned down in 2018), the Food Hub in front of the College of Fine Arts along E. Jacinto street are being built. Alongside this, a 7 storey dormitory facility along Balagtas street is likewise being erected at an increasing speed and pace. Traveling along the Commonwealth avenue side of the campus, the headquarters of national agencies like PIDS are likewise earmarked for development; solidifying the role of UP Diliman as a center not only of academic excellence but also a central hub for knowledge generation that pushes the theoretical and practical boundaries of UPD's role in nation-building.

- With regard to socio-cultural history, UP and the Human Rights Violations Victims' Memorial Commission (HRVVMC) have entered into an agreement to build the *Freedom Memorial Museum* which will host exhibits related to the Martial Law era under former President Ferdinand Marcos (Fig. 17). Located in the current location of the structures hosting various OVCCA offices led by the Campus Maintenance Office (CMO), this museum will be built after a new CMO Yard and Workshop Complex is built also by HRVVMC.

- There are proposals from the Office of the Campus Architect (OCA) to consider mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus. Possible locations are a) Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue), b) Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility, c) The corner of Ylanan

and Magsaysay st (across DMST compound, near the sports stadium, and d) ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.





Source: HRVVMC (https://hrvvmemcom.gov.ph/)
Figure 17: Freedom Memorial Museum, UP Diliman

- In terms of housing, as of 27 May 2021, there have been 1,126 housing units recorded within the University that are being occupied by UP constituents. These occupants are composed of faculty, administrative personnel, reps and guests. The housing units have been identified and classified into the following: apartment, bungalow, cluster, cottage, low-cost, row house and walk-ups. On a more in depth note, guest houses are bungalows that are assigned to UP Baguio, UP Visayas, and UP Mindanao. Relatively, the cottages, low-cost units and row house are collectively classified as low-cost housing units.

- As part of the Diliman Housing Office's (DHO) policy, a housing unit may be jointly awarded to two employees since not all units have solo awardees. This being said, DHO has no available record of the actual number of household members staying in each housing unit. Other factors such as over-staying and

illegal occupants were not reflected in these total numbers presented above, however, a number of 355 was identified.

TRANSPORTATION

- An MRT-7 station will rise along Commonwealth and University Avenue; hence, spatial and mobility integration is being developed to maximize synergy with this landmark transit development corridor (Fig. 17). Discussions are likewise underway to integrate the Bus Rapid Transit system with existing IKOT and TOKI Jeepney routes in and around campus.

Source: SMC Mass Rail Transit 7, Inc.
Figure 18: MRT – 7 Station 3, University Avenue, UP Diliman (Sept 2021)

- There are proposals from the UPD Office of the Campus Architect (OCA) to consider mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus. Possible locations are a) Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue), b) Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility, c) The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and d) ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

- Also, there is a need to broaden the positive role of the campus' green infrastructure assets as a conduit for active transportation / non-motorized

transportation (as a means to alleviate traffic choke points brought about by the proliferation and over dependence to automobiles and road-based vehicular platforms.

WASTE MANAGEMENT

- UPD has its Diliman Environmental Management Office which is incharge of maintaining environmentally sustainable waste management practices and benchmarks; located inside the Stud Farm complex, this office and its area of jurisdiction monitors and provides partner offices such as the Campus Maintenance Office (CMO), and the Office of the Campus Architect (OCA) with vital information and spatial complements needed to maintain environmental quality standards on campus. Together with this, UPD has its Biodiversity Committee that also links up with partner offices as mentioned earlier to finetune policies earmarked for environmental sustainability on campus.

DEMAND-SUPPLY BALANCING

- After discussion of current land usage as well as prevailing trends governing use of land inside UP Diliman, it is important to determine demand through student, personnel growth projections for the next decade or so. This is so that while we are aware of UP Diliman's current infrastructure assets, UPD will now have a better appreciation how much more might infrastructure support may be needed in the earmarked years governing land use development and infrastructure planning moving forward (e.g., No. of classrooms, office spaces, laboratories, dormitories, among others).

D.1. UPD Student vis-a-vis Personnel Population Projection (2020-2038)

- To determine an initial population projection of UPD students, faculty and staff by 2038 (a key component to determine probable spatial needs of the campus in the next decade or so), there is a need to identify statistical trends of these sectors. Data of UPD student population starting from 2008 to 2019[6] was used (as provided by the Office of the University Registrar). As seen in the Figure below (Tab.9), student enrollees per semester average at twenty two thousand three hundred seventy seven (22,377); alongside a derived growth rate of 1.02, an estimated figure of 32,267 students may be the population of UP Diliman by 2038.

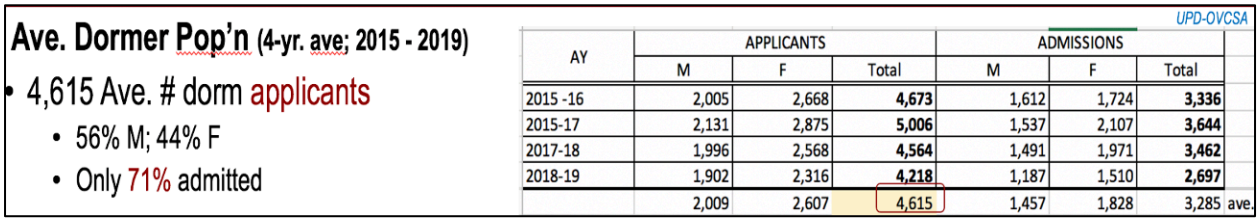
[6] 2020 numbers were available but was purposely not included in the computation for average growth rate; the reason being is that student enrollee numbers dropped significantly and was attributed due to the COVID-19 pandemic. It is highly recommended that these statistical figures be verified and refined as needed.

Table 9: Population Projection Summary (Students, Personnel)

UPD Pop'n by Group	Pop'n as of 2020	Ave. Growth rate	Est. Pop'n by 2038
Students	22,377 (ave)	1.02%	32,267
Personnel	5,762 (*approv 25% of student pop'n)	1.02% (assumed to coincide w/ growth of student pop'n	8,068

Source: OUR, HRDO, OVCSA

- Interestingly, the current number of UPD personnel as of December 2020 (i.e. Faculty, REPS, admin) is roughly a quarter of the abovementioned student population. If we are to assume a proportional increase among students and staff, there may be an additional 2,306 staff hires by the year 2038; meaning, that both additional student enrollees and staff hires, each with its own space program demands, will either have to fit with the current infrastructure allocations, or perhaps this projected increase will help justify future infrastructure projects to be proposed in the coming years (as aligned with the tenets of this LUDIP).



AY	APPLICANTS			ADMISSIONS		
	M	F	Total	M	F	Total
2015 -16	2,005	2,668	**4,673**	1,612	1,724	**3,336**
2015-17	2,131	2,875	**5,006**	1,537	2,107	**3,644**
2017-18	1,996	2,568	**4,564**	1,491	1,971	**3,462**
2018-19	1,902	2,316	**4,218**	1,187	1,510	**2,697**
	2,009	2,607	4,615	1,457	1,828	3,285 ave.

Source: OVCSA-OSH
Figure 19: Dormer Population (2015-2019)

D.2. UPD Dormer Population Projection (2020-2038)

- Alongside students and personnel, equally important to identify is the number of dormers that UP Diliman will be accommodating in the decade or so to come; this is so that efforts to determine - and justify - infrastructure complements will be in sync with estimated dormer increase in the coming years.

- Data provided by the UPD-Office of the Vice Chancellor for Student Affairs (OVCSA) shows that from Academic Year 2015 to 2019, an average of 4,615 Dorm Applications are logged, and that only 71% of these applicants are admitted. Of these admitted dormers, 56% are male, and 44% are female. If

we are to assume the steady rise of students leading to 2038, UP Diliman needs to improve dormitory absorption rate by building more dormitory facilities on and off campus. This may be tempered by the adoption of hybrid classes (mix of online and face to face classes), as technology improves in the next decade, the divide between digital and physical classes may become smaller and feasible (e.g., augmented reality as classroom and office setups freeing the campus from current physical boundary norms).

D.3. Carrying Capacity : Land Use Area and Infrastructure Demand Requirement (2020-2038)

- To determine optimum carrying capacity for UP Diliman, we will base assumptions to the space requirement standards mentioned below. At this point and with the population projections already in place, infrastructure complement needs for the coming decade or so will be defined. Based on reviewed literature sources[7], the following average space requirements pertaining to carrying capacitgy are:
  - *7.00 sq.mtr. per person for a classroom, studio set-up*
  - *8.00 sq.mtr. per person for a laboratory set-up*
  - *7.00 sq.mtr. per person for a gym set-up*
  - *10.00 sq.mtr. per person for a office set-up*

- A bit over half (e.g., 60%) of the 2038 estimated student population simultaneously using UP Diliman classrooms and studios at a given day and time, alongside a fifth (20%) of the 2038 estimated student population simultaneously using UP Diliman laboratory, gym facilities at a given day and time, we arrive at the following estimates:
  - **21.30 Ha**. : Estimated classroom, laboratory, studio, gym and office area requirement of UP Diliman students and personnel by 2038

- In addition to the above discussed points, an effort to determine campus staff housing requirements was likewise explored. Based on a unit allocation of 30.00 sq.mtrs. per unit, and we assume that only a quarter (25%) of UPD staff by 2038 (25% of 8,068) 2,017 will be requesting campus housing accommodations, we will arrive at the following estimate:
  - **6.05 Ha**. : Estimated residential area requirement of UP Diliman staff by 2038

[7] https://files.eric.ed.gov/fulltext/ED021401.pdf (accessed 20 June 2021).

- Lastly, the spatial demands of these groups will lead to rise of vehicular usage; in this regard, a proposal from the UPD Office of the Campus Architect (OCA) to consider mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus. Possible locations are a) Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue), b) Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility, c) The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and d) ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

D.4. Carrying Capacity : Current Infrastructure Supply vs. Demand Requirement (2020-2038)

- After determining Infrastructure demand estimates as discussed in the previous section, we compare this with the current supply (how much zonal allocation has been allotted thus far inside UP Diliman), to assist us in crafting policy options concerning these vital land use development and infrastructure planning needs.

- In terms of *Academic Support* as well *Science and Technology* zonal allocation, UP Diliman (as based in the current 2012 Land Use Plan) has a total of **251.11 Ha**. of land available for academic and office buildings. As of June 2021, UPD has occupied about 20% of this Zone, based on data provided by the UPD Office of the Campus Architect (OCA).
    - Should we include the connective spaces between these documented infrastructure assets, we surmise that only a **quarter** (1/4 of zonal allocation) of the 251.11 Ha. is currently utilized.
    - Factoring in the estimated classroom, laboratory and infra facility needs of UP Diliman by 2038 as mentioned above, the land allocation is adequate in terms of augmentation in the number and quality of amenities to serve students, staff and faculty. However, given the dawn of new technologies (i.e., hybrid learning), it is foreseen that new infrastructure on available land need not be the primary option for infra development in the years to come; internet connectivity (satellite as well as fiber optic option), new technologies such as augmented reality and smart classrooms (inside current buildings) may be focused on instead.
    - In this regard, it is recommended that carrying capacity will be ensured and based on infrastructure development proposals entailing careful

consideration of needed balance between built and open spaces on campus.

- Proposed default solution is the augmentation of existing building footprints (e.g., new building designed, built atop existing structure footprint to preserve open space ratio), and further strengthening of internet systems and technologies to balance traditional and hybrid learning methodologies.

- Roughly 18% of UP Diliman's total land assets are already classified as protected green open spaces; these are spaces that are clearly defined as no build zones. However, if we are to include an estimated area (based on map overlays) of open spaces *between* buildings and facilities on campus, an additional 25% of open spaces (albeit technically buildable areas) comprise UP Diliman's total open area assets, bringing the figure up to **43%** of its total land area. This falls within an ideal 40-45% carrying capacity of campus maintained open spaces, as based on reviewed literature coupled with technical assessment dervied by the UPD LUDIP team. This will be a combination of protected areas as well as open spaces in between buildings; this is to ensure that an abundance of greenery and breathable spaces are protected, ideal carrying capacity is maintained and found all over campus. This will help minimize impact of urban heat island (UHI) effect, protect biodiversity, create healthy learning environment[8].

- In response to this trend, an efficient land use development policy based on sustainable carrying capacity solution/s are recommended; this is to **control sprawl** and **preserve valuable green and open space networks** that the campus is blessed with.
- Moreover, should future development go beyond the ideal ratio mentioned above, it would be recommended that UPD consider creating a **satellite campus**, instead of congesting the green, tree-laden grounds in Diliman. A possible option is perhaps Clark Green city, where connectivity will be made via mass transit systems that is seen to be operational in 6-10 year's time.

- In summary, UPD's land area allocation currently has enough spaces for projected needs up until 2038. However, if growth rate trajectories continue to rise, it is estimated that in another 20 years (i.e., year **2058)** the space requirements of UP Diliman may already go beyond the ideal 40-45% open space preserved from the total area of UP Diliman. it is recommended that if

[8] https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-08/9b_11.7.1_UN%20Habitat_tier%20reclassification%20Nov%202018_final.pdf
https://www.europeanjournalofsocialsciences.com/issues/PDF/EJSS_60_3_05.pdf

and when that time and space demand comes, UP Administrators will choose to develop another campus site outside Diliman so as not to undermine the character of UPD as one of the few remaining green enclaves in Quezon City and more so in the capital region (NCR)..5

- In terms of *Residential* and *Mix-Use* zonal allocation, UP Diliman (as based in the current 2012 Land Use Plan) has a total of **110.87 Ha**. of land available for faculty and staff housing, as well as dormitories with support facilities. As of June 2021, UPD has occupied about 10% of this Zone, based on data provided by the UPD Office of the Campus Architect (OCA). Should we include the connective spaces between these documented infrastructure assets, we may assume that about 15% of the 110.87 Ha. is currently utilized. UP Diliman has the area to accommodate new infrastructure for dormitory facilities as aligned with these projections. In response to this trend, an **efficient land use development policy** is also recommended to regulate sprawl.

- Moreover, it is in the interest of UP Diliman to consider a policy of investing in land acquisition that will take advantage of the upcoming mass-transit lines having a direct connection with the MRT-7 station adjacent to University Avenue; either from this same MRT-7 line leading north to San Jose Del Monte in Bulacan, or to the LRT-2 line to the east, with its newest station already in Antipolo, Rizal.

- This opens greatly the possibility of acquiring relatively cheaper land outside campus that is connected to this mass-transit system. Off-campus rental housing units (e.g., 4-storey walkups), or subsidized Residential units (e.g., single attached duplexes) may be developed and sold to UP staff. This will help address the housing shortage Diliman currently faces, while at the same time not having to build-on precious land holdings inside the Diliman campus grounds.

- Serving as an overall design guideline and strategy to complement this LUDIP, **smaller building footprints** and **vertical-oriented development** is to be preferred instead of larger footprints and horizontal sprawl. This is to minimize unnecessary usage of remaining buildable area (so that future generations of UPD Administrators will have land to build on if necessary), foster sustainable carrying capacity strategies and more importantly to preserve as much open green space as possible.

LAND USE AND INFRASTRUCTURE HAZARD RISK ASSESSMENT (MAP OVERLAY ANALYSIS; PROBLEM-SOLUTION MATRIX)

- Now that we are aware of the demand vis-a-vis supply of infrastructure needs of UP Diliman (and have identified a spatial development concept in terms of sustainable land usage), the succeeding narratives are meant to determine risk resiliency as based from acquired information (presented via tables and maps) from Quezon City government, the UP Resilience Institute (URI), alongside other key offices in UPD (OVCCA, OVCSA, OUR, HRDO). To be specific, an overlay analysis of the university campus was made using high-resolution hydro-meteorological and geological hazard maps, building footprints, and campus boundaries. The overlay analysis aims to calculate the percent by which UP Diliman is affected by low, medium, and high hazards. In addition, the analysis also intends to determine the total number of buildings which will be partially (parts of the building lot) or totally (entire building lot) affected by hazardous incidence. The following tables show how much of the campus lot area are affected by low, medium or high hazard. It also shows how many buildings are partially or fully affected by the hazard (from: UP Resilience Institute).

- A major contributor to this section is the newly constituted UPD Crisis Management Committee, composed of the following members (as of August 2021):
  - Prof. Fidel R. Nemenzo, DSc, Chancellor - Chair
  - Prof. Aleli B. Bawagan, PhD, VCCA – Co-Chair
  - Prof. Ma. Theresa T. Payongayong, PhD, VCAA
  - Prof. Adeline A. Pacia, MTM, VCA
  - Prof. Gonzalo A. Campoamor II, PhD, VCRD
  - Prof. Louise Jashil R. Sonido, VCSA
  - Prof. Raquel B. Florendo, PhD, VCPD
  - Prof. Sir Anril P. Tiatco, PhD, Director DIO
  - Prof. Giovanni A. Tapang, PhD, Dean College of Science
  - Prof. Eizadora T. Yu, College of Science
  - Prof. Maria Antonia N. Tanchuling, CS
  - Mr. Janus Isaac V. Nolasco, AC
  - Mr. Jacob S. Obinguar, OUR

- From these acquired document sources collected and/or generated map overlays, captured themes are highlighted in which Conflict Area narratives are based on. Together with the information collected and generated in the earlier parts of this report[9], the reason/s why these identified issues are permeating

[9] Please refer to *C.5.Vulnerabilities and risks (landslides, earthquakes, floods, volcanic eruptions, underground caves and karst, erosion, and the like) ,* a section seen in earlier sections of this report.

are explained, with potential implication narratives are included when these are left unresolved. Lastly, policy options are culled-out and form the basis of LUDIP report narratives.

E.1. Earthquake, Liquefaction Risk

- Using the PHIVOLCS Earthquake Intensity Scale (PEIS), UP Diliman is **26.9%** exposed to intensity VI or destructive earthquakes, while the remaining **73.1%** of the area is exposed to intensity VII or very destructive earthquakes. All of its buildings are susceptible to earthquake damage. The Table below shows the amount of the lot area exposed to the various PEIS intensity ratings as well as the number of buildings exposed to earthquakes:

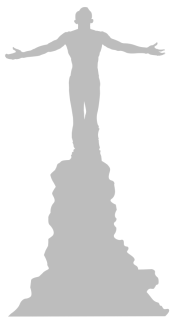
Table 10: Overlay Analysis Results for Earthquakes

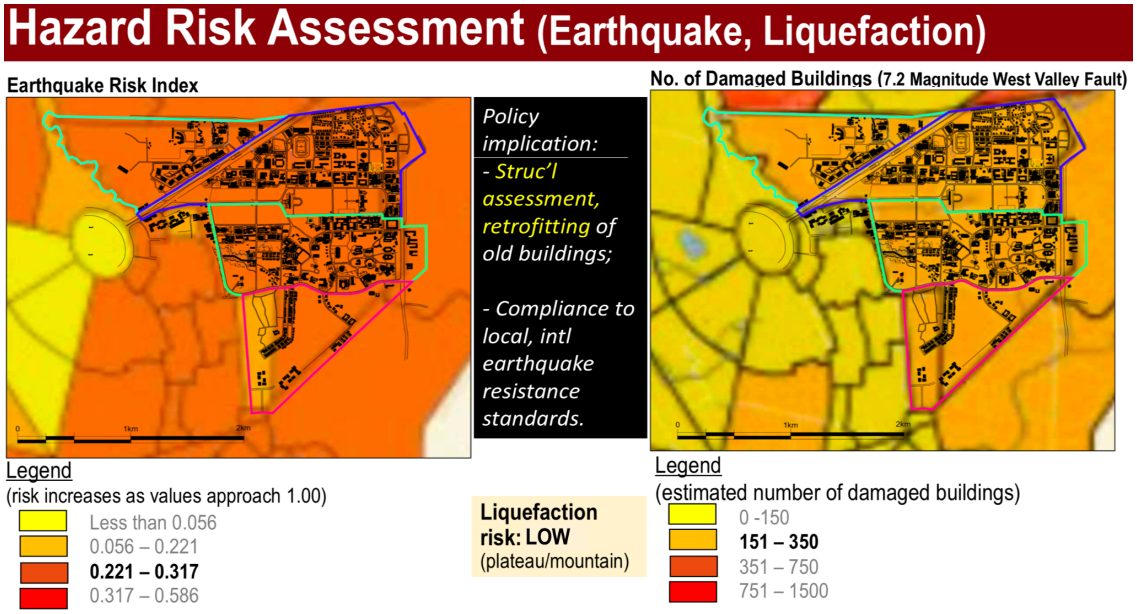
Percent of Campus Lot Area Exposed to Earthquake								No. of Buildings Exposed	
Scarcely Perceptible	Slightly Felt to Weak	Moderately Strong	Strong	Very Strong	Destructive	Very Destructive	Devastating	Partially	Fully
0	0	0	0	0	26.9	73.1	0	0	6,533

Total lot area = 4,998,845 sq m
Total number of buildings = 6,533

- To complement the narrative above, the figure below visually reinforces the the significant earthquake risk of UP Diliman's built assets; it is estimated that should a 7.2 magnitude earthquake hit Metro Manila (through the West Valley fault), 151 to 350 structures will be damaged inside campus.

- With regard to liquefaction, though all its structures are exposed, upon closer study UP Diliman's risk is relatively low. It has 25.7% of its area exposed to very low probability of liquefaction, 69.9% exposed to low probability, 5.7% exposed to medium probability, and 0.02% exposed to high probability.





Source: QC CPDMO, DRRMO

Figure 20: Hazard Risk Assessment (Earthquake, Liquefaction)

- In this regard, structural assessment and retrofitting of old buildings should be the focus for infrastructure, as well as ensuring that latest earthquake resistance standards in the National Building Code are reflected in upcoming buildings. With regard to liquefaction concerns, acquired information points toward little to no risk for UP Diliman.

Table 11: Problem Solution Matrix (Earthquake Risk)

Maps Overlaid	Brief Description of Problem Area	Explanation for Problem	Implications when Unresolved	Policy Options
Base map, Earthquake Risk Index map, No. of Damaged Buildings map.	Medium to high risk, vulnerability of UP Diliman structures.	Many UPD Buildings are advanced in age; coupled with increased volume of usage, load carried there is a need to assess ability of said buildings to handle a strong earthquake should the West Valley fault be triggered.	Risk to life and property increases the longer the problem is left unresolved.	Structural Assessment, retrofitting of old buildings (ensure compliance to local and international earthquake resistance standards.

E.2. Rain-Induced Landslides

- As viewed in the overlay analysis, the campus boundary did not intersect any of the hazardous zones for rain-induced landslides and can be concluded that the landslide hazard does not have any observed impact on the campus.

E.3 Volcanic Hazards

- As viewed in the overlay analysis, the campus boundary did not intersect any of the hazardous zones for volcanic hazards such as lava flows and pyroclastic flows. It is therefore safe to conclude that these volcanic hazards do not have any observed impact on the campus.

E.4 Severe Wind

- Based from PAGASA's severe wind hazard maps, all the buildings in the area are exposed to 117.1–220 kph of wind velocity from 5-year to 500-year return periods (see table below):

Table 12: Overlay analysis results for severe wind hazard scenarios

Scenarios for Severe Wind Hazard	Percent of Campus Lot Area Exposed							No. of Buildings Exposed	
	<60 kph	60.1–88 kph	88.1–117 kph	117.1–220 kph	220.1–270 kph	270.1–300 kph	>300 kph	Partially	Fully
20-year				100					6,533
50-year				100					6,533
100-year				100					6,533
200-year				100					6,533
500-year				100					6,533

Total lot area = 4,998,845 sqm
Total number of buildings = 6,533

Source: UP Resilience Institute

E.5 Storm Surge, Tsunami Risk

- No storm surge data can be generated for UP Diliman due to its inland location. Also, the campus boundary did not intersect any of the hazardous zones for tsunami due to its inland location. It is therefore safe to conclude that the storm surge and tsunami hazard does not have any observed impact on the campus.

E.6 Flooding, Fire Risk

- Another risk highlighted in acquired maps and documents is flooding: for UP Diliman, the general trend shows that the lot area and number of buildings exposed to flooding increases as the rainfall return period (RRP) increases

from 5 years to 100 years in the baseline scenario. It also increases as the emission scenario goes from minimum to maximum.

- The Table below shows an increase of 7.9% of lot area exposed to flooding from 5-year to 100-year baseline scenarios. This increase results in a total of 2,979 partially and totally affected out of 6,533 buildings for the 100-year RRP compared with 2,366 buildings for the 5-year RRP.

Table 13: Overlay analysis results for floor hazard scenarios

Scenarios for Flood Hazard		Percent of Campus Lot Area Exposed			No. of Buildings Exposed	
		Low Hazard	Medium Hazard	High Hazard	Partially	Fully
Baseline	5-year	8.1	5.0	1.0	1916	450
	25-year	9.4	6.3	1.4	2137	611
	100-year	11.5	8.5	2.0	2368	860
RCP 4.5 2049	5-year	11.1	7.7	1.8	2364	751
	25-year	12.5	9.5	2.3	2521	956
	100-year	14.5	12.2	3.9	2734	1300
RCP 8.5 2049	5-year	11.6	8.2	2.0	2403	828
	25-year	13.0	10.2	2.6	2527	1056
	100-year	15.1	12.9	4.4	2738	1410
RCP 4.5 2079	5-year	12.7	9.5	2.3	2529	962
	25-year	13.8	11.4	3.3	2744	1143
	100-year	16.1	13.9	5.7	2860	1563
RCP 8.5 2079	5-year	14.6	12.1	3.5	2815	1207
	25-year	16.0	13.8	5.2	2837	1515
	100-year	18.0	16.4	8.3	2902	2009

Total lot area = 4,998,845 sq m
Total number of buildings = 6,533

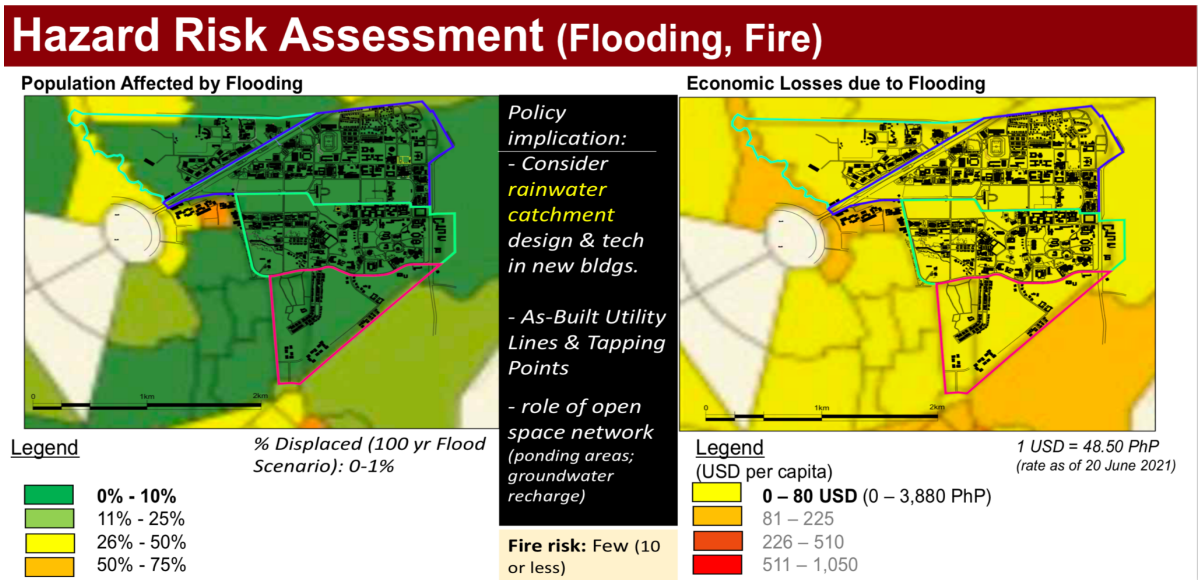
Source: UP Resilience Institute

- A total of 20.6% of the lot area of the campus is exposed to flooding for the RCP 4.5 2049 5-year scenario. The flooded area increases by 15.1% for the 2079 100-year RRP for the same emission scenario. Consequently, 3,115 out of 6,533 buildings are exposed under the RCP 4.5 2049 5-year RRP scenario, 751 of which are fully exposed. On the other hand, 4,423 buildings are exposed to flooding for RCP 4.5 2079 100-year RRP scenario where 1,563 are fully exposed. For the RCP 8.5 2049 5-year and RCP 8.5 2079 100-year RRP, 21.8% and 42.7% of the lot area is exposed to flooding, respectively. A total of 3,231 buildings are exposed for the RCP 8.5 2049 5-year RRP scenario, 828

of which are fully exposed, while 4,911 buildings are exposed to flooding for the RCP 8.5 2079 100-year RRP scenario with 2,009 buildings fully exposed.

- If we are to focus on a 100-yr flood scenario (which shows highest risk), it is estimated that around 10% of the UPD population may be displaced and that each HH affected may need to shoulder expenses (0-80 USD) to repair damage/s of such a flood. In this regard, infrastructure improvements to sewer and drainage lines should be funded and procured. Moreover, it is recommended that Rainwater Catchment systems be considered for integration to old and new buildings alike.

- The role of Open Space networks may also play a key role in addressing this concern; both as a flood ponding area as well as for groundwater recharge.



Source: QC CPDMO, DRRMO

Figure 21: Hazard Risk Assessment (Flooding)

- Aside from flooding, it should likewise be noted that careful maintenance and repair of roof systems in existing buildings must be given priority (with emphasis on concrete roof decks); the lack of which may lead to human-induced risk exposure in terms of internal flooding due to inadequate roof and drainage systems. Effort should be made to ensure proper rainwater runoff is facilitated so as not to accumulate and cause leaks that will affect building interiors.

- Lastly, the spatial demands on campus will lead to rise of vehicular usage; in this regard, a proposal from the UPD Office of the Campus Architect (OCA) to consider mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus. Possible locations are a) Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue), b) Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility, c) The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and d) ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

Table 14: Problem Solution Matrix (Flooding)

Maps Overlaid	Brief Description of Problem Area	Explanation for Problem	Implications when Unresolved	Policy Options
Base map, Flood risk map, Flood-induced economic losses map.	flood risk is low owing to its elevation; however in a 100-yr flood scenario, estimated that 10% of the UPD population may be displaced	Clogged under-designed drainage lines	As typhoons become stronger and more frequent due to climate change, risk to structures and damage to furniture, equipment will be heightened as well.	Improve sewer and drainage lines; Integrate Rainwater catchment design and technology integration to old and new buildings; Protect and preserve open space network (to serve as ponding area, groundwater recharge).

- **Fire risk** in general is deemed few; however, this assessment may not hold true for informal settlements in campus; with the proliferation of hazard-prone materials and non-codal compliant accessibility routes.

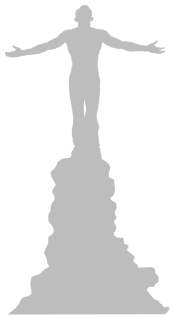
- In this regard, aside from addressing the issue of informal settlements on campus grounds, it would be wise to also fund infrastructure projects that will improve accessibility of emergency vehicles, to help mitigate such risks. Data obtained from UPD Police also shows crime hotspots; to address this concern,

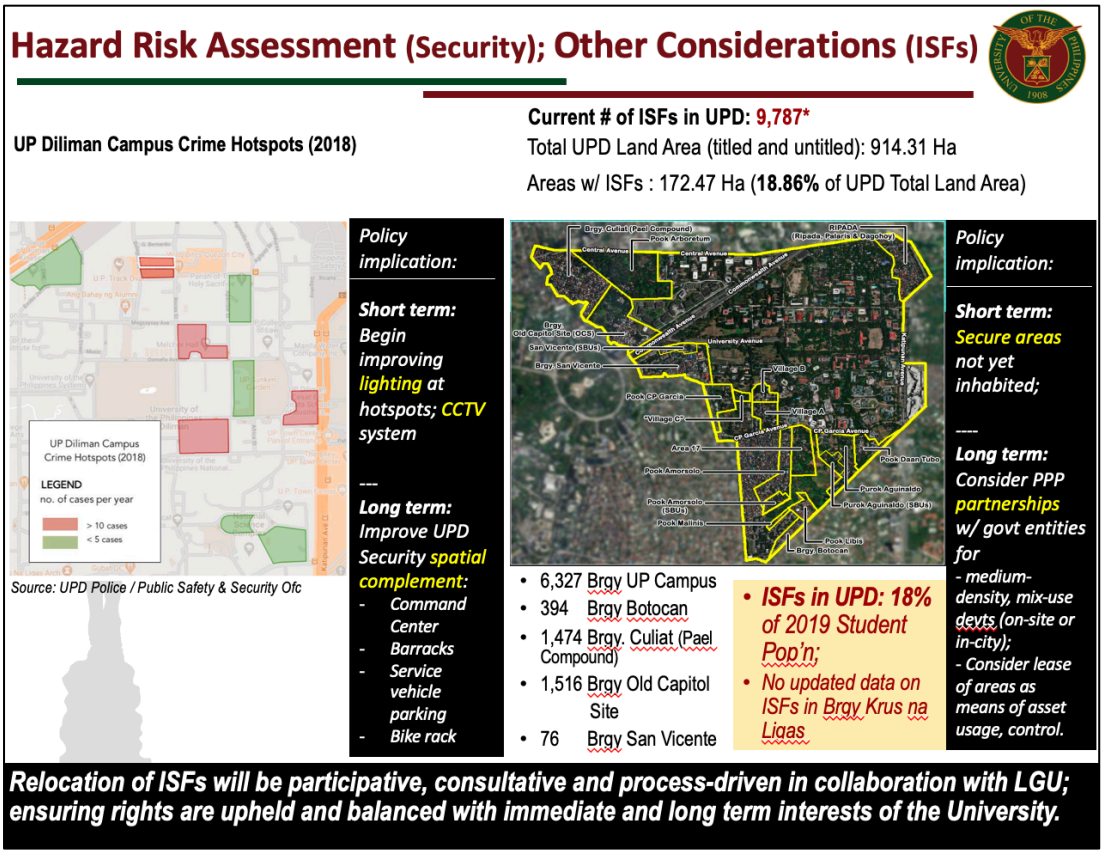
there is merit to Consider improving lighting at hotspots and Improve UPD Security spatial complement via CCTV system integration in a Command Center.

E.7. Campus Security, Informal Settlements

- In terms of campus security, areas have been identified as crime hotspots. As seen in the figure below, areas colored Red have recorded more than ten (10) cases of crime while areas marked green have recorded less than five (5) cases in 2018. The most notable red areas are that of the spatial jurisdiction of Palma and Melchor Hall, Shopping Center, and Virata School of Business. Meanwhile, the areas marked green are the Arboretum, Sunken Garden, and the National Science Complex.
- In addition to this, recent cases of theft have been documented in Areas 2 and 3 near RIPADA one of the informal communities seen in the figure below (Fig. 23)

- Based on gathered information, most of the cited areas have high concentration of people (either for academic or commercial purposes, as well as residential), and poor lighting especially at night. In this regard, policy options may be to improve lighting especially at designated hotspots, as well as to consider establishing a CCTV system to coincide with improved lighting fixtures. The fencing or perimeter wall development needs to be continued to better secure not only campus built and open assets, but more importantly the people living and working on these spaces.





Source: Arcelo, et. al., SURP Plan 210.1 B

Figure 22: Hazard Risk Assessment (Security, ISFs)

- Another policy option is to strengthen the UPD Security spatial complement, where a Command Center and Headquarters will be complemented with barracks, adequate parking for mobile units will be integrated into one site.

Table 15: Problem Solution Matrix (Crime Hotspot; ISF)

Maps Overlaid	Brief Description of Problem Area	Explanation for Problem	Implications when Unresolved	Policy Options
Base map, Crime Hotspot map 2018 (Fig. 23);	Recorded instances of crime at high traffic areas, as well as locations where lighting can be improved	High concentration of people serving as distraction, lacking ability to monitor and identify culprits	Lack of solved cases emboldens would be culprits; leading to more cases; not good for people's	Increased lighting at poorly lit areas esp at night; Integrated CCTV system should be considered (UP Police Command

			opinion of safety inside campus	Ctr will handle CCTV feed). Consider continuing fence project;
Base map, ISF Clusters map	Unoccupied areas are inhabited by ISFs	Lack of UPD presence at beginnings of informal settler movement; no clear policy on what will be done on said areas in campus.	UPD will be creating more problems for future administrations, once a need for these areas are identified (and project will be put in place)	Consider PPP or long term lease with govt institutions that need space for their offices (10-20 yr lease; after which infra reverts to UP.

- In terms of informal settlements, currently there are 9,787 informal settlers in UP Diliman. This number is yet to include individuals who are based in Brgy. Krus na Ligas (https://up.edu.ph/up-and-barangay-krus-na-ligas-intersections-of-history/).. With a relative abundance of open space assets situated inside a city and region with growing issues of overcrowding over the decades that followed since its inception, the probability of having these spaces inhabited without campus approval is difficult to monitor and check on.

- If left unchecked, more spaces will be inhabited which will deprive future generations of campus administrators, faculty, students and staff of opportunities of preserving valuable open spaces (green infrastructure), as well as using spaces as means to strengthen its built asset facilities.

- As such it is recommended that efforts made to secure areas not yet inhabited be continued; possible long term lease agreements with other government agencies may be considered to establish usage of buildable areas that the campus is earmarking for future expansion. Public-private partnerships (PPP) may likewise be considered as a means of asset usage and management. Temporary relocation site in Pook Marilag (located in campus fringe) is proposed for development with QC LGU, to serve as relocation site to further secure key sites on the campus core (pls refer to annexes). A 25-year usufruct agreement between QC LGU and UP may be pursued, to justify LGU's development of utilities, roadworks, site development and area security; all this while ensuring that the land area's ownership will be clearly with UP.

Source: UPD Office of the Campus Architect
Figure 23: Aerial view of UP Diliman, 1950's

III. LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN

- With the collective appreciation of earlier discussed Land Use trends, Demand & Supply balancing, and Hazard Risks, emerging policy themes are developed and integrated to reflect key components as embedded in the Vision, Mission, Goal and Objectives of the UP Diliman Land Use Development and Infrastructure Plan. These are the following:

A. VISION, MISSION, GOAL AND OBJECTIVES

A review of international benchmarks (UN-SDGs), alongside national (PHL Dev't Plan 2017-2022), regional (NCR Reg'l Dev't Plan 2017-2022), and local government (QC CLUP) planning documents point to a convergence of sustainability concepts that connects UP Diliman's vision for its future with that of various speares of governance (Fig. 24 A & B).

Fig. 24 – 14 of 17 : UPD LUDIP alignment with UN Sustainable Development Goals

A.1. Statement of the approved vision, mission

Based on international as well as national/regional/local government concepts, UP Diliman's vision-mission, goal, objectives and thrusts as listed below are likewise anchored on the vision set by UP System (Fig. 24 C).

Vision

UP Diliman as a modern research university with a public mission; an inter-disciplinary hub working with government, industry, small producers and labor, as well as communities to identify and draw up integrated practical responses to policy questions and technology gaps in our country's progress into the 21st century.

Mission

An institution that enables its graduates to excel in their chosen vocations and become productive and responsible citizens, attuned to and ready to respond to real-world challenges confronting their respective communities, our country, and the region.

Goal

Pursue academic excellence, the protection of academic freedom and integrity, democratic governance, promote the well-being and dignity of the academic community, administrative and operational efficiency, and the establishment of a safe, smart, resilient and sustainable campus.

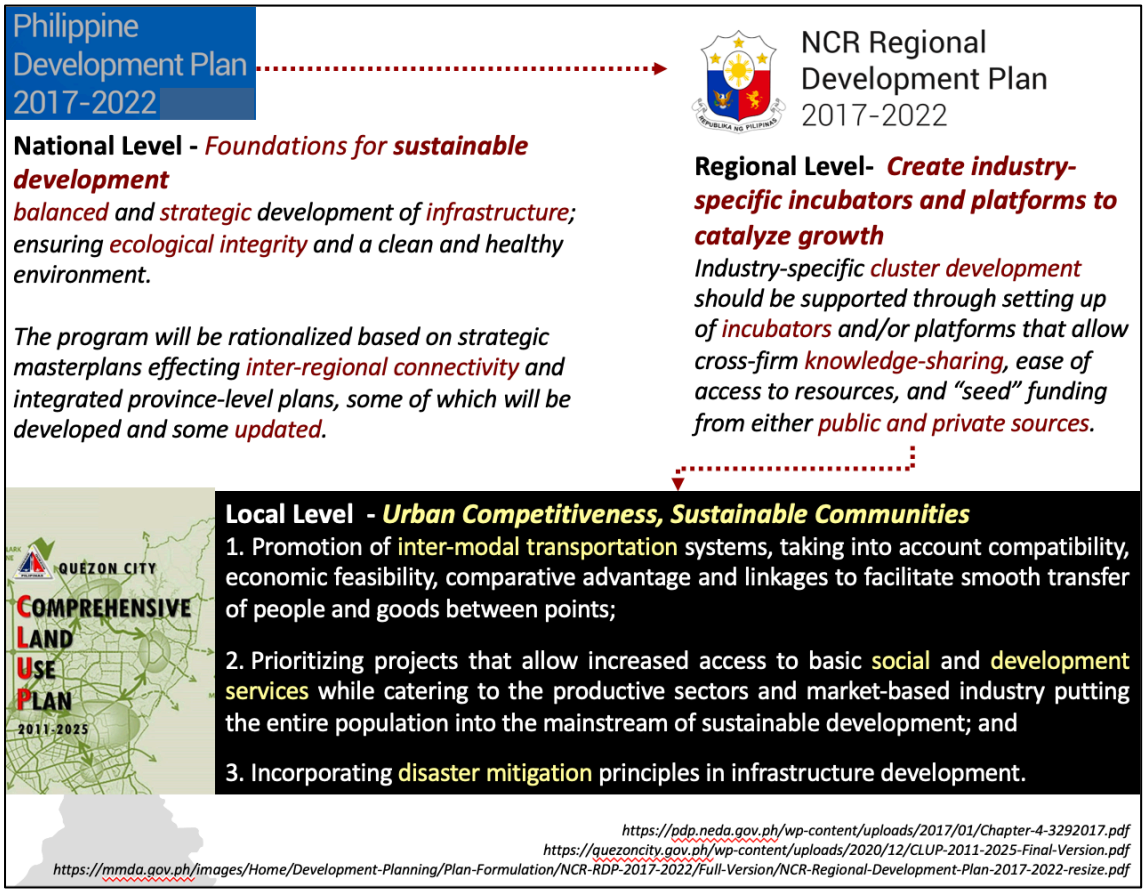


Fig. 25 – UPD LUDIP concepts culled from national, regional and local government thrusts for land use and development

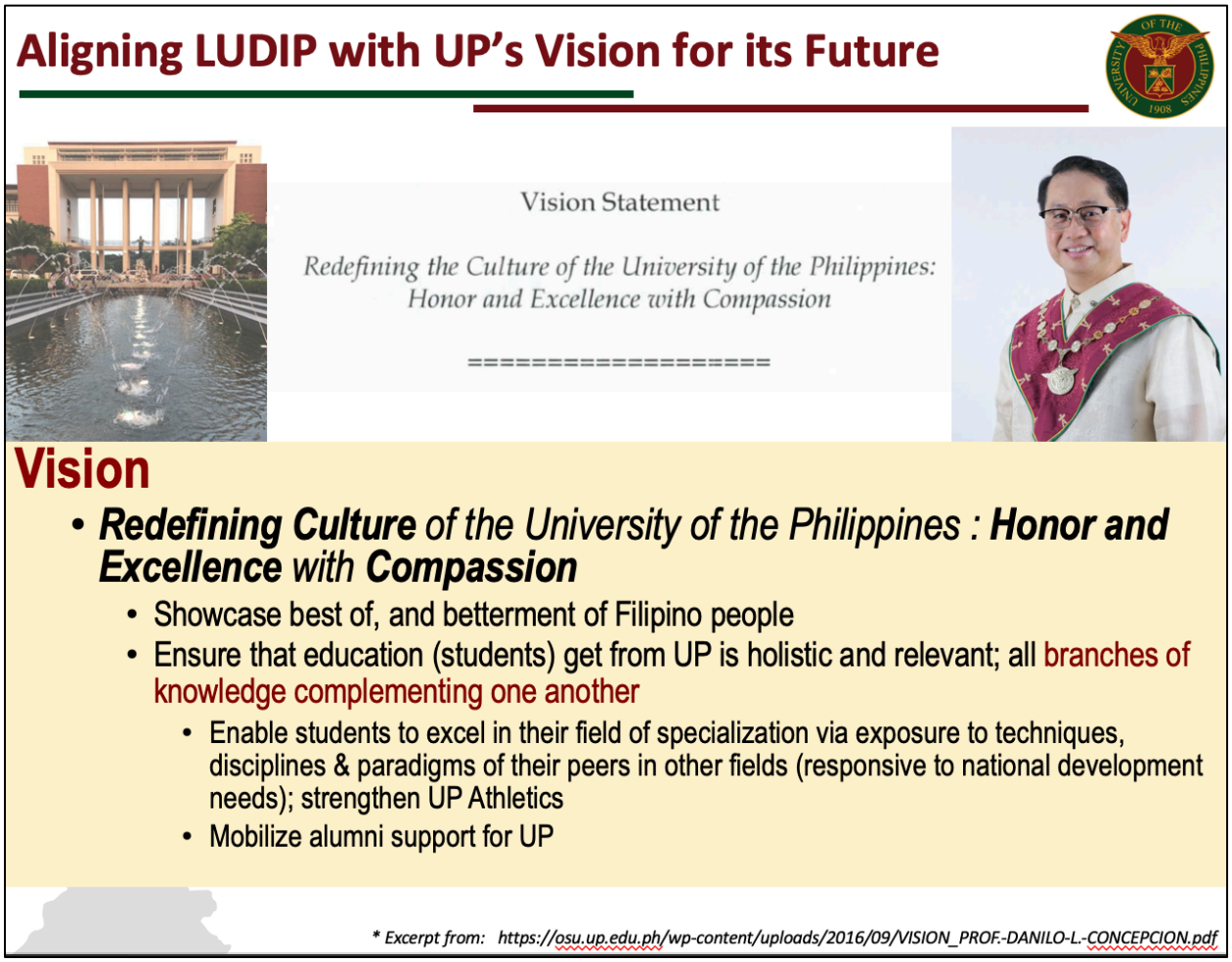


Fig. 27 – Vision from UP System as reference for UP Diliman's Development Thrusts

A.2. Plan goal, objectives and thrusts

Objectives

Academic freedom and integrity

- Make UPD a safe space where free thought and free speech are practiced responsibly, and where collegiality and respect prevail; protect the freedom to think and speak out, create an intellectually vibrant environment where our students are exposed to the widest range of perspectives.

Democratic governance

- Strive for consistent and fair application of rules and standards, to inspire confidence in the university's processes and procedures. Promote transparency and accountability in decisions and actions; ensure the widest and quickest possible dissemination of information

affecting students, staff, and faculty; put in place functional grievance and feedback mechanisms, from lowest organizational unit to the highest level.

Well-being and dignity of the academic community

- Safeguard and enhance well-being and dignity of UPD Community; create a nurturing and enabling environment is essential for effective study and work; provide students, faculty, REPS, and staff comfortable, healthy, modern, and agile arrangements conducive for study, work, re-charging, and collaborating. Provide UPD's free-thinking scholars and artists with needed support services; imbue a sense of purpose meant to inspire toward higher goals, while leaving them to nurture their individual passions.

- Provision of adequate housing, healthcare, mixed-use multi-storey parking facilities meant to complement active transport modalities and corridors, and other services to promote well-being and dignity. Among priority concerns is the continued upgrading of the UP-Health Service and the implementation of the primary care program that is consistent with the Universal Health Care Law.

Administrative and operational efficiency

- Review administrative procedures, identify bottlenecks, and institute corrective measures for operational efficiency that are compliant with existing laws; creation of a comprehensive data management system that will help the university administration make timely and effective policy decisions.

Safe, smart, resilient and sustainable campus

- Safety and disaster preparedness by strengthening the newly-formed Public Safety and Security Office (PSSO) so it can perform its mandate to maintain peace and order and secure lives and property; more support and training to the UP Diliman Police and the complementary Special Services Brigade for better campus security.

- Work closely with the Quezon City government and the UP-Resilience Institute to put fire prevention measures in place and strengthen our emergency and disaster response mechanisms and protocols.

- Make UP Diliman a 'smart' campus by developing and installing IoT (Internet of Things) sensors to collect data for efficient campus

management. Data analytics will help us make better decisions on matters such as traffic and environmental management.

Fig. 28 – UP Diliman's Vision-Mission, Goal and Objectives

B. DEVELOPMENT CONSTRAINTS

B.1. Campus planning framework, principles and processes

In order for the UPD land use development and infrastructure plan to be both conceptually and operationally viable for implementation, it is important to first identify the inter and intra role of UP Diliman with the community, city, region and country it is anchored on. As such, an Inward and Outward perspective is first discussed, both as a source of context and guide for subsequent LUDIP narratives and recommendations.

Inward Perspective:

- Create a safer, more conducive spatial complement via unimpeded & inclusive exchange of ideas, critical thinking, innovation;

- Improve indoor - outdoor space adjacencies; PWD friendly developments that highlight land use + mobility integration and support infra for pedestrian, non-motorized transportation; mixed-use, multi-storey parking facilities at strategic points on campus;

- Secure UPDs natural & built assets via establishing the role of Green Infrastructure as conduit for Biodiversity & DRR commonalities (policy convergence); to be achieved via Interconnected open space linkages anchored on properly placed & developed infrastructure (e.g., earthquake, fire, liquefaction risk);

- Protect property boundaries via efficient development of resources (e.g., floor area ratio, rationalized utility tapping points and systems); take care of welfare of affected parties (e.g., ISF social preparation, adequate relocation prior to mobilization);

- Celebrate the values & beliefs the community is known for via preservation and expression of identity features in built & open spaces (sense of place, balance promotion of design innovation with stakeholder notions of excessive spatial fabric fragmentation)

Outward Perspective:

- Embrace UPD role as part of city-region green open space network; a vital partner in the health and wellness agenda for the city, region's populace;

- Align with the city's and region's DRRM program thrusts from knowledge generation and open space usage (pre & post disaster); spatial integration with other green lungs of city and the region;

- Prioritize mass-transit systems integration via rationalizing emerging mobility platforms to lessen vehicle dependence (address traffic build-up along portals, inside campus);

- Integrate spatial and accessibility with MRT-7 University Ave station; BRT corridor to campus with traditional PUJ routes; active & non-motorized transport platforms and systems (bike, e-scooter and pedestrian infrastructure);

- Consider mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus. Possible locations are a) Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue), b) Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility, c) The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and d) ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

- Utilize UPDs human capital assets as an inclusive development catalyst for city, region; improve spatial complement link-up, strengthen theory to practice applications via extension agenda (e.g., knowledge application in risk resilience, heritage preservation, transport mngt, URP centers); tech, research, business incubation support for startups (job, livelihood generation).

B.2 Direct/indirect impacts of proposed national/ regional/ provincial plans

- On-going MRT-7 mass transit development will open-up numerous opportunities as well as challenges with the Diliman campus. With the availability of this transportation option, a key consideration is how to create a seamless transition of people from the MRT train platform, to the entrance portal of UPD; mixed use multi-storey vehicular parking facilities that will support seamless integration of pathways and other mobility corridors, coupled with complementing land uses that highlight spatial integration with key services will go a long way to ensure strong usage and inclusive growth opportunity anchored on this mobility platform.

- The health and wellness of the UPD community (as well as the citizens of city and region the campus is part of) will be strengthened with the protection and rationalization of UPDs green infrastructure assets (integrated with that of Quezon City and Metro Manila's); creating an open space network loop that will serve multiple uses; from preserving biodiversity, to creating a spatial complement to the city, regions' DRRM efforts.

- Another factor is the proposed Philippine General Hospital-Diliman, which, together with the aforementioned green infrastructure system of spaces, may provide a holistic spatial complement in improving the health and well-being of the populace (from UPD community, to the larger city and regional citizenry).

B.3 Potential land use conflicts

- UP Diliman needs to go about implementation of its land use and infrastructure development strategy in a manner that sensitively addresses due process and fairness in the usage of assets; this is particularly true with areas wherein there are clusters of informal settlements. For now, an amicable solution is that identified informal clusters will be engaged with, leading to them moving to an area where development is not yet to happen; all the while it should be made clear to the community comprising said informal settlement cluster that relocation is likewise temporary in nature, until such time that a more long-term solution could be arrived at.

- consider using proposed mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus as livelihood generation opportunities for affected groups due to said land use conflicts. Shops and businesses to be set-up, needed parking attendants, will most likely benefit from these communities in terms of personnel that may be trained and hired. Possible locations of these parking facilities are:

    a) Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue)
    b) Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility
    c) The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and
    d) ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

- In the process of relocation, the UPD-Office of Community Relations (OCR) has a good census database that will allow Diliman campus administration to identify and ensure that affected groups will be attended to in a just manner prompted by due process.

- For large areas that will be difficult to find ownership solution at this time (e.g., Krus na Ligas, Arboretum); UPD together with UP System have made positive steps in identifying the boundaries of said informal clustering and go ahead with proactive measures to assure that the current boundaries will no longer extend outwards; at the same time, UPD may engage with development partners (e.g., Quezon City LGU) in exploring ways to find a mutually amicable resolution of major informal settlement areas.

C. CAMPUS PHYSICAL DEVELOPMENT PLAN STRATEGIES

C.1 Proposed physical development thrusts, spatial strategies and options

Academic freedom and integrity

- Improve security features of campus boundaries, as well as ingress and egress points (e.g. standardize property fence line design); this is to make UPD a safe space where free thought and free speech are practiced responsibly, and where collegiality and respect prevail; protect the freedom to think and speak out, create an intellectually vibrant environment where our students are exposed to the widest range of perspectives.

- To do so, a key strategy is to Integrate relevant technologies to allow administration to better monitor key areas in campus (e.g. CCTV monitoring system, RFID accessibility gates may be considered).

Democratic governance

- Ensure UPD community is duly informed and consulted on proposals, as well as project inconveniences due to construction (e.g., road closures) concerning land usage and infrastructure development; at the same time, UPD is to be aligned with relevant BOR-approved memos on land and built assets disposition on campus.

Well-being and dignity of the academic community

- Protect natural and built assets of UPD, to create a nurturing and enabling environment essential for effective study and work; provide students, faculty, REPS, and staff with comfortable, healthy, modern, and agile arrangements conducive for study, work, re-charging, and collaborating.

- This can be done by veering away from built sprawl, and towards more to compact building footprints (vertical expansion oriented), to protect our green infrastructure and in the process allow UPD with more leeway to come up with landscape connective projects that will faciliate people movement (e.g., walking, biking) among buildings and spaces in a safe, pleasant, and comfortable manner.

- Provision of adequate housing developments for students, faculty and staff are earnestly underway and will be continually strived upon; the same goes with healthcare via improving the facilities and capabilities

of the University Health Service (UHS), as well as the proposed PGH-Diliman.

- Proposed mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus as livelihood generation opportunities and complementary investment for active mobility platforms and corridors. Possible locations for these parking facilities are:

    - Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue)
    - Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility
    - The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and
    - ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

Administrative and operational efficiency

- Aside from UP Diliman efforts at strengthening its ability to collect and analyze big data, effort may also be considered to tap into open-data software that will allow real-time engagement with the community, for them to report and upload pictures and videos that are necessary for UPD administration to better serve the community.

- Rather than let administration bear the cost and burden of monitoring, UP DIliman may consider setting up infrastructure and technology systems that will better tap into making the community partners in monitoring and safeguarding the campus environs of UPD (e.g., integrate Waze-like software to allow the UP Diliman community to report via their mobile smart phones).

- These information in turn will be collated in a central hub inside campus, a spatial depository of big data, with spaces wherein administrative officials can effectively analyze and base their actions from (e.g. a "situation room wherein CCTV monitors of key areas are available 24/7, with situational briefing rooms integrated in said structure to serve as central hub of policy/decision making especially during times of emergencies.

Safe, smart, resilient and sustainable campus

- Improve indoor - outdoor space adjacencies by coming up with spatial projects that highlight land use + mobility integration and support infra for pedestrian (esp. PWDs), active and non-motorized transportation; Preserve open spaces that facilitate groundwater recharge, enrich biodiversity (flora and fauna), as well as emergency congregation areas in times of emergencies. Promote infrastructure designs that are green, sustainable, climate change adaptive and helps minimize disaster risk.

- Take advantage of emerging technologies in the development of built spaces; promote equitable infra development measures meant to create opportunities (e.g., economic/livelihood under the lens of service to the UPD community) for affected by such new development.

- Future proof infrastructure investments through pandemic-resilient designs (e.g., natural lighting and ventilation; physical distancing guidelines), enable this LUDIP masterplan report a degree of operational flexibility through its report narratives, establish key concepts related to land use and infrastructure developments that will be basis for supplemental plans to dovetailed later on (e.g., heritage conservation plan, building density and design guidelines), among others. Pandemic-resilient design guidelines are seen in the annexes of this report.

- Heritage structures prior to development will be coordinated with national government agencies (e.g., NHCP, National Museum, among others); all assets will be documented and recorded together with designated offices such as UPD – OICA. Most importantly, this LUDIP establishes the conceptual foundation that will be used to draft comprehensive Heritage Conservation Plan, along with a Building Density and Design Guidelines. This could be led by the College of Architecture, with assistance from the College of Engineering, School of Urban and Regional Planning. Subsequent creative and research works meant to establish character cohesion possibilities for UPD's built and open space environments will likewise be supported by UP Diliman's planning and technical arms (OVCPD and OCA) so as to further define built development guidelines.

Legend:

QUADRANT 1

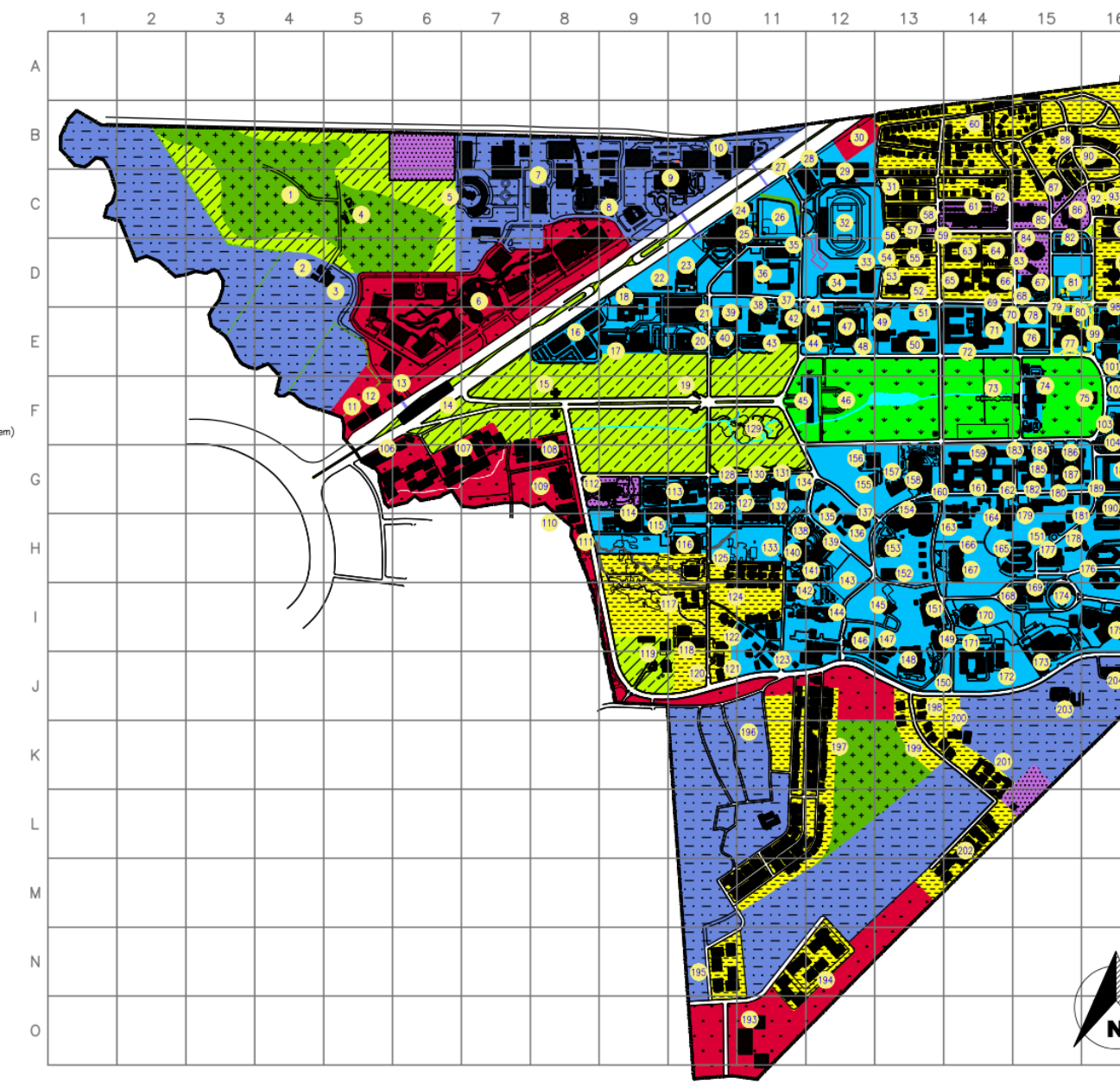
1 Arboretum (Protected Forest Area)
2 Sewage Treatment Plant (STP)
3 National Hydraulic Center (NHC)
4 Campus Maintenance Office (CMO) – for verification
5 Philippine Nuclear Research Institute (PNRI)
6 UP – Ayala Technohub
7 UP – Ayala Technohub (Building L)
8 SEAMEO – INNOTECH
9 Asian Institute of Tourism (AIT)
10 Philippine Social Science Center (PSSC)
11 University Wet Market
12 Development Bank of the Philippines
13 University Vicar (Petron Gas Station)

QUADRANT 2

14 University of the Philippines Marker
15 Tribute to Higher Education Monument
16 Government Procurement Policy Board (GPPB) and Philippine Institute for Dev't Studies (PIDS)
17 National Administration for Administration and Governance (NCPAG)
18 State Auditing and Accounting Building, Commission on Human Rights (CHR)
19 University Gateway (Tulis)
20 Institute of Small Scale Industries – ISSI (Virata Hall)
21 Shool of Labor and Industrial Relations – SOLAIR (Bonifacio Hall)
22 Archery Range
23 Varsity Gym
24 Covered Basketball Court (CHK)
25 Ylanan Hall – University Gymnasium; College of Human Kinetics (CHK)
26 Baseball Field
27 Universtiy Portal (Moog) – Ylanan Street
28 Balay Atleta
29 Tennis Courts
30 Meralco UP Diliman Sub-Station
31 Area – 2
32 Grand Stand and Football Field (CHK)
33 Ang Bahay ng UP Alumni
34 Alumni Center (Fonacier Hall)
35 UP Vanguard Building
36 UP Department of Military Science and Tactics (UP DMST)
37 UP Center for Women's Studies Foundation, Inc.
38 UP College of Social Work and Community Development (CSWCD)
39 UP School of Urban and Regional Planning (SURP)
40 International Center for Urban and Regional Planning (ICURP)
41 College of Music Annex Building
42 Dance Studio
43 Plaridel Hall (College of Mass Communication); UP Film Institute (CMC Media Center)
44 Abelardo Hall (College of Music)
45 Quezon Hall (Administration Building)
46 Amphitheater – Charter Donors Garden
47 Villamor Hall (UP Theater)
48 Andres Bonifacio Centennial Tower (Carillon)
49 University Cinema (Film Center)
50 Tennis Courts
51 CAL Theater
52 Molave Residence Hall
53 Epsilon Chi Fitness Center
54 UP Pampanga Extension Office (UPEO)
55 Sanggumay Residence Hall
56 Kagitingan Residence Hall
57 UP Provident Fund Building
58 UP Post Office
59 UP Worker's Union Office – CHK Quarter
60 Area – 3
61 University Shopping Center
62 UP Cash Office/Landbank/PNB
63 Kalayaan Residence Hall
64 Acacia Residence Hall
65 Yakal Residence Hall
66 Ipil Residence Hall
67 UP System Offices (Old Statistics Bldg.)
68 UP Resilience Institute Bldg. 1
69 UP Computer Center
70 Diliman Interactive Learning Center (DILC)
71 National Center for Transport Studies (NCTS)
72 Melchor Hall (College of Engineering)
73 UP Promenade
74 Gonzalez Hall (University Main Librrary), Institute of Library Science (ILS), Bulwagan ng Dangal
75 Sunken Garden and Parade Ground
76 National Engineering Center (NEC)
77 Malcolm Hall and Espiritu Hall (College of Law)
78 Department of Industrial Engineering & Operations (IEOR) and Department of Mechanical Engineering
79 Law Center Administration Building
80 Bocobo Hall (Law Library)
81 Bocobo Hall Parking (College of Law)
82 UP Libunao Pool
83 Catholic Parish Office and School
84 Parish of the Holy Sacrifice (Catholic Church)
85 University Health Service (UHS)
86 Church of the Risen Lord (Protestant Church)
87 Kalinga Day Care Center
88 Area 1
89 Pook Palaris
90 University Hotel
91 Pook Dagohoy
92 Balay Kalinaw (Ikeda Hall)
93 Kapit Balay Kalinaw Walk-up Housing
94 Philippine Association of University Women (PAUW) Annex Building
95 Ilang-Ilang Residence Hall
96 Pook Ricarte
97 International Center
98 Romulo Hall (Asian Center)
99 Islamic Studies Building
100 GT-Toyota Asian Center
101 School of Economics
102 UP Cesar E.A. Virata School of Business
103 Vinzons Hall
104 Lorena Barros Hall
105 UP Student Union Building

QUADRANT 3

106 Citimall, Underground Entrance to MRT-7
107 San Vicente BLISS
108 Commission on Higher Education (CHED)
109 Department of Information and Communications Technology (DICT)
110 PHIVOLCS Building – OVCRD
111 Philippine National Red Cross Building (PNRC)
112 Human Rights Museum (HRVVMC Freedom Memorial)
113 Bartlett Hall (College of Fine Arts Complex)
114 CMO Complex and Workshops
115 UP Veterinary Teaching and Medicine Hospital
116 CFA Art Conservation Lab
117 Hardin ng Doña Aurora (Walk-up Housing)
118 Faculty and Staff Housing
119 Materials Recovery Facility (for verification w/ UP System)
120 University Portal (Moog) Jacinto Street Gate
121 Centennial Dormitory Building 1 & 2
122 Kamagong Residence Hall
123 UP Cooperative Union
124 Employees Village A
125 Employees Village B
126 UP Food Park
127 Supply and Property Management Office (SPMO)
128 Albert Hall (NIMBB)
129 Impounding Lagoon
130 UP Resilience Institute Bldg. 2
131 Coral Building (Office of the Campus Architect)
132 Community Affairs Complex
133 DZUP Radio Transmitter (CMC)
134 University Press
135 University Police and Fire Station
136 Office of Admissions (OAdmin)
137 Office of the Universtiy Registrar (OUR)
138 College of Architecture Building 2
139 College of Architecture Building 1
140 College of Architecture Building 3
141 Benito Sy Hall (College of Architecture Auditorium)
142 UP Bonsai Garden
143 Philippine Association of University Women Day Care Center (PAUW) & Children's Playground
144 Environmental and Energy Engineering
145 Executive House (UP System)
146 UP Diliman Institute of Civil Engineering (UP-ICE)
147 Department of Chemical Engineering Building
148 Mining, Metalurgical, and Materials Engineering (MMME) Building
149 Alumni Engineers Centennial Hall
150 University Portal (Moog) – Velasquez Street Gate
151 Electrical and Electronics Engineering Bldg. 1 & 2
152 Department of Computer Science Building
153 UP School of Statistics (New Building)
154 Science Teacher Training Center (STTC) – Vital A. Tan Hall
155 Lim Museum
156 Vargas Museum
157 College of Arts and Letters Building (CAL)
158 Faculty Commons
159 Palma Hall
160 College of Arts and Letters
161 College of Social Sciences and Philosophy (CSSP)
162 Department of Anthropology (Llamas Hall)
163 Natural Science Research Institute (NSRI)
164 Kamia Residence Hall
165 Institute of Biology (IB)
166 Marine Science Institute Annex
167 Marine Science Institute (MSI)
168 College of Sciences Administration Building
169 Computational Science Research Center (CSRC)
170 College of Science Library (CSLib)
171 National Institute of Geological Science (NIGS)
172 Institute of Environmental Science and Meteorology (IESM)
173 Institute of Mathematics
174 College of Science Amphitheater
175 National Institute of Physics (NIP)
176 Institute of Chemistry Building 1 & 2 (IC)
177 National Institute of Molecular Biology and Biotechnology (NIMBB)
178 PAGASA Observatory
179 Sampaguita Residence Hall
180 Craft Design Laboratory (CHE-CDL)
181 CHE Gusali 2 (Alonso Annex)
182 Zoology Building
183 Benton Hall
184 Lagmay Hall
185 CSSP Faculty Building
186 College of Education Training Center
187 Integrated School (UPIS) – Elementary
188 Integrated School (UPIS) – High School
189 Integrated School (UPIS) – Kinder
190 Alonso Hall (College of Home Economics)
191 Child Development Center (CHE-CDC)
192 UP Town Center



QUADRANT 4

193 Integrated National Police Headquarders Camp Karingal
194 Sikatuna Bliss Phase 1
195 Sikatuna Bliss Phase 2
196 Barangay Krus Na Ligas
197 Pook Amorsolo
198 UP Office for Initiatives in Culture and the Arts (OICA)
199 Pook Aguinaldo (Bungalow Housing)
200 Balay Chancellor (Diliman Executive House)
201 Hardin ng Bougainvillea (Cluster Housing)
202 Hardin ng Rosas (Walk – UP Housing)
203 Advanced Science and Technology Institute (ASTI)
204 Technology Business Incubator (TBI)

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1 MP-01 LAND USE DEV'T & INFRASTRUCTURE PLAN (2022-2038)
SCALE 1 : 15000 MTS

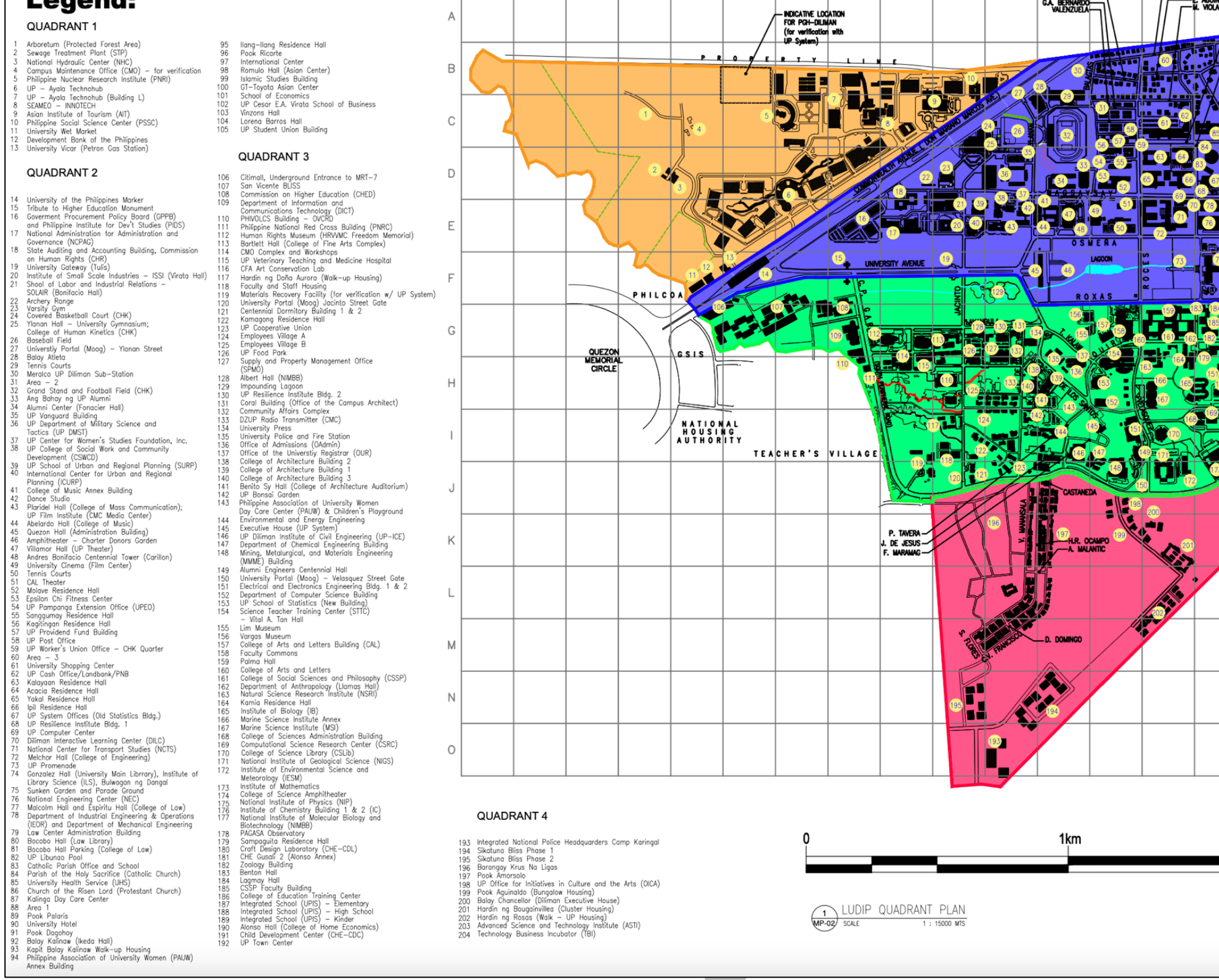


Figure 30: UP Diliman Site Development Reference Plan (By Quadrant)

D. SITE DEVELOPMENT PLAN AND INFRASTRUCTURE PLAN

D.1 Current Land Usage; Activities affecting Site Development

- To ensure alignment and rationalization of site plans being developed, a review of the BOR-approved, 2012 Land Use Plan is necessary, as it relates to land usage and infra developments as of 2021. After review, it is of note that overall UP Diliman has been compliant in adhering to the plan's tenets and thrusts.

- However, typical in most urban areas in the country, deviation is observed on areas where there are concentrations of informal settlements; alongside this, current and upcoming academic (as well as academic support) developments pose a need to align with current zonal boundaries that are deemed inconsistent with the needs of the campus and its stakeholders.

- Regarding issues that may affect site development, there is a need for UP Diliman to pursue:
  a.) Updating of its As-Built plans (for buildings and other infra devts);
  b.) Structural assessment and if needed, retrofitting of existing assets that may affect adjacent new developments;
  c.) Updating of its Utility tapping points (both under and above ground).

- To facilitate these initiatives, UPD may engage with experts from the College of Architecture, the College of Engineering (or 3rd party Consultants) for 3D scanning and ground penetrating radar services to properly document underground systems with lacking as built plans; this is most relevant to Heritage structures (e.g., Gonzales and Quezon Halls, Malcom and Benitez Halls, Palma and Melchor halls, Holy Sacrifice parish and other historically significant assets under UPD jurisdiction and care.

- With regard to UPDEPPO (Clark and Subic assets), the current land use strategy is to be continued, and its site development plan is already deemed complete (land parcellations have identified buildable and non-buildable areas (please see attached Site Development plans). Should there be a need to revisit the modification of this site plan, preservation of natural assets will be prioritized (i.e., the building design will adjust to the natural assets, not the other way around).

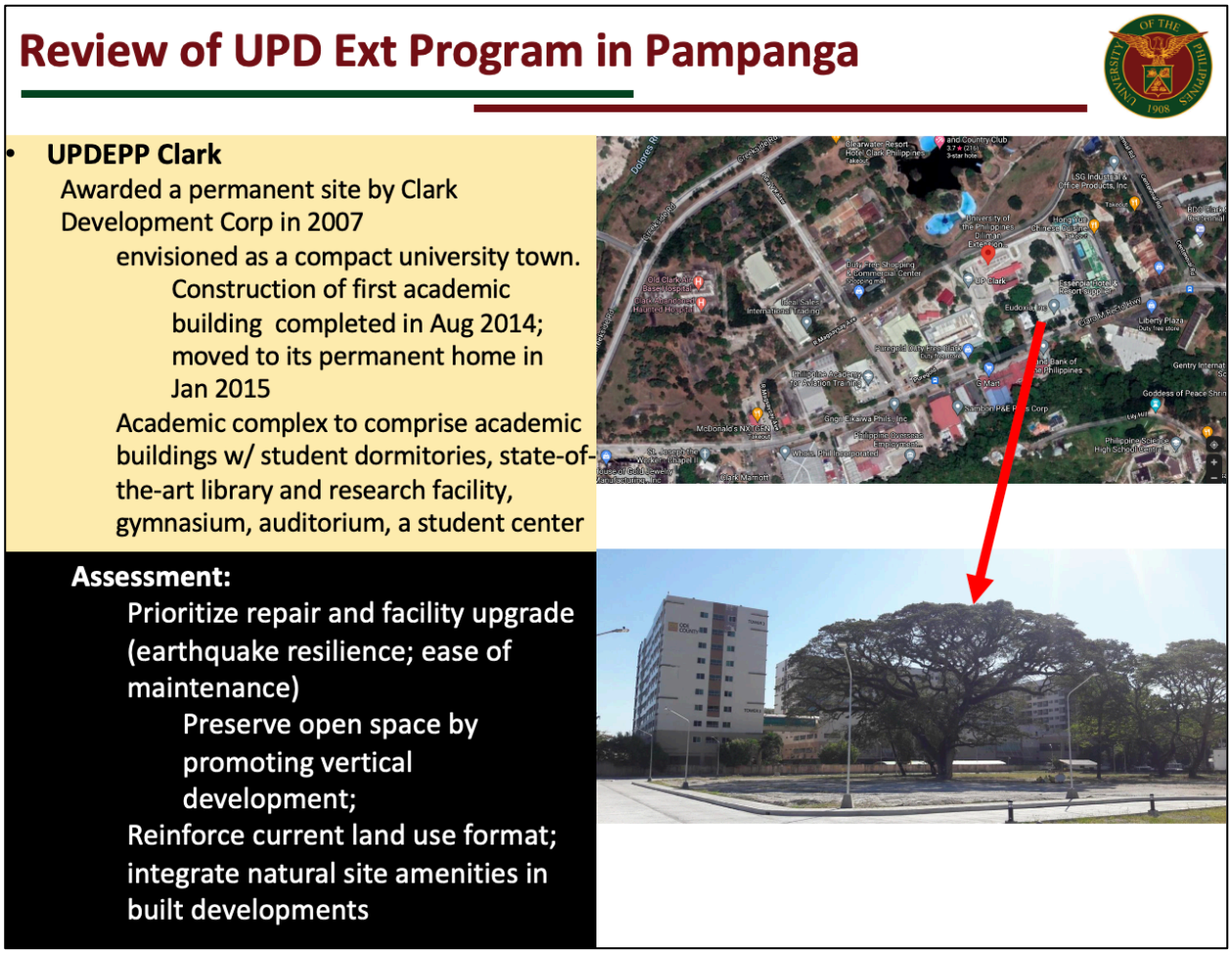


Figure 31: UPDEPP (Clark) Land Use, Site and Infrastructure Development strategy

- A particular land use aspect unique to the Subic asset is its strategic location near a water channel. As is in many parts of the country (e.g., Pasig River revitalization effort), should there be plans to include this stretch of water as a cog in any Transit-Oriented Development strategy (e.g. creation of ferry line and stations) adjacent to the Subic property, effort should be made to take advantage and integrate said tenets in the site development plan.

- Should there be a need to increase the building floor area of the Subic asset, effort should be directed at designing a structure that is within the existing building's footprint; this is to ensure abundant green space and preserve existing road and sidewalk networks as well. Related site plans for UPDEPPO are attached at the end of this report.

Figure 32: UPDEPPO (Subic) Land Use, Site and Infrastructure Development strategy

- With regard to MSI Puerto Galera, the current land use strategy is to be continued, and its site development plan is already deemed complete (land parcelations have identified buildable and non-buildable areas (please see attached Site Development plans). Should there be a need to revisit the modification of this site plan, preservation of natural assets will be prioritized (i.e., the building design will adjust to the natural assets, not the other way around). Priority will be towards securing site boundaries, as well as repair and facility upgrade to ensure earthquake, typhoon and tsunami resilience and promote designs that foster ease of maintenance.

- As a point of concern, there is a need for UP Diliman to engage heavily with the local government of Puerto Galera, as well as with DPWH 4-B with regard to a earmarked road widening project that will expropriate about 10-15% of the MSI Puerto Galera property should this project push through. Should this be the case, UP Diliman will have to reassess how to retrofit affected structures and spaces once the boundaries of this road widening project is made official; the first order of business is the repair and rehabilitation of the perimeter wall, gates, and access road/s leading to and from the MSI PUerto Galera property. After which, should there be a need to retrofit buildings and hardscapes surrounding it, it should be done with urgency so as to ensure that codal

provisions (Building Code, Fire Code, Accessibility Law to name a few) are respected and upheld (see figure below):

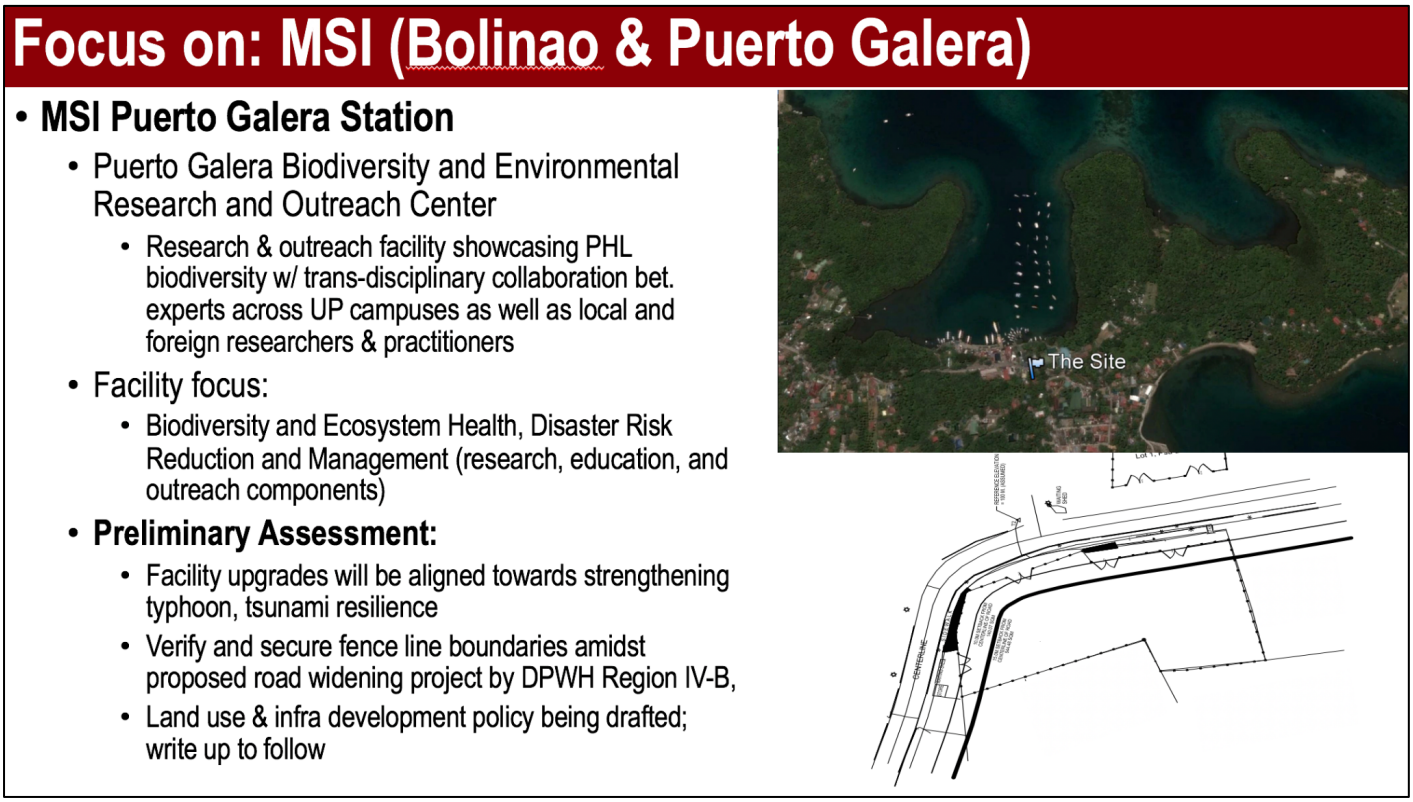


Figure 33: MSI Puerto Galera Land Use, Site and Infrastructure Development strategy

- With regard to MSI Bolinao, the current land use strategy is also to be continued and preserved. Should there be a need to revisit the modification of this site plan, preservation of natural assets will be prioritized (i.e., the building design will adjust to the natural assets, not the other way around). Priority will be towards securing site boundaries, as well as repair and facility upgrade to ensure earthquake, typhoon and tsunami resilience and promote designs that foster ease of maintenance.

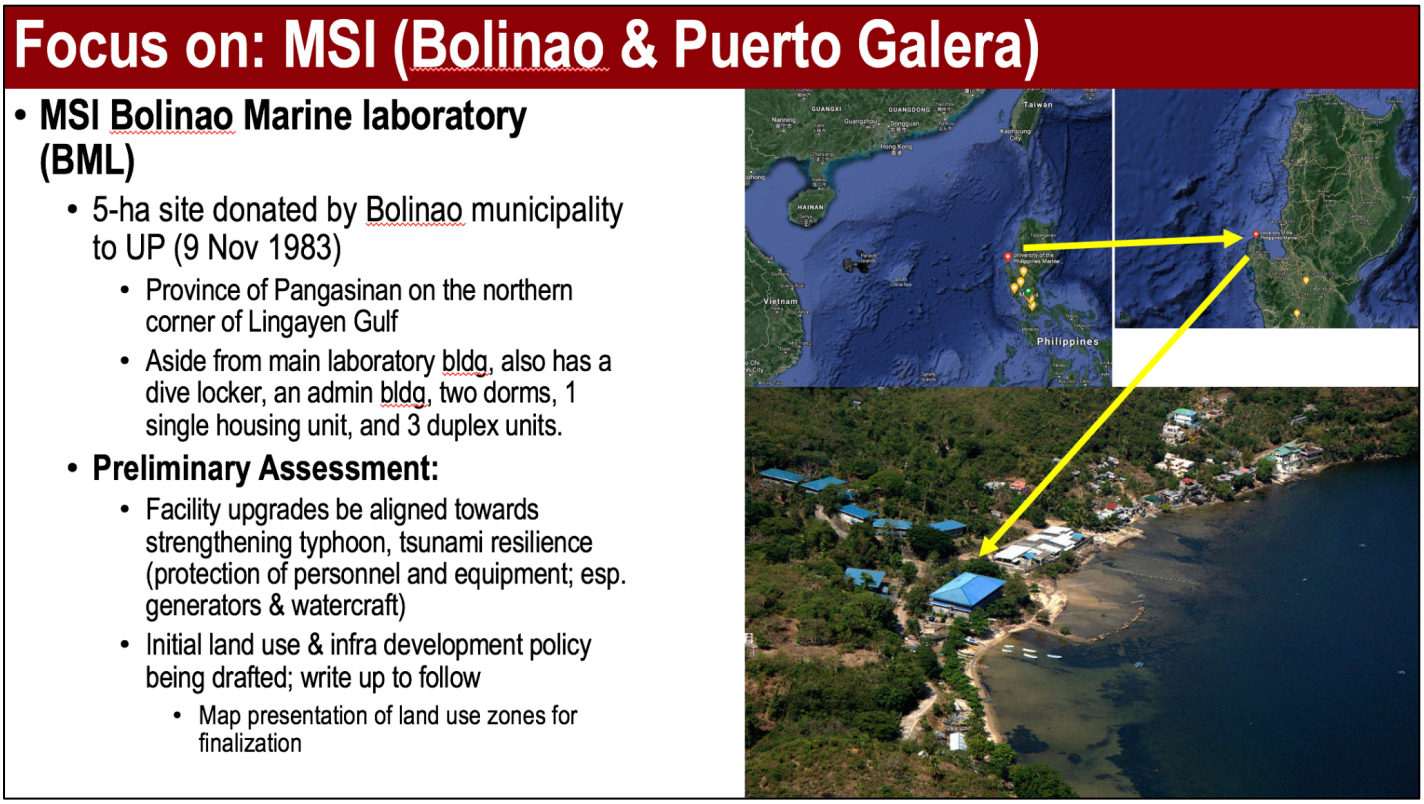


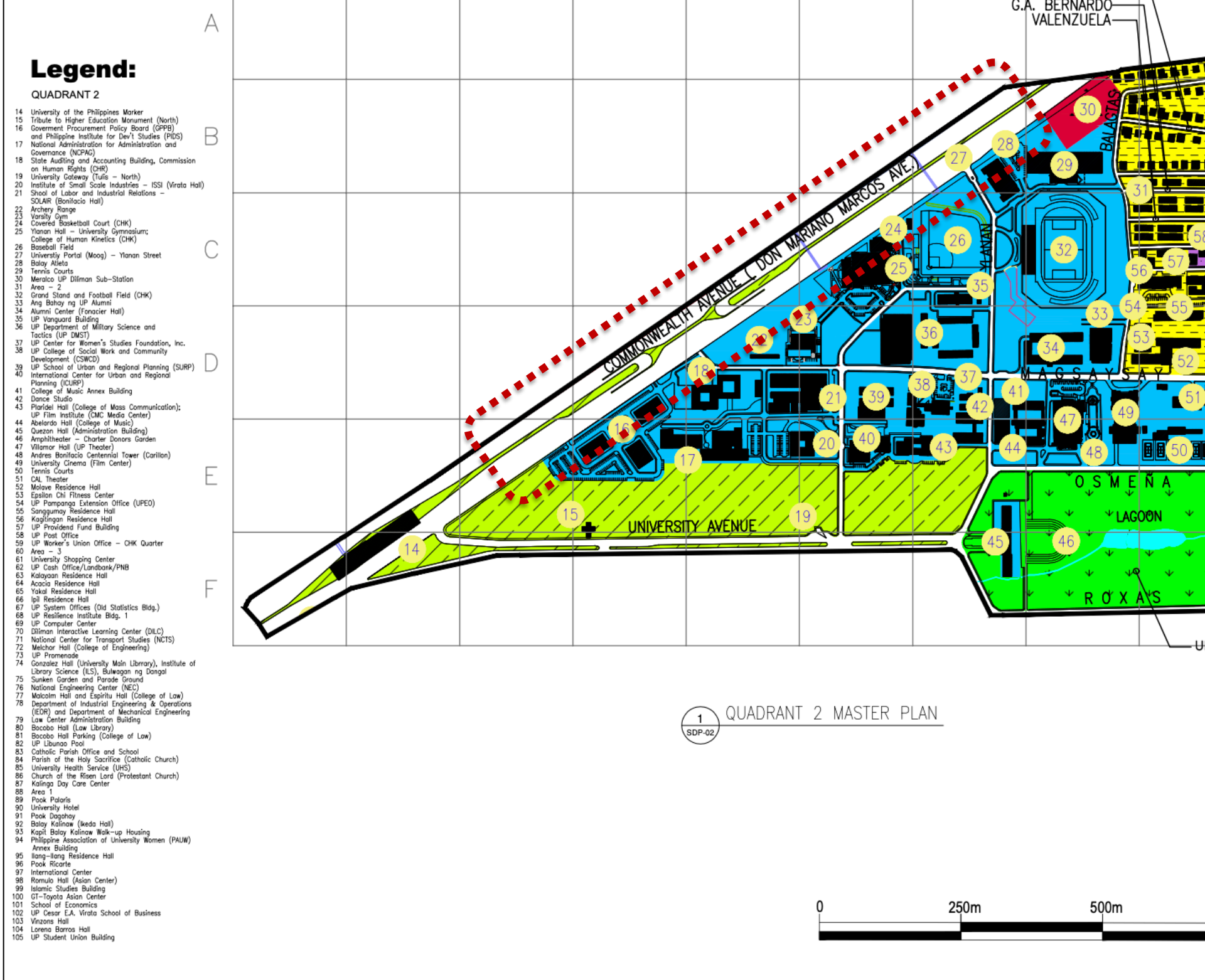
Figure 34: MSI Bolinao Land Use, Site and Infrastructure Development strategy

D.2 Targeted land use allocation and proposed expansion areas

- Going back to the UP Diliman campus proper, its zonal boundary allocations are to be revisited and updated accordingly, given the emerging campus infrastructure needs & situations, namely:

1.) Upcoming academic / academic support facilities along resource-generation zone

- Infrastructure improvements along Commonwealth Ave particularly areas under CHK supervision is being upgraded to allow UP Diliman to become a host of spatial amenities that can aptly host national and international events; as such, there are parts of the 'resource generation zones' in the area that needs to be re-classified under 'academic/academic support unit zone' (Fig. 31).



1 SDP-02 QUADRANT 2 MASTER PLAN

Figure 35: Enlarged academic/academic support zone along Commonwealth Avenue (UPD Site Plan - Quadrant II)

2.) Upcoming mobility corridor along campus core zone

- It has been observed that the area surrounding SURP and CMC (i.e., spatial adjacency and increased foot and vehicular traffic along SURP building and auditorium, Film Institute, Plaridel Hall corridor) needs to proactively prepare for improved mobility and rapid response capability, for major events that will see significant convergence of people, cars in the area.

- At the current iteration of road accessibility, there are traffic chokepoints observed and, in the event of an emergency, there will be a need to augment accessibility towards E. Jacinto to allow fast deployment of emergency vehicles as well as facilitate quick dispersion of cars and people congregated, to ensure safety amidst these probable scenarios. As such, these reasons made it imperative that such mobility corridor be made. Rest assured that the boundaries of this mobility corridor does not go beyond the already existing development located at CMC side (this was basis for boundary), and that this road connector is not going beyond the current board up fence of the new SURP building (as of June 2021). This is to improve inter-college accessibility, ensure unimpeded passage of emergency vehicles alongside cars and people in the area (Fig. 32).

- It is likewise proposed that mixed-use, multi-storey parking facilities at strategic points along the campus periphery, as well as strategic locations inside campus as livelihood generation opportunities be funded and built. Possible locations of these parking facilities are:

    - Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue)
    - Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility
    - The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and
    - ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

3.) Current dormitory facilities (res'l use) in academic / academic support zone

- There is a need to reflect appropriate zonal classifications in the Sampaguita and Ilang-Ilang dormitory areas to 'residential/mix-use zone'), as well as to update the UPD Base map to reflect all currently constructed and new

dormitory projects being built such as the 7-Storey Kagitingan dorm near the Bahay ng Alumni.

4.) Informal Settlements

- There is a need to gradually see development potentialities on buildable areas where low-density informal settlements are documented; from securing areas so that UPD is assured that the settlement will not expand to what they are comprised of (as of June 2021), to explore potential collaborations with partner government agencies, and PPP modalities to unleash site potential while at same time provide for needed developments that are inclusive and collaborative in nature and output.

T3 Parking Structure | Danze Blood Architects

Figure 35 A: Sample of a multi-storey parking facility integrated with campus biodiversity (Austin Carpark designed by Danze Blood Architects, Texas)
https://austin.curbed.com/2019/7/9/20687690/austin-top-cool-parking-garage-t3-danze-blood (accessed 23 May 2023)

Legend:

QUADRANT 2

14 University of the Philippines Marker
15 Tribute to Higher Education Monument (North)
16 Goverment Procurement Policy Board (GPPB) and Philippine Institute for Dev't Studies (PIDS)
17 National Administration for Administration and Governance (NCPAG)
18 State Auditing and Accounting Building, Commission on Human Rights (CHR)
19 University Gateway (Tulis – North)
20 Institute of Small Scale Industries – ISSI (Virata Hall)
21 School of Labor and Industrial Relations – SOLAIR (Bonifacio Hall)
22 Archery Range
23 Varsity Gym
24 Covered Basketball Court (CHK)
25 Ylanan Hall – University Gymnasium; College of Human Kinetics (CHK)
26 Baseball Field
27 University Portal (Moog) – Ylanan Street
28 Balay Atleta
29 Tennis Courts
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68 UP Resilience Institute Bldg. 1
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70 Diliman Interactive Learning Center (DILC)
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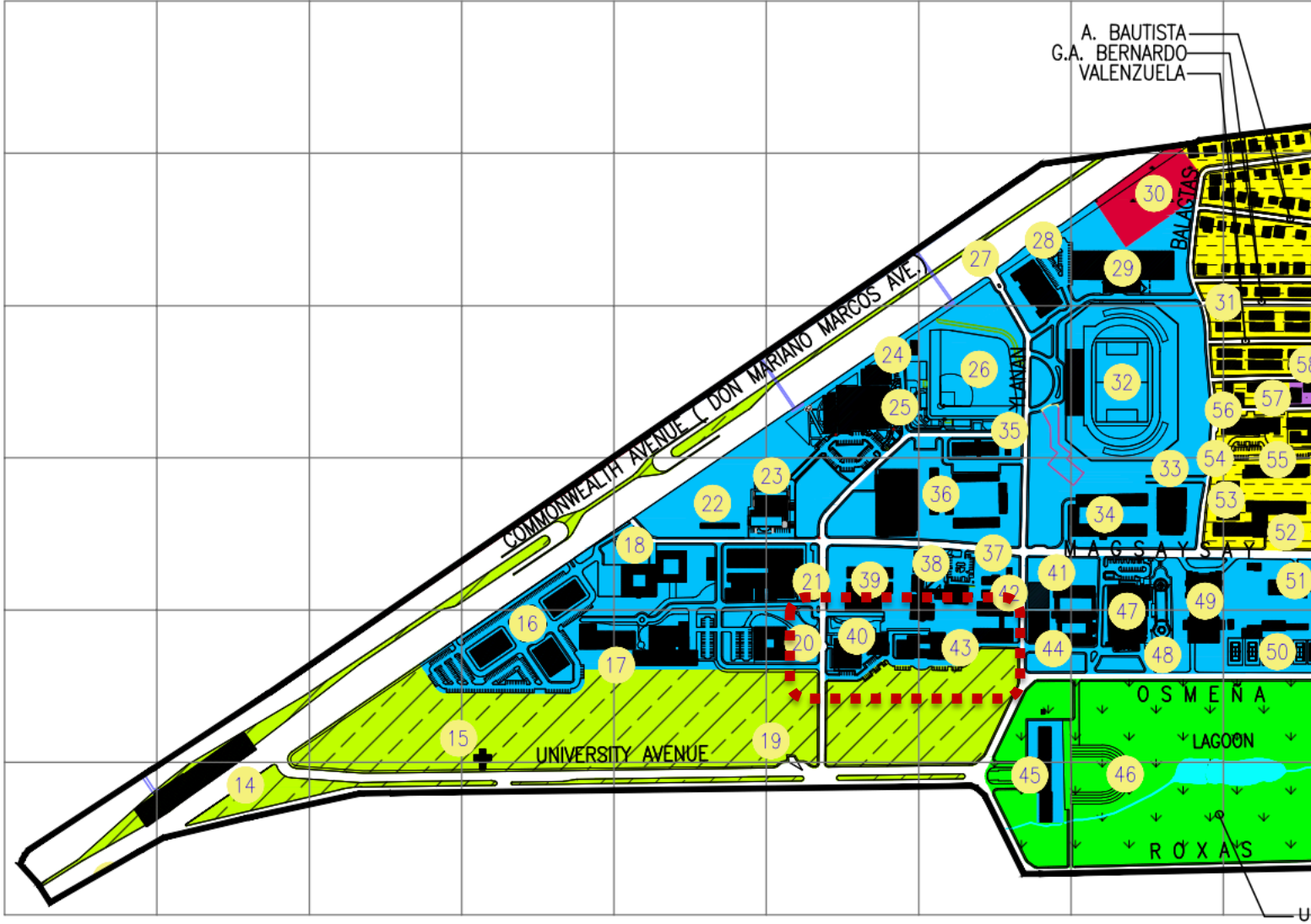
105 UP Student Union Building



1 SDP-02 QUADRANT 2 MASTER PLAN

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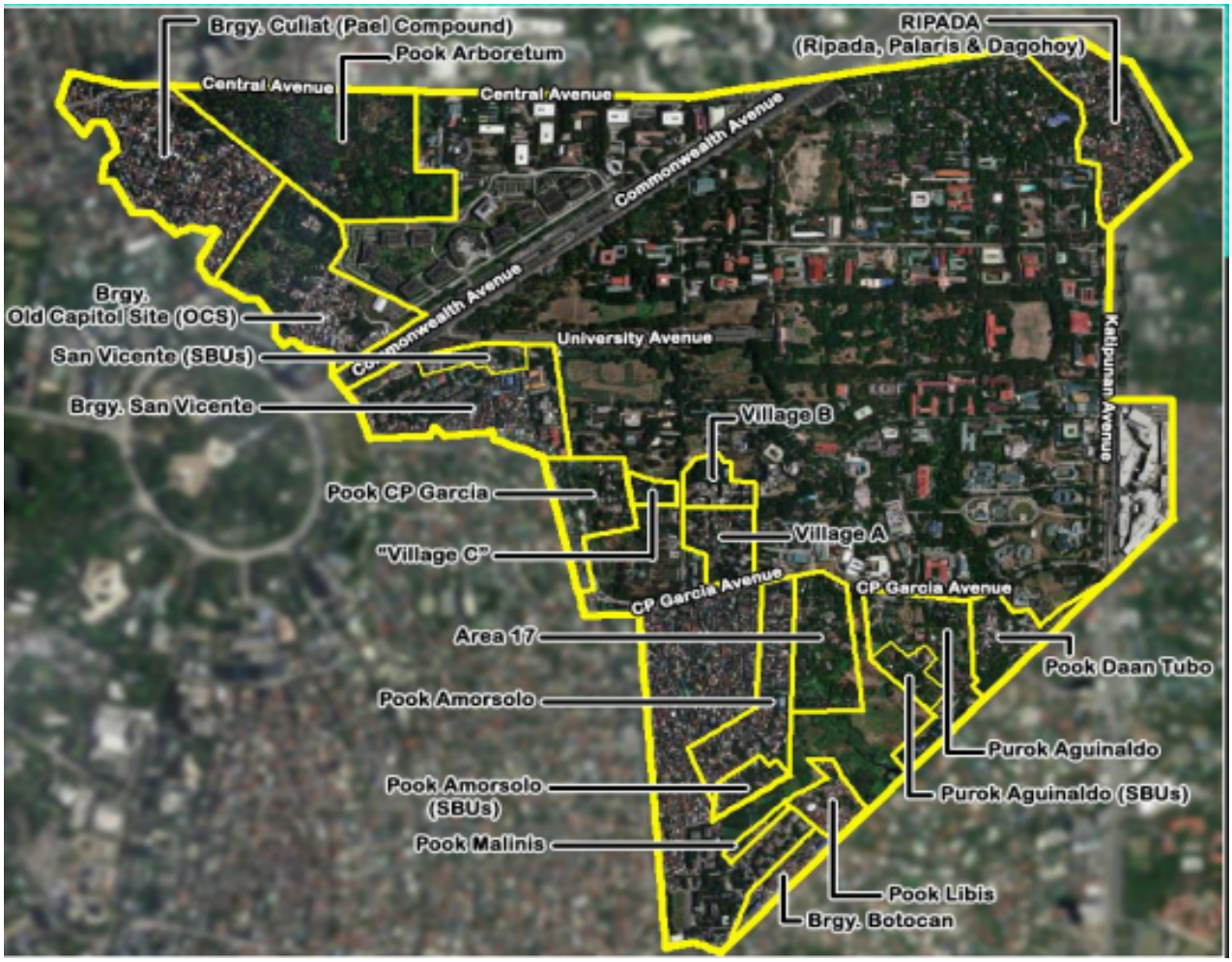


Figure 37: Informal Settlements within UP Diliman

- The efficient usage of concerned areas (i.e., smaller building footprints, mixed use zonal allocations) may free-up 'protected forest area' zones currently inhabited by informal settlements, through proper planning and design collaborations with concerned stakeholders. Among the key infrastructure projects that could benefit from this policy is the augmentation of UPDs healthcare facility complements (e.g., PGH Diliman proposal, Psycserv and Diliman Gender Office), as well as mix-use housing developments that could benefit Students, Faculty, Staff, as well properly screened and registered informal settler groups that will be transitioning to possible formal stature (in a manner and iteration that is aligned with the best interests of the UP Diliman campus mandates of teaching, research, and extension.

D.3 Proposed Concept Map and Infrastructure Plan

- Anchored on the vision, mission, goal and objectives set in previous sections of this plan, UP Diliman's concept map and infrastructure development plan can be summed up-with the following themes (Fig. 25 & 26):

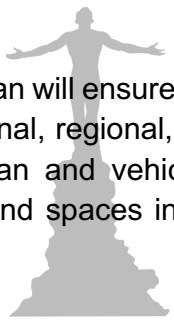
- ***Upgrading of key Academic and Academic Support Assets and Spaces***
    - To empower UP Diliman in continuing its role in molding the country's next generation leaders as catalysts of societal change and development, its facilities - both built and open spaces - should be continuously upgraded as needed by the institutions and people who will be using them.

    - Improved spatial correlations, upgraded infrastructure features and amenities as aligned with sustainable zonal classifications on campus is a key concept that will be reflected in the next decade or so of campus planning and development;

    - Foster partnerships with local and national government in tsking advantage of UPD's inherent human capital as a means to create solutions to social, economic, and environmental challenges facing the city and the region. From harnessing the UP Technohub's potential as an incubator hub (and economic growth catalyst), to UP PGH Diliman providing vital social support services to Quezon City and the region, to the environmental preservation and upkeep of UPD's green open space networks as active mobility corridors (biking, waiking), this collaborative stance is to be mutually beneficial to both UPD and local/national government counterparts.

    - Policy vis-a-vis Implementation consistency will be important so that all funding initiatives (short, medium, and long term) will all be working collectively towards realization of a singular vision, mission, goal and objectives for campus development as set in this UPD land use development and infrastructure plan.

- ***Improved Mobility Platform and Systems Integration***
    - The UP Diliman land use development and infrastructure plan will ensure that its spatial development initiatives will be aligned with national, regional, and local government initiatives to better rationalize pedestrian and vehicular mobility as they relate to movement between structures and spaces inside Diliman campus.



- From the MRT-7 University Avenue station to be located adjacent to the campus' main entry and exit portal, careful zoning and design consideration for relevant projects will be made to ensure seamless integration of people movement to and from the mass-transit station to on-campus mobility platforms and corridors.

- Mixed use, multi-storey parking facilities will likewise be considered and invested on, to accommodate vehicular demand in a regulated and controlled manner, complementing preferred mass transit and active mobility platforms and corridors. of these parking facilities are:
    - Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue)
    - Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility
    - The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and
    - ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

- Coordination and proactive prepositioning of spatial needs (e.g., road design, identified stations and waiting sheds) concerning the proposed Bus-Rapid Transit (BRT) system being developed will likewise be made, to ensure not only harmonization with the above-mentioned MRT7 station, but more so to the TOKI and IKOT jeepney routes already in place in and around the campus. Careful study will be made so that these new systems will complement the transport systems already in place.

- ***Broadening role of Open space networks in campus development***
    - In this LUDIP for UP Diliman, the role of the campus' network of sidewalks, secondary roads and green spaces will be highlighted and integrated as a vital active-mobility platform and corridor, and network of spaces that can be used during emergencies and disasters as a congregation area (Fig. 15).

    - By highlighting the role of these sidewalks as vital cog complementing vehicular and mass transit mobility, better appreciation, improved design and funding allocations can be better justified due to its heightened role in campus mobility; especially for a campus area like such in Diliman. From network of semi-covered pedestrian walkways, to specified corridors for bicycles and e-scooters, to designated multi-level parking areas in campus peripheries

attached to mass-transit nodes and hubs, the role of open space networks will be heightened so as to ensure their spatial preservation amidst unnecessary built sprawl.

- ***Risk Resiliency and Future-Proofing of Structures and Assets***
  - UP Diliman will strive to align with national, regional and local government initiatives to utilize the campus' green infrastructure network as spaces for risk resiliency initiatives; from strong policy implementation of designated no-build zones meant to promote flood mitigation alongside groundwater recharge measures, to proactive identification of temporary staging areas for post disaster initiatives, this UP Diliman LUDIP will be aligning its zonal allocations and site development plans to reflect these vital concepts of resiliency.

  - With regard to future-proofing of structures and assets, UP Diliman will push for infrastructure project proposals that is meant to serve campus needs for the next twenty (20) years in operational timeline. Instead of the previous mindset wherein conceived budgetary limits hamper creation of more long-term solutions (i.e., more costly), UP Diliman will instead improve on its by-phase infrastructure development strategy to ensure smooth implementation of projects vis-a-vis fund source. By doing so, the campus is pre positioning its structures and spaces to easily improve its features and amenities as soon as additional funding is available.

  - From smaller building footprints with structural allocations that can accommodate additional floors in the future, to spaces and amenities whose upgrade features are already reflected on plan so that these can be easily upgraded once additional budgets are secured, to preference for local, environmentally sustainable materials and finishes, a proactive and future-proofing development mindset will be strived for reflection in UPD project proposals.

- ***Rationalizing of Utility Systems and Infra Tapping Points***
  - To ensure implementation efficiency on the projects included in this land use development and infrastructure plan, UP Diliman should go ahead and fund a project meant to identify as built utility tapping points, which will pave the way for systems rationalization of water, sewer, to electrical, power and telecommunications systems.

  - As an example, identification of existing tapping points will ensure that upcoming projects can already be pre-designed with knowledge of these

utility tapping points; this will minimize unnecessary redesigns later on, to accommodate tapping points that was not reflected in earlier schematic iterations (due to information unavailability).

- Once the tapping points are identified, the next step for LUDIP implementation is the creation of a project meant to rationalize the placement, and infrastructure complements of these mostly-below ground systems;

- As an example, a properly ventilated underground bunker corridor system on key areas on-campus may be considered as a long term project, with adequate diameter and height features that would allow workers to move about in relative convenience; specific pipe systems will be placed alongside each other so that when repairs and maintenance work as needed, unnecessary destruction of newly paved roads and sidewalks will eradicated since all the systems are already built on to this underground bunker system. This bunker system may likewise be used as a refuge area should an emergency make it necessary for UP Diliman residents and workers to temporarily station themselves underground.

- ***Approved Project Justification and Design Bid Package Completion prior to Funding Allocation***
  - Already initiated with UP System through the Office of the Vice President for Development (OVPD), all projects that are aligned with the UPD LUDIP - prior to funding allocation - will already have a complete and well thought of design bid package.

  - This is to ensure that projects for implementation already factored in design details and specifications needed for true project sustainability: From Roof systems design (e.g., weephole systems to complement waterproofing concerns), ACU systems and emergency power systems integration, utility tapping points), to site features and hindrances validated on-site (as they reflect allowable building setbacks and footprints). Though these may sound mundane, should design bid packages are made to be rushed in order to meet budget availability and procurement deadlines, it is usually towards the end of the project construction that these details give problems to both the end user and the university; these may result to avoidable orders for variations, or a tedious process to source out additional budget sources to merit emergency procurement.

D.4 Fund Requirement

- Primary fund source requirements will still be anchored on national government allocations; with budgetary estimates aligned with industry standards. Initial budget

estimates may be done via defined unit cost per square meter; just so that end-user and UP Diliman administrators will have an immediate idea of the fund requirement of the initial design.

- It is recommended that UP Diliman will have a yearly, pre-identified funding source meant to finance Detailed Architectural and Engineering Design (DAED) preparation for all approved project proposals (as aligned with LUDIP). Consultants may be tapped on a job-order basis spanning 3-6months (or as needed) to finish the DAED. The OCA together with OVCPD, may assist in proposing a budget for DAED preparation prior to the start of the year. Based on prevailing trends (as of August 2021), an initial budget of Five (5) Million Pesos; should there be savings for a particular year, the said savings will be carried over to next year with additional funds allocated to top-up with the above-mentioned budget allocation.

    - The reason for this proposed budget is due to the challenge of entrusting all simultaneous DAED preparation to the UPD Office of the Campus Architect; the office will be hard pressed to deliver given the volume of daily tasks and inspections its staff do on a regular basis.

    - The UPD OCA is a vital cog in DAED bid package preparation, since it is the office tasked to do site assessment, space programming and end-user coordination to come-up with a sound Schematic Design.

- Once the schematic design is approved, detailed design development will ensue alongside a detailed Bill-of-Quantities (BOQ) to determine a more exact cost for the project. Once the design development is finished (DAED, alongside Outline Specifications and Cost Estimate breakdown), efforts may now ensue towards securing fund requirement source/s (for project procurement).

- Estimates will be regularly updated to reflect market changes in terms of material supply and labor demand. This is to be coupled with budget allocations brought about by the COVID-19 global pandemic; from site barracks preparation to manpower protective gear and instruments that will allow early detection of virus contamination, so that the University can immediately mobilize quarantine protocols and healthcare initiatives through its University Health Service (UHS). Alongside this, it is important that there be budgetary allocation meant to fund permit processing expenses, alongside a legal fund for administrator signatories of project documents, to be tapped only when a need arises.

- This UP Diliman land use development and infrastructure plan likewise demands funding and revenue sources to shoulder not only in pre and post construction, but more so after project turn-over and maintenance and operating expenses are already in place. As such, creative ideas and proposals to accumulate resources meant to

fund and maintain these investments should be explored; not only to lessen dependence on government funding and subsidy, but also to allow custodian offices of these spatial investments to have regular resource streams.

- As an example, multi-level infrastructure developments may have a policy of allocating a certain percentage of the ground floor for revenue generation spaces (e.g. concessionaire lease agreements), with monthly rentals earmarked for MOOE such as sanitation, security, as well as minor repairs. This is so that these new developments need not be fully dependent on traditional fund request sources. To appease notions of commercialization, unit Cooperatives may be created, wherein workers under a unit where said new infrastructure project is located will be assisted to pool their resources and come-up with a viable business model that is meant to serve the students, faculty, and staff under their immediate vicinity; rental revenues from these start-ups will be used to fund part of the monthly MOOE needs of said building, as well as adjacent open spaces (e.g., road repair in front of building, maintenance of green landscaped area, among others). At the same time, the revenue generated through this Cooperative endeavor will provide additional revenue for the campus' staff and workers.

E. CAMPUS DEVELOPMENT PLAN AND INVESTMENT PROGRAM

- To align administrative action with fund source allocation, it is recommended that projects for integration in the UPD campus development plan and investment program are aligned with the terms of sitting Chancellors of UP Diliman, with support and guidance from the concurrent UP President.
- This is so that it would be easier to determine start and completion dates for projects, aligned with entry and exit reports of the Office of the Chancellor (as aligned with the proposed eighteen (18) year LUDIP time coverage.

- Moreover, the alignment of investment program with the phasing of projects from implementation is recommended to be packaged in terms of Short, Medium, and Long-Term programs; this is to ensure that projects for immediate procurement and implementation will be first in line (as part of the short term LUDIP program), and their completion realized within the six (6) maximum year term of the UPD Chancellor (e.g., 2020-2023; 2023 - 2026). Medium-term and Long term programs will follow, and will be clustered in terms of urgency and other parameters to be detailed in the following sections below:

E.1 Short-Term Program (2020-2023; 2023 - 2026)

Investment Parameter (*Inward perspective*):

- Project proposals of urgent implementation due to risk to life and property. Such projects may be related, but not necessarily confined to the following themes:
  - 1.) Repair, rehabilitation of existing built assets (with Structural, electrical, and mechanical concerns)
  - 2.) Repair, reclamation, and improvement of road and sidewalk amenities (e.g., sidewalks free from obstructions, fix roads, incorporate covered pedestrian walkways to facilitate walking as a primary mode of mobility; improve bikelane system inside campus)
  - 3.) Identification and Rationalization of utility tapping points (e.g., As Built plans of electrical, water, drainage and sewer, telecommunications structured cabling lines and systems)
  - 4.) Preservation of open spaces and green infrastructure corridors as part of risk resiliency initiatives; from securing flood control and ponding areas, to groundwater recharge, to protecting biodiversity (flora and fauna). Highlight established traffic management masterplans by establishing mixed use parking facilities to complement established active mobility platforms and corridors.
  - 5.) New building proposals meant to address campus needs and capacities as a leading academic institution with its sights set on Southeast Asia and Asian-level prominence (e.g. New CMO Building, new UPD Faculty Center, improved UP Police, Security building with barracks, among others)

E.2 Medium-Term Program (2026-2029; 2029-2032)

Investment Parameter (*Outward perspective*):

- Projects that will align with local, regional, and national government initiatives (e.g., Quezon city LGU, MMDA, and DPWH / DOTR) and projects as spatially related with UP Diliman
  - 1.) Citimall area redevelopment to take advantage of MRT-7 spatial integration, and as a intermodal transport hub for pedestrian transfers, multi-storey vehicular parking, revenue generation, and other initiatives that will be of benefit to the campus and its community.
  - 2.) Funding for infrastructure complementing the proposed Bus Rapid Transit (BRT) System being considered to reach inside campus (e.g., standard

design waiting sheds, attached with pedestrian covered walkways described under the “Short-Term Program” mentioned above)

- 3.) Implementation of the proposed “Community Affairs Building” that will house vital offices that are in constant engagement with local, regional, and national government (e.g., Office of the Vice Chancellor for Community Affairs and offices under it such as Office of Community Affairs, UPD Housing office, Diliman Environmental Management Office, among others)

E.3 Long-Term Program (2032 - 2035, 2035 - 2038)

Investment Parameter (*Plan completion stage)*

- This stage is meant to revisit all previously implemented projects, and to ensure that funding is available for earlier implemented projects that may have unfinished components needing implementation (e.g. “phase 2” interior fitout, or improved landscaping, among others)
- Expanding/continuing the Mixed use, multi-storey parking facilities considered and invested on, to accommodate vehicular demand in a regulated and controlled manner, complementing preferred mass transit and active mobility platforms and corridors. of these parking facilities are:
    - Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue)
    - Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility
    - The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and
    - ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

- This long-term program may also be a starting point for new, big ticket projects to be identified by both the UP Diliman Chancellor and the UP President; projects to commence feasibility studies, DAED preparation, and development of Memorandum of Agreement (MOA) with potential partners, donors among others.

F. LAND, WATER, POWER POLICIES

- Main land use policy is to be anchored on efficient usage of available assets both natural and man-made; to ensure protected abundance of green open spaces throughout campus (i.e. aside from campus core and protected forest area); this is to ensure that students, faculty, staff and visitors will be surrounded by connective spaces of greenery and thus contribute to a conducive academic atmosphere, a relatively cooler and shaded environment (in response to urban heat island), and if

needed, future generations of UPD administrators will still have adequate space to develop and improve on, to make UPD a benchmark example of sustainable urbanization.

- With regard to protected forest areas and the campus core, a default policy is preservation; with clear stipulation that if a clear and highly beneficial opportunity comes along, such spaces may be considered for boundary updating (either expansion or modification) afte rdue consultation with community stakeholders, and endorsement from OVCPD, concurrence by UPD Chancellor and UP President, and approval from the Board of Regents are acquired.

- With regard to water usage policy, UPD will promote efficient usage of this resource as well; promotion of rainwater harvesting infra systems and greywater usage is to be the primary policy option, in order to lessen unnecessary usage of Manila Water supply.

- With regard to power generation and supply, alternative systems such as solar will be promoted, and that current and future developments may factor in strucl load roof deck load computations to facilitate installation of solar panels and battery systems onto the buildings; and that elecl lines servicing the structure will be designed for flexibility and easy of interoperability between electrical and solar power sources intermingling building service.

G. DISASTER RISK AND CLIMATE CHANGE ADAPTATION

- Based on acquired information and maps from Quezon City government, alongside key offices in UPD (UP Resilience Institute, OVCCA, OVCSA, OUR, HRDO among others), current and projected demand-supply information was generated. In terms of risk assessment, earthquakes and flooding are the primary concerns found to affect land usage in UP Diliman. There is considerable risk for UPDs infrastructure inventory in the event that a major earthquake happens via the West Valley fault; structural assessment and retrofitting of old buildings should be the focus for infra, as well as ensuring that latest earthquake resistance standards in the National Building Code are reflected in upcoming buildings.

- There is low risk for liquefaction in the area of UP Diliman. Another risk highlighted is flooding: for UP Diliman flood risk is low owing to its elevation; however, in a 100-yr flood scenario, it is estimated that around 10% of the UPD population may be displaced and that each HH affected may need to shoulder expenses (0-80 USD) to repair damage/s of such a flood. In this regard, infrastructure improvements to sewer and drainage lines should be funded and procured. Fire risk in general is deemed few; however, this assessment may not hold true for informal settlements in campus;

with the proliferation of hazard-prone materials and non-codal compliant accessibility routes.

- Aside from addressing the issue of informal settlements on campus grounds, it would be wise to also fund infrastructure projects that will improve accessibility of emergency vehicles, to help mitigate such risks. Data obtained from UPD Police also shows crime hotspots; to address this concern, there is merit to consider improving lighting at hotspots and Improve UPD Security spatial complement via CCTV system integration in a Command Center.

- QC DRRMO's Green & Open Spaces map (Fig. 15a) was likewise used as reference and aligned with UPD LUDIP's open space corridors; This way synergy of programs between UPD and QC LGU is harmonized to achieve strong immediate impact to affected communities in and around the UPD Campus. By aligning with the thrusts of the LGU, UPD allows itself to strengthen protection of its open spaces (e.g., from unnecessary sprawl) by connecting biodiversity, disaster risk resiliency via emergency evacuation areas as well climate change adaptation as justification for its protection of open areas.

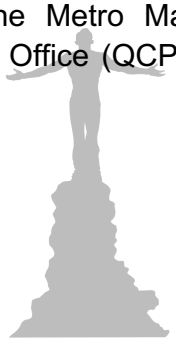
IV. INSTITUTIONAL COORDINATION AND MONITORING SET-UP

A. PHYSICAL AND LAND USE PLANNING

- Matters concerning coordination, monitoring, and implementation of the physical and land use plan of UP Diliman campus will be spearheaded by the Office of the Chancellor through the Office of the Vice Chancellor for Planning and Development (OVCPD), with the Office of the Campus Architect (OCA) providing technical support and assistance.

- Consultation and collaboration with the UP School of Urban and Regional Planning will likewise be fostered, and as needed also with the Colleges of Engineering and Architecture.

- Consultation and collaboration with government agencies such as the Department of Human Settlements and Urban Development (DHSUD), the Metro Manila Development Authority (MMDA), QC Planning and Development Office (QCPDO) will be likewise fostered and strengthened.



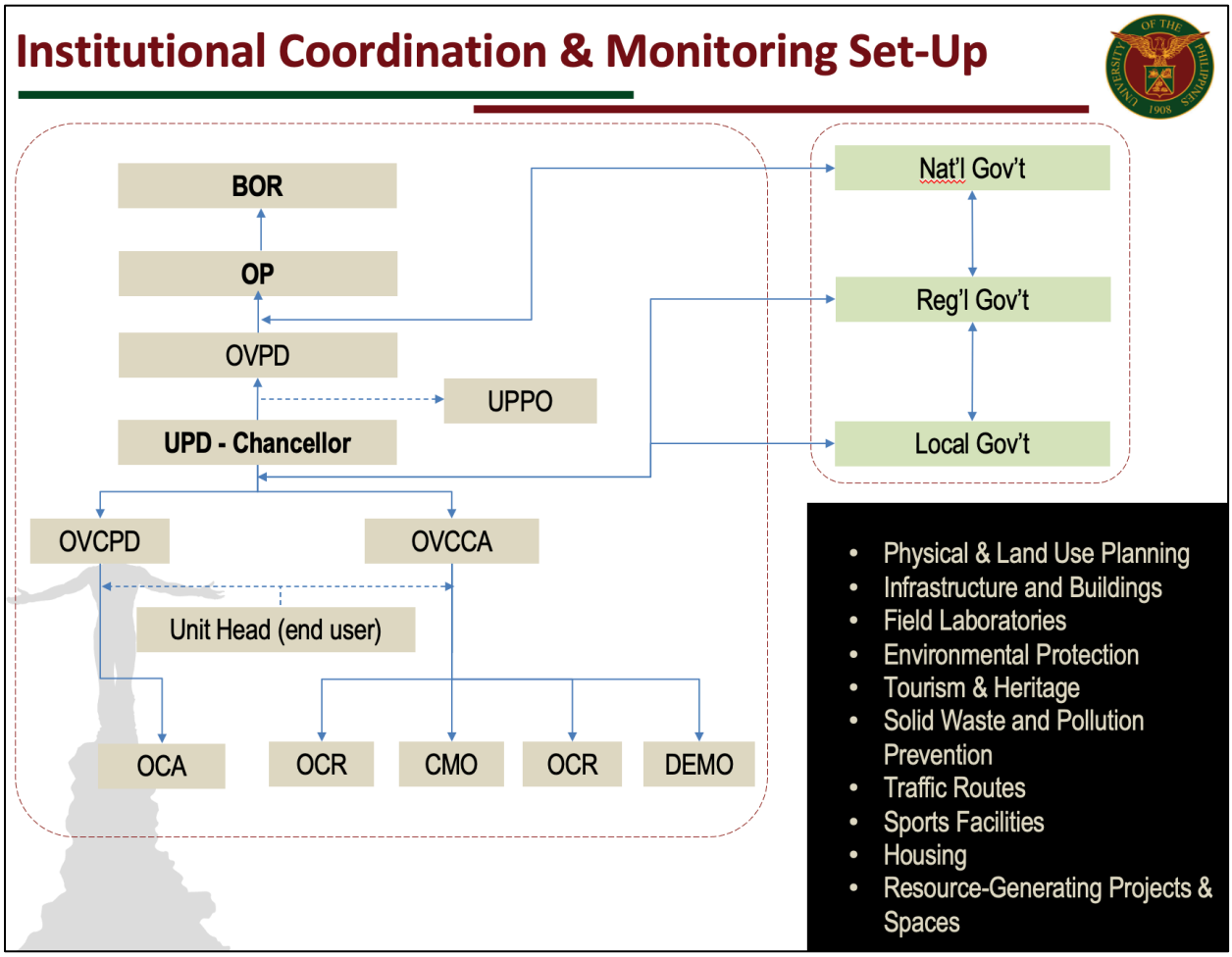


Figure 38: Institutional Coordination and Monitoring Set-Up

B. INFRASTRUCTURE AND BUILDINGS

B.1 Diliman Campus

- the Office of the UPD Chancellor (OC) through the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) will be in coordination with the Office of the Vice Chancellor for Community Affairs (OVCCA) and the Campus Maintenance Office (CMO).

- Requests for site access, may it be by OCA staff, contractors, and/or suppliers will be formalized and sent to OVCPD thru OCA, and endorsed and then approved by the end-user concerned.

- It will be strived that efforts of repair and maintenance of CMO are already aligned with design initiatives to be made by OCA, which will be the basis of procurement. From electrical system repair troubleshooting to As-Built plans and electrical systems upgrade, this OCA-CMO collaboration will be strengthened through the guidance of

OVCPD and OVCCA. With regard to funding allocation, constant consultation will be the norm with partner offices namely the Office of the Vice Chancellor for Administration (OVCA) and the UP-Procurement Office (PO). Amidst all of this, consultation and alignment of policy will be ensured through coordination with the Office of the UP President (OP) through the Vice President for Development (OVPD), prior to its endorsement and approval with the Board of Regents.

- Consultation and collaboration with local, regional and national government agencies such as the Department of Public Works and Highways (both NCR and QC 2nd District), alongside the QC Office of the Building Official (OBO) will be likewise fostered and strengthened.

B.2 UP Diliman Extension Program in Pampanga and Olongapo

- Similar with the protocols set for Diliman campus proper, coordination and requests for assistance emanating from the UPDEPPO Director's office will be coursed first through the Office of the UPD Chancellor (OC) through the Office of the Vice Chancellor for Planning and Development (OVCPD); requests for inspection and design related concerns will be facilitated by the UPD Office of the Campus Architect (OCA).

- Requests for site access, may it be by OCA staff, contractors, and/or suppliers will be formalized and sent to OVCPD thru OCA, and endorsed and then approved by the end-user concerned.

- Consultation and collaboration with government agencies such as the Clark Development Corporation (CDC), Subic Bay Metropolitan Authority (SBMA) and concerned LGUs will be likewise fostered and strengthened.

C. FIELD LABORATORIES

C.1 MSI Bolinao

- Similar with the protocols set for Diliman campus proper, coordination and requests for assistance emanating from the MSI Director's office will be coursed first through the Office of the UPD Chancellor (OC) through the Office of the Vice Chancellor for Planning and Development (OVCPD); requests for inspection and design related concerns will be facilitated by the UPD Office of the Campus Architect (OCA).

- Requests for site access, may it be by OCA staff, contractors, and/or suppliers will be formalized and sent to OVCPD thru OCA, and endorsed and then approved by the end-user concerned.

- Consultation and collaboration with government agencies such as the Department of Public Works and Highways (DPWH), alongside concerned LGU will be likewise fostered and strengthened.

D. ENVIRONMENTAL PROTECTION

- Actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be regularly consulted with UPD's Diliman Environmental Management Office (DEMO) for alignment of strategies and targets; moreover, coordination with the UP Diliman Biodiversity committee will be strengthened so as to ensure all projects under LUDIP will be protecting UPD's natural resources both flora and fauna.

- Consultation and collaboration with national government agencies such as the Department of Environment and Natural Resources (DENR), Laguna Lake Development Authority (LLDA) will be likewise fostered and strengthened.

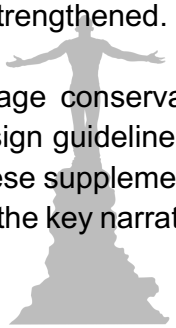
- Infrastructure development will likewise be regulated with sustainable building density guidelines, to ensure a balance of open space network preservation with acceptable building heights that are required for compact building footprints.

E. TOURISM AND HERITAGE

- Actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be primarily coordinated by the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) with the Office for Initiatives in Culture and the Arts (OICA) to ensure that all projects under LUDIP will be protecting its heritage sites and cultural assets.

- Consultation and collaboration with national government agencies such as the National Commission for Culture and the Arts (NCCA), National Historical Commission (NHC), National Museum (NM) will be fostered and strengthened.

- Efforts in this LUDIP masterplan writeup to institutionalize heritage conservation measures will set up supplemental reports as well as detailed design guidelines on built heritage, character coherence spot details and narratives. These supplemental, separate reports will be drafted soon after, and will be anchored on the key narratives of this UPD Land Use Development and Infrastructure Plan.



F. SOLID WASTE AND POLLUTION PREVENTION

- Actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be regularly consulted by the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) with UPD's Diliman Environmental Management Office (DEMO) for alignment of strategies and targets.

- Consultation and collaboration with national government agencies such as the Department of Environment and Natural Resources (DENR), Laguna Lake Development Authority (LLDA) will be likewise fostered and strengthened.

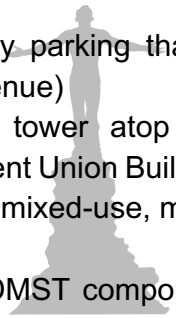
G. TRAFFIC ROUTES

- Actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be primarily coordinated by the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) with the Office of the Vice Chancellor for Community Affairs (OVCCA) through its Transport Management Office (TMO).

- Consultation with the National Center for Transportation Studies (NCTS), as well as the School of Urban and Regional Planning (SURP) will likewise be fostered to harmonize traffic concerns with land usage and infrastructure development in and around the campus.

- For traffic routes and matters directly outside campus perimeters, consultation and collaboration with the local government of Quezon City, together with the Metro Manila Development Authority (MMDA) will be continuously secured.

- Mixed use, multi-storey parking facilities will likewise be considered and invested on, to accommodate vehicular demand in a regulated and controlled manner, complementing preferred mass transit and active mobility platforms and corridors. of these parking facilities are:
    - Citimall area rehabilitation (to highlight multi-storey parking that is adjacent to the MRT7 station fronting University Avenue)
    - Proposed relocation of the DZUP transmission tower atop UP Resilience Institute Building (UPRI) or perhaps Student Union Building (SUB); the to-be vacated lot can be redeveloped as mixed-use, multi-storey parking facility
    - The corner of Ylanan and Magsaysay st (across DMST compound, near the sports stadium, and



- ONAPUP site along CP Garcia, near Centennial Dorm and E. Jacinto gate.

H. SPORTS FACILITIES

- Actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be primarily coordinated by the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) with the College of Human Kinetics (CHK), in collaboration and guidance from the Office of the Vice President for Development (OVPD).

I. HOUSING

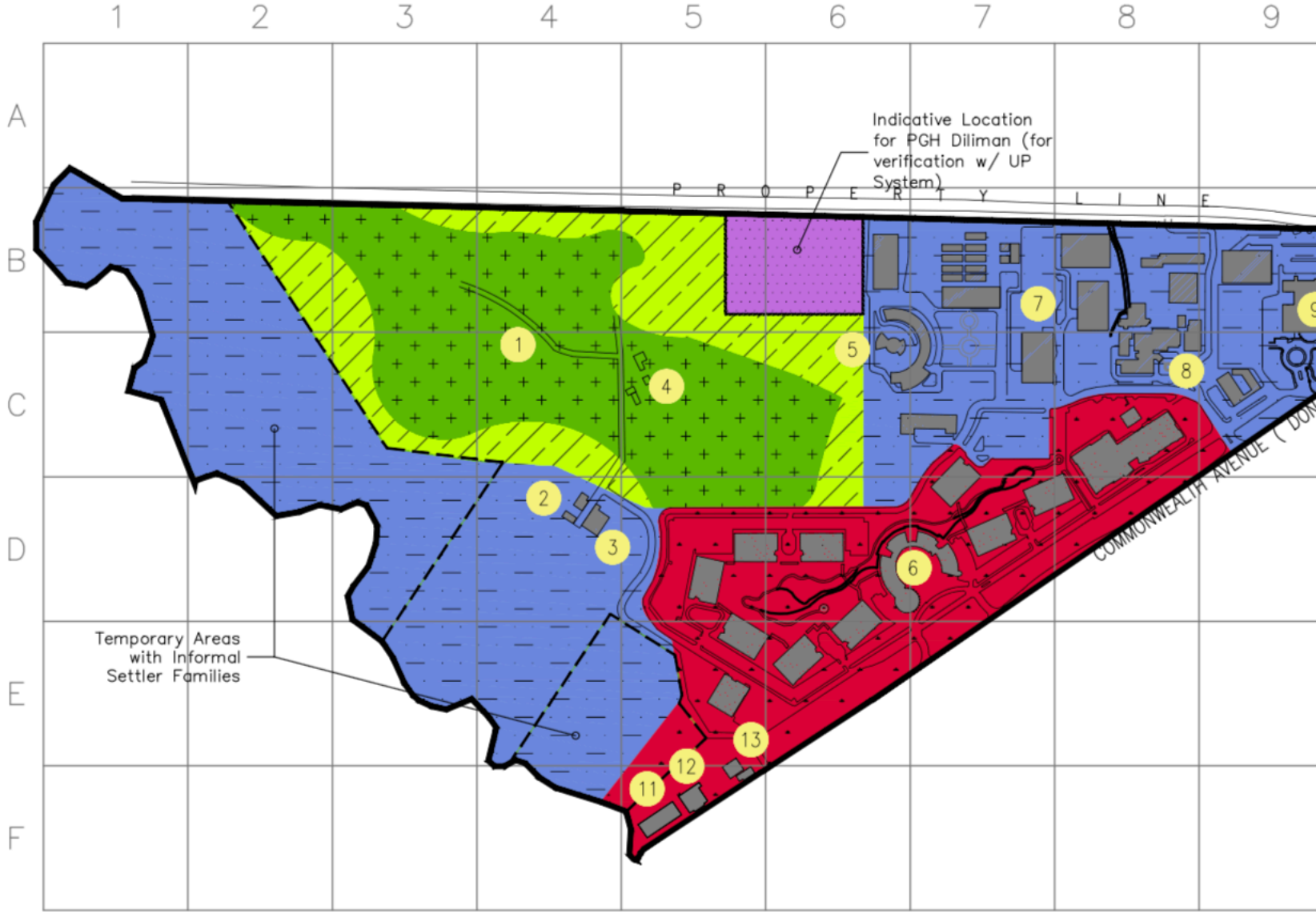
- Actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be primarily coordinated by the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) with the Office of the Vice Chancellor for Community Affairs (OVCCA) through its Housing Office.

J. RESOURCE-GENERATING PROJECTS AND SPACES

- UP Diliman together with UP System has anchor lease developments with the private sector meant to maximize land value as a revenue generation mechanism, while the campus has yet to find a direct need to utilize said spaces: From UP Technohub, Citimall, UP Town Center just to name a few.

- Other upcoming projects, such as the UP Shopping Center and Food Hub both inside campus, and the International Center dormitory - while not necessarily entail income or revenue generation as primary reason for implementation - may entail collaboration with potential 3rd party consultants and Public-Private-Partnership (PPP) collaborations (e.g., Citimall mixed use, multi storey parking facility w/ connection to MRT 7).

- As such, actions related to UP Diliman land use development and infrastructure projects - from initial concept development to final plan iteration and implementation - will be primarily coordinated by the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Office of the Campus Architect (OCA) with partner institutions such as the Ayala Group (for UP Technohub and Town Center), as well as with a possible collaboration with the group engaged with the MRT 7 University Avenue station (for the redevelopment of Citimall and the wet market across it along Commonwealth Avenue, near PhilCOA).



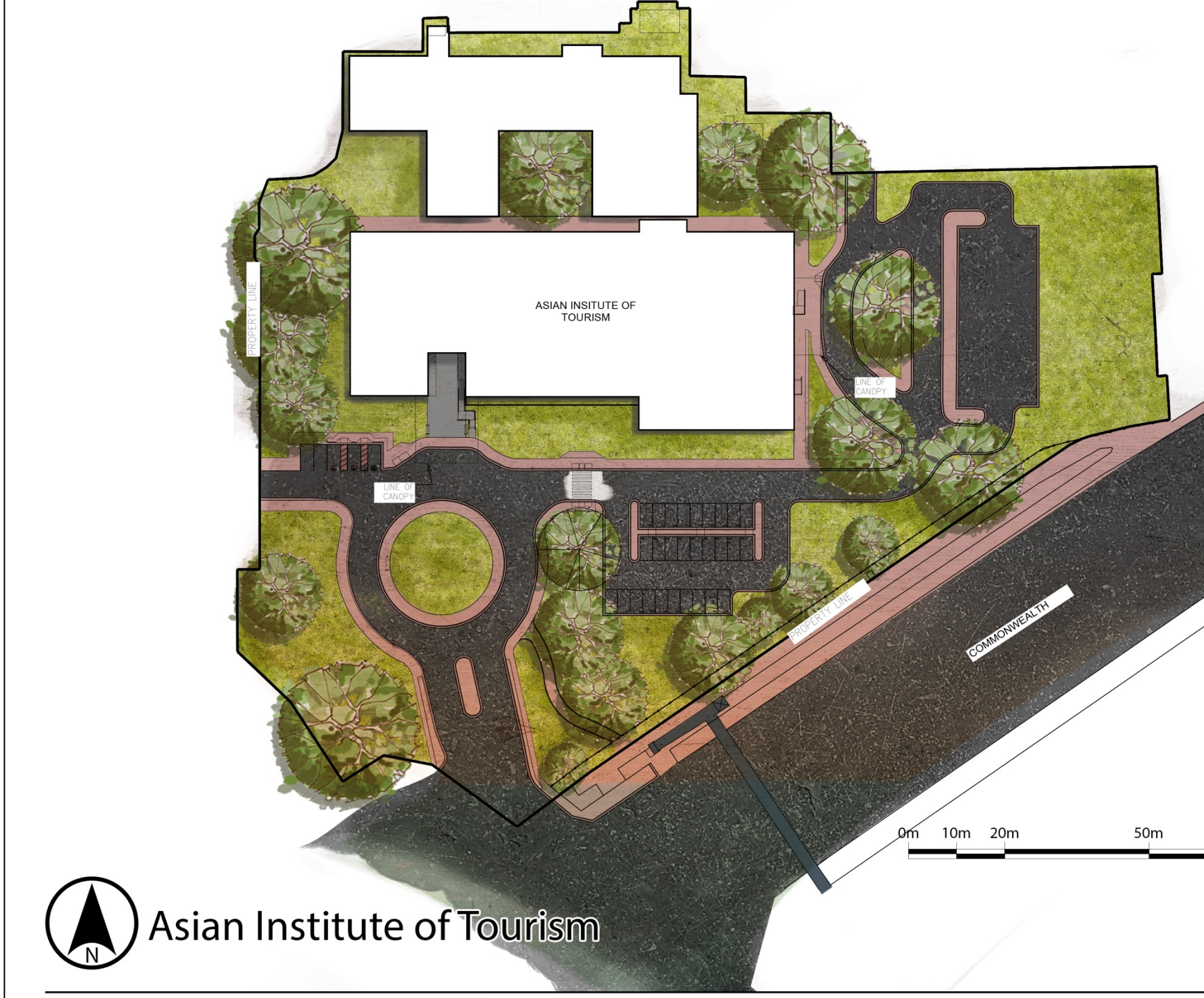
1 SDP-01 QUADRANT 1 MASTER PLAN

Legend:

QUADRANT 1

1 Arboretum (Protected Forest Area)
2 Sewage Treatment Plant (STP)
3 National Hydraulic Center (NHC)
4 Campus Maintenance Office (CMO) – for verification
5 Philippine Nuclear Research Institute (PNRI)
6 UP – Ayala Technohub
7 UP – Ayala Technohub (Building L)
8 SEAMEO – INNOTECH
9 Asian Institute of Tourism (AIT)
10 Philippine Social Science Center (PSSC)
11 University Wet Market
12 Development Bank of the Philippines
13 University Vicar (Petron Gas Station)

0 250m 500m



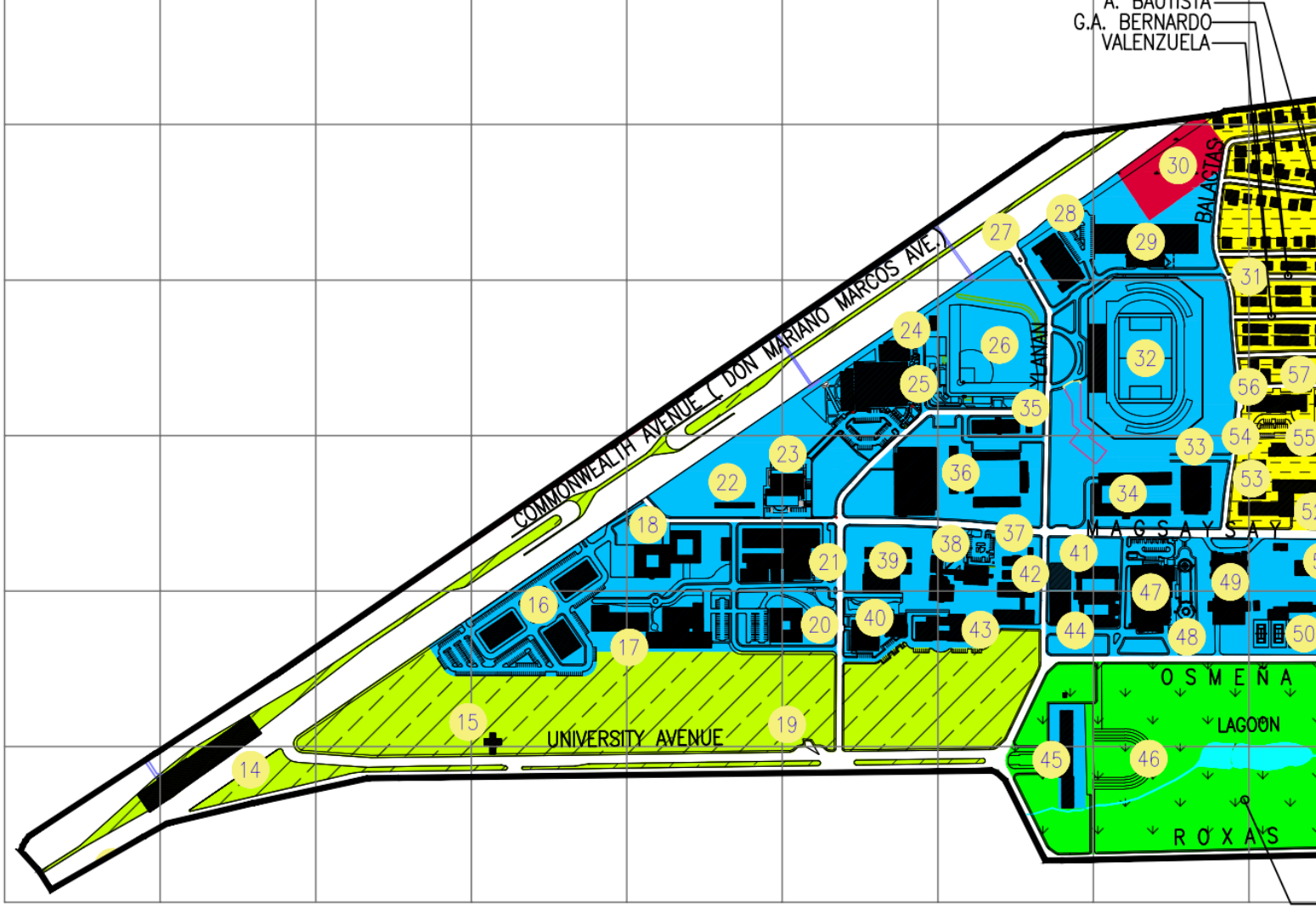
OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

Project Title:	Site Development Masterplan for AIT Heritage Complex
Grid Line Reference:	Horizontal grids B, C and Vertical grid 9 (refer to Quadrant I Site Development Plan)
Key Features:	Delineation of infrastructure boundaries and improvement on landscape design featu

Legend:

QUADRANT 2

14 University of the Philippines Marker
15 Tribute to Higher Education Monument (North)
16 Goverment Procurement Policy Board (GPPB) and Philippine Institute for Dev't Studies (PIDS)
17 National Administration for Administration and Governance (NCPAG)
18 State Auditing and Accounting Building, Commission on Human Rights (CHR)
19 University Gateway (Tulis – North)
20 Institute of Small Scale Industries – ISSI (Virata Hall)
21 Shool of Labor and Industrial Relations – SOLAIR (Bonifacio Hall)
22 Archery Range
23 Varsity Gym
24 Covered Basketball Court (CHK)
25 Ylanan Hall – University Gymnasium; College of Human Kinetics (CHK)
26 Baseball Field
27 Universtiy Portal (Moog) – Ylanan Street
28 Balay Atleta
29 Tennis Courts
30 Meralco UP Diliman Sub–Station
31 Area – 2
32 Grand Stand and Football Field (CHK)
33 Ang Bahay ng UP Alumni
34 Alumni Center (Fonacier Hall)
35 UP Vanguard Building
36 UP Department of Military Science and Tactics (UP DMST)
37 UP Center for Women's Studies Foundation, Inc.
38 UP College of Social Work and Community Development (CSWCD)
39 UP School of Urban and Regional Planning (SURP)
40 International Center for Urban and Regional Planning (ICURP)
41 College of Music Annex Building
42 Dance Studio
43 Plaridel Hall (College of Mass Communication); UP Film Institute (CMC Media Center)
44 Abelardo Hall (College of Music)
45 Quezon Hall (Administration Building)
46 Amphitheater – Charter Donors Garden
47 Villamor Hall (UP Theater)
48 Andres Bonifacio Centennial Tower (Carillon)
49 University Cinema (Film Center)
50 Tennis Courts
51 CAL Theater
52 Molave Residence Hall
53 Epsilon Chi Fitness Center
54 UP Pampanga Extension Office (UPEO)
55 Sanggumay Residence Hall
56 Kagitingan Residence Hall
57 UP Providend Fund Building
58 UP Post Office
59 UP Worker's Union Office – CHK Quarter
60 Area – 3
61 University Shopping Center
62 UP Cash Office/Landbank/PNB
63 Kalayaan Residence Hall
64 Acacia Residence Hall
65 Yakal Residence Hall
66 Ipil Residence Hall
67 UP System Offices (Old Statistics Bldg.)
68 UP Resilience Institute Bldg. 1
69 UP Computer Center
70 Diliman Interactive Learning Center (DILC)
71 National Center for Transport Studies (NCTS)
72 Melchor Hall (College of Engineering)
73 UP Promenade
74 Gonzalez Hall (University Main Library), Institute of Library Science (ILS), Bulwagan ng Dangal
75 Sunken Garden and Parade Ground
76 National Engineering Center (NEC)
77 Malcolm Hall and Espiritu Hall (College of Law)
78 Department of Industrial Engineering & Operations (IEOR) and Department of Mechanical Engineering
79 Law Center Administration Building
80 Bocobo Hall (Law Library)
81 Bocobo Hall Parking (College of Law)
82 UP Libunao Pool
83 Catholic Parish Office and School
84 Parish of the Holy Sacrifice (Catholic Church)
85 University Health Service (UHS)
86 Church of the Risen Lord (Protestant Church)
87 Kalinga Day Care Center
88 Area 1
89 Pook Palaris
90 University Hotel
91 Pook Dagohoy
92 Balay Kalinaw (Ikeda Hall)
93 Kapit Balay Kalinaw Walk–up Housing
94 Philippine Association of University Women (PAUW) Annex Building
95 Ilang–Ilang Residence Hall
96 Pook Ricarte
97 International Center
98 Romulo Hall (Asian Center)
99 Islamic Studies Building
100 GT–Toyota Asian Center
101 School of Economics
102 UP Cesar E.A. Virata School of Business
103 Vinzons Hall
104 Lorena Barros Hall
105 UP Student Union Building



1 SDP-02 QUADRANT 2 MASTER PLAN

Note: All existing small green open spaces not reflected in the land use plan due to its size (e.g. pocket parks, communal gardens) will be by default, *preserved and protected*; officially documented permission and/or clearance must be sought from the UP Diliman Chancellor and UP President, prior to proceeding with initiatives to develop such spaces.

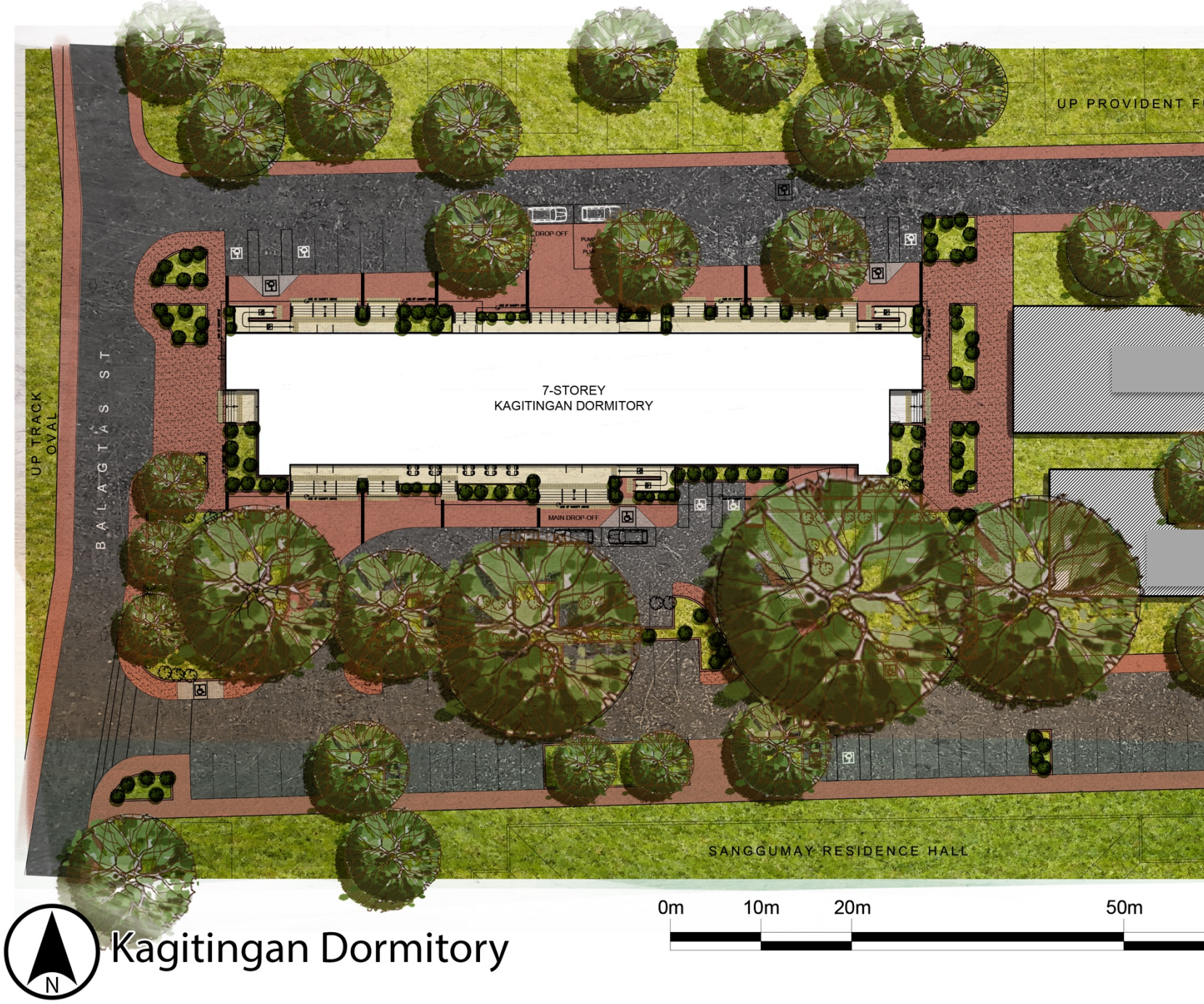
0 250m 500m

Project Title:	Site Development Masterplan for UPD Sports Complex
Grid Line Reference:	Horizontal grids B, C, D and Vertical grids 9-12 (refer to Quadrant II Site Development Plan)
Key Features:	Spatial Consolidation and Upgrade to complement UPD's Athlete and Sports program; University Ave station) is maximized; area cluster's potential as host to future national ar University's development thrusts. Slight spatial variation in the site plan may arise, after com Design (DAED) package (with emphasis on the final configuration of Tennis Courts in the ar

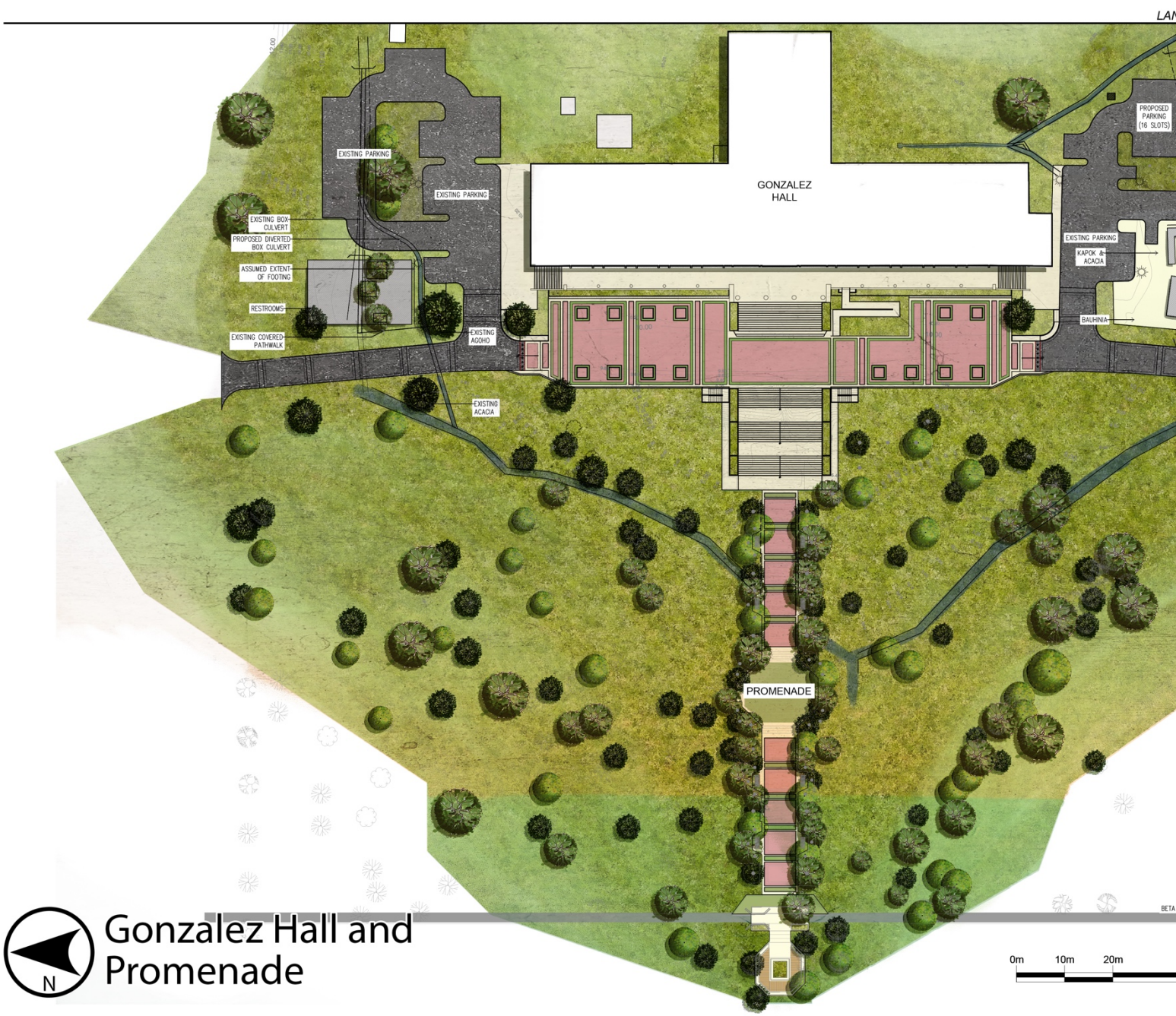
New Shopping Center

OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

Project Title:	New UP Diliman Shopping Center
Grid Line Reference:	Horizontal grid C and Vertical grids 13-14 (refer to Quadrant II Site Development Plan)
Key Features:	Upgrading of spatial amenities for retail service needs of the UPD Community; increase in concession spac



Project Title:	7-Storey Kagitingan Dormitory
Grid Line Reference:	Horizontal grid C and Vertical grid 13 (refer to Quadrant II Site Development Plan)
Key Features:	This seven (7) storey student housing facility is aimed at effectively addressing student hous coordination with existing dormitory facilities that are being – or being scheduled for regular re

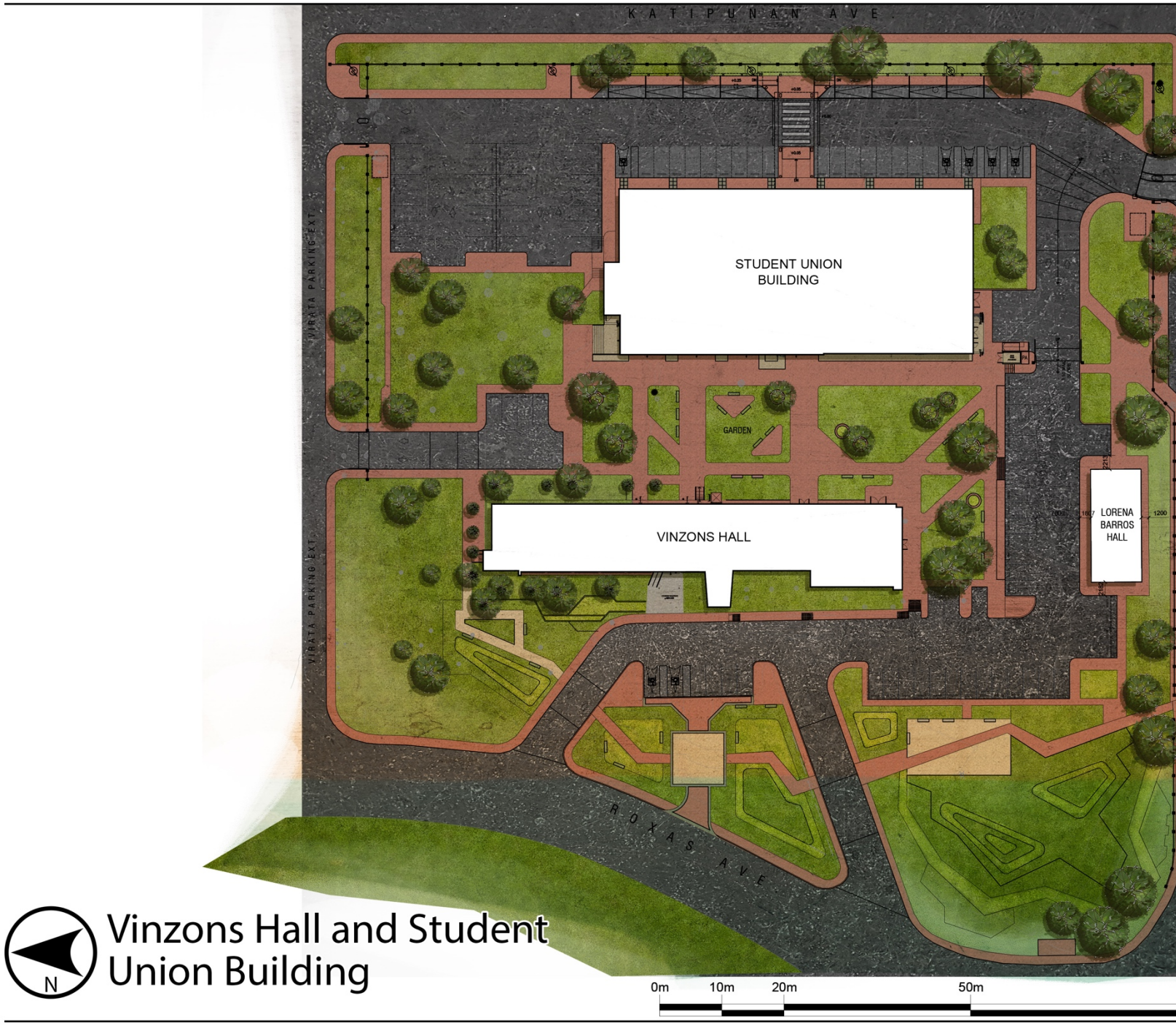


Project Title:	Renovation of Gonzales Hall (UP Diliman Main Library);
Grid Line Reference:	Horizontal grid E, F and Vertical grid 14, 15 (refer to Quadrant II Site Development Plan)
Key Features:	The renovation of the Main Library aims to increase capacity for storage, spaces for students, f broaden support functionalities that is meant to take advantage of new trends in library design improved and an expansive public space will allow greater communal interaction via events ho

SURP – CMC Landscape and Inter-Unit Mobility Co

OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

Project Title:	SURP – CMC Landscape and Inter-Unit Mobility Corridor
Grid Line Reference:	Horizontal grid D, E and Vertical grid 10, 11 (refer to Quadrant II Site Development Plan)
Key Features:	Access of CMC Ylanan St to E. Jacinto St is to be realized via this project. Not only will s this vital infrastructure upgrade, emergency vehicles (i.e., ambulance, fire truck) coming



OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

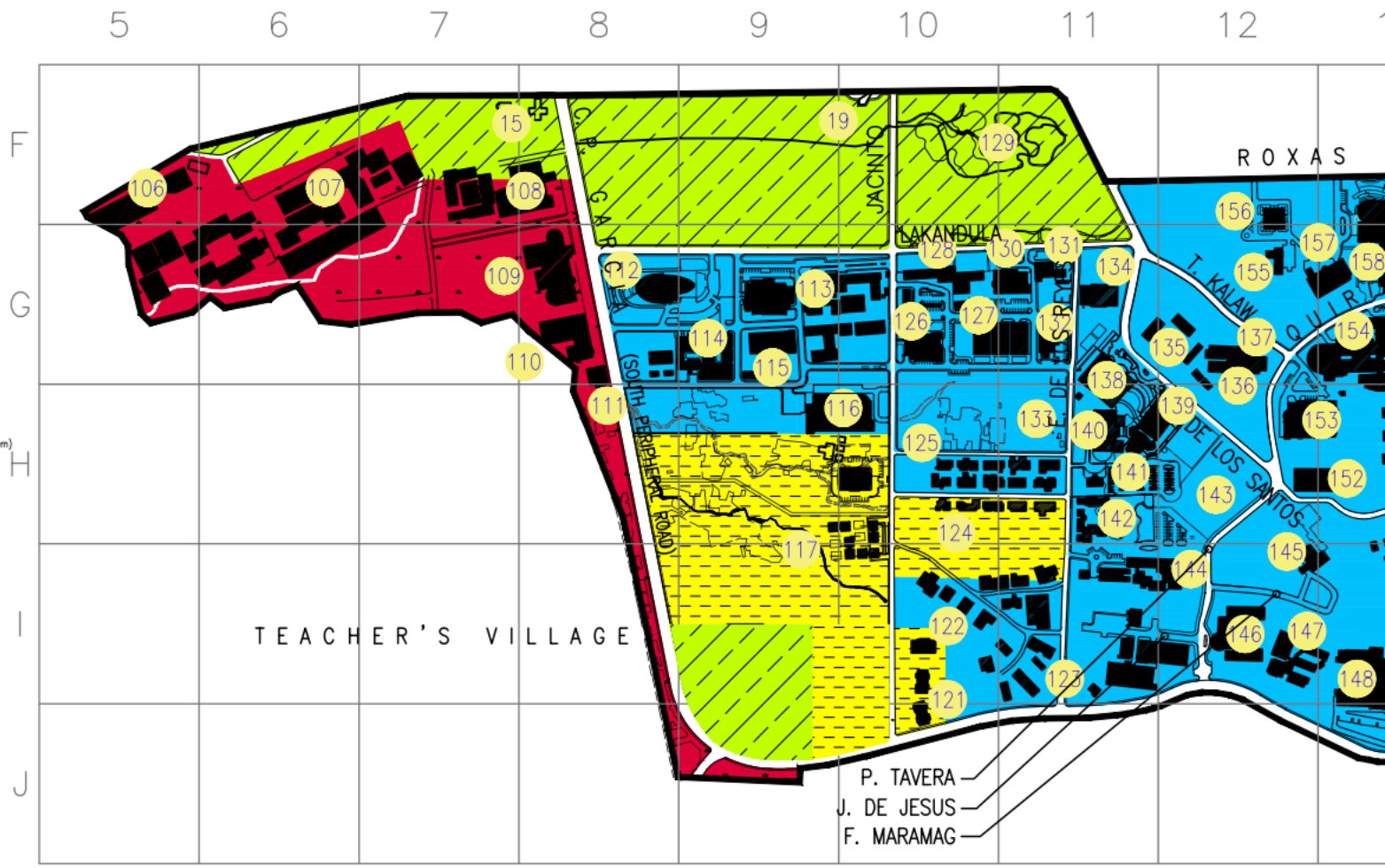
Project Title: Rehabilitation of Vinzon's Hall and the New Student Union Building

Grid Line Reference: Horizontal grid F and Vertical grid 16 (refer to Quadrant II Site Development P

Legend:

QUADRANT 3

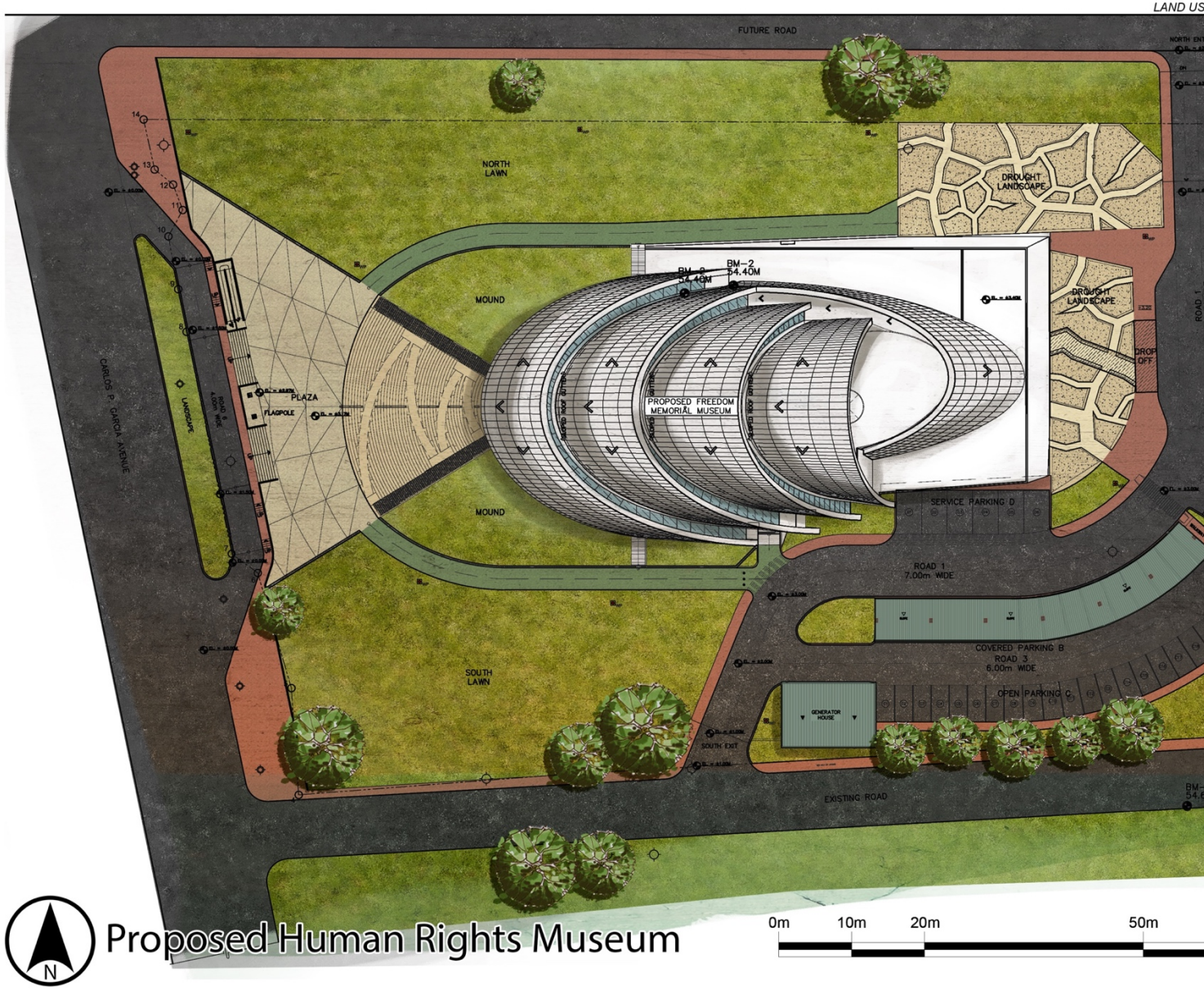
15 Tribute to Higher Education Monument (South)
19 University Gateway (Tulis – South)
106 Citimall, Underground Entrance to MRT-7
107 San Vicente BLISS
108 Commission on Higher Education (CHED)
109 Department of Information and Communications Technology (DICT)
110 PHIVOLCS Building – OVCRD
111 Philippine National Red Cross Building (PNRC)
112 Human Rights Museum (HRVVMC Freedom Memorial)
113 Bartlett Hall (College of Fine Arts Complex)
114 CMO Complex and Workshops
115 UP Veterinary Teaching and Medicine Hospital
116 CFA Art Conservation Lab
117 Hardin ng Doña Aurora (Walk-up Housing)
118 Faculty and Staff Housing
119 Materials Recovery Facility (for verification w/ UP System)
120 University Portal (Moog) Jacinto Street Gate
121 Centennial Dormitory Building 1 & 2
122 Kamagong Residence Hall
123 UP Cooperative Union
124 Employees Village A
125 Employees Village B
126 UP Food Park
127 Supply and Property Management Office (SPMO)
128 Albert Hall (NIMBB)
129 Impounding Lagoon
130 UP Resilience Institute Bldg. 2
131 Coral Building (Office of the Campus Architect)
132 Community Affairs Complex
133 DZUP Radio Transmitter (CMC)
134 University Press
135 University Police and Fire Station
136 Office of Admissions (OAdmin)
137 Office of the University Registrar (OUR)
138 College of Architecture Building 2
139 College of Architecture Building 1
140 College of Architecture Building 3
141 Benito Sy Hall (College of Architecture Auditorium)
142 UP Bonsai Garden
143 Philippine Association of University Women Day Care Center (PAUW) & Children's Playground
144 Environmental and Energy Engineering
145 Executive House (UP System)
146 UP Diliman Institute of Civil Engineering (UP-ICE)
147 Department of Chemical Engineering Building
148 Mining, Metalurgical, and Materials Engineering (MMME) Building
149 Alumni Engineers Centennial Hall
150 University Portal (Moog) – Velasquez Street Gate
151 Electrical and Electronics Engineering Bldg. 1 & 2
152 Department of Computer Science Building
153 UP School of Statistics (New Building)
154 Science Teacher Training Center (STTC) – Vital A. Tan Hall
155 Lim Museum
156 Vargas Museum
157 College of Arts and Letters Building (CAL)
158 Faculty Commons
159 Palma Hall
160 College of Arts and Letters
161 College of Social Sciences and Philosophy (CSSP)
162 Department of Anthropology (Llamas Hall)
163 Natural Science Research Institute (NSRI)
164 Kamia Residence Hall
165 Institute of Biology (IB)
166 Marine Science Institute Annex
167 Marine Science Institute (MSI)
168 College of Sciences Administration Building
169 Computational Science Research Center (CSRC)
170 College of Science Library (CSLib)
171 National Institute of Geological Science (NIGS)
172 Institute of Environmental Science and Meteorology (IESM)
173 Institute of Mathematics
174 College of Science Amphitheater
175 National Institute of Physics (NIP)
176 Institute of Chemistry Building 1 & 2 (IC)
177 National Institute of Molecular Biology and Biotechnology (NIMBB)
178 PAGASA Observatory
179 Sampaguita Residence Hall
180 Craft Design Laboratory (CHE-CDL)
181 CHE Gusali 2 (Alonso Annex)
182 Zoology Building
183 Benton Hall
184 Lagmay Hall
185 CSSP Faculty Building
186 College of Education Training Center
187 Integrated School (UPIS) – Elementary
188 Integrated School (UPIS) – High School
189 Integrated School (UPIS) – Kinder
190 Alonso Hall (College of Home Economics)
191 Child Development Center (CHE-CDC)
192 UP Town Center



1 SDP-03 QUADRANT 3 MASTER PLAN

Note: All existing small green open spaces not reflected in the land use plan due to its size (e.g. pocket parks, communal gardens) will be by default, *preserved and protected*; officially documented permission and/or clearance must be sought from the UP Diliman Chancellor and UP President, prior to proceeding with initiatives to develop such spaces.

0 250m 500m



OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

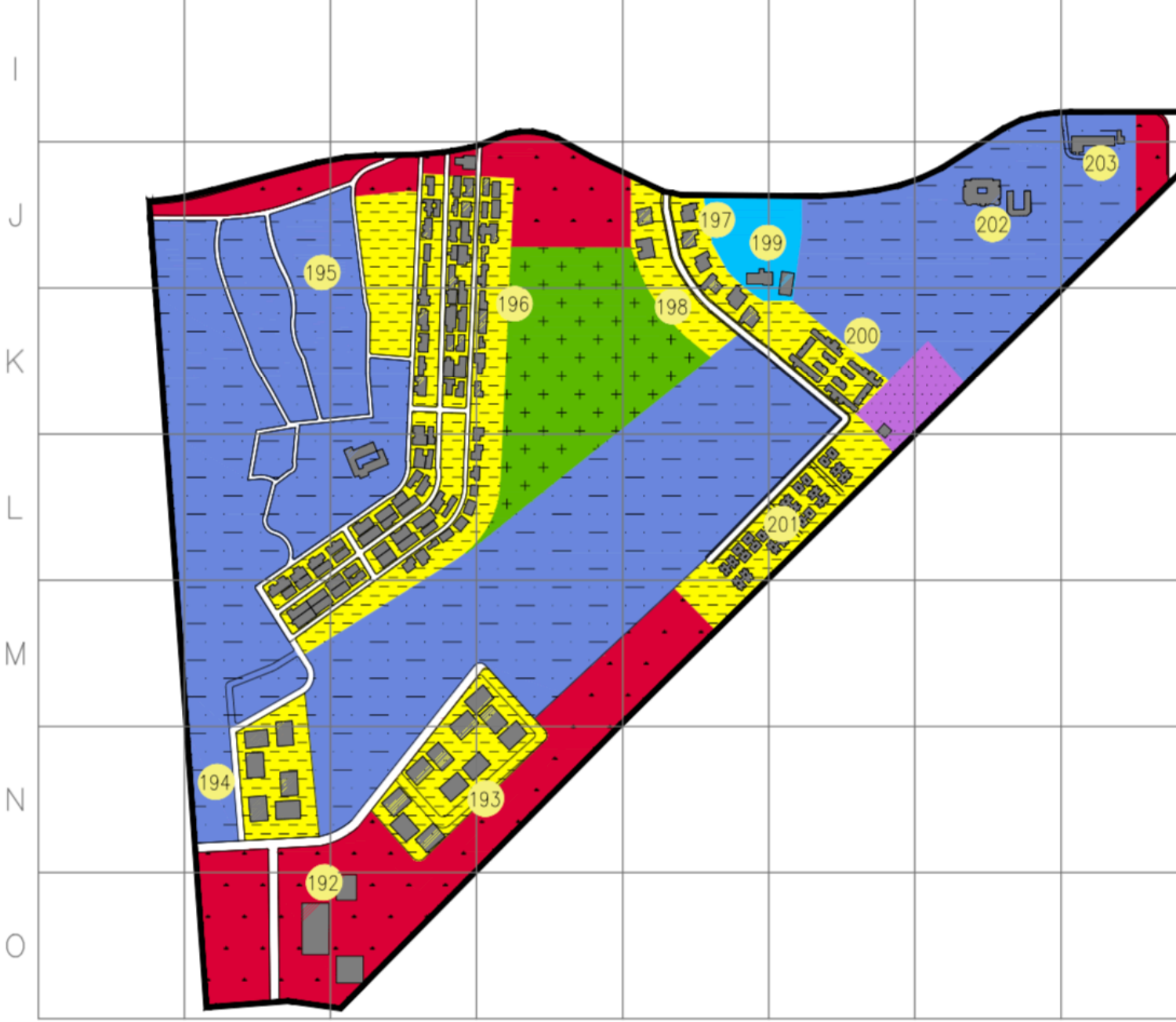
Project Title:	HRVVMC Freedom Museum
Grid Line Reference:	Horizontal grid G and Vertical grid 8, 9 (refer to Quadrant III Site Development
Key Features:	To rise at the old Campus Maintenance Office (CMO) site, this museum see years affected the lives of countless Filipinos, a number of which were UP the site plan may arise, after completion of As-Built Architectural and Engineer

Project Title:	New Campus Maintenance Office (CMO) Workshop and Yard Complex
Grid Line Reference:	Horizontal grid G and Vertical grid 8, 9 (refer to Quadrant III Site Development Plan)
Key Features:	To rise just beside the HRVVMC Freedom Museum, the new complex vastly improves the spatial effectiveness and efficiency of CMO personnel in providing service for the UPD Community. Slight sp completion of As-Built Architectural and Engineering Design (DAED) package.

Food Park

OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

Project Title:	UP Diliman Food Park
Grid Line Reference:	Horizontal grid G and Vertical grid 10 (refer to Quadrant III Site Development Plan)
Key Features:	Meant to support the food needs of the UPD Community in this part of the campus Center, which is located in the other side of campus. Slight spatial variation in the s



Legend:

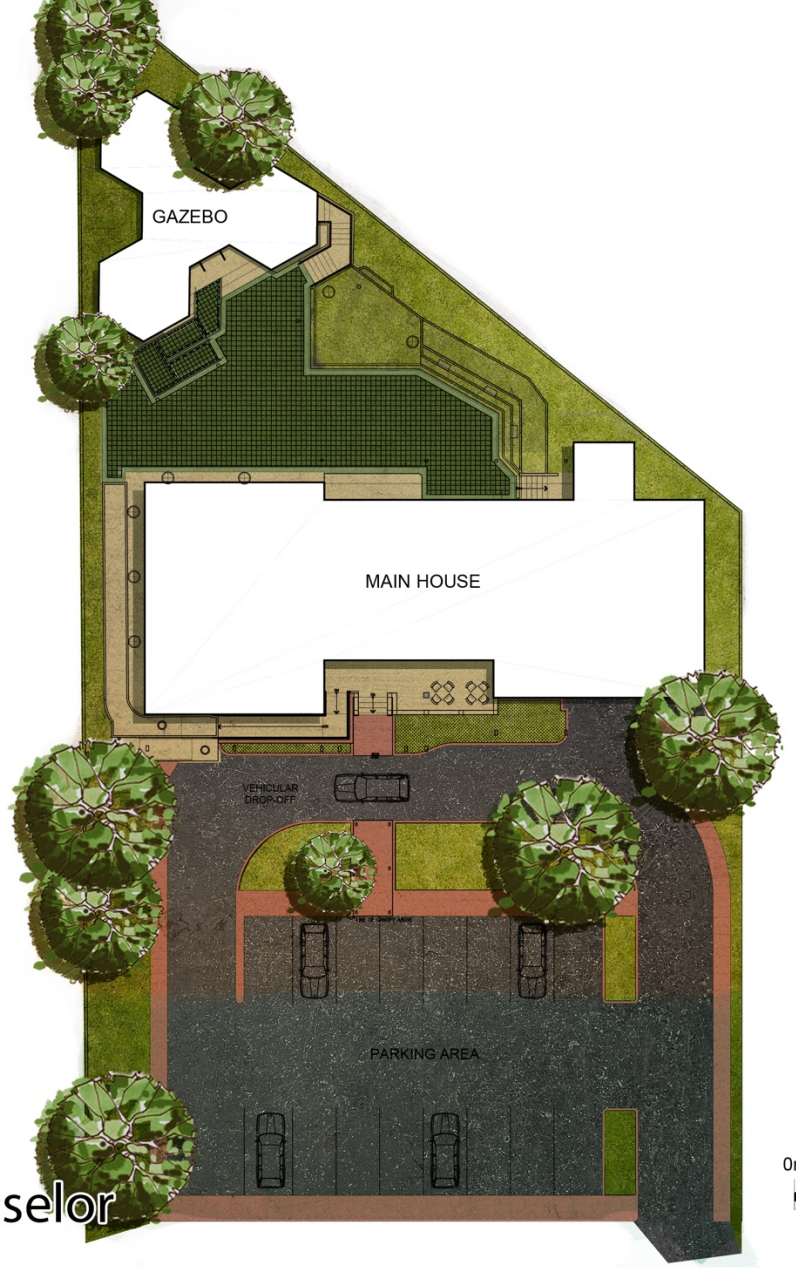
QUADRANT 4

192 Integrated National Police Headquarders Camp Karingal
193 Sikatuna Bliss Phase 1
194 Sikatuna Bliss Phase 2
195 Barangay Krus Na Ligas
196 Pook Amorsolo
197 UP Office for Initiatives in Culture and the Arts (OICA)
198 Pook Aguinaldo (Bungalow Housing)
199 Bahay Chancellor (Diliman Executive House)
200 Hardin ng Bougainvillea (Cluster Housing)
201 Hardin ng Rosas (Walk – UP Housing)
202 Advanced Science and Technology Institute (ASTI)
203 Technology Business Incubator (TBI)

QUADRANT 4 - SITE DEVELOPMENT PLA

UNIVERSITY OF THE PHILIPPINES
DILIMAN CAMPUS

0 250m 500m



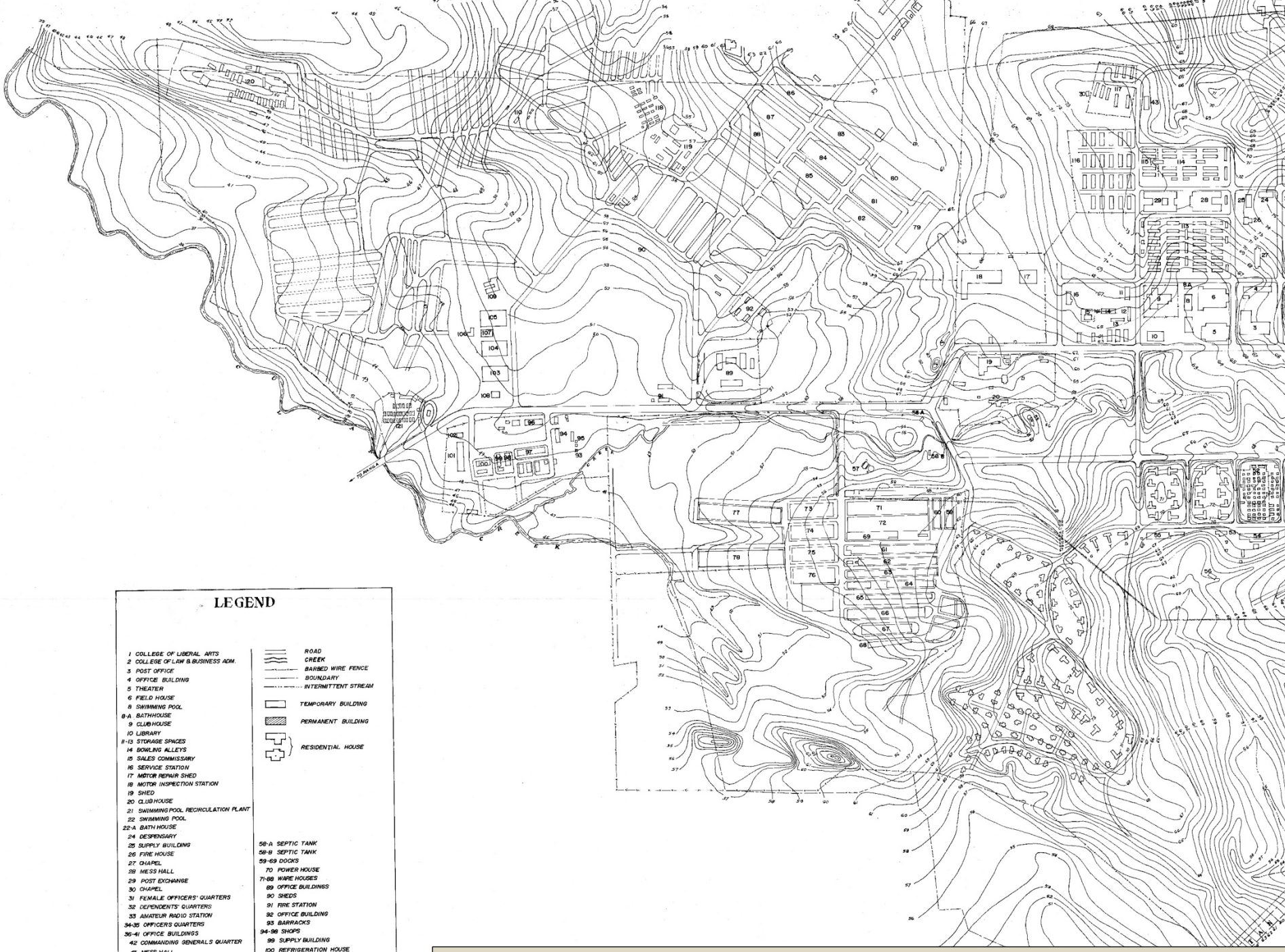
N

Balay Tsanselor

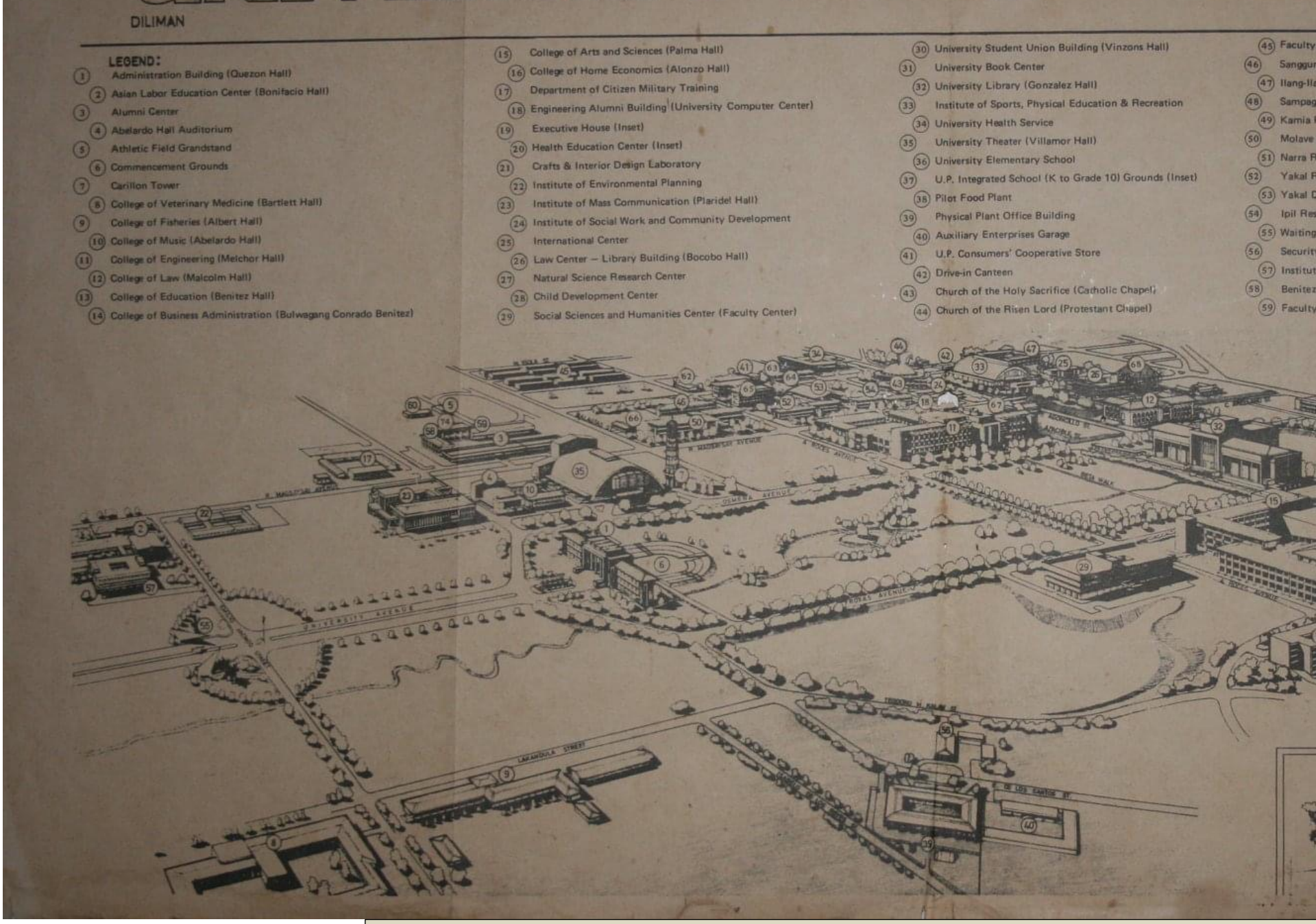
0m 10m 20m

OFFICE OF THE VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT
OFFICE OF THE CAMPUS ARCHITECT

Project Title:	Renovation of Balay Tsanselor
Grid Line Reference:	Horizontal grid J and Vertical grid 13 (refer to Quadrant IV Site Development P
Key Features:	To ensure that private spatial complement of current and future occupants the office that its resident represents; improved interiors, rehabilitation of ro can host guests as well as social events that the Office of the Chancellor arise, after completion of As-Built Architectural and Engineering Design (DAED



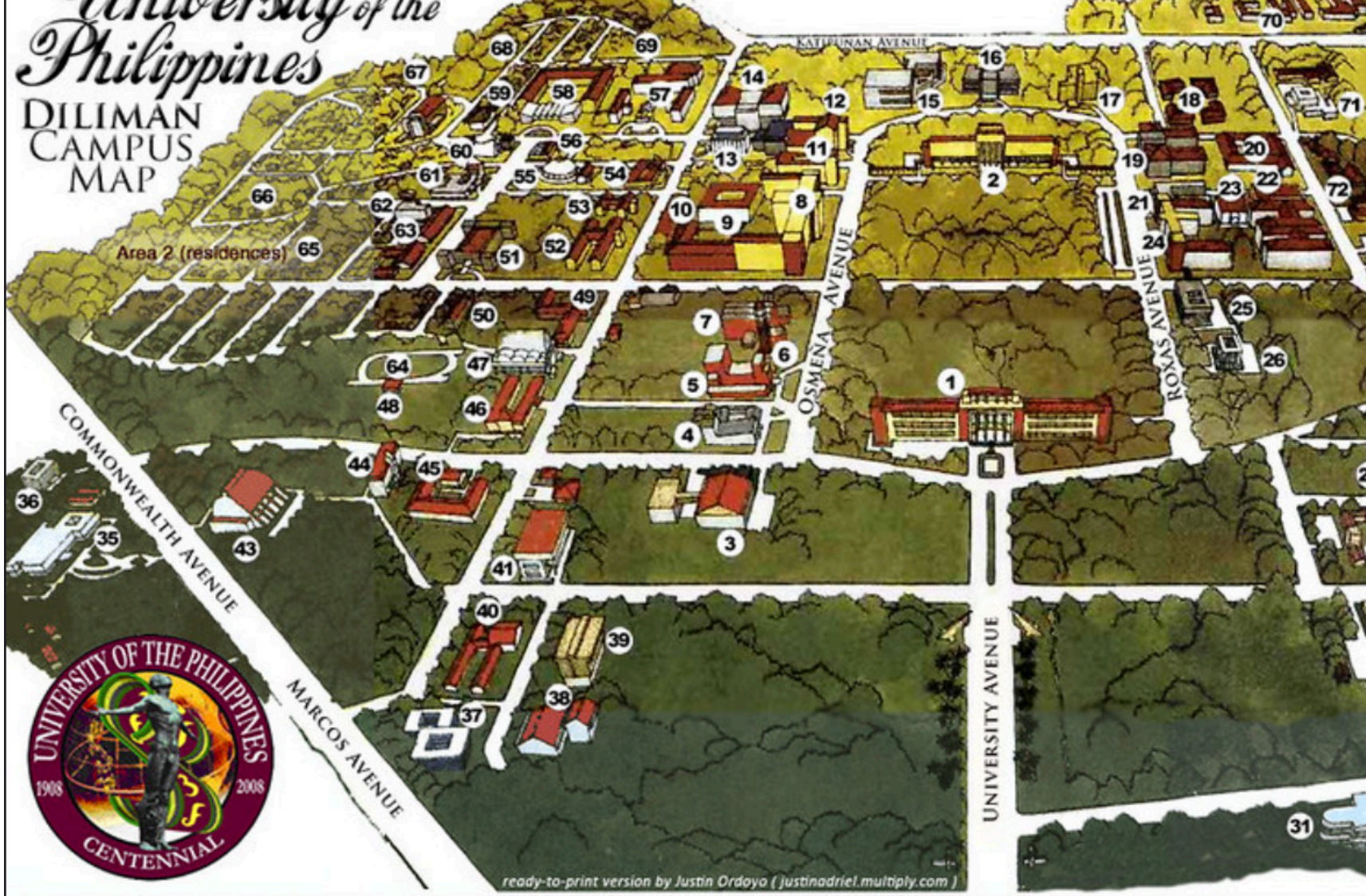
- In **1947**, with wartime amenities co-existing with academic facilities, there were **121 i**
  a) Temporary and
  b) Permanent facilities, as well as
  c) Residential units in Diliman campus



1960s Reference Map, UP Diliman

- This Campus Orientation Map (assumed from the **60s or 70s**) shows a contraction on the numbe
  a) Does not include single-detached housing units and informal structures.
  b) Permanent facilities abound (as opposed with the 1947 map); assumed the temporary facili

1994 Land Use Plan, UP Diliman (SURP)

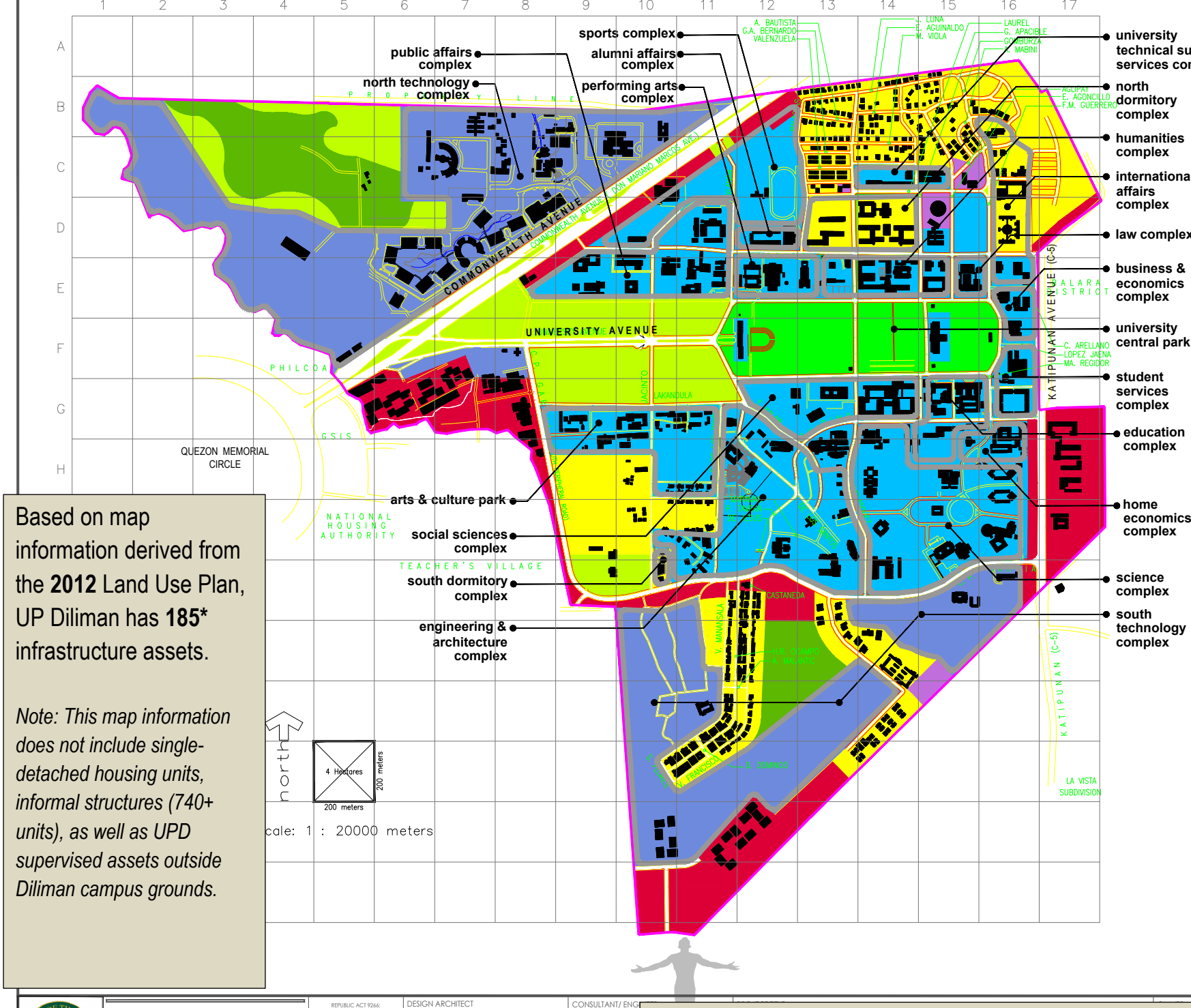


1-- Quezon Hall (UP Administration Bldg.)
2-- Main Library
3-- College of Mass Comm. (Plaridel Hall)
4-- College of Music (Abelardo Hall)
5-- UP Theater
6-- Carillon Tower
7-- UP Film Center
8-- College of Engineering (Melchor Hall)
9-- Nat'l Center for Transportation Studies
10-- UP Computer Center
11-- National Engineering Center
12-- College of Law (Malcolm Hall)
13-- Law Library (Bocobo Hall)
14-- Asian Center (Romulo Hall)
15-- School of Economics
16-- College of Business Administration
17-- Vinzons

18-- Narra Residence Hall
19-- College of Education (Benitez Hall)
20-- UP Elementary School
21-- Office of the University Registrar
22-- Institute of Biology (Zoology Bldg.)
23-- Solidor Hall
24-- Palma Hall
25--Faculty Center
26--Vargas Museum
27-- UP Press
28-- Institute of Mol. Bio. and Biotech.
29-- College of Fine Arts (Bartlett Hall)
30-- UP Veterinary Hospital
31-- National Computer Center
35-- Asian Institute of Tourism
36-- Philippine Social Science Center
37-- Commission on Human Rights
38-- Nat'l College of Public Admin.
39-- Institute for Small-Scale Industries

40-- School of Labor and Industrial Rel.
41-- School of Urban and Reg. Planning
43-- College of Human Kinetics / UP Gym
44-- UP Vanguard Bldg (Dept. of Mil. Sci.)
45-- DCMT Complex
46-- Alumni Center
47-- Ang Bahay ng Alumni
48-- Athletic Facilities
49-- Molave Residence Hall
50-- Sanggumay Residence Hall
51-- Kalayaan Residence Hall
52-- Yakal Residence Hall
53-- Ipil Residence Hall
54-- College of Social Work & Com. Dev't
55-- Parish of the Holy Sacrifice
56-- Swimming Pool and Arcade
57--International Center Residence Hall

58-- Ilang-Ilang Residenc
59-- Balay Kalinaw
60-- Church of the Risen
61-- UP Infirmary
62-- Philippine National B
63-- Shopping Center
64-- UP Track Oval
67-- PCED Hostel
68-- Pook Dagohoy
69-- Pook Ricarte
70-- Health Education Ce
71-- Child Development
72-- College of Home Ec
73-- Sampaguita Reside
74-- Natural Science Res
75-- Institute of Sci. and
76-- University Police/Fire



Based on map information derived from the **2012** Land Use Plan, UP Diliman has **185*** infrastructure assets.

Note: This map information does not include single-detached housing units, informal structures (740+ units), as well as UPD supervised assets outside Diliman campus grounds.

UNIVERSITY OF THE PHILIPPINES SYSTEM
OVPD
OFFICE OF THE VICE PRESIDENT FOR DEVELOPMENT
ODPI
OFFICE OF DESIGN AND PLANNING INITIATIVES

REPUBLIC ACT 9266: Article IV, Section 33

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DESIGN ARCHITECT
CRISTOPHER STONEWALL P. ESPINA
A.V.P. FOR DEVELOPMENT/ O.D.P.I. DIRECTOR

CONSULTANT/ ENG

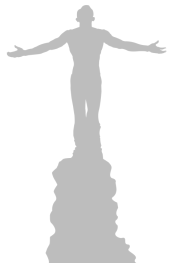
PRC NO.	3293	VALIDITY	MM/DD/YYYY	PRC NO.	0000
PTR NO.	6626149	DATE	MM/DD/YYYY	PTR NO.	0000
PLACE	PASIG CITY	TIN	110-826-409	PLACE	

As of **2021**, there are 203 infrastructure assets reflected in
If we are to add UPDEPPO, MSI Bolinao and Puerto Galer
Assets under supervision of UP Diliman.

2012 BOR – Approved Land Use Plan, UP Diliman (ODPI, UPCA)

UNIVERSITY OF THE PHILIPPINES DILIMAN

No.	CLASSIFICATION	DESCRIPTION / LOCATION	OWNER REGISTERED	TOTAL AREA		MODE OF ACQUISITION	TITLING STATUS	DAT
				By Hectares	By Square Meters			
1	Campus Site	Diliman, Quezon City	UP Diliman	4.5489	45,489		RT-58561	Oc
2				1.19842	11,984.20		RT-57991	Oc
3				128.6285	1,286,285.00		RT-27912	Aug
4				134.36371	1,343,637.10		RT-58201	Aug
5				66.2815	662,815.00		RT 57441	Aug
6				114.8609	1,148,609.00		RT-107350	Aug
7				43.2171	432,171.00		RT-57197	Aug
	TOTAL LAND AREA			493.10	4,930,990.30			
8	Extension	Bolinao, Pangasinan (Marine Science Institute)	UP Diliman	4.97	50,033		RT-10564	Nov
	TOTAL LAND AREA			4.97	50,033.00			
9	Extension	UP Extension Program Pampanga, Clark Special Economic Zone, Pampanga	UP Diliman	3.33	33,300	The UP Extension Program Pampanga site still owned by CDC.		
10	Extension	8131 Manila Ave. Subcom Area, Subic Bay Freeport Zone, Olongapo	UP Diliman	0.05	500			
	TOTAL LAND AREA			3.38	33,800.00			
11	Marine Biological Station	Poblacion, Puerto Galera, Oriental Mindoro	UP Diliman	0.2626	2,626			
	TOTAL LAND AREA			0.2626	2,626			
		GRAND TOTAL LAND AREA		501.71	5,017,449.30			



VII. ANNEX 4 - INVENTORY OF UP DILIMAN BUILDINGS

1940-1949

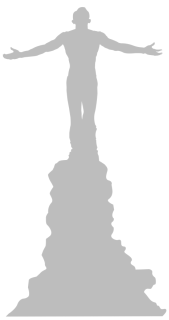
YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA	TYPE	STATUS	CONSTRUCTION COST
1937	Malcolm Hall (North Concrete Building)	3	8,353.00	New Building	Usable	17,928,900.00
1946	Benitez Hall (South Concrete Building)	3	6,430.00	New Building	Usable	21,073,800.00

1950-1959

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
1950	Quezon Hall	4	6,229.00	New Building	Usable	32,310,822.56
1950	Gonzalez Hall (University Library)	5	16,267.00	New Building	Usable	61,258,800.00
1954	Melchor Hall	5	14,906.00	New Building	Usable	33,289,171.06
1954	Mechanical Engineering Power Laboratory	1		New Building	Usable	5,001,742.14
1956	Vinzons Hall Main Building	4	4,652.00	New Building	Usable	17,328,500.00
1956	Narra Residence Hall	1	4,049.00	New Building	Demolished	6,680,850.00
1956	Bartlett Hall and Pre-fabs (Old Veterinary Medicine Building)	1	2,742.00	New Building	Usable	14,742,000.00
1956	University Health Service Building (Infirmary)	1	1,296.74	New Building	Usable	10,309,200.00
1957	Palma Hall, Llamas Hall and Pavillon 1-4	4	26,099.00	New Building	Usable	96,864,052.90
1957	Home Management House (Pook Aguinaldo)	1	297.25	New Building	Usable	957,000.00
1958	Palma Hall Annex (Lagmay Hall)	3	2,485.00	New Building	Usable	8,043,072.14
1958	Benton Hall	3	1,445.00	New Building	Usable	7,758,150.00
1958	Andres Bonifacio Centennial Tower (Carillon)	3	6,794.00	New Building	Usable	2,678,500.00
1958	Computer Center (Alumni Engineer)	2	660.00	New Building	Usable	3,267,000.00
1958	Alonso Hall (CHE)	2	2,232.50	New Building	Usable	18,704,400.00
1958	CTRA Laboratory (CIDL)	2	315.97	New Building	Usable	567,600.00
1959	CHK Women's Swimming Pool	1	2,631.00	New Building	Usable	1,303,592.00

1960-1969

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
1961	Molave Residence Hall	3	4,730.00	New Building	Usable	16,332,238.75
1961	CHE Pilot Food Plant, Boiler Room, College Storage, Carpentry Shop	1	719.00	New Building	Usable	1,304,600.00
1962	Albert Hall	1	1,218.00	New Building	Usable	16,122,969.32
1962	Health Education Center Building	1	378.00	New Building	Usable	893,200.00
1962	Chemical Engineering Laboratory Building	1		New Building	Usable	7,186,899.45
1962	UP Integrated School Grade 3-6 Building	1		New Building	Usable	4,910,400.00
1962	UP Integrated School Grade 3-6 Building Multi-purpose Hll	1		New Building	Usable	756,800.00
1962	Fisheries Canteen	1	161.00	New Building	Usable	977,900.00
1963	UP Integrated School (High School Building)	1		New Building	Demolished	11,695,200.00
1963	CHK Grandstand	2		New Building	Demolished	1,225,972.18
1964	UHS Llamas Hall	2	1,279.34	New Building	Usable	4,945,600.00
1965	Bonifacio Hall, PERICO, ALEC	2	1,337.00	New Building	Usable	9,117,929.00
1965	Sampaguita Residence Hall	2	2,628.00	New Building	Usable	6,210,000.00
1965	Fisheries (Mechanical and Property Office)	1	412.00	New Building	Usable	844,800.00
1966	Abelardo Hall (Main)	2	1,077.00	New Building	Usable	7,182,909.75
1966	Abelardo Hall (Auditorium)	2	2,000.00	New Building	Usable	4,917,000.00
1968	Old Statistic Building 1-4	1	1,358.00	New Building	Usable	2,240,700.00
1969	Natural Science Research Institute (Main Building)	3	2,598.00	New Building	Usable	9,717,659.60
1969	Natural Science Research Institute (Annex Building)	1	623.00	New Building	Usable	2,627,594.00
1969	CHE FLCD-CDC Playground	1	1,097.25	New Building	Demolished	145,200.00



1970-1979

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
1970	Veterinary Medicine Disease Diagnostic Building	1		New Building	Usable	247,500.00
1970	Veterinary Medicine Large Animal Laboratory Building	1		New Building	Usable	242,000.00
1970	Veterinary Medicine Zootechnics Classroom Building	1		New Building	Usable	1,361,250.00
1970	Veterinary Medicine (Virology)	1		New Building	Usable	226,600.00
1970	CHK Athletes Quarter	1		New Building	Usable	116,132.00
1970	Virata Hall (ISSI)	4	5,447.00	New Building	Usable	17,975,100.00
1970	Villadolid Hall	1	385.00	New Building	Demolished	893,200.00
1970	Vinzons Hall (Women's Club Student Activity Building)	1	200.00	New Building	Demolished	220,000.00
1970	Family Life and Child Development - Child Development Center Main	2	1,098.00	New Building	Demolished	2,129,600.00
1970	Family Life and Child Development - Child Development Center Pre-Fab	1		New Building	Demolished	
1970	MSI Green House	1		New Building	Demolished	1,005,400.00
1971	Abelardo Hall (Dance Studio)	1	189.00	New Building	Usable	130,680.00
1971	Sanggumay Residence Hall	2	2,110.00	New Building	Usable	6,164,400.00
1971	UPPD Headquarter	1		New Building	Usable	
1972	DMST (4-Prefab Buildings)	1	1,774.00	New Building	Usable	4,400,000.00
1972	DMST (Quarters)	1	1,055.00	New Building	Usable	1,159,400.00
1972	Worker's Labor Union/CHK Quarter (formerly Laundry Mat)	1	52.03	New Building	Usable	396,000.00
1973	Bulwagang Rizal (Faculty Center)	3	8,078.00	New Building	Demolished	26,660,700.00
1974	Bococo Hall	4	3,701.00	New Building	Usable	12,005,400.00
1974	Romulo Hall	4	2,686.32	New Building	Usable	11,856,900.00
1974	CLOA Office Building	1		New Building	Usable	220,000.00
1974	UPD Police Force Barracks	1		New Building	Usable	215,325.00
1974	UPD Fire Station	1		New Building	Usable	340,582.00
1975	Fine Arts (Studio/Work Area)	1		New Building	Usable	6,600,000.00
1975	Planades Hall (SURP)	1	1,124.40	New Building	Usable	1,914,000.00
1975	Solidor Hall	1	720.00	New Building	Demolished	3,146,855.50
1975	DZUP Transmitter	1		New Building	Usable	110,000.00
1975	UP Shopping Center	1	1,568.00	New Building	Demolished	5,068,800.00
1975	CHE Library (P.T. Perez Hall) and Laboratories (Annex I)	1	1,088.00	New Building	Usable	2,695,572.46
1976	Community Affairs Building (Formerly BAI)	1	3,015.00	New Building	Usable	9,045,000.00
1976	Drive-In Canteen	1		New Building	Demolished	2,127,600.00
1977	MSI Seaweed Processing Plant Building	1	503.50	New Building	Usable	2,368,800.00
1977	UP Integrated School (High School Building Extension)	2		New Building	Demolished	13,622,400.00
1978	School of Economics Building	3	5,338.00	New Building	Usable	25,617,600.00

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA	TYPE	STATUS	CONSTRUCTION COST
1978	School of Economics Building	3	5,338.00	New Building	Usable	25,617,600.00
1978	University Film Center	2	700.00	New Building	Usable	18,384,000.00
1978	Institute of Biology (Zoology Building)	2	2,372.00	New Building	Usable	9,027,655.59
1978	Business Administration Building (CA E Virata School of Buisiness)	5	12,000.00	New Building	Usable	31,067,600.00
1978	National Center for Transport Studies	2	2,278.00	New Building	Usable	19,135,200.00
1978	Philippine Center for Economic Development Hostel (University Hotel)	5	7,640.00	New Building	Usable	14,980,000.00
1978	University Press and Printery	2	1,368.00	New Building	Usable	10,260,000.00
1979	Coral Building (Office of the Campus Architect)	1	360.00	New Building	Usable	960,000.00
1979	National Engineering Center (Main Building)	3	8,780.00	New Building	Usable	20,369,068.55
1979	Philippine Center for Economic Development Hostel (Library)	1		New Building	Usable	
1979	Plaridel Hall (Main)	2	1,863.00	New Building	Usable	2,680,788.00
1979	Plaridel Hall (Annex Building)	2	1,905.00	New Building	Usable	10,168,704.00

1980-1989

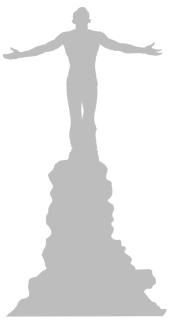
YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
1980	Home Economics Education and Interior Design Laboratories (CHE-Annex III)	1	324.00	New Building	Usable	3,266,324.52
1982	Espiritu Hall Library Building	4		New Building	Usable	13,870,800.00
1982	Vidal A. Tan Hall (NISMED)	3	3,814.00	New Building	Usable	11,730,354.44
1982	Ylanan Gymnasium (CHK)	2	4,987.52	New Building	Usable	9,881,820.00
1983	Asian Institute of Tourism (Main Building)	3	12,598.00	New Building	Usable	57,570,000.00
1983	J.B. Vargas Museum	4	2,581.00	New Building	Usable	9,762,710.76
1984	IMC Building	2	2,161.51	New Building	Demolished	6,811,456.08
1984	IMC Warehouse	1	2,038.50	New Building	Demolished	6,703,417.60
1984	IMC Warehouse Annex (UP Provident Fund Office)	1	172.92	New Building	Demolished	6,056,687.47
1984	Asian Institute of Tourism (Bus Shed Motorpool)	1		New Building	Demolished	1,310,400.00
1984	MMinute Building (SURP)	3	2,430.00	New Building	Usable	9,198,000.00
1984	Vanguard Building (DMST)	3	1,008.00	New Building	Usable	12,664,800.00
1985	German Yia Hall	2	600.00	New Building	Demolished	7,200,000.00
1986	National Institute of Geological Science (NIGS)	3	8,300.00	New Building	Usable	57,429,455.00
1988	College of Science Library and Administration Building	3	3,734.00	New Building	Usable	41,750,925.00

1990-1999

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
1990	STTC Building and Dormitory	4	7,617.00	New Building	Usable	125,700,000.00
1991	National Engineering Center (Annex Building)	1		New Building	Usable	16,000,000.00
1991	Marine Science Institute Building	3	10,266.05	New Building	Usable	86,857,605.18
1991	College of Social Works and Community Development Building	1		New Building	Usable	5,000,000.00
1991	Institute of Mathematics Building 1	3	6,734.00	New Building	Usable	123,000,000.00
1991	Public Administration Main Building (NCPAG)	3		New Building	Usable	60,722,054.79
1991	Fine Arts (Studi/ Work Area)	1		New Building	Usable	2,540,000.00
1992	CASAA	1		New Building	Demolished	5,000,000.00
1993	Public Administration Annex Building (NCPAG)	1	1,048.00	New Building	Usable	10,345,008.25
1993	Villamor Hall (Renovation)	3	5,766.00	New Building	Usable	119,915,000.00
1994	South Technological Park (Business Incubator)	2	1,234.80	New Building	Usable	7,132,463.54
1995	Institute of Mathematics Building 2	2	2,345.00	New Building	Usable	42,210,000.00
1995	Balay Tsanselor	1	687.00	New Building	Usable	4,336,314.35
1995	Computational Science Research Center (CSRC)	2	6,000.00	New Building	Usable	20,796,000.00
1995	National Institute of Physics	4	6,400.00	New Building	Usable	102,400,000.00
1995	Electrical Electronics Engineering Institute Building 1	4	5,530.00	New Building	Usable	99,540,000.00
1995	CFA Faculty Building (Conversion of Veterinary Medicine)	1	8,078.00	New Building	Usable	2,100,000.00
1995	UP Integrated School Auditorium	1		New Building	Usable	479,342.25
1995	CHE Gusali 2	2	951.20	New Building	Usable	7,019,591.68
1996	Mechanical Laboratory Building	1		New Building	Usable	2,760,102.57
1996	Engineering Library Building	4	5,280.00	New Building	Usable	17,280,700.52
1996	Craft Design Laboratory (CDL)	1	144.00	New Building	Usable	1,728,000.00
1997	UP Pampanga Diliman Office	1	241.45	New Building	Usable	831,600.00
1997	UP Integrated School (K-2 Building)	2		New Building	Usable	7,246,950.65
1997	Visitor's Information Center	1	108.00	New Building	Demolished	3,389,423.45
1998	CAL Building	5	5,580.00	New Building	Usable	
1999	Architecture Building 1	2	2,400.71	New Building	Usable	13,377,000.00
1999	College of Social Works and Community Development Building	3		New Building	Usable	17,090,034.68

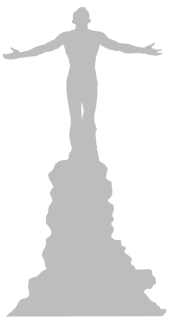
2000-2009

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
2000	OCA Storeroom	1	18.00	New Building	Usable	135,000.00
2000	Music Annex Building	2	1,054.00	New Building	Usable	6,791,379.59
2000	Mass Communication Media Center Building 1 (Broadcasting Department)			New Building	Usable	8,083,040.00
2000	Radio Room (CMC)	1	18.00	New Building	Usable	216,000.00
2001	SOLAIR Building	2	1,546.00	New Building	Usable	9,677,000.00
2004	Diliman Interactive Learning Center and INFOTECH	4	1,152.00	New Building	Usable	27,382,733.00
2004	Sunken Garden Grandstand (Replacement)	1	70.00	New Building	Usable	1,050,000.00
2005	Law Center Administrative Offices and Motorpool Building	2	503.67	New Building	Usable	6,044,064.00
2005	Lim Museum	2	325.66	New Building	Usable	5,861,880.00
2005	Architecture Building 2	2	3,387.54	New Building	Usable	54,200,640.00
2005	CHK Covered Basketbal Court	1	778.00	New Building	Usable	9,336,000.00
2006	Office of the University Registrar - Office of Admission	3	2,844.00	New Building	Usable	
2007	Institute of Physics (Phase 4)			New Building	Usable	
2008	Institute of Physics (Phase 5)			New Building	Usable	
2008	Institute of Mathematics (Phase 5)			New Building	Usable	
2008	Institute of Chemistry (Phase 1)			New Building		
2008	College of Arts and Letter Faculty Building (Phase 1)			New Building		

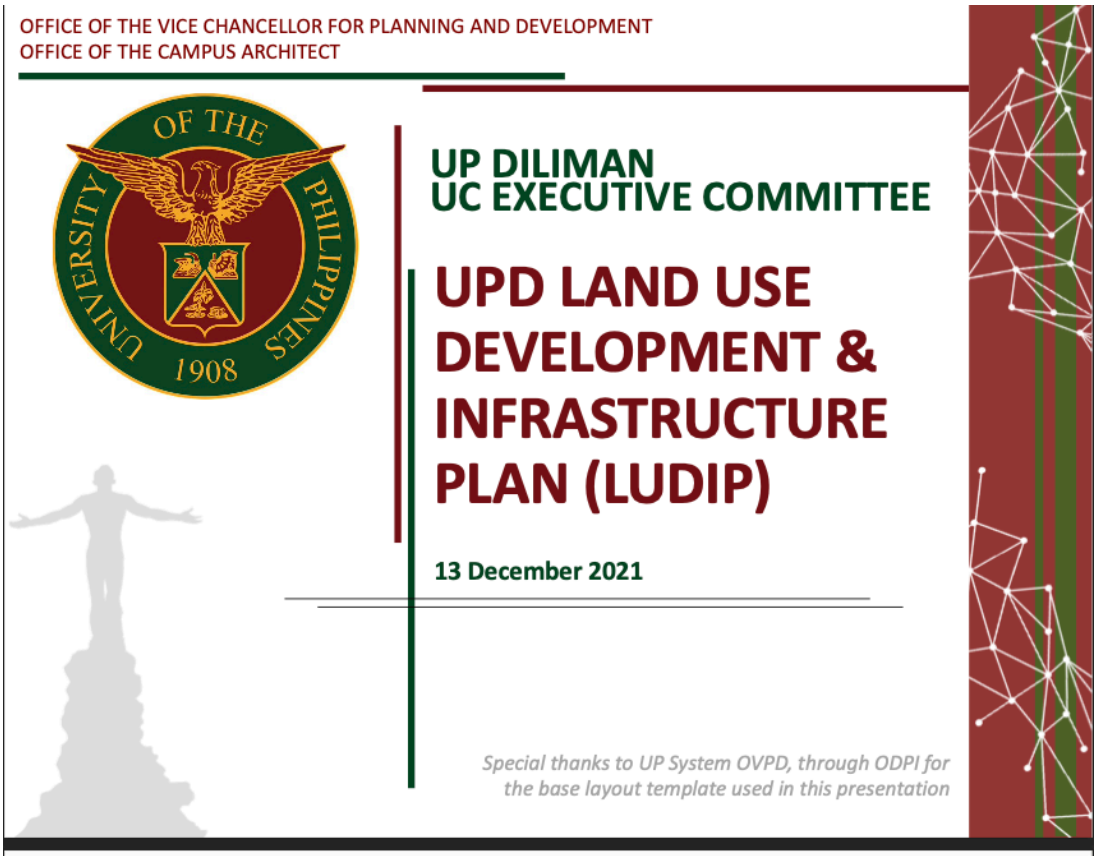


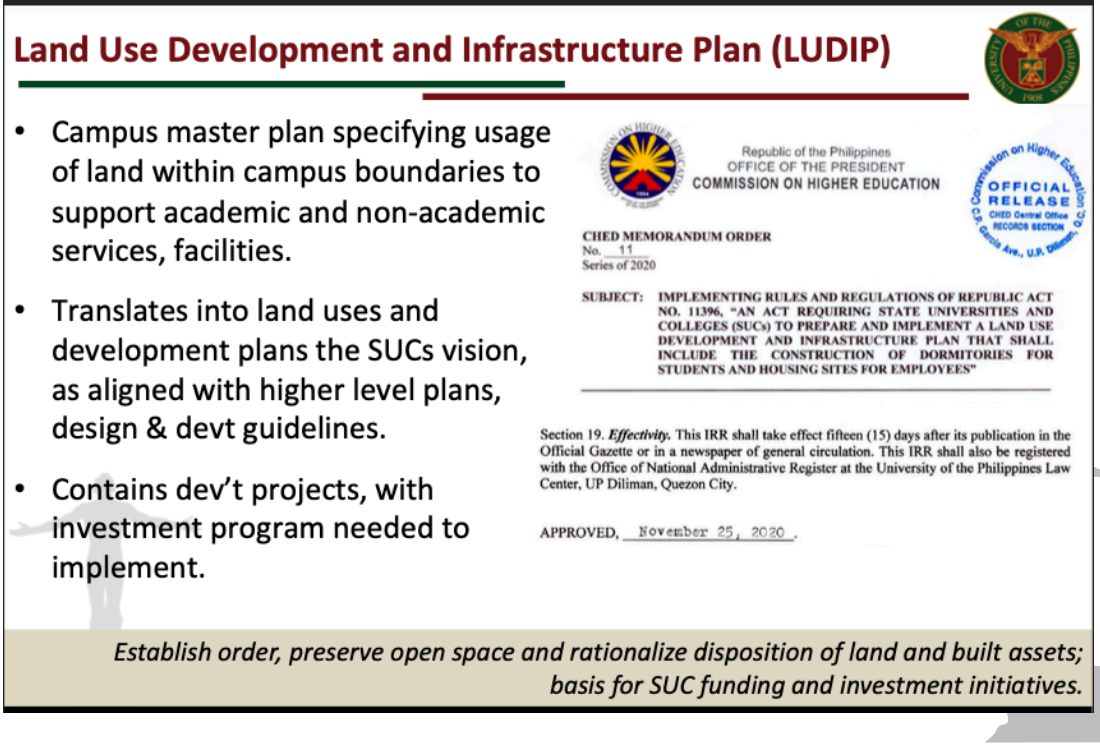
2010-2019

YEAR BUILT	NAME OF BUILDING	NO. OF FLOOR	FLOOR AREA		STATUS	CONSTRUCTION COST
2011	National Institute of Physics (Lecture Wing)	4	5,962.60	New Building	Usable	131,985,073.33
2011	Institute of Chemistry Building 1 (Research Wing)	3	5,000.00	New Building	Usable	50,391,771.56
2012	Institute of Biology Building (IB)	3	10,000.00	New Building	Usable	207,640,170.72
	National Institute of Molecular Biology and Biotechnology (NIMBB)			New Building		
2012	Institute of Environmental Science and Metreology (IESM)	3	4,203.20	New Building	Usable	80,423,866.24
	Institute of Chemistry Building 2 (Teaching Wing)	3		New Building	Usable	
2012	Industrial Engineering/ Mechanical Engineering Building Phase 2		2,030.40	New Building	Usable	100,911,012.48
2013	College of Science Administration Building	5	3,100.00	New Building	Usable	119,455,853.69
2013	Electrical Electronics Engineering Institute Building 2	4	6,174.00	New Building	Usable	144,640,268.28
2013	Acacia Residence Hall & Law Centennial Dormitory and OCG	5	10,064.56	New Building	Usable	120,115,364.16
2013	School of Statistics Building (Phase 1)	4	3,158.00	New Building	Usable	78,742,041.55
2013	Institute of Civil Engineering Building	4	9,848.00	New Building	Usable	206,308,268.00
2016	Renovation of Peralta Hall	1		Renovation	Usable	
2016	College of Home Economics Building 1 with Bridgeway	3	1,640.57	New Building	Usable	42,919,929.21
2016	College of Home Economics Building 2	3	1,251.52	New Building	Usable	42,914,164.21
2016	College of Home Economics Museum	4.5	2,430.92	New Building	Usable	59,973,311.60
2016	Renovation of College of Veterinary Medicine-Animal Surgical Laboratory	1	774.50	Renovation	Under Construction	16,567,863.83
2017	Rehabilitation of Computer Center Main Building	2	664.06	New Building	Usable	29,423,893.43
2017	College of Architecture Complex Studio Laboratories Building 3 (Phase 1)	8	13,185.33	New Building	Usable	210,661,635.31
2017	College of Fine Arts New Building	4	7,991.86	New Building	Usable	95,825,019.09
2017	UP-EEEI Micro Satellite Research Laboratory Building (Extension of Building 2)	4.5	594.00	Extension	Usable	17,089,982.95
2017	UP-EEEI Micro Satellite Research Laboratory Building (Anechoic Chamber)	2.5	337.40	New Building	Usable	12,704,939.88
2017	Renovation of U.P. Tourism Heritage Complex	2	5,313.00	New Building	Usable	80,080,000.00
2017	UP-Epsilon Chi Health and Fitness Center	1.5	2,411.04	New Building	Usable	19,537,976.41
2017	UPSILON SIGMA PHI Promenade	1	1,700.00	New Building	Usable	10,498,200.50
2018	School of Labor and Industrial Relations New Wing (SOLAIR)	5	1,196.30	New Building	Under Construction	49,704,484.06
2018	Faculty and Staff Housing Phase 1	4	7,464.87	New Building	Under Construction	117,313,573.51
2018	Proposed Main Library Plaza and Miscellaneous Works	1	7,404.00	New Building	Under Construction	33,332,515.03
2019	Proposed Resilence Institute for DRRM (UP Resilience Institute - UPRI)	12		New Building	Under Construction	388,088,088.80
2019	College of Architecture Complex Studio Laboratories Building 3 (Phase 2)	8	13,185.33	Completion	Under Construction	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2019	College of Architecture Complex Studio Laboratories Building 3 (Phase 2)	8	13,185.33	Completion	Under Construction	
						4,522,769,885.15



VIII. ANNEX 5 – STAKEHOLDER CONSULTATION PRESENTATION





RA 11396

- Act requiring SUCs to prepare & implement a Land Use Development and Infrastructure Plan (LUDIP); includes construction of dormitories for students, housing sites for employees

Philippine Development Plan 2017-2022

National Level - *Foundations for sustainable development*

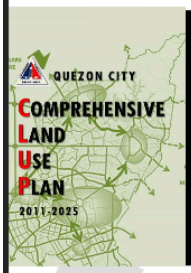
balanced and strategic development of infrastructure; ensuring ecological integrity and a clean and healthy environment.

The program will be rationalized based on strategic masterplans effecting inter-regional connectivity and integrated province-level plans, some of which will be developed and some updated.

NCR Regional Development Plan 2017-2022

Regional Level- *Create industry-specific incubators and platforms to catalyze growth*

Industry-specific cluster development should be supported through setting up of incubators and/or platforms that allow cross-firm knowledge-sharing, ease of access to resources, and "seed" funding from either public and private sources.



Local Level - *Urban Competitiveness, Sustainable Communities*

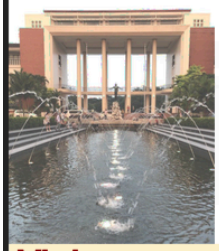
1. Promotion of inter-modal transportation systems, taking into account compatibility, economic feasibility, comparative advantage and linkages to facilitate smooth transfer of people and goods between points;

2. Prioritizing projects that allow increased access to basic social and development services while catering to the productive sectors and market-based industry putting the entire population into the mainstream of sustainable development; and

3. Incorporating disaster mitigation principles in infrastructure development.

https://pdp.neda.gov.ph/wp-content/uploads/2017/01/Chapter-4-3292017.pdf
https://quezoncity.gov.ph/wp-content/uploads/2020/12/CLUP-2011-2025-Final-Version.pdf
https://mmda.gov.ph/images/Home/Development-Planning/Plan-Formulation/NCR-RDP-2017-2022/Full-Version/NCR-Regional-Development-Plan-2017-2022-resize.pdf

Aligning LUDIP with UP's Vision for its Future



Vision Statement

Redefining the Culture of the University of the Philippines: Honor and Excellence with Compassion

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Vision

- ***Redefining Culture*** *of the University of the Philippines :* ***Honor and Excellence*** *with* ***Compassion***
  - Showcase best of, and betterment of Filipino people
  - Ensure that education (students) get from UP is holistic and relevant; all branches of knowledge complementing one another
    - Enable students to excel in their field of specialization via exposure to techniques, disciplines & paradigms of their peers in other fields (responsive to national development needs); strengthen UP Athletics
    - Mobilize alumni support for UP

** Excerpt from: https://osu.up.edu.ph/wp-content/uploads/2016/09/VISION_PROF.-DANILO-L.-CONCEPCION.pdf*

Aligning LUDIP with UPD's Vision for its Future

Vision, Mission

- A **modern research university** w/ a **public mission**;
  - Inter-disciplinary hub working w/ govt, industry, producers and labor, communities;
  - Create integrated practical responses to policy questions and technology gaps for PHL progress in the 21st century.
- An institution that **enable** graduates to **excel in chosen vocations** and become **productive, responsible citizens**;
  - Attuned, ready to respond to real-world challenges confronting their communities, country, and the region.

Goal & Objectives

- Foster **inter-disciplinary research & extension** towards academic excellence
  1. Protect academic freedom and integrity;
  2. Promote democratic governance;
  3. Safeguard well-being & dignity of the academic community;
  4. Strengthen administrative and operational efficiency;
  5. Foster a safe, smart, resilient and sustainable campus.

https://www.theurbanroamer.com/up-diliman-academic-oval/

* Excerpt from: https://up.edu.ph/wp-content/uploads/2020/01/20200122-FNemenzo-VISION-PAPER-for-UPD-ver4.pdf

Translating Vision to Spatial Dev't Thrusts & Strategy Options

1.) Academic freedom** and **integrity

Improve campus perimeter features, ingress / egress points & corridors); safe space where free thought, free speech, collegiality and respect prevail;

2.) Democratic governance

Inform, consult community on infra dev't proposals, promote due process reconciled w/ disposition of campus assets;

***3.) Well-being** and **dignity** of the academic community*

Protect natural & built (esp. heritage) infra to create an environment essential for study & work;

Highlight land use & mobility integration to promote comfort, convenience in active transport (healthier community);

Provide housing supply aligned with future demand; upgrade healthcare facility, capability (UHS; PGH-Diliman).

UP Oblation from Quezon Hall, 2019 (M. Morales)

UP Oblation from Quezon Hall, 1950's (OCA)

Timeframe: 18 yrs (2020-2038)

- *Capture short, medium, long-term plan components;*
- *Aligned with 3 UP President terms; 6 UPD Chancellor terms*

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Translating Vision to Spatial Dev't Thrusts & Strategy Options

4.) Administrative** and **operational efficiency

Synergize infra & technology; engage community partners into safeguarding campus assets;

Analyze collected data in a spatial hub, for evidence-based policy & action (esp. during emergencies).

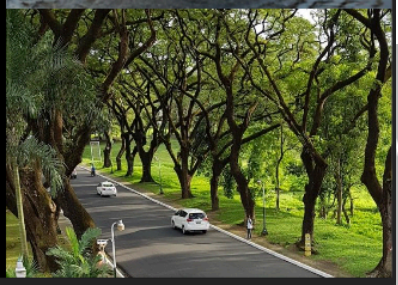
***5.) Safe, smart, resilient** and **sustainable** campus*

Veer away from sprawl; push for compact building footprints and integrated pedestrian, vehicular mobility corridors

Preserve open spaces to enrich biodiversity; emergency congregation areas;

Promote climate change adaptive, risk resilient infra devt measures;

Create opportunities esp. to those affected by new devt (e.g., economic/livelihood in service to the community)



Stakeholder Comments and Inputs (Session 1)

- UPCA - **Do you have projection on student population in the future? Carrying capacity of UPD**
  - *UPD LUDIP has statistical pop'n projection reconciled with spatial demand standards, allowed determination of space reqts for next 18 years. Vertical and compact building footprint.*
- UPCA - **Worried if the drainage system can support infra dev't push**
  - *LUDIP has sections discussing rationalization of the utility drainage systems (land, water, power systems policies aligned w/ investment program)*
  - *Completion of As-Built plans considered an immediate project within LUDIP*
- UPCA – **re: Gonzales Hall renovation, Landscape not coinciding with existing landscape in front of Gonzales Hall; Include in SDP.**
  - *LUDIP team re-presented the site development initiatives around the Main Library & its key features; took note of the suggestion for LUDIP integration*
- UPCA – **Signages: darker color in the background with brighter text that can be easily seen** (align with Color theories)
  - *LUDIP team clarified that the signage design theme is still being developed; took note of the suggestion for LUDIP integration*

Stakeholder Comments and Inputs (Session 1)

- Asian Center – **Congratulated the team; asked for an update on the plans for their building**
  - *LUDIP will include in the write-up the policy directions to be cascaded to the team, post consultations with faculty on Asian Center.*
- UPCA – **on UPD Quadrant Maps : propose to use another term (e.g., Zone, or Area)**
  - *LUDIP team will think of a better term/name.*
- UPCA – **Agree on vertically. Do we have a Building Density Plan to determine allowable building heights?**
  - *LUDIP team worked along the report contents, requirements from LUDIP IRR;*
  - *Team will recommend this as a supplemental project, along with another project proposal (e.g., UPD Infra Heritage Preservation Plan)*
- UPCA – **Is there a limit of height of the buildings?**
  - *Buildings are on average at 4-storeys; limits is on ave. 8-storeys*

Stakeholder Comments and Inputs (Session 1)

- UPCA - **Prospect of connecting pedestrian from citimall and tandang sora**
  - *Team presented MRT – 7 station, and future proposal to improve pedestrian access corridors cited areas (e.g., gate and sidewalk improvement w/ tactile pavers, PWD friendly; bikelanes*
- UPCA - **Bicycle path design may have to follow international standards of color; UP graphics stamp is okay.**
  - *Bike lane features, markings are based on standards, refined to embody UP identity features (reinforce sense of place);*
  - *Team did research, and have established case study precedence for such initiative*
- AIT – **How can AIT be more linked to the main campus because we are at the other side of Commonwealth Ave?**
  - *Team takes note and consider that for further consultation*

Stakeholder Comments and Inputs (Session 2)

- Coll of Music - **Nagkaroon ba ng impact sa planning ng LUDIP ang pandemic (learnings)?**
  - *For the short term LUDIP discusses need to upgrade internet connectivity.*
  - *Mid to long-term, design guidelines for pandemic resiliency will be incorporated in the LUDIP (annex)*
- CSSP – Nabanggit na magkakaroon ng **bagong building ang CAL**. Tinanong ako kung batid ko daw ang **dating land-use plan na yung area from Lagmay hall to the corner of the CAL bldg area is already allocated for Social Sciences Complex**. What happened to that Landuse plan and when was it revised?
  - *There are site plans at OCA archives that are not BOR-approved; perhaps this is what's being referenced; LUDIP is based on BOR-approved 2012 land use plan.*
- CSSP – **Kung naayos na yung Palma hall, wala pang paglalagyan nung mga gamit sa Gonzales Hall**
  - *Kasama sa LUDIP ang proposal para sa vault for historical artifacts for consideration. Pwede din maisama sa Art Conservation Building if ever yung vault.*

Stakeholder Comments and Inputs (Day 2)

- CHE - **Concern of Home Economics if classes won't be face to face for 2022; they are heavy on physical laboratories**
  - *Consider locating prefab on other areas; build another if needed. Could use other laboratories as well.*
- Coll of Science – **Kasama ba sa consideration ang use of green energy?**
  - *Yes; included in the Utility systems policy framework (e.g., solar power infra needs)*
  - *College of Science and/or Engineering create a template for green energy which can be used at identified pilot sites*
- Statistics – **kung kelangan ng small to medium scale to be a prototype, open ang school of statistics; if ever maging successful can be used as a template**
- SURP - **LUDIP is a roadmap on planning development for each campus university. Pandemic may affect not only the students but also for research. School is willing to help**
  - *LUDIP highlighted pedestrian mobility, active transport and compliance with sustainable transportation planning concepts.*
  - *We have a Pre-FS on developing Citimall to integrate with MRT-7, once University Ave. station clearly defined; may be included in the LUDIP (annexes)*

Stakeholder Comments and Inputs (Session 3 & 4)

- Univ Student Council - **With regards to community, which community would you consult?**
  - *All barangay captains will be consulted. Some LGU offices, All UP office unions, Community Affairs*
- Workers' Union – **Proposed staff & employees center sana ay isama sa LUDIP para sa mga organization ng mga empleyado at staff; dagdag na housing sa empleyado at staff**
  - *Pag aaralan ang mga posibilidad para sa center na ito*
  - *Faculty & Staff Housing along E. Jacinto st., included sa LUDIP; nagmamapping din ng para sa mga pangangailangan ng staff and employees*
- Workers' Union – **wag kalimutan na mainclude bukod sa hazards and mabigyan ng significance ang proper ventilation hindi lang ang aesthetic. Consider inflow and outflow.**
  - *Highlighted in the infra development policies inside LUDIP*

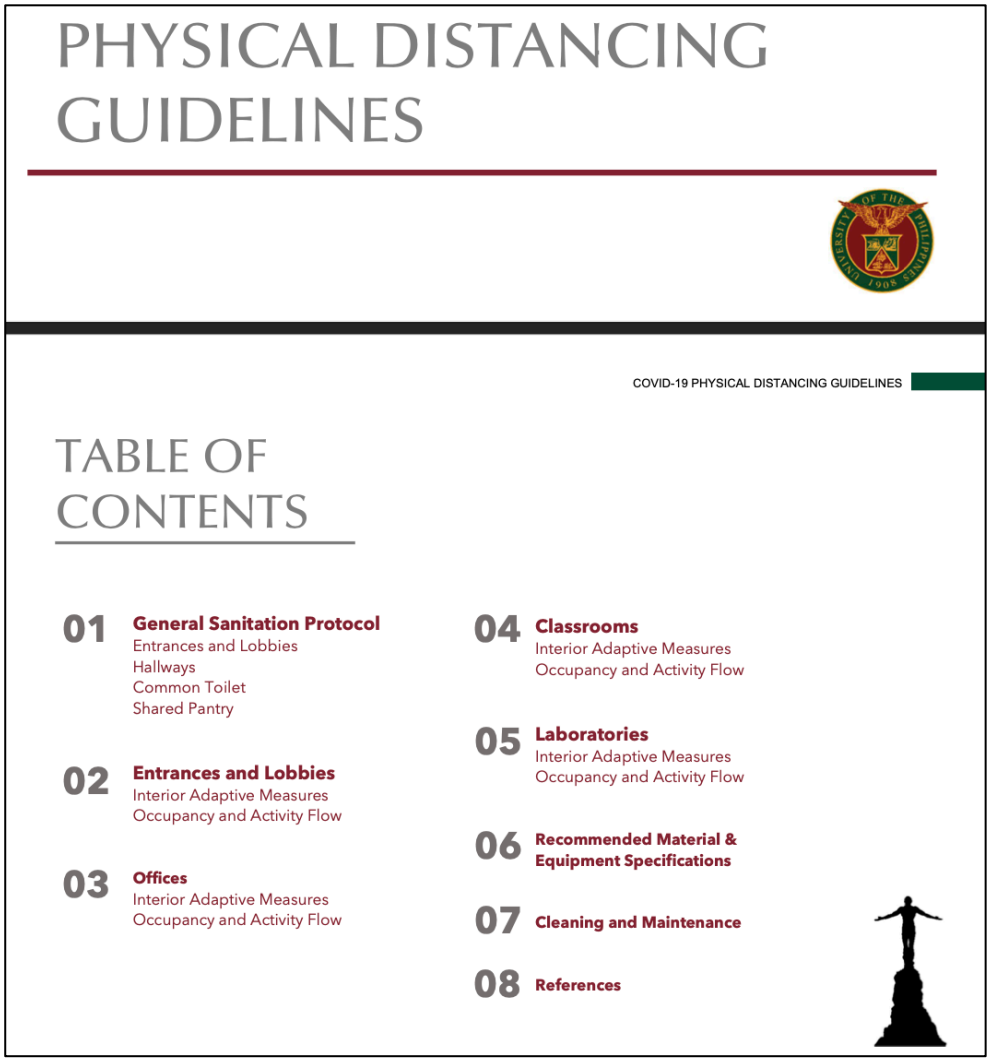
Stakeholder Comments and Inputs (Session 3 & 4)

- Env Mgt Ofc- **Concern on open spaces, sana may consideration may implications sa DRRM; parking spaces on new structures, emphasize safety features, wish for uniform signages**
  - *LUDIP highlights compact building footprints to preserve our open spaces; parking facilities included in site development (compliance to codal provisions), at same time LUDIP pushes for development of alternative mobility platforms (e.g, inter-connected bikelanes & pedestrian networks)*
- Env Mgt Ofc - **What is our final barangay boundaries (in relation to ISFs)?**
  - *Info will be requested from the barangay*
- Env Mgt Ofc - **Concern on the HRVVMC Freedom Memorial Bldg, if vehicular access is inside campus, sana mabigyan rin ng access ang Fine Arts**
  - *Freedom Museum site plan was reshown, highlighting access along CP Garcia.*
  - *CFA access proposal will be checked with signed MOA*

Stakeholder Comments and Inputs (Session 3 & 4)

- Env Mgt Ofc – **our office will assist, forward how best to support initiatives on environmental compliance**
  - *Institutionalizing a Pollution Officer position may be a focus on the organizational complements in LUDIP*
- Env Mgt Ofc – **Area sa Stud Farm is designated as open space. Consider rezoning area for community services; sana magakaroon ng facility for food waste**
  - *Proposed zonal allocation will be consulted and added to a presentation on Sustainability*
- UPIS – **Cracks at building façade**
  - *Earmarked for Emergency Procurement*
  - *LUDIP investment program (1st phase) highlights inward perspective on project funding prioritization (e.g., strucl retrofitting, elecl / mechl / drainage / plumbing systems repair & upgrade)*

IX. ANNEX 6 – PROPOSED PANDEMIC RESPONSE / PHYSICAL DISTANCING GUIDELINES



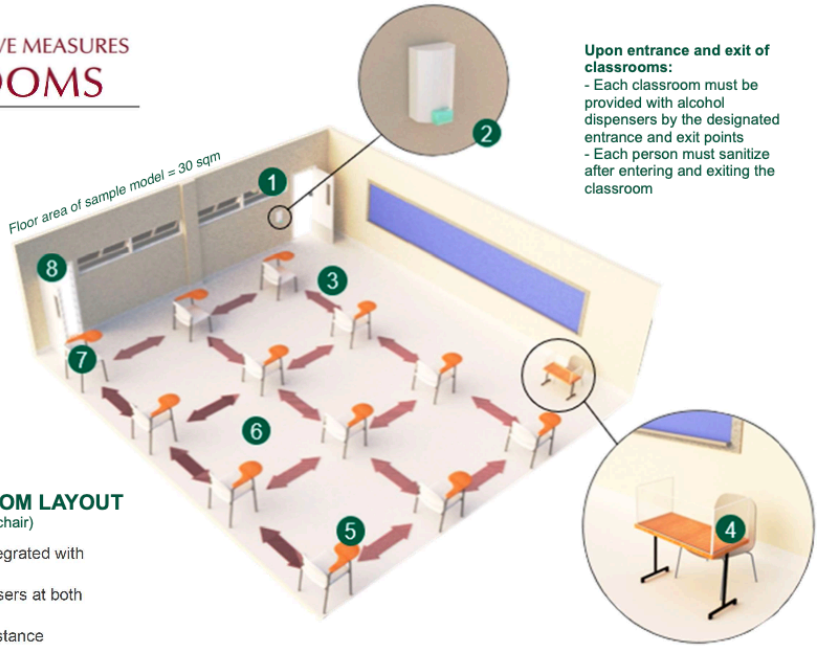
PHYSICAL DISTANCING GUIDELINES

COVID-19 PHYSICAL DISTANCING GUIDELINES

TABLE OF CONTENTS

COVID-19 PHYSICAL DISTANCING GUIDELINES

INTERIOR ADAPTIVE MEASURES
CLASSROOMS



Upon entrance and exit of classrooms:
- Each classroom must be provided with alcohol dispensers by the designated entrance and exit points
- Each person must sanitize after entering and exiting the classroom

TYPICAL CLASSROOM LAYOUT
(individual armchairs/ table + chair)

1 Single traffic entrance integrated with push and kick plates
2 Automatic alcohol dispensers at both entrance and exit points
3 At least two (2) meters distance between each person
4 Acrylic screen barriers for tables
5 Plastic, metal or natural wood material
6 Vinyl flooring
7 First student to leave the room - student closest to the exit door, to be done by rows.
8 Single traffic exit integrated with push and kick plates

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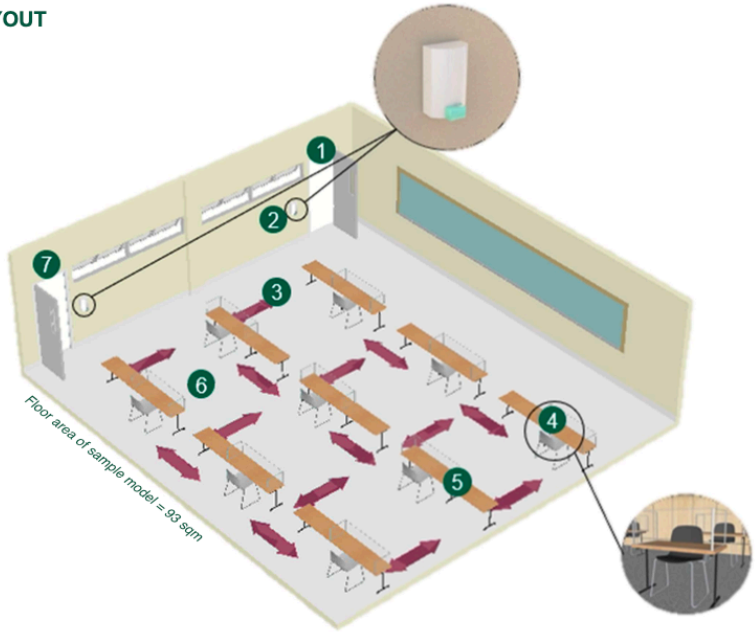
COVID-19 PHYSICAL DISTANCING GUIDELINES

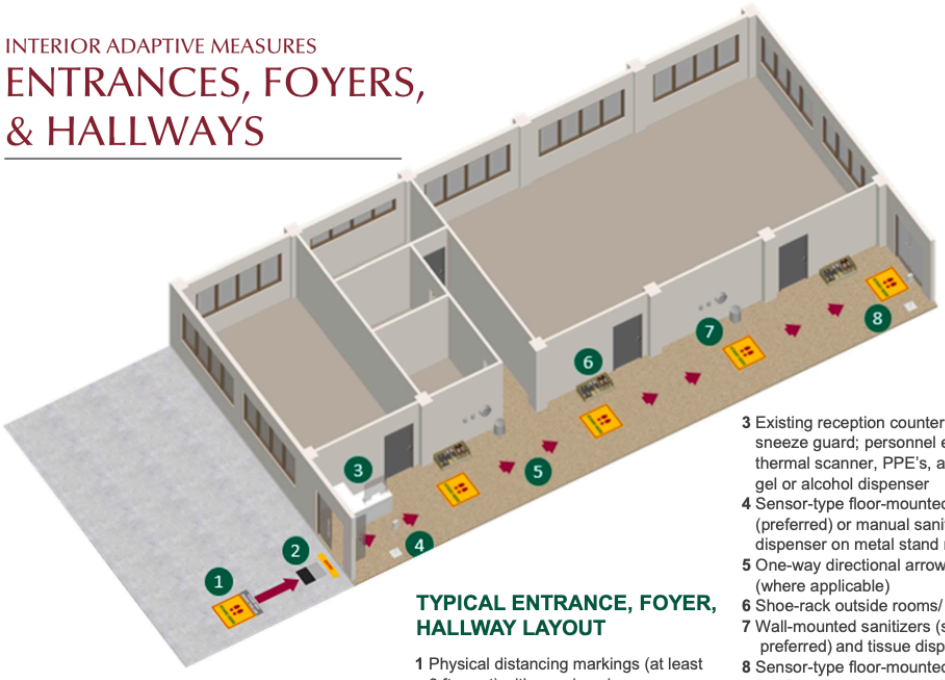
TYPICAL CLASSROOM LAYOUT
(long table/conference type)

1 Single traffic entrance integrated with push and kick plates
2 Automatic alcohol dispensers at both entrance and exit points
3 At least two (2) meters distance between chairs, one (1) student per training table, alternating/window layout
4 Acrylic screen barriers for tables
5 Plastic, metal or natural wood material
6 Vinyl flooring
7 Single traffic exit integrated with push and kick plates



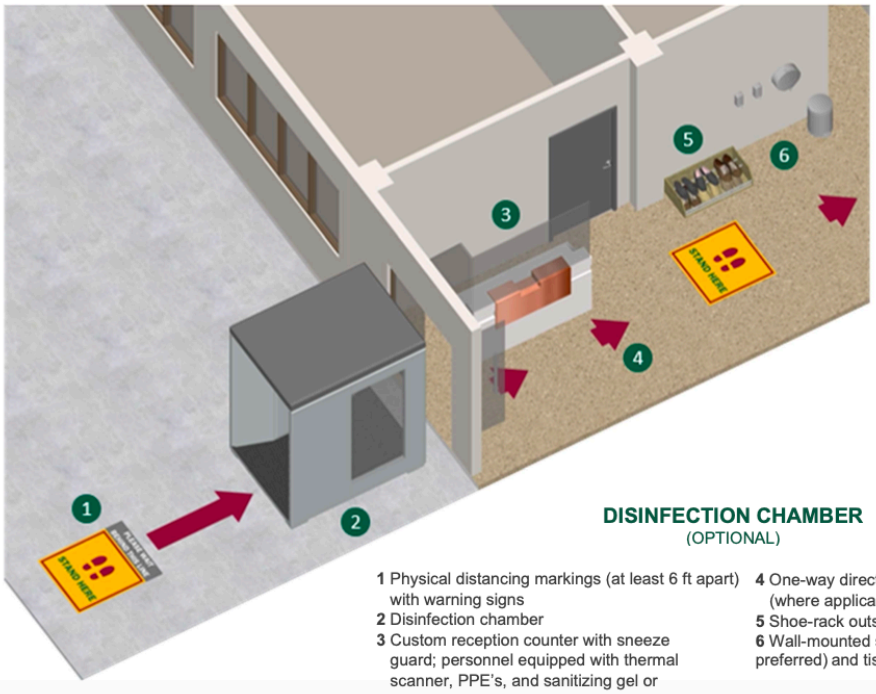
INTERIOR ADAPTIVE MEASURES

ENTRANCES, FOYERS, & HALLWAYS



TYPICAL ENTRANCE, FOYER, HALLWAY LAYOUT

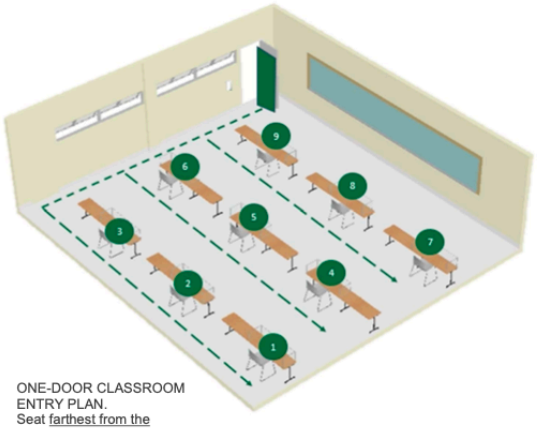
1 Physical distancing markings (at least 6 ft apart) with warning signs
2 Disinfection mats
3 Existing reception counter with added sneeze guard; personnel equipped with thermal scanner, PPE's, and sanitizing gel or alcohol dispenser
4 Sensor-type floor-mounted sanitizer (preferred) or manual sanitizer/ alcohol dispenser on metal stand near entrances
5 One-way directional arrows at hallways (where applicable)
6 Shoe-rack outside rooms/ offices
7 Wall-mounted sanitizers (sensor-type preferred) and tissue dispenser
8 Sensor-type floor-mounted sanitizer (preferred) or manual sanitizer/ alcohol dispenser on metal stand near exits



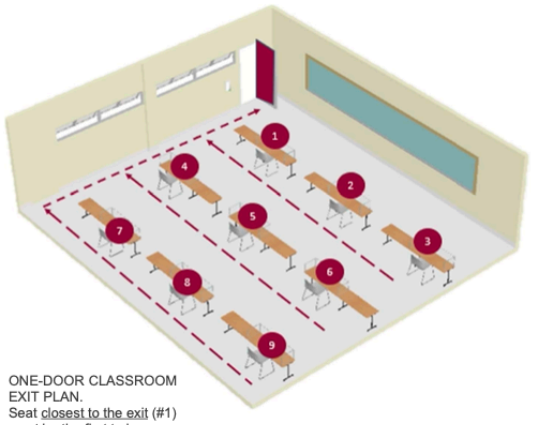
DISINFECTION CHAMBER
(OPTIONAL)

1 Physical distancing markings (at least 6 ft apart) with warning signs
2 Disinfection chamber
3 Custom reception counter with sneeze guard; personnel equipped with thermal scanner, PPE's, and sanitizing gel or alcohol dispenser
4 One-way directional arrows at hallways (where applicable)
5 Shoe-rack outside rooms/ offices
6 Wall-mounted sanitizer (sensor-type preferred) and tissue dispenser

TYPICAL ONE- DOOR CLASSROOM
PROPOSED FLOW OF ENTRY AND EXIT

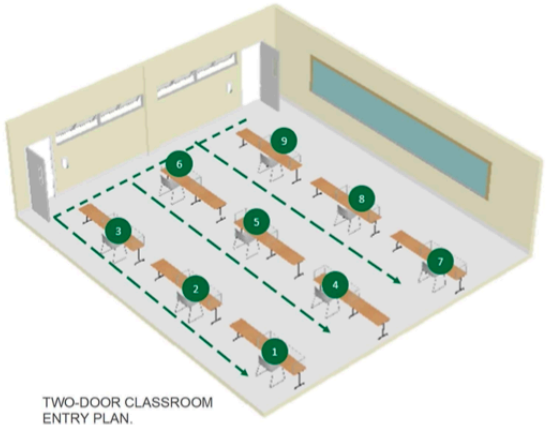


ONE-DOOR CLASSROOM
ENTRY PLAN.
Seat farthest from the entrance (#1) must be first to enter

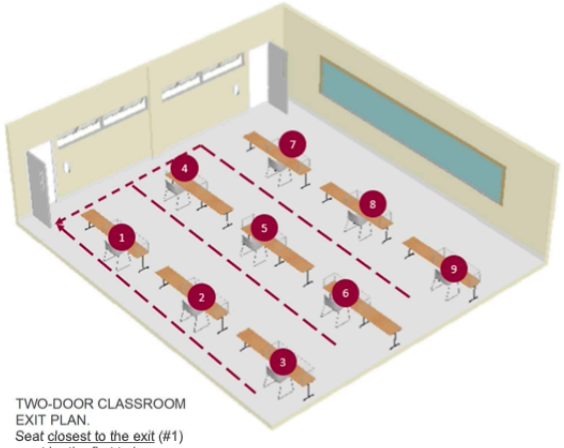


ONE-DOOR CLASSROOM
EXIT PLAN.
Seat closest to the exit (#1) must be the first to leave

TYPICAL TWO- DOOR CLASSROOM
PROPOSED FLOW OF ENTRY AND EXIT

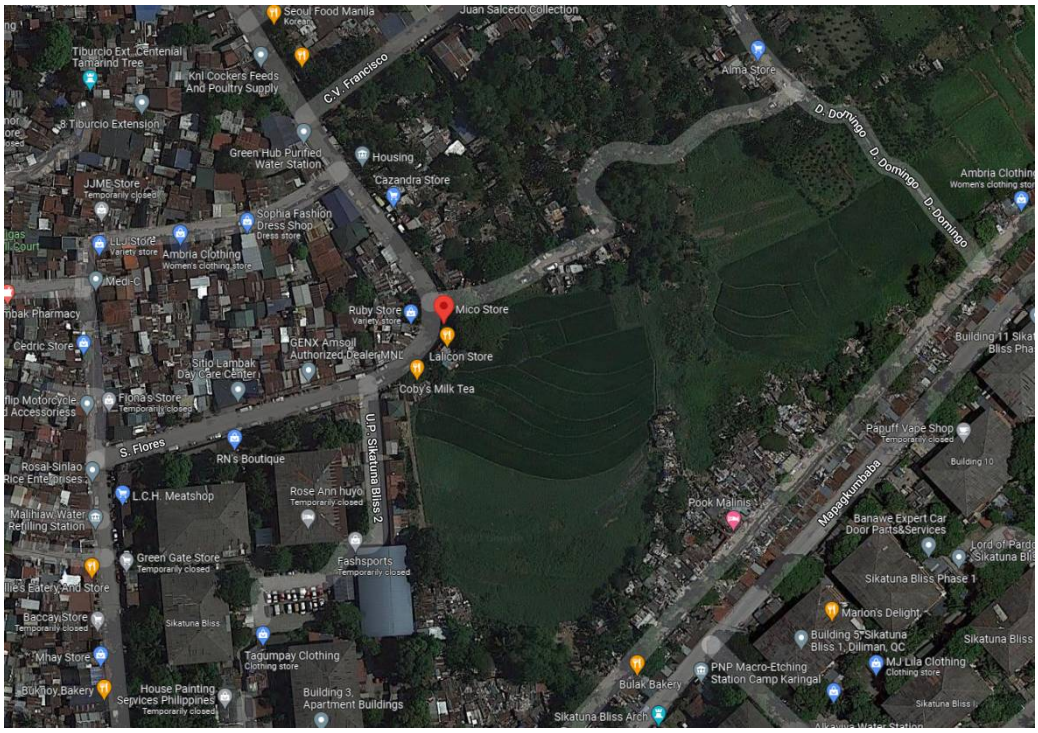


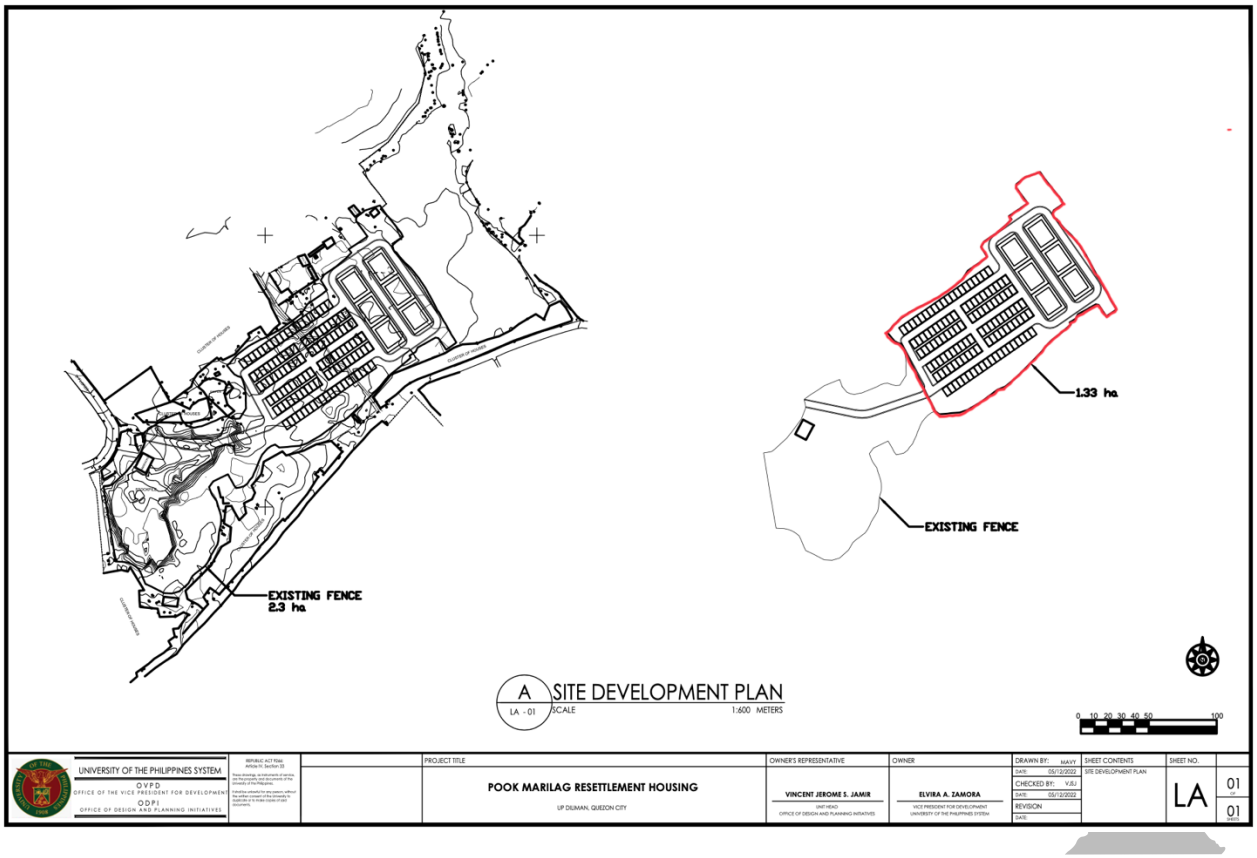
TWO-DOOR CLASSROOM
ENTRY PLAN.
Seat farthest from the entrance (#1) must be first to enter



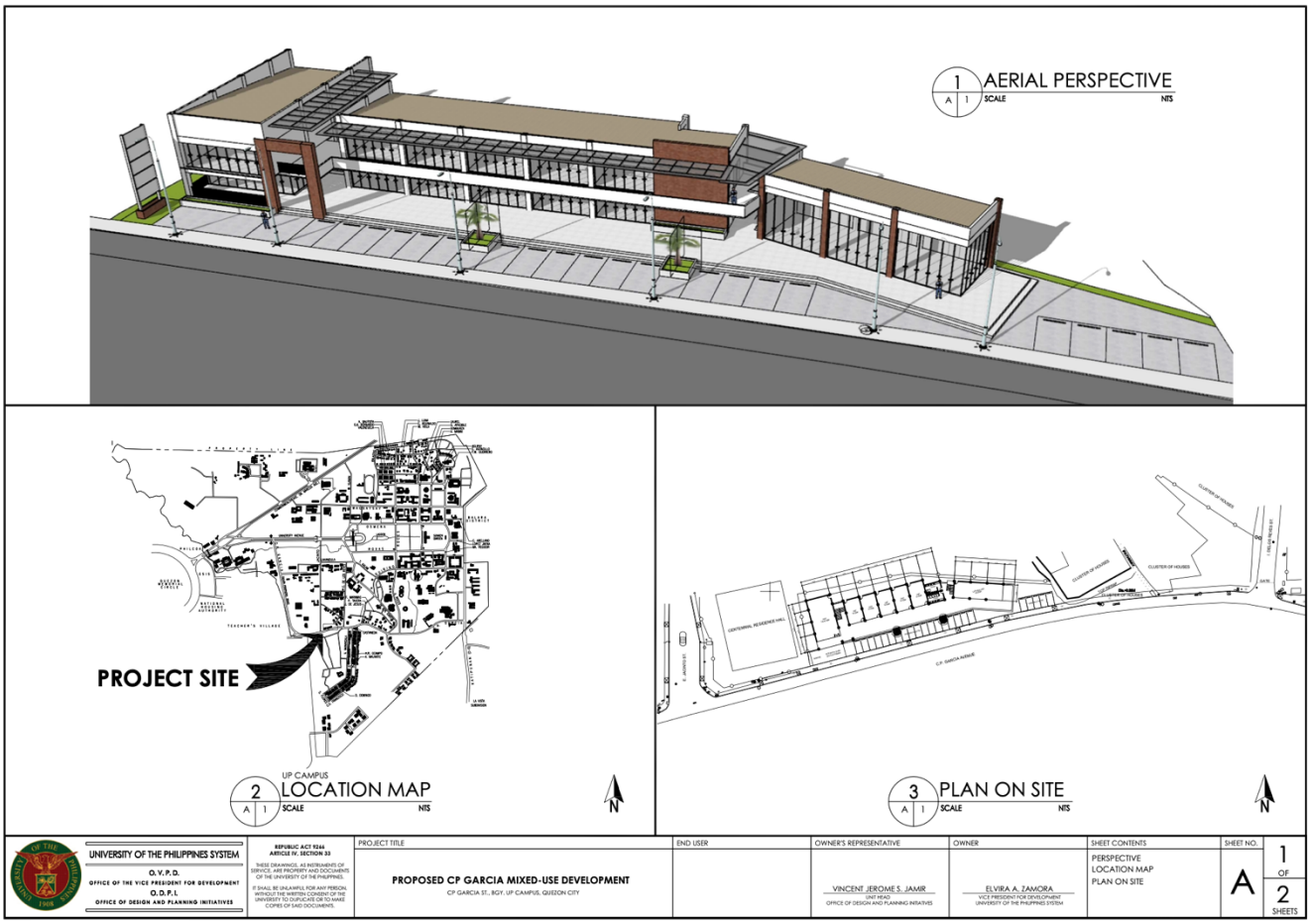
TWO-DOOR CLASSROOM
EXIT PLAN.
Seat closest to the exit (#1) must be the first to leave

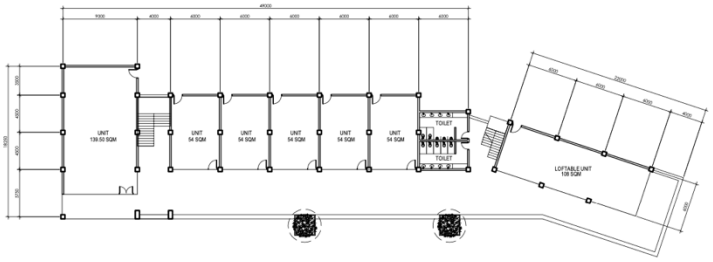
X. ANNEX 7 – POOK MARILAG TEMPORARY RELOCATION SITE *(by: OVPD-ODPI)*





X. ANNEX 8 – PROPOSED C.P. GARCIA MIX-USE DEVELOPMENT (*by: OVPD-ODPI)*



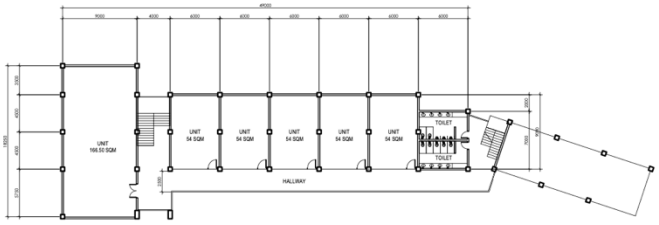


1 A 2 GROUND FLOOR PLAN
SCALE 1:400 MTS

TOTAL GROSS FLOOR AREA = 1,318 sqm.
TOTAL LEASABLE SPACE = 954 sqm.

ITEM	FLOOR AREA	TOTAL COST
GROUND FLOOR	650 sqm.	26,000,000
SECOND FLOOR	668 sqm.	26,720,000
SITE DEVELOPMENT	1000 sqm.	5,000,000
PROBABLE CONSTRUCTION COST (PCC)		**57,720,000**
DAED FEE (3%)		**1,731,600**
TOTAL		**PHP 59,451,600**

3 A 2 COST SUMMARY
SCALE NTS



2 A 2 SECOND FLOOR PLAN
SCALE 1:400 MTS

UNIVERSITY OF THE PHILIPPINES SYSTEM
O. V. P. D.
OFFICE OF THE VICE PRESIDENT FOR DEVELOPMENT
O. D. P. I.
OFFICE OF DESIGN AND PLANNING INITIATIVES

REPUBLIC ACT 9246 ARTICLE IV, SECTION 33
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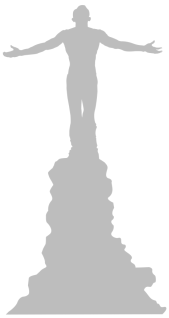
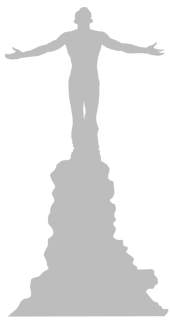
PROJECT TITLE	END USER	OWNER'S REPRESENTATIVE	OWNER	SHEET CONTENTS	SHEET NO.
PROPOSED CP GARCIA MIXED-USE DEVELOPMENT CP GARCIA ST., BGY. UP CAMPUS, QUEZON CITY		VINCENT JEROME S. JAMIR UNIT HEAD OFFICE OF DESIGN AND PLANNING INITIATIVES	ELVIRA A. ZAMORA VICE PRESIDENT FOR DEVELOPMENT UNIVERSITY OF THE PHILIPPINES SYSTEM	GROUND FLOOR PLAN SECOND FLOOR PLAN COST SUMMARY	A 2 OF 2 SHEETS



X. ANNEX 9 – TOTAL LAND AREA OF UP DILIMAN, UPDEPP, PUERTO GALERA AND BOLINAO ASSETS

No.	CLASSIFICATION	DESCRIPTION / LOCATION	OWNER REGISTERED	TOTAL AREA		MODE OF ACQUISITION	TITLING STATUS				DATE ISSUED	TAX DEC. NO.		Physical Location of Original Copy of the Title	REMARKS
				By Hectares	By Square Meters		TCT NO.	*RT NO.	PR	LOT NO.		TD/ARP No.	PROPERTY INDEX		
3				128.6285	1,286,285.00			RT-27912			Aug. 15, 1973				
4	Campus Site	Diliman, Quezon City	UP Diliman	134.36371	1,343,637.10			RT-58201			Aug. 15, 1973				Deed of Sale between National Government and UP dated March 1, 1949. UP shall devote to specific public uses in connection with administration of UP.
6				114.8609	1,148,609.00			RT-107350			Aug. 15, 1973				
7				43.2171	432,171.00			RT-57197			Aug. 15, 1973				
				0.0953	953.00	Deed of Sale				101					
				0.1422	1,422.00	Deed of Sale				102					
				0.0621	621.00	Deed of Sale				103					
				0.1084	1,084.00	Deed of Sale				131					
				0.1495	1,495.00	Deed of Sale				174					
				38.1548	381,548.00	Deed of Sale				40					
				4.5048	45,048.00	Deed of Sale	192690	RT-57197		41	Aug. 15, 1973				The community at Kus na Ligas have claimed that their community existed even before the Government purchased the land for the University of the Philippines. This is the supposed reason Kus na Ligas was the subject of a proposed sale - subject to a law to be passed by Congress - to Quezon City during the House Speakership of Feliciano Belmonte, but which did not materialize. The area was subject of a donation to the Quezon City Government in the late Eighties but this donation did not materialize. It should be noted that during the time of Chancellor Ceasar A. Saloma, the University voiced its concerns to that Kus na Ligas had expanded in area from 17 hectares in the Eighties (as stated in the aforesaid donation) to 23 hectares at the tile. This was according to an assessment by the Urban Poor Affairs Office and the Quezon City LGU.SOURCE: DLO
				4.54894	45,489.40	Deed of Sale	213866	RT-58561		42-A-1	Oct. 2, 1975	F-128-00035 0000-2017-01-249562	15-128-001-032		
				1.19842	11,984.20	Deed of Sale	213867	RT-57991		42-A-2	Oct. 2, 1975				Part of Road Lot - Katipunan C-5 (National Road)
	Campus Site	Diliman, Quezon City, Metro Manila	UP Diliman	0.01161	116.10	Deed of Sale				42-C-1					
				0.12579	1,257.90	Deed of Sale				42-C-2					
				0.07083	708.30	Deed of Sale	192687	RT-58201		42-C-3	Aug. 15, 1973	F-128-00011 0000-2017-01-249538	15-128-001-003		Part of Road Lot - Katipunan C-5 (National Road)
				0.43258	4,325.80	Deed of Sale				42-C-4					Part of Road Lot - Katipunan C-5 (National Road)
				116.5268	1,165,268.00	Deed of Sale	192686	RT-27912		42-C-6	Aug. 15, 1973	E-128-00025 0000-2005-10-214734 E-128-00002 0000-2005-10-214711 D-128-00847 0014-2014-05-001678-9123 F-128-00025 0000-2017-01-249552	15-128-001-019/ 15-04701 15-128-16-02090 15-128-001-023-1-002 15-128-001-020		Some Areas for Priority Development (Marcos Area, especially claimed by AMORSOLO Community) SOURCE: DLO
				66.2815	662,815.00	Deed of Sale	192688	RT 57441	32309	42-C-7	Aug. 15, 1973	F-128-00032 0000-2017-01-193696	15-103-004-002		
				133.8603	1,338,603.00	Deed of Sale	192687	RT-58201		42-C-8	Aug. 15, 1973	F-128-00032 0000-2017-01-249559	15-128-001-027		Some Areas for Priority Development (Marcos Area, especially claimed by RIPADA Community) SOURCE: DLO
				16.3012	163,012.00	Deed of Sale				42-C-9					Part of Road Lot - Commonwealth Avenue (National Road)
				98.5597	985,597.00	Deed of Sale	192689	RT-107350		42-C-10	Aug. 15, 1973	E-128-00045 0021-2009-02-000065-9076	15-128-01-030		Some areas occupied by Informal Settlers and Overstaying Housing Occupants claim that they take title to their housing units from the following: Esteban Benitez Tallano (Tallano Estate), Acopiado Estate, Roberto Pael, Chin & Mallari, Felix Rodeo, Segindina Rosario, and Others (the actual status of these cases may be verified from the OVPLA) SOURCE: DLO
				3.5512	35,512.00	Deed of Sale	192686	RT-27912		42-C-11	Aug. 15, 1973				Part of Road Lot - Katipunan C-5 (National Road)
				8.5505	85,505.00	Deed of Sale				42-C-12					
	TOTAL LAND AREA			914.31	9,143,066.80										
8	Extension	Bolinao, Pangasinan (Marine Science Institute)	UP Diliman	4.97	50,033			RT-10564			Nov. 10, 1989				Donated by the Municipality of Bolinao, Pangasinan dated July 5, 1988.
	TOTAL LAND AREA			4.97	50,033.00										
9	Extension	UP Extension Program Pampanga, Clark Special Economic Zone, Pampanga	UP Diliman	3.33	33,300	The UP Extension Program Pampanga site still owned by CDC.									
10	Extension	8131 Manila Ave. Subcom Area, Subic Bay Freeport Zone, Olongapo	UP Diliman	0.05	500										
	TOTAL LAND AREA			3.38	33,800.00										
11	Marine Biological Station	Poblacion, Puerto Galera, Oriental Mindoro	UP Diliman	0.2626	2,626										
	TOTAL LAND AREA			0.2626	2,626										
	GRAND TOTAL LAND AREA			922.92	9,229,525.80										



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Members:
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Assoc. Prof. Mark Anthony M. Morales, D.Eng.
Asst. Prof. Mark Anthony M. Gamboa

Ar. Ringer T. Manalang
L.Ar. Jayvie F. Camacho
Ar. Alver Prince A. Remolar
Ar. Justin Benedict T. Famatigan
Ms Jeni Thereza A. Agu - Alvaniz

General References:
UP Diliman website

UP Resilience Institute. (n.d.). Hazard assessment and overlay analysis of the University of the Philippines Diliman to natural hazards for climate change adjusted disaster management. Quezon City: University of the Philippines.

SURP Plan 210.1 B Workshop (University of the Philippines - Diliman Campus Preliminary Master Plan); acquired by UP Diliman LUDIP Team March 2021
Adviser:
Dr. H.S. Lidasan
Team Members:
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https://www.theurbanroamer.com/up-diliman-part-1/
https://www.theurbanroamer.com/the-metropolis-and-its-capital-dreams-part-ii/

- m@m_m 2021 -