



Land Use Development and Infrastructure Plan (LUDIP)

UNIVERSITY OF THE PHILIPPINES MANILA



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PART 1: PROFILE OF SUC INCLUDING ITS CAMPUSES

1.1. INTRODUCTION

1.1.1. GENERAL INFORMATION OF THE SUC AND ITS CAMPUSES

UP Manila and its SHS Extension Campuses

UP Manila is known as the premier health sciences institution in the country and is the only UP unit to have four satellite campuses: School of Health Sciences (SHS) in Leyte, Baler, Koronadal and Tarlac with plans for expansion in Sta. Elena. Pursuant to fulfilling its role as a premier health sciences institution and in improving its contribution to national health goals, a physically conducive environment for learning, research, administrative and operational efficiency is a requisite. Revisiting the master plan of UP Manila campuses is contributory to matching its physical environment with the units' aspirations.

The UP Manila Campus which includes the Philippine General Hospital (PGH), has been existing for more than 100 years. Its long existence, expansion of its functions and academic programs, increasing clientele in terms of student population and patients, and the changing conditions in surrounding areas, provided the need to update the overall plan of the campus. Moreover, the limited space in the campus also calls for a plan that will address the demands for additional facilities, improved mobility, and additional green spaces.

On the other hand, the SHS campuses may need to anticipate future demands. One of the best ways to prepare for these anticipated demands is the creation of an updated campus master plan. As such, the connectivity and accessibility between the campuses and the cities where these are located may also be vital in improving clienteles' access to health services.

Campus Locations

| | | | |
|---|---------------------------------|-------------|---------------------------|
| A. | UP Manila Campus | Land Area: | 14 hectares |
| B. | SHS Baler, Aurora | | 1 hectare |
| C. | SHS Palo, Leyte | | 4,083 sqm (0.41 hectares) |
| D. | SHS Koronadal, South Cotabato* | | 2 hectares |
| E. | SHS Tarlac* | Floor Area: | 2,190 sqm |
| <i>*Site and building owned by the Local/Municipal Government</i> | | | |
| F. | SHS Sta. Elena, Tacloban, Leyte | | 3 hectares |



Figure 1 Location of UP Manila and SHS Campuses

1.1.2. LEGAL BASES / MANDATES

UP Manila as an Autonomous University

The University of the Philippines was founded by Act No. 1870 of the first Philippine Legislature on June 18, 1908 for the purpose of providing “advanced instruction in literature, philosophy, the sciences, the arts, and to give professional and technical writing/ training” to every qualified student regardless of “age, sex, nationality, religious belief and political affiliation.”¹ The creation of UP was attributed to the recommendation of the Secretary of Public Instruction, William Morgan Shuster to the Philippine Assembly.

The site of the old exposition grounds between Calle Isaac Peral and Calle Herran was identified by the Governor General who was authorized to choose the location in the “city of Manila or at any point he may deem most convenient”.² UP was situated near the already reserved area for the Philippine Medical School (now College of Medicine), the Philippine General Hospital and the Government Laboratory Building (location of the National Institutes of Health Building). This was a strategic location enabling a clinical approach to be integrated to the studies in medicine identifying the eventual future of the University of the Philippines Manila as a Health and Sciences Center.

The Health Sciences Center was established through RA 5163 on June 17, 1967 which was initially intended for the center’s creation at the Diliman Campus but was not realized due to fiscal constraints. The University of the Philippines was reorganized into the University of the Philippines System to allow authority and autonomy for the campus units through Presidential Decree No. 58, promulgated on November 20, 1972. This was approved by the Board of Regents at its 828th meeting on November 21, 1972 and was implemented on January 1, 1973.

On January 24, 1979, Executive Order 519 was signed “Creating a Health Sciences Center as an Autonomous Member of the University of the Philippines System.”³ This consisted of the Colleges of Medicine, Pharmacy and Dentistry, Institute of Public Health, the Philippine General Hospital, School of Allied Medical Professions, Institute of Ophthalmology, Institute of Health Sciences (Tacloban), Comprehensive Community Health Program, Anesthesiology Center for the Western Pacific, National Teacher Training Center for the Health Professions, and such other units of the University as may be approved by the Board of Regents.

It became the second autonomous unit of the UP System through Executive Order No. 4, issued by then UP President Edgardo Angara on October 22, 1982 and officially renamed as

¹ Philippines. (1908). *Official Gazette (Republic of the Philippines)*. <https://www.officialgazette.gov.ph/1908/06/18/act-no-1870/> [Accessed April 20, 2022]

² *Eighth Annual Report of the Philippine Commission to the Secretary of War 1907*, part 3, pp. 166-167

³ Philippines. (1979). *Official Gazette (Republic of the Philippines)*. <https://www.officialgazette.gov.ph/1979/01/24/executive-order-no-519-s-1979/> [Accessed April 28, 2022]

the University of the Philippines Manila.⁴ The College of Nursing and the College of Pharmacy located in UP Diliman were transferred to UP Manila to join the collective health science units.⁵

Now, UP Manila is one of the nine campus units in the University of the Philippines System under RA 9500 “An Act to Strengthen the University of the Philippines as a National University”.⁶

Creation of SHS Extension Campuses

The UP Institute of Health Sciences (IHS) was established⁷ on June 28, 1976 in Tacloban City, Leyte as a joint endeavor of the Ministry of Health, The Ministry of Local Government and Community Development and the UP System. This was a result of the desire to improve the country’s health and health manpower through the design of a medical curriculum that is socially conscious, community oriented and firmly committed to the service of the people. This idea from Dean Herrera and the “Extraordinary Curriculum Committee of the College of Medicine ” was in response to Dr. Francisco Nemenzo’s frustration of the fierce competition and admission to the College of Medicine in 1971. The Step-Ladder Curriculum was approved by the UP Board of Regents during its 871 meeting on April 19, 1976. With the support of the governor’s staff, HIS opened its door to a select group of 96 students whose NCEE scores ranged from a high of 90 to a low of 9, who started with the Certificate in Community Health Work (CHW) leading to the degree of BS Rural Medicine.

In 1981, the SHS campus moved to its present location in the Town of Palo on a 4,083 square meter lot donated by the municipality of Palo, Don Pio Pedrosa. The donation was put into the efforts by the virtue of Resolution 82-71 on October 20, 1982.⁸

On May 3, 1989, after 13 years of operation and being referred to as the “Tacloban Experiment,” the IHS was renamed as the School of Health unit by virtue of the Reorganization Act of UP Manila.⁹

The School of Health Sciences expanded to the provinces of Baler, Aurora and Koronadal, South Cotabato and Tarlac, Tarlac.

⁴ BOR 954th Meeting. (October 22, 1982). Transformation of Health Sciences Center (HSC) into U.P. Manila. Source: *University of the Philippines. UP Gazette. vol 13 (4), Oct-Dec 1982. p. 131.* <https://osu.up.edu.ph/1982/10/954/> [Accessed April 28, 2022]

⁵ ‘University of the Philippines Manila, History’, *Wikipedia, The Free Encyclopedia*, https://en.wikipedia.org/wiki/University_of_the_Philippines_Manila [Accessed 2021]

⁶ Philippines. (2008). *Official Gazette (Republic of the Philippines)*. <https://www.officialgazette.gov.ph/2008/04/19/republic-act-no-9500/>. [Accessed April 28, 2022]

⁷ According to BOR 871st meeting (April 29, 1976). The Board approved the establishment of the UP Institute of Health Sciences (Tacloban). *University of the Philippines. UP Gazette. vol. 7(4) p. 91.* (April 30, 1976). <https://osu.up.edu.ph/1976/04/871/> [Accessed May 5, 2022]

⁸ School of Health Sciences <https://www.upm.edu.ph/node/1266> [Accessed July 14, 2022]

⁹ ‘Campus History’. *UP Manila School of Health Sciences*. <https://shs.upm.edu.ph/campus> [Accessed 2021]

UPM-SHS Baler Aurora extension Campus was inaugurated last July 21, 2008 initiated by Senator Edgardo Angara and UP President Emerlinda Roman. The newly opened school was temporarily operated in the Zabali campus of the Aurora State College of Technology (ASCOT), while the UPSHS building was under construction. A memorandum of agreement was signed between the UP administration and ASCOT represented by its president, Dr. Eusebio Angara. The 150 Million UP SHS Baler campus is now located in a five-hectare lot in Barangay Reserva Baler, Aurora, 230 kilometers North of Manila. The project is jointly undertaken with the Department of Health (DOH) and the Provincial Government.

The extension campus is also intended to produce graduates of medicine-related courses who would fill the void caused by the lack of health professionals in the countryside. The UPSHS-Baler campus is the first UP specialized school on health in Luzon which will serve the health needs of people not only in the host province but also in the provinces of Isabela, Nueva Vizcaya, Quirino, and Nueva Ecija.¹⁰

UPM-SHS Koronadal City Campus is located along the National Highway Carpenter Hill, City of Koronadal. The school is situated in a two-hectare lot donated by the provincial government of South Cotabato. It started operation last June 2011 with two freshmen classes with a total of 35 students from all over Region 12.

UPM-SHS Tarlac is located at the IT Training Center Building, IT Park I, Tibag, Tarlac City. The 4-storey building has a floor area of 2,190 sqm and is owned by the Provincial Government of Tarlac. SHS Tarlac started its operation on October 4, 2021, with the admission of the first batch of 76 students in the Diploma in Midwifery program.

1.1.3. BRIEF PROFILE

Academic Thrust

The University of the Philippines Manila (UP Manila) is one of the eight constituent universities of the University of the Philippines (UP) System. It is a public and secular institution of higher learning that offers academic and training programs, as well as extension services in the health sciences, health professions education, arts, and sciences.

UP Manila is recognized today as the country's premier institution for the health sciences and the leader in health, human resource, education, training and research. It occupies an area of 14 hectares of prime land, comprising approximately two blocks in Manila's Ermita District.

UP Manila has nine (9) degree granting units: College of Allied Medical Professions (CAMP), College of Arts and Sciences (CAS), College of Dentistry (CD), College of Medicine (CM), College of Nursing (CN), College of Pharmacy (CP), College of Public Health (CPH), National Teacher Training Center for the Health Professions (NTTC-HP), and the School of Health Sciences (SHS) (located outside of the UP Manila main campus). These degree-granting units

¹⁰ 'Baler Campus'. *UP Manila School of Health Sciences*. <https://shs.upm.edu.ph/baler> [Accessed 2021]

continuously provide the highest quality of advanced instruction, professional training, basic and applied research and community service.

The College of Medicine and College of Nursing are recognized as Centers of Excellence (COE) by the Commission on Higher Education (CHED). In addition, the College of Nursing is a WHO Collaborating Center for Leadership in Nursing Development in the Asia-Pacific region. The South East Asian Ministers Educational Organization (SEAMEO) named the College of Public Health as the SEAMEO-TROPMED Regional Center for Public Health, Hospital Administration, and Environmental and Occupational Health. The National Teacher Training Center for the Health Professions is a WHO Regional Education Development Center for Health Professions Education.

General Institutional Needs

The General Institutional Needs of the University to support the University's health science-focused transformative education and research shall focus on the development of facilities by expanding capabilities through laboratory and simulation learning spaces, construction of a centralized information hub, and the enrichment and expansion of digital resources. Services for improving the quality of life for the students, faculty, staff, and visitors shall be prioritized by providing (1) additional housing to address the housing needs of the academic and hospital community. (2) Commercial and recreational establishments for resource generation for convenience (3) Greening and internal connectivity (4) and institutionalization of a healthy University Environment of the UPM Psychosocial Wellness Program, Disaster Risk Reduction and Management Program (5) Compliance to standards.

1.1.4. BRIEF HISTORY OF THE SUC AND ITS CAMPUSES

Historical Development and Timeline

The UP-Manila campus, which was founded on June 18, 1908, is the "original cradle" of the University of the Philippines with the College of Medicine and the Philippine General Hospital as among its original units. UP Manila has established its identity as *a learning institution for health sciences*.

1905 - (Dec. 1) Establishment of the Philippine Medical School (College of Medicine's precursor)¹¹

1907 - (June 10) Philippine Medical School opened at the School for the Deaf and Blind located at Malecon Drive (presently Bonifacio Drive). The United States Government passed a law establishing the Philippine General Hospital.¹²

¹¹ Source: *Eighth Annual Report of the Philippine Commission to the Secretary of War 1907*, part 3. p. 166.

¹² Recio, P.M. A Brief History of the Department of Surgery. *Acta Medica Philippina*. p. 46.

<https://repository.mainlib.upd.edu.ph/omekas/files/original/41270940bc5cd31f572c9bf0fb5f1713968b8b8d.pdf> [Accessed April 27, 2022]

1908 - (June 18) Through the University Charter (Philippine Legislature Act No. 1870), the University of the Philippines was established in Ermita, Manila in a 10-hectare lot between Calle Peral (now United Nations Avenue) and Padre Faura. The PMC was later renamed UP College of Medicine and Surgery.¹³

1910 - (July 1) UP College of Medicine and Surgery moved to Herrera Street west of the Bureau of Science (the Central Government Laboratories) and was entrusted to the control and management of the Board of Regents. The designs of CM and PGH Buildings were finalized earlier by William Parsons than the first of the university buildings in the main campus. The 350-bed capacity PGH was opened to the public for health care delivery and clinical instruction and training of medical students. The planning, design and building of the original campus took three decades with over a million pesos allocated to the physical development of the university in the first decade of its existence. The first buildings erected were the University Hall (now the Department of Justice and Supreme Court), University Library, and Villamor Hall for the School of Fine Arts, and Conservatory of Music.¹⁴

1914 to 1927 - School of Pharmacy (February 12, 1914)¹⁵, Department of Dentistry (February 8, 1915)¹⁶ and the School of Sanitation and Public Health (1927)¹⁷ were established under CM, which in turn diversified the course offerings of the university.

1932, School of Sanitation and Public Health, School of Pharmacy and Department of Dentistry were converted into full-fledged degree offering units.

1935 - Guillermo Tolentino was commissioned by President Rafael Palma to create a “major sculptural piece for the Padre Faura Campus”, with the second verse of Jose Rizal’s poem, Mi Ultimo Adios, as the inspiration. From this, the Oblation was created which stood in front of the Rizal Hall (now College of Arts and Sciences). The Oblation became the symbol of the university that signifies service to the nation.¹⁸

1945 - UP Manila suffered the destruction of World War II wherein the whole campus was severely damaged. With makeshift repairs, academic functions resumed and the PGH continued operations.

¹³ Philippines. (1908). *Official Gazette (Republic of the Philippines)*. <https://www.officialgazette.gov.ph/1908/06/18/act-no-1870/> [Accessed April 22, 2022]

¹⁴ Source: Recio, P.M. A Brief History of the Department of Surgery. *Acta Medica Philippina*. p. 47. <https://repository.mainlib.upd.edu.ph/omekas/files/original/41270940bc5cd31f572c9bf0fb5f1713968b8b8d.pdf> [Accessed April 27, 2022]

¹⁵ *University of the Philippines Catalogue of Information*. 1997-99. p. 233.

¹⁶ *University of the Philippines General Catalogue*. 1954-1955. p. 234.

¹⁷ *University of the Philippines College of Public Health 60th Foundation Day*. June 1-6, 1987.

¹⁸ Encarnacion, A.DP. (2017). ‘For the nation, for the people’. *UP Forum*. October 18, 2017.

<https://up.edu.ph/for-the-nation-for-the-people/#:~:text=Since%20the%20Oblation's%20move%20from,versions%20of%20the%20beloved%20figure> [Accessed April 27, 2022].

1948 - The university was transferred to Diliman, Quezon City. The units of Medicine, Dentistry and Public Health were left in Ermita, together with the College of Arts and Sciences. On the sides of the campus facing Taft and UN Avenue, the World Health Organization, National Bureau of Investigation, and Philamlife Corporation were built. It is also in this year that the College of Nursing was established¹⁹ in Diliman, making it the first baccalaureate program in Nursing in the country.

1949 - The Oblation was transferred to Diliman in a march dubbed as “Exodus”.²⁰

1967 - (June 17), the Health Sciences Center (HSC) was created in UP through RA 5163²¹, however, it did not materialize at the Diliman Campus.²² The HSC was originally mandated to seek and “emphasize the highest standards of training and research in the various health sciences”.

1972 - UP College of Manila was established as the first extension unit to offer liberal arts courses. It was in the same year when UP was reorganized into the University of the Philippines System to effect institutional unity while allowing decentralization of authority and autonomy of component units through Presidential Decree No. 58²³, under the administration of President Marcos.

1979 - The Health Sciences Center became an autonomous component of the UP System through Executive Order No. 519. The HSC was composed of the College of Medicine (CM), College of Pharmacy (CP), College of Dentistry (CD), Institute of Public Health (IPH) now the College of Public Health (CPH), School of Allied Medical Professions, now College of Allied Medical Professions (CAMP), Philippine General Hospital (PGH), University of the Philippines Health Service (UPHS), Philippine.

Eye Referral Institute (PERI) renamed as the Institute of Ophthalmology, National Teacher Training Center for the Health Professions (NTRC HP), Comprehensive Community Health

¹⁹ Accdg. to the BOR 519th Meeting (April 9, 1948) the Board approved the establishment of a College of Nursing to replace the former School of Public Health Nursing.

²⁰ February 11, 1949 - The Oblation was transferred to Diliman

Source: Encarnacion, A.DP. (2017). ‘For the nation, for the people’. *UP Forum*. October 18, 2017.

<https://up.edu.ph/for-the-nation-for-the-people/#:~:text=Since%20the%20Oblation's%20move%20from,versions%20of%20the%20beloved%20figure> [Accessed April 27, 2022].

²¹ Republic Act No. 5163 (June 17, 1967) An Act Establishing A Health Sciences Center in The University of The Philippines, Appropriating Funds Therefore, And for Other Purposes. <https://www.lawyerly.ph/laws/view/14c09> [Accessed April 22, 2022].

²² [T-1293] Carlos P. Romulo Memorandum. Re: The Proposal to Established a U.P. Medical Research Organization (May 15, 1964).

²³ Philippines. (1972). *Official Gazette (Republic of the Philippines)*. <https://www.officialgazette.gov.ph/1972/11/20/presidential-decree-no-58-s-1972/> [Accessed April 22, 2022]. Presidential Decree No. 58, S. 1972. Constituting the University of The Philippines At Los Baños, Granting It Full and Complete Autonomy, And Amending the Charter of The University of The Philippines.

Program, and the Anesthesiology Center Western Pacific. The last two units have been abolished.

1982 - UP President Edgardo Angara issued Executive Order No. 4 renaming the HSC to University of the Philippines Manila, making it the second autonomous unit of the UP System.²⁴ The Colleges of Nursing and Pharmacy transferred from Diliman to Manila Campus.²⁵

1983 - UPM first reorganized to integrate the UP-Health Sciences Center and the College of Arts and Sciences (formerly UP College Manila)

1987 - UPM underwent a second reorganization and “crystallized UP Manila’s philosophy, mission, organization structure, governance and academic programs to what they are today.”²⁷

1989 - The Institute of Health Sciences (IHS) which used to be an extension unit of the College of Medicine was transformed into the School of Health Sciences (SHS)²⁸ and became an independent unit of UP Manila. Three more satellite campuses of SHS were established in Baler, Aurora in 2008, Koronadal City, South Cotabato in 2011, and Tarlac City, Tarlac in 2021²⁹.

²⁴ BOR 954th Meeting (October 22, 1982). Transformation of Health Sciences Center (HSC) into U.P. Manila. Source: University of the Philippines. *UP Gazette. vol 13 (4), Oct-Dec 1982. p. 131.* <https://osu.up.edu.ph/1982/10/954/> [Accessed April 28, 2022].

²⁵ BOR 954th Meeting (October 22, 1982). CN and CP will be relocated at the end of the year to the former NEDA Building. Source: University of the Philippines. *UP Gazette. vol 13 (4), Oct-Dec 1982. p. 131.* <https://osu.up.edu.ph/1982/10/954/> [Accessed April 28, 2022].

²⁶ Acddg. to BOR 957th Meeting (January 27, 1983). Executive Order No. 4: On the Reorganization of the University of the Philippines, Sec. 5. the UP Manila shall be composed of all the existing units of the former Health Sciences Center. The UP College of Arts and Sciences Manila (formerly UP College Manila) shall form part of the UP Manila.

Source: University of the Philippines. *UP Gazette. vol 11 (1), Jan-Mer 1983. p. 3-4.* <https://osu.up.edu.ph/1983/01/957/> [Accessed April 28, 2022].

²⁷ Memorandum No. 4.: Reorganization of U.P. Manila.

Pursuant to the resolution of the BOR at its 1005th Meeting on September 24, 1987, the Office of the UP President initiating the process for the reorganization of the U.P. Manila.

Source: University of the Philippines. *UP Gazette. vol 18 (4), Oct-Dec 1987. p. 100-101.* <https://osu.up.edu.ph/1987/09/1005/> [Accessed April 28, 2022]

²⁸ BOR 1019th Meeting, March 3, 1989. The Board approved the change of name of the Institute of Health Sciences to School of Health Sciences.

Source: University of the Philippines. *UP Gazette. vol 20 (1), Jan-Mar 1989. p. 9.* <https://osu.up.edu.ph/1989/01/1018/> [Accessed April 28, 2022]

²⁹ Tandico, F. (2021). UP Manila SHS Tarlac to Open Aug 2021. *University of the Philippines Manila Healthscape*, (Special COVID-19 Issue no. 27). p.1; 5.

<https://www.upm.edu.ph/sites/default/files/newsletters/UP%20Manila%20Healthscape%20%28Special%20COVID-19%20Issue%20No.%2027%2C%2028%20May%202021%29.pdf> [Accessed April 28, 2021].

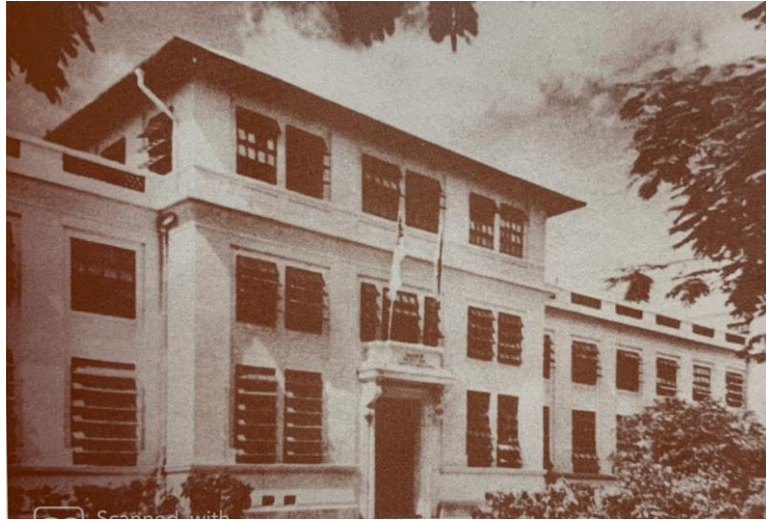


Figure 2 Philippine Medical School



Figure 3 PGH Administration Building image from the Project Gutenberg E-Book of The Philippines: Past and Present (Volume 1 of 2) by Dean Conant Worcester



Figure 4 Rizal Hall and former Oblation Plaza



Figure 5 Statues facing the open quadrangle flanked by Rizal Hall, the University Library (Supreme Court), and Palma Hall (DOJ)

SHS Campuses

The UP College of Medicine's graduate leaders in Philippine medicine and its curriculum became one of the models for medical schools in the country. However, in the seventies, the country's health situation was characterized by over-specialization, the brain drains, maldistribution of health manpower which were disproportionately concentrated in urban areas and neglect of the rural areas.

In 1971, Dr. Francisco Nemenzo, the Dean of the UP College of Arts and Sciences in UP Diliman, expressed that the fierce competition for admission to the College of Medicine was breeding a generation of individualistic, self-centered, grade-conscious arts and sciences students who cared not for knowledge and how it could help serve their people but to have good grades that would allow them to enter the College of Medicine.

Dean Herrera, thereafter convened an "Extraordinary Curriculum Committee of the College of Medicine" to design a medical curriculum that would develop graduates who were not only scientifically disciplined and medically competent but more importantly, socially conscious, community-oriented and firmly committed to the service of the people, thus giving birth to the step-ladder curriculum and to the Institute of Health Sciences.

The UP Institute of Health Science (IHS) was established on June 28, 1976 in Tacloban City, Leyte as a joint endeavor of the Ministry of Health, The Ministry of Local Government and Community Development and the UP System. The Step-Ladder Curriculum was approved by the UP Board of Regents during its 871 meeting in April 19, 1976. With the support of the governor's staff, IHS opened its door to a select group of 96 students, who started with the Certificate in Community Health Work (CHW) leading to the degree of BS Rural Medicine.

In 1981, the SHS campus moved to its present location in the Town of Palo on 4,083 square meter lot donated by the municipality of Palo, Don Pio Pedrosa. The donation was made by the virtue of Resolution 82-71 on October 20, 1982.³⁰

On May 3, 1989, after 13 years of operation and being referred to as the “Tacloban Experiment,” the IHS was renamed as the School of Health unit by virtue of the Reorganization Act of UP Manila.

To provide wider access of poor deserving students to health professions education in the SHS, the Board of Regents in August 22, 2007 during its 1223rd meeting in UP-Baguio City approved the establishment of two extension campuses: one in Luzon situated in Baler, Aurora and the other campus in Mindanao situated in Koronadal City, South Cotabato. The establishment of these extension campuses was initiated by Senator Edgardo Angara with then President Emerlinda Roman and UP Manila Chancellor Ramon Arcadio supported by the DOH and Local Government Units of the provinces of Aurora and South Cotabato respectively. The SHS extension campus in Baler, Aurora was launched on July 21, 2008 as one of UP’s Centennial Offerings to the country, while the extension campus in Koronadal City was launched on June 15, 2009. Meanwhile, the request of Governor Susan Yap of the Province of Tarlac in 2018 to set-up a SHS in Tarlac City became a reality when the UP Board of Regents during its 1358th meeting approved the establishment of the University of the Philippines Manila – School of Health Sciences Extension Campus in the Province of Tarlac.

Historical Site Development

The site for the Philippine General Hospital (which was then expanded to include UP Manila), was selected by American Architect and Urban Planner Daniel H. Burnham in 1907. In 1910, William Parsons finished the design of the Philippine General Hospital and College of Medicine. Prominent architects later on designed other buildings on the campus. These architects include Tomas Mapua who designed the PGH Nurse’s Home, and Antonio Toledo for the UP Library (now occupied by the Supreme Court), Cancer Institute and the UP College of Medicine Buildings.

Most of UP Manila's buildings are designed in Neoclassical style, a theme which has been preserved in recent architectural additions. The design of the Philippine General Hospital became the template for many tropical hospitals in Asia and tropical America. The National Historical Commission of the Philippines declared several sites within the campus, specifically the Philippine General Hospital, as heritage zones and were listed in the National Registry of Historic Sites and Structures in the Philippines.

³⁰ History of SHS Campus <https://shs.upm.edu.ph/node/16> [accessed July 14, 2022]

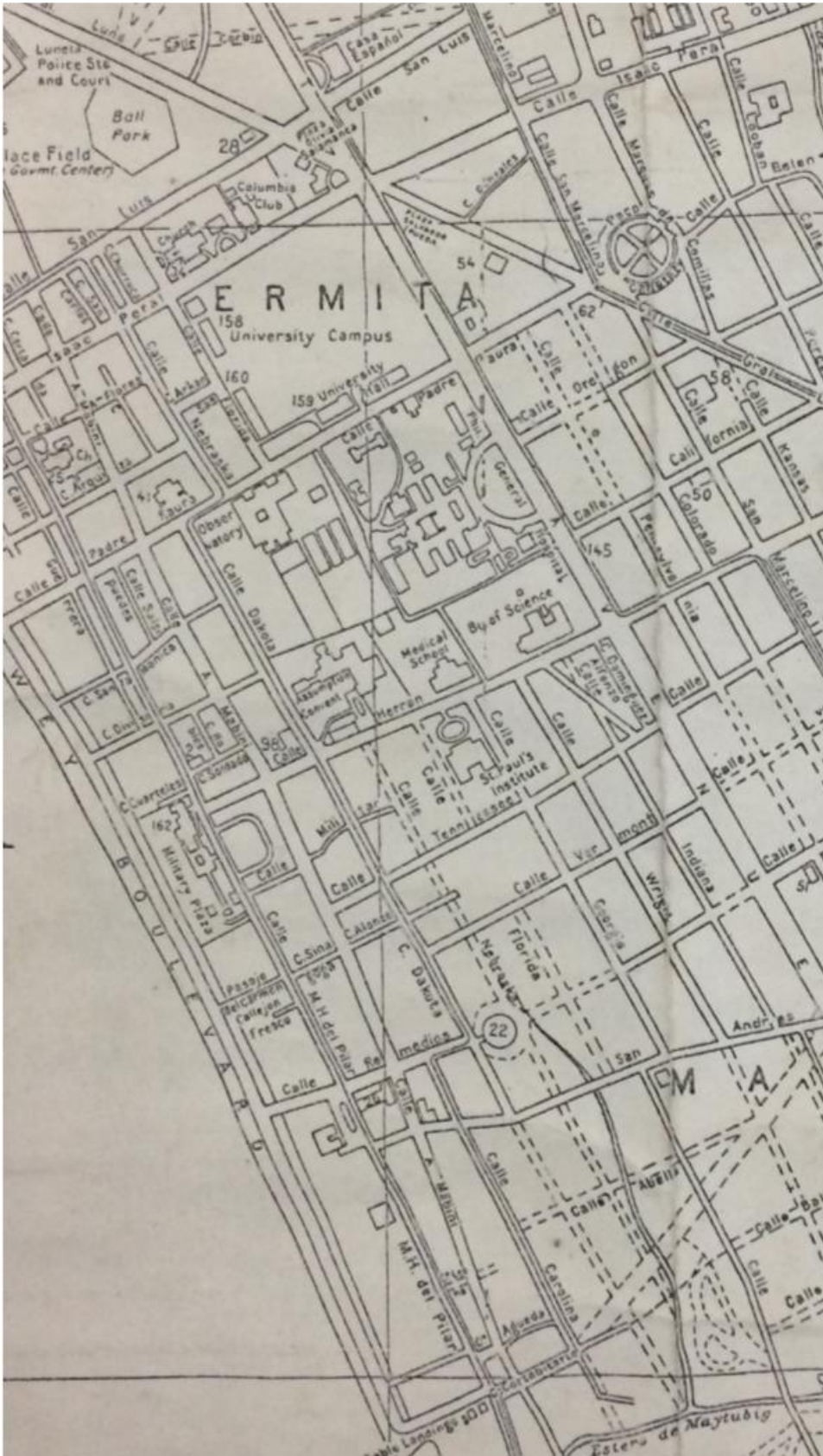


Figure 6 Pre-war map of Ermita showing the UP-Manila Campus (1923) City of Manila, Philippine Islands

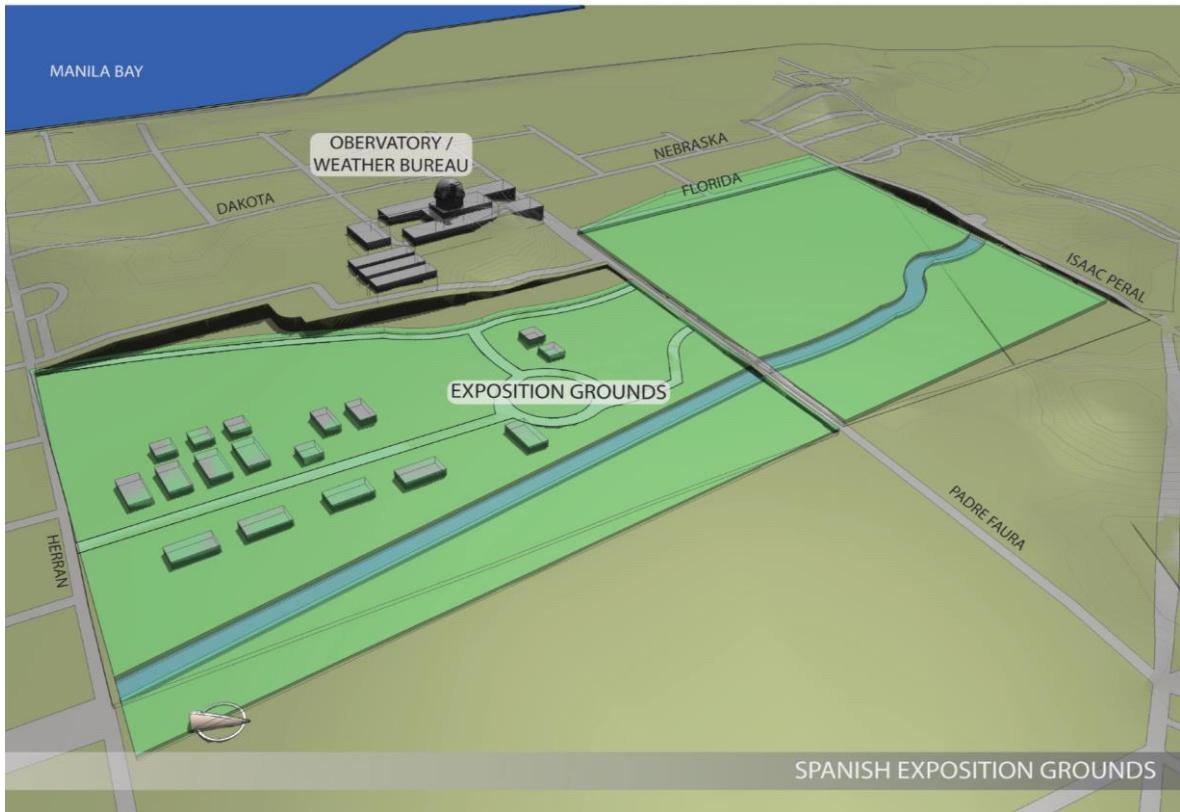


Figure 7 Spanish Exposition Grounds

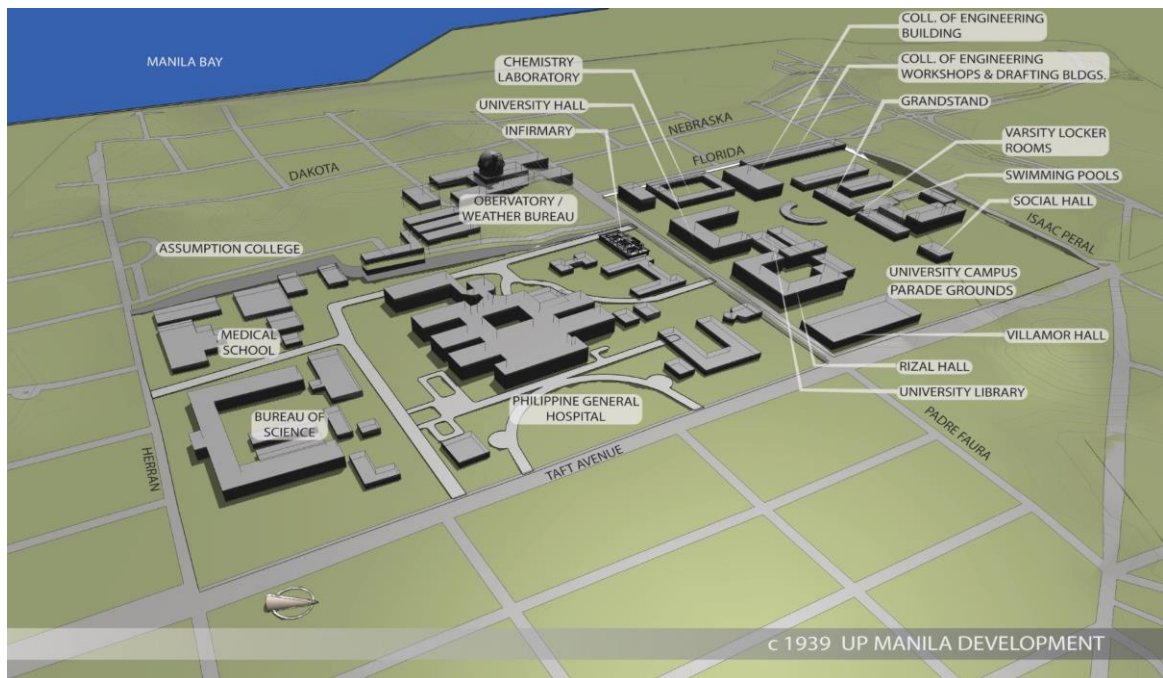


Figure 8 Pre-war UP Manila Development

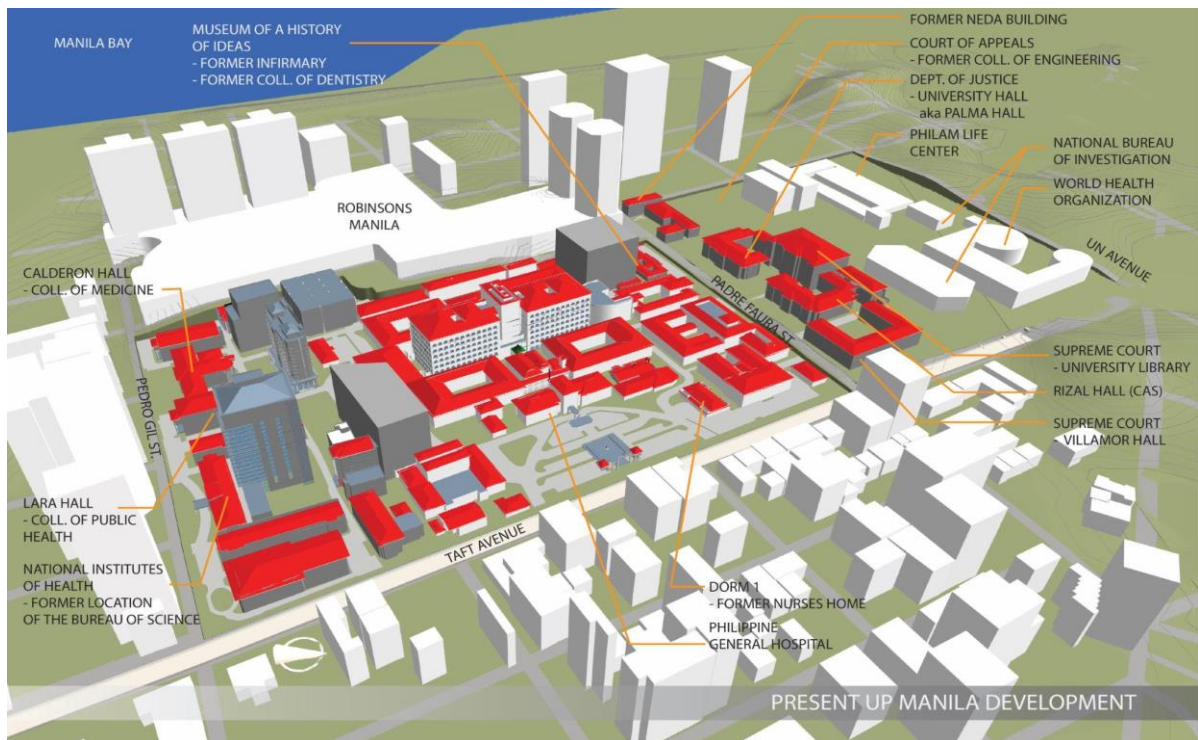


Figure 9 Present UP Manila Development

1.1.5. CURRENT GOVERNING BOARD/ INTER-DEPARTMENT BODIES

The current governing board of the University of the Philippines is the Board of Regents with the UP President as the managing representative. UP Manila is headed by the Chancellor and supported by the Vice Chancellors for Academic Affairs, Administration and Finance, Planning and Development, and Research. The reorganization of the UP Manila Organizational Chart was approved by the Board of Regents in its 1359th meeting on March 25, 2021 (Fig. 10). The modification is the transfer of management of offices and the institution of new offices.

Aside from the Central Administration, the Chancellor is the head of the nine degree granting colleges namely the College of Allied Medical Professions, College of Arts and Sciences, College of Dentistry, College of Medicine, College of Nursing, College of Pharmacy, College of Public Health, National Teachers Teaching College for the Health Professionals, and the School of Health Sciences located in the different provinces. The Philippine General Hospital Director and the National Institutes of Health are also within the jurisdiction of the Chancellor.

UNIVERSITY OF THE PHILIPPINES MANILA
Proposed Organizational Chart 2021

LEGEND:
For creation

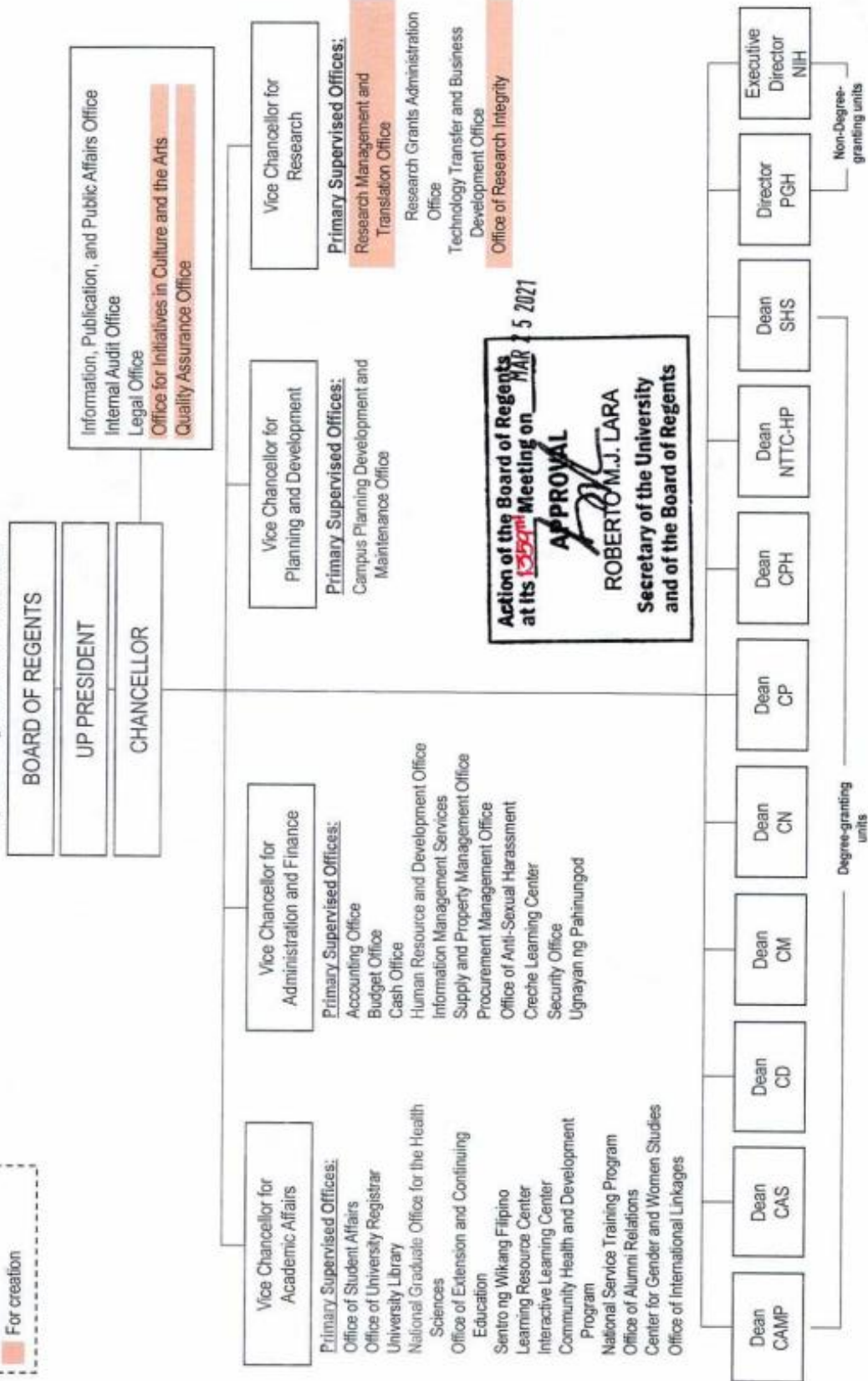


Figure 10 UP Manila Organizational Chart (Source: <https://www.upm.edu.ph/node/3301>)

1.1.6. PROGRAMS OFFERED

Academic Programs

Along with its pursuit of excellence, UP Manila offers academic programs that are responsive to the needs and aspirations of the Filipino people. It has 20 undergraduate programs, 29 master's programs with various tracks, seven (7) doctoral programs, seven (7) diploma programs and three (3) certificate programs.

Comprehensive Degree Programs

UP Manila offers 20 undergraduate, 29 masters, and 7 doctoral degree programs to approximately 5300 students through its seven colleges, the School of Health Sciences (SHS), and the National Teacher Training Center for the Health Professions (NTTCHP). The University offers courses and subjects in medicine, nursing, dentistry, allied medical professions, arts and sciences, pharmacy, public health, and health professions education.

UP Manila Colleges and Degree Programs

A. College of Medicine (CM)

The College of Medicine (UPCM) is the medical school of UP Manila, the oldest constituent university of the UP System. Its establishment in 1905 antedates the foundation of the UP System and makes it one of the oldest medical schools in the country. The Philippine General Hospital, the national university hospital, serves as its teaching hospital.

During World War II it is said that the College of Medicine was the only unit of the UP System that continued its operations. Thus, the dean of the College then concurrently served as the President of the System.

The UPCM has been designated as a Center of Excellence in Medical Education by the Commission on Higher Education (CHED).

Courses:

- **Bachelor of Science in Basic Medical Sciences (INTARMED)**

The Integrated Liberal Arts and Medicine (INTARMED) program is a seven (7) year program which shortens medical education by two (2) years. It consists of 2 years of general education and pre-medical courses, four (4) years of medical courses and one (1) year of internship. The baccalaureate degree in Basic Medicine is awarded to students who have satisfactorily completed the first four years of this 7-year program. The program accepts 40 students (20 male and 20 female) direct from high school who are called direct entrants.

- **Doctor of Medicine (CM)**

A five (5) year program (including 4 years of medicine and 1 year of internship) aimed at producing highly competent doctors using an organ system integrated curriculum which uses organ systems as foci for learning. It utilizes a biopsychosocial approach to understanding disease, introduces early clinical exposure and revisits the basic sciences in the clinical years. This program accepts students who have completed a baccalaureate degree and enter as lateral entrants in the third year of the INTARMED program.

- **Doctor of Medicine (SHS)**

The medicine program is the last ladder of the SHS's step-ladder curriculum. This program requires another twenty quarters of alternate didactic, clinical and community practicum. Students are expected to acquire knowledge, skills and attitude of a Municipal Health Officer.

B. College of Nursing (CN)

The College of Nursing (UPCN) was conceived through a thesis presented to the Division of Biological Sciences, University of Chicago, by Ms. Julita V. Sotejo, entitled, "A University School of Nursing in the University of the Philippines." The proposal was approved by the Board of Regents on 9 April 1948 as the University of the Philippines College of Nursing.

The first academic offerings of UPCN in 1948 were the baccalaureate program, Bachelor of Science in Nursing (BSN) for high school graduates, and the Post-Basic Program for nurses who graduated from the three-year Graduate in Nursing (G.N.). This is the first university-based BSN program in the Philippines.

In 1972, President Marcos signed Executive Order 545 that merged the Philippine General Hospital School of Nursing and the UP College of Nursing. In 1979, UPCN made another first in the country through the offering of the Doctor of Philosophy (Nursing) program. With the creation of UP Manila as the Health Sciences Center in 1977, the UPCN became one of its nine degree-granting units. The College moved out of its place at the first floor of the UP College of Law in Diliman, Quezon City and joined the rest of the health professions in Manila.

The UPCN was designated as a World Health Organization Collaborating Center (WHOCC) for Nursing Development in Primary Health Care on 15 March 1989. From 2 January 2004 to present, it was re-designated as WHOCC for Leadership in Nursing Development. The UPCN is the first and only WHOCC in Nursing in the country and the first in the Western Pacific Region.

As the premier nursing school in the country, the UPCN has also been designated as Commission on Higher Education (CHED) Center of Excellence in Nursing Education since 1996 until present. The history of the many firsts for UPCN continues to this very day.

Courses:

- **Bachelor of Science in Nursing (CN)**

BSN is a 4-year outcome-based and community-oriented degree program that aims to produce nurses with beginning competencies as practitioners, researchers, leaders and managers in any care setting. Since its inception in 1948, UPCN has maintained a one hundred percent passing rate in the Philippine Nursing Licensure Examination.

- **Bachelor of Science in Nursing (SHS)**

The Nursing Program is the second ladder in the SHS's step-ladder curriculum which requires another eight quarters of training consisting of alternate didactic, clinical and community practicum. After finishing the course, they are expected to acquire the knowledge, skills and attitude of a Public Health Nurse and earn the degree of Bachelor of Science in Nursing.

C. College of Pharmacy (CP)

The College of Pharmacy is one of the nine degree-granting units of UP Manila. The College was founded in 1914, but the Pharmacy program has been part of UP since 1911. As part of the Health Sciences constituent of the UP System, the College of Pharmacy contributes to capacity building, innovations on healthcare, and delivery of health services and education to the public through its graduates who lead the pharmacy profession.

Courses:

- **Bachelor of Science in Pharmacy**

The revised Bachelor of Science in Pharmacy (BSP) program is an outcomes-based five year-program which is directed towards a patient-centered pharmacy education with emphasis on more Clinical Pharmacy subjects, Pharmacotherapeutics, and Introductory and Advanced Practice Experiences in different pharmacy settings.

BSP graduates of UPCP are highly skilled in providing pharmaceutical care and drug information in both community and clinical settings taught through innovative professional pharmacy courses that emulate actual patient care settings and internship that exposes them to pharmacy practice. The BSP is a quota course and the number of slots to be filled is between 40 to 50 students every year. As of AY 2019 - 2020, the program received 1739 applications and admitted 45 enrollees.

- **Bachelor of Science in Pharmaceutical Sciences**

The five-year Bachelor of Science in Pharmaceutical Sciences (BSPS) program is designed to equip the students with the fundamental principles of pharmaceutical sciences, grounded in sound principles from different broad fields such as biology, chemistry, and mathematics.

The outcome-based undergraduate bachelor program is a revised program that replaced the Bachelor of Science in Industrial Pharmacy (BSIP) curriculum. As a more research-intensive program, BSPS offers students an interdisciplinary curriculum that develops key competencies required for a career in pharmaceutical science whether in academia, research institutes, regulatory bodies, or the pharmaceutical industry.

The BSPS program has limited slots and as of AY 2019-2020, it received 196 applicants where only 46 were admitted.

D. College of Allied Medical Professions (CAMP)

CAMP provides academic and other programs on physical therapy, speech pathology, audiology, and occupational therapy that produce well-rounded professionals with strong work and personal ethics.

CAMP professionals are progressive thinkers attuned to lifelong learning, oriented to service and leadership, and responsive to the evolving health needs of the community. The programs place a premium on effective interpersonal skills as well as reflective evidence-informed practice.

Ultimately, the college programs in physical therapy, speech pathology, audiology, and occupational therapy contribute to a healthy and productive society.

As of the second semester of academic year 2020-2021, there are 388 undergraduate and 34 graduate students enrolled in the different programs of the college.

Courses:

- **Bachelor of Science in Occupational Therapy**

The program aims to develop graduates who possess a high standard of knowledge, skills, and attitudes that will allow them to effectively enable people to participate in day-to-day activities that are meaningful to them. The program also aims to prepare its graduates to take on various professional roles in response to local practice needs and be more adequately prepared to meet health care demands in global contexts. It has maintained accreditation by the World Federation of Occupational Therapists (WFOT) since 1968.

- **Bachelor of Science in Physical Therapy**

The program is designed to equip graduates with entry-level competencies enabling them to provide high quality physical therapy care in different practice settings and responsibly assume different physical therapy practitioner roles focused in developing, maintaining and restoring maximum movement and functional ability of clients. Graduates will be imbued with strong professional behaviors, capacity for critical thinking and self-directed learning, leadership, and sense of patriotism and social responsibility.

- **Bachelor of Science in Speech Pathology**

The program was designed to develop practitioners who can competently respond to the needs of Filipinos with communication disorders and related conditions and who are globally competitive as well as socially and morally responsible. The program aims to develop the necessary skills, knowledge, and attitudes of its graduates to successfully evaluate possible communication disorders and related conditions, as well as to formulate and carry out intervention programs for individuals with communication disorders within the multilingual context and the resource conditions that currently prevail in the Philippines.

E. College of Dentistry (CD)

The UP College of Dentistry (UPCD) was established in 1915. Since then it has produced numerous graduates with the degree of Doctor of Dental Medicine and several graduates with the degree of Master of Science in Orthodontics.

The UP College of Dentistry has received recognition for its quality education as evidenced from its graduates' consistently outstanding performance in the National Dental Board Examination, research works, and non-degree continuing education courses.

The University of the Philippines Manila College of Dentistry envisions itself to be the country's premier academic institution providing quality dental education, training, research and service; characterized by global competence, social sensitivity and responsible leadership in the continuous pursuit of excellence for the service of God and the nation.

Courses:

- **Doctor of Dental Medicine**

The program aims to graduate dentists who will be able to manage patients competently while maintaining professional and ethical conduct; promote oral and systemic health care toward community and national development; conduct

technically and ethically sound research for improvement of oral health; advocate for improvement of dental health in the country. As of the second semester of academic year 2020-2021, there are 195 undergraduate students enrolled in the program.

F. College of Arts and Sciences (CAS)

The College of Arts and Sciences started as the University Extension Division on June 21, 1951. The Extension Division was housed in Rizal Hall, which was one of the buildings of the original University campus in Padre Faura, Manila in 1908. Its mission then was to offer evening classes for working students.

From an extension division, the College of Arts and Sciences has evolved into an institution offering 10 undergraduate programs and three master's degree programs to 1651 students as of the second semester of AY 2020-2021.

Courses:

- **Bachelor of Arts in Behavioral Sciences**

The degree deals primarily with human action and often seeks to generalize about human behavior in society from anthropological, sociological and psychological perspectives. The program uses an interdisciplinary and trans-disciplinary approach to equip students with the knowledge and skills to understand the dynamics of human behavior in the context of the Filipino psyche.

- **Bachelor of Arts in Development Studies**

This program is a multidisciplinary field of study that includes an understanding of the economic, political, social, technological, and cultural aspects of social change, especially in underdeveloped and developing countries.

- **Bachelor of Arts in Organizational Communication**

Through a broad-ranging curriculum, the BA OrCom program trains students to manage the communication function of organizations of any size or shape. The program seeks to address the ever-increasing demand for expertise in modern communication in organizations in the Philippines through a holistic perspective of organizational dynamics.

- **Bachelor of Arts in Philippine Arts**

The program is a pioneering curriculum in cultural heritage and arts management in the country which focuses on the context of culture and the strengthening of national unity and social transformation through the arts. The program covers Philippine art within the context of national culture and history, with special attention to its contribution to the definition and formation of a national identity and its role in social transformation.

- **Bachelor of Arts in Political Science**

This program is multi-disciplinary in approach and in framework that covers the traditional study of politics, emerging issues on health social sciences, Islamic and other religious movements, peace and conflict resolution, human rights, gender studies, sustainable development and organizing, ethics, to people's diplomacy, from the statistical approach to the civil society approach

- **Bachelor of Arts in Social Sciences (Area Studies)**

This is a multi- and trans-disciplinary program that studies specific geographic and cultural areas, in particular the Philippines and Asia, utilizing the different social science disciplines of history, politics, economics, geography, anthropology, and sociology.

- **Bachelor of Science in Applied Physics**

This is a 4-year undergraduate program science curriculum with emphasis on the fundamental concepts and principles of physics and their applications in health and medicine.

- **Bachelor of Science in Biochemistry**

The BS Biochemistry is a four-year undergraduate program that aims to develop human resources competent in theoretical and practical aspects of biochemistry by providing students with an understanding of physiological processes at the molecular level.

- **Bachelor of Science in Biology**

The program allows for a diversified exposure to different aspects of biological organization -- biochemical, cellular, physiological, and ecological that provides the avenue to explore the nature of life; to explain life's complex processes; to develop ways and means to improve the quality of life; and to conduct significant studies whose outcomes can be translated into meaningful and useful products that could respond to the ever-changing needs of the society.

- **Bachelor of Science in Computer Science**

The BS Computer Science is a four-year program that provides a solid technical background and experience in real systems to enable the students to handle various aspects of systems development, data management, scientific computing and geared towards development of software packages for the needs of the health sciences.

G. College of Public Health (CPH)

Established in June 1927 for the training of medical officers in the Philippine Health Service, the College was born out of the resolute determination of its founding Dean, Dr. Hilario Lara. Originally called the School of Sanitation and Public Health, its name was changed in 1929 to School of Hygiene; in 1938, to Institute of Hygiene; in 1971, to Institute of Public Health; and in 1986, to College of Public Health. The College has ever since fulfilled its role as a leader and trailblazer in the capability-building of public health practitioners, scholars and researchers in the nation and the region. As of writing, CPH has 291 undergraduate students and 401 graduate students enrolled for the second semester of AY 2020-2021.

Courses:

- **Bachelor of Science in Public Health**

The Bachelor of Science in Public Health (BSPH) is a four-year course, the first three semesters of which are given in the College of Arts and Sciences and the succeeding years will be in the College of Public Health. The program incorporates two professional tracks: Population Health and Medical Laboratory Science. BSPH is designed to provide students with academic and practical training in the basic sciences and in related fields relevant to public health work such as professional disciplines in health policy, hospital administration, health promotion, occupational and environmental health, biostatistics and epidemiology, nutrition, medical microbiology and parasitology.

H. National Teacher Training Center for the Health Professions

NTTCHP is the second youngest college of UP Manila. It was founded on 30 January 1975 by the UP Board of Regents in recognition of the need for professional training of health professionals to engage in effective teaching, research, and extension service.

From the first semester of 1981-1982, NTTCHP became a degree-granting graduate college of UP Manila when it started to offer the Master in Health Professions Education (MHPed) degree. From the first semester 2001-2002, the curriculum evolved into a ladder-type post graduate program from the Basic Course in Health Professions Education (BCHPEd), to the Diploma (DHPEd), and the MHPed. As of the end of first semester 2019-2020, the college has graduated 95 BCHEd, 101 DHPEd, and 189 MHPed.

Effective September 17, 2020, NTTCHP's curriculum has been revised into two master's degree programs namely the Master in Health Professions Education (MHPed), Professional Track, and the Master of Arts in HPed (MAHPed), Academic Track. As of the second semester of AY 2020-2021, NTTCHP has 187 students presently enrolled in its different programs.

Courses:

- **Master in Health Professions Education (MHPed)**

MHPed is a professional track master's program, designed to improve the theoretical and practical competencies of health professions educators in the performance of their varied roles as facilitators of learning, curriculum and instructional designers, student evaluators, administrators and educational leaders, and researchers.

- **Master of Arts in Health Professions Education (MAHPed)**

MAHPed is an academic track master's program, which prepares graduates for application, generation, and production of new knowledge for the advancement of Health Professions Education.

- **Doctor in Health Professions Education (DrHPed)**

Following a reconstructionist philosophy, the program provides expanded opportunities to explore individual professional, instructional, and organizational contexts as health professions educators and aims to develop critical thinking, self-reflection, and innovative thinking through presentation of real issues and challenges.

I. School of Health Sciences (SHS)

Established in 1976, the School of Health Sciences (SHS) was seen as the solution to the lack of an inequitable distribution of health professionals in the rural communities. The School had its humble beginnings in a two-classroom building and a small nipa hut at the Daniel Z. Romualdez Hospital (now Eastern Visayas Regional Medical Center) before it transferred to its present campus in Palo, Leyte, which serves as the main campus. Extension campuses are situated in Baler, Aurora, Koronadal City, South Cotabato and Tarlac City, Tarlac.

The School's mission is to develop outstanding and committed health professionals who will stay and serve in the Philippines through excellent community-based, competency based, community-oriented education directed towards service in depressed and underserved areas of the country.

The students do not take the UP College Admission Test but are nominated by their respective local government units. Educational attainment and honors received are not the main criteria for admission but the dire need of their communities for health professionals and their willingness to go back and serve. The School educates midwives, nurses, and doctors using a step-ladder curriculum that is community-based and competency-based. The curriculum allows students to graduate at any of the three levels and return to the community as a functional health worker.

Graduate School

A. Master of Science

- **Master of Science in Biochemistry / Certificate in Biochemistry**

The objective of the program under UP CM is to encourage the development of Biochemistry in the Philippines through the production of highly trained biochemists whose research works contribute to the development of new knowledge.

- **Master of Science in Bioethics / Diploma in Bioethics**

A two-year program, proposed jointly by the Department of Philosophy, CSSP, UP Diliman and the College of Medicine, UP Manila. It is geared towards developing competence in research and instruction in the ethical and technical aspects of health care, medicine, the biological sciences, and biotechnology. As distinguished from the Diploma Program, it is oriented towards research and is intended to provide students with the capability to make original contributions to the field of bioethics.

- **Master of Science in Clinical Medicine (Medical Oncology)**

The program aims to provide access to higher education, providing opportunities to acquire knowledge, to be trained not only as a clinical specialist but also as an educator, a research expert, and a community/ hospital / program / project health manager within the realm of medical oncology. This graduate degree course will develop medical oncology specialist with in-depth knowledge, adequate skills, proper values and skills in diagnosis, medical treatment and prevention of neoplastic disease, research in cancer medicine, community and tertiary level teaching of cancer medicine and implementation of quality management and organization development to achieve total quality care for cancer patients. This program requires completion of a masteral thesis.

- **Master of Science/ Diploma in Clinical Medicine (Child Health)**

This program was initially conceptualized as a faculty development scheme to enhance teaching skills. Graduates of this program are expected to gain a broader knowledge base on the national health situation and to exhibit skills in teaching, research (related to policy making in child health), administration, development of health programs and community leadership.

- **Master of Science/ Diploma in Clinical Medicine (Family & Community Medicine)**

This program was originally conceptualized as a faculty development scheme to enhance teaching skills in the field of Family Medicine. Graduates of this program are expected to apply principles of Family Medicine in teaching, training and administration, conduct research, and formulate educational programs in Family Medicine. Completion of an MS in Clinical Medicine requires passing a

comprehensive exam and completion of a masteral thesis. Those who opt not to pursue the MS degree may be awarded a Diploma in Clinical Medicine- Family & Community Medicine upon completion of all academic requirements and passing of the comprehensive exam.

- **Master of Science/ Diploma in Clinical Medicine (Obstetrics and Gynecology)**

The Master of Science in Clinical Medicine (Obstetrics & Gynecology) is a ladderized, time bound 3-year program initially designed to develop faculty members to become skilled in teaching, research and administration. This includes course work, a comprehensive examination and a thesis requirement. The Diploma does not require submission of a thesis.

- **Master of Science in Clinical Medicine (Surgery)**

The program was originally conceptualized to be offered to clinicians in various specialties who are also faculty in their respective fields. This was a faculty development scheme to enhance their teaching skills. Completion requires completion of course work, passing a comprehensive examination and submission of a thesis.

- **Master of Science in Dentistry (Orthodontics)**

The program was revised in AY 2005, in which the degree of emphasis was to identify core courses that could be taken by all MS Dentistry students for other tracks to be developed. The updated curriculum is in consonance with growth points for future programs of the College of Dentistry.

- **Master of Science in Epidemiology (Public Health) (MS Epi)**

The Master of Science in Epidemiology (Public Health) program is a two-year program designed to equip health professionals with the skills in the application of epidemiologic concepts, theories and principles to the solution of public health problems.

- **Master of Science in Epidemiology (Clinical Epidemiology)**

This program aims to equip health professionals with the skills to effectively use, synthesize, lead a research team to conduct health research and to report results towards effective knowledge translation such as policy formulation.

- **Master of Science in Genetic Counseling**

Another graduate program under UPCM, the objective of MS in Genetic Counselling is to assist clinical/ medical geneticists in diagnosing and managing patients with various medical conditions and to address the implications of the diagnosis both medically and psychosocially to the patient and members of their families.

- **Master of Science in Health Informatics (Bioinformatics)**

The MS Health Informatics focuses on the structuring of biomedical data and knowledge to support data analysis and decision making in healthcare through the application of informatics concepts, skills and principles for the efficient solution of biomedical problems. The Bioinformatics track offered by CAS aims to meet the fast-growing international demand for industries, such as pharmaceuticals and biotechnology and for competent staff members who are skilled in both molecular biology and information technology.

- **Master of Science in Health Informatics (Medical Informatics)**

Health Informatics covers the organization and management of information in the areas of patient care, research and administration. It focuses on the structuring of health data and knowledge to support data analysis and decision-making in medicine and health care with the use of information systems. It covers a wide spectrum of applications, from computer-based patient records in general practices and hospitals to electronic communication between healthcare providers, from signal analysis and image processing to decision support systems. Effective delivery of healthcare requires correct decision-making based on proper management of health information.

The MS Health Informatics focuses on the structuring of biomedical data and knowledge to support data analysis and decision making in health care through the application of informatics concepts, skills and principles for the efficient solution of biomedical problems.

- **Master of Science/ Master of Medical Anthropology**

The main objective of this program is to train a corps of medical anthropologists who can contribute to health care by adopting a multi-level understanding of health and medical care as they relate to culture, society, politics, economics and ecology.

- **Master of Science in Pharmacology**

The MS Pharmacology program is leading the way for graduates with advanced knowledge and research skills, a desire for lifelong learning, discovery and innovation in the multidisciplinary and specialized fields of pharmacology and toxicology. The program is being offered under the College of Medicine.

- **Master of Science in Pharmacy**

UPCP offers three majors in its graduate program: Pharmaceutical Chemistry, Industrial Pharmacy, and Hospital Pharmacy. Graduates are provided with the added competencies they may need to help them improve their research abilities, enhance their teaching and communication skills, update their knowledge in the current regulatory requirements for the compliance of products and institutions, effectively

manage their organization and lastly, to equip them with skills in administrative decision and policy making for their respective areas of work.

- **Master of Science in Physiology**

The program is designed for students interested in gaining higher proficiency in the science and techniques involving bodily function. It is a 3-year program under UPCM constructed to provide outcome-based education preparatory to an academic or a professional career and to support individualized investigative training in the pursuit of research goals.

The program faculty includes experts and specialists from diverse medical fields lending a multidisciplinary approach to the study of normal mechanisms and activities in life. The curriculum is enriched with the hands-on experimental courses that provide the students with a variety of models for future scientific research in the discipline.

The program can also be fine-tuned to serve the needs of the non-health professionals, such as engineers, physicists and computer scientists, who may wish to find their niche in the biomedical sciences.

- **Master of Science in Public Health**

This program is primarily a taught degree with research component (thesis) that aims to train scientists, researchers and specialists in Biostatistics, Environmental Health, Medical Microbiology, Nutrition, and Parasitology. Each specialization can also have its respective tracks.

- Biostatistics

The MSPH (Biostatistics) program provides the requisite collaborative blending of the life sciences with statistics.

- Environmental Health

Graduates of the MSPH (Environmental Health) program are expected to make substantive contributions to new knowledge that is relevant to the environmental health needs of developing countries.

- Medical Microbiology

The MSPH (Medical Microbiology) program is intended to prepare students and professionals for various careers and opportunities in the different fields of microbiology. Candidates are free to choose any of the available areas of specialization in Microbiology (Bacteriology, Virology, and Mycology).

- Nutrition

The MSPH (Nutrition) Curriculum is designed to prepare professionals for more advanced work in nutrition in public health agencies, research institutions, schools, and hospitals.

- Parasitology

The Master of Science in Public Health (Parasitology) is designed for students with primary interests in Parasitology. While students in the program take courses mainly in the Department of Parasitology, basic courses prescribed to all MSPH students are required to ensure adequate training in other sciences and discipline basic to public health; and to provide students with a broader perspective of public health problems.

B. Master of Arts

- **Master of Arts in Health Policy Studies (Health Social Science)**

The Health Social Sciences track being offered by CAS, seeks to study the health policy process within the socio-cultural context and makes use of and integrates the various disciplines in the social sciences, such as anthropology, sociology and psychology to approach health policy issues.

The program aims to develop competencies in the health policy process which involves policy formulation, implementation, monitoring and evaluation as well as advocacy.

- **Master of Arts in Health Policy Studies (Health Science)**

The MAHPS (HS track) is an interdisciplinary program designed to build and strengthen the skills of professional health policy analysts and researchers in crafting socially responsible and relevant health policy recommendations while engaging in policy advocacy and consensus building (UP Manila Catalog of Information, 2014).

- **Master of Arts in Nursing (being revised to Master of Science in Nursing)**

The MS Nursing program is a 2-year degree program with a strong focus on advanced practice nursing and where students can acquire expert knowledge base, complex decision-making skills, and clinical competencies for expanded practice. It has 6 tracks: Adult Health Nursing, Women's Health Nursing, Child Health Nursing, Mental Health and Psychiatric Nursing, Public Health Nursing, and Nursing Administration.

- **Master of Basic Medical Sciences**

The Master of Basic Medical Sciences program is a multidisciplinary graduate offering designed for teaching proficiency in the science basic to medicine. Nationwide, physicians and professionals of the Allied Medical Sciences teach the basic sciences in medical schools and in private paramedical schools. These faculties with various ranks

are not really trained for an academic career. Hence, a graduate program that can enrich their present capabilities is deemed relevant. The offering of the Master of Basic Medical Sciences will meet the demands of the local and regional health human resource development in 30 other medical schools and more than 30 allied medical schools in the Philippines. The teachers and their students would definitely benefit for this program for it will give them an opportunity in improving the standards of teaching and learning schemes. This program is a benchmark offering here in the Philippines (UP Manila Catalog of Information, 2014).

- **Master of Clinical Audiology**

This is a two-year entry level graduate program that integrates basic theoretical knowledge and its clinical applications in the prevention and management of hearing impairments. The program covers the areas of audiologic evaluation, audiologic habilitation, hearing conservation, and the development of audiology service delivery programs. The program is jointly offered with the College of Medicine.

- **Master of Clinical Medicine (Medical Oncology)**

This two (2) year program aims to provide access to higher education, providing opportunities to acquire knowledge, to be trained not only as a clinical specialist but also as an educator, a research expert, and a community/ hospital / program / project health manager within the realm of medical oncology. This graduate degree course will develop medical internists into medical oncology specialists as well as health managers with broader knowledge and extensive skills.

- **Master of Arts in Health Professions Education (MAHPed)**

The Master of Arts in Health Professions Education (MAHPed) program is an academic track, which prepares graduates for application, generation, and production of new knowledge for the advancement of HPed as an academic discipline. It may be taken as a terminal degree or as preparation for a doctoral degree program. MAHPed graduates are expected to complete a master's thesis at the end of the program.³¹

- **Master in Health Professions Education (MHPEd)**

The Master in Health Professions Education (MHPEd) program is especially designed to improve the theoretical and practical competencies of health professions educators in the performance of their varied roles as facilitators of learning, curriculum and instructional designers, student evaluators, administrators and educational leaders, and researchers. This program is distinct from the emphasis of MAHPed (academic

³¹ 'Master of Arts in Health Professions Education (Academic Track)', *NTTCHP UP Manila*, <https://sites.google.com/up.edu.ph/nttchp-upm/academic-programs/mahped> [Accessed January 2022]

track). MHPed graduates are expected to complete a capstone project at the end of the program.³²

- **Master of Hospital Administration**

The Master of Hospital Administration (MHA) program provides the students with the basic knowledge, concepts and principles in the field of healthcare administration with emphasis on hospital/healthcare organizations. It also aims to develop proper attitudes and skills to manage a hospital efficiently and effectively.

- **Master of Management (Business Management/ Educational Management/ Public Management)**

Management graduates are needed in the public and private sectors as well as in non-government organizations and people's organizations to craft and supervise activities to advance programs at the macro and micro levels. The program is offered under CAS and has three areas: Public Administration, Business Management, and Educational Management.

- **Master of Occupational Health**

The Master of Occupational Health (MOH) program is intended to prepare students for careers or responsibilities dealing with health and safety problems in the workplace. It is designed for professionals with diverse academic backgrounds. Emphasis is on principles and methods of occupational health and safety and their application in the provision of health care to workers in all occupations or workplaces. The curriculum is also designed to provide in-depth knowledge and skills in specific areas of work in occupational health and public health relevant to the student's career goals.

- **Master of Orthopedics**

A two-year program offered by UPCM with emphasis on higher basic sciences and on special and controversial topics in Orthopedics. The program introduces the science of research and to the foundation of teaching and learning. The graduate is expected to be a proficient orthopedic clinician with a solid basic science background.

- **Master of Physical Therapy**

The program is a graduate course for physical therapists who aspire to advance their competencies as practicing clinicians and to develop specialized practice. The program highlights the use of advanced concepts in the clinics, including critical analyses of theories that underpin practice in physical therapy, a more comprehensive study of the physiological bases of physical therapy, careful integration of research evidence

³² 'Master in Health Professions Education (Professional Track)', *NTTCHP UP Manila*, <https://sites.google.com/up.edu.ph/nttchp-upm/academic-programs/mhped> [accessed January 2022]

and ethics in decision making, conduct of clinical research, efficient and deeper application of clinical reasoning, and an enhanced appreciation of issues affecting contemporary and emergent practice.

- **Master of Public Health**

The Master of Public Health (MPH) program is designed to equip students with a broad range of skills, knowledge and attitudes derived from various disciplines to enable them to critically assess and deal effectively with the broad spectrum of public health problems and issues at the local, national and international levels. The curriculum is also designed to provide knowledge and develop skills in specific areas within public health relevant to the student's career goals.

- **Master of Rehabilitation Sciences (Speech Pathology)**

The program aims to enhance the clinical skills of practicing Filipino speech pathologists as well as to widen their professional perspective through coursework in topics relevant to all rehabilitation science disciplines.

- **Master of Rehabilitation Sciences**

The program is a professional degree of advanced studies in the specialized yet multidisciplinary field of rehabilitation sciences that will develop the rehabilitation professional's role in actualizing the societal integration (i.e., societal participation) of persons with and those at-risk for disability. The program integrates ethical practice, critical and independent thinking, and collaborative practice.

C. Doctor of Philosophy

- **Doctor of Philosophy in Biochemistry**

The objective of the program is to encourage the development of Biochemistry in the Philippines through the production of highly trained biochemists whose research works contribute to the development of new knowledge.

- **Doctor of Philosophy in Nursing**

The PhD Nursing program aims to produce nurse scientists who are prepared to assume leadership roles in academic and healthcare sectors as advanced practitioners, academics, and researchers. The program strengthens and deepens the intellectual and scholastic capability of graduate nurses in order to enhance the theory and science-based practice of the profession.

- **Doctor of Philosophy in Health Sciences (By Publication)**

The PhD in Health Sciences (By Publication) program is another method of granting degree to those who have greatly contributed to the generation of new knowledge and dissertation.

It is a program that recognizes previous scholarly works that are then used as foundation for further knowledge generation in a specialized area of the health sciences. It is designed to be more flexible and enabling, in contrast to the regular PhD courses.

- **Doctor of Philosophy in Health Sciences (By Research)**

The PhD in Health Sciences (by Research) program promotes higher-order thinking for a summative approach, which will generate new knowledge and scholarship aimed at providing solutions to modern day health problems.

The program, which is the first of its kind in UP and in the country, aims to put together various areas of specialization to discover new insights for a more holistic approach to health problems/concerns. Initially, the program covers four (4) research areas, namely: (1) Biomolecular and Pharmacological Research, (2) Ecotoxicological and Environmental Health Research, (3) Health Social Science Research, and (4) Clinical Research.

- **Doctor of Public Health (DrPH)**

The Doctor of Public Health (DrPH) program is designed to meet the need for leaders in the field of public health. It is primarily oriented to prepare professionals who will occupy key positions in teaching, research and administration in the health sciences. Graduates of the program are expected to make substantive contributions to new knowledge that are relevant to the needs of developing countries.³³

- **Doctor of Health Professions Education (DrHPed)**

The Doctor of Health Professions Education (DrHPed) program follows a reconstructionist philosophy that provides students with expanded opportunities to explore their individual professional, instructional, and organizational contexts as health professions educators. The DrHPed program aims to develop critical thinking, self-reflection, and innovative thinking through presentation of real issues and

³³ 'Doctor of Public Health', *College of Public Health, University of the Philippines Manila*, <https://cph.upm.edu.ph/node/35> [Accessed January 2022]

challenges via an outcomes-based curriculum, flexible learning platform, and completing a doctoral dissertation with three peer-reviewed journal publications.³⁴

Programs Offered by SHS Campuses

The SHS Step-Ladder Curriculum

The innovative step-ladder curriculum, the first of its kind in Asia, is the main feature of the school's academic program. It has been known to be very effective in addressing health manpower problems in the country. It is a competency-based and a community-based curriculum which integrates the training of the broad range of health manpower from the midwife, nurse, nurse practitioner and Doctor of Medicine in a single, sequential and continuous curriculum. This strategy has been used as a model by several community-based health training programs worldwide.

After seven quarters (11 weeks/quarter) of training, the student shall have the acquired knowledge and skills of a midwife and will earn the certificate in Community Health Work (CHW) which qualifies him/her to practice midwifery after passing the Midwifery Licensure Examination. A Student who continues for another five quarters of study will graduate with the degree of Bachelor of Science in Nursing (BSN) which qualifies him/her to practice nursing after passing the Nurse Licensure Examination. Another two quarters of study will qualify the student as the local counterpart of the nurse practitioner in other countries. This level of the curriculum however is under study. The final level of the curriculum is the Doctor of Medicine (MD) program. It consists of a yearly interval of didactics, clinical and community experiences over a period of five years. After completing the prescribed period of study, the student is now qualified to take the Physicians Licensure Examination and subsequently practice medicine after passing the examinations.

Service Leaves

In between program levels, the students are required to undertake service leaves in their home communities for an indefinite duration or a minimum of three months. The concept of service leave is derived from the need to integrate the instructional content and processes learned in school into a unified and understandable whole in the communities they serve. The service leave offers the following opportunities:

For the students

- To enrich their educational experience with actual service at several levels of the curricular ladder;
- To be continuously oriented with the dynamic interplay of forces that affect the development of their communities;

³⁴ 'Doctor of Health Professions Education (DrHPed)', *College of Public Health, University of the Philippines Manila*, <https://sites.google.com/up.edu.ph/nttchp-upm/academic-programs/drhped> [Accessed January 2022]

- To reflect on the institutional goals and instructional objectives of the School and on the different academic, psychological and situational demands on the capabilities and competencies as health professionals.
- To strengthen commitment and renew the bond generated between the scholar and the community generated during the recruitment.

For the School

- To assess the relevance of its philosophy, objectives, program content, methods and strategies;
- To strengthen its linkages with the DOH, DILG and various Local Government Units;
- To strengthen partnership with communities in the training of their scholars;
- To provide opportunities for the faculty to keep in touch with the realities in the communities and strengthen their commitment to the concept of the school.

For the Community

- To strengthen support for their scholar and enhance its own commitment by jointly working with and availing of the services of the scholar.
- To augment the delivery of health services in the community.

Multiple Levels of Exit and the Mechanism for Lateral Entry

- A student may exit from any level of the curriculum and return to the community as a functional health worker. Thus, a graduate could exit as a Community Health Worker (Midwife), a Nurse or Nurse Practitioner or a Medical practitioner.
- After a period of serving the community, a graduate can be readmitted to the next level of the curriculum subject to community needs and endorsement, and the student's performance in the previous level.
- Should there be a need for a health worker with advanced skills in their community, graduates who have been serving as health workers for quite some time already, may be readmitted to the next level of the curriculum, subject to re-endorsement of the community or their sending agency.

Partnership with Linked Agencies and Communities in the Development of Health Human Resources.

- Involvement of DOH, DILG and LGUs in the recruitment of scholars;
- Endorsement is required for the scholar's admission and progress to higher levels;
- The University, linked agencies and LGU's share the responsibility of providing financial support for scholars.
- Shared supervision of the students during service leave between the school, linked agencies and local community leaders.
- The school's part-time lecturers come mainly from the DOH. Service people as mentors are envisioned to broaden the student's theoretical and academic perspectives with their realistic "first hand" experiences.

- The service facilities of the Department of Health and the Local Health Unit's health centers serve as the main training facilities for the students' field experiences.

Democratized Admission

- Policies on recruitment and admissions de-emphasize past academic performance and passing the UPCAT. Instead, admission is based on community needs and the scholar's willingness and commitment for community service.
- The school has adopted the qualitative grading system of "Passed" (P) and "Needs Tutorials" to ensure the development of required competencies rather than competing for grades.

Return Service Requirement

- Sponsoring communities are committed to employ their scholars after graduation,
- Scholars are required a return service obligation of 2 years of service for every year of study which ensures the availability of health workers especially in underserved areas.

Distinct Academic Programs in the Philippines

Integrated Arts and Medicine Program (INTARMED)

This seven-year program under the College of Medicine shortens the whole medical education by two years to meet the immediate demand for medical manpower in the Philippines. The program aims to develop physicians whose knowledge and skills in medical science are equally matched by their sense of social responsibility and humaneness; provide the students with a clear perception of what the medical profession is by exposing them to medical knowledge and practice as early as the first two years in the program; evolve physicians who will not only be specialists in their fields, but who will also have the basic knowledge, skills, and attitudes to enable them to practice comprehensive health care and to work as member of a health team.

Step-ladder Curriculum of the School of Health Sciences

The innovative step-ladder curriculum, the first of its kind in Asia. It is a competency-based and community-based curriculum. This strategy has been used as a model by several community-based health training programs worldwide.

Doctor of Medicine-Doctor of Philosophy in Molecular Medicine (MD-PhD in Molecular Medicine)

As part of its mission/objectives on human resource development, the UP College of Medicine offers a postgraduate degree training course which aims to train aspiring physician-scientists for careers dedicated to the advancement of health through biomedical research. Graduates of the course will have the necessary expertise in conducting biomedical researches envisioned to upgrade the delivery of health services in the Philippines. This eight (8) year program aims to train medical doctor scientists with a strong background in medical research

applications and to produce scientists, trainers/educators and practitioners in molecular medicine. Students are expected to complete coursework leading to the Doctor of Medicine degree as well as PhD coursework and the completion of a dissertation.

Future Thrust of Academic Programs

Aside from regular reviews and revisions of its current programs, UP Manila has also been expanding its interdisciplinary graduate program offerings in the health sciences. The following are among the proposed degrees.

| College | New Degree Program Being Proposed | Description |
|--------------------------|--|--|
| College of Medicine (CM) | Doctor of Medicine-Master in Clinical Epidemiology | The program aims to produce a 6-star physician with additional expertise in clinical epidemiology at the time of graduation. |
| | Doctor of Medicine-Master of Public Health | The program aims to produce a 6-star physician with additional expertise in public health at the time of graduation. This is a joint program of the UPCM and the UP CPH. |
| | Master of Science in Global Child Health | A formal academic course that focuses on pediatric comprehensive care anchored on evidence-based global and local perspectives on public health and policy, education and research, health systems administration and community advocacy and leadership. |

Table 1 College of Medicine Future Programs

| College | New Degree Program Being Proposed | Description |
|------------------------------------|---|---|
| College of Arts and Sciences (CAS) | Master in Behavioral Health | The program will use science and technology to function at the highest levels in integrated health care environments through the use of preventative, progressive, client-centered and evidence-based approaches. |
| | Master in Forensic Sciences | The program is grounded in the study of basic human anatomy, components of death investigation, analysis of disease and trauma, and identification of unknown dead persons. |
| | Master in Global Health (Health Social Science) | The program will emphasize on social-behavioral influences and global health disparities, implementation science, and community-based interventions in global settings particularly in the Asia-Pacific region. |

| | |
|--|--|
| BA-MA Behavioral Science | The program will cover the broad interdisciplinary field that looks at each of these applied areas and how they influence human behavior. |
| Master of Science in Applied Physics (Medical Physics) | The proposed Master of Science in Applied Physics (Medical Physics) program is a two-year program which offers qualified students, particularly those with backgrounds in physics, applied physics, and engineering, the opportunity to do graduate coursework and research in the applications of the concepts and methods of physics to the diagnosis and treatment of human disease. |
| Master of Arts in Development Studies | The program is a multi-disciplinary graduate degree program that incorporates several disciplines to gain understanding on the issues and problems of development in the Philippines as it answers the need of students and practitioners in development work in the Philippines, particularly those in non-government organizations, for an advanced course in development theories and strategies. |
| Master in International Relations and Diplomacy | The program will help achieve the vision of UP Manila to be the leader in the health sciences through the production of graduates who will be at the forefront of international relations and diplomacy with focus on emerging issues concerning human conditions such as pandemics, applied climate change issues, human trafficking, global health, foreign aid, and labor migration. |
| Master of Science in Medicinal Chemistry | This proposed program integrates the different disciplines that have key roles in drug discovery and development. Its graduates are expected to design, produce, or analyze medicinal entities, and provide technical expertise in the formulation of policies addressing local, national, or international issues concerning medicinal or toxic entities. |

Table 2 College of Arts and Sciences Future Programs

1.1.7. RECOGNITION AND AWARDS OBTAINED FROM INTERNATIONAL/ NATIONAL/ REGIONAL OR PRIVATE AWARD GIVING BODIES

ASEAN University Network-Quality Assurance (AUN-QA)

The Doctor of Medicine program of the College of Medicine is the first-degree program to be recognized by the ASEAN University Network-Quality Assurance (AUN-QA) back in 2018.

Commission on Higher Education (CHED)

To date, the Philippine Commission on Higher Education (CHED) has awarded the Center of Excellence status to the College of Medicine as well as the Bachelor of Science in Nursing program.

Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU)

As for local external assessment, many units within UP Manila have applied for PAASCU accreditation and have received different levels of accreditation. Recently, the Bachelor of Science in Pharmacy as well as the Bachelor of Science in Pharmaceutical Sciences (formerly Bachelor of Science in Industrial Pharmacy) of the College of Pharmacy have both achieved PAASCU Level III accreditation. Meanwhile, UPCM's Doctor of Medicine holds a PAASCU Level IV accreditation. The Bachelor of Science in Nursing has also been granted PAASCU Level II accreditation, but as in most of recent QA activities, renewal of accreditation and new applications have mostly been on hold due to the pandemic.

Quality Assurance and Assessment

UP's quality assurance (QA) system is mainly implemented through the Internal Academic Assessment and Development System (iAADS) for internal QA and external QA review that academic units apply to.

The University of the Philippines Manila (UP Manila), recognized as the country's center of excellence in the health sciences, is one of the eight constituent universities of the University of the Philippines (UP) System. In its pursuit of excellence, the different Colleges of UP Manila have long been engaged in quality assurance activities for its academic programs. These include periodic evaluation of programs, the regular completion of the internal Academic Assessment and Development System (iAADS+) of the UP System, renewal/application of external accreditation, and renewal/application of recognition from private and government institutions. About 50% of the 22 undergraduate programs of UPM were accredited by organizations such as the Philippine Accrediting Association of Schools, Colleges, and Universities (PAASCU); Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA); ASEAN University Network Quality Assurance (AUN-QA); the World Health Organization Western Pacific Regional Office (WHO WPRO) and the World Federation of Occupational Therapists (WFOT). The College of Medicine and College of Nursing are recognized as Centers of Excellence (CoE) of the Commission on Higher Education (CHED).

At present, the aforementioned QA efforts of the CU are being facilitated by the Office of the Vice Chancellor for Academic Affairs (OVCAA) under its QA program. However, in order to strengthen and ensure sustainability of the quality assurance efforts in UP Manila and achieve the goals set by AADS, the establishment of a UPM Quality Assurance Office is being proposed.

The proposed UPM QA Office will be responsible for the overall quality assurance of the University. It shall ensure the effective implementation of standards, policies, processes, and procedures pertaining to quality assurance at all levels and focused on academic programs, licensing of laboratories and ISO accreditation. It shall be headed by the UPM QA Director and placed under the supervision of the Office of the Chancellor of UPM.

The Doctor of Medicine program of the College of Medicine is the first-degree program to be recognized by the ASEAN University Network-Quality Assurance (AUN-QA) back in 2018.

The following table shows the current recognition and awards obtained by the UP Manila campus through the programs of the College of Pharmacy, College of Allied Medical Professions, College of Nursing, College of Medicine, and the National Teacher Training Center for the Health Professions.

| Type of Assessment | Program | Assessing / Accrediting Body | Recognition Received | Date Conferred | Validity Period |
|--------------------|---|---|-----------------------------------|----------------|------------------------|
| Program | Bachelor of Science in Pharmacy | Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU) | Level III | 24 Jan 2020 | 24 Jan 2020 - May 2022 |
| Program | Bachelor of Science in Pharmacy (Pharmaceutical Sciences) | PAASCU | Level III | 24 Jan 2020 | 24 Jan 2020 - May 2022 |
| Program | Bachelor of Science in Occupational Therapy | World Federation of Occupational Therapists (WFOT) | WFOT approved education programme | 2011 | 2020 |
| Program | Bachelor of Science in Nursing | Commission on Higher Education (CHED) | Center of Excellence | 2016 | 2019 |
| Program | Bachelor of Science in | PAASCU | Level II | 2015 | 2015 - Dec 2020 |

| | | | | | |
|---------------|--|---|----------------------|--------------|----------------------------|
| | Nursing | | | | |
| Institutional | College of Medicine | CHED | Center of Excellence | 2016 | 2019 |
| Program | Doctor of Medicine | PAASCU | Level IV | Nov 2014 | Nov 2019 |
| Program | Doctor of Medicine | ASEAN University Network-Quality Assurance (AUN-QA) | AUN-QA certified | 30 Sept 2018 | 30 Sep 2018 - 29 Sept 2023 |
| Institutional | National Teacher Training Center for the Health Professions (NTTCHP) | PAASCU | Ongoing application | | |

Table 3 Recognition and Awards Obtained

* Table only shows accreditation statuses presently in effect, including those on holdover/ extended status

1.2. DEMOGRAPHIC PROFILE OF THE SUC AND ITS CAMPUSES

1.2.1. BRIEF SUMMARY OF THE POPULATION (MALE/FEMALE) IN EACH CAMPUS

A. Student

From 2009 to 2014, covering five academic years, UPM had an average of 4,991 annual enrollment for the undergraduate programs and 988 for the graduate programs. On the average, it admitted 895 first year UPCAT qualifiers, distributed among the different undergraduate programs.

The gender ratio of students on the average was 1:2 (35.76% males and 64.24% females as of SY 2020-2021). About 39.5%, 6% and 5.8% of UPM enrollees came from Luzon, Visayas and Mindanao, respectively, while 48% came from NCR or Metro Manila. A very small proportion came from foreign countries (0.7%). In terms of qualifiers by high schools, 57% came from private schools, 15% from public schools, and 28% from various science high schools in the Philippines.

Currently it has a total of 5,346 students, with 4,114 undergraduate and 1,232 graduate students.

| Campus | Student Population | | | | | |
|-------------------------|--------------------|--------------|--------------|--------------|--------------|--------------|
| | AY '17-'18 | | AY '18-'19 | | AY '19-'20 | |
| | 1st Sem | 2nd Sem | 1st Sem | 2nd Sem | 1st Sem | 2nd Sem |
| UP Manila | 5,013 | 5,024 | 5,023 | 5,019 | 5,260 | 5,078 |
| SHS (Palo) | 66 | 66 | 117 | 98 | 162 | 79 |
| SHS (Koronadal) | 63 | 67 | 56 | 52 | 124 | 115 |
| SHS (Baler) | 41 | 41 | 49 | 29 | 62 | 74 |
| University Total | 5,183 | 5,198 | 5,245 | 5,198 | 5,608 | 5,346 |

Table 4 Student Population from SY 2017-2018 to SY 2019-2020

| DEGREE PROGRAM | NEW STUDENTS | | | BY YEAR LEVEL | | | | | | | | | | | | | | TOTAL | | |
|----------------------------|--------------|------------|-------------|---------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|
| | NEW FRESHMEN | | | FIRST | | SECOND | | THIRD | | FOURTH | | FIFTH | | SIXTH | | SEVENTH | | M | F | TOTAL |
| | M | F | T | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | TOTAL |
| UNIVERSITY TOTAL | 437 | 714 | 1151 | 5 | 408 | 786 | 1413 | 419 | 666 | 304 | 358 | 108 | 192 | 24 | 79 | 18 | 18 | 2313 | 3735 | 5969 |
| UNDERGRADUATE TOTAL | 340 | 578 | 918 | 5 | 398 | 350 | 656 | 419 | 666 | 304 | 358 | 108 | 192 | 24 | 79 | 18 | 18 | 1769 | 2823 | 4513 |
| 1. COLL OF ALLIED MED PROF | 24 | 75 | 99 | 2 | 0 | 19 | 75 | 22 | 74 | 26 | 55 | 9 | 14 | 0 | 0 | 0 | 0 | 102 | 279 | 395 |
| 2. COLL OF ARTS & SCIENCES | 206 | 275 | 481 | 3 | 6 | 157 | 308 | 109 | 262 | 126 | 151 | 0 | 0 | 0 | 0 | 0 | 0 | 601 | 1002 | 1603 |
| 3. COLLEGE OF DENTISTRY | 11 | 40 | 51 | 0 | 6 | 11 | 36 | 3 | 39 | 4 | 10 | 7 | 53 | 7 | 55 | 0 | 0 | 43 | 131 | 282 |
| 4. COLLEGE OF MEDICINE | 20 | 20 | 40 | 0 | 0 | 100 | 92 | 150 | 173 | 95 | 96 | 71 | 72 | 17 | 24 | 18 | 18 | 672 | 495 | 966 |
| 5. COLLEGE OF NURSING | 21 | 46 | 67 | 0 | 0 | 2 | 24 | 71 | 18 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 130 | 88 | 218 |
| 6. COLLEGE OF PHARMACY | 28 | 64 | 92 | 0 | 0 | 28 | 69 | 29 | 51 | 8 | 15 | 21 | 53 | 0 | 0 | 0 | 0 | 114 | 252 | 366 |
| 7. COLLEGE OF PUBLIC HLTH | 30 | 58 | 88 | 0 | 0 | 33 | 52 | 35 | 49 | 9 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 107 | 190 | 297 |
| 8. SCHOOL OF HLTH SCIENCES | 0 | 0 | 0 | 0 | 0 | 386 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 386 | 386 |
| GRADUATE TOTAL | 97 | 136 | 233 | 0 | 10 | 436 | 757 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 544 | 912 | 1456 |
| 1. COLL OF ALLIED MED PROF | 2 | 7 | 9 | 0 | 0 | 13 | 21 | | | | | | | | | | | 15 | 28 | 43 |
| 2. COLL OF ARTS & SCIENCES | 4 | 7 | 11 | 0 | 3 | 34 | 62 | 0 | 0 | 0 | 0 | | | | | | | 38 | 72 | 110 |
| 3. COLLEGE OF DENTISTRY | 0 | 0 | 0 | 0 | 0 | 8 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 8 | 18 | 26 |
| 4. COLLEGE OF MEDICINE | 38 | 35 | 73 | 0 | 3 | 98 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 136 | 184 | 320 |
| 5. COLLEGE OF NURSING | 0 | 0 | 0 | 0 | 0 | 25 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 25 | 65 | 90 |
| 6. COLLEGE OF PHARMACY | 2 | 1 | 3 | 0 | 0 | 14 | 22 | 0 | 0 | 0 | 0 | | | | | | | 16 | 23 | 39 |
| 7. COLLEGE OF PUBLIC HLTH | 45 | 71 | 116 | 0 | 4 | 212 | 362 | 0 | 0 | 0 | 0 | | | | | | | 257 | 437 | 694 |
| 8. NTTC - HP | 6 | 15 | 21 | 0 | 0 | 32 | 61 | 0 | 0 | 0 | 0 | | | | | | | 38 | 76 | 114 |
| 9. PHD in Health Sciences | 0 | 2 | 2 | 0 | 0 | 10 | 7 | | | | | | | | | | | 10 | 9 | 19 |
| 10. PHD by Publication | 1 | 0 | 1 | 0 | 0 | 0 | 0 | | | | | | | | | | | 1 | 0 | 1 |

Table 5 Male and Female Distribution of Students, 1st Semester, 2020-2021

| DEGREE PROGRAM | NEW STUDENTS | | | BY YEAR LEVEL | | | | | | | | | | | | | | TOTAL | | |
|----------------------------|--------------|-----------|-----------|---------------|------------|------------|-------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|
| | NEW FRESHMEN | | | FIRST | | SECOND | | THIRD | | FOURTH | | FIFTH | | SIXTH | | SEVENTH | | M | F | TOTAL |
| | M | F | T | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | TOTAL |
| UNIVERSITY TOTAL | 17 | 13 | 30 | 494 | 948 | 615 | 1223 | 378 | 684 | 260 | 370 | 46 | 79 | 31 | 91 | 93 | 80 | 1941 | 3487 | 5428 |
| UNDERGRADUATE TOTAL | 0 | 0 | 0 | 395 | 799 | 278 | 622 | 378 | 684 | 260 | 370 | 46 | 79 | 31 | 91 | 93 | 80 | 1481 | 2715 | 4196 |
| 1. COLL OF ALLIED MED PROF | 0 | 0 | 0 | 23 | 73 | 27 | 90 | 21 | 70 | 26 | 51 | 7 | 10 | 0 | 0 | 0 | 0 | 104 | 284 | 388 |
| 2. COLL OF ARTS & SCIENCES | 0 | 0 | 0 | 216 | 260 | 149 | 298 | 107 | 262 | 115 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 587 | 966 | 1553 |
| 3. COLLEGE OF DENTISTRY | 0 | 0 | 0 | 10 | 46 | 6 | 28 | 6 | 41 | 9 | 35 | 4 | 10 | 14 | 68 | 0 | 0 | 49 | 228 | 277 |
| 4. COLLEGE OF MEDICINE | 0 | 0 | 0 | 20 | 20 | 20 | 21 | 163 | 177 | 96 | 93 | 17 | 14 | 17 | 23 | 93 | 80 | 426 | 428 | 854 |
| 5. COLLEGE OF NURSING | 0 | 0 | 0 | 26 | 53 | 18 | 64 | 18 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 153 | 215 |
| 6. COLLEGE OF PHARMACY | 0 | 0 | 0 | 28 | 64 | 26 | 69 | 28 | 50 | 8 | 14 | 18 | 45 | 0 | 0 | 0 | 0 | 108 | 242 | 350 |
| 7. COLLEGE OF PUBLIC HLTH | 0 | 0 | 0 | 30 | 57 | 32 | 52 | 35 | 48 | 6 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 103 | 188 | 291 |
| 8. SCHOOL OF HLTH SCIENCES | 0 | 0 | 0 | 42 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 226 | 268 |
| GRADUATE TOTAL | 17 | 13 | 30 | 99 | 149 | 337 | 601 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 460 | 772 | 1232 |
| 1. COLL OF ALLIED MED PROF | 0 | 0 | 0 | 1 | 3 | 10 | 20 | | | | | | | | | | | 11 | 23 | 34 |
| 2. COLL OF ARTS & SCIENCES | 0 | 0 | 0 | 8 | 12 | 27 | 51 | 0 | 0 | 0 | 0 | | | | | | | 35 | 63 | 98 |
| 3. COLLEGE OF DENTISTRY | 0 | 0 | 0 | 0 | 8 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 8 | 17 | 25 |
| 4. COLLEGE OF MEDICINE | 8 | 4 | 12 | 38 | 51 | 102 | 151 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 148 | 206 | 354 |
| 5. COLLEGE OF NURSING | 0 | 0 | 0 | 0 | 0 | 24 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 24 | 55 | 79 |
| 6. COLLEGE OF PHARMACY | 0 | 0 | 0 | 3 | 2 | 13 | 20 | 0 | 0 | 0 | 0 | | | | | | | 16 | 22 | 38 |
| 7. COLLEGE OF PUBLIC HLTH | 2 | 2 | 4 | 39 | 64 | 106 | 188 | 0 | 0 | 0 | 0 | | | | | | | 147 | 254 | 401 |
| 8. NTTC - HP | 7 | 7 | 14 | 10 | 17 | 47 | 99 | 0 | 0 | 0 | 0 | | | | | | | 64 | 123 | 187 |
| 9. PHD in Health Sciences | 0 | 0 | 0 | 0 | 1 | 6 | 8 | | | | | | | | | | | 6 | 9 | 15 |
| 10. PHD by Publication | 0 | 0 | 0 | 1 | 0 | | | | | | | | | | | | | 1 | 0 | 1 |

Table 6 Male and Female Distribution of Students, 2nd Semester, 2020-2021

B. Faculty

As of May 2021, there are 1,280 faculty members.

C. Non-Academic Personnel

As of May 2021, there are 573 non-academic personnel, including REPS.

The tables below show the Faculty, Administrative Staff, and REPS population from Year 2018 to 2021.

| Year 2018 | Admin | | Admin | Faculty | | | Faculty | REPS | | REPS To- | Grand | | | | |
|--------------------|------------|------------|------------|-----------|------------|------------|------------|-------------|-----------|----------|-----------|----------|------------|-------------|-----|
| | NonReg | Reg | | NonReg | Reg | PT | | NonReg | Reg | | | | | | |
| Unit/Office | FT | FT | | FT | PT | FT | PT | FT | PT | FT | PT | | | | |
| CAD | 16 | 146 | 162 | | 2 | | | 2 | | 6 | | 14 | | 20 | 184 |
| CAMP | | 9 | 9 | 14 | 42 | 25 | | 81 | | | | 1 | | 1 | 91 |
| CAS | 1 | 34 | 35 | 15 | 54 | 112 | | 181 | | | | | | | 216 |
| CD | | 24 | 24 | 4 | 45 | 27 | 1 | 77 | | | | | | | 101 |
| CM | 2 | 55 | 57 | | 429 | 104 | 172 | 705 | | | | 10 | | 10 | 772 |
| CN | | 13 | 13 | | 25 | 22 | | 47 | | | | 1 | | 1 | 61 |
| CP | 1 | 13 | 14 | 6 | 16 | 25 | 1 | 48 | | | | | | | 62 |
| CPH | | 29 | 29 | 1 | 26 | 51 | | 78 | | | | 14 | | 14 | 121 |
| NIH | 82 | 11 | 93 | | 6 | 30 | | 36 | 16 | 1 | | 12 | 5 | 34 | 163 |
| NTTC-HP | | 4 | 4 | | 3 | 6 | | 9 | | | | 2 | | 2 | 15 |
| SHS-B | | 4 | 4 | | | 5 | | 5 | | | | | | | 9 |
| SHS-K | 2 | | 2 | | | 5 | | 5 | | | | | | | 7 |
| SHS-P | | 12 | 12 | | 20 | 15 | | 35 | | | | 1 | | 1 | 48 |
| UL | | 12 | 12 | | | | | | | | | 21 | | 21 | 33 |
| Grand Total | 104 | 366 | 470 | 40 | 668 | 427 | 174 | 1309 | 22 | 1 | 76 | 5 | 104 | 1883 | |

Table 7 Faculty, Administrative Staff, and REPS Population Year 2018

| Year 2019 | Admin | | Admin | Faculty | | | Faculty | REPS | | REPS | Grand | | | | |
|--------------------|------------|------------|------------|-----------|------------|------------|------------|-------------|-----------|----------|-----------|----------|------------|-------------|-----|
| | NonReg | Regular | | NonReg | Regular | PT | | NonReg | Regular | | | | | | |
| Unit/Office | FT | FT | | FT | PT | FT | PT | FT | PT | FT | PT | | | | |
| CAD | 16 | 145 | 161 | | 2 | | | 2 | | 6 | | 12 | | 18 | 181 |
| CAMP | | 9 | 9 | 17 | 43 | 24 | | 84 | | | | 1 | | 1 | 94 |
| CAS | 1 | 33 | 34 | 18 | 53 | 110 | | 181 | | | | | | | 215 |
| CD | | 23 | 23 | 4 | 45 | 27 | 1 | 77 | | | | | | | 100 |
| CM | 2 | 54 | 56 | | 443 | 99 | 164 | 706 | | | | 7 | | 7 | 769 |
| CN | | 14 | 14 | | 26 | 22 | | 48 | | | | 1 | | 1 | 63 |
| CP | 1 | 14 | 15 | 5 | 17 | 25 | 1 | 48 | | | | | | | 63 |
| CPH | | 31 | 31 | 1 | 28 | 50 | | 79 | 1 | | | 13 | | 14 | 124 |
| NIH | 87 | 10 | 97 | | 9 | 30 | | 39 | 17 | 1 | | 15 | 2 | 35 | 171 |
| NTTC-HP | | 4 | 4 | | 2 | 6 | | 8 | | | | 2 | | 2 | 14 |
| SHS-B | | 5 | 5 | 1 | | 6 | | 7 | | | | | | | 12 |
| SHS-K | 1 | 2 | 3 | | | 5 | | 5 | | | | | | | 8 |
| SHS-P | | 12 | 12 | | 28 | 15 | | 43 | | | | 1 | | 1 | 56 |
| UL | | 12 | 12 | | | | | | | | | 21 | | 21 | 33 |
| Grand Total | 108 | 368 | 476 | 46 | 696 | 419 | 166 | 1327 | 24 | 1 | 73 | 2 | 100 | 1903 | |

Table 8 Faculty, Administrative Staff, and REPS Population Year 2019

| Year 2020 | Admin | | Admin | Faculty | | | Faculty | REPS | | REPS To- | Grand | | | | |
|--------------------|------------|------------|------------|-----------|------------|------------|------------|-------------|-----------|-----------|-----------|-------------|--|----|-----|
| | NonReg | Regular | | NonReg | Regular | PT | | NonReg | Regular | | | | | | |
| Unit/Office | FT | FT | | FT | PT | FT | PT | FT | FT | FT | PT | | | | |
| CAD | 18 | 147 | 165 | | 2 | | | 2 | | 7 | | 13 | | 20 | 187 |
| CAMP | | 8 | 8 | 16 | 38 | 24 | | 78 | | | | 1 | | 1 | 87 |
| CAS | 1 | 32 | 33 | 17 | 41 | 109 | | 167 | | | | | | | 200 |
| CD | | 22 | 22 | 4 | 44 | 27 | 1 | 76 | | | | | | | 98 |
| CM | 2 | 53 | 55 | | 432 | 96 | 154 | 682 | | | | 9 | | 9 | 746 |
| CN | | 12 | 12 | | 27 | 25 | 1 | 53 | | | | 1 | | 1 | 66 |
| CP | 1 | 13 | 14 | 6 | 15 | 25 | 1 | 47 | | | | | | | 61 |
| CPH | | 30 | 30 | 1 | 29 | 51 | | 81 | | 1 | | 10 | | 11 | 122 |
| NIH | 90 | 10 | 100 | | 9 | 27 | | 36 | 18 | | | 15 | | 33 | 169 |
| NTTC-HP | | 4 | 4 | 1 | 3 | 6 | | 10 | | | | 2 | | 2 | 16 |
| SHS-B | | 5 | 5 | 1 | | 6 | | 7 | | | | | | | 12 |
| SHS-K | 1 | 2 | 3 | 1 | | 5 | | 6 | | | | | | | 9 |
| SHS-P | | 12 | 12 | 2 | 26 | 14 | | 42 | | | | 1 | | 1 | 55 |
| UL | | 12 | 12 | | | | | | | | | 20 | | 20 | 32 |
| Grand Total | 113 | 362 | 475 | 49 | 666 | 415 | 157 | 1287 | 26 | 72 | 98 | 1860 | | | |

Table 9 Faculty, Administrative Staff, and REPS Population Year 2020

| Year 2021 | Admin | | Faculty | | Regu- | | Faculty | | REPS | | Grand Total | |
|--------------------|------------|------------|------------|-----------|------------|------------|------------|-------------|-----------|-----------|-------------|-------------|
| | Non- | Regu- | Non- | PT | FT | PT | Non- | Regu- | FT | FT | | |
| Unit/Office | FT | FT | FT | PT | FT | PT | | | FT | FT | | |
| CAD | 19 | 146 | 165 | 3 | | | | 3 | 7 | 13 | 20 | 188 |
| CAMP | | 8 | 8 | 17 | 38 | 25 | | 80 | | 1 | 1 | 89 |
| CAS | 1 | 33 | 34 | 16 | 41 | 108 | | 165 | | | | 199 |
| CD | | 23 | 23 | 4 | 44 | 27 | 1 | 76 | | | | 99 |
| CM | 2 | 51 | 53 | | 432 | 95 | 151 | 678 | | 10 | 10 | 741 |
| CN | | 12 | 12 | | 27 | 25 | 1 | 53 | | 1 | 1 | 66 |
| CP | 1 | 13 | 14 | 5 | 15 | 25 | 1 | 46 | | | | 60 |
| CPH | | 28 | 28 | 1 | 29 | 48 | | 78 | 1 | 9 | 10 | 116 |
| NIH | 90 | 10 | 100 | | 10 | 27 | | 37 | 19 | 18 | 37 | 174 |
| NTTC-HP | | 5 | 5 | 1 | 3 | 6 | | 10 | | 2 | 2 | 17 |
| SHS-B | | 6 | 6 | 1 | | 6 | | 7 | | | | 13 |
| SHS-K | 1 | 2 | 3 | 1 | | 5 | | 6 | | | | 9 |
| SHS-P | | 11 | 11 | 2 | 26 | 13 | | 41 | | 1 | 1 | 53 |
| UL | | 12 | 12 | | | | | | | 19 | 19 | 31 |
| Grand Total | 114 | 360 | 474 | 48 | 668 | 410 | 154 | 1280 | 27 | 74 | 101 | 1855 |

Table 10 Faculty, Administrative Staff, and REPS Population Year 2021

1.2.2. PROJECTED POPULATION OF STUDENTS AND EMPLOYEES IN THE NEXT 10 YEARS

The projected population was determined using the geometric method using the average percentage growth rate. The population is divided into the different campus locations to provide information as to the space requirements and expansion in the next 10 years and 25 years.

In support for the student population growth, the total faculty population requirement is determined through the student-faculty ratio. Shown in the figure below are the faculty projections in 10 and 25 years.

Based on the graphs, the population increase in 10 years is around 30% and is approximately double after 25 years. Given this population projection, we will then consider how the sites of all campuses are envisioned to accommodate expansion.

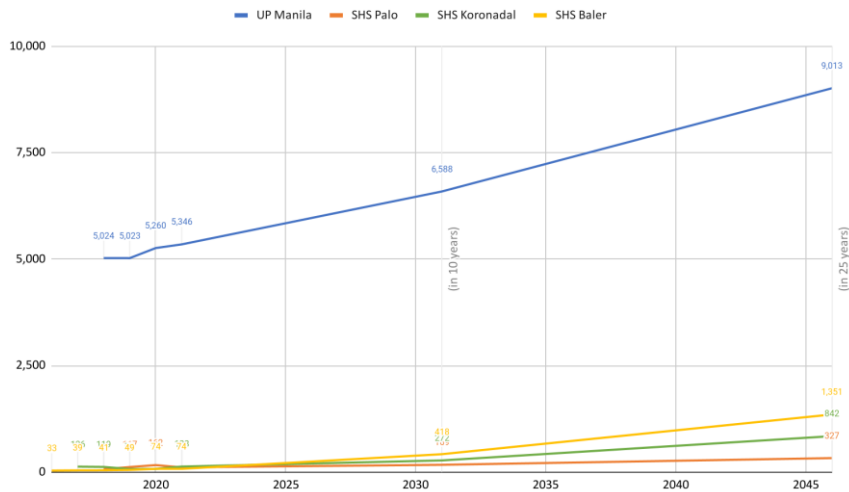


Figure 11 Student population Projection in 10 years and 25 years

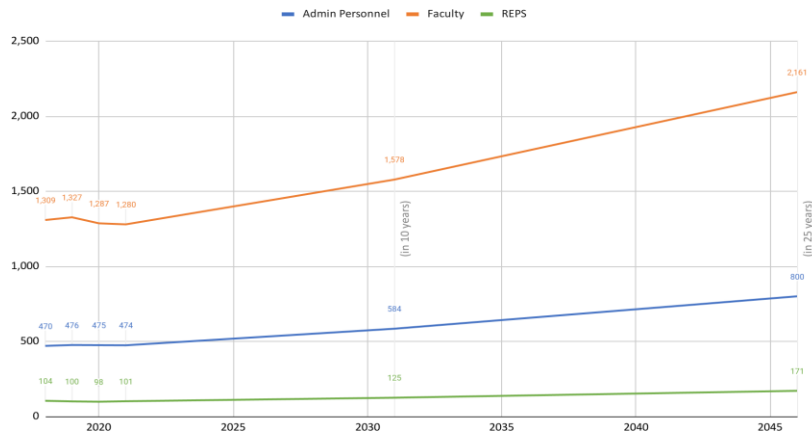


Figure 12 Faculty Population Projection in 10 years and 25 years

1.3. GEOGRAPHIC LOCATION OF THE SUC AND ITS CAMPUSES

1.3.1. BRIEF PROFILE OF THE PROVINCE AND MUNICIPALITY

Metropolitan Manila

Metropolitan Manila, otherwise known as the National Capital Region (NCR), is the Republic of the Philippines' premier urban area. It is the seat of the national government and is considered as the center of economic, political, cultural, and scholastic growth.

The Metropolis is divided into four (4) districts with four (4) cities as its centers: First District - Manila; Second District - Quezon City, Pasig City, Marikina City, Mandaluyong City, and San Juan; Third District - Caloocan City, Malabon, Navotas and Valenzuela City; and Fourth District - Pasay City, Makati City, Parañaque City, Muntinlupa City, Las Piñas City, Pateros, and Taguig. It has a land area of 636 square kilometers with approximately 13 to 14 million population during daytime and 11 million during nighttime. This population difference is caused by the pouring of population from the neighboring areas to service the region's multitude of commercial, industrial, and service establishments.

City of Manila

The City of Manila encompasses a land area of 24.98 square kilometers, and has a total area of 40.58 square kilometers including all the reclaimed areas along Manila Bay with a coastline length of 190 km. At 14° 38' latitude and 120° 60' longitude, the City of Manila is strategically located on the eastern coast of Manila Bay at the mouth of Pasig River which runs on an east-west course through the center dividing the city into the northern and southern sections. Manila is bounded by seven other cities and municipalities: Navotas, Caloocan, Quezon City, San Juan, Mandaluyong, Makati, and Pasay City.

According to the statistical figures released by the Philippine Statistics Authority (PSA), the City of Manila posted a total population of 1,846,513 persons as of May 1, 2020. The increase in the population count from 2010 to 2020 translated to an average annual population growth rate (PGR) of 1.12 percent.

Based on the urban structure of the Metropolitan Manila, the Metropolis is subdivided into three cores: inner core, intermediate core, and outer core. The City of Manila is classified as one of the cities under the inner core which is characterized by its high-intensity development, with incompatible land uses and complex socio-economic problems inherent in a metropolitan center.



Figure 13 Map of the National Capital Region (Source: DENR NCR)

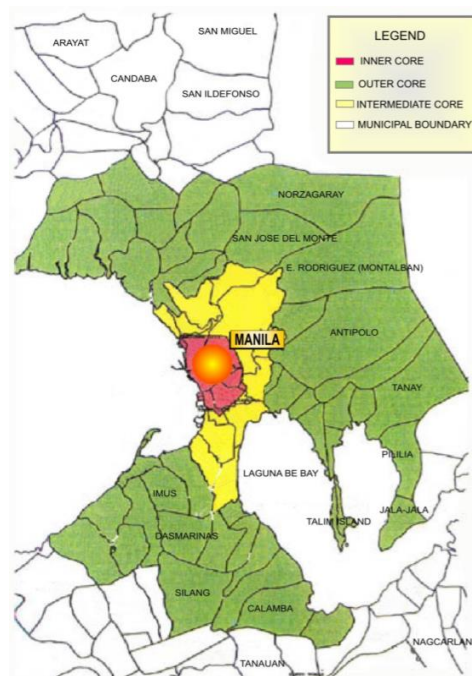


Figure 14 Metropolitan Manila as subdivided into cores (Source: Manila CLUP)

City Context for SHS Campuses

The SHS Campuses are located nationwide in (1) Baler, Aurora, (2) Palo, Leyte, (3) Sta. Elena Tacloban, Leyte (4) Koronadal, South Cotabato (5) Tarlac, Tarlac Province.

1. Baler, Aurora, Region III

Baler is a coastal municipality and the provincial capital of the province of Aurora. It is located in the mid-eastern part of Luzon, roughly 235km from Manila.

The municipality has a land area of 92.55 square kilometers or 35.73 square miles which constitutes 2.94% of Aurora's total area.

Baler comprises 13 barangays. Barangay Reserva, where the campus is located, is one of the five barangays which constitute the Poblacion area.

Baler performs an important role as an institutional center. It plays a strategic role as the center of all development activities in the province. It is the seat of 23 provincial, regional and district offices of various national agencies and offices. Other notable institutions include the Aurora State College of Technology (ASCOT) and the Aurora Provincial District Hospital.

Baler is also a historical center, as it is one of the oldest settlements founded by the Spaniards in the Philippines. The Lady of Mt. Carmel Church, located in Baler, is one of the oldest religious structures in the Philippines dating back to the Spanish era. It was the last garrison to surrender to the Filipino forces during the Siege of Baler at the end of the 19th century.

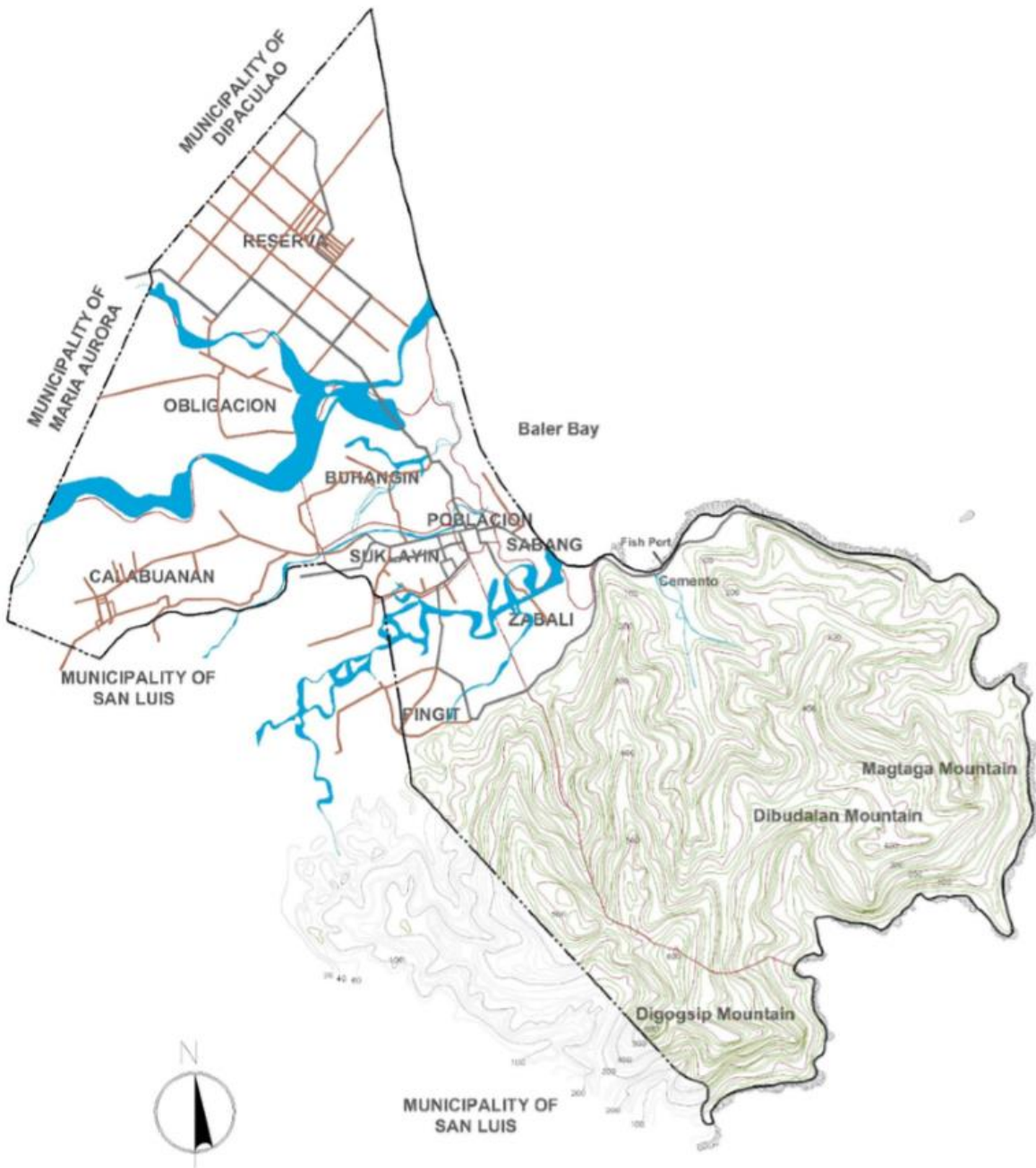


Figure 15 Municipality Map for Baler, Aurora

2. Palo, Leyte, Region VIII

Palo is a 3rd class coastal municipality in the province of Leyte. It has a land area of 221.27 square kilometers or 85.43 square miles which constitutes 3.50% of Leyte's total area. Its population according to the 2015 Census was 70,052.

The municipality is the seat of most government departments, bureaus and regional offices of Region 8 although some are situated in the neighboring city of Tacloban.



Figure 16 Palo Municipality Map

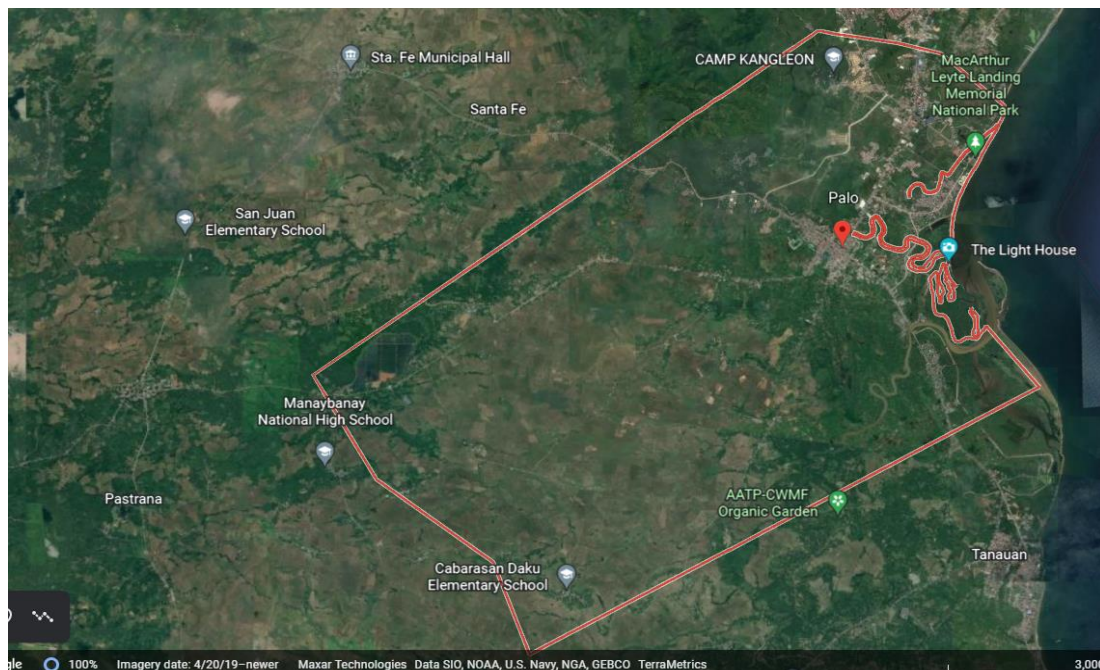


Figure 17 Municipality of Palo, Leyte

3. Tacloban, Leyte, Region VIII

Tacloban is a coastal highly urbanized city in the Eastern Visayas region, about 580 kilometers southwest of Manila. Although administratively independent due to its distinction as a highly urbanized city, Tacloban is commonly grouped with the province of Leyte. It also serves as the provincial capital as well as the regional center of Eastern Visayas.

The city has a land area of 201.72 square kilometers or 77.88 square miles. Its population as determined by the 2015 Census was 242,089.



Figure 18 Tacloban City Map

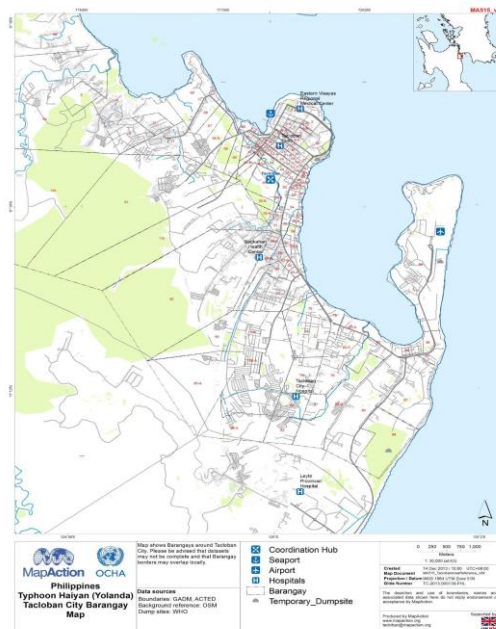


Figure 19 Tacloban City, Leyte, Barangay Map

4. Koronadal, South Cotabato, Region XII

Koronadal is a landlocked component city in the coastal province of South Cotabato. It serves as the provincial capital as well as the regional center of Region 12 or SOCCSKSARGEN.

The city has a land area of 277 square kilometers or 106.95 square miles which constitutes 7.04% of South Cotabato's total area. Its population according to the 2015 Census was 174,942. It has 27 barangays.

Koronadal is South Cotabato's center for finance, business, education, services and government institutions. The city is less than an hour drive from General Santos City and is the main crossroad to other key points in Southern and Central Mindanao. It has also been identified as the agri-industrial center of the province, which makes it a catalyst for development particularly in the second district of South Cotabato.



Figure 20 Koronadal City Map

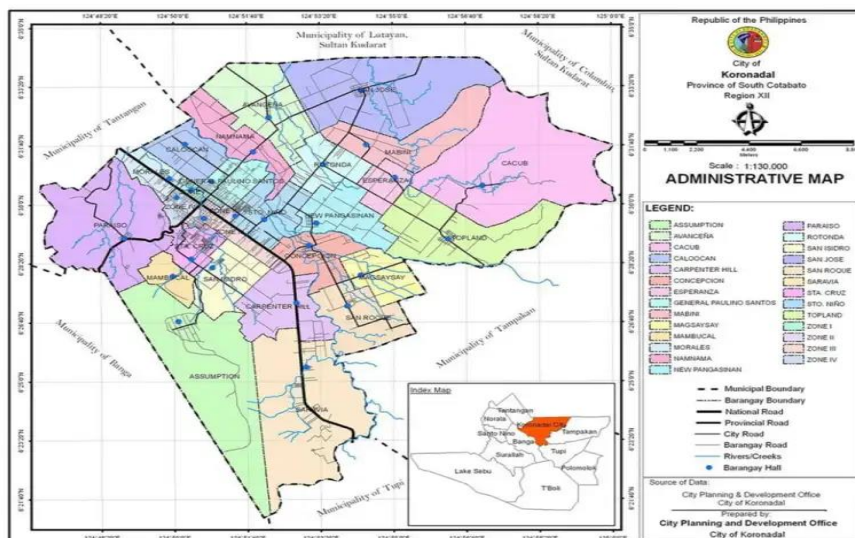


Figure 21 Koronadal City Barangay Map from City Government of Koronadal Website (<https://i0.wp.com/koronadal.gov.ph/wp-content/uploads/2021/07/operational-map-1024x918-1.jpg?resize=768%2C689&ssl=1>)

5. Tarlac, Tarlac Province, Region III

Tarlac is a 1st class component city and the provincial capital of the landlocked province of Tarlac. It is located about 63 kilometers from the regional center San Fernando, Pampanga, and 125 kilometers from Manila.

The city has a land area of 274.66 square kilometers which constitutes 8.99% of Tarlac's total area. Its population according to the 2015 Census was 342,493. As the educational center of Tarlac, Tarlac City houses the main campus of Tarlac State University, as well as other higher education institutions.

The SHS site is zoned as institutional and is surrounded by residential and agricultural uses.



Figure 22 Tarlac City Map

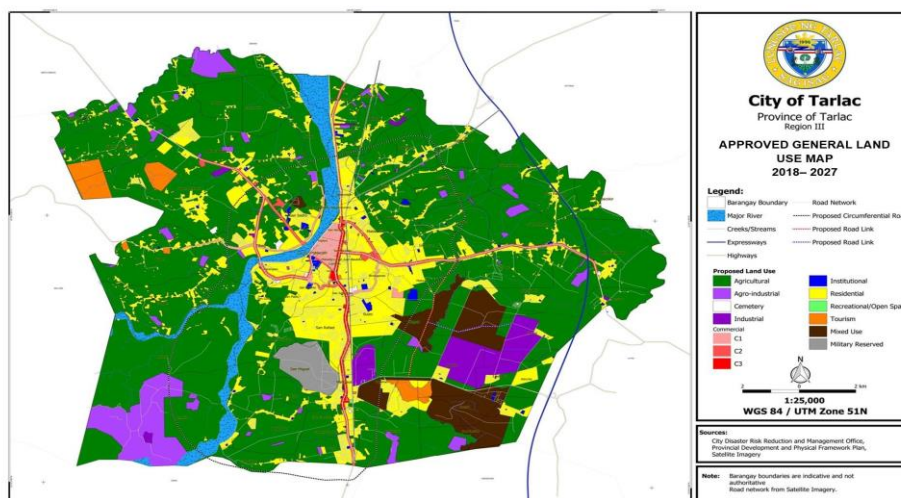


Figure 23 Tarlac City Zoning and Barangay Map

1.3.2. DESCRIPTION OF THE LAND COVER AND TOPOGRAPHY

The maps below indicate the land cover and topography of Manila where UP Manila is located, is relatively flat and developed. The campus is at the core of the development where the campus as a university and a hospital is vital to perform educational and health services for the area and on a national level.



Figure 24 City of Manila Land Cover and Topography

The land cover and topography of the SHS campuses given the limited sizes of the campus is relatively flat and mostly developed with areas for expansion. The collaboration between the local government unit provided the building and facilities to be fully operational.

1.3.3. BRIEF PROFILE OF WATERSHED/ SUB-WATERSHED COVERAGE AND LOCATIONS (IF ANY)

One of the major watersheds that encompasses the City of Manila is the Manila Bay watershed. It is a semi-enclosed coastal body of water facing the West Philippine Sea. It is located in the southwest portion of Luzon Island, and is considered one of the world's best

natural harbors. The bay has a total surface area of 1,994 square kilometers and a coastline that runs 190 km long, encompassing three regions, namely, the National Capital Region (NCR), Central Luzon (Region 3), and CaLaBarZon (Region 4A).

As a watershed, however, the area under Manila Bay extends far beyond its actual shores. Overall, it measures 17,000 square kilometers and is drained by 16 major river systems distributed within the three regions that make-up the entire Manila Bay watershed area. For NCR, the river systems are Tullahan, Pasig, Marikina, San Juan, Paranaque, and Zapote.

1.3.4. SIGNIFICANT NATIONAL OR REGIONAL/SUB-NATIONAL CHARACTERISTICS OR VALUE

The University of the Philippines Manila site is known as a heritage zone declared by the National Historical Commission of the Philippines. UPM houses numerous heritage buildings that are discussed in Part 2 Section 2.4 and Part 3 in Section 3.4.6 D. Given the cultural identity of the University which houses notable creations of architecture during the American Colonial Period, the masterplan is sensitive to the preservation and adaptive re-use of the existing buildings.

As identified in the Manila Comprehensive Land Use Plan, the UP Manila houses heritage buildings under the Histo-Cultural Heritage Overlay Zone (O-HCH) which requires special consideration for protection and conservation due to their special character, architectural value, or aesthetic interest wherein they contribute to the City's collective understanding of its historical development and cultural heritage.

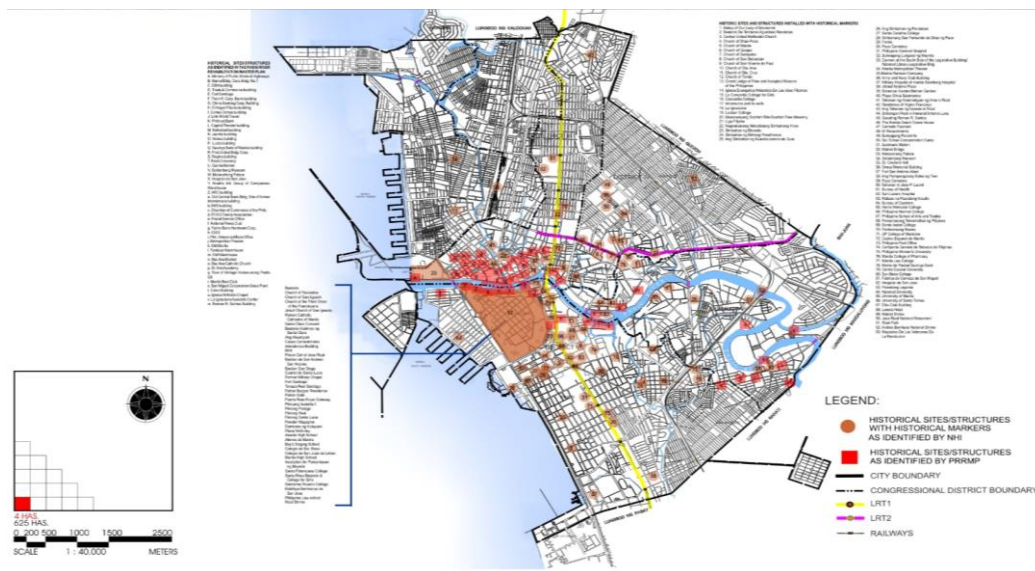


Figure 25 Histo-Cultural Heritage Overlay Zone (O-HCH) (Source: City of Manila CLUP)

1.3.5. VULNERABILITIES AND RISKS

Vulnerabilities and Risks for U.P. Manila

The vulnerabilities and risks are divided into the six UP Manila and SHS locations. UP Manila and UP PGH are located in Ermita Manila, National Capital Region, while the SHS Campuses are located in different locations nationally. These data are derived from the maps prepared by DOST, PAGASA, NDRRMC, and Project NOAH.

From the following maps, the University of the Philippines Manila Campus is prone to damages of ground shaking for magnitude 6.5 and 7.5 earthquakes along the West Valley Fault, flood coming from Taft Avenue, highly susceptible to liquefaction due to the soil characteristics and tsunami prone due to the location near the Manila bay.

UP Manila and UP PGH is located in block 669 and portion of block 670 with an Intensity Low 8 and an Intensity High 8 for 6.5 and 7.2 magnitude. It has a High Susceptibility from the data of the Philippine Institute of Volcanology and Seismology from the Department of Science and Technology and the Manila Earthquake Impact Reduction Study (MMEIRS) of 2004.

It is included in the Tsunami Inundation Area with a computed maximum tsunami waveheight with height of tide at 5.5 meters as indicated on the NCR map. This has been generated using the available tsunami programs, earthquake and tectonic data and bathymetric maps gathered from the data of the Philippine Institute of Volcanology and Seismology from the Department of Science and Technology and the Manila Earthquake Impact Reduction Study (MMEIRS) of 2004.

Flood is also a recurring problem in UP Manila with frequent flooding due to insufficient and clogged drainage lines in the periphery. The main source currently is from Taft Avenue and overflows in Padre Faura. Given the possibility that flooding is a result of the effectiveness of the public utilities, the solution from the Local Government Unit and the Department of Public Works and Highways in the South Manila District Engineering Office may already be in the planning phase. The NCR Flood Hazard Projections in turn are between low to medium flooding from the five year to 100-year period as recorded by the Nationwide Operational Assessment of Hazards (NOAH) or Project NOAH.

The nature of the academic instruction, research laboratories, and hospital facilities makes UP Manila and UP PGH susceptible to man-made hazards such as fire hazards. The site is also home to heritage trees that need pruning and tree servicing to prevent tree related damages. And given that UP Manila is also the site for World War 2, buried antique explosives are also present and more pronounced especially at the opposite side of Padre Faura in the Rizal Hall College of Arts and Sciences, Department of Justice, and Supreme Court.

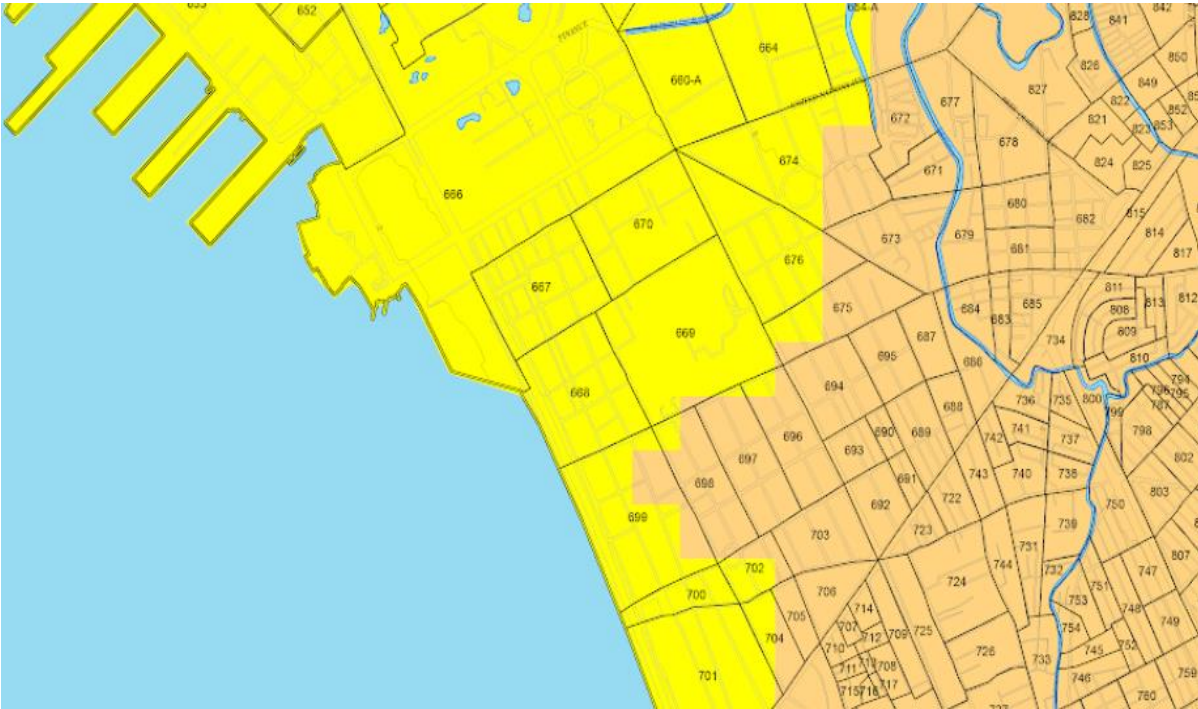


Figure 26 Risk Analysis Project: Ground Shaking Hazard Map of UP Manila Event Scenario Magnitude 6.5 Earthquake Along the West Valley Fault by RAP Project Ground Shaking Team, Philippine Institute of Volcanology and Seismology (PHIVOLCS-DOST)

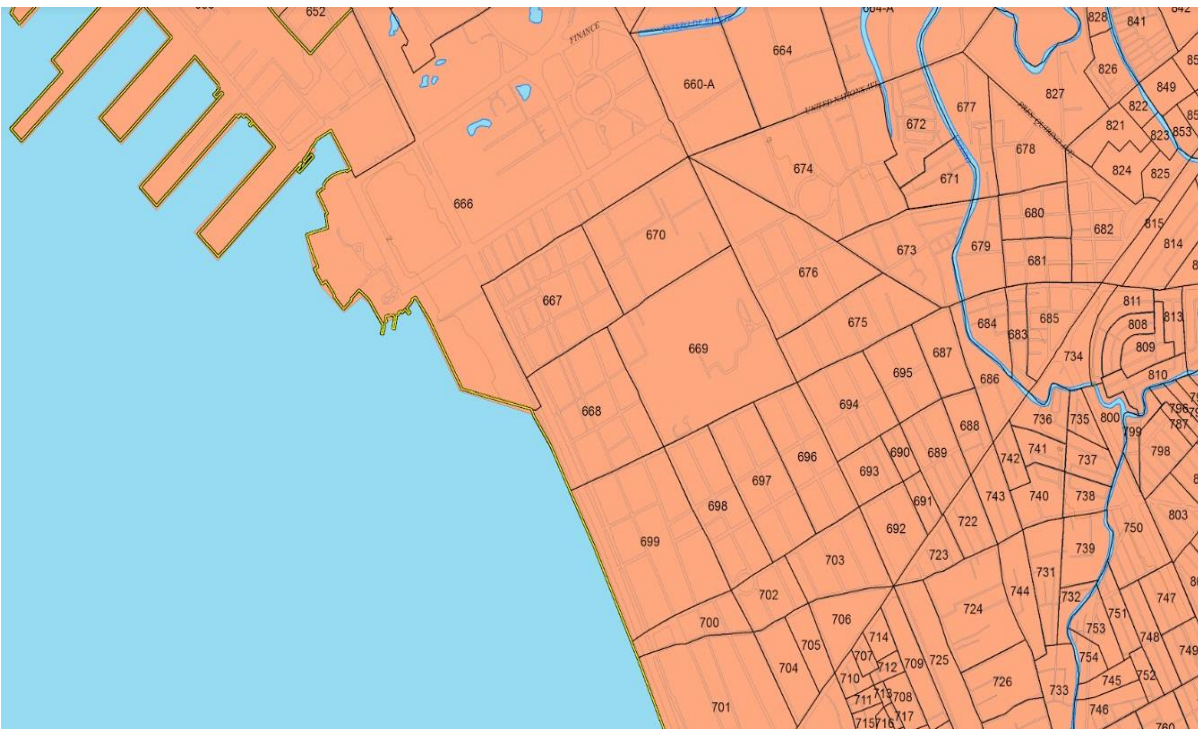


Figure 27 Risk Analysis Project: Ground Shaking Hazard Map of UP Manila Event Scenario Magnitude 7.2 Earthquake Along the West Valley Fault by RAP Project Ground Shaking Team, Philippine Institute of Volcanology and Seismology (PHIVOLCS-DOST)



Figure 28 Liquefaction Hazard Map from the Hazard Data from PHIVOLCS-DOST



Figure 29 Tsunami Hazard Map from the Hazard Data from PHIVOLCS-DOST

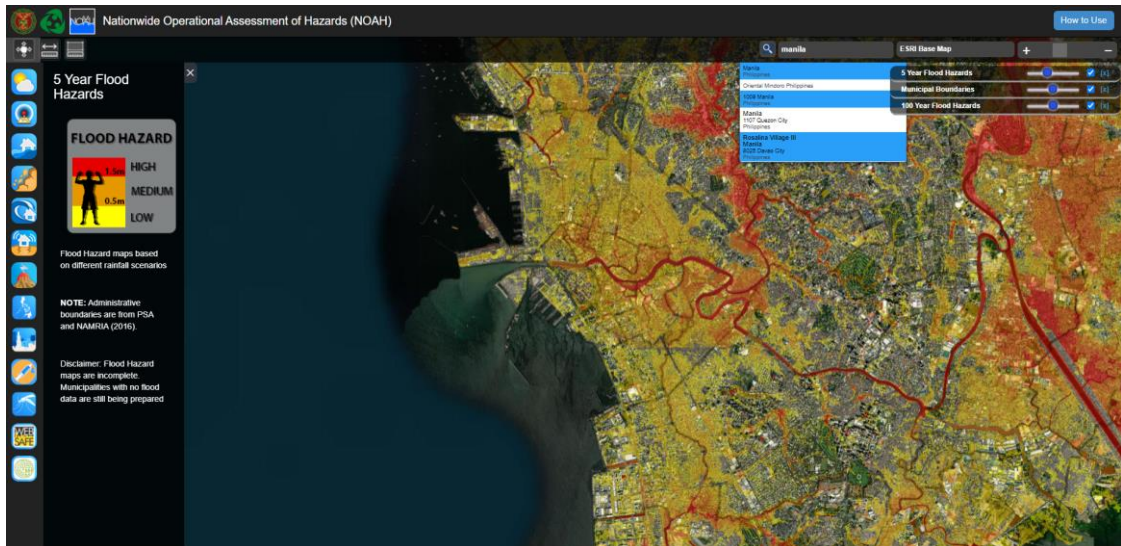


Figure 30 UP Manila in the 5-year Flood Map of Project NOAH

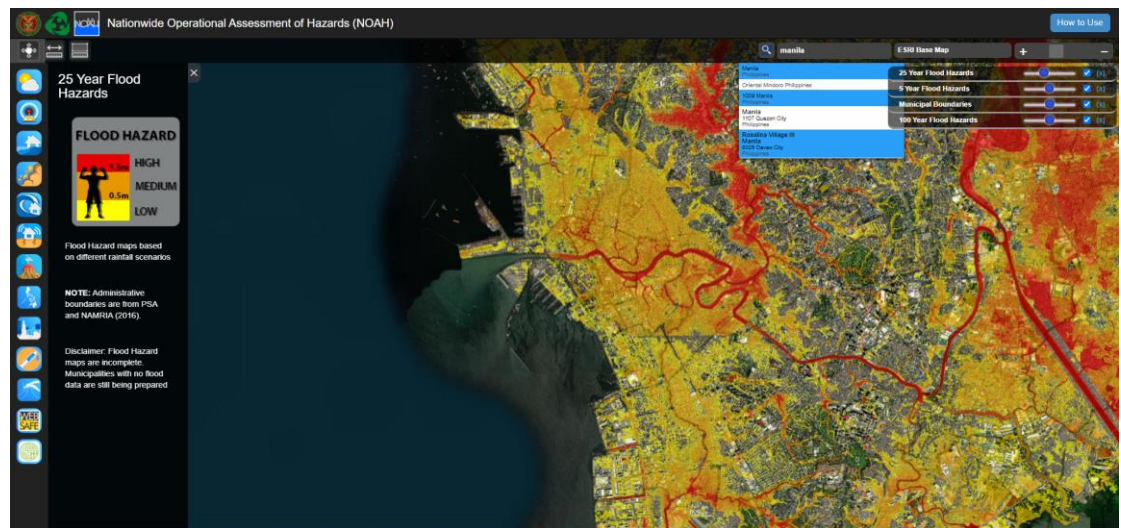


Figure 31 UP Manila in the 25-year Flood Map of Project NOAH

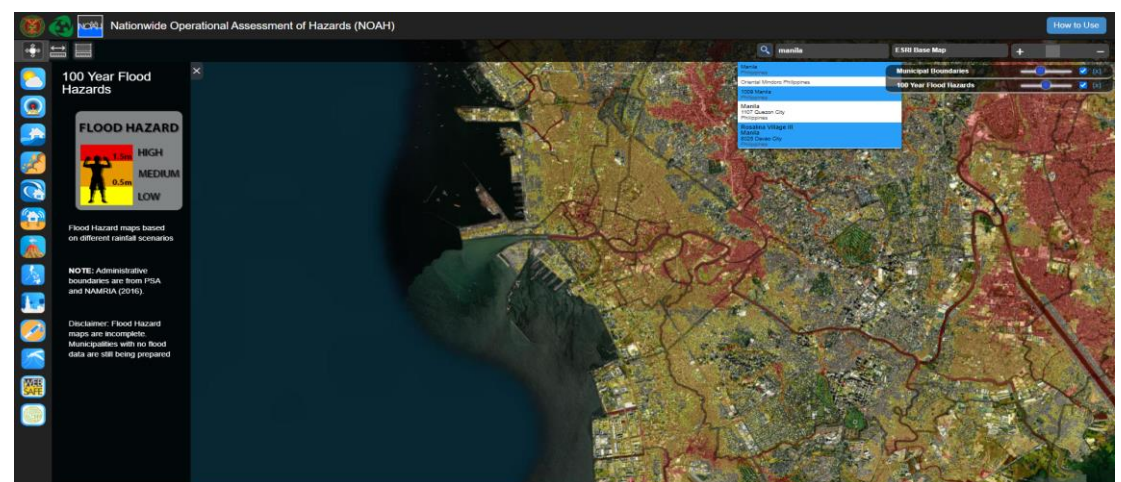


Figure 32 UP Manila in the 100-year Flood Map of Project NOAH

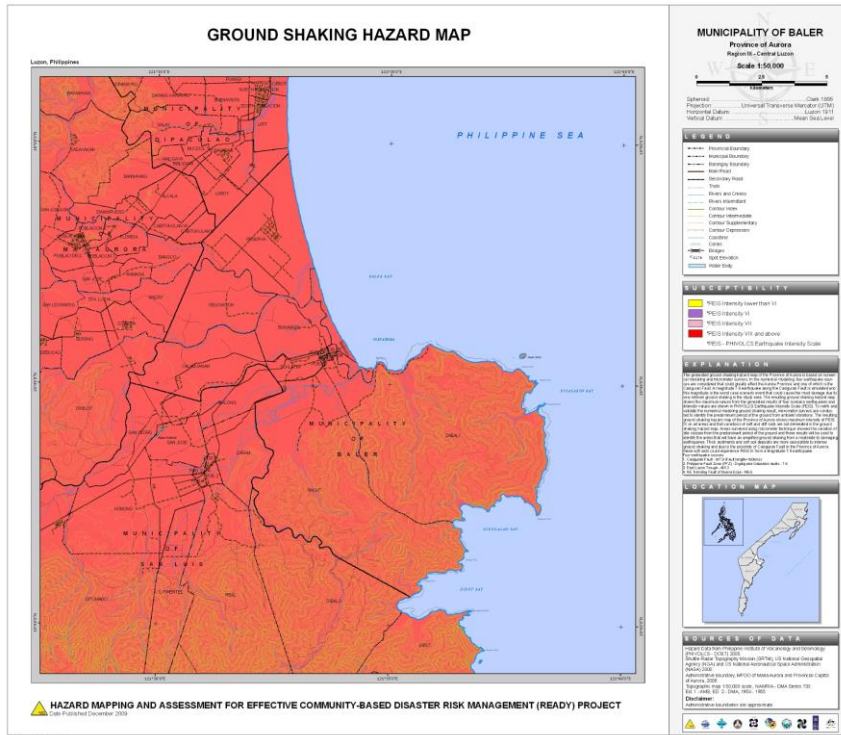


Figure 34 Baler, Aurora Ground Shaking Hazard Map (NDRRMC)

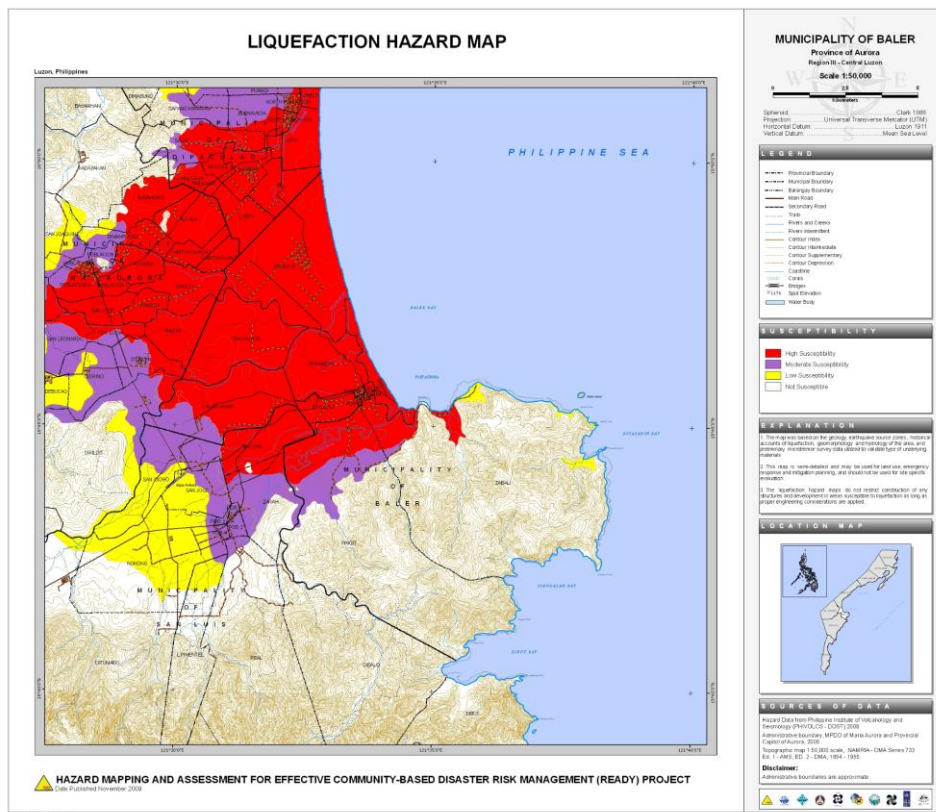


Figure 35 Baler, Aurora Liquefaction Hazard Map (NDRRMC)

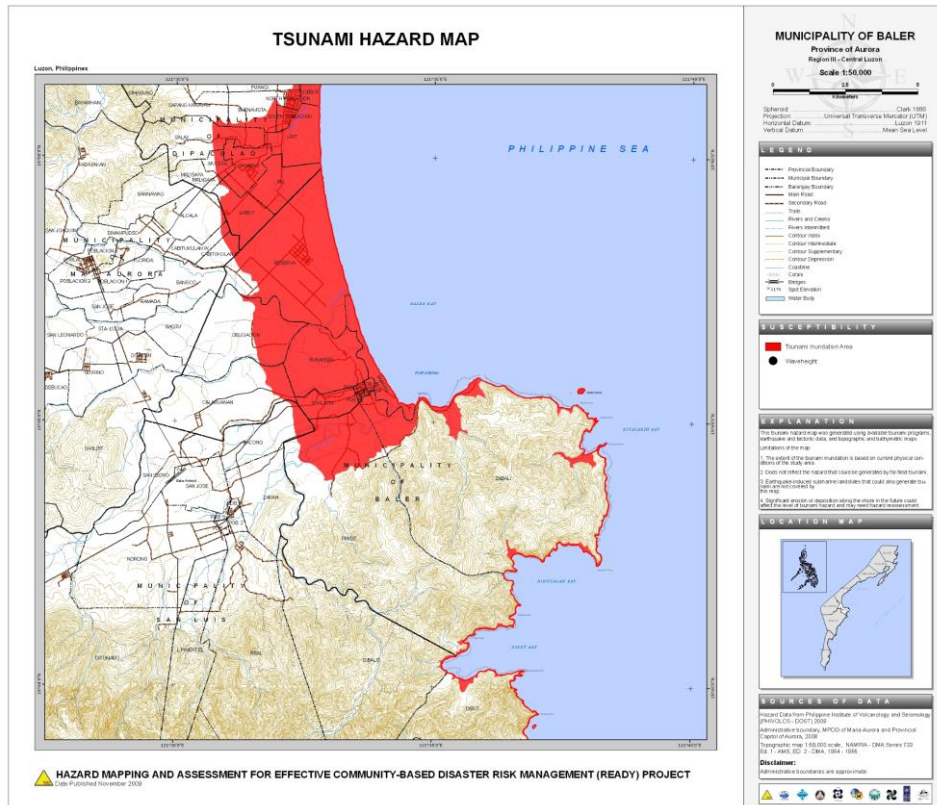


Figure 36 Baler, Aurora Tsunami Hazard Map (NDRRMC)

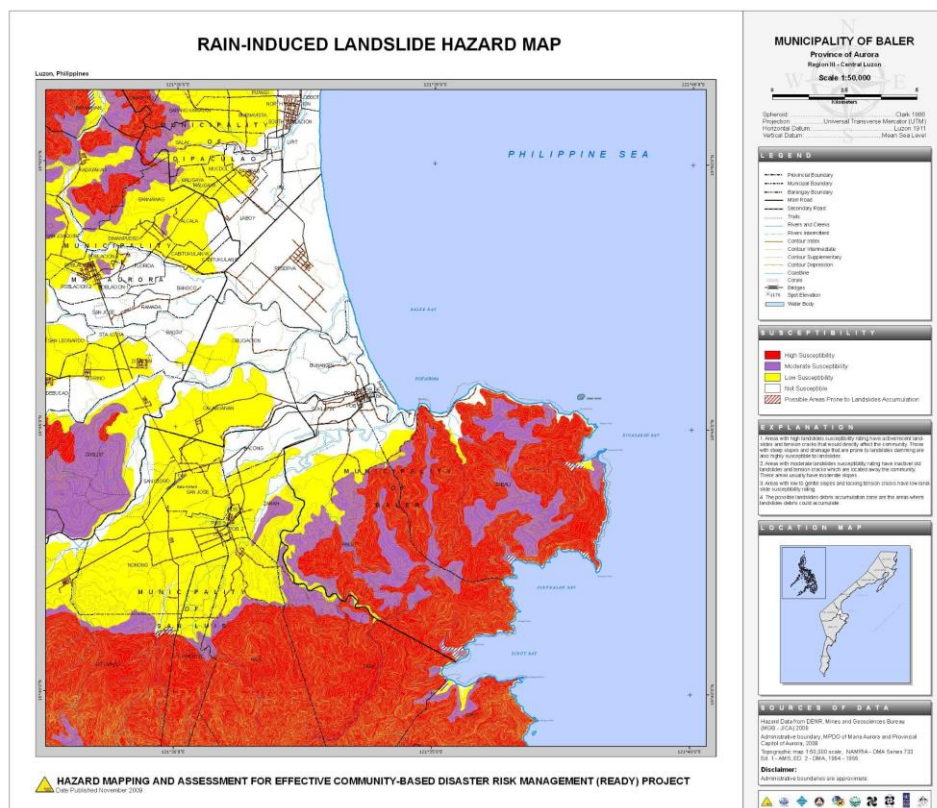


Figure 37 Baler, Aurora Rain Induced Hazard Map (NDRRMC)

2. Palo, Leyte, Region VIII

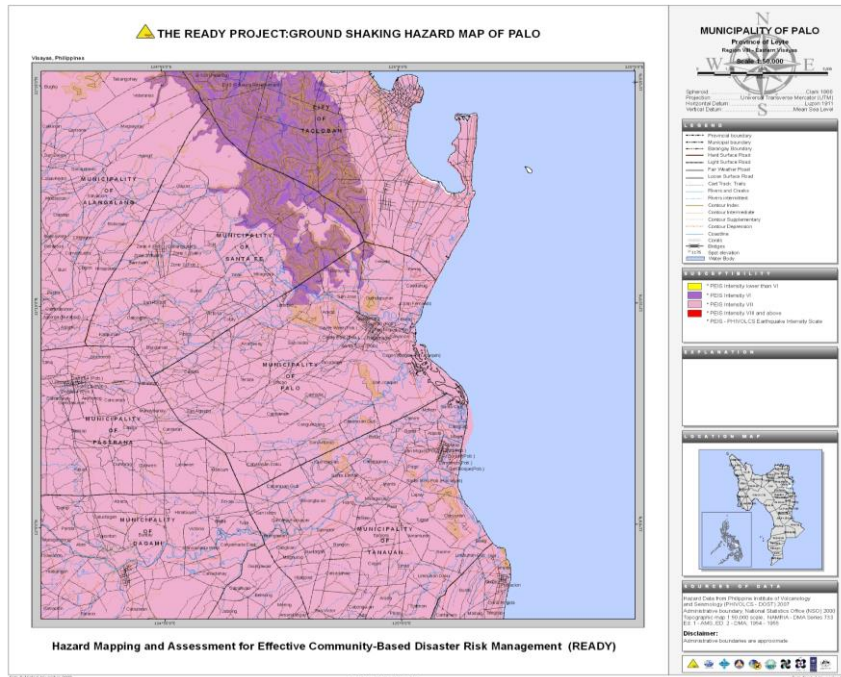


Figure 38 Palo, Leyte Ground Shaking Hazard Map (NDRRMC)

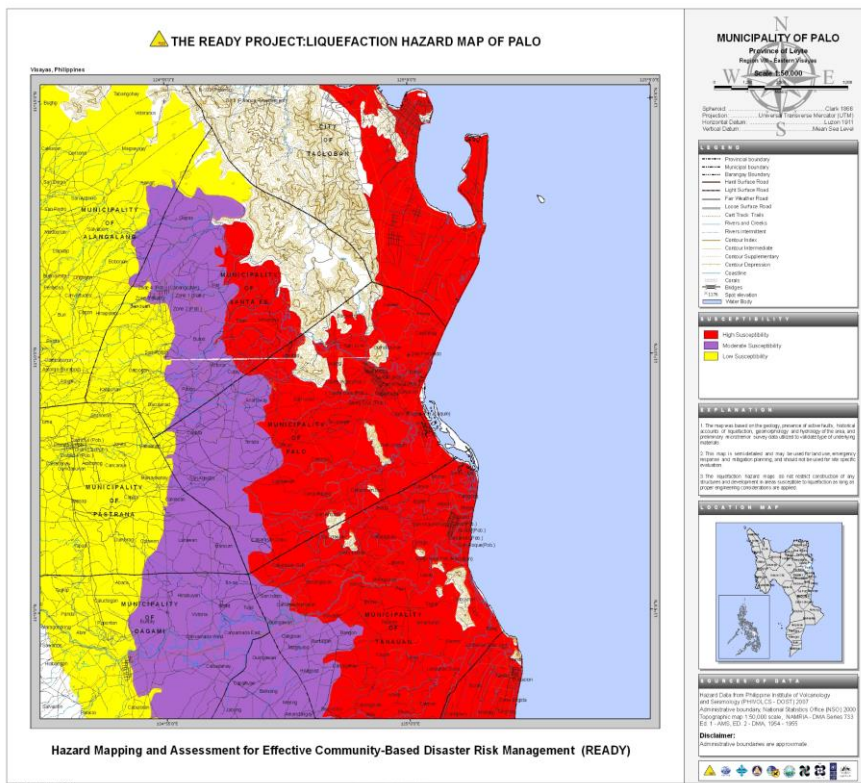


Figure 39 Palo, Leyte Liquefaction Hazard Map (NDRRMC)

3. Sta. Elena, Tacloban, Leyte, Region VIII

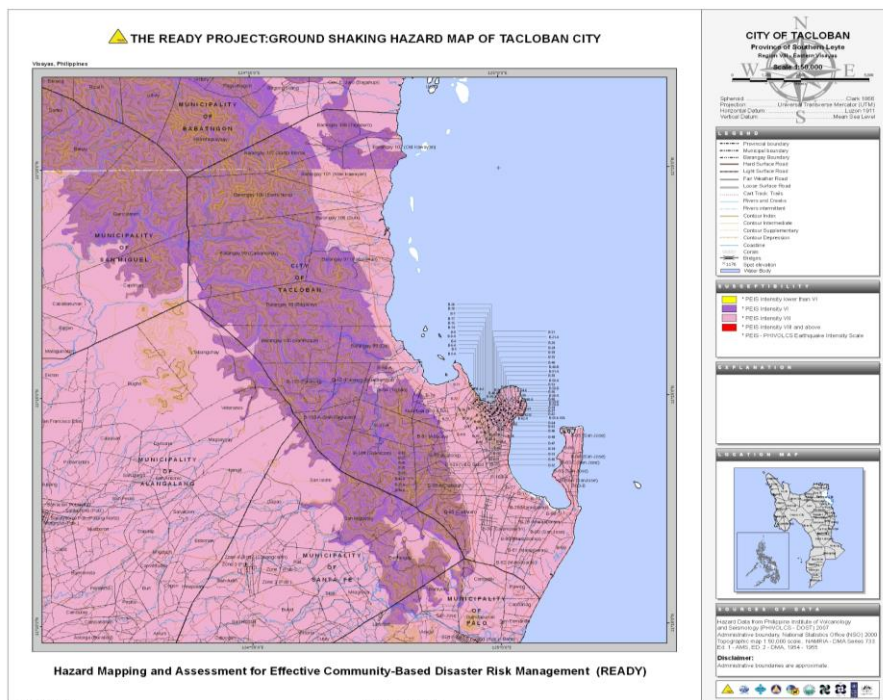


Figure 42 Tacloban, Leyte Ground Shaking Hazard Map (NDRRMC)

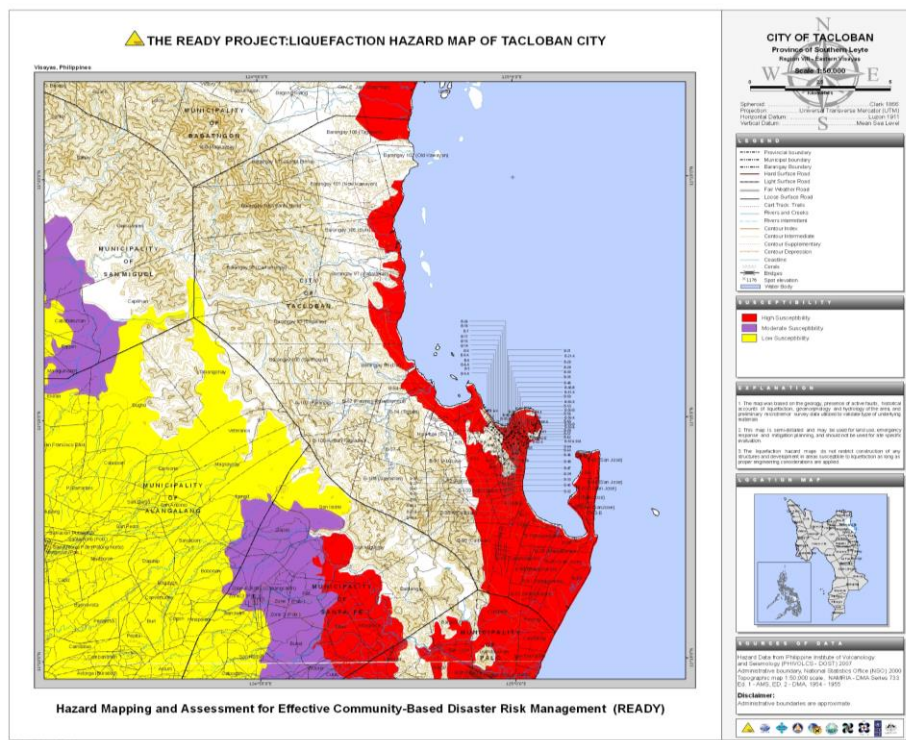
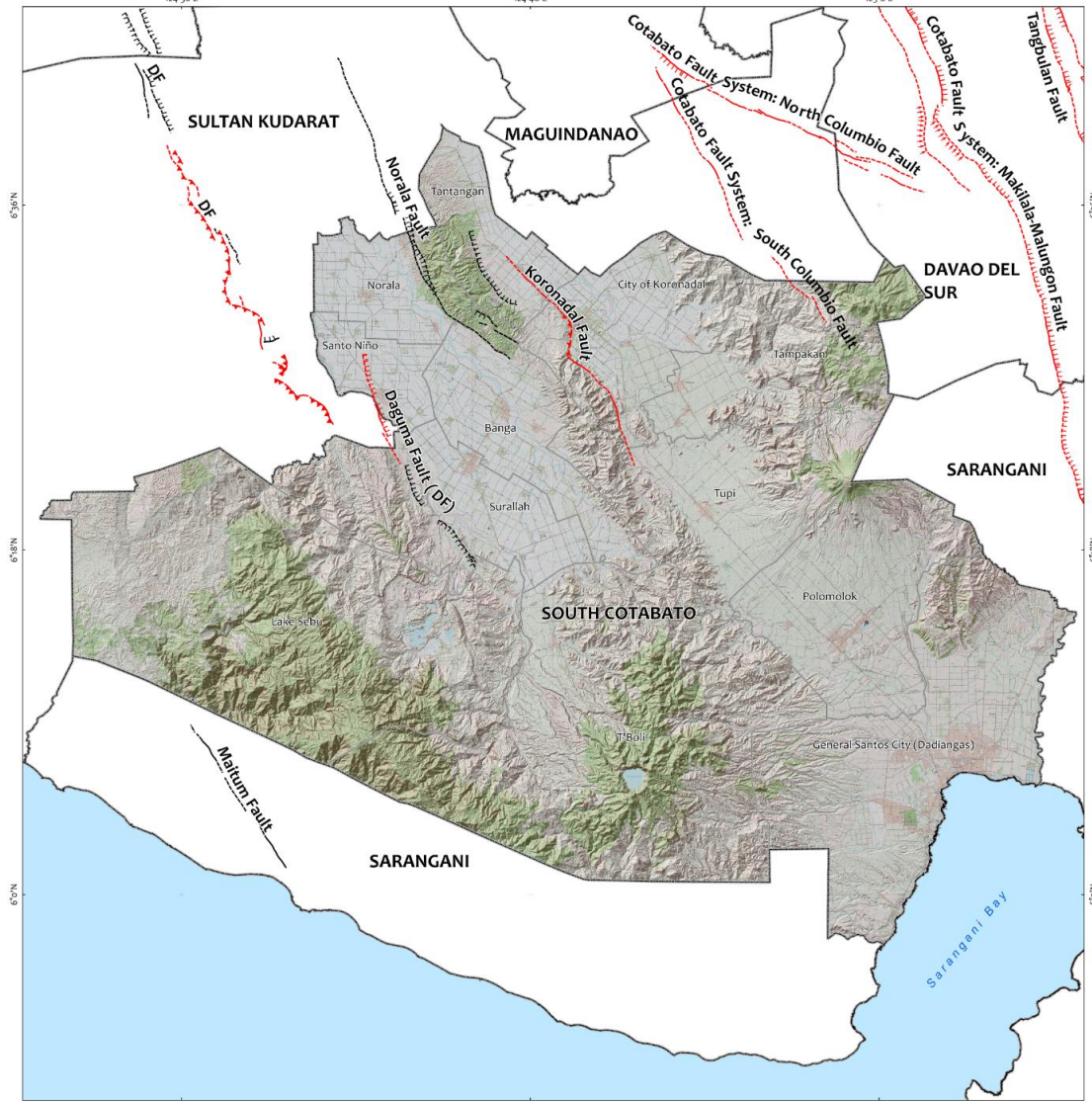


Figure 43 Tacloban, Leyte Liquefaction Hazard Map (NDRRMC)

4. Koronadal, South Cotabato, Region XII

Ground Rupture Hazard Map Province of South Cotabato

South Cotabato
1:130,000



Legend

Active Faults

- Solid line - trace is certain
- Dashed line - trace is approximate
- Hachures on solid line indicate downthrown area - trace is certain
- Hachures on dashed line indicate downthrown area - trace is approximate
- Sawtooth on solid line indicate upthrown side - trace is certain
- Sawtooth on dashed line indicate upthrown side - trace is approximate

Potentially Active Faults

- Solid line - trace is certain
- Dashed line - trace is approximate
- Hachures on solid line indicate downthrown area - trace is certain
- Hachures on dashed line indicate downthrown area - trace is approximate

Provincial boundary
 Municipal boundary
 River / Stream
 Built-up area / settlement
 Road / Highway

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 website: www.phivolcs.dost.gov.ph
 email: phivolcs_mail@phivolcs.dost.gov.ph

Explanation

The Provincial-scale Ground Rupture Hazard Map of South Cotabato was generated through a combination of analysis of geomorphic evidence of active faulting using aerial photographs, satellite images, geologic, bathymetric and topographic maps, available literature, and field survey data. Earthquake records from 1600-2020 that occurred within the vicinity of mapped faults were analyzed.

Two classifications of faults are shown in this map: Active and Potentially Active. Active Fault shows strong evidence of displacement and deformation of young sediments and geologic features within the last 10,000 years and is definite to move again in the future. A Potentially Active Fault shows insufficient evidence that the fault moved in the last 10,000 years. However, the possibility of future movement along this type of faults may not be discounted. Potentially Active Faults may be reclassified when additional information from paleoseismic, seismic, geophysical or kinematic studies become available.

DOST-PIVOLCS takes the necessary steps to continually improve the accuracy of fault information reflected in this map. The Ground Rupture Hazard Map may be revised as new information become available.

Recommendation

Movement of inland active faults and potentially active faults in South Cotabato province and vicinity may result in ground rupture that may be damaging to buildings and non-made structures built directly above these faults. DOST-PIVOLCS recommends a buffer zone, Zone of Avoidance, of at least five (5) meters from both sides of the active faults and potentially active faults or from the edge of the deformation zone. For site-specific ground rupture hazard assessment use large-scale maps. Furthermore, for building critical facilities, site-specific investigation is recommended.

Limitations

1. Provincial-scale hazard maps may be used as guidance for planning and policy formulation of local development, as well as for disaster risk reduction and management, among others.
2. Administrative boundaries are approximate.

Data Sources

1. Fault data from the Department of Science and Technology - Philippine Institute of Volcanology and Seismology (DOST-PIVOLCS), 2016, 2020.
2. Base maps are National Mapping and Resource Information Authority (NAMRIA) 1:50,000 topographic maps, 2013 and Interferometric Synthetic Aperture Radar - Digital Terrain Model (DSM) (DTM), 2013.
3. Administrative boundaries are acquired from NAMRIA and Philippine Statistics Authority (PSA) data, 2016.

Acknowledgement

This Ground Rupture Hazard Map is the result of the DOST-PIVOLCS and Iloilo Institute of Technology collaborative project with funding support through Grant-In-Aid for Science Research from Ministry of Education, Culture and Sports (MEXT), Japan.

To use this map, please see Philippine Institute of Volcanology and Seismology, Ground Rupture Hazard Map of the Province of South Cotabato, 1:130,000 scale, Iloilo, Quezon City, Philippines: DOST-PIVOLCS, December 2020.

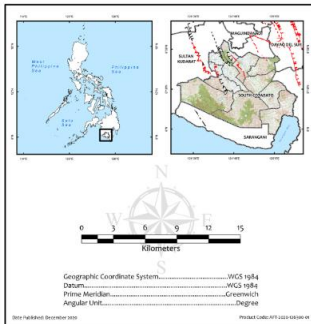


Figure 46 South Cotabato Ground Rupture Hazard Map (DOST-PIVOLCS)

Liquefaction Hazard Map Province of South Cotabato

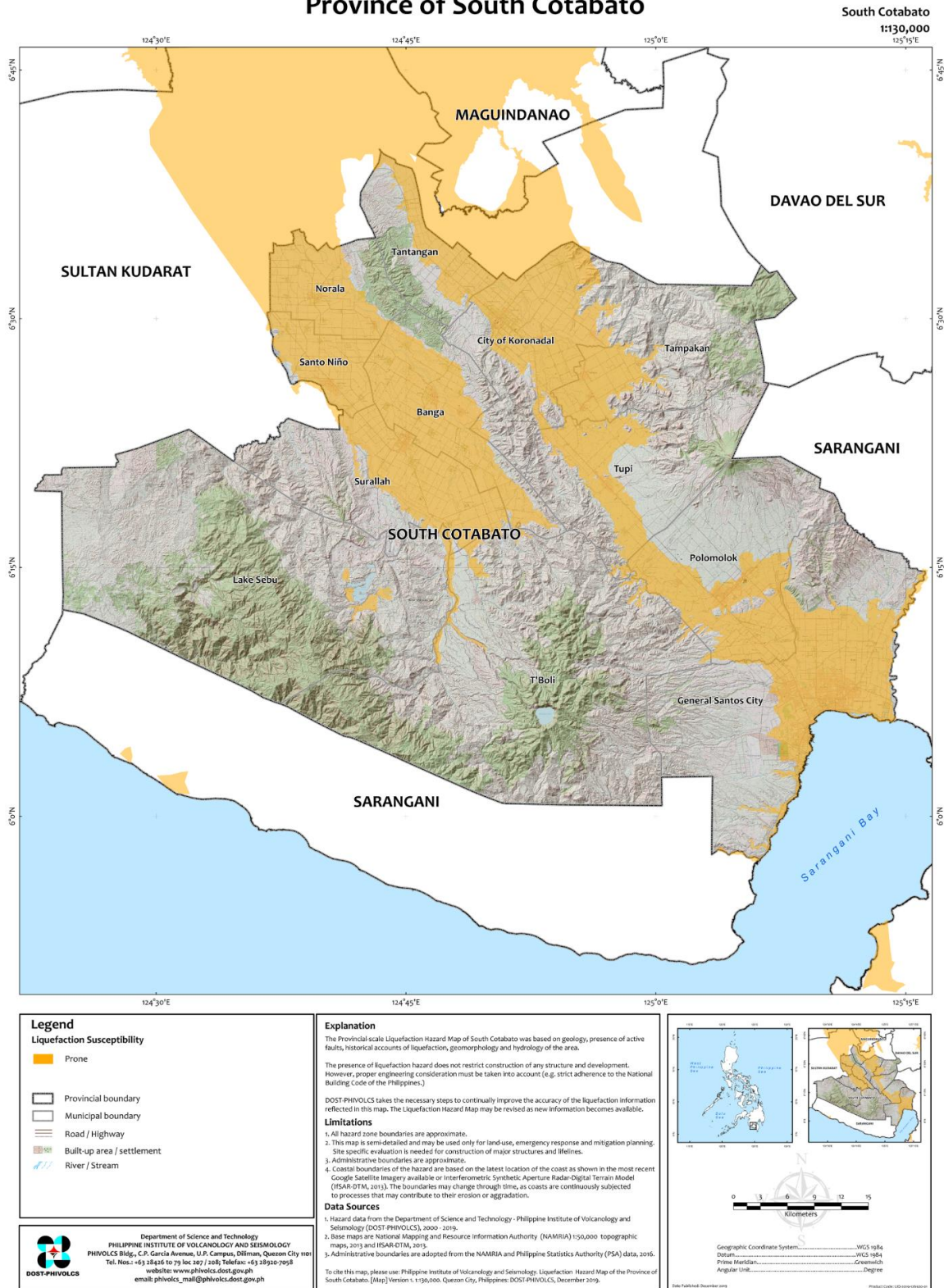
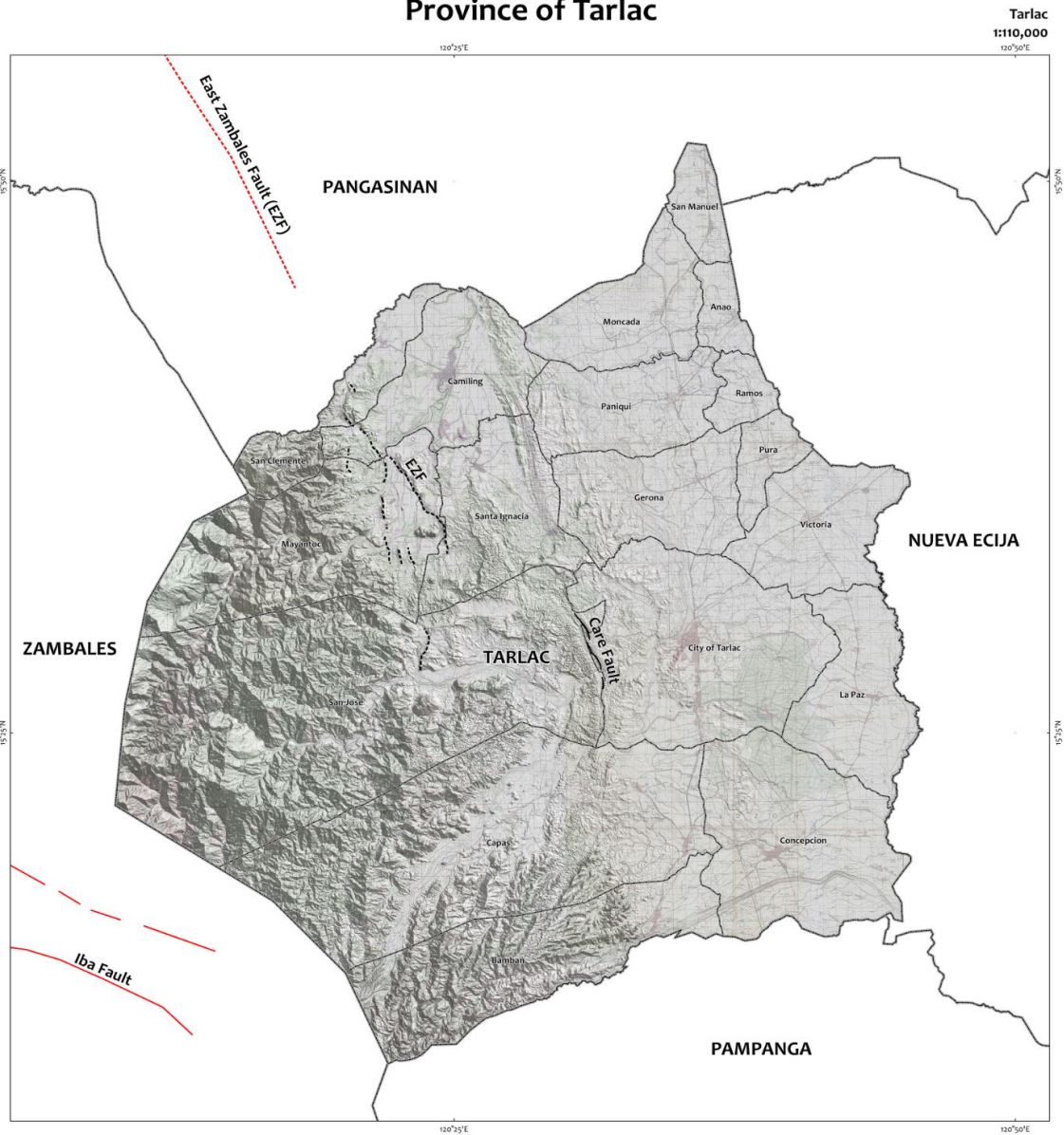


Figure 47 South Cotabato Liquefaction Hazard Map (DOST-PHIVOLCS)

5. Tarlac City, Tarlac, Region III

Active Faults Map Province of Tarlac



Legend

Active Faults

- Solid Line - trace is certain
- Dashed Line - trace is approximate

Potentially Active Faults

- Solid Line - trace is certain
- Dashed Line - trace is approximate

Provincial boundary
 Municipal boundary
 Road / Highway
 Built-up area / settlement
 River / Stream

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Explanation

The Provincial-scale Active Faults Map of Tarlac was generated through a combination of analysis of geomorphic evidence of active faulting using aerial photographs, satellite images, geologic and topographic maps, available literature, and field survey data. Earthquake records from 1600 to 2017 that occurred within the vicinity of mapped faults were analyzed.

Two classifications of faults are shown in this map – Active and Potentially Active. Active Fault shows strong evidence of displacement and deformation of young sediments and geologic features within the last 10,000 years and is definite to move again in the future. A Potentially Active Fault shows insufficient evidence that the fault moved in the last 10,000 years. However, the possibility of future movement along this type of faults may not be discounted. Potentially Active faults may be reclassified when additional information from paleoseismic, seismic, geophysics or kinematics studies become available.

PHIVOLCS DOST takes necessary steps to continually improve the accuracy of fault information reflected in this map. The Active Faults Map may be revised as new information become available.

Recommendation

Movement of inland active faults in Tarlac may result to ground rupture that may be damaging to buildings and man-made structures built directly above these faults. PHIVOLCS DOST recommends a buffer zone, or Zone of Avoidance, of at least five (5) meters from both sides of the active faults and potentially active faults or from the edge of the deformation zone. For site-specific ground rupture hazard assessment use large-scale maps. Furthermore, for building critical facilities, site-specific investigation is recommended.

Limitations

- Provincial-scale hazard maps may be used as guidance to planning and policy formulation of local development, as well as for disaster risk reduction and management, among others.
- Administrative boundaries are approximate.

Data Sources

- Fault data from Philippine Institute of Volcanology and Seismology (PHIVOLCS-DOST), 2000-2018.
- Base map is National Mapping and Research Information Authority (NAMRIA) 1:50,000 topographic maps, 1993 and ISAR Digital Terrain Model, 2013.
- Administrative boundaries are adopted from NAMRIA and Philippine Statistics Authority (PSA) data, 2016.

To the this map, please use Philippine Institute of Volcanology and Seismology Active Faults Map of the Province of Tarlac, [Map] Version 1, 1:110,000, Quezon City, Philippines: PHIVOLCS DOST, December 2018.

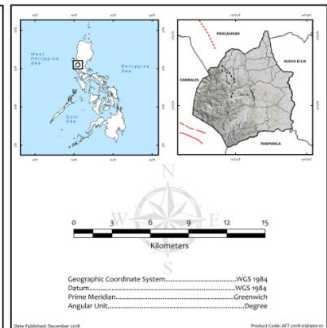
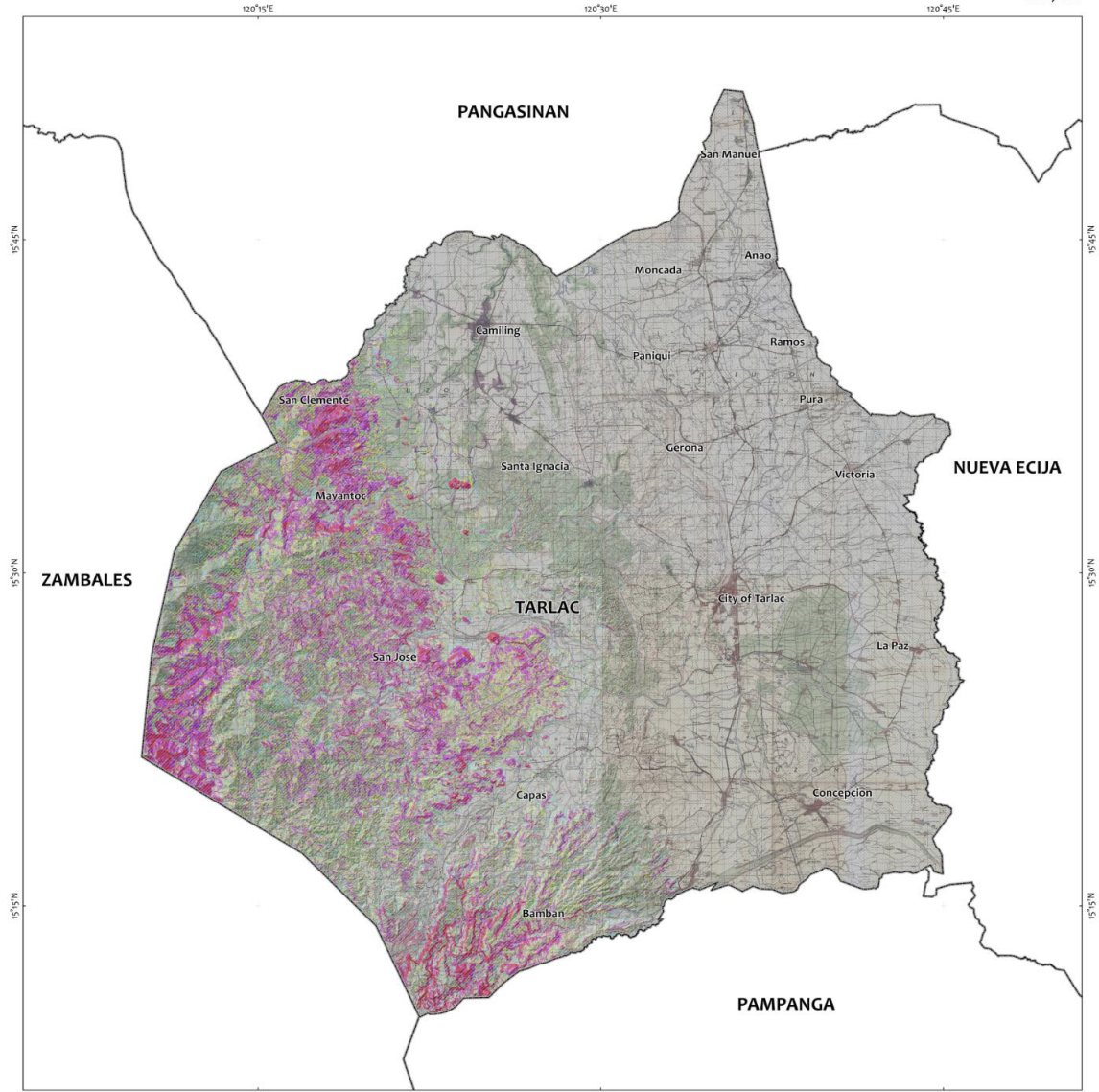


Figure 48 UP Manila SHS Tarlac Active Faults Hazard Map (DOST-PHIVOLCS)

Earthquake-Induced Landslide Hazard Map Province of Tarlac

Tarlac
1:110,000



Legend

Earthquake-Induced Landslide Potential

- High
- Moderate
- Low
- Possible landslide depositional/affected zone

- Provincial boundary
- Municipal boundary
- Road / Highway
- Built-up area / settlement
- River / Stream

Explanation

The Provincial-scale Earthquake-Induced Landslide Hazard Map of Tarlac was produced by simulating the possible earthquakes generated in the area and the behavior of the slopes.

Landslide potentials were calculated using a) the computed Factor of Safety, b) critical acceleration of slope based on Newmark Sliding Block Analysis Method by Newmark, 1965, and c) ground shaking by Fukushima and Tanaka, 1990, simulated using REIMS version 2.0f by Bautista, S., et al., 2006. The depositional zone for the landslide run-out deposits was derived through the Terrain Analysis Using Digital Elevation Model (TAUDM) by Jabotons, 2005. The result shows the possible landslide initiation zones at varying levels, i.e. high, moderate, and low.

DOST-PHIVOLCS takes the necessary steps to continually improve the accuracy of the information reflected in this map. The Earthquake-Induced Landslide Hazard Map may be revised as new information become available.

Limitations

- All hazard zone boundaries are approximate and gradational.
- Engineering parameters needed to calculate Factor of Safety are generalized using the geomorphological and lithological boundaries.
- This map is semi-detailed and may be used only for land-use, emergency response and mitigation planning. Site-specific evaluation is needed for construction of major structures and lifelines.
- Administrative boundaries are approximate.

Data Sources

- Hazard data from Department of Science and Technology - Philippine Institute of Volcanology and Seismology (DOST-PHIVOLCS), 2020
- Base maps are from National Mapping and Resource Information Authority (NAMRIA) 1:50,000 topographic maps and Interferometric Synthetic Aperture Radar - Digital Terrain Model (ISAR - DTM), 2015.
- Philippine Soil Map from PHILGCS, 1997, 2004-2007 and Bureau of Soils and Water Management (BSWM), 2009-2014.
- Administrative boundaries are adopted from NAMRIA and Philippine Statistics Authority (PSA), 2016.

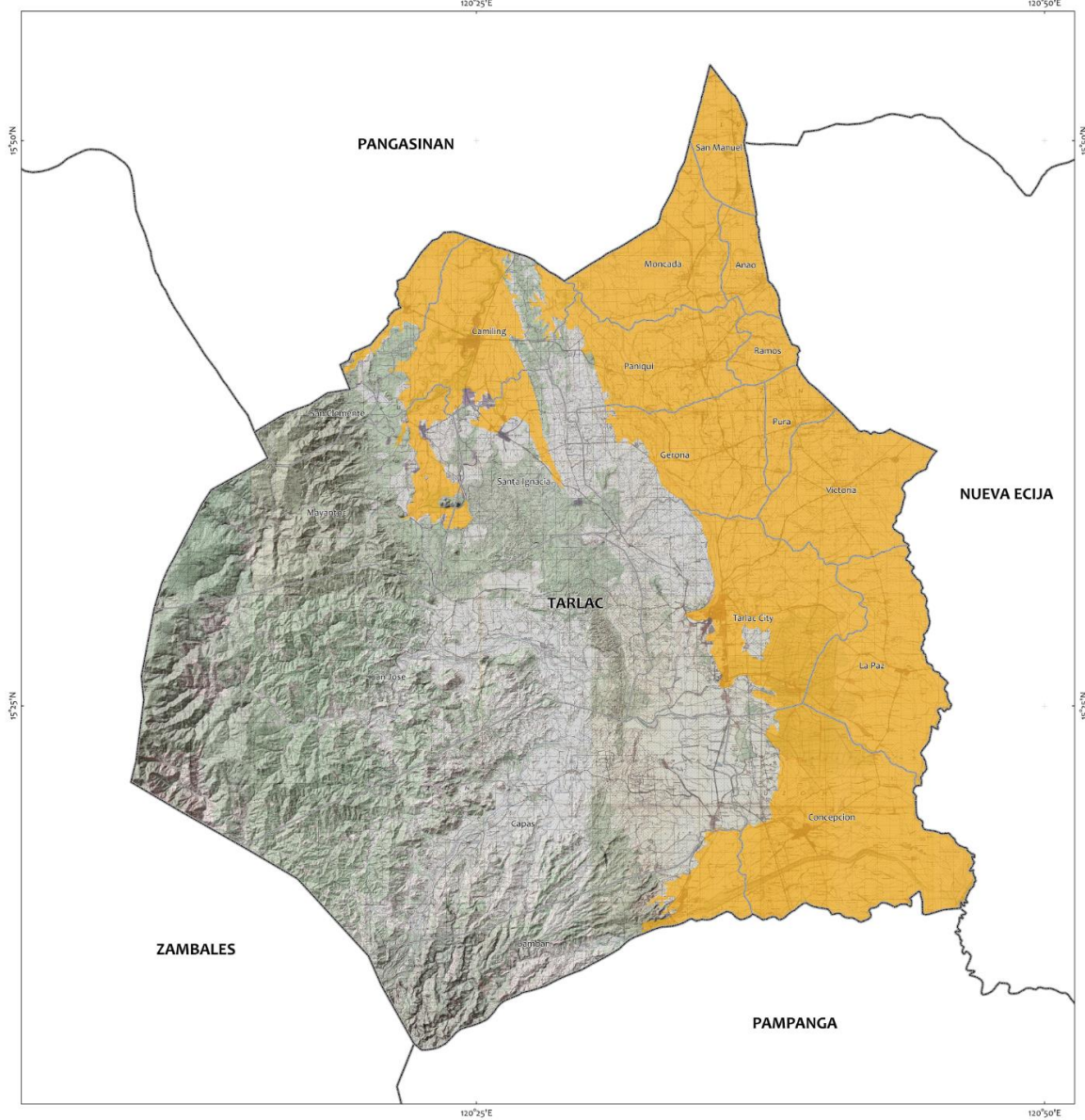
*Under the map, please use Philippine Institute of Volcanology and Seismology, Earthquake-Induced Landslide Hazard Map of the Province of Tarlac, (2020) Version 1.1 (1:110,000, Quezon City, Philippines: DOST - PHIVOLCS, March 2021).

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Figure 49 UP Manila SHS Tarlac Earthquake Induced Landslide Hazard Map (DOST-PHIVOLCS)

Liquefaction Hazard Map Province of Tarlac


Tarlac
1:110,000
120°30'E



Legend

Liquefaction Susceptibility

- Prone
- Provincial boundary
- Municipal boundary
- Roads / Highway
- Built-up area / settlement
- Rivers / Streams



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Explanation

The Provincial scale Liquefaction Hazard Map of Tarlac was based on geology, presence of active faults, historical accounts of liquefaction, geomorphology and hydrology of the area.

The presence of liquefaction hazard does not restrict construction of any structure and development. However, proper engineering consideration must be taken into account (e.g. strict adherence to the National Building Code of the Philippines).

PHIVOLCS-DOST takes the necessary steps to continually improve the accuracy of the liquefaction information reflected in this map. The Liquefaction Hazard Map may be revised as new information becomes available.


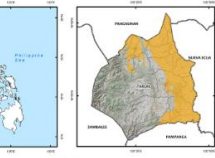
Limitations

1. All hazard zone boundaries are approximate and gradational.
2. This map is semi-detailed and may be used only for land-use, emergency response and mitigation planning. Site-specific evaluation is needed for construction of major structures and lifelines.
3. Administrative boundaries are approximate.
4. Coastal boundaries of the hazard are based on the latest location of the coast as shown in the most recent Google Satellite Imagery (2013-2017) available or IFSAR-Digital Terrain Model. The boundaries may change through time, as coasts are continuously subjected to processes that may contribute to their erosion or aggradation.

Data Sources

1. Base maps are National Mapping and Resource Information Authority (NAMRIA) 1:50,000 topographic maps, 1993 and IFSAR-Digital Terrain Model, 2013.
2. Administrative boundaries are adopted from Philippine GIS data, 2011.

To cite this map, please use: Philippine Institute of Volcanology and Seismology, Liquefaction Hazard Map of the Province of Tarlac. [Map] Version 1. 1:110,000. Quezon City, Philippines:PHIVOLCS, August 2018.

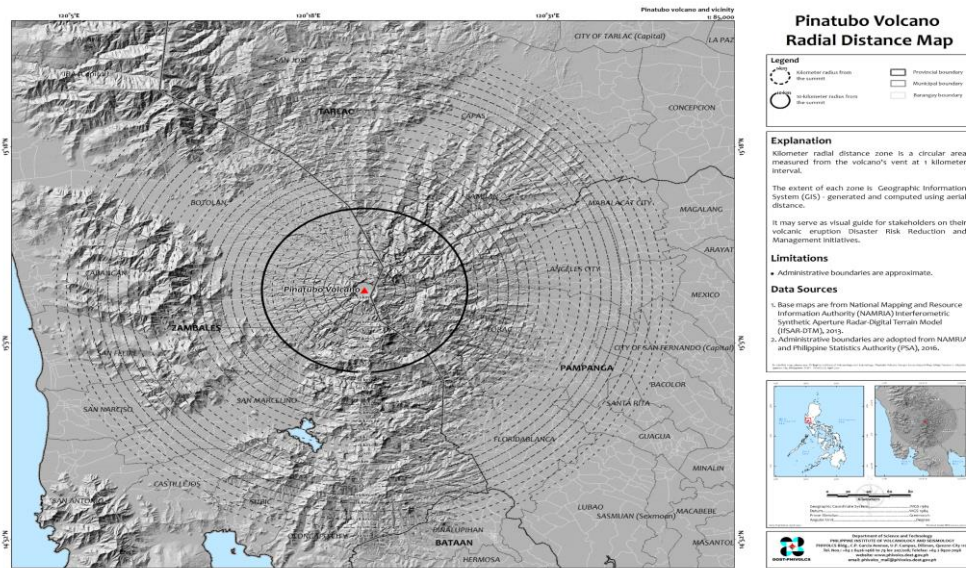



Scale: 0 4 8 12 16 20 Kilometers

Geographic Coordinate System: WGS 1984
 Datum: WGS 1984
 Prime Meridian: Greenwich
 Angular Unit: Degree

Base Publisher: August 2018 Product Code: 100-018-0000-000

Figure 50 UP Manila SHS Tarlac Liquefaction Hazard Map (DOST-PHIVOLCS)



1.3.6. MAPS COVERING POLITICAL BOUNDARIES

The Manila Comprehensive Land Use Plan and Zoning Ordinance (MCLUPZO) prepared by Palafox and Associates identifies Ermita as part District V. The political boundaries of Ermita are the Heritage and Institutional zones. The presence of public utilities, services, and transportation such as the LRT line 1 are advantageous for accessibility to the site and priority for the projects of the local government units.

The Ermita district is also under the DPWH South Manila District Engineering Office that communicates with the administration for the development of roadways and public works. Current projects include road improvement, fence construction, renovation of buildings, and conservation projects for heritage buildings. Drainage, Sewage Treatment Plant, and road development shall be part of the future projects once the construction of new buildings are completed.



PART 2: DETAILED DESCRIPTION OF THE SUC AND ITS CAMPUSES

2.1. PHYSICAL FEATURES AND ENVIRONMENTAL CONDITION

2.1.1. PHYSICAL AND LOCATIONAL CHARACTERISTICS, INCLUDING LAND AREA, BOUNDARIES, COVERED BARANGAYS, AND AMONG OTHERS

UP Manila

The UP Manila Campus and the PGH Compound are located in Ermita included in the District V of Manila. UP Manila is part of Barangay 670 Zone 72. To its north is United Nations Avenue, Taft Avenue to the east, María Orosa Avenue and Robinsons Place Manila to the west and Pedro Gil Street to the south.

In terms of road network, Manila is composed of a system of radial and circumferential roads and UP Manila and UP-PG are accessible to both commuters and private vehicles. The major arteries such as Roxas Avenue and Taft Avenue which run in a north-south direction are near and adjacent to UP Manila and UP PGH respectively. Along Taft Avenue is the LRT line 1 with the nearest station Pedro Gil.

The planning site is surrounded by dense developments, mostly by commercial establishments to its east and west, including Robinsons Mall Manila. Institutional areas such as schools are located to its south which includes St. Paul University, Philippine Christian University and Philippine Women's University. The campus is approximately 800 meters from Manila Bay. There are historical landmarks within a 1-kilometer radius of the site, such as Luneta Park, Paco Park and Cemetery, and Intramuros. The mix of developments and activities within and surrounding the area makes it busy throughout the day. Heavy traffic is usual along Taft Avenue, Pedro Gil and Padre Faura.

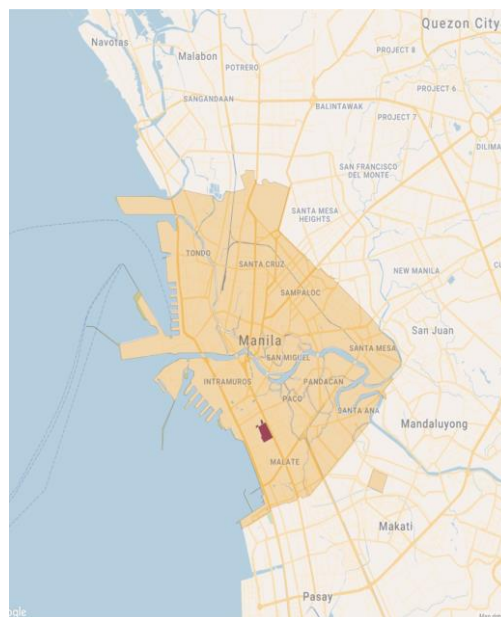


Figure 53 UP Manila Location Map

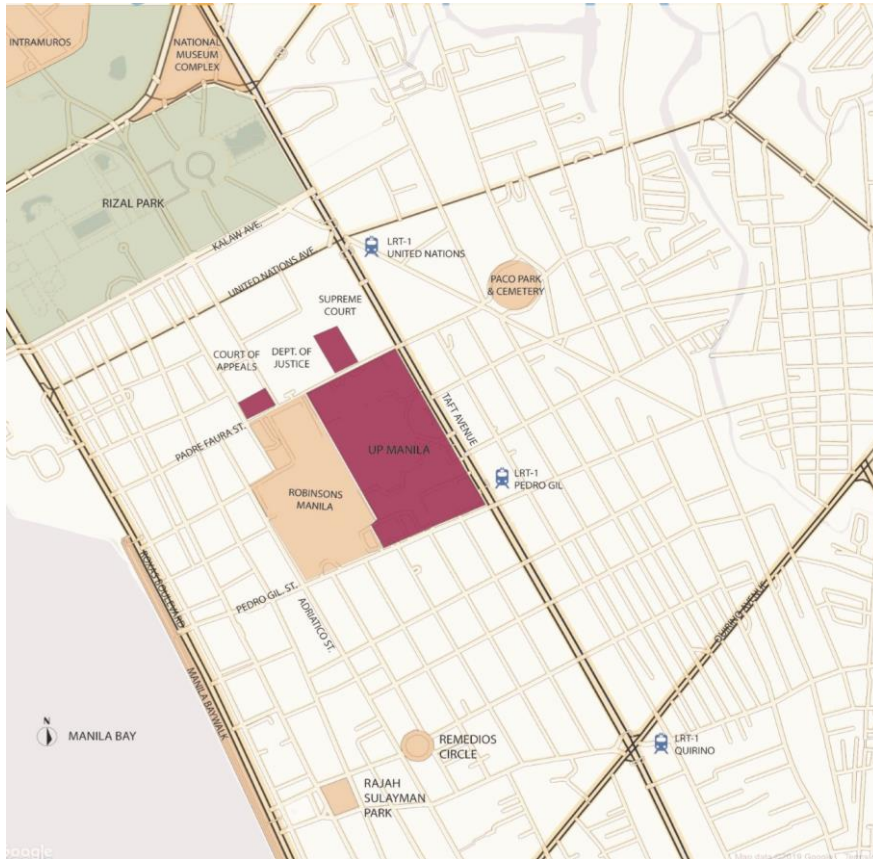


Figure 54 UP Manila Vicinity Map

SHS CAMPUSES

The following descriptions below are for the existing conditions of all campuses but only SHS Baler and SHS Sta. Elena will be discussed in the succeeding chapters for the land development. SHS Koronadal, SHS Tarlac, and SHS Palo are owned by the Municipality and part of their land use plan.

The SHS Palo is still within the period of the deed of donation and usufruct agreement. During this 50-year period, the University has provided the academic buildings together with the LGU. Most of our proposals shall be facilities requirements and upgrading of the engineering facilities, specifically the electrical systems. The facilities and buildings in SHS Palo are relatively fixed and developments are concentrated on improvement.

SHS Koronadal projects are in coordination with the LGU as the owners of the site. SHS Koronadal has a linear expansion and the constructions are based on the LGU plans and the requirements of the campus.

SHS Tarlac which is a relatively new campus in partnership with the Municipality of Tarlac. The lot and facilities are provided by the Municipality.

A. Baler, Aurora Campus

The UPM SHS-Baler campus is located in a one-hectare lot in Barangay Reserva Baler, Aurora, 230 kilometers north of Manila.

The campus was inaugurated in July 2008. The newly opened school was temporarily operated in the Zabali campus of the Aurora State College of Technology (ASCOT), while the UPSHS building was under construction.

Initially 59 students were enrolled in the ladderized education curriculum, including 35 from Aurora, 8 from Isabela, 5 from Nueva Vizcaya, 10 from Quirino and 1 from Nueva Ecija.

The extension campus is intended to produce graduates of medicine-related courses who would fill the void caused by the lack of health professionals in the countryside. It is the first UP specialized school on health in Luzon which will serve the health needs of people not only in the host province but also in the provinces of Isabela, Nueva Vizcaya, Quirino, and Nueva Ecija.

The first phase of the campus development (a three-storey academic and administrative building) was completed in 2019. For the SY 2018-2019 it has a total of 62 students enrolled with seven faculty members and five administrative staff members.

Site Profile

The UP SHS site in Barangay Reserva is zoned for General Institutional Use in the Municipality's Zoning Plan. It is near the vicinity of other institutional buildings such as the Aurora Memorial Hospital and DPWH-Aurora Engineering Office. The site is along the Baler-Casiguran Road. It is surrounded by residential and agricultural uses. The site is also relatively flat.



Figure 55 Existing Administration Building of SHS Baler

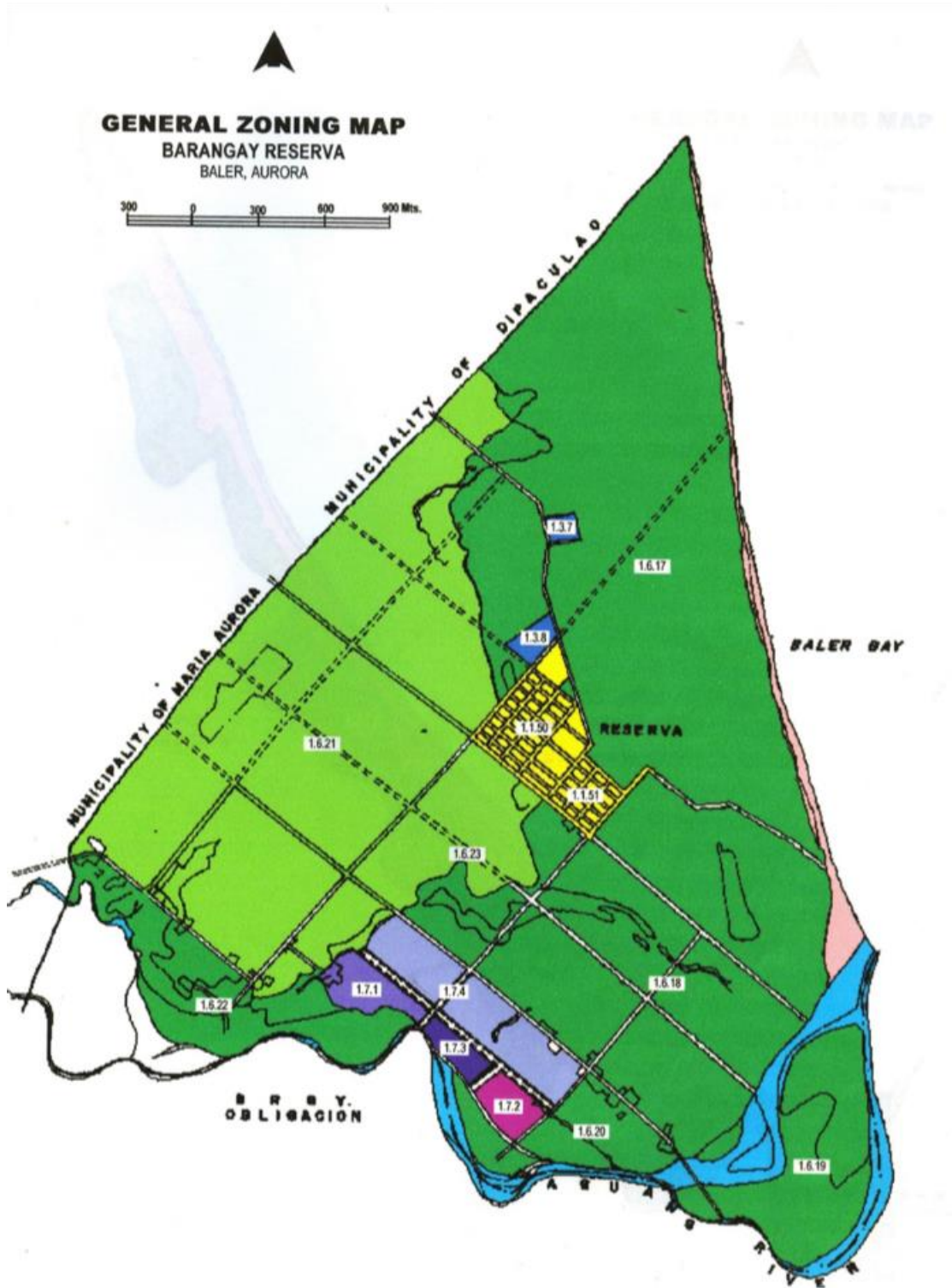


Figure 56 Zoning Map Barangay Reserva, Baler, Aurora

LEGEND:

| | |
|----------------|----------------------------------|
| [Yellow] | GENERAL RESIDENTIAL |
| [Red] | GENERAL COMMERCIAL |
| [Blue] | GENERAL INSTITUTIONAL |
| [Light Blue] | AGRO-INDUSTRIAL |
| [Light Purple] | INDUSTRIAL I |
| [Purple] | INDUSTRIAL II |
| [Dark Purple] | INDUSTRIAL III |
| [Light Green] | AGRICULTURAL (RICE) |
| [Green] | AGRICULTURAL (TREE CROPS) |
| [Dark Green] | AGRO-FOREST |
| [Light Green] | PROTECTION FOREST |
| [Light Green] | PRODUCTION FOREST |
| [Light Green] | INTEGRATED SOCIAL FORESTRY |
| [Light Green] | BEACH FOREST |
| [Pink] | SPECIAL ECONOMIC ZONE |
| [Orange] | TOURISM ZONE |
| [Light Orange] | BEACH/CORAL ZONE |
| [Light Orange] | OPEN SPACE (CEMETERY) |
| [Light Orange] | OPEN SPACE (RECREATIONAL) |
| [Light Blue] | WATER ZONE |
| [Dark Green] | OPEN SPACE (EASEMENT PROTECTION) |

Palo, Leyte Campus

The Palo Campus serves as the main campus of SHS. The campus is currently located in Palo, Leyte. In 2003, it was heavily affected by Typhoon Yolanda which resulted in damaged facilities and interruption of its academic programs. The deed of donation of Palo SHS campus will expire in ten years until 2032 and the local government has other plans for the lot. The SHS campus was allotted a space in the new UPV Tacloban campus which will also transfer to Brgy. Sta.Elena in Tacloban. For 2020 it has a projected enrollment of 192 students. It has 20 faculty members, 21 academic program staff, administrative staff and REPS.

The new UPV Tacloban site where SHS will be relocated will be developed in an area referred to as Tacloban North. According to the City Government, Tacloban North is envisioned as a new township that will have residential, commercial, institutional, and industrial areas. It is located in the northern parts of the city with the lowest risk to natural hazards.

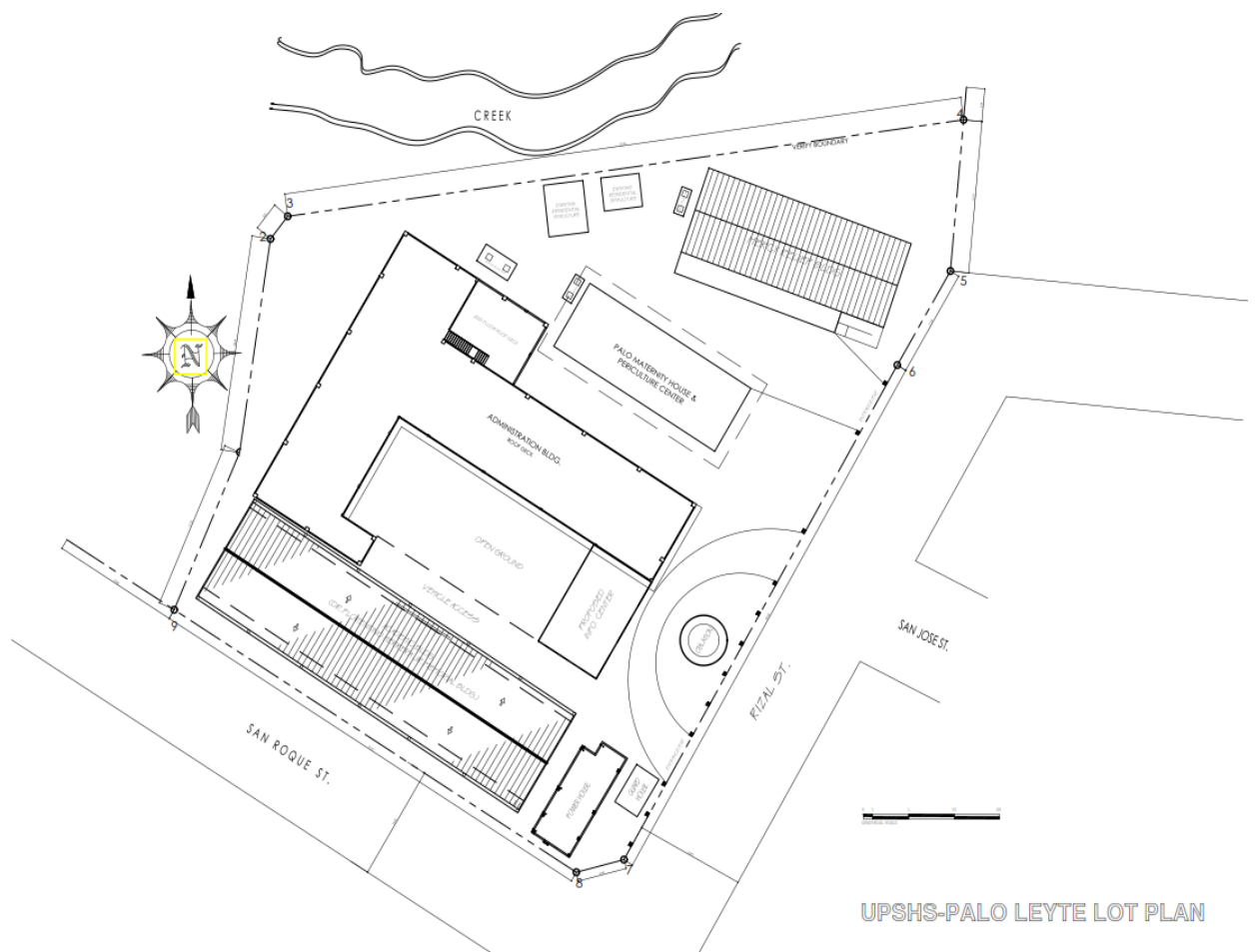


Figure 57 SHS Palo Site Development Plan

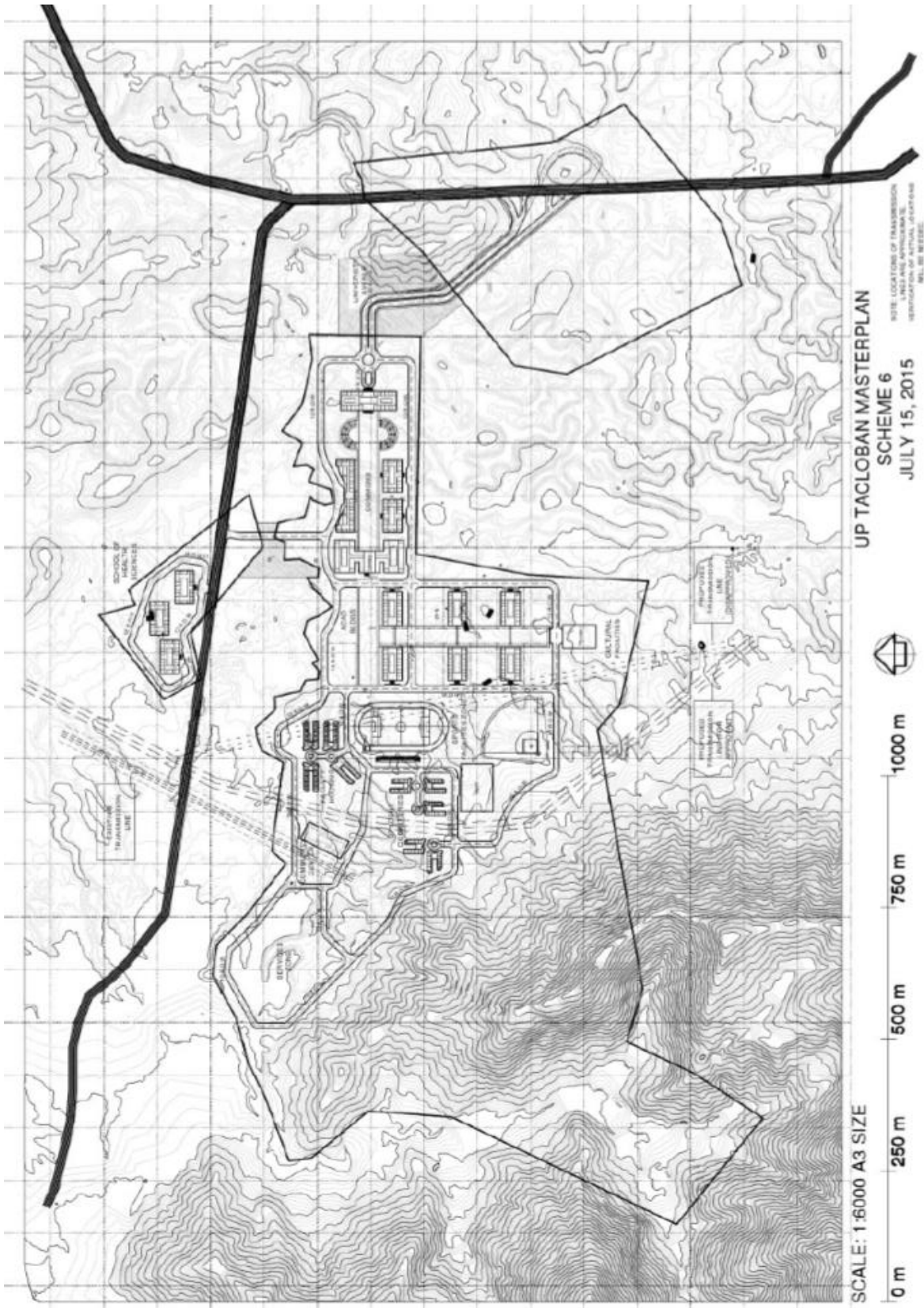


Figure 59 Proposed UP Tacloban Master Plan

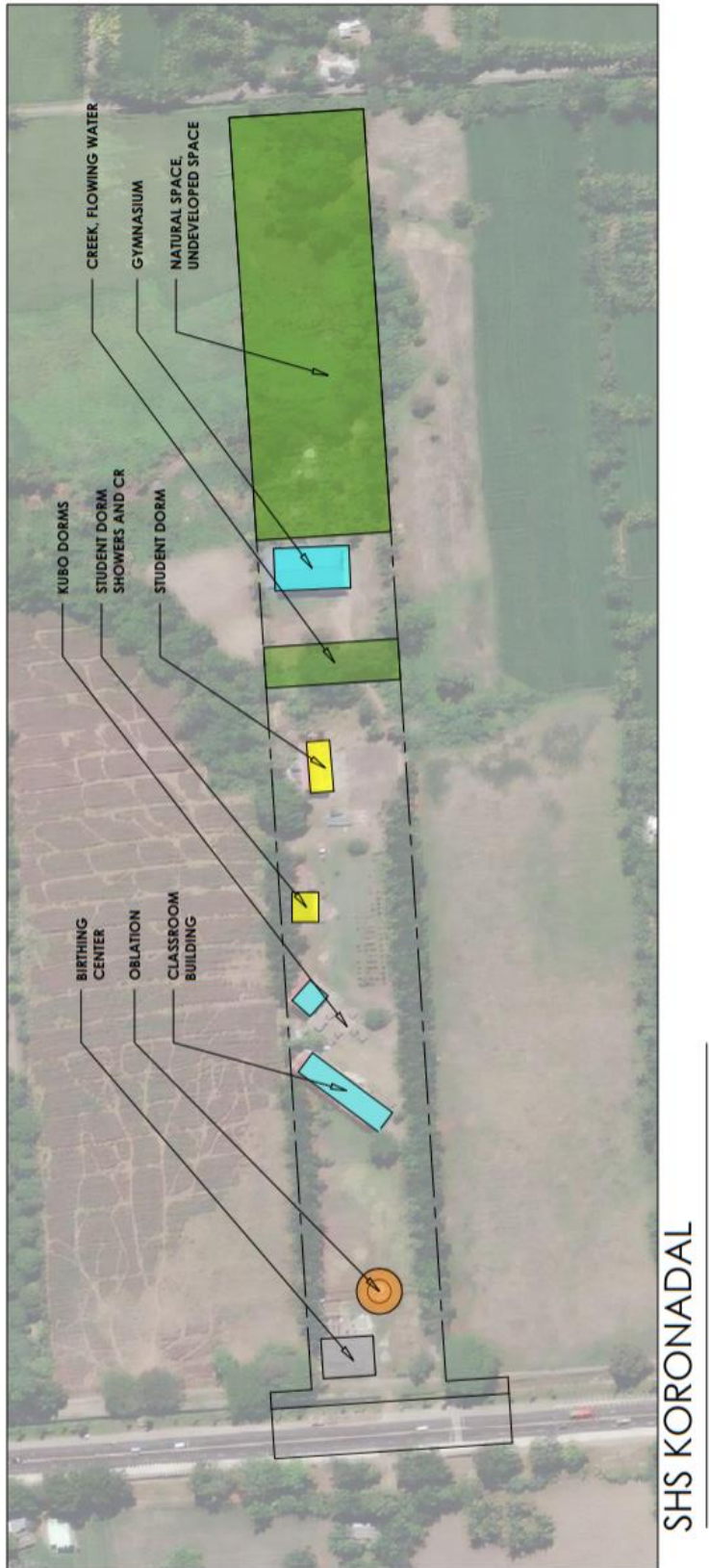


Figure 61 Existing Site Development Plan of SHS Koronadal

Tarlac City, Tarlac Campus

The SHS in Tarlac City is a joint project with the Provincial Government of Tarlac, which has provided a 2.7-hectare site and a 2,190 sq.m. building floor area for the establishment of the school in the Tarlac Training Center in Tibag, Tarlac City. The building was completed during the first quarter of 2021 and the school started its operation in October 2021 with the admission of 76 students in the Diploma in Midwifery program.

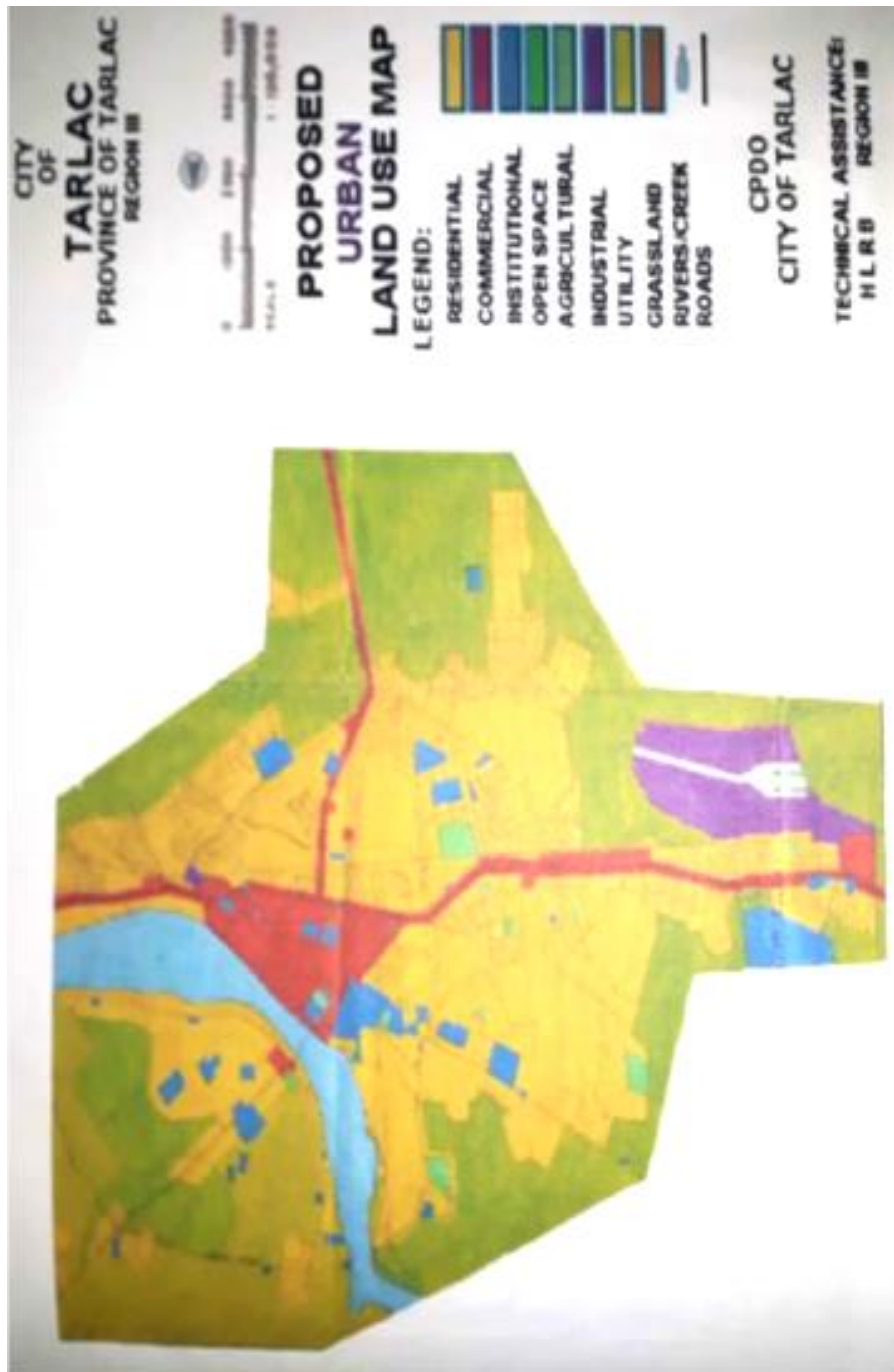


Figure 62 Proposed Land Use Map of Tarlac, Tarlac



Figure 63 Proposed Aerial Perspective of building to house SHS Tarlac (image % Tarlac Provincial Government)



Figure 64 Proposed Aerial SHS Tarlac Wing (image in Google Earth)

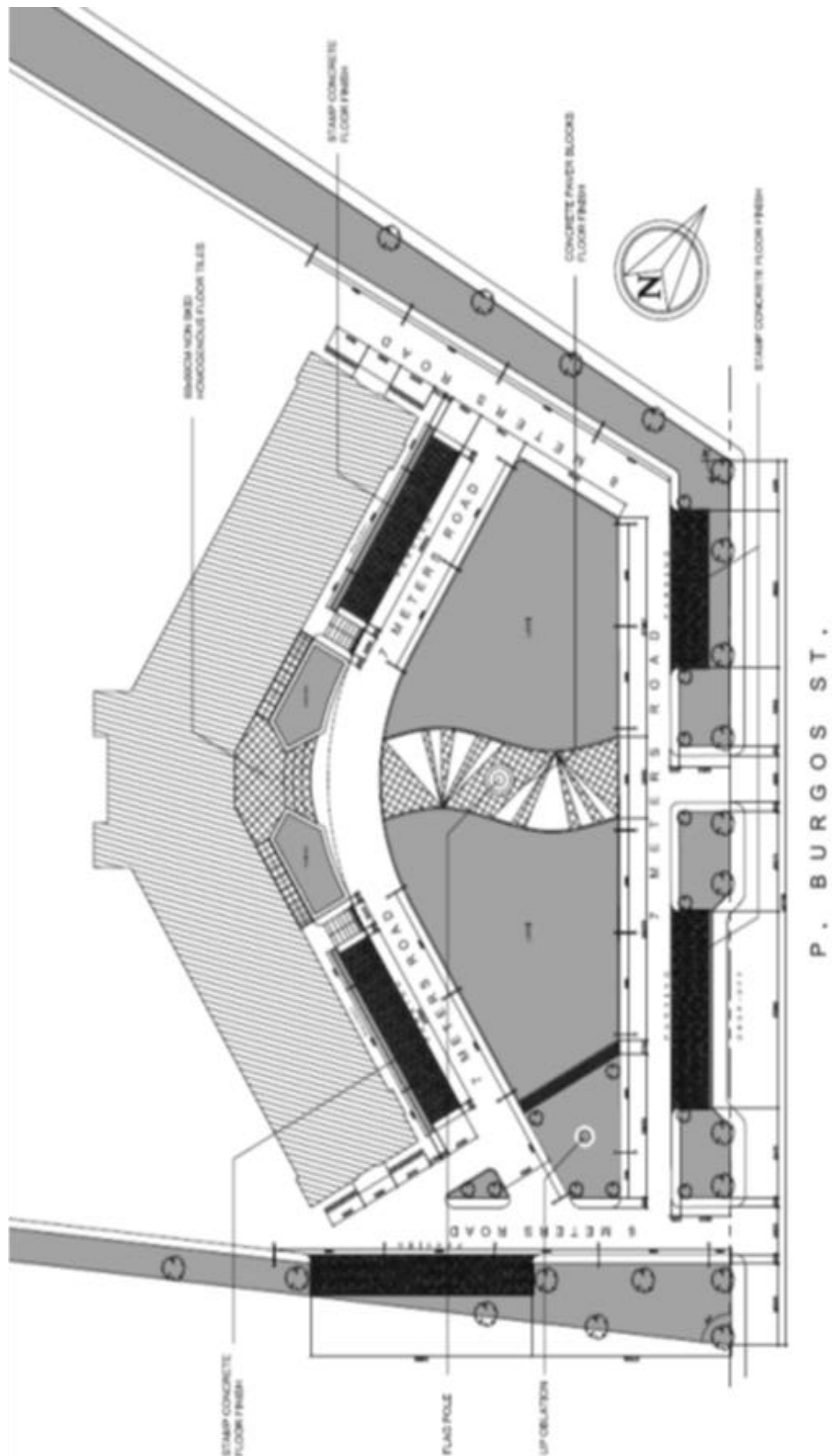


Figure 65 Existing Site Development plan of the building to house SHS Tarlac (image % Tarlac Provincial Government)

2.1.2. NEARBY AIRPORTS, PORTS, BUS TERMINALS, AND THE LIKE

UP Manila

The campus is located in the center of the Ermita district and is accessible to nearby airports, ports, bus terminals, jeepney terminals, and other public transportation. It is bounded by the LRT line 1 along Taft Avenue with two nearby stations, the Pedro Gil station and the United Nations Avenue station. Public utility jeepneys traverse the boundaries of the campus mainly in Taft Avenue but also along Padre Faura and Pedro Gil Streets. The nearest port is the Port of Manila both North and South accessed along R-10 which is within 7 kilometers away. The nearest airport terminal is the NAIA Terminal 1, 2, and 3 in Paranaque City accessible through Roxas Avenue is about 10 kilometers. Provincial bus terminals are located at the corner of Taft Avenue and Buendia Avenue with a distance of 3 kilometers away. Refer to the maps at Section 2.5.1 for the transportation network around UP Manila.

SHS Campuses

Since the locations of SHS Campuses are located in a zone farther from the city's core, the campuses are accessible through limited public transportation. These are mostly tricycles and jeepneys that transport the students and personnel to the city center. Currently there is a service vehicle for the SHS Campuses for administration related purposes.

2.1.3. SUMMARY DESCRIPTION OF THE NATURAL BIOPHYSICAL ENVIRONMENT

UP Manila Hazards

The location of UP Manila Campus is exposed to seismic and hydrometeorological hazards. Below is the summary of natural hazards present in the area:

A. Flooding/ Hydrology

The Medical Masterplan of the Philippine General Hospital (2019) provided hydrological and hydraulic analysis which covered the historic flooding in the vicinity. The hydrological report may be referred to for further details. The key findings are:

- The UP PGH is susceptible to flooding of about 0.3 to 0.5 m within the premises especially on the north-west portion where the area is much lower than the Padre Faura Street.
- Existing drainage of the UP PGH is observed to be heavily silted, which could obstruct the discharge of the on-site runoff to the existing drainage system along Padre Faura Street.
- The existing drainage system for the UP PGH divides the project site into three (3) sub-basins.
- Tidal level reaches 0.51 m above mean sea level (amsl) which is close to the NAMRIA elevation of the UP PGH at 2.0 m amsl. The tidal level can affect the discharge of the existing culverts, which is the main drainage line for the catchment area of Ermita, along Padre Faura Street.

- The culverts along Padre Faura Street have a capacity of less than 5-year return period runoff. This drainage system accepts about 0.932 km² of catchment for the upstream area. The UP PGH is located near the downstream side which is why flooding at the corner of Taft Avenue and Padre Faura Street is prevalent.

Overall, the vicinity of the UP Manila Campus, specifically the areas closest to Padre Faura, is highly susceptible to flooding. This is due to its elevation, and the area being the catch basin of rainwater. The poor condition of the drainage system within the compound also poses a hazard in the hospital area. This requires a proper and integrated implementation of a flood mitigation plan within the site.

B. Earthquake and Fire Risk

Aside from the above hazards, the area has also been assessed to be at high risk to post-earthquake events since Ermita and its surrounding districts are classified under high risk zones to earthquakes. From the Metro Manila Earthquake Impact Reduction Study conducted in 2004, the area where UP Manila is located is prone to **building collapse**, **explosion** and **flammability** mainly because of the structural density, and quality of buildings which mostly do not follow building standards for fireproofing, have improper storage and disposal of flammable and explosive chemicals, and do not abide by the minimum standards in the National Building Code

| Hazard | Assessment |
|---------------------------|---|
| Ground Shaking | Prone; Intensity VIII |
| Storm Surge | Low risk; Inundations of >1m to 4m surges |
| Flood | flood prone area for 50 to 100-year flood cycle; Flood height below 0.5m based on 100-year flood scenario |
| Tsunami | Prone with inundation depth of 3 to 3.99m meters |
| Liquefaction | Highly Susceptible |
| Severe Wind/ Typhoon | 117.1-220 kph (20-year return period); 220.1-270 kph (500-year return period) |
| Fire Hazards | Highly Susceptible |
| Tree Hazards | Highly Susceptible |
| Buried Antique Explosives | Highly Susceptible |

Table 11 : Hazard Assessment Summary for UP Manila



Figure 67 100 Year Flood Hazard

SHS Campuses Hazards

The location of the SHS Campuses as discussed in the previous chapter is exposed to a number of hazards as summarized below:

- A. SHS Baler - The coastal municipality of SHS Baler makes it prone to tsunami and liquefaction. It is prone to ground shaking intensity VIII earthquakes and Low susceptibility to flood.

| Hazard | Assessment |
|----------------|--|
| Ground shaking | Prone; Intensity VIII |
| Liquefaction | Highly Susceptible |
| Tsunami | Prone |
| Flood | Low susceptibility; less than 0.5 meters flood height and/or less than one day flooding. |
| Severe Wind | 117.1-220 kph (20-year return period); 220.1 – 270 kph (500-year return period) |

Table 12 Hazard Assessment Summary for Baler Aurora

- A. SHS Palo - Similarly, SHS Palo is also near the coastline and is highly susceptible to liquefaction and tsunamis as seen in previous years. The largest damage was typhoon Yolanda where most of the facilities were damaged. The ground shaking is prone to intensity VII earthquakes and moderately susceptible to floods.

| Hazard | Assessment |
|----------------|--|
| Ground shaking | Prone; Intensity VII |
| Liquefaction | Highly Susceptible |
| Tsunami | Prone |
| Flood | Moderate Susceptibility; 0.5 to 1 meter flood height and/or 1 to 3 days flooding |
| Severe Wind | 117.1-220 kph (20-year return period); 220.1 – 270 kph (500-year return period) |

Table 13 Hazard Assessment Summary for Palo Leyte

- A. SHS Tacloban City - SHS Tacloban is prone to intensity VI earthquakes and low susceptibility to rain induced landslides.

| Hazard | Assessment |
|-------------------------|--|
| Ground shaking | Prone; Intensity VI |
| Rain Induced Landslides | Low susceptibility; no identified landslides |
| Severe Wind | 117.1-220 kph (20-year return period); 220.1 – 270 kph (500-year return period) |

Table 14 Hazard Assessment Summary for Tacloban City

- B. SHS Koronadal, South Cotabato - SHS Koronadal is near and active volcano, Matutum which is 23.6 kilometers away. It is prone to ground shaking and susceptible to liquefaction. Since the land is gently sloping and protected by the mountain ranges, there is a low susceptibility to rain induced landslides and low wind speed with range 60.1 to 88 kph.

| Hazard | Assessment |
|----------------|-----------------------|
| Ground shaking | Prone |
| Liquefaction | Generally Susceptible |

| | |
|-------------------------|--|
| Nearest Active Volcano | Matutum (23.6 km) |
| Rain Induced Landslides | Low susceptibility; no identified landslides |
| Severe Wind | 60.1 - 88 kph (20-year return period); 88.1 - 117 kph (500-year return period) |

Table 15 Hazard Assessment Summary for Koronadal, South Cotabato

- C. SHS Tarlac - SHS Tarlac is prone to ground shaking due to its proximity to the nearest active volcano. Mt. Pinatubo is 46.2 kilometers away with the effect of the eruption in 1991 was experienced locally and internationally. Since the city is mostly flat, it has low susceptibility to flooding.

| Hazard | Assessment |
|------------------------|---|
| Ground Rupture | Safe |
| Ground shaking | Prone |
| Nearest Active Volcano | Pinatubo (46.2 km) |
| Flood | Low susceptibility; less than 0.5 meters flood height and/or less than 1 day flooding |
| Severe Wind | 117.1–220 kph (20-year return period); 117.1–200 kph (500-year return period) |

Table 16 Hazard Assessment Summary for Tarlac, Tarlac Province

2.3. EXISTING LAND USE AND LAND USE TRENDS OF UP MANILA

2.3.1. DETAILED GEOGRAPHICAL DESCRIPTION AND SURVEY OF THE SITE OCCUPIED BY THE SUC AND ITS CAMPUSES

The University of the Philippines Manila Health Sciences Center campuses are located nationally with the University of the Philippines Manila in barangay Ermita, city of Manila as the center. The current SHS Campuses are located in four provinces namely SHS in Baler in Barangay Reserva, Baler Province, SHS Palo, Municipality of Palo, Leyte Province, SHS Koronadal, Municipality of Koronadal, South Cotabato Province, and SHS Tarlac in Tarlac City, Province of Tarlac. There will be an additional campus SHS Sta. Elena within the site of the University of Visayas in Barangay Sta. Elena, Leyte.

As identified in the table, the land area in UP Manila and UP PGH is fourteen (14) hectares. UP PGH occupies nine (9) hectares while UP Manila occupies approximately five (5) hectares. The UP PGH houses the hospital zone and the UP Manila occupies the academic buildings and facilities for the nine (9) degree granting units and the NIH building.

The SHS Campuses have an accumulated area of 4.6 hectares or 46,273 square meters. The breakdown of the areas is as follows: SHS Baler - 1 hectare; SHS Palo, Leyte - 4,083 sqm; SHS Koronadal, South Cotabato - 2 hectares; SHS Tarlac - 2,190 sqm; SHS Sta. Elena - 1 hectare.

The UP Manila and UP PGH site is classified as a General Institutional Zone in the Manila Comprehensive Land Use Plan and Zoning Ordinance. This is also similar to the other SHS Campuses classified as General Institutional Zone as academic institutions.

2.3.2. CADASTRAL SURVEY OF LAND OCCUPIED BY THE SUC AND ITS CAMPUSES

The cadastral map of the UP Manila site has been prepared by Engr. Bernabe of JM Bernabe and Associates to secure the lot plan and the building points. This survey has been the basis for the position and existing inventory of the buildings. Given the compact nature of the site, there are no idle lands within the UP Manila site. This prompted the university to expand vertically as evident with the proposals in the early part of the planning phase under the current UPM administration.

The survey of SHS Baler Lot plan as shown in the figure below is not the same as the current physical demarcation present on site. The Lot Plan will be the basis of the boundaries for the development of the new projects. One such development is the Construction of Perimeter Fence, a GAA 2021 project which will correct the physical boundaries based on the lot bearings indicated on the lot plan.

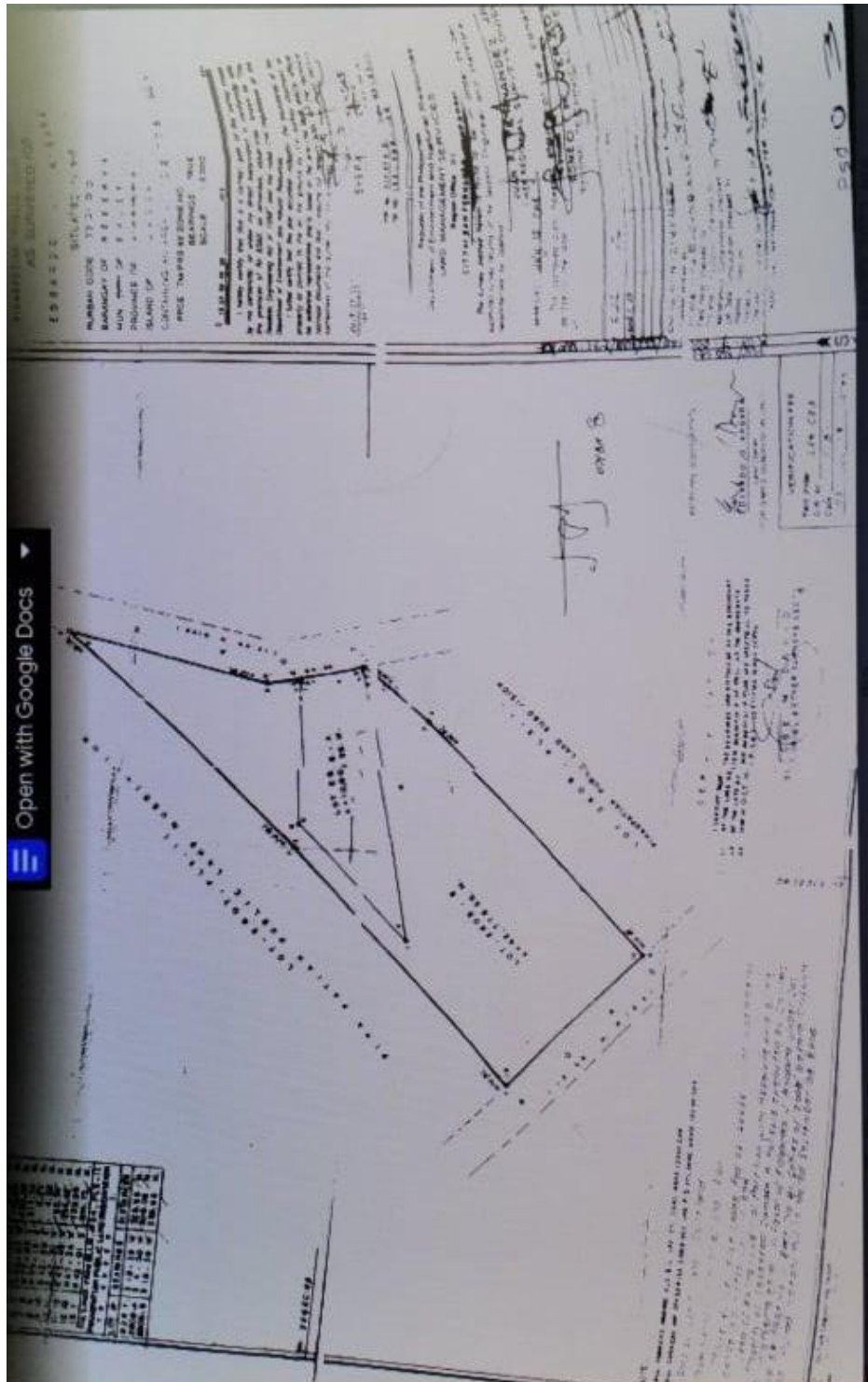


Figure 69 SHS Baler Lot Plan

The SHS Campuses includes lands donated such as Tacloban by the Department of Health in 1994, Baler Aurora, and Koronadal South Cotabato which was donated by the South Cotabato government. SHS Palo in Leyte is currently untitled and has no CTC. In the case of SHS Tarlac, what was provided by the Provincial Government of Tarlac was a 4-storey building. SHS Sta. Elena is in coordination with UP Visayas providing the portion of land dedicated to SHS together with the Wellness Center. The other titled lands are in Baguio City but currently there is no existing development within it.

2.3.3. DETAILED DESCRIPTION OF THE ACADEMIC CORE, RESEARCH CORE, AND RESIDENTIAL AREAS COVERING BOTH DORMITORIES FOR STUDENTS AND HOUSING SITES FOR SUC EMPLOYEES

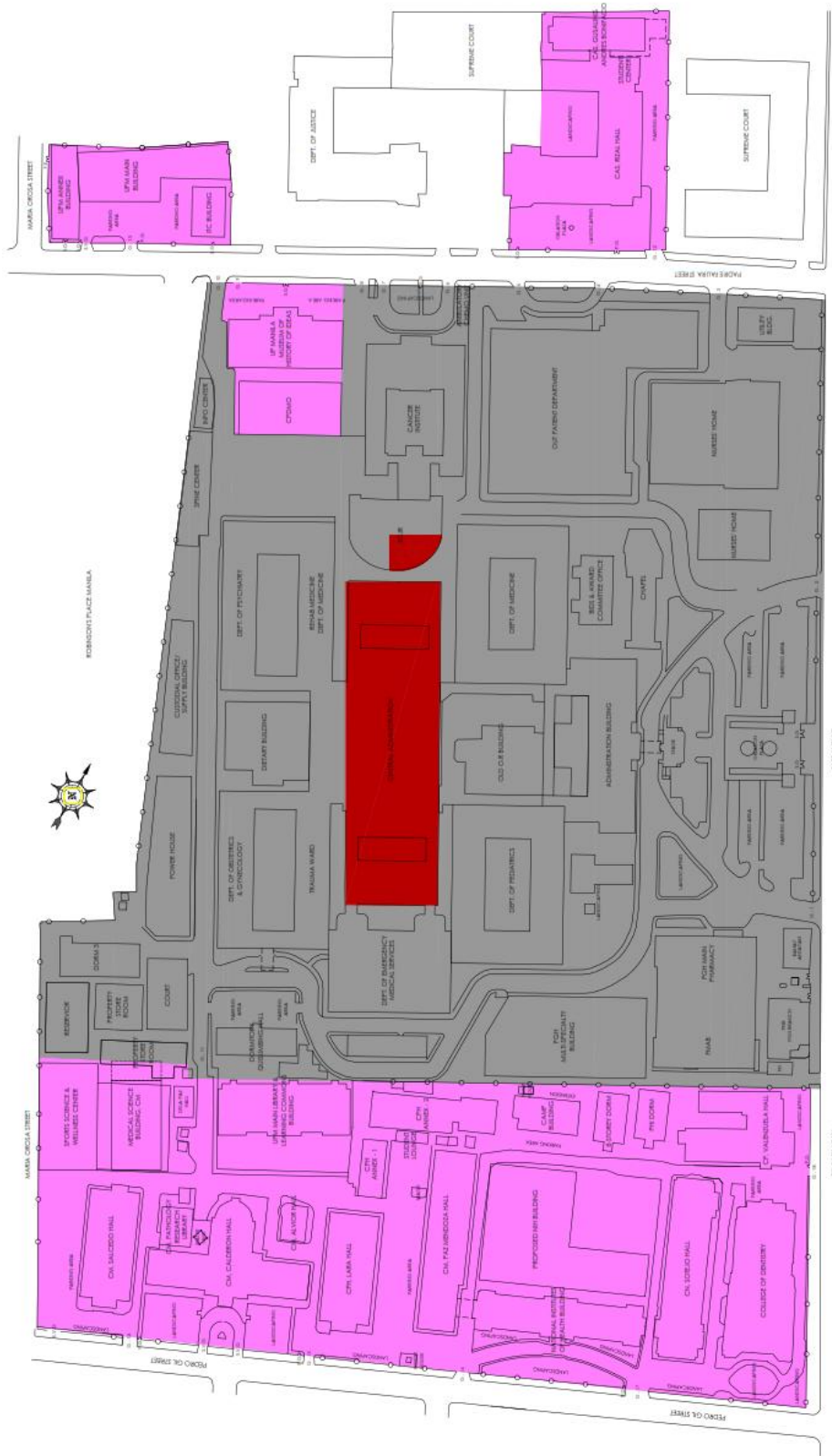
The UP Manila academic core, research core, and residential areas are indicated and supported by the following map with the codes consistent with the UP System Zoning Identification Codes. To maximize the available land, there is no RES-1 in the UP Manila site and the SHS Campuses due to its limited lot area. Even the proposed UP Manila and UP PGH Housing buildings are high rise and low to medium rise dormitories for the SHS Campuses.

- a. **ACAD-1** – Zone composed of academic clusters based on the site groupings of related academic programs and fields of specialization. This is where teaching and research activities are situated, normally in choice positions around the Campus Core.
- b. **ACAD-2** – Zone composed of academic-support spaces where research and student services are performed. Activities in this zone shall include research and professional services for outside/non-University entities, especially national and local government offices, the procedures and products of which are intended to contribute to or strengthen the University database.
- c. **RES-1** – Residential areas for faculty and staff composed of single-detached, duplex and townhouse type designs. Land/buildings and land only may be leased out at market rates to accredited lessees according to a predetermined time frame.
- d. **RES-2** – Residential areas for faculty and students composed of medium-rise walk-up housing and dormitories located in clusters. This zone shall allow the conversion of the ground floor of such mid-rise buildings to house services for the occupants, such as: laundry shops, sari-sari stores, boutiques, beauty and barber shops, coffee and food shops, internet cafes and tailor shops according to the rules and regulations of the University. It shall also allow the building of a central clubhouse that shall house the rest and recreational spaces needed for the use of the faculty and students.
- e. **COMM-1** – Community services which directly deal with the constituents of the university.

- f. **COMM-2** – Community services which deal with securing and maintaining the facilities of the university.
- g. **HISTORICAL AND TOURISM DISTRICTS** - Sections of the campus with historically and/or architecturally significant buildings or structures that are preserved and/or developed, based on University-approved parameters and existing laws, for their heritage and tourism potential.
- h. **CAMPUS CORE** - The historic and unifying center of the campus – with appropriately maintained pioneer buildings, heritage trees, and other campus elements – that shall become the inspiration for all future developments on-campus.

As mentioned the There are also the following land uses are within the campus but not included in the University’s standard classifications:

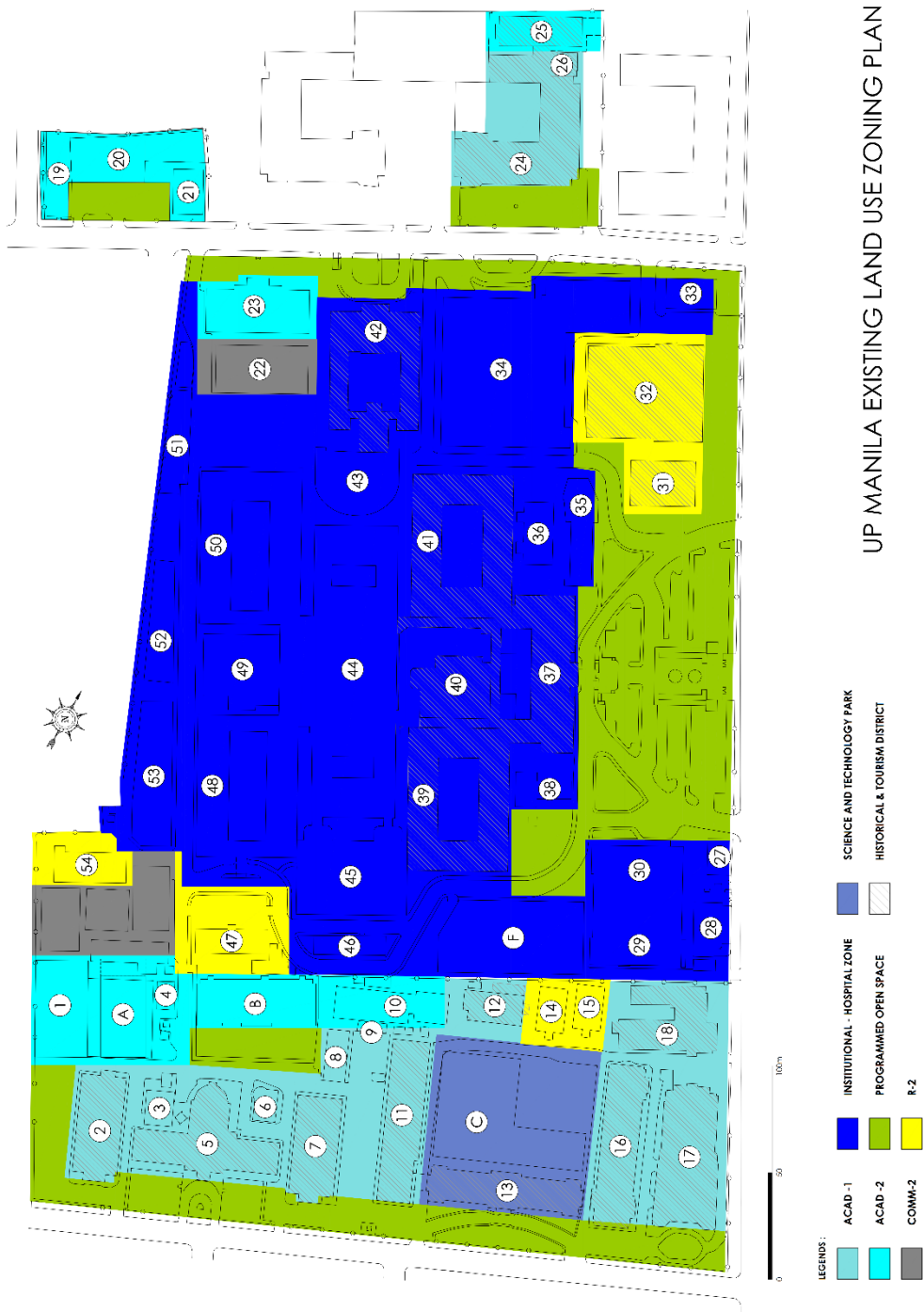
- a. **INSTITUTIONAL** – This includes the Supreme Court buildings along Padre Faura.
- b. **INSTITUTIONAL – HOSPITAL ZONE**– This includes the PGH Complex.
- c. **PROGRAMMED OPEN SPACES** - The large tracts of campus green spaces, integrated with softscape and hardscape in a designed exterior environment, allows for a variety of human activities, both passive and active.



UPM EXISTING ZONING MAP

- LEGENDS**
- UP MANILA
 - 8TH FLOOR (CENTRAL ADMINISTRATION) , 5TH FLOOR (SOJR)
 - PGH COMPOUND

Figure 70 : UP Manila and UP PGH Zoning Plan



UP MANILA EXISTING LAND USE ZONING PLAN

Figure 71 UP Manila Existing Campus Zoning Plan from UP System's Land Use Identification Codes

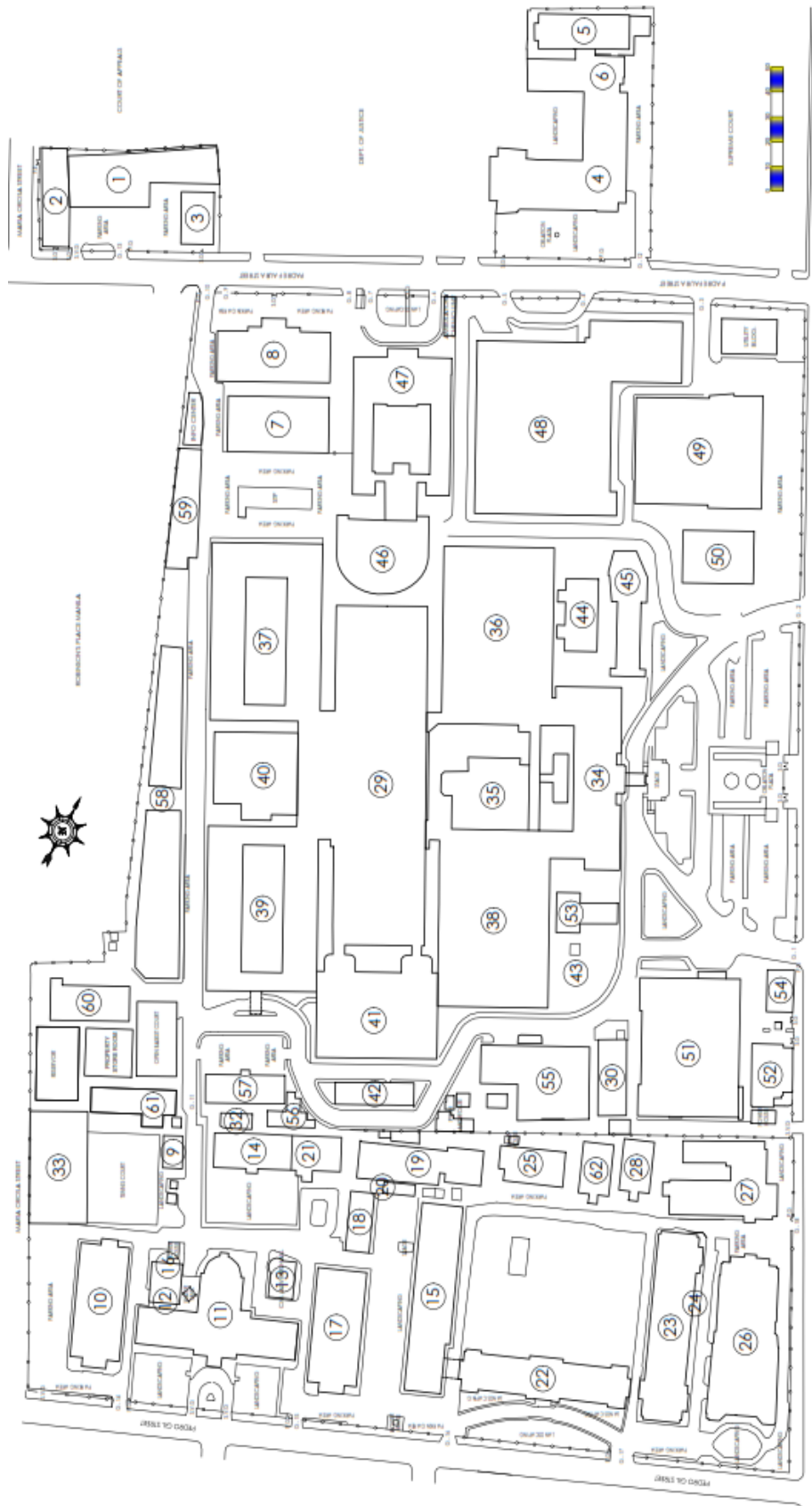


Figure 72 UP Manila Existing Campus Site Development Plan

2.3.4. GEOGRAPHICAL DESCRIPTION AND SURVEY OF THE SITE INTENDED FOR DORMITORIES FOR STUDENTS AND HOUSING SITES FOR SUC EMPLOYEES

There are two existing dormitory buildings to house the students and residents of UP Manila. The UP Manila 8-Storey Dormitory and the Phi House Dormitory. Both buildings are located near the Pedro Gil Academic Zone in between the College of Pharmacy and the College of Allied Medical Professions fronting the National Institutes of Health New Building. Both buildings are accessible through the gates near the College of Pharmacy and the College of Nursing.

The total number of beds for both the UPM Student Dormitory and Phi House Dormitory is three hundred sixty-eight which is about 6.88% of the total population.

| Location | No. of Floors | Floor Area (sqm) | No. of Rooms and Beds |
|-----------------------|---------------|------------------|-----------------------|
| UPM Student Dormitory | 8 | 354.20 | 56 rooms (248 beds) |
| Phi House Dormitory | 4 | 266.50 | 33 units (120 beds) |

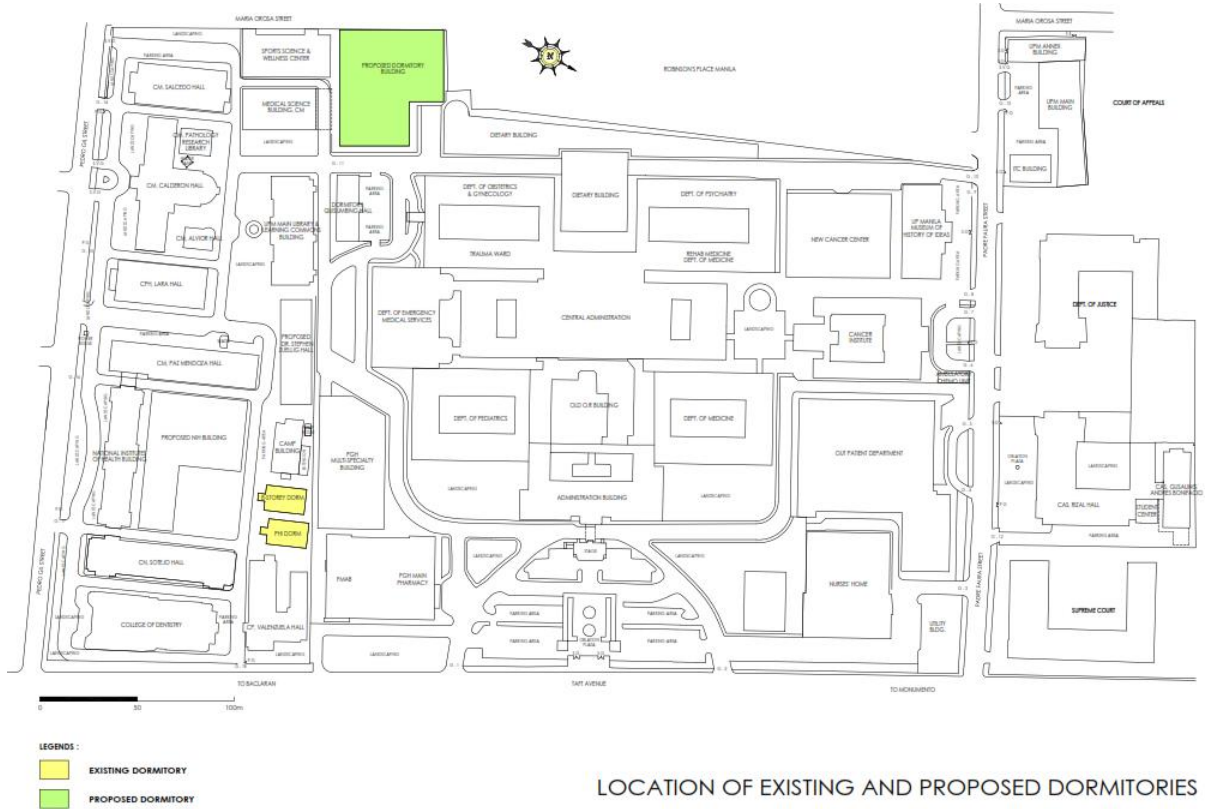
Table 17 Existing Dormitories for UP Manila

The planned Faculty, Staff, and Student Housing will be in the area near the College of Medicine Medical Sciences Building and the Sports Science and Wellness Center. This will be accessible through the designated Salcedo Hall gate so as not to interfere with the internal traffic flow of the academic zone and hospital zone. The map below shows the location of the existing and proposed student dormitories and faculty, staff, and student Housing.

The building can provide an additional eight hundred twenty-three units which is about 22.30% of the current population and about 18.08% of the projected population in ten years. This is about three or four times more than the current housing availability.

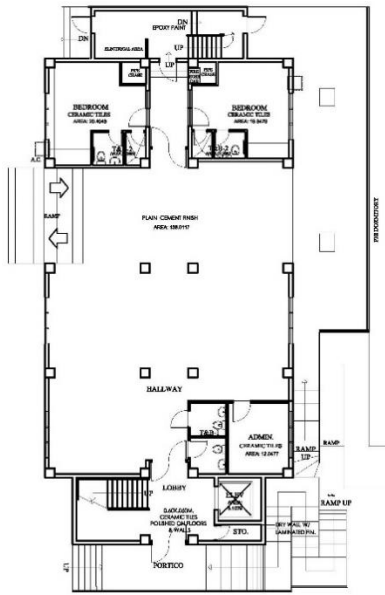
| Location | No. of Floors | Floor Area (sqm) | No. of Rooms |
|---|---------------|------------------|--|
| Dormitory Building (Staff, Faculty, and Students Housing) | 26 | 2,821.55 | 823 units, beds subject to the distribution of room types. |

Table 18 Proposed Dormitory for UP Manila

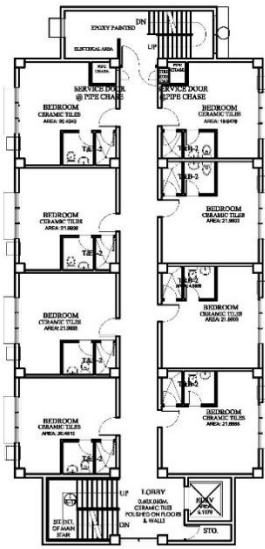


LOCATION OF EXISTING AND PROPOSED DORMITORIES

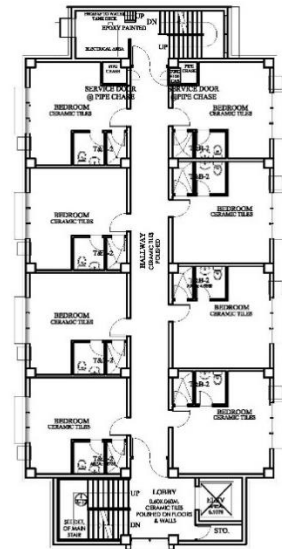
Figure 73 Location of Existing and Proposed Dormitories at U.P. Manila



8-STORY STUDENT DORMITORY
GROUND FLOOR PLAN



8-STORY STUDENT DORMITORY
SECOND FLOOR PLAN

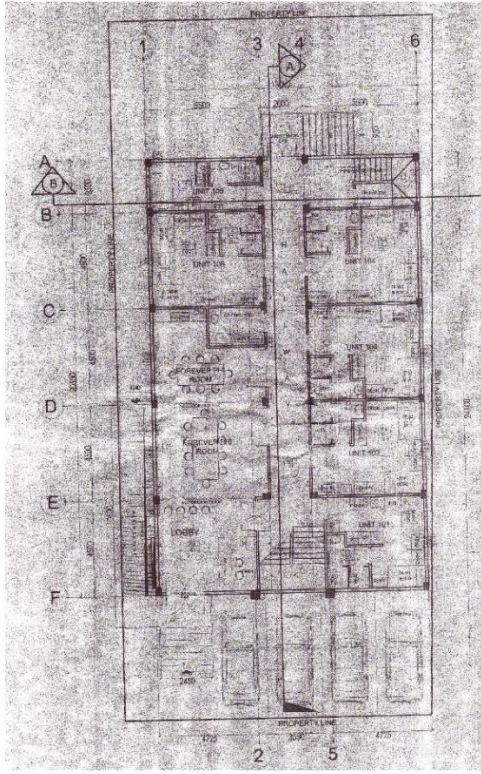


8-STORY STUDENT DORMITORY
TYPICAL 3RD FLOOR TO 8TH FLOOR PLAN

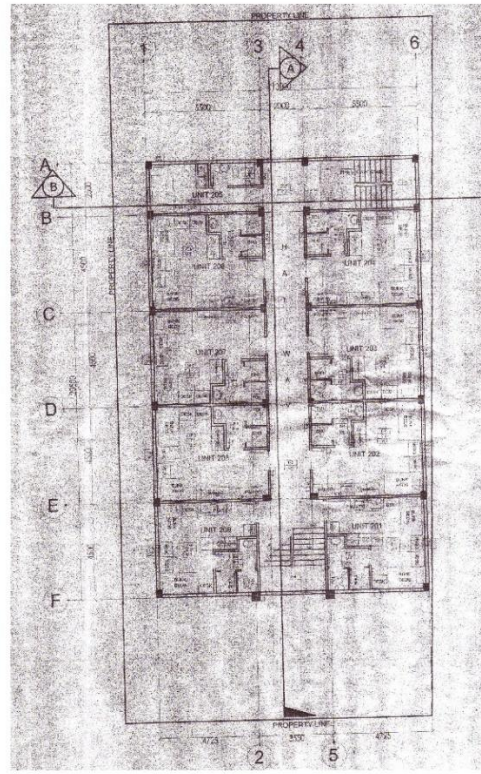
Figure 74 Eight Storey Students' Dormitory As-Built Plans



Figure 75 Eight Storey Students' Dormitory (Existing)



4 - STOREY PHI HOUSE DORMITORY
GROUND FLOOR PLAN

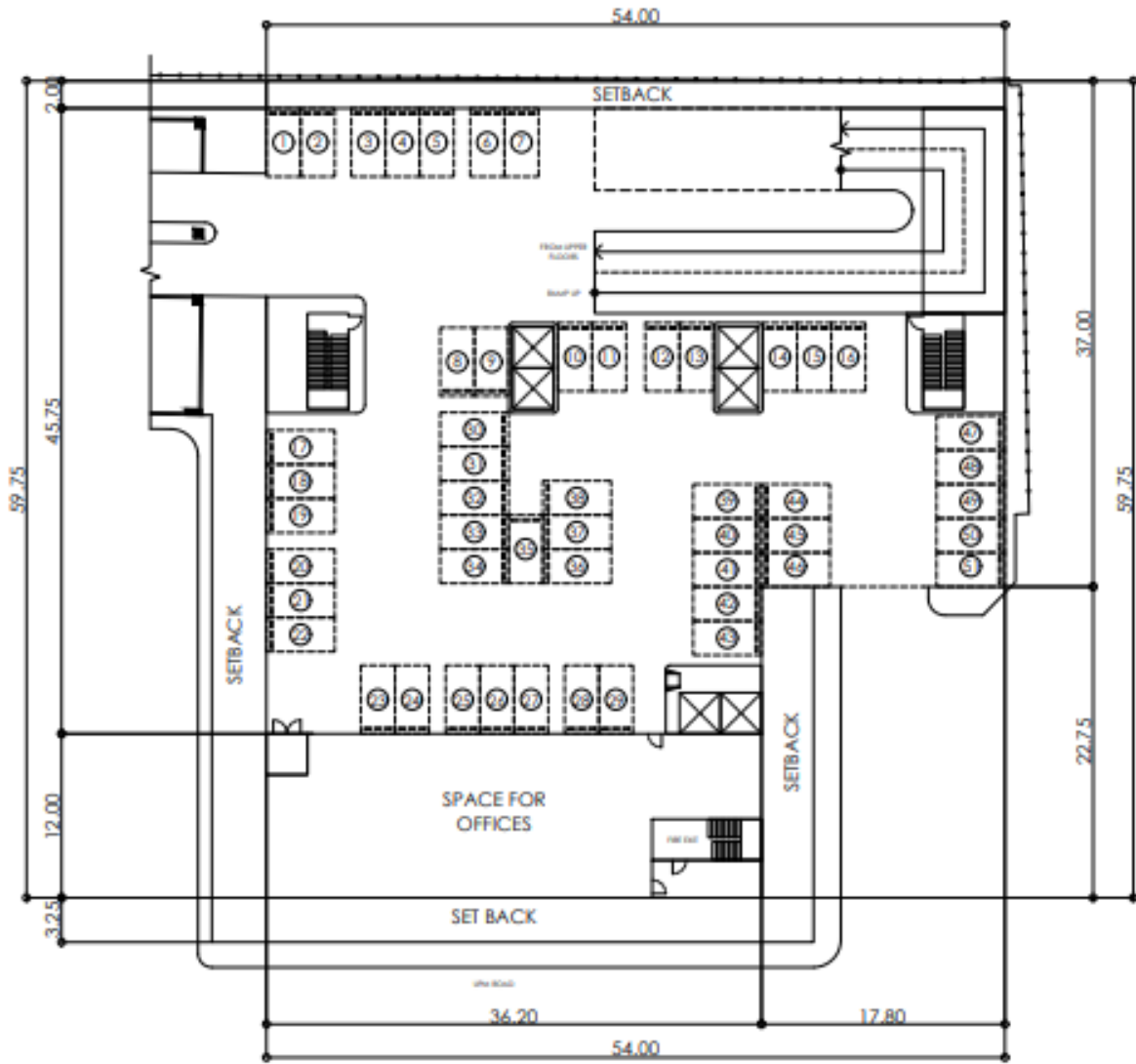


4 - STOREY PHI HOUSE DORMITORY
2ND FLOOR TO 4TH FLOOR PLAN

Figure 76 Four Storey Phi House Dormitory Floor Plans

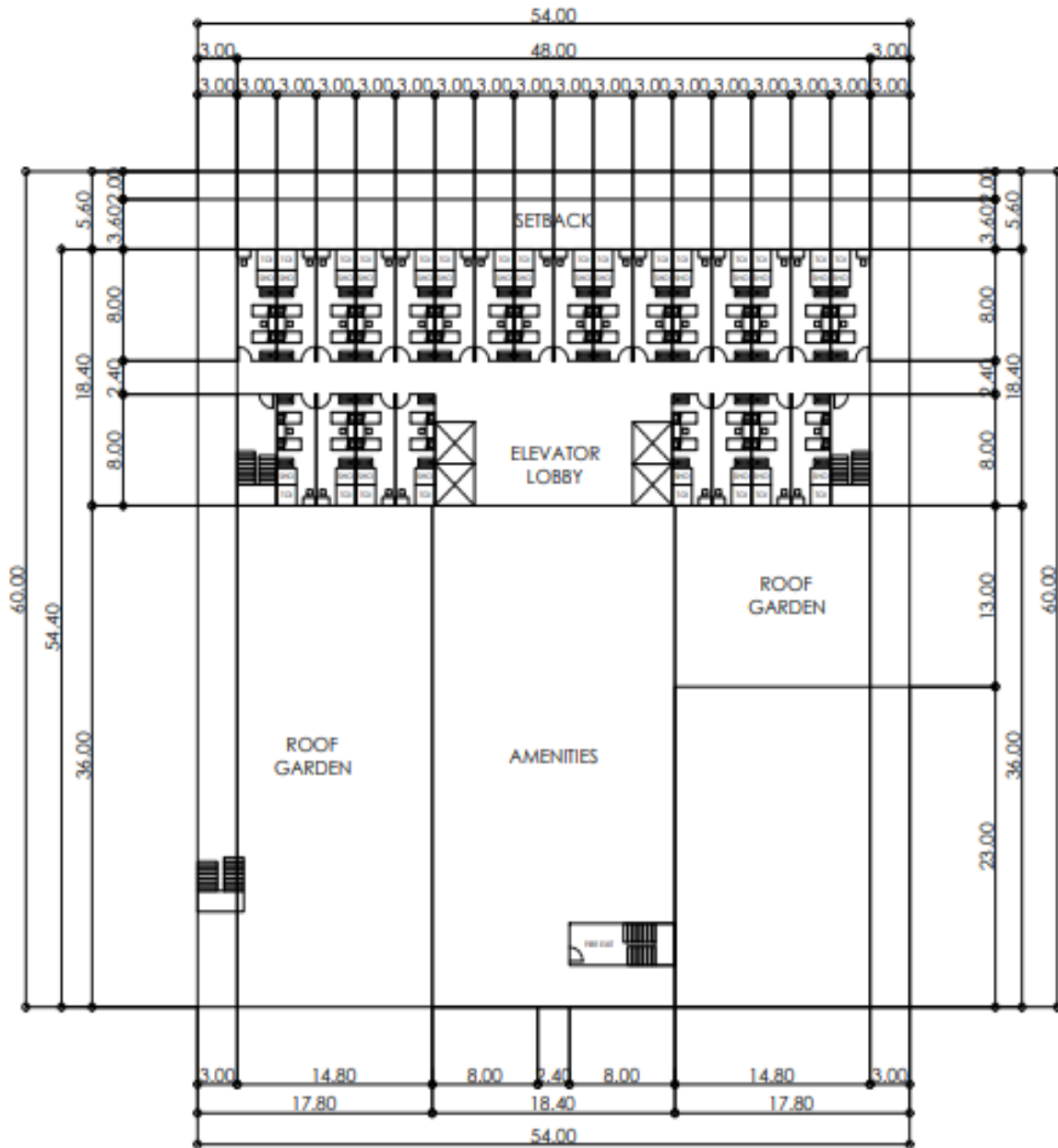


Figure 77 Four Storey Phi House Dormitory (Existing)



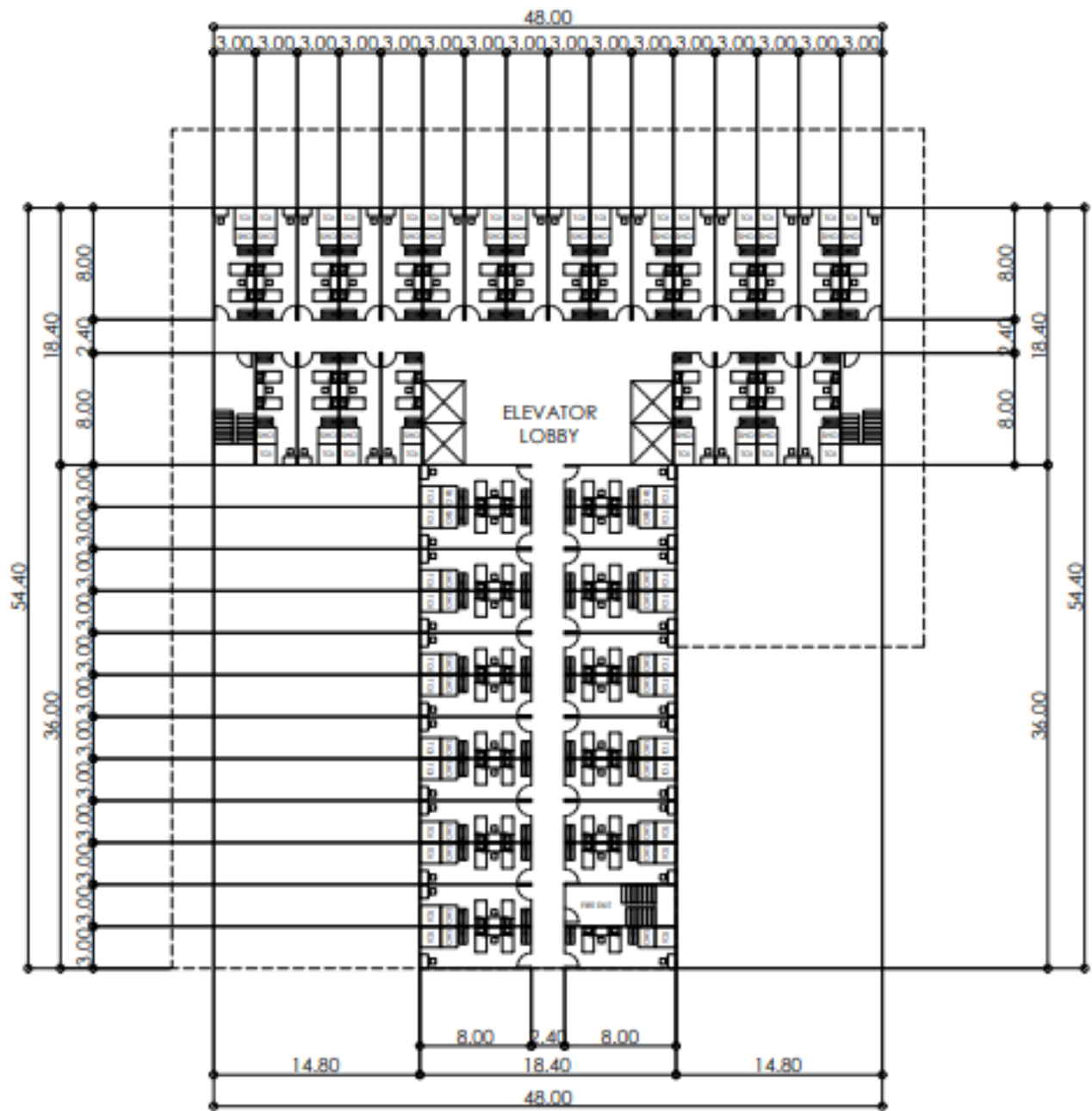
GROUND FLOOR : 51 PARKING SLOTS

Figure 78 Proposed Dormitory Building "Ground Floor" (Total Parking Space per Floor: 51 Slots)



NINTH FLOOR : 24 UNITS

Figure 79 Proposed Dormitory Building "Ninth Floor" (Total Residential Space per Floor: 24 Units)



UPPER FLOORS : 47 UNITS/FLOOR

Figure 80 Proposed Dormitory Building "Typical Tower Floor Plan" (Total Residential Space per Floor: 47 Units)

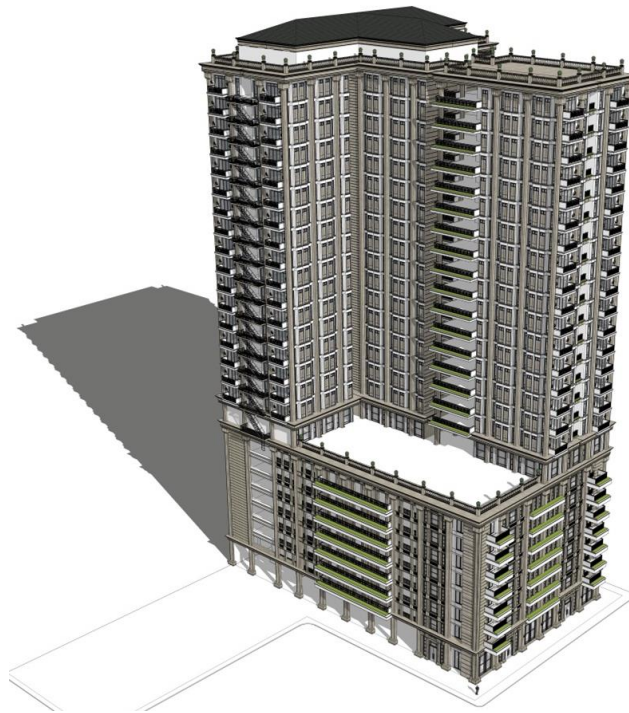


Figure 81 Proposed Dormitory Building Design Visualization

2.3.5. GEOGRAPHICAL DESCRIPTION OF LAND USED FOR COMMERCIAL, AGRICULTURAL, FISHERY, FORESTRY AND OTHER ACTIVITIES

Landscape and Open Space

The open space in the campus occupies about 54 percent of the site area (see Open Space Existing Conditions Map). Most of the open spaces are used as surface parking for vehicles. Other open spaces have been allotted for the development of new buildings. There are remaining pockets of green (permeable) open space, notably in front of Calderon Hall, areas around the PGH Main Building, and in front of the Cancer Institute and Rizal Hall.

There are also a number of mature trees on campus, mainly along the main streets and building courtyards.

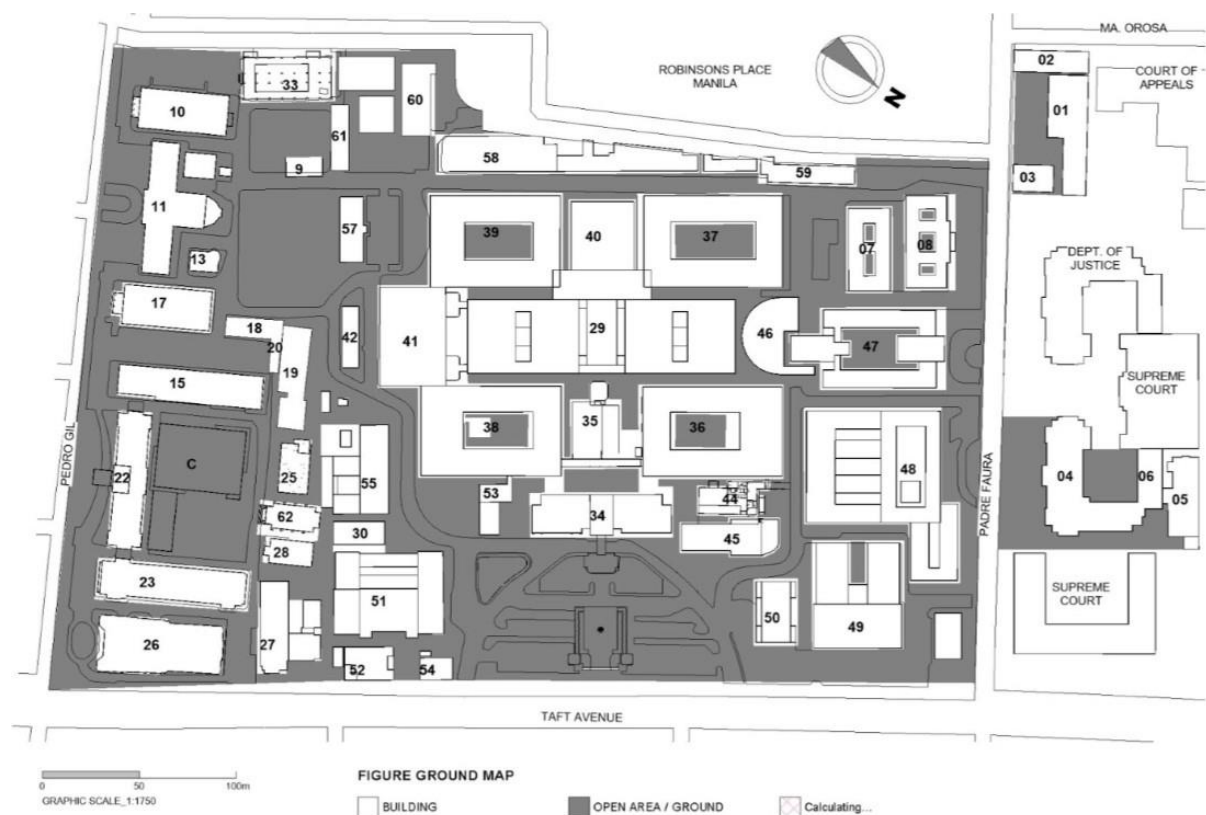


Figure 82 Figure Ground Map showing the open spaces in gray

2.3.6. MAJOR TRENDS/SHIFTS IN LAND TENURE

There are no major trends/shifts in land tenure (i.e. Certificate of Ancestral Domain Claim / Certificate of Ancestral Domain Title issuance)/ conversion arrangements (i.e. establishments of special economic zones/ industrial areas).

2.4. FACILITIES OF UP MANILA

2.4.1. INVENTORY OF ALL EXISTING BUILDINGS, FACILITIES AND OTHER INFRASTRUCTURE WITHIN THE COMPOUND OR AREAS OCCUPIED BY THE SUC AND ITS CAMPUSES, INCLUDING OTHER REAL ESTATE ASSETS

The existing campus site development plan is divided into two general zones under a different management direction. The University of the Philippines Manila Academic Zone and the Philippine General Hospital Zone. The management zones have been the basis of planning and development direction. The following are the list of existing buildings with identified locations on the existing site development plan.

As mentioned previously, the UP Manila Campus is generally classified into two zones: the academic zone and hospital zone. The academic zone covers approximately 4 hectares divided among 26 existing buildings, while the hospital zone covers around 10 hectares with 25 existing buildings.

As of August 2020, the UPM Administration Offices in the PGH Compound have been transferred temporarily to the UPM Eight Storey Dormitory due to COVID-19 measures. The Central Administration transferred back to the 8th floor PGH Central Block in March 2022 continuing its on-site services under the new normal.

Academic Buildings

The campus has ten (10) academic units with the College of Medicine being the largest in terms of gross floor area (GFA) followed by the College of Arts and Sciences.

| Academic Unit | Gross Floor Area (sqm) |
|--|------------------------|
| 1. College of Medicine | 14,315 |
| 2. College of Public Health | 4,402 |
| 3. National Institutes of Health | 3,634 |
| 4. College of Nursing | 3,576 |
| 5. College of Dentistry | 5,308 |
| 6. College of Pharmacy | 3,258 |
| 7. College of Allied Medical Professions | 1,034 |
| 8. National Teacher Training Center for Health Professions | TBD |
| 9. College of Arts and Sciences | 8,657 |
| Total Building Area: | 58,930 sqm |

Table 19 Gross Floor Area of UP Manila Buildings

Dormitories

As stated in 2.3.4, there are two dormitories inside the campus: the UP Manila 8-Storey Dorm, which accommodates 248 students and the Phi House, a four-storey walk-up building which has a maximum capacity of 120 students. A number of private dormitories are also found outside the campus to service the other students that cannot be accommodated within the site.

| Dormitory | Year Built | No. of Storeys | Total Area (sqm) | Bed Capacity |
|---------------------|------------|----------------|------------------|--------------|
| Phi House Dormitory | 2014 | 4 | 266.52 | 120 |
| UP Manila Dorm | 2019 | 8 | 3,696 | 248 |
| | | | | 368 |

Table 20 Gross Floor Area of UP Manila Dormitories

Other Support Facilities

The campus has a number of assembly areas which can be used for training and conferences aside from being spaces for teaching. The largest is the College of Dentistry Auditorium and Multi-Function Room followed by the Pharmacy Theater and CAS Theater.

| SPACE | APPROX. AREA (sqm) |
|---|--------------------|
| 1. Calderon Hall Theater | 183.0 |
| 2. CAMP Audio-Visual Room | 134.62 |
| 3. UPM Theater, CAS | 315.60 |
| 4. Nursing Auditorium | 284.25 |
| 5. Dentistry Auditorium and Multi-Function Room | 786.00 |
| 6. Pharmacy Theater | 353.33 |
| 7. CPH Annex 2 Auditorium | 122.14 |

Table 21 Gross Floor Area of UP Manila Support Facilities

Heritage Buildings

The UP Manila Complex is declared as a National Historical Landmark by virtue of the National Historical Commission of the Philippines' (NHCP) Resolution No.15.

Buildings within the campus have been declared as Important Cultural Property (ICP) or National Cultural Treasure by the National Historical Commission and the National Museum, and these are: Calderon Hall, Nurses Home, PGH Administrative Building, Salcedo Hall, Paz Mendoza Hall, Rizal Hall, Lara Hall, Dela Paz Hall, UPM Museum, Cancer Institute, and the old NIH Building. Most of these buildings are consistent with the style of the American Colonial Period, specifically the Spanish Mission Revival and Neoclassical architectural style.

Calderon Hall. The College of Medicine's main building is named after its first Filipino dean, Fernando Calderon.³⁵ The College, together with the Philippine General Hospital, were the only UP units which remained open and functional during World War II despite bombings and sniper fire. Both underwent major physical rehabilitation in the 1950s. Fronting the building is a white statue of a naked long-haired woman holding a torch and standing on top of a skull "The Triumph of Science over Death" copied from Rizal's clay sculpture.³⁶

³⁵ UPM Catalogue of Information 2014. p.119.

³⁶ Reference: Dean's Management Team (2019). University of the Philippines College of Medicine: a pioneer in Medical Education. UPCM InSPIRE (29)1, p.2.

Lara Hall. The existing CPH building, named after Dr. Hilario D.G. Lara National Scientist, “Father of Modern Public Health in the Philippines,” and first dean and founder of the College³⁷, was built by the Rockefeller Foundation in 1932³⁸. This was five years after the creation of the School of Public Health (precursor of the CPH) in 1927 as a graduate school for the training of medical officers of the Philippine Health Service (now the Department of Health). The liberation of Manila by American forces caused severe damage to the building which was reconstructed through the United Nations Rehabilitation Fund with donations from the RF and the World Health Organization.³⁹

NIH. Before it became known as the National Institutes of Health (NIH) in the 1990s, this building’s early incarnations were the Bureau of Government Laboratories (established on 1 July 1901 by Act No. 156 of the Philippine Commission)⁴⁰ and the Bureau of Science in 1905. Because its laboratories handled all the scientific work needed by the Philippine Government as well as housed its expansive central scientific library, it was an active center for instruction and research.⁴¹ Close collaborations with the University of the Philippines and the Philippine General Hospital resulted in valuable contributions to public health. World War II destroyed much of the institution, including the Library’s irreplaceable specimens and reference specimens and reference materials. In 1996, it became the home of the NIH, including its administrative offices and component institutes and study groups.⁴² In 1998, Republic Act 8503, the administrative offices and component institutes and study groups. In 1998, Republic Act 8503, the “Health Research and Development Act of 1998⁴³” institutionalized the NIH as national health research coordinating body.

Rizal Hall. Built in the 1920s, Rizal Hall is one of three buildings of the original UP campus which survived World War II mostly intact and one of two structures that honor the national hero, Jose Rizal. It was the only building spared from being parceled out to different government offices when UP moved to Diliman, Quezon City. It was rebuilt to house the UP

https://drive.google.com/file/d/129jQvDyGvO_y0N4_57OGFc2Uh1DE75E/view [Accessed July 8, 2022].

³⁷ Reference: Valenzuela-Tiglao, T. (1982). *The Institute of Public Health, University of the Philippines (1927-1983)*. Institute of Public Health.

³⁸ Reference: Valenzuela-Tiglao, T. (1998). A Century of public health in the Philippines. *Information, Publication and Public Affairs Office*.

³⁹ In 1945. Reference: University of the Philippines Manila College of Public Health 60th Foundation Day, June 1-6, 1987. p. 15.

⁴⁰ Source: An act providing the establishment of government laboratories for the Philippine Island. *Public Health Reports (1896-1970)*. Vol. 16, No. 35 (August 30, 1901), pp. 1971-1973. Sage Publication, Inc. <https://www.jstor.org/stable/41458983> [Accessed July 4, 2022].

⁴¹ Reference: Freer, P.C. (1904). The Work of the Bureau of Government Laboratories, of the Philippine Islands. *Science*. New Series, vol 20(499). pp. 105-109. <https://www.jstor.org/stable/1630620> [Accessed July 8, 2022]

⁴² BOR 1095th Meeting, February 1996, Resolution establishing the National Institutes of Health at the University of the Philippines Manila.

Source: *University of the Philippines*. UP Gazette. vol 27(1), Jan-Mar 1996, pp. 7-8.

⁴³ Source: Philippines. (1998). Republic Act No. 8503. https://doh.gov.ph/sites/default/files/policies_and_laws/RA08503.pdf [Accessed July 4, 2022]

Extension Division (as the CAS was known then), College of Public Administration, Local Government Center, Population Institute, and the Statistical Center which have, since then, all moved to Diliman. CAS is now the largest college at UP Manila in terms of student population and which first served as a night school for working students, then as UP Extension in Manila in 1969, and UP College in Manila in 1973 before becoming a full fledged college in 1982.⁴⁴

Heritage Buildings Within the Hospital Zone

These are considered heritage buildings inside the hospital zone based on the NHCP declaration and as described in the PGH Masterplan by Archion.

PGH Main Building. Designed by William Parsons with Tomas Mapua as the supervising architect, PGH opened its door to the public in September 1910. The building’s facade was rebuilt in 1946 following the original design.

Faculty Medical Arts Building (FMAB). Also built in 1910, the Faculty Medical Arts Building (FMAB) was originally constructed as the dispensary and out-clinic building.

Nurses’ Home. This was designed by architect Tomas Bautista Mapua during the American colonial period. It is situated at the corner of Taft Avenue and Padre Faura Street in Ermita Manila. The Nurses’ Home is one of the few remaining buildings that survived World War II.

Cancer Institute. Located along Padre Faura Street in Ermita Manila. Radium Therapy Building also known as Cancer Institute Building is one of the pre-war buildings that is well preserved which completes the initial PGH complex. Its elevations remain intact despite minor alterations and auxiliary structures attached to the building itself.

Old Dentistry Building/ UP Manila Museum of a History of Ideas. Built in the neoclassical style, it used to be the old College of Dentistry Building and part of the university in primary in the 1930s. It was restored by architect Ed Calma in 2009 as the University of the Philippines Manila - Museum of a History of Ideas.

| Building | Year Built |
|--|------------|
| Calderon Hall, College of Medicine | 1907 |
| Nurses Home and Dorm 1 (former Nurses Home), PGH | 1909 |
| PGH Admin Building, Wards | 1910 |
| Salcedo Hall, College of Medicine | 1920 |

⁴⁴ Reference: *UPM Catalogue of Information 1994-1996*, p. 73

| | |
|---|-------|
| Paz Mendoza Hall, College of Medicine | 1920 |
| Rizal Hall, College of Arts and Sciences | 1920 |
| Museum of a History of Ideas (former College of Dentistry), UP Manila | 1931 |
| Lara Hall, College of Public Health | 1932 |
| Cancer Institute, PGH | 1939 |
| NIH Building, UP Manila | 1960 |
| Dela Paz Hall, College of Medicine | 1920* |
| Sotejo Hall, College of Nursing | 1993* |

**data acquired from UP Manila Building Insurance*

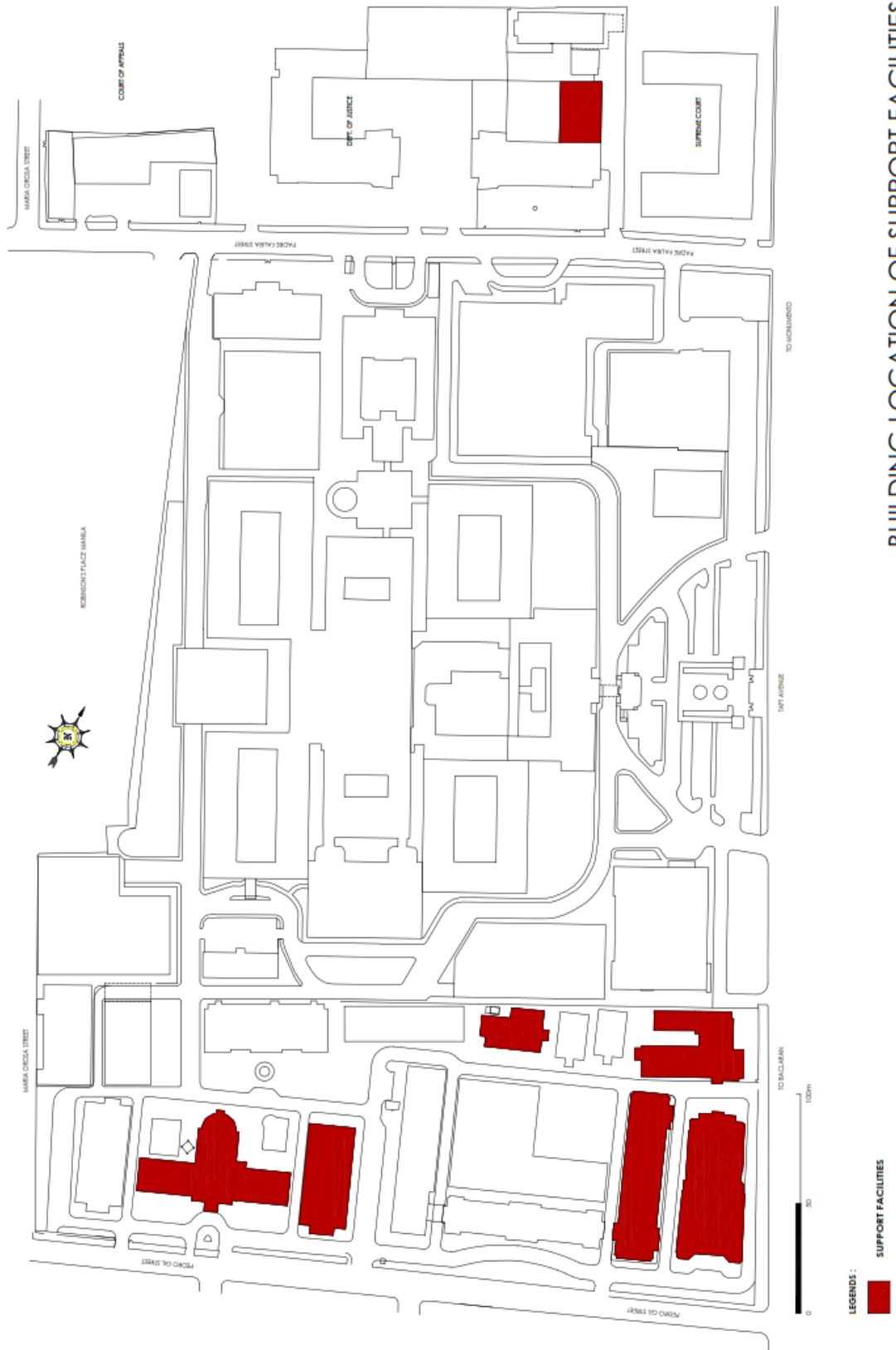
Table 22 UP Manila Buildings - Year built



Figure 83 Collage of UP Manila Built Heritage



Figure 84 Clusters and Complexes



BUILDING LOCATION OF SUPPORT FACILITIES

Figure 85 Building location of support Facilities

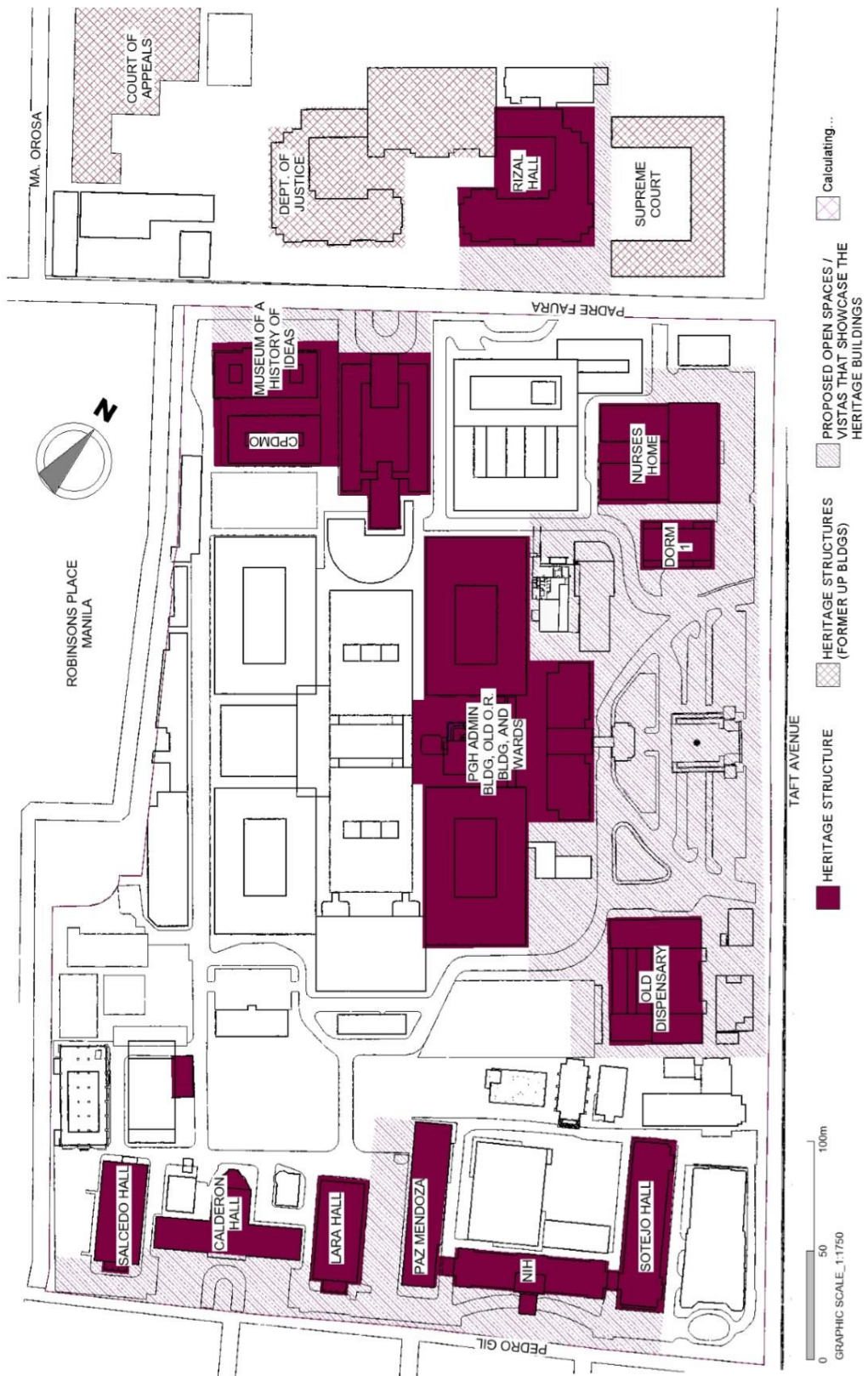


Figure 86 NHCP declared Heritage Buildings

Building Inventory and Data

The building inventory data summarizes the conditions of the existing UP Manila buildings in table format. The table enables the instantaneous identification of building information summary such as number of floors, building footprint, total floor area and renovation information with links to floor plans and renovation dates. This may be used as a tool to assess conditions of the buildings and to decide on the prioritization of the facilities for upgrading. This includes the engineering aspects such as structural integrity assessment, structural retrofitting, connection and presence of a sewer system, and electrical rewiring. It also identifies which buildings complied with relevant laws and regulations such as PWD requirements, permits, and presence of FDAS and Fire protection requirements. (Building Inventory and Data on Annex A)

2.4.2. ACADEMIC CORE

The campus has eight (8) academic units with the College of Medicine being the largest in terms of gross floor area (GFA) followed by the College of Arts and Sciences. The majority of the buildings are located at the Pedro Gil side of the site which is known as the academic zone. Only the College of Arts and Sciences is located along Padre Faura where the campus was originally located. Given the history, the UP Manila Oblation is also positioned in front of Rizal Hall. This complex provides a sense of nostalgia being situated in the original location of the campus.

The campus in this sense is divided in two areas. The Pedro Gil side and the Padre Faura side. The College of Arts and Sciences complex houses the general education classes while the Pedro Gil side is the location of the colleges and specializations.

2.4.3. ADMINISTRATIVE/ GENERAL SERVICES

The Central Administration is composed of different units under the Office of the Chancellor, Office of the Vice Chancellor for Administration and Finance, Office of the Vice Chancellor for Planning and Development, Office of the Vice Chancellor for Research, and Office of the Vice Chancellor for the Academic Affairs. The units and committees under the respective offices of the chancellor and vice chancellors are indicated in the organizational chart in Part 1.

The administrative and general services offices are located on the 8th floor PGH Central Block and the Joaquin Gonzales Compound. The CPDMO is at the back of the UP Manila Museum which is also along Padre Faura. The 8th floor offices will eventually transfer to the New NIH Building.

2.4.4. RESEARCH CORE

The National Institutes of Health is the centralized unit for health research and development and a source of critical health information for national development not only in the Philippines but Southeast Asia.

The unit was created on January 26, 1996 by the UP Board of Regents as an institutional home of a network of various research and extension units specializing in health and socio-biomedical concerns. This thrust is consistent with the country's vision of "Health for All". It was established on February 13, 1998 to support the Health Research and Development Act (RA 8503).

The mission to be a major resource center for health research and capacity building is pursued using the framework of "Partnership for Better Health" (cited from National Institutes of Health Brochure, 1999), and more specifically through the following:

- Influence policy makers in the enactment of health laws, policies and guidelines which improve delivery of quality health programs
- Provide health organizations relevant health research and development and improve their health service delivery
- Contribute to the enhancement of medical knowledge and improve the practices of health care professionals
- Develop the capabilities of health researchers and health research institutions
- Promote the health awareness and improve the health-seeking behavior of the Filipino people
- Spearhead the research on essential national health issues and concerns
- Lead in the formulation of national health research agenda
- Become a recognized authority in health research and development

The NIH, while considered a unit of the University of the Philippines Manila, has its own Board of Advisers that recommends the general direction, determines priorities and thrusts of the organization, and generates resources in support of the programs and component units.

The Board of Advisers is composed of the Department of Health Secretary, Chancellor of UP Manila, Executive Director of the Philippine Council for Health Research and Development (PCHRD), the Executive Director of NIH, and 2 other recognized scholars appointed by the UP Board of Regents.

Currently, NIH has various research institutes and active study groups that continue to develop and produce outputs that serve as vital guideposts in shaping national programs and policies.

The NIH also created active committees that complement the activities of the institutes and study groups. These committees provide specialized assistance and offer recommendations to the NIH Executive Director on areas such as institutional animal care and use, institutional

promotion, research capacity building/strengthening, management of facilities and staff development.

The organization also works closely and in partnership with the following UP Manila committees in the conduct of its research activities:

- Biosafety Committee:

The Committee is tasked to provide recommendations for safety in matters pertaining to the control of hazards associated with the use of microbial agents, their vectors and potentially hazardous human material. Its functions are to:

- Provide technical advice, assistance and recommend policies regarding biological safety;
- Recommend procedures for approving operations involving microbiological agents and their vectors that require appropriate containment for biological safety;
- Recommend procedures for approving operations involving the use of human blood, blood components, blood products, human body fluids, human tissues, human cells and human organs;
- Review report on accidents and incidents resulting in personnel exposures to potentially hazardous microorganisms or potentially hazardous materials, reports of non-compliance with established International Regulations, Guidelines and Policies regarding the safe conduct of research involving the use of the aforementioned items;
- Review and comment on Biological Safety and Human Materials protocol;
- Coordinate with NIH Committees in the evaluation of biological hazards.

- Intellectual Property Rights Committee:

The Committee is tasked to oversee:

- Compliance with UP policies pertaining to intellectual property rights, including those related to research and technology transfer and the commercialization of technologies and ideas arising in the course of university research;
- Negotiations of intellectual property agreements with industry;
- Protecting the rights of the individual, university, community, the nation and humanity.

- Ethics Review Board:

The Board is tasked to:

- Set policies and guidelines pertaining to ethical review of research proposals;

- Act on appeals within a prescribed time;
- Serve as a consultative body;
- Form college-institute cluster-based ethics review committees;
- Conduct training on ethics in research;
- Coordinate with the National Ethics Committee and other higher bodies; and,
- Set criteria for ethical review and approval of research proposals.

- Technical Review Board:

The Board is tasked to:

- Evaluate all research proposals and technical reports submitted to the Office of the Vice Chancellor for Research;
- Coordinate with existing college technical review committees in facilitating the conduct of research within the UP Manila;
- Recommend awarding of research grants to worthy proposals;
- Monitor and evaluate all approved researches;
- Facilitate institutional endorsement of research proposals and reports to other institutions; and
- Provide technical advice to the Vice Chancellor for Research and the Executive Director of NIH on research directions and special initiatives of UP Manila.

- Health Research Information Committee:

The Committee is responsible for advocating, creating, and maintaining comprehensive high-quality public health information systems that integrate vital records registration, public health statistics, and other health information. The Committee is also tasked to:

- Gather available research grants (local and international);
- Gather fellowships, information and trainings;
- Review and update the NIH Research Proposal Format; and,
- Review and edit yearly the NIH Annual Reports.

- Research Dissemination and Utilization Committee:

The Committee is tasked to:

- Be in charge of coordinating and integrating research activities within the University;
- Manage and review how research outputs can be utilized and disseminated in a timely, high quality fashion and ensuring maximum impact;
- Oversee and implement the monthly research forum; and

- Coordinate with the Institutional Promotion Committee to disseminate information through various media channels.
- Resource Generation and External Linkages for Research Committee:

The Committee is tasked to:

- Promote NIH vision and activities to the public in general and organizations in particular for funding purposes;
- Come up with ways on how to encourage organizations/ individuals to be "Partners of NIH"; and,
- Come up with fund-raising activities.
- UP Manila Research Executive Committee:

The Research Executive Committee is a University committee, which aims to:

- Promote and coordinate health-related and other research activities;
- Develop and strengthen links with other units and institutions within the University
- Determines the needs of the faculty and other researchers;
- Analyzes services, policies, and procedures that affect research; and
- Makes recommendations which, in its view, will facilitate the research process and research productivity at the University.
- Institutes

The National Institutes of Health of the University of the Philippines Manila is composed of the following Institutes:

- Institute on Aging
- Institute of Molecular Biology and Biotechnology
- Institute of Child Health and Human Development
- Institute of Clinical Epidemiology
- Institute of Health Policy and Development Studies
- Institute of Herbal Medicine
- Institute of Human Genetics
- Institute of Ophthalmology
- Institute of Pharmaceutical Sciences
- Philippine National Ear Institute

The resources of the National Institutes of Health include its various institutes dealing with molecular and biological analysis (IBMB and IHG), epidemiology and policy (ICE and IHPDS), and special fields of interest (ICE, IO, IPS, NTC and PNEI).

There are also various research study groups that are dealing with special fields of interest, such as Traditional and Alternative Medicine, Medical Bioengineering, Medical Informatics, Infectious Diseases, Aging and Geriatric Health, Nutrition and others.

Nearly all of these institutes and study groups are dependent on external funding for most of their major projects, with some assistance from the university in the form of research grants, and administrative support. These groups have their own research agenda that would vary across disciplines and in terms of priority. It is difficult to focus on just one particular field of study, considering the varied interests of the people in the university.

One important role of the university in research is its capacity to carry out many of the researches of the various government agencies and private sectors through its linkages. The Department of Health, Department of Science and Technology, and the Commission on Higher Education are in partnership with many of the faculty and institutions in the university for commissioned or collaborative research.

The private sector, mainly the pharmaceutical industry, comes to the university for the conduct or analysis of its research needs. There is a need to improve some aspects of health management in the university and its component units (such as the Philippine General Hospital), including institutional and ethical review, facilitating laboratory services and fund management.

2.4.5. EXTENSION

The SHS Campuses are operated in coordination with the Local Government Units and part of the UP Manila's nine degree granting units. The development of these sites are included in the discussions in the succeeding chapters in relation to the main campus in Manila.

2.4.6. ALLIED SERVICES

The allied services offered are the research facilities and the concessionaires at the University. The concessionaires are being facilitated by the BAC under the management of the Office of the Vice Chancellor for Administration and Finance.

The Income Generating Projects mainly come from rental payments from three major buildings and these are the UPM-PGH Faculty Medical Arts Building, UP Manila 8 Storey Student Dormitory and the Philippine National Bank. Other incomes are from UP Manila facilities such as the Social Hall, Auditoriums, Conference Areas, Theaters, and the activity areas and court in the Sports Science and Wellness Center. The locations are identified in the succeeding maps.

The university, given its limited area, aims to improve its collection from IGPs through the rentals of the facilities for the new buildings to be constructed such as the NIH Building, the

UP Main Library, the Zuellig Hall, and the Housing Building. The NIH can accommodate rentals for laboratories, auditorium, conference halls, and commercial spaces in the lobbies, decks, and other available spaces per common floors. The UP Main Library and the Zuellig Hall can be a source of income for the conference rooms and discussion rooms to be rented at a minimal cost while the Housing building can be rented out per room. Since the interior layout and designation of spaces for all the new buildings are currently being finalized, the amount is yet to be projected. As soon as these are completed, the total rental shall then be presented to the Fiscal Policies and Operations Committee for approval of rates.

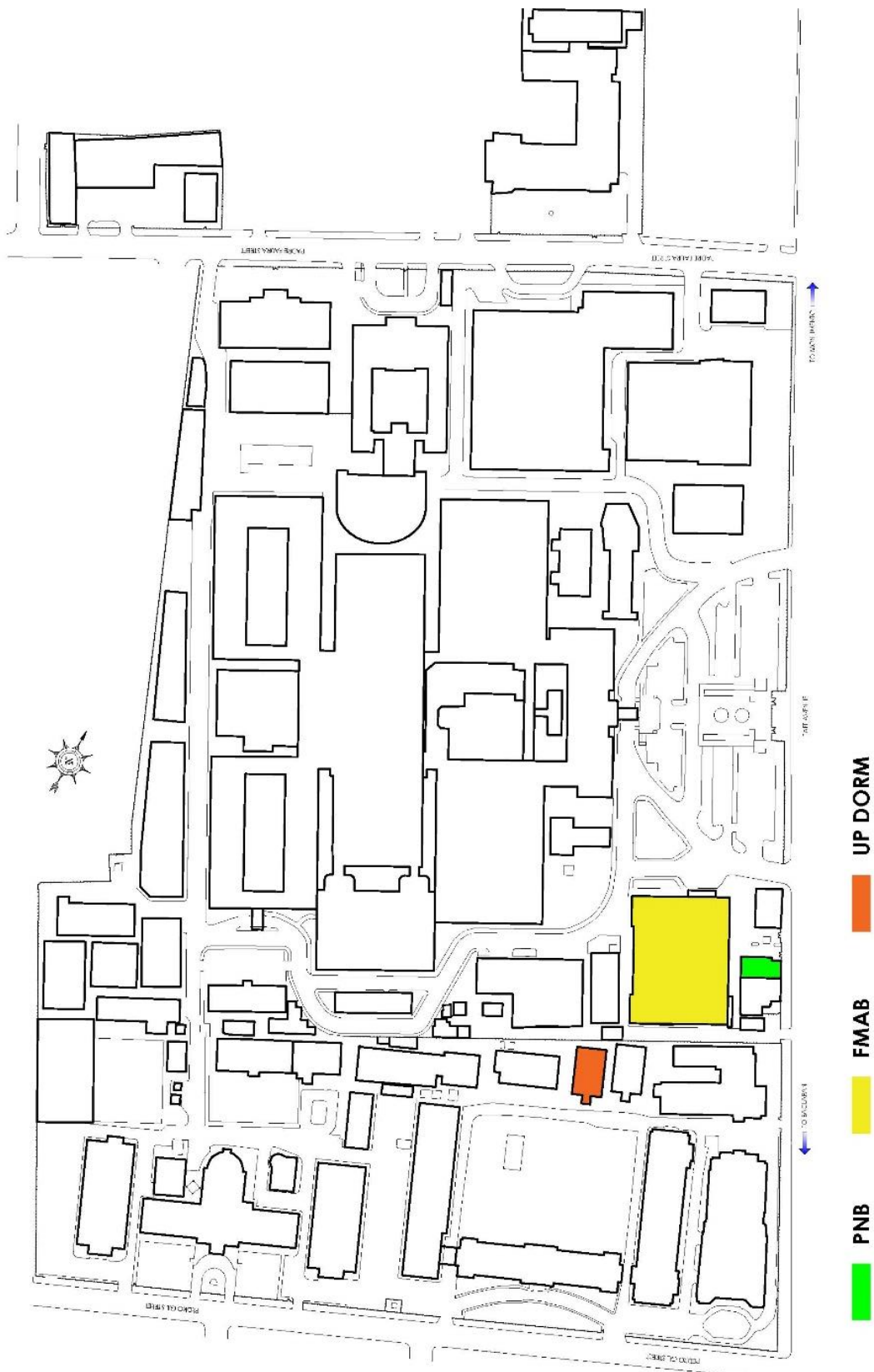


Figure 87 UP-PGH Rentable Spaces

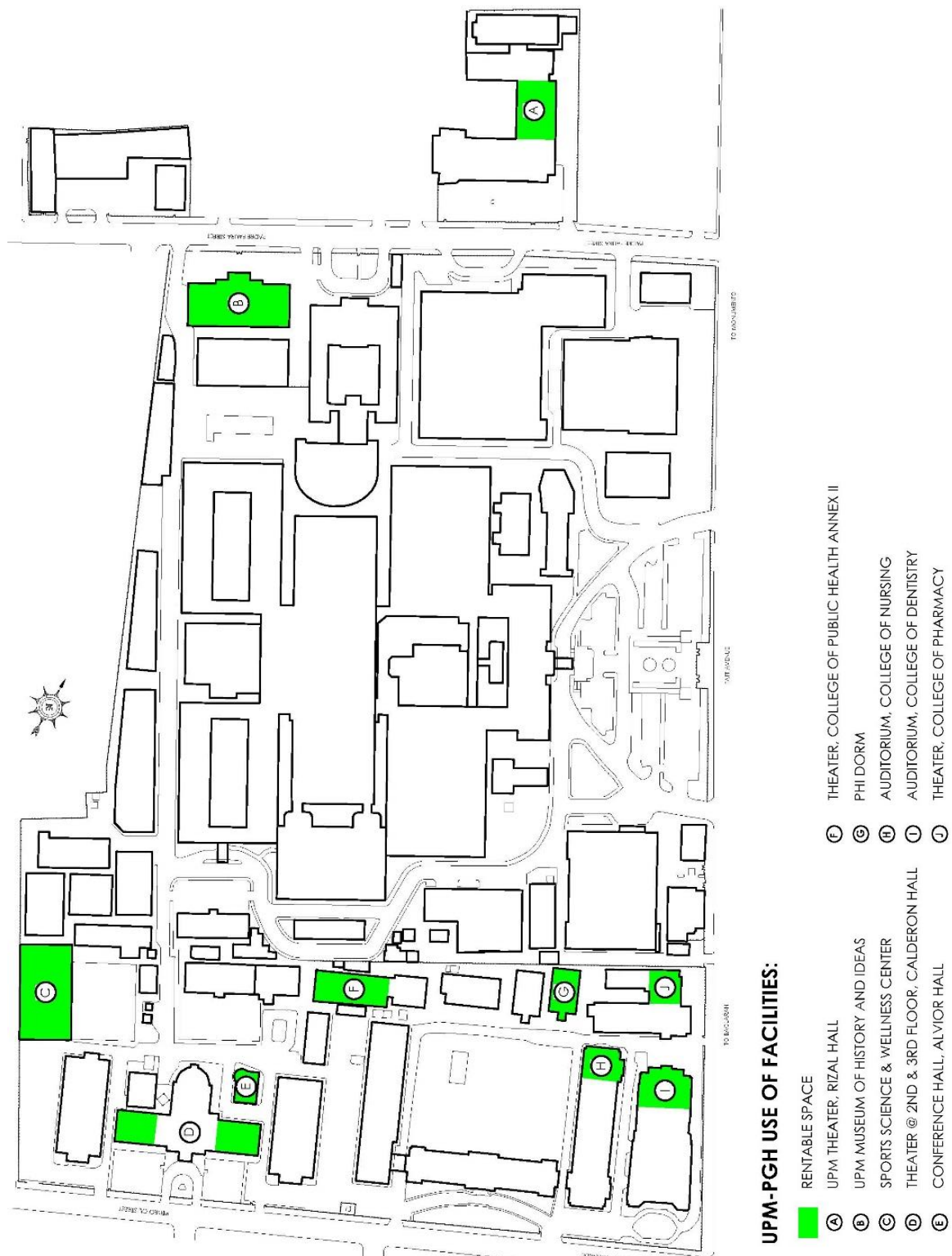


Figure 88 University of the Philippines Manila Rentable Spaces

2.5. TRANSPORTATION OF UP MANILA

2.5.1. INFRASTRUCTURE AND ROAD NETWORK MAPS, INCLUDING DRAINAGE, AND PARKING AREAS

Road Network System

The University of the Philippines Manila is within the Radial Roads of Metro Manila specifically along Radial Road 2 through Taft Avenue. It is connected to other secondary and tertiary roads such as the Padre Faura and Pedro Gil.

- **Taft Avenue**

Taft Avenue is a component of National Route 170 (N170), is a secondary road in the Philippine highway network, and anchors R-2 of the Manila arterial road network. It was previously designated as N1 in the old route numbering system. From the north, Taft Avenue starts at the Lagusnilad vehicular underpass at the intersection with Padre Burgos Avenue in Ermita. It then crosses the Ayala Boulevard and Finance Street and forms the eastern edge of Rizal Park up to Kalaw Avenue. It then crosses United Nations Avenue, Padre Faura Street, Pedro Gil Street (formerly known as Calle Herran), where it also crosses the district boundary with Malate, San Andres Street and Quirino Avenue, and Pablo Ocampo Street (formerly known as Vito Cruz Street) before entering the City of Pasay. The road leads to Pasay and continues south towards Baclaran as Taft Avenue Extension. It terminates in the intersection with Elpidio Quirino Avenue, Harrison Avenue, and Redemptorist Road.⁴⁵

- **Padre Faura**

Padre Faura Street is an east-west street in downtown Manila, Philippines. It carries traffic one-way westbound from Romualdez Street to Roxas Boulevard. Starting at its eastern terminus at Paco Park in Paco district, the street heads west for a short stretch towards the intersection with Taft Avenue. Past the intersection, the street traverses the district of Ermita and touches upon a number of important government institutions such as the Supreme Court and Department of Justice, aside from the Philippine General Hospital. Also located along this stretch of Padre Faura at the right is the UP Manila College of Arts and Sciences and the Joaquin Gonzales Compound. The street ends at the intersection with Roxas Boulevard, just across from the United States Embassy.⁴⁶

⁴⁵ 'Taft Avenue', *Wikipedia, The Free Encyclopedia*, https://en.wikipedia.org/wiki/Taft_Avenue [Accessed 2021]

⁴⁶ 'Padre Faura Street', *Wikipedia, The Free Encyclopedia*, https://en.wikipedia.org/wiki/Padre_Faura_Street [Accessed 2021]

- **Pedro Gil**

Pedro Gil Street (formerly Calle Herran) is an east-west inner city street and a tertiary national road in south-central Manila, Philippines. It is 3.649 kilometers (2.267 mi) long and spans the entire length of Ermita, Malate, Paco and Santa Ana districts, as well as portions of San Andres. The street originates at the intersection with Calderon Street fronting the Santa Ana Church in Santa Ana district where it is divided by a median of greenery and sculptures known as Plaza Felipe Calderon. Heading west, it passes through the Santa Ana Market and an SM Savemore outlet before it narrows into a four-lane undivided road west of Suter Street. Continuing past old heritage houses and a few commercial establishments, Pedro Gil crosses into the northern portion of San Andres and Paco districts where it is interrupted by the Paco railway station and busy Quirino Avenue. The downtown portion of Paco, as well as Ermita and Malate, lie across this intersection passing through the Paco Church, Robinsons Place Manila shopping mall, and universities such as University of the Philippines Manila and Saint Paul University Manila. The Ermita-Malate portion in which the street serves as boundary also contains several hotels like the New World Manila Bay Hotel (formerly Hyatt Hotel & Casino Manila). Roxas Boulevard lies at its western end. The street is served by the Pedro Gil LRT Station along Taft Avenue and the Paco railway station along Quirino Avenue. It also continues towards the central Metro Manila cities of Mandaluyong and San Juan across the Pasig River as New Panaderos and General Kalentong Streets.⁴⁷

- **Interior Road**

The university has interior roads that are being maintained by the Department of Public Works and Highways under the South Manila District Office. Given the existing major projects, the road rehabilitation request is postponed until the completion of the major buildings.

⁴⁷ 'Pedro Gil Street', *Wikipedia, The Free Encyclopedia*, https://en.wikipedia.org/wiki/Pedro_Gil_Street, (accessed 2021)

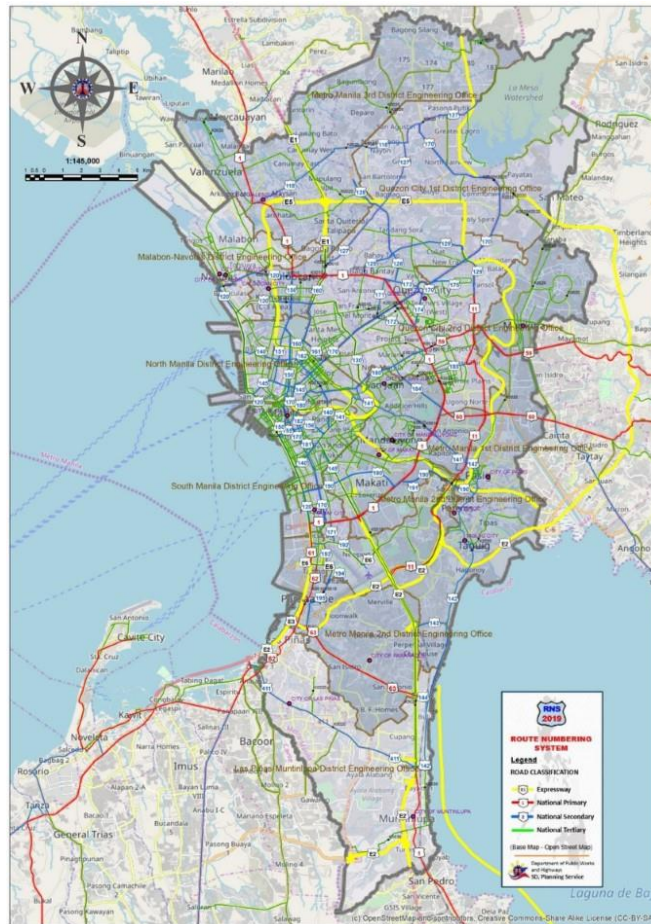


Figure 89 Manila Road Network System

Transportation and Access

The university campus is accessible through Taft Avenue, Pedro Gil, and Padre Faura. It is served by the United Nations and Pedro Gil Station of the LRT Line 1 which runs through Taft Avenue. Buses, vans, and jeepneys also ply Taft Avenue. A bus stop is located at the main gate while jeepneys and vans also stop at the Padre Faura and Pedro Gil intersection. The campus has 23 gates, eight of which are closed (see Campus Entrance Gates and Road Network Map). The open gates are accessible to both pedestrian and vehicular traffic.

Based on an online campus survey conducted in July 2019, students who travel to the campus via public transportation mostly use the CAS-Padre Faura (Gate 3) and CD-Pharma entrance (Gate 18), followed by PGH-Taft (Gate 1) and CPH-Pedro Gil (Gate 15) entrance. Students who get to campus by walking mostly use the CAS-Padre Faura (Gate 3), followed by CPH-Pedro Gil (Gate 15), CM-Pedro Gil (Gate 12), CD-Pharma entrance (Gate 18), NIH-CN Pedro Gil (Gate 17), and UPM-Padre Faura (Gate 10). The NIH-Pedro Gil gate (Gate 17) is the most used by faculty/staff who arrive via private vehicle, followed by the PGH-Taft entrance. Students using cars mainly use the CPH-Pedro Gil entrance (Gate 15), followed by the NIH-Pedro Gil (Gate 17) and CM-Pedro Gil entrance (Gate 12).

According to the PGH masterplan, most PGH visitors use the main gate (Gate 1) along Taft Ave., and those that go to the out-patient clinics pass through Gate 4 along Padre Faura. Inconnection to that, motorists using private vehicles use the PGH-Taft main entrance (incoming only), Taft service gate, the two Padre Faura entrances, and Padre Faura-UP Campus entrance

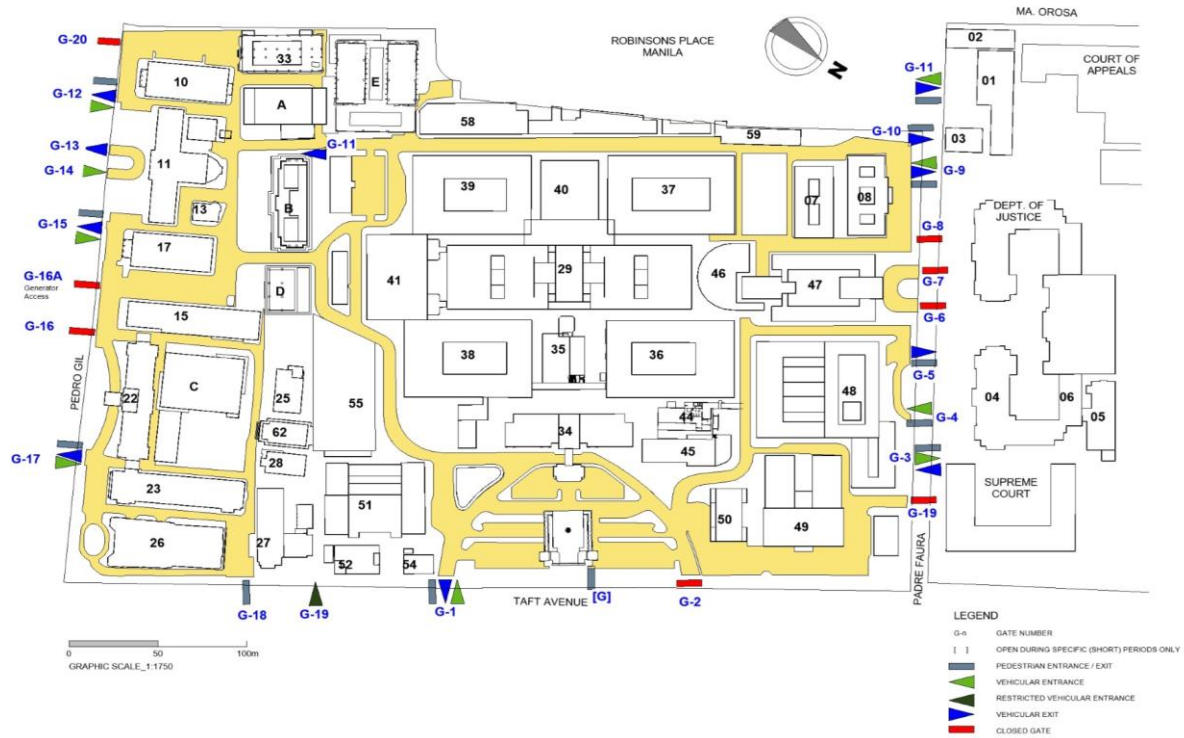


Figure 90 Existing Access Gates



Figure 91 Existing Transportation Route

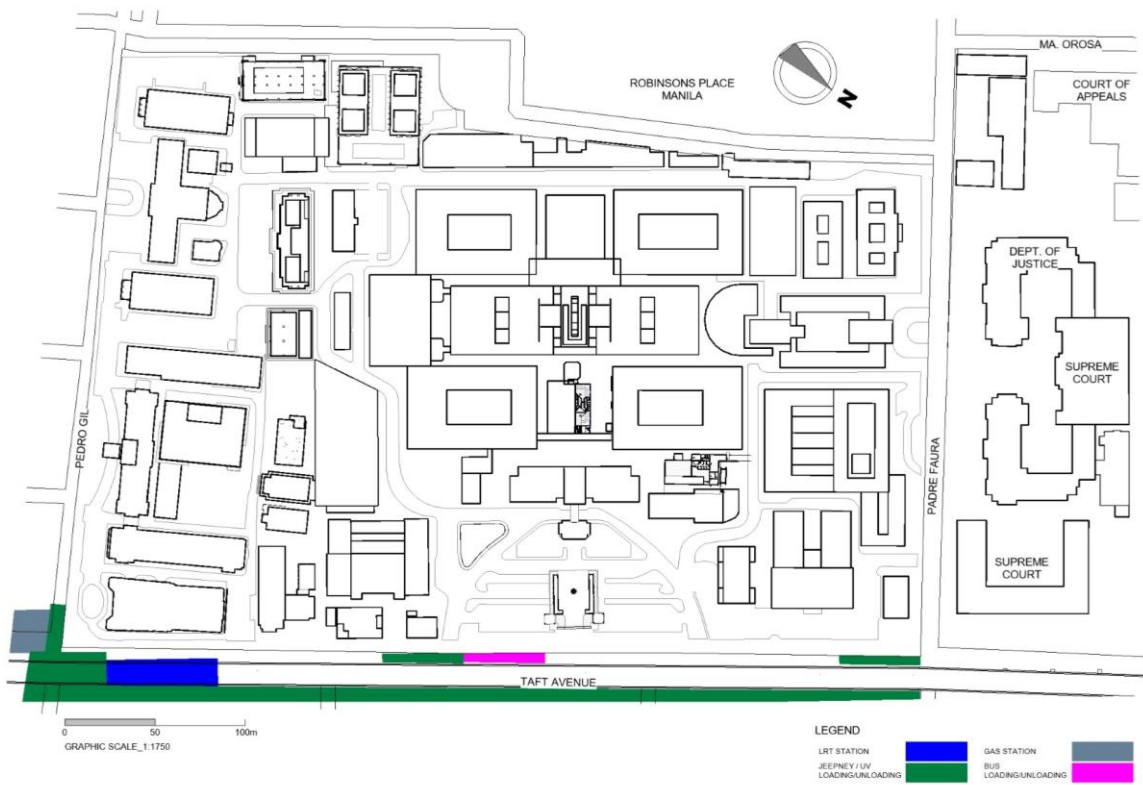


Figure 92 Existing Transportation Stations

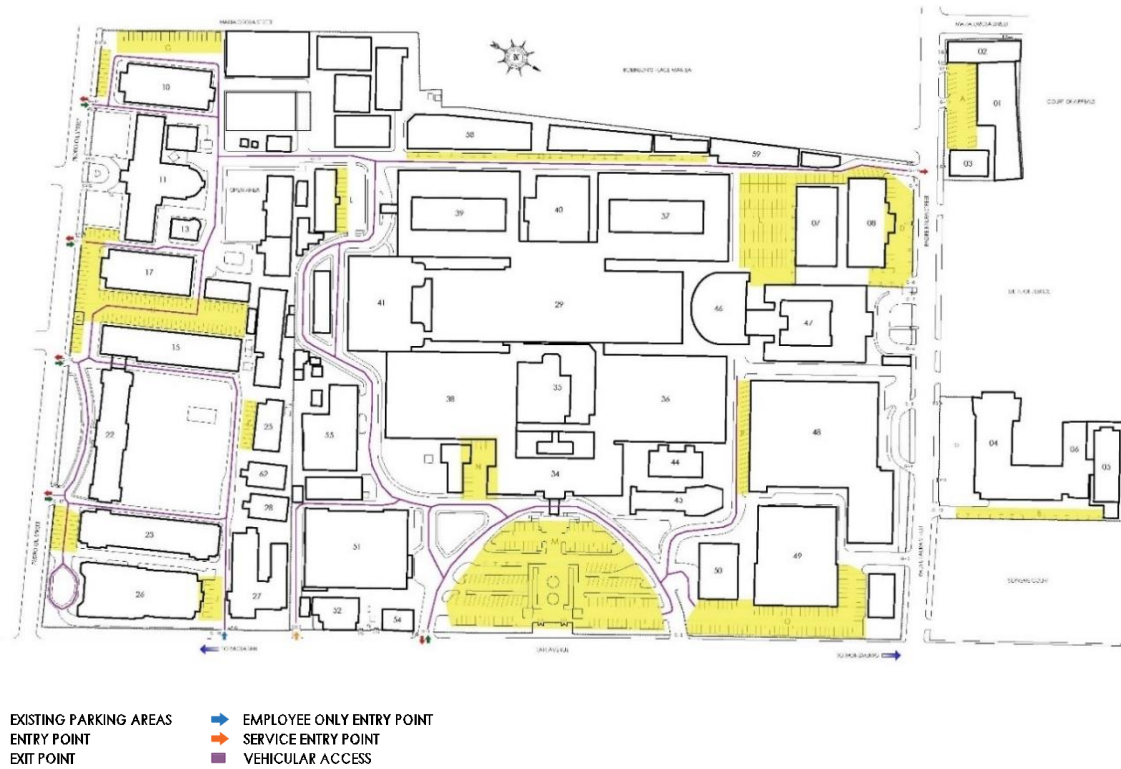


Figure 93: UPM-PGH Existing Parking Areas and Roadways

Aside from the open parking. There are future buildings that will house parking slots such as the Proposed National Institutes of Health New Building, Housing Building, and Salcedo Hall automated parking.

2.6. WASTE MANAGEMENT

2.6.1. AREAS FOR WASTE MANAGEMENT, SEGREGATION, COLLECTION AND DESCRIPTION ON WASTE PRACTICES BEING USED ESPECIALLY INNOVATIVE ONES

The waste management of UP Manila as an academic zone generating municipal waste is through the local government collection. All toxic and hazardous wastes from the laboratories and hospital are properly collected and disposed of by a third-party licensed waste contractor Clean Way as of 2021. The Central Waste Depository area of the hospital is at the side of the FMAB building.

Wastewater disposal of the academic zone and hospital zone is interconnected with Maynilad. While the new buildings of UP Manila already have septic tanks, the heritage buildings are still interconnected with Maynilad. The LLDA Office gave the LLDA clearance certification as well as a discharge permit exemption for PGH while UP Manila will contract a consultant for the application of the LLDA discharge permit. The new laboratory renovations include the construction of a chemical waste chamber prior to the connection to the septic tank.

Currently the UP Manila is procuring the services of an EIS consultant to secure an Environmental Clearance Certificate and LLDA Clearance and discharge permit. While UP PGH is securing the amendment of their ECC due to the upgrading of their treater facility.

The waste management plan of PGH includes the following projects:

- Amendment of the PGH -ECC for the application of permit for the small infectious treatment facility.
- Providing more trash bin with proper labeling of waste to be dispose
- Renovation / construction of STP.
- Continuous de clogging of sewer and drainage piping
- Desludging of the Septic Tank.

Municipal solid wastes that were generated from the SHS Campus are mainly collected by the Local Government Waste Collection in the designated Materials Recovery Facilities.

2.7. ENGINEERING UTILITIES

2.7.1. SEWAGE, CISTERN, FIRE AND PUMP ROOMS, ELECTRICAL, ETC.

The following maps show the existing utilities location of the UP Manila and UP PGH. This includes the addressable and conventional Fire Detection and Alarm system (Figure 85). The other existing engineering facilities location such as generators, cistern tank and pump room, sewage treatment plan, fire tank and pump room, and other hospital related engineering requirements such as LPG manifold, medical gas tank storage, chiller plant room, electrical plant room, and auxiliary room are also indicated on the map.

Given new developments, the proposed plan shall incorporate the new locations of the displaced utility areas. The assessments based on the existing conditions shall include proposed projects required for facilities and code compliance.

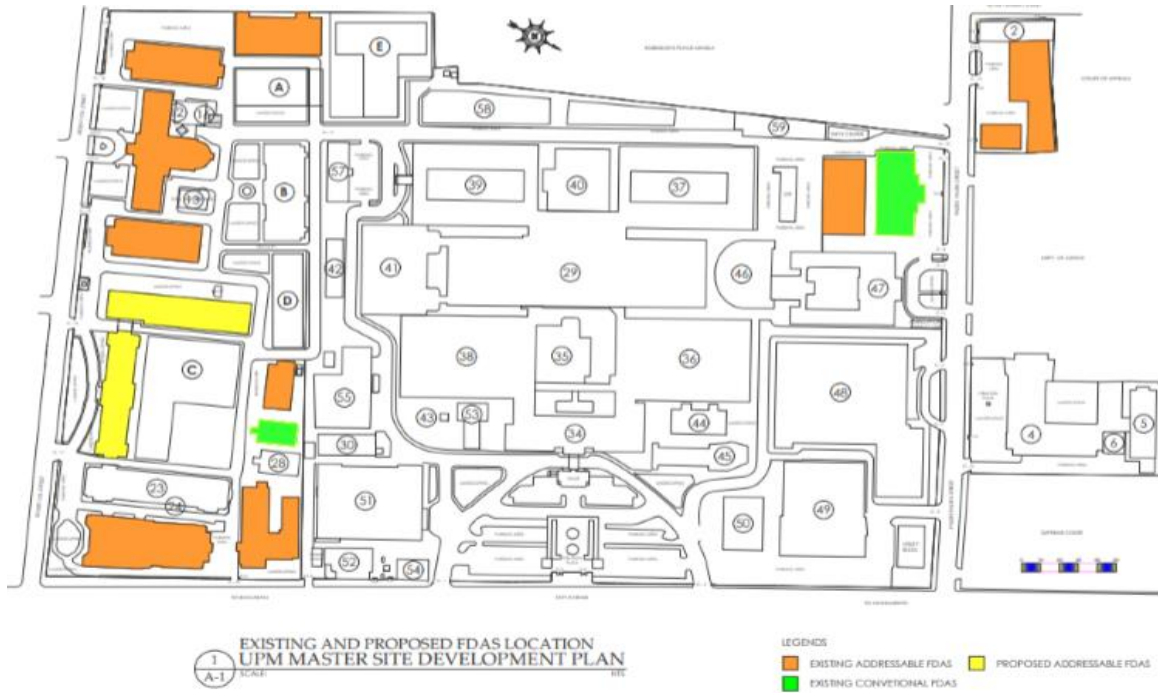


Figure 94 Existing and Proposed FDAS Location

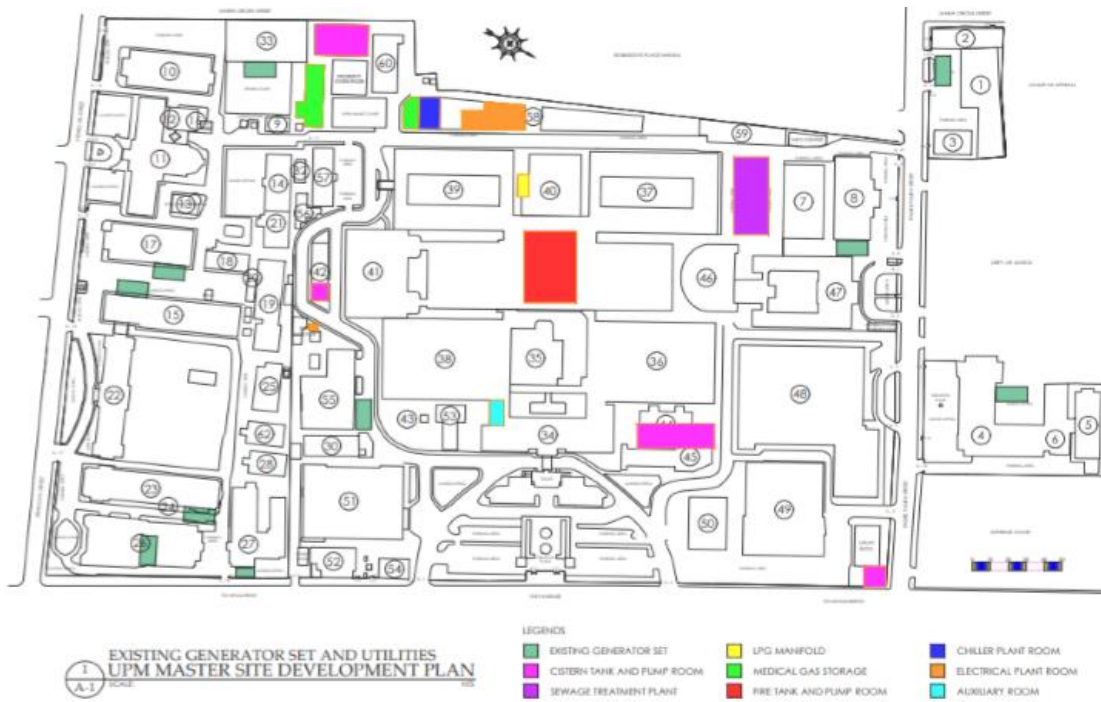
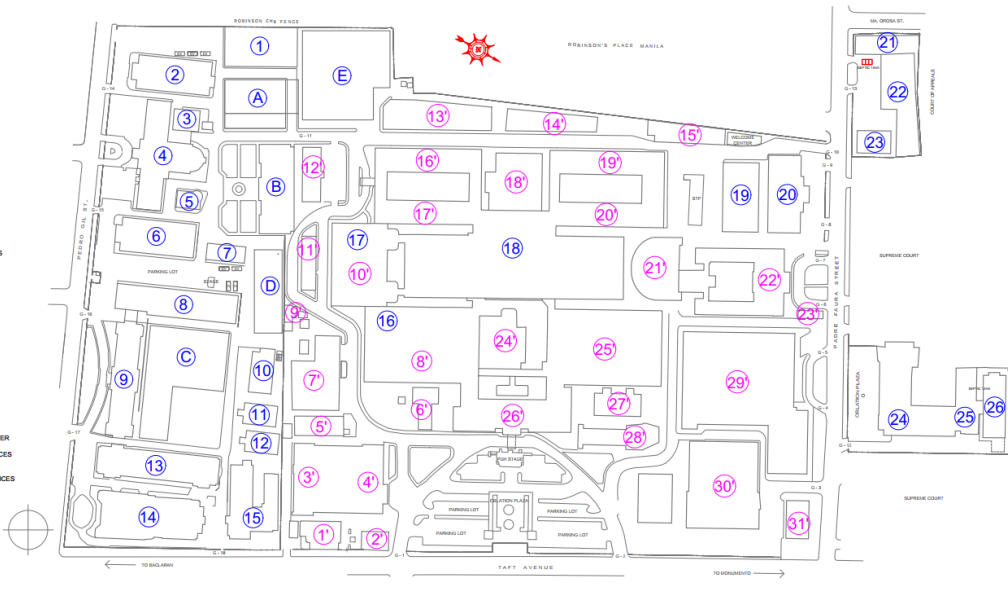


Figure 95 Existing Engineering Utilities and Generator Sets Location

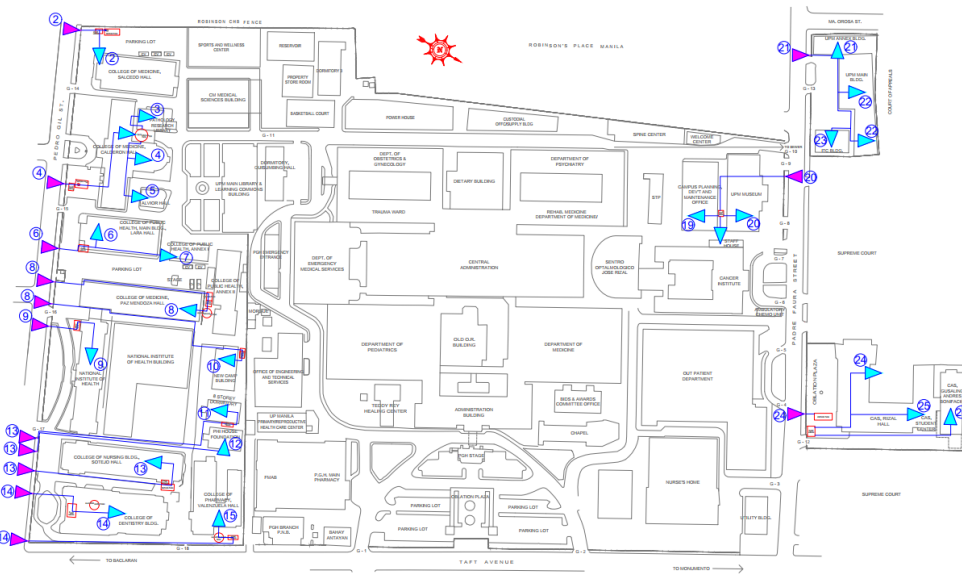
| LEGEND: | |
|---|---|
| # | UNIVERSITY OF THE PHILIPPINES COMPOUND |
| # | PHILIPPINE GENERAL HOSPITAL COMPOUND |
| UNIVERSITY OF THE PHILIPPINES COMPOUND | |
| 1 | SPORTS SCIENCE AND WELLNESS CENTER |
| 2 | SALCEDO HALL, COLLEGE OF MEDICINE |
| 3 | PATHOLOGY RESEARCH LIBRARY |
| 4 | CALDERON HALL, COLLEGE OF MEDICINE |
| 5 | ALVOR HALL, COLLEGE OF MEDICINE |
| 6 | LARA HALL, COLLEGE OF PUBLIC HEALTH |
| 7 | ANNEX 1, COLLEGE OF PUBLIC HEALTH |
| 8 | PAZ MENDOZA HALL, COLLEGE OF MEDICINE |
| 9 | NATIONAL INSTITUTE OF HEALTH (NIH) |
| 10 | NEW CAMP BUILDING |
| 11 | BATTERY DORMITORY |
| 12 | PH HOUSE FOUNDATION |
| 13 | SOTEJO HALL, COLLEGE OF NURSING |
| 14 | COLLEGE OF DENTISTRY |
| 15 | VALENZUELA HALL, COLLEGE OF PHARMACY |
| 16 | UPM ANNEX BUILDING |
| 17 | JACSON GONZALEZ HALL |
| 18 | CENTRAL ADMINISTRATION, 8TH FLOOR |
| 19 | CAMPUS PLANNING, DEVELOPMENT AND MAINTENANCE OFFICE (CPDMO) |
| 20 | MUSEUM OF HISTORY OF IDEAS |
| 21 | UPM ANNEX BUILDING |
| 22 | UPM MAIN BUILDING |
| 23 | ITC BUILDING |
| 24 | RIZAL HALL, COLLEGE OF ARTS AND SCIENCES |
| 25 | STUDENT CENTER, CAS |
| 26 | GUSALING ANDRES BONIFACIO |
| NEW/CONSTRUCTED BUILDING | |
| A | MEDICAL SCIENCES BUILDING |
| ON-GOING CONSTRUCTION BUILDING | |
| B | UPM MAIN LIBRARY & LEARNING COMMONS |
| C | NATIONAL INSTITUTE OF HEALTH (NIH) NEW BUILDING |
| FOR CONSTRUCTION BUILDING | |
| D | DR. STEPHEN ZUELLIG MALL |
| E | DORMITORY BUILDING |
| PHILIPPINE GENERAL HOSPITAL COMPOUND | |
| 1 | PGH BRANCH PLAZA |
| 2 | BAHAY ANTAYAN BUILDING |
| 3 | PMAM |
| 4 | PGH MAIN PHARMACY |
| 5 | PRIMARIO/PRODUCTIVE HEALTH CARE CENTER |
| 6 | TEDDY REY HEALING CENTER |
| 7 | OFFICE OF ENGINEERING & TECHNICAL SERVICES |
| 8 | DEPARTMENT OF PEDIATRICS |
| 9 | MORIGLE |
| 10 | DEPARTMENT OF EMERGENCY MEDICAL SERVICES |
| 11 | PGH EMERGENCY ENTRANCE |
| 12 | QUSAMING HALL, DORMITORY |
| 13 | POWER HOUSE |
| 14 | CUSTOMER OFFICE / SUPPLY BUILDING |
| 15 | SEINE CENTER |
| 16 | DEPT. OF OBSTETRICS & GYNECOLOGY |
| 17 | TANAWA WARD |
| 18 | DIETARY BUILDING |
| 19 | DEPARTMENT OF PSYCHIATRY |
| 20 | REHAB. MEDICINE |
| 21 | CENTRO DE FARMACOLOGICO JOSE RIZAL |
| 22 | CANCER INSTITUTE |
| 23 | AMBULATORY CHEMO UNIT |
| 24 | OLD O.R. BUILDING |
| 25 | DEPARTMENT OF MEDICINE |
| 26 | ADMINISTRATION BUILDING |
| 27 | BIOS & ANIMALS COMMITTEE OFFICE |
| 28 | CHAPEL |
| 29 | OUT PATIENT DEPARTMENT |
| 30 | NURSE'S HOME |
| 31 | UTILITY BUILDING |



UNIVERSITY OF THE PHILIPPINES MANILA & PHILIPPINES GENERAL HOSPITAL BUILDINGS AND OFFICES

Figure 96 University of the Philippines and General Hospital Building Mapping

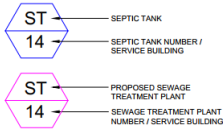
| LEGEND: | |
|---|---|
| ▲ | WATER SUPPLY TAPPING POINT LOCATION |
| ▶ | WATER SUPPLY DISTRIBUTION TO BUILDING |
| PEDRO OIL AREA (FRONTING UPM BUILDING) | |
| 2 | SALCEDO HALL, COLLEGE OF MEDICINE |
| 3 | PATHOLOGY RESEARCH LIBRARY |
| 4 | CALDERON HALL, COLLEGE OF MEDICINE |
| 5 | ALVOR HALL |
| 6 | LARA HALL, COLLEGE OF PUBLIC HEALTH |
| 7 | ANNEX 1, COLLEGE OF PUBLIC HEALTH |
| 8 | PAZ MENDOZA HALL, COLLEGE OF MEDICINE |
| 9 | PAZ MENDOZA HALL, COLLEGE OF MEDICINE |
| 10 | PAZ MENDOZA HALL, COLLEGE OF MEDICINE |
| 11 | NATIONAL INSTITUTE OF HEALTH |
| 12 | SOTEJO HALL, COLLEGE OF NURSING |
| 13 | SOTEJO HALL, COLLEGE OF NURSING |
| 14 | COLLEGE OF DENTISTRY |
| 15 | COLLEGE OF DENTISTRY |
| PADRE FAURA AREA (FRONTING UPM BUILDING) | |
| 21 | UPM ANNEX BUILDING |
| 22 | UPM ANNEX BUILDING |
| 23 | ITC BUILDING |
| 24 | RELATION PLAZA |
| 25 | RIZAL HALL, COLLEGE OF ARTS AND SCIENCES |
| 26 | STUDENT CENTER |
| 27 | GUSALING ANDRES BONIFACIO |
| 28 | CAMPUS PLANNING, DEVELOPMENT AND MAINTENANCE OFFICE |
| 29 | UPM MUSEUM OF HISTORY AND IDEAS |
| 30 | UPM MUSEUM OF HISTORY AND IDEAS |



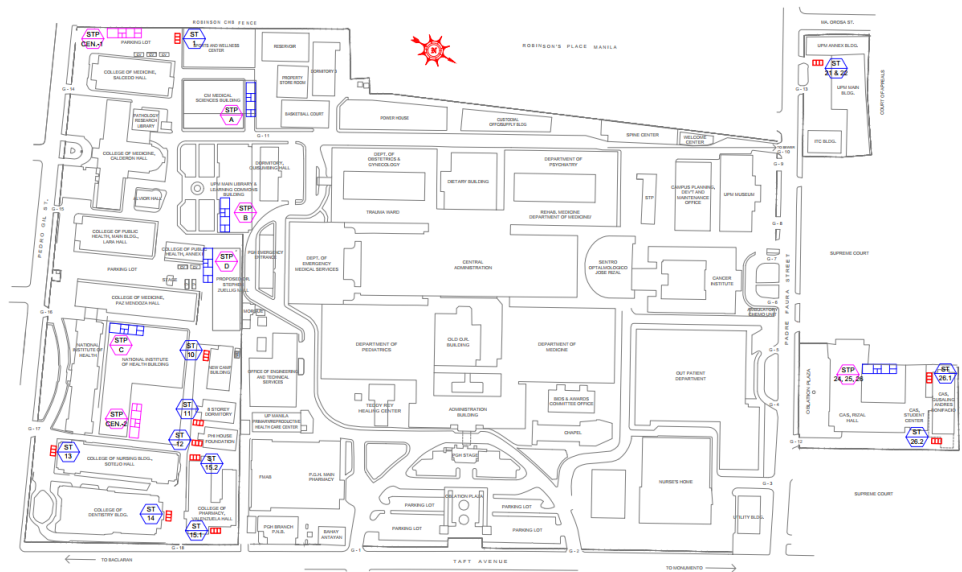
UNIVERSITY OF THE PHILIPPINES MANILA WATER SUPPLY TAPPING POINT LOCATION & WATER SUPPLY DISTRIBUTION LINE TO BUILDING

Figure 97 Existing UPM Water Supply Tapping Point Location & Water Supply Distribution Line to Building

LEGEND



| MARK | DATA DESIGNATION | SERVICE BUILDING |
|--|-------------------------------------|---|
| EXISTING SEPTIC TANK OF U.P.M. COMPOUND | | |
| ST / 1 | SEPTIC TANK - 1 | SPORT SCIENCE AND WELLNESS CENTER |
| ST / 10 | SEPTIC TANK - 10 | NEW CAMP BUILDING |
| ST / 11 | SEPTIC TANK - 11 | 6-STORY DORMITORY |
| ST / 12 | SEPTIC TANK - 12 | PHI HOUSE FOUNDATION |
| ST / 13 | SEPTIC TANK - 13 | SOLEAD HALL, COLLEGE OF NURSING |
| ST / 14 | SEPTIC TANK - 14 | COLLEGE OF DENTISTRY |
| ST / 15.1 | SEPTIC TANK - 15.1 | COLLEGE OF PHARMACY |
| ST / 15.2 | SEPTIC TANK - 15.2 | COLLEGE OF PHARMACY |
| ST / 1 | SEPTIC TANK - 21 & 22 | UPM ANNEX BUILDING & UPM MAIN BUILDING |
| ST / 26.1 | SEPTIC TANK - 26.1 | SUBALING ANDRES BONIFACIO |
| ST / 26.2 | SEPTIC TANK - 26.2 | SUBALING ANDRES BONIFACIO |
| PROPOSED SEWAGE TREATMENT PLAN (STP) | | |
| STP / CEN-1 | SEWAGE TREATMENT PLANT - CENTRALIZE | CENTRALIZE STP FOR UPM |
| STP / CEN-2 | SEWAGE TREATMENT PLANT - CENTRALIZE | CENTRALIZE STP FOR UPM |
| STP / A | SEWAGE TREATMENT PLANT - A | MEDICAL SCIENCES BUILDING |
| STP / B | SEWAGE TREATMENT PLANT - B | UPM MAIN LIBRARY & LEARNING COMMONS |
| STP / C | SEWAGE TREATMENT PLANT - C | NATIONAL INSTITUTE OF HEALTH (NIH) NEW BUILDING |
| STP / D | SEWAGE TREATMENT PLANT - D | PROPOSED DR. STEPHEN JUELLES HALL |
| STP / 24, 25, 26 | SEWAGE TREATMENT PLANT - 24, 25, 26 | COLLEGE OF ARTS & SCIENCES (CA&S) RIZAL HALL & STUDENT CENTER SUBALING ANDRES BONIFACIO |



UNIVERSITY OF THE PHILIPPINES MANILA
EXISTING SEPTIC TANK & PROPOSED SEWAGE TREATMENT PLANT (STP)

Figure 98 Existing Septic Tanks and Proposed Sewage Treatment Plant location

TREATED SEWAGE EFFLUENT

The Treated Sewage Effluent (TSE) from the STP will discharge to the existing sewer lines of Maynilad. STP - 1 and 2 will connect to the Pedro Gil sewer line while STP - 3 and 4 will use the sewer line to Padre Faura.

The other option is to utilize the treated sewage effluent for irrigation since there is a plan to provide landscape to all historically significant buildings. A centralized irrigation tank, booster pumps, and irrigation piping can be provided for this purpose. If properly utilized, TSE will reduce the monthly water bill of the Hospital and will also enhance its "Green" credentials.

| LEGEND & SYMBOLS | |
|------------------|-------------------------------------|
| SYMBOL | DESCRIPTION |
| | SANITARY SEWER MANHOLE |
| | SANITARY SEWER FLOW DIRECTION |
| | EXISTING SEWER LINES WITH DIRECTION |
| | TREATED SEWAGE EFFLUENT |

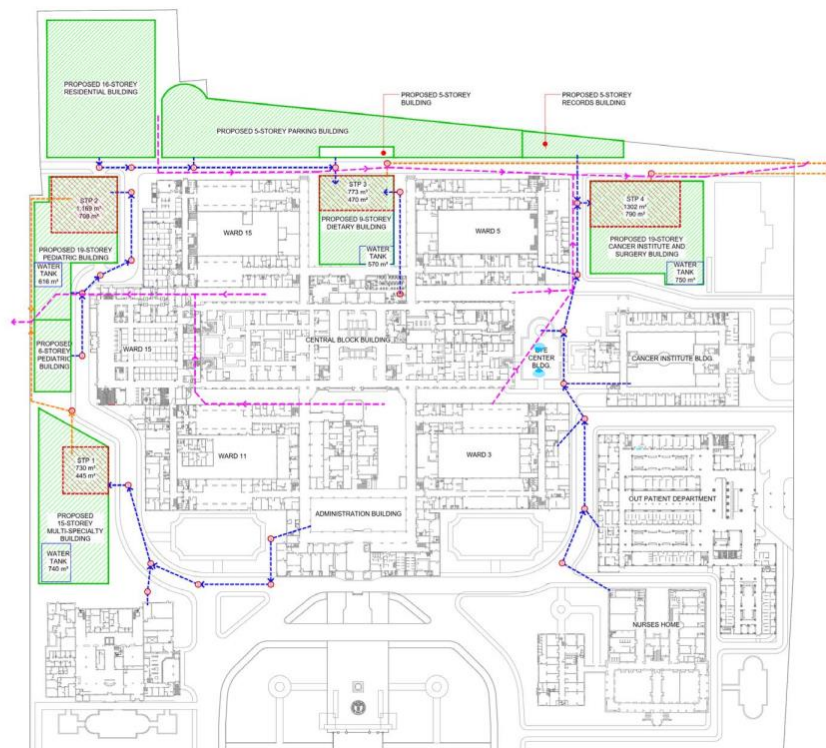


Figure 99 Treated Sewage Flow Diagram

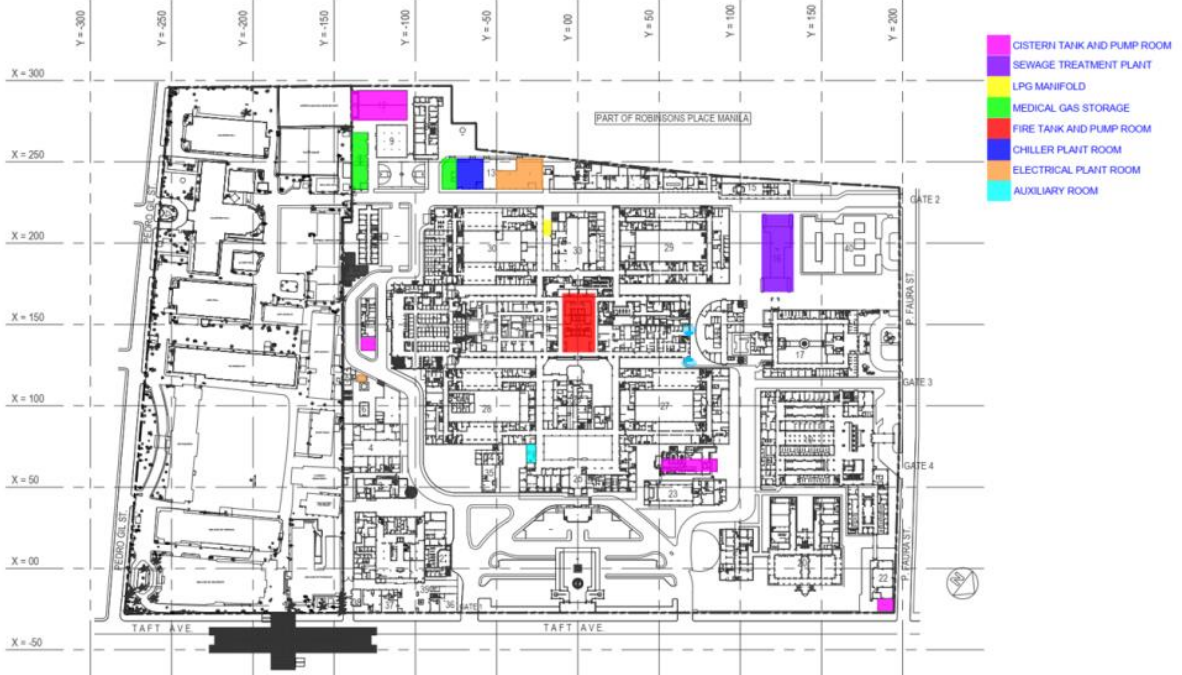


Figure 100 Engineering Utilities Location

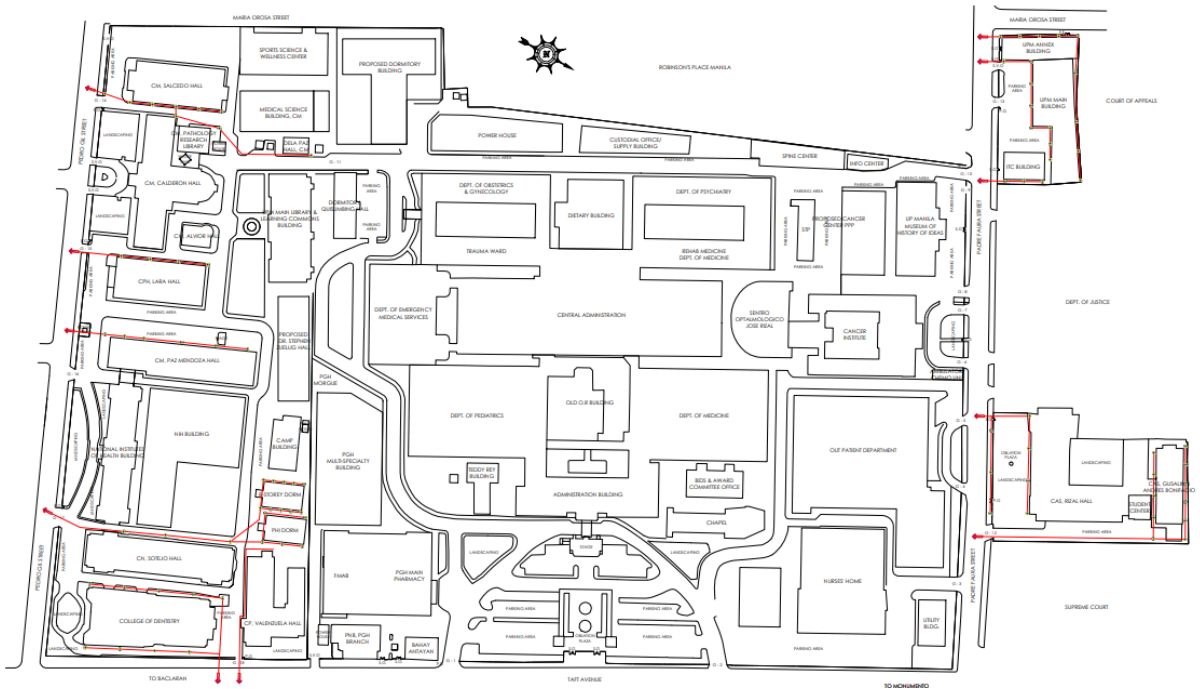


Figure 101 Existing Drainage Plan of UP Manila



Figure 102 Existing Rainwater Collector Tank located at Rizal Hall, College of Arts and Sciences

The Department of Energy has requested a spot check audit of the UP Manila on November 9, 2022, through the identification of electricity consumption per building. The university has participated in the fulfillment of the GEMP Online system by encoding the consumption and the inventory of the equipment. This is an on-going data entry that will be used to analyze consumption and target a 10% reduction of energy by 2027.

PART 3: LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN

3.1. VISION, MISSION, GOALS, AND OBJECTIVES

The University of the Philippines Manila has a unified vision, missions, and core values that serve as the reference for the colleges and units. These are identified in the following sections below.

UP Manila Vision and Mission⁴⁸

Vision

The national leader in the health sciences

Missions

- To provide health science-focused transformative education, enabling and encouraging students to take creative and constructive action that contributes to the improvement of their community, the nation, and the world, based on a strong sense of their cultural and historical identity, as well as a shared humanity.
- To serve as a research hub in various fields of specialization in the health sciences by conducting integrative and collaborative basic, applied, and clinical research and development, contributing to the dissemination and application of knowledge and shaping national health policies.
- To lead as a public service university by providing various forms of community, public, and volunteer health services, as well as medical, scholarly and technical assistance to the government, private sector, and civil society while maintaining its standard of excellence.

Core Values

Honor, Excellence, Integrity, Social Responsibility, Leadership, Innovation, Global Competitiveness, Nationalism

⁴⁸ 'Vision-Mission', *University of the Philippines Manila, The Health Sciences Center*, <https://www.upm.edu.ph/node/36>, (accessed 2021)

SHS Vision and Mission⁴⁹

Vision

SHS as relevant center of excellence for innovative health human resource development for the attainment of health for marginalized Filipino in context of nationalism and globalization in the 21st century

Missions

- Develop relevant and excellent health practitioners committed to serve the marginalized sectors of the country
- Develop innovative undergraduate, graduate and short courses attuned to the health needs of the country;
- Develop outstanding faculty committed to the attainment of institutional goals/mandate;
- Strengthen the unit's research capability and undertake researches crucial to the enhancement of innovative health sciences education and the country's total health development, and;
- Collaborate with other health science institutions in developing, implementing and evaluating health sciences education curricula

Core Values

Heroism, Service Excellence, Social Accountability

Goals

- Curriculum Development
- Operation Efficiency/ Resource Generation
- Community service/collaboration/networking
- Improved education/research
- Enhanced ICT
- Faculty/Staff Development

The main thrust is to be the premier Health Science Institution which the University of the Philippines Manila is mandated to be. These are then translated to development goals and objectives that are discussed further in the succeeding chapters.

⁴⁹ 'Vision and Mission', *UP Manila School of Health Sciences*, <https://shs.upm.edu.ph/mission-vission>, (accessed 2021)

Colleges and Units' Vision and Mission

College of Medicine⁵⁰

Vision

A community of scholars; highly competent in the field of medicine with a heightened social consciousness; imbued with moral, ethical and spiritual vigor; dedicated to a life of learning; committed to the development of Philippine society; inspired by love, compassion and respect for the dignity of human life; and anchored on the principles of Truth, Freedom, Justice, Love of country and the Democratic way of life.

Mission

Guided by moral, ethical and spiritual values; we commit ourselves to excellence and leadership in community-oriented medical education, research and service; using the Primary Health Care Approach; intended especially for the underserved.

College of Arts and Sciences⁵¹

Vision

The transformational leader in health-oriented education, research, and public service in the humanities and the sciences.

Mission

To engage in participative production, sharing and use of knowledge that will enhance human capability and agency in teaching, research, community partnership, and advocacy towards health and well-being, freedom, and social justice; To produce competent, compassionate, and ethical leaders, professionals, and innovators in the humanities and sciences.

College of Allied Medical Professions⁵²

Vision

UPM-CAMP aspires to provide universally recognized applied health science education that produces well-rounded professionals with strong professional and personal ethics who are progressive thinkers attuned to lifelong learning, oriented to service and leadership, and responsive to the evolving needs of the community and society; has a

⁵⁰ 'Vision-Mission', *College of Medicine, University of the Philippines Manila*, <https://cm.upm.edu.ph/>, (accessed January 2022)

⁵¹ 'College Overview', *College of Arts and Sciences, University of the Philippines Manila*, <https://cas.upm.edu.ph/about-cas/> [Accessed January 2022]

⁵² 'Mission, Core Values and Vision of CAMP', *University of the Philippines Manila, College of Allied Medical Professions*, <https://www.upm.edu.ph/node/1736> [Accessed January 2022]

strong research base and well-established local and international collaborations; and is recognized for relevant expertise in professional practice, policy development, and public information.

Mission

The College of Allied Medical Professions is an educational unit of the University of the Philippines Manila, a constituent of the University of the Philippines System. Within the realm of the applied health sciences, attuned to the dynamism of development in these disciplines, and in consonance with the distinctive leadership in higher education and national development that belongs to the University of the Philippines as the National University, it is the mission of CAMP to lead in setting academic standards and innovations in teaching, research and faculty development; provide graduate and undergraduate programs that are responsive to national needs and that impact on professional practice and education; engage in research and develop research linkages, with a particular emphasis on research relevant to national policy formulation; participate in community engagement and community development; and provide opportunities for training and learning in service-oriented leadership, responsible citizenship, and the development of democratic values, institutions and practice.

College of Nursing⁵³

Mission - Vision

The University of the Philippines College of Nursing is the premier nursing school that acts as a change agent serving the health needs of the Filipino people, and provides leadership and excellence in nursing development in the global community.

College of Pharmacy⁵⁴

Mission - Vision

The College of Pharmacy: serving through transformative education and translational research. Excellence in pharmacy, from science to practice.

College of Dentistry⁵⁵

Vision

⁵³ 'Our Mission, Values, and Strategic Thrusts', *University of the Philippines Manila, College of Nursing*, <http://upcn.upm.edu.ph/about-us/mission-values-and-strategic-thrusts/>, (accessed January 2022)

⁵⁴ 'Mission-Vision', *College of Pharmacy, University of the Philippines Manila*, <https://cp.upm.edu.ph/>, (accessed January 2022)

⁵⁵ 'Mission and Vision', *The University of the Philippines Manila, College of Dentistry*, <https://upcd.wordpress.com/about/>, (accessed January 2022)

The University of the Philippines Manila College of Dentistry envisions itself to be the country's premier academic institution providing quality dental education, training, research and service characterized by global competence, social sensitivity and responsible leadership in the continuous pursuit of excellence for the service of God and the nation.

Mission

The University of the Philippines Manila College of Dentistry provides undergraduate and graduate degree programs that produce: biologically-oriented, technically-competent and socially-sensitive practitioners responsive to the needs of the nation and the global community; leaders, trainers and researchers grounded in sound principles and critical advances in oral health and education, training, research and service; individuals imbued with professionalism, integrity, excellence, nationalism and respect for diversity of cultures; cultivates a team of educators, learners and auxiliary staff committed to excellence, leadership and service; offers continuing education programs for the development of the profession; conducts relevant ethical researches for the advancement of oral health and education.

College of Public Health⁵⁶

Vision

CPH is the Center of Excellence and Leadership in public health strategically responsive to national and global development.

Mission

The College of Public health will trailblaze in public health education, translational research and community health development through the health systems approach.

⁵⁶ 'College Mission/Vision & Core Values', *College of Public Health, University of the Philippines Manila*, <https://cph.upm.edu.ph/node/906> [Accessed January 2022]

3.2. CAMPUS DEVELOPMENT AND INFRASTRUCTURE PLAN AND DEVELOPMENT CONSTRAINTS

3.2.1. CAMPUS PLANNING FRAMEWORK, PRINCIPLES, AND PROCESSES

Framework

The masterplan is anchored on the vision and mission of the UP Manila Campus. The figure below identifies the vision of UP Manila as the Premier Health Sciences Institution with a goal to become a world class learning environment in the health sciences. The outcome indicators equate to the planning principles that can provide measurable actions to achieve the goal. The outcomes and strategies were prioritized and expounded using an online survey for UP Manila Faculty, Staff, and Students.

The online survey was conducted in August 2019 to obtain their views and priorities in terms of campus development. The survey respondents represent 2% of the student population and 7% of the faculty and staff population of the campus. One of the questions was related to the significance of the proposed plan outcomes wherein the respondents ranked the outcomes in terms of importance. The survey results on the prioritization of the outcomes guided the design strategies for the masterplan.

The Vision

Vision: Premier Health Sciences Institution (UP MP presentation, 10-22)

Goal: World-class Learning Environment (UP MP presentation, 10-22)

Outcomes: (in order of prioritization)

1. Accessible and Safe
2. Reliable and Sustainable Services and Basic Utilities
3. Meaningful Community Connection
4. Attractive Campus
5. Preserved Culture and Heritage
6. Support to External Linkages

Outcome Indicators

Outcome 1: Accessible and Safe

- Walkable connections between structures
- High level of security and safety
- PWD friendly
- Ease of mobility within and outside complex
- Emergency design for fire and natural disasters
- Ease of wayfinding

Outcome 2: Reliable and Sustainable Services and Basic Utilities

- Operational efficiency
 - Energy
 - Water
 - Waste
 - Communications/ Internet
- Availability of neighborhood commercial services

Outcome 3: Meaningful Community Connection

- Compliance of health science labs to special sustainability standards (ISO)
- Presence of informal social/ gathering spaces
- Facilities for sports and recreation
- Venues for entertainment/ large events
- Space for study/small group work

Outcome 4: Attractive Campus

- Legibility of Oblation plaza and campus axis
- Well-landscaped open spaces with distinct characteristics
- Well maintained facilities and buildings
- Conducive classrooms, laboratories, studios and faculty centers

Outcome 5: Preserved Culture & Heritage

- Presence of a Conservation Management Program
- Preservation of character of heritage buildings

Outcome 6: Support to External Linkages

- Conducive for heritage tours
- Facilities for trainings, workshops, and events
- Provision for income generating commercial development

To achieve the above outcomes, the following plans were prepared by the study team which are elaborated in the succeeding sections:

- Campus Open Space and Mobility Plan
- Facilities Improvement Plan
- Heritage Conservation Plan

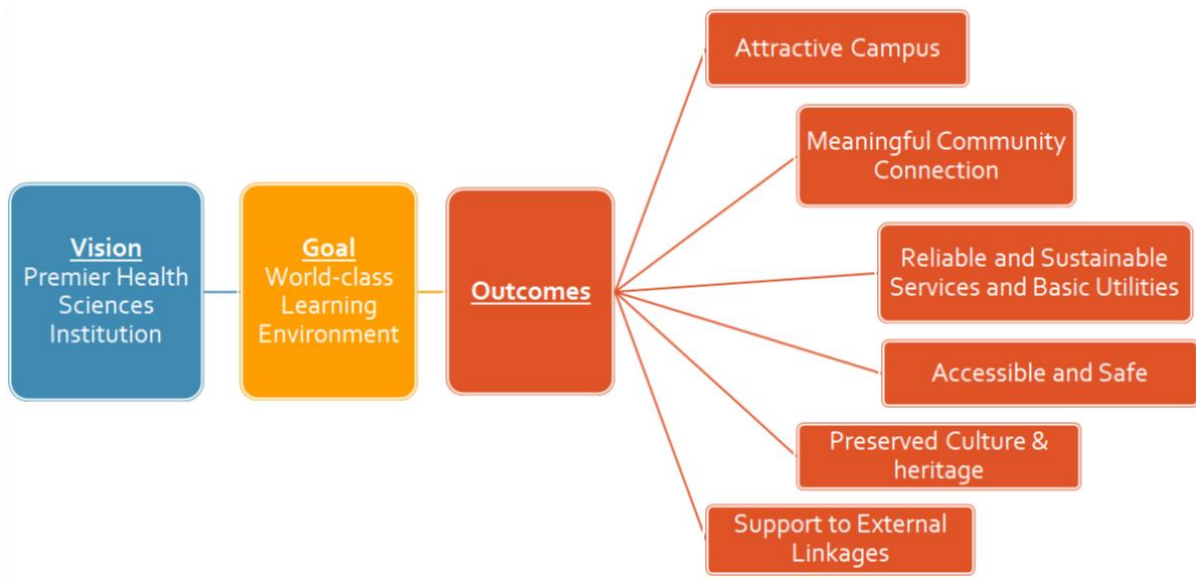


Figure 103 Framework for the UP Manila Campus Master Plan (2020)

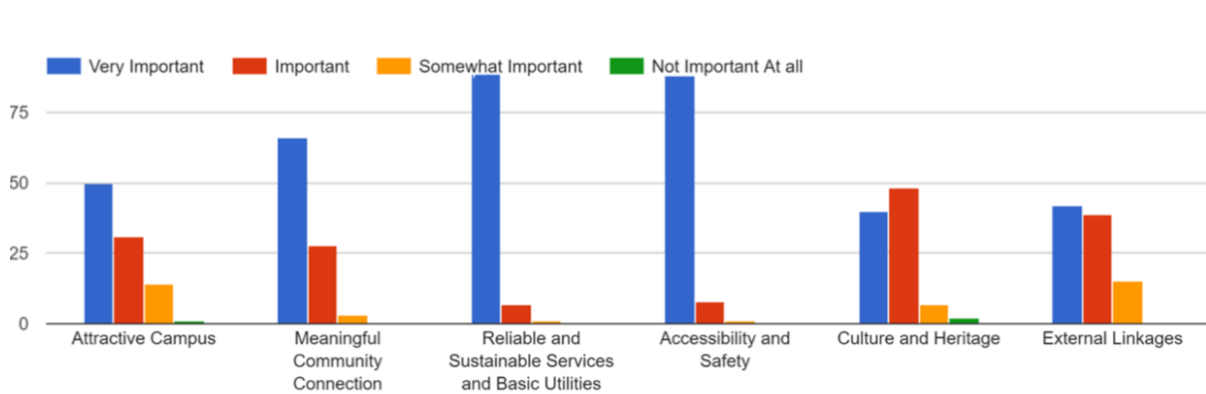


Figure 104 Students' view of the significance of proposed plan outcomes (Source: Campus Online Survey, August 2019)

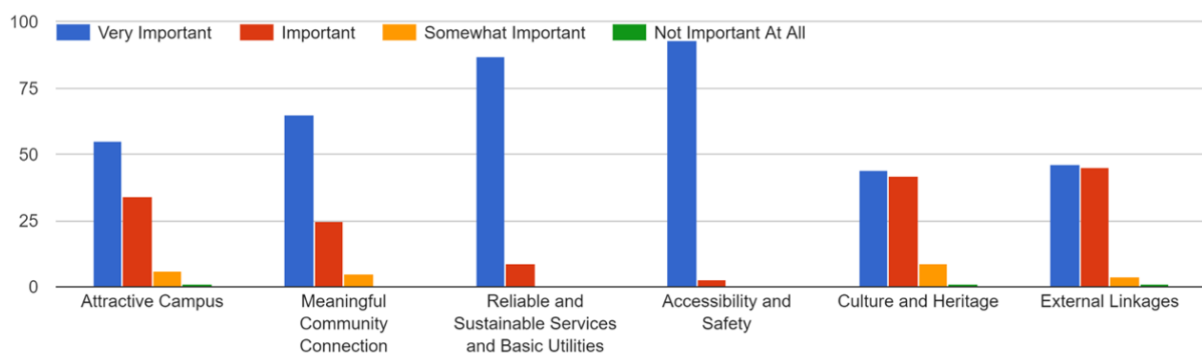


Figure 105. Faculty and staff's view of the significance of proposed plan outcomes

Planning Principles

The planning principles of the University of the Philippines Master Development Plan as directed by the University of the Philippines System and approved by the Board of Regents have also been used to guide the campus master plan. The following principles are highlighted that are particularly applicable for the UP Manila Campus:

1. University System Component Core Integrity

- **One University Concept**

Set a common architectural character for sites and buildings while factoring in exceptional contexts of each constituent unit. Formulate standards, harmonized systems, and shared services across constituent units with decentralized execution.

- **Pride of Place**

There must be a high esteem for the University, which will lead to the conscientious usage and care for campus spaces. As the national state university, UP must be accorded with the respect it deserves, especially by the community it nurtures. The concept of pride of place aims to emphasize these facts, as well as encourage the community to build up on each other and to care for communal spaces. Distinctive ornamentation should be embodied by campus buildings and spaces to instill a love for the campus and to enhance memories associated with campus life.

- **Cultural Heritage Preservation**

Preserve the University's tangible culture such as buildings and works of art, and natural heritage such as landscapes and biodiversity.

2. Spatial & Virtual Connectivity And Mobility

- **Barrier-Free Design**

Uphold the University's tradition of academic freedom through openness and collaboration by employing barrier-free designs in the physical environment with minimal enclosures within the campuses. All academic and academic support clusters should be open and linked to each other. Locate fences, which should be see-through, only at campus boundaries.

- **Pedestrian and Bicycle Friendly Community**

Encourage walking and biking as a pleasurable means of transportation by providing the safety devices and infrastructure for these environmentally friendly activities, such as bicycle paths and bicycle parking, and pedestrian walkways, footpaths and sidewalks. This is consistent with the promotion of low carbon campuses through the adoption of environmentally sustainable and non-motorized transportation systems.

- **E-Up: Use of Innovative Technologies**

Apply globally competitive, new and appropriate technologies in the modernization of academic programs, administrative operations, and in the development of transport, communications, utilities, and support systems.

3. Urban Resiliency And Sustainability

- **Green Up: Environmentally Sustainable and Risk-Sensitive Design**

Promote environmentally sustainable and green architecture design, aimed at reducing the negative impacts of the construction of buildings on the natural environment and at promoting the comfort, safety and well-being of its users.

- **Operational Efficiency**

Formulate policies and programs that mandate or provide incentives to constituent units that implement energy efficiency programs in their utility operations, thereby reducing total energy expenditures and improving energy efficiency awareness system-wide. Incorporate innovative energy efficient technologies in the overall building and utilities design and planning to achieve improvements in utility generation, transmission, and distribution.

4. Resource Generation Viability

- **Campus Entrepreneurship**

Explore the entrepreneurial opportunities and activities that exist in the constituent units. This includes establishment of academic-related companies on campus, educational offerings in the entrepreneurial space, University structures and institutions that support entrepreneurship, and markets created on or inspired by universities and campus constituents who also are entrepreneurs.

5. University-City Synergy

- **Contextualism And Urban Integration**

Consider the unique setting of each site, and ensure that designs respond successfully to its surroundings. Create plans – site, architectural, engineering and landscape– which respect the topography and environment, and which blend well with the natural physical and existing built-up features of the site. Enhance the existing links of the university site to its neighboring properties, and provide a continuous linkage inside.

Both UP Manila’s envisioned outcome and the principles of planning from the UP System are integrated and considered in the preparation of the steps to achieve the institution’s goals.

Planning Projections

The University of the Philippines Manila student population is expected to increase in the next 25 years with an average percentage growth rate of 2.11%. This is based on the data from 2018-2021. The SHS student population of SHS Palo, SHS Koronadal, and SHS Baler are also anticipated to increase by 4.49%, 7.83%, 18.92%, respectively. The values are based on the 2016-2019 data for SHS Baler, 2017-2021 in SHS Koronadal, and 2019-2021 in SHS Palo. Since SHS Tarlac only started this 2021, projection for this campus is not available.

The ratio of the existing Administrative Personnel, Faculty, and REPS population to the student population expects an increase of an average of 0.29%.

To check the total space requirements of the existing buildings is adequate, the occupant load as described in the National Building Code is used as the multiplier to the total population. The total floor area considers the type of space occupancy of the existing buildings and the total number of users. The following table shows the computation of occupant load in buildings based on the National Building Code of the Philippines.

Aside from the code computation, we also checked the total floor area of the existing buildings in comparison to the existing population. The total floor area of the existing buildings is 61,876.89 square meters. This total is compared to the percentage distribution of existing buildings. Since the heritage buildings are liberal and expansive in circulation spaces, we assigned the following percentages: 25% dedicated to the circulation, 40% to student spaces, and 30% for administrative and support spaces, and 5% for utilities.

The result for both computations is consistent with the required spaces for laboratories, classrooms, and offices, based on the number of students, administrative personnel, and faculty.

| Space Classification | Occupants / Population | Percentage Occupancy | | Occupant Load | |
|----------------------|------------------------|--------------------------------|-------------------|---------------|---------------|
| | | Estimated Percentage Occupancy | Floor Area (sq.m) | Existing | Minimum (NBC) |
| Student Facilities | 5,346.00 | 40.00% | 24,750.76 | 4.63 | 4.60 |
| Office Facilities | 1,855.00 | 30.00% | 18,563.07 | 10.01 | 9.30 |
| Circulation Spaces | | 25.00% | 15,469.22 | | |
| Utilities | | 5.00% | 3,093.84 | | |

Table 23 Existing Percentage Occupancy and Occupant Load

Using the minimum requirements from the NBC, the total floor area requirements are computed for the 10 years and 25 years projections. Given that there will be proposed buildings for academic and research use such as the New National Institutes of Health Building, the Medical Sciences Building, the Main Library and Learning Commons, and the Zuellig Building in the College of Public Health, with an additional space of 34,112.11 sqm, this

is enough to support the future expansion with a required minimum total of 51,573.90 sqm. for 10 years and 70,587.40 sqm. for 25 years.

| 10 YEARS PROJECTION | | | | | |
|---------------------------------|-------------------------------|---------------------------------------|-------------------------------------|--|---|
| Space Classification | Occupants / Population | Estimated Percentage Occupancy | Minimum (NBC) Occupant Load* | Minimum Required Floor Area (sq.m)* | Total Floor Area (Existing and Proposed) |
| Student Facilities | 6,588.00 | 40.00% | 4.60 | 30,304.80 | |
| Office Facilities | 2,287.00 | 30.00% | 9.30 | 21,269.10 | |
| Circulation Spaces | | 25.00% | | | |
| Utilities | | 5.00% | | | |
| <i>Total Space Requirement</i> | | 100.00% | | 51,573.90 | 95,989.00 |
| *Includes 20% circulation space | | | | | |
| 25 YEARS PROJECTION | | | | | |
| Space Classification | Occupants / Population | Estimated Percentage Occupancy | Minimum (NBC) Occupant Load* | Minimum Required Floor Area (sq.m) | Total Floor Area (Existing and Proposed) |
| Student Facilities | 9,013.00 | 40.00% | 4.60 | 41,459.80 | |
| Office Facilities | 3,132.00 | 30.00% | 9.30 | 29,127.60 | |
| Circulation Spaces | | 25.00% | | | |
| Utilities | | 5.00% | | | |
| <i>Total Space Requirement</i> | | 100.00% | | 70,587.40 | 95,989.00 |
| *Includes 20% circulation space | | | | | |

Table 24 Planning Projections for 10 and 25 years, UP Manila

On the other hand, the Faculty and Staff Housing will be based on the percentage of room requirements to the projected population of students, faculty and staff, and REPS. Since UP Manila does not have existing data given that the dormitory building was only opened last March 2020 with the pandemic immediately following and face to face classes were suspended. Requirements shall be based on the allowable FAR and PLO at 35% for students and 20% designated to the employees are based on the maximum area allowable for the dormitories with reference to UP Diliman's housing accommodation range.

The estimated total area is 51,395.13 square meters for the proposed UP Manila dormitory which can accommodate 35% of the student and 20% of the employee population using the minimum occupant load of the National Building Code pertaining to housing.

| HOUSING REQUIREMENTS | | | | |
|-----------------------------------|-----------------------------|----------------------------|-------------------|-----------------------------------|
| Estimated Percentage of Occupants | Minimum Occupant Load (NBC) | Required Floor Area (sq.m) | Total Housing GFA | |
| 2,305.80 | 18.6 | 42,887.88 | 51,395.52 | at 35% students and 20% employees |
| 457.40 | 18.6 | 8,507.64 | | |
| | | | | |
| TLA | 3,381.23 | | | |
| GFA of New Dormitory | 51,395.52 | | | |
| FAR | 15.20 | | | |

Table 25 Housing Requirements and Population Percentage

3.2.2. NARRATIVE OF THE POTENTIAL DIRECT/INDIRECT IMPACTS OF PROPOSED NATIONAL/ REGIONAL/ PROVINCIAL PLANS AND TARGETS

Existing Zoning

District 5 of the City of Manila currently contains a mix of commercial, institutional, residential and public open spaces. It accommodates the largest share of the city's institutional and public open space. From the Comprehensive Land Use Plan of the City of Manila for 2005-2020, the area occupied by UP Manila Campus is classified as the University Cluster Zone (INS-U). The Land Use Intensity Control Ratings used are indicated in the zoning certificate namely 0.60 for the Percentage of Land Occupancy (PLO) and 4 for the Floor Area Ratio (FAR). Blocks surrounding the campus are classified as High Intensity Commercial/Mixed-Use Zone or C3 (eastern and western blocks), University Cluster Zone (southern block), and General Institutional Zone (northern block).

The CLUP of Manila sets the maximum percentage of land occupancy (PLO) and floor-area ratio (FAR) for the whole city. One of the densification strategies of the city is Transit Oriented Development, wherein zones near existing commuter rail stations are allowed to have higher FAR. In the case of UP Manila, the C3/MXD zones surrounding it are allowed three (3) FAR higher than the maximum.

UP Manila Zoning Certification



CITY PLANNING & DEVELOPMENT OFFICE

Rooms 349, 563 & 564, Manila City Hall, Ermita, Manila, Philippines
Landline: (+63 2)5310-6529
E-Mail: cpdo@manila.gov.ph, cpdomla@yahoo.com, cpdomla@gmail.com
Facebook: <https://www.facebook.com/ManilaCPDO>



ZONING CERTIFICATION

This is to certify that the site with TCT Nos. 1527, 1528, 1596, 1599, 1602, 1603, 1627 and 1639 situated along **Taft Ave. cor. Padre Faura St., Ermita, Manila**, which is subject of application for Zoning Certification as based on the vicinity map submitted by the applicant and duly certified zoning map, is zoned and classified as **UNIVERSITY CLUSTER ZONE (INS-U)** as per Ordinance No. 8119 entitled, Manila Comprehensive Land Use Plan and Zoning Ordinance of 2006 which was enacted by City Council on 16 March 2006 and approved on 16 June 2006.

The following is the Land Use Intensity Control ratings that shall be observed in the **INS-U Zone**:

| | | |
|---|---|------------|
| <i>Percentage of Land Occupancy (PLO)</i> | - | <i>0.6</i> |
| <i>Floor Area Ratio (FAR)</i> | - | <i>4</i> |

All uses allowed in High-Density Residential/Mixed-Use Zone (**R-3/MXD**) and General Institutional Zone (**INS-G**) are likewise permitted in the **INS-U zone**.

This ZONING CERTIFICATION shall NOT be considered as ZONING PERMIT/LOCATIONAL CLEARANCE or CERTIFICATE OF ZONING CONFORMANCE.

This certification is being issued upon the request of **Arch. Rosalie G. Flores-Bernardo**, Chief, University of the Philippines Manila – Campus Planning, Development and Maintenance Office (CPDMO), for whatever legal purpose it may serve.

Given this 4th day of May, 2022.


Arch. **DANILO VICTOR H. LACUNA, JR., EnP**
City Planning and Development Coordinator III

Figure 106 UP Manila Zoning Certification

Issues and Challenges

Manila is one of the most densely populated cities in the world. Some of its main issues and challenges are the lack of well-distributed open spaces, congested streets due to high volume of vehicle traffic, inadequate pedestrian infrastructure integrated with the public transport network, risk associated from flooding, earthquake, fire, and sewage and garbage pollution of waterways and Manila Bay. These are issues that are being addressed by the Manila Comprehensive Land Use Plan (CLUP).

Promotion of University District and Mixed-Use Community - UP Manila

In the CLUP, the location of UP Manila is identified as part of the University District which is considered as the cluster that would generate a lot of information exchange in the field of research and development. This characteristic is important and nurtured by the city as its data bank in sciences and other fields. The city of Manila's plan proposes the establishment of a wider educational zone which is named the University District Overlay Zone.

These University Districts are proposed to become Transport Oriented Development, which are described as a mixed-use community within an average of 300 to 400-meter walking distance of a transit stop and core commercial area. This is a mix of residential, retail, office, open space, and public uses in a walkable environment, making it convenient for residents and employees to travel by transit, bicycle, foot or car.

UP Manila benefits and aims to support this district development goal by increasing residential use within the campus and improving pedestrian connections to public transport networks. It also aims to address the potential impact of increasing density by reclaiming and developing open spaces for recreation and evacuation, encouraging a pedestrian-friendly environment, implementing rationalized and efficient parking, and minimizing hazard risk and reducing pollution by ensuring its old and proposed new buildings are up to standard.

Coordination with the LGU of the UP Manila development plans shall ensure that the proposals are aligned with the city and the university's goals and objectives.

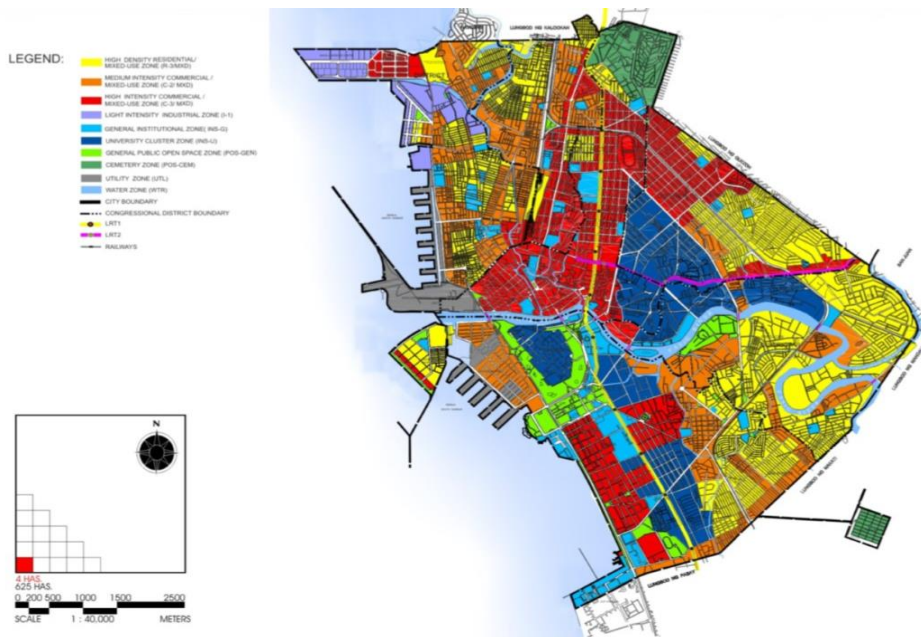


Figure 107 City of Manila Zoning Map (Source: City of Manila CLUP)

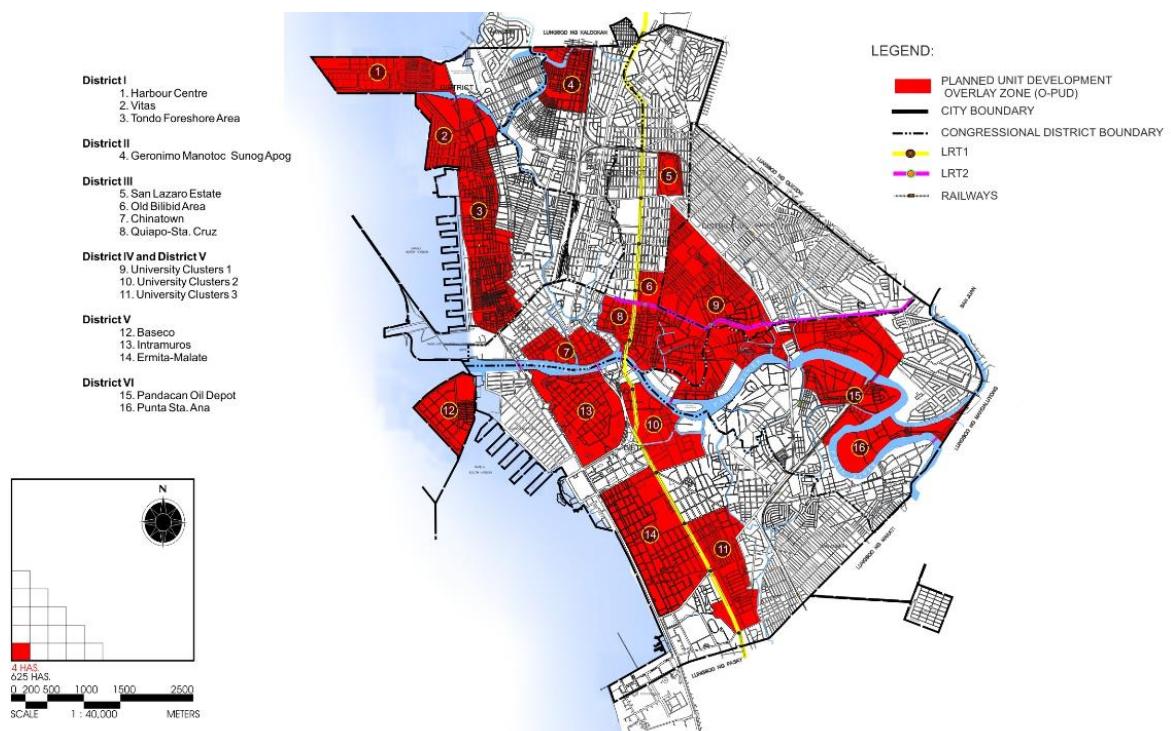


Figure 108 Planned Unit Development Overlay Zone (O-PUD) (Source: City of Manila CLUP)

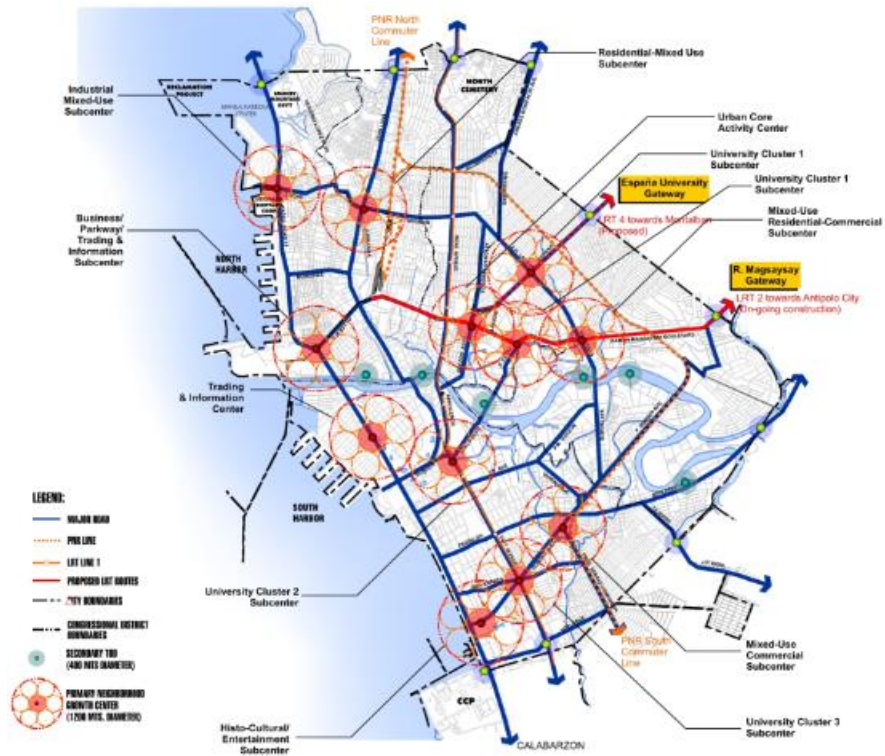


Figure 109 Preferred Scheme for the Multi-Centered/Neighborhood Connected Urban Development (Source: City of Manila CLUP)

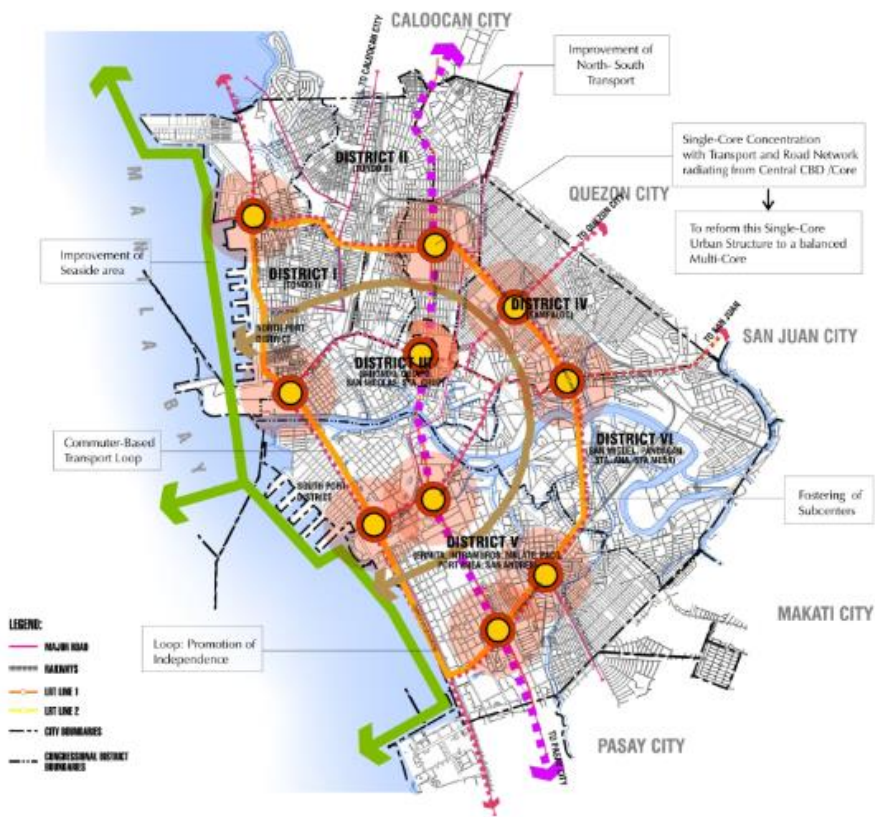


Figure 110 Direction of Transport Network Improvement (Source: City of Manila CLUP)

Proposed Infrastructure and Utilities Projects by the LGUs - UP Manila

To address the issues, there are infrastructure projects from the initiative of the Local Government Units and other agencies such as preservation of heritage buildings, road improvements, and flood control. These projects are consistent with the planning principles of the University and will also address the University's concerns further discussed in detail indicated in the Infrastructure Analysis Matrix Part 3.3.1.

Some of these proposed national and regional projects that will directly affect the university are the (1) Repair/Rehabilitation of Existing Classrooms and Common Areas of the Century Old Rizal Hall, CAS, UP Manila, (2) Rehabilitation of UP-PGH Perimeter Fence and Gates, Padre Faura St., Ermita, Manila, (3) Improvement of Various Roads and Alleys, Zone 71, Manila, and (4) Manila Bay Integrated Flood Control, Coastal Defense and Expressway Project.

The Repair/ Rehabilitation of Existing Classrooms and Common Areas of the Century Old Rizal Hall in the College of Arts and Sciences along Padre Faura is to rehabilitate the heritage building through the upgrading of the mechanical and electrical system. This is an on-going project implemented by the Department of Public Works- South Manila District Engineering Office.

The Rehabilitation of UP PGH Perimeter Fence and Gates along Padre Faura St., has been recently completed. The completed fence has provided the added security, safety and aesthetic features to highlight the Rizal Hall as a heritage building and also the Joaquin Gonzales Compound. This has been implemented by the Department of Public Works- South Manila District Engineering Office.

The Improvement of Various Roads and Alleys and also the Manila Bay Integrated Flood Control, Coastal Defense and Expressway Project affects the site indirectly by improving the conditions of the flooding situation especially around the site. This will also improve the traffic situation encouraging faster access to the hospital and the academic areas.

Proposed Infrastructure and Utilities Projects by the LGUs - SHS Campuses

The other projects by the various local government agencies of the SHS Campuses are the improvement of the roadways and utilities such as the Tarlac-Pangasinan - La Union Expressway (TPLEX) Extension Project, Operation and Maintenance with Improvement and Expansion Arrangement of Iloilo Commercial Port Complex and Port of Dumangas Project, Joint Venture Agreement for the Financing, Development, Rehabilitation, Expansion, Improvement, Operation and Maintenance of the Water Supply and Septage Management Systems of Leyte Metropolitan Water District, and the City of Koronadal Information and Communication Technology Project. The TPLEX Extension Project provides faster travel from UP Manila to the Tarlac Campus that will be introduced by 2022. The two projects in Leyte may affect the SHS Campus indirectly through the improvement of the commercial port complex will improve the transfer of goods and services and also the improvement of the water and sewer systems. In Koronadal, the Information and Communication Technology

Project will improve the connectivity that is beneficial especially during this period of internet dependence.

| Location | Proposed National and Regional Projects | |
|-----------|---|---|
| Baler | | |
| Tarlac | 1 | Tarlac-Pangasinan – La Union Expressway (TPLEX) Extension Project |
| Leyte | 1 | Operation and Maintenance with Improvement and Expansion Arrangement of Iloilo Commercial Port Complex and Port of Dumangas Project |
| | 2 | Joint Venture Agreement for the Financing, Development, Rehabilitation, Expansion, Improvement, Operation and Maintenance of the Water Supply and Septage Management Systems of Leyte Metropolitan Water District |
| Koronadal | 1 | City of Koronadal Information and Communication Technology Project |

Table 26 Proposed National and Regional Projects that would affect the SHS Campuses

3.2.3. POTENTIAL LAND USE CONFLICTS

The historical data supports the block with boundaries Padre Faura, Taft Avenue, Maria Orosa, and T.M. Kalaw was part of the initially designated area for the University of the Philippines’ during its creation in 1908. With the recommendation of the Public of Instruction Secretary W. Morgan Shuster, Gov. General James F. Smith chose the 10 ha. Lot between Calle Isaac Peral and Padre Faura as the site for the University of the Philippines which was to be shared with the already reserved site for the Philippine Medical School and PGH. This was the site of the old Exposition Grounds.

When the University of the Philippines transferred to Diliman, most of the buildings within the block were used by other government institutions such as the Supreme Court, occupied the University Library and Villamor Hall, Department of Justice, occupied the University Hall, and the Court of Appeals, occupied the College of Engineering Building.

Given the issue of limited expansion sites in UP Manila. The university has started to consider the re-acquisition of the buildings used by the Supreme Court since the construction of their new building has started in Taguig. The university has started to document the heritage sites within the area should discussions regarding the site possession commence.



Figure 111 Site of the old Exposition Grounds

3.3. CAMPUS PHYSICAL DEVELOPMENT PLAN STRATEGIES

3.3.1. PROPOSED PHYSICAL DEVELOPMENT THRUSTS AND SPATIAL STRATEGIES AND OPTIONS

Physical Development Thrusts and Spatial Strategies

In preparation for the UP Manila Master Development Plan, the University, together with the Palafox Associates, has prepared conceptual plans anchored from the planning framework and principles discussed at the Part 3.2.1 This has been internally developed and was presented to the UP President for approval last August 20, 2020.

Option 1: Do Nothing

The current situation of management and circulation is the separation of the hospital and academic zone due to the nature of the functions and the building typology. In the “do nothing” strategy, the separation shall still continue to be based on this zoning and that the connection shall be through the existing access at the rear and the front entrance of the hospital zone and the entrance to the academic zone via Pedro Gil and Padre Faura.

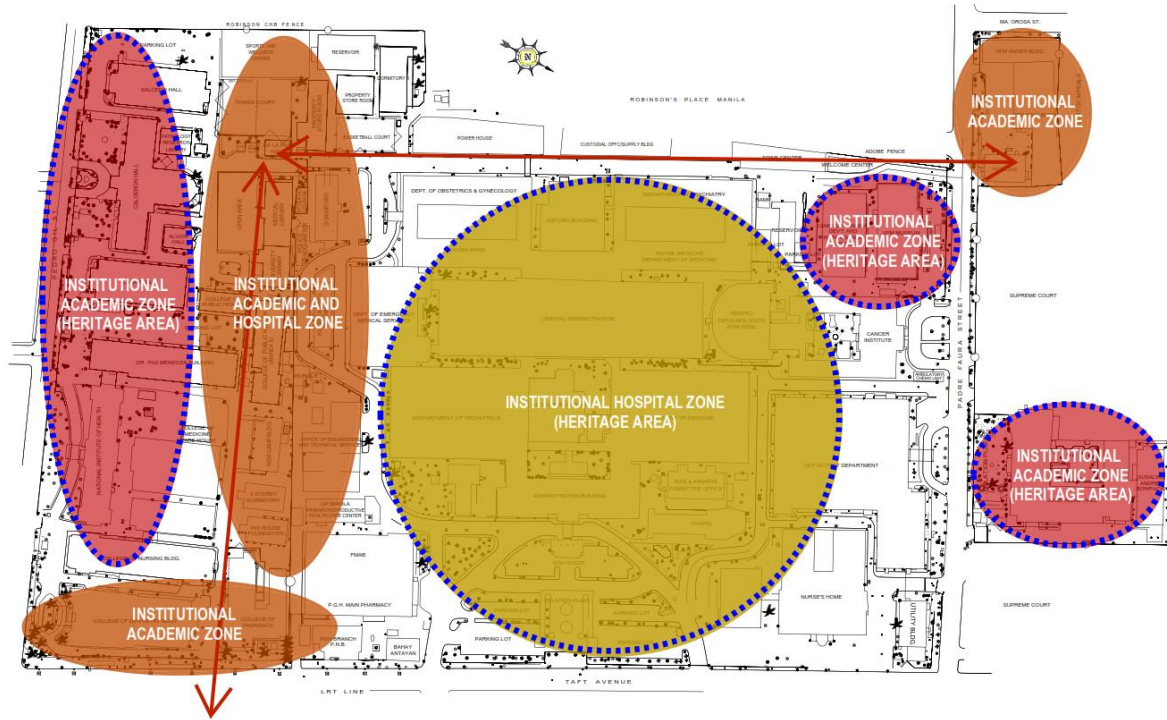


Figure 112 Conceptual Map for Option 1: Do Nothing

Option 2: Integration of Institutional Academic and Hospital Zone

Given that the majority of the buildings in UP Manila as a Heritage zone is permanent, there are only limited areas for development and movement. The proposed integration of the Institutional Academic and Hospital Zone is an alternative proposal based on the planning principles and the Health Sciences Framework. This will utilize the connectivity of the academic zones through the walkways and building connections. The future development zone marks the remaining possible expansion site of both the Academic and Hospital zone. Buildings such as the New NIH Building, UP Main Library and Learning Commons, UP Medical Sciences Building, and UP PGH Multi Specialty Building are located within this area. The residential zone marks the location of the Faculty, Staff, and Student Housing that is sorely needed in the site and in compliance with the requirements of the LUDIP.

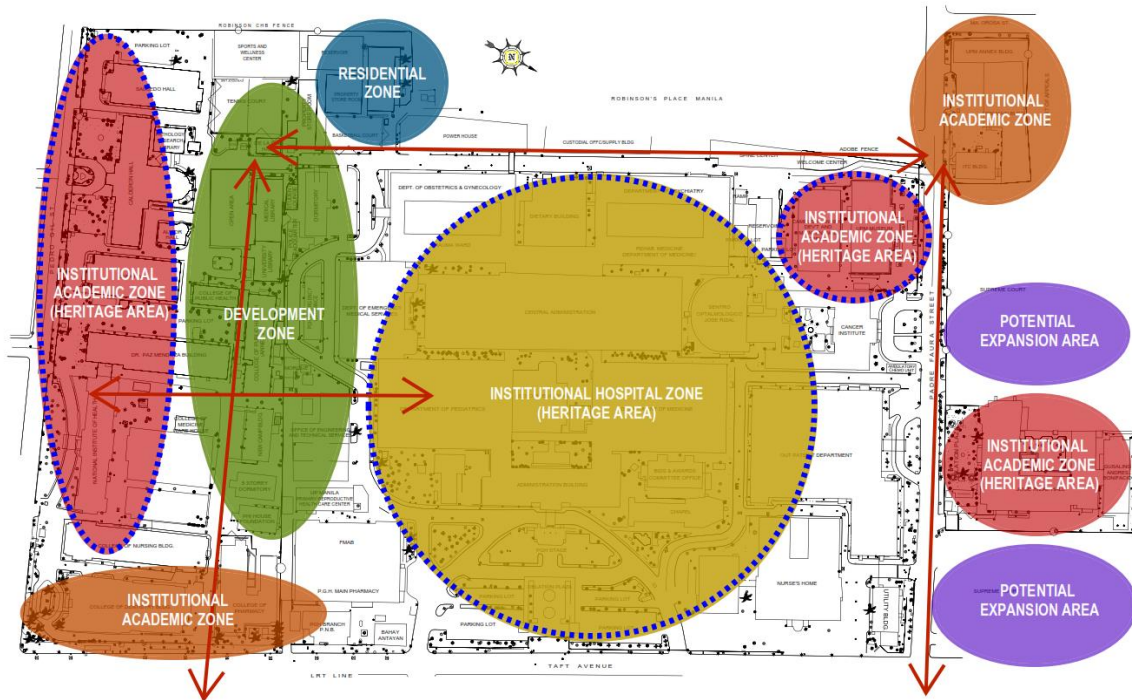


Figure 113 Conceptual Map for Option 2: Integration of Institutional Academic and Hospital Zone

Infrastructure Analysis Matrix

The connection between the principles, goals, and outcome indicators should be the primary conditions of the policy recommendations. The table shows the planning principles and the technical findings/ observations related to the absence or presence of these measures on site. The implications of such observations discuss how important that these are addressed and the recommendations and policy options provide the tangible output to achieve the planning principles.

Infrastructure Analysis Matrix

| Planning Principles* | Technical Findings / Observations | Implications | Policy Options / Recommendations |
|--|---|---|---|
| Attractive Campus and One University Concept in a Compact Development | There is no campus axis and Oblation plaza. The oblation plaza located in the PGH is a parking space. | The University of the Philippines character is not fully appreciated. The oblation should have a buffer zone. Vehicular flow is not continuous and other parts not accessible | Develop the main open areas for both UP Manila and UP PGH; Preparation of Design for Campus Open Space, Landscaping and Walkway |
| | Tree care and landscaping was previously not maintained but this was improved with the employment of a grounds maintenance contractor | Tree lined streets characteristic of UP campuses but unable to do this due to the lack of open spaces. The site feels restricted. | Remove, relocate, prevent construction of small structures in the site and near buildings. Organize the hardscapes such as planters, seating, and walkways to provide more spaces for landscaping |
| | There is limited open space inside the site. Clearances in between buildings are between 6 meters to 9 meters. | Space is crowded and road widths cannot accommodate the standard pedestrian and bike lane sections | Transform the small roads to shared streets to widen the area and promote pedestrianization; Implementation of Linear Plazas and Road Pedestrianization |
| | Presence of unsightly barracks and debris due to construction | Multiple construction projects with lack of proper space for barracks and storage for debris makes the campus unsightly. | Provide a designated area per building; limit construction projects based on the availability of the space; create a standard for barracks construction to prevent use of unsanitary materials and procedure. |

| | | |
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| Presence of waste materials and items to be condemned around the site | There is a lack of storage space for the materials or items to be condemned. The hallways, walkways, and open spaces are lined with furniture and items to be condemned. | Provide a designated storage room inside the building to store items to be condemned per college or unit. |
| Lack of storage spaces for items during renovation | There is a lack of storage space for the items during renovations. The hallways, walkways, and open spaces are lined with furniture and items to be condemned. | Provide a designated storage room inside the building to store items for rooms to be renovated; schedule renovation based on availability of spaces |
| Inconsistent Design throughout the campus | The design is based on the preferences of the end-users. The inconsistent design makes the buildings look incohesive. | Preparation of design guidelines for new construction and renovations |
| Poor road conditions due to construction | Vehicular flow is restricted | Develop the road networks and designate areas for vehicular flow; Implementation of Linear Plazas/ Road Pedestrianization |
| Poor maintenance of old buildings | Facilities are not fully utilized; disruption of services due to repairs | Preparation of Facility Space Plan |
| There is no proper allocation of zones inside the buildings according to function such as clustering of laboratories, admin facilities, and common areas | Mix-up on of incompatible areas and less privacy for critical areas | Preparation of Facility Space Plan |

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| | Existing facilities are no longer compatible to its desired / projected function and projected number of occupants | Spaces were not optimized | Preparation of Facility Space Plan |
| | Proposals for future expansion | | Preparation of Facility Space Plan |
| | Majority of the existing buildings are non-compliant to the building laws | | Preparation of Facility Space Plan |
| | There are old buildings with toilets that are non-compliant to the standard rest rooms in terms of design and required occupants | Space allocation for rest rooms does not correspond to the required number of fixtures of the building; Design of restrooms are based on the end-users' preferences | Upgrading of Toilets |
| | Existing facilities are no longer conducive according to its function | | Interior Renovations |
| | No faculty and staff housing on site; Limited housing for students | Students, Personnel, Faculty, and Health professionals have longer travel time to work and to perform the services | Provision for a housing for faculty, staff, and students |
| Pride of place and Meaningful Community Connection | Informal social and gathering spaces are not fully developed due to the lack of space | Students and Faculty look for extension areas like commercial establishments as the venue for | Provide areas for interactions and meetings in the buildings and landscaped areas |

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| | | informal gathering | |
| | Limited facilities for sports and recreation | Students and Faculty look for extension areas around the area | Develop the sports science and wellness center; provide additional sports facilities in the construction of the new buildings |
| | Limited spaces for study and small group work | Students and Faculty look for extension areas like commercial establishments as the venue for informal gathering | Provide areas for interactions and meetings in the buildings and landscaped areas; construction of the University Library and Learning Commons can provide the additional space needed for study areas |
| | There is a consistent branding of the University as the Health Sciences Center | The campus is known for excellence in the health sciences | Review the spaces and the percentage of development allocated for the health and sciences and the adequacy of the support spaces; there should be a standard guidelines for space allocation that will help in the planning of similar spaces |
| Environmental Sustainability/ Disaster and Climate Change | There are localized flood within the site and the drainage line of Manila cannot accommodate the water run-off in the area | Disruption of services and circulation | Preparation of Stormwater Management Plan |
| | Energy efficient systems are being used such as LED lights and inverter technology for ACU systems. VRF systems are being proposed for | Changes in electricity consumption however no assessment is created to support the energy savings | Preparation of Energy Use Audit |

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| new projects | | |
| UP Manila and SHS Campuses are susceptible to earthquake and ground shaking hazards | Structural defects and destruction of existing buildings especially heritage buildings | Structural assessment and retrofitting for existing buildings; Structural design for new buildings; Creation of assigned evacuation areas during earthquake |
| There are research laboratories and the hospital at the campus that use equipment, chemicals, reagents, etc. | The areas are susceptible to fire hazards | Installation of fire detection and alarm system (FDAS) and fire protection on buildings especially those with laboratories |
| There are various solid wastes produced from the campus, especially chemical wastes from the laboratories and hospital. | Solid wastes may be mixed up; No designated areas for specific wastes | Preparation of Ecological Solid Waste Management Plan |
| There are incidents of unaccountable water losses and leaks | Water consumption is not optimized | Preparation of Water Use Audit |
| There is no Fire Risk Assessment (Fire Safety Audit) for the campus even if the majority are research laboratories, hospital, and heritage buildings | Facilities are non-compliant to the Fire Code (RA 9154) which increases the susceptibility to fire hazards | Preparation of Fire Safety Audit |

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| Preserved Culture and Heritage | There are thirteen existing heritage buildings at the UP Manila campus; There is no cohesive interior renovation plans and design direction is based on the preferences of the end-users | There is a responsibility to ensure the character and the use of the building is balanced; compliance to relevant laws | Preservation of the architecture and character of the building; Full Interior Renovation Plans that can be implemented per phase |
| | Structural members are deteriorated, visible hairline cracks, and rebars are already exposed | Structural integrity is compromised for some areas. | Review of structural assessment reports. Retrofitting and structural repairs of the heritage buildings |
| | There is no Conservation Management Plan even if the majority are heritage buildings | Renovation are based on the requirements of the end-users and the discretion of the designer | Preparation of the Conservation Management Plan and Heritage Guidelines |
| | There is no guidelines to maintain the heritage character of the buildings especially in the introduction of engineering systems and the outcome of the facade | Location/ Placement of the MEPF are exposed in the facade and interiors and disrupts the image of the heritage buildings | Preparation of the Conservation Management Plan and Heritage Guidelines |
| | There is no inventory for the tangible culture such as works of art and natural heritage such as heritage trees | No actual location and value of the important tangible works of art for insurance and budget requirements for restoration works. There is no account for the existence of such important cultural treasure. | Preparation of the cultural property tangible works inventory |
| | There is no promotion for the appreciation of the heritage buildings incorporated in the | The users are not aware of the importance and value of the historical buildings and how these | Implementation of the Heritage Tour in coordination with the College of Arts and |

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| | administrative and academic programs | reflect the character of the Manila campus | Sciences |
| Reliable and Sustainable Services and Basic Utilities | Due to the heritage nature of the majority of the buildings in the site, there are no complete engineering as built plans | Renovations and Maintenance works are difficult to perform. | Consolidation and preparation of the engineering systems as built plans and audits |
| | There are no proposed utility development plans and systems in the site to support the proposed projects | | Preparation of the design to upgrade the water, electrical, fire protection, and early warning systems including the evaluation of a power substation within the site |
| | There are buildings without FDAS or early warning devices | Early warnings during emergencies are not performed. Longer time to assemble and warn the occupants of the buildings | Preparation of the design to upgrade the water, electrical, fire protection, and early warning systems or public address system |
| | There is no centralized location for the disaster and emergency response | | Consideration to centralize the early warning systems for disaster response |
| | There is no STP for old buildings; new buildings include STP in design | Compliance to relevant laws and environmental protection | Preparation of the design to upgrade the water, electrical, fire protection, and early warning systems |
| | There is no MRF in the site, garbage are left | | Materials Recovery Facility |

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| | outside the gates to be picked up by the LGU | | |
| | There are no ECC and LLDA certification and monthly monitoring in the academic zone | | Preparation of the ECC and LLDA for certification |
| | There are research laboratories at the campus that use equipment, chemicals, reagents, etc. | | Incorporation of drainage systems, mechanical ducts and ventilation system, and FDAS |
| | Buildings with old water systems that are not up to standard | | Upgrading of Water Systems |
| | Buildings with old electrical systems not up to standard | | Upgrading of Building Electrical Systems |
| | Not all facilities have integrated fire protection systems | Facilities are non-compliant to the Fire Code (RA 9154) | Upgrading of Fire Protection Systems |
| | | | Construction of Power Substation |
| Accessibility and Safety | There are 37 Graduate programs available for the nine colleges in the University of the Philippines Manila where most are night time | Security and safety of the students and faculty maybe at risk during nighttime | Installation of outdoor lightings at the building exterior and along campus roads |

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| | classes and flexible schedules | | |
| | UP PGH personnel have a 24 hour shift and are working at/until nighttime | | |
| | There are limited outdoor lightings at the campus especially along the alleys and covered walkways | | |
| | The public hospital operates within a 24 hour shift 7 days a week | | |
| | All types of personnel and patients visit the institutions for tests and consultations | All personnel and visitors have difficulty in locating and accessing all parts of the buildings | Identify the main University Portals; Implementation of Wayfinding Signages and Maps |
| | There are no clear directions for wayfinding inside the site. Difficulty in determining the location within the site | | |
| | There are limited areas for evacuation since the open spaces are used as parking areas | Disorganized and limited area during emergency situations | Designation of safe evacuation areas |

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| | No centralized access points. Numerous gates and entry within the site | Difficulty in securing the site. Employment of multiple personnel to guard the access points to the site and within the buildings | Installation of additional CCTV cameras for surveillance |
| | There is are buildings that are not compliant with accessibility laws | The inaccessible floors cannot be used by PWDs; heritage building entrances are not accessible; non-compliance to BP 344 | Preparation of PWD Accessibility Audit |
| | | | Upgrading for PWD Accessibility Plan based on recommendations |
| | The site has limited parking using the remaining open spaces in the site. | The open parking areas limit the development of the open plaza and landscaping; the parking also occupies the evacuation areas during emergencies in the hospital | Parking Building |
| | There is no PA System for general announcements | Difficulty in dissemination of information especially during emergencies | Public Address System |
| Barrier-Free Design | Due to the compact nature of the spaces, the openness and barrier free design is not expressed in the physical environment | Near and adjacent buildings prevents the feeling of a barrier free design. | |

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| | Fences and gates are inside the campus to secure the perimeter. The internal division between the hospital and the academic zone is divided by a low masonry wall. Hospital and public patient division are controlled using gates | Fences and gates are successful in controlling the flow of people however it is in conflict with the barrier free design principle | Alternative ways such as roads, landscaping, and elevated walkways may provide the division between the buildings but cohesive with the design policies |
| Pedestrian and Bicycle Friendly Community | There are no bike paths | Students, personnel, patients and guests do not prefer to use bicycles | Evaluation of road networks and sections to designate bike paths, pedestrian walkways, and running paths; Development of continuous covered and elevated walkways; Provide areas for Building Plazas |
| | There are no bike parking available | | |
| | Sidewalks are not developed and fragmented | Students, personnel, patients and guests do not have a continuous walking path within the site; the sidewalk width is small and the road is used as an extension of the sidewalk. | |
| | There are no running paths | | |
| Use of Innovative Technologies | Renovated rooms are equipped with smart TVs with internet connection | 37.06% of the buildings have been renovated and 62.94% is in need of renovation and upgrading | Prioritize spaces that needs to be renovated and upgraded |
| | Laboratories are equipped with state of the art equipment | Engineering systems flexibility required for upgrading of equipment based on research and activities | Engineering systems should have asbuilt plans and upgraded to upgrade using required equipment |

| | | | |
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| | Facilities are retrofitted to accommodate equipment | | Prioritize spaces that needs to be renovatd and upgraded |
| Support to External Linkages including Campus Entrepreneurship | TTBDO supports patents for the Health Sciences Professionals | Programs include the development of the products or outputs of the health professionals | Continue to standardize the patents and collaboration work of the health professionals |
| | There are facilities for Training for groups of 100 and below using auditoriums but there is a need for seating for a capacity of more than 100 to host international events | | Facilities inventory and provision for training facilities for international events. The new NIH building, the University Library, and Zuellig Buildings includes research and training facilities |
| | Research Projects are collaborative intracolleges and interagencies | | |
| * Based on the Campus Planning Framework, Outcome Indicators | | | |

Table 27 Infrastructure Analysis Matrix

3.3.2. ANALYSIS AND EVALUATION OF DEVELOPMENT THRUSTS AND SPATIAL STRATEGIES

The analysis and evaluation of the development thrusts and spatial strategies are reliant on the vision of the campus in consideration of the existing conditions, planning principles, standard, and requirements. The Conceptual Map in Option 2 encapsulates what can be done given such constraints in land development. The possible development sites are dictated by the open spaces and the location of the heritage buildings that are the priority in terms of conservation within the UP Manila site. The previous fragmented approach in development is made cohesive by connecting the UP Manila Academic Zones and UP PGH Hospital Zones through walkways and shared common facilities such as plazas, multi-purpose areas, functions and training halls, and the envisioned residential building. Open spaces are limited and construction of new buildings should consider the use of green roofs to prevent its further reduction.

This concept is the basis for the following proposals developed by Architect Palafox and Associates together with the UP Manila where these conditions are translated to connections, utilization of open spaces, and shared streets as examples.

Conceptual Master Plan: Concept 1

The concept offers provision of parks at the academic zone of the campus - UP Main Library and Lara Hall. This has a high percentage of retained parks and open spaces. However, a proposed road right of way will cut diagonally through the existing large open space in front of the UP Manila Library which is envisioned to be the assembly area.





Figure 114 Conceptual Plans for Option 1 of UPM Master Plan

Conceptual Master Plan: Concept 2

The concept proposes a plaza rotunda for a better sense of arrival and would also serve as a landmark enhancing the campus' sense of place. However, this concept has a higher percentage of the road network than Concept 1 and will reduce the open space and assembly area.

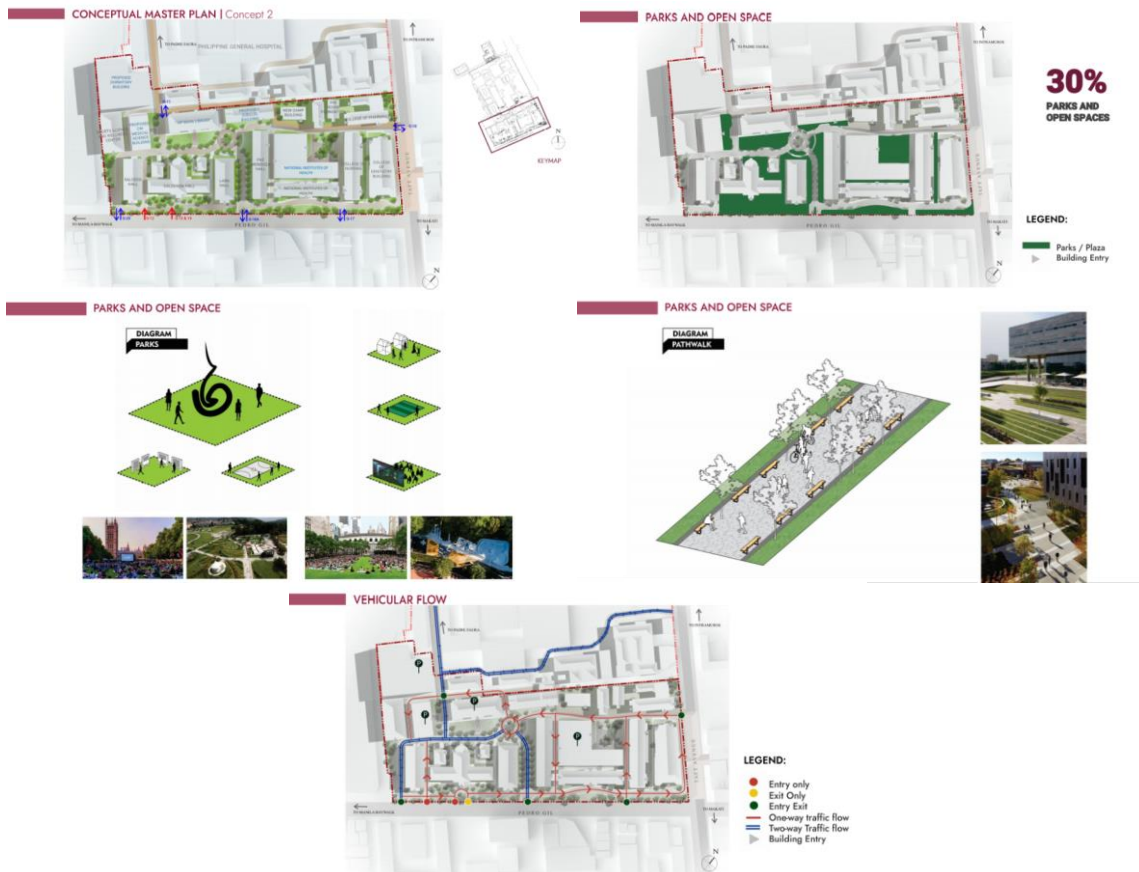


Figure 115 Conceptual Plans for Option 2 of UPM Master Plan



Figure 116 Comparison of the Conceptual Master Plan (Concept 1 and 2)

Compliance to Land Density Plan

From these concepts, the gross floor area and building footprint of the existing and proposed buildings are computed to confirm the CLUP FAR compliance for the CLUP of Manila. The following table below computes for UP Manila and UP PGH as a separate and combined computation.

| Location | TLA (sq.m)* | GFA (sq.m) | | Building Footprint (sq.m) | |
|--------------|-------------------|-------------------|-------------------|---------------------------|------------------|
| | | Existing** | Proposed | Existing** | Proposed |
| UPM | | | | | |
| Lot 1 | 6,232.68 | - | - | - | - |
| Lot 2 | 3,191.25 | - | - | - | - |
| Lot 3B | 39,886.25 | - | - | - | - |
| | 49,310.18 | 121,947.62 | 180,873.97 | 24,650.46 | 29,482.91 |
| PGH | | | | | |
| Lot 3A | 95,186.11 | - | - | - | - |
| Lot 3C | 559.40 | - | - | - | - |
| | 95,745.51 | 135,772.26 | 289,145.87 | 48,830.21 | 47,872.76 |
| Total | 145,055.69 | 257,719.88 | 470,019.84 | 73,480.67 | 77,355.67 |

* Based on the UP Manila Campus Lot Plan

** Based on the existing site development (as of November 2021); Demolished bldgs and on-going construction are considered

Table 28 UP Manila and PGH Density Plan

The maximum FLAR as per the CLUP of the Local Government of Manila for the Institutional Zone (INS-U) is 4. For UP Manila, the value is 2.47 for the existing buildings and 3.67 for the proposed buildings as of November 2021 which includes the multi-level buildings of NIH, MSB, UPM Library and the Zuellig Buildings. The existing and proposed buildings for UP Manila and UP PGH are within this ratio at 3.24 value.

This is above the prescribed FLAR for Institutional in the NBCP which is only 2.50 however, the CLUP is specific to the location and takes into account the density of the city of Manila.

| | CLUP | EXISTING | PROPOSED |
|-----------------------------------|------------|------------|------------|
| UP MANILA | | | |
| Total Lot Area (TLA) | 49,310.18 | | |
| Floor Lot Area Ratio (FLAR)* | 4.00 | 2.47 | 3.67 |
| Maximum GFA | 197,240.72 | 121,947.62 | 180,873.97 |
| | | | |
| PGH | | | |
| Total Lot Area (TLA) | 95,745.51 | | |
| Floor Lot Area Ratio (FLAR)* | 4.00 | 1.42 | 3.02 |
| Maximum GFA | 382,982.04 | 135,772.26 | 289,145.87 |
| | | | |
| CONSOLIDATED (UPM and PGH) | | | |
| Total Lot Area (TLA) | 145,055.69 | | |
| Floor Lot Area Ratio (FLAR)* | 4.00 | 1.78 | 3.24 |
| Maximum GFA | 580,222.76 | 257,719.88 | 470,019.84 |

* Maximum FLAR of 4.0 based on Manila CLUP 2005-2020; Based on NBCP, FLAR for Institutional is 2.50

Table 29 Utilization of Gross Floor Area (GFA)

The maximum PSO as per the CLUP, is 0.60 or 60% and UP Manila is within the values for both the existing and proposed buildings with 49.99% for the existing buildings and 59.79% for the proposed buildings.

As per NBCP, it should be 50% and should this be required, the values shall be over the requirement. An alternative proposal is to consider a green roof for the new buildings, specifically the Housing Building.

The consolidated values for both UP Manila and UP PGH produce a total that is within the recommended values at 53.33%. This is mainly due to the open space in front of the Taft avenue as the buffer zone and emergency evacuation for the hospital.

| COMPONENT | MANILA CLUP-ZO (RECOMMENDED) | | EXISTING | | PROPOSED | |
|---------------------------------|---------------------------------|-----------|----------|-----------|----------|-----------|
| | % | VALUE | % | VALUE | % | VALUE |
| Percentage Site Occupancy (PSO) | 60.00% | 29,586.11 | 49.99% | 24,650.46 | 59.79% | 29,482.91 |
| Impervious Surface Area (ISA)* | 40.00% | 19,724.07 | 50.01% | 24,659.72 | 40.21% | 19,827.27 |
| Unpaved Surface Area (USA)* | | | | | | |
| | 100.00% | 49,310.18 | 100.00% | 49,310.18 | 100.00% | 49,310.18 |

Table 30 PSO, ISA, and USA Computation for UP Manila based on Manila CLUP-ZO

| COMPONENT | NBCP (RECOMMENDED) | | EXISTING | | PROPOSED | |
|---------------------------------|-----------------------|-----------|----------|-----------|----------|-----------|
| | % | VALUE | % | VALUE | % | VALUE |
| Percentage Site Occupancy (PSO) | 50.00% | 24,655.09 | 49.99% | 24,650.46 | 59.79% | 29,482.91 |
| Impervious Surface Area (ISA)* | 20.00% | 9,862.04 | 50.01% | 24,659.72 | 40.21% | 19,827.27 |
| Unpaved Surface Area (USA)* | 30.00% | 14,793.05 | | | | |
| | 100.00% | 49,310.18 | 100.00% | 49,310.18 | 100.00% | 49,310.18 |

* Total Open Spaces shall include the green roof for the new buildings to comply with the percentage requirement of open spaces.

Table 31 PSO, ISA, and USA Computation for UP Manila based on NBCP

| COMPONENT | MANILA CLUP-ZO (RECOMMENDED) | | EXISTING | | PROPOSED | |
|---------------------------------|---------------------------------|------------|----------|------------|----------|------------|
| | % | VALUE | % | VALUE | % | VALUE |
| Percentage Site Occupancy (PSO) | 60.00% | 87,033.41 | 50.66% | 73,480.67 | 53.33% | 77,355.67 |
| Impervious Surface Area (ISA)* | 40.00% | 58,022.28 | 49.34% | 470,019.84 | 46.67% | 67,700.03 |
| Unpaved Surface Area (USA)* | | | | | | |
| | 100.00% | 145,055.69 | 100.00% | 543,500.51 | 100.00% | 145,055.69 |

Table 32 PSO, ISA, and USA of UP Manila Master Plan

3.4. SITE DEVELOPMENT PLAN AND INFRASTRUCTURE PLAN

3.4.1. DEVELOPMENT CONCEPT AND GENERAL LAYOUT OF THE SITE

From the evaluation of the conceptual master plans, a preferred concept was decided considering modifications for the road networks, shared streets, parking areas, elevated and covered walkways, and landscaping. The consolidation of Concept 1 and 2 will ensure that the maximum open spaces are retained.

3.4.2. VEGETATION PATTERN AND REQUIRED PRESERVATION

The site analysis of the parks and open spaces in the academic zone were included in the conceptual proposal of Architect Palafox and Associates based on the Master plan draft of UP Manila. The identified 30% of open area is targeted to be developed as a plaza and an outdoor congregation area for UP Manila. It also aims to improve the buffer sites around the building to better appreciate the building facade and improve wayfinding.

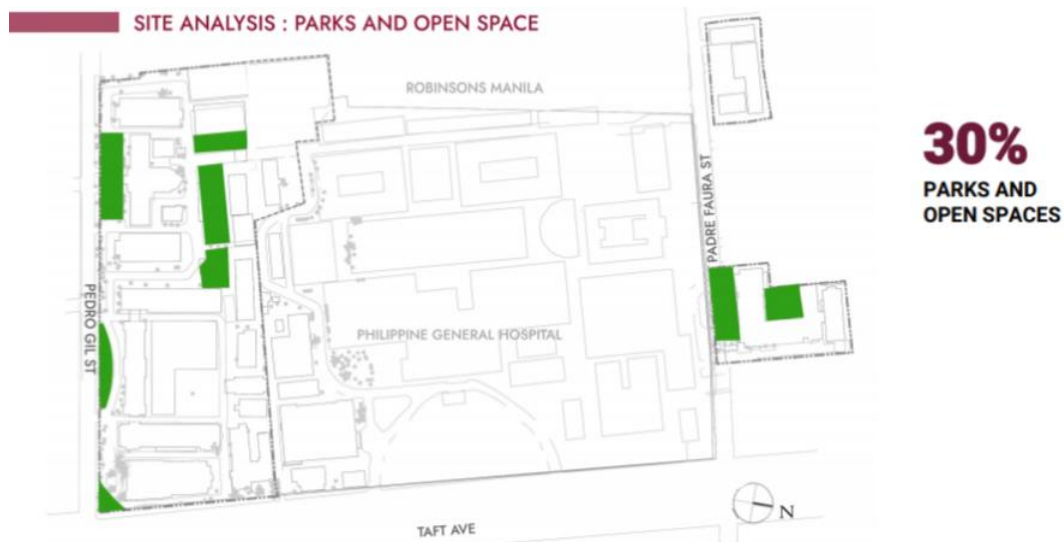


Figure 117 Parks and Open Space Map (Source: UP Manila Master Plan by Palafox Assoc.)

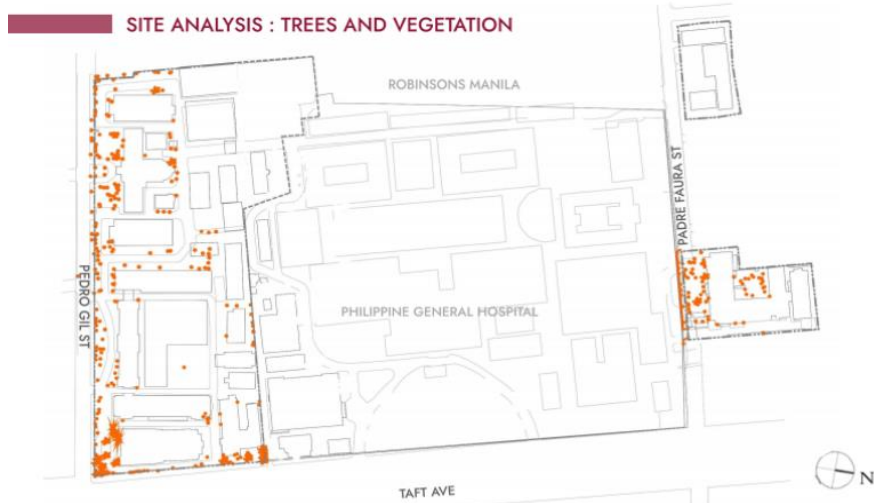


Figure 118 Trees and Vegetation Map (Source: UP Manila Master Plan by Palafox Assoc.)

Inventory of Trees at UP Manila

Aside from the open spaces, the landscaping and its components are also considered in the development. Currently there is a grounds maintenance service provider for the university and their scope is to provide a safe outdoor area. The inventory of trees has been identified and provided the basis for the tree servicing contract. The trees were pruned in 2021 for the safety of the pedestrians, vehicles, and buildings and to ensure that the trees are healthy.

For the landscaping works, the proposed plants list indicated in the Master Development Plan was proposed by the consultant Architect Palafox. This is included as the proposed planting design to further develop the open spaces and vegetation on site. The focus of the development is along Pedro Gil where the majority of the open spaces and the heritage buildings are located. This area is planned to be a plaza and a shared street to encourage pedestrianization and outdoor activities at the same time provide the buffer zone to appreciate the heritage building facade better.



SHRUBS - FOLIAGE / BRACTS PLANTING



Phyllanthus myrtifolius (JAPANESE BUSH)



Strelitzia reginae (BIRD OF PARADISE)



Plumbago auriculata (FORGET ME NOT)



Carphaea kirodron (RURIYA)



Podocarpus costalis (MAKI)



Schefflera arboricola HK 'variegata'



Hymenocallis littoralis (SPIDER LILY)



Tabernaemontana pandacaqui (PANDAKARU)

VINES & CLIMBER



Bougainvillea spectabilis (BOGAMBILYA)



Quisqualis indica (RANGOON CREEPER)



Solandra grandiflora (CHALICEVINE)



Vernonea elaeagnifolia (CURTAIN CREEPER)

SHRUBS - FLOWERING PLANTS

TREES & PALMS



Phoenix canariensis (CANARY ISLAND DATE PALM)



Livistona chinensis (ANAHAW)



Plumeria obtusa (WHITE KALACHUCHI)



Plumeria rubra (RED KALACHUCHI)



Terminalia mantaly (MADAGASCAR ALMOND)



Bauhinia biokiana (BUTTERFLY TREE)



Yucca gloriosa (YUCCA)

MATERIAL PALETTE - SOFT LANDSCAPE

GROUNDCOVER



Alternanthera polygonoides (RED CUCHARITAS)



Arachis pintol (PEANUT PLANT)



Selaginella sp. (MALVAROSA)



Paspalum conjugatum (CARABAO GRASS)



Pilea nummularifolia (CREEPING CHARLIE)



Wedelia trilobata (CREEPING DAISY)

Figure 119 Proposed Planting Plan (Source: UP Manila Master Plan by Palafox Assoc.)



Figure 120 . CAS Open area along Padre Faura

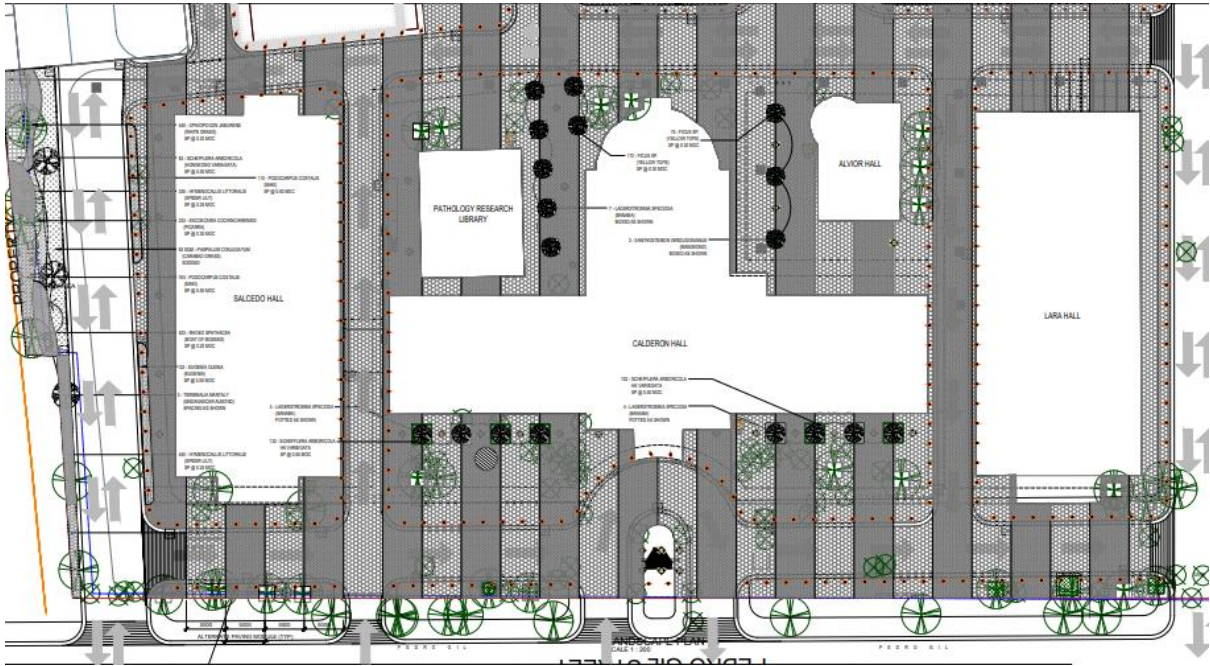


Figure 121 Proposed UP Manila Urban Design; Landscape Plan 1

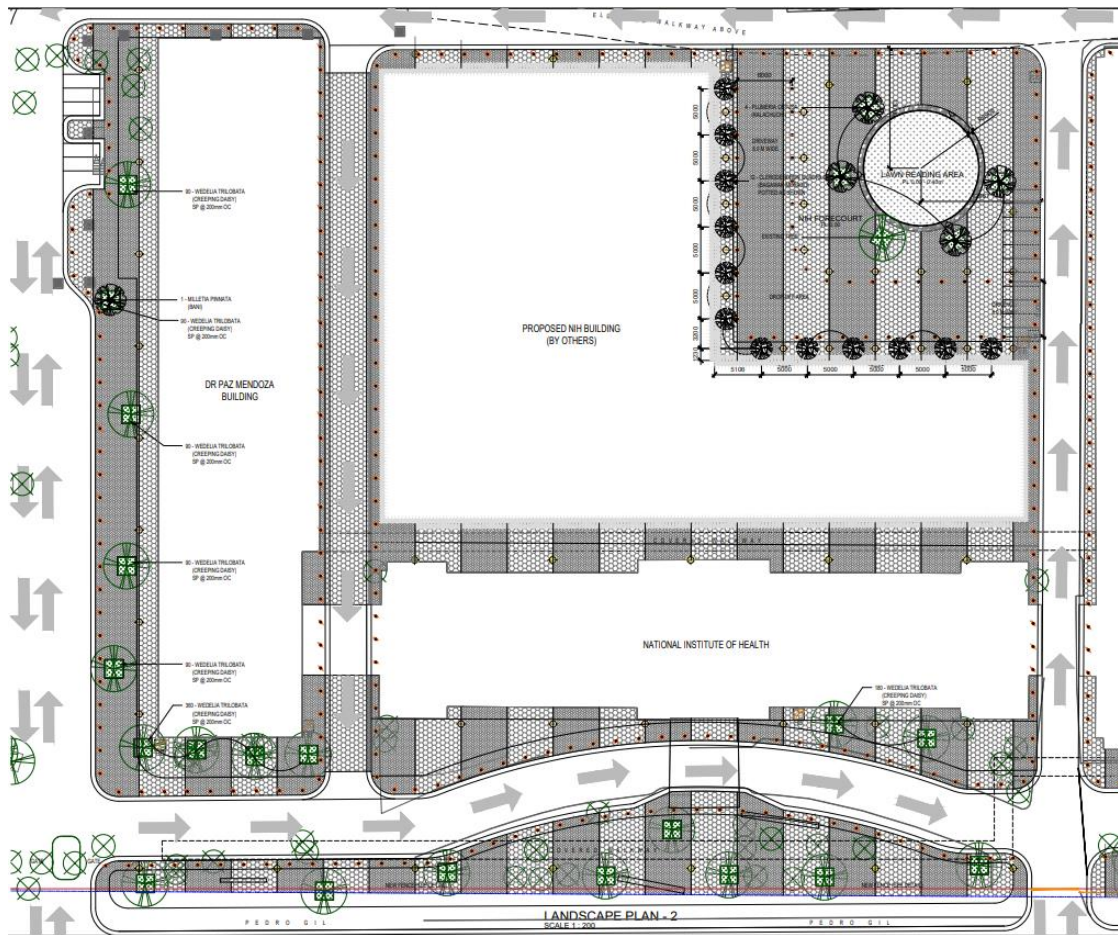


Figure 122 Proposed UP Manila Urban Design; Landscape Plan 2

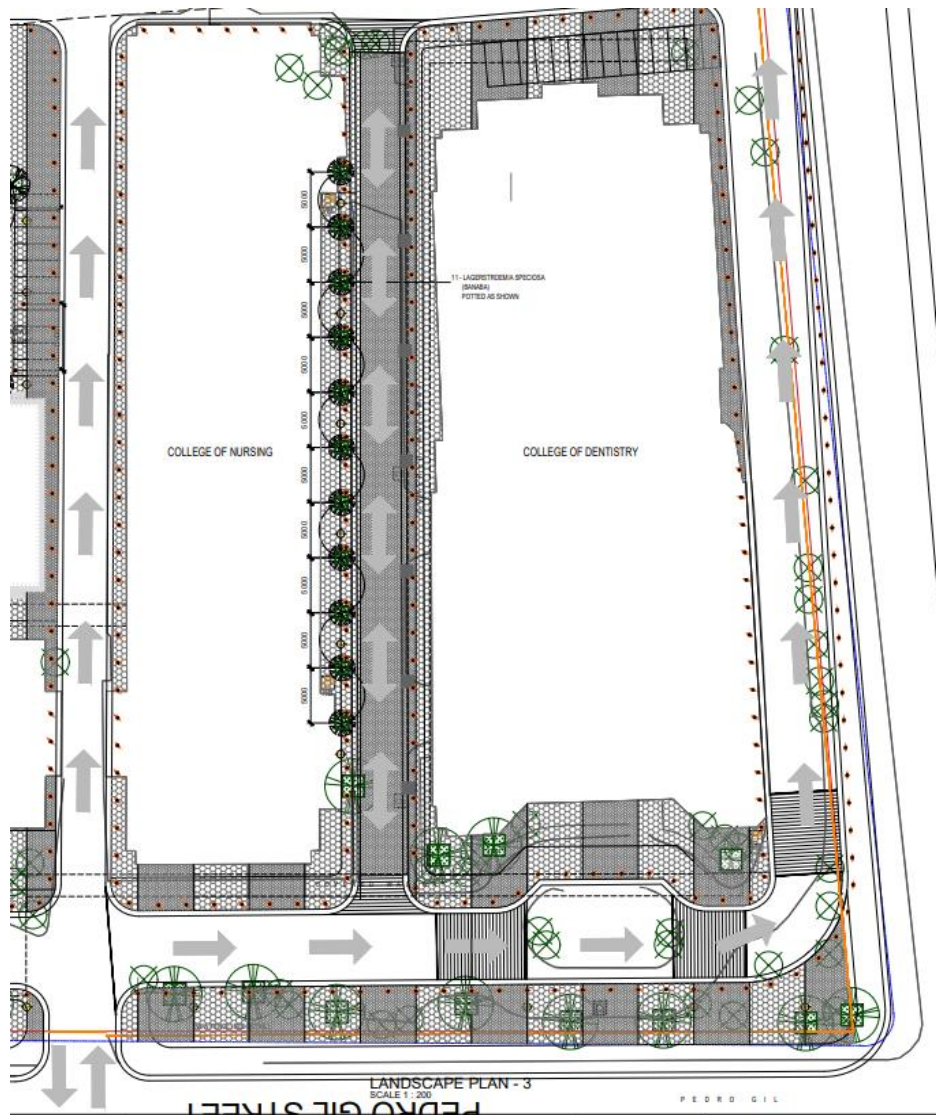


Figure 123 Proposed UP Manila Urban Design; Landscape Plan 3

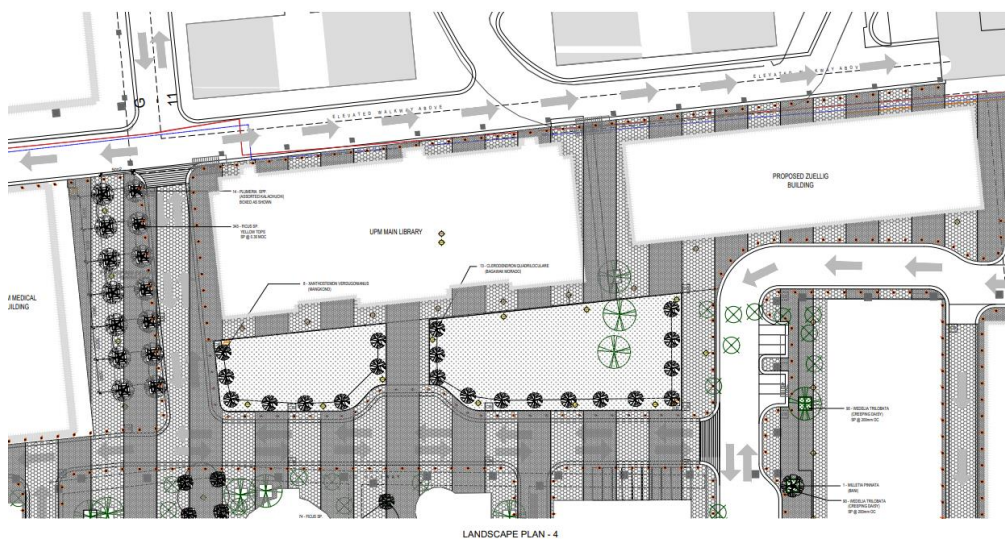


Figure 124 Proposed UP Manila Urban Design; Landscape Plan 4

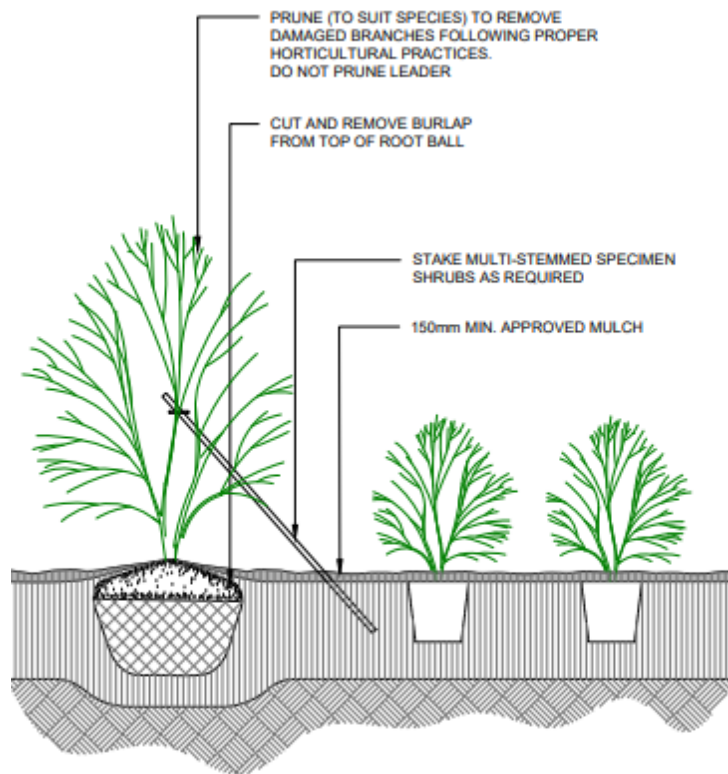
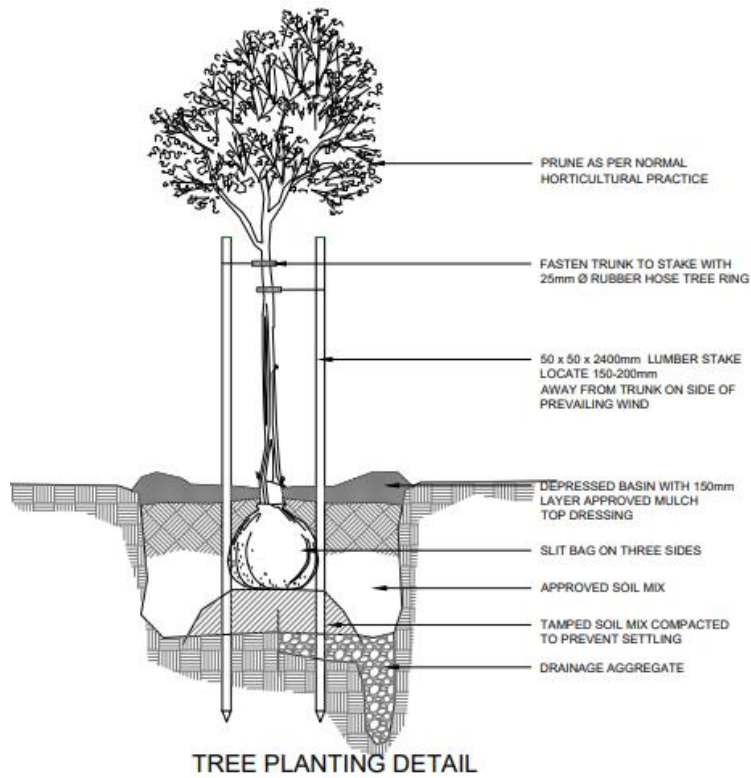
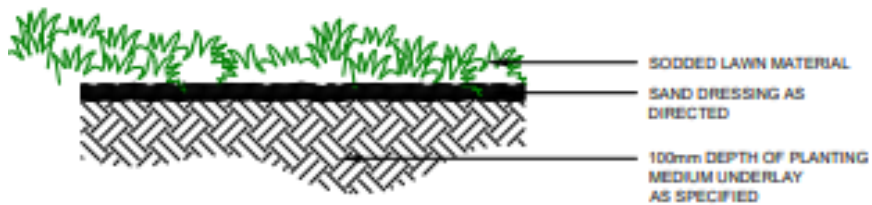
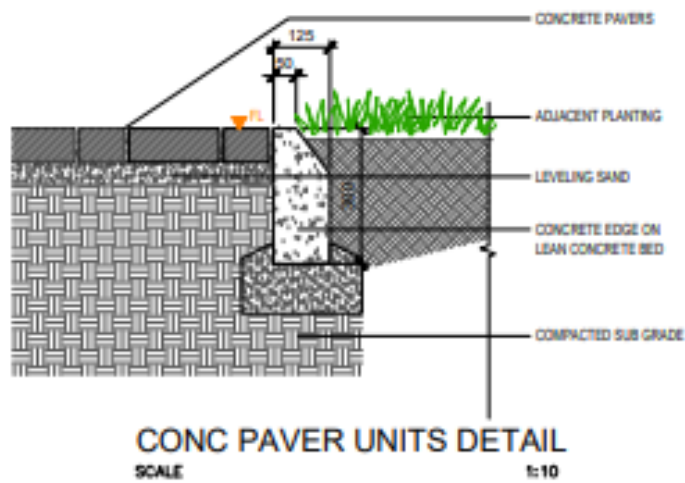
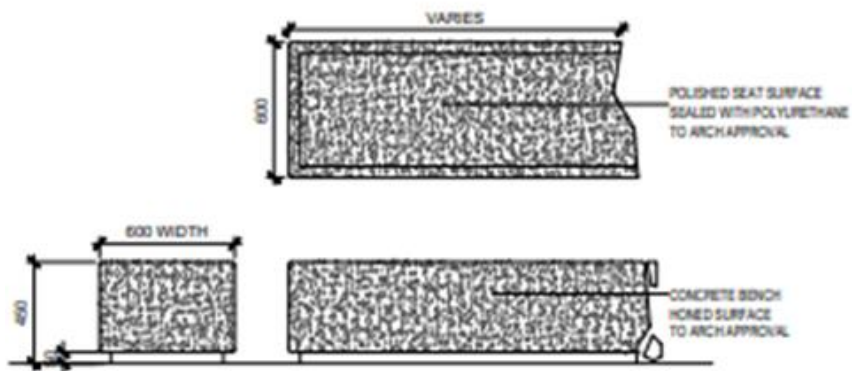


Figure 125 Proposed UP Manila Urban Design; Planting Details



LAWN TURF DETAIL



CONCRETE BENCH DETAIL

Figure 126 Proposed UP Manila Urban Design; Paving and Bench Details

3.4.3. CURRENT LAND USES OF THE SITE

Existing Campus Land Use/Zoning Classification

The existing land use plan shows the detailed zoning according to the standard land use classifications set by the University system. The following uses are found within the UP Manila campus:

- a. **ACAD-1** – Zone composed of academic clusters based on the site groupings of related academic programs and fields of specialization. This is where teaching and research activities are situated, normally in choice positions around the Campus Core.
- b. **ACAD-2** – Zone composed of academic-support spaces where research and student services are performed. Activities in this zone shall include research and professional services for outside/non-University entities, especially national and local government offices, the procedures and products of which are intended to contribute to or strengthen the University database.
- c. **RES-2** – Residential areas for faculty and students composed of medium-rise walk-up housing and dormitories located in clusters. This zone shall allow the conversion of the ground floor of such mid-rise buildings to house services for the occupants, such as: laundry shops, sari-sari stores, boutiques, beauty and barber shops, coffee and food shops, internet cafes and tailor shops according to the rules and regulations of the University. It shall also allow the building of a central clubhouse that shall house the rest and recreational spaces needed for the use of the faculty and students.
- d. **COMM-1** – Community services which directly deal with the constituents of the university.
- e. **COMM-2** – Community services which deal with securing and maintaining the facilities of the university
- f. **HISTORICAL AND TOURISM DISTRICTS** - Sections of the campus with historically and/or architecturally significant buildings or structures that are preserved and/or developed, based on University-approved parameters and existing laws, for their heritage and tourism potential.
- g. **CAMPUS CORE** - The historic and unifying center of the campus – with appropriately maintained pioneer buildings, heritage trees, and other campus elements – that shall become the inspiration for all future developments on-campus.

There are also the following land uses are within the campus but not included in the University's standard classifications:

- a. **INSTITUTIONAL** – This includes the Supreme Court buildings along Padre Faura.
- b. **INSTITUTIONAL—HOSPITAL ZONE**– This includes the PGH Complex.

c. PROGRAMMED OPEN SPACES

The large tracts of campus green spaces, integrated with softscape and hardscape in a designed exterior environment, allows for a variety of human activities, both passive and active.

UP Manila Existing Land Use Zoning

The map shows the existing land use of UP Manila. The compact nature of the site shows that the majority is Institutional under the Hospital Zone and Academic 1 and 2 for the buildings of the colleges. The zoning also identifies the overlay of academic and important historical buildings.

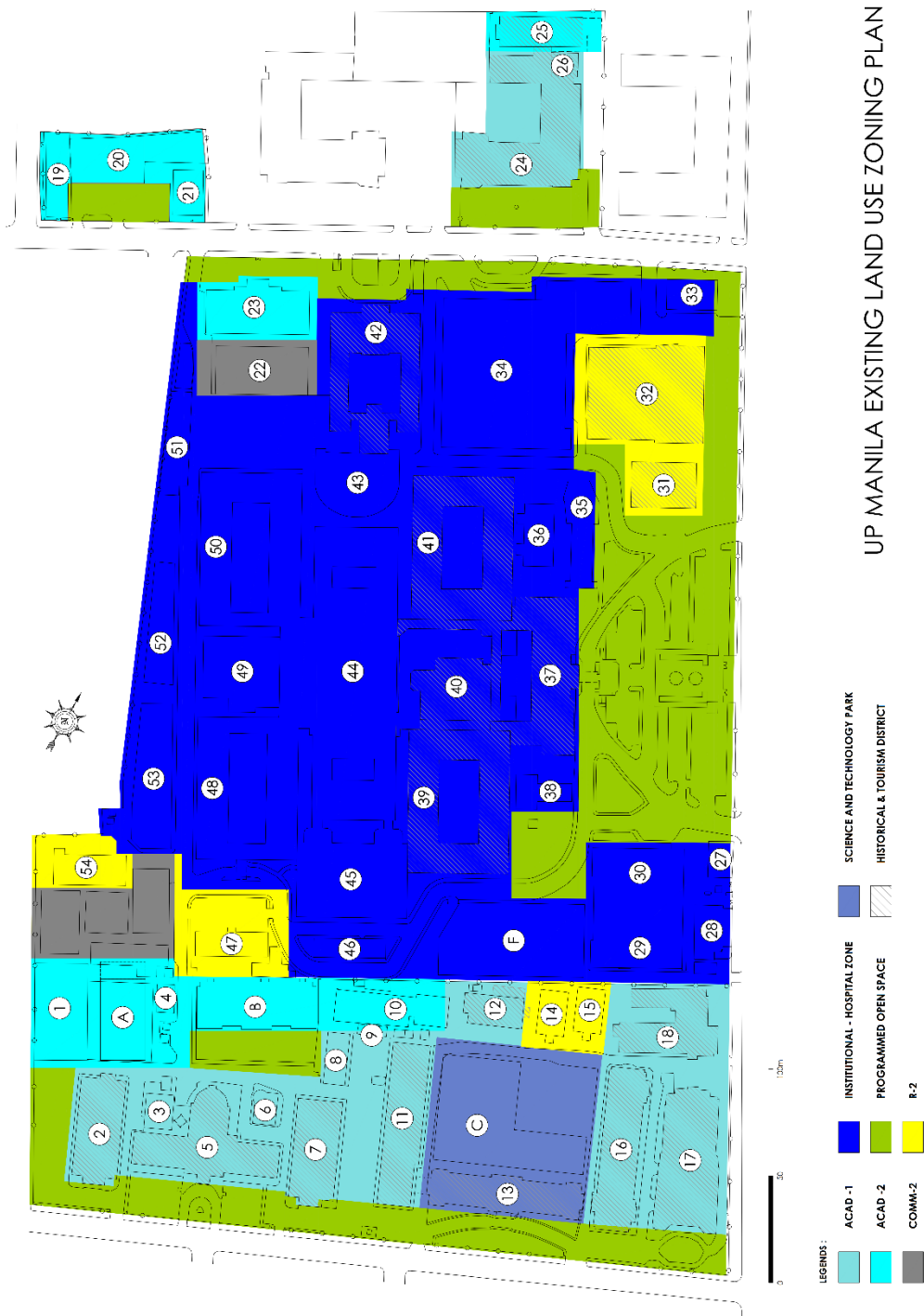


Figure 127 Existing Land Use Zoning Plan of UP Manila

UP Manila SHS Campuses Existing Land Use Zoning

The existing maps for the SHS Campuses are classified as academic zones. The step ladder curriculum requires classrooms and laboratory facilities for the midwifery, nursing, and medical students with an additional birthing center for the community that will also serve as a training facility. There are open areas even with limited lot sizes allowing areas for improvements and expansion.

SHS Baler

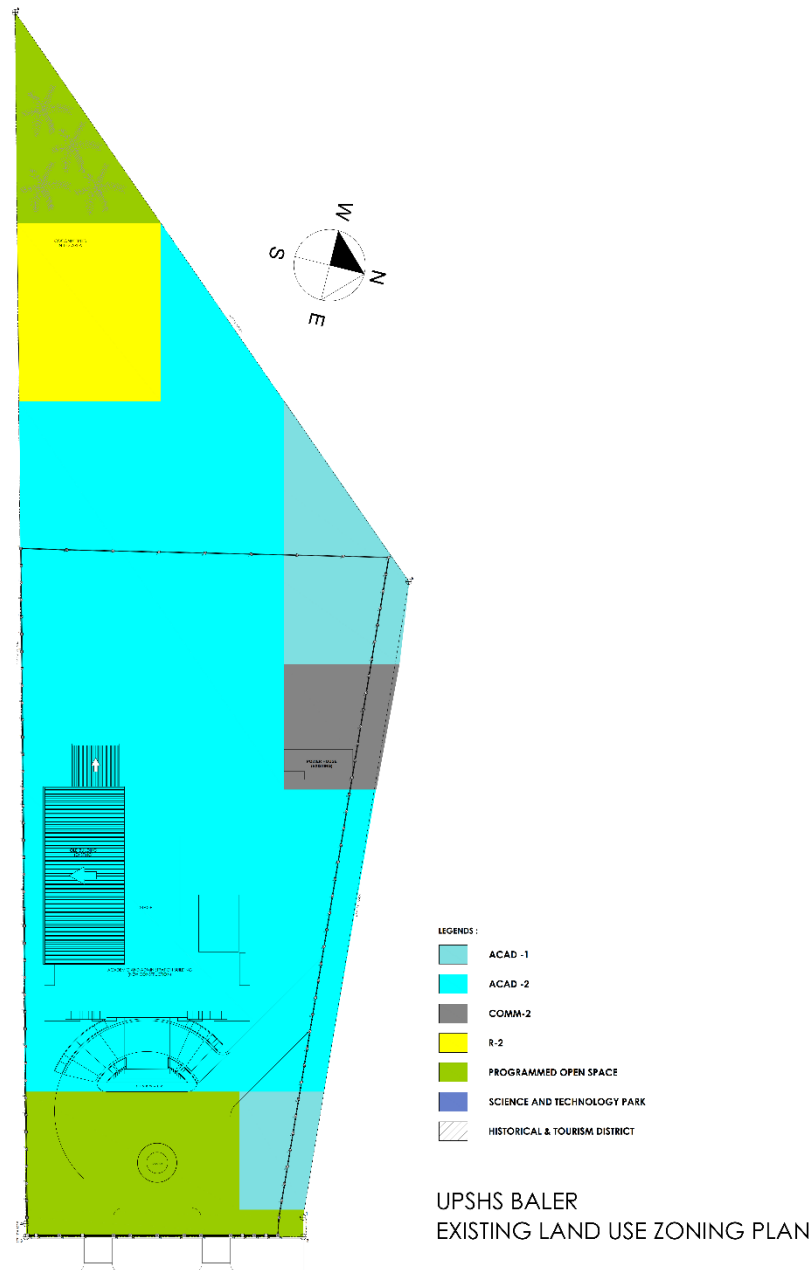


Figure 128 Existing Land Use Plan of SHS Baler

3.4.4. ACTIVITIES THAT MAY AFFECT SITE DEVELOPMENT

Based on the inventory of building facilities and conditions of site, the following items are the activities that may affect the immediate implementation of the site development.

- a. The consolidation and consideration of both the master development plan of the UP PGH and UP Manila. Given that the objectives and management of the facilities and sites are completely different, there should be coordination in terms of implementation of the proposed project and to view the development as a whole site. The utilities mapping of both UP Manila and UP PGH are not yet final.
- b. Since the utilities mapping for UP Manila are not yet complete, part of the projects for 2022 are mostly audits and as built plans. These shall be the basis for the compliance with existing codes.
- c. Structural assessments of selected buildings have not yet been performed and there might be possible retrofitting requirements that may be included in the proposed projects.
- d. Code compliance of existing buildings.
- e. Application of government permits are included in the issues during the implementation of the projects. These are coordinated with the LGUs and applied through projects. However, there are some permits such as the Environmental Compliance Certificate, LLDA Clearance, and NHCP Development Permits that will be facilitated by the University. These are also included in the proposed consultancy projects that may assist the university to secure the compliance certificates.
- f. Once the utilities and facilities are finalized, connection services will also be applied. These are also agencies outside the university and will require coordination.
- g. There is also a need to review and check the details of donation especially for the future plans of the campus in terms of renovation or demolition of these donated facilities.

Aside from the issues from UP Manila, the following items are the activities that may affect the immediate implementation of the site development for the SHS Campuses:

- a. Funding availability
- b. Clear UP Manila and LGU partner responsibilities
- c. Priority in development

3.4.5. TARGETED LAND USE ALLOCATION AND PROPOSED EXPANSION AREAS

Development Action Plan

The Development Action Map suggests the following actions: Demolition, Rehabilitation, and Conservation of various buildings. It also identifies Potential Expansion Areas. This map is based on the PGH Masterplan by Archion as well as UP Manila plans.

Highlighted in Red are the buildings recommended for Demolition due to Deteriorated Condition, Utilitarian Considerations, and/or Code Violations. Most of those highlighted in red are within the hospital zone.

Highlighted in Yellow are the buildings subject to retention, improvement, change of use, and/or rehabilitation since it is considered operationally significant within the development. And Highlighted in Green are the Structures deemed architecturally and historically significant by the National Commission of the Philippines (NHCP) for further Conservation.

As for potential expansion areas, the Supreme Court has announced its plans to vacate its UP Campus site in Manila and move to the Bonifacio Capital District in Taguig with the Court of Appeals upon the completion of their new state-of-the-art building by 2024. The Department of Justice is also slated to move to New Clark City.

This will make available at least 30,000 sqm building area open for planning, together with the preservation of the buildings' historic character.

The demolition of buildings, which are mostly additions to the prominent heritage buildings, shall undergo further evaluation, approval, and necessary government legal procedure prior to such action.

The SHS Campuses

The SHS Campuses are given their limited lot sizes and step ladder curriculum are also considered in the preparation to maximize the site. The developments for the previous years until 2021 is the SHS Baler Campus with projects ranging from the infrastructure development of the Administration Building up to the proposal for fence and road network, additional Birthing facility, and upgrading of engineering systems. These are aligned to the planning framework principles and priorities of the administration. This will be continued to the proposal of the construction of dormitories for the year 2022 and beyond.

The Sta. Elena Campus is envisioned to be the transfer site of the SHS Palo Campus. The planning shall also be in coordination with the UPV Tacloban to coincide with their land use plan.

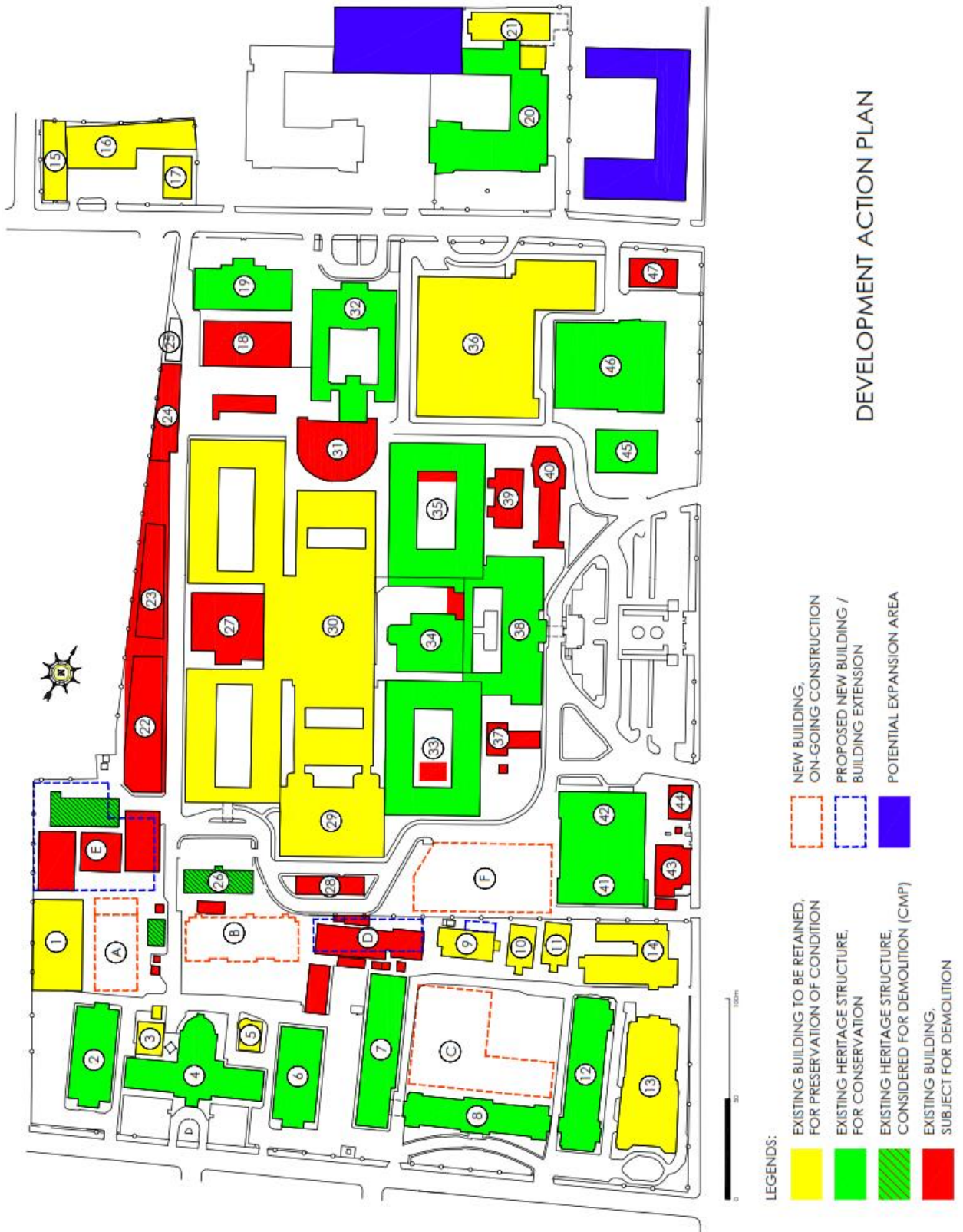


Figure 129 Development Action Plan for University of the Philippines Manila

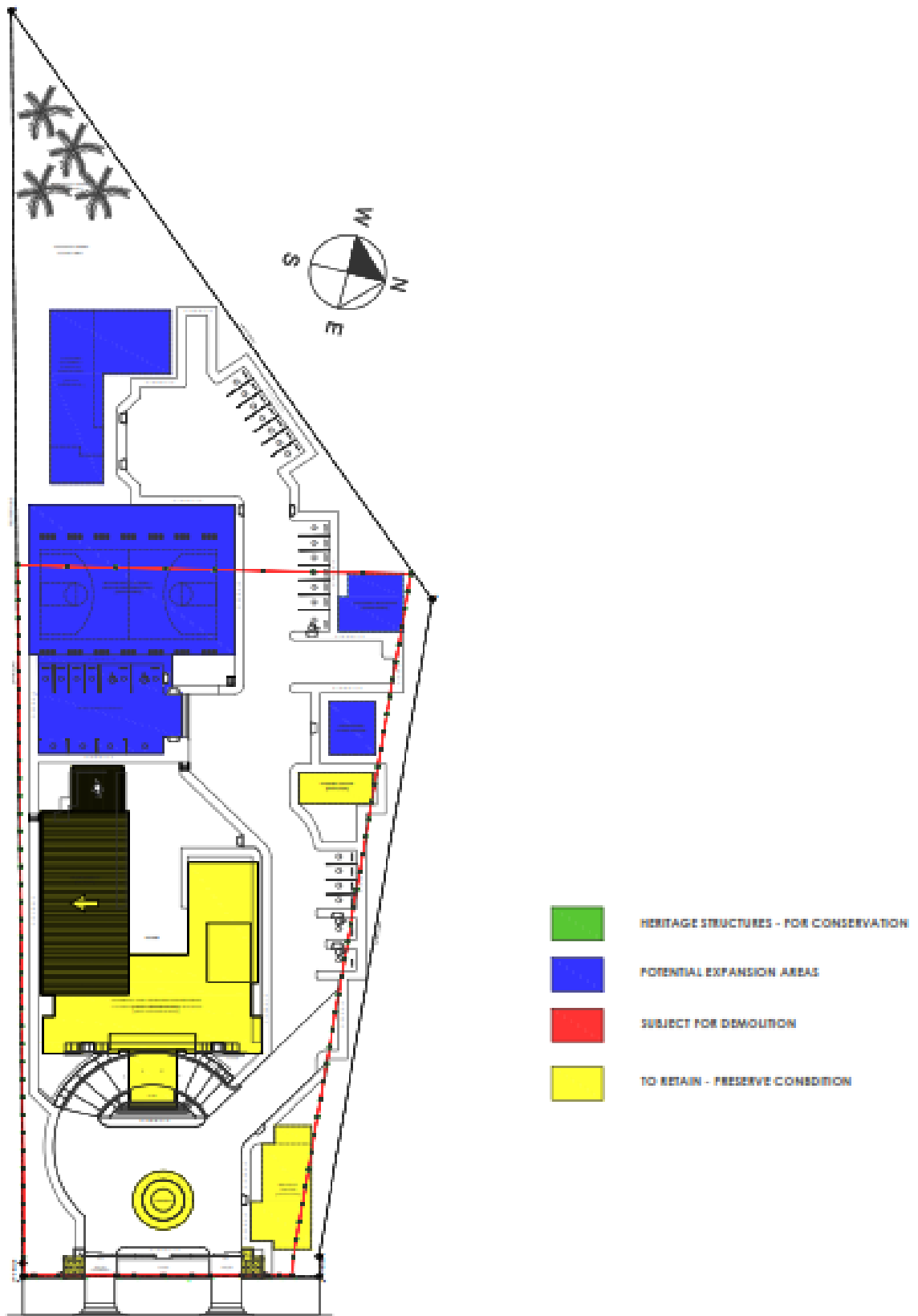


Figure 130 Development Action Plan for SHS Baler Campus

Development Plans SHS Sta. Elena Campus

The SHS Sta. Elena Campus details are based on the Proposed Land Use Plan of UP Tacloban which already discusses the pertinent details of the site. These include the transportation, power, and water supply conditions in the area.

- **Transport and Utility Requirements**

The public transport (jeepney) to Sta. Elena is infrequent and usually full. There should be a shuttle service from Tacloban needed in the interim. About two mini buses with 30-person capacity or approximately 25% of the student population in 2020.

- **Power**

The power distribution system is proposed to be underground with standby generator sets to be ready for possible power interruptions. Solar cells can occupy the roof area to power LED type lights, computer, and office equipment.

- **Water Supply**

Currently, Sta. Elena is not within the service area of the local water district. SHS needs to develop its own water supply system or connect to UP Sta. Elena's new system. Other options such as rainwater collection system, ground water sourcing, spring water sourcing, and wastewater treatment and recycling are viable options for the water supply and to create a sustainable water system.

The Buildings in SHS should have its own septic tank and wastewater treatment with a proposal to make a constructed wetland using the estimated cost of the constructed wetland based on the projected wastewater generation for 2020 to 2030.

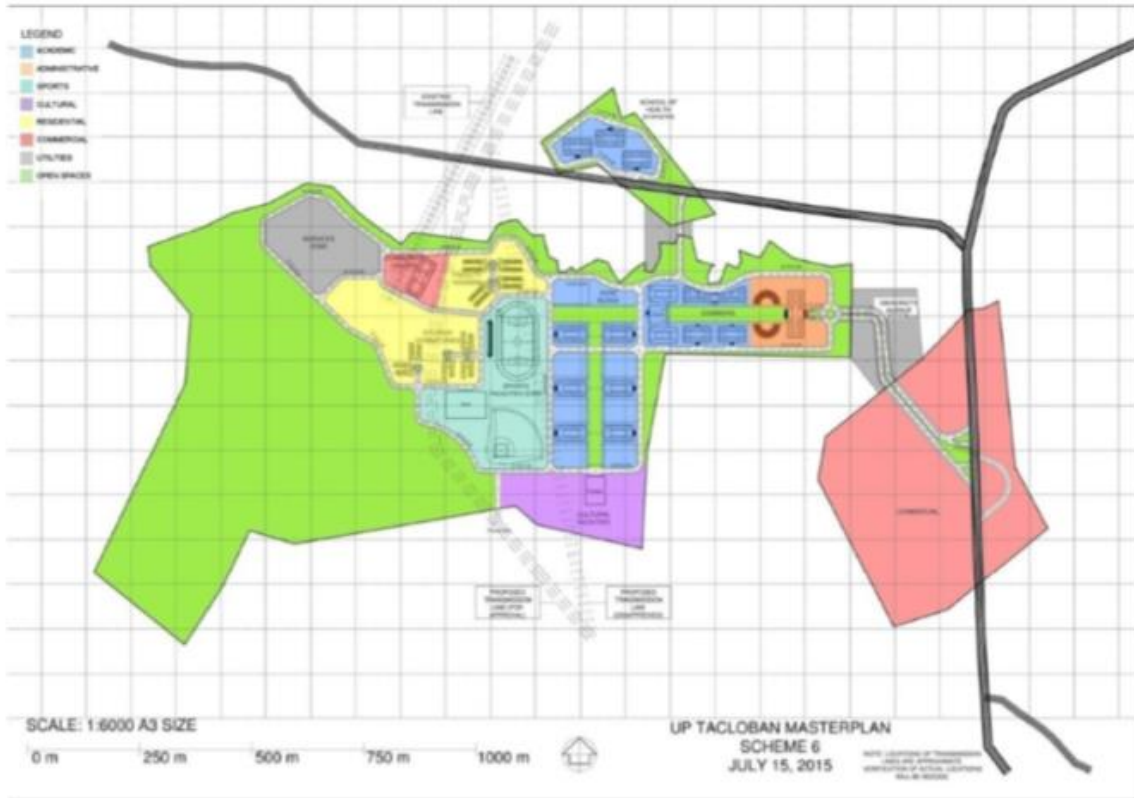


FIGURE 1.7 Scheme 6 Masterplan of the Proposed UP Visayas Tacloban Campus, showing zoning and building footprints

Figure 131 Proposed Land Use Plan of UP Tacloban (Image % UP Tacloban Masterplan)

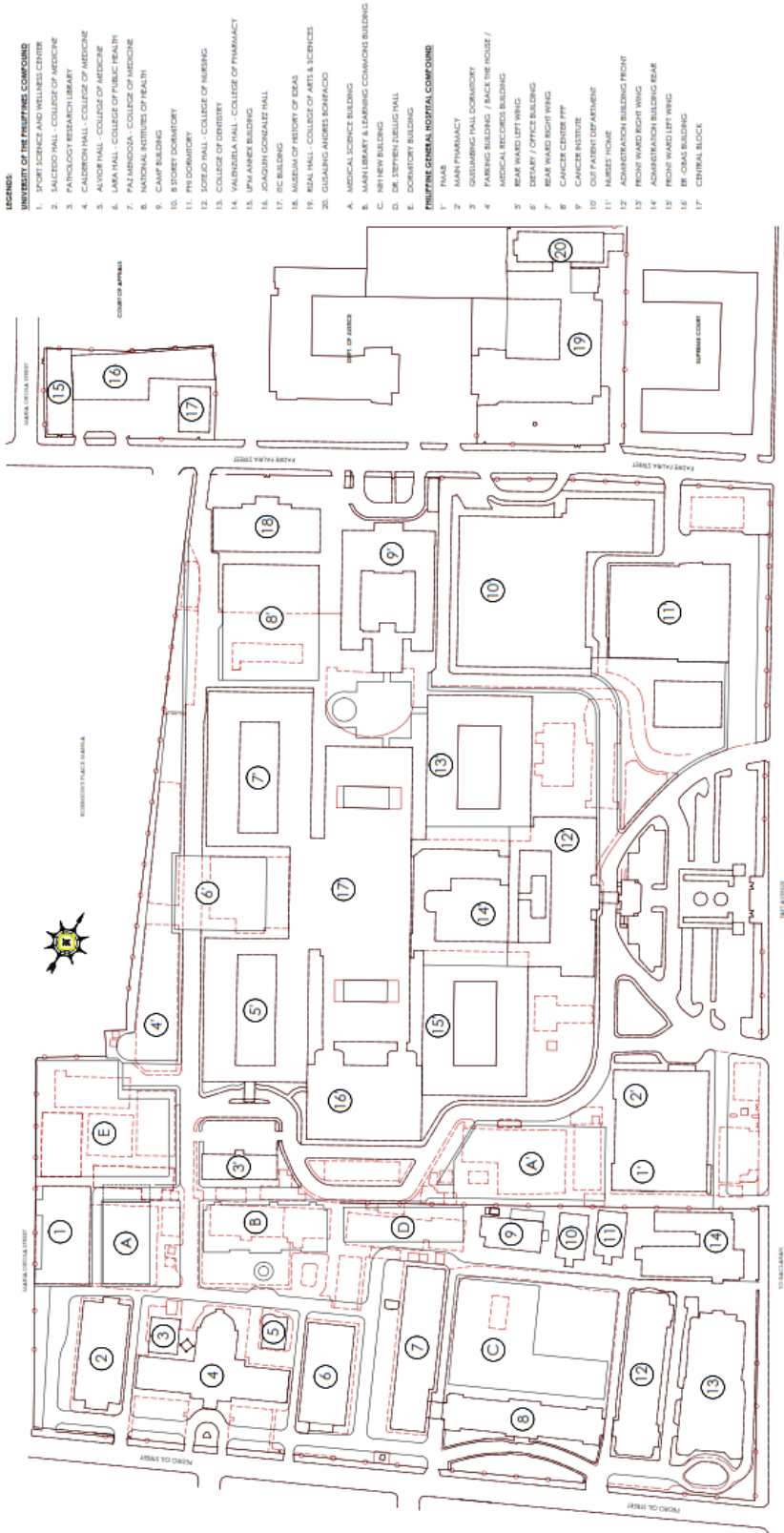


Figure 132 . Proposed Site Development Layout of SHS Sta. Elena

3.4.6. PROPOSED CONCEPT MAP AND INFRASTRUCTURE PLAN

Proposed Site Development Plan

The proposed site development plan for the whole campus combines the proposed site plans of UP Manila (the Academic Zone) and the UP PGH Masterplan (the Hospital Zone). While these were planned separately by different consultants (Palafox for UP Manila, and Archion for PGH), both plans adhere to the same planning principles and general objectives put forth by the UP System. Effort has also been made to integrate interconnected aspects and harmonize any conflicting proposals. Shown in the maps are the integrated site development, movement network, and development action plan (indicating proposals for which buildings are to be retained/ demolished). Each general zone, however, is discussed separately to communicate the specific planning intentions for each zone.



PROPOSED SITE DEVELOPMENT PLAN

Figure 133 Proposed Site Development Plan for UP Manila

UP Manila Academic Zone

Vision

A safe and holistic campus environment that is pedestrian-friendly, preserves culture and heritage, and at the same time provides sustainable interventions for present-day needs.

The site plan has three main objectives derived from the six priority outcomes of the UP System:

- To create a welcoming, interconnected and safe campus environment;
- To honor the historic and cultural context of UP Manila as well as bring the campus to the 21st century; and
- To guide future developments to sustainably cater to the continuous growth and demands of its users

Five-Point Agenda

1. Create a strong campus character. Create a sense of identity and arrival, through better street design, gateways, wayfinding, as well as the harmonization of the campus architectural elements.
2. Improve walkability and mobility of people. Ensure a connected network of all-weather infrastructure and well-landscaped areas which promotes walking.
3. Enhance open spaces as outdoor living and learning spaces through carefully studied urban design and landscape elements.
4. Highlight the heritage buildings, and ensure new developments complement the heritage structures.
5. Promote a sustainable environment. Provide approaches to energy conservation, ensure a longer operating life, use eco-friendly materials, form a landscape that conserves the environment, and ensure safety.

Key Features

- **Open Space Improvements**

A key feature of the proposed site plan for the academic zone is the new landscaped open space in front of the Library (currently under construction). This aims to provide a green recreational and congregation space within the densely packed development of the campus. Its central location also aims to provide a strong focal point to enhance campus character.

Another open space to be developed is the courtyard of the National Institutes of Health (also under construction).

To feature and highlight the significance of the heritage buildings, existing open spaces surrounding these structures will be reclaimed and improved as well.

Details of the proposed open space improvements are further discussed under the Campus Development Plan for Open Space.

- **Safety and Connectivity**

Another key feature of the plan is the proposed elevated walkway that will connect the various sections of the campus to major pedestrian entry/ exit points. This walkway aims to provide a safe, continuous, circulation spine that will enable university students, faculty, and employees to cross the Hospital Zone without mixing with the public clients of PGH.

Improvements in the main access points and road network are also proposed to promote better connectivity and visual and physical access. This is further discussed in the Proposed Movement Network. Other features include:

- Proposed street network from Taft Avenue distributes open space / park for Lara Hall and UP Main Library;
- Shared streets and linear parks identified in between Salcedo and Calderon Hall, in between Calderon and Lara Hall, in between Sotejo and College of Dentistry and in between NIH Buildings;
- Surface parking is for further study, but the concept can include a multi-storey parking which can be located in Padre Faura
- Proposed STP on the westernmost portion of the site



Figure 134 UP Manila Academic Zone Conceptual Master Plan by Palafox Associates



Figure 135 Aerial Perspective showing campus frontage facing Pedro Gil St. by CPDMO

UP PGH Hospital Zone

Background on the PGH Masterplan

The Philippine General Hospital (PGH) is one of the leading health care service providers in the Philippines, serving more than 600,000 patients annually, and provides a full range of diagnostic, medical and surgical services. As a government institution adjunct to the University of the Philippines, it employs and trains some of the best doctors in the country.

The Hospital occupies an area of approximately 10-hectares within the University of the Philippines Manila campus. Most of the structures within the institution were constructed post-World War 2 with time, use and abuse taking its toll on the structures.

Most of the architecture and engineering systems are no longer capable of handling both the influx of patients and the advances in medical technologies, as such, in order to be able to continue to provide the best health care possible, PGH commissioned a Master Plan to guide its growth and development for the next 25 years as well as repair and update its current facilities.

This section shows the proposals for the Hospital Zone as laid out in the PGH Masterplan by Archion Architects. As a Level 3 hospital and an important health care and teaching institution in the Philippines, PGH has to adapt to meet the challenges of a growing population, new technologies and a high number of indigent and charity patients. The PGH master plan develops a framework for the hospital to expand to 2060 beds with the expansion done in a rational and organized manner.

PGH Vision and Mission

Inaugurated in 1910 as one of the first state hospitals in the country, the Philippine General Hospital (PGH) Manila has evolved from a state-owned medical care facility for the Filipinos to becoming a teaching hospital campus strongly linked with the UP College of Medicine.

PGH has the following Vision and Mission:

It adheres to its Vision: “The country’s leader in transforming the lives of the people through excellent health care, education and research, accessible to all.”

With the Mission: “As the National University Hospital, we are committed to deliver globally-competitive, cost-effective, compassionate and accessible health care to the Filipinos, to provide world-class education to health professionals, and to generate relevant research that will impact on health policies.”

Proposed Site Development Plan

As Philippine General Hospital moves toward its modernization, the PGH Master Plan was envisioned to add six multi-storey buildings that will cater to all the needs in accordance with the current situation of the hospital. These new buildings will give way to a multi-storey PGH Residential Complex that will serve as a central housing block for nurses, doctors and other medical practitioners, a new Cancer Institute building that will expand the services of the current C.I building, Felicidad Sy Multi-Specialty Building and Pediatric Building will provide additional spaces for administrative, clinical, and nursing services, a 5-storey Parking Building that will function as the “back of the house” and offer additional 310 parking slots and the new Dietary Building that will expand the services of the current Dietary department and increase the number of Charity Nursing Units.

The second floor will serve as the expressway of each building that is interconnected by elevated walkway which will unify the function of the entire PGH Complex. In relation to its landscapes and sustainability significance, each new building’s roof deck will offer additional green spaces that will work as a Roof Garden. Being the founding father and primary public healthcare provider of the country, Philippine General Hospital seeks to improve its facilities and services for the upcoming years.

New buildings will have facilities that will support the campus as well as itself. The general concept of this strategy is by allowing new buildings to be multifunctional for the welfare of the whole PGH complex. One example of this is the New Pediatrics building which will provide additional space not just for the pediatrics department but will pave the way to others as well. The new buildings are envisioned in a matter that is beneficial for the whole system. These new buildings can provide additional nursing units, operating room complex, intensive care units, convention centers, clinical services, and administrative offices. This will provide PGH to function efficiently in offering first-world health care service and fill up the gap of the existing buildings.

With PGH as the premier public hospital in the country, it is arguably considered to be one of the prime consumers of water and electricity in Manila. Adding a sustainable approach within these new buildings e.g rainwater collection, solar panels, green roofing, and walls will provide adequate help to existing buildings. Rainwater collection will provide additional water supply and cut down the water bill, so adding solar panels will help reduce the carbon footprint produced in the consumption of electricity but also cut down the electric bill. Green roofs and walls will not just provide aesthetic values within the complex but also offer good thermal insulation properties which will give proper cooling comfort for its users and carbon sequestration properties that give good air quality.



Figure 136 PGH Master Plan Aerial View by Archion Architects

Proposed Movement Network

Academic Zone

The first primary access point is along Pedro Gil Street, between Paz Mendoza Hall (27) and Lara Hall (30). This street will begin at the heritage side of the campus and will lead to the new buildings of UP Manila. It would be like walking or driving by the history of how the university has developed and transformed through the years.

Another proposed access is along Taft Avenue between the College of Pharmacy (36) and the College of Dentistry (38). This entrance leads further to the proposed buildings and connects to a road going to the Hospital Zone.

A different paving material is proposed between the UP Library (28) and Calderon Hall (25), which will serve as a visual guide for moving vehicles to slow down. It can also be used as an extension of the parks between the buildings. Opening up from the Pedro Gil side and located at the easternmost side of the campus is another primary access point that leads to the UP PGH road.

An existing access point is retained along Pedro Gil Street, which is located between Sotejo Hall (37) and the NIH Building (31). Lastly, the entry and exit point located at the northern part of the plan provides access to and from UP PGH and leads further to Padre Faura and Taft Avenue.

Hospital Zone

The following describes the proposed vehicular flow in the PGH Masterplan by Archion:

The proposed vehicular flow within the PGH considered the development of multi-storey parking on the rear part of the hospital compound (proposed Back of the House Building, and Residential Complex). This shall serve as the centralized parking area for all vehicles. Cars that will park inside the PGH compound will utilize Padre Faura. This is to decongest the traffic load along Taft avenue and solely utilize the gates along the said street for public /commuters, and for emergency access.

Vehicles that would not require parking i.e. drop-off only will utilize the two Gates along Taft Avenue. The existing parking area in the said area shall be converted to a formal garden and rotunda.

Moreover, the existing curved road near the Nurses' Home and OPD Building shall be reconfigured symmetrically to the road on the west side of the site. The existing gate on the OPD Building shall be utilized for ingress and egress to further decongest the traffic along Taft avenue.

Building setbacks especially those that are beside the property line shall be in strict compliance with the prescribed requirement of the National Building Code of the Philippines (at least 3 meters wide). Such open areas should be able to accommodate the access of emergency vehicles such as fire trucks and ambulance vehicles in case of emergencies.

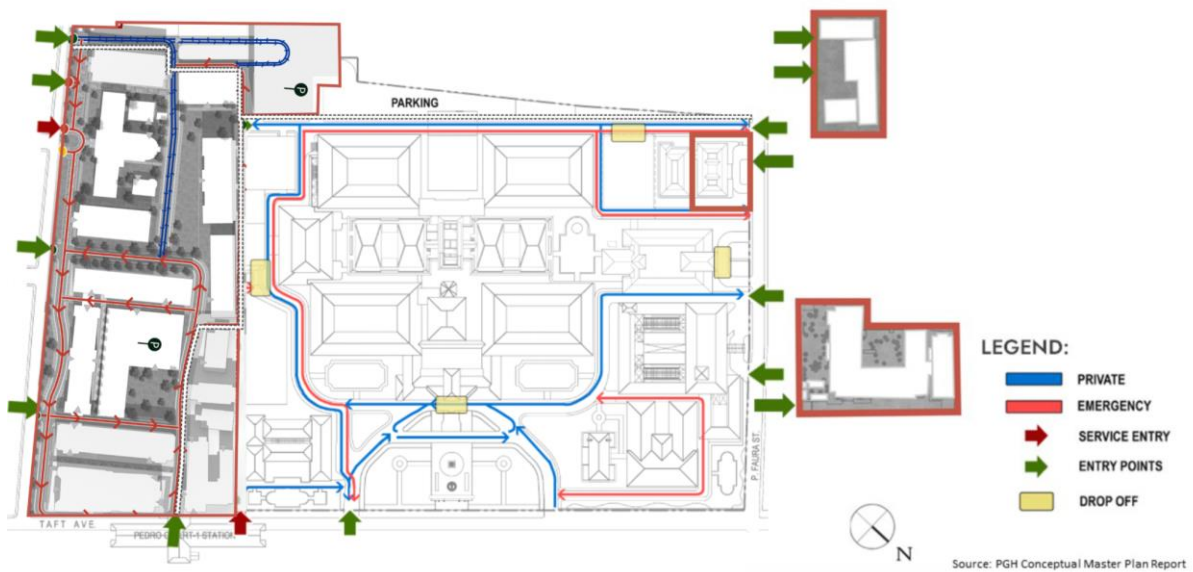


Figure 137 Proposed Movement Network

Proposed Open Space Interventions

a. Open Space

The spaces between and around buildings can fulfill various functions aside from general circulation. These can provide pleasant green views and areas for rest and recreation; enhance micro climate; serve as emergency evacuation areas and fire buffer zones; and decrease flood risk if allowed to absorb surface water. The open space in the campus should be reclaimed and maximized to serve these various functions.

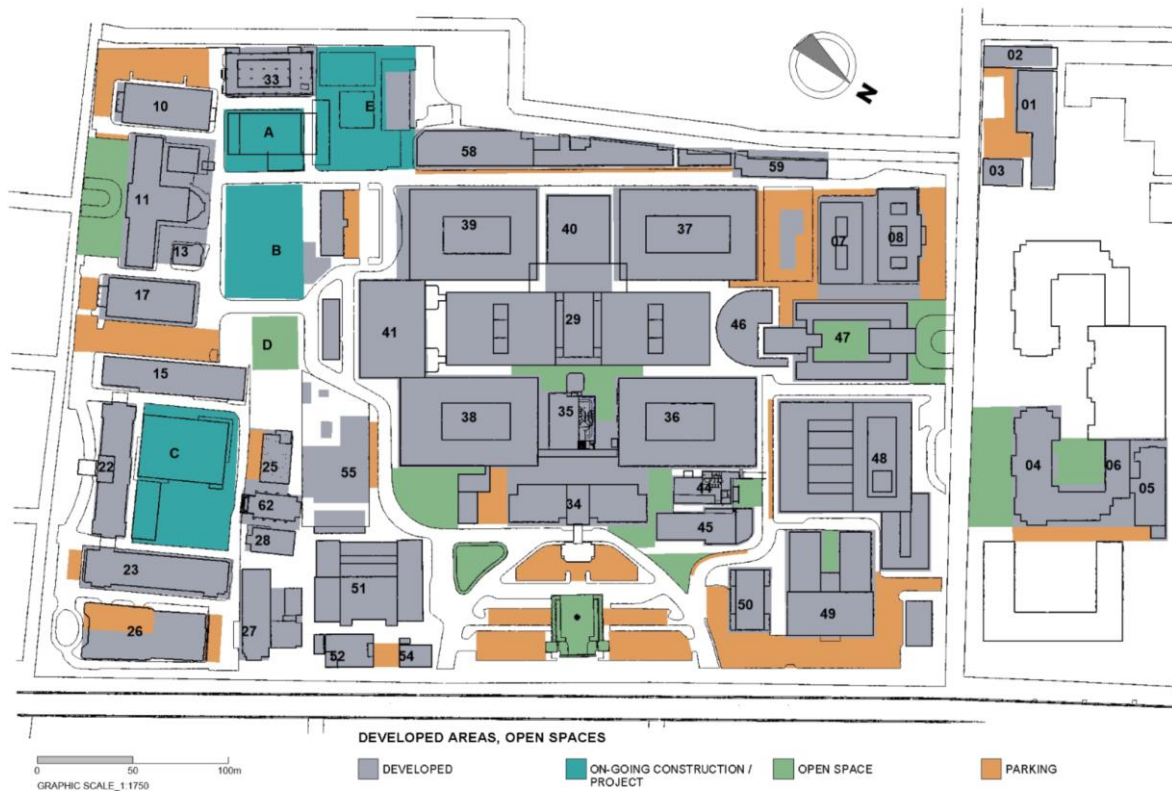


Figure 138 Open Space Existing Conditions

Existing Conditions and Issues

UP Manila due to its size is perceived to have limited open space. The whole campus (with 46% built up area) complies with the maximum allowable percentage of site occupancy (50%) for institutional use (Rule VIII of the 2004 Revised IRR of P.D. No. 1096, the National Building Code of the Philippines (NBCP)) and 60% for CLUP. But the open space is perceived as limited or inadequate according to the campus survey. One possible reason is that much of it is paved and used for parking.

There is a lack of permeable surfaces. The NBCP states that 30% of the open space should be Unpaved Surface Area (USA). According to the assessment of the PGH masterplan, the PGH area lacks 15,898.29 sqm of Unpaved Surface Area (USA) based on this requirement.

These open spaces are also used as parking. Some building front plazas and perimeter open spaces are used as parking spaces, with double parking common. This reduces the flexibility of these open spaces for other uses. The only front plazas not used are the ones in front of Calderon Hall and Rizal Hall.

And since these open areas are used for parking, there are inadequate vistas for heritage buildings. The landscaping around heritage buildings don't provide sufficient vista required for appreciation. Some of the gardens are overgrown and obscure the buildings before 2020. The UP Manila and UP PGH contracted a landscape and tree servicing provider to address this concern and open up the site to adequate light.

Naturally people want more greenery and community spaces. From the survey results, both the student and faculty/staff respondents rated greenery and open spaces as very important factors affecting overall campus impression.



Figure 139 Rizal Hall frontage facing P. Faura St.



Figure 140 Open space in front of Rizal Hall

Proposed Strategies

The idea of perceived limited open spaces can be reversed through the creation of plazas/landscaped areas in front of important buildings. These plazas/ landscaped areas should complement the building and enhance its character, provide vista and a dignified setting to heritage buildings, serve as nodes/central areas to improve wayfinding, and increase the amount of permeable surface to improve stormwater management.

Aside from this, internal streets can be designed as pedestrian priority shared streets or linear plazas/ parks. Vehicular movement will be limited to providing access to consolidated parking spaces. Other internal streets not regularly plied by vehicles can be designated as pedestrian-priority streets (for emergency vehicular access only). These pedestrian-priority streets can be designed as linear plazas to make walking more pleasant, increase the amount of permeable surfaces to improve stormwater management, and improve stormwater drainage through features such as rain gardens or swales.

Increase the landscape spaces around buildings. Leftover spaces around buildings should serve to highlight and/or complement the building's character. Landscaping provides a softer setting; creating green views instead of clutter. Landscaping can also help absorb rainwater, contributing to improved stormwater management.

And to enliven open spaces, building plazas/ landscaped spaces should provide areas for arts, events, and performances; sitting/ resting; gathering; and recreation. Ground floor areas surrounding these spaces can be leased for cafes/ restaurants/ services; or areas allotted for food stalls.



Figure 141 Image Reference for development of building plazas (University of Maryland School of Medicine Plaza)



Figure 142 Image Reference for enlivening of open spaces (Cambridge Crossing)

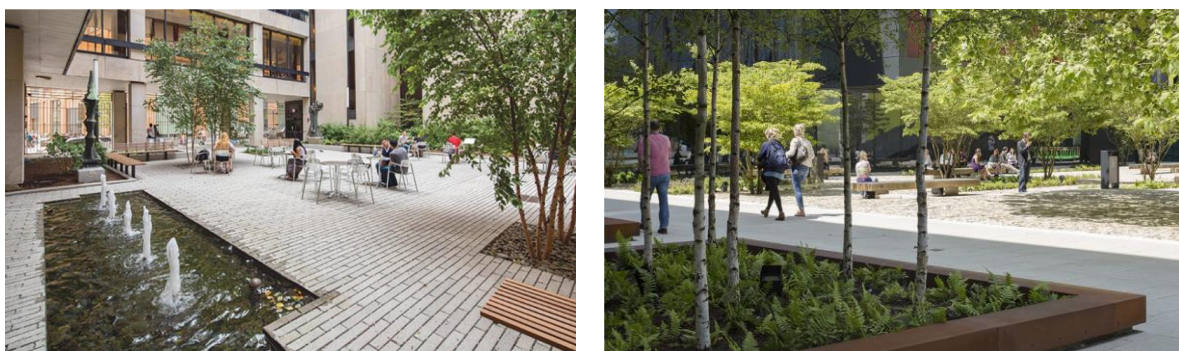


Figure 143 Image Reference for development of building plazas and internal streets (Pace University)

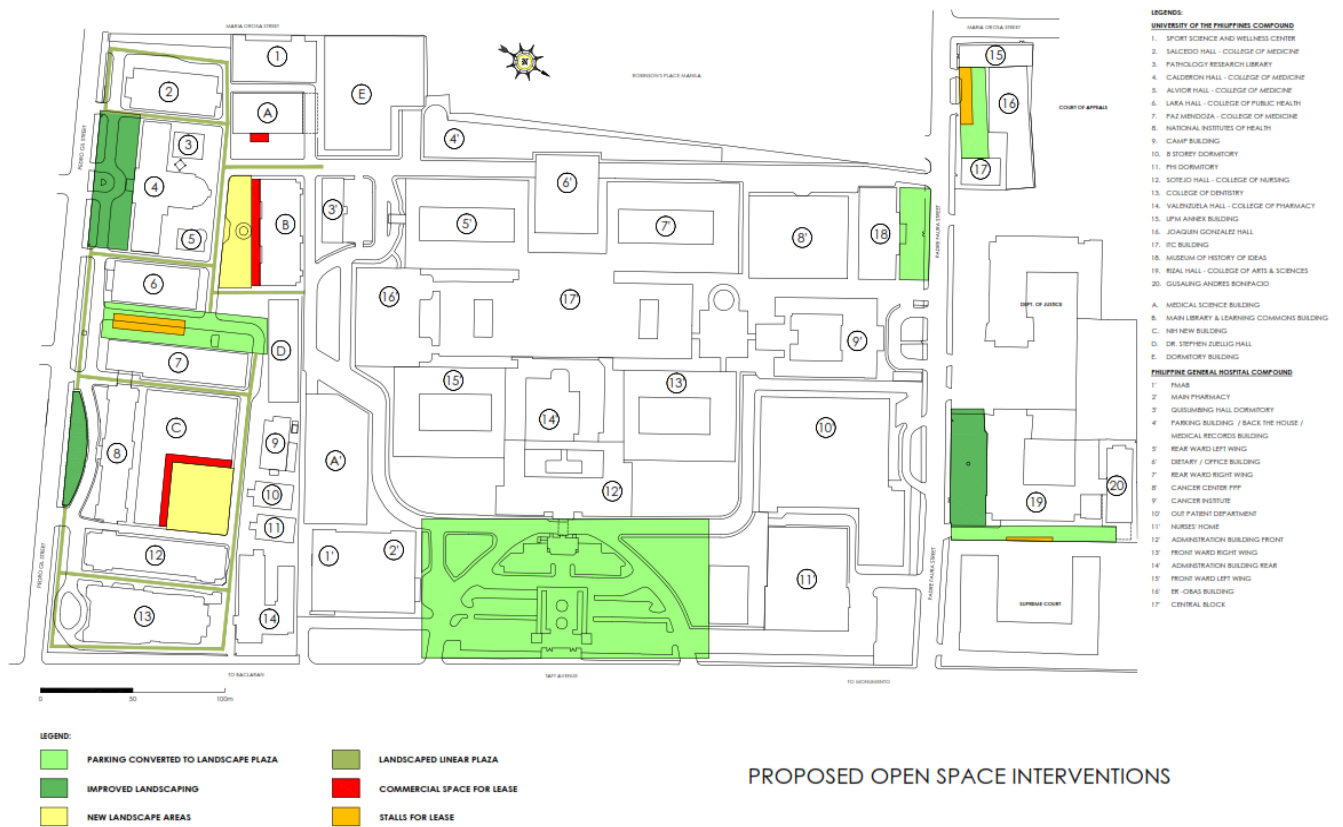


Figure 144 Proposed Open Space Interventions

The proposed landscaping plans are provided by the consultant Ar. Felino Palafox to develop the open spaces of UP Manila.

b. Mobility

Making trips to and within the campus safe, easy, and pleasant is one of the main aims of the plan. This chapter covers both pedestrian and vehicular mobility.

Pedestrian Mobility

Most students and faculty travel to UP Manila by public transportation, followed by private car/motorcycle (for faculty and staff), and travel by foot (for students).

According to the campus survey, about 99% of students, faculty and staff move around the campus by walking.

The PGH Masterplan study also revealed that on a typical weekday, approximately 24,000 people come into the PGH Compound. About 90% of these are on foot while the rest are on motorized vehicles.



Figure 145 Covered walkway in front of the old NIH building

Existing Conditions and Issues

According to the campus survey, even if the majority get around by foot, walking is not pleasurable due to the poor state of pedestrian paths. Although there are existing covered walkways, these are not fully connected and in some instances are too narrow (see Figure 125). Respondents want continuous, well connected, and well paved covered walks. Other main reasons that discourage walking are the heat and rain and lack of nice views.

Another major challenge for pedestrians is the poor connection between the Pedro Gil side of the campus and the Padre Faura side. People have to pass through dirty, poorly maintained, flood-prone sidewalks or have to mingle with visitors in the PGH area from both ends of the campus.

Connection to the LRT could also be improved. A traffic study for UP Manila done in 2015 recommends providing seamless connectivity to public transport stops, campus buildings and parking facilities.

Proposed Strategies

These proposed interventions all aim to improve the walkability of the campus by improving connections between buildings and transport stops.

- Ensure continuous covered walkways connecting buildings. These can either be covered walkways on ground or elevated walkways where space permits. The following are the major proposed routes:
 - North-south connection to Taft. This provides a direct link from the north side of the campus (College of Medicine area) to the south side - College of Dentistry and College of Pharmacy entrance) and should ideally connect to the LRT-Padre Faura station.
 - West-east connection (Pedro Gil to Padre Faura side). This provides a better and more direct connection between the Pedro Gil and Padre Faura side. This

can be an elevated walkway which also connects to proposed parking buildings on the south side.

- Connection to PGH. This can connect to the north-south or west-east connection and provides a link for doctors and other health practitioners teaching in UP Manila to get to PGH easily.
 - Interconnectivity of buildings within PGH. Elevated walkways between existing and proposed buildings of PGH are proposed in the PGH masterplan. The buildings are proposed to connect on the second level and are also meant to connect to the proposed multi-level parking space.
- Coordinate with the city to improve neighborhood walkability and connection to public transport. Cooperation with the City of Manila should be established to improve the area around the campus. Areas of cooperation could include the following:
 - Sidewalks along Pedro Gil, Taft, Padre Faura. This could include renovation of the existing sidewalks including paving, lighting, landscaping; or the construction of an elevated walkway along the campus perimeter that will connect the LRT-Padre Faura station to major UP Manila and PGH entrances. This needs further study as it will potentially affect the vistas for the heritage structures.
 - LRT connection. Connection of proposed walkways to LRT Padre-Faura. Cooperation with the Light Rail Transit Authority can also be done.
 - Street crossings. Improvement of street crossings to the Padre Faura side of the campus can be done - this can include repainting of the pedestrian crossing and pedestrian crossing lights.
 - Restriction of through traffic along Padre Faura. Once the Supreme Court is turned over to UP Manila, almost the entire stretch of Padre Faura from Robinsons to Taft will front UP Manila buildings. Thus it may be ideal to treat the street as part of the campus complex, restricting through traffic and making it more pedestrian friendly not only to university constituents but also for PGH visitors

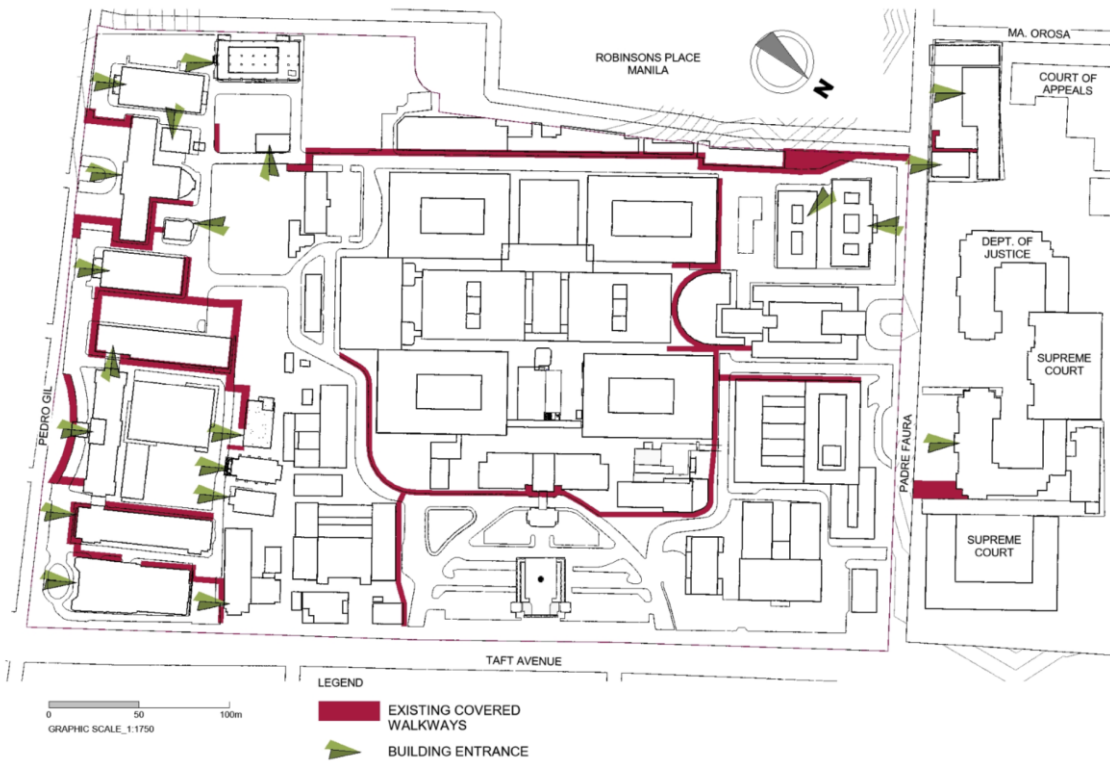


Figure 146 Existing covered walkways and building entrances

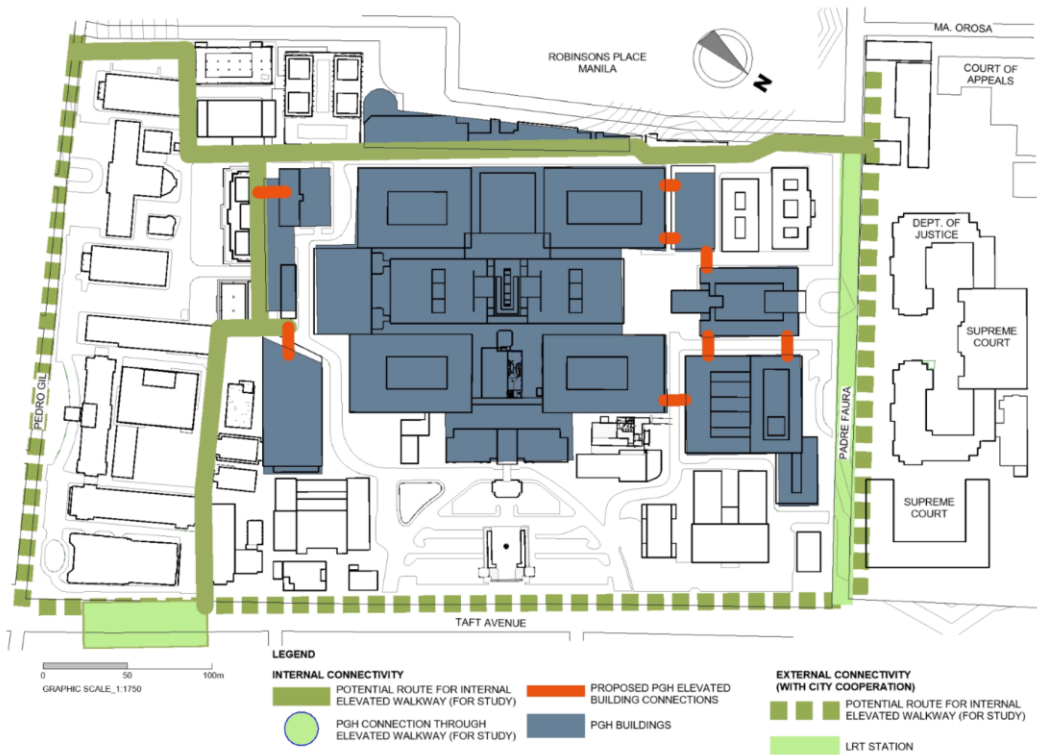


Figure 147 Initial Draft of the proposed elevated walkways connecting existing and proposed PGH buildings

c. Wayfinding

Wayfinding refers to the ways in which people orient themselves in physical space and navigate from place to place. In the context of architecture and urban design, it refers to the user experience of orientation and choosing a path within the built environment. The concept has been expanded to include the use of signage and other graphic communication, visual cues in the built environment, tactile elements, including provisions for special needs users.

Existing Conditions and Issues

Due to the numerous buildings in the UP Manila, complex, it is often difficult for newcomers/visitors to find their way due to the following reasons:

- Inadequate signs indicating campus presence. The campus has many entrances and not all of these entrances provide a strong indication that it is a campus entry.
- Multiple entrance/ exit points. Aside from the PGH-Taft entrance and the CAS - Padre Faura entrance, there is no clear hierarchy in the other entrances, as well as clear indications of whether these are for pedestrians or vehicles.
- Lack of maps and building signs on key junctions. Not all of the most used entrances have campus maps and signs indicating directions for major buildings.
- Confusing paths and building layout. Internal streets are mainly driveways providing access to the buildings. The lack of definition of interior paths and nodes and the 'front' and 'back' of buildings makes internal circulation disorienting.



Figure 148 Existing pathways between buildings

These entrances and exits should also provide access to wayfinding information. Campus maps and directional signs should be provided at key entrances and junctions. The design of maps and signs for the whole campus should be harmonized.

The PGH Masterplan has a proposed wayfinding manual that can be adapted to UP Manila for a consistent look for the whole site.

d. Vehicle Flow and Parking

Existing Conditions and Issues

Vehicle flow

Based on the campus survey about 31.6 percent of faculty/ staff and 11.5 percent of students use private vehicles to get to campus. No survey was made for visitors (except for the UP PGH report). From the study, on a typical day, about 1,900 vehicles enter the PGH Compound. About 80% of these are light private vehicles, 10% are taxis, and 8% are motorcycles.

Parking

The UPM campus has a Traffic Committee managed by UPM Police. The parking system in UPM adopts a sticker policy wherein holders enjoy free parking, which is separate from the PGH system. Availability of stickers is on a first-come first-served basis. Due to separate sticker systems, UPM sticker-holders are not allowed to park within the premises of PGH and vice versa.

Availability of parking is one of the major mobility concerns in the campus. Double parking is common in the area, and only the College of Dentistry has basement parking. Only about 61 percent of faculty/ staff and 36 percent of students are able to find parking inside the campus. If they are unable to park inside they usually park inside Robinsons Mall or surrounding streets.

Vehicles are cited as a major constraint to walkability. Parking also encroaches on and occupies what could be allotted as open space for plazas, landscaped areas, earthquake/fire evacuation.

As of 2019, there are a total of 289 parking slots in the campus, most of which are in the College of Medicine, Paz Mendoza (52 slots) and Salcedo Hall (43 slots). This count excludes parking spaces in PGH. This count falls short of the required parking areas per National Building Code, and parking demand per survey results (see succeeding tables). If the standards of building code shall be enforced, there is a deficit of 973 parking slots which will require an area of 24,433 to 29,190 sqm. If the ratio of car users from survey results shall be the basis, there is a deficit of 897 parking slots which will require 18,837 to 26,910 sqm. These estimates of required parking are preliminary and need further study through actual vehicle surveys and detailed traffic studies.

The PGH Masterplan recommended the consolidation of the parking areas to leave a substantial area of the compound vehicle-free, and help improve the general condition of the environment within the compound. The study also showed that about 65% of all vehicles entering the PGH Compound leave within 10 minutes or less. Among light private vehicles, about 32% stay inside the compound for at least 30 minutes to as long as more than 12 hours. For motorcycles, about 85% stay within the PGH Compound for 30 minutes or less. The study's analysis reveals that the volume of vehicles coming in and out of the PGH Compound shows that it requires 350 car parking slots, 60 motorcycle parking slots, and 10 spaces allocated for delivery vans.

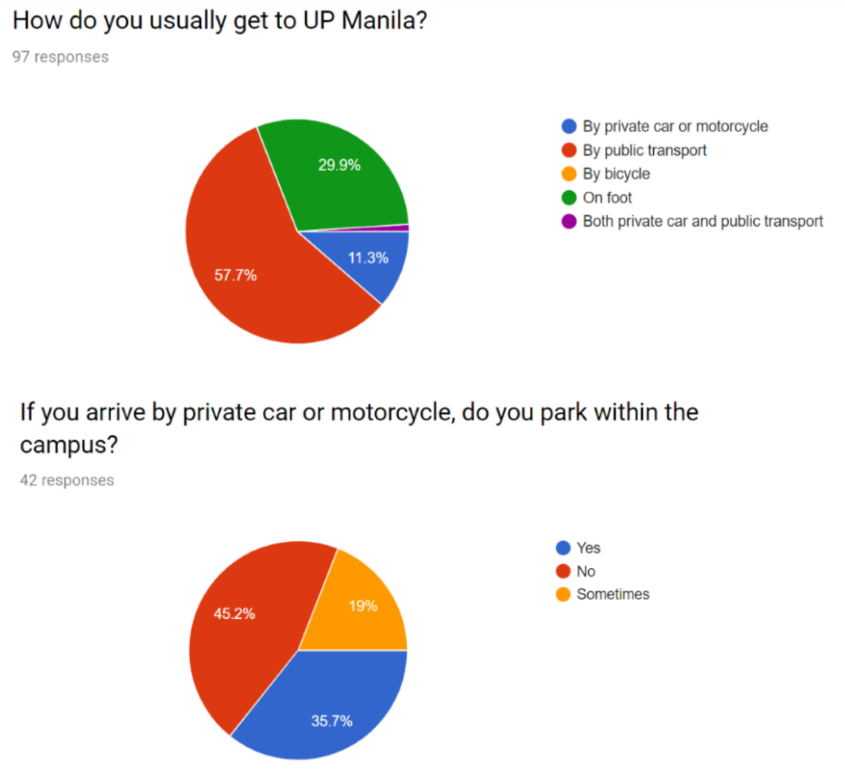
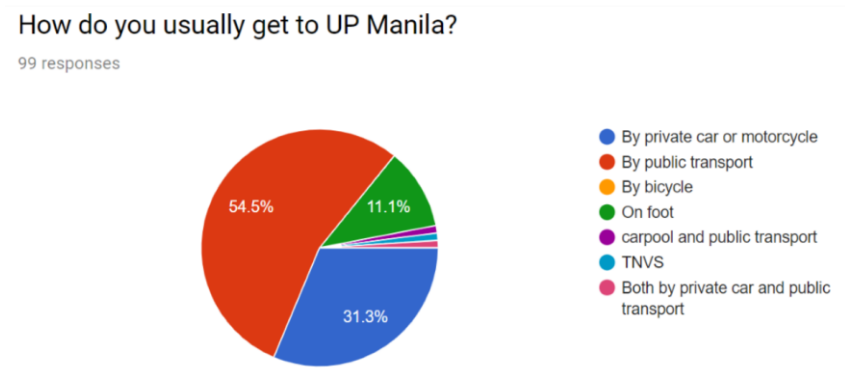


Figure 151 Travel Modes and Parking Locations of UPM Students



If you arrive by private car or motorcycle, do you park within the campus?

64 responses

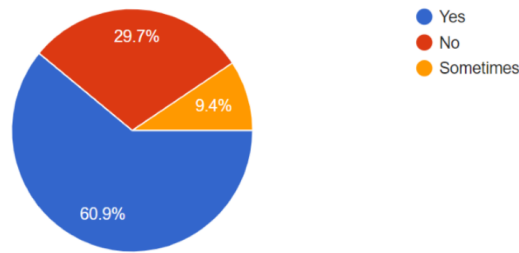


Figure 152 Travel Modes and Parking Locations of UPM Faculty/Staff/REPS

NOTE: Required parking estimate of 1/125 sqm is based on National Building Code requirement for office space. Parking estimates are indicative and need further validation through vehicle surveys and an updated traffic study.

| UP Manila Parking | | | | |
|-----------------------------|-------------------|--|---------------|---------------|
| | Gross Floor Area | Required Parking (1/125 sqm); Residential (1 slot per 8 units) | Existing | Parking Gap |
| Existing Buildings | 61,876.89 | 495 | 287.00 | 208.02 |
| Proposed Academic Buildings | 34,112.11 | 273 | 0.00 | 272.90 |
| Proposed Housing Building | 51,395.13 | 186 | 0.00 | 186.00 |
| Proposed Research Institute | 38,243.58 | 306 | 0.00 | 305.95 |
| Total | 185,627.71 | 954 | 287.00 | 972.86 |

Table 33 Parking gap based on requirements from National Building Code

*Assuming 50% of the total estimated number of cars enter the university in the same day

Parking Gap Required Area: Parking Garage $973 \times 30 = 29,190 \text{ sqm}$
Automated Parking System $973 \times 21 = 20,433 \text{ sqm}$

| | Population | % Getting to UP Manila by car | Estimated Number of Cars | Existing Parking | Parking Gap |
|----------------------|-----------------|-------------------------------|--------------------------|------------------|-------------|
| Students | 5,346.00 | 11.30% | 604 | | |
| Faculty/ Staff/ REPS | 1,853.00 | 31.30% | 580 | | |
| Total | 7,199.00 | | 1,184 | 287.00 | 897 |

Table 34 Parking gap based on ratio of car users from survey

*Assuming 50% of the total estimated number of cars enter the university in the same day

*Parking Gap Required Area: Parking Garage 897 x 30 = 26,910 sqm
Automated Parking System 897 x 21 = 18,837 sqm*

Proposed Parking Strategies

- Provide multi-level parking spaces on campus. This includes parking in the new buildings to be built (new NIH Building and Dormitory), a multi-level automated parking structure at the back of Salcedo Hall, and a proposed parking building at the rear of the complex to consolidate all the UP Manila and PGH parking into one building. This will encourage pedestrianization by parking in one location and walking or biking within the campus.
- Limit vehicular flow to reduce harmful emissions and create a more pedestrian-friendlier public realm. Once the new parking buildings are provided, vehicle entry to the academic zone can be limited to the CM-Pedro Gil and NIH-Pedro Gil, and Padre Faura entrance, while entry to the hospital zone can be limited to the PGH-Taft, and three entrances along Padre Faura. The PGH-Taft entry-exit can be limited to drop offs while the Padre Faura entrance can be used by vehicles who need to park.
- Utilize existing parking in nearby buildings. Parking requirements may not immediately be met in the short term. As an alternative strategy, UP Manila can coordinate with nearby condominiums and office buildings to encourage parking slot owners to lease out their spaces. A parking app can be used to manage slot availability.
- Develop off-site parking facilities. These should be within walking distance or nearby LRT stations.
- Cooperation with private property owners and the local government is needed to identify sites. This strategy would also need improved pedestrian and transit connections.
- Implement 'smart parking.' This is a system to know where and how many parking slots are available and was recommended in the 2015 traffic study for UP Manila. According to the study, variable message signs and parking counter/sensor systems are an intelligent transportation system (ITS) which makes motorists decide faster whether to park in one area or to find one another. It is a long-term operation that requires all public parking spaces within UPM areas to be integrated. This can also be done to PGH parking spaces to provide information to visitors. Variable message signs and parking counters shall be provided at the entrance of the campus, the buildings and its floor level. A parking sensor system shall be installed in each public parking slot to inform motorists where the available slots are.

| Proposed Parking Site (Short-Medium Term) | Estimated Number of Parking Slots | Remarks |
|--|-----------------------------------|---|
| Salcedo Hall Open Area | 81.00 | Automated Parking for Short Term only due to planned STP in this area |
| Proposed NIH Building | 170.00 | |
| Multi-storey Parking/ Housing Building | 428.00 | Construction of Parking Building as the first phase |
| Total | 679.00 | |
| | | |
| Proposed Parking Site (Long Term) | Estimated Number of Parking Slots | Remarks |
| CPDMO area as part of the Cancer Center Building | 126.00 | If parking is 4-storeys |
| Joaquin Gonzales/ Student Center/ ITC Building | 269.00 | If parking is 4-storeys |
| Total | 395.00 | |

Table 35 Proposed parking site options



Figure 153 Area around unused STP facility used as parking



Figure 154 Open area in front of the UP Manila Main Building in Joaquin Gonzales Compound



Figure 155 Rizal Hall driveway doubles as space for parallel parking

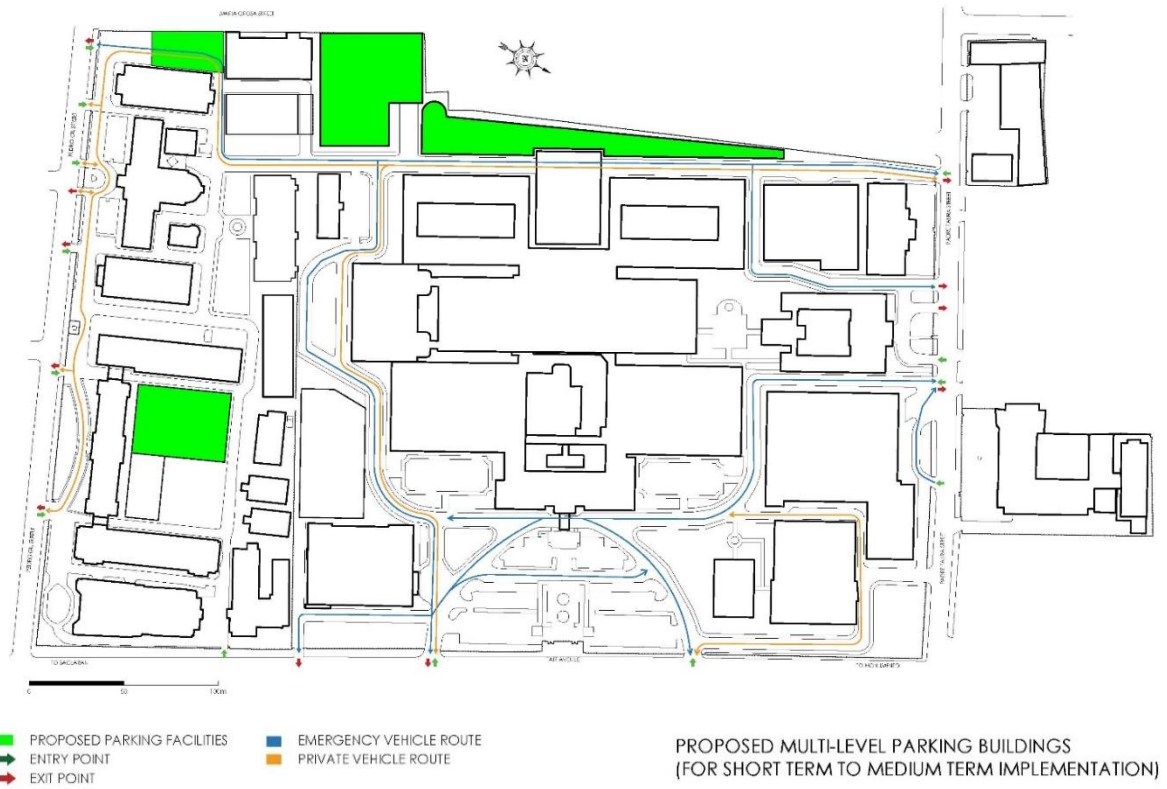


Figure 156 Proposed Multi-Level Parking Buildings (For short- to medium-term implementation)

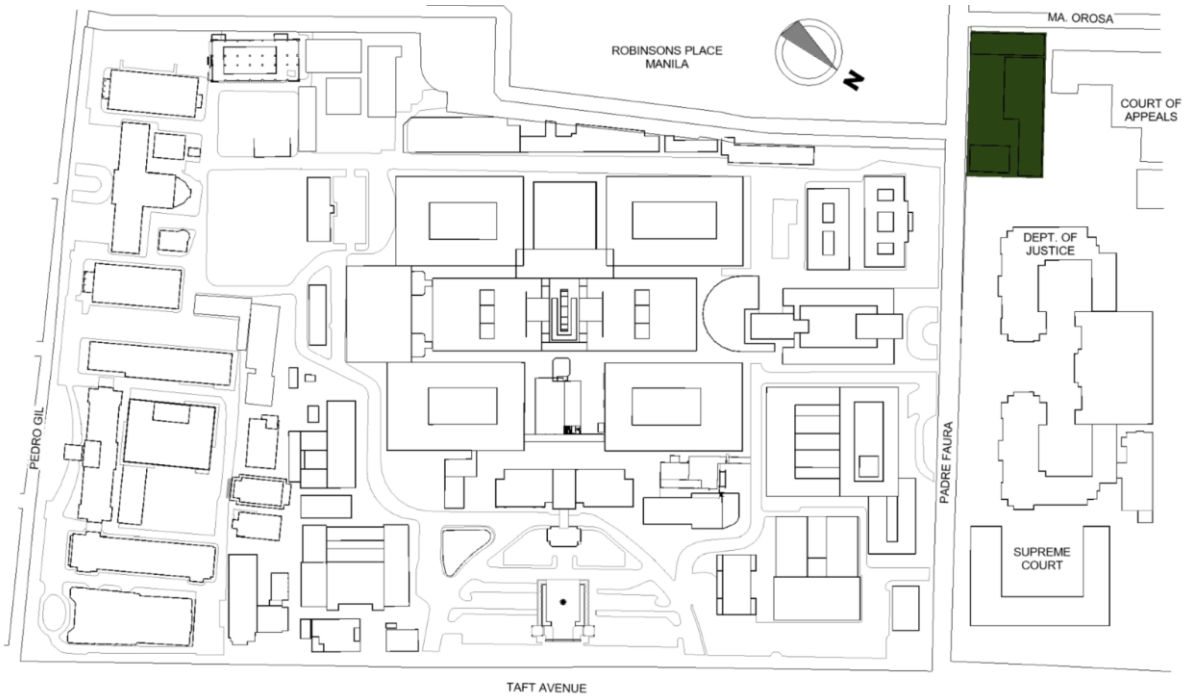


Figure 157 Proposed Multi-Level Parking Buildings (For long-term implementation)

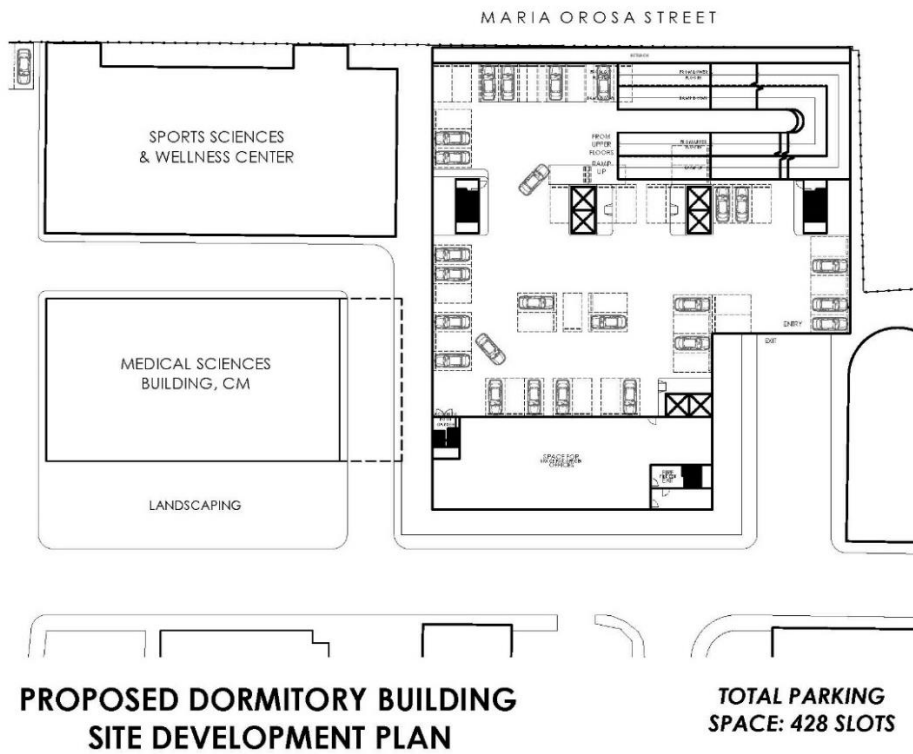


Figure 158 Proposed Dormitory Building "Site Development Plan" (Total Parking Space: 428 Slots)

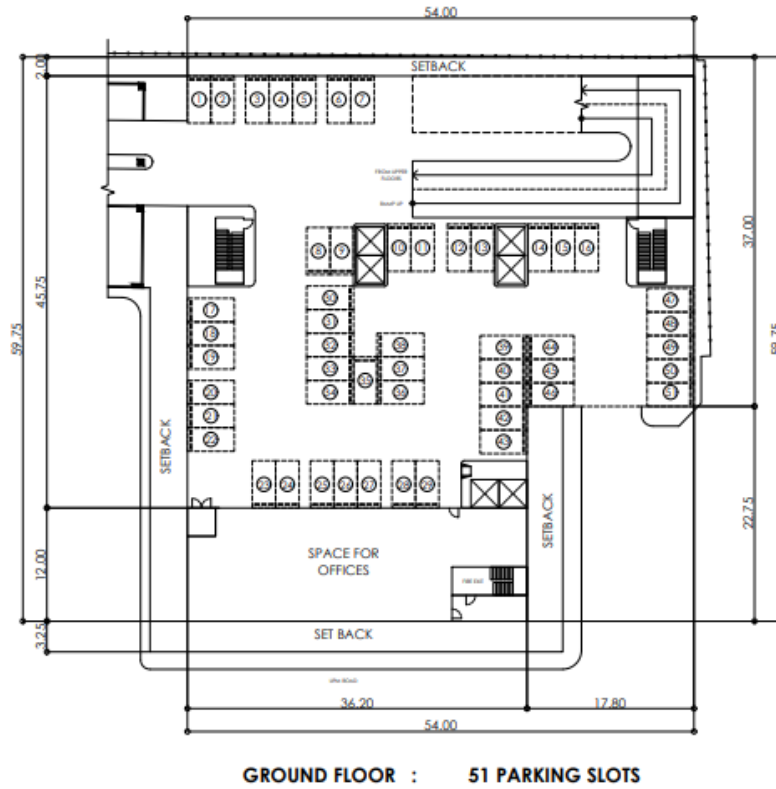


Figure 159 Proposed Dormitory Building “Ground Floor” (Total Parking Space per Floor: 51 Slots)

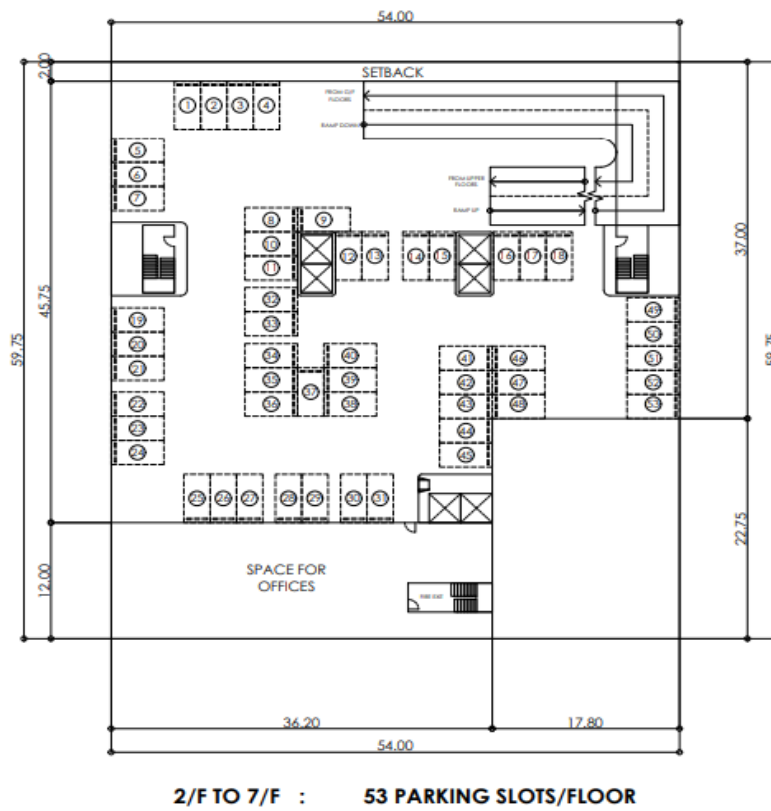
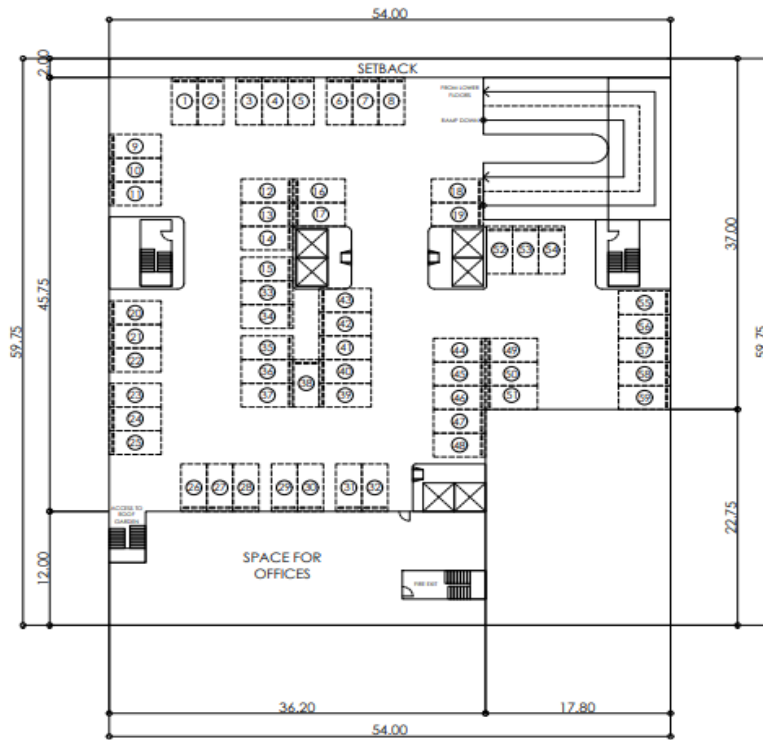
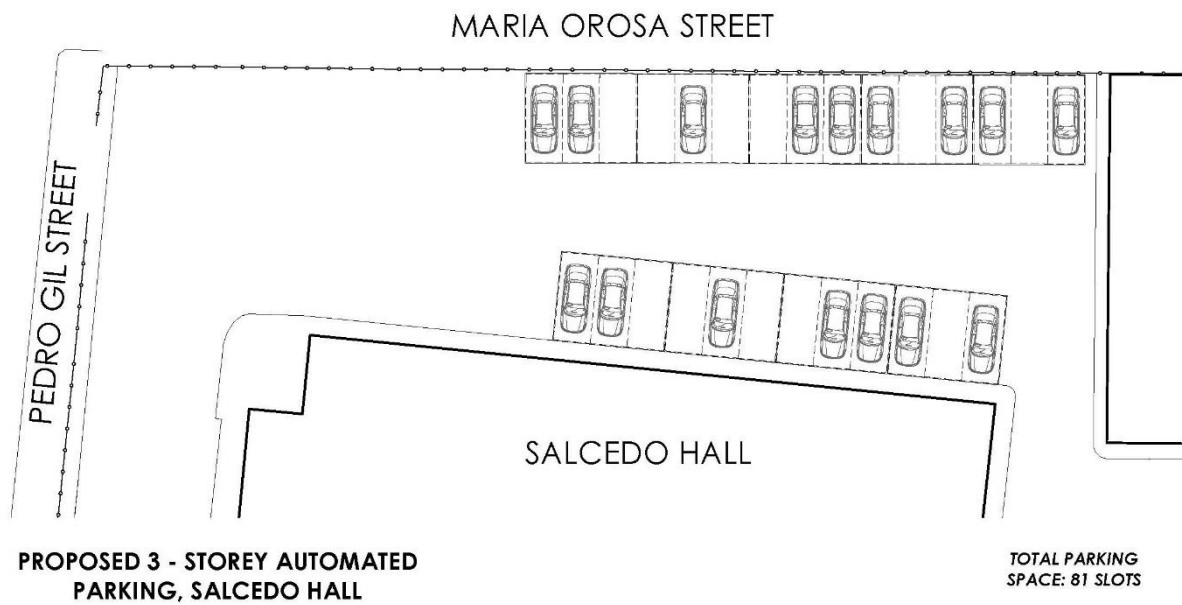


Figure 160 Proposed Dormitory Building “2nd Floor to 7th Floor” (Total Parking Space per Floor: 53 Slots)



EIGHT FLOOR : 59 PARKING SLOTS

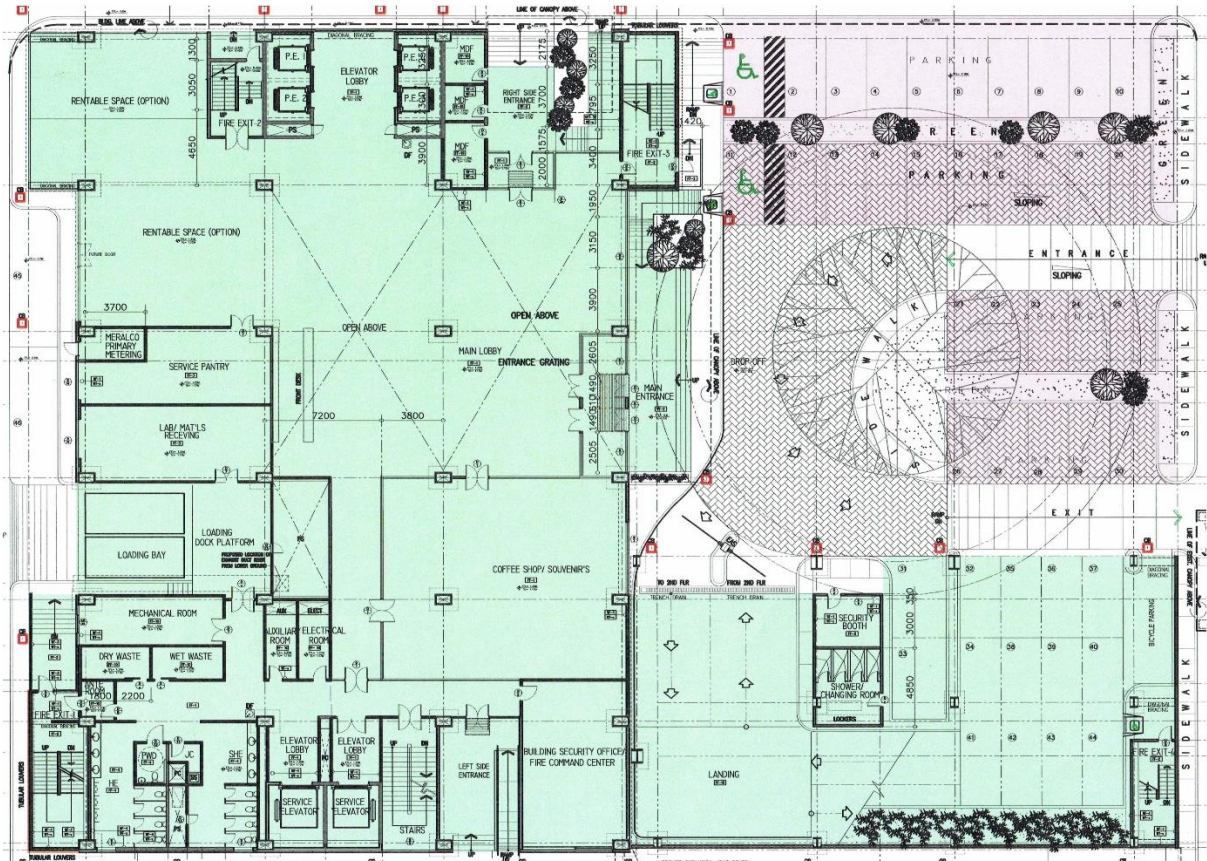
Figure 161 Proposed Dormitory Building “Eight Floorth Floor Plan” (Total Parking Space per Floor: 59 Slots)



**PROPOSED 3 - STOREY AUTOMATED
PARKING, SALCEDO HALL**

**TOTAL PARKING
SPACE: 81 SLOTS**

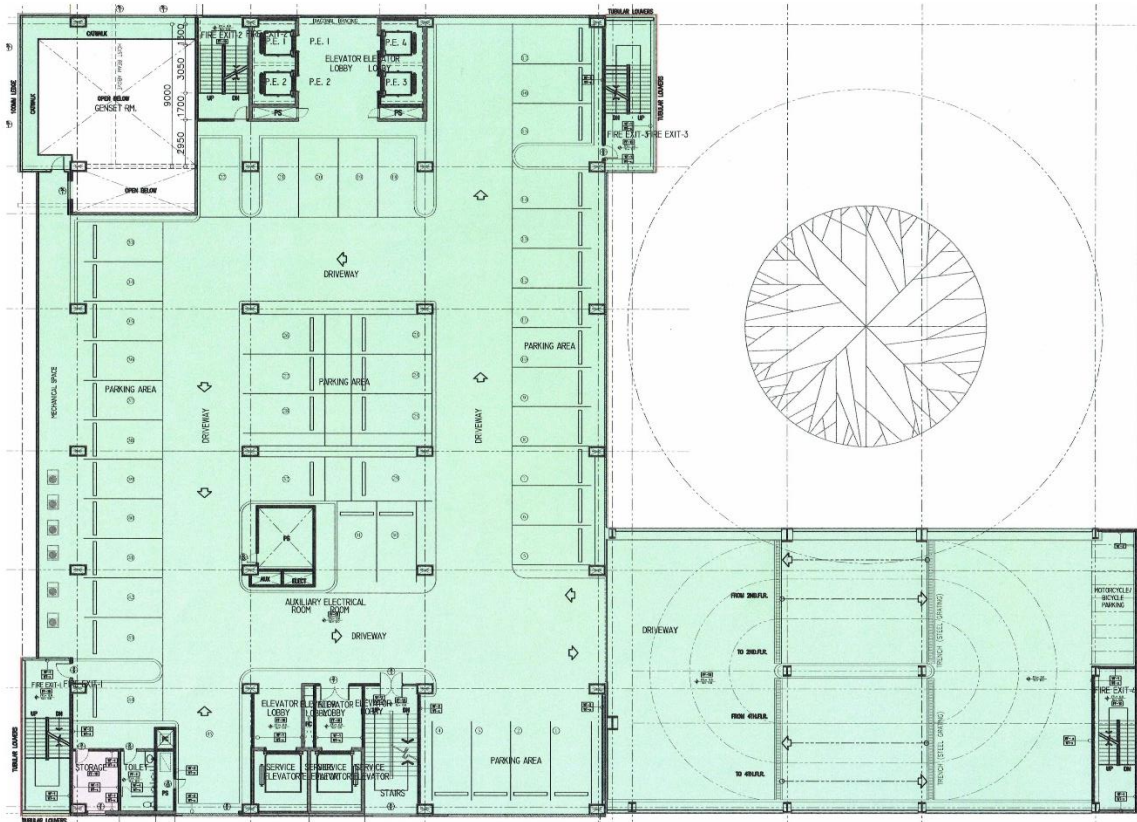
Figure 162 Proposed 3 – Storey Automated Parking, Salcedo Hall (Total Parking Space: 81 Slots)



**PROPOSED NATIONAL INSTITUTE OF HEALTH BUILDING
"GROUND FLOOR PLAN"**

**TOTAL PARKING
SPACE: 56 SLOTS**

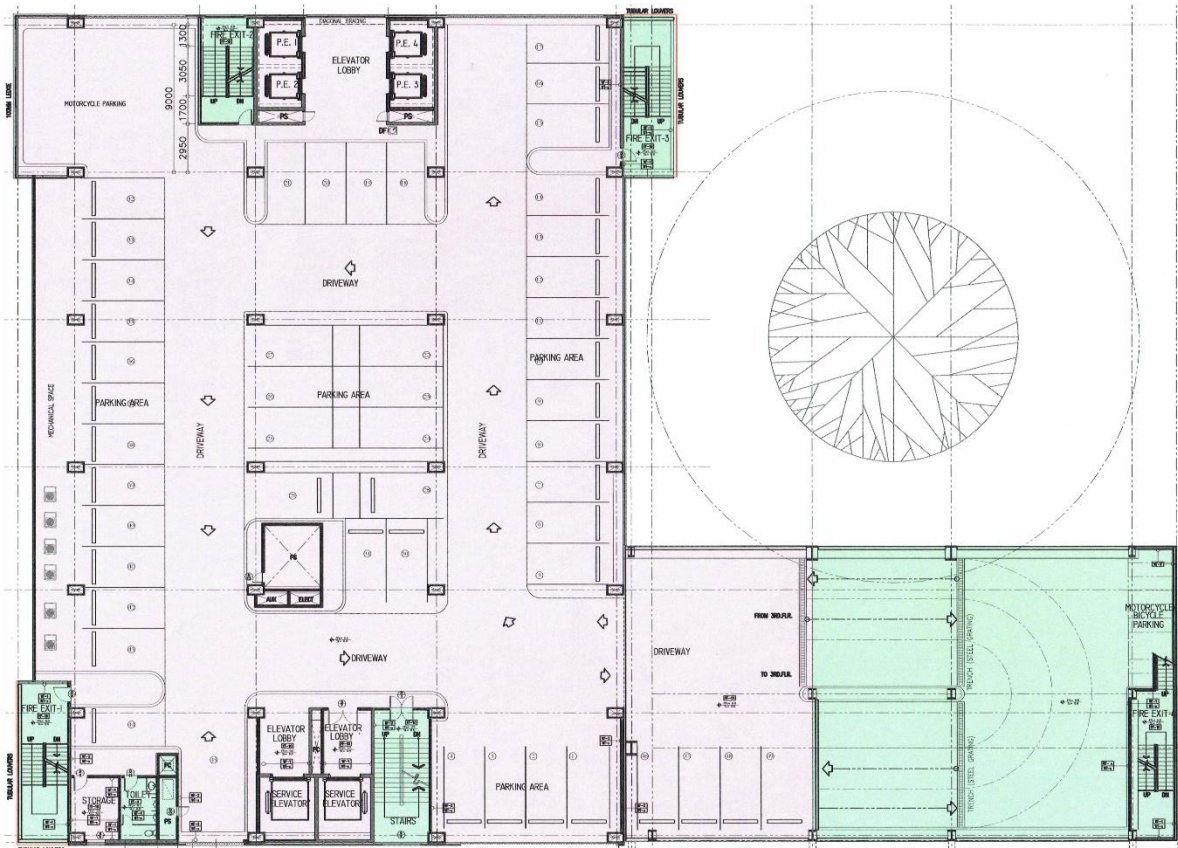
Figure 163 Proposed National Institute of Health Building "Ground Floor Parking Level" (Parking Space: 56 Slots)



**PROPOSED NATIONAL INSTITUTE OF HEALTH BUILDING
 "3RD FLOOR LOWER PARKING LEVEL"**

**TOTAL PARKING
 SPACE: 55 SLOTS**

Figure 164 Proposed National Institute of Health Building "3rd Floor Lower Parking Level" (Parking Space: 55 Slots)



**PROPOSED NATIONAL INSTITUTE OF HEALTH BUILDING
"3TH FLOOR UPPER PARKING LEVEL"**

**TOTAL PARKING
SPACE: 59 SLOTS**

Figure 165 Proposed National Institute of Health Building "4th Floor Upper Parking Level" (Parking Space: 59 Slots)

Heritage Conservation

Existing Conditions and Issues

Heritage Buildings need to have buffer zones/ open spaces/ vista points. Buffer zones around heritage buildings are also recommended by the NHCP and are explicitly indicated in Resolution No. 15. The buildings are either surrounded by parking spaces or obscured by overgrown landscaping.

Most of the heritage buildings are perceived to have poor maintenance. Some of the heritage buildings still make use of their old water and power lines. Not all building renovations in campus buildings are in harmony with the existing building's character. Renovations need to be sensitive to the building's heritage character

And according to survey results, not all university constituents know of the heritage buildings in the campus. Further awareness raising may need to be done so the heritage of the campus is appreciated.

Strategies

From the above observed conditions and survey results, below are the identified strategies for heritage conservation:

- There is a need to conduct a cultural mapping study to document heritage structures, art and other artifacts. A cultural mapping study refers to the study of tangible and intangible cultural assets that give a heritage area its identity/ significance. This can then provide the basis for the formulation of a Conservation Management Plan, a document that sets out the management strategy for historic assets, sites, and places. It explains the significance of the asset and examines how any future use, management, alteration or repair will be carried out in order to retain that significance.
- Reclaim and improve buffer zones around heritage structures as recommended by the NHCP. A buffer zone is an area surrounding the property which has restrictions placed on its use to give an added layer of protection to the designated site. These buffer zones can be retained as plazas/ landscaped areas to provide a vista and a dignified setting to the heritage buildings.
- Increase awareness of campus design heritage through placement of heritage markers in the heritage buildings, and designing a heritage walking tour
- Implement interior design guidelines for renovation of heritage buildings, such as the:
 - Architectural Character/ Style/ Visual Aesthetics
 - Space Efficiency and Flexibility
 - Natural and Artificial Lighting
 - Sustainable Building Design Guidelines
 - Safe Building Guidelines

Proposed Interior Design Guidelines for Campus Heritage Buildings are found in Annex B.



Figure 166 Calderon Hall, College of Medicine Main Building



Figure 167 Entrance to Villamor Hall, now use by the Supreme Court



Figure 168 PGH in its early years, from the Mario Feir Collection as provided by Grupo Kalinangan



Figure 169 The former University Library now houses the Supreme Court

Utilities Development (Academic Zone Utilities Development)

Existing Conditions and Issues

The academic zone being fully operational with the lack of funds and shift spaces generated renovations that have been done piecemeal resulting in uneven quality and standards. Some of the old buildings still have old electrical and water and sanitation systems that need to be upgraded. With the direction of accreditation and certification, some of the buildings are not compliant with PWD accessibility law, fire safety standards. And the internet, drainage, toilets, and waste management are perceived to need further improvement based on survey results.

Strategies

Further studies are needed to detail this section. The following are the general directions to guide further assessment of the facilities. The tabulation of facilities have been initiated through the building facilities inventory and subject for completion. This will be especially useful for prioritization and budget allocation.

- **Offices, classrooms and laboratories:** Renovate based on standards per building code, relevant design guidelines, and other standards (e.g. ISO).
- **Power and water systems:** Fully upgrade to comply with codes and standards which may require switching to primary metering or construction of a substation, and the conduct of energy and water use audit to improve resource use efficiency.
- **Sanitation:** Upgrade sanitation systems and all toilets to design standards, formulate and implement a septage management plan, and conduct a study on a possible sewage treatment plant.
- **PWD-friendly facilities:** Improve PWD accessibility per building to comply with accessibility code requirements.

- **Emergency systems:** Ensure compliance to Fire Code requirements and support for emergency evacuation. Measures include: (a) conduct of Fire Safety Audit; (b) establishment of centralized monitoring system for fire alarm system and connection to BFP; and, (c) public address system for evacuation.
- **Communications:** Support improvement of internet connectivity to achieve 99.9% service. Strategic measures include: (a) rehabilitation of campus-structured cabling network and internal structured cabling per building; (b) provision of internet connection to all classrooms; (c) increase public wi-fi spots; and, (d) provide network support elements in proposed walkways/ open spaces.
- **Stormwater management:** Formulate and implement a stormwater management plan to include: (a) upgrading of as built plans and drainage lines; (b) alternative stormwater management strategies, such as green roofs, rain gardens, swales (in conjunction with the landscaping for the whole campus); and, (c) maintenance plan.
- **Waste management.** Formulate and implement Solid Waste Management Plan to include: (a) education of university constituents; (b) waste segregation; (c) materials recovery facility; and, (d) processing of medical waste. Aside from the above, the plan should also include the reduction of visual impact of garbage collection points along Taft and Pedro Gil, the regular maintenance of campus grounds; and the designation of a place and improvement of the processing of condemned furniture and equipment.
- **Security systems.** While there are already checkpoints in place, internal checkpoints particularly in the interface between the hospital zone may be added. The CCTV surveillance system can be further improved. Adequate lighting in outdoor areas should also be provided; these can be part of the campus landscaping scheme.

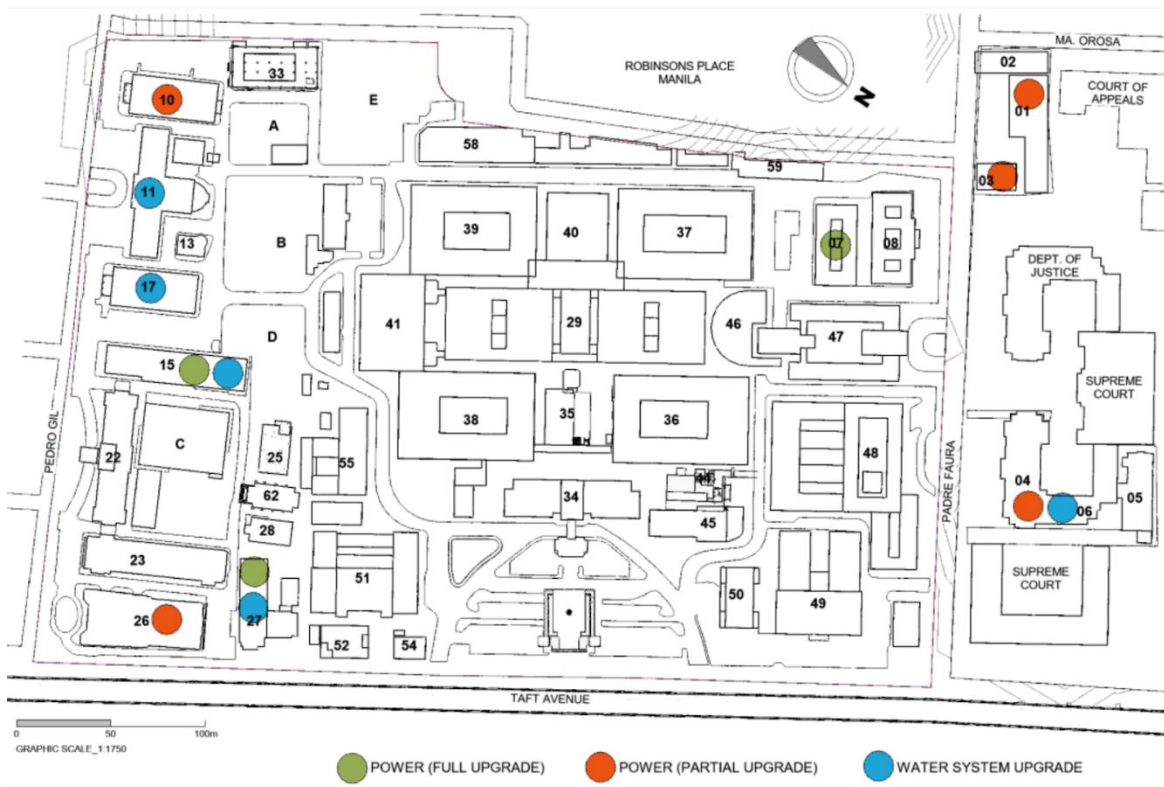


Figure 170 Power and water systems facilities assessment

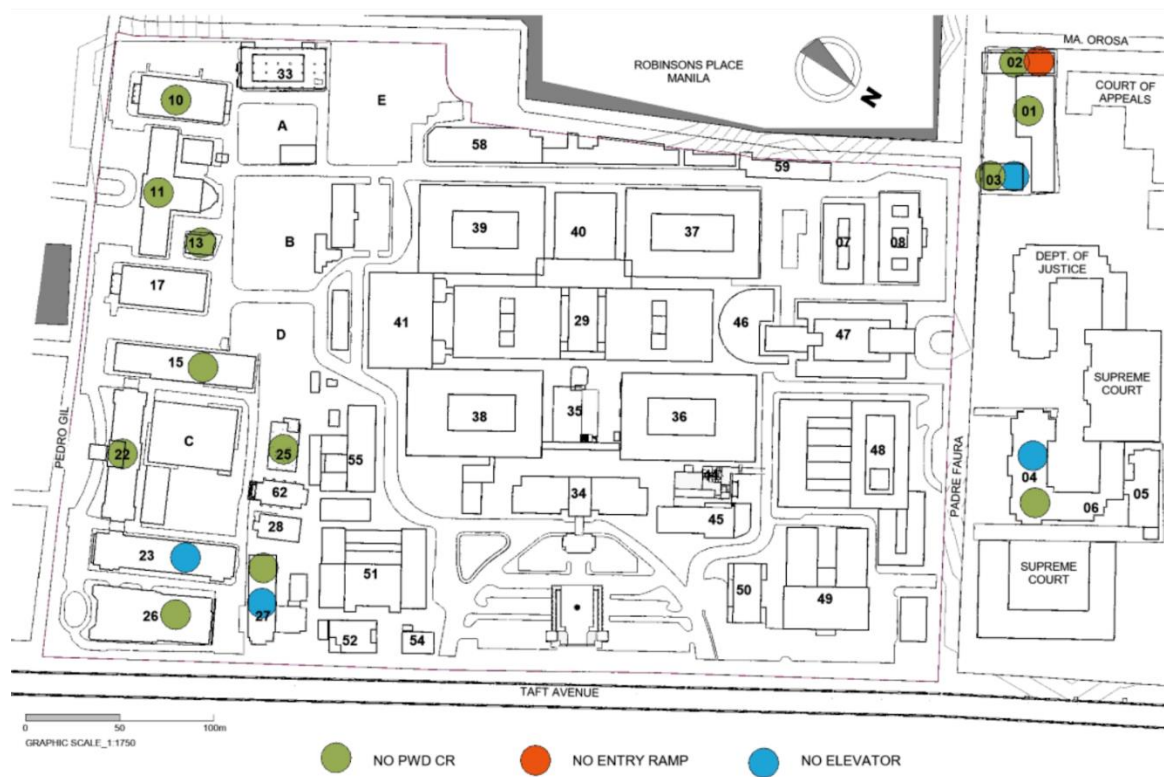


Figure 171 PWD-friendly facilities assessment

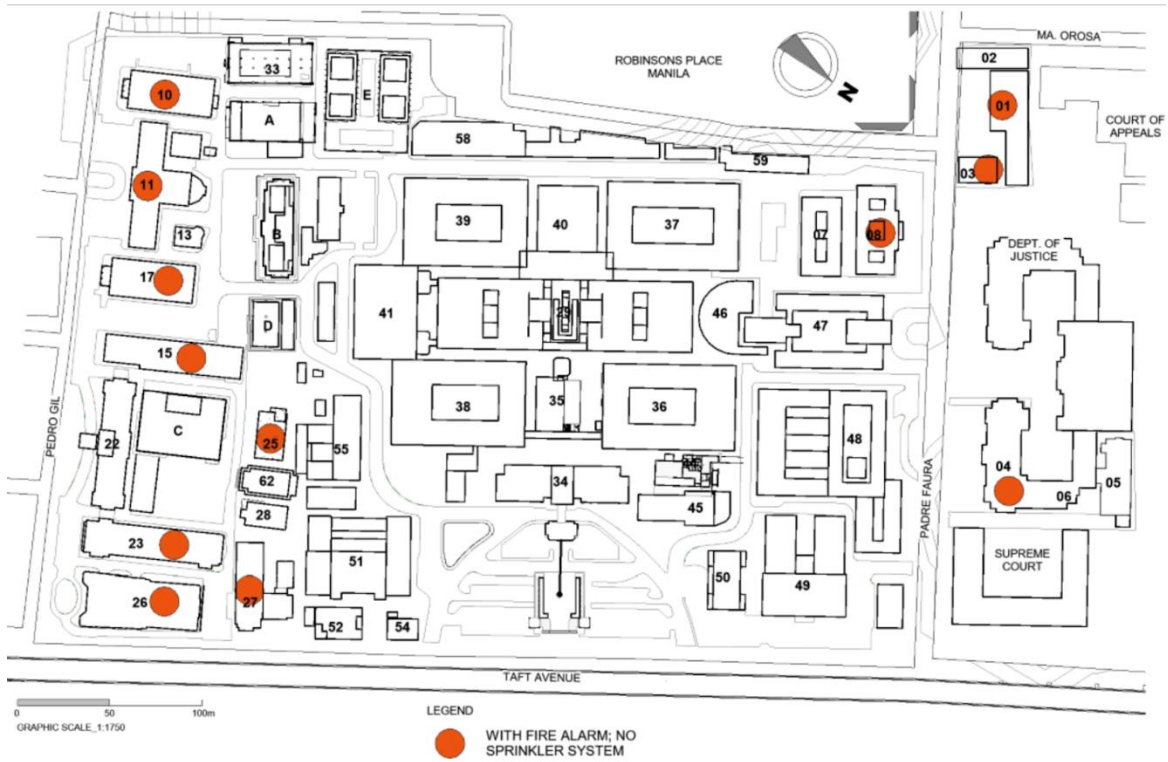


Figure 172 Emergency systems facilities assessment

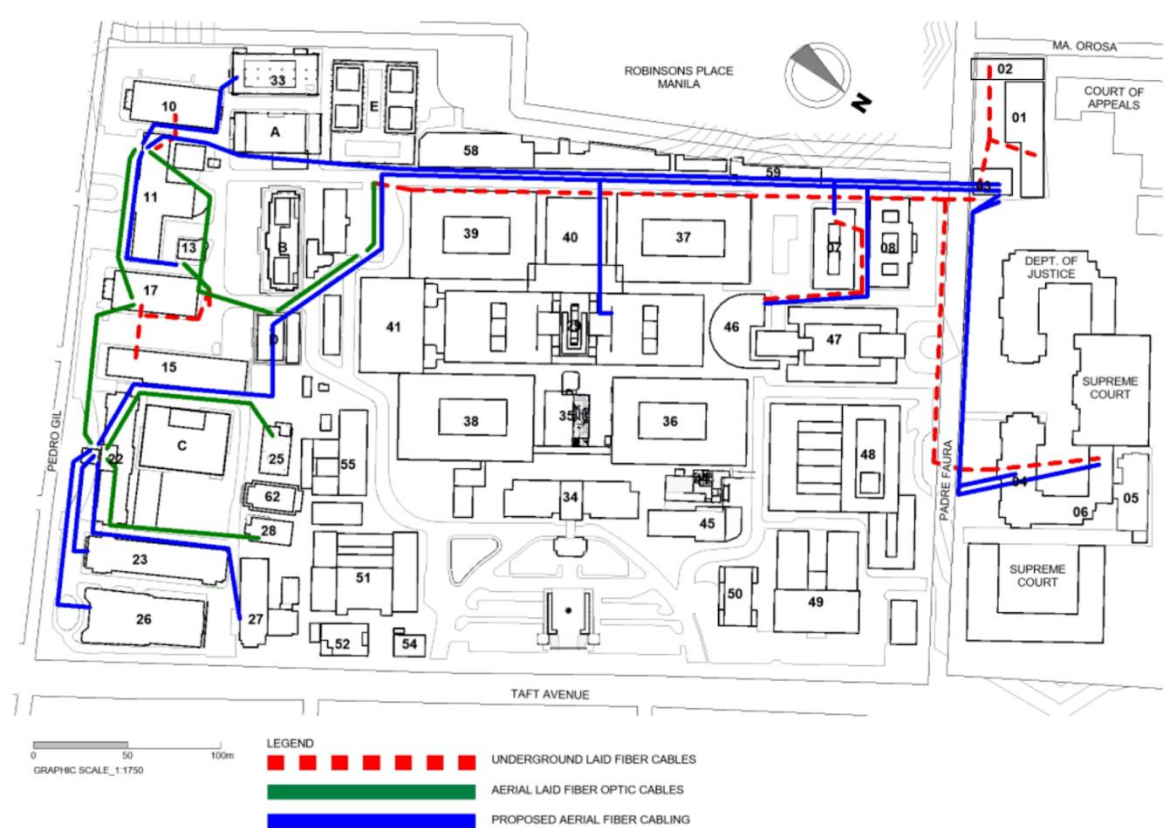


Figure 173 Fiber optic backbone map

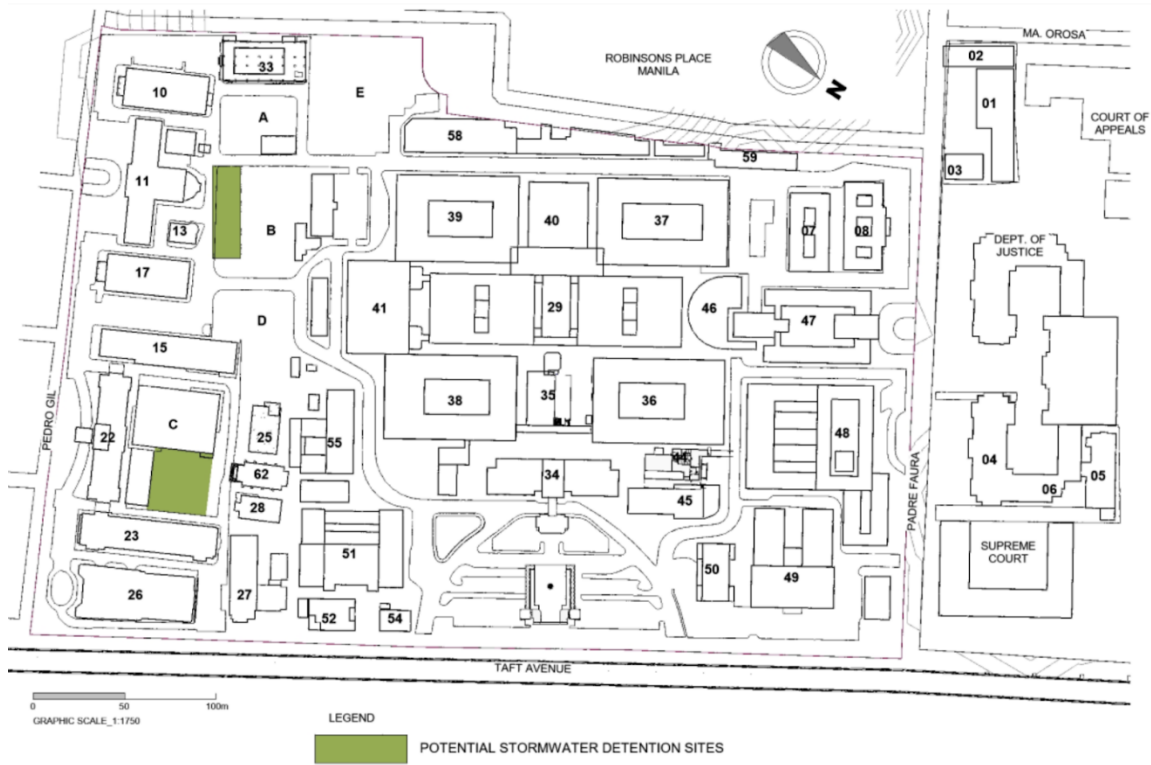


Figure 174 Potential Stormwater Retention Sites

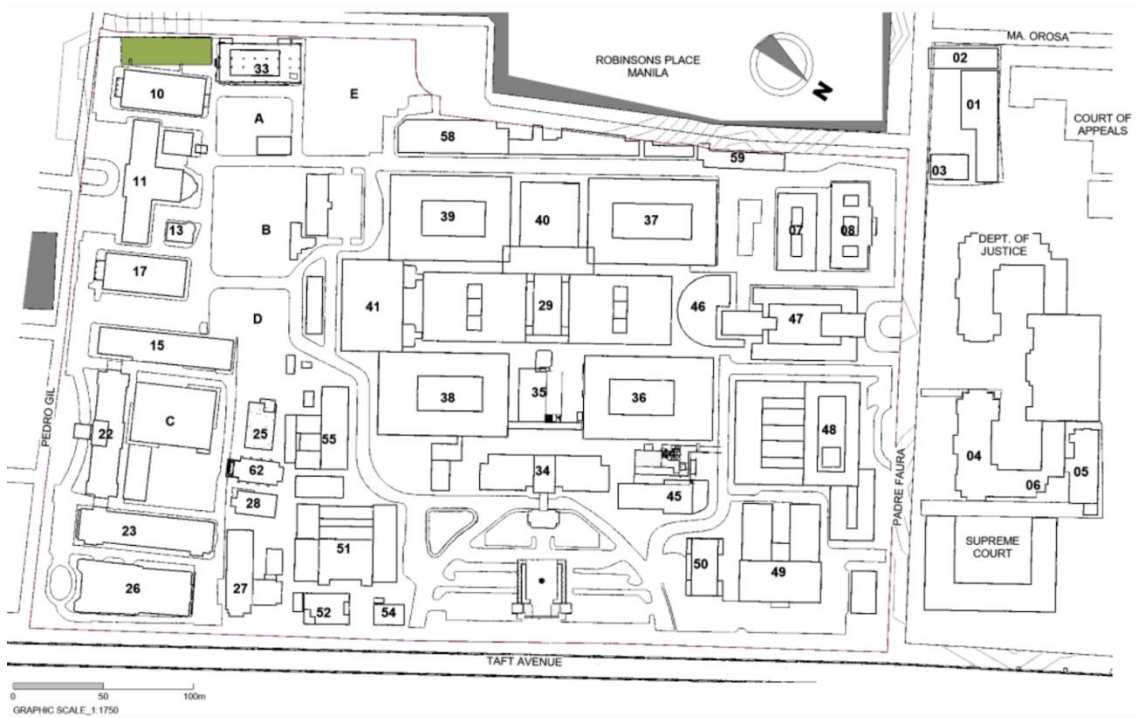


Figure 175 Proposed STP location

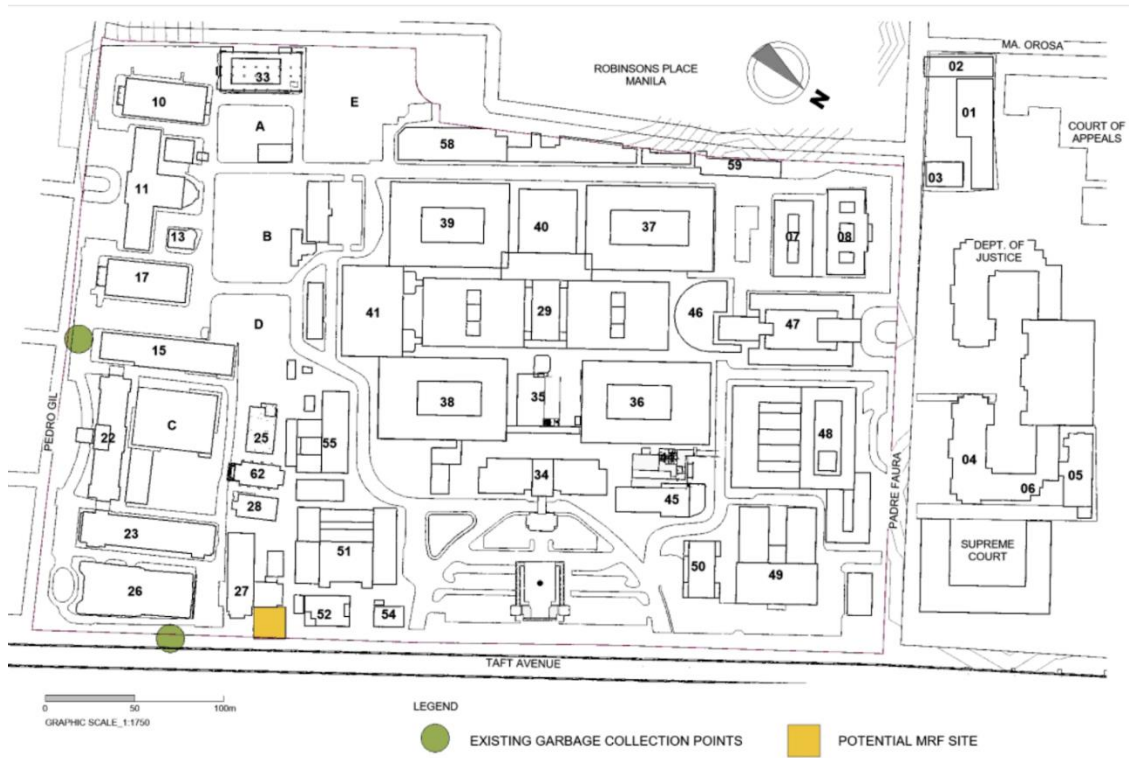


Figure 176 Existing and potential waste management sites

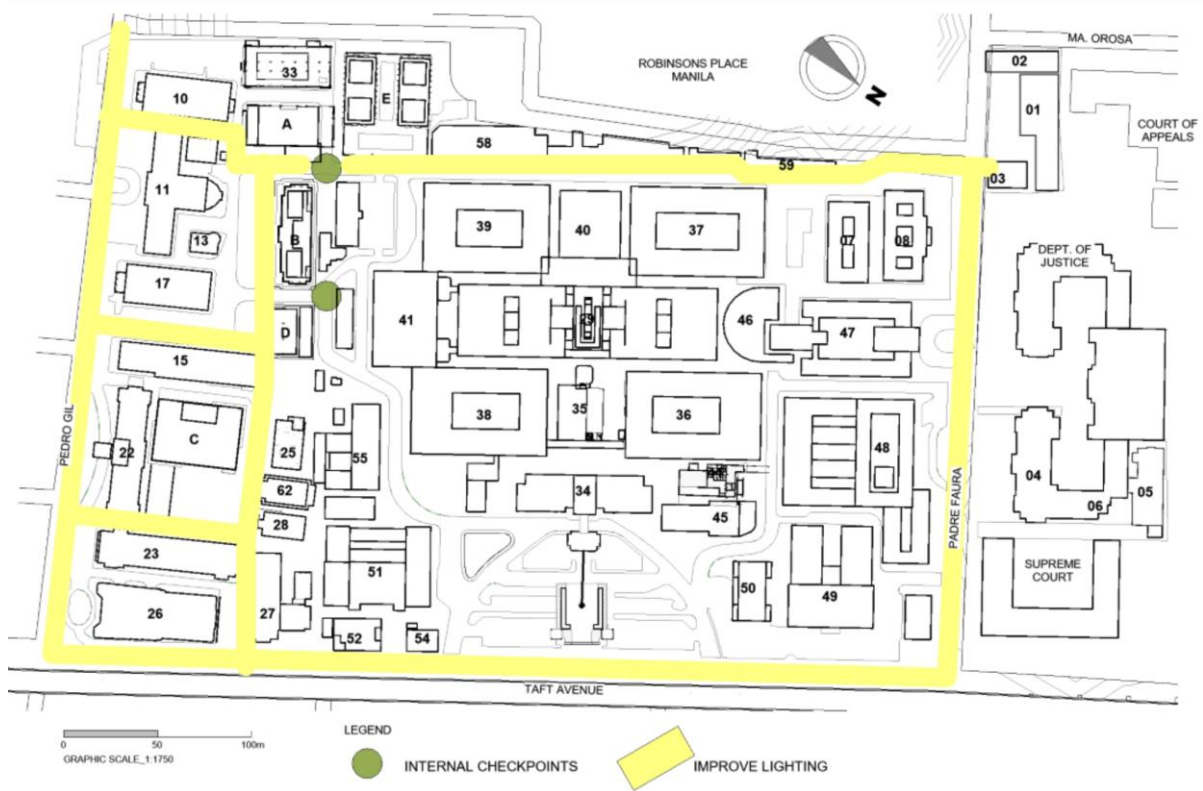


Figure 177 Internal checkpoints and roads needing lighting improvement

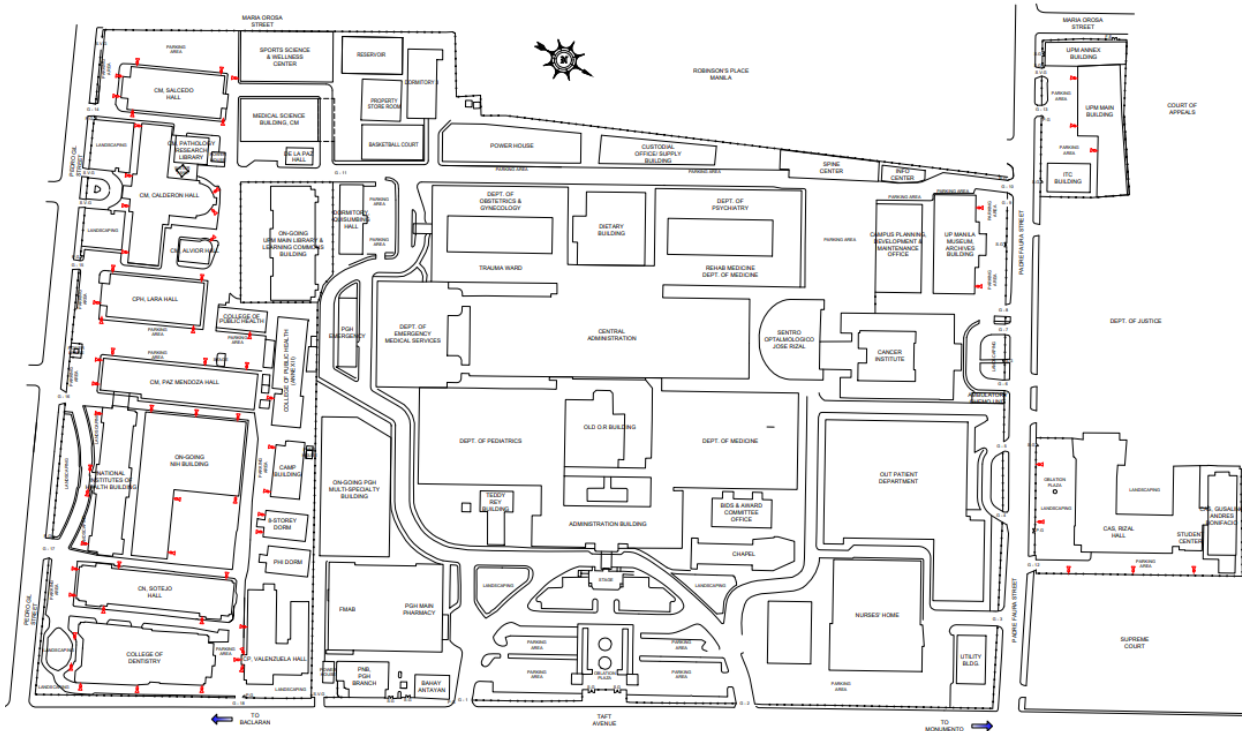


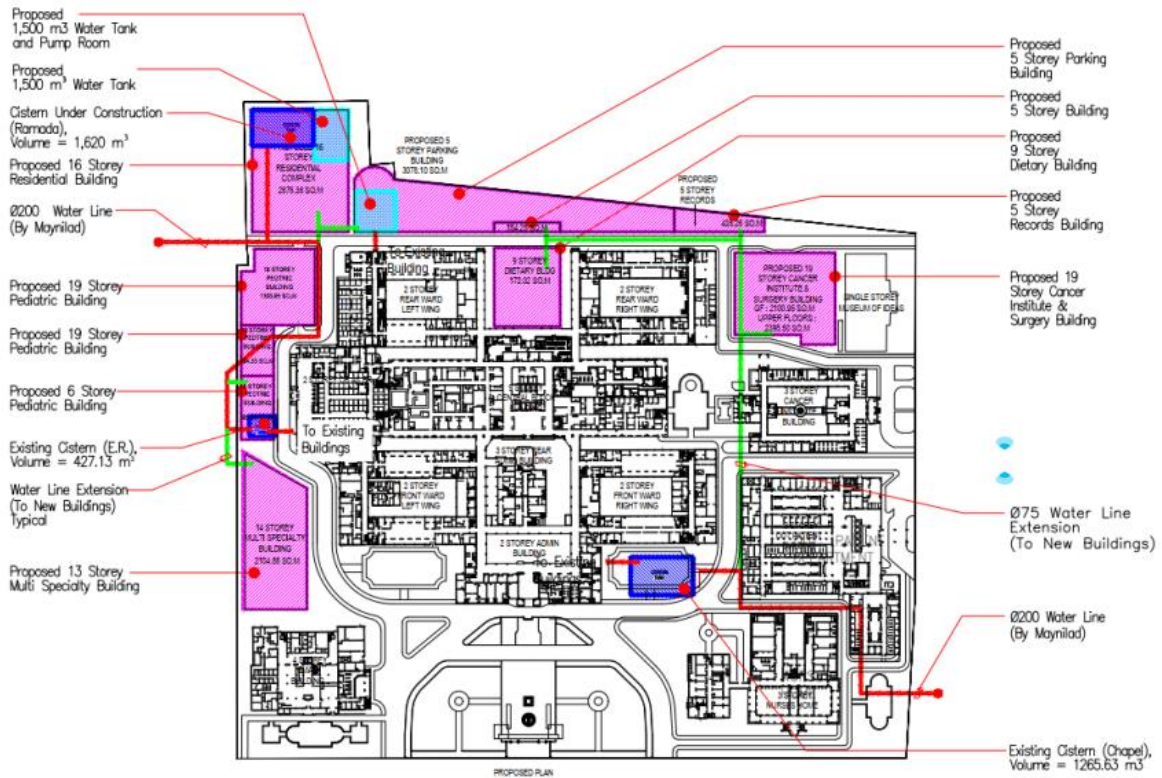
Figure 178 Proposed UP Manila Street Lighting Plan



60 Watt All In One Solar Street Light

| | |
|------------------------|-----------------|
| Usage/Application | lighting |
| Brand | upsun |
| Lighting Type | LED |
| Certification | ISI |
| Model | PRL1102 |
| Name/Number | |
| No. of LED: | SMD5730 112nos. |
| Solar Panel: | 6v 10w |
| Poly Life Po4 Battery: | 3.2v 12A |

Figure 179 Proposed Building Mounted Solar Street Light



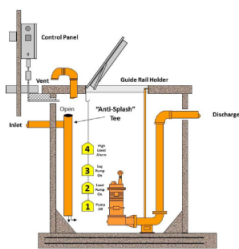
Proposed Water Supply System

Figure 180 Proposed Waterline Distribution System of PGH

LEGEND

| SYMBOLS | ABBREVIATION | DESCRIPTION |
|---------|------------------|--|
| | | PROPOSED SEWAGE TREATMENT PLANT EFFLUENT DISCHARGE |
| | | PROPOSED INFLUENT TAPPING POINT FOR U.P.M. BUILDINGS |
| | SMH | PROPOSED SEWER MANHOLE |
| | STP / CENTRALIZE | PROPOSED CENTRALIZE SEWAGE TREATMENT PLANT |
| | LS | PROPOSED LIFTING STATION |

PROPOSED LIFTING STATION



PROPOSED:
CENTRALIZE SEWAGE TREATMENT PLANT (STP) - 1
LOCATION: PEDRO GIL STREET
UPPER U.P.M. AREA

BUILDING CONNECTED

1. SPORT SCIENCE AND WELLNESS CENTER
2. SALCEDO HALL, COLLEGE OF MEDICINE
3. PATHOLOGY RESEARCH LIBRARY
4. CALDERON HALL, COLLEGE OF MEDICINE
5. ALVOR HALL, COLLEGE OF MEDICINE
6. LARA HALL, COLLEGE OF PUBLIC HEALTH
7. ANNEX 1, COLLEGE OF PUBLIC HEALTH

INDIVIDUAL SEWAGE TREATMENT PLANT (STP)

1. MEDICAL SCIENCE BUILDING, COLLEGE OF MEDICINE
2. UP MAIN LIBRARY & LEARNING COMMONS BUILDING
3. PROPOSED DR. STEPHEN ZUELLIG HALL

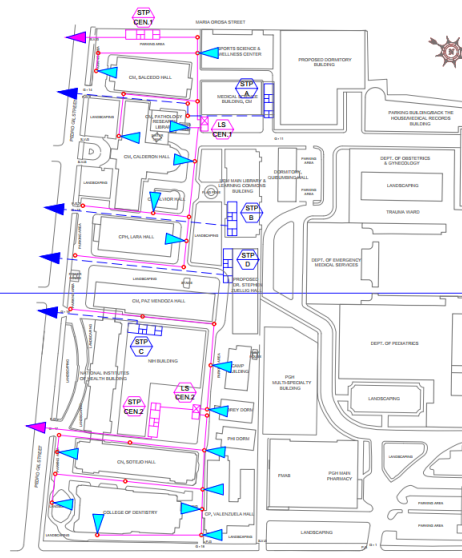
PROPOSED:
CENTRALIZE SEWAGE TREATMENT PLANT (STP) - 2
LOCATION: PEDRO GIL STREET
LOWER U.P.M. AREA

BUILDING CONNECTED

1. PAZ MENDOZA HALL, COLLEGE OF MEDICINE
2. NATIONAL INSTITUTE OF HEALTH (NIH)
3. NEW CAMP BUILDING
4. 8-STORY DORMITORY
5. PIH HOUSE FOUNDATION
6. SOTEJO HALL, COLLEGE OF NURSING
7. COLLEGE OF DENTISTRY
8. VALENZUELA HALL, COLLEGE OF PHARMACY

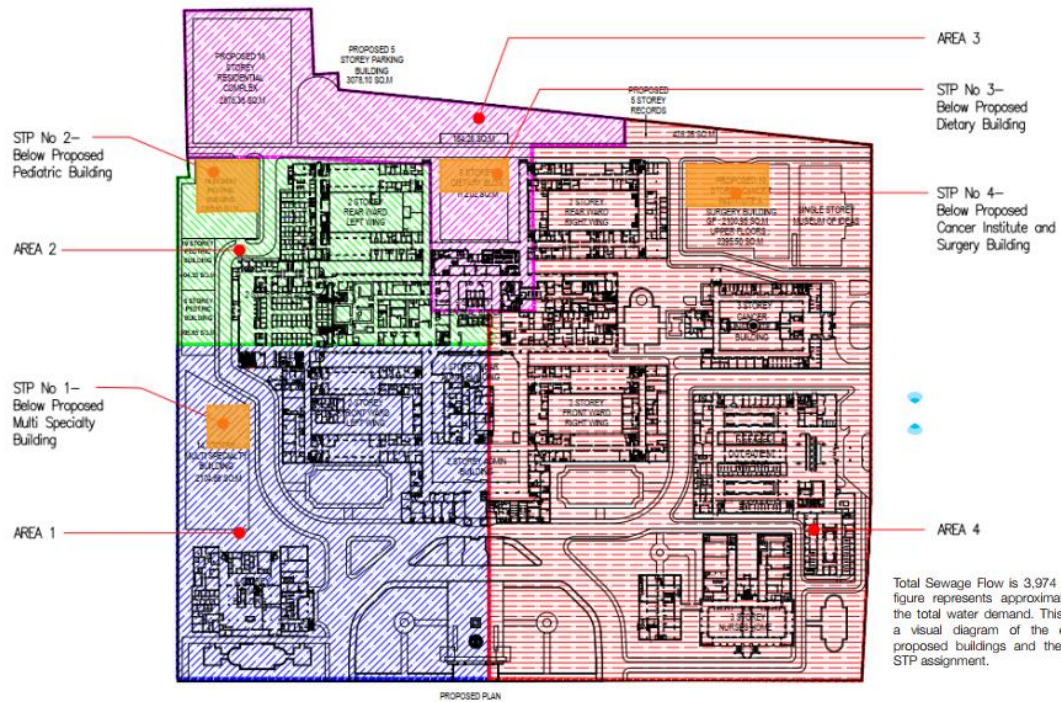
INDIVIDUAL SEWAGE TREATMENT PLANT (STP)

1. NATIONAL INSTITUTE OF HEALTH - NEW BUILDING



UNIVERSITY OF THE PHILIPPINES MANILA
PROPOSED CENTRALIZED SEWAGE TREATMENT PLANT

Figure 181 Proposed Centralized Sewage Treatment Plant for U.P. Manila, Pedro Gil Area



Total Sewage Flow is 3,974 m³/day. This figure represents approximately 75% of the total water demand. This also shows a visual diagram of the existing and proposed buildings and their respective STP assignment.

Proposed STP Location and Zoning

Figure 182 Proposed STP Location and Zoning

LEGEND

- EXISTING RAINWATER COLLECTOR TANK
- RAINWATER COLLECTOR TANK NUMBER / SERVICE BUILDING
- PROPOSED RAINWATER COLLECTOR TANK
- RWCT NUMBER / SERVICE BUILDING

| MARK | DATA DESIGNATION | SERVICE BUILDING |
|---|--|---|
| EXISTING RAINWATER COLLECTOR TANK (RWCT) | | |
| RWCT / 24.1 | RAINWATER COLLECTOR TANK - 24.1 & 24.2 | RDAL HALL, COLLEGE OF ARTS AND SCIENCES |
| PROPOSED RAINWATER COLLECTOR TANK LOCATION | | |
| RWCT / 2.1 | RAINWATER COLLECTOR TANK - 2.1 & 2.2 | SALCEDO HALL, COLLEGE OF MEDICINE |
| RWCT / 10 | RAINWATER COLLECTOR TANK - 10 | NEW CAMP BUILDING |
| RWCT / 11 | RAINWATER COLLECTOR TANK - 11 | 4-STORY DORMITORY |
| RWCT / 15 | RAINWATER COLLECTOR TANK - 15 | VALENZUELA HALL, COLLEGE OF PHARMACY |
| RWCT / 16 | RAINWATER COLLECTOR TANK - 16 | VALENZUELA HALL, COLLEGE OF PHARMACY |

| MATERIALS SPECIFICATION | |
|-------------------------|---------------------------------------|
| TYPE | INTERMEDIATE BULK CONTAINER (IBC) |
| DIMENSION | 5m x 5m x 5m (L x W x H) PER TANK |
| CAPACITY | 1 CUBIC METER (1,000 LITERS) PER TANK |

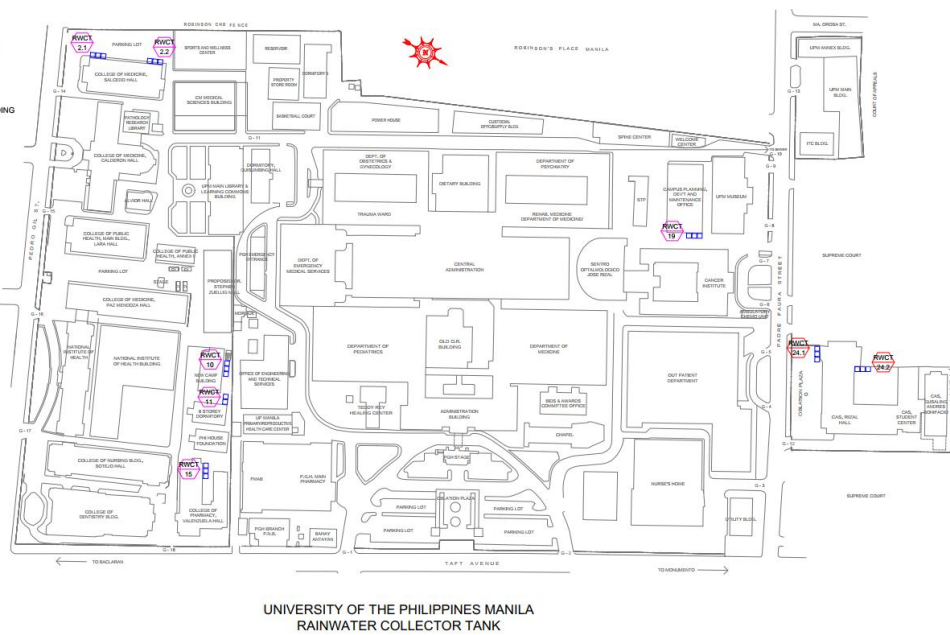


Figure 183 University of the Philippines Existing and Proposed Rainwater Collector Tank Location

3.4.7. FUND REQUIREMENT

From the principles and objectives, the projects in the infrastructure development matrix have been organized based on the actions that will be taken to achieve the objectives through programs and projects. It also outlines the resources needed and possible fund sources with the implementation schedules on the short term, medium term, and long term.

Work and Financial Plan

| No. | Objective | Strategy | Program/Project | Responsible Agency | Resources Needed | | Implementation | Schedule |
|-----|---|---|---|-----------------------------|------------------|-------------|----------------|-------------------------|
| | | | | | Cost | Fund Source | | |
| 1.1 | Attractive Campus and One University Concept in a Compact Development | Develop the main open areas for both UP Manila and UP PGH; Preparation of Design for Campus Open Space, Landscaping and Walkway | Design Consultancy for the Master Plan of UP Manila | Job Order Contract (Design) | 4,582,270.20 | UPM Funds | Short Term | Ongoing Completion 2021 |
| 1.2 | | Remove, relocate, prevent construction of small structures in the site and near buildings. Organize the hardscapes such as planters, seating, and walkways to provide more spaces for landscaping | Landscaping of Open Spaces and Rehabilitation of Road Networks at UP Manila | | | | | |
| 1.3 | | Transform the small roads to shared streets to widen the area and promote pedestrianization; Implementation of Linear Plazas and Road Pedestrianization | | | | | | |
| 1.4 | | Develop the road networks and designate areas for vehicular flow; Implementation of Linear Plazas/ Road Pedestrianization | | | | | | |

| | | | | | | | |
|------|---|---|-----------------------------------|------------------|-----------|---------------------|-------------------------|
| 1.5 | Provide a designated area per building; limit construction projects based on the availability of the space; create a standard for barracks construction to prevent use of unsanitary materials and procedure. | Creation of Design Guidelines and Construction Rules and Regulations for UPM Infrastructure Projects | CPDMO and OVCPD | 0.00 | NA | Short Term | Ongoing Completion 2021 |
| 1.6 | Preparation of design guidelines for new construction and renovations | | | | | | |
| 1.7 | Provide a designated storage room inside the building to store items to be condemned per college or unit. | Construction of Temporary Facilities (Container Van) as Make-Shift Space During Renovations and Constructions | CPDMO (Design and Implementation) | 1,000,000.00 | UPM Funds | Short Term | 2022 |
| 1.8 | Provide a designated storage room inside the building to store items for rooms to be renovated; schedule renovation based on availability of spaces | | | | | | |
| 1.9 | Preparation of Facility Space Plan | Facility Space Plan including monitoring and review | CPDMO (Design and Implementation) | 580,000.00 | UPM Funds | Long Term | 2021 |
| 1.10 | Upgrading of Toilets | Renovation of Toilets | | 80,000,000.00 | GAA | Medium Term | |
| 1.11 | Interior Renovations | Renovation of Classrooms/ Laboratories/ Offices | | | GAA | Medium to Long Term | |
| 1.12 | Provision for a housing for faculty, staff, and students | Design of a Dormitory / Housing Building | Design Consultant | 38,500,000.00 | GAA | Short Term | 2022 |
| 1.13 | | Construction of Dormitory / Housing Building | CPDMO/PPP UP System | 2,000,000,000.00 | GAA/ PPP | Long Term | 2023-2028 |

| | | | | | | | | |
|-----|---|---|--|--|------------------|-----------|----------------------|---------------------------------|
| 2.1 | Pride of place and Meaningful Community Connection | Provide areas for interactions and meetings in the buildings and landscaped areas; construction of the University Library and Learning Commons can provide the additional space needed for study areas | Landscape development | Design Consultant/ CPDMO | Refer to 1.2-1.4 | | Short Term | |
| 2.2 | | | Interior Fit Out of the University Library and Learning Commons | | 452,569,500.00 | GAA | Short to Medium Term | Per Phase Development 2023-2025 |
| 2.3 | | Develop the sports science and wellness center; provide additional sports facilities in the construction of the new buildings | Completion of the Sports Science and Wellness Center Including Furniture and Equipment | CPDMO in Coordination with CAS PE Department | 20,000,000.00 | GAA | Medium Term | |
| 2.4 | | Review the spaces and the percentage of development allocated for the health and sciences and the adequacy of the support spaces; there should be a standard guidelines for space allocation that will help in the planning of similar spaces | Guidelines for Facilities Development | CPDMO | 0.00 | NA | Short Term | 2021 |
| 3.1 | Environmental Sustainability/ Disaster and Climate Change | Preparation of Stormwater Management Plan | Stormwater Management Plan | Engineering Consultant/ CPDMO | 1,100,000.00 | DPWH | Short Term | 2022 |
| 3.2 | | Preparation of Energy Use Audit | Energy Use Audit | Engineering Consultant/ CPDMO | 580,000.00 | UPM Funds | Short Term | 2022 |
| 3.3 | | Structural assessment and retrofitting for existing buildings; Structural design | Structural Integrity of Existing Buildings | Engineering Consultant/ CPDMO | 3,000,000.00 | DPWH | Short Term | 2022-2024 |

| | | | | | | | | |
|-----|--------------------------------|--|--|----------------------------------|------------------|-------------|-------------|-----------|
| 3.4 | | for new buildings; Creation of assigned evacuation areas during earthquake | Design Consultancy for Structural Retrofitting of Dilapidated Buildings | Engineering Consultant/ CPDMO | 3,000,000.00 | DPWH | Short Term | 2022-2025 |
| 3.5 | | | Retrofitting of Dilapidated Buildings and Heritage Buildings | CPDMO | 49,000,000.00 | DPWH | Medium Term | 2023-2028 |
| 3.6 | | Installation of fire detection and alarm system (FDAS) and fire protection on buildings especially those with laboratories | Fire Protection and Fire Detection and Alarm System (FDAS) Design and Implementation | Engineering Consultant/ CPDMO | 2,500,000.00 | UPM Funds | Medium Term | 2022-2023 |
| 3.7 | | Preparation of Ecological Solid Waste Management Plan | Ecological Solid Waste Management Plan | Engineering Consultant/ CPDMO | 1,100,000.00 | UPM Funds | Short Term | 2022 |
| 3.8 | | Preparation of Water Use Audit | Water Use Audit | Engineering Consultant/ CPDMO | 580,000.00 | UPM Funds | Short Term | 2022 |
| 3.9 | | Preparation of Fire Safety Audit | Fire Safety Audit | Engineering Consultant/ CPDMO | 580,000.00 | UPM Funds | Short Term | 2022 |
| 4.1 | Preserved Culture and Heritage | Preservation of the architecture and character of the building; Full Interior Renovation Plans that can be implemented per phase | Conservation/Restoration of Buildings | Conservation Consultant | Dependent on 4.4 | NHCP | Medium Term | 2023-2030 |
| 4.2 | | Review of structural assessment reports. Retrofitting and structural repairs of the heritage buildings | Design Consultancy for Structural Retrofitting of Heritage Buildings | Engineering Consultant/ CPDMO | Included in 3.3 | DPWH | Short Term | 2022-2024 |
| 4.3 | | Retrofitting of Heritage Buildings | CPDMO | Included in 3.5 | NHCP and DPWH | Medium Term | 2023-2028 | |

| | | | | | | | | | | | | | | |
|-----|---|---|---|--|--------------|-----------|-------------|-----------|--|--|-------------------------------|--------------|------------|------------|
| 4.4 | | Preparation of the Conservation Management Plan and Heritage Guidelines | Conservation Management Plan and Heritage Building Guidelines | Conservation Consultant/ CPDMO | 1,100,000.00 | NHCP | Short Term | 2022-2023 | | | | | | |
| 4.5 | | Preparation of the cultural property tangible works inventory | Inventory of cultural property | Committee on Inventory of Cultural Property Assigned by the Chancellor | 580,000.00 | UPM Funds | Short Term | 2022-2023 | | | | | | |
| 4.6 | | Implementation of the Heritage Tour in coordination with the College of Arts and Sciences | Heritage Tour program and guidelines | Conservation Consultant/ CPDMO | 580,000.00 | UPM Funds | Medium Term | 2023-2024 | | | | | | |
| 5.1 | Reliable and Sustainable Services and Basic Utilities | Consolidation and preparation of the engineering systems asbuilt plans and Audits | Water, Sewer, Drainage Asbuilt Plan Electrical (Site Lighting and Power) Asbuilt Plan Mechanical systems (elevator, generator set) Asbuilt Plan Fire Protection, FDAS, Early Warning System Asbuilt plan Network/ Fiber Backbone Asbuilt Plan | Engineering Consultant/ CPDMO | 580,000.00 | UPM Funds | Short Term | 2022-2023 | | | | | | |
| 5.2 | | | | | | | | | Fire Safety Audit | | same as 3.9 | | Short Term | 2022 |
| 5.3 | | | | | | | | | Energy Use Audit | | same as 3.2 | | Short Term | 2022 |
| 5.4 | | | | | | | | | Water Use Audit | | same as 3.8 | | Short Term | 2022 |
| 5.5 | | | | | | | | | Preparation of the design to upgrade the water, electrical, fire protection, and early warning systems including | Sanitary, Water, Electrical, Fire Protection, FDAS, Fire Protection, Waste Management Design | Engineering Consultant/ CPDMO | 3,500,000.00 | UPM Funds | Short Term |

| | | | | | | | |
|------|--------------------------|--|--|--------------------------|----------------|-----------|--------------------------|
| | | the evaluation of a power substation within the site | | | | | |
| 5.6 | | Consideration to centralize the early warning systems for disaster response | | | | | |
| 5.7 | | Preparation of the design to upgrade the water, electrical, fire protection, and early warning systems | | | | | |
| 5.8 | | Materials Recovery Facility | Construction of a Materials Recovery Facility | CPDMO | 500,000.00 | UPM Funds | Short Term 2022-2023 |
| 5.9 | | Preparation of the ECC and LLDA for certification | Environmental Consultancy Services for ECC and LLDA Compliance | Environmental Consultant | 900,000.00 | UPM Funds | Short Term 2021 |
| 5.10 | | Incorporation of drainage systems, mechanical ducts and ventilation system, and FDAS of UPM and PGH | Consolidated Engineering Systems with OETS | CPDMO/ OETS | 0.00 | NA | Short Term 2022 |
| 5.11 | | Upgrading of Water Systems | Upgrading of Water Systems | CPDMO/ OETS | 153,440,000.00 | DPWH | Medium Term 2024-2026 |
| 5.12 | | Upgrading of Building Electrical Systems | Upgrading of Building Electrical Systems | CPDMO/ OETS | | DPWH | Medium Term 2024-2026 |
| 5.13 | | Upgrading of Fire Protection Systems | Upgrading of Fire Protection Systems | CPDMO/ OETS | | UPM Funds | Medium Term 2024-2026 |
| 5.14 | | Construction of Power Substation | Construction of Power Substation | CPDMO/ OETS | | DPWH | Medium Term 2024-2026 |
| 6.1 | Accessibility and Safety | Installation of outdoor lighting at the building | Design of Outdoor Lighting | CPDMO/ OETS | 1,000,000.00 | UPM Funds | Medium Term 2022-2023 |

| | | | | | | | | |
|-----|--|--|---|---|----------------|-----------|-------------|-----------|
| | | exterior and along campus roads | Supply and Installation of Outdoor Lighting | | | | | |
| 6.2 | | Identify the main University Portals | Construction of University Portals | CPDMO | 3,000,000.00 | UPM Funds | Medium Term | 2022-2023 |
| | | Implementation of Wayfinding Signages and Maps | Design and Guidelines of Wayfinding Signages and Maps Supply and Installation of standard Wayfinding Signages and Maps | CPDMO | 400,000.00 | UPM Funds | Short Term | 2022-2023 |
| 6.3 | | Designation of safe evacuation areas | Evacuation Map | CPDMO Office of the Disaster Risk Reduction and Management | 0.00 | NA | Short Term | 2022 |
| 6.4 | | Installation of additional CCTV cameras for surveillance | Design and Installation of Security CCTV Camera | CPDMO | 2,000,000.00 | UPM Funds | Medium Term | 2021-2022 |
| 6.5 | | Preparation of PWD Accessibility Audit | PWD Accessibility Audit | CPDMO/ Accessibility Consultant | 350,000.00 | UPM Funds | Short Term | 2022 |
| 6.6 | | Design and Implementation of PWD Accessibility Plan based on recommendations | Implementation of PWD Accessibility Plan | CPDMO | 54,450,000.00 | GAA | Medium Term | 2022-2026 |
| 6.7 | | Parking Building | Design of Parking Building Construction of Parking Building | Design Consultant/ CPDMO | 174,100,000.00 | GAA | Medium Term | 2022-2023 |
| 6.8 | | Public Address System | Supply and Installation of Public Address System for specific buildings | CPDMO | 1,000,000.00 | UPM Funds | Short Term | 2022 |

| | | | | | | | | |
|-----|--|---|--|---------------------------------------|-------------|-----------------------|---------------------|--------------------------------|
| 7.0 | Barrier-Free Design | Alternative ways such as roads, landscaping, and elevated walkways may provide the division between the buildings but cohesive with the design policies | Barrier Free Landscape Design and Construction | CPDMO/ Landscape Architect Consultant | Same as 1.2 | UPM Funds/ GAA / DPWH | Medium Term | Phase development 2022 to 2025 |
| 7.1 | Use of Innovative Technologies | Prioritize spaces that needs to be renovated and upgraded | Facilities Inventory | CPDMO/ Design Consultant | 0.00 | NA | Short Term | 2022 |
| 7.2 | | Engineering systems should have asbuilt plans and upgraded to upgrade using required equipment | Prioritization of spaces | | 0.00 | NA | Short Term | 2022 |
| 7.3 | | Prioritize spaces that needs to be renovated and upgraded | Upgrading/ Renovation of Spaces | | 0.00 | NA | Medium to Long Term | 2022 |
| 8.1 | Support to External Linkages including Campus Entrepreneurship | Continue to standardize the patents and collaboration work of the health professionals | Facilities Inventory Prioritization of spaces | CPDMO | 0.00 | NA | Short Term | 2022 |
| 8.2 | Facilities inventory and provision for training facilities for international events. The new NIH building, the University Library, and Zeullig Buildings includes research and training facilities | Upgrading/ Renovation of Spaces | Same as 1.11 | | NA | Medium to Long Term | 2022 | |

Table 36 Work and Financial Plan

3.5. CAMPUS DEVELOPMENT PLAN AND INVESTMENT PROGRAM PLAN

3.5.1. KEY PRIORITY DEVELOPMENT PROJECTS AND INVESTMENT PROGRAM

The key priority development projects that are anchored on the planning framework, principles and priorities as tabulated above are arranged based on the period of implementation. The short-term projects are focused on understanding the complexities of the current situation through as-built plans, inventories, audits, and policy compliance. The Medium term is about the implementation of the results towards the improvement of the facilities and the site. The long-term plan is the completion of the necessary infrastructure such as the Housing building, maintenance, and the continuation of sustainable practices for UP Manila.

Alongside these plans, the on-going projects are aligned with the facilities improvement and the short-term goals. The design projects included in the annual procurement plan of the campus are the prioritized renovations, upgrading of electrical systems, and fire protection for safety. The direction of the UP Manila campus is to gear the development to obtaining compliance especially with the finalization of the inventories and audits. Given that most of the buildings are heritage buildings and laws related to the construction were not yet established. An example of this is seen in the APP for 2021 where the proposals prioritize and are related with the compliance of relevant laws and regulations.

UPM Renovation Projects as of 2021

1. Renovation and Improvement of Interiors:
 - a. Total Budget Allocated: PhP 76,881,167.13
 - b. Fund Source: UP Manila Funds
 - c. Projects
 - Biochemistry Laboratory Furniture
 - Anatomy Department Histo Chem Laboratory Furniture
 - GAB Laboratory Furniture
 - Supply and Installation of Laboratory Furniture at Department of Physiology, Salcedo Hall
 - Interior Repainting and Various Renovation Works
 - Completion of Salcedo Hall Phase 1 Renovation
 - Renovation of Procurement Office, Administration Building, Joaquin Gonzales Complex
2. Upgrading of Mechanical
 - a. Total Budget Allocated: PhP 9,000,000.00
 - b. Fund Source: UP Manila Funds
 - c. Projects
 - Air Conditioning and Exhaust System for Department of Physiology and Department of Pharmacology, Salcedo Hall
3. Upgrading Electrical Systems
 - a. Total Budget Allocated: PhP 16,000,000.00
 - b. Fund Source: UP Manila Funds

- c. Projects
 - Upgrading of Low Voltage Switch Gear and Service Entrance for the College of Pharmacy
 - Replacement of Low Voltage Switch Gear for Salcedo Hall
- 4. Upgrading of Sanitary Systems
 - a. Total Budget Allocated: Php 6,216,792.33
 - b. Fund Source: UP Manila Funds
 - c. Project
 - Repiping of Sanitary Lines and Various Renovation Works
- 5. Upgrading of Fire Protection Systems
 - a. Total Budget Allocated: Php 14,000,000.00
 - b. Fund Source: UP Manila Funds
 - c. Projects
 - Fire Protection System of Gusaling Andres Bonifacio
 - Supply and Installation of the fire protection system for CAMP Building
 - Supply and Installation of Fire Detection Alarm System for NIH Building
 - Supply and Installation of Fire Detection Alarm System for Paz Mendoza Building
 - Renovation of Lara Hall - Budget for completion from GAA or DPWH GAA
- 6. Environmental Compliance
 - a. Total Budget Allocated: Php 900,000.00
 - b. Fund Source: UP Manila Funds
 - c. Projects
 - Environmental Consultancy Services for ECC and LLDA Compliance

SHS Campus Projects GAA funded for 2021

- 1. Facilities Improvement
 - a. Total Budget Allocated: Php 23,000,000.00
 - b. Fund Source: GAA 2021
 - c. Projects
 - Construction/ Repair/ Rehabilitation of Perimeter Fence and Campus Road Network
 - Construction of Birthing Center
- 2. Upgrading of Fire Protection System
 - a. Total Budget Allocated: Php 3,000,000.00
 - b. Fund Source: GAA 2021
 - c. Projects
 - Acquisition of Fire Detection Alarm System and Sprinkler System

The annual procurement plan of 2021 is part of the procurement program that is UP Manila funded with a target bidding date by the end of 2021 and implementation by 2022.

The proposed projects as envisioned in the short term, medium term, and long term goals are discussed in the next section followed by the key projects that are GAA funded.

Proposed Projects by Terms

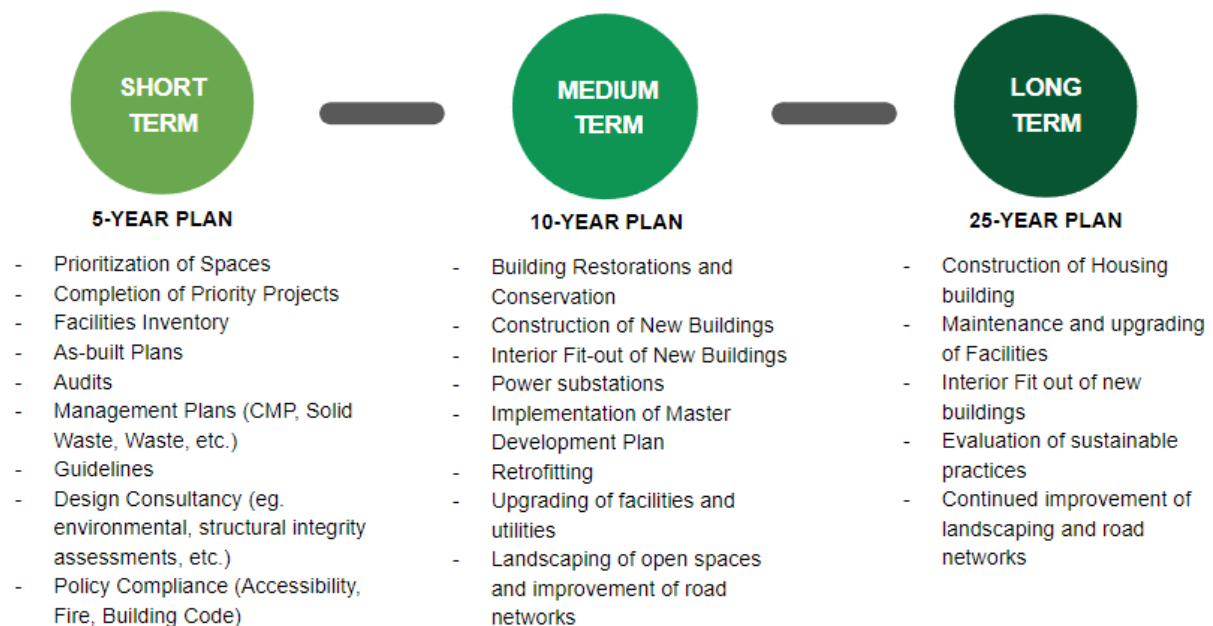


Figure 184 Master Plan Phasing

Proposed Projects (Short Term 2022 to 2027)

a. Management and Urban Design Plans

The formulation of these plans is intended to further analyze and study the issues and detail the components of the overall plan.

- **Facility Space Plan**

Assessment of existing use of space per college, future scenarios; proposed space allocation for present and future use, in consideration of buildings in the pipeline and proposed expansion such as the area to be vacated by the Supreme Court.

- **Stormwater Management Plan**

Plan to enhance the campus buildings, drainage, and landscaping to capture/ absorb/ reuse stormwater for water conservation and reduction of flood risk.

- **Heritage Conservation Management Plan**

Documentation of sites, buildings and artifacts in the university which have historical and cultural significance, and the formulation of policy and strategy for the management and conservation of their heritage values, attributes and integrity.

- **Ecological Solid Waste Management Plan**

Conduct of a waste characterization study and the formulation of strategies and actions for implementation of the Ecological Solid Waste Management Act in the campus.

- **Design for Campus Open Space, Landscaping and Walkways**

Integrated landscape design for campus open plazas, linear plazas/ pedestrian roads, and walkways as identified in the master plan.

| Project | Cost Assumptions | Estimated Cost | Timeline for Implementation |
|---|--|-----------------|-----------------------------|
| Facility Space Plan | 2 months, 1 consultant specialist, 2 staff* | Php0.58M | 2021 |
| Stormwater Management Plan | 3 months, 1 consultant specialist, 2 staff* | Php1.1M | 2022 |
| Heritage Conservation Management Plan | 3 months, 1 consultant specialist, 2 staff* | Php1.1M | 2022 |
| Ecological Solid Waste Management Plan | 3 months, 1 consultant specialist, 2 staff* | Php1.1M | 2022 |
| Design Services for Campus Open Space, Landscaping and Walkways | 7% of estimated open space and landscaping development (Php167M for 47,673 sqm @Php3,500/ sqm) | Php12M | 2022 |
| Total Cost | | Php15.6M | |

**Professional fees - consultant/specialist @Php 100,000/ person-month, staff @ Php35,000/ person-month; overhead and other costs @30% of professional fees.*

Table 37 Estimated Cost and Timeline for Implementation for Plans

b. Audits

These audits are intended to further verify and detail initial findings on PWD Accessibility, Fire Safety, Energy, and Water Use per building, and provide more specific recommendations for the upgrading of facilities and guidelines for use.

- **PWD Accessibility Audit**

Assessment of the adherence of campus buildings and facilities to BP 344 or Accessibility Law and formulation of action plan towards full compliance.

- **Fire Safety Audit**

Assessment of the adherence of campus buildings and facilities to RA 9514 or Fire Code and formulation of action plan towards full compliance.

- **Energy Use Audit**

Identification of types of energy being consumed and their cost, areas of energy waste, and recommendations for energy conservation opportunities and energy saving alternatives.

- **Water Use Audit**

Characterization of water use, identification of unaccountable water losses and leaks, and recommendations for potential savings, including water recycling and rainwater collection.

| Project | Cost Assumptions | Estimated Cost | Timeline for Implementation |
|-------------------------|--|-----------------|-----------------------------|
| PWD Accessibility Audit | 1 month, 1 consultant specialist, 2 staff | Php0.35M | 2022 |
| Fire Safety Audit | 2 months, 1 consultant specialist, 2 staff | Php0.58M | 2022 |
| Energy Use Audit | 2 months, 1 consultant specialist, 2 staff | Php0.58M | 2022 |
| Water Use Audit | 2 months, 1 consultant specialist, 2 staff | Php0.58M | 2022 |
| | Total Cost | Php 2.1M | |

**Professional fees - consultant/specialist @Php 100,000/ person-month, staff @ Php35,000/person-month; overhead and other costs @30% of professional fees.*

Table 38 Estimated Cost and Timeline for Implementation of Proposed Audits

Proposed Projects (Medium Term 2022 to 2032)

a. Roads and Open Space Development

- **Building Plazas**

Conversion of existing parking space to landscaped plaza in front of buildings.

- Plaza 1 - Joaquin Gonzalez
- Plaza 2 - Rizal Hall
- Plaza 3 - Museum of Ideas
- Plaza 4 - Paz Mendoza Parking

- Linear Plazas/ Road Pedestrianization
- Paving, landscaping, and lighting for interior roads.
- Landscaping
- Improvement of existing landscaped areas, including lighting, to improve vista of buildings, and landscaping in other areas to be identified.
 - Rizal Hall
 - Calderon
 - College of Nursing
 - Other buildings
- Covered/ Elevated Walkways
- On ground or elevated continuous internal walkways to serve as main pedestrian arteries.
 - North-South Walkway
 - East-West Walkway
- University Portals
- Improvement and harmonization of design of main campus entrance/ exits to strengthen campus legibility and wayfinding.
 - G-12 College of Medicine
 - G-17 College of Nursing
 - G-11 Joaquin Gonzalez
 - G-3 Rizal Hall
 - G-10 Museum of a History of Ideas
 - G-18 Taft

| Project | Cost Assumptions | Estimated Cost | Timeline for Implementation |
|---------------------------------------|--|------------------|-----------------------------|
| Building Plazas | 3,889.30 sqm @ Php10,000/sqm | Php38.9 M | 2021 - 2025 |
| Linear Plazas/ Road Pedestrianization | 5,141.77sqm @ Php10,000/sqm | Php51.4M | 2021 - 2025 |
| Landscaping | 10% of campus area (15,800 sqm.) @Php3,500/ sqm | Php55.3M | 2021 - 2025 |
| Covered/Elevated Walkways | 637.66 @Php20,000/sqm | Php55.3M | 2021 - 2025 |
| University Portals | 6 portals @Php500,000 | Php3M | 2021 |
| Wayfinding Signage and Maps | 10 maps @ P50,000 6 university campus signs @ P50,000 | Php 0.4M | 2021 |
| | Total Cost | Php158.7M | |

Table 39 Estimated Cost and Timeline for Implementation of Roads and Open Space Development



Figure 185 Shared Street by Palafox and Associates



Figure 186 Covered walkways allow for comfortable pedestrian travel with access to open spaces. Rendering by Palafox and Associates



Figure 187 Shared Street by Palafox and Associates

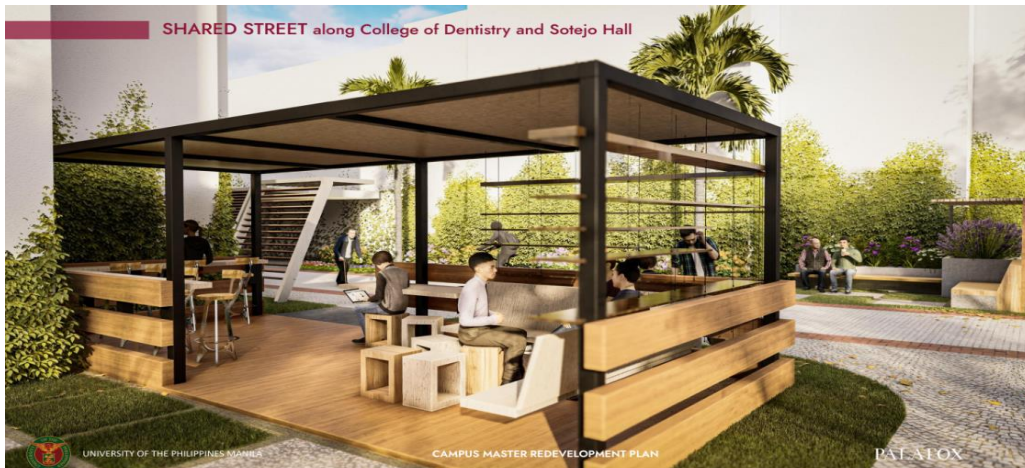


Figure 188 Shared open spaces create venues for connecting and unwinding. Rendering by Palafox and Associates

b. Facilities Development

- **Parking Building**

The construction of a new multi-level automated parking building beside Calderon Hall will alleviate the street parking. Options to install an automated multi-level parking along this road will provide a temporary parking space before the construction of the housing building. And because it is modular, this can be transferred to another site once the construction of the housing commences.

- **Upgrading of Water Systems**

The upgrading of the water system is identified for buildings with old water systems not up to standard. These are mostly heritage buildings such as Calderon Hall, Lara Hall, Paz Mendoza Hall, College of Pharmacy, and Rizal Hall. If the renovation of any of these buildings are granted funding, the upgrading of utilities will be a priority.

- **Upgrading of Building Electrical Systems**

The electrical upgrading for buildings with old electrical systems not up to standard is also mostly for the heritage buildings. Full upgrade is required for Paz Mendoza Hall, College of Pharmacy, and CPDMO while partial upgrade is required for Calderon Hall. College of Dentistry, UP Main - Joaquin Gonzalez, ITC Building, and Rizal Hall. As per the latest line of projects, Calderon Hall, College of Dentistry, and CPDMO are now on-going while the complete design is already finished for Paz Mendoza Hall and the College of Pharmacy.

- **Upgrading of Toilets**

The UP System has released the standard design of toilets and the UP Manila buildings are being improved based on these standards. Aside from the design, it is more

important to include the provision of toilets for PWD. Currently there are 12 buildings with no PWD toilets.

- **Upgrading for PWD Accessibility**

Installation of ramps and other features for buildings with inadequate PWD Accessibility. There is currently one building (Student Center) without PWD access, and four buildings without elevators. Other features to be identified by PWD Audit.

- **Interior Renovations**

This will include the refurbishment of existing flooring, installation of new acoustic panel boards (wall and ceiling) for classrooms, installation of cabinets with color-coated glass, TV, and projector screen for classrooms, refurbishment of doors and windows, repainting of all floor and wall surfaces, and new furniture (all built-in and loose). Priority will be for the Calderon Hall and CAMP Building.

- **Materials Recovery Facility**

Waste sorting area in compliance with the Ecological Solid Waste Management Act (for study whether this should be in one building or per building). If one building, the proposed location is beside FMAB, one in CAS, Joaquin Gonzales, and one near Salcedo Hall.

- **Construction of Power Substation**

The construction of the power station shall be for the whole campus. The location will be identified in collaboration with the power providers.

- **Upgrading of Fire Protection Systems**

The upgrading of the fire protection systems shall be in compliance with the Fire Code. The details and the result for implementation will be determined by the Fire Safety Audit. This shall include the centralized monitoring system and connection to the Bureau of Fire Protection.

- **Public Address System**

The public address system shall be considered as part of the auxiliary systems for general announcements and emergency evacuation.

- **Installation of additional CCTV cameras for surveillance**

The installation of the additional CCTV cameras shall be to address the areas without CCTV cameras with a central monitoring system in the ITDC building as monitored by the UP Manila Police.



Figure 189 Examples of Interior Design for Heritage Buildings



Figure 190 Toilet facilities for heritage buildings

| Project | Cost Assumptions | Estimated Cost | Timeline for Implementation |
|--|-------------------------------|-----------------------|------------------------------------|
| Parking Building | 3,868 sqm @Php45,000 | Php 174.1M | 2025 |
| Materials Recovery Facility | 324 @ Php25,000 | Php 8.1M | 2023 |
| Upgrading of Water Systems | | TBD | |
| Upgrading of Building Electrical Systems | | TBD | |
| Construction of Power Substation | | TBD | |
| Upgrading of Fire Protection Systems | | TBD | |
| Upgrading for PWD Accessibility | Elevators, PWD Ramps and CRs. | Php 54,450,000 | 2023 |
| Interior Renovations | | TBD | |
| Public Address System | | TBD | |

| | | | |
|--|--|-----|--|
| Installation of Additional CCTV Cameras for Surveillance | | TBD | |
|--|--|-----|--|

Table 40 Estimated Cost and Timeline for Implementation for Facilities Development

c. Heritage

- **Full Interior Renovation for Calderon Hall:**

This will include the refurbishment of existing flooring, installation of new acoustic panel boards (wall and ceiling) for classrooms, installation of cabinets with color-coated glass, TV, and projector screen for classrooms, refurbishment of doors and windows, repainting of all floor and wall surfaces, and new furniture (all built-in and loose).

- **Heritage Tour**

Heritage plaques/markers and brochures for heritage buildings

| Project | Cost Assumptions | Estimated Cost | Timeline for Implementation |
|------------------------------------|-------------------------------|----------------|-----------------------------|
| Interior Renovation, Calderon Hall | Approx. 4000 sqm @P25,000/sqm | Php 100M | 2023 |
| Heritage Tour | 7 plaques | TBD | 2023 |

Table 41 Estimated Cost and Timeline for Implementation of Heritage Projects



Figure 191 Aerial perspective showing proposed buildings for the University Library (center), UPCM Medical Sciences (left), and Zuellig Building (center-right). PGH Central Block and ER are seen at the back. Rendered image by CPDMO

Proposed Projects (Long Term 2033 to 2047)

This term focuses on the completion of previously mentioned projects in the short and medium term. This shall also ensure that funding shall be available for the completion of the on-going major building projects such as interior renovation work, equipment, etc.

The long-term program shall also include the realization of the housing project that will complete the elements of the master development plan. This shall be the major infrastructure project that will provide the students, faculty and staff the added convenience of residing nearby and being able to attend to any emergencies as the case arises in the hospital and the academic zone. This will create our own bubble to respond to the needs of UP Manila for similar situations such as this recent COVID 19 pandemic.

Other projects as identified by the UP Manila Chancellor and the UP President may also be included in the development, either within the site or to another UP Manila expansion area. This will involve the preparation of the feasibility studies, preparation of the MOU or MOA with donors or potential partners, and the preparation of the architectural and engineering design.

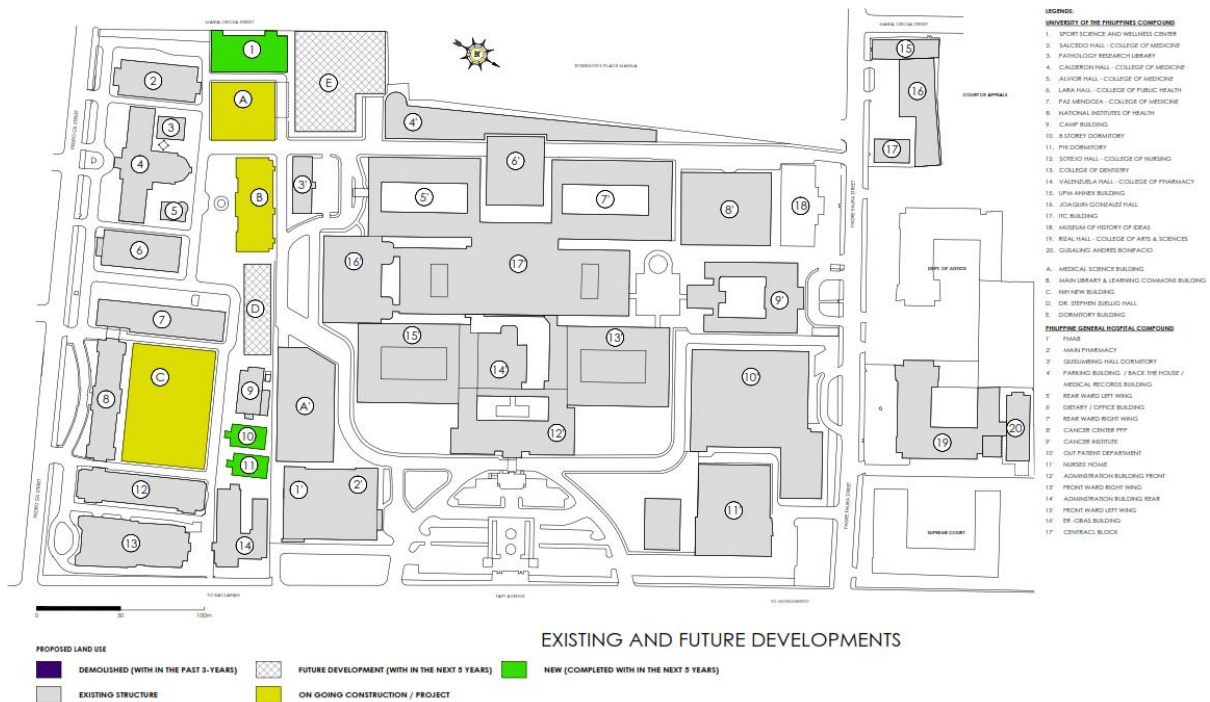


Figure 192 Existing and Future Developments of UP Manila

| Building | Area (sqm) | No. of Floors |
|----------------------------------|-------------------|---------------|
| Ongoing Construction | | |
| A. UPCM Medical Sciences | 9,522.46 | 12 |
| B. UP Manila Library | 15,085.65 | 12 |
| C. National Institutes of Health | 38,243.58 | 19 |
| Future Development | | |
| D. Zuellig Building | 9,504.00 | 11 |
| E. Residential Complex | 51,395.13 | 30 |
| Total (New) | 123,750.82 | |

Table 42 Proposed New Buildings

Major UP Manila Projects

1. UP College of Medicine - Medical Sciences Building

Name of Project: Construction of UP College of Medicine - Medical Sciences Building

Location: UP Manila

Project Status: On-going Construction

Brief Description:

This twelve story UP College of Medicine Academic Center will be home to 37 state of the art classrooms using the latest technology, two 200 capacity auditorium, a Basic Clinical Simulation Laboratory, and a special events hall on the seventh floor. It will be completely wired to the internet and powered through solar energy.

Project Components:

Complete construction and interior fit out of the UP College of Medicine Medical Sciences Building.

Proponents: UP Medical Alumni Foundation Inc., UP System, and UP Manila

Justification:

There is currently a deficit of teaching spaces for an estimated 1,007 Medical students and 350 graduate students of the UPCM. This building will not only satisfy the requirements but will house the most advanced Health Simulation Center in the country. The building will also increase academic productivity by providing training support spaces like auditorium and research facilities.

Target Beneficiaries: UP Manila College of Medicine

Estimated Cost: 577 Million

Project Duration: 3 years, June 2022

Target Output / Success Indicators:

Increase in the Carrying Capacity of the UP College of Medicine by 40 students per year for the next 7 years, to achieve a total of additional 280 students by AY 2029-2030. This increase will provide medical manpower given the assurance of a return service agreement to serve the People of the Philippines for a minimum of 3-5 years after their graduation from the UPCM.

Possible Risks: Not Applicable

Expected Private Sector Response: Philanthropic Donation



Figure 193 Artist's perspective of the College of Medicine Medical Sciences Building from Luis and Associates Co.

2. UP Manila Main Library

Name of Project: Construction of UP Manila Main Library and Learning Commons Building

Location: UP Manila

Project Status: On-going Construction

Brief Description:

The construction of the 12-story UP Manila Main Library and Learning Commons officially started on November 26, 2019 with a ground-breaking ceremony. The UP Manila Main Library and Learning Commons is a symbol of UP Manila's commitment to higher learning. This library is envisioned not just as a place to study but also for collaboration and rest. It shall include learning resources, discussion rooms and quiet rooms, archives, exhibit areas, multimedia rooms, maker spaces, and computer laboratories where students and faculty can supplement classroom learning through printed and electronic collections.

Project Components:

| | | |
|---------|--|---|
| Phase 1 | Construction of U.P. Manila Main Library and Learning Commons Building | Construction of ground to 7th floor slab (on-going) |
| Phase 2 | Construction of U.P. Manila Main Library and Learning | Construction of 7th to 12th floor |

| | | |
|---------|--|-----------------------|
| | Commons Building | |
| Phase 3 | Completion of the UP Main Library and Learning Commons | Engineering utilities |

Table 43 Phasing Plan of the UP Manila Main Library and Learning Commons Building

Proponents: UP System, UP Manila

Justification:

The construction of the UP Manila Main Library and Learning Commons will consolidate all the libraries of the different academic units. This will be the center of academic information for the UP Manila Campus.

Target Beneficiaries: UP Manila

Target Output / Success Indicators:

Increase in the GWAs and decrease in the dropout rate due to having a centralized area for research, discussion, and training making information easily accessible. Additional floor levels can also be a shift space for the renovation of the current spaces for other colleges or units thereby maintaining the uncluttered corridors and areas.

Possible Risks: Not Applicable

Expected Private Sector Response: Philanthropic Donation

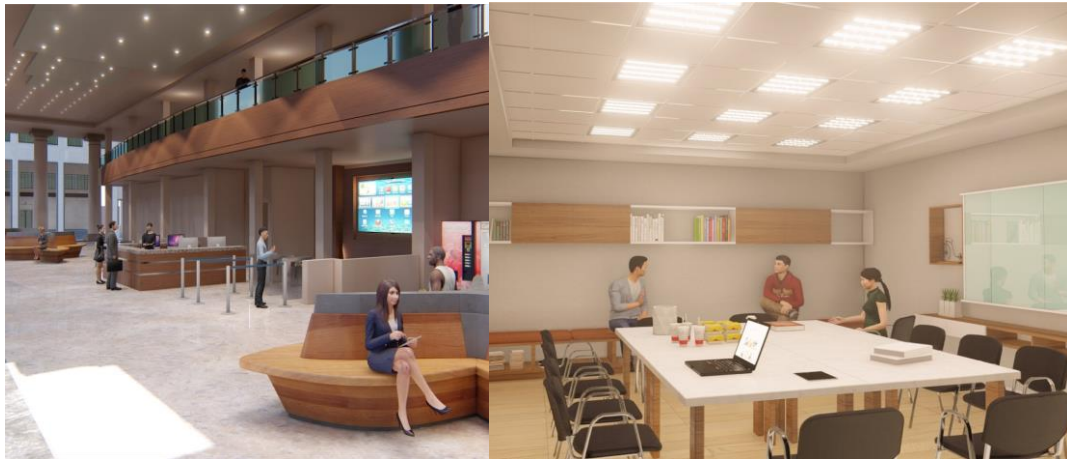




Figure 194 Artistic renderings by CPDMO

3. National Institutes of Health

Name of Project: Construction of the New National Institutes of Health (NIH) Building

Location: UP Manila

Project Status: On-going Construction

Brief Description:

This is a 19-storey building that includes modern laboratories and administrative offices for each of the component institutes, an Animal House, and Biosafety Level 3

facilities that will boost research landscape through greater interaction and collaboration among researchers.

Project Components:

| | | |
|---------|--|---|
| Phase 1 | National Institutes of Health Building | Structural, Exterior Facade and Fenestrations |
| Phase 2 | Construction Management Services for the NIH Building | Construction Management Services |
| Phase 3 | Completion of National Institute of Health Building | Service Elevators and Fire Insulation Material for the Structural Steel |
| Phase 4 | MEPF for the National Institutes of Health Building | Electrical Utilities and Rough ins |
| Phase 5 | Continuation of the Construction of the National Institute of Health (NIH) Building, UP Manila | Interior Fit Out for the Administrative Floors of the NIH Building |
| Phase 6 | Continuation of the Construction of NIH Building - Fit-Out Phase, UP Manila | Interior Fit Out for the NIH floors |

Table 44 Scope of Work of the NIH Building in Phases

Proponents: National Institutes of Health

Justification:

The 19-storey National Institutes of Health (NIH) building is a mixed-use facility that will house 15 research institutes and centers, an Animal Research Facility, the NIH Auditorium Complex, a two-level complex with a 500-seater auditorium, and the UP Manila Central Administration Offices. These structures are crucial in knowledge sharing as effective dissemination and communication of health research are vital to ensure that the evidence generated from research results in social, political, and economical impact. These research dissemination activities conducted in an organized manner through public fora draw attention of governments and stakeholders to research results and conclusions, enhancing their visibility, comprehension, and implementation.

Once finished, this will be the first high rise laboratory in the Philippines and one of the biggest endeavors of the UP since 1908. The National Institutes of Health - University of the Philippines Manila is the country's leading institution for health research and development and the Health Sciences Center of the UP System. NIH develops outputs that serve as vital guideposts in shaping national health programs and policies. (Source: NIH Building Committee Project Profile)

Target Beneficiaries: National Institutes of Health and UP Manila

Table 45 Project Duration of the NIH Building

Target Output / Success Indicators: Increased research output.

Possible Risks: Contamination and Biohazard.

Expected Private Sector Response: Philanthropic Donation



Figure 195 Artistic rendering by Mohri & P.A. Associates

4. Preservation of Rizal Hall, College of Arts and Sciences

Name of Project:

Preservation of the Heritage Structure and Modernization of Teaching/Learning Facilities at Rizal Hall, College of Arts and Sciences, Rizal Hall

Location: College of Arts and Sciences, UP Manila

Project Status: Fund is for later release under DPWH GAA 2021

Brief Description:

The proposed project aims to provide the users a facility aligned with the modern trends of teaching and research, while also considering the heritage character of Rizal Hall. To achieve this, the building shall be separated into three areas namely, the administrative and faculty offices in Wing 1, the classrooms and lecture areas in Wing 2, and the Laboratories in Wing 3. The zoning will enable the realization of a facade without traversing lab utilities. The use of adequate mechanical ventilation systems shall also be a priority to limit the presence of condensing units along the facade. The renovation shall also consider the structural integrity of the building and rehabilitate any structural members that need to be reconstructed.

Project Components:

| | | |
|---------|---|--|
| Phase 1 | Repair/Rehabilitation of Existing Classrooms and Common Areas of the Century Old Rizal Hall, College of Arts and Sciences | Structural repairs, facade rehabilitation, engineering utilities, and interior wall partitions |
| Phase 2 | Preservation of the Heritage Structures and Modernization of Teaching/Learning Facilities at the College of Arts and Sciences (CAS) - Rizal Hall, UP Manila | Architectural works, interior finishes and furnishings, supply and installation of furniture |

Table 46 Scope of Work of RH Projects in Phases

Proponents: UP Manila

Justification:

The Rizal Hall is one of the important heritage buildings in UP Manila. It is one third of the University Hall where the Supreme Court and Department of Justice are also located. The renovations that happened during the period of 2016 to present sought to upgrade the existing facilities in a piecemeal manner due to budget constraints. Even though the renovations significantly improved the area, the proposed project will view the building as a whole to preserve the character and zone according to function. The architectural goal is to design a healthy building which also reflects the design intent of the original architect. With this, the master proposal will be broken down into phases to complete the project.

Target Beneficiaries: UP Manila College of Arts and Sciences

Target Output / Success Indicators:

Preserved heritage building and character of UP Manila. Improvement in output of students in terms of academic performance and research initiatives. Increase in productivity of the employees.

Possible Risks: Not Applicable

Expected Private Sector Response: Philanthropic Donation





Figure 196 Rizal Hall Perspectives by UPM CPDMO

5. CPH Lara Hall

Name of Project:

Preservation of the Heritage Structure and Modernization of Teaching/Learning Facilities at Rizal Hall, College of Arts and Sciences, Rizal Hall

Location: College of Public Health, UP Manila

Project Status: Design Phase Completed ready for implementation

Brief Description:

The proposed project aims to provide conducive learning facilities and offices for the CPH community. The project will encompass complete renovation and upgrading of the classrooms, laboratories, offices, and support facilities of Lara Hall while preserving the character of the building.

Project Components:

| | | |
|---------|---|--|
| Phase 1 | Upgrading of Facilities at the CPH-Lara Hall, UP Manila | Renovation of fourth floor, facade rehabilitation, and thermal and moisture protection |
| Phase 2 | Upgrading of Facilities at the CPH-Lara Hall, UP Manila (Phase 2) | Renovation of ground floor to third floor and construction of support facilities |

Table 47 Scope of Work of the Lara Hall Building in Phases

Proponents: UP Manila

Justification:

The project purpose is to renovate the heritage building to improve the zoning of spaces, circulation, and upgrading of utilities. Due to wear and tear, there is a need to renovate the old building. There is also a need to respond to the current and future requirements of functional spaces for the CPH community to conveniently have presentable spaces for teaching, research, and public service.

Target Beneficiaries: UP Manila College of Public Health

Target Output / Success Indicators:

Improvement in output of students in terms of academic performance and research initiatives. Increase in productivity of the employees.

Possible Risks: Not Applicable

Expected Private Sector Response: Philanthropic Donation

6. UPM Housing Facility (Long Term Program)

This multi-storey building will serve as a central housing block for nurses, doctors, and other medical practitioners. It is envisioned to contain dormitory rooms, recreational amenities, function rooms and convenience stores. The lower floors will also contain parking spaces that will service the whole campus.

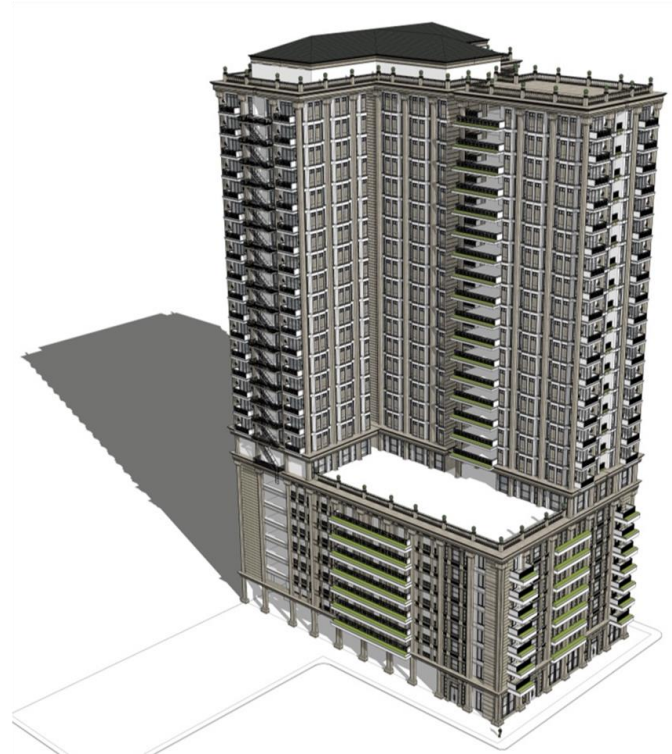


Figure 197 Housing Building Artistic rendering by Palafox and Associates



Figure 198 Artistic rendering by CPDMO

7. Zuellig Building (Medium Term)

This proposed 11 storey building will be built as a donation of Philanthropist Dr. Stephen Zuellig. It will have state of the art classrooms, meeting rooms, laboratories, offices, and a green square lobby that are in line with the College of Public Health's vision as a center of excellence and leadership in public health. Renowned architect William V. Coscolluela designed the building.



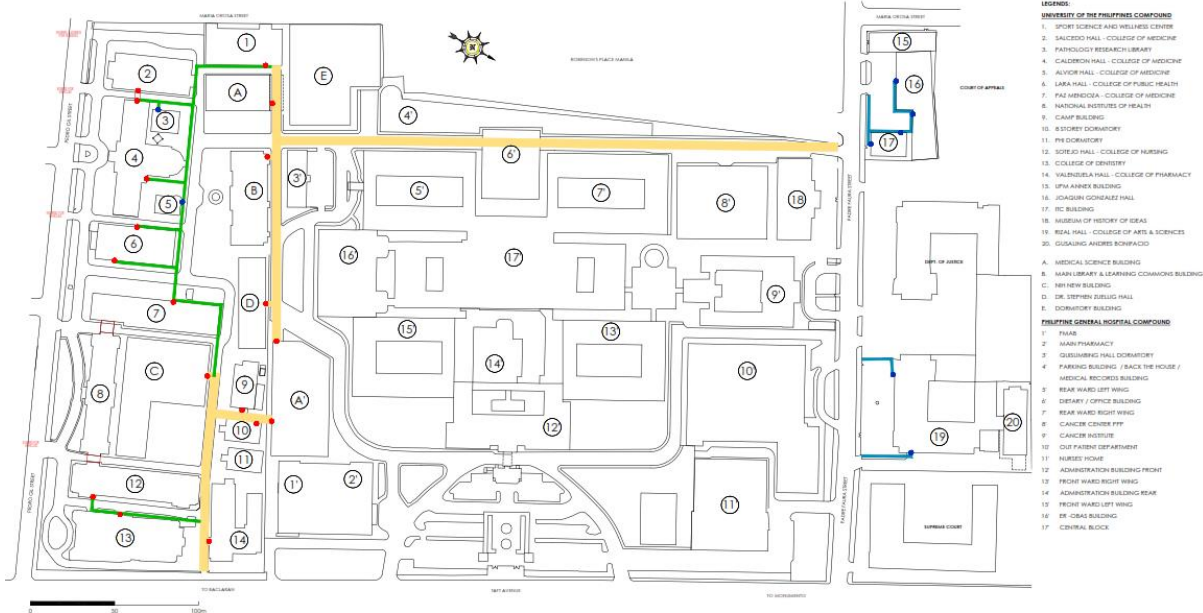
Figure 199 Zuellig Building designed by W.V. Coscolluela and Associates with artistic rendering by CPDMO

8. Elevated Walkway Network (Short to Medium Term)

Several key points were considered in the design of the elevated walkway:

- The access points to walkways, and its connections to the buildings surrounding it
- The current use and existing conditions for proposed locations
- Areas directly adjacent to the allocated walkways

The elevated walkway has a minimalist neoclassical architectural design to provide a harmonious aesthetic with the existing buildings in the campus. The walkways feature wall-mounted lighting, planters, a drainage system and tactile pavements all integrated into the design.



PROPOSED ELEVATED WALKWAY NETWORK



Figure 200 Proposed elevated walkway network by CDPMO and Palafox Associates



Figure 201 Elevated walkway visualizations by Palafox and Associates

9. Parks and Open Spaces

- **Rizal Hall Park**

The existing park will be reconfigured to provide a more formal setting for the heritage building and statue of the Oblation. The central area will be a sunken area flanked by green lawns on both sides. Additional seating integrated with planter boxes will be provided around the periphery. A terraced seating area also allows for assembly.



Figure 202 Rizal Hall Park Artistic rendering by Palafox Assoc.

- **Rizal Hall Courtyard**

The existing cemented Rizal Hall Courtyard will be landscaped to provide more greenery and permeable surfaces as well as additional seating and study areas.



Figure 203 Rizal Hall Courtyard Artistic rendering by Palafox Assoc.

- **Calderon Hall Park**

The park in front of Calderon Hall will be reconfigured to provide a continuous shared street that will connect the existing rotunda to Salcedo Hall and Lara Hall. The new

landscaping will also provide a better setting for existing sculptures. Additional seating within parklets will also be added.



Figure 204 Calderon Hall Park Artistic rendering by Palafox Assoc

- **National Institutes of Health Park**

The road and open spaces in front of the National Institutes of Health (old building) will be streamlined for better circulation. The landscaping will be improved to better define the roadway, entrance and exits. Additional seating integrated with planters will also be provided.



Figure 205 NIH Park Artistic rendering by Palafox Assoc.

- **Shared Streets**

Shared streets have a proposed minimum of 4-meters road right of way. This street prioritizes pedestrians but at the same time allows limited vehicular access. With the adequate width of these streets planting strips, additional seating areas, parklet variations as well as formal retail areas may be accommodated depending on the location of the proposed shared street



Figure 206 Shared Streets Artistic rendering by Palafox Assoc.

- **University Library Park**

The area in front of the new University Library is envisioned to be a large assembly and evacuation area that can also be used by students for lounging and recreation. This large open area will also serve as a central focal point that will aid in improving the imageability and legibility of the campus.



Figure 207 University Library Park Artistic rendering by Palafox Assoc.

- **Museum of Ideas Park**

The area in front of the Museum of a History of Ideas, most of which is currently used for parking, will be landscaped to add greenery, permeable surfaces, study and recreational areas, and seating.



Figure 208 Museum of a History of Ideas Park Artistic rendering by Palafox Assoc.

- **Joaquin Gonzales Park**

The area in front of Joaquin Gonzales Hall, which is currently being used for parking, will be landscaped to add greenery, permeable surfaces, and seating areas.



Figure 209 Joaquin Gonzales Park Artistic rendering by Palafox Assoc.

- **Road Development Plan**

The road development shall be in line with the construction of new buildings and landscape projects that will ensure access to all the buildings on the site without exiting the campus. The proposed road development is shown below.

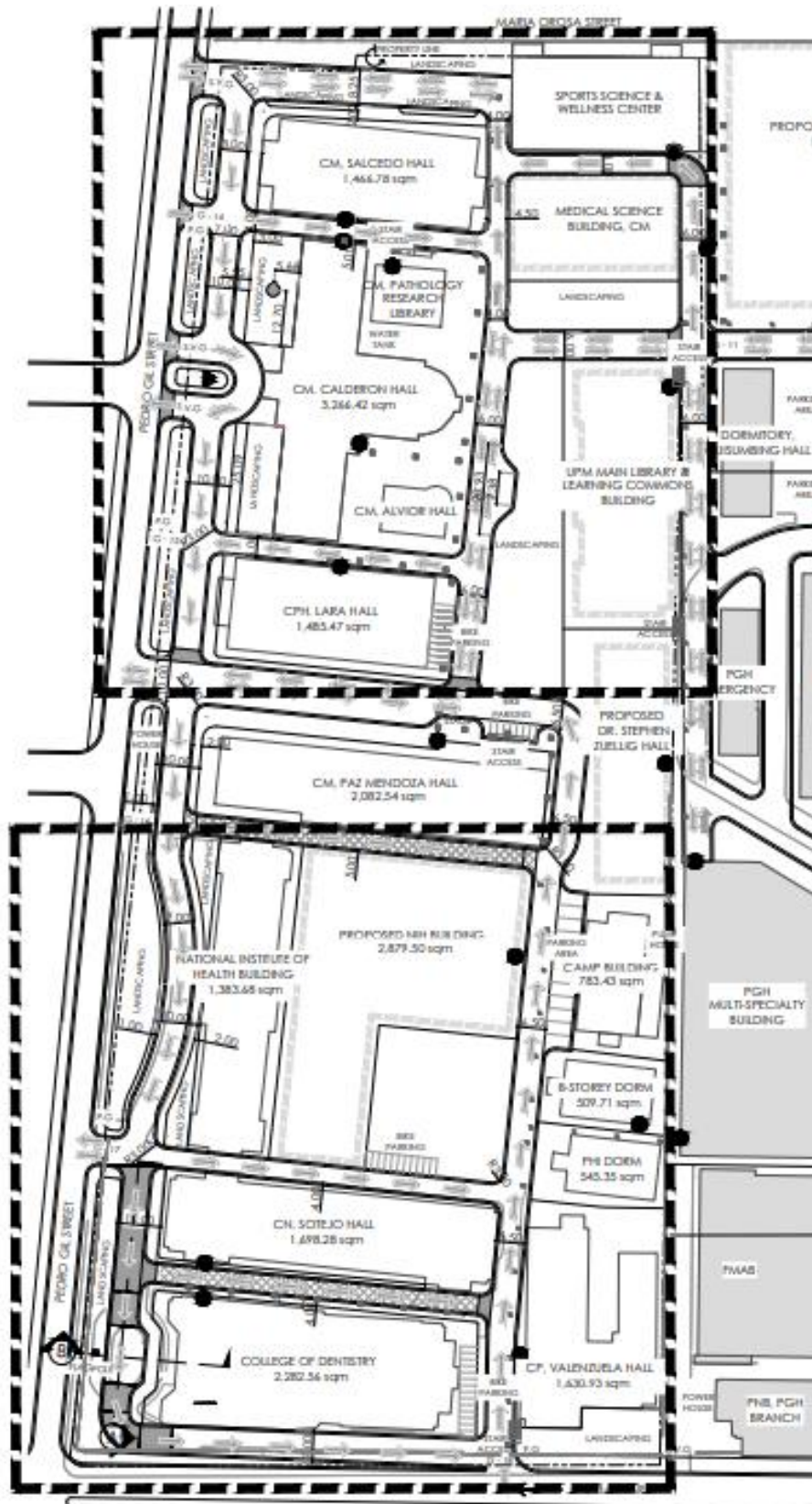


Figure 211 UP Manila Campus Redevelopment – Road Development Plan, Blow-up Plan 1

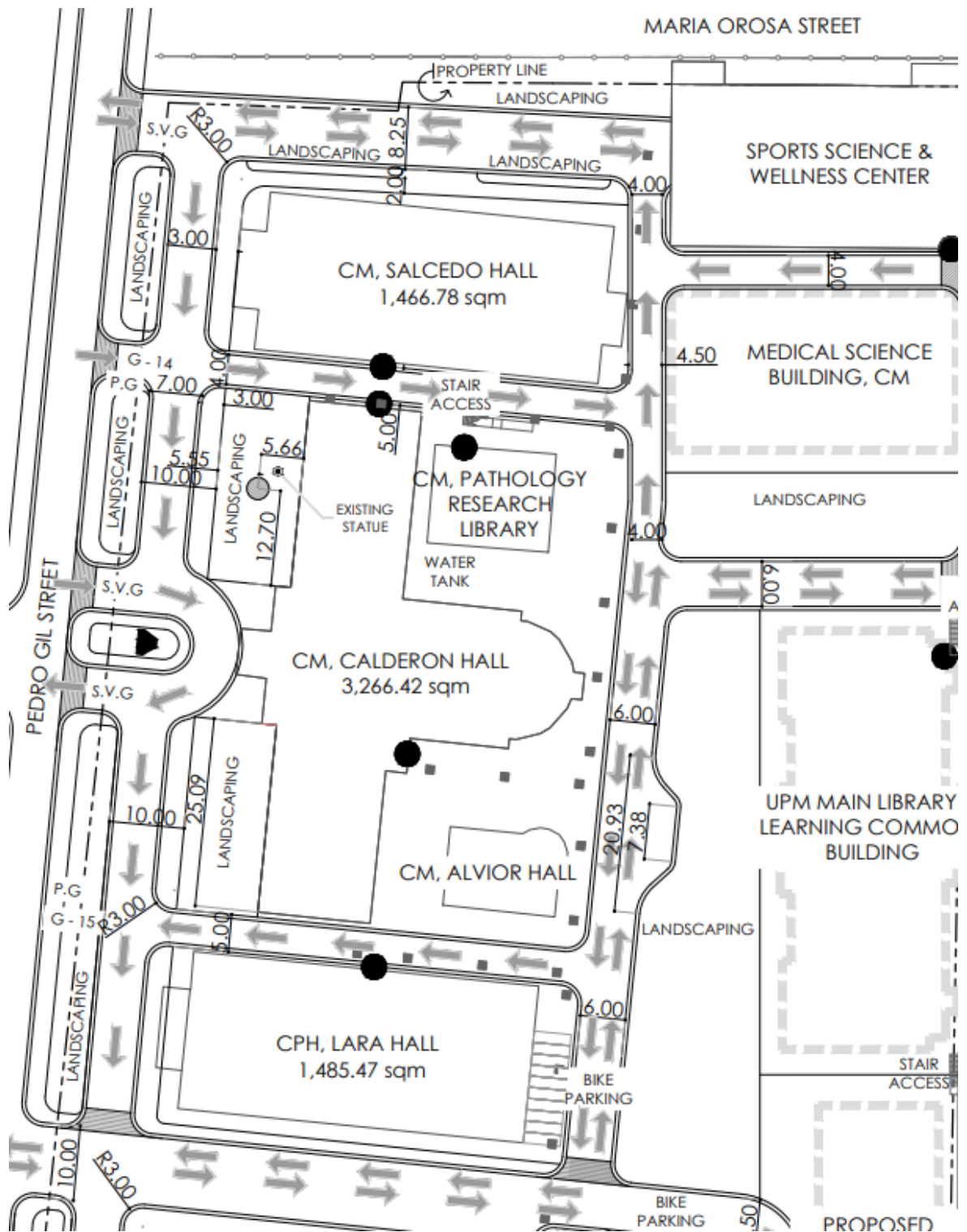


Figure 212 UP Manila Campus Redevelopment – Road Development Plan, Blow-up Plan 2

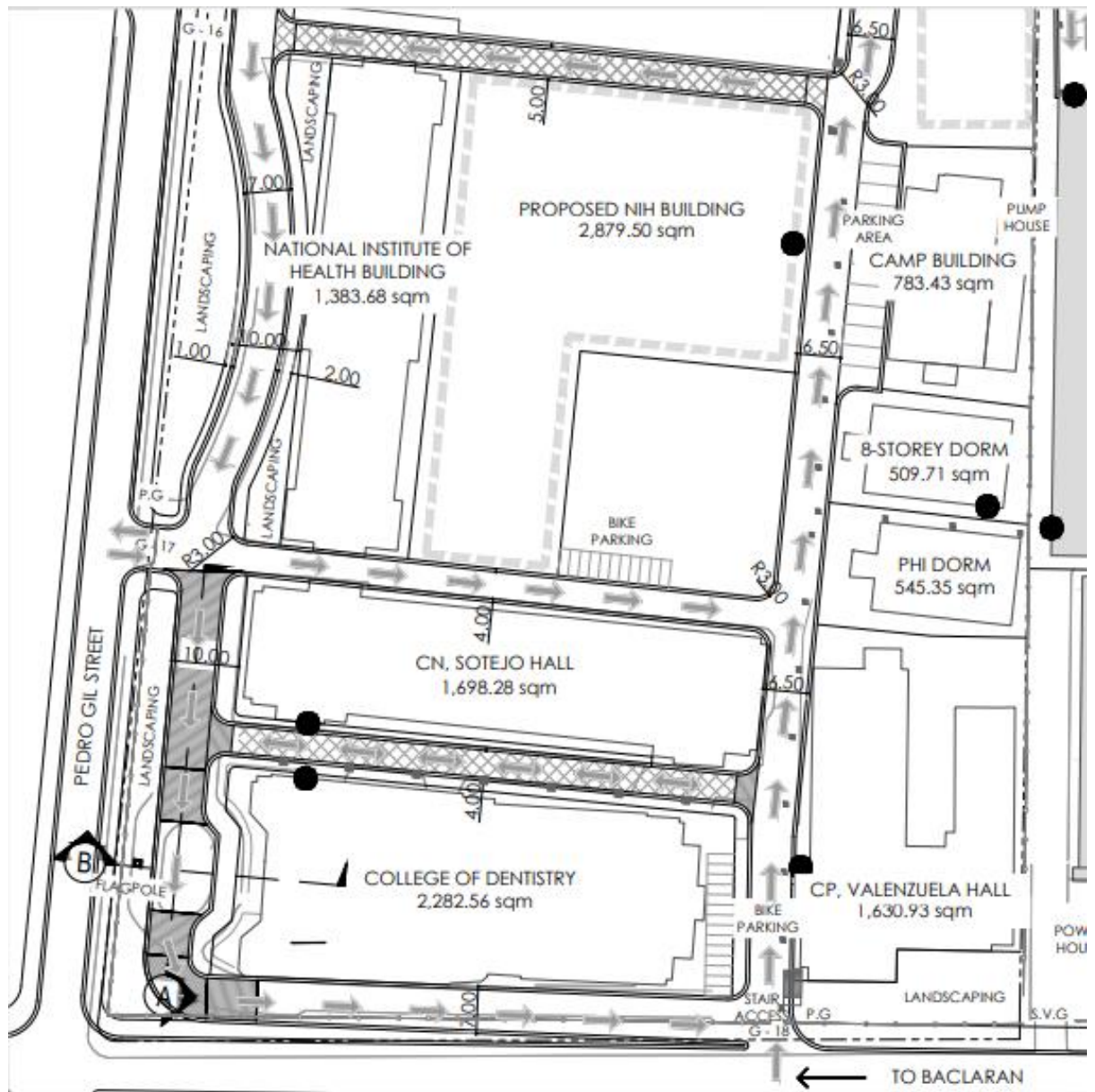


Figure 213 UP Manila Campus Redevelopment – Road Development Plan, Blow-up Plan 3

Major Projects for the Hospital Zone

The PGH Master Plan will add six multi-storey buildings. These new buildings will give way to a multi-storey PGH Residential Complex that will serve as a central housing block for nurses, doctors and other medical practitioners, a new Cancer Institute building that will expand the services of the current C.I building, the Felicidad Sy Multi-Specialty Building and Pediatric Building which will provide additional spaces for administrative, clinical, and nursing services, a 5-storey Parking Building that will function as the Back of the House and offer additional 310 parking slots and the new Dietary Building that will expand the services of the current Dietary department and increase the number of Charity Nursing Units. The second floor will serve as the expressway of each building that is interconnected by elevated walkways which will unify the function of the entire PGH Complex. (Text from PGH Masterplan by Archion Architects)

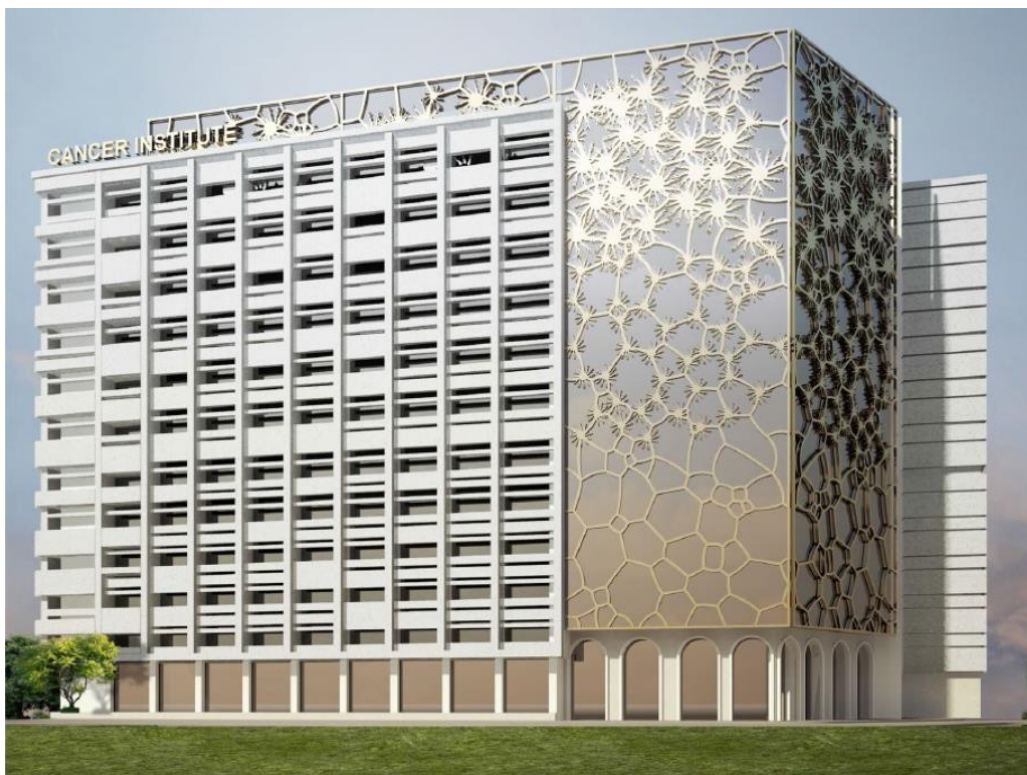


Figure 214 Cancer—Surgery Complex—Façade Study by Archion Architects



Figure 215 PGH Residential Complex (same area as faculty and staff housing). Artistic rendering by Archion Architects



Figure 216 Felicidad Sy Multi-Specialty Building façade study by Archion Architects

Philippine General Hospital - New Clark City Satellite for Sports Medicine and Wellness

Location: New Clark City, Capas, Tarlac

Land Area: 100 Hectares

- 40 ha. Green parks

- 60 ha. Development

Phase 1: Biotechnology Park (2023)

Phase 2: PGH Smart Hospital

Phase 3: Academic Zone and NIH

The UP Manila New Clark City will be the expansion site for the Science and Technology Park and the Health Sciences. The site is still being determined through a series of discussions that will result in the finalization of the memorandum of understanding and memorandum of agreement.



Figure 217 New Clark City as the site for the UP Manila Health and Research

Major Projects for the SHS Campuses

SHS Baler Birthing Center

The SHS Baler Birthing Center will be the training ground facility for the midwifery program of the SHS Baler Campus. The phase 1 of the building which is the structural components of the building is funded through GAA 2021. The second phase will be the completion of the building including interior fit out.



Figure 218 SHS Baler Birthing Center Artistic rendering by the UPM CPDMO

3.5.2. COMMERCIAL AREAS

Commercial areas for the University of the Philippines are limited due to the size of the site. There are designated areas mostly on the ground floor that accommodate concessionaires to serve the students and personnel. The Student Center in the College of Arts and Sciences has a separate building for student services and the ground floor is designated for food stalls. The ground floor of the Eight-Storey Student Dormitory was recently renovated to house the canteen and receiving area for the dormers this 2021 in preparation for the concessionaire and face to face classes. This will serve the 248 occupants once fully occupied and other nearby colleges within Pedro Gil. The new buildings such as the National Institutes of Health Building and UP Manila Main Library and Learning Commons and the proposed future Faculty and Staff Housing will have spaces for commercial areas.

The UP PGH and FMAB as hospital areas, have within their buildings, informal and formal food stalls. FMAB has more permanent spaces designated for the restaurants at the ground level such as Figaro and Rodics and also for franchised food stalls. The building FMAB and the PNB are two private institutions renting the buildings in UP Manila.

For campuses in SHS, there are no available concessionaires due to the maximization of the available building spaces. The sites are also not as expansive as those of other UP campuses and within the municipality. The students and personnel rely on the availability of commercial areas around the site.

3.5.3. ALLIED SERVICES

Allied services related to the support of the health sciences programs are research facilities being housed in the National Institutes of Health and the colleges. There are internal arrangements to implement research grants and partnerships with government agencies with project proponents arranged with the colleges. There are also clinics such as those in the College of Allied Medical Professions for the childhood and adult adolescent therapy clinics CRECHE Childcare Services are located in the Joaquin Gonzales Compound.

The Museum of History of Ideas located along Padre Faura street houses the gallery of UP Manila. The memorabilia and displays for the history of health sciences. This also doubles as an events place with its expansive lobby and sunlit areas through the atrium and exterior windows characteristic of the tropical design style during the year it was built.

The hospital UP PGH as a Hospital Level 3 serves as the practicing and training grounds for the doctors and residents from the UP Manila Colleges and Administration. The FMAB in turn serves as a private clinic building for the doctors of both UP PGH and UP Manila.

SHS Campuses have clinics, research facilities, and most importantly the Birthing Center to function as the training area.

3.5.4. EXPANSION AREAS

The designated expansion areas for UP Manila are already limited and possible expansion areas have already been defined since most of the buildings are heritage buildings. These are the site for the proposed Faculty and Staff Housing which is a 26 storey building which is the last development for UP Manila and the sites for the Pediatric Wing, Spine Ward, and Cancer Center that is still up for approval and demolition of existing buildings. For the SHS Campuses, these are sized according to the requirements within the 10-year development program and there are areas where expansion can be accommodated in the existing site.

These are identified in the Development Action Plan for UP Manila at Section 3.4.5. (see Figure 108).

3.5.5. INVESTMENT PROGRAM

The investment program is identified based on priority projects that will have the greatest impact to the vision and mission of UP Manila and the improvement of the quality of life for the users. A prioritization tool was formulated in 2019 and was disseminated for determining the priorities not just for the administration but for the faculty, staff, and students. This was discussed in the 3.2.1 Campus Planning Framework, Principles, and Processes as the basis.

Annual Investment Program

| Project / Program | | | Implementing Office / Department | Schedule of Implementation | | Expected Output | Source of Fund | Estimated Project Cost (PhP) | Budget Allotted | Planning Principles Addressed |
|-------------------|---|----------|---|----------------------------|------------------------|--|-----------------|------------------------------|-----------------|-------------------------------|
| No. | Project Title | Location | | Target Start Date | Target Completion Date | | | | | |
| 1 | Renovation of CPH Lara Hall | CPH | AC Ong (Design); CPDMO (Implementation) | 2023 | 2024 | Renovation of the Dean's Office as part of the series of renovations for Lara Hall | UP Manila Funds | 19,750,000.00 | 19,750,000.00 | Upgrading of Facilities |
| 2 | Biochemistry Laboratory Furniture | CM | CPDMO (Design and Implementation) | 2022 | 2023 | Supply and Installation of Furniture | UP Manila Funds | 15,500,000.00 | | Upgrading of Facilities |
| 3 | Anatomy Department Histo Chem Laboratory Furniture | CM | CPDMO (Design and Implementation) | 2021 | 2022 | Supply and Installation of Furniture | UP Manila Funds | 2,200,000.00 | | Upgrading of Facilities |
| 4 | GAB Laboratory Furniture | CAS | CPDMO (Design and Implementation) | 2021 | 2022 | Supply and Installation of Furniture | UP Manila Funds | 22,000.00 | | Upgrading of Facilities |
| 5 | Air-conditioning and Exhaust System for Dept. of Physiology and Dept. of Pharmacology, Salcedo Hall | CM | CPDMO (Design and Implementation) | 2021 | 2022 | Upgrading of mechanical system with consideration on heritage buidligh facade | UP Manila Funds | 9,000,000.00 | | Upgrading of Facilities |
| 6 | Supply and Installation of Laboratory Furniture at Dept. of Physiology, Salcedo Hall | CM | CPDMO (Design and Implementation) | 2021 | 2022 | Supply and Installation of Furniture | UP Manila Funds | 5,570,235.56 | | Upgrading of Facilities |
| 7 | Fire Protection System of Gusaling Andres Bonifacio | CAS | CPDMO (Design and Implementation) | 2021 | 2022 | Upgrading of mechanical system | UP Manila Funds | 6,000,000.00 | | Compliance to relevant laws |

| | | | | | | | | | | |
|----|---|------|-----------------------------------|------|------|---|-----------------|---------------|--------------|-----------------------------|
| 8 | Animal Lab | NIH | CPDMO (Design and Implementation) | 2021 | 2022 | Upgrading of research facility | DOST | 6,777,635.06 | 5,630,696.06 | Upgrading of Facilities |
| 9 | Interior Repainting and Various Renovation Works | CN | CPDMO (Design and Implementation) | 2022 | 2023 | Renovation | UP Manila Funds | 13,000,000.00 | | Upgrading of Facilities |
| 10 | Repiping of Sanitary Lines and Various Renovation Works | NIH | CPDMO (Design and Implementation) | 2021 | 2022 | Upgrading of plumbing system | UP Manila Funds | 6,216,792.33 | | Upgrading of Facilities |
| 11 | Repiping of Sanitary Lines and Various Renovation Works | CP | CPDMO (Design and Implementation) | 2022 | 2023 | Upgrading of plumbing system | UP Manila Funds | 4,600,000.00 | | Upgrading of Facilities |
| 12 | Completion of Salcedo Hall Phase 1 Renovation | CM | CPDMO (Design and Implementation) | 2021 | 2022 | Renovation works | UP Manila Funds | 15,000,000.00 | | Upgrading of Facilities |
| 13 | Supply and Installation of the Fire Protection system for CAMP Building | CAMP | CPDMO (Design and Implementation) | 2022 | 2023 | Supply and installation of fire protection system | UP Manila Funds | 5,000,000.00 | | Compliance to Relevant Laws |
| 14 | Renovation of Procurement Office, Administration Building, Joaquin Gonzales Complex | CAD | CPDMO (Design and Implementation) | 2021 | 2022 | Renovation works | UP Manila Funds | 3,610,931.57 | | Upgrading of Facilities |
| 15 | Supply and Installation of Fire Detection Alarm System for NIH Building | NIH | CPDMO (Design and Implementation) | 2022 | 2023 | Supply and installation of FDAS | UP Manila Funds | 1,500,000.00 | | Upgrading of Facilities |
| 16 | Supply and Installation of Fire Detection Alarm System for Paz Mendoza Building | CM | CPDMO (Design and Implementation) | 2021 | 2022 | Supply and installation of FDAS | UP Manila Funds | 1,500,000.00 | | Upgrading of Facilities |
| 17 | Upgrading of Low Voltage Switch Gear and Service Entrance for the College of Pharmacy | CP | CPDMO (Design and Implementation) | 2022 | 2023 | Upgrading of electrical system | UP Manila Funds | 10,000,000.00 | | Upgrading of Facilities |
| 18 | Replacement of Low Voltage Switch Gear for Salcedo Hall | CM | CPDMO (Design and Implementation) | 2022 | 2023 | Upgrading of electrical system | UP Manila Funds | 6,000,000.00 | | Upgrading of Facilities |

| | | | | | | | | | | |
|----|---|------|---|------|------|---|--------------------|----------------|---------------|---|
| 19 | Environmental Consultancy Services for ECC and LLDA Compliance | CAD | CPDMO (TOR for consultancy services) | 2021 | 2023 | DENR Environmental Clearance Certificate | UP Manila Funds | 900,000.00 | | Compliance to Relevant Laws |
| 20 | Newborn Screening Continuity Clinic (NBSCC) | NIH | NIH | 2021 | TBD | | GAA 2021 | 20,000,000.00 | | Upgrading of Facilities |
| 21 | Establishment and Operation of the Simulation Center | CM | CM | 2021 | 2023 | Maintenance and operation of the building | GAA 2021 | 64,000,000.00 | | Maintenance and Operation |
| 22 | Repair/ Rehabilitation of Existing Classrooms and Common Areas of the Century Old Rizal Hall | CAS | CPDMO and DPWH (Design and Implementation) | 2021 | 2023 | Renovation of the Heritage Building | c/o DPWH | 100,000,000.00 | | Upgrading of Facilities |
| 23 | Enhancement of Laboratory and Other Facilities of the College of Allied Medical Profession | CAMP | CPDMO (Design and Implementation) | 2022 | 2023 | Upgrading of Laboratory and Furniture | GAA 2022 | 33,818,000.00 | | Upgrading of Facilities |
| 24 | Extension of the College of Allied Medical Profession (CAMP) Building | CAMP | CPDMO (Design and Implementation) | TBD | TBD | Extension of the CAMP Building | TBD | 50,000,000.00 | | Upgrading of Facilities |
| 25 | Preservation of the Heritage Structures and Modernization of Teaching/Learning Facilities at the College of Arts and Sciences, Rizal Hall (Phase 2) | CAS | CPDMO (Design and Implementation) | TBD | TBD | Renovation of the Heritage Building | TBD | 100,000,000.00 | | Upgrading of Facilities |
| 26 | Upgrading of Facilities at the CPH-Lara Hall | CPH | AC Ong (Design); CPDMO (Implementation) | 2022 | 2023 | Renovation of the Heritage Building | GAA 2022 | 100,000,000.00 | 50,000,000.00 | Upgrading of Facilities |
| 27 | Construction of Dormitory / Housing Building | UPM | CPDMO (TOR Design Consultancy and Implementation) | TBD | TBD | Construction of Housing Facility | For Funding | 2B | | Construction of the Required Housing Facility |
| 28 | Zuellig Hall | CPH | ECCruz (Design); CPDMO (Implementation) | 2022 | 2024 | Construction of Academic Facility | Zuellig Foundation | 250,000,000.00 | | Increase in Academic Area |

| | | | | | | | | | | |
|----|---|-----|---|------|------|------------------------------|-----------------|---------------|--|-------------------------------------|
| 29 | Facility Space Plan | UPM | CPDMO | 2022 | 2022 | Drawings and Report | For Funding | 580,000.00 | | Compliance to Relevant Laws |
| 30 | Stormwater Management Plan | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Design | For Funding | 1,100,000.00 | | Compliance to Relevant Laws |
| 31 | Heritage Conservation Management Plan | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Conservation Management Plan | For Funding | 1,100,000.00 | | Compliance to Relevant Laws |
| 32 | Ecological Solid Waste Management Plan | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Report | For Funding | 1,100,000.00 | | Compliance to Relevant Laws |
| 33 | Design Services for Campus Open Space, Landscaping and Walkways | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Design | For Funding | 12,000,000.00 | | Compliance to Relevant Laws |
| 34 | PWD Accessibility Audit | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Report | UP Manila Funds | 350,000.00 | | Compliance to Relevant Laws |
| 35 | Fire Safety Audit | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Report | UP Manila Funds | 580,000.00 | | Compliance to Relevant Laws |
| 36 | Energy Use Audit | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Report | UP Manila Funds | 580,000.00 | | Compliance to Relevant Laws |
| 37 | Water Use Audit | UPM | CPDMO (TOR for consultancy services) | 2022 | 2022 | Report | UP Manila Funds | 580,000.00 | | Compliance to Relevant Laws |
| 38 | Building Plazas | UPM | Palafox and Associates (Design) CPDMO (Implementation) | 2022 | 2026 | Construction of Plazas | For Funding | 38,900,000.00 | | Open Space and Mobility Requirement |
| 39 | Linear Plazas/ Road Pedestrianization | UPM | CPDMO (TOR for consultancy services) | 2022 | 2026 | Construction of Pedestrian | For Funding | 51,400,000.00 | | Open Space and Mobility Requirement |

| | | | | | | | | | | |
|----|--|-----|---|------|------|----------------------------------|-----------------|----------------|--|-------------------------------------|
| | | | | | | Walkways and road networks | | | | |
| 40 | Landscaping | UPM | Palafox and Associates (Design) CPDMO (Implementation) | 2022 | 2026 | Hardscape and Softscape | For Funding | 55,300,000.00 | | Open Space and Mobility Requirement |
| 41 | Covered/Elevated Walkways | UPM | Palafox and Associates (Design) CPDMO (Implementation) | 2022 | 2026 | Elevated Walkways | UP Manila Funds | 55,300,000.00 | | Open Space and Mobility Requirement |
| 42 | University Portals | UPM | CPDMO (Design and Implementation) | 2022 | 2022 | University Portals | For Funding | 3,000,000.00 | | Open Space and Mobility Requirement |
| 43 | Wayfinding Signage and Maps | UPM | CPDMO (Design and Implementation) | 2022 | 2022 | Signage and maps | For Funding | 400,000.00 | | Open Space and Mobility Requirement |
| 44 | Parking Building | UPM | CPDMO (TOR for consultancy services) | 2022 | 2026 | Construction of Parking Building | For Funding | 174,100,000.00 | | Open Space and Mobility Requirement |
| 45 | Materials Recovery Facility | UPM | CPDMO (Design and Implementation) | 2023 | 2024 | Construction of MRF | For Funding | 8,100,000.00 | | Compliance to Relevant Laws |
| 46 | Upgrading of Water Systems | UPM | CPDMO (TOR for consultancy services) | 2023 | 2024 | Upgrading of water systems | For Funding | TBD | | Compliance to Relevant Laws |
| 47 | Upgrading of Building Electrical Systems | UPM | CPDMO (TOR for consultancy services) | 2022 | 2026 | Upgrading of electrical systems | For Funding | TBD | | Compliance to Relevant Laws |
| 48 | Construction of Power Substation | UPM | CPDMO (TOR for consultancy services) | 2022 | TBD | Construction of substation | For Funding | TBD | | Compliance to Relevant Laws |

| | | | | | | | | | | |
|----|--|-----|--------------------------------------|------|------------|--|-------------|----------------|--|-----------------------------|
| 49 | Upgrading of Fire Protection Systems | UPM | CPDMO (TOR for consultancy services) | 2022 | 2026 | Upgrading of fire protection systems | For Funding | TBD | | Compliance to Relevant Laws |
| 50 | Upgrading for PWD Accessibility | UPM | CPDMO (TOR for consultancy services) | 2022 | 2026 | Construction of ramps and facilities for PWDs | For Funding | 54,450,000.00 | | Compliance to Relevant Laws |
| 51 | Interior Renovations | UPM | CPDMO (Design and Implementation) | 2022 | 2031 | Renovation work | For Funding | TBD | | Upgrading of Facilities |
| 52 | Public Address System | UPM | CPDMO (TOR for consultancy services) | 2023 | 2024 | Supply and Installation of a public address system | For Funding | TBD | | Compliance to Relevant Laws |
| 53 | Installation of Additional CCTV Cameras for Surveillance | UPM | CPDMO (TOR for consultancy services) | 2022 | 2023 | Installation of CCTV cameras | For Funding | TBD | | Compliance to Relevant Laws |
| 54 | Interior Renovation for Calderon Hall | UPM | CPDMO (Design and Implementation) | 2025 | 2030 | Renovation works | For Funding | 100,000,000.00 | | Heritage Preservation |
| 55 | Heritage Tour | UPM | CPDMO (TOR for consultancy services) | 2023 | 2024 | Program and report | For Funding | TBD | | Heritage Preservation |
| 56 | Preventive Maintenance and Services | UPM | CPDMO (TOR for consultancy services) | 2023 | Continuous | Preventive maintenance and services | For Funding | TBD | | Maintenance |
| 57 | Utilities As-built and Audit | UPM | CPDMO (TOR for consultancy services) | 2022 | 2024 | Plans and Drawings | For Funding | TBD | | Maintenance |

Table 48 Proposed Projects for UP Manila

| Project / Program | | | Implementing Office / Department | Schedule of Implementation | | Expected Output | Source of Fund | Estimated Project Cost (PhP) | Budget Allotted | Planning Principles Addressed |
|-------------------|---|-----------|-----------------------------------|----------------------------|------------------------|--|-----------------|------------------------------|-----------------|-------------------------------|
| No. | Project Title | Location | | Target Start Date | Target Completion Date | | | | | |
| 1 | Construction/ Repair/ Rehabilitation of the Perimeter Fence and Campus Road Network | SHS-Baler | CPDMO (Design and Implementation) | 2021 | 2023 | Construction of perimeter fence and road network | GAA 2021 | 20,000,000.00 | 20,000,000.00 | Open space and mobility |
| 2 | Acquisition of Fire Detection Alarm System and Sprinkler System | SHS-Baler | CPDMO (Design and Implementation) | 2021 | 2023 | Supply and installation of FDAS | UP Manila Funds | 1,507,728.00 | | Compliance to relevant laws |
| 3 | Construction of Birthing Center | SHS-Baler | CPDMO (Design and Implementation) | 2021 | 2023 | Construction of birthing center | GAA 2021 | 3,000,000.00 | | Upgrading of Facilities |
| 4 | Construction of Dormitory Building Structure with complete furnishing | SHS-Baler | CPDMO (Design and Implementation) | 2022 | 2025 | Construction of Dormitory Building | GAA | 18,000,000.00 | | Upgrading of Facilities |

Table 49 Proposed Projects for SHS

3.5.6. CAMPUS LAND USE PLAN

Proposed Land Use Plan

The proposed land use plan shows the detailed zoning according to the standard land use classifications set by the University system. The following uses are found within the UP Manila campus and SHS Campuses:

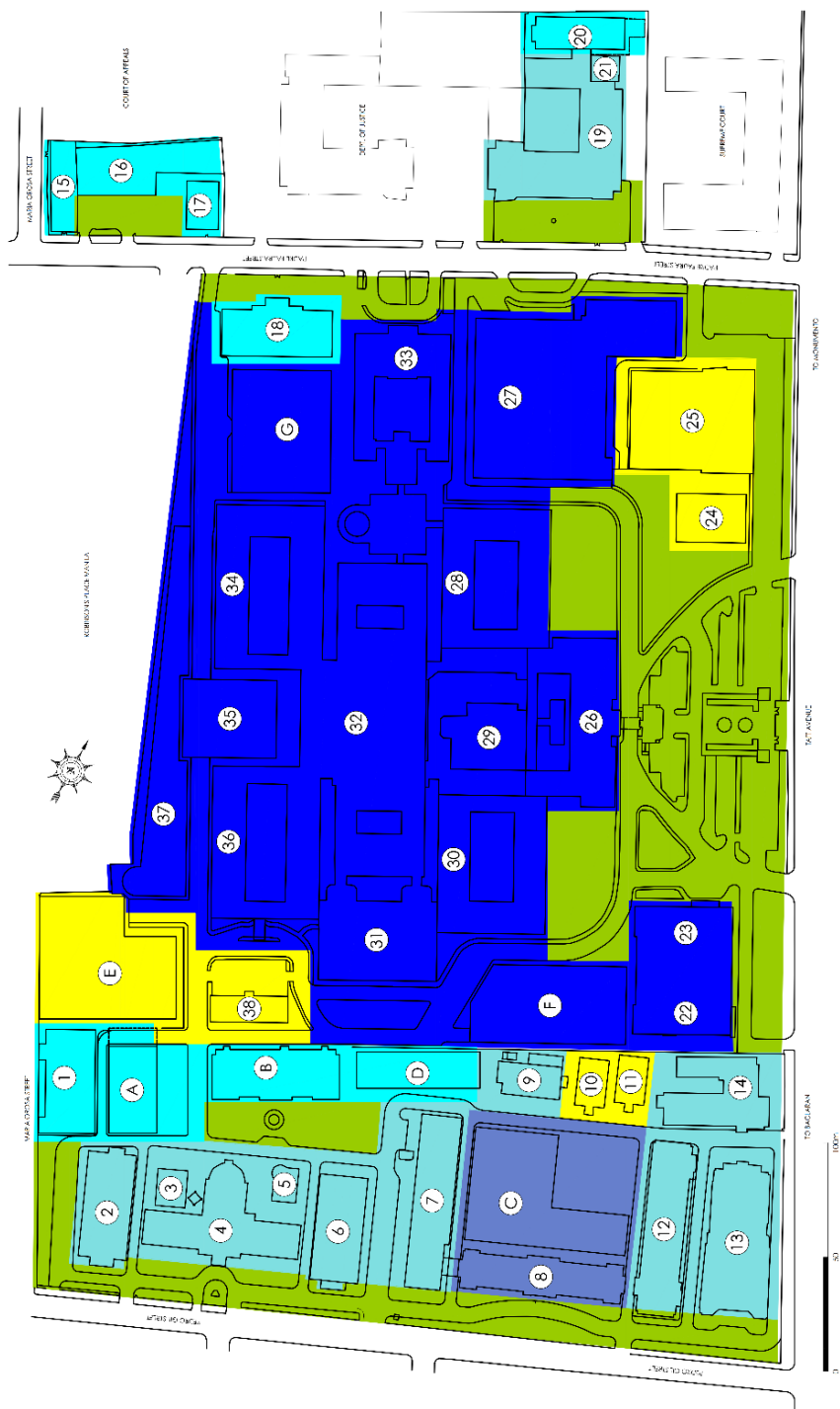
- a. **ACAD-1** – Zone composed of academic clusters based on the site groupings of related academic programs and fields of specialization. This is where teaching and research activities are situated, normally in choice positions around the Campus Core.
- b. **ACAD-2** – Zone composed of academic-support spaces where research and student services are performed. Activities in this zone shall include research and professional services for outside/non-University entities, especially national and local government offices, the procedures and products of which are intended to contribute to or strengthen the University database.
- c. **RES-2** – Residential areas for faculty and students composed of medium-rise walk-up housing and dormitories located in clusters. This zone shall allow the conversion of the ground floor of such mid-rise buildings to house services for the occupants, such as: laundry shops, sari-sari stores, boutiques, beauty and barber shops, coffee and food shops, internet cafes and tailor shops according to the rules and regulations of the University. It shall also allow the building of a central clubhouse that shall house the rest and recreational spaces needed for the use of the faculty and students.
- d. **COMM-1** – Community services which directly deal with the constituents of the university.
- e. **COMM-2** – Community services which deal with securing and maintaining the facilities of the university
- f. **HISTORICAL AND TOURISM DISTRICT**- Sections of the campus with historically and/or architecturally significant buildings or structures that are preserved and/or developed, based on University-approved parameters and existing laws, for their heritage and tourism potential.
- g. **CAMPUS CORE** - The historic and unifying center of the campus – with appropriately maintained pioneer buildings, heritage trees, and other campus elements – that shall become the inspiration for all future developments on-campus.
- h. **PROGRAMMED OPEN SPACES** - Large tracts of campus green spaces, integrated with softscape and hardscape in a designed exterior environment, which allows for a variety of human activities, both passive and active.

- i. **INSTITUTIONAL–HOSPITAL ZONE**– This includes the buildings in the PGH Complex.

UP Manila Land Use Plan

The proposed land use plan has the following changes from the existing land use:

- Additional R-2 space for the proposed dormitory building (E)
- Conversion of the Power House/ Service Wing (4') to Comm-2 (a common parking facility)
- Conversion of the Campus Planning and Development Office to become part of the Hospital Zone (8')
- Conversion of Comm-2 Building (55), proposed for demolition to give way for a new hospital building, as part of the Hospital Zone (A')
- Additional programmed open space in front of the new UP Main Library and inside the PGH Complex
- Change of the use of the Supreme Court from Institutional to ACAD-1 in anticipation of the turnover of the buildings to UP Manila once the Supreme Court transfers to their complex in Taguig City.



- LEGENDS:**
- ACAD - 1
 - ACAD - 2
 - COMM - 2
 - INSTITUTIONAL - HOSPITAL ZONE
 - PROGRAMMED OPEN SPACE
 - R - 2
 - SCIENCE AND TECHNOLOGY PARK
 - HISTORICAL & TOURISM DISTRICT

UP MANILA PROPOSED LAND USE ZONING PLAN

Figure 219 Proposed Land Use Plan for UP Manila

SHS Campuses Land Use Plan

The proposed land use plans have the following changes from the existing land use per SHS Campus. This will focus on the sites that is owned by the University namely SHS Baler and SHS Sta. Elena. SHS Palo, SHS Koronadal, and SHS Tarlac shall be the plans of the city or the municipality.

SHS Baler

- Construction of a Dormitory Building at the back of the site
- Construction of a Recreation Facility
- Construction of Anatomy Building

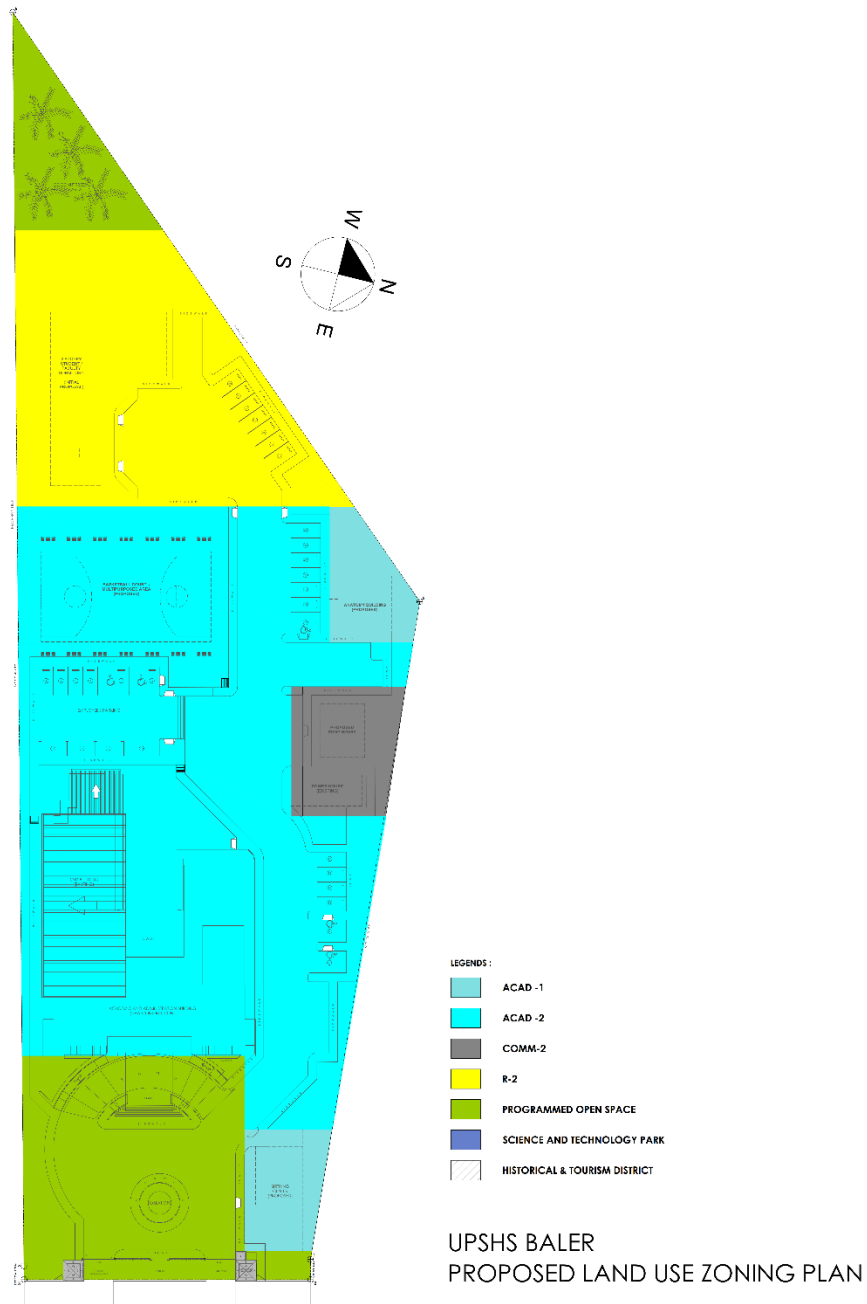


Figure 220 Proposed Land Use Zoning Plan for SHS Baler

SHS Sta. Elena

The proposed development

- Site Development and Road Network
- Construction of the Administration Building
- Completion of the Academic Buildings to include the Nursing Laboratory and Library
- Construction of Wellness Center
- Construction of Support Buildings for expansion



Figure 221 Massing Development for SHS Sta. Elena

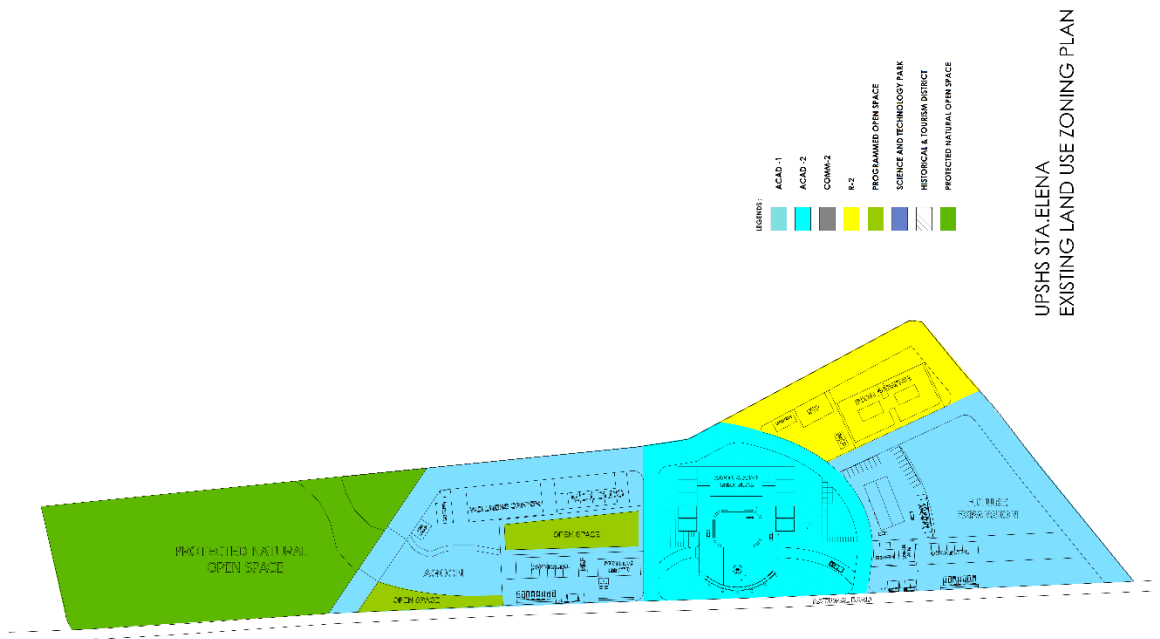


Figure 222 Land Use Development and Zoning Plan for SHS Sta. Elena

3.6. NARRATIVE AND MAPS

3.6.1. DETAILED LAND USE ALLOCATION AND SECTOR MAPS

These are identified in Part 3.4.5 - Targeted Land Use Allocation and Proposed Expansion Areas.

3.6.2. SECTOR AND SPECIAL AREAS (PLANS AND MAPS)

These are identified in the following sections:

Housing - Part 2.3.4

Transport - Part 3.4.6

| | |
|-------------------------|-----------------------------|
| Protected Areas / Lands | - Part 3.4.2 and Part 3.4.6 |
| Heritage Conservation | - Part 3.4.6 |
| Utilities | - Part 3.4.6 |

3.7. LAND, WATER, AND POWER POLICIES

3.7.1. POLICIES THAT WILL GOVERN SPECIFIC LAND USES, WATER, AND POWER GENERATION AND UTILIZATION POLICIES

The utilization of land, water, and power are all connected in the planning principles of the UP Manila, with respect to the governing policies. The Building Inventory and Data (Annex B) shows the compliance of each facility of the campus in terms of permit applications, presence of cistern and water tanks, upgrading of electrical wirings, and provision of FDAS and fire protection systems.

Land Use

The University of the Philippines referred to the Manila Comprehensive Land Use Plan (CLUP) and Zoning Ordinance (ZO) in preparation for the LUDIP. Based on the Manila CLUP, the city of Manila proposes the establishment of a wider educational zone - University District Overlay Zone. The planning principles of the UP Manila LUDIP are aligned with the goals of the city of Manila.

For the SHS Campuses, the land use plans and zoning ordinances of the respective LGUs were used as basis for the creation and development of the campus master plans.

Water

The UP Manila and its extension campuses apply the Clean Water Act in managing the water quality, control of water pollution, and control of waste water discharge. Apart from the existing facilities, UP Manila has few facilities that are being applied for Maynilad water services connection in compliance to the water policies.

Power

The UP Manila and its extension campuses apply the Energy Efficiency and Conservation Act during planning. The use of energy efficient lighting and mechanical systems are considerations for the selection of items used in the building.

The UP Manila's on-going developments integrate the upgrading of the electrical wirings, as well as the low voltage switchgear, to ensure that the building's capacity. There are also newly installed electric generators which were being applied for permit to use in compliance with the power policies.

3.8. DISASTER RISKS AND CLIMATE CHANGE ADAPTATION

A. HAZARD ANALYSIS

Based on the consolidated information from DOST, PHIVOLCS, PAG-ASA, and NDRRMC, the susceptibility to hazards and disasters were determined. The Hazard Inventory Matrix below (Table 54) summarizes the different types of hazards that may pose a threat to the University and its SHS Campuses and its vulnerability. Aside from the natural hazards, the matrix also indicated the man-made hazards such as fire hazards, tree hazards, and buried antique explosives that were specifically applicable to the SUC.

| SUC and Extension Campuses | Location |
|-----------------------------------|----------------------------|
| UP Manila - UP PGH | Ermita, Manila, NCR |
| SHS Baler | Aurora, Region III |
| SHS Palo | Leyte, Region VIII |
| SHS Sta. Elena (Tacloban) | Leyte, Region VIII |
| SHS Koronadal | South Cotabato, Region XII |
| SHS Tarlac | Tarlac, Region III |

Table 50 SUC Extension Campuses and Locations

Hazard Inventory Matrix

| Type of Hazard | SUC and Campuses | | | | | |
|------------------------------|---|--|--|---|---|---|
| | UP Manila-UP PGH | SHS Baler | SHS Palo | SHS Sta. Elena | SHS Koronadal | SHS Tarlac |
| Ground Shaking | Prone; Intensity VIII | Prone; Intensity VIII | Prone; Intensity VII | Prone; Intensity VI | Prone | Prone |
| Ground Rupture | No data | No data | No data | Safe; Approximately 23 km. to Southern Samar Lineament | Prone; Approximately 3 km to Koronadal Fault | Safe; Approximately 6.5 km from the ND |
| Rain-Induced Landslide | Not susceptible | Not susceptible | No data | Low Susceptibility; No identified landslides | No data | No data |
| Earthquake-Induced Landslide | Not susceptible | Not susceptible | Not susceptible | Not susceptible | Not susceptible | Not susceptible |
| Storm Surge | Low risk; Inundations of >1m to 4m surges | High risk; Inundations of >4m to 12m surges | Low risk; Inundations of >1m to 4m surges | High risk; Inundations of >4m to 12m surges | Low risk; Inundations of >1m to 4m surges | Low risk; Inundations of >1m to 4m surges |
| Flood | flood prone area for 50 to 100-year flood cycle; Flood height below 0.5m based on 100-year flood scenario | Moderate Susceptibility; 0.5 to 1 meter flood height and/or 1 to 3 days flooding | Moderate Susceptibility; 0.5 to 1 meter flood height and/or 1 to 3 days flooding | High Susceptibility | Low Susceptibility; Less than 0.5 meters flood height and/or less than one day flooding | Low Susceptibility; Less than 0.5 meters flood height and/or less than one day flooding |
| Tsunami | Prone with inundation depth of 3 to 3.99m meters | Prone | Prone; wave height of 5 m. | Prone | Low Susceptibility | Low Susceptibility |
| Liquefaction | Highly Susceptible | Highly Susceptible | Highly Susceptible | Highly Susceptible | Generally Susceptible | Highly Susceptible |
| Severe Wind/ Typhoon | 117.1-220 kph (20-year return period); 220.1-270 kph (500-year return period) | 117.1-220 kph (20-year return period); 220.1-270 kph (500-year return period) | 117.1-220 kph (20-year return period); 220.1-270 kph (500-year return period) | 117.1-220 kph (20-year return period); 220.1-270 kph (500-year return period) | 60.1-88 kph (20-year return period); 88.1-117 kph (500-year return period) | 117.1-220 kph (20-year return period); 220.1-270 kph (500-year return period) |

| | | | | | | |
|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Neareast Active Volcano | None | None | None | None | Matutum (23.6 km) | Pinatubo (46.2 km) |
| Fire Hazards | Highly Susceptible | Low Susceptibility | Low Susceptibility | Low Susceptibility | Low Susceptibility | Low Susceptibility |
| Tree Hazards | Highly Susceptible | Low Susceptibility | Low Susceptibility | Low Susceptibility | Low Susceptibility | Low Susceptibility |
| Buried Antique Explosives | Highly Susceptible | Low Susceptibility | Low Susceptibility | Low Susceptibility | Low Susceptibility | Low Susceptibility |

Table 51 Hazard Inventory Matrix

B. RISK ASSESSMENT

Using the identified hazards and susceptibilities of the UP Manila and the SHS Campuses, the data will be analyzed thoroughly based on the principle of the Climate and Disaster Risk Assessment (CDRA). The CDRA attributes are composed of the following: (a) historical disaster damage/loss, (b) critical point facilities, (c) lifeline utilities, and (d) climate impact chain. These will tackle the past hazard events that has occurred, the existing conditions and vulnerability of the facilities and utilities, and the potential impacts of the hazard events to UP Manila and its SHS Campuses.

Historical Disaster Damage/ Loss

https://docs.google.com/spreadsheets/d/1_5swu1b7MPYqFF-8TaObKkoGlugW9CRK/edit#gid=762113761

| Hazard Event and Description | | Date | Affected School Facilities/ Infrastructure | Number of casualties (dead/ injured/ missing) | Number of affected (Students/ Faculty/ Non-teaching /Others) | Estimated Cost of Damage to Properties | No. of days without class | Source of information |
|------------------------------|--|-------------------|--|---|--|--|---------------------------|--|
| Typhoon | Oblation Statue damaged left middle finger due to Typhoon Ulysses | November 17, 2020 | College of Arts and Sciences Plaza | 0 | 0 | | | PASUC Advisory No.118, S. 2020 Assessment of Damages Caused by Several Typhoons to Affected SUCs |
| Typhoon | Removed Ceiling Eaves Board in the exterior and atrium area due to Typhoon Ulysses | November 17, 2020 | College of Dentistry | 0 | 0 | 20,000.00 | | PASUC Advisory No.118, S. 2020 Assessment of Damages Caused by Several Typhoons to Affected SUCs |
| Typhoon | Water leak in telephone box | November 17, 2020 | College of Nursing | 0 | 0 | | | PASUC Advisory No.118, S. 2020 Assessment of Damages Caused by Several Typhoons to Affected SUCs |

| | | | | | | | | |
|------------|--|----------------------|------------------------------------|---|---|-----------|---|--|
| Typhoon | Ceiling leaks at 3rd floor Laboratories (Inorganic & Bio Assay) due to no Ducting Fumehood cover; Ceiling leaks at Research Laboratory; ceiling leaks at 2nd floor Chemical Stock Room | November 17, 2020 | College of Pharmacy | 0 | 0 | 11,000.00 | | PASUC Advisory No.118, S. 2020 Assessment of Damages Caused by Several Typhoons to Affected SUCs |
| Typhoon | Defective ATS due to fluctuation in power | November 17, 2020 | National Institutes of Health | 0 | 0 | | | PASUC Advisory No.118, S. 2020 Assessment of Damages Caused by Several Typhoons to Affected SUCs |
| Earthquake | New discovered cracks seen on ground floor and elevator shaft | April 22, 2019 | Gusaling Andres Bonifacio, CAS | 0 | 0 | | | Post-Emergency Building Assessment c/o CPDMO and DPWH |
| Earthquake | New discovered cracks on second and third floor slabs | April 22, 2019 | Student Center, CAS | 0 | 0 | | | Post-Emergency Building Assessment c/o CPDMO and DPWH |
| Earthquake | Crack in fourth floor beam | April 22, 2019 | College of Pharmacy | 0 | 0 | | | Post-Emergency Building Assessment c/o CPDMO and DPWH |
| Earthquake | Cracks in walls between stairway and fire wall | April 22, 2019 | Sports Science and Wellness Center | 0 | 0 | | | Post-Emergency Building Assessment c/o CPDMO |
| Fire | Fire in the operating room on the 3rd floor | May 16, 2021 | Philippine General Hospital | 0 | 0 | | 0 | Bureau of Fire |
| Typhoon | Flooding in SSWC | July 14, 21-25, 2021 | Sports Science and Wellness Center | 0 | 0 | | 0 | Report of Contractor and UPM Police, emailed and hard copy with pictures |

| | | | | | | | | |
|---------|--|------------------|------------|---|---|------|---|--|
| | | | | | | | | and videos as attachments |
| Typhoon | Flooding along 3rd floor Rizal Hall Deck | July 21-25, 2021 | Rizal Hall | 0 | 0 | 0.00 | 0 | Report from CAS, emailed with pictures and videos as attachments |

Table 52 Historical Disaster Damage/Loss for UP Manila

| Hazard Event and Description | | Date | Affected School Facilities/ Infrastructure | Number of casualties (dead/ injured/ missing) | Number of affected (Students/ Faculty/ Non-teaching/ Others) | Estimated Cost of Damage to Properties | No. of days without class | Source of information |
|------------------------------|---|------------------|--|---|--|--|---------------------------|---|
| Earthquake | Cracks on floor slab and bottom beam at Rooms 1 and 2; Hairline cracks and minor damages on other areas | October 16, 2019 | Marbel Extension, Main Building, SHS Koronadal | 0 | 0 | 800,000.00 | | Post-Earthquake Assessment from Provincial Engineering Office |
| Earthquake | Cracks on Columns; Separation of wall and column; Cracks on construction joints | October 16, 2019 | Marbel Extension, Review Building, SHS Koronadal | 0 | 0 | 1,500,000.00 | | Post-Earthquake Assessment from Provincial Engineering Office |
| Earthquake | Minor cracks on walls and ceiling | October 16, 2019 | Marbel Extension, Dorm Building, SHS Koronadal | 0 | 0 | 150,000.00 | | Post-Earthquake Assessment from Provincial Engineering Office |
| Earthquake | Minor damages, separation of stairs and landing | October 16, 2019 | Marbel Extension, Gym, SHS Koronadal | 0 | 0 | 50,000.00 | | Post-Earthquake Assessment from Provincial Engineering Office |

| | | | | | | | | |
|---------|---|-------------------|----------|---|---|--|---|-------------------|
| Typhoon | Building leaks at Admin Building due to Typhoon Ulysses | November 12, 2020 | SHS Palo | 0 | 0 | | 3 | End-user's Report |
| Typhoon | Building leaks at Faculty Room | June 2, 2021 | SHS Palo | 0 | 0 | | | End-user's Report |
| Typhoon | Building leaks at Faculty Room | May 24, 2021 | SHS Palo | 0 | 0 | | | End-user's Report |
| Typhoon | Building leaks at Faculty Room | February 8, 2021 | SHS Palo | 0 | 0 | | | End-user's Report |
| Typhoon | Building leaks at Faculty Room | January 18, 2021 | SHS Palo | 0 | 0 | | | End-user's Report |

Table 53 Critical Point Facilities for UP Manila

Building Conditions

| Name of Building | Sensitivity | | | Adaptive Capacity | | | | Total Floor Area (sqm) |
|--|--|--------------------|-------------------------|--|--|---|--|------------------------|
| | Age of Building/ Date of Construction | Building Condition | Replacement Cost (PhP)* | Access to early warning system** (Yes or No) | Access to financial assistance (Yes or No) | Capacity and Willingness to retrofit/relocate (Yes or No) | School Investments on Resilient Infrastructure | |
| A. Existing Buildings | | | | | | | | |
| UPM Main Building, Joaquin Gonzalez | 1935 | U | 62,672,514.33 | Yes | No | No | | 3,842.10 |
| UPM Annex Building, Student Center | 1971 | U | 28,285,140.76 | Yes | No | No | | 1,772.02 |
| Information Technology Center (ITC) Building | 1984 | U | 16,422,396.24 | Yes | No | No | | 882.00 |

| | | | | | | | | |
|---|------|----|----------------|-----|------------------------------|----|--|----------|
| Rizal Hall, CAS | 1920 | UR | 65,348,646.30 | Yes | Yes, Heritage Building | No | | 3,580.12 |
| Gusaling Andres Bonifacio, CAS | 1996 | UC | 135,443,060.26 | Yes | No | No | | 4,783.04 |
| Student Center, CAS | 2015 | U | 20,761,699.16 | Yes | No | No | | 294.00 |
| CPDMO Building | 1960 | NC | 719,059.20 | Yes | No | No | | 946.00 |
| UPM Museum - History of Ideas | 1931 | U | 20,732,065.16 | Yes | No | No | | 648.43 |
| Salcedo Hall, CM Annex I | 1927 | UR | 48,077,542.88 | Yes | Yes, Heritage Building | No | | 3,301.54 |
| Calderon Hall, CM Main Building | 1910 | UR | 43,045,174.57 | Yes | Yes, Heritage Building | No | | 4,200.00 |
| PGIM, ITC, CM | 2010 | U | 17,044,955.44 | - | No | No | | 180.09 |
| Alvior Hall, CM | 1989 | U | 20,400,000.00 | - | Yes | No | | 200.52 |
| Paz Mendoza Hall, CM Annex II | 1920 | U | 41,620,504.02 | No | Yes, Heritage Building | No | | 2,271.52 |
| Bone Bank/ Embalming Building/ Tissue Bank | 1989 | U | 7,293,948.04 | - | No | No | | 300.00 |
| Lara Hall, CPH Main Building | 1931 | U | 51,359,137.79 | Yes | Yes, Heritage Building | No | | 4,402.05 |
| CPH Annex I Building | 1920 | U | 6,156,895.68 | Yes | No | | | 480.22 |
| CPH Annex II Building | 1989 | U | 27,153,093.82 | Yes | No | | | 1,261.50 |
| CPH Student Lounge | 2007 | U | 641,700.00 | Yes | No | | | 87.00 |
| NIH Building | 1960 | U | 79,991,442.03 | No | Yes, Heritage Building | No | | 3,633.70 |

| | | | | | | | | |
|---|------|----|----------------|-----|------------------------------|----|--|----------|
| Sotejo Hall, CN | 1993 | UR | 122,412,421.80 | Yes | Yes, Heritage Building | No | | 3,509.23 |
| Student Lounge, CN | 2007 | U | 4,038,093.49 | Yes | No | No | | 67.00 |
| CAMP Building | 2001 | UR | 72,341,344.30 | Yes | No | No | | 1,033.63 |
| College of Dentistry Building | 1996 | UR | 222,485,221.86 | Yes | No | No | | 5,308.28 |
| Valenzuela Hall, CP | 1960 | UR | 105,367,314.07 | Yes | No | No | | 3,258.31 |
| Phi House Dormitory | 2014 | U | 29,468,850.00 | Yes | No | No | | 1,100.00 |
| PGH Central Block (8th floor) | 1910 | U | 212,671,258.04 | - | Yes, Heritage Building | No | | 4,596.34 |
| Ortoll Primary Reproductive Health Care Center | | | | | | No | | |
| PERI (Formerly IO Office) 5th floor, SOJR Building #48 | 2010 | U | 9,599,742.30 | | | No | | 1,135.00 |
| Sports Science and Wellness Center | 2017 | NC | 38,561,064.61 | | No | No | | 3,008.00 |
| Administration Building | | U | | | No | No | | |
| Old OR Building | | | | | | No | | |
| Ward 1, 2, 3, 4 | 1910 | U | | | Yes, Heritage Building | No | | |
| Ward 5, 6, 7, 8 | 1910 | U | | | Yes, Heritage Building | No | | |
| Ward 9, 10, 11, 12 | 1910 | U | | | Yes, Heritage Building | No | | |
| Ward 14, 15, 16 | 1910 | U | | | Yes, Heritage Building | No | | |

| | | | | | | | | |
|---|------|----|---------------|-----------|------------------------|----|--|----------|
| Dietary Building | | U | | | | No | | |
| PGH Emergency Entrance | | NC | | | Yes, Heritage Building | No | | |
| Women's Help Desk | | | | | | No | | |
| TRHC | | | | | | No | | |
| BAC-1 (Cistern) | | | | | | No | | |
| PGH I.C. Chapel | | U | | | | No | | |
| SOJR Building | 2010 | U | | | | No | | |
| Cancer Institute | 1939 | NR | | | Yes, Heritage Building | No | | |
| Out-Patient Department | | U | | | | No | | |
| Nurses Home | 1909 | NC | | | Yes, Heritage Building | No | | |
| Dormitory - 1 | 1909 | | | | | No | | |
| FMAB | | U | | | Yes, Heritage Building | No | | |
| PNB Taft | | U | | | | No | | |
| Visitor's Holding Area | | | | | | No | | |
| Bantay Antayan | | | | | | No | | |
| OETS | | D | | | | No | | |
| Dormitory - 2 | | | | | | No | | |
| Power House (Service Wing) | | | | | | No | | |
| Spine Unit and Orthopedic Learning Center | | U | | | | No | | |
| UPM 8-Storey Dormitory | 2018 | U | 65,633,645.37 | Yes, FDAS | No | No | | 2,912.00 |

| | | | | | | | | | |
|-----------|---|-----------------------|----|----------------|----------------|-----|----|-----|----------|
| | Student Lounge, CM | 2010 | D | 2,870,829.77 | NA | NA | | | 412.00 |
| | B. Dela Paz Hall, CM | 1920 | U | 300,000.00 | | No | | | 144.06 |
| | Medical Library, CM | | D | | NA | NA | | | |
| | University Library | 1994 | D | 27,693,480.14 | NA | NA | | | 1,328.23 |
| | | | | | | | | | |
| B. | New Buildings | | | | | | | | |
| | UPCM Medical Sciences Building | On-going Construction | NC | | Yes, in design | Yes | No | Yes | |
| | UP Manila Main Library and Learning Commons | On-going Construction | NC | 248,000,000.00 | Yes, in design | No | No | Yes | |
| | National Institutes of Health Building | On-going Construction | NC | | Yes, in design | Yes | No | Yes | |
| | Zuellig Building | Proposed | | | | Yes | No | Yes | |
| | Dormitory Building | Proposed | | | | No | No | Yes | |

Table 54 Building Conditions UP Manila

* Replacement Cost includes the buildings' initial cost and previous developments

** Presence of FDAS and CCTV System connected to central point

Condition:

U Usable

R Needs Repair

C Condemned

UR Usable, Under Repair

NR Non-usable, Under Repair

UC Usable, For Completion

NC Non-usable, Under Construction/For Completion

D Demolished

References: UP Manila Building Insurance 2018, 2019, and 2020

| Name of Building | Sensitivity | | | Adaptive Capacity | | | | Total Floor Area (sqm) |
|---|--|--------------------|------------------|--|--|---|--|------------------------|
| | Age of Building/ Date of Construction | Building Condition | Replacement Cost | Access to early warning system (Yes or No) | Access to financial assistance (Yes or No) | Capacity and Willingness to retrofit/relocate (Yes or No) | School Investments on Resilient Infrastructure | |
| A. SHS BALER | | | | | | | | |
| Academic and Administration Building | 2015 | U | 47,813,470.83 | | | | | 716.00 |
| Birthing Center | Proposed | NC | | | | | | |
| Anatomy Building | Proposed | NC | | | | | | |
| Student/Faculty Dormitory | Proposed | NC | | | | | | |
| | | | | | | | | |
| B. SHS PALO | | | | | | | | |
| Academic Building | 2008 | U | 25,942,284.30 | | | | | 805.78 |
| Training Facility - CUM - Community Health Center | 2007 | U | 5,889,773.86 | | | | | 165.00 |
| | | | | | | | | |
| C. SHS KORONADAL | | | | | | | | |
| Administrative Building | 2017 | U | 23,645,134.90 | | | | | 1,995.64 |

Table 55 Building Conditions SHS Campuses

* Replacement Cost includes the buildings' initial cost and previous developments

** Presence of FDAS and CCTV System connected to central point

Condition:

U Usable

- R Needs Repair
- C Condemned
- UR Usable, Under Repair
- NR Non-usable, Under Repair
- UC Usable, For Completion
- NC Non-usable, Under Construction/For Completion
- D Demolished

References: UP Manila Building Insurance 2018, 2019, and 2020

Lifeline Utilities UP Manila

| Name of Road | Sensitivity | | | | Adaptive Capacity | | |
|---------------------|------------------|--------------------|---------------------------|------------------|--|---|--|
| | Age | Existing Condition | Surface type/ material | Replacement Cost | Access to financial assistance (Yes or No) | Capacity and Willingness to retrofit/relocate (Yes or No) | School Investments on Resilient Infrastructure |
| Road Network System | | | | | | | |
| PGH Road S02711LZ | No data recorded | NA | Concrete, 45 lm | c/o DPWH | Yes - DPWH | | |
| PGH Road S02711LZ | No data recorded | Fair | Concrete, 140 lm | c/o DPWH | Yes - DPWH | | |
| PGH Road S02711LZ | No data recorded | Good | Concrete, 70 lm | c/o DPWH | Yes - DPWH | | |
| PGH Road S02711LZ | No data recorded | NA | Concrete, 20 lm | c/o DPWH | Yes - DPWH | | |
| PGH Road S02711LZ | No data recorded | Fair | Concrete, 253 lm | c/o DPWH | Yes - DPWH | | |
| PGH Road S02711LZ | No data recorded | Good | Concrete, 220 lm | c/o DPWH | Yes - DPWH | | |
| UPM Interior Roads | No data recorded | Good | Asphalt | | Yes - DPWH | | |
| Electric Generators | 2020 | Good | | 35,768,073.60 | No | | |
| Drainage System | No data recorded | Fair | | | Yes – Maynilad | | |

| | | | | | | | | |
|--|----------------------------|-------------------|------|----------------|--------------|-------------------|--|--|
| | Sanitary System | No data recorded | Fair | | | Yes - Maynilad | | |
| | Waterline System | No data recorded | Fair | Cast Iron/ PPR | | Yes - Maynilad | | |
| | Electrical Posts/ Stations | CN, MSB, SWC 2019 | Good | | 2,150,379.52 | No | | |
| | Fiber Optic Network | | Good | | | No | | |

Table 56 Lifeline Utilities for UP Manila

Climate Impact Chain - Flooding

The following flow chart indicates how the increase in precipitation and changes in rainfall affects the occupants. The surface run-off and clogging of drainage and waterways increase the flooding conditions and creates damages to school and hospital facilities and properties. This will result in cancellation of classes that will lead to absences, low class performance, poor motivation and concentration for teachers and students, high tendency of dropout rate with increased absenteeism.

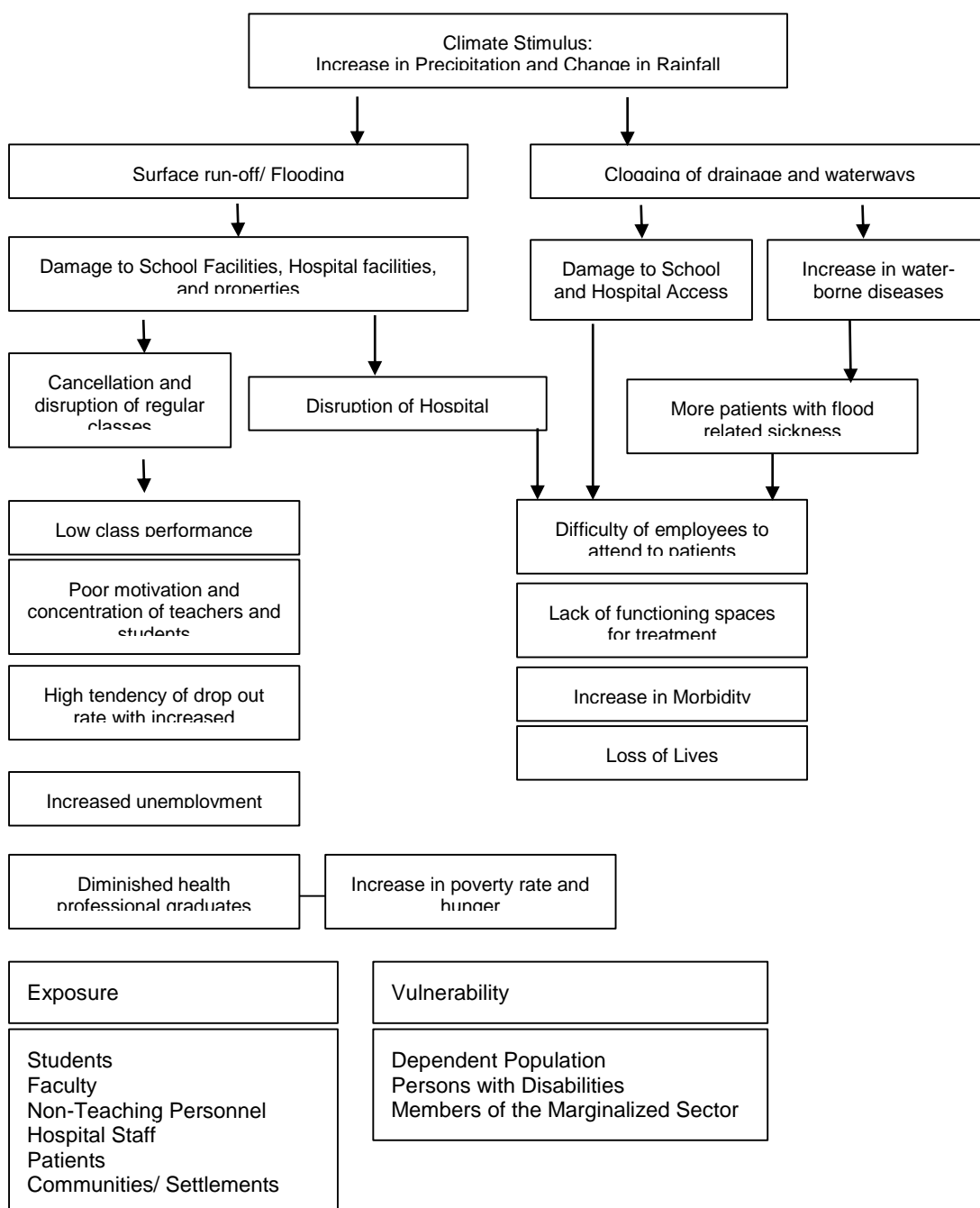


Figure 223 Climate Impact Chain Diagram for Flooding

Climate Impact Chain - Ground Movement

The conditions of flooding are similar to ground movement. The effects that happen as a result of ground shaking and liquefaction affects the occupants the same way. The difference is the allocation of the evacuation areas outside the buildings as opposed to inside the buildings for flooding.

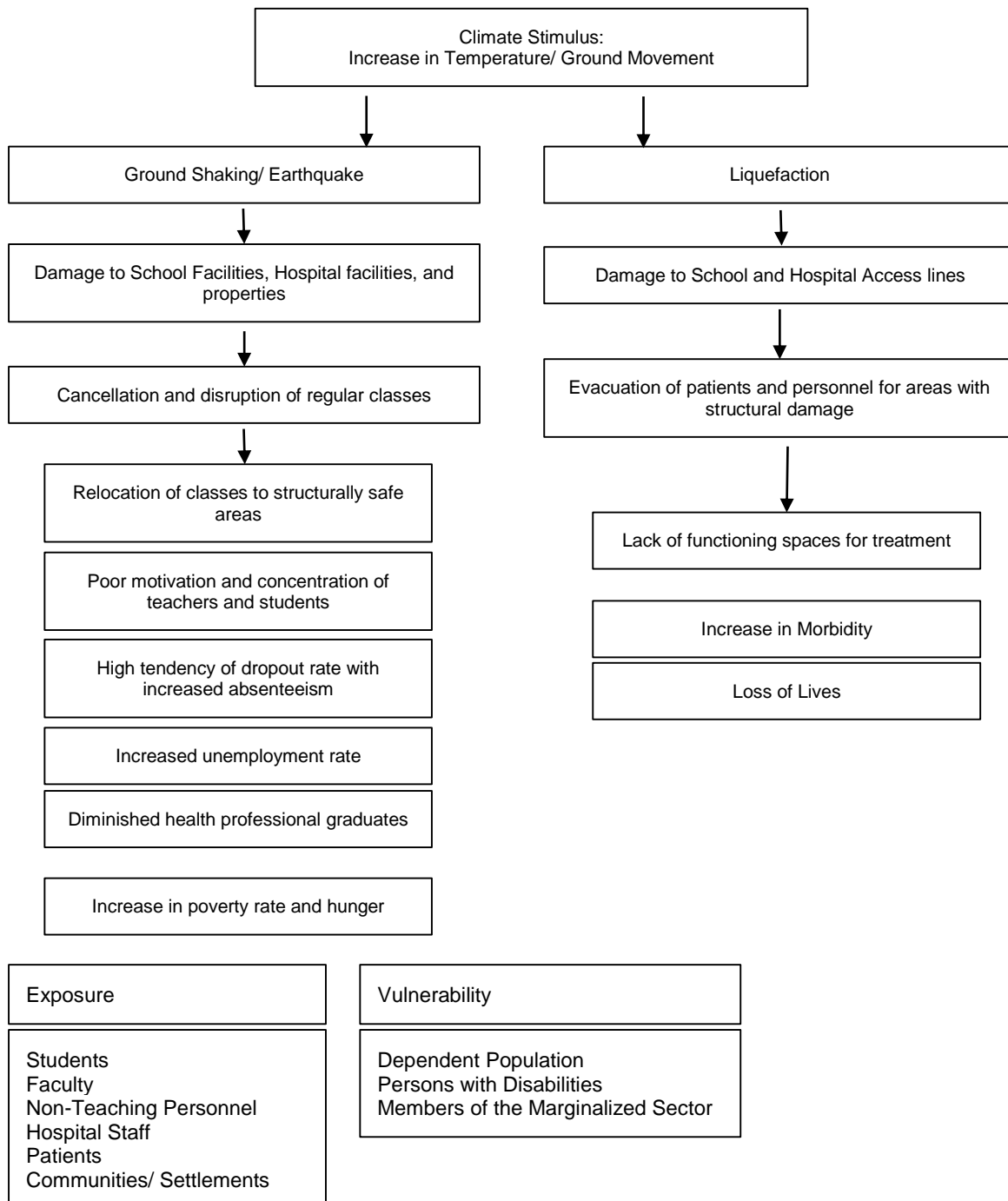


Figure 224 Climate Impact Chain Diagram for Ground Movement

C. VULNERABLE AREAS

As assessed in the Climate and Disaster Risk Assessment (CDRA) attributes, the facilities of UP Manila and its SHS Campuses, in general, were usable and in good condition. However, there are few threats that need to be addressed such as the adaptive capacity of the existing facilities in terms of fire detection and alarm systems and necessary structural repairs and retrofitting of the old buildings.

UP Manila

The University of the Philippines Manila is prone to localized flooding, typhoons, and ground shaking. The most vulnerable facilities during the occurrence of earthquake and ground shaking are the existing old buildings of the University, especially the heritage structures that were not yet retrofitted. Typhoon also affects the building condition causing damage to the interior facilities and equipment. It also worsens the existing structural damages of the building as the continuous rain seeps into the existing cracks and deteriorates the reinforcements.

Apart from the natural hazards, UP Manila is also highly susceptible to fire and explosions. The University houses a number of research facilities, laboratories, and a general hospital that uses the facilities on longer operating hours. Also, these facilities use chemicals, reagents, and other materials that may be combustible. Moreover, since the location of UP Manila became a part of the World War II destruction, antique explosives were found buried at the ground and posed a threat to the University if mishandled and not detected.

These are identified in detail in the Hazard Inventory Matrix (Annex C)

SHS Campuses

The SHS Campuses are also susceptible to typhoons, flooding, and ground shaking. No major disaster damage has been recorded as of now but the vulnerability of the facilities should still be considered. The susceptibility of each extension campuses were determined in detail in the Hazard Inventory Matrix (Annex C).

SHS Baler, located at Aurora, is highly susceptible to storm surge with inundations of greater than 4m to 12m given that its location is near the Baler Bay. Also, the SHS Baler is also vulnerable to flooding and typhoons.

The locations of SHS Koronadal and SHS Tarlac are both near an active volcano. SHS Koronadal has a 23.6km distance from Mt. Matutum, while SHS Koronadal has a 46.2 km distance from Mt. Pinatubo.

D. MITIGATION PROGRAMS

- **Hazard Mapping**

Hazard maps, together with other available data, will be utilized to further develop and update the existing hazard map of the campus.

- **Building audits and assessments**

Existing buildings should be assessed in terms of its adaptive capacity, resilience, and presence of alarm systems. For future developments, these considerations should also be included. The Building Inventory and Data (Annex B) is a tool that could be used to summarize the building assessments such as presence of FDAS and fire protection.

- **Structural integrity test**

This should be conducted on the existing old buildings, especially for the heritage buildings, to determine whether the structure could still withstand its intended loading. A summary of the conducted structural integrity assessments was also indicated in the Building Inventory and Data (Annex B).

- **Ground penetrating radar (GPR)**

Since there are previous incidents of discovering buried antique explosives at UP Manila, GPR is used to safely detect the presence and location of underground explosives without disturbing the ground.

E. DISASTER PREPAREDNESS STRATEGIES

- **Designation of fire lanes**

The existing site development and road network of UP Manila is somehow congested which will be difficult for fire trucks to reach their destination in time. In the proposed road network on the campus master plan, a road right-of-way was identified for fire lanes and road widths were also widened. Moreover, obstructions are to be removed for better circulation.

- **Assignment of evacuation areas**

During earthquakes and ground shaking, occupants are advised to evacuate the area. Thus, strategic locations for evacuation areas within the campus should be designated.

- **Public Address (PA) System**

One of the proposed projects of UP Manila is the provision of a PA system which can be connected to the Fire Detection System to automate fire announcements and evacuation requests.

- **Trainings**

Apart from the building assessments, area selection, and integration of warning systems, the occupants of the campus should be well trained on what they should do during times of disaster. On the other hand, the technical teams should also have enough knowledge in assessing the building conditions and the basic safety measures to be imposed.

F. PHYSICAL INTERVENTIONS

To address the potential impacts posed by the natural and man-made hazards, the UP Manila and its extension campuses proposes the following physical interventions in the infrastructure projects:

Earthquake and Ground Shaking

- Structural retrofitting and repairs for old buildings
- Structural design for new buildings

Fire

- Fire Detection and Alarm System
- Fire Protection (e.g. sprinkler, fire hose cabinet)
- Compliance to R.A. 9514 or Fire Code (e.g. presence and locations of fire exit stairs, fire exit doors, hallway minimum widths and maximum length)

Chemicals

- Safety measures for laboratories and hospital
- Proper handling and disposal of chemicals with combustible materials

Flooding and Typhoon

- Improvement of existing drainage systems
- Construction of box culverts
- Improvement of moisture protection system of the buildings (e.g. proper application and appropriate materials of waterproofing, improved roofing systems)

Climate Change Adaptation

- Use of sustainable construction materials (e.g. bio-composite boards, reclaimed woods, precast concrete slabs)
- Develop design of openings/ building fenestrations to encourage passive cooling as much as possible. All hallways will be passively cooled.
- Protection of trees and vegetation

- Compliance with the National Building Code regulations in terms of minimum open spaces of the lot area
- Energy consumption audit and promotion of energy saving and efficiency in the utility operations
- Introduce renewable energy sources such as solar power system, reuse of greywater, rainwater harvesting, and other strategies to reduce energy consumption in buildings.

PART 4: INSTITUTIONAL COORDINATION AND MONITORING SET-UP

The guiding principles of the preparation of the Campus Masterplan is anchored to the vision and mission of the University. The initial draft of the Campus Development Master Plan was prepared by the Office of the Vice Chancellor for Planning in 2005 and presented to the Chancellor's Advisory Council. This was the

4.1. PHYSICAL AND LAND USE PLANNING

The pre-planning, planning, implementation, and post planning and monitoring of the physical and land use plan of the University of the Philippines Manila and its extension campuses shall be headed by the Office of the Chancellor through the Office of the Vice Chancellor for Planning and Development (OVCPD), with the Campus Planning Development and Maintenance Office (CPDMO) providing technical assistance and documentation.

The consultation and collaboration for approval will be with the University of the Philippines System through the Office of the Vice President for Development (OVPD) for the approval of the Office of the President (OP). This also includes the coordination with the designated colleges as recommended, such as the School of Urban and Regional Planning (SURP).

The government agencies such as the Department of Human Settlements and Urban Development (DHSUD), the local government of Manila and the provinces, the Department of Public Works and Highways, the National Historical Commission of the Philippines, Department of Transportation and Railways for interconnection with the site shall also be consulted.

4.2. INFRASTRUCTURE AND BUILDINGS

The pre-planning, planning and design, construction, and post construction of infrastructure and buildings of the University of the Philippines Manila and its extension campuses shall be headed by the Office of the Chancellor through the Office of the Vice Chancellor for Planning and Development (OVCPD), with the Campus Planning Development and Maintenance Office (CPDMO) providing technical assistance and documentation.

The consultation and collaboration for approval will be with the University of the Philippines System through the Office of the Vice President for Development (OVPD) for the approval of the Office of the President (OP). This also includes the coordination with the designated colleges as recommended, such as the College of Architecture and the College of Engineering.

The project committee head is assigned by the Office of the Chancellor through the Office of the Vice Chancellor for Planning and Development (OVCPD). Project implementation and

monitoring may either be in-house by the Campus Planning Development and Maintenance Office (CPDMO) or outsourced.

Building Maintenance shall be through the Campus Planning Development and Maintenance Office in collaboration and request for endorsement with the Office of the Vice Chancellor for Planning and Development (OVCPD) and the Office of the Vice Chancellor and Finance (OVCAF).

The government agencies such as the local government of Manila and the provinces, the Department of Public Works and Highways, the National Historical Commission of the Philippines shall also be consulted.

4.3. FIELD LABORATORIES AND RESEARCH FACILITIES

The research laboratories request for assistance shall be initiated by the research units and colleges through the Office of the Chancellor (OC) through the Office of the Vice Chancellor for Research (OVCR), the Executive Director of the National Institutes of Health (NIH), and the Deans of the Colleges. The request for design and implementation related concerns shall be forwarded to the Office of the Vice Chancellor for Planning and Development (OVCPD) and facilitated by the Campus Planning Development and Maintenance Office (CPDMO).

The research implementation and MOA or MOU shall be facilitated by the units in charge and coordinated to the Office of the Chancellor. These can be through partnerships and grants with government institutions and agencies such as the Department of Science and Technology (DOST), Department of Health (DOH), and the Commission on Higher Education (CHED) to name a few. Private partnerships will also be facilitated by the research units and coordinated to the Office of the Chancellor.

4.4. ENVIRONMENTAL PROTECTION

The environmental protection projects are consulted with the Health and Safety Committee, Institutional Biosafety and Biosecurity Committee, and Institutional Animal Care and Use Committee, and the Pollution Control Office to comply with the environmental compliance of the Campus. This shall be in line with the Environmental Impact Statement and Recommendations. The implementation approval shall be with the Office of the Chancellor (OC) through the Office of the Vice Chancellor for Administration and Finance (OVCAF).

Consultation and collaboration with the national government agencies such as the Department of Environment and Natural Resources (DENR), and Laguna Lake Development Authority (LLDA) to secure compliance.

4.5. TOURISM AND HERITAGE

Projects related to tourism and heritage of the UP Manila land use development and infrastructure plan from pre-planning to implementation shall be coordinated with the Office of the Vice Chancellor for Planning and Development (OVCPD), together with the Campus Planning Development and Maintenance Office (CPDMO), Office for Initiatives in Culture and the Arts (OICA), and consultants from the College of Arts and Sciences (CAS) and/or other consultants from the different Colleges through the Heritage Building Committee 1 and 2.

The proposed Conservation Management Plan of the site shall be the primary consideration to align the strategies and achieve the recommendations.

Consultation and collaboration with the national government agencies such as the National Historical Commission of the Philippines (NHCP), National Museum (NM), and the National Commission for Culture and the Arts (NCCA) shall also be performed.

4.6. SOLID WASTE AND POLLUTION PREVENTION

Similar to the environmental protection projects, the solid waste and pollution prevention are consulted with the Health and Safety Committee, Institutional Biosafety and Biosecurity Committee, Office of the Engineering Technical Services (OETS) of UP PGH, and Institutional Animal Care and Use Committee, and the Pollution Control Office to comply with the solid waste and pollution control compliance of the Campus. This shall be in line with the Environmental Impact Statement and Recommendations. The implementation approval shall be with the Office of the Chancellor (OC) through the Office of the Vice Chancellor for Administration and Finance (OVCAF).

Consultation and collaboration with the national government agencies such as the Department of Environment and Natural Resources (DENR), and Laguna Lake Development Authority (LLDA) to secure compliance.

4.7. TRAFFIC ROUTES

The planning and implementation of traffic routes of the University of the Philippines Manila and its extension campuses shall be headed by the Office of the Chancellor through the Office of the Vice Chancellor for Planning and Development (OVCPD) and the Office of the Vice Chancellor for Administration and Finance (OVCAF), with the UP Manila Police, the Security Office, and the Campus Planning Development and Maintenance Office (CPDMO) providing technical assistance and documentation.

Coordination and assistance shall be secured with the UP System to coordinate with consultants from the National Center for Transportation Studies (NCTS) and the School of

Urban and Regional Planning (SURP) who prepared the Traffic Impact Assessment of UP Manila.

The local government of Manila shall be consulted for traffic routes outside the periphery of the UP-Manila Campus. The provincial government shall be coordinated for the SHS Campuses.

4.8. SPORTS FACILITIES

Projects related to the development of sports facilities shall be proposed through the Office of the Chancellor (OC) through the Office of the Vice Chancellor for Planning and Development (OVCPD), with the technical assistance of the College of Arts and Sciences (CAS) and the Campus Planning Development and Maintenance Office. Any additional facilities will be coordinated with the University of the Philippines System through the Office of the Vice President for Development (OVPD) for the approval of the Office of the President (OP).

4.9. HOUSING

Proposed projects related to the construction of Housing facilities from pre-planning to implementation shall be by the Office of the Chancellor (OC), through the Office of the Vice Chancellor for Planning (OVCPD) and Development with the technical assistance of the Campus Planning Development and Maintenance Office (CPDMO).

The consultation and collaboration for approval will be with the University of the Philippines System through the Office of the Vice President for Development (OVPD) for the approval of the Office of the President (OP). The proposed Faculty, Staff, and Student Housing may entail a Public-Private-Partnership (PPP) which will be closely coordinated with the University of the Philippines System.

4.10. IGP AND COMMERCIAL SPACES

The University of the Philippines Manila, given the limited space available does not have a commercial space for lease within the compound. The priorities lie in the maximization of land to provide academic spaces and services for the constituents. Small areas for lease will start once the construction of the new buildings are completed. Enabling more spaces for food concessionaires and research office rentals. The actions related to commercial spaces are by the Office of the Chancellor (OC) through the Office of the Vice Chancellor for Planning and Development (OVCDP) and the Office of the Vice Chancellor for Administration and Finance (OVCAF) with technical assistance from the Campus Planning Development and Maintenance Office (CPDMO).

Institutional Coordination and Monitoring Summary

| Categories | Project Development Classification | | Units Involved/ Administrative Arrangements | Units Involved/ Government Agency Coordination | Organizational Design | Guidelines / System and Procedures / Plans for Implementation |
|--------------------------------|------------------------------------|---|--|---|---|--|
| Physical and Land Use Planning | I. | Pre-Planning | | | | |
| | 1 | Consultation for LGU, DPWH, concerned agencies, for projects and future projects affecting the campus (if any) (eg. road widening, drainage improvements) | OC, OVCPD, | DHSUD, LGUs, DPWH, NHCP, DOTR, CHED | SUC Project Representatives Identification of Project Head or leader | Planning, budget, and financial programming Existing Space Evaluation Monitoring and Evaluation Framework UP Colleges and Units requirements |
| | 2 | Consultation with concerned UP colleges and units | OC, OVCPD, UP Administration, UP Colleges and Units | | CAC concerned personnel for projects planning and coordination | |
| | II. | Planning | | | | |
| | 1 | UP Manila LUDIP | OC, CPDMO, OVCPD, UPM Officials, UP System Officials | Agencies concerned such as CHED, DPWH | SUC TWG | Resource mobilization; Financial Schemes/ Fund Source; Internal planning proposals for approval of UP System/ BOR; Joint planning and brainstorming process |
| | 2 | UP Manila Master Plan | OC, CPDMO, OVCPD, UPM Officials, UP System Officials | | SUC TWG | |
| | III | Implementation | | | | |

| | | | | | | |
|-------------------------------------|-----|------------------------------|--|--|--|--|
| | 1 | Facility Space Plan | UP System, OC, OVCA, OVCPD, CPDMO | | Institutional capability of technical personnel to design projects; Sourcing of internal consultants if CU does not have an expert; Construction Management Team | Guidelines for implementing government projects; Phasing Plan; Project Monitoring procedures |
| | 2 | Road Networks Improvement | | | | |
| | 3 | Open Space Improvement | | | | |
| | IV | Post Planning and Monitoring | | | | |
| | 1 | Maintenance and upgrading | OVCA, CPDMO, OVCPD, UPM Officials | | Institutional capability of maintenance personnel | Building Maintenance Process Flow and Guidelines; ISO Procedural Flow |
| Infrastructure and Buildings | I. | Pre-Planning | | | | |
| | 1 | Capital Outlay | OC, CPDMO, OVCPD, UPM Officials, UP System Officials | | SUC Project Representatives Identification of Project Head or leader; CAC concerned personnel for projects planning and coordination | UP Manila LUDIP, UP Manila Master Plan; Planning, budget, and financial programming Existing Space Evaluation Monitoring and Evaluation Framework UP Colleges and Units requirements |
| | 2 | UP Manila Internal Funds | OC, CPDMO, OVCPD, UPM Officials | | | |
| | II. | Planning and Design | | | | |

| | | | | | | |
|--|---|-----------------------|---|---------------------------------------|--|--|
| | 1 | New Construction | OC, OVCPD, UPM Officials, UP System Officials, CPDMO, | Agencies concerned such as CHED, DPWH | SUC Project Leader and Project Representatives; Institutional capability of technical personnel to design projects; Sourcing of internal consultants if CU does not have an expert | CO documents preparation for the approval of the GAA or internal funds; Design Standards for New Construction; UP System approval and endorsement; Updating of the LUDIP every 5 years Resource mobilization |
| | 2 | Interior Renovation | OC, OVCPD, UPM Officials, UP System Officials, CPDMO, | Agencies concerned such as NHCP, DPWH | | CO documents preparation for the approval of GAA or internal funds; Design Standards for Interior Renovations; UP System approval and endorsement; Resource mobilization |
| | 3 | Heritage Preservation | OC, OICA, OVCPD, UPM Officials, UP System Officials, CPDMO, | Agencies concerned such as NHCP | | Conservation Management Action Plans and Recommendations; CO documents preparation for the approval of GAA or internal funds; UP System approval and endorsement; Updating of the LUDIP every 5 years Resource mobilization |

| | | | | | | |
|--|-----|--|--|---------------------------------------|--|---|
| | 4 | Utilities Upgrading | UPM Officials, OVCPD, CPDMO | | | Audits for Utilities |
| | III | Implementation | | | | |
| | 1 | Government Funded | OC, OVCPD, UPM Officials, UP System Officials, CPDMO, | Agencies concerned such as CHED, DPWH | SUC Project Leader and Project Representatives; Institutional capability of technical personnel to design projects; Sourcing of internal consultants if CU does not have an expert; Construction Management Team | Guidelines for implementing government projects; Phasing Plan; Project Monitoring procedures; Resource mobilization |
| | 2 | UP Manila Funds | OC, OVCPD, UPM Officials, UP System Officials, CPDMO, | Agencies concerned such as CHED, DPWH | SUC Project Leader and Project Representatives; Consultants as provided by the donor Construction Management Team | Project Monitoring procedures; Resource monitoring |
| | 3 | Private Fund | OC, OVCPD, UPM Officials, UP System Officials, CPDMO | | | |
| | IV | Post Construction (Building Maintenance) | | | | |
| | 1 | Job Order Requests | UP Colleges and Units, OVCA, OVCPD CPDMO and Building Maintenance Team, Preventive Maintenance Service Providers | | Institutional capability of building administration; Institutional capability of maintenance personnel or outsourced maintenance personnel; | Building Maintenance Process Flow and Guidelines; ISO Procedural Flow |

| | | | | | | |
|---|---|---|--|----------------------|--|--|
| | 2 | Small Projects | | | | |
| | | a. Small Value | UP Colleges and Units, OVCA, OVCPD CPDMO and Building Maintenance Team, Preventive Maintenance Service Providers | | Institutional capability of outsourced maintenance personnel; Institutional capability of project procurement | Guidelines for implementing government projects; Phasing Plan; Project Monitoring procedures; Resource mobilization |
| | | b. Pakyaw | | | Institutional capability of outsourced maintenance personnel; Institutional capability of materials procurement | |
| Field Laboratories and Research Facilities | 1 | Internally funded research | OC, OVCR, NIH, UP Manila Colleges (CAS, CD, CM, CP, CAMP, CPH, NTTC-HP, SHS, CN), Quality Assurance Office | | Research Project Leader or Proponent and Project Representatives; Institutional capability of researchers and facilities; Sourcing of internal consultants and experts | Clean Air Act (RA 8749), Clean Water Act (RA 9275), Climate Change Act (RA 9729), DRRM Act (RA 10121), Environmental Planning Act (RA 10587), Sanitation Code (PD 856) |
| | 2 | Partnership with other research government agencies (DOH, DOST, CHED) | OC, OVCR, NIH, UP Manila Colleges (CAS, CD, CM, CP, CAMP, CPH, NTTC-HP, SHS, CN), Quality Assurance Office | DOST, CHED, DOH | | |
| | 3 | Partnership with Private Companies | OC, OVCR, NIH, UP Manila Colleges (CAS, CD, CM, CP, CAMP, CPH, NTTC-HP, SHS, CN) | Private institutions | | |
| Environmental Protection | 1 | Projects for implementation that requires environmental protection | OC, OVCA, OVCPD, CPDMO, PCO-CPH | DENR, LLDA | Committee Leader and PCO participation together with TWG and technical experts | Clean Air Act (RA 8749), Clean Water Act (RA 9275), Climate Change Act (RA 9729), DRRM Act (RA |

| | | | | | | |
|---|---|---|---|----------------|---|---|
| | | | | | | 10121), Environmental Planning Act (RA 10587) |
| Tourism and Heritage | 1 | Projects for implementation with thrusts on tourism and heritage preservation | OC, CAS, OICA, OC, OVCPD, CPDMO, Heritage Building Committee 1 and 2, IPPAO | NHCP, NCCA, NM | Institutional capability to implement the proposed conservation management plan | Heritage Law (RA 10066) |
| Solid Waste and Pollution Prevention | 1 | Solid Waste and Pollution Management | OC, OVCA, OVCPD, UP-PGH OETS, CPDMO, PCO-CPH, Health and Safety Committee, Institutional Biosafety and Biosecurity Committee, Institutional Animal Care and Use Committee | DENR, LLDA | Committee Leader and PCO participation together with TWG and technical experts | DRRM Act (RA 10121), Sanitation Code (PD 856) |
| Traffic Routes | 1 | Internal Routes and Traffic Management | OC, OVCA, OVCPD, UP Manila Police and Security Office | DPWH, LGU | Institutional capability through UPM Police and Security Office for the implementation of the circulation flow based on the Master Development Plan | UP Manila LUDIP Traffic Impact Study |
| Sports Facilities | 1 | Projects for implementation for sports facilities improvement | CAS - PE Department | CHED | Sports Facility experts and project leaders within the university to propose and implement requirement; Institutional capability for implementation | |

Table 57 Institutional Coordination and Monitoring Table Summary

END