



Mindanao State University
ILIGAN INSTITUTE OF TECHNOLOGY

LUDIP

LAND USE DEVELOPMENT
AND INFRASTRUCTURE PLAN

2023-2032



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PREFACE

The MSU-Iligan Institute of Technology (MSU-IIT) Land Use Development and Infrastructure Plan (LUDIP) will serve as a comprehensive master plan for campus land utilization, which covers academic and non-academic services and facilities within its jurisdiction and a strategic roadmap to modernize physical facilities incorporating the key principles grounded on the context of smart, green, and resilient campus development and infrastructure plan, to support the vision and strategic directions of the University for the quest of excellence and quality education.

This comprehensive document is crafted in compliance with Republic Act No. 11396, and CHED CMO No. 11 series of 2020, which provide crucial frameworks for the advancement of innovation and development in Philippine higher education institutions (HEIs).

Integral to MSU-IIT's LUDIP is the comprehensive inventory of existing land use and other compositions of land use within the university's jurisdiction. This inventory serves as a crucial foundation for our strategic planning efforts, enabling us to optimize the use of our physical resources while promoting sustainability and environmental stewardship. It will also establish order, preserve open space, and rationalize the disposition of land and built assets as major considerations for the request for funding from the national government and investment initiatives.

In aligning our LUDIP with national policies and priorities, we draw inspiration from the Philippine Development Plan known as Ambisyon Natin 2040, and other related laws that underscore the importance of innovation, sustainability, and inclusive growth in our nation's progress. By adhering to these frameworks, we affirm our dedication to contributing meaningfully to the achievement of our country's development goals and aspirations.

Furthermore, our LUDIP is deeply rooted in the Regional Development of Northern Mindanao and the City Development Plan of Iligan City, recognizing the integral role of our institution in the socio-economic development and transformation of our local community. As a key stakeholder in regional and city-level initiatives, MSU-IIT is committed to collaborating closely with local government units, industry partners, and other stakeholders to address pressing challenges and leverage opportunities for growth and development.

As we embark on the implementation of our LUDIP, we are guided by a shared vision of MSU-IIT as a dynamic hub of innovation, creativity, and social impact. It is our collective endeavor to harness the full potential of our institution as a catalyst for positive change, driving innovation, economic prosperity, and social progress in our region and beyond.

CHAPTER I. PROFILE OF MINDANAO STATE UNIVERSITY AND OF MSU-ILIGAN INSTITUTE OF TECHNOLOGY

1.1 HISTORY AND MANDATE OF MINDANAO STATE UNIVERSITY

The Mindanao State University (MSU), established under Republic Act 1387 as amended and Republic Act 1893, was formally founded on September 1, 1961, in Marawi City. This event marked the organization of its Board of Regents and the election of Dr. Antonio Isidro as its inaugural President. The legislation was sponsored by then-Senator Ahmad Domocao A. Alonto.

The University was entrusted with the following mandates: 1) to promote the "integration" of cultural minorities/communities into the national body politic; and 2) to expedite the development of the area through the conventional functions of a university, namely instruction, research, and extension. As envisioned, MSU aimed to train future leaders, provide professional and technical manpower, and offer the necessary expertise to accelerate the socioeconomic development of the MINSUPALA region.

Staying true to its mission, MSU has vigorously and resolutely pursued its goals and objectives throughout the years, continuing to do so relentlessly, with the aim of nurturing trained leadership and skilled manpower in its service areas. In the pursuit of its objectives, the University also strives to instill moral and spiritual values in the youth, as well as promote national consciousness securely rooted in national solidarity and mutual understanding among Filipinos, all of which are necessary for harmonious, peaceful coexistence, and sustainable development.

Sixty-two years after its inception, MSU has evolved into a multiversity, more widely recognized as the Mindanao State University System (MSUS). It has consistently made its mark in the academic world by dedicating itself to providing quality education and pursuing excellence. Its efforts to expand access to education for Muslim groups and other cultural communities across Southern Mindanao, as well as to offer greater educational opportunities to the less privileged and underserved members of society, have never wavered. The University's student body comprises Muslims, Lumad, and Christians from the lower strata of MINSUPALA society and neighboring areas in the Visayas and Luzon islands. To accommodate its ever-growing number of students, the MSU System has extended its units to key areas in Mindanao. Since its inception in 1961, the MSU System has produced over 150,000 graduates.

Today, MSU operates as a system with autonomous campuses in seven strategic areas spanning regions 9, 10, 11, and 12 in Mindanao. From being a single-campus University in Marawi City, MSU has transformed into a multi-campus university with eleven (11) campuses, including former CHED-sponsored institutions. It has gained a reputation as one of the prestigious and leading SUCs in the country, consistently producing top-notches in various Board/Bar exams every year. Along with 21 others leading SUCs out of 110, MSU has been designated for modernization and development to achieve world-class status. Its vision of becoming the premier supraregional university dedicated to the social, political, and economic development of MINSUPALA and the preservation of the region's unique, rich cultural heritage, as well as gaining international recognition, continues to drive its dynamism, direction, and significance.

The journey toward this vision is advancing at full throttle, with efforts to gain recognition as a National Peace University and heightened endeavors to achieve the new Administration's 10-Point Agenda, with a primary focus on academic excellence, pushing research output to record levels, and taking bold strides in internationalization.

A. MSU System Campuses

The Mindanao State University (MSU) System comprises several campuses across different regions in Mindanao, as shown below:

Table 1.1. MSU System Campuses by Region

MSU CAMPUS	YEAR ESTABLISHED	LEGAL BASIS OF CREATION
BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO		
MSU-Main Campus Marawi City, Lanao del Sur	September 1, 1961	RA 1387 (as amended)
MSU-Lanao National College of Arts and Trades Marawi City, Lanao del Sur	Integration to MSU system on January 10, 2001	BOR Res. No. 11-A, s. 2001
MSU-Maguindanao Dinaig, Maguindanao	October 10, 1973	BOR Res. No. 821, s. 1973; BOR Res. No. 931, s. 1975; BOR Res. No. 561, s. 1982
MSU-Sulu Jolo, Sulu	August 14, 1975	BOR Res. No. 860, S. 1973; BOR Res. No. 64, s. 1974
MSU-Tawi-Tawi College of Technology and Oceanography Bongao, Tawi-Tawi	August 4, 1969	R.A. 6060; BOR Res. No. 1133, s. 1976
REGION IX – ZAMBOANGA PENINSULA		
MSU-Buug Buug, Zamboanga Sibugay	September 30, 2010	BOR Res. No. 168, s. 2010
REGION X – NORTHERN MINDANAO		
MSU-IIigan Institute of Technology Iligan City, Lanao del Norte	July 12, 1968	RA 5363; BOR Res. No. 359, S. 1968
MSU-Naawan Naawan, Misamis Oriental	July 21, 1988	MEMO order 3 & MEMO order 45; BOR Res. No. 695, S. 1971; BOR Res. No. 92, s. 1988 (declaration of campus autonomy)
MSU-Maigo School of Arts and Trade Maigo, Lanao del Norte	February 13, 2001	BOR Res. No. 11-A, s. 2001
MSU-Lanao del Norte Agricultural College Sultan Naga Dimaporo, Lanao del Norte	Integration to MSU system on 2001	BOR Res. No. 11-A, s. 2001
REGION XII - SOCCSKSARGEN		
MSU-General Santos General Santos City, South Cotabato	October 10, 1973	BOR Res. No. 822, s. 1973, MEMO Order 45, s. 1986

Current Governing Board

The governing board of Mindanao State University (MSU) is known as the Board of Regents comprises both ex-officio members and appointive members in accordance with **Memorandum Order No. 45, s. 1986**, issued by the President of the Philippines that modifies R.A. No. 1387, as amended.

Table 1.2. MSU System Board of Regents (As of March 30, 2023)

EX-OFFICIO MEMBERS	EFFECTIVITY
HON. J. PROSPERO E. DE VERA III, Ph.D. Chairperson, Commission on Higher Education Chairperson	July 30, 2022
HON. HASSANUL BASARI D. MAPUPUNO President, Mindanao State University System Vice Chairman	March 9, 2022
HON. FRANCIS JOSEPH "CHIZ" G. ESCUDERO Chairman, Senate Committee on Higher and Technical Vocational Education	July 26, 2022
HON. MARQUEZ "MARK" O. GO Chairman, House Committee on Higher and Technical Vocational Education (Represented by Hon. Ziaur-Rahman A. Adiong)	July 26, 2022
HON. AMENAH F. PANGANDAMAN Secretary, Department of Budget and Management (Represented by Usec. Achilles Gerard C. Bravo)	June 30, 2022
HON. ARSENIO M. BALISACAN Secretary, National Economic and Development Authority	July 4, 2022
HON. MOHAGHER IQBAL Minister, Ministry of Basic, Higher, and Technical Education (BARMM)	February 26, 2019
HON. ALIZEDNEY M. DITUCALAN Chancellor, MSU-Iligan Institute of Technology BOR Res. No. 1, s. 2022	February 28, 2022
HON. MARY JOYCE Z. GUINTO-SALI Chancellor, MSU Tawi-Tawi College of Technology and Oceanography BOR Res. No. 290, S. 2022	March 27, 2021
HON. USMAN D. ARAGASI Chancellor, MSU General Santos	March 4, 2021
HON. DR. ALHISAN U. JEMSY President, MSU Faculty Confederation	February 27, 2023
HON. RENATO D. BONIAO President, MSU Alumni Association	July 20, 2023
HON. VEANAMARI ELISE V. SANTILLAN President, Federation of MSU System Student Councils	December 12, 2023

APPOINTIVE MEMBERS	EFFECTIVITY
HON. GRACITA "GRACE" DEL ROSARIO JACINTO-AL HON. AMINA T. RASUL BERNARDO	March 1, 2022, March 1, 2022
ATTY. SHIDIK T. ABANTAS Secretary of the University and the Board of Regents BOR Res. No. 7, S. 2021	March 1, 2022

B. Mandates of MSU System and the MSU-IIT Campus

Mindanao State University (MSU) and its campuses, including the MSU-Iligan Institute of Technology (MSU-IIT), operate under several mandates that guide their mission and objectives within the Philippines, particularly in the Mindanao region. These mandates are focused on education, integration, peace-building, and development.

MSU System Mandates

1. Integration of Cultural Communities: MSU has a special mandate to integrate cultural communities, especially Muslims, into the socio-cultural and political life of the nation. This involves providing opportunities for quality and relevant public education for self-development and supplying trained manpower for the economic development of the Mindanao, Sulu (Basilan and Tawi-Tawi), and Palawan regions.
2. Affirmative Action and Development: The university serves as an affirmative action for integrating Muslims and other cultural minorities into national life. It acts as a policy instrument to help these communities catch up with more developed regions in the country, necessitating a "catching up" budget for significant developmental roles. This includes expediting the development of the area through the conventional functions of a university, namely instruction, research, and extension.
3. Peace Building and Counter-Insurgency: With most of its campuses located in conflict-affected areas, MSU has an urgent mandate for peace-building. The campuses are expected to provide alternatives to the camps of various insurgent groups by attracting young Muslims toward education and development.
4. Residential University System: Many MSU campuses are residential, requiring extensive maintenance and operating expenses. This includes academic and administrative buildings, student dormitories, faculty and staff cottages, and large land areas, many of which are old and dilapidated.

MSU-IIT Specific Mandates

1. Comprehensive Education and Training: MSU-IIT was established to provide effective manpower training urgently needed for industrial and economic development. It offers programs at secondary, undergraduate, and graduate levels across various disciplines, including arts, sciences, engineering, and technology.
2. Centers of Excellence and Development: MSU-IIT has been designated as a Center of Excellence in several fields by the Commission on Higher Education (CHED), including Mathematics, Chemistry, Biology, Physics, Mechanical Engineering, Electronics Engineering, and Teacher Education. It also has Centers of Development in areas such as Filipino, History, Sociology, and Information Technology.
3. Autonomy and Academic Freedom: In 1975, MSU-IIT was made an autonomous campus of the Mindanao State University System, allowing it greater academic freedom and the ability to tailor its programs to meet the needs of its community and the industrial sector.

These mandates collectively aim to address the educational, socio-economic, and peace-building needs of the Mindanao region and its diverse communities, making MSU and its campuses, including MSU-IIT, pivotal institutions in the Philippines' efforts toward national integration and development.

C. History of MSU-IIT Campus

The history of the Institute goes way back to 1946 with the establishment of the Iligan City National High School (ICHS). In 1956, the ICHS was converted into the Lanao Technical School (LTS) under the Bureau of Vocational Education (BEV). In 1965, RA 4626 converted LTS into the Northern Mindanao Institute of Technology (NMIT). However, this law still needs to be implemented.

On July 12, 1968, RA 5363 integrated LTS into the MSU System. During the 62nd Meeting of the MSU Board of Regents on March 12, 1975, the first comprehensive re-organizational plan of the Institute was approved under BOR Resolution No. 894, Series of 1975. This plan made the Institute the first autonomous unit of the MSU System.

In the years that followed, MSU-IIT continually expanded and developed its academic programs. While doing so, it also enhanced research, infrastructure, and cultural activities. Currently, MSU-IIT has two (2) annex campuses located at Hinaplanon and Fuentes, Brgy. Maria Cristina, Iligan City.

The **Hinaplanon campus annex** was established upon the approval of the Board of Regents during its 189th meeting, on February 7, 2004, at Manila through **BOR No. 19, S. 2004**, “*MSU-IIT’s Proposal to Develop Its Property at Barangay Hinaplanon to Foster and Enhance Technical and Scientific Creativity.*” The proposal aims to accommodate and promote the growth of research and technology-based endeavors that could lead to greater productivity and thus spur economic activity and growth, through the establishment of offices, laboratories, training center, research library, production centers, dormitories, and other facilities for technological advancement and research development capabilities.

Currently, a four-storey building has been constructed for the use of the College of Education-Integrated Development School. Ongoing development has been started since 2019 for the additional infrastructure that is estimated to be completed in 2024 for the additional laboratories, training center, and research center for the said college.

The **Marine Science Complex** is located at Fuentes, Brgy. Maria Cristina, Iligan City which focuses on the research development of the College of Science and Mathematics - Department of Marine Science (DMS). Through Board of Regent Resolution No. 237, Series of 2018, the DMS is the newest department that offers BS Marine Biology (CHED CMO-based), MS Marine Biology (in consortium with the Federation of Institutions for Marine and Freshwater Sciences (FIMFS) and a PhD Marine Science with two tracks (biotechnology and biodiversity) and three options (regular, MS-PhD and by research).

MSU-IIT ORGANIZATIONAL STRUCTURE

The current organizational structure of MSU-IIT was based on the recently approved **Board of Resolution No. 394, S. 2023** entitled the “*Revised MSU-IIT Organizational Structure*” issued during the 265th meeting of the Board of Regents held on December 12, 2023, at CHED Conference room, HEDC Building, C.P. Garcia Avenue, Diliman, Quezon City.

The new organizational structure of MSU-IIT (see) is an essential step as the university positions itself to become a research university dedicated to the sustainable development of our nation and the global community while ensuring the holistic development of individuals and society. It follows a flat organizational structure where all offices, except the research centers under the Research Institutes, are directly accountable to the Chancellor.

The University recognizes that flat organizational structures broaden the span of control, potentially presenting challenges in managing and supporting a large group of middle management. Hence, in the proposed organizational structure, the Vice-Chancellors are part of the office of the Chancellor. They are vested with oversight functions on behalf of the Chancellor. As such, they ensure that offices under their respective clusters are functioning effectively and efficiently.

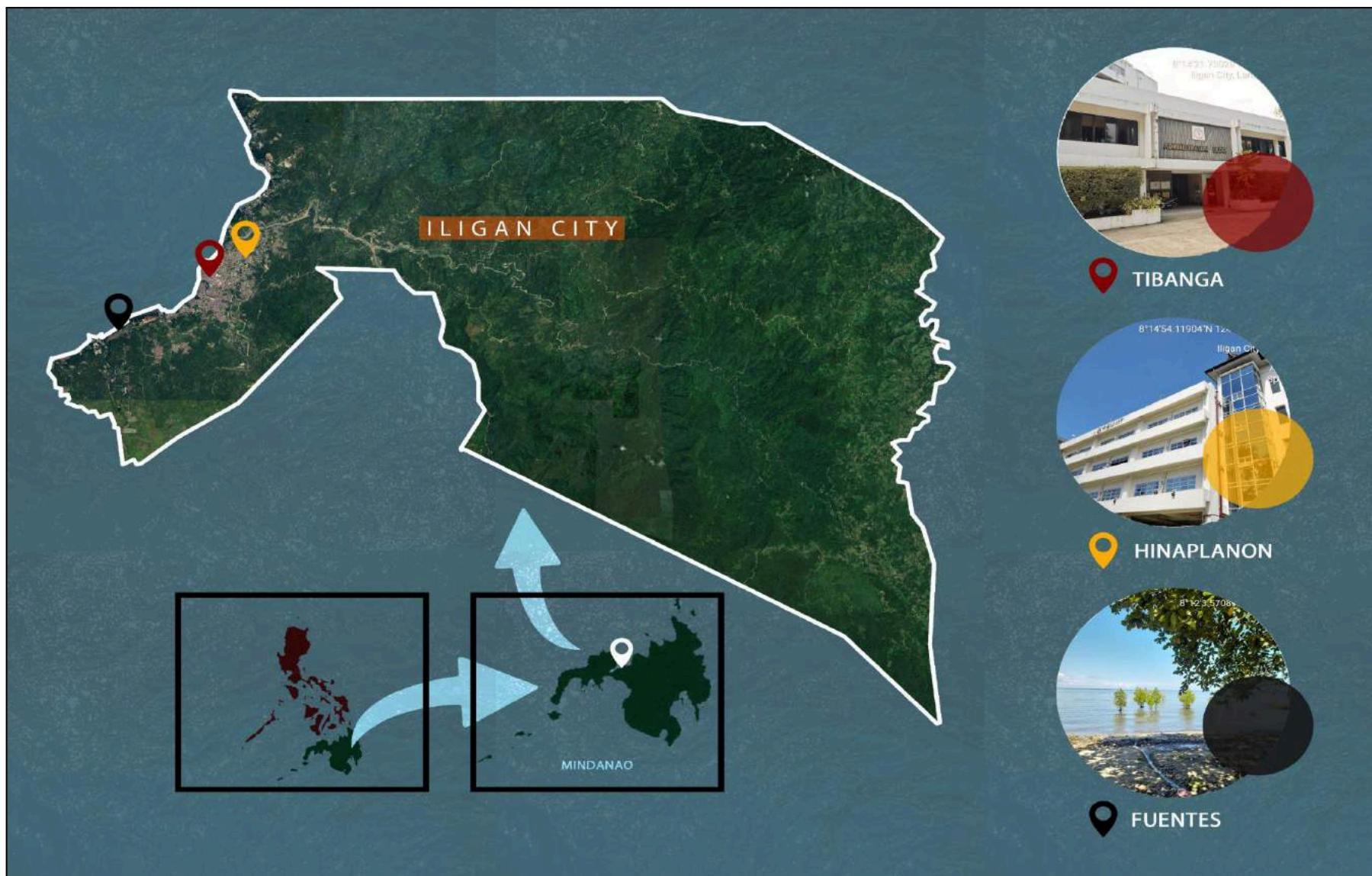


Figure 1.1. MSU-Iligan Institute of Technology Campus Locations (Source: Layout by Ian S. Rubio)



MINDANAO STATE UNIVERSITY:
ILIGAN INSTITUTE OF TECHNOLOGY

PROPOSED ORGANIZATIONAL STRUCTURE

APPENDIX A

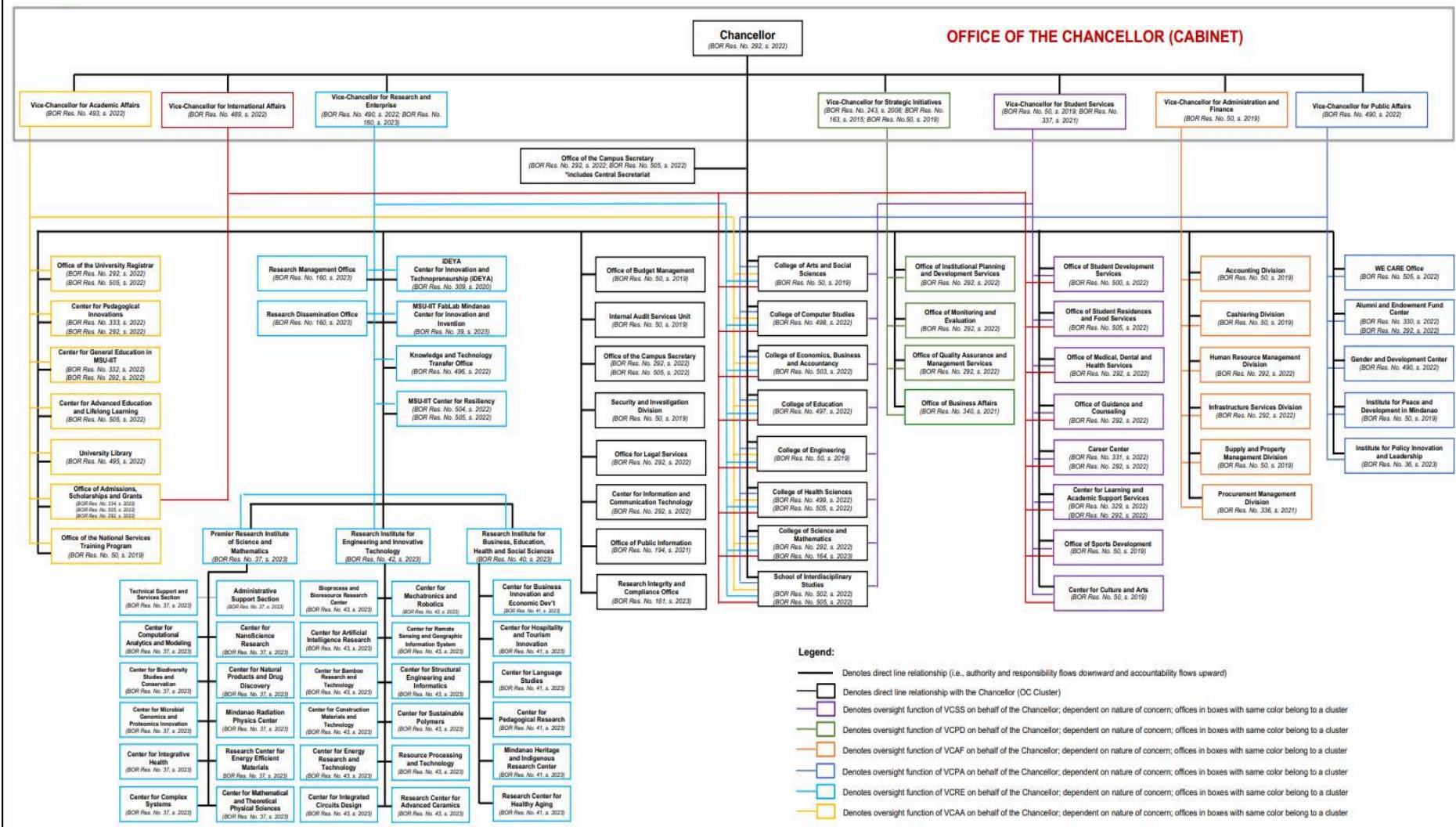


Figure 1.2. MSU-IIT Organizational Structure (excerpt from BOR No. 394, S. 2023)

D. Vision, Mission, Goals, and Objectives of MSU System and of MSU-IIT

The Mission, Vision, and Objectives of MSU-IIT (Mindanao State University - Iligan Institute of Technology) are closely aligned with those of the MSU System, as stated below.

The Mindanao State University is guided by the following philosophy, mission, and purpose:

Philosophy

The Mindanao State University shall, in the pursuit of its mission, be committed to the total development of man and to the search for truth, virtue and academic excellence.

Mission

- To provide a relevant and integrated system of equality general education that will promote national identity, cultural consciousness, moral integrity and spiritual vigor;
- To produce a supply of quality manpower required for regional as well as for national development;
- To engage in research and extension activities that will lead to economic upliftment of the surrounding communities; and
- To help humanity live a superior life.

Purpose

- In addition to the traditional function of instruction, research and extension services, the University shall promote and accelerate the economic, political and sociocultural development of rural tribal communities and facilitate their integration into the mainstream of the national body politic.
- In brief, the University acts as an instrument for national policy formulation in addition to its traditional function as an institution of higher learning.

Upon the induction of MSU President, Atty. Basari D. Mapupuno, he laid out a 10-point agenda to guide the MSU System during his tenure, to wit:

1. Taking Bolder Strides toward Academic Excellence: President Mapupuno aims to elevate the quality of education across the MSU System, fostering excellence in teaching, research, and student outcomes.
2. Strengthening Research, Extension, Innovation, and Production: By enhancing research initiatives, extending knowledge to communities, promoting innovation, and supporting productive endeavors, the MSU System can contribute significantly to regional and national development.
3. Promoting MSU System as a National Peace University: President Mapupuno recognizes the critical role of education in peacebuilding. He envisions the MSU System as a beacon for promoting peace, understanding, and harmony.
4. Harnessing MSU Systemness and Focusing on Comparative Advantages: Acknowledging the unique strengths of each campus within the system, President Mapupuno emphasizes strategic alignment and synergy to maximize impact.
5. More Aggressively Moving Forward with Internationalization and Strategic Linkages: The MSU System aims to expand its global footprint by fostering international collaborations, student exchanges, and joint research endeavors.
6. Serving as a Beacon for Preservation of Cultural Heritage: President Mapupuno recognizes the rich cultural heritage of Mindanao. The MSU System will actively engage in preserving and celebrating this heritage.
7. Improving Human Resource Administration and Enhancing Processes for Greater Effectiveness and Efficient Service Delivery: Streamlining administrative processes and investing in human resources will enhance overall efficiency.
8. Increasing Income Generation and Improving Fiscal Responsibility: Sustainable financial practices are crucial for the MSU System's growth and stability.
9. Infrastructure Development and Use: President Mapupuno emphasizes the importance of modern infrastructure to support teaching, research, and student life.
10. Implementation of Land Use Plan: Strategic land use planning ensures optimal utilization of resources and supports the MSU System's long-term goals.

President Mapupuno's agenda reflects a holistic approach to advancing education, research, and community engagement within the MSU System.

Meanwhile, MSU-IIT envisions becoming "*a research university committed to the holistic development of the individual and society*." It continuously strives to work toward fulfilling its mission "*to provide quality education for the sustainable development of the nation and the global community*" (BOR Res. No. 492, series of 2022).

The University's goals and objectives toward Vision 2032 are reflected in the pillars and strategic objectives articulated in its five-year development plan (5-YDP) approved by the Board of Regents under BOR Res. No. 491, Series of 2022. These are as follows:

Pillar 1: Education - Holistic, integrated, and balanced academic programs aligned with Education 4.0 and the evolving 21st century skills with life-long learning as a guiding principle

Table 1.3. MSU-IIT 5-YDP Pillar 1 Strategic Objectives and Its Elaboration

STRATEGIC OBJECTIVES	ELABORATION
Align curricular programs with Education 4.0 and the evolving 21st century skills	Ensure that academic programs are not only relevant to the current context but are also attuned to future developments in the areas of artificial intelligence and smart technologies, among others, as well as, aligned with necessary competencies for students to thrive in the 21st century
Strengthen academic quality assurance	Establish a strong culture of quality and constantly pursue academic program excellence within the framework of plan-do-check-act (PDCA)
Pursue Transnational Education	Expand to more internationally benchmarked programs and pursue online distance learning as well as dual/joint programs with leading universities in the world
Increase the number of foreign-trained academic staff	Provide opportunities and support to faculty members to pursue advanced degrees from leading foreign universities; and maximize the benefits of technology and academic partnerships/linkages in engaging international experts to enrich students' teaching and learning
Approach learning in a balanced and more holistic way	Design curriculums that develop not only students' intellectual and mental abilities but their physical, emotional, and social abilities as well
Develop a new approaches to equity and inclusiveness in education	Provide access to education to those who have limited opportunities and financial capacity, consequently fulfilling students' aspirations of improved living conditions for their families
Strengthen pedagogical competence of faculty	Further develop pedagogical skills of faculty members to enhance students' academic success

Pillar 2: Research and Innovation - Interdisciplinary and integrative research for sustainable development

Table 1.4. MSU-IIT 5-YDP Pillar 2 Strategic Objectives and Its Elaboration

STRATEGIC OBJECTIVES	ELABORATION
Increase the number of academic staff with advanced degrees	Strengthen research capacity by augmenting current faculty with advanced degrees, either through recruitment or faculty development
Increase the number of and strengthen graduate program offerings	Expand the number of graduate degree programs by research and research fellowships to multiply capacity and opportunities for knowledge creation
Expand interdisciplinary graduate degree programs	Nurture highly competent knowledge professionals capable of cross-disciplinary problem-solving through integrative research
Boost research output dissemination and utilization	Advance not only knowledge creation but also knowledge diffusion to improve people's lives
Intensify interdisciplinary research	Enjoin academic staff from various disciplines to collaborate in the conduct of more research projects that address pressing problems in the regional, national, and global community
Improve world university ranking	Strengthen the trust of current and potential partners to forge meaningful and productive research collaborations through positive visibility in international university rankings (e.g., THE, QS)
Strengthen start-ups and enterprise ecosystem	Forge partnerships with more industries to produce innovations

Pillar 3: Student Support - A learning environment that supports students in their university life and beyond

Table 1.5. MSU-IIT 5-YDP Pillar 3 Strategic Objectives and Its Elaboration

STRATEGIC OBJECTIVES	ELABORATION
Enhance student learning experience and well-being	Provide meaningful student experience (STX) and promote student well-being by utilizing the benefits of big data for customized learning experiences and real-time interventions to help them succeed
Promote global citizenship	Nurture mindfulness of one's actions, recognizing the interconnectedness between communities and the planet
Develop a nurturing and inclusive campus atmosphere that appreciates and promotes individuality, diversity, and equality	Promote a culture of respect for diversity and a sense of community and stewardship towards others

Pillar 4: Public Service - Public service and community engagement for social transformation

Table 1.6. MSU-IIT 5-YDP Pillar 4 Strategic Objectives and Its Elaboration

STRATEGIC OBJECTIVES	ELABORATION
Strengthen collaborations with external stakeholders (LGU, Industries, Alumni, NGOs, etc.)	Forge stronger relationships with all the University's stakeholders geared towards co-ownership and co-creation of solutions to social issues
Fortify capacity-building initiatives for social transformation	Intensify efforts on knowledge and technology transfers to empower communities in uplifting their socioeconomic conditions
Engage in more initiatives, in partnership with institutions, to promote the transformation of society into an equitable, success-enabling ecosystem for everyone	Strengthen efforts towards the development of social capital in the areas of peace, health, political participation, volunteering, environmental advocacy, and other social outcomes
Enable the achievement of SDGs towards building sustainable development	Further advance the initiatives of the University in building a sustainable future for all

Pillar 5: Governance - Mission-driven and technology-enabled governance for operational excellence

Table 1.7. MSU-IIT 5-YDP Pillar 5 Strategic Objectives and Its Elaboration

STRATEGIC OBJECTIVES	ELABORATION
Strengthen and develop human capital	Build the competence of administrative staff through deliberate training and development to ensure succession and continuous delivery of exemplary service to the University's clientele
Enhance Employee Experience (EeX) and Welfare	Make MSU-IIT a happy place to work in with a positive organizational climate that encourages organizational citizenship
Streamline and digitalize the University's processes and systems for operational excellence	Intensify the use of digital technologies to simplify processes and enhance timeliness, efficiency and effectiveness of work systems
Strengthen resource generation	Secure adequate budgetary allocations; implement prudent yet effective spending; establish new models of resource generation; and secure alumni support
Strengthen data and analytics maturity	Continuously improve the pipeline and use of data and analytics to support university management
Optimize the use of university resources	Continually improve the use university resources in an effective and efficient manner to attain the University organizational outcomes
Strengthen the culture of quality University-wide	Exhibit a conscious and collective effort to

	improve the University's processes by regularly revisiting and developing policy guidelines and procedures for the University's Quality Management System
Rightsizing of organizational structure	Reengineer the organization to better deliver products and services

Pillar 6: Infrastructure - Smart, green, and resilient campus

Table 1.8. MSU-IIT 5-YDP Pillar 6 Strategic Objectives and Its Elaboration

STRATEGIC OBJECTIVES	ELABORATION
Modernize physical infrastructure	Fortify support to the attainment of the University's missions through safe, conducive and effective workspaces and technologies
Invest in ICT infrastructures for the establishment of a smart campus	Provide the appropriate computing resources to enable smart campus
Adopt a green and smart architectural design for infrastructures	Imbibe green practices in support of sustainable built environment
Provide needed spaces for students and employees	Increase efforts to ensure that conducive spaces for work and study are available

E. Academic Programs and Services Offered by MSU-IIT

MSU-IIT is known for its excellence in science and technology and its passion for extensive research and community involvement. It houses several research centers and has many links with government agencies and research networks. It offers programs primarily at the undergraduate and graduate levels. It confers Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science, and Doctor of Philosophy degrees. Its academic offerings include education, engineering, engineering technology, computer science, information technology, biology, chemistry, physics, statistics, mathematics, arts, humanities, linguistics, social sciences, nursing, business, accountancy, and law.

As of January 1, 2023, the University offers 43 undergraduate and 51 graduate programs. The academic program offerings of MSU-IIT has been distributed to the different degree-granting units including 7 Colleges and 2 Centers namely the College of Education, College of Education, Business and Accountancy, College of Science and Mathematics, College of Nursing, College of Computer Studies, College of Arts and Social Sciences, and College of Engineering and Technology, Center for Multidisciplinary Studies, and the Center for Culture and Arts.

Table 1.9. Program offerings (As of the Second Semester, Academic Year 2023-2024)

PROGRAMS	CERTIFICATE OF PROGRAM COMPLIANCE	
	Certificate No.	Date of Validity
Undergraduate Programs		
Bachelor of Arts in English Language Studies	070 s.2016	Not indicated
Bachelor of Arts in Literary and Cultural Studies	028, 2021	Not indicated
Batsilyer ng Sining sa Filipino	071, 2016	January 2016
Batsilyer ng Sining sa Panitikan	014, 2021	May 2021
Bachelor of Arts in History	072 s. 2016	Not indicated
Bachelor of Science in Philosophy	027 s. 2021	Not indicated
Bachelor of Arts in Political Science	074 s. 2016	Not indicated
Bachelor of Arts in Psychology	026 s. 2021	Not indicated
Bachelor of Science in Psychology	074 s. 2016	Not indicated
Bachelor of Arts in Sociology	073 s. 2016	Not indicated
Bachelor of Science in Computer Science	016 s. 2021	Not indicated
Bachelor of Science in Computer Applications	017 s. 2021	Not indicated
Bachelor of Science in Information Systems	015 s. 2021	Not indicated
Bachelor of Science in Information Technology	085 s. 2016	Not indicated
Bachelor of Science in Accountancy	076 s. 2016	Not indicated
Bachelor of Science in Business Administration	077 s. 2016, 040 s. 2021	Not indicated
Bachelor of Science in Economics	042 s. 2021	Not indicated
Bachelor of Science in Hospitality Management	041 s. 2021	Not indicated
Bachelor of Science in Entrepreneurship	039 s. 2021	Not indicated
Bachelor of Physical Education	012 s. 2021	May 20, 2021
Bachelor of Elementary Education	079 s. 2016	January 15, 2016
Bachelor of Secondary Education	069 s. 2016	January 15, 2016
Bachelor of Technology and Livelihood Education	016 s. 2022	April 8, 2022
Bachelor of Technical-Vocational Teacher Education	015 s. 2022	April 8, 2022
Bachelor of Engineering Technology	on-going application	
Bachelor of Science in Mining Engineering	on-going application	
Bachelor of Science in Environmental Engineering	on-going application	
Bachelor of Science in Computer Engineering	on-going application	
Bachelor of Science in Industrial Automation and Mechatronics	on-going application	
Bachelor of Science in Nursing	104 s. 2023	A.Y. 2022-2023
Bachelor of Science in Biology (Majors in Animal Biology)	090 s. 2016	January 15, 2016
Bachelor of Science in Chemistry	083 s. 2016	January 15, 2016
Bachelor of Science in Mathematics	087 s. 2016	January 15, 2016
Bachelor of Science in Statistics	089 s. 2016	January 15, 2016

Bachelor of Science in Marine Biology	on-going	
Bachelor of Science in Physics	088 s. 2016	January 15,2016
Graduate Programs		
Master of Arts in Sociology	094 s. 2016	Not indicated
Master of Arts in Political Science	on-going application	
Master of Arts in History (Major in Philippine History)	175 s. 2023	A.Y. 2022-2023
Master of Arts in Filipino	091 s. 2016	January 2016
Master in History	093 s. 2023	A.Y. 2022-2023
Master of Science in Statistics	on-going	
Master of Science in Physics	101 s. 2016	January 15, 2016
Master of Science in Mathematics	095 s. 2016	January 15, 2016
Master of Science in Marine Biology	on-going	
Master of Science in Environmental Science	on-going	
Master of Science in Chemistry	099 s. 2016	January 15, 2016
Master of Science in Biology	097 s. 2016	January 15, 2016
Master of Physics	on-going	
Master of Applied Statistics	on-going	
Master of Business Administration	015 s. 2022	Not indicated
Master of Arts in Education in Technical-Vocational and Livelihood Education	on process	on process
Master of Arts in Education	on the process for MAED Reading	on the process for MAED Reading
Doctor of Philosophy in Filipino	092 s. 2016	January 2016
Doctor of Philosophy in Sociology	176 s. 2023	A.Y. 2022-2023
Doctor of Philosophy in Public Policy and Governance	ongoing application	
Doctor of Business Administration	016 s. 2022	Not indicated
Doctor of Philosophy in Science Education	on the process for PhD Scied Chemistry	on the process for PhD Scied Chemistry
Doctor of Philosophy in Biology	098 s. 2016	January 15, 2016
Doctor of Philosophy in Statistics	on-going	
Doctor of Philosophy in Physics	102 s. 2016	January 15, 2016
Doctor of Philosophy in Mathematics	096 s. 2016	January 15, 2016
Doctor of Philosophy in Marine Science	on-going	
Doctor of Philosophy in Environmental Science	on-going	
Doctor of Philosophy in Chemistry	100 s. 2016	January 15, 2016
Master of Science in Sustainable Development Studies	on-going application	
Master in Sustainable Development Studies	on-going application	
Doctor of Philosophy in Sustainable Development Studies	on-going application	
Doctor in Sustainable Development Studies	on-going application	

Table 1.10. Center of Development and Center of Excellence

PROGRAMS	CENTER OF DEVELOPMENT/ CENTER OF EXCELLENCE			
	Status (COD /COE)	Certificate No.	Date of Validity	
			From	To
Undergraduate Programs				
Batsilyer ng Sining sa Filipino	COD	CMO No. 038 s. 2016 p. 14	January 1, 2016	December 31, 2018
Bachelor of Arts in History	COD	CMO No. 038 s. 2016 p. 23	January 1, 2016	December 31, 2018
Bachelor of Arts in Sociology	COD	CMO No. 038 s. 2016 p. 25	January 2016	December 31, 2018
Bachelor of Science in Computer Science	COD	NA	2016	2019
Bachelor of Science in Computer Applications	COD	NA	2016	2019
Bachelor of Science in Information Systems	COD	NA	2016	2019
Bachelor of Science in Information Technology	COD	NA	2016	2019
Bachelor of Physical Education	COE	CMO No. 017, s. 2016 p.2	May 17, 2016	present
Bachelor of Elementary Education	COE	CMO No. 017, s. 2016 p.2	May 17, 2016	present
Bachelor of Secondary Education	COE	CMO No. 017, s. 2016 p.2	May 17, 2016	present
Bachelor of Technology and Livelihood Education	COE	CMO No. 017, s. 2016 p.2	May 17, 2016	present
Bachelor of Technical-Vocational Teacher Education	COE	CMO No. 017, s. 2016 p.2	May 17, 2016	present
Bachelor of Science in Civil Engineering	COD	CMO No. 15, s. 2016	April 1, 2016	present
Bachelor of Science in Ceramic Engineering	COD	CMO No. 15, s. 2016	April 1, 2016	present
Bachelor of Science in Metallurgical Engineering	COD	CMO No. 15, s. 2016	April 1, 2016	present
Bachelor of Science in Chemical Engineering	COD	CMO No. 15 s. 2016	April 1, 2016	present
Bachelor of Science in Electronics	COE	CMO No. 15,	April 1, 2016	present

Engineering		s. 2016		
Bachelor of Science in Electrical Engineering	COD	CMO No. 15, s. 2016	April 1, 2016	present
Bachelor of Science in Mechanical Engineering	COE	CMO No. 15, s. 2016	April 1, 2016	present
Bachelor of Science in Biology	COE	CMO No. 38, s. 2015	2015	present
Bachelor of Science in Chemistry	COE	CMO No. 38, s. 2015	2015	present
Bachelor of Science in Mathematics	COE	CMO No. 38, s. 2015	2015	present
Bachelor of Science in Statistics	COD	CMO No. 38, s. 2015	2015	present
Bachelor of Science in Marine Biology	COD	CMO No. 38, s. 2015	2015	present
Bachelor of Science in Physics	COE	CMO No. 38, s. 2015	2015	present
Graduate Programs				
Master of Arts in Sociology	COD	CMO No. 038 s. 2016 p. 25	January 2016	December 31, 2018
Master of Arts in Filipino	COD	CMO No. 038 s. 2016 p. 14	January 1, 2016	December 31, 2018
Master in History(Major in Philippine History)	COD	CMO No. 038 s. 2016 p.23	January 1, 2016	December 31, 2018
Master of Science in Computer Applications	COD	NA	2016	2019
Master of Science in Computer Science	COD	NA	2016	2019
Master of Science in Information Systems	COD	NA	2016	2019
Master of Science in Information Technology	COD	NA	2016	2019
Master of Science in Education	COE	CMO No. 017, s.2016 p.2	May 17, 2016	present
Master of Arts in Education in Technical-Vocational and Livelihood Education	COE	CMO No. 017, s.2016 p.2	May 17, 2016	present
Master of Arts in Education	COE	CMO No. 017, s.2016 p.2	May 17, 2016	present
Master of Science in Statistics	COD	CMO No. 38, s. 2015	2015	present
Master of Science in Physics	COE	CMO No. 38, s. 2015	2015	present
Master of Science in Mathematics	COE	CMO No. 38, s. 2015	2015	present

Master of Science in Marine Biology	COD	CMO No. 38, s. 2015	2015	present
Master of Science in Chemistry	COE	CMO No. 38, s. 2015	2015	present
Master of Science in Biology	COE	CMO No. 38, s. 2015	2015	present
Master of Physics	COE	CMO No. 38, s. 2015	2015	present
Master of Applied Statistics	COD	CMO No. 38, s. 2015	2015	present
Doctor of Philosophy in Filipino	COD	CMO No. 038 s. 2016 p. 14	January 1, 2016	December 31, 2018
Doctor of Philosophy in Sociology	COD	CMO No. 038 s. 2016 p. 25	January 2016	December 31, 2018
Doctor of Philosophy in Science Education	COE	CMO No. 017, s. 2016 p.2	May 17, 2016	present
Doctor of Philosophy in Biology	COE	CMO No. 38, s. 2015	2015	present
Doctor of Philosophy in Statistics	COD	CMO No. 38, s. 2015	2015	present
Doctor of Philosophy in Physics	COE	CMO No. 38, s. 2015	2015	present
Doctor of Philosophy in Mathematics	COE	CMO No. 38, s. 2015	2015	present
Doctor of Philosophy in Marine Science	COD	CMO No. 38, s. 2015	2015	present
Doctor of Philosophy in Chemistry	COE	CMO No. 38, s. 2015	2015	present

F. Recognition and Awards

CHED Recognized Programs

- 7 Centers of Excellence designated by the Commission on Higher Education:

Mathematics
Chemistry
Biology
Physics

Mechanical Engineering
Electronics Engineering
Teacher Education

- 14 CHED Centers of Development:

Filipino
History
Sociology
Information Technology
Statistics
Marine Biology
Civil Engineering

Chemical Engineering
Ceramics Engineering
Electrical Engineering
Metallurgical Engineering
Information Systems
Computer Science
Computer Applications

Table 1.11. Level of Accreditation

LEVEL OF ACCREDITATION	PROGRAMS
Level IV	Bachelor of Secondary Education (Majors in Biology, General Science, Chemistry, Mathematics, Physics, TLE, and MAPEH)
	Bachelor of Technology and Livelihood Education (Majors in Home Economics and Industrial Arts)
	Bachelor of Technical-Vocational Teacher Education (Major in Drafting Technology)
	Bachelor of Arts in English Language Studies
	Batsilyer ng Sining sa Filipino
	Bachelor of Arts in History
	Bachelor of Arts in Political Science
	Bachelor of Science in Psychology
Level III	Bachelor of Elementary Education
	Bachelor of Science in Accountancy
	Bachelor of Science in Business Administration (Majors in Business Economics and Entrepreneurial Marketing)
Level II	Bachelor of Science in Nursing
	Bachelor of Science in Computer Science
	Bachelor of Science in Information Technology
	Bachelor of Science in Information System
	Bachelor of Science in Computer Application
Level I	Master in Business Administration
	Master of Science in Physical Education
	Bachelor of Science in Hospitality Management
	Master of Science in Education
	Doctor of Philosophy in Science Education

**Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP)
International Recognitions**

- Rated as a Three-Star University by Quacquarelli Symonds (QS)
- Ranked 551-600 Asia Rank

- ing 2022; 8th out of 10 Philippine HEIs which made it to the ranking
- Ranked 7th among ten (10) Philippine universities and 650th out of 1050 participating universities worldwide in the Universitas Indonesia's GreenMetric Ranking
- Ranked 5th in the Philippines; 1,235 in Asia and 3,418 in the world by Webometrics Ranking
- ISO 9001:2015 Certified by SOCOTEC Certification, Inc.

Recognitions Granted by the Department of Science and Technology (DOST)

- First Natural Substance Center for Mindanao ("Tuklas Lunas" Center)
- Delivering Institution of the DOST-Science Education Institute (DOST-SEI)
- Delivering Institution, Engineering Research and Development for Technology (ERDT)
- Delivering Institution for DOST-Accelerated Science and Technology Human Resource Development Program (ASTHRDP)
- Delivering Institution of the Asian Institute of Management Team Energy Center (AIM-TEC)
- Virtual Center for Technology Innovation in Microelectronics in Southern Philippines

Resource Distribution Center of the UNESCO Bangkok Asia and Pacific Regional Bureau for Education

Center of Excellence in Biodiversity Conservation and Management granted by the HARIBON Foundation

G. MSU- IIT Alignment with the LGU's Vision and Mission

MSU-IIT envisions to become "*a research university committed to the holistic development of the individual and society.*" It continuously strives to work toward fulfilling its mission "*to provide quality education for the sustainable development of the nation and the global community*" (BOR Res. No. 492, series of 2022).

On the other hand, the local government of Iligan City envisions "*to become a beautiful and dynamic industrial and disaster-prepared metropolitan city where God-loving, healthy and culturally-diverse people excel globally, governed with transparency, live in harmony with nature and resilient to climate change*" (Comprehensive Land Use Plan of Iligan City, 2013-2022). For its mission, Iligan City endeavors to fulfill the following:

- To make the culturally diverse people of Iligan City healthy, God-loving, and globally competitive individuals living in a just society.
- To sustain Iligan as an industrial and commercial city and advance its potential in agriculture, tourism, and information and communications technology.
- To properly manage the resources of the city and promote ecological consciousness among the people.
- To carry out transparent and accountable governance characterized by simple and efficient systems and procedures known and understandable by the general public.
- To build the resiliency of the city through capacity building and institutionalization of disaster risk reduction and climate change adaptation and management at all levels of governance.

The vision and mission of MSU-IIT and the Iligan City government demonstrate a strong alignment in their collective focus on sustainable development, holistic individual and societal growth, and resilience in the face of challenges. Both institutions emphasize the importance of education, innovation, and community engagement in achieving their goals.

Alignment in Vision

- **Holistic Development:** MSU-IIT's commitment to the "holistic development of the individual and society" resonates with Iligan City's vision of nurturing "God-loving, healthy, and culturally diverse people" who excel globally. Both visions emphasize the

comprehensive growth of individuals, encompassing not only economic and academic achievements but also cultural, ethical, and physical aspects.

- **Sustainability and Resilience:** MSU-IIT's focus on becoming a research university underscores its role in addressing societal challenges through innovation and knowledge creation, contributing to sustainable development. This aligns with Iligan City's aspiration to be resilient to climate change and harmonious with nature, highlighting a shared commitment to sustainability and environmental stewardship.
- **Global Excellence with Local Relevance:** Both MSU-IIT and Iligan City aspire to global competitiveness, with the university aiming for academic and research excellence and the city striving to make its citizens excel globally. This shared perspective underscores the importance of international standards while addressing local needs and challenges.

Alignment in Mission

- **Education and Capacity Building:** MSU-IIT's mission to provide quality education for sustainable development parallels Iligan City's goals of making its people globally competitive and resilient through capacity building and education. Both institutions recognize education as a cornerstone of personal development and societal progress.
- **Industrial and Economic Development:** MSU-IIT's research and innovation efforts support sustainable national and global development, which aligns with Iligan City's mission to sustain its status as an industrial and commercial hub while exploring potentials in agriculture, tourism, and ICT. The university's contributions to research and human capital can directly support these economic ambitions.
- **Resource Management and Ecological Consciousness:** The university's focus on sustainable development aligns with Iligan City's commitment to managing resources responsibly and promoting ecological awareness. MSU-IIT can contribute through research and community engagement initiatives that address environmental challenges and promote sustainability.
- **Transparent and Accountable Governance:** While MSU-IIT emphasizes quality education and research, its role in the community also involves transparent and accountable practices, aligning with Iligan City's mission to implement governance characterized by transparency, efficiency, and understandability.

In summary, the alignment between MSU-IIT and the Iligan City government's visions and missions is evident in their shared commitment to holistic development, sustainability, global competitiveness with local relevance, and transparent governance. MSU-IIT's role as an educational and research institution complements Iligan City's developmental goals, making the university an integral stakeholder in the city's progress.

H. Role of MSU-IIT in Local and Regional Development

MSU-IIT plays a pivotal role in local and regional development through various dimensions, leveraging its resources, expertise, and community connections to foster growth and progress. The university's contributions span across educational advancement, research and innovation, economic stimulation, and community engagement, each playing a crucial part in shaping the developmental trajectory of the local and regional landscape.

Educational Advancement

- **Workforce Development:** MSU-IIT significantly contributes to workforce development by providing high-quality education and training to students, equipping them with the skills and knowledge necessary to meet the demands of the local and regional labor markets.

- **Lifelong Learning:** The institution offers various lifelong learning opportunities, including continuing education and professional development programs, ensuring that the workforce remains competitive in a rapidly changing global economy.

Research and Innovation

- **Problem-Solving Research:** MSU-IIT conducts research focused on addressing local and regional challenges, such as environmental conservation, sustainable agriculture, health, and infrastructure development, translating academic inquiry into practical solutions.
- **Technology Transfer:** The university facilitates technology transfer and commercialization of research findings, encouraging innovation and the development of new products, services, and industries in the region.

Economic Stimulation

- **Entrepreneurship Support:** Through initiatives like business incubators and technology parks, MSU-IIT fosters entrepreneurship, supporting startups and small businesses, which are vital for economic diversification and job creation.
- **Industry Collaboration:** Collaborations with industry partners help align the university's research and academic programs with the needs of the local economy, enhancing innovation and productivity in key sectors.

Community Engagement

- **Extension Services:** MSU-IIT's extension services and community outreach programs address societal needs, providing expertise and resources to tackle issues such as education, health, and community development.
- **Cultural and Social Enrichment:** The university contributes to the cultural and social vitality of the region by hosting cultural events, public lectures, and forums, enriching the community's intellectual and cultural life.

Sustainability and Environmental Stewardship

- **Sustainable Practices:** MSU-IIT promotes sustainable practices through research, campus operations, and community engagement initiatives, contributing to environmental conservation and resilience in the face of climate change.
- **Policy Influence:** The university's research and expertise can inform policy-making, guiding sustainable development strategies and practices at local and regional levels.

Global Connectivity

- **International Partnerships:** By forging international partnerships, MSU-IIT brings global perspectives, resources, and opportunities to the local and regional context, facilitating knowledge exchange and global engagement.

In summary, MSU-IIT serves as a cornerstone of local and regional development by nurturing a skilled workforce, advancing research and innovation, stimulating economic growth, engaging with the community, promoting sustainability, and connecting the region to global networks. Through these multifaceted contributions, MSU-IIT not only enhances the educational and economic landscape but also plays a vital role in the overall development and well-being of the society it serves.

1.2 DEMOGRAPHIC PROFILE

A. MSU-IIT Population 2018-2023

The general population at MSU-IIT comprising academic staff, non-academic staff, and students, has demonstrated a consistent upward trend observed from 2018 to 2023. Using 2018 as a baseline for growth rate, notable increases have been observed, with male representation registering an 8.40% growth and female representation exhibiting a substantial 7.44% rise as illustrated in Table 1.12.

Table 1.12. Sex-Disaggregated MSU-IIT Population 2018-2023

YEAR	ACADEMIC STAFF		NON-ACADEMIC STAFF		STUDENTS		TOTAL		GROWTH RATE	
	M	F	M	F	M	F	M	F	Male	Female
2018	328	376	191	248	3,689	5,521	4,208	6,145		
2019	350	393	195	244	3,797	5,422	4,342	6,059	3.18%	-1.40%
2020	330	366	193	236	4,038	6,002	4,561	6,604	5.04%	8.99%
2021	375	431	189	231	4,754	7,442	5,318	8,104	16.60%	22.71%
2022	375	445	240	256	5,159	7,860	5,774	8,561	8.57%	5.64%
2023	391	439	285	254	5,596	7,978	6,272	8,671	8.62%	1.28%
AVERAGE									8.40%	7.44%

Table 1.13. Sex-Disaggregated Academic Staff 2018-2023

YEAR	TENURED		NON-TENURED		TOTAL		GROWTH RATE	
	M	F	M	F	M	F	Male	Female
2018	219	271	109	105	328	376		
2019	236	290	114	103	350	393	7.93%	3.46%
2020	228	273	102	93	330	366	-6.78%	-5.91%
2021	229	280	146	151	375	431	13.33%	18.03%
2022	224	280	151	165	375	445	0.27%	3.01%
2023	234	275	157	164	391	439	3.20%	-0.45%
AVERAGE								3.59%
AVERAGE								3.63%

Table 1.14. Sex-Disaggregated Non-Academic Staff 2018-2023

YEAR	REGULAR/ PERMANENT		CASUAL		JOB ORDER		TOTAL		GROWTH RATE	
	M	F	M	F	M	F	M	F	Male	Female
2018	101	148	65	77	25	23	191	248		
2019	99	143	66	77	30	24	195	244	2.09%	-1.61%
2020	114	164	34	30	45	42	193	236	-1.03%	-3.28%
2021	115	176	35	24	39	31	189	231	-2.07%	-2.12%
2022	114	178	31	17	95	61	240	256	26.98%	10.82%
2023	115	168	32	19	138	67	285	254	18.75%	-0.78%
AVERAGE									8.94%	0.61%

Table 1.15. Sex-Disaggregated Students Distribution from A.Y. 2018-2019 to A.Y. 2023-2024

ACADEMIC YEAR	UNDERGRAD UATE *		LABORATORY (IDS) **		GRADUATE *		TOTAL		GROWTH RATE	
	M	F	M	F	M	F	M	F	Male	Female
2018-2019	2,888	4,450	396	428	405	643	3,689	5,521		
2019-2020	2,894	4,188	429	502	474	732	3,797	5,422	2.93%	-1.79%
2020-2021	3,140	4,762	403	464	495	776	4,038	6,002	6.35%	10.70%
2021-2022	3,779	6,004	405	557	570	881	4,754	7,442	17.73%	23.99%
2022-2023	4,158	6,346	398	575	603	939	5,159	7,860	8.52%	5.62%
2023-2024	4,529	6,417	403	565	664	996	5,596	7,978	8.47%	1.50%
AVERAGE GROWTH	9.60%	8.14%	0.46%	6.25%	10.51%	9.21%				
TOTAL AVERAGE									8.80%	8.00%

* represents the average of two academic semesters of the Academic Year

** is not averaged

B. MSU-IIT Population Projections for the Next Ten (10) Years)

Following are the projections from 2024-2032 for academic staff, non-academic staff, students, program offerings, and microcredentials illustrated below.

Table 1.16. Academic Staff Projections 2024-2032

YEAR	TENURED		NON-TENURED		PROJECTIONS		TOTAL
	M	F	M	F	Male	Female	

2024	238	289	163	170	401	459	860
2025	247	299	169	176	416	475	891
2026	256	310	175	182	431	492	923
2027	265	321	181	189	446	510	956
2028	275	333	187	196	462	529	991
2029	285	345	194	203	479	548	1,027
2030	295	358	201	210	496	568	1,064
2031	306	371	208	218	514	589	1,103
2032	317	384	215	226	532	610	1,142

Table 1.16 shows the academic staff projections from 2024 to 2032 disaggregated by tenure status and sex, using the average growth of 3.59% for males and 3.63% for females.

Table 1.17. Non-Academic Staff Projections 2024-2032

YEAR	REGULAR/ PERMANENT		CASUAL		JOB ORDER		PROJECTIONS		TOTAL
	M	F	M	F	M	F	Male	Female	
2024	125	169	35	19	150	68	310	256	566
2025	136	170	38	19	163	69	337	258	595
2026	148	171	41	19	178	70	367	260	627
2027	161	172	45	19	194	71	400	262	662
2028	175	173	49	19	211	72	435	264	699
2029	191	174	53	19	230	73	474	266	740
2030	208	175	58	19	251	74	517	268	785
2031	227	176	63	19	273	75	563	270	833
2032	247	177	69	19	297	76	613	272	885

Table 1.17 shows the non-academic staff projections from 2024 to 2032 disaggregated by appointment status and sex, using the average growth of 8.94% for male and 0.61 for females.

Table 1.18. Undergraduate and Graduate Student Population Projections 2024-2032

ACADEMIC YEAR	UNDERGRADUATE		GRADUATE		PROJECTIONS		TOTAL
	M	F	M	F	Male	Female	

2024-2025	4,964	6,940	734	1,088	5,698	8,028	13,726
2025-2026	5,441	7,505	811	1,088	6,252	8,693	14,945
2026-2027	5,963	8,116	896	1,297	6,859	9,413	16,272
2027-2028	6,536	8,777	990	1,416	7,526	10,193	17,719
2028-2029	7,164	9,492	1,094	1,546	8,258	11,038	19,296
2029-2030	7,852	10,265	1,209	1,688	9,061	11,953	21,014
2030-2031	8,606	11,101	1,336	1,843	9,942	12,944	22,886
2031-2032	9,432	12,005	1,476	2,013	10,908	14,018	24,926
2032-2033	10,338	12,983	1,631	2,198	11,969	15,181	27,150

Table 1.18 illustrates the sex-disaggregated student projections for the undergraduate and graduate population from 2024 to 2032, using the respective average growth rates of 9.60% for undergraduate male, 8.14% for undergraduate female, 10.51% graduate male, and 9.21% graduate female.

Table 1.19. Laboratory (IDS) Student Population Projections 2024-2032

ACADEMIC YEAR	LABORATORY (IDS)
2024-2025	995
2025-2026	850
2026-2027	821
2027-2028	784
2028-2029	752
2029-2030	752
2030-2031	752
2031-2032	752
2032-2033	752

The Laboratory (IDS) population is expected to decrease, maintaining a total of 752 students from A.Y. 2028-2029 throughout, in compliance with CMO Nos. 32 and 33, Series of 2015 and 2016.

Table 1.20. Students Projections 2024-2032 by Undergraduate Programs

COLLEGE/ PROGRAMS	2024	2025	2026	2027	2028	2029	2030	2031	2032
College of Arts and Social Sciences									
Bachelor of Arts in English Language Studies	256	278	302	328	356	386	419	454	492

Bachelor of Arts in Literary and Cultural Studies	180	196	213	232	252	274	297	323	350
Batsilyer ng Sining sa Filipino	238	259	281	305	331	360	390	423	459
Batsilyer ng Sining Sa Panitikan	233	253	275	299	324	352	382	414	449
Bachelor of Arts in History	267	291	316	343	372	404	438	476	516
Bachelor of Science in Philosophy (Major in Applied Ethics)	264	287	311	338	367	399	433	470	510
Bachelor of Arts in Political Science	156	170	185	202	219	238	259	281	305
Bachelor of Arts in Psychology	158	171	186	202	219	238	258	280	304
Bachelor of Science in Psychology	184	200	218	237	258	280	304	331	359
Bachelor of Arts in Sociology	259	282	306	332	361	392	426	462	501
Sub-Total	2,195	2,387	2,593	2,818	3,059	3,323	3,606	3,914	4,245

College of Computer Studies

Bachelor of Science in Information Systems	138	151	165	180	196	214	233	254	277
Bachelor of Science in Information Technology	351	382	415	451	490	532	578	628	682
Bachelor of Science in Computer Applications	330	359	390	424	461	501	544	591	643
Bachelor of Science in Computer Science	179	195	213	232	253	276	300	327	356
Sub-Total	998	1,087	1,183	1,287	1,400	1,523	1,655	1,800	1,958

College of Economics, Business, and Accountancy

Bachelor of Science in Accountancy	295	321	348	378	410	445	483	524	568
Bachelor of Science in Business Administration (Business Economics)	165	180	195	212	230	250	272	295	320
Bachelor of Science in Economics	174	189	205	222	241	261	284	308	334
Bachelor of Science in Hospitality Management	335	363	394	427	463	502	545	591	641
Bachelor of Science in Entrepreneurship	167	181	197	214	233	254	276	300	326
Sub-Total	1,136	1,234	1,339	1,453	1,577	1,712	1,860	2,018	2,189

College of Education

Bachelor of Physical Education	265	110	178	288	120	193	313	131	209
Bachelor of Elementary Education (Language Education)	177	33	159	192	36	172	208	40	186
Bachelor of Secondary Education (Filipino)	177	39	154	193	43	167	210	47	181

Bachelor of Elementary Education (Science and Mathematics)	183	36	162	198	40	175	215	44	189
Bachelor of Secondary Education (Biology)	166	45	135	180	49	146	195	54	158
Bachelor of Secondary Education (Chemistry)	155	35	133	168	39	144	183	43	156
Bachelor of Secondary Education (Mathematics)	163	60	117	177	66	127	193	72	138
Bachelor of Secondary Education (Physics)	173	61	127	188	67	138	205	73	150
Bachelor of Technology and Livelihood Education -Home Economics	172	22	165	187	24	179	203	27	194
Bachelor of Technology and Livelihood Education-Industrial Arts	163	78	100	178	85	108	193	93	117
Bachelor of Technical-Vocational Teacher Education Drafting Technology	177	98	94	192	107	102	209	117	111
Sub-Total	1,971	617	1,524	2,141	676	1,651	2,327	741	1,789

College of Engineering

Bachelor of Engineering Technology - Civil Engineering Technology	163	178	193	210	229	249	271	294	319
Bachelor of Science in Civil Engineering	304	331	360	392	426	463	503	546	593
Bachelor of Science in Ceramic Engineering	175	190	207	226	246	268	292	318	346
Bachelor of Science in Mining Engineering.	167	182	199	217	237	258	281	306	333
Bachelor of Science in Metallurgical Engineering	181	198	215	234	255	277	301	327	355
Bachelor of Engineering Technology - Chemical Engineering Technology	151	164	179	194	211	229	249	270	293
Bachelor of Science in Chemical Engineering	132	144	157	172	188	204	222	242	263
Bachelor of Science in Environmental Engineering	166	181	197	214	233	254	277	302	328
Bachelor of Science in Computer Engineering	158	173	189	206	225	245	267	291	317
Bachelor of Science in Industrial Automation and Mechatronics	164	179	195	213	232	253	276	301	328
Bachelor of Engineering Technology - Electronics Engineering Technology	151	165	180	196	214	233	254	276	300
Bachelor of Science in Electronics Engineering	297	324	353	384	418	454	494	537	584
Bachelor of Engineering	168	183	200	219	239	260	283	309	336

Technology - Electrical Engineering Technology									
Bachelor of Science in Electrical Engineering	232	253	276	301	328	357	389	423	461
Bachelor of Science in Mechanical Engineering	178	195	213	232	253	275	300	326	355
Bachelor of Engineering Technology - Mechanical Engineering Technology	154	168	184	201	219	238	260	283	309
Bachelor of Engineering Technology - Metallurgy and Materials Engineering Technology	200	218	238	259	281	305	332	361	392
Sub-Total	3,141	3,426	3,735	4,070	4,434	4,822	5,251	5,712	6,212

College of Science and Mathematics

Bachelor of Science in Biology(Animal Biology)	208	227	247	268	291	316	344	374	406
Bachelor of Science in Chemistry	150	163	178	194	211	229	249	271	294
Bachelor of Science in Mathematics	128	139	152	165	180	196	213	232	253
Bachelor of Science in Statistics	150	163	178	193	210	228	248	269	292
Bachelor of Science in Marine Biology	167	182	198	215	234	254	276	300	326
Bachelor of Science in Physics	221	241	262	284	308	335	364	395	429
Special Science Program	2	3	4	5	6	7	8	9	10
Sub-Total	1,026	1,118	1,219	1,324	1,440	1,565	1,702	1,850	2,010

College of Health Sciences

Bachelor of Science in Nursing	478	519	563	610	661	716	776	840	910
Sub-Total	478	519	563	610	661	716	776	840	910
GRAND TOTAL	10,945	10,388	12,156	13,703	13,247	15,312	17,177	16,875	19,313

Table 1.21. Students Projections 2024-2032 by Graduate Programs

PROGRAMS	2024	2025	2026	2027	2028	2029	2030	2031	2032
College of Arts and Social Studies									
Master of Arts in English Language Studies	20	23	26	29	32	35	39	43	47
Doctor in Philosophy in English Language Studies	24	27	30	33	36	39	44	49	54
Master of Arts in Filipino	21	24	27	30	33	36	40	44	48
Doctor of Philosophy in Filipino	22	25	28	31	34	38	42	46	50

Master of Arts in History (Major in Philippine History)	20	23	26	29	32	35	39	43	48
Master of Arts in Political Science	11	13	15	17	19	21	23	26	29
Master of Public Administration	39	43	47	52	58	64	70	76	83
Doctor of Philosophy in Public Policy and Governance	9	11	13	15	17	19	21	23	26
Master of Arts in Sociology	42	46	50	56	62	68	74	82	90
Doctor of Philosophy in Sociology	20	23	26	29	32	35	39	43	48
Sub-Total	228	258	288	321	355	390	431	475	523

College of Economics, Business, and Accountancy

Doctor of Business Administration	11	13	15	17	19	21	23	26	29
Master of Business Administration	54	59	65	71	78	86	94	102	112
Sub-Total	65	72	80	88	97	107	117	128	141

College of Computer Studies

Master of Science in Computer Applications	32	35	39	43	48	53	59	65	71
Master of Science in Computer Science	12	14	16	18	20	23	26	29	32
Master of Science in Information Systems	4	5	6	7	8	9	10	11	12
Master of Science in Information Technology	15	17	19	21	23	26	29	33	37
Sub-Total	63	71	80	89	99	111	124	138	152

College of Education

Master of Arts in Education (Guidance And Counseling)	20	23	26	29	32	35	39	43	47
Master of Arts in Education (Reading)	23	26	29	32	36	40	44	48	53
Master of Arts in Education in Technical-Vocational and Livelihood Education (Hte)	47	52	57	62	68	74	81	88	97
Master of Arts in Education in Technical-Vocational and Livelihood Education (lct)	15	17	19	21	23	26	29	33	37
Master of Arts in Education in Technical-Vocational and Livelihood Education (lte)	27	31	35	39	43	47	52	57	63
Master of Science Education	11	13	15	17	19	21	23	26	29
Doctor of Philosophy in Science Education	3	4	5	6	7	8	9	10	11
Sub-Total	146	166	186	206	228	251	277	305	337

College of Engineering

Master of Science in Civil Engineering	42	46	51	56	61	67	74	82	90
Master of Science in Electronics Engineering	4	6	8	10	12	14	16	18	20
Master of Science in Electrical Engineering	24	27	30	33	37	41	45	50	56
Doctor of Engineering	22	25	28	31	35	39	43	48	53
Master of Science in Mechanical Engineering	12	14	16	18	20	22	24	27	30
Master of Science in Materials Science and Engineering	25	28	31	34	38	43	48	53	58
Sub-Total	129	146	164	182	203	226	250	278	307

College of Science and Mathematics

Master of Science in Marine Biology	60	66	73	80	87	96	105	114	125
Doctor of Philosophy in Marine Science	7	9	11	13	15	17	19	21	23
Master of Science in Biology	88	96	105	115	125	136	149	162	177
Master of Science in Environmental Science	122	133	145	158	173	188	205	223	243
Doctor of Philosophy in Biology	67	73	80	88	96	105	115	126	137
Doctor of Philosophy in Environmental Science	9	11	13	15	17	19	21	23	25
Master of Science in Chemistry	48	53	59	65	71	78	86	94	103
Doctor of Philosophy in Chemistry	10	12	14	16	18	20	22	25	28
Master of Science in Mathematics	46	51	56	62	68	75	82	90	99
Master of Science in Statistics	39	43	47	52	58	64	70	77	85
Doctor of Philosophy in Mathematics	44	49	54	59	65	72	79	86	95
Doctor of Philosophy in Statistics	12	14	16	18	21	24	27	30	33
Master of Physics	4	6	8	10	12	14	16	18	20
Master of Science in Physics	36	40	44	48	54	60	66	73	80
Doctor of Philosophy in Physics	30	34	38	42	46	51	56	62	68
Sub-Total	622	690	763	841	926	1019	1118	1224	1341

School of Interdisciplinary Studies

Master in Culture and Arts Studies	11	13	15	17	19	21	23	25	29
Master in Data Science	19	22	25	28	31	34	37	42	47
Doctor in Sustainable Development Studies	8	10	12	14	16	18	20	22	25
Master in Sustainable Development Studies	2	3	4	5	6	7	8	9	10

Master in Sustainable Development Studies (Major in Community Development)	5	7	9	11	13	15	17	19	21
Master in Sustainable Development Studies (Major in Economic Development)	3	4	5	6	7	8	9	10	11
Master in Sustainable Development Studies (Major in Peace and Conflict Transformation)	2	3	4	5	6	7	8	9	10
Master in Sustainable Development Studies (Major in Environmental and Engineering)	8	10	12	14	16	18	20	22	25
Master of Science in Sustainable Development Studies (Major In Community Development)	6	8	10	12	14	16	18	20	22
Master of Science in Sustainable Development Studies (Major in Economic Development)	8	10	12	14	16	18	20	22	25
Master of Science in Sustainable Development Studies (Major in Environmental Engineering)	2	3	4	5	6	7	8	9	10
Master of Science in Sustainable Development Studies (Major in Environmental Education)	8	10	12	14	16	18	20	22	24
Master of Science in Sustainable Development Studies (Major in Peace and Conflict Transformation)	8	10	12	14	16	18	20	22	24
Master of Science in Sustainable Development Studies (Major in Rural and Urban Planning)	7	9	11	13	15	17	19	21	23
Doctor of Philosophy in Sustainable Development Studies (Major in Community Development)	2	3	4	5	6	7	8	9	10
Doctor of Philosophy in Sustainable Development Studies (Major in Economic Development)	5	7	9	11	13	15	17	19	21
Doctor of Philosophy in Sustainable Development Studies (Major in Peace And Conflict Transformation)	6	8	10	12	14	16	18	20	22
Doctor of Philosophy in Sustainable Development Studies (Major in Resource Management)	7	9	11	13	15	17	19	21	23

Doctor of Philosophy in Sustainable Development Studies (Major in Rural And Urban Planning)	117	149	181	213	245	277	309	343	382
Subtotal	129	149	181	213	245	277	309	343	382
GRAND TOTAL	1,382	1,552	1,742	1,940	2,153	2,381	2,626	2,891	3,183

The University aims to double the graduate programs by 2032, consequently doubling the number of graduate students.

Students Projections 2025-2032 for Microcredentials

Mindanao State University - Iligan Institute of Technology (MSU-IIT) is embracing the innovative approach of microcredentialing as part of its educational policy and strategic direction. "Microcredentials are short, specialized, focused, and flexible educational programs that provide targeted knowledge and skills in specific areas of expertise. These programs may include but are not limited to certificates, badges, and other digital credentials" (BOR Res. No. 2-R, s. 2024, Article 5). This initiative reflects the university's commitment to providing flexible, relevant, and contemporary education pathways that align with global trends and local needs. Microcredentialing at MSU-IIT is designed to offer learners personalized, competency-based, and industry-relevant educational opportunities that complement traditional degree programs.

With the Board of Regents' approval of the Microcredentialing Policy, the University has started designing and producing specific courses and has identified courses that will be queued for development. The list of these courses and the projected student enrollees from 2023-2032 is shown in Table 1.22.

Table 1.22. Student Projections 2024-2032 by Microcredentials

MICROCREDS	2025	2026	2027	2028	2029	2030	2031	2032
Applied Statistics for Management Research	10	11	12	13	15	18	20	22
Organization Theory	20	21	22	24	27	30	33	37
Marketing Management	20	21	22	24	27	30	33	37
Corporate Social Responsibility, Sustainability, and Good Governance	20	21	22	24	27	30	33	37
Financial Management	20	21	22	24	27	30	33	37
Human Resource Management	30	32	34	36	40	44	49	54
Strategic Management	30	32	34	36	40	44	49	54
Total Quality Management		11	12	13	15	18	20	22
Supply Chain Management		11	12	13	15	18	20	22
Leadership Foundations: Mastering the Management Functions	20	21	22	24	27	30	33	37
Executive Leadership for Academic Excellence	20	21	22	24	27	30	33	37
Change Management	20	21	22	24	27	30	33	37

Managing Performance	20	21	22	24	27	30	33	37
Strategic Planning	20	21	22	24	27	30	33	37
Accounting for Non-accountants	30	32	34	36	40	44	49	54
Mastering the Business Plan	30	32	34	36	40	44	49	54
Introduction to Digital Marketing	30	32	34	36	40	44	49	54
Introduction to Business Analytics		16	17	18	20	22	25	28
Managing Conflict in the Workplace		16	17	18	20	22	25	28
Leading Teams	30	32	34	36	40	44	49	54
Operations Management		16	17	18	20	22	25	28
Strategic Communications		16	17	18	20	22	25	28
Coaching and Mentoring		16	17	18	20	22	25	28
Policy Writing	10	11	12	13	15	18	20	22
Qualitative Approaches in Research		16	17	18	20	22	25	28
Authentic Assessments	20	21	22	24	27	30	33	37
Competition Strategies in Business		16	17	18	20	22	25	28
Operations Management with Data		16	17	18	20	22	25	28
Digital Marketing Tools		21	22	24	27	30	33	37
Introduction to eCommerce	20	21	22	24	27	30	33	37
Business Taxation in the Philippines	20	21	22	24	27	30	33	37

1.3 GEOGRAPHIC LOCATION OF MSU-IIT

A. Brief Profile

MSU-IIT is situated in Iligan City, Lanao del Norte province in Northern Mindanao, Philippines. Some key facts about the location:

Iligan City: Known as the "City of Majestic Waterfalls", Iligan has over 20 waterfalls within its area, the most famous being Maria Cristina Falls which provides hydroelectric power to the region 7 As of the 2020 census, Iligan City has a population of 308,046 people spread across 44 barangays 8 It is a highly urbanized city and a melting pot of different cultures including Cebuano, Maranao, Higaonon, and others 8 Major industries include steel, cement, flour, and hydroelectric power generation Accessible by land, air (via Laguindingan Airport in nearby Cagayan de Oro), and sea.

Lanao del Norte province: Lanao del Norte has a total land area of 3,346.57 square kilometers 5 As of the 2020 census, the province has a population of 722,902. The province is known for its rich agricultural lands suitable for crops like rice, corn, coconuts, abaca, coffee, and more.

In sum, MSU-IIT benefits from its strategic location in the progressive, culturally-diverse city of Iligan, and the resource-rich province of Lanao del Norte in Northern Mindanao.

B. Description and Political Boundaries

Mindanao State University - Iligan Institute of Technology (MSU-IIT) main campus is located in Tibanga and Santiago, Iligan City, which is part of the province of Lanao del Norte, Region X (Northern Mindanao) in the Philippines. Lanao del Norte province is in the northern part of Mindanao and is known for its diverse landscapes, including mountains, plateaus, and coastal areas. It is bordered by Iligan Bay to the west and Lanao del Sur to the east (see Figure 1.3). Its economy is driven by agriculture, fisheries, and manufacturing. Iligan City is a highly urbanized and independent component city within the province, known as the industrial hub. Referred to as the "City of Majestic Waterfalls" due to its numerous waterfalls, including Maria Cristina Falls. The city is an independent component city, meaning it is not under the jurisdiction of the province but operates as a separate and independent political entity. According to the 2020 census, the population of Iligan City is 363,115 people. The city covers a land area of 813.37 square kilometers, which is equivalent to 314.04 square miles.

The main campus of MSU-IIT can be accessed along the National Highway of Tibanga, in Iligan City, which can be easily accessible by bus for students and visitors from different parts of Mindanao. Its campus annex which is located in Hinaplanon, Iligan City is conveniently located 988 meters from Iligan City Integrated Bus Terminal.

The two campuses are located southwest of Laguindingan International Airport and Cagayan de Oro City. It is approximately 90 kilometers from Tubod, the capital of the province of Lanao del Norte, and roughly 800 kilometers from Metro Manila, Philippines. With its prime location and excellent transportation options.

Further, Iligan City stands as a prominent urban center in Northern Mindanao, strategically situated between the municipalities of Lugait and Manticao to the north, and bordered by the municipalities of Baloi, Linamon, and Matungao to the south. To the west lies Iligan Bay, facilitating the city's access to the shipping industry. Conversely, the eastern expanse is characterized by the municipalities of Tagoloan and Kapai, where a level-cultivated coastal area transitions into steep volcanic hills and mountains renowned for their waterfalls and cold springs. The city spans the geographic coordinates of approximately 90°7'621.00 to 91°27'43.00 north latitude and 63°59'02.00 to 63°9'21.00 east longitude.

C. Geographical Description and Cadastral Survey of MSU-IIT

At present, MSU-IIT has an aggregate land holding of 15.1196 hectares across different sites including Tibanga, Hinaplanon, and Fuentes in Iligan City (see Figure 1.4). With these land holdings, only three sites have permanent and existing structures. The land holdings in Brgy. Tibanga and Brgy. Santiago is where the main campus was located (see Figure 1.5) and the campus annex in Brgy. Hinaplanon (see Figure 1.6). Other land holdings like in Brgy. Fuentes, Iligan City (see Figure 1.7) has yet to establish any existing structures.

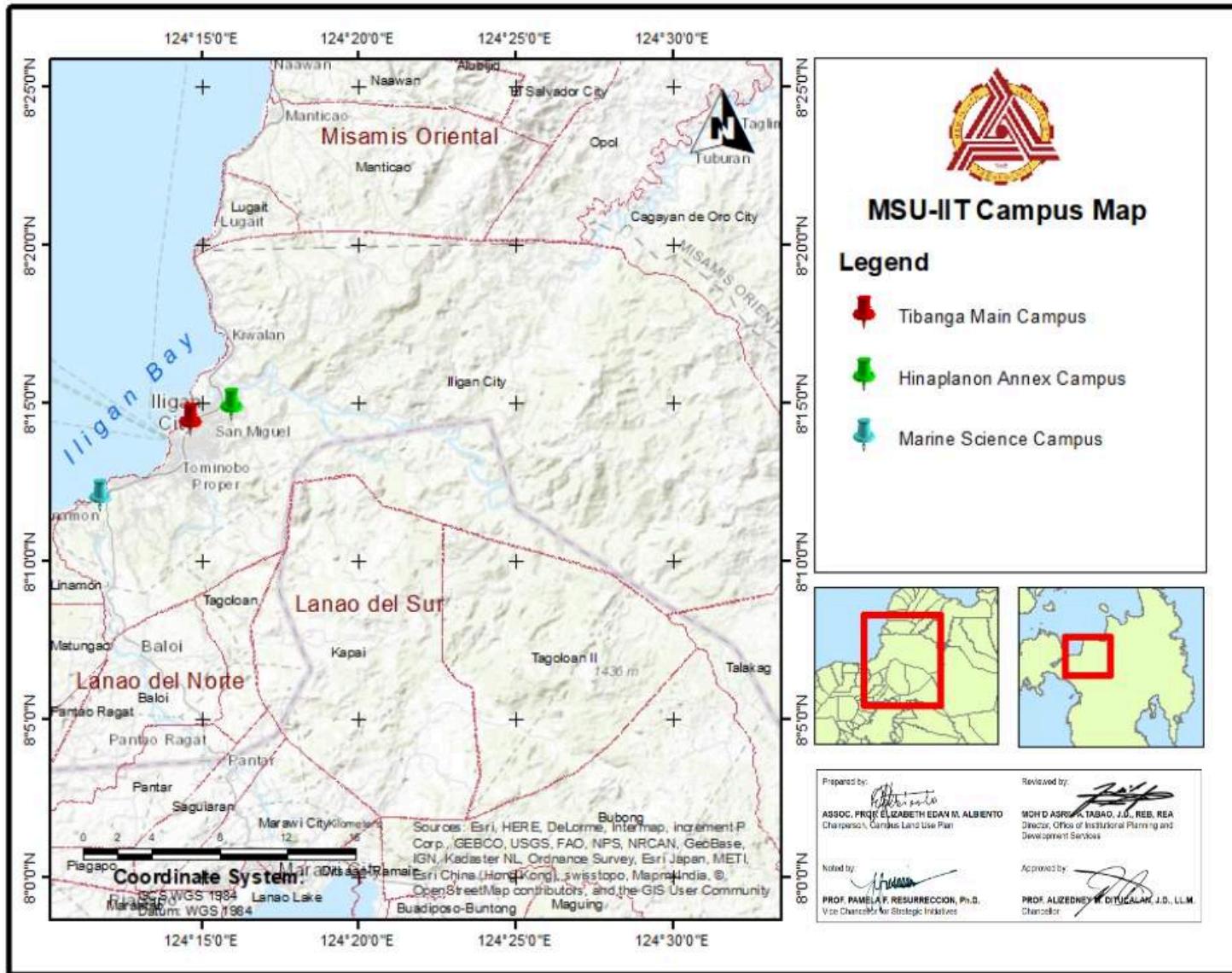


Figure 1.3. MSU-IIT Campus Map

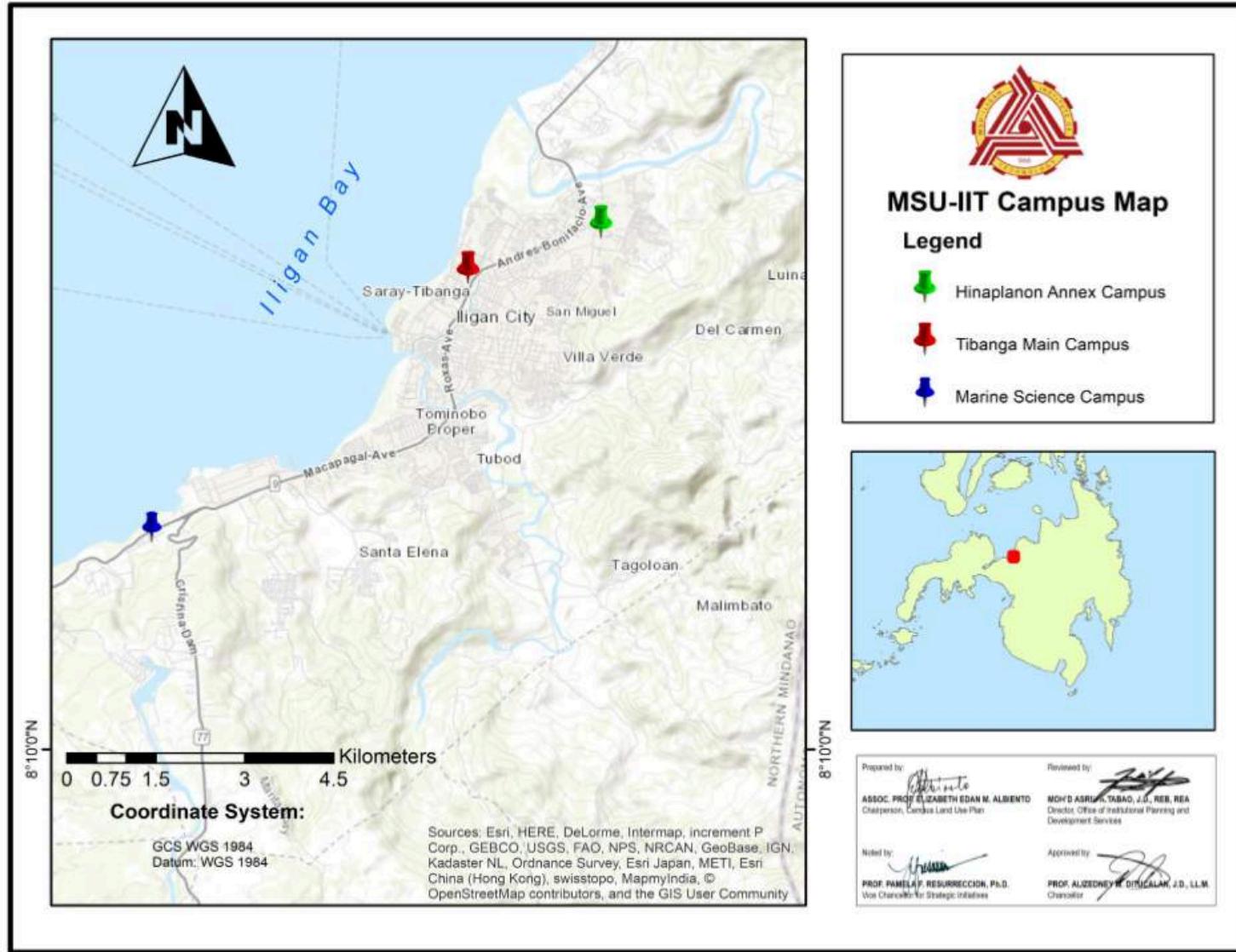


Figure 1.4. MSU-IIT Campus Land Holding Map

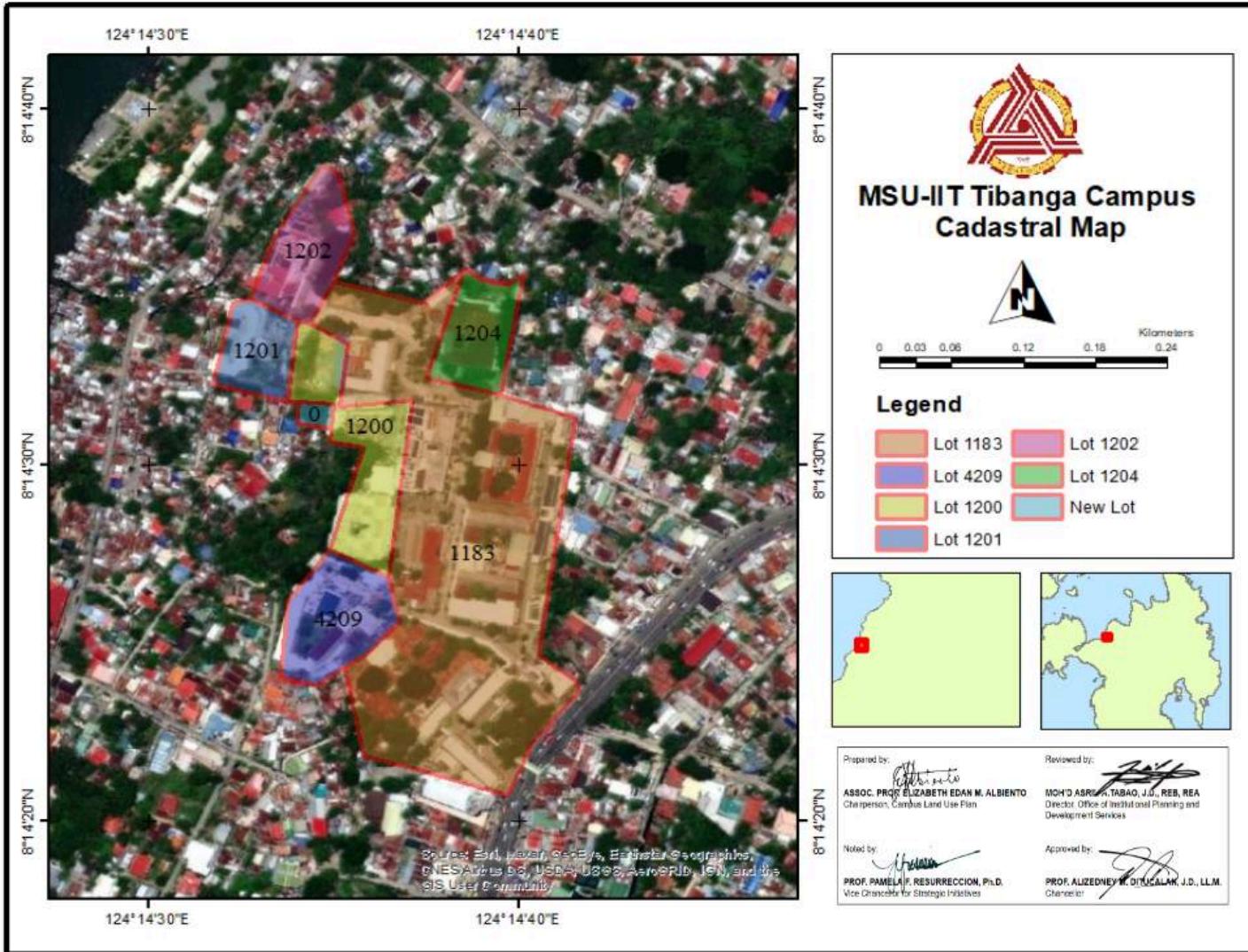


Figure 1.5. MSU-IIT Tibanga Main Campus Cadastral Map

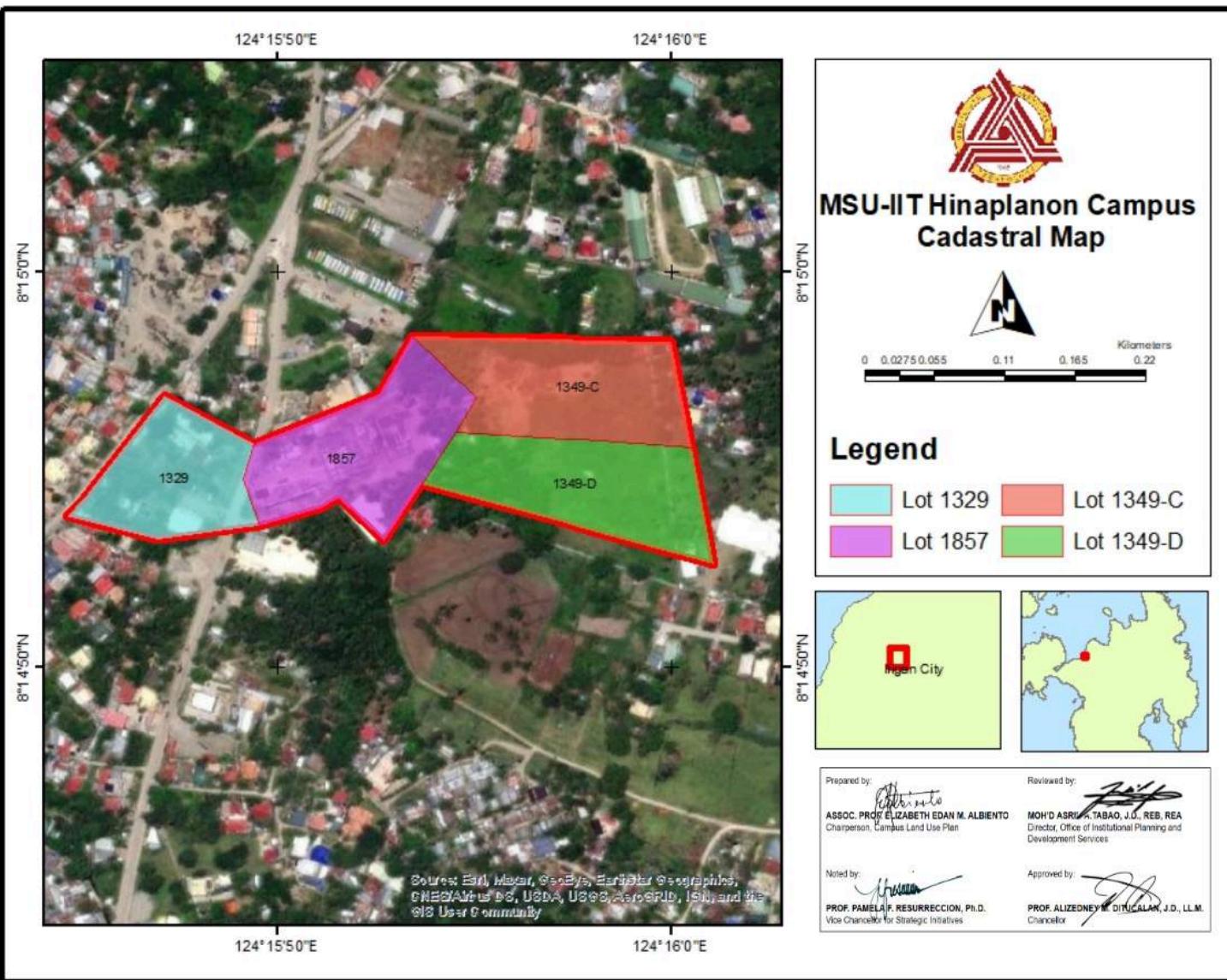


Figure 1.6. MSU-IIT Hinaplanon Campus Annex Cadastral Map

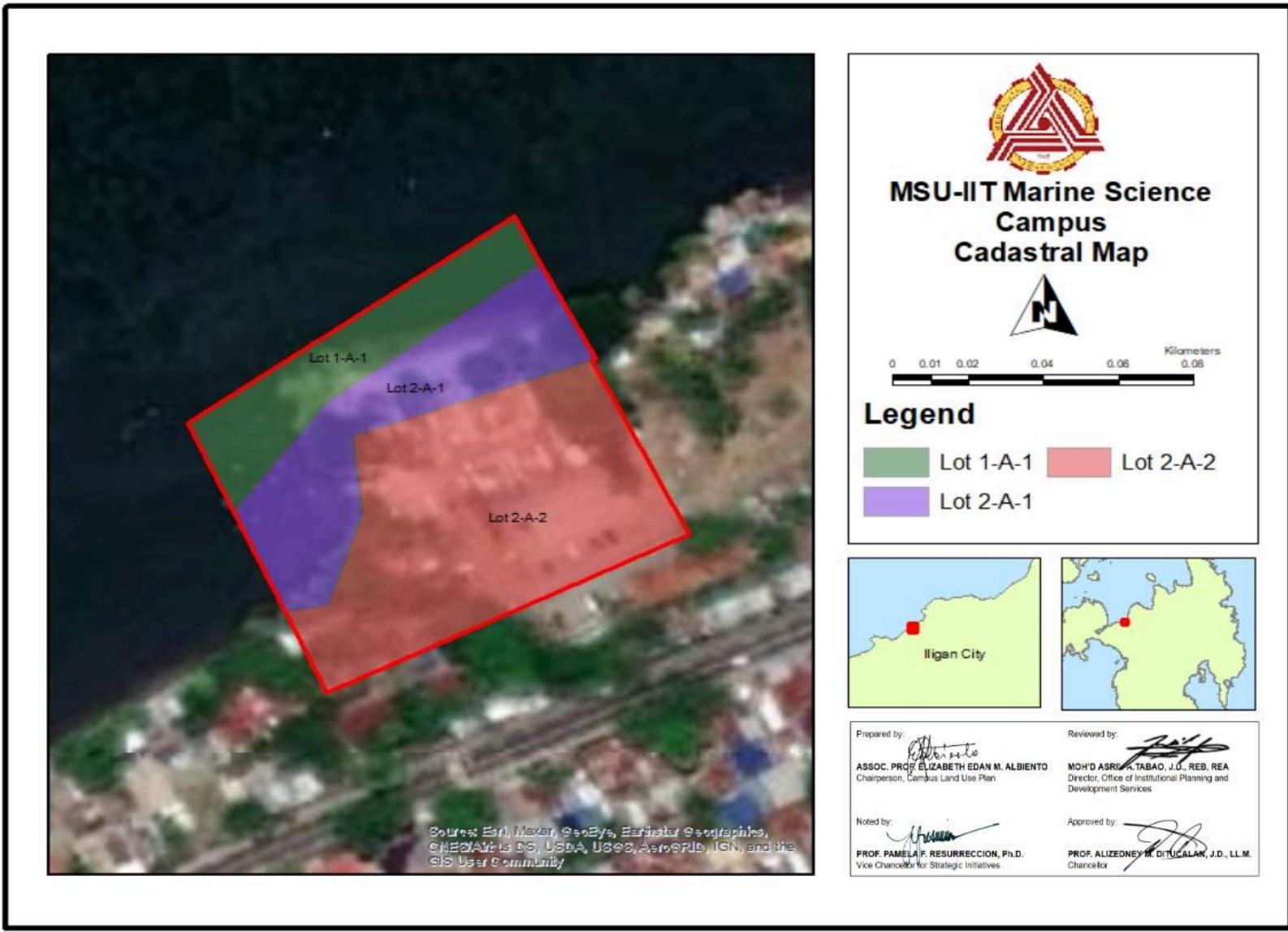


Figure 1.7. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Cadastral Map

D. Cadastral Survey of MSU-IIT's Property with Detailed Geographical Descriptions for Natural and Man-made Hazards for Climate Change Issues

Tibanga Main Campus

The entirety of the Tibanga Main campus, encompassing Lot 1183, Lot 4209, Lot 1200, Lot 1201, Lot 1202, and Lot 1204, was found to face minimal risk from floods, as indicated by low flood hazard levels (refer to Figure 1.8). This favorable condition can be attributed to the campus's strategic location, being situated more than one kilometer away from the closest river, namely the Mandulog River.

Additionally, only a specific section of the campus is exposed to low landslide susceptibility, as illustrated in Figure 1.9. This can be attributed to the campus's positioning on a slope ranging from 0-18%, as demonstrated in Figure 1.10.

It is crucial to note, however, that the campus is identified as being susceptible to liquefaction, as highlighted in Figure 1.11, based on assessments by Philvoqs. This vulnerability is associated with the campus's proximity, approximately 12.39 kilometers, to the Lanao Fault System, as depicted in Figure 1.12. This information underscores the importance of awareness and preparedness measures for potential seismic events.

Hinaplanon Annex Campus

The Hinaplanon Annex campus, comprising Lot 1329, Lot 1857, Lot 1349-C, and Lot 1349-D, confronts a prevalent exposure to both moderate and high flood hazards, as elucidated in Figure 1.13. This heightened risk is primarily attributed to the annex campus's close proximity, a mere 700 meters, to the Mandulog River.

Conversely, the campus annex demonstrates a reassuring absence of susceptibility to landslides, as per the data provided by MGB (refer to Figure 1.13). This favorable condition is particularly significant for the safety and stability of the campus terrain as the campus annex was positioned on a slope ranging from 0-18%, as demonstrated in Figure 1.15.

However, it is noteworthy that the campus annex is identified as prone to liquefaction, as depicted in Figure 1.16. This vulnerability is associated with the campus's proximity, merely 11.81 kilometers, to the Lanao Fault System, as illustrated in Figure 1.17. This information underscores the imperative need for preparedness and mitigation measures to address potential liquefaction risks in the vicinity of the annex campus.

Marine Science Complex

Presently, the Marine Science complex, encompassing Lot 2-A-1 (designated as Dryland) and Lots 1-A-1 and 2-A-2 (both designated as Wetland), exhibits a commendable resilience to flood hazards, as evidenced by the findings presented in Figure 1.18. This robust condition contributes to the overall stability and suitability of the campus, fostering a secure environment.

Furthermore, the susceptibility to landslides is notably low for the campus, as illustrated in the mapping provided in Figure 1.19. The topographical analysis suggests a favorable terrain, minimizing the risk of landslides within the campus premises. The complex was positioned on a slope ranging from 0-18%, as demonstrated in Figure 1.20.

Conversely, the campus annex displays a partial vulnerability to liquefaction, as indicated in Figure 1.21. This susceptibility is linked to the campus's proximity, situated just 8.89 kilometers away from the Lanao Fault System, as detailed in Figure 1.22. Recognizing this susceptibility, it becomes imperative to implement precautionary measures and preparedness strategies to mitigate potential liquefaction risks in the vicinity of the Marine Science campus.

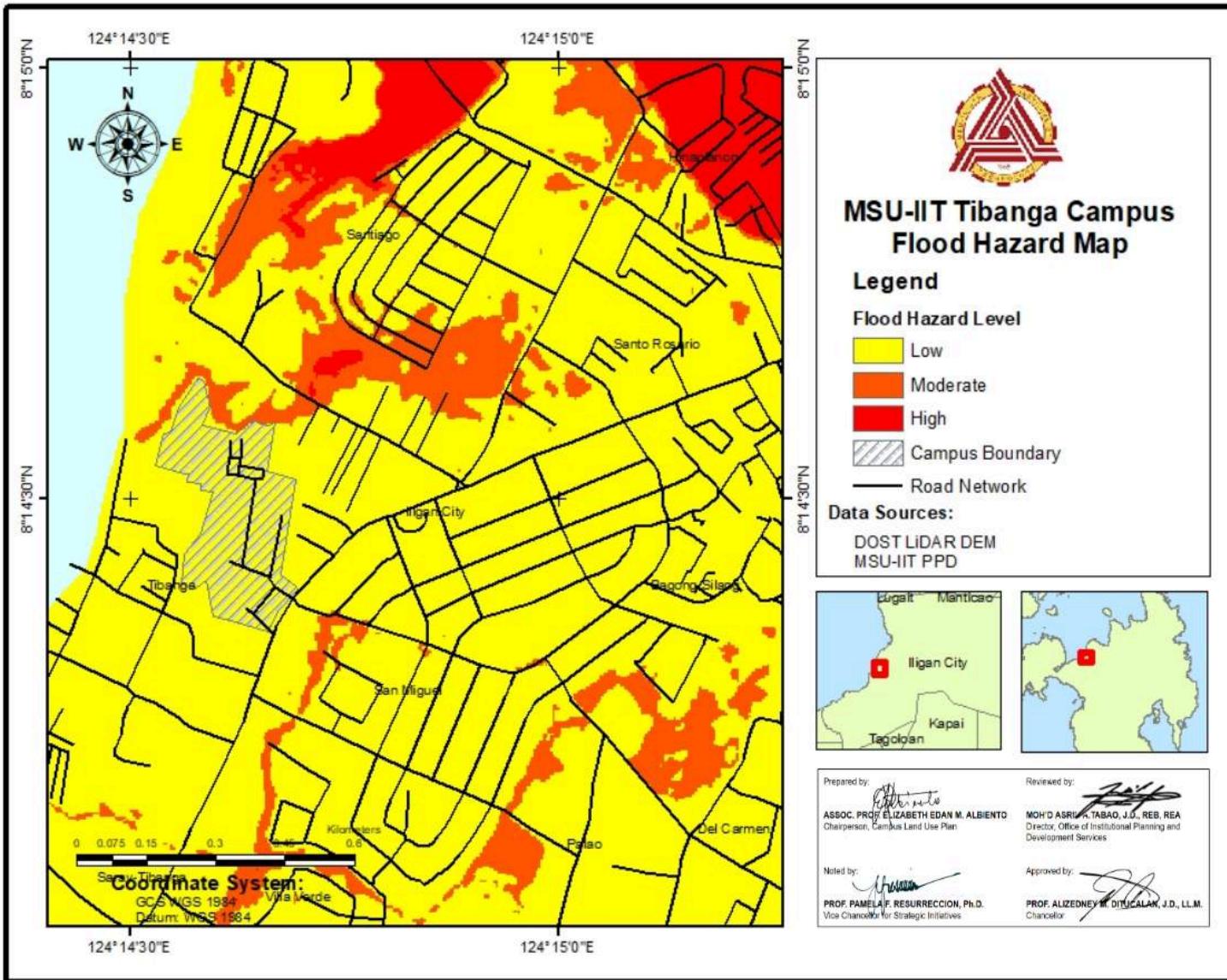


Figure 1.8. MSU-IIT Tibanga Main Campus Flood Hazard Map

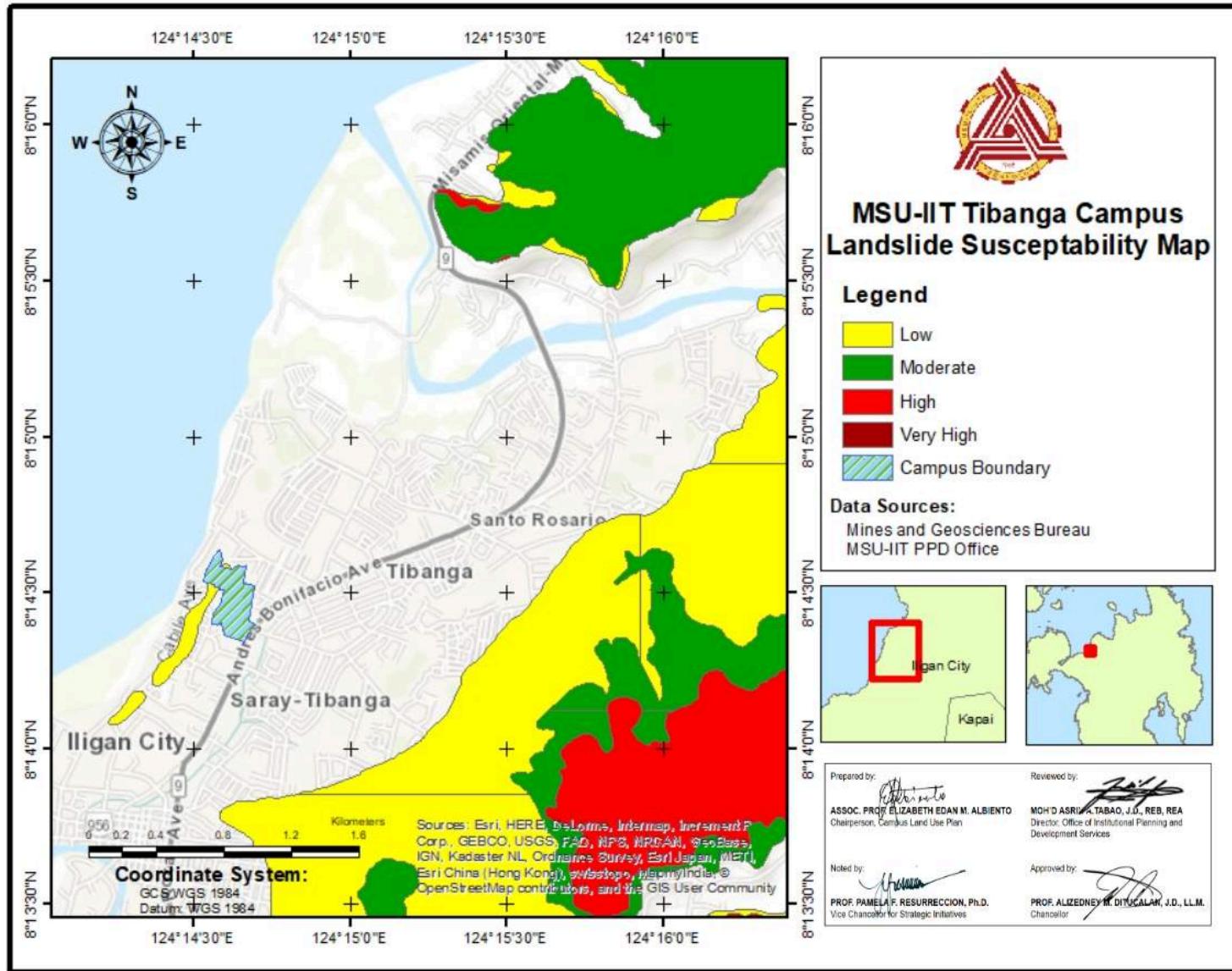


Figure 1.9. MSU-IIT Tibanga Main Campus Landslide Susceptibility Map

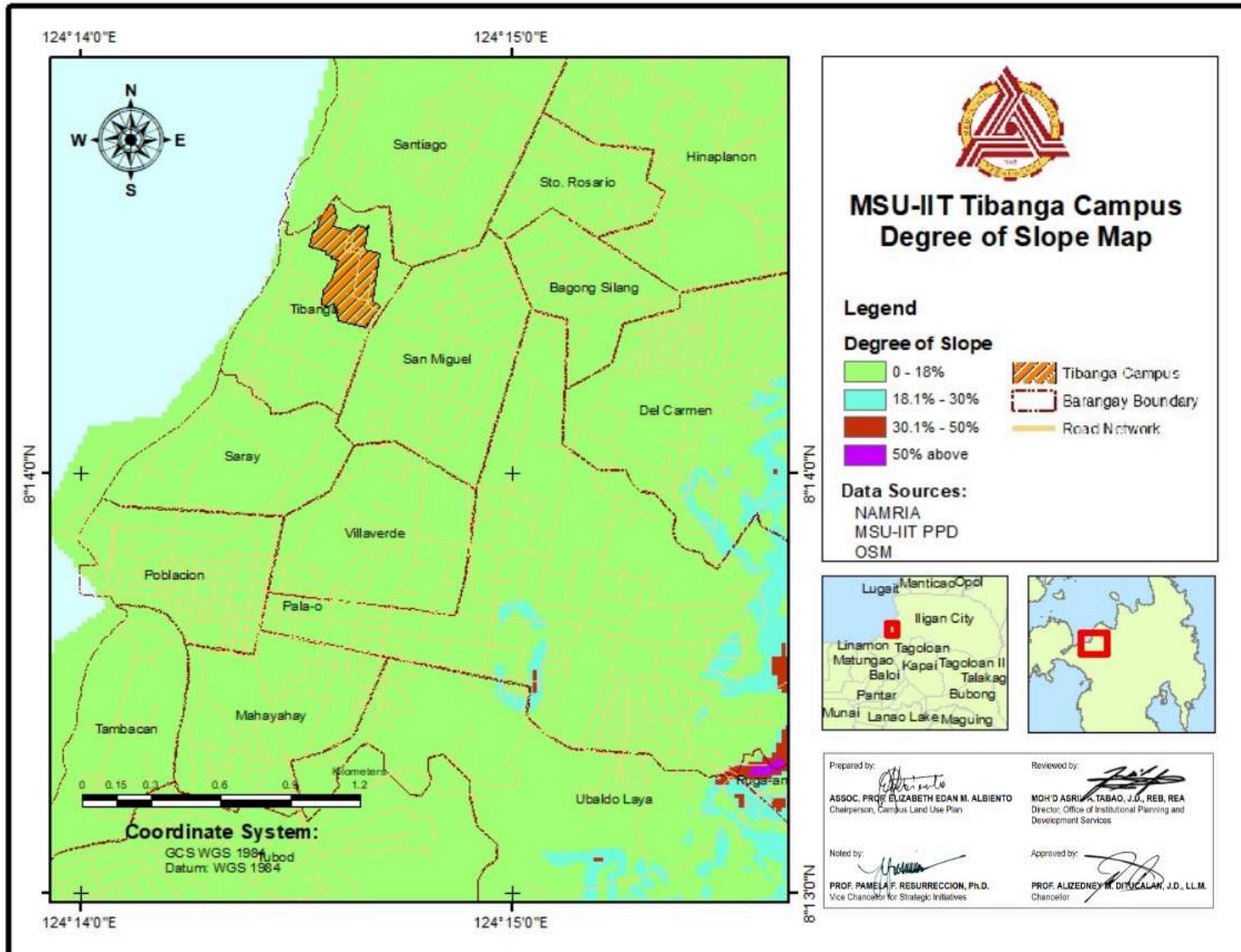


Figure 1.10. MSU-IIT Tibanga Main Campus Degree of Slope Map

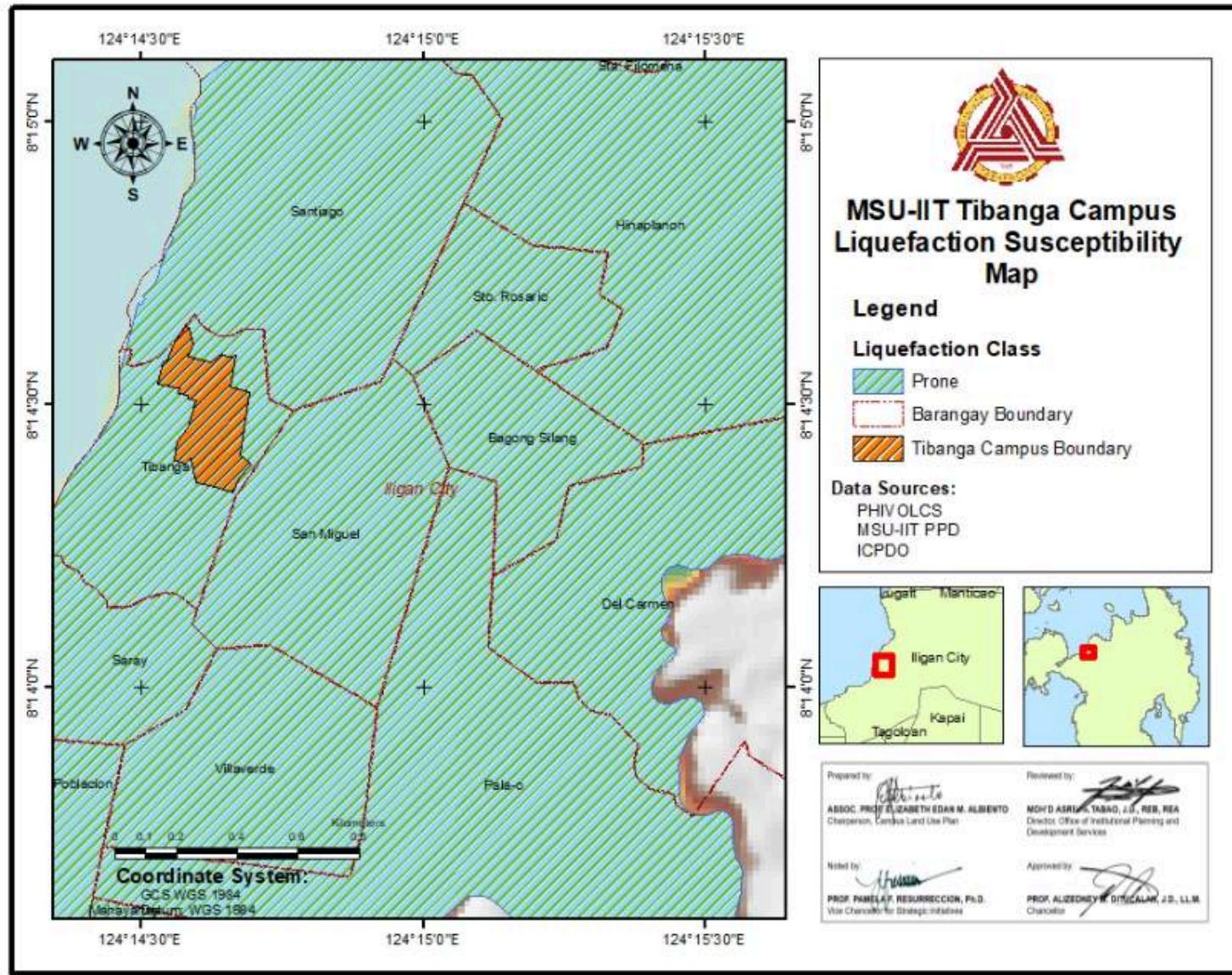


Figure 1.11. MSU-IIT Tibanga Main Campus Liquefaction Map

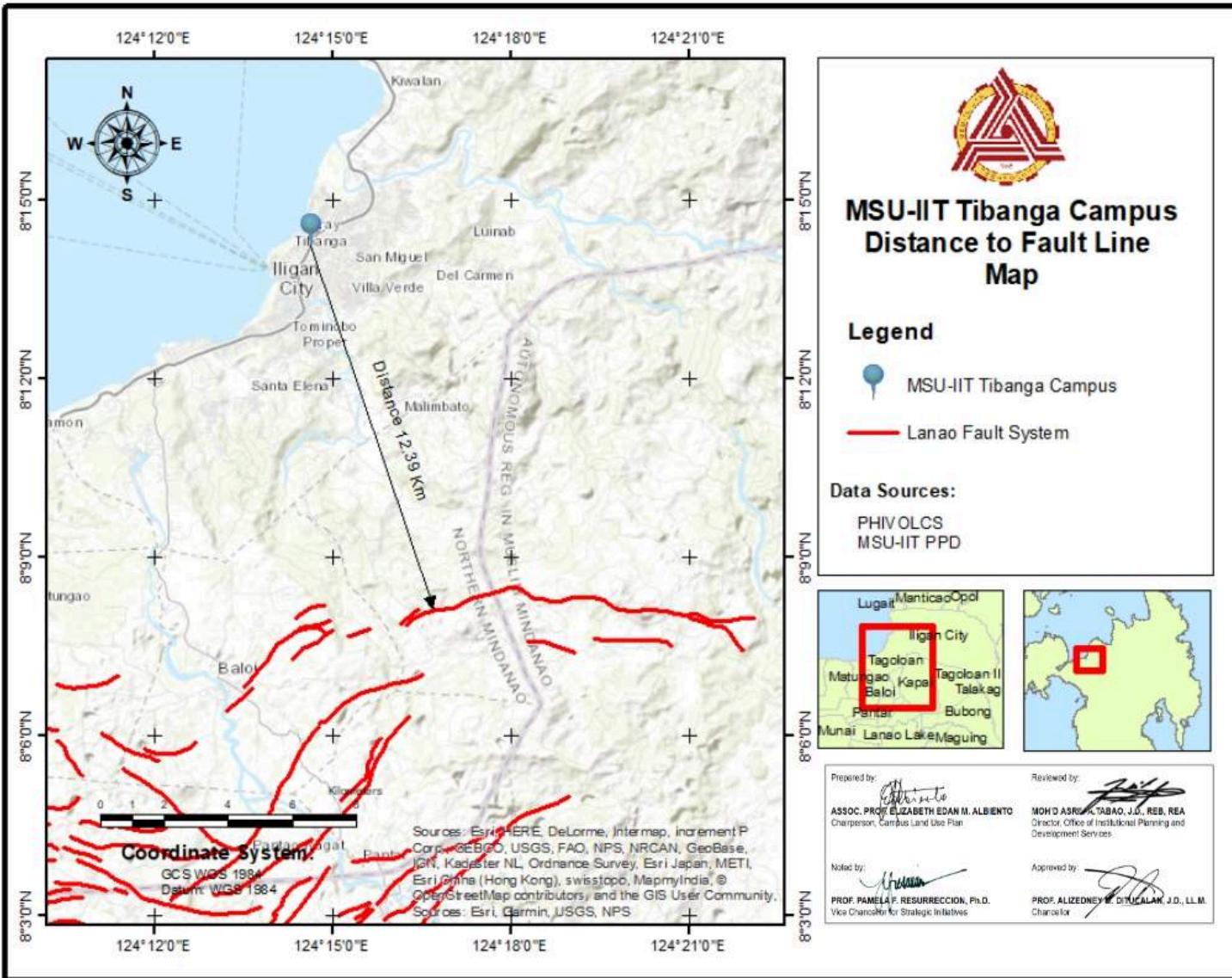


Figure 1.12. MSU-IIT Tibanga Main Campus Distance to Fault Line Map

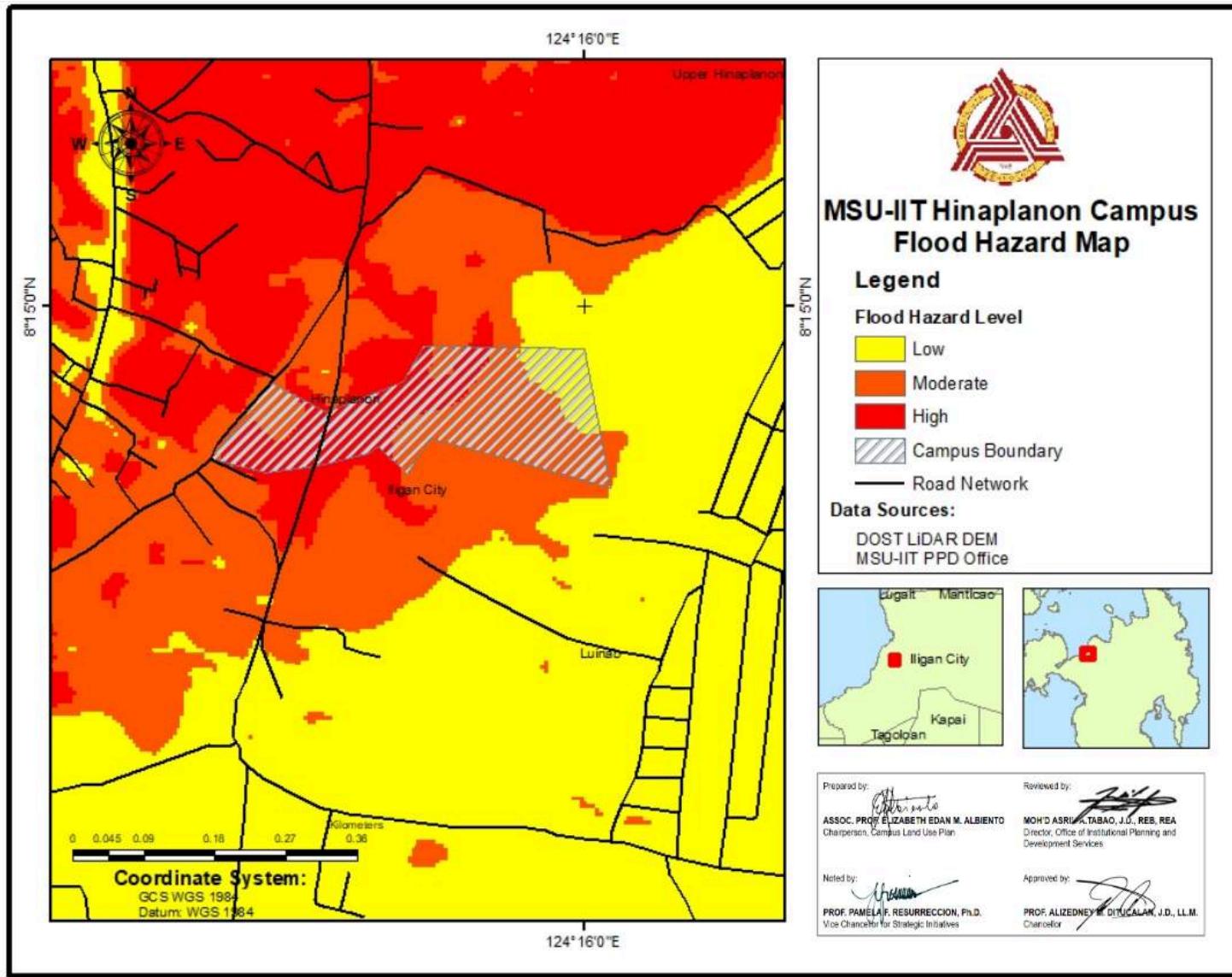


Figure 1.13. MSU-IIT Hinaplanon Campus Annex Flood Hazard Map

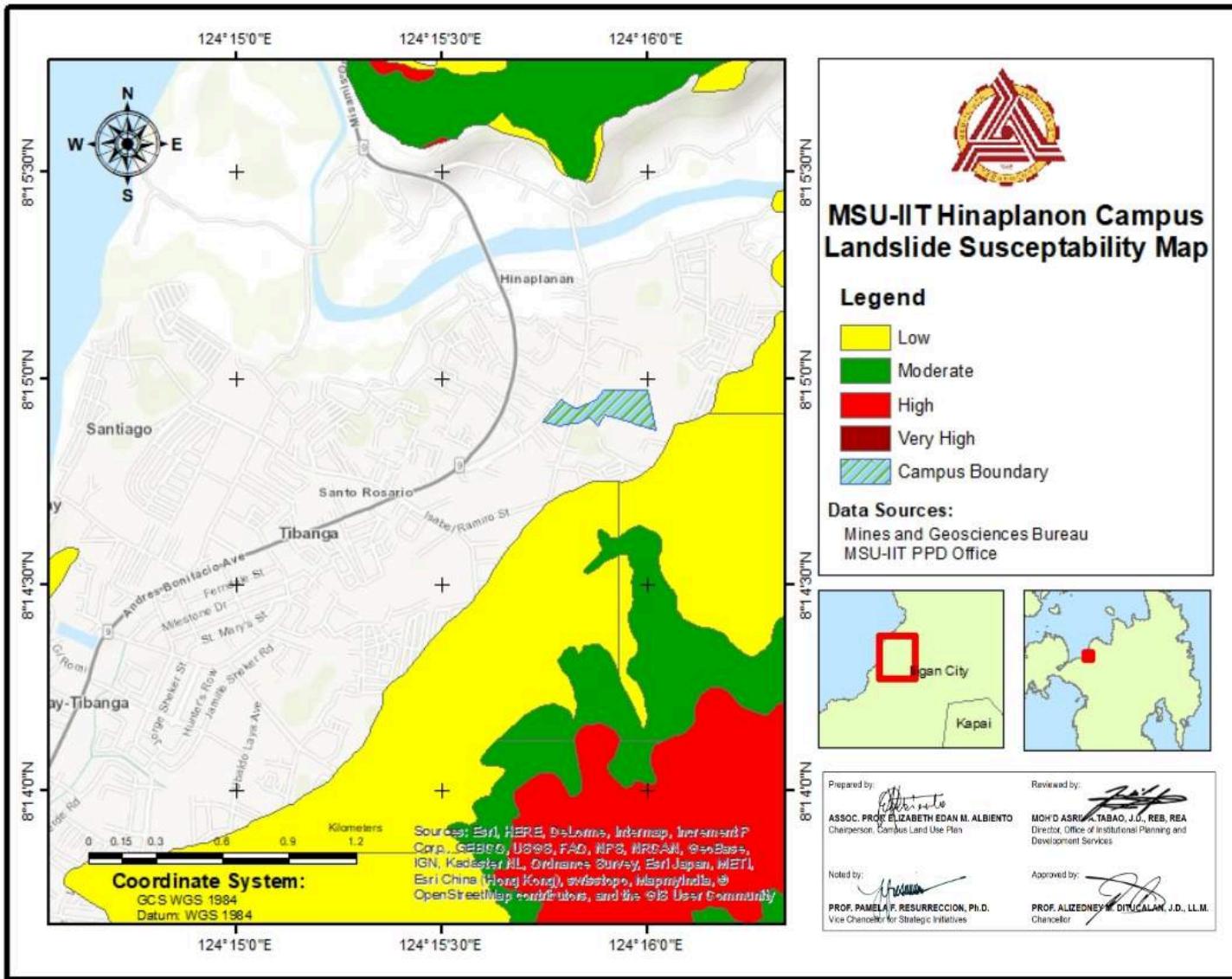


Figure 1.14. MSU-IIT Hinaplanon Campus Annex Landslide Susceptibility Map

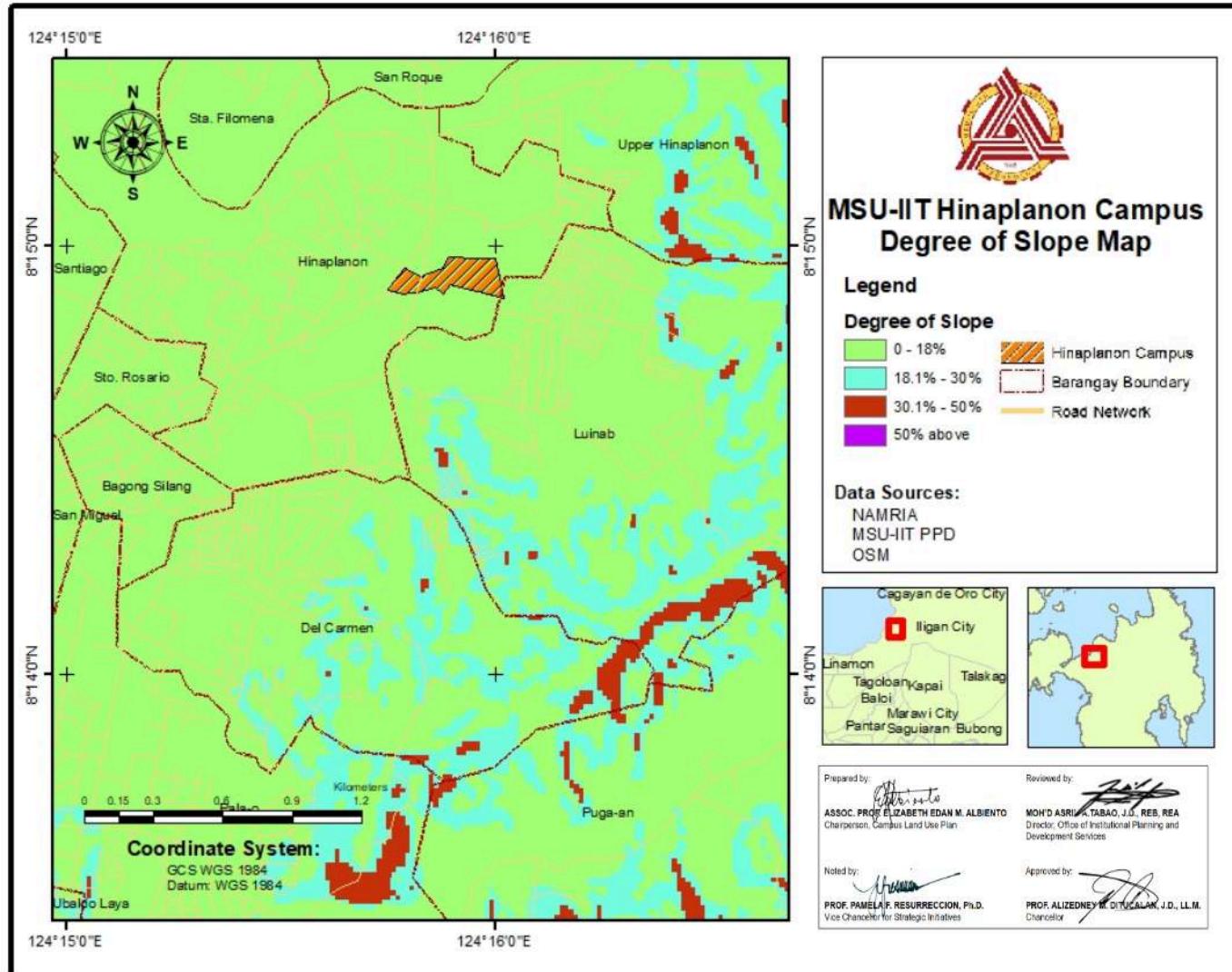


Figure 1.15. MSU-IIT Hinaplanon Campus Annex Degree of Slope Map

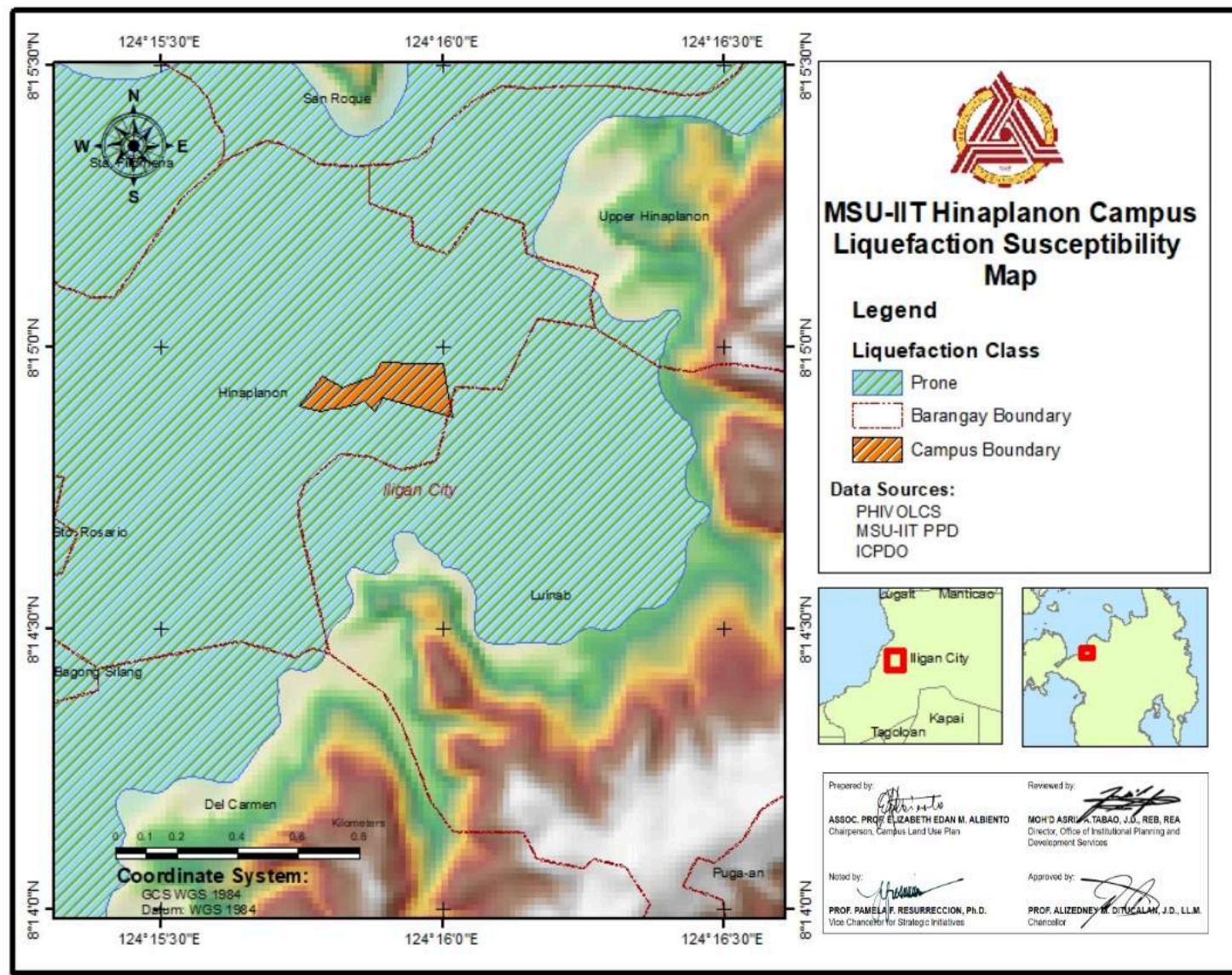


Figure 1.16. MSU-IIT Hinaplanon Campus Annex Liquefaction Susceptibility Map

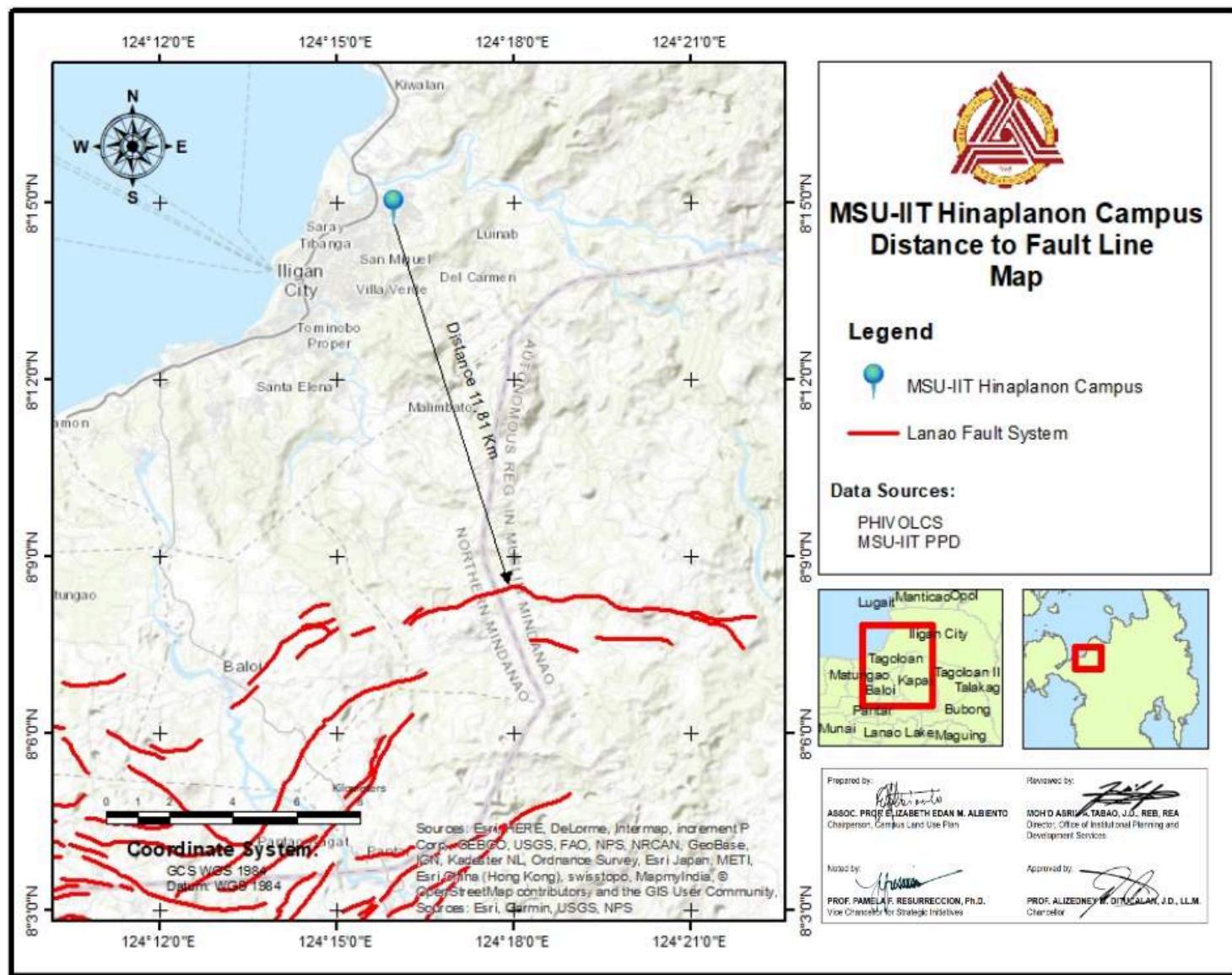


Figure 1.17. MSU-IIT Hinaplanon Campus Annex Distance to Fault Line Map

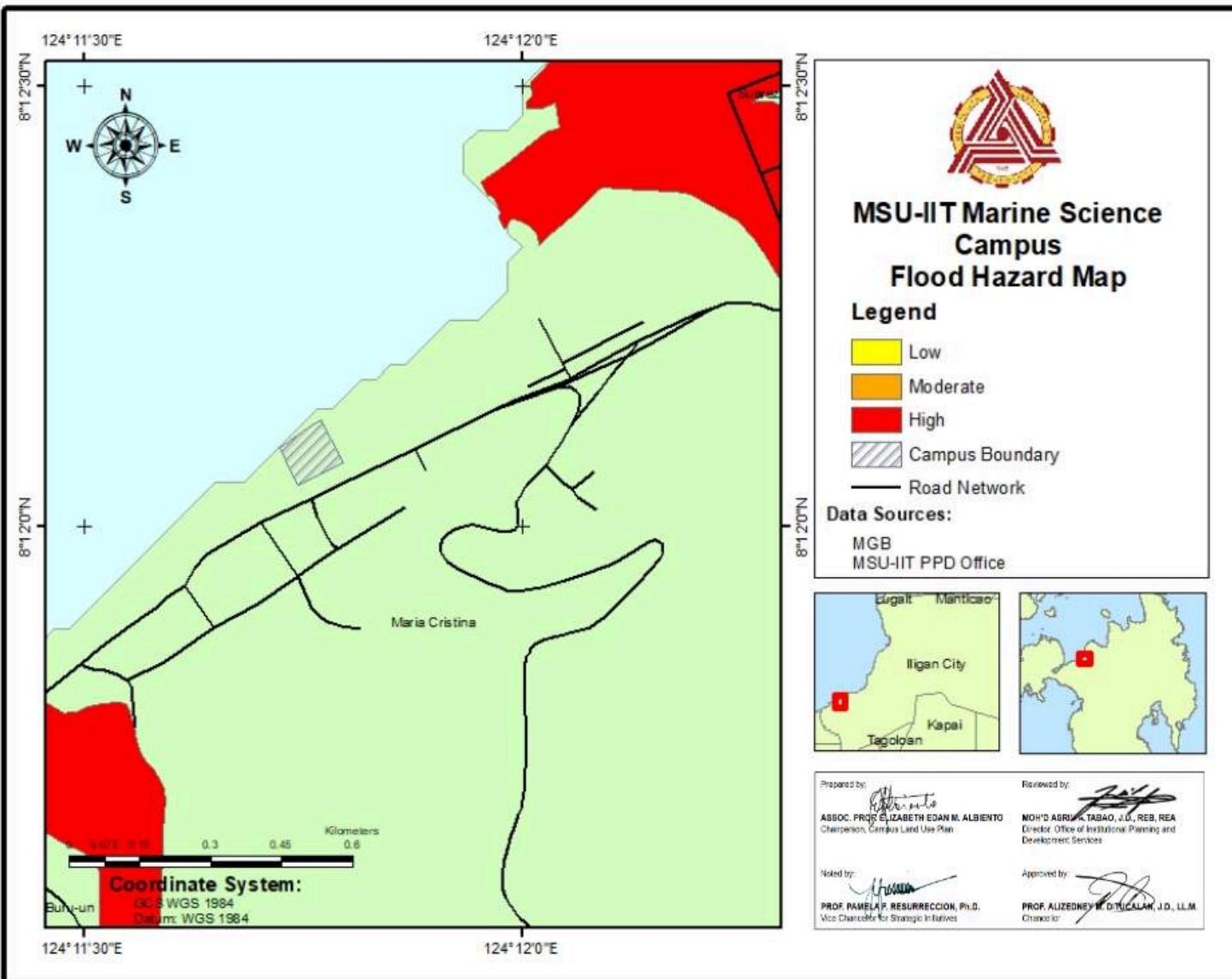


Figure 1.18. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Flood Hazard Map

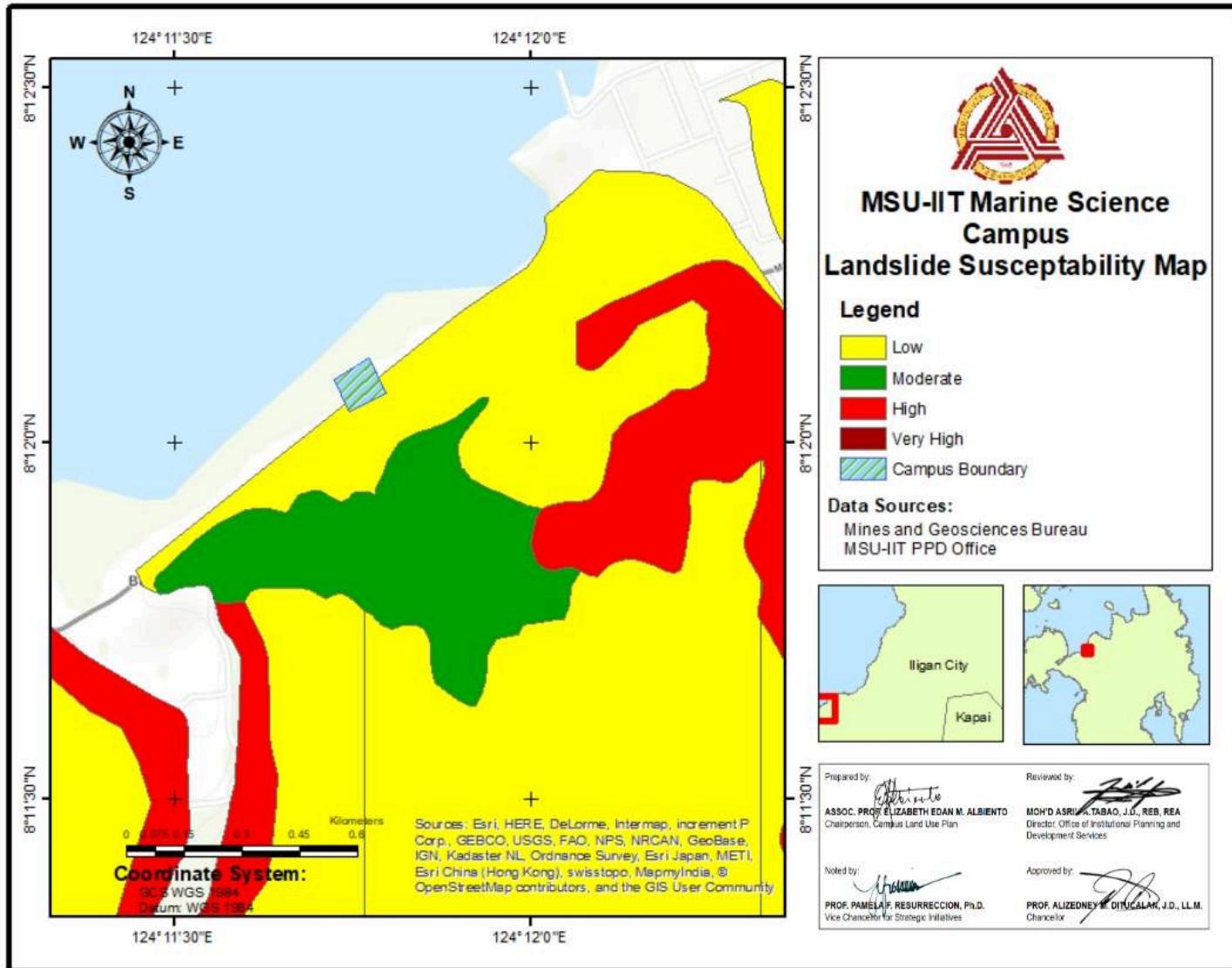


Figure 1.19. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Landslide Susceptibility Map

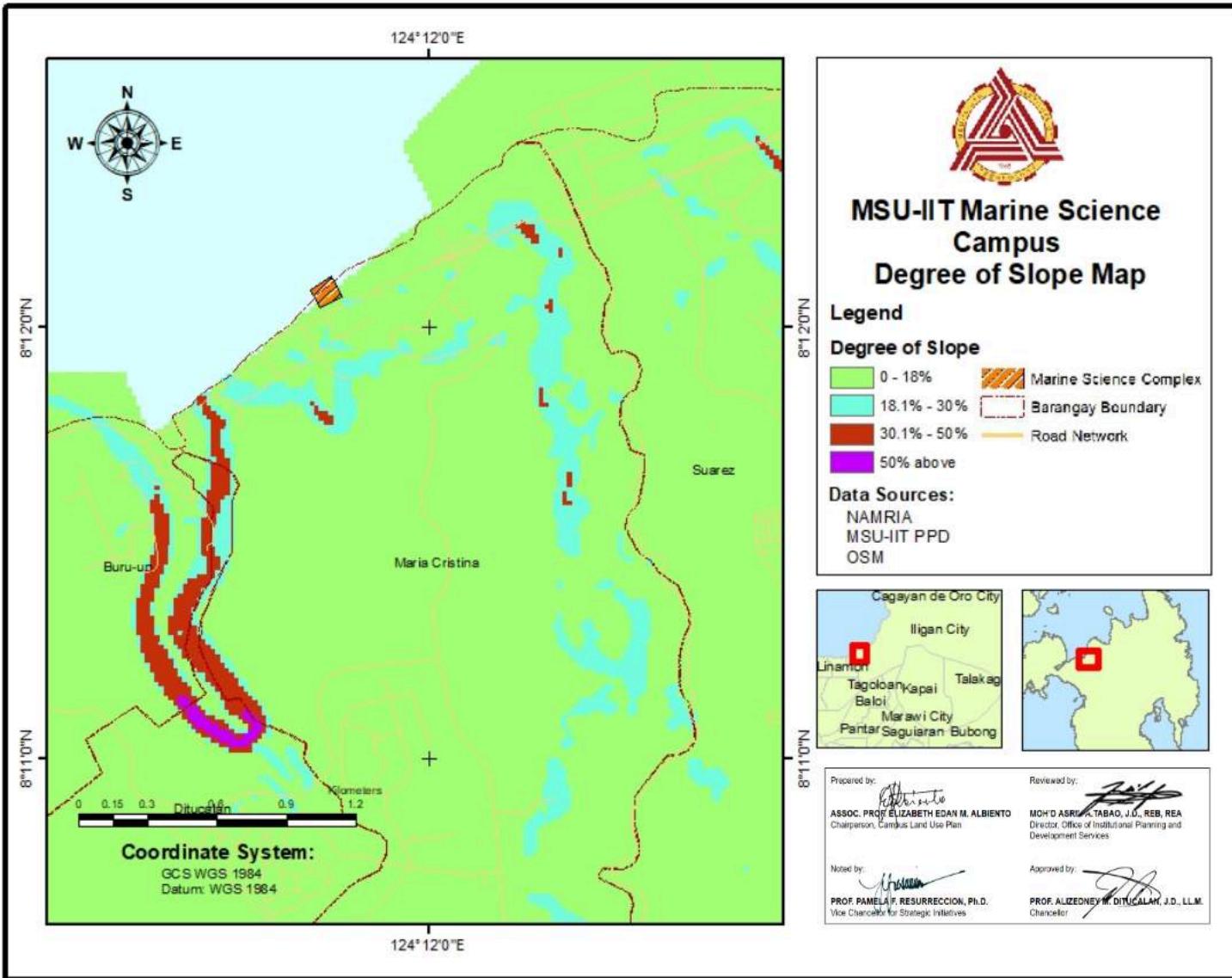


Figure 1.20. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Degree of Slope Map

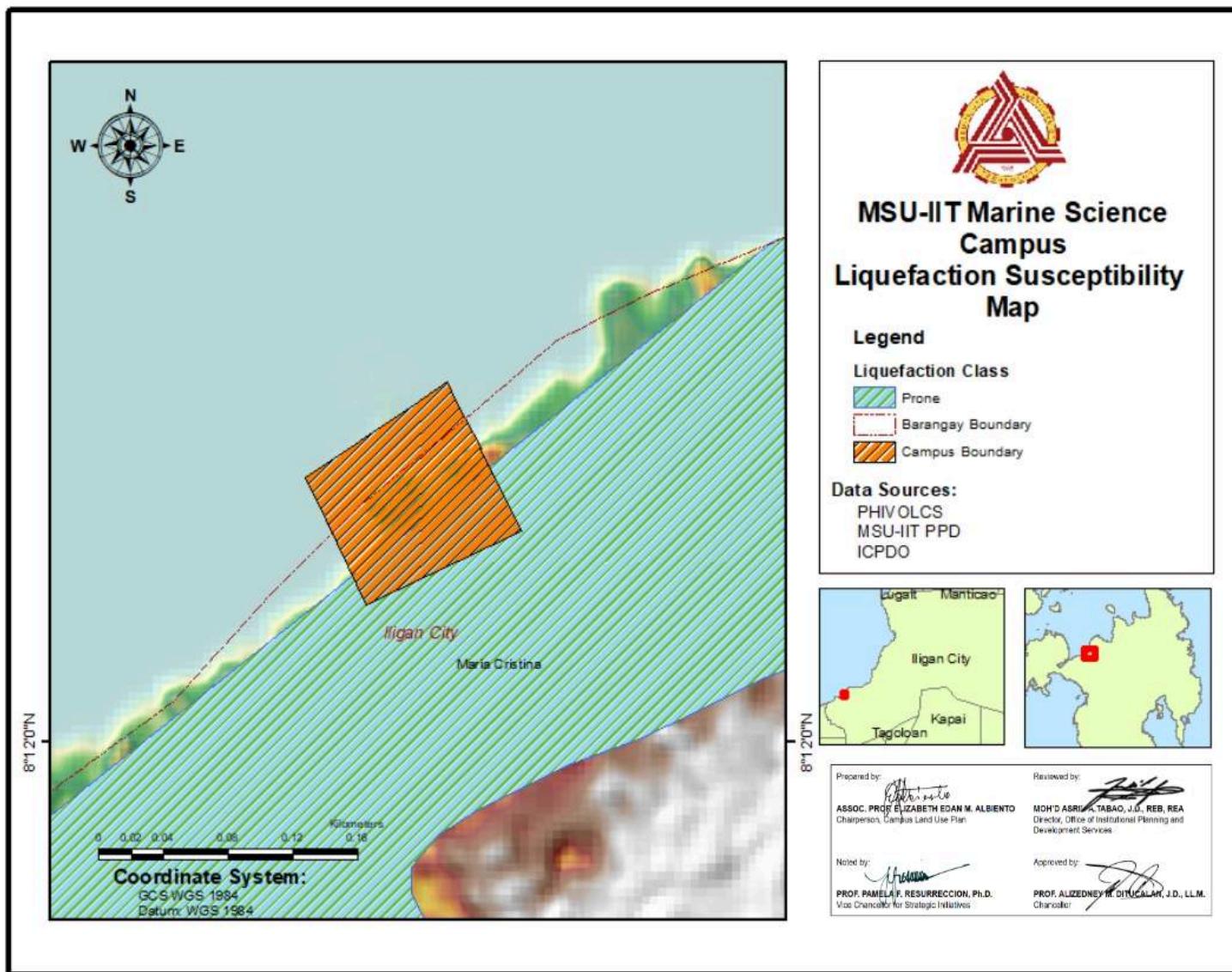


Figure 1.21. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Liquefaction Susceptibility Map

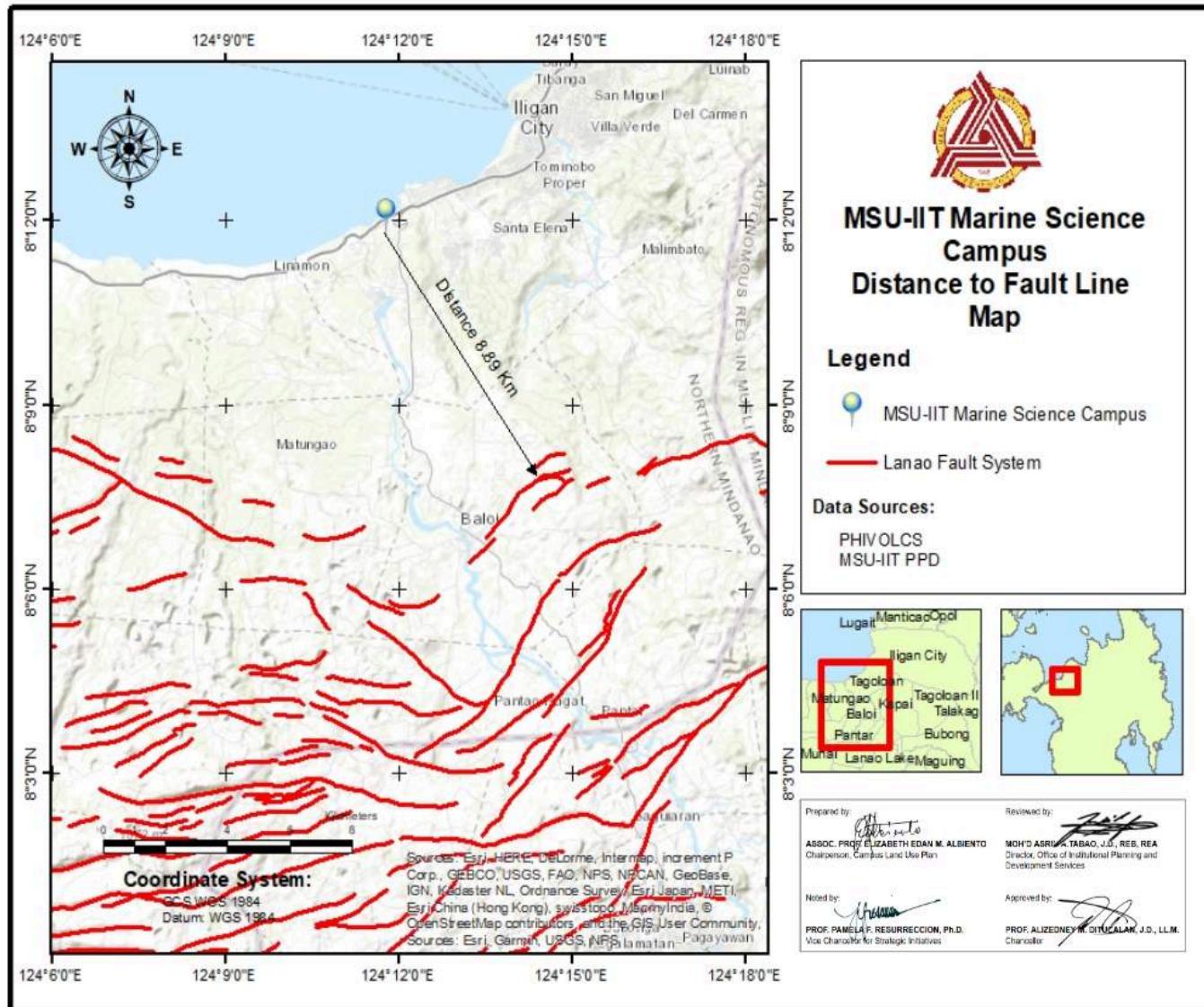


Figure 1.22. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Distance to Fault Line Map

E. Inventory of Transfer of Certificate of Titles

Mindanao State University - Iligan Institute of Technology (MSU-IIT) has land holdings within Iligan City - Tibanga Main Campus, Hinaplanon Annex Campus, and Marine Science Complex.

Table 1.23. List of Existing Land Holdings with TCT Numbers

Property	Location	Manner of Acquisition	Total Land Area (Ha)	Remarks
Lot 1183 Original Certificate of Title No. 0978 (a.f.)	Tibanga, Iligan City	Donated	5.5053	Tibanga Main Campus
Lot 4209 Original Certificate of Title No. 0978 (a.f.)	Tibanga, Iligan City	Donated	0.7803	Tibanga Main Campus
Lot 1200 TCT No. T-38,875 (a.f.)	Tibanga, Iligan City	Purchased	1.0768	Tibanga Main Campus
Lot 1201 TCT No. T-26,787 (a.f.)	Tibanga, Iligan City	Purchased	0.4459	Tibanga Main Campus
Lot 1202 TCT No. T-22,261 (a.f.)	Tibanga, Iligan City	Purchased	0.6879	Tibanga Main Campus
Lot 1204 TCT No. T-16,411 (a.f.)	Tibanga, Iligan City	Purchased	0.5578	Tibanga Main Campus
Lot 1199-A TCT No. 155-2017000186	Canaway, Iligan City	Purchased	0.06	Tibanga Main Campus
Lot 1329 TCT No. T-26,200 (a.f.)	Hinaplanon, Iligan City	Purchased	0.9571	Annex Campus
Lot 1857 TCT No. T-26,201 (a.f.)	Hinaplanon, Iligan City	Purchased	1.3099	Annex Campus
Lot 1349-C TCT No. T-2684-2 (a.f.)	Hinaplanon, Iligan City	Purchased	1.2981	Annex Campus
Lot 1349-D TCT No. T-26,205 (a.f.)	Hinaplanon, Iligan City	Purchased	1.2981	Annex Campus
Lot 1-A-1 Tax Declaration No. 18-0023-01088	Fuentes, Iligan City	Donated	0.2142	Marine Science Complex, No structure
Lot 2-A-1 Tax Declaration No. 18-0023-00055	Fuentes, Iligan City	Donated	0.6134	Marine Science Complex., No structure
Lot 2-A-2 Tax Declaration No. 18-0023-00055	Fuentes, Iligan City	Donated	0.3148	Marine Science Complex., No structure

The table provides a comprehensive inventory of the land parcels owned by Mindanao State University - Iligan Institute of Technology (MSU-IIT) across its different campuses in Iligan City with a total land area of **15.1196 hectares**.

The largest parcels are Lot 1183 (5.5053 ha) and Lot 4209 (0.7803 ha) of the Tibanga Main Campus, which were donated to the university. Several other lots in Tibanga and the Campus Annex ranging from 0.4459 ha to 1.3099 ha were acquired by MSU-IIT through direct purchases. The Marine Science Campus has three smaller lots of 0.2142 ha, 0.6134 ha and 0.3148 ha respectively, which were donated but currently have no structures built on them.

1.4 ZONING DESCRIPTION OF MSU-IIT LANDHOLDINGS SITUATED IN ILIGAN CITY

A. Existing MSU-IIT Landholdings and Zoning

(Source: Iligan City Planning and Development office, May 9, 2023)

Table 1.24. Zoning Description of Existing MSU-IIT Landholdings

Land Holdings	Location	Zoning Description
Lot 1183 Original Certificate of Title No. 0978 (a.f.)	Barangay Tibanga, Iligan City	General Institutional Zone
Lot 4209 Original Certificate of Title No. 0978 (a.f.)	Barangay Tibanga, Iligan City	General Institutional Zone
Lot 1200 TCT No. T-38,875 (a.f.)	Barangay Tibanga, Iligan City	General Institutional Zone
Lot 1201 TCT No. T-26,787 (a.f.)	Barangay Tibanga, Iligan City	General Institutional Zone
Lot 1202 TCT No. T-22,261 (a.f.)	Barangay Tibanga, Iligan City	General Institutional Zone
Lot 1204 TCT No. T-16,411 (a.f.)	Barangay Tibanga, Iligan City	General Institutional Zone
Lot 1199-A TCT No. 155-2017000186	Barangay Canaway, Iligan city	General Institutional Zone
Lot 1329 TCT No. T-26,200 (a.f.)	Barangay Hinaplanon, Iligan City	General Commercial Zone
Lot 1857 TCT No. T-26,201 (a.f.)	Barangay Hinaplanon, Iligan City	General Institutional Zone
Lot 1349-C TCT No. T-2684-2 (a.f.)	Barangay Hinaplanon, Iligan City	General Residential Zone
Lot 1349-D TCT No. T-26,205 (a.f.)	Barangay Hinaplanon, Iligan City	General Residential Zone
Lot 1-A-1 Tax Declaration No. 18-0023-01088	Barangay Maria Cristina, Iligan City	Light Industrial Zone
Lot 2-A-1 Tax Declaration No. 18-0023-00055	Barangay Maria Cristina, Iligan City	Municipal Water Zone
Lot 2-A-2 Tax Declaration No. 18-0023-00055	Barangay Maria Cristina, Iligan City	Municipal Water Zone

Moreso, a request was made on May 2, 2024 to the LGU-Iligan City Planning and Development Office for the zoning reclassification of some MSU-IIT land holdings (see Annex 1.8). This will be part of the on-going update of the City Land-Use Plan of Iligan City. Furthermore, Figures 1.23 to 1.25 illustrates the existing zoning map/ site development for each campus location.

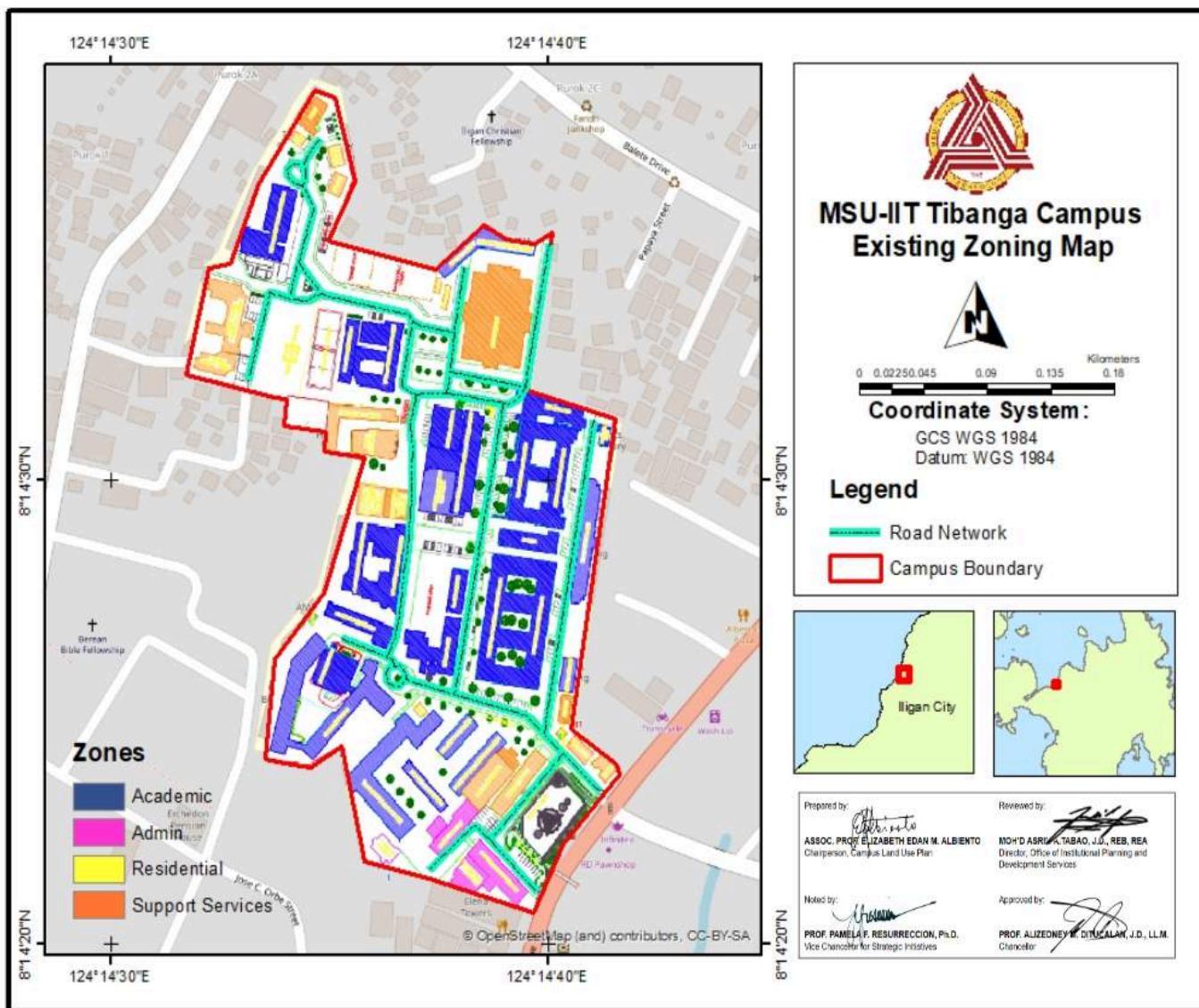


Figure 1.23. MSU-IIT Tibanga Main Campus Existing Zoning Map

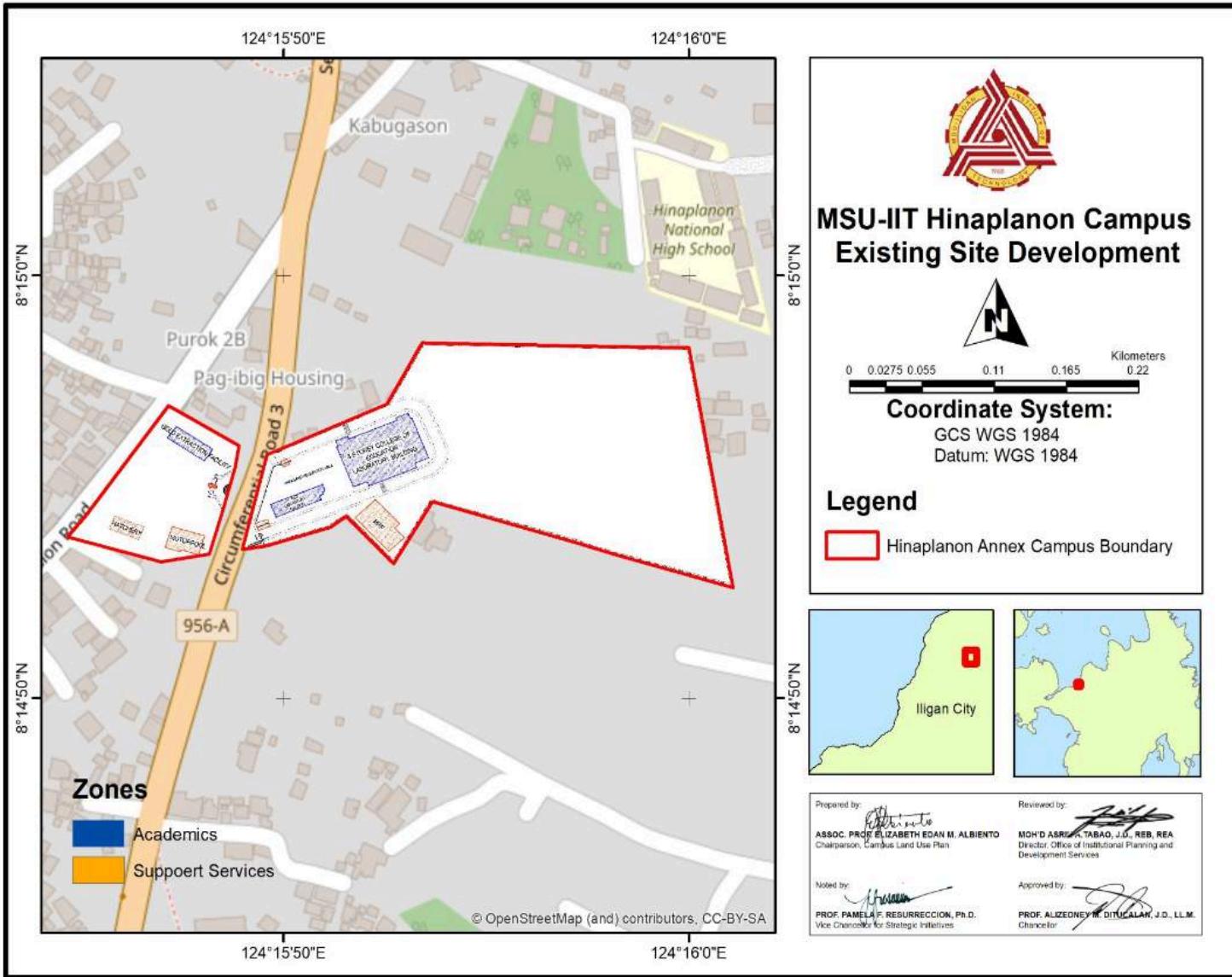


Figure 1.24. MSU-IIT Hinaplanon Campus Annex Existing Site Development

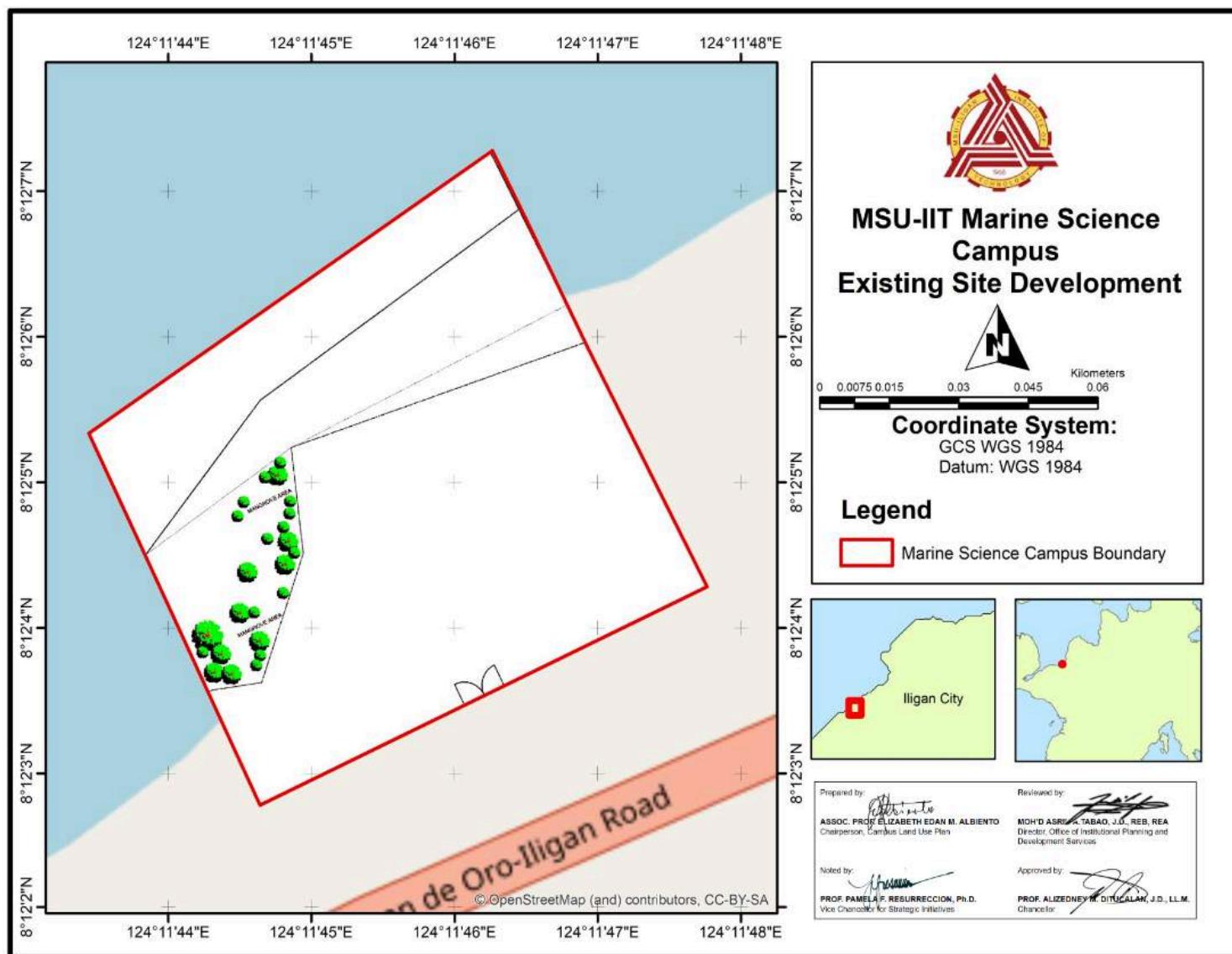


Figure 1.25. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Existing Site Development

B. Projected Land Use and Land Use Trends

Tibanga Main Campus

The Tibanga Main Campus, generally classified as an Institution Zone according to the Iligan City CLUP (2023), will boast a comprehensive layout comprising four distinct zones: the Academic (dedicated to Academic and Research pursuits), Administrative, Residential, and Support Services (as depicted in Figure 1.26).

The Administrative zone will be meticulously positioned at the forefront of the entrance and exit gates, meticulously designed to ensure effortless accessibility for guests, alumni, and students alike. In contrast, the student services zones will be strategically nestled immediately after the Admin zone, ensconced within the campus's inner sanctum. This thoughtful placement will be meticulously orchestrated to seamlessly cater to student needs and facilitate the myriad of services offered by the institute.

One significant alteration from the current zoning structure will involve the transformation of the IDS laboratory classrooms currently classified as Academic zone. These spaces will be transformed into a multifunctional hub comprising a Library and Learning Commons, a Cafeteria, and a dynamic Student Center and will become a Student Services zone. This reimaging of space underscores the institution's commitment to enhancing student experiences and fostering a vibrant campus community.

Moreover, the Academic zone, housing the academic and research core, will find its prime location at the heart of the main campus. This deliberate placement underscores the university's unwavering commitment to academic excellence and its pursuit as a distinguished research institution. In a bold move to underscore and showcase the university's commitment to academic excellence, a proposed construction of an iconic academic building will be built in replacement of the aging Old SET Building. This visionary infrastructure will not only embody the university's forward-thinking ethos but will also stand as a beacon of its academic prowess and innovation. Serving as more than just a functional space, this new landmark will symbolize the university's ongoing pursuit of excellence in teaching, learning, and research, leaving an indelible mark on the campus and its community for generations to come.

Additionally, the university will allocate dedicated residential zones to accommodate the diverse living arrangements required by both graduate and undergraduate students, ensuring a conducive environment for academic and personal growth.

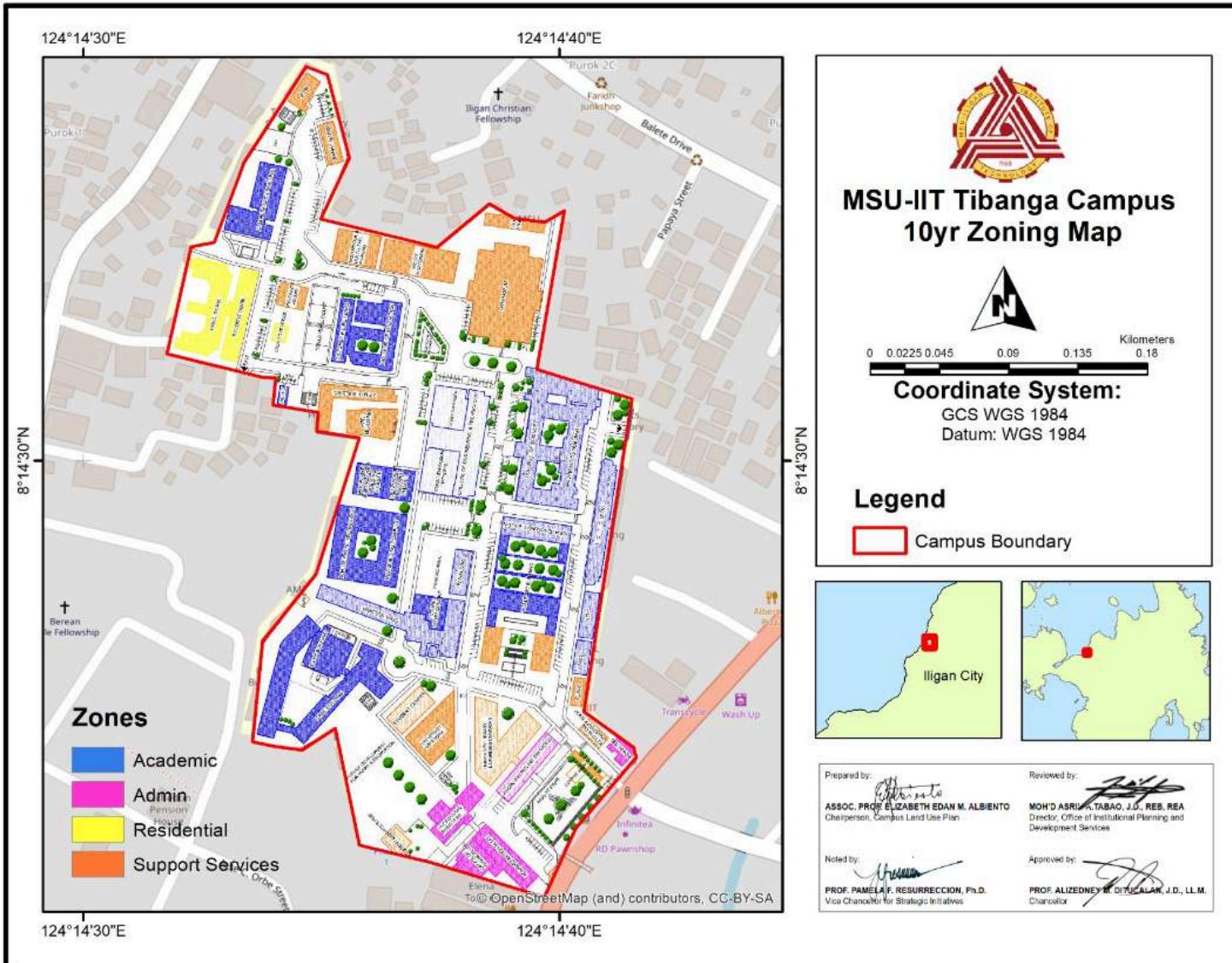


Figure 1.26. MSU-IIT Tibanga Main Campus 10-Year Zoning Map

Hinaplanon Annex Campus

The Hinaplanon Annex Campus, was composed of 3 land use zones based on the Iligan City CLUP (2023) as shown in Figure 1.27. These current land uses will be requested to be converted into Institutional zones in order to conform to the 10-year projected land use of the annex campus.

Illustrated in Figure 1.28, the anticipated land utilization plan for the Hinaplanon Campus Annex will consist of three distinct zones: the Residential zone, Academic zone, and Student services zone.

A significant feature of this plan is the construction of a 5-storey Faculty and Staff housing complex, strategically positioned along the Secondary Diversion Road. This modern facility, designed with the needs of faculty and staff in mind, will offer a blend of residential comfort and commercial convenience. The ground floor will be thoughtfully allocated for commercial purposes, providing amenities and services to both the campus community and the broader local population. This housing complex aims to accommodate qualified faculty and staff members who require assistance with their living arrangements, ensuring their comfort and convenience while fostering a vibrant academic environment. Through this initiative, the university reaffirms its commitment to supporting its faculty and staff, recognizing their invaluable contributions to the institution's mission and success.

In addition to the residential and academic amenities, a state-of-the-art sports complex is slated for construction within the inner sanctum of the campus. This comprehensive sports facility will be a testament to the university's dedication to holistic student development and well-being.

Comprising an aquatic recreation center, sports facilities, and a cutting-edge fitness center, this complex will be a hub of physical activity and athletic excellence. The aquatic recreation center will offer a range of water-based activities, from swimming to water sports, providing students with opportunities for both recreation and competitive sports.

Adjacent to the aquatic center, the sports facility will boast top-tier courts and fields for various sports such as basketball, volleyball, tennis, football, and soccer, catering to the diverse interests of the student body. Meanwhile, the fitness center will provide a modern space equipped with state-of-the-art exercise equipment, personal training services, and fitness classes to promote health and wellness among students.

By integrating these facilities into the student services zone, the university demonstrates its commitment to fostering a well-rounded campus experience that prioritizes both academic and physical development. This sports complex will not only serve as a venue for athletic pursuits but also as a vibrant community space where students can come together, stay active, and forge lasting connections.

In a strategic move to alleviate congestion on the Tibanga Main campus and optimize the utilization of resources, the College of Health Sciences and the College of Education, along with their IDS Laboratory facilities, will be relocated to this new campus. This decision reflects the university's proactive approach to campus planning and its commitment to creating conducive learning environments for all students.

By consolidating these academic departments and facilities in one location, the university aims to enhance collaboration and streamline administrative processes. The new campus will provide specialized infrastructure tailored to the unique needs of health sciences and education programs, fostering innovation and excellence in teaching and research.

Moreover, this relocation initiative aligns with broader efforts to promote sustainable growth and development, as it allows for the expansion of facilities and services on the Tibanga Main campus without compromising the quality of education or student experience. Through thoughtful planning and strategic allocation of resources, the university seeks to optimize its physical infrastructure to better serve its academic community and support its mission of academic excellence.

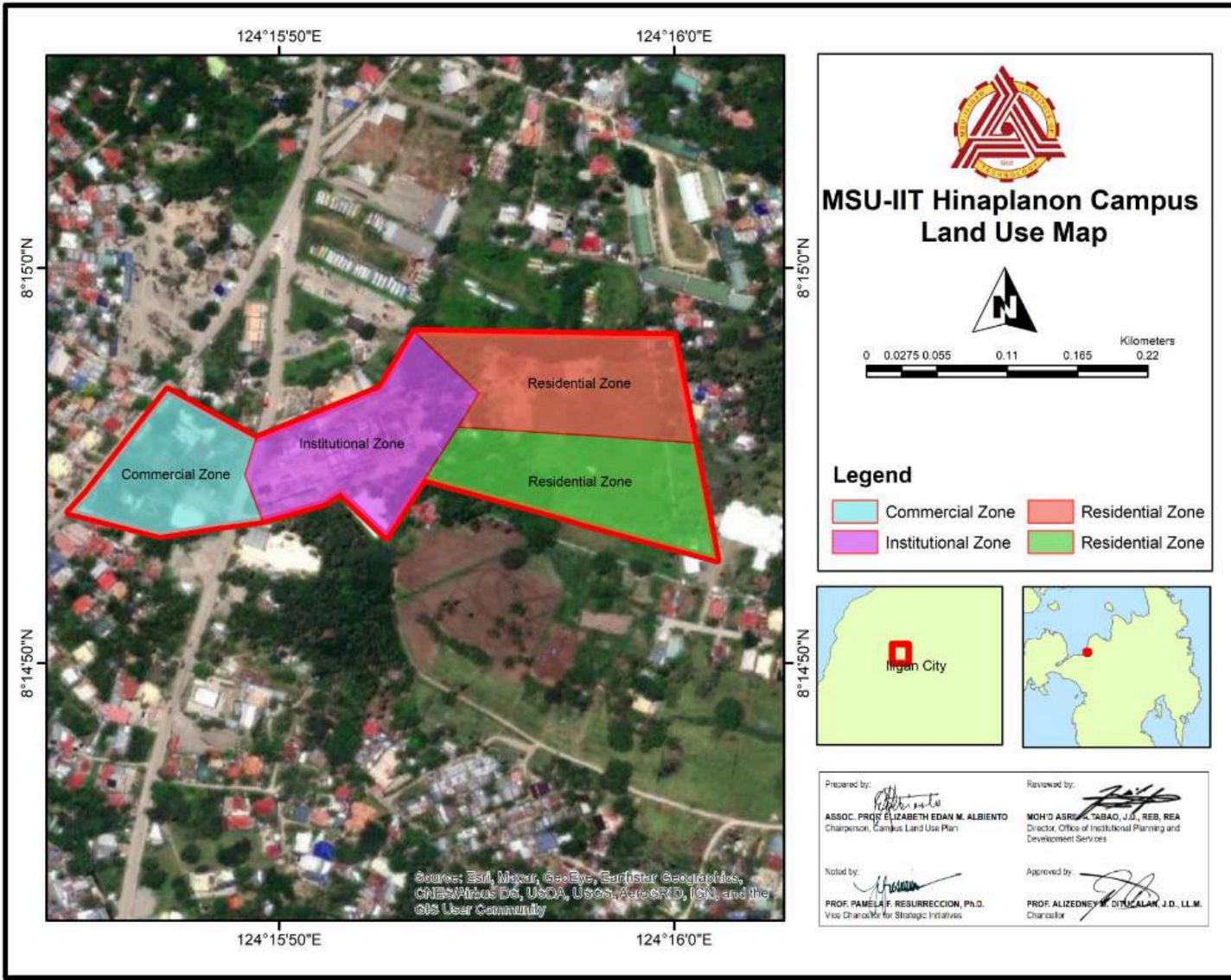


Figure 1.27. Hinaplanon Existing Land Use Map (Iligan City CLUP, 2023)

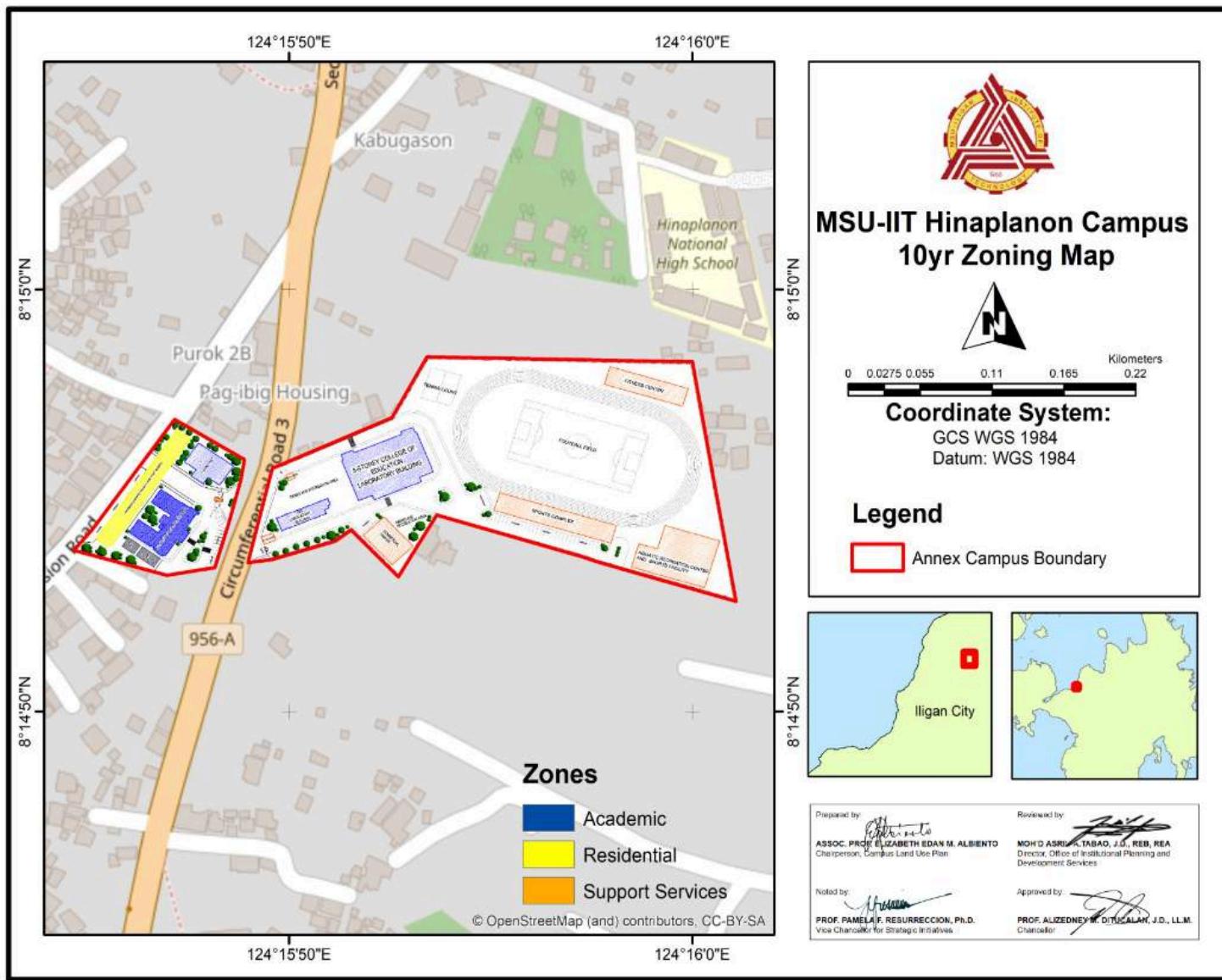


Figure 1.28. MSU-IIT Hinaplanon Campus Annex 10-Year Zoning Map

Marine Science Complex (Fuentes Annex Campus)

The newly donated Marine Science Campus was under the Light Industrial Zone and Municipal Water Zone as classified by the Iligan City CLUP (2023). The Light industrial zone will be converted into an Institutional zone to conform to the campus's future needs. As the name of the campus itself, it is dedicated to the Marine Science Department wherein marine facilities will be built and coastal structures will be constructed (see Figure 1.29).

Under the ambit of the Municipal Water zone, plans are underway for the establishment of a dedicated docking area, facilitating the berthing of a specialized research vessel geared towards marine exploration and scientific inquiry. This strategic infrastructure investment underscores the university's commitment to advancing knowledge and understanding in the field of marine science.

In tandem with this maritime endeavor, a three-storey Marine Science Building will rise within the campus grounds, serving as a focal point for interdisciplinary research, academic collaboration, and experiential learning opportunities. This cutting-edge facility will be equipped with state-of-the-art laboratories, classrooms, and research spaces, providing students with hands-on experience in marine biology, oceanography, and environmental science.

Complementing the Marine Science Building, a museum will be curated to showcase a diverse collection of marine artifacts, specimens, and interactive exhibits. This immersive space will not only serve as a repository of scientific knowledge but also as a platform for public engagement and education. By featuring the art and beauty of marine science, the museum aims to inspire curiosity, promote environmental stewardship, and attract tourists and educational tours seeking to delve into the wonders of the oceanic realm.

Together, these facilities represent a holistic approach to marine research and education, fostering interdisciplinary collaboration, promoting environmental conservation, and enriching the academic experience for students and visitors alike.

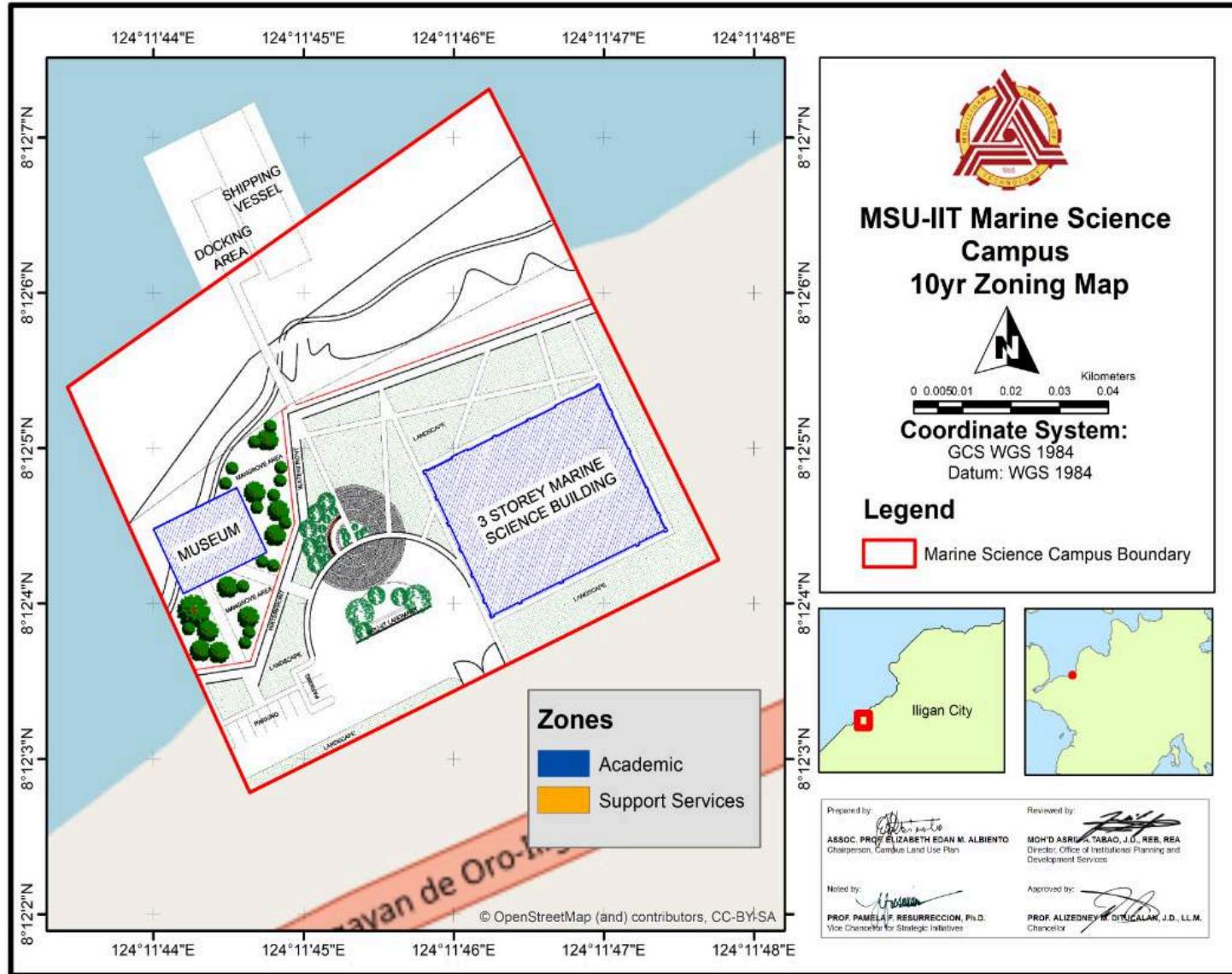


Figure 1.29. MSU-IIT Marine Science Complex (Fuentes Annex Campus) 10-Year Zoning Map

CHAPTER II. DETAILED DESCRIPTION OF MSU-ILIGAN INSTITUTE OF TECHNOLOGY

2.1 PHYSICAL FEATURES AND ENVIRONMENTAL CONDITIONS

A. Landcover and Topography

The main campus of MSU-IIT, situated in Tibanga, along with the Hinaplanon campus annex and the Marine Science Complex campus, is strategically positioned within the urban landscape of Iligan City. This urban setting is characterized by a predominant built-up area, exemplified in Figure 2.1. The Tibanga Main Campus finds itself embedded in a highly urbanized barangay, boasting various amenities such as hotels, restaurants, and coffee shops. In contrast, the Hinaplanon campus annex and the Marine Science campus are in the nascent stages of development and are situated in barangays with a less urbanized profile.

The topography where all campuses are located is characterized by a narrow coastal alluvial plain fronting Iligan Bay at the foot slopes of undulating hills and mountains (see Figure 2.2). Several river valleys are found with relatively flat slopes. The urban center is situated on a plain with slightly sloping to rolling terrain by about 0 - 2% towards the sea. The upstream part is relatively steep and mountainous, as illustrated in Figure 2.3.

While the Tibanga Main Campus thrives amidst the hustle and bustle of a fully developed urban environment, the Hinaplanon Annex Campus, within a 5.0-kilometer radius, and the Marine Science Campus, within a 10.0-kilometer radius from the Tibanga Main Campus (see Figure 2.4), reflect ongoing development efforts in areas with a less pronounced urban footprint.

Moreover, a contour map enables us to determine the steepness or flatness of the land and also the elevation of the land. The wider the distance between contour lines the flatter the slope of the land is and vice-versa. As for the elevation, the numeric value of the line in the contour map is the elevation. The higher the numeric value the higher the elevation is. The appropriate usage of the land is very much influenced by topography. In Figure 2.5, the terrain of Hinaplanon campus is flat since the distance between contour lines is wide and the elevation is below 10 meters above sea level which is low in elevation. Since the slope is flat and the elevation is low, the campus is not vulnerable to erosion and landslides. However, it is susceptible to flooding.

Like the Hinaplanon campus, the slope of the Fuentes campus is flat not only because the distance between contour lines is wide but also it is situated on the shore line which actually is an indication of a low elevation (see Figure 2.6). Since the slope is flat and the elevation is low, the campus is not vulnerable to erosion and landslides. However, since it is on the shoreline, it is vulnerable to storm surge and sea level rise.

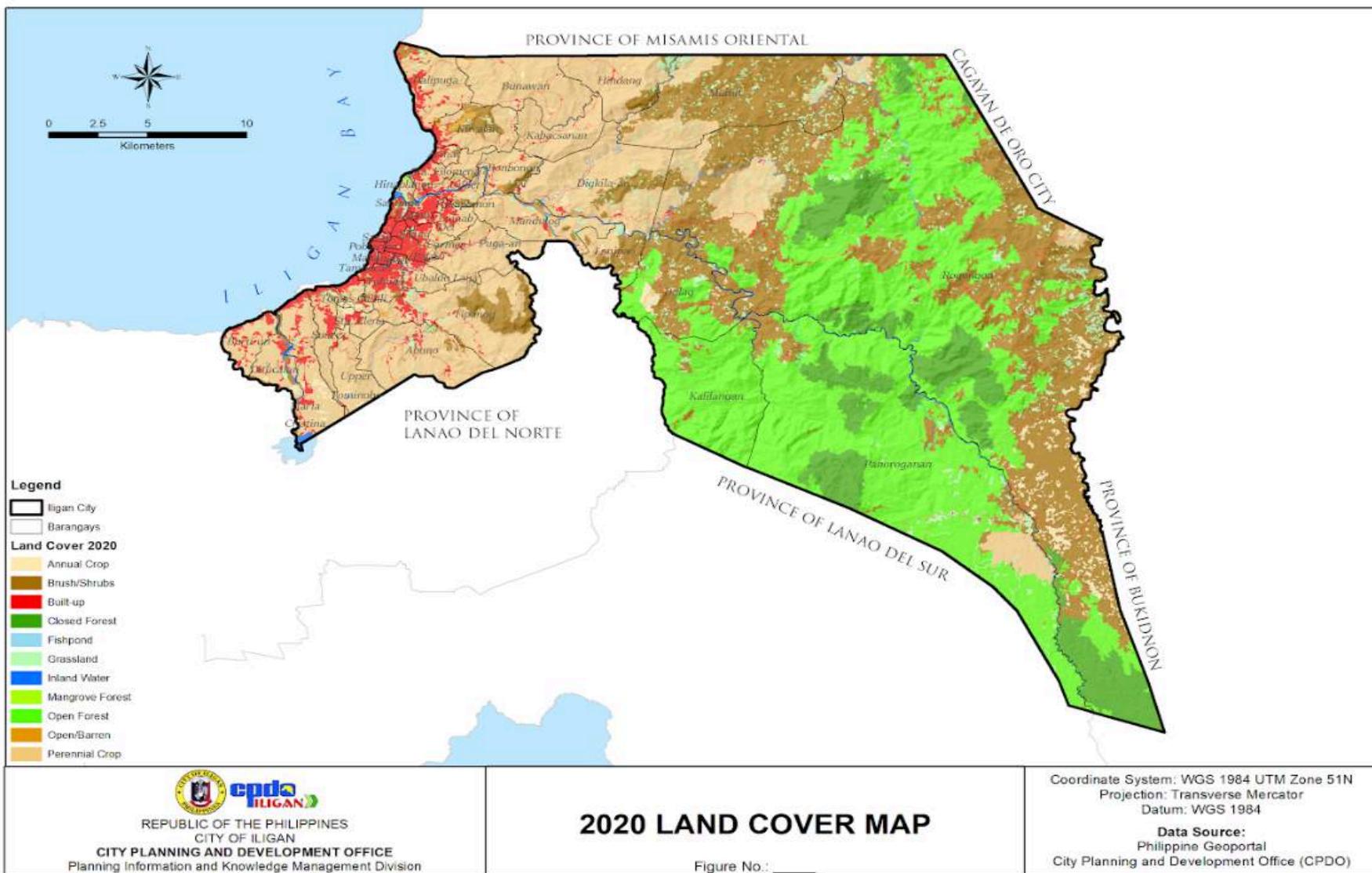


Figure 2.1. Iligan City 2020 Land Cover (Source: CLUP Iligan, 2023)

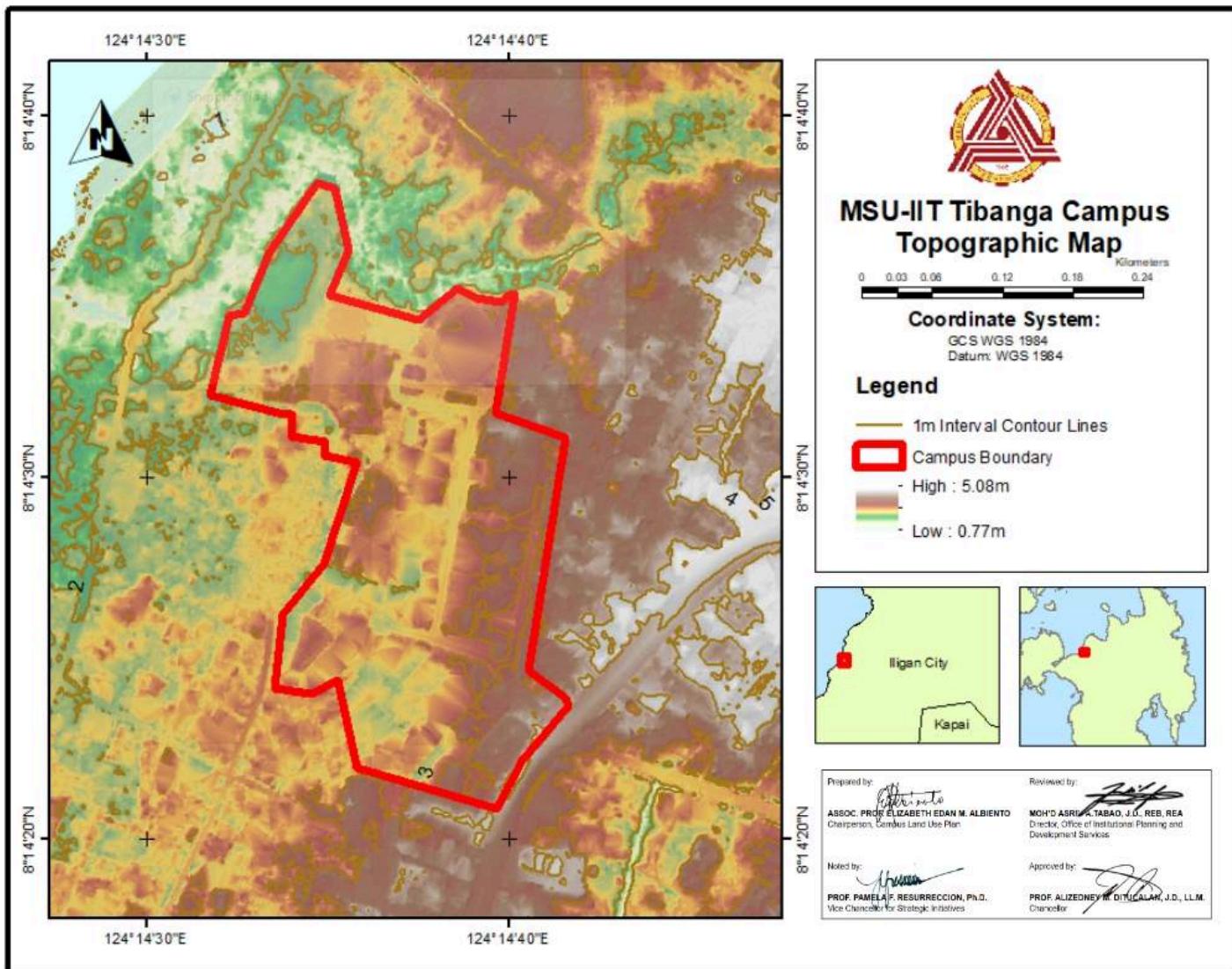


Figure 2.2. MSU-IIT Campus Topographic Map

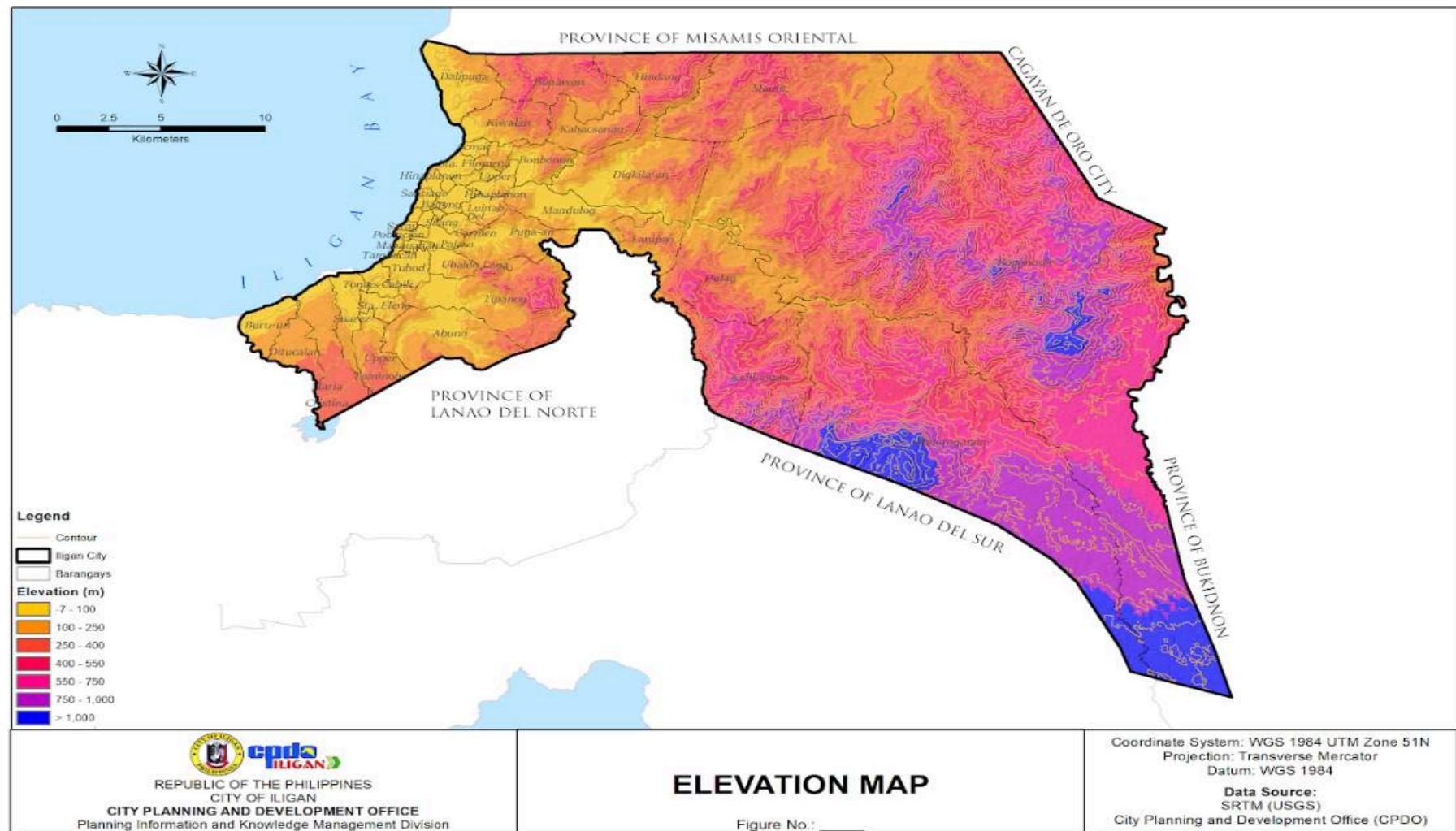


Figure 2.3 Iligan Elevation Map (CLUP Iligan, 2023)

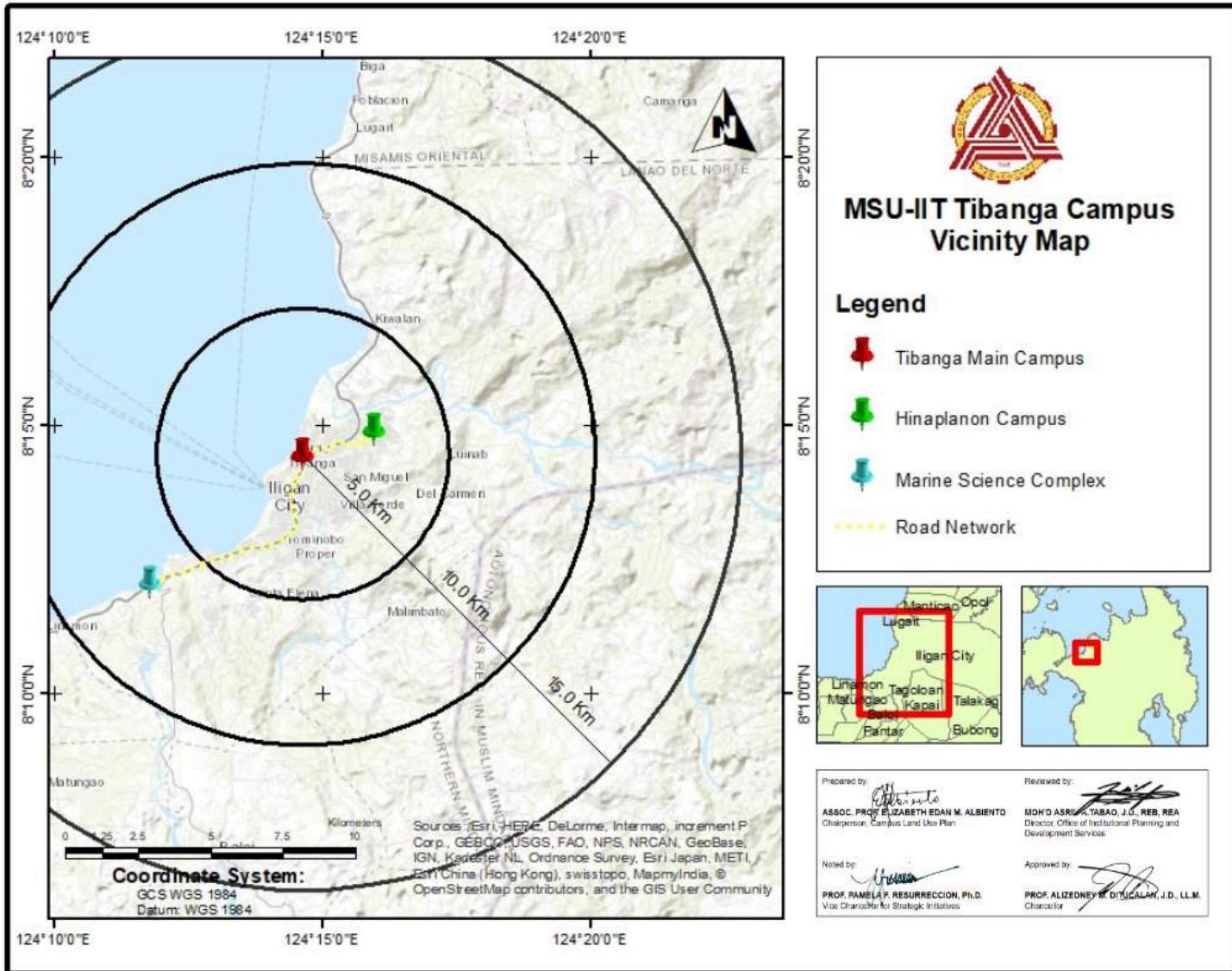


Figure 2.4. MSU-IIT Campus Vicinity Map

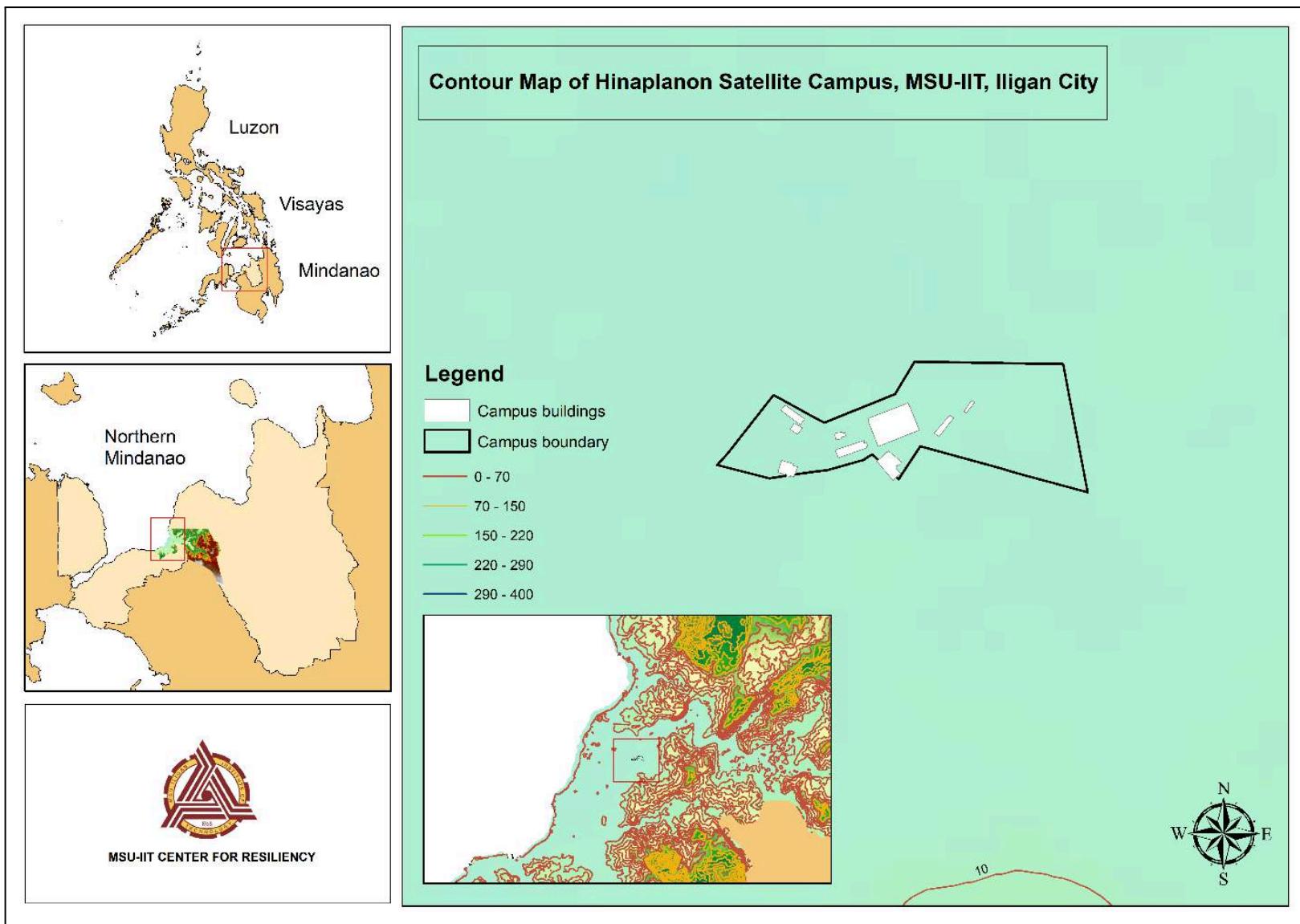


Figure 2.5. Contour Map of MSU-IIT Hinaplanon Campus Annex

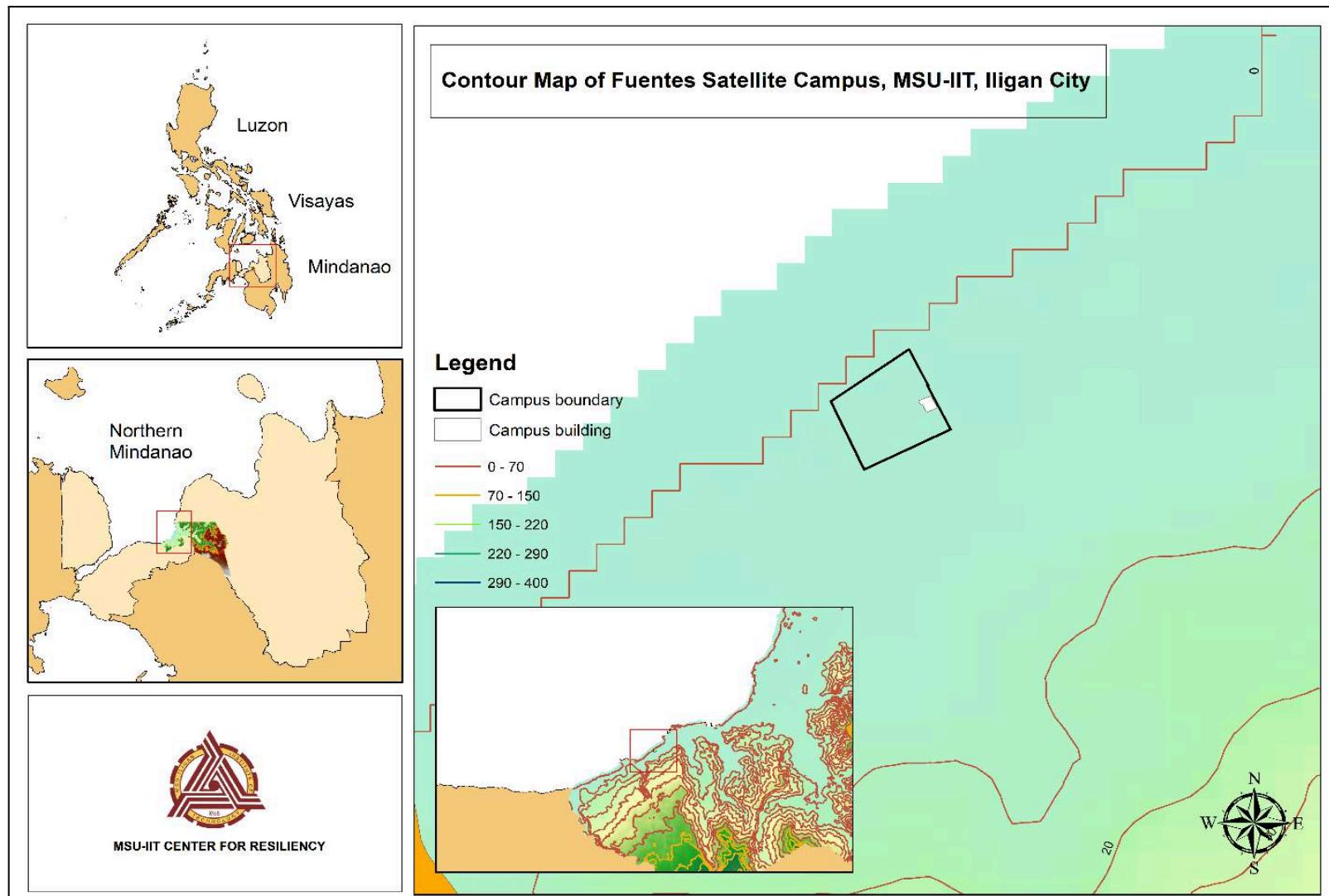


Figure 2.6. Contour Map of MSU-IIT Marine Science Complex (Fuentes Campus Annex)

B. River Basin and Water Resources

The MSU-IIT campuses are situated within the confines delineated by two significant rivers, namely the Mandulog River and the Agus River (refer to Figure 2.7). The Tibanga Main Campus and the Hinaplanon Campus Annex find their locations within the Mandulog River Basin, encompassing an estimated area of 791 square kilometers and flowing northwestward (refer to Figure 2.8). This river course extends through Iligan and the municipalities of Lanao del Sur and Misamis Oriental, as documented by UP TCAGP in 2015.

In contrast, the Marine Science Campus is positioned within the Agus River Basin, featuring a drainage area of 1,645 square kilometers (refer to Figure 2.9) and an annual run-off estimated at 1,910 million cubic meters. This makes it the 14th major river basin in the country, according to UP TCAGP in 2015. The Agus River, serving as the basin's outlet, channels water from Lanao Lake through the municipalities of Saguiaran, Pantar, and Baloi, ultimately reaching Iligan Bay by way of Iligan City, covering a total distance of 37 kilometers. The Agus River Basin comprises five major subwatersheds — Agus, Gata, Masiu, Ramain, and Taraka — with a combined land area of 198,709 hectares, as detailed in Portal (2014). Additionally, this river basin plays a crucial role in supplying water to hydroelectric plants in Baloi, Lanao del Norte, and Iligan City, serving as sources of electric power for the entire island of Mindanao, as governed by the Lanao del Norte Government.

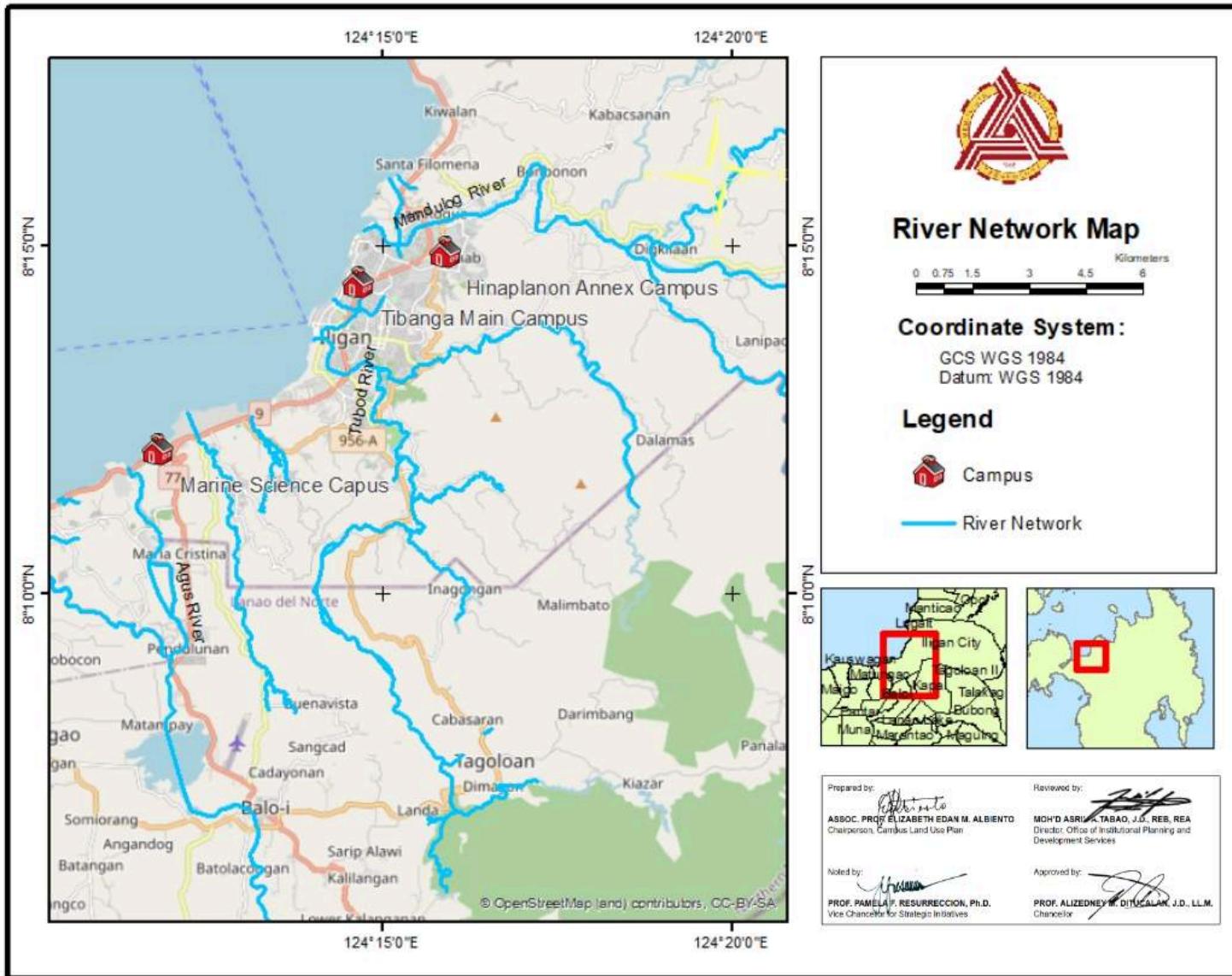


Figure 2.7. River Network Map

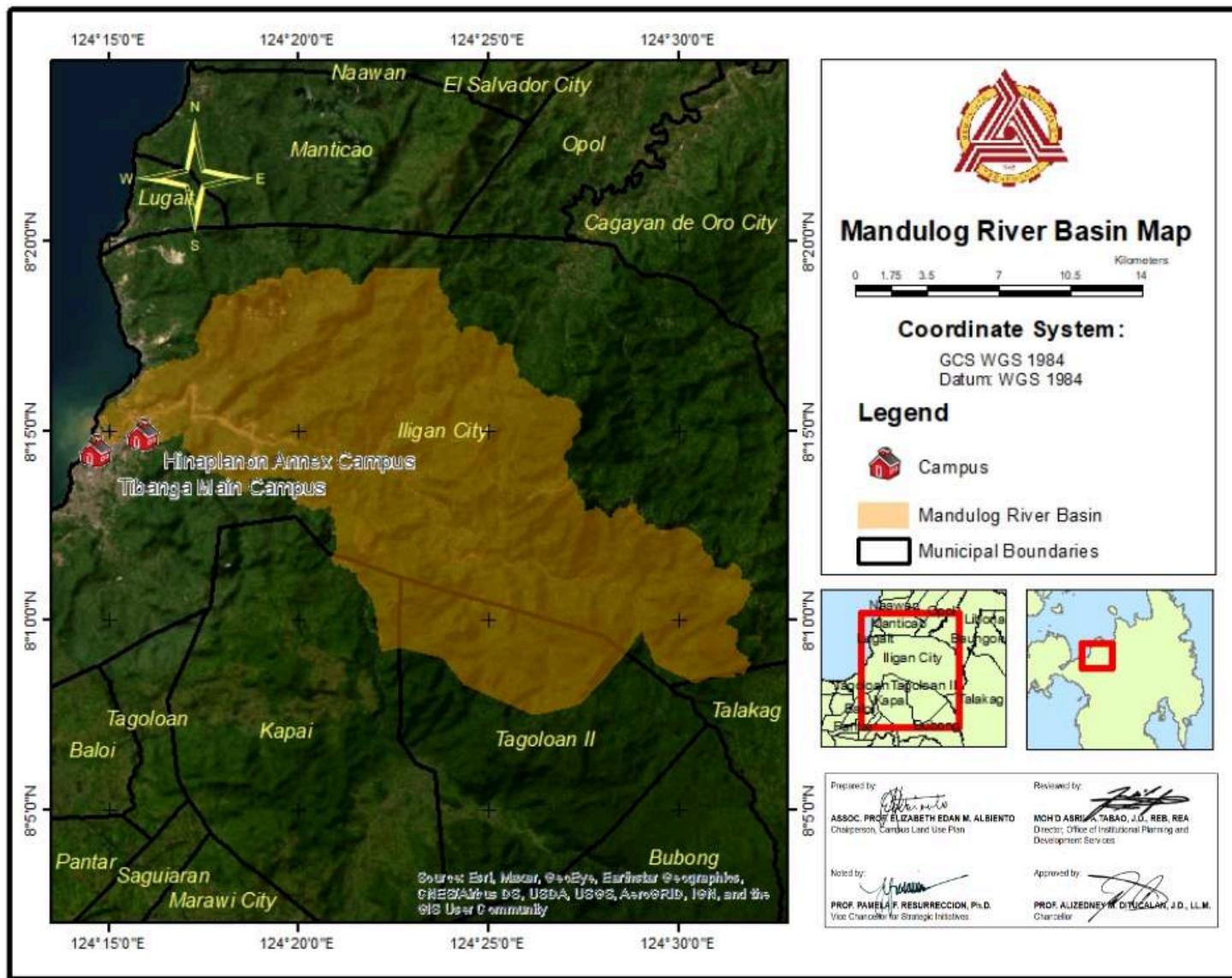


Figure 2.8. Mandulog River Basin Map

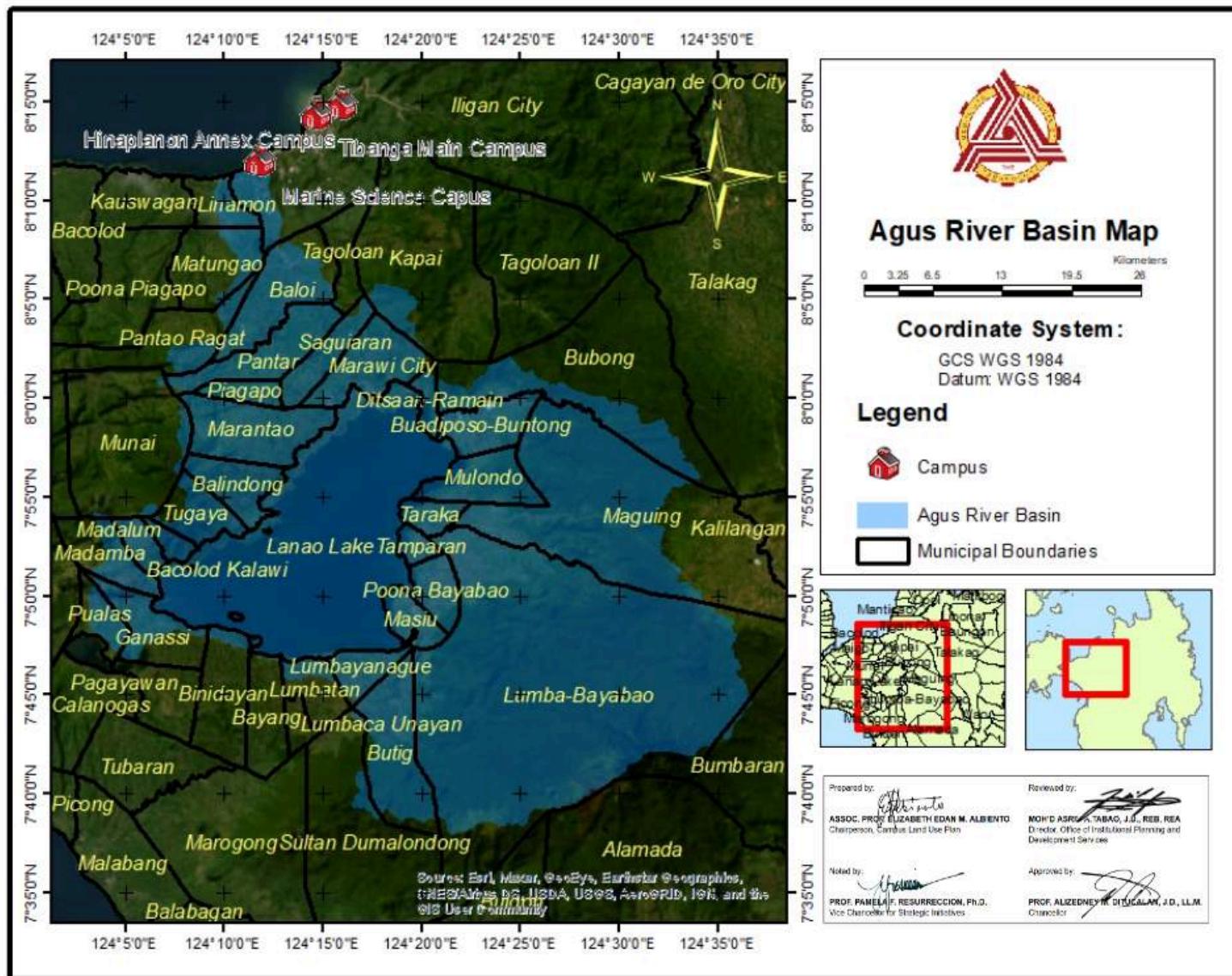


Figure 2.9. Agus River Basin Map

C. Drainage Network

The Iligan City Drainage Master Plan focuses on the urban area, encompassing 14 barangays, including Tambacan, Tomas-Cabili, and Barangay Tubod in the southern part of the Iligan River. The Iligan City Drainage Inventory, commissioned by DPWH X in 2017 and prepared by UP PLANADES, integrates only the Tibanga Main Campus and Hinaplanon Campus Annex into the inventory map, as illustrated in Figure 2.10.

Within the Tibanga Main Campus, Figure 2.11. meticulously illustrates the prevailing drainage system, featuring three distinct types: box type, open canal type, and reinforced concrete pipe culvert. The MSU-IIT drainage system is characterized by two primary lines: one extending from the Administrative Office to the outlet near the Alumni Boarding House, while the other stretches from the campus entrance gate to an outlet situated at the rear of the PRISM building. The lengths of these drainage components are precisely delineated as 576.47m, 342.86m, and 974.93m, respectively, with detailed specifications available in Table 2.1.

Table 2.1. Existing Drainage Type

Drainage Type	Length (m)	Width/ Diameter (m)
Box Type	576.47	6" (0.15m)
Open Canal Type	342.86	6" (0.15m)
Reinforced Concrete Pipe Culvert (RCPC)	974.93	18"-36" (0.90m)

On the other hand, the appurtenant structures in MSU-IIT are manholes and catchment basins and the total number of drainage manholes is 35 units while there are 27 units of catch basins in the campus (refer to Table 2.2 and Table 2.3).

Table 2.2. Existing Manhole

Location	Drainage Type	Manhole		
		Dimension (in)	Quantity	Condition
CASS	Open Canal and RCPC	19.7 x 19.7	6	Partially silted and covered in vegetation
CEBA	Open Canal	19.7 x 19.7	1	
CET	Box Type			
COE	RCPC	19.7 x 19.7	6	Partially silted
CSM	RCPC	19.7 x 19.7	4	Partially silted
CCS	RCPC			
Dorm	RCPC & Box Type	19.7 x 19.7	5	Silted, blocked by garbage, and covered in vegetation
IDS	Box Type			
Lawn	RCPC & Box Type	19.7 x 19.7	1	
PRISM	RCPC			
Twin Court	RCPC	19.7 x 19.7	12	Partially silted

Table 2.3. Existing Catch Basin

Location	Drainage Type	Catchment Basin		
		Dimension (in)	Quantity	Condition
CASS	Open Canal & RCPC	17.7 x 17.7	8	
CEBA	Open Canal	17.7 x 17.7	3	Partially silted
CET	Box Type			
COE	RCPC	17.7 x 17.7	7	
CSM	RCPC			
CCS	RCPC			
Dorm	RCPC & Box Type			Silted, blocked by garbage, and covered in vegetation
IDS	Box Type			Silted, blocked by garbage, and covered in vegetation
Lawn	RCPC & Box Type			
PRISM	RCPC	17.7 x 17.7	9	
Twin Court	RCPC	19.7 x 19.7		

D. Sewerage Network**Background of the Sewage Treatment Plant**

Currently, the Sewage Treatment Plant inside the campus caters to only selected buildings namely CSM, COE, CED, CBA, and the Engineering Technology building with a total occupancy of 6,000 people. The septic inventory map is shown in Figure 2.13. Table 2.4 shows the typical water use and characterization studies for institutional facilities and it will be used to calculate the sewage design.

Table 2.4. Typical Water-Use Values for Institutional Use

Use	Unit	Flow, gal/unit day	
		Range	Typical
Hospital, Medical	Bed	130-260	150
Rest Home	Resident	5-150	90
School, day			
i. with cafeteria, gym, and showers	Student	15-30	25
ii. with cafeteria only	Student	10-20	15
iii. with cafeteria & gym	Student	5-15	10
ix. school, boarding	Student	50-80	75

Source: Wastewater Engineering 3rd Edition, Metcak and Eddy

In Table 2.5, the calculation of volumetric flow rate is shown by multiplying the population, 6859, and typical per capita flow, 12.67 gallons per day resulting in 328 m³ per day or 13.67 m³ per hour. A peak flow factor of 1.5 is employed which makes a typical peak flow rate 19 gal per day which is equal to 492 m³ per day or 20.50 m³ per hour.

Table 2.5. Assumed Volumetric Flow Rate

Population	Values	PHP Per Capita Typical Values, gal/day	Volumetric Flow Rate (gpd/m ³ /day)
Faculty and Student Population, Total	6,859	12.67	86, 903 gpd =328.0 m ³ /day =13.67 m ³ /hr

Peak Flow Factor	x 1.5	19	130, 355 gpd =492 m ³ /day =20.50m ³ /hr
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The existing Sewage Treatment Plant (refer to Figure 2.14) constructed near the PRISM building can process a volumetric flow rate of 86,903 gal/day or 328 cu.m/day and a peak volumetric flow rate of 130,355 gal/day or 492 cu.m/day as shown in Table 2.6.

Table 2.6. Peak Volumetric Flow Rate

Population	Values	Typical Average Values (gal/day)	Volumetric Flow Rate (gpd/m ³ /day)
Academic Staff, Non-academic Staff, and Students	6,859	12,67 gpd	86, 903 gpd = 328 m ³ /day
Considering campus occupancy, using as a base the given student population of 6,000 from CSM, COE, CED, CEBA, and the Engineering Technology buildings, plus half of the population of MSU-IIT, is 1,717/2 =859 + 6,000 = 6,859 pax.			Peak Volumetric Flow Rate (gpd/m ³ /day) 130, 355 gpd = 492 m³/day

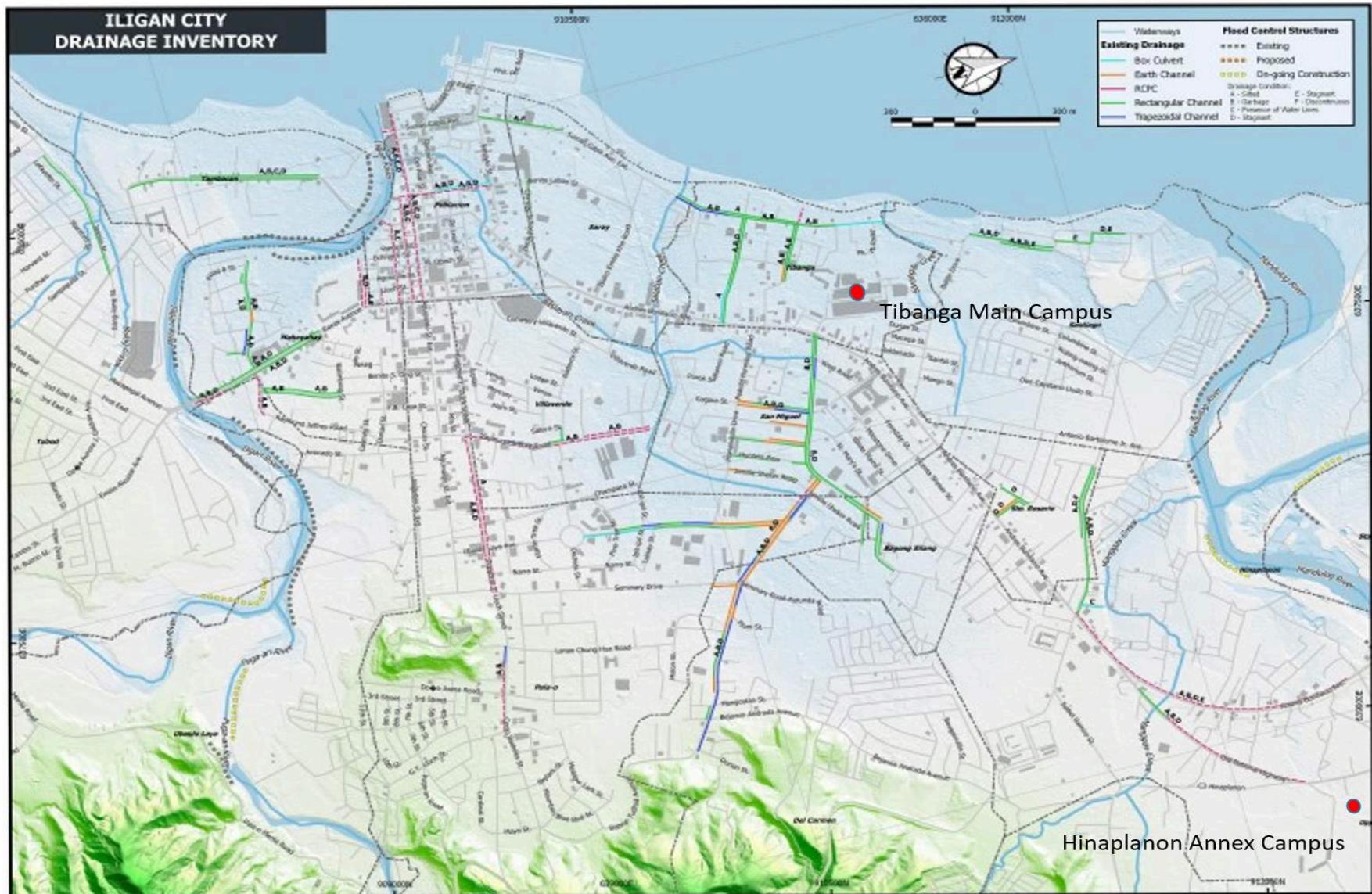


Figure 2.10. Iligan City Drainage Inventory Map (DPWH X, 2017)

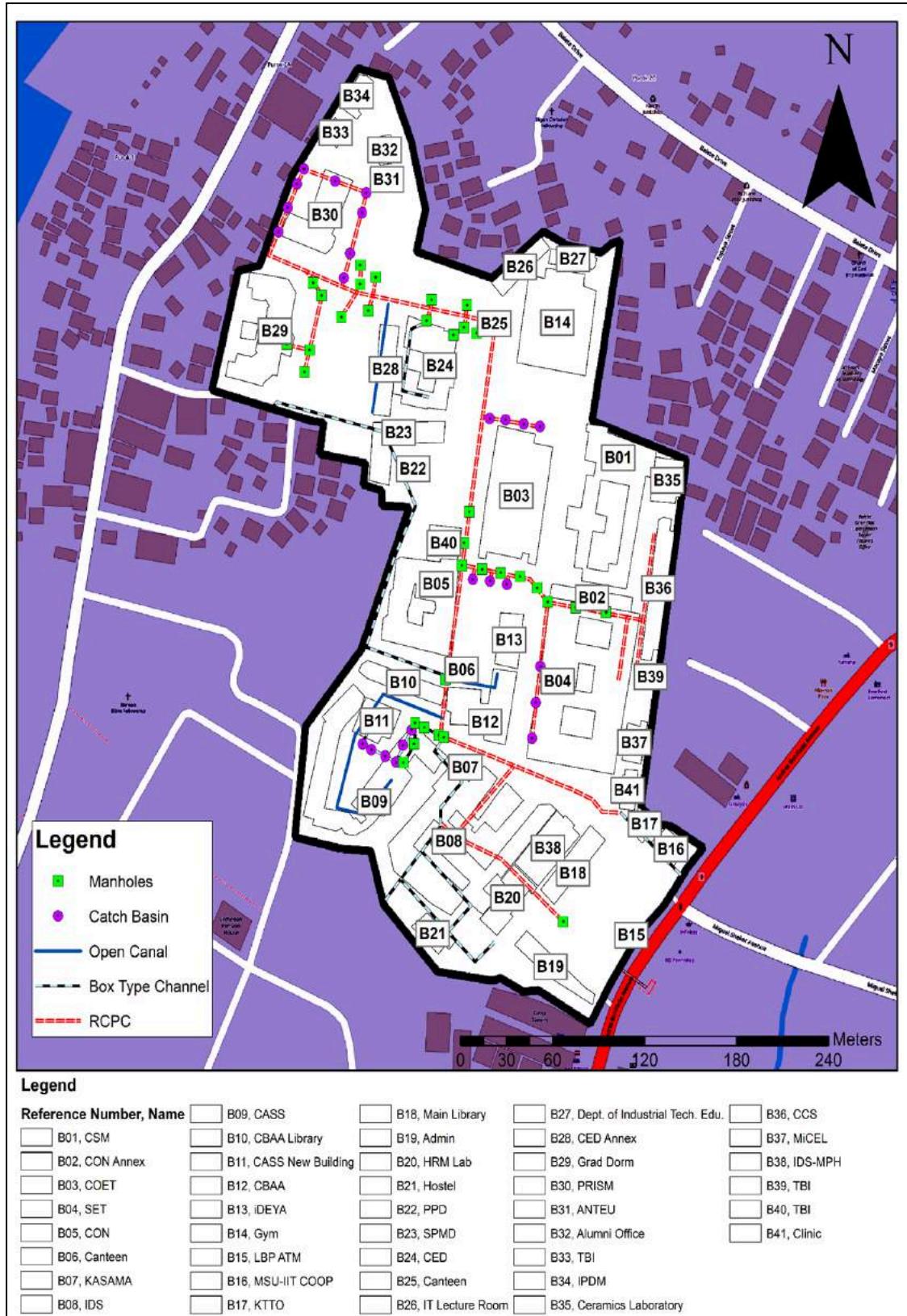


Figure 2.11. Tibanga Main Campus Existing Drainage Plan (Ali et al., 2023)

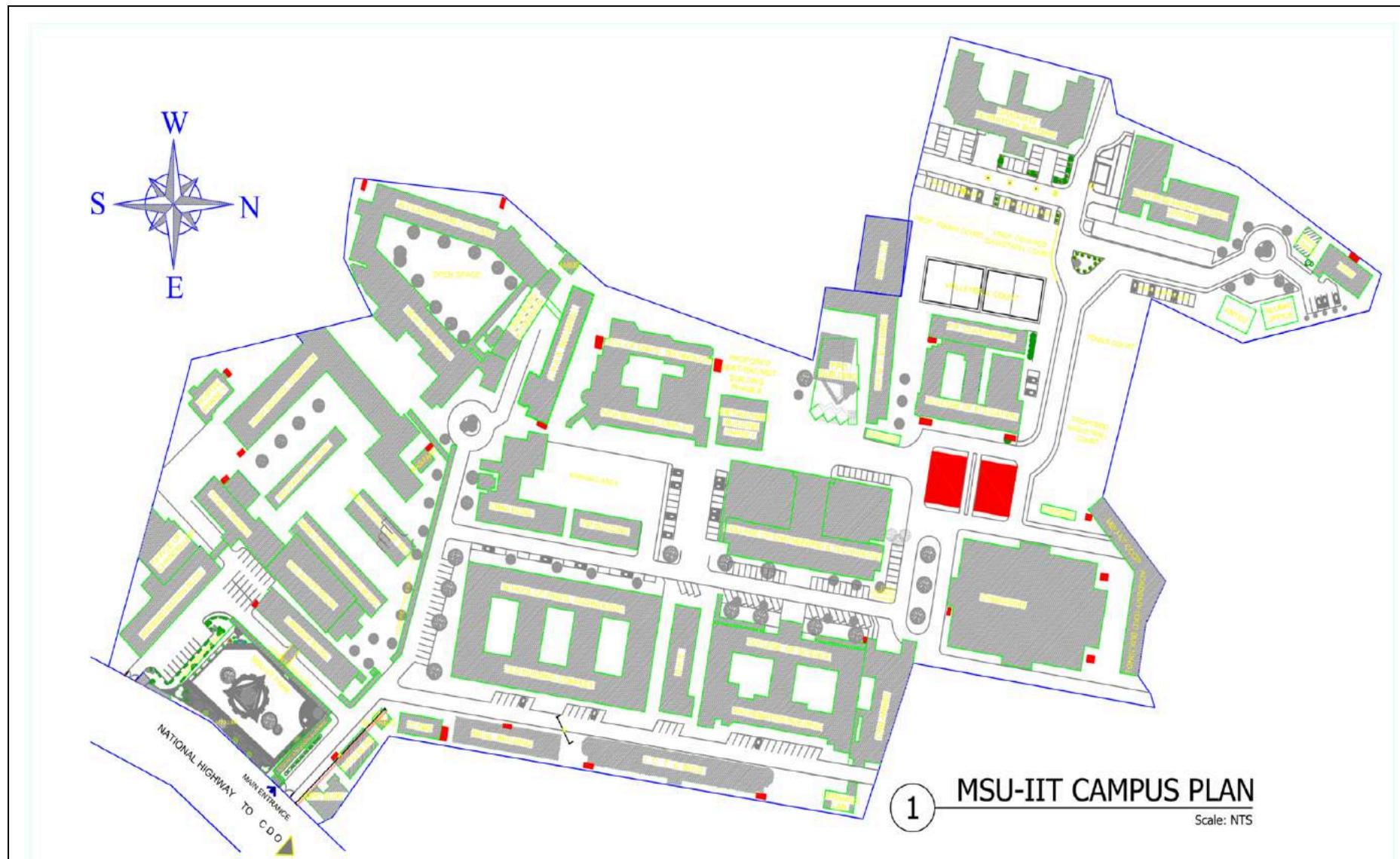


Figure 2.12. Tibanga Main Campus Existing Sewerage Plan (Albiento et al., 2023)



Figure 2.13. MSU-IIT Sewerage Treatment Plan

E. Thematic Maps on Risks and Vulnerabilities

Tibanga Main Campus

a. Flood

Flood Susceptibility

Flood susceptibility shows which portion of the land is susceptible to flooding. Figure 2.14 below shows the flood susceptibility map of MSU-IIT Tibanga main campus. Take note that 5.92 hectares or 63% of the Tibanga main campus is classified as very highly susceptible to flood and the remaining 3.43 hectares or 37% is classified as moderately susceptible to flood.

Flooding Simulation

Flood modeling simulation given different rainfall return period (RRP) scenarios of 5-year (Y), 25-year (Y), and 100-year (Y) shows differences in the extent and depth of flood. A 5 y RRP means a 20% probability that the corresponding amount of rain falls within a year. A 25 yr RRP means a 4% probability that it will rain in a year and a 100 yr RRP means a 1% probability that such amount will rain within a year. Figures 2.15-2.17 show the flood-simulated model maps for the Tibanga main campus at 5, 25, and 100 y RRP. Flood depth is classified as low (0.10-0.50 m), medium (0.50-1.50 m) and high (> 1.50 m).

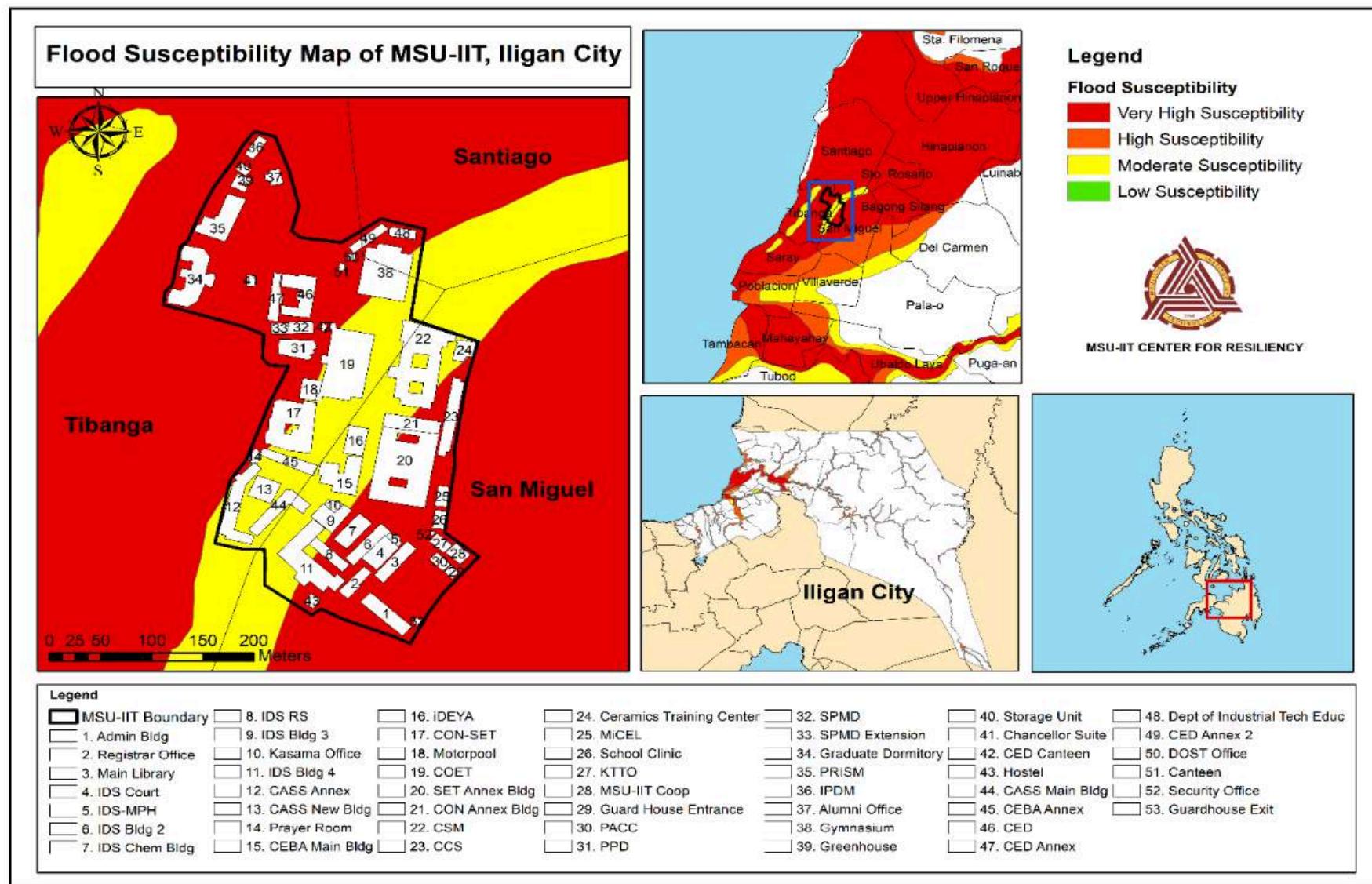


Figure 2.14. MSU-IIT Tibanga Main Campus Flood Susceptibility Map (Source: MSU-IIT Center for Resiliency)

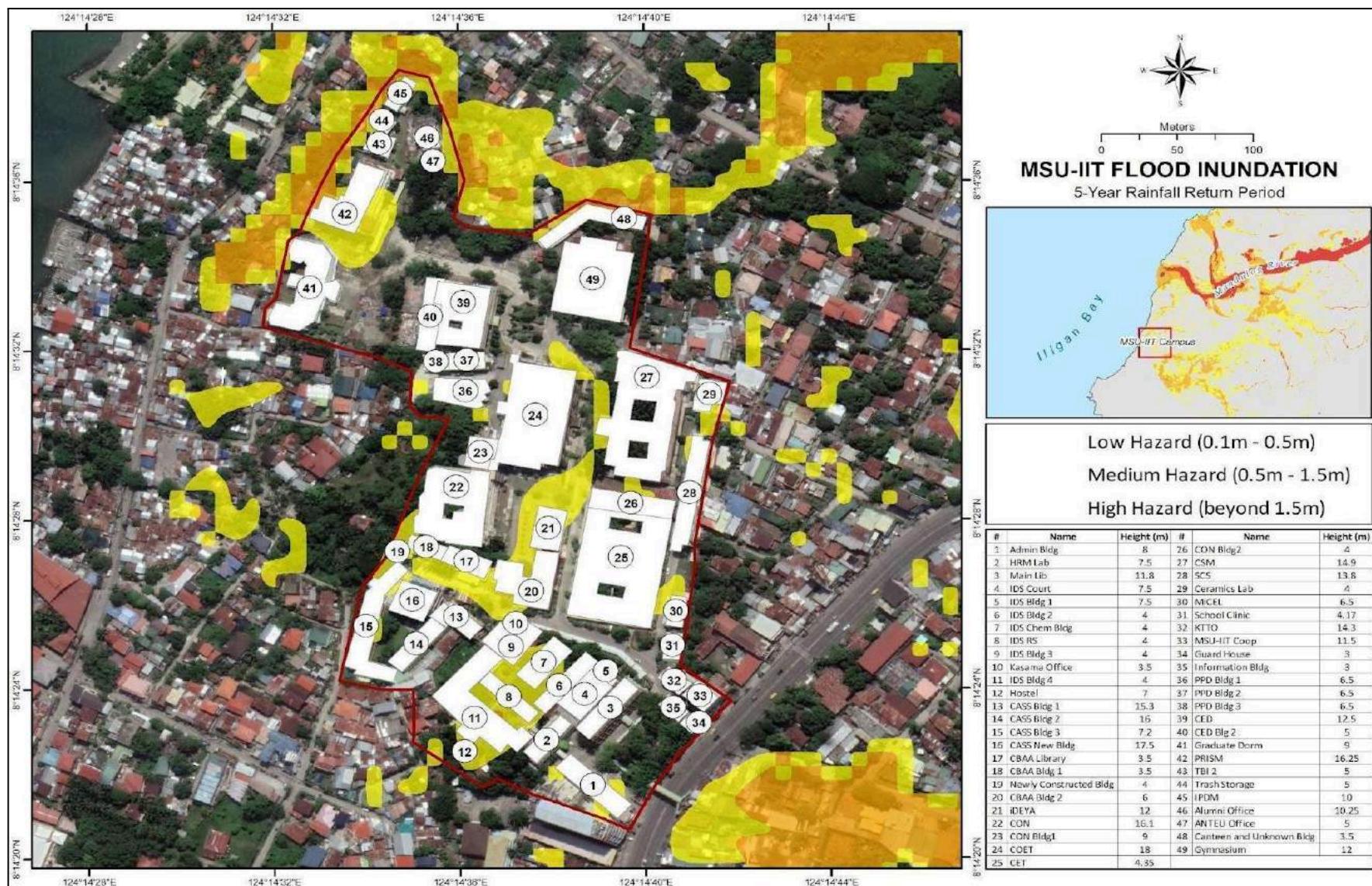


Figure 2.15. MSU-IIT Tibanga Main Campus Flooding Simulation at 5-Year Rainfall Return Period (Source: MSU-IIT Center for Resiliency)

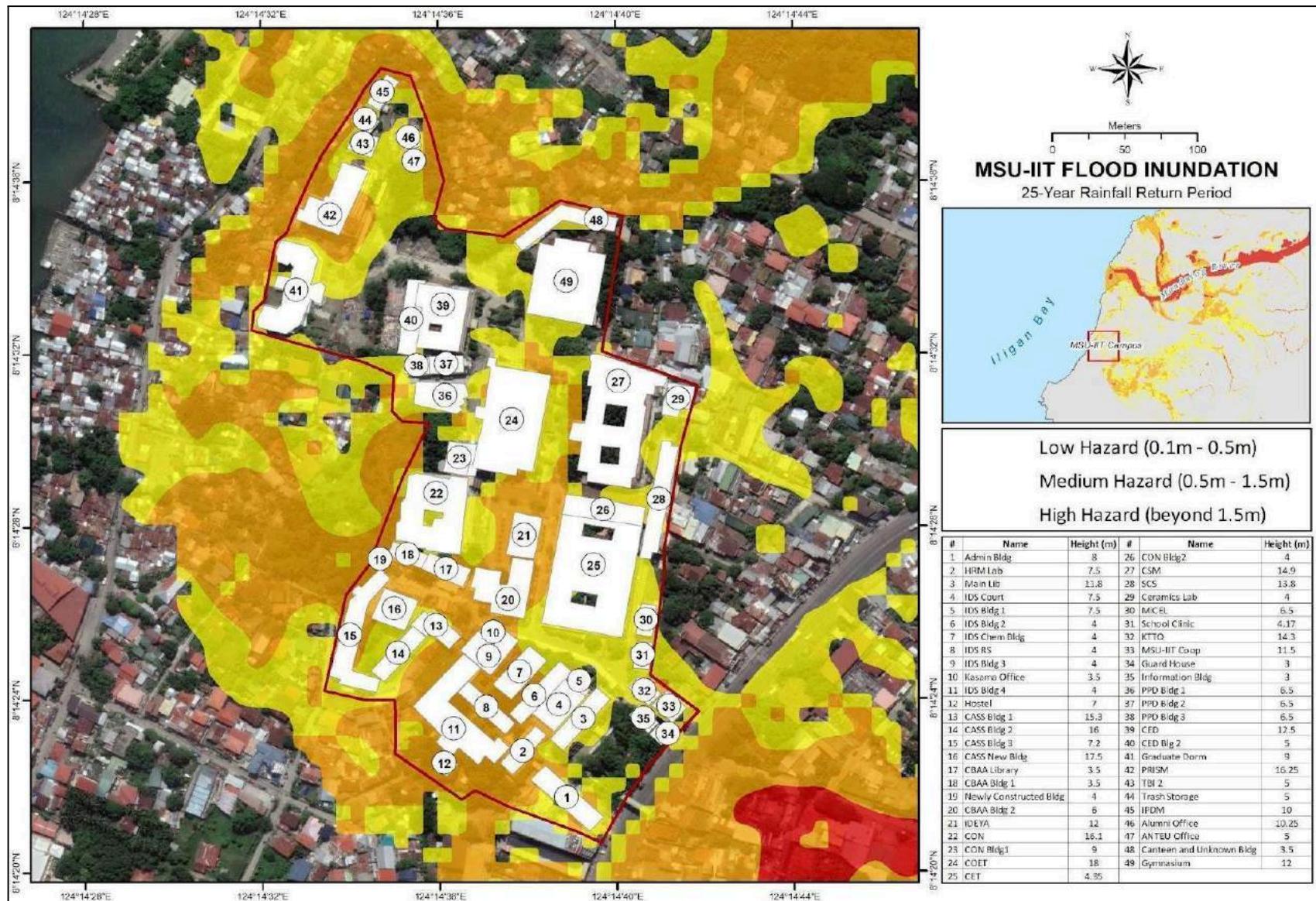


Figure 2.16. MSU-IIT Tibanga Main Campus Flooding Simulation at 25-Year Rainfall Return Period (Source: MSU-IIT Center for Resiliency)

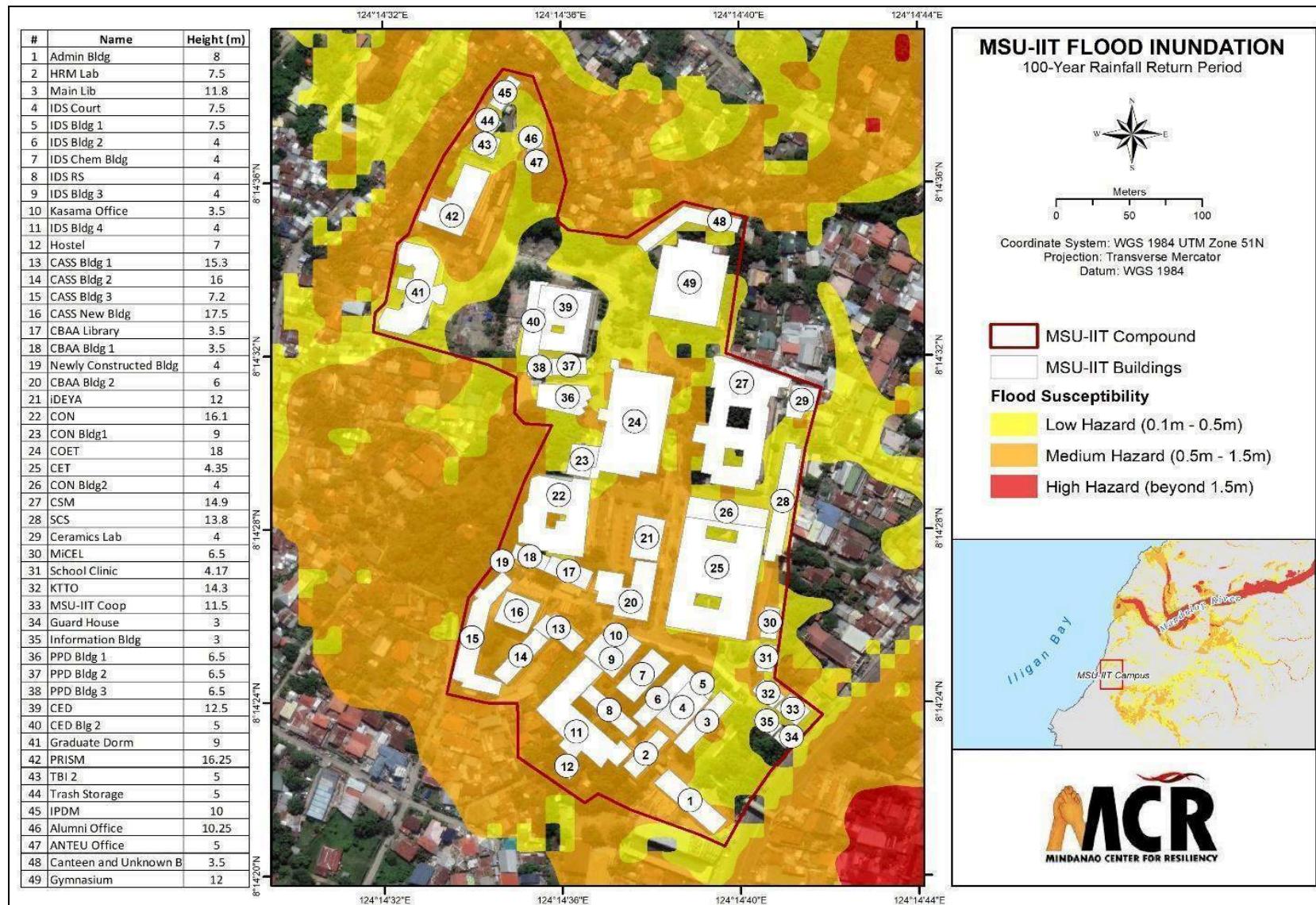


Figure 2.17. MSU-IIT Tibanga Main Campus Flooding Simulation at 100-Year Rainfall Return Period (Source: MSU-IIT Center for Resiliency)

Table 2.7 shows the extent of flooding in relation to the Total Land area of MSU-IIT while Table 2.8 shows the extent of flooding in relation to the Individual Building area inside MSU-IIT.

Take note that the actual simulation results do not have a high flood depth. Meaning based on the simulation modeling there will be no flood depth that is more than 1.50 m affecting MSU-IIT. However, that may change should forest cover in the upstream area of the watershed in which the MSU-IIT is located will be substantially reduced. Hence there is a need to regularly update the land cover and flood map.

As shown in Table 2.7 below, at 5 yr RRP, the total area flooded inside MSU-IIT is 20%, at 25 yr RRP it is 68% this means flooding inside MSU-IIT is more than fifty percent and at 100 yr RRP it is 85.30% this means almost all of MSU-IIT will be flooded. Also at 100 yr RRP, the medium flood depth is greater than the low flood depth. We can see there that the higher the RRP the flood extent is greater and the extent of deeper flooding is higher.

Table 2.7. Flood Extent and Depth per different rainfall scenarios

Total Campus Area = 93,541 m ²	Rainfall Return Period					
	Five (5) Year		Twenty-Five (25) Year		One Hundred (100) Year	
Flood Height (m)	Area Flooded (m ²)	% Flooded to the Total Campus Area	Area Flooded (m ²)	% Flooded to the Total Campus Area	Area Flooded (m ²)	% Flooded to the Total Campus Area
Low	16,906	18.1	35,888	38.4	34,148	36.5
Medium	1,497	1.6	27,721	29.6	45,602	48.8

Table 2.8 shows that **more buildings** will be flooded as the Rainfall Return Period (RRP) increases from 5 yr to 25 yr and to 100 yr.

For each RRP, the trend is that in terms of % flood extent, most buildings are slightly flooded (<35%) followed by highly flooded (>65%) and lastly moderately flooded (35-65%).

Table 2.8. Summary table results of flood affecting the individual building area inside MSU-IIT

Rainfall Return Period (RRP)	Flood Depth Classes	Percentage (%) Flood Extent Inside Buildings	Number of Buildings affected by flood	Names of Buildings affected by flood (refer to Tables)	Proportion of the building area that are flooded
5-yr	Low	>65	6	Table 2.9	Table 2.15
		35-65	5		
		<35	10		
	Sub-Total		22		
	Medium	>65	3	Table 2.10	Table 2.16
		35-65	2		
		<35	1		
25-yr	Sub-Total		6		
	Total		28		
	Low	>65	13	Table 2.11	Table 2.17
		35-65	11		
		<35	22		
	Sub-Total		46		
	Medium	>65	25	Table 2.12	Table 2.18
		35-65	6		
		<35	9		
	Sub-Total		40		
	Total		86		
100-yr	Low	>65	12	Table 2.13	Table 2.19

Rainfall Return Period (RRP)	Flood Depth Classes	Percentage (%) Flood Extent Inside Buildings	Number of Buildings affected by flood	Names of Buildings affected by flood (refer to Tables)	Proportion of the building area that are flooded
		35-65	7		
		<35	18		
	Sub-Total		37		
		>65	39		
	Medium	35-65	1	Table 2.14	Table 2.20
		<35	14		
	Sub-Total		54		
	Total		91		

1/ >65 means more than 65% of the building area will be flooded which is classified as **highly** affected buildings.
 35-65 means that 35-65% of the building area will be flooded which is classified as **moderately** affected buildings. <35 means less than 35% of the building area will be flooded which is classified as **slightly** affected buildings.

The number of buildings to be probably affected by flood using simulation given various rainfall scenarios are shown in Tables 2.9 to 2.14 below.

Table 2.9. Low flood depth during a 5-year RRP

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
1	Newly Constructed Building	IDS Bldg 4	Trash Storage
2	IDS RS	CEBA Bldg 2	CEBA Bldg 1
3	Hostel	CEBA Library	Admin Bldg
4	iDEYA	IPDM	CASS Bldg 3
5	IDS Chem Bldg	IDS Bldg 2	Ceramics Lab
6	PRISM		IDS Bldg 3
7			MiCEL
8			Canteen and Unknown Bldg
9			CHS Bldg2
10			CCS
11			COE
12			CHS
13			CSM
14			Kasama Office
15			CASS New Bldg
16			CET
17			TBI 2
18			Graduate Dorm
19			ISD Bldg 1

Table 2.10. Medium flood depth during a 5-year RRP

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
1	IDS RS	Trash Storage	IPDM

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
2	IDS Bldg 4	Canteen and Unknown Bldg	
3	PRISM		

Table 2.11. Low flood depth during a 25-year RRP

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
1	MiCEL	CASS New Bldg	IPDM
2	University Infirmary	CCS	IDS Bldg 2
3	ANTEU Office	ISD Bldg 1	PRISM
4	CASS Bldg 2	Admin Bldg	CEBA Bldg 1
5	Main Lib	IDS Court	Trash Storage
6	KTTO	CASS Bldg 3	IDS Chem Bldg
7	Alumni Office	CHS Bldg2	CEBA Library
8	TBI 2	CHS	ISD Bldg 3
9	CASS Bldg 1	Graduate Dorm	Ceramics Lab
10	MSU-IIT Coop	Gymnasium	CED Blg 2
11	COE	Canteen and Unknown Bldg	CSM
12	IDS Bldg 1		IDS Bldg 1
13	CET		Information Bldg
14			CED
15			Guard House
16			CEBA Bldg 2
17			IDS Court
18			CHS Bldg2
19			CASS Bldg 1
20			IDS Bldg 3
21			CASS Bldg 2
22			CET

Table 2.12. Medium flood depth during a 25-year RRP

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
1	HRM Lab	CHS	CSM
2	IDS Chem Bldg	Trash Storage	Kasama Office
3	KTTO	IDS Bldg 2	IDS Bldg 3
4	IDS Bldg 4	ISD Bldg 1	CHS Bldg2
5	Hostel	CHS Bldg2	Newly Constructed Bldg
6	CEBA Bldg 2	Graduate Dorm	CET
7	IDS RS		CASS Bldg 3
8	iDEYA		Newly Constructed Bldg
9	IDS Court		CEBA Bldg 1
10	IDS Bldg 3		
11	IPDM		

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
12	PRISM		
13	Kasama Office		
14	CEBA Bldg 1		
15	Canteen and Unknown Bldg		
16	Admin Bldg		

Table 2.13. Low flood depth during a 100-year RRP

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
1	MSU-IIT Coop	CED Blg 2	MiCEL
2	TBI 2	Information Bldg	Canteen and Unknown Bldg
3	CCS	Gymnasium	CED
4	ISD Bldg 2	CET	CSM
5	CHS Bldg2	CHS	IPDM
6	Alumni Office	COE	Main Lib
7	ISD Bldg 3	CHS Bldg1	PRISM
8	Graduate Dorm		Ceramics Lab
9	University Infirmary		Admin Bldg
10	KTTO		CEBA Library
11	ISD Bldg 1		Trash Storage
12			IDS Bldg 1
13			Guard House
14			CHS Bldg2
15			ANTEU Office
16			CHS Bldg1
17			CET
18			COE

Table 2.14. Medium flood depth during a 100-year RRP

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
1	ANTEU Office	Trash Storage	CSM
2	Alumni Office		Ceramics Lab
3	Admin Bldg		Kasama Office
4	University Infirmary		IDS Bldg 1
5	IDS Chem Bldg		IDS Bldg 3
6	CASS New Bldg		IDS Court
7	KTTO		CHS Bldg2
8	TBI 2		CET
9	IDS Bldg 4		CASS Bldg 1
10	CEBA Library		CASS Bldg 2
11	IDS Bldg 2		Newly Constructed Building
12	CEBA Bldg 2		CASS Bldg 3

No.	Highly Affected Buildings (> 65%)	Moderately Affected Buildings (35-65%)	Slightly Affected Buildings (< 35%)
13	iDEYA		Newly Constructed Building
14	HRM Lab		CEBA Bldg 1
15	MSU-IIT Coop		
16	PRISM		
17	MiCEL		
18	IDS RS		
19	Hostel		
20	Main Lib		
21	CASS Bldg 3		
22	COE		
23	Newly Constructed Building		
24	CASS Bldg 2		
25	CASS Bldg 1		
26	IDS Court		
27	CHS Bldg2		
28	CCS		
29	IDS Bldg 3		
30	IDS Bldg 1		
31	IPDM		
32	CET		
33	Canteen and Unknown Bldg		
34	Kasama Office		
35	CEBA Bldg 1		
36	ISD Bldg 3		
37	ISD Bldg 1		
38	CHS		
39	Graduate Dorm		

The percentage floor area affected by flood per building based on flood simulation on different rainfall scenarios are shown in Tables 2.15 to 2.20 below.

Table 2.15. Area percentage of affected buildings by low flood height category in 5-year RRP

Building Name	Total Building Area (m ²)	Area Affected by Flood (m ²)	Percentage Area covered by flood (%)
Admin Bldg	770.95	220.45	28.6
IDS Bldg 2	600.29	222.75	37.1
IDS Chem Bldg	616.67	467.49	75.8
IDS RS	462.32	438.35	94.8
IDS Bldg 3	642.34	166.36	25.9
Kasama Office	137.61	4.72	3.4
IDS Bldg 4	1,947.15	1,279.01	65.7
Hostel	159.50	142.36	89.3
CASS Bldg 3	1,291.86	342.84	26.5
CASS New Bldg	586.31	19.22	3.3

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
CEBA Library	412.55	225.46	54.7
CEBA Bldg 1	264.49	86.88	32.9
Newly Constructed Bldg	135.34	128.94	95.3
CEBA Bldg 2	1,187.16	753.07	63.4
iDEYA	588.42	450.20	76.5
CHS	2,188.79	93.08	4.3
COE	3,168.11	298.55	9.4
CET	4,153.38	94.42	2.3
CHS Bldg2	784.80	125.94	16.0
CSM	3,330.93	117.41	3.5
CCS	958.89	130.81	13.6
Ceramics Lab	385.62	100.79	26.1
MiCEL	246.07	52.92	21.5
ISD Bldg 1	662.82	2.83	0.4
Graduate Dorm	1,594.59	11.65	0.7
PRISM	1,163.30	803.84	69.1
TBI 2	248.72	2.49	1.0
Trash Storage	160.68	54.06	33.6
IPDM	238.15	88.77	37.3
Canteen and Unknown Bldg	750.20	143.79	19.2

Table 2.16. Area percentage of affected buildings by medium flood height category in 5-year RRP

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
IDS RS	462.32	462.32	100.0
IDS Bldg 4	1,947.15	1,529.34	78.5
PRISM	1,163.30	865.20	74.4
Trash Storage	160.68	75.82	47.2
IPDM	238.15	60.09	25.2
Canteen and Unknown Bldg	750.20	312.32	41.6

Table 2.17. Area percentage of affected buildings by low flood height category in 25-year RRP

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
Admin Bldg	771	363	47.1
Main Lib	603	594	98.6
IDS Court	644	303	47.1
IDS Bldg 1	114	77	67.8
IDS Bldg 2	600	183	30.4
IDS Chem Bldg	617	134	21.7
IDS Bldg 3	642	1	0.1
CASS Bldg 1	429	319	74.5

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
CASS Bldg 2	523	523	99.9
CASS Bldg 3	1,292	546	42.2
CASS New Bldg	586	318	54.2
CEBA Library	413	75	18.1
CEBA Bldg 1	264	76	28.7
CEBA Bldg 2	1,187	8	0.7
CHS	2,189	903	41.2
COE	3,168	2,275	71.8
CET	4,153	2,791	67.2
CHS Bldg2	785	330	42
CSM	3,331	150	4.5
CCS	959	509	53.1
Ceramics Lab	386	37	9.6
MiCEL	246	246	100
University Infirmary	212	212	100
KTTO	226	218	96.4
MSU-IIT Coop	277	200	72.3
Guard House	108	1	1
Information Bldg	189	2	1.3
ISD Bldg 1	663	323	48.8
ISD Bldg 3	203	32	15.8
CED	1,380	16	1.2
CED Blg 2	587	49	8.3
Graduate Dorm	1,595	656	41.2
PRISM	1,163	338	29.1
TBI 2	249	196	78.7
Trash Storage	161	41	25.6
IPDM	238	79	33.3
Alumni Office	216	193	89.4
ANTEU Office	76	76	100
Canteen and Unknown Bldg	750	273	36.4
Gymnasium	2,526	991	39.3
IDS Court	644	2	0.4
IDS Bldg 1	114	2	2
CASS Bldg 1	429	1	0.1
CASS Bldg 2	523	1	0.1
CET	4,153	2	0
CHS Bldg2	785	2	0.3

Table 2.18. Area percentage of affected buildings by medium flood height category in 25-year RRP

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
Admin Bldg	771	308	39.9
HRM Lab	405	405	100

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
IDS Court	644	339	52.6
IDS Bldg 2	600	418	69.6
IDS Chem Bldg	617	483	78.3
IDS RS	462	462	100
IDS Bldg 3	642	634	98.7
Kasama Office	138	130	94.3
IDS Bldg 4	1,947	1,947	100
Hostel	160	160	100
CASS Bldg 1	429	109	25.4
CASS Bldg 3	1,292	746	57.8
CASS New Bldg	586	268	45.8
CEBA Library	413	280	67.8
CEBA Bldg 1	264	169	64
Newly Constructed Bldg	135	135	100
CEBA Bldg 2	1,187	1,179	99.3
iDEYA	588	588	100
CHS	2,189	400	18.3
COE	3,168	316	10
CET	4,153	152	3.7
CHS Bldg2	785	37	4.7
CSM	3,331	112	3.4
KTTO	226	8	3.6
MSU-IIT Coop	277	5	1.7
ISD Bldg 1	663	3	0.4
	1,595	11	0.7
PRISM	1,163	782	67.2
Trash Storage	161	44	27.4
IPDM	238	153	64.2
Canteen and Unknown Bldg	750	406	54.2
IDS Bldg 3	642	8	1.2
Kasama Office	138	8	5.7
CASS Bldg 3	1,292	0	0
Newly Constructed Building	135	0	0
CEBA Bldg 1	264	0	0
Newly Constructed Building	135	0	0
CET	4,153	1	0
CHS Bldg2	785	1	0.1

Table 2.19. Area percentage of affected buildings by low flood height category in 100-year RRP

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
Admin Bldg	770.95	121.87	15.8
Main Lib	602.66	151.48	25.1

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
IDS Bldg 1	113.64	3.91	3.4
CEBA Library	412.55	50.91	12.3
CHS	2,188.79	959.41	43.8
CHS Bldg1	404.21	159.32	39.4
COE	3,168.11	1,365.21	43.1
CET	4,153.38	2,306.31	55.5
CHS Bldg2	784.80	717.75	91.5
CSM	3,330.93	902.39	27.1
CCS	958.89	916.58	95.6
Ceramics Lab	385.62	66.84	17.3
MICEL	246.07	83.74	34
University Infirmary	211.60	162.32	76.7
KTTO	226.09	165.60	73.2
MSU-IIT Coop	276.75	270.89	97.9
Guard House	107.82	1.19	1.1
Information Bldg	189.07	119.25	63.1
ISD Bldg 1	662.82	452.97	68.3
ISD Bldg 2	281.47	266.27	94.6
ISD Bldg 3	203.45	167.88	82.5
CED	1,380.38	398.15	28.8
CED Blg 2	586.91	377.95	64.4
Graduate Dorm	1,594.59	1,235.07	77.5
PRISM	1,163.30	211.44	18.2
TBI 2	248.72	240.78	96.8
Trash Storage	160.68	12.58	7.8
IPDM	238.15	63.08	26.5
Alumni Office	216.12	190.54	88.2
ANTEU Office	75.80	0.16	0.2
Canteen and Unknown Bldg	750.20	228.51	30.5
Gymnasium	2,525.75	1,500.21	59.4
CHS Bldg1	404.21	0.58	0.1
COE	3,168.11	0.58	0
CET	4,153.38	4.75	0.1
CHS Bldg2	784.80	4.75	0.6

Table 2.20. Area percentage of affected buildings by medium flood height category in 100-year RRP

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
Admin Bldg	770.95	649.08	84.2
HRM Lab	405.16	405.16	100
Main Lib	602.66	451.18	74.9
IDS Court	644.01	641.73	99.6
IDS Bldg 1	113.64	107.45	94.6
IDS Bldg 2	600.29	600.29	100

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
IDS Chem Bldg	616.67	616.67	100
IDS RS	462.32	462.32	100
IDS Bldg 3	642.34	634.50	98.8
Kasama Office	137.61	129.77	94.3
IDS Bldg 4	1,947.15	1,947.15	100
Hostel	159.50	159.50	100
CASS Bldg 1	428.93	428.41	99.9
CASS Bldg 2	523.30	522.78	99.9
CASS Bldg 3	1,291.86	1,291.82	100
CASS New Bldg	586.31	586.31	100
CEBA Library	412.55	361.64	87.7
CEBA Bldg 1	264.49	245.26	92.7
Newly Constructed Building	135.34	135.30	100
CEBA Bldg 2	1,187.16	1,187.16	100
iDEYA	588.42	588.42	100
CHS	2,188.79	851.05	38.9
COE	3,168.11	1,802.33	56.9
CET	4,153.38	1,655.67	39.9
CHS Bldg2	784.80	60.64	7.7
CSM	3,330.93	120.38	3.6
CCS	958.89	31.25	3.3
Ceramics Lab	385.62	17.19	4.5
MiCEL	246.07	162.33	66
University Infirmary	211.60	49.28	23.3
KTTO	226.09	60.49	26.8
MSU-IIT Coop	276.75	5.86	2.1
ISD Bldg 1	662.82	102.49	15.5
ISD Bldg 3	203.45	7.57	3.7
Graduate Dorm	1,594.59	18.23	1.1
PRISM	1,163.30	951.86	81.8
TBI 2	248.72	7.94	3.2
Trash Storage	160.68	75.51	47
IPDM	238.15	168.82	70.9
Alumni Office	216.12	25.58	11.8
ANTEU Office	75.80	75.64	99.8
Canteen and Unknown Bldg	750.20	483.55	64.5
IDS Court	644.01	2.28	0.4
IDS Bldg 1	113.64	2.28	2
IDS Bldg 3	642.34	7.84	1.2
Kasama Office	137.61	7.84	5.7
CASS Bldg 1	428.93	0.52	0.1
CASS Bldg 2	523.30	0.52	0.1
CASS Bldg 3	1,291.86	0.03	0
Newly Constructed Bldg	135.34	0.03	0

Building Name	Total Building Area (m²)	Area Affected by Flood (m²)	Percentage Area covered by flood (%)
CEBA Bldg 1	264.49	0.00	0
Newly Constructed Bldg	135.34	0.00	0
CET	4,153.38	1.67	0
CHS Bldg2	784.80	1.67	0.2

b. Earthquake

Simulated Earthquake for the MSU-IIT Tibanga Main Campus

Figure 2.18 shows the Earthquake map in the context of the barangays surrounding the MSU-IIT campus. Figure 2.19 shows the MSU-IIT buildings coded in numbers and Figure 2.20. shows the distance of MSU-IIT to the Faultline.

The earthquake simulation involves the magnitude and the depth, the result of which is the intensity. The earthquake simulation results are found in the tables below.

Table 2.21 shows that:

- The shallower the depth, the bigger the intensity
- The bigger the magnitude the bigger also is the intensity as compared to lower magnitude
- Also, the bigger the magnitude the intensity is also felt at a deeper depth as compared to a lower magnitude
- There are different depth values per magnitude level and some depth values are expressed in range or as an individual value. That is because those values that are expressed in range have the same intensity value while the depth values displayed as individual values is because it is the only value that corresponds to a specific earthquake intensity
- Earthquake simulation shows that even at the lowest magnitude at 3.0, the earthquake intensity is still felt at a relatively shallower depth at 5-25 km

Take note as well that the earthquake simulation study makes use of the epicenter at Saguiaran, Lanao del Sur emanating from the active faultline that traverses from Marawi City, Saguiaran and Kapai, Lanao del Sur. The epicenter has a distance of 19.64 km from MSU-IIT.

Also, an occurrence of an earthquake emanating from the Saguiaran epicenter affects the whole MSU-IIT campus at any given magnitude.

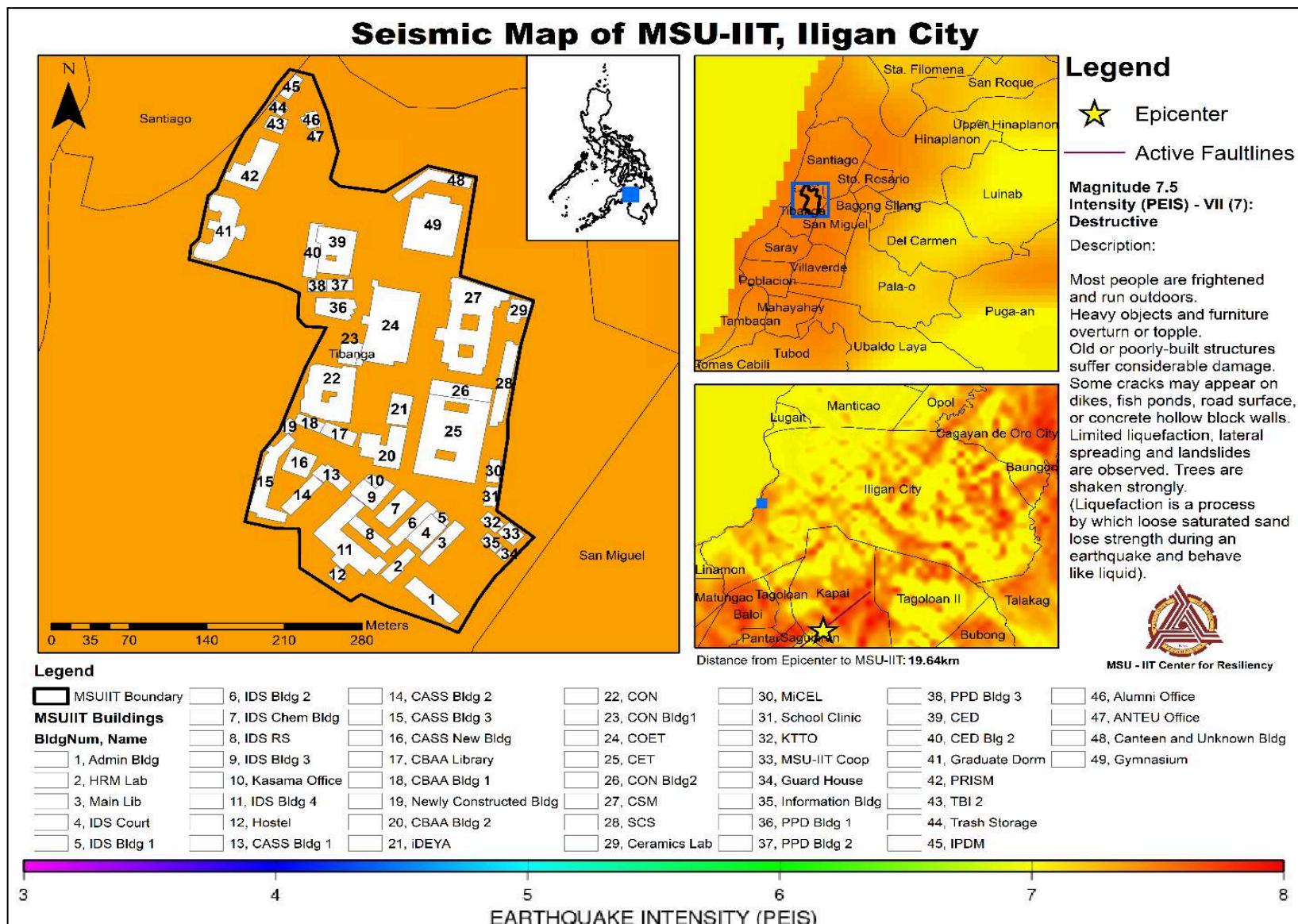


Figure 2.18. MSU-IIT Tibanga Main Campus Seismic Map (Source: MSU-IIT Center for Resiliency)

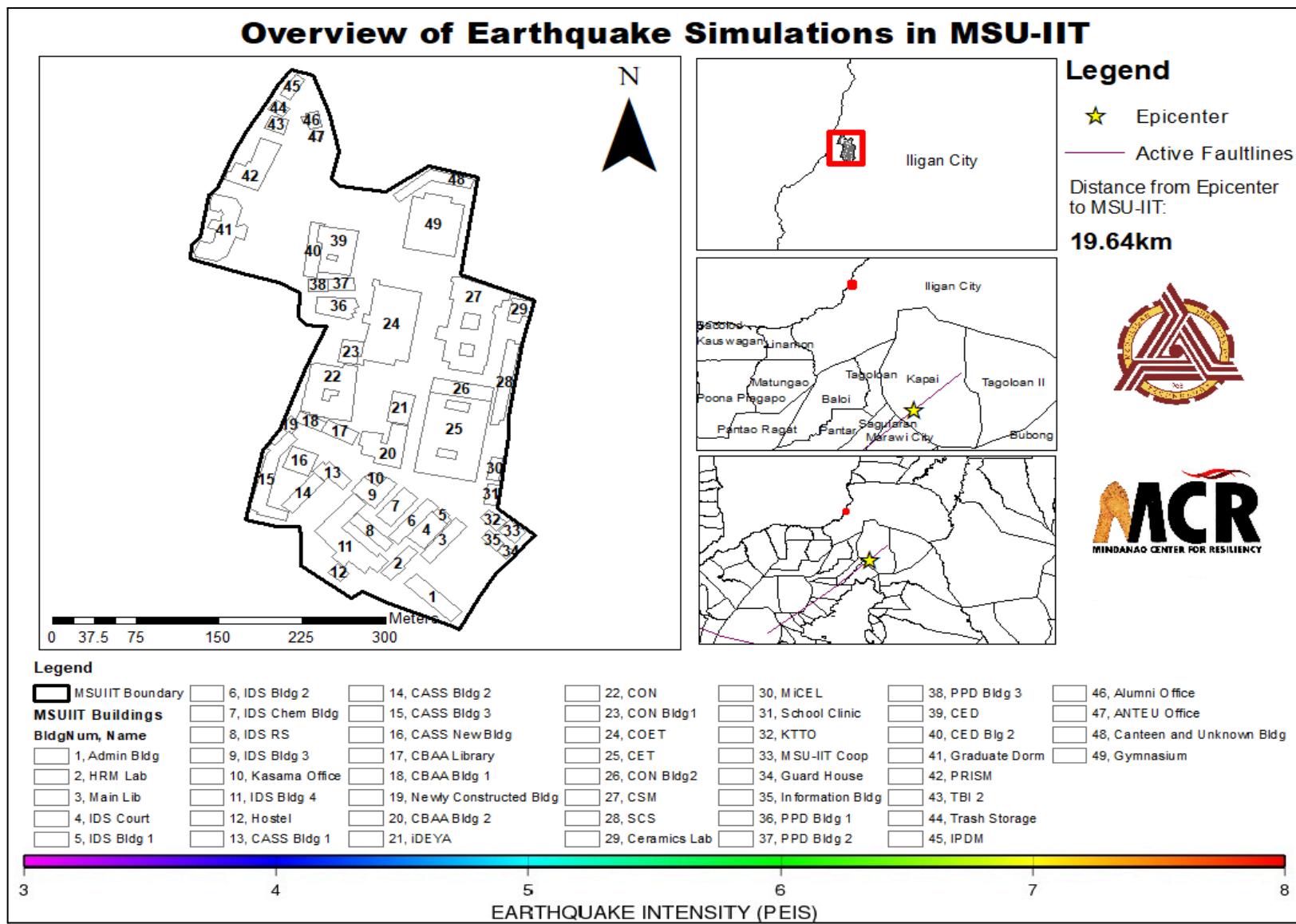


Figure 2.19. MSU-IIT Tibanga Main Campus Earthquake Simulations Building (Source: MSU-IIT Center for Resiliency)

Location & Distance of MSU-IIT (Tibanga Campus) from the Epicenter

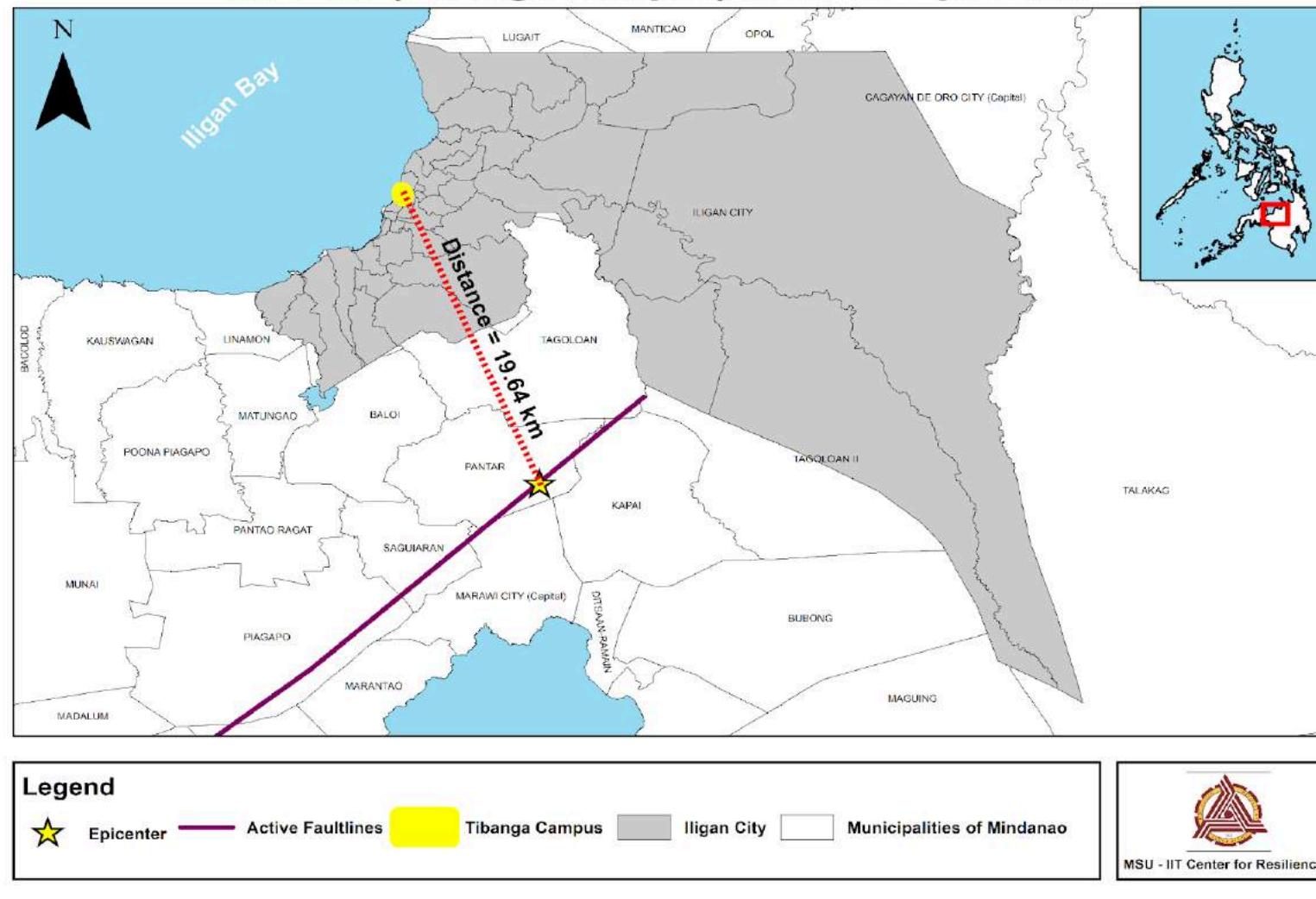


Figure 2.20. MSU-IIT Tibanga Main Campus Distance to Fault Line Map (Source: MSU-IIT Center for Resiliency)

Table 2.21. Summary Results of Earthquake Simulation at Tibanga Main Campus

Depth (km)	Intensity	Description	Map/ Figure	
Earthquake at Magnitude 3.0				
5-15	4	Moderately Strong	See Figure 2.21	
25	3	Weak		
50-350	0	No effect		
Earthquake at Magnitude 4.0				
5	5	Strong	See Figure 2.22	
15-50	4	Moderately Strong		
70	3	Weak		
150-350	0	No effect		
Earthquake at Magnitude 5.0				
5	5.8	Strong	See Figure 2.23	
15	5.5			
25	5.2			
50	5	Moderately Strong		
70	4			
150-350	0			
Earthquake at Magnitude 6.0				
5-15	6.6	Very Strong	See Figure 2.24	
25	6			
50	5.5			
70	5	Strong		
150	4			
300-350	0			
Earthquake at Magnitude 7.0				
5	7	Destructive	See Figure 2.25	
15-25	6.5	Very Strong		
50	6.3			
70	6			
150	4.5	Moderately Strong		
300-350	0	No effect		
Earthquake at Magnitude 7.5				
5-15	7.3	Destructive	See Figure 2.26	
25	6.5	Very Strong		
50-70	6			
150	5	Strong		

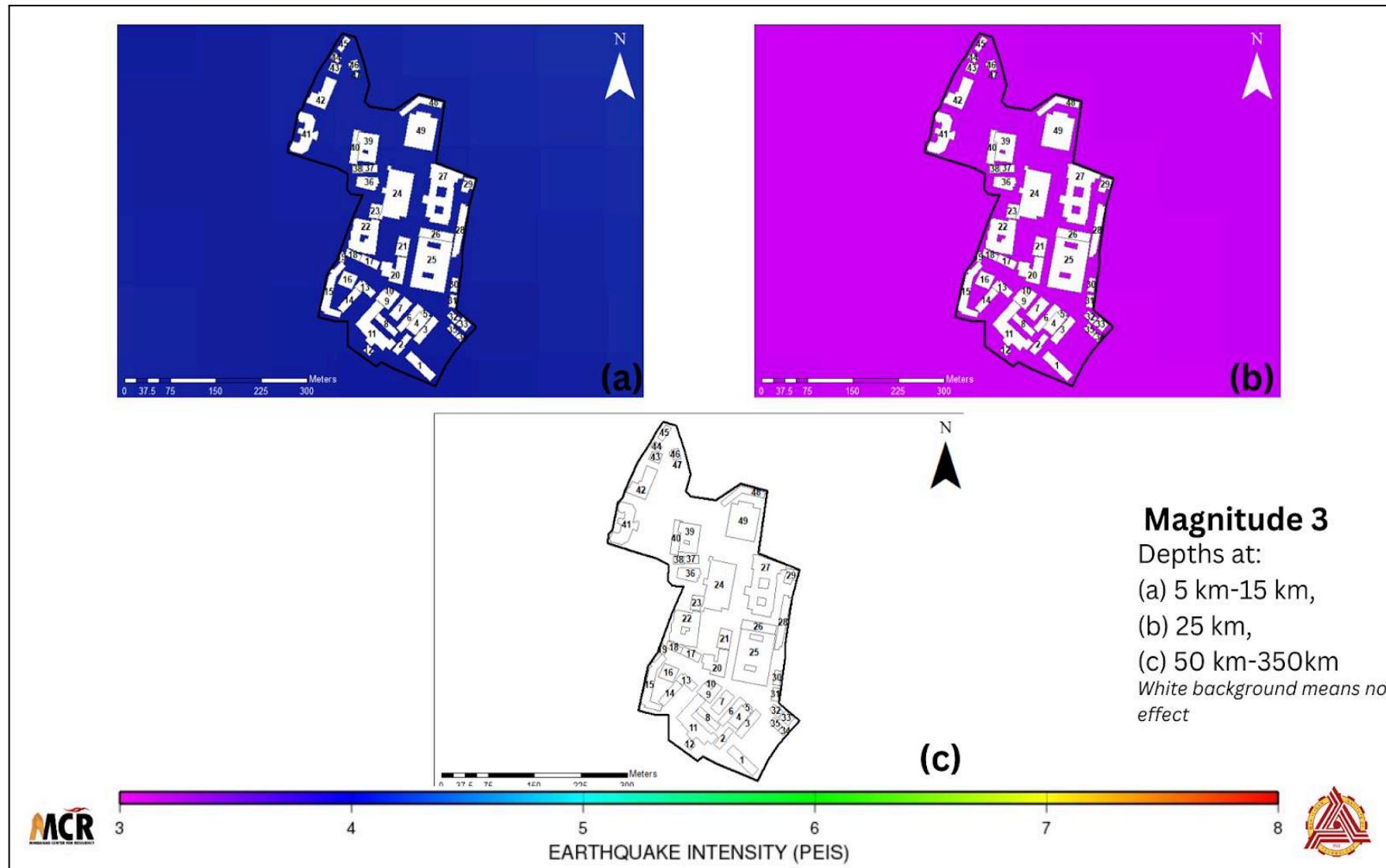


Figure 2.21. MSU-IIT Tibanga Main Campus at Magnitude 3, with depths at: (a) 5 km, (b) 15 km-50 km, (c) 70 km, (d) 150 km-350 km

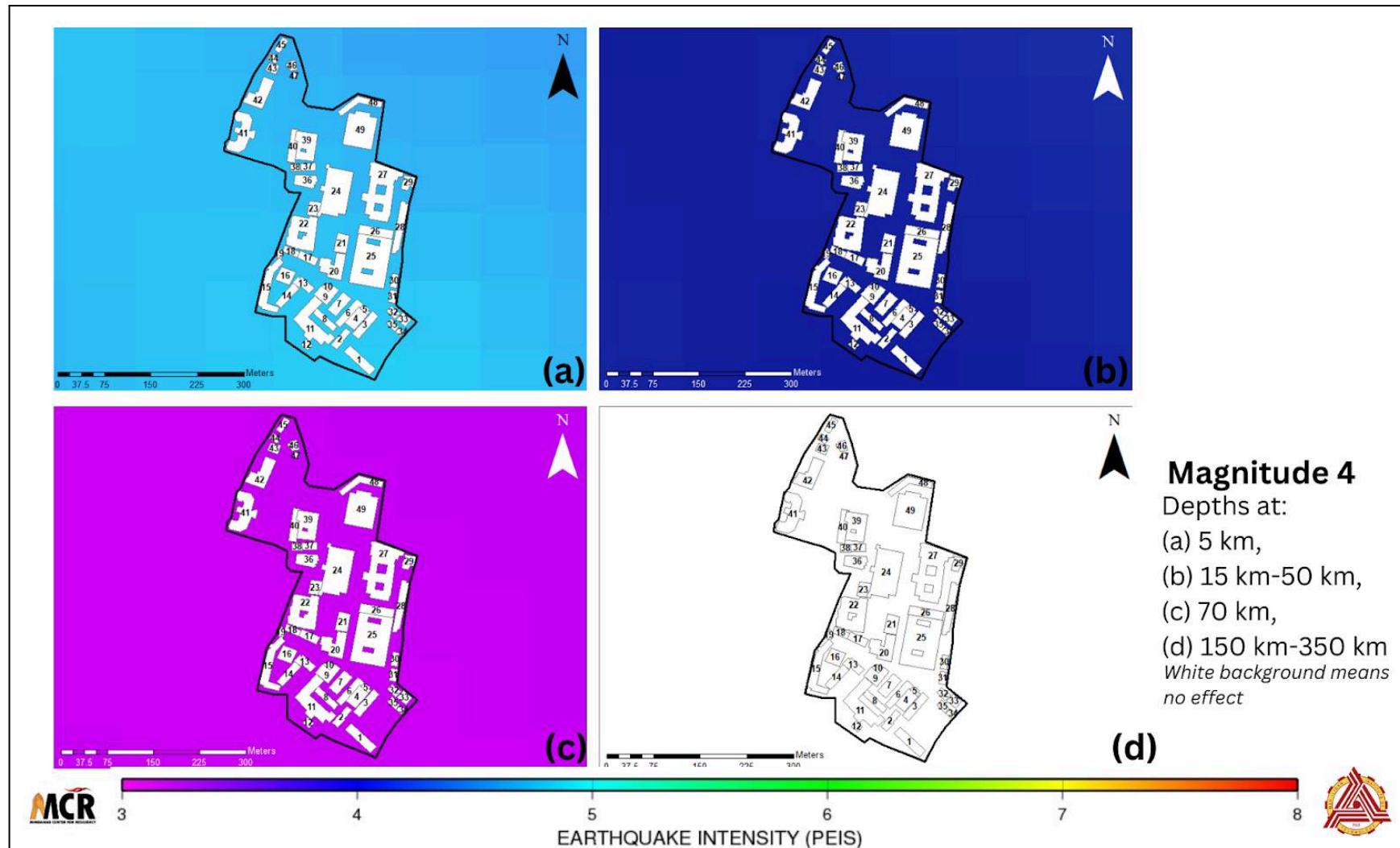


Figure 2.22. MSU-IIT Tibanga Main Campus at Magnitude 4, with depths at: (a) 5 km, (b) 15 km-50 km, (c) 70 km, (d) 150 km-350 km

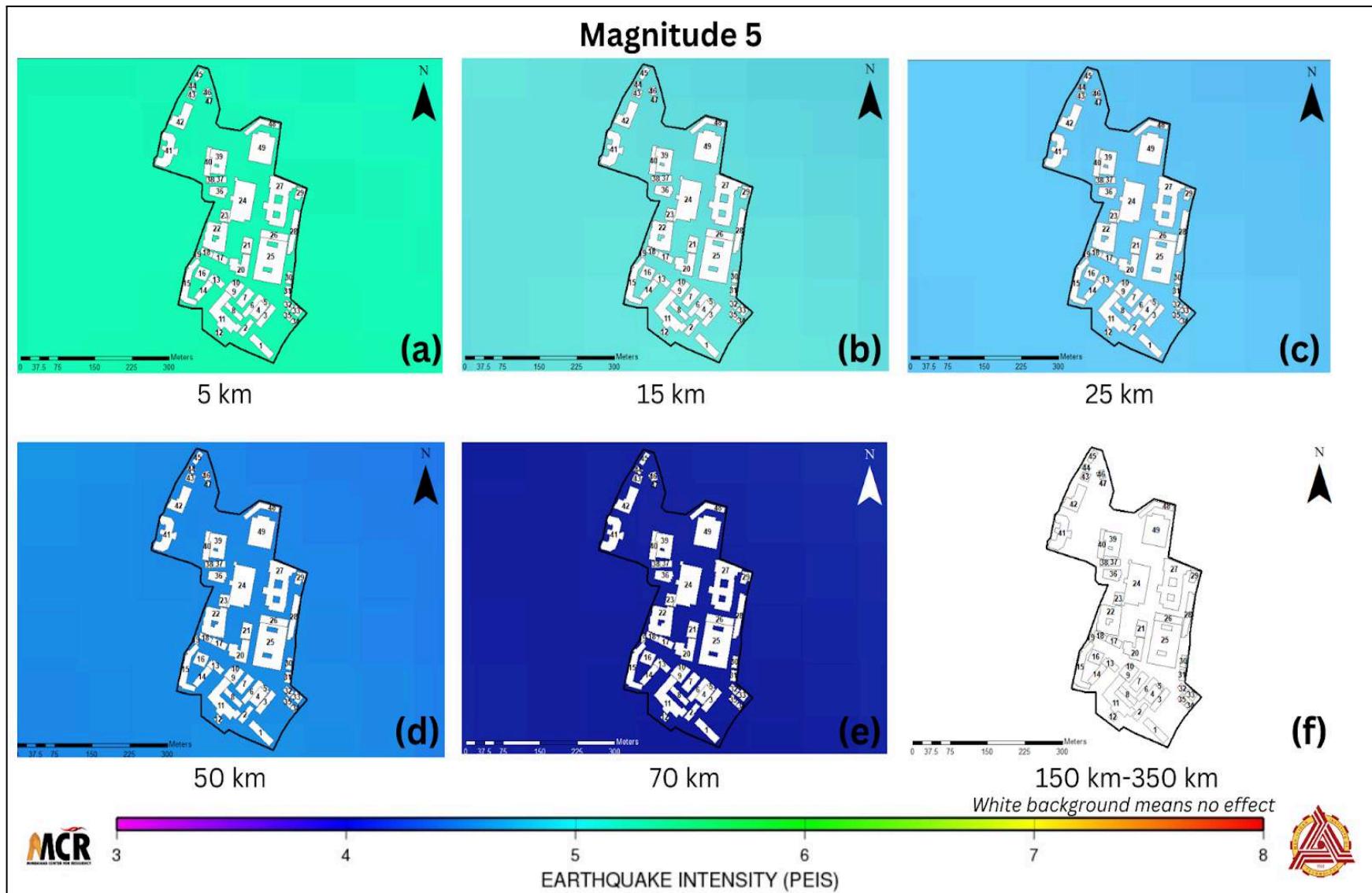


Figure 2.23. MSU-IIT Tibanga Main Campus at Magnitude 5, with depths at: (a) 5 km, (b) 15 km, (c) 25 km, (d) 50 km , (e) 70km , (f) 150 km-350 km

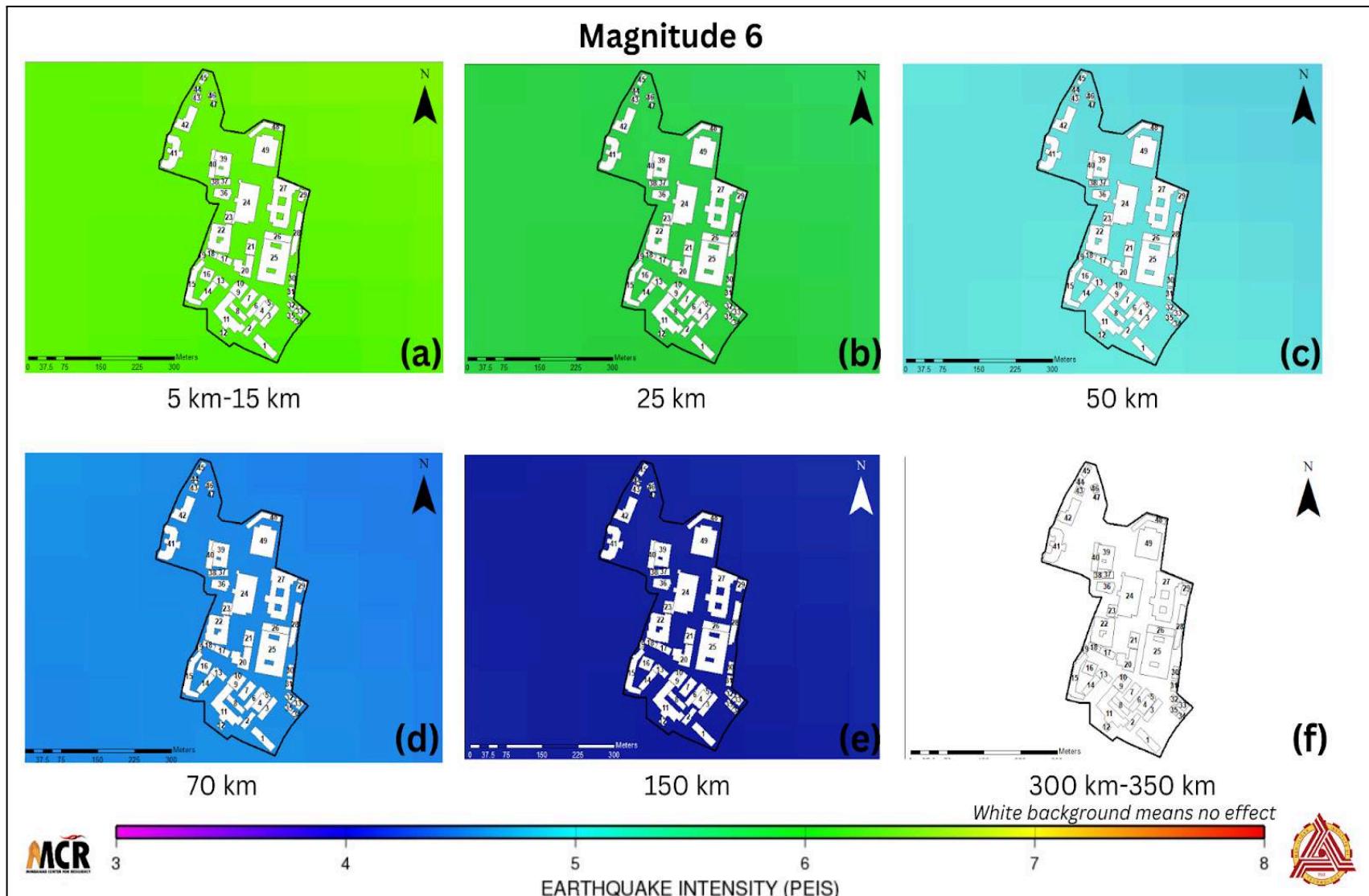


Figure 2.24. MSU-IIT Tibanga Main Campus at Magnitude 6, with depths at: (a) 5km-15 km, (b) 25 km, (c) 50 km, (d) 70 km, (e) 150km, (f) 300 km-350 km

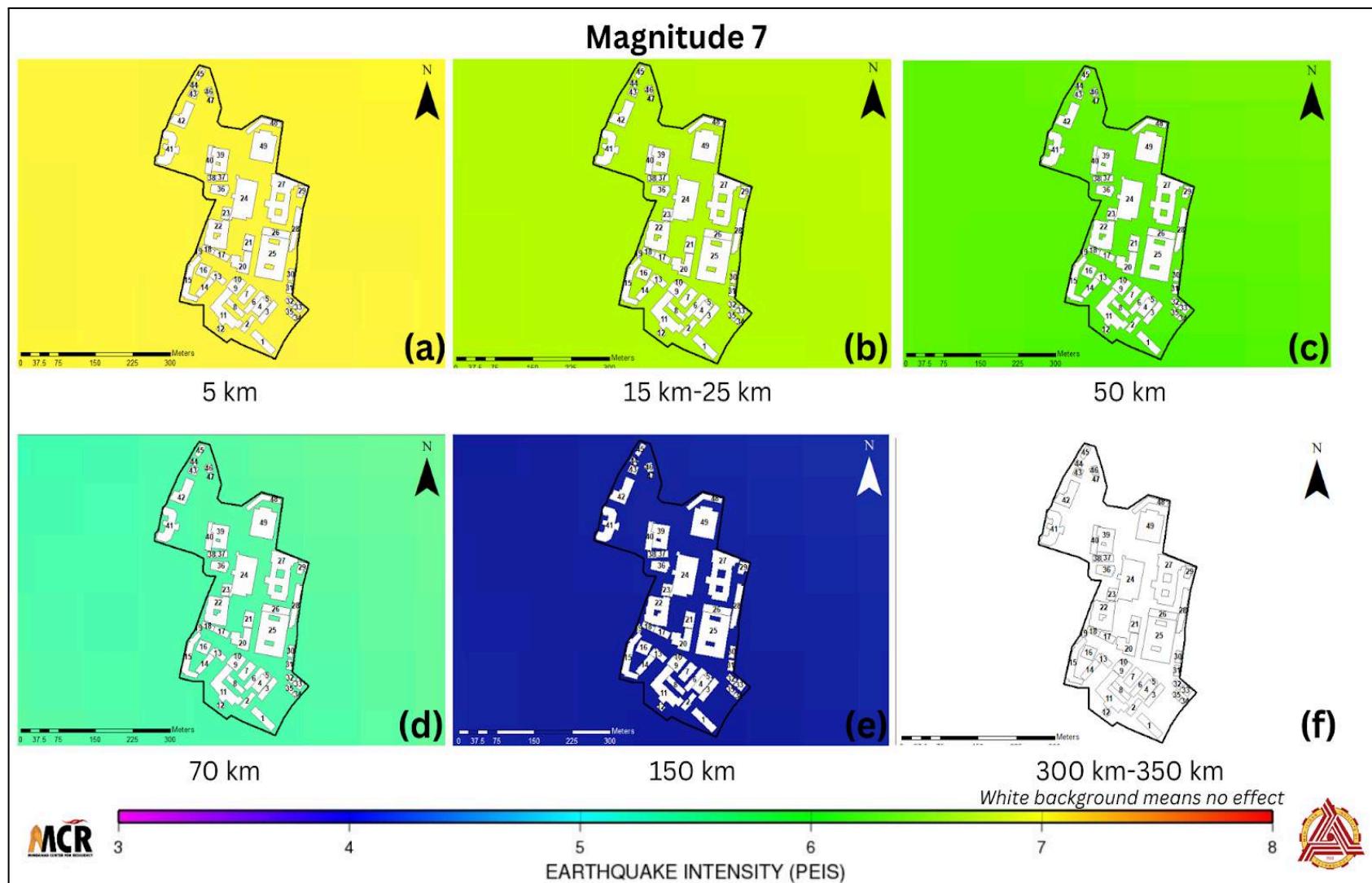


Figure 2.25. MSU-IIT Tibanga Main Campus at Magnitude 7, with depths at: (a) 5km, (b) 15-25 km, (c) 50km, (d) 70 km, (e) 150 km, (f) 300 km-350 km

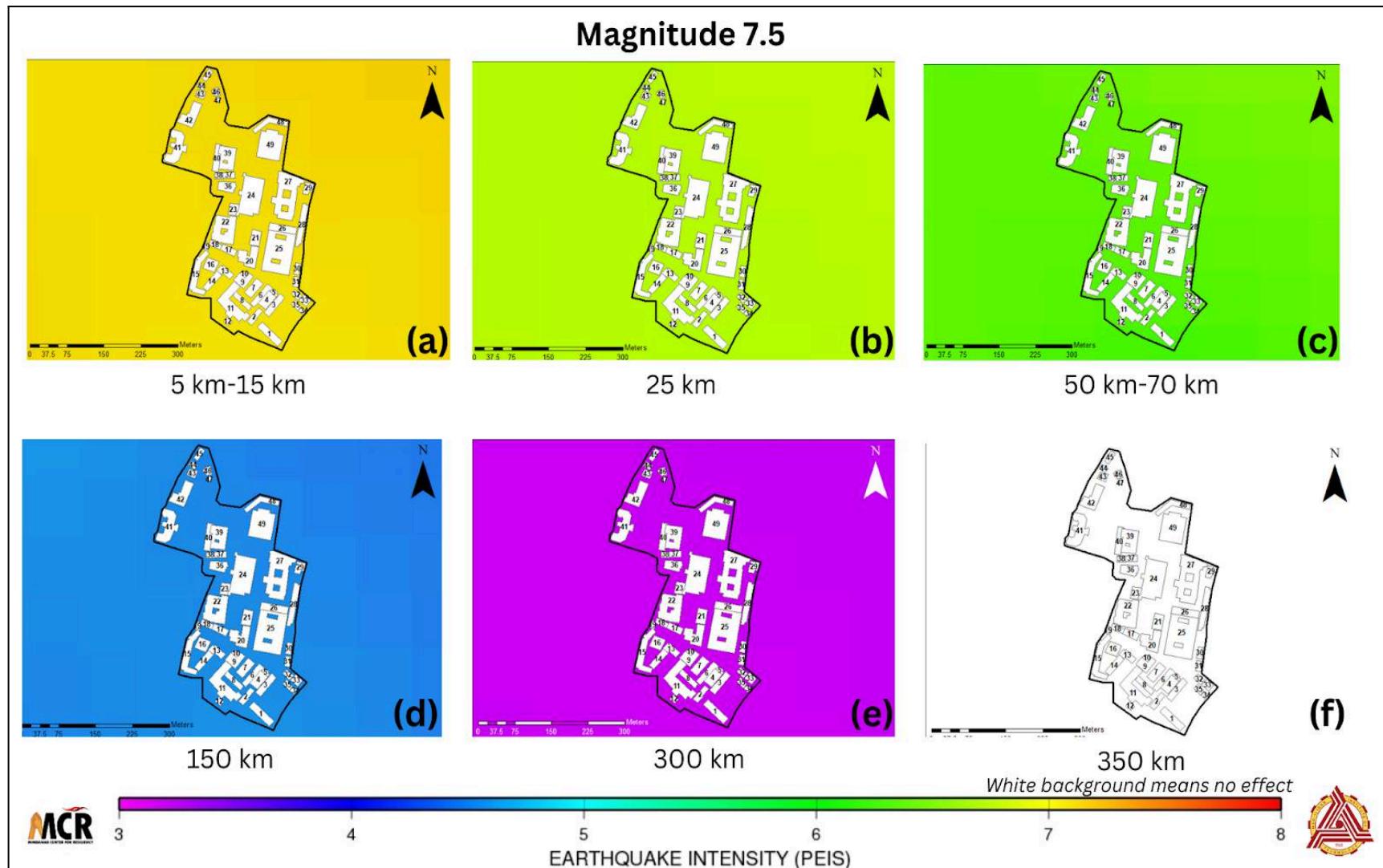


Figure 2.26. MSU-IIT Tibanga Main Campus at Magnitude 7.5, with depths at: (a) 5km-15 km, (b) 25 km, (c) 50 km-70 km, (d) 150 km, (e) 300 km, (f) 350 km

Effect of Earthquake to Liquefaction in Tibanga Main Campus

MSU-IIT Tibanga is potentially at high risk of liquefaction (see Figure 2.27).

Earthquakes trigger liquefaction since the ground shaking caused by the earthquake rubs and pulverizes the soil and the rocks until they become softened. Simulation on the effect of earthquakes on liquefaction was done both in the dry and wet seasons.

Below are the **results** of the liquefaction risk reflected in the tables below.

Table 2.22 shows that:

- The **greater the earthquake magnitude**, the greater the liquefaction risk;
- The **shallower the depth**, the bigger the liquefaction risk and vice-versa;
- Liquefaction risk is higher during the wet season than the dry season. That is because **water** helps in **dissolving** the pulverized soil and rocks during an earthquake event. That is why there was no occurrence of liquefaction from earthquake magnitude 5.0 to 7.0. It is only in a very strong magnitude at 7.5 that liquefaction can possibly occur but at a shallow depth; and
- There are different depth values per magnitude level and some depth values are expressed in **range** or as an **individual value**. That is because those values that are expressed in range have the **same liquefaction risk value** while the depth values displayed as an individual value is because it is the only value that corresponds to a **specific** liquefaction risk value.

Table 2.22. Liquefaction at Magnitude 5.0 to 7.5, at Tibanga Main Campus

Depth (km)	Exceedance of critical acceleration during Wet Season (%g)	Figure/ Map
Liquefaction at Magnitude 5.0		
5-15	0.04	Figure 2.28
25-50	0	
Liquefaction at Magnitude 6.0		
5-15	0.2	Figure 2.29
25-50	0.05	
70-350	0	
Liquefaction at Magnitude 7.0		
5-15	0.2	Figure 2.30
25-50	0.05	
70-350	0	
Liquefaction at Magnitude 7.5		
5-25	0.4	Figure 2.31
50-70	0.2	
150	0	

Also since the liquefaction is a function of an earthquake, this means the **whole MSU-IIT campus** at Tibanga will be potentially affected by liquefaction as shown in the liquefaction **maps** in Figures 2.28 to 2.31.

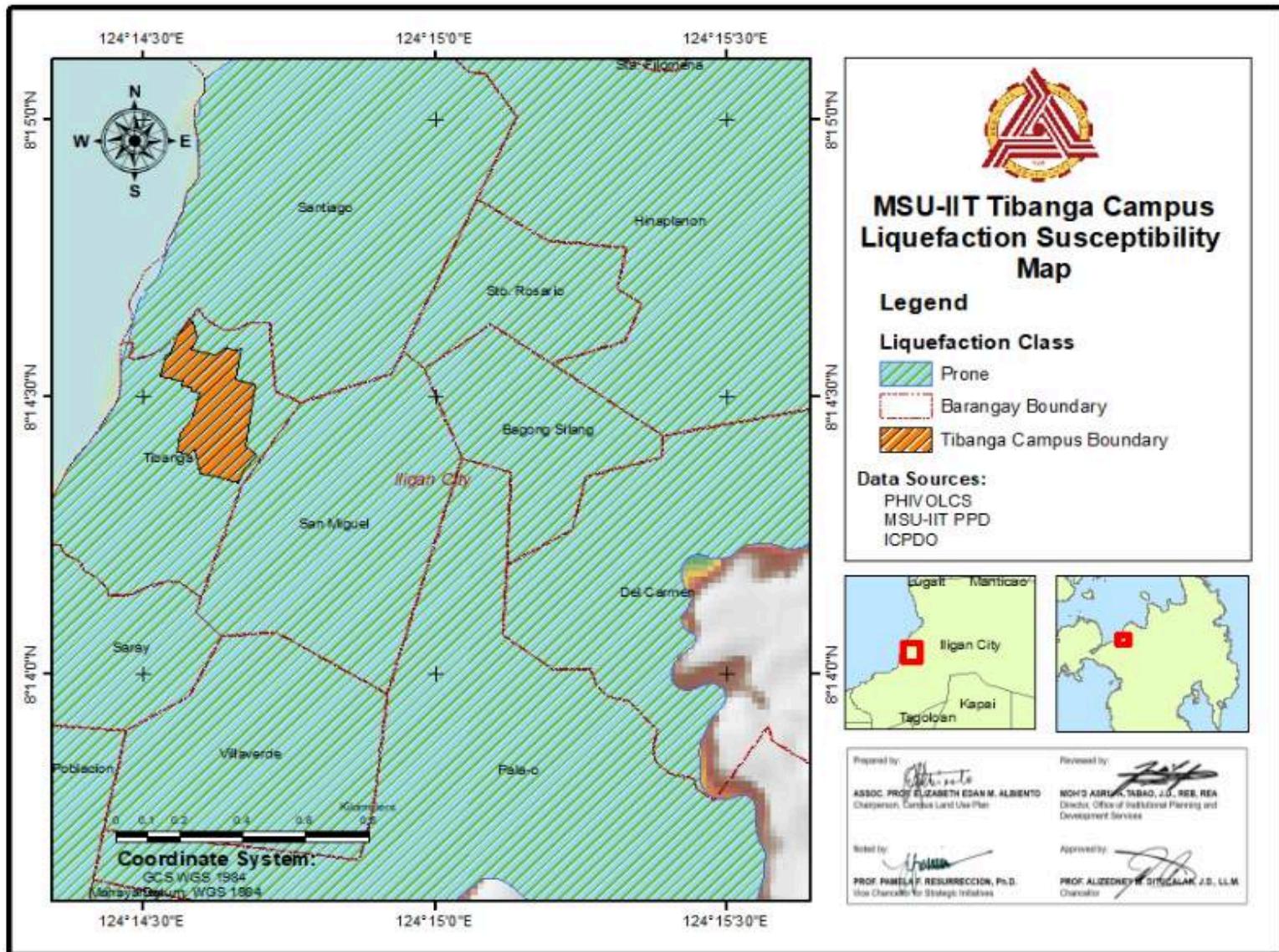


Figure 2.27. MSU-IIT Tibanga Main Campus Liquefaction Susceptibility Map

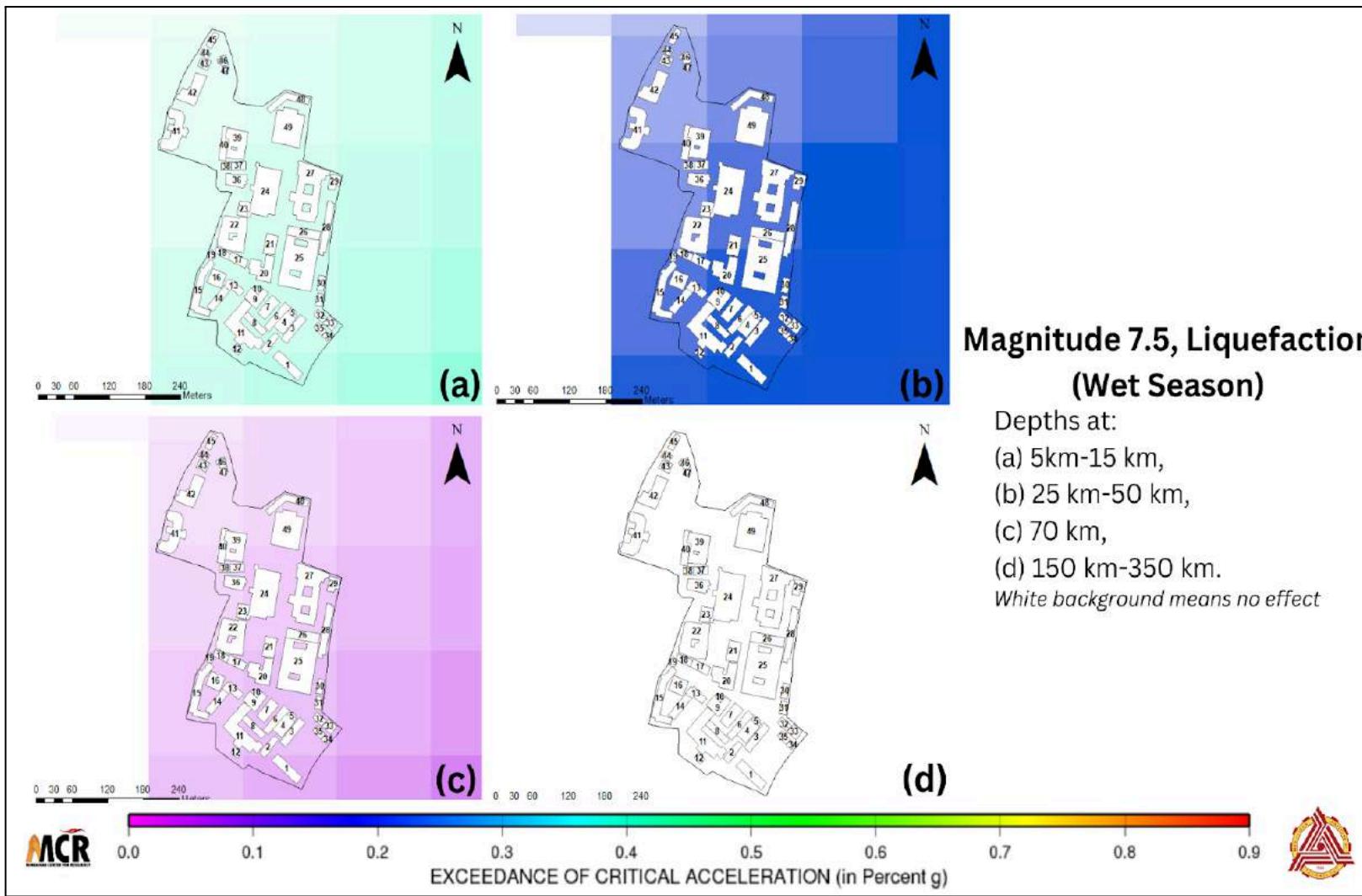


Figure 2.28.Liquefaction (Wet Season) effects at Magnitude 7.5 with depths of: (a) 5km-15 km, (b) 25 km-50 km, (c) 70 km, (d) 150 km-350 km, at Tibanga Main Campus

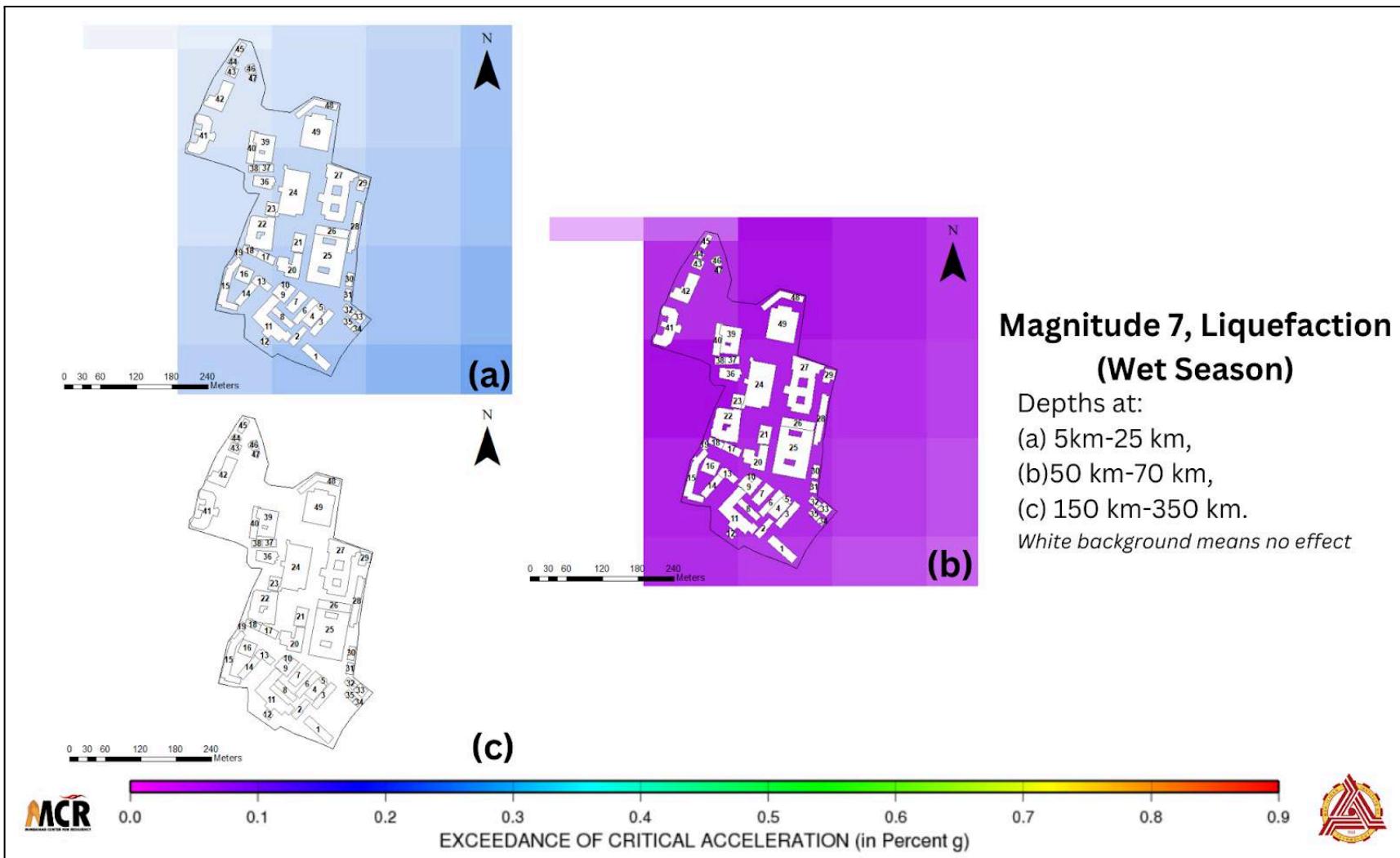


Figure 2.29. Liquefaction (Wet Season) effects at Magnitude 7 with depths of: (a) 5km-25 km, (b)50 km-70 km, (c) 150 km-350 km, at Tibanga Main Campus

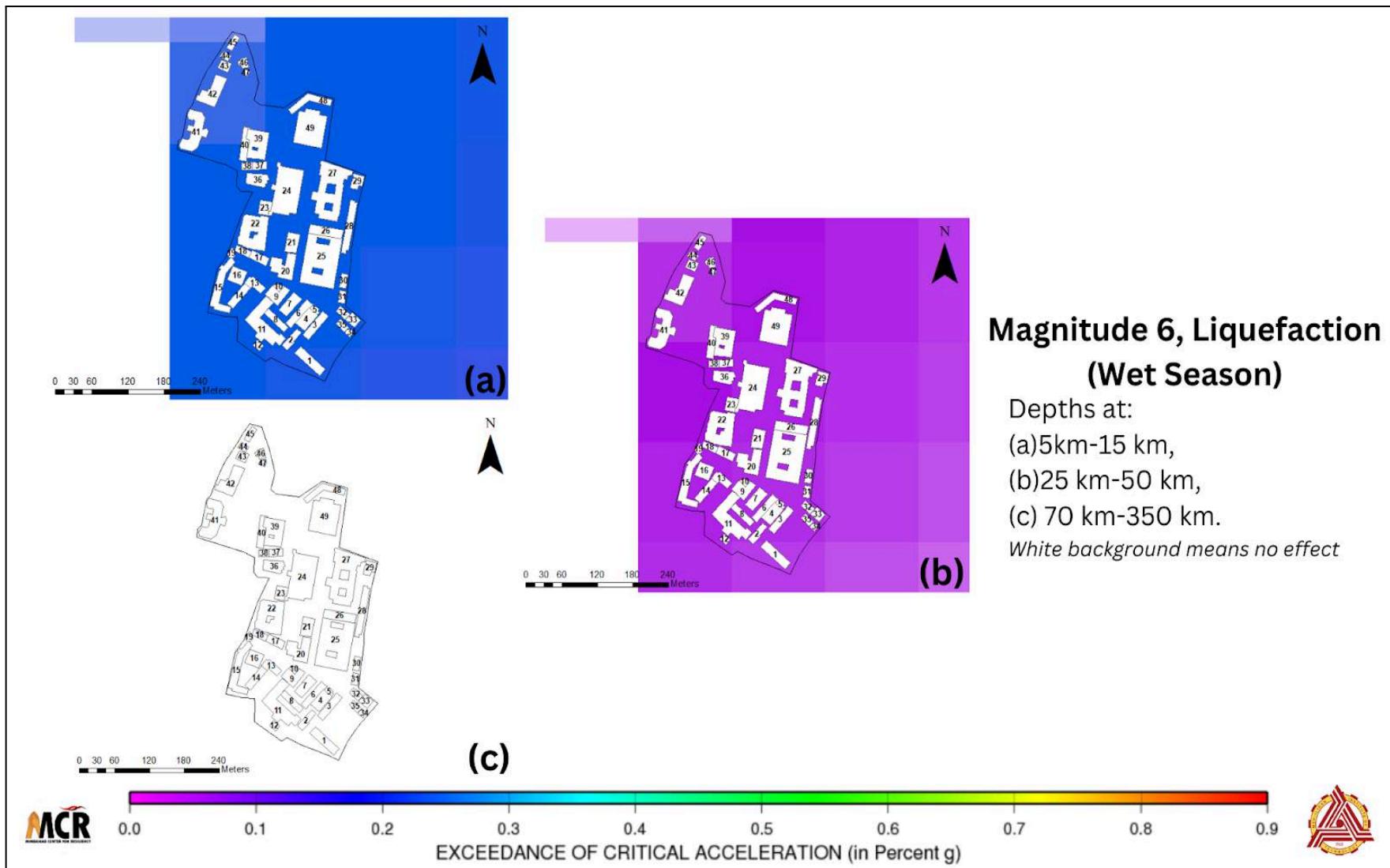


Figure 2.30. Liquefaction (Wet Season) effects at Magnitude 6 with depths of: (a) 5km-15 km, (b) 25 km-50 km, (c) 70 km-350 km, at Tibanga Main Campus

Magnitude 5, Liquefaction (Wet Season)

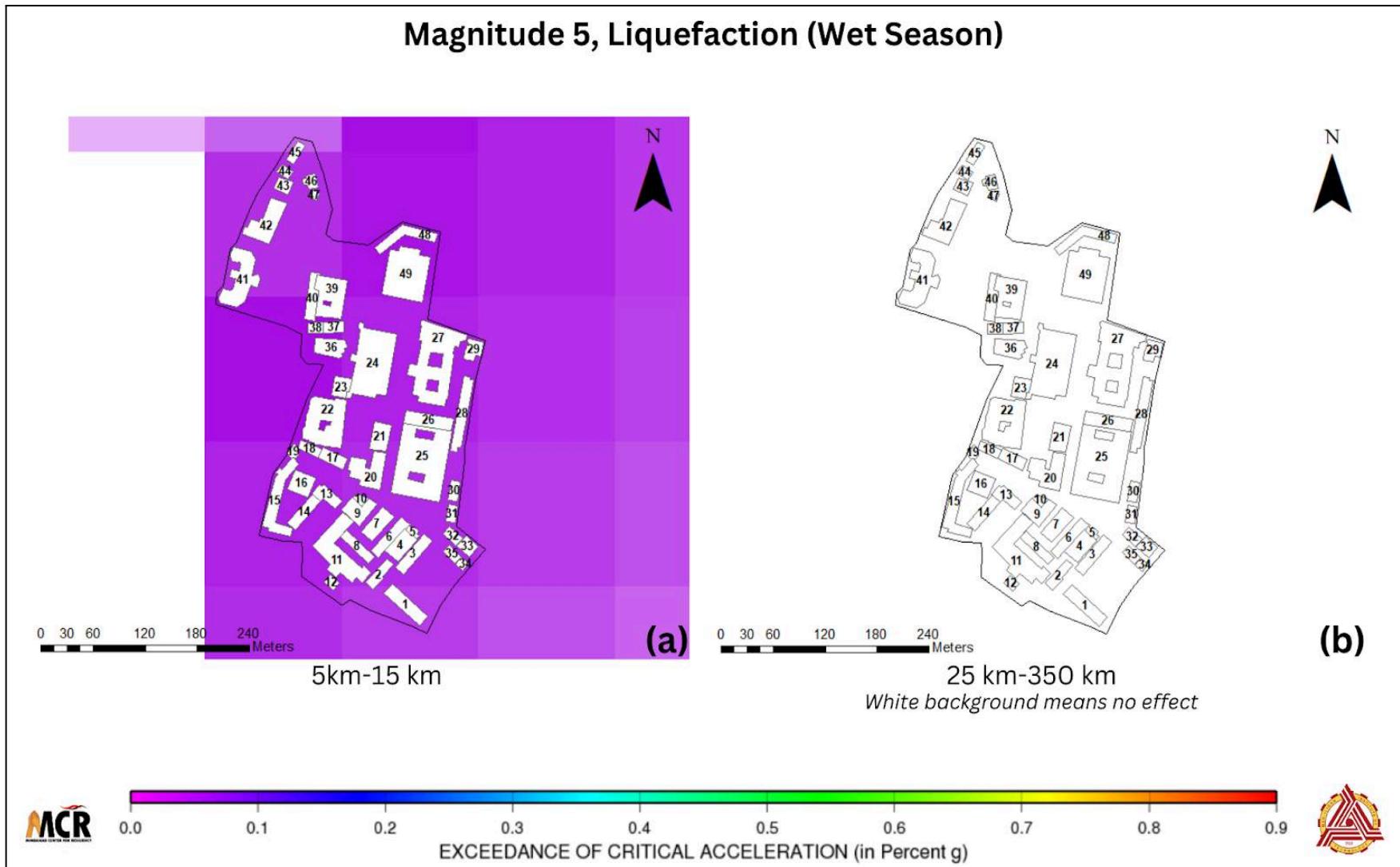


Figure 2.31. Liquefaction (Wet Season) effects at Magnitude 5 with depths of: (a) 5km-15 km, (b) 25 km-350 km, at Tibanga Main Campus

c. Storm Surge

The simulated storm surge was generated by **Project Noah** as displayed in the **maps** found in Figures 2.32-2.35. There are two (2) kinds of storm surge effects. Table 24 shows the effect of the four (4) storm surge advisories (SSAs) on the MSU-IIT Land area and Table 2.23.to 2.26. shows the effect of the four (4) storm surge advisories on the MSU-IIT buildings.

The effect of storm surges based on the simulation of the MSU-IIT Tibanga land area (Table 2.23) shows that SSA 1 will not hit MSU-IIT. SSA 2 only hit 1%, SSA 3 will hit one-third of the MSU-IIT land area while at SSA 4 the whole MSU-IIT land area will be reached by the storm surge.

As for the simulated effect of storm surge to the buildings (see Tables 2.24 to 2.26), the following can be gleaned:

- The higher the storm surge advisory, more buildings will be reached by the storm surge; and
- The higher the hazard level in a given storm surge advisory, more buildings will be reached by the storm surge except for the high hazard level where it only reached the buildings at SSA 4 and lesser buildings will be reached.

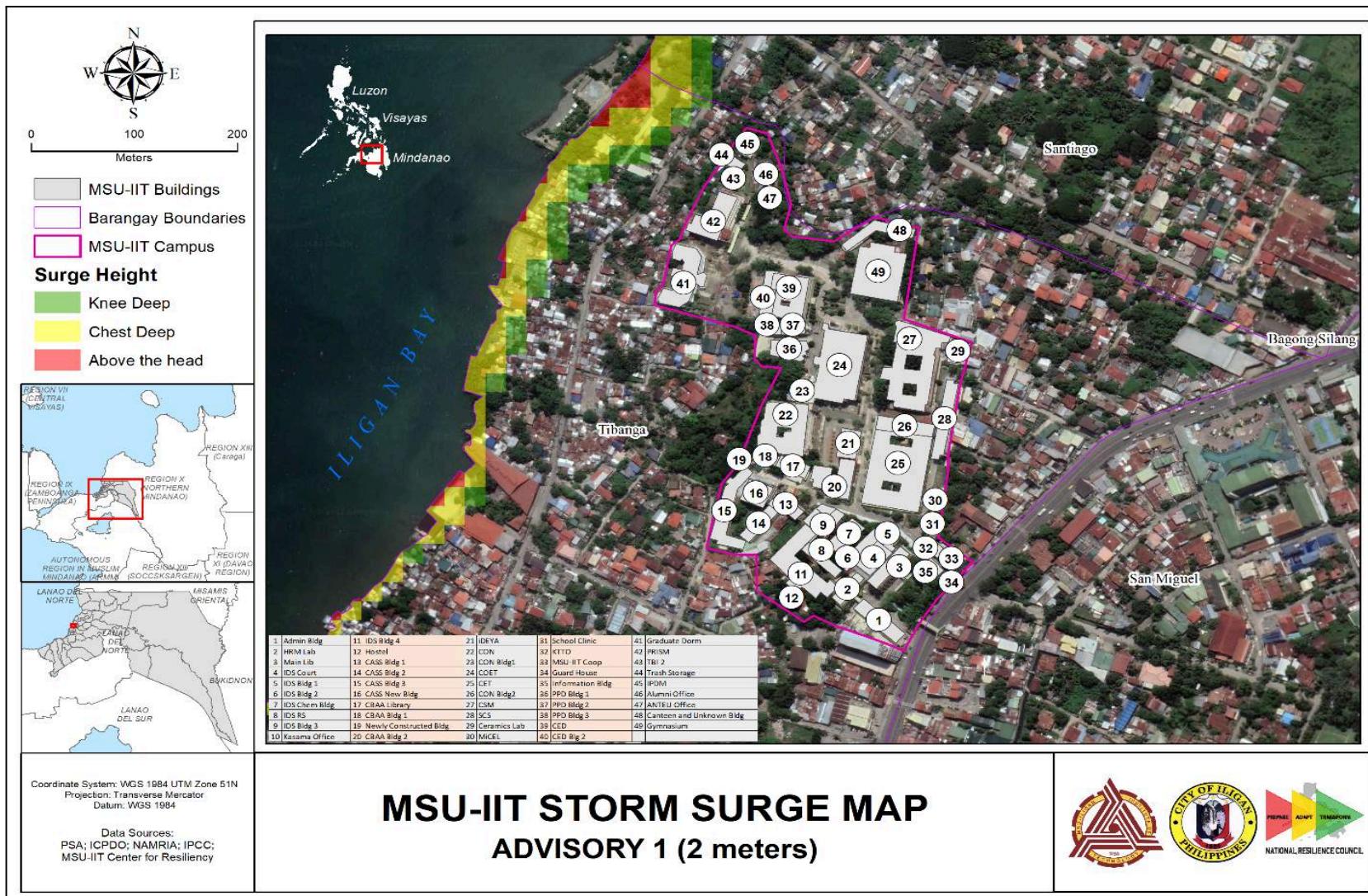


Figure 2.32. Storm Surge Advisory 1 Map, at Tibanga Main Campus

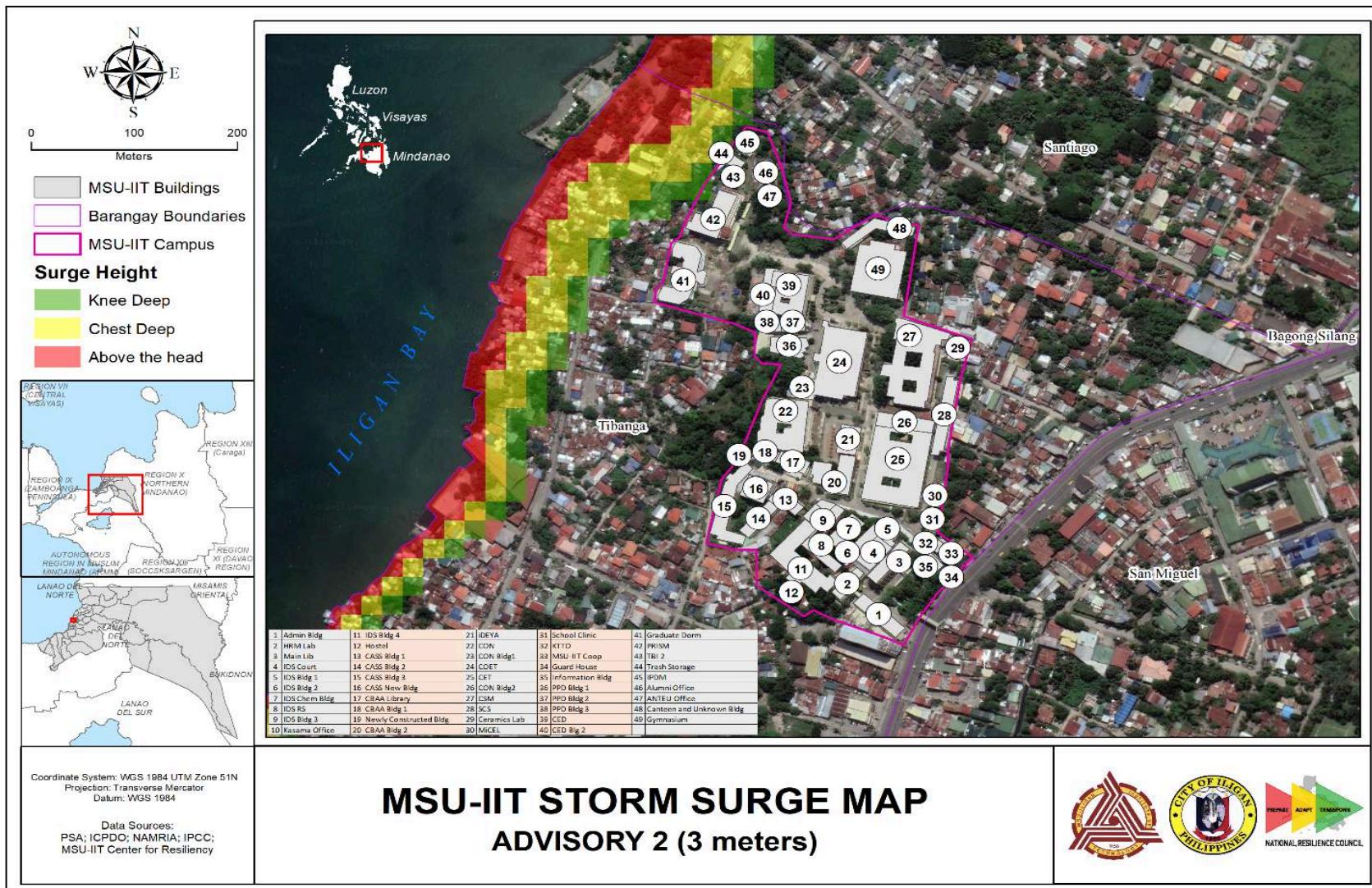


Figure 2.33. Storm Surge Advisory 2 Map, at Tibanga Main Campus

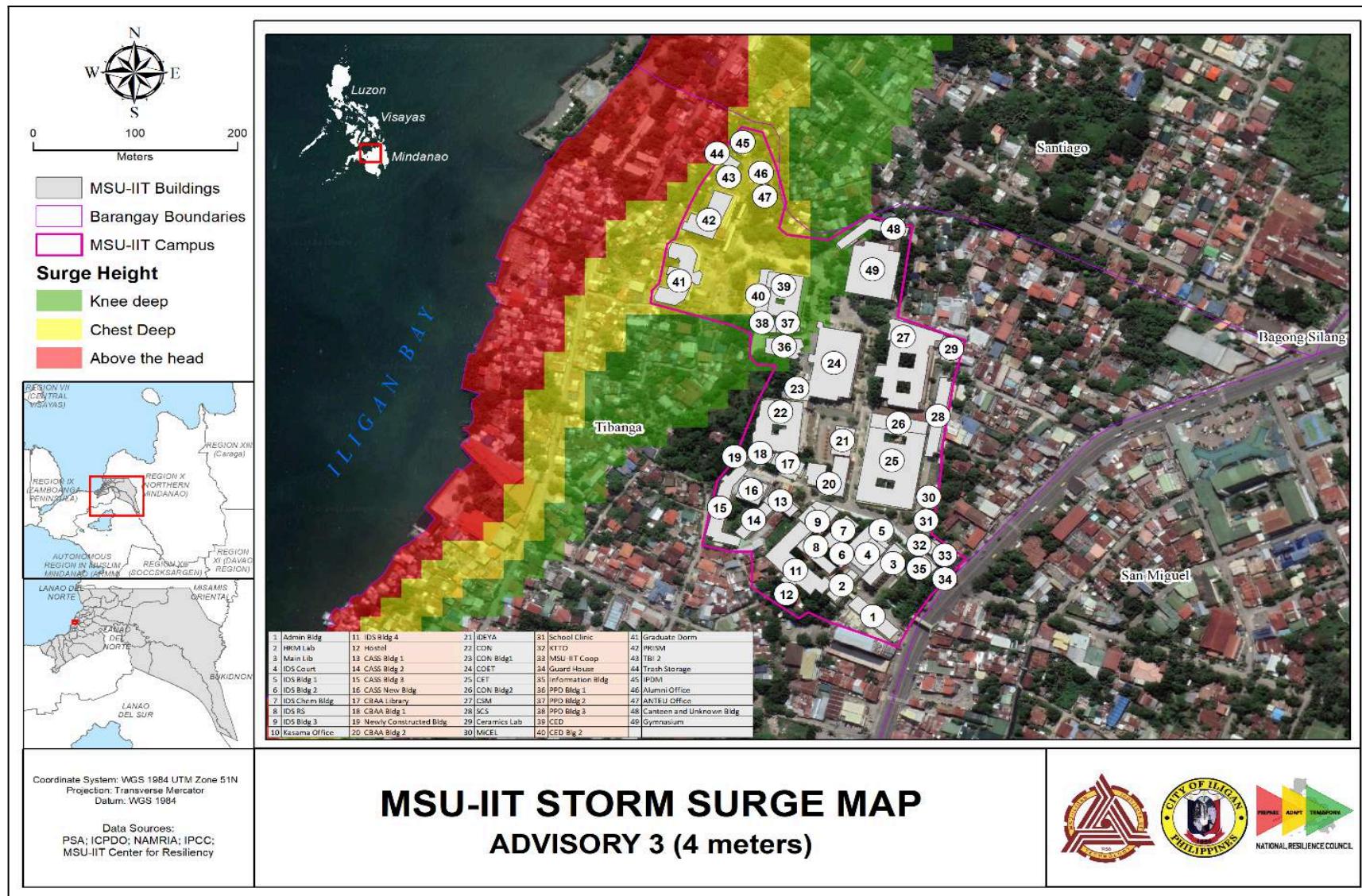


Figure 2.34. Storm Surge Advisory 3 Map, at Tibanga Main Campus

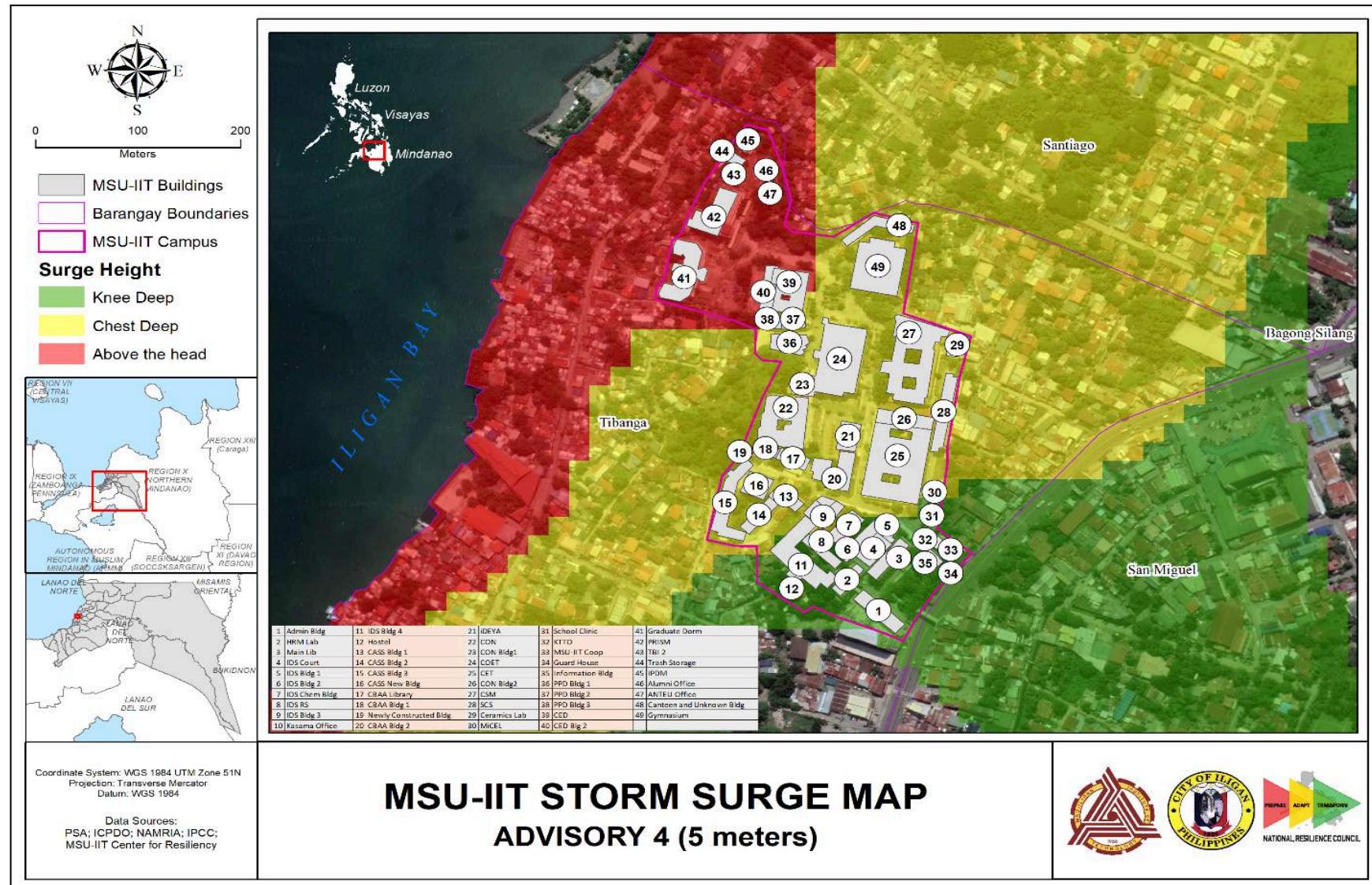


Figure 2.35. Storm Surge Advisory 4 Map, at Tibanga Main Campus

Table 2.23. Effect of Storm Surge on the MSU-IIT Land area

Storm Surge Advisory No.	Percentage (%) effect of Storm Surge on MSU-IIT Land area	Total Land Area (Has.)	Effect of Storm Surge on MSU-IIT Land Area in Hectares
1	0	93.54	0
2	1	93.54	0.93
3	33	93.54	30.87
4	100	93.54	93.54

Table 2.24. Storm Surge Advisory No. 2

Hazard Level	No. of Buildings	Total Area of the Buildings (m ²)	Total Area of Buildings Affected (m ²)	Percentage Affected
Low	Trash Storage	160.7	1	16.6

Table 2.25. Storm Surge Advisory No. 3

Hazard Level	No. of Buildings	Total Area of the Buildings (m ²)	Total Area of Buildings Affected (m ²)	Percentage Affected
Low	8	9,559.00	3,571.30	37.36
Medium	11	7,632.00	4,760.20	62.37

Table 2.26. Storm Surge Advisory No. 4.

Hazard Level	No. of Buildings	Total Area of the Buildings (m ²)	Total Area of Buildings Affected (m ²)	Percentage Affected
Low	18	8,337.50	7,580.00	90.91
Medium	36	37,723.70	28,144.40	74.61
High	12	7,835.40	5,492.60	70.10

d. Sea Level Rise

Figure 2.36 shows that the Sea Level Rise (SLR) projection using the average of 1-2 mm/year in various temporal scenarios of 63, 125, 188 and 250 years does not reach the MSU-IIT Tibanga main campus. However, should the average SLR increase, then it will be possible that it may eventually reach the campus. Further, a rise in sea level while not reaching the Tibanga main campus may contribute to storm surge to reach further inland.

e. Urban Heat

The surface urban heat island intensity (SUHII) of MSU-IIT Tibanga main campus is classified as HIGH (see Figure 2.37). Hence the greening and landscape development program for MSU-IIT is very important as it will reduce the heat. However, planting of trees may have to be discouraged since trees pose a hazard during earthquakes considering open spaces inside IIT campus are small. Shrubs, grasses, wall creeper plants and climbing plants should be encouraged in lieu of trees.

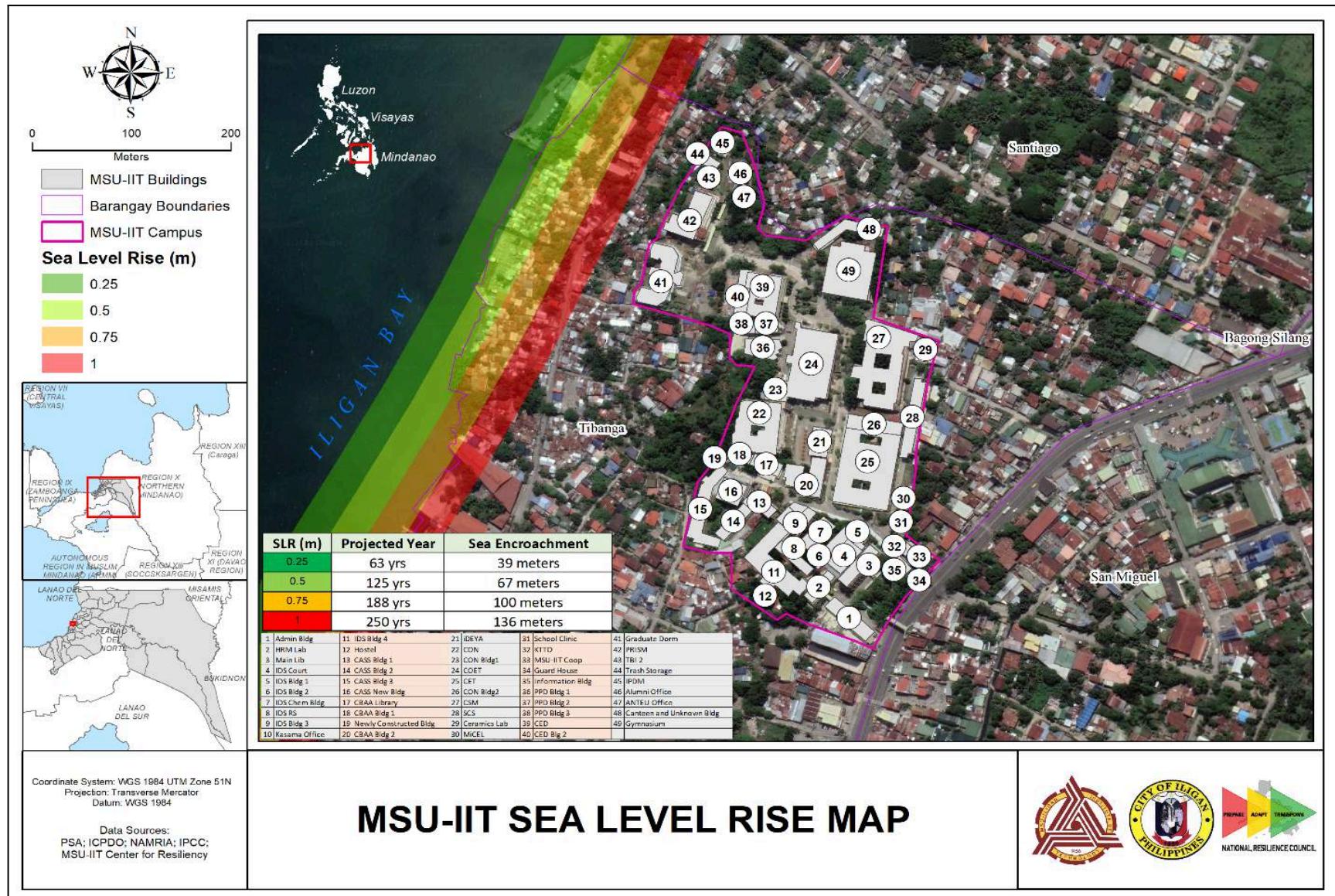


Figure 2.36. Sea Level Rise at Tibaga Main Campus

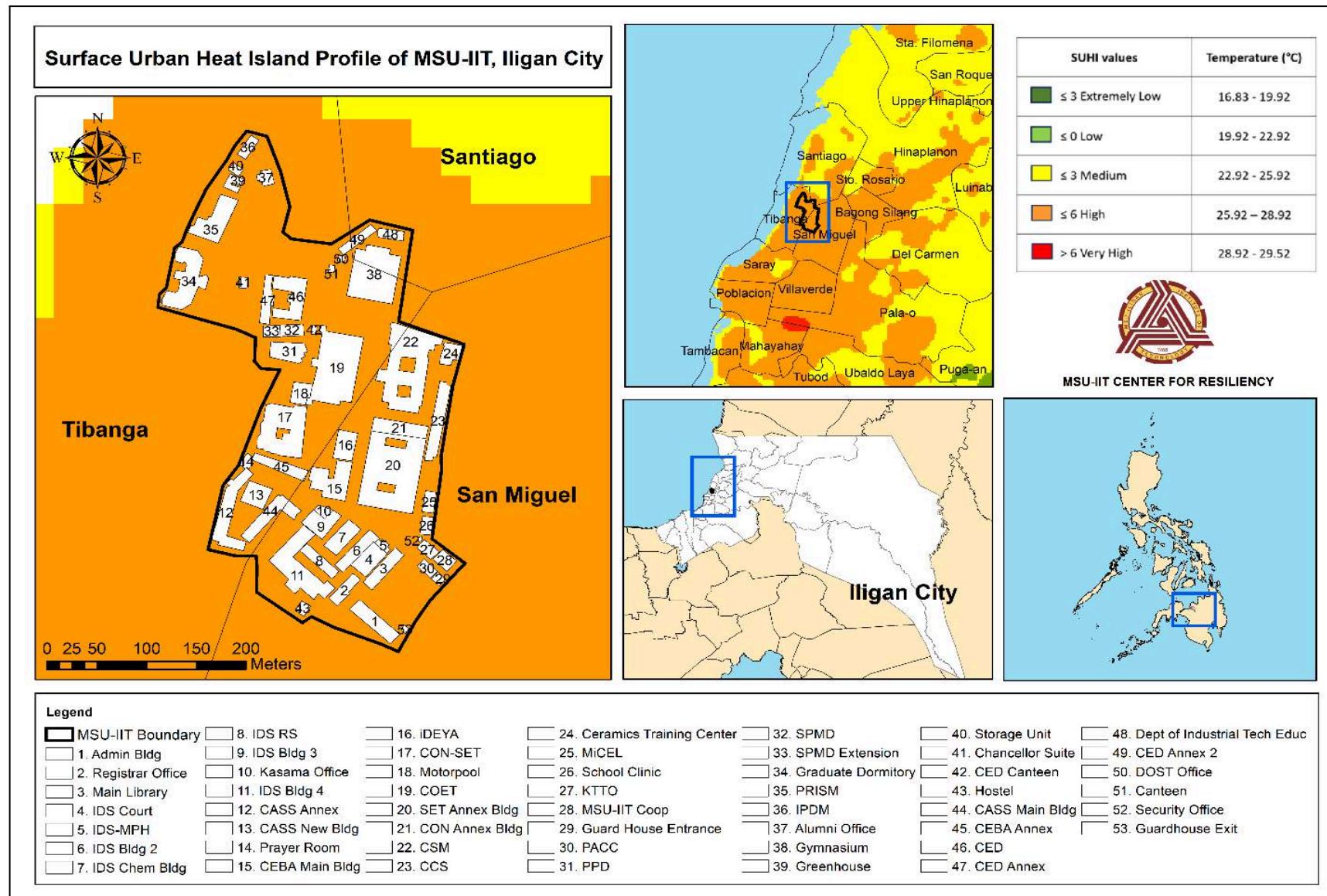


Figure 2.37. Urban Heat Island inside Tibanga Main Campus

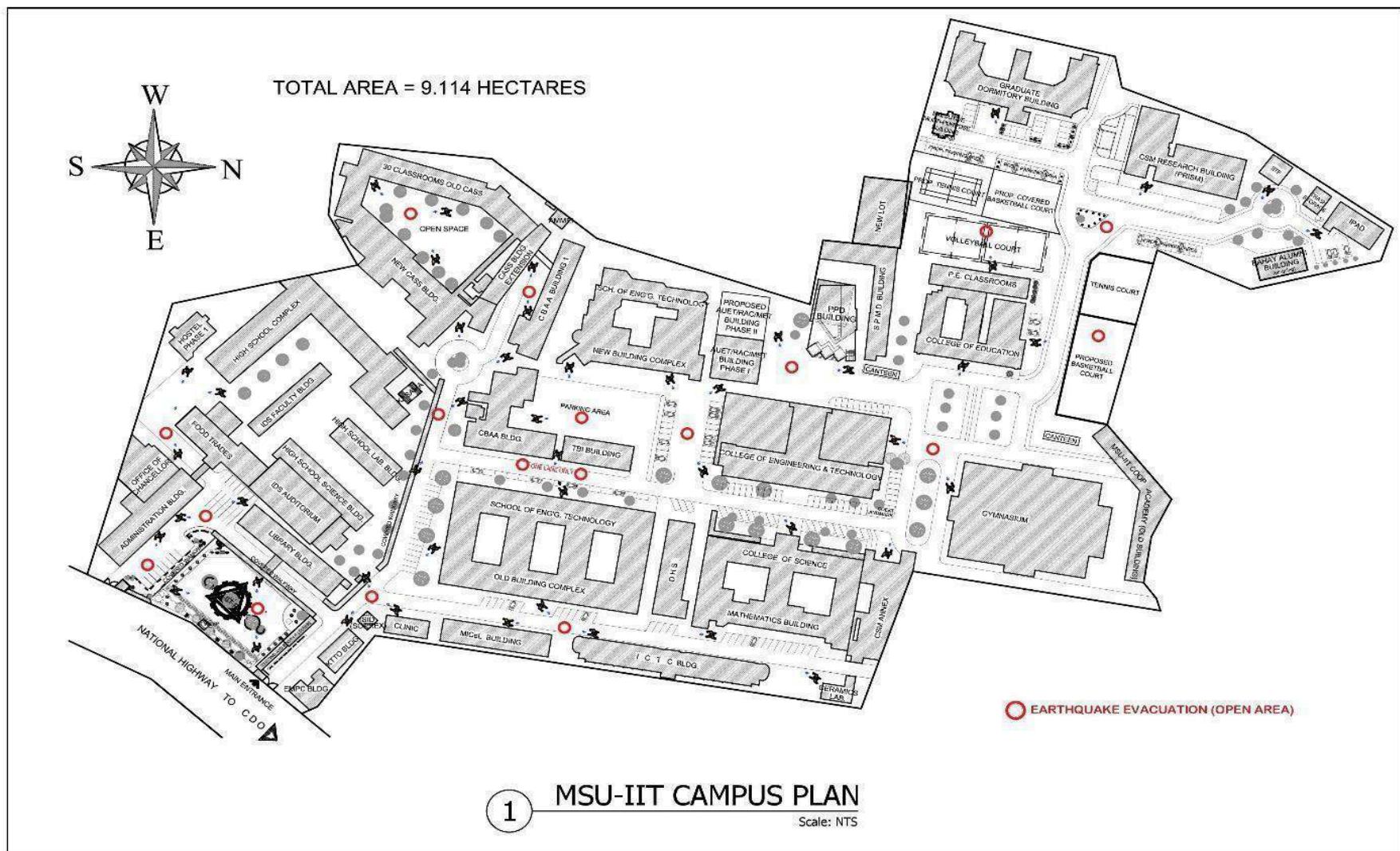


Figure 2.38. Earthquake Evacuation Site of Tibanga Main Campus

Hinaplanon Annex Campus

a. Flood

For the Hinaplanon campus, of the total area of 5.17 hectares, 4.19 hectares or 84% are highly susceptible to flooding.

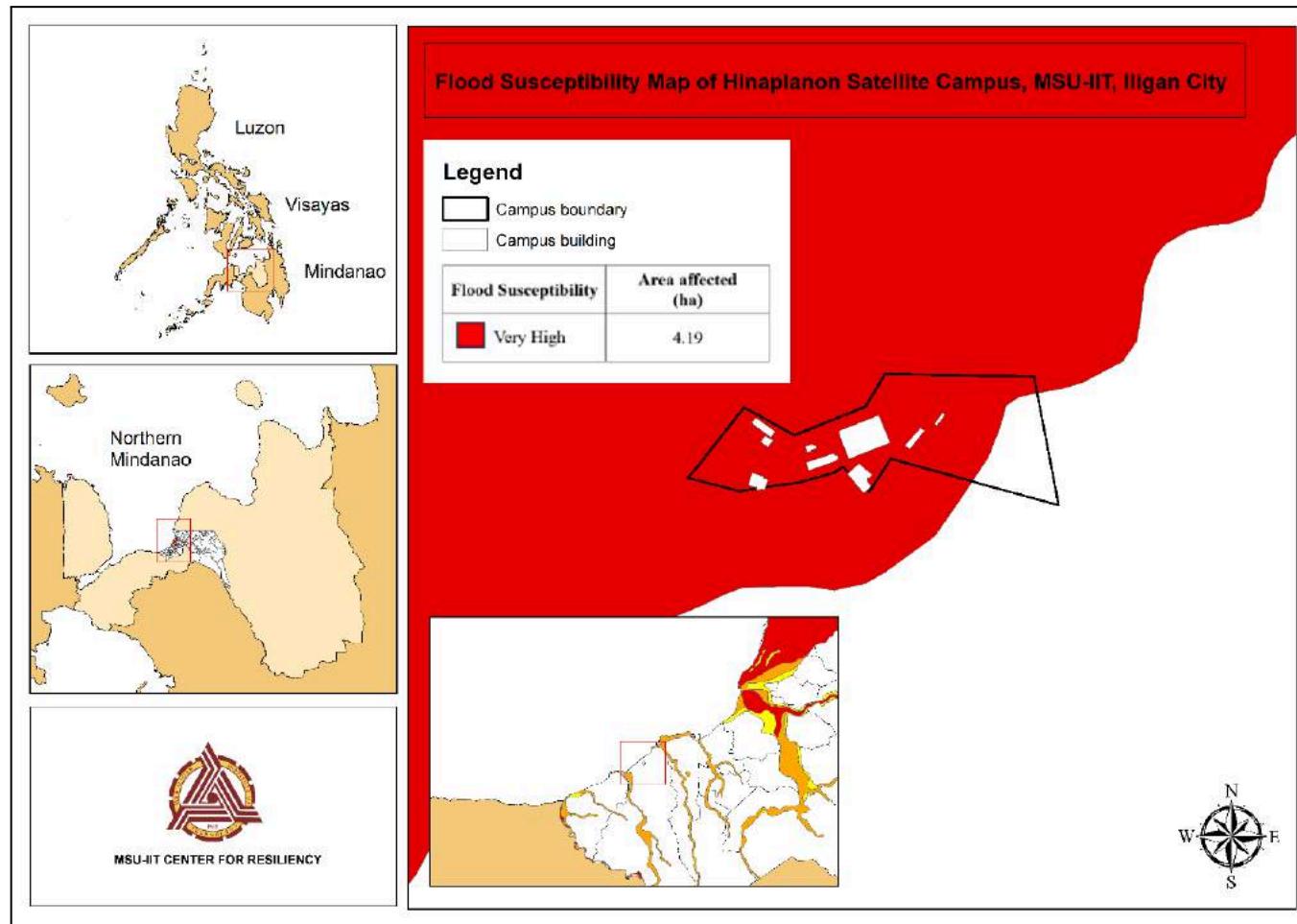


Figure 2.39. Flood Susceptibility Map of Hinaplanon Campus

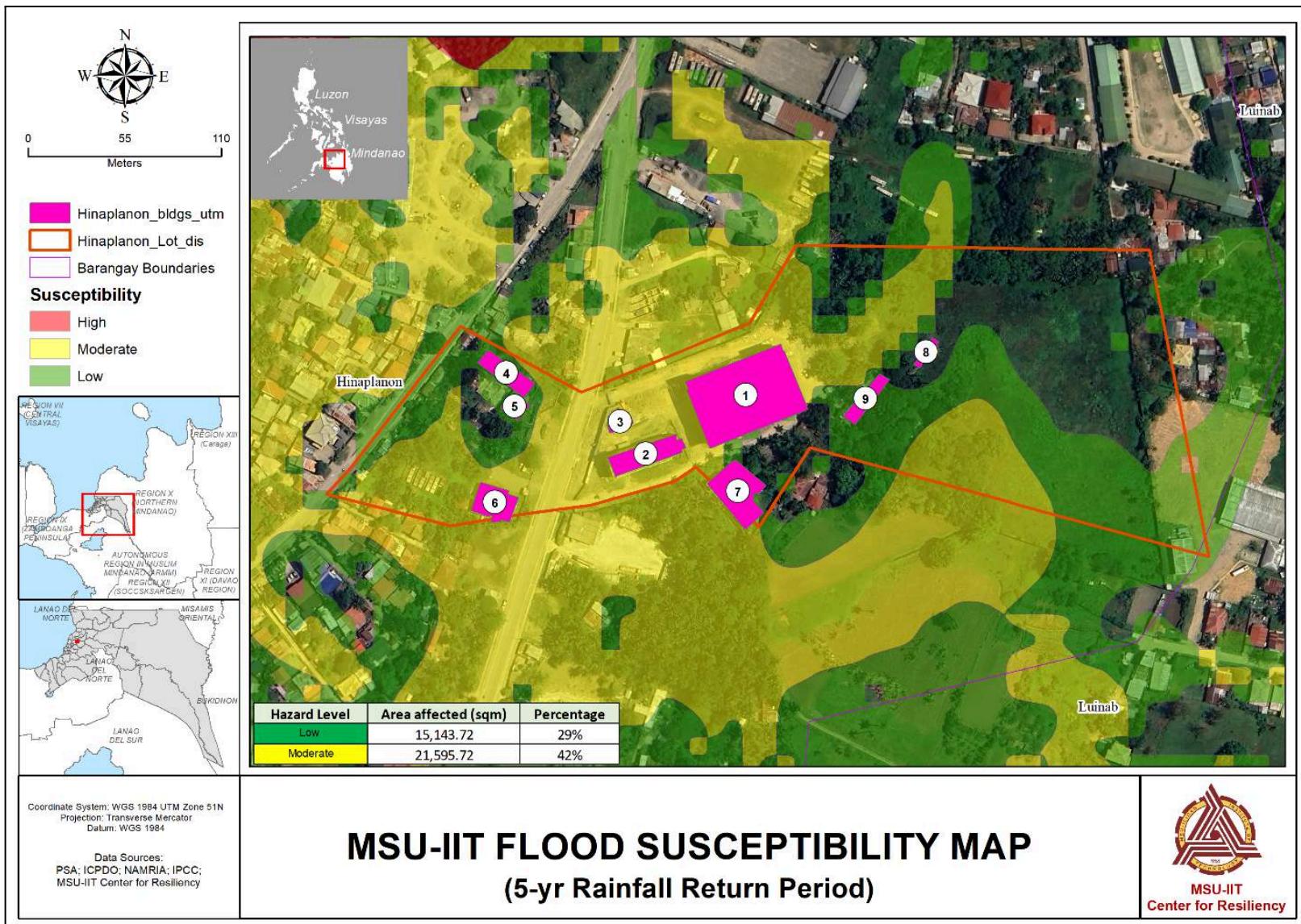


Figure 2.40. Flood simulation for a 5 yr Rainfall Return Period for the Hinaplanon Campus

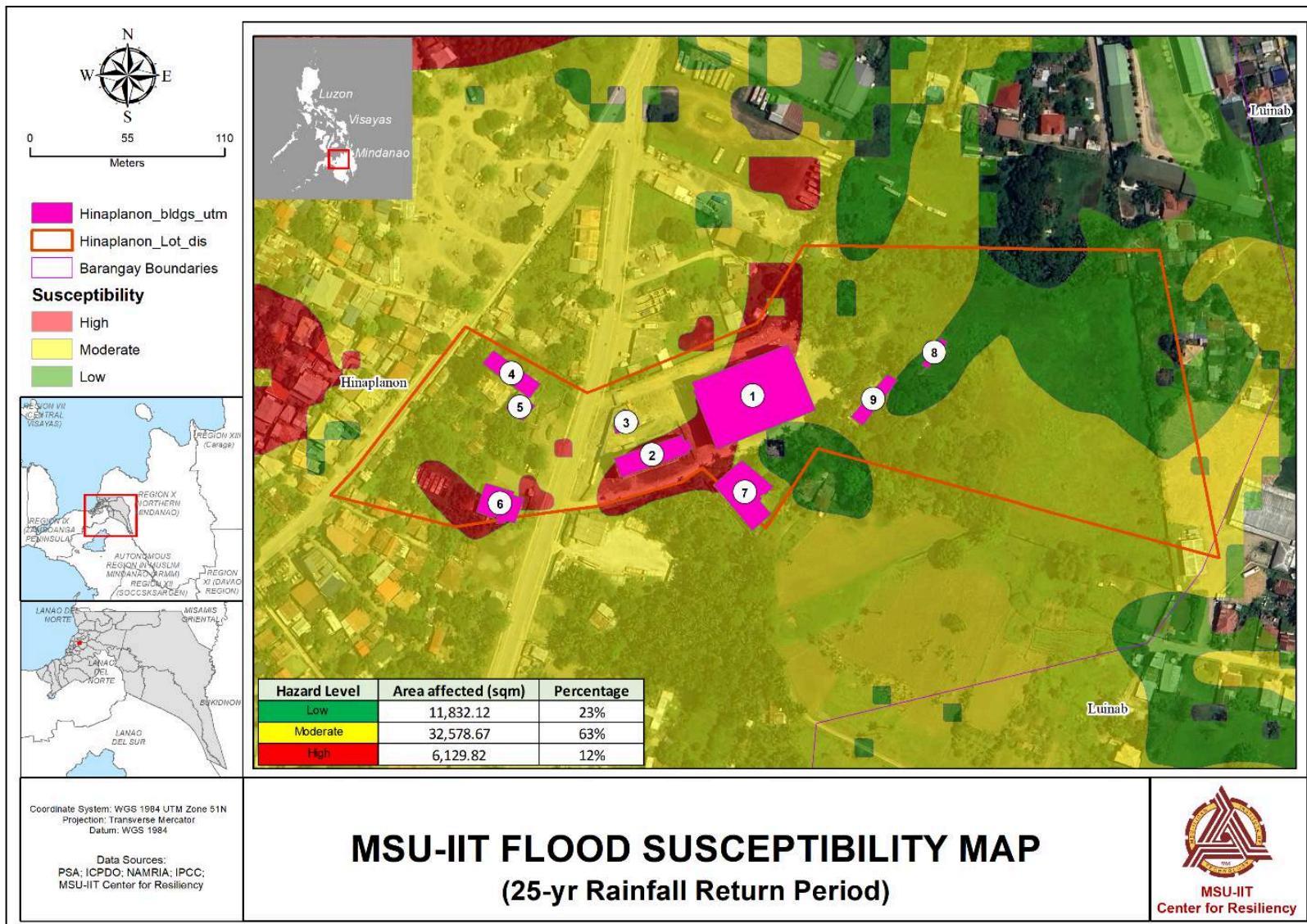


Figure 2.41. Flood simulation for a 25 yr Rainfall Return Period for the Hinaplanon Campus

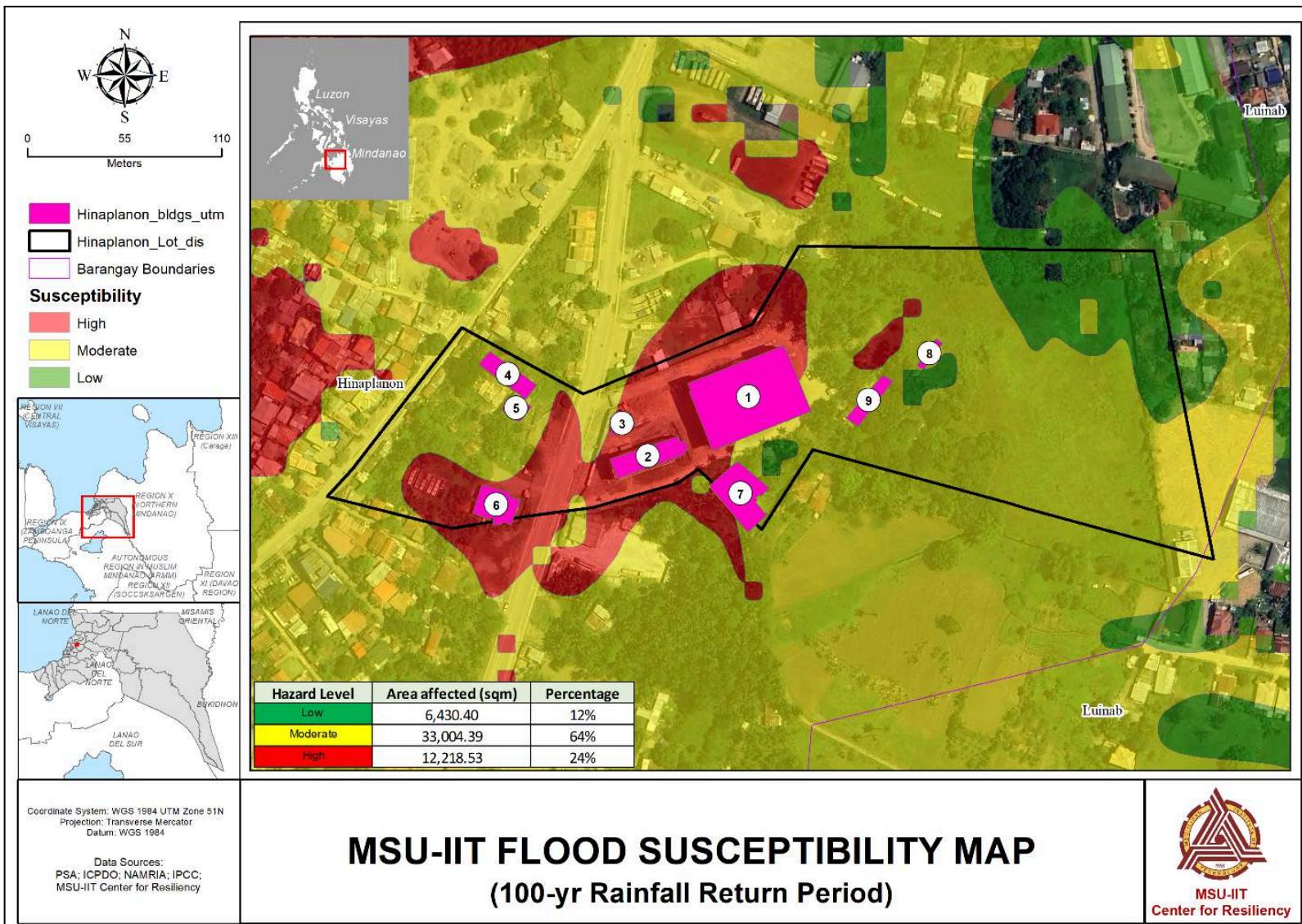


Figure 2.42. Flood simulation for a m100 yr Rainfall Return Period for the Hinaplanon Campus

Tables 2.27 and 2.29 shows the extent of flooding in relation to the TOTAL LAND area of MSU-IIT Hinaplanon campus while Tables 2.30 to 2.32 shows the extent of flooding in relation to the INDIVIDUAL BUILDING area inside MSU-IIT Hinaplanon campus.

Tables 2.27 and 2.29 shows that the extent of flooding at 5yr RRP covers 71% of the total campus area while almost 100% of the total campus area was flooded at 25 and 100 yr RRP with 100 yr RRP is a little bit higher in terms of flood extent and depth. In the 5yr RRP there was no high flood depth class. For all rainfall scenarios, the dominant flood depth is under medium flood depth.

Table 2.27. Flood simulation for the 5 year Rainfall Return Period

5 yr RRP		Flooded Area		Percentage
Flood Depth Class		(m2)	(has.)	
Low		15,143.72	1.51	29.23
Medium		21,593.72	2.16	41.69
Total Flooded Area		36,737.44	3.67	70.92
Total Campus Area		51,774.20	5.18	

Table 2.28. Flood simulation for the 25 year Rainfall Return Period

25 yr RRP		Flooded Area		Percentage
Flood Depth Class		(m2)	(has.)	
Low		11,832.12	1.18	22.84
Medium		32,578.67	3.26	62.89
High		6,129.82	0.61	11.83
Total Flooded Area		50,540.61	5.05	97.57
Total Campus Area		51,774.20	5.18	

Table 2.29. Flood simulation for the 100 year Rainfall Return Period

100 yr RRP		Flooded Area		Percentage
Flood Depth Class		(m2)	(has.)	
Low		6,430.40	0.64	12.41
Medium		33,004.39	3.30	63.72
High		12,218.53	1.22	23.59
Total Flooded Area		51,653.32	5.17	99.72
Total Campus Area		51,774.20	5.18	

Tables 2.30 to 2.32 shows that as the rainfall scenario goes from 5yr RRP to 100yr RRP, the depth of flooding increases inside the building in that the low flood depth decreases and is almost non-existence at 100yr RRP. Inversely the absence of the high flood depth at 5yr RRP was now present at the 25yr RRP and increases at the 100yr RRP. The medium flood depth is dominant for all the rainfall scenarios.

Table 2.30. Flood simulation for the 5 year Rainfall Return Period

Bldg No.	Flood Depth Class	Percentage of Building Area affected by flood (sqm)	Percentage
1	Low	148.34	6%
4	Low	317.58	100%
5	Low	128.24	100%
7	Low	142.56	21%
9	Low	231.85	99%
1	Medium	2,195.15	92%
2	Medium	464.51	100%
3	Medium	101.15	100%
6	Medium	388.94	100%
7	Medium	430.90	62%

Table 2.31. Flood simulation for the 25 year Rainfall Return Period

Bldg No.	Flood Depth Class	Affected Area (sqm)	Percentage
1	Low	23.07	1%
8	Low	79.75	100%
9	Low	2.43	1%
1	Medium	791.18	33%
2	Medium	8.40	2%
3	Medium	101.15	100%
4	Medium	317.58	100%
5	Medium	128.24	100%
6	Medium	199.57	51%
7	Medium	634.55	92%
9	Medium	232.53	99%
1	High	1,583.97	66%
2	High	456.11	98%
6	High	189.37	49%
7	High	55.38	8%

Table 2.32. Flood simulation for the 100 year Rainfall Return Period

Bldg No.	Flood Depth Class	Affected Area (sqm)	Percentage
8	Low	0.001	0.002%
1	Medium	450.43	19%
3	Medium	6.17	6%
4	Medium	317.58	100%
5	Medium	128.24	100%
7	Medium	534.51	77%
8	Medium	79.75	100%

Bldg No.	Flood Depth Class	Affected Area (sqm)	Percentage
9	Medium	234.96	100%
1	High	1,947.79	81%
2	High	464.51	100%
3	High	94.99	94%
6	High	388.94	100%
7	High	155.42	23%

b. Earthquake

Figure 2.43 shows the distance of the Hinaplanon campus annex from the epicenter, with a distance of 19.66 km. Moreso, Figures 2.44 to 2.48 depict the magnitude level per kilometer distance and depth.

Location & Distance of MSU-IIT (Hinaplanon Campus) from the Epicenter

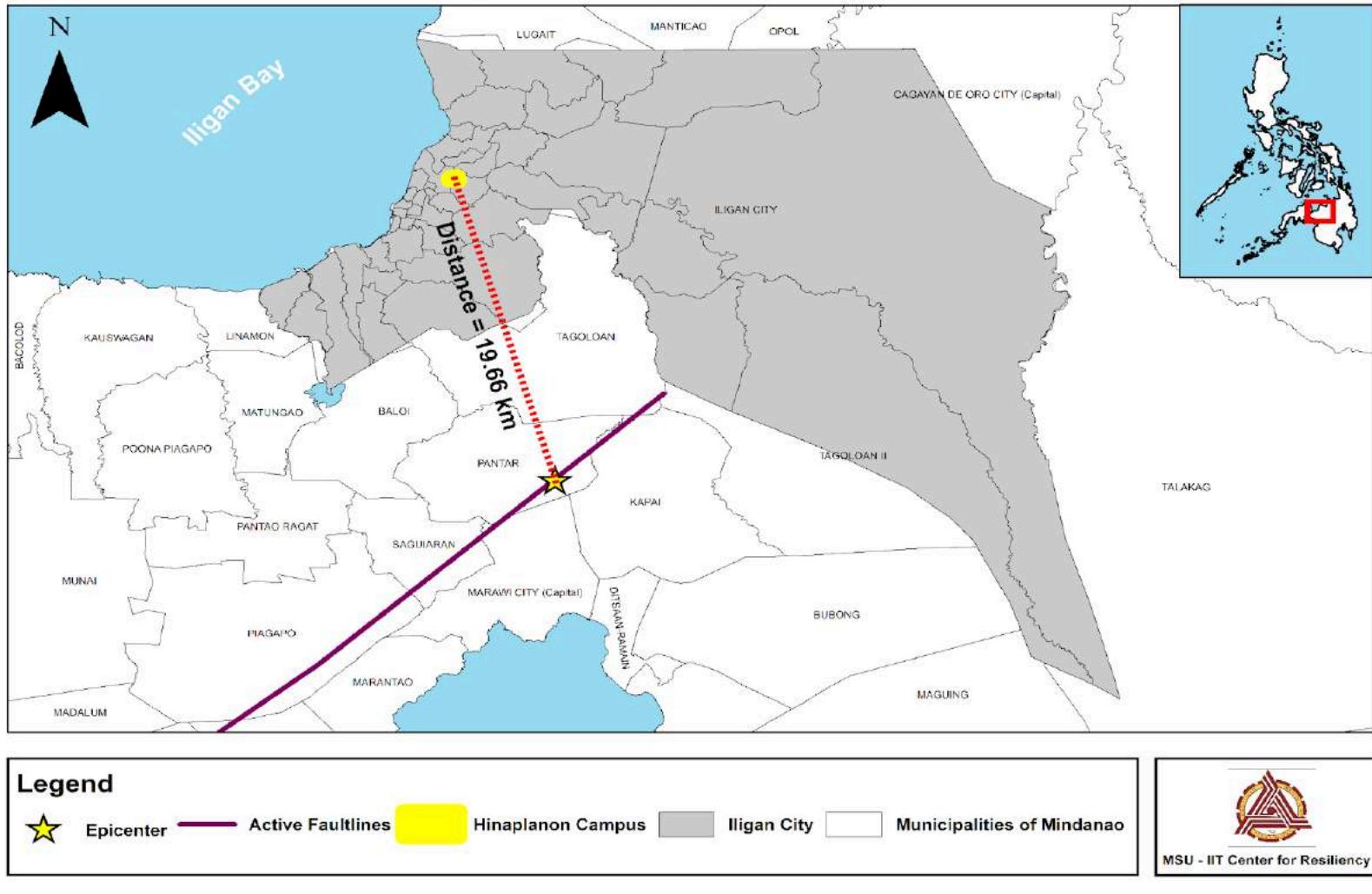


Figure 2.43. Distance of the Hinaplanon Campus from the Epicenter

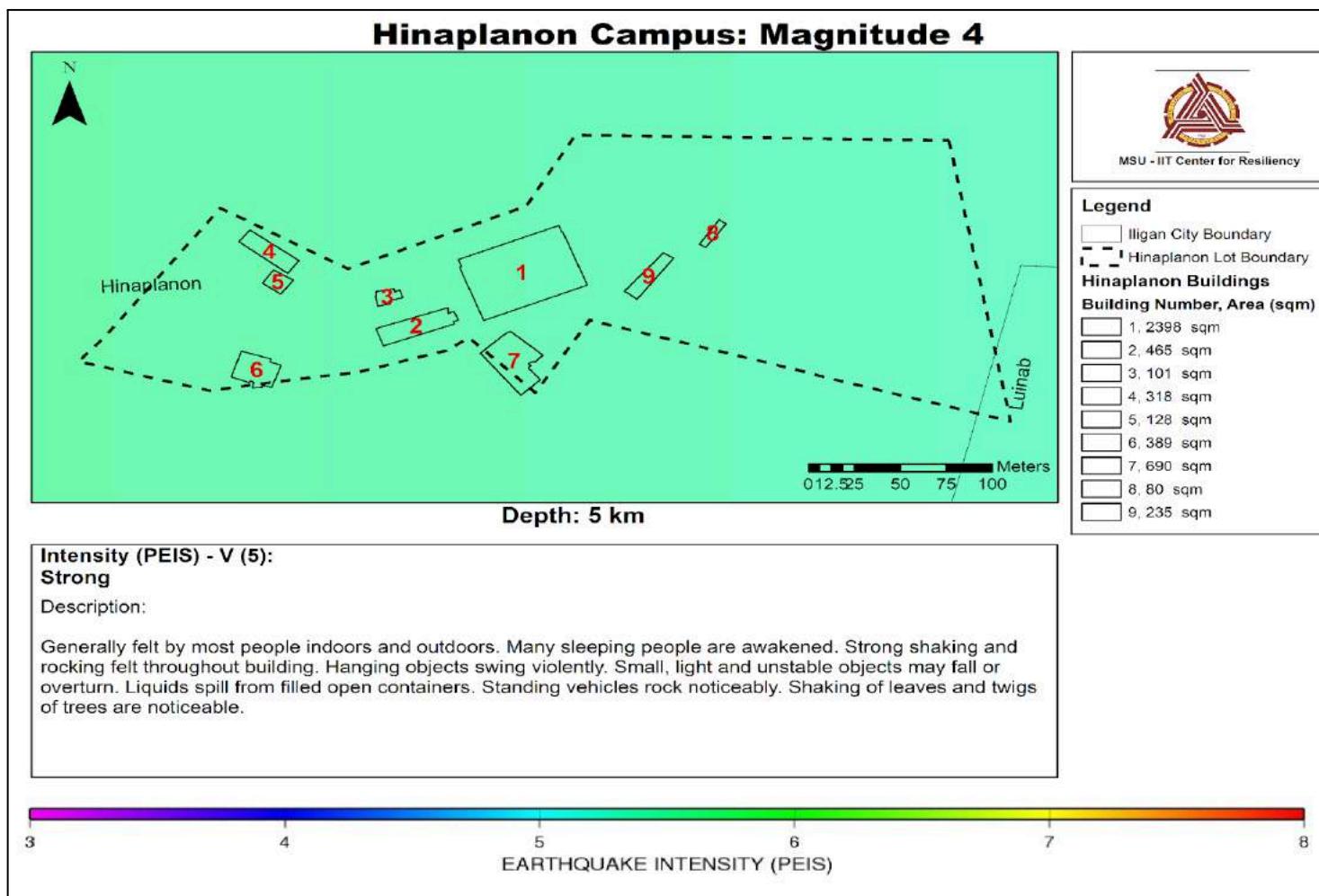


Figure 2.44. Magnitude 4.0 at 5 km depth

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

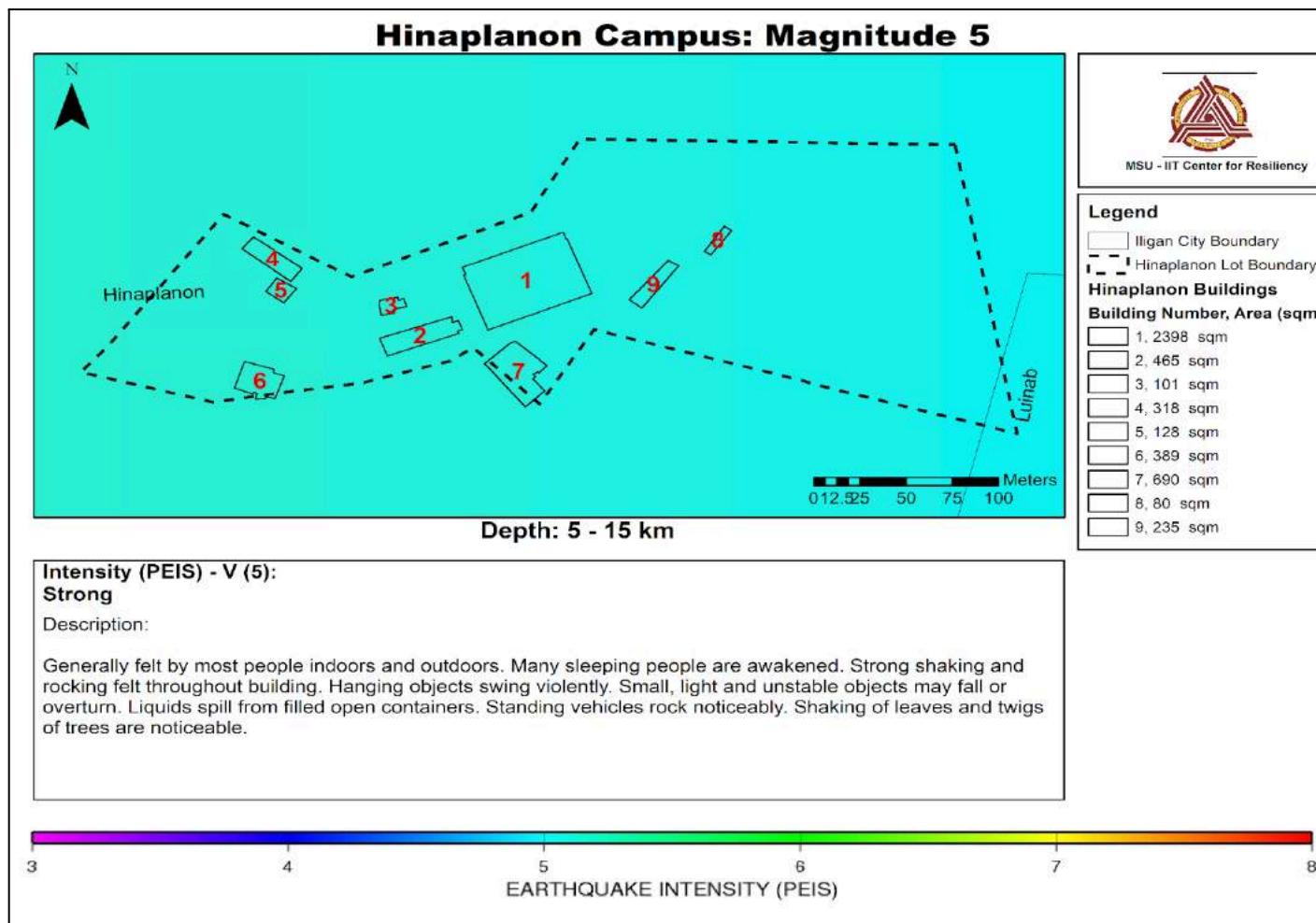


Figure 2.45. Magnitude 5.0 at 5-15 km depth

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

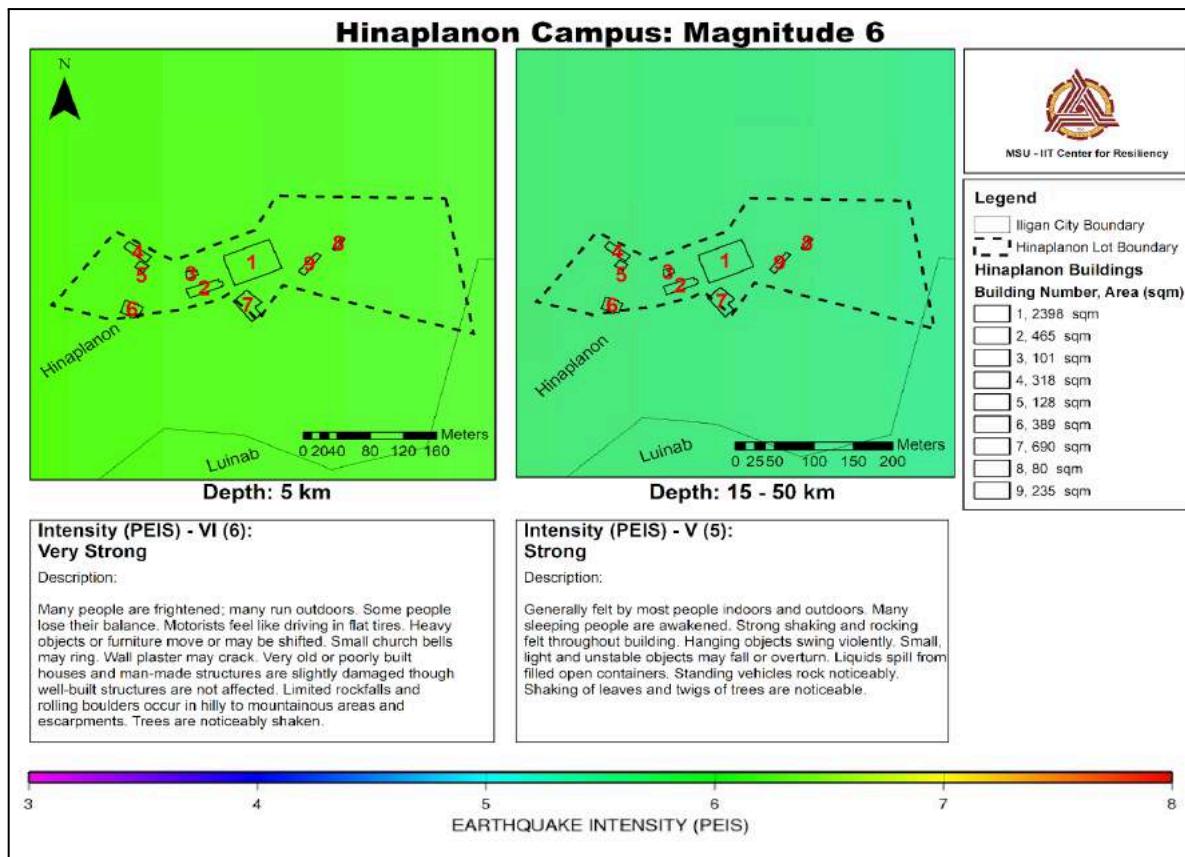


Figure 2.46. Magnitude 6.0 at 5 km and 15-50 km depth

Intensity (PEIS) - VII (6):Very Strong

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - VI (5):Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

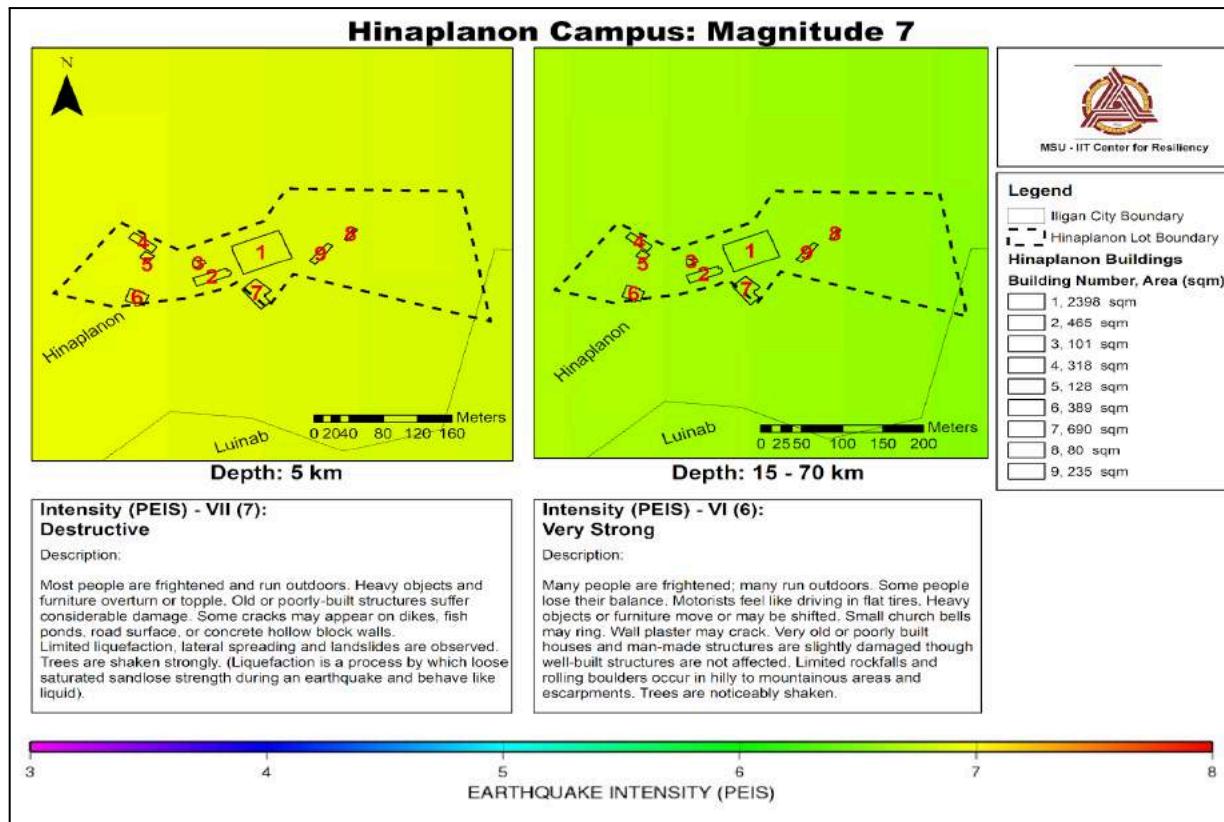


Figure 2.47. Magnitude 7.0 at 5 km and 15-70 km depth

Intensity (PEIS) - VII (7):Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6):Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat fires. Heavy objects or furniture move or may be shifted. Small church bells may ring.Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

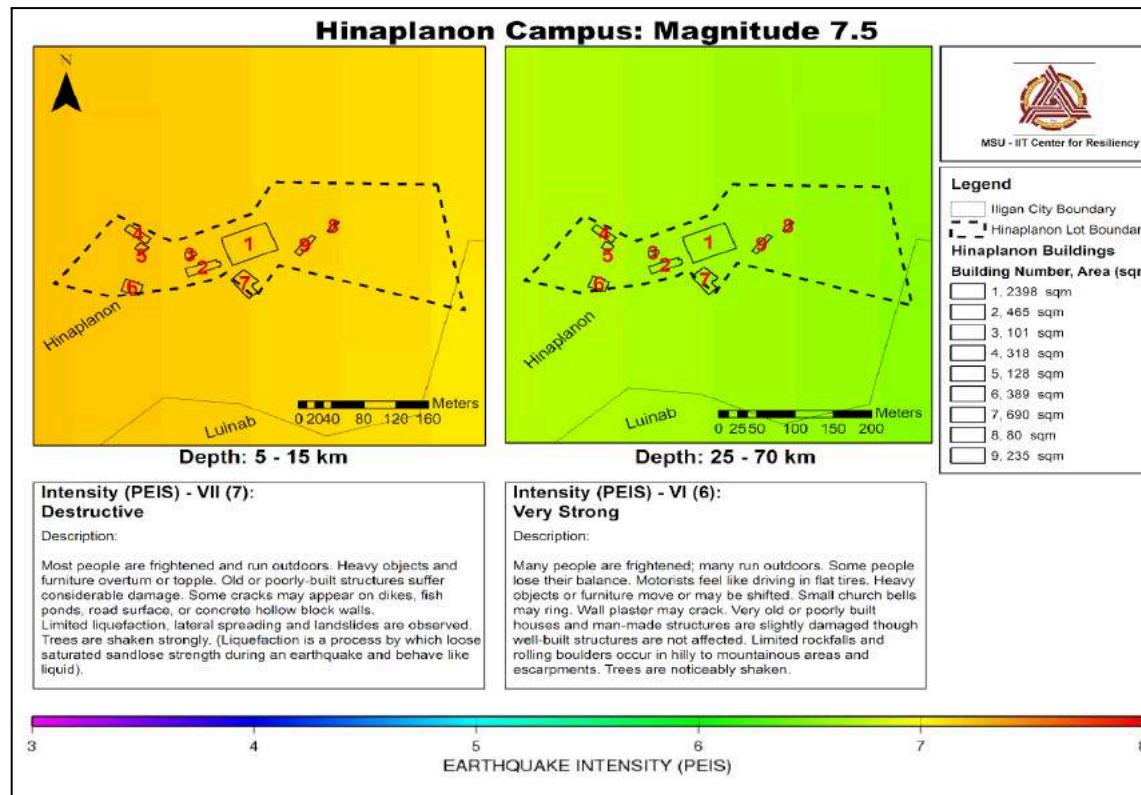


Figure 2.48. Magnitude 7.5 at 5-15 km and 25-70 km depth

Intensity (PEIS) - VII (7):Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading and landslides are observed. Trees are shaken strongly. (Liquefaction is a process by which loose saturated sandlose strength during an earthquake and behaves like liquid).

Intensity (PEIS) - VI (6):Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving with flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Effect of Earthquake to Liquefaction Inside Hinaplanon Campus

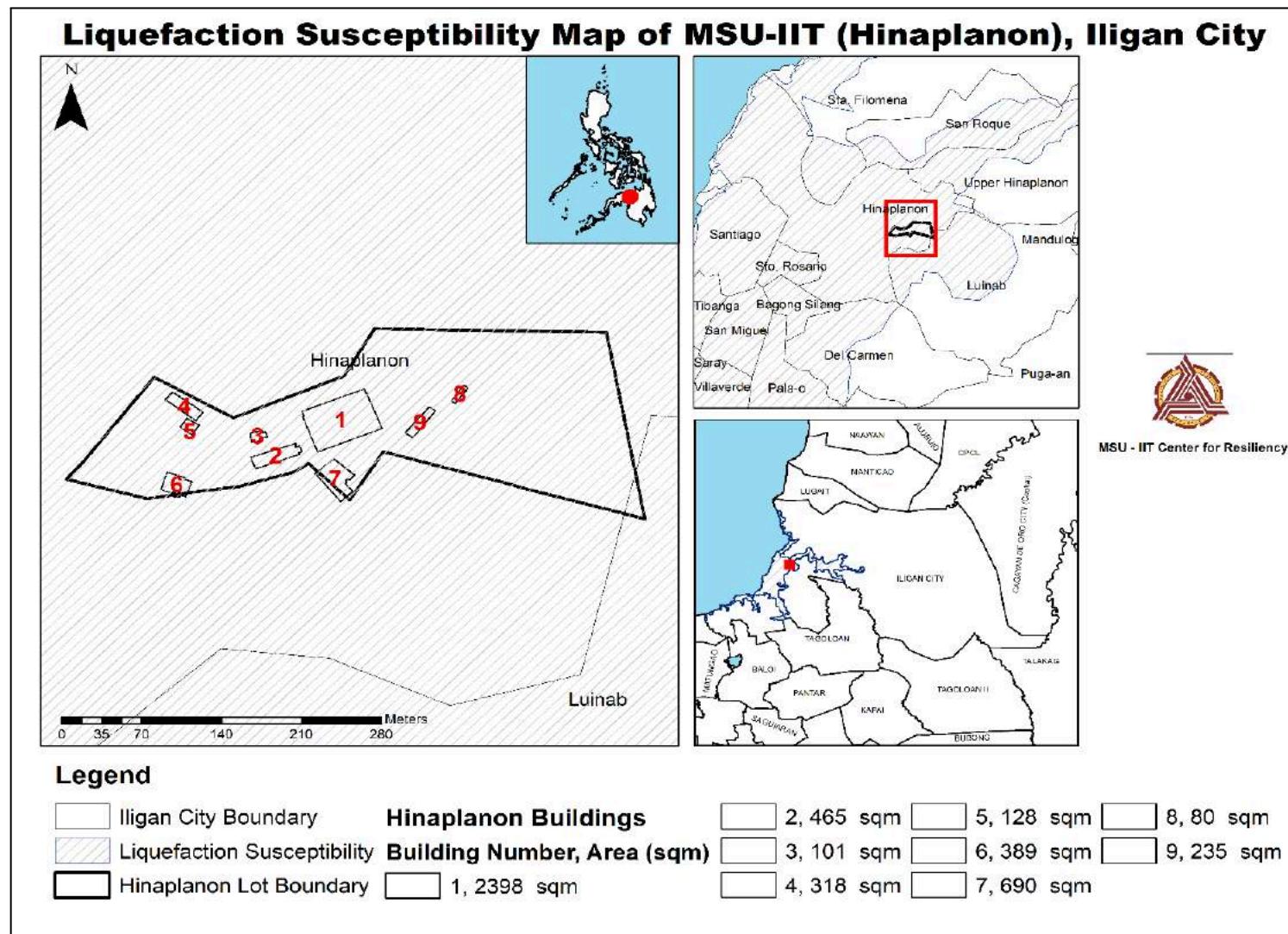


Figure 2.49. Liquefaction Susceptibility Map for Hinaplanon Campus

Tables 2.33. shows the values of liquefaction as expressed in critical acceleration (% g) during **WET** season. Take note that we no longer conducted simulations on the effect of earthquakes on liquefaction during the dry season since liquefaction barely occurs during that season as shown in the dry season simulation for the Tibanga main campus. The reason for this is because during the dry season, the soils are dry. For liquefaction to take place 3 elements are needed. These are the ground shaking caused by earthquakes, the geology (it must consist of sedimentary rocks) and the water which serves as the dissolving element to liquefy and dissolve the rocks and soils. During the dry season, there's not sufficient moisture to dissolve the soil and rocks.

The tables show that the higher the earthquake magnitude and the shallower the depth of the earthquake events, the greater will be the liquefaction to occur. Figures 2.50-53 illustrate the effect of earthquake magnitude to liquefaction from 5.0 to 7.0 for the Hinaplanon campus.

Table 2.33. Liquefaction during wet season, at Hinaplanon Annex Campus

Depth (km)	Exceedance of critical acceleration during Wet Season (%g)	Map
Liquefaction at Magnitude 5.0		
5-15	0.05	Figure 2.53
Liquefaction at Magnitude 6.0		
5-15	0.2	Figure 2.52
25-50	0.05	
Liquefaction at Magnitude 7.0		
5-15	0.3	Figure 2.51
25-50	0.05	
Liquefaction at Magnitude 7.5		
5-15	0.3	Figure 2.50
25-50	0.2	

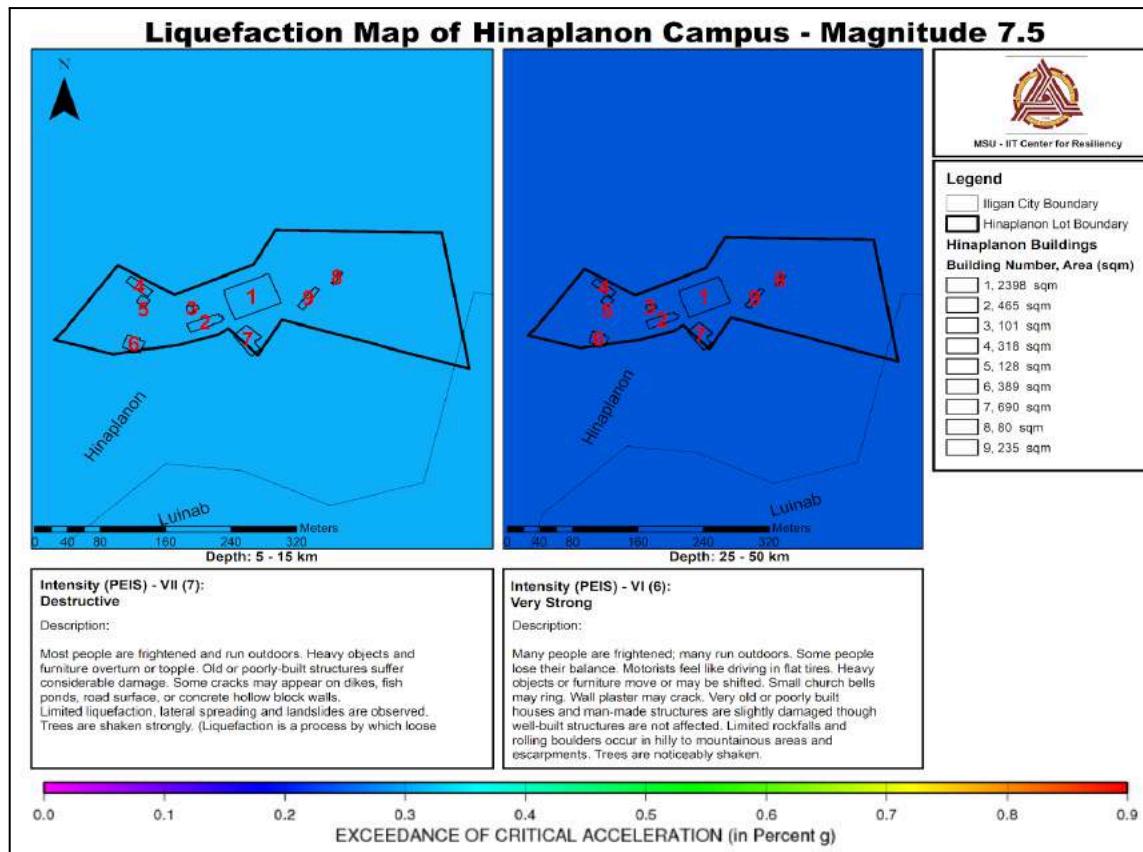


Figure 2.50. Liquefaction at magnitude 7.5 for 5-15 km and 25-50 km depth

Intensity (PEIS)- VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topic. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly. (Liquefaction is a process by which loose saturated sandlose strength during an earthquake and behave like liquid).

Intensity (PEIS)- VI (6): Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorist feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and made structures are slightly damaged though well built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

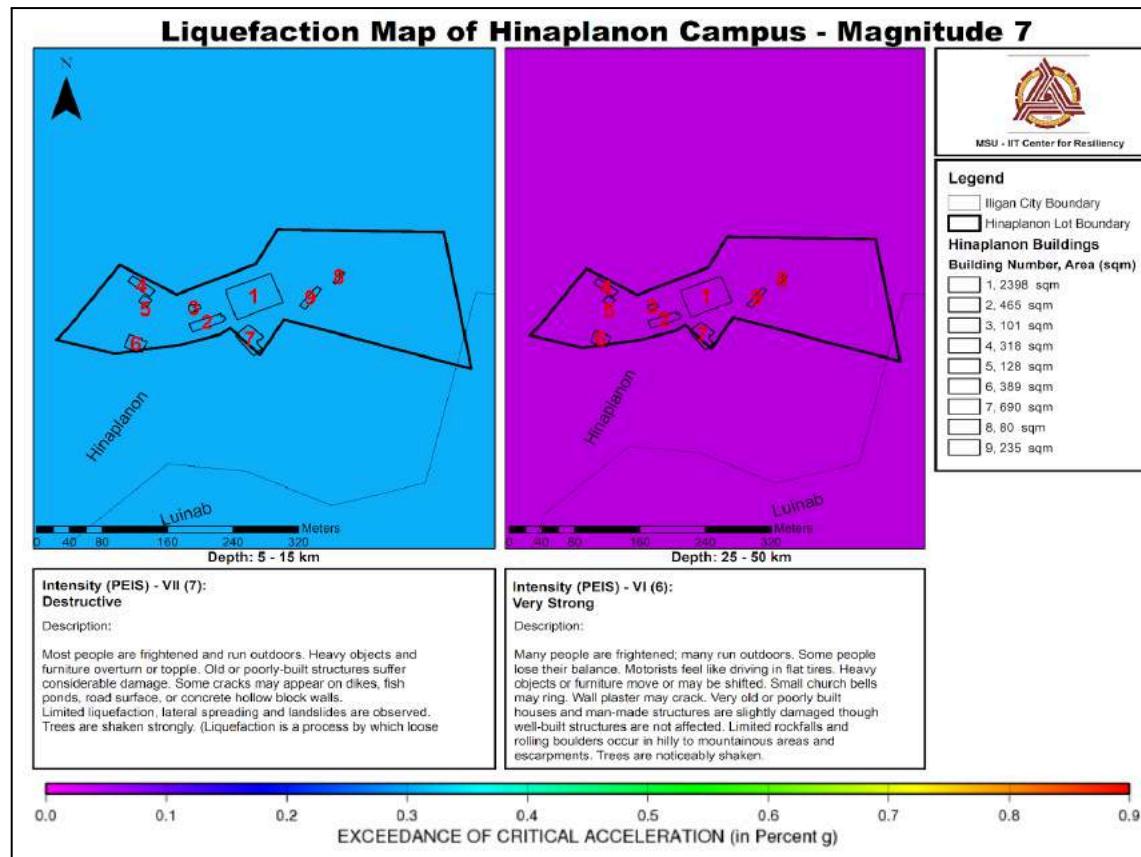


Figure 2.51. Liquefaction at magnitude 7.0 for 5-15 km and 25-50 km depth

Intensity (PEIS)- VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly-built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading and landslides are observed. Trees are shaken strongly. (Liquefaction is a process by which loose saturated sandlose strength during an earthquake and behave like liquid).

Intensity (PEIS)- VI (6):Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

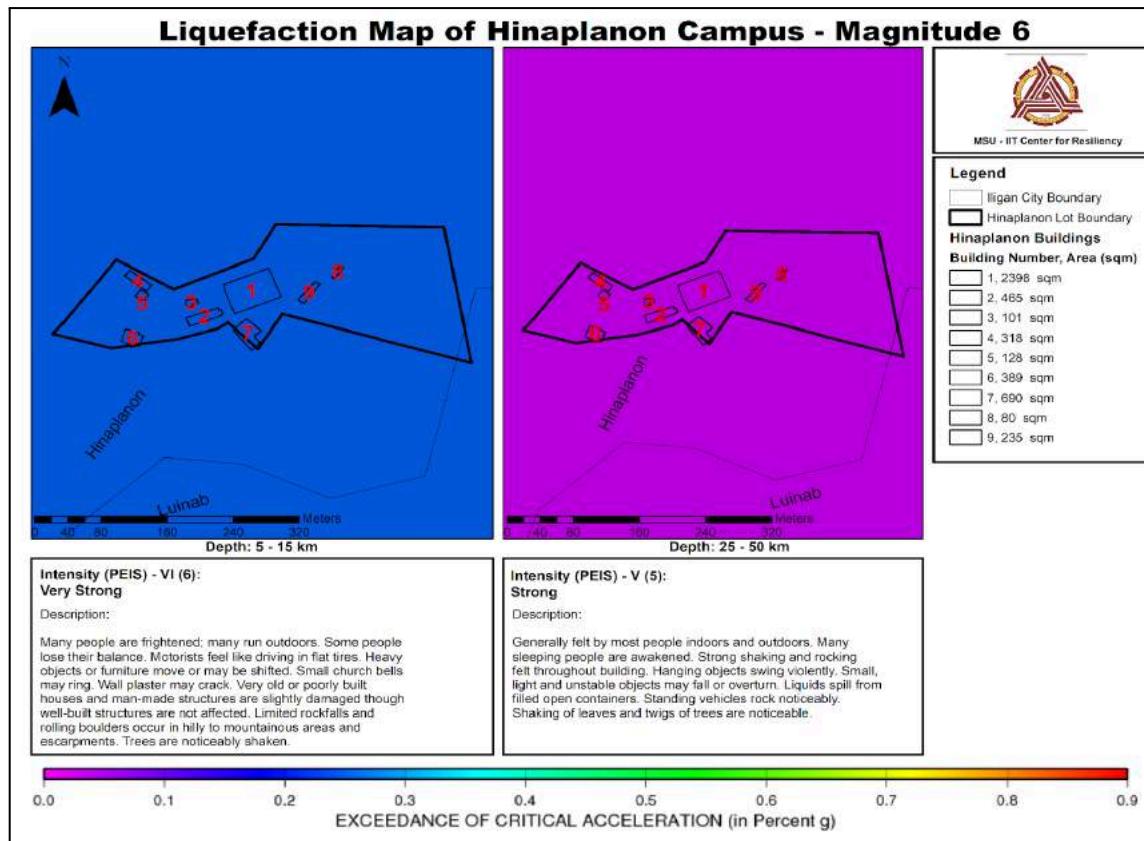


Figure 2.52. Liquefaction at magnitude 6.0 for 5-15 km and 25-50 km depth

Intensity (PEIS)- VI (6): Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light, and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

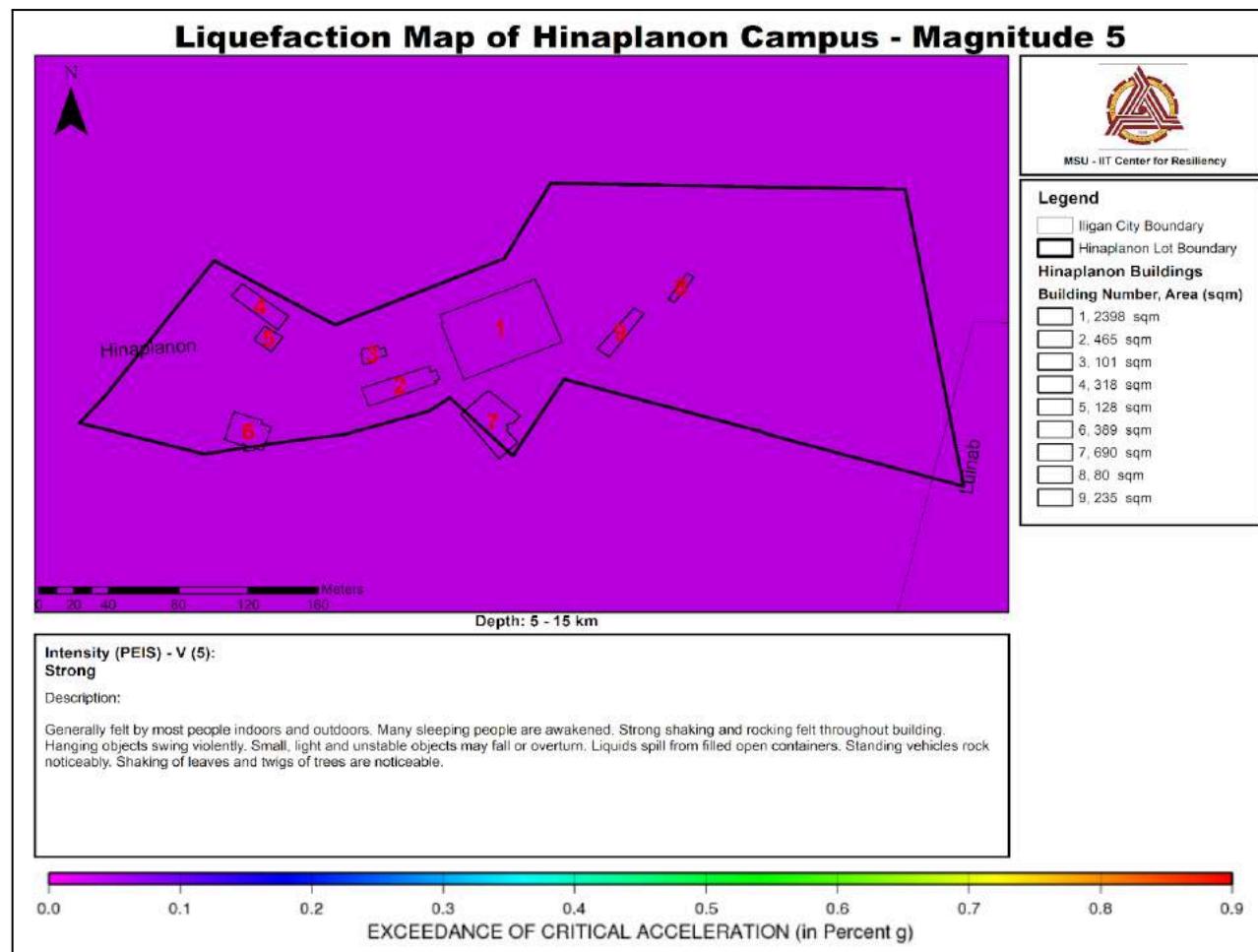


Figure 2.53. Liquefaction at magnitude 5.0 for 5-15 km depth

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

c. Storm Surge

Hinaplanon campus is far from the shoreline, hence it is not vulnerable to storm surge. The Hinaplanon campus will not be affected by the SLR. Given the current SLR projection for 250 years, the encroachment is only 133 meters while the Hinaplanon campus is more than 2,000 meters from the seashore as shown in Figure 2.54.



Figure 2.54. Distance of Hinaplanon campus from the seashore

d. Urban Heat

The urban heat island of the Hinaplanon campus is classified as medium with corresponding temperature range of 22.92 – 25.92 degrees Celsius. That range is good and is below room temperature of 27 degrees Celsius. However, should climate change remain unabated, then the temperature may go higher. Because of that possibility, it is best to prepare for it by greening the campus making use of the expertise of a landscape architect to craft a master plan to ensure a coherent and aesthetic way of planting.

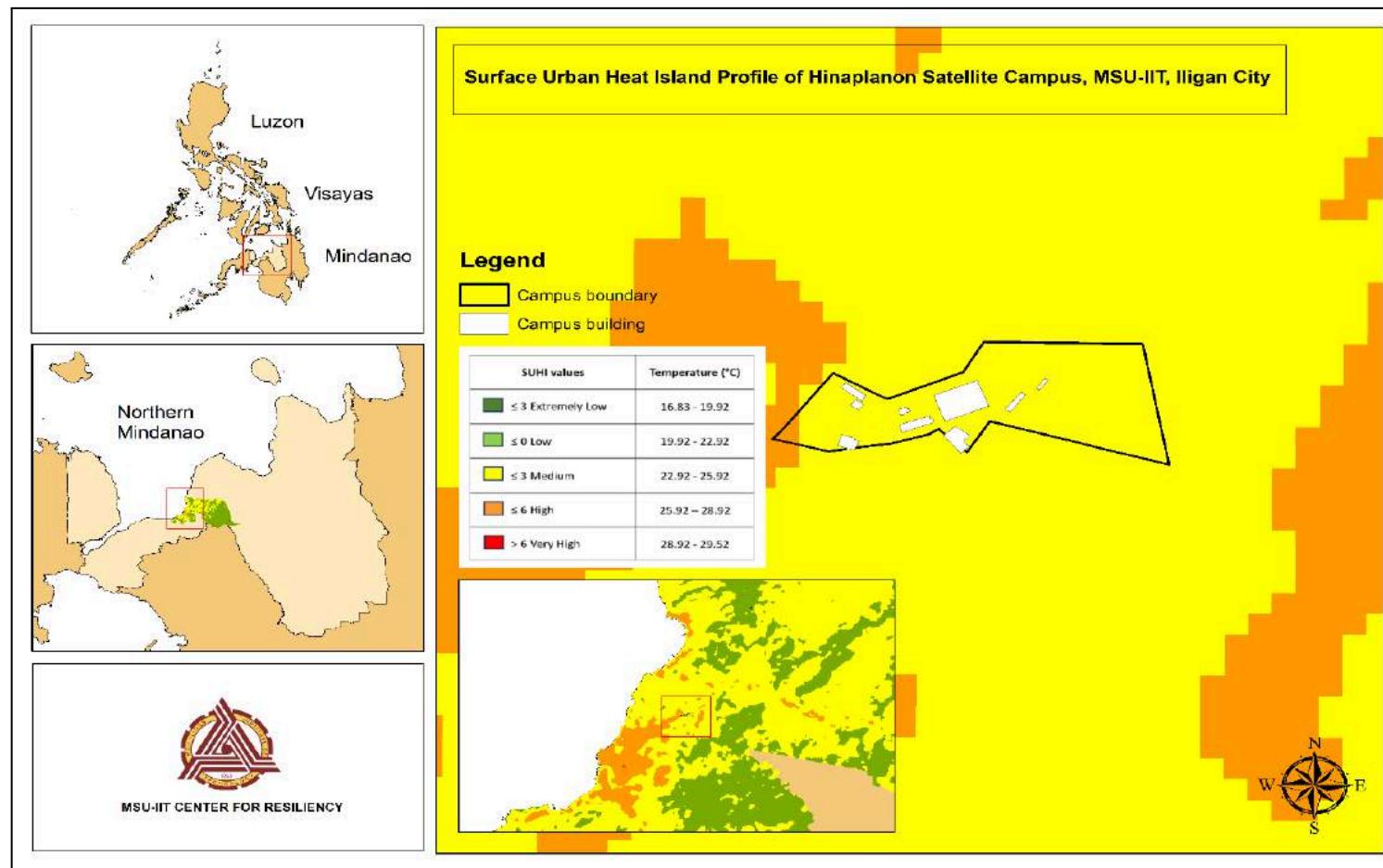


Figure 2.55. Urban Heat Island inside MSU-IIT Hinaplanon Campus

Fuentes Annex Campus

a. Flood

Figure 2.56 depicts that the Fuentes campus annex is not susceptible to flooding.

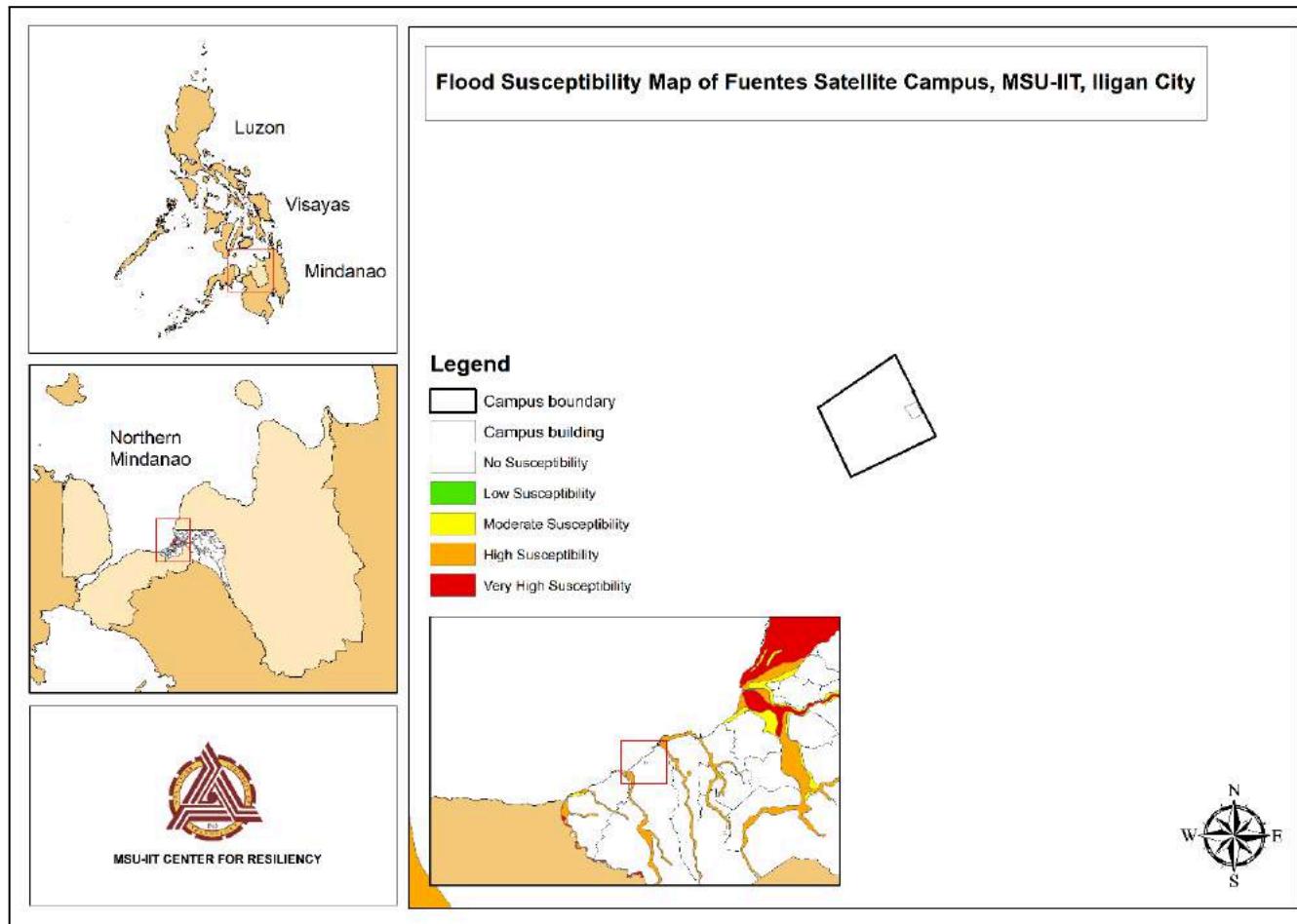


Figure 2.56. Flood Susceptibility map for the Fuentes campus

b. Earthquake

Figure 2.457 shows the distance of the Fuentes campus annex from the epicenter, with a distance of 18.96 km. Moreso, Figures 2.58 to 2.62 depict the magnitude level per kilometer distance and depth.

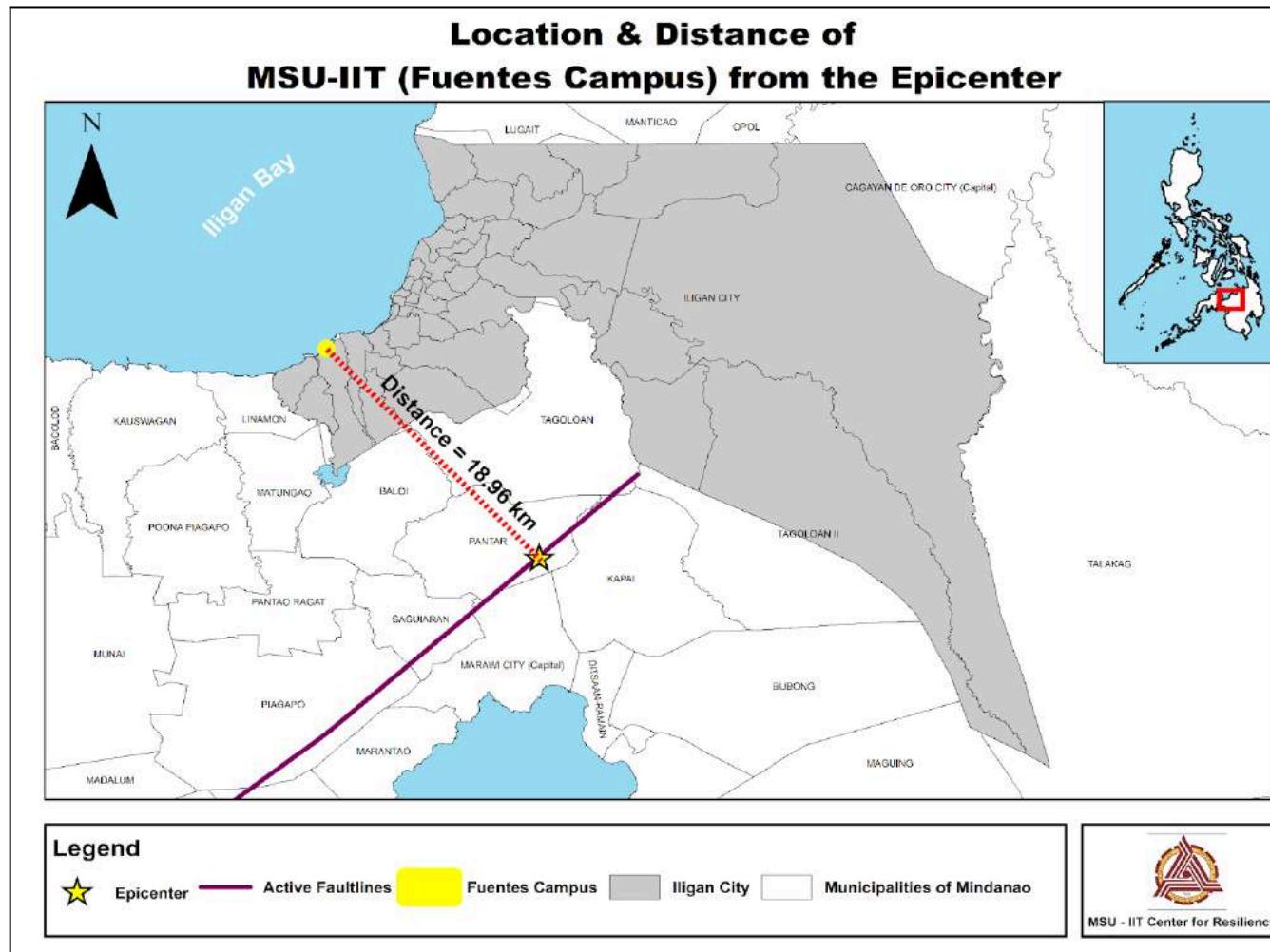


Figure 2.57. Location and Distance of MSU-IIT Fuentes Campus Annex from the epicenter

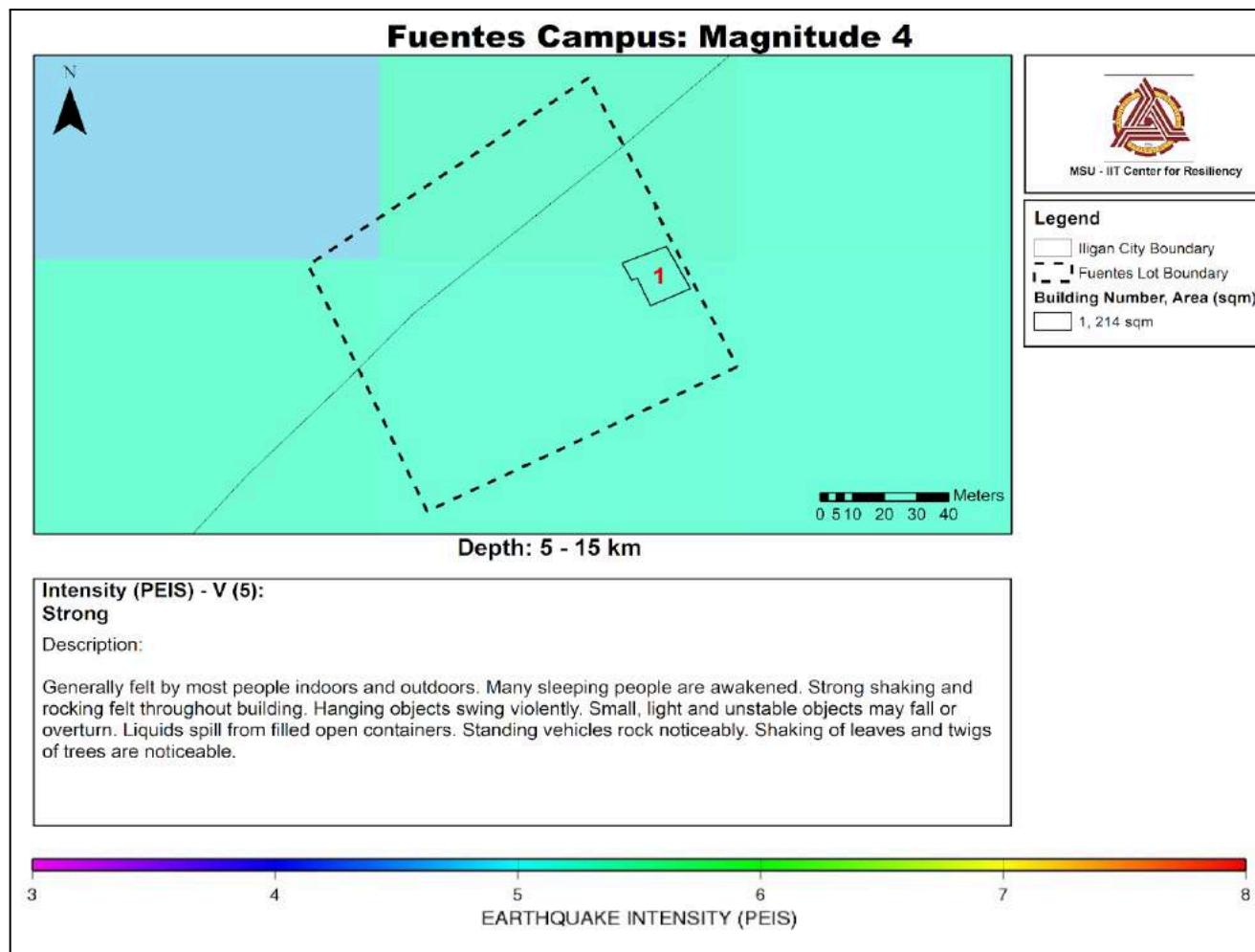


Figure 2.58. Magnitude 4.0 at 5 km depth

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking were felt throughout the building. Hanging objects swing violently. Small, light, and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. The shaking of leaves and twigs of trees are noticeable.

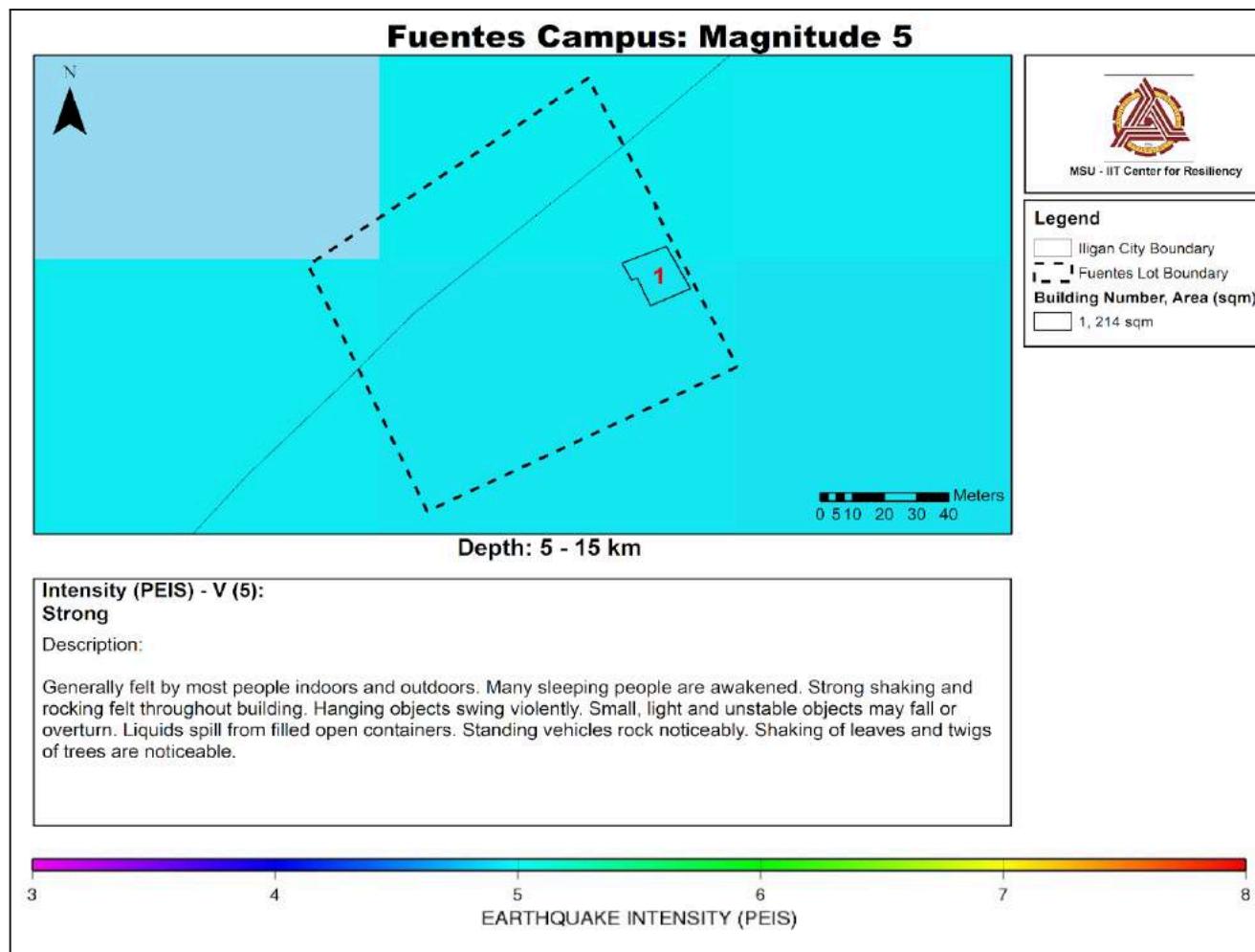


Figure 2.59. Magnitude 5.0 at 5-15 km depth

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking were felt throughout the building. Hanging objects swing violently. Small, light, and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. The shaking of leaves and twigs of trees are noticeable.

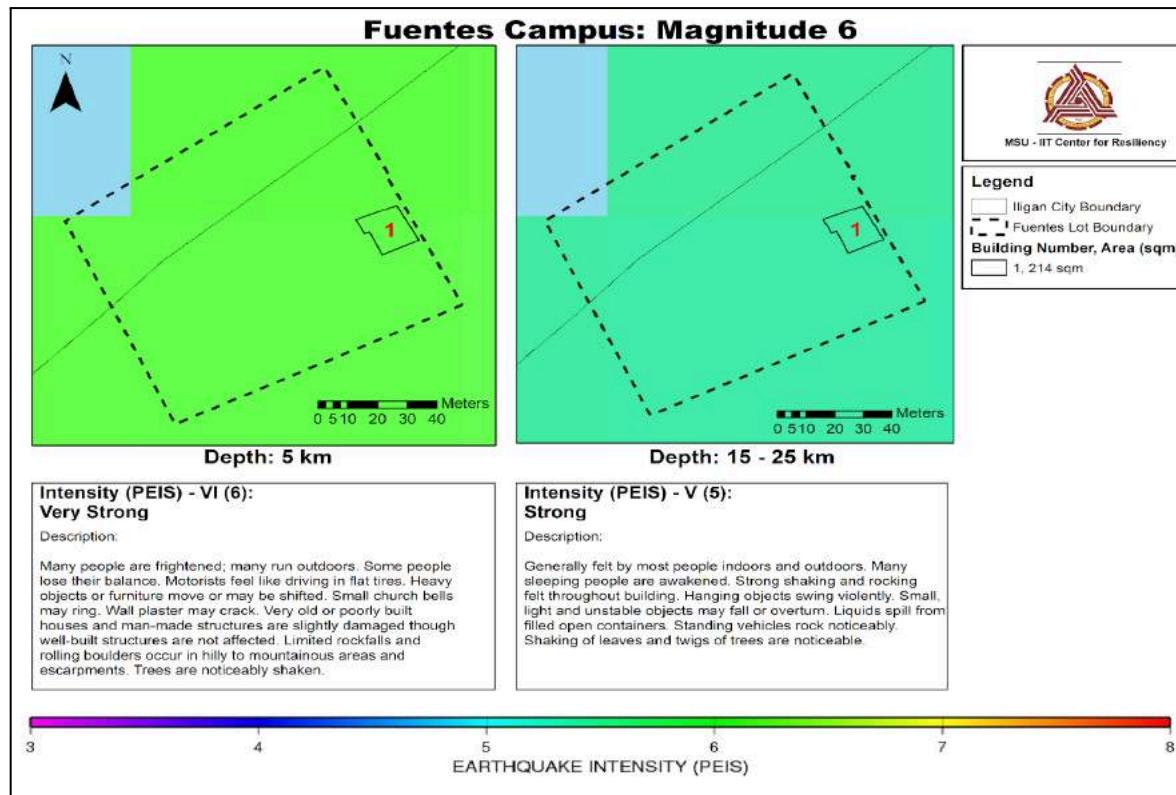


Figure 2.60. Magnitude 6.0 at 5 and 15-25 km depth

Intensity (PEIS)- VI (6): Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving with flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking were felt throughout the building. Hanging objects swing violently. Small, light, and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. The shaking of leaves and twigs of trees are noticeable.

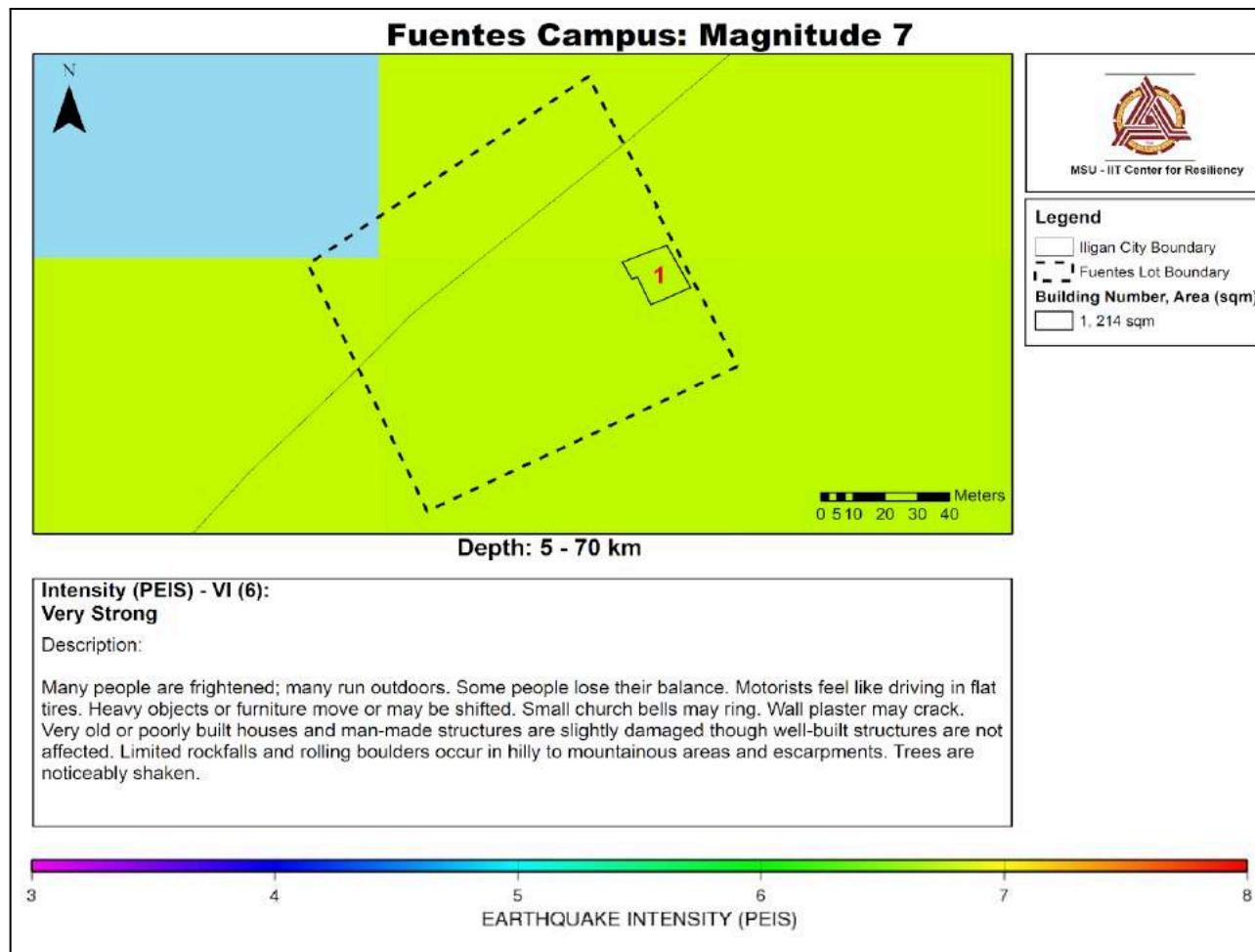


Figure 2.61. Magnitude 7.0 at 5-70 km depth

Intensity (PEIS)- VI (6): Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving with flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

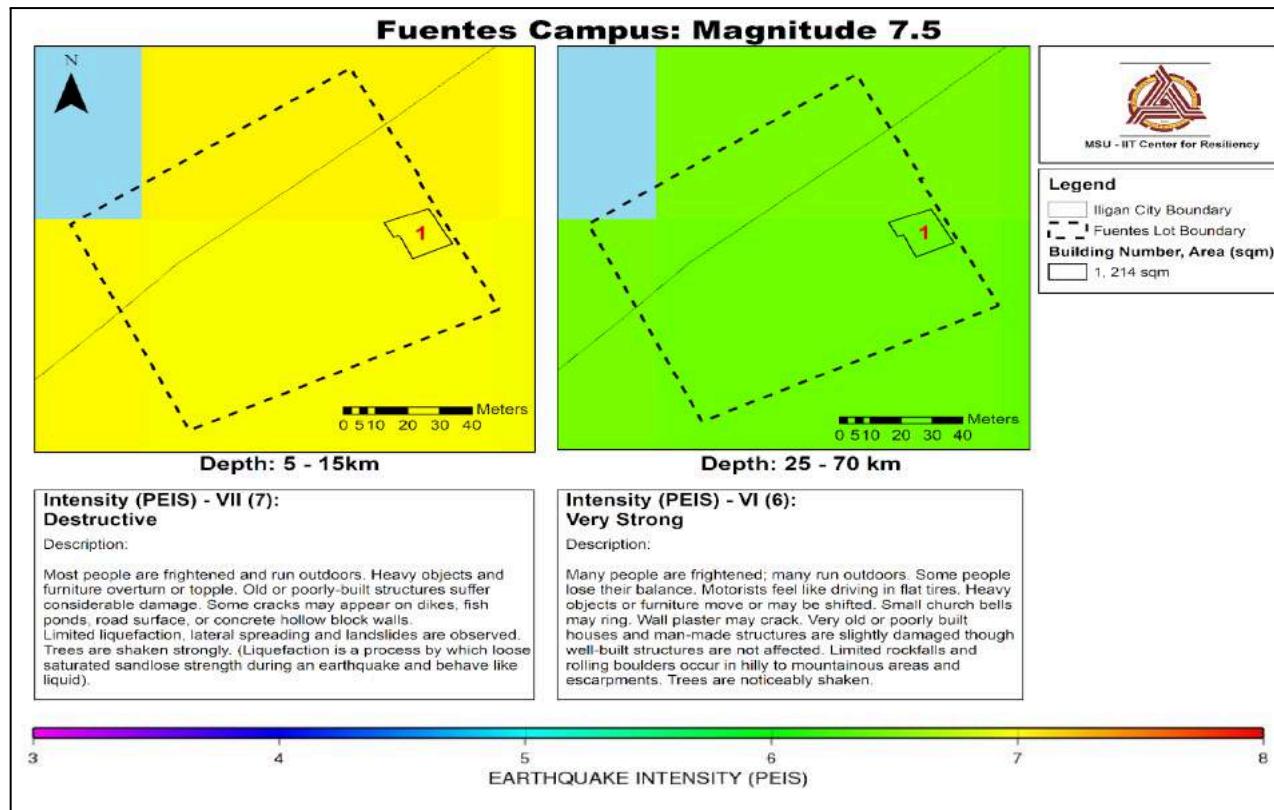


Figure 2.62. Magnitude 7.5 at 5-15 km and 25-70 km depth

Intensity (PEIS)- VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly. (Liquefaction is a process by which loose saturated sandlose strength during an earthquake and behave like liquid).

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c. Liquefaction

Figure 2.63 shows that the Fuentes campus is susceptible to liquefaction. The liquefaction values were simulated for the wet season and none for the dry season for the same reason explained for the Hinaplanon campus. Again, the trend remains consistent for liquefaction in that values are higher for bigger earthquake magnitude and shallower depth during an earthquake event. Figures 2.64. to 2.67 illustrate the effect of earthquake magnitude to liquefaction from 7.5 to 5.0 for the Fuentes campus.

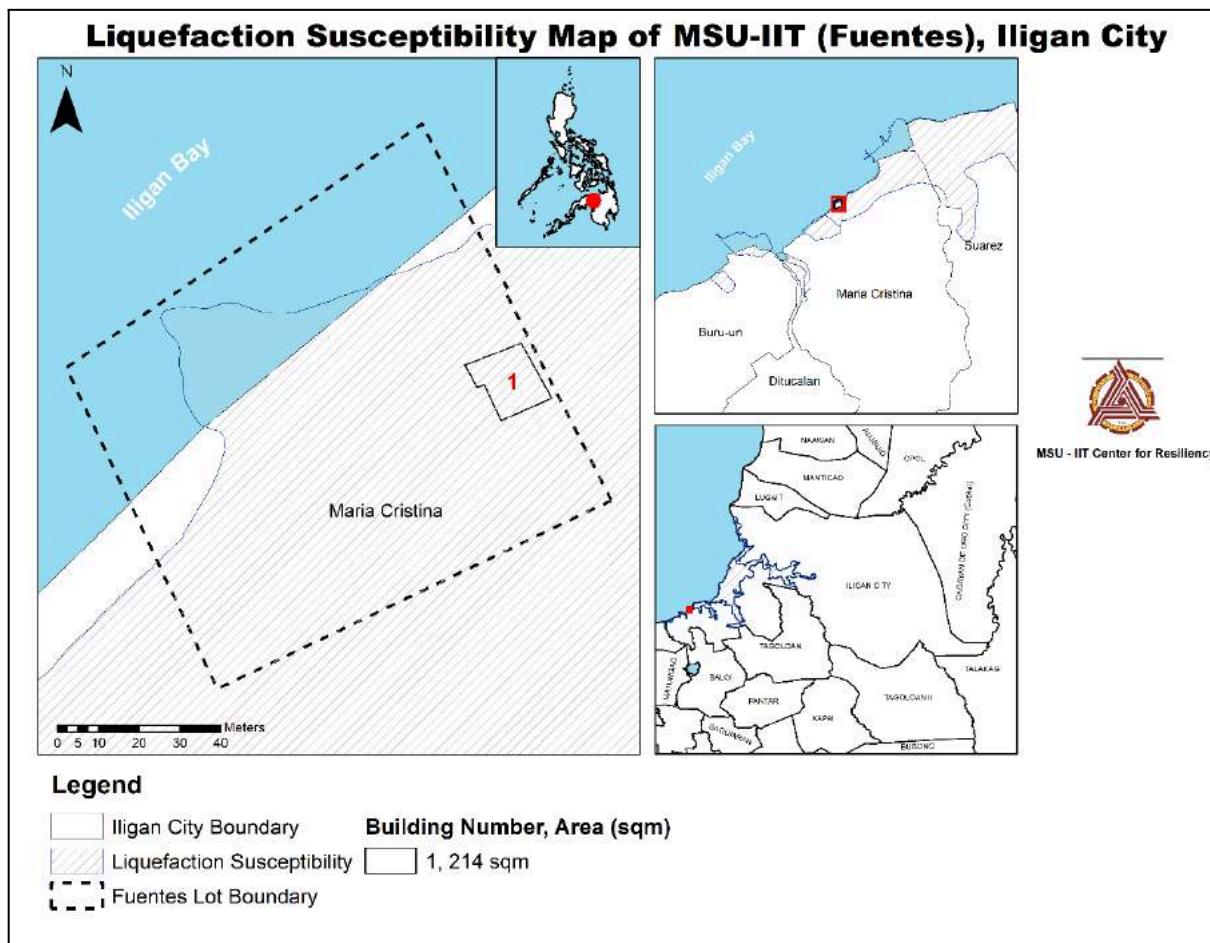


Figure 2.63. Liquid Susceptibility Map for Fuentes Campus

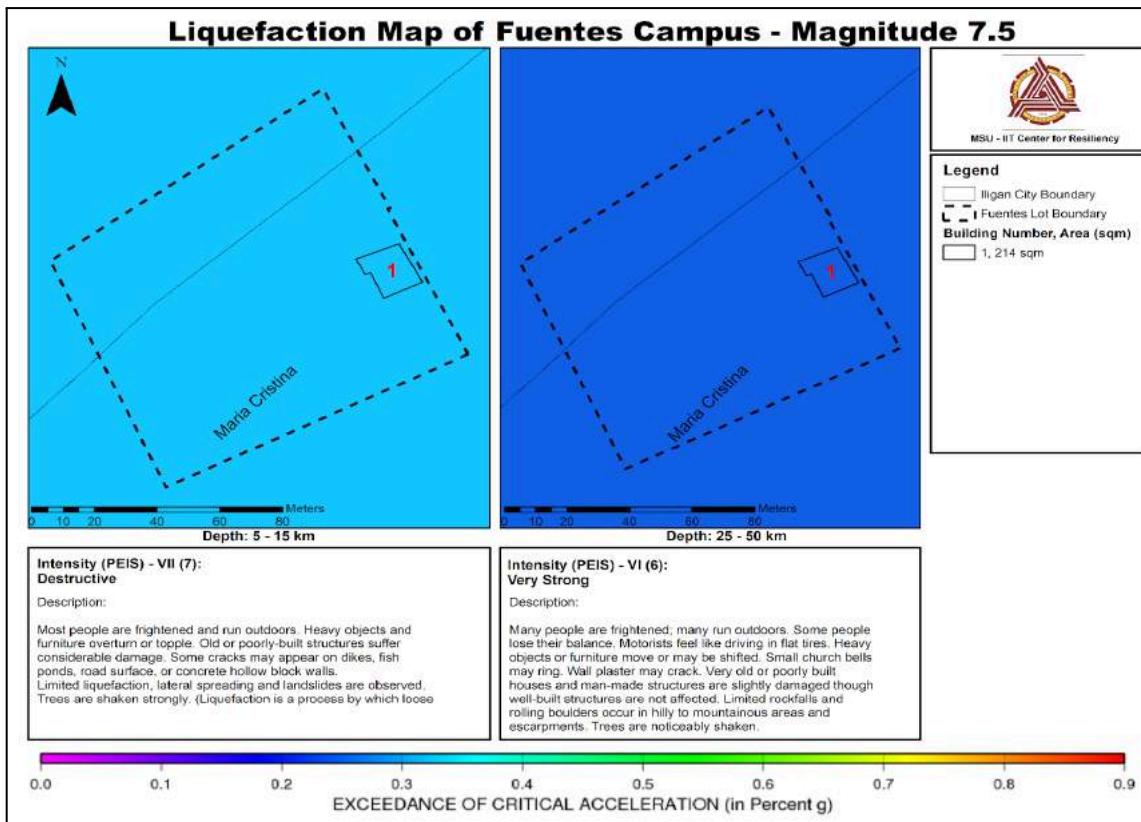


Figure 2.64. Liquefaction at magnitude 7.5 for 5-15 km and 25-50 km depth

Intensity (PEIS)- VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly-built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading and landslides are observed. Trees are shaken strongly. (Liquefaction is a process by which loose saturated sandlose strength during an earthquake and behave like liquid).

Intensity (PEIS)- VI (6):Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

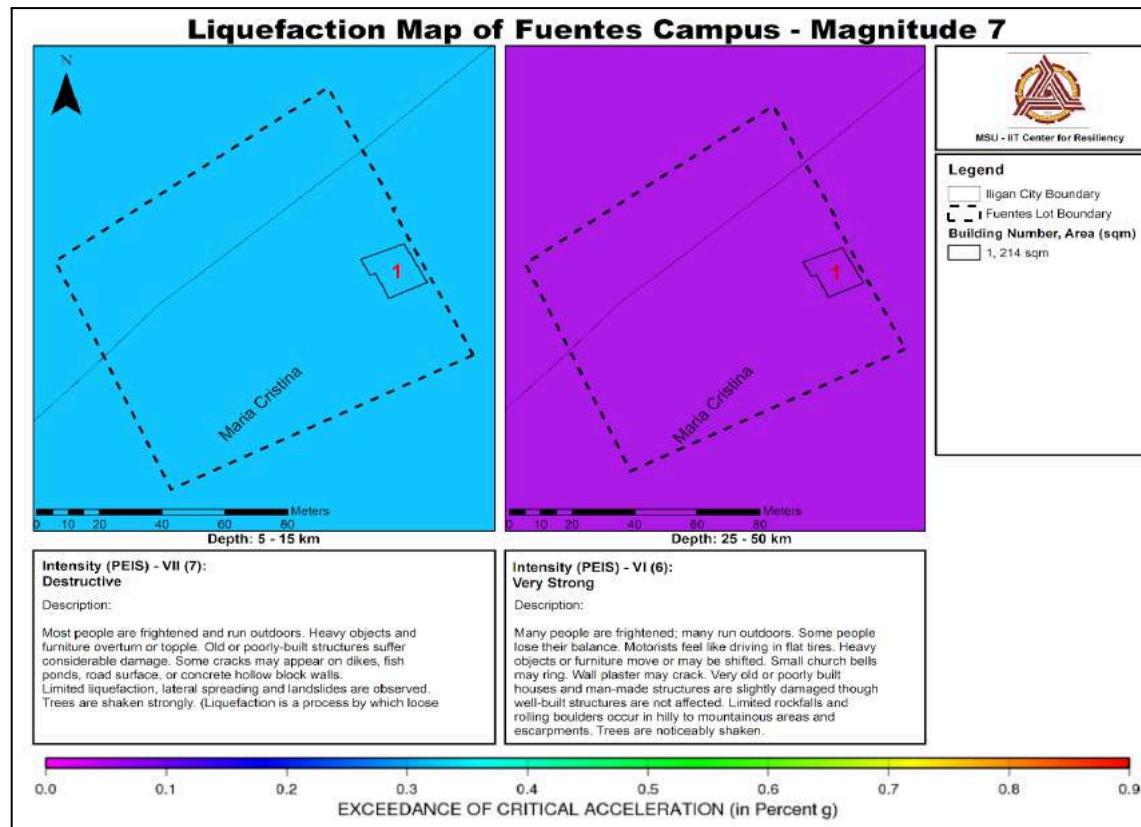


Figure 2.65. Liquefaction at magnitude 7.0 for 5-15 km and 25-50 km depth

Intensity (PEIS)- VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly-built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading and landslides are observed. Trees are shaken strongly. (Liquefaction is a process by which loose saturated sandlose strength during an earthquake and behave like liquid).

Intensity (PEIS)- VI (6):Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

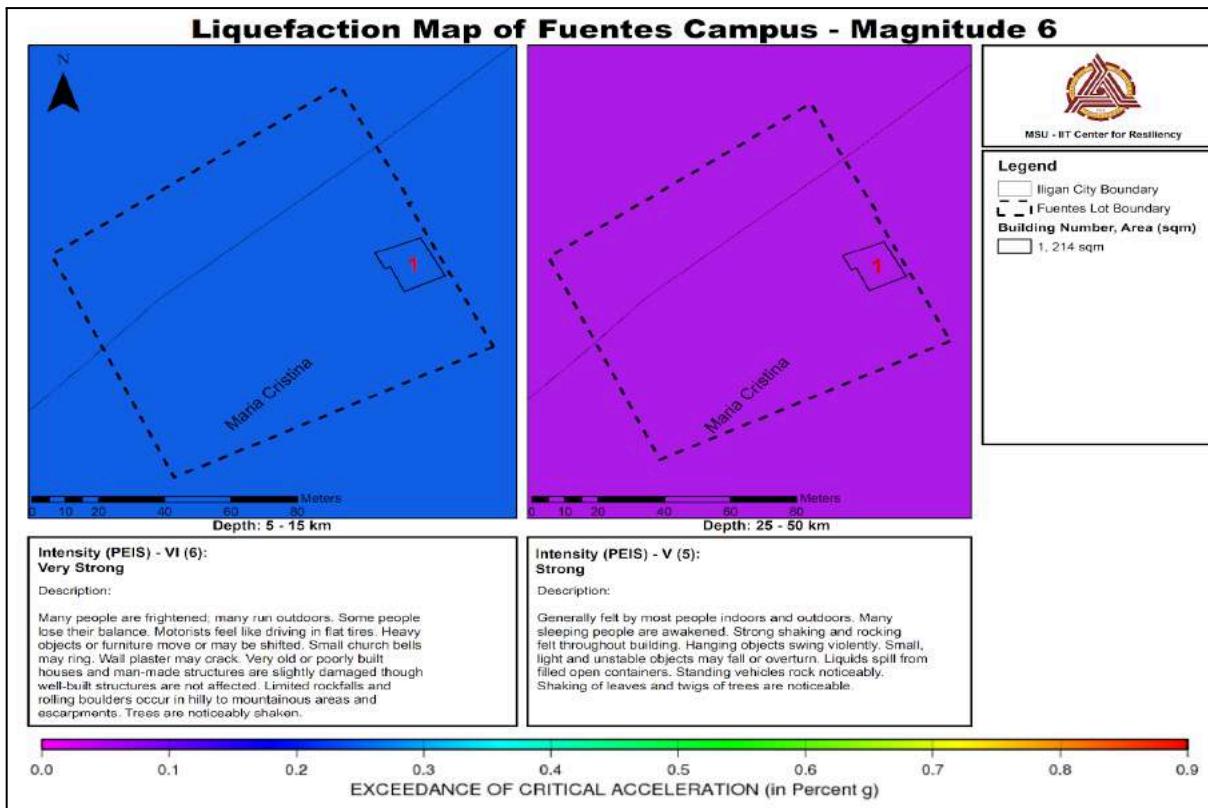


Figure 2.66. Liquefaction at magnitude 6.0 for 5-15 km and 25-50 km depth

Intensity (PEIS)- VI (6):Very Strong

Many people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

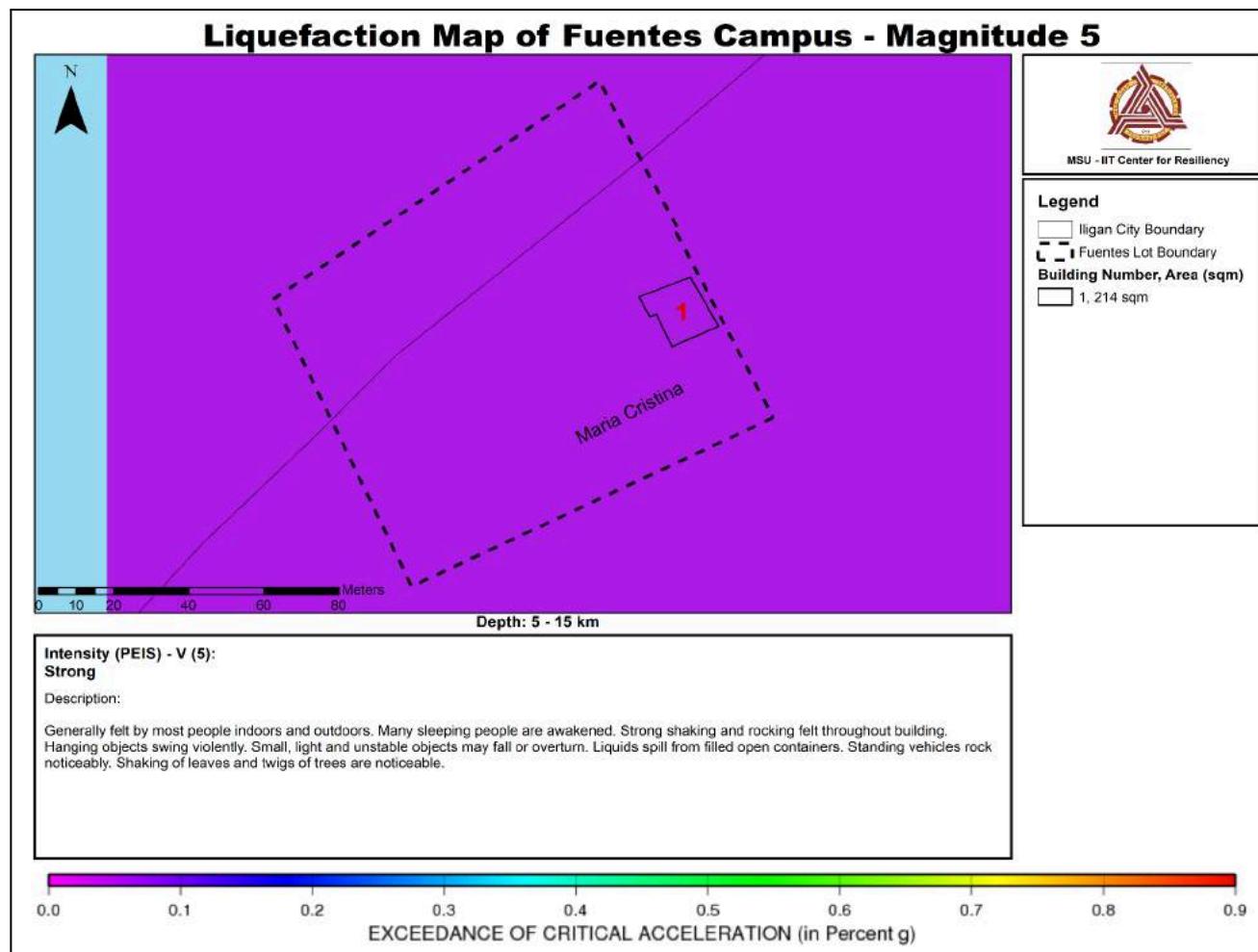


Figure 2.67. Liquefaction at magnitude 5.0 for 5-15 km depth

Intensity (PEIS)- V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

d. Storm Surge

Figures 2.68 to 2.71 depict the storm surge map at Fuentes campus annex by advisory level.

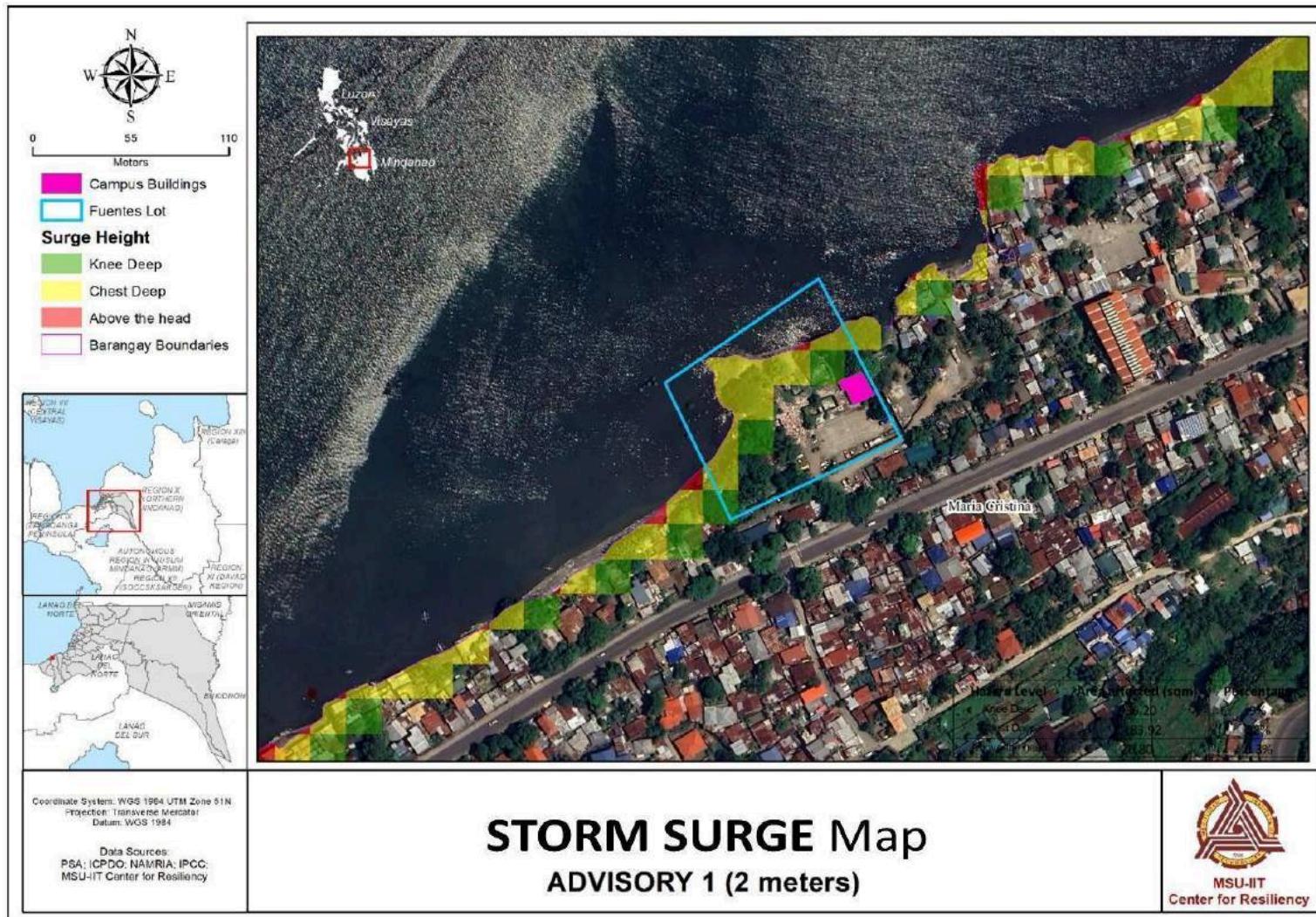


Figure 2.68. Storm Surge Advisory 1 map with a wave height of 2 meters

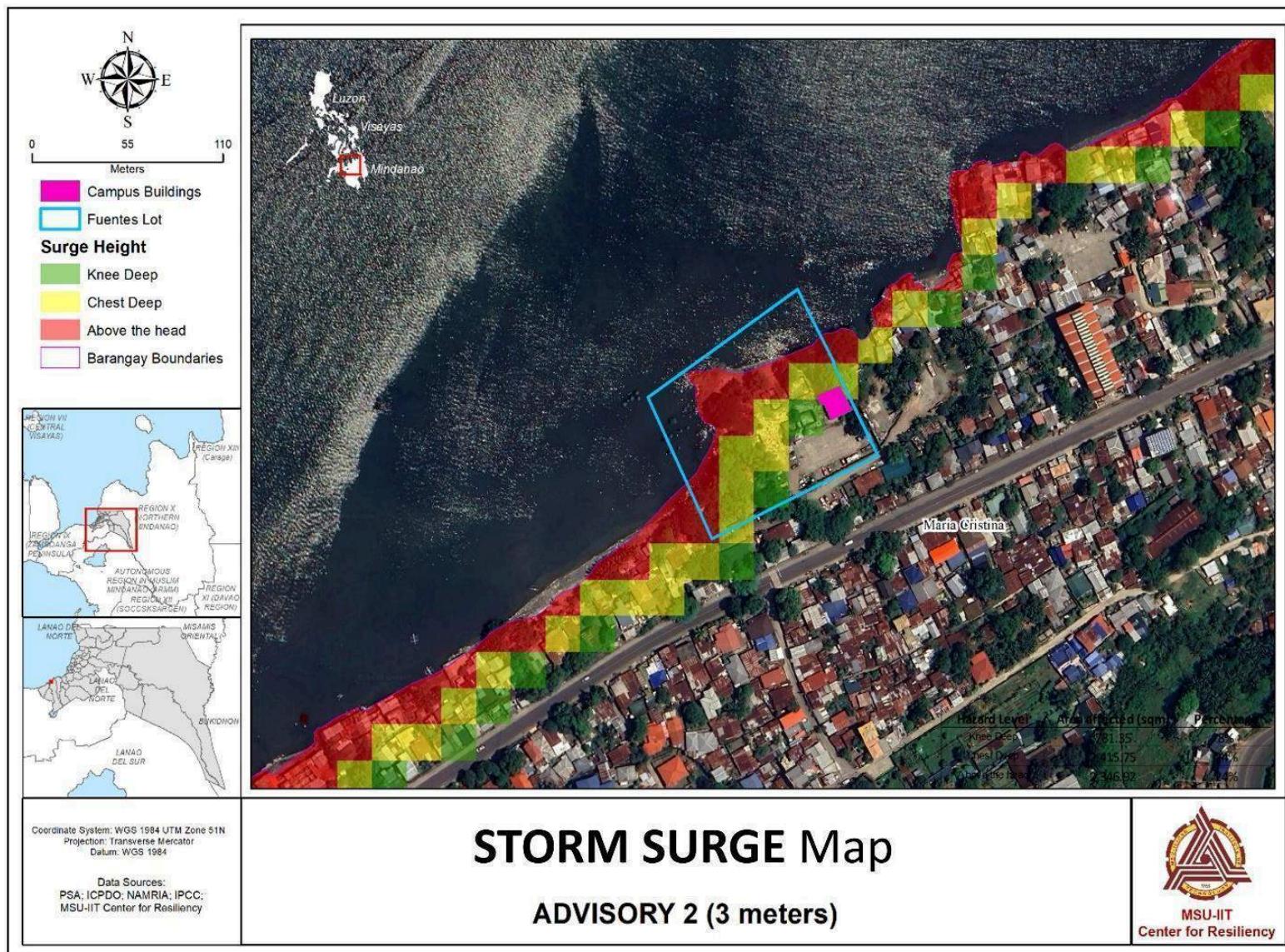


Figure 2.69. Storm Surge Advisory 2 map with a wave height of 3 meters

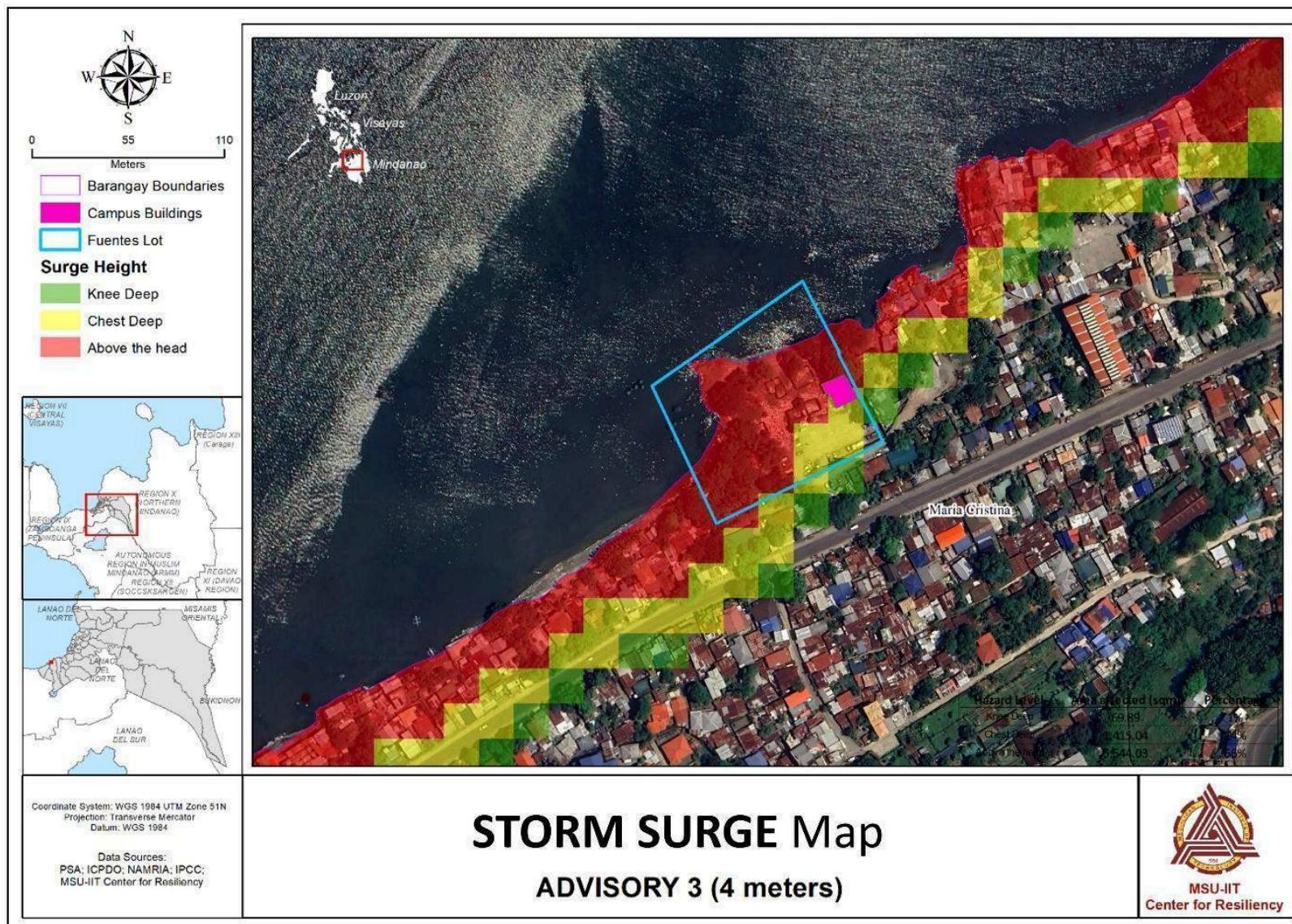


Figure 2.70. Storm Surge Advisory 3 map with a wave height of 4 meters

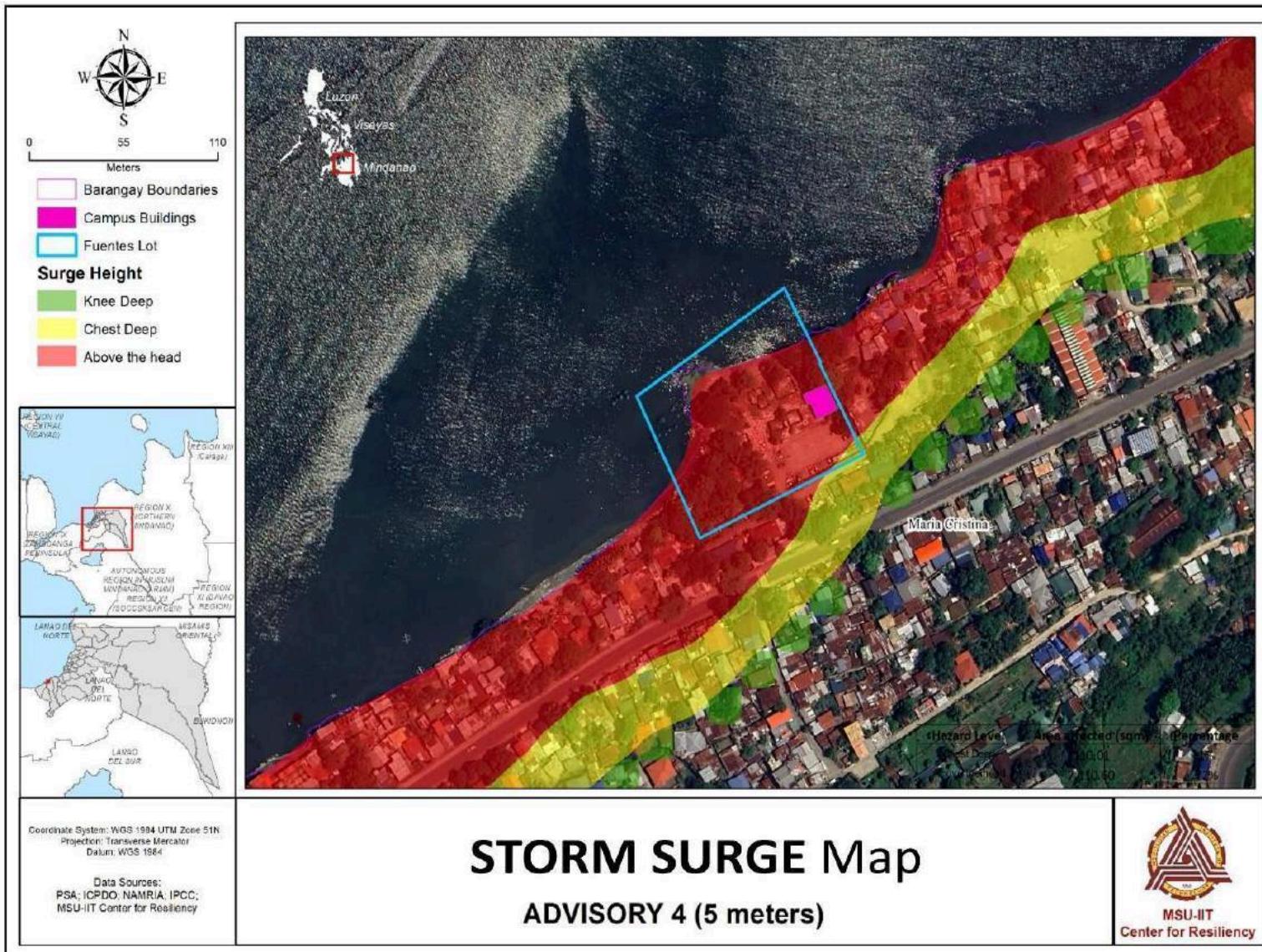


Figure 2.71. Storm Surge Advisory 4 map with a wave height of 5 meters

e. Sea Level Rise

Figure 2.72 depicts the sea level rise map at Fuentes campus.

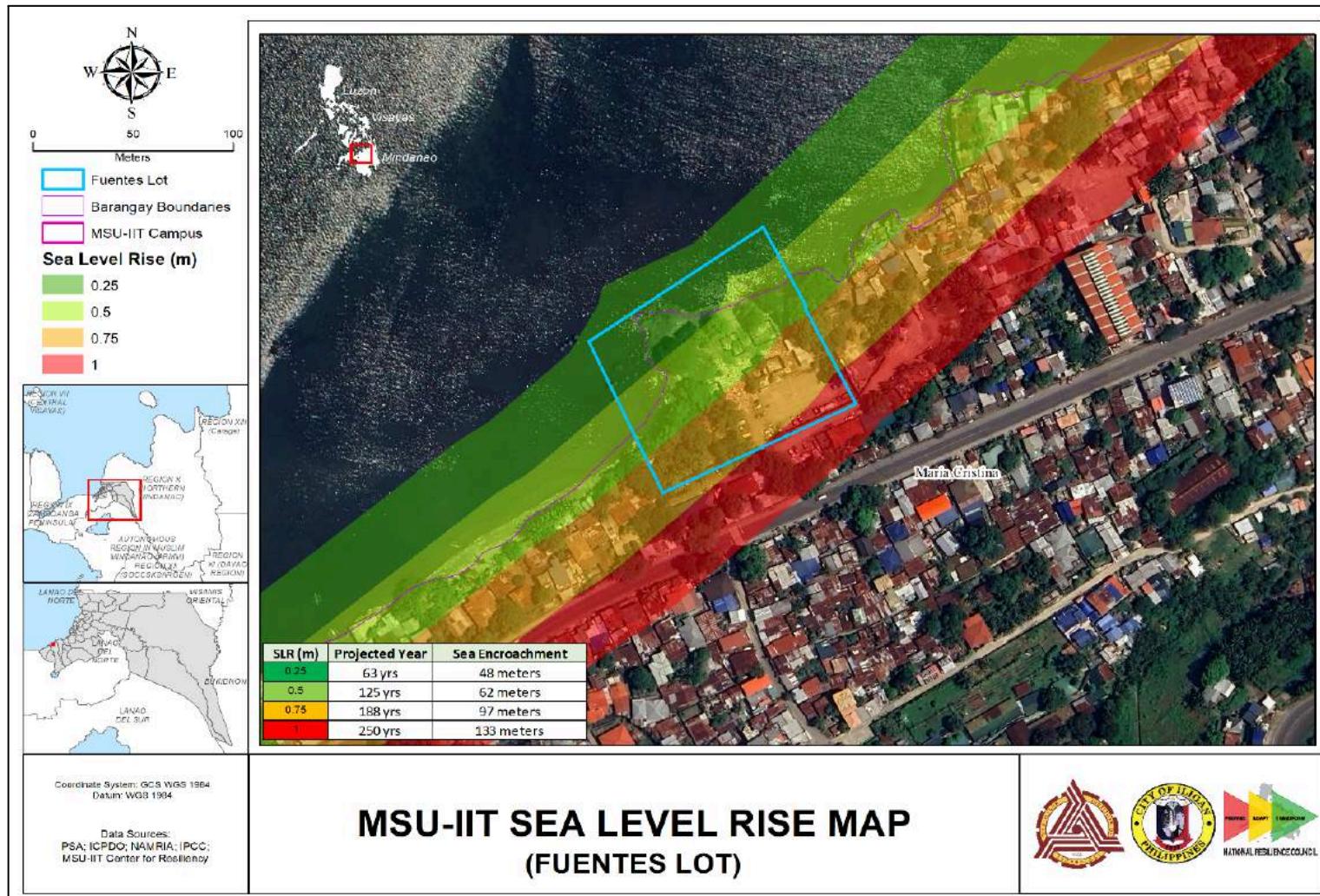


Figure 2.72. Sea Level Rise Map of Fuentes Campus

Table 2.34. Sea Level Rise and Sea Encroachment

Sea Level Rise		
SLR (m)	Projected Year	Sea Encroachment
0.25	63 yrs	39 meters
0.5	125 yrs	67 meters
0.75	188 yrs	100 meters
1	250 yrs	136 meters

f. Urban Heat

The urban heat island of the Fuentes campus is similar to that of the Hinaplanon campus, hence recommendations to prepare for possible increase in temperature should likewise be the same as that of the Hinaplanon campus.

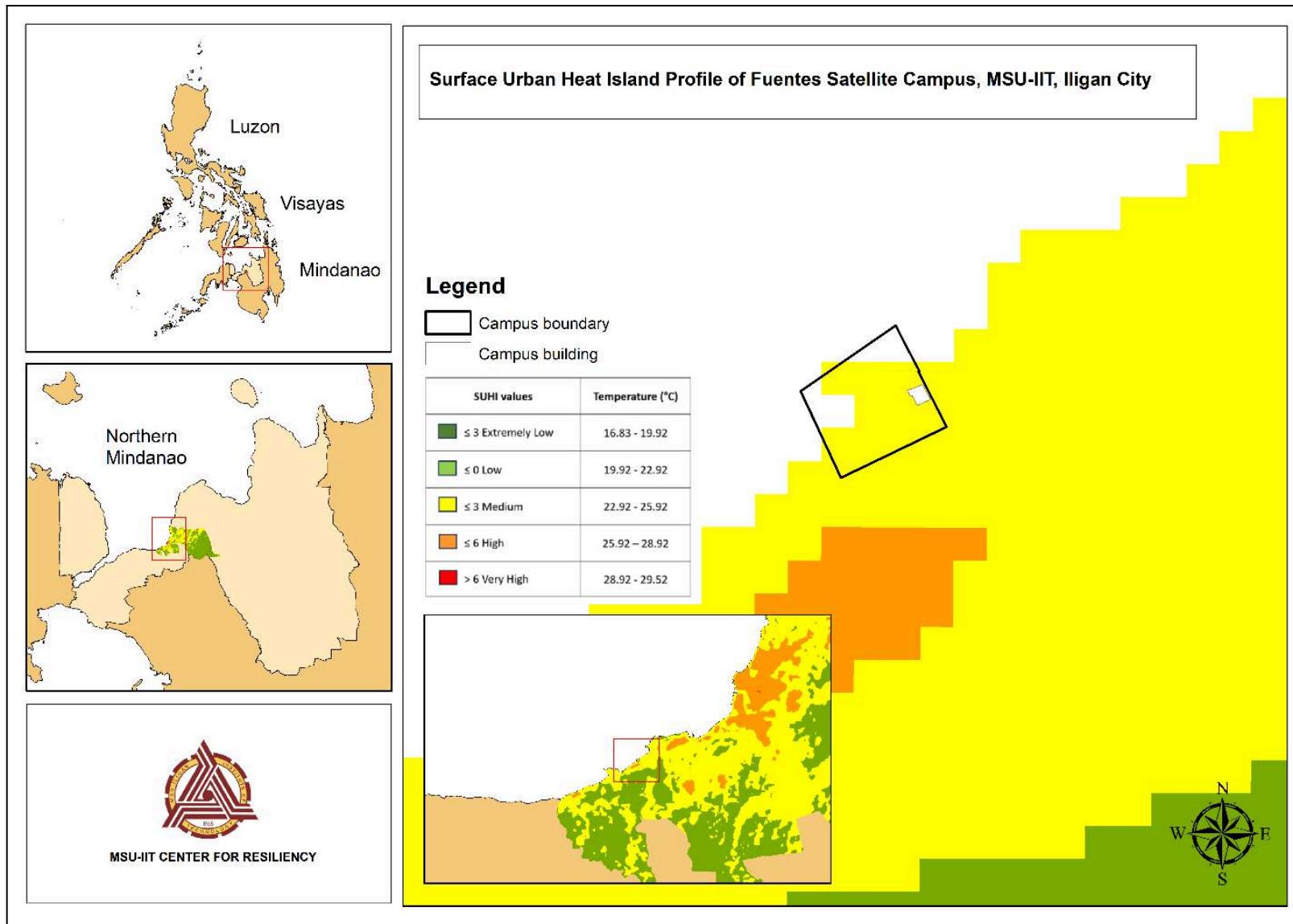


Figure 2.73. Urban Heat Island inside MSU-IIT Fuentes Campus

Assessment Report (AR) 5 of the Intergovernmental Panel for Climate Change (IPCC)

The AR-5 from the IPCC mentioned that people living in low-lying coastal zones and floodplains “are probably most at risk for climate change impacts”. This is so if there is no abatement of GHG emissions and the amount of GHG in the atmosphere. The MSU-IIT will be more at risk as it is situated inside the floodplain and the coastal areas. The impact of this will be the rate of sea level rise increases. This means there’s a possibility that sea level rise will reach the IIT campus. Also, with an increase in sea level, it is also possible that Storm Surge Advisory (SSA) no.1 will hit the campus and the REACH in flooding the campus of other SSAs will further increase. Furthermore, rains and tropical storms might become more intense and thereby increase the magnitude of floods.

IPCC scientists recommend several mitigation and adaptation actions. This is shown in Table 2.35 below with what MSU-IIT can do to keep its campus reduced risk to hazards and its contribution to combat climate change.

Table 2.35. Assessment Report 5 Recommendation and MSU-IIT Contribution

AR 5 Recommendation	MSU-IIT Contribution
1. Ecosystem Protection and Reforestation	Flood waters emanate from excessive surface run-off and most of the surface run-off originates from the uplands of the Mandulog River Basin where MSU-IIT is located. That is because the geomorphology of the river basin is characterized by a narrow coastal plain while the rest of the landscape is characterized by a steep and highly elevated terrain . Ecosystem protection, reforestation and agroforestry have a role in substantially reducing surface run-off. These practices are an indispensable complement to the engineering approach to flood management. Because an engineering design will be rendered obsolete if there's an ongoing deterioration in the uplands. Although MSU-IIT does not own a forest to protect or an upland area to manage; IIT can decide to adopt a sub-watershed inside the basin to reforest and/or protect or it can contribute to the design, establishment, and fund contribution to the Payment for Ecosystem Services (PES).
2. Agroforestry	To reduce the risk of storm surge, IIT must coordinate with the City and Barangay LGU in establishing, maintaining, monitoring, and protecting the mangroves, seagrasses, and coral reefs so as to dissipate the force of the storm surge. The presence of the mangrove forest will also encourage soil accretion that will counter the effect of sea level rise.
3. More Trees and Greenery	A smart, green and resilient campus is one of the pillar visions of the MSU-IIT. In addition, the urban heat island inside the MSU-IIT campus is high. Hence systematic greening of the campus is necessary to reduce air temperature and to help sequester carbon. Systematic greening requires the hiring of a landscape architect who identifies the appropriate plant species that meets the double objective in achieving its environmental and aesthetic function including the maintenance of these plants. However, planting of trees is discouraged since there is very limited open space available and the planting of trees in open space poses a risk during an earthquake evacuation. Hence greening should be focused on the ff: climbing plants, creeping plants, and shrubs. Existing standing trees though should be retained and maintained.
4. Decarbonize Electricity Production	MSU-IIT does not produce electricity but it can decarbonize electric consumption by installing on rooftops with an array of solar panels and all street lamps will be translated to be powered by solar panels. A feasibility study should be conducted in

AR 5 Recommendation	MSU-IIT Contribution
	shifting most of our power sources from coal-based to solar power, specifically the reduction of energy and GHG emissions.
5. Fewer fuel-driven vehicles	At this point in time, electric vehicles (EVs) are not yet feasible in Iligan City as we do not have the support structure i.e. charging stations to recharge the EVs. However, MSU-IIT can reduce vehicular emissions by ensuring that faculty and staff vehicles pass the emission standards by way of monitoring the time they need to change oil and checking emission testing results and a policy that they cannot enter the campus if there's no evidence that such vehicles have passed the emission test.
6. Promote walking and cycling	Regularly implement the bike day every month. Coupled with the bike day, is a day for walking as well.

EVACUATION AREAS

There are two (2) bases for the identification of the evacuation sites. One for the flood and the other for the earthquake.

Flood Evacuation Site

The basis for the identification of the evacuation site are those buildings that were slightly affected (less than 35% of its area) by flood based on flood simulation at 100 YRRP (Year Rainfall Return Period). These buildings are:

1. MiCEL
2. Canteen and Unknown Bldg
3. CED
4. CSM
5. IPDM
6. Main Library
7. PRISM
8. Ceramics Lab
9. Admin Building
10. CEBA Library
11. Trash Storage
12. IDS Bldg 1
13. Guard House
14. CHS Bldg 2
15. ANTEU Office
16. CHS Bldg 1
17. CET
18. COE

Earthquake Evacuation Site

Open spaces serve as the basis for the evacuation sites. Below is the map that shows the evacuation site for the earthquake.

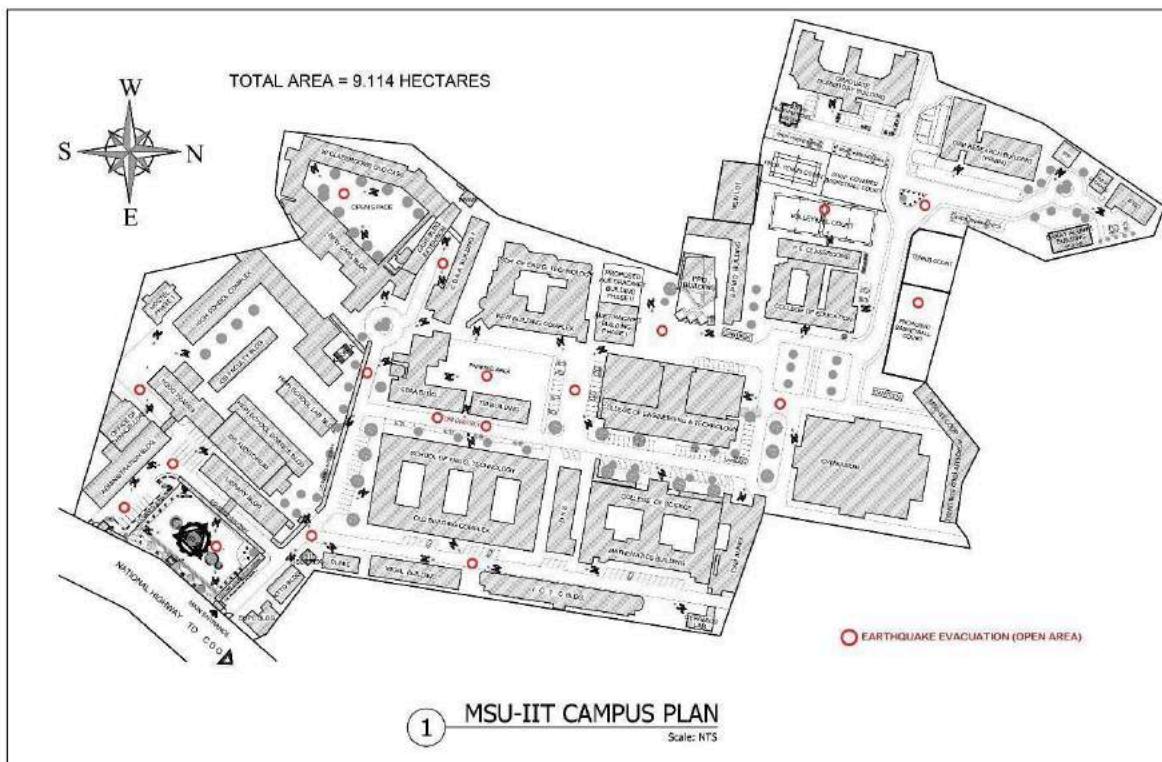


Figure 2.74. Evacuation Site at Tibanga Main Campus

Based on Figure 2.74 the following evacuation sites for earthquake as follows:

1. University Lawn
2. Near Gate Exit (Admin bldg.)
3. Road beside the Office of the Chancellor (OC) and Office of the Vice-Chancellor for Strategic Initiatives (OVCSI)
4. College of Computer Studies (CCS) road
5. Intersection road between Clinic and SID
6. Parking Space near Main Library
7. College of Economics and Business Administration (CEBA) and College of Engineering (COE)
8. CEBA Parking Space
9. COE Parking Space
10. College of Arts and Social Sciences (CASS) Rotunda
11. CASS-CEBA Extension Road
12. CASS Open Space
13. Physical Plant Division-Motor Pool

WATER PERMITS

The Hinaplanon campus annex and the Marine Science complex shall comply with the necessary water permits prior to its full development of the said annexes. There is on-going processing of applications from the City Waterworks System (ICWS) which is expected to be complete by the end of second quarter of this year.

2.2 EXISTING LAND USE AND USE TRENDS

A. Actual Land Use

Table 2.36. Area of Actual Land Uses for MSU-IIT Tibanga Main Campus

Building No.	Building Name	Area (sq.m.)	Percent of Total
1	Administration Building	1,375.62	2.15%
2	Office of the Chancellor	60.62	0.09%
3	Office of Communications	78.11	0.12%
4	Student Services Hub	442.64	0.69%
5-A	Office of the Vice Chancellor for Strategic Initiatives (OVCSI) / Registrar	510.00	0.80%
5-B	Office of the Vice Chancellor for Strategic Initiatives (OVCIA) / Legal Office	117.04	0.18%
6	Main Library Building	1,686.00	2.63%
7-A	MSU-IIT Center of Resiliency (MCR)/ Security Investigation Division (ISD) Building	125.65	0.20%
7-B	Multipurpose Hall	688.16	1.07%
8	Knowledge and Technology Transfer Office (KTTO) Building	612.36	0.96%
9	Security Satellite Office/ Janitorial Services	72.00	0.11%
10	University Infirmary	143.00	0.22%
11	MiCEL Building	270.94	0.42%
12	College of Computer Studies (CCS) Building	3,418.68	5.33%
13	Ceramics Laboratory	390.37	0.61%
14-A	College of Science and Mathematics (CSM) Main Building.	2,570.75	4.01%
14-B	College of Science and Mathematics (CSM) Annex	761.19	1.19%
15	Department of Health and Science Lab	493.23	0.77%
16	School of Engineering Technology (SET) - Old Building Complex	3,864.00	6.03%
17	KASAMA Building	70.03	0.11%
18-A	Integrated Developmental School (IDS) Principal's Office and Classroom	1646.46	2.57%
18-B	Integrated Developmental School (IDS) Faculty Building	287.00	0.45%

Building No.	Building Name	Area (sq.m.)	Percent of Total
18-C	Integrated Developmental School (IDS) Lab Building	352.00	0.55%
18-D	Integrated Developmental School (IDS) Science Building	519.40	0.81%
19-A	College of Arts and Social Sciences (CASS) Old Building	3,320.00	5.18%
19-B	College of Arts and Social Sciences (CASS) New Academic Bldg.	5,808.66	1%
20	Association of MSU-IIT Muslim Employees (AMMEI) Building	84.00	0.13%
21-A	College of Economics, Business, and Accountancy (CEBA)Building	584.25	0.91%
21-B	College of Economics, Business, and Accountancy (CEBA) Library/ Classroom Building	1,387.6	2.16%
22	Technology Business Incubator Building	327.85	0.51%
23	Engineering Technology Complex (ETC) Building	4,874.09	7.60%
24	Automotive Laboratory	780.00	1.22%
25-A	College of Engineering (COE) Old Building	5,076.00	7.92%
25-B	College of Engineering (COE) Right Wing	2,731.20	4.26%
25-C	College of Engineering (COE) Left Wing	2,731.20	4.26%
26	MSU-IIT Gymnasium	3,489.00	5.44%
28	Infrastructure Services Division (ISD) Building	968.17	1.51%
29	Supply and Property Management Division (SPMD) Building	1,255.06	1.96%
30-A	College of Education (CED) Main Building	1,211.86	1.89%
30-B	College of Education (CED P.E. Building	667.7	1.04%
31	University Residences	2,126.55	3.32%
32	PRISM Building	5,325.00	8.31%
33	Executive House	180.1	
34	Bahay Alumni Building	396.24	0.62%
35	Institute for Peace and Development in Mindanao (IPDM) Building	333.12	0.52%
36	Sewerage Treatment Plant	75.00	0.12%
TOTAL		64,287.90	100.00%

Table 2.37. Area of Actual Land Uses for MSU-IIT Hinaplanon Campus Annex

Building No.	Building Name	Area (sq.m.)	Percent of Total
H-1	Motorpool	366.35	2.78%
H-2	Common Services Facility Bldg.	320.00	2.42%
H-3	College of Education-Integrated Developmental School (CED-IDS) MPH (MRF)	624.56	4.73%
H-4	College of Education-Integrated Developmental School (CED-IDS) Building 1	1,478.12	11.20%
H-5	College of Education-Integrated Developmental School (CED-IDS) Building 2	10,407.90	78.87%
TOTAL		13196.93	100.00%

B. Detailed Description of the Academic Core, Research Core, Residential Areas, and the Major Trends/ Shifts in Land Tenure

Academic and Research Core

Founded on July 12, 1968, MSU-IIT has been a steadfast provider of exceptional education, reaching countless students nationwide. In harmony with the MSU System, it plays a proactive role in assimilating cultural communities in Mindanao, particularly the Muslim population, into the fabric of socio-cultural and political life. The Tibanga main campus features a substantial academic and research core footprint, spanning 33,887.78 sq.m. (3.39 ha.), with a total floor area of 68,613.14 sq.m., equivalent to 6.8 hectares, demonstrating a commitment to fostering a dynamic and inclusive learning environment.

An academic core refers to a specific location within a university or other learning institution where the main administrative and academic tasks are concentrated. The academic core, which houses classrooms, lecture halls, labs, libraries, administrative offices, and other buildings crucial to the institution's primary educational goal, is frequently the focal point of campus life. It is thoughtfully designed to produce a unified and effective setting that supports academic activities, teaching, and learning. It is intended to facilitate simple access between various academic buildings, encouraging community and cooperation among staff, instructors, and students. To improve the entire campus experience, the academic core may also incorporate plazas, open spaces, or recreational areas.

On the other hand, a research core refers to a space set aside within an institution expressly for facilities and activities related to research. Research centers, labs, innovation hubs, and other facilities supporting academic, technical, or scientific inquiries are intended to be located in this region. It is purposefully made to promote cooperation amongst researchers, make resource sharing easier, and offer an atmosphere that supports leading-edge research and development. It might comprise areas for cooperation, seminars, and information sharing in addition to specific facilities for experimentation, data processing, and other research activities. Acknowledging the role that research and innovation play in propelling technological, educational, and economic progress, the objective is to establish a targeted and effective space that encourages and supports research projects while cultivating a culture of inquiry and discovery.

Student Population

MSU-IIT stands as one of the premier state universities in the Philippines, boasting a diverse community with a total population of 14,395, encompassing students, faculty, and staff, as documented in the 2023 census. The university population dropped due to the implementation of the K to 12 Program in 2012, resulting in students spending 6 years in High School, which impacted the annual growth in 2016-2017. Another decrease in student enrollment was experienced during the pandemic wherein the student population dropped. The highest percentage increase in student enrollment was observed in 2021.

The demographic composition at MSU-IIT reveals an average gender distribution of 60% female to 40% male students, with the age range predominantly falling between 18-24 years old. MSU-IIT maintains a student population of 12,605 as of 2023 for both undergraduate and graduate programs, constituting 85% of the overall university population.

Table 2.38. Student Enrollment Data as of 2018-2023

ACADEMIC YEAR	Undergraduate *		Laboratory (IDS) **		Graduate *		TOTAL	
	Male	Female	Male	Female	Male	Female	Male	Fem ale
2018-2019	2,888	4,450	396	428	405	643	3,689	5,521
2019-2020	2,894	4,188	429	502	474	732	3,797	5,422
2020-2021	3,140	4,762	403	464	495	776	4,038	6,002
2021-2022	3,779	6,004	405	557	570	881	4,754	7,442
2022-2023	4,158	6,346	398	575	603	939	5,159	7,860
2023-2024	4,529	6,417	403	565	664	996	5,596	7,978

* represents the average of two academic semesters of Academic Year

** is not averaged

Building Facilities

The expansive Tibanga main campus of the university sprawls across 9.11 hectares, resulting in a population density of 1,579 persons per hectare. Comprising 46 buildings and offices, including 7 colleges and 1 Integrated Development School, the academic infrastructure is detailed in Table 2.39. Noteworthy structures include the COE new building and the PRISM building, both soaring to 5 floors. The campus boasts a historical tapestry, with the MCR/ ISD Building/ Multipurpose Hall (formerly PITAFFI/ IDS Auditorium) dating back to 1979, while the majority, constructed in 1980, now surpass 40 years and exhibit signs of wear and tear (see Annex).

Contrastingly, the Hinaplanon campus annex boasts a substantial total area of 10,655.42 sq.m specifically allocated for academic and research endeavors. This dynamic space is poised to evolve, soon becoming the home for the College of Education, the College for Health Sciences, and the Integrated Development School. The strategic designation of this campus ensures a purposeful environment for scholarly pursuits and educational excellence, further expanding the university's footprint and fostering growth in diverse disciplines.

Table 2.39. List of Academic Buildings

Building Number	Building Name	No. of Stories	Year of Construction	Total Floor Area (sq.m)
Tibanga Main Campus				
8	Knowledge and Technology Transfer Office (KTTO)Building	4	2019	612.36
11	MICeL Building	1	2018	270.94
12	College of Computer Studies (CCS)Building	4	2015	3,418.68
13	Ceramics Laboratory	1	1995	390.37
14-A	College of Science & Mathematics (CSM) Main Building	4	1980	3,515.45
14-B	College of Science & Mathematics (CSM) Annex	4	1980	2,315.18
15	Department of Health Science (DHS) Lab	1	2009	493.23
16	School of Engineering Technology (SET) - Old Building Complex	2	1980	3,864
18-A	Integrated Developmental School (IDS) Principal's Office and Classroom	1	1980	1,646.46
18-B	Integrated Developmental School (IDS) Faculty Bldg.	1	1980	287.00
18-C	Integrated Developmental School (IDS) Lab Bldg.	1	1980	352.00
18-D	Integrated Developmental School (IDS) Science Bld.	1	1980	519.49
19-A	College of Arts & Social Sciences (CASS) Old Bldg.	4	1980	5,808.66
19-B	College of Arts & Social Sciences (CASS) New Academic Bldg.	5	2021	3320
21-A	College of Economics, Business, and Accountancy (CEBA) Building 1	1	1980	584.25
21-B	College of Economics, Business, and Accountancy (CEBA) Library /Classroom Building	2	1980	1,387.6
22	Technology Business Incubator Building	4	2016	530.88
23	Engineering and Technology Complex (ETC) Building	4	2008	6,832.09
24	Automotive Laboratory	2	1980	780
25-A	College of Engineering (COE) Main Building	3	1980	5,076
25-B	College of Engineering (COE) Left Wing	5	2014	2,731.20

25-C	College of Engineering (COE) Right Wing	5	2014	2,731.20
30-A	College of Education (CED) Main Building	4	1980	1,211.86
30-B	College of Education (CED) P.E. Building	1	1985	667.7
32	PRISM Building	5	2016	5,325.0
Hinaplanon Annex Campus				
H-4	College of Education-Integrated Developmental School (CED-IDS) Building 1	4	2021	1,478.12
H-5	College of Education-Integrated Developmental School (CED-IDS) Building 2	5	on-going	10,407.90

Residential Areas

Nestled within the Main Campus grounds (see Annex), MSU-IIT's University Residences, Executive House, Student Services Hub and Bahay Alumni offer affordable accommodations payable through the institute cashier's office. In line with the university's commitment to fostering a vibrant community, residential areas are strategically designated for students, faculty, and staff. These spaces encompass a variety of housing options, including dormitories and apartments, tailored to diverse needs. This initiative aims to enrich the university experience, providing secure and convenient living arrangements that foster a sense of community, student engagement, and academic and personal development. While the dormitory currently caters exclusively to graduate students, undergraduates benefit from university-partnered boarding houses, ensuring safe and well-maintained housing. This collaboration not only benefits students but also contributes to the local economy and the prosperity of surrounding establishments such as hotels, restaurants, and coffee shops.

As illustrated in Table 2.40, the Graduate Dormitory (University Residences) showcases a sprawling total floor area of 2,126.55 square meters. It comprises 108 rooms tailored for local students and an additional 14 rooms catering to international students. The dormitory features a well-designed layout encompassing a receiving and visiting area, a versatile function room, a dedicated staff room, a student center, a laundry facility, and a convenient canteen. On the other hand, the Executive House stands as a luxurious residence designed for VIP guests and MSU-IIT executives, boasting the ambiance of a cozy home with two bedrooms and one master bedroom, coupled with a comprehensive array of amenities.

Table 2.40. List of Residential Buildings

Building Number	Building Name	No. of Stories	Year of Construction	Total Floor Area (sq.m)
4	Student Services Hub	2	2006	442.64
31	University Residences	3	2017	2,126.55
33	Executive House	2	2023	180.10
34	Bahay Alumni	3	2024	396.24

Administrative Area

The university features a limited number of structures exclusively designated for administrative officers and staff. The majority of these buildings are strategically positioned near the university's exit gate (see Annex). Notably, the administration building, constructed in 1980 (refer to

Table 2.41), accommodates various offices, including those of the Vice Chancellors, interspersed with structures primarily designated for support services. The Office of Vice Chancellor for Research and Enterprise (OVCRE) is located on the second floor of the Main Library Building. This spatial arrangement underscores the historical development of the administrative area, revealing a need for future planning and optimization to streamline administrative functions and enhance the overall efficiency of the university's operations.

Table 2.41. List of Administrative Buildings

Building Number	Building Name	No. of Stories	Year of Construction	Total Floor Area (sq.m)
1	Administration Building	2	1980	1,375.62
2	Office of the Chancellor	1	2022	60.62
3	Office of Communications	1	1980	78.11
5-A	Office of the Vice Chancellor for Strategic Initiatives (OVCSI) / Registrar	1	1980	510
5-B	Office of the Vice Chancellor for International Affairs (OVCIA) /Legal Office	1	1980	117.04
6	Office of Vice Chancellor for Research and Enterprise (OVCRE)	1	1980	562.00

Support Services

Support services encompass vital facilities and spaces for fostering the seamless operation of academic and administrative functions within an institution. These services play a pivotal role in cultivating a conducive and efficient environment, enhancing the overall well-being, convenience, and functionality of students, faculty, and staff. Notable university support services span libraries, student centers, recreational facilities, the university clinic, cafeterias and dining halls, motor pools, maintenance and facilities management areas, Information and Communication Technology Centers (ICTC) that is located on the second floor of the College of Computer Studies (CCS) building, as well as various shops catering to the diverse needs of the university community.

Highlighted in Table 2.42, a number of structures trace their origins back to the year 1980. Despite the dispersion of these facilities across the campus, their enduring presence stands as a testament to their lasting impact on the holistic experience of the academic community. These structures, though aged, continue to play a vital role in contributing to the richness and fulfillment of the educational journey. Their historical significance adds character to the university's landscape, enhancing the overall tapestry of experiences that students, faculty, and staff encounter throughout their educational sojourn.

Table 2.42. List of Support Services Buildings

Building Number	Building Name	No. of Stories	Year of Construction	Total Floor Area (sq.m)
Tibanga Main Campus				
1	Administration Building	2	1980	1375.62
2	Office of the Chancellor	1	2022	60.62
3	Office of Communications	1	2022	78.11

4	Student Services Hub	2	2006	442.64
5-A	Office of the Vice Chancellor for Strategic Initiatives (OVCSI) / Registrar	1	1980	510
5-B	Office of the Vice Chancellor for International Affairs (OVCIA) /Legal Office	1	1980	117.04
6	Office of Vice Chancellor for Research and Enterprise(OVCRE)/ Main Library	1	1980	1124
7-A	MSU-IIT Center of Resiliency (MCR)/ Security Investigation Division (ISD) Building	2	1979	125.65
7-B	Multipurpose Hall	1	1979	688.16
8	Knowledge and Technology Transfer Office (KTTO) Building	4	2019	612.36
9	Security Satellite Office/ Janitorial Svcs.	2	2000	72
10	University Infirmary	1	1980	143
12	Information and Communication Technology Centers (ICTC)	4	2015	3,418.68
13	Ceramics Laboratory	1	1995	390.37
15	Department of Health and Science Laboratory	1	2009	493.23
16	School of Engineering Technology (SET) - Old Building Complex	1	1980	3,864.00 .
17	KASAMA Office	1	2005	70.03
20	Association of MSU-IIT Muslim Employees (AMMEI) Building	2	2009	84
24	Automotive Laboratory	2	1980	780
26	MSU-IIT Gymnasium	3 & 1B	1980	3489
28	Infrastructure Services Division Building	2	2018	968.17
29	Supply and Property Management Division	2	2009	1255.06
31	University Residences	3	2017	2126.55
32	PRISM Building	5	2016	5325
34	Bahay Alumni Building	3	2024	396.24
35	Institute for Peace and Development in Mindanao (IPDM) Building	2	2010	333.12
Hinaplanon Annex Campus				
H-1	Motorpool	1	2015	366.35
H-2	Common Services Facility Bldg.	1	2013	320
H-3	College of Education-Integrated Developmental School (CED-IDS) MPG (MRF)	1	2014	624.56

University Library

The inception of the MSU-IIT University Library dates back to 1968 when the Lanao Technical School of the Bureau of Vocational Education merged into the Mindanao State University, forming an

external autonomous unit. Subsequently renamed MSU-Iligan Institute of Technology under R.A. 5363, the library operates under a centralized system, led by the Institute Librarian (see Annex 2). The university library serves as a dedicated hub for academic research, study sessions, and the exploration of an extensive array of resources, encompassing books, journals, and electronic databases. Positioned prominently in front of the park, facing the Andres Bonifacio Avenue road, the main library commands a strategic location. Housed on the second floor of the building, it boasts a spacious floor area totaling 562.00 sq.m. This central and well-appointed setting provides students, faculty, and researchers with an enriching space for intellectual exploration, fostering a dynamic environment for knowledge acquisition and scholarly pursuits.

Comprising the main library and seven satellite libraries, each aligned with specific colleges, such as the College of Arts and Social Sciences Library, College of Economics, Business and Accountancy Library, College of Engineering Library, College of Nursing Library, College of Science and Mathematics Library, College of Education Library, Integrated Developmental School Library, and General Reference and Filipiniana Section.

The Library boasts a multifaceted collection, spanning books, periodicals, and electronic media resources, with a distinctive emphasis on science and technology. Expanding beyond conventional holdings, the repository encompasses the richness of theses, research materials, microforms, and multimedia, forming a comprehensive tapestry as showcased in Appendix D. Significantly, the library remains at the forefront of innovation, integrating online subscriptions to provide real-time updates and the latest information across diverse fields of study. This dynamic approach ensures the continuous relevance of the library's holdings, aligning them with the swiftly evolving landscape of academic and research disciplines. The advantage of 24/7 accessibility via online subscriptions accommodates the varied schedules of our users, facilitating seamless access for students, faculty, and researchers regardless of time or location. Explore the University Library's array of online subscriptions for 2023 below:

1. Wiley Online Library
2. Access Engineering
3. American Chemical Society
4. JSTOR
5. Turnitin (Anti-Plagiarism Software)
6. Philippine E-Journal
7. Destiny Library Manager (Library Management System)

Institute Clinic

Mindanao State University-Iligan Institute of Technology prioritizes the holistic development of individuals, recognizing the paramount importance of their health and overall well-being. Dedicated to ensuring the medical needs of both students and employees are met comprehensively, MSU-IIT remains committed to providing unwavering support, especially during medical emergencies.

The Office of Medical, Dental, and Health Services takes charge of guaranteeing the delivery of medical, dental, and various health services to the campus community (see Annex). It actively establishes and maintains positive public relations and collaborations with allied medical agencies in the surrounding communities. At the forefront of these efforts is the Institute Clinic, a reliable hub offering swift and proficient medical and health care to all its constituents, reinforcing the institution's commitment to fostering a healthy and thriving campus community.

The comprehensive array of services offered by the Office of Medical, Dental, and Health Services includes free consultation and treatment for minor ailments, accidents, and sudden illnesses affecting students and employees within the school premises. The office also ensures an immediate and effective emergency response to accidents, sudden illnesses, and other critical situations transpiring within MSU-IIT grounds. Furthermore, it conducts assessments and provides certifications of students' physical fitness for participation in physical education programs, athletic competitions, activities permitted by the University, or on-the-job training. Additionally, the office facilitates dental examinations for all students and employees, offering subsidized fees for fillings, oral prophylaxis, and

laboratory tests, such as blood chemistry, reinforcing its commitment to accessible and holistic healthcare within the campus community.

Sports and Recreation Facilities

The establishment of these facilities signifies a commitment to fostering the overall well-being and development of MSU-IIT's constituents. Designed to cultivate physical fitness, preserve vitality, and instill character and discipline through regular programs, these facilities serve as more than just spaces for physical activity. They are integral in creating a vibrant and dynamic campus environment that encourages community building, promoting both physical and mental well-being.

Access to these sports facilities is extended to students, faculty, and staff of the Institute, with usage contingent upon a prior request. Non-MSU-IIT users are also welcome, provided a written request is submitted at least one week in advance. The array of facilities includes a gymnasium, volleyball court, and fitness rooms dedicated to activities like aerobics, karate, weight training, and ballroom dancing. Additionally, there are sepak-takraw courts and open spaces catering to a myriad of miscellaneous activities (see Annex). Through these offerings, the university strives to create an inclusive and enriching environment that goes beyond physical exercise, contributing to the holistic development of its diverse community.

C. Current Income Generating Units and Projects of MSU-IIT

1. Lease Agreements

- a. **Hostel/ Bahay Alumni.** The university has recognized the growing demand for accommodation among Alumni, guests, and visitors, leading to the establishment of hostel and dormitory facilities, through BOR Resolution No. 108 series of 2005.
- b. **University Residences.** It was established through BOR Resolution No. 185, series of 2009. These facilities serve as living spaces for students, providing them with a conducive environment for study and personal growth. By offering affordable and convenient accommodation options, the university not only meets the needs of its students but also generates additional revenue. The income generated from these facilities contributes to the university's resource generation efforts, allowing for continuous improvements in the infrastructure and services provided, ultimately enhancing the overall student experience.
- c. **University Cafeteria.** To cater to the nutritional dietary needs of students, faculty, and staff, the university boasts a vibrant and well-appointed food court. With an emphasis on quality, variety, and affordability, the food court has become a central gathering place for the university community. It not only satisfies hunger pangs but also serves as a social hub, facilitating connections and fostering a sense of belonging. The income generated from the food court supports the university's resource-generation initiatives, enabling continuous enhancements in student services. Moreover, by partnering with local vendors and promoting sustainability, the food court also embraces ethical and responsible food practices, reinforcing the university's commitment to holistic well-being and environmental stewardship.
- d. **Space Rental (Gym, Minitheater, Amphitheatre).** The university recognizes the value of its well-maintained and versatile facilities, which extend beyond academic purposes. With this in mind, the institution has established a facilities rental program, providing external organizations and individuals with the opportunity to utilize these spaces for a wide range of events. From conferences and workshops to exhibitions and cultural performances, the university's facilities serve as ideal venues for various gatherings. The program not only generates additional income for the university but also fosters collaborations and partnerships with external stakeholders. The revenue generated from rental contributes to continuous maintenance, upgrades, and

improvements of the facilities, ensuring that the spaces remain modern, attractive, and adaptable to evolving event needs.

- e. **University Bistro.** The newly opened coffee shop is located at the ground floor of the Graduate Dormitory which caters to all students, faculty and staff, and even visiting professors residing at the graduate dormitory. It is operated by a private individual whose business in Iligan City is widely known for donuts and coffee shops.

2. University Langkit Shop

As MSU-IIT grows and expands, the establishment of a convenient place where the students, faculty and the whole MSU-IIT community can buy their needs, especially school supplies, textbooks and other university-themed items, is deemed necessary.

The University Langkit Shop is aimed to be the official merchandiser and the brand store for MSU-Iigan Institute of Technology and shall be owned and operated by the University. The shop will focus on providing our University community with quality products and gift items and offers a unique range of classic and contemporary merchandise that can be worn on and off campus. The shop is committed to partnering with suppliers that are credible to offer environmental and eco-friendly goods that are sustainably produced. The shop is also committed to engaging and working with local suppliers and locally sourced products to empower the local economy.

3. University Printing Press

Having a university press setup demonstrates MSU-IIT's commitment to interact with the larger academic community by extending its mandate to cover various modes of information dissemination that are consistent with the vision, mission and goals of the university. Having a university press setup can show support for the academic community through the dissemination of research and academic content via the printing press. Although MSU-IIT is trying to reduce paper consumption, printing is still and always a necessity for a university. Printing needs of the various colleges and responsibility centers, especially for accreditation purposes, as well as the printing needs of students that require mass production, can be catered by the university press setup. The goal is to provide cost-efficient printing services for the university and host the university's publication of promotional materials

D. Potential IGPs and Facilities

Recognizing the importance of diversifying revenue streams and strengthening fiscal sustainability, the University is strategically exploring opportunities to broaden its income sources to the following income generating projects:

1. University Training and Assessment Center

The University Training and Assessment Center is envisioned to become an accredited training and assessment center of TESDA. Consequently, the short courses given by TESDA can now be available at MSU-IIT. At the end of the short courses, the evaluation follows. The NCII Certifications will then be issued after the evaluation results.

In effect, this becomes a joint activity between TESDA and MSU-IIT. TESDA to give the funding necessary for the operation of the center; whilst, MSU-IIT to be responsible for the training and evaluation of the prospective students. Since MSU-IIT has experts and the facilities, MSU-IIT can cater to the academic requirements entailed by the center.

2. University Production Hub

The University Production Hub is envisioned to be the center that would take care of the logistics needs of MSU-IIT such as mass printing of t-shirts to be used in events or the production of tokens to be given out during events.

3. University Coffee Shop

The University Coffee Shop is envisioned to be the go-to place for coffee lovers in MSU-IIT. Students and employees can take a break from the day's work and just have coffee here. The MSU-IIT University Coffee Shop can offer a variety of snacks in addition to their coffee.

Moreover, the University Coffee Shop can be utilized as a training ground for the HRM students of MSU-IIT. This is a good exposure to them on the actual operations. Hence, they will be able to immediately apply their learnings in the classroom.

4. University Food Strip

The University Food Strip is envisioned to be an outdoor area found on the campus that would offer different food carts at affordable prices. This can be another hangout place for students, employees, and guests. Here, they can relax and enjoy sumptuous foods and drinks.

5. Medical Laboratory and Infirmary.

The proposed plan aims to establish a state-of-the-art Medical Laboratory and Infirmary within the MSU-IIT campus. This facility will serve as a comprehensive healthcare center catering to the medical needs of students, faculty, staff, and the local community. Additionally, it will generate income for the university through healthcare services offered to external clients at a reasonable price. This will help sustain the repairs and maintenance of the machines and equipment within the facility.

6. Pay Parking.

A pay parking business at MSU-IIT is necessary to manage the parking demand on campus, provide a more efficient parking system, and generate revenue for the university. The search results indicate that MSU-IIT has implemented a pay-by-plate parking system, which requires users to pay for parking sessions using a mobile app or other payment methods. This system allows for more flexible and convenient payment options, and it also enables the university to manage parking spaces more efficiently.

E. Future Revenues of Existing and Potential IGPs and Facilities Projections 2025-2032

Following are the projections for existing and potential IGPs and facilities revenues from 2025 to 2032, using 5% projection, illustrated in Table 2.43.

Table 2.43. Future Revenues of Existing and Potential IGPs and Facilities Projections 2025 to 2032

MSU-IIT IGPs and Facilities	2025	2026	2027	2028	2029	2030	2031	2032
Current IGPs and Facilities								

1. University Residences	2,014,350.00	2,115,067.50	2,220,820.88	2,331,861.92	2,448,455.01	2,570,877.77	2,699,421.65	2,834,392.74
2. University Bahay Alumni	163,940.00	172,137.00	180,743.85	189,781.04	199,270.09	209,233.60	219,695.28	230,680.04
3. University Cafeteria	1,187,276.53	1,246,640.36	1,308,972.37	1,374,420.99	1,443,142.04	1,515,299.14	1,591,064.10	1,670,617.31
4. University Bistro	180,000.00	189,000.00	198,450.00	208,372.50	218,791.13	229,730.68	241,217.22	253,278.08
5. University Langkit Shop	200,000.00	210,000.00	220,500.00	231,525.00	243,101.25	255,256.31	268,019.13	281,420.08
6. University Printing Press	200,000.00	210,000.00	220,500.00	231,525.00	243,101.25	255,256.31	268,019.13	281,420.08
7. University Renting Facilities	1,848,000.00	1,940,400.00	2,037,420.00	2,139,291.00	2,246,255.55	2,358,568.33	2,476,496.74	2,600,321.58
Potential IGPs and Facilities								
8. University Training and Assessment Center	100,000.00	105,000.00	110,250.00	115,762.50	121,550.63	127,628.16	134,009.56	140,710.04
9. University Production Hub	100,000.00	105,000.00	110,250.00	115,762.50	121,550.63	127,628.16	134,009.56	140,710.04
10. University Coffee Shop	100,000.00	105,000.00	110,250.00	115,762.50	121,550.63	127,628.16	134,009.56	140,710.04
11. University Food Strip	100,000.00	105,000.00	110,250.00	115,762.50	121,550.63	127,628.16	134,009.56	140,710.04
12. Medical Laboratory and Infirmary	100,000.00	105,000.00	110,250.00	115,762.50	121,550.63	127,628.16	134,009.56	140,710.04
13. Pay Parking	100,000.00	105,000.00	110,250.00	115,762.50	121,550.63	127,628.16	134,009.56	140,710.04

4-Storey Graduate Dormitory at Tibanga Main Campus

The site encompasses approximately 3,126.55 m² of land characterized by generally flat terrain with a maximum elevation of 2 meters from the mean sea level. The site is mostly alluvial deposits which makes foundations for mid-rise and high-rise infrastructure challenging. In other words, this may require special design for the foundation of buildings, e.g., piles and mat foundations, to support the dead weight of the superstructures. Nevertheless, due to the flat terrain, there is less requirement for fill materials, and the area is conducive to landscaping and gardening. Moreover, while the area is generally flat it provides natural drainage, which can be supplemented by a well designed drainage system. The area also provides a scenic view of the Iligan Bay for mid- to high-rise infrastructures. Moreover, accessibility to the site during construction is facilitated by its proximity to

the National Highway, a primary arterial road traversing the city located just less than 500m from the proposed location. Additionally, during operation, the site could benefit from public transit accessibility, with several jeepney stops located along the highway, providing convenient access to the proposed building for students, faculty, and administrative staff.

F. Recreational Areas

Figures 2.75 to 2.77 depict the existing open spaces for each campus location.

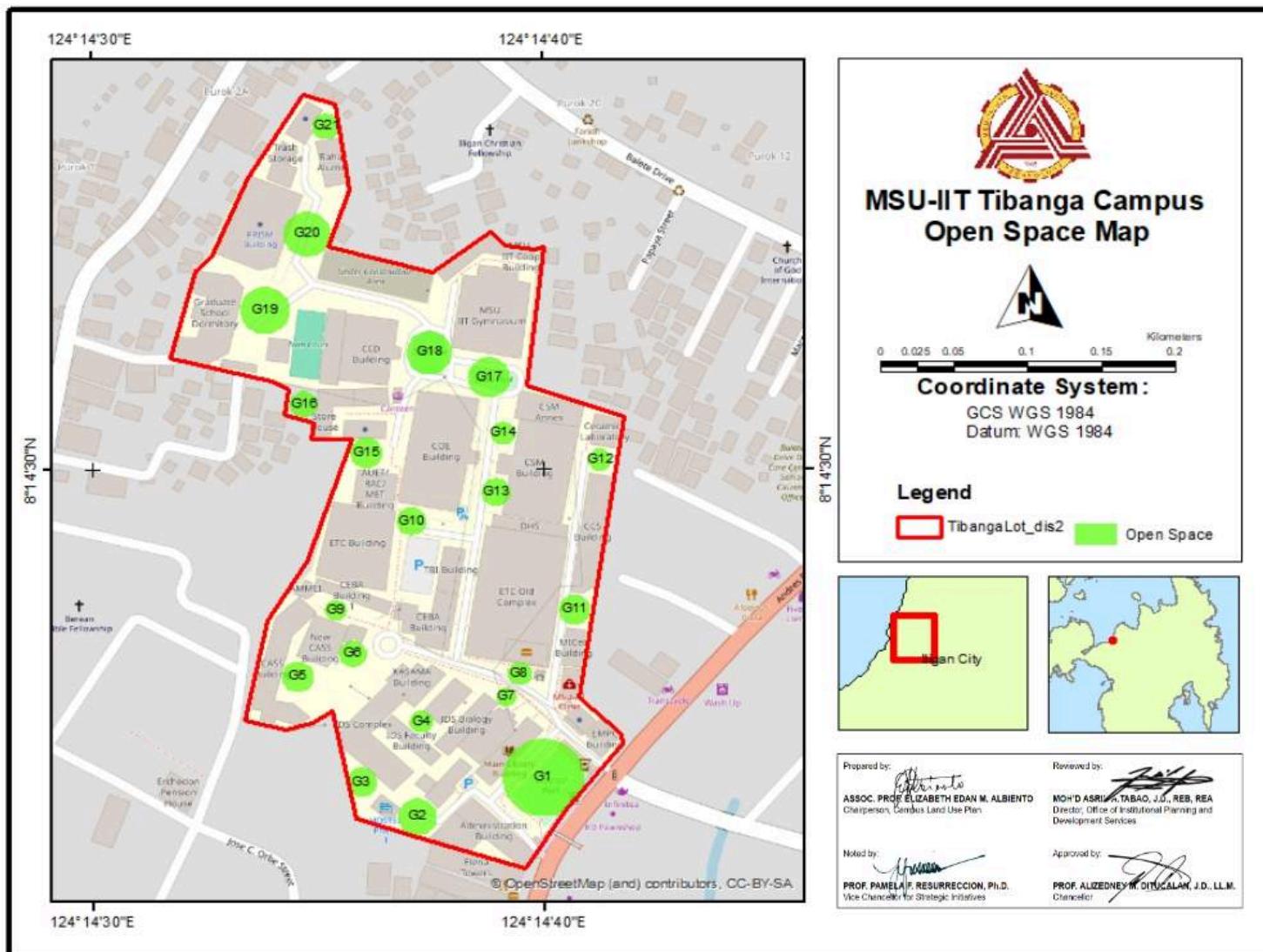


Figure 2.75. MSU-IIT Tibanga Main Campus Existing Open Space Map

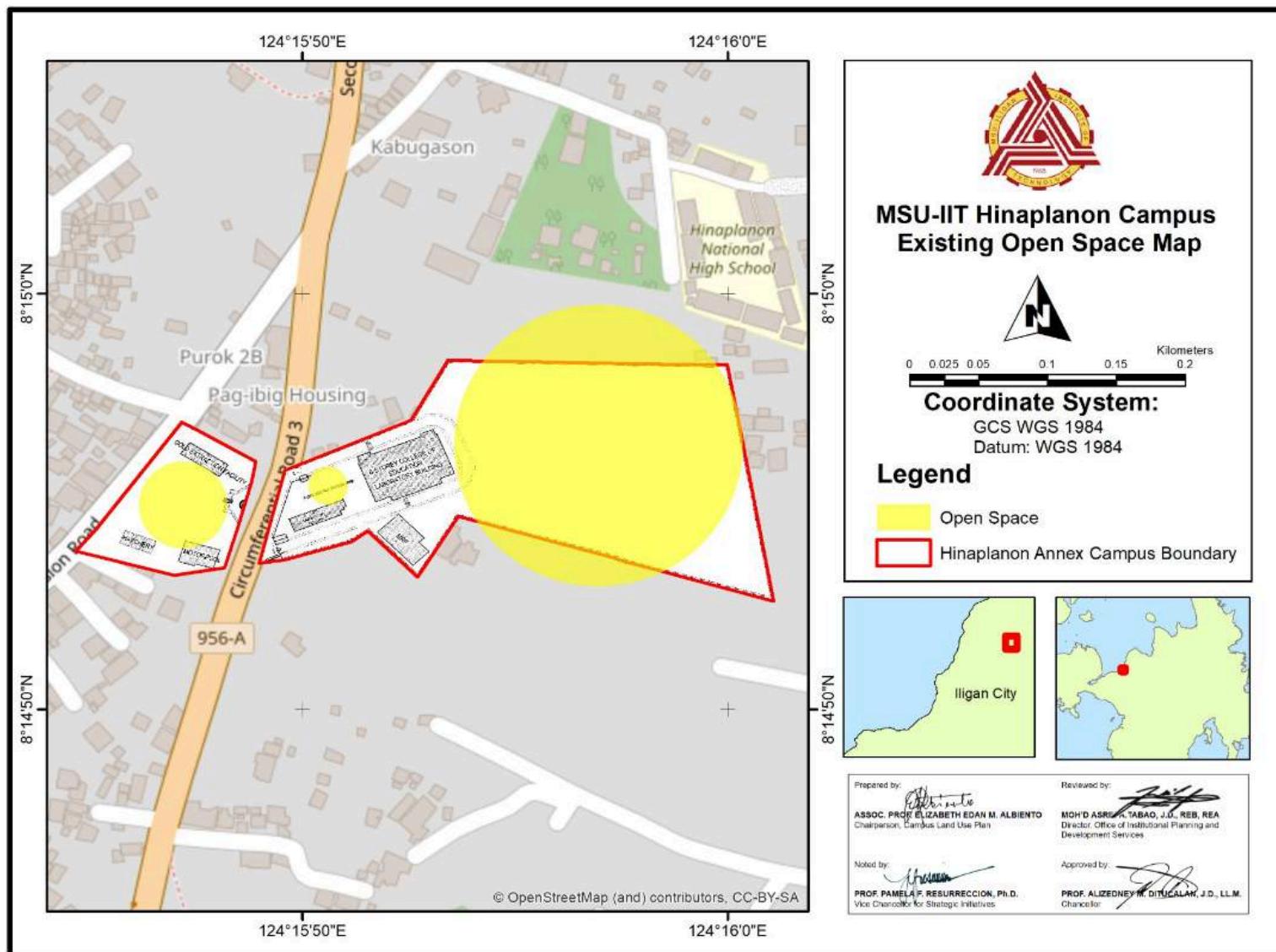


Figure 2.76. MSU-IIT Hinaplanon Campus Existing Open Space Map

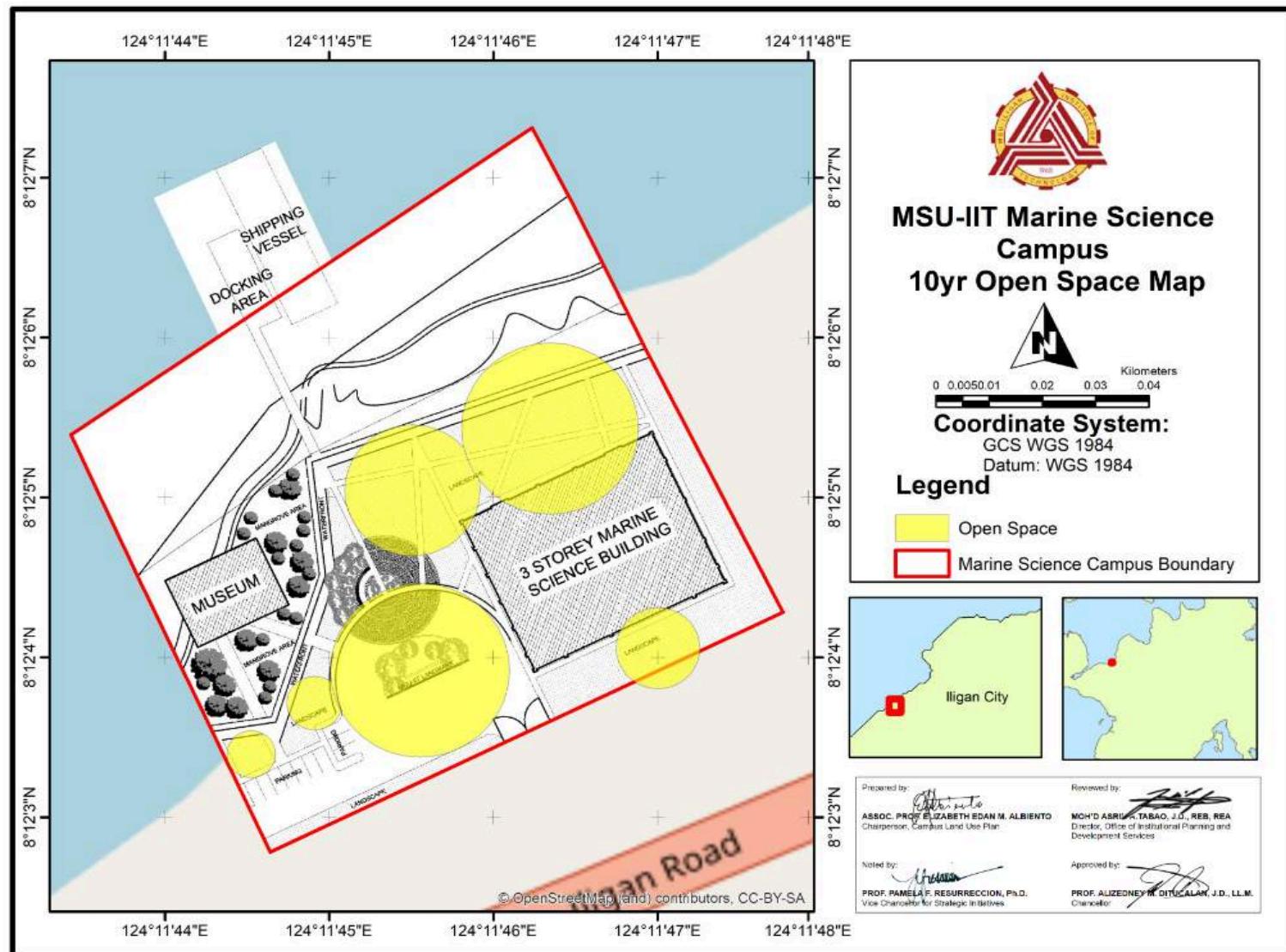


Figure 2.77. MSU-IIT Fuentes Campus Existing Open Space Map

2.3 INFRASTRUCTURE AND FACILITIES

A. Inventory of Existing Buildings, Facilities, and Other Infrastructure and Building Conditions

Building Profile

All buildings are provided with male and female Comfort rooms. Although not all buildings are provided with separate Restrooms for PWD, it was made sure that PWD can accessibly use the male or female C.R., provided the required dimension for wheelchair. However, separate PWD rest rooms are being considered in the proposed renovations and new building construction (see Table 2.44).

Building Conditions

Table 2.45 outlines the current building conditions of existing buildings on MSU-IIT Tibanga Main Campus and Hinaplanon Campus Annex, categorized by architectural, electrical, mechanical, plumbing, electronics, and structural. Below are the legends using scales ranging from 1 to 3 for respective building conditions.

For architectural, electrical, mechanical, plumbing, and electronics conditions,

- 3 - Good; Suitable for continued use with normal maintenance
- 2 - Fair; Requires moderate updating or restoration; the physical condition may have an effect upon building operations
- 1 - Poor; Requires significant updating or restoration; the physical condition may adversely affect the building operations

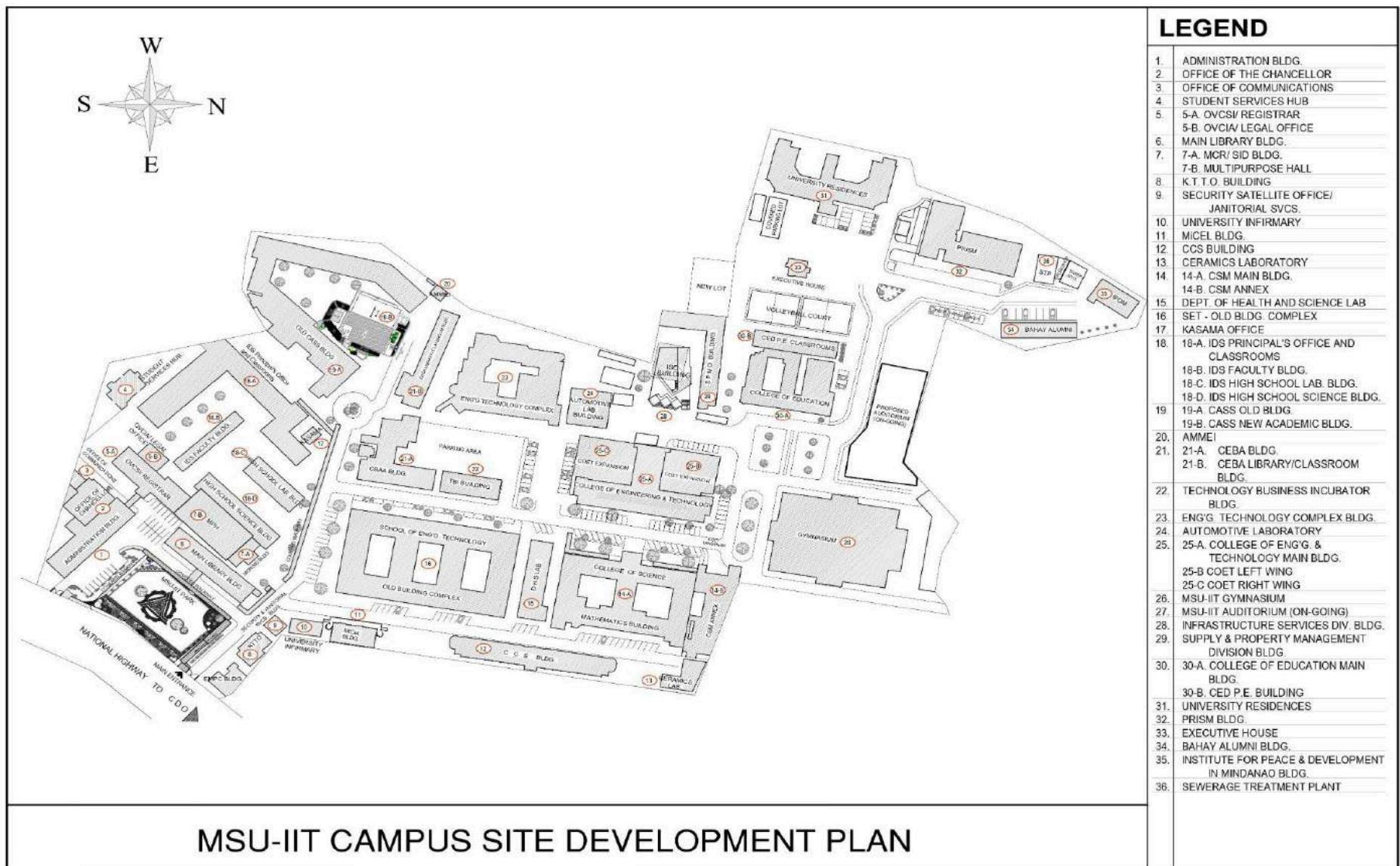
For structural conditions,

- 1 - High Probability of Grade 4 Damage; Very High Probability of Grade 3 Damage
- 2 - High Probability of Grade 3 Damage; Very High Probability of Grade 2 Damage
- 3 - High Probability of Grade 2 Damage; Very High Probability of Grade 1 Damage

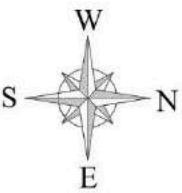
Generally, those buildings that are over thirty years older were rated poor (in architectural, electrical, mechanical, plumbing, and electronics aspects) and are recommended for significant updating or restoration, while those that were built under ten years, were still in a good condition or suitable for continued use with normal maintenance.

The structural conditions of the building at Tibanga main campus were assessed in May 2023. Major factors that can affect the buildings' structural integrity are the type of materials used and the age of the structure. Most buildings built more than forty years ago and those that are made of wood were rated 1 or buildings with a very high probability of grade 3 damage.

The building identification numbers for Tibanga main campus and Hinaplanon campus annex are also shown in the photos below.

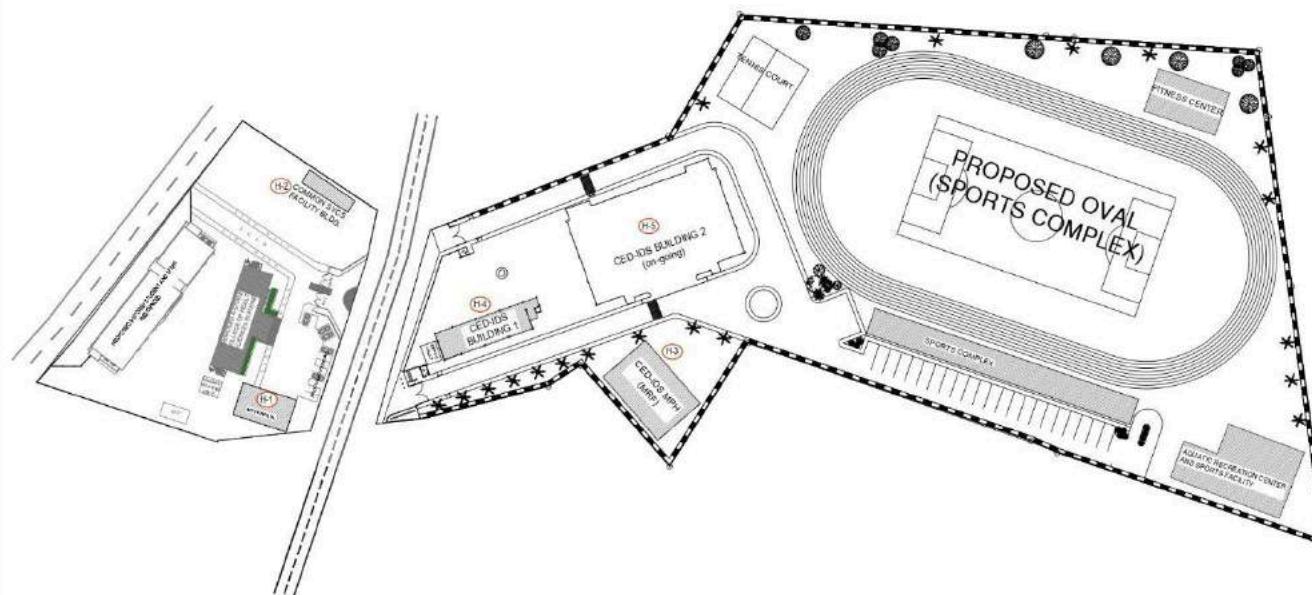


MSU-IIT Site Development Plan with Building Number Identification at Tibanga Main Campus



LEGEND

H-1	MOTORPOOL
H-2	COMMON SERVICES FACILITY BLDG.
H-3	CED-IDS MPH (MRF)
H-4	CED-IDS BUILDING 1
H-5	CED-IDS BUILDING 2



MSU-IIT HINAPLANON CAMPUS DEVELOPMENT PLAN

MSU-IIT Site Development Plan with Building Number Identification at Hinaplanon Campus Annex

Table 2.44. Facilities Available and Amenities Installed in the Existing Buildings at Tibanga Main Campus

BLDG No.	BLDG Name	FACILITIES AVAILABLE													AMMENITIES INSTALLED													
		Amphitheater	Office Room	Laboratory	Lectures Room	Audio Visual Room	Conference Room	Library	Guidance & Coun. Room	Faculty Lounge	Student Lounge	Pantry	Electrical Room	Water Closet	PWD	Lavatory	Urinal	Male Rest Room	Female Rest Room	Store Room	VMFI Access	Elevator	Ramp for PWD	Airconditioning	Split Type	Ceiling Cassette	Window Type	Canteen
1	Administration Building	22					3		1				1							4			1	14	22			
4	Student Services Hub	1								1													1	13				
5-A	OVCSI/Registrar	5					3	1						1						2			1	23	6			
6	Main Library Building	1	8				1	1					3							3			1	15	18			
7	MCR/SID Bldg and Multipurpose Bldg.	2											1							1			1	2				
8	KTTO Building	6					2						1	1						1		1	1	9				
9	Security and Investigation Division Bldg.	2											1										1	2				
10	University Infirmary	3	3				1						1							2			1	8				
11	MICEL Building	1	2			1											1	1	2				1	8				
12	College of Computer Studies (CCS)	9	10	2			5		1	6			1			8	12	8	12	8	1	1	1	1	40	2		
13	Ceramics Laboratory	1	1																	1			1	1				
14-A	College of Sciences and Mathematics (CSM) Main Bldg.	19	29	14	1	1	1	1	1	2	1	5				3	5	2	10	4	9		1	4	105			
14-B	College of Science and Mathematics Annex	9	17	2								2									2		1	13	1			
15	DHS Laboratory		2	4																2	2		1	1	8			
16	SET Old Complex Bldg.	7	12	15								5				6	6	2	4	4			1	6	25	1		
17	KASAMA Building	1																					2					
19	College of Arts and Social Sciences (CASS) Old Bldg.	1	16	1	30	6	1	1				1	1			2	3	2	6	2	2		1	30	61			
19	CASS New Academic Building	18	1				12					7	1							4		1	1	60				
20	AMMEI Building																							1	1			
21	College of Economic,Business and Accountancy (CEBA)	7	3	11		1	1				1					2	3	3	3	3			1	15	17			
22	Technology Bussiness Incubator Building	3					3																	2				
	Department of Health and Science (4th Floor of ETC Bldg.)															3	5	3	5	6				14	16			
23	Engineering Technology Complex (ETC)	1	6	6													10	12	10	10	8			36	43			
24	Automotive Laboratory	7	15	20						1	1	3					1	1	1	1				1				
25-A	College of Engineering (COE)Main Building	2	19	4	2	1	1						1	3	2	10	16	8	20	11			3	1	97	14		
25-B	College of Engineering (COE)Right Wing	6	4	1		1	1						1			1	1	1			5		1					
25-C	College of Engineering (COE)Left Wing	4	11	3									1							2			1					
26	MSU-IIT Gymnasium	11					4						1										1	21	17			
28	Infrastructure Services Division Building	2											1							1			7	3				
29	Supply and Property Management Division Building	3					2					2								5			7	5				
30-A	College of Education (CED) Main Building	1	12	16	2	5		1	1	1	1	1								4		1	13	40	1			
31	University Residences	2	1									5	1										1	22	1			
32	PRISM Bldg.	1	2	39	4	1	3		1	1		2	1							4		2	1	74		1		
33	Executive House											7	1										4					
34	Bahay Alumni	6								3	1	1				3	27	27	3	3	3	1	1			1		
35	IPDM Building	6					2	1															2	7				

Table 2.45. Conditions of Existing Buildings on MSU-IIT Tibanga Main Campus

BLDG NO.	BUILDING NAME	YEAR CONSTRUCTED	ARCHITECTURAL	ELECTRICAL	MECHANICAL	PLUMBING	ELECTRONICS	STRUCTURAL
1	Administration Building	1980	1	2	2	2	1	1
2	Office of the Chancellor	2022	3	3	3	3	3	2
3	Office of Communications	2022	3	3	3	3	3	2
4	Student Services Hub	2006	2	2	2	2	3	2
5-A	Office of the Vice Chancellor for Strategic Initiatives/ Office of the University Registrar	1980	2	2	2	2	2	1
5-B	Office of the Vice Chancellor for International Affairs/ Legal Office	1980	2	2	2	2	2	1
6	Main Library Building	1980	2	2	2	2	2	2
7-A	MCR/ SID Building	1979	2	1	N/A	N/A	3	1
7-B	Multipurpose Hall	1979	2	1	N/A	N/A	3	1
8	KTTO Building	2019	3	3	3	3	3	2
9	Security Satellite Office/ Janitorial Services	2000	1	1	2	2	1	2
10	University Infirmary	1980	3	3	3	3	3	1
11	MiCEL Building	2018	3	3	3	3	3	2
12	College of Computer Studies (CCS) Building	2015	2	1	3	2	3	3
13	Ceramics Laboratory	1995	1	1	1	1	1	2
14-A	College of Science and Mathematics (CSM) Main Building	1980	2	2	1	1	2	1
14-B	CSM Annex	1980	2	2	1	1	2	2

BLDG NO.	BUILDING NAME	YEAR CONSTRUCTED	ARCHITECTURAL	ELECTRICAL	MECHANICAL	PLUMBING	ELECTRONICS	STRUCTURAL
15	Department of Health and Science Lab	2009	1	3	1	3	3	2
16	SET - Old Building Complex	1980	2	2	1	2	2	1
17	KASAMA Office	2005	1	21	1	1	1	3
18-A	IDS Principal's Office and Classrooms	1980	1	1	1	1	1	1
18-B	IDS Faculty Building	1980	1	1	1	1	1	1
18-C	IDS High School Laboratory Building	1980	1	1	1	1	1	1
18-D	IDS High School Science Building	1980	1	1	1	1	1	1
19-A	College of Arts and Social Sciences (CASS) Old Building	1980	2	2	1	1	2	2
19-B	CASS New Academic Building	2021	3	3	3	3	3	2
20	Association of MSU-IIT Muslim Employees Inc. (AMMEI) Building	2009	1	1	N/A	1	N/A	2
21-A	College of Economics, Business, and Accountancy (CEBA) Building	1980	2	2	1	1	2	2
21-B	CEBA Library/ Classroom Building	1980	2	2	1	1	2	2
22	Technology Business Incubator Building	2015	3	3	2	2	3	3
23	Engineering Technology Complex Building	2008	2	2	1	2	2	2
24	Automotive Laboratory	1980	1	1	2	2	2	2
25-A	College of Engineering (COE) Main Building	1980	2	1	2	2	2	1
25-B	COE Right Wing	2015	2	1	1	2	2	2
25-C	COE Left Wing	2013	2	1	1	2	2	2
26	MSU-IIT Gymnasium	1980	1	1	1	1	2	1
28	Infrastructure Services Division Building	2018	3	3	2	3	3	3
29	Supply and Property Management Division	2009	2	3	2	3	3	2

BLDG NO.	BUILDING NAME	YEAR CONSTRUCTED	ARCHITECTURAL	ELECTRICAL	MECHANICAL	PLUMBING	ELECTRONICS	STRUCTURAL
	Building							
30-A	College of Education (CED) Main Building	1985	1	2	1	1	2	2
30-B	CED P.E. Building	1985	1	2	1	1	2	3
31	University Residences	2017	3	3	3	3	3	2
32	PRISM Building	2016	3	3	3	3	3	2
33	Executive House	2023	3	3	3	3	3	
34	Bahay Alumni Building	2024	3	3	3	3	3	
35	Institute for Peace and Development in Mindanao Building	2010	2	2	2	2	2	3
36	Sewerage Treatment Plant	2016	2	2	2	2	2	

Table 2.46. Conditions of Existing Buildings on MSU-IIT Hinaplanon Campus Annex

BLDG NO.	BUILDING NAME	YEAR CONSTRUCTED	ARCHITECTURAL	ELECTRICAL	MECHANICAL	PLUMBING	ELECTRONICS	STRUCTURAL
H-1	Motorpool	2015	1	1	1	1	1	3
H-2	Common Services Facility Building	2015	1	1	1	1	1	3
H-3	CED-IDS MPH (MRF)	2014	2	3	1	1	1	2
H-4	CED-IDS Building 1	2021	3	3	3	3	3	2

FIRE SAFETY REPORT

Following are the academic buildings at Tibanga Main Campus on its compliance to the fire safety standards as of December 2023 as shown in the Table 2.47.

Table 2.47. Percentage of MSU-IIT Tibanga Main Campus Academic Buildings Compliance to the Fire Safety Standards, as of December 2023

BLDG. NO.	BUILDING NAME	% Compliance to Fire Safety Standards
11	MiCEL Building	83.1
12	College of Computer Studies (CCS) Building	37.7
14-A	College of Science and Mathematics (CSM) Main Building	46.7
14-B	CSM Annex	46.7
16	SET - Old Building Complex	44.1
18-A	IDS Principal's Office and Classrooms	37.3
18-B	IDS Faculty Building	37.3
18-C	IDS High School Laboratory Building	37.3
18-D	IDS High School Science Building	37.3
19-A	College of Arts & Social Sciences (CASS) Old Building	47.8
19-B	CASS New Academic Building	89.5
23	Engineering Technology Complex Building	56.5
21-A	College of Economics, Business, and Accountancy (CEBA) Building	52.2
21-B	CEBA Library/ Classroom Building	52.2
25-A	College of Engineering (COE) Main Building	63.3
25-B	COE Right Wing	63.3
25-C	COE Left Wing	63.3
30-A	College of Education (CED) Main Building	43.1
31	University Residences	87.7

As of December 2023, MSU-IIT has 279 existing fire extinguishers, 4 of which need to be recharged and are particularly located in the OVCAF (1 unit), Clinic (2 units, and lastly, in the BTRC (1 unit). Out of 28 cost centers, 6 of which do not have available fire extinguishers, namely, the OCS, OVCAA, Admission Office, Legal Office, Bahay Alumni, and the DOST building. Furthermore, 244 units of these fire extinguishers are located in different floor levels of buildings of KTTO, OVCRE, CCS, CSM, COE, IASET, CASS, New CASS, CEBA, PRISM, Graduate Dormitory and the CED building.

In the entire MSU-IIT campus, 10 buildings have access to fire hydrants with corresponding fire hoses: Hostel, KTTO, MiCel, CSM, COE, CASS, New CASS, CEBA, PRISM, and CED. However, one damaged fire hose in Level 3 of the CASS building has been recorded.

On the other hand, 9 buildings are identified to have been equipped with fire sprinkler systems (Hostel, KTTO, MiCel, CCS, COE, New CASS, CEBA, and PRISM building).

Taking everything into account with fire safety compliance, there were 7 cost centers found to have been lacking fire safety equipment: (OCS, OVCAA, Admission Office, Legal Office, Bahay Alumni, SPMD, DOST Bldg.). The above mentioned are hereby encouraged to have their own access to fire safety equipment with at least a fire extinguisher and a clear way of exit for emergency evacuation.

ELECTRICITY CONSUMPTION

The electricity consumption was noticeably higher from January to May 2020 compared to the following months. This was mainly because of the pandemic where employees were on a skeletal

arrangement and classes were conducted online. As work and classes gradually went back to normal, the electricity rose again. However, From June 2022 onwards, there is a surge in electricity consumption as the institute activities went back into full operations including laboratories where equipment significantly contributes to the increase. For the next ten years, the high increase is anticipated due to population increase, proposed new buildings and introduction of new laboratory equipment. It is, however, taking into consideration the installation of sub meters on each building to properly monitor the consumption and come up with better strategies on proper electricity usage.

Table 2.48 shows the electricity consumed in Tibanga Main Campus and Hinaplanon Campus Annex for the period 2020 to 2023.

Table 2.48. Electricity Consumption of MSU-IIT Tibanga Main Campus and Hinaplanon Campus Annex 2020-2023

Month	Location	2020	2021	2022	2023
		Kilowatt-hour Consumed	Kilowatt-hour Consumed	Kilowatt-hour Consumed	Kilowatt-hour Consumed
January	Tibanga	223,000.00	89,280.00	123,360.00	170,256.00
	Research Center at Hinaplanon	3,600.00	2,400.00	4,380.00	4,320.00
February	Tibanga	306,240.00	112,800.00	116,160.00	245,160.00
	Research Center at Hinaplanon	3,120.00	3,300.00	4,920.00	5,040.00
March	Tibanga	263,520.00	120,000.00	133,056.00	268,272.00
	Research Center at Hinaplanon	3,280.00	3,540.00	4,800.00	4,320.00
April	Tibanga	270,000.00	132,000.00	164,400.00	299,232.00
	Research Center at Hinaplanon	2,480.00	3,780.00	5,580.00	4,440.00
May	Tibanga	280,000.00	125,760.00	148,944.00	368,688.00
	Research Center at Hinaplanon	3,660.00	4,740.00	5,460.00	4,620.00
June	Tibanga	96,480.00	142,080.00	203,328.00	418,464.00
	Research Center at Hinaplanon	3,240.00	4,560.00	6,060.00	5,040.00
July	Tibanga	107,040.00	127,680.00	201,840.00	286,176.00
	Research Center at Hinaplanon	3,000.00	4,680.00	6,060.00	4,620.00
August	Tibanga	99,360.00	146,400.00	204,432.00	288,816.00

	Research Center at Hinaplanon	3,000.00	4,560.00	4,920.00	4,620.00
September	Tibanga	82,560.00	128,160.00	282,672.00	331,824.00
	Research Center at Hinaplanon	3,180.00	4,080.00	5,160.00	4,440.00
October	Tibanga	99,840.00	115,680.00	290,112.00	350,160.00
	Research Center at Hinaplanon	2,760.00	4,860.00	4,800.00	1,920.00
November	Tibanga	110,400.00	124,320.00	289,008.00	352,512.00
	Research Center at Hinaplanon	2,940.00	5,040.00	5,400.00	1,200.00
December	Tibanga	115,200.00	134,400.00	314,112.00	347,136.00
	Research Center at Hinaplanon	2,520.00	4,680.00	5,100.00	2,520.00
Average Kilowatt-Hour Consumption Per Year	Tibanga	171,136.67	124,880.00	205,952.00	310,558.00
	Research Center at Hinaplanon	3,065.00	4,185.00	5,220.00	3,925.00

WATER CONSUMPTION

There is no significant difference in water consumption for the years illustrated. However, for the next ten years, an increase in consumption is expected due to proposed new infrastructures as well as the growing population of the institute.

Table 2.49 shows the water consumed in Tibanga Main Campus and Hinaplanon Campus Annex for the period 2021 to 2023.

Table 2.49. Water Consumption of MSU-IIT Tibanga Main Campus and Hinaplanon Campus Annex 2021-2023

Month	Location	2021		2022	2023
		Cubic Meter Consumed	Cubic Meter Consumed	Cubic Meter Consumed	Cubic Meter Consumed
January	Tibanga	14,088.00		14,088.00	14,359.00
	Research Center at Hinaplanon	3,236.00		3,236.00	3,236.00
February	Tibanga	16,089.00		16,089.00	16,940.00
	Research Center at	3,236.00		3,236.00	3,236.00

	Hinaplanon			
March	Tibanga	12,602.00	12,602.00	16,940.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
April	Tibanga	15,686.00	15,686.00	10,022.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
May	Tibanga	15,686.00	15,686.00	17,192.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
June	Tibanga	15,228.00	15,228.00	14,718.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
July	Tibanga	7,180.00	7,180.00	16,940.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
August	Tibanga	16,882.00	16,882.00	12,791.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
September	Tibanga	11,132.00	11,132.00	14,718.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
October	Tibanga	15,665.00	15,665.00	15,569.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
November	Tibanga	16,161.00	16,161.00	14,359.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
December	Tibanga	16,645.00	16,645.00	14,359.00
	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
Average	Tibanga	14,420.33	14,420.33	14,908.92

Cubic Meter Consumption Per Year	Research Center at Hinaplanon	3,236.00	3,236.00	3,236.00
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B. Infrastructure and Road Network Maps

The Mindanao State University – Iligan Institute of Technology (MSU-IIT) located in Tibanga, Iligan City, has a comprehensive infrastructure and road network plan designed to facilitate efficient transportation and connectivity. This plan ensures seamless integration with major highways, local roads, and essential transportation hubs including the Laguindingan Airport and the Port of Iligan City (see Figures 2.78 and 2.79).

The Laguindingan Airport, also known as Laguindingan International Airport is located approximately 60 kilometers from Iligan City, the Laguindingan Airport is accessible via the Iligan-Cagayan de Oro Road. Regular shuttle services and public transportation options are available, ensuring convenient connectivity for air travelers.

The Port of Iligan City is positioned along the Iligan Bay, the port is a critical hub for maritime transportation and trade. The port is approximately 5 kilometers from the campus, connected via the Iligan City National Highway and internal city roads.

Parking Space at MSU-IIT Tibanga Main Campus

Inside the campus, there are designated parking areas (see Figures 2.80 and 2.81). They are distributed through vacant spaces; beside administration building, hostel, in between MiCEL and CCS building, CASS Building, CEBA Building which has the largest space, CSM Building, COE Building, CED Building, Gymnasium, University Residences, PRISM, Bahay Alumni and IPDM Building. These are first come first serve basis, open for all, except that there are areas specially allotted for the office heads. For the institute bus, it is particularly situated near the Automotive Laboratory Building.

All university constituents shall follow the university parking map (see Annex, MO No. 2024-00052-OC).

Existing Roadway Map at Tibanga Main Campus and Hinaplanon Campus Annex

The campus is equipped with an internal road network that includes main arterial roads and secondary roads, ensuring smooth vehicular and pedestrian movement. Key access points are equipped with security checkpoints to monitor and manage traffic flow (see Figures 2.82 and 2.83).

Existing Drainage Map at Tibanga Main Campus and Hinaplanon Campus Annex

The campus features a comprehensive surface drainage system consisting of open channels, gutters, and culverts strategically placed along roadways, pathways, and building perimeters. These components collect and direct runoff water towards main drainage channels. There are some underground drainage pipes and stormwater sewers installed beneath pathways. These pipes efficiently transport excess water to designated outfall points, minimizing surface water accumulation.

The surface and underground drainage are connected to the main drainage channels located to the major roadway inside the campus until its outlet to the City's drainage system near the boundary of MSU-IIT and Brgy. Canaway (see Figures 2.84 and 2.85)

Campus Network at Tibanga Main Campus

The campus internet infrastructure is built on a high-speed fiber optic backbone, providing reliable and fast internet access across all campus areas. This backbone connects various buildings, lecture halls, laboratories, and administrative offices. (see Figure 2.86)

Local Area Network (LAN): The LAN infrastructure uses high-capacity Ethernet cables laid alongside campus roadways and pathways, connecting different buildings to the central data center. This ensures stable and high-speed internet connectivity for wired devices.

Wireless Network (Wi-Fi): The wireless network is designed to provide comprehensive coverage throughout the campus. Wi-Fi access points are strategically placed in academic buildings, outdoor areas, and along main roads and walkways, ensuring uninterrupted wireless connectivity for students, faculty, and staff.

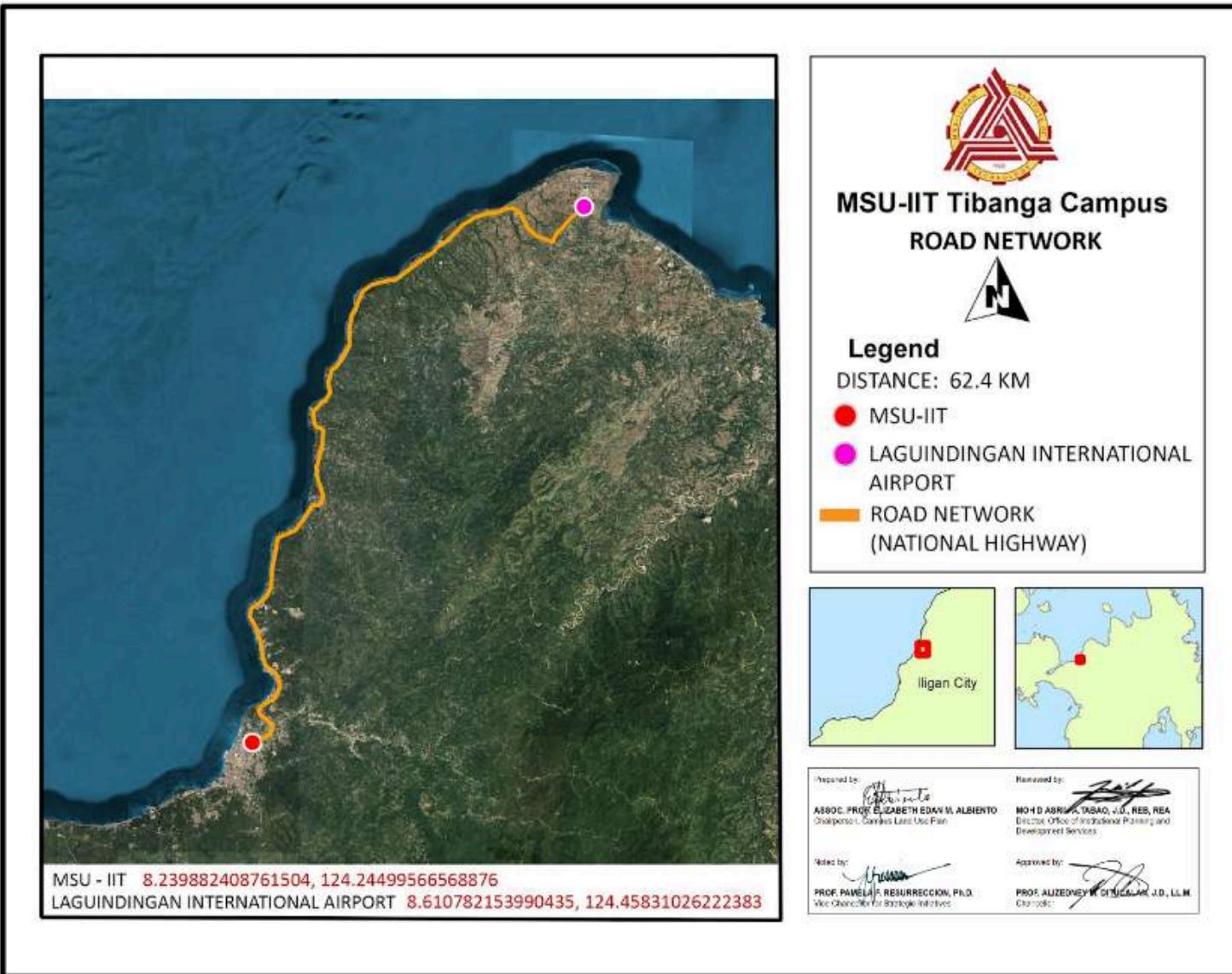


Figure 2.78. MSU-IIT Tibanga Main Campus Road Network (Laguindingan Airport)

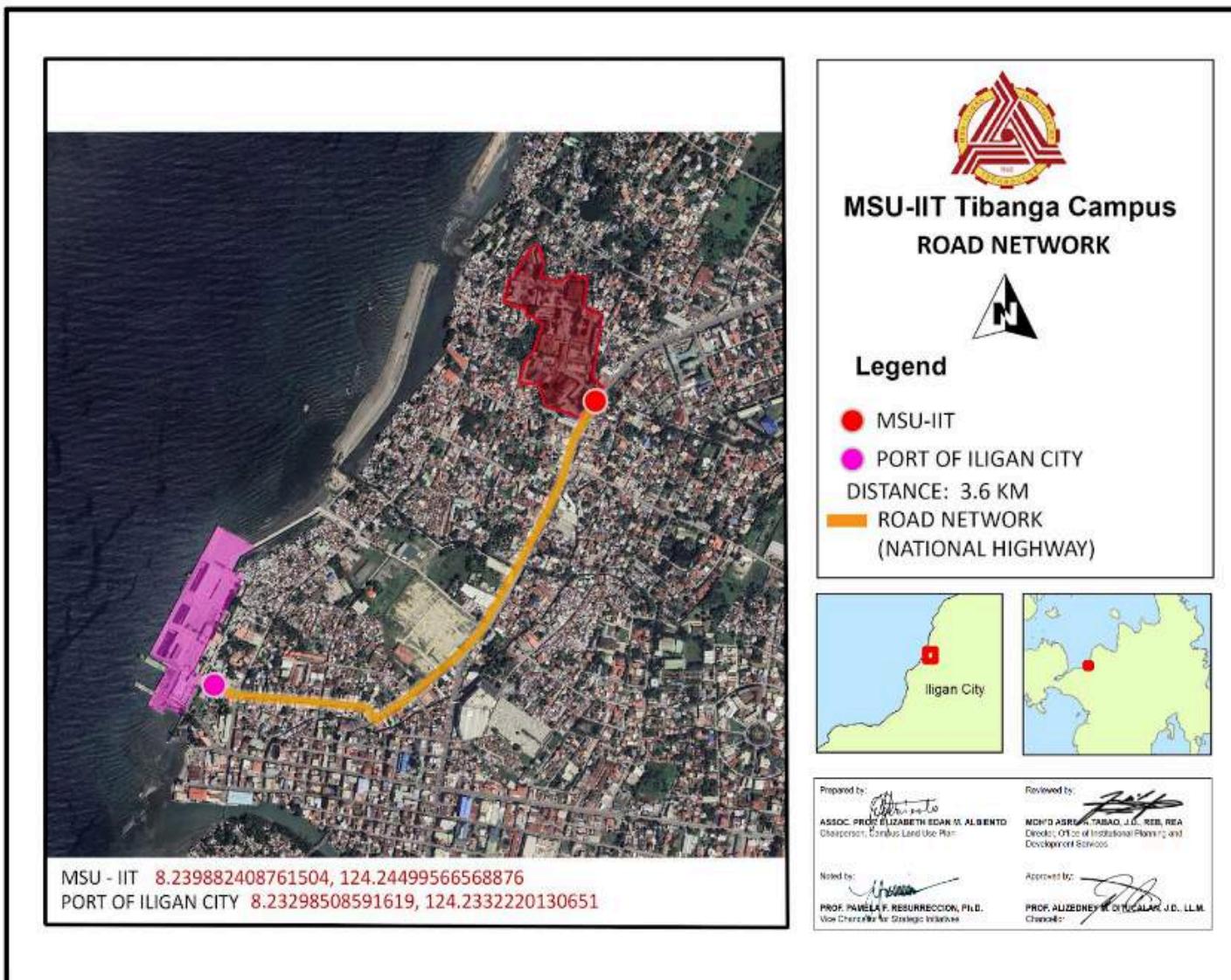


Figure 2.79. MSU-IIT Tibanga Main Campus Road Network (Port of Iligan City)

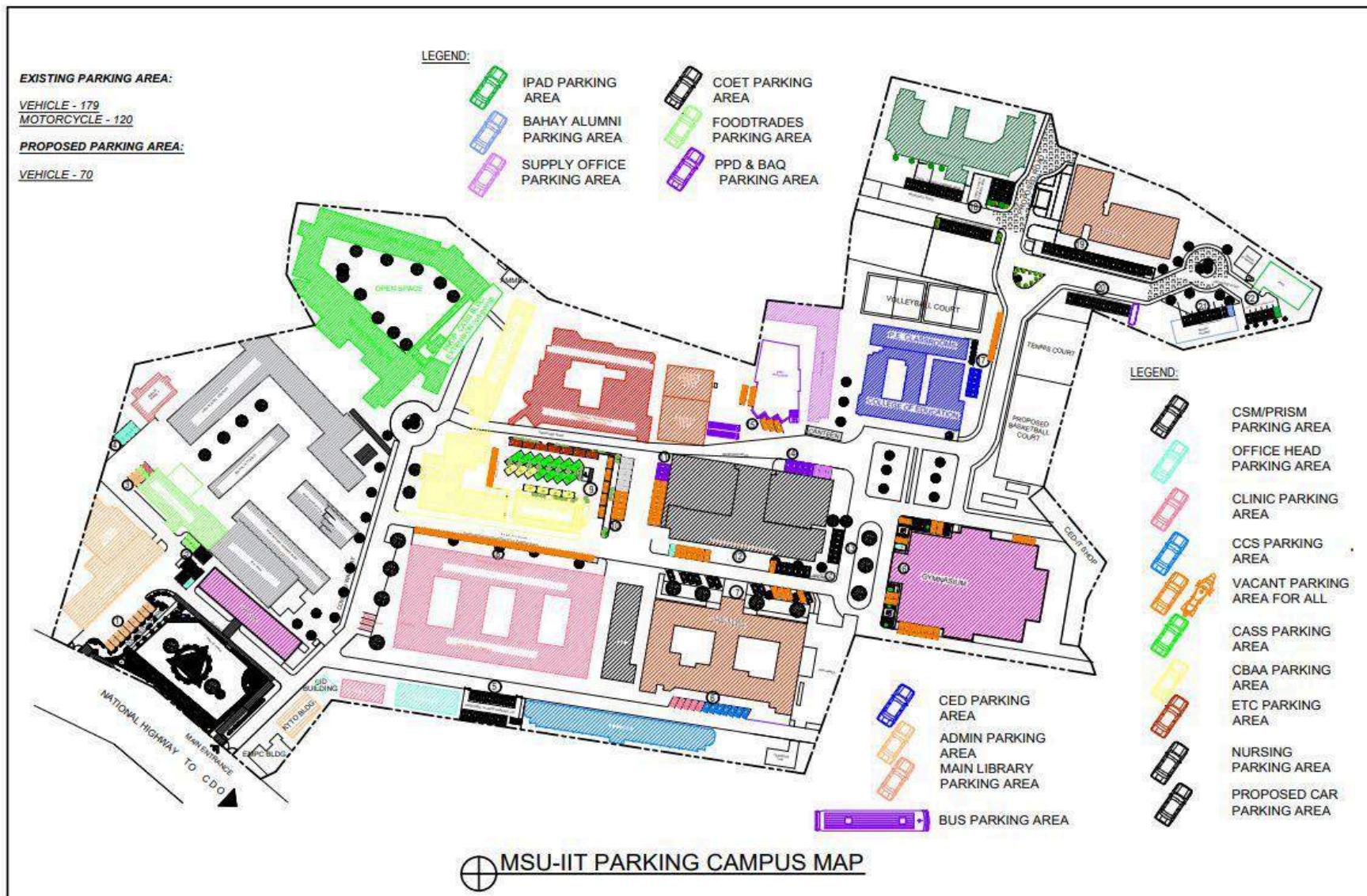


Figure 2.80. MSU-IIT Tibanga Main Campus Parking Space

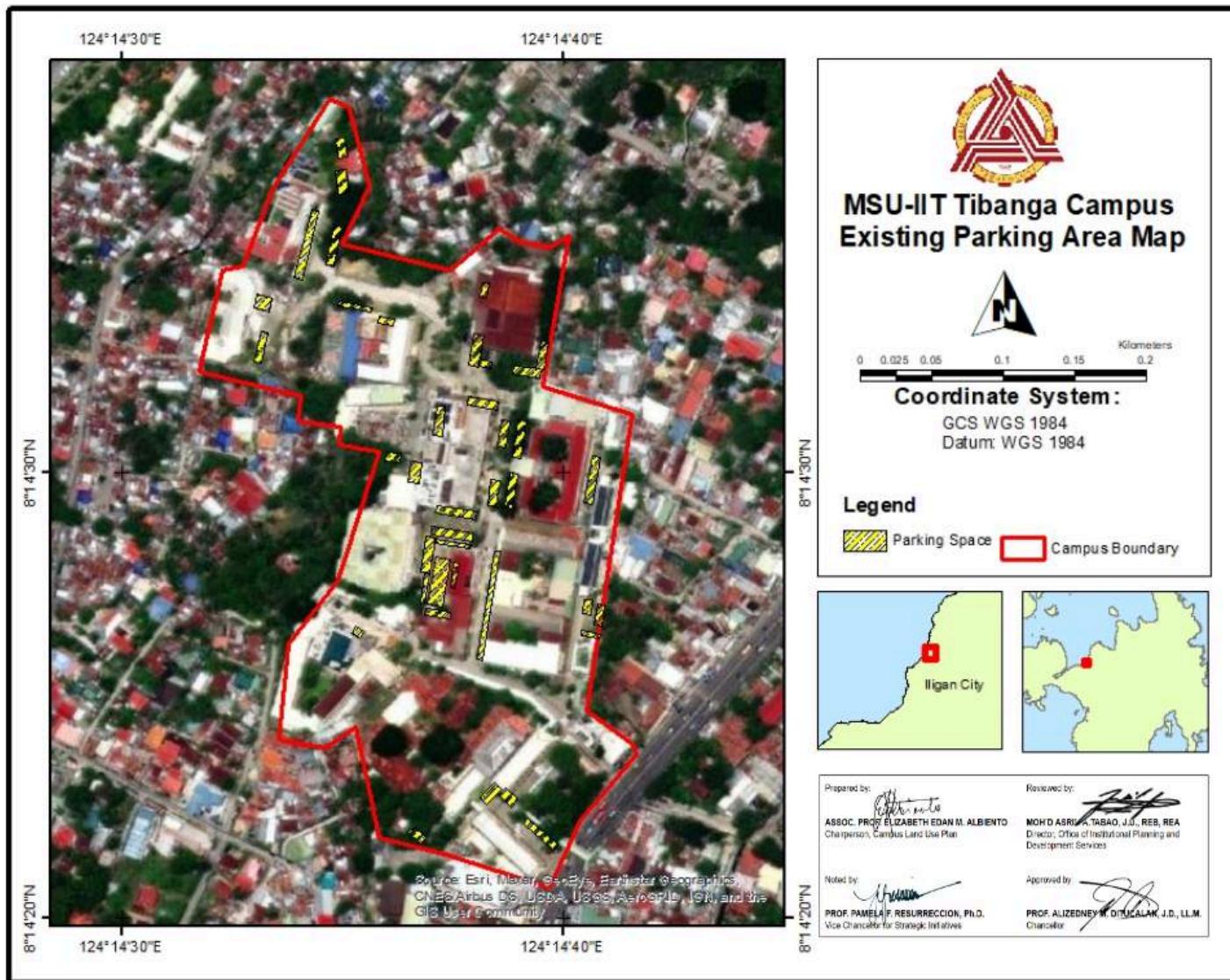


Figure 2.81. MSU-IIT Tibanga Main Campus Existing Parking Map

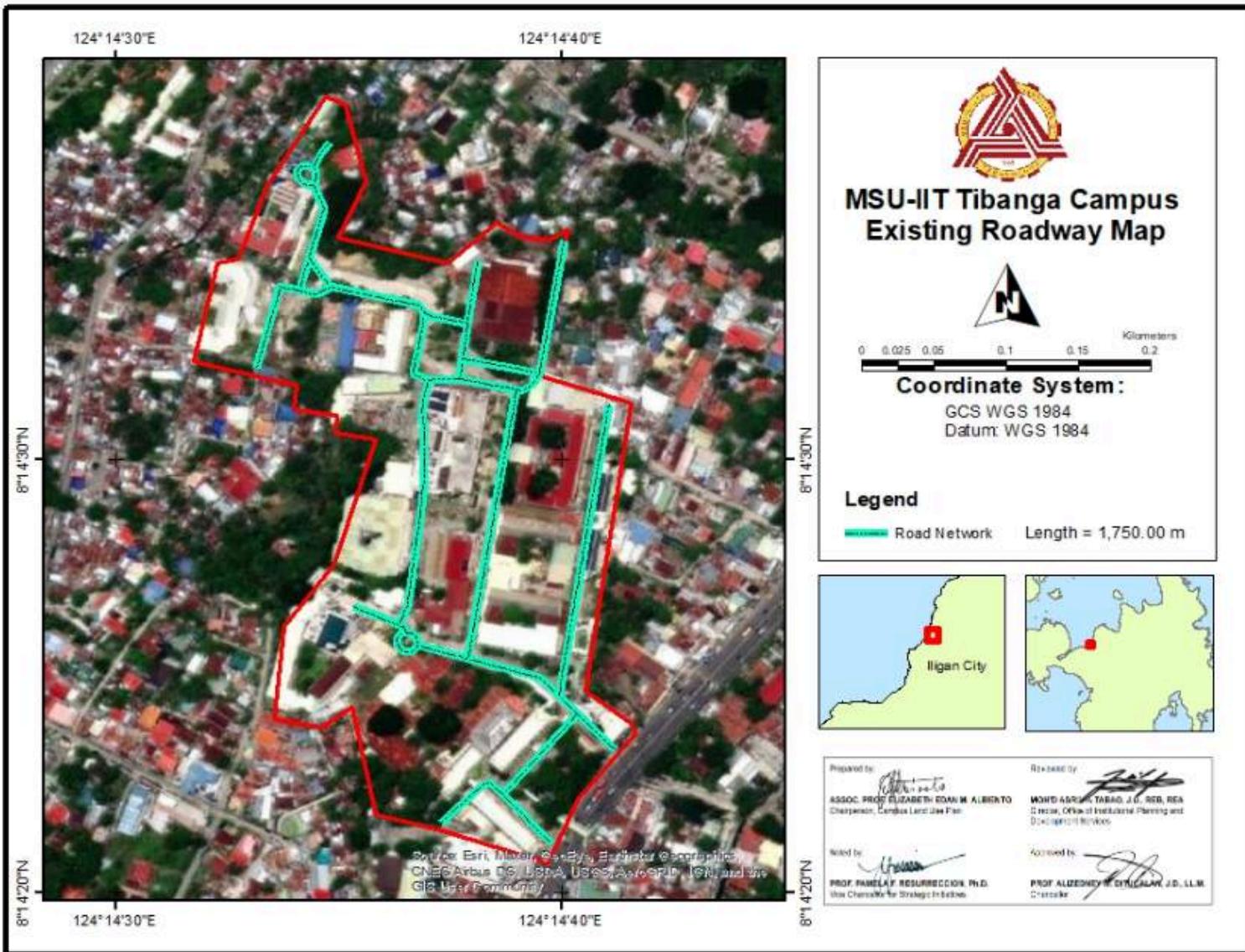


Figure 2.82. MSU-IIT Tibanga Main Campus Existing Roadway Map

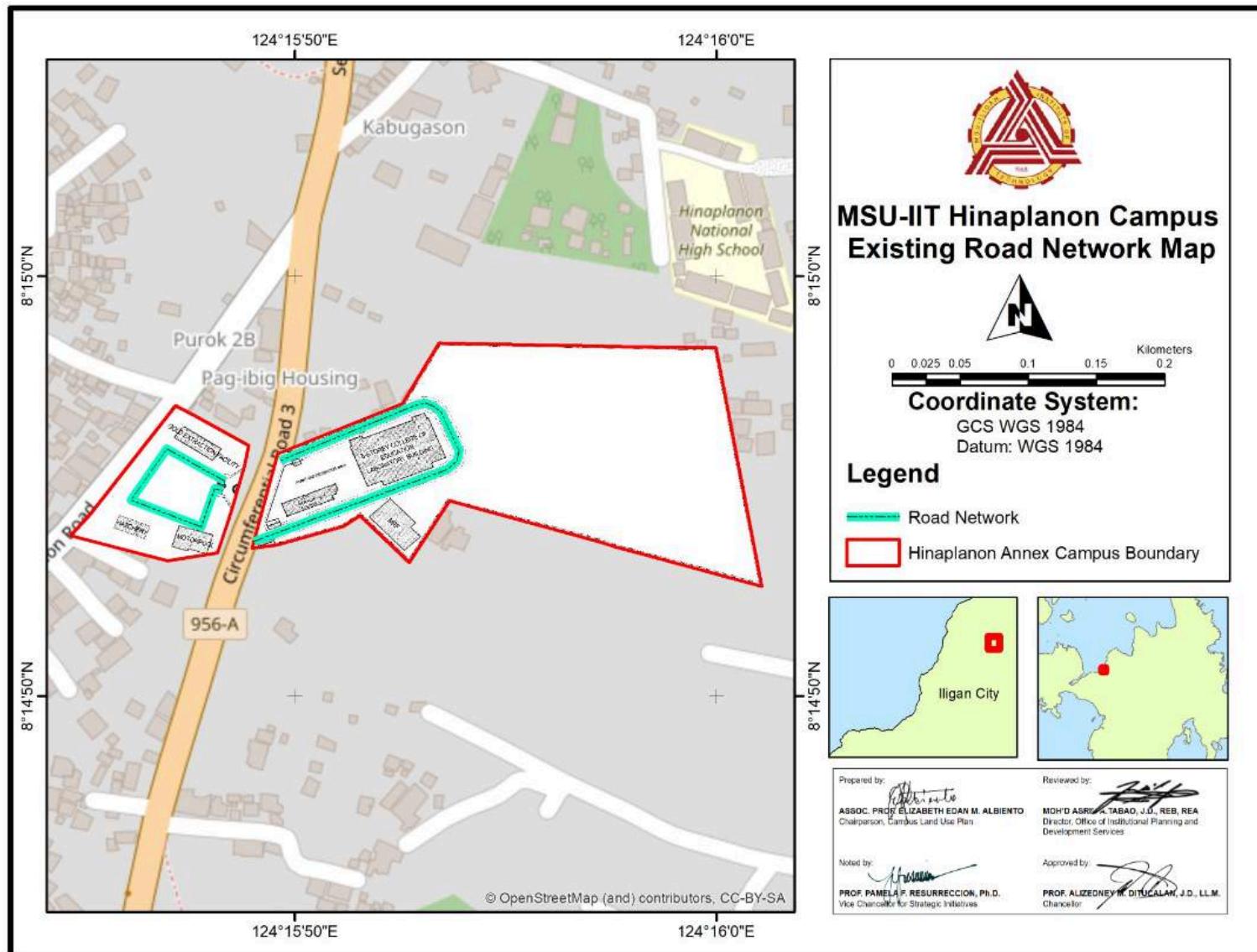


Figure 2.83. MSU-IIT Hinaplanon Campus Existing Road Network Map

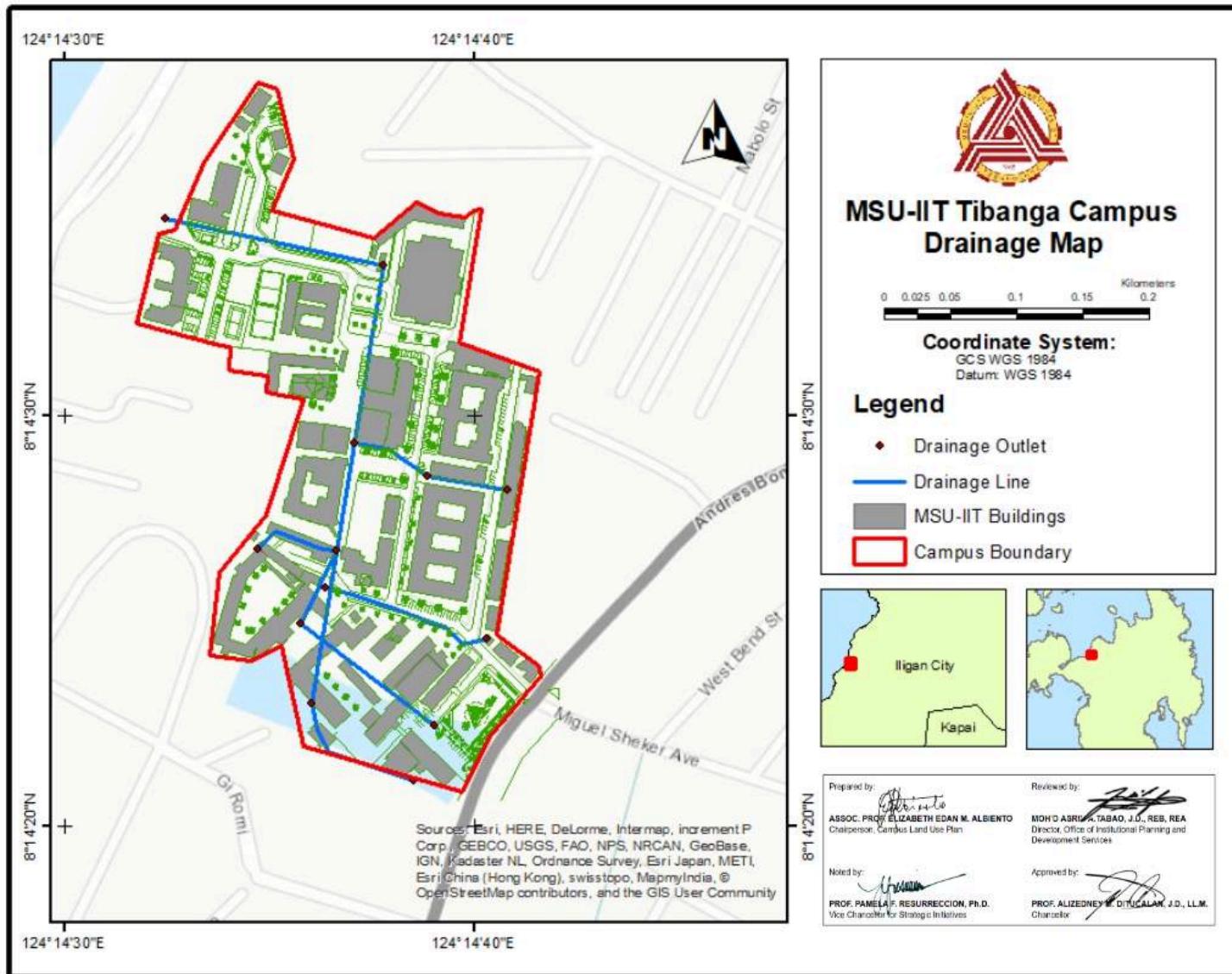


Figure 2.84. MSU-IIT Tibanga Main Campus Existing Drainage Map

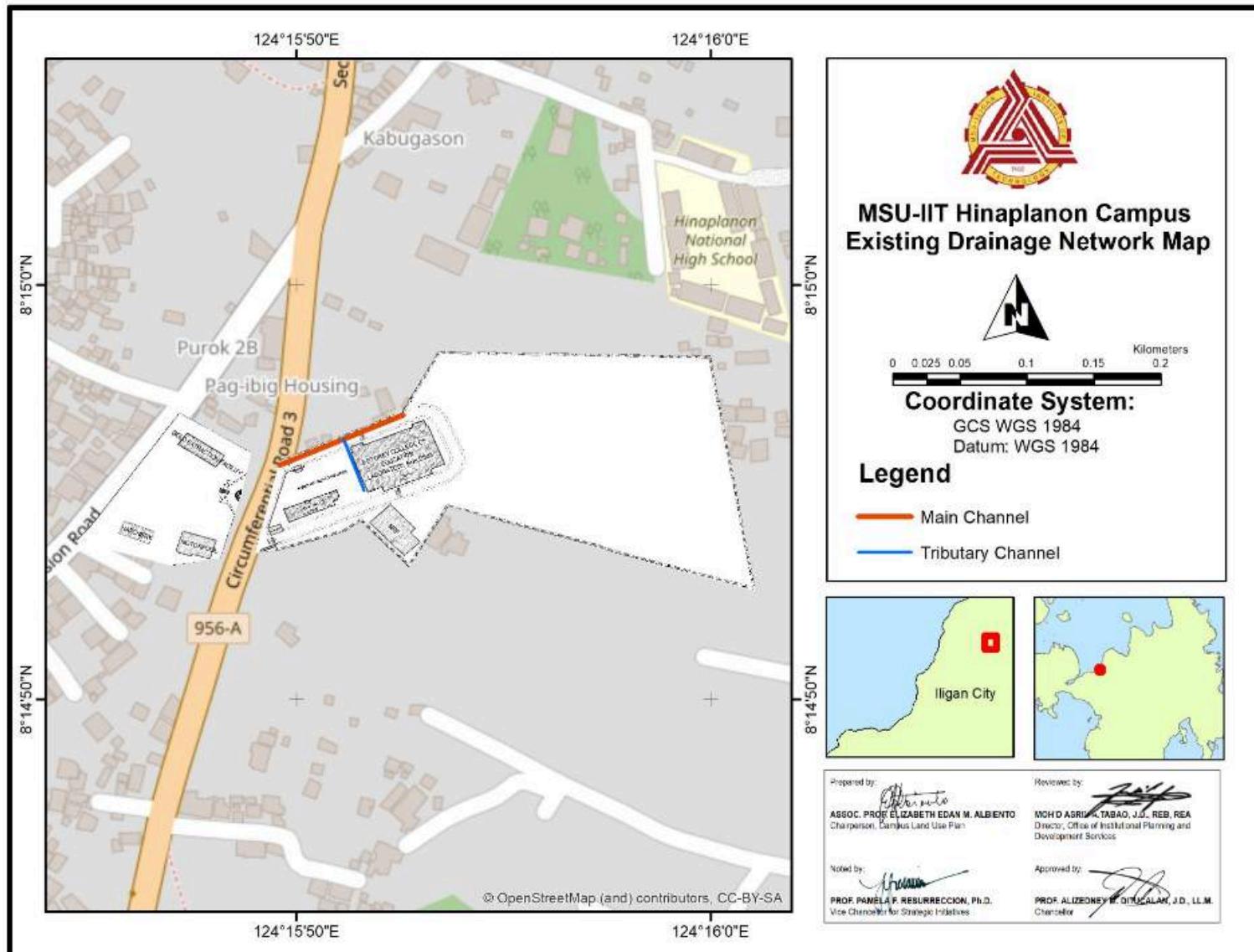


Figure 2.85. MSU-IIT Hinaplanon Campus Existing Drainage Map

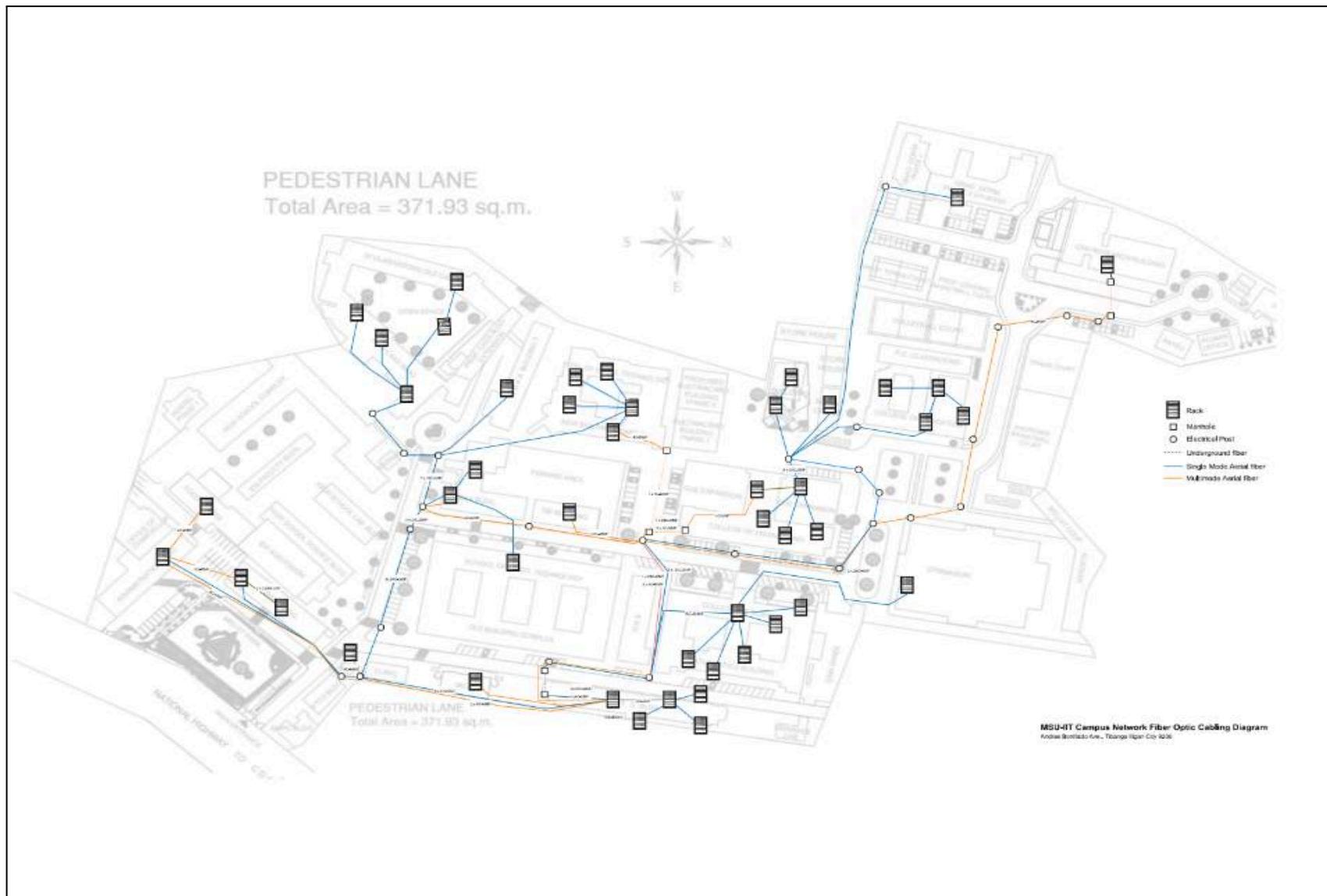


Figure 2.86. MSU-IIT Tibanga Main Campus Network Fiber-Optic Cabling Diagram

2.4 DEVELOPMENT CONSTRAINTS

A. Issues, Gaps, Challenges, and Opportunities

The development constraints of MSU-IIT include funding constraints, bureaucratic procedures, and challenges related to infrastructure and technology implementation. Despite these challenges, MSU-IIT has made significant strides in various areas, as evidenced by the completion of numerous infrastructure projects, such as renovations, landscape improvements, and the construction of the Bahay Alumni building. However, the university acknowledges the need for further improvements, particularly in the area of ICT, where only two out of sixteen projects under the ISSP 2022-2024 have been partially implemented.

The constraints in funding and bureaucratic processes can hinder the timely and efficient execution of development projects and the application of educational technology courses during practice teaching. These limitations may affect the university's ability to fully realize its infrastructure goals and to provide the most up-to-date technological resources to students and faculty.

To address these constraints, MSU-IIT is committed to seeking additional funding sources, streamlining administrative processes, and continuing to foster partnerships with local and international stakeholders. The university's proactive approach to institutional management, as demonstrated by the approval of 55 proposals by the MSU-Board and the creation of five new policies, including a Sustainability Policy and an Equity, Diversity, and Inclusivity (EDI) Policy, reflects its dedication to overcoming these challenges and maintaining a progressive institutional framework.

Moreover, MSU-IIT's focus on internationalization, as shown by the establishment of 58 MOUs/MOAs with international universities and securing additional scholarship agreements, indicates its intent to enhance global collaborations and access to quality education, which can also serve as a strategy to mitigate some of the development constraints.

B. Land use-related impacts of major climate related or geophysical disaster events or occurrence during the current LUDIP / land use plan implementation period

Problem-Solution Matrix

This matrix is a tool for identifying and prioritizing the problems and solutions related to a specific issue or situation. The problem-solution matrix can be extremely useful. This is particularly true for MSU-IIT, which may be able to use the matrix to formulate and evaluate potential strategies and actions for reducing hazard risk and enhancing disaster resilience. By utilizing prevention, mitigation, preparedness, response, and recovery measures, MSU-IIT can better prepare for and respond to potential disasters in a more effective and efficient manner.

Table 2.50. Problem Solution Matrix

Thematic Maps Overlaid	Observed Conditions	Implications when unresolved	Policy Options
1. Flood Hazard	<ul style="list-style-type: none">• MSU-IIT is prone to flooding, because its elevation is lower than that of a highway.• The campus experienced extensive flooding throughout the campus during Typhoon Sendong.• Even brief and intense rainfall results in localized flooding. That is because MSU-IIT is downstream to the Mandulog River Basin.	<ul style="list-style-type: none">• Foot and vehicular traffic will be obstructed.• Interior assets i.e. files, equipment etc. will be damaged.• Rapid depreciation of building and infrastructure projects• High risk of leptospirosis	<ul style="list-style-type: none">1. Improved drainage and divert rainfall pathway by conducting plans and projects such as:<ul style="list-style-type: none">• Drainage Master Plan and Construction Project; and• Rainwater Harvesting Master Plan and Construction Project

Thematic Maps Overlaid	Observed Conditions	Implications when unresolved	Policy Options
	<ul style="list-style-type: none"> Flood simulation studies for 5, 25 and 100 year rainfall return periods show flood extent to 20%, 68% and 85% respectively of the total land area of the campus. 		2. Periodic Drainage Cleaning 3. Proper Solid Waste Management Plan
2. Liquefaction Hazard	The geology and soils inside MSU-IIT is in a highly liquefied condition. That is because the MSU-IIT campus is inside the floodplain where soils are easily saturated with moisture and its geology is made up of sedimentary rocks whose amalgamation is loosely cohesive.	If left unresolved, a strong earthquake will cause the buildings to tilt. The angle of tilting will depend on the magnitude of the earthquake.	Massive investment to beef up the foundation of existing projects by injecting grout and sand into the foundation of existing buildings. Investigation must be done first to come up with a realistic investment for bolstering the foundation of existing buildings.
3. Storm Surge	Storm Surge Simulation studies from the Project Noah of the UP Diliman Resiliency Institute shows that storm surge advisory levels 1,2,3 and 4 affects 0, 1, 33 and 100 percent of the MSU-IIT campus area.	<ul style="list-style-type: none"> Risk damage to building, interior and infrastructure assets. High risk to MSU-IIT constituents Tilting of buildings Power failure 	Reduce the energy of the storm surge by rehabilitating and/or beefing up the coastal ecosystem by enriching the mangrove, seagrass, and coral reef sub-systems plus the construction of wave breakers to prevent the dislodging of planted mangroves and seagrasses.
4. Seismic (Earthquake) Hazard	The nearest fault to the MSU-IIT is in Lanao del Sur at 19.64 km. Earthquake simulation studies using the REDAS (Rapid Earthquake Damage Assessment Software) from magnitude 3.0 to 7.5 shows an earthquake intensity ranges from weak to destructive depending on the depth where the earthquake occurred. It is interesting to note that earthquake is felt even at magnitude 3.0 and at shallower depth the intensity could be moderately strong.	<ul style="list-style-type: none"> Risk damage to building, interior and infrastructure assets. High risk to MSU-IIT constituents Tilting of buildings Power failure Older buildings built in the 70's and 80's will be very sensitive to occurrence of an earthquake especially the COE and CSM building where some of its column have been showing some cracks 	<ul style="list-style-type: none"> Building Earthquake Vulnerability Assessment Building Retrofitting Plan Building Retrofitting Construction
5. Sea Level Rise (SLR)	MSU-IIT is situated in a coastal barangay facing Iligan Bay.	<ul style="list-style-type: none"> SLR projections using 1-2 mm/yr do not reach the MSU-IIT campus even at the different time intervals. It is projected that should the climate change get 	<ul style="list-style-type: none"> Planting of mangrove will allow soil buildup in the landward side called soil accretion. When soil accretion is

Thematic Maps Overlaid	Observed Conditions	Implications when unresolved	Policy Options
		worsen it can climb up to 1 m or even 2 m by then. In the long run, sea level rise would amount to 2–3 m over the next 2000 years if warming amounts to 1.5 °C . It would be 19–22 meters if warming peaks at 5 °C.	greater than the rise of sea level then inundation from the sea will be prevented.

CHAPTER III. MSU-ILIGAN INSTITUTE OF TECHNOLOGY LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN

A. Vision, Mission, Goals, and Objectives of the SUC and its Departments

As a forward-thinking institution, the University has outlined its vision, mission, goals, and objectives to guide its growth and development. One of its key objectives is to become a smart campus that leverages innovative ICT technologies to enhance the built environment. Additionally, the University is committed to promoting sustainability through its green campus initiatives, which include energy efficiency, waste management, water conservation, and quality infrastructure. Finally, the University recognizes the importance of resilience in the face of natural disasters and is actively working towards aligning with the Disaster Risk Reduction Management (DRRM) Framework and Climate Change adaptation through its resilient campus pillar. These efforts reflect the University's commitment to creating a safe, efficient, and sustainable campus environment.

B. Development Constraints

The development constraints of Mindanao State University - Iligan Institute of Technology (MSU-IIT) can encompass a range of challenges that impact its capacity to achieve its strategic goals and objectives. These constraints typically include:

1. **Financial Constraints:** Limited budget allocations can severely restrict the ability to execute infrastructure projects, upgrade facilities, or expand land use as envisioned in the Land Use Development and Infrastructure Plan (LUDIP). This also affects the university's capacity to secure advanced technological resources and maintain competitive research and educational programs.
2. **Regulatory and Compliance Issues:** Adhering to national and local government regulations related to land use, construction, environmental protection, and educational standards can introduce delays and additional costs. Changes in regulatory frameworks can also necessitate plan adjustments.
3. **Physical and Geographical Limitations:** The physical layout of the campus and its surrounding geography may pose challenges to expansion or redevelopment. Issues such as land availability, topographical constraints, and susceptibility to natural disasters like floods or earthquakes can limit options for new constructions or renovations.
4. **Infrastructure and Facility Aging:** Existing infrastructure and facilities may require significant upgrades or replacements to meet current needs and future growth. This includes not only academic buildings but also utilities, transportation networks, and IT infrastructure, which are crucial for a modern educational environment.
5. **Technological Advancements:** The rapid pace of technological change demands continuous investment in new technologies and infrastructure to support them, posing a challenge in terms of both financial resources and the need to constantly update plans to incorporate emerging technologies.
6. **Human Resource Constraints:** Attracting and retaining skilled faculty, staff, and administrators who can effectively implement and manage the LUDIP is critical. Competition with other institutions for talent, coupled with budget constraints for competitive salaries, can hinder this effort.
7. **Community and Stakeholder Engagement:** Effective implementation of LUDIP requires active engagement and support from a wide range of stakeholders, including local communities, government agencies, industry partners, and alumni. Overcoming apathy or opposition among these groups can be a significant challenge.

8. **Environmental and Sustainability Concerns:** Ensuring that development plans align with sustainability goals and environmental protection standards can limit certain development options or introduce additional costs for compliance and mitigation measures.
9. **Integration with Academic and Research Goals:** Aligning the physical development of the campus with the strategic academic and research objectives of the university requires careful planning and coordination. Ensuring that infrastructure developments support these goals without compromising the quality of education or research outputs is a complex task.

Addressing these constraints requires a comprehensive and flexible planning approach that anticipates challenges, allocates resources wisely, and engages all stakeholders in a collaborative effort to achieve the university's strategic objectives.

C. Physical Development Strategies

MSU-IIT will adopt several physical development strategies to address its current needs and future growth while overcoming development constraints. These strategies can be aligned with its broader strategic goals, ensuring that physical development supports academic excellence, research innovation, and community engagement, as shown below:

1. Sustainable Campus Development
 - 1.1. Implement green building practices and sustainable design principles in new constructions and renovations to reduce environmental impact and operational costs.
 - 1.2. Enhance campus landscaping and green spaces to improve environmental quality and provide recreational areas for students and staff.
2. Infrastructure Modernization and Upgrade
 - 2.1. Prioritize upgrades to aging facilities and infrastructure to meet current standards and accommodate future technological advancements.
 - 2.2. Invest in state-of-the-art research facilities and laboratories to support cutting-edge research and attract high-quality faculty and students.
3. Space Optimization and Utilization
 - 3.1. Conduct a comprehensive space utilization study to optimize existing spaces for academic, administrative, and recreational purposes.
 - 3.2. Repurpose underutilized buildings or spaces to meet pressing needs, such as additional classroom space or student housing.
4. Technology-Enhanced Learning Environments
 - 4.1. Integrate advanced IT infrastructure and digital technologies into classrooms and learning spaces to support innovative teaching and learning methods.
 - 4.2. Develop smart campus initiatives that leverage IoT (Internet of Things), AI (Artificial Intelligence), and other technologies to improve campus operations and services.
5. Community and Industry Integration
 - 5.1. Foster partnerships with industry, government, and the local community to develop collaborative spaces, such as innovation hubs and business incubators, that benefit both the university and its partners.
 - 5.2. Leverage these partnerships for internships, research collaborations, and career opportunities for students.
6. Accessibility and Mobility Improvements
 - 6.1. Enhance campus accessibility for individuals with disabilities through infrastructure improvements and universal design principles.
 - 6.2. Improve internal transportation systems and connectivity with public transportation networks to facilitate easy access to and within the campus.

7. Environmental and Disaster Resilience
 - 7.1. Implement measures to increase the campus's resilience to natural disasters, including flood control, earthquake-resistant buildings, and emergency preparedness plans.
 - 7.2. Promote environmental conservation through initiatives like waste management programs, water conservation measures, and renewable energy projects.
8. Flexible and Adaptive Use Spaces
 - 8.1. Design new buildings and renovate existing ones with flexible spaces that can adapt to various uses and evolving educational needs.
 - 8.2. Encourage the creation of multipurpose areas that can support a range of activities, from academic seminars to community events.
9. Strategic Land Acquisition and Expansion
 - 9.1. Consider strategic land acquisition for future expansion, ensuring space for growth without compromising environmental and community values.
 - 9.2. Plan for phased development that allows for gradual expansion in alignment with the university's long-term needs and goals.

The detailed physical development strategies for MSU-IIT's LUDIP from 2023-2032 are as follows:

1. **Academic Infrastructure Development:** MSU-IIT will prioritize the development of academic infrastructure, including the construction of new buildings and the renovation of existing ones, to accommodate the growing number of students and faculty. This includes the construction of a new College of Health Sciences building, and a new College of Education building at Hinaplanon. The timeline for these projects is from 2023-2026.
2. **Research and Innovation Infrastructure Development:** MSU-IIT will prioritize the development of research and innovation infrastructure, including the construction of new research buildings and the renovation of existing ones, to support the university's research and innovation initiatives. This includes the construction of a new Research and Innovation Center and the renovation of existing research laboratories. The timeline for these projects is from 2024-2028.
3. **Sports and Recreation Infrastructure Development:** MSU-IIT will prioritize the development of sports and recreation infrastructure, including the construction of new sports facilities and the renovation of existing ones, to support the university's sports and recreation programs. This includes the construction of a new sports complex, a new swimming pool, and a new track and field facility. The timeline for these projects is from 2025-2030.
4. **Student, Faculty and Staff Life Infrastructure Development:** MSU-IIT will prioritize the development of student life infrastructure, including the construction of new student housing facilities and the renovation of existing ones, to support the university's student life programs. This includes the construction of a new undergraduate student dormitory and the faculty and staff residences. The timeline for these projects is from 2026-2032.
5. **Administrative Infrastructure Development:** MSU-IIT will prioritize the development of administrative infrastructure, including the construction of new administrative buildings and the renovation of existing ones, to support the university's administrative functions. This includes the construction of a new administration building and the renovation of existing administrative facilities. The timeline for these projects is from 2027-2032.
6. **Environmental Protection and Sustainability:** MSU-IIT will prioritize environmental protection and sustainability in all of its infrastructure development projects. This includes the implementation of green building practices, the use of renewable energy sources, and the implementation of waste management practices. The timeline for these projects is ongoing from 2023-2032.

The physical development strategies for MSU-IIT's LUDIP will be implemented according to a timeline that aligns with the university's 5-Year Development Plan (2022-2026) and the Long Term Infrastructure Development Plan of MSU-IIT. The Office of the Vice Chancellor for Strategic Initiatives (OVCSI) will oversee the implementation of these strategies, with support from the Office of Institutional Planning and Development Services (OIPDS) and other relevant offices in the University.

D. Development Concept and Structure Plan

The development concept and structure plan outlined above reflect MSU-IIT's commitment to excellence, innovation, and sustainable development. By focusing on academic excellence, research innovation, infrastructure enhancement, community engagement, and governance, the university seeks to position itself as a leading institution of higher learning and a catalyst for positive change in the region and beyond.

Development Concept

The development concept for MSU-IIT centers on fostering excellence in education, research, and innovation while promoting sustainability, inclusivity, and community engagement. Key principles guiding this concept include:

1. Academic Excellence: Enhancing the quality and relevance of academic programs through curriculum innovation, faculty development, and student-centered approaches to teaching and learning.
2. Research and Innovation: Strengthening research capacity, promoting interdisciplinary collaboration, and fostering a culture of innovation to address societal challenges and contribute to national development goals.
3. Infrastructure and Facilities: Investing in state-of-the-art facilities, laboratories, and learning spaces to support academic programs, research activities, and student services while prioritizing sustainability and accessibility.
4. Community Engagement: Deepening partnerships with local communities, government agencies, industry stakeholders, and civil society organizations to address socio-economic needs, promote inclusive development, and advance the university's outreach mission.
5. Governance and Management: Enhancing institutional governance, transparency, and accountability while fostering a culture of integrity, ethical conduct, and stakeholder participation in decision-making processes.

Structure Plan

The structure plan outlines the organizational framework and strategic priorities for MSU-IIT's development over the next ten years, encompassing key areas of academic, research, infrastructure, and community engagement initiatives.

1. Academic Development
 - Enhance existing academic programs and introduce new programs aligned with emerging trends, industry demands, and national development priorities.
 - Strengthen faculty development initiatives, research supervision, and pedagogical training to enhance teaching effectiveness and student engagement.
 - Promote interdisciplinary collaboration and experiential learning opportunities to prepare graduates for diverse career pathways and leadership roles.
2. Research and Innovation
 - Establish research centers of excellence in strategic priority areas, fostering interdisciplinary collaboration, and partnerships with industry and government agencies.
 - Provide support for faculty research grants, student research projects, and technology transfer initiatives to promote innovation, entrepreneurship, and knowledge dissemination.
 - Enhance research infrastructure, including laboratories, equipment, and technology platforms, to facilitate cutting-edge research and development activities.

3. Infrastructure and Facilities
 - Upgrade and expand campus facilities, including academic buildings, laboratories, libraries, and student amenities, to accommodate the growing needs of the university community.
 - Implement sustainable infrastructure initiatives, such as energy-efficient buildings, green spaces, and waste management systems, to promote environmental stewardship and reduce ecological footprint.
 - Enhance campus accessibility, safety, and security through the construction of pedestrian walkways, lighting, signage, and emergency response systems.
4. Community Engagement and Outreach
 - Strengthen partnerships with local communities, government agencies, and NGOs to implement community development projects, livelihood programs, and social services initiatives.
 - Expand outreach activities, including extension programs, continuing education courses, and capacity-building workshops, to address socio-economic needs and promote inclusive development.
 - Foster a culture of volunteerism, civic engagement, and social responsibility among students, faculty, and staff through service-learning projects and community-based initiatives.
5. Governance and Institutional Development
 - Strengthen institutional governance structures, policies, and procedures to ensure transparency, accountability, and compliance with regulatory requirements.
 - Promote ethical leadership, diversity, and inclusivity in decision-making processes, fostering a culture of respect, collaboration, and mutual trust.
 - Enhance administrative efficiency, data management systems, and performance monitoring mechanisms to support evidence-based decision-making and continuous improvement.

E. Alignment of the LUDIP with the Land Use Plan and Zoning Ordinance of the LGU

The above development strategies, concepts, and plans are aligned with the land use plan and zoning ordinance of the Local Government of Iligan City as evidenced by the certification from the City Planning and Development Office comprising the lot titles of the Tibanga Main Campus and the two (2) annex campuses, in compliance with City Ordinance No. 14-6234, series of 2014 otherwise known as the Zoning Regulation for the City of Iligan based on the Comprehensive Land Use Plan approved by the Housing and Land Use Regulatory Board on August 1, 2018. (see Annex).

3.1 CAMPUS LAND USE PLAN

A. Land Use Plan

Table 3.1. Area of Land Uses for MSU-IIT Tibanga Main Campus

Building Name	Area (sq.m.)	Percent of Total
Design and Build of the College of Economics, Business, and Accountancy Academic Building	3,358.00	10.78
Design and Build of the University Library and Learning Commons Building	2,522.68	8.10%
Design and Build of the Information and Communication Technology Center and Innovation Building	3,074.37	9.87%
Design and Build of the Graduate Academic Building	3,000.11	9.63%

University Cafeteria	259.18	0.83%%
Student Center	900.00	2.89%
Academic Building (ICONIC)	9,987.00	32.07%
Physical Education Building	1,494.08	4.80%
Design and Build 3-Storey Motorpool and Carpark Building	3,103.5	9.97%
University Masjid	558.00	1.79%
Student Dorm	2,666.20	8.56%
Animal House	146.40	0.47%
Sewage Treatment Plant and Material Recovery Facility	75.00	0.24%
TOTAL	31,144.52	100.00%

Table 3.2. Area of Land Uses for MSU-IIT Hinaplanon Campus Annex

Building Name	Area (sq.m.)	Percent of Total
Designing and Building, Furnishing, and Equipping of the Research Institute for Engineering and Innovative Technology (RIEIT) Complex with the Common Service Facility (Central Laboratory) for Mindanao	2,723.12	7.63%
Design and Build of the Health and Allied Medical Sciences Building	2,474.50	6.93%
5-Storey Student and Staff Residences	3,413.05	9.56%
Sports Complex (MSU-IIT Grandstand, Stadium oval and track and field, and Lawn tennis)	16,213.03	45.44%
College of Health Sciences	3,719.50	10.42%
Material Recovery Facility	78.59	0.22%
Sewage Treatment Plant	177.88	0.50%
Commercial Center	598.50	1.68%
Aquatic Recreation Center and Sports Facility	5,054.82	14.17%
Fitness Center	1,230.00	3.45%
TOTAL	35,682.99	100.00%

Table 3.3. Area of Land Uses for MSU-IIT Marine Science Complex (Fuentes Annex Campus)

Building Name	Area (sq.m.)	Percent of Total
MSU-IIT Marine Science Complex	4,081.12	88.76%

Museum	300.00	6.52%
Docking Area	216.85	4.72%
TOTAL	4,597.97	100.00%

B. Forecasted allocations of land for the campus' academic requirements and housing project for students, academic staff, and non-academic staff

Demand-Supply Balancing (2023-2028)

a. Population Projection

In today's world, public and private universities compete to attract the best students based not only on academic achievement but also by considering the affordability of education and related expenses, especially accommodation costs.

Student dormitories have become a crucial factor in the decision-making process for college students, with Mindanao State University - Iligan Institute of Technology (MSU-IIT) being a preferred choice due to its reputation for excellence and quality education.

MSU-IIT is a tertiary education institution offering free tuition and other school fees (TOSF) under the Universal Access to Quality Tertiary Education Act. A study conducted by Boekerts found that intelligence, personality, university environment, and living environment (family or boarding house) are significant factors that influence academic success.

The provision of physical facilities significantly affects student satisfaction with the university, making student dormitories necessary to provide a sense of security, safety, and comfort for MSU-IIT students who do not reside in Iligan City. Here is the enrollment data for undergraduate students at MSU-IIT for the first semester of the academic year 2022-2023, categorized by their place of origin.

Based on data, it has been observed that students who have been admitted and enrolled in the undergraduate programs offered by MSU-IIT come from various regions across the country.

Table 3.4 showed the projected number of students for the period 2023-2032 from the different regions of the country. With the average annual growth rate of 8.40%, most of the students will be coming from Region 10 or from the nearby provinces of Lanao, Misamis, Bukidnon, and Zamboanga. With the increasing student population, there will also be high demand for housing for these students.

Table 3.4. Student Population Projection per Region until 2032

Region	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
NCR	3	4	5	6	7	8	9	10	11	12
CAR	1	2	3	4	5	6	7	8	9	10
BARMM	197	214	232	252	274	298	324	352	382	415
Region 13	485	526	571	619	671	728	790	857	929	1,008
Region 12	132	144	157	171	186	202	219	238	258	280
Region 11	75	82	89	97	106	115	125	136	148	161
Region 10	6,35	6,884	7,463	8,090	8,770	9,507	10,306	11,172	12,111	13,129

	0									
Region 9	701	760	824	894	970	1,052	1,141	1,237	1,341	1,454
Region 9	15	17	19	21	23	25	28	31	34	37
Region 7	27	30	33	36	40	44	48	53	58	63
Region 6	4	5	6	7	8	9	10	11	12	14
Region 5	1	2	3	4	5	6	7	8	9	10
Region 4B	5	6	7	8	9	10	11	12	14	16
Region 4A	3	4	5	6	7	8	9	10	11	12
Region 2	10	11	12	14	16	18	20	22	24	27
TOTAL	8,009	8,691	9,429	10,229	11,097	12,036	13,054	14,157	15,351	16,648

In Figure 3.1, poverty incidence rates across the country were observed. Notably, high poverty rates are found in BARMM, Region VI, Region VII, Region VIII, Region IX, and Region X, which includes the region where MSU-IIT is situated.

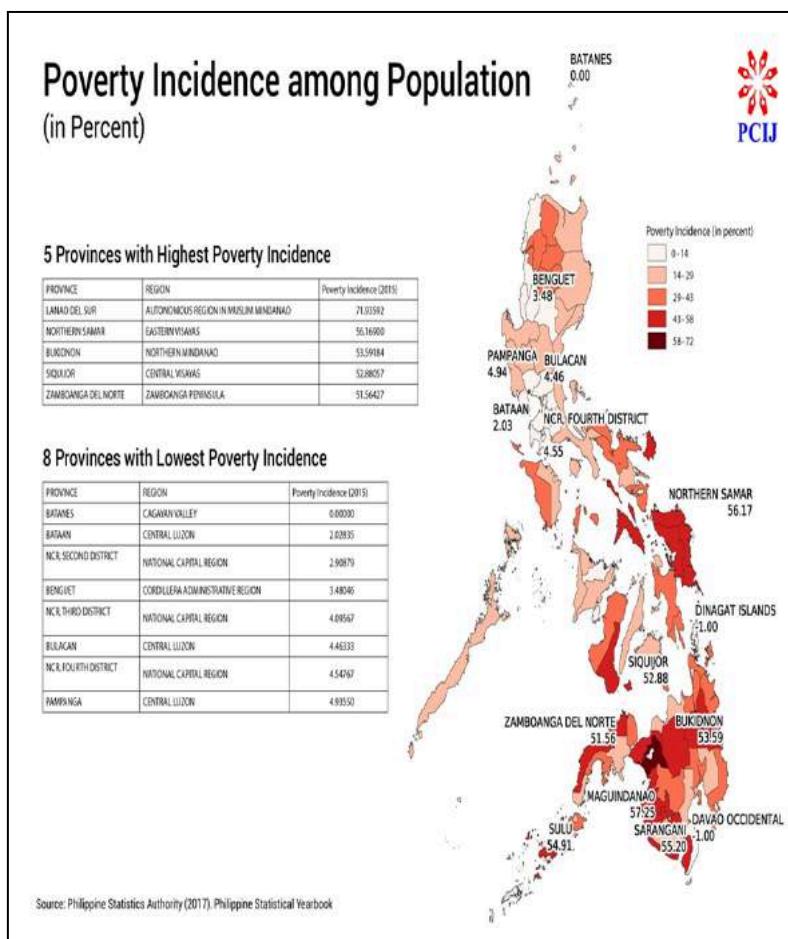


Figure 3.1. Poverty Incidence among Population (in Percent)

Building a student dormitory will greatly benefit underprivileged students from these regions who are pursuing their education at MSU-IIT.

MSU-IIT only has a graduate dormitory with historical occupancy from 2019 to 2023.

Table 3.4. Occupancy of MSU-IIT Graduate Dormitory

Year	No. of Graduate Students
2019	123
2020	79
2021	26
2022	25
2023	96

MSU-IIT is a university that is committed to complying with all the statutory and regulatory requirements set by the National Government regulatory bodies, such as the DBM, CHED, NEDA, and other sectoral concerns.

The university's primary focus is to provide the best possible education and learning experience for its students, with a continuous improvement of service delivery.

The current administration's goal is to rationalize the organizational structure and staffing standards for appropriate rightsizing of the human resources of the university, making it more responsive to the present needs and demands of public service.

MSU-IIT is dedicated to meeting the demands and challenges of its operations by pursuing better implementation, monitoring and assessments of its numerous programs, projects, and policies. Additionally, the university is committed to more quality assurance initiatives and proactive planning and development efforts. To improve the efficiency of its administrative and technical operations, it is recommended to hire additional staff based on the staffing pattern standards for rightsizing. This will help augment the different office's productivity, ensuring that MSU-IIT can effectively meet the needs and demands of its students and stakeholders.

b. Land use area Infrastructure demand requirements

The MSU-IIT campus in Barangay Tibanga has a total buildable area of 2.62 hectares, which is reduced by the size of existing infrastructures, open spaces, green spaces, and road networks.

Table 3.5. Buildable area of MSU-IIT at Barangay Tibanga, Iligan City

MSU-IIT, Barangay Tibanga	Area (Hectare)
Total Lot Area	9.1 Ha.
The total footprint for existing infrastructures	3.6 Ha.
Open Spaces	0.76 Ha.
Green Spaces	0.99 Ha.
Road Network	1.13 Ha.

Total Buildable Area	2.62 Ha.
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Whereas in Barangay Hinaplanon, the buildable area of the campus is 2.85 hectares, but this is reduced by the presence of current infrastructures, open spaces, green spaces, and road networks.

Table 3.6. Buildable area of MSU-IIT at Barangay Hinaplanon, Iligan City

MSU-IIT, Barangay Hinaplanon	Area (Hectare)
Total Lot Area	4.8 Ha.
Total Building/Infrastructure Footprint	0.34 Ha.
Open Spaces	0.30 Ha
Green Spaces	0.87 Ha
Road Network	0.44 Ha
Total Buildable Area	2.85 Ha

MSU-IIT property situated at Fuentes, Barangay Maria Cristina, Iligan City has 1.1 hectares ready to be used for future infrastructure development.

Table 3.7. Buildable area of MSU-IIT at Barangay Maria Cristina, Iligan City

MSU-IIT, Fuentes, Barangay Maria Cristina	Area (Hectare)
Total Lot Area	1.1 Ha.
Total Building/Infrastructure Footprint	0.17 Ha.
Open Spaces	0.06 Ha.
Green Spaces	0.20 Ha.
Road Network	0.14 Ha.
Total Buildable Area	0.57 Ha

c. Infrastructure versus demand requirements

The current facilities and infrastructure of the university are insufficient to accommodate the growing number of students seeking admission at the MSU-IIT campus. The recently released results of the MSU-System Admission and Scholarship Examination (SASE) for AY 2023-2024 indicate that over 15,000 examinees have opted to enroll at the MSU-IIT campus. Unfortunately, the admission capacity of the MSU-IIT campus for first-year students is limited to just 2,900.

Given the anticipated growth of the MSU-IIT workforce in the coming years, the current infrastructures and facilities are inadequate in providing suitable working spaces for employees, as well as laboratories for both faculty and student researchers and scientists.

In anticipation of an increase in the number of students, faculty, staff, and dorm residents between 2023-2028, an estimation of the required land area or space is needed.

Table 3.8. Space demand requirements

Average Space Requirements (sq.m./ person)	Facility	Population	Total Area Needed (Ha.)
7	Classroom/ Studio Setup	15,645	10.9515
8	Laboratory Setup	7,476	5.9808
7	Gym Setup	20,000	14.0000
10	Office Setup	1,529	0.1529

It would be prudent to construct more buildings and facilities to accommodate the projected increase in students and workforce for the university, based on a conservative estimate.

C. Housing for Students and Staff at Hinaplanon Annex Campus

The 5-storey Student and Staff Residences project proposal intends to house at least 200-250 students and staff (Academic and Non-Academic) coming from different cities and municipalities within Region X, with complete facilities for the convenience of the students. This is in compliance with CMO No. 09, Series 2013, State Universities and Colleges (SUCs) like MSU-IIT must provide decent student dormitory and housing facilities that are safe, clean, affordable, accessible to students with disabilities, and conducive to learning. The realization of this project will greatly help the poor but college-ready, academically excellent students and shelter for our deserving staff. MSU-IIT might become the most preferred university in northern Mindanao because of its affordable cost of living.

D. Land Use Strategy and Space Allocation

Mindanao State University - Iligan Institute of Technology (MSU-IIT) has developed a comprehensive land use strategy and space allocation plan that aligns with its mission to provide quality education and foster research and community engagement. This strategy is meticulously designed to ensure the optimal utilization of the university's land resources, supporting its academic objectives while promoting sustainability and community integration.

The core of MSU-IIT's land use strategy is centered around creating a balanced and harmonious campus environment that facilitates academic excellence, research innovation, and community service. The university prioritizes the allocation of space for academic buildings, research facilities, and student support services, ensuring that these essential functions are accommodated efficiently and effectively.

Key components of the strategy include:

- **Academic Zones:** Dedicated areas for faculties and departments are strategically designed to foster interdisciplinary collaboration and easy access to shared resources. Classrooms, lecture halls, and laboratories are configured to promote optimal learning and teaching conditions, equipped with modern technology to support innovative pedagogy.
- **Research and Innovation Hubs:** Special emphasis is placed on developing state-of-the-art research facilities and innovation centers. These spaces are allocated to support cutting-edge research, entrepreneurial ventures, and partnerships with industry, thereby enhancing the university's research output and its impact on regional development.
- **Student-Centric Spaces:** The university ensures ample allocation for student accommodations, recreational areas, and support services, creating an inclusive and supportive campus life experience. Green spaces, sports facilities, and cultural centers or

auditoriums are integral to this plan, promoting student well-being and holistic development.

- **Community Engagement Areas:** Spaces are identified for the conduct of community outreach programs, continuing education, and public service initiatives when an in-campus venue is necessary, reflecting the university's commitment to social responsibility and community development.
- **Sustainable Infrastructure:** MSU-IIT's land use strategy incorporates sustainable practices, emphasizing green building principles, energy efficiency, and environmental conservation. The campus layout is planned to minimize ecological footprint while enhancing resilience to climate change and natural disasters.
- **Future Expansion:** The strategy includes provisions for future growth, ensuring that land is reserved for the expansion of academic programs, research activities, and student services in response to evolving educational demands and societal needs.

The university's space allocation is systematically reviewed and adjusted to accommodate changing priorities, technological advancements, and the evolving landscape of higher education. By aligning its land use strategy and space allocation with its strategic goals, MSU-IIT aims to create a dynamic, sustainable, and forward-looking campus that supports its vision of academic excellence, research leadership, and community engagement.

E. Circulation network and traffic management scheme

The circulation network and traffic management scheme of MSU-IIT Tibanga main campus involves the designation of parking areas, pedestrian walkways, and traffic signs and signals to ensure the smooth flow of traffic and pedestrian movement within the campus.

Designated parking areas are provided for students, academic staff, non-academic staff, and visitors, with a coding parking system in place to regulate parking as depicted in Figure 3.2. The campus has pedestrian walkways that are clearly marked and separated from the roadways to ensure the safety of pedestrians. Traffic signs and signals are also installed and maintained to regulate traffic flow within the campus, including stop-and-go signs along the pedestrian lane.

The university imposes a speed limit through a memorandum order, a maximum of 20 kph within the campus (see Annex, MO No. 2022-0031-OC).

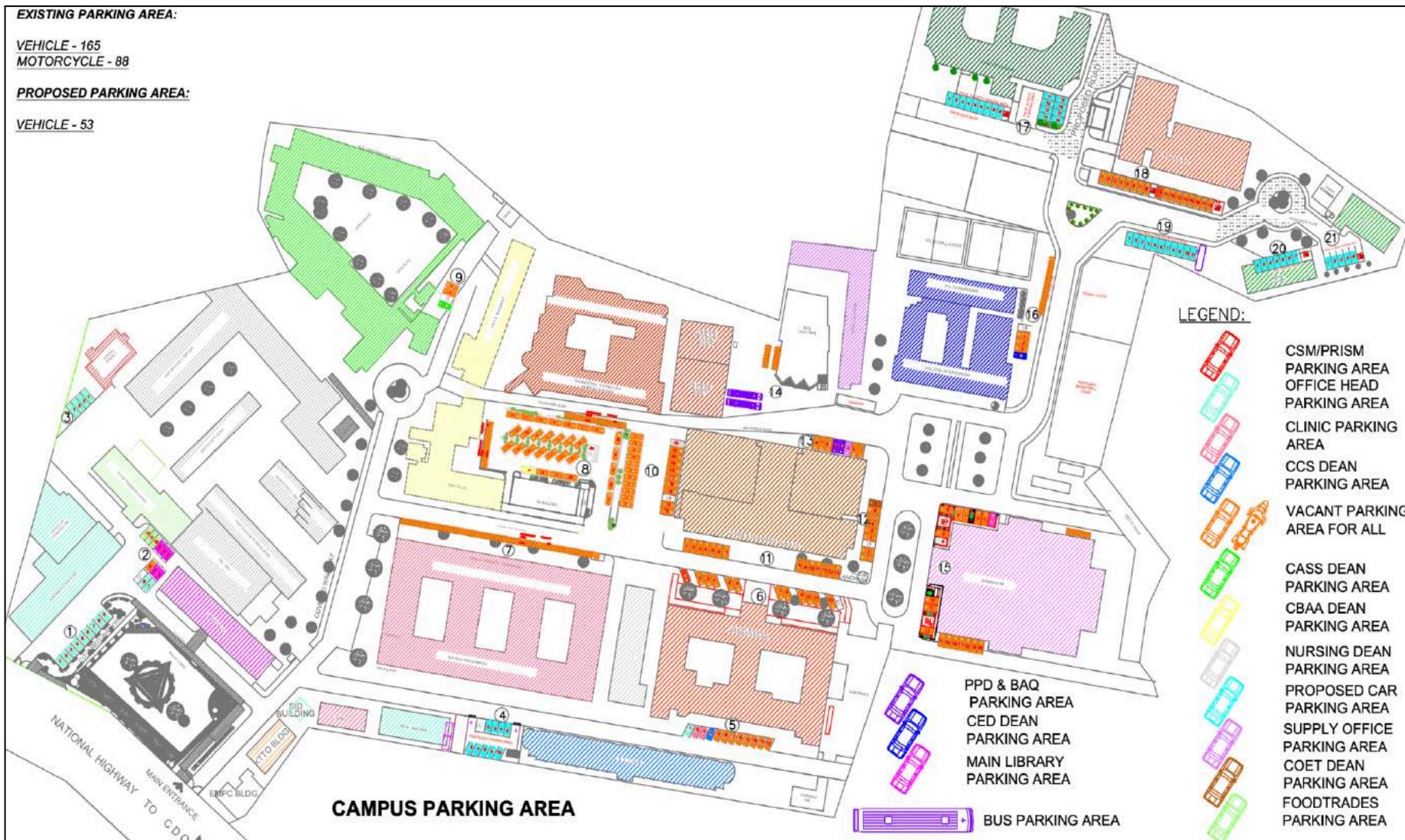
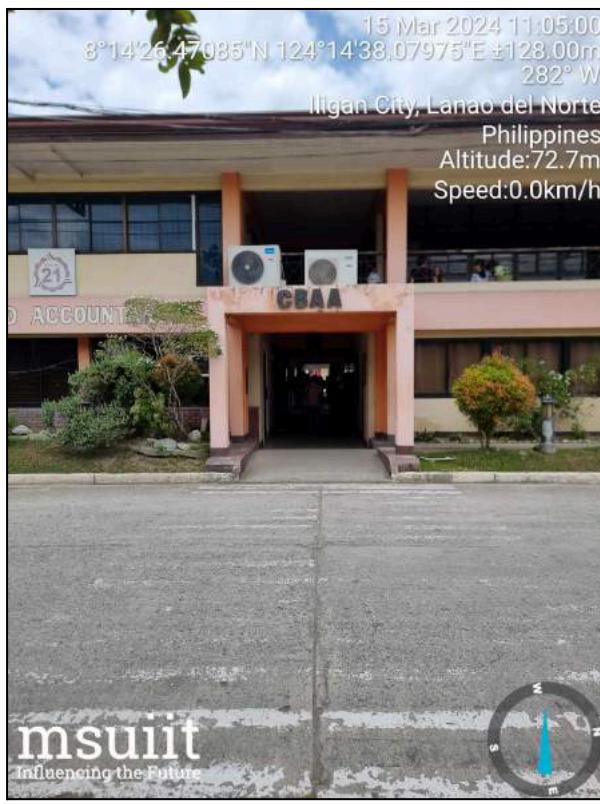


Figure 3.2. MSU-IIT Tibanga Main Campus Parking Area (Source: MSU-IIT Infrastructure Service Division)

Pedestrian Walkways at Tibanga Main Campus

The pedestrians are visibly maintained within the campus as shown in the photos below.





Stop-and-Go Signs at Tibanga Main Campus

The stop-and-go signs are well-maintained and installed for safety and smooth traffic flow inside and outside the campus as shown in the photos below.



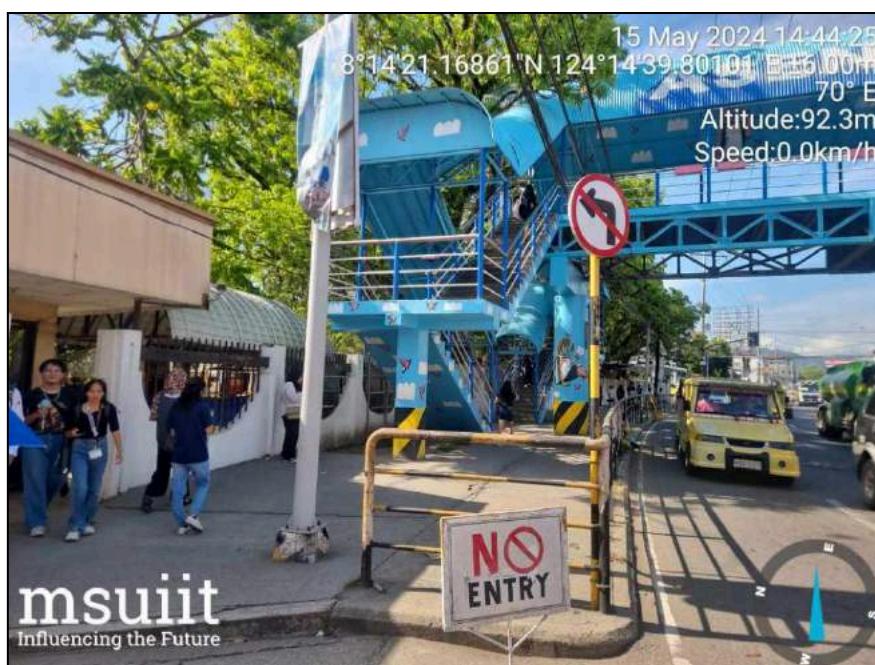
Speed Limit Signs at Tibanga Main Campus

The 20 kilometer-per-hour speed limit signs are visibly installed and maintained within the campus as shown in the photos below.



Accessible Overpass at Tibanga Main Campus

The campus overpass ensures safety and accessibility for everyone and eases road traffic as shown in the photos below.



F. Open and Green Space Network

Open Space

MSU-IIT has multiple open spaces that are designed for lawns, parks, and recreation areas. These outdoor areas provide ample opportunity for students to engage in activities outside of the classroom, socialize with one another, and participate in school-related events. Additionally, these open spaces serve as a meeting place for students, staff, faculty, and guests alike to connect and enjoy the natural beauty of the campus.

Figures 3.3 to 3.5 depicts the comprehensive open space map for each campus location.

Green Space

The MSU-IIT campus provides several green areas that can serve as a valuable resource for students to cope with the demands of college life. These refreshing spaces offer students the opportunity to unwind and replenish their energy levels. It is imperative for the MSU-IIT LUDIP to prioritize the quality and quantity of green spaces in order to alleviate student stress.

Figures 3.6 to 3.8 depicts the comprehensive green space map for each campus location.

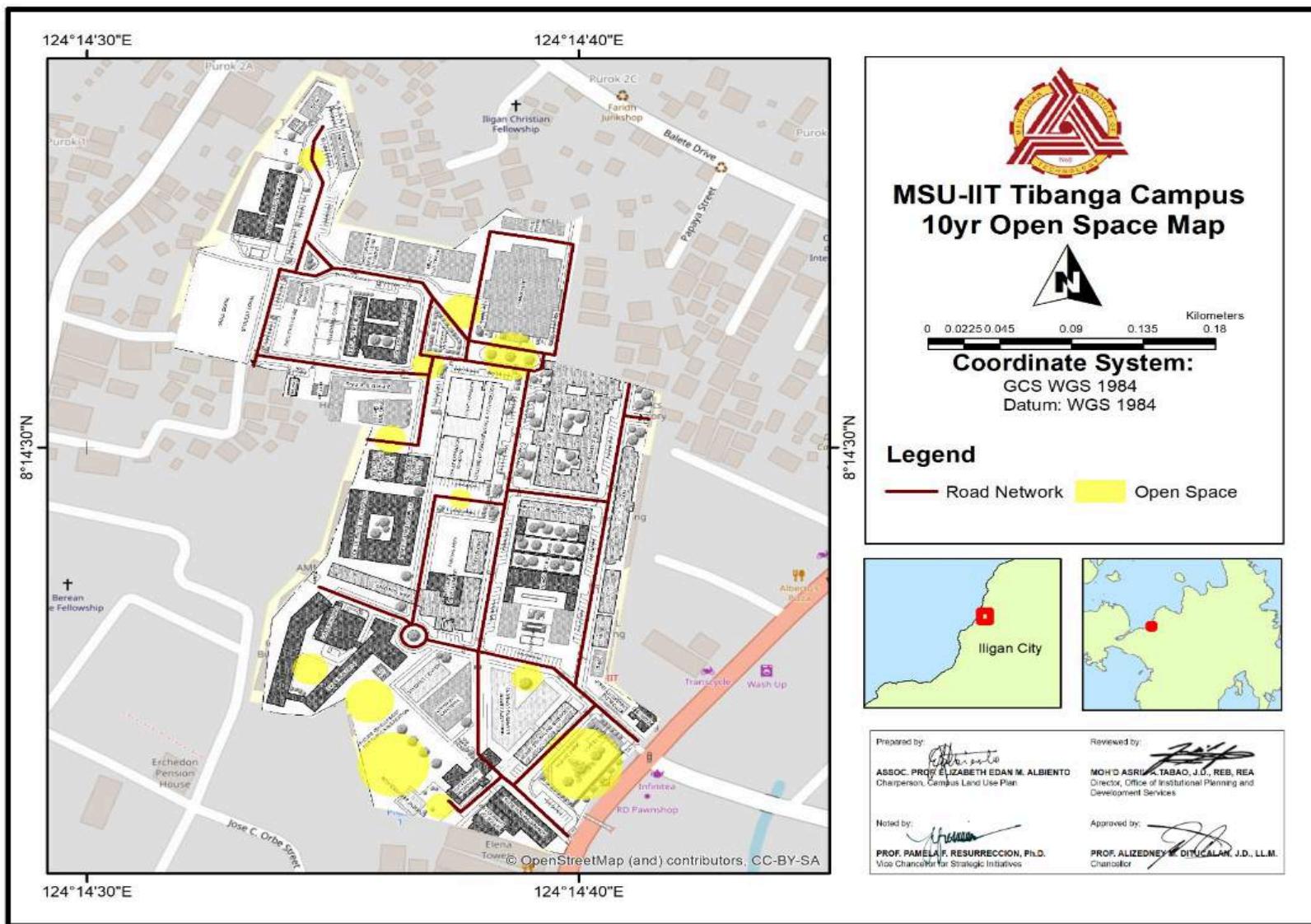


Figure 3.3 MSU-IIT Tibanga Main Campus 10-Year Open Space Network

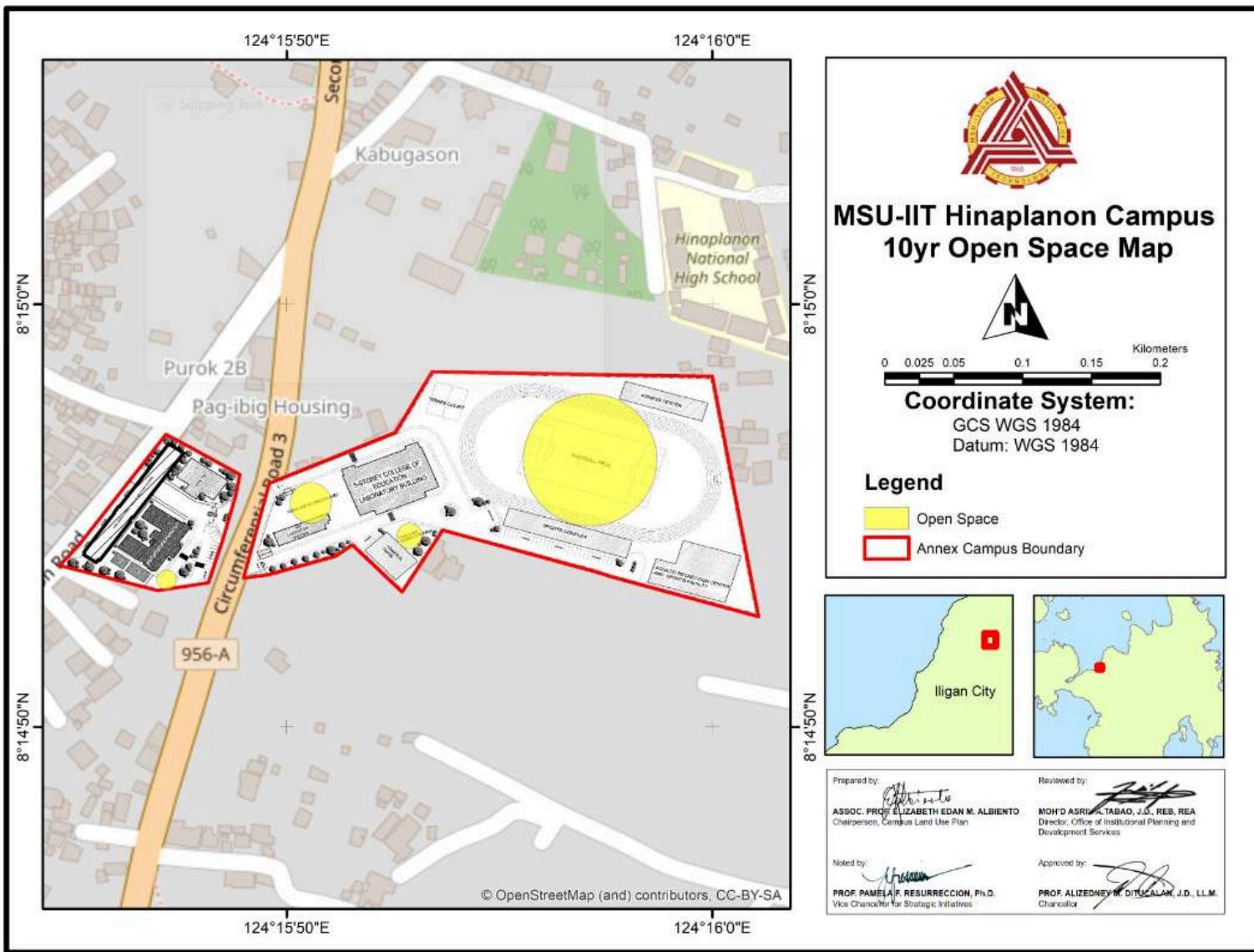


Figure 3.4. MSU-IIT Hinaplanon Campus Annex 10-Year Open Space Network

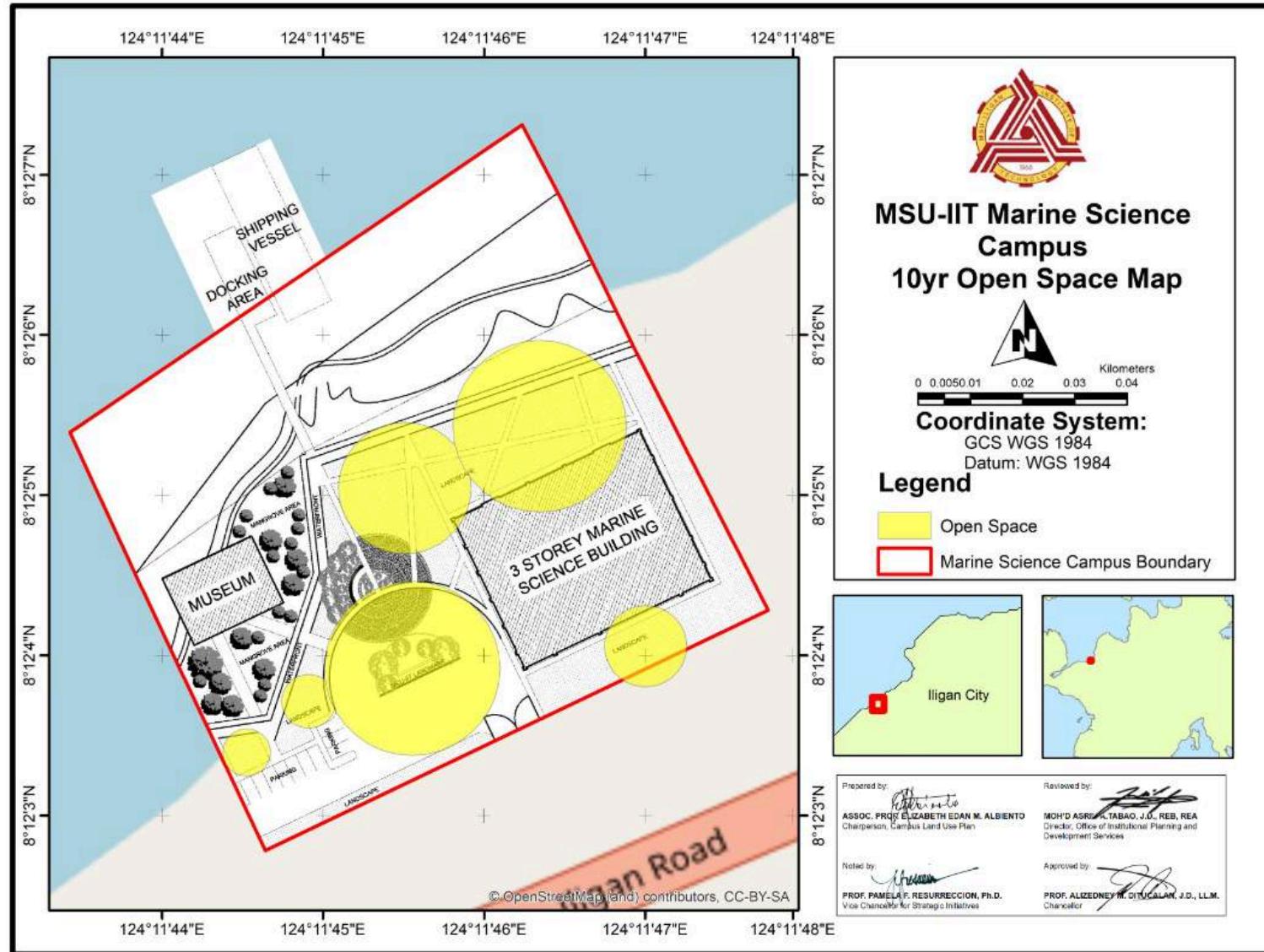


Figure 3.5. MSU-IIT Fuentes Campus Annex 10-Year Open Space Network

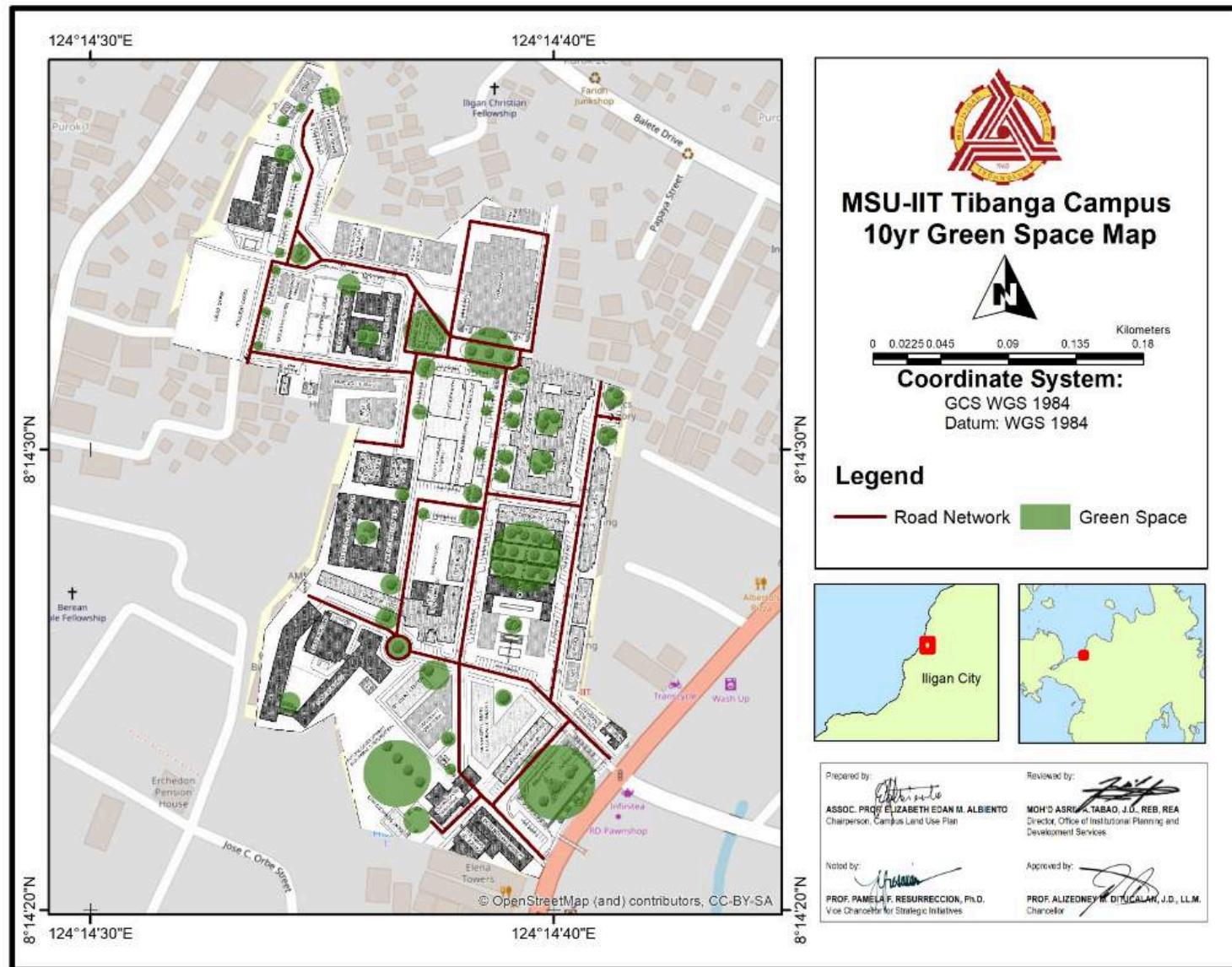


Figure 3.6. MSU-IIT Tibanga Main Campus 10-Year Green Space Network

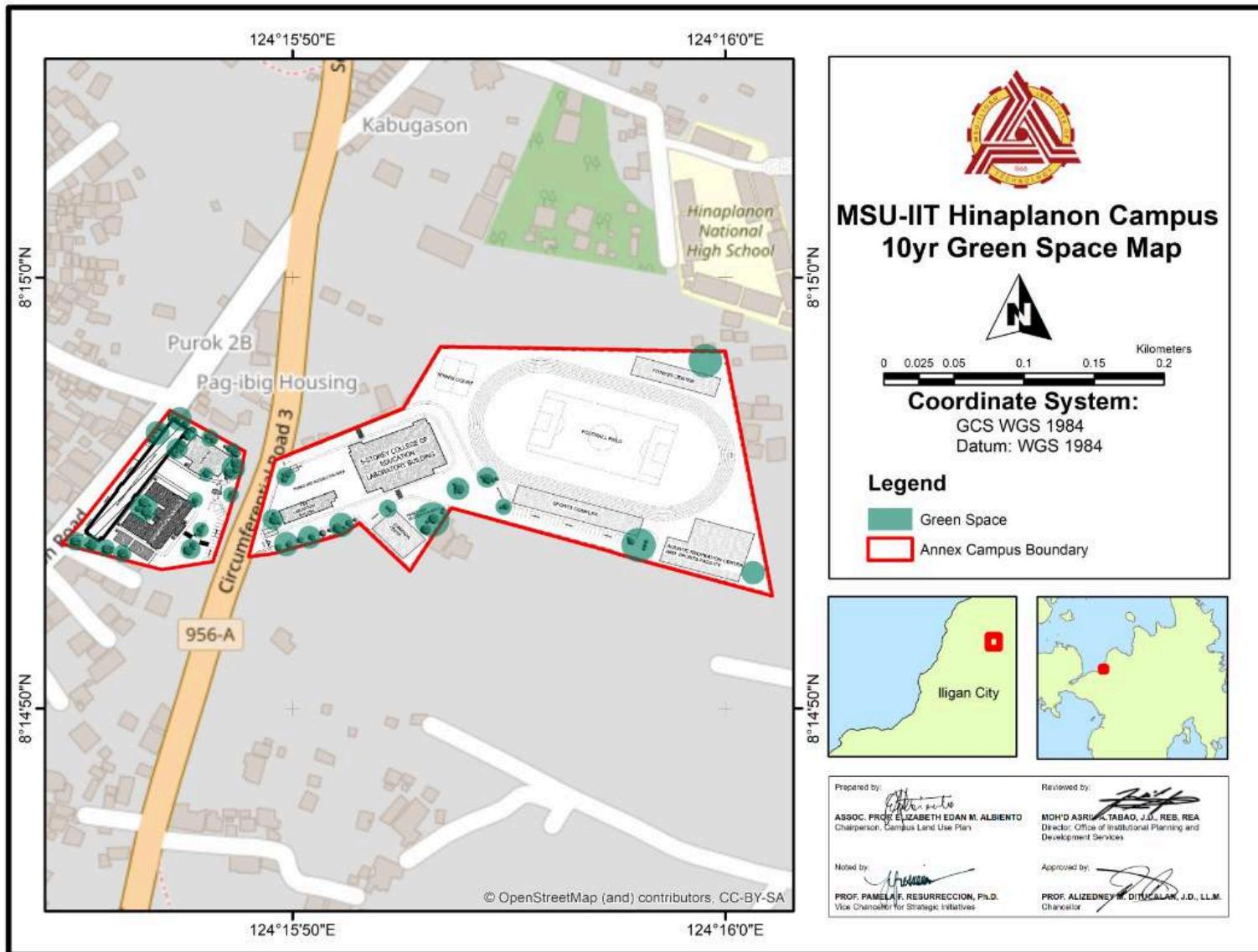


Figure 3.7. MSU-IIT Hinaplanon Campus Annex 10-Year Green Space Network

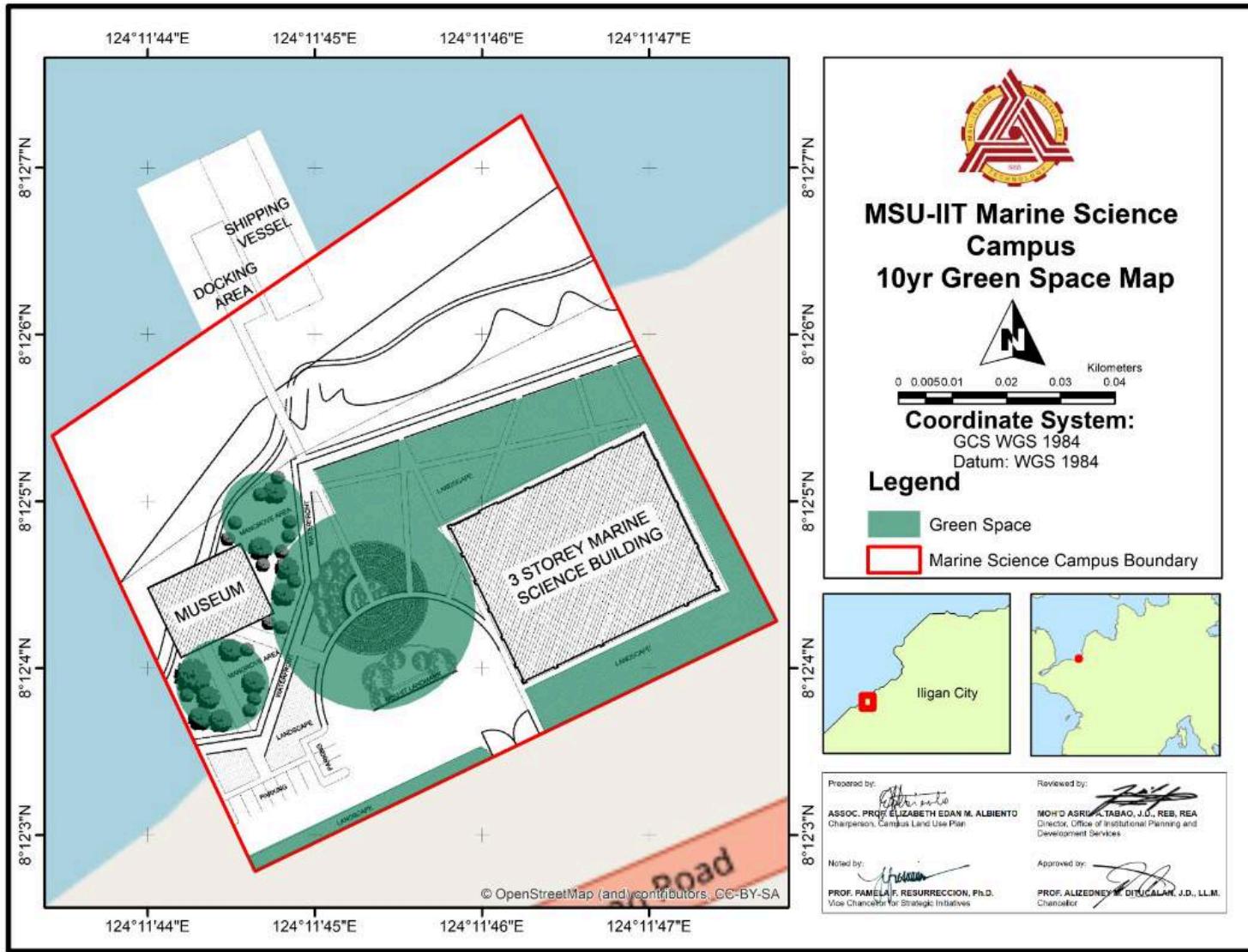


Figure 3.8. MSU-IIT Marine Science Complex (Fuentes Annex Campus) 10-Year Green Space Network

G. Land Use Policies

Mindanao State University - Iligan Institute of Technology (MSU-IIT) has adopted a comprehensive Land Use Policy designed to guide the development, utilization, and management of the university's campus land resources. This policy serves as a foundational framework to ensure that land use aligns with the institution's strategic objectives of promoting academic excellence, fostering research innovation, and enhancing community service. It articulates the principles and standards for sustainable campus planning, infrastructure development, and environmental stewardship, ensuring that the university's physical growth and expansion are conducted responsibly, efficiently, and in harmony with its broader mission and vision. The policy aims to create a conducive, safe, and sustainable environment for learning, research, and community engagement, reflecting MSU-IIT's commitment to future generations and its role as a steward of public and environmental resources.

1. **Sustainability:** Emphasizing environmentally sustainable practices in all land use decisions, ensuring that development is eco-friendly, conserves natural resources, and minimizes carbon footprint, all aligned with the University's Sustainability Policy (BOR Res. No. 358, s. 2023)
 - 1.1. Eco-friendly Design and Construction:
 - 1.1.1. Adopt green building standards (e.g., LEED, BREEAM) for all new construction and major renovation projects to ensure eco-friendly practices.
 - 1.1.2. Utilize sustainable materials with low environmental impact and high durability for construction and landscaping.
 - 1.2. Energy Conservation and Renewable Energy:
 - 1.2.1. Incorporate renewable energy sources, such as solar panels and wind turbines, to reduce dependence on non-renewable energy.
 - 1.2.2. Enhance energy efficiency through the use of advanced insulation, energy-efficient windows, and HVAC systems in buildings.
 - 1.3. Water Resource Management:
 - 1.3.1. Implement water-saving technologies and fixtures to reduce water usage.
 - 1.3.2. Employ rainwater harvesting and graywater recycling systems for non-potable water needs.
 - 1.4. Sustainable Transportation Solutions:
 - 1.4.1. Develop and promote sustainable transportation options for the campus community, including bike lanes, pedestrian paths, and public transit access.
 - 1.4.2. Encourage the use of electric vehicles by providing charging stations.
 - 1.5. Waste Reduction and Recycling:
 - 1.5.1. Establish comprehensive recycling and composting programs to minimize waste sent to landfills.
 - 1.5.2. Promote waste reduction practices among the campus community through education and engagement initiatives.
 - 1.6. Biodiversity and Green Spaces:
 - 1.6.1. Preserve and enhance green spaces, gardens, and natural habitats within the campus to support biodiversity.
 - 1.6.2. Use native plants in landscaping to reduce water and maintenance needs and support local ecosystems.
 - 1.7. Sustainable Procurement:
 - 1.7.1. Adopt procurement policies that prioritize eco-friendly and sustainably sourced products and materials.
 - 1.7.2. Encourage the use of locally sourced materials and services to reduce transportation-related emissions and support the local economy.
 - 1.7.3. Evaluate suppliers based on their environmental policies and practices to ensure alignment with sustainability goals.

- 1.8. Carbon Footprint Reduction:
 - 1.8.1. Calculate the campus's carbon footprint regularly and set clear targets for reduction.
 - 1.8.2. Implement strategies to offset carbon emissions, such as investing in renewable energy projects and carbon offset programs.
 - 1.9. Monitoring and Continuous Improvement:
 - 1.9.1. Establish metrics and monitoring systems to track sustainability performance across various domains, including energy, water, waste, and transportation.
 - 1.9.2. Regularly review and update sustainability goals and practices based on performance data and emerging best practices.
2. **Academic Prioritization:** Allocating land based on academic needs, ensuring that space is used effectively to support teaching, research, and learning activities.
 - 2.1. Align land use planning with the academic and research strategic plans, ensuring facilities support innovative teaching and cutting-edge research.
 - 2.2. Provide adequate spaces for research centers, laboratories, and collaborative learning areas.
 - 2.3. Facilitate the expansion of academic departments and research units in response to emerging trends and disciplines.
3. **Community Integration and Accessibility:** Designing campus spaces that foster a sense of community, encourage interaction among students, faculty, and staff, and are welcoming to the wider community; ensuring campus facilities and grounds are accessible to all, including individuals with disabilities, and promoting ease of movement throughout the campus as articulated in the University's Equity, Diversity, and Inclusivity Policy.
 - 3.1. Design public spaces that encourage community interaction and engagement.
 - 3.2. Ensure campus facilities are accessible to people with disabilities, following universal design principles.
4. **Safety, Health, and Wellbeing:** Prioritizing the safety and security of the university community in all land use planning and development projects.
 - 4.1. Integrate safety features and emergency response facilities in all land use planning and development projects.
 - 4.2. Promote a healthy campus environment by providing recreational facilities, pedestrian-friendly pathways, and wellness centers.
 - 4.3. Regularly review and update emergency preparedness plans and infrastructure resilience measures.
5. **Optimal Utilization of Space:** Promoting multi-functional use of spaces that can support a variety of activities and maximize the utility of campus resources.
 - 5.1. Conduct regular space audits to ensure efficient use of existing facilities.
 - 5.2. Prioritize multi-functional spaces that can adapt to various academic and community needs.
 - 5.3. Develop underutilized areas in alignment with the strategic goals of the university.
6. **Infrastructure Efficiency:** Planning infrastructure that supports the efficient use of energy, water, and other resources, and that can adapt to technological advancements and environmental changes.
 - 6.1. Energy Efficiency Implementation
 - 6.1.1. Integrate energy-efficient technologies and materials in all new constructions and renovations.
 - 6.1.2. Implement smart building systems for automated energy management, including lighting, heating, ventilation, and air conditioning (HVAC) systems.
 - 6.1.3. Encourage the use of energy-efficient appliances and fixtures across campus

facilities.

6.2. Water Conservation Strategies:

- 6.2.1. Install water-efficient fixtures and fittings in restrooms, laboratories, and other facilities.
- 6.2.2. Implement rainwater harvesting systems to collect and reuse water for landscaping and non-potable purposes.
- 6.2.3. Develop and maintain efficient irrigation practices for campus landscaping, reducing water wastage.

6.3. Resource Optimization:

- 6.3.1. Conduct regular audits to assess and optimize the consumption of energy, water, and other resources.
- 6.3.2. Promote recycling and waste reduction initiatives to minimize resource wastage and encourage sustainable practices among the campus community.

6.4. Technological Adaptability:

- 6.4.1. Design infrastructure with the flexibility to accommodate future technological upgrades and innovations.
- 6.4.2. Stay informed about emerging technologies and assess their potential integration into existing systems to enhance efficiency.

6.5. Environmental Resilience:

- 6.5.1. Ensure that buildings and facilities are designed to withstand local environmental conditions and potential climate change impacts.
- 6.5.2. Incorporate green infrastructure elements, such as green roofs, permeable pavements, and naturalized stormwater management systems, to enhance environmental resilience.

6.6. Sustainable Transportation:

- 6.6.1. Develop and promote sustainable transportation options, such as bike-sharing programs, electric vehicle charging stations, and pedestrian-friendly pathways.
- 6.6.2. Plan parking and transportation infrastructure to minimize environmental impact and encourage the use of eco-friendly transportation modes.

6.7. Monitoring and Continuous Improvement:

- 6.7.1. Establish a system for monitoring the performance of infrastructure in terms of energy and water usage, adapting strategies as necessary to improve efficiency.
- 6.7.2. Engage in continuous learning and improvement processes to keep abreast of best practices in infrastructure efficiency and sustainability.

7. Compliance to Regulatory Requirements: Ensuring that all land use initiatives such as infrastructure development and land improvements meet the requirements of pertinent laws and regulations.

- 7.1. Adhere to all local, regional, and national regulations related to land use, building codes, and environmental protection.
- 7.2. Regularly update the university's compliance status and ensure all new projects undergo the required regulatory review and approval processes.
- 7.3. Conduct environmental impact assessments for all new construction projects and major renovations.

8. Strategic Expansion, flexibility, and scalability: Guiding the expansion of campus facilities and land use in a manner that aligns with the university's long-term strategic goals, ensuring coherent growth and development while encouraging innovative use of space that can adapt to the changing needs of the university and its stakeholders, ensuring flexibility for future growth and development.

- 8.1. Plan for future growth by reserving land for potential expansion and forecasting future space requirements based on long-term strategic goals.

8.2. Design buildings and infrastructure that can be easily adapted or expanded to meet the evolving needs of the university.

Regularly revisit and revise the land use plan to accommodate new developments, technological advancements, and shifts in university priorities.

3.2 CAMPUS MASTER DEVELOPMENT AND INVESTMENT PROGRAMS

A. Institutional Goals and Objectives

Our university is committed to excellence in education, research, and public service. To achieve this, we have developed six vision pillars and strategic objectives that guide our actions and decisions.

The first pillar focuses on education. We aim to provide holistic and balanced academic programs that align with Education 4.0 and 21st-century skills while promoting lifelong learning. Our objectives include aligning curricular programs, strengthening academic quality assurance, pursuing transnational education, and increasing the number of foreign-trained academic staff.

The second pillar is research and innovation. We strive to conduct interdisciplinary and integrative research for sustainable development. Our objectives include increasing the number of academic staff with advanced degrees, expanding graduate program offerings, boosting research output dissemination and utilization, and strengthening start-ups and enterprise ecosystems.

The third pillar is student support. We aim to provide a learning environment that supports students during and beyond their university life. Our objectives include enhancing student learning experience and well-being, promoting global citizenship, and developing a nurturing and inclusive campus atmosphere that appreciates and promotes individuality, diversity, and equality.

The fourth pillar is public service. We aim to engage in public service and community engagement for social transformation. Our objectives include strengthening collaborations with external stakeholders, fortifying capacity-building initiatives for social transformation, engaging in more initiatives to promote equitable and success-enabling ecosystems, and enabling the achievement of sustainable development goals.

The fifth pillar is governance. We aim to have mission-driven and technology-enabled governance for operational excellence. Our objectives include developing human capital, enhancing employee experience and welfare, streamlining and digitizing university processes and systems, strengthening resource generation, optimizing the use of university resources, strengthening the culture of quality university-wide, and rightsizing our organizational structure.

The final pillar is infrastructure. We aim to have a smart, green, and resilient campus. Our objectives include modernizing physical infrastructure, investing in ICT infrastructures for a smart campus, adopting a green and smart architectural design for infrastructures, and providing needed spaces for students and employees.

Overall, our university is committed to achieving these objectives to provide a world-class education to our students, conduct ground-breaking research, engage in public service, and promote sustainable development.

B. Strategies

The Northern Mindanao Regional Development Plan (NMRDP) 2023-2028 is a comprehensive document that outlines strategies, programs, and projects to achieve the region's vision. The NMRDP aims to uplift the living standards of the people in the Northern Mindanao region and marks a significant milestone in regional development¹. Here are some key points from the plan:

Vision: The NMRDP envisions Northern Mindanao as an international gateway, a leading agricultural hub, and a major industrial, tourism, and trade center in the country.

Strategic Focus Areas:

- **Infrastructure Development.** Enhancing transportation, communication, and utilities infrastructure to support economic growth and connectivity.
- **Agriculture and Fisheries.** Promoting sustainable agriculture, improving productivity, and ensuring food security.
- **Industry and Trade.** Fostering industrial growth, innovation, and competitiveness.
- **Tourism and Culture.** Developing tourism destinations and preserving cultural heritage.
- **Social Development.** Improving education, health, and social services.
- **Environment and Natural Resources.** Ensuring environmental sustainability and disaster resilience.

Specific Programs and Projects:

- **Improving MSU-IIT.** Enhancing the facilities, research capabilities, and academic programs of the Mindanao State University - Iligan Institute of Technology (MSU-IIT) to contribute to regional development.
- **Infrastructure Investments.** Upgrading roads, bridges, ports, and other critical infrastructure. Promoting Agribusiness: Supporting farmers, fisherfolk, and agribusiness enterprises.
- **Industrial Zones and Clusters.** Establishing industrial zones and promoting investments.
- **Tourism Development.** Developing ecotourism sites and cultural attractions.
- **Skills Training and Employment.** Enhancing skills development and employment opportunities.

C. Future Programs, Projects, and Activities

The following programs and projects serve as a comprehensive compendium of the pivotal initiatives slated for implementation under the university's strategic development framework. These briefs meticulously detail each proposed program and project, encapsulating their objectives, scopes, anticipated outcomes, and the strategic relevance to MSU-IIT's overarching mission and vision. Designed to provide stakeholders with a clear understanding of the university's developmental trajectory, these briefs are instrumental in illustrating how each initiative contributes to the transformative journey of MSU-IIT, enhancing its educational landscape, research capabilities, and community engagement. Through these program/project briefs, the university articulates its commitment to fostering an environment of innovation, sustainability, and academic excellence, ensuring that all planned undertakings are aligned with the institution's goals of advancing knowledge, nurturing talents, and serving societal needs effectively.

Table 3.9. List of Future Programs and Projects, by Campus Location

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
TIBANGA MAIN CAMPUS				
Academic Infrastructure				
Design and Build of the College of Economics, Business Administration and Accountancy (CEBA) Academic Building	<p>The proposed academic building of the CEBA is planned to be four (4) stories with a roofdeck. The ground floor will house five (5) department offices of the college namely: Entrepreneurial Marketing, Economic, Hospitality and Tourism Management, Accountancy, Graduate Studies , one (1) Office of the Dean, and the Faculty lounge. The second floor will have six (6) classrooms shared among the five (5) departments. The third floor will be converted into functional rooms; particularly, one (1) theater-type room capable of holding conference and seminars, two (2) convertible function rooms capable of handling a huge number of guests, and two (2) laboratory rooms. The fourth floor will be appropriated for student support. Thus, the fourth floor will house the student lounge, library, three (3) student offices and three (3) laboratory rooms.</p> <p>In addition, the building has a scenic view elevator, glass cab, industry standard; building electrical system, lighting and fixtures ready. Further, the building is equipped with an emergency generator, overhead distribution transformer with complete accessories and concrete duct bank construction.</p> <p>With these, the new building can cater a maximum of 1,070 seating capacity for all the different offices, laboratories, classrooms, function hall, student lounge, library, and roof deck of the college. It will help the 1,300 students enrolled for SY 2023-2024 (undergraduate and graduate programs) of the college to have a conducive and life-learning experience for the students.</p>	New	168,000,000	Academic
Design and Build of the University Library and Learning Commons Building	<p>The library serves the curricular needs of students, faculty and staff of MSU-IIT and performs a major function of supporting the teaching, learning, and research needs of the institution. Hence, there's a need to design and build the 5-Storey University Library and Learning Commons. It needs to meet the standards set by the CHED, the ratio of personnel and students, the required number of print collections, its physical setup and other areas. Upgrading the obsolete existing computer units would enhance the students' research activities, reduce downtime, and better experience in exploring online library resources. Furthermore, proper ventilation in the library is crucial for maintaining a healthy</p>	New	100,000,000	Support Services

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
	<p>and comfortable environment, preserving collections, ensuring good air quality, and promoting productivity and concentration. It enhances the overall experience for library patrons and staff, contributing to the success and longevity of the institution.</p> <p>In addition, the building is equipped with Scenic View Elevator, complete electrical system, lighting and fixtures (Internet, fiber optics trunk, CAT 6 networks, CCTV & Telephone wiring, PABGM System, air-conditioning unit) and fire protection services. Further, it has an emergency generator ready within the building with overhead distribution transformer (3x150KW) complete accessories.</p> <p>The new building can cater a maximum of 990 seating capacity for all the different offices, student lounge, function hall, classroom, and library. It will help the projected students 12,327 (undergraduate and graduate) for SY 2024-205 of MSU-IIT.</p>			
Design and Build of the Information and Communication Technology Center (ICTC) and Innovation Building	<p>A modern 7-storey building which houses an open laboratory for computing and digital library access and interaction rooms for group meetings; MSU-IIT Data Center and ICT infrastructure management and technical support services office; ICT Center administrative office and software development services office; offices for faculty researchers and ICT innovation laboratories; halls for conferences, symposia, workshops, training, and seminars and roofdeck (open activity area) that could be used for student activities, computing fairs, exhibits, or job exposure.</p> <p>The new building can cater a maximum of 675 seating capacity for all the different offices, conference hall for symposia, workshops, training, seminars, classroom, laboratory roofdeck (open activity area) that could be used for student activities, computing fairs, exhibits, or job exposure.. It will help the projected students 1,061 (undergraduate and graduate) for SY 2024-205 of MSU-IIT.</p>	New	180,000,000	Academic
Design and Build of the Graduate Academic Building	<p>The Graduate Academic Building will be a five-story building taking the place of the Old SET Building. The first three floors will be managed by CAELL, while the fourth and fifth floors will be under the purview of a different office. The building is host to the Natural History Museum (formerly in the CSM building), and the new General History Museum on its first floor; a graduate student lounge with WiFi on the second floor; as well as a case room, 2 conference rooms, and an audio-visual room on the third floor. Both the Natural and General History Museums will have a</p>	New	100,000,000	Academic

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
	<p>separate office space for their directors and staff, each with their own private comfort rooms and pantries. Both the fourth floor and fifth floor consist of 4 offices. The General History Museum will also be divided into three sections, each changing based on the curriculum: the MINSUPALA Section, the Anthropological Section, and the Archaeological Section. All five floors will have a public male and female bathroom.</p> <p>The new building can cater a maximum of 742 seating capacity for all offices, conference room, case room, audio-visual, and student lounge. It will help the projected students 1,382 (graduate) for SY 2024-2025 of MSU-IIT.</p>			
Rehabilitation/ Building Improvements				
Redesigning interior space of iDEYA (Business Incubator)	<p>The project involves renovating the interior of iDEYA, the business incubator at MSU-IIT, to better support entrepreneurs and startups. The redesign will update the space with practical features like versatile workstations, meeting areas, and modern tech resources. This environment will be tailored to the needs of new businesses and individuals working there, providing them with a suitable setting for innovation, planning, and collaboration.</p> <p>The main beneficiaries are the entrepreneurs, startups, MSU-IIT students, and faculty members who use the incubator, as well as the local business community that interacts with iDEYA. They will benefit from an improved facility that supports business growth, offers networking opportunities, and enhances their entrepreneurial ventures. The upgrade aims to strengthen the incubator's role in economic development and innovation, aligning with MSU-IIT's mission to nurture business talent and contribute to the region's economic progress.</p>	New	15,000,000	Academic
Redesign and Improvement of Portion of Old SET Building to MSU-IIT FabLab Mindanao	<p>The project focuses on the redesign and improvement of a section of the old SET Building at MSU-IIT, transforming it into a multifunctional complex that will house the MSU-IIT FabLab Mindanao, Center for Bamboo Research and Technology, and Center for Ceramics Research Complex. This renovation aims to repurpose the existing space to create a specialized environment conducive to innovation, research, and practical learning in the fields of fabrication technology, bamboo craftsmanship, and ceramics.</p>	New	25,000,000	Academic
Redesign and Improvement of Portion of Existing SET Building to Center for	<p>The upgraded facility will be equipped with the necessary tools, machinery, and workspace designed to support a range of</p>	New	1,000,000	Academic

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
Bamboo Research and Technology and Center for Ceramics Research Complex	<p>activities from prototype development in the FabLab to specialized research in bamboo and ceramics. The layout will be optimized for functionality, facilitating efficient workflow and collaboration among students, researchers, and industry professionals.</p> <p>Beneficiaries of this project include MSU-IIT students, faculty, researchers, and local artisans, who will gain access to advanced resources and a collaborative space for exploring innovative ideas and techniques. Additionally, the complex is expected to foster partnerships with local industries, enhancing the university's contribution to regional development and providing practical benefits to the community through knowledge transfer and skill development.</p>			
Rehabilitations and Renovations of Old Buildings <ul style="list-style-type: none"> 1. Renovation of Administration Building - Ground Floor and Second Floor (Centralization of VC Offices) 2. Conversion of Hostel into Student Services Hub 3. Improvement of ICTC Roof Deck (Proposed Multi-Purpose Hall/Lounge) 4. Minor Renovations at CSM Building - Painting works, Drywall Wall Partitioning, etc. 5. Minor Renovations at COE Building - Painting works, Drywall Wall Partitioning, etc 6. Minor Renovations at CED Building - Painting works, Drywall Wall Partitioning, etc. 	<p>The project entails the retrofitting of old academic and office buildings, aimed at upgrading their structural resilience, energy efficiency, and overall functionality. The main focus is to reinforce the building's structural integrity to ensure safety against seismic activities, modernize the heating, ventilation, and air conditioning (HVAC) systems for better energy efficiency, and update electrical and plumbing systems to meet current standards.</p> <p>Improvements will include the installation of energy-efficient windows, enhanced insulation, and the integration of modern technology to reduce energy consumption and operational costs. The retrofitting process will also ensure that the buildings comply with current accessibility standards, including the provision of ramps, accessible restrooms, and elevators where necessary.</p> <p>Fire safety is a key component, with upgrades to fire alarm systems, emergency lighting, and sprinkler systems planned to align with the latest safety regulations. The project's beneficiaries are the students, faculty, staff, and visitors who use these buildings, who will benefit from safer, more comfortable, and functionally improved facilities.</p> <p>This retrofitting initiative is essential for extending the lifespan of the buildings, ensuring they remain viable and safe for future use, and making them more sustainable and cost-effective in the long run.</p>	New	25,000,000	Academic/ Support Services

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
7. Minor Renovations at ETC Building - Painting works, Drywall Wall Partitioning, etc.				
University Cafeteria	With an area of 259.18 sq.m This infrastructure serves as a place for faculty, staff and students to comfortably dine.	New	58,170,000	Commercial
Student Center/ Student Union Center	This innovatively designed two-storey building with a mezzanine intends to serve as a lounge, a great place for students to study comfortably. This consists of ground floor, second Floor sq.m. and a mezzanine which totals to 900.00 sq.m.	New	31,500,000	Support Services
Academic Building (ICONIC)	<p>This will be considered as the iconic building of the university which is composed of a 5-storey building that will in-house the following: academic and research facilities, administrative offices, study areas, and event and exhibition spaces. It will be equipped with smart building systems that enhance energy efficiency and sustainability such as: automated lighting, climate control, and security systems ensure a comfortable and safe environment. This will provide interactive digital displays and information kiosks that provide easy access to campus resources and updates. In addition, the building will feature displays of historical artifacts, academic achievements, and notable alumni contributions, celebrating the university's legacy and inspiring future generations.</p> <p>Further, the building serves as a hub for community engagement, hosting public lectures, workshops, and cultural events that enrich the university's relationship with the local community and beyond.</p> <p>This innovative academic building (ICONIC) has a total of 9,987.00 sq.m</p>	New	349,545,000	Academic
Physical Education Building	This new Physical Education Building under the College of Education is a three-storey infrastructure composed of 3 classrooms per floor, Comfort Rooms and Ramps. The total area is 1,494.08 sq.m.	New	52,292,800	Academic
Design and Build 3-Storey Motorpool and Carpark Building	This multi-storey parking area will be a great solution for the institute in maximizing land-use. The building consists of 1,034.50 sq.m. area each floor. This also consists of a motor pool office and driver's lounge at ground floor. This has a total area of 3,103.50 sq.m.	New	63,751,800	Support Services
University Masjid	The infrastructure is proposed to serve institute constituents including visitors. This will not only serve as a praying space for Muslims but also showcases the	New	19,530,000	Support Services

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
	institute's rich culture as a Mindanao State University. The building has an area of 558.00 sq.m., ground floor and mezzanine with comfort rooms and ablution area, for male and female respectively.			
Student Dormitory	This four-storey building will cater undergraduate students as there is an existing dormitory already for graduate students. This infrastructure will greatly help the students from outside the city to pursue a safe and comfortable education. The building has a total area of 2,666.20 sq.m.	New	93,317,000	Residential
Animal House	This two-storey animal house proposed by the department of Biology under the College of Science and Mathematics intends to house animals for experiments. The project has a total floor area of 146.40 sq.m.	New	5,124,000	Academic
Sewage Treatment Plant and Material Recovery Facility	With an area of 75 sq.m., the Sewage Treatment Plant and Material Recovery Facility (STP and MRF) plays an important role in the pursuit of sustainability. This would also serve as compliance to environment related requirements.	New	2,625,000	Utilities
HINAPLANON ANNEX CAMPUS				
Academic Infrastructure				
Designing and Building, Furnishing, and Equipping of the Research Institute for Engineering and Innovative Technology (RIEIT) Complex with the Common Service Facility (Central Laboratory) for Mindanao	The Research Institute for Engineering and Innovative Technology (RIEIT) Building will house the twelve research centers of MSU-IIT Engineering and the envisioned Central Laboratory for Mindanao. This will be a seven-storey building that will comprise twelve research laboratories, two graduate research student spaces per student, two research laboratory offices, a conference room for collaborative meetings with industry partners and FGDs with stakeholders. This is approximately 800 sq. m per level, and will also be equipped with a cafeteria and a coffee shop, a huge conference hall for research fora and conferences, and a green park at the roof deck. All in all, there will be at least fifty six research laboratory spaces that will cater to the twelve research centers of MSU-IIT Engineering and that of the Central Laboratory. The new building can cater a maximum of 820 seating capacity for all the different offices, classroom, laboratory, conference room, cafeteria and coffee shop. It will help the projected students 3,270 (undergraduate and graduate) for SY 2024-2025 of MSU-IIT.	New	120,000,000	Academic

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
Design and Build of the Health and Allied Medical Sciences Building	<p>A 7-storey school building inclusive of facilities such as a state-of-the-art clinic, classrooms, administrative office, faculty rooms for each Allied Health and Medical Sciences program, library facilities, recreational area, faculty lounge, lecture hall, conference rooms, student canteen, locker rooms, computer equipment, internet connectivity, amphitheater, laboratory rooms, and storage rooms for medical/clinical equipment.</p> <p>The new building can cater a maximum of 464 seating capacity for all the state-of-the-art clinic, classrooms, administrative office, faculty rooms for each Allied Health and Medical Sciences program, library facilities, recreational area, faculty lounge, lecture hall, conference rooms, student canteen, locker rooms, computer equipment, internet connectivity, amphitheater, laboratory rooms, and storage rooms for medical/clinical equipment. It will help the projected students 478 (undergraduate) for SY 2024-2025 of MSU-IIT.</p>	New	100,000,000	Academic
5-storey Student and Staff Residences	<p>The project consists of five floors that intend to house at least 200- 250 students and staff coming from different cities and municipalities within Region X, with complete facilities for the convenience of the students. This is in compliance with CMO No. 09, Series 2013, State Universities and Colleges (SUCs) like MSU-IIT must provide decent student dormitory and housing facilities that are safe, clean, affordable, accessible to students with disabilities, and conducive to learning.</p> <p>The new building can cater a maximum of 200-300 seating capacity.</p>	New	150,000,000	Residential
Sports Complex at Hinaplanon <ul style="list-style-type: none"> ● MSU-IIT Grandstand ● Stadium oval and track and field ● Lawn tennis 	<p>This new infrastructure is proposed to be situated in Hinaplanon, Iligan City. With a total area of 2,327.70 sq.m., this would cater to sports related activities of the institute.</p>	New	567,456,050	Support Services
Other Infrastructure				
College of Health Sciences	This academic building has a total of 3,719.50 sq.m.		130,182,500	Academic
Material Recovery Facility	With an area of 78.59 sq.m., the Material Recovery Facility or MRF plays a vital role in maintaining the institute's solid waste management program.	New	2,750,650	Utilities

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
Sewage Treatment Plant	With an area of 177.88 sq.m., the Sewage Treatment Plant and Material Recovery Facility (STP and MRF) plays an important role in the pursuit of sustainability. This would also serve as compliance to environment related requirements.	New	6,225,800	Utilities
Commercial Center	This new infrastructure intends to create business opportunities for the community while serving the constituents. The total area is 598.50 sq.m.	New	20,947,500	Support Services
Aquatic Recreation Center and Sports Facility	This realization of this new and pioneering facility will enable the institute to further nurture the special skills and talents of students in their respective sports. The total area of the building is 5,054.82 sq.m.	New	176,918,700	Support Services
Fitness Center	This facility will support the faculty, staff and students in their pursuit of wellness. The total area of the building is 1,230 sq.m.	New	43,050,000	Support Services
Land Improvements				
Land Improvement of Hinaplanon Campus Annex Grounds	This land improvement aims to enhance the campus environment through landscaping, infrastructure upgrades, and sustainability measures to create a safer and more conducive space for learning and recreation.	Ongoing	50,000,000	Support Services
FUENTES ANNEX CAMPUS				
Academic Infrastructure				
MSU-IIT Marine Science Complex	The project is a 3-storey building and it has a total number of eight (8) faculty offices, chairperson's office, visiting professor's office, 8 classrooms, 20 laboratory rooms, 1 conference room, 2 conference halls, 2 lecture halls for large classes, observatory room. accommodation room for visiting scientist/s and swimming pool for swimming lesson of the Marine Biology students. Each classroom can accommodate 40 students while each laboratory room can accommodate 20 students. There is a provision of storage and stockroom per building floor and 4 comfort rooms (2 female and 2 male CRs). The new building can cater a maximum of 1,680 seating capacity for all the different offices, classroom, conference room and halls, laboratory, and lecture room. It will help the projected students 1,648 (undergraduate and graduate) for SY 2024-2025 of MSU-IIT.	New	180,000,000	Academic

Title	Brief Description	Status in 2025	Project Cost (in PhP)	Classification
Museum	This facility will help the students to gain tangible experience which promotes enhanced education. It has an area of 300.00 sq.m.	New	10,500,000	Academic
Docking Area	As the department of Biology under the College of Science and Mathematics expands, the Marine Science Complex in Fuentes, Iligan City will be further improved through this proposed docking area. It has a total area of 216.85 sq.m.	New	7,589,750	Support Services

D. Social Development

The Social Development Plan (SDP) for Mindanao State University - Iligan Institute of Technology (MSU-IIT) serves as a strategic blueprint designed to enhance the social infrastructure and services critical to the welfare and development of its community. Anchored in the university's commitment to holistic education, the SDP outlines a comprehensive approach to nurturing an inclusive, supportive, and vibrant campus environment. Through targeted initiatives that encompass educational facilities, health services, housing, safety, recreation amenities, safety and security, and disaster resilience, the plan aims to ensure that these critical components are not only adequately provided but are also aligned with the evolving needs of the university's diverse population, including students, faculty, staff, and other campus residents.

Objectives

- Enhance the quality, accessibility, and inclusivity of educational and research facilities to support academic excellence and innovation.
- Promote physical and mental health and well-being through comprehensive healthcare services and wellness programs.
- Provide safe, secure, and affordable housing options that cater to the diverse needs of the campus community.
- Ensure a secure campus environment through effective safety measures and emergency preparedness.
- Foster a vibrant campus life through the development of sports, recreation, and cultural facilities.
- Build resilience against natural and man-made disasters through proactive risk assessment, mitigation, and response strategies.

Scope

The scope of the SDP encompasses the planning, development, and continuous improvement of social infrastructure and services across the MSU-IIT campus. It includes the formulation of policies, programs, and projects aimed at addressing the current and future needs of the university community in the areas of education, health, housing, safety and security, recreation, and disaster risk management. The plan is designed to be dynamic, allowing for adjustments and updates in response to emerging trends, challenges, and opportunities.

By articulating a clear and comprehensive SDP, MSU-IIT aspires to create an enabling environment that supports not only the academic success but also the personal growth and well-being of all its members, thereby contributing to the broader goal of societal development and nation-building.

a. Education and Academic Development

- Enhancement of educational facilities and resources
- Programs for academic excellence and innovation

Enhancement of Educational Facilities and Resources

The cornerstone of MSU-IIT's mission to provide high-quality education lies in the continuous enhancement of our educational facilities and resources. Recognizing the dynamic nature of learning environments and the evolving needs of our academic community, we are committed to creating spaces that foster innovation, collaboration, and excellence. Our approach encompasses the modernization of classrooms, laboratories, and research facilities, integrating cutting-edge technology and sustainable design principles to support a diverse range of teaching and learning methodologies. Key initiatives include:

- Upgrading Infrastructure: Refurbishing existing classrooms and laboratories with state-of-the-art equipment, ergonomic furniture, and advanced ICT resources to facilitate effective learning.
- Expanding Resources: Enhancing library collections, digital resources, and access to academic databases to support research and learning across all disciplines.
- Incorporating Green Spaces: Designing and integrating green spaces within the campus to promote environmental sustainability and provide conducive areas for learning and relaxation.
- Accessibility Improvements: Ensuring that all educational facilities are fully accessible to individuals with disabilities, aligning with our commitment to inclusivity and equal opportunities for all.

Programs for Academic Excellence and Innovation

At MSU-IIT, we believe in nurturing a culture of excellence and innovation that transcends traditional boundaries of knowledge. Our academic programs are designed to empower students and faculty to engage in critical thinking, creative problem-solving, and groundbreaking research that addresses both local and global challenges. Strategic endeavors include:

- Interdisciplinary Programs: Developing and promoting interdisciplinary and transdisciplinary programs that encourage collaboration across different fields of study, preparing students for the complexities of the modern world.
- Research and Development: Strengthening support for research initiatives by providing grants, mentorship, and resources to faculty and students, fostering an environment where innovation can thrive.
- Industry Partnerships: Establishing robust partnerships with industry leaders to ensure that our academic programs remain relevant and responsive to the demands of the job market, facilitating internships, job placements, and real-world project collaborations.
- International Collaborations: Expanding our global network through partnerships with international universities and institutions, enabling student and faculty exchanges, joint research projects, and cross-cultural learning opportunities.

These efforts are geared towards not only enhancing the quality of education at MSU-IIT but also ensuring that our students and faculty are well-equipped to contribute meaningfully to society and the global community.

b. Health Services

- Expansion and improvement of health care facilities
- Wellness and mental health programs

Expansion and Improvement of Healthcare Facilities

Mindanao State University - Iligan Institute of Technology (MSU-IIT) is dedicated to ensuring the health and well-being of its campus community by significantly enhancing its healthcare facilities. Recognizing the critical role of health in academic and personal success,

the university is committed to expanding its medical services and infrastructure to provide comprehensive care that is accessible and responsive to the needs of students, faculty, staff, and campus residents. Key initiatives include:

- Upgrading Medical Facilities: Modernizing the campus clinic with advanced medical equipment, expanding its capacity to include more consultation rooms, and specialized treatment areas to cater to a broader range of medical needs.
- Health Services Enhancement: Introducing additional medical services such as dental care, optometry, and physiotherapy to provide a more holistic approach to healthcare on campus.

The healthcare section of each campus (referred to as the campus clinic or university infirmary) or locally known as the Office of the Medical, Dental and Health Services (OMDHS). The OMDHS is in charge of ensuring that the campus' constituents have access to medical, dental, and other health services, as well as building and maintaining strong relationships with allied medical organizations in the surrounding communities.

The campus clinic is also responsible for the conduct of physical examinations of students upon enrolment. The provision of health services is primarily supervised by a licensed physician, together with registered nurses and other medical staff or office assistants. All medical staff ensures compliance with the citizen charter's protocols and procedures, as stipulated in the health services manual of operations.

Medical, Dental, Nursing, Clinical Laboratory, Radiology, and Pharmacy/Drug Room are the six divisions of the OMDHS. Each section's duties are performed by nurses, medical technicians, radiologic technologists, pharmacists, dental assistants, and office staff under the direction of qualified and experienced doctors and dentists. The facilities are appropriate and suitable to students' needs and the availability of services is consistent with the organization's service capability and role in the MSU-IIT community. Records are readily accessible to facilitate patient care, are kept confidential and safe, and comply with all relevant statutory requirements and codes of practice. Health records include disability records for students with disabilities.

Health services are rendered free of charge to the students and with minimal fees to faculty, staff and dependents. All health services are in compliance with healthcare laws and regulations as stipulated in each department's Standard Operating Procedures (SOP) Manual and in the ISO 9001:2015 Document Procedures Manual (DPM).

Activities and Programs

- Assists in programs to promote healthy lifestyle in partnership with the Office of the Research and Extension - We Care Office, Iligan Red Cross Youth and the College of Health Sciences.
- Promotes a No Smoking Campaign as per Civil Service Memorandum Circular No. 17, s. 2009.
- Advocates for a drug-free campus ensuring students undergoing OJT are subject to drug-testing prior to deployment. (For policy proposal and approval for a drug-free campus).
- Provide a healthy environment inside and outside the campus. The organization plans a safe and effective environment of care consistent with its mission, services, and with laws and regulations as per DOH standards.
- The OMDHS coordinates and assists with MCR and SID during in-campus and off-campus student activities for student's safety and security.
- The office regularly conducts weekly physical fitness activities (e.g. zumba) at the Clinic Annex open for students, faculty and staff.

MEDICAL SERVICES and ACTIVITIES

- Free medical consultation for students, employees, direct dependents, and retirees
- Free review of lab data provided by internal and external clinical laboratories
- Referral of patient to a specialist or other healthcare facility for additional evaluation and treatment
- Provision of initial medical screening of newly-enrolled students
- Provision of initial medical screening of newly-hired MSU-IIT employees
- Provision of medical assessment and monitoring of student with disabilities and chronic diseases
- Conducts student health counseling
- Provides relevant healthcare trainings, symposia on self-management, health skills, and wellness awareness campaigns ensuring a healthy and safe school environment focusing on personal hygiene, clean water, toilets, proper sanitation, and clean food services
- Conducts free medical mission to the adopted barangays of MSU-IIT
- Conducts in-house free medical mission
- Issuance of medical certificate for in-campus and off-campus activities, On-The-Job training, and scholarship application

NURSING SERVICES and ACTIVITIES

- First-aid services such as wound dressing, nebulization, oxygen administration and patient's transport with the use of ambulance
- Provides short- term confinement for minor medical cases
- Provides initial dose of medication for minor cases; depends on doctor's order
- Provides first-aid services for school activities and field trips

DENTAL SECTION

- Free dental consultation/check-up for students, employees and direct dependents
- Free initial dose of medication for students upon consultation
- Provision of dental screening to newly-enrolled students
- Provision of dental screening to newly-hired MSU-IIT employees
- Free tooth extraction and tooth filling for students only
- Provision of tooth extraction for MSU-IIT employees and direct dependents with minimal charges. (For BOR approval)
- Issuance of dental certificates for MSU-IIT purposes only

CLINICAL LABORATORY SERVICES and ACTIVITIES (DOH ACCREDITED)

- Provides free, accessible and accurate clinical laboratory tests to students
- Provides free (1) annual Blood Chemistry test for MSU-IIT employees. For second testing, with minimal charges. (*BOR approved, Resolution # 304. S. 2019, for updating due to new tests available*)
- Provides laboratory services with minimal laboratory fees for OJT, MS/PhD, Employment and Scholarship requirements (*BOR approved, Resolution # 304. S. 2019, for updating due to new tests available*)
- Provides laboratory services with minimal laboratory fees for direct dependents and retirees (*BOR approved, Resolution # 304. S. 2019, for updating due to new tests available*)
- **List of Clinical Laboratory Tests Available**
 - **Hematology** – Complete Blood Count (CBC), Platelet count, hemoglobin and hematocrit). Cut-off time: 3:00 pm
 - **Clinical Microscopy** – Urinalysis and Pregnancy test. Cut off time: 3:00 pm
 - **Blood Chemistry** – Blood sugar (RBS, FBS), Lipid profile, Blood uric acid, Blood urea, Creatinine, SGOT, SGPT, Sodium, Potassium, Ionized Calcium,

- Glycosylated Hemoglobin (HbA1c) – limited testing kits, Albumin. With Doctor's order/request, by schedule, please refer to laboratory personnel)
 - **Serology and Immunology** – HBSAg, HBsAb, HCV, Syphilis, Blood typing and with limited testing kits on Dengue Test (NS1 Ag, IgM, IgG), TSH, T4, T3.
- Laboratory services depend on the availability of reagents, testing kits and manpower. Priority is given to students with urgent medical conditions.

RADIOLOGY SERVICES and ACTIVITIES

- Provides free diagnostic x-ray imaging tests for students except for OJT, MS/PhD, Scholarship and Employment requirements
- Provides diagnostic x-ray imaging tests for MSU-IIT employees, direct dependent and retirees with minimal charge (for BOR Proposal and Approval)
- Issuance of diagnostic x-ray imaging results; both images print out and diagnosis

PHARMACY/DRUG ROOM SERVICES and ACTIVITIES

- Provides free initial dose of medication for students and MSU-IIT employees

PATIENT TRANSPORT VEHICLE

- Patient transport vehicle or ambulance is designed and equipped for transporting sick or injured students and employees to and from places of treatment or confinement.

CLINIC SCHEDULE

The MSU-IIT Clinic is open from Monday to Friday 8:00 AM- 9:00 PM during Regular Classes and Monday to Friday 8:00 AM – 5:00 PM during semestral breaks. The MSU-IIT Clinic adheres to the NO NOON BREAK policy.

- Telehealth Services: Implementing telehealth options to offer remote consultations and health services, ensuring that healthcare remains accessible even beyond campus boundaries.
- Health Education and Promotion: Organizing health education campaigns and workshops to promote healthy lifestyles, disease prevention, and awareness on critical health issues affecting the campus community.

Wellness and Mental Health Programs

Understanding the integral connection between mental health and academic performance, MSU-IIT is proactive in developing a supportive environment that addresses the mental and emotional well-being of its members. The university's wellness and mental health initiatives are designed to provide a supportive network, resources, and programs that cater to the diverse needs of our campus community. Strategic endeavors include:

- Mental Health Services: Expanding the scope of mental health services to include counseling, therapy, and psychiatric consultations, provided by licensed professionals in a confidential and supportive setting.

The Office of Guidance and Counseling (OGC) caters to the students' mental health concerns by providing professional, mental health care services such as but not limited to counseling, group guidance, peer facilitation and other psychosocial interventions. The Office also collaborates with other mental health professionals through the Referral Service to provide the best and appropriate mental health care service to its student clientele.

Counseling

The Office of Guidance and Counseling provides individual and/or group counseling to students who are walk-in, called-in or referred. The OGC adopts a hybrid mode of counseling provision through onsite or tele-web counseling. Counselors provide counseling and other evidence-based interventions among students to facilitate their personal-social concerns to promote and protect their mental health during their stay in the university. All First Year students are called in by their counselor for a scheduled Initial Interview in order to establish rapport, validate responses in the Student Individual Record and spot potential clients for counseling. In the same manner, Fourth Year students are also invited for an Exit Interview with their respective counselors to assist them in their career plans.

Testing

A Testing Program is designed to obtain relevant and accurate data on student profile, needs, interests, mental health, personality and work values. Data derived from standardized tests and surveys. The Needs Assessment Survey completed by students during their first year in the university is reviewed and validated by the Counselor during Initial Interview to look into the demographic profile, mental health concerns, levels of anxiety, suicidal behavior as well as coping patterns serve as a baseline for program formulation and improvement. Counselors ensure that students also grasp a better understanding of themselves through online or onsite test interpretation.

Individual Inventory

Each college counselor maintains and updates student records in a cumulative folder that is stored in safe storage, and is easily retrievable when needed. The Student Individual Data and Needs Profile Form is accomplished by the student in his first year in the university during the College Life Symposium to ensure completeness of student records. The Office of Guidance and Counseling also collaborates with the Information and Communication Technology Center (ICTC) for a computerized system of students' individual records which maintains the same level of security and confidentiality.

Information

The OGC provides psychoeducation to its student clientele in the form of seminars, symposia, lecture series, fora, podcast series and group guidance sessions. These activities are conducted either onsite or online. Topics are based on the collective and individual data derived from the Needs Assessment Surveys, student profiling and psychological test results. The OGC also maintains its communication channels through the OGC Facebook Page, Counselor FB Pages, group chats and email where students may book an appointment with their Counselor.

Referral

The OGC strengthens its internal and external linkages through its Referral Service. Counselors cater to students who are referred by faculty, staff, parents and peer facilitators through the Student Referral. While counseling cases that are deemed to be needing further specialized psychological intervention are referred to other mental health professionals such as, but not limited to psychologists, psychiatrists, medical doctors, nurses or social workers.

The OGC, through its Enhanced Better Mental Health Access (E-BMHA) Program paves way for the students to access quality, professional and affordable mental health care services such as psychotherapy, pharmacology or psychopharmacology, through its partnership and linkage with mental health experts.

Peer Facilitation

One of the Office of Guidance and Counseling's auxiliary services is the supervision of the Organization of Student Peer Facilitators (OSPF) in recognition of the psychology of peer worth. The OSPF is an organized group of students who undergo proper recruitment, screening and training to become effective peer volunteers to spot, identify and refer fellow students in need of counseling. The OGC also recognizes dedication and commitment of exemplary student peer facilitators through its Rewards and Recognition of the Outstanding Performing Peer Award (OPPA), which is awarded to a graduating student peer facilitator during the Pre-Commencement Exercises.

Tutorial

The Organization of Learning Assistance Volunteers (LAV) is a voluntary organization under the supervision of the Office of Guidance and Counseling. Tutors are screened and trained students who conduct free tutorial services at the Office of Guidance and Counseling as scheduled. Tutees who come to the office for tutorial are served according to the topic the tutees desire to be tutored and the tutor who are also capable of handling the topic. Tutors are very instrumental in helping their co-learners who have difficulties in certain areas especially in Math, Chemistry, Physics and Computer Programming. Graduating students who are members of the Organization of Learning Assistance Volunteers (LAV) are recognized before they leave the portals of MSU-IIT.

Research and Evaluation

The OGC through its rich pool of student data compiles and analyzes information derived from individual profiles, psychological tests, needs surveys and program evaluation reports. Since the OGC's thrust is geared towards promoting student wellbeing and mental health, it makes sure that its programs and services are evidence-based and are empirically tested to foster holistic development of students.

Enrichment activities

A menu of seminar-workshops and group dynamics is available to address the common issues of students. Among the topics to choose from are Time Management, Maintaining Healthy Relationships, Stress Management, Conflict Management, Study Skills, Values Formation, Career Life Planning, Self-Esteem Building, School Counseling and others.

Special services include:

- (1) tutorial lessons and remedial classes where volunteers help students especially those who need special attention to cope with their regular classes and those who have difficulties in their studies;
- (2) intervention program which is specifically planned, designed and implemented to meet the need of a particular group of students, e.g. athletes, single mothers; and to promote psychological wellness and prevent future incidents of maladjustments and remedy an already existing case of maladjustments among students belonging to a special target group; and
- (3) home or boarding house visits which are a good avenue for a continuing counseling process conducted randomly by the counselor accompanied by the peer counselors to know the problems or concerns of the students in their environment or place of living.

- **Wellness Centers:** Establishing wellness centers on campus that offer spaces for relaxation, meditation, and stress relief activities such as yoga, mindfulness sessions, and art therapy.
- **Peer Support Programs:** Developing peer support networks and mentorship programs to foster a sense of community and mutual support among students and staff.
- **Awareness and Education:** Launching awareness campaigns and educational programs focused on destigmatizing mental health issues, promoting mental health literacy, and providing information on available support services.

Through these comprehensive healthcare and wellness initiatives, MSU-IIT aims to create an environment where the physical and mental health needs of the campus community are met with compassion, professionalism, and a commitment to holistic well-being.

Housing and Community Services

- Development plans for campus housing
- Community engagement initiatives

Safety and Security

- Security infrastructure and services
- Emergency response and crisis management plans

Recreational and Cultural Facilities

- Development of sports, recreation, and cultural facilities
- Promotion of physical activity and cultural engagement

The university supports the sports, wellness and recreation programs and activities for students. These are designed to keep the students engaged in support to the World Health Organization to lead an active and healthy lifestyle and the National Economic Development Authority's (NEDA) Sustainable Development Goal Number 3 - Good Health and Well-being - to ensure healthy lives and promote well-being for all and for all ages on top of the guidelines found on Section 34 of CHED Memorandum Order No. 9 series of 2013. Moreover, the Office of Sports Development is in-charge in the screening of students who possess bodily-kinesthetic abilities in various sports events for competitions and scholarship opportunities as well. Furthermore, the office is in-charge of the management of the university indoor and outdoor sports and wellness facilities in support of the sports, wellness and recreation programs and activities. Lastly, the office proposes and implements income-generating programs or projects to augment support to student activities.

The Office of Sports Development, formerly the Office of Sports, Physical Fitness and Recreation, is mandated to perform the following functions:

1. implement and supervise conduct of sports programs and activities;
2. implement and administer the sports scholarship grant;
3. manage the use of University sports, physical fitness and recreation facilities; and
4. recommend and implement approved income-generating projects related to sports, physical fitness, and recreation.

Sports, Physical Fitness, and Recreation Programs for Students

The Office of Sports Development gives opportunities for students to participate in sports, physical fitness and recreation programs and activities in the University. One of the activities is the annual intramural games named Palakasan. It is the grandest and highest level of sports, physical fitness and recreation activities wherein students exhibit their bodily-kinesthetic abilities. The Office also open opportunities for students to be affiliated in sports groups and organization especially those who excel in the following sports activities:

1. Arnis
2. Athletics
3. Badminton
4. Basketball
5. Chess
6. Dance Sports
7. Football/ Futsal
8. Karate-do
9. Lawn Tennis
10. Taekwondo
11. Table Tennis
12. Swimming
13. Volleyball
14. Sepak Takraw
15. Softball
16. Esport

On the other hand, the office supports our student-athletes in local, regional and national tournaments and competition. We have the Lanao-IIigan City Tertiary Schools Athletics Association (LICTSAA), Mindanao State University System Athletics Association (MSUSA), Mindanao Peace Games (MPG) and Philippine ROTC Games (PRG).

Administration of Scholarship Grants

Students can be active and enjoy scholarship benefits at the same time through the sports varsity grant. To avail this grant, the following shall be met:

- a. Applicant must be a bonafide student of MSU-IIT;
- b. Must submit a recent medical examination duly certified by any government accredited physician;
- c. Must pass the physical skills tests during the tryout of the specific sports event; and
- d. Must pass all the subjects enrolled in the previous semester for old students.

Facilities and Equipment Management

Students may also avail free use of sports facilities such as the twin courts, gymnasium and the free spaces for physical and recreation activities. To avail the service, the student shall:

- a. Secure a letter of intent to use the facility approved by the Chancellor.
- b. Once approved, accomplish an application to hold activity form duly signed by the various facilities in-charge, the Director of the Student Development Service, Vice-Chancellor for Student Services and Head of the Security Investigation Division.
- c. submit the duly accomplished application to hold activity form to the Office of Sports Development for final blocking of activity in the calendar.
- d. students shall exhibit due diligence in the usage of the facilities.

Also, students may avail free-use of sports equipment such as basketball, volleyball and other sports equipment. To avail the service, the student shall:

- a. Visit the office and approach the front desk and ask for availability of the equipment;
- b. If the equipment is available, the student shall fill out the log book with necessary information;
- c. After use, the student shall return the equipment within the day; and
- d. The student shall exhibit due diligence of the borrowed equipment.

The Office of Culture and Arts formulates, implements, evaluates, and enhances programs designed to provide opportunities to develop and enhance talents, abilities, and values for appreciation, promotion and conservation of national culture and multi-cultural heritage. This office facilitates the grants for students with special skills and talents in performing arts.

MSU-IIT offers Special Skills Grants:

- Kalimulan
- Integrated Performing Arts Guild (IPAG)
- Kalilang Ensemble
- Octava Choral Society
- Echoes
- Drum and Bugle

Disaster Risk Management

- Risk assessment and mitigation strategies
- Preparedness and response plans

Implementation Strategy

- Prioritization, phasing, and budgeting of projects
- Partnerships and collaborations

Monitoring and Evaluation

- Performance indicators and review mechanisms
- Feedback and continuous improvement processes

E. Economic Development

The Economic Development Plan of the Mindanao State University - Iligan Institute of Technology (MSU-IIT) is crafted to articulate and advance the university's commitment to economic growth and sustainability, both within its immediate community and the wider MSU System. This plan is a strategic blueprint designed to harness MSU-IIT's unique strengths in education, research, and innovation, aligning them with the economic needs and opportunities of the region it serves.

As a vital component of the university's broader strategic objectives, the Economic Development Plan emphasizes the role of MSU-IIT as a pivotal player in both regional and national development. It aims to leverage the institution's resources, talent, and infrastructure to stimulate commercial, industrial, and, potentially, tourism activities, thereby optimizing economic and revenue growth potentials. The plan is aligned with the MSU System's overarching goals of contributing to societal progress through higher education, research, and public service, with a particular focus on fostering inclusivity, innovation, and environmental sustainability.

Through this plan, MSU-IIT seeks to establish a framework for collaboration with local and regional stakeholders, including government, industry, and the community, to create a dynamic economic ecosystem. The initiatives outlined in this plan are intended to not only enhance the university's direct economic contributions but also to serve as a catalyst for broader economic development within the region in particular and the country in general. By doing so, MSU-IIT reaffirms

its dedication to being an agent of positive change, contributing to the well-being and prosperity of the communities it serves and upholding the MSU System's commitment to excellence and service.

Economic Goals

As MSU-IIT embarks on a strategic journey towards its Vision 2032 as a research university committed to the holistic development of the individual and society and in living its mission of providing quality education for the sustainable development of the nation and the global community, the Economic Development Plan for 2023-2032 sets forth a series of ambitious yet attainable goals and objectives. These are meticulously designed to harness the university's strong capabilities in education, research, and community service and to translate these into tangible economic benefits for the region. By enhancing commercial viability, fostering industrial collaborations, and promoting tourism, MSU-IIT is committed to advancing its status as a leading academic institution in Mindanao and playing a pivotal role in driving the economic growth and sustainability of the surrounding community. These goals reflect our dedication to creating a future where MSU-IIT is synonymous with excellence, innovation, and societal progress, making a profound and lasting impact on the economic landscape of our region.

Commercial Expansion

- Goal: Establish a University-Industry Collaboration Hub by 2026 that hosts at least 10 partnerships with leading industries to foster innovation, research commercialization, and provide practical training opportunities for students.

Industrial Collaboration

- Goal: Launch 5 new industry-funded research projects by 2028 in key sectors such as renewable energy, technology, and engineering, aiming to enhance MSU-IIT's research impact and contribute to industrial advancements.

Entrepreneurship and Business Incubation

- Goal: Strengthen the iDEYA Center for Innovation and Technopreneurship by 2027 to support the launch of at least 20 student and faculty-led startups, focusing on sustainable and technology-driven business models.

Tourism Development

- Goal: By 2029, create and promote an Educational Tourism Program that attracts 5,000 visitors annually, leveraging MSU-IIT's smart facilities and science and innovative technologies hub facilities.

Community Engagement and Service

- Goal: Implement 3 community development projects annually, in partnership with local governments and NGOs, to enhance local livelihoods, education, and environmental sustainability, from 2023 to 2032.

Sustainability Initiatives

- Goal: Achieve a 30% reduction in campus carbon footprint by 2032 through sustainable campus operations, green infrastructure projects, and promoting renewable energy use.

Infrastructure Development

- Goal: Complete the construction of a multi-functional Research and Innovation Complex by 2025, equipped with state-of-the-art facilities to support research, commercialization, and industry collaboration.

Workforce Development

- Goal: Enhance the employability of 90% of MSU-IIT graduates by 2030 through curriculum updates, industry partnerships, and expanded internship programs aligned with market demands.

International Partnerships

- Goal: Establish 5 new international partnerships by 2028 with universities and research institutions to facilitate academic exchanges, collaborative research, and global best practice sharing.

Revenue Growth

- Goal: Increase MSU-IIT's revenue from commercial, industrial, and tourism activities by 25% by 2032, contributing to the university's financial sustainability and capacity for investment in educational and research activities.

Opportunity Analysis

Assessing the university's current economic activities and identifying key growth opportunities is essential to strategically align efforts and resources toward sustainable economic impact. This assessment provides a snapshot of where MSU-IIT stands and where it can potentially grow in terms of economic contributions.

Current Economic Activities

MSU-IIT currently engages in various economic activities that contribute to its operational revenue and the regional economy. These include:

- **Educational Programs:** Offering various academic programs that attract students from various regions, contributing to local spending and economic diversity.
- **Research Initiatives:** Conducting research projects that contribute to theory and practice and have the potential for commercialization and practical applications, contributing to industry innovation. MSU-IIT has been actively developing innovative technologies that have the potential to address sustainability challenges and industrial requirements. Table 3.10 shows the list of patent filings as of 2022.

Table 3.10. List of Patent Filings

Inventors	Invention Name	Priority Date and Application Number
Malaluan, Roberto M. Lubguban, Arnold A. Alguno, Arnold C. Tilendo, Amierson C. Estrada, Dave Joseph E. Maputi, Anthony O.	A process for production of Anti-corrosive waterborne Polyurethane coating for Coconut oil-based polyester Polyol	7 October 2022 12022050473
Malaluan, Roberto M. Lubguban, Arnold A. Maputi, Anthony O. Tilendo, Amierson C. Ruda-Bayor, Rosal Jane G.	Production of Bio-based Polyols Derived from Rice Straw	11 April 2022 12022050138
Tupag, Earl Adreane P.	Process of Formulating Ceramic Slip Using Quarry Waste	06 December 2022 O2I-I124N06N3202 2FK4
Arcasa, Ara Jane A.	Microwave Oven Safe Ceramic Ware Produced from Red Firing Clay	09 December 2022 W3Z12QC09CC202 2ORD
Cobalo, Lori-an I.	Iron Rich Clay Based Ceramic Membrane	21 December 2022 42N12GL21LU2022 URI

Inventors	Invention Name	Priority Date and Application Number
Cobalo, Lori-an I. Omping, Hamdy L. Sumalpong, Magnolia Shirly B.	A Method of Producing Self-Cleaning Glaze for Ceramic Material	21 December 2022 YVK12RJ21JL2022 GWN
Lubguban, Arnold A. Estrada, Dave Joseph E. Dingcong, Jr., Roger G.	Coconut Oil-Based Polyols and Use Thereof as Rigid Foams	20 December 2022 R371F8208R2022XI Q
Lubguban, Arnold A. Malaluan, Roberto M. Aguinid, Blessy Joy M. Omisol, Christine Joy M.	Coconut Polyester - Based Polyol	20 December 2022 12022050671
Lubguban, Arnold A. Malaluan, Roberto M. Salcedo, Ma. Louella D. Maputi, Anthony O. Tilendo, Amierson C. Estrada, Renz John E. Estrada, Dave Joseph E.	Coconut Fatty Acid - Polyols	20 December 2022 12022050672
Lubguban, Arnold A. Malaluan, Roberto M. Calderan, Mike Jhun P.	Polyglycerol Polyester Polyol for Thermoplastic Polyurethane Production	21 December 2022 P3M12LA21AS2022 6V4
Lubguban, Arnold A. Malaluan, Roberto M. Usop, Shashwa M. Estrada, Renz John E. Tomon, Tomas Ralph B. Fernandez, Rubie May D.	Composite Adsorbent for the Removal of Cationic Dyes and Heavy Metals	23 December 2022 12022050592
Ramos, Maria Shiela K. Dalaguin, Jr., Roger B. Mirafuentes, Diannelle A. Cotmaya, Maezel G. Paramo, Ram Froilan E. Mata, Bernacille A.	Calcifying Bacteria Encapsulation for Biological Self-Healing and Self-Reinforcement of Mechanical Strength in Concrete	23 December 2022 12022050591
Cabang, Flordeliza Dollaso, Grace Larubis, Esmael Gilbolingo, Jayson Ray Banaybanay, Louelyn	Epoxy-Laminated Plant Fiber	23 December 2022 12022050693

- Community Services:** Providing extension services, consultancy, and training programs to local businesses and community groups, enhancing local skills and capacities. MSU-IIT has established a community service framework that is well supported by expertise from among MSU-IIT teaching and non-teaching staff. This framework is presented in Table 3.11.

Table 3.11. MSU-IIT's WE CARE Framework for Community Service (Institutionalized Extension Program per BOR# 298 s. 2014)

AREA	ACTIVITIES, PROJECTS, AND PROGRAMS
W - Wellness/Health Sanitation	<ul style="list-style-type: none"> • Health & Wellness of Children, Youth, and the Elderly • Parents Class on Family Planning • Awareness Campaign on Rabies, Dengue, Leptospirosis, HIV/AIDS, etc. • Distribution of Free Medicines to Typhoon Victims

AREA	ACTIVITIES, PROJECTS, AND PROGRAMS
	<ul style="list-style-type: none"> • Continuing Wellness Program for the Institute Constituents
E - Education/Literacy	<ul style="list-style-type: none"> • Children's Choir • Enrichment Training Program for Elementary & High School • Computer & Internet Literacy • Voter's Education: Training on Citizenship and Participatory Governance • Seminar on Science Investigatory Project • Alternative Learning System • IT Literacy for the Deaf
C - Capability Building	<ul style="list-style-type: none"> • Basic Shielded Metal Arc Welding • Electrical Installation & Maintenance • Ceramic/Pottery Technology Training • Water Safety & Life Saving Skills Training • DRMM Trainings Program
A - Alternative Livelihood	<ul style="list-style-type: none"> • Food Product Development and Packaging • Bag and Rug Making from Recycled Materials • Specialized Cooking (Halal) Training • Fancy Jewelry Making
R - Rehabilitation of the Environment	<ul style="list-style-type: none"> • Zero Waste Management Program • Gender & Climate Change Adaptation • Mangrove Rehabilitation of Selected Coastal Areas • Information Education and Communication Materials Activities • Coastal Clean-up
E - Entrepreneurial Development	<ul style="list-style-type: none"> • SEED-Secondary Education for Entrepreneurial Development

- **Resource-generation Initiatives:** These initiatives include lease agreements, income-generating projects, trust arrangements and intellectual property assets. Income generated from lease agreements is sourced from the graduate dormitory, cafeteria, university bistro and other short term lease arrangements such as school fairs. The total revenue collected from these segments in 2023 amounted PhP 7,211,725.03. Additionally, the university is actively and regularly connecting with potential donors through its Endowment Fund Management Office. To date, the office has collected PhP 1,172,000 from various donations and PhP 630,009 for legacy programs.
- **Campus Operations:** The day-to-day operations of the university, including procurement of goods and services, which support local businesses and employment. In 2022 and 2023, MSU-IIT procured and spent a total of PhP 2,347,721,869.30 and PhP 1,963,468.14, respectively, for various operational and capital expenditures, contributing to the economic dynamism of not only in Iligan City but of neighboring regions as its suppliers come from different parts of the country.

Key Growth Opportunities

Building on these existing activities, MSU-IIT has significant opportunities to expand its economic impact, particularly in the following areas:

- **Technology Transfer and Commercialization:** Leveraging research outputs by translating them into commercial products or services, thus creating new revenue streams and fostering industry partnerships.
- **Business Incubation and Entrepreneurship:** Strengthening the existing business incubator, iDEYA Center for Innovation and Technopreneurship, to nurture student and faculty startups, promoting entrepreneurship within the academic community and contributing to job creation.
- **Industrial Collaborations:** Strengthening ties with industries, particularly in sectors aligned with MSU-IIT's research strengths, to enhance applied research, internships, and employment opportunities for graduates.
- **EduTourism Promotion:** Developing programs that showcase the university's educational assets that leverage technological advancements, attracting visitors and promoting educational tourism as a new revenue source.
- **Sustainable Development Projects:** Initiating green projects, such as renewable energy installations and eco-friendly campus designs, that can serve as models for sustainable development and attract funding and partnerships.
- **Smart Campus:** Installing the necessary information and Communications Technology infrastructure to power MSU-IIT as a smart campus and positioning as a test bed for innovative technologies that will not only enhance the operational efficiency of the University but also as an added attraction for EduTech Tourism Development.
- **Internationalization:** Expanding international collaborations for research, student exchange, and academic programs, enhancing the university's global footprint and attracting foreign investments and students.

By capitalizing on these opportunities, MSU-IIT can significantly enhance its role as an economic driver in the region, contributing to commercial, industrial, and tourism growth. The successful implementation of the Economic Development Plan will require strategic investments, stakeholder engagement, and a commitment to innovation and sustainability, positioning MSU-IIT as a key player in the regional and national economic landscape.

Strategic Initiatives

From 2023 to 2032, MSU-IIT has outlined a series of strategic initiatives aimed at driving commercial expansion, fostering industrial collaboration, and enhancing tourism development. These initiatives are designed to leverage the university's academic excellence, research capabilities, and community connections to contribute to regional economic growth and sustainability.

Commercial Expansion

- **Expanding iDEYA Center for Innovation and Technopreneurship:** The iDEYA Center for Innovation and Technopreneurship, MSU-IIT's business incubator, aims to nurture entrepreneurship among students and faculty, providing resources for business plan development, access to funding, and mentorship programs. This center acts as a catalyst for transforming innovative ideas into successful commercial ventures. The expansion of iDEYA is intended to provide more support to early-stage startups from the MSU-IIT community, offering office space, administrative services, and access to a network of investors and industry experts. The incubator will focus on high-growth sectors that align with MSU-IIT's research strengths.

- **Leasing Spaces:** As part of its strategic initiatives under commercial expansion, MSU-IIT is exploring the leasing of spaces within its campus to businesses and commercial entities. This initiative aims to generate revenue for the university while fostering a closer relationship between academia, industry, and local enterprises. By offering prime campus locations for offices, retail outlets, and service providers, MSU-IIT intends to create a vibrant, mixed-use campus environment that benefits both the university community and external partners. The leasing strategy is carefully designed to align with the university's academic and research missions, ensuring that all partnerships and leased spaces contribute positively to the campus atmosphere and the institution's broader goals. This approach provides a steady revenue stream to support educational and research activities. It enriches the campus experience for students, faculty, and visitors by bringing in a diverse mix of amenities and services.
- **Corporate Partnerships:** Corporate partnerships are a cornerstone of MSU-IIT's strategic initiatives for commercial expansion, aimed at leveraging synergies between the university's academic and research capabilities and the practical, innovative needs of the business sector. By forming alliances with corporations across various industries, MSU-IIT seeks to create a dynamic ecosystem where academic research is applied to solve real-world problems, driving innovation and economic growth. These partnerships facilitate the commercialization of university research and open avenues for student internships, collaborative projects, and co-developed curricula, ensuring that students gain valuable, industry-relevant experience. This strategic approach enhances MSU-IIT's financial sustainability while enriching its educational and research missions, positioning the university as a key player in regional economic development.

Industrial Collaboration

- **Applied Research Initiatives:** Initiate more applied research projects in collaboration with industry partners to address real-world challenges, particularly in health, engineering, information technology, and sustainable development. These projects will provide practical training opportunities for students and foster technology transfer. Table 3.12 shows some of the research projects in collaboration with industry partners. Increasing these applied research efforts will enhance MSU-IIT's reputation and track record in applied research and is seen to motivate industrial companies to fund

Table 3.12. List of MSU-IIT Research Centers with Industry Partners

Research Center	Industry Partner
Center for Sustainable Polymers	Chemrez Technologies, Inc.
	Nuevochem Specialties Inc.
	AJIS Marine Builders and Merchandising
	AC JOYO Design and Technical Services
Center for Integrated Circuits Design	Xinx Design and Consultancy Services, Inc.
	Lattice Semiconductor (PH)
	Analog Devices
	Philippine Linked and United Solution Inc.
	Embedded Silicon

	Center for Applied Microelectronics and Programming
	Center for Energy Research and Technology
	Pilmico
	MAPALAD Power Corporation
	Iligan Light and Power Incorporated
	Department of Science and Technology - Philippine Council for Industry, Energy and Emerging Technology Research and Development
Center for Computational Analytics and Modeling	Integrated Provincial Health Office of South Cotabato
	DOH- Cebu South Medical Center
	Iligan City Health Office
	Non-Timber Forest Products - Exchange Programme Philippines
	Interuniversity Institute for Biostatistics and Statistical Bioinformatics
Center for Mechatronics and Robotics	Department of Public Works and Highways
	Philippine Institute of Volcanology and Seismology
	Research Center for Advanced Ceramics
	KM's Pottery Clay Products
	ESN Aggregates Trading
	Serino's Pottery Manufacturing
Center for Bamboo Research and Technology	Helix Resources and Development Corporation
	Homebiz Wood and Bamboo Craft
	Filbamboo Exponents Inc.
	RIZOME Philippines
	Sitoza, Inc.
	Philippine Bamboo Industry Development Council

- **Professional Development Programs:** Offer professional development and continuing education programs tailored to industry needs, facilitating workforce upskilling and reskilling in key sectors. These programs will be developed in close consultation with industry partners to ensure relevance and applicability.
- **Industry Advisory Council:** Form an Industry Advisory Council comprising leaders from various sectors to provide strategic guidance on curriculum development, research priorities, and partnership opportunities, ensuring that MSU-IIT's offerings remain industry-relevant.

Tourism Development

- **Campus as a Destination:** Enhance the campus environment to make MSU-IIT a destination for educational tourism, showcasing its technological and scientific assets through guided tours, exhibitions, and interactive experiences.
- **Conference and Event Hosting:** Position MSU-IIT as a premier venue for national and international conferences, workshops, and cultural events, capitalizing on its facilities and academic expertise to attract visitors and promote intellectual exchange.
- **Community-based Tourism Projects:** Collaborate with local communities to develop tourism projects highlighting the region's cultural heritage and natural beauty, providing visitors with authentic experiences while benefiting local economies.

These strategic initiatives are aligned with MSU-IIT's mission to contribute to societal development through higher education, research, and service. By implementing these targeted actions, MSU-IIT aims to enhance its economic impact, strengthen industry and community partnerships, and promote the region as a center of innovation and cultural richness.

Key Projects and Actions

For MSU-IIT to successfully fulfill its broader mission to foster innovation, enhance educational excellence, and contribute significantly to regional economic development, it has translated its strategic direction to specific projects and actions. Each project and action is conceived with the dual purpose of advancing MSU-IIT's academic agenda and stimulating economic growth, ensuring that the university remains at the forefront of innovation and societal development. By prioritizing these strategic initiatives, MSU-IIT aims to enhance its infrastructure, foster a vibrant entrepreneurial culture, and forge meaningful connections with the wider community and industry partners - all integral to MSU-IIT's strategy from 2023 to 2032.

(1) Technology Park

Project Highlight: Establishment of a MSU-IIT Technology Park

Objective: To strengthen MSU-IIT as a hub for innovation, research, and development, facilitating collaboration between the university, tech companies and industry, and startups and local micro, small, and medium enterprises (MSMEs).

Action Plan:

2024: Phase 1: Conceptualization and Planning

- Strategic Visioning: Develop a clear vision and mission for the Technology Park, aligning with MSU-IIT's broader innovation and community engagement goals.
- Stakeholder Engagement: Consult with faculty, researchers, industry leaders, and government agencies to gather input and build foundational support.

2024 - 2026: Phase 2: Design and Infrastructure Development

- Master Planning: Create a master plan for the Technology Park, incorporating spaces for research, collaboration, and business incubation, as well as leveraging existing laboratories and research centers.
- Infrastructure Development: Begin the development of essential infrastructure, including state-of-the-art research facilities, office spaces, and shared amenities.
- Integration with Existing Assets: Identify and integrate existing MSU-IIT research centers and laboratories into the Technology Park's ecosystem.

2024 - 2026: Phase 3: Partnership and Program Development

- Partnership Formation: Establish formal partnerships with tech companies, industry players, and government bodies to provide financial support, research projects, and technology transfer opportunities.
- Entrepreneurial Support Programs: Design and implement programs to support startups and MSMEs, including mentorship, funding access, and business development services.
- Academic-Industry Linkage Programs: Develop programs that facilitate direct collaboration between MSU-IIT's academic community and industry partners, such as joint research initiatives, internships, and co-op programs.

2026: Phase 4: Launch and Operationalization

- Soft Launch: Initiate a soft launch with select partners and stakeholders to fine-tune operations and services.
- Grand Opening: Organize a grand opening event to officially launch the Technology Park, showcasing its facilities, research capabilities, and collaboration opportunities.
- Operational Management: Establish a management structure for the Technology Park, ensuring smooth operations, tenant support, and continuous engagement with partners.

2026 - 2030: Phase 5: Scaling and Sustainability (Ongoing)

- Continuous Improvement: Regularly assess the Technology Park's operations, programs, and partnerships, making necessary adjustments to ensure they meet the evolving needs of stakeholders.
- Expansion Planning: Based on demand and success, plan for the phased expansion of the Technology Park, potentially adding more specialized labs, incubation spaces, and collaboration zones.
- Sustainability Initiatives: Implement sustainability practices within the park, focusing on green technologies, energy efficiency, and environmental conservation.

(2) Business Incubator

Project Highlight: Relaunch of iDEYA Center for Innovation and Technopreneurship as an Innovation Hub

Objective: To support entrepreneurial ventures by students, faculty, and local entrepreneurs, turning innovative ideas into successful businesses.

Action Plan:

2024: Phase 1: Strategic Planning and Design

- Assessment: Conduct an in-depth evaluation of the current iDEYA center, identifying strengths, weaknesses, and areas for expansion.
- Vision and Objectives Setting: Clearly define the renewed vision and objectives for the Innovation Hub, aligning with MSU-IIT's broader goals.
- Stakeholder Engagement: Engage with potential users (students, faculty, entrepreneurs) and partners (industry, government, investors) to gather insights and build support.

2025 - 2026: Phase 2: Infrastructure and Program Development

- Facility Upgrade: Revamp the physical space to accommodate co-working areas, meeting rooms, and prototyping labs with modern tools and technologies.
- Program Development: Design a suite of programs, including workshops, mentorship, pitch events, and networking opportunities tailored to different stages of startup development.
- Partnership Formation: Formalize partnerships with business incubators, industry leaders, and funding bodies to provide resources and opportunities to hub participants.

2027: Phase 3: Launch and Promotion

- Soft Launch: Introduce the hub to a select group of users for initial feedback and iteration.
- Official Launch: Organize a high-profile launch event to officially open the Innovation Hub, inviting media, potential investors, and the broader entrepreneurial community.
- Marketing Campaign: Implement a targeted marketing campaign to raise awareness and attract participants, highlighting success stories and unique offerings.

2027 - 2032: Phase 4: Operationalization and Support (Ongoing)

- Program Implementation: Roll out educational and support programs, continuously adapting to participant needs and industry trends.
- Mentorship Network: Establish a robust mentorship network, connecting hub participants with experienced entrepreneurs and industry experts.
- Feedback and Iteration: Regularly collect feedback from participants and partners to refine programs and services.

2030: Phase 5: Evaluation and Expansion (Annual Review)

- Impact Assessment: Conduct annual evaluations to assess the hub's impact on participants' success, identifying key outcomes and areas for improvement.
- Expansion Planning: Based on feedback and demand, plan for the expansion of services, programs, or physical space to accommodate more participants or new activities.

(3) Tourism Attraction: Smart Campus and Research Hub

Project Highlight: Development of MSU-IIT as a smart campus and science and innovative technologies hub

Objective: To showcase the university's smart facilities and science and innovative technologies, promoting educational and technology tourism and community engagement.

Action Plan:

2024 - 2025: Planning and Design

- Assessment: Evaluate current facilities and identify upgrade needs.
- Conceptualization: Define the smart campus vision, focusing on IoT, sustainable energy, and interactive learning environments.
- Stakeholder Engagement: Consult with internal and external stakeholders for input and support.
- Design: Finalize the smart campus blueprint, integrating smart technologies and infrastructure improvements.

2025 - 2028: Implementation

- Infrastructure Upgrades: Upgrade campus infrastructure to support smart technologies.
- Technology Integration: Install IoT devices, AR platforms, and AI systems.
- Partnerships: Establish partnerships with tech companies and educational institutions.
- Program Development: Create interactive exhibits and educational programs showcasing innovations.

2029: Launch

- Pilot Testing: Test smart campus features and programs with select audiences.
- Launch Event: Host an event to introduce the smart campus to the public.
- Marketing: Promote the smart campus to attract visitors and participants.

2030 - 2032: Evaluation and Expansion

- Evaluation: Gather and analyze user feedback to assess impact.

- Improvement: Implement improvements based on feedback and emerging technologies.
- Expansion: Plan for future expansion to incorporate new technologies and programs.

These key projects are designed to leverage MSU-IIT's strengths in innovation, entrepreneurship, and cultural stewardship, contributing significantly to the region's economic development and cultural enrichment. Each project includes a phased approach to planning, development, and implementation, ensuring alignment with MSU-IIT's strategic objectives and stakeholder expectations.

Infrastructure Needs

The Land Use Development and Infrastructure Plan (LUDIP) for MSU-IIT identifies a series of essential infrastructure improvements designed to support and enhance the university's economic activities. These enhancements are critical for fostering an environment conducive to innovation, collaboration, and sustainable development. The following summary outlines the key infrastructure upgrades necessary to achieve MSU-IIT's economic development goals:

Connectivity and Access

- **Provision of Transportation Links:** Enhance road networks within the campus to facilitate easy mobility for students, faculty, staff, industry partners, and other stakeholders inside the campus, especially for those areas that are still to be acquired and developed.
- **Provision of Rain-proof Building Connectivity:** Enhance covered walks that connect buildings within the campus to provide protection to students, faculty, staff, and campus visitors within the campus during rain episodes.
- **Digital Infrastructure:** Invest in high-speed internet and advanced telecommunications systems to support digital learning, remote collaboration, and technology-driven projects.

Research and Innovation Facilities

- **State-of-the-Art Laboratories:** Construct and equip new laboratories with cutting-edge technology for research in fields such as marine science, health, biotechnology, renewable energy, information technology, and other emerging and innovative technologies. This will include but is not limited to the Marine Science Complex and Research Institute for Engineering and Innovative Technologies Building.
- **Innovation Spaces:** Develop flexible workspaces, such as maker spaces and design studios, that encourage creativity and interdisciplinary collaboration among students, faculty, and industry partners.

Business Incubation and Entrepreneurial Support

- **Business Incubator Facilities:** Refurbish space for iDEYA as MSU-IIT's business incubator that provides office space, meeting rooms, and networking areas for startups and entrepreneurs.
- **Entrepreneurial Support Services:** Establish support centers offering legal, financial, and marketing assistance to budding entrepreneurs and startups.

Sustainable Campus Development

- **Green Building Initiatives:** Implement sustainable design principles in new constructions and renovations, focusing on energy efficiency, water conservation, and environmentally friendly materials.
- **Renewable Energy Projects:** Install solar panels and explore other renewable energy sources to reduce the campus's carbon footprint and promote sustainability.

Community and Tourism Infrastructure

- **Cultural and Recreational Facilities:** Enhance cultural venues, including theaters, museums, and art galleries, along with recreational facilities, such as parks and sports complexes, to attract visitors and serve the campus community. This will include but is not limited to a sports complex in the Hinaplanon Campus, an auditorium, and the repair and improvement of the MSU-IIT Gymnasium.
- **Hospitality Services:** Upgrade hospitality services, including dining, lodging, and conference facilities, to support tourism and large-scale academic and professional events.

Safety and Security Enhancements

- **Modernized Security Systems:** Upgrade security infrastructure with advanced surveillance systems, emergency response mechanisms, and enhanced lighting to ensure the safety and security of the campus community and visitors.

Utility and Service Upgrades

- **Water and Waste Management Systems:** Improve water supply, treatment facilities, and waste management systems to ensure sustainable resource use and environmental protection.
- **Power and Backup Systems:** Upgrade electrical infrastructure and install backup power systems to ensure uninterrupted power supply for critical research and operational activities.

Implementing these infrastructure improvements will not only support MSU-IIT's current economic activities but also lay the foundation for future growth and innovation. These enhancements are designed to create a robust, sustainable, and dynamic campus environment that fosters academic excellence, research innovation, and community engagement, aligning with MSU-IIT's strategic vision for economic development.

Financial and Partnership Framework

The Financial and Partnership Framework within MSU-IIT's Land Use Development and Infrastructure Plan (LUDIP) is designed to outline a sustainable and diversified approach to funding and executing the key projects and initiatives identified in the plan. This framework aims to leverage various funding sources and establish strategic partnerships to ensure the successful implementation of the LUDIP from 2023 to 2032.

Funding Strategies

- **Government Grants and Subsidies:** Pursue national and local government grants dedicated to educational infrastructure, research, and innovation. This includes funding from the Department of Budget and Management (DBM), the Commission on Higher Education (CHED), the Department of Science and Technology (DOST), and other relevant government agencies.

- **Private Sector Investments:** Attract investments from private companies, particularly those aligned with MSU-IIT's research and academic strengths. This involves creating investment opportunities in technology parks, business incubators, and commercial ventures initiated by the university.
- **Public-Private Partnerships (PPPs):** Engage in PPPs for large-scale infrastructure projects such as developing technology parks, innovation hubs, and campus facilities. These partnerships can offer a mutually beneficial arrangement for MSU-IIT and private entities, combining public objectives with private capital and expertise.
- **Alumni and Philanthropic Contributions:** Leverage the alumni network and philanthropic organizations for donations and endowments. These funds can be earmarked for specific projects, scholarships, research grants, or infrastructure development.
- **Revenue-Generating Ventures:** Develop and expand revenue-generating activities within the university, such as commercial leasing, conference hosting, and consultancy services. Profits from these ventures can be reinvested in campus development projects.
- **International Funding and Grants:** Explore opportunities for international funding from global educational and development organizations. This includes grants for research, academic exchange programs, and infrastructure projects that align with international development goals.

Potential Partnerships

- **Industry Collaborations:** Forge partnerships with industries for joint research projects, internships, and technology development, particularly in sectors such as ICT, renewable energy, and engineering. These collaborations can also involve co-funding arrangements for research facilities and innovation labs.
- **Academic Institutions:** Establish linkages with other universities and research institutions, locally and internationally, for academic exchanges, joint research initiatives, and shared use of facilities. These partnerships can enhance MSU-IIT's academic offerings and research capabilities.
- **Local Government Units (LGUs):** Collaborate with LGUs for community-based projects, infrastructure development, and tourism initiatives. These partnerships can leverage local resources and align with regional development plans.
- **Non-Governmental Organizations (NGOs) and Community Groups:** Partner with NGOs and community organizations for sustainable development projects, community engagement initiatives, and extension services. These partnerships can support MSU-IIT's social responsibility and community service objectives.
- **International Organizations:** Engage with international bodies and foreign universities for funding, technical assistance, and collaborative projects. These partnerships can provide access to global knowledge networks, funding sources, and research opportunities.

This Financial and Partnership Framework is designed to provide a comprehensive approach to securing the necessary resources and collaborations for MSU-IIT's strategic development under the LUDIP. By diversifying funding sources and establishing strategic partnerships, MSU-IIT aims to achieve its development goals, enhance its academic and research capabilities, and contribute to regional economic growth.

Implementation Timeline

To ensure that MSU-IIT can achieve its strategic goals and objectives, it will observe the following timelines for its economic development initiatives presented in Table 3.13.

Table 3.13. Economic Development Initiatives Implementation Timeline

MILESTONES	YEAR									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<i>Technology Park</i>										
Phase 1: Conceptualization and Planning <ul style="list-style-type: none"> Strategic Visioning: Develop a clear vision and mission for the Technology Park, aligning with MSU-IIT's broader goals of innovation and community engagement. Stakeholder Engagement: Consult with faculty, researchers, industry leaders, and government agencies to gather input and build foundational support. 										
Phase 2: Design and Infrastructure Development <ul style="list-style-type: none"> Master Planning: Create a master plan for the Technology Park, incorporating spaces for research, collaboration, and business incubation, as well as leveraging existing laboratories and research centers. Infrastructure Development: Begin the development of essential infrastructure, including state-of-the-art research facilities, office spaces, and shared amenities. Integration with Existing Assets: Identify and integrate existing MSU-IIT research centers and laboratories into the Technology Park's ecosystem. 										
Phase 3: Partnership and Program Development										

MILESTONES	YEAR									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<ul style="list-style-type: none"> Partnership Formation: Establish formal partnerships with tech companies, industry players, and government bodies to provide financial support, research projects, and technology transfer opportunities. Entrepreneurial Support Programs: Design and implement programs to support startups and MSMEs, including mentorship, funding access, and business development services. Academic-Industry Linkage Programs: Develop programs that facilitate direct collaboration between MSU-IIT's academic community and industry partners, such as joint research initiatives, internships, and co-op programs. 										
Phase 4: Launch and Operationalization <ul style="list-style-type: none"> Soft Launch: Initiate a soft launch with select partners and stakeholders to fine-tune operations and services. Grand Opening: Organize a grand opening event to officially launch the Technology Park, showcasing its facilities, research capabilities, and collaboration opportunities. Operational Management: Establish a management structure for the Technology Park, ensuring smooth operations, tenant support, and continuous engagement with partners. 										

MILESTONES	YEAR									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Phase 5: Scaling and Sustainability <ul style="list-style-type: none"> Continuous Improvement: Regularly assess the Technology Park's operations, programs, and partnerships, making necessary adjustments to ensure they meet the evolving needs of stakeholders. Expansion Planning: Based on demand and success, plan for the phased expansion of the Technology Park, potentially adding more specialized labs, incubation spaces, and collaboration zones. Sustainability Initiatives: Implement sustainability practices within the park, focusing on green technologies, energy efficiency, and environmental conservation. 										
Business Incubator										
Phase 1: Strategic Planning and Design <ul style="list-style-type: none"> Assessment: Conduct an in-depth evaluation of the current iDEYA center, identifying strengths, weaknesses, and areas for expansion. Vision and Objectives Setting: Clearly define the renewed vision and objectives for the Innovation Hub, aligning with MSU-IIT's broader goals. Stakeholder Engagement: Engage with potential users (students, faculty, entrepreneurs) and partners (industry, government, investors) to gather insights and build support. 										

MILESTONES	YEAR									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Phase 2: Infrastructure and Program Development <ul style="list-style-type: none"> Facility Upgrade: Revamp the physical space to accommodate co-working areas, meeting rooms, and prototyping labs with modern tools and technologies. Program Development: Design a suite of programs, including workshops, mentorship, pitch events, and networking opportunities tailored to different stages of startup development. Partnership Formation: Formalize partnerships with business incubators, industry leaders, and funding bodies to provide resources and opportunities to hub participants. 										
Phase 3: Launch and Promotion <ul style="list-style-type: none"> Soft Launch: Introduce the hub to a select group of users for initial feedback and iteration. Official Launch: Organize a high-profile launch event to officially open the Innovation Hub, inviting media, potential investors, and the broader entrepreneurial community. Marketing Campaign: Implement a targeted marketing campaign to raise awareness and attract participants, highlighting success stories and unique offerings. 										
Phase 4: Operationalization and Support (Ongoing) <ul style="list-style-type: none"> Program Implementation: Roll out educational and support programs, continuously adapting to 										

MILESTONES	YEAR									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<p>participant needs and industry trends.</p> <ul style="list-style-type: none"> Mentorship Network: Establish a robust mentorship network, connecting hub participants with experienced entrepreneurs and industry experts. Feedback and Iteration: Regularly collect feedback from participants and partners to refine programs and services. 										
Phase 5: Evaluation and Expansion (Annual Review) <ul style="list-style-type: none"> Impact Assessment: Conduct annual evaluations to assess the hub's impact on participants' success, identifying key outcomes and areas for improvement. Expansion Planning: Based on feedback and demand, plan for the expansion of services, programs, or physical space to accommodate more participants or new activities. 										
Tourism Attraction: Smart Campus and Research Hubs										
Phase 1: Planning and Design <ul style="list-style-type: none"> Assessment: Evaluate current facilities and identify upgrade needs. Conceptualization: Define the smart campus vision, focusing on IoT, sustainable energy, and interactive learning environments. Stakeholder Engagement: Consult with internal and external stakeholders for input and support. Design: Finalize the smart campus blueprint, integrating smart technologies and 										

MILESTONES	YEAR									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
infrastructure improvements.										
Phase 2: Implementation <ul style="list-style-type: none"> • Infrastructure Upgrades: Upgrade campus infrastructure to support smart technologies. • Technology Integration: Install IoT devices, AR platforms, and AI systems. • Partnerships: Establish partnerships with tech companies and educational institutions. • Program Development: Create interactive exhibits and educational programs showcasing innovations. 										
Phase 3: Launch <ul style="list-style-type: none"> • Pilot Testing: Test smart campus features and programs with select audiences. • Launch Event: Host an event to introduce the smart campus to the public. • Marketing: Promote the smart campus to attract visitors and participants. 										
Phase 4: Evaluation and Expansion <ul style="list-style-type: none"> • Evaluation: Gather and analyze user feedback to assess impact. • Improvement: Implement improvements based on feedback and emerging technologies. • Expansion: Plan for future expansion to incorporate new technologies and programs. 										

F. Roads and Transportation Development

Road Network

Figures 3.9 to 3.11 depicts the road network map for each campus location.

Proposed Road Network and Traffic Flow

Figures 3.12 to 3.15 depicts the proposed road and traffic flow particularly its entry and exit points for each campus location.

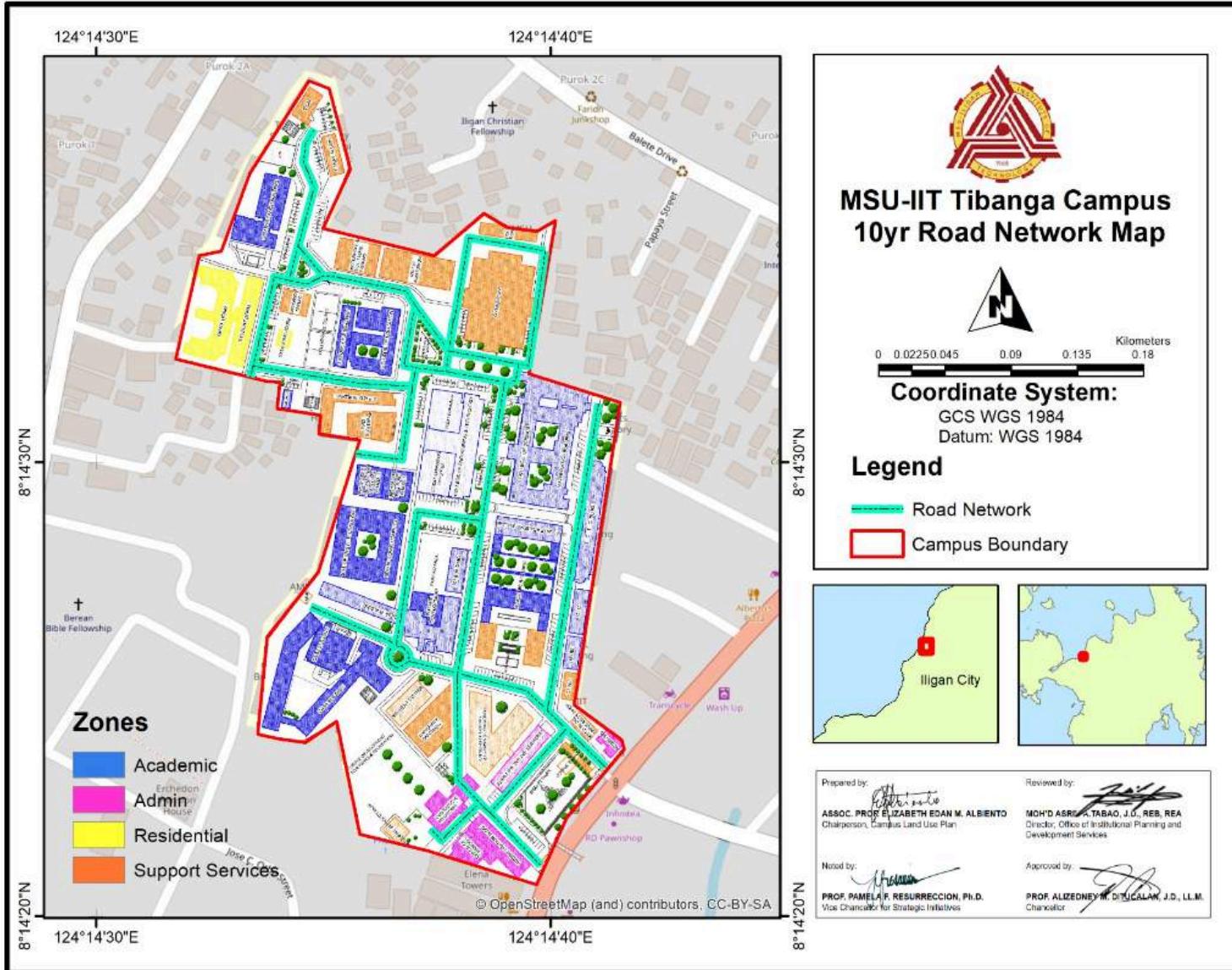


Figure 3.9. MSU-IIT Tibanga Main Campus 10-Year Road Network Map

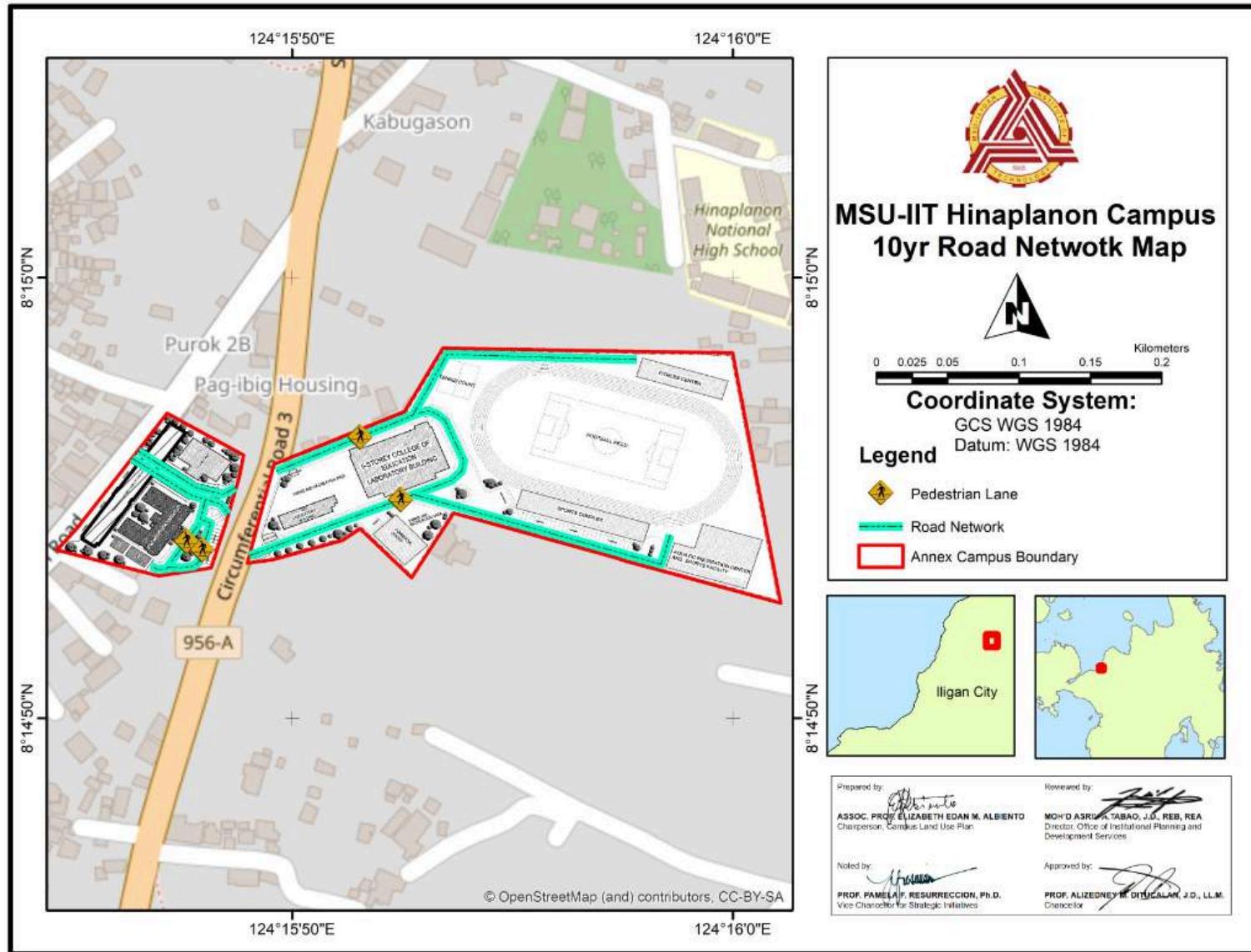


Figure 3.10. MSU-IIT Hinaplanon Campus 10-Year Road Network Map

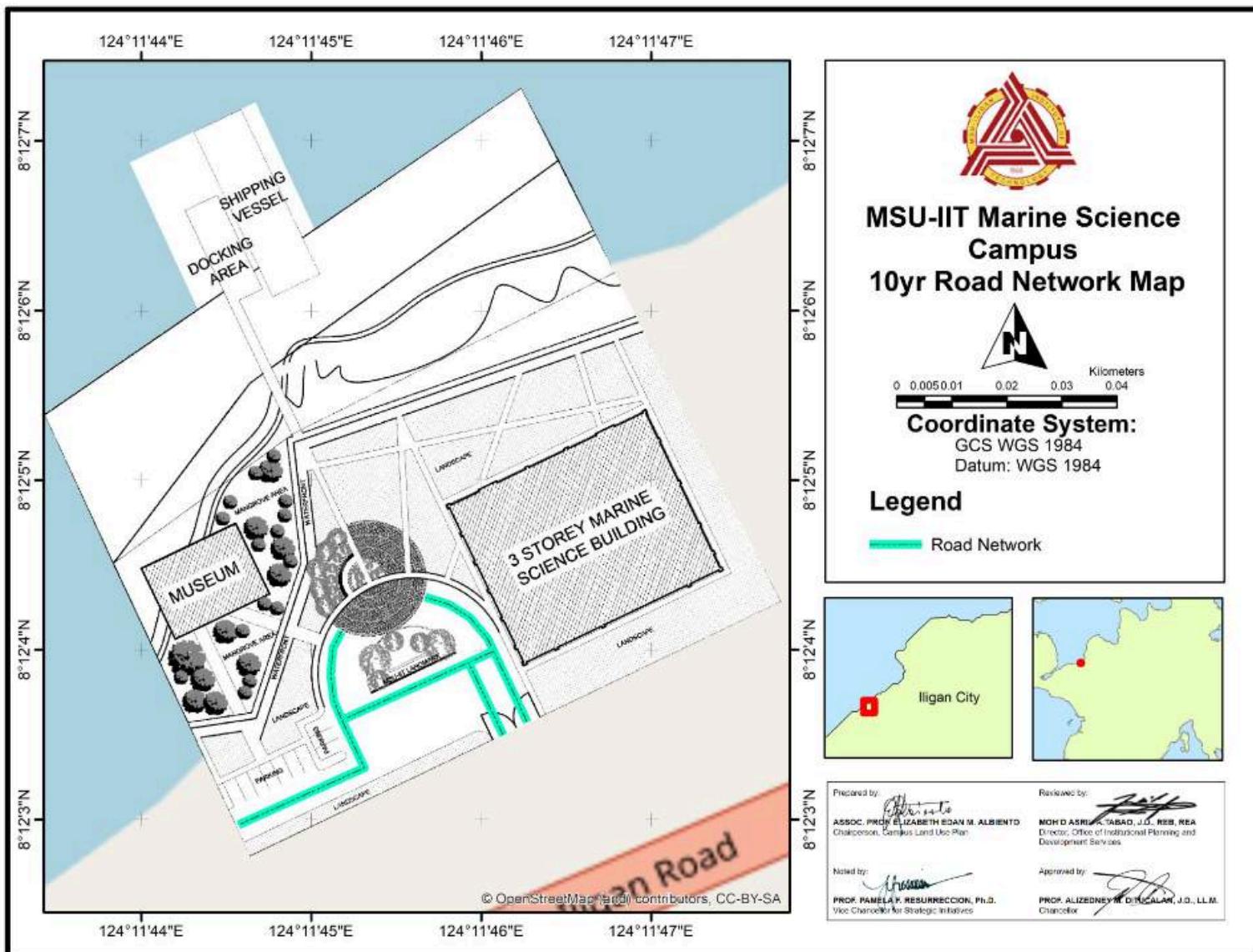


Figure 3.11. MSU-IIT Fuentes Campus 10-Year Road Network Map

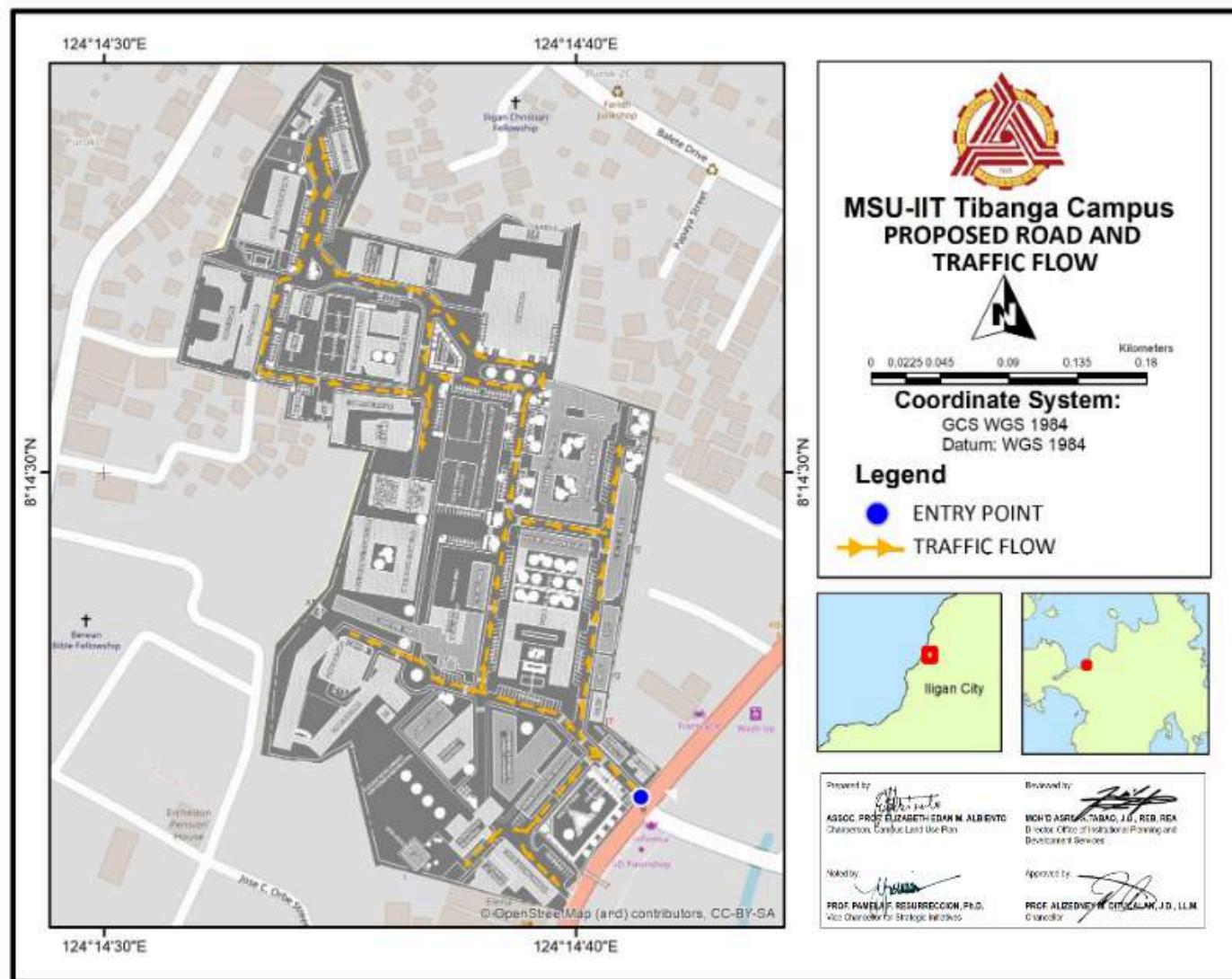


Figure 3.12. MSU-IIT Tibanga Main Campus Proposed Road and Traffic Flow (Entry Point)

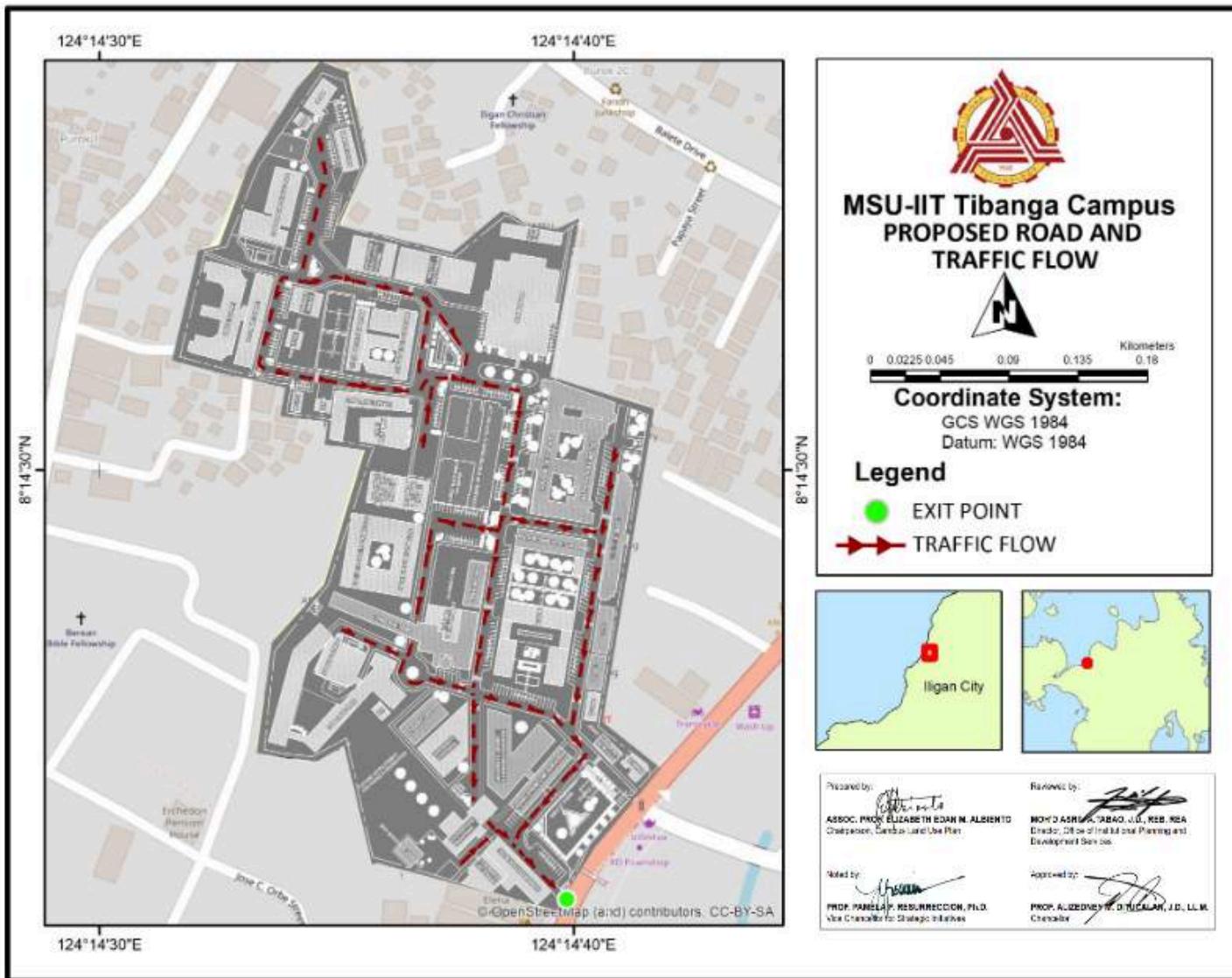


Figure 3.13. MSU-IIT Tibanga Main Campus Proposed Road and Traffic Flow (Exit Point)

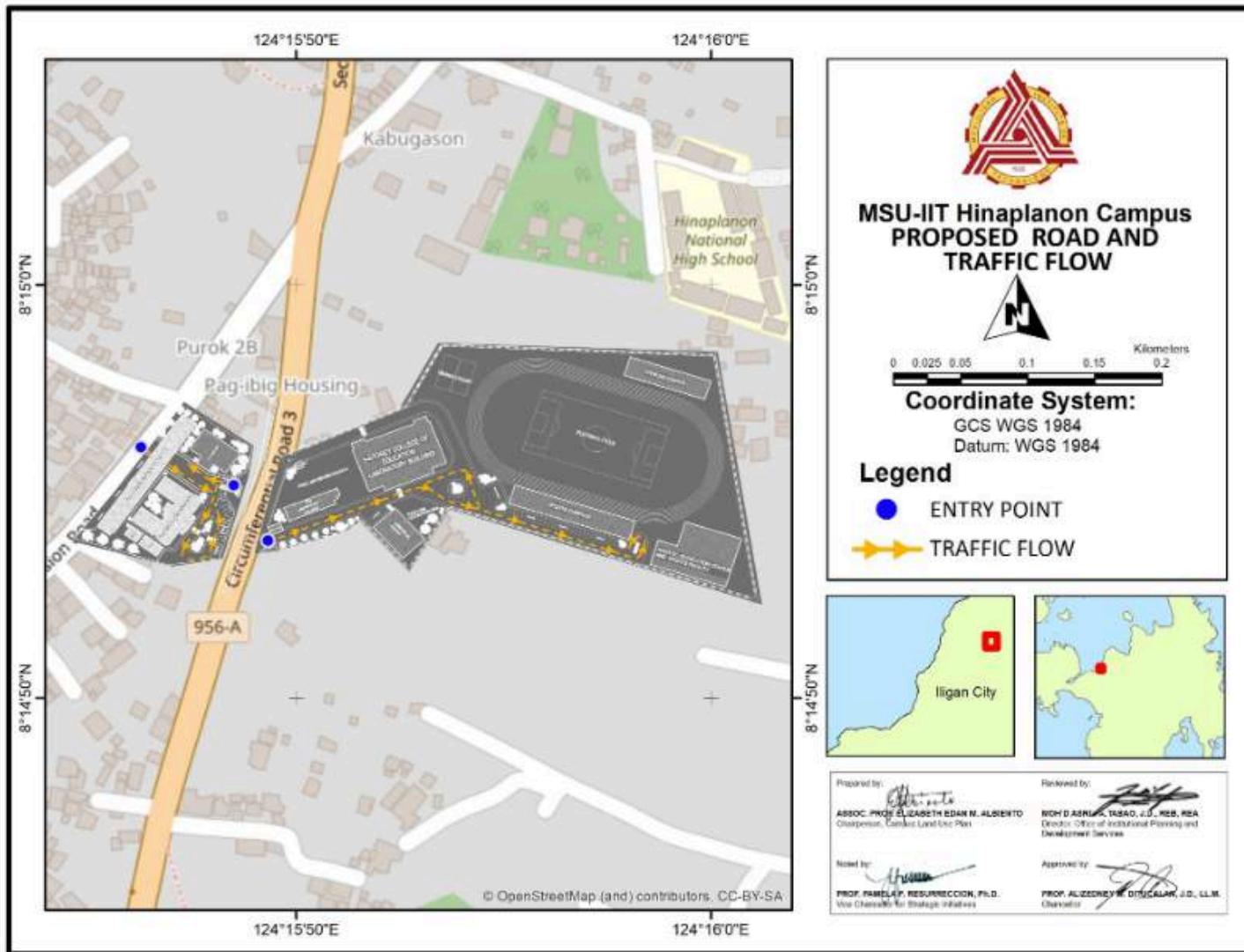


Figure 3.14. MSU-IIT Hinaplanon Campus Annex Proposed Road and Traffic Flow (Entry Point)

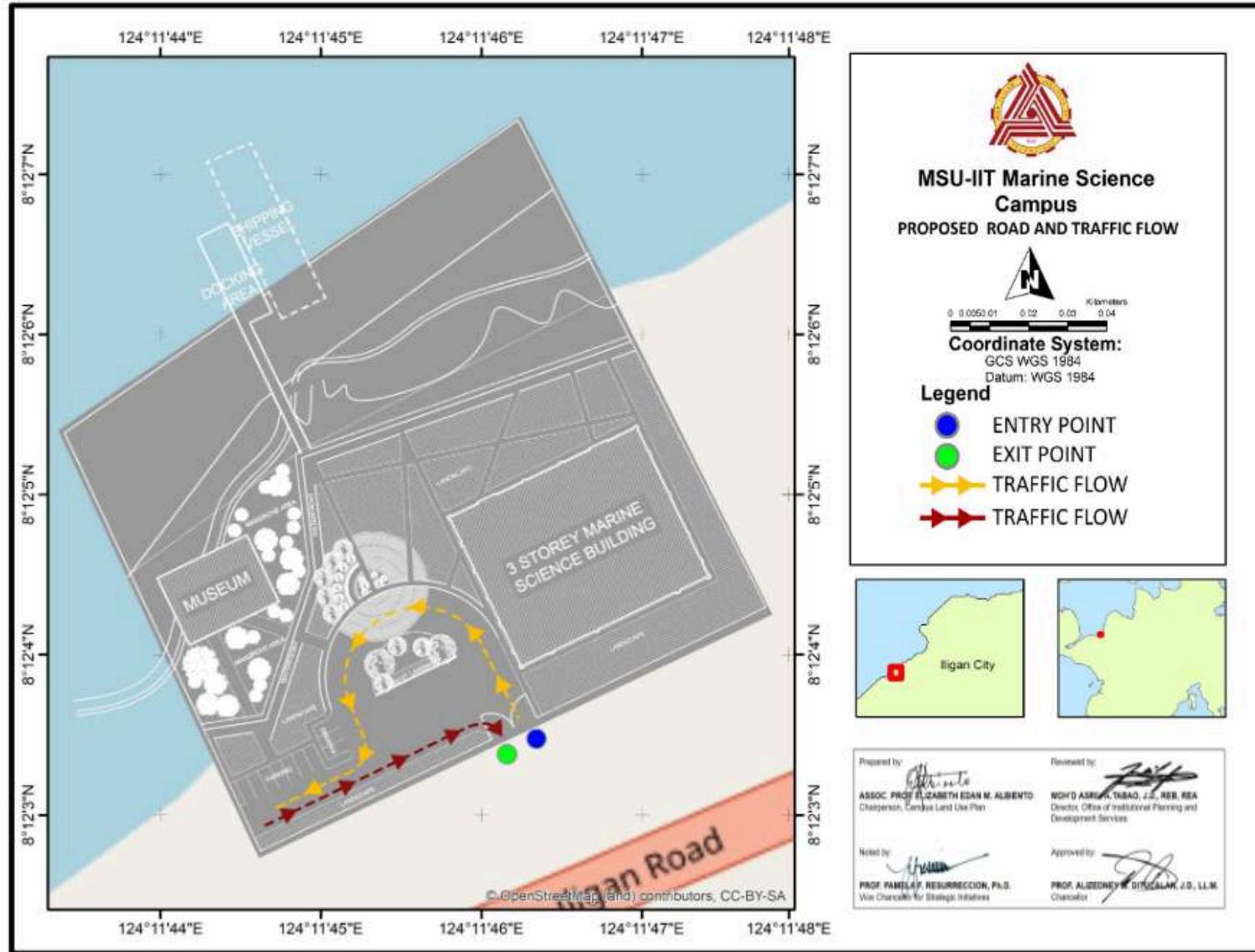


Figure 3.15. MSU-IIT Marine Science Complex (Fuentes Campus Annex) Proposed Road and Traffic Flow (Entry and Exit Points)

G. Environmental Management

Environmental Protection and Stewardship involves mitigating climate change and hazards, managing the wastes and water conservation. Take note that Projects and Activities are part of the Program while Program are part of a Plan and a Plan is part of what element of the environment it belongs to. Table 3.14 lists down the elements to protect and the description thereof.

Table 3.14. Elements to protect and its corresponding description

Elements for Environmental Protection and Stewardship	Plans	Program	Projects and Activities	Description and Outputs
Climate Change	Emission Reduction Plan	Sustainable Transportation	Bike Day	This is a monthly activity approved by the BOR so as to promote the use of bikes as a non-emitting form of transport. However, that activity will not be for bikers but also that it is also intended to promote walking and a regular orientation of the different hazards and how to keep one safe. Also one of the goals of this activity is to lobby the Iligan LGU to put up a bike lane for roads nearby MSU-IIT.
		Energy Conservation	Vehicular Registration Monitoring System	To ensure that the vehicle owners of faculty & staff of MSU-IIT contribute little emission , an app will be developed to monitor if all of their vehicles will be registered. Because prior registration, the vehicles should be tested for its emission. Unregistered vehicles will not be allowed to enter the campus.
			Feasibility Study for Emission Testing Center	Since there is only one accredited Emission Testing Center in Iligan City for MSU-IIT to set up its own emission testing center is likely feasible . The establishment of an emission testing center will ensure that the vehicle owners of faculty & staff of MSU-IIT contributes little emission , it will be convenient to the motorist at large, it serves as an Income Generating Project for MSU-IIT and lastly it could serve as an OJT for business management students. The FS comprises the market study, technical study, financial study and the management study.
		Energy Audit		The purpose of this is to know how much energy MSU-IIT is consuming, to identify which

Elements for Environmental Protection and Stewardship	Plans	Program	Projects and Activities	Description and Outputs
				devices/appliances/equipment are huge energy consuming and to determine how they can be replaced with more energy conserving devices/appliances/equipment and how much of savings IIT will accrue as a result of electric bill reduction.
			Renewable Energy	To identify which type or types of renewable energy can be feasibly adopted to reduce dependency from electric companies and how much of this renewable energy can even contribute to the central grid. Financial study will be conducted to determine cost benefit analyses and the savings that will accrue.
			Comprehensive Waste Analysis Characterization Study (WACS)	This will enable us to determine which waste and how much can be converted for composting, energy, disposal, money. The WACS serves the basis for coming up with a sound waste management plan
			Composting	Identify and assess what composting technology can be deployed, the market and financial study for it.
			Waste to Energy	Identify and assess what waste to energy technology can be deployed, the market and financial study for it.
			Waste Disposal Project	Determine the rate by which temporary storage facilities of disposal waste including hazardous will be filled, assess existing storage facilities, design appropriate storage facilities and identify contractor to dispose hazardous wastes
			Waste to money	Determine how much money can we generate from wastes
			Waste segregation robotics	Design and testing of robots that will segregate waste
		Campus Greening Program	Smart Outdoor Landscaping	This will be part of the Master Plan for landscaping and parks development
			Smart Indoor Landscaping	
			Carbon Sensor Product Development	To develop a sensor to monitor carbon emissions

Elements for Environmental Protection and Stewardship	Plans	Program	Projects and Activities	Description and Outputs
Physical Hazards	Flood Mitigation and Water Conservation	Flood Mitigation	Flood Assessment Project (on-going)	Determines the extent and the magnitude of flood given different rainfall scenarios . The output of which will be used for storm water drainage
			Drainage Master Plan (on-going)	There are 2 components . Assessment & Design for a storm water drainage and assessment & design for the waste water drainage . Inclusion in the drainage design is the underground cabling for electricity and internet.
		Water Conservation	Rain Water Harvesting Plan (on-going)	The purpose of which is to reduce flooding and to make use of rain for cleaning and watering the plants and thereby reduce water bill.
			Water Saving Devices Plan	This ensures that faucets are not left open ; such an approach will also reduce water bills.
			Water Metering Plan	Each building will have a water meter so as to properly monitor which building conserves or waste water so that appropriate actions will be taken.
	Earthquake Plan	Earthquake Resilient Infrastructure	Earthquake Assessment Project (on-going)	This is a simulation study to determine the magnitude and intensity given an earthquake depth that results in severe damage and its corresponding effect to liquefaction.
			Building Earthquake Resiliency Assessment Project	To determine which building is vulnerable to earthquakes. This will serve as an input to building retrofitting plan and for the appropriate Earthquake Evacuation Site Plan
			Building Retrofitting Plan	Buildings that are vulnerable to earthquakes will be designed for retrofitting which will also involve the financial requirements needed for retrofitting.
			Earthquake Evacuation Site Plan	This will be identified after assessing the toppling orientation and reach of buildings that may collapse during an earthquake.
		Geological Monitoring	Seismographic Device Establishment	This is to determine if there are other active fault lines existing other than the one found in Marawi-Saguiaran-Kapai.

Elements for Environmental Protection and Stewardship	Plans	Program	Projects and Activities	Description and Outputs
Storm Surge Protection Plan	Mangrove Reforestation		Storm Surge Exposure Assessment (On-going)	The output will serve as a basis for coastal protection.
			Coastal Characterization & Assessment Study	This will serve as a basis for species-site matching and the current velocity of the sea.
		Wave breaker Project	This will ensure to protect the planted mangrove seedlings.	
		Mangrove Planting	This is necessary for the enrichment and/or reforestation of the mangrove forest.	
		Coastal Clean-up	This involves determining the cost in maintaining a healthy coastal environment.	
	Water Conservation		Rain Water Harvesting Plan (on-going)	Already mentioned in the water conservation program.
			Water Saving Devices	
			Water Metering Plan	
		Water Filtering System Devices Development	Water Filtering System Devices Development	To improve water quality
		Fire Prevention	Fire Resilient Building Project	To assess and improve building and campus fire resiliency
	Fire Management Plan Fire Management Plan		Fire Resilient Campus Project	

H. Institutional Development Plan

The Institutional Development Plan of Mindanao State University - Iligan Institute of Technology (MSU-IIT) lays out a forward-looking roadmap aimed at propelling the institution towards new heights of academic distinction, research innovation, and societal contribution (see copy of BOR Res. No. 491, series of 2022 approving the Institutional Development Plan in Appendix X). Envisioned to guide MSU-IIT through a transformative journey, this plan articulates strategic priorities that embrace quality education, cutting-edge research, and dynamic community engagement, operational excellence, and a sustainable campus environment. It underscores the university's dedication to fostering an environment that nurtures intellectual growth, cultivates technological advancements, and champions sustainable development. By aligning its objectives with national and global educational standards, MSU-IIT is committed to shaping a future where its community thrives on knowledge, inclusivity, and resilience, thereby reinforcing its role as a pivotal force in regional and national progress.

I. Investment Plan

The Investment Plan of Mindanao State University - Iligan Institute of Technology's (MSU-IIT) Land Use Development and Infrastructure Plan (LUDIP) is a strategic financial blueprint designed to meticulously orchestrate the university's development trajectory over the coming years. Central to this plan is the concept of investment programming, a critical tool that meticulously outlines the prioritization of projects, aligning them with specified timelines and ensuring their alignment with the available funding sources. This process is instrumental in establishing a structured hierarchy of initiatives, enabling the institution to effectively sequence and implement projects in accordance with their strategic importance and urgency.

At the heart of this Investment Plan is the Indicative Financing Plan, a detailed financial representation that encompasses the comprehensive cost of development. This includes a nuanced cost breakdown per year of all proposed programs and projects, offering a clear view of the financial implications of the LUDIP's execution. This plan signifies the fiscal mapping of MSU-IIT's future growth but also embodies a commitment to financial transparency, accountability, and strategic foresight.

By delineating between capital investments, operational expenditures, and potential funding avenues, the Investment Plan ensures that every project, whether it's infrastructural enhancements, technological upgrades, or academic program expansions, is financially viable and strategically timed. It acts as a cornerstone for the university's decision-makers, providing them with a robust framework to guide the allocation of resources, the pursuit of funding opportunities, and the overall financial stewardship of the institution's developmental agenda. The ultimate aim is to forge a sustainable path forward, transforming vision into reality through prudent, strategic, and well-planned investment in the university's future.

It must be noted that the identified projects and programs are culled from inputs of various stakeholders which includes but are not limited to projects from previous years that are still for funding and the strategic direction of the University's current leadership as articulated in MSU-IIT's Vision 2032 and its 5-Year Development Plan.

Table 3.15 shows the indicative financing plan which includes the total project cost and cost breakdown per year for multi-year projects, by campus location.

Table 3.15. Indicative Financing Plan for MSU-IIT's Programs and Projects, by Campus Location

Project/Program	Total Project Cost (in PhP)	Target Year of Implementation	Funding Source
TIBANGA MAIN CAMPUS			
Academic Infrastructure			
Design and Build of the College of Economics, Business, and Accountancy (CEBA) Academic Building	168,000,000.00	2025	GAA
Design and Build of the University Library and Learning Commons Building	100,000,000.00	2025	GAA
Design and Build of the Information and Communication Technology Center (ICTC) and Innovation Building	180,000,000.00	2026	GAA
Design and Build of Graduate Academic Building	100,000,000.00	2025	GAA/ INCOME
Academic Building (ICONIC)	349,545,000.00	2025-2032	GAA/

			INCOME
Physical Education Building	52,292,800.00	2025-2032	GAA/ INCOME
Rehabilitation/ Building Improvements			
Redesigning interior space of iDEYA (Business Incubator)	15,000,000.00	2024	INCOME
Redesign and Improvement of Portion of Old SET Building to MSU-IIT FabLab Mindanao	25,000,000.00	2024	INCOME
Redesign and Improvement of Portion of Existing SET Building to Center for Bamboo Research and Technology and Center for Ceramics Research Complex	1,000,000.00	2025	INCOME
Rehabilitations and Renovations of Old Buildings <ol style="list-style-type: none"> 1. Renovation of Administration Building - Ground Floor and Second Floor (Centralization of VC Offices) 2. Conversion of Hostel into Student Services Hub 3. Improvement of ICTC Roof Deck (Proposed Multi-Purpose Hall/Lounge) 4. Minor Renovations at CSM Building - Painting works, Drywall Wall Partitioning, etc. 5. Minor Renovations at COE Building - Painting works, Drywall Wall Partitioning, etc 6. Minor Renovations at CED Building - Painting works, Drywall Wall Partitioning, etc. 7. Minor Renovations at ETC Building - Painting works, Drywall Wall Partitioning, etc 	25,000,000.00	2024	INCOME
Other Infrastructure			
University Cafeteria	58,170,000.00	2025	GAA/ INCOME
Student Center	31,500,000.00	2025-2032	GAA/ INCOME
Design and Build 3-Storey Motorpool and Carpark Building	63,751,800.00	2025-2032	GAA/ INCOME
University Masjid	19,530,000.00	2025-2032	GAA/ INCOME
Student Dorm	93,317,000.00	2025-2032	GAA/ INCOME
Animal House	5,124,000.00	2025-2032	GAA/

			INCOME
Sewage Treatment Plant and Material Recovery Facility	2,625,000.00	2025-2032	GAA/ INCOME
HINAPLANON ANNEX CAMPUS			
Academic Infrastructure			
Designing and Building, Furnishing, and Equipping of the Research Institute for Engineering and Innovative Technology (RIEIT) Complex with the Common Service Facility (Central Laboratory) for Mindanao	120,000,000.00	2025	GAA
Design and Build of the Health and Allied Medical Sciences Building	100,000,000.00	2027	GAA
5-storey Student and Staff Residences	150,000,000.00	2027	GAA
Sports Complex at Hinaplanon 1. MSU-IIT Grandstands 2. Stadium oval and track and field 3. Lawn tennis	567,456,050.00	2026-2032	GAA/ INCOME
College of Health Sciences	130,182,500.00	2025-2032	GAA/ INCOME
Land Improvements			
Land Improvement of Hinaplanon Campus Annex Grounds	50,000,000.00	2024	INCOME
Other Infrastructure			
Material Recovery Facility	2,750,650.00	2025-2032	GAA/ INCOME
Sewage Treatment Plant	6,225,800.00	2025-2032	GAA/ INCOME
Commercial Center	20,947,500.00	2025-2032	GAA/ INCOME
Aquatic Recreation Center and Sports Facility	176,918,700.00	2025-2032	GAA/ INCOME
Fitness Center	43,050,000.00	2025-2032	GAA/ INCOME
FUENTES ANNEX CAMPUS			
Academic Infrastructure			
MSU-IIT Marine Science Complex	180,000,000.00	2026	GAA
Other Infrastructure			
Museum	10,500,000.00	2025-2032	GAA/

			INCOME
Docking Area	7,589,750	2025-2032	GAA/ INCOME

DESIGN PERSPECTIVES BY CAMPUS LOCATION

The following are the design perspectives of MSU-IIT's infrastructure projects for each campus location.

TIBANGA MAIN CAMPUS

Design and Build of the College of Economics, Business, and Accountancy Academic Building



Project Cost: PhP168,000,000.00

Total Floor Area: 3,358.00 SQ.M.

Design and Build of the University Library and Learning Commons Building



Project Cost: PhP100,000,000.00

Total Floor Area: 2,522.68 SQ.M.

Design and Build of the Information and Communication Technology Center and Innovation Building



Project Cost: PhP180,000,000.00

Total Floor Area: 3,074.37 SQ.M.

Design and Build of the Graduate Academic Building



Project Cost: PhP100,000,000.00

Total Floor Area: 3,000.11 SQ.M.

Academic Building (ICONIC)



Project Cost: PhP 349,545,000

Total Floor Area: 9,987 SQ.M.

Physical Education Building



Project Cost: PhP 52,292,800

Total Floor Area: 1,494.08 SQ.M.

University Cafeteria



Project Cost: PhP7,775,400.00

Total Floor Area: 259.18 SQ.M.

Student Center



Project Cost: PhP 31,500,000

Total Floor Area: 900 SQ.M.

Design and Build 3-Storey Motorpool and Carpark Building



Project Cost: PhP83,660,000.00

Total Floor Area: 3,103.5 SQ.M.

University Masjid



Project Cost: PhP 19,530,000

Total Floor Area: 558 SQ.M.

Student Dormitory



Project Cost: PhP 93,317,000

Total Floor Area: 2,666.20 SQ.M.

Animal House



Project Cost: PhP 5,124,000

Total Floor Area: 146.4 SQ.M.

Other Infrastructure at Tibanga Main Campus	Project Cost	Total Floor Area (sq.m.)
Sewage Treatment Plant and Material Recovery Facility	2,625,000	75.00

HINAPLON ANNEX CAMPUS

Designing and Building, Furnishing, and Equipping of the Research Institute for Engineering and Innovative Technology Complex with the Common Service Facility (Central Laboratory) for Mindanao



Project Cost: PhP 120,000,000

Total Floor Area: 2,723.12 SQ.M.

Design and Build of the Health and Allied Medical Sciences Building



Project Cost: PhP 100,000,000

Total Floor Area: 2,474.50 SQ.M.

5-Storey Student and Staff Residences



Project Cost: PhP 150,000,000

Total Floor Area: 3,413.05 SQ.M.

College of Health Sciences



Project Cost: PhP 130,182,500

Total Floor Area: 3,719.50 SQ.M.

Other Infrastructure at Hinaplanon Annex Campus	Project Cost	Total Floor Area (sq.m.)
Sports Complex at Hinaplanon 1. MSU-IIT Grandstand 2. Stadium oval and track and field 3. Lawn tennis	567,456,050	16,213.03 (921.14) (14,612.03) (679.86)
Material Recovery Facility	2,750,650.00	78.59
Sewage Treatment Plant	6,225,800.00	177.88
Commercial Center	20,947,500.00	598.50
Aquatic Recreation Center and Sports Facility	176,918,700.00	5,054.82
Fitness Center	43,050,000.00	1,230.00

FUENTES ANNEX CAMPUS

MSU-IIT Marine Science Complex



Project Cost: PhP180,000,000.00

Total Floor Area: 4,081.12 SQ.M.

Other Infrastructure at Fuentes Annex Campus	Project Cost	Total Floor Area (sq.m.)
Museum	10,500,000	300.00
Docking Area	7,589,750	216.85

Source of Funds

Mindanao State University - Iligan Institute of Technology (MSU-IIT) typically relies on a variety of funding sources to support its operations, academic programs, research endeavors, and infrastructure development. Some common sources of funding for MSU-IIT include:

1. Government Appropriations: MSU-IIT receives funding from the national government through the Department of Budget and Management (DBM) and the General Appropriations Act (GAA). These appropriations are allocated for the university's operating expenses, salaries and benefits of faculty and staff, infrastructure projects, and other institutional needs.
2. Tuition and Fees: MSU-IIT generates revenue from tuition fees, miscellaneous fees, and other charges paid by students enrolled in its academic programs. These fees are being reimbursed from the Commission on Higher Education (CHED) which contribute to the university's overall budget and help support its day-to-day operations, academic services, and student support initiatives.
3. Research Grants and Contracts: MSU-IIT faculty members often secure research grants and contracts from government agencies, private foundations, international organizations, and industry partners to support their research projects and scholarly activities. These external funds provide resources for conducting research, purchasing equipment, hiring research assistants, and disseminating research findings.
4. Philanthropic Support: MSU-IIT may receive donations, endowments, and grants from alumni, philanthropists, corporations, and other benefactors who wish to support the university's mission and initiatives. These philanthropic contributions can be directed towards scholarships, academic programs, infrastructure projects, research centers, and other priority areas identified by the university.
5. Income-Generating Activities: MSU-IIT may engage in income-generating activities such as rental of university facilities, conduct of continuing education programs, and sale of products or services (university shop and coffee shop). Income from these activities supplements the university's budget and supports its various programs and services.

3.3 SITE DEVELOPMENT PLAN

A. General layout and configuration of Campus Development Plan

TIBANGA MAIN CAMPUS

The proposed building/ infrastructure will be located at MSU-IIT Tibanga Main Campus with a central coordinate of Latitude 8.241574 and Longitude 124.244118. The location is within the urban core of the city, which is under Institutional zone considering the current version of the Iligan City Land Use Plan. These coordinates pinpoint the location of the proposed structure, aiding in national spatial analysis.

The site encompasses approximately 31,144.52 m² of land characterized by a generally flat terrain with maximum elevation of 2 meters from the mean sea level. The site is mostly alluvial deposits which makes foundations for mid-rise and high-rise infrastructure challenging. In other words, this may require special design for the foundation of buildings, e.g., piles and mat foundations, to support the dead weight of the superstructures. Nevertheless, due to the flat terrain, there is less requirement for fill materials, and the area is conducive to landscaping and gardening. Moreover, while the area is generally flat it provides natural drainage, which can be supplemented by a well designed drainage system. The area also provides a scenic view of the Iligan Bay for mid- to high-rise infrastructures. Moreover, accessibility to the site during construction is facilitated by its proximity to the National Highway, a primary arterial road traversing the city located just less than 500m from the proposed location. Additionally, during operation, the site could benefit from public transit accessibility,

with several jeepney stops located along the highway, providing convenient access to the proposed building for students, faculty, and administrative staff.

The site is dual-zoned for Educational Institutional and Medium-Density Residential uses, reflecting the mixed-use nature of the surrounding districts. Iligan City zoning regulations allow for a combination of educational facilities, such as schools or colleges and residential developments. Hence the proposed building is well within what is provided within its zonal location, allowing it to coexist harmoniously within the same zoning designation. The environmental considerations of the site focus on preserving the natural beauty and ecological integrity of the location. This is done by incorporating green design principles and sustainable land use practices to minimize environmental impacts. The design also considers stormwater management measures, landscaping with native vegetation, and energy-efficient building design to contribute to a sustainable and resilient built environment. The site is serviced by municipal utilities, including water, sewer, electricity, and telecommunications infrastructure, ensuring reliable access to essential services for the educational institutions during construction and operation. Utility connections are readily available along adjacent streets of the site, facilitating efficient development and operational management. Further, the surrounding land uses of the proposed location include a mix of educational facilities such as schools, colleges, and research institutions, interspersed with residential neighborhoods comprising diverse housing options and community amenities. Synergistic relationships between educational and residential uses contribute to a vibrant and dynamic neighborhood environment, fostering learning opportunities, social interaction, and cultural enrichment.

In terms of the historical and cultural significance, the proposed site does not have any historical landmarks. However, there are efforts to preserve cultural heritage and promote community engagement through educational programming, public art installations, and historical interpretation initiatives enhance the sense of place and identity of the proposed infrastructure within the neighborhood. Moreover, the design considerations prioritize compatibility with the surrounding build environment, blending architectural styles, materials, and landscaping features to create a cohesive and visually appealing campus. The architectural diversity and attention to detail reflect the unique character and identity of the educational and residential districts, enabling a sense of pride and belonging among residents and students alike.

In connection with the city's comprehensive land use plan, which emphasizes smart growth principles and balanced development strategies to accommodate population growth, economic expansion, and educational opportunities for future generations. The proposed infrastructure projects will include mixed-use developments and other community driven-inputs to create inclusive, sustainable, and livable neighborhoods.

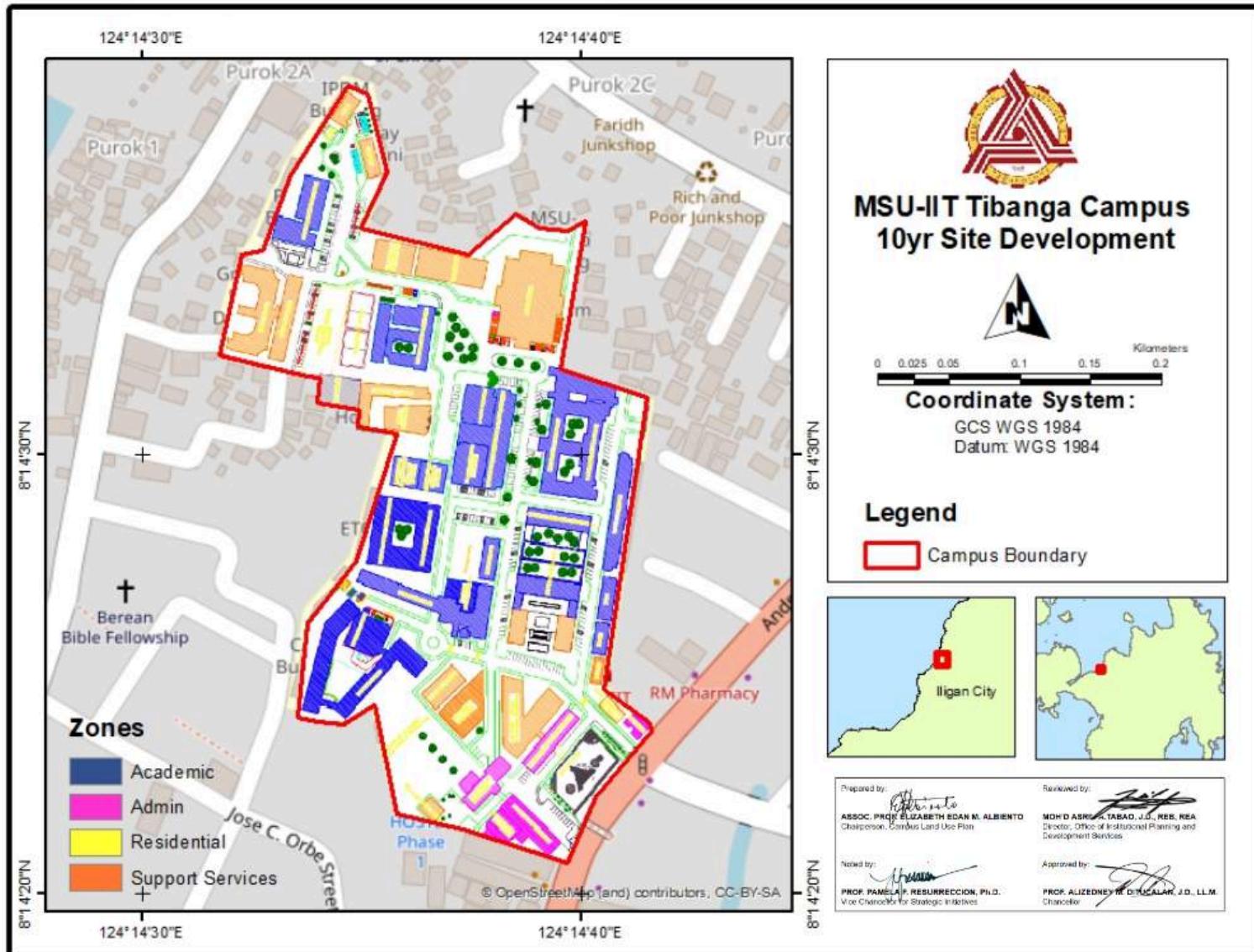


Figure 3.16. MSU-IIT Tibanga Main Campus 10-Year Site Development Plan

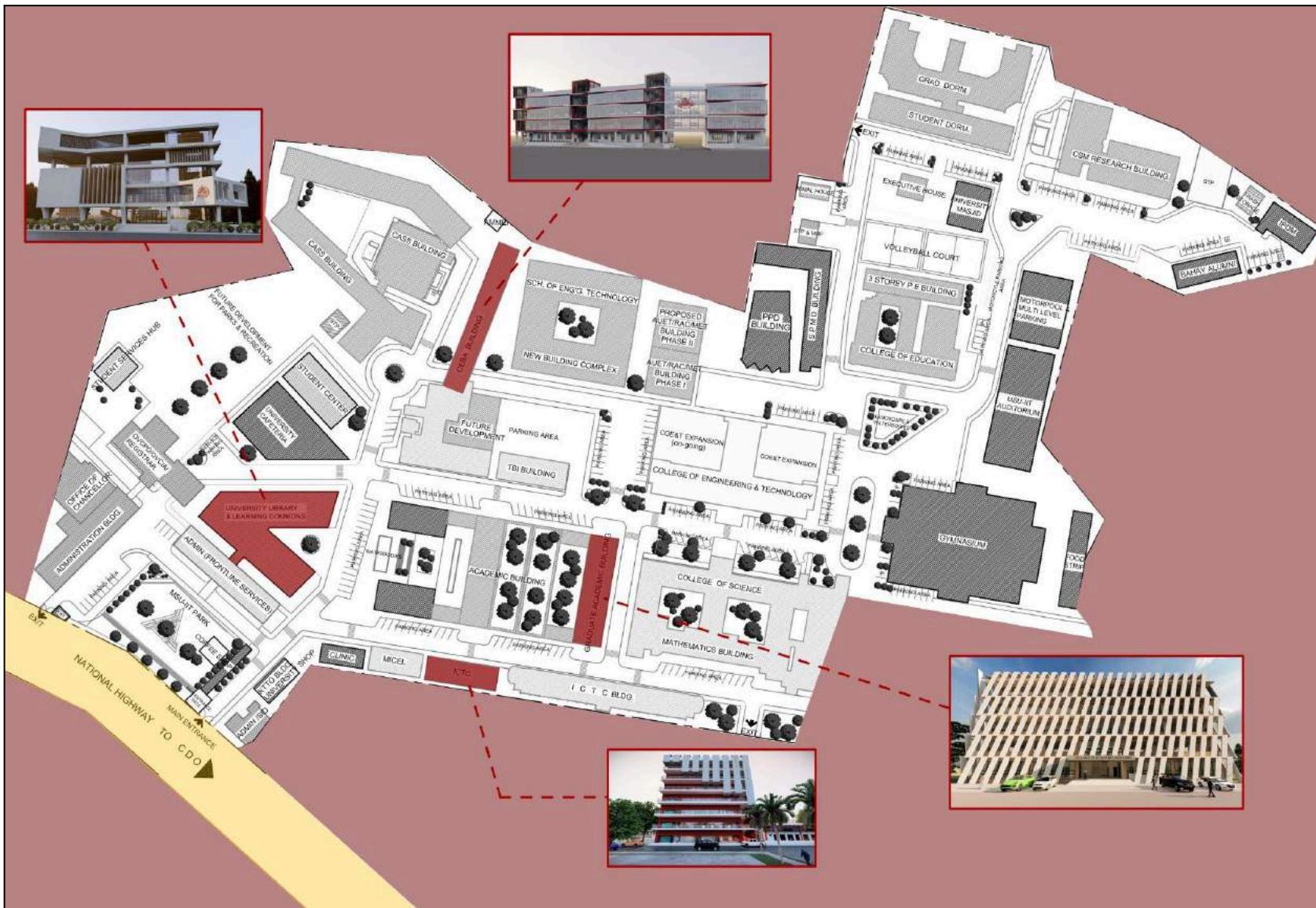
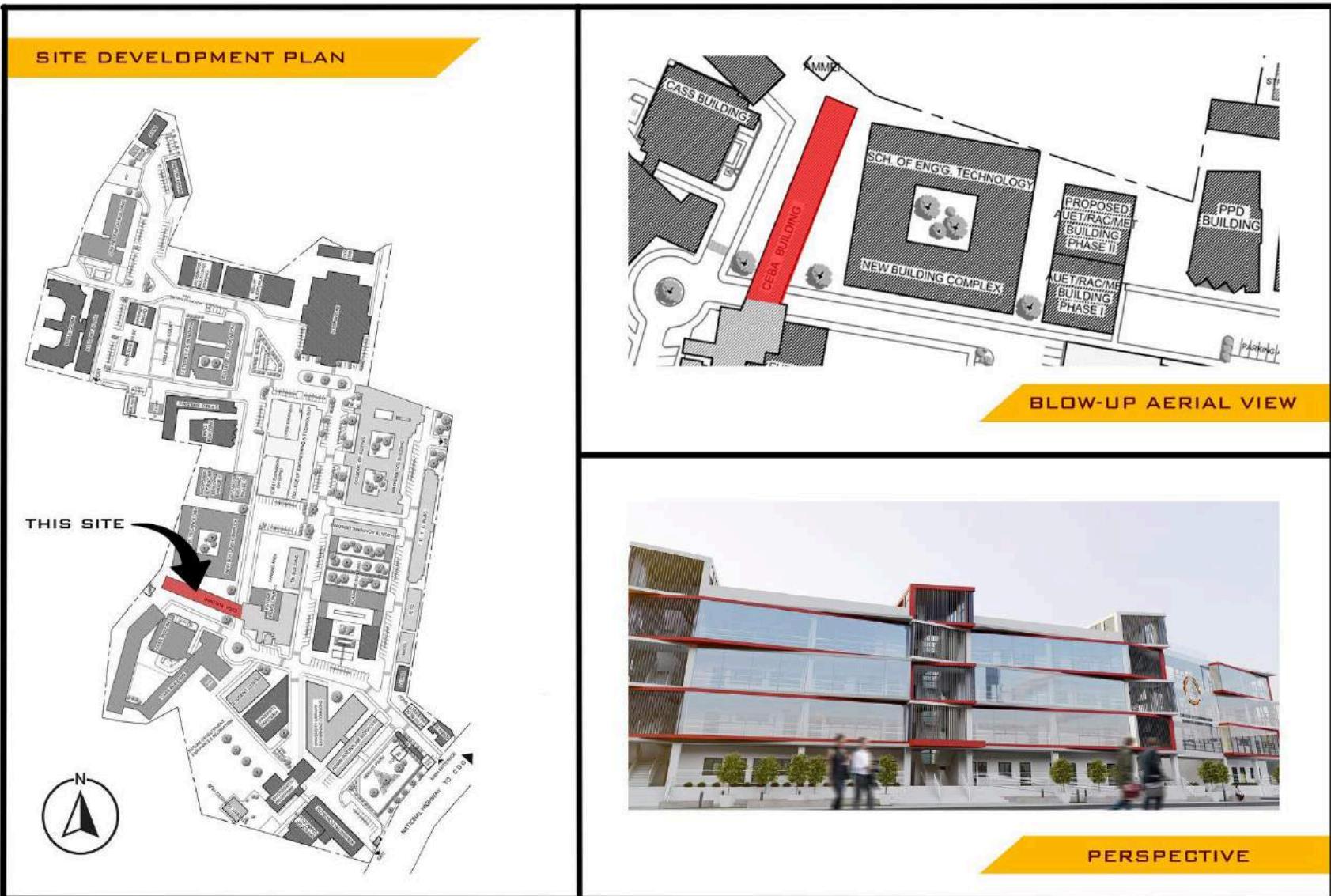
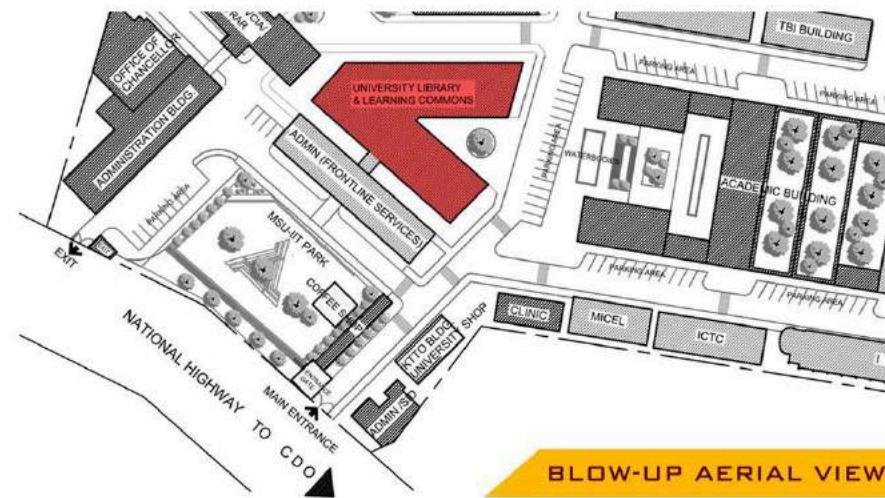
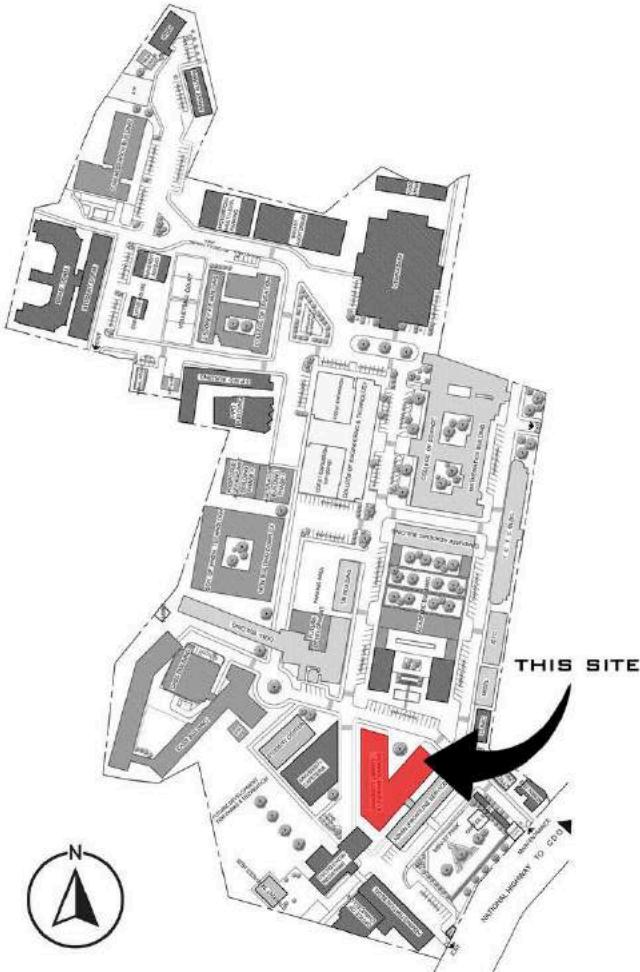


Figure 3.17. MSU-IIT Tibanga Main Campus Proposed Locally-Funded Projects



Tibanga Main Campus - Design and Build of the College of Economics, Business, and Accountancy Academic Building

SITE DEVELOPMENT PLAN



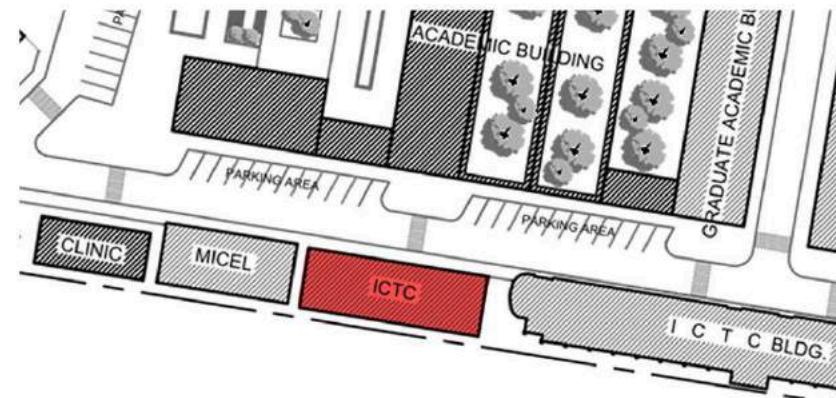
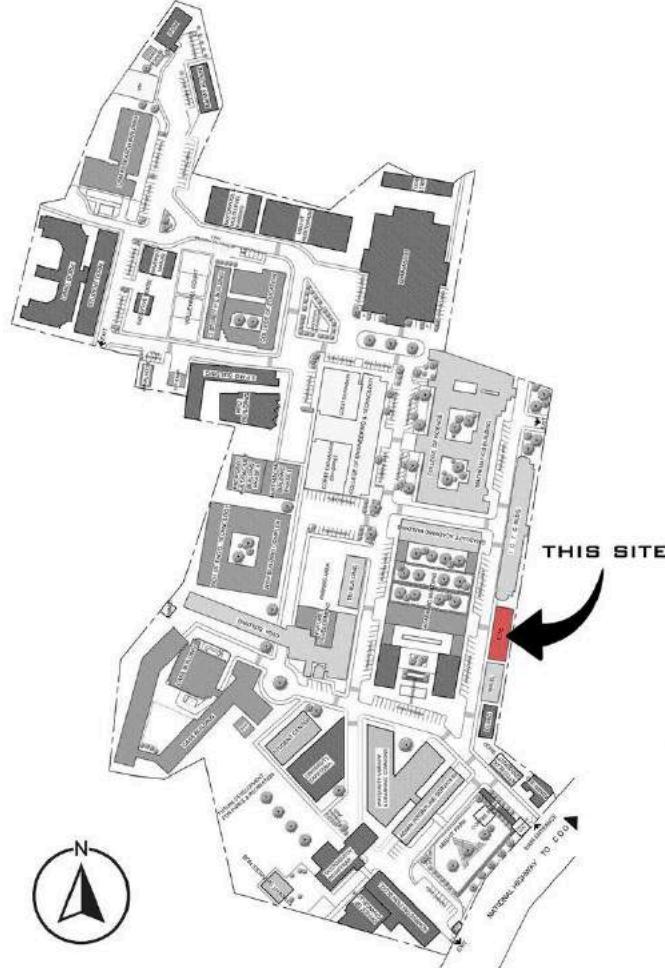
BLOW-UP AERIAL VIEW



PERSPECTIVE

Tibanga Main Campus - Design and Build of the University Library and Learning Commons Building

SITE DEVELOPMENT PLAN



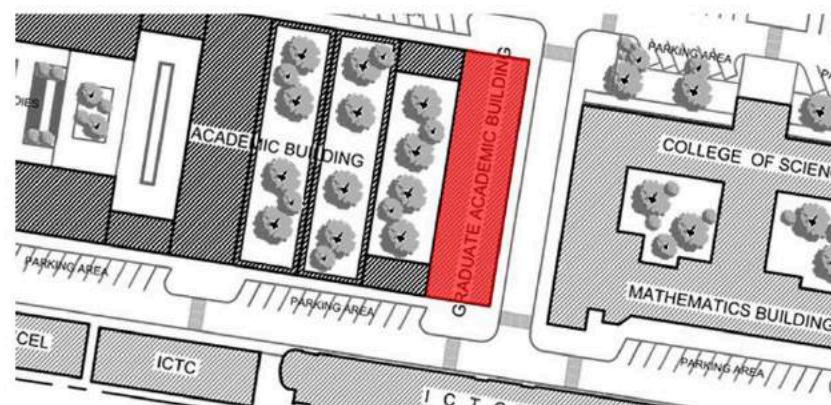
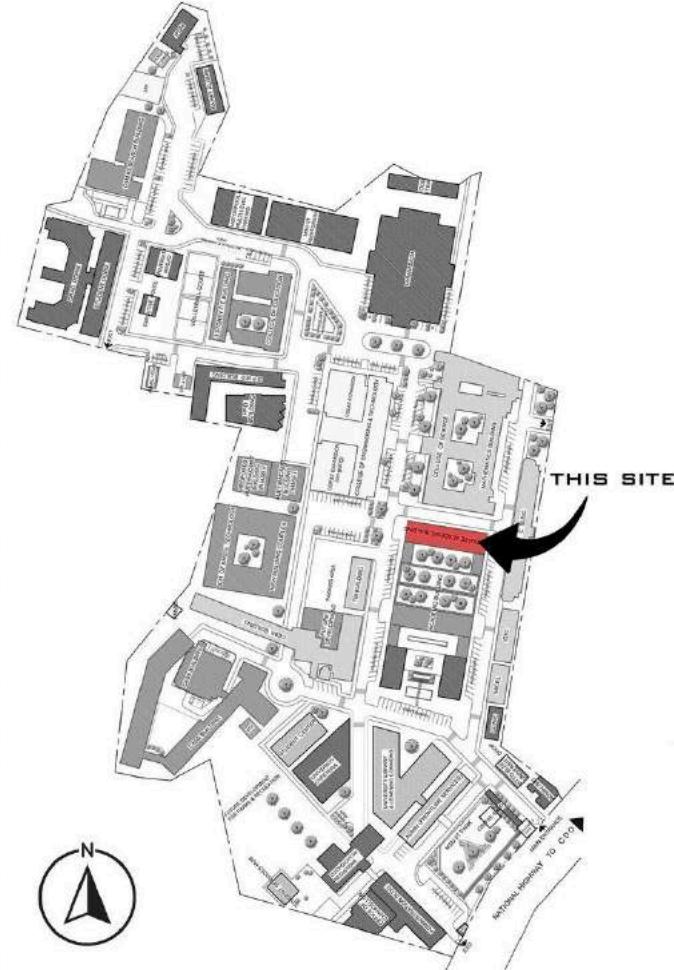
BLOW-UP AERIAL VIEW



PERSPECTIVE

Tibanga Main Campus - Design and Build of the Information and Communication Technology Center and Innovation Building

SITE DEVELOPMENT PLAN



BLOW-UP AERIAL VIEW



PERSPECTIVE

Tibanga Main Campus - Design and Build of Graduate Academic Building

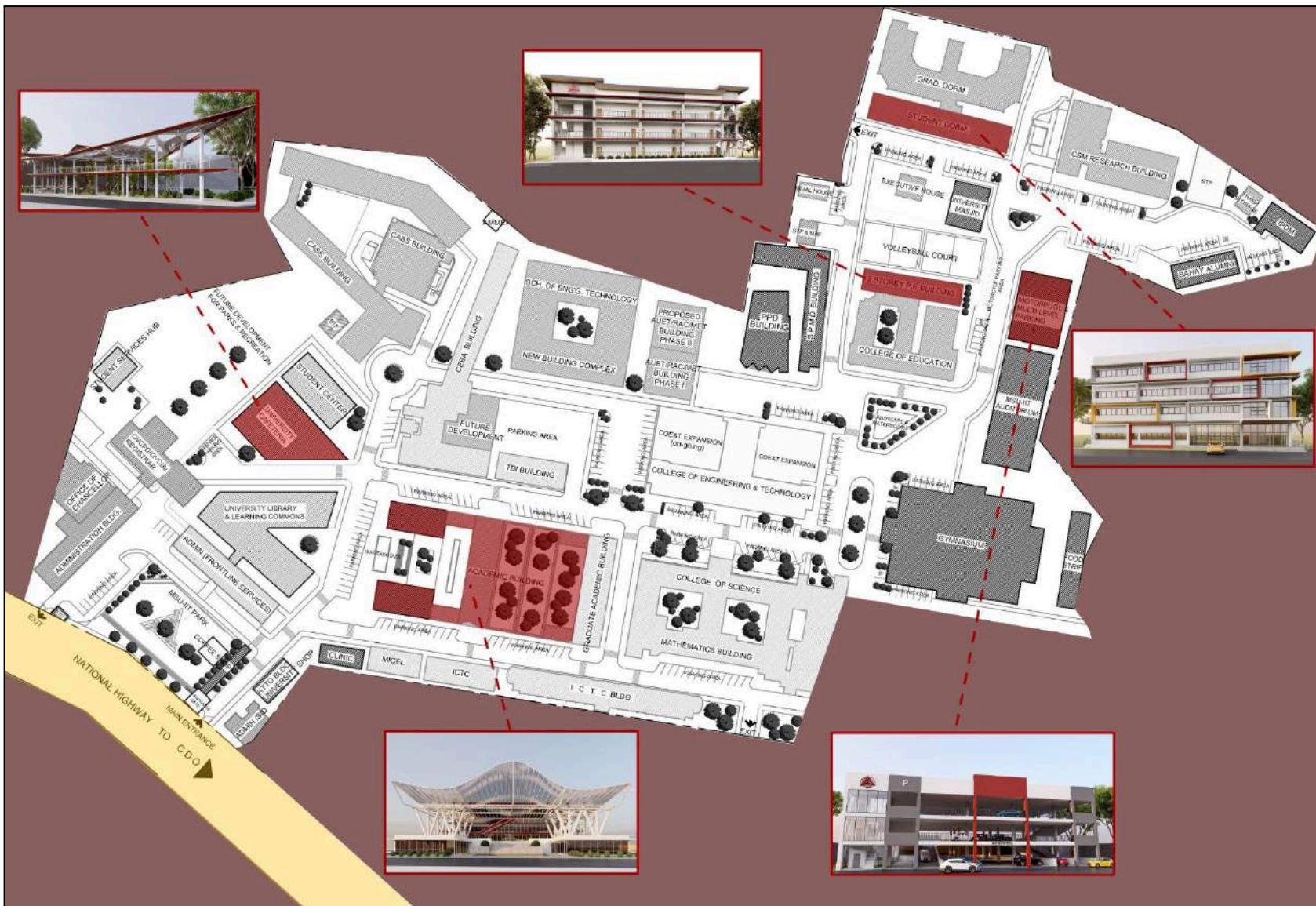


Figure 3.18. MSU-IIT Tibanga Main Campus Proposed Infrastructure Project

HINAPLANON ANNEX CAMPUS

The proposed building/infrastructure will be located at MSU-IIT Hinaplanon Campus with a central coordinate of Latitude 8.248652 and Longitude 124.264212. The location is within the urban core of the city, which is under educational institutional and residential zones considering the current version of the Iligan City Land Use Plan. These coordinates pinpoint the location of the proposed structure, aiding in regional, national evaluations, and spatial analysis.

The proposed site spans approximately 22,126.42 m², characterized by a predominantly flat terrain with a peak elevation above mean sea level. The site's composition primarily comprises alluvial deposits, presenting significant challenges for foundational construction, particularly for mid-rise and high-rise structures. Innovative foundation designs, such as pilings and mat foundations, will be imperative to support the substantial weight of the planned superstructures effectively. Despite these foundation complexities, the flat topography minimizes the demand for fill materials, fostering an environment conducive to extensive landscaping initiatives. Furthermore, the natural drainage afforded by the gently sloping landscape, complemented by a meticulously designed drainage system, fortifies the site's resilience against potential flooding events. The construction accessibility is optimized by the site's proximity to a circumferential road, a vital artery linking key urban centers. Situated just in front of the MSU-IIT property at Hinaplanon, Iligan City of the proposed location, the circumferential road provides quick access for construction traffic, facilitating efficient project execution.

The proposed site benefits from a dual zoning designation, accommodating both Educational Institutional and Medium-Density Residential uses, reflecting the diverse and dynamic nature of the surrounding districts. In accordance with Iligan City zoning regulations, this unique zoning classification allows for an easy integration of educational facilities, such as schools, colleges, alongside residential and commercial developments within the same geographical area. As such, the proposed building aligns perfectly with the intended land use provision, facilitating its harmonious coexistence within the designated zoning framework. The environmental stewardship of the proposed project lies at the forefront of site considerations, with a commitment to preserving the natural ecological vitality of the location. This consideration is manifested through the adoption of innovative green design principles and sustainable land use practices, aimed at mitigating adverse design principles and sustainable land use practices, aimed at mitigating adverse environmental impacts, and fostering long-term sustainability. Integral to this approach are robust stormwater management strategies, integration of native vegetation in landscaping initiatives, and adoption of energy-efficient building design methodologies, all of which collectively contribute to the cultivation of a resilient and environmentally conscious built environment.

The proposed site benefits from comprehensive municipal utility services, encompassing water, sewer, electricity, and robust telecommunications infrastructure. This ensures access to essential utilities crucial for supporting the educational institutions both during the construction phase and subsequent operation. Conveniently located utility connections along adjacent streets streamline the development process, facilitating efficient project implementation and ongoing operational management. Further, the surrounding land uses of the proposed location include a mix of educational facilities such as schools, colleges, and research institutions, interspersed with residential neighborhoods comprising diverse housing options and community amenities. Synergistic relationships between educational and residential uses contribute to a vibrant and dynamic neighborhood environment, fostering learning opportunities, social interaction, and cultural enrichment.

While the proposed site may lack tangible historical landmarks, it serves as an avenue for cultural preservation and community engagement initiatives. However, there are efforts to preserve cultural heritage and promote community engagement through educational programming, public art installations, and historical interpretation initiatives enhance the sense of place and identity of the proposed infrastructure within the neighborhood. Moreover, the design considerations prioritize compatibility with the surrounding build environment, blending architectural styles, materials, and landscaping features to create a cohesive and visually appealing campus. The architectural diversity and attention to detail reflect the unique character and identity of the educational and residential districts. This approach cultivates a shared sense of pride and belonging among residents and students alike, fostering a vibrant and inclusive community.

In connection with the city's comprehensive land use plan, which emphasizes smart growth principles and balanced development strategies to accommodate population growth, economic expansion, and educational opportunities for future generations. The proposed infrastructure projects will include mixed-use developments and other community driven-inputs to create inclusive, sustainable, and livable neighborhoods.

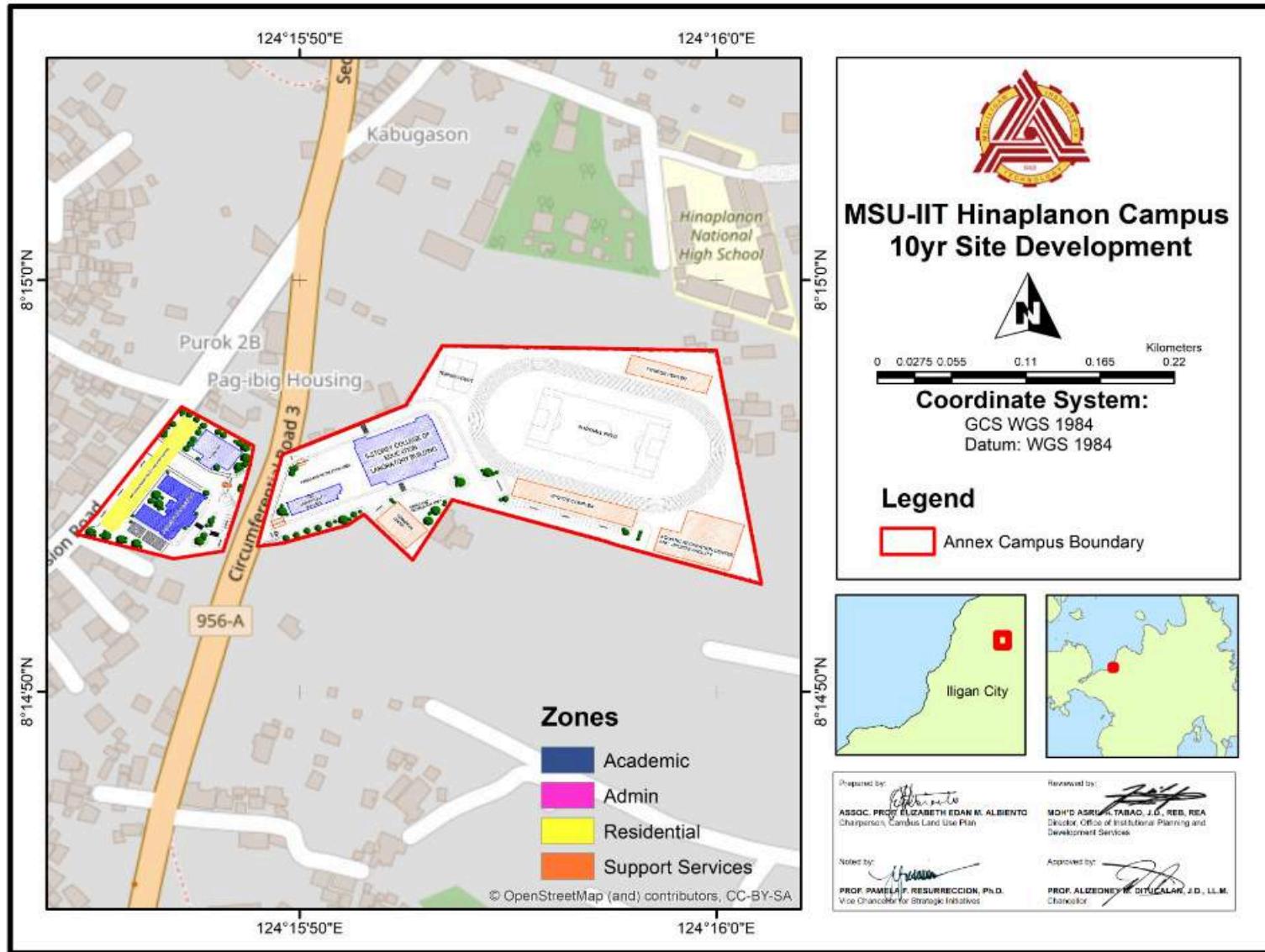
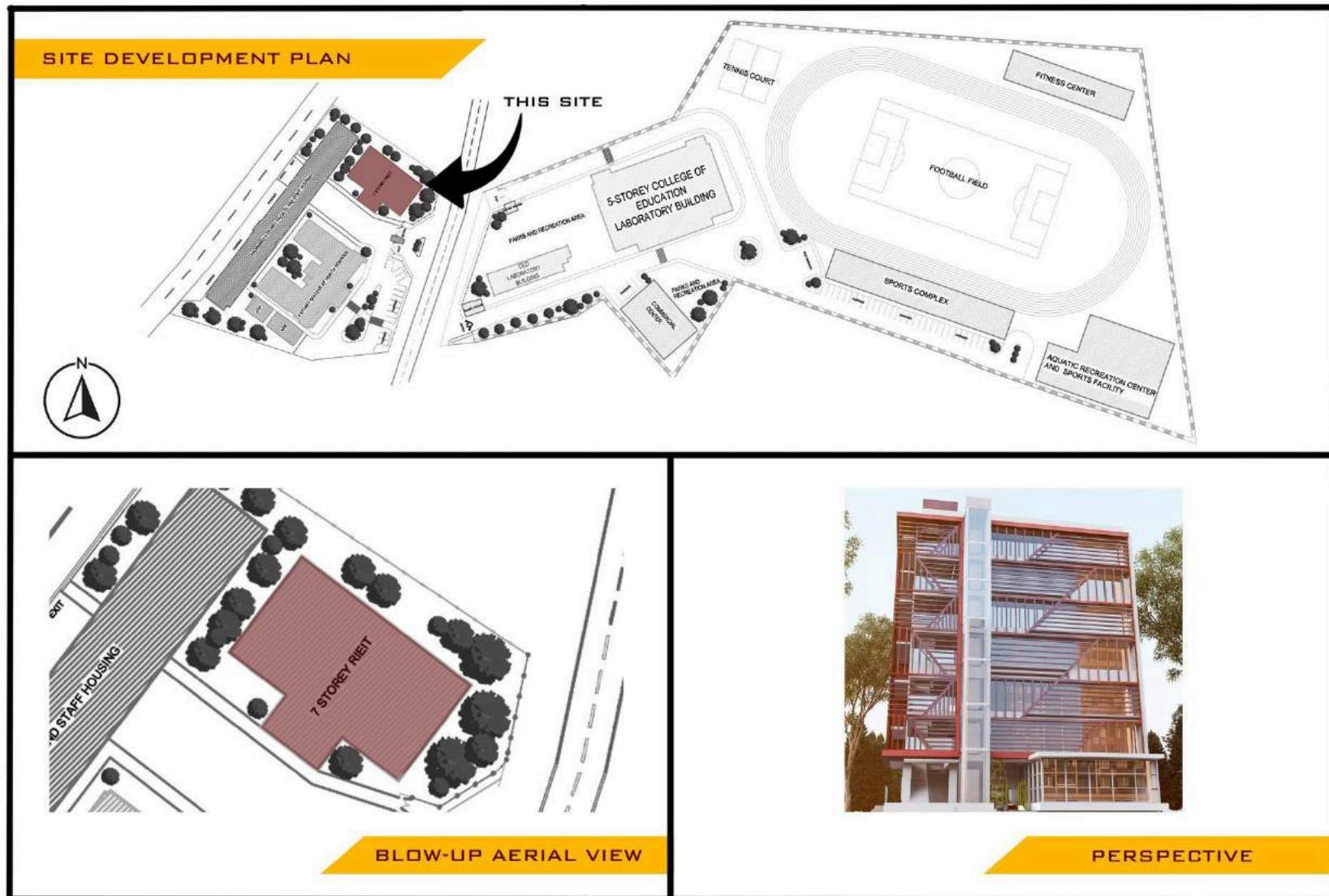


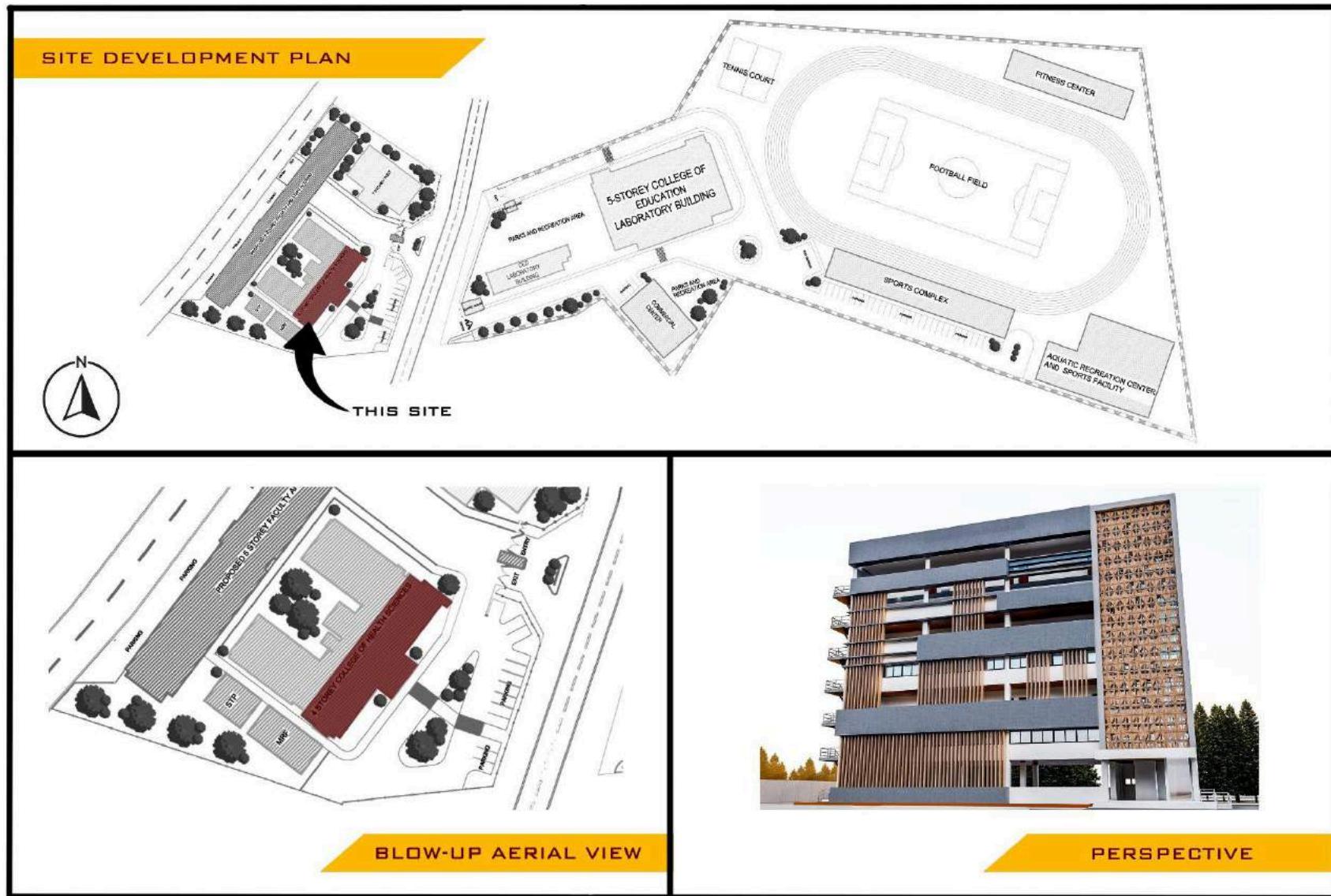
Figure 3.19. MSU-IIT Hinaplanon Campus Annex 10-Year Site Development Plan



Figure 3.20. MSU-IIT Hinaplanon Campus Annex Proposed Locally-Funded Projects



Hinaplanon Campus Annex - Designing and Building, Furnishing, and Equipping of the Research Institute for Engineering and Innovative Technology (RIEIT) Complex with the Common Service Facility (Central Laboratory) for Mindanao



Hinaplanon Campus Annex - Design and Build of the Health and Allied Medical Sciences Building



Hinaplanon Campus Annex - 5-Storey Student and Staff Residences

FUENTES ANNEX CAMPUS

The proposed site for the building is situated at MSU-IIT Fuentes area along the scenic seashore of Iligan Bay, offering unparalleled views of the ocean and coastline. The central coordinate of the site is Latitude 8.201265 and Longitude 124.196236. The site is approximately 6km from the Iligan City central district. The site encompasses a coastal landscape characterized by sandy beaches, mangrove vegetation, and gentle slopes leading towards the shoreline. Its proximity to the seashore presents unique opportunities for experiential learning and environmental education initiatives, enriching the educational experience for students and faculty alike.

Accessibility to the site is facilitated by its proximity to the National Highway – a major transportation artery, which is just less than 100 meters from the proposed site. Students, academic staff, non-academic staff, and visitors could benefit from convenient access to public transportation options at the location, with bus and jeepney services providing connectivity to nearby urban centers and communities. The site falls within a mixed-use zoning designation, accommodating a blend of residential, commercial, and industrial districts. This zoning classification permits the construction of educational facilities, such as schools or colleges, within the designated coastal zone, enabling the development of the proposed educational building in alignment with local land use policies.

Environmental stewardship is considered in the development of the proposed building, with a focus on preserving the natural beauty and ecological integrity of the coastal ecosystem. Sustainable design principles, including green building technologies, coastal erosion control measures, and habitat restoration initiatives, are integrated to minimize environmental impacts and promote long-term sustainability. Moreover, the site has access and could connect to essential utility infrastructure, including water, sewer, electricity, and telecommunications services, to support the operational needs of the educational building. This ensures reliable access to essential services to students, academic staff, non-academic staff.

The surrounding land uses of the proposed site comprise a mix of recreational amenities, residential development, industrial, and commercial establishments, contributing to the vibrant and dynamic character of the coastal community. Synergies between the educational building and adjacent land uses create opportunities for collaborative partnerships and community engagement initiatives, enriching the educational experience and fostering connections with the broader community. Moreover, although the site may not have significant historical landmarks, efforts to celebrate local heritage and promote cultural awareness are integral to the educational mission of the proposed building. The educational programming highlights the cultural significance of the coastal environment, fostering a deeper appreciation of the region's history and traditions among students and visitors.

The building's design considerations prioritize the aesthetic integration of educational buildings within the coastal landscape, with architectural elements and landscaping features that complement the natural beauty of the seashore. Sustainable building materials, panoramic windows, and outdoor learning spaces capitalize on the scenic vistas and abundant natural light of the location, creating an inspiring and inviting educational environment. The development of the educational building represents a strategic investment in the future of coastal education and sustainable development. Future plans may include expansion of educational programming, the enhancement of recreational amenities, and the implementation of coastal resilience measures to adapt to changing environmental conditions and ensure the long-term viability of the educational facility.

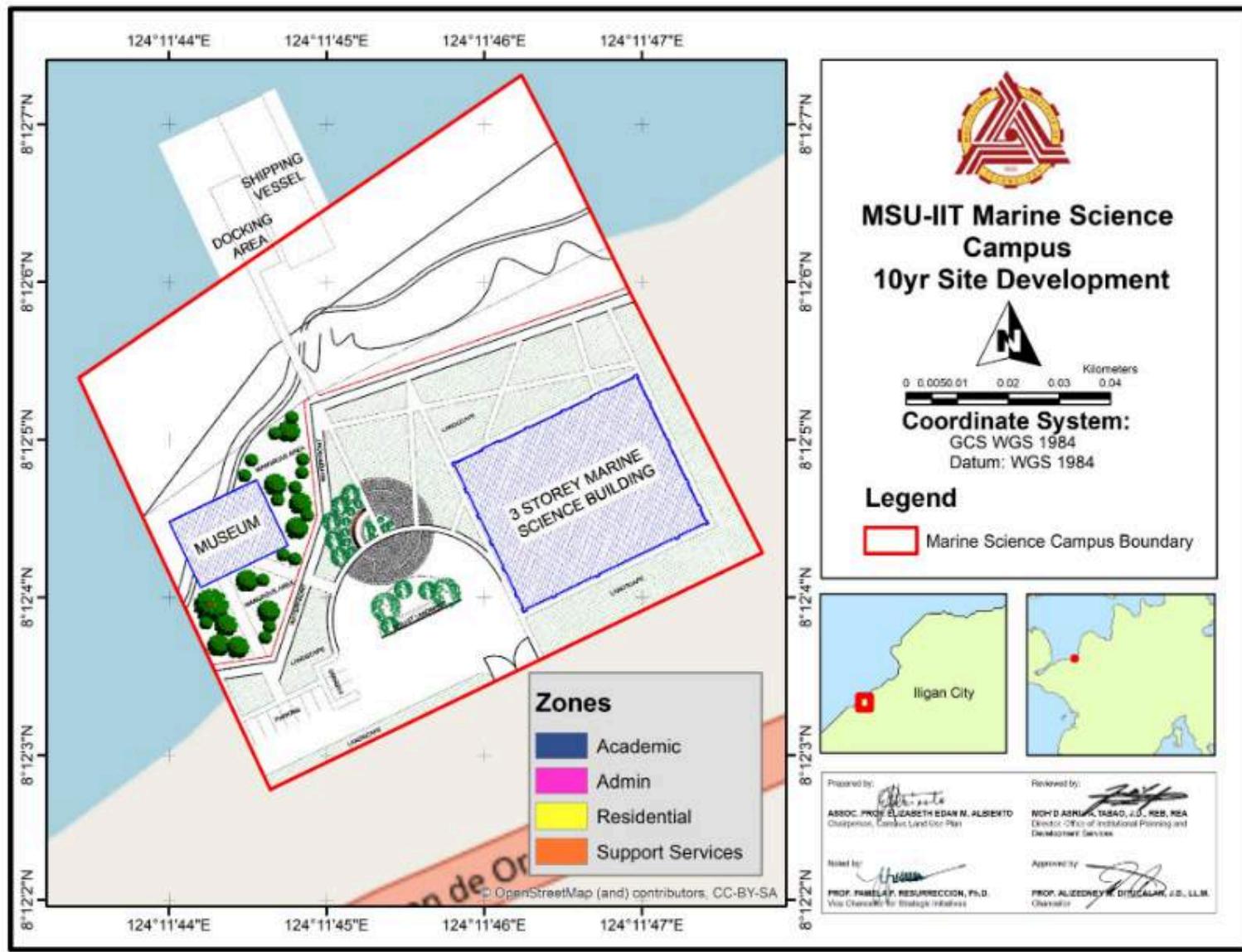


Figure 3.21. MSU-IIT Fuentes Campus Annex 10-Year Site Development Plan

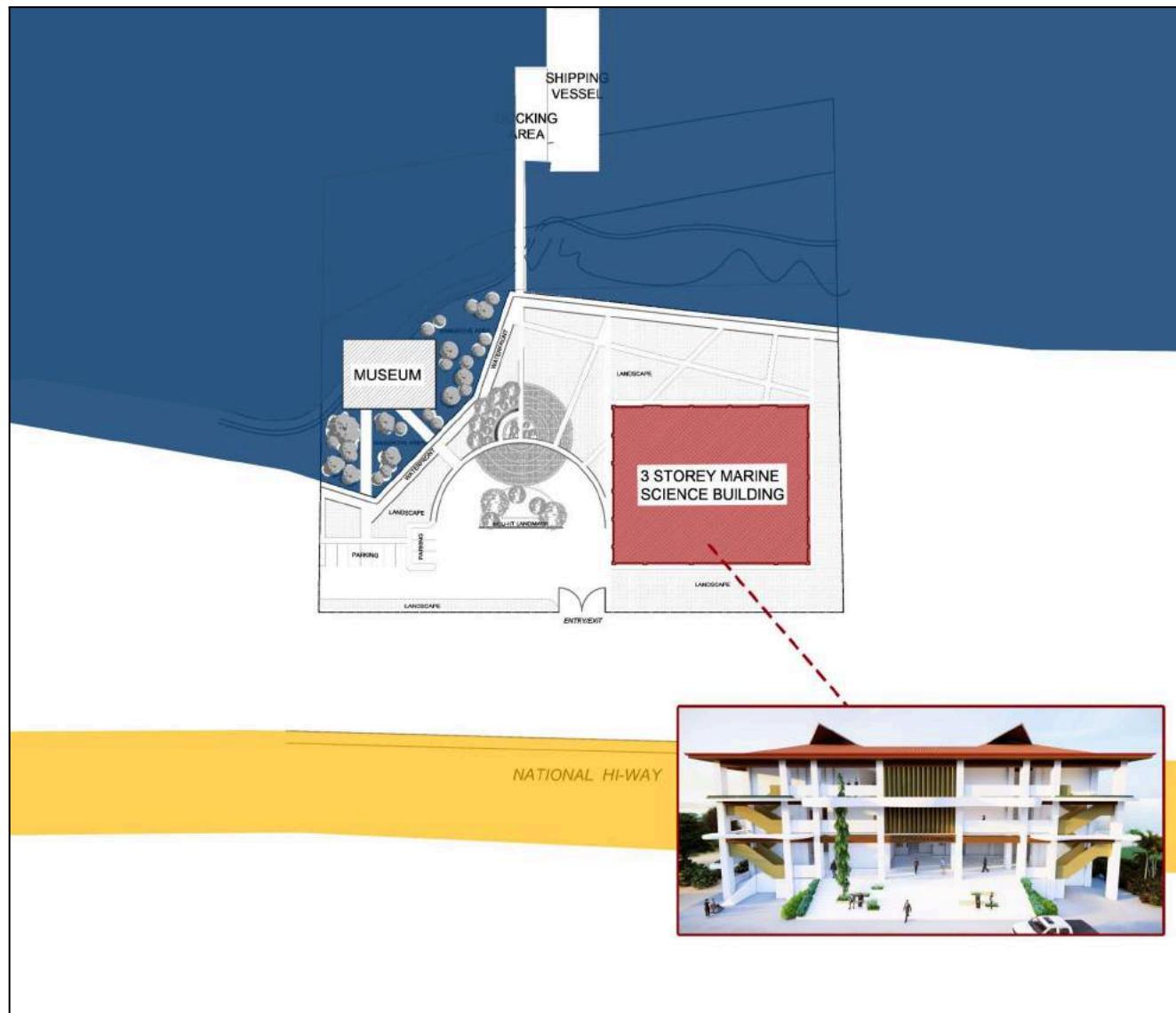
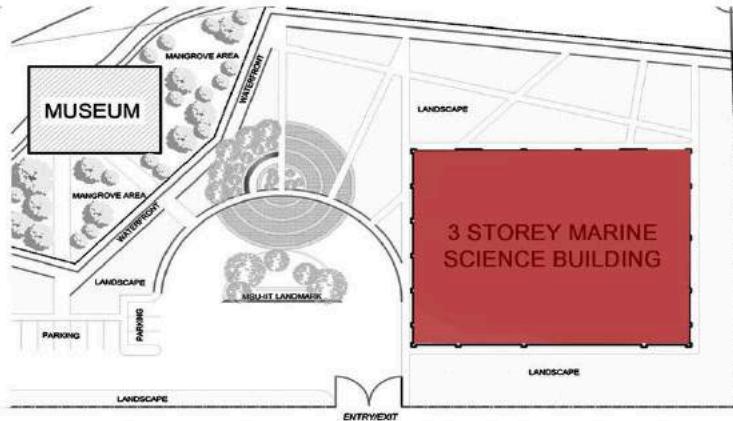
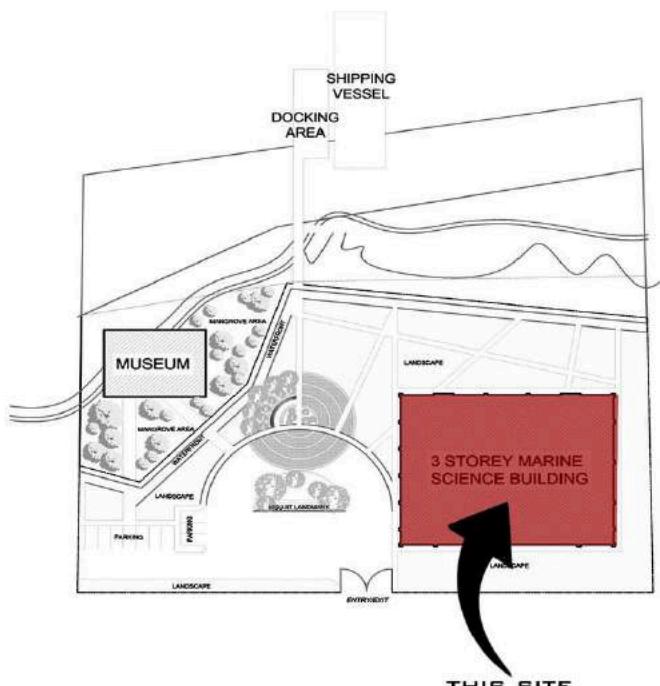


Figure 3.22. MSU-IIT Fuentes Campus Annex Proposed Locally-Funded Projects

SITE DEVELOPMENT PLAN



BLOW-UP AERIAL VIEW



PERSPECTIVE

Fuentes Campus Annex - Marine Science Building

Landscaping and Parks Development (MSU-IIT Center for Resiliency and Infrastructure Services Division)

Landscaping and Parks Development should be viewed from the lenses of beauty, air quality, carbon sequestration, increased infiltration, thermal regulation, sports and entertainment.

A landscape architect should be hired to draw up a master plan for the landscape and park development so as to have a cohesive picture of what a landscape and park looks like. Also, at equal importance it must have a cost for the establishment and maintenance for the park and landscape space. The master plan must follow the criteria of the aforementioned lenses described in Table 3.16.

Table 3.16. Criteria for Lenses

Lenses	Criteria
Beauty	Planting of diverse ornamental plants yet there is unity in the diversity of the ornamental plants that will be planted
Air Quality	Maximize plant population and yet maintain neatness, beauty and cohesion. One way of doing this is to plant creeping plants on walls and buildings
Carbon Sequestration	
Thermal Regulation	This is very important because the surface urban heat of MSU-IIT is high . Plant climbing ornamental plants for shading . Trees should no longer be planted because we wanted the open space to serve as an earthquake evacuation site. Trees can be hazardous during earthquakes. Maintain only existing trees
Sports, Entertainment and Picnic ground	With very limited open space, open grounds must be designed to be easily convertible either for sports or entertainment and picnic
Increase infiltration	Open spaces should be spaces that encourage water infiltration so as to reduce flooding and replenish the groundwater. That's why open space flooring should either be made out of grasses or pavers or the combination of both.

Landscape Perspectives at MSU-IIT Tibanga Main Campus

The university's landscape prospects at Tibanga main campus aims to create an open, attractive, and functional space for students, academic staff, and non-academic staff. These spaces combine natural elements and architectural designs to elevate the campus environment. Key areas include:

- College of Engineering;
- College of Arts and Social Sciences;
- University Hostel; and
- College of Education.

College of Engineering



College of Arts and Social Sciences



University Hostel



College of Education



PARKING AND STREET LAYOUT

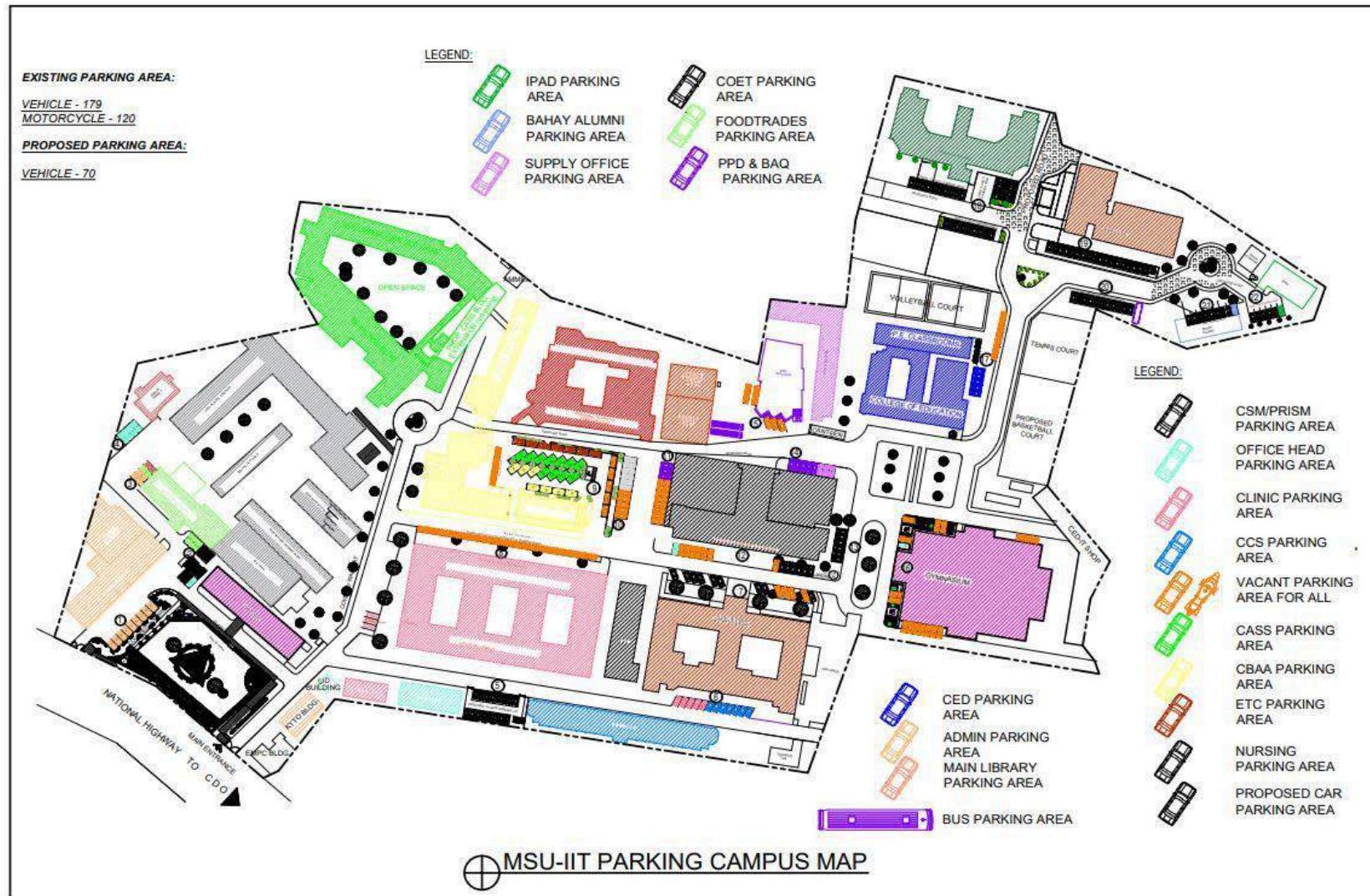


Figure 3.23. MSU-IIT Tibanga Parking Campus Map

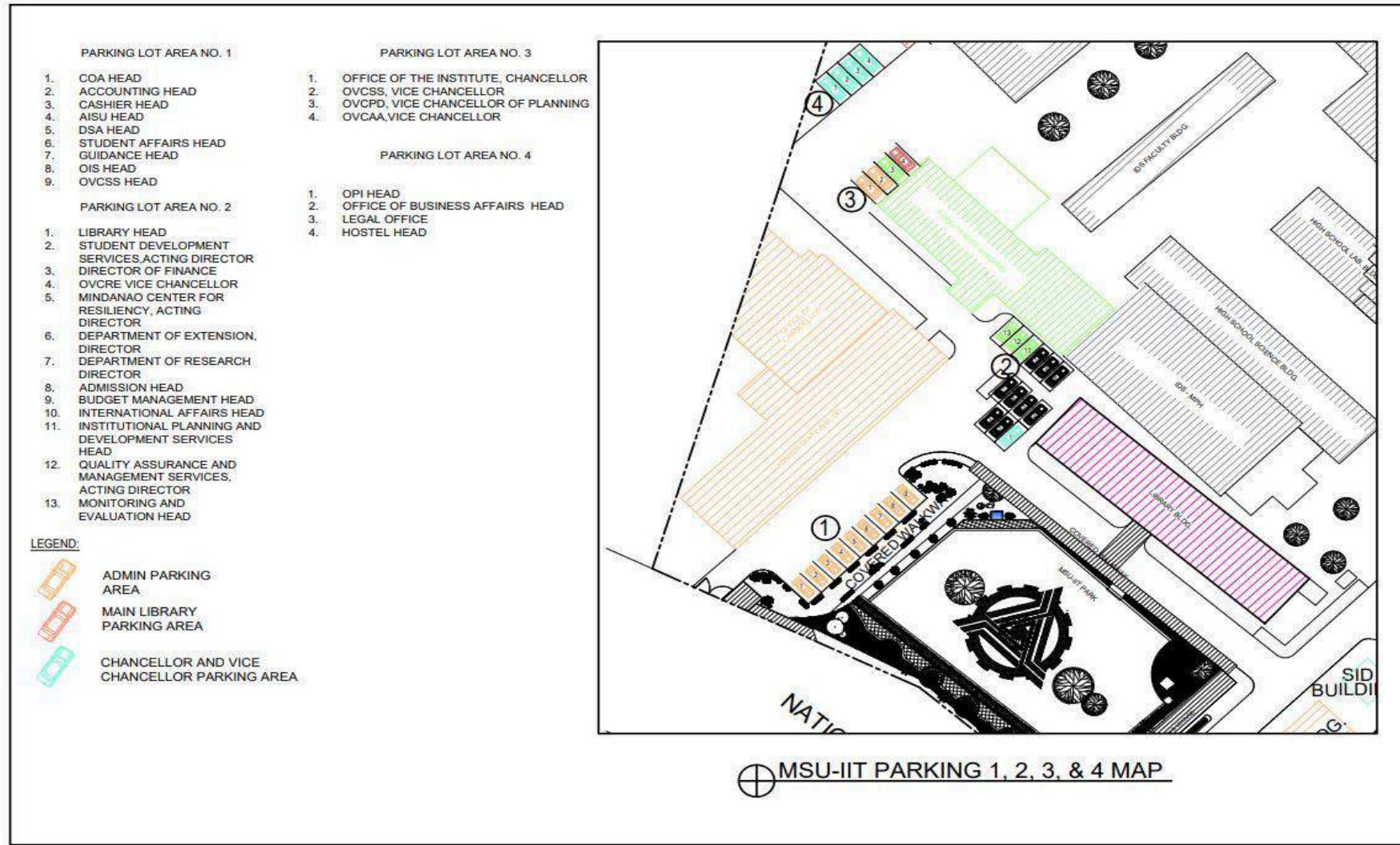


Figure 3.24. MSU-IIT Tibanga Main Campus Parking 1,2,3, and 4 Map

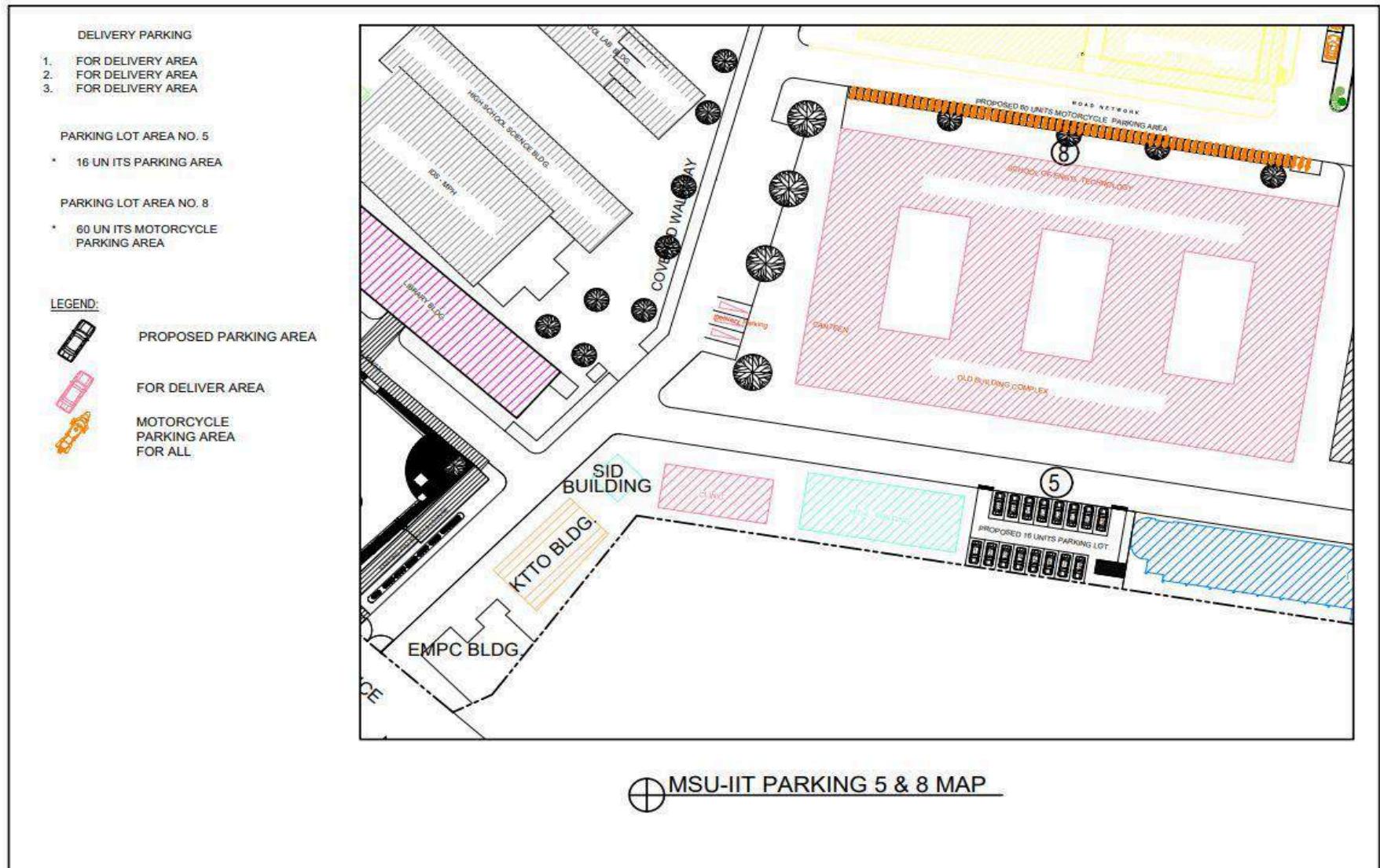


Figure 3.25. MSU-IIT Tibanga Main Campus Parking 5 & 8 Map

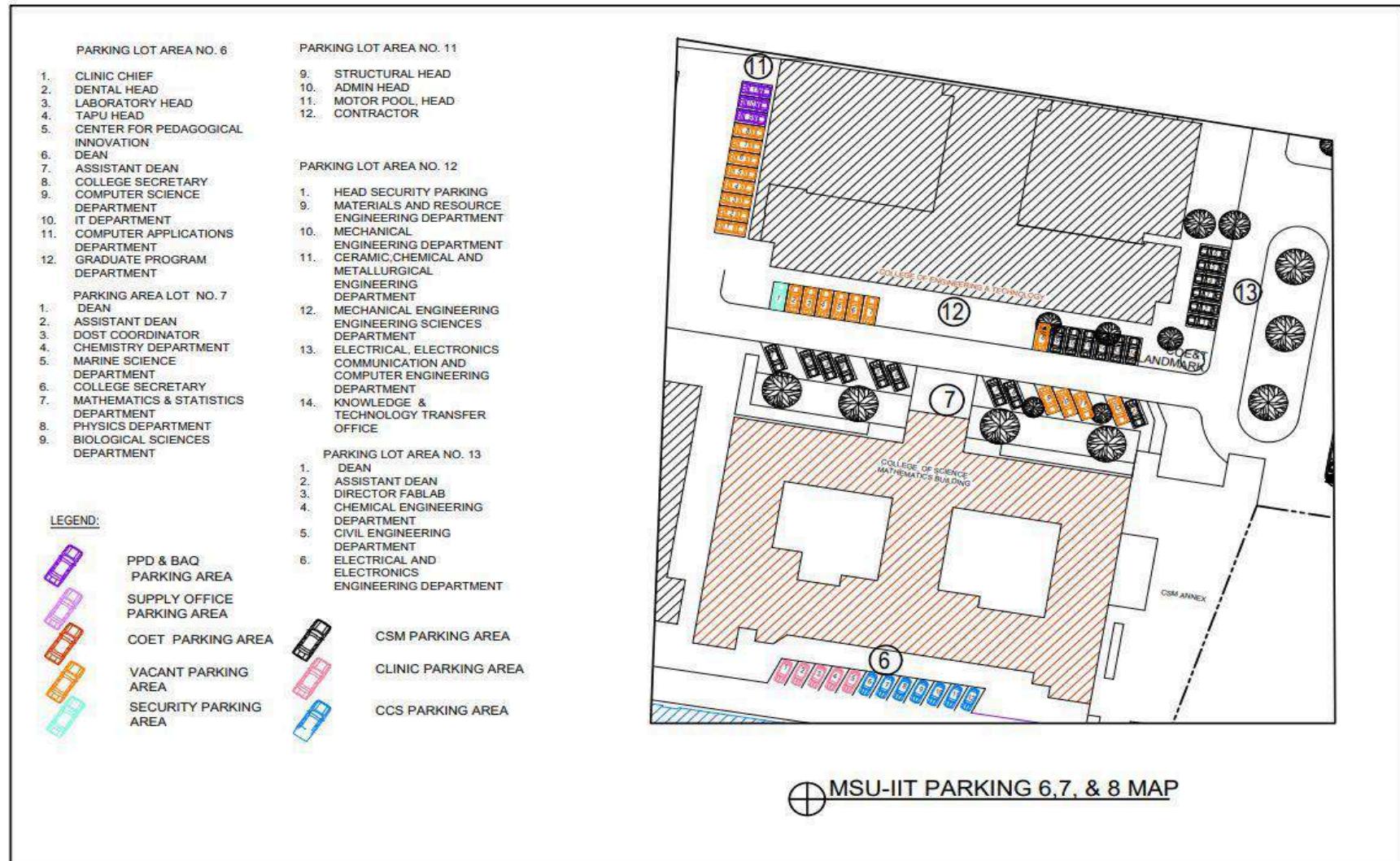


Figure 3.26. MSU-IIT Tibanga Main Campus Parking 6, 7 & 8 Map

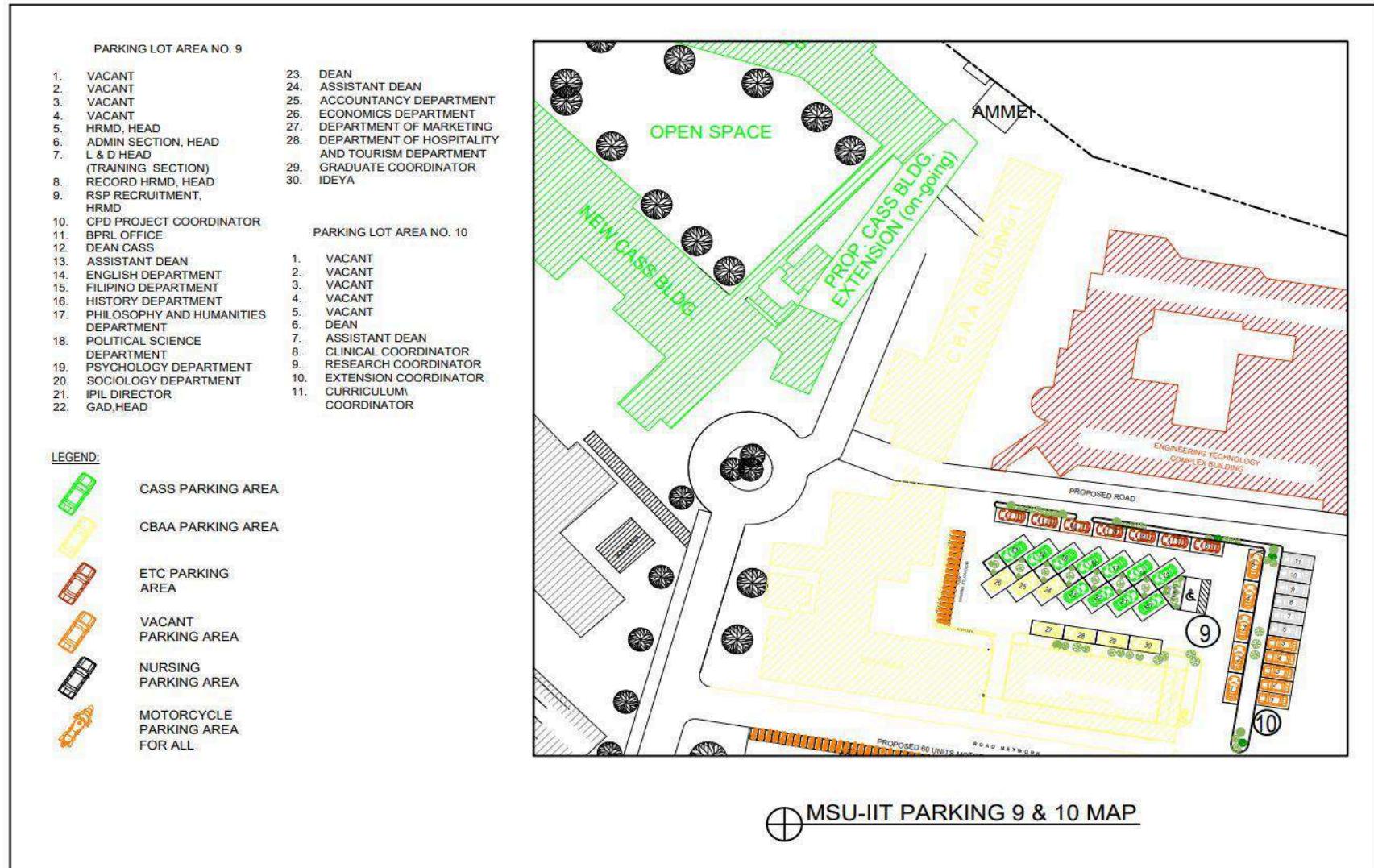


Figure 3.27. MSU-IIT Tibanga Main Campus Parking 9 & 10 Map

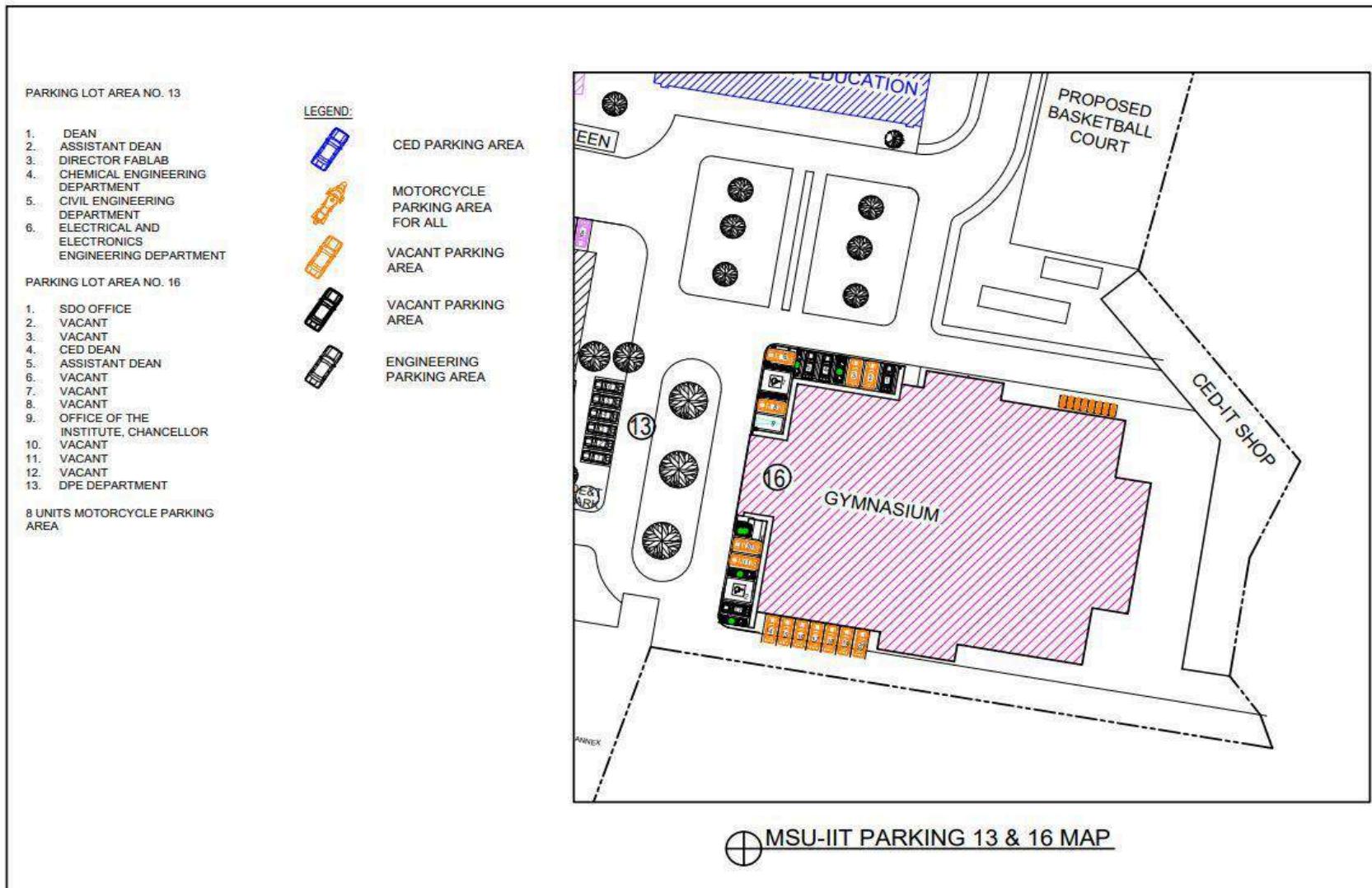


Figure 3.28. MSU-IIT Tibanga Main Campus Parking 13 & 16 Map

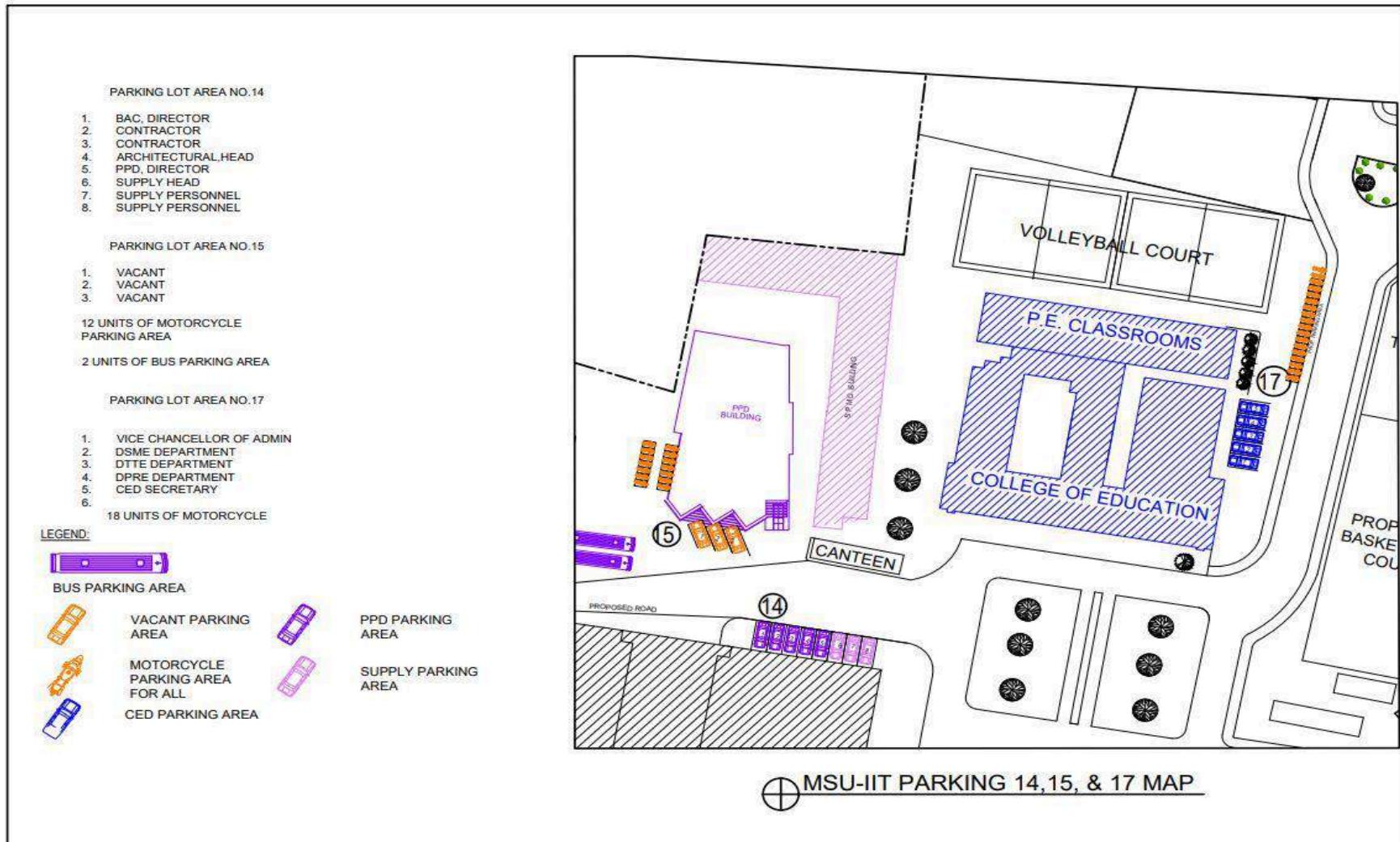


Figure 3.29. MSU-IIT Tibanga Main Campus Parking 14,15, & 17 Map

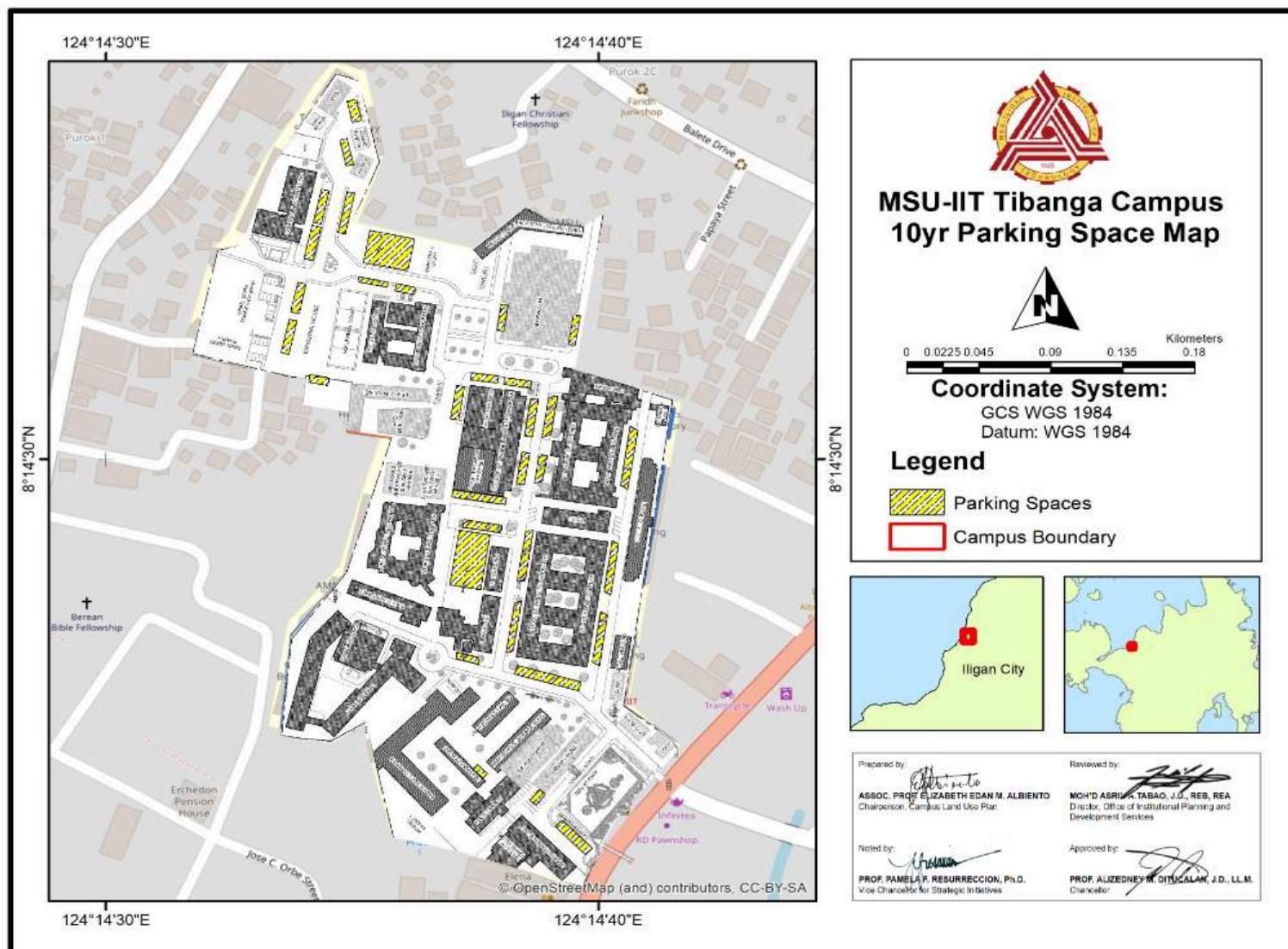


Figure 3.30. MSU-IIT Tibanga Main Campus 10-Year Parking Map

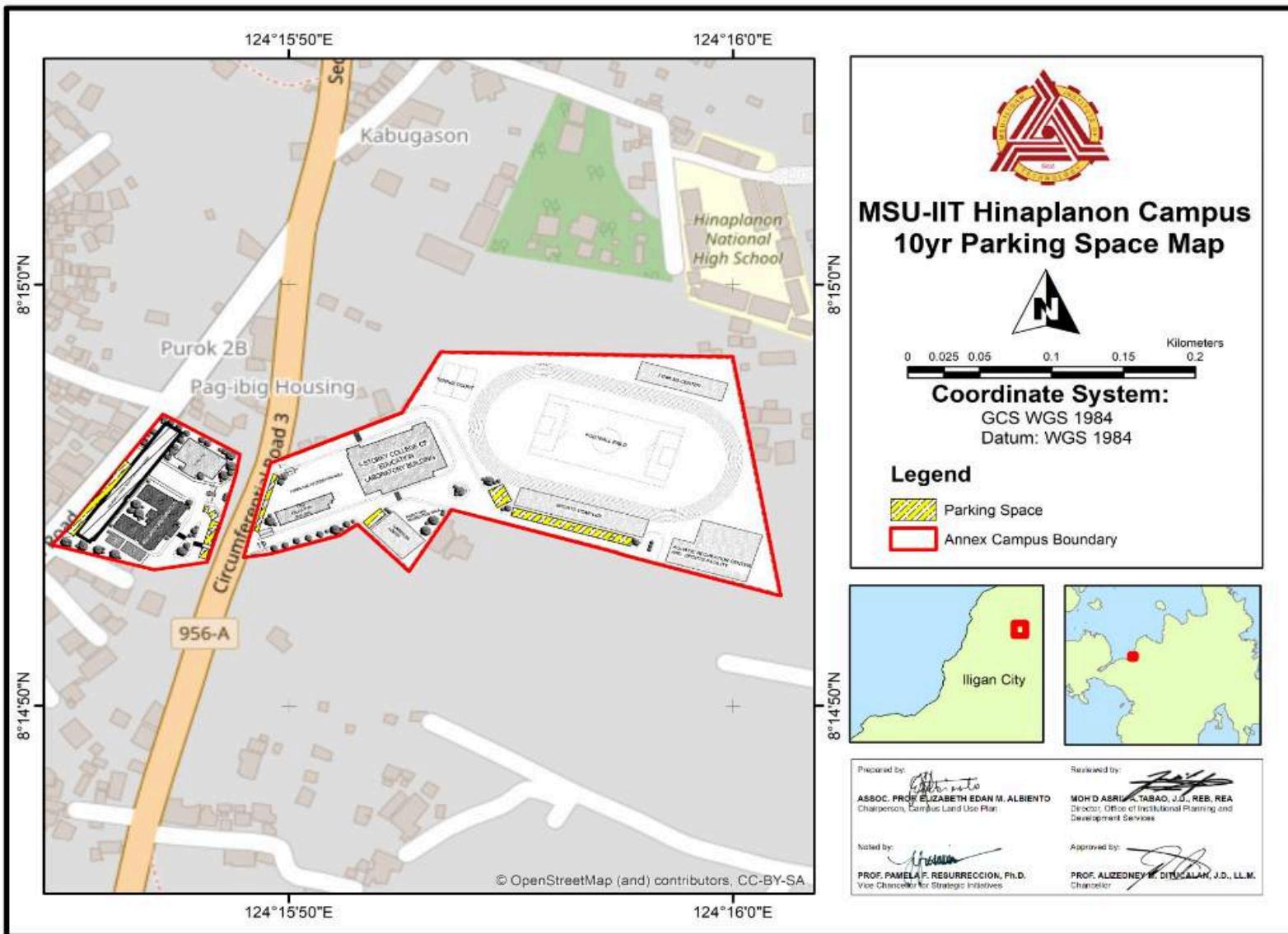


Figure 3.31. MSU-IIT Hinaplanon Campus 10-Year Parking Map

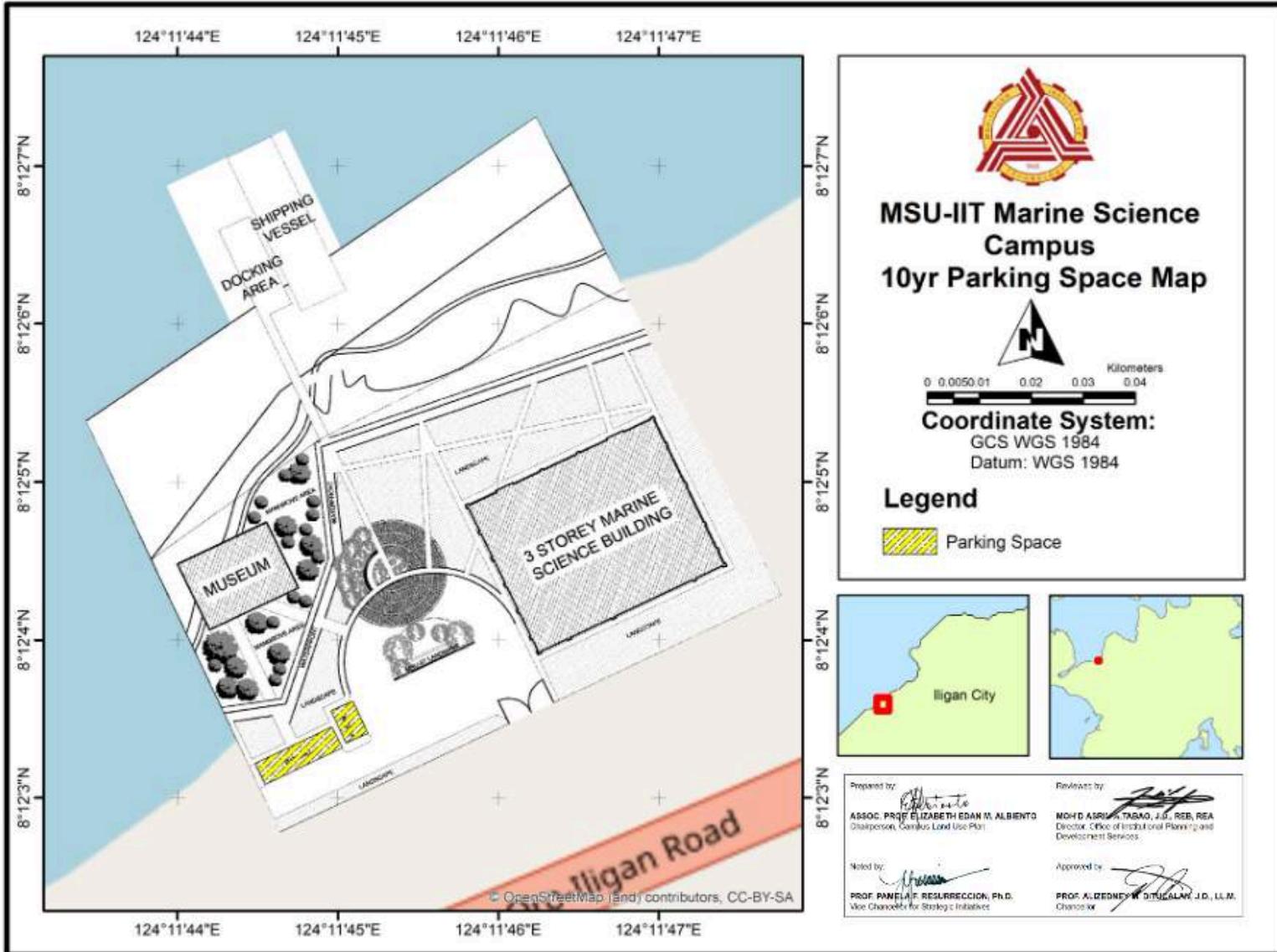


Figure 3.32. MSU-IIT Fuentes Campus 10-Year Parking Map

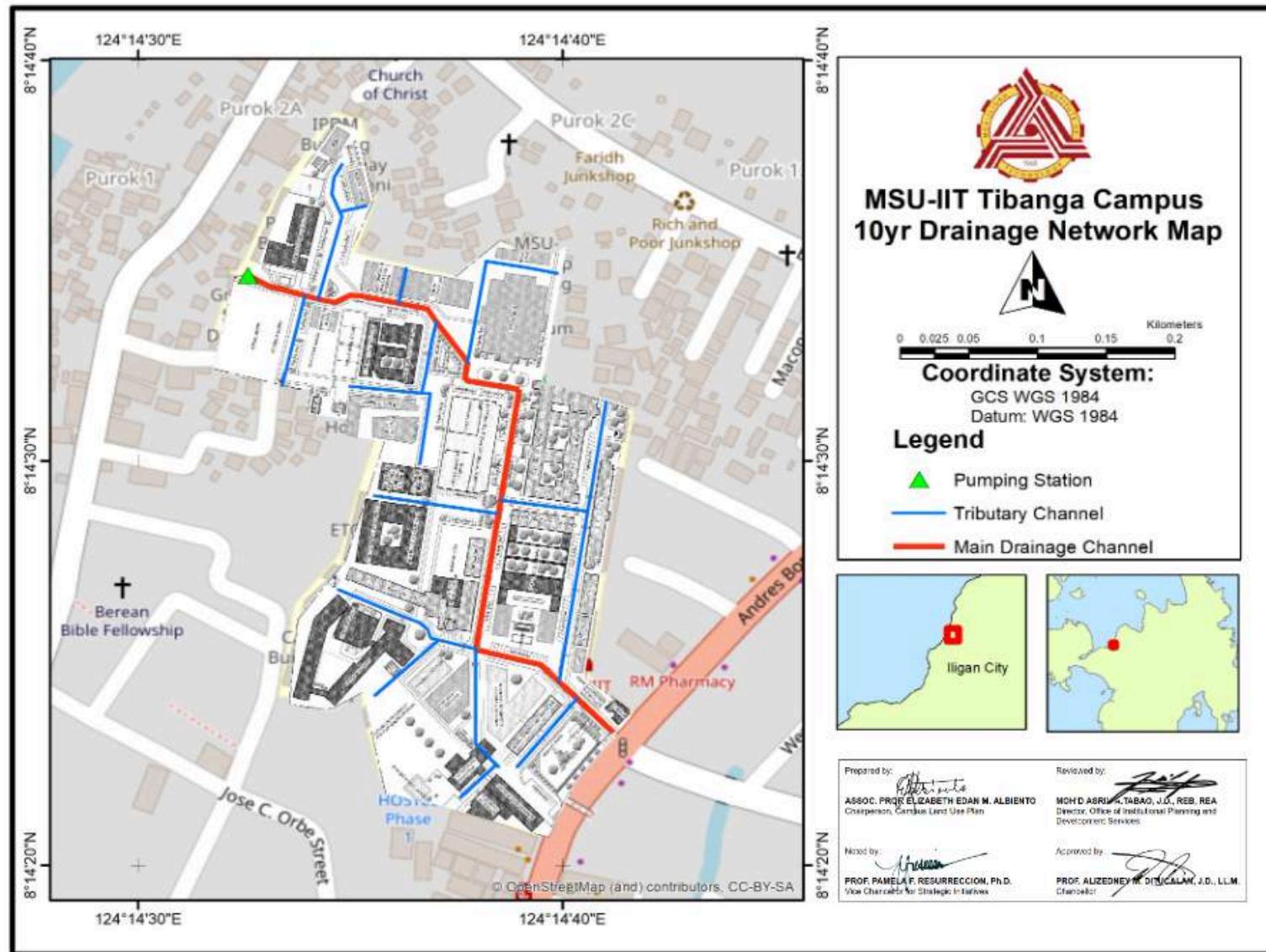


Figure 3.33. MSU-IIT Tibanga Main Campus 10-Year Drainage Map

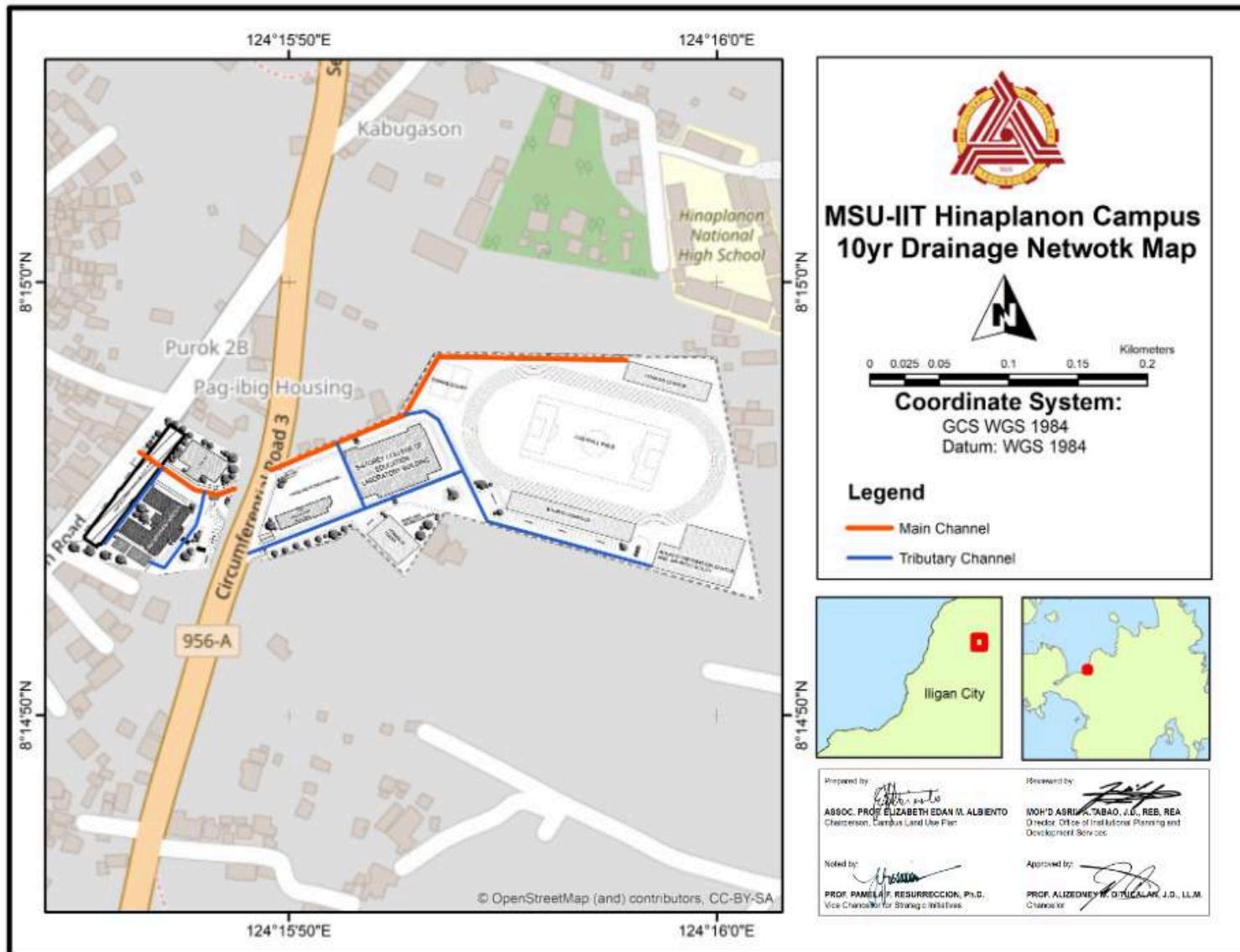


Figure 3.34. MSU-IIT Hinaplanon Campus 10-Year Drainage Map

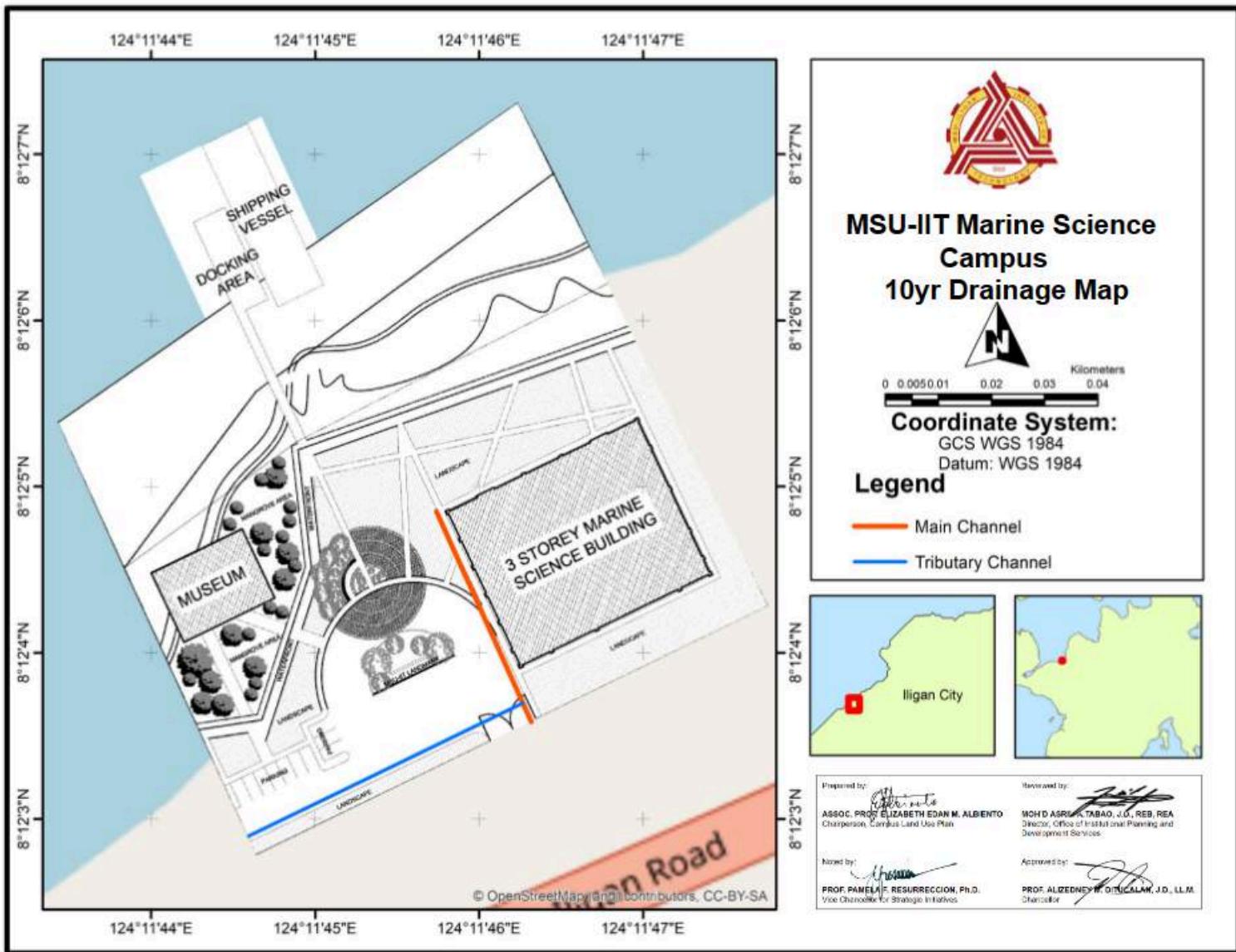


Figure 3.35. MSU-IIT Fuentes Campus 10-Year Drainage Map

Campus planning framework, principles, and processes

The MSU-IIT adheres to the following principles in crafting its LUDIP:

- Long-term Vision: Infrastructure planning and development of MSU-IIT is anchored on its Vision 2032. This strategic direction has been crafted to ensure that it is responsive to the social, economic, and environmental goals of the local community, Mindanao, and the country. Additionally, it is informed of future needs, demographic changes, technological advancements, and anticipated challenges.
- Integrated Planning: The MSU-IIT LUDIP adopted an integrated approach that considered various sectors and their interdependencies. It aligned with the directions of the local government of Iligan City and coordinated with different infrastructure-related agencies such as transportation, energy, water, and communication, to ensure compatibility, efficiency, and effective resource allocation.
- Stakeholder Engagement: In crafting its LUDIP, MSU-IIT engaged all possible relevant stakeholders, including government agencies, local communities, private sector entities, and civil society organizations. The University believes that engaging stakeholders in the planning process helps to incorporate diverse perspectives, local knowledge, and ensure accountability.
- Sustainability: It is within the framework of MSU-IIT's 5-year development plan and Vision 2032 to establish a smart, green, and resilient campus. In this regard, the LUDIP was guided by sustainability principles and considered environmental, social, and economic factors. It was mindful of promoting energy efficiency, reducing greenhouse gas emissions, protecting natural resources, enhancing resilience to climate change, and addressing social equity and inclusivity.
- Data-Driven Decision Making: Given the finite financial resources of the University, it is important that land use and infrastructure options are carefully analyzed to determine priorities. As such, the University employed rigorous data collection and analysis to inform decision-making processes. Accurate and comprehensive data on enrolment, curricular offerings, and space limitations, among others, helped identify needs, assess alternatives, estimate costs, evaluate risks, and measure performance throughout the identified infrastructure projects' lifecycle.
- Flexibility and Adaptability: In the conduct of land use development and infrastructure planning, MSU-IIT considered potential risks, uncertainties, and changing conditions. It resolved to be open to unforeseen events that could constrain the implementation of its LUDIP. This allows the University to accommodate evolving technologies, demographic shifts, emerging needs, and unforeseen fund limitations. Accordingly, most of the infrastructures are designed in ways that could be flexible and adaptable such as modularity and scalability to allow for expansion or repurposing as required.
- Financial Viability: Considering funding constraints, MSU-IIT's LUDIP bearing in mind the financial feasibility and sustainability of projects. Each project was examined and assessed in terms of costs and benefits and funding options to optimize the allocation of financial resources and maximize the value of investments and ensure long-term financial viability.
- Regulatory Compliance: In crafting the MSU-IIT LUDIP, the University ensured that it adheres to applicable laws, regulations, and standards. It recognizes the importance of environmental impact assessments, land-use planning regulations, safety codes, accessibility requirements, and other relevant guidelines to ensure compliance and mitigate potential risks.
- Continuous Monitoring and Evaluation: Implementation of the LUDIP shall be monitored and evaluated throughout their lifecycle to assess their performance, identify areas for improvement, and learn from past experiences. Regular monitoring allows for adjustments and corrective measures to enhance efficiency, effectiveness, and sustainability.

- Collaboration and Knowledge Sharing: MSU-IIT recognizes the need to seek advice from agencies and other organizations on land use development and infrastructure planning to learn best practices. It is open to collaboration, knowledge sharing, and learning from successful projects. Additionally, it fosters partnerships between government agencies, academia, industry experts, and international organizations to exchange ideas, expertise, and innovative approaches.

B. Alignment of the LUDIP with MSU-IIT Vision/ Mission and of the Iligan City Comprehensive Land Use Plan

The Land Use Development and Infrastructure Plan (LUDIP) of Mindanao State University - Iligan Institute of Technology (MSU-IIT) is meticulously designed to align with the university's mission and vision, as well as to harmonize with the comprehensive land use plan and practices of Iligan City, where the campus is situated. This alignment ensures that the university's development strategies not only support its academic and research objectives but also contribute positively to the broader urban and environmental framework of Iligan City.

Alignment with MSU-IIT's Mission and Vision

MSU-IIT's mission emphasizes providing quality education for sustainable development, fostering innovation, and contributing to the well-being of society. The LUDIP supports this mission by creating a physical environment that is conducive to learning, research, and community engagement. Through the careful planning of land use and infrastructure development, the LUDIP ensures that the university's facilities and resources are optimized to support its educational programs and research initiatives, thereby directly contributing to sustainable development. The vision of MSU-IIT is to be a leading research university that contributes to the holistic development of individuals and society. The LUDIP plays a crucial role in realizing this vision by incorporating sustainable and resilient infrastructure projects that not only serve the immediate needs of the university community but also anticipate future growth and challenges. By doing so, the LUDIP facilitates the university's role in societal development and positions MSU-IIT as a model for sustainable campus planning.

Harmonization with Iligan City's Land Use Plan and Practices

Iligan City, as a highly urbanized area in Northern Mindanao, has its comprehensive land use plan that guides the city's development in a sustainable and orderly manner. The LUDIP of MSU-IIT is developed with a keen understanding of this broader urban context. It aligns with the city's objectives of promoting sustainable urban development, enhancing environmental protection, and supporting economic growth. One of the key aspects of this alignment is the emphasis on environmental conservation and resilience. Iligan City, known for its natural resources and biodiversity, faces challenges related to forest conservation and sustainable land use.

The LUDIP addresses these challenges by incorporating green spaces, promoting biodiversity, and implementing sustainable water and waste management practices within the campus. This approach not only aligns with the city's environmental goals but also enhances the campus's resilience to natural hazards.

Furthermore, the LUDIP's focus on infrastructure development complements Iligan City's efforts to improve urban connectivity and accessibility. By enhancing the campus's transportation infrastructure and integrating it with the city's transport network, MSU-IIT contributes to the overall mobility and connectivity within Iligan City. This integration supports the city's economic corridor development program and facilitates access to education, research, and community services.

C. Alignment of the Campus Land Use Plan with the LGU's Climate Change Adaptation/ Disaster Risk Reduction Management Plan

Long before the LGU's Climate Change Adaptation/ Disaster Risk Reduction Management Plan was crafted and ratified as an official document with a period from 2021-2025 the main campus of MSU-IIT at Barangay Tibanga already had existing buildings in place while the auxiliary campus at Barangay Hinaplanon, the building construction had already begun. What MSU-IIT can do is to make itself resilient given its present set-up. In 2014, MSU-IIT has created a center called the Mindanao Center for Resiliency (MCR), the reason for its creation is based on the words of Professor Emeritus Olga C. Nuñez; the first director of MCR that says in quote:

"It is imperative for the university to become relevant in conducting studies to systematize responses and mitigation measures. This also calls for a community development undertaking that shall delve into training and advocacy to equip the barangay leaders and stakeholders with the necessary skills and knowledge on various dimensions of community-managed disaster reduction."

In 2022, the mission of MCR has **expanded** not only will it serve society to become resilient but it also expands its focus in making MSU-IIT itself resilient so as to model the process for it to become a resilient institution. This is in recognition of existing realities that MSU-IIT itself is exposed to hazards. **Profiling** of these hazards can be gleaned. This expanded mission was made specifically clear in its proposed and now BOR approved Organizational Structure and Staffing Pattern (see link for its organizational structure and approved BOR). Hence the name of MCR itself was modified from the Mindanao Center for Resiliency to **MSU-IIT** Center for Resiliency to underscore the need for MSU-IIT to become resilient and also the need for MSU-IIT to rebrand itself

The expanded mission of MCR resulted to the adoption of the National Disaster Risk Reduction Management (NDRRM) Framework which happened to be the framework which the Iligan City Disaster Risk Reduction Management Office (DRRMO) have adopted (see link regarding the copy of the Iligan City DRRM Plan). This framework emphasizes that mitigation and prevention should be given **premium** over response, recovery, and rehabilitation. However, like the NDRMM and the Iligan CDRRMO that mitigation and prevention, response, recover and rehabilitation: mutually reinforce each other, they are not stand alone, no clear starting or ending points, problem based and all approaches leads to one direction which is reduce vulnerability and increase capacity; MSU-IIT subscribe to the same understanding and practice.

MSU-IIT puts much emphasis on mitigating possible impacts of disaster through establishment of necessary and appropriate measures, an outcome articulated in the Iligan City DRRM plan, using its comparative advantage in research specifically on simulation and modeling as the basis for identifying appropriate measures.

Furthermore MSU-IIT have worked closely with the Iligan City DRRM Office specifically in helping them craft the Climate and Disaster Risk Assessment (CDRA) and the enhanced Local Climate Change Action Plan (eLCCAP) as part of the Adopt a City Program by the National Resiliency Council in making Iligan City resilient to climate change and disasters.

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HAZARD PROFILING OF MSU-IIT CAMPUS LOCATIONS

MSU-Iligan Institute of Technology is expanding its campus infrastructure to accommodate growth and enhance academic offerings. To ensure safety and resilience, thorough hazard mapping assessments have been conducted for each location. These assessments are pivotal, guiding site selection and shaping building design to withstand potential hazards adeptly. The following outlines the assessments for each campus:

TIBANGA Campus

a. Flood

Most of these proposed buildings have very high susceptibility to flood (see Figure 3.36).

Flood Susceptibility

Table 3.17 shows the proposed buildings that will be constructed in the future inside the Tibanga main campus.

Table 3.17. Proposed Buildings

Building No.	Building Legend Code in the Map	Building Name	Flood Susceptibility ¹
1	1	3-Storey Building	Very High
2	2	AMMET	Very High
3	4	Academic Building	Very High
4	5	Administration Frontline Services	Very High
5	6	SPMD Building	Very High
6	8	Animal House	Very High
7	17	Food Strip	Very High
8	18	Future Development	Very High
9	19	Graduate Academic Building	Very High
10	28	MSU-IIT Auditorium	Very High
11	30	Motorpool and Multi-Level Parking	Very High
12	35	Proposed AMET/RAC/ME Building	Moderate
13	36	SPMD Building	Moderate
14	38	STP & MRF	Very High
15	40	SET (New Building Complex)	Very High
16	41	Student Center	Very High
17	42	Student Dorm	Very High
18	45	TBI Building	Very High
19	47	University Cafeteria	Very High
20	49	University Masjid	Moderate

Flood Simulation

Flood simulations provide scenarios of the effect of different rainfall conditions to the extent and depth of flood on how much of the floor area of the buildings have been flooded and how deep the flood is. The rainfall conditions are described in terms of rainfall return period (RRP) in years. Specifically, the rainfall conditions are 5 YRRP, 25 YRRP and 100 YRRP. The higher the number of years the greater the rainfall volume is. 5 YRRP means it has 20% probability it will happen in one year, 25 YRRP means it has 4% probability it will happen in one year and 100 YRRP means it has 1% probability it will happen in one year.

The greater the rainfall return period, more buildings will experience deeper flood level. Tables 3.18 to 3.20 show the extent (see column title “Area Affected”) and depth (see column title “Flood Level”) inside specific proposed buildings given different rainfall scenarios.

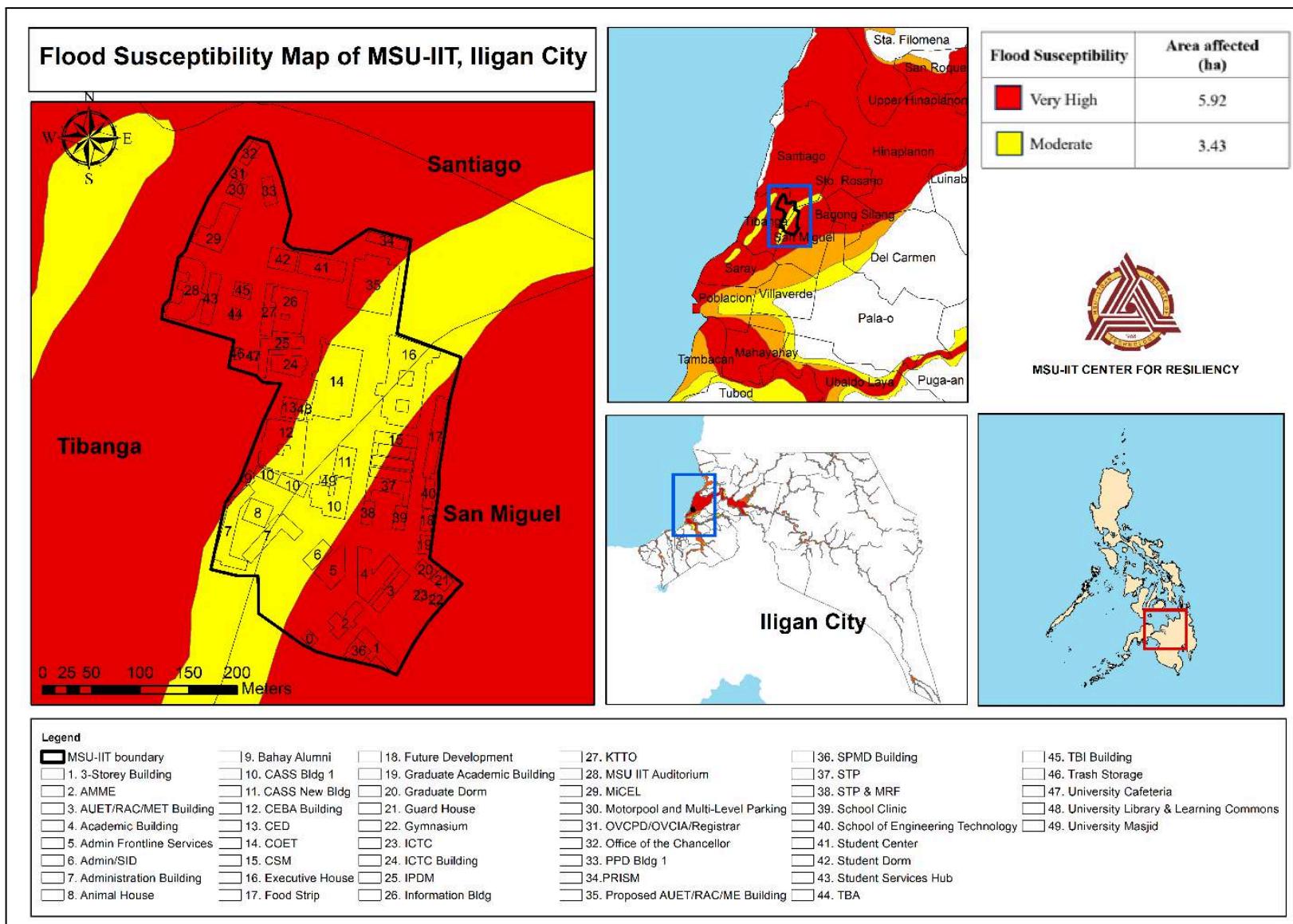


Figure 3.36. MSU-IIT Tibanga Main Campus Flood Susceptibility Map

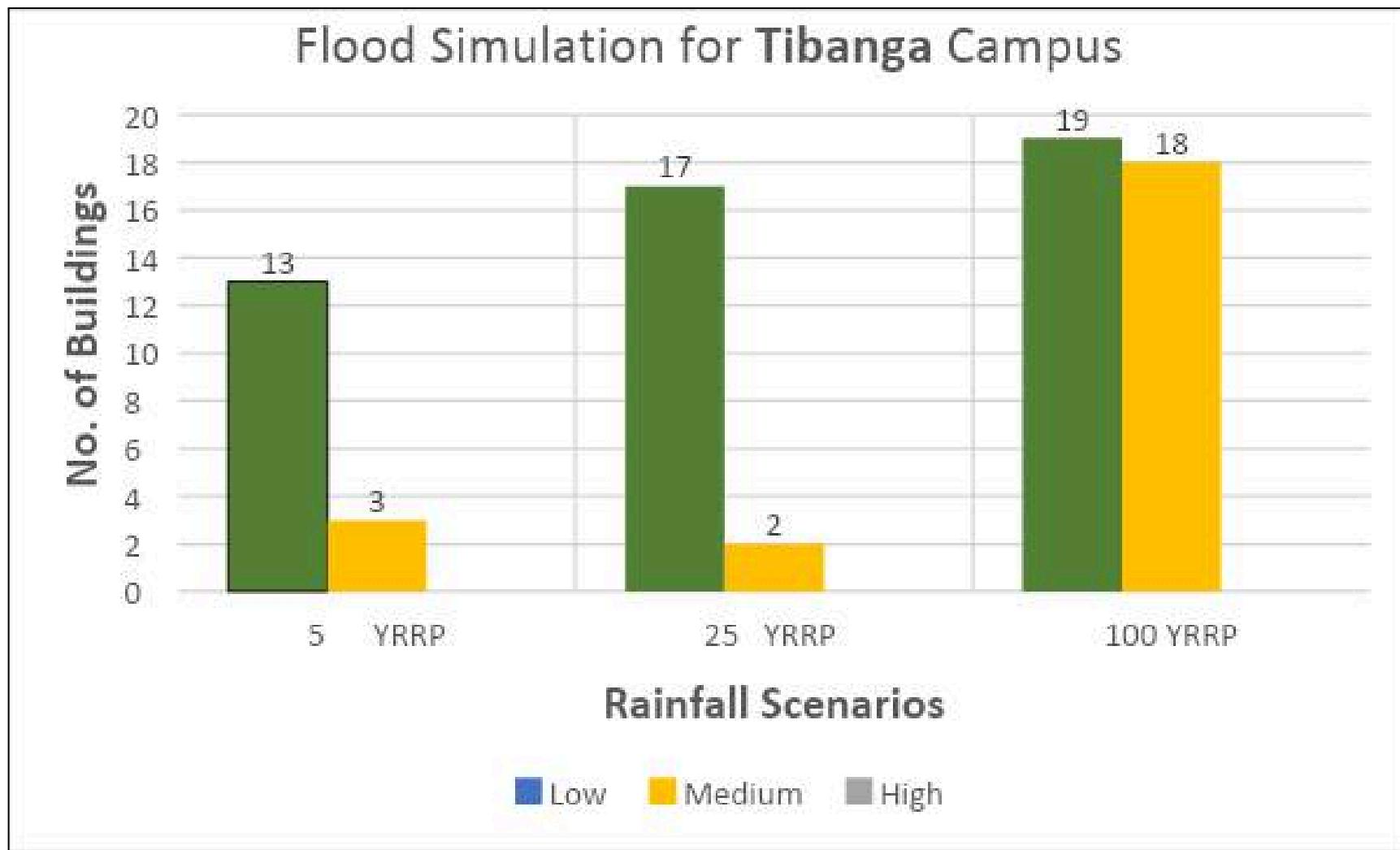


Figure 3.37. Number of Buildings affected by Rainfall Scenarios

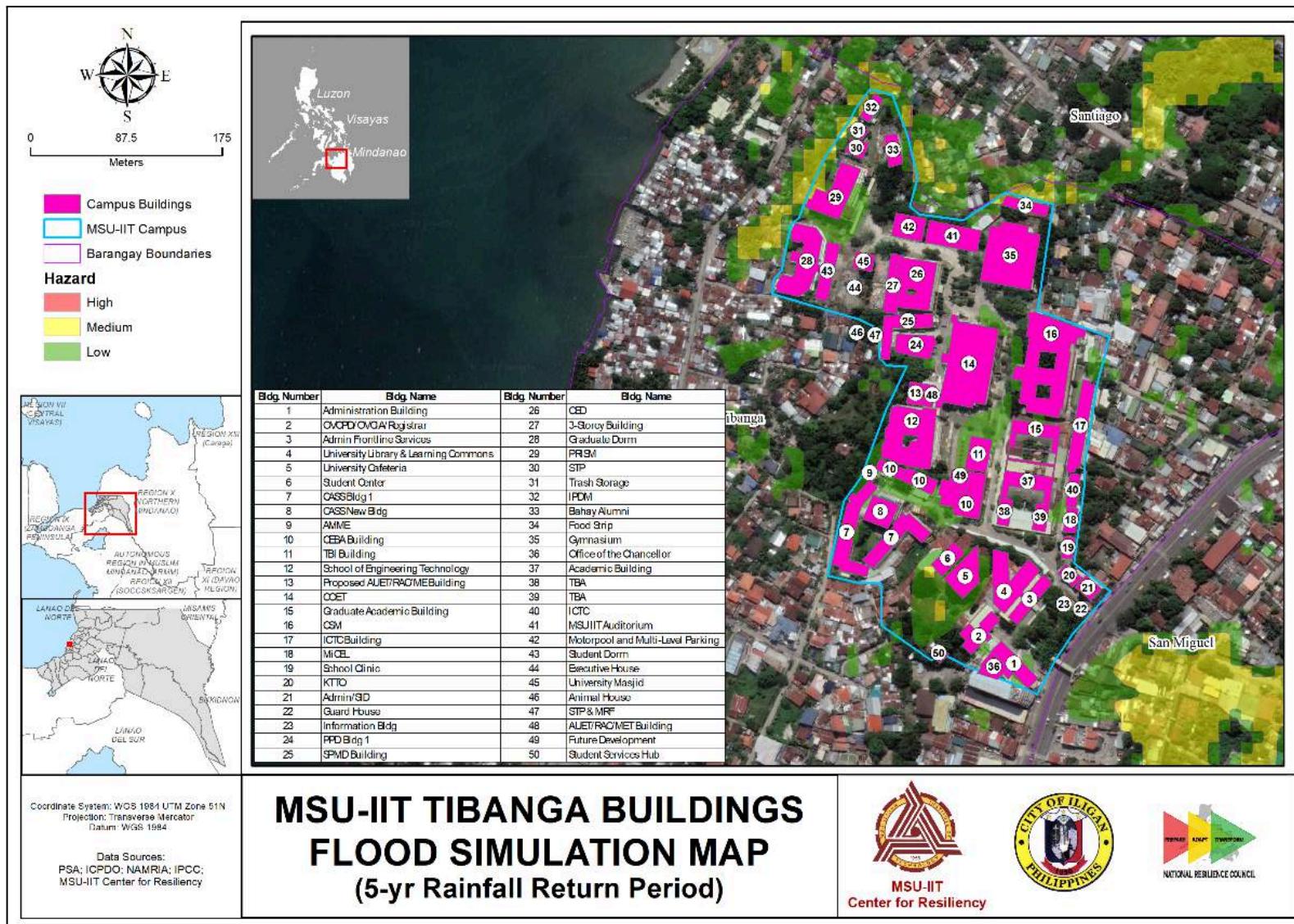


Figure 3.38. MSU-IIT Tibanga Proposed Buildings Flood Simulation Map (5-Year Rainfall Return Period)

Table 3.18. Extent and Depth Affected in MSU-IIT Tibanga Proposed Buildings at 5-Year Rainfall Return Period

Hazard Level	Affected Building	Area Affected (sqm)	Percentage
Low	Administration Building	189.4	28%
Low	OVC/PD/OVCIA/Registrar	3.2	1%
Low	University Cafeteria	804.2	100%
Low	Student Center	385.8	88%
Medium	Student Center	1.2	0%
Low	CASS Bldg 1	342.8	15%
Low	CASS New Bldg	19.2	3%
Low	AMME	128.9	95%
Low	CEBA Building	1,065.4	57%
Low	TBI Building	450.2	77%
Low	School of Engineering Technology	93.1	4%
Low	COE	298.6	9%
Low	Graduate Academic Building	190.8	36%
Low	CSM	117.4	4%
Low	ICTC Building	130.8	14%
Low	MiCEL	52.9	22%
Low	ISD Bldg 1	2.8	0%
Low	SPMD Building	84.6	11%
Low	Graduate Dorm	11.7	1%
Low	PRISM	803.8	69%
Medium	PRISM	61.4	5%
Low	STP	2.5	1%
Low	Trash Storage	54.1	34%
Medium	Trash Storage	21.8	14%
Low	IPDM	88.8	37%
Medium	IPDM	60.1	25%
Low	Bahay Alumni	2.2	1%
Medium	Food Strip	142.6	35%
Low	TBA	4.0	1%
Low	ICTC	126.7	43%
Low	Student Dorm	25.1	4%
Low	STP & MRF	1.5	2%
Low	Future Development	213.1	92%
Low	AMMEI	0.0	0%
Low	CEBA Building	0.0	0%

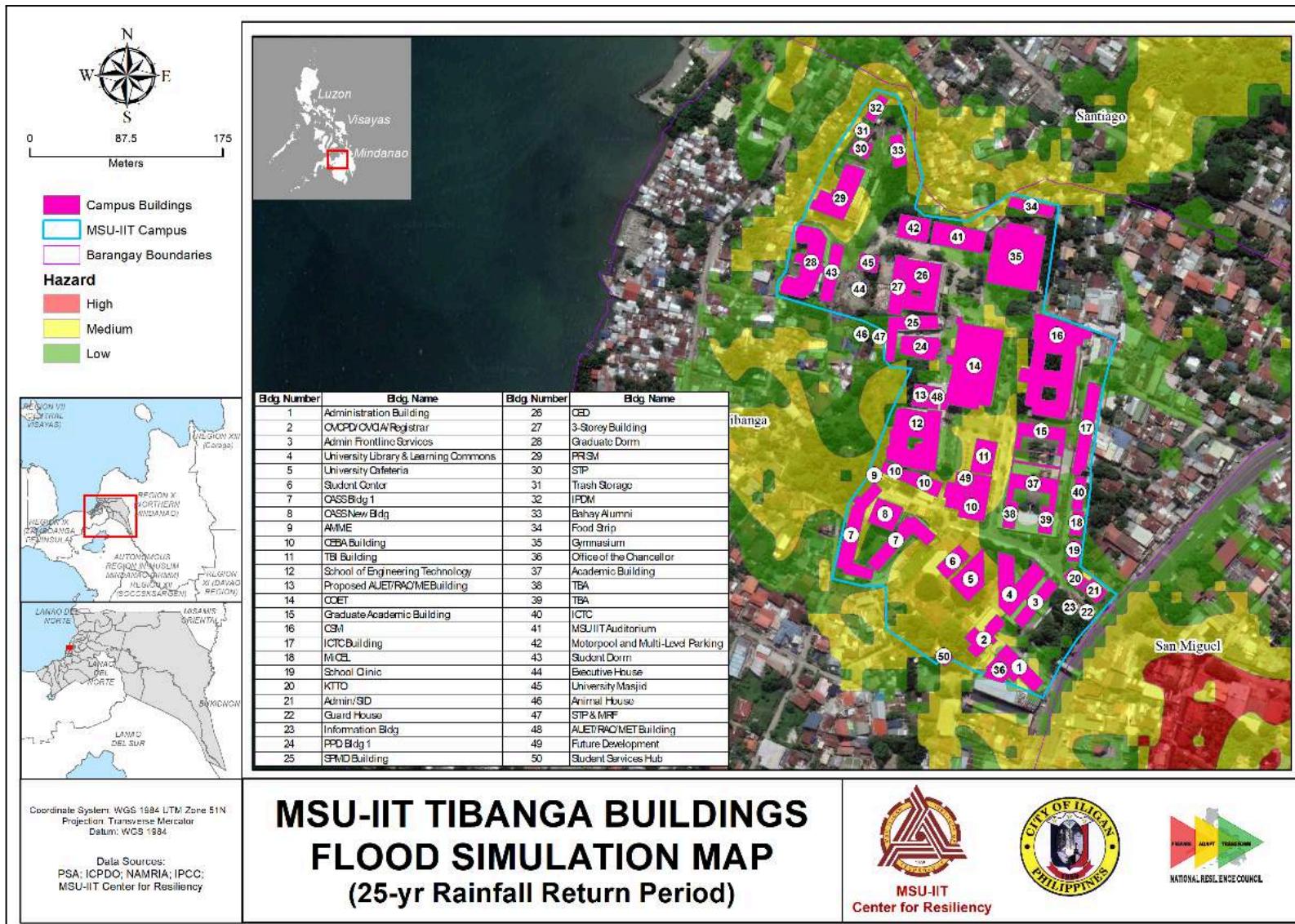


Figure 3.39. MSU-IIT Tibanga Proposed Buildings Flood Simulation Map (25-Year Rainfall Return Period)

Table 3.19. Extent and Depth Affected in MSU-IIT Tibanga Proposed Buildings at 25-Year Rainfall Return Period

Hazard Level	Affected Building	Area affected (sqm)	Percentage
Low	Administration Building	384.8	57%
Medium	Administration Building	193.6	29%
Low	OVCPD/OVCIA/Registerar	68.4	11%
Medium	OVCPD/OVCIA/Registerar	546.6	89%
Low	Admin Frontline Services	474.6	86%
Low	University Library & Learning Commons	783.3	59%
Medium	University Library & Learning Commons	399.7	30%
Low	University Cafeteria	0.9	0%
Medium	University Cafeteria	803.5	100%
Medium	Student Center	436.3	100%
Low	CASS Bldg 1	1,386.3	62%
Medium	CASS Bldg 1	855.3	38%
Low	CASS New Bldg	317.9	54%
Medium	CASS New Bldg	268.4	46%
Medium	AMME	135.3	100%
Low	CEBA Building	159.0	9%
Medium	CEBA Building	1,628.0	87%
Medium	TBI Building	588.4	100%
Low	School of Engineering Technology	902.7	41%
Medium	School of Engineering Technology	399.9	18%
Low	COE	2,275.0	72%
Medium	COE	315.7	10%
Low	Graduate Academic Building	284.3	53%
Medium	Graduate Academic Building	1.9	0%
Low	CSM	150.2	5%
Medium	CSM	112.5	3%
Low	ICTC Building	509.5	53%
Low	MiCEL	246.1	100%
Low	University Infirmary	211.6	100%
Low	KTTO	217.9	96%
Medium	KTTO	8.2	4%
Low	Admin/SID	200.0	72%
Medium	Admin/SID	4.7	2%
Low	Guard House	1.1	1%
Low	ISD Bldg 1	323.4	49%
Medium	ISD Bldg 1	2.7	0%
Low	SPMD Building	234.7	30%
Medium	SPMD Building	84.4	11%
Low	CED	16.4	1%
Low	3-Storey Building	48.8	8%
Low	Graduate Dorm	601.8	40%

Hazard Level	Affected Building	Area affected (sqm)	Percentage
Medium	Graduate Dorm	11.0	1%
Low	PRISM	338.1	29%
Medium	PRISM	781.6	67%
Low	STP	195.7	79%
Low	Trash Storage	41.1	26%
Medium	Trash Storage	44.0	27%
Low	IPDM	79.2	33%
Medium	IPDM	152.8	64%
Low	Bahay Alumni	325.1	93%
Medium	Bahay Alumni	2.2	1%
Low	Food Strip	135.2	33%
Medium	Food Strip	235.5	58%
Low	Gymnasium	991.4	39%
Low	Office of the Chancellor	318.8	84%
Medium	Office of the Chancellor	38.4	10%
Low	Academic Building	776.8	72%
Medium	Academic Building	36.3	3%
Low	TBA	271.9	100%
Low	TBA	297.1	109%
Low	ICTC	253.5	87%
Low	MSU IIT Auditorium	762.8	78%
Low	Student Dorm	248.8	41%
Low	University Masjid	29.7	11%
Low	Animal House	68.9	94%
Low	STP & MRF	41.9	57%
Medium	STP & MRF	31.6	43%
Medium	Future Development	231.6	100%
Low	Student Services Hub	1.8	1%
Medium	Student Services Hub	160.6	99%
Medium	CASS Bldg 1	0.0	0%
Medium	AMMEI	0.0	0%
Medium	AMMEI	0.0	0%
Medium	CEBA Building	0.0	0%
Low	Academic Building	0.1	0%
Low	TBA	0.1	0%

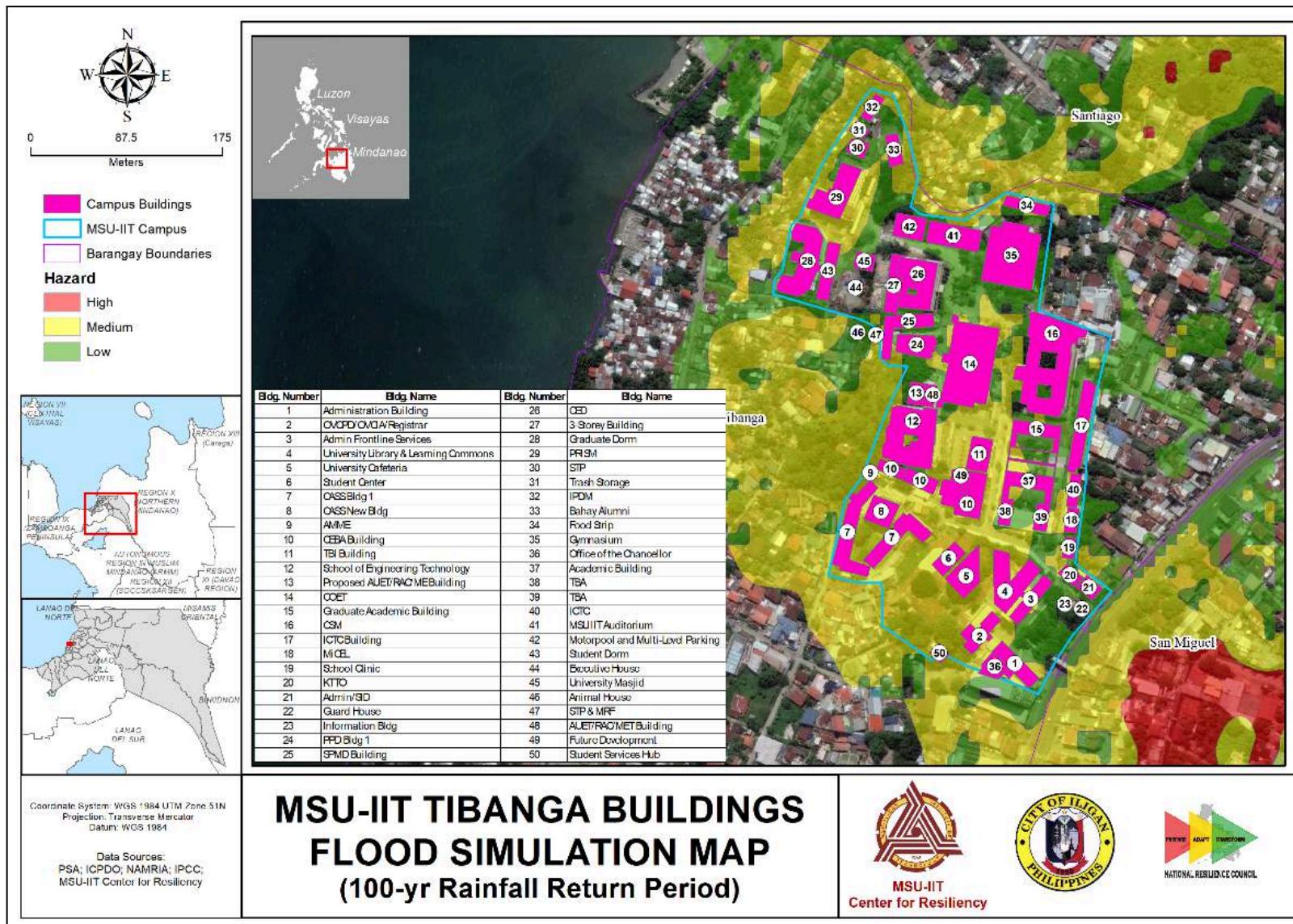


Figure 3.40. MSU-IIT Tibanga Proposed Buildings Flood Simulation Map (100-Year Rainfall Return Period)

Table 3.20. Extent and Depth Affected in MSU-IIT Tibanga Proposed Buildings at 100-Year Rainfall Return Period

Hazard Level	Affected Building	Area Affected (sqm)	Percentage
Low	Administration Building	100.0	15%
Medium	Administration Building	572.2	85%
Medium	OVCPD/OVCIA/Registerar	615.0	100%
Low	Admin Frontline Services	313.3	57%
Medium	Admin Frontline Services	238.9	43%
Low	University Library & Learning Commons	159.6	12%
Medium	University Library & Learning Commons	1,166.9	88%
Medium	University Cafeteria	804.4	100%
Medium	Student Center	436.3	100%
Medium	CASS Bldg 1	2,241.6	100%
Medium	CASS New Bldg	586.3	100%
Medium	AMME	135.3	100%
Low	CEBA Building	50.9	3%
Medium	CEBA Building	1,794.0	96%
Medium	TBI Building	588.4	100%
Low	School of Engineering Technology	959.4	44%
Medium	School of Engineering Technology	851.1	39%
Low	Proposed AUET/RAC/ME Building	249.4	87%
Low	COE	1,365.8	43%
Medium	COE	1,802.3	57%
Low	Graduate Academic Building	520.4	97%
Medium	Graduate Academic Building	17.0	3%
Low	CSM	902.4	27%
Medium	CSM	120.4	4%
Low	ICTC Building	916.6	96%
Medium	ICTC Building	31.3	3%
Low	MiCEL	83.7	34%
Medium	MiCEL	162.3	66%
Low	University Infirmary	162.3	77%
Medium	University Infirmary	49.3	23%
Low	KTTO	165.6	73%
Medium	KTTO	60.5	27%
Low	Admin/SID	270.9	98%
Medium	Admin/SID	5.9	2%
Low	Guard House	1.2	1%
Low	Information Bldg	3.1	4%
Low	ISD Bldg 1	453.0	68%
Medium	ISD Bldg 1	102.5	15%
Low	SPMD Building	472.8	60%
Medium	SPMD Building	257.5	33%
Low	CED	398.2	29%

Hazard Level	Affected Building	Area Affected (sqm)	Percentage
Low	3-Storey Building	377.9	64%
Low	Graduate Dorm	1,157.0	76%
Medium	Graduate Dorm	18.2	1%
Low	PRISM	211.4	18%
Medium	PRISM	951.9	82%
Low	STP	240.8	97%
Medium	STP	7.9	3%
Low	Trash Storage	12.6	8%
Medium	Trash Storage	75.5	47%
Low	IPDM	63.1	26%
Medium	IPDM	168.8	71%
Low	Bahay Alumni	171.2	49%
Medium	Bahay Alumni	178.6	51%
Low	Food Strip	66.5	16%
Medium	Food Strip	310.9	76%
Low	Gymnasium	1,500.2	59%
Low	Office of the Chancellor	13.8	4%
Medium	Office of the Chancellor	367.1	96%
Low	Academic Building	566.8	53%
Medium	Academic Building	477.9	44%
Low	TBA	157.3	58%
Medium	TBA	114.6	42%
Low	TBA	153.5	56%
Medium	TBA	143.6	53%
Low	ICTC	4.0	1%
Medium	ICTC	258.9	88%
Low	MSU IIT Auditorium	966.3	98%
Medium	MSU IIT Auditorium	9.4	1%
Low	Motorpool and Multi-Level Parking	255.7	43%
Low	Student Dorm	474.7	79%
Medium	Student Dorm	91.2	15%
Low	University Masjid	181.4	66%
Low	Animal House	73.2	100%
Low	STP & MRF	30.8	42%
Medium	STP & MRF	42.7	58%
Low	AUET/RAC/MET Building	5.8	3%
Medium	Future Development	231.6	100%
Medium	Student Services Hub	162.4	100%
Medium	CASS Bldg 1	0.0	0%
Medium	AMMEI	0.0	0%
Medium	AMMEI	0.0	0%
Medium	CEBA Building	0.0	0%
Low	Academic Building	0.1	0%
Low	TBA	0.1	0%

b. Earthquake

An earthquake is what happens when two blocks of the earth suddenly slip past one another. Magnitude is a measure of earthquake size and remains unchanged with distance from the earthquake. Intensity, however, describes the degree of shaking caused by an earthquake at a given place and decreases with distance from the earthquake epicenter (USGS). It is the earthquake that we feel that the earthquake had occurred.

Earthquake Intensity

For all the results below, it can be generally observed that:

- The greater the earthquake magnitude, the greater the intensity.
- The shallower the depth, the greater is the intensity.
- When earthquake magnitude is great and the depth is shallow then the intensity is all the more greater.
- There are different depth values per magnitude level and some depth values are expressed in range or as an individual value. That is because those values that are expressed in range have the same earthquake risk value while the depth values displayed as an individual value is because it is the only value that corresponds to a specific earthquake risk value.
- All the buildings both the existing and proposed are both affected

Table 3.21 shows the results of the earthquake intensity given an earthquake magnitude for the Tibanga, Hinaplanon and Fuentes campuses.

Table 3.21. Summary Results of Earthquake Simulation at Tibanga Main Campus

Magnitude	Depth (km)	Intensity	Map
4.0	5	Strong	Figure 3.41
5.0	5-50	Strong	Figure 3.42
6.0	5-25	Very Strong	Figure 3.43
	50-70	Strong	
7.0	5	Destructive	Figure 3.44
	15-70	Very Strong	
7.5	5-15	Destructive	Figure 3.45
	25-70	Very Strong	
	150	Strong	

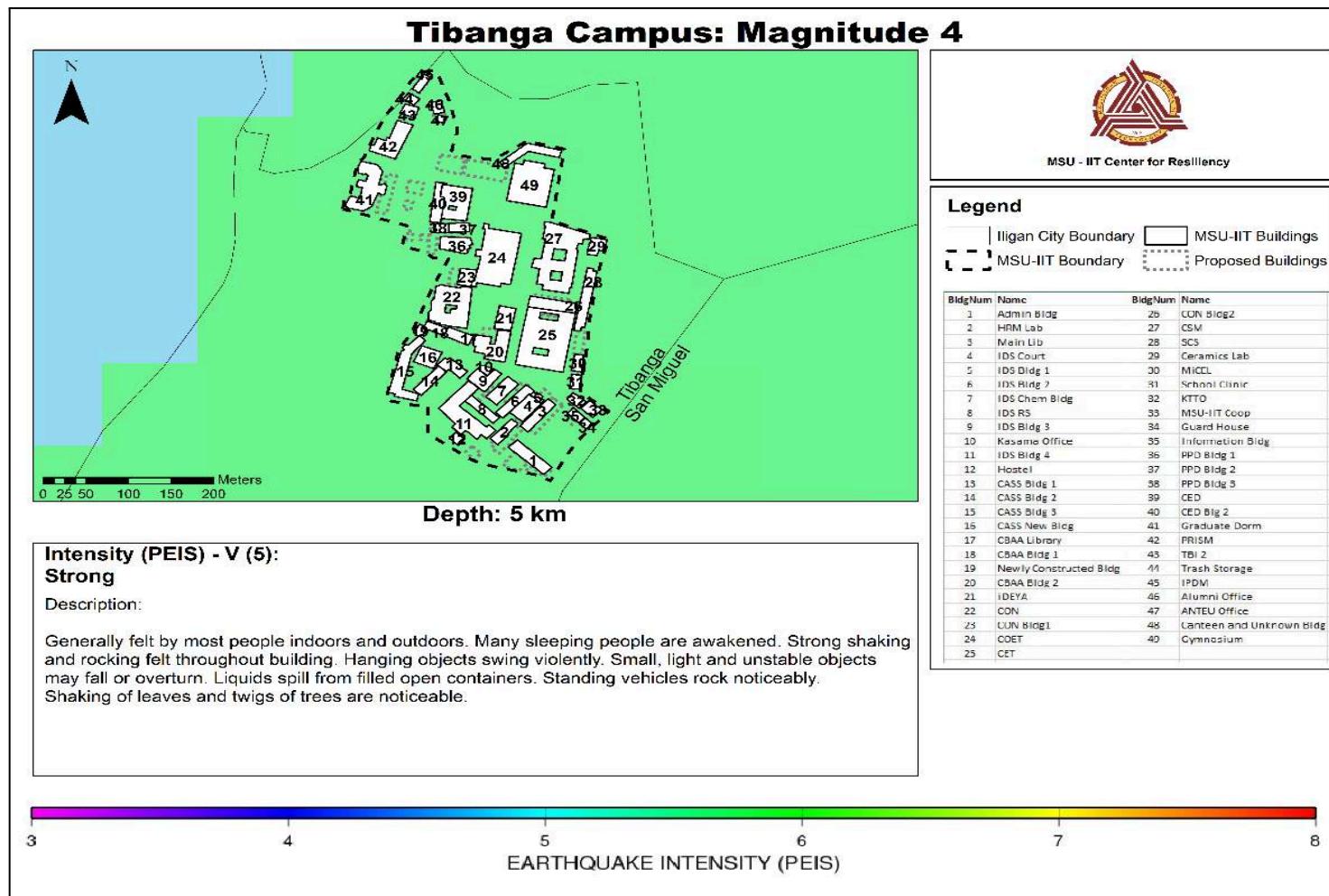


Figure 3.41. MSU-IIT Tibanga Main Campus Earthquake Intensity at Magnitude 4.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable

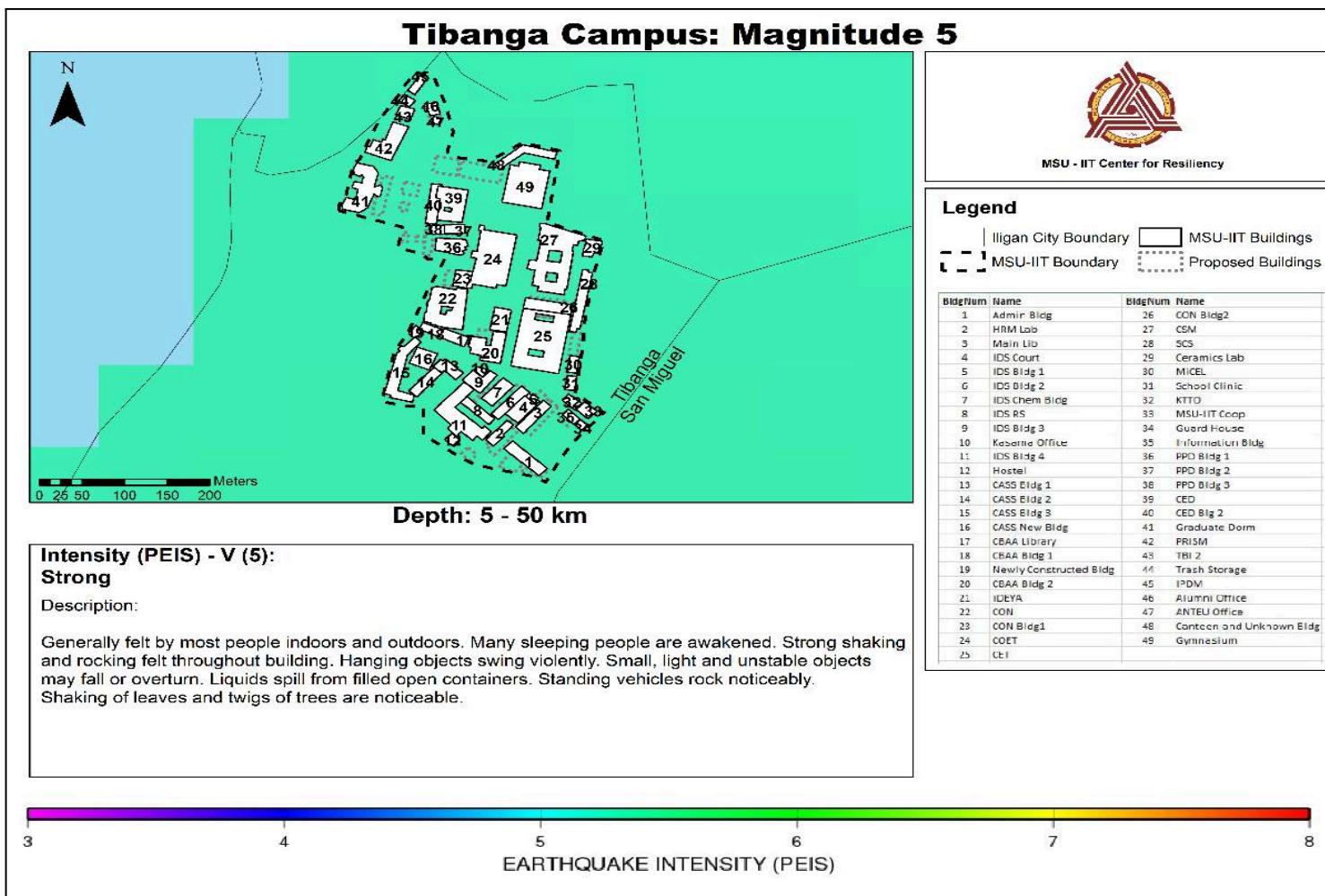


Figure 3.42. MSU-IIT Tibanga Main Campus Earthquake Intensity at Magnitude 5.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

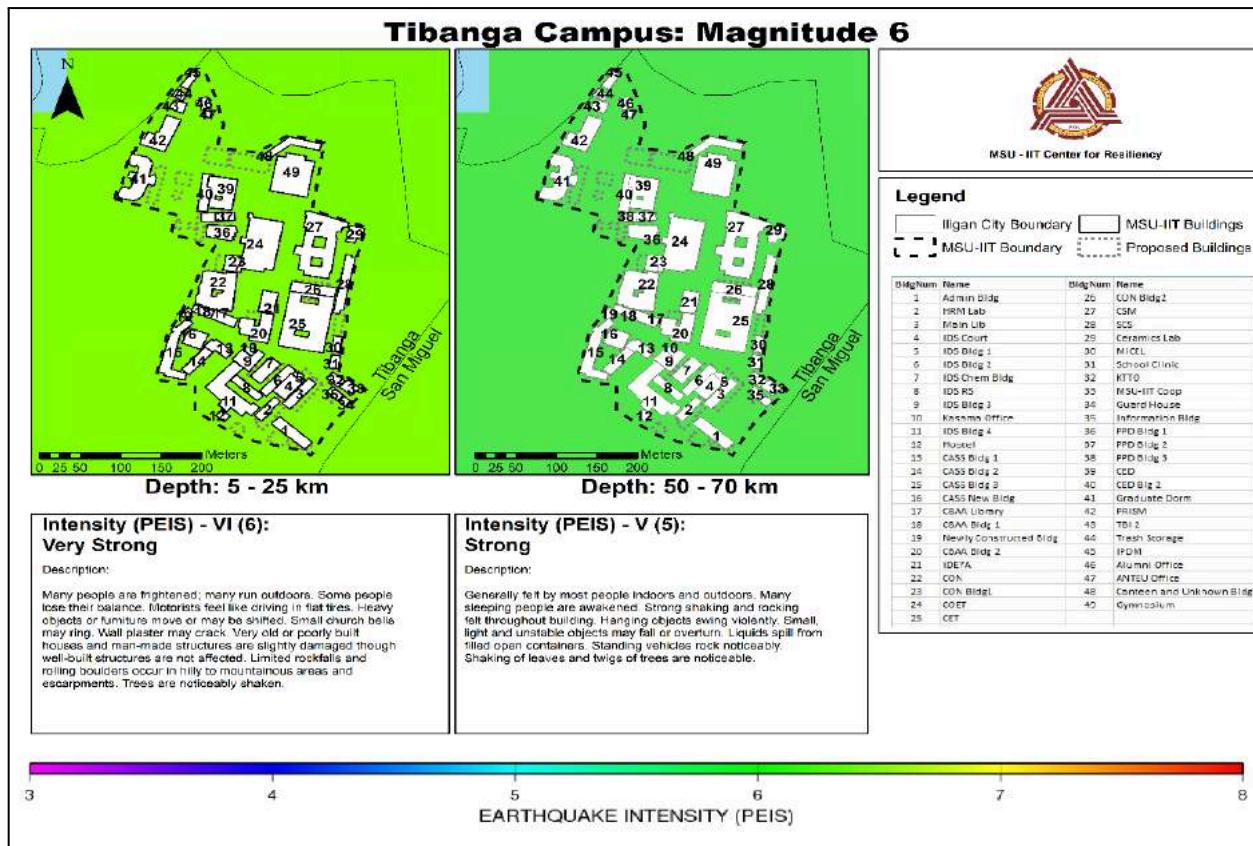


Figure 3.43. MSU-IIT Tibanga Main Campus Earthquake Intensity at Magnitude 6.0

Intensity (PEIS) - VII (6): Very Strong

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeable shaken.

Intensity (PEIS) - VI (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from tilted open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

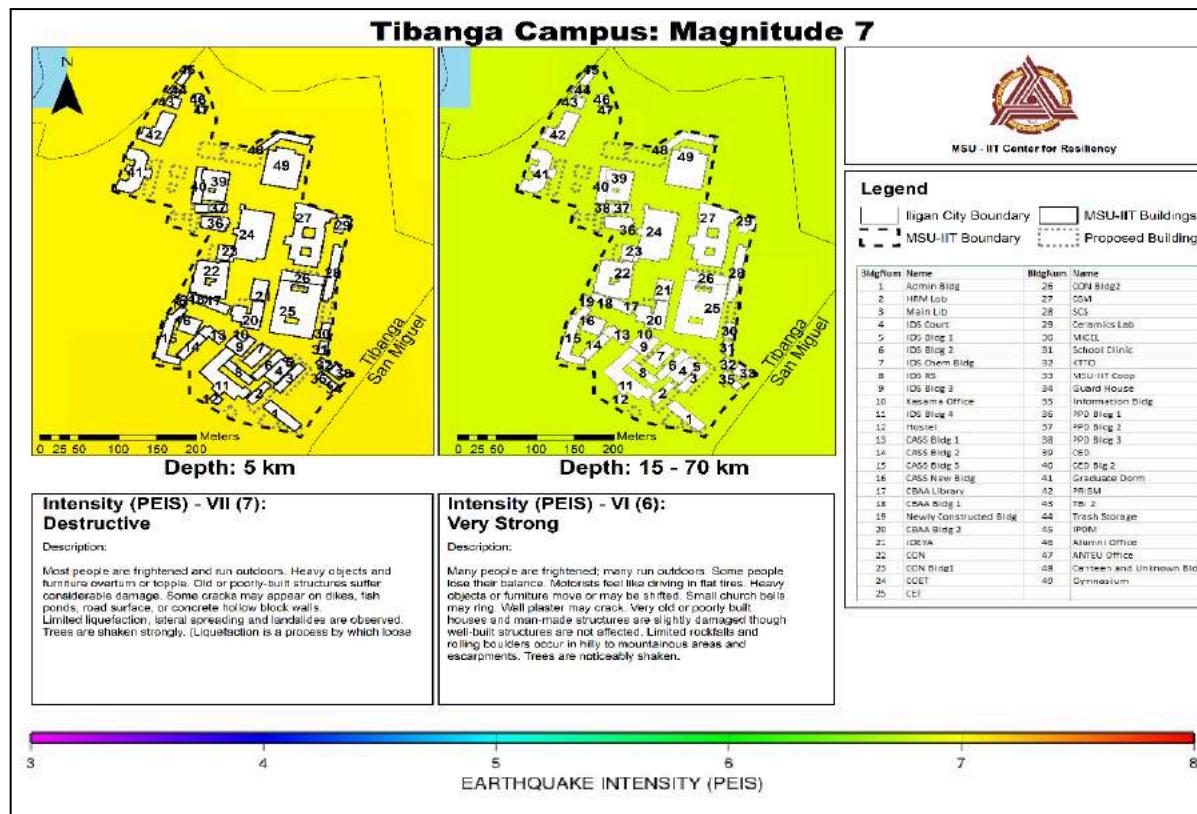


Figure 3.44. MSU-IIT Tibanga Main Campus Earthquake Intensity at Magnitude 7.0

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

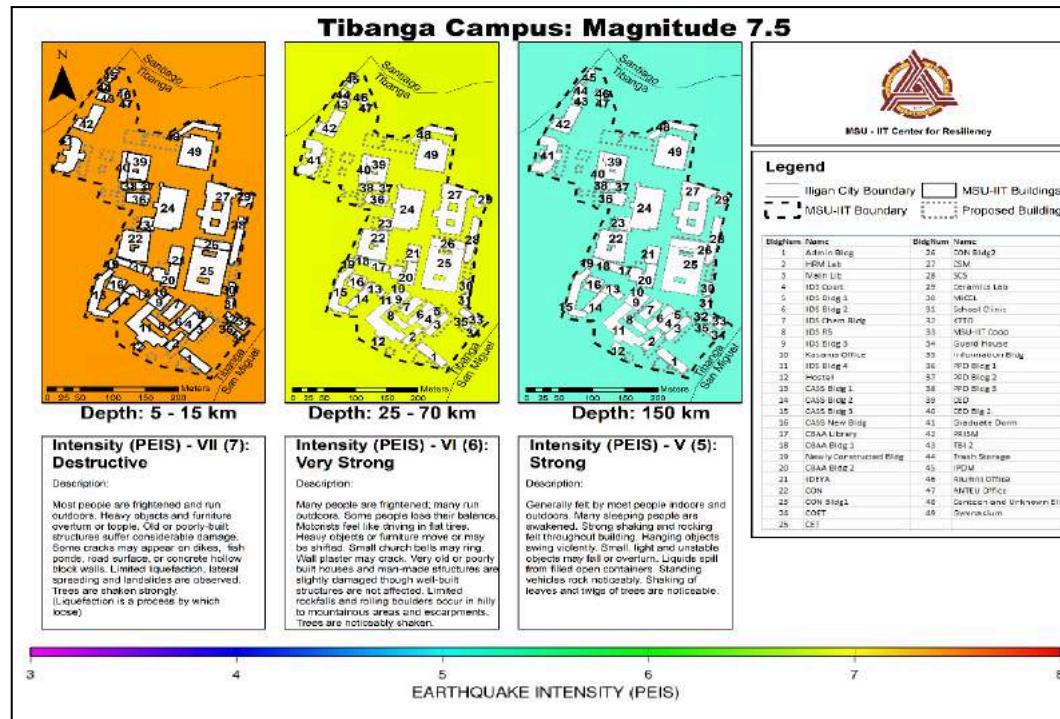


Figure 3.45. MSU-IIT Tibanga Main Campus Earthquake Intensity at Magnitude 7.5

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat fires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

Earthquake Liquefaction

All the three (3) campus areas of MSU-IIT are prone to liquefaction since it is located in the coastal area both for Fuentes and Tibanga while Hinaplanon campus is near the river.

Earthquakes trigger liquefaction since the ground shaking caused by the earthquake rubs and pulverizes the soil and the rocks until it becomes softened.

For all the results below, it can be generally observed that:

- The greater the earthquake magnitude, the greater is the liquefaction risk.
- The shallower the depth, the bigger is the liquefaction risk and vice-versa.
- There are different depth values per magnitude level and some depth values are expressed in range or as an individual value. That is because those values that are expressed in range have the same liquefaction risk value while the depth values displayed as an individual value is because it is the only value that corresponds to a specific liquefaction risk value.
- All the buildings both existing and proposed are both affected.
- The probable subsidence of the buildings is computed as a product of the percentage acceleration due to gravity (% g) and the percentage acceleration due to gravity value which is 9.81 m/s^2

Below are the results of the Probable Depth of Building Subsidence given the effect of earthquake magnitude to the percentage acceleration due to gravity.

Table 3.22. Liquefaction at Magnitude 5.0 to 7.5

Magnitude	Depth (km)	Exceedance of critical acceleration during Wet Season (%g)	Probable Depth of Building Subsidence (m)	Map
5.0	5-15	0.04	0.39	Figure 3.46
6.0	5-15	0.2	1.96	Figure 3.47
	25-50	0.05	0.49	
7.0	5-15	0.2	1.96	Figure 3.48
7.5	5-25	0.4	3.92	Figure 3.49
	50-70	0.2	1.96	

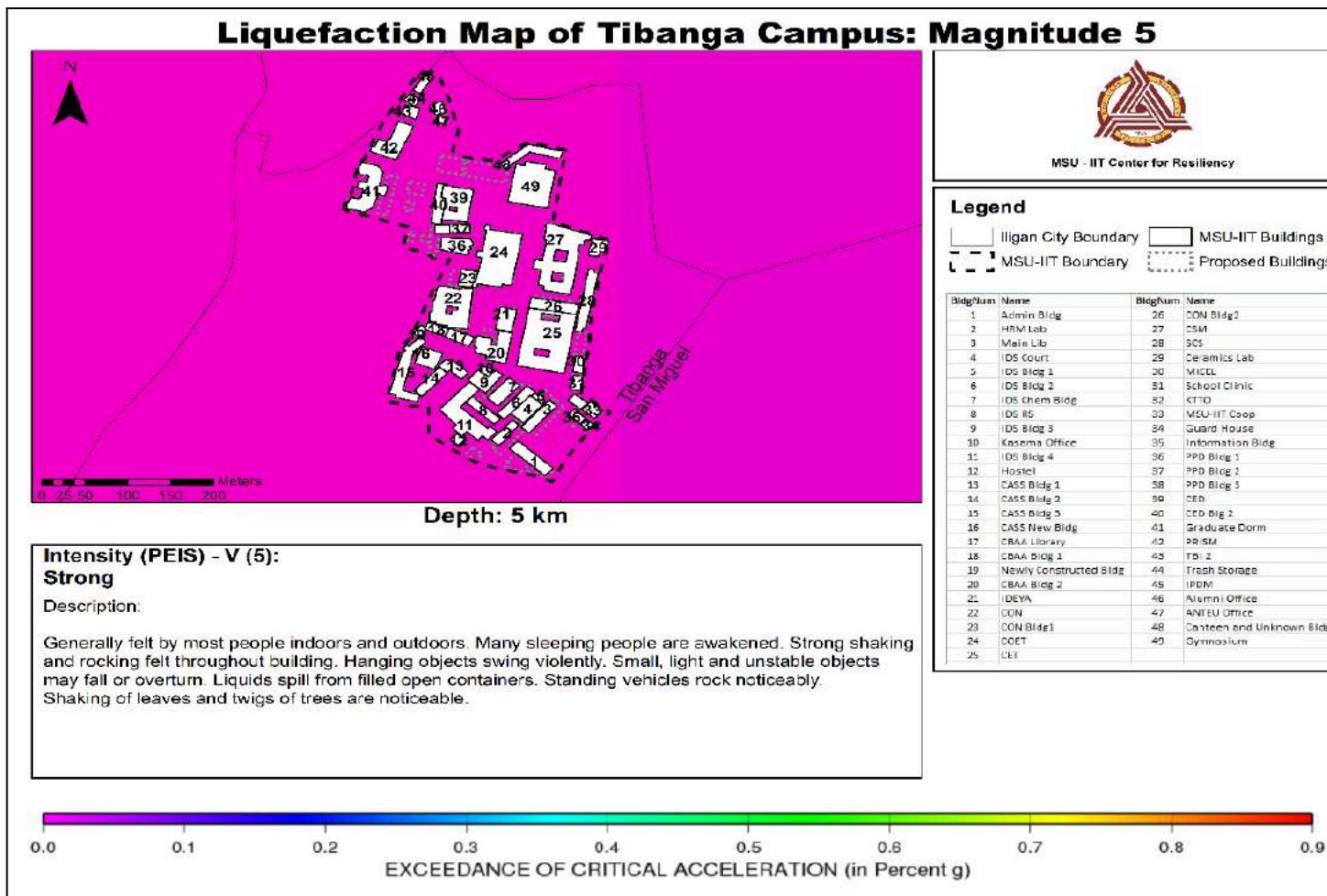


Figure 3.46. MSU-IIT Tibanga Main Campus Liquefaction Map at Magnitude 5.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

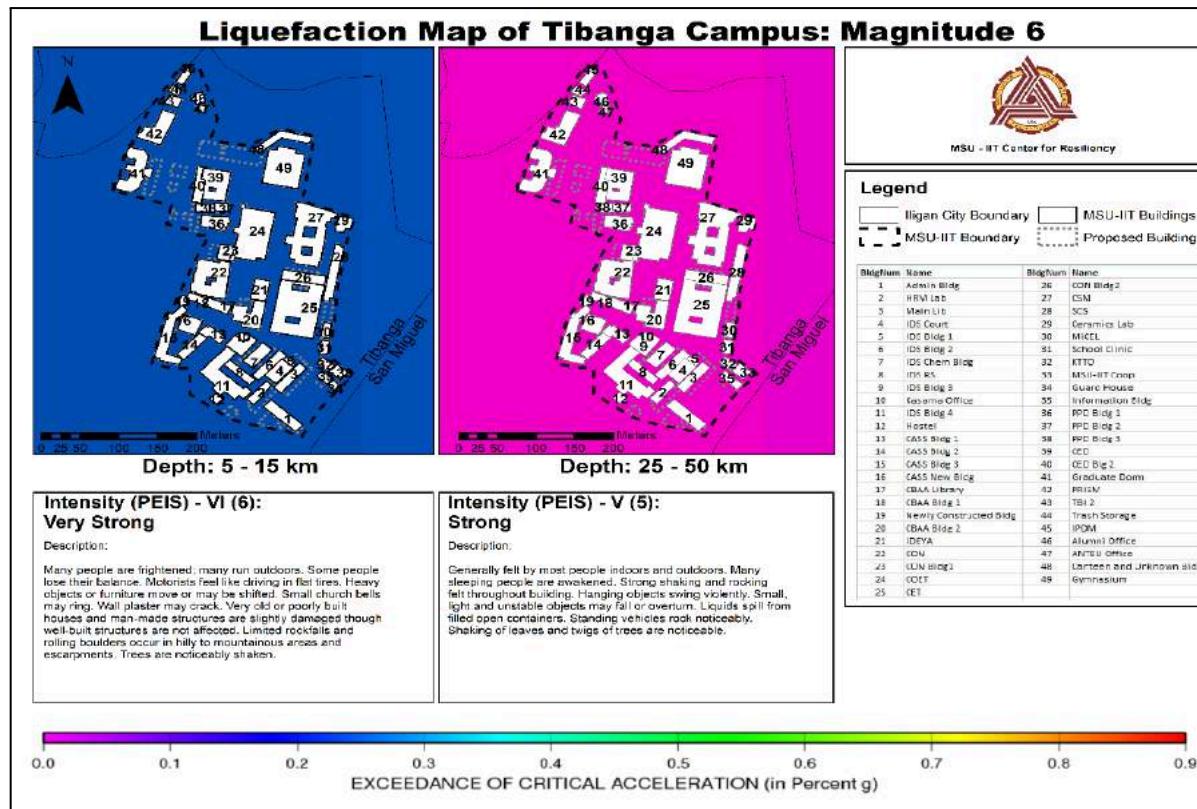


Figure 3.47. MSU-IIT Tibanga Main Campus Liquefaction Map at Magnitude 6.0

Intensity (PEIS) - VII (6): Very Strong

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - VI (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

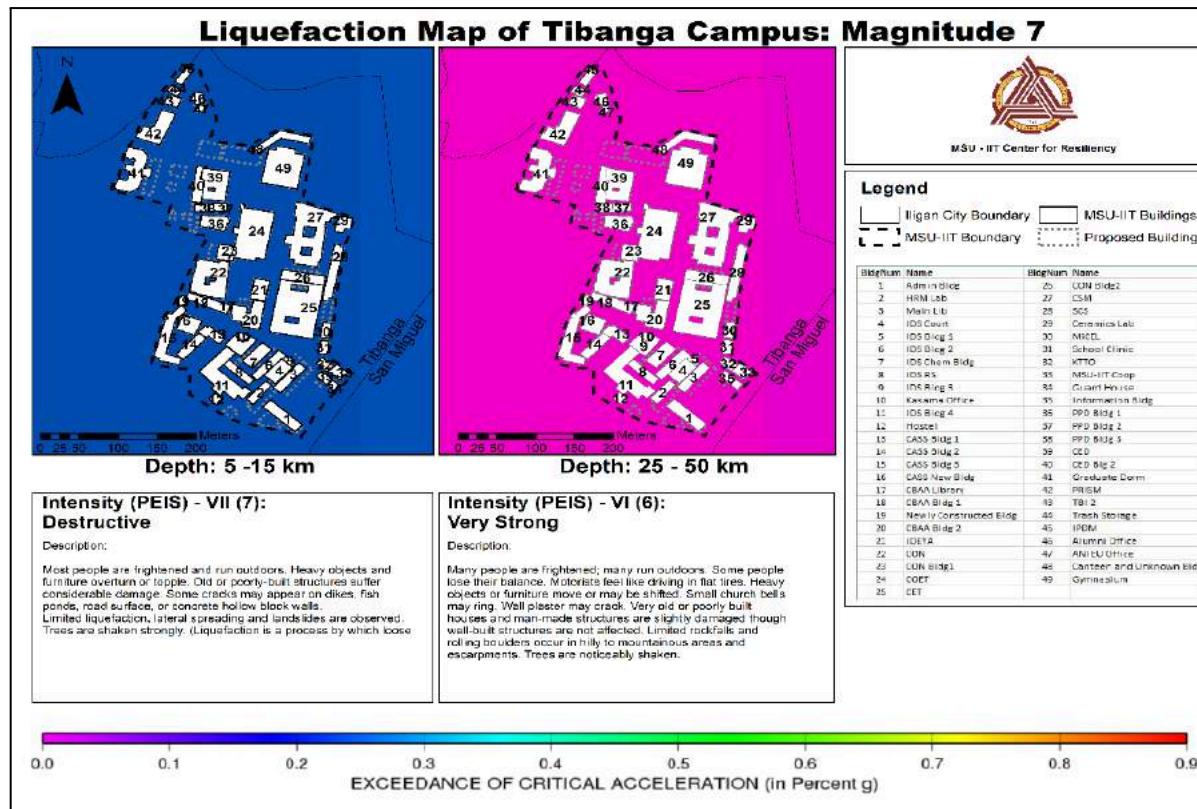


Figure 3.48. MSU-IIT Tibanga Main Campus Liquefaction Map at Magnitude 7.0

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

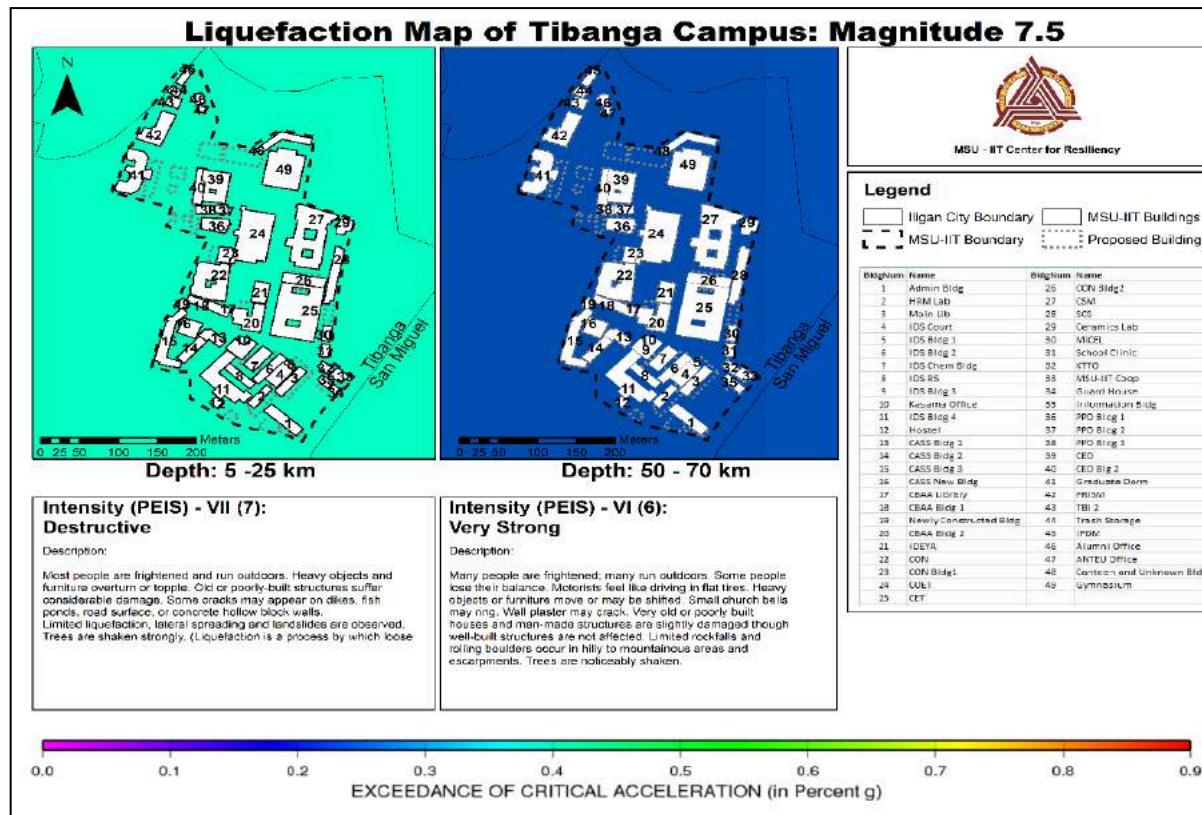


Figure 3.49. MSU-IIT Tibanga Main Campus Liquefaction Map at Magnitude 7.5

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat fires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

c. Storm Surge

There are two (2) kinds of storm surge effects: One, the effect of the 4 storm surge advisories (SSAs) to the MSU-IIT Land area and two, the effect of the 4 storm surge advisories to the MSU-IIT buildings.

The effect of storm surges based on simulation to MSU-IIT Tibanga land area (Tables 3.23) shows that SSA 1 will not hit MSU-IIT. SSA 2 only hit 1%, SSA 3 will hit one-third of the MSU-IIT land area while at SSA 4 the whole MSU-IIT land area will be reached by the storm surge.

As for the simulated effect of storm surge to the buildings (see Tables 3.24 to 3.25), the following can be gleaned:

- The higher the storm surge advisory, more buildings will be reached by the storm surge.
- The higher the hazard level in a given storm surge advisory, more buildings will be reached by the storm surge.
- The flood level differs in space and among buildings. That is why some areas within the campus and buildings have flood levels knee deep, chest deep or above the head.

Table 3.23. Area reached by the degree of storm surge in terms of wave height

Storm Surge Advisory Level	Hazard Level	Area affected (sqm)	Percentage
Storm Surge Advisory 1	Knee Deep	0.00	0%
	Chest Deep	0.00	0%
	Above the head	0.00	0.0%
Storm Surge Advisory 2	Knee Deep	361.49	0.4%
	Chest Deep	0.00	0%
	Above the head	0.00	0.0%
Storm Surge Advisory 3	Knee Deep	8,367.18	9%
	Chest Deep	18,855.45	20%
	Above the head	0.10	0.0001%
Storm Surge Advisory 4	Knee Deep	17,930.50	19%
	Chest Deep	55,075.32	59%
	Above the head	20,532.32	22%

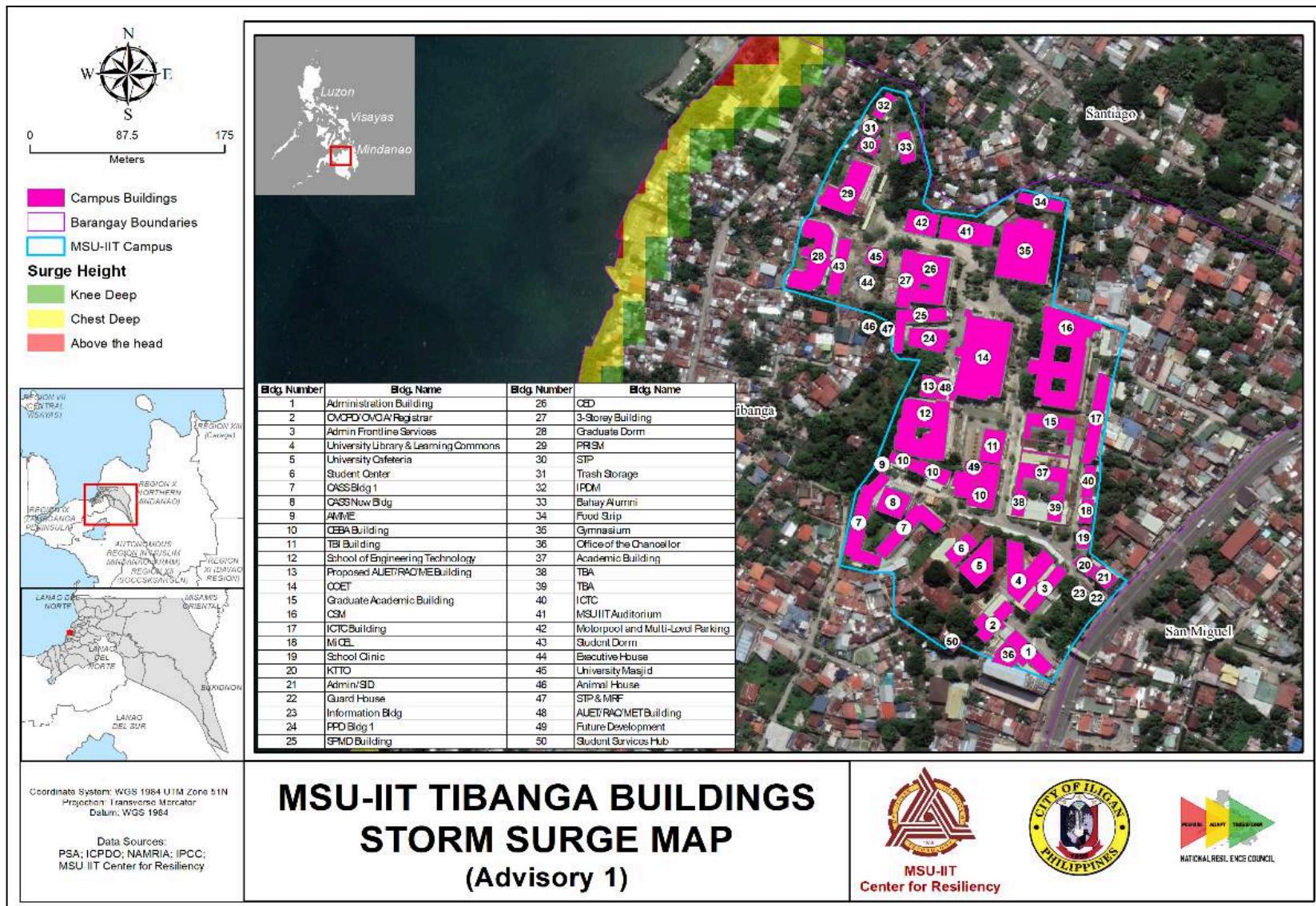


Figure 3.50. MSU-IIT Tibanga Proposed Buildings Storm Surge Map (Advisory 1)

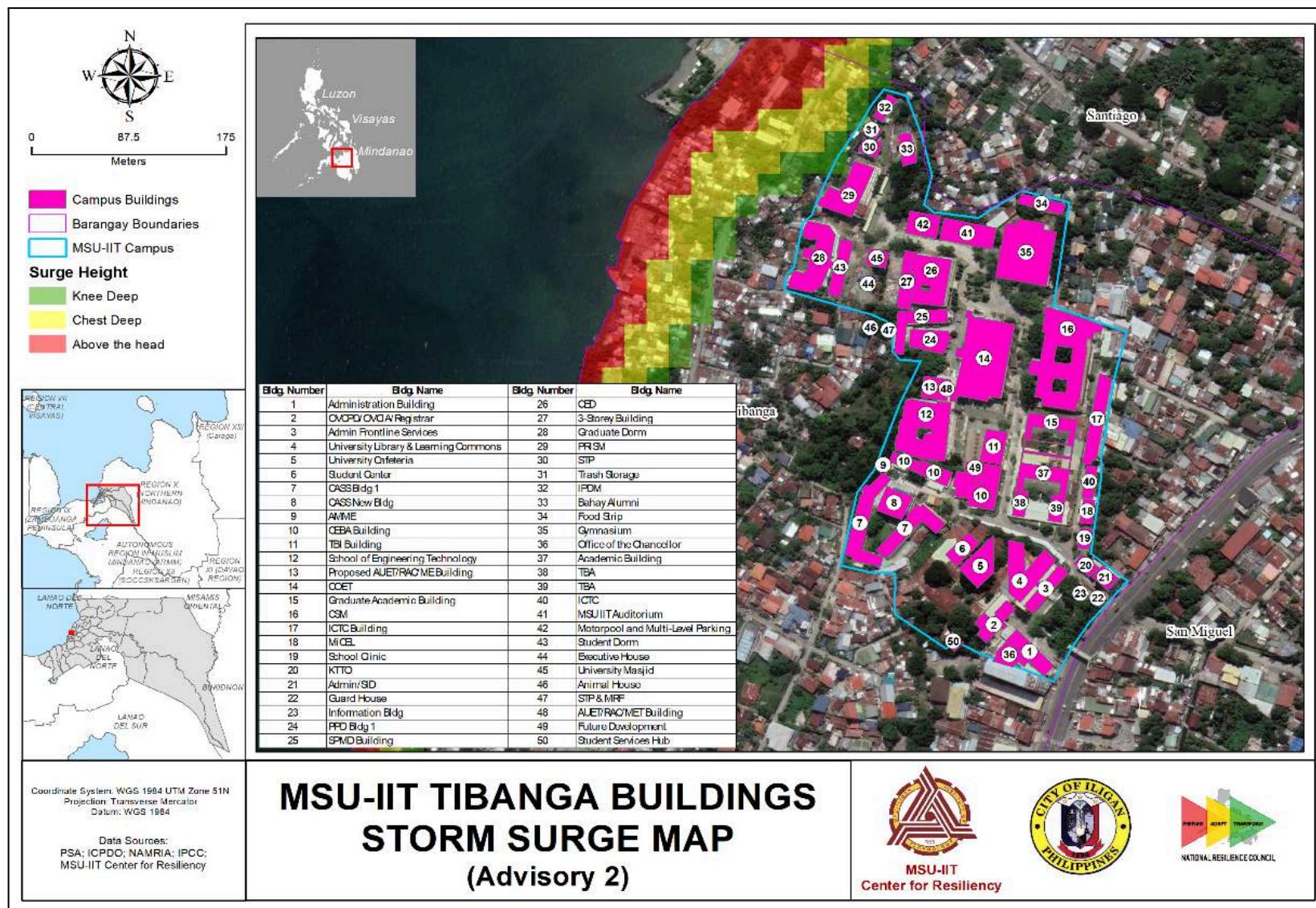


Figure 3.51. MSU-IIT Tibanga Proposed Buildings Storm Surge Map (Advisory 2)

**Table 3.24 Buildings reached by the degree of storm surge in terms of wave height,
at Advisory 2**

ADVISORY 2			
Hazard Level	Affected Building	Area affected (sqm)	Percentage
Knee Deep	Trash Storage	32.2	20%

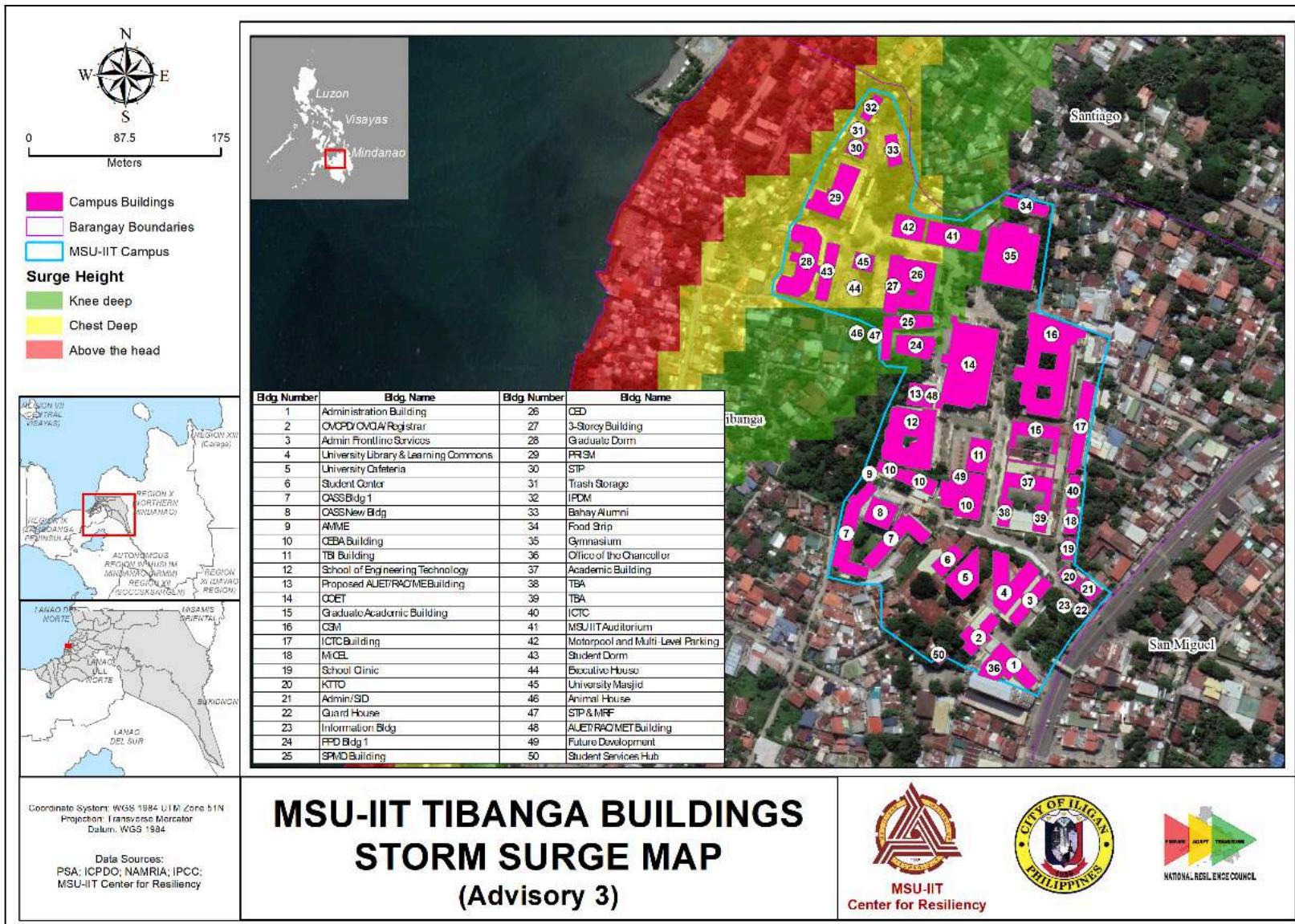


Figure 3.52. MSU-IIT Tibanga Proposed Buildings Storm Surge Map (Advisory 3)

Table 3.25. Buildings reached by the degree of storm surge in terms of wave height, at Advisory 3

ADVISORY 3			
Hazard Level	Affected Building	Area affected (sqm)	Percentage
Knee Deep	COE	108.7	3%
Knee Deep	ISD Bldg 1	602.3	91%
Knee Deep	SPMD Building	782.5	100%
Knee Deep	CED	841.4	61%
Chest Deep	CED	534.0	39%
Knee Deep	3-Storey Building	67.4	11%
Chest Deep	3-Storey Building	514.5	88%
Chest Deep	Graduate Dorm	1,516.5	100%
Chest Deep	PRISM	1,163.3	100%
Chest Deep	STP	248.7	100%
Chest Deep	Trash Storage	160.7	100%
Chest Deep	IPDM	1.3	1%
Chest Deep	IPDM	236.8	99%
Chest Deep	Bahay Alumni	349.8	100%
Knee Deep	Food Strip	46.4	11%
Knee Deep	Gymnasium	111.2	4%
Knee Deep	MSU IIT Auditorium	675.2	69%
Chest Deep	MSU IIT Auditorium	307.5	31%
Chest Deep	Motorpool and Multi-Level Parking	600.1	100%
Chest Deep	Student Dorm	601.9	100%
Chest Deep	Executive House	101.9	100%
Chest Deep	University Masjid	275.8	100%
Knee Deep	Animal House	73.2	100%
Knee Deep	STP & MRF	73.5	100%
Chest Deep	CED	5.0	0.4%
Chest Deep	3-Storey Building	5.0	1%

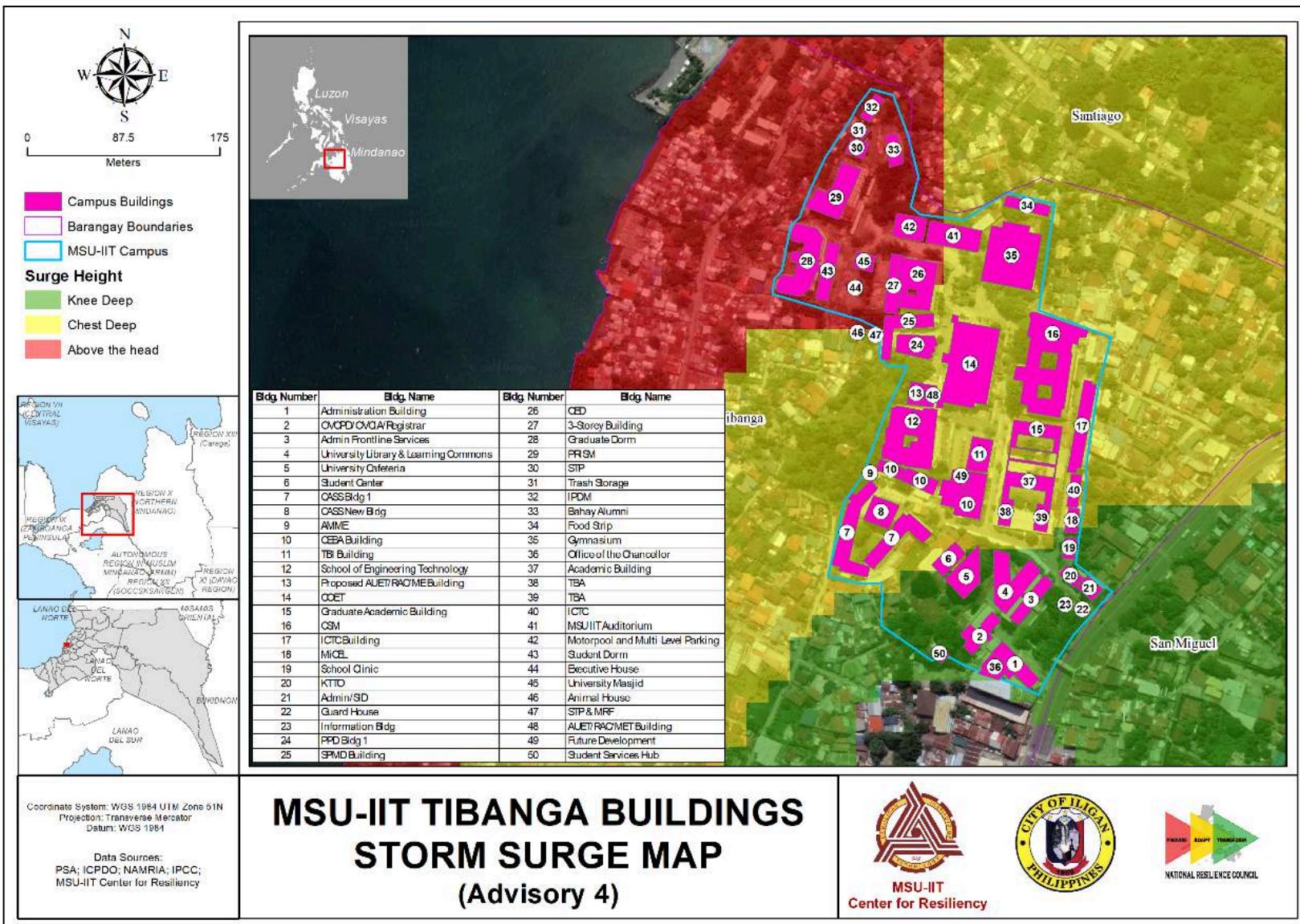


Figure 3.53. MSU-IIT Tibanga Main Campus Proposed Buildings Storm Surge Map (Advisory 4)

b. Urban Heat

The surface urban heat island intensity (SUHII) of MSU-IIT Tibanga main campus is classified as HIGH. All the existing and proposed buildings will be affected.

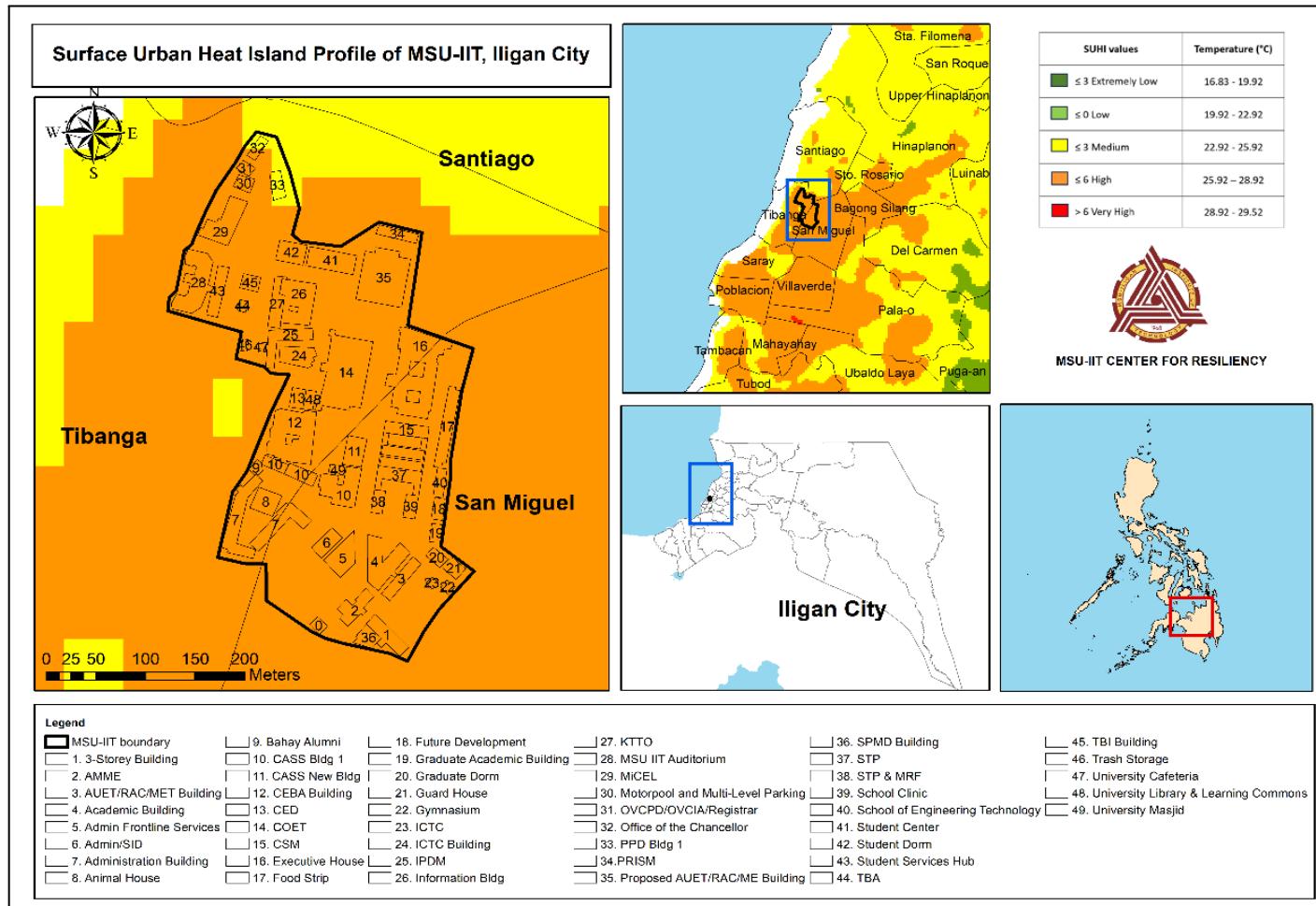


Figure 3.54. MSU-IIT Tibanga Main Campus Urban Heat Map

HINAPLON Annex Campus

a. Flood

Table 3.26 shows the proposed buildings that will be constructed in the future inside the Hinaplanon campus.

Table 3.26. Proposed Buildings at Hinaplanon Annex Campus

Building No.	Building Legend Code in the Map	Building Name	Flood Susceptibility ¹
1	1	CED Laboratory Building	Very High
2	8	Guard House	Very High
3	3	7 Storey RIEIT	Very High
4	6	Commercial Center	Very High
6	12	Sports Complex	No Susceptibility
10	1	4 Storey College of Health Sciences	Very High
11	2	Proposed 5 Storey Faculty and Staff Housing	Very High
13	9	MRF	Very High
14	11	STP	Very High
15	4	Aquatic Recreation Center and Sports Facility	Very High

Flood Susceptibility

Figure 3.55 shows that, the greater the rainfall return period, more buildings will experience deeper flood level.

Tables 3.27 to 3.29 show the extent (see column title “Area Affected”) and depth (see column title “Flood Level”) inside specific proposed buildings given different rainfall scenarios. Tables 3.27 to 3.29 were derived from Figures 3.57 to 3.59.

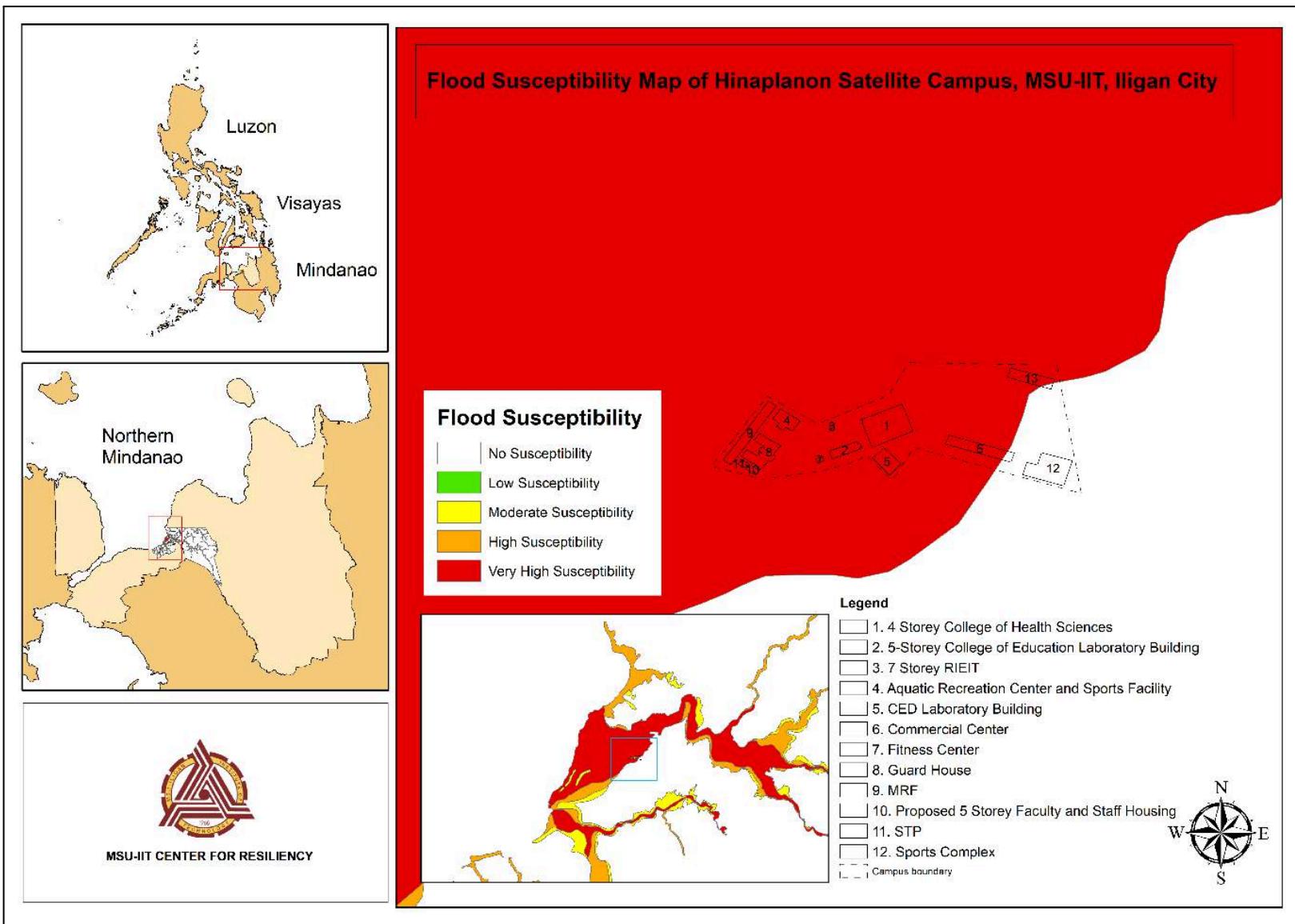


Figure 3.55. MSU-IIT Hinaplanon Campus Annex Flood Susceptibility Map

Flood Simulation

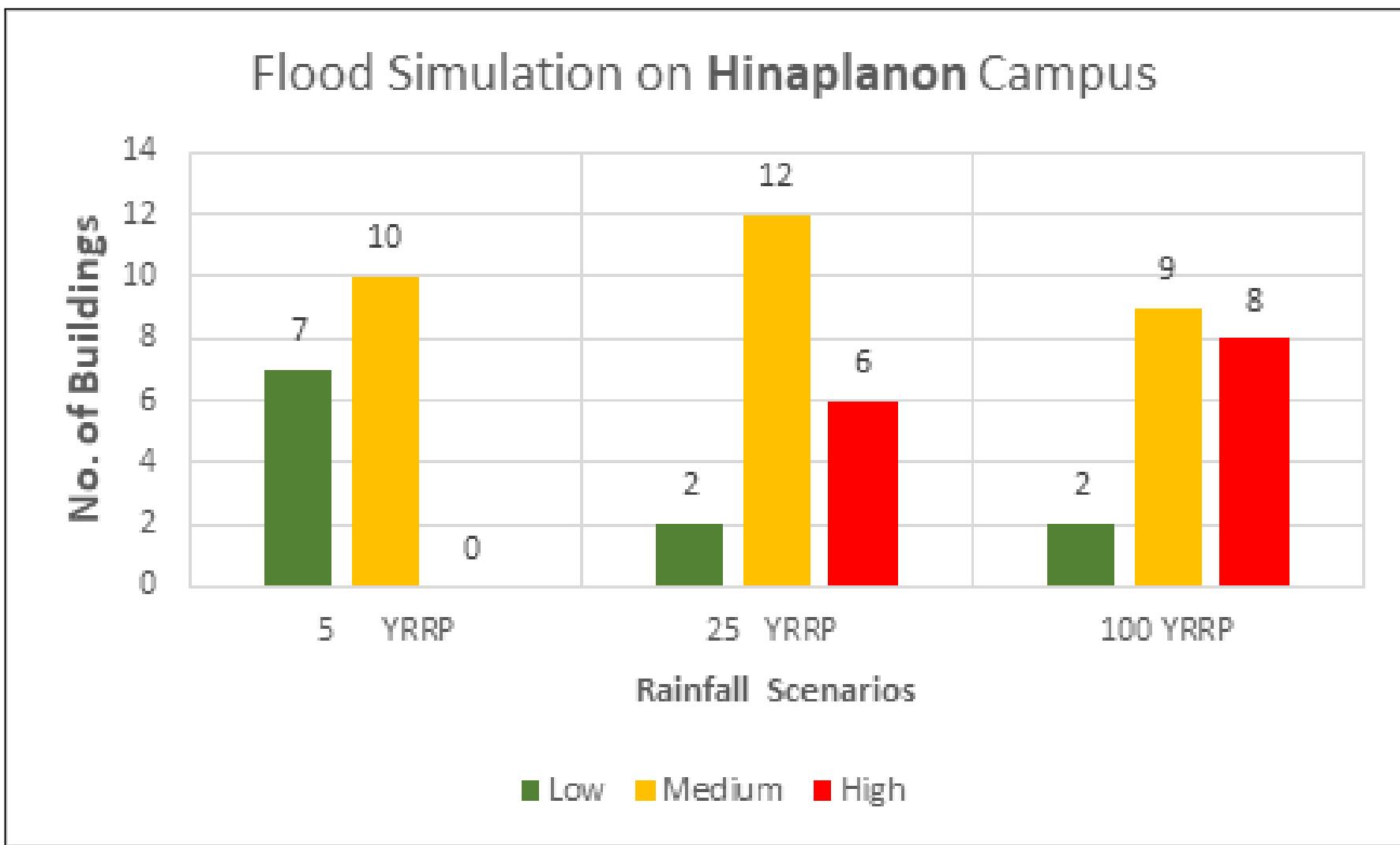


Figure 3.56. Number of Buildings affected by Rainfall Scenarios

Flood Model

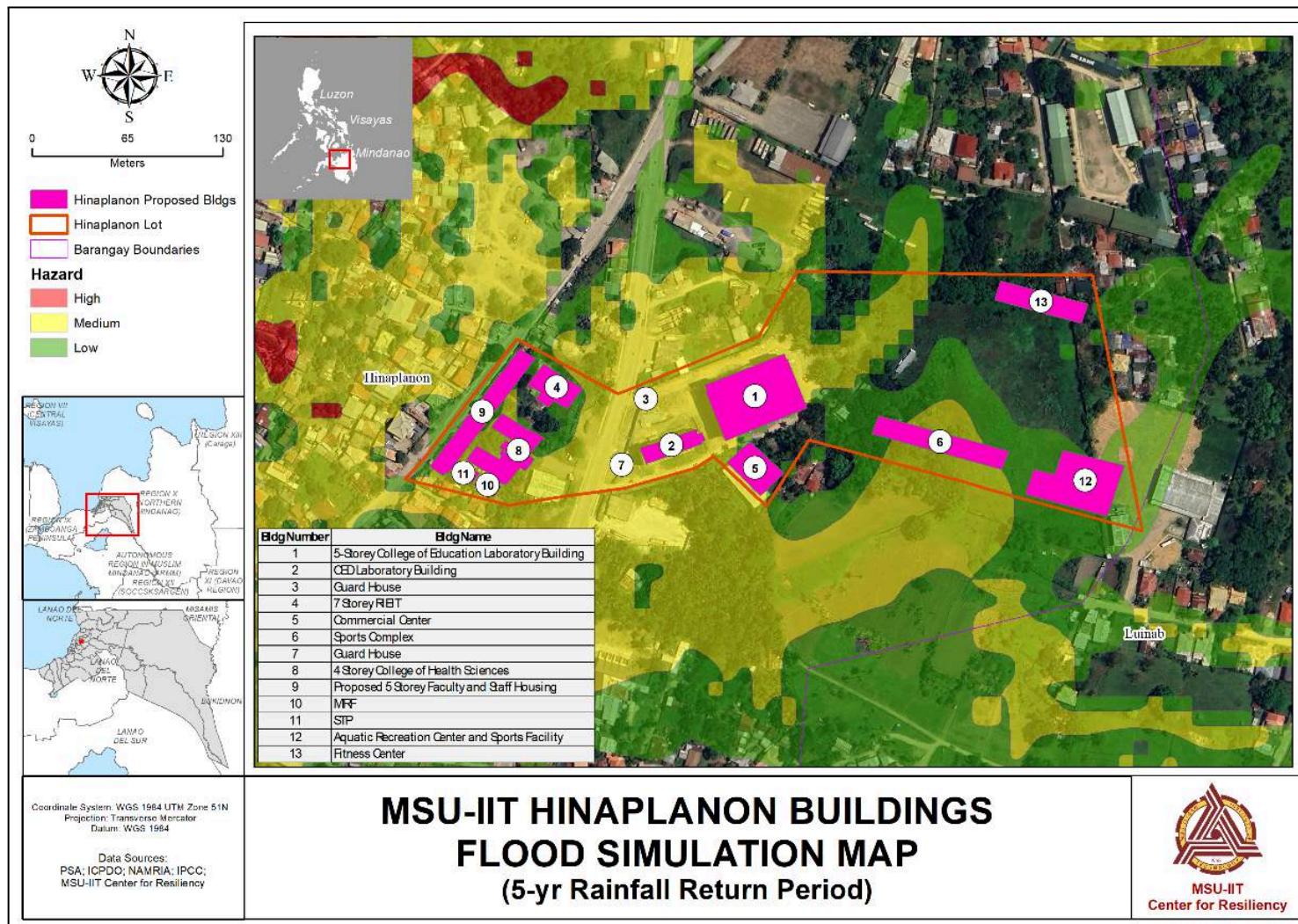


Figure 3.57. MSU-IIT Hinaplanon Campus Annex Buildings Flood Simulation Map (5-Year Rainfall Return Period)

Table 3.27. Extent and Depth Affected in MSU-IIT Hinaplanon Proposed Buildings at 5-Year Rainfall Return Period

Bldg No.	Name	Affected Area (sqm)	Susceptibility	Percentage (%)
1	5-Storey College of Education Laboratory Building	148	Low	6%
1	5-Storey College of Education Laboratory Building	2,195	Medium	92%
2	CED Laboratory Building	465	Medium	100%
3	Guard House	24	Medium	100%
4	7 Storey RIEIT	596	Low	98%
5	Commercial Center	204	Low	29%
5	Commercial Center	188	Medium	27%
6	Sports Complex	329	Low	27%
6	Sports Complex	883	Medium	73%
7	Guard House	58	Medium	100%
8	4 Storey College of Health Sciences	157	Low	14%
8	4 Storey College of Health Sciences	939	Medium	86%
9	Proposed 5 Storey Faculty and Staff Housing	871	Low	69%
9	Proposed 5 Storey Faculty and Staff Housing	329	Medium	26%
10	MRF	126	Medium	100%
11	STP	83	Medium	100%
12	Aquatic Recreation Center and Sports Facility	1,805	Low	100%

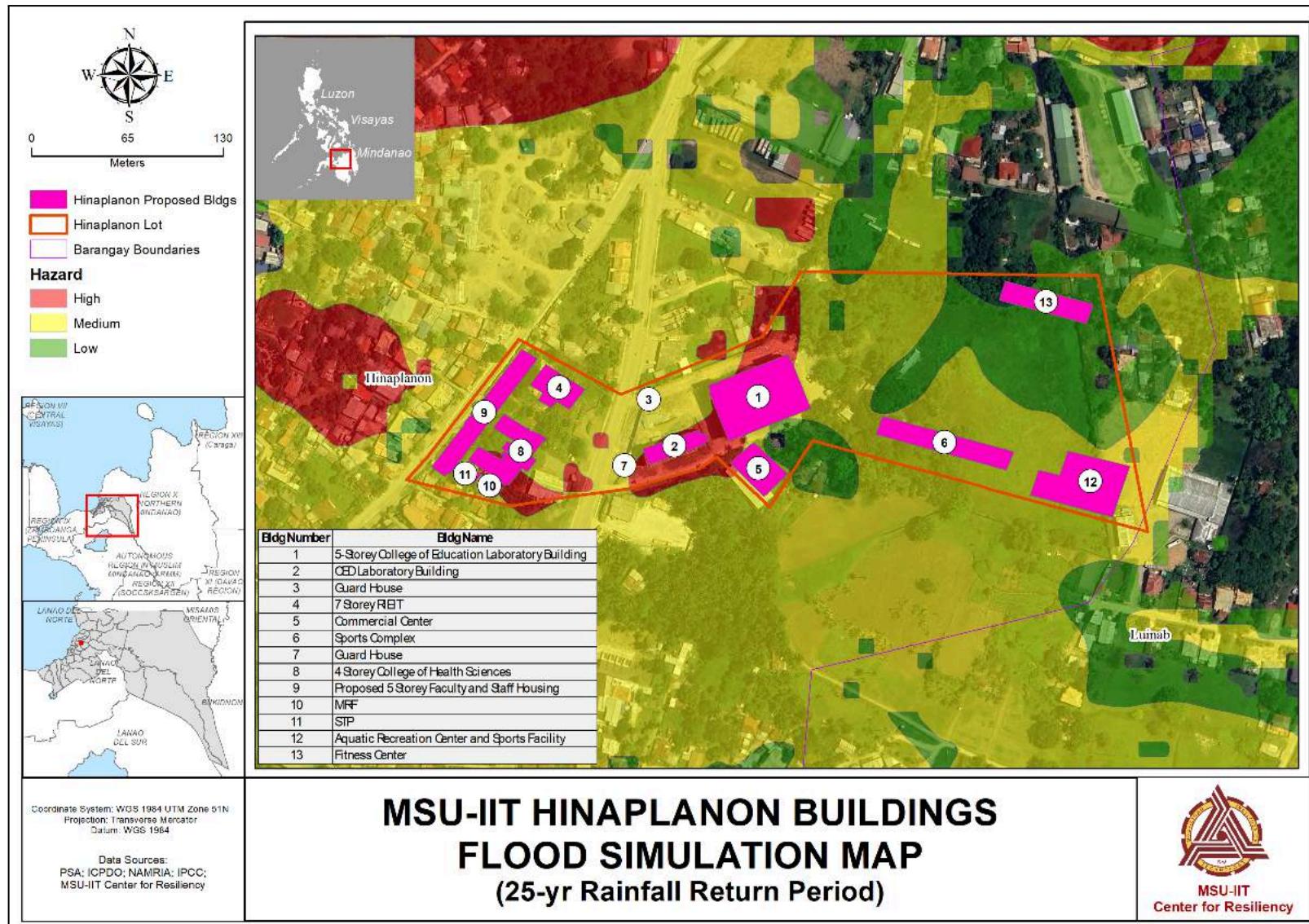


Figure 3.58. MSU-IIT Hinaplanon Campus Annex Buildings Flood Simulation Map (25-Year Rainfall Return Period)

Table 3.28. Extent and Depth Affected in MSU-IIT Hinaplanon Proposed Buildings at 25-Year Rainfall Return Period

Bldg No.	Name	Affected Area (sqm)	Susceptibility	Percentage (%)
1	5-Storey College of Education Laboratory Building	23	Low	1%
1	5-Storey College of Education Laboratory Building	791	Medium	33%
1	5-Storey College of Education Laboratory Building	1,584	High	66%
2	CED Laboratory Building	8	Medium	2%
2	CED Laboratory Building	456	High	98%
3	Guard House	24	Medium	100%
4	7 Storey RIEIT	606	Medium	100%
5	Commercial Center	649	Medium	94%
5	Commercial Center	42	High	6%
6	Sports Complex	1,211	Medium	100%
7	Guard House	58	Medium	99%
7	Guard House	0	High	1%
8	4 Storey College of Health Sciences	734	Medium	67%
8	4 Storey College of Health Sciences	362	High	33%
9	Proposed 5 Storey Faculty and Staff Housing	1,257	Medium	100%
10	MRF	75	Medium	60%
10	MRF	50	High	40%
11	STP	83	Medium	100%
12	Aquatic Recreation Center and Sports Facility	1,814	Medium	100%
13	Fitness Center	644	Low	76%

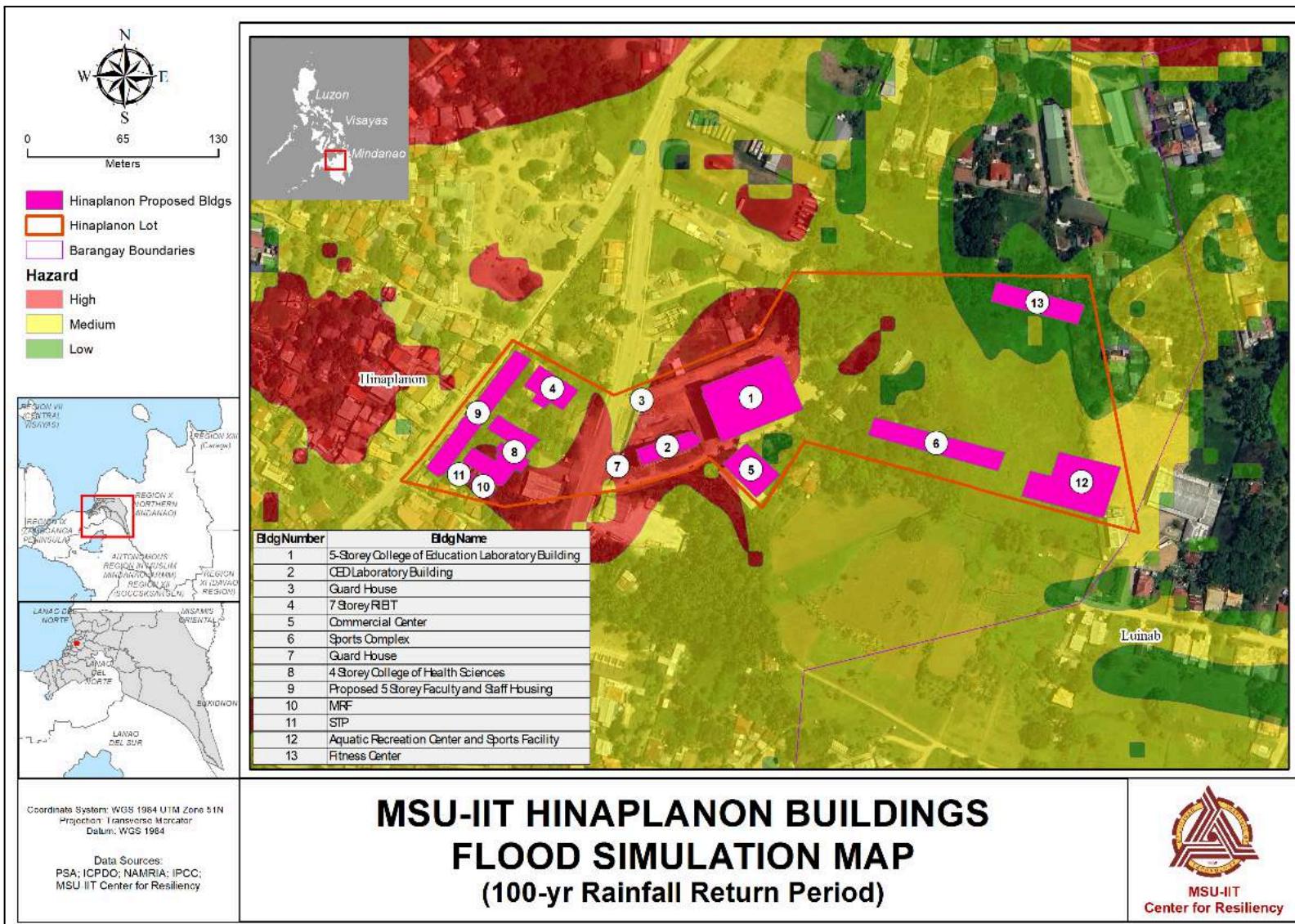


Figure 3.59. MSU-IIT Hinaplanon Campus Annex Buildings Flood Simulation Map (100-Year Rainfall Return Period)

Table 3.29. Extent and Depth Affected in MSU-IIT Hinaplanon Proposed Buildings at 100-Year Rainfall Return Period

Bldg No.	Name	Affected Area (sqm)	Susceptibility	Percentage (%)
1	5-Storey College of Education Laboratory Building	450	Medium	19%
1	5-Storey College of Education Laboratory Building	1,948	High	81%
2	CED Laboratory Building	465	High	100%
3	Guard House	20	Medium	82%
3	Guard House	4	High	18%
4	7 Storey RIEIT	606	Medium	100%
5	Commercial Center	4	Low	1%
5	Commercial Center	611	Medium	88%
5	Commercial Center	75	High	11%
6	Sports Complex	1,211	Medium	100%
7	Guard House	58	High	100%
8	4 Storey College of Health Sciences	543	Medium	50%
8	4 Storey College of Health Sciences	554	High	50%
9	Proposed 5 Storey Faculty and Staff Housing	1,257	Medium	100%
10	MRF	126	High	100%
11	STP	30	Medium	36%
11	STP	53	High	64%
12	Aquatic Recreation Center and Sports Facility	1,814	Medium	100%
13	Fitness Center	747	Low	88%
13	Fitness Center	644	Low	76%

b. Earthquake

Earthquake Intensity

Table 3.30. Summary Results of Earthquake Simulation at Hinaplanon Campus

Magnitude	Depth (km)	Intensity	Map
4.0	5	Strong	Figure 3.60
5.0	5-15	Strong	Figure 3.61
6.0	5	Very Strong	Figure 3.62
	15-50	Strong	
7.0	5	Destructive	Figure 3.63
	15-50	Very Strong	
7.5	5-15	Destructive	Figure 3.64

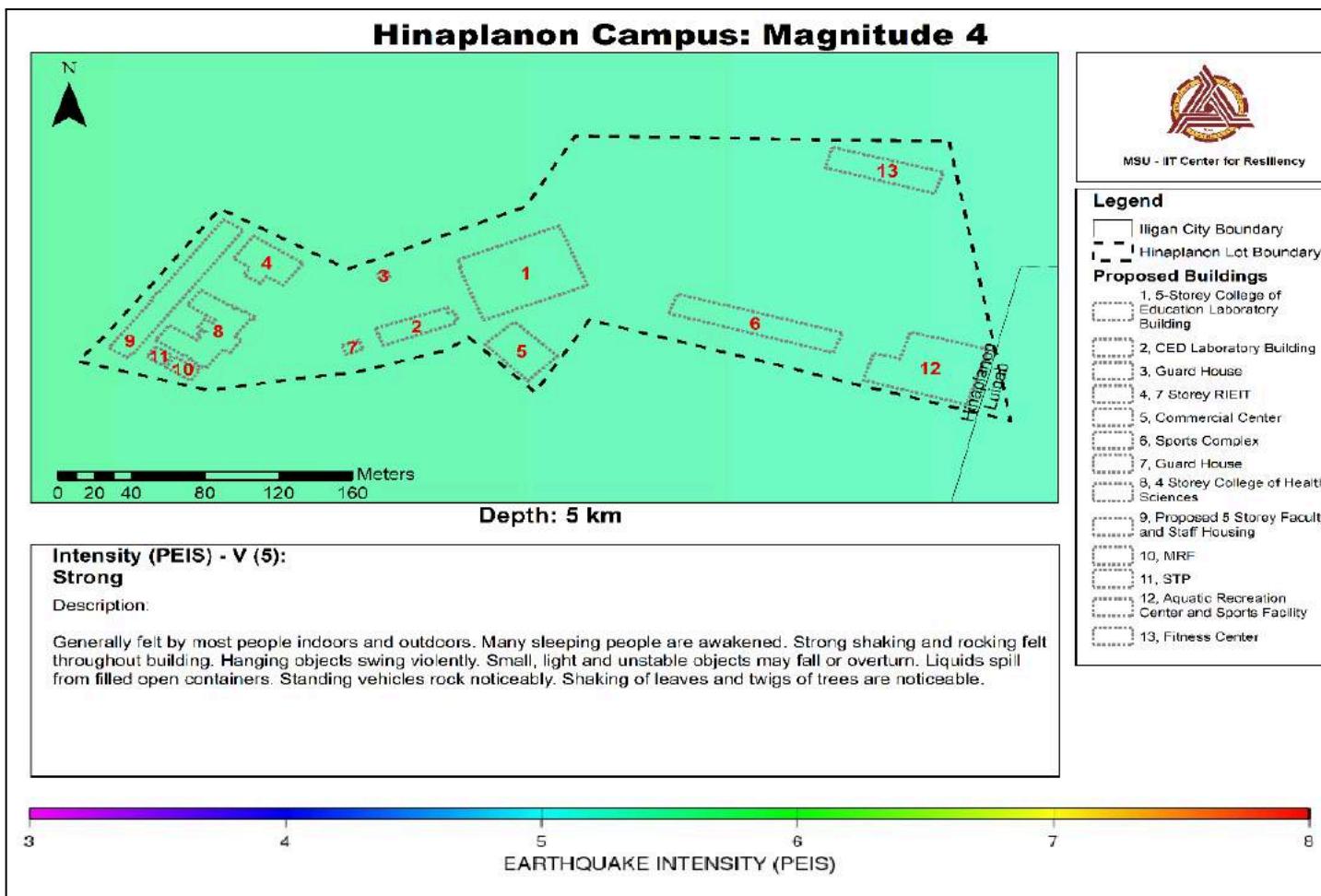


Figure 3.60. MSU-IIT Hinaplanon Campus AnnexEarthquake Intensity at Magnitude 4.0

Intensity (PEIS) - V (5):

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

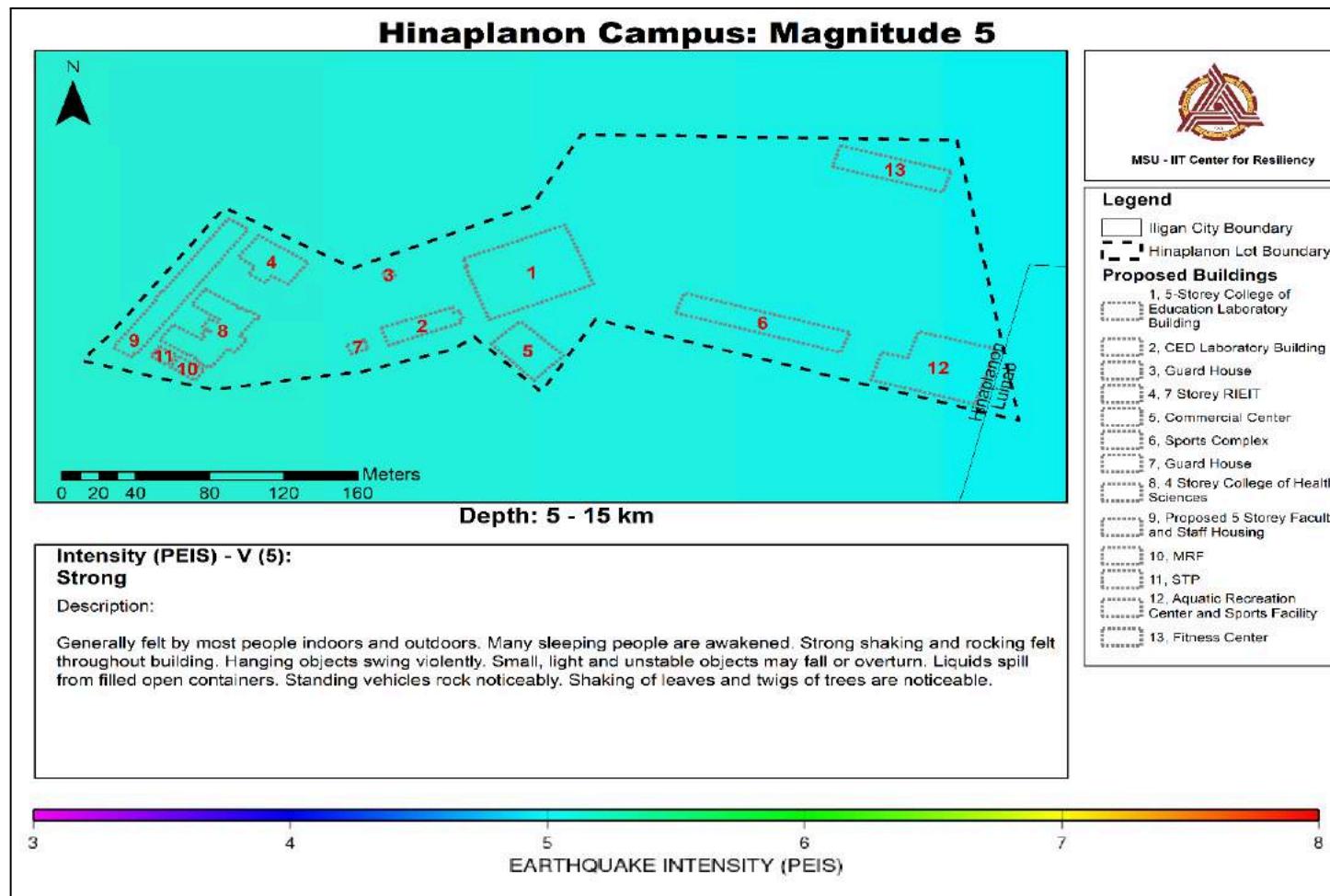


Figure 3.61. MSU-IIT Hinaplanon Campus AnnexEarthquake Intensity at Magnitude 5.0

Intensity (PEIS) - V (5):

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

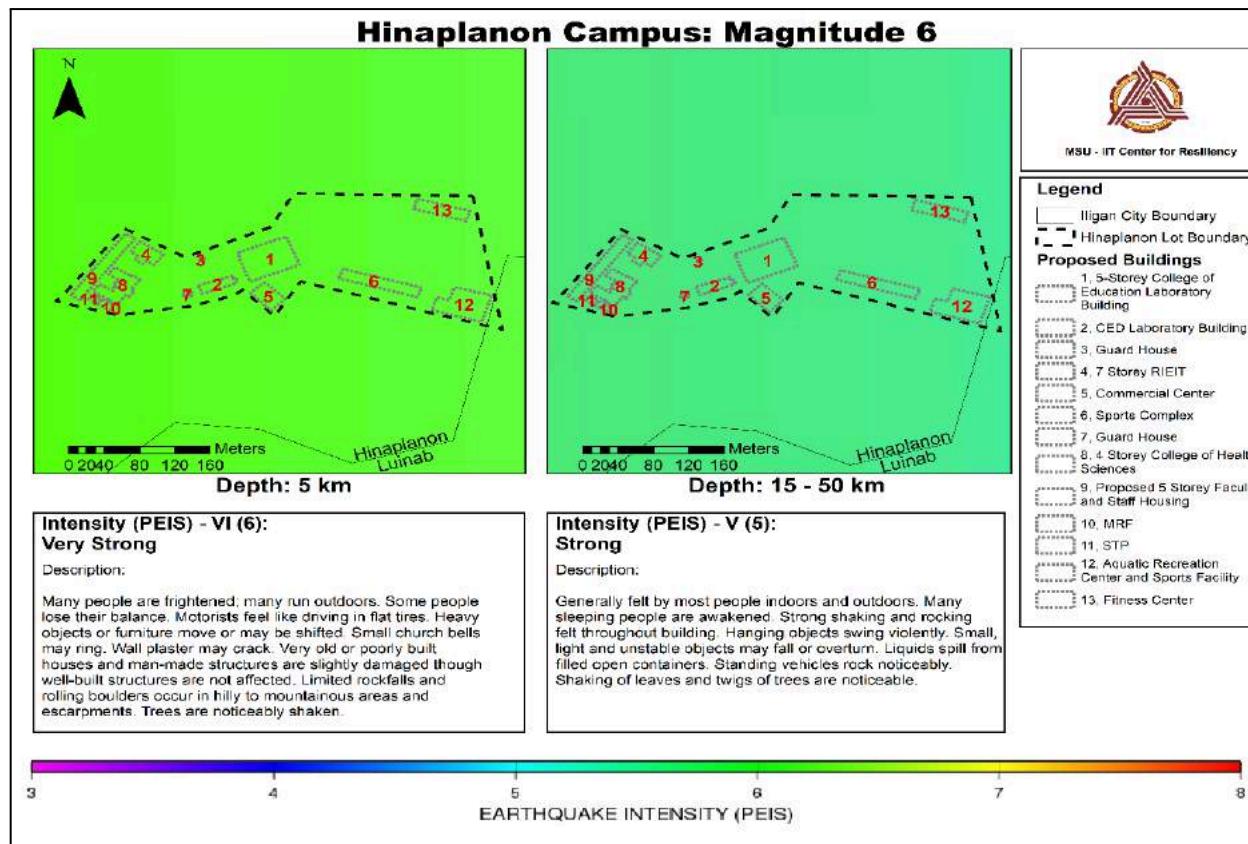


Figure 3.62. MSU-IIT Hinaplanon Campus AnnexEarthquake Intensity at Magnitude 6.0

Intensity (PEIS) - VII (6):

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - VI (5):

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

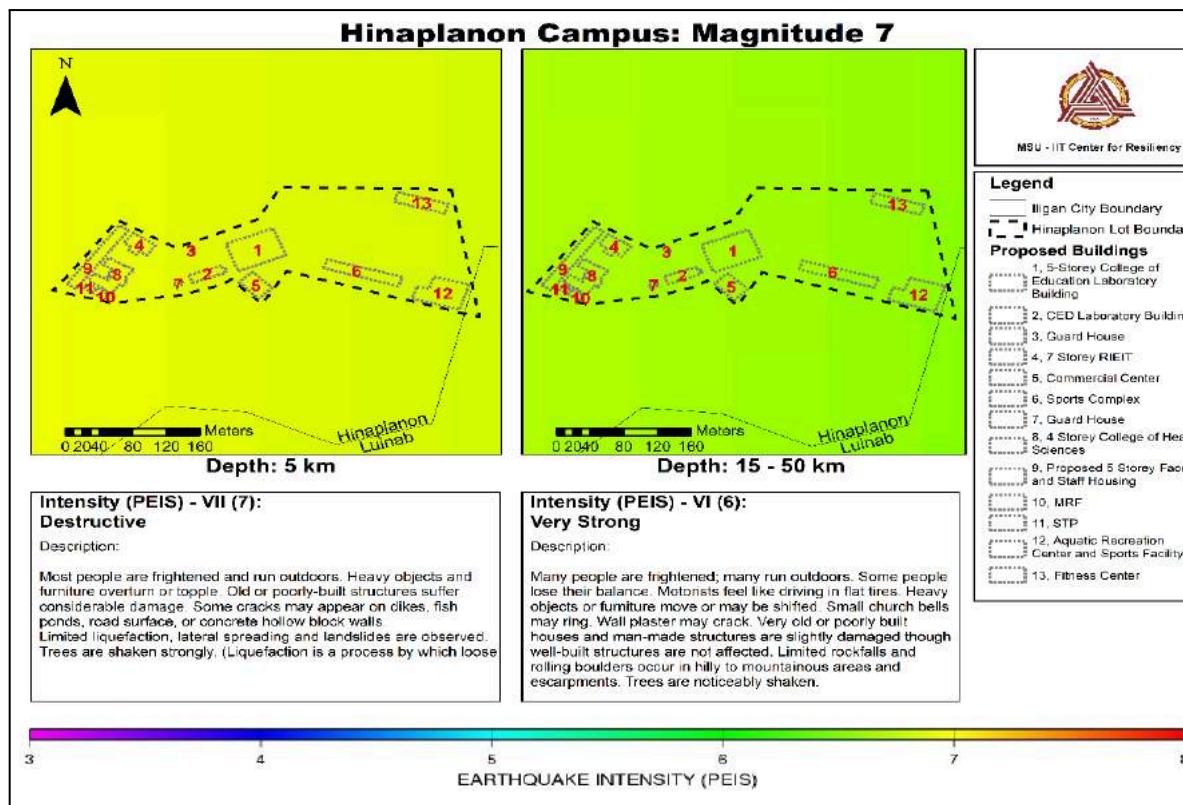


Figure 3.63. MSU-IIT Hinaplanon Campus AnnexEarthquake Intensity at Magnitude 7.0

Intensity (PEIS) - VII (7):

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6):

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat fires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

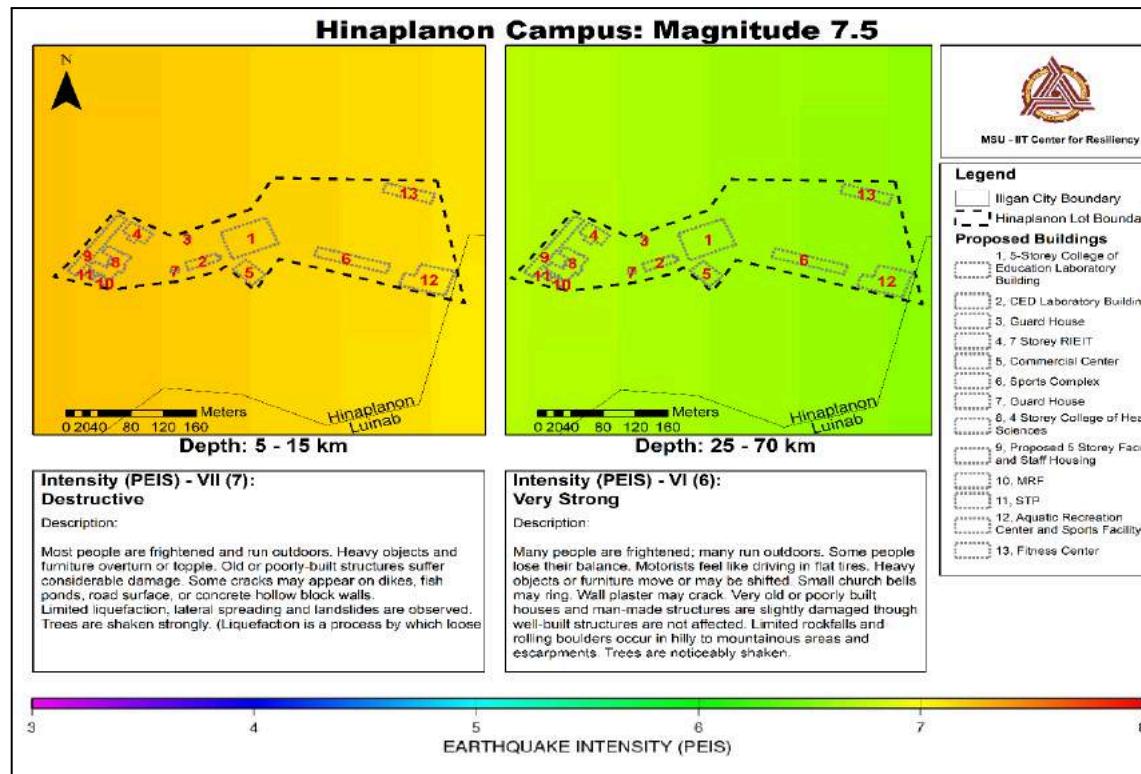


Figure 3.64. MSU-IIT Hinaplanon Campus AnnexEarthquake Intensity at Magnitude 7.5

Intensity (PEIS) - VII (7):

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6):

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Earthquake Liquefaction

Table 3.31. Liquefaction at Magnitude 5.0 to 7.5

Magnitude	Depth (km)	Exceedance of critical acceleration during Wet Season (%g)	Probable Depth of Building Subsidence (m)	Map
5.0	5-15	0.05	0.49	Figure 3.65
6.0	5-15	0.2	1.96	Figure 3.66
	25-50	0.05	0.49	
7.0	5-15	0.3	2.94	Figure 3.67
	25-50	0.05	0.49	
7.5	5-15	0.3	2.94	Figure 3.68
	25-50	0.2	1.96	

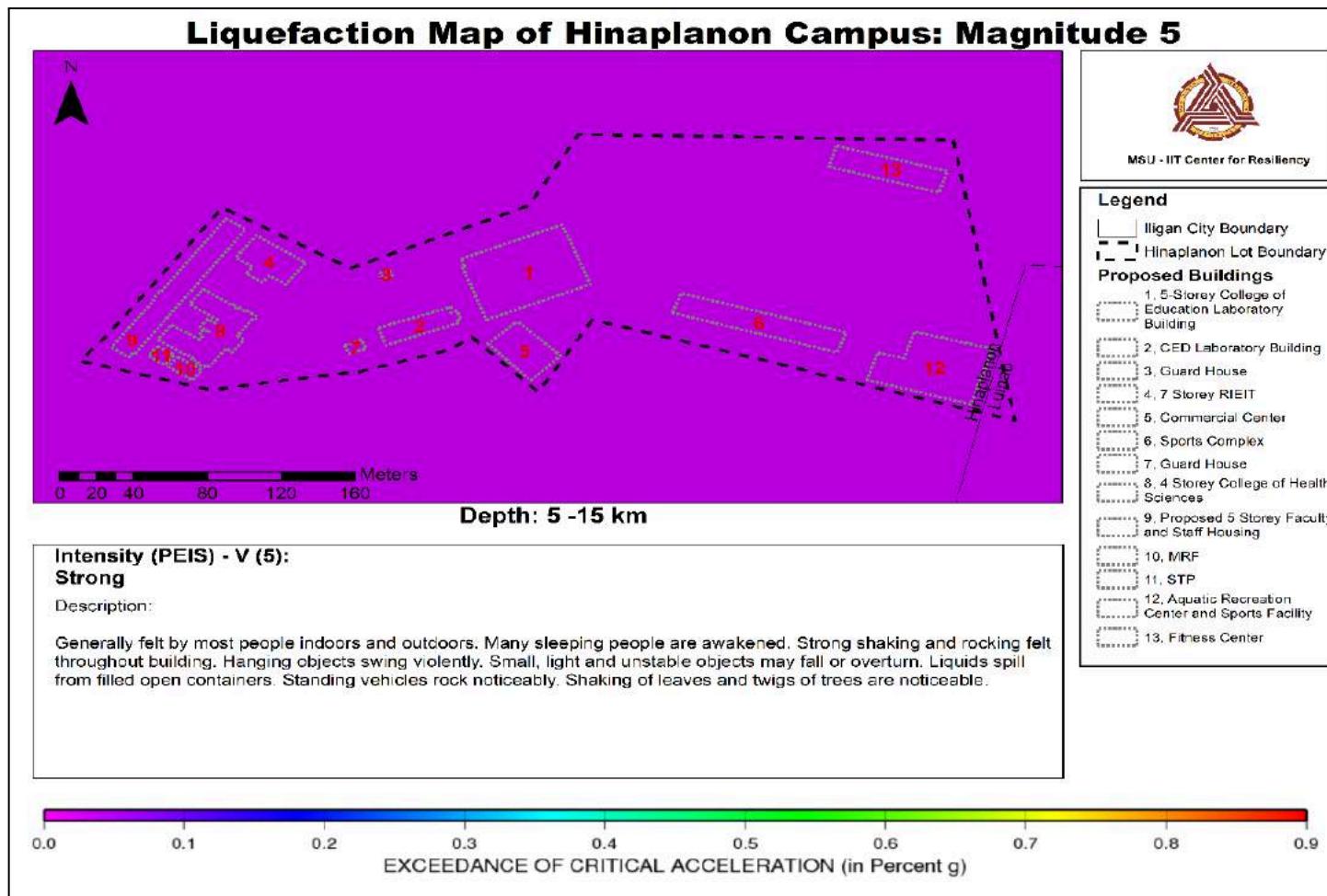


Figure 3.65. MSU-IIT Hinaplanon Campus Annex Liquefaction Map at Magnitude 5.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

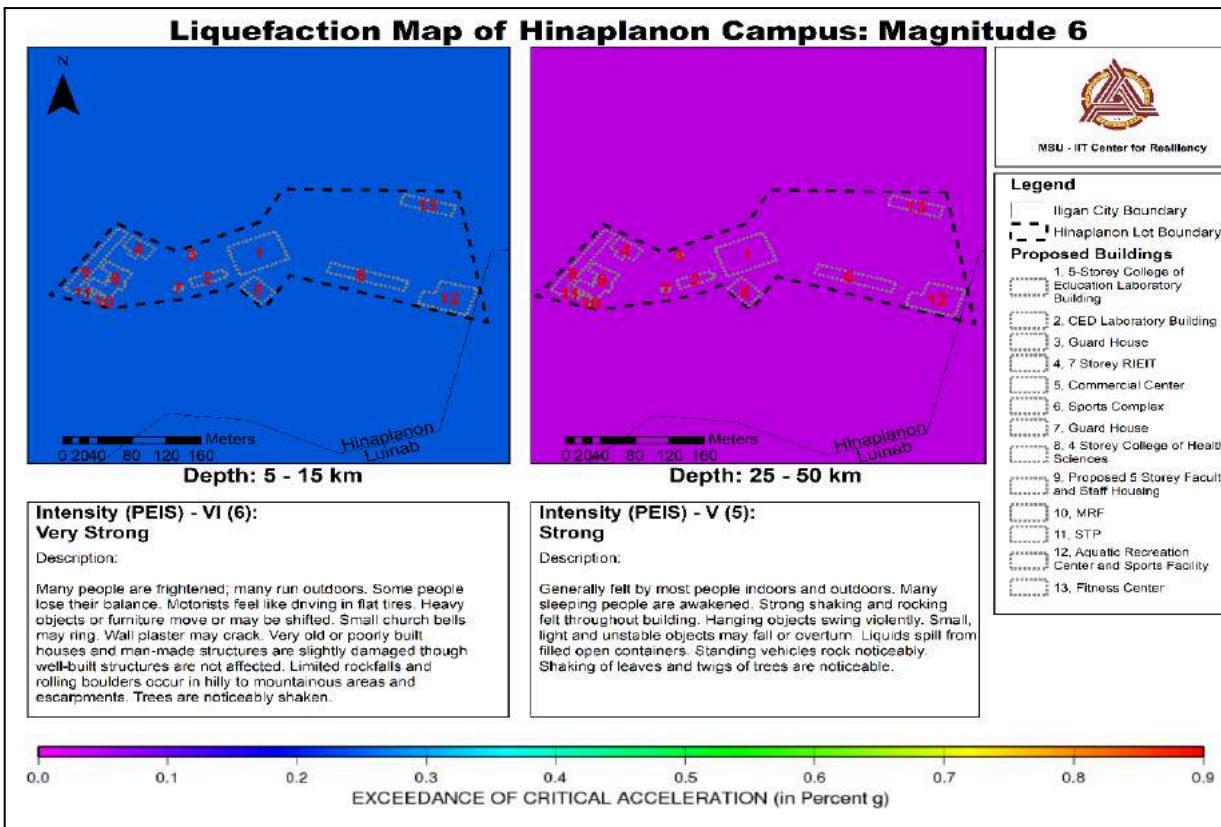


Figure 3.66. MSU-IIT Hinaplanon Campus Annex Liquefaction Map at Magnitude 6.0

Intensity (PEIS) - VII (6): Very Strong

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - VI (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

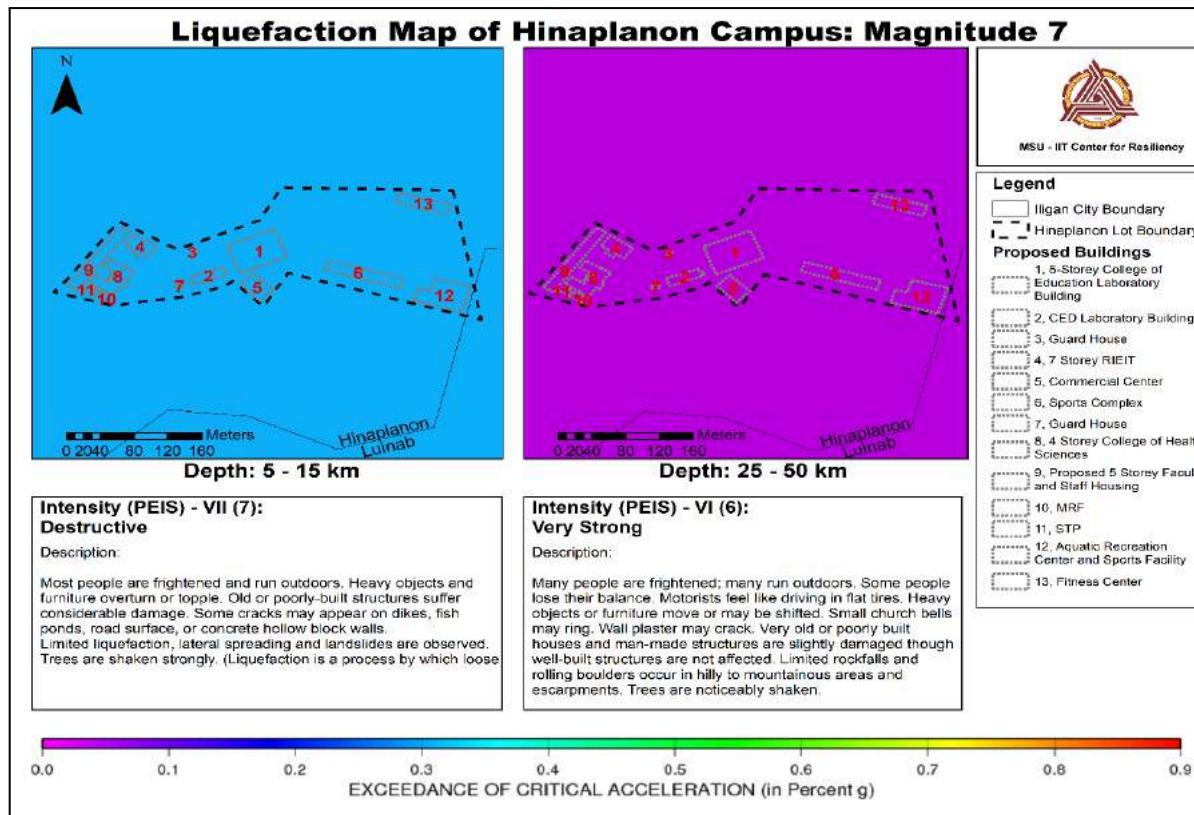


Figure 3.67. MSU-IIT Hinaplanon Campus Annex Liquefaction Map at Magnitude 7.0

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

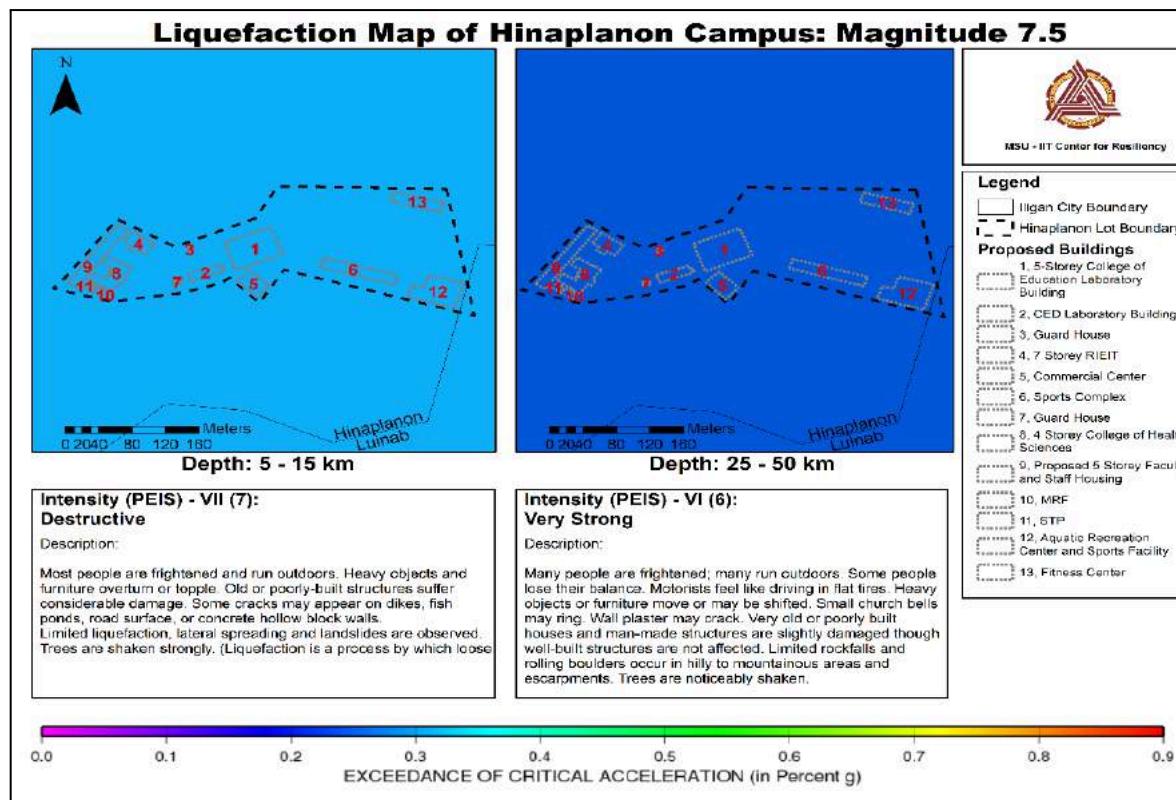


Figure 3.68. MSU-IIT Hinaplanon Campus Annex Liquefaction Map at Magnitude 7.5

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

c. Storm Surge

The Hinaplanon campus annex is not affected by storm surge, since it is further away from the shoreline.

d. Urban Heat

The urban heat island of the Hinaplanon campus is classified as medium with corresponding temperature range of 22.92 – 25.92 degrees Celsius, both for the existing and **proposed** buildings (Figure 3.69).

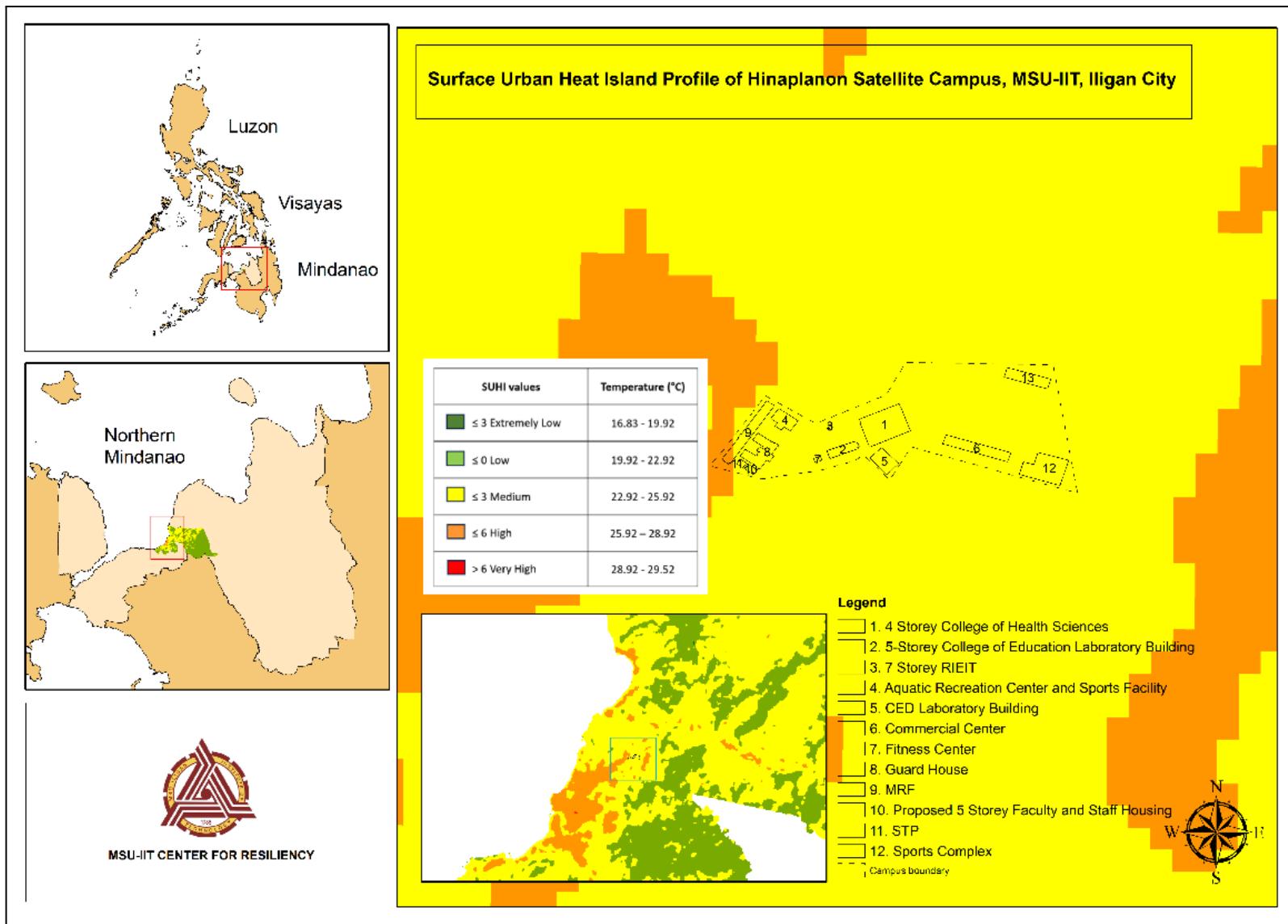


Figure 3.69. MSU-IIT Hinaplanon Campus Annex Urban Heat Map

FUENTES Annex Campus

a. Flood

The Fuentes campus annex is not affected by flood. Figure 3.70 shows that the Fuentes campus is not susceptible to flooding.

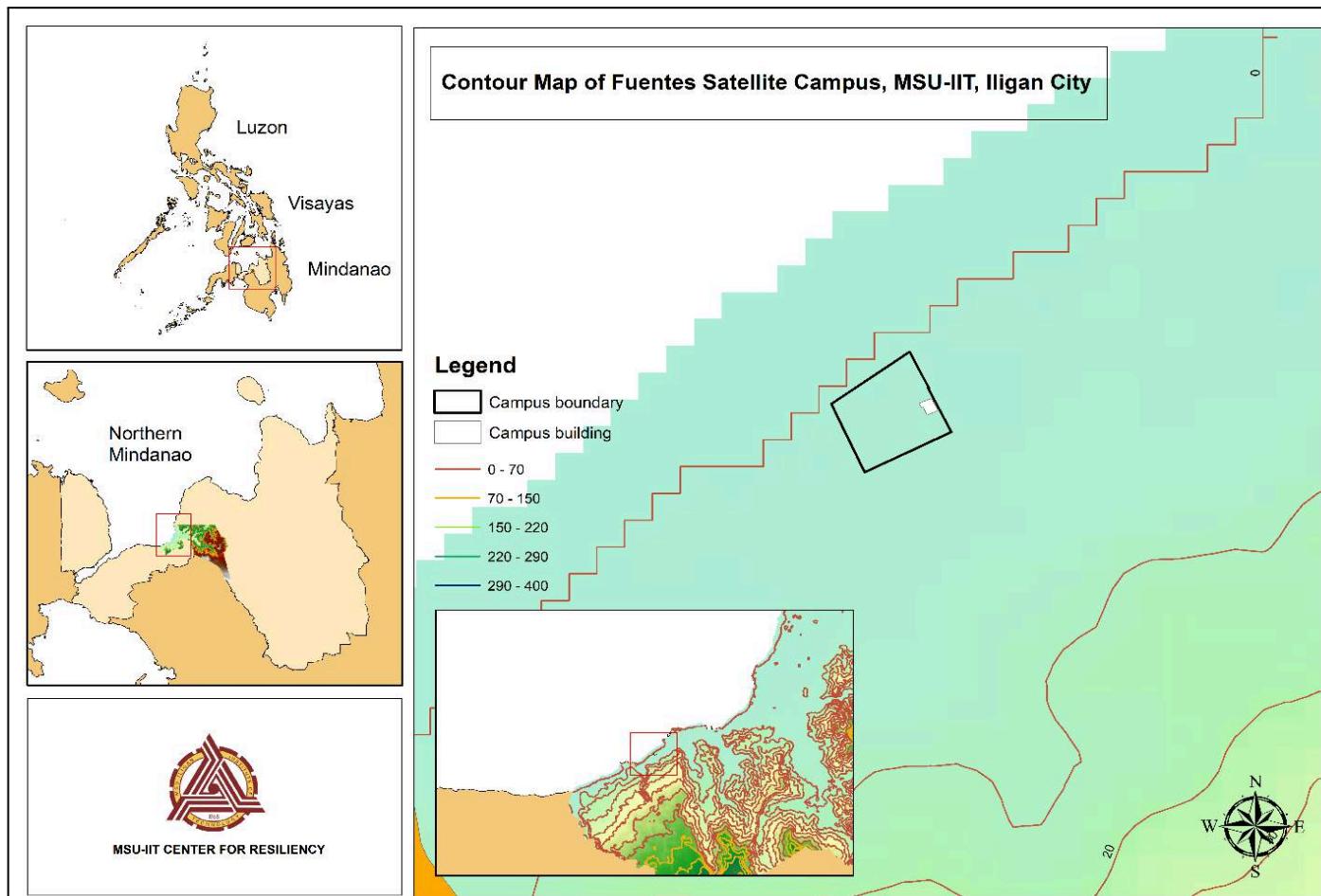


Figure 3.70. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Flood Susceptibility Map

b. Earthquake

Earthquake Intensity

Table 3.32. Summary Results of Earthquake Simulation at MSU-IIT Fuentes Campus

Magnitude	Depth (km)	Intensity	Map
4.0	5	Strong	Figure 3.71
5.0	5-15	Strong	Figure 3.72
6.0	5	Very Strong	Figure 3.73
	15-25	Strong	
7.0	5-70	Very Strong	Figure 3.74
7.5	5-15	Destructive	Figure 3.75
	25-70	Very Strong	

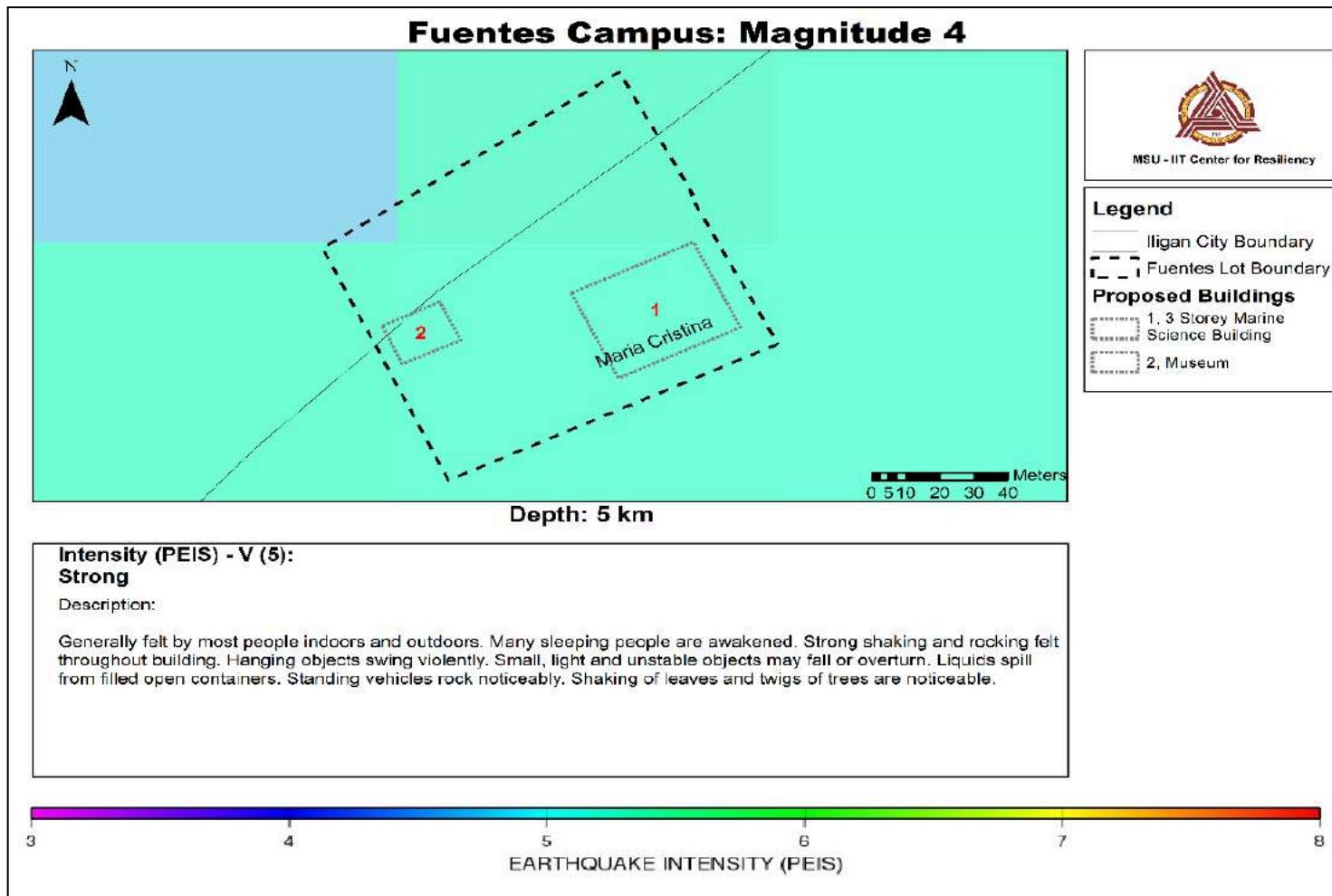


Figure 3.71. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Earthquake Intensity at Magnitude 4.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

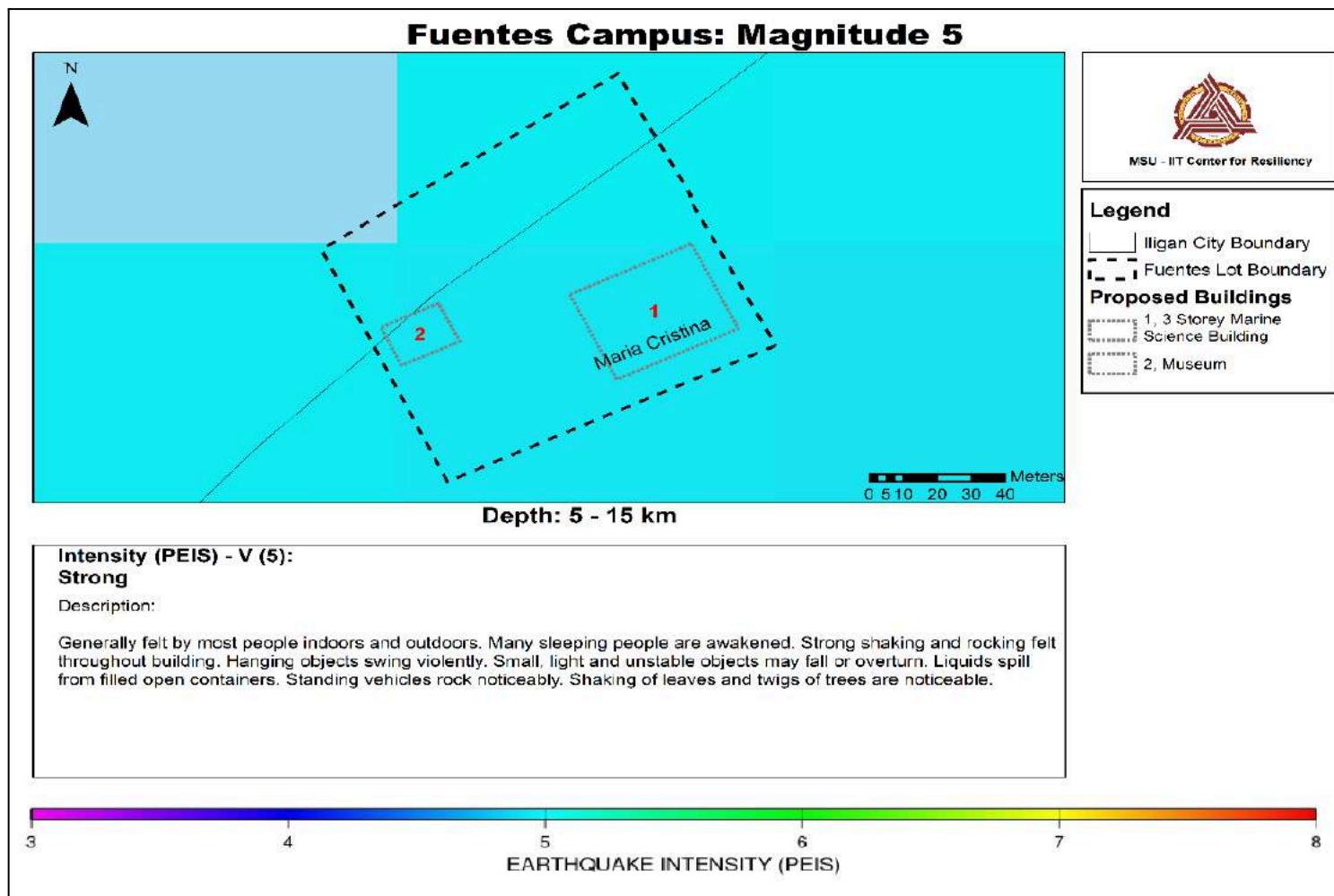


Figure 3.72. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Earthquake Intensity at Magnitude 5.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

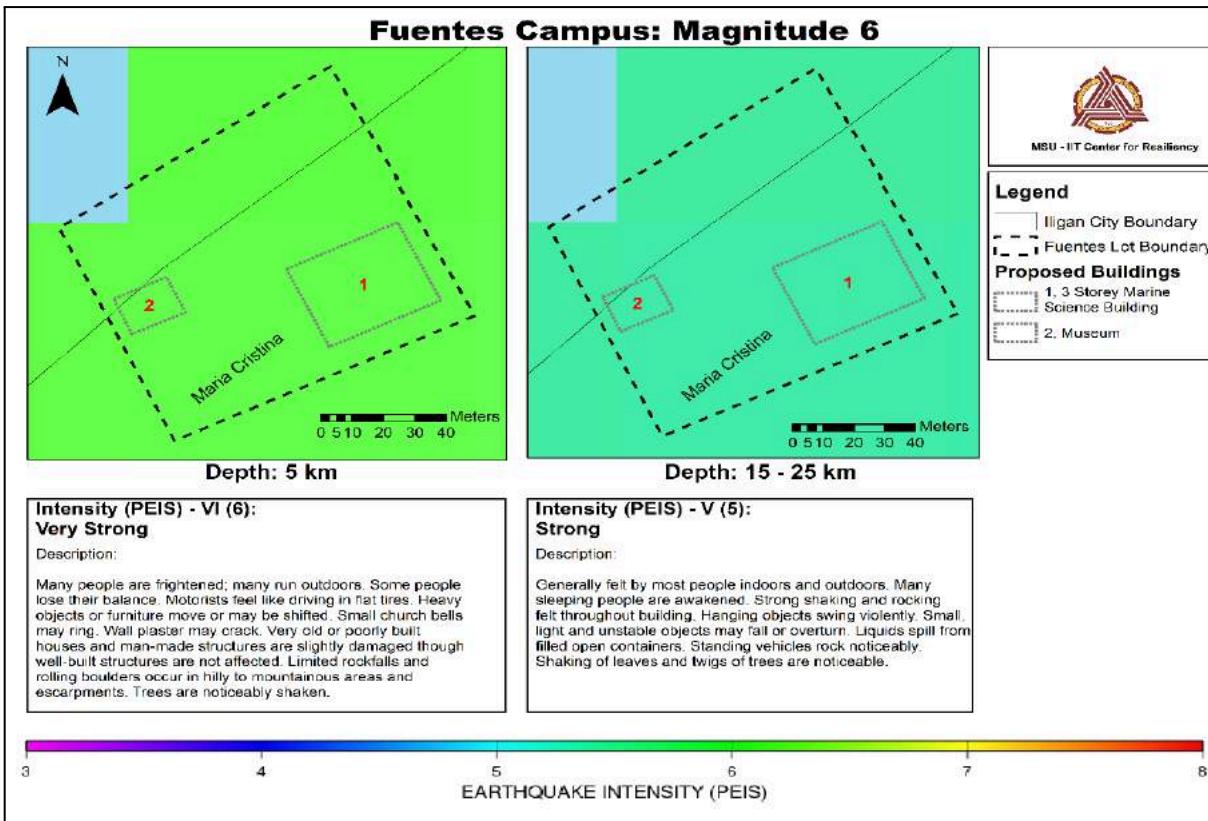


Figure 3.73. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Earthquake Intensity at Magnitude 6.0

Intensity (PEIS) - VII (6): Very Strong

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - VI (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

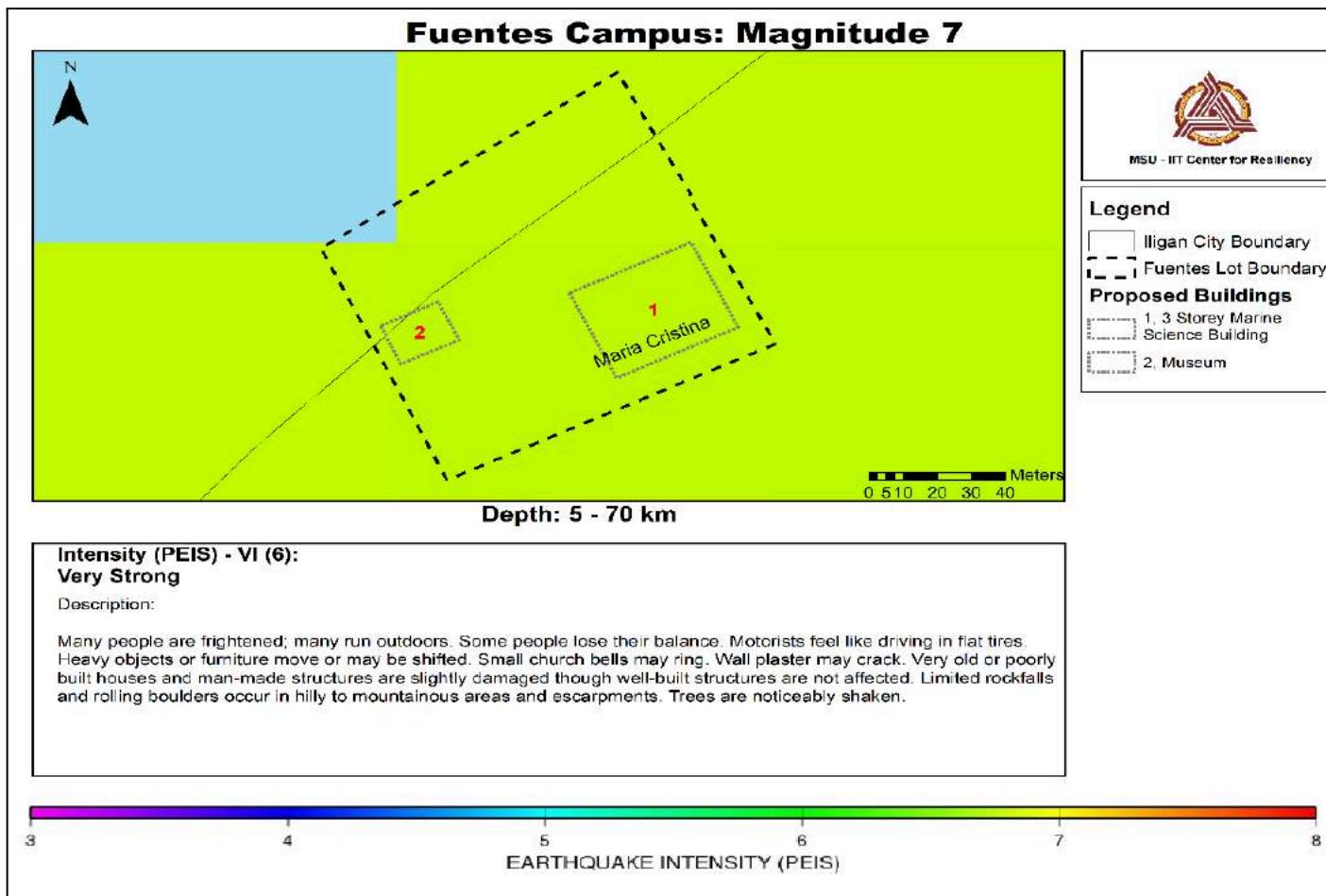


Figure 3.74. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Earthquake Intensity at Magnitude 7.0

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat fires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

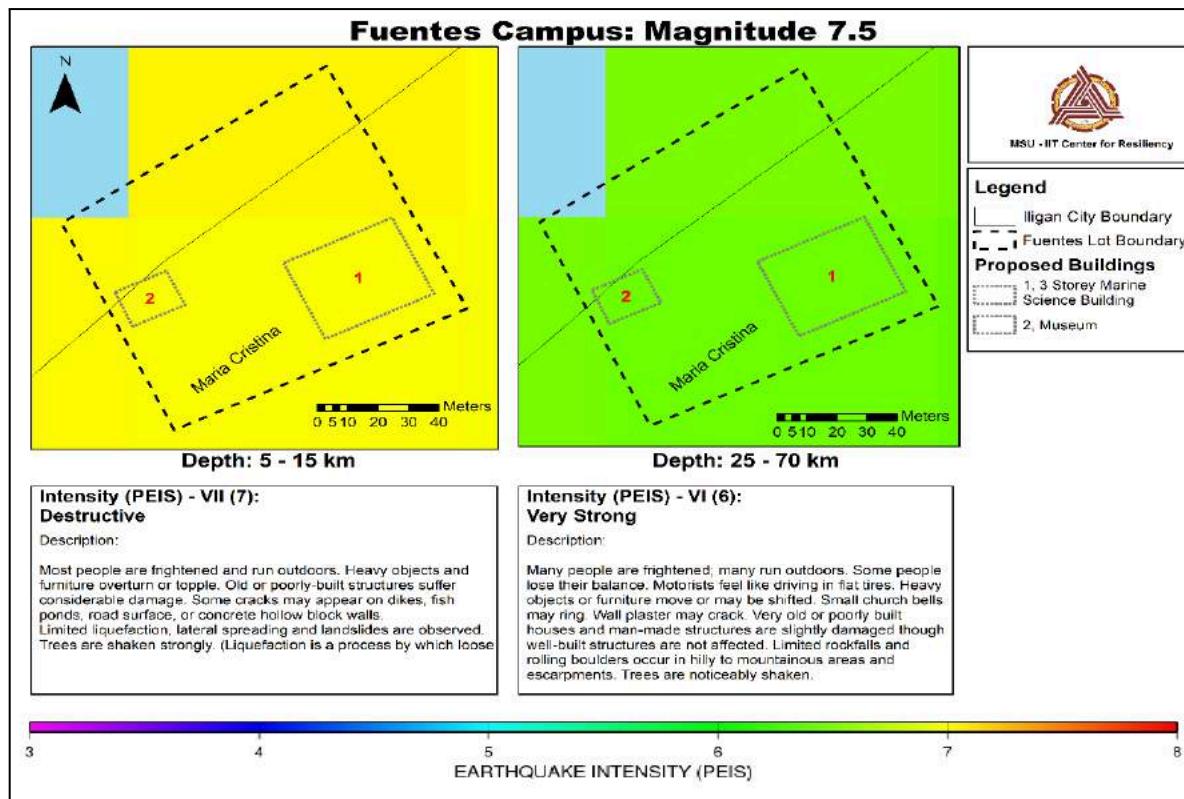


Figure 3.75. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Earthquake Intensity at Magnitude 7.5

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Earthquake Liquefaction

Table 3.33. Liquefaction at Magnitude 5.0 to 7.5 at MSU-IIT Fuentes Annex Campus

Magnitude	Depth (km)	Exceedance of critical acceleration during Wet Season (%g)	Probable Depth of Building Subsidence (m)	Map
5.0	5-15	0.05	0.49	Figure 3.76
6.0	5-15	0.2	1.96	Figure 3.77
	25-50	0.05	0.49	
7.0	5-15	0.3	2.94	Figure 3.78
	25-50	0.05	0.49	
7.5	5-15	0.4	3.92	Figure 3.79
	25-50	0.2	1.96	

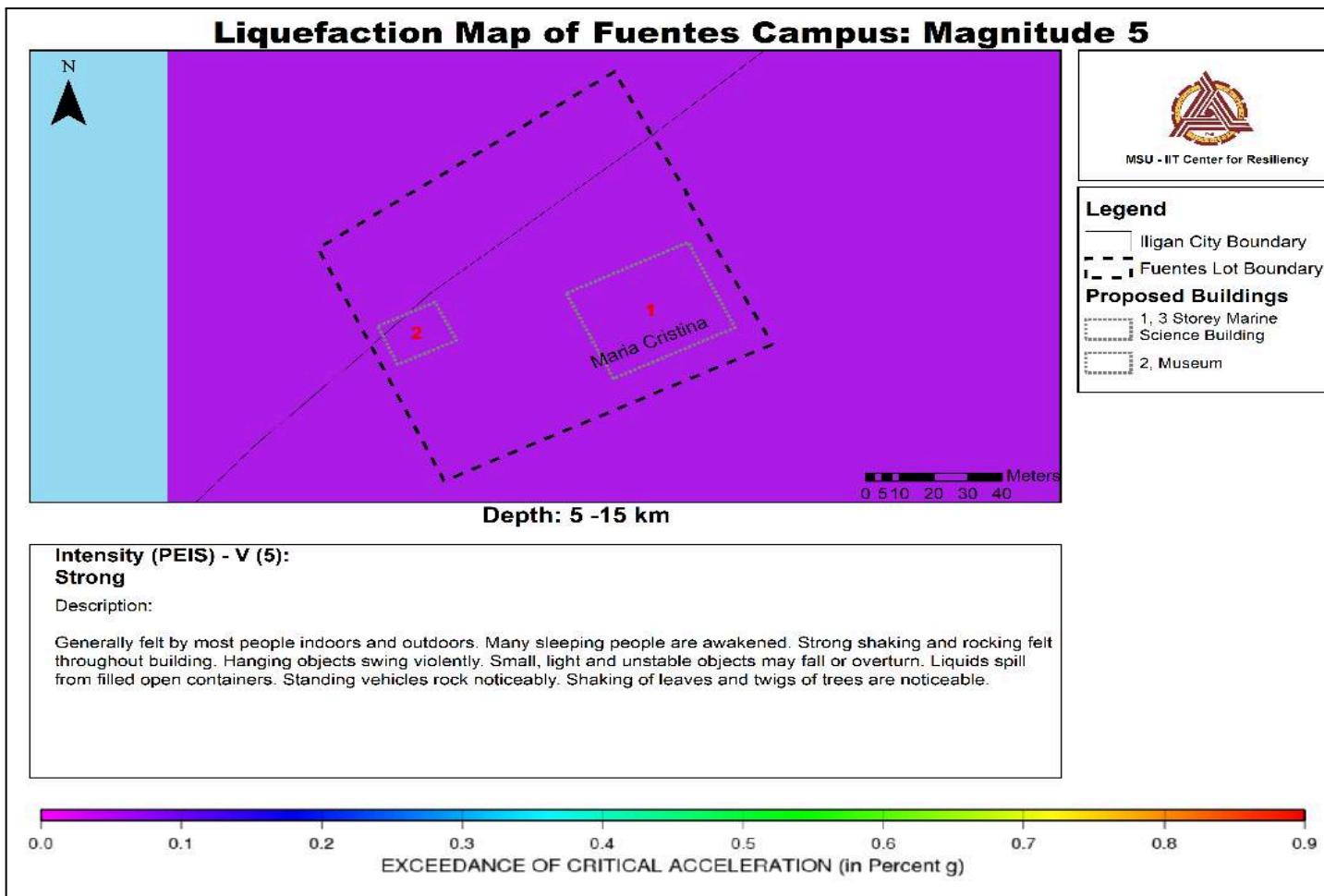


Figure 3.76. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Liquefaction Map at Magnitude 5.0

Intensity (PEIS) - V (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

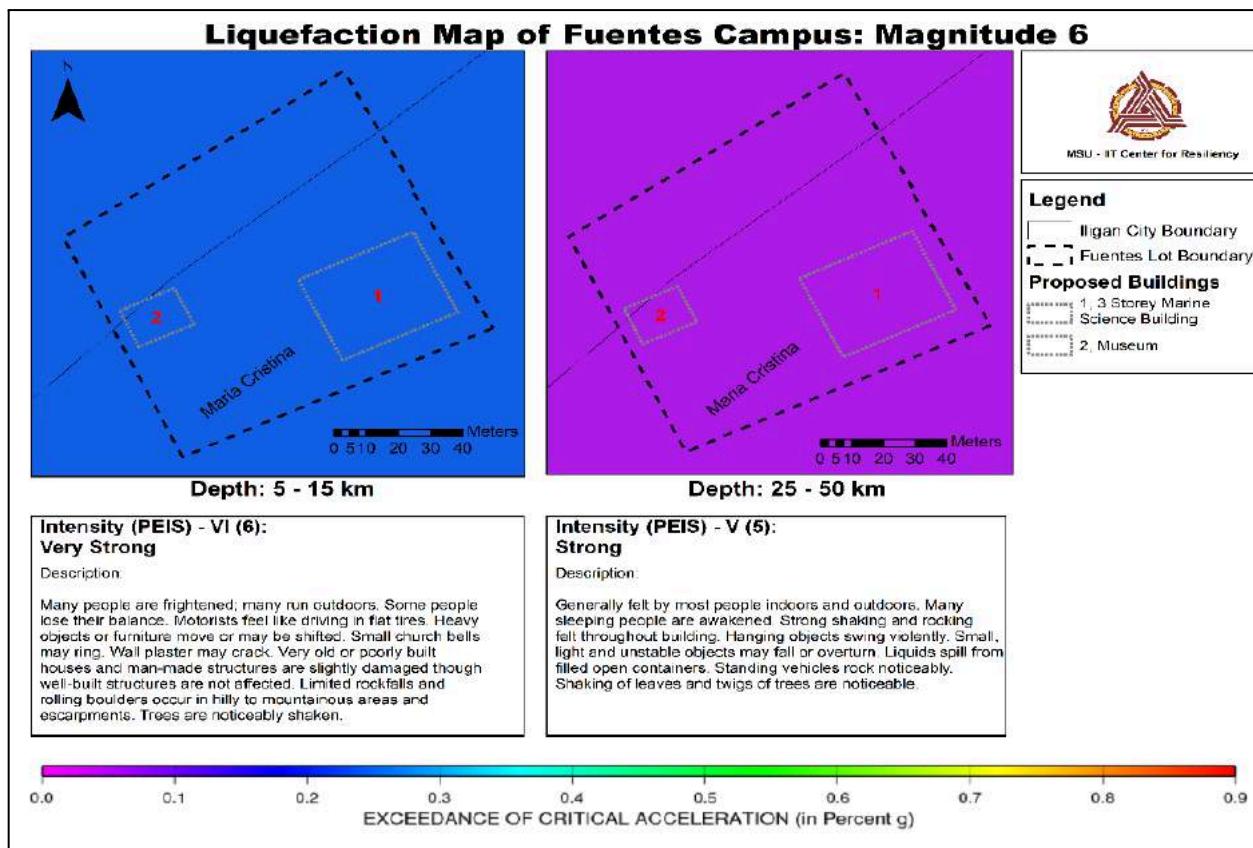


Figure 3.77. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Liquefaction Map at Magnitude 6.0

Intensity (PEIS) - VII (6): Very Strong

Most people are frightened; many run outdoors. Some people lose their balance. Motorists feel like driving on flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

Intensity (PEIS) - VI (5): Strong

Generally felt by most people indoors and outdoors. Many sleeping people are awakened. Strong shaking and rocking felt throughout the building. Hanging objects swing violently. Small, light and unstable objects may fall or overturn. Liquids spill from filled open containers. Standing vehicles rock noticeably. Shaking of leaves and twigs of trees are noticeable.

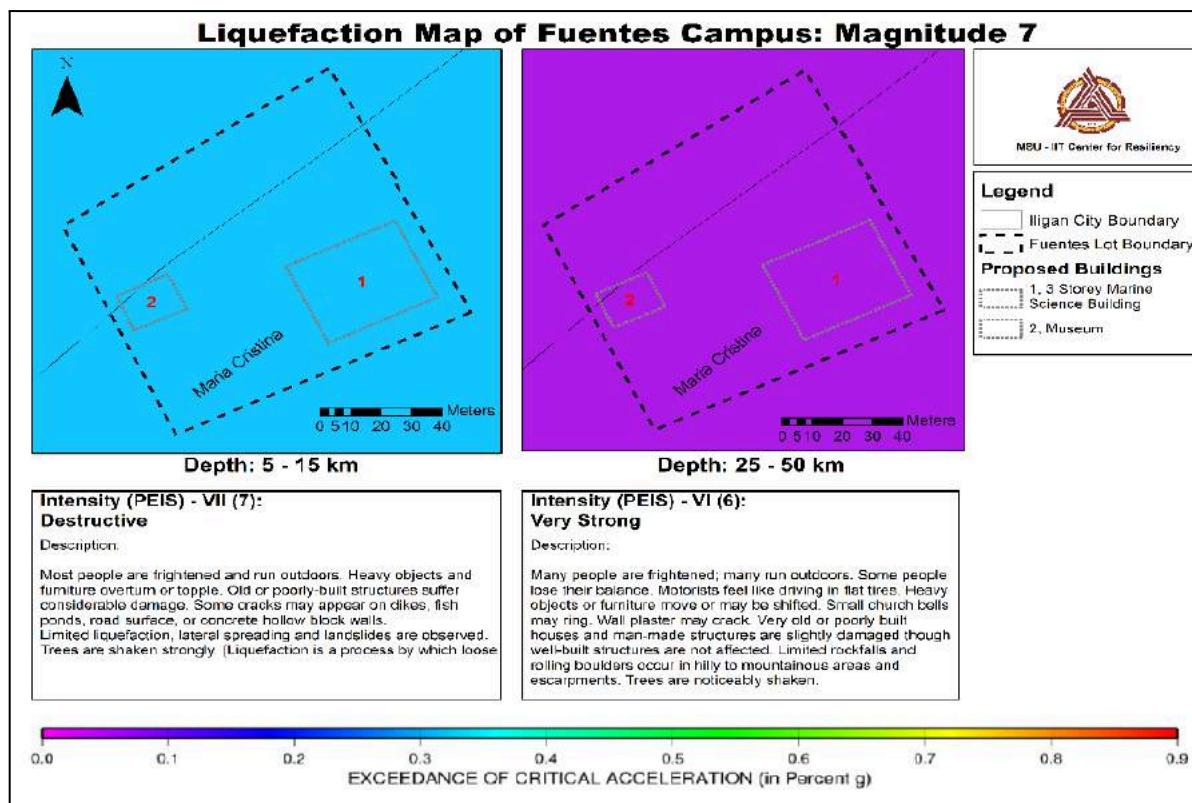


Figure 3.78. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Liquefaction Map at Magnitude 7.0

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat fires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

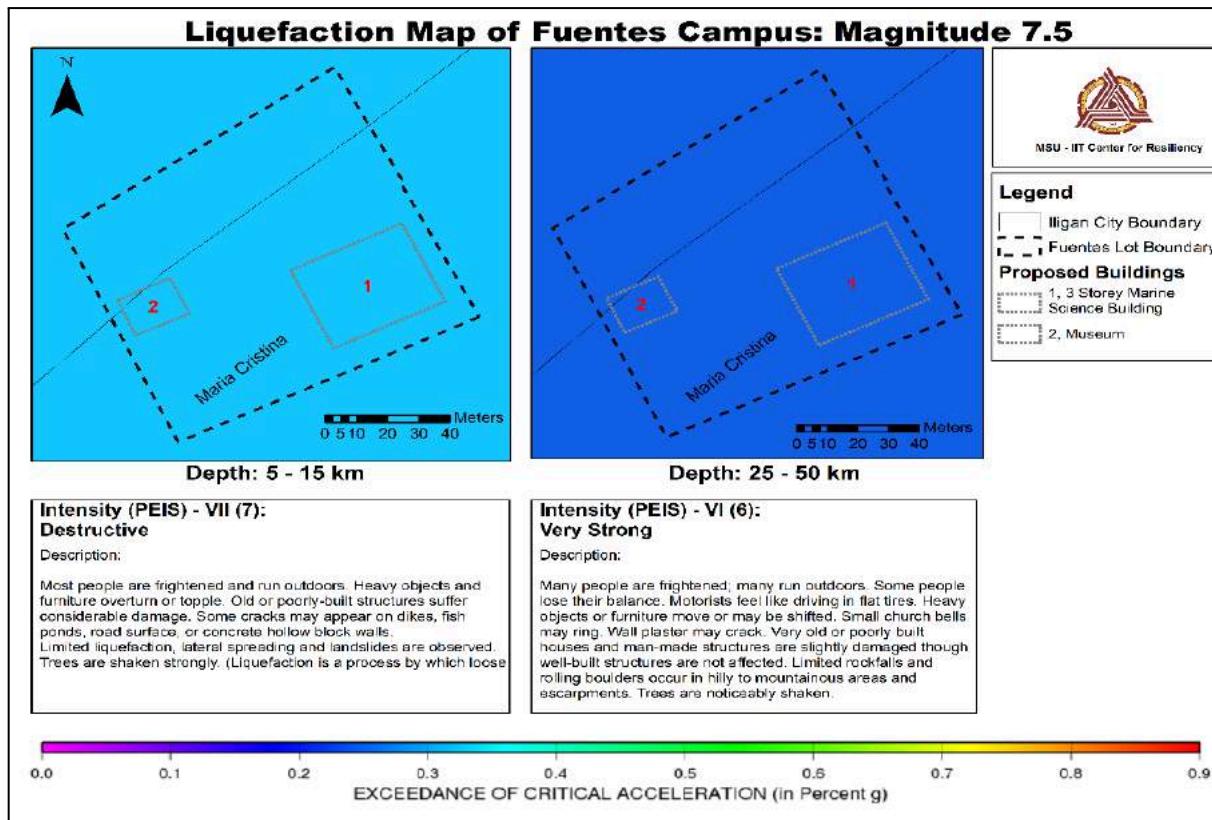


Figure 3.79. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Liquefaction Map at Magnitude 7.5

Intensity (PEIS) - VII (7): Destructive

Most people are frightened and run outdoors. Heavy objects and furniture overturn or topple. Old or poorly built structures suffer considerable damage. Some cracks may appear on dikes, fish ponds, road surfaces, or concrete hollow block walls. Limited liquefaction, lateral spreading, and landslides are observed. Trees are shaken strongly.

Intensity (PEIS) - VI (6): Very Strong

Many people are frightened: many run outdoors. Some people lose their balance. Motorists feel like driving in flat tires. Heavy objects or furniture move or may be shifted. Small church bells may ring. Wall plaster may crack. Very old or poorly built houses and man-made structures are slightly damaged though well-built structures are not affected. Limited rockfalls and rolling boulders occur in hilly to mountainous areas and escarpments. Trees are noticeably shaken.

c. Storm Surge

Fuentes is susceptible to storm surge. Based on four (4) storm surge simulation scenarios, the campus will all be flooded from all the storm surge scenarios but as the wave height increases the deeper will be the flood depth (see Table 3.34 and the maps in Figures 3.80 to 3.83).

Table 3.34. Area reached by the degree of storm surge in terms of wave height

Storm Surge Advisory Level	Hazard Level	Area affected (sqm)	Percentage
Storm Surge Advisory 1	Knee Deep	936.20	9%
	Chest Deep	2,183.92	22%
	Above the head	26.80	0.3%
Storm Surge Advisory 2	Knee Deep	781.35	8%
	Chest Deep	2,415.75	24%
	Above the head	2,346.92	23.7%
Storm Surge Advisory 3	Knee Deep	69.89	1%
	Chest Deep	1,415.04	14%
	Above the head	5,544.03	56%
Storm Surge Advisory 4	Chest Deep	110.01	1%
	Above the head	7,110.60	72%

Table 3.35 shows the extent and depth of flooding on all the proposed buildings as the wave of the storm surge increases. At 5 m wave height, the flood depth inside the building is way above the head.

Table 3.35. Buildings reached by the degree of storm surge in terms of wave height

Storm Surge Advisory Level	Hazard Level	Affected Building	Area affected (sqm)	Percentage
Storm Surge Advisory 1	Knee Deep	Bldg. 1	0.06	0.01%
	Chest Deep	Bldg. 0	31.72	12%
Storm Surge Advisory 2	Knee Deep	1	306.93	25%
	Chest Deep	1	113.06	9%
	Above the head	0	31.72	12%
Storm Surge Advisory 3	Chest Deep	Bldg. 1	832.06	66%
	Above the head	Bldg. 1	419.99	34%
	Above the head	Bldg. 0	31.72	12%

Storm Surge Advisory 4	Chest Deep	Bldg. 1	0.20	0.02%
	Above the head	Bldg. 1	1252.05	100%
	Above the head	Bldg. 0	31.72	12%



Figure 3.80. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Proposed Buildings Storm Surge Map (Advisory 1)

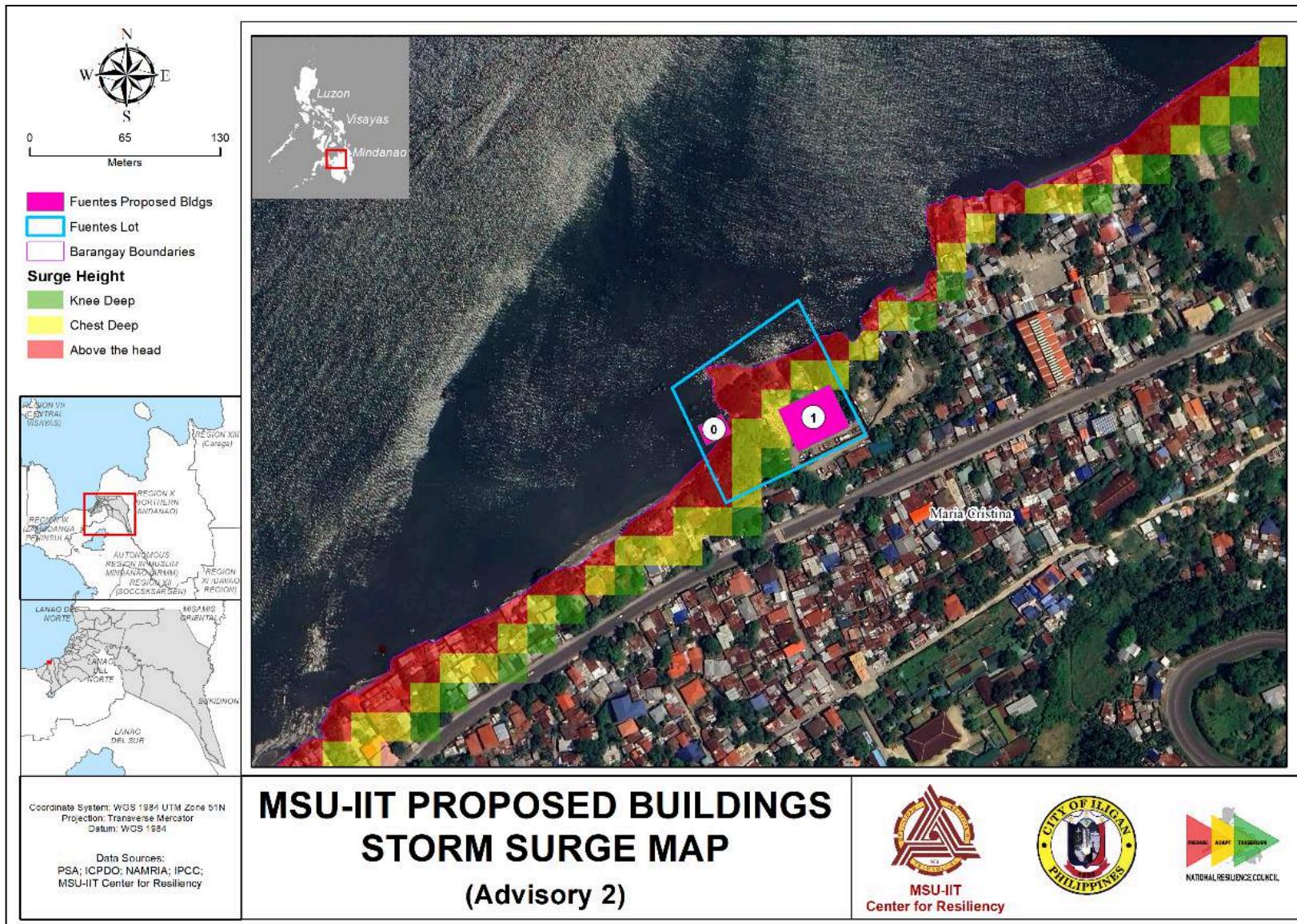


Figure 3.81. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Proposed Buildings Storm Surge Map (Advisory 2)

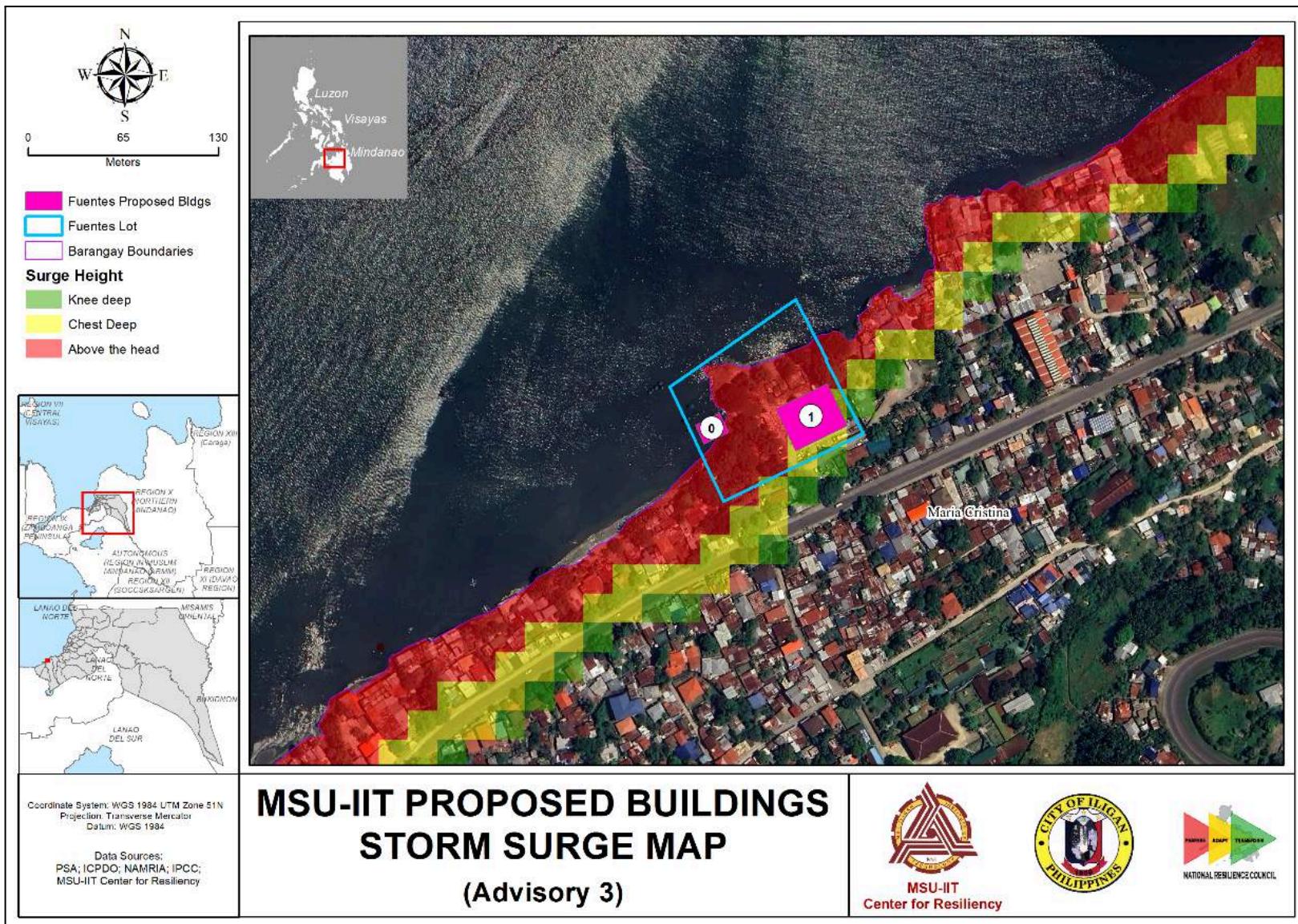


Figure 3.82. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Proposed Buildings Storm Surge Map (Advisory 3)

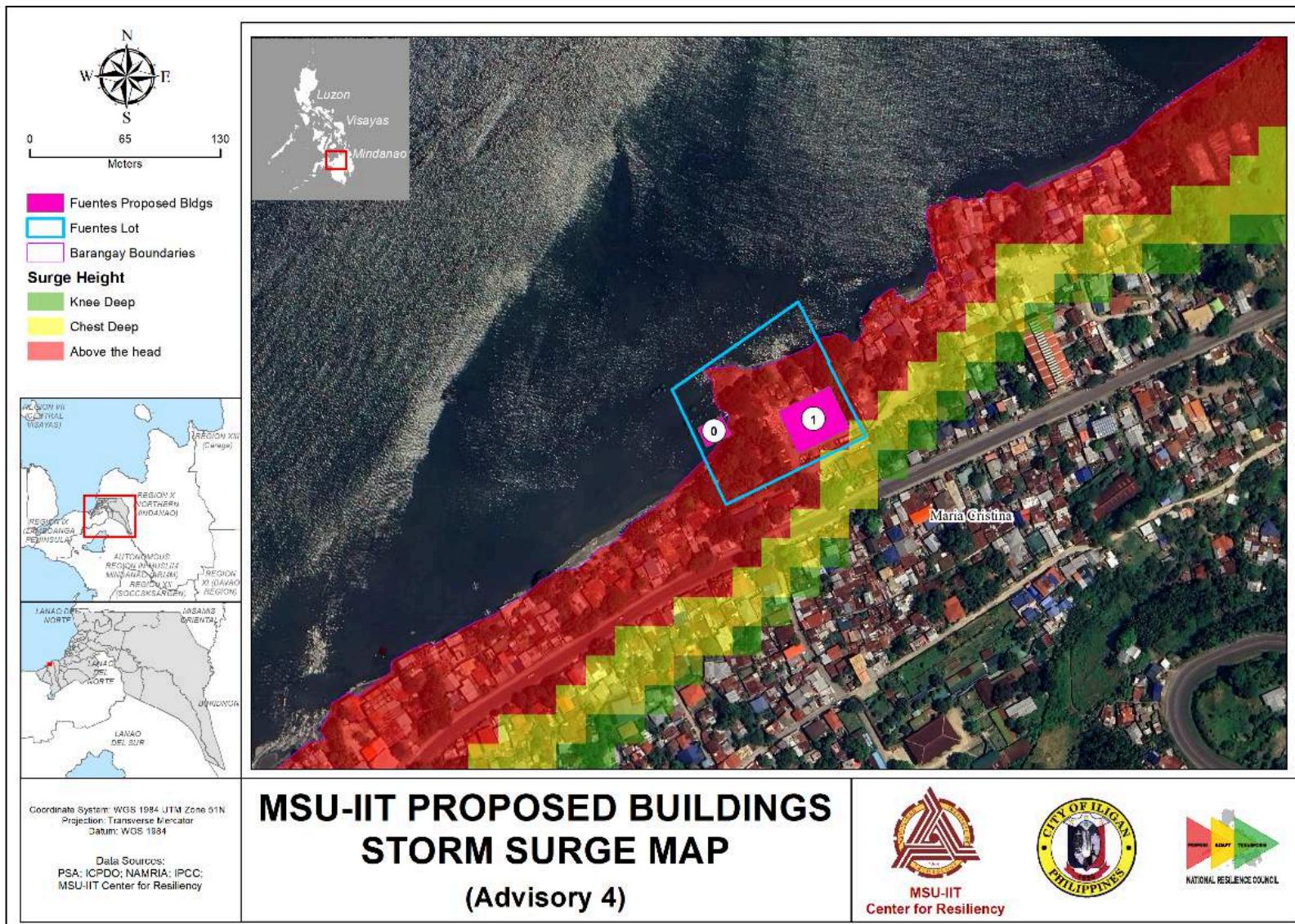


Figure 3.83. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Proposed Buildings Storm Surge Map (Advisory 4)

d. Urban Heat

The urban heat island of the Fuentes campus is similar to that of the Hinaplanon campus (see Figure 3.84).

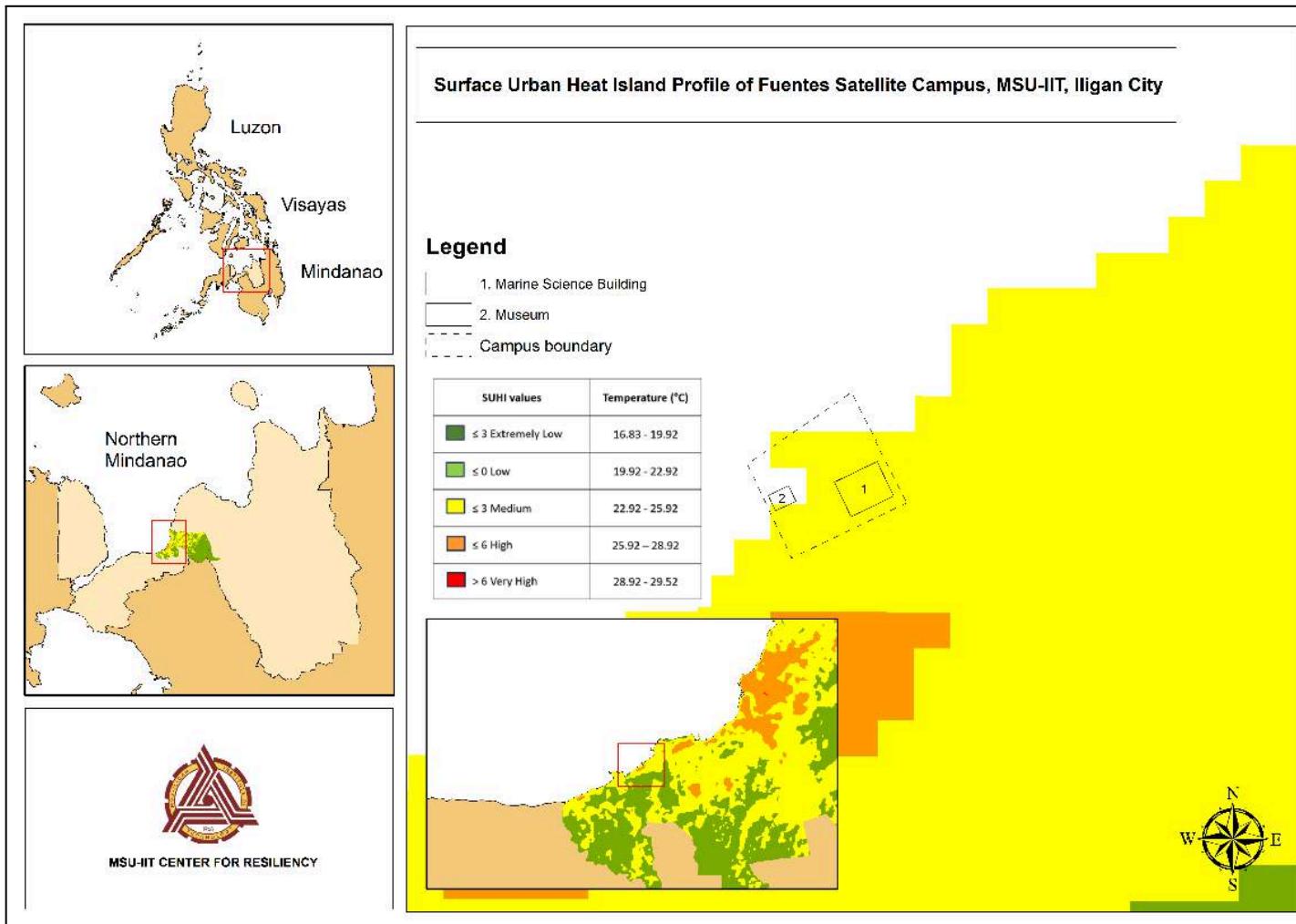


Figure 3.84. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Urban Heat Map

e. Sea Level Rise

Marine Science Complex (Fuentes Annex Campus) is the only campus affected by Sea Level Rise (SLR) on the current sea level rise rate. For 0.25 m rise about 25% of the Fuentes campus will experience sea encroachment, A 0.50 m rise, about 50%. At 0.7m rise, about 90% of the campus is reached and at 1.0 m rise, all of the campus and beyond will be covered by the sea. It is here that the proposed building will be reached by the sea. However, this will go beyond our lifetime (see Figure 3.85).

Table 3.36. shows the level of sea level rise and their corresponding encroachment. As the level of SLR increases so does the encroachment.

Table 3.36. Level of Sea Level Rise and Sea Encroachment

Sea Level Rise (m)	Projected Year	Sea Encroachment
0.25	63 yrs	39 meters
0.5	125 yrs	67 meters
0.75	188 yrs	100 meters
1	250 yrs	136 meters

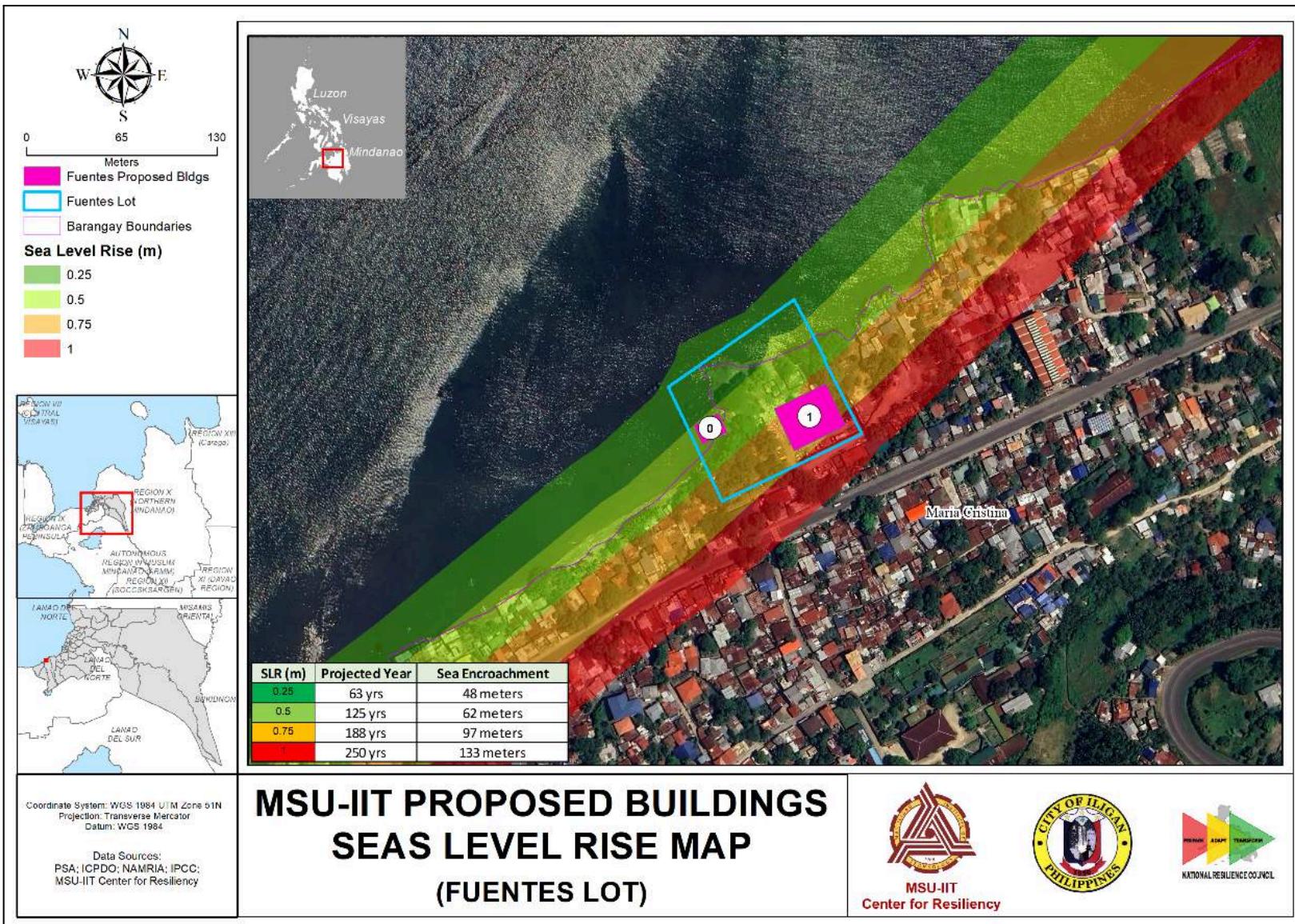


Figure 3.85. MSU-IIT Marine Science Complex (Fuentes Annex Campus) Proposed Buildings Sea Level Rise Map

RECOMMENDATIONS

The hazard mapping assessments highlight the diverse range of risks associated with each campus location including flooding, earthquake, liquefaction, storm surge, urban heat island, and sea level rise. Consequently, the following recommendations need to be considered to proceed with further development in the MSU-IIT Campus locations (Tibanga, Hinaplanon, and Fuentes), to wit;

Table 3.37. Recommendations per Campus Locations

Hazard Risks	MSU-IIT Campuses		
	Tibanga	Hinaplanon	Fuentes
1. Flooding	<ul style="list-style-type: none"> • Proposed Buildings must be elevated. • There must be an appropriate rainwater harvesting storage in all the proposed buildings based on highest actual rainfall values. • There must be insurance for possible flood damages. • Collaborate with other partners in the reforestation and protection in the upstream of the Mandulog watershed where the campus is located. Since it is in the uplands where most of the source of flood waters came from. • Construct an appropriate Drainage system that is based on the amount of run-off water that enters the campus. • Proper Solid Waste Management • Regular clean up of the drainage system • To mitigate flood risks across campus locations, all pavements, excluding roads, will be constructed using pavers to promote rainwater absorptions into the soil, effectively reducing flooding. 		Not Applicable
2. Earthquake	<ul style="list-style-type: none"> • Proposed Buildings must be constructed to withstand an earthquake magnitude of 7.5 since this happened in Iligan back in the 50's. • Old buildings must be retrofitted (except for Hinaplanon Annex Campus) • The buildings must be insured for earthquake damages. • There must be regular earthquake drills. 		
3. Liquefaction	<ul style="list-style-type: none"> • For old buildings Massive investment to beef up the foundation of existing projects by injecting grout and sand into the foundation of existing buildings. Investigation must be done first to come up with a realistic investment for bolstering the foundation of existing buildings. • For the proposed buildings, during the establishment of the building foundation, grout and sand must already be part of the adhesion mixture. 		
4. Storm Surge	<p>Reduce the energy of the storm surge by rehabilitating and/or beefing up the coastal ecosystem by enriching the mangrove, seagrass, and coral reef sub-systems plus the construction of wave breakers to prevent the dislodging of planted mangroves and</p>	<p>Not Applicable</p>	<p>Reduce the energy of the storm surge by rehabilitating and/or beefing up the coastal ecosystem by enriching the mangrove, seagrass, and coral reef sub-systems plus the construction of wave breakers to prevent the dislodging of planted mangroves and</p>

	seagrasses.		seagrasses.
5. Sea Level Rise	Not Applicable	Not Applicable	<ul style="list-style-type: none"> ● Construction of Dikes ● Planting of mangrove will allow soil buildup in the landward side called soil accretion. When soil accretion is greater than the rise of sea level then inundation from the sea will be prevented.
6. Urban Heat Island	<ul style="list-style-type: none"> ● Hire a Landscape Architect to come up with a greening master plan that combines functionality (regulate temperature), aesthetics and maintenance protocol for the different plant species. ● Do not plant new trees since there is little space left in the campus and it may become a secondary hazard during earthquakes rather than plant shrubs, climbing plants and creeping plants. ● Construct roof gardens ● Install solar panels to roofs ● Design buildings that will maximize the flow of convective cooling. ● To combat urban heat island effects, vegetative coverings, such as climbing plants will be integrated into covered walkways. 		

CHAPTER IV. INSTITUTIONAL COORDINATION AND MONITORING SET-UP

4.1 MONITORING AND EVALUATION MECHANISM FOR LUDIP

An outcome-based monitoring and evaluation (M&E) system is established to gauge the effectiveness and efficiency of the Land Use Development and Infrastructure Plan (LUDIP) implementation at MSU-IIT. This M&E framework is also pivotal for overseeing the Programs, Projects, and Activities (PPAs) across the university.

MSU-IIT has a robust M&E system in place for infrastructure projects, managed by personnel within the Office of the Strategic Initiatives (formerly known as Office of Vice Chancellor for Planning and Development), who are responsible for routine reports to the overarching university system. Additionally, the university engages with regional development agencies, submitting reports through established platforms, with the OVCSI orchestrating this process in collaboration with other relevant offices, including those overseeing community development, service programs, and budget management. The OVCSI also liaises with the Office of the Vice Chancellor for Research and Extension (OVCRE) and Office of the Vice Chancellor for Public Affairs, which oversees the M&E of research initiatives and public service projects, respectively, with specific personnel assigned to each domain.

The implementation of the M&E mechanisms for LUDIP, alongside the infrastructure PPAs, is spearheaded by the OVCSI, in close partnership with the Office of the Vice Chancellor for Administration and Finance (OVCAF) and other key units. The OVCRE and OVCRA collaborates intimately with pertinent offices to manage research and public service-related PPAs effectively.

It's advocated that the refined M&E system for LUDIP and associated PPAs should follow a five-step process, as delineated in the proposed flowchart shown in Figure 4.1. The initial three steps are to be executed at the MSU-IIT level, while the fourth step, involving the review of the LUDIP, is recommended to adhere to a system-wide protocol, assisting the constituent units (CUs) in evaluating the LUDIP's content, structure, and procedural integrity.

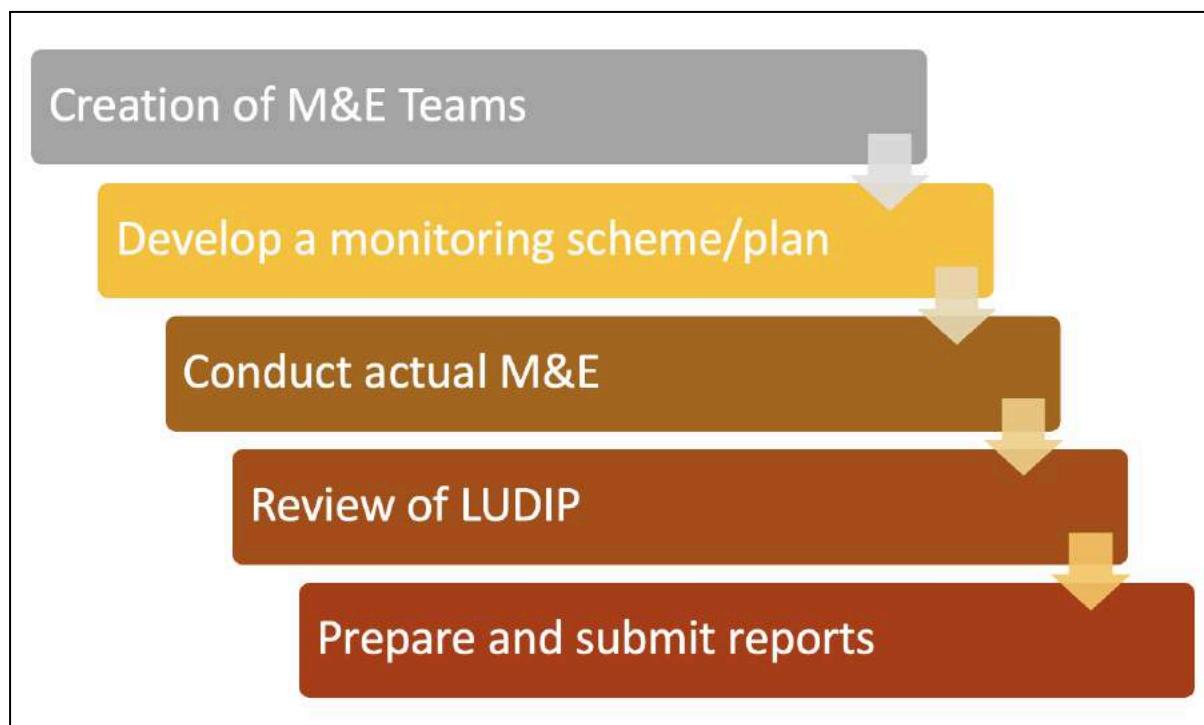


Figure 4.1. MSU-IIT LUDIP Monitoring and Evaluation Framework

A. Creation of Monitoring and Evaluation Teams

A dedicated Monitoring and Evaluation Team(s) shall be established to oversee the LUDIP M&E process. The teams shall be composed of personnel from relevant institutional or ad-hoc committees and key offices, depending on the nature of the programs and projects to be implemented. However, such teams shall be supervised by the Office of the Strategic Initiatives (formerly known as Office of Vice Chancellor for Planning and Development), through the Office of Institutional Planning and Development Services (OIPDS). The Vice Chancellor for Strategic Initiatives, shall lead the M&E Team and be responsible for supervising and conducting all campus planning and development efforts, including the LUDIP.

Environmental and sustainability compliance shall be the responsibility of the University's environmental engineers with the help of experts from various fields, internally or externally. The same with the safety requirements which must be led by the safety officers of the university under the supervision of the MSU-IIT Center for Resiliency (MCR) and Infrastructure Service Division (ISD) for the repairs and maintenance of the University.

The Monitoring and Evaluation Team for the LUDIP will be responsible for monitoring and evaluating the progress of these projects, ensuring that they are completed on time and within budget, and that they meet the university's strategic objectives.

B. Develop a Monitoring Schemes/ Plans

To effectively monitor and evaluate MSU-IIT's Land Use Development and Infrastructure Plan (LUDIP), a specific monitoring scheme or plan is essential. This plan outlines the structured process the monitoring and evaluation (M&E) team will follow to ensure the objectives of the LUDIP are met efficiently and effectively. Here is a detailed scheme:

M&E Framework Development

- **Objective Setting:** Articulate clear M&E objectives that align with the goals of LUDIP, focusing on the effectiveness, impact, efficiency, and sustainability of the plan.
- **Indicator Development:** Develop specific, measurable, achievable, relevant, and time-bound (SMART) Key Performance Indicators (KPIs) that will guide the monitoring activities. These should cover critical aspects such as project timelines, budget compliance, quality standards, environmental sustainability, and stakeholder satisfaction.

Specifically, the KPIs shall include but not be limited to the following aspects:

1. Number of Infrastructure Following the LUDIP/ Land Use Plan.
2. Identification of Non-compliance to Campus Land Use Policies
3. Stakeholder Satisfaction Index

Data Collection Strategies

- **Baseline Data:** Establish baseline measurements for all relevant indicators to enable accurate assessment of progress.
- **Data Gathering Methods:** Utilize diverse methods such as surveys, interviews, document reviews, site visits, and remote sensing technologies to collect data regularly.

Implementation Monitoring

- **Regular Check-ins:** Schedule frequent monitoring sessions (monthly or quarterly) to track the progress of LUDIP implementation against the established KPIs. This is currently conducted by the Infrastructure Service Division of MSU-IIT.

- **Progress Tracking:** Use project management software or tracking tools to monitor real-time progress of the LUDIP projects, ensuring timely identification of deviations or delays. (see Figure 4.3)

Reporting Mechanisms

- **Structured Reports:** Develop structured reporting templates to standardize the reporting process, ensuring all relevant data is captured systematically.
- **Regular Updates:** Provide regular updates to key stakeholders, including university leadership, project teams, and relevant external partners, to maintain transparency and foster collaborative problem-solving.

Evaluation Processes

- **Interim Evaluations:** Conduct interim evaluations at critical milestones to assess whether the LUDIP's initiatives are on track to meet their objectives and to identify any necessary strategic adjustments.
- **Comprehensive Reviews:** Perform comprehensive evaluations annually to deeply assess the effectiveness of the LUDIP, identifying strengths, weaknesses, opportunities, and threats.

Feedback Loop and Adaptive Management

- **Feedback Integration:** Establish mechanisms to incorporate feedback from the evaluations into the LUDIP, allowing for continuous refinement and adjustment of the plan.
- **Adaptive Strategies:** Utilize the insights gained from ongoing monitoring and evaluations to adapt and refine strategies, ensuring the LUDIP remains aligned with MSU-IIT's strategic objectives and external changes.

Stakeholder Engagement

- **Inclusive Participation:** Engage a broad spectrum of stakeholders, including faculty, students, administrative staff, and community representatives, in the M&E process to ensure diverse perspectives are considered and to enhance the plan's relevance and acceptance.
- **Transparency and Communication:** Ensure the M&E process is transparent, with findings, challenges, and adaptations communicated clearly to all stakeholders, fostering a culture of trust and continuous improvement.

Sustainability and Impact Assessment

- **Long-term Impact:** Evaluate the long-term impact of the LUDIP on MSU-IIT's strategic objectives, particularly its contribution to academic excellence, research innovation, community engagement, and environmental sustainability.
- **Sustainability Measures:** Assess the sustainability of the projects implemented under the LUDIP, ensuring they align with long-term environmental, economic, and social goals.

Implementing this specific monitoring scheme will enable MSU-IIT to systematically assess the progress and effectiveness of its LUDIP, ensuring that the plan's initiatives are realized optimally and contribute to the university's overarching strategic goals.

C. Conduct the Actual Monitoring and Evaluation

Every M&E group is tasked with executing the established monitoring strategy, gathering necessary data and insights through collaboration with various project management teams, pertinent departments, and stakeholders. These groups are responsible for organizing monitoring meetings, discussions, and workshops to evaluate the progress of the programs and projects, alterations in land use, challenges faced during execution, and the outcomes and enduring effects of these initiatives. They are also charged with compiling M&E reports, which are then forwarded to the Chancellor's Office, the respective project management teams, and other relevant departments for timely and suitable responses.

D. Review of LUDIP

A review of the LUDIP will take place every five years or whenever necessary, adhering to the established procedures of MSU-IIT. The purpose of this review is to pinpoint aspects of the plan that require reevaluation or modification and to verify that the plan remains in compliance with prevailing laws and regulations. The primary resources for this assessment will be the M&E reports compiled in the preceding years.

E. Prepare and Submit Reports

The M&E groups at MSU-IIT are tasked with compiling the M&E reports, which encompass the findings, recommendations, and outcomes from the LUDIP review. The Office of Institutional Planning and Development Service (OIPDS) will compile and consolidate these documents and suggest necessary modifications, updates, or adjustments to the LUDIP, along with the various programs and projects under their surveillance. These comprehensive reports will then be forwarded to the Office of Strategic Initiatives for review and subsequently endorsed to the Office of the Chancellor, pertinent departments and committees, and the respective project management teams for suitable follow-up actions.

4.2 FUNDING THE MONITORING AND EVALUATION MECHANISM FOR MSU-IIT'S LUDIP

It is essential that monitoring and evaluation (M&E) activities are strategically planned and adequately funded from the outset of the program or project planning phase. Recognizing that M&E is a crucial component of any program or project, its associated costs should be integrated into the total budget framework of MSU-IIT.

A policy will be established to allocate between 3% to 10% of the total project cost to the M&E budget. This allocation is aimed at ensuring that the M&E activities are sufficiently funded to maintain the integrity and reliability of the outcomes without reallocating excessive resources from the program or project's core functions.

Furthermore, it is proposed that M&E costs should not be categorized as organizational overhead expenses, such as administrative costs, particularly when M&E functions are directly linked to the office conducting them. Instead, the expenses related to M&E activities should be specified within the Line-Item Budget of the Maintenance and Other Operating Expenses (MOOE), ensuring clear accountability and transparency in budget allocation and utilization.

A. Institutional Coordination and Monitoring Matrix Stages

Table 4.1 shows the institutional coordination and monitoring matrix for MSU-IIT's Land Use Development and Infrastructure Plan (LUDIP) covering physical and land use planning, infrastructure and buildings, field laboratories and research facilities, environmental protection, and solid waste and pollution prevention.

Table 4.1. Institutional Coordination and Monitoring Matrix by Planning Stage

Planning Stage	Responsible Office/ Unit	Key Activities	Deliverables	Timeline
Pre-Planning Stage	Office of the Vice Chancellor for Strategic Initiatives (OVCSI)	Initiate and lead the LUDIP process	LUDIP project charter and timeline	Q1 2023
	OVCSI, Office of Institutional Planning and Development Services (OIPDS)	Conduct stakeholder consultations to assess needs, including the City Planning Office of Iligan City	Stakeholder input report and data gathering	Q1-Q2 2023
	OVCSI, OIPDS	Review existing land use, facilities and infrastructure	Current state assessment report	Q2 2023
	OVCSI, OIPDS	Develop LUDIP goals and objectives aligned with MSU-IIT's strategic plans	LUDIP goals and objectives document	Q2 2023
Planning Stage	OVCSI, OIPDS	Develop the draft LUDIP based on pre-planning inputs	Draft LUDIP	Q3-Q4 2023
	Infrastructure Services Division (ISD), Colleges/ Institutes	Provide inputs on infrastructure and building requirements	Infrastructure and building needs report	Q3 2023
	Office of the Vice Chancellor for Research and Enterprise (OVCRE), Colleges/ Research Institutes	Provide inputs on field lab and research facility requirements	Field lab and research facility needs report	Q3 2023
	MSU-IIT Center for Resiliency (MCR)	Provide guidance on environmental protection and sustainability measures	Environmental protection and sustainability guidelines	Q3 2023
	OVCSI, OIPDS	Incorporate inputs and finalize LUDIP	Final LUDIP	Q4 2023
	MSU-IIT Administration, Board of Regents	Review and approve the LUDIP	LUDIP approval	Q4 2023
Implementation Stage	ISD	Construct new facilities and	New and upgraded	2024-2028

		upgrade existing ones per LUDIP	facilities	
	Colleges/ Institutes	Operationalize new field labs and research facilities	Functional field labs and research facilities	2024-2028
	MCR, ISD	Implement environmental protection and sustainability measures	Quarterly progress reports	2024-2028
	MCR, ISD	Establish solid waste management system	Functional solid waste management system	2024-2025
	OVCSI, Office of Monitoring and Evaluation (OME)	Monitor LUDIP implementation progress	Quarterly monitoring reports	2024-2028
Post-Implementation Stage	OVCSI, OIPDS, OME	Conduct post-implementation evaluation of LUDIP	LUDIP evaluation report	Q4 2028
	OVCSI, OIPDS, OME	Document lessons learned and best practices	Lessons learned and best practices report	Q4 2028
	OVCSI, OIPDS	Update LUDIP based on evaluation findings for the next cycle	Updated LUDIP	Q1 2029

This matrix outlines the key offices involved, their responsibilities, deliverables and timelines across the LUDIP process stages. Effective coordination and monitoring by the OVCSI and its sub-offices like OIPDS and OME will be crucial to the successful rollout of MSU-IIT's LUDIP from planning to implementation.

B. Institutional Coordination and Monitoring Matrix of Various Components

Table 4.2 shows the institutional coordination and monitoring matrix for the various components of MSU-IIT's land use development plan across the planning stages.

Table 4.2. Institutional Coordination and Monitoring Matrix of MSU-IIT LUDIP Components

Planning Stage	Responsible Office/ Unit	Key Activities	Deliverables	Timeline
A. Physical and Land Use Planning				
Pre-Planning	OC, OVCSI, OIPDS	Assess current land use, conduct	Current state assessment,	Q1-Q2 2023

		stakeholder consultations	stakeholder input report	
Planning	OC, OVCSI, OIPDS	Develop land use plan aligned with strategic goals	Draft land use plan	Q3-Q4 2023
Implementation	ISD	Implement land use changes per approved plan	Land use changes implemented	2024-2028
Post-Implementation	OVCSI, OIPDS OME	Evaluate land use plan implementation	Evaluation report, lessons learned	Q4 2028
B. Infrastructure and Building Renovation				
Pre-Planning	OC, OVCSI, OIPDS, ISD, Colleges/ Institutes	Assess infrastructure and building requirements	Infrastructure and building needs report	Q2 2023
Planning	OVCSI, OIPDS, ISD	Incorporate infrastructure plan into LUDIP	Infrastructure development plan in LUDIP	Q3-Q4 2023
Implementation	ISD	Construct new and upgrade existing facilities per plan	New and upgraded facilities	2024-2028
Post-Implementation	OVCSI, OIPDS, OME	Post-implementation evaluation of infrastructure	Infrastructure evaluation report	Q4 2028
C. Field Laboratories and Research Facilities				
Pre-Planning	OC, OVCSI, OIPDS, OVCRE, Colleges/ Research Institutes	Assess field lab and research facility needs	Field lab and facility needs report	Q2 2023
Planning	OVCSI, OIPDS, OVCRE	Incorporate field lab and facility plan into LUDIP	Field lab and facility plan in LUDIP	Q3-Q4 2023
Implementation	ISD, OVCRE, Colleges/ Institutes	Establish new field labs and research facilities	Functional new field labs and facilities	2024-2028
Post-Implementation	OVCSI, OIPDS, OME	Evaluate field lab and facility development	Evaluation report	Q4 2028
D. Environmental Protection				
Pre-Planning	OC, OVCSI, OIPDS, MCR	Develop sustainability guidelines for LUDIP	Sustainability guidelines	Q2 2023

Planning	OVCSI, OIPDS, MCR	Incorporate sustainability measures into LUDIP	Environmental protection plan in LUDIP	Q3-Q4 2023
Implementation	MCR, ISD	Implement sustainability measures	Quarterly progress reports	2024-2028
Post-Implementation	OVCSI, OIPDS, MCR	Evaluate environmental measures	Environmental evaluation report	Q4 2028

E. Solid Waste and Pollution Prevention

Pre-Planning	OC, OVCSI, OIPDS, MCR	Assess waste management needs	Waste management needs report	Q2 2023
Planning	OVCSI, OIPDS, MCR	Develop waste management plan for LUDIP	Waste management plan in LUDIP	Q3-Q4 2023
Implementation	MCR, ISD	Establish solid waste management system	Functional waste management system	2024-2025
Post-Implementation	OVCSI, OIPDS, MCR, ISD	Evaluate waste management system	Evaluation report	Q4 2025

F. Traffic Routes

Pre-Planning	OC, OVCSI, OIPDS, ISD, SID	Assess traffic flow and parking needs	Traffic and parking needs report	Q2 2023
Planning	OVCSI, OIPDS, ISD, SID	Develop traffic and parking plan for LUDIP	Traffic and parking plan in LUDIP	Q3-Q4 2023
Implementation	ISD	Implement traffic flow and parking improvements	Improved traffic flow and parking	2024-2026
Post-Implementation	OVCSI, OIPDS, SID, OME	Evaluate traffic and parking enhancements	Evaluation report	Q4 2026

G. Sports Facilities

Pre-Planning	OC, OVCSI, OIPDS, Office of Sports Development (OSD)	Assess sports facility requirements	Sports facility needs report	Q3 2023
Planning	OVCSI, OIPDS, OSD	Incorporate sports facility upgrades in	Sports facility plan in LUDIP	Q4 2023

		LUDIP		
Implementation	ISD, OSD	Construct new and upgrade sports facilities	Enhanced sports facilities	2024-2027
Post-Implementation	OVCSI, OIPDS, OSD	Post-implementation evaluation	Sports facility evaluation report	Q4 2027
H. Dormitories and Academic Staff/ Non-Academic Staff Housing (Residences)				
Pre-Planning	OC, OVCSI, OIPDS, OVCSS, OVCAF, Student/ Faculty Affairs	Assess housing needs	Housing needs assessment	Q3 2023
Planning	OVCSI, OIPDS, OVCAF, OVCSS, Student/ Faculty Affairs	Develop housing plan for LUDIP	Housing development plan in LUDIP	Q4 2023
Implementation	ISD	Construct new and renovate existing housing	Improved student and employee housing	2024-2028
Post-Implementation	OVCSI, OIPDS, OME	Evaluate housing development	Housing evaluation report	Q4 2028
I. IGP and Commercial Spaces				
Pre-Planning	OC, OVCSI, OIPDS, Office of Business Affairs (OBA)	Assess IGP and commercial space needs	IGP and commercial space needs report	Q3 2023
Planning	OVCSI, OIPDS, OBA	Plan IGP and commercial spaces for LUDIP	IGP and commercial space plan in LUDIP	Q4 2023
Implementation	OBA	Develop IGP and commercial spaces	Functional IGP and commercial spaces	2024-2027
Post-Implementation	OVCSI, OIPDS, OME	Post-implementation evaluation	IGP space evaluation report	Q4 2027
J. Land Acquisition and Management				
Pre-Planning	OC, OVCSI, OIPDS, Legal Affairs	Review land holdings and acquisition needs	Land acquisition needs report	Q2-Q3 2023
Planning	OC, OVCSI, OIPDS, OVCAF,	Incorporate land acquisition in LUDIP,	Land acquisition plan in LUDIP	Q4 2023

	Legal Affairs	determination of fund needed		
Implementation	Legal Affairs, OVCAF	Acquire and document new land parcels	Land acquired with proper documentation	2024-2028
Post-Implementation	OVCSI, OIPDS	Evaluate land acquisition and management	Land acquisition evaluation report	Q4 2028

This matrix provides an overview of how MSU-IIT can coordinate the planning and monitoring of the various LUDIP components, with clear assignment of responsibilities to key offices, definition of activities and deliverables for each stage, and timelines for completion. The OVCPD plays a central role in orchestrating the overall process.

MSU-ILIGAN INSTITUTE OF TECHNOLOGY
LOCALLY FUNDED PROJECT
FY _____ Tier 2 Proposal (Infrastructure)

Name of Project	(be specific; if it is a new structure or rehabilitation of building)				
Total Project Cost					
Rationale	(The importance of the project; its impact to the students, faculty & staff, and the community. Be specific; as much as possible, avoid generalization of facts. You may cite or attach current studies, new circulars, laws, guidelines, and others to support your proposal)				
Objective	(it must be aligned with the mission & vision of the office/college/department, and the institute as a whole)				
Project Description	(specify the number of floors of the building, the number of classrooms/laboratories, and capacity of each rooms)				
Project Output	(expected outcome of the project)				
Beneficiaries	(It must not be limited to Students, Faculty&Staff, unless specified in the name of the project)				
Feasibility Study Result (Attach FS Form used. Include in FS the Sustainability Plan & Waste Management for Wst Lab equipment)					
Gender Issues and Gender Equality Result (Attach filled-up GAD Checklist)					
List of Office Equipment/ Furniture and Fixtures	Specification/s	QTY.	Unit Cost	Amount	Location (Identify room no. and floor building/ Specify where the equipment/ furniture should be put)

Submitted by:

Name and Designation

Attachments:

- *Detailed Engineering (seek approval of the project first, for prioritization of plans to PPD)
- *List of Prospective Suppliers
- *Indicative PPMP (Manual)
- *Schedule of Procurement (date,month intends to procure)
- *Permits/MOA/other supporting documents
(if still on process; please attach the approved copy of application of permits)

Figure 4.2. OVCSI Locally-Funded Project Proposal Form version 2.0

MONITORING REPORT OF MSU - IIT BY CONTRACT INFRASTRUCTURE PROJECTS																				
as of January 31, 2024																				
	Name of Project	Contractor	ABC	Bid Cost	Fund Cluster	Date Started	Original Completion Date	Contract Time (calendar days)	No. of Variation Order	Variation Cost	Total Cost (New)	No. of Extension/Suspension	Total Time Extension	Revised Completion Date	Date Completed	Projected Accomplishment	Actual Accomplishment	Slippage	Status/Remark	
ON-GOING PROJECTS																				
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
TOTAL			0.00	0.00							0.00	0.00								
COST DIFFERENCE:			0.00																	
NOTE: Slippage																				
(+) Positive = Contractor is ahead as per schedule (-) Negative = Contractor is behind schedule																				
Prepared by: Checked by: Noted by:																				
<u>ENGR. RACIDA D. SABDULLAH</u> Acting Construction Head, ISD				<u>ENGR. RODELITO E. DELA CRUZ</u> ISD, Acting Director				<u>ATTY. YASLANI B. BANTUAS, CPA</u> Vice Chancellor for Administration and Finance				<u>PROF. ALIZEDNEY M. DITUCALAN, JD, LLM</u> Chancellor								
Legend:  - GAA  - INCOME/IGP  - under suspension <i>italicized</i> -																				

Figure 4.3. Monitoring Report of MSU-IIT by Contract Infrastructure Projects, as of January 31, 2024 (Source: MSU-IIT Infrastructure Services Division)

ANNEXES

ANNEX 1

1.1 LGU-IIigan Certification of MSU-IIT Lot Properties Situated in Tibanga



Republic of the Philippines
CITY OF ILIGAN

CITY PLANNING AND DEVELOPMENT OFFICE



CERTIFICATION

TO WHOM IT MAY CONCERN :

This is to certify that the following parcels of land situated in **BRGY. TIBANGA, ILIGAN CITY** bears the classification shown below per City Ordinance No. 14-6234, series of 2014 otherwise known as the Zoning Regulation for the City of Iligan based on the Comprehensive Land Use Plan approved by the Housing and Land Use Regulatory Board on August 1, 2018 as follows:

- Lot 1183 Original Certificate of Title No. 0978 (a.f.) – General Institutional Zone
- Lot 4209 Original Certificate of Title No. 0978 (a.f.) – General Institutional Zone
- Lot 1200 TCT No. T-38,875 (a.f.) – General Institutional Zone
- Lot 1201 TCT No. T-26,787 (a.f.) – General Institutional Zone
- Lot 1202 TCT No. T-22,261 (a.f.) – General Institutional Zone
- Lot 1204 TCT No. T-16,411 (a.f.) – General Institutional Zone

This certificate is being issued upon the request of **Prof. Alizedney M. Ditucalan J.D., LLM** for whatever legal purpose it may serve.

Issued this 9th day of May 2023 at Iligan City.

EnP VENERANDO O. BORDEOS
City Gov't Dept. Head II
City Planning and Development Coordinator

Cert. Fee :
O.R. :
Date Issue :

1.2 LGU-Iligan Certification of MSU-IIT Lot Properties Situated in Hinaplanon



Republic of the Philippines
CITY OF ILIGAN

CITY PLANNING AND DEVELOPMENT OFFICE



C E R T I F I C A T I O N

TO WHOM IT MAY CONCERN :

This is to certify that the following parcels of land situated in **BRGY. HINAPLANON, ILIGAN CITY** bears the classification shown below per City Ordinance No. 14-6234, series of 2014 otherwise known as the Zoning Regulation for the City of Iligan based on the Comprehensive Land Use Plan approved by the Housing and Land Use Regulatory Board on August 1, 2018 as follows:

- Lot 1329 TCT No. T-26,200 (a.f.) – General Commercial Zone
- Lot 1857 TCT No. T-26,201 (a.f.) – General Institutional Zone
- Lot 1349-C TCT No. T-2684-2 (a.f.) – General Residential Zone
- Lot 1349-D TCT No. T-26,205 (a.f.) – General Residential Zone

This certificate is being issued upon the request of **Prof. Alizedney M. Ditucalan J.D., LLM** for whatever legal purpose it may serve.

Issued this 9th day of May 2023 at Iligan City.

Enp VENERANDO O. BORDEOS
City Gov't Dept Head II
City Planning and Development Coordinator

Cert. Fee :
O.R. :
Date Issue :

1.3 LGU-IIigan Certification of MSU-IIT Lot Properties Situated in Fuentes (Brgy. Maria Cristina)



Republic of the Philippines

CITY PLANNING AND DEVELOPMENT OFFICE

cpdo
ILIGAN

C E R T I F I C A T I O N

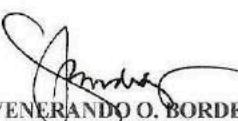
TO WHOM IT MAY CONCERN :

This is to certify that the following parcels of land situated in **BRGY. MARIA CRISTINA, ILIGAN CITY** bears the classification shown below per City Ordinance No. 14-6234, series of 2014 otherwise known as the Zoning Regulation for the City of Iligan based on the Comprehensive Land Use Plan approved by the Housing and Land Use Regulatory Board on August 1, 2018 as follows:

- Lot 1-A-1 Tax Declaration No. 18-0023-01088 – Light Industrial Zone
- Lot 2-A-1 Tax Declaration No. 18-0023-00055 – Municipal Water Zone
- Lot 2-A-2 Tax Declaration No. 18-0023-00055 – Municipal Water Zone

This certificate is being issued upon the request of **Prof. Alizedney M. Ditucalan J.D., LLM** for whatever legal purpose it may serve.

Issued this 9th day of May 2023 at Iligan City.


EnP VENERANDO O. BORDEOS
City Gov't Dept. Head II
City Planning and Development Coordinator

Cert. Fee :
O.R. :
Date Issue :

1.4 LGU-IIigan Certification of MSU-IIT Lot Property in Barangay Canaway, Tibanga



Republic of the Philippines
CITY OF ILIGAN

CITY PLANNING AND DEVELOPMENT OFFICE



CERTIFICATION

TO WHOM IT MAY CONCERN:

This is to certify that the parcel of land with Transfer Certificate of Title No. 155-2017000186 situated in **Barangay Canaway Tibanga , Iligan City**, is within the area classified and designated as **High Density Residential Zone** per City Ordinance No. 14-6234, series of 2014 otherwise known as the Zoning Regulation for the City of Iligan as approved by the Housing and Land Use Regulatory Board on August 1, 2018.

This certification is being issued upon the request of **Mindanao State University – Iligan Institute of Technology** for whatever purpose it may serve.

Issued this 13th day of May 2024 , Iligan City, Philippines.


EnP. ALIX CRUZ
Project Development Officer II
Zoning Administrator

Fee: Fee Exempted

1.5 MSU BOR Resolution No. 19, Series 2004 (Approval by the Board of MSU-IIT's Proposal to Develop its Property at Barangay Hinaplanon to Foster and Enhance Technical and Scientific Creativity

MSU BOARD OF REGENTS
Minutes

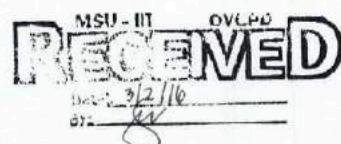
MSU-IIT MATTERS

APPROVAL BY THE BOARD OF MSU-IIT'S PROPOSAL TO DEVELOP ITS PROPERTY AT BARANGAY HINAPLANON TO FOSTER AND ENHANCE TECHNICAL AND SCIENTIFIC CREATIVITY.

RESOLUTION NO. 19, S. 2004

RESOLVED, That upon the recommendation of the President of the University and the Executive Committee of the Board of Regents, the proposal to develop MSU-IIT's Hinaplanon property to accommodate and promote the growth of research and technology-based endeavors that could lead to greater productivity and thus spur economic activity and growth, through the establishments of offices, laboratories, a training center, a research library, production centers, a dormitory and other facilities for technological advancement and research and development capabilities, as enunciated in the proposed plans of action, which are attached hereto and marked as Annexes "K" to "K-12" and made an integral part of this resolution, is hereby approved.

APPROVED.



189th Meeting, February 7, 2004

1.6 MSU BOR Agenda Item No. 8, C3 Project Donation

**MSU BOARD OF REGENTS
MSU-IIT Agenda Item No. 8**

OTHER MATTERS:

Page 54

**NOTATION BY THE BOARD OF THE QUIT CLAIM DEED EXECUTED
BY MSU-IIT IN FAVOR OF THE REPUBLIC OF THE PHILIPPINES
THROUGH THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
A PORTION OF THE HINAPLANON PROPERTY**

The Republic of the Philippines through the Department of Public Works and Highways expropriated a portion of the Hinaplanon property containing an area of ONE THOUSAND TWO HUNDRED TWENTY TWO (1,222 sq. meters) covered by Original Certificate of Title No. T-26, 2900 (a.f.) for the construction of the Circumferential Road Three (C-3) Project. However, a portion of the said property is covered by Free Patent in which one of the conditions laid down under the Public Land Act, that in cases the said land shall be used for right-of-way by the Government, the owner of the property cannot claim or demand payment for the use of the portion by the Government for the said purpose.

Pursuant to Sec. 112 of the Commonwealth Act 141 and Presidential Decree 635 as amended which states that: "Said land shall further be subjected to right-of-way not exceeding twenty (20) meters in width for public highways, railroads, irrigation, ditches, aqueducts, telegraph and telephone lines and similar works as the Government or any public or quasi-public service or enterprise, including mining or forest concessionaires, may reasonably require for carrying on their business except for any improvements which may be found thereon." (Emphasis supplied)

In view of the aforequoted provision, the Republic of the Philippines shall not compensate a portion of the ONE THOUSAND TWO HUNDRED TWENTY TWO (1,222 sq. meters) expropriated, thus MSU-IIT shall not claim or demand any payment for the use of right-of-way which shall not exceed twenty (20) meters.

WHEREFORE, notation by the Board of the Quit Claim Deed executed by MSU-IIT represented by its owner in favour of the Republic of the Philippines is highly sought.

(Translation of Sec. 112 of the Commonwealth Act 141 and Presidential Decree 635 as amended which states that "Said land shall further be subjected to right-of-way not exceeding twenty (20) meters in width for public highways, railroads, irrigation, ditches, aqueducts, telegraph and telephone lines and similar works as the Government or any public or quasi-public service or enterprise, including mining or forest concessionaires, may reasonably require for carrying on their business except for any improvements which may be found thereon." (Emphasis supplied))

216th Meeting, September 14, 2011

MSU BOARD OF REGENTS
MSU-IIT Agenda Item No. 8

OTHER MATTERS: Page 55

RESOLUTION NO. _____

RESOLVED, That upon the recommendation of the President of the University and the Executive Committee of the Board of Regents, the Quit Claim Deed executed by MSU-IIT represented by Dr. Macapado A. Muslim in favor of the Republic of the Philippines through the Department of Public Works and Highways waiving payment for the use of a portion of the Hinaplanon property pursuant to the provisions of Commonwealth Act No. 141 and Presidential Decree 635 as amended, attached as Annexes " F " to " F-2 ", and made integral part of this resolution, is hereby noted.

MSU BOARD OF REGENTS

Annex "F"

QUIT CLAIM DEED

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KNOW ALL MEN BY THESE PRESENTS:

I, MACAPADO A. MUSLIM (President) Representative of MSU-IIigan Institute of Technology, of legal age, married and a resident at Marawi City, do hereby declare and state the following:

That I am authorized representative/owner of a certain parcel o land situated at Katipunan, Brgy. Hinaplanon, Iligan City, Philippines, known as Lot No. 1329-A, containing an area of One Thousand Two hundred Twenty Two (1,222) square meters, and covered by Original Certificate of Title No. T-26,200 (a.f.) of the Registry of Deeds;

That the Republic of the Philippines, through the Department of Public Works and Highways, will be implementing Construction of the Circumferential Road Three (C-3) Project, which will require a portion of the land above described and its improvements for the road right-of-way;

That, pursuant to the above-mentioned undertaking, I do hereby waive all my rights, now or in the future, over the portion of land above described which may form part of the twenty (20) meters road right-of-way, as provided for under Section 112 of Commonwealth Act No. 141 and Presidential Decree 635 as amended, prescribing that "Said land shall further be subject to right-of-way not exceeding twenty (20) meters in width for public highways, railroads, irrigation, ditches, aqueducts, telegraph and telephone lines, and similar works as the Government or any public or quasi-public service or enterprise, including mining or forest concessionaires, may reasonably require for carrying on their business" except for any improvements which may be found thereon, particularly described hereunder:

That I am authorized representative/owner of a certain parcel o land situated at Katipunan, Brgy. Hinaplanon, Iligan City, Philippines, known as LOT NO. 1329-A, containing an area of ONE THOUSAND TWO HUNDRED TWENTY TWO (1,222) square meters of land, being a portion of Lot 1329, ILIGAN CADASTRE CAD 292 situated in the Barangay of proper Hinaplanon City of Iligan, Island of Mindanao.

Bounded on the N.E. along line 6-1 by Lot 1856 ILIGAN CADASTRE CAD 292; on the S.E. along line 1-2 by Lot 1857, ILIGAN CADASTRE CAD. 292 on the N.E. along line 2-3 by Lot 1857, ILIGAN CADASTRE CAD. 292 on the S.E. along line 3-4 by Lot 1329-C, on the along 4-5 by Lot 1330 ILIGAN CADASTRE CAD. 292, on the N.W. along line 5-6 by Lot 1329-B, all of the subdivision plan.

Beginning at a point marked "P" on the plan being S. 13 deg. 39' W. 656.42m. from B.L.M. No. 71 ILIGAN CADASTRE CAD 292, thence.....

1-2	S. 17 deg. 06' W.	29.59 m.
2-3	S. 17 deg. 16' W.	12.49 m.
3-4	S. 18 deg. 34' W.	28.49 m.
4-5	S. 83 deg. 56' W.	22.00 m.
5-6	N. 18 deg. 22' E.	80.66 m.
6-1	S. 56 deg. 17' E.	12.67 m.

Containing an area of ONE THOUSAND TWO HUNDRED TWENTY TWO (1,222) SQUARE METERS.

MSU BOARD OF REGENTS
Annex "F-1"

Page 57

That I shall not claim or demand any payment for the use of the portion of the land by the Government for the purpose above mentioned, except for damages to the improvements that will be affected by the 20 meters road right-of-way.

That, by virtue of this Deed, the District Engineer, or his duly authorized representative, may enter the premises of the property for the purpose of constructing the public road, remove such improvements thereon as the construction of the public road shall require, immediately upon payment of the just and true value of the improvements.

IN WITNESS WHEREOF, the FIRST and SECOND PARTIES have hereunto affixed their signatures this _____ day of SEPTEMBER 2011 at Iligan City, Philippines.

LANDOWNER
Musly

MSU-ILIGAN INSTITUTE OF TECHNOLOGY
Represented by: MACAPABO A. MUSLIM

Owner

That I shall not claim or demand any payment for the use of the portion of the land by the Government for the purpose above mentioned, except for damages to the improvements that will be affected by the 20 meters road right-of-way.

Signed in the presence of: _____
That, by virtue of this Deed, the District Engineer, or his duly authorized representative, may enter the premises of the property for the purpose of constructing the public road, remove such improvements thereon as the construction of the public road shall require, immediately upon payment of the just and true value of the improvements.

Amans *M. BARI, D.M.*

SUKARNO D. TANGGOL, DPA

MSU BOARD OF REGENTS
Annex "F-2"

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ACKNOWLEDGEMENT

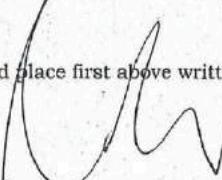
REPUBLIC OF THE PHILIPPINES
ILIGAN CITY) S.S.

BEFORE ME, a Notary Public for and in the ILIGAN CITY,
on SEP 05 2011, personally came and appeared the following names with their
respective Residence Certificates, to wit:

NAME	Passport/ID No.	PLACE	DATE
Macapado A. Muslim	10498	Marawi City	June 1, 2009

Known to me to be the same person who executed the foregoing instrument and
acknowledged to me that the same is his free act and voluntary deed, as well as of the
institution which he represents. This instrument refers to a Quit Claim Deed
consisting of three (3) pages including this Acknowledgement, and signed by the owner
and their witnesses.

Witness my hand and seal on the date and place first above written.


ROBERTO C. PADILLA
NOTARY PUBLIC
UNTIL DECEMBER 31, 2012
PTR No. 3530182 1-21-11 I.C.
ROLL No. 30026
BPN No. 768313 12/14/10 I.C.
MCLE IV #0000047:10/27/10
TIN No. 106-125-802

Doc No. 920
Page No. 64
Book No. CED
Series of 2011.

Notary Public Seal

1.7 Transfer Certificate of Title of Other MSU-IIT Lot Properties

Judicial Form No. 140-D
(Revised)

Book ... 37
Page ... 33

SN No. 022866 REPUBLIC OF THE PHILIPPINES
MINISTRY OF JUSTICE
NATIONAL LAND TITLES AND DEEDS REGISTRATION ADMINISTRATION
(Land Registration Commission)

REGISTRY OF DEEDS FOR THE ILLIGAN CITY

Transfer Certificate of Title

No. T-26787(a.f.s.)

IT IS HEREBY CERTIFIED that certain land situated in the **City of Iligan**, more particularly bounded and described as follows:

Beginning at a pt marked "1" of lot 1201 of the Cadastral Survey of Iligan, being N. 87-22'E., 684.58 m. from B.B.M. 77, Cad-292; T E B H C E - - - -
 N. 13-56'E., 76.11 m. to pt 2; N. 76-40'E., 14.14 m. to pt 3;
 S. 64-38'E., 44.96 m. to pt 4; S. 6-53'N., 67-09 m. to pt 5;
 S. 12-39'W., 2.51 m. to pt 6; N. 74-51'W., 65-88 m. to pt 1; pt of beginning.

Containing an area of **FOUR THOUSAND FOUR HUNDRED AND FIFTY NINE (4,459) SQUARE METERS**. All corners are marked on the ground by B.L. Con. o Mers. Bounded on (over) is registered in accordance with the provisions of section 103 of the Property Registration Decree in the name of*

ILLIGAN INSTITUTE OF TECHNOLOGY, an external unit of the Mandarao State University, created under Republic Act. No. 5363, represented by Vice President for MSU-IIT, **Manuel B. Borongan**, with postal address at **Tibanga, Iligan City**, subject to the provisions of the said Property Registration Decree and the Public Land Act, as well as to those of the Mining Laws, if the land is mineral, and subject, further, to such conditions contained in the original title as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the **3rd** day of **December**, in the year nineteen hundred and **seventy-six**, in Registration Book No. **III**, page **96**, of the Office of the Register of Deeds of **City of Iligan**, as Original Certificate of Title No. **P-836(a.f.s.)** pursuant to a **Free** patent in the name of **President of the Philippines**, granted by the President of the Philippines, on the **15th** day of **November**, in the year nineteen hundred and **fifty-six**, under Act No. **141 (Commonwealth)**.

This certificate is a transfer from **Transferor**, Certificate of Title No. **T-23,258(a.f.s.)** which is cancelled by virtue hereof in so far as the above described land is concerned.

Tibanga, Iligan City
(Owner's Postal Address)

Entered at **the City of Iligan**, Philippines, on the **20th** day of **June**, in the year nineteen hundred and **seventy-five**, at **4:15 P.M.**

PHILIP SUAN
Acting (Register of Deeds)
3rd Asst. City Fiscal

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

SN NO 229694

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE

Land Registration Commission

OFFICE OF THE REGISTER OF DEEDS FOR THE CITY OF ILIGAN

Original Certificate of Title

SN-C-229694

No. 0-978 (a.s.f.)

ENTERED PURSUANT TO THE FOLLOWING DECREE:

AMG

"REPUBLIC OF THE PHILIPPINES

COURT OF FIRST INSTANCE, NORTHEAST

Cadastral Case No. 112578

LRC Cadastral Record No. 2-267

DECREE No. L.R.C. 2-267

The judgment in the above-numbered case having become final and executory in accordance with law, it is hereby decreed that ~~The Mindanao State University-Iligan Institute of Technology, with business address at Iligan City, Philippines, is - - - - - the owner... in fee simple of certain land situated in said the City of Iligan more particularly bounded and described on the back hereof.~~

Therefore, it is ordered by the Court that said land be registered in accordance with the provisions of the Land Registration Act, as amended, in the name of ~~said Mindanao State University-Iligan Institute of Technology, - - - - -~~
~~subject, however, to such of the incumbrances mentioned in Section 39 of said Act as may be subsisting, and to a first lien in favor of the National Government to guarantee the payment of the special taxes assessed pursuant to the provisions of Section 18 of Act No. 2259, as amended.~~

WITNESS: the Hon. Nathaniel M. Grespe, Judge of said Court,
 the 20th day of October, 1975.

Issued at Quezon City, on this 9th day of December, in the year of Our Lord, nineteen hundred and seventy-five at 8:35 a.m.

GENESIO EXLOG, JR.
COMMISSIONER OF LAND REGISTRATION

Transcribed in the "Registration Book" for the
 , pursuant to the
 provisions of section 41 of Act No. 496, on the
 9th day of January, nineteen hundred
 and seventy-five at 1:30 p.m.

ROBERTIANO B. ALBINO
Register of Deeds

City of Iligan

(Owner's Postal Address)

Cadastral Case No. IL-N-4, L.R.C. Cadastral Record No. M-267, L.R.C. Cadastral Survey of Iligan City.
 improvements thereon, situated in the Barrio of Tibanga, Iligan City.
 Bounded on the NE., points 6-7, by Lot No. 1203, points 7-8, by Canaway Creek, points 8-9-10, by Lot No. 1204 and points 10-11, by Lot No. 1205; on the SE., points 11-14, by Lot No. 1185 and points 14-16, by National Road; on the SW., points 16-17, by Lot No. 1172, points 17-18, by Lot No. 1173 and points 18-19, by Lot No. 1182; on the W., points 19-21 and 21-1, by Lot No. 4209 and points 1-5, by Lot No. 1200; and on the NW., points 5-6, by Lot No. 1202. Beginning at a point marked "I" on plan, being S. 75 deg. 26'W., 549.96 m. from DMM No. 17; t h s n c
 N. 07 deg. 07'E., 134.09 m. to point 2;
 S. 58 deg. 07'W., 56.78 m. to point 3;
 N. 06 deg. 28'E., 52.97 m. to point 4;
 N. 68 deg. 53'W., 37.96 m. to point 5;
 N. 29 deg. 25'E., 41.50 m. to point 6;
 S. 75 deg. 43'E., 78.88 m. to point 7;
 N. 51 deg. 21'E., 42.69 m. to point 8;
 S. 19 deg. 53'W., 96.96 m. to point 9;
 S. 75 deg. 23'E., 66.77 m. to point 10;
 S. 70 deg. 15'E., 64.99 m. to point 11;
 S. 9 deg. 28'W., 208.08 m. to point 12;
 S. 52 deg. 30'E., 39.34 m. to point 13;
 S. 25 deg. 13'E., 7.25 m. to point 14;
 S. 41 deg. 49'W., 61.14 m. to point 15;
 S. 26 deg. 47'W., 48.75 m. to point 16;
 N. 71 deg. 08'W., 77.22 m. to point 17;
 N. 73 deg. 35'W., 48.86 m. to point 18;
 N. 12 deg. 17'W., 79.06 m. to point 19;
 N. 62 deg. 20'E., 23.97 m. to point 20;
 N. 44 deg. 32'E., 39.74 m. to point 21;
 N. 8 deg. 15'W., 39.03 m. to the point of

beginning; containing an area of FIFTY FIVE THOUSAND AND FIFTY THREE (55,053) SQUARE METRES, more or less. All points referred to are indicated on the plan and are marked on the ground; bearings true; date of the Cadastral Survey, September 8, 1949 - June 30, 1955.

A parcel of land (Lot No. 4209 of the Cadastral Survey of Iligan, Cadastral Case No. IL-N-4, L.R.C. Cadastral Record No. M-267), with the improvements thereon, situated in the Barrio of Tibanga, Iligan City.
 Bounded on the NE., points 9-1, by Lot No. 1200; on the E., S.E., points 1-4, by Lot No. 1183; on the S., points 4-6, by Lot No. 1182 and points 6-7, by Lot No. 2622; on the W., points 7-8, by Lot No. 1182; and on the NW., points 8-9, by Lot No. 1184. Beginning at a point marked "I" on plan, being S. 75 deg. 26'W., 549.96 m. from DMM No. 17; t h s n c
 t h s n c

(continued on Additional Sheet 1, Page A)

(Continued on Additional Sheet, Page,

Register of Deeds

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

ENTRY NO. _____

Decree No. N-158978
Additional Sheet-1
Page - A

S. 8 deg. 15'E., 39.03 m. to point 2;
S. 44 deg. 32'W., 39.74 m. to point 3;
S. 62 deg. 20'W., 23.97 m. to point 4;
S. 61 deg. 59'W., 25.48 m. to point 5;
N. 83 deg. 52'W., 18.35 m. to point 6;
N. 78 deg. 17'W., 13.70 m. to point 7;
N. 6 deg. 20'E., 63.99 m. to point 8;
N. 39 deg. 29'E., 56.39 m. to point 9;
S. 68 deg. 17'E., 58.92 m. to the point of

beginning; containing an area of SEVEN THOUSAND EIGHT HUNDRED AND
TEN (7,803) SQUARE METERS, more or less. All points referred to
are indicated on the plan and are marked on the ground; bearings
true; date of the Cadastral Survey, September 3, 1949 - June 30,
1955.

ROBERTIANO D. PAGANCO
ROBERTIANO D. PAGANCO
Register of Deeds

(Memorandum of Encumbrances continued on Page _____-B)
(Technical Description continued on Additional Sheet _____, Page _____-)

Register of Deeds

2015015190756

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE

Land Registration Authority
QUEZON CITY

Registry of Deeds for Iligan City

Transfer Certificate of Title

OWNER'S DUPLICATE • OWNER'S DUPLICATE • OWNER'S DUPLICATE • OWNER'S DUPLICATE • OWNER'S DUPLICATE

No. 155-2017000186

IT IS HEREBY CERTIFIED that certain land situated in BARRIO OF CANAWAY, CITY OF ILIGAN, ISLAND OF MINDANAO, bounded and described as follows:

A PARCEL OF LAND (LOT 1199-A, OF THE SUBDIVISION PLAN (LRC) PSD-129117, BEING A PORTION OF LOT 1199, ILIGAN CADASTRE LRC CAD. RECORD NO. N-267), SITUATED IN THE BARRIO OF CANAWAY, CITY OF ILIGAN, ISLAND OF MINDANAO. BOUNDED ON THE N., AND E., ALONG LINE 2-3 AND 3-4 BY LOT (Continued on next page)

is registered in accordance with the provision of the Property Registration Decree in the name of

Owner: MINDANAO STATE UNIVERSITY-ILIGAN INSTITUTE OF TECHNOLOGY
Address: ANDRES BONIFACIO AVENUE, TIBANGA, ILIGAN CITY

as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting.

IT IS FURTHER CERTIFIED that said land was originally registered as follows:

Case No.:

Record No.: N-267

Orig. Reg. Date: 09 07 1970

Decree No.: N-131163

Original RD : ILIGAN CITY

OCT No.: OCT-O-784 A.F.

Volume No.: II

Page No.: 91

Original Owner:

This certificate is a transfer from TRANSFER CERTIFICATE OF TITLE T-31055(A.F.) (TOTALLY CANCELLED) by virtue hereof/in so far as the above-described land is concerned.

Entered at Iligan City, Philippines on the 20th day of FEBRUARY 2017 at 02:34pm.

Attest: *[Signature]*
Atty. Gerlich Mila Clevas

Register of Deeds



TCT No.: 155-2017000186

Page No.: 2

TECHNICAL DESCRIPTION (continued from page 1)

1200, ILIGAN CADASTRE; ON THE S., ALONG LINE 4-1 BY LOT 1199-C; ON THE W., ALONG LINE 1-2 BY LOT 1199-B, ALL OF THE SUBDIVISION PLAN. BEGINNING AT A POINT MARKED "1" ON PLAN, BEING S. 89 DEG. 23'W., 614.18 M. FROM D.B.M. NO. 17, ILIGAN CADASTRE; THENCE, N. 6 DEG. 47'E., 20.01 M. TO POINT 2; S. 80 DEG. 30'E., 30.00 M. TO POINT 3; S. 6 DEG. 43'W., 20.01 M. TO POINT 4; N. 83 DEG. 30'W., 30.00 M. TO POINT OF BEGINNING; CONTAINING AN AREA OF SIX HUNDRED (600) SQUARE METERS, MORE OR LESS. ALL POINTS REFERRED TO ARE INDICATED ON THE PLAN AND ARE MARKED ON THE GROUND BY AS FOLLOWS: POINT 3 BY OLD B.L. AND THE REST ARE P.S. CYL. CONC. MONS. 15 X 60 CM., BEARINGS TRUE; DATE OF ORIGINAL SURVEY, SEPT. 8, 1949-JUNE 30, 1955 AND THAT OF THE SUBDIVISION SURVEY, SEPT. 8, 1970. (SGD) F. S. ARAGON, GEODETIC ENGINEER.

201501-5190757



TCT No.: 155-2017000186
Page No.: 3

2015015190758

MEMORANDUM OF ENCUMBRANCES

Entry No.: 2017000392

Date: February 20, 2017 02:34:17PM

LIABILITIES UNDER SECTION 4 RULE 74 : TO CREDITORS, HEIRS, AND OTHER PERSONS UNLAWFULLY DEPRIVED OF PARTICIPATION IN THE ESTATE OF THE DECEASED FELICISIMO GALARDO CHANYEE AS EXTRAJUDICIALLY SETTLED FOR A PERIOD OF TWO (2) YEARS PURSUANT TO SECTION 4 RULE 74 OF THE RULES OF COURT. DATE OF INSTRUMENT: DECEMBER 1, 2016

Am. Mila Cuevas
M. Mila Cuevas
Register of Deeds



SN No. 465376

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY

REGISTRY OF DEEDS FOR THE ILIGAN CITY

Transfer Certificate of Title

No. T-38,975 (a.f.)

IT IS HEREBY CERTIFIED that certain land situated in the Bo. of Santiago, Iligan City more particularly bounded and described as follows:
Beginning at a point marked "1" of lot 1200 of the Cadastral Survey of Iligan, being S. 87-00 W., 557.75 m. from DEM 17, Cad. 292; T H E N C E -
E. 79-09 W., 29.23 m. to point 2; N. 6-43 E., 32.39 m. to point 3;
N. 83-30 W., 38.54 m. to point 4; N. 12-39 E., 2.51 m. to point 5;
N. 6-03 E., 67.09 m. to point 6; S. 71-48 E., 13.96 m. to point 7;
S. 68-55 E., 37.96 m. to point 8; S. 6-28 E., 52.97 m. to point 9;
N. 88-07 E., 56.78 m. to point 10; S. 7-07 W., 154.09 m. to point 11;
is registered in accordance with the provisions of section 103 of the Property Registration Decree (P.D. 100) under the name of *MINDANAO STATE UNIVERSITY-ILIGAN INSTITUTE OF TECHNOLOGY (MSU-IIT)
Iligan City.

subject to the provisions of the said Property Registration Decree and the Public Land Act, as well as to those of the Mining Laws, if the land is mineral, and subject, further, to such conditions contained in the original title as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 5th day of April, in the year nineteen hundred and fifty-seven, in Registration Book No. 1, page 47, of the Office of the Register of Deeds of Iligan City, as Original Certificate of Title No. RD-218(925) pursuant to a patent in the name of , granted by the President of the Philippines, on the 23rd day of May, in the year nineteen hundred and fifty-six, under Act No. 141 (COMMONWEALTH).

This certificate is a transfer from Transfer Certificate of Title No. T-13,579 (a.f.), which is cancelled by virtue hereof in so far as the above described land is concerned.



Iligan City

(Owner's Postal Address)

Entered at the City of Iligan
Philippines, on the 17th day of July
in the year nineteen hundred and ninety-two
at 10 p.m.

REYNALDO M. BAQUEDO
(Register of Deeds)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No.

CONTINUATION OF TECHNICAL DESCRIPTION

N. 68-17 W., 58.92 m. to point 12; N. 18-40 E., 93.60 m. to point 1; point of beginning. Containing an area of TEN THOUSAND SEVEN HUNDRED AND SIXTY EIGHT (10,768) SQUARE METERS. All points are marked on the ground by HL Cyl. Cono. Mon. Bounded on S., along line 1-2, by Lot 1196, Cad. 292; along line 2-4 by Lot 1199, Cad. 292; along line 4-6, by Lot 1201, Cad. 292; along line 6-7, by Lot 1202, Cad. 292; along line 7-11, by Lot 1183, Cad. 292; along line 11-12, by Lot 4209, Cad. 292; along line 12-1 by Lot 1196, Cad. 292.
Bearings true.

NOTE: This Lot is covered by PRA-17-267.


REYNALDO M. BAGUTIO
Register of Deeds

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet , Page -)

.....
Register of Deeds

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No.

CONTINUATION OF TECH DESCRIPTION

the NW., along line 1-2 by Lot 2624 of Cad-292; along line 2-3, by Cenaway Creek; along line 3-4, by Lot 1202 of Cad-292; along line 4-5, by Lot 1203 of Cad-292; and along line 5-1, by Lot 1199 of Cad-292. Bearings true;

[Signature]
PAUL L. SUAN
Acting Register of Deeds
3rd Asst. City Fiscal

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet , Page -)

GS 5000

.....
Register of Deeds

SN N° 4835510

REPUBLIC OF THE PHILIPPINES
MINISTRY OF JUSTICE

Land Registration Commission
REGISTRY OF DEEDS FOR THE ILIGAN CITY

Transfer Certificate of Title

F.D. 2-26, 201 (a.f.)

IT IS HEREBY CERTIFIED that certain land situated in the Iligan City,

bounded and described as follows:

A parcel of land (Lot No. 1857, of the Cadastral Survey of Iligan, Cadastral Case No. N-4, L.R.C Cadastral Rec. No. N-267), with the improvement thereon, situated in City of Iligan. Bounded on the NE., S SW., pts. 2-4, by Lot No. 1349; on the S., points 4-7, by Lot No. 1330; on the SW., points 7-8, by Lot No. 1329; and on the NW., points 9-1 & 1-2, by Lot No. 1356. Beginning at a pt. marked "1" on plan, being S. 6 deg. 07' W., 685.57 m. from E.L.L.M. No 71g thence
N. 30 deg. 29' E., 58.59 m. to pt. 2; S. 41 deg. 02' E., 68.11 m. to point 3;
S. 32 deg. 22' W., 130.57 m. to pt. 4; N. 41 deg. 18' W., 48.19 m. to point 5;
S. 57 deg. 10' W., 13.79 m. to point 6; S. 75 deg. 24' W., 46.12 m. to point 7;
N. 17 deg. 15' W., 38.86 m. to pt. 8; N. 17 deg. 06' E., 29.59 m. to point 9;
N. 68 deg. 27' E., 97.29 m. to the point of beginning; containing an area of THIRTEEN THOUSAND AND NINETY NINE (13,099) SQUARE METERS, more or less. All points referred to are indicated on the plan & are marked on the ground; bearings true; date of the Cada. Survey, Sept. 8, 1949-June 30, 1955.
is registered in accordance with the provisions of the Land Registration Act in the name of *

NSU-ILIGAN INSTITUTE OF TECHNOLOGY

as owner thereof in fee simple, subject to such of the incumbrances mentioned in Section 33 of said Act as may be subsisting, and to

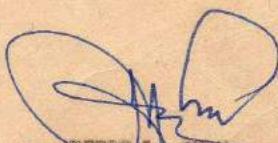
IT IS FURTHER CERTIFIED that said land was originally registered on the 5th day of June, in the year nineteen hundred and sixty-seven, in the Registration Book of the Office of the Register of Deeds of Iligan City, Volume 1, page 212, as Original Certificate of Title No. O-600(a.f.), pursuant to Decree No. N-115573, issued in L. R. C. Record No. N-267

This certificate is a transfer from Transfer Certificate of Title No. T-15633(a.f.), which is cancelled by virtue hereof in so far as the above-described land is concerned.



Entered at the City of Iligan, Philippines, on the 30th day of JANUARY, in the year nineteen hundred and eighty-five, at 3:05 p.m.

ATTEST:


REGISTRAR OF DEEDS
Register of Deeds
Acting
3rd Asst. City Fiscal

Tibanga, Iligan City
(Owner's postal address)

* State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

TCT No.: 155-T-26201(A.F.)

Page No.: 1

MEMORANDUM OF ENCUMBRANCES

2011001566

Entry No.: 2011001566

Date: October 17, 2011 1:24 pm

SECRETARY'S CERTIFICATE/ BOARD RESOLUTION : EXECUTED BY DATUMANONG A. SARANGANI ACTING SECRETARY OF MINDANAO STATE UNIVERSITY CERTIFYING AMONG OTHERS THAT UPON RECOMMENDATION OF THE PRESIDENT OF THE UNIVERSITY AND THE EXECUTIVE COMMITTEE OF THE BOARD OF REGENTS, AUTHORITY FOR MSU-IIT, REPRESENTED BY THE PRESIDENT OF THE MSU SYSTEM, TO EXECUTE A NEW DEED OF ABSOLUTE SALE FOR A PORTION OF ITS PROPERTY, MORE SPECIFICALLY LOT NO. 1857-A AT HINAPLANON, ILIGAN CITY, COVERING AN INCREASED AREA OF 287 SQ. METERS, INSTEAD OF THE ORIGINAL 226 SQ. METERS (WHICH WAS THE AREA AUTHORIZED UNDER BOR RES. NO. 181, SERIES OF 2009) TO THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS FOR THE CONSTRUCTION OF ILIGAN CITY'S CIRCUMFERENCE ROAD PROJECT (C-3), AS ENUNCIATED IN THE DEED OF ABSOLUTE SALE AND OTHER PERTINENT DOCUMENTS ATTACHED HERETO AND MARKED AS ANNEXES "CC" TO "CC-9" AND MADE INTEGRAL PART OF THIS RESOLUTION, IS HEREBY APPROVED.


Samrollah Mackno Dekire
Registrar of Deeds

Entry No.: 2011001567

Date: October 17, 2011 1:32 pm

SECRETARY'S CERTIFICATE/ BOARD RESOLUTION : EXECUTED BY MARIVEL FRANCES L. ONG OIC-DISTRICT ENGINEER CHAIRPERSON CERTIFYING AMONG OTHERS THAT A RESOLUTION RECOMMENDING THE ACQUISITION OF THE REAL PROPERTIES IN THE NAME OF MSU-ILIGAN INSTITUTE OF TECHNOLOGY REPESENTED BY MACAPADO A. MUSLIM, PRESIDENT LOCATED AT BRGY. HINAPLANON, ILIGAN CITY FOR THE CONSTRUCTION CIRCUMFERENCE ROAD THREE (C-3) PROJECT BY WAY OF NEGOTIATED SALE.


Samrollah Mackno Dekire
Registrar of Deeds

Entry No.: 2011001568

Date: October 17, 2011 1:37 pm

SALE : BIR - CERTIFICATE AUTHORIZING REGISTRATION

SERIAL NO.: 201000078978
DATE ISSUED: 2-25-2011
REVENUE DISTRICT NO.: 101
REVENUE DISTRICT OFFICER: JUDITH G. PACANA
TAXES PAID: PHP 21,625.00

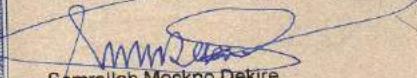


MEMORANDUM OF ENCUMBRANCES

2011002298524

SALE

EXECUTED BY MINDANAO STATE UNIVERSITY-ILIGAN INSTITUTE OF TECHNOLOGY (MSU-IIT) REPRESENTED BY MACAPADO A. MUSLIM, IN FAVOR OF THE REPUBLIC OF THE PHILIPPINES REPRESENTED BY MARIVEL FRANCES L. ONG , FOR THE SUM OF TWO HUNDRED EIGHTY SEVEN THOUSAND PESOS (PHP287,000.00). CONTAINING AN AREA OF 287 SQ. M, IN ACCORDANCE WITH DOC. NO 357, PAGE NO. 72, BOOK NO. 59, SERIES OF 2010, OF NOTARY PUBLIC OF ILIGAN CITY, ATTY. ROBERTO C. PADILLA, DATED DECEMBER 28, 2010. (ANNOTATION ONLY)


Samrollah Mackno Dekire
Registrar of Deeds



OWNER'S DUPLICATE CERTIFICATE

SN No. 022855 REPUBLIC OF THE PHILIPPINES
MINISTRY OF JUSTICE
NATIONAL LAND TITLES AND DEEDS REGISTRATION ADMINISTRATION
(Land Registration Commission)
REGISTRY OF DEEDS FOR THE ILIGAN CITY

Transfer Certificate of Title

No. 1-26542(a.s.f.)

IT IS HEREBY CERTIFIED that certain land situated in the Bo. of Tambi, City of Iligan more particularly bounded and described as follows:

A parcel of land Lot 1349-C, of the subd. plan (LRC)Pad-67753, being a portion of Lot 1349, of the cad. survey, of Iligan (P.W.54755), LRC (GLRC) Cad. Rec. No. N-2671 (Case No. N-4) situated in the Bo. of Tambi, City of Iligan, Island of Mindanao. Bounded on the E., pts. 2 to 5 by Lot 1349-B, of the subd. plan; on the E., pts. 5 to 7 by Lot 1350, of the Iligan, Cad. on the SW., pts 7 to 10 by Lot 1349-B, of the subd. plan; on the NW., & SW., pts. 10 to 1 & 1 to 2 by Lot 1357, of Iligan Cad. Beginning at a pt marked "1" on plan bearing S. 0 deg. 33' E is registered in accordance with the provisions of section 103 of the Property Registration Decree (over) the name of *

ILIGAN INSTITUTE OF TECHNOLOGY.

subject to the provisions of the said Property Registration Decree and the Public Land Act, as well as to those of the Mining Laws, if the land is mineral, and subject further, to such conditions contained in the original title as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 2nd day of August, in the year nineteen hundred and Sixty-six, in Registration Book No. 1, page 171, of the Office of the Register of Deeds of Iligan City, as Original Certificate of Title No. P-104(a.s.f.) pursuant to a Free patent, in the name of, granted by the President of the Philippines, on the March, day of 7th, in the year nineteen hundred and Fifty-six, under Act No. 141 (Commonwealth).

This certificate is a transfer from Transfer Certificate of Title No. 1-26721(a.s.f.) which is cancelled by virtue hereof in so far as the above described land is concerned.



Iligan City

(Owner's Postal Address)

Entered at the City of Iligan,
Philippines, on the 8th day of July,
in the year nineteen hundred and Sixty-five,
at 11:20 a.m.

PHEO G. SUM
Acting Register of Deeds
3rd Asst. City Fiscal

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

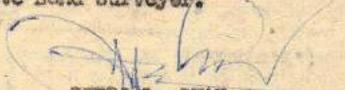
MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No.

CONTINUATION OF TECH DESCRIPTION

610.63 m. from DLM No. 71 Cad. 292 T H E N C E - - - - -
N. 41 deg. 02'W., 68.11 m. to pt 2; S. 86 deg. 05'E., 109.60 m. to pt 3;
S. 86 deg. 06'E., 10.60 m. to pt 4; S. 86 deg. 06'E., 66.30 m. to pt 5;
S. 8 deg. 01'E., 24.18 m. to pt 6; S. 7 deg. 52'E., 61.43 m. to pt 7;
N. 82 deg. 59'W., 81.66 m. to pt 8; N. 82 deg. 59'W., 16.05 m. to pt 9;
N. 83 deg. 01'W., 78.83 m. to pt 10; N. 32 deg. 22'E., 30.03 m. to pt of
beginning; containing an area of TWELVE THOUSAND NINE HUNDRED EIGHTY ONE (12,981)
SQUARE METERS, more or less. All pts referred to are indicated on the plan and
are marked on the ground as follows pts. 4, 2 and 6 by Old D.L. Cyl. Concrete Mon.
15x60 cm. and the rest by B.S. Concrete Mon. 15x60 cm. bearings true; dec. date of
the orig. survey March 13, 1951 and that of the subd. survey Dec. 13, 1966 and
January 7, 1967. (SGD) CRINTING MAGADAN Private Land Surveyor.


PEDRO L. SWAN
Acting Register of Deeds
3rd Asst. City Fiscal

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet , Page -)

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Register of Deeds

SN N° 4835514

REPUBLIC OF THE PHILIPPINES
MINISTRY OF JUSTICE

Land Registration Commission
REGISTRY OF DEEDS FOR THE
ILIGAN CITY

Transfer Certificate of Title

320. T-26,205(a.f.)

OWNER'S DUPLICATE CERTIFICATE

IT IS HEREBY CERTIFIED that certain land situated in the Barrio of Tambo, Iligan

bounded and described as follows:
A parcel of land (lot 1349-B, of the subdiv.plan (LRC) Psd-67753, being a portion
of lot 1349, of the cadastral survey of Iligan, (F.V.-54755), LRC (GLRS) Cad.Rec.No.
S. 267(Case No. N-4), situated in the Barrio of Tambo, City of Iligan, Is. of Min-
danna. Bounded on the NE., points 1 to 4 by Lot 1349-C, of the subdivision plan; on
the E., points 4 to 5 by lot 1350, of Iligan Cadastre, on the SW., pts. 5 to 8 by lot
1349-E, of the subdiv.plan; and on the NW., points 8 to 1 by lot 1857, of Iligan Cad.
Beginning at a pt. marked "1" on plan being S. 0 deg. 55'W., 635.44m. from BLIM No.
71 Cad. 292. the n.e.
S. 63 deg. 01'E., 78.83 m. to pt. 2; S. 82 deg. 59'E., 10.05 m. to pt. 3;
S. 82 deg. 59'E., 81.06 m. to pt. 4; S. 7 deg. 52'E., 93.78 m. to pt. 5;
N. 70 deg. 55'W., 102.50 m. to pt. 6; N. 70 deg. 55'W., 10.30 m. to pt. 7;
N. 70 deg. 54'W., 107.15 m. to pt. 8; N. 32 deg. 22'E., 49.31 m. to pt. of
beginning; containing an area of TWELVE THOUSAND NINE HUNDRED EIGHTY ONE (12,981)
SQUARE METERS, more or less. All points referred to are indicated on the plan (OVER)

is registered in accordance with the provisions of the Land Registration Act in the name of *

ILIGAN INSTITUTE OF TECHNOLOGY, an external unit of Mindanao State University
created under R.A. 5363.

as owner thereof in fee simple, subject to such of the incumbrances mentioned in Section 39
of said Act as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 2nd day
of August, in the year nineteen hundred and sixty-six, in the
Registration Book of the Office of the Register of Deeds of Iligan City, Volume 1,
page 171 as Original Certificate of Title No. P-124(a.f.) pursuant to Decree No. Free Patent
granted by the Pres. of the Phils. on the 7th day of March, in the year nineteen
hundred and fifty-six under Act No. 141 (Commonwealth)
Record No. ~~141~~ Record No. ~~141~~ This certificate is a transfer from transfer Certificate of Title No. T-11178(a.f.) which
is cancelled by virtue hereof in so far as the above-described land is concerned



Entered at the City of Iligan,
Philippines, on the 31st day of January
in the year nineteen hundred and eighty-five,
at 10:35 a.m.

ATTEST:

PENIN. SUAN
Register of Deeds
Acting
3rd Asst. City Fiscal

Tibanga, Iligan City
(Owner's postal address)

SM N° 4835509

REPUBLIC OF THE PHILIPPINES
MINISTRY OF JUSTICE

Land Registration Commission
REGISTRY OF DEEDS FOR THE
ILIGAN CITY

Transfer Certificate of Title

Lot No. T-26,200(a.f.)

IT IS HEREBY CERTIFIED that certain land situated in the Barrio of San Isidro,
City of Iligan bounded and described as follows:

Lot 1329, Cad-292

Beginning at a point marked "1" of Lot 1329, of the Cadastral Survey of Iligan, bearing S. 17-37' E., 746.08 m. from S.L.L.M. 17, Cad-2-2, thence e. . . .
S. 13-16' W., .45 m. to point 2; N. 71-43' W., 67.94 m. to point 3;
N. 41-25' E., 20.44 m. to point 4; N. 37-32' E., 98.78 m. to point 5;
S. 56-15' E., 13.99 m. to point 6; S. 56-17' E., 60.40 m. to point 7;
S. 17-06' W., 29.59 m. to point 8; S. 17-16' E., 38.36 m. to point 9;
S. 83-56' W., 74.18 m. to point 1, point of beginning. Containing an area of
NINE THOUSAND FIVE HUNDRED AND SEVENTY ONE (9,571) SQUARE METERS. All points are
marked on the ground by S.L. Cyl. Cone. Mons. Bounded on the S. along line 1-2 by
Lot 1330, Cad-292; along line 2-3 by Lot 1331, Cad-292; along lines 3-5 by Road; along
line 5-6 by Lot 1252, Cad-292; along line 6-7 by Lot 1856, Cad-292; along lines 7-
9 by Lot 1257, Cad-292; and along line 9-1 by Lot 1330, Cad-292, Bearings true.
NOTE: This lot is covered by PPA-173658.

is registered in accordance with the provisions of the Land Registration Act in the name of *

MSU-ILIGAN INSTITUTE OF TECHNOLOGY

as owner thereof in fee simple, subject to such of the incumbrances mentioned in Section 39
of said Act as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 24th day
of December, in the year nineteen hundred and Fifty-Eight, in the
Registration Book of the Office of the Register of Deeds of Iligan City, Volume 1,
page P-164(a.f.), pursuant to Deed of Free Patent
Granted by the Pres. of the Phils. on the 15th day of November, in the year
nineteen hundred and Fifty-Seven under Act No. 111 (Commonwealth). Record No.
This certificate is a transfer from transfer Certificate of Title No. 15932(a.f.), which
is cancelled by virtue hereof in so far as the above-described land is concerned



Entered at the City of Iligan,
Philippines, on the 30th day of January,
in the year nineteen hundred and eighty-five,
at 3:05 p.m.

ATTEST:

PEDRO M. JUAN
Acting Register of Deeds
3rd Asst. City Fiscal

Tibanga, Iligan City
(Owner's postal address)

* State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

2015015190756

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY
Registry of Deeds for Iligan City

Transfer Certificate of Title

OWNER'S DUPLICATE • OWNER'S DUPLICATE • OWNER'S DUPLICATE • OWNER'S DUPLICATE • OWNER'S DUPLICATE

No. 155-2017000186

IT IS HEREBY CERTIFIED that certain land situated in 'BARRIO OF CANAWAY, CITY OF ILIGAN, ISLAND OF MINDANAO, bounded and described as follows:

A PARCEL OF LAND (LOT 1199-A, OF THE SUBDIVISION PLAN (LRC) PSD-129117, BEING A PORTION OF LOT 1199, ILIGAN CADASTRE LRC CAD. RECORD NO. N-267), SITUATED IN THE BARRIO OF CANAWAY, CITY OF ILIGAN, ISLAND OF MINDANAO. BOUNDED ON THE N., AND E., ALONG LINE 2-3 AND 3-4 BY LOT (Continued on next page)

is registered in accordance with the provision of the Property Registration Decree in the name of

Owner: MINDANAO STATE UNIVERSITY-ILIGAN INSTITUTE OF TECHNOLOGY
Address: ANDRES BONIFACIO AVENUE, TIBANGA, ILIGAN CITY

as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting.

IT IS FURTHER CERTIFIED that said land was originally registered as follows:

Case No.:	Record No.: N-267
Orig. Reg. Date: 09 07 1970	Decree No.: N-131163
Original RD : ILIGAN CITY	OCT No.: OCT-O-784 A.F.
Volume No.: II	Page No.: 91
Original Owner:	

This certificate is a transfer from TRANSFER CERTIFICATE OF TITLE T-31055(A.F.) (TOTALLY CANCELLED) by virtue hereof/in so far as the above-described land is concerned.

Entered at Iligan City, Philippines on the 20th day of FEBRUARY 2017 at 02:34pm.

[Signature]
Atty. Merlech Mila Cuevas
Register of Deeds



TCT No.: 155-2017000186

Page No.: 2

20150150757

TECHNICAL DESCRIPTION *(Continued from page 1)*

1200, ILIGAN CADASTRE; ON THE S., ALONG LINE 4-1 BY LOT 1199-C; ON THE W., ALONG LINE 1-2 BY LOT 1199-B, ALL OF THE SUBDIVISION PLAN. BEGINNING AT A POINT MARKED "1" ON PLAN, BEING S. 89 DEG. 23'W., 614.18 M. FROM D.B.M. NO. 17, ILIGAN CADASTRE; THENCE. N. 6 DEG. 47'E., 20.01 M. TO POINT 2; S. 80 DEG. 30'E., 30.00 M. TO POINT 3; S. 6 DEG. 43'W., 20.01 M. TO POINT 4; N. 83 DEG. 30'W., 30.00 M. TO POINT OF BEGINNING; CONTAINING AN AREA OF SIX HUNDRED (600) SQUARE METERS, MORE OR LESS. ALL POINTS REFERRED TO ARE INDICATED ON THE PLAN AND ARE MARKED ON THE GROUND BY AS FOLLOWS: POINT 3 BY OLD B.L. AND THE REST ARE P.S. CYL. CONC. MONS. 15 X 60 CM., BEARINGS TRUE; DATE OF ORIGINAL SURVEY, SEPT. 8, 1949-JUNE 30, 1955 AND THAT OF THE SUBDIVISION SURVEY, SEPT. 5, 1970. (SGD) F. S. ARAGON, GEODETIC ENGINEER.



TCT No.: 155-2017000186

Page No.: 3

2015015190754

MEMORANDUM OF ENCUMBRANCES

Entry No.: 2017000392

Date: February 20, 2017 02:34:17PM

LIABILITIES UNDER SECTION 4 RULE 74 : TO CREDITORS, HEIRS, AND OTHER PERSONS UNLAWFULLY DEPRIVED OF PARTICIPATION IN THE ESTATE OF THE DECEASED FELICISIMO GALARDO CHANYEE AS EXTRAJUDICIALLY SETTLED FOR A PERIOD OF TWO (2) YEARS PURSUANT TO SECTION 4 RULE 74 OF THE RULES OF COURT. DATE OF INSTRUMENT: DECEMBER 1, 2016

Am. Gerlich Mila Cuevas
Mcy. Gerlich Mila Cuevas
Register of Deeds



Barcode:
* 8 5 0 7 5 0 9 0 1 1 5 5 1 0 0 2 *

1.8 Request for Zoning Reclassification and Certification of MSU-IIT Land Holdings in Barangays Tibanga, Hinaplanon, and Fuentes

OFFICE OF
INSTITUTIONAL PLANNING AND DEVELOPMENT SERVICES

www.msu-iit.edu.ph



ivcpd.ipdsc@gs.msu-iit.edu.ph

May 2, 2024

EnP. Venerando O. Bordeos
Head, City Planning and Development Office
Iligan City

SUBJECT: Request for Zoning Reclassification and Certification of MSU-IIT Land Holdings
in Barangays Tibanga, Hinaplanon, and Fuentes

Dear Mr. Bordeos,

MSU-IIT is currently completing the requirement that will be appended to the Land Use Development and Infrastructure Plan of the university and will be submitted to the Commission of Higher Education Region XII.

In view of this, we would like to request that your Office provide us with the **updated zoning certification for MSU-IIT land holdings in Barangay Tibanga, Barangay Hinaplanon, and Barangay Fuentes** reflecting the following:

1. Inclusion of the acquired property at Barangay Canaway as part of Tibanga Main Campus; and

MSU-IIT Land Holding	Zoning Description
Lot 1199-A TCT No. 155-2017000186	General Institutional Zone

2. Zoning reclassification of the following landholdings:

MSU-IIT Land Holding	From	To
Barangay Hinaplanon		
Lot 1329 TCT No. T-26,200 (a.f.)	General Commercial Zone	General Institutional and Commercial Zone
Lot 1349-C TCT No. T-2684-2 (a.f.)	General Residential Zone	General Institutional Zone
Lot 1349-D TCT No. T-26,205 (a.f.)	General Residential Zone	General Institutional Zone
Barangay Fuentes (Maria Cristina)		
Lot 1-A-1 Tax Declaration No. 18-0023-01088	Light Industrial Zone	General Institutional Zone
Lot 2-A-1 Tax Declaration No. 18-0023-00055	Municipal Water Zone	General Institutional Zone
Lot 2-A-2 Tax Declaration No. 18-0023-00055	Municipal Water Zone	General Institutional Zone

(063) 222-5553 | (loc) 4159

Influencing the Future

CPDO RECEIVED

• Helmin
5-3-24 TIME 10:45 AM

**OFFICE OF
INSTITUTIONAL PLANNING AND DEVELOPMENT SERVICES**

oipd.pdsd@g.msuit.edu.ph

www.msuit.edu.ph



Respectfully attached herewith are the map indicating the location of MSU-IIT land holdings and supporting documents for your reference.

Your support and cooperation is highly appreciated.

Sincerely yours,


MOH'D ASRIN A. TABAO, J.D., REB, REA
Director

(563) 222-5853 | (66) 4-69

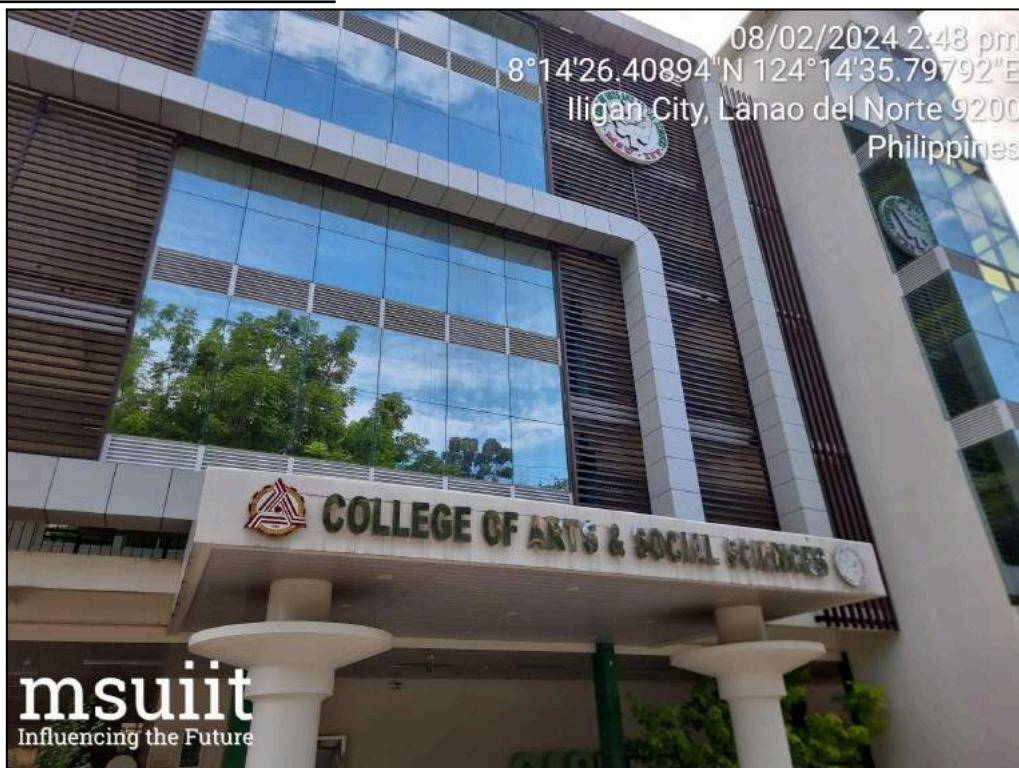
Influencing the Future

PH

ANNEX 2

2.1 Existing Academic Buildings by College

College of Arts and Social Sciences



College of Computer Studies



College of Economics, Business, and Accountancy



College of Education



College of Engineering



College of Science and Mathematics



College of Health Sciences



MSU-IIT Integrated Developmental School



2.2 Existing Residential Buildings

University Residences (Graduate Dormitory)



Executive House



University Hostel



2.3 Existing Administrative Buildings

Administration Building



Office of the Chancellor



Office of the Vice Chancellor for Strategic Initiatives (OVC for Planning and Development)

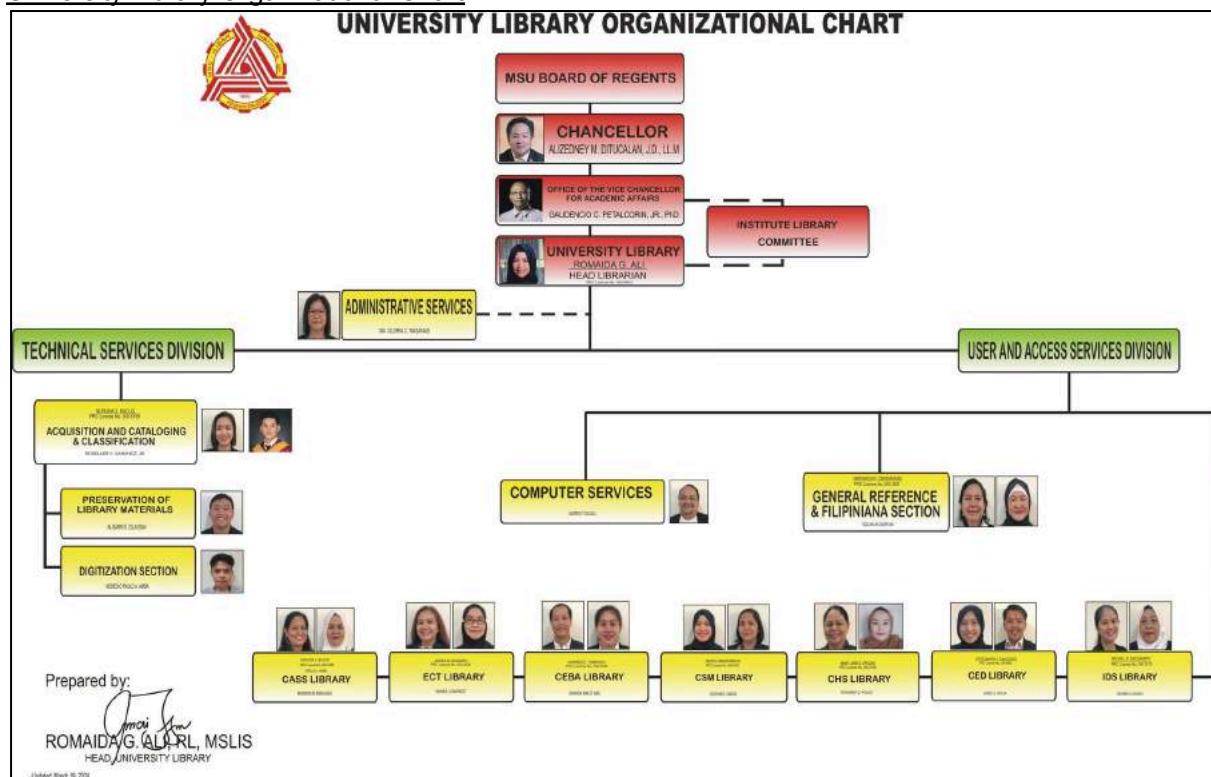


2.4 Support Services Buildings

University Library



University Library Organizational Chart



University Clinic



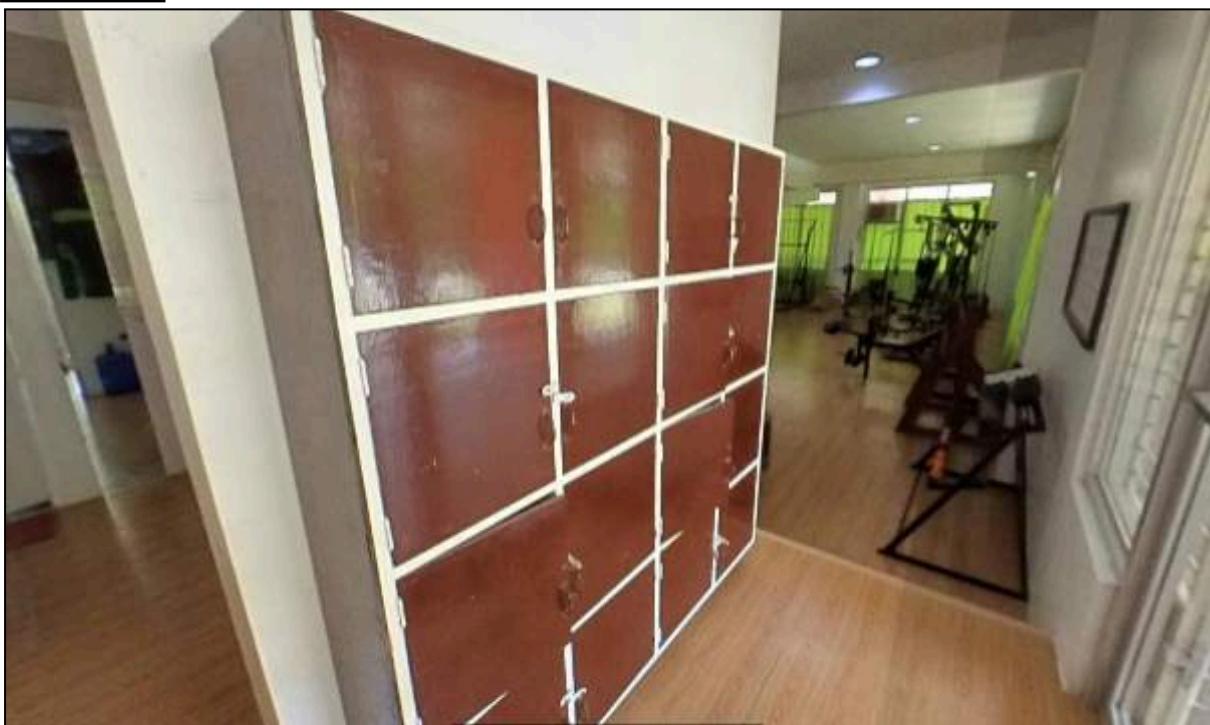
University Gymnasium



Volleyball Court



Fitness Room



Sepak Takraw Court



University Park (Open Spaces)



2.5 Revised Campus Building Identifier Scheme at MSU-IIT Tibanga and Hinaplanon campuses



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OFFICE OF THE UNIVERSITY CHANCELLOR
MINDANAO STATE UNIVERSITY - ILIGAN INSTITUTE OF TECHNOLOGY

Influencing the Future

May 24, 2024

MEMORANDUM

TO: All MSU-IIT Constituents
This University

SUBJECT: Revised Campus Building Identifier Scheme

In compliance with the Land Use Development and Infrastructure Plan (LUDIP), the following are the revised identification numbers of the buildings in MSU-IIT Tibanga and Hinaplanon campuses:

MSU-IIT Tibanga

Building Number	Building Name
1	ADMINISTRATION BUILDING
2	OFFICE OF THE CHANCELLOR
3	OFFICE OF COMMUNICATIONS
4	STUDENT SERVICES HUB
5-A	OFFICE OF THE VICE CHANCELLOR FOR STRATEGIC INITIATIVES (OVCSI) / REGISTRAR
5-B	OFFICE OF THE VICE CHANCELLOR FOR INTERNATIONAL AFFAIRS (OVCIA) / LEGAL OFFICE
6	MAIN LIBRARY BUILDING
7-A	MSU-IIT CENTER FOR RESILIENCY (MCR)/ SECURITY AND INVESTIGATION DIVISION (SID) BUILDING
7-B	MULTIPURPOSE HALL
8	KNOWLEDGE AND TECHNOLOGY TRANSFER OFFICE (KTTO) BUILDING
9	SECURITY SATELLITE OFFICE/ JANITORIAL SERVICES
10	UNIVERSITY INFIRMARY
11	MiCEL BUILDING
12	COLLEGE OF COMPUTER STUDIES (CCS) BUILDING
13	CERAMICS LABORATORY
14-A	COLLEGE OF SCIENCE AND MATHEMATICS (CSM) MAIN BUILDING
14-B	COLLEGE OF SCIENCE AND MATHEMATICS (CSM) ANNEX
15	DEPARTMENT OF HEALTH AND SCIENCE (DHS) LAB
16	SCHOOL OF ENGINEERING TECHNOLOGY (SET) - OLD BUILDING COMPLEX



17	KASAMA OFFICE
18-A	INTEGRATED DEVELOPMENTAL SCHOOL (IDS) PRINCIPAL'S OFFICE AND CLASSROOMS
18-B	INTEGRATED DEVELOPMENTAL SCHOOL (IDS) FACULTY BUILDING
18-C	INTEGRATED DEVELOPMENTAL SCHOOL (IDS) HIGH SCHOOL LABORATORY BUILDING
18-D	INTEGRATED DEVELOPMENTAL SCHOOL (IDS) HIGH SCHOOL SCIENCE BUILDING
19-A	COLLEGE OF ARTS AND SOCIAL STUDIES (CASS) OLD BUILDING
19-B	COLLEGE OF ARTS AND SOCIAL STUDIES (CASS) NEW ACADEMIC BUILDING
20	ASSOCIATION OF MSU-IIT MUSLIM EMPLOYEES (AMMEI) BUILDING
21-A	COLLEGE OF ECONOMICS, BUSINESS AND ACCOUNTANCY (CEBA) BUILDING
21-B	COLLEGE OF ECONOMICS, BUSINESS AND ACCOUNTANCY (CEBA) LIBRARY/ CLASSROOM BUILDING
22	TECHNOLOGY BUSINESS INCUBATOR BUILDING
23	ENGINEERING TECHNOLOGY COMPLEX (ETC) BUILDING
24	AUTOMOTIVE LABORATORY
25-A	COLLEGE OF ENGINEERING (COE) MAIN BUILDING
25-B	COLLEGE OF ENGINEERING (COE) RIGHT-WING
25-C	COLLEGE OF ENGINEERING (COE) LEFT-WING
26	MSU-IIT GYMNASIUM
27	MSU-IIT AUDITORIUM (ONGOING)
28	INFRASTRUCTURE SERVICES DIVISION (ISD) BUILDING
29	SUPPLY AND PROPERTY MANAGEMENT DIVISION (SPMD) BUILDING
30-A	COLLEGE OF EDUCATION (CED) MAIN BUILDING
30-B	COLLEGE OF EDUCATION(CED) P.E. BUILDING
31	UNIVERSITY RESIDENCES
32	PRISM BUILDING
33	EXECUTIVE HOUSE
34	BAHAY ALUMNI BUILDING
35	INSTITUTE FOR PEACE AND DEVELOPMENT IN MINDANAO BUILDING (IPDM)
36	SEWERAGE TREATMENT PLANT



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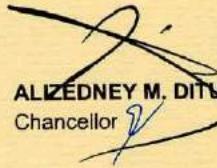
OFFICE OF THE UNIVERSITY CHANCELLOR
MINDANAO STATE UNIVERSITY - ILIGAN INSTITUTE OF TECHNOLOGY

Influencing the Future

HINAPLANON CAMPUS ANNEX

Building Number	Building Name
H-1	MOTORPOOL
H-2	COMMON SERVICES FACILITY BUILDING
H-3	COLLEGE OF EDUCATION-INTEGRATED DEVELOPMENTAL SCHOOL (CED-IDS) MPH (MRF)
H-4	COLLEGE OF EDUCATION-INTEGRATED DEVELOPMENTAL SCHOOL (CED-IDS) BUILDING 1
H-5	COLLEGE OF EDUCATION-INTEGRATED DEVELOPMENTAL SCHOOL (CED-IDS) BUILDING 2

For your information and guidance.


ALIZEDNEY M. DITUCALAN
Chancellor

2.6 Implementation of Campus Parking Plan (MO No. 2024-00052-OC)



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OFFICE OF THE UNIVERSITY CHANCELLOR
MINDANAO STATE UNIVERSITY - ILIGAN INSTITUTE OF TECHNOLOGY

Influencing the Future

January 25, 2024

MEMORANDUM ORDER
No. 2024 00052 -OC

SUBJECT: **Implementation of Campus Parking Plan**

To provide safe, convenient, and organized spaces for parking inside the campus, the campus parking plan of MSU-IIT is implemented.

All campus constituents shall follow the **University Parking Map** which is attached as **Annex A to Annex A-3**, and made an integral part of this Order.

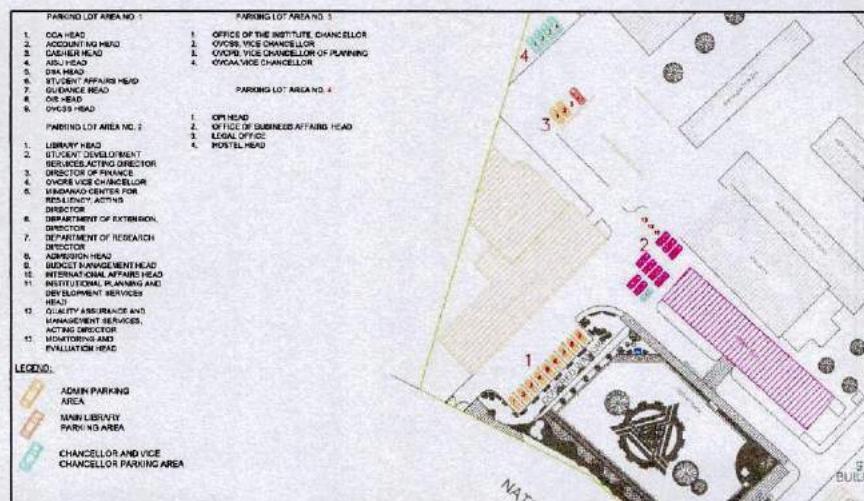
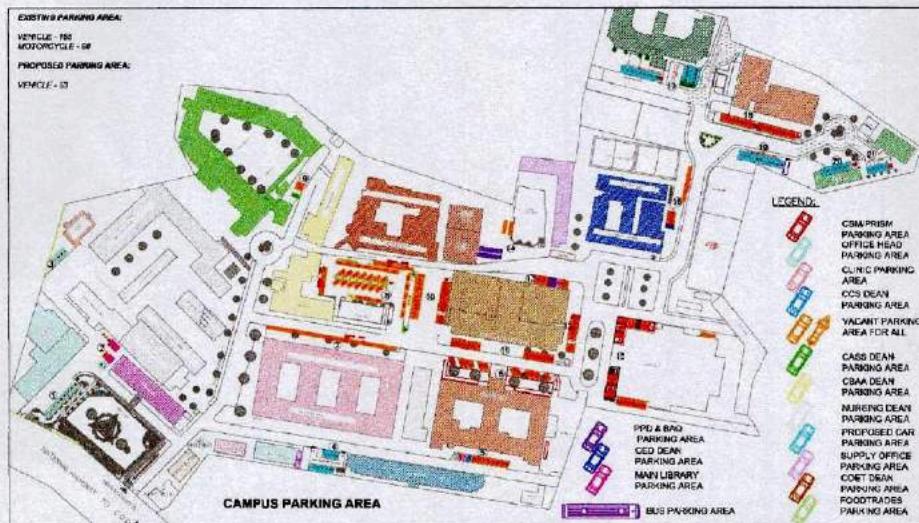
Guards on duty and SID personnel shall immediately assist and give directions to the drivers inside the campus to help them find their designated parking areas.

This Order takes effect immediately, and shall remain in force, unless revoked by competent authority.

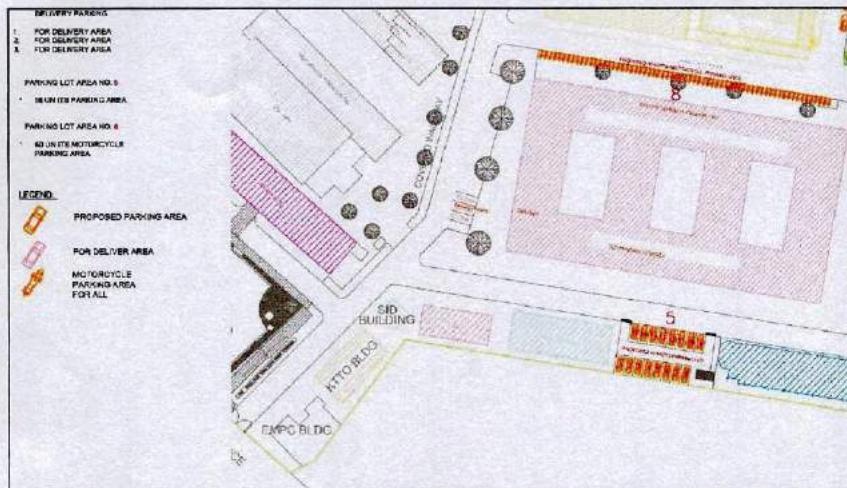
ALIZEDNEY M. DITUCALAN
Chancellor



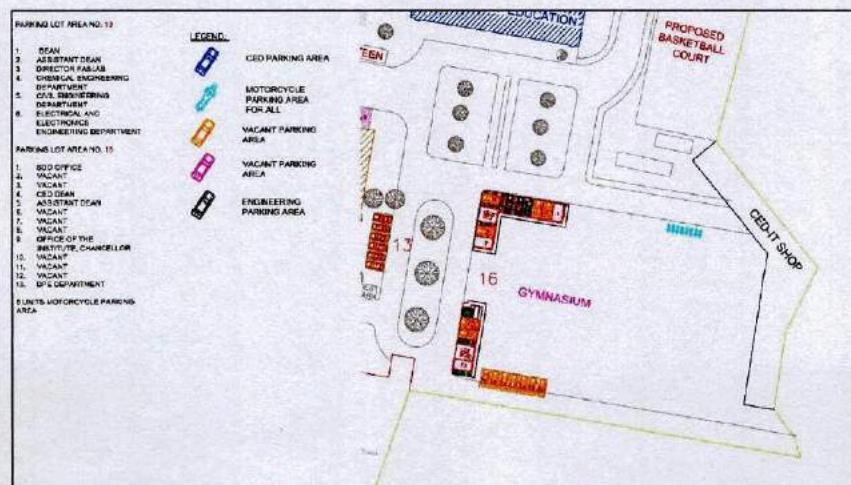
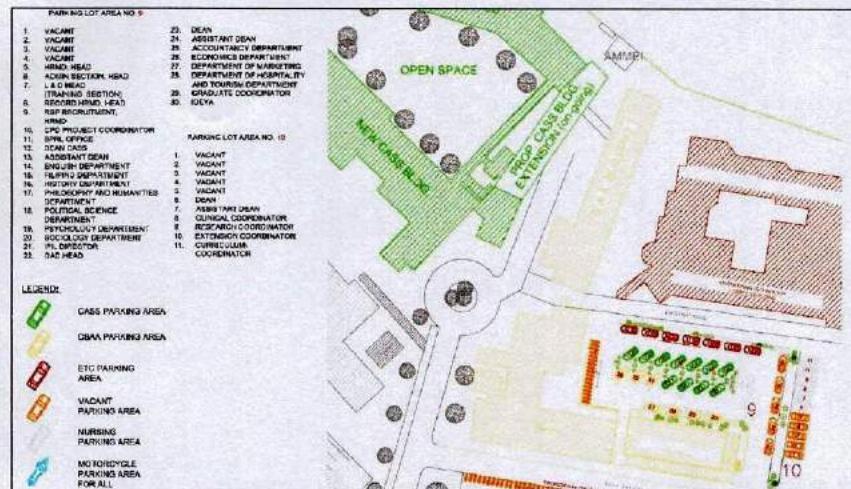
Annex A



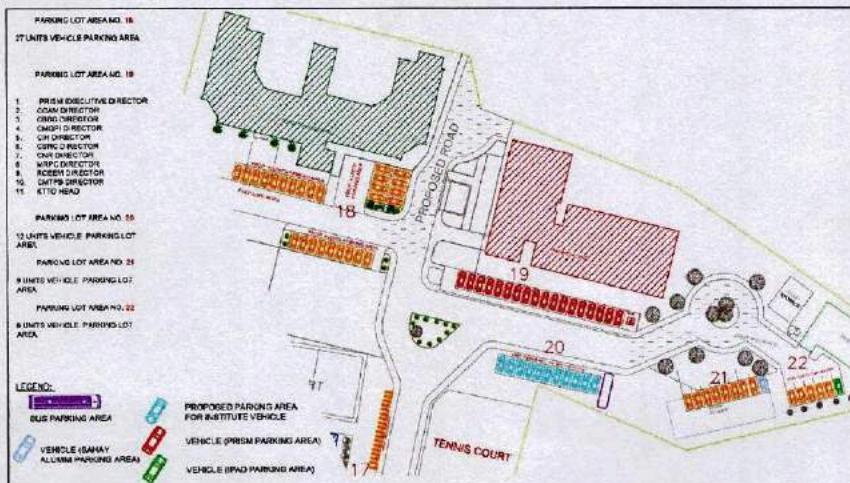
Annex A-1



Annex A-2



Annex A-3



ANNEX 3

Resetting of Speed Limit within Campus (MO No. 2022-00031-OC)



REPUBLIC OF THE PHILIPPINES

**Mindanao State University
Iligan Institute of Technology**

Iligan Address:

A. Bonifacio Avenue, Iligan City
Telefax - (063) 221-4056 (DL)
(063) 492-1173 (Globe)
(063) 221-4050-55 (TL)

Manila Address:

MSU-IIT MANILA INFORMATION & LIASON OFFICE
12th Floor G.E. Antonino Bldg.
T.M. Kalaw Ave. Cor. J. Bonifacio St. Ermita, Manila
Tel: 527-5595

January 27, 2022

**MEMORANDUM ORDER
No. 2022 00031 - OC**

SUBJECT: Resetting of Speed Limit within Campus

As it is to the interest of MSU-IIT constituents that campus roads are safe, and without exceeding the limits prescribed by Republic Act No. 4136 (Land Transportation and Traffic Code), the maximum permitted speed at which vehicles may travel within the campus is hereby re-set to **20 kph**.

By virtue of this adjustment, all speed limit signs within the campus should be changed accordingly.

This Order takes effect immediately, and remains in force, unless revoked by competent authority.

A handwritten signature in black ink, appearing to read "Sukarno D. Tanggol".
SUKARNO D. TANGGOL
Chancellor

Republic of the Philippines
MINDANAO STATE UNIVERSITY
Marawi City

OFFICE OF THE SECRETARY OF THE UNIVERSITY
AND OF THE BOARD OF REGENTS

EXCERPTS FROM THE MINUTES OF THE 266TH MEETING OF THE BOARD OF REGENTS
HELD ON APRIL 23, 2024 AT CHED EXECUTIVE LOUNGE, HEDC BUILDING, C.P.
GARCIA AVENUE, DILIMAN, QUEZON CITY

=====

X-X-X

X-X-X

"RESOLUTION NO. 68, S. 2024"

RESOLVED, that upon the recommendation of the President of the Mindanao State University and the Executive Committee of the Board of Regents, the Revised LUDIP of MSU-Iligan Institute of Technology, with supporting documents attached hereto as Annex "PP" (under separate cover), and made integral parts of this resolution, is APPROVED.

APPROVED"

X-X-X

X-X-X

X-X-X

CERTIFIED TRUE AND CORRECT:


ATTY. SHIDIK T. ABANTAS, MDM
Secretary of the University
and of the Board of Regents

STA:rif
03 May 2024
(Not valid without seal)

SPECIAL ORDER ON THE RECONSTITUTION OF THE TECHNICAL WORKING GROUP FOR THE MSU-IIT LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN (SO No. 00437-IIT, S. 2024)



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OFFICE OF THE UNIVERSITY CHANCELLOR
MINDANAO STATE UNIVERSITY - ILIGAN INSTITUTE OF TECHNOLOGY

Influencing the Future

February 12, 2024

SPECIAL ORDER
No. 00437-IIT
Series of 2024

SUBJECT: Reconstitution of the Technical Working Group for the MSU-IIT Land Use Development and Infrastructure Plan

The Technical Working Group for the MSU-IIT Land Use Development and Infrastructure Plan is reconstituted, to be composed of the following:

Technical Working Group

Prof. Pamela F. Resurreccion	- Vice Chancellor for Strategic Initiatives
Prof. Gaudencio C. Petalcorin Jr.	- Vice Chancellor for Academic Affairs
Atty. Yaslani B. Bantua	- Vice Chancellor for Administration and Finance
Prof. Ephrime B. Metillo	- Vice Chancellor for Research and Enterprise
Prof. Nancy Q. Echavez	- Vice Chancellor for Public Affairs
Prof. Rohane M. Derogongan	- Vice Chancellor for Student Services
Prof. Joey Genevieve T. Martinez	- Vice Chancellor for International Affairs

The TWG is responsible for the final form of the Land Use Development and Infrastructure Plan, following good governance, transparency, accountability, and participatory decision-making policies, and for submitting such to the Chancellor for final review.

Secretariat of the TWG

Mr. Melgie A. Alas	- Director, Office of Monitoring and Evaluation
Mr. Moh'd Asrin A. Tabao	- Director, Office of Institutional Planning and Development Services (OIPDS)
Engr. Racida D. Abdulla	- Planning Officer III, OIPDS
Ar. Norman J. Gamolo	- Project Development Officer II, OIPDS
Ms. Ayra Carima L. Agakhan	- Project Development Officer I, OIPDS
Ms. Norhanie R. Dimalutang	- Planning Officer I, OIPDS
Mr. Ian S. Rubio	- Draftsman III, OIPDS

The TWG Secretariat shall have the following functions and responsibilities:

1. Review the LUDIP and act as the overall secretariat of the TWG;
2. Facilitate workshop and consultation and make necessary arrangements for the conduct of such activities; and
3. Provide necessary supervisory and coordination functions over the different teams formed.

Sub-technical Committees

A. Campus Land Use Plan Sub-technical Committee

Chairperson:	Assoc. Prof. Elizabeth Edan M. Albiento
Vice-Chairperson:	Ar. Marijo Pagente-Tamoso

The Campus Land Use Plan refers to the planning and policy document that sets the long-term spatial objectives and goals to improve and optimally utilize land assets as well as the land use policies to achieve the vision of the SUC. The following, but not limited to, shall be included in the formulation of a campus land use plan:

- a. Planning and design considerations;
- b. Land use budget (land demand and land supply);
- c. Land use strategy and space allocation;
- d. Circulation network and traffic management scheme;



- e. Open and green space network; and
- f. Land use policies.

Therefore, the committee provides the forecasted allocations of land for the campus' academic requirements. It shall also determine the campus demand for infrastructure and services such as housing for its constituents (students, faculty, and staff), as well as economic and social facilities in support of its academic activities.

B. Campus Master Development Plan and Investment Program

Chairperson:

Prof. Pamela F. Resurreccion

Vice-Chairpersons:

Social Development	Asst. Prof. Phyllis Marie Teanco
Economic Development	Assoc. Prof. Safa D. Manala-o
Roads and Transportation Development	Asst. Prof. Cheery Mae S. Florendo
Infrastructure and Utilities Development	Assoc. Prof. Joel G. Opon
Environmental Management	Prof. Peter D. Suson
Investment Plan	Ms. Kristela Diana May R. Dela Rama, CPA
Institutional Development Plan	Prof. Pamela F. Resurreccion

Members:

Roads and Transportation Development	Engr. Rodelito E. Dela Cruz
Infrastructure and Utilities Development	Engr. Madeleine P. Catane
	Engr. Racida D. Sabdullah
	Ar. Norman J. Gamolo
	Engr. Jeralph B. Patayon
Environmental Management	Prof. Corazon V. Ligaray
Investment Plan	Ms. Amera Nizran M. Marsangca, CPA

The **Campus Master Development Plan and Investment Program** refers to the planning document which specifies the sectoral goals, objectives, strategies, future programs, projects and activities to support the implementation of the Campus Land Use Plan. It includes a definition of the development phasing incorporating the estimation of the development costs in the form of an Investment Plan. It shall be comprised of the following component framework plans: a) social development, b) economic development, c) roads and transportation development, d) infrastructure and utilities development, e) environmental management, f) institutional development, and g) investment plan, with the following functions and responsibilities:

- a. **Social Development** specifies proposals for the provision of the education, health, housing, protective, sports and recreation, and disaster management services to the student population, faculty members, employees, and other campus residents.
- b. **Economic Development Plan** specifies proposals for commercial, industrial, agricultural, fishery, agroforestry, forestry, and tourism activities to optimize the economic and revenue growth potential of the SUC campus.
- c. **Roads and Transportation Development** covers the aspects of road and bridge proposals and upgrading, including port development (where applicable), and traffic management to facilitate ingress and egress.
- d. **Infrastructure and Utilities Development Plan** specifies proposals for academic health, housing, office, power and water supply, drainage and sewage, solid waste treatment, agricultural, tourist and visitor accommodation, and other general and special use facilities.
- e. **Environmental Management Plan** specifies proposals for the protection of the environment to ensure sustainability of the various on-campus development initiatives will be contained in this plan. Programs that will protect and conserve ecologically sensitive ecosystems within the campus will be specified. Measures to ensure good air and water quality will also be defined in this plan.



- f. **Institutional Development Plan** specified the key areas of institutional capability building requiring improvement to meet the cohesive and efficient LUDIP implementation requirements.
- g. **Investment Plan/ Program** defines the development cost to support the implementation of the LUDIP. It will include an Indicative Financing Plan presenting the total development cost and specifying the cost breakdown of each component project. Priorities will be defined by phases, including project preparation (e.g. follow-up consultancy studies), and short term, medium-term, and long-term action.

C. Site Development Plan

Chairperson:

Engr. Rodelito E. Dela Cruz

Vice-Chairperson:

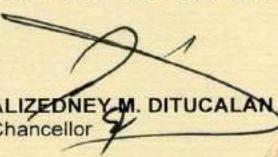
Asst. Prof. Florife D. Liwanag

The **Site Development Plan** refers to the general layout and configuration of a site including existing and proposed structures, parking and street layout, conceptual landscaping and lighting, site cross section drawings, and building elevations, among others. It also includes space programming based on the envisioned direction of development.

The creation of TWG for MSU-IIT LUDIP is in compliance with Section 7.1 of the Implementing Rules and Regulation of Republic Act No. 11396, otherwise known as the SUCs Land Use Development and Infrastructure Plan (LUDIP) Act.

Moreover, the travel, training, and representation expenses for the operation of the TWG, TWG Secretariat, and its sub-technical committees shall be charged against **OVCSI Funds**, subject to the usual accounting and auditing rules and regulations.

This Order takes effect immediately, and revokes Special Order Nos. 00330-IIT, Series of 2021 and 002205-IIT, Series of 2022.


ALIZEDNEY M. DITUCALEN
Chancellor



MSU-IIT LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN ACTIVITIES
For the Period 2022 to 2024

Activity	Date	Venue	Participants
LUDIP Training by UP School of Urban and Regional Planning	November 22, 2022	Conference Room, OVC for Planning and Development (OVC for Strategic Initiatives)	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team) and Sub-Technical Committees
Orientation on Modules 1 and 2 UP-SURB LUDIP Training	November 28, 2022	Conference Room, OVC for Planning and Development (OVC for Strategic Initiatives)	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team) and Sub-Technical Committees
LUDIP Evaluation Activity	September 19-20, 2023	Amphitheater, College of Education and Lounge, Office of the Chancellor	LUDIP TWG, Secretariat (Office of Institutional Planning and Development Services Team), and Sub-Technical Committees
Monitoring of Required Modifications for LUDIP Document	October 12, 2023	Conference Room, OVC for Planning and Development (OVC for Strategic Initiatives)	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team)
Secretariat Meeting on preparations and scheduling of LUDIP Activities	January 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team)
LUDIP Sector 1 Meeting *Orientation *Reconstitution of LUDIP TWG	January 26, 2024	Conference Room, College of Engineering, 4th Floor	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team) and Sub-Technical Committees particularly the Campus Land Use Plan, Roads and Transportation Plan, Infrastructure and Utilities Development Plan, Environmental Management, and Site Development Plan
LUDIP Sector 2 Meeting *Social Development Plan *Economic Development Plan *Investment Plan *Institutional Development Plan	January 31, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team) and Sub-Technical Committees particularly the Campus Master Development and Investment Program - Social Development Plan, Economic Development Plan, Investment Plan, and Institutional Development Plan
Follow-up Meeting for Sector 1 *Drainage, Road Network,	February 7, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat (Office of Institutional Planning and Development Services Team) and Sub-Technical Committees

Open and Green Spaces, and Parking Maps *Thematic Maps (Hazards) *Site Development Plan			particularly the Campus Land Use Plan, Roads and Transportation Plan, Infrastructure and Utilities Development Plan, Environmental Management, and Site Development Plan
LUDIP Writeshop	February 16, 2024	Office, iDEYA: Center of Innovation and Technopreneurship	LUDIP TWG Secretariat and Sub-Technical Committees
Refinement of LUDIP Maps (Existing and 10-Year Plan) Data Assessment and Data Entry in the LUDIP Document	February 27, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat and Sub-Technical Committees particularly the Campus Land Use Plan, Roads and Transportation Plan, and Infrastructure and Utilities Development Plan
Thematic Maps and Environmental Management Plan, Risks and Vulnerabilities	February 28, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat and Environmental Management Plan Vice-Chairperson
Campus Network Plan	February 29, 2024	Office, ICTC	LUDIP TWG Secretariat, Dean of the College of Computer Studies, and Systems/ Network Administrator
Site Development *Proposed Projects/ Programs *Drainage Network Plan *Road Network Plan *Traffic Assessment Flow	March 1, 2024	Office, Civil Engineering Department	LUDIP TWG Secretariat and Sub-Technical Committees particularly the Campus Land Use Plan Team, Infrastructure and Utilities Development Vice-Chairperson
Consultative/ Stakeholder Engagement of Revised MSU-IIT LUDIP 2023-2032	March 7, 2024	Lounge, Office of the Chancellor	Chancellor, Vice Chancellors, and LUDIP TWG Secretariat and Sub-Technical Committees particularly the Campus Land Use Plan, Roads and Transportation Plan, Infrastructure and Utilities Development Plan, and Site Development Plan
Site Development Plan, Drainage Plan, Zoning Maps, Open, Green, and Recreational Spaces	March 8, 2024	Office, Civil Engineering Department	LUDIP TWG Secretariat and Sub-Technical Committees particularly the Campus Land Use Plan, Infrastructure and Utilities Development, and Site Development Plan Teams
Road Network Plan and Population Projections	March 12, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat and Roads and Transportation Plan Vice-Chairperson

Refinement of LUDIP Maps and Design/ Perspectives of Proposed Infrastructure Projects/ Locally-Funded Projects	March 13, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat and Campus Land Use Plan Chairperson
Finalization of Population Projections and Projections per Program of Study	March 19, 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat
LUDIP Monitoring and Evaluation Matrix	March 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat
Finalization of LUDIP Maps, Tables, and Site Development Plan	March to April 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat and Campus Land Use Plan Chairperson
Finalization of LUDIP Document	April 2024	Conference Room, OVC for Strategic Initiatives	LUDIP TWG Secretariat

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