A. INTRODUCTION

SBStruc Engineering conducted destructive testing, non-destructive testing, and foundation excavation on the existing three-storey school building, **Kapitan Eddie T. Reyes Integrated School – Phase 2,** located in **Brgy. Pinagsama, Taguig City**.

number of storey

building name

building location

building photo

building name

Kapitan Eddie T. Reyes Integrated School – Phase 2

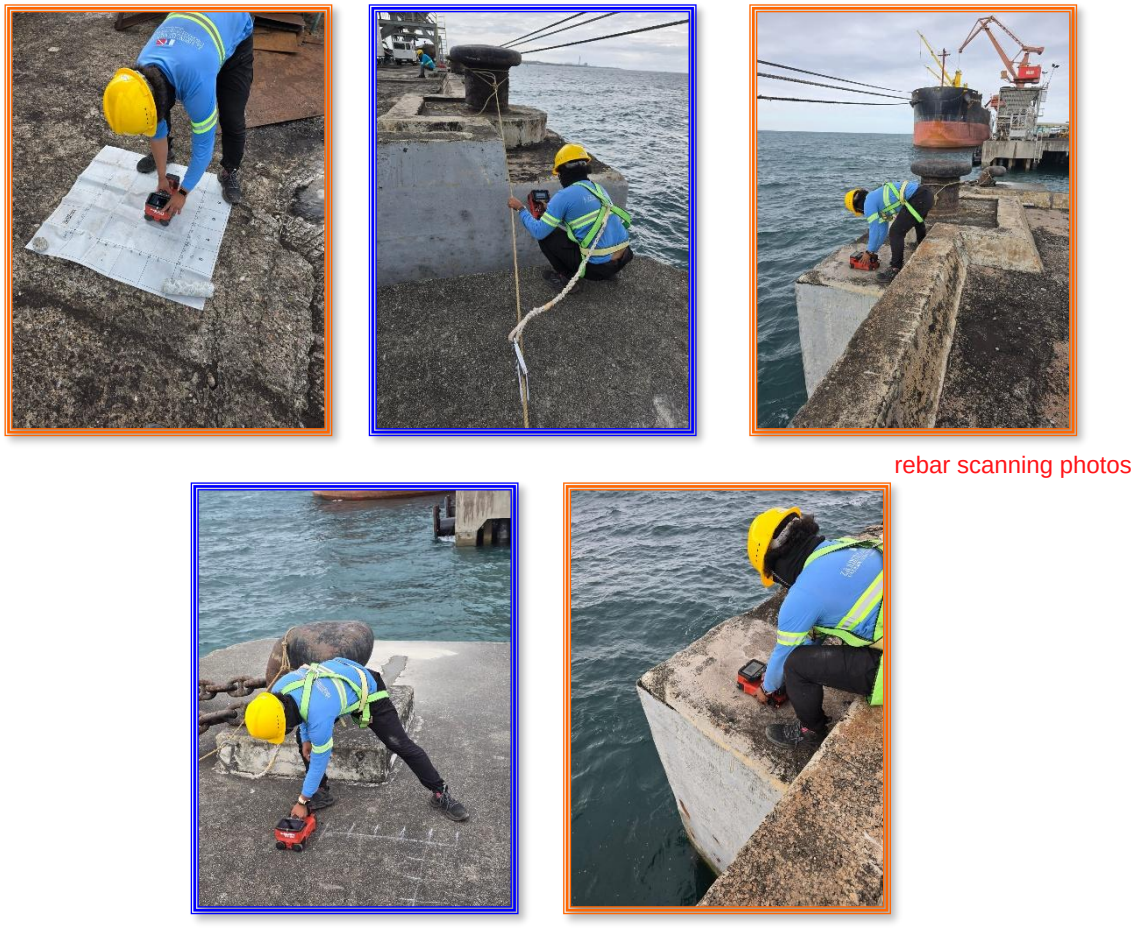
This work was undertaken solely to gather data and information on the existing building. Concrete core extraction and rebar extraction were performed to obtain samples for the determination of concrete and reinforcing steel properties, respectively. Non-destructive testing, including rebar scanning and rebound hammer testing, was also carried out to collect additional data on concrete characteristics, identify rebar sizes, and document the probable quantity and layout of reinforcement within the building's structural components. Chipping of selected portions of the existing slab was conducted to verify the existing reinforcement. Excavation works were conducted to gather data on the existing foundation.

B. DATA GATHERING FOR SUPERSTRUCTURE

B.1. Rebar Scanning

Rebar scanning was performed using non-destructive testing methods to determine the quantity, spacing, and approximate diameter of reinforcing steel bars embedded within the concrete elements. This activity was carried out to verify reinforcement detailing and support the structural assessment without causing damage to the members. A total of **eleven (11) rebar scan locations** were evaluated, and initial rebar data were recorded on site during the scanning process. The compiled results for the selected structural members are presented in **Annex I.**

number of rebar scan loc



rebar scanning photos

Figure B.1. Rebar Scanning

B.2. Rebound Hammer Test

Non-destructive testing using the Rebound Hammer Test was conducted on selected structural members to assess the uniformity and relative quality of the in-situ concrete

number of rebound hammer test locations

strength, as indicated by the measured Q-values. A total of **eighteen (18) test locations** were evaluated and distributed across the structure. At each test location, ten (10) rebound hammer impacts were applied in accordance with standard testing procedures consistent with ASTM C805. The rebound numbers obtained were statistically analyzed, with mean values calculated for each structural member. A summary of the rebound number test results is presented in **Annex II.**

rebound hammer testing photos

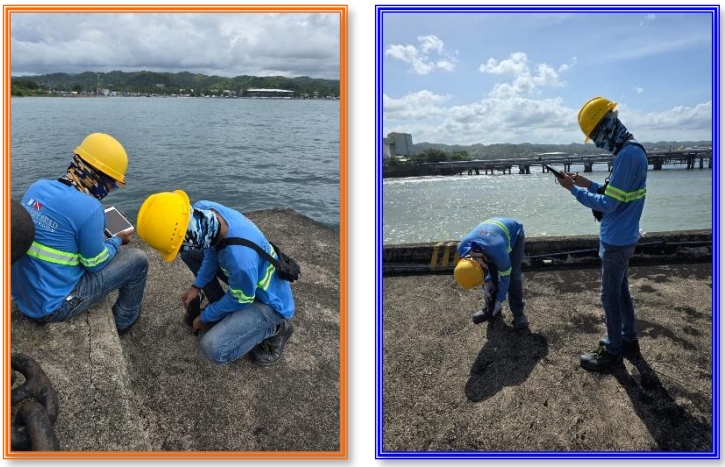


Figure B.2. Rebound Hammer Tests

B.3. Concrete Core Extraction

Concrete core extraction was conducted on selected structural members to obtain representative samples of the building's in-situ concrete. A total of **eight (8) cores** were extracted. The specimens were used to assess concrete quality, including compressive strength and overall material condition. Compressive strength testing was performed in accordance with ASTM C42/C42M, and the corresponding results are presented in **Annex III.**

number of coring locations

concrete coring photos

Figure B.3.1 Concrete Core Extraction

core samples family pic

Figure B.3.2. Extracted Core Samples

B.4. Rebar Extraction

Rebar extraction was carried out on selected structural members to obtain representative reinforcement samples from the building's structural system. A total of **two (2) rebar samples** were extracted.

rebar extraction photos

Figure B.4.1. Rebar Extraction

rebar samples family pic

Figure B.4.2. Extracted Rebar Samples

The extracted rebars were evaluated to determine their material properties, including tensile strength. The tensile test results are presented in **Annex IV.**

B.5. Chipping of Existing Slab

Chipping of the existing slab at one selected location was conducted to verify the reinforcement size.

chipping of slab photos

Figure B.5. Chipping of Existing Slab

B.6. Restoration Works

Following the completion of concrete coring, rebar extraction, and chipping of slab, reinstatement works were carried out to restore the affected structural elements and ensure continuity of structural performance. Structural components from which samples were extracted were restored to their original condition. Removed reinforcement was replaced with new rebars of equivalent diameter and grade to maintain structural capacity. Concrete that was chipped or removed during the verification and extraction process was reinstated using

non-shrink grout product used?

SikaGrout®-212 PH non-shrink grout, with proper bonding between existing and new concrete ensured through the application of **Sikadur®-732** structural adhesive.

epoxy A&B used?

restoration photos

Figure B.6. Restoration Works

C. DATA GATHERING FOR SUBSTRUCTURE

C.1. Concrete Core Extraction

Concrete core extraction was conducted at **two (2) selected foundation locations** to obtain representative samples of the building's in-situ concrete. A total of **two (2) cores** were extracted. The specimens were used to determine concrete properties, including compressive strength. Compressive strength testing was performed in accordance with ASTM C42/C42M, and the results are presented in **Annex V**.

coring for foundation photos

Figure C.1. Concrete Core Extraction for Foundation

C.2. Rebar Scanning

Rebar scanning was performed using non-destructive testing methods to determine the quantity, spacing, and approximate diameter of reinforcing steel bars embedded within the concrete foundation. The initial rebar data were recorded on site during the scanning process. The compiled results for the foundation are presented in **Annex VI**.

rebar scanning for foundation photos

Figure C.2. Rebar Scanning for Foundation

C.3. Restoration for Coring Works, Backfilling, and Compaction

Following the concrete core extraction, the excavated foundation areas were backfilled using the previously removed soils and compacted to restore the foundation to its original profile.

restoration, backfilling, and compaction photos

Figure C.3. Restoration for Coring Works, Backfilling, and Compaction

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