THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Mlynske Nivy bus terminal – Dilatation A5**
Author's name:	**Durgesh Sakharam PATIL**
Type of thesis :	master
Faculty/Institute:	Faculty of Civil Engineering (FCE)
Department:	Department of concrete and masonry structures
Thesis reviewer:	Doc. Ing. Marek FOGLAR, Ph.D.
Reviewer's department:	Department of concrete and masonry structures

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment **challenging**

How demanding was the assigned project?

The assignment fucuses on the static assessment of the dilatation A5 of the Mlynske Nivy bus terminal. Main goals are the preliminary design of post-tensioned building of Mlynske Nivy bus terminal and the construction drawings such as concrete details drawings, prestressing details and reinforcement sketches.

Fulfilment of assignment **fulfilled**

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

The author fulfilled the assignment task completely.
The thesis consists of three major sections: description of the building of the Mlynske Nivy bus terminal, literature survey on fundamentals of pre-stressed concrete and static assessment of the building. The static assessment focuses on the preparation of the calculation model of a complex spatial structure, load definition and its arrangement and combinations and assessment of the reinforced concrete and pre-stressed concrete parts of the building.

Activity and independence when creating final thesis **A - excellent.**

Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.

The students bachelor studies background was different, rather focusing on separated examples then complex projects. Therefore, his biggest challenge was to start thinking in big picture and understanding a complex building with all consequences on its design. He did his best to get in the topic, consulted on regular basis and he was well prepared for the consultations.

Technical level **A - excellent.**

Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?

The student constantly improved his knowledge and technical understanding while working on the thesis. He proceeded from the attempt to design the structure in given dimensions as a reinforced concrete building, verified the long-term deflections and then focused on the design and assessment of the building using post-tensioned concrete on the chosen critical floor.
Finally, he spread his considerations to other floors and verified the most important vertical structures.

Formal level and language level, scope of thesis **A - excellent.**

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

The thesis has an appropriate formal and language level. The presentation and extensiveness are sufficient for this type of thesis.

Selection of sources, citation correctness **C - good.**
Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?
The thesis presents original work and gets back to the principles and general publications focused on pre-stressed concrete in the introduction part. Several obviously non-original figures are missing proper source citation.

Additional commentary and evaluation (optional)
Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.
The thesis delivers a complete package presenting the authors ability to analyze complex spatial structures independently thusly presenting his sufficient level of engineering skills. The thesis is well organized and presented, leading the reader step by step through the invested effort. There are some minor weaknesses in the drawings part of the thesis, such as: - Strands C6+C7, feasibility of pre-stressing, - Column RC-details, multiple use of Section 1, but these cannot impair the overall impression of the thesis. The supervisor recommends answering following questions during the diploma thesis defense: - Methodology of "under-slab" anchorage details arrangement with respect to on-site logistics - Methodology of short- and long-term non-linear assessment of reinforced concrete elements (in the used software) - Way to the appropriate structural model (slab wit rib, etc.)

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading.

The thesis delivers a well-organized and presented complete package showing the authors ability to analyze complex spatial structures independently thusly presenting the gained level of engineering skills. Assuming the above proposed questions will be answered during the diploma thesis defense, the awarded grade will be appropriate.

The grade that I award for the thesis is **A - excellent.**

Date: **29.1.2023** Signature: