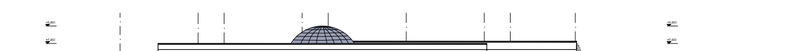
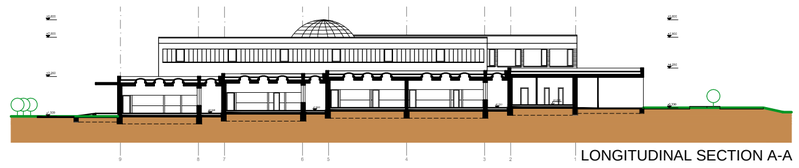
ECO ENERGY NATURE SCHOOL

# FOREST SCHOOL ZICHOVEC

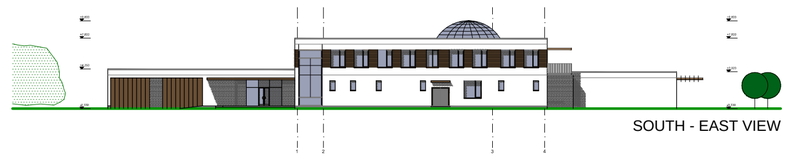
158364



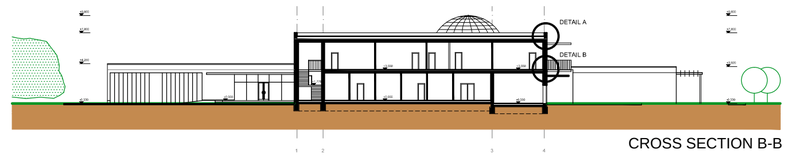
SOUTH - WEST VIEW



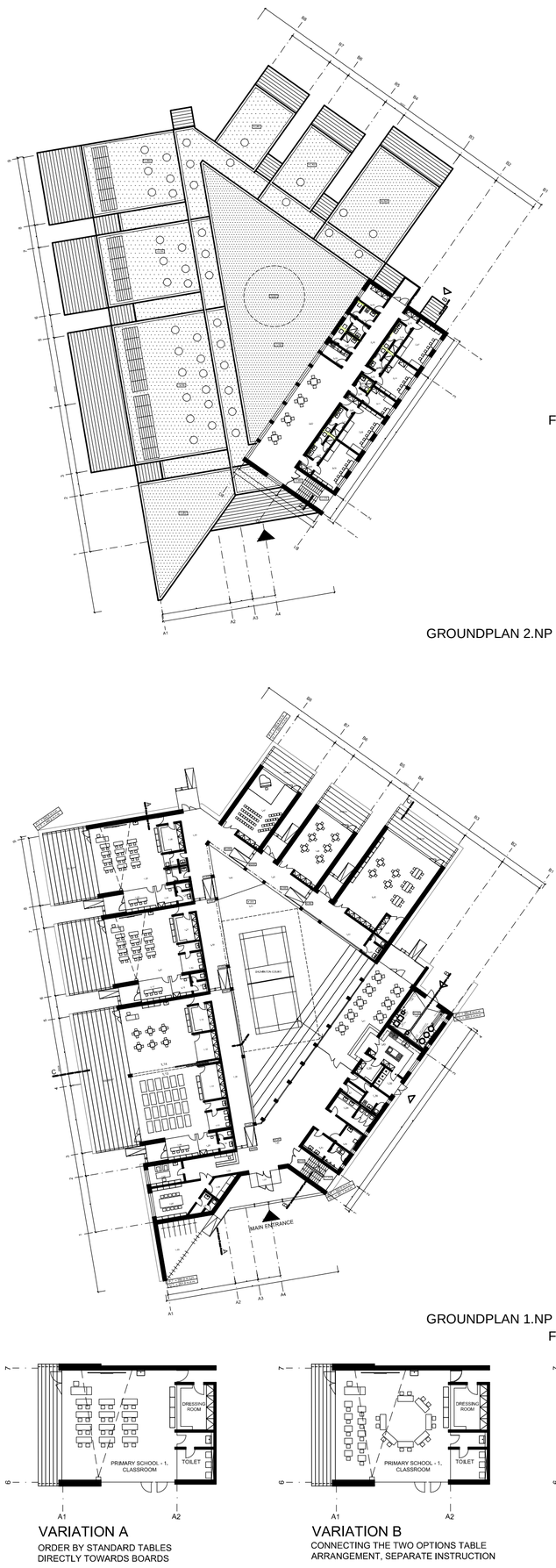
LONGITUDINAL SECTION A-A



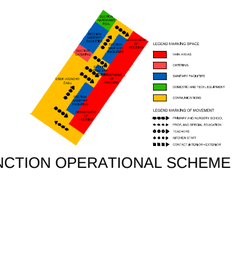
SOUTH - EAST VIEW




CROSS SECTION B-B



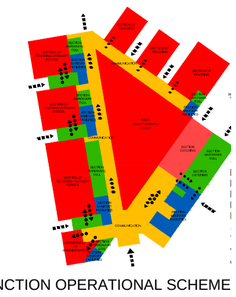
| legend of the room: | | |
|---|---|---|
| 2.01 | anteroom | 15,72 m2 |
| 2.02 | club - multipurpose space | 97,12 m2 |
| 2.03 | anteroom | 3,50 m2 |
| 2.04 | sanitary facilities | 7,31 m2 |
| 2.05 | accomodation for 6 kids | 20,08 m2 |
| 2.06 | anteroom | 3,50 m2 |
| 2.07 | sanitary facilities | 7,31 m2 |
| 2.08 | accomodation for 6 kids | 20,08 m2 |
| 2.09 | corridor | 2,34 m2 |
| 2.10 | sanitary facilities | 3,07 m2 |
| 2.11 | accomodation for 1 adult | 8,91 m2 |
| 2.12 | anteroom | 2,24 m2 |
| 2.13 | sanitary facilities | 5,65 m2 |
| 2.14 | accomodation for 2 adults | 17,28 m2 |
| 2.15 | corridor | 3,51 m2 |
| 2.16 | sanitary facilities | 7,45 m2 |
| 2.17 | accomodation for 6 kids | 20,79 m2 |
| 2.18 | corridor | 27,24 m2 |
| 2.19 | storage service | 8,19 m2 |
| 2.20 | room for cleaners | 6,30 m2 |
| 2.21 | sanitary facilities - men | 6,30 m2 |
| 2.22 | sanitary facilities - women | 6,30 m2 |
| 2.23 | kitchen | 6,30 m2 |
| total floor area | | 306,49 m2 |



FUNCTION OPERATIONAL SCHEME

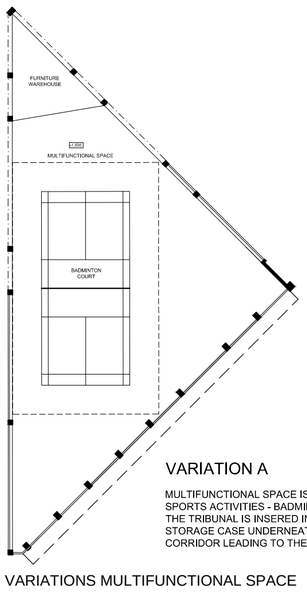
GROUNDPLAN 2.NP

| legend of the room: | | |
|---|---|---|
| 1.01 | doorway | 8,77 m2 |
| 1.02 | foyer | 111,08 m2 |
| 1.03 | reception | 20,18 m2 |
| 1.04 | steerable | 12,48 m2 |
| 1.05 | staffroom | 26,21 m2 |
| 1.06 | dressing room | 6,92 m2 |
| 1.07 | sanitary facilities | 6,06 m2 |
| 1.08 | individual instruction | 11,97 m2 |
| 1.09 | cabinet | 6,94 m2 |
| 1.10 | sanitary facilities | 5,39 m2 |
| 1.11 | sanitary facilities | 11,11 m2 |
| 1.12 | storage service | 13,45 m2 |
| 1.13 | nursery school - night room | 80,38 m2 |
| 1.14 | nursery school - day room | 80,38 m2 |
| 1.15 | room for toys | 10,67 m2 |
| 1.16 | dressing room | 10,53 m2 |
| 1.17 | individual instruction | 11,97 m2 |
| 1.18 | cabinet | 6,94 m2 |
| 1.19 | sanitary facilities | 5,39 m2 |
| 1.20 | sanitary facilities | 11,11 m2 |
| 1.21 | dressing room | 10,53 m2 |
| 1.22 | primary school - 1. classroom | 77,64 m2 |
| 1.23 | individual instruction | 11,97 m2 |
| 1.24 | cabinet | 6,94 m2 |
| 1.25 | sanitary facilities | 5,39 m2 |
| 1.26 | sanitary facilities - men | 5,33 m2 |
| 1.27 | sanitary facilities - women | 5,33 m2 |
| 1.28 | dressing room | 10,53 m2 |
| 1.29 | primary school - 2. classroom | 77,64 m2 |
| 1.30 | corridor | 210,80 m2 |
| 1.31 | multifunctional space | 336,96 m2 |
| 1.32 | furniture warehouse | 23,59 m2 |
| 1.33 | sanitary facilities - men | 16,03 m2 |
| 1.34 | sanitary facilities - women | 16,03 m2 |
| 1.35 | sanitary facilities - handicapped | 6,75 m2 |
| 1.36 | cleaner room | 11,34m2 |
| 1.37 | server room | 4,16 m2 |
| 1.38 | dressing room - staff | 7,91 m2 |
| 1.39 | warehouse | 7,91 m2 |
| 1.40 | kitchen | 24,36 m2 |
| 1.41 | dining room | 78,53 m2 |
| 1.42 | TZB | 32,49 m2 |
| 1.43 | sanitary facilities - uni | 6,27 m2 |
| 1.44 | storage material | 6,43 m2 |
| 1.45 | school workshop | 96,79 m2 |
| 1.46 | art classroom | 50,37 m2 |
| 1.47 | musical salon | 50,37 m2 |
| 1.48 | staircase | 15,72 m2 |
| 1.49 | room for strollers and bikes | 28,11 m2 |
| 1.50 | garden pavilion | 43,56 m2 |
| total floor area | | 1643,08 m2 |



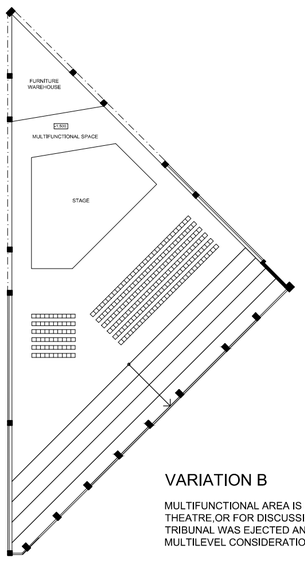
GROUNDPLAN 1.NP

FUNCTION OPERATIONAL SCHEME



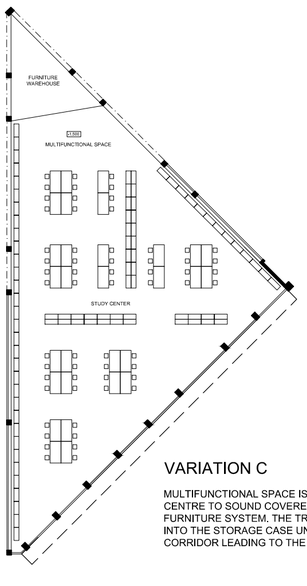

VARIATION A

MULTIFUNCTIONAL SPACE IS THE USE OF SPORTS ACTIVITIES - BADMINTON COURT. THE TRIBUNAL IS INSERED INTO THE STORAGE CASE UNDERNEATH THE CORRIDOR LEADING TO THE DINNIG ROOM.




VARIATION B

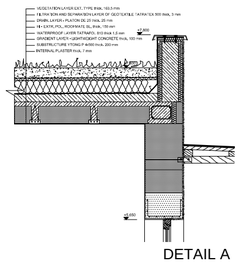
MULTIFUNCTIONAL AREA IS USED FOR THE THEATRE,OR FOR DISCUSSIONS, PERFORMANCE. TRIBUNAL WAS EJECTED AND GENERATES MULTILEVEL CONSIDERATIONS.



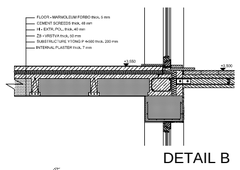

VARIATION C

MULTIFUNCTIONAL SPACE IS USED AS A STUDY CENTRE TO SOUND COVERED DIVISIVE FURNITURE SYSTEM. THE TRIBUNAL IS INSERED INTO THE STORAGE CASE UNDERNEATH THE CORRIDOR LEADING TO THE DINING ROOM.

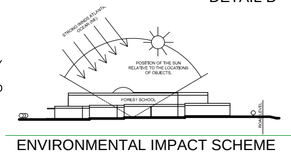
VARIATIONS MULTIFUNCTIONAL SPACE



DETAIL A



DETAIL B




ENVIRONMENTAL IMPACT SCHEME




VARIATION A

ORDER BY STANDARD TABLES DIRECTLY TOWARDS BOARDS




VARIATION B

CONNECTING THE TWO OPTIONS TABLE ARRANGEMENT, SEPARATE INSTRUCTION




VARIATION C

CENTRALLY LOCATED TABLE FOR A BETTER CONTACT WITH STUDENTS

VARIATIONS ORDINARY CLASS

ECO ENERGY NATURE SCHOOL

# FOREST SCHOOL ZICHOVEC

158364

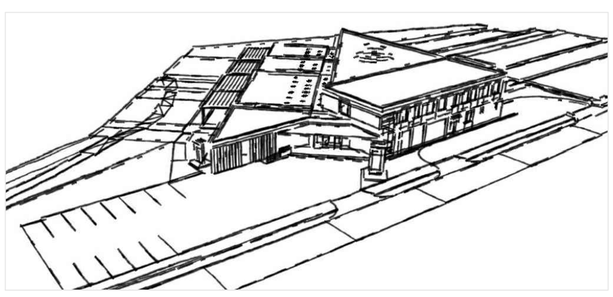
ZICHOVEC

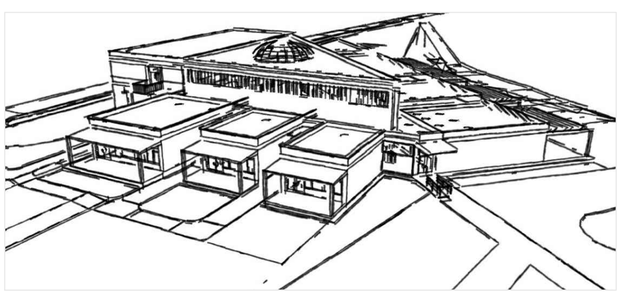
Zichovec village lies in an interesting country in the middle of the two changing landscapes. On the one hand it is a country with smaller planes and hills on the other side of it is forest land around the mountain pitcher.

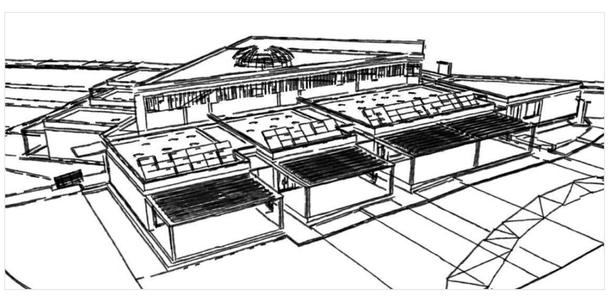
It is located at the intersection of two geomorphological units. The solution proposed facility is especially adapted to the difficult topography of the territory and using involve natural elements (existing plants and trees).

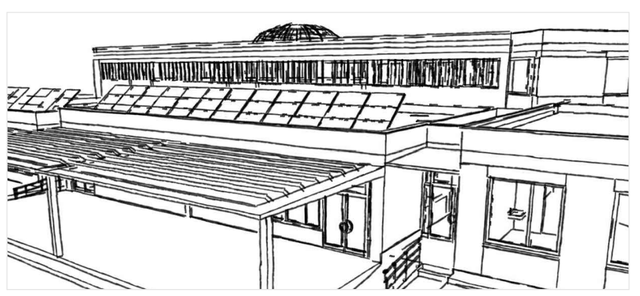
Forest School is located on slightly sloping terrain. The area further defines the local plan Zichovec. The property is on the southwest and northwest of the type covered by deciduous trees. These trees are part of the adjacent forest, which is common in this area. Building effective use of torque beautiful surrounding landscape combined with a beautiful view of the north hill Řip. This fundamental aspect was the main basis for planning a mass resolution of the whole object.



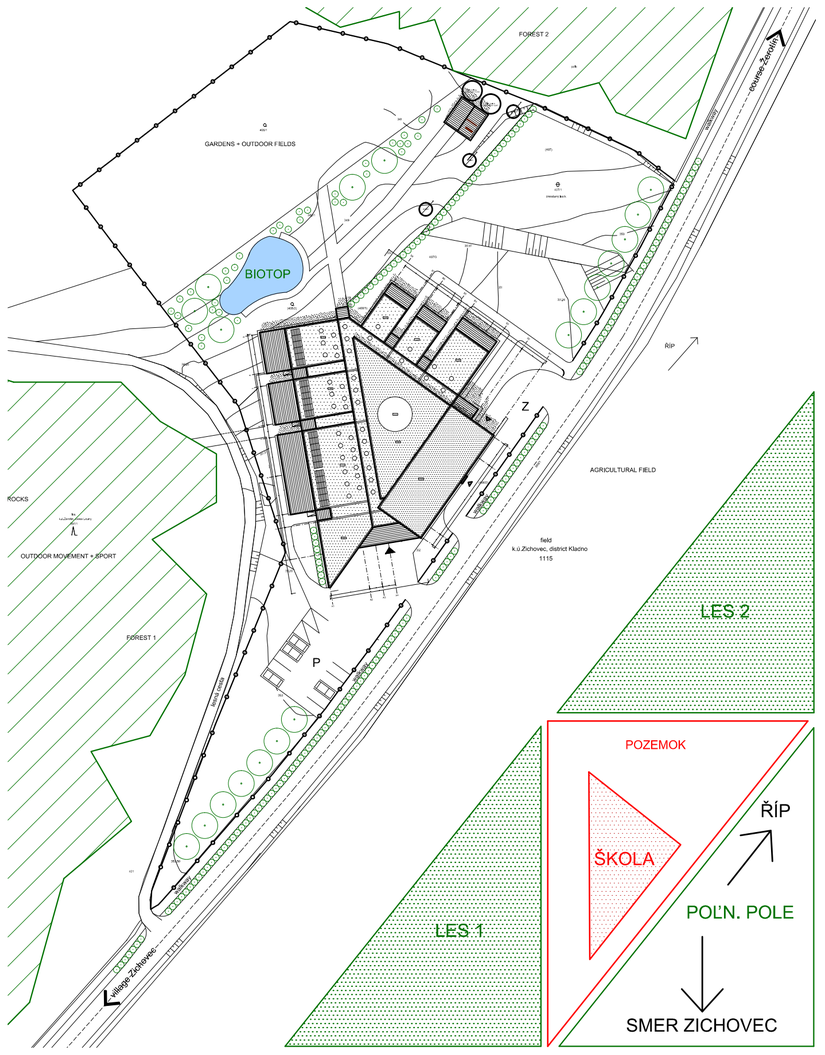













# BUILDING AND ENERGY

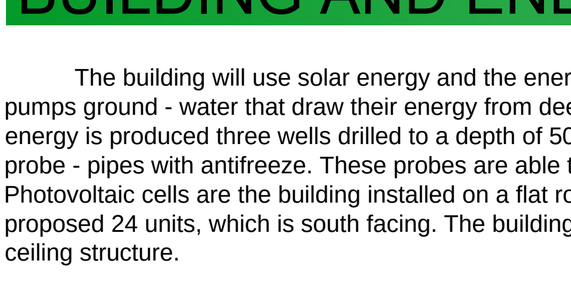
The building will use solar energy and the energy of the earth. The building is designed for heat pumps ground - water that draw their energy from deep underground. Depending on the demand for energy is produced three wells drilled to a depth of 50 m. Each of these wells is then equipped with a probe - pipes with antifreeze. These probes are able to supply the required energy throughout the year. Photovoltaic cells are the building installed on a flat roof at an angle of 40 degrees. After calculating the proposed 24 units, which is south facing. The building is also designed ventilation located beneath the ceiling structure.

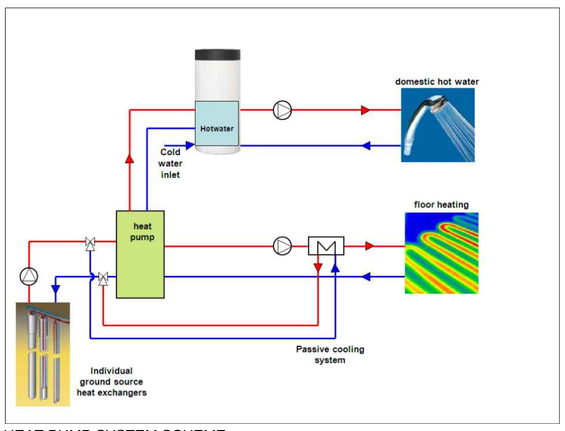
## HEAT PUMP SYSTEM

The described system is designed for a low temperature floor heating system. There is a heating buffer which is heated up by the heat pump and which supplies heat to the floor heating system. The storage tank for DHW is located in the heat pump.

The geothermal energy for the heat pump is delivered via two boreholes with a total length of 140 m. The electric back-up heater is supposed to support the heat pump according to the control strategy. For aestival cooling and source regeneration there is a heat exchanger between the boreholes and the floor heating system. The system has a more complex heat distribution system this may lead to a higher risk of failures, operation strategy errors and electricity consumption.

Another factor contributing to the generally high performance factors is the careful installation of the system. Well designed and executed piping reduces the loss of pressure and energy which positively impacts the general efficiency of the heating system.

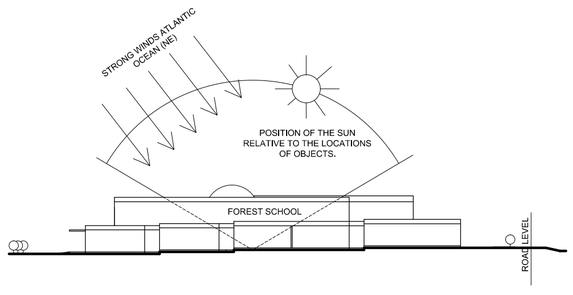


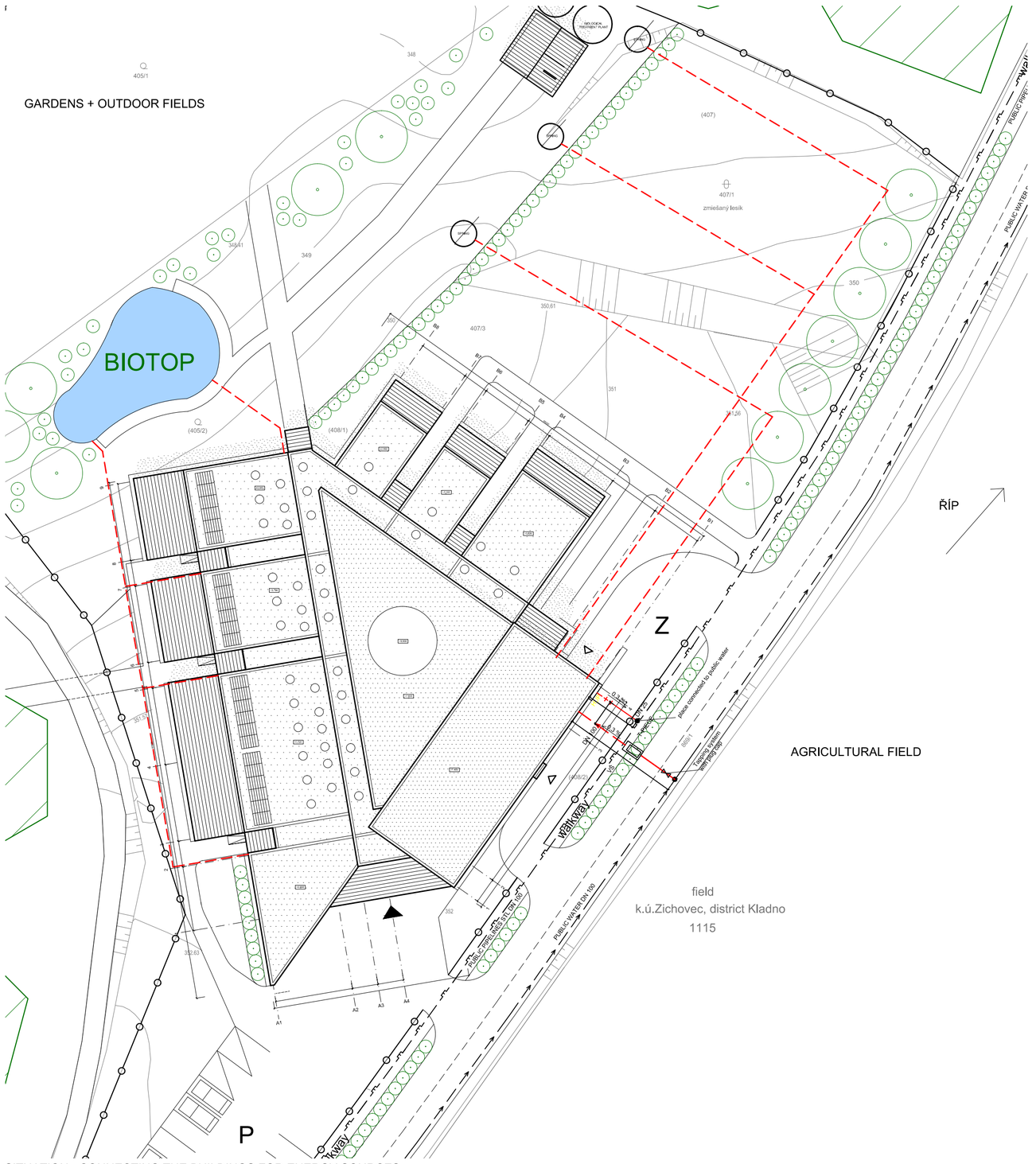

HEAT PUMP SYSTEM SCHEME

## Capacity data structures

| | |
|---|---|
| Total land area: | 12 492,28 m² |
| Built up area: | 1 859,04 m² |
| Green space: | 8 067,27 m² |
| IZP: | 0,15 |
| KZ : | 0,64% |
| Number of storeys: | 2 |
| Number of parking spaces: | 12 |
| Floor area 1.NP: | 1 643,08 m² |
| Floor area 2.NP: | 306,49 m² |
| Outdoor terraces area: | 386,48 m² |
| Total floor area of the building: | 1 949,57 m² |
| Net floor area 1.NP: | 1 164,77 m² |
| Net floor area 2.NP: | 245,57 m² |
| Total net floor area (1.NP +2. NP): | 1 410,34 m² |
| Construction economics coefficient: | 0,72 |
| Built-up space: | 6 652,66 m3 |




ENVIRONMENTAL IMPACT SCHEME




SITUATION - CONNECTING THE BUILDINGS FOR ENERGY SOURCES