

UNIVERSITY OF CIVIL ENGINEERING

DEPARTMENT OF CONSTRUCTION ECONOMICS



INVESTMENT ECONOMICS SUBJECT PROJECT

**ANALYSIS OF THE INVESTMENT PROJECT "WONDER WOMEN"**

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## **BEGIN**

### **1. The role of construction investment in the national economy**

Construction investment is an activity of investing capital in the present to create assets that are construction works, then exploiting and operating those works, and these assets are likely to be profitable or satisfy a certain need for investors in a certain time in the future. Construction investment is understood as investment projects for material objects, which are works.

The development of construction investment promotes the development of science and technology, thereby promoting the cause of industrialization, modernization, cultural development, education, health, security and defense,...

Helping the economy improve the quality and efficiency of social activities, people's livelihood, and the quality of life of the community and society.

Construction investment promotes infrastructure construction, creating conditions for economic development in all regions of the country; contributing to bringing rural, remote and poor areas to catch up with the country's developed areas, ensuring that material and spiritual life is increasingly improved. Construction investment contributes to increasing labor productivity and income for employees. Use a huge resource of society

Construction investment for businesses is one of the 3 basic functions of enterprises, the main means for business development. For our country, we are in the stage of building socialism, international economic integration, and development cooperation in all fields.

Construction investment is a very important activity: it is a stage in the development investment process, helping to accelerate the industrialization and modernization of the country.

### **2. The role of the project in investment and construction management**

According to Decree 15/2021 ND-CP on the regulation on investment management and capital construction: "An investment project is a collection of proposals related to the investment of capital, opening up or renovating certain facilities and materials in order to achieve growth in quantity or maintenance, improve and improve the quality of products or services within a certain period of time".

Investment projects play a particularly important role because through them, the state can comprehensively control the aspects of financial efficiency (projects using state capital) and social and security efficiency, national defense

Investment is the basis for investors to know whether the investment plan is worthwhile or not and choose the most valuable options

The investment project is the basis for the competent authority to approve the project  
Investment is the basis for funding agencies to consider whether to invest or not.

Investing is a system of implementation, concretization of ideas and opportunities to gradually transform proposed measures (socio-economic, technical, Nguyen Ngoc Uyen Chuong-4002265-65KTE

financial,..) into reality.

### **3. Contents of feasibility projects for construction investment**

A work construction investment project includes: Formulation, appraisal and approval of the project and the form of organization of project implementation management and implementation of construction investment projects; conditions and capacity for construction activities. Promulgated by the State in Decree 59/2015/ND-CP on the management of construction investment projects.

#### ***3.1. Construction investment pre-feasibility study report***

The contents of the research report are specified in Article 53 of the Law on Construction 2014 as follows:

- The necessity of investment and conditions for the implementation of construction investment
- Expected objectives, scale, location and form of construction investment
- Demand for land use and resources.
- Preliminary design plan on construction, explanation, technology, techniques and appropriate equipment.
- Estimated project implementation time
- Preliminary total investment, capital mobilization plan, ability to return capital, repay loans (if any), determine socio-economic efficiency and assess the impact of the project.

#### ***3.2. Construction investment feasibility study report***

It is stipulated in Article 54 of the 2014 LXD as follows:

- The basic design is made to achieve the objectives of the project, in accordance with the construction works of the project, ensuring the synchronization between the works when put into operation and use. The design includes explanations and drawings showing the following contents:
  - Construction location, direction of works, list and scale, type and grade of works in the total construction ground
  - Selected technology, technique and equipment options (if any)
  - Solutions on architecture, ground, cross-section, façade of the work, dimensions and main structures of the construction work.
  - Solutions for construction, main materials used, estimation of construction costs for each project
  - Plans for connecting technical infrastructure inside and outside the works, solutions for fire and explosion prevention and fighting
  - Applied standards and technical regulations and construction survey results for basic design formulation
- Other content
  - Necessity and policy of investment, construction investment objectives, construction location and land use area, capacity scale and form of construction investment

- Ability to ensure factors for project implementation such as use of resources, selection of technology and equipment, use of labor, technical infrastructure, product consumption, requirements in exploitation and use, implementation time, site clearance and resettlement plan (if any), solutions to organize the management of project implementation, operation and use of works and environmental protection.
- Assessment of impacts of the project related to land recovery, site clearance, resettlement, landscape protection, ecological environment, safety in construction, fire and explosion prevention and fighting and other necessary contents;
- Total investment and capital mobilization, analysis of finance, risks, costs of exploitation and use of the project, assessment of the socio-economic efficiency of the project, recommendations for coordination mechanisms, preferential policies and support for project implementation.
- Other relevant contents.

#### **4. Content of financial analysis, social analysis**

##### ***4.1. Financial analysis of construction investment projects***

##### **4.1.1. Meaning of investment project financial analysis**

Financial analysis of an investment case is the analysis of financial aspects from the perspective of the direct interests of the investor. Financial analysis of an investment project is one of the most important contents of a project

Financial analysis estimates the net financial benefits that the project brings to the developer and other contributors of financial resources to the project by considering all financial revenues and expenditures during the project's expected life cycle.

The objective of the financial analysis is to assess the financial strength of the project from the perspective of the investor, creditors, operating organization, etc.

##### **4.1.2 Contents of financial analysis of investment projects**

Define investment

objectives Collect data

Identify Input Factors

- Investment capital of the project
- Annual Revenue
- Annual Operating Costs
- Fixed asset depreciation plan of the project
- Make a repayment plan for the project if there is an investment loan
- Determination of land use costs in operation

Determination of the effective threshold (minimum acceptable interest rate) Profit and loss analysis

Financial performance analysis uses financial performance indicators to evaluate



whether the project is worthwhile or not.

#### **4.1.3. Analysis of the financial performance of the investment project**

- **Static indicator group**

The group of static indicators is an indicator that does not take into account the value of the currency over time, which can be calculated for the whole life of the project or calculated for 1 year of operation

Static financial performance analysis is conventionally calculated for a short period of time, usually for a year, without considering the value of money over time.

+ Profit target calculated for 1 unit of product

$$Ld = P - C_{sd} \rightarrow \max .$$

$P$ : selling price per unit of product, excluding output VAT

$C_{sd}$ : the cost calculated for a unit of product.

+ Average annual benefit

$$T_{bq} = \frac{\sum_{t=1}^n L_t}{n} - > \text{Max}$$

+ The turnover level of one dong of investment capital.

$$M = \frac{L_{bq}}{V}$$

$L_{bq}$ : average profit in year V:

investment capital.

+ The turnover level of one dong of fixed capital.

$$M_{cd} = \frac{L_{bq}}{V_{CD}}$$

+ Cost calculated for 1 unit of product of the project

$$C_d = \frac{1}{Q} (V_{tb} \cdot i + C_n)$$

Q: The expected volume of products produced in the period or the expected productivity sentence

I: Average capital mobilization interest rate of the project

CN: production costs in the period do not include loan interest

$V_{tb}$ : average interest-bearing capital during the project's operating life

$$V_{tb} = \frac{G_{cd}}{2} + \zeta_{ld} = \bar{V}_{cd} + Vld$$

$G_{cd}$ : fixed asset price

- **Dynamic indicator group**

A dynamic indicator is an indicator that takes into account the fluctuation of the currency over time, calculated for the whole life of the project. The data included in the calculation takes into account factors of slippage and inflation.

The standard of dynamic indicators is to maximize profits.

Dynamic indicators are used as general indicators when analyzing investment projects

- Evaluate financial efficiency through the current price index of revenue and expenditure differences.

$$NPV = \sum_{t=0}^n \frac{B_t}{(1+r)^t} - \sum_{t=0}^n \frac{C_t}{(1+r)^t}$$

$B_t$ : Income in the year

$C_t$ : Expenses in the

year  $t$

$r$ : Minimum acceptable interest rate of the

project  $n$ : Life of the project

$t$ : the period from root 0 to the time of the appearance of the cash flow value If

$NPV \geq 0 \Rightarrow$  the project is worth

If  $NPV < 0 \Rightarrow$  the project is not worth it

- Evaluate financial performance through the future value of revenue and expenditure differentials

$$NFV = \sum_{t=0}^n (B_t - C_t)(1+r)^{Now}$$

If  $NFV \geq 0 \Rightarrow$  the project is worth

Nếu  $NFV < 0 \Rightarrow$  project is not worth it

- Evaluate financial efficiency by the equalization index of revenue and expenditure difference

$$NAV = NPV \frac{(1+r)^n r}{(1+r)^n - 1} = NFV \frac{r}{(1+r)^n - 1}$$

If  $NAV \geq 0 \Rightarrow$  the project is worth

Nếu  $NAV < 0 \Rightarrow$  project is not worth it

- Evaluating financial performance by intrinsic profitability

$$\sum_{t=0}^n \frac{B_t - C_t}{(1+IRR)^t} = 0$$

If  $IRR \geq r \Rightarrow$  project worth

Nếu  $IRR < r \Rightarrow$  project is not worth it

- Evaluate financial performance by revenue-expenditure ratio

$$BCR = \frac{PB}{PC} = \frac{FB}{FC}$$

If  $BCR \geq 1$  project worth

If  $BCR < 1$  project is not worth

#### 4.1.4. Analysis and assessment of the financial safety of the project

Analysis of capital safety:

- ensuring the legality of capital sources
- reputation and capacity of the borrower
- the prestige of the loan guarantee mechanism
- The attractiveness of the project to the funding agency
- capital market stability, favorable lending and payment conditions
- the reasonableness of the legal capital and charter capital of the project
- ratio of loans and own capital (<50%), between domestic and foreign
- ratio of current assets/current assets debt ( should = 2/1 to 4/1)

Analysis of break-even point

- The break-even point is the point where the revenue is just enough to cover the cost
- We can determine the break-even point for each year of operation or the whole life of the project, usually calculated for each year of operation
- When determining the break-even point, we must determine the revenue and cost of the project

\* Break-even revenue

$$Rh = \frac{FC}{\frac{1}{VC} - \frac{1}{R}}$$

FC : fixed cost of the VC

project : variable cost of the R

project : Revenue of the

project

\* Break-even output of the project

$$Qh = \frac{FC}{P - v}$$

P : selling price of 1 unit of

product v : variable cost of 1

unit

\* Level of break-even activities

$$Mh = \frac{Qh}{Q} \cdot 100\% = \frac{Rh}{R} \cdot 100\%$$

Payback Period Analysis

\* Time limit for recovering capital from profits

$$T_{or} = \frac{V}{L}$$

\* Time limit for recovering capital from profit and depreciation:

$$Tk = \frac{V}{L + K}.$$

Analyze the ability to  
repay debts.

\* According to the project's debt repayment ability indicators:

$$K_{Nt} = \frac{B_t}{A_t}$$

B<sub>t</sub>: Financial sources used to repay debts in the year t, including profits used for debt repayment, depreciation, and interest payments in operation

A<sub>t</sub>: The amount of debt payable in year t

including principal and interest  $K_{nt} < 1 \Rightarrow$  the project is insolvent

$2 > K_{nt} \geq 1 \Rightarrow$  projects capable of repaying debts

$2 < K_{nt} \leq 4 \Rightarrow$  project with solid debt repayment

ability Safety analysis according to the payback period

- The payback period is the time needed to offset the investment capital spent. The payback period can be calculated according to the formula in static form or can be calculated according to the formula in dynamic form as follows:

$$\sum_{t=0}^{T_n} \frac{B_t - C_t}{(1+r)^t} = 0$$

T<sub>n</sub>: The payback period is found by the gradual calculation method from the above equation.

When  $T_h < T_{Hq}$  and  $T_h \rightarrow \text{Min}$

In which: T<sub>hq</sub> – the payback period is pre-specified

#### 4.1.5. Analyze and evaluate the financial sensitivity of the project

The sensitivity of the project is the degree of variation of efficiency indicators such as profit, NPV, IRR,... when we change the calculation indicators present in the cash flow compared to the original normal state.

In fact, the initial expected targets when formulating a project are often different from the actual targets achieved when implementing the project. Therefore, it is necessary to change the project effectiveness analysis indicators to the disadvantage by 10-20% and recalculate these efficiency indicators. After calculation, but still ensured, the proposed plan is considered to be guaranteed.

- Analyze sensitivity according to NPV when revenue drops at 5%. 10%.
- Analyze the sensitivity according to the intrinsic profit rate indicator when costs increase at 5%, 10%.

Project sensitivity is calculated according to the formula:

$$H_n = \frac{H_{bt} - H_x}{H_{Bt}} * 100\%$$

$H_n$  : project sensitivity ( units %

$H_{bt}$  : efficiency in normal state initial calculation



Hx: effective in deteriorating condition

When we change the indicators for the worse, the smaller the sensitivity is, the safer it is

#### **4.2. Socio-economic analysis**

Different from financial analysis, socio-economic analysis evaluates the project from the perspective of the interests of the entire national economy, the whole society and the community. Socio-economic analysis is essential because:

- In a market economy, although investment policies are largely decided by enterprises derived from the direct interests of enterprises, those interests must not be contrary to the law and must be consistent with the economic development line
- the general society of the whole country. The interests of the State and enterprises must be closely combined. These requirements are expressed through the socio-economic analysis of the investment project.
- Socio-economic analysis for investors is the main basis for convincing the State, competent agencies to approve the project, persuade banks to lend capital, and persuade local people where the project is located to support the investor in implementing the project.
- For the State, socio-economic analysis is the main basis for the State to approve and grant investment licenses.
- For project aid organizations, socio-economic analysis is also an important basis for them to approve aid, especially humanitarian aid organizations, aid for social purposes, aid for environmental protection.
- For projects serving the public interest directly funded by the State, the socio-economic benefit analysis plays a major role in the project. This type of project is currently quite popular in our country and accounts for a large amount of capital. Therefore, the socio-economic analysis of the project always plays an important role.

Analysis and evaluation of socio-economic efficiency can also be carried out as the content of financial efficiency analysis, but the input indicators of analysis are those that stand from the perspective of socio-economic benefits. From there, the effectiveness evaluation criteria are calculated based on the perspective of socio-economic benefits. Specifically, as follows:

- The added product value generated by the project every year and calculated for the lifetime of the project.
- The average added value of products is calculated for one project capital.
- The level of attracting laborers to work includes:
- The total number of employees attracted to work every year.
- The ratio between the number of employees working in the project compared to the project capital.
- The project's contribution to the annual budget and for the lifetime of the case.

- Income of employees working in the project

## CHAPTER 1. FINANCIAL ANALYSIS OF INVESTMENT PROJECTS

### 1.1. About the project

**Project name :** WONDER WOMEN.

**Investor :** HUNG THINH CONSTRUCTION CO., LTD.

**Construction location:** Quang Trung Ward, Son Tay Town, Hanoi City

**Scale:** including 29 main items (7 building A, 5 building B, 7 building C, 10 building D)

In which: the specific construction area for each work item is calculated according to the equal projection of the 1st floor:

- House A:  $S_{xd} = 140.2 \text{ (m}^2\text{)}$
- Building B:  $S_{xd} = 333.54 \text{ (m}^2\text{)}$
- Building C:  $S_{xd} = 97.53 \text{ (m}^2\text{)}$
- House D:  $S_{xd} = 185 \text{ (m}^2\text{)}$

Total construction area of main items

$$S_{xd} = 7 \times 140,2 + 5 \times 333,54 + 7 \times 97,53 + 10 \times 185 = 4946,81 \text{ (m}^2\text{)}$$

The land area is  $S=14549 \text{ m}^2$

Construction density: is the ratio of construction area to land area

Construction density of main items

$$:(4946.81/14549)*100\%= 34\% \text{ οφ χονστρυχτιον ωορκσ αρε λεπελ}$$

2 ωορκσ:

The same number of other sub-categories such as:

- Parking lot
- Flower gardens and ornamental plants
- Security guards, operators
- Swimming pool
- Roads
- Pavement
- Other categories

Calculation time. Project evaluation:

- Construction time: 2 years
- Project analysis time: 17 years (including construction time)

Project progress: 8 quarters from the first quarter of 2022 to the fourth quarter of 2024

Purpose of investment

- Business of villas
- Leasing objects: organizations. individuals at home and abroad. Construction solutions and equipment:

- The design is built in the style of a modern villa.
- Construction engineering design solution (site. cross-section. foundation solution) ) reflected in the construction technical drawing dossier.

- Planning solutions are shown in planning drawings.

- The construction and equipment are of the same quality as a 3-star international hotel.

*Table 1.1. Work items in the project land*

STT	Category Name	Area (m2)	Land occupancy rate (%)
1	Main work items (Houses A,B,C,D)	4946,81	34
2	Parking lot	440	3
3	Flower gardens and ornamental plants	2100	13
4	Security guards, operators	420	2,4
5	Swimming pool	210	1,5
6	Roads	2870	20
7	Other Infrastructure	782,75	5,60
8	General Courtyard	1120	8
9	Pavement	1740	12
	<b>Sum</b>	<b>14549</b>	<b>100</b>

*Table 1.2. Spreadsheet of construction land area*

House	Floor	Calculation formula	Floor area (m2)	Total floor area of 1 house (m2)	Total floor area 1 main item (m2)
A	1	$3,4*4,5+4,1*4,5+5,4*3,4+5,3*7,2+4,3*11,4$	140,2	360,7	2524,9
	2	$3,4*4,5+4,1*4,5+3,4*5,4+5,3*4,5+8,9*4,3+3,8*2,5$	123,73		
	Attic	$3,4*4,5+4*4,5+3,4*4,4+4,4*3,7+8,9*4,3$	102,81		
B	1	$2*(2,075*6+5,1*8,4+3,6*11+5,5*9,3+3,725*6)$	333,54	855,5	4277,5
	2	$2*(2,075*6+5,1*8,4+3,295*6+5,5*12+3,545*6)$	324,66		
	3	$5,1*17,3+12,25*9,1$	199,7		
C	1	$6,81*6,9+5,1*6,4+5,92*3,4$	97,53	399,14	2793,98

House	Floor	Calculation formula	Floor area (m <sup>2</sup> )	Total floor area of 1 house (m <sup>2</sup> )	Total floor area 1 main item (m <sup>2</sup> )
	2	$5,4*4+6,62*8+3,4*5,92$	94,69		
	3	$5,4*4+6,4*8+3,4*5,92$	92,93		
	Tum	$6,4*13,42+4,11*7,12-4,71*0,4$	113,27		
D	Ground floor	161,5	161,5	531,5	5315
	1	185	185		
	2	185	185		
Total floor area of main items					<b>14911,38</b>

## 1.2. Determination of total project investment

$$GT = G_{BT, HT, TDC} + G_{XD} + G_{TB} + G_{QL} + G_{TV} + G_K + G_{DP} \quad (1)$$

In which:

- **GBT.HT.TDC**: Expenses for compensation for site clearance and resettlement.
- **GXD**: Construction cost of the project.'
- **GTB**: Cost of equipment of the project.
- **GQL**: Project management costs.
- **GTV**: Construction investment consultancy costs.
- **GK**: Other costs of the project.
- **GDP**: Contingency costs.

### 1.2.1. Determination of compensation costs. support for site clearance and resettlement (GBT.HT.TDC)

Because the land of the project is rice cultivation land, there is no resettlement cost.  
 → Compensation costs. support site clearance. Resettlement includes the following amounts:

- Land compensation costs
- Compensation costs for crops grown on land.
- The cost of supporting job conversion. stabilize life.

- Expenses for organizing compensation. support.
- Land use levy or land rent. land use tax during the construction period.

### 1.2.1.1. Compensation costs

- **Land compensation expenses** and land compensation expenses are determined by the formula:

$$\text{GBTD} = G_d \times S$$

In which:

- Director: compensation price for land - project land is farmland (*According to Decision No. 30/2019/QĐ-UBND of the People's Committee of Hanoi for land for rice cultivation and perennial trees*)

=> Phase = 189600 VND/m<sup>2</sup>.

+ S : Total land area. (= 14,549 m<sup>2</sup> )

⇒ GBTD = 0.1896\*14,549 = 2,758.49 (million VND).

- **Rice compensation costs:**

Rice compensation costs are determined by the formula:

$$\text{GBTL} = G_L \times S$$

In which:

+ GL: Rice compensation price – take GL = 7 thousand VND taken according to Notice No. 8802/STC-BG dated 30/12/2016 of the Hanoi Department of Finance on the compensation unit price for crops. crops for land clearance in Hanoi in 2017.

+ S : Total land area. ( S = 14,549 m<sup>2</sup> )

=> GBTL = 0.007\* 14,549 = 101,843 (million VND)

Total compensation cost: GBT = 2,758.49 + 101,843 = 2,860.33 (million VND)

### 1.2.1.2. Support costs

Expenses for supporting job change: according to Article 20 of Decision 47/2014/QĐ-UBND regulating households. individuals directly producing agricultural land when the State recovers agricultural land are entitled to "support not more than 5 times the price of agricultural land of the same type in the local land price list for the entire recovered agricultural area" with money for occupational change and job creation equal to 2 times the prescribed agricultural land price with the actual agricultural land area were revoked. Take a factor of 2.

Registration certificate = 2 \* 0.162 \* 14,549 = 4,713.8 (million VND)

Expenses for life stabilization support: according to Clause 3, Article 19 of Decision 47/2014/QĐ-UBND issued on 15/05/2014 "Recovery of more than 70% of the land area in use, you will be supported to stabilize your life for 12 months if you do not have to move your place of residence and 24 months if you have to move your place of residence". "The level of support for a population specified in this article is calculated in money equivalent to 30 kg of rice in 01 month according to the average Nguyen Ngoc Uyen Chuong-4002265-65KTE



price at the time of local support". Take the reference price of 16,000 VND/kg of rice (Quarter I/2021). Assume 55 people. Support for 12 months

$$G_{DS} = 0.016 \times 30 \times 12 \times 55 = 316.8 \text{ (million VND)}$$

$$\text{Total support cost: GHT} = 4,713.8 + 316.8 = 5030.67 \text{ (million VND)}$$

### 1.2.1.3. Expenses for organizing compensation. support:

According to Clause 1, Article 3 of Circular No. 74/2015/TT-BTC on guidance on making estimates. use and settlement of funds for organization of compensation. support. resettlement when the State recovers land: "Funding sources ensure the organization of compensation. support. resettlement shall be deducted **not more than 2%** of the total compensation fund. support and resettlement of the project. sub-project".

$$\begin{aligned} GCPTC &= 2\% (GBT + G_{BTL} + G_{CDVL} + G_{DS}) \\ &= 2\% (2758.49 + 101.84 + 4713.8 + 316.8) \\ &= 159.86 \text{ (million VND)} \end{aligned}$$

### 1.2.1.3. Land lease expenses :

The cost of renting land for 1 year is determined by the formula

$$1\text{-year}_{GPA} = \times S$$

+ GTD : Land rental price - Pursuant to **Section 5. Article 10** of Decision **No. 15/2012/QĐ-UBND**: In case of land lease with annual land rent payment, the rate for calculating the land rental unit price for one year is calculated as 1.5% of the land price according to the purpose of using the leased land prescribed by the City People's Committee. The purpose of using leased land is trade and services.

According to **Decision 30/2019/QĐ-UBND dated 31/12/2019**. the price of commercial and service land in Trau Quy town, Gia Lam District, Hanoi is 6,552 million VND/m<sup>2</sup>

+ The land rental price of 1m<sup>2</sup> in 1 year is:

$$GTD = 1\% \times 6.552 = 0.0655 \text{ (million VND/m}^2\text{)}$$

+ The cost of land lease in 2 years of construction is:

$$\text{Construction certificate} = 0.0655 \times 14,549 \times 2 = 1905.92 \text{ (million VND)}$$

*Table 1.3. Summarize compensation costs. support site clearance. Resettlement*

*Unit price: Million VND*

STT	Content	Pre-tax expenses	Thuế VAT	After-tax expenses
1	Compensation costs	2860,3334	0%	2860,3334
2	Support costs	5030,676	0%	5030,676
3	Expenses for organizing the often	159,857048	0%	159,857048
4	Land rent in the Construction Booth	1905,919	0%	1905,919
Nguyen Ngoc Uyett Chtrung-4002265-65KTE^				8.855.708

### 1.2.2. Determination of construction costs:

#### 1.2.2.1. Bases for determining expenses:

- List of works. construction items of the project.
- Scale of construction of works. items (m2. md ...)
- Decision No. 610/QD-BXD dated 13/07/2022 on announcing the construction investment capital rate and general construction price of the structural part of the work in 2018.

Circular 09/2019/TT-BXD guiding the determination and management of construction investment costs and Decree 68/2019/ND-CP on management of construction investment costs

Decree No. 209/2013/ND-CP dated 18/12/2013 of the Government detailing and guiding the implementation of a number of articles of the Law on Value Added Tax

#### 1.2.2.2. Formula for determining the construction cost of the project:

- Construction costs are determined according to the formula:

$$G_{XD} = \sum_{i=1}^n g_{iXD} (1 + T_{GTGT}^{XD})$$

In which:

- +  $g_{iXD}$ : Construction cost before VAT of the work. Item I.
- +  $n$ : Number of works. work items of the project.
- +  $T_{GTGT}^{XD}$ : VAT rate for construction and installation products.
- For common items,  $g_{iXD}$  are calculated as follows:

$$g_{iXD} = S_i \times P_i$$

In which:

- +  $P_i$ : Construction cost rate (excluding VAT) calculated according to 1 unit of area or 1 unit of capacity of the i category
- +  $S_i$ : area or design capacity of item i (with n items)

#### Determination of work construction cost rates:

The project began to be implemented in **the first quarter of 2022** according to Decision No. 65/QD-BXD dated January 14, 2020 with a construction cost rate calculated for 1m2 of floor of VND 10.63 million, calculated starting from the third quarter of 2020, so it must be converted to the capital rate in 2020 (expected) through the average construction price index. The calculation is through the formula.

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$$\mathbf{PXD2}^{\text{quý IV}} = \mathbf{quýIII} \mathbf{x} ( \mathbf{i}_{XDbq}^{\text{precious}} ) \quad 5$$

**022 PXD2021**

In which:

- PXD2021Q2: Investment capital in the second quarter of 2022
- PXD2020: Investment capital in 2021
- k: the number of quarters from the time of announcement of the investment capital concentration to the time when the investment capital ratio needs to be calculated. Here  $k = 5$  (from the third quarter of 2021 – the fourth quarter of 2022)
- Quarter : The average price slippage calculated on the basis of the average construction price index according to the type of work of at least the last 3 years. We take 3 years close to the year of announcement, including 2019, 2020, 2021
- i is calculated according to the figures in the following table. construction price indices are taken according to data from documents published by the Ministry of Construction and the Department of Construction of Hanoi City.

\* **Construction price indices are taken according to:** Decisions of the Hanoi Department of Construction on the publication of construction price indices for the quarters of 2019, 2020, 2021.

*Table 1.4. Construction Price Index Calculator*

STT	Precious	Construction price index Build (%)	Construction price index Continuous (%)
1	First quarter of 2019	100,16	100,39
2	Second quarter of 2019	100,26	100,1
3	Third quarter of 2019	100,32	100,06
4	Fourth quarter of 2019	100,38	100,06
5	First quarter of 2020	100,19	99,89
6	Second Quarter 2020	100,37	100,18
7	Third Quarter 2020	100,34	99,97
8	Fourth quarter of 2020	100,30	99,96
9	First quarter of 2021	100,09	99,78
10	Second quarter of 2021	99,13	99,04
11	Third quarter of 2021	99,23	100,10
12	Fourth quarter of 2021	99,51	100,28

13	First Quarter of 2022	99,7	100,29
14	Second Quarter of 2022	99,81	100,34
15	Third quarter of 2022	99,89	100,36

Assuming that the first quarter of 2020 has no change in the construction price index compared to the quarter

before

Continuous construction price index:

$$IXDLH = \frac{I_{i+1}}{I_i}$$

Average construction price index:

$$I_{bq \text{ quarter}} = (100.1 + 100.06 + 100.06 + 99.89 + 100.18 + 99.97 + 99.96 + 99.87 + 99.04 + 100.1 + 100.28 + 100.29 + 100.34 + 100.36) / 15 = 99.98\%$$

=> Assuming that the state market does not change through the first quarter of 2021:

$$I_{bqq} = 99.98\%$$

### 1.2.2.3. Construction cost rate for the item

**\* Main items (Houses A, B, C, D):**

According to Decision 610/QĐ-BXD 2022 of the Ministry of Construction: Announcement of the construction investment capital rate and general construction price of the structural part of the work in 2020 with the construction investment capital rate in 2020 has the construction cost rate calculated for 1 m<sup>2</sup> of floor for villa-style houses from 2 to 3 floors is 8,510 million VND


$$PXD_{2020} = 8.50 \text{ (million VND)},$$

Replacing the data with (1), we have:

$$PXD_{2021} = 8.50 \times (0.9998)^5 = 8.310 \text{ (million VND)}, \text{ (After VAT)}$$

Construction cost rate before VAT:

$$PXD_{2021}(\text{before tax}) = 8,310 / (1 + 0.08) = 7.54 \text{ (million VND)}$$

→  capital rate for the construction of villa-style housing projects from 2-3 floors with load-bearing concrete frame structures, brick walls, and roof floors is 7.54 million VND/m<sup>2</sup> of floor (excluding VAT)

**\* Sub-categories:**

Internal roads, According to Decision No. 610/QĐ-BXD 2022 of the Ministry of Construction: Announcement of the construction investment capital rate and general construction price of the structural part of the work in 2020, for grade V roads, the roadbed is 7.5m wide, the road surface is 5.5m wide, the curb is 2x1m wide (of which the reinforced margin is 2x0 wide, 5m uniform pavement structure), the road surface consists of 1 layer of asphalt concrete 7cm thick on the crushed stone foundation is 11,580 million VND/km

$$PXD_{2021} = 11,580 \text{ (million VND/km)}$$

Replacing the data with (1), we have:

$$PXD_{2022} = 11,580 \times (0.9998)^5 = 11,573 \text{ (million VND/km)} \text{ (After VAT)}$$

Construction cost rate before VAT

$$\text{PXD2022 (After tax)} = 11,573 / (1 + 0.08) = 10,521 \text{ (Million VND/km)}$$

Similar to works in sub-categories, we have a table of construction costs



Table 1.5. Construction cost rate converted to the first quarter of 2021

STT	ITEM NAME (DESCRIPTION)	PXD2020	PXD2021=PXD2020 $\times I_{bq}^{Q3}$ (after tax)	PXD2020 (before tax)	Unit
I, MAIN ITEMS					
1	House A,B,C,D: House villa style from 2 to 3 floors, load-bearing frame structure BTCT	8,310	8,30	7,54	million VND/m <sup>2</sup>
II, SUB-ITEMS					
1	Grade V Roads	11.580	11.573	10.521	million VND/km
2	Parking lot	-	-	1,2	million VND/m <sup>2</sup>
3	Fence	-	-	1,8	million VND/m <sup>2</sup>
4	Main Gate	-	-	120	Million VND/1 pcs
5	Auxiliary Ports	-	-	60	Million VND/1 pcs
6	Flower Garden, Lawn	-	-	0,2	million VND/m <sup>2</sup>
7	Bonsai	-	-	130	Million VND/260 tree
8	Trees surrounding the project include roadside trees, on sidewalks hè	-	-	36	Million VND/120 trees
9	Water supply and drainage system	-	-	2%GXDC	Million Copper/System

10	Electrical System	-	-	2%GHMC	Million VND/System Unified
11	Operator	4,460	4,457	4,052	million VND/m2

STT	ITEM NAME (DESCRIPTION)	PXD2020	PXD2021=PXD2020 x I <sub>bq</sub> <sup>Q3</sup> (after tax)	PXD2020 (before tax)	Unit
12	Guard House	1,7	1,699	1,545	million VND/m2
13	General Courtyard	-	-	0,7	million VND/m2
14	Leveling costs	-	-	0,1	million VND/m2
15	Other categories	-	-	0,5% GHMC	Million Copper/System

Calculation of project construction costs through the project construction cost rate calculation table VAT rate: 10%

*Table 1.6. Cost of construction of items*

*Unit: Trieu Don*

Stt	Category Name	Single taste	Yes	Pi	Upfront costs tax	Thuế VAT	After-tax expenses
1	Building House A	m2	2524,9	7,54	19.037,75	8%	20.560,77
2	Building B	m2	4277,5	7,54	32.252,35	8%	34.832,54
3	Building C	m2	2794	7,54	21.066,61	8%	22.751,94
4	Building D	m2	5315	7,54	40.075,10	8%	43.281,11
<b>Main Item Construction Cost (GHMC)</b>					<b>112.431,81</b>	8%	121.426,35
5	Roads	km	0,380	10.521	3.998	8%	4.317,82
6	Parking lot	m2	440	1,2	528	8%	570,24
7	Fence	m2	1171	1,8	2.108	8%	2.276,42
8	Main Gate	female	1	120	120	8%	129,60
9	Auxiliary Ports	female	1	60	60	8%	64,80
10	Flower Garden,	m2	2100	0,2	420	8%	453,60

	Lawn						
11	Bonsai	tree	300	0,5	150	8%	162,00

Stt	Category Name	Single	Yes	Pi	Upfront costs tax	Thuế VAT	After-tax expenses
		taste					
12	Surrounding greenery project	tree	200	0,3	60	8%	64,80
13	Supply and Exit System water	ht	2%GHMC		2.248,64	8%	2.428,53
14	System electricity	ht			2.248,64	8%	2.428,53
15	Operator	m2	250	4,052	1.013	8%	1.094,04
16	Guard House	m2	170	1,545	262,65	8%	283,66
17	General Courtyard	m2	1120	0,7	784	8%	846,72
18	Leveling costs	m2	14549	0,1	1.455	8%	1.571,29
19	Other categories	ht	0,5%GHMC		562,16	8%	607,13
20	Sum				128.449,57	8%	138.725,53

**1.2.3. Determine the cost of equipment (excluding tools and utensils not belonging to fixed assets) (GTB).**

Equipment costs are determined according to the formula estimation method or:

$$GTB = GMS + G_{GC} + G_{QLMSTB} + G_{CN} + G_{DT} + G_{LD} + G_{CT} + G_K$$

In which:

- GMS: expenses for procurement of construction equipment and technological equipment;
- GGC: costs for processing and manufacturing non-standard equipment;
- GMSTBCT: expenses for managing the contractor's equipment procurement;
- License: cost of purchasing technology copyrights;
- Investment: training and technology transfer costs;
- GLD: cost of equipment installation and equipment testing and calibration;
- GCT: cost of commissioning equipment according to technical requirements;
- GK: Other related expenses.

For this project, there are only 2 cost components, namely the cost of equipment procurement and installation, which should be determined by the following formula:

$$GTB = G_{MS} + GLĐ$$

### 1.2.3.1. Equipment procurement costs

#### Based on demand, determine equipment procurement

- The bases for determining the cost of procurement of equipment in the project include: equipment in the house, equipment used in project management and operation, etc.
- Based on the price of equipment calculated at the construction and installation site, including: purchase price, cost of transportation, warehousing, preservation and maintenance of equipment at the site warehouse, etc.
- The exchange rate from USD to VND taken at the time of project establishment is: 1USD = 23,047,000 VND
- VAT for each type of equipment according to current regulations (according to the Law on Value Added Tax promulgated by the National Assembly, Law No. 13/2008/QH12 and Circular No. 06/2012/TT-BTC of the Ministry of Finance guiding the implementation of a number of articles of the Law on Value Added Tax).

#### Calculate the cost of equipment procurement according to the following formula:

$$GMSTB = \sum_{i=1}^n Q_i \times M_i$$

$Q_i$  -Number (pcs) or weight (T) device (or TB group)  $i$ th;  $M_i$  - Price calculated for 1 piece or 1 ton of equipment  $i$ :

$$M_i = G_g + C_{vc} + C_{lk} + C_{bq} + T$$

-  $G_g$ : the price of the equipment at the place of purchase or the price taken into account the port of Vietnam and insurance premiums and import taxes,... according to the provisions of law (for imported equipment), including the cost of designing and supervising the manufacture of equipment;

-  $C_{vc}$ : the cost of transporting one unit of volume or one unit of quantity of equipment (group of equipment) from the place of purchase or from a Vietnamese port or from the place of processing or manufacturing to the construction site;

-  $C_{lk}$ : expenses for storage, storage and storage of containers per unit of volume or one unit of equipment quantity (group of equipment) at Vietnamese ports for imported equipment;

-  $C_{bq}$ : cost of preservation and maintenance of one unit of volume or one unit of equipment quantity (group of equipment) at the site;

-  $Q$ : Applicable taxes and fees.

The calculation results are shown in the following tables:

Table 1.7. Statistics on the number of rooms in the project

STT	Room Type	House A	House B	House C	House D	University	NBV	Sum
1	Amount	7	5	7	10	1	2	32
2	Lounge	7	10	7	10	0	0	34
3	Kitchen + dining room	7	10	7	40	0	0	64
4	Bedroom	28	60	35	60	0	2	185
5	SHC Room	0	0	0	10	0	0	10
6	Small toilet	35	80	35	60	1	2	213
7	Large bathroom	7	5	7	10	0	0	29
8	Laundry room	7	5	7	10	0	0	29
9	Maid's bedroom	7	5	0	10	0	0	22
10	Wardrobe	0	0	0	20	0	0	20
11	Worship Hall	7	0	0	0	0	0	7
12	Competition	7	10	7	10	0	0	34
13	Duty Room	0	0	0	0	0	2	2
14	Management Department	0	0	0	0	1	0	1
15	Generator Room	0	0	0	10	0	0	10
16	Office	0	10	0	0	0	0	10



17	Classroom	0	10	7	0	0	0	17
18	Storehouse	7	0	7	0	0	0	14

According to Decision No. 338/TMDL-DL on minimum standards of facilities and service standards of tourist hotels, we have equipment used in the rooms as follows:

- Living room: 01 air conditioner, 01 set of salon tables and chairs, 01 telephone, 01 55-inch LCD TV, disc player + stereo.
- Bedroom: 01 air conditioner, 01 telephone, 01 32-inch LCD TV, 01 mattress bed, 01 3-wing wardrobe, 01 dressing table.
- Kitchen + dining room: 01 gas stove, 01 456-liter refrigerator, 01 kitchen cabinet, 01 hood, 1 microwave, 01 set of tables and chairs, 01 air conditioner, 01 32-inch LCD TV, 1 hot and cold water machine.
- Bathroom : 01 water heater, 01 shower, 01 bathtub, 01 mirror and sink
- WC room: 01 toilet, 01 hand sink.
- Laundry room: 01 washing machine.
- Maid's room: 01 single bed, 01 telephone, 01 standing cabinet, 01 hanging fan wall.
- Common room: 01 air conditioner, 01 43-inch LCD TV, 01 salon
- Worship room: 01 altar cabinet.
- Reading room: 01 3-storey bookshelf, 1 desk, 01 computer.
- Working room: 01 desk, 01 computer, 01 printer, 01 document cabinet, 01 bookshelf
  - Wardrobe: 1 clothes rack, 2-wing wardrobe, mirror
  - Management operation room: 04 sets of office tables and chairs, 01 43-inch LCD TV, 01 telephone switchboard, 01 fax machine, 03 retail telephones, 02 air conditioners, 01 large salon, 05 computers, 02 printers, 01 hot and cold water machine, 3 document cabinets.
  - Security guard room: 01 set of tables and chairs, 01 21-inch TV, 01 telephone, 01 mattress bed, 1 wall-mounted fan.
  - Generator room: 1 generator.
  - Garage + warehouse: each garage is allowed to accommodate 01 4-seater car

Table 1.8. Equipment procurement costs

STT	Device Type	Unit	SL	Unit Price	CPTT	Thuế VAT	CPST
1	Smart TV 4K Neo QLED 55 inch QN90A	Single	34	49,9	1696,6	8%	1832,328
2	Smart TV The Sero Samsung 4K 43 inch	Single	11	31,2	343,2	8%	370,656
3	Smart TV Samsung 32 inch	Single	249	27,5	6847,5	8%	7395,3
4	Daikin 2-way air conditioner reverse	Single	295	36,8	10856	8%	11724,48
5	Hitachi 6-Door Refrigerator G620GV 657l Inverter	Single	64	87	5568	8%	6013,44
6	Water heater	Single	29	3,4	98,6	8%	106,488
7	BOSCH WDU28560GB washer	Single	29	44,5	1290,5	8%	1393,74
8	Disc player	Single	34	2,2	74,8	8%	80,784
9	Cooker hood	Single	64	3,2	204,8	8%	221,184
10	Sound System	Arrangement	34	6,8	231,2	8%	249,696
11	Furniture sofa set	Ministry	45	30	1350	8%	1458
12	Desk Phones	Single	246	0,25	61,5	8%	66,42
13	Imported leather double bed BE1909	Single	185	38,5	7122,5	8%	7692,3
14	Oak Chillon Single Bed	Single	24	12	288	8%	311,04
15	Desktop Array	Arrangement	32	8,5	272	8%	293,76
16	3-wing wardrobe	Single	185	10,5	1942,5	8%	2097,9
17	2-wing wardrobe	Single	42	5,5	231	8%	249,48
18	Clothes rack	Single	20	2,1	42	8%	45,36
19	Dining tables and chairs	Ministry	66	8,5	561	8%	605,88
20	Kitchen cabinets	Ministry	64	10,5	672	8%	725,76
21	Negative gas stove	Single	64	8,5	544	8%	587,52

22	Microwave	Single	64	2,3	147,2	8%	158,976
23	Dressing Table	Ministry	185	2,5	462,5	8%	499,5
24	Workbench Set	Ministry	29	4,5	130,5	8%	140,94
25	3-tier bookshelf	Single	27	0,8	21,6	8%	23,328
26	Mirror	Single	20	1,8	36	8%	38,88

STT	Device Type	Unit	SL	Unit Price	CPTT	Thuế VAT	CPST
27	Altar	Single	7	20	140	8%	151,2
28	Office Desk	Ministry	1	0,7	0,7	8%	0,756
29	File Cabinet	Single	13	0,8	10,4	8%	11,232
30	Document Printers	Single	12	8,5	102	8%	110,16
31	Fax machine	Single	1	4,15	4,15	8%	4,482
32	Wall Fan	Single	24	3	72	8%	77,76
33	16KVA Generator Kyo Power THG20 FDD	Single	10	82	820	8%	885,6
34	Antenna System	System	1	120	120	8%	129,6
35	Fire protection system	System	1	180	180	8%	194,4
36	Substation system	System	11	170	1870	8%	2019,6
37	Water Filtration Pump System	System	1	110	110	8%	118,8
38	Telephone Call Center	System	1	40	40	8%	43,2
39	Toilet	single	213	1,9	404,7	8%	437,076
<b>Sum</b>					<b>44.969,45</b>		48567,006

### 1.2.3.2. Determination of equipment

#### installation costs Bases for determination:

- The volume of equipment installation work or the value of the equipment to be installed.
- Unit price of equipment installation or the ratio of installation cost to the value of equipment to be installed: Equipment installation cost =  $(1 \div 2\%)$  compared to the value of equipment to be installed (choose 2%).

*Table 1.9. Equipment installation cost*

STT	Device Type	TB value to be installed	Labor union rate	CPTT	Thuế VAT	CPST
1	Daikin 2-way inverter air conditioner	11724,48	2%	234,4896	8%	253,249
2	Water heater	106,488	2%	2,12976	8%	2,300
3	Cooker hood	221,184	2%	4,42368	8%	4,778
4	Desk Phones	66,42	2%	1,3284	8%	1,435
5	Desktop Array	293,76	2%	5,8752	8%	6,345

6	16KVA Kyo Power THG20 FDD Generator	885,6	2%	17,712	8%	19,129
7	Water Filtration Pump System	118,8	2%	2,376	8%	2,566
8	Toilet	437,076	2%	8,74152	8%	9,441
<b>Sum</b>		13.853,81		277,07616		299,242

- VAT for installation: 8%.

### 1.2.3.3. Summing up equipment costs

*Table 1.10. Summing up equipment costs*

STT	Content	Pre-tax expenses	Thuế VAT	After-tax expenses
1	Equipment procurement costs	44.969,45	0,08	48.567,01
2	Equipment installation cost	277,08	0,08	299,24
	<b>Total</b>	<b>45.246,53</b>		<b>48.866,25</b>

### 1.2.4. Determination of project management costs, construction investment consultancy costs and other expenses (not including interest payment during the construction period, and working capital)

**Expenses for project management and construction investment consultancy include:**

- + Project formulation costs.
- + Expenses for verifying the effectiveness and feasibility of the project.
- + Design cost.
- + Cost of design survey
- + Expenses for design verification.
- + Expenses for verification of work cost estimates.
- + Bidding consultancy costs
- + Construction supervision costs
- + Expenses for inspection of conformity of work quality
- + Expenses for verification and approval of settlement.
- + Settlement audit costs
- + Construction insurance costs.

**Grounds for determination:**

- + Existing cost norms
- + Pursuant to Circular 12/2021 TT-BXD of the Ministry of Construction.
- + Based on the volume and unit price.
- + Based on the value-added tax rate (GTT = 8%), insurance as prescribed.
- + Volume and unit price: calculated for each cost.
- + Fees, taxes, insurance, etc. According to regulations

**Methods of calculating project management costs, construction investment consultancy costs**

**raise**



### 1.2.4.1. Project management costs

Calculation formula:

$$GQLDA = N_{QLDA} \times (G_{XDtt} + G_{TBtt})$$

In which:

- $N_{QLDA}$ : norms of the percentage (%) of project management costs corresponding to the scale of construction and installation and investment equipment of the project under the guidance of the Minister of Construction
- $G_{XDtt}$ : construction cost before VAT;
- $G_{TBtt}$ : equipment cost before value-added tax.

*Table 1.11. Project management costs*

TT	Rate norm (%) (Circular 12/2021/TT- BXD)	Construction cost (trđ)	Equipment cost (trđ)	Project managem ent expenses (before tax) (trđ)
1	1,942	128.449,57	45.246,53	3.373,18

### 1.2.4.2. Cost of preparing a feasibility study

**report** Calculation formula:  $GLDA = T_{LDA} \times$

$(G_{XDtt} + G_{TBtt})$  Where:

- $G_{XDtt}$ : Construction cost before tax.
- $G_{TBtt}$ : Equipment cost before tax.

*Table 1.12. Cost of preparing a feasibility study report*

TT	Rate norm (%) (TT12/2021/TT-BXD)	Construction cost (trđ)	Equip ment cost (trđ)	Cost of preparing a feasibility study report (before tax) (trđ)
1	0,458	128.449,57	45.246,53	795,53

### 1.2.4.3. Cost of verifying the effectiveness and feasibility of the project

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Calculation formula: **GTDA** = **T<sub>TDA</sub>** \* (**G<sub>XDtt</sub>** + **G<sub>TBtt</sub>**)

In which:

- $G_{XDtt}$ : Construction cost before tax.
- $G_{XDtt}$ : Equipment cost before tax.

*Table 1.13. Cost of verifying the effectiveness and feasibility of the project*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Construction cost (trđ)</b>	<b>Equip ment cost  (trđ)</b>	<b>Expense s for verificati on of the effectiven ess and feasibility of the project (before tax) (trđ)</b>
<b>1</b>	0,029	128.449,57	45.246,53	<b>50,37</b>

#### 1.2.4.4. Determining design costs

Formula:

$$G_{TKi} = G_{XDi} * N_{TKi} * (0.9*k + 0.1) \text{ (item 3 part II, TT12/2021-BXD)}$$

Where:

- $G_{TKi}$ : Design cost.
- $N_{TKi}$ : Norms of design costs according to the announcement.
- $G_{XDi}$ : Construction costs corresponding to the type and grade of each work in the total approved investment
- 0.1 : Cost of author supervision (10%)
- k: Adjustment coefficient to reduce the design cost norm due to repeated works in the project (design of works repeated in a cluster of works or in a project or reuse of designs: The first work  $K=1$  (not adjusted); The 2nd project:  $K= 0.36$ ; 3rd building onwards  $K= 0.18$ )
- Cost of outdoor water supply and drainage system  
Water supply and drainage pipelines:  $k = 1.2$ .
- The cost of the out-of-home power supply system  
Double-phase dividing lines are applied according to the norms of overhead

power transmission lines of the same voltage level and are adjusted with the following coefficients: lines from 2 to 4 circuits:  $k = 1.1$ ;

- The cost of leveling the ground.

When it is necessary to separately design the leveling part of the project of economic zones, industrial parks, tourist resorts or new urban areas, the cost of leveling design of the above-mentioned projects is equal to 40% of the cost norm for designing grade-IV traffic works.

**Bases:**

- The project consists of 2 design steps: Basic Design & Construction Drawing Design
- Construction cost (excluding VAT) of the whole project: GXD = 112,119.56 million VND

VND

)

- The construction cost (Exclusive of VAT) of each work item is:

- GXD1A = 2,758.36 (million VND)
- GXD1B = 6,493 (million VND)
- GXD1C = 3,020.90 (million VND)
- GXD1D = 4,007.51 (million VND)

- Pursuant to Table 2.5, TT12/2021/TT-BXD interpolating the norms of design costs construction drawings of each house A, B, C, D

- The construction cost of each house A, B, C, D is <10 billion, so NTKA=NTKB=NTKC=3.85%

*Table 1.14. Summary of design costs*

STT	House	Construction cost	Credits	Norms (%)	House number	Pre-tax expenses
1	House A1	2.719,68	1	3,85	1	104,71
2	House B1	6.450,47	1	3,85	1	248,34
3	House C1	3.009,52	1	3,85	1	115,87
4	House D1	4.007,51	1	3,85	1	154,29
5	House A2	2.719,68	0,36	3,85	1	37,69
6	House B2	6.450,47	0,36	3,85	1	89,40
7	House C2	3.009,52	0,36	3,85	1	41,71
8	D2 House	4.007,51	0,36	3,85	1	55,54
9	House A3-A7	2.719,68	0,18	3,85	5	94,24
10	House B3-B5	6.450,47	0,18	3,85	3	134,11
11	House C3-C7	3.009,52	0,18	3,85	5	104,28
12	D3-D10 House	4.007,51	0,18	3,85	8	222,18

<b>SUM</b>	<b>1.402,36</b>
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#### 1.2.4.5. Cost of design survey

The cost of the design survey is equal to 30% of the design cost:

$$\mathbf{GKSTK = 30\% * G_{TK}}$$

*Table 1.15. Cost of design survey*

<b>TT</b>	<b>Rate Norm (%)</b>	<b>Design cost (above)</b>	<b>Cost of design survey (before tax)  (trđ)</b>
<b>1</b>	<b>30</b>	<b>1.402,36</b>	<b>420,71</b>

#### 1.2.4.6. Cost of design verification

$$\mathbf{GTTTK = N_{TTTK} * G_{XD}}$$

In which:

- NTTTK: Norms of design verification costs by % (see **Table 2.16, Circular 12/2021-BXD**)

*Table 1.16. Cost of design verification*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Construction cost before tax (VND)</b>	<b>Cost of design verification (before tax)  (trđ)</b>
<b>1</b>	<b>0,135</b>	<b>128.449,57</b>	<b>173,41</b>

#### 1.2.4.7. Cost of verifying the estimate

Formula:  $\mathbf{GTTDT = N_{TTDT} *}$

$\mathbf{G_{XD}}$  Where:

- Construction cost: Construction costs do not include VAT
- Estimate verification cost norms (see **table 2.17, Circular 12/2021-BXD**)

*Table 1.17. Cost of estimate verification*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Construction cost before tax (VND)</b>	<b>Expenses for verification of estimates (before tax)  (trđ)</b>
<b>1</b>	<b>0,132</b>	<b>128.449,57</b>	<b>169,55</b>

#### **1.2.4.8. Expenses for preparing bidding documents and evaluating bid dossiers**

Expenses for making bidding dossiers and evaluating bid dossiers include: Expenses for making bidding dossiers, evaluating construction bid dossiers and expenses for making bidding dossiers, evaluating bid dossiers for procurement of materials and equipment

*a. Expenses for compiling bidding documents, evaluating bidding documents for construction and installation bidding packages:*

$$\mathbf{GTVXD = N_{TVXD} * GXD}$$

In which:

- Construction cost: Construction cost does not include VAT.
- Construction contractor: Norms for preparing bidding documents, evaluating bids for construction bidding packages **(look up table 2.19, TT12/2021-BXD).**

*Table 1.18. Expenses for preparation of bidding documents, assessment of construction and installation bidding documents*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Construction cost before tax (VND)</b>	<b>Expenses for preparation of bidding documents, assessment of construction and installation bidding documents</b>
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			(before tax)
			(trđ)
<b>1</b>	<b>0,115</b>	<b>128.449,57</b>	<b>147,72</b>

*b. Expenses for compiling bidding dossiers and evaluating bidding dossiers for bidding packages for procurement of supplies and equipment:*

$$\mathbf{GTVTB = N_{TVTB} * G_{TBtt}}$$

In which:

- GTB: Expenses for procurement of materials and equipment are exclusive of VAT.
- NTVTB: norms for preparing bidding documents, evaluating bids for procurement of materials and equipment (**look up Table 2.20, Circular 12/2021-BXD**)

*Table 1.19. Expenses for preparation of bidding documents, assessment of bidding documents for procurement of materials and equipment*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Equipment cost before tax (trđ)</b>	<b>Expenses for preparation of bidding documents, assessment of bidding documents for procurement of materials and equipment  (before tax)  (trđ)</b>
<b>1</b>	<b>0,275</b>	<b>45.246,53</b>	<b>124,43</b>

*c. Summarizing the cost of preparing the Bid and evaluating the Bid*

*Table 1.20. Expenses for preparation of Bidding Documents and evaluation of Bidding Documents*

<b>TT</b>	<b>Targets (trđ)</b>	<b>Cost value (before tax)</b>
<b>1</b>	Expenses for preparation of bidding documents, assessment of construction and installation bidding documents	147,72

2	Expenses for preparation of bidding documents, assessment of bidding documents for procurement of materials and equipment	124,43
3	<b>Expenses for preparation of Bidding Documents and evaluation of Bidding Documents</b>	<b>272,14</b>

#### 1.2.4.9. Construction supervision costs

Construction supervision costs include construction supervision costs (GGSXD) and equipment installation supervision costs (GGSTB)

*a. Construction supervision costs:*

$$\mathbf{GGSXD = N_{GSXD} * GXD}$$

In which:

- Construction Authority: Construction supervision cost norms by % (see **Table 2.21, Circular 12/2021-BXD**)

- Construction cost: Construction cost does not include VAT.

*Table 1.21. Construction supervision costs*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Construction cost before tax (VND)</b>	<b>Construction supervision costs  (trđ)</b>
<b>1</b>	<b>1,773</b>	<b>128.449,57</b>	<b>2.277,41</b>

*b. Cost of monitoring and installing equipment:*

$$\mathbf{GGSTB = N_{GSTB} * G_{TBtt}}$$

In which:

- NGSTB: Cost norms for monitoring and installing equipment (see **table 2.22 BXD) TT12/2021-**

-  $G_{TBtt}$ : Equipment costs do not include VAT.

*Table 1.22. Cost of monitoring and installing equipment*

<b>TT</b>	<b>Rate norm (%) (TT12/2021/TT-BXD)</b>	<b>Equipment cost before tax (trđ)</b>	<b>Cost of monitoring and installing equipment (trđ)</b>
<b>1</b>	<b>0,663</b>	<b>45.246,53</b>	<b>299,98</b>

*c. Summary of construction supervision costs*

Table 1.23. Construction supervision costs

TT	Targets (trđ)	Cost value (before tax)
1	Construction supervision costs	2.277,41
2	Cost of monitoring and installing equipment	299,98
3	<b>Construction cost</b>	<b>2.577,40</b>

**1.2.4.9. Expenses for inspection of conformity of work quality**

$$\text{GKDCL} = 30\% * \text{GGSTC}$$

In which: GGSTC is the cost of construction supervision

Table 1.24. Construction supervision costs

TT	Rate Norm (%)	Construction supervision cost (trđ)	Cost of inspection of conformity of work quality (before tax) (trđ)
1	30	2.577,40	773,22

**1.2.4.10. Summarizing construction investment management and consultancy expenses**

Table 1.25. Expenses for project management, construction investment consultancy

STT	Cost Type	Way Legality	Cost Pre-tax	Tax VAT	Later Costs tax
1	Project management costs	According to the MTL	3.373,18	8%	3.643,03
2	Cost of preparing a feasibility study report	According to the MTL	795,53	8%	859,17
3	Cost of validity verification results and feasibility of	According to the MTL	50,37	8%	54,40

	the project				
4	Design cost	According to the MTL	1.402,36	8%	1.514,55

5	Cost of design survey	30% of the cost design	420,71	8%	454,36
6	Cost of design verification	According to the MTL	173,41	8%	187,28
7	Cost of estimate verification	According to the MTL	169,55	8%	183,12
8	Expenses for preparing bidding documents and evaluating bid dossiers	According to the MTL	272,14	8%	293,92
9	Construction supervision costs	According to the MTL	2.577,40	8%	2.783,59
10	Expenses for inspection of public quality conformity submit	30% of the cost of exam proctoring work	773,22	8%	835,08
<b>Total</b>			<b>10.007,86</b>		<b>10.808,49</b>

### 1.2.5. Other expenses

#### Grounds for determination:

- **Decree 10/2021/ND-CP** of the Government on expenditure on management of construction investment costs.

- **Circular 11/2021/TT-BXD** of the Ministry of Construction on guiding and managing construction investment costs.

#### Other methods of determining costs

$$G_k = \sum_{i=1}^n X_i + \sum_{j=1}^m \Delta_j + \sum_{k=1}^p E_k$$

+  $C_i$ : Other expenses  $i$ , determined according to the percentage norm (%) under the guidance of competent agencies.

+  $D_j$ : Other expenses  $j$ , determined by making estimates according to the guidance of the Ministry of Construction.

+  $E_k$ : Other related expenses

### 1.2.5.1. Other expenses calculated according to the rate norm

#### a. Expenses for verification and approval of settlement

Total preliminary investment of the project: **E-commerce** =  $G_{XD} + G_{TB} + G_{QL,TV,K}$

Table 1.26. Expenses for verification and approval of settlement

TT	Expense Expenditure	Calculation method	Unit	Expenditure value fee (trđ)
1	Ratio Norm (NPDQT)	TT10/2020/TT-BTC	%	0,207
2	Pre-tax construction cost		trđ	128.449,57
3	Equipment cost before tax (GTBTT)		trđ	45.246,53
4	Construction investment management and consultancy costs and other temporarily calculated expenses (GQL, TV, K)	$13\% * (GXDTT + GTBTT)$	trđ	22.580
5	Total provisional investment (e-commerce)	$GXDTT + GTBTT + GQL, TV, K$	trđ	196.276,58
6	<b>Expenses for verification and approval of settlement</b>	<b>NPDQT * <math>T_{TMBTDATT}</math></b>	<b>trđ</b>	<b>406,29</b>

## b. Settlement audit costs

$$GKT = N_{KT} * TT \text{ M\AA ETMATDATT}$$

Table 1.27. Settlement audit costs

TT	Expense Expenditure	Calculation method	Unit	Cost Value (trđ)
1	Prevalence norms (PWDs)	TT10/2020/TT-BTC	%	0,316
2	Total temporary investment calculation (e-commerce)	$GXDTT + GTBTT + GQL, TV, K$	trđ	196.276,58



<b>4</b>	<b>Settlement audit costs</b>	<b>NKT * MET</b>	<b>trđ</b>	<b>620,23</b>
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*c. Construction insurance costs*

$$\mathbf{GBH} = \mathbf{T_{BHXD}} * (\mathbf{GXD} + \mathbf{G_{TB}})$$

*Table 1.28. Construction insurance costs*

<b>TT</b>	<b>Expense Expenditure</b>	<b>Calculation method</b>	<b>Unit</b>	<b>Cost Value (trđ)</b>
1	Ratio norm (TBHXD)	TT329/2016/TT-BTC	%	0,8
2	Pre-construction costs Tax (GXDTT)		trđ	128.449,57
3	Upfront equipment costs Tax (GTB)		trđ	45.246,53
<b>4</b>	<b>Construction insurance costs</b>	<b>TBHXD* (GXD + GTB)</b>	<b>trđ</b>	<b>1.389,57</b>

### 1.2.5.2. Other remaining expenses

*Table 1.29. Other remaining expenses*

<b>TT</b>	<b>Expense Expenditure</b>	<b>Calculation method</b>	<b>Unit</b>	<b>Cost Value (trđ)</b>
1	Rate Norm (TK)	Temporary calculation	%	0,5
2	Pre-construction costs Tax (GXDTT)		trđ	128.449,57
3	Upfront equipment costs Tax (GTB)		trđ	45.246,53
<b>4</b>	<b>Other remaining expenses</b>	<b>TK* (GXD + G<sub>TB</sub>)</b>	<b>trđ</b>	<b>868,48</b>

### 1.2.5.3. Summary of other expenses

*Table 1.30. Summary of other expenses*

STT	Content	Determination method	CPTT	Thuế VAT	CPST
<b>I</b>	<b>Other expenses calculated according to the rate norm</b>				
1	Expenses for verification and approval of settlement	According to the MTL	406,29	8%	438,80
2	Settlement audit costs	According to the MTL	620,23	8%	669,85
3	Construction insurance costs	$0.8\% * (G_{XD} + G_{TB})$	1389,57	8%	1.500,73
<b>II</b>	<b>Other remaining expenses</b>	$0.5\% * (G_{xd} + G_{tb})$	868,48	8%	937,96
<b>SUM</b>			<b>3.284,58</b>		<b>3.547,34</b>

#### 1.2.6. Initial working capital estimate for the project:

##### \* Grounds for determination:

The working capital estimate for the project shall be based on the working capital estimate in the reserve, production and circulation stage, or it may be based on the annual operating expenses and the ratio of working capital to operating expenses, or calculated as a percentage of the turnover from product sales. In this project, the calculation method is based on the percentage of area rental revenue.

Revenue from leasing the area, the number of annual turnovers or the percentage of working capital demand compared to the revenue from leasing the area in the year.

**\* The initial working capital estimate in the total investment of the project is expected to be equal to the working capital demand in the first year.**

*Table 1.31. Working capital demand by revenue*

ST T	Content	Unit	First year of operation
1	Total floor area	m <sup>2</sup>	14.911,38
2	Leasing floor area	m <sup>2</sup>	12.674,67
3	Rental price	million VND/1m <sup>2</sup> /1 month	6,1
4	First-year leasing capacity	%	85%
5	First-year rental revenue	million VND	69.583,95
6	Ratio of working capital to cost of turnover (%)	%	10%

7	Working capital needs	million VND	6.958,40
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***1.2.7. Summing up investment capital before loan interest during the construction and reserve period.*** From the costs calculated above, we have a summary of investment capital before interest during the construction period as follows:

*Table 1.32. Synthesis of investment capital before loan interest and provision*

<b>TT</b>	<b>Content</b>	<b>CPTT</b>	<b>Thuế VAT</b>	<b>CPST</b>
1	Expenses for compensation, site clearance and resettlement	9.956,79	0%	9.956,79
2	Construction cost	128.449,57	8%	138.725,53
3	Equipment cost	45.246,53	8%	48.866,25
4	Project management costs, construction investment consultancy	10.007,86	8%	10.808,49
5	Other expenses	3.284,58	8%	3.547,34
6	Initial working capital	6.958,40	0%	6.571,82
<b>SUM</b>		<b>203.903,71</b>		220.216,01

**1.2.8. Prepare a capital allocation table according to the schedule (excluding contingency costs and loan interest during the construction period)**

STT	Job Description	Implementation time																							
		Q1		Q2		Q3		Q4		Q5		Q6		Q7		Q8									
I	Project preparation phase																								
1	Establishment of a feasible NCBC																								
2	Appraisal and approval of feasible NCBC																								
II	Project implementation phase																								
1	Compensation and site clearance																								
2	Design Survey																								
3	Design																								
4	Design verification																								
5	Verification of estimates																								
6	Preparation of Bidding Documents and Evaluation of Bidding Documents																								
7	Construction Insurance																								
8	Construction																								
9	Construction supervision																								
10	Procurement and installation of equipment																								
11	Manage equipment procurement and installation																								
12	CL Conformity Inspection																								
13	Project Management																								
14	Other expenses																								
III	Project Termination Phase																								



Table 1.33. Capital allocation table during the construction period (excluding VAT)

Unit: trđ

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<b>I</b>	<b>Project preparation phase</b>								
1	Preparation of technical research reports	795,53							
2	Verification of the NC report	50,37							
<b>II</b>	<b>Project implementation phase</b>								
1	Compensation and face clearance flat		9.956,79						
2	Design Survey		420,71						
3	Design		1.402,36						
4	Design verification			173,41					
5	Verification of estimates			169,55					
6	Preparation of Bidding Documents and Evaluation of Bidding Documents			272,14					
7	Construction Insurance				1.389,57				
8	Construction				32.112,39	32.112,39	32.112,39	32.112,39	
9	Construction supervision				569,35	569,35	569,35	569,35	
10	Procurement and installation of equipment						22.623,26	22.623,26	
11	Supervision of construction and installation of equipment						149,99	149,99	
12	Other Jobs								868,48
13	CT quality conformity testing								773,22
14	Project Management	421,65	421,65	421,65	421,65	421,65	421,65	421,65	421,65
<b>III</b>	<b>Project Termination Phase</b>								



1	Verification and approval of settlement								406,29
2	Settlement audit								620,23
3	Initial working capital mobilization								6.958,40
	<b>SUM</b>	<b>1.267,55</b>	<b>12.201,50</b>	<b>1.036,75</b>	<b>34.492,96</b>	<b>33.103,39</b>	<b>55.876,65</b>	<b>55.876,65</b>	<b>10.048,27</b>

Table 1.34. Capital allocation table during the construction period (including VAT)

Unit: trđ

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<b>I</b>	<b>Project preparation phase</b>								
1	Preparation of technical research reports	875,08							
2	Verification of the NC report	55,41							
<b>II</b>	<b>Project implementation phase</b>								
1	Compensation and face clearance flat		9.956,79						
2	Design Survey		454,36						
3	Design		1.514,55						
4	Design verification			187,28					
5	Verification of estimates			183,12					
6	Preparation of Bidding Documents and Evaluation of Bidding Documents			293,92					
7	Construction Insurance				1.500,73				
8	Construction				34.681,38	34.681,38	34.681,38	34.681,38	
9	Construction supervision				614,90	614,90	614,90	614,90	
10	Procurement and installation of equipment						24.433,12	24.433,12	
11	Supervision of construction and installation of equipment						161,99	161,99	
12	Other Jobs								937,96
13	CT quality conformity testing								835,08
14	Project Management	455,38	455,38	455,38	455,38	455,38	455,38	455,38	455,38
<b>III</b>	<b>Project Termination Phase</b>								

1	Verification and approval of settlement								438,80
2	Settlement audit								669,85
3	Initial working capital mobilization								6.958,40
	<b>SUM</b>	<b>1.385,87</b>	<b>12.381,08</b>	<b>1.119,69</b>	<b>37.252,40</b>	<b>35.751,66</b>	<b>60.346,78</b>	<b>60.346,78</b>	<b>10.295,46</b>

### **1.2.9. Determination of contingency costs**

According to Appendix I, Circular No. 10/2020/TT-BXD dated 20/2/2020 guiding the formulation and management of construction investment costs:

Provision includes 2 items: provision for arising volume and provision for slippage. Calculate the contingency cost for the project using the following formula:

$$GDP = GDP1 + GDP2$$

- GDP1: contingency costs for the workload factor incurred.

- GDP2 : provision due to slippage.

#### **1.2.9.1. Calculate contingency costs for the incurred workload factor (DP1)**

We have the following formula to calculate contingency cost 1:

$$GDP1 = KPS * (GXD + GTB + GMB + GQLDA + GTV + GK )$$

KPS: the contingency factor for the incurred workload is 5%

Table 1.35. Determination of contingency costs I (excluding VAT)

*Unit: trđ*

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
SUM	1.267,55	12.201,50	1.036,75	34.492,96	33.103,39	55.876,65	55.876,65	10.048,27
Contingency 1 (excluding VAT)	63,38	610,07	51,84	1.724,65	1.655,17	2.793,83	2.793,83	502,41
<b>TOTAL CAPITAL PD1 (EXCLUDING VAT)</b>	<b>1.330,92</b>	<b>12.811,57</b>	<b>1.088,59</b>	<b>36.217,61</b>	<b>34.758,56</b>	<b>58.670,48</b>	<b>58.670,48</b>	<b>10.550,68</b>

Table 1.36. Determination of contingency costs I (including VAT)

*Unit: trđ*

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
SUM	1.385,87	12.381,08	1.119,69	37.252,40	35.751,66	60.346,78	60.346,78	10.295,46
Contingency 1 (incl. VAT)	69,29	619,05	55,98	1.862,62	1.787,58	3.017,34	3.017,34	514,77
<b>TOTAL CAPITAL PD1 (VAT)</b>	<b>1.455,16</b>	<b>13.000,13</b>	<b>1.175,68</b>	<b>39.115,02</b>	<b>37.539,25</b>	<b>63.364,12</b>	<b>63.364,12</b>	<b>10.810,23</b>



### 1.2.9.2. Calculate the contingency cost for the slippage.

It is necessary to base on the length of the project implementation time, the progress of capital allocation, the situation of price fluctuations in the market during the project implementation period and the construction price index for each type of work and construction area. Contingency costs due to slippage factors (GDP2) are determined according to the following formula:

$$GDP2 = \sum Tt * GXDCT(t) * [(IXDCT_{bq} \pm \Delta I_{XDCT})^t - 1]$$

Where:

- T: is the length of time for the implementation of the work construction investment project. T = 2 years
- t : number of quarterly allocation of capital for project implementation ( t = 1 ÷ 8 )
- GXDCT(t) : the value of the construction estimate before the contingency cost implemented in the tth period
- $IXDCT_{bq}$ : the average construction price index is calculated on the basis of the average of the construction price indices (by type of work) of at least the last 3 years compared to the time of calculation (excluding the time of abnormal fluctuations in raw material prices, fuels and building materials
- $\Delta IXDCT$  : the forecast level of fluctuations of cost and price factors in the region and internationally compared to the calculated quarterly average construction price index.

Calculation of the construction price index: The quarterly average construction price index is:  $I_{xdbq}/quarter$

$$= 100,24\% = 1,0024$$

Table 1.37. Determination of contingency costs 2 (excluding VAT)

Unit: trđ

QUOTA	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Investment capital without slippage (excluding VAT)	1.267,55	12.201,50	1.036,75	34.492,96	33.103,39	55.876,65	55.876,65	10.048,27
Slippage Ratio	1,0024	1,0048	1,0072	1,0096	1,0120	1,0144	1,0168	1,0192
Slippage investment capital	1.270,59	12.260,07	1.044,22	34.824,09	33.500,63	56.681,27	56.815,37	10.241,20
Slippage (DP2)	3,04	58,57	7,46	331,13	397,24	804,62	938,73	192,93
<b>Accumulated slippage( Not yet VAT)</b>	<b>3,04</b>	<b>61,61</b>	<b>69,07</b>	<b>400,21</b>	<b>797,45</b>	<b>1.602,07</b>	<b>2.540,80</b>	<b>2.733,73</b>

Table 1.38. Determination of contingency costs 2 (VAT included)

Unit: trđ

QUOTA	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Investment capital that has not slipped (VAT included)	1.385,87	12.381,08	1.119,69	37.252,40	35.751,66	60.346,78	60.346,78	10.295,46
Slippage Ratio	1,0024	1,0048	1,0072	1,0096	1,0120	1,0144	1,0168	1,0192
Slippage investment capital	1.389,20	12.440,51	1.127,75	37.610,02	36.180,68	61.215,77	61.360,60	10.493,13
Slippage (DP2)	3,33	59,43	8,06	357,62	429,02	868,99	1.013,83	197,67
<b>Accumulated slippage( VAT included)</b>	<b>3,33</b>	<b>62,76</b>	<b>70,82</b>	<b>428,44</b>	<b>857,46</b>	<b>1.726,45</b>	<b>2.740,28</b>	<b>2.937,95</b>

Table 1.39. Summary of contingency costs

TARGET (excluding VAT)	UNIT	VALUE
DP1 Cost	Million	10.195,19



	VND	
DP2 Cost	Million VND	2.733,73
<b>Sum (DP1+DP2)</b>	Million VND	12.928,91

### ***1.2.10. Determination of loan interest during the construction period***

#### **1.2.10.1. Make a plan to raise capital according to the schedule and capital source**

\* Grounds for determination:

- The initial investment capital of the project includes two sources:
- + Equity capital: 30%
- + Loan capital: 70%
- The interest rate on loan mobilization is 8% per annum, compounded by year.
- Repayment of loans for initial investment by the payment method includes both principal and interest within 6 years immediately after the time of borrowing.
- The increase in working capital in the year compared to the initial working capital will be short-term loans of commercial banks with an interest rate of 12% per annum.

*Table 1.40. Capital allocation table*

<b>CAPITAL ALLOCATION TABLE (unit: million VND)</b>			
	<b>Proportion</b>	<b>Total capital exclusive of VAT</b>	<b>Total capital plus VAT</b>
<b>Equity</b>	30,00%	43.366,52	46.819,59
<b>Loans</b>	70,00%	173.466,10	187.278,36
<b>Sum</b>	<b>100%</b>	<b>216.832,62</b>	<b>234.097,95</b>

Table 1.41. Plan to raise capital during the construction period (VAT included) (Q1 to Q4)

Unit: trđ

		Q1		Q2		Q3		Q4	
		Self-owned	Borrow	Self-owned	Borrow	Self-owned	Borrow	Self-owned	Borrow
<b>1</b>	<b>Investment preparation stage</b>								
	Preparation of technical research reports	875,08							
	Verification of the NC report	55,41							
<b>2</b>	<b>Investment implementation stage</b>								
	Land clearance compensation			9.956,79					
	Design Survey			454,36					
	Design			1.514,55					
	Design verification					187,28			
	Verification of estimates					183,12			
	Preparation of Bidding Documents and Evaluation of Bidding Documents					293,92			
	Construction Insurance							1.500,73	
	Construction							34.681,38	
	Construction supervision							614,90	
	Procurement and installation of equipment								
	Other Jobs								
	Supervision of construction and installation of equipment								
	Quality Conformity Inspection								
	Project Management	455,38		455,38		455,38		455,38	
<b>3</b>	<b>Construction investment end stage</b>								
	Verification and approval of settlement								
	Audit, settlement								
	Initial working capital mobilization								

*Table 1.41. Plan to raise capital during the construction period (VAT included) (Q1 to Q4)*

4	Contingency Expenses (DP1+DP2)	72,62		678,48		64,05		2.220,24	
5	<b>Total capital needs according to progress</b>	<b>1.458,49</b>	<b>0</b>	<b>13.059,56</b>	<b>0</b>	<b>1.183,74</b>	<b>0</b>	<b>39.472,64</b>	<b>0</b>

Table 1.42. Plan to raise capital during the construction period (VAT included) (Q5 to Q8)

Unit: trđ

		Q5		Q6		Q7		Q8	
		Self-owned	Vay	Self-owned	Borrow	Self-owned	Borrow	Self-owned	Borrow
<b>1</b>	<b>Investment preparation stage</b>								
	Preparation of technical research reports								
	Verification of the NC report								
<b>2</b>	<b>Investment implementation stage</b>								
	Land clearance compensation								
	Design Survey								
	Design								
	Design verification								
	Verification of estimates								
	Preparation of Bidding Documents and Evaluation of Bidding Documents								
	Construction Insurance								
	Construction	-8.354,84	43.036,22		34.681,38		34.681,38		
	Construction supervision		614,90		614,90		614,90		
	Procurement and installation of equipment				24.433,12		24.433,12		
	Other Jobs								937,96
	Supervision of construction and installation of equipment				161,99		161,99		
	Quality Conformity Inspection								835,08
	Project Management		455,38		455,38		455,38		455,38
<b>3</b>	<b>Construction investment end stage</b>								
	Verification and approval of settlement								438,80
	Audit, settlement								669,85

*Table 1.42. Plan to raise capital during the construction period (VAT included) (Q5 to Q8)*

**Unit: trđ**

	Initial working capital mobilization								6.958,40
4	Contingency Expenses (DP1+DP2)		2.216,60		3.886,33		4.031,16		712,45
<b>5</b>	<b>Total capital needs according to progress</b>	<b>-8.354,84</b>	<b>46.323</b>	<b>0</b>	<b>64.233</b>	<b>0</b>	<b>64.378</b>	<b>0</b>	<b>11.008</b>

### 1.2.10.2. Estimated loan interest during the construction period

\* Bases:

- The project's capital mobilization plan
- Loan interest rate, loan period, interest calculation method (assuming that both principal and interest have not been repaid during the construction period)

\* Calculate:

Loan interest calculated annually:  $i\text{-year} = 8\%$

Quarterly loan interest:  $\text{quarterly} = (4\sqrt{i} + 1 - 1) * 100\% = 1,94\%$

Interest on loans during the construction period is summarized in the following table.

*Table 1.43. Calculation of loan interest during the construction period (VAT included)*

TT	Content	Implementation time			
		Q5	Q6	Q7	Q8
1	Loans at the beginning of the quarter	46.323,10	64.233,11	64.377,94	11.007,90
2	Accumulated loans include additional loans in the quarter	46.323,10	110.556,21	174.934,16	185.942,06
3	Interest in the quarter	899,90	2.147,73	3.398,37	3.612,21
4	Accrued interest	899,90	3.047,62	6.445,99	<b>10.058,20</b>
5	Accumulated loans by the end of the quarter (principal + interest)	47.223,00	113.603,84	181.380,15	196.000,26

### 1.2.11. Summarizing the total investment of the project

*Table 1.44. Total investment of the project*

STT	Content	CPTT	Thuế VAT	CPST
1	Expenses for compensation, support and resettlement	9.956,79		9.956,79
2	Equipment cost	45.246,53	8%	48.866,25
3	Construction cost	128.449,57	8%	138.725,53
4	Expenses for project management, construction investment consultancy	10.007,86	8%	10.808,49
6	Other expenses	3.284,58	8%	3.547,34
7	Contingency Expenses	12.928,91		13.881,94
8	Interest on loans during the construction period	10.058,20		10.058,20

9	Initial working capital	6.958,40		6.958,40
<b>SUM</b>		<b>226.890,83</b>		<b>242.802,94</b>

So the total investment of the project (including VAT) is **242,802.94** (million VND)



### 1.3. Revenue estimate for the project (excluding VAT) Basis for determination

- The revenue of a villa rental project (area lease) is determined based on the leased area, the rental price of a unit of area of each type. In this project, other services that are not taken into account include: shuttle service, food service, sports, entertainment, etc.
- Because the depreciation and cost management regime in our country stipulates that when fixed assets expire with liquidation, sale, and recovery of assets, this recovered value is considered as an extraordinary revenue for the project.
- The value of asset recovery upon liquidation is equal to 2% - 5% of the asset value depending on each type of asset (detailed calculation in the following section).

*Table 1.45. Revenue of the project in the years of operation (excluding VAT)*

Year s of oper ation	Floor area (m2)	Powe r	Unit price (million/ m2)	Leasing Area	Revenue from leasing the area (trd)	Value of recove ry and liquida tion of assets	Total Reven ue
Year 1	14.911,38	90%	6,1	12.674,67	69.583,95		69.583,95
Year 2	14.911,38	90%	6,1	12.674,67	69.583,95		69.583,95
Year 3	14.911,38	95%	6,1	12.674,67	73.449,73		73.449,73
4 years	14.911,38	95%	6,1	12.674,67	73.449,73		73.449,73
5 years	14.911,38	95%	6,1	12.674,67	73.449,73	1.033,41	74.483,14
6 years	14.911,38	100%	6,1	12.674,67	77.315,51		77.315,51
Year 7	14.911,38	100%	6,1	12.674,67	77.315,51		77.315,51
8 years	14.911,38	100%	6,1	12.674,67	77.315,51		77.315,51
9 years	14.911,38	95%	6,1	12.674,67	73.449,73		73.449,73
10 years	14.911,38	90%	6,1	12.674,67	69.583,95	1.396,99	70.980,95
11 years	14.911,38	95%	6,1	12.674,67	73.449,73		73.449,73
12 years	14.911,38	90%	6,1	12.674,67	69.583,95		69.583,95
Year 13	14.911,38	85%	6,1	12.674,67	65.718,18		65.718,18
14 years	14.911,38	80%	6,1	12.674,67	61.852,40		61.852,40
15 years	14.911,38	80%	6,1	12.674,67	61.852,40	1.033,41	62.885,81

### 1.4. Determination of production and business expenses of the project in the years of operation

#### 1.4.1. Cost of using electricity and water

##### Grounds for determination

- The cost of electricity and water use of the project is the cost of electricity and water consumption due to the process of working and daily life, electricity for lighting at night for security, water for sanitation, watering and a number of other needs of the project.

Electricity and water used directly for tenants shall be paid by tenants. Determining this cost can be based on the amount of electricity and water consumed; price

electricity and water or can also be based on electricity and water consumption calculated as % of revenue (2% of revenue).

Shares= 2% \* Shares

+ DT<sub>nn</sub> - Revenue from leasing the area of the project in the year of operation.

+Joint Stock Company - Electricity and water costs of the project in the year.

*Table 1.46. Cost of electricity and water use for the project in the years of operation (excluding VAT)*

<b>Years of operation</b>	<b>Revenue from leasing the area</b>	<b>Coefficient</b>	<b>Cost of using electricity and water</b>
<b>Year 1</b>	69.583,95	0,02	1.391,68
<b>Year 2</b>	69.583,95	0,02	1.391,68
<b>Year 3</b>	73.449,73	0,02	1.468,99
<b>4 years</b>	73.449,73	0,02	1.468,99
<b>5 years</b>	73.449,73	0,02	1.468,99
<b>6 years</b>	77.315,51	0,02	1.546,31
<b>Year 7</b>	77.315,51	0,02	1.546,31
<b>8 years</b>	77.315,51	0,02	1.546,31
<b>9 years</b>	73.449,73	0,02	1.468,99
<b>10 years</b>	69.583,95	0,02	1.391,68
<b>11 years</b>	73.449,73	0,02	1.468,99
<b>12 years</b>	69.583,95	0,02	1.391,68
<b>Year 13</b>	65.718,18	0,02	1.314,36
<b>14 years</b>	61.852,40	0,02	1.237,05
<b>15 years</b>	61.852,40	0,02	1.237,05

#### ***1.4.2. Expenses for payment of salaries to officials and workers managing and administering the project***

##### **Grounds for determination.**

- Based on the number of officials and employees managing and operating the project.
- Based on the salary including allowances of each type (the salary is taken according to the common ground in the market for similar jobs).
- The form of payment of the project is applicable (paid over time).

*Table 1.47. Number of employees serving the project in the year of operation*

<b>Duty</b>	<b>Number (persons)</b>
CEO	1
Deputy Director	1
Protect	4
Finance	5
Room service	29
Reception	5
Marketing	6

Other employees	10
-----------------	----

*Table 1.48. Expenses for paying salaries to officials and employees in the year of operation*

STT	Labor arrangement	Amount	Salary Month (Rd)	Cost Pay 1 year's salary
1	Managing Director	1	40	480
2	Deputy Director	1	30	360
3	Room service	4	6	288
4	Reception	5	8	480
5	Protect	29	6	2.088
6	Marketing staff	5	8	480
7	Finance	6	10	720
8	Other employees	10	7	840
<b>Total</b>		<b>61</b>		<b>5.736</b>

#### **1.4.3. Expenses for repairing and maintaining assets**

- Annual expenses for repair and maintenance of houses, architectural works and equipment. This cost is usually taken according to the average statistics of the ratio of repair and maintenance costs (%) to the value of the asset.

- Annual repair and maintenance costs are equal to 2% of the value of the property

- Types of assets that need to be repaired and maintained:

+ Main items

+ Equipment

+ Sub-categories

*Table 1.49. Only property repair and maintenance fees*

STT	Property Name	Asset Value	Proportion % repair cost	Repair costs annually	Repair costs for 15 years
1	House	112.431,81	2%	2.248,64	33.729,54
2	Device	32.787,60	2%	655,75	9.836,28
3	Other expenses	16.017,76	2%	320,36	4.805,33
<b>Sum</b>				<b>3.224,74</b>	<b>48.371,15</b>

#### **1.4.4. Expenses for social insurance, health insurance, unemployment, and payment of trade union funds.**

##### **Grounds for determination**

- Based on the number of officials and employees of the project

- Salaries of officials and employees

- Annual salary fund of the project.

- The prescribed level of social insurance premium payment: Pursuant to Article 5, Chapter II of Decision No. 595/QĐ-BHXH issued on April 14, 2017 on the rate of

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payment and responsibility for social insurance payment of enterprises is 17.5% of the salary and wage fund.

- Health insurance premium rate: Pursuant to Article 18, Chapter II of Decision No. 595/QĐ-BHXH issued on April 14, 2017 on the payment rate and responsibility of health insurance premiums of enterprises is 3% of the salary and wage fund.
- Unemployment insurance premium rate: Pursuant to Article 14, Chapter II of Decision No. 595/QĐ-BHXH issued on April 14, 2017 on the premium rate and responsibility for unemployment insurance payment of enterprises is 1% of the salary and wage fund.
- The level of deduction and remittance of trade union funds: Pursuant to Article 5, Chapter II of Decree No. 191/2013/ND-CP issued on 21/11/2013 on the payment rate and the basis for payment of trade union funds of enterprises is 2% of the salary fund.

*Table 1.50. Only social insurance, health, unemployment premiums and deductions for trade union funds*

STT	Insurance level	Annual salary fund of the project	Rate (%)	Annual insurance costs
1	Social insurance costs	5.736,00	17,50%	1.003,80
2	Medical insurance costs worship	5.736,00	3%	172,08
3	Cost of Insurance unemployed	5.736,00	1%	57,36
4	Trade union funding	5.736,00	2%	114,72
<b>Sum</b>				<b>1.347,96</b>

#### **1.4.5. Other management costs.**

Expenses for stationery, postage, per diem, tea and water for reception, foreign transactions, fixed fees paid annually and some other expenses....

The estimated cost for other managers in this project is expected to be equal to 2% of the annual revenue

Other management costs for the years of operation in the project include: fixed management costs and change management costs

In which:

- Change management costs account for 50% of revenue dependent management costs:  $\text{Change} = 50\% \times 2\% \times \text{revenue by year}$ .
- Fixed management expenses account for 50% of the management expenses of the year with the largest revenue:  $\text{Fixed} = 50\% \times 2\% \times \text{largest annual revenue}$

Table 1.51. Other management fees only

Years of operation	Turnover Area for rent	Fixed management costs	Variable management costs	Total other management costs
Year 1	69.583,95	773,16	695,84	1.468,99
Year 2	69.583,95	773,16	695,84	1.468,99
Year 3	73.449,73	773,16	734,50	1.507,65
4 years	73.449,73	773,16	734,50	1.507,65
5 years	73.449,73	773,16	734,50	1.507,65
6 years	77.315,51	773,16	773,16	1.546,31
Year 7	77.315,51	773,16	773,16	1.546,31
8 years	77.315,51	773,16	773,16	1.546,31
9 years	73.449,73	773,16	734,50	1.507,65
10 years	69.583,95	773,16	695,84	1.468,99
11 years	73.449,73	773,16	734,50	1.507,65
12 years	69.583,95	773,16	695,84	1.468,99
Year 13	65.718,18	773,16	657,18	1.430,34
14 years	61.852,40	773,16	618,52	1.391,68
15 years	61.852,40	773,16	618,52	1.391,68

#### 1.4.6. Planning the depreciation of the project's fixed assets

##### Grounds for determination

- Value of assets subject to depreciation: Original cost of fixed assets, value recovered upon liquidation of fixed assets.
- The depreciation term of assets is taken according to Decision No. 45/2013/TT-BTC dated April 25, 2013 of the Ministry of Finance on regulations on asset depreciation time.
- The value recovered upon liquidation is equal to 2% of the value of the asset
- Depreciation calculation method: Depreciation evenly over time
- Upon the expiration of the depreciation term, a new asset shall be purchased to replace the expired asset. In the project, the property will be replaced at the end of years 5 and 10. By the end of 15 years, assets that have not been fully depreciated will be calculated as the value of assets that have not been fully depreciated. In which, houses and architectural objects are not reinvested and other assets are reinvested.
- In addition to the group of houses, architectural objects, and equipment assets, **other expenses that need to be depreciated** will include the remaining cost items in the total investment of the project (excluding **interest on loans during the construction** period and **initial working capital**).

Table 1.52. Fixed asset history

STT	Name	Value before tax
<b>I</b>	<b>Houses and architectural objects</b>	<b>128.449,57</b>
1	House	112.431,81
2	Architectural objects	16.017,76
<b>II</b>	<b>10-year depreciation equipment group</b>	<b>12.119,40</b>
1	Furniture sofa set	1.290,00



2	Imported Leather Double Bed BE1909	5.197,50
3	Oak Chillon Single Bed	264,00

STT	Name	Value before tax
4	3-wing wardrobe	1.417,50
5	2-wing wardrobe	209,00
6	Clothes rack	37,80
7	Dining tables and chairs	297,50
8	Kitchen cabinets	346,50
9	Dressing Table	337,50
10	Workbench Set	121,50
11	3-tier bookshelf	20,00
12	Altar	140,00
13	Office Desk	0,70
14	File Cabinet	8,80
15	Antenna System	120,00
16	Fire protection system	180,00
17	Substation system	1.700,00
18	Water Filtration Pump System	110,00
19	Toilet	321,10
<b>III</b>	<b>5-year depreciation equipment group</b>	<b>20.668,20</b>
1	Smart TV 4K Neo QLED 55 inch QN90A	1.646,70
2	Smart TV The Sero Samsung 4K 43 inch	312,00
3	Smart TV Samsung 32 inch	4.620,00
4	Daikin 2-way inverter air conditioner	7.801,60
5	Hitachi G620GV 657l Inverter 6-Door Refrigerator	2.871,00
6	Water heater	98,60
7	BOSCH WDU28560GB washer	1.290,50
8	Disc player	72,60
9	Cooker hood	105,60
10	Sound System	224,40
11	Desk Phones	48,25
12	Desktop Array	255,00
13	Negative gas stove	280,50
14	Microwave	75,90
15	Mirror	32,40
16	Document Printers	85,00
17	Fax machine	4,15
18	Wall Fan	66,00
19	16KVA Kyo Power THG20 FDD Generator	738,00
20	Telephone Call Center	40,00
<b>IV</b>	<b>Other deductible expenses</b>	<b>48.637,06</b>
<b>1</b>	Compensation, support, resettlement costs	9.956,79
<b>2</b>	Project management costs, construction investment consultancy	10.007,86
<b>3</b>	Other expenses	3.284,58
<b>4</b>	Equipment installation cost	277,07
<b>5</b>	Contingency Expenses	10.195,19

Table 1.53. Fixed asset depreciation plan

Unit: trđ

STT	Content	Asset					Sum
		Houses and architectural objects		Device		Other expenses	
		House	Architectural objects	10-year depreciation group equipment	5-year depreciation group equipment		
1	Total Asset Value	112.431,81	16.017,76	12.119,40	20.668,20	48.637,06	209.874,23
2	Depreciation term	55	25	10	5	5	
3	Recall Rate	-	-	0,03	0,05	-	
4	Recovery value upon liquidation	-	-	363,58	1.033,41	-	1.396,99
5	Depreciation						
	Year 1	2.044,21	640,71	1.211,94	4.133,64	9.727,41	17.757,92
	Year 2	2.044,21	640,71	1.211,94	4.133,64	9.727,41	17.757,92
	Year 3	2.044,21	640,71	1.211,94	4.133,64	9.727,41	17.757,92
	4 years	2.044,21	640,71	1.211,94	4.133,64	9.727,41	17.757,92
	5 years	2.044,21	640,71	1.211,94	4.133,64	9.727,41	17.757,92
	6 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	Year 7	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	8 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	9 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	10 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	11 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	12 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	Year 13	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	14 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51
	15 years	2.044,21	640,71	1.211,94	4.133,64		8.030,51

6	Undepreciated value	81.768,59	-	6.059,70	-	-	87.828,29
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#### 1.4.7. Estimate of land rent payment costs in business activities

##### Grounds for determination:

According to Clause 2, Clause 3, Article 13 of the Government's Decree No. 46/2014/ND-CP dated May 15, 2014 on the collection of land rents and water surface rents, for cases of land leases not through auction and persons who are leased land voluntarily in advance by the State, the ground clearance according to the plan approved by the competent State agency may be deducted from the advance amount of land rent payable under the approved plan; the deduction level must not exceed the payable land rent amount. The remaining compensation and ground clearance amount which has not yet been deducted from the payable land rent (if any) shall be included in the investment capital of the project. From there, we have a table to determine the land rent in the years of operation as follows:

Table 1.54. Land rent in the first years of operation

Indicat or symbol	Quota	Calculatio n method	Unit	Value
(1)	Cost of land clearance and land clearance	E-commerce	trđ	9.956,79
(2)	Land rent for 1 year of the project	Section 1.2.1.	trđ	952,96
(3)	Land rent during construction	Section 1.2.1.	trđ	1.905,92
(4)	The remaining cost of land clearance and reclamation after deducting land rent during the construction period	(1)-(3)	trđ	8.050,87
(5)	Land rent for the first 8 years of operation		trđ	7.623,68
(6)	The remaining land rent after deducting it from the land rent for the first 8 years of operation	(4)-(5)	trđ	427,19
(7)	Land rent payable in the 9th year of operation	(2)-(6)	trđ	<b>525,77</b>

(1) The cost of land clearance and land reclamation is sufficient to pay for land rent in the first 04 years of operation, the investor will start paying land rent in the 9th year of operation

Table 1.55. Land rent in the years of operation of the project

STT	Project Year	Rental area (m2)	Unit price (mđ)	Becoming money
1	9	14549	0,0655	525,77
2	10	14549	0,0655	952,96

3	11	14549	0,0655	952,96
4	12	14549	0,0655	952,96
5	13	14549	0,0655	952,96
6	14	14549	0,0655	952,96
7	15	14549	0,0655	952,96

#### **1.4.8. Debt repayment plan and credit interest in operation**

\* Grounds for determination

- The amount of loan capital for the project, the loan interest rate and the method of repayment including both principal and interest, the time of debt repayment since the project comes into operation.
- Loans include long-term investment loans (total loans and interest in construction) and working capital in operation.
- Long-term loans with an interest rate of  $r = 8\%$  per annum. Long-term loans are paid in the form of equal repayment of principal and interest within 6 years from the first year of operation (repayment at the end of each year)
- Short-term loans (working capital loans) of the Bank with an interest rate of 12% per annum, compounded interest on an annual basis. In the years of operation, the working capital is mobilized short-term at the beginning of the year, both principal and interest will be paid at the end of the year.

*Table 1.56. Working capital demand by revenue*

<b>Year</b>	<b>Revenue from leasing the area</b>	<b>Ratio of working capital to capital</b>	<b>Working capital needs</b>
Year 1	69.583,95	8%	5.566,72
Year 2	69.583,95	8%	5.566,72
Year 3	73.449,73	8%	5.875,98
4 years	73.449,73	8%	5.875,98
5 years	73.449,73	8%	5.875,98
6 years	77.315,51	8%	6.185,24
Year 7	77.315,51	8%	6.185,24
8 years	77.315,51	8%	6.185,24
9 years	73.449,73	8%	5.875,98
10 years	69.583,95	8%	5.566,72
11 years	73.449,73	8%	5.875,98
12 years	69.583,95	8%	5.566,72
Year 13	65.718,18	8%	5.257,45
14 years	61.852,40	8%	4.948,19

15 years	61.852,40	8%	4.948,19
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Table 1.57. Interest expense in the year of operation (year 1 to year 8)

Unit: trđ

TT	Content	Years of operation							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
I	<b>Long-term investment loans</b>								
1	Debt at the beginning of the year	196.000,26	168.000,23	140.000,19	112.000,15	84.000,11	56.000,08	28.000,04	
2	Interest payment in the year (2)=(1)*8%	15.680,02	13.440,02	11.200,02	8.960,01	6.720,01	4.480,01	2.240,00	
3	Principal payment in the year (3)=(4)-(2)	28.000,04	28.000,04	28.000,04	28.000,04	28.000,04	28.000,04	28.000,04	
4	Total repayment in the year	43.680,06	41.440,06	39.200,05	36.960,05	34.720,05	32.480,04	30.240,04	
5	Year-end debt (5)=(1)+(2)-(4)	168.000,23	140.000,19	112.000,15	84.000,11	56.000,08	28.000,04	0	
II	<b>Working capital loans</b>								
1	Working capital borrowed in year	6.958,40	6.958,40	7.344,97	7.344,97	7.344,97	7.731,55	7.731,55	7.731,55
2	Interest payable in year (interest rate 12%)	835,01	835,01	881,40	881,40	881,40	927,79	927,79	927,79
III	<b>Total interest payable</b>	16.515,03	14.275,03	12.081,41	9.841,41	7.601,41	5.407,79	3.167,79	927,79

Table 1.58. Interest expense in the year of operation (year 9 to year 15)

Unit: trđ

TT	Content	Years of operation						
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years
I	<b>Long-term investment loans</b>							
1	Debt at the beginning of the year							
2	Total repayment in the year							
3	Interest payable in the year							
4	Principal payable in the year							
5	Year-end debt							
II	<b>Working capital loans</b>							
1	Working capital borrowed in the year	7.344,97	6.958,40	7.344,97	6.958,40	6.571,82	6.185,24	6.185,24
2	Interest payable in the year	881,40	835,01	881,40	835,01	788,62	742,23	742,23
III	<b>Total interest payable</b>	881,40	835,01	881,40	835,01	788,62	742,23	742,23

**1.4.9. Summary of production and business expenses in the years of operation**

*Table 1.59. Summary of production and business costs in the years of operation (from year 1 to year 7)*

STT	Content	Years of operation						
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
1	Electricity and water costs	1.391,68	1.391,68	1.468,99	1.468,99	1.468,99	1.546,31	1.546,31
2	Payroll costs	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00
3	Repair and maintenance costs	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74
4	Social and health insurance costs	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96
5	Depreciation of fixed assets	17.757,92	17.757,92	17.757,92	17.757,92	17.757,92	8.030,51	8.030,51
6	Lease of land in operation	0	0	0	0	0,00	0,00	0,00
7	Payment of credit interest in operation	16.515,03	14.275,03	12.081,41	9.841,41	7.601,41	5.407,79	3.167,79
8	Other management costs	1.468,99	1.468,99	1.507,65	1.507,65	1.507,65	1.546,31	1.546,31
9	Total production and business expenses	47.442,32	45.202,32	43.124,68	40.884,68	38.644,67	26.839,62	24.599,62
10	Operating costs	13.169,38	13.169,38	13.285,35	13.285,35	13.285,35	13.401,32	13.401,32
11	Production and business costs calculated for 1 m2 area lease	3,74	3,57	3,40	3,23	3,05	2,12	1,94

*Table 1.60. Summary of production and business expenses in the years of operation (remaining years)*

STT	Content	Years of operation							
		8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
1	Electricity and water costs	1.546,31	1.468,99	1.391,68	1.468,99	1.391,68	1.314,36	1.237,05	1.237,05
2	Payroll costs	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00
3	Repair and maintenance costs	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74
4	Cost of social insurance, medical worship	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96
5	Depreciation of fixed assets	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51
6	Lease of land in operation	0,00	525,77	952,96	952,96	952,96	952,96	952,96	952,96
7	Payment of credit interest in transportation onion	927,79	881,40	835,01	881,40	835,01	788,62	742,23	742,23
8	Other management costs	1.546,31	1.507,65	1.468,99	1.507,65	1.468,99	1.430,34	1.391,68	1.391,68
9	Total cost of production and economics Joint	22.359,61	22.723,02	22.987,85	23.150,21	22.987,85	22.825,49	22.663,12	22.663,12
10	Operating costs	13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40	12.937,43	12.937,43

11	Production and business costs calculated for 1 m2 leasable area	1,76	1,79	1,81	1,83	1,81	1,80	1,79	1,79
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### 1.5. Estimate profit and loss in production and business

Table 1.61. Estimated profit and loss in production and business (from year 1 to year 8)

STT	Content	Years of operation							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Revenue excludes VAT	69.583,95	69.583,95	73.449,73	73.449,73	74.483,14	77.315,51	77.315,51	77.315,51
2	Production and business expenses do not include VAT	47.442,32	45.202,32	43.124,68	40.884,68	38.644,67	26.839,62	24.599,62	22.359,61
3	Profit before tax	22.141,63	24.381,63	30.325,05	32.565,05	35.838,47	50.475,88	52.715,89	54.955,89
4	Corporate Income Tax	4.428,33	4.876,33	6.065,01	6.513,01	7.167,69	10.095,18	10.543,18	10.991,18
5	Net Profit	17.713,31	19.505,31	24.260,04	26.052,04	28.670,77	40.380,71	42.172,71	43.964,71
6	Cumulative Net Profit	17.713,31	37.218,61	61.478,65	87.530,70	116.201,47	156.582,18	198.754,89	242.719,60
7	Average net profit	33.137,04							

*Table 1.62. Estimated profit and loss in production and business (remaining years)*

STT	Content	Years of operation						
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years
1	Revenue excludes VAT	73.449,73	70.980,95	73.449,73	69.583,95	65.718,18	61.852,40	62.885,81
2	Production and business expenses do not include VAT	22.723,02	22.987,85	23.150,21	22.987,85	22.825,49	22.663,12	22.663,12
3	Profit before tax	50.726,71	47.993,10	50.299,52	46.596,11	42.892,69	39.189,28	40.222,69
4	Corporate Income Tax	10.145,34	9.598,62	10.059,90	9.319,22	8.578,54	7.837,86	8.044,54
5	Net Profit	40.581,37	38.394,48	40.239,61	37.276,88	34.314,15	31.351,42	32.178,15
6	Cumulative Net Profit	40.581,37	78.975,84	119.215,46	156.492,34	190.806,50	222.157,92	254.336,07
7	Average net profit	33.137,04						

## 1.6. Analysis of project financial performance

### 1.6.1. Analysis of static efficiency indicators

The static efficiency indicators of the project are shown in the following table:

*Table 1.63. Calculation table of static efficiency indicators of the project*

TT	Quota	Calculation method	Value
1	Average net profit Year (Lr)		33.137,04
2	Initial investment capital (V)		226.890,83
3	<b>Return on invested capital</b>	<b>Lr/V</b>	<b>0,15</b>
4	Fixed capital (VCD)		209.874,23
5	<b>Return on fixed capital</b>	<b>Lr/ VCD</b>	<b>0,16</b>
6	Average annual revenue (DT)		71.361,19
7	<b>Profit margin vs turnover</b>	<b>Lr/DT</b>	<b>0,46</b>

### 1.6.2. Analysis of dynamic performance indicators

#### 1.6.2.1. Analysis from the point of view of common capital

- Determine the Minimum Acceptable Interest Rate (MARR)

*Table 1.64. Calculate the Minimum Acceptable Interest Rate (MARR)*

Quota	Calculation method	Value
Capital use value of Investor (r1)		8,80%
Value of using loans (R2)		8%
Proportion of capital of investors (K1)		30,00%
Proportion of loans (k2)		70,00%
<b>Minimum Handicap Interest Rate received (MARR)</b>	<b><math>(R1 \cdot K1 + R2 \cdot K2) / 100</math></b>	<b>8,24%</b>

- When analyzing the project, the current convention (root 0) is the time of project formulation and approval, the construction investment period is 2 years, the project operation period is 15 years, therefore, the project analysis period is 17 years.

- Determining the cash flow of the project from the point of view of common capital:

**+ Bt - The revenue of the project in the tth year, from the point of view of common capital, includes the following expense items:**

- Revenue in year t
- The value of recovery due to asset liquidation
- Recovery of working capital at the end of the analysis period



- The value of the asset that has not been fully depreciated at the end of the analysis period

**+ Ct - The expenditure of the project in the tth year, from the point of view of general capital, includes the following expense items:**

- Initial investment (excluding contingency 2 and VAT).
- Asset replacement investment: Assets after the expiration of the depreciation period will be reinvested.
- Project operating costs
- Corporate Income Tax
- Lease of land in operation

Table 1.65. Cash flow of the project from the perspective of general capital (from year 1 to year 8)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>0,00</b>	<b>0,00</b>	<b>69.583,95</b>	<b>69.583,95</b>	<b>73.449,73</b>	<b>73.449,73</b>	<b>74.483,14</b>	<b>77.315,51</b>
1	Electricity rental revenue product			69.583,95	69.583,95	73.449,73	73.449,73	73.449,73	77.315,51
2	Liquidation Value Recovery asset							1.033,41	
3	The value of assets that have not been fully depreciated								
4	Recovery of working capital								
<b>II</b>	<b>Cost Line (Ct)</b>	<b>51.448,70</b>	<b>172.708,40</b>	<b>17.829,65</b>	<b>18.161,68</b>	<b>19.234,39</b>	<b>19.798,36</b>	<b>41.005,27</b>	<b>23.148,58</b>
1	Initial investment	51.448,70	172.708,40						
2	Asset Replacement Investment							20.668,20	
3	Project operating costs			13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40
4	Land rental costs							0,00	0,00
5	Corporate Income Tax karma			4.428,33	4.876,33	6.065,01	6.513,01	7.167,69	10.095,18
<b>III</b>	<b>Cash flow with revenue difference</b>	<b>-51.448,70</b>	<b>-172.708,40</b>	<b>51.754,30</b>	<b>51.422,28</b>	<b>54.215,34</b>	<b>53.651,37</b>	<b>33.477,87</b>	<b>54.166,92</b>

	<b>chi (Bt - C<sub>t</sub>)</b>								
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Table 1.66. Cash flow of the project from the point of view of common capital (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>77.315,51</b>	<b>77.315,51</b>	<b>73.449,73</b>	<b>70.980,95</b>	<b>73.449,73</b>	<b>69.583,95</b>	<b>65.718,18</b>	<b>61.852,40</b>	<b>156.899,34</b>
1	Electricity rental revenue product	77.315,51	77.315,51	73.449,73	69.583,95	73.449,73	69.583,95	65.718,18	61.852,40	61.852,40
2	Recovery of asset liquidation value				1.396,99					1.033,41
3	The value of assets has not yet been calculated over									87.828,29
4	Recovery of working capital									6.185,24
<b>II</b>	<b>Cost Line (Ct)</b>	<b>23.944,50</b>	<b>24.392,50</b>	<b>23.430,69</b>	<b>55.555,60</b>	<b>23.345,25</b>	<b>22.488,60</b>	<b>21.631,94</b>	<b>20.775,29</b>	<b>20.981,97</b>
1	Initial investment									
2	Asset Replacement Investment				32.787,60					
3	Project operating costs	13.401,32	13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40	12.937,43	12.937,43
4	Land rental costs	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	Corporate Income Tax karma	10.543,18	10.991,18	10.145,34	9.598,62	10.059,90	9.319,22	8.578,54	7.837,86	8.044,54
<b>III</b>	<b>Cash flow with revenue difference chi (Bt - C<sub>t</sub>)</b>	<b>53.371,00</b>	<b>52.923,00</b>	<b>50.019,04</b>	<b>15.425,35</b>	<b>50.104,48</b>	<b>47.095,36</b>	<b>44.086,24</b>	<b>41.077,12</b>	<b>135.917,37</b>

*a. Determination of current revenue and expenditure difference (NPV)*

*Table 1.67. Determine NPV from a common capital perspective (from year 1 to year 8)*

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Cash flow with revenue difference chi ( $B_t - C_t$ )	-51.448,70	-172.708,40	51.754,30	51.422,28	54.215,34	53.651,37	33.477,87	54.166,92
2	Discount coefficient $1/(1+MARR)^t$	0,924	0,854	0,789	0,729	0,673	0,622	0,574	0,531
3	Cash flow with revenue difference Discount expenses	-47.532,06	-147.413,72	40.811,55	37.462,79	36.490,79	33.362,16	19.232,84	28.749,61
4	Accumulating cash flow, difference in revenue and expenditure deduct	<b>-47.532,06</b>	<b>-194.945,77</b>	<b>-154.134,22</b>	<b>-116.671,43</b>	<b>-80.180,63</b>	<b>-46.818,48</b>	<b>-27.585,64</b>	<b>1.163,96</b>

*Table 1.68. Determination of NPV from the point of view of common capital (remaining years)*

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Cash flow with revenue difference chi ( $B_t - C_t$ )	53.371,00	52.923,00	50.019,04	15.425,35	50.104,48	47.095,36	44.086,24	41.077,12	135.917,37
2	Discount coefficient $1/(1+MARR)^t$	0,490	0,453	0,419	0,387	0,357	0,330	0,305	0,282	0,260
3	Cash flow with revenue difference	26.170,70	23.975,44	20.934,84	5.964,60	17.899,27	15.543,51	13.442,69	11.571,65	35.373,88

	Discount expenses									
4	Accumulating money flow Discounted revenues and expenditures	<b>27.334,66</b>	<b>51.310,11</b>	<b>72.244,95</b>	<b>78.209,56</b>	<b>96.108,83</b>	<b>111.652,34</b>	<b>125.095,03</b>	<b>136.666,68</b>	<b>172.040,56</b>

The calculation results show that  $NPV = 172,040.56 \text{ (trđ)} > 0$ , from which it is concluded that the project **is worth** considering from the point of view of common capital if evaluated according to NPV

*b. Calculation of Internal Profit Rate (IRR)*

Use the linear interpolation method to find the IRR.

Calculate the approximate IRR according to the formula:

$$IRR = IRR1 + (IRR2 - IRR1) * [NPV1 / (NPV1 + \square NPV2 \square)]$$

*Table 1.69. Determination of IRR from a common capital perspective (from years 1 to 8)*

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Differential Cash Flow thu chi (Bt - Ct)	-51.448,70	-172.708,40	51.754,30	51.422,28	54.215,34	53.651,37	33.477,87	54.166,92
2	Discount coefficient with IRR = 20.07%	0,833	0,694	0,578	0,481	0,401	0,334	0,278	0,231
3	Cash flow of discounted revenue and expenditure difference 1	-42.848,92	-119.796,59	29.898,06	24.740,77	21.724,49	17.904,98	9.305,00	12.538,86
4	<b>Accumulating cash flow difference Discount Expenditure 1</b>	<b>-42.848,92</b>	<b>-162.645,51</b>	<b>-132.747,45</b>	<b>-108.006,68</b>	<b>-86.282,18</b>	<b>-68.377,21</b>	<b>-59.072,21</b>	<b>-46.533,35</b>
5	Discount Factor with IRR = 20,08%	0,833	0,694	0,578	0,481	0,401	0,334	0,278	0,231



6	Cash flow of discounted revenue and expenditure difference 2	-42.845,35	-119.776,64	29.890,59	24.732,53	21.715,45	17.896,03	9.299,57	12.530,51
7	<b>Accumulating cash flow difference Discount Expenditure 2</b>	<b>-42.845,35</b>	<b>-162.621,99</b>	<b>-132.731,40</b>	<b>-107.998,87</b>	<b>-86.283,42</b>	<b>-68.387,39</b>	<b>-59.087,81</b>	<b>-46.557,30</b>

Table 1.70. Determination of IRR from a general capital perspective (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Differential Cash Flow thu chi (Bt - C <sub>t</sub> )	53.371,00	52.923,00	50.019,04	15.425,35	50.104,48	47.095,36	44.086,24	41.077,12	135.917,37
2	Discount coefficient with IRR = 20.07%	0,193	0,161	0,134	0,111	0,093	0,077	0,064	0,054	0,045
3	Differential Cash Flow Discount revenue and expenditure 1	10.289,51	8.497,66	6.688,92	1.717,99	4.647,59	3.638,27	2.836,52	2.201,14	6.065,80
4	<b>Accumulating Line Difference in revenue and expenditure discount 1</b>	<b>-36.243,84</b>	<b>-27.746,18</b>	<b>-21.057,26</b>	<b>-19.339,27</b>	<b>-14.691,68</b>	<b>-11.053,41</b>	<b>-8.216,89</b>	<b>-6.015,75</b>	<b>50,05</b>
5	Discount Factor with IRR = 20,08%	0,193	0,160	0,134	0,111	0,093	0,077	0,064	0,054	0,045
6	Cash flow of discounted revenue and	10.281,80	8.490,59	6.682,79	1.716,28	4.642,56	3.634,03	2.832,98	2.198,21	6.057,22

	expenditure difference 2									
<b>7</b>	<b>Accumulating cash flow difference Discount Expenditure 2</b>	<b>-36.275,50</b>	<b>-27.784,91</b>	<b>-21.102,12</b>	<b>-19.385,85</b>	<b>-14.743,29</b>	<b>-11.109,26</b>	<b>-8.276,28</b>	<b>-6.078,07</b>	<b>-20,85</b>

Table 1.71. IRR Calculator from a General Capital Perspective

Quota	Calculation method	Value
IRR1		20,07%
IRR2		20,08%
NPV1		50,05
NPV2		-20,85
<b>IRR</b>	$IRR = IRR1 + (IRR2 - IRR1) * NPV1 / (NPV1 + NPV2)$	<b>20,077%</b>

The calculation results show that **IRR = 20.077% > MARR = 8.24%**, from which it is possible to evaluate the project **worthwhile** from the point of view of common capital stated according to the internal profit margin IRR.

#### 1.6.2.2. Analysis from the perspective of equity efficiency

- Determine the discount rate of cash flow: The discount rate of project cash flow from the perspective of Equity is equal to the value of using equity (8.80%), which is also the minimum acceptable rate of return (MARR) from the perspective of equity.

- Determine the cash flow of the project from the perspective of equity:

**+ Bt – The revenue of the project in the tth year, from the perspective of equity, includes the following expense items:**

- Revenue in year t
- The value of recovery due to asset liquidation
- Recovery of working capital at the end of the analysis period
- The value of the asset that has not been fully depreciated at the end of the analysis period

**+ Ct - The expenditure of the project in the tth year, from the perspective of equity, includes the following expense items:**

- Initial investment (excluding contingency 2 and VAT).
- Asset replacement investment: Assets after the expiration of the depreciation period will be reinvested.
- Project operating costs
- Corporate Income Tax
- Lease of land in operation
- Credit interest payment costs

Table 1.72. Cash flow of the project from year 1 to year 8 (from an equity point of view)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>0,00</b>	<b>185.942,06</b>	<b>76.542,35</b>	<b>76.542,35</b>	<b>80.794,70</b>	<b>80.794,70</b>	<b>81.828,11</b>	<b>85.047,06</b>
1	Principal Loan Debt		185.942,06	6.958,40	6.958,40	7.344,97	7.344,97	7.344,97	7.731,55
2	Electricity rental revenue product			69.583,95	69.583,95	73.449,73	73.449,73	73.449,73	77.315,51
3	Recovery of asset liquidation value Assets							1.033,41	
4	Value of undeducted assets Exhaust								
5	Recovery of working capital								
<b>II</b>	<b>Cost Line (Ct)</b>	<b>51.448,70</b>	<b>172.708,40</b>	<b>69.303,11</b>	<b>67.395,14</b>	<b>66.660,81</b>	<b>64.984,78</b>	<b>83.951,69</b>	<b>64.287,96</b>
1	Initial investment	51.448,70	172.708,40						
2	Asset Replacement Investment							20.668,20	
3	Project operating costs			13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40
4	Land rental costs							0,00	0,00
5	Corporate Income Tax karma			4.428,33	4.876,33	6.065,01	6.513,01	7.167,69	10.095,18
6	Repayment (principal + interest)			51.473,46	49.233,46	47.426,42	45.186,42	42.946,42	41.139,38
<b>III</b>	<b>Cash flow difference between revenue and expenditure (Bt - C<sub>t</sub>)</b>	<b>-51.448,70</b>	<b>13.233,66</b>	<b>7.239,24</b>	<b>9.147,21</b>	<b>14.133,89</b>	<b>15.809,92</b>	<b>-2.123,57</b>	<b>20.759,09</b>

Table 1.73. Cash flow of the project in the remaining years (from an equity point of view)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>85.047,06</b>	<b>85.047,06</b>	<b>80.794,70</b>	<b>77.939,34</b>	<b>80.794,70</b>	<b>76.542,35</b>	<b>72.290,00</b>	<b>68.037,64</b>	<b>163.084,58</b>
1	Principal Loan Debt	7.731,55	7.731,55	7.344,97	6.958,40	7.344,97	6.958,40	6.571,82	6.185,24	6.185,24
2	Electricity rental revenue product	77.315,51	77.315,51	73.449,73	69.583,95	73.449,73	69.583,95	65.718,18	61.852,40	61.852,40
3	Liquidation Value Recovery asset				1.396,99					1.033,41
4	Value of undeducted assets Exhaust									87.828,29
5	Recovery of working capital									6.185,24
<b>II</b>	<b>Cost Line (Ct)</b>	<b>62.843,88</b>	<b>33.051,84</b>	<b>64.444,66</b>	<b>30.561,40</b>	<b>31.571,62</b>	<b>30.282,00</b>	<b>28.992,38</b>	<b>27.702,76</b>	<b>27.909,44</b>
1	Initial investment									
2	Asset Replacement Investment			32.787,60						
3	Project operating costs	13.401,32	13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40	12.937,43	12.937,43
4	Land rental costs	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	Corporate Income Tax karma	10.543,18	10.991,18	10.145,34	9.598,62	10.059,90	9.319,22	8.578,54	7.837,86	8.044,54
6	Repayment (principal + interest)	38.899,38	8.659,34	8.226,37	7.793,40	8.226,37	7.793,40	7.360,44	6.927,47	6.927,47
<b>III</b>	<b>Cash flow with revenue difference chi (Bt - C<sub>t</sub>)</b>	<b>22.203,18</b>	<b>51.995,22</b>	<b>16.350,04</b>	<b>47.377,94</b>	<b>49.223,08</b>	<b>46.260,35</b>	<b>43.297,62</b>	<b>40.334,89</b>	<b>135.175,14</b>

*a. Determination of current revenue and expenditure difference (NPV)*

*Table 1.74. Determination of NPV from an equity perspective (from years 1 to 8)*

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Cash flow of revenue and expenditure ( $B_t - C_t$ )	-51.448,70	13.233,66	7.239,24	9.147,21	14.133,89	15.809,92	-2.123,57	20.759,09
2	Discount coefficient $1/(1+r)^t$ with $r = 8.8\%$	0,916	0,839	0,768	0,703	0,644	0,590	0,540	0,495
3	Cash flow difference between revenue and expenditure Discount	-47.114,19	11.097,74	5.559,36	6.432,77	9.102,25	9.323,82	-1.146,86	10.266,62
4	Accumulating money flow Discounted revenues and expenditures	<b>-47.114,19</b>	<b>-36.016,45</b>	<b>-30.457,09</b>	<b>-24.024,31</b>	<b>-14.922,07</b>	<b>-5.598,25</b>	<b>-6.745,10</b>	<b>3.521,51</b>

*Table 1.75. Determination of NPV from an equity perspective (remaining years)*

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Cash flow of revenue and expenditure ( $B_t - C_t$ )	22.203,18	51.995,22	16.350,04	47.377,94	49.223,08	46.260,35	43.297,62	40.334,89	135.175,14
2	Discount coefficient $1/(1+r)^t$ with $r = 8.8\%$	0,453	0,415	0,380	0,348	0,318	0,292	0,267	0,245	0,224

3	Cash flow difference between revenue and expenditure Discount	10.055,68	21.564,38	6.209,69	16.478,00	15.677,42	13.492,49	11.564,44	9.865,49	30.276,94
4	Accumulating money flow Discounted revenues and expenditures	<b>13.577,19</b>	<b>35.141,58</b>	<b>41.351,26</b>	<b>57.829,27</b>	<b>73.506,68</b>	<b>86.999,17</b>	<b>98.563,60</b>	<b>108.429,09</b>	<b>138.706,03</b>

The calculation results show that  $NPV = 138,706.03(\text{trđ}) > 0$ , from which it is concluded that the project **is worth** considering from the perspective of equity if evaluated according to the NPV indicator.



*b. Calculation of Internal Profit Rate (IRR)*

Use the linear interpolation method to find the IRR.

Calculate the approximate IRR according to the formula:

$$IRR = IRR1 + (IRR2 - IRR1) * [NPV1 / (NPV1 + \square NPV2 \square)]$$

*Table 1.76. Determine IRR from an equity perspective (from years 1 to 8)*

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Cash flow with revenue difference $\chi_i$ ( $B_t - C_t$ )	-51.448,70	13.233,66	7.239,24	9.147,21	14.133,89	15.809,92	-2.123,57	20.759,09
2	Discount Factor with $IRR = 29.28\%$	0,774	0,598	0,463	0,358	0,277	0,214	0,166	0,128
3	Cash flow with revenue difference Discount Expenditure 1	-39.796,33	7.918,03	3.350,42	3.274,64	3.913,86	3.386,43	-351,84	2.660,47
4	<b>Accumulating cash flow, difference in revenue and expenditure Deduction 1</b>	<b>-39.796,33</b>	<b>-31.878,30</b>	<b>-28.527,88</b>	<b>-25.253,24</b>	<b>-21.339,39</b>	<b>-17.952,96</b>	<b>-18.304,80</b>	<b>-15.644,33</b>
5	Discount coefficient with $IRR = 29,29\%$	0,773	0,598	0,463	0,358	0,277	0,214	0,166	0,128
6	Cash flow with revenue difference Discount Expenditure 2	-39.793,25	7.916,81	3.349,64	3.273,63	3.912,34	3.384,86	-351,65	2.658,82

<b>7</b>	<b>Accumulating cash flow, difference in revenue and expenditure Deduction 2</b>	<b>-39.793,25</b>	<b>-31.876,45</b>	<b>-28.526,81</b>	<b>-25.253,18</b>	<b>-21.340,84</b>	<b>-17.955,98</b>	<b>-18.307,63</b>	<b>-15.648,81</b>
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Table 1.77. Determining IRR from an equity perspective (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Cash flow with revenue difference chi ( $B_t - C_t$ )	22.203,18	51.995,22	16.350,04	47.377,94	49.223,08	46.260,35	43.297,62	40.334,89	135.175,14
2	Discount coefficient with IRR = 29,28%	0,099	0,077	0,059	0,046	0,035	0,027	0,021	0,016	0,013
3	Cash flow difference of discounted revenue and expenditure 1	2.201,07	3.987,03	969,78	2.173,70	1.746,87	1.269,90	919,38	662,49	1.717,37
4	<b>Cash flow accumulation discount revenue and expenditure difference 1</b>	<b>-13.443,27</b>	<b>-9.456,23</b>	<b>-8.486,45</b>	<b>-6.312,75</b>	<b>-4.565,88</b>	<b>-3.295,98</b>	<b>-2.376,60</b>	<b>-1.714,11</b>	<b>3,26</b>
5	Discount coefficient with IRR = 29,29%	0,099	0,077	0,059	0,046	0,035	0,027	0,021	0,016	0,013
6	Cash flow with revenue difference Discount Expenditure 2	2.199,53	3.983,95	968,96	2.171,69	1.745,12	1.268,53	918,31	661,67	1.715,11

<b>7</b>	<b>Cash flow accumulation Discount revenue and expenditure difference 2</b>	<b>-13.449,28</b>	<b>-9.465,33</b>	<b>-8.496,37</b>	<b>-6.324,68</b>	<b>-4.579,57</b>	<b>-3.311,04</b>	<b>-2.392,73</b>	<b>-1.731,06</b>	<b>-15,94</b>
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Table 1.78. IRR Calculator from an Equity Perspective

Calculation results

Quota	Calculation method	Value
IRR1		29,280%
IRR2		29,290%
NPV1		3,26
NPV2		-15,94
<b>IRR</b>	$IRR = IRR1 + (IRR2 - IRR1) * NPV1 / (NPV1 + NPV2)$	<b>29,282%</b>

shows that **IRR = 29.282% > MARR = 8.8%**, from which it is possible to evaluate **the worthwhile** project from the point of view of equity according to the internal profit rate IRR.

### 1.6.3. Financial Adequacy Analysis

#### 1.6.3.1. Static Payback Time Analysis

- Basis for determination: based on profit, depreciation, initial investment capital of the project in the years of operation
- Irregular source of return: use the method of gradually subtracting the initial investment capital for the source of return in each year until the result changes from negative to positive.
- Basis for determination: based on profit, depreciation, initial investment capital of the project in the years of operation.
- Payback and depreciation periods are defined in tables 1.79 and 1.80

*Table 1.79. Static payback period (first 9 years, including 2 years of construction)*

Content	Analysis Time								
	Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years	9 years
Athletes at the top year	51.448,70	224.157,10	224.157,10	188.685,88	151.422,65	109.404,69	65.594,73	19.166,04	-29.245,17
Profit	0	0	17.713,31	19.505,31	24.260,04	26.052,04	28.670,77	40.380,71	42.172,71
Depreciation	0	0	17.757,92	17.757,92	17.757,92	17.757,92	17.757,92	8.030,51	8.030,51
LN+KH	0	0	35471,22	37263,23	42017,96	43809,96	46428,69	48411,21	50203,22
LN+KH-VĐ	-51.448,70	-224.157,10	-188.685,88	-151.422,65	-109.404,69	-65.594,73	-19.166,04	29.245,17	79.448,38
Cumulative	-51.448,70	-275.605,80	-464.291,68	-615.714,33	-725.119,02	-790.713,76	-809.879,80	-780.634,63	-701.186,25

*Table 1.80. Payback period by static method (remaining years, including 2 years of construction)*

Content	Analysis Time							
	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
Athletes at the beginning of the year	-79.448,38	-131.443,60	-180.055,47	-226.480,46	-274.750,58	-320.057,96	-362.402,62	-401.784,55
Profit	43.964,71	40.581,37	38.394,48	40.239,61	37.276,88	34.314,15	31.351,42	32.178,15
Depreciation	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51
LN+KH	51995,21	48611,87	46424,98	48270,12	45307,39	42344,66	39381,93	40208,66
LN+KH-VĐ	131.443,60	180.055,47	226.480,46	274.750,58	320.057,96	362.402,62	401.784,55	441.993,21
Cumulative	-569.742,65	-389.687,17	-163.206,72	111.543,86	431.601,82	794.004,45	1.195.789,00	1.637.782,21

According to table 1.79 and table 1.80, the payback period according to the static method is **8 years, 5 months and 22 days**

### 1.6.3.2. Dynamic payback time analysis

- Calculating the time for capital recovery by the dynamic method is taking into account the discount coefficient
- Use the NPV spreadsheet to determine when  $NPV = 0$ , thereby finding the dynamic payback time
- According to Table 1.68, we see that between the 9th and 10th years there is a reversal in the value of NPV, through interpolation we have a dynamic payback time of **9 years, 6 months and 19 days.**

### 1.6.3.3. Analysis of the project's debt repayment ability

- Grounds for determination:
  - + Financial sources used for debt repayment include: Profits, deductions for interest payments in operation and annual depreciation of fixed assets, symbol: B
  - + The amount of debts payable in the year, including principal and interest payments, symbol: A
  - + Solvency coefficients in year t according to the formula:  $K_t = B_t/A_t$ . If:
    - $K_t < 1$ : in the tth year, the project is unable to repay debts;
    - $1 < K_t < 2$ : in the tth year, the project is able to repay debts;
    - $K_t > 2$ : In the tth year, the project has a solid debt repayment capacity.

According to the calculation results in Table 1.81 (below), the debt repayment coefficient in the 7th year is 1.17, so it can be concluded that in the 7th year the project is able to repay the debt on time. However, the ability to repay the debt in the first few years is non-existent.

Table 1.81. Solvency Ratio Calculator

Quota	Year of operation (pg)						
	Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
Profit for the year	17.713,31	19.505,31	24.260,04	26.052,04	28.670,77	40.380,71	42.172,71
Depreciation in the year	17.757,92	17.757,92	17.757,92	17.757,92	17.757,92	8.030,51	8.030,51
Interest payment in year	16.515,03	14.275,03	12.081,41	9.841,41	7.601,41	5.407,79	3.167,79
Sources of debt repayment in year	51.986,25	51.538,25	54.099,37	53.651,37	54.030,10	53.819,00	53.371,00
Total debt payable in the year	51.473,46	49.233,46	47.426,42	45.186,42	42.946,42	41.139,38	38.899,38
Payability Factor debt	1,01	1,05	1,14	1,19	1,26	1,31	1,37

**1.6.3.4. Calculation of the project's debt repayment time**

- Grounds for determination:

+ Based on financial sources used to repay debts of each year, including profit and depreciation of fixed assets

+ Based on the total debt capital at the beginning of the debt repayment period

Table 1.82. Determining the debt repayment time of the project

Content	Years of operation					
	Year 1	Year 2	Year 3	4 years	5 years	6 years
Investment loans	196.000,26	160.529,04	123.265,82	81.247,86	37.437,90	-8.990,79
Depreciation, profit in the year	35.471,22	37.263,23	42.017,96	43.809,96	46.428,69	48.411,21
Investment loans - Customer,	160.529,04	123.265,82	81.247,86	37.437,90	-8.990,79	-57.402,01



Profit for the year						
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Repayment period of the project: **5 years 9 months** < debt repayment deadline is **7 years**, from which it can be concluded that the project has just been able to repay the debt.

### 1.6.3.5. Financial safety analysis according to break-even point analysis

- Grounds for determination:

Based on annual revenue, annual fixed costs, annual variable costs.

+ ***Annual fixed expenses include the following amounts:***

- Fixed asset depreciation costs
- Operating land lease costs
- Long-term loan interest payment
- Payroll costs
- Expenses for payment of social insurance, health, deduction and payment of trade union dues
- 50% of repair and maintenance costs
- Other management costs (fixed part).

+ ***Annual variable expenses include:***

- Electricity and water costs.
- Expenses for paying interest on working capital loans
- 50% of repair and maintenance costs
- Other administrative expenses (variable part)

- Determination of turnover on break-even activities

+ Break-even revenue of the project:  $R_h = FC / (1 - VC/R)$

+ The level of break-even activities of the project:  $M_h = R_h / R * 100$  (%), of which:

- $R_h$ : Break-even revenue of the project
- $M_h$ : Break-even level of the project
- $FC$ : Fixed Cost
- $VC$ : Variable Costs
- $R$ : Actual annual revenue of the project

Table 1.83. Fixed and variable costs (1st year of operation to 7th year of operation)

Content	Years of operation						
	Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
<b>Fixed costs</b>	<b>42.907,43</b>	<b>40.667,42</b>	<b>38.427,42</b>	<b>36.187,42</b>	<b>33.947,41</b>	<b>21.980,00</b>	<b>19.739,99</b>
Depreciation expenses fixed assets	17.757,92	17.757,92	17.757,92	17.757,92	17.757,92	8.030,51	8.030,51
Cost of renting land for transportation onion	0	0	0	0	0	0	0
Long-term loan interest payment	15.680,02	13.440,02	11.200,02	8.960,01	6.720,01	4.480,01	2.240,00
Payroll costs	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00
Security Deposit Costs Insurance, Health	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96
Cost of repair and warranty Nursing (50%)	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37
Other management costs (fixed part)	773,16	773,16	773,16	773,16	773,16	773,16	773,16
<b>Variable costs</b>	<b>4.534,90</b>	<b>4.534,90</b>	<b>4.697,26</b>	<b>4.697,26</b>	<b>4.697,26</b>	<b>4.859,62</b>	<b>4.859,62</b>
Electricity and water costs	1.391,68	1.391,68	1.468,99	1.468,99	1.468,99	1.546,31	1.546,31
Expenses for paying interest on working capital loans	835,01	835,01	881,40	881,40	881,40	927,79	927,79
Repair costs, Maintenance (50%)	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37

Other management costs (modified part)	695,84	695,84	734,50	734,50	734,50	773,16	773,16
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Table 1.84. Fixed costs and variable costs (remaining years of operation)

Content	Years of operation							
	8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
<b>Fixed costs</b>	<b>17.499,99</b>	<b>18.025,76</b>	<b>18.452,95</b>	<b>18.452,95</b>	<b>18.452,95</b>	<b>18.452,95</b>	<b>18.452,95</b>	<b>18.452,95</b>
Fixed asset depreciation costs	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51
Operating land lease costs	0,00	525,77	952,96	952,96	952,96	952,96	952,96	952,96
Long interest payment drought	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Payroll costs	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00	5.736,00
Expenses for insurance and medical payment	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96	1.347,96
Repair and maintenance costs (50%)	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37
Other management expenses (fixed part determined)	773,16	773,16	773,16	773,16	773,16	773,16	773,16	773,16
<b>Variable costs</b>	<b>4.859,62</b>	<b>11.160,84</b>	<b>10.658,29</b>	<b>11.160,84</b>	<b>10.658,29</b>	<b>10.155,73</b>	<b>9.653,18</b>	<b>9.653,18</b>
Electricity and water costs	1.546,31	1.468,99	1.391,68	1.468,99	1.391,68	1.314,36	1.237,05	1.237,05

Expenses for paying interest on working capital loans	927,79	7.344,97	6.958,40	7.344,97	6.958,40	6.571,82	6.185,24	6.185,24
Repair and maintenance costs (50%)	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37	1.612,37
Management costs Other (variable part)	773,16	734,50	695,84	734,50	695,84	657,18	618,52	618,52

Table 1.85. Determination of revenue and break-even (first 7 years of operation)

Content	Years of operation						
	Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
Revenue (R)	69.583,95	69.583,95	73.449,73	73.449,73	74.483,14	77.315,51	77.315,51
Fixed Cost (FC)	42.907,43	40.667,42	38.427,42	36.187,42	33.947,41	21.980,00	19.739,99
Variable Cost (VC)	4.534,90	4.534,90	4.697,26	4.697,26	4.697,26	4.859,62	4.859,62
Break-even Revenue $R_{be}=FC/(1-VC/R)$	45.898,72	43.502,55	41.052,83	38.659,79	36.232,40	23.454,20	21.063,96
Level of break-even activities (Mhv%)= $R_{be}/R$	65,96	62,52	55,89	52,63	48,65	30,34	27,24

Table 1.86. Determination of revenue and break-even level (remaining years of operation)

Content	Years of operation							
	8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
Revenue (R)	77.315,51	73.449,73	70.980,95	73.449,73	69.583,95	65.718,18	61.852,40	62.885,81
Fixed Cost (FC)	17.499,99	18.025,76	18.452,95	18.452,95	18.452,95	18.452,95	18.452,95	18.452,95
Variable Cost (VC)	4.859,62	11.160,84	10.658,29	11.160,84	10.658,29	10.155,73	9.653,18	9.653,18
Break-even Revenue $R_{be}=FC/(1-VC/R)$	18.673,72	21.255,59	21.713,37	21.759,33	21.790,66	21.825,79	21.865,45	21.799,20
Level of break-even activities (Mhv%)= $R_{be}/R$	24,15	28,94	30,59	29,62	31,32	33,21	35,35	34,66

- The project with the largest break-even activity in the first year was 65.96%
- The project has the lowest break-even activity level in the 8th year at 24.15%
- The average level of activity is 39.41%

#### ***1.6.4. Project Sensitivity Analysis***

##### **1.6.4.1. Sensitivity analysis in case of a 5% decrease in revenue**

- Through calculation, we have the minimum acceptable interest rate when analyzed based on the general capital viewpoint:  $MARR = 8.24\%$
- The cash flow of the project reflects the revenues and expenditures during the construction investment period and the project operation period.
- The project analysis period is 17 years: including 2 years of construction and 15 years of operation.
- The input and output prices of the project are taken according to the current price level (root 0), ignoring inflation and slippage.
- $Revenue = Revenue * 0.95$



Table 1.87. Cash flow of the project after product sales revenue decreased by 5% (first 8 years)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>0,00</b>	<b>0,00</b>	<b>66.104,76</b>	<b>66.104,76</b>	<b>69.777,24</b>	<b>69.777,24</b>	<b>70.810,65</b>	<b>73.449,73</b>
1	Electricity rental revenue Product*0.95			66.104,76	66.104,76	69.777,24	69.777,24	69.777,24	73.449,73
2	Recovery of asset liquidation value							1.033,41	
3	Value of undeducted assets Exhaust								
4	Recovery of working capital								
<b>II</b>	<b>Cost Line (Ct)</b>	<b>51.448,70</b>	<b>172.708,40</b>	<b>17.829,65</b>	<b>18.161,68</b>	<b>19.234,39</b>	<b>19.798,36</b>	<b>41.005,27</b>	<b>23.148,58</b>
1	Initial investment	51.448,70	172.708,40						
2	Asset Replacement Investment							20.668,20	
3	Project operating costs			13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40
4	Land rental costs							0,00	0,00
5	Corporate Income Tax karma			4.428,33	4.876,33	6.065,01	6.513,01	7.167,69	10.095,18
<b>III</b>	<b>Cash flow with revenue difference chi (Bt - Ct)</b>	<b>-51.448,70</b>	<b>-172.708,40</b>	<b>48.275,11</b>	<b>47.943,08</b>	<b>50.542,86</b>	<b>49.978,88</b>	<b>29.805,38</b>	<b>50.301,15</b>

Table 1.88. Cash flow of the project after product sales decreased by 5% (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>73.449,73</b>	<b>73.449,73</b>	<b>69.777,24</b>	<b>67.501,75</b>	<b>69.777,24</b>	<b>66.104,76</b>	<b>62.432,27</b>	<b>58.759,78</b>	<b>153.806,72</b>
1	Electricity rental revenue Product*0.95	73.449,73	73.449,73	69.777,24	66.104,76	69.777,24	66.104,76	62.432,27	58.759,78	58.759,78
2	Revocation of Value Asset Liquidation				1.396,99					1.033,41
3	The value of assets has not been exhausted									87.828,29
4	Recovery of deposited capital move									6.185,24
<b>II</b>	<b>Cost Line (Ct)</b>	<b>23.944,50</b>	<b>24.392,50</b>	<b>23.430,69</b>	<b>55.555,60</b>	<b>23.345,25</b>	<b>22.488,60</b>	<b>21.631,94</b>	<b>20.775,29</b>	<b>20.981,97</b>
1	Initial investment									
2	Investment to replace the Assets				32.787,60					
3	Operating costs project	13.401,32	13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40	12.937,43	12.937,43
4	Land rental costs	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

5	Income Tax business	10.543,18	10.991,18	10.145,34	9.598,62	10.059,90	9.319,22	8.578,54	7.837,86	8.044,54
<b>III</b>	<b>Differential Cash Flow thu chi (Bt - Ct)</b>	<b>49.505,23</b>	<b>49.057,23</b>	<b>46.346,55</b>	<b>11.946,15</b>	<b>46.431,99</b>	<b>43.616,16</b>	<b>40.800,33</b>	<b>37.984,50</b>	<b>132.824,75</b>

Table 1.89. Determine NPV after a 5% decrease in product sales revenue (first 8 years)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Differential Cash Flow thu chi ( $B_t - C_t$ )	-51.448,70	-172.708,40	48.275,11	47.943,08	50.542,86	49.978,88	29.805,38	50.301,15
2	Discount coefficient $1/(1+MARR)^t$	0,924	0,854	0,789	0,729	0,673	0,622	0,574	0,531
3	Differential Cash Flow Discount revenue and expenditure	-47.532,06	-147.413,72	38.067,99	34.928,09	34.018,95	31.078,49	17.123,01	26.697,81
4	Accumulating Line Discounted revenue and expenditure difference	<b>-47.532,06</b>	<b>-194.945,77</b>	<b>-156.877,79</b>	<b>-121.949,70</b>	<b>-87.930,76</b>	<b>-56.852,27</b>	<b>-39.729,26</b>	<b>-13.031,45</b>

Table 1.90. Determination of NPV after a 5% decrease in product sales revenue (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Differential Cash Flow thu chi ( $B_t - C_t$ )	49.505,23	49.057,23	46.346,55	11.946,15	46.431,99	43.616,16	40.800,33	37.984,50	132.824,75
2	Discount coefficient $1/(1+MARR)^t$	0,490	0,453	0,419	0,387	0,357	0,330	0,305	0,282	0,260

3	Differential Cash Flow Discount revenue and expenditure	24.275,10	22.224,15	19.397,77	4.619,28	16.587,32	14.395,22	12.440,76	10.700,45	34.568,99
4	Accumulating cash flow difference Discount expenses	<b>11.243,65</b>	<b>33.467,80</b>	<b>52.865,57</b>	<b>57.484,86</b>	<b>74.072,17</b>	<b>88.467,40</b>	<b>100.908,16</b>	<b>111.608,60</b>	<b>146.177,59</b>

Through calculations, we have  $NPV = 146,177.59 \text{ (trđ)} > 0 \Rightarrow$  worthwhile project in case product sales revenue decreases by 5%,  
**sensitivity f=15.03%**

Table 1.91. Determine IRR after a 5% drop in product sales revenue (first 8 years)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Differential Cash Flow thu chi (Bt - C <sub>t</sub> )	-51.448,70	-172.708,40	48.275,11	47.943,08	50.542,86	49.978,88	29.805,38	50.301,15
2	Discount coefficient with IRR = 18.41%	0,845	0,713	0,602	0,509	0,430	0,363	0,306	0,259
3	Cash flow of discounted revenue and expenditure difference 1	-43.449,62	-123.179,01	29.077,57	24.387,79	21.712,90	18.132,44	9.132,21	13.015,80
4	<b>Accumulating cash flow difference between revenue and expenditure discount 1</b>	<b>-43.449,62</b>	<b>-166.628,63</b>	<b>-137.551,06</b>	<b>-113.163,27</b>	<b>-91.450,37</b>	<b>-73.317,93</b>	<b>-64.185,72</b>	<b>-51.169,92</b>
5	Discount Factor with IRR = 18,42%	0,844	0,713	0,602	0,509	0,429	0,363	0,306	0,259

6	Differential Cash Flow Discount revenue and expenditure 2	-43.445,95	-123.158,21	29.070,20	24.379,55	21.703,74	18.123,26	9.126,82	13.007,01
7	<b>Accumulating Line Discounted revenue and expenditure difference 2</b>	<b>-43.445,95</b>	<b>-166.604,16</b>	<b>-137.533,96</b>	<b>-113.154,40</b>	<b>-91.450,67</b>	<b>-73.327,41</b>	<b>-64.200,60</b>	<b>-51.193,59</b>

Table 1.92. Determine IRR after a 5% decrease in product sales revenue (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Differential Cash Flow thu chi ( $B_t - C_t$ )	49.505,23	49.057,23	46.346,55	11.946,15	46.431,99	43.616,16	40.800,33	37.984,50	132.824,75
2	Discount coefficient with IRR = 18.41%	0,219	0,185	0,156	0,132	0,111	0,094	0,079	0,067	0,057
3	Differential Cash Flow Discount revenue and expenditure 1	10.818,22	9.053,56	7.223,46	1.572,42	5.161,41	4.094,59	3.234,73	2.543,27	7.510,63
4	<b>Accumulating Line Difference in revenue and expenditure discount 1</b>	<b>-40.351,70</b>	<b>-31.298,15</b>	<b>-24.074,69</b>	<b>-22.502,27</b>	<b>-17.340,86</b>	<b>-13.246,27</b>	<b>-10.011,55</b>	<b>-7.468,28</b>	<b>42,36</b>
5	Discount coefficient with IRR = 18.42%	0,218	0,184	0,156	0,131	0,111	0,094	0,079	0,067	0,056



6	Cash flow of discounted revenue and expenditure difference 2	10.810,00	9.045,91	7.216,75	1.570,82	5.155,75	4.089,75	3.230,63	2.539,83	7.499,86
7	<b>Accumulating cash flow difference between revenue and expenditure discount 2</b>	<b>-40.383,59</b>	<b>-31.337,68</b>	<b>-24.120,92</b>	<b>-22.550,10</b>	<b>-17.394,35</b>	<b>-13.304,61</b>	<b>-10.073,97</b>	<b>-7.534,14</b>	<b>-34,28</b>

Table 1.93. IRR Calculator After 5% Decrease in Product Sales Revenue

Quota	Calculation method	Value
IRR1		18,41%
IRR2		18,42%
NPV1		42,36
NPV2		-34,28
<b>IRR</b>	$IRR = IRR1 + (IRR2 - IRR1) * NPV1 / (NPV1 + NPV2)$	<b>18,416%</b>

The calculation results show that **IRR = 18.416% > MARR = 8.24%**, from which it is possible to evaluate **the project worthwhile** after the product sales revenue decreases by 5% with **sensitivity f = 8.28%**

#### 1.6.4.2. Analysis of project sensitivity in case of 5% increase in investment capital

- Through calculation, we have the minimum acceptable interest rate when analyzed based on the general capital viewpoint:  $r = 8.24\%$
- Determine the cash flow of the project
- The cash flow of the project reflects the revenues and expenditures during the construction investment period and the project operation period.
- The project analysis period is 17 years: including 2 years of construction and 15 years of operation.
- The input and output prices of the project are taken according to the current price level (root 0), ignoring inflation and slippage factors
- Investment Capital = Investment Capital \* 1.05

Table 1.94. Cash flow of the project after the investment capital increases by 5% (the first 8 years)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>0,00</b>	<b>0,00</b>	<b>69.583,95</b>	<b>69.583,95</b>	<b>73.449,73</b>	<b>73.449,73</b>	<b>74.483,14</b>	<b>77.315,51</b>
1	Rental revenue area			69.583,95	69.583,95	73.449,73	73.449,73	73.449,73	77.315,51
2	Recovery of asset liquidation value							1.033,41	
3	The value of the asset has not yet been Depreciation out								
4	Recovery of working capital								
<b>II</b>	<b>Cost Line (Ct)</b>	<b>54.021,13</b>	<b>181.343,82</b>	<b>17.829,65</b>	<b>18.161,68</b>	<b>19.234,39</b>	<b>19.798,36</b>	<b>42.038,68</b>	<b>23.148,58</b>
1	Initial Investment*1.05	54.021,13	181.343,82						
2	Investment to replace the Yield*1.05							21.701,61	
3	Project operating costs			13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40
4	Land rental costs							0,00	0,00
5	Corporate Income Tax karma			4.428,33	4.876,33	6.065,01	6.513,01	7.167,69	10.095,18
<b>III</b>	<b>Cash flow with revenue difference chi (Bt - Ct)</b>	<b>-54.021,13</b>	<b>-181.343,82</b>	<b>51.754,30</b>	<b>51.422,28</b>	<b>54.215,34</b>	<b>53.651,37</b>	<b>32.444,46</b>	<b>54.166,92</b>

Table 1.95. Cash flow of the project after the investment capital increases by 5% (the remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
<b>I</b>	<b>Line of Interest (Bt)</b>	<b>77.315,51</b>	<b>77.315,51</b>	<b>73.449,73</b>	<b>70.980,95</b>	<b>73.449,73</b>	<b>69.583,95</b>	<b>65.718,18</b>	<b>61.852,40</b>	<b>156.899,34</b>
1	Rental revenue area	77.315,51	77.315,51	73.449,73	69.583,95	73.449,73	69.583,95	65.718,18	61.852,40	61.852,40
2	Recovery of asset liquidation value				1.396,99					1.033,41
3	The value of assets has not yet been calculated over									87.828,29
4	Recovery of working capital									6.185,24
<b>II</b>	<b>Cost Line (Ct)</b>	<b>23.944,50</b>	<b>24.392,50</b>	<b>23.430,69</b>	<b>57.194,98</b>	<b>23.345,25</b>	<b>22.488,60</b>	<b>21.631,94</b>	<b>20.775,29</b>	<b>20.981,97</b>
1	Initial Investment*1.05									
2	Investment to replace the Yield*1.05				34.426,98					
3	Project operating costs	13.401,32	13.401,32	13.285,35	13.169,38	13.285,35	13.169,38	13.053,40	12.937,43	12.937,43
4	Land rental costs	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	Corporate Income Tax karma	10.543,18	10.991,18	10.145,34	9.598,62	10.059,90	9.319,22	8.578,54	7.837,86	8.044,54
<b>III</b>	<b>Cash flow with revenue difference chi (Bt - Ct)</b>	<b>53.371,00</b>	<b>52.923,00</b>	<b>50.019,04</b>	<b>13.785,97</b>	<b>50.104,48</b>	<b>47.095,36</b>	<b>44.086,24</b>	<b>41.077,12</b>	<b>135.917,37</b>

Table 1.96. Determination of NPV after investment capital increases by 5% (first 8 years)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Differential Cash Flow thu chi (Bt - C <sub>t</sub> )	-54.021,13	-181.343,82	51.754,30	51.422,28	54.215,34	53.651,37	32.444,46	54.166,92
2	Discount coefficient $1/(1+\text{MARR})^t$	0,924	0,854	0,789	0,729	0,673	0,622	0,574	0,531
3	Cash flow difference in revenue and expenditure deduct	-49.908,66	-154.784,40	40.811,55	37.462,79	36.490,79	33.362,16	18.639,15	28.749,61
4	Accumulating Line Discounted revenue and expenditure difference	<b>-49.908,66</b>	<b>-204.693,06</b>	<b>-163.881,51</b>	<b>-126.418,71</b>	<b>-89.927,92</b>	<b>-56.565,77</b>	<b>-37.926,62</b>	<b>-9.177,01</b>

Table 1.97. Determine NPV after investment capital increases by 5% (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Differential Cash Flow thu chi (Bt - C <sub>t</sub> )	53.371,00	52.923,00	50.019,04	13.785,97	50.104,48	47.095,36	44.086,24	41.077,12	135.917,37
2	Discount coefficient $1/(1+\text{MARR})^t$	0,490	0,453	0,419	0,387	0,357	0,330	0,305	0,282	0,260

3	Cash flow of discounted revenue and expenditure difference	26.170,70	23.975,44	20.934,84	5.330,70	17.899,27	15.543,51	13.442,69	11.571,65	35.373,88
4	Accumulating cash flow difference Discount expenses	<b>16.993,69</b>	<b>40.969,13</b>	<b>61.903,97</b>	<b>67.234,67</b>	<b>85.133,94</b>	<b>100.677,45</b>	<b>114.120,15</b>	<b>125.691,80</b>	<b>161.065,67</b>

Through calculations, we have  $NPV = 161,065.67 \text{ (trđ)} > 0 \Rightarrow$  worthwhile projects in case of an increase in investment capital of 5%, sensitivity  $f = 6.38\%$

Table 1.98. Determine IRR after investment capital increases by 5% (first 8 years)

STT	Content	Year of Analysis							
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7	8 years
1	Currency flow số thu chi (Bt - C <sub>t</sub> )	-54.021,13	-181.343,82	51.754,30	51.422,28	54.215,34	53.651,37	32.444,46	54.166,92
2	Discount Factor with IRR = 18.91%	0,841	0,707	0,595	0,500	0,421	0,354	0,297	0,250
3	Cash flow difference of discounted revenue and expenditure 1	-45.430,27	-128.252,55	30.781,61	25.720,40	22.805,01	18.978,88	9.651,88	13.551,49
4	<b>Accumulating money flow Discount revenue and expenditure 1</b>	<b>-45.430,27</b>	<b>-173.682,82</b>	<b>-142.901,21</b>	<b>-117.180,80</b>	<b>-94.375,79</b>	<b>-75.396,91</b>	<b>-65.745,03</b>	<b>-52.193,54</b>
5	Discount Factor with IRR = 18,92%	0,841	0,707	0,595	0,500	0,420	0,354	0,297	0,250
6	Currency flow Discount revenue and expenditure 2	-45.426,45	-128.230,98	30.773,85	25.711,75	22.795,43	18.969,30	9.646,20	13.542,38

<b>7</b>	<b>Accumulating cash flow difference between revenue and expenditure discount 2</b>	<b>-45.426,45</b>	<b>-173.657,43</b>	<b>-142.883,58</b>	<b>-117.171,83</b>	<b>-94.376,40</b>	<b>-75.407,10</b>	<b>-65.760,90</b>	<b>-52.218,52</b>
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Table 1.99. Determine IRR after investment capital increases by 5% (remaining years)

STT	Content	Year of Analysis								
		9 years	10 years	11 years	12 years	Year 13	14 years	15 years	16 years	17 years
1	Currency flow số thu chi (Bt - C <sub>t</sub> )	53.371,00	52.923,00	50.019,04	13.785,97	50.104,48	47.095,36	44.086,24	41.077,12	135.917,37
2	Discount coefficient with IRR = 18,91%	0,210	0,177	0,149	0,125	0,105	0,088	0,074	0,063	0,053
3	Cash flow difference in revenue and expenditure Deduction 1	11.228,97	9.363,98	7.442,75	1.725,11	5.272,76	4.167,93	3.281,16	2.571,02	7.154,22
4	<b>Accumulating cash flow difference between revenue and expenditure Discount 1</b>	<b>-40.964,57</b>	<b>-31.600,58</b>	<b>-24.157,84</b>	<b>-22.432,73</b>	<b>-17.159,97</b>	<b>-12.992,04</b>	<b>-9.710,88</b>	<b>-7.139,86</b>	<b>14,37</b>
5	Discount coefficient with IRR = 18,92%	0,210	0,177	0,149	0,125	0,105	0,088	0,074	0,063	0,053
6	Cash flow difference in revenue and	11.220,48	9.356,11	7.435,86	1.723,37	5.266,99	4.163,03	3.277,02	2.567,57	7.144,00

	expenditure Deduction 2									
<b>7</b>	<b>Accumulating cash flow difference between revenue and expenditure Discount 2</b>	<b>-40.998,04</b>	<b>-31.641,93</b>	<b>-24.206,07</b>	<b>-22.482,70</b>	<b>-17.215,70</b>	<b>-13.052,67</b>	<b>-9.775,65</b>	<b>-7.208,09</b>	<b>-64,08</b>

*Table 1,100. IRR Calculator after 5% Increase in Investment Capital*

<b>Quota</b>	<b>Calculation method</b>	<b>Value</b>
IRR1		18,91%
IRR2		18,92%
NPV1		14,37
NPV2		-64,08
<b>IRR</b>	$IRR = IRR1 + (IRR2 - IRR1) * NPV1 / (NPV1 + NPV2)$	<b>18,912%</b>

The calculation results show that **IRR = 18.912% > MARR = 8.24%**, from which it is possible to evaluate the **project worthwhile** after the product sales revenue decreases by 5% with a **sensitivity f = 5.8%**

## **CHAPTER 2. ANALYSIS OF SOCIO-ECONOMIC EFFICIENCY OF INVESTMENT PROJECTS**

### **2.1. Increased product value created by the project**

- The greater the added product value, the more the project contributes to the gross national product, the greater the socio-economic efficiency.
- Grounds for determination:
  - + Annual revenue
  - + Annual expenses for material inputs and services purchased from outside.
- Contents: Determination of costs for physical inputs and externally purchased services for each year of operation

Table 1.101. Cost of physical input and outsourced services (first 7 years of operation)

STT	Content	Years of operation						
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
1	Electricity and water costs	1.391,68	1.391,68	1.468,99	1.468,99	1.468,99	1.546,31	1.546,31
2	Repair and maintenance costs	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74
3	Depreciation expense	17.757,92	17.757,92	17.757,92	17.757,92	17.757,92	8.030,51	8.030,51
<b>Total</b>		<b>22.374,34</b>	<b>22.374,34</b>	<b>22.451,66</b>	<b>22.451,66</b>	<b>22.451,66</b>	<b>12.801,56</b>	<b>12.801,56</b>

Table 1.102. Costs of material inputs and services purchased outside (remaining years of operation)

STT	Content	Years of operation							
		8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
1	Electricity and water costs	1.546,31	1.468,99	1.391,68	1.468,99	1.391,68	1.314,36	1.237,05	1.237,05
2	Expenses for repair, raise	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74
3	Depreciation expense	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51	8.030,51
<b>Total</b>		<b>12.801,56</b>	<b>12.724,24</b>	<b>12.646,93</b>	<b>12.724,24</b>	<b>12.646,93</b>	<b>12.569,61</b>	<b>12.492,30</b>	<b>12.492,30</b>

Table 1.103. Added product value (first 7 years of operation)

STT	Content	Years of operation						
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
1	Turnover	69.583,95	69.583,95	73.449,73	73.449,73	74.483,14	77.315,51	77.315,51
2	Material Input & Translation Costs Buy-in	22.374,34	22.374,34	22.451,66	22.451,66	22.451,66	12.801,56	12.801,56
3	Added product value	47.209,61	47.209,61	50.998,07	50.998,07	52.031,48	64.513,95	64.513,95
4	Increased product value dồn	47.209,61	94.419,23	145.417,30	196.415,38	248.446,86	312.960,81	377.474,76

Table 1.104. Added product value (remaining years of operation)

STT	Content	Years of operation							
		8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
1	Turnover	77.315,51	73.449,73	70.980,95	73.449,73	69.583,95	65.718,18	61.852,40	62.885,81
2	Cost of entry Materials & Services Purchased Outside	12.801,56	12.724,24	12.646,93	12.724,24	12.646,93	12.569,61	12.492,30	12.492,30
3	Product Value increase	64.513,95	60.725,49	58.334,02	60.725,49	56.937,03	53.148,57	49.360,11	50.393,52
4	Product Value Increasing Contributions	441.988,70	502.714,19	561.048,21	621.773,70	678.710,72	731.859,29	781.219,40	<b>831.612,92</b>

- + The value of added products of the project generated for the whole analysis period is: 831,612.92 million VND;
- + The average annual added product value is: GBQ = 55,440.86 million VND.

## 2.2. The level of attraction of labor to work in the project

The indicators of labor attraction to work in the project are calculated in detail in the following table:

*Table 1.105. Calculation of indicators on the level of attracting workers to work in the project*

TT	Quota	Calculation method	Units of Calculation	Value
1	Investment capital for the project (V)		billion VND	226,89
2	Number of employees for the project (n)		person	61
3	Ratio between the number of employees working in the project and the project capital (k)	$k=n/V$	person/billion VND	0,269
4	Salary fund paid to employees for 1 year		trđ	5.736,00
5	Income of employees working in the project in 1 year		trđ	94,03
4	Meaning	Every 1 billion VND of investment capital of the project will create 0.297 jobs		



### 2.3. The project's contribution to the budget

Table 1.106. VAT paid into the budget (first 7 years of operation)

STT	Content	Years of operation						
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
<b>I</b>	<b>Output VAT</b>	<b>6.958,40</b>	<b>6.958,40</b>	<b>7.344,97</b>	<b>7.344,97</b>	<b>7.448,31</b>	<b>7.731,55</b>	<b>7.731,55</b>
1	Revenue from leasing the area	69.583,95	69.583,95	73.449,73	73.449,73	74.483,14	77.315,51	77.315,51
	Thuế VAT (10%)	6.958,40	6.958,40	7.344,97	7.344,97	7.448,31	7.731,55	7.731,55
<b>II</b>	<b>Input VAT</b>	<b>477,11</b>	<b>469,37</b>	<b>461,64</b>	<b>469,37</b>	<b>461,64</b>	<b>453,91</b>	<b>446,18</b>
1	Electricity and water costs	1.546,31	1.468,99	1.391,68	1.468,99	1.391,68	1.314,36	1.237,05
	Thuế VAT (10%)	154,63	146,90	139,17	146,90	139,17	131,44	123,70
2	Repair and maintenance costs	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74
	Thuế VAT (10%)	322,47	322,47	322,47	322,47	322,47	322,47	322,47
<b>III</b>	<b>VAT remitted to the budget</b>	<b>7.435,50</b>	<b>7.427,77</b>	<b>7.806,62</b>	<b>7.814,35</b>	<b>7.909,96</b>	<b>8.185,46</b>	<b>8.177,73</b>

Table 1.107. VAT paid into the budget (remaining years of operation)

STT	Content	Years of operation							
		8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
<b>I</b>	<b>Output VAT</b>	<b>7.731,55</b>	<b>7.344,97</b>	<b>7.098,09</b>	<b>7.344,97</b>	<b>6.958,40</b>	<b>6.571,82</b>	<b>6.185,24</b>	<b>6.288,58</b>
1	Revenue from leasing the area	77.315,51	73.449,73	70.980,95	73.449,73	69.583,95	65.718,18	61.852,40	62.885,81
	Thuế VAT (10%)	7.731,55	7.344,97	7.098,09	7.344,97	6.958,40	6.571,82	6.185,24	6.288,58
<b>II</b>	<b>Input VAT</b>	<b>477,11</b>	<b>469,37</b>	<b>461,64</b>	<b>469,37</b>	<b>461,64</b>	<b>453,91</b>	<b>446,18</b>	<b>446,18</b>
1	Electricity and water costs	1.546,31	1.468,99	1.391,68	1.468,99	1.391,68	1.314,36	1.237,05	1.237,05
	Thuế VAT (10%)	154,63	146,90	139,17	146,90	139,17	131,44	123,70	123,70
2	Repair and maintenance costs	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74	3.224,74
	Thuế VAT (10%)	322,47	322,47	322,47	322,47	322,47	322,47	322,47	322,47
<b>III</b>	<b>VAT remitted to the budget</b>	<b>8.208,66</b>	<b>7.814,35</b>	<b>7.559,74</b>	<b>7.814,35</b>	<b>7.420,04</b>	<b>7.025,73</b>	<b>6.631,42</b>	<b>6.734,76</b>

- The main budget contributions include: license tax, corporate income tax, VAT, land rent. In particular, the license tax is determined according to Decree No. 139/2017/ND-CP announced on November 27, 2017, for projects with a registered capital of more than 10 billion VND, belonging to the license tax level 1, or the license tax rate per year the project pays into the state budget is 3 million VND.

- The main budget contributions in the years of operation of the project are presented in the following tables:

*Table 1.108. Major budget contributions (first 7 years of operation)*

STT	Content	Years of operation						
		Year 1	Year 2	Year 3	4 years	5 years	6 years	Year 7
1	License tax	3	3	3	3	3	3	3
2	Corporate Income Tax	4.428,33	4.876,33	6.065,01	6.513,01	7.167,69	10.095,18	10.543,18
3	Value Added Tax	7.435,50	7.427,77	7.806,62	7.814,35	7.909,96	8.185,46	8.177,73
4	Land rent	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Total</b>		<b>11.866,83</b>	<b>12.307,10</b>	<b>13.874,63</b>	<b>14.330,36</b>	<b>15.080,65</b>	<b>18.283,64</b>	<b>18.723,91</b>

*Table 1.109. Major budget contributions (remaining operating years)*

STT	Content	Years of operation							
		8 years	9 years	10 years	11 years	12 years	Year 13	14 years	15 years
1	License tax	3	3	3	3	3	3	3	3
2	Corporate Income Tax karma	10.991,18	10.145,34	9.598,62	10.059,90	9.319,22	8.578,54	7.837,86	8.044,54
3	Value Added Tax	8.208,66	7.814,35	7.559,74	7.814,35	7.420,04	7.025,73	6.631,42	6.734,76
4	Land rent	0,00	525,77	952,96	952,96	952,96	952,96	952,96	952,96
<b>Total</b>		<b>19.202,83</b>	<b>18.488,46</b>	<b>18.114,32</b>	<b>18.830,21</b>	<b>17.695,22</b>	<b>16.560,23</b>	<b>15.425,24</b>	<b>15.735,26</b>

Table 1.110. Summarize budget submissions throughout the project lifecycle

TT	Quota	Units of Calculation	Value
1	Budget contributions for the lifetime of the project	trđ	244.518,86
2	Average annual budget contributions	trđ	16.301,26
3	Rate of budget contributions compared to project investment capital		0,072

## 2.4. Other benefits and influences

The project is approved, invested and put into operation will contribute to changing the economic structure of the area where the project is located, Son Tay town - Hanoi City, according to the orientation and goals of socio-economic development of the whole economy in general and of Hanoi city in particular.

The feasible project put into operation will contribute to expanding and creating conditions for the development of activities that create socio-economic efficiency of the whole economy in general and of Hanoi city in particular.

The feasible project contributes to expanding and creating conditions for the development of cultural, domestic and foreign exchange activities.

The project operates well in terms of socio-economic efficiency, creating a stable source of effective labor employment.

## 2.5. Summary of economic-technical indicators of the project

Table 1.111. Summary of economic-technical indicators of the project

STT	Targets	Unit	Values
<b>I. Indicators of use value and function</b>			
1	Building Grade	level	II
2	Level of comfort and equipment	Standard	***
3	Lifespan	year	25
4	Land area	m2	14.549
5	Land occupied area	m2	4.884,99
6	Number of Rental Houses	house	25
7	Rental area for living	m2	12.674,67
<b>II. Financial targets</b>			
8	Investment capital	million VND	226.890,83
9	Fixed capital	million VND	219.932,43
10	Working capital	million VND	6.958,40
11	Investment capital rate	million VND	15,22

STT	Targets	Unit	Values
12	Total net profit	million VND	254.336,07
13	Average annual net profit	million VND	33.137,04
14	Return on investment private		0,15
15	Fixed capital turnover fix		0,16
16	Profit-to-revenue ratio		0,46
17	Minimum Acceptable Interest Rate	%	8,24%
18	Net present value (NPV) of common capital QD	million VND	172.040,56
19	Net Present Value (NPV) QD Equity right	million VND	138.706,03
20	IRR Common Capital Decision	%	20,08%
21	IRR Capital Decision CSH	%	29,28%
22	Time to recover capital according to the calculation method		0
23	Time to recover capital by dynamic method		0
24	Revenue when reaching design capacity	million VND	77.315,51
25	Breakeven Revenue	million VND	28.036,50
26	Break-even ratio	%	39,41
27	Debt repayment coefficient		1,37
<b>III. Socio-economic efficiency indicators</b>			
28	Total net product value increased	million VND	831.612,92
29	Net Product Value An average annual increase of	million VND	55.440,86
30	Number of employees in 1 year of operation	person	61
31	Average income of employees for more than 1 year	million VND	94,03

32	Total contribution to the budget	million VND	244.518,86
33	Contribution to Average annual budget	million VND	16.301,26

## CONCLUSIONS AND RECOMMENDATIONS

### Conclude

This is a worthwhile project, feasible and effective, as shown in the following aspects:

- The project is suitable for the increasing demand due to the development of the tourism and resort sector and the current level of life improvement. The location of the project is in Son Tay town - Hanoi city, the project will meet the above needs and contribute to the growth of the overall development of the area. With the above positions, the capacity of the project is high and relatively stable.
- Financial efficiency and financial safety are relatively high:
  - + As analyzed above, NPV and IRR indices (from the perspective of common capital and from the perspective of equity) all show that the project is worthwhile.
  - + In addition, the financial safety of the project is relatively high. The project has a relatively fast capital recovery period, the ability to repay debts, break-even revenue and break-even activities at an average level.
- The project brings many socio-economic benefits:
  - + The project creates a great added product value for society, contributing a significant part to the State budget through taxes (VAT, license tax, corporate income tax, land rental costs, etc.).
  - + The project contributes to creating jobs for a stable (direct) number of employees with appropriate incomes, or indirectly creating jobs and increasing incomes for many people through the provision of services, buying and selling goods to serve the needs of customers.
  - + The project will also contribute to creating more premises for the development of the local service tourism industry.
- In addition, the project also contributes to changing the structure and development of the regional economy, strengthening and expanding cultural exchange relations between regions in the country as well as between Vietnam and international friends.

### Petition

In order for the project to be implemented early, the Hanoi City People's Committee, the Department of Planning and Investment and relevant sectors need to create favorable conditions for the project to be implemented quickly. The State needs to have solutions to limit financial fluctuations; avoid depreciation, slippage or rising inflation in the current and future markets.