

Optimization Ideas for Land Reclamation of Abandoned Construction Land

Cheng Zhang

Shaanxi Provincial Land Engineering Construction Group Co.,Ltd., Xi 'an, Shaanxi, China

Abstract

Through the implementation of the project to increase and decrease the abandoned construction land, the old homesteads can be demolished and reclaimed, which can improve the living conditions of the people in administrative villages, accelerate the pace of poverty alleviation, and have important practical significance for increasing the income of local farmers and improving people's living standards. After the project is implemented, it can absorb part of the surplus labor force, provide employment opportunities for the local surplus labor force, effectively alleviate employment pressure, and contribute to local social stability. This paper takes the reclamation project of abandoned construction land in Chencang District of Baoji City as an example to optimize the layout of the project, hoping to provide a reference for further improving the quality of the project.

Keywords

Urban and rural construction land; abandoned homestead; land reclamation; optimization ideas.

1. Introduction

The link between increase and decrease of urban and rural construction land refers to the combination of a number of rural construction land plots to be reclaimed into cultivated land and land plots to be used for urban and rural construction to form a new and demolition project area according to the overall land use plan. , Land reclamation and other measures, on the basis of ensuring the balance of various types of land in the project area, ultimately achieve the goal of increasing the effective area of arable land, improving the quality of arable land, saving and intensive use of construction land, and making the layout of urban and rural land more reasonable. Reclamation of old villages is a major event for improving the rural living environment, improving the quality of life of farmers, and enhancing the well-being of farmers. It has important strategic significance for the coordinated development of urban and rural areas and comprehensively speeding up the construction of a new socialist countryside. Land reclamation is one of the effective ways to increase the amount of cultivated land. Achieving a balance in the total amount of arable land and ensuring that the total amount of arable land will no longer decrease and increase slightly is an important responsibility of the land and resources department. Land reclamation can not only increase the amount of arable land and increase the utilization rate of land, but also play a major role in effectively improving the agricultural ecological environment, increasing farmers' income, and promoting the coordinated development of rural economy, society and ecology. On the basis of ensuring the balance of various land areas in the project area, the project is to reorganize and merge the originally scattered and inefficiently used abandoned homesteads, and promote the conservation and intensive use of rural construction land. On the premise of ensuring that construction land does not increase, increase the effective area of arable land, improve the quality of arable land, and avoid waste of land resources.

2. Project Overview

Chencang District is located at the western end of the Guanzhong Plain in the west of Shaanxi Province and Baoji City. The geographical coordinates are between $106^{\circ}18'24''$ — $107^{\circ}34'58''$ east longitude and $34^{\circ}07'36''$ — $34^{\circ}44'57''$ north latitude. Chencang District is located in the inland area of Northwest China. It belongs to the mid-latitude continental monsoon region, a warm temperate semi-humid and semi-arid climate with a multi-year average temperature of 12.8°C , an average annual sunshine duration of 1913.9 hours, and an average annual rainfall of 647.1 mm. As of the end of 2020, the total number of households in Chencang District is 166,000, with a total registered population of 599,000. At the end of the year, the total permanent population was 602,500, and the urbanization rate was 49.68%. There were 5,338 births and 3016 deaths throughout the year, with a natural population growth rate of 3.9‰. In 2019, the total retail sales of consumer goods in Chencang District reached 8.62 billion yuan, an increase of 8.3% year-on-year. According to the location of the sales unit, the total retail sales of consumer goods in urban areas reached 6.82 billion yuan, an increase of 9.09%; the total retail sales of consumer goods in rural areas reached 1.80 billion yuan, an increase of 5.64%. In terms of consumption patterns, retail sales of goods were 7.462 billion yuan, an increase of 8.36%; catering income was 1.158 billion yuan, an increase of 8.27%. At the end of the year, commerce and trade enterprises above designated size achieved total retail sales of consumer goods of 3.96 billion yuan, a growth rate of 2.0% on a comparable basis.

3. Problems in land use in demolished areas

3.1. The land utilization rate is not high, and the phenomenon of idleness and abandonment is serious

Most of the buildings in the demolished old areas are mostly in disrepair for a long time, and the layout of the homesteads and abandoned mining land is messy, mostly idle land, and the land utilization rate is low. In addition, the homestead has been severely weathered, the construction quality is poor, the housing structure is unreasonable, and the practicability is poor, which seriously affects the overall appearance of the village.

3.2. Insufficient flexible space for construction land layout

As the arable land around towns and transportation lines determined in the plan is mostly designated as permanent basic farmland, the buffer space for construction land is insufficient, which makes it difficult for the plan to coordinate various construction layout adjustment changes, which objectively weakens the feasibility and operability of the plan.

4. Analysis of project construction conditions

4.1. Road traffic facilities

The various blocks in the project area are abandoned homesteads, or adjacent to the current homesteads that are currently in normal use. For many years, due to the construction of urban and rural infrastructure, the various blocks have been connected or adjacent to rural cement roads, and the road accessibility is good. However, part of the project area is demolished for housing sites and mining land, which requires excavators and manual demolition. The roads of some plots are not smooth, which brings inconvenience to the implementation of the project.

4.2. Status of irrigation and drainage backbone facilities

The project area is located in a mountainous area and there is no irrigation water source. According to the requirements of the project, the target of this reclamation is dry land, so no irrigation facilities are designed.

The land in the project area is relatively high, no groundwater overflows, and the local precipitation is below 750mm. The precipitation can only meet the needs of agricultural production. After the land is reclaimed, the surface is leveled and there is basically no surface runoff, so no drainage facilities are designed.

4.3. Farmland protection and ecological environment preservation measures

There are no industrialized facilities and pollution in the project area. The vegetation conditions around the project area are relatively good, and the degree of soil erosion is relatively light. Most of the plots along the river in the project area are protected by river banks, which is conducive to controlling soil erosion and the ecological environment is in good condition.

5. Project layout

The project engineering design content is based on the current topographical conditions, measures measures to local conditions, overall planning, and reasonable layout, and the design is based on the principles of increasing arable land and facilitating agricultural mechanization. The main construction content includes building demolition and removal works, land leveling works, field road works, farmland protection and ecological environment maintenance works. The overall project layout is mainly based on building demolition and removal and land leveling. The demolition of the old and reclaimed land in the project area was originally a house site with a small slope of the original ground. In order to meet the needs of agricultural production, the original land was determined to be slightly flat. According to the natural topography and area of the project area, the project area is divided into fields. The inside of the field requires the land to be leveled. The length and width of the field vary depending on the topography. The shape of the field is roughly a regular rectangle, and ridges are built at the edge of the field. , Tiankan is arranged along the contour line.

Field road engineering and farmland protection and ecological environment maintenance engineering are important components of farmland infrastructure. The overall layout of the project area requires unobstructed drainage and unobstructed roads, which facilitates agricultural mechanization operations and is conducive to the development of agricultural modernization. According to the actual situation of local agricultural production, plan production roads between fields to facilitate agricultural production. Drainage ditches are arranged in some fields to meet the drainage needs. Plant a row of red-leaf plums on both sides of the field road, and plant alfalfa at the field ridges, so as to optimize the layout of the farmland structure and play the role of farmland landscape and ecological functions, and establish a sustainable farmland ecological environment.

After the completion of the project, the fields will be level and tidy, with matching roads and roads in the fields, production conditions will be fundamentally improved, and the quality of newly added cultivated land will reach the same level as the surrounding cultivated land.

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