

# An Economic Analysis of the BGC Cannabis Manufacturing and Research Master Project Phase 2

Final Report Prepared for  
**Bright Green Corporation**

Prepared by  
**Baker Tilly US, LLP**

December 2022  
(revised October 12, 2023)

# TABLE OF CONTENTS

---

- 1. Executive Summary ..... 2
  - 1-1. Introduction..... 4
  - 1-2. Regional Center Geographic Area ..... 4
  - 1-3. Industry Cluster Definitions ..... 6
  - 1-4. Effect of Household Earnings, Demand for Business Services, Utilities, Maintenance and Construction, and New Supplier/Vendor Relationships with Manufacturers ..... 7
- 2. Methods & Assumptions ..... 9
  - 2-1. Assumptions..... 9
  - 2-2. Simulation Inputs .....10
  - 2-3. RIMS II Final Demand and Employment Multipliers .....14
  - 2-4. Calculation of Employment Results Using Final Demand Multiplier .....14
  - 2-5. Guidelines and Methodology for Construction Employment Creation.....15
  - 2-6. Economic Impacts of the BGC Cannabis Manufacturing and Research Master Project Phase 2.....16
  - 2-7. Verification of Inputs .....22
- 3. RIMS II Final Demand Methodology.....23

# 1. Executive Summary

---

This economic analysis report, utilizing RIMS II, was prepared to evaluate the economic impacts of a specific project located within the state of New Mexico, which is being developed under the sponsorship of the proposed regional center, Regional Center Bright Green LLC. The project involves the potential completion of Alterola Biotech Inc.'s acquisition, potential research and development of Alterola assets, and the development of a 118-acre state-of-the-art agricultural manufacturing and research facility. This includes two 57-acre greenhouses, a 41,760 square meters Handling and Service Building A, a 35,680 square meters Handling and Service Building B, a 3,360 square meters Energy Building, and a 100 Megawatt Solar Farm to begin housing the Job Creating Entity's cannabis research, development, cultivation, and manufacturing operations. The Project will be located at 1033 George Hanosh Boulevard, Grants, New Mexico, Cibola County. This project's activities will be collectively referred to as the "BGC Cannabis Manufacturing and Research Master Project Phase 2" or the "Project".

The Project will create 7,164.7 total new jobs from the development and operation of the project.

The Project will increase investment in the region by a one-time amount of \$538,600,000. This impact analysis finds that the project will generate significant and positive economic benefits for the regional economy.

The Project would result in annual growth in the regional economy by a gain of \$374,065,000 in regional household earnings.

The regional economy will experience increased need for business services of \$85,599,000.

The regional economy will experience annual increased demand on utilities of \$14,858,000.

The regional economy will experience an increased demand for maintenance and construction of \$284,612,000.

The regional economy will experience increased demand on new supplier and vendor links with manufacturers of \$897,335,000.

EB-5 capital of \$458,400,000 is anticipated to be raised from 573 EB-5 investors. Based on a total of 7,164.7 jobs, the individual investors in the project would be assigned 12.5 jobs each. The project provides sufficient jobs to exceed the requirements of the EB-5 program.

EB-5 rules outlined in the EB-5 Reform and Integrity Act of 2022 state that if the project's construction will last two years or more, the project can satisfy only up to 90% of total required jobs created indirectly. The EB-5 Reform and Integrity Act of 2022 also allows for the inclusion of economically and statistically valid methodologies for determining the number of jobs created directly by the project using capital expenditures and revenues generated<sup>1</sup>. The Project anticipates 573 investors pooling \$458,400,000 in EB-5 funds. Of the 5,730 required jobs, 573 must be direct jobs. Based on this economic analysis, the project is anticipated to create 7,164.7 jobs of which 3,737.2 of the jobs are model derived direct jobs. Therefore, the project exceeds the requirements of the EB-5 program.

The following chart summarizes the total permanent new jobs for construction and operation of the Project. These figures assume that the expenditures/revenues for the Project given in the table are met.

<b>Table A. Summary of Projected Employment for the BGC Cannabis Manufacturing and Research Master Project Phase 2</b>						
<u>Project (with NAICS Code)</u>	<u>Projected Expenditure/Revenue</u>	<u>Projected Expenditure/Revenue (2020 Dollars)</u>	<u>RIMS II Final Demand Multiplier</u>	<u>Total Number of New Direct Jobs Created</u>	<u>Total Number of New Indirect Jobs Created</u>	<u>Total Number of New Permanent Jobs Created</u>
Non-Residential Building Construction (NAICS code 2362)	\$295,531,719	\$278,803,508	11.6869	2,009.2	1,249.2	3,258.4
Furniture, Fixtures and Equipment Purchases (NAICS code 4238)	\$83,000,000	\$63,846,154	3.8052	--	242.9	242.9*
Pharmaceutical and Medicine Manufacturing (NAICS code 3254)	\$751,704,030	\$715,908,600	5.1172	1,728.0	1,935.4	3,663.4
<b>Grand Total:</b>				<b>3,737.2</b>	<b>3,427.5</b>	<b>7,164.7</b>

Note: Expenditures/Revenue have been deflated to 2020 dollars.

\*Indirect Jobs Only

<sup>1</sup> Please be advised that the final decision of eligible job creation will be made by USCIS during adjudication. This report is interpreting legislation from the H.R.2471 - Consolidated Appropriations Act, 2022; Division BB--EB-5 Reform and Integrity Act of 2022; Immigration & Nationality Act § 203(b)(5)(E)(iv)(I) (8 U.S.C. § 1153(b)(5)(E)(iv)(I)), as amended to the best knowledge of the Author. However, USCIS may interpret the legislation differently. Therefore, submission of filings in reliance on this analysis could result in potential adverse outcomes.

## 1-1. Introduction

---

Baker Tilly US LLP (“BT”) has been retained by Bright Green Corporation (Job Creating Entity “JCE”) to perform an economic assessment of a planned investment in the construction and operation of a project located within the state of New Mexico. The following industry clusters were analyzed as part of this project:

1. Non-Residential Building Construction – NAICS 2362
2. Machinery, Equipment, and Supplies Merchant Wholesalers – NAICS 4238
3. Pharmaceutical and Medicine Manufacturing – NAICS 3254

BT used RIMS II to model the total economic impact associated with various levels of site investment and operational employment. To quantify the net economic impact (direct and indirect) of the development, RIMS II modeled the following effects:

- Direct and indirect effects of construction employment, household earnings and output
- Direct and indirect effects of operational employment, household earnings and output

BT examined the project data provided by the JCE using a multi-industry sector, segregated-region model. Using this model, BT was able to develop independent forecasts for the proposed use of the project. This segregation of forecasts allowed BT/RIMS II to capture the total net effects of the proposed target industry. By analyzing the regional developments with different underlying assumptions for the specific industries, BT established a realistic prediction of a potential outcome.

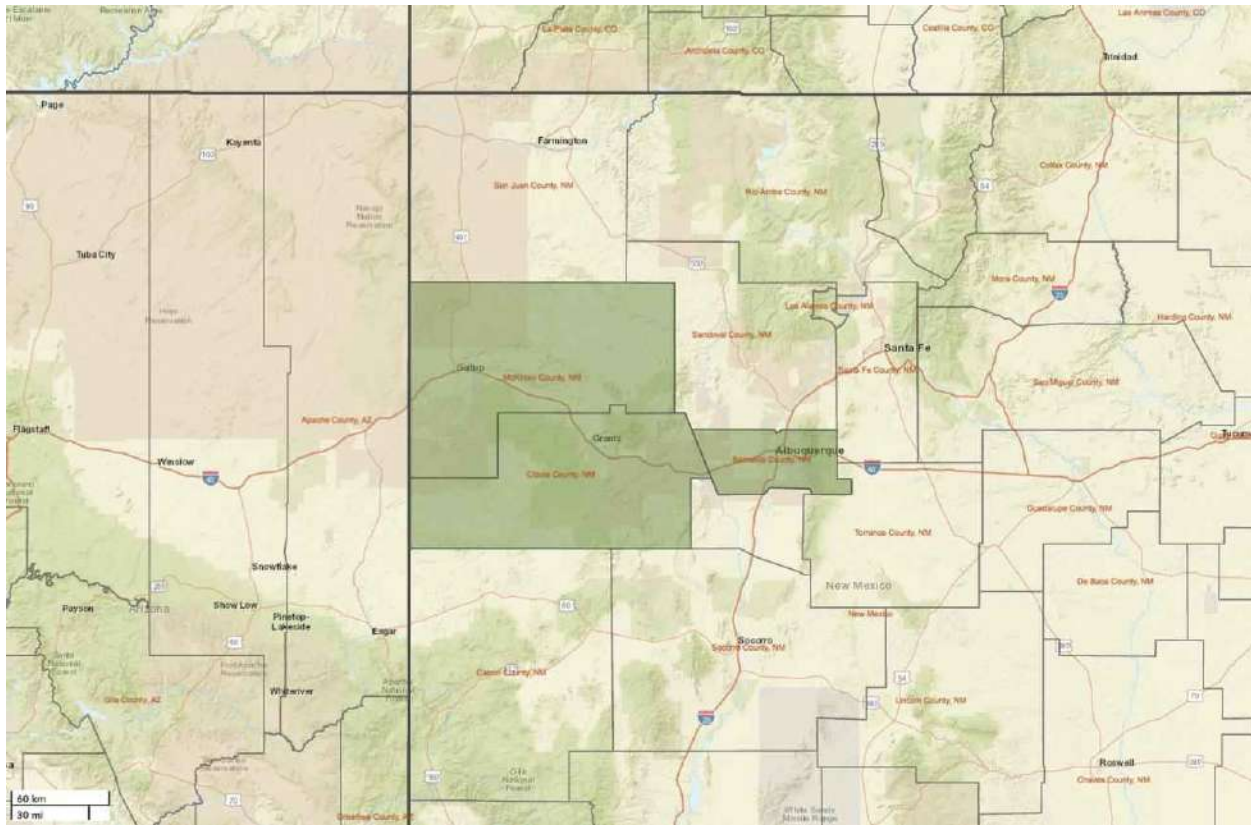
The RIMS II economic model employed for the economic and job creation impact assessment study, forecasts the economic impact a specific event will generate throughout a determined area. Over time, competitive pressures emerge and then tend to revert back to equilibrium. The process, in that way, depicts the so-called "ripple-effect" impacts economic changes have on a region.

In this case, the initial economic stimulation reverberates through the economy spreading outward from the site of the new investment and business activity and across the geographic region and the nation. Eventually the new waves of the economic activity are absorbed into the larger economy creating a new level of economic equilibrium. In the long run, the project will materially alter the geographic area by the substantial amount of new investment and related business development activities, including a corresponding higher level of output, taxation, investment, employment and household earnings in the regional economy. This report is intended to demonstrate the increased economic impacts within the geographic region.

## 1-2. Regional Center Geographic Area

---

Per USCIS definition, a regional center must operate within a defined, contiguous, and limited geographic area. Regional Center Bright Green LLC is requesting EB-5 regional center approval with a proposed geographic area encompassing the following contiguous counties within the state of New Mexico: Bernalillo, Cibola, and McKinley, as shown in the map below:



For this Project, based on commuting patterns, the sphere of influence for the Project is the following contiguous counties within the state of New Mexico: Bernalillo, Cibola and McKinley.

Using data on work site and place of residence at the county level, data is calculated where the preponderance of workers lives in each county, ranking them by absolute number of commuters to the county. A cutoff threshold was determined for each ranked list of worker-supplying counties, below a 90% level will exclude areas that are significantly affected by the proposed project.

The combined percentage of workers from Bernalillo, Cibola and McKinley counties that commute into Cibola County is 96.98% where the project will be located.

Commuting to Cibola County, New Mexico		
Area	Employment	Share
Bernalillo, Cibola and McKinley	9,057	96.98%
Rest of New Mexico	233	2.49%
All Other	49	0.53%
<b>Total</b>	<b>9,339</b>	<b>100.0%</b>

Residence County to Workplace County Commuting Flows for the United States; 5-Year ACS 2011-2020

Based upon the above commuting patterns, the specific location of the project is economically integrated, and located within the proposed regional center and has been defined as the project region. BT performed an analysis for the target industry economic clusters in the proposed project specific geographic area. RIMS II was utilized.

## 1-3. Industry Cluster Definitions<sup>2</sup>

---

**Non-Residential Building Construction – NAICS code 2362:** This industry comprises establishments primarily responsible for the construction (including new work, additions, alterations, maintenance, and repairs) of industrial buildings (except warehouses). The construction of selected additional structures, whose production processes are similar to those for industrial buildings (e.g., incinerators, cement plants, blast furnaces, and similar non-building structures), is included in this industry. Included in this industry are industrial building general contractors, industrial building operative builders, industrial building design-build firms, and industrial building construction management firms.

**Machinery, Equipment and Supplies Merchant Wholesalers – NAICS code 4238:** This industry group comprises establishments primarily engaged in the merchant wholesale distribution of construction, mining, farm, garden, industrial, service establishment, and transportation machinery, equipment and supplies.

**Pharmaceutical and Medicine Manufacturing – NAICS code 3254:** This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing biological and medicinal products; (2) processing (i.e., grading, grinding, and milling) botanical drugs and herbs; (3) isolating active medicinal principals from botanical drugs and herbs; and (4) manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

---

<sup>2</sup> NAICS code definitions provided by the U.S. Census Bureau

## 1-4. Effect of Household Earnings, Demand for Business Services, Utilities, Maintenance and Construction, and New Supplier/Vendor Relationships with Manufacturers

The economic impact as measured by household earnings, demand for business services, utilities, maintenance and repair, and new supplier and vendor relationships is summarized in the chart below.

Summary Measures of Economic Impact for the Project	
Category	
<u>Total Household income from:</u>	
Construction	\$168,593,000
FF&E	\$10,530,000
Facility Operations	\$194,942,000
<u>Total the above categories</u>	<u>\$374,065,000</u>
<u>Demand (output) for:</u>	
Professional and business support services	\$85,599,000
Utilities	\$14,858,000
Maintenance and repair construction	\$284,612,000
Supplier/vendor links with manufacturers	\$897,335,000
<u>Total these 4 categories</u>	<u>\$1,282,404,000</u>

### Household Earnings (Labor Income)

The jobs created by the various components of the projects will subsequently create new sources of household income. The total household income from the project will be \$374.07 million. This income calculation comes from the RIMS II input-output model, which measures the average income per job by industry. The model calculations are based on the types of jobs that will be created within the regional center, with indirect impacts allocated based on the types of commodity inputs required by the businesses that would potentially locate in the regional center.

### Demand for Business Services, Utilities, Maintenance and Construction, and New Supplier/Vendor Relationships Created with Manufacturers

The total economic impact of the projects from the supplier purchases and business relationships for the regional center will create approximately \$1,282.40 million in additional economic activity across the region. These supplier purchases are calculated from the indirect increase in output generated by the RIMS II model. It should be noted that some of these supplier industries might potentially locate within the regional center, and their economic output is included in this total.



The estimate of supplier purchases is based on the commodity data in the RIMS II input-output model. This data specifies the amount and type of commodity input needed to maintain specific types of business operations. The model estimates the supplier purchases based on the types of jobs and number of jobs that will be created within the regional center. In addition, the model allocates the supplier purchases to businesses within the region, based on trade flow data from the U.S. Bureau of Economic Analysis.

The regional center will create demand for business services including, professional services and business services and support services. The impact of this activity totals \$85.60 million annually.

Utilities include services such as electricity, natural gas, and water and sewer facilities. The economic impact on utility services totals \$14.86 million.

Maintenance and repair services include some building and construction activity on existing buildings. The regional center would create an economic impact of \$284.61 million within these sectors in the region. Because most of the construction activity is either upfront during building construction or integrated into repair and maintenance services, the economic impact for construction sectors is minimal on an ongoing basis.

New supplier/vendor relationships with manufacturers would create an economic impact of \$897.34 million. These activities include purchases of locally manufactured goods plus purchased materials for construction, plus any locally produced materials used in food services.

## 2. Methods & Assumptions

---

### 2-1. Assumptions

---

For the project, BT examined the economic effects of site development and operations. BT systematically reviewed each set of assumptions used to properly customize the sector outputs that make up the set matrices. In the following assumptions, BT applied specific sector data resulting in a very detailed, realistic and logical range of likely outcomes.

The tables within this analysis show the expected spending as well as increases in employment and household earnings for ongoing operations.

The definition of “direct jobs” through RIMS II used in this report should not be confused with the concept of “direct job” creation measurable by Forms I-9, payroll records or other similar documentation as set forth in 8 C.F.R. § 204.6(j)(4)(i)(A).

When economists use the term “direct” jobs in the context of an econometric methodology such as RIMS II, what is meant are jobs created directly by revenues (which in the EB-5 Immigrant Investor Program results from an immigrant investor’s investment). For example, where a regional center-based new commercial enterprise comprised of immigrant investors renovates a building it purchases, the employees of the various unaffiliated tenants of that building would be considered “direct” jobs in the context of an econometric report. However, as noted in USCIS’ stated EB-5 policy, those jobs are not “direct” in the sense set forth in 8 C.F.R. § 204.6(j)(4)(i)(A) where the new commercial enterprise is itself the employer that can provide Form I-9 or other similar documentation on its own employees. The tenants’ employees are not “direct” employees of the regional center-based new commercial enterprise, nor may they be counted for other job creation credit calculations “unless” the tenant jobs were not pre-existent somewhere else, and merely were existing jobs transferred to the new tenant location from a prior location where they had existed.

To be clear, this report does in fact also set forth the number of EB-5 “direct” jobs that are likely to be created by the JCE and that by the point of filing to remove conditions by way of the form I-829 process, the JCE will be fully compliant with 8 C.F.R. § 204.6(j)(4)(iii) in providing probative evidence for the proof of “direct” EB-5 job creation. In addition, and within the context of regulations which apply particularly to regional centers, for calculation of the resultant and newly induced and indirect job creation, it is not Forms I-9, payroll records or similar documentation that will be the needed to meet the USCIS’ preponderance of evidence standard, but rather “reasonable methodologies” such as used for this report.

## 2-2. Simulation Inputs

The data used includes an estimated construction timeline and development costs provided by the JCE.

Information from the business plan for the proposed industry cluster was provided by the JCE and such information within the plan was evaluated and then incorporated into this analysis for area specific background and demographic purposes.

Based on the data provided and corroborated, inputs were created for use in the RIMS II system to model the economic impact of the operation phase of the project. The relevant information and data used to develop the model inputs of the project was provided by the JCE.

A summary of the project follows:

**The BGC Cannabis Manufacturing and Research Master Project Phase 2:** the potential completion of Alterola Biotech Inc.'s acquisition, potential research and development of Alterola assets, and the development of a 118-acre state-of-the-art agricultural manufacturing and research facility. This includes two 57-acre greenhouses, a 41,760 square meters Handling and Service Building A, a 35,680 square meters Handling and Service Building B, a 3,360 square meters Energy Building, and a 100 Megawatt Solar Farm to begin housing the Job Creating Entity's cannabis research, development, cultivation, and manufacturing operations. The Project will be located at 1033 George Hanosh Boulevard, Grants, New Mexico, Cibola County. Project costs are estimated to total \$538,600,000.

Development Cost	
Property Acquisition	2,725,000
Potential Alterola Acquisition	46,000,000
<b>Total Potential Acquisition Costs</b>	<b>\$ 48,725,000</b>
Construction	295,531,719
Water infrastructure improvements	10,473,000
<b>Total Construction Hard Costs</b>	<b>306,004,719</b>
Solar Farm	83,000,000
<b>Total FF&amp;E Costs</b>	<b>83,000,000</b>
Potential Alterola R&D	50,000,000
delivery, transportation, building site, preparation, taxes	20,782,250
Permits	105,320
<b>Total Soft Costs</b>	<b>70,887,570</b>
Working Capital	29,982,711
<b>Total Pre-Opening Costs</b>	<b>29,982,711</b>
<b>TOTAL DEVELOPMENT COST</b>	<b>\$ 538,600,000</b>

### Construction

Construction will last approximately twenty-six (24) months and the total hard construction costs for this project will be \$295,531,719 (in current dollars). The current RIMS II multipliers are from 2020; therefore, we must deflate the expenditures to 2020 Dollars.

*\*Note: In order to be conservative, the economic analysis does not include water infrastructure improvement costs within its job creation analysis.*

According to the Turner Construction Building Cost Index, the cost index in 2020 was 1177 versus the 2021/22 average cost index of 1244<sup>3</sup>. Therefore, the construction costs for this project will need to be further reduced to reflect 2020 dollars.

Quarter	Index	Δ%
2nd Quarter 2022	1283	2.23
1st Quarter 2022	1255	2.03
4th Quarter 2021	1230	1.91
3rd Quarter 2021	1207	1.68

Year	Average Index	Δ%
2021	1199	1.9
2020	1177	1.8
2019	1156	5.5
2018	1096	5.6
2017	1038	5.0
2016	989	4.8
2015	943	4.5
2014	902	4.4
2013	864	4.1
2012	830	2.1
2011	812	1.6
2010	799	-4.0
2009	832	-8.4

The Turner Building Cost Index is determined by the following factors considered on a nationwide basis: labor rates and productivity, material prices and the competitive condition of the marketplace.

index



<sup>3</sup> [www.turnerconstruction.com](http://www.turnerconstruction.com); Cost Index 2022, Quarter 2.

To convert this figure to 2020 dollars we use the 2021/22 average cost index of 1244 and divide it by the 2020 cost index of 1177. This gives us a figure of  $1244/1177 = 1.06$ . To convert the expenditures in current dollars to 2020 Dollars, the expenditures are divided by 1.06.

<b>Non-Residential Building Construction Expenditure Current Dollars vs. 2020 Dollars</b>	
<i>Current Dollars</i>	<i>2020 Dollars</i>
\$295,531,719	\$278,803,508

Construction employment was derived through expenditure modeling based upon detailed construction cost figures provided by the JCE. Verification at the I-829 stage of the EB-5 process would be receipts, tax documents and other expense records.

### **Furniture, Fixtures and Equipment Purchases**

The total expenditure for FF&E purchases will be \$83,000,000 (in current dollars).

To convert this figure to 2020 Dollars we use the average Producer Price Index (PPI) for merchant wholesalers, which is 194.3 and divide it by the 2020 PPI of 149.7. This gives us a figure of  $194.3/149.7 = 1.30$ . To convert the \$83,000,000 in current dollars to 2020 Dollars, the expenditure is divided by 1.30, to yield \$63,846,154.

<b>Furniture, Fixtures and Equipment Purchases Current Dollars vs. 2020 Dollars</b>	
<i>Current Dollars</i>	<i>2020 Dollars</i>
\$83,000,000	\$63,846,154

Expenditure into the wholesale trade industry that was used as input to the RIMS II model was provided by the JCE. Verification at the I-829 stage of the EB-5 process would be verification of expenditure based upon receipts, tax documents, and other expense records.

## Facility Operations

The total annual revenue will be \$751,704,030 (in current dollars) by the first year of operations. This amount excludes revenue from potential Alterola Profit before taxes.

Phase 2 Operations - Four Year Financial Projections				
REVENUES	2024	2025	2026	2027
Wholesale Revenue	186,839,730	339,384,128	418,992,750	475,789,545
Retail Revenue	564,864,300	1,089,381,150	1,452,508,200	1,767,218,310
Potential Alterola Profit before taxes	78,000,000	101,400,000	131,820,000	17,166,000
<b>Total Revenue</b>	<b>\$ 829,704,030</b>	<b>\$ 1,530,165,278</b>	<b>\$ 2,003,320,950</b>	<b>\$ 2,260,173,855</b>
EXPENSES				
<u>Cost of Goods Sold</u>				
Plants	12,414,600	12,414,600	12,414,600	12,414,600
Utilities	24,829,200	24,829,200	24,829,200	24,829,200
Distribution Overhead	16,945,929	32,681,435	43,575,246	53,016,549
Labor	14,300,000	39,325,000	64,886,250	71,374,875
<b>Total Cost of Goods Sold</b>	<b>68,489,729</b>	<b>109,250,235</b>	<b>145,705,296</b>	<b>161,635,224</b>
<b>GROSS MARGIN</b>	<b>\$ 761,214,301</b>	<b>\$ 1,420,915,043</b>	<b>\$ 1,857,615,654</b>	<b>\$ 2,098,538,631</b>
<u>Operating Expenses</u>				
Sales & Marketing expense	13,752,899	100,875,005	139,800,720	140,347,961
General & Administrative expense	10,293,100	11,247,410	12,297,151	13,451,866
<b>Total Operating Expenses</b>	<b>24,045,999</b>	<b>112,122,415</b>	<b>152,097,871</b>	<b>153,799,827</b>
<b>EBITDA</b>	<b>\$ 737,168,302</b>	<b>\$ 1,308,792,628</b>	<b>\$ 1,705,517,783</b>	<b>\$ 1,944,738,804</b>

To convert this figure to 2020 Dollars we use the average Producer Price Index (PPI) for pharmaceuticals and medicine manufacturing, which is 543.6 and divide it by the 2020 PPI of 519.3. This gives us a figure of  $543.6/519.3 = 1.05$ . To convert the \$751,704,030 in current dollars to 2020 dollars, the revenue is divided by 1.05, to yield \$715,908,600.

Facility Revenue Current Dollars vs. 2020 Dollars	
Current Dollars	2020 Dollars
\$751,704,030	\$715,908,600

Revenue into the manufacturing industry that was used as input to the RIMS II model was provided by the JCE. Verification at the I-829 stage of the EB-5 process would be tax returns and other financial statements.

## 2-3. RIMS II Final Demand and Employment Multipliers

Shown in the chart below are the actual RIMS II final demand and employment multipliers used in the project for this analysis specific for the counties within the project region.

INDUSTRY	Multiplier					
	Final Demand				Direct Effect	
	Output/1/ (dollars)	Earnings/2/ (dollars)	Employment/3/ (jobs)	Value-added/4/ (dollars)	Earnings/5/ (dollars)	Employment/6/ (jobs)
2332E0 Nonresidential structures	1.7428	0.6037	11.6869	0.9657	1.4724	1.6217
325411 Medicinal and botanical manufacturing	1.5173	0.2719	5.1172	0.8138	1.9029	2.1201
420000 Wholesale trade	1.5776	0.3723	6.7847	0.9421	1.7949	2.2771

Region Definition: Bernalillo, NM; Cibola, NM; McKinley, NM

\*Includes Government enterprises.

1. Each entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.
2. Each entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.
3. Each entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional 1 million dollars of output delivered to final demand by the industry corresponding to the entry. Because the employment multipliers are based on 2020 data, the output delivered to final demand should be in 2020 dollars.
4. Each entry in column 4 represents the total dollar change in value added that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.
5. Each entry in column 5 represents the total dollar change in earnings of households employed by all industries for each additional dollar of earnings paid directly to households employed by the industry corresponding to the entry.
6. Each entry in column 6 represents the total change in number of jobs in all industries for each additional job in the industry corresponding to the entry.

NOTE.--Multipliers are based on the 2012 Benchmark Input-Output Table for the Nation and 2020 regional data. Industry List A identifies the industries corresponding to the entries.

SOURCE.--Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis.

## 2-4. Calculation of Employment Results Using Final Demand Multiplier

### Non-Residential Construction

For non-residential construction (NAICS code 2362), the final demand multiplier is 11.6869 and the employment multiplier is 1.6217. The final demand multiplier is used to determine the total number of jobs produced based on the expenditures for non-residential construction of the project, which is shown in Table A of this report. This figure is \$278.804 million (in 2020 Dollars). Therefore if all the jobs were counted, there would be \$278.804 times 11.6869, or 3,258.4 jobs. This figure includes direct and indirect jobs.

The employment multiplier is 1.6217, which means that for every 1 direct job, there are 1.6217 total jobs. Hence for every 1 direct job, there are 0.6217 indirect jobs. If there are a total of 3,258.4 jobs if all categories are counted, then based on this multiplier there are 2,009.2 direct jobs and 1,249.2 indirect jobs. This is the figure shown in Table A.

### Furniture, Fixtures and Equipment Purchases

For NAICS code 4238 (Machinery, Equipment, and Supplies Merchant Wholesalers), the final demand multiplier is 6.7847 and the employment multiplier is 2.2771. The final demand multiplier is used to determine the total number of jobs produced based on the purchases of FF&E for the project, which is shown in Table A of this report. This figure is \$63.846 million (in 2020 Dollars). Therefore if all the jobs were counted, there would be \$63.846 times 6.7847 or 245.3 jobs. This figure includes direct and indirect jobs.

FF&E purchases are a one-time event therefore we can only count indirect jobs from the purchases. The employment multiplier of 6.7847 must be reduced (or have the direct effects taken out) to reflect indirect impacts only.

The final demand multiplier of 6.7847 is divided by the employment multiplier 2.2771 to yield 2.9795. This figure reflects the direct effects only therefore we then subtract 2.9795 from 6.7847, which gives us the indirect final demand multiplier of 3.8052.

The indirect multiplier of 3.8052 is then multiplied by the expenditure of \$63.846 to produce a total number of indirect jobs of 242.9. This is the figure shown in Table A.

### **Facility Operations**

For NAICS code 3254 (Pharmaceutical and Medicine Manufacturing), the final demand multiplier is 5.1172 and the employment multiplier is 2.1201. The final demand multiplier is used to determine the total number of jobs produced based on the revenue for NAICS code 3254, which is shown in Table A of this report. This figure is \$715.909 million (in 2020 dollars). Therefore if all the jobs were counted, there would be \$715.909 times 5.1172, or 3,663.4 jobs. This figure includes direct and indirect jobs.

The employment multiplier is 2.1201, which means that for every 1 direct job, there are 2.1201 total jobs. Hence for every 1 direct job, there are 1.1201 indirect jobs. If there are a total of 3,663.4 jobs if all categories are counted, then based on this multiplier there are 1,728.0 direct jobs and 1,935.4 indirect jobs. This is the figure shown in Table A.

## **2-5. Guidelines and Methodology for Construction Employment Creation**

USCIS guidelines state that direct construction jobs lasting more than two years can be counted for the purpose of determining EB-5 job count.

The project will include over two years of construction therefore direct construction jobs will be included in the total census.

Also, the number of construction jobs must be based upon the capital expended on the “hard costs” of construction and the EB-5 eligible cost of furniture, fixtures and equipment purchases. Other soft costs, such as other fees and permitting are not included. These jobs are calculated as indirect effects within the RIMS II model and to use these costs would be double counting.

For this analysis the developer has provided BT with final estimates of all expenditures of the project. Of the **\$538,600,000** in total capital expenditure, **\$295,531,719** will be spent on hard costs for the development and **\$83,000,000** for EB-5 eligible soft costs (all in current dollars) for the project.

The economic impact calculations in this report are based on the RIMS II final demand multipliers. The numbers in the following tables are calculated by multiplying expenditures or revenue by the RIMS II multipliers for the region, for example: the hard construction costs by the RIMS II construction multipliers.



## 2-6. Economic Impacts of the BGC Cannabis Manufacturing and Research Master Project Phase 2

### Non-Residential Construction:

The non-residential hard construction costs will total \$278.804 million (2020 Dollars) and will create 3,258.4 new jobs.

Table 2-1 and 2-2 show the economic impact of the construction expenditures for the 20 major industrial classifications in the RIMS II input/output model. Please note that in these and succeeding tables, output and earnings are given in thousands of dollars.

<b>Table 2-1. Increase in Employment, Output, and Earnings for \$278.804 Million (2020 Dollars) Non-Residential Construction Expenditures</b>			
Industry group	Employment	Output	Earnings
Agriculture, forestry, fishing	0.3	56	167
Mining	3.0	1227	558
Utilities	4.7	4461	114756
Construction	2017.2	280728	3847
Durable Goods Manufacturing	80.3	21468	2286
Non Durable Goods Manufacturing	29.3	18457	3401
Wholesale trade	48.7	16366	5939
Retail trade	185.3	18708	2621
Transportation and warehousing	53.7	9953	1032
Information	18.1	6663	2426
Finance and insurance	42.3	11236	3150
Real estate and rental and leasing	116.2	22834	7416
Professional, scientific, services	114.4	17091	1143
Management of companies	13.5	2509	2621
Administrative and waste management	76.4	6496	1394
Educational services	47.3	3318	9089
Health care and social assistance	174.6	23894	502
Arts, entertainment, and recreation	20.4	1784	669
Accommodation	25.1	2537	2175
Food services and drinking places	94.0	7360	2955
Other services	80.4	8782	167
Households	12.9	223	279
<b>Total</b>	<b>3258.4</b>	<b>486151</b>	<b>168593</b>

Table 2-1 shows that a total of 3,258.4 new jobs will be created from the construction of the project. Total output will increase by \$486.15 million, while total household earnings would increase by \$168.59 million. Table 2-2 that output per new worker for the construction sector would be about \$139,200, with average annual earnings of \$71,900. For all new workers, the corresponding figures are \$149,200 and \$51,700.

**Table 2-2. Output and Earnings Per New Worker for \$278.804 Million (2020 Dollars)  
Non-Residential Construction Expenditures**

Industry group	Employment	Output/Employee	Earnings/Employee
Agriculture, forestry, fishing	0.3	181.8	545.5
Mining	3.0	0.0	0.0
Utilities	4.7	941.2	24211.8
Construction	2017.2	139.2	71.9
Durable Goods Manufacturing	80.3	267.4	28.5
Non Durable Goods Manufacturing	29.3	267.4	28.5
Wholesale trade	48.7	630.5	116.2
Retail trade	185.3	101.0	14.1
Transportation and warehousing	53.7	185.3	19.2
Information	18.1	367.7	133.8
Finance and insurance	42.3	265.5	74.4
Real estate and rental and leasing	116.2	196.5	63.8
Professional, scientific, services	114.4	149.4	10.0
Management of companies	13.5	185.6	193.8
Administrative and waste management	76.4	85.0	18.2
Educational services	47.3	70.1	192.1
Health care and social assistance	174.6	136.8	2.9
Arts, entertainment, and recreation	20.4	87.4	32.8
Accommodation	25.1	100.9	86.5
Food services and drinking places	94.0	78.3	31.4
Other services	80.4	109.2	2.1
Households	12.9	17.3	21.6
Total	3258.4	149.2	51.7

## Furniture, Fixtures and Equipment Purchases:

The FF&E purchases will total \$63.846 million (2020 Dollars) and will create 242.9 new jobs.

Table 2-3 and 2-4 show the economic impact of the expenditures for the 20 major industrial classifications in the RIMS II input/output model. Please note that in these and succeeding tables, output and earnings are given in thousands of dollars.

<b>Table 2-3. Increase in Employment, Output, and Earnings for \$63.846 Million (2020 Dollars) FF&amp;E Purchases, Indirect Jobs Only</b>			
Industry group	Employment	Output	Earnings
Agriculture, forestry, fishing	0.0	2	0
Mining	0.1	23	6
Utilities	0.6	374	57
Construction	1.0	161	45
Durable Goods Manufacturing	1.2	203	51
Non Durable Goods Manufacturing	2.4	765	122
Wholesale trade	110.5	24214	6074
Retail trade	13.1	849	325
Transportation and warehousing	13.1	1263	455
Information	3.5	685	153
Finance and insurance	6.3	1158	308
Real estate and rental and leasing	13.3	1670	274
Professional, scientific, services	14.0	1183	648
Management of companies	5.3	650	356
Administrative and waste management	17.2	898	461
Educational services	4.4	201	102
Health care and social assistance	13.8	1235	568
Arts, entertainment, and recreation	2.0	108	37
Accommodation	2.5	166	54
Food services and drinking places	9.1	461	170
Other services	8.5	624	254
Households	1.0	14	11
<b>Total</b>	<b>242.9</b>	<b>36909</b>	<b>10530</b>

Table 2-3 shows that a total of 242.9 new jobs will be created from the FF&E purchases related to the construction of the project. Total output will increase by \$36.91 million, while total household earnings would increase by \$10.53 million. Table 2-4 shows that output per new worker for the wholesale trade sector would be about \$314,100, with average annual earnings of \$49,900. For all new workers, the corresponding figures are \$151,900 and \$43,300.

**Table 2-4. Output and Earnings Per New Worker for \$63.846 Million (2020 Dollars)  
FF&E Purchases, Indirect Jobs Only**

Industry group	Employment	Output/Employee	Earnings/Employee
Agriculture, forestry, fishing	0.0	72.6	0.0
Mining	0.1	326.6	79.0
Utilities	0.6	625.8	94.6
Construction	1.0	155.9	43.7
Durable Goods Manufacturing	1.2	176.5	44.1
Non Durable Goods Manufacturing	2.4	176.5	44.1
Wholesale trade	110.5	314.1	49.9
Retail trade	13.1	64.9	24.9
Transportation and warehousing	13.1	96.8	34.9
Information	3.5	193.3	43.1
Finance and insurance	6.3	182.5	48.6
Real estate and rental and leasing	13.3	125.9	20.7
Professional, scientific, services	14.0	84.6	46.3
Management of companies	5.3	122.1	66.9
Administrative and waste management	17.2	52.2	26.8
Educational services	4.4	46.2	23.4
Health care and social assistance	13.8	89.4	41.1
Arts, entertainment, and recreation	2.0	54.8	18.7
Accommodation	2.5	65.7	21.3
Food services and drinking places	9.1	50.4	18.6
Other services	8.5	73.2	29.8
Households	1.0	13.7	11.0
<b>Total</b>	<b>242.9</b>	<b>152.0</b>	<b>43.3</b>

## Facility Operations:

The revenue will be \$715.909 million (2020 dollars) by the first year of operation and will create 3,663.4 new jobs.

Table 2-5 and 2-6 show the economic impact of the operations for the 20 major industrial classifications in the RIMS II input/output model. Please note that in these and succeeding tables, output and earnings are given in thousands of dollars.

<b>Table 2-5. Increase in Employment, Output, and Earnings for Facility Operations</b>			
Industry group	Employment	Output	Earnings
Agriculture, forestry, fishing	1.0	143	72
Mining	1.4	716	143
Utilities	10.5	10023	1289
Construction	15.5	3723	859
Durable Goods Manufacturing	10.0	2506	501
Non Durable Goods Manufacturing	1931.8	805469	114832
Wholesale trade	151.9	50973	10595
Retail trade	181.8	18041	5727
Transportation and warehousing	66.7	12027	3222
Information	44.7	11669	2362
Finance and insurance	90.3	25200	5441
Real estate and rental and leasing	160.9	30712	4081
Professional, scientific, services	201.1	29352	13101
Management of companies	78.8	14748	6730
Administrative and waste management	159.8	12672	5512
Educational services	55.6	3866	1647
Health care and social assistance	201.4	27562	10452
Arts, entertainment, and recreation	26.0	2219	644
Accommodation	30.3	3078	787
Food services and drinking places	129.7	10094	3007
Other services	99.2	11526	3723
Households	15.0	0	215
Total	3663.4	1086320	194942

Table 2-5 shows that there will be a total of 3,663.4 new jobs created from operations. Total output will increase by \$1,086.32 million, while total household earnings would increase by \$194.94 million. Table 2-6 shows that output per new worker for the manufacturing sector would be about \$251,800, with average annual earnings of \$50,400. For all new workers, the corresponding figures are \$296,500 and \$53,200.

**Table 2-6. Output and Earnings Per New Worker for Facility Operations**

Industry group	Employment	Output/Employee	Earnings/Employee
Agriculture, forestry, fishing	1.0	142.9	71.4
Mining	1.4	500.0	100.0
Utilities	10.5	952.4	122.4
Construction	15.5	240.7	55.6
Durable Goods Manufacturing	10.0	251.8	50.4
Non Durable Goods Manufacturing	1931.8	251.8	50.4
Wholesale trade	151.9	417.0	59.4
Retail trade	181.8	99.2	31.5
Transportation and warehousing	66.7	180.3	48.3
Information	44.7	260.8	52.8
Finance and insurance	90.3	279.1	60.3
Real estate and rental and leasing	160.9	190.9	25.4
Professional, scientific, services	201.1	146.0	65.1
Management of companies	78.8	187.1	85.4
Administrative and waste management	159.8	79.3	34.5
Educational services	55.6	69.5	29.6
Health care and social assistance	201.4	136.9	51.9
Arts, entertainment, and recreation	26.0	85.4	24.8
Accommodation	30.3	101.7	26.0
Food services and drinking places	129.7	77.8	23.2
Other services	99.2	116.2	37.5
Households	15.0	0.0	30.0
Total	3663.4	296.5	53.2

## 2-7. Verification of Inputs

---

### **Construction Costs**

Construction refers to all costs of construction activities necessary to construct a 118-acre state-of-the-art facility, which includes two 57-acre greenhouses, necessary for business operations. The total for this cost is based on a contract provided by Universal Fab (Business Plan Exhibit B-3).

### **Furniture, Fixtures and Equipment Purchases**

Solar Farm refers to all costs to be incurred from the purchase and installation of equipment necessary to develop a solar farm. The total for this cost is based on a contract provided by Universal Fab (Business Plan Exhibit B-3).

### **Revenue Projections:**

Revenue across all four years is reasonable and conservative in comparison to the calculated 5-year-average annual revenue for the Pharmaceutical & Medicine Manufacturing industry across the entire US Sales Class: >\$500m (Bizminer, *3254 Industry Financial Profile*; Business Plan Exhibit C).

### 3. RIMS II Final Demand Methodology

---

The following material has been condensed from the RIMS II User Handbook

#### **Introduction and General Comments**

Effective planning for public- and private-sector projects and programs at the State and local levels requires a systematic analysis of the economic impacts of these projects and programs on affected regions. In turn, systematic analysis of economic impacts must account for the inter-industry relationships within regions because these relationships largely determine how regional economies are likely to respond to project and program changes. Thus, regional input-output (I-O) multipliers, which account for inter-industry relationships within regions, are useful tools for conducting regional economic impact analysis.

In the 1970s, the Bureau of Economic Analysis (BEA) developed a method for estimating regional I-O multipliers known as RIMS (Regional Industrial Multiplier System), which was based on the work of Garnick and Drake. In the 1980s, BEA completed an enhancement of RIMS, known as RIMS II (Regional Input-Output Modeling System), and published a handbook for RIMS II users. In 1992, BEA published a second edition of the handbook in which the multipliers were based on more recent data and improved methodology. In 1997, BEA published a third edition of the handbook that provides more detail on the use of the multipliers and the data sources and methods for estimating them.

RIMS II is based on an accounting framework called an I-O table. For each industry, an I-O table shows the industrial distribution of inputs purchased and outputs sold. A typical I-O table in RIMS II is derived mainly from two data sources: BEA's national I-O table, which shows the input and output structure of nearly 500 U.S. industries, and BEA's regional economic accounts, which are used to adjust the national I-O table to show a region's industrial structure and trading patterns.

Using RIMS II for impact analysis has several advantages. RIMS II multipliers can be estimated for any region composed of one or more counties and for any industry, or group of industries, in the national I-O table. The accessibility of the main data sources for RIMS II keeps the cost of estimating regional multipliers relatively low. Empirical tests show that estimates based on relatively expensive surveys and RIMS II-based estimates are similar in magnitude.

BEA's RIMS multipliers can be a cost-effective way for analysts to estimate the economic impacts of changes in a regional economy. However, it is important to keep in mind that, like all economic impact models, RIMS provides approximate order-of-magnitude estimates of impacts. RIMS multipliers are best suited for estimating the impacts of small changes on a regional economy. For some applications, users may want to supplement RIMS estimates with information they gather from the region undergoing the potential change. To use the multipliers for impact analysis effectively, users must provide geographically and industrially detailed information on the initial changes in output, earnings, or employment that are associated with the project or program under study. The multipliers can then be used to estimate the total impact of the project or program on regional output, earnings, and employment.



RIMS II is widely used in both the public and private sector. In the public sector, for example, the Department of Defense uses RIMS II to estimate the regional impacts of military base closings. State transportation departments use RIMS II to estimate the regional impacts of airport construction and expansion. In the private-sector, analysts and consultants use RIMS II to estimate the regional impacts of a variety of projects, such as the development of shopping malls and sports stadiums.

### **RIMS II Methodology**

RIMS II uses BEA's benchmark and annual I-O tables for the nation. Since a particular region may not contain all the industries found at the national level, some direct input requirements cannot be supplied by that region's industries. Input requirements that are not produced in a study region are identified using BEA's regional economic accounts.

The RIMS II method for estimating regional I-O multipliers can be viewed as a three-step process. In the first step, the producer portion of the national I-O table is made region-specific by using six-digit NAICS location quotients (LQs). The LQs estimate the extent to which input requirements are supplied by firms within the region. RIMS II uses LQs based on two types of data: BEA's personal income data (by place of residence) are used to calculate LQs in the service industries; and BEA's wage-and-salary data (by place of work) are used to calculate LQs in the non-service industries.

In the second step, the household row and the household column from the national I-O table are made region-specific. The household row coefficients, which are derived from the value-added row of the national I-O table, are adjusted to reflect regional earnings leakages resulting from individuals working in the region but residing outside the region. The household column coefficients, which are based on the personal consumption expenditure column of the national I-O table, are adjusted to account for regional consumption leakages stemming from personal taxes and savings. In the last step, the Leontief inversion approach is used to estimate multipliers. This inversion approach produces output, earnings, and employment multipliers, which can be used to trace the impacts of changes in final demand on and indirectly affected industries.

### **Accuracy of RIMS II**

Empirical evidence suggests that RIMS II commonly yields multipliers that are not substantially different in magnitude from those generated by regional I-O models based on relatively expensive surveys. For example, a comparison of 224 industry-specific multipliers from survey-based tables for Washington, Washington, and West Virginia indicates that the RIMS II average multipliers overestimate the average multipliers from the survey-based tables by approximately 5 percent. For the majority of individual industry-specific multipliers within these states, the difference between RIMS II and survey-based multipliers is less than 10 percent. In addition, RIMS II and survey multipliers show statistically similar distributions of affected industries.

### **Advantages of RIMS II**

There are numerous advantages to using RIMS II. First, the accessibility of the main data sources makes it possible to estimate regional multipliers without conducting relatively expensive surveys. Second, the level of industrial detail used in RIMS II helps avoid aggregation errors, which often occur when industries are combined. Third, RIMS II multipliers can be compared across areas because they are based on a consistent set of estimating procedures nationwide. Fourth, RIMS II multipliers are updated to reflect the most recent local-area wage-and-salary and personal income data.

## Overview of Different Multipliers

RIMS II provides users with five types of multipliers: final demand multipliers for output, for earnings, and for employment; and direct-effect multipliers for earnings and for employment. These multipliers measure the economic impact of a change in final demand, in earnings, or in employment on a region's economy.

The final demand multipliers for output are the basic multipliers from which all other RIMS II multipliers are derived. In this table, each column entry indicates the change in output in each row industry that results from a \$1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final demand change in the column industry by the multiplier for each row. The total impact on regional output is calculated by multiplying the final demand change in the column industry by the sum of all the multipliers for each row except the household row.

RIMS II provides two types of multipliers for estimating the impacts of changes on earnings: final demand multipliers and direct effect multipliers. These multipliers are derived from the table of final demand output multipliers.

The final demand multipliers for earnings can be used if data on final demand changes are available. In the final demand earnings multiplier table, each column entry indicates the change in earnings in each row industry that results from a \$1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final demand change in the column industry by the multipliers for each row. The total impact on regional earnings is calculated by multiplying the final demand change in the column industry by the sum of the multipliers for each row.

## Employment Multipliers

RIMS II provides two types of multipliers for estimating the impacts of changes on employment: final demand multipliers and direct effect multipliers. These multipliers are derived from the table of final demand output multipliers.

The final demand multipliers for employment can be used if the data on final demand changes are available. In the final demand employment multiplier table, each column entry indicates the change in employment in each row industry that results from a \$1 million change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final demand change in the column industry by the multiplier for each row. The total impact on regional employment is calculated by multiplying the final demand change in the column industry by the sum of the multipliers for each row.

The direct effect multipliers for employment can be used if the data on the initial changes in employment by industry are available. In the direct effect employment multiplier table, each entry indicates the total change in employment in the region that results from a change of one job in the row industry. The total impact on regional employment is calculated by multiplying the initial change in employment in the row industry by the multiplier for the row.

## Choosing a Multiplier

The choice of multiplier for estimating the impact of a project on output, earnings, and employment depends on the availability of estimates of the initial changes in final demand, earnings, and employment. If the estimates of the initial changes in all three measures are available, the RIMS II user can select any of the RIMS II multipliers. In theory, all the impact estimates should be consistent. If the available estimates are limited to initial changes in final demand, the user can select a final demand multiplier for impact estimation. If the available estimates are limited to initial changes in earnings or employment, the user can select a direct effect multiplier.

The EB-5 regulations provide that “jobs created indirectly” by a regional center- affiliated business may be credited to foreign investors who made a qualifying investment in the business. To show this job creation, “reasonable” methodologies may be used (8 CFR§203.0(m)(7)). The RIMS II input/output model has been recognized by the USCIS as an acceptable methodology for showing job creation resulting from a regional center- affiliated investment project.

© 2022 Baker Tilly US, LLP