APPENDIX F
NEWHALL RANCH GHG REDUCTION PLAN
Newhall Ranch
GHG Reduction Plan

I. OVERVIEW AND SUMMARY

The purpose of the Newhall Ranch GHG Reduction Plan (the “GHG Reduction Plan”) is to facilitate the full reduction of Project-related greenhouse gas (“GHG”) emissions to zero by funding activities that directly reduce or sequester GHG emissions or, if necessary, obtaining approved carbon credits. This GHG Reduction Plan is organized as follows:

- Section II summarizes the process by which the Project applicant (or its designee) will seek to undertake or fund activities that directly reduce or sequester GHG emissions.
- Section III describes candidate activities for directly reducing or sequestering GHG emissions that the Project applicant is evaluating.
- Sections IV through VI outline the compliance options available to the Project applicant (or its designee).
- Sections VII and VII describe the compliance verification process for the GHG Reduction Plan.

Overall, the mitigation measures (GCC-1 through GCC-12) recommended for the Project and the implementation of this GHG Reduction Plan (GCC-13) are designed to substantially reduce the Project’s GHG emissions at the local/regional level and within the State of California, as well as within the United States and internationally. The vast majority of investment in GHG emissions reduction activities covered by the mitigation measures (GCC-1 through GCC-12) and this GHG Reduction Plan (GCC-13) will occur within the County of Los Angeles and State California.

II. DIRECT REDUCTION ACTIVITIES

A. Description

The Project applicant (or its designee) will directly undertake or fund activities that will reduce or sequester GHG emissions (the “Direct Reduction Activities”). Under CEQA Guidelines Section 15126.4, subdivisions (c)(3) and (c)(4), respectively, a project’s GHG emissions can be reduced by “[o]ff-site measures, including offsets that are not otherwise required” and “[m]easures that sequester greenhouse gases.”

The Project applicant (or its designee) will work directly with third parties, including not-for-profits, non-governmental organizations (“NGOs”), project developers and project owners, to

1 The “Project” for purposes of this GHG Reduction Plan is the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan (“RMDP/SCP”). The Project’s approval will facilitate land use development within the Newhall Ranch Specific Plan area, as well as the Entrada and Valencia Commerce Center planning areas.
achieve GHG emissions reduction or sequestration. All Direct Reduction Activities will be undertaken for the specific purpose of reducing the GHG emissions of the Project, and all Direct Reduction Activities will be confirmed by an independent, qualified third-party.

B. GHG Emissions Reductions Will Occur in Accordance with Approved Registry Rules

The Project applicant (or its designee) will list or register each Direct Reduction Activity with the Climate Action Reserve, the American Carbon Registry, the Verified Carbon Standard, the Clean Development Mechanism (each, a “Registry”) or other comparable organization or program. In accordance with the applicable Registry requirements, the Project applicant (or its designee) will retain an independent, qualified third-party to confirm the GHG emissions reduction or sequestration achieved by the Direct GHG Reduction Activities against the applicable Registry protocol or methodology. The Project applicant (or its designee) will then apply for issuance of carbon credits in accordance with the applicable Registry rules.

C. Example Registries

The following paragraphs describe, in more detail, the four possible Registries identified above. In the event that these Registries cease to exist or are otherwise no longer available, the Project applicant (or its designee) would identify and work with entities that can perform the same functions.

Climate Action Reserve (“CAR”): The California Legislature established CAR in 2001 to encourage actions to reduce GHG emissions. CAR began as the California Climate Registry and developed protocols to track GHG emissions and reductions, and have those emissions verified and publicly reported. The California Climate Registry was renamed as CAR and expanded in 2008, and now plays a leading role in the carbon market. CAR has developed over 15 separate protocols for quantification and verification of GHG emissions reductions, and issued over 60 million carbon offset credits, known as “Climate Reserve Tonnes” or “CRTs.” CAR is based in Los Angeles and has been approved by the California Air Resources Board (“CARB”) as an official offset project registry for the State’s Cap-and-Trade Program.

American Carbon Registry (“ACR”): ACR was founded in 1996 as a non-profit enterprise of Winrock International, a non-profit organization. ACR is a CARB-approved offset project registry for the State’s Cap-and-Trade Program and has also developed its own carbon offset methodologies, such as methodologies for degraded wetlands and for avoided conversion of grasslands to crop production.

Verified Carbon Standard (“VCS”): VCS was founded in 2005 by the Climate Group, the International Emissions Trading Association and the World Economic Forum. Project developers are able to list projects on the VCS registry using a variety of protocols, including CAR protocols. VCS is a CARB-approved offset project registry for the State’s Cap-and-Trade Program and has also developed its own carbon offset quantification methodologies.

Clean Development Mechanism (“CDM”): CDM is a carbon offsetting program established by the Kyoto Protocol to the United Nations Framework Convention on Climate Change. CDM approves carbon offset projects in conjunction with national authorities in countries that have
entered into the Kyoto Protocol. Projects registered with CDM exist in economies in transition and developing countries. The GHG Reduction Plan will only utilize CDM to the extent that cook stove projects (see infra, Section IV.A) are used as Direct Reduction Activities.

III. OVERVIEW OF POTENTIAL DIRECT REDUCTION ACTIVITIES

The following is a description of Direct Reduction Activities that the Project applicant has identified on a preliminary basis for inclusion in the GHG Reduction Plan. The following list is illustrative only and the exact portfolio composition of the Direct Reduction Activities may differ over time as new project types may be added and certain opportunities identified below may not be realized.

A. Forest Conservation in California and the United States

Through working with a leading developer of forest carbon offset projects, the Project applicant is exploring opportunities involving the conservation of forest land and forest stocks for the purpose of sequestering GHG emissions. The developer would identify suitable forest land and then assist the Project applicant (or its designee) in its management of this land to maximize the forest and carbon stocks through afforestation, avoided conversion and improved management techniques.

Loss of forests or improper management of forests in California and the rest of the United States releases carbon emissions into the atmosphere that would otherwise have been sequestered in trees, soils, and understory plants in forests, which naturally absorb carbon dioxide from the atmosphere and store the gas as carbon.

Through sustainable management and protection, avoided conversion of forests to other uses, and reforestation, forests can increase their carbon storage compared to a business-as-usual scenario. The California Forestry Association recognizes that “healthy forests provide the state with clean water and air [and] thriving wildlife habitats.” The U.S. Forest Service recognizes the importance of forest restoration and protection through its “Integrated Resource Restoration” program, which aims to “re-establish a balance of nature needed for air, water, plants and animals to thrive” in the nation’s forests through direct forest land management. As evidenced by Governor Brown’s central role in the creation of the Governors’ Climate and Forests Task Force (“GCF”), a multi-national collaboration, which synchronizes efforts across jurisdictions to develop policies and programs that provide pathways to forest-maintaining rural development, California is making considerable efforts to broker the international accord to fight deforestation and climate change.

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The Project applicant is actively considering Direct Reduction Activities involving the forestry sector where the Project applicant (or its designee) could help conserve forest land or forest stocks for the purpose of sequestering GHG emissions.\(^4\) The Project applicant (or its designee) may pursue opportunities that involve three types of forestry sequestration activities:

- **Avoided conversion of forests:** this activity involves the avoided de-forestation of forest land through a land purchase or, in the U.S., the creation of a conservation easement or other legally binding agreement.

- **Improved forestry management:** this activity may include increasing rotation ages to increase the overall age of the forest, increasing the stocking of trees on understocked areas, and increasing forest productivity by thinning diseased and suppressed trees.

- **Afforestation:** this activity involves the planting of new trees.

The applicable forestry sequestration protocols and methodologies provide strict criteria regulating the type of activities eligible to qualify as avoided conversion, improved forestry management or afforestation activities. For example, the use of non-native tree species in afforestation projects is restricted.

To implement these forestry Direct Reduction Activities, if ultimately pursued, the Project applicant (or its designee) would work with successful and experienced forestry carbon sequestration developers. These developers would identify forest land suitable for carbon sequestration projects.

Under a typical contractual structure, the Project applicant (or its designee) would purchase forest land from a forest owner to conserve or enhance forest stocks. It is possible, also, that the Project applicant (or its designee) would fund the sequestration activities by pre-paying the forest owner for the future sequestration. In both instances, the developer would subsequently assist the Project applicant (or its designee) in managing the forest land or assisting the forest owner so as to increase the forest and carbon stocks.

B. Clean Cook Stoves

Through a United Nations sponsored and verified program, the Project applicant is evaluating programs involving the funding of clean-burning cook stoves for underprivileged households in Africa (including in Zambia and Malawi). The clean cook stoves would reduce GHG emissions, as well as deliver many health-related co-benefits to their users. More than three billion people globally depend on burning woody fuels in archaic, 3-stone fires for cooking.\(^5\) According to the World Health Organization, this primitive form of cooking results in over 4 million premature deaths worldwide every year.\(^6\) More than 50% of premature deaths due to pneumonia among children under the age of 5 are caused by the particulate matter (soot) inhaled from household air pollution.\(^7\) Other adverse health effects associated with biomass smoke exposure include stroke, chronic obstructive pulmonary disease, cardiovascular disease and lung cancer.\(^8\) In Africa, more people die from exposure to cook stove smoke than from malaria, tuberculosis and HIV/AIDS, combined.

Inefficient cook stoves are also a significant contributor to GHG emissions and climate change. The need to gather high volumes of firewood also contributes significantly to deforestation and, consequently, climate change. Moreover, women and children must spend hours a day walking long distances for wood gathering or to purchase bundled wood, and are often exposed to assaults and other dangers. The time spent gathering wood deprives young children of time needed for schooling and education.

A single clean cook stove can save an average of two tonnes of carbon dioxide emissions per year, reduce household air pollution by 50%, and reduce the time spent gathering resources by 75%.

If this program is ultimately pursued, the Project applicant (or its designee) would provide the funding required to build, distribute and maintain cook stoves. The stove project developer would implement the project by providing in-person training on the manufacturing, operation and maintenance of cooking stoves. The owner and the location of each stove would be tracked and recorded in the project documents.\(^9\)


\(^6\) Id.

\(^7\) Id.

\(^8\) Id.

\(^9\) See, e.g., C-Quest Capital Malaysia Global Stoves Limited, Monitoring Report Form for CDM Programme of Activities: Improved Cookstoves Program for Malawi and Cross-border Regions of Mozambique (2015) (listing GHG emissions reductions for roughly one-year period as 41,606 MTCO\(_2\)e); Earthhood Services Private Limited, CDM Programme of Activities Issuance Request Form: Improved Cookstoves Program for
C. Dairy Project Methane Capture

The Project applicant is exploring opportunities to reduce methane emissions from livestock in California and the United States. Working with a developer of dairy methane capture projects, the Project applicant (or its designee) would identify opportunities to fund the capture and destruction of methane emissions from livestock manure at suitable dairy farms, including in California.

Methane is the second most prevalent GHG emitted in the United States from human activities, and agriculture is the second largest source of methane emissions in the U.S. (after petroleum and natural gas systems). California has the most dairy cows in the country and the highest aggregated dairy methane emissions. California also has established a goal of reducing methane emissions from dairy manure management by at least 20 percent in 2020, 50 percent in 2025, and 75 percent in 2030.

The Project applicant (or its designee) would provide the funding required to build and maintain methane capture and destruction equipment using established methodologies developed by CARB and/or CAR. The Project applicant (or its designee) also would explore opportunities for the beneficial use of the captured methane, such as for renewable electricity or biofuel production.

IV. PROJECT EMISSIONS

There are two types of GHG emissions that will result from the Project: (i) the construction and vegetation change emissions, and (ii) the operational emissions. The construction and vegetation change emissions include the GHG emissions during the construction phase of the Project. Operational emissions include the GHG emissions for the 30-year Project life.

The Project’s mitigation program (i.e., GCC-1 through GCC-12) will mitigate the Project’s GHG emissions below the CEQA significance thresholds. The remaining (post-mitigation) GHG emissions that must be reduced under the GHG Reduction Plan are estimated as follows:

- **Construction and Vegetation Change GHG Emissions** – Prior to obtaining grading permits for village-level development within the RMDP/SCP Project site, the incremental

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12 Id. at page 66.
construction and vegetation change GHG emissions is based on the specific village-level development (“Incremental Construction GHG Emission”).

- **Operational GHG Emissions** – Prior to obtaining building permits for an incremental level of development within the RMDP/SCP Project site, the incremental operational GHG emissions over the 30-year Project life associated with such building permits that must be reduced (the “Incremental Operational GHG Emissions”) will be equal to the sum of: (1) the number of proposed residential units covered by the applicable building permit multiplied by 108.89 MTCO₂e; and (2) every thousand square feet (“TSF”) of proposed commercial development covered by the applicable building permit multiplied by 506.86 MTCO₂e. For example, to obtain a building permit for 75 residential units and 40,000 square feet of commercial development, the Incremental Operational GHG Emissions would be: (75 units x 108.89 MTCO₂e/unit ) + (40 TSF x 506.86 MTCO₂e/TSF) = 28,441 MTCO₂e.

The residential and commercial multipliers identified above may vary for a village-level project, as estimated in the CEQA document for the village-level project; however, in all cases, the remaining GHG emissions must be reduced fully.

V. **COMPLIANCE OPTIONS – OPERATIONAL EMISSIONS**

To satisfy this GHG Reduction Plan (GCC-13), the Project applicant (or its designee) must rely upon one of the following four compliance options described in this section, or a combination thereof (each, a “Compliance Option”). For each Compliance Option, all carbon credits will be issued by one of the Registries identified in Section III.C, above. Section IX below describes how carbon credits are issued and retired under such Registry requirements. Section VIII, below, describes how the Project applicant (or its designee) will verify completion of the Compliance Options.

**Compliance Option No. 1  Undertake Direct Reduction Activities and Retire Confirmed Reductions Before Permit Application**

Under Compliance Option No. 1, prior to obtaining building permits for an incremental level of development covered by the RMDP/SCP Project, the Project applicant (or its designee) will retire Confirmed Reductions (as defined below) generated by Direct Reduction Activities in an amount equal to the Incremental Operational GHG Emissions.

Under Compliance Option No. 1, the Project applicant (or its designee) will undertake or fund certain Direct Reduction Activities before obtaining a building permit and will retain an independent, qualified third-party to review such Direct Reduction Activities to: (1) confirm that they have been undertaken; and (2) estimate the associated GHG emissions reduction or sequestration that the Direct Reduction Activities will achieve in the future, using assumptions based on protocols and methodologies adopted by
Registries and governmental agencies ("Confirmed Reductions"). As described in Section VIII infra, a Coordinating Registry (as defined below) will verify the accuracy of the estimated Confirmed Reductions for each MTCO\textsubscript{2}e that is estimated to be reduced or sequestered.

Compliance Option No. 1 will ensure that the estimated GHG emissions reductions will occur before a comparable amount of estimated Project GHG emissions are emitted. Thus, the estimated GHG emissions reductions will always be equal to or outpace estimated Project GHG emissions as the Project is developed over time. The Registry-approved protocols will ensure an independent, qualified third-party confirms that the GHG emissions reduction activities and projects are implemented in accordance with the Registry-approved protocols.

As an example of how this Compliance Option No. 1 would apply to a clean cook stove distribution project described in Section IV.A above, the Project applicant (or its designee) would fund the distribution of clean cook stoves prior to building permit issuance. The Project applicant (or its designee) would then retain an independent, qualified third-party to confirm or “audit” on the ground using statistical samples that the stove distribution has, indeed, taken place and estimate the reduction of CO\textsubscript{2} emissions that would result from such stoves. This estimate would rely upon methodologies adopted by a Registry and take into account the expected life of cook stoves in the field. An independent, qualified third-party would then provide a technical report containing the results.

**Compliance Option No. 2 Undertake Direct Reduction Activities and Retire and Guarantee to Retire Offsets Within 10 Years**

Under Compliance Option No. 2, prior to obtaining building permits for an incremental level of development covered by the RMDP/SCP, the Project applicant (or its designee) will guarantee that, within 10 years of such building application, it will retire offsets generated by Direct Reduction Activities in an amount equal to the Incremental Operational GHG Emissions.

During the first 10 years following the building permit application, the Project applicant (or its designee) will offset, at a minimum, the GHG emissions every year by November 1 of the following year, using carbon offsets of the same or an earlier vintage year. (As discussed below in Section VIII, a Coordinating Registry will true up the GHG emissions and the retirements on an annual basis to verify that the Project applicant (or its designee) complies with this requirement.) For example, in connection with 100 MTCO\textsubscript{2}e of emissions released in 2021, the Project applicant (or its designee) will retire 100 carbon offset credits by November 1, 2022, at the latest. As an additional example, the Project

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The defined terms in this GHG Reduction Plan are provided for informational purposes only. The terms used to describe certain activities may change depending on the particular Registry or protocol being applied; however, the underlying approach and purpose of the action will be consistent with this GHG Reduction Plan.
applicant (or its designee) will retire carbon offset credits in a quantity equal to the Incremental Operational GHG Emissions estimated to take place in Years 10-20 by November 1 of Year 11 at the latest.

The guarantee will be a performance bond or similar security instrument of adequate size to ensure the guarantee (the “Guarantee”).

**Compliance Option No. 3  Undertake Direct Reduction Activities and Retire Carbon Offset Credits Before Permit Application**

Under Compliance Option No. 3, prior to obtaining building permits for an incremental level of development covered by the RMDP/SCP Project, the Project applicant (or its designee) will retire offsets generated by Direct Reduction Activities in an amount equal to the Incremental Operational GHG Emissions.

**Compliance Option No. 4  Purchasing Carbon Offsets Credits Issued by Registries on the Secondary Market**

Under Compliance Option No. 4, prior to obtaining building permits for an incremental level of development covered by the RMDP/SCP Project, the Project applicant (or its designee) will purchase and retire carbon offsets that have been issued by one of the Registries in an amount equal to the Incremental Operational GHG Emissions. The Project applicant (or its designee) will rely on this Compliance Option No. 4 only to the extent that it is impracticable to fully offset Incremental Operational Emissions through the Direct Reduction Activities.

**VI. COMPLIANCE OPTIONS – CONSTRUCTION EMISSIONS**

To satisfy GCC-10 (construction GHG emissions), prior to obtaining grading permits for an incremental level of development covered by the RMDP/SCP Project, the Project Applicant (or its designee) must rely upon Compliance Option No. 3 or Compliance Option No. 4, described above in Section VI, or some combination thereof, to retire offsets in an amount equal to the Incremental Construction GHG Emissions.

**VII. COMPLIANCE VERIFICATION**

The Project applicant (or its designee) can verify compliance with GCC-10 (construction) or GCC-13 (operational) by either of the following options, or some combination thereof:

- Directly providing proof of retired carbon credits (e.g., the carbon credit retirement documentation) in a quantity equal to the Incremental Construction Emissions or Incremental Operational Emissions, as applicable; or

- Providing a GHG Reduction Credit (as defined below) issued by a Coordinating Registry (as defined below) that verifies the retirement of carbon credits using one or more Compliance Options in a quantity equal to the Incremental Construction Emissions or Incremental Operational Emissions, as applicable.
A. Compliance Options – Registry Confirmation Process

Before applying for a grading permit or a building permit, the Project applicant (or its designee) will designate a Registry or other independent, qualified third-party to act as a coordinating registry for the purpose of this GHG Reduction Plan (the “Coordinating Registry”). The Coordinating Registry will review the actions taken by the Project applicant (or its designee) in furtherance of the Compliance Conditions stated above and issue a notice for a certain quantity of credited GHG reductions or sequestration (“GHG Reduction Credits”). The GHG Reduction Credits will be a certificate issued on the letterhead of the Coordinating Registry signed by an officer of the Coordinating Registry that will clearly specify the following: (1) the applicable Compliance Option(s); and (2) the number of MTCO\(_2\)e that were reduced by the Project applicant (or its designee) through the applicable Compliance Option(s).

Upon application by the Project applicant (or its designee) and before issuing a GHG Reduction Credit, the Coordinating Registry will perform the following in connection with each Compliance Condition:

- **Compliance Option No. 1**: The Coordinating Registry will review the report prepared by the verification body retained by the Project applicant (or its designee) to confirm that it meets the requirements of Compliance Condition No. 1 and issue GHG Reduction Credits for the quantity of GHG reduction or sequestration quantified in the report.

- **Compliance Option No. 2**: The Coordinating Registry will verify that the Project applicant (or its designee) has begun undertaking or funding certain Direct Reduction Activities and provided a Guarantee in accordance with Compliance Condition No. 2. The Coordinating Registry will issue GHG Reduction Credits for the total quantity of GHG reductions or sequestration subject to the Guarantee.

- **Compliance Option No. 3**: The Coordinating Registry will confirm that the Project applicant (or its designee) has retired carbon offset credits associated with Direct Reduction Activities and issued in accordance with the applicable rules of a Registry. For example, if the applicable Registry issues notices of cancellation, the Coordinating Registry will review such notices to confirm they are valid.

- **Compliance Option No. 4**: The Coordinating Registry will confirm that the Project applicant (or its designee) has retired carbon offset credits issued in accordance with the applicable rules of a Registry.
VIII. ADDITIONAL INFORMATION ON CARBON CREDITS

This Section of the GHG Reduction Plan provides additional information on the carbon offset credits referred to in the Compliance Options No. 2, 3 and 4. To ensure the environmental integrity and transparency of the GHG Reduction Plan, the Project applicant (or its designee) will be required to comply with the programs established by the Registries. Sections II.B and II.C above identify and describe such Registries.

Each Registry has adopted comprehensive requirements applicable to: (1) the types and location of activities eligible for carbon offset credits (the “Rules”); and (2) the quantification rules to calculate the number of carbon offset credits that result from a particular activity – those are the Registry, project-specific protocols or methodologies (the “Protocols”). As a general matter, the Rules and Protocols would require that a Project meet the following steps to offset GHG emissions:

1. **Listing or Registration.** Apply to list or register the proposed Direct Reduction Activity with the Registry. The Registry will review the application and accept it only if it complies with the applicable Registry requirements.

2. **Independent, Qualified Third-Party Confirmation of Reduction or Sequestration.** Once a Direct Reduction Activity has begun, the Registry will require the Project applicant (or its designee) to retain an independent, qualified third-party verification body to confirm the reduction or sequestration achieved by the Direct Reduction Activity. Each Registry has adopted stringent requirements applicable to the accreditation of verification bodies and only such accredited verification bodies are qualified to confirm and audit the activities under the applicable Registry rules. This process typically takes place on an annual basis. Activities undertaken in a given 12-month period are typically verified during the following 6-12 months. Most Registry Rules and Protocols require “boots on the ground” audits, although in certain instances desktop reviews may be sufficient.

3. **Issuance of Carbon Credits.** The final step under most Registry Rules and Protocols involves the issuance of the carbon credits. Registry Rules and Protocols require the Project applicant (or its designee) to apply for issuance and to provide the confirmation report prepared by the independent, qualified third-party. The Registry will typically review a confirmation report and, to the extent that the Registry finds that the report complies with the applicable Registry requirements, the Registry will issue the carbon credit to the account of the Project applicant (or its designee).

4. **Carbon Credit Retirement.** Each Registry has adopted rules and procedures governing the retirement or cancellation of carbon credits. Typically these rules or procedures involve the transfer of the carbon credit serial numbers or the transfer of the carbon credit serial numbers from a Registry account.