

1. PROJECT SUMMARY AND APPROACH

1.a DESCRIPTION OF GHG REDUCTION MEASURES

The New Jersey Department of Agriculture (NJDA), Division of Agricultural and Natural Resources seeks to revitalize the NJDA Conservation Cost Share Program (CCSP). Due to the lack of funding, the program has been inactive since the early 2000s. CCSP is structured to provide cost-share, and technical assistance for producers. Two integral components for conservation practice implementation. This program was designed to leverage funds and complement, the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Environmental Quality Incentive Program (EQIP). The combination of these two programs would allow producers and private landowners access to additional funds. Moreover, this combination would drastically alleviate the cost of adopting novel agricultural technologies and reduce a farms' economic risks associated with altering and/or adopting alternative production practices. CCSP, if funded, will be a valuable asset towards achieving the States climate mitigation goals. Particularly in the natural working lands sector, where established practices stimulate and enhance carbon sinks.

Eligible CCSP practices mirror those outlined within the NRCS Climate Smart Agriculture and Forestry (CSAF) Mitigation List for FY-24 (see Appendix); also referred to as Climate Smart Practices (CSPs). (For the purpose of clarity, the terms, CSPs, CSAF Mitigation List, Best Management Practices (BMPs), regenerative agricultural practices and conservation practices will be used interchangeably throughout this narrative and are synonymously defined). The list is organized by mitigation category, corresponding practice standards, and enhancement activities. Mitigation categories identified on the list include soil health, nitrogen management, livestock – grazing and pasture management, forestry, agroforestry, restoration of disturbed land, and energy efficiency updates for agricultural equipment and infrastructure.

The NRCS mitigation categories identified are defined by overarching conservation objectives. Each category incorporates the implementation of multiple conservation measures to achieve the goals and are described as follows. 'Soil Health' utilizes practices that reduce emissions and enhance soil carbon sequestration. 'Nitrogen Management', and 'Nutrient Management' is the implementation of the four "R's", (right source, right rate, right time, and right place) to manage and reduce nitrous oxide emissions. 'Livestock Management' seeks to reduce potent methane emissions from manure and will apply the principles of 'Nutrient Management'. 'Grazing and Pasture Management' aims to reduce emissions and build soil carbon stocks in livestock grazing systems through adoption of prescribed grazing techniques. 'Agroforestry and Forestry' builds carbon stocks in both perennial biomass and soils. 'Restoration of Disturbed Lands' are practices aimed at improving the quality of previously mined or degraded lands to increase soil and perennial biomass carbon stocks.

NRCS has published and continues to research greenhouse gas (GHG) and co-pollutant reductions through their practices. This data is constantly being updated and released as verified. Overall GHG reduction estimates, as well as practice specific details are provided in the appendix of this proposal. Additionally included in the appendices is the listing of currently recognized NRCS CSPs.

The CCSP conservation practices/BMPs eligible for financial assistance are recognized as NRCS Climate Smart Agriculture and Forestry practices and can deliver significant reductions in GHG emissions, increase carbon sequestration, while also offer many co-benefits integral to climate change resilience. Some of the ancillary benefits would include improvements in soil health, water quality, pollinator and wildlife habitat and air quality – priorities for our agricultural producers.

CPRG Implementation Workplan

Relaunching CCSP through appropriated funding is identified within NJDEP's PCAP, as priority measure 12, "Maintain, protect and enhance New Jersey's Natural carbon sinks". CCSP will provide supplemental funds to complement federal dollars and reduce the financial burden to producers. Alleviating a portion of cost for producers will create producer incentive for CSP installation. These practices, when administered, are strategies that strengthen naturally occurring systems on farms. NJDA's program will work towards a holistic approach, marrying practices that have beneficial influence on both production capacity, and achieving climate mitigation goals.

THE CCSP program will enhance the priority state measures as outlined in numerous state planning documents and efforts. These State planning documents include NJDEP's Natural Working Lands Strategy (NWLS), and NJDEP Interagency Council on Climate Change Resiliency Action Plan (RAP), slated for publication summer of 2024.

Tasks:

1. Sell conservation. Engage producers through direct outreach about the reinvigoration of CCSP.
2. Engage statewide NRCS offices. Provide immediate financial assistance by engaging NRCS on in-progress current FY contracts for most immediate GHG reductions. CCSP cost share is anticipated to increase adoption and incentivize selection of optional CSP practices.
3. Promote future enrollment in NRCS/CCSP through NRCS avenues, and by engaging alternative technical resources such as local soil conservation districts, and private conservation professionals.
4. Completed Implementation of projects
5. Evaluate practice adoption.
6. Review and revise associated program rules based on lessons learned to expand inclusivity towards other agricultural sectors and land groups (urban agriculture, small-scale producers and historically underserved).

Milestones:

Outreach effort will develop promotional materials, and program coordination outline. NJDA to attend local and regional meetings and events that create opportunities for collaboration and allow staff to disseminate guidance and programmatic updates.

Record program engagement. Track contracts funding needs, practice implementation schedules, types of practices adopted, and number of acres included per each planned practice.

Monitor and evaluate program participation. Identify and address barriers to participation or implementation of practices.

Reporting will include quantitative and qualitative analysis of producer engagement, practice adoption and ongoing enrollment.

Potential risks for each measure:

There is minimal risk associated with the proposed program. CCSP is an existing program with established regulations and framework. The only foreseen risk is failure of a producer to implement practices. However, the main barriers such as implementation cost, and limited technical assistance are being addressed through several tasks in this application.

1.b DEMONSTRATION OF FUNDING NEED

Funding for implementation of on-farm conservation practices is in high demand, a result of rising production costs, increases in both agricultural market volatility, and adverse extreme weather-related events. CCSP has been defunct, due to the lack of funding since the early 2000s. NJDA with investment from this federal funding will be able to reinvigorate and expand the CCSP, and incentives adoption of practices by supplementing practice cost coverage from federal USDA NRCS-EQIP.

NRCS, under their EQIP contract will pay producers a reimbursement of up to 70 percent of the projected costs associated with planning, design, materials, equipment, installation, labor, management, maintenance, and training. Payments are made to the producers only after completion of the project. Set Federal rates and economic inflation have unfortunately caused funds received through EQIP to fall short of the intended cost share percentage, thus often making conservation practice implementation difficult, and often, unaffordable in New Jersey. CCSP funding can be combined with NRCS-EQIP rates and alleviate the cost burden, enhancing the number of conservation projects undertaken and completed.

Another barrier towards exclusive reliance on NRCS financial assistance for many producers is often the lower payment rates. In addition to lower NRCS rates, New Jersey is also the most expensive in the Nation for land value. Approximately 54 percent of all farmland in the State is leased. Further, over 67 percent of all farmers in the State must rely on other sources of income off the farm to be able to cover their expenses. These cumulative economic variables limit, and often hinder the ability to implement on-farm conservation practices. Particularly in those instances where land ownership is lacking, and lease/rental agreements are tenuous. In summary, it is difficult for producers to pay for, and/or witness a return on investment for non-production-oriented practices. Funding CCSP would help to bridge that gap, incentivizing adoption of CSPs, while also reducing the overall cost to producers.

Due to funding loss in CCSP, NJDA staff have sought alternative sources to alleviate the financial impact of conservation practice implementation to the State's agricultural producers. Coordination within the Department, as well as with other State agencies, has been critical towards identifying programmatic and grant funding mechanisms.

At a program level view, support for NJDA's financial needs to facilitate the expansion of existing conservation programs is documented in several strategic documents including NJDEP's Natural Working Lands Strategy (NWLS), and NJDEP led Interagency Council (IAC) on Climate Resilience's draft Resiliency Action Plan (RAP) effort to address extreme heat impacts.

To assist/advance producer practice adoption, NJDA, in the beginning of the 2022 fiscal year, secured funding through a 319(h) Grant to enhance livestock producer adoption of on-farm strategies to protect water quality through implementation of Animal Waste Management Plans (AWMP). The focus of the grant is to improve water quality by reducing agricultural impacts within the Papakating Creek Watershed. BMPs were selected to address four categories. These include erosion and sediment control; nutrient management; livestock barnyard, manure and waste management; and livestock grazing management. Grant funds are being used to support the installation of agricultural BMPs.

Also in the 2022 fiscal year, NJDA was awarded an NRCS Conservation Innovation Grant (CIG) for the NJ ManureLink Project for composting and nutrient transfer. The project developed the NJ ManureLink website (<https://njmanurelink.rutgers.edu/>), a free listing service to connection farms with excess manure with composters and farmers looking to utilize the nutrient rich material that is otherwise viewed as a waste product. In addition to developing the novel website, annual educational webinar and hands-on demonstration field day are organized. This project is innovative in that it will also adapt, and

transfer conservation practices related to manure storage, composting, and nutrient management to small New Jersey farms.

Additional benefits of this project include promoting soil health, utilizing soil carbon amendments, reducing organic waste, and encouraging adoption of composting practices and sound nutrient management.

NJDA staff are currently working to develop an application for an upcoming NRCS Regional Conservation Partnership Program (RCPP). The main goals of this project are to increase the provision of financial and technical assistance, conservation planning and implementation for agricultural producers. State-wide, select conservation practices will focus on addressing two of the most prominent environmental resource concerns, soil erosion and invasive species management. Technical assistance will be handled by engaging each Counties' Soil Conservation District (SCD) enhance guidance on a local level, and foster adoption of regenerative conservation, and agroforestry practices. Financial assistance will help to alleviate administrative costs, invest in planning and completion of conservation projects.

1.c TRANSFORMATIVE IMPACT

Over the last five years International, National, and State governments, both with and beyond policy, have strongly petitioned for transformative reductions in GHG emissions within the agricultural sector. The world's leaders are calling for vast adoption of regenerative agricultural practices. Regenerative is defined as those practices that aim to ameliorate the ecological conditions on farms, while maintaining food production. Moreover, regenerative include practices that rebuild soil health, diversify natural micro and macro-organisms present, fix soil carbon, decrease soil erosion, runoff and leaching of soil nutrients.

Agricultural producers must adapt to climate change and must also participate in efforts to mitigate climate change. Practices such as cover crops and grazing management will help to improve soil health and mitigate climate change. Planning efficient use of fertilizers and manure management will help to reduce emissions. NJ's Natural and Working Lands Strategy (NWLS) draft targets (released March 2023) estimated that 411,000 of the 500,000+ acres of agricultural land in NJ could benefit from better land management practices. The practices identified by NRCS and in the NWLS document overlap and complement the practices that will contribute to GHG mitigation efforts.

Future allocation of funding for CCSP would present an opportunity for producers in the State to adjust their management decisions and farming practices. Technical and financial assistance is available for an extensive list of practices outlined in the USDA NRCS-EQIP program. While complementary to USDA NRCS program, CCSP allows producers to rapidly implement regenerative practices or leverage funding to reduce the financial burden. Provision of financial assistance will encourage adoption and integration of progressive land management strategies, new technologies, create more climate resiliency within their operations and aid in emission reduction goals.

The Urban Agricultural sector is another emerging opportunity where CCSP could advance conservation measures that address climate mitigation goals and abate the impacts of food insecurity in historically underserved areas. CCSP funds could be used alone or combined with NRCS's Urban Agriculture program to increase financial assistance, and promotion of conservation practices. Specifically, NRCS's Urban Agriculture Conservation and Technical Assistance (CTA) Grants, that focus on projects involving urban trees, food gardens, and composting facilities. Moreover, CTA grants prefer applications which leverage resources to achieve conservation goals.

2. OF GHG REDUCTION MEASURES

2.a MAGNITUDE OF GHG REDUCTION FROM 2025 THROUGH 2030

Beneficial contributions in agriculture to reduce GHG emissions can occur through increased carbon sequestration, reduced methane, and nitrous oxide emissions, and increasing renewable energy production. There are limitations to providing quantifiable GHG metrics, namely due to the complexities associated with agricultural production. Further, those metrics, when available are generalized estimates, and lack the capability of measuring additionality, i.e., inclusion of other complimentary practices, or a combination of multiple practices. However, staff used the available methodology of COMET-Planner, a federally recognized planning model for assessing equivocal CSP implementation.

Measurements on GHG reductions for CCSP were broken down into four categories, representative of common production methodologies in the State. Select land management techniques were identified in USDA NRCS COMET-Planner, were chosen due to available data in quantifiable climate mitigation measures. Each category (Cropland Management, Grazing Lands, Cropland to Herbaceous Cover and Woody Plantings), are typical of an identified land resource. The tool under a given land category pairs management with a suite of corresponding conservation practices. Each of the practices are targeted towards addressing the management and improvement of the specified resource.

By funding CCSP, the NJDA conservatively estimates a net reduction of 174,910 t CO₂e over the grant's five-year lifespan. Availability of financial assistance for conservation practice implementation State-wide could provide, at a minimum, an annual reduction of 34,982 tCO₂e per year. These metrics do not fully take into account the numerous co-benefits that would be realized by practice installations. Additionally, practices will have numerous beneficial environmental impacts.

Examples of practices used for agricultural land include applying compost, planting cover crops, and a suite of other land management practices such as rotational grazing, agroforestry, and alley cropping. While these practices have been highlighted for their carbon sequestration potential, there are other benefits associated with each practice. Applying compost to cropland has several co-benefits, such as a reduction in food waste entering landfills. Composting can also aid in animal waste and nutrient management. Using compost provides a supplemental nutrient source, reducing the need to use synthetic fertilizers. Soil health also benefits from composting, as increased soil organic matter fosters healthier plants with improved pest and disease resistance. Compost application at a rate of 20 tons per acre (about ¼" depth) results in higher, more consistent yields, lower nutrient and water demands, and a decrease in pest and disease pressures.

Cover crops not only help to sequester more carbon, but they also help improve soil health by reducing compaction, increasing porosity and water retention, and enhancing microbial diversity, which in turn reduces the need for fertilizers. Utilizing cover crops in a rotation can help to alleviate pest and disease pressure. Cover crops also suppress weed growth, decrease erosion and soil loss, and moderate soil temperatures. They can benefit livestock when used for forage. Economically, cover crops can protect from market volatility instead of relying solely on cash crops and reduce the need for costly fertilizers and pesticides.

Conservation practices have varying lifespans, but many, once adopted, last a farmer's lifetime. The durability NRCS published practice lifespans in the Field Office Technical Guidance (eFOTG). The lifespan is a standardized timeframe, determined by USDA NRCS practice guidelines. NRCS defines lifespan as the minimum time (years) the implemented practice is expected to be fully functional for its intended purposes. The lifespans vary given the type of practice and are divided by type (structural, vegetative, or annual). While a reduced tillage only has a lifespan of one year, once a farmer adopts this practice and

upgrades equipment for this production technique, the investment is permanent. Some examples of practices that fall under annual, one-year lifespan are cover crops, residue management, and nutrient management. Other practices such as composting facility have a 15-year lifespan; but frequently stay in use well beyond that.

CCSPs ability to provide additional funding will support and increase ongoing installation of these practices, generating momentum for each producer's willingness to adopt. Over time, cumulative benefits for improved production can readily facilitate enhancement of ecosystem services in our natural working lands. Through applying contextually appropriate solutions, State farmland will be integral towards improving soil health, creating long lasting changes in production techniques, adapting, and becoming more resilient to changes in climate and catastrophic weather events.

2.b MAGNITUDE OF GHG REDUCTIONS FROM 2025 THROUGH 2050

Using the extrapolation methodology contained in five-year climate mitigation projections, NJDA determined a base annual reduction of 34,982 tCO₂e per year. Within a 25-year time span, and sustained volume of practice implementation, resulted in a total of 874,550 t CO₂e.

However, the projections are limited in scope when consideration is given to the economic and environmental services benefits gained from regenerative practice implementation. Numerous studies and personal accounts collected from producers that are early adopters of these practices had their operating expenses reduced by nearly 30-40 percent over time. The impact of these practices help keep the land as farmland, leaving it less vulnerable to development and building pressures. Maintaining New Jersey as the Garden State would ensure carbon sink resources remain intact.

2.c COST EFFECTIVENESS OF GHG REDUCTIONS

In the U.S the agriculture sector accounts for 11 percent of all GHG emissions. Most emission sources are derived from N₂O in crop fertilization and CH₄ from livestock production. Staff had reviewed various reports and research to generate most likely cost projections for programmatic enrollment and CSP implementation. The reports are briefly summarized as follows.

The USDA in their updated report for 2023, has issued guidance on their utilization of Marginal Abatement Cost Curves (MACC) (<https://www.usda.gov/sites/default/files/documents/Marginal-Abatement-Cost-Curve-Estimate-Methodology-Report.pdf>). The work outlined provides the estimated cost of GHG mitigation for technologies and practices most typical to U.S. farming operations. The practices contained within the estimates include, biochar amendments, alternate wetting and drying during rice production, cover crops, livestock feed management strategies, enhanced efficiency fertilizers, prescribed grazing for livestock, conservation tillage, and manure management.

However, the authors do indicate some limitations when interpreting the results of the curves. The first is the variation of cost of implementing CSPs and GHG mitigation over time. The curves represent annual potential mitigation, are static, and do not account for shifts in costs. Second, curves were developed to represent the implementation on a practice-by-practice basis, and do not account for farms undertaking multiple practices (i.e., manure management and prescribed grazing).

Another report written by the USDA and prepared by ICF international was published in February of 2013. The purpose of the qualitative analysis is a representation of break-even cost of on-farm adoption of these GHG mitigation practices and technologies. Though cost has increased substantially, the report provides a framework for the various mitigation categories associated with agricultural production. They are organized into crop production, animal production and land retirement systems. Data extrapolated

from NRCS Financial Assistance Program Data Dashboards (<https://www.farmers.gov/data/financial-assistance-download>)

Available data for the years 2018 to 2023 (six-year range) for total contracts, contracted acres, and dollars obligated were collected from NRCS-EQIP program metrics. These figures were extracted from the data sets and used to determine annual and average rates of carbon sequestration per a given conservation practice. The number of conservation practices were then averaged, due namely to the variable outcomes of an implemented practice, and its result towards agricultural production.

The sequestration values ranged from 0.2 to 12.7t CO₂e per practice per acre per year. Our average rate of the 12 NRCS conservation practices of carbon equivalent came to 2t CO₂e per practice per acre per year. Please note that calculations for many practices are still in development with NRCS; especially many high-value practices such as the incorporation of biochar in agricultural soils.

The calculated carbon sequestration equivalent rate was then multiplied by the average number of contracted acres to determine the total annual carbon sequestration. This is a conservative low estimate, calculating only a single practice per contracted acre (such as cover crop), while in application a suite of practices may be employed.

To estimate the value of the carbon sequestration per practice over a five-year grant lifespan; the total contract acres were multiplied by five. This calculation assumes the cumulative benefit of implemented practice(s). For example, cover cropping is established each successive year; whereas tree and shrub plantings will increase carbon sequestration rates over time.

Data indicates that an average of 17,491 acres are contracted with NRCS annually, with an average of 2 tCO₂e per acre per year. The average carbon equivalent was then multiplied by the average number of contracted acres, that provided a value of 34,982 tCO₂e per year. Over a span of five years the total carbon sequestration value was 174,910 tCO₂e.

Reference benchmarks, as of August 2022, for voluntary market carbon offsets were provided by CBL Xpansiv, S&P Platts and Allied Offsets. They provided average prices for each metric ton of CO₂e for the following land management sectors. These include forest conservation values of \$8 per tCO₂e, afforestation/reforestation projects at \$14 per tCO₂e, soil carbon \$30 per tCO₂e, and biochar \$115 per tCO₂e. Since these types of practices are eligible for EQIP, and were identified within NRCS financial data, the carbon offset values were averaged. The averaged offset price was \$41.75 per tCO₂e. The offset price was then multiplied by five-year sequestration value of 174,910 tCO₂e, equating to a total value of \$7,302,493.

Another consideration in NJDA's valuation was determining the financial burden of project costs. NRCS EQIP contracts cover less than 70 percent of the contract cost. If a larger percentage of financial assistance were offered to producers, where the majority of the projected costs were provided, it's assumed that the contracted acres would also increase. Therefore, adjusting the annually contracted acres to 22,738, would change annual sequestration rate to 45,477 tCO₂e per year. Over a five-year span 227,385 tCO₂e multiplied by the averaged offset price of \$41.75 per ton CO₂e, equates to approximately \$9,493,324 CO₂e in value.

If 50 percent of the cost is covered by NRCS EQIP, staff calculated an increase of 26,237 contracted acres. A sequestration value of 52,474 tCO₂e per year, over five-years to achieve a total of 262,370 tCO₂e. Total sequestration was then multiplied by the average offset price of \$41.75 per tCO₂e, with a final value of \$10,953,948.

Further, \$5,541,309 on average obligated by NRCS for practice implementation, resulting in approximately \$317 dollars per acre. This rate targets 50 to 70 percent of the practice cost. In addition to the conservative estimate of \$7,302,493 in carbon offset value, the total per acre value of practice implementation of \$412, assuming full coverage of project cost. Therefore, \$412 was then multiplied by the total contracted acres to obtain a value of \$7,206,292 per year over five years, which came to a dollar value of \$36,031,460 in actual project cost.

As such, to see continued and increased adoption of CSPs and GHG mitigation efforts financial assistance through CCSP will necessitate a contribution of \$11,890,382 for programming budget.

2.d DOCUMENTATION OF GHG REDUCTION ASSUMPTIONS

USDA COMET-Planner is an evaluation tool, designed to provide general estimates on GHG emissions, reductions, and carbon sequestration potentials. The tool is intended for initial planning purposes. Site specific conditions are not evaluated, though are required for more detailed assessments of GHG dynamics on farms.

The tool's generated values are representative of a comparative analysis of land use and implemented NRCS Conservation Practice Standards (CPS). Moreover, the data obtained provides regionally specific approximations at the local County level. The spatial units of the analysis derive estimates for COMET-Planner are rectified by County in each State. In total 23,429 cropland points and 16,474 grassland points were modeled.

In COMET-Planner, NRCS CPSs were grouped into five broad categories. They are provided in the tool under, Cropland Management, Grazing Lands (pasture), Woody (tree and shrub) Plantings, Cropland to Herbaceous Cover, and Restoration of Disturbed Lands. Each of the five broad categories was then further refined to incorporate more specific management techniques.

Under cropland management, particularly for annual cropping systems, the main GHG emission sources are nitrous oxide from nitrogen fertilizer application and carbon dioxide from soils (result of soil disturbance). Practices (CPSs) for this category were selected based on their efficacy to reduce soil disturbance, replenish soil carbon reserves, and decrease nitrogen fertilizer application. An example of a few selected practices used in this category included adoption of cover crops, manure, or compost application to augment fertilizer rates, reduced tillage, no-till, nutrient, and residue management.

The Cropland to Herbaceous or Woody Cover category is defined as land managed for annual cropping that's converted to land containing herbaceous perennial cover. This conversion can be for all or a portion of actively managed cropland. Emission reductions within this category are the product of minimizing overall soil disturbance. Further, perennial biomass allows for a greater likelihood of soil carbon accumulation and gain. CPSs associated with this category are riparian herbaceous covers, riparian forest buffers, grassed waterways, filter, and contour buffer strips.

Conservation practices applied to Grazing Land are aimed at rehabilitating degraded soils, to improve plant productivity, enhance soil nutrient retention and cycling, increase the capacity of soil carbon retention and improve the addition of soil biomass inputs. Within the Grazing Land category, practices such as prescribed grazing, and silvopasture are structured towards encouraging innovative techniques that will manage the frequency and duration of grazing on pastureland from livestock. Another component, also integral for reducing GHG emissions in livestock operation, is manure management. Effective application of grazing and manure management techniques as outlined within the CPSs generates net reductions in GHG emissions.

CPS selection and modeling for croplands, grasslands (pasture), croplands converted to herbaceous cover:

COMET-Planner's methodology for GHG sources utilizes Tier 3-IPCC quantification, these include process-based modeling in DayCent and regionally specific empirical calculations. DayCent facilitates modeling for soil organic carbon (SOC), soil nitrous oxide (N₂O) to a depth of 30cm, this aligns with the methodology used in the U.S. National Greenhouse Gas Inventory (EPA 2022) and provides a mean estimation. In addition to the mean estimate COMET-Planner provides maximum and minimum values for net GHG emissions that demonstrate how emission estimates vary over a range of soil, weather, and agricultural management conditions.

CPS selection and modeling for Agroforestry Systems:

Quantification of climate benefit for agroforestry systems (silvopasture, riparian buffers, alley cropping, windbreaks, and farm woodlots) were based on woody biomass accumulation data, obtained from USDA Forest Service (USFS) Forest Inventory Analysis (FIA) database. Estimated biomass C from a tree's diameter breast height (dbh), and growth increment models were combined with USDA/NRCS practice recommendations for projecting biomass accumulation rates for agroforestry installations.

3. ENVIRONMENTAL RESULTS-OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

3.a EXPECTED OUTPUTS AND OUTCOMES

NJDA in evaluating CCSP outputs will consistently review the number of contracts required for producer enrollment in the program. Contract agreements within the first two years of the grant, and re-establishment of CCSP will elucidate the most commonly implemented practices, and aid to establish a baseline of producer engagement, while also providing a means to track project completion. NJDA anticipates CCSP will provide cost share on one-third of all EQIP contracts.

Measurement of performance outcomes will be determined by the number of producer enrollment contracts, review of number and types of practices installed and the amount of project completed.

3.b PERFORMANCE MEASURES AND PLAN

Number of awarded contracts and acreage enrolled and actually implemented.

3.c AUTHORITIES, IMPLEMENTATION TIMELINE AND MILESTONES

NJDEP and NJDA have the authority to support policy and programming and take actions to maintain and increase natural carbon sinks in the State. See, e.g., N.J.S.A. 4:1C-11, 4:10-25.10, 13:1D-9, 13:1L-4. Local governments also have authority to implement supporting projects. The CCSP program is contained in N.J.A.C. 2:90, Soil Erosion and Sediment Control Act Rules, under Subchapter 4, Agricultural Conservation Cost Share Program. CCSP cost sharing is further supported by leveraged federal dollars through USDA NRCS EQIP, under C.F.R. Part 1466. NJDA promulgates Agricultural Management Practices, under the Animal Waste Management Rules under N.J.A.C. 2:91 that provides the framework for technical and financial assistance in supporting installation of conservation planning for on-farm BMPs.

4. LOW INCOME AND DISADVANTAGED COMMUNITIES

4.a COMMUNITY BENEFITS

New Jersey's agricultural landscape features significant diversity in farm size, demographic, and locale. Of the nearly 10,000 NASS-identified farms and 18,000 agricultural producers, 1/3 are owned, operated, or majority-comprised of individuals who identify as either female and/or other socially disadvantaged groups. These socially disadvantaged farmers will be significant beneficiaries of this project.

According to the Economic Innovation Group's "Distressed Communities Index", more than half of New Jersey's 21 counties average below the national median income. The lowest income counties – Cumberland, Atlantic, and Essex – have significant socially and income-disadvantaged populations. The conservation practices, and or, BMPs that will be eligible for financial assistance under this program will help increase carbon sequestration in these low-income and disadvantaged communities. Using data from the EPA's FLIGHT tool, with supporting data from the Climate and Economic Justice Screening Tool (CEJST), it is clear that GHG emissions disproportionately impact New Jersey's poorest counties. NJ's three poorest counties each display high percentile scores for wastewater discharge and inhalable pollutants, which underscores the need for conservation best practices to be implemented in and around these communities.

Through CCSP, NJDA will collect and review applicant and contract data. Data for quantitative analysis will include practices installed (acres, and cost) and participant statistics; and through in-house and NRCS data sources, analysis and reporting on GHG and co-pollutant emissions reductions will be possible. Data on GHG and Co-pollutant emissions reductions is actively being researched and published, and as such reporting will depend on the availability of that data.

4.b COMMUNITY ENGAGEMENT

During the development of this project, we consulted a number of stakeholders and resources relevant to the low-income and disadvantaged communities of New Jersey. The New Jersey Department of Agriculture works closely with the NJ office of food security to identify both producers and consumers of agricultural products who are located in designated food deserts. In general terms, the food deserts identified by this office coincide with areas most impacted by GHG emissions. In addition, previous grant awards have helped the NJDA develop our state's "Underserved Farmers Network", which will be used to identify potential grantees and beneficiaries of the CCSP. As mentioned previously, this project has the potential to increase financial assistance and promotion of conservation practices in disparaged communities, with a focus on Urban Agriculture Conservation. Funding of New Jersey's CCSP will help unlock opportunities for our underserved farmers by providing the financial leverage necessary to apply for federal conservation dollars.

With growing interest in the Urban Agriculture sector, and re-invigoration of CCSP, NJDA anticipates updating program rules to incorporate smaller scale producers, and those not previously eligible for financial assistance.

5. JOB QUALITY

The majority of the practices adopted are often installed by the farmer/producer using their own equipment, expertise and in-kind labor. Particularly, for practices prescribed grazing, nutrient management, and tree and shrub establishment, since these practices are often very site specific. Producers are also more apt to contract work locally. Practice standards and supporting design guidance

documents are provided with each contract and are used to document the practice plan, design, operation, and maintenance for a specific site.

The New Jersey Department of Agriculture (NJDA) will employ a competitive review process for evaluating applications. This approach ensures a transparent, fair, and thorough assessment of each proposal, leveraging the expertise of an independent review panel comprised of qualified individuals or experts. The process will adhere to state policies and procedures, enhancing public involvement and maximizing the benefits of the projects. During the review, the NJDA will consider various factors and justifications for selecting applicants, with the potential for project proposal ranks or scores to be adjusted based on the panel's findings. All decision-making documentation, whether for approval, disapproval, deferral, or non-funding of applications, will be systematically maintained in a centralized program file for accessibility and accountability.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

6.a PAST PERFORMANCE

The program capabilities outlined encompass a broad spectrum of agricultural and environmental initiatives undertaken by the New Jersey Department of Agriculture, reflecting a comprehensive approach to managing agricultural health, pest control, public health, and food security within the state. These programs highlight the department's multifaceted strategy to address contemporary challenges in agriculture and natural resource management. Below is a summary of the capabilities and objectives of the mentioned programs:

The New Jersey Department of Agriculture (NJDA) has been implementing the Specialty Crop Block Grant Program (SCBGP) for the last 20 years, demonstrating a long-standing commitment to enhancing the competitiveness of specialty crops within the state. This involvement underscores NJDA's dedication to supporting the growth and sustainability of New Jersey's agricultural sector, particularly in areas that impact smaller farms, new and beginning farmers, underserved communities, and veterans engaged in farming. Over the two decades of participation in the SCBGP, NJDA has successfully leveraged these federal funds to finance a variety of projects aimed at research, marketing, education, and production improvements, benefiting a broad spectrum of stakeholders within the state's agricultural community.

FY 21 NJ NAHLN (National Animal Health Laboratory Network) Infrastructure II & NJ 2022 NAHLN Infrastructure

These programs aim to enhance the infrastructure of animal health laboratories in New Jersey to improve diagnostic capabilities for animal diseases. This includes upgrading laboratory equipment, enhancing disease surveillance systems, and training laboratory personnel, ultimately contributing to faster and more accurate disease detection and response efforts.

NJ FY21 BC (Biological Control) Spotted Lanternfly & NJ FY22 PPA (Plant Pest Act) Spotted Lanternfly Public Outreach

These initiatives target the control and public awareness of the Spotted Lanternfly, an invasive pest threatening agricultural crops and trees. The program includes research on biological control agents, public education campaigns, and the development of management strategies to reduce the pest's impact on agriculture and the environment.

NJ FY21 BC Black Swallow Wart & NJ FY23 BC Black Swallowwort

Focused on the management and containment of Black Swallowwort, a noxious weed that poses significant threats to agricultural lands and natural habitats. The program involves research into effective

control methods, including mechanical, chemical, and biological control strategies, to prevent the spread and impact of this invasive plant.

NJ FY21 PPA Box Tree Moth & NJ FY23 PPA SLF (Spotted Lanternfly) Outreach

These programs address specific pest threats, such as the Box Tree Moth and the Spotted Lanternfly, through targeted outreach and education efforts. They aim to engage the public and stakeholders in detection, reporting, and management practices to mitigate the spread and damage caused by these pests.

Influenza A virus (IAV) Subtype H2N2 Surveillance

This initiative focuses on surveillance for the H2N2 subtype of the Influenza A virus, aiming to monitor and respond to potential outbreaks in livestock populations. It involves collecting and analyzing samples to detect the presence of the virus, thereby preventing its spread and protecting animal health.

NJ FY21 BC Japanese Knotweed & NJ FY23 BC Japanese Knotweed

Dedicated to controlling Japanese Knotweed, an invasive plant that threatens waterways, agricultural lands, and natural ecosystems. The program includes research on effective removal techniques and public education on preventing the spread of this aggressive plant.

NJ FY23 BC Spotted Wing Drosophila

This program targets the Spotted Wing Drosophila, a significant pest for fruit crops. It focuses on developing and implementing integrated pest management strategies to minimize crop damage and economic losses to fruit growers.

Local Food Purchase Assistance Cooperative & Local Food for Schools (LFS) Cooperative

These initiatives aim to enhance local food systems by supporting the purchase of local foods for schools and other institutions. They focus on strengthening the connections between local farmers and markets, improving food security, and promoting the consumption of fresh, locally produced foods.

NJ FY23 PPA Mollusk and Annelid Survey & NJ FY23 PD (Plant Disease) CAPS (Cooperative Agricultural Pest Survey) Survey

These surveys are critical for early detection of harmful mollusks, annelids, and plant diseases that could impact the state's agriculture. By identifying and monitoring these threats, the programs support proactive measures to protect New Jersey's crops and natural resources.

NJ H2N2 Surveillance and Response & Eliminate H2N2 in the LBMS (Laboratory Biosafety Management System) in the NE State. Focused on the surveillance and elimination of the H2N2 virus, ensuring laboratory safety and preventing the spread of this potentially harmful virus. The programs involve rigorous monitoring, reporting, and response strategies to manage risks associated with the virus.

These program capabilities illustrate the New Jersey Department of Agriculture's comprehensive approach to safeguarding the state's agricultural productivity, environmental health, and public welfare through targeted research, surveillance, management, and education efforts.

6.b REPORTING REQUIREMENTS

The New Jersey Department of Agriculture (NJDA) has submitted a comprehensive report on the outcomes of the Specialty Crop Block Grant Program (SCBGP) to showcase the program's effectiveness not only within the state but also on a national level. This effort contributes to a broader initiative led by the Agricultural Marketing Service (AMS) to aggregate and share performance data across all States and Territories. Such collective reporting aims to inform key stakeholders—including the Office of

Management and Budget (OMB), U.S. Congress, the agricultural community, and the general public—about the SCBGP's impact and value.

To align with the requirements set by AMS, each project included in the State Plan by NJDA had to specify at least one of the seven outcomes outlined in the SCBGP Performance Measures, along with at least one of the indicators related to the chosen outcome(s). This approach ensures that the projects are designed with clear, measurable objectives in mind, facilitating the collection of meaningful data to assess their progress and overall impact.

The progress toward achieving these outcomes and their associated indicators is meticulously tracked and reported in the Annual Performance Report. Furthermore, comprehensive results and insights gained from these initiatives are detailed in the Final Performance Report. This structured reporting mechanism is crucial for evaluating the SCBGP's effectiveness and demonstrating its contributions to enhancing the competitiveness of specialty crops, supporting agricultural diversity, and addressing the needs of various agricultural stakeholders.

NJDA's adherence to these updated performance measures and reporting guidelines, as highlighted in the updated project narrative templates within the SCBGP documentation, reflects the department's commitment to transparency, accountability, and continuous improvement in its administration of the SCBGP. Through such efforts, NJDA not only showcases the achievements and impacts of the SCBGP but also contributes valuable data and insights that can help shape future agricultural policies and funding priorities.

6.c STAFF EXPERTISE

Frank Minch, as the Division Director, brings an extensive background in soil and water resource management to the department. His 30 years of experience, including a long tenure at the New Jersey Department of Agriculture, position him as a key figure in steering the Division of Agricultural & Natural Resources. His role underscores the importance of maintaining and enhancing the viability of agriculture in New Jersey through natural resource conservation, coordination of Soil Conservation Districts, and management of state soil and water cost-share programs. His leadership and active engagement in national conservation networks reflect a commitment to adopting best practices and fostering collaborative efforts in conservation.

Sandra Howland, a Research Scientist, adds depth to the team with her expertise in soil science, livestock management, and conservation. With a strong foundation in agricultural and environmental sciences complemented by her professional experiences, Sandra plays a crucial role in administering Animal Waste Management Regulations and contributing to conservation planning in New Jersey. Her unique position addresses the challenges of adapting conservation practices to the state's distinct agricultural landscape, especially for small farms.

Kelly Steimle, as an Agricultural Resource Specialist 1, leverages her background in livestock management, agricultural operations, and risk management education to support New Jersey's agricultural community. Her experiences with Rutgers University and the USDA's Risk Management Agency have equipped her with a broad skill set, including grant management, soil testing, and data interpretation. At the New Jersey Department of Agriculture, Kelly's responsibilities encompass responding to animal waste complaints, developing Animal Waste Management Plans, and ensuring compliance with agricultural regulations, further illustrating the department's multifaceted approach to agriculture and resource management.

The diverse backgrounds and roles of Rachel DeFlumeri, Sara Mellor, Deelip Mhaske, and Dave Giallella within the New Jersey Department of Agriculture showcase a multifaceted team equipped to tackle the complex challenges facing modern agriculture and natural resource management. Their collective expertise spans agricultural science, water resource management, grant administration, business administration, and more, highlighting the department's comprehensive approach to fostering sustainable agriculture, environmental stewardship, and community engagement.

Rachel DeFlumeri's journey from a research technician specializing in farm-field studies to a Barley Research Scientist and then an Agricultural Program Associate demonstrates a robust blend of academic training and practical experience. Her work in various aspects of plant science, conservation agriculture, and her engagement with community education through the Rutgers Master Gardener Program, reflect a deep commitment to advancing agricultural practices and sustainability.

Sara Mellor emphasizes community involvement and environmental conservation, with her work on water conservation outreach, the rain barrel program, and the development of rain garden rebate programs. Her transition to assisting farmers with farmland tax assessment and managing grants for agricultural best practices showcases her dedication to enhancing local agriculture and sustainability efforts within New Jersey.

Deelip Mhaske brings a unique blend of legal, social, public health, and business administration expertise to his role as a Grants Administrator. His diverse educational background and technical knowledge in public policy and administration are crucial for navigating the complexities of grant management, contributing to the strategic allocation of resources for agricultural and environmental initiatives.

Dave Giallella applies his expertise in business administration and accounting to oversee the financial operations of the Department of Agriculture. His role is vital in ensuring fiscal responsibility and transparency, managing budgets, and supporting the financial aspects of various agricultural programs. His work underscores the importance of solid financial management in achieving the department's goals.

These profiles underscore the New Jersey Department of Agriculture's strategic focus on integrating scientific research, regulatory compliance, conservation planning, and community engagement to support and sustain the agricultural sector. Each individual's expertise and responsibilities contribute to the overarching goals of enhancing agricultural productivity, environmental stewardship, and economic viability in the state.

7. BUDGET AND TIMELY EXPENDITURE OF GRANT FUNDS

7.a BUDGET DETAIL

CCSP is administered by the NJDA, and is complimentary to the USDA-NRCS EQIP. All applications will be reviewed and approved in accordance with the same ranking process which will consider environmental benefits and applicant eligibility factors.

Applicants enter into contract with NJDA, accompanied with an approved conservation plan which details conservation practices to be installed as indicated within the plan and schedule. Conservation Plans, Comprehensive Nutrient Management Plans, Forest Management Plans, Resource Management Plans are a written record of resource concerns and conservation practices to be implemented and maintained. This provides a written record of conservation work done on the land and facilitates a mechanism for adaptation, improvement, and inclusion of additional practices.

Personnel

Program Support and Outreach Administrator – 100% of salary - New Hire: Starting salary year one \$75,000, and annual five percent wage increase each year, resulting in \$78,750 for year two, \$82,687.50 for year three, year four \$86,821.88 and year five \$91,162.97. The full -time employment position will be responsible for handling incoming CCSP program applications, and review of Conservation Plan, as listed within application's Schedule of Operations (SO) to verify practices that financial assistance will be provided. Program Support employee will facilitate payment of practices, certifying the complete installation, issuance of Performance Certification Payment Request Forms upon receipt of itemized bills detailing actual cost for each contractual item. Employee will also be responsible for maintaining program records, and metrics required for grant reporting.

Agricultural Resource Specialist-Program Coordinator – 23% of salary: Current Full time NJDA employee will offer assistance to Program Support and Outreach Administrator in handling application load, technical assistance and coordination with producer applicants. Approximately 420 hours at a rate of \$39.10 per hour were determined for this role for the length of the grant. Year one salary of \$16,422, with incremental five percent increase, resulting in year two \$17,243.10, year three \$18,105.26, year four \$19,010.52 and year five \$19,961.04.

Program Administrator – 55% of salary: Current full time NJDA employee will act as a supporting administrator to the Program Support and Outreach administrator. Employee through the length of the grant will spend approximately 1,000 hours for this role. The calculated hourly rate of \$32.93 with five percent annual increase resulted in year one \$32,390, year two \$34,576.50, year three \$36,305.33, year four \$38,120.59 and year five \$40,026.62.

Certified Conservation Planner - Technical Support – 15% of salary: Current full time NJDA employee will provide expertise in practice planning and implementation. Employee will be responsible for verifying project completion on-site. Approximately 280 hours were calculated for this role at a rate of \$51.91 per hour, with a five percent annual increase for the length of the grant. Year one \$14,534.80, year two \$15,261.54, year three \$16,024.62, year four \$16,825.85 and year five \$17,667.14.

Program Support – 15% of salary: Current full time NJDA employee will provide administrative support, and coordination of grant reporting requirements. It was estimated that approximately 280 hours at a rate of \$37.37 will be required for the length of the grant. Annual five percent increases in salary were calculated, beginning year one \$14,534.80, year two \$15,261.54, year three \$16,024.62, year four \$16,825.85 and year five 17,667.14.

Program Oversight – 8% of salary: Current full time NJDA employee will deliver project coordination and administrative oversight. Approximately 140 hours were calculated for this role at a rate of \$61.62 per hour, with a five percent annual increase. Salary totals for each five -year are provided as follows. Year one \$10,519.60, year two \$11,045.58, year three \$11,597.86, year four \$12,177.75 and year five \$12,786.64.

Financial Officer – 4% of salary: Current full time NJDA employee will facilitate appropriation of grant funds to CCSP program account, handle receipt of purchase orders, and allocation of funds to producer applicants. Fiscal year reporting and Departmental budgeting.

NJDA Division Director – 4% of salary: provides Departmental authority to execute on grant deliverables, and overall project assistance to each of the grant program administrators and support staff. Approximately 70 hours were calculated for this role at a rate of \$67.48 per hour, with an annual five-

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percent salary increase. Over the span of the grant, starting year one \$4,723.60, year two \$4,959.78, year three \$5,207.77, year four \$5,468.16 and year five \$5,741.57.

Travel

Farm/Site Visits and Inspections:

8000 miles annually (200 miles round trip to 40 farm (~16% of applicants)) x \$0.67 = \$5,360

Conference Attendance and Training:

Conference attendance for two staff two times per year.

Approximate airfare -\$1000 ea. x 2 staff x 2 trips = \$4,000

Hotel accommodations -\$166 per night for 3 nights x 2 staff x 2 trips = \$1,992

Transport - approximately \$150 x 2 staff x 2 trips = \$600

Total per year = \$ 6,592

Total for five years = \$32,960

Equipment

Aerial Imaging Software-Near Maps: A valuable site- assessment tool that would allow NJDA staff to perform initial site assessments and decrease the amount overall travel to perform site visits and inspections.

Annual Subscription to Nearmap vertical imagery = \$50,000

Annual Subscription to Nearmap oblique imagery = \$10,000

Annual public display license with 3 -inch resolution = \$2,000

Total for five years = \$310,000

Supplies

Materials used for in office administrative work, outreach educational materials and events.

Estimated cost of material \$1,500 per year

Total cost for five years = \$7,500

Contractual

CCSP - cost share payments to producers for practices of up to 17,491 acres annually, and approximately 244 producer enrolled contracts = \$2,378,076.40 per year

Other Costs

Printing and mailing services to include postage = \$2,500 annually

Total for five years = \$12,500

Media outreach and website development = \$5,000 annually

Total for five years = \$25,000