CNMP Design and Implementation Activity

DIA 101

Definition

A site-specific design and implementation activity plan developed for an Animal Feeding Operation (AFO) or user of the by-products of an AFO that includes components for both structural and non-structural conservation practices that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.

REQUIREMENTS

General Requirements

A Design and Implementation Activity (DIA) assists a participant with implementing their conservation plan by providing site-specific instructions, requirements, plans, or specifications for planned structural and nonstructural conservation practices.

A DIA may involve providing assistance for a single conservation practice or a combination of structural, vegetative, or land management conservation practices, enhancements, and management activities.

Prior to initiation of the DIA, the Technical Service Provider (TSP) will schedule a conference with participant and Natural Resources Conservation Service (NRCS) field office staff to ensure an understanding of the participant objectives (including practices to be covered by the DIA), required deliverables, and characteristics of the DIA tasks. The meeting between all parties may take place in person or electronically.

The participant and conservation planner have determined which practices a TSP will provide DIA assistance for. The TSP must have certification in NRCS Registry for each practice they will provide assistance for through this DIA. If not certified for a practice(s), a TSP can use a subcontractor who is a certified TSP for the practice(s). If there are no available certified TSPs, then that practice shall be removed from the scope of the participant's DIA.

DIA assistance is based on the participant's conservation plan and applicable conservation practice standards and related technical guidance provided in the NRCS Field Office Technical Guide (FOTG). Each NRCS State Office publishes appropriate technical guidance and reference information in the state's version of the FOTG. DIA assistance must conform with the conservation practice standards included in FOTG, Section 4 for the state where the practice(s) are to be implemented. A TSP may use conservation practice supporting documents found in the applicable state's FOTG, Section 4 to facilitate delivery of appropriate information to the participant. Examples of conservation practice supporting documents include statements of work (SOW), implementation requirements (IR), practice specifications (PS), standard drawings (SD), General Specifications (GS), Construction Specifications (CS), Material Specifications (MS), and design support tools. The FOTG homepage hyperlink is: https://efotg.sc.egov.usda.gov/#/.

Technical Requirements

1) The DIA 101 must be developed by a TSP who meets NRCS Comprehensive Nutrient Management Plan certification requirements.
2) The minimum requirements the planner must address in the CNMP DIA:
    a) Meet the Natural Resources Conservation Service (NRCS) planning criteria on both the production and land treatment areas for water quality (nutrients, organics, and sediments in surface and ground water), soil erosion (sheet and rill, wind, ephemeral gully, classic gully, and irrigation induced), and air quality (emissions of particulate matter (PM) and PM precursors and objectionable odors).
    b) Comply with Federal, Tribal, State, and local laws, regulations, and permit requirements and meet the producer's objectives.
    c) Planned to assist participant(s) in taking voluntary actions to minimize potential pollutants from animal confinement facilities and the land application of manure and organic by-products.
    d) Document participant(s) decisions.
    e) The nutrient management plan portion must be developed in accordance with the State Nutrient Management Practice Standard Code 590.
    f) The CNMP CPA and CNMP DIA collectively ensure that the purposes of crop or livestock production and preservation of natural resources (especially the conservation of air quality, soil erosion, and water quality as related to nutrient related impacts) are compatible.
3) Planned Conservation Practices on the Farmstead:
    a) Include a summary and conclusion of results and analysis for the evaluation of existing waste handling/storage structures for integrity and capacity. For planned storage facilities, the TSP only needs to gather enough information about the site to indicate that it is at least "feasible" to install the planned storage facility at the location shown on the farm headquarters map. Refer to the Supporting Documentation section for detailed instructions.
    b) Include a summary and conclusion of results of the NAQSAT air quality assessment if identified in the CNMP or conservation plan plus an updated report with conservation practices planned. Refer to the Supporting Documentation section for details.
    c) Inventory of livestock and manure production, storage and transport may be documented in the CNMP CPA. Confirm inventory information or develop new inventory.
    d) Design and installation specifications for nonstructural conservation practices that address soil, water and air resource concerns are completed as implementation requirement sheets or job sheets in compliance with the applicable conservation practice as found in the State's Conservation Practice General and Additional Criteria sections.
    e) Farmstead planned conservation engineering practices may include practices such as Access Road 560, Composting Facility 317, Roofs and Covers 367, or Waste Storage Facility 313. The engineering plans, job sheets, or implementation requirements for future planned practices are not required to be completed as part the CNMP DIA but will be developed by the appropriate entity per the schedule of implementation.
4) Planned Conservation Practices on Crop and Pasture Acres (Land Treatment Area):
    a) For all planned vegetative, management, and land treatment conservation practices,

complete the installation requirements specific to each field. Site specific instructions are provided as implementation requirements or completed job sheets. Implementation design instructions are established in compliance with the applicable conservation practice as found in the State's Conservation Practice General and Additional Criteria sections. All items listed in the Plans and Specifications and Operation and Maintenance sections of each conservation practice are to be included.

b) The CNMP DIA implementation requirements for applicable conservation practices will include the anticipated change (benchmark and alternative) in risk assessment or the mitigation method to manage risk.

c) The nutrient management portion of the CNMP DIA must comply with all technical criteria contained in the State's approved Nutrient Management (Code 590) and address the use and management of all nutrients applied on agricultural lands from any available nutrient source (animal manure, wastewater, commercial fertilizers, crop residues, legume credits, irrigation water, organic by-products, etc.). All items listed in the Plans and Specifications and Operation and Maintenance sections of Nutrient Management (590) must be included.

d) Engineering plans, job sheets, or implementation requirements for future planned practices are not required to be completed as part the CNMP DIA but will be developed by the appropriate entity per the schedule of implementation.

DELIVERABLES

The TSP must provide documentation showing all the tasks indicated in the **General Requirements** section, the **Technical Requirements** section, and the following sections:

Cover Page

The cover page must include the following:

1) DIA name and number.
2) Participant information: Name, farm bill program name, contract number (TSP obtains contract number from participant), land identification (e.g., state, county, farm, and tract number).
3) TSP name, TSP number, TSP expiration date, mailing address, phone number, email address.
4) A statement by the TSP that services meet the DIA requirements, such as:

   I certify the work completed and delivered for this DIA:

   - *Complies with all applicable Federal, State, Tribal, and local laws and regulations.*
   - *Meets the General and Technical Requirements for this DIA.*
   - *The planned practices are based on NRCS Conservation Practice Standards in the state Field Office Technical Guide where the practices are to be implemented.*
   - *Is consistent with and meets the conservation goals and objectives for which the program contract was entered into by the participant.*
   - *Incorporates alternatives that are both cost effective and appropriate to address the resource issue(s) and participant's objective(s).*

   TSP Signature _____ *Date* _____

5) Participant's acceptance statement indicating:

I accept the completed DIA deliverables as thorough and satisfying my objectives.

Participant Signature _____ *Date* _____

6) A designated space for an NRCS reviewer to certify the agency's acceptance of the completed DIA.

NRCS administrative review completion by:

Signature _____ *Title* _____ *Date* _____

Notes and Correspondence

1) Provide notes, in date-order that:
   a) Document each interaction with the participant, results of that interaction, and the date of the interaction.
   b) Document each site visit, its participants, the activity completed in the field, and results of each site visit.
   c) Provide name of the note-maker, if more than one person provides the assistance.
2) Provide copies of correspondence between the TSP and the participant relating to decision-making and completion of this DIA. For example, description of alternatives presented for evaluation and decision-making.

Implementation Maps

1) Maps developed from the CNMP CPA 102 can be used for the CNMP DIA 101 if available or include new maps to include but not limited to:
   a) General location map of the implementation areas showing access roads to the location.
   b) Conservation Plan map (this may consist of several maps to account for the entire implementation area). This map may be obtained from the client.
   c) Other maps, as needed, with appropriate interpretations and as described in the General Requirements section.
2) Maps for a DIA must include these features:
   a) Map title.
   b) Participant's name.
   c) Assisted By [TSP planner's name].
   d) Name of applicable conservation district, county, and State.
   e) Date prepared.
   f) Map scale.
   g) Information needed to locate the planning area, such as geographic coordinates, public land survey coordinates, etc.
   h) North arrow.
   i) Appropriate map symbols and a map symbol legend on the map or as an attachment.

Design or Implementation Details

1) Develop site-specific written instructions for implementing for each planned (non-

engineering) conservation practice (including facilitating practices) or activity included in the participant's DIA. Those instructions must:

a) Include, as a minimum, all items listed in each CPS "Plans and Specifications" section and applicable Practice Specifications (PS).

b) Include, as a minimum, all items listed in each CPS "Operation and Maintenance" section. Prepare an operation and maintenance plan for each design that the client will use after implementation of the practices are complete.

c) Include both visual / photographic and narrative descriptions of the work. Provide descriptive information on the quality of the work to be completed and the quantities of all materials required for completion of the work.

d) These items may be included in a single document or in multiple documents, as long as specification information is provided.

2) Statement of Work (SOW) documents in a state's FOTG Section 4 include a Design section that lists deliverables needed for the participant's successful implementation.

3) Implementation Requirement documents in a state's FOTG Section 4 may be used to prepare and deliver site-specific conservation practice instructions but are not required to be used.

4) Planned Storage Feasibility.

a) The TSP only needs to gather enough information about the site to indicate that it is at least "feasible" to install the planned storage facility at the location shown on the farm headquarters map.

b) At the minimum at least one subsurface test hole, pit, or boring at the proposed site showing that there is no bedrock to a depth of at least 10 feet and there is no seasonal high-water table to a depth of at least 12 feet (note that the Waste Storage Facility (313) practice standard requires seasonal high-water tables be at least 2 feet below the design bottom elevation for pond-type storage facilities).

i) Document the soil observed by describing its color and texture. It is recommended to identify the soils encountered using the unified soil classification system.

ii) Provide two distance measurements from one identified point so that the location of the soil boring or hole can be located by the designer at a later date. This must be documented on the site map.

iii) If there is a perched seasonal high-water table, show evidence that there is a way to drain this water table that would allow the installation of the planned storage facility.

iv) Determine distance from all wells to the proposed site. Provide description of specific corrective actions to be taken if state setbacks and other requirements are not met. Use state specific worksheets as available.

v) Review the State's practice standard for site limitations and separation distances. These factors must be addressed as part of the site suitability.

c) A subsurface investigation is needed for a planned above ground waste storage facility to ensure there is buildable soils at the planned site. Site suitability for above ground systems would include:

i) Conduct a soils investigation a minimum of 2 feet deep below the planned bottom elevation.

ii) Document if any perched or seasonal high-water table indicators were encountered.

iii) Provide two distance measurements from one identified point so that the location of the soil boring or hole can be located by the designer at a later date. This must be documented on the site map.

iv) Document the soil observed by describing its color and texture. It is recommended to identify the soils encountered using the unified soil classification system.

Note: Subsurface investigations shall only be performed by qualified individuals. The CNMP DIA should not include all the subsurface investigations needed for the design of a storage facility. The TSP does not need to identify the type of liner for the storage facility unless that decision is needed to document the suitability of the site; e.g., if a flexible membrane liner is needed to meet minimum requirements, then that must be stated in the CNMP DIA.

5) Evaluation of Existing Storage Facility.

An on-site investigation shall be made to determine whether or not an existing component is in good operating condition. The thoroughness of inspection should be in proportion to the risk associated with failure of the component. If the evaluation shows the storage is not acceptable, stop here with the assessment and develop plans for taking corrective action to repair, decommission, and/or replace the storage.

a) State whether the existing components may be included as part of a CNMP DIA only when ALL of the following are met:

i) The existing component is consistent with the safety guidance of the CNMP.

ii) An investigation/inspection of the existing component indicates it is in good operating condition, based on observable and/or measurable features and conditions.

iii) The failure of an existing component will not impair the structural integrity or operation of new components.

iv) The existing component can be managed as part of the CNMP.

v) State the corrective action needed to repair or replace the existing component or decommissioning. The planned date for the corrective action must be included in the Schedule of Implementation.

vi) The evaluation of existing component documentation needs to be signed and dated by the person or persons performing the evaluation.

b) Provide a statement concluding if the existing components can function as part of the planned system.

Supporting Documentation

Supporting documentation (maps, risk assessments, etc.) can be obtained from an existing CAP102, CNMP, or CPA102, and may be copied from Client Case File Conservation Plan if the client has a signed release form NRCS-CPA-70.

Provide results of design tools, resource assessments, or other analyses that are required to meet the Criteria in the state's CPS and PS, including:

1) All items listed in the Plans and Specifications and Operation and Maintenance sections of each conservation practice are to be included.

2) Forms and worksheets used in documenting planned alternatives.

3) Inventory and analysis information, (this would include all resource concern assessments):
   a) Test data results from soil and manure analysis.
   b) Erosion, N leaching index, P Index, water quality assessments, air quality site assessment, livestock inventory, manure/waste estimated production, manure imports/exports, manure storage, irrigation assessments.
   c) Evaluation of existing waste handling/storage structures for integrity and capacity, site feasibility data if needed (such as topographic survey, soil boring or flood zone information.) Where the assistance of a licensed engineer was required for inventory, assessments, plans, etc. shall be signed by the respective licensed engineer.
4) Current and/or planned plant production sequence or crop rotation.
5) Planned crops and realistic yield goals for the crops.
6) Complete nutrient budget, including both field and plan nutrient balance for nitrogen, phosphorus, and potassium for the plant production sequence or crop rotation.
7) Odors from manure applications will be controlled. Document headquarters odor control practices (existing or planned) based on NAQSAT. Document manure application management to reduce odor risk in fields such as:
   a) Spreading during times when neighbors may be spending time outside such as on holidays or weekends will be avoided.
   b) Spreading during hot humid days when the air is heavy and still will be avoided as much as possible.
   c) Surface applied manure will be incorporated immediately or at least within 48 hours of application when possible.
   d) Time applications of manure and incorporation to minimize losses of ammonia and nitrogen.
8) Listing and quantification of all nutrient sources, fertilizer recommendations, planned nutrient applications and form.
9) If applicable, photographs, audio and video files or digital files of these type of documents.
10) Other appropriate supporting documents and local or state required documentation.
11) Engineering Notes, if applicable.
12) Record-keeping forms and guidance, as appropriate.
13) Notes and computations to support all practice design documentation—for computations requiring an engineer's license, the computations are to be signed by the respective licensed engineer.
14) All electronic files or PDF files (if electronic files are not available) used for design and nutrient management planning.

Deliver Completed Work

The TSP must:

1) Prepare and provide their participant two copies of the items listed in Deliverables.
   a) One set is for the participant to keep.
   b) The other set is for sharing with the local NRCS Office. Must also include:

i) Printed and electronic copy of the complete CNMP document.

ii) CNMP electric document file (if using MMP, include the ".nat-cnmp.doc" file).

iii) Nutrient Management planning tool plan electronic files (if using MMP, include the ".mmp" files); all electronic files or PDF files are not available) used for design and nutrient management planning.

c) The TSP may transmit a set of the Deliverables to the local NRCS Office, if their participant has authorized it. It is recommended to provide NRCS field office an opportunity to review the DIA deliverables, prior to asking for its acceptance.

2) Upload electronic copies of all the Deliverables on NRCS Registry. (If using MMP, include the ".nat-cnmp.doc" and the .mmp file).

References

USDA Natural Resources Conservation Service. National Planning Procedures Handbook. https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=44407

USDA Natural Resources Conservation Service. Field Office Technical Guide.

USDA Natural Resources Conservation Service. 2011. National Agronomy Manual. 190-V. 4th Ed. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1043210.pdf

USDA Natural Resources Conservation Service. National Environmental Compliance Handbook.

USDA Natural Resources Conservation Service. Cultural Resources Handbook