# REQUEST FOR QUOTE (RFQ)

Chesapeake Conservancy is a non-profit organization that works with conservation partners and landowners to implement Best Management Practices (BMPs) on agricultural land. Chesapeake Conservancy and our Central PA Partnership were awarded a Regional Conservation Partnership Program (RCPP) grant through the USDA Natural Resources Conservation Service (NRCS). Funding for Technical Assistance for practice design and assistance with practice installation and verification is available through RCPP.

As part of the RCPP grant, Chesapeake Conservancy is soliciting quotes for the following services:

- Engineering Services to design a roofed waste storage facility and associated practices for a beef operation.
- Project and Construction Oversight
- Quality Assurance Inspections and Final Certification with PE Stamp

## RFQ OVERVIEW AND DESCRIPTION OF WORK

**RFQ Release Date:** October 1, 2024

**Landowner Name:** Bill Deitrick

**Project Location:** 217 Furnace Road
New Columbia, PA 17856
Union County, White Deer Township

**RFQ Issuing Office:** Chesapeake Conservancy
*Email:* paprograms@chesapeakeconservancy.org
*Phone:* 570-372-4075

**RCPP Partners:** Natural Resources Conservation Service (NRCS) and Union County Conservation District

**RFQ Due Date:** **All quotes must be submitted by:**
October 31, 2024 at 10:00 am EDT
*Quotes will not be accepted after this date and time.*

**RFQ Submission:** **All quotes must be submitted electronically, or hand delivered in-person.**
**DO NOT MAIL QUOTES – QUOTES WILL NOT BE ACCEPTED THROUGH U.S. MAIL.**

*Email:* paprograms@chesapeakeconservancy.org
Include "Deitrick RFQ Response – Engineering Services" in the subject line.

*In Person:* Chesapeake Conservancy
Attention: Kathy Rohrer/Deitrick RFQ Response – Engineering Services
Susquehanna University, Freshwater Research Institute Building
1250 West Sassafras Street, Selinsgrove, PA 17870
*A drop box is located inside the main entrance and is accessible at any time.*

**Questions:** All questions regarding this RFQ should be submitted to:
*Email:* paprograms@chesapeakeconservancy.org
*Contact/Phone:* Kathy Rohrer, 570-372-4075

**Project Description:**
The successful bidder will be responsible for providing engineering and professional services to design and oversee construction of a roofed waste storage facility on a beef operation in Union County. The project involves construction of the roofed facility as well as underground outlets, access roads and other Best Management Practices (BMPs).

The Inventory and Evaluation (I&E) completed by NRCS, presented the landowner with two options: 1) Tie mono-sloped roof into existing bank barn or 2) constructing stand-alone heavy use area/waste storage facility away from existing barn. Attachment A – Deitrick NRCS Inventory and Evaluation (I&E), contains information for both options. *The landowner has chosen option 1 to build a facility that ties into the existing bank barn, therefore the information in the I&E pertaining to option 2 for a stand-alone structure should be disregarded.* **Bidders should base their proposal on designing a facility that ties into the existing bank barn.**

The design shall include all components needed for constructing the practices identified in option 1 of the I&E that will adequately address water quality. BMPs may include but are not limited to those identified in the landowner's I&E (Attachment A). Bidders should refer to the I&E for practices, estimated quantities and other important information about the project site. This information is provided for informational purposes only.

There are no streams located on the property.

This contract will include the following services:

**Project Design**

- Site survey(s) and engineering of planned BMPs
- Provide a concept plan for approval by NRCS after pre-design meeting
- Coordinate and communicate with NRCS staff to incorporate NRCS comments into final design
- Provide final design and drawings to NRCS for review and approval
    - The Engineer shall prepare all necessary design plans, drawings and specifications to be used for the construction of the BMPs. All information provided shall be complete in detail and contain all necessary information. Drawings shall conform with standard professional practice, including site plans, profiles and sections, erosion and sediment control plan, quality assurance/inspection plan, operation and maintenance plan and all details necessary to illustrate the complete scope of the work.
    - The Engineer shall include design calculations, documentation and cost estimate.
    - The design and drawings shall be signed and sealed by a qualified, licensed professional, and shall meet Pennsylvania Technical Guide Standards and Specifications.
- Provide NRCS approved design and drawings to the Conservancy, RCPP Partner (Conservation District) and landowner
- Provide NRCS technical standards and specifications of planned BMPs
    - Planned BMPs and estimated quantities are found in Attachment A.
- Provide printed sets of 11"x17" or larger drawings and designs for the site showing. Quantity will be determined based on number of attendees.

**Project Permits**
The landowner will be responsible for applying for and obtaining all permits required for this project.

**Project Meetings**
Project meetings including but not limited to:

- Pre-design meeting on site
- Site showing for bids on site

- Bid opening or review of bids
- Pre-construction visit on site

**Construction Oversight and Quality Assurance**

The Engineer is expected to furnish customary engineering advice and assistance necessary to Chesapeake Conservancy, NRCS, landowner, contractors and other project partners to enable all parties to readily understand the project and design. The Engineer shall provide oversight of the project and shall coordinate with Chesapeake Conservancy, NRCS, landowner, contractors and other partners throughout the project. The Engineer is expected to work directly with NRCS and the landowner on such things as design reviews, edits and approvals, site visits and other aspects of the project. The Engineer shall visit the construction site to observe progress and quality of work, to determine if work is proceeding in accordance with the design, to keep Chesapeake Conservancy informed of progress, to guard against defects and deficiencies and to disapprove of work not in conformance with the design and NRCS specifications.

The Engineer will, at a minimum, conduct quality assurance inspections on site during construction for critical tasks including, but not limited to:

- Placing compacted fill or subgrade/stone preparation
- Checking materials (rebar, posts, etc.) before installation
- Check reinforcing steel before concrete pour (not same day as pour)
- Pouring any concrete
- Backfilling poured concrete walls or final grading
- Setting trusses and associated truss bracing (Trusses must be approved by the Engineer prior to ordering. Final truss design needs a P.E. seal.)
- Installing stormwater pipes and drop boxes
- Final inspection for conformity with design, concept and NRCS specifications

Contractor will complete a NRCS RCPP TA-I Practice Certification Sheet (included with Attachment B) for each practice (Contract Item Number-CIN) in the NRCS contract that is part of the engineering design. An example Practice Certification Sheet has been provided by NRCS. The Contractor shall send the completed Practice Certification Sheet(s) to the local NRCS District Conservationist (DC) for functional review and DC signature and copy the Conservancy. NRCS will complete its review and return the signed Practice Certification Sheet(s) to the Contractor. The signed Practice Certification Sheet(s) shall be submitted to the Conservancy with the Contractor's invoice.

When the project is complete, the Engineer will provide the following:

- "As Built" documentation consisting of final drawings of practices and quantities installed and certification statement signed by a professional engineer stating installed practices meet the PA Technical Guide Standards and Specifications.
    - One electronic copy to Chesapeake Conservancy and NRCS.

**Bidding Process**

The Union County Conservation District (lead RCPP partner) will be required to utilize a bidding process for the implementation phase of the project. The Conservation District will be responsible for compiling a bid package following their procurement policy. The Engineer and NRCS will review the final bid package for accuracy and completeness. The Engineer shall be available to answer contractors' questions pertaining to the design and supply the District with addenda, if required. The Engineer shall be prepared to provide printed sets of 11"x17" or larger of the designs and drawings for the site showing.

# RFQ TERMS AND CONDITIONS

## CONSTRUCTION TIMELINE:

Designs shall be completed as soon as possible. Contractors shall include with their response when they can begin working on the design and their projected completion date of the design. Preference shall be given to contractors who can complete the designs in a timeframe which could allow construction to be completed before June 2026 as funding from the RCPP partner for implementation/construction needs to be spent within this timeframe.

*If the contracted services are not completed within the designated time period (as specified in the resulting contract from this RFQ), the contract can be extended if agreed to in writing by Chesapeake Conservancy and the contractor.*

## PA ONE CALL:

Contractor shall follow all laws and regulations relating to the Pennsylvania One-Call System including submitting all required design notifications to the Pennsylvania One-Call System.

## COMMUNICATION:

Communication between the Contractor, NRCS, the District and the landowner is crucial to a successful project. Contractor shall work closely with NRCS, the District and the landowner during the design and implementation phases of the project to ensure the project is completely timely.

## PAYMENT INFORMATION:

Chesapeake Conservancy will pay Contractor when the design is completed and approved by NRCS and as practices are certified and NRCS reporting requirements are met. Payment(s) will be issued on a Net 30 schedule upon submission of an approved invoice and a completed Application for Payment form.

## NRCS REPORTING REQUIREMENTS:

NRCS requires Contractor to complete Attachment B with each invoice. Attachment B includes a RCPP TA-I Certification by Practice Sheet and a RCPP TA-I Reimbursement Summary Sheet.

*RCPP TA-I Certification by Practice Sheet*

Contractor shall include on the Certification by Practice Sheet basic information about the conservation practice, who was involved, brief description of activities, completion date and the charge by Activity Type (Design or Installation). A separate Certification Practice Sheet is to be completed for each practice in the producer's RCPP contract that is associated with the engineering design.

*RCPP TA-I Reimbursement Summary Sheet*

For each invoice the Contractor submits to the Conservancy, Contractor shall complete the Reimbursement Summary Sheet by compiling the total reimbursement request for all completed Conservation Practice Sheets for the invoice period. The Reimbursement Summary Sheet shall include the invoice period start and end date, details from the Certification Practice Sheet as well as the total cost being invoiced by conservation practice. The staff position, hours worked and hourly rate associated with each conservation practice should be broken out at the bottom of the form.

## EQUAL EMPLOYMENT OPPORTUNITY:

Chesapeake Conservancy is an equal opportunity employer. The successful bidder shall comply with all federal, state, and local equal employment opportunity requirements. Additional information can be found at https://www.ecfr.gov and searching 41 CFR 60-1.4(b).

## SMALL BUSINESS AND SMALL DIVERSE BUSINESS:

Chesapeake Conservancy encourages the use of small and small diverse businesses when soliciting Requests for Quotes. Contractors are encouraged to register with the federal government at www.sam.gov and with the Pennsylvania Department of General Services at www.dgs.pa.gov (search Small Diverse Business Verification). Please note Pennsylvania Department of General Service registration is only valid for three years. Contractors are encouraged to verify that their registration is current.

Contractors and any subcontractors who register on Sam.gov and with the PA Dept of General Services and who qualify as a small and/or small diverse business should check the applicable boxes on the Contractor Response Form.

## DEBARMENT AND TAX LIABILITY:

Contractors will be required to certify that they and any subcontractors are not listed on the Debarment and Suspension List maintained by the Pennsylvania Department of General Services (https://www.dgs.internet.state.pa.us/debarmentsearch/debarment/index) and the General Services Administration's List of Parties Excluded from Federal Procurement or Nonprocurement Programs (www.SAM.gov) in accordance with Executive Orders 12549 and 12689, "Debarment and Suspension" and have no outstanding tax liabilities. Contractors will also be required to certify that they and any subcontractors are not in default of a loan or funding agreement administered by any Commonwealth agency.

## INSURANCE REQUIREMENTS:

Bidders shall include a copy of their current Certificate of Insurance (COI) that reflects their existing levels of liability insurance coverage. Chesapeake Conservancy will work with the successful bidder to ensure adequate levels of insurance are in place for the project prior to finalizing a contract.

Preferred levels of coverage include the following:

| ***Type of Insurance Coverage*** | ***Limit Required*** |
|---|---|
| Workers Compensation and Employer's Liability - | Statutory |
| Bodily Injury, Each Accident: | State Minimum |
| Bodily Injury By Disease, Each Employee: | State Minimum |
| Bodily Injury/Disease, Policy Limit: | State Minimum |
| General Liability - | |
| Each Occurrence (Bodily Injury and Property Damage): | $1,000,000 |
| General Aggregate: | $1,000,000 |
| Excess or Umbrella Liability - | |
| Per Occurrence: | $1,000,000 |
| General Aggregate: | $2,000,000 |
| Automobile Liability - | |
| Combined Single Limit (Bodily Injury and Property Damage): | $1,000,000 |
| Professional Liability – covering negligent acts, errors, and omissions in performance of professional services | |
| Each Claim Made | $5,000,000 |
| Annual Aggregate | $5,000,000 |

It is preferred that all policies (except workers compensation) include a waiver of subrogation and list "**Chesapeake Conservancy"** as additional insured.

Once Chesapeake Conservancy and the successful bidder have reached an agreement pertaining to insurance coverage, the successful bidder shall provide Chesapeake Conservancy with a current COI certified by a licensed insurance broker. The approved COI needs to be provided to Chesapeake Conservancy prior to signing a contract.

*Note: Bidders do not need to add the additional insured to their policy when responding to the RFQ. Only the successful bidder will be required to name the additional insured on their policy after the bid is awarded. The Certificate Holder should be as follows: Chesapeake Conservancy, 1212 West Street, Suite 42, Annapolis, MD 21401.*

## GRANTS:

The terms and conditions of the RCPP Supplemental Agreement for Technical Assistance and Financial Assistance for Easement Due Diligence Entered Into By USDA Natural Resources Conservation Service and Chesapeake Conservancy apply to the contracts that result from this RFP. Copies of the Agreement are available upon request.

## PREVAILING WAGE AND ENHANCED MINIMUM WAGE REQUIREMENTS:

Prevailing wage and enhanced minimum wage rates do not apply to this RFQ.

# SUBMISSION OF QUOTES AND SELECTION CRITERIA

## SUBMISSION OF QUOTES:

Quotes are requested for the items described in the Project Description. Any estimated quantities included in this RFQ are for information only. The successful bidder will be responsible for determining the final quantities and practices as part of the design process.

At a minimum each quote response must include:

- Contractor Quote Form
  - Price – Must follow NRCS Crosswalk format outlined below*
  - Proposed start date
  - Proposed completion date
  - List of exclusions and assumptions (if applicable)
  - Signed by authorized representative
- Contractor General Information Form and corresponding documents**
  - Three references
  - Debarment and tax liability certification
  - Current Certificate of Insurance
  - Signed by authorized representative

***Contractors bidding on more than one 2024 RCPP Engineering Services RFQ, will only need to submit one Contractor General Information Form and corresponding documents. Contractors should note on the Contractor Quote Form whether they are including the Contractor General Information Form with this response or if they submitted it with a separate 2024 RCPP Engineering Services response.***

All quotes must be submitted electronically, or hand-delivered to Chesapeake Conservancy by the RFQ due date specified on Page 1 of the RFQ.

***NRCS Crosswalk**

| A Generalized Crosswalk: Aligning SA TA-I Practices to NRCS 9 Step Planning Process | |
|---|---|
| **TA-I Practice Code and Name** | **Implementation TA Tasks – Must be directly related to a potentially viable RCPP funded FA application or contract, and not be otherwise precluded like are TA-E items (per APF), and partner administrative expenses (per Statute.)** |
| RTIP001 – TA-I, Negotiated Pre-Application | Pre-application assistance may assistance to producers in completion of application, establishing FSA records, and or field work to support eligibility or screening. **(Reminder: this activity does NOT include outreach to producers or general meetings to raise producer awareness of project, which are TA-E or contribution tasks.)** |
| RTIP002 – TA-I, Negotiated Planning | Steps 1-7 Note: TA-I Planning, Design tasks require adherence to NRCS planning procedures and or practice standards as described for each agreement in Attachment 5 (and or valuation methods attached to individual deliverables). Where partners will not complete entity of a plan or design (e.g. partner will provide a range heath assessment in support of a grazing plan to be prepared by NRCS planner), Attachment 5 must also identify specific requirements of items partner will complete to earn payment. |
| RTIP003 – TA-I, Negotiated Design | Steps 5, 6, 8 (Design) |
| RTIP004 – TA-I, Negotiated Installation | Step 8 (Installation) |
| RTIP005 – TA-I, Negotiated Checkout | Step 8 (Checkout) Note: TA-I Checkout, requires NRCS job approval authority as checkout determines eligibility of completed work for FA payment. Not generally delegated to partners. |
| RTIP006 – TA-I, Negotiated Post-Application | For post-application assistance Note: Post application assistance is not outcome assessment or monitoring (which are TA-E/Contribution tasks); RTIP006 should be used only where NRCS FA policy requires follow-up e.g. easement monitoring, 5% spot checks (with appropriate separate of duties) |

**CONTRACTOR SELECTION CRITERIA:**

Contractor will be evaluated on the following criteria:

- Quote price
- Proposed start date
- Proposed completion date
- References - Demonstrates experience by providing examples of at least three (3) similar projects in Pennsylvania. More than 3 references are allowed.
- Debarment and tax liability status
- Exclusions and assumptions (if applicable)
- Provided Certificate of Insurance with current levels of coverage

Quotes will be awarded to the most qualified economic bidder, as determined by Chesapeake Conservancy. Chesapeake Conservancy reserves the right to reject any or all quotes and/or cancel the quote for any reason.

# CONTRACTOR QUOTE FORM



**Contractor Name:** _____

**Project Name:** Bill Deitrick Engineering Services
**Project Location:** 217 Furnace Road, New Columbia, PA 17856, Union County

1. Price– Complete Contractor Quote Form Page 2 – ***Required***

   RCPP funding for Technical Assistance is provided through NRCS therefore we are using their categories for defining technical service categories. Include all Staff Position Titles that will be involved with the implementation of this project and Range Rate of staff for those positions, Estimated Number of Hours Per Activity and the Total Cost per Activity. The range of rates should account for the current staff rates and the expected pay increases for those positions over the next 3 years (term of the RCPP producer contract). Bidders may include overhead/admin expenses as a component of their claimed rate but that rate should be customary and reasonable and will be subject to review by NRCS and the Conservancy. Any cost associated with the 6 categories must be broken out. Activities 2-4 are the most typical for this type of project since we have producers with RCPP contracts in place already. Please include additional documentation if you are proposing costs associated with activity 5-6.

2. Date on which design can be started - ***Required***: _____

3. Estimated completion date of the design - ***Required***: _____

4. List any exclusions and assumptions associated with your proposal - _____

   _____

   _____

   _____

5. Please check whether you are submitting the Contractor General Information Form and related supporting documents with this response or if you submitted them under a separate 2024 RCPP Engineering Services RFQ – ***Required:***

   ☐ I have included the Contractor General Information Form with this RFQ response.

   ☐ I submitted the Contractor General Information Form with a separate 2024 RCPP Engineering Services RFQ response.

This quote is submitted in response to the RFQ for the project described above. The quote is based on my knowledge of the plans and specifications identified within. This quote will remain valid for 90 days after submission. If awarded the RFQ, I agree to sign a contract with the Chesapeake Conservancy.

Company Name:_____ Company Tax ID (EIN):_____

Company Address:_____

Representative's Name:_____ Telephone:_____

Email Address:_____

Signature:_____ Title:_____ Date:_____

# CONTRACTOR QUOTE FORM

## Page 2 of 2

**INSERT REQUIRED INFORMATION**

**(Staff Position Titles, Rate Range, Estimated Hours and Total Cost)**

| TA-I Activity Code | Activities | Tasks | Staff Position Title(s) | Rate Range $xx-$xx/hr | Estimated # of hours per activity | Total Cost (using avg rates) |
|---|---|---|---|---|---|---|
| RTIP-001 | TA Implementation Payment Pre-Application Activity | RCPP related Farm Visits (Follow up visits with NRCS or the farmer to develop application, review documents prior to contract, updating CNMPs or I&Es during ranking, screening, and contracting) | | | | |
| RTIP-002 | Updates to CNMPs as Needed. Amount not to exceed $2,500/farm | Conservation and Nutrient Management Plan development according to NRCS planning procedures | | | | |
| RTIP-003 | TA Implementation Payment Design on FA Applications or Contracts | Design/Engineering (5. Form Alternatives, 6. Evaluate Alternatives, 8. Design to Std, permit design/app, land rights, surveys, final designs) | | | | |
| RTIP-004 | TA Implementation Payment Installation (TA) on FA Applications or Contracts | Installation (8. Installation, inspections for structural practices) | | | | |
| | | | | | **Total Cost** | |

# CONTRACTOR GENERAL INFORMATION FORM



Chesapeake Conservancy released ten RFQs for RCPP Engineering Services. Each RFQ is for a different project within the Conservancy's central PA rapid stream delisting catchment areas.

Contractors may bid on one or more of the RFQs. Contractors bidding on multiple RFQs only need to complete and return the Contractor General Information Form and related supporting documents with one of their RFQ submissions.

**Contractor Name:** _____

**Project Name:** **2024 RCPP Engineering Services**

1. The following three references are provided with telephone numbers of projects completed of similar scope and size - ***Required***:

   Name:_____ Telephone:_____

   Name:_____ Telephone:_____

   Name:_____ Telephone:_____

2. Small Business or Small Diverse Business (See Terms and Conditions for details) - *Check all that Apply*
   I have registered with Sam.gov and my business (or any subcontractors listed above) qualifies as a ☐ Small Business and/or ☐ Small Diverse Business

   I have registered with the PA Dept of General Services and my business (or any subcontractors listed above) has been certified as a ☐ Small Business and/or ☐ Small Diverse Business.

3. Debarment and tax liability status (See Terms and Conditions for details) - ***Required***:
   ☐I certify that my business, and any subcontractors, are not debarred by the State of Pennsylvania or the federal government.
   ☐I certify that my business, and any subcontractors, have no tax liabilities and are not in default of a loan or funding agreement administered by the State of Pennsylvania.

6. Certificate of Insurance (See Terms and Conditions for details) - ***Required***:
   ☐I have included with my response a copy of my Certificate of Insurance with my current levels of coverage.

This quote is submitted in response to the RFQ for the project described above. The quote is based on my knowledge of the plans and specifications identified within. This quote will remain valid for 90 days after submission. If awarded the RFQ, I agree to sign a contract with the Chesapeake Conservancy.

Company Name:_____ Company Tax ID (EIN):_____

Company Address:_____

Representative's Name:_____ Telephone:_____

Email Address:_____

Signature:_____ Title:_____ Date:_____

**ATTACHMENTS:**

Attachment A – Deitrick NRCS Inventory and Evaluation (I&E)

Attachment B – NRCS Reporting Requirements (Certification by Practice Sheet and Reimbursement Summary Sheet)

United States Department of Agriculture

USDA

NRCS Natural Resources Conservation Service

**Subject:** Inventory & Evaluation
Bill Deitrick Farm, Union County

**Date:** 8/17/2023

**To:** Jill Weaver

On August 7th, of this year, Ian Abernethy (PACD), Ally Winey, Patty (Conservation District), you, and I visited with Bill Deitrick on his farm; located at 217 Furnace Road, New Columbia, 17856. We were there to discuss correcting environmental resource concerns associated with his beef cow operation. His herd consists mostly of Angus beef cattle. The cattle are currently being housed during the non-grazing months in an old bank barn. The barn has an addition built onto it that is partially used as confinement area as well. There is not enough of roofed housing for the entire herd. There is an existing gravel barnyard adjacent to the barn. The barnyard was part of a Conservation District / NRCS project many years ago. There is a concrete curb on the bottom side of the barnyard that is sloped in such a way to direct runoff water to a vegetated channel to then level spread to a filter area below. This method of filtering contaminated runoff water is not honored anymore. Bill was interested in increasing the roofed bed-down and feeding area at this bank barn location. I am calling this OPTION #1. He wanted to tie a mono-sloped roof into the old bank barn. The proposed roof would of course be stand-alone but the roofing material would tie into the existing bank barn. The issue that I see with doing this is that the existing barn and it's addition have roofs that slope from different directions; making it somewhat "non-typical" to blend the proposed roof into the new roof. It can be done but Bill would need to be ok with the idea of an added snow drift load applied to his existing barn addition roof. Neither NRCS or PACD will analyze an existing barn roof for this possible extra loading. The agencie(s) will not take responsibility for the existing barn or barn addition roof is there is a failure due to added snow drift loading either. We discussed this with Bill; he understood and would possibly need to strengthen the existing barn addition roof on his own, if this is the option he decides to move forward with. The new mono-slope roof truss would most likely project above the barn addition roof forming a new valley. This would be challenging but very do-able. The proposed roof would be designed for a drift loading as well, which would increase the cost of construction. The rear posts would be installed on sono-tubes in the ground and the front side roof support posts would be installed on a partially buried 4' wall to allow possible future fence line type feeding. For now, Bill wanted to feed with round bale feeders on the barnyard. The existing barnyard would be concreted, as well as under the existing barn addition roof. Bill felt that if all of this was done that he would have ample bed-down area; therefore I did not verify bed area at this location. He wanted to let all manure and bedding build up as a deep bed-pack and he thought that this would suffice for manure storage. There would not be any "scrape lane" or area cleaned on a continual basis. Only the area of the actual bale feeders will obviously not be usable area for bed-down and exercise. Another item to bring forward is that Bill is "intensively" managing his pastures; better than what I have seen before. He rotates the cattle from paddock to paddock often (every day sometimes) and is able to restore pasture health because of this good management. He is also able to keep animals on pasture later in the year than normal (end of December sometimes). This is fine as he confines animals when pastures are starting to be compromised; he understands the agencies intensions and when to

confine animals. He currently has a watering system in place in his pastures as well. He did not want a stabilized walkway from the existing facility to pasture. He currently has a vegetated walkway that is working fine for him. There is currently a stabilized access road to this facility; I am recommending adding to the access road around the proposed facility.

**KNOWN INFORMATION & DECISIONS MADE:** Another option (OPTION #2) that Bill was entertaining was constructing a new roofed Heavy Use Area and Stacking Structure facility away from the existing bank barn and only using the bank barn for a sorting/load-out station a few times a year. I have sized this proposed building with the following points in mind:

A. 30 head at 1000# average weight per Bill. This is the weight of the cattle during the "confinement" period.
B. This is not a cow/calf operation; cattle are bought in and raised at this farm.
C. Cows are sold when market is best; not necessarily on a scheduled same time every year.
D. Bill was ok with a "pecking order" when it comes to feeding; he said that when the round hay bales are placed into the feeders, all cattle will show interest but then they settle down and a pecking order is established.
E. Bill did not want to clean any part of the pad until the confinement period was over and cows were on grass. He had concerns of ammonia levels when moving manure in a building; he is correct on this as other producers have witnessed high ammonia levels upon disturbing bed packs.
F. There will not be a scrape lane; even around the round bale feeders.
G. Bill did not desire built-in bale feeders as this would be an obstacle to clean around.
H. Bill wanted a fence line type of curb (4' partially buried wall) so this type of feeding could be done in the future if he wanted to change how he feeds. An 8' overhang can be installed on the feedtable side for future protection of feed. He wants to have aprox. 2 round bale feeders on the pad for feeding right now.
I. The building length was sized to allow all 30 head to feed at one time; no pecking order at a future fence line feeder.
J. He did not want a stabilized animal trail / walkway from the building to paddocks.
K. He did not want a stabilized access road to the facility.
L. Bill is not interested in an unroofed heavy use area. Since either structure will be classified as a "deep bedpack" and cost shared as a "composted bed-pack" facility (313) even though the bed will not be aerated as a typical composted bed pack is, then a filter area does not need to be considered for least cost on this farm.

**SOILS**: The soils in the area are: WeB & WeC (Weikert Channery Silt Loam) and EdC (Edom). Weikert has a shallow depth to bedrock (10-20"), Depth to water table is more than 80". Hydrologic Soil Group D. Edom as a depth to bedrock between 40 and 100", depth to water table is more than 80", and is a hydrologic soil group B.

**MANAGEMENT:** The "Agreed-To Management" document should be reviewed with and signed by Bill. A PA One Call check should be made prior to starting design work on this site; note that there are several overhead utility lines present on this farm and setback distances shall be verified prior to drafting a contract. This site needs to be surveyed before starting design work. NRCS participation in the project would require animals to be confined to the building during the non-grazing months or when there is insufficient grass in the pastures to graze. Grass in the pastures shall never get lower than 4" in height.

**COSTS:** The Engineering cost estimate for OPTION #1 is $81,110. I have estimated the cost estimate to be $105, 440 if prevailing wage rates need to be included. EQIP incentive payment for OPTION #1 is [redacted]
The Engineering cost estimate for OPTION #2 is $120,268. I have estimated the cost to be $156,350 if prevailing wage rates need to be included. EQIP incentive payment for OPTION #2 is [redacted] My estimates are only a guess, and he should get "real" estimates from contractors before making a decision on this project and ultimately a contract with the federal government.

**STORMWATER MANAGEMENT:** Union County may or may not have adopted PA Storm Water Management Act 167. Act 167 may require infiltration of storm runoff from any new roofs that are constructed. Costs that are associated with meeting Act 167 requirements are not covered in this report. However, these costs should be considered and incorporated into the overall cost of the project. Cost for consulting/engineering, and installation of Act 167 storm water management practices may approach costs upwards of $20,000.00. Contacting your local township supervisors and/or county planning commission and Conservation District for further information regarding Act 167 is recommended. Neither NRCS or PACD will develop stormwater management plans or design such practices; the cost for a consulting engineer and implementation of such practices can be included in state funding grant applications.

**CULTURAL RESOURSES:** There should be a cultural resources check done prior to a contract, since we are proposing on altering the looks of the existing barn (OPTION #1). The existing barn will not be changed at all; only the steel roofing from the proposed facility will be tied into the existing barn face. The existing barn addition will also be left in tack however the roof will be changed slightly to form a new valley where the proposed higher trussed roof will tie into the existing roof line.

Please discuss the sizes and arrangements of the proposed practices with Bill; I did not send him a copy of this I&E report. Also, please send this report to the Conservation District if state funding is being sought after for this project. State funding would be "Growing Greener" or "ACAP" funding sources. NRCS or PACD can provide a design of the structure (free of charge) if EQIP is the funding source or if EQIP is supplemented with one of the state funding sources. However, we can not provide design or inspection services if the sole funding source is ACAP. In that case, the Conservation District, should factor the cost for a consulting firm to do the design and construction inspection into the grant application. If you have any questions as to what I have sketched and/or proposed, please don't hesitate to call me.

Bob Deecki
NRCS Area Engineer

# OPTION #1 – ESTIMATED QUANTITIES & COSTS

| PRACTICE CODE | ESTIMATED QUANTITY | EST. COST ($) |
|---|---|---|
| 313 (COMPOSITED BED PACK) | $818^{SF} + 1756^{SF} = 2574^{SF}$ | |
| | CONCRETE SLAB = $(2574^{SF} \times \frac{5}{12}) \div 27 = 40 yd^3$ | |
| | $40 yd^3 \times \$325/yd^3$ = | 13,000 |
| | BEDDING STONE: $(2574^{SF} \times \frac{4}{12}) \div 27 \times 1.7$ | |
| | = 535 TON × $30/TON = | 1605 |
| | 4' WALL: $(63' \times 4' \times .67) \div 27 = 6.5 yd^3 \times \$450$ | 2925 |
| | 4' WALL FOOTING: $(63' \times 4' \times .75) \div 27 = 7 yd^3 \times \$425$ | 2975 |
| | SONOTUBES: $\left(\frac{\pi (\frac{30}{12})^2}{4} \times 8'\right) \div 27 = 1.5 yd^3$ PER TUBE | |
| | $1.5 \times 6$ TUBES $= 9 yd^3 \times \$450$ | 4050 |
| | (2) 12' GATES × $300 | 600 |
| | (FENCE AROUND PAD) = | $1500 |
| | SONOTUBE FOOTING PADS: $\left(\frac{\pi (4)^2 \times 1'}{4}\right) \div 27 = .5 yd^3$ | |
| | $.5 \times 6$ PADS $= 3 yd^3 \times \$425$ | 1275 |
| | EXCAVATION; $(4.5' \times 44' \times 4') \div 27 = 30 yd^3 \times \$30$ | 900 |
| 367 (ROOF) | $1756^{SF} \times \$23^{SF}$ = | 40,400 |
| 558 (GUTTERS) | 44' × $10/LF (GUTTERS) | 440 |
| | 12' × $10/LF (DOWNS) | 120 |
| 606 (DRAIN) | 107' PER DRAIN × $10/LF | 1070 |
| 620 (OUTLETS) | 6" SCH 40 (ROOF RUNOFF OUTLET) = 225' × $12/LF | 2700 |
| | 4" SCH 40 (PER DRAIN OUTLET) = 225' × $8 | 1800 |
| 560 (ACC. RD) | GEO. FABRIC = $(2179^{SF} \times 1.1$ overlap$) \div 9 = 266 yd^2 \times \$5$ | 1330 |
| | BASE STONE (AASHTO #1) = $(2179 \times .67) \div 27 \times 1.5$ = 81 TON × $30 | 2430 |

ESTIMATE CONTINUED - OPTION #1

| PRACTICE CODE | ESTIMATED QUANTITIES | EST. COST | |
|---|---|---|---|
| 560 CONT. | SURFACE STONE (2A MOD) (2179 x .33) ÷ 27 X 1.8 = 48 TON X $30 = | 1440 | |
| 342 (SEEDING) | | 250 | |
| 484 (MULCH) | | 250 | |
| | | | 80560 |
| 468 (OUTLET APRON) | (4'x6'x1) ÷ 27 x 1.5 = 1.3 TON x $40 | 50 | |
| | TOTAL = | $81,110 | |

EQIP ELIGABLE QUANTITIES

30 HEAD @ 1000# = 30 AU's
X 65 SF/AU
1950 SF ELIGABLE FOR INCENTIVE PAYMENT (313)

(367) 1950 SF TOTAL (ALL SQUARE FOOTAGE AS COMPLEX FOUNDATION) PAYMENT

* DOES NOT INCLUDE COST OF SOLAR PANELS ON ROOF

Name: BILL DERRICK [redacted] County: Columbia

Completed By: OPTION #1 Date: 8/14/2023

| Code | Practice | Component Name | Quantity | Units | Payment per Unit | Incentive Payment | |
|---|---|---|---|---|---|---|---|
| 313 | Waste Storage Facility | | | | | [redacted] | Total |
| 313 | | Composted Bedded Pack, Concrete Floor, Concrete Wall | 1950 | SF | [redacted] | [redacted] | |
| 342 | Critical Area Planting | | | | | [redacted] | Total |
| 342 | | Native or Introduced Vegetation - Moderate Grading (Organic and Non-Organic) | 0.1 | AC | [redacted] | [redacted] | |
| 367 | Roofs and Covers | | | | | [redacted] | Total |
| 367 | | Timber Frame Roof, Complex found, Heavy Snow/High wind | 1950 | SF | [redacted] | [redacted] | |
| 468 | Lined Waterway or Outlet | | | | | [redacted] | Total |
| 468 | | Rock Lined - 12 inch | 24 | SF | [redacted] | [redacted] | |
| 484 | Mulching | | | | | [redacted] | Total |
| 484 | | Natural Material - Full Coverage | 0.1 | AC | [redacted] | [redacted] | |
| 558 | Roof Runoff Structure | | | | | [redacted] | Total |
| 558 | | Roof Gutter | 44 | LF | [redacted] | [redacted] | |
| 560 | Access Road | | | | | [redacted] | Total |
| 560 | | Constructed road with Heavy Stone Base and Geotextile | 120 | LF | [redacted] | [redacted] | |
| 606 | Subsurface Drain | | | | | [redacted] | Total |
| 606 | | Enveloped Corrugated Plastic Pipe, Single Wall, Less than or equal to 6 inches | 107 | LF | [redacted] | [redacted] | |
| 620 | Underground Outlet | | | | | [redacted] | Total |
| 620 | | UO 6 inch or less | 450 | LF | [redacted] | [redacted] | |
| **Totals** | | | | **Estimated Payment** | | [redacted] | |

Disclaimer: The above tool uses strictly estimates. Encouraging landowners to work closely with contractors for more accurate costs is recommended. When prevailing wage is required, consider increasing cost estimates by at least 40%.

## OPTION #2 – NEW STRUCTURE ON TOP OF HILL

BED-DOWN AREA SIZING:

30 HEAD BEEF @ 1000# → Recommended Bed = $\frac{70\ SF}{HEAD}$

30 HEAD × $\frac{70\ SF}{HEAD}$ = 2100 SF BED (A)

ROUND BALE FEEDERS: $\frac{\pi(8)^2}{4}$ = 50.3 SF EACH × 2 = 100 SF (B)

WATERERS: 2 min @ 8 SF EACH = 16 SF (C)

TOTAL Recommended AREA = 2216 SF

FUTURE FEEDING MAY BE VIA FEED TABLE INSTEAD OF ROUND BALE FEEDERS

PSU GUIDANCE SUGGESTS 22" SHOULDER WIDTH PER HEAD @ 1000#

POST @ 8' (96") SPACING / 22 PER COW = 4.36 COWS PER POST SPACING

USE 4 HEAD PER 8'

$\frac{30\ HEAD}{4\ PER\ 8'\ POST}$ = 7.5 (8' POST SPACINGS)

USE (8)

8 × 8' = 64' TABLE LENGTH

BILL DOES NOT WANT A SCRAPE LANE; HE IS WILLING TO BED ENTIRE FOOTPRINT.

BUILDING WIDTH = 2216 SF ÷ 64' LONG = 34.6' WIDE

USE 36' TOTAL OUTSIDE - OUTSIDE WIDTH

* Recommend 40' WIDE outside-outside Concrete × 64' LONG

BILL WANTS TO MANAGE ENTIRE PAD AS A "DEEP BEDPACK"

30 AU's x 1.2 CUFT/AU/DAY x 183 days (6 months) = 6588 CUFT

FROM "STACKABILITY" SPREADSHEET – NEED 6588 CUFT OF HAY BEDDING FOR A 50% SOLIDS CONTENT.

HAY BEDDING: REDUCTION FACTOR = .5

Volume to store = MANURE + BEDDING
6588 CUFT + .5(6588) = 9882 CUFT

$$\frac{9882 \text{ CUFT}}{(38.67 \times 63.33) - (116\ ^{SF} \text{FEEDERS} + H_2O)} = 2333\ ^{SF}$$

4.25' DEPTH in 6 months.

* CALLED AND DISCUSSED W/ BILL ON 8-14-23; HE IS OK WITH THIS PACK HT BUT FEELS THAT THIS WILL BE AN ISSUE AT FEED CURB. HE SAID JAN – APRIL (4 month) IS A MORE REALISTIC STORAGE PERIOD.

30 AU's x 1.2 x 122 days (4 months) = 4392 CUFT

Volume to store = 4392 + .5(4392) = 6588 CUFT

$$\frac{6588 \text{ CUFT}}{2333\ ^{SF}} = 2.82' \text{ deep}$$
$$+ .75/2 \text{ Initial Bedding}$$
$$3.2'$$

FEED CURB is 15" HIGH – recommended.
∴ BED WILL TAPER TO CURB & WILL BE ≈ 4' deep TOWARDS REAR OF STRUCTURE.

VIA CADD: 3.4' PACK DEPTH & TAPERING DOWN TO 15" @ FEED CURB.

TRY A LONGER BUILDING TO LESSEN PACK DEPTH.

TRY 38.67' X 71.33' INSIDE. = 2758 SF
(40 X 72)

$2758^{SF} \times (.75/2)$ INITIAL BEDDING DEPTH $= 1034$ CUFT

1034 CUFT + 6508 CUFT REQUIRED = 7622.3 CUFT VOLUME REQ.

$\frac{7622.3}{2758} = 2.8'$ DEPTH

VIA CADD: 3' PACK DEPTH ALONG FOOTPRINT EXCEPT WHERE IT TAPERS DOWN TO FEED CURB.

# IS THE PRODUCT STACKABLE?

STACKABLE = GREATER THAN OR EQUAL TO 30% SOLIDS CONTENT
NOT STACKABLE = LESS THAN 30% SOLIDS CONTENT

| MOISTURE CONTENT OF MANURE % | | SOLIDS CONTENT % |
|---|---|---|
| Dairy = | 88 | 12 |
| Veal = | 96 | 4 |
| Beef = | 86 | 14 |

| MOISTURE CONTENT OF BEDDING % | | SOLIDS CONTENT % |
|---|---|---|
| Corn Tops (Shredded) = | 16 | 84 |
| Ground Limestone = | | |
| Hay (Chopped) = | 14 | 86 |
| Hay (Loose) = | 14 | 86 |
| Hay (Bailed) = | 14 | 86 |
| Sand = | | |
| Sawdust = | 39 | 61 |
| Newspaper = | 8 | 92 |
| Straw (Chopped) = | 10 | 90 |
| Straw (Loose) = | 10 | 90 |
| Straw (Bailed) = | 10 | 90 |

MANURE VOLUME (Cu.Ft.)
6588

* BEDDING VOLUME (Cu.Ft.)
6588

option # 2
6 months volume

ANIMAL TYPE
Beef

BEDDING TYPE
hay

MANURE SOLIDS CONTENT (%)
14

BEDDING SOLIDS CONTENT (%)
86

* NO REDUCTION FACTOR SHALL BE APPLIED TO BEDDING VOLUME,
THIS IS THE TOTAL VOLUME OF BEDDING BEING USED .

$$\text{SOLIDS CONTENT} = \frac{\text{(Volume of Manure Solids) + (Volume of Bedding Solids)}}{\text{Total Volume of Manure + Bedding}} \times 100$$

= 50.00%
= STACKABLE

# IS THE PRODUCT STACKABLE?

STACKABLE = GREATER THAN OR EQUAL TO 30% SOLIDS CONTENT
NOT STACKABLE = LESS THAN 30% SOLIDS CONTENT

| MOISTURE CONTENT OF MANURE % | | SOLIDS CONTENT % |
|---|---|---|
| Dairy = | 88 | 12 |
| Veal = | 96 | 4 |
| Beef = | 86 | 14 |

| MOISTURE CONTENT OF BEDDING % | | SOLIDS CONTENT % |
|---|---|---|
| Corn Tops (Shredded) = | 16 | 84 |
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| Sand = | | |
| Sawdust = | 39 | 61 |
| Newspaper = | 8 | 92 |
| Straw (Chopped) = | 10 | 90 |
| Straw (Loose) = | 10 | 90 |
| Straw (Bailed) = | 10 | 90 |

MANURE VOLUME (Cu.Ft.)
4392

* BEDDING VOLUME (Cu.Ft.)
4392

Option #2
4 months volume

ANIMAL TYPE
Beef

BEDDING TYPE
hay

MANURE SOLIDS CONTENT (%)
14

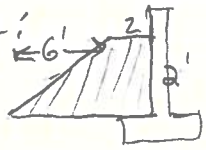
BEDDING SOLIDS CONTENT (%)
86

* NO REDUCTION FACTOR SHALL BE APPLIED TO BEDDING VOLUME,
THIS IS THE TOTAL VOLUME OF BEDDING BEING USED .

$$\text{SOLIDS CONTENT} = \frac{\text{(Volume of Manure Solids) + (Volume of Bedding Solids)}}{\text{Total Volume of Manure + Bedding}} \times 100$$

= 50.00%
= STACKABLE

# OPTION #2 - ESTIMATED QUANTITIES & COSTS

| PRACTICE CODE | ESTIMATED QUANTITIES | EST. # COST |
|---|---|---|
| 313 (COMPOSTED BED PACK) | EXCAVATION: $(85' \times 55' \times 1.5'_{AVG}) \div 27 = 260\ yd^3 \times \$30 =$ | 7800 |
| | FILL/BACKFILL:   Vol ① $= (2 \times 2 \times 126) \div 27 = 19\ yd^3$ Vol ② $= (\frac{1}{2}(6 \times 2) \times 126) \div 27 = 28\ yd^3$ USE $260\ yd^3 \times \$30$ = | 7800 |
| | BEDDING STONE: $(77 \times 44 \times .33') \div 27 \times 1.7 = 71\ ton \times \$30$ = | 2130 |
| | 15" CURB: $(1.25' \times 74.5' \times .67) \div 27 = 2.5\ yd^3$ $2.5 \times \$425$ = | 1063 |
| | 15" CURB FOOTING: $(4' \times .75' \times 74.5') \div 27 = 8.5\ yd^3 \times \$400$ = | 3400 |
| | 5' WALL: $(5' \times .67' \times 126') \div 27 = 16\ yd^3$ $16 \times \$450$ | 7200 |
| | 5' WALL FOOTING: $(5' \times .75 \times 126) \div 27 = 17.5\ yd^3$ $17.5 \times \$425$ = | 7440 |
| | FLATWORK: 71.33' INSIDE x 38.67' INSIDE $= 2758.3\ SF$ - 5' WALL FOOTING - CURB FOOTING $= 2758.3 - (2.17 \times 126) - (74.5 \times 1.58)$ $= 2758.3 - 273.4 - 117.7$ $= 2367.2\ SF$ $(2367.2 \times .42) \div 27 = 37\ yd^3$ $37 \times \$325$ = | 12025 |
| 367 (ROOF) | $72.67' \times 40' = 2906.8\ SF \times \$18/SF$ = | 52325 |
| | HEADLOCKS OR SLANT BARS: 9 sections x $\$650$ = | 5850 |
| | INTERIOR FENCE/GATES = | 1000 |

OPTION #2 - CONTINUED

| PRACTICE CODE | ESTIMATED QUANTITIES | $ EST. COST |
|---|---|---|
| 558 (GUTTERS) | GUTTERS: 146' x $10 = | 1460 |
| | DOWNSPOUTS: 4 x 12' = 48' x $10 | 480 |
| 606 (DRAIN) | 252' x $10 | 2520 |
| 620 (OUTLETS) | 4" SCH 40 (PER. DRAIN) = 70' x $8 | 560 |
| | 6" SCH 40 (ROOF RUNOFF OUTLETS) = 140' x $12 = | 1680 |
| | 4" SCH 40 (ROOF RUNOFF OUTLETS) = 100' x $8 = | 800 |
| 382 (SAFETY FENCE) | 28' OF WOVEN WIRE x $5 (SAFETY) | 140 |
| | 101' OF WOVEN ON INSIDE (KEEP COWS AWAY FROM SIDE WALLS) x $5 | 505 |
| 342 (SEEDING) | ½ ACRE x $1200 | 600 |
| 484 (MULCH) | ½ ACRE x $ 600 | 300 |
| 468 (OUTLET APRON) | 4'x6' APRON | 50 |
| 516 ($H_2O$ LINE) | 85' OF 1¼ PE x $ 4 | 340 |
| 614 (WATER TROUGH) | 2 x $ 1400 EACH | 2800 |
| | TOTAL = | $120268 |

* DOES NOT ACCOUNT FOR COST OF SOLAR PANELS ON ROOF

## OPTION #2 – EQIP ELIGABLE QUANTITIES

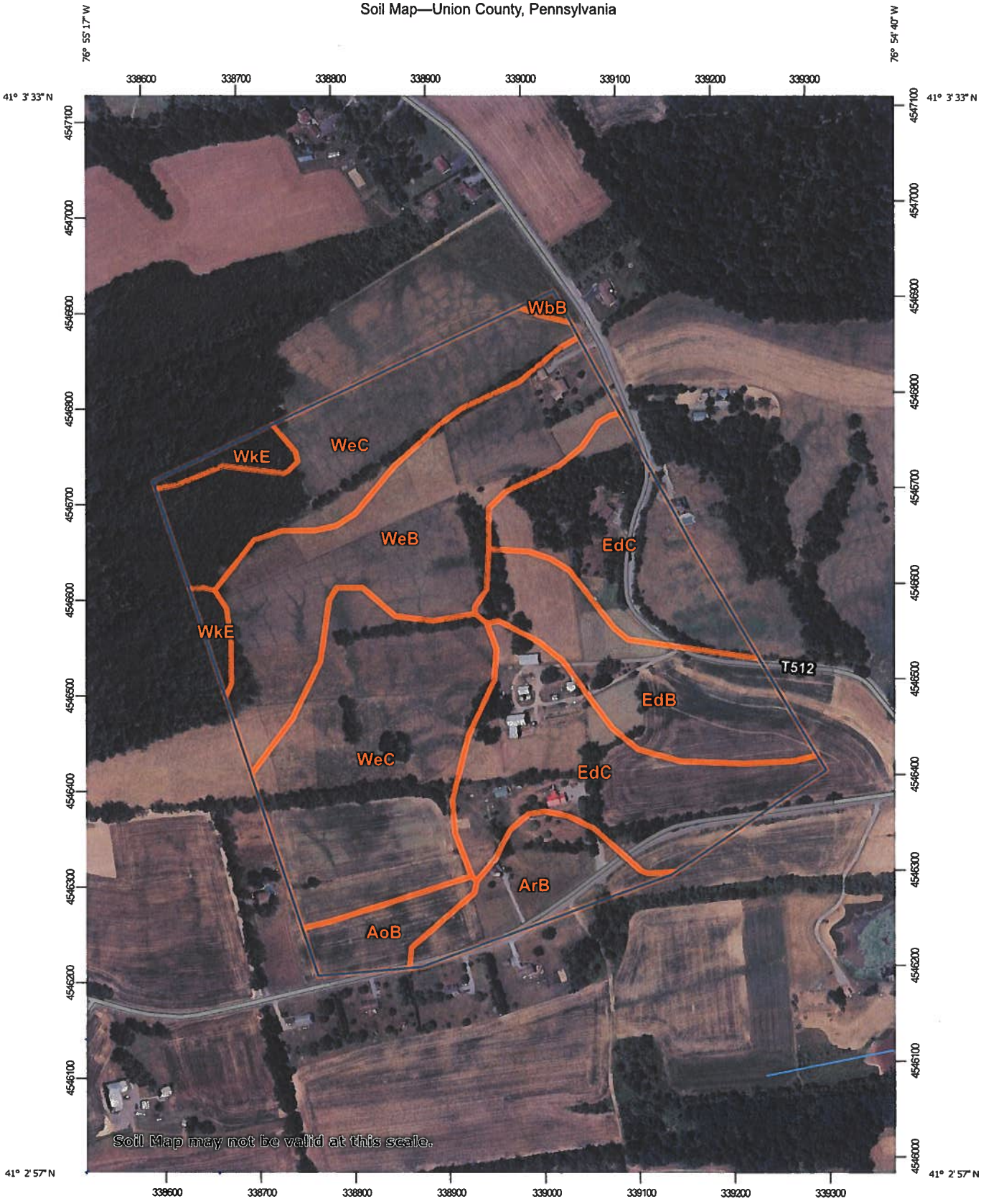
313: 30 HEAD @ 1000# = 30 AWS
X 65 SF/AW
1950 SF ELIGABLE FOR INCENTIVE PAYMENT (313)

367: 1950 SF TIMBER FRAME ROOF

Name: BILL DEITRICK [redacted]  County: Columbia

Completed By: OPTION #2  Date: 8/14/2023

| Code | Practice | Component Name | Quantity | Units | Payment per Unit | Incentive Payment | |
|---|---|---|---|---|---|---|---|
| 313 | Waste Storage Facility | | | | | [redacted] | Total |
| 313 | | Composted Bedded Pack, Concrete Floor, Concrete Wall | 1950 | SF | [redacted] | [redacted] | |
| 342 | Critical Area Planting | | | | | [redacted] | Total |
| 342 | | Native or Introduced Vegetation - Moderate Grading (Organic and Non-Organic) | 0.5 | AC | [redacted] | [redacted] | |
| 367 | Roofs and Covers | | | | | [redacted] | Total |
| 367 | | Timber Frame Roof | 1950 | SF | [redacted] | [redacted] | |
| 382 | Fence | | | | | [redacted] | Total |
| 382 | | Woven Wire | 28 | LF | [redacted] | [redacted] | |
| 468 | Lined Waterway or Outlet | | | | | [redacted] | Total |
| 468 | | Rock Lined - 12 inch | 24 | SF | [redacted] | [redacted] | |
| 484 | Mulching | | | | | [redacted] | Total |
| 484 | | Natural Material - Full Coverage | 0.5 | AC | [redacted] | [redacted] | |
| 558 | Roof Runoff Structure | | | | | [redacted] | Total |
| 558 | | Roof Gutter | 146 | LF | [redacted] | [redacted] | |
| 606 | Subsurface Drain | | | | | [redacted] | Total |
| 606 | | Enveloped Corrugated Plastic Pipe, Single Wall, Less than or equal to 6 inches | 252 | LF | [redacted] | [redacted] | |
| 620 | Underground Outlet | | | | | [redacted] | Total |
| 620 | | UO 6 inch or less | 310 | LF | [redacted] | [redacted] | |
| Totals | | | | | Estimated Payment | [redacted] | |




Map Scale: 1:5,490 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Union County, Pennsylvania
Survey Area Data: Version 16, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 5, 2020—Sep 21, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| AoB | Allenwood and Washington soils, 3 to 8 percent slopes | 2.3 | 3.0% |
| ArB | Alvira silt loam, 3 to 8 percent slopes | 4.4 | 5.8% |
| EdB | Edom complex, 3 to 8 percent slopes | 8.4 | 11.0% |
| EdC | Edom complex, 8 to 15 percent slopes | 19.4 | 25.6% |
| WbB | Watson silt loam, 3 to 8 percent slopes | 0.2 | 0.3% |
| WeB | Weikert channery silt loam, 3 to 8 percent slopes | 14.8 | 19.6% |
| WeC | Weikert channery silt loam, 8 to 15 percent slopes | 24.7 | 32.6% |
| WkE | Weikert and Klinesville shaly silt loams, steep | 1.5 | 2.0% |
| **Totals for Area of Interest** | | **75.8** | **100.0%** |

# Union County, Pennsylvania

## WeB—Weikert channery silt loam, 3 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* 2v4vr
*Elevation:* 360 to 1,700 feet
*Mean annual precipitation:* 37 to 50 inches
*Mean annual air temperature:* 47 to 56 degrees F
*Frost-free period:* 148 to 192 days
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Weikert and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Weikert

#### Setting

*Landform:* Ridges
*Landform position (two-dimensional):* Backslope, shoulder
*Landform position (three-dimensional):* Nose slope
*Down-slope shape:* Convex
*Across-slope shape:* Convex
*Parent material:* Gray and brown acid residuum weathered from shale and siltstone and/or fine grained sandstone

#### Typical profile

*Ap - 0 to 7 inches:* channery silt loam
*Bw - 7 to 14 inches:* very channery silt loam
*C - 14 to 18 inches:* extremely channery silt loam
*R - 18 to 28 inches:* bedrock

#### Properties and qualities

*Slope:* 3 to 8 percent
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock
*Drainage class:* Somewhat excessively drained
*Runoff class:* Low
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high (0.06 to 6.00 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Very low (about 1.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 3e
*Hydrologic Soil Group:* D

*Ecological site:* F147XY008PA - Shallow Mixed Sedimentary Upland
*Other vegetative classification:* Droughty Shales (SD2)
*Hydric soil rating:* No

**Minor Components**

**Berks**
*Percent of map unit:* 9 percent
*Landform:* Ridges
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Side slope
*Down-slope shape:* Convex
*Across-slope shape:* Convex, linear
*Hydric soil rating:* No

**Bedington**
*Percent of map unit:* 5 percent
*Landform:* Hills, hillslopes
*Landform position (two-dimensional):* Summit
*Landform position (three-dimensional):* Interfluve
*Down-slope shape:* Linear, convex
*Across-slope shape:* Convex, linear
*Hydric soil rating:* No

**Brinkerton**
*Percent of map unit:* 1 percent
*Landform:* Hillslopes
*Landform position (two-dimensional):* Footslope
*Landform position (three-dimensional):* Base slope
*Down-slope shape:* Linear, concave
*Across-slope shape:* Concave
*Hydric soil rating:* Yes

# Data Source Information

Soil Survey Area: Union County, Pennsylvania
Survey Area Data: Version 16, Sep 6, 2022

# Union County, Pennsylvania

## EdC—Edom complex, 8 to 15 percent slopes

### Map Unit Setting

*National map unit symbol:* l4vf
*Elevation:* 460 to 1,500 feet
*Mean annual precipitation:* 30 to 46 inches
*Mean annual air temperature:* 45 to 57 degrees F
*Frost-free period:* 140 to 210 days
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Edom, moderately deep, and similar soils:* 45 percent
*Edom, deep and very deep, and similar soils:* 35 percent
*Minor components:* 20 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Edom, Moderately Deep

#### Setting

*Landform:* Hillslopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Side slope
*Down-slope shape:* Convex
*Across-slope shape:* Convex
*Parent material:* Residuum weathered from limestone and shale

#### Typical profile

*H1 - 0 to 9 inches:* channery silt loam
*H2 - 9 to 39 inches:* channery silty clay loam
*H3 - 39 to 60 inches:* very channery silty clay loam
*R - 60 to 64 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 8 to 15 percent
*Depth to restrictive feature:* 40 to 100 inches to lithic bedrock
*Drainage class:* Well drained
*Runoff class:* Medium
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 2.00 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Low (about 5.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 3e
*Hydrologic Soil Group:* B
*Ecological site:* F147XY003PA - Mixed Limestone Upland

*Hydric soil rating:* No

### Description of Edom, Deep And Very Deep

#### Setting

*Landform:* Hillslopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Side slope
*Down-slope shape:* Convex
*Across-slope shape:* Convex
*Parent material:* Residuum weathered from limestone and shale

#### Typical profile

*H1 - 0 to 9 inches:* channery silt loam
*H2 - 9 to 33 inches:* channery silty clay loam
*H3 - 33 to 35 inches:* very channery silty clay loam
*R - 35 to 39 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 8 to 15 percent
*Depth to restrictive feature:* 30 to 40 inches to lithic bedrock
*Drainage class:* Well drained
*Runoff class:* Medium
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 2.00 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Low (about 4.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 3e
*Hydrologic Soil Group:* C
*Ecological site:* F147XY003PA - Mixed Limestone Upland
*Hydric soil rating:* No

### Minor Components

#### Hagerstown

*Percent of map unit:* 10 percent
*Hydric soil rating:* No

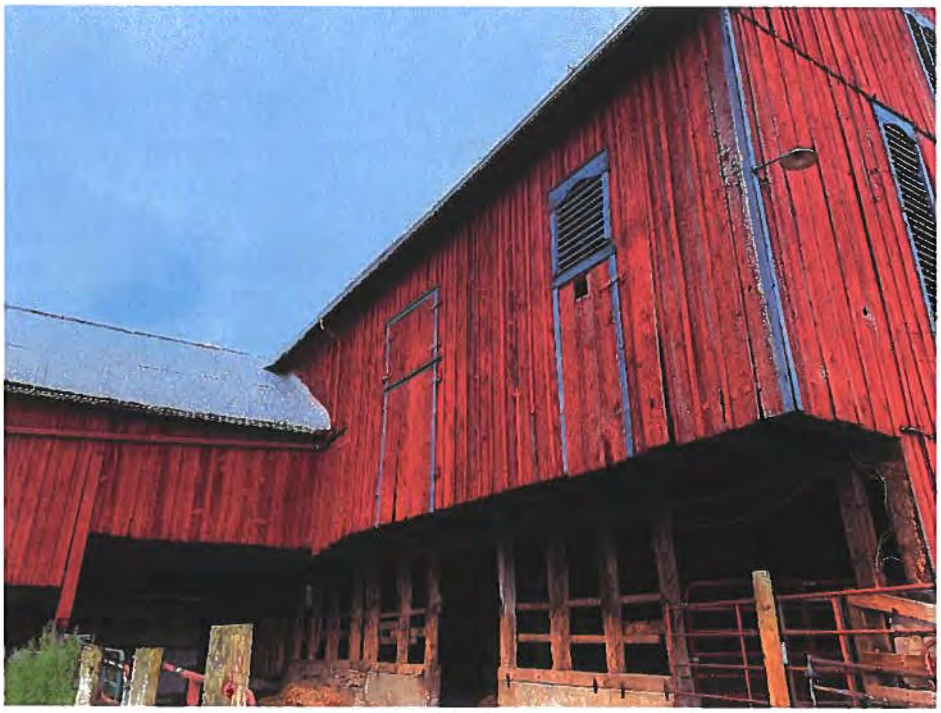
#### Washington

*Percent of map unit:* 10 percent
*Landform:* Valleys
*Landform position (two-dimensional):* Shoulder, backslope
*Landform position (three-dimensional):* Side slope

*Hydric soil rating:* No

## Data Source Information

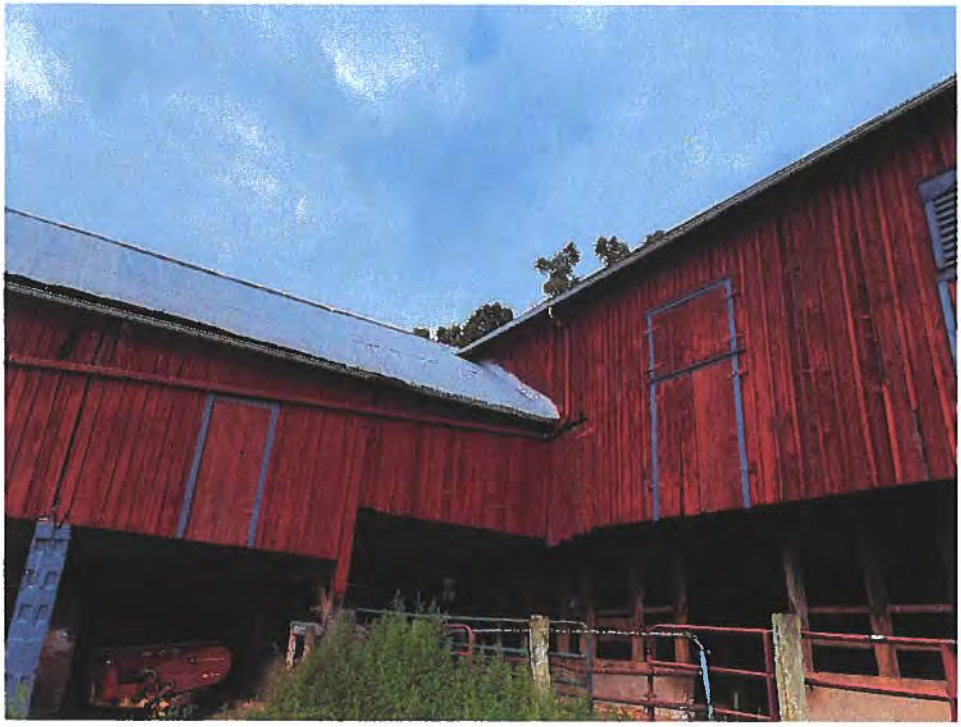
Soil Survey Area: Union County, Pennsylvania
Survey Area Data: Version 16, Sep 6, 2022



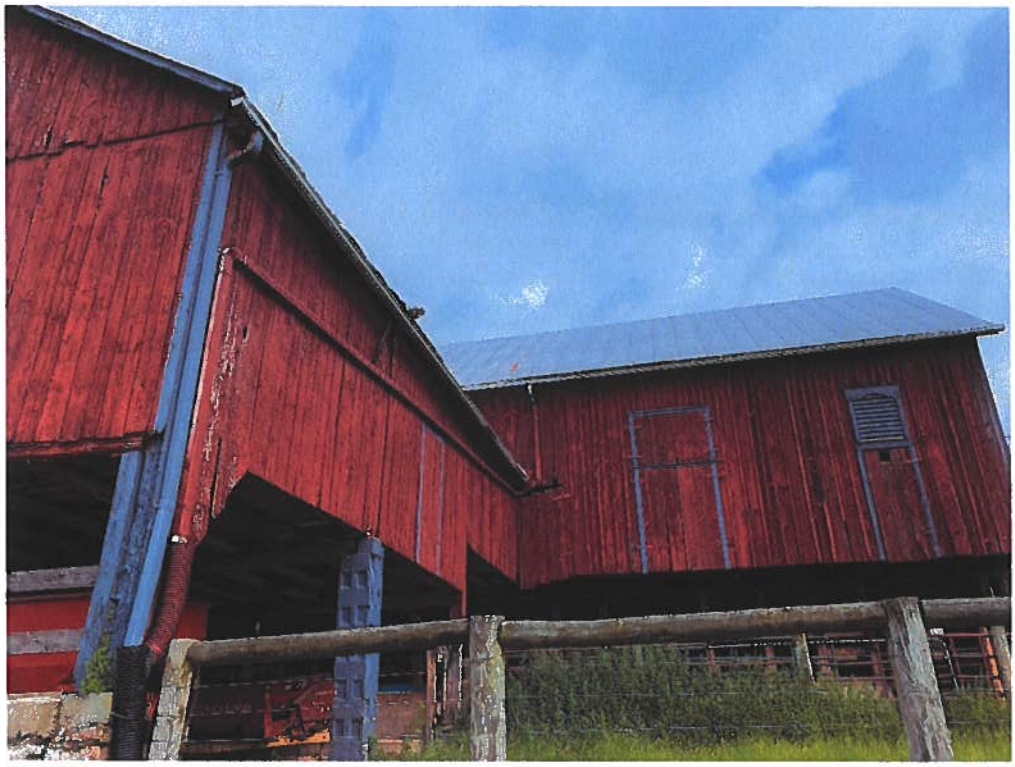
Existing Barn and Housing

INSIDE OF EXISTING BARN

EXISTING BARN; NO CONCRETE FLOOR IN THIS SECTION



ROOF LINES OF EXISTING BARN



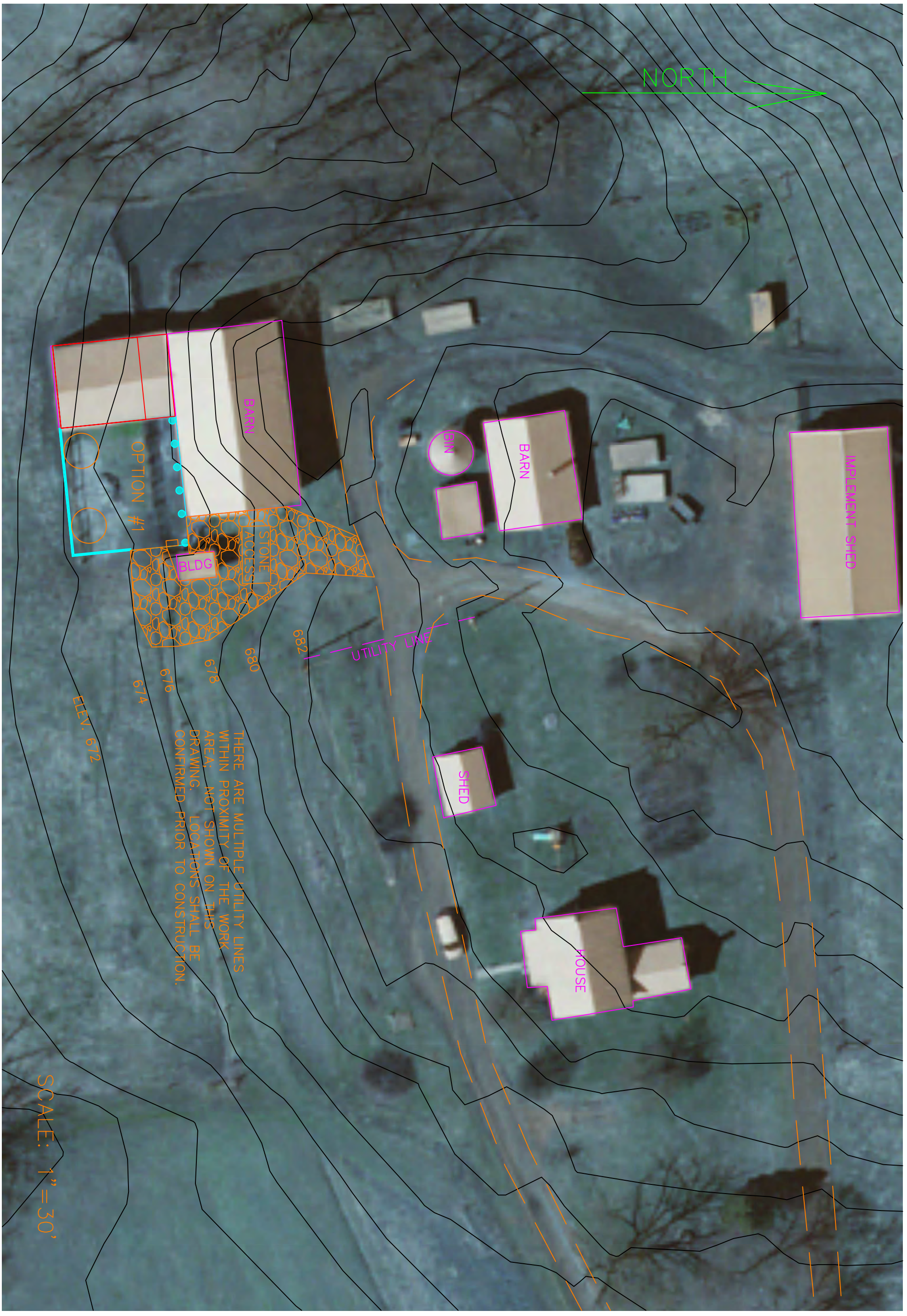
EXISTING BARNYARD

UTILITY LINES

WELL & PRESSURE TANK HOUSING

WATERING TROUGH. BARRELS WITH FLY ATTRACTANT/TAPE

POSSIBLE LOCATION OF FACILITY (OPTION #2)




SHEET 1 OF

DRAWING NO.

FILE NO.

USDA United States Department of Agriculture

Natural Resources Conservation Service

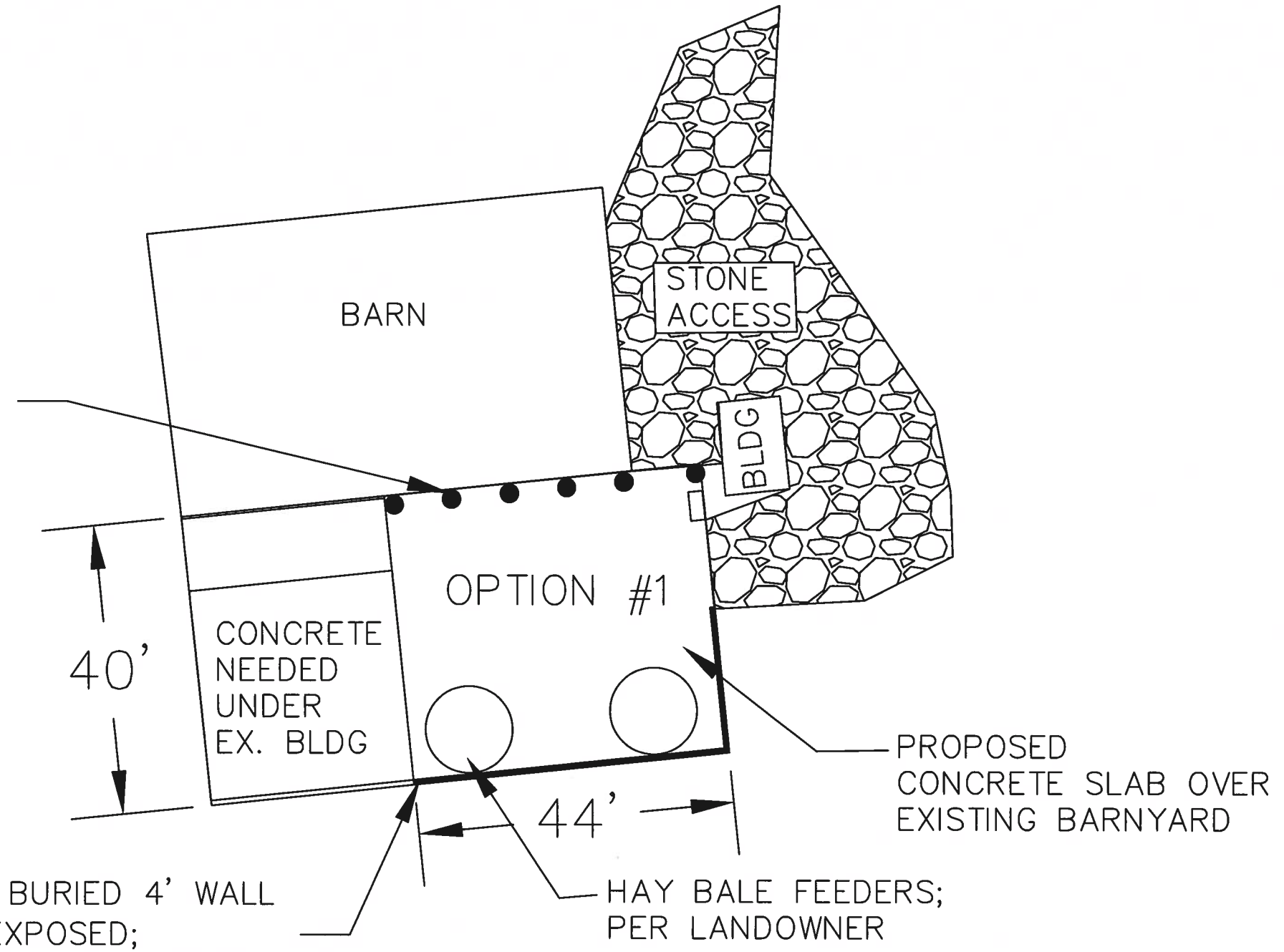
# PLANVIEW OPTION #1

## BILL DEITRICK

UNION COUNTY, PENNSYLVANIA

| | DATE |
|---|---|
| DESIGNED | |
| DRAWN | |
| CHECKED | |
| APPROVED | |

SONO–TUBES TO SUPPORT ROOF SUPPORT POSTS. SPACING TO BE ADJUSTED DURING DESIGN TIME

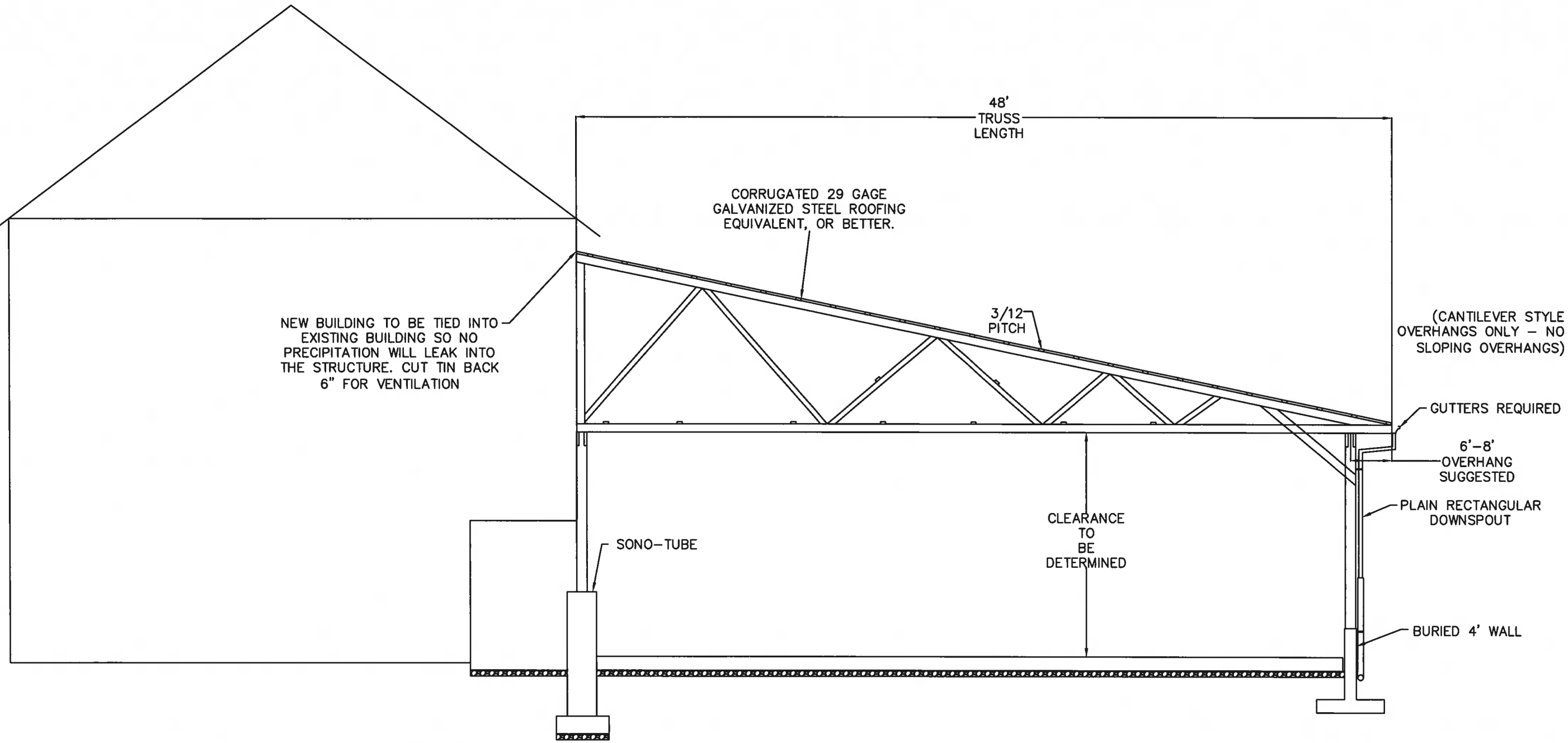



DATE
DESIGNED
DRAWN
CHECKED
APPROVED

OPTION #1 DETAILS
BILL DEITRICK
UNION COUNTY, PENNSYLVANIA

United States Department of Agriculture
Natural Resources Conservation Service

FILE NO.
DRAWING NO.
SHEET 1 OF




DATE

DESIGNED

DRAWN

CHECKED

APPROVED

OPTION #1 (ROOF DETAILS)

BILL DEITRICK

UNION COUNTY, PENNSYLVANIA

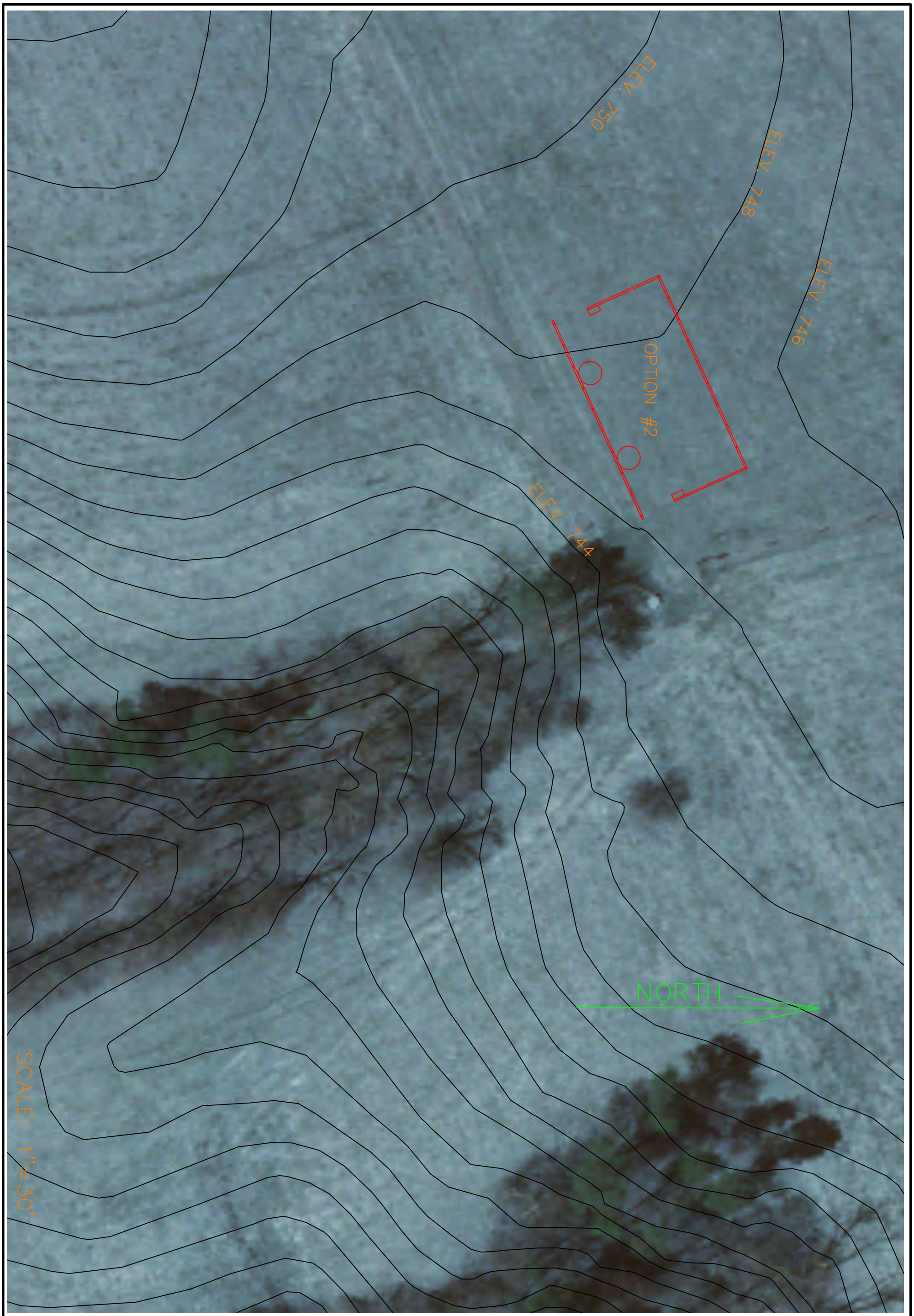
United States Department of Agriculture

Natural Resources Conservation Service

FILE NO.

DRAWING NO.

SHEET 1 OF




SHEET 1 OF

DRAWING NO.

FILE NO.

USDA United States Department of Agriculture

Natural Resources Conservation Service

# PLANVIEW OPTION 2
## BILL DEITRICK
UNION COUNTY, PENNSYLVANIA

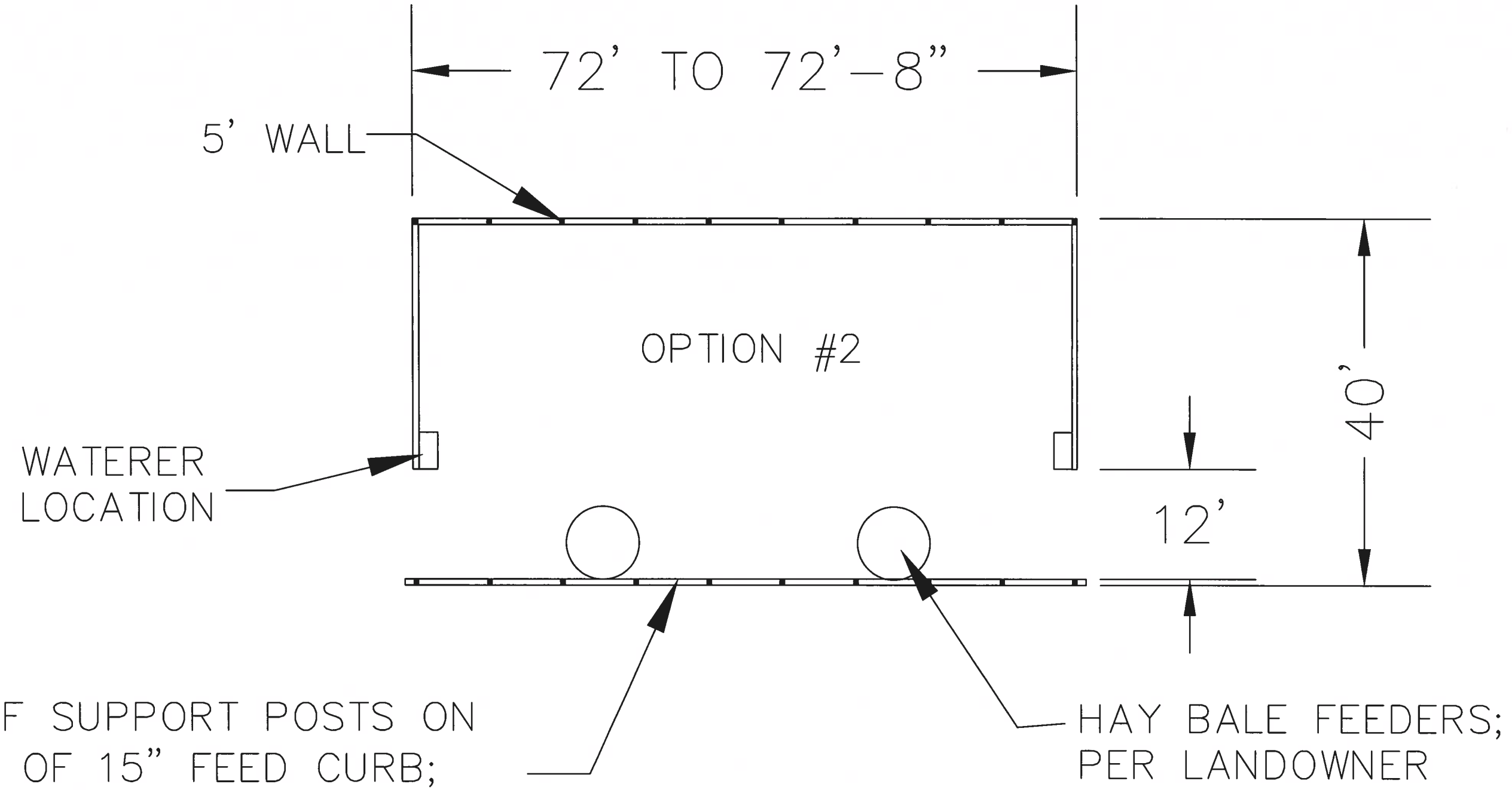
DATE

DESIGNED

DRAWN

CHECKED

APPROVED




DATE

DESIGNED

DRAWN

CHECKED

APPROVED

OPTION #2 DETAILS
BILL DEITRICK
UNION COUNTY, PENNSYLVANIA

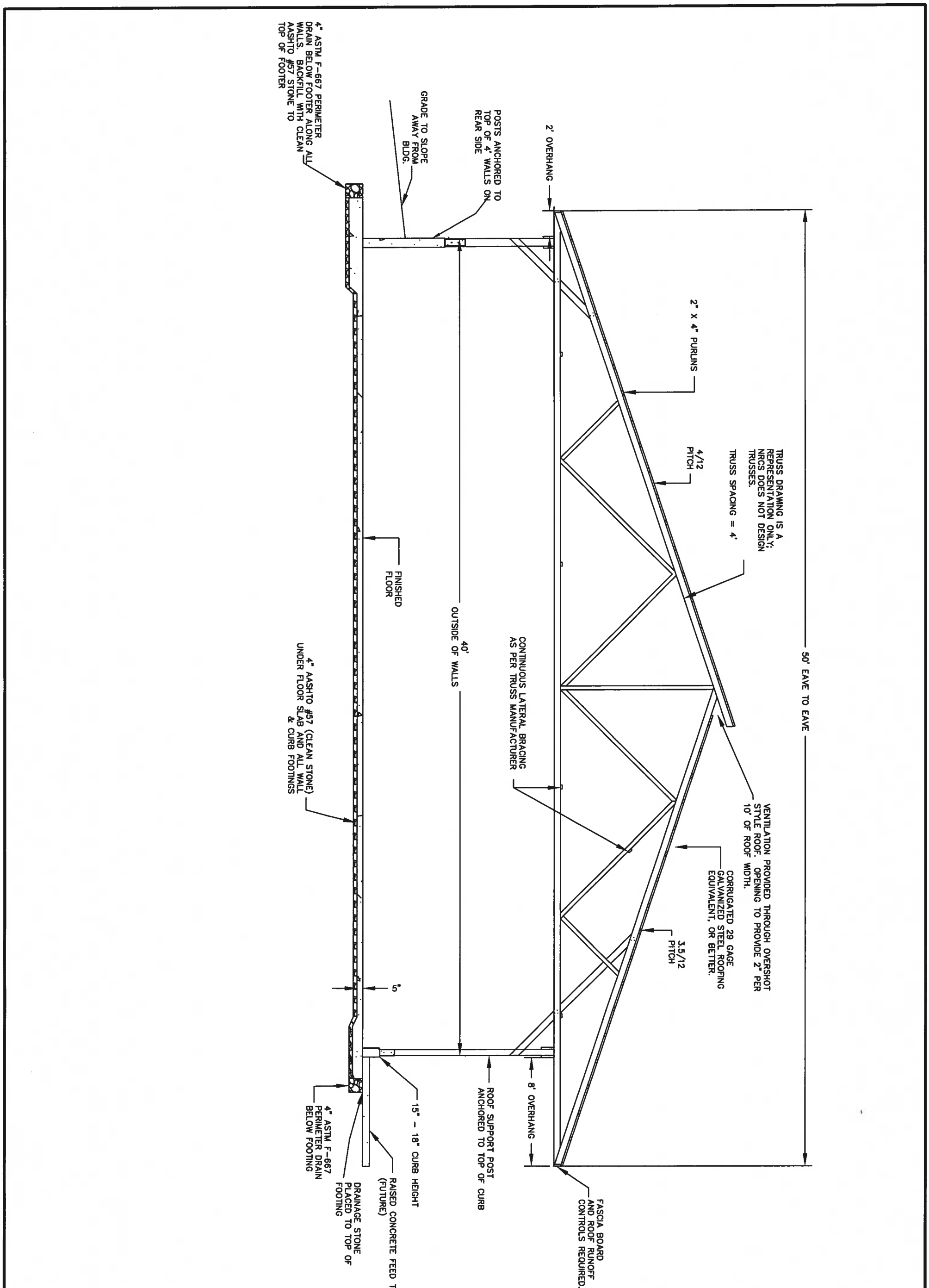
United States Department of Agriculture

Natural Resources Conservation Service

FILE NO.

DRAWING NO.

SHEET 1 OF




SHEET 1 OF

DRAWING NO.

FILE NO.

USDA United States Department of Agriculture

Natural Resources Conservation Service

# OPTION #2 (ROOF DETAILS)

## BILL DEITRICK

UNION COUNTY, PENNSYLVANIA

| | DATE |
|---|---|
| DESIGNED | |
| DRAWN | |
| CHECKED | |
| APPROVED | |

# Attachment B

## RCPP TA-I Practice Certification Sheet

**RCPP Project Name:** Delisting Ag-Impaired Streams in Central PA
**RCPP Project Number:** 2761
**RCPP Contract Participant and Contract Number:**

### Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

**Date:**

| | | | | | Activity Type ($) | | | | | Travel Expenses | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIN** | **Practice Code and Name** | **Certified by:** | **Description** | **Completed** | **Pre-Application** | **Planning** | **Design** | **Installation** | **Checkout** | **Mileage** | **IRS Rate** | **Total Travel Expenses** | **Reimbursement Request** |
| | | | | | | | | | | | | | |

**Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification*
*Complete a separate sheet for each practice*

**I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.**

_____ _____

*Functional Review w/JAA (if certified by consultant)* Printed Name and Title:

_____ _____

*NRCS DC - (signature, date)* Printed Name:

## EXAMPLE - RCPP TA-I Practice Certification Sheet

**RCPP Project Name:** XXXXXXXXXXXXXXX
**RCPP Project Number:** 1111
**RCPP Contract Participant and Contract Number:** Joe Smith, 111222333444

### Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

**Date: 1/1/2024**

| | | | | | Activity Type ($) | | | | | Travel Expenses | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIN** | **Practice Code and Name** | **Certified by:** | **Description** | **Completed** | **Pre-Application** | **Planning** | **Design** | **Installation** | **Checkout** | **Mileage** | **IRS Rate** | **Total Travel Expenses** | **Reimbursement Request** |
| 1 | 340 - Cover Crop | Joe Planner - Partner xyz | Cover crops planted on planned land units per conservation plan. Establishment verified. | 12/1/23 | $0.00 | $0.00 | $0.00 | $0.00 | $79.00 | 23 | $0.63 | $14.49 | $93.49 |

*Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification

**I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.**

*Functional Review w/JAA (if certified by consultant)*

Printed Name and Title:

*NRCS DC - (signature, date)*

Printed Name:

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### Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

**Date: 1/1/2024**

| | | | | | Activity Type ($) | | | | | Travel Expenses | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIN** | **Practice Code and Name** | **Certified by:** | **Description** | **Completed** | **Pre-Application** | **Planning** | **Design** | **Installation** | **Checkout** | **Mileage** | **IRS Rate** | **Total Travel Expenses** | **Reimbursement Request** |
| 2 | 313 - Waste Storage Facility | Ag, Inc | XXXX gallon waste storage completed. Supporting practices complete. Inspection and redline docs completed. | 11/15/23 | | | $4,000.00 | $5,200.00 | $2,200.00 | 0 | $0.63 | $0.00 | $11,400.00 |

*Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification

**I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.**

*Functional Review w/JAA (if certified by consultant)*

Printed Name and Title:

*NRCS DC - (signature, date)*

Printed Name:

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### Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

**Date: 1/1/2024**

| | | | | | Activity Type ($) | | | | | Travel Expenses | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIN** | **Practice Code and Name** | **Certified by:** | **Description** | **Completed** | **Pre-Application** | **Planning** | **Design** | **Installation** | **Checkout** | **Mileage** | **IRS Rate** | **Total Travel Expenses** | **Reimbursement Request** |
| 4 | 102 - CNMP | Ag, Inc | I&E, NMP, Conservation Plan components complete, CNMP done. | 10/6/23 | | $3,252.50 | | | | 0 | $0.63 | $0.00 | $3,252.50 |

*Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification

**I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.**

*Functional Review w/JAA (if certified by consultant)*

Printed Name and Title:

*NRCS DC - (signature, date)*

Printed Name:

# RCPP TA-I Reimbursement Summary Sheet

**RCPP Project Name:** Delisting Ag-Impaired Streams in Central PA
**RCPP Project Number:** 2761
**RCPP Contract Participant and Contract Number:**

## Technical Assistance - Implementation (TA-I) Reimbursement Request Summary Sheet

**Period Start:** **Period End:**

| | | | | | Activity Type ($) | | | | | Mileage ($) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIN** | **Practice Code and Name** | **Certified by:** | **Description** | **Certification Date** | **Pre-Application** | **Planning** | **Design** | **Installation** | **Checkout** | **Total Travel Expenses** | **Reimbursement Request** |
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| **TOTAL** | | | | | **$0.00** | **$0.00** | **$0.00** | **$0.00** | **$0.00** | **$0.00** | **$0.00** |

| **3rd Party or Partner Staff Information for Reimbursement** | | | | |
|---|---|---|---|---|
| Position | Organization | CIN | # of Hours | $/hr rate |
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*Staff rates must match rates in current TA-I Supplemental Agreement

# EXAMPLE - RCPP TA-I Reimbursement Summary

**RCPP Project Name:** XXXXXXXXXXXXXXX
**RCPP Project Number:** 1111
**RCPP Contract Participant and Contract Number:** Joe Smith, 111222333444

## Technical Assistance - Implementation (TA-I) Reimbursement Request Summary Sheet

**Period Start: 1/1/2023** **Period End: 12/31/2023**

| | | | | | Activity Type ($) | | | | | Mileage ($) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIN** | **Practice Code and Name** | **Certified by:** | **Description** | **Certification Date** | **Pre-Application** | **Planning** | **Design** | **Installation** | **Checkout** | **Total Travel Expenses** | **Reimbursement Request** |
| 1 | 340 - Cover Crop | Partner xyz | RCPP related Farm Visits (certification of practice) | 12/1/23 | | | | | $79.00 | $14.49 | $93.49 |
| 2 | 313 - Waste Storage Facility | Ag, Inc | RCPP related Farm Visits (Follow up visits for design and installation of contracted practices) | 11/15/23 | | | $4,000.00 | $5,200.00 | $2,200.00 | | $11,400.00 |
| 4 | 102 - CNMP | Ag, Inc | IE, NMP, Conservation Plan, CNMP attachments | 10/6/23 | | $3,252.50 | | | | | $3,252.50 |
| **TOTAL** | | | | | **$0.00** | **$3,252.50** | **$4,000.00** | **$5,200.00** | **$2,279.00** | **$14.49** | **$14,745.99** |

| **3rd Party or Partner Staff Information for Reimbursement** | | | | |
|---|---|---|---|---|
| Position | Organization | CIN | # of Hours | $/hr rate |
| Engineer | Team Ag | 2 | 76 | 150 |
| Conservation Planner | Team Ag | 4 | 26.25 | 102 |
| Drafter | Team Ag | 4 | 5.75 | 100 |
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*Staff rates must match rates in current TA-I Supplemental Agreement