



HEARTLAND
GREENWAY

SOUTH DAKOTA AGRICULTURAL PROTECTION PLAN

EXHIBIT

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HEARTLAND
GREENWAY

HEARTLAND GREENWAY PIPELINE SYSTEM

**SOUTH DAKOTA
AGRICULTURAL PROTECTION PLAN**



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PURPOSE AND APPLICABILITY

This Agricultural Impact Mitigation Plan (APP or Plan) was developed by Navigator Heartland Greenway LLC (NHG) in coordination with the South Dakota Department of Agriculture (SDDA) for the Heartland Greenway Pipeline System (HGPS) in South Dakota. The HGPS is an approximately 1,350-mile carbon dioxide pipeline system across five states connecting 21 emitting facilities to sequestration and/or commercial/industrial users of carbon dioxide. The South Dakota portion consists of approximately 112 miles of the HGPS located in Brookings, Moody, Minnehaha, Lincoln and Turner counties, South Dakota.

The purpose of the Plan is to specify measures that NHG will implement to avoid, minimize and mitigate for impacts to privately owned agricultural areas that may result from pipeline construction. The measures described in this document apply only to construction activities occurring partially or wholly on privately owned Agricultural Land. In addition to measures identified in this Plan, NHG will implement practices as appropriate in its Stormwater Pollution Prevention Plan for compliance with Section 402 of the Clean Water Act per the South Dakota NPDES Construction Stormwater General Permit as well as Best Management Practices identified in its Environmental Construction Guidance (ECG) document filed as part of the South Dakota Public Utilities Commission (PUC) permit application.

Unless the easement or other written agreement, regardless of nature, between NHG and the Landowner specifically requires the contrary, the mitigation measures specified in this Plan will be implemented in accordance with the conditions discussed below.

GENERAL PROVISIONS

Conditions in any Federal, State or Local permit and any Landowner agreement supersede the measures in this agreement in those respective areas. Tenants will be consulted where a Landowner has designated in writing that a Tenant has decision making authority on their behalf. If any provision of this Plan is held to be unenforceable, no other provision will be affected by that holding, and the remainder of the Plan will be interpreted as if it did not contain the unenforceable provision.

NHG will implement the mitigation measures and Best Management Practices (BMPs) described in this Plan to the extent they do not conflict with the requirements of Federal and State rules and regulations and/or permits, and approvals obtained by NHG.

NHG will retain qualified contractors to perform mitigation measures; however, Landowners may elect to implement their own measures that may or may not coincide with the measures of this plan. These circumstances are documented on a 'construction line list' that will accompany the project alignment sheets.



INSPECTION

NHG will employ independent third-party inspectors that are not affiliated with NHG or its construction contractors on each construction spread. The Agricultural Inspectors' role will be to verify and document compliance with the requirements of this Plan during construction and make appropriate recommendations. The Agricultural Inspectors will:

- Have a bachelor's degree in agronomy, soil science, or equivalent work experience
- be a full-time 3rd party participant on the project;
- provide construction personnel with training on provisions of this Plan before construction begins;
- provide construction personnel with field training on specific topics, such as protocols for topsoil stripping;
- observe construction activities on Agricultural Land for compliance with this APP;
- be responsible for verifying NHG's compliance with provisions of this Plan during construction;
- work collaboratively with the contractor, other NHG inspectors, and right-of-way (ROW) agents in achieving compliance with this APP;
- work to identify problem areas to prevent a non-compliance to be protective of the resources; document instances of noncompliance and work with construction personnel to identify and implement appropriate corrective actions as needed;
- have the authority to stop construction activities that are determined to be out of compliance with the provisions of this Plan, and
- maintain a written log of communications from Landowners regarding compliance with this Plan as well as report Landowner complaints to NHG's lead inspector or right-of-way representative.

CONSTRUCTION SEQUENCE AND SCHEDULE

Pipeline construction will commence following the receipt of the required permits, approvals, and materials. Initial pipeline construction is estimated to take approximately 4 to 6 months to complete. The activities for pipeline construction, subsequent notification to landowners and governmental agencies as warranted, will be undertaken in the sequence below with the mitigation measures discussed in this plan:

- Topsoil inventory
- Stake centerline and workspace;



- Access-road installation;
- Grubbing and clearing of the construction corridor;
- Installation of stormwater and erosion control measures;
- Placement of pipe and other supplies along the construction corridor;
- Pipeline welding and bending where necessary;
- Installation of tile header systems, if warranted
- Excavation of the pipeline trench;
- Temporary repairs to tile lines, if encountered;
- Placement of the pipeline within the trench;
- Permanent repairs to tile lines damaged during construction activities;
- Backfill of the trench and rough grading;
- Hydrostatic testing of the pipeline;
- Final grading and restoration.

NHG will initiate mitigation measures pursuant to this Plan, unless otherwise specified in this Plan or in an Easement or other agreement with an individual Landowner, within thirty (30) days following completion of Final Cleanup on an affected property, weather permitting or unless otherwise delayed at the request of the Landowner. If implementation of mitigation measures requires additional time, NHG will make temporary repairs or stabilization measures, as warranted, to minimize the risk of property damage or interference with the Landowner's access to or use of the property.

CONTACTS AND NOTICE

NHG will provide Landowners with a telephone number and address that can be used to contact NHG, during and following the completion of construction, regarding construction-related matters and the agricultural mitigation work that is performed on their property. If the contact information changes following construction, NHG will provide Landowners with updated contact information. NHG will respond to Landowner telephone calls and correspondence within a reasonable time.

The following are points of contact (POC) details for the project.

1. ROW Agent for landowner questions or claims is:

NAME, TITLE

COMPANY



PHONE

EMAIL

2. Agricultural Inspector:

NAME, TITLE

COMPANY

PHONE

EMAIL

3. Advance Notice of Access to Private Property

- A. NHG or its agents will provide the Landowner with a minimum of twenty-four (24) hours' notice before accessing his/her property for construction, in addition to any regulatory notifications.
- B. Prior notice will consist of a personal or telephone contact, whereby the Landowner is informed of NHG's intent to access the land. If the Landowner cannot be reached in person or by telephone, NHG will mail or hand-deliver to the Landowner's home a dated, written notice of NHG's intent. The Landowner need not acknowledge receipt of the written notice before NHG enters the property.

4. Distribution of Plan

Prior to construction, NHG will provide a copy of this Plan to all landowners and known tenants of the property that will be disturbed by the construction.

DEFINITIONS

Agricultural Inspector	On-site 3 rd party Inspector retained by NHG to verify compliance with requirements of this Plan during construction.
Agricultural Land	Land that is actively managed for agricultural purposes, including: cropland, hayland, or pasture; silvicultural activities (i.e., tree farms); and land in government set-aside programs such as Conservation Reserve Program and Conservation Reserve Enhancement Program. Agricultural Land may also include land that is otherwise fallow but would likely be cultivated within 5 years of construction completion.
Best Management Practices (BMPs)	Any structural, vegetative, or management practice used to treat, prevent, manage, or reduce soil erosion. Such practices may be temporary or permanent.
Cropland	Land actively managed for growing row crops, small grains, or hay.
Drain Tile	Artificial subsurface drainage systems and their aboveground appurtenances. Including, but not limited to, clay and concrete tile, vitrified sewer tile, corrugated plastic tubing, and stone drains.



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Easement	The agreement(s) and/or interest in privately owned Agricultural Land held by NHG by virtue of which it has the right to construct and operate together with such other rights and obligations as may be set forth in such agreement.
Final Cleanup	Pipeline construction activity that occurs after backfill but before restoration of fences and required reseeding. Final Cleanup activities include: replacing Topsoil, removal of construction debris, removal of excess rock, decompaction of soil as required, final grading, and installation of permanent erosion control structures.
Landowner	Person(s) holding legal title to Agricultural Land from whom NHG is seeking, or has obtained, a temporary or permanent Easement. The term "Landowner" shall include any person(s) authorized in writing by the actual Landowner to make decisions regarding the mitigation or restoration of agricultural impacts to such Landowner's property.
Livestock	Domesticated animals raised in an agricultural setting to produce labor and commodities, such as meat, eggs, milk, fur, leather, and wool; or to promote the survival of rare breeds.
SDDANR	South Dakota Department of Agriculture & Natural Resources
SD PUC	South Dakota Public Utilities Commission
Non-Agricultural Land	Any land that is not "Agricultural Land" as defined above
Person	An individual or entity, including any partnership, corporation, association, joint stock company, trust, joint venture, limited liability company, unincorporated organization, or governmental entity (or any department, agency, or political subdivision thereof).
Pipeline	The Navigator Heartland Greenway LLC pipeline and related appurtenances located in in South Dakota, as described in Navigator Heartland Greenway LLC's application to the South Dakota Public Utility Commission.
Planned Drain Tile	Locations where the proposed Drain Tile installation is made known in writing to NHG by the Landowner either: 1) within 60 days after the signing of an Easement; or 2) before the issuance of a Route Permit to NHG; whichever is sooner.
Right-of-Way (ROW)	Land with executed easement agreements upon which NHG has rights for the purpose of operation and/or construction.
Siting Permit	Siting permit issued by the South Dakota Public Utility Commission.
Subsoil	The layer of soil located below the topsoil, but above the parent material. The subsoil layer contains the maximum accumulation of clay minerals, iron, and aluminum oxides and other compounds. The subsoil commonly has blocky or prismatic structure and generally is firmer and lighter in color than the topsoil layer. The subsoil is also called the "B" horizon.



Tenant	Any person, other than the Landowner, lawfully residing on or in possession or control of the land that makes up the "right-of-way" as defined in this Plan.
Topsoil	The uppermost layer of the soil with the darkest color and the highest content of organic matter
Trench Crown	Restored contour elevation along the trench to a finished elevation somewhat above the surrounding ground surface to account for post-construction settling of soil returned to the trench.
USDA	United States Department of Agriculture
Wet Conditions	Adverse soil conditions due to rain events, antecedent moisture, or ponded water, where the passage of construction equipment is or is likely to: cause rutting that mixes topsoil and subsoil, prevent the effective removal or replacement of topsoil and subsoil, prevent proper decompaction, and/or damage underground tile lines.

MITIGATION MEASURES

1. Construction Right-of-Way (ROW) Width

The construction ROW limits and property boundaries will be shown on alignment sheets and provided to the construction contractor, inspectors, and necessary regulatory authorities.

- A. The construction workspace will be governed by the Route Permit and potentially other permits and is expected to be a typical 100-foot wide, of which 50 feet will typically be retained in a permanent easement, and 50 feet is considered Temporary Workspace (TWS). At certain select areas where the pipeline crosses natural geographic or larger man-made features such as roads, railroads, or waterbodies, a defined area of additional temporary workspace (ATWS) will be required on each side of the feature.
- B. The limits of construction will be staked prior to work at each location prior to initiating any ground disturbing activities.
- C. If, for a variety of reasons, the planned construction ROW and/or ATWS is not sufficient to perform the work and implement warranted BMPs, NHG will discuss the need for more workspace with the construction contractor, inspection team, and the Landowner, and will not use more workspace unless allowed in the Landowner agreement or until approved by the Landowner and regulatory authorities, as applicable.

2. Pipeline Depth of Cover

- A. Except for aboveground facilities, such as mainline valves, and except as otherwise stated in this Plan, the pipeline will be buried with the following depths of cover on Agricultural Land.



- B. NHG will place the pipeline underground in South Dakota with a nominal 60-inches of cover on top of the pipe in all areas of conventional installation and as deep as 10 to 25 or more feet in areas where the pipeline will be installed via bore or horizontal direction drill methods, respectively.
- C. Where existing Drain Tile systems are present, and where landowners have, prior to construction, consulted with NHG on specific future planned Drain Tile systems that may be impacted by construction, the pipeline will be installed at a depth that will achieve at least a 12-inch separation between the pipeline and Drain Tile. If unforeseen physical conditions are discovered during construction that prevents minimum separation, the Landowner will be notified. If the Landowner is not reached after a good faith effort, the Agricultural Inspector will be informed, and construction will continue.
- D. If, prior to construction, the Landowner plans to install a new Drain Tile system, the Landowner must provide to NHG plans drawn by a qualified professional with experience in Drain Tile design and installation. In determining the proper depth of the pipeline, NHG will accommodate the depth and grade needed for both existing and Planned Drain Tile to function properly. NHG will not change the grade of existing Drain Tile to accommodate the pipeline without the Landowner's advance written consent.
- E. NHG intends to maintain a minimum of twelve (12) inches of separation between the pipeline and existing buried utilities.

3. Winter Construction

Winter construction is not planned for the project in South Dakota; however, if constructing the pipeline in winter through agricultural lands is deemed necessary, the following mitigation measures are proposed to protect the productivity of Agricultural lands:

- A. *Minimize Topsoil Stripping in frozen conditions.* Frozen conditions can preclude effective Topsoil stripping. When soil is frozen to a depth greater than the depth of the Topsoil, Topsoil cannot be efficiently stripped from the subsoil. If Topsoil stripping must proceed under these conditions, it will only be removed from the area of the trench. A ripper (deep tillage device or scarifier) may be used to break up the frozen Topsoil over the trenchline and a backhoe will remove the Topsoil layer and store the material in a separate pile. The ripper will extend to the depth of Topsoil or twelve (12) inches elsewhere, whichever is less.
- B. *Minimize Final Clean-up activities in frozen conditions.* Frozen conditions can preclude effective replacement of frozen topsoil, removal of construction debris, removal of excess rock, soil decompaction, final grading, and installation of permanent erosion control structures. If seasonal or other weather conditions preclude Final Clean-up activities, the trench will be backfilled, the construction ROW stabilized, and temporary erosion control measures will be installed until conditions are conducive for restoration activities to be completed. If Topsoil/spoil piles remain throughout the winter, the Topsoil/spoil piles will be stabilized by an application of mulch and a tackifier or other methods. To prevent subsidence, backfill operations will resume when the ground is



thawed, and the subsoil will be compacted (as needed) prior to Final Clean-up activities. NHG or the construction contractor must monitor these areas until final restoration is complete.

4. Erosion and Sediment Control

Temporary and Permanent erosion and sediment controls will be implemented as required in the respective Construction Stormwater Permit and are described in the ECG to prevent soil erosion and sedimentation.

5. Topsoil Stripping, Trenching, Soil Storage, and Replacement

NHG will use the following Topsoil segregation methods during construction on Agricultural lands. The method selected will be dependent on topsoil conditions, construction method, and Landowner to agreements, regulatory authority or permit requirements and/or other factors:

- Full Construction ROW (see Appendix)
 - Ditch-Plus-Spoil Side (see Appendix)
- A. The Full Construction ROW topsoil segregation technique consists of stripping topsoil from the entire construction ROW except for the area on which the topsoil will be stored. Ditch-Plus-Spoil Side accounts for stripping the topsoil from only the trench and adjacent area where the subsoils excavated from the trench will be placed to avoid mixing subsoil and topsoil. This may be performed in areas of deep topsoil where use of the construction travel lane would not result in mixing topsoil and underlying sub soil and full-width topsoil segregation would result in an excessively incised ROW imposing stormwater and stabilization concerns.
- B. It is not feasible to segregate topsoil in wetlands with saturated soils; all wetland construction will be done in accordance with respective permit conditions.
- C. The depth of soil required to be removed will be the lesser of the actual depth of the topsoil or 12 inches. The Agricultural Inspector will periodically observe topsoil segregation operations so that appropriate depths are removed.
- D. Equipment operators will be trained to discriminate between Topsoil and subsoil based on obvious color changes. In locations where the Topsoil/subsoil color changes are not easily distinguishable or variable, the Agricultural Inspector will determine the depth.
- E. Trench spoil will be placed in a stockpile that is maintained separate from stockpiled Topsoil. If spoil cannot be stockpiled on opposite sides of the trench there will at least approximately 1-foot separation between Topsoil and trench spoil, or a physical barrier in between the piles to prevent mixing.
- F. Stockpiled topsoil will be stabilized with a nurse crop, mulch, and/or tackifier in accordance with the Construction Stormwater Permit
- G. Topsoil will not be used to construct field entrances or drives, or be otherwise removed from the property, without the written consent of the landowner;



- H. During trench backfilling, subsoil material will be replaced first, followed by Topsoil. To prevent subsidence, subsoil will be backfilled and compacted. Compaction by operating construction equipment along the trench is acceptable.
- I. Replacing Topsoil will typically be initiated within fourteen (14) days after backfilling the trench and completion of any necessary Drain Tile repairs. If seasonal or other weather conditions prevent compliance with this timeframe, temporary erosion control measures will be implemented and maintained until conditions allow for restoration.
- J. Topsoil will be replaced across the stripped area as near as practicable to its original depth. A Trench Crown over the trenchline is permissible to offset potential settling. Following placement of the subsoil crown, Topsoil would be uniformly returned across the stripped area. The height of the crown will generally be equal to, or less than, twelve (12) inches at the center. Breaks in the crown may be cut to accommodate overland water flow across the right-of-way. (see Appendix)
- K. If agreed upon in writing between NHG and the landowner, topsoil segregation may not be performed where the pipeline can be installed with a trench width of eighteen (18)-inches or less.

6. Protection of Livestock

NHG will work with landowners with Livestock in proximity of the construction area to ensure proper measures are in place to protect Livestock during all phases of construction and restoration.

- A. Ideally the livestock would be able to utilize a field that is not planned to be crossed by the project.
- B. Alternately NHG could install exclusion fencing along the disturbed ROW separating livestock from construction.
- C. Another option as described in the ECG, where deemed appropriate by NHG, the Contractor may leave plugs of subsoil in the ditch or will construct temporary access bridges across the trench for the Livestock to move Livestock. Trenches may also be sloped where started and ended to allow ramps for Livestock or other wildlife to escape. Space of plugs and ramps will be determined in the field.

7. Temporary and Permanent Repairs of Drain Tile

If underground drain tile is damaged by the pipeline's construction, it shall be repaired in a manner that assures the tile line's proper operation at the point of repair ensures the functionality of the tile. The following standards and policies shall apply to drain tile repair:

- A. The affected Landowner may elect to negotiate with NHG for payment to directly repair, relocate, reconfigure, or replace the damaged Drain Tile. In the event the Landowner chooses to perform the repair, relocation, reconfiguration, or replacement of the damaged Drain Tile, NHG is not responsible for correcting Drain Tile repairs after completion of the pipeline and the Landowner's repairs. NHG is only responsible for correcting Drain Tile repairs if the repairs were made by NHG or its agents or



designees.

- B. Prior to pipeline installation, NHG will contact Landowners to determine if Tile systems may be affected. NHG will attempt to locate and mark the lines within the ROW prior to ground disturbing activities by placing a highly visible flag at the edge of the construction right-of-way directly over the Drain Tile lines. These markers may be moved to coincide with the actual location of the Drain Tile once unearthed; unknown Drain Tile locations encountered during construction will also be marked. Markers should not be removed until the Drain Tile has been permanently repaired.
- C. The pipeline trench will provide a minimum of twelve (12) inches of clearance, where practicable, between the pipe and Drain Tiles. In most situations, the pipe will be installed under the Drain Tile; however, where Drain Tiles are deeper than approximately seven (7) feet NHG may elect to install the pipe above the Drain Tile lines.
- D. NHG will ensure Drain Tile repairs are made in a manner consistent with industry-accepted methods. Local contractors may perform the repair, replacement, or reconfiguration of the Drain Tiles damaged by pipeline construction. Where damaged Drain Tile is repaired by NHG, the following procedures will apply and align with drawings in the Appendix:
 - If water is flowing through a damaged Tile, temporary repairs should be completed and maintained until permanent repairs can be made.
 - Before completing permanent repairs, Drain Tiles will be examined to the extents of the work area to check for damage caused by construction.
 - NHG will make efforts to complete permanent Drain Tile repairs within 14-days of lowering-in, weather and soil conditions permitting.
 - Following final cleanup, NHG will correct repairs to Drain Tile that fail, provided NHG or its agents or designees made the initial repairs. NHG will not be responsible for Tile repairs that NHG has paid the Landowner to perform.
 - Any necessary modifications to the configuration of existing Drain Tile systems will be consistent with the United States Department of Agriculture (“USDA”), Natural Resources Conservation Service.

8. Rock Removal

Excess rocks will be removed from the right-of-way (ROW) such that the size and distribution on the construction ROW will be similar to adjacent, non-disturbed areas.

- A. Upon completion of topsoil replacement, the easement area will be free of all rocks larger than three (3) inches in average diameter that are not native to the topsoil prior to excavation.
- B. Where rocks are over three (3) inches in size are present, their size and frequency to be similar to adjacent soil not disturbed by construction.
- C. The top 24 inches of the trench backfill will not contain rocks in any greater



concentration or size than that which exists in or on the adjacent, natural soils. Soil from which excess rock has been removed may be used for backfill in the top twenty four (24) inches.

- D. Consolidated rock removed by blasting or mechanical means will not be placed in the backfill above the natural bedrock profile or above the frostline.
- E. In addition, the Pipeline Company will examine areas adjacent to the easement and along access roads and remove any large rocks or debris that may have rolled or blown from the ROW or fallen from vehicles.

9. Removal of Construction Debris

NHG will remove all construction-related debris, material, and litter from the Landowner's property at NHG's expense. The Landowner or land-managing agency may approve leaving specific materials onsite that may provide for beneficial uses for stabilization or habitat restoration.

10. Compaction, Rutting, and Soil Restoration

The following measures will be implemented as practical to avoid, mitigation, and remediate soil compaction.

- A. In an effort to minimize soil compaction prior to trenching activities, NHG will, where practical, transport pipe joints (i.e., stringing trucks) as closely as possible along the pipeline centerline.
- B. After construction, compaction of the subsoil and/or topsoil will be alleviated on Cropland using deep-tillage equipment.
- C. Decompaction of the topsoil, if necessary, will be performed during favorable soil conditions. If the Agricultural Inspector determines that the soil is too wet, decompaction will be delayed until the subsoil is friable/tillable in the top eighteen (18) inches.
- D. Deep subsoil ripping in cropland will occur in all traffic and work areas of the pipeline right-of-way where there was full ROW Topsoil stripping unless the Agricultural Inspector determines compaction has not occurred. This includes ATWS.
- E. Subsoil ripping equipment may include v-rippers, chisel plows, or equivalents.
- F. NHG will restore rutted land as near as practical to its preconstruction condition.
- G. Rutted land will be graded and tilled until restored as near as practical to its preconstruction condition. On lands where topsoil was removed, rutting will be remedied before topsoil is replaced.
- H. NHG will compensate Landowners, as agreed upon, for the cost of soil restoration on the construction right-of-way and ATWS to the extent such restoration work is performed by the landowner or landowner agent or designee.
- I. In the event of a dispute between the Landowner and NHG regarding what areas need



to be deep tilled (i.e., ripped) or chiseled, or the depth at which compacted areas should be ripped or chiseled, NHG will determine the appropriate actions based on the County Inspector's opinion.

11. Land Leveling

- A. Following completion of the pipeline, NHG shall restore the construction work areas as practicable to the original preconstruction contours.
- B. NHG shall provide the Landowners with a telephone number and address that may be used to alert NHG of the need to perform additional land leveling services.
- C. If uneven settling occurs or surface drainage problems develop as a result of the pipeline construction, NHG will provide such land leveling services subsequent to Landowner's notice, weather and soil conditions permitting. Typically, this would be performed at time of year coordinated with field operations and prior to planting or after harvest. Alternately, if the Landowner chooses to perform land leveling activities, NHG shall reimburse the Landowner for that work at an agreed upon rate/price.

12. Repair of Damaged Soil Conservation Practices

NHG shall repair conservation practices (such as conservation easements, agricultural land enrolled in a conservation program, sensitive areas, wetlands, filter strips, terraces, grassed waterways, etc.) that are damaged by the pipeline project, to their pre-construction grade, elevation, vegetation cover, and working condition, unless otherwise agreed upon in writing with the Landowner.

13. Interference with Irrigation Systems

If the pipeline right-of-way and/or ATWS interfere with an operational (or soon-to-be operational) spray irrigation system NHG will

- A. implement temporary measures will be implemented to allow an irrigation system to continue to operate across land on which the pipeline is being constructed, if practical; or.
- B. establish an acceptable amount of time that the irrigation system may be out of service with the Landowner or Tenant. If not negotiated in advance of construction, NHG will inform the Landowner of the need to take the Irrigation system out of service and agree upon an acceptable amount of time the irrigation system may be out of service. If NHG and the Landowner are unable to agree on the amount of time within ten (10) days of NHG informing the Landowner of the need to take the irrigation system out of service, construction will proceed, and the Landowner will be asked to take the irrigation system out of service.

14. Ingress and Egress

NHG should maximize the use of enter and exit the construction ROW from public roads. Temporary access ramps/road approaches may be constructed using a variety of approved



materials such as rock, timber mats, and other means/methods as permitted by permit or agreement to facilitate the movement of equipment between public roads and the Construction ROW.

15. Temporary Access Roads

- A. If public roads do not provide sufficient access to the Construction ROW, NHG will use existing farms roads if feasible and, subject to Landowner approval or easement rights.
- B. If temporary access roads in Agricultural Lands require gravel stabilization, geotextile construction fabric will be placed beneath the rock to add stability and to provide a distinctive barrier between the rock and soil surface.
- C. Any temporary roads will be designed so as not to affect surface drainage and constructed to minimize soil erosion. Following construction, new temporary roads may be left intact through mutual agreement of the Landowner and NHG unless otherwise restricted by federal, state, or local regulations.
- D. During restoration of the right-of-way, temporary access roads will be removed or restored to preconstruction conditions. Where temporary roads are to be removed, the Agricultural Land on which the temporary roads are constructed will be returned to its previous use and restored to a condition equivalent to what existed prior to construction. Restoration techniques for temporary roads will be similar to those used in restoring the construction right-of-way (e.g., decompaction).

16. Weed Control

- A. NHG has identified and will implement weed control measures as described in the ECG for pipeline construction.
- B. NHG will provide weed control at its aboveground facility sites (e.g., mainline block valve sites, pump stations) to avoid the spread of weeds onto adjacent Agricultural Land during operation activities. Weed control spraying will be conducted in accordance with applicable regulations.

17. Construction Water Discharges

- A. NHG will identify locations for discharging water pumped out of trenches or excavations and from hydrostatic test discharges.
- B. When dewatering trenches, NHG will discharge the water in a manner that will minimize damaging adjacent Agricultural Land, crops, and/or pasture. Such damages may include, but are not limited to, inundation of crops for more than twenty-four (24) hours and deposition of sediment in cropland and drainage ditches. If water-related damage during discharge from trenches results in a loss of yield, compensation of Landowners will be determined as described in Section 22 of this Plan.
- C. Discharge of water will be conducted in accordance with the ECG, federal and state regulations, and permit conditions.



18. Construction in Wet Conditions

The Agricultural Inspector shall determine when construction should not proceed in a given area due to wet conditions and will work with NHG's construction management and the construction superintendent to shut down construction if conditions are too wet to proceed.

Construction in wet soil conditions will not commence or continue at times when or locations where the passage of heavy construction equipment may cause rutting to the extent that the topsoil and subsoil are mixed or underground drainage structures may be damaged.

To facilitate construction in wet soils, SCS may elect to install mats or padding, or use other methods acceptable to the Agricultural Inspector.

19. Procedures for Determining Construction-Related Damages

- A. NHG will negotiate in good faith with Landowners who assert claims for construction-related damages. The procedure for resolution of these claims will be in accordance with the terms of the Easements.
- B. Negotiations between NHG and any affected Landowner will be voluntary in nature and no party is obligated to follow a specific procedure or method for computing the amount of loss for which compensation is sought or paid, except as otherwise specifically provided in the Easements. In the event a Landowner should decide not to accept compensation offered by NHG, the compensation offered is only an offer to settle, and the offer shall not be introduced in any proceeding brought by the Landowner to establish the amount of damages NHG must pay. In the event that NHG and a Landowner are unable to reach an agreement on the amount of compensation, any such Landowner may seek further recourse as provided in the Easement.

20. Indemnification

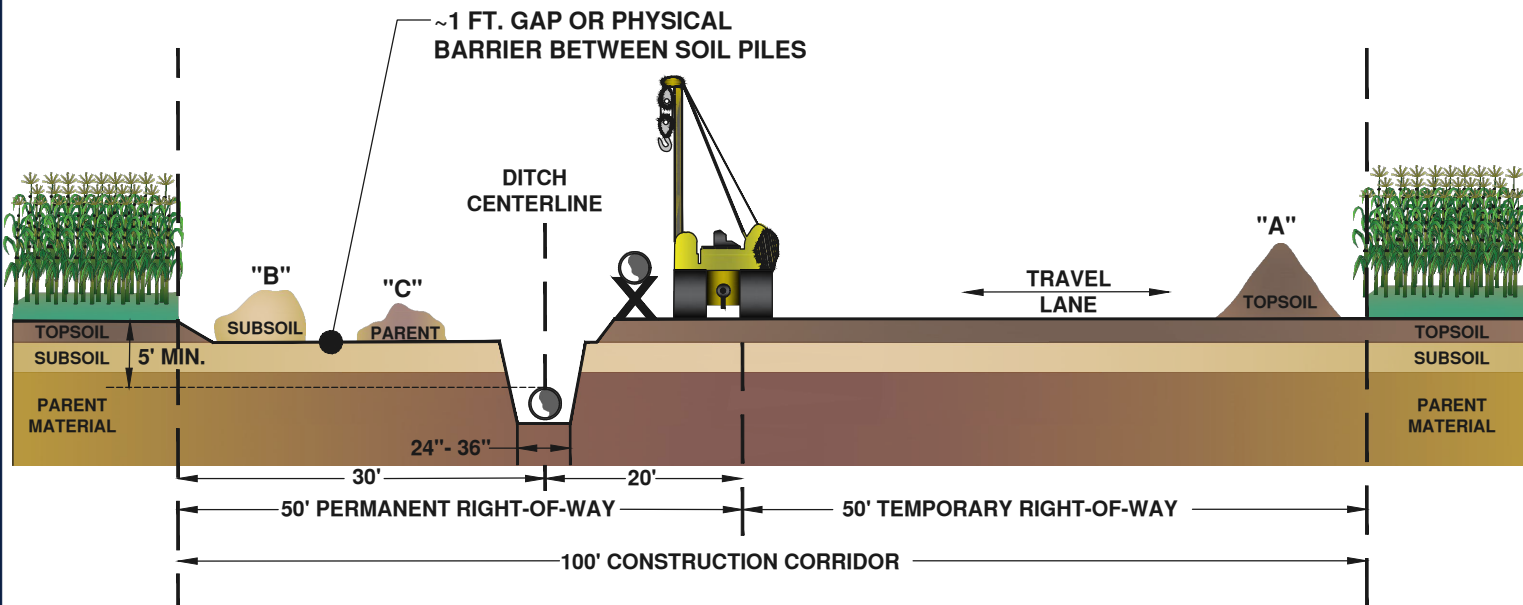
Indemnification obligations relating to the pipeline installation covered by this Plan shall be determined in accordance with the terms of the Easements and applicable law.

21. Drain Tile Repair Following Pipeline Installation

- A. If, after pipeline installation, the Landowner must make repairs to the Drain Tile system within the right-of-way or plans to install a new Drain Tile system, the Landowner may contact NHG for review of the work plan prior to commencing any activities within the right-of-way to be aware of any requirements and limitations on the work as necessary to protect the safety and integrity of NHG's facilities. The Landowner will be responsible for contacting 811 or the local one call center prior to any excavation near the pipeline and complying with all necessary requirements to protect the safety and integrity of NHG's facilities.



APPENDIX A: CONSTRUCTION TYPICAL DRAWINGS



NOTES:

1. STRIP TOPSOIL ("A") ACCORDING TO THE TOPSOIL DEPTHS BASED ON RESULTS FROM THE TOPSOIL SURVEYS. PLACE "A" ALL THE WAY TO THE FAR SIDE OF THE TRAVEL LANE . IN AREAS OF THICKER "A" HORIZONS, "A" MAY BE SPLIT TO BOTH FAR SIDES OF THE RIGHT-OF-WAY IF NEEDED AND APPROVED BY THE AGRICULTURAL INSPECTOR.
2. EXCAVATE TRENCH. ENSURE DIFFERENT SOIL HORIZONS ("B" AND "C") ARE IN SEPARATE STOCKPILES. STOCKPILE THE "B" SPOIL (AND "C" IF PRESENT) SUCH THAT IT IS ON EXISTING SUBSOIL AND NOT ON TOP OF TOPSOIL. MAINTAIN A VISUAL SEPARATION FROM AND/OR OR A PHYSICAL BARRIER BETWEEN THE "B" AND THE "A" STOCKPILES.
3. STOCKPILING SHALL ALLOW FOR REPLACEMENT OF SOIL HORIZONS BACK TO ORIGINAL SEQUENCES WITHOUT LOSS OF SOIL. MAINTAIN A VISUAL SEPARATION (APPROXIMATELY 1-FT.) OR PHYSICAL BARRIER (SILT FENCE, MULCH, FABRIC, ETC.) BETWEEN STOCKPILES AT ALL TIMES. WHEN PARENT MATERIAL IS PRESENT IN THE TRENCH PROFILE, ENSURE IT IS STOCKPILED SEPARATELY, USING A VISUAL SEPARATION OR PHYSICAL BARRIER, FROM OTHER STOCKPILED SOILS AND IS NEVER STOCKPILED ON TOP OF EXISTING TOPSOIL/ NATURAL GRADE.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGE PATHWAYS.
5. TOPSOIL AND TRENCH SPOIL PILES RELATIVE POSITIONS CAN BE EDITED WITH AGREEMENT OF THE AGRICULTURAL INSPECTORS OR COMPANY REPRESENTATIVE.
6. TO AVOID WIND EROSION, TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES CAN BE IMPLEMENTED OR CONDITIONS CALM.
7. STABILIZE TOPSOIL (TEMPORARY SEED, TACKIFIER, MULCH) THAT WILL REMAIN FOR MORE THAN 14 DAYS IN COMPLIANCE WITH RESPECTIVE WEED PLAN OR AGRICULTURAL MITIGATION PLAN.

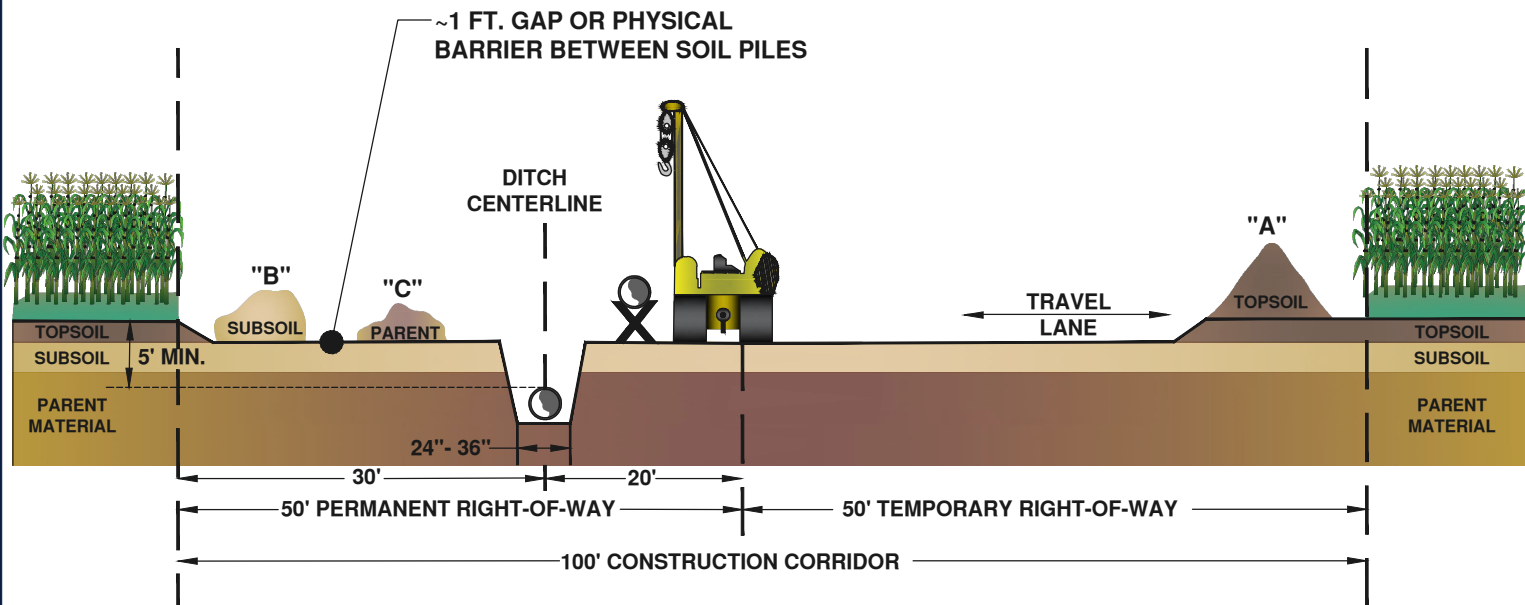
FOR CONSTRUCTION OF LESS THAN 12" OUTSIDE DIAMETER



HGS-BMP-029-SDP
DITCH AND SPOIL TOPSOIL
SEGREGATION
SMALL DIAMETER (<12"Ø) PIPE
 NOT TO SCALE



MAY 2022



NOTES:

1. STRIP TOPSOIL ("A") ACCORDING TO THE TOPSOIL DEPTHS BASED ON RESULTS FROM THE TOPSOIL SURVEYS. PLACE "A" ALL THE WAY TO THE FAR SIDE OF THE TRAVEL LANE . IN AREAS OF THICKER "A" HORIZONS, "A" MAY BE SPLIT TO BOTH FAR SIDES OF THE RIGHT-OF-WAY IF NEEDED AND APPROVED BY THE AGRICULTURAL INSPECTOR.
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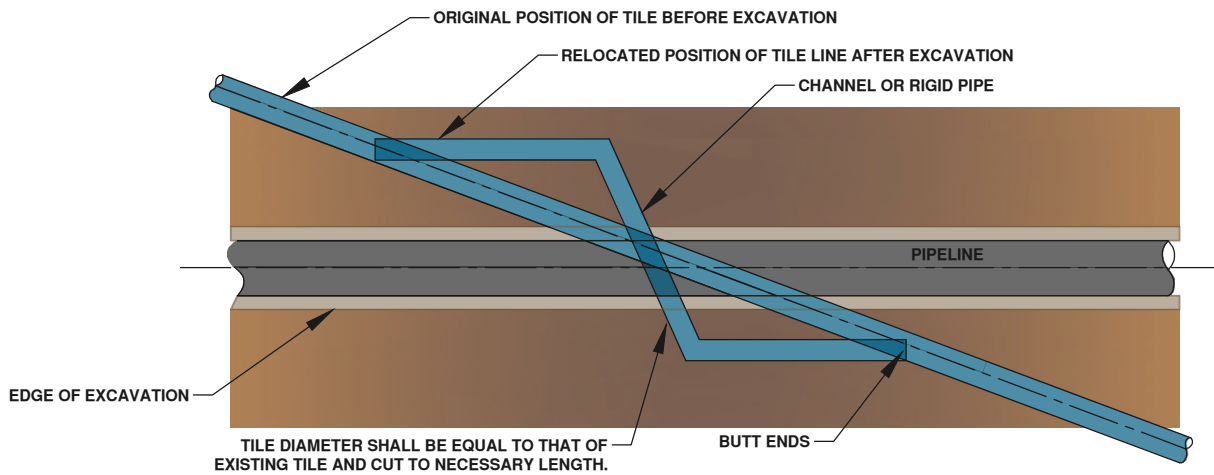
FOR CONSTRUCTION OF LESS THAN 12" OUTSIDE DIAMETER



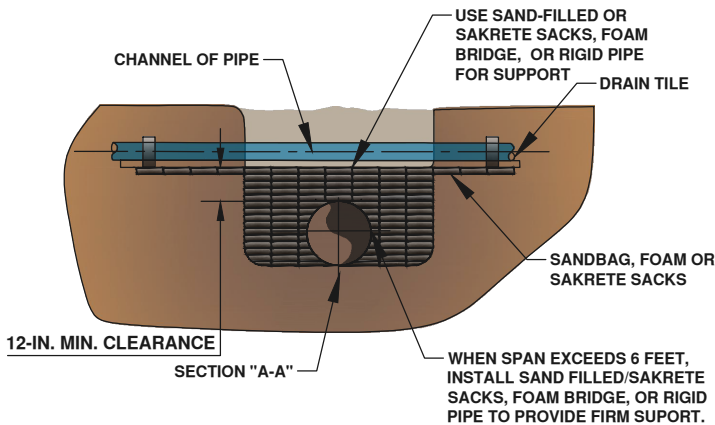
HGS-BMP-028-SDP
FULL WIDTH TOPSOIL
SEGREGATION
SMALL DIAMETER (<12"Ø) PIPE
 NOT TO SCALE



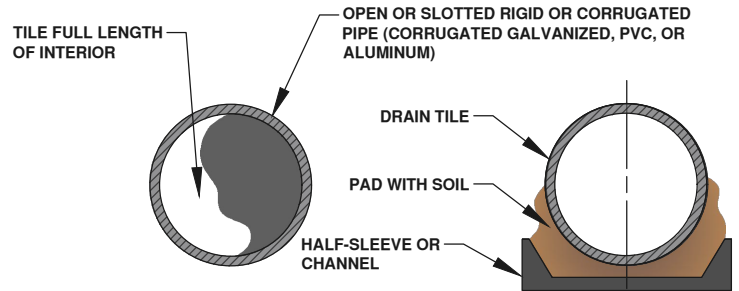
MAY 2022



PLAN VIEW



SECTION VIEW



**SECTION A-A
RIGID OR DOUBLE WALL CORRUGATED PIPE
OR CHANNEL**

Minimum Support Table	
Tile Size	Pipe Size
3"	4" Standard Wt.
4"-5"	6" Standard Wt.
8"-9"	10" Standard Wt.
10"	12" Standard Wt.

Channel Schedule	
Tile Size	Channel Size
3"	4" @ 5.4 lb.
4"-5"	5" @ 6.7 lb.
8"-9"	7" @ 9.8 lb.
10"	10" @ 15.3 lb.

NOTES:

1. PRACTICAL TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF RELOCATION IS REQUIRED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.
2. 2-FT. MIN. LENGTH OF CHANNEL OR RIGID PIPE SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT 90 DEGREES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAKRETE, SANDBAGS, OR FOAM TO UNDISTURBED SOIL. OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED EQUIVALENT IN STRENGTH AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE.
3. DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES 2 FT. MIN. OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARD TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES, INCLUDING SLIP COUPLINGS.
4. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF RIGID PIPE. SITE SPECIFIC ALTERNATIVE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THAN 10', AND HEADER SYSTEMS.
5. PRIOR TO REPAIRING TILE, CONTRACTOR SHALL PROBE Laterally INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHT-OF-WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED TILE SHALL BE REPAIRED TO ORIGINAL GRADE AND CONDITION.
6. RELOCATION OF DRAIN TILE IS ONLY TO OCCUR WHEN THE ANGLE OF THE PROPOSED PIPE TO THE EXISTING DRAIN TILE IS LESS THAN 20°. IN THESE CIRCUMSTANCES, THE RELOCATED TILE SHALL BE 45° FOR THE ENTIRETY OF THE NORMAL TRENCH WIDTH. IN AREAS WHERE THE TRENCH WIDTH ITSELF EXCEEDS NORMAL WIDTH, THE RELOCATED DRAIN TILE TO PIPELINE MAY EXCEED 45°.



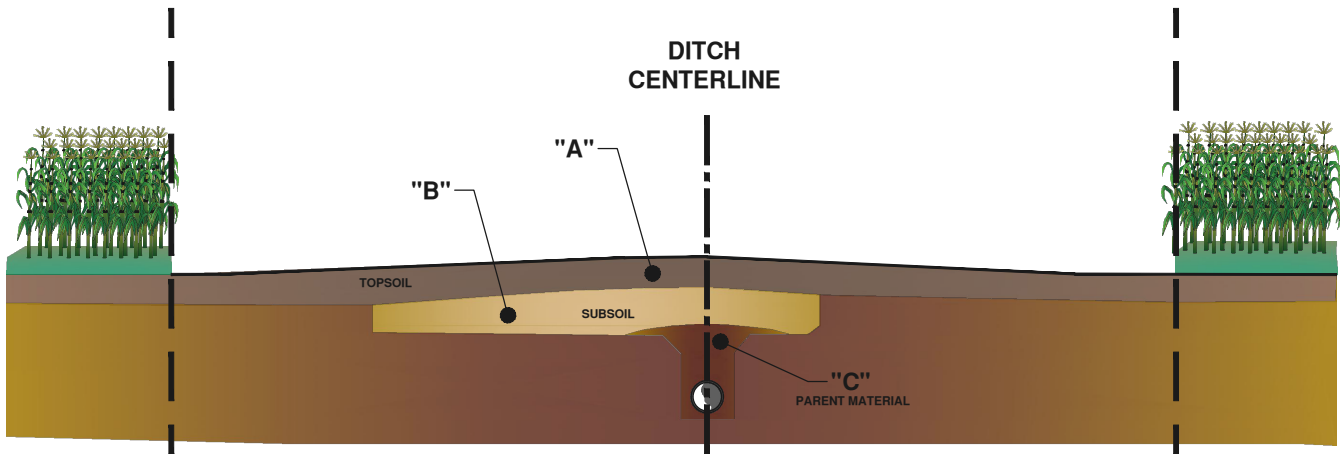
HGS-BMP-026
**PERMANENT TILE DRAIN
INSTALLATION/REPAIR**

NOT TO SCALE



TYPICAL CONSTRUCTION DETAIL

MAY 2022



NOTES:

1. REPLACE SPOIL PILES IN THE REVERSE ORDER THEY WERE REMOVED SUCH THAT PARENT MATERIAL, IF PRESENT, IS REPLACED FIRST; FOLLOWED BY SUBSOIL.
2. COMPACT SPOIL DURING REPLACEMENT.
3. SUBSOIL DE-COMPACTION OF AGRICULTURAL LANDS TO BE PERFORMED IN ACCORDANCE WITH STATE AGRICULTURAL MITIGATION PLAN OR LANDOWNER SPECIFICATION IN LINE LIST.
4. PRIOR TO DE-COMPACTION, APPLY SOIL ENHANCEMENTS AS DETAILED IN THE AGRICULTURAL MITIGATION PLAN. INCORPORATE SOIL ENHANCEMENTS VIA DE-COMPACTION PROCEDURES.
5. CROWN TRENCH WITH SPOIL MATERIALS TO ACCOUNT FOR ANTICIPATED SETTLING OVER THE TRENCH.
6. REPLACE TOPSOIL IN AN EFFORT TO REFLECT PRE-CONSTRUCTION DEPTHS, AS PRACTICAL.



HGS-BMP-031
DITCH RESTORATION AND
BACKFILL

NOT TO SCALE



MAY 2022