# THE STATE OF KANSAS

**KANSAS DEPARTMENT OF AGRICULTURE**
Mike Beam, Secretary of Agriculture

**DIVISION OF WATER RESOURCES**
Earl D. Lewis Jr., Chief Engineer

**51322**

File Number _____
This item to be completed by the Division of Water Resources.

9/25/2024, 1:14 PM

Water Resources Received

KS Dept Of Agriculture

## APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

Filing Fee Must Accompany the Application
(Please refer to Fee Schedule attached to this application form.)

*To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502:*

1. Name of Applicant (Please Print): Martin Family Revocable Living Trust (Bobby Martin) email: bmartinjr1@aol.com

   Address: 6 W Nottingham Ln

   City: Rogers State AR Zip Code 72758

   Telephone Number: (479) 640-5434

2. The source of water is: ☒ surface water in Cherry Creek (stream)

   OR ☐ groundwater in NEOSHO RIVER BASIN (drainage basin)

   Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources. Auxiliary Spillway Storage Volume = 12.3 ac-ft. The maximum quantity requested is three (3) times the auxiliary spillway volume.

3. The maximum quantity of water desired is 37 acre-feet OR _____ gallons per calendar year, to be diverted at a maximum rate of 5,000 gallons per minute OR _____ cubic feet per second.

   Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can **NOT** be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.

4. The water is intended to be appropriated for **(Check use intended):**

   (a) ☐ Artificial Recharge (b) ☐ Irrigation (c) ☒ Recreational (d) ☐ Water Power
   (e) ☐ Industrial (f) ☐ Municipal (g) ☐ Stockwatering (h) ☐ Sediment Control
   (i) ☐ Domestic (j) ☐ Dewatering (k) ☐ Hydraulic Dredging (l) ☐ Fire Protection
   (m) ☐ Thermal Exchange (n) ☐ Contamination Remediation

   YOU **MUST** COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

**For Office Use Only:**
*F.O.* 1 *GMD* - *Meets K.A.R. 5-3-1 (YES / NO) Use* REC *Source G / S County* CK *By* KJN *Date* 9/27/24
*Code* REG *Fee $* 200 *TR #* PY2409M3A83 *Receipt Date* 09/25/2024 *Check #* _____

DWR 1-100 (Revised 05/17/2019)

9/30/2024
KAnderson

File No. _____

5. The location of the proposed wells, pump sites or other works for diversion of water is:

**Note:** For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request a 60 day period of time in which to locate the site within a specifically described, minimal legal quarter section of land. (A) = Proposed Pump Site (Direct Diversion)

(A) One in the SE quarter of the NE quarter of the SW quarter of Section 31, more particularly described as being near a point 1,665 feet North and 3,174 feet West of the Southeast corner of said section, in Township 33 South, Range 22 East, Cherokee County, Kansas.

(B) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ , _____ County, Kansas.

(C) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ , _____ County, Kansas.

(D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ , _____ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (¼) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The owner of the point of diversion, if other than the applicant is (please print):

_____
(name, address and telephone number)

_____
(name, address and telephone number)

You must provide evidence of legal access to, or control of, the point of diversion from the landowner or the landowner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document with this application. In lieu thereof, you may sign the following sworn statement:

I have legal access to, or control of, the point of diversion described in this application from the landowner or the landowner's authorized representative. I declare under penalty of perjury that the foregoing is true and correct.

Executed on 9/23, 2024. Bobby L Martin
Applicant's Signature

The applicant must provide the required information or signature irrespective of whether they are the landowner. Failure to complete this portion of the application will cause it to be unacceptable for filing and the application will be returned to the applicant.

7. The proposed project for diversion of water will consist of one (1) direct diversion pump site
(number of wells, pumps or dams, etc.)
and will be completed (by) following approval.
(Month/Day/Year - each was or will be completed)

8. The first actual application of water for the proposed beneficial use was or is estimated to be following approval
(Mo/Day/Year)

File No. _____

9. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?

☐ Yes ☒ No If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

10. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir.

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources? ☒ Yes ☐ No

- If yes, show the Water Structures permit number here Floodplain fill permit pending
- If no, explain here why a Water Structures permit is not required _____

11. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

(a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.

(b) If the application is for groundwater, please show the location of any existing water wells of any kind within ½ mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within ½ mile, please advise us.

(c) If the application is for surface water, the names and addresses of the landowner(s) ½ mile downstream and ½ mile upstream from your property lines must be shown.

(d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.

(e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

12. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

_____

_____

_____

_____

_____

File No. _____

13. Furnish the following well information if the proposed appropriation is for the use of groundwater. If the well has not been completed, give information obtained from test holes, if available.

Information below is from: ☐ Test holes ☐ Well as completed ☐ Drillers log attached

| Well location as shown in paragraph No. | (A) | (B) | (C) | (D) |
|---|---|---|---|---|
| Date Drilled | | | | |
| Total depth of well | | | | |
| Depth to water bearing formation | | | | |
| Depth to static water level | | | | |
| Depth to bottom of pump intake pipe | | | | |

14. The relationship of the applicant to the proposed place where the water will be used is that of owner / operator.
(owner, tenant, agent or otherwise)

15. The owner(s) of the property where the water is used, if other than the applicant, is (please print):

_____
(name, address and telephone number)

_____
(name, address and telephone number)

16. The undersigned states that the information set forth above is true to the best of his/her knowledge and that this application is submitted in good faith.

Dated at Oswego, Kansas, this 23 day of SEPTEMBER (month), 2024 (year).

Bobby L. Martin
(Applicant Signature)

By _____
(Agent or Officer Signature)

_____
(Agent or Officer - Please Print)

Assisted by Brian Severin, P.E. Eocene Environmental Group (office/title) Date: 9/20/2024

# FEE SCHEDULE

1. The fee for an application for a permit to appropriate water for beneficial use, except for domestic use, shall be (see paragraph No. 2 below if requesting storage):

| ACRE-FEET | FEE | |
|---|---|---|
| 0-100 | $200.00 | |
| 101-320 | $300.00 | |
| More than 320 | $300.00 | plus $20.00 for each additional 100 acre-feet or any part thereof. |

2. The fee for an application in which storage is requested, except for domestic use, shall be:

| ACRE-FEET | FEE | |
|---|---|---|
| 0-250 | $200.00 | |
| More than 250 | $200.00 | plus $20.00 for each additional 250 acre-feet of storage or any part thereof. |

   Note: If an application requests both direct use *and* storage, the fee charged shall be as determined under No. 1 or No. 2 above, whichever is greater, but not both fees.

3. The fee for an application for a permit to appropriate water for water power or dewatering purposes shall be $100.00 plus $200.00 for each 100 cubic feet per second, or part thereof, of the diversion rate requested.

   Note: The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of $400.00 when construction of the works for diversion has been completed, except that for applications filed on or after July 1, 2009, for works constructed for sediment control use and for evaporation from a groundwater pit for industrial use shall be accompanied by a field inspection fee of $200.00.

**MAKE CHECKS PAYABLE TO THE KANSAS DEPARTMENT OF AGRICULTURE**

**ATTENTION**

A Water Conservation Plan may be required per K.S.A. 82a-733. A statement that your application for permit to appropriate water may be subject to the minimum desirable streamflow requirements per K.S.A. 82a-703a, b, and c may also be required from you. After the Division of Water Resources has had the opportunity to review your application, you will be notified whether or not you will need to submit a Water Conservation Plan. You also may be required to install a water flow meter or water stage measuring device on your diversion works prior to diverting water. There may be other special conditions or Groundwater Management District regulations that you will need to comply with if this application is approved.

**CONVERSION FACTORS**

1 acre-foot equals 325,851 gallons

1 million gallons equal 3.07 acre-feet

# RECREATIONAL USE SUPPLEMENTAL SHEET

File No. _____

Name of Applicant (Please Print): Martin Family Revocable Living Trust (Bobby Martin)

1. Please indicate type of recreational use (boating, fishing, swimming, etc.): Construction of low level wetland dikes to seasonally impound shallow water for wildlife use.

2. Please summarize how the water will be used and justify the quantity of water requested: Constructed wetland storage at the auxiliary spillway elevation = 12.3 acre-feet. Proposed Cherry Creek direct diversion = 37 acre-feet (3 times the auxiliary spillway volume). Water from the creek will be pumped into adjacent wetland cells. Excess will be released into the floodplain when lowering or emptying the cells.

3. Please complete the following table showing estimated future water requirements:

**ESTIMATED FUTURE WATER DIVERTED/STORED**

| NEXT 5 YEARS | WATER TO BE DIVERTED (ACRE-FEET OR GALLONS) |
|---|---|
| Year 1 | 37 acre-feet |
| Year 2 | 37 acre-feet |
| Year 3 | 37 acre-feet |
| Year 4 | 37 acre-feet |
| Year 5 | 37 acre-feet |

Please attach any additional information, tables, or curves showing past, present and estimated future water requirements to substantiate the amount of water requested.

4. Please designate the legal description of the location where the water is to be used by providing the fractional part of the Section, Township and Range.

SW 1/4 Sec 31, T-33S; R-22E (see plan sheets)

You may attach any additional information you believe will assist in informing the Division of the need for your request.

# Martin Family Revocable Living Trust

## Wetland Development (New Construction)



**September 23, 2024**

**Prepared By:**

Brian W. Severin, P.E.

Director of Technical Services

bseverin@eocene.com

785.207.0201

# Design Report

## Project Information

- Name: Martin Family Revocable Living Trust
- Practice: Wetland Development (New Construction)
- Legal: SW ¼ Section 31, Township 33 South; Range 22 East
- Location: Cherokee County, Kansas

## Project Description

The project is located along Cherry Creek and within the floodplain of Cherry Creek and Neosho River. The wetland development includes three wetland cells with water control structures. The dike structures are new construction. The low-level dikes will provide additional water storage and create diverse topography within the degraded wetland area. The dike will increase water storage capacity and maintain hydrology at times throughout the year. The project will not hydraulically affect adjacent landowners, as the permanent pools will be confined to the landowner's property.

## Survey

The project area was surveyed by Matt Miller, Engineering Technician, Eocene Environmental Group using survey grade GPS equipment. The survey data was collected in the Kansas State Plane, Zone South coordinate system. The project is tied to permanent benchmarks labeled and described on the Plan Sheets. LiDAR topographic data was compared to the survey data and elevation corrected for planning and design use.

## Design

The contributing hydrology into the wetland cells is direct rainfall and seasonal flood events. The wetland cells do not receive overland flow runoff. Therefore, the drainage area for each cell is equal to the top of dike area: North Cell (4.86 acres), Middle Cell (4.83 acres), and South Cell (4.18 acres). The low-level dikes are expected to overtop during flood events. The structures are designed with a minimum profile to reduce damage during these events. Average annual rainfall and seasonal flooding is expected to maintain wetland hydrology in the cells at most times throughout the year. However (permit pending), the cells will be supplemented with pumped surface water from Cherry Creek.

## Permits and Permissions

The following permits will be required for construction and operation activities.

- Kansas Department of Agriculture, Division of Water Resources: DWR 1-100 Water Appropriation for Beneficial Use (Direct Diversion – Pump Site)
- Kansas Department of Agriculture, Division of Water Resources: DWR 2-200 Floodplain Fill

- Kansas Department of Health and Environment:  Notice of Intent (NOI) for Authorization to Discharge Stormwater Runoff from Construction Activities

The following permissions will be required for construction activities.

- The as constructed wetland project will require a variance to K.A.R 5-45-12. Levees and floodplain fills; setback. Portions of Dike 1 and Dike 1 – South Splitter do not meet the required 100-ft setback from the adjacent creek bank. See plan sheets for additional detail.

  Dike 1 (Sta 0+00 – 0+40) is within the 100-ft setback boundary. The closest portion of Dike 1 (Sta 0+00) is 72 feet from the creek bank. This is the end portion of the dike needed to contain storage within the wetland cell. The creek bank in this location is stable and vegetated. Google Earth imagery over the past 20+ years shows little to no erosion and/or advancement of the creek bank.

  Dike 1 – South Splitter (Sta 0+00 – 0+80) is within the 100-ft setback boundary. The closest portion of Dike 1 – South Splitter (Sta 0+00) is 20 feet from the creek bank. This is the end portion of the dike needed to contain storage within the wetland cell. The creek bank in this location is stable and vegetated. Google Earth imagery over the past 20+ years shows little to no erosion and/or advancement of the creek bank.

## Environmental Considerations

An erosion control plan has been developed to address pollution during construction. The existing vegetation will serve as a pollution buffer. Additional control measures (seeding / mulching the dike berms and installing a sediment control structure) will reduce the potential of sediment leaving the site. The sediment control structure will be installed prior to construction and maintained until vegetation is established. Due to the type of the construction work and natural topography, no other control measures are required.

## Construction Safety

Before any investigation or construction activity, the excavator is responsible for calling Kansas One-Call at 800-344-7233 (800-DIG-SAFE) or 811.

Construction safety and operations under and adjacent to the overhead power line shall be directed by the utility owner.

## Appendix

The attached Appendix includes Plan Sheets, Construction Specifications, KDA-DWR Report, and Permit Documentation.

Eocene SM
Environmental Group

Project: Martin Family Revocable Living Trust

Practice: Wetland Development (New Construction)

Location: SW 1/4 Sec 31, T-33S; R-22E

Cherokee County, Kansas

Index to Drawings



Brian W. Severin, P.E. September 2024
Designed by Date


Approved by Date

Before any investigation or construction activity, the excavator is responsible for calling Kansas One-Call at 800-344-7233 (800-DIG-SAFE) or 811


The approximate project location is 3.5 miles east and 2.5 miles south of Oswego, Kansas.

| Table of Quantities | | | |
|---|---|---|---|
| Item | Unit | Design Quantity | As-Built Quantity |
| Sediment Control | lin ft | 150 | |
| Earthfill | | | |
| Dike 1 (Includes Splitter Dikes) | cu yd | 5,630 | |
| Dike 2 | cu yd | 555 | |
| Water Control Structure (12-inch) | | | |
| Inline Water Control Structure, 3' tall | each | 5 | |
| Pipe, 12-inch dia. SDR 35 PVC | lin ft | 343 | |
| Bar Guard, 12-inch dia. | each | 7 | |
| Rat Guard, 12-inch dia. | each | 3 | |
| Pipe Anchor (Assembly) | each | 7 | |

Adjacent Landowners

1) (Project Location)
Martin Family Rev Living Trust
6 W Nottingham Ln
Rogers, Arkansas 72758

2) Potter, Rebecca L
15 Union St
Oswego, Kansas 67356

3) Jeffery, J Lynn & Susan C
1116 Brad St
Oswego, Kansas 67356

4) Goll, Steven J & Anenette E
Joint Rev Trust
2015 Tallgrass Dr
Fayetteville, Arkansas 72701

5) Feist, Kenneth L Feist, Bonnie J
3581 SW 110th St
Chetopa, Kansas 67336

6) Casey, Charles R Casey, Connie J
5408 W Highway 86
Joplin, Missouri 64804

7) Overman, Monty
PO Box 310
Columbus, Kansas 66725

8) Smith, Glen & Marilyn
22935 W Hammond Ln
Buckeye, Arizona 85326

9) Overman, Pamela E Trust;
Overman, Rocky H Trust
421 Lovers Ln
Columbus, Kansas 66725

10) Overman, Rocky
421 Lovers Ln
Columbus, Kansas 66725

Point of Diversion

A) Pump Site – Direct Diversion

# Location Map and Table of Quantities

Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T-33S; R-22E
Cherokee County, Kansas

| | | Date |
|---|---|---|
| Designed | B Severin | 09/24 |
| Drawn | B Severin | 09/24 |
| Checked | M Miller | 09/24 |
| Approved | B Severin | 09/24 |

Eocene SM Environmental Group


| Benchmark Table | | | | |
|---|---|---|---|---|
| Benchmark | Northing | Easting | Survey Elevation | Description |
| BM1 | 1498932.88 | 2320607.77 | 806.02 | Top of rebar, next to t-post |
| BM2 | 1498938.72 | 2319750.297 | 805.23 | Top of rebar, south of tree |

Survey Area:
Kansas State Plane (South)

# Orthographic Plan Map

Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T-33S; R-22E
Cherokee County, Kansas

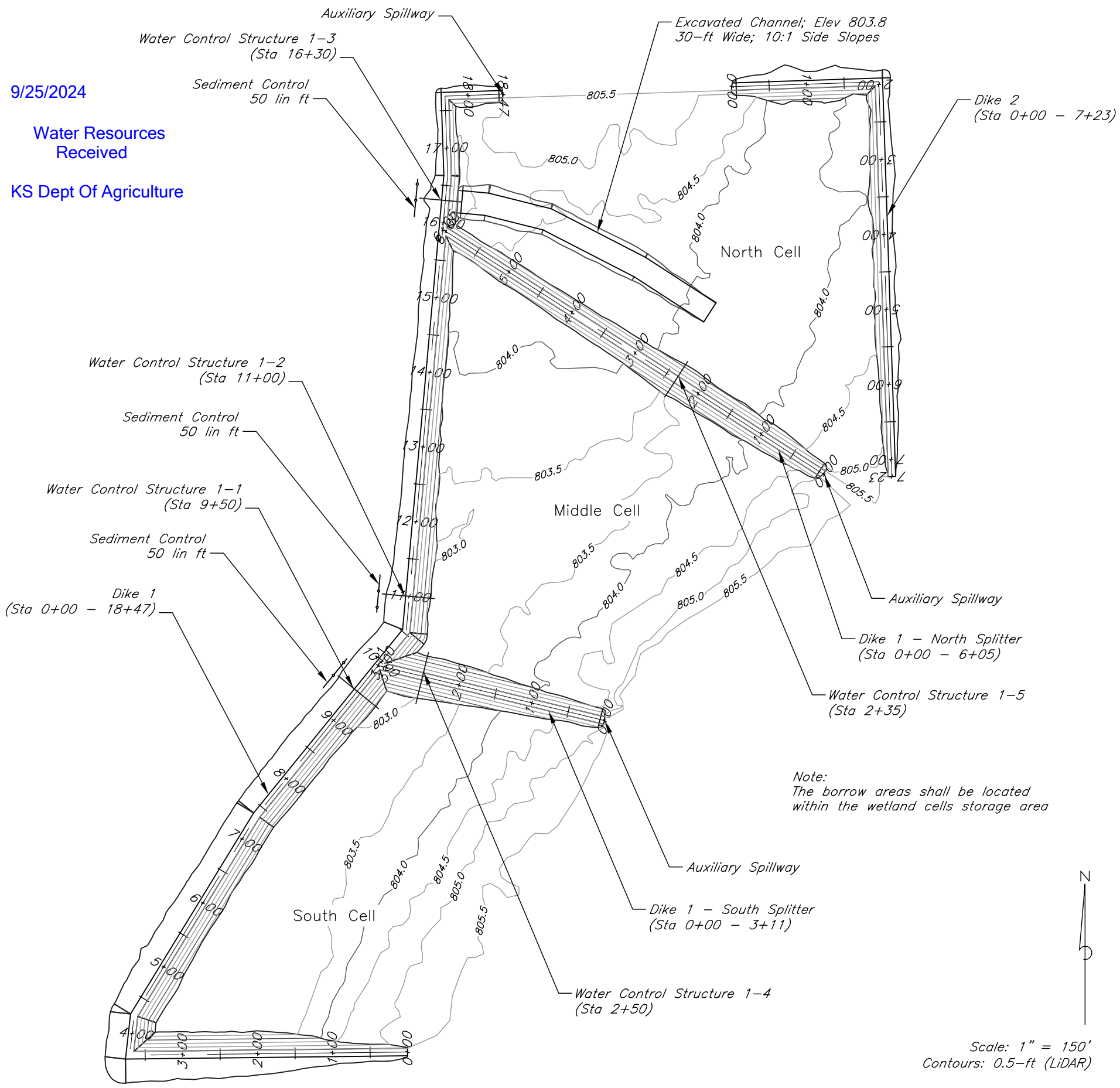
| | | Date |
|---|---|---|
| Designed | B Severin | 09/24 |
| Drawn | B Severin | 09/24 |
| Checked | M Miller | 09/24 |
| Approved | B Severin | 09/24 |

Eocene SM Environmental Group

9/25/2024

Water Resources
Received

KS Dept Of Agriculture




Note:
The borrow areas shall be located within the wetland cells storage area

Scale: 1" = 150'
Contours: 0.5–ft (LiDAR)

| North Cell Stage Storage Table | | | |
|---|---|---|---|
| Elevation (ft) | Area (ac) | Total Storage (ac–ft) | Total Storage + Net Evaporation (ac–ft) |
| 803.8 | 0.00 | 0.00 | 0.00 |
| 804.0 | 1.42 | 0.14 | 0.62 |
| 804.5 | 3.00 | 1.25 | 2.25 |
| ASW 805.0 | 4.18 | 3.04 | 4.44 |
| TOD 805.5 | 4.86 | 5.30 | 6.92 |

| Middle Cell Stage Storage Table | | | |
|---|---|---|---|
| Elevation (ft) | Area (ac) | Total Storage (ac–ft) | Total Storage + Net Evaporation (ac–ft) |
| 803.0 | 0.02 | 0.00 | 0.00 |
| 803.5 | 1.22 | 0.31 | 0.72 |
| 804.0 | 2.82 | 1.32 | 2.26 |
| 804.5 | 3.89 | 3.00 | 4.30 |
| ASW 805.0 | 4.42 | 5.08 | 6.55 |
| TOD 805.5 | 4.83 | 7.39 | 9.00 |

| South Cell Stage Storage Table | | | |
|---|---|---|---|
| Elevation (ft) | Area (ac) | Total Storage (ac–ft) | Total Storage + Net Evaporation (ac–ft) |
| 803.0 | 0.04 | 0.00 | 0.00 |
| 803.5 | 1.58 | 0.40 | 0.93 |
| 804.0 | 2.24 | 1.36 | 2.10 |
| 804.5 | 2.81 | 2.62 | 3.55 |
| ASW 805.0 | 3.43 | 4.18 | 5.32 |
| TOD 805.5 | 4.18 | 6.08 | 7.47 |

# Topographic Plan Map and Storage Tables



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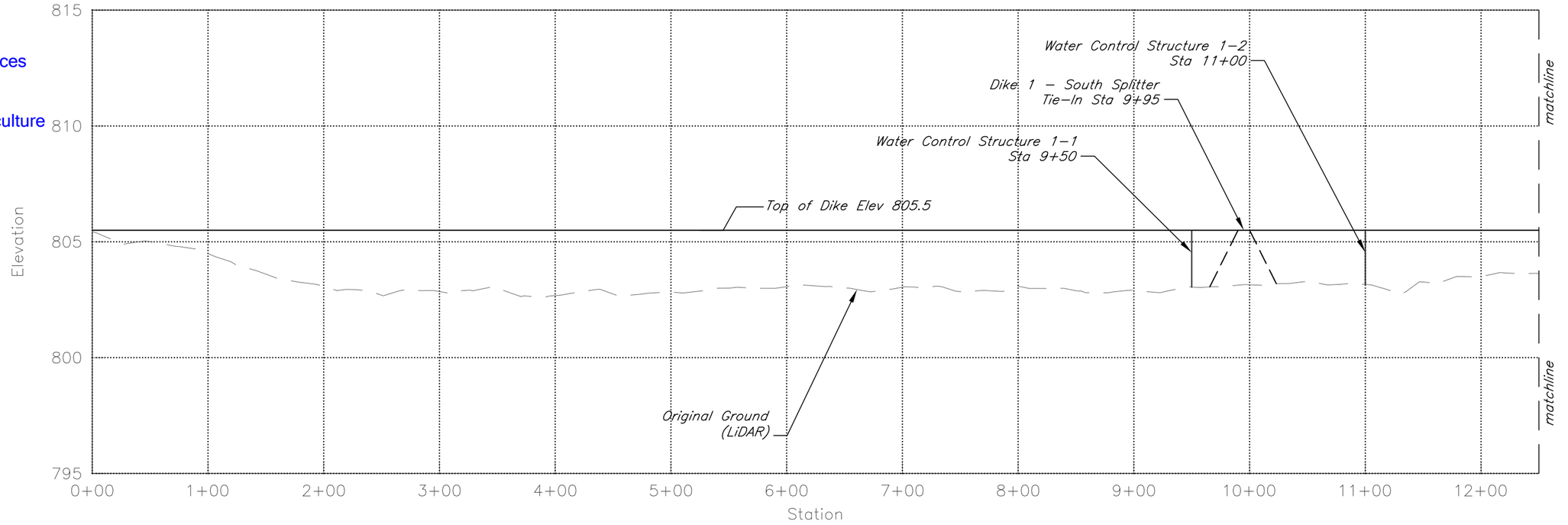
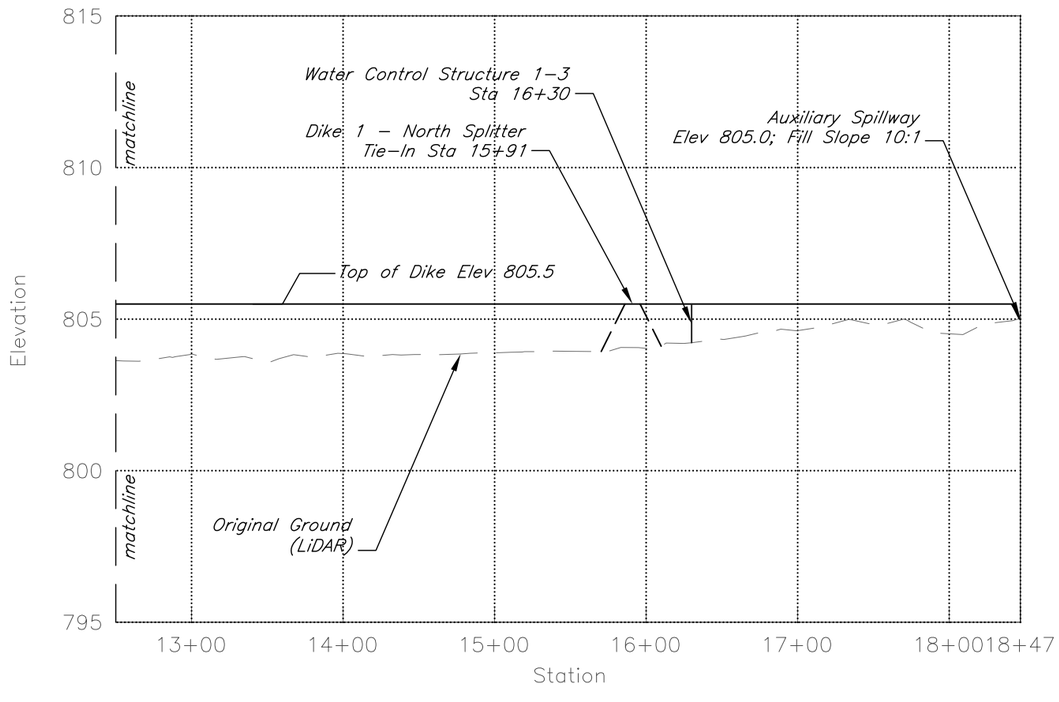
Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T–33S; R–22E
Cherokee County, Kansas

| | | Date |
|---|---|---|
| Designed | B Severin | 09/24 |
| Drawn | B Severin | 09/24 |
| Checked | M Miller | 09/24 |
| Approved | B Severin | 09/24 |




Profile View of Dike 1




Profile View of Dike 1

# Dike 1 Profile

| | Date |
|---|---|
| Designed B Severin | 09/24 |
| Drawn B Severin | 09/24 |
| Checked M Miller | 09/24 |
| Approved B Severin | 09/24 |

Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T-33S; R-22E
Cherokee County, Kansas

Eocene SM Environmental Group

9/25/2024

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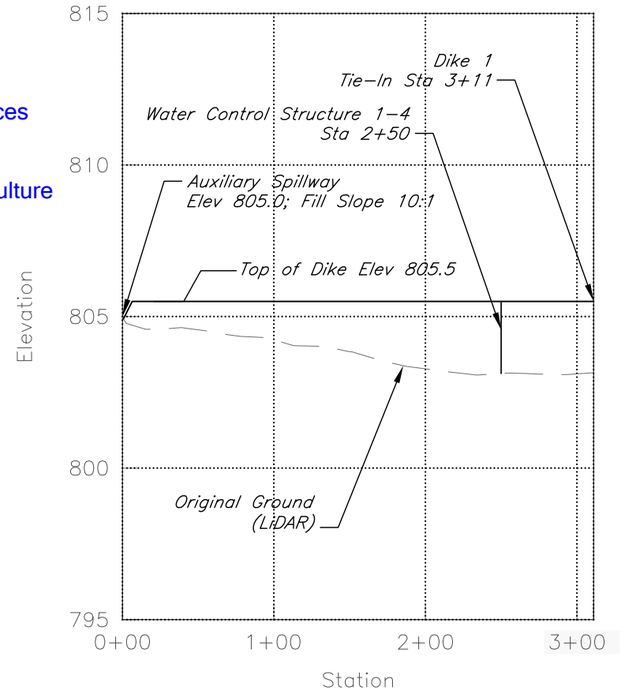
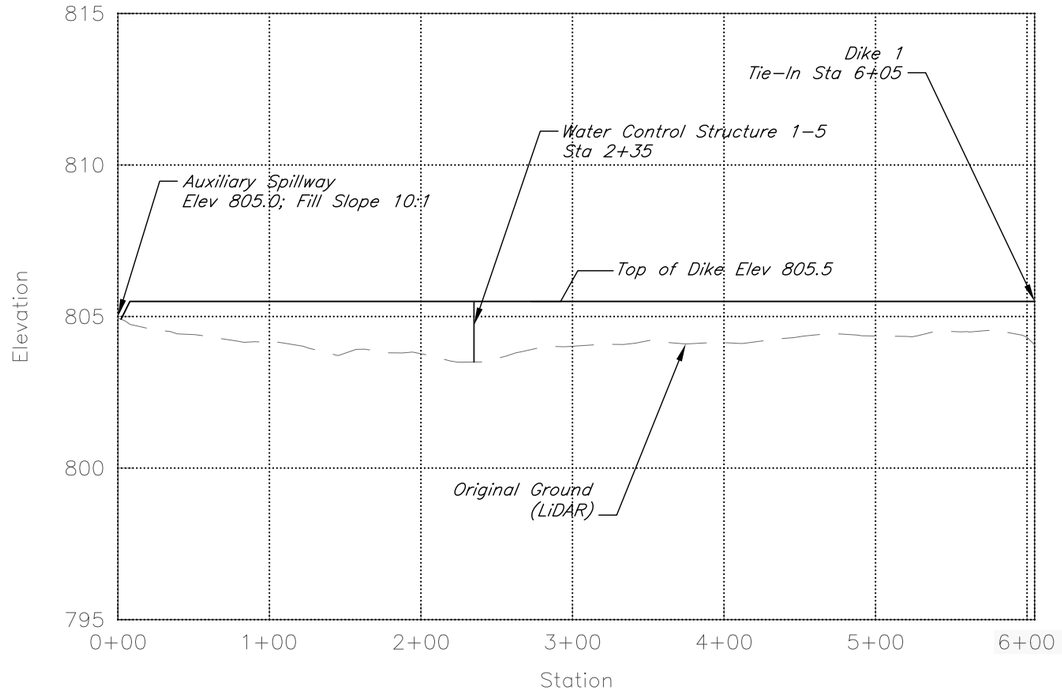
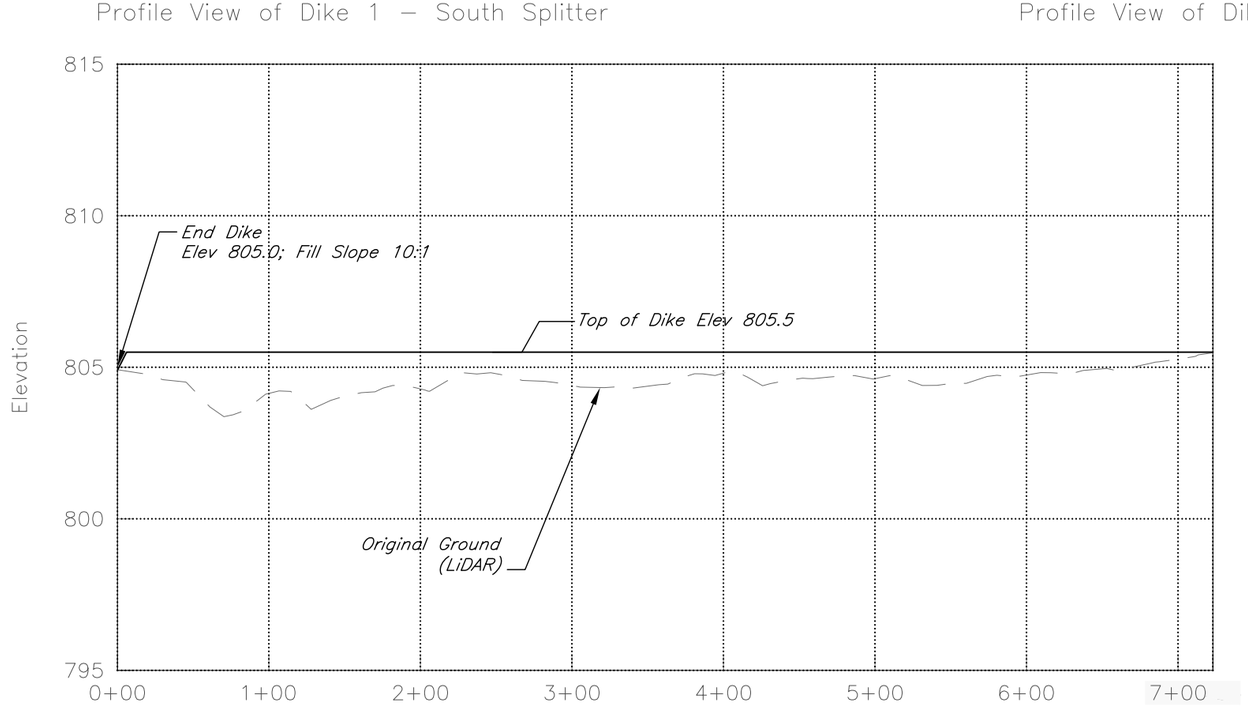



Profile View of Dike 1 – South Splitter




Profile View of Dike 1 – North Splitter




Profile View of Dike 2

*Dike 1 Splitter and Dike 2 Profiles*

| | | Date |
|---|---|---|
| Designed | B Severin | 09/24 |
| Drawn | B Severin | 09/24 |
| Checked | M Miller | 09/24 |
| Approved | B Severin | 09/24 |

Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T-33S; R-22E
Cherokee County, Kansas

Eocene SM Environmental Group

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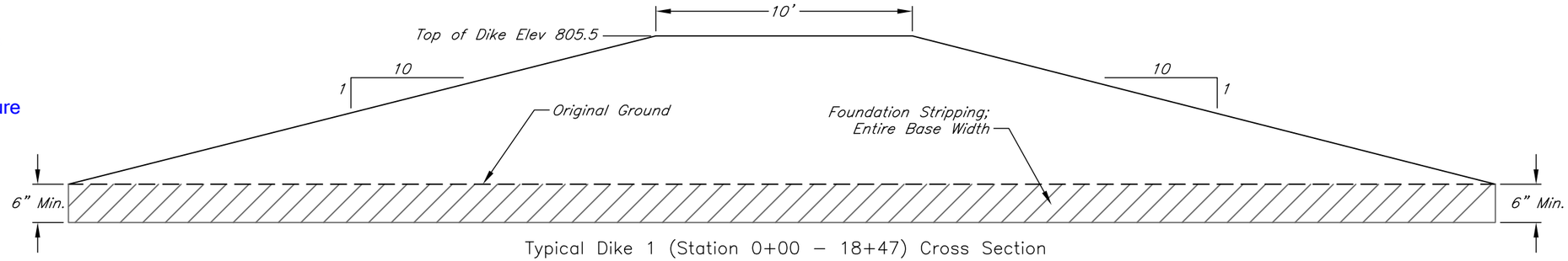
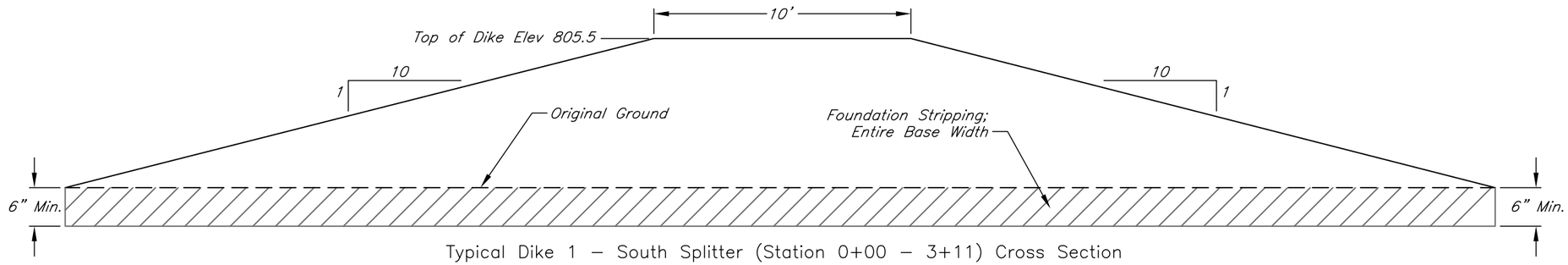
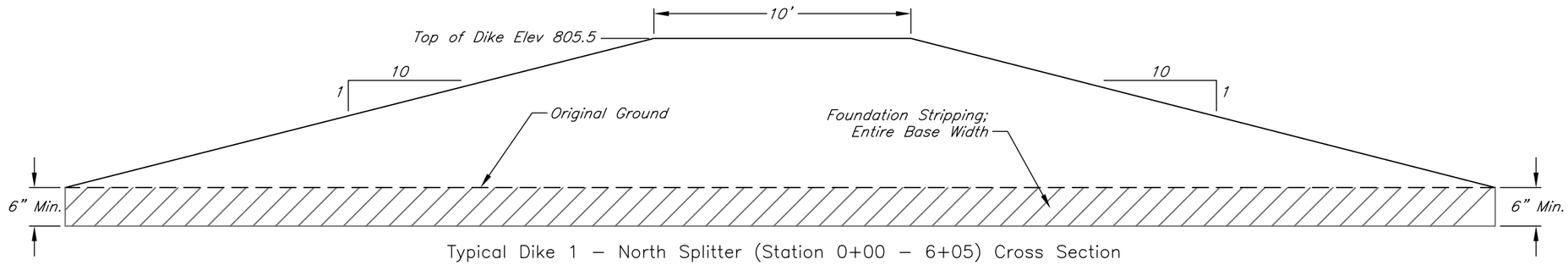


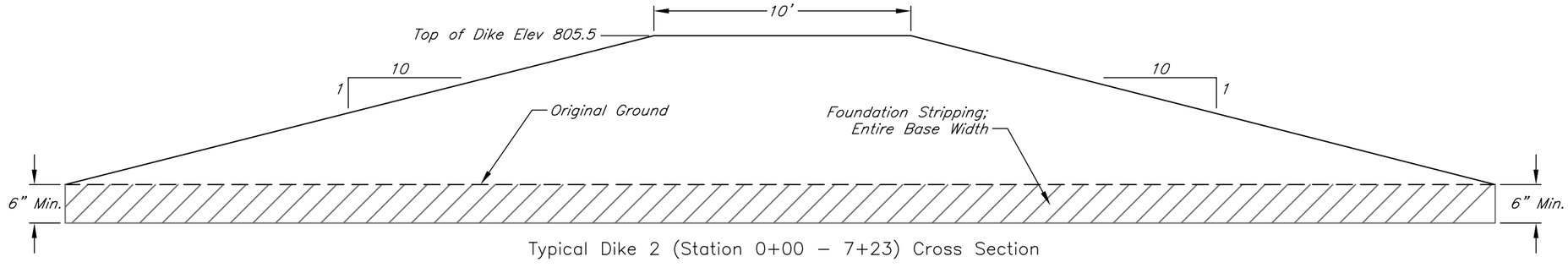

Typical Dike 1 (Station 0+00 – 18+47) Cross Section




Typical Dike 1 – South Splitter (Station 0+00 – 3+11) Cross Section




Typical Dike 1 – North Splitter (Station 0+00 – 6+05) Cross Section




Typical Dike 2 (Station 0+00 – 7+23) Cross Section

Dike Sections

| | Date |
|---|---|
| Designed B Severin | 09/24 |
| Drawn B Severin | 09/24 |
| Checked M Miller | 09/24 |
| Approved B Severin | 09/24 |

Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T-33S; R-22E
Cherokee County, Kansas

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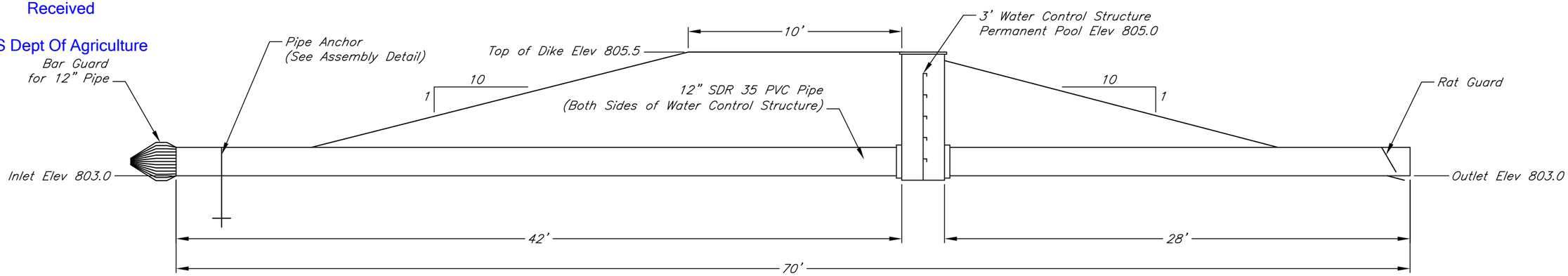
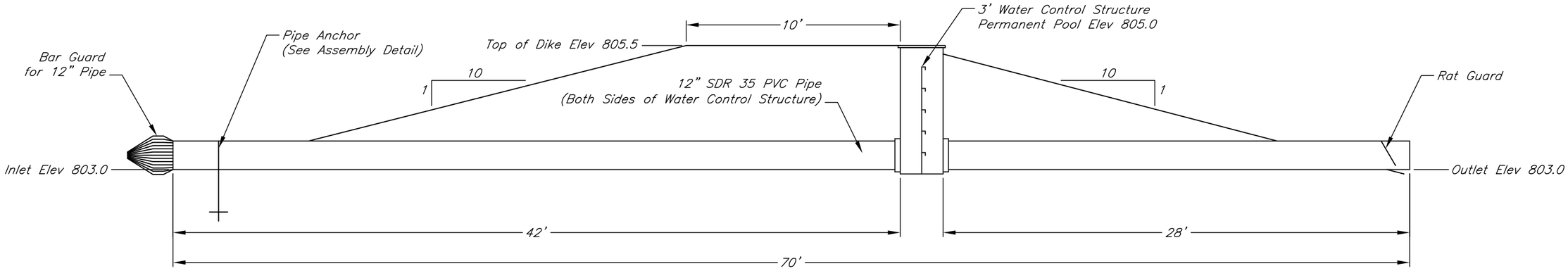
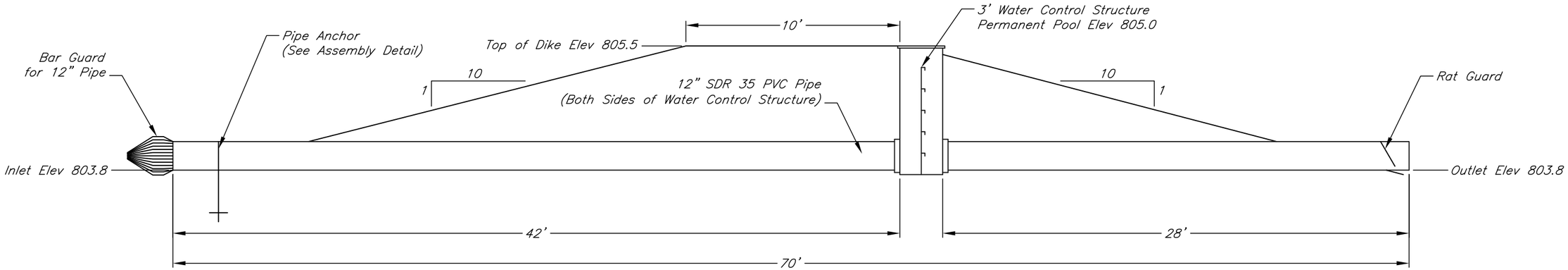



Water Control Structure 1–1 (Dike 1 Station 9+50) Cross Section




Water Control Structure 1–2 (Dike 1 Station 11+00) Cross Section




Water Control Structure 1–3 (Dike 1 Station 16+30) Cross Section

# Water Control Structure Sections

| | | Date |
|---|---|---|
| Designed | B Severin | 09/24 |
| Drawn | B Severin | 09/24 |
| Checked | M Miller | 09/24 |
| Approved | B Severin | 09/24 |

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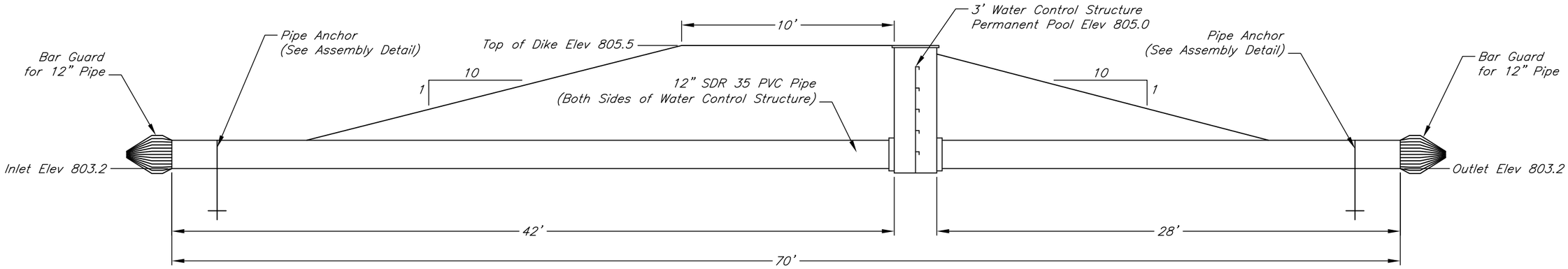
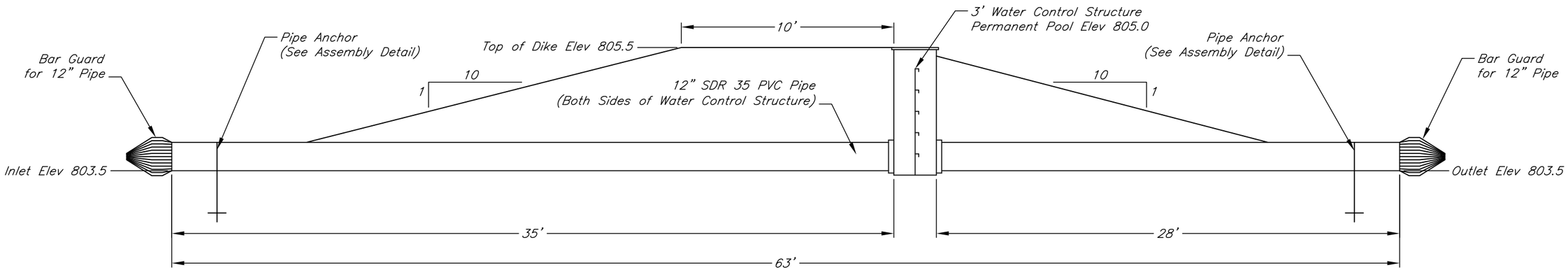
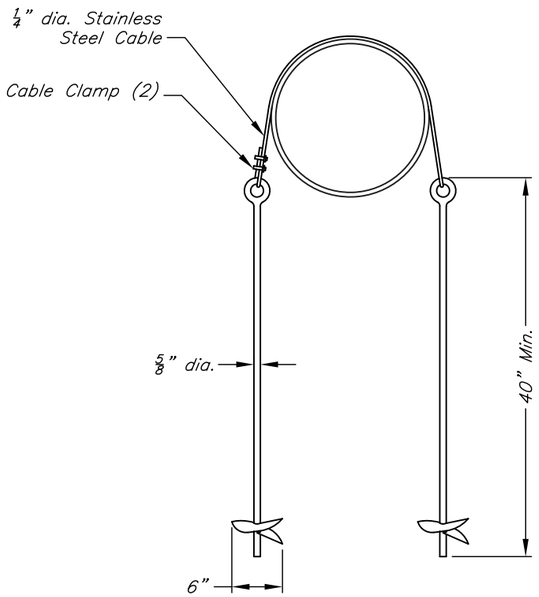



Water Control Structure 1–4 (Dike 1 – South Splitter Station 2+50) Cross Section




Water Control Structure 1–5 (Dike 1 – North Splitter Station 2+35) Cross Section




Pipe Anchor Assembly Detail
(not to scale)

9/25/2024

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*Water Control Structure Sections*

| | Date |
|---|---|
| Designed B Severin | 09/24 |
| Drawn B Severin | 09/24 |
| Checked M Miller | 09/24 |
| Approved B Severin | 09/24 |

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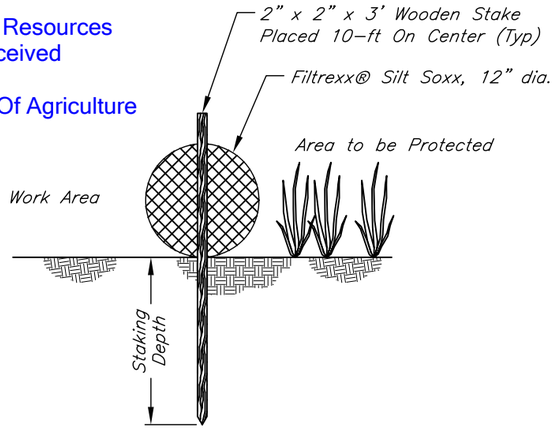
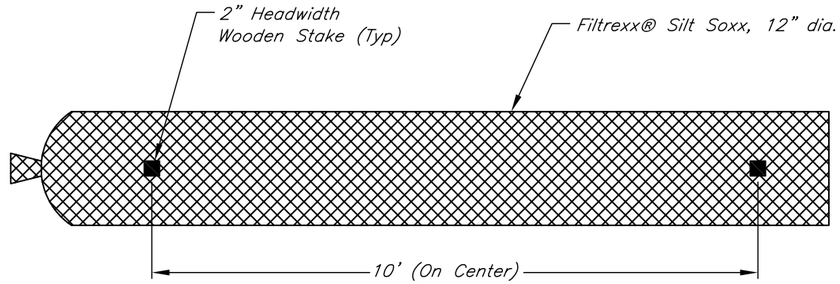
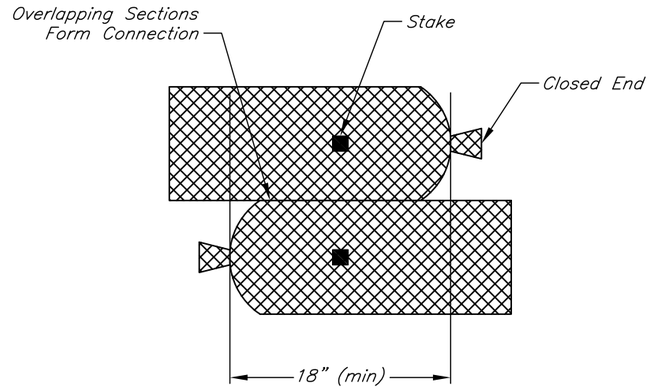



SECTION VIEW



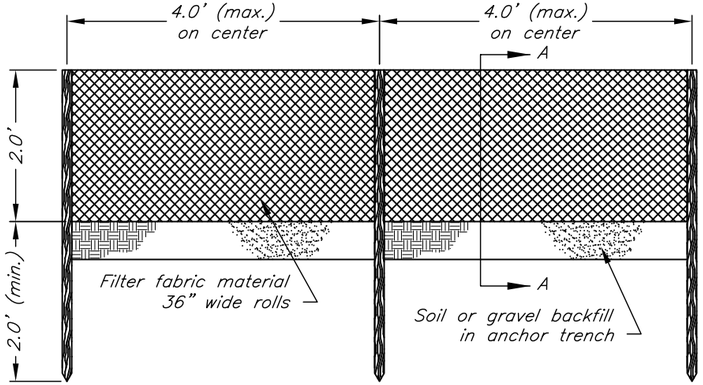

TOP VIEW



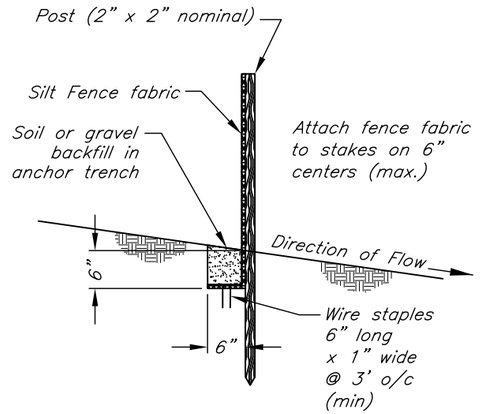

CONNECTION / ATTACHMENT DETAIL

*GENERAL NOTES FOR FILTREXX® SILT SOXX (PERIMETER CONTROL):*

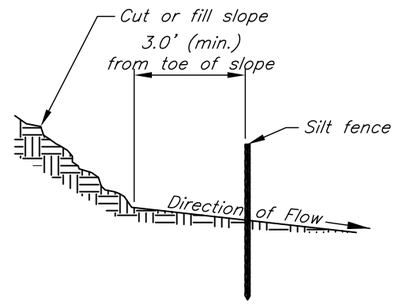
1. *Perimeter control shall be installed parallel to the base of the slope or other disturbed area.*
2. *Stakes should be installed through the middle of the perimeter control on 10 ft centers, using 2 in x 2 in x 3 ft wooden stakes.*
3. *Staking depth for sand and silt loam soils shall be 12 inches, and 8 inches for clay soils.*
4. *Loose compost may be backfilled along the upstream side of the perimeter control, filling the seam between the soil surface and the device, improving filtration and sediment retention.*




SILT FENCE BARRIER
FRONT VIEW




SECTION A–A




TYPICAL SILT FENCE
PLACEMENT

*GENERAL NOTES FOR SILT FENCE:*

1. *Posts are to be installed on the downhill side of the geotextile.*
2. *Backfill anchor trench with compacted soil or gravel.*
3. *Install silt fence along contour lines, with a short section turned upgrade at each end of the barrier.*
4. *Where possible, lay out the silt fence 5.0 ft to 6.0 ft beyond the toe of the slope.*
5. *Extend the bottom 12" of the filter fabric to line the front and bottom of the trench.*
6. *Maintain a properly functioning silt fence throughout the duration of the project or until disturbed areas have been vegetated.*
7. *Remove sediment as it accumulates and place it in a stable area approved by the engineer.*
8. *Fasteners: The geotextile may be attached to the posts using geotextile pockets, staples, or nails. Staples shall be no. 17 gauge minimum and shall have a minimum 0.75 in. wide crown and 0.5 in. long legs. Nails shall be a minimum of 14 gauge, 1 inch long, with 0.75 in. button heads. Spacing shall be 6" maximum.*
9. *When joints are necessary, geotextile shall be spliced together at a support post with a minimum overlap of 18 inches, and securely sealed.*

# *Sediment Control Detail*

| | Date |
|---|---|
| Designed — B Severin | 09/24 |
| Drawn — B Severin | 09/24 |
| Checked — M Miller | 09/24 |
| Approved — B Severin | 09/24 |

Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T–33S; R–22E
Cherokee County, Kansas

Eocene SM Environmental Group


1320 0 1320 2640

Scale in Feet

Date

Designed B Severin 09/24

Drawn B Severin 09/24

Checked M Miller 09/24

Approved B Severin 09/24

Martin Family Revocable Living Trust
Wetland Development (New Construction)
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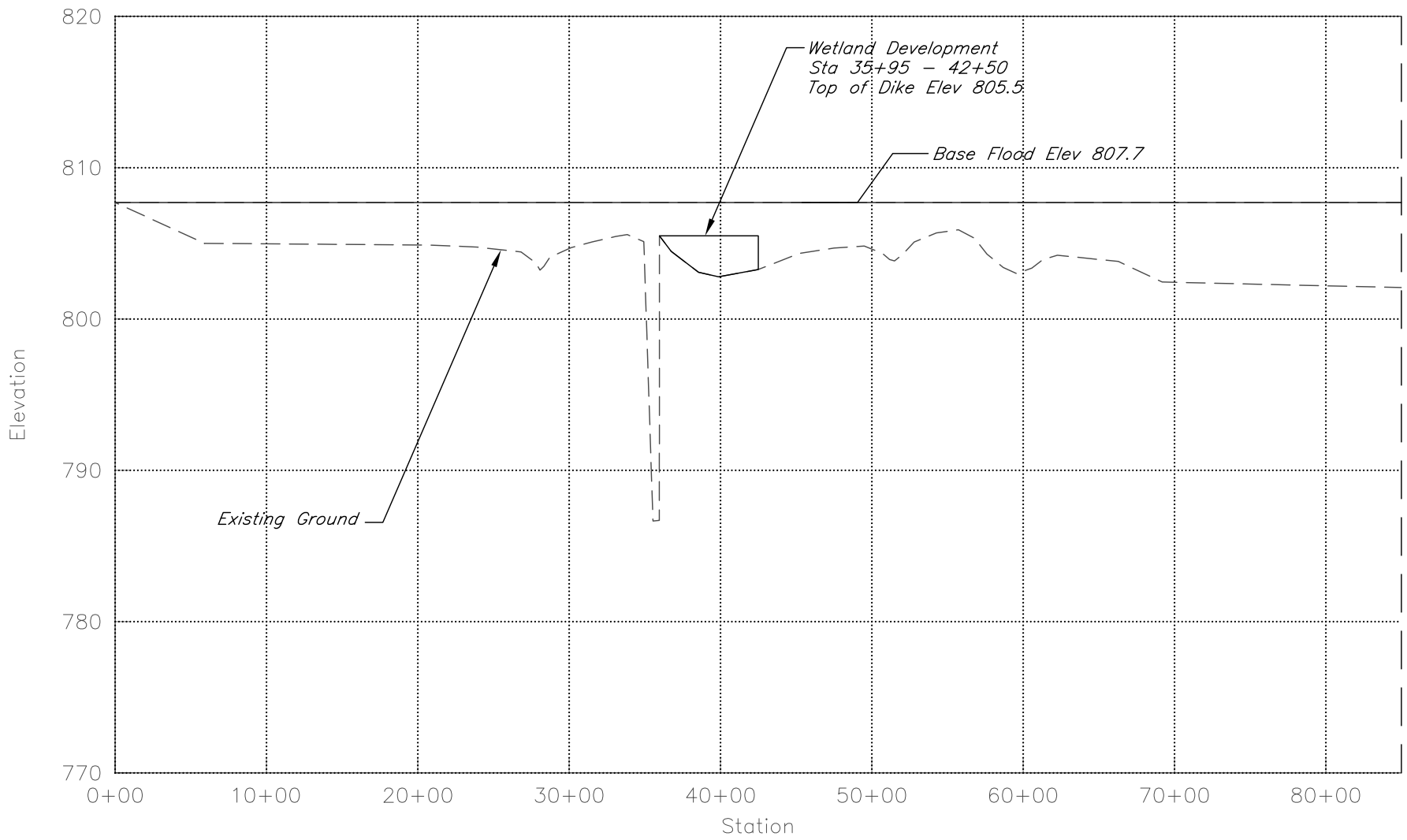
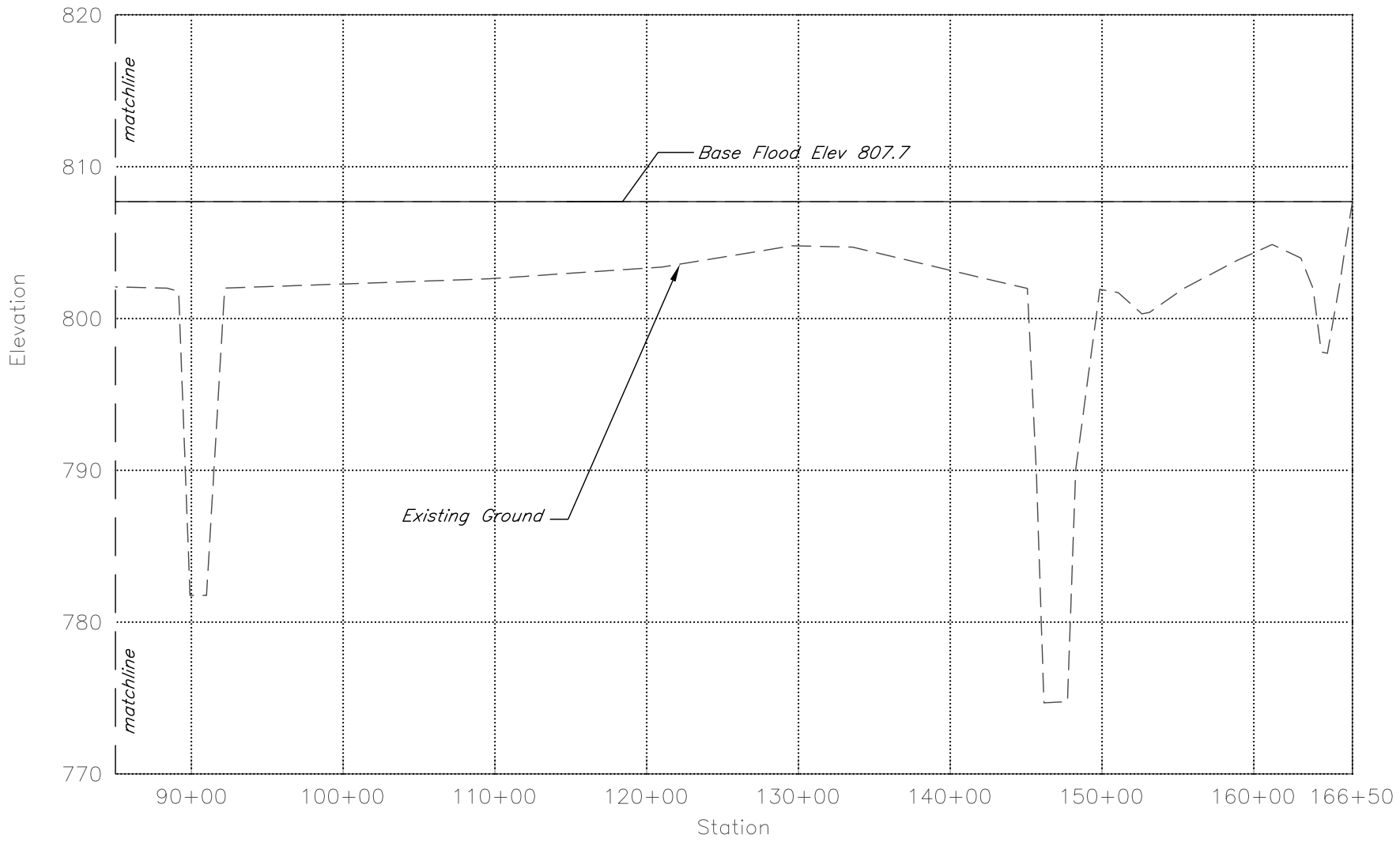
Sheet 11 of 12



Base Flood Analysis




Profile View of Base Flood




Profile View of Base Flood

*References:*

*Existing ground and channels: LiDAR Topographic Data and the U.S. Geological Survey (USGS) 7.5 minute quadrangle map*

*Base Flood Elevation Determination: Keegan Schwartz, KDA – Division of Water Resources*

*FEMA Zone A Floodplain: National Flood Insurance Program, Flood Insurance Rate Map (FIRM) Map Numbers FM20021C0150C and FM20021C0275C, Unincorporated areas of Cherokee County, KS (11/19/2008); Map Numbers FM20099C0365D and FM20099C0480D, Unincorporated areas of Labette County, KS (01/02/2009).*

*No DWR permitted floodplain fills are located within 1/4 mile of the dike location. Therefore, a geometric base flood analysis was completed.*

*KDA–DWR Determined Base Flood Elevation = 807.7*
*Base flood section area = 82,730 sq. ft.*
*Top width of base flood section = 16,650 ft*
*Maximum earthfill area below base flood elevation = 1,340 sq. ft.*

*Earthfill will increase base flood area by 2%*
*Earthfill will increase base flood elevation by 0.08 ft.*

*Base Flood Analysis Completed By: Brian W Severin Date: 09/20/2024*

9/25/2024

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Base Flood Analysis



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Martin Family Revocable Living Trust
Wetland Development (New Construction)
SW 1/4 Sec 31, T–33S; R–22E
Cherokee County, Kansas

| | | Date |
|---|---|---|
| Designed | B Severin | 09/24 |
| Drawn | B Severin | 09/24 |
| Checked | M Miller | 09/24 |
| Approved | B Severin | 09/24 |

# Construction Specifications

## 1. Scope

The work shall consist of all construction operations and furnishing all materials as required by the drawings and specifications for the complete installation of the works. All work shall be conducted in a skillful and workmanlike manner. The completed job shall present a workmanlike appearance.

## 2. Location

The location of each component of the wetland development shall be as specified on the drawings, described in the construction specifications, or as staked in the field.

## 3. Site Preparation

Construction Area – The construction area shall be cleared of all trees, logs, roots, brush, boulders, sod, and rubbish. Cleared soil material with minimal amounts of vegetation may be stockpiled and used to topsoil the dikes. Material with excessive amounts of vegetation shall be spoiled.

## 4. Excavation

To the extent it is suitable, excavated material shall be used as earthfill material.

Foundation Stripping – A minimum stripping of six inches of topsoil shall be excavated over the entire base width of the earthfill.

Borrow – The location and extent of the borrow shall be within the wetland cell storage area. The borrow area shall be stripped of any objectionable material before placing in the earthfill.

## 5. Earthfill

All earthfill materials shall be obtained from the required excavations and designated borrow areas. Earthfill materials shall be free of sod, roots, frozen soil, large stones, and other objectionable material. Earthfill material shall not be placed until required foundation preparation has been completed.

Dike earthfill shall be clay material with minimal silt. The placement shall be started at the lowest point in the foundation and brought up in horizontal layers. The depth of each lift of earthfill before compaction shall not exceed 9 inches. The dike fill shall be machine compacted by the controlled movement of hauling and spreading equipment. Every point of each lift surface shall be traversed by not less than one tread track of the equipment. Stockpiled topsoil shall be placed on the outer portions of the structure. Topsoil shall not be less than 6 inches or more than 2 feet thick.

The completed work shall conform to the lines, grades, and elevations shown on the drawings. Finished slopes shall be as specified or flatter.

## 6. Water Control Structure

A pre-manufactured, Agri-Drain inline water control structure shall be installed to control the water level of the wetland cells. Reference the plan sheets for water control structure size.

Smooth plastic pipe and fittings shall be extruded from polyvinyl chloride (PVC) compounds and shall conform to ASTM D-2241 or ASTM D-3034. The standard dimension ratio (SDR) of the pipe shall be less than or equal to that shown in the plans. Plastic (PVC) pipe manufactured under other ASTM or AWWA specifications may be accepted if: 1) PVC materials conform to ASTM D-1784, Class 12454-B or 12454-C; 2) joints at fittings and pipe sections are gasketed and watertight; and 3) the pipe material is approved by the inspector prior to installation.

The pipe and water control structure shall be installed coinciding with the dike fill lifts. Backfill material shall be a loose, friable, cohesive soil, free from clods, grass, weeds, straw, or other organic matter.

## 7. Vegetation

The dike and denuded construction areas shall be seeded to permanent grass vegetation immediately following construction. Seeding specifications shall be provided prior to construction.

## 8. Measurement

Unless otherwise specified, measurement shall be to the units shown in the table of quantities and/or drawings.

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# KDA – Division of Water Resources (DWR) Report

## Direct Diversion

A pumping site is proposed to control and maintain the wetland hydrology. The pumping site will be located as shown on the plan sheets, with the water source being Cherry Creek. Therefore, a Water Appropriation for Beneficial Use (Direct Diversion) permit will be required.

## Surface Water Storage

The Potential Net Evaporation (Annual Average Evaporation minus Annual Normal Precipitation) for the project location is 4 inches. The net storage for the wetland cells was analyzed from the auxiliary spillway elevation. Water control structures will be used in the dikes to maintain freeboard and manage the water level within the wetland cell. The Total Storage + Net Evaporation for the wetland cells is less than 15 ac-ft. Also, the wetland cells will not capture overland flow runoff. All hydrology will be supplied by direct rainfall, seasonal flooding, and surface water pumping. Therefore, a DWR Water Appropriation for Beneficial Use (Storage) permit will not be required.

North Cell Stage Storage Table

| Elevation (ft) | Area (ac) | Total Storage (ac-ft) | Total Storage + Net Evaporation (ac-ft) |
|---|---|---|---|
| 803.8 | 0.00 | 0.00 | 0.00 |
| 804.0 | 1.42 | 0.14 | 0.62 |
| 804.5 | 3.00 | 1.25 | 2.25 |
| 805.0 (Auxiliary Spillway) | 4.18 | 3.04 | 4.44 |
| 805.5 (Top of Dike) | 4.86 | 5.30 | 6.92 |

Middle Cell Stage Storage Table

| Elevation (ft) | Area (ac) | Total Storage (ac-ft) | Total Storage + Net Evaporation (ac-ft) |
|---|---|---|---|
| 803.0 | 0.00 | 0.00 | 0.00 |
| 803.5 | 1.22 | 0.31 | 0.72 |
| 804.0 | 2.82 | 1.32 | 2.26 |
| 804.5 | 3.89 | 3.00 | 4.30 |
| 805.0 (Auxiliary Spillway) | 4.42 | 5.08 | 6.55 |
| 805.5 (Top of Dike) | 4.83 | 7.39 | 9.00 |

South Cell Stage Storage Table

| Elevation (ft) | Area (ac) | Total Storage (ac-ft) | Total Storage + Net Evaporation (ac-ft) |
|---|---|---|---|
| 803.0 | 0.04 | 0.00 | 0.00 |
| 803.5 | 1.58 | 0.40 | 0.93 |
| 804.0 | 2.24 | 1.36 | 2.10 |
| 804.5 | 2.81 | 2.62 | 3.55 |
| 805.0 (Auxiliary Spillway) | 3.43 | 4.18 | 5.32 |
| 805.5 (Top of Dike) | 4.18 | 6.08 | 7.47 |

## Base Flood Analysis

The project is located within the FEMA Zone A flood boundary of Cherry Creek and Neosho River. Therefore, a floodplain fill permit will be required. There are no DWR permitted floodplain fills located within ¼ mile of the wetland development location. Therefore, a geometric base flood analysis was completed to determine the increase in base flood area and flood elevation. The elevation of the existing ground and channels was approximated from Kansas LiDAR topographic data and the U.S. Geological Survey (USGS) 7.5-minute quadrangle map. The Base Flood Elevation (BFE) for the project location was determined by Keegan Schwartz, KDA-DWR. The FEMA Zone A, 100-yr floodplain was approximated from the FEMA FIRM data (Unincorporated Areas of Cherokee County, KS and Labette County, KS). The proposed wetland development will increase the base flood area by 2% and the base flood elevation by 0.08 feet. See Base Flood Analysis plan sheets for further detail.

9/25/2024

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# Stormwater Pollution Prevention Plan

## Stormwater Overview

Stormwater enters the project sites as direct rainfall and seasonal flooding. The wetland cells will serve as sediment basins for the contributing drainage areas. The wetland storage areas and borrow excavations will trap suspended pollutants, both during and after construction.

## Areas of Disturbance

The estimated total area of disturbance for this project is approximately 13 acres. The primary area of disturbance will be in the designed structure and borrow area locations. Additional disturbance will occur in construction travel lanes. Travel lanes shall be smoothed at the project conclusion. Existing vegetation buffering the construction zone will be left undisturbed.

## Description of Best Management Practices

Construction of the dikes and borrow areas create additional onsite sediment storage. Sediment control measures will be installed in the natural field drain down gradient of the water control structures. The dike berms will be seeded to permanent vegetation and mulched within 14 days after soil disturbing activities are completed. The existing vegetation around the easement perimeter shall be left undisturbed.

## Other Pollution Controls

Trash, scraps, and shipping wastes will be collected and disposed offsite. Construction equipment will be monitored for leaks. Equipment will be maintained in good working condition to reduce leakage. Petroleum products shall be stored in tightly sealed containers that are clearly marked. Any discharge or escape of sewage, substances, materials, or wastes, which contaminate, or threaten to contaminate or alter any of the properties of the waters of the State or pollute soil in a detrimental, harmful, or injurious manner or will create a nuisance, shall be immediately reported to the Kansas Department of Health and Environment (KDHE). The report shall be made by telephone to the KDHE Spill Reporting Number (24/7) at 785-296-1679. The spiller is responsible to report to all the appropriate state agencies depending on the material and volume spilled.

## Maintenance of Control Measures

All control measures will be inspected within 24 hours following any storm event exceeding ½ inch of precipitation. Routine inspection will be completed at least once every 14 days until vegetation is established and the Notice of Termination is submitted. All measures will be maintained in proper working order with as needed repairs being completed within 7 days of the inspection finding. The contractor will be responsible for monitoring, maintenance, and repairs during the construction period only.

## Permanent Pollution Control

The wetland cells, permanent grasses/forbs, and hydrophytic vegetation will serve as permanent pollution control for the project site.

## Construction Sequence

To minimize the off-site effects of erosion and sedimentation, the sequence of major soil disturbing construction activities shall be as follows:

1. Sediment Control Installation
2. Dike Foundation Stripping
3. Borrow Area Excavation and Dike Construction
4. Water Control Structure and Pipe Installation
5. Grass Seeding and Mulching

Estimated Project Start: 12/1/2024

Estimated Completion: 2/1/2025

Estimated NOT: 6/1/2025