

DUCKS UNLIMITED

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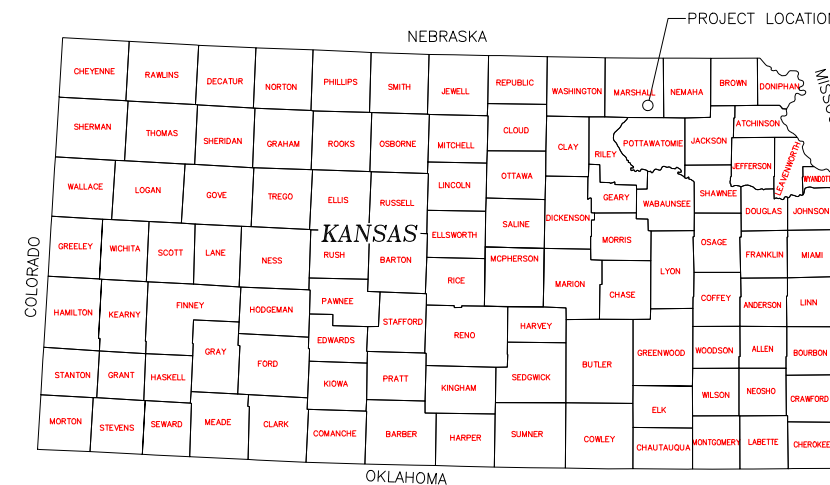
PROJECT

DAN HOWELL WETLANDS

LOCATED IN THE SE¹/₄ OF SECTION 9
TOWNSHIP 5S, RANGE 8E, 6TH P.M.
MARSHALL COUNTY, KANSAS

IN COOPERATION WITH

NAWCC



SPECIFICATIONS

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- 102 SUPPLEMENTAL CONDITIONS
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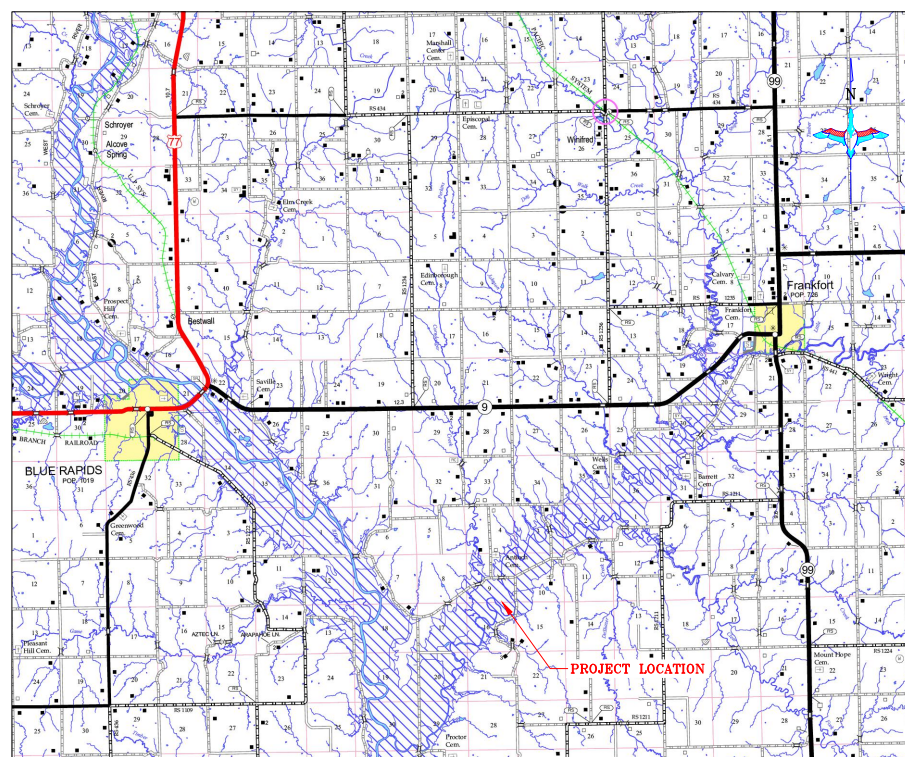
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ESTIMATED QUANTITIES

MOBILIZATION	1 L.S.
SITE PREPARATION	1 L.S.
EXCAVATION (INCIDENTAL TO EMBANKMENT & FILL CONSTRUCTION)	
EMBANKMENT	572 C.Y.-P**
FILL	325 C.Y.-P**
WATER	1 M-GAL.
WATER CONTROL STRUCTURE (4' TALL)	1 E.A.
DU CLASS II RIP RAP W/ FILTER FABRIC	13.2 C.Y.-P**
24" SDR 51 PVC PIPE	64 L.F.-A*
SEEDING & MULCHING	1 L.S.
ROCK CHECK DAM	1 L.S.

* PAYMENT WILL BE BASED ON ACTUAL QUANTITY USED OR INSTALLED.
** PAYMENT WILL BE BASED ON THE PLAN QUANTITY LISTED ABOVE.
NOTE, FILL QUANTITY INCLUDES A 20% SHRINKAGE FACTOR



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

ALL WRITTEN SCALES ARE ACCURATE ON 24x36 INCH SHEETS.
THE BELOW SCALE BAR CAN BE USED TO CHECK PLAN SET SCALE.



UTILITIES NOTE: BEFORE THE START OF CONSTRUCTION, THE OWNER OF ANY UTILITIES INVOLVED MUST BE NOTIFIED. THE EXCAVATOR/CONTRACTOR IS RESPONSIBLE FOR GIVING THIS NOTICE BY CALLING "KANSAS ONE CALL" AT 811 OR 1-800-DIG-SAFE (1-800-344-7233) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

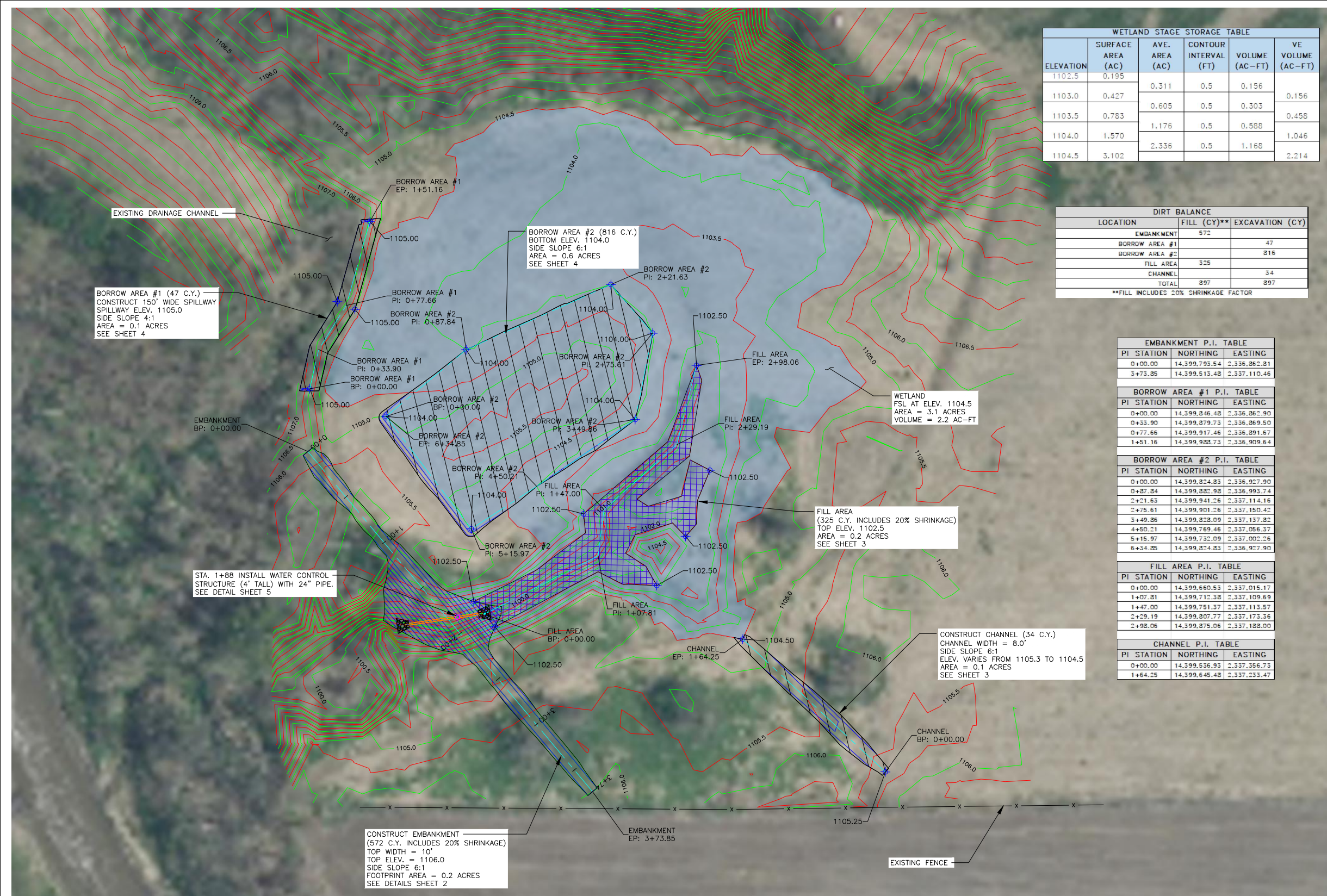
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DU FIELD ENGINEER:
KADE URBAN
HAYS, KS 67601
(785) 259-7624

DU REGIONAL ENGINEER:
CRAIG ROY, P.E.
LOUISBURG, KS 66053
(913) 991-2223

PRELIMINARY NOT FOR CONSTRUCTION

	PROJECT NO. KS-285-1	DESIGNED BY: KPU
	DAN HOWELL WETLANDS	DRAWN BY: KPU
GREAT PLAINS REGIONAL OFFICE	LOCATION & VICINITY MAPS	SURVEYED BY: KPU
DATE: 1/15/2024	SHEET NO. 1 OF 8	CHECKED BY: CAR
	APPROVED BY: CAR	APPROVED BY:



ELEVATION	SURFACE AREA (AC)	AVE. AREA (AC)	CONTOUR INTERVAL (FT)	VOLUME (AC-FT)	VE VOLUME (AC-FT)
1102.5	0.195				
1103.0	0.427	0.311	0.5	0.156	0.156
1103.5	0.783	0.605	0.5	0.303	0.458
1104.0	1.570	1.176	0.5	0.588	1.046
1104.5	3.102	2.356	0.5	1.168	2.214

LOCATION	FILL (CY)**	EXCAVATION (CY)
EMBANKMENT	572	
BORROW AREA #1		47
BORROW AREA #2		816
FILL AREA	325	
CHANNEL		34
TOTAL	897	897

**FILL INCLUDES 20% SHRINKAGE FACTOR

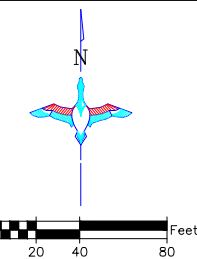
PI STATION	NORTHING	EASTING
0+00.00	14,399,846.48	2,336,862.81
3+73.85	14,399,513.48	2,337,110.46

PI STATION	NORTHING	EASTING
0+00.00	14,399,846.48	2,336,862.81
0+33.90	14,399,879.73	2,336,869.50
0+77.66	14,399,917.46	2,336,891.67
1+51.16	14,399,988.73	2,336,909.64

PI STATION	NORTHING	EASTING
0+00.00	14,399,824.83	2,336,927.90
0+87.84	14,399,882.98	2,336,993.74
2+21.63	14,399,941.26	2,337,114.16
2+75.61	14,399,901.26	2,337,150.42
3+49.86	14,399,828.09	2,337,137.82
4+50.21	14,399,769.46	2,337,056.37
5+15.97	14,399,732.09	2,337,002.26
6+34.85	14,399,824.83	2,336,927.90

PI STATION	NORTHING	EASTING
0+00.00	14,399,660.53	2,337,015.17
1+07.81	14,399,712.38	2,337,109.69
1+47.00	14,399,751.37	2,337,113.57
2+29.19	14,399,807.77	2,337,173.36
2+98.06	14,399,875.06	2,337,188.00

PI STATION	NORTHING	EASTING
0+00.00	14,399,536.93	2,337,356.73
1+64.25	14,399,645.48	2,337,233.47



BORROW AREA NOTE:
SUITABLE MATERIAL FOR ALL EMBANKMENTS OR PIT FILLS SHALL BE OBTAINED FROM THE DESIGNATED BORROW AREA SHOWN ON THIS SHEET AS APPROVED BY THE DU FIELD ENGINEER. CARE SHALL BE TAKEN NOT TO OPEN UP ANY SAND LENSES THAT WILL INCREASE SEEPAGE FROM ANY EXCAVATION AREAS. FINISHED SLOPES SHALL BE 6:1 OR FLATTER AND 4" OF TOPSOIL SHALL BE RESPAVED OVER THE SLOPES. THE COST OF TOPSOIL WORK ON THE BORROW AREAS SHALL BE CONSIDERED INCIDENTAL TO "SITE PREPARATION."

- SEEDING AND MULCHING NOTE:**
- SEEDING AND MULCHING SHALL BE REQUIRED ON EMBANKMENT, SPILLWAY AND CHANNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN ADEQUATE SEED BED TO ALLOW SEEDING WITH STANDARD SEEDING EQUIPMENT. THIS WILL INCLUDE USE OF A HARROW OR OTHER MEANS IN ORDER TO LEAVE A SMOOTH, TRACK-FREE FINISH. BACK DRAGGING WITH A DOZER IS NOT AN ACCEPTABLE FINISH.
 - BEFORE LAST SPRING FROST OR APRIL 15TH (WHICHEVER IS EARLIER), AREA WILL BE SEEDING WITH A MIXTURE OF CUSTOM NATIVE GRASS MIX (SEE TABLE BELOW).
 - MULCHING SHALL REQUIRE ANCHORING OF SOME TYPE SUCH AS TACKING, MATTING, HAND PUNCHING, ROLLER PUNCHING, CRIMPER PUNCHING, OR HYDRO-SEEDING TO PREVENT BLOWING OR WASHING AWAY.
 - MULCHING APPLICATION RATE SHALL BE TWO TONS PER ACRE OR ONE 74 POUND BALE PER 800 SQUARE FEET.

Description	Pure Live Seed (PLS) per Acre
Indiangrass, Cheyenne	0.60 lbs
Switchgrass, Kan Low	0.90 lbs
Switchgrass, Cave In Rock	0.90 lbs
Little Bluestem, Aidous	0.80 lbs
Eastern Gamagrass, Variety Not Stated	2.10 lbs
Canada Wildrye, Mandan	1.50 lbs
Virginia Wildrye, Variety Not Stated	1.50 lbs
Big Bluestem, Kaw	1.20 lbs
Total	9.50 lbs

- CONSTRUCTION NOTES:**
- REMOVE ALL TOPSOIL FROM EMBANKMENT AND BORROW AREAS AND RESPAVED TOPSOIL OVER THE AREAS WHEN COMPLETE.
 - ALL FILL MATERIALS SHALL BE PLACED IN LOOSE LIFTS OF NOT MORE THAN 8 INCHES THICKNESS AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D698. MOISTURE CONTENT SHALL BE IN THE RANGE OF -1% TO +3% OF OPTIMUM MOISTURE CONTENT.

ABBREVIATIONS LIST

- BLDC = BUILDING CORNER
- BRK = BREAK
- BTM = BOTTOM
- CL = CENTER LINE
- CMP = CORRUGATED METAL PIPE ROUND
- CMPA = CORRUGATED METAL PIPE ARCH
- CONC = CONCRETE
- DIA = DIAMETER
- E = EASTING COORDINATE OR EAST
- ELEV = ELEVATION
- EMB = EMBANKMENT
- EPAV = EDGE OF PAVEMENT
- EX = EXISTING
- EXIST = EXISTING
- FES = FLARED END SECTION
- FX = FENCE
- GA = GAUGE
- GW = GUY WIRE
- INV = INVERT
- LAT = LATITUDE (WGS84)
- LONG = LONGITUDE (WGS84)
- LF = LINEAR FEET
- MISC = MISCELLANEOUS
- N = NORTHING COORDINATE OR NORTH
- NFES = NON-FLARED END SECTION
- OC = ON CENTER
- OCEW = ON CENTER EACH WAY
- OHE = OVERHEAD ELECTRIC
- PC = POINT OF INTERSECTION
- PI = POINT OF INTERSECTION
- PT = POINT OF TANGENCY
- RCP = REINFORCED CONCRETE PIPE
- RD = ROAD
- REM = REMOVE
- REQ'D = REQUIRED
- ROW = RIGHT OF WAY
- S = SOUTH
- SED = SEDIMENT
- SHLD = SHOULDER
- SLP = SLOPE
- STPLG = STOPLOG
- TBM = TEMPORARY BENCHMARK
- TEL = TELEPHONE/COMMUNICATIONS
- UG = UNDERGROUND
- VEG = VEGETATION
- W = WEST OR WITH
- WCS = WATER CONTROL STRUCTURE
- WL = WATER LEVEL
- WS = WATER SHOT

*NOTE: NOT ALL ABBREVIATIONS IN THIS LIST APPEAR ON THIS SHEET

GENERAL NOTES

- ONE HALF FOOT CONTOUR INTERVAL SHOWN.
- 2018 1 METER RESOLUTION AERIAL IMAGERY IS SHOWN.
- ITALICIZED TEXT DENOTES EXISTING FEATURE OR EXISTING ELEVATION.
- SPOT ELEVATIONS INDICATED BY +XXXX.X ARE RANDOMLY LOCATED AND ARE BASED ON SURFACE MODEL ELEVATIONS.

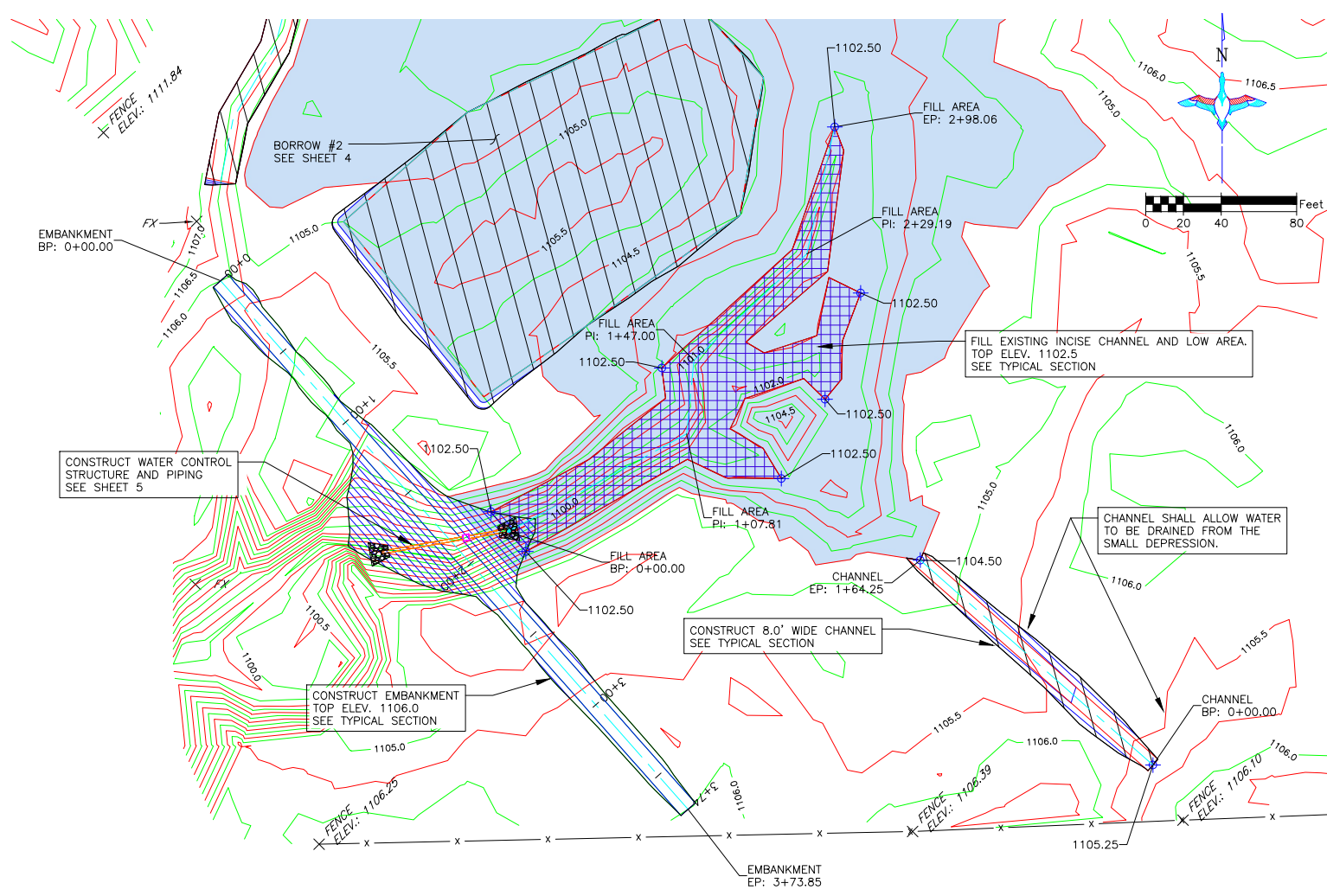
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HORIZONTAL AND VERTICAL CONTROL OPUS SOLUTION— COORDINATES ARE UTM ZONE 14 GRID COORDINATES IN US FEET [NAD83]. THEY WERE ESTABLISHED FROM THE WGS84 ELLIPSOID WITH INFORMATION FROM A TRIMBLE R12i SURVEY GRADE GPS RECEIVER ON OCTOBER 26TH, 2023 AT DUCKS UNLIMITED CONTROL POINT DU-443-23 AND CALIBRATED TO AN OPUS POSITION OCCUPIED FOR 44 MINUTE(S) AND SENT TO NGS FOR SOLUTION. THE VERTICAL CONTROL CAME FROM THE SAME SOLUTION USING GEOID 18 CONUS IN THE NAVD88. THE FULL OPUS SOLUTION REPORT IS ON FILE AT THE DUCKS UNLIMITED ENGINEERING DEPARTMENT IN GRAND ISLAND, NEBRASKA.

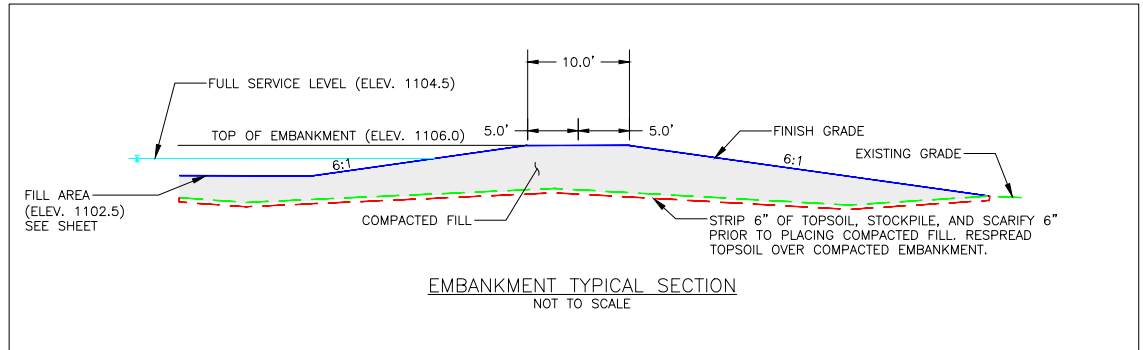
OVERALL PLAN VIEW
SCALE 1" = 40'

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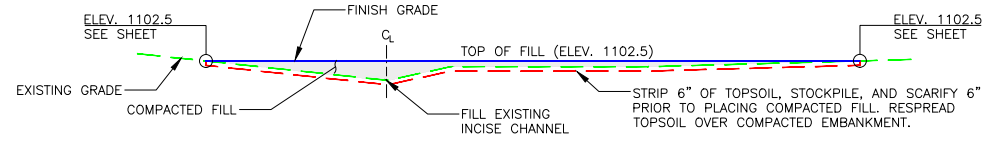
	PROJECT NO. KS-285-1	DESIGNED BY: KPU
	DAN HOWELL WETLANDS	DRAWN BY: KPU
GREAT PLAINS REGIONAL OFFICE	DATE: 1/15/2024	APPROVED BY: CAR
SHEET NO. 2 OF 8	APPROVED BY: CAR	CHECKED BY: CAR



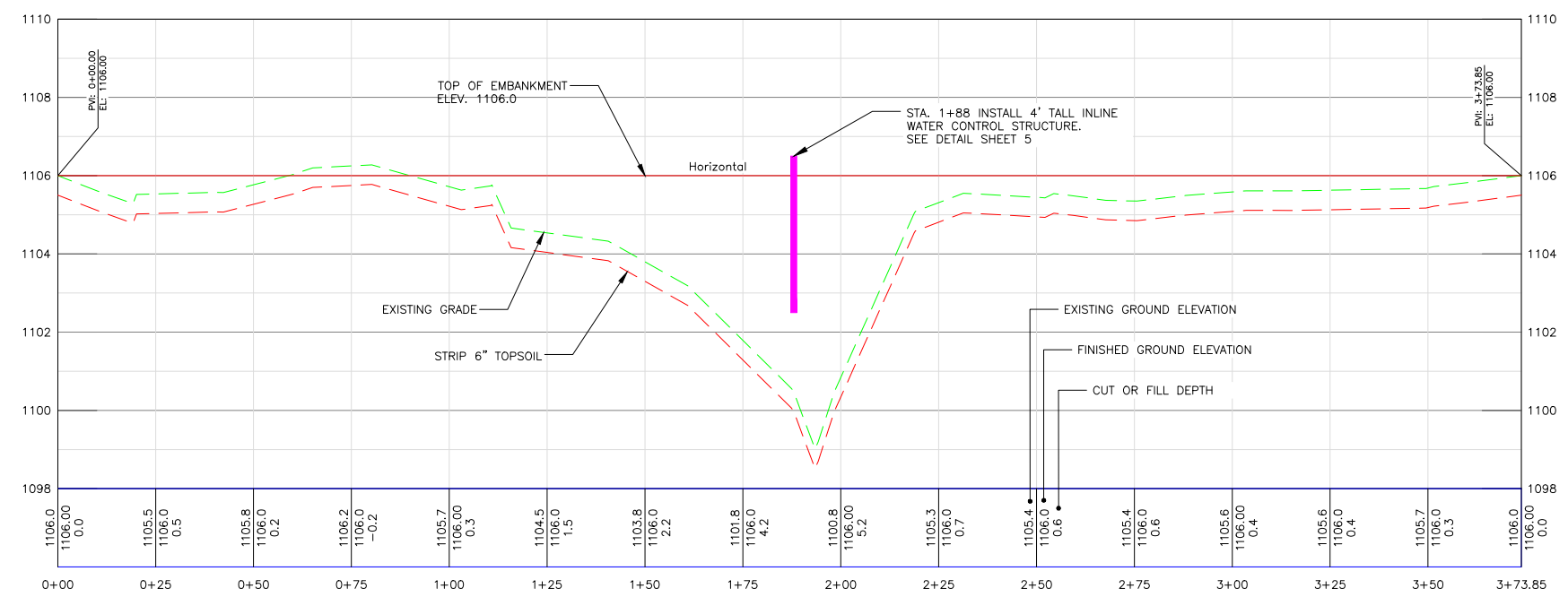
EMBankment PLAN
SCALE 1" = 40'



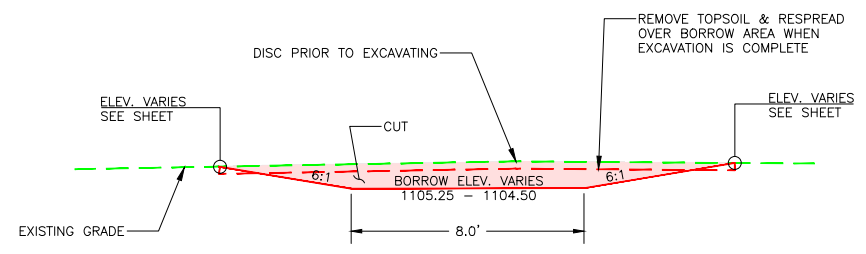
EMBankment TYPICAL SECTION
NOT TO SCALE



FILL AREA TYPICAL SECTION
NOT TO SCALE



EMBankment PROFILE
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 2'



CHANNEL TYPICAL SECTION
NOT TO SCALE

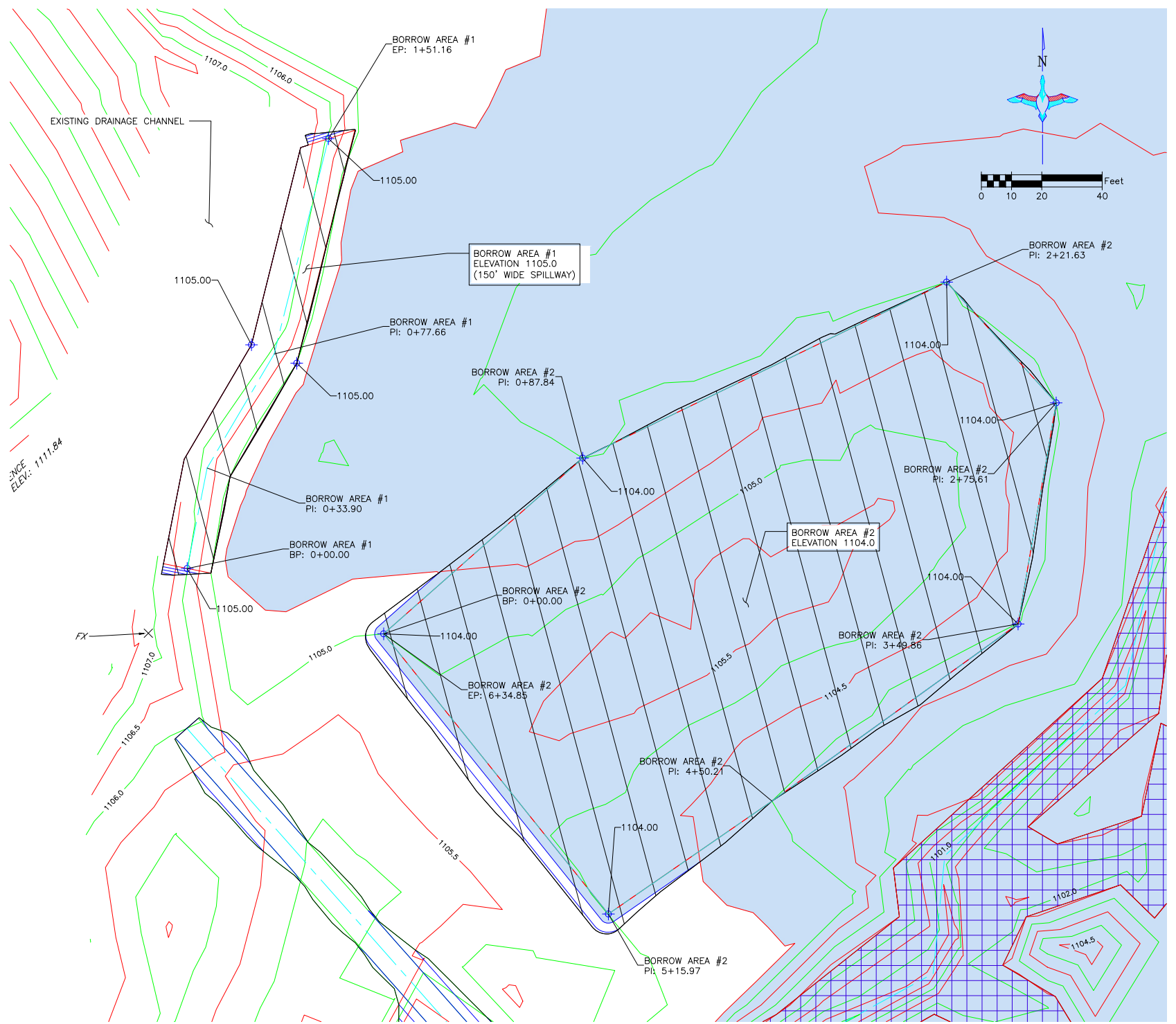
CONSTRUCTION NOTES:

1. EMBANKMENT CONSTRUCTION SHALL BE FROM COMPACTED EARTHEN MATERIAL MOSTLY FREE OF VEGETATIVE MATTER AND SHALL COMPLY WITH SPECIFICATION SECTION 204 "EMBANKMENT CONSTRUCTION".
2. MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED FROM THE BORROW AREA. ANY ADDITIONAL MATERIAL REQUIRED SHALL BE OBTAINED FROM A FIELD IDENTIFIED BORROW AREA BY A DUCKS UNLIMITED REPRESENTATIVE.
3. STRIP AND STOCKPILE 6" TOPSOIL FROM THE EMBANKMENT FOOTPRINT. RESPRAD TOPSOIL OVER FINISHED EMBANKMENT. COST OF TOPSOIL WORK SHALL BE CONSIDERED INCIDENTAL TO "SITE PREPARATION".
4. EMBANKMENT FILL TO BE PLACED IN LIFTS OF NO MORE THAT 8" AND COMPACTED PRIOR TO PLACING SUBSEQUENT LIFTS.

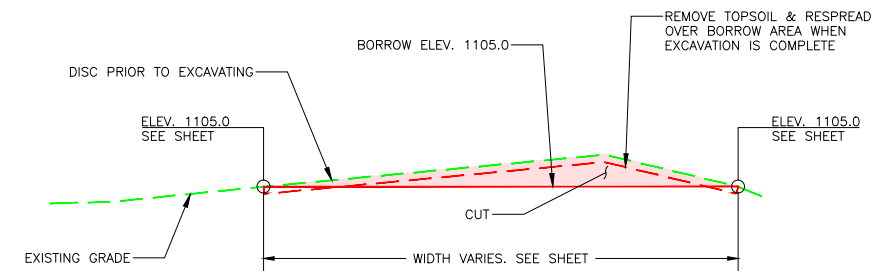
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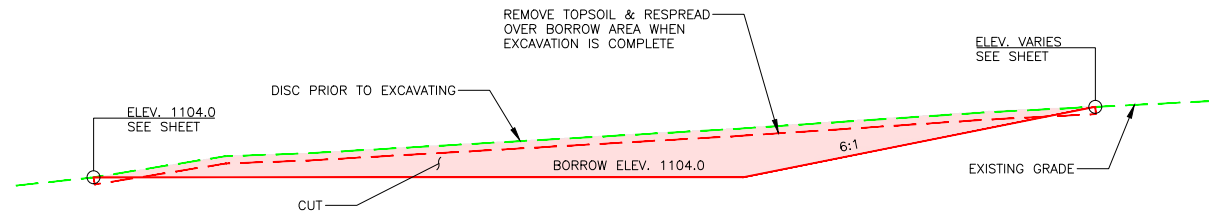
	PROJECT NO. KS-285-1	DESIGNED BY: KPU
	DAN HOWELL WETLANDS	DRAWN BY: KPU
GREAT PLAINS REGIONAL OFFICE	EMBankment PROFILE & DETAILS	SURVEYED BY: KPU
DATE: 1/15/2024	SHEET NO. 3 OF 8	CHECKED BY: CAR
	APPROVED BY: CAR	APPROVED BY: ..



BORROW PLAN
SCALE 1" = 20'



BORROW AREA #1 TYPICAL SECTION
NOT TO SCALE



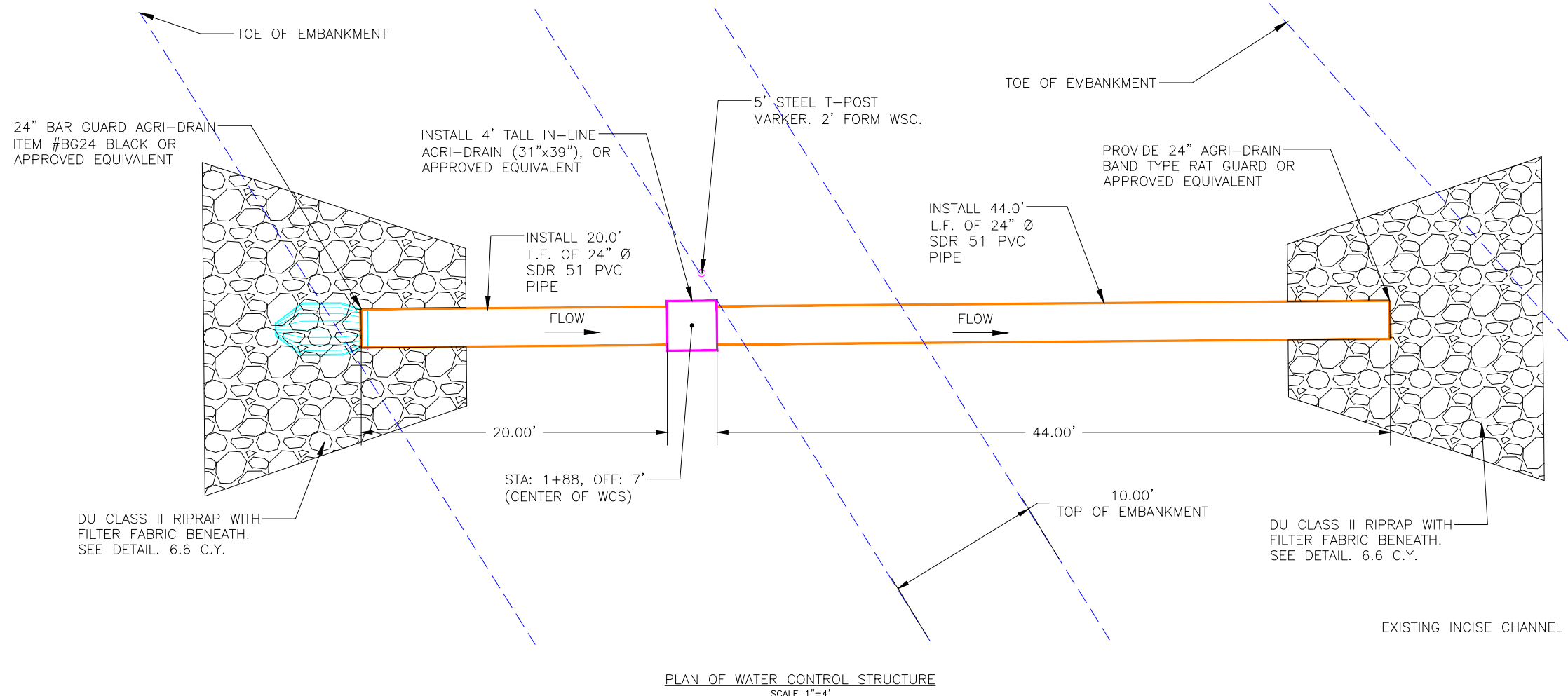
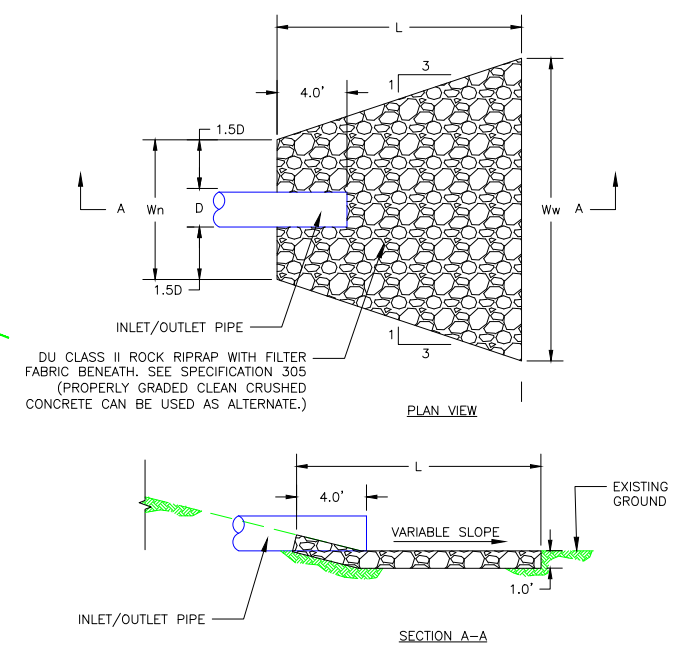
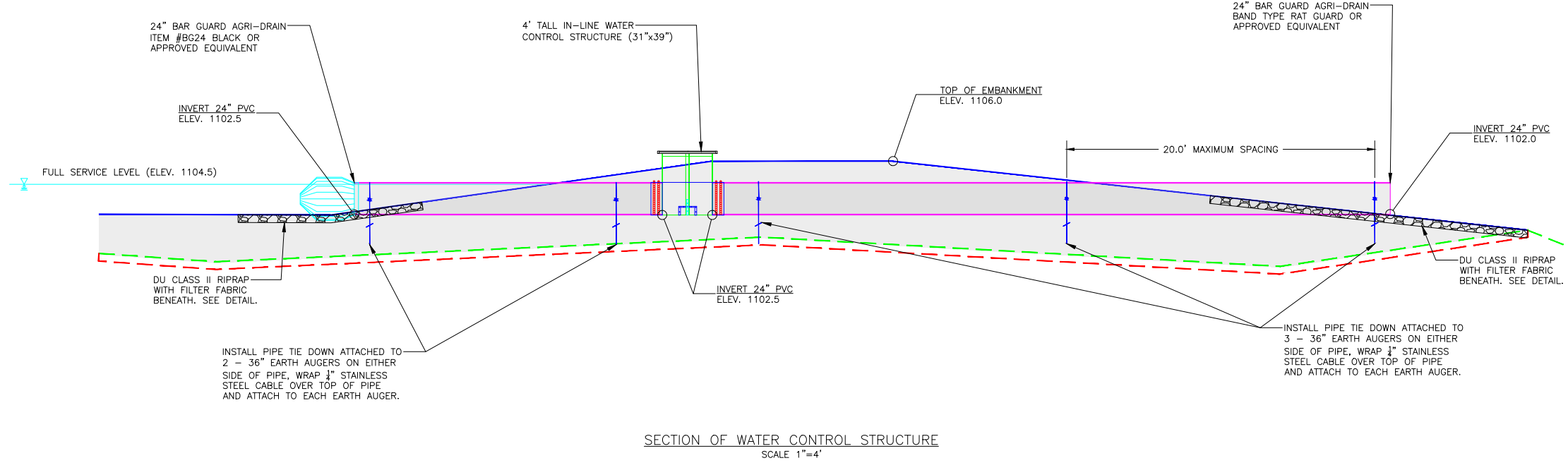
BORROW AREA #2 TYPICAL SECTION
NOT TO SCALE

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DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. KS-285-1	DESIGNED BY: KPU
	DAN HOWELL WETLANDS BORROW PLAN & DETAILS	DRAWN BY: KPU
DATE: 1/15/2024	SHEET NO. 4 OF 8	SURVEYED BY: KPU
APPROVED BY: CAR	APPROVED BY:	CHECKED BY: CAR

INLET & OUTLET RIPRAP TABLE				
PIPE SIZE (D) INCHES	APRON WIDTH NARROW SIDE (Wn) FEET	APRON WIDTH WIDE SIDE (Ww) FEET	APRON LENGTH (L) FEET	CUBIC YARDS
24	8.0	17.3	14.0	6.6



- STRUCTURE INSTALLATION NOTES**
1. STRUCTURE, INLET AND OUTLET PIPE SHALL BE PLACED ON A LEVEL SURFACE OF COMPACTED SOIL.
 2. LEVEL STRUCTURE VERTICALLY PRIOR TO PLACING BACKFILL. BACKFILL AROUND STRUCTURE BY HAND IN 6" LIFTS. HAND TAMP ONLY.
 3. COST OF STRUCTURE INSTALLATION SHALL BE PAID AS BID ITEM "WATER CONTROL STRUCTURE (4' TALL)".
 4. PROVIDE 24" AGRI DRAIN BAR AND BAND TYPE RAT GUARDS. THESE SHALL BE CONSIDERED INCIDENTAL TO "WATER CONTROL STRUCTURE (4' TALL)" BID ITEM.
 5. AGRI DRAIN PVC STOP LOGS SHALL BE WATERTIGHT AND PROVIDED BY SUPPLIER.
 6. AGRI DRAIN CORP. TELEPHONE NUMBER IS 1-800-232-4742 SPECIFY SIZE AND TYPE OF PIPE WHEN ORDERING. ORDER 4" BASE EXTENSION TO HELP PREVENT FLOATATION.
 7. BENTONITE CLAY SHALL BE MIXED WITH BACKFILL MATERIAL AROUND WCS AND PIPE TO PROVIDE A WATER TIGHT SEAL. TEN - FIFTY POUND BAGS ARE REQUIRED. COST FOR BENTONITE CLAY AND INSTALLATION SHALL BE INCIDENTAL TO "WATER CONTROL STRUCTURE (4' TALL)".
 8. PROVIDE AND SET ONE - 5 FOOT LONG STEEL FENCE T-POSTS TO SERVE AS MARKERS. DRIVE INTO GROUND TO TOP OF POST FLAT PLATE. COST FOR POSTS SHALL BE INCIDENTAL TO "WATER CONTROL STRUCTURE (4' TALL)".

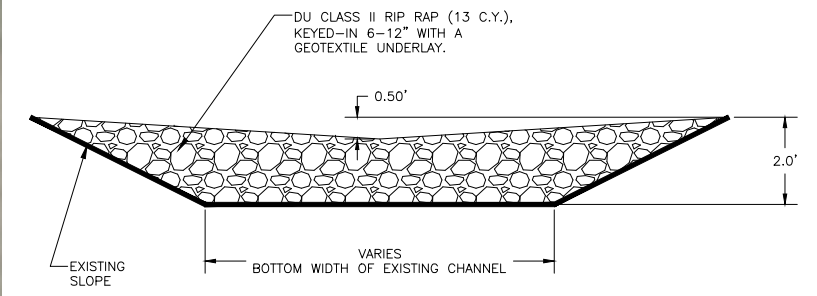
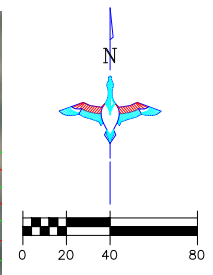
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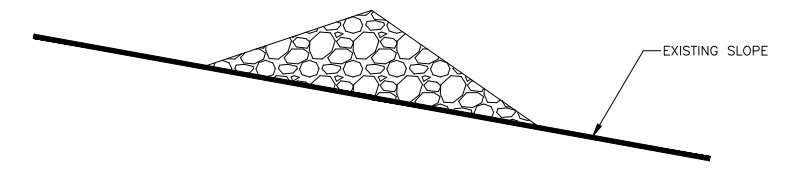
	PROJECT NO. KS-285-1	DESIGNED BY: KPU
	DAN HOWELL WETLANDS	DRAWN BY: KPU
GREAT PLAINS REGIONAL OFFICE	WCS PLAN & PROFILE	SURVEYED BY: KPU
DATE: 1/15/2024	SHEET NO. 5 OF 8	CHECKED BY: CAR
	APPROVED BY: CAR	APPROVED BY: ..



OVERALL PLAN VIEW
SCALE 1" = 40'



ROCK CHECK DAM -- TYPICAL SECTION
NOT TO SCALE



ROCK CHECK DAM -- PROFILE
NOT TO SCALE

- SEEDING AND MULCHING NOTE:**
- SEEDING AND MULCHING SHALL BE REQUIRED ON EMBANKMENT, SPILLWAY AND CHANNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN ADEQUATE SEED BED TO ALLOW SEEDING WITH STANDARD SEEDING EQUIPMENT. THIS WILL INCLUDE USE OF A HARROW OR OTHER MEANS IN ORDER TO LEAVE A SMOOTH, TRACK-FREE FINISH. BACK DRAGGING WITH A DOZER IS NOT AN ACCEPTABLE FINISH.
 - BEFORE LAST SPRING FROST OR APRIL 15TH (WHICHEVER IS EARLIER), AREA WILL BE SEEDDED WITH A MIXTURE OF CUSTOM NATIVE GRASS MIX (SEE TABLE BELOW).
 - MULCHING SHALL REQUIRE ANCHORING OF SOME TYPE SUCH AS TACKING, MATTING, HAND PUNCHING, ROLLER PUNCHING, CRIMPER PUNCHING, OR HYDRO-SEEDING TO PREVENT BLOWING OR WASHING AWAY.
 - MULCHING APPLICATION RATE SHALL BE TWO TONS PER ACRE OR ONE 74 POUND BALE PER 800 SQUARE FEET.

- STORMWATER POLLUTION PREVENTION PLAN (SWPPP) CONSTRUCTION NOTES:**
- SEEDING AND MULCHING SHALL BE REQUIRED ON EMBANKMENT.
 - BEFORE LAST SPRING FROST OR APRIL 15TH (WHICHEVER IS EARLIER), AREA WILL BE SEEDDED WITH A MIXTURE OF CUSTOM NATIVE GRASS MIX (SEE TABLE BELOW).
 - MULCHING SHALL REQUIRE ANCHORING OF SOME TYPE SUCH AS TACKING, MATTING, HAND PUNCHING, ROLLER PUNCHING, CRIMPER PUNCHING, OR HYDRO-SEEDING TO PREVENT BLOWING OR WASHING AWAY.
 - MULCHING APPLICATION RATE SHALL BE TWO TONS PER ACRE OR ONE 74 POUND BALE PER 800 SQUARE FEET.

Description	Pure Live Seed (PLS) per Acre
Indiangrass, Cheyenne	0.60 lbs
Switchgrass, Kan Low	0.90 lbs
Switchgrass, Cave In Rock	0.90 lbs
Little Bluestem, Aidous	0.80 lbs
Eastern Gamagrass, Variety Not Stated	2.10 lbs
Canada Wildrye, Mandan	1.50 lbs
Virginia Wildrye, Variety Not Stated	1.50 lbs
Big Bluestem, Kaw	1.20 lbs
Total	9.50 lbs

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PRELIMINARY NOT FOR CONSTRUCTION

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. KS-285-1	DESIGNED BY: KPU
	DAN HOWELL WETLANDS	DRAWN BY: KPU
	SWPPP	SURVEYED BY: KPU
		CHECKED BY: CAR
DATE: 1/15/2024	SHEET NO. 6 OF 8	APPROVED BY: CAR

STORM WATER POLLUTION PREVENTION PLAN

The Kansas General Permit Authorization to Discharge Stormwater Associated with Construction Activity shall apply for this project.

ABBREVIATIONS

KDHE: Kansas Department of Health and Environment
KDEM: Kansas Division of Emergency Management
USFWS: United States Fish and Wildlife Service

NARRATIVE

Project Limits: See Sheets 2–5 of this plan for the project limits and details. These sheets cover embankment construction, fill & borrow areas, proposed drainage channel, and a water control structure with associated piping.

SITE DESCRIPTION

Project Description: The purpose of the project is to create a shallow water impoundment with the installation of an associated water control structure. Also, to fill in the existing incise drainage channel inside the wetland and create a new drainage channel that captures more watershed.

Site Map(s): See map on cover sheet of plans.

Major Soil Disturbing Activities (check all that apply):

- Clearing & Grubbing
- Grading & Shaping
- Cutting & Filling
- Other (describe):

Total Project Area: 5.0 Acres
Total Area to Be Disturbed: 1.2 Acres
Existing Impervious Area: 0.0 Acres
Proposed Impervious Area: 0.0 Acres

Name of Receiving Water Body/Bodies: Black Vermillion River

Discharges to Special Or Impaired Waters: The project does not discharge to a special or impaired water.

Discharges to Calcareous Fen: The project does not have a discharge to a Calcareous fen.

Endangered or Threatened Species: The project area has not been identified for endangered or threatened species.

Historic Places or Archeological Sites: Historical places or archeological sites have been addressed by the USFWS.

Quantities Tabulation for All BMPs: See estimated quantities and construction notes in plans.

ORDER OF CONSTRUCTION ACTIVITIES

(Stabilization measures shall be completed as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.)

- Install erosion and sediment control measures.
- Proceed with site grading and construction activities.
- Stabilize areas disturbed by construction activities with temporary erosion and sediment control measures.
- Complete final grading.
- Complete permanent erosion and sediment control measures.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

See the SWPPP details and notes on plan sheets 6 and 7.

EROSION AND SEDIMENT CONTROLS

(Check all that apply)

Stabilization Practices (See Erosion and Sediment Control Details in Plan Sheets)

- Temporary or Permanent Seeding
- Sod Placement
- Planting
- Mulching (Straw or Cellulose Fiber)
- Erosion Control Blankets or Mats
- Vegetation Buffer Strips
- Roughened Surface (e.g. tracking)
- Gabions–Gabion Mattress
- Other: Riprap, Geoweb

Structural Temporary Erosion and Sediment Controls

- Silt Fence
- Temporary Berm
- Temporary Slope Drain
- Straw Wattles or Rolls
- Diversion Channels/Swales
- Channel Liners (TRM)
- Stone Rip Rap Sheet
- Rock Check Dams
- Sediment Traps/Basins
- Inlet Protection
- Outlet Protection
- Surface Inlet Protection
- Curb Inlet Protection
- Stabilized Construction Entrances
- Other

Wetland Avoidance:

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No
If yes, the project and erosion and sediment control impacts have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

Storm Water Management: Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period.

Pollution Prevention Management Measures:

- Solid Wastes
Collected sediment, asphalt, and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with the KDHE disposal requirements.
- Hazardous Materials
Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with KDHE regulations.
- Vehicle Washing
External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.
- Concrete Washout Onsite
All liquid and solid wastes generated by concrete washout operation must be contained in a leak–proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operation or areas. Liquid and solid wastes must be disposed of properly and in compliance with KDHE regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.

MAINTENANCE AND INSPECTION

Maintenance and Inspection Practices

- Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report or as soon as field conditions allow access.
- Inspections of areas that are temporarily stabilized due to ice, frozen soil conditions, or consistent snow cover are to be performed at the same frequency as during normal conditions; however, such areas are exempt from performing observations of disturbed soils, sediment and erosion BMPs, drainage areas, and locations where stormwater can flow from the construction site.
- Disturbed project areas that are temporarily stabilized due to ice, frozen soil conditions or consistent snow cover extending across 70 percent or more of the area shall be noted on the inspection report. The thawing of these areas shall be noted during the first subsequent inspection when iced, frozen or snow covered conditions are no longer present.
- Where parts of the construction site have undergone final stabilization, but work remains on other parts of the site, inspections of the stabilized areas may be reduced to once per month.
- Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely anchored. Sediment buildup will be removed from the silt fence when it reaches 1/2 of the height of the silt fence. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/2 of the height of the fence.
- Sediment basins and traps will be checked. Sediment will be removed and cleaned when the capacity of the sediment basin reaches 20 percent or more. The basin will be maintained until less than 10 acres of area needing final stabilization within the drainage basin remains.
- Check dams will be inspected for stability. Sediment will be removed when the depth reaches 1/2 the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion.
- Construction site vehicle entrance and exit locations will be designated prior to mobilizing equipment. If a designated entrance and exit locating cannot be determined, the use of a wheel washing facility will be utilized. If applicable, wash waters will be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge. Off–site track out shall be cleaned up at the end of each work day. If contaminated soils are encountered, a wheel washing station with tanks for holding of the fresh water will be utilized.
- Disturbed areas will be checked for stabilization. Stabilization measures shall be initiated as soon as construction activity in that portion of the site has temporarily or permanently ceased.
- The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge into any surface water. Stabilization of the last 200 lineal feet must be completed within 24 hours after connection to a surface water.
- Stabilization of the remaining portions of any temporary or permanent ditches or swales must be completed within 14 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
- Temporary or permanent ditches or swales that are being used as a sediment containment system (with properly designed rock ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized. These areas must be stabilized within 24 hours after no longer being used as a sediment containment system.
- Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours after connection to a surface water.

- Discharge procedures for water control and dewatering operations will be inspected. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate BMPs, such that the discharge does not adversely affect the receiving water or downstream landowners.
- Inspection and maintenance reports will be completed for each site inspection, this form will also be used to document changes to the SWPPP. The report shall include the date and amount of precipitation or snowmelt events that cause surface erosion. A copy of the completed inspection form will be filed with the SWPPP documents.
- The Contractor's site superintendent is responsible for inspection. Maintenance and repair activities are the responsibility of the Contractor.
- In areas of concentrated flows such as channelized drainage, the use of velocity dissipation devices (e.g. check dams, riprap and wattles), installation of channel liners (e.g. riprap, geotextiles, and erosion control blankets) will be utilized.

SITE PROTECTION

- Fertilizer application and riparian areas: Fertilizer application for temporary erosion control on the construction site shall be done in a manner that does not allow it to leave the treated area.
- Erosion and sediment control: Maintain practices to minimize or avoid soil loss and sedimentation.
- Solid Waste: All waste materials by the construction project shall be disposed of in accordance with the provisions of the Kansas solid waste management statutes and regulations (K.S.A. 65–3401 and K.A.R. 28–29–1 et. seq.) or applicable local rules. Good housekeeping including personal refuse such as food containers, snacks, etc. shall also be addressed.
- Construction shall be done in a manner that avoids downstream bank instability.
- Floating Debris: The applicant shall take appropriate measures to capture any floating debris released to surface waters as a result of this project.
- Fuels, Chemicals and Maintenance Areas: All fuels and chemicals necessary to complete the project shall be stored in such a manner that accidental spillage is minimized or can be temporarily contained before reaching the water body. Equipment maintenance areas shall also be located in this manner.
- Spills: The Kansas Department of Health and Environment (KDHE) and the Kansas Division of Emergency Management (KDEM) are two of several state agencies that address spills. Should a spill of fuel or discharge of pollutants occur the local emergency staff should be contacted first by dialing 911. The Kansas Department of Health and Environment shall then be notified immediately: (785) 291–3333–Option 2. (24 hours a day.) These incidences should also be reported to the National Spill Response Center at 1–800–424–8802. A Spill Prevention and Response Plan should be prepared.

CONSTRUCTION CHANGES

The SWPP plan shall be modified or amended as appropriate during the term of the construction activity until the site is stabilized. The contractor is responsible for the installation, operation, and maintenance of erosion controls and shall keep a current copy of the SWPP plan on the project site.

Modifications to the SWPP plan shall be made to better control the site erosion and sediment discharges based on field conditions or site phasing that was not considered during SWPP plan development. The permittee shall indicate the changes on the erosion and sediment control plan sheets, maintain a log showing dates of all SWP2 plan modifications, and the name and title of the person authorizing the modifications. Changes to the SWP2 plan that are not an amendment (See Section 7.3.2 of the Kansas Department of Health and Environment–Kansas Pollution Control) are considered modifications and do not need to be submitted to KDHE. Modification of site erosion and sediment controls based on field conditions or site phasing do not require preparation or approval by a professional however, modifications that involve the relocation or reconfiguration of any sedimentation basin or corresponding outlet structure required under Section 7.2.7 of the Kansas Department of Health and Environment–Kansas Pollution Control shall be prepared under the supervision of a licensed or certified professional.


PROJECT CONTACTS

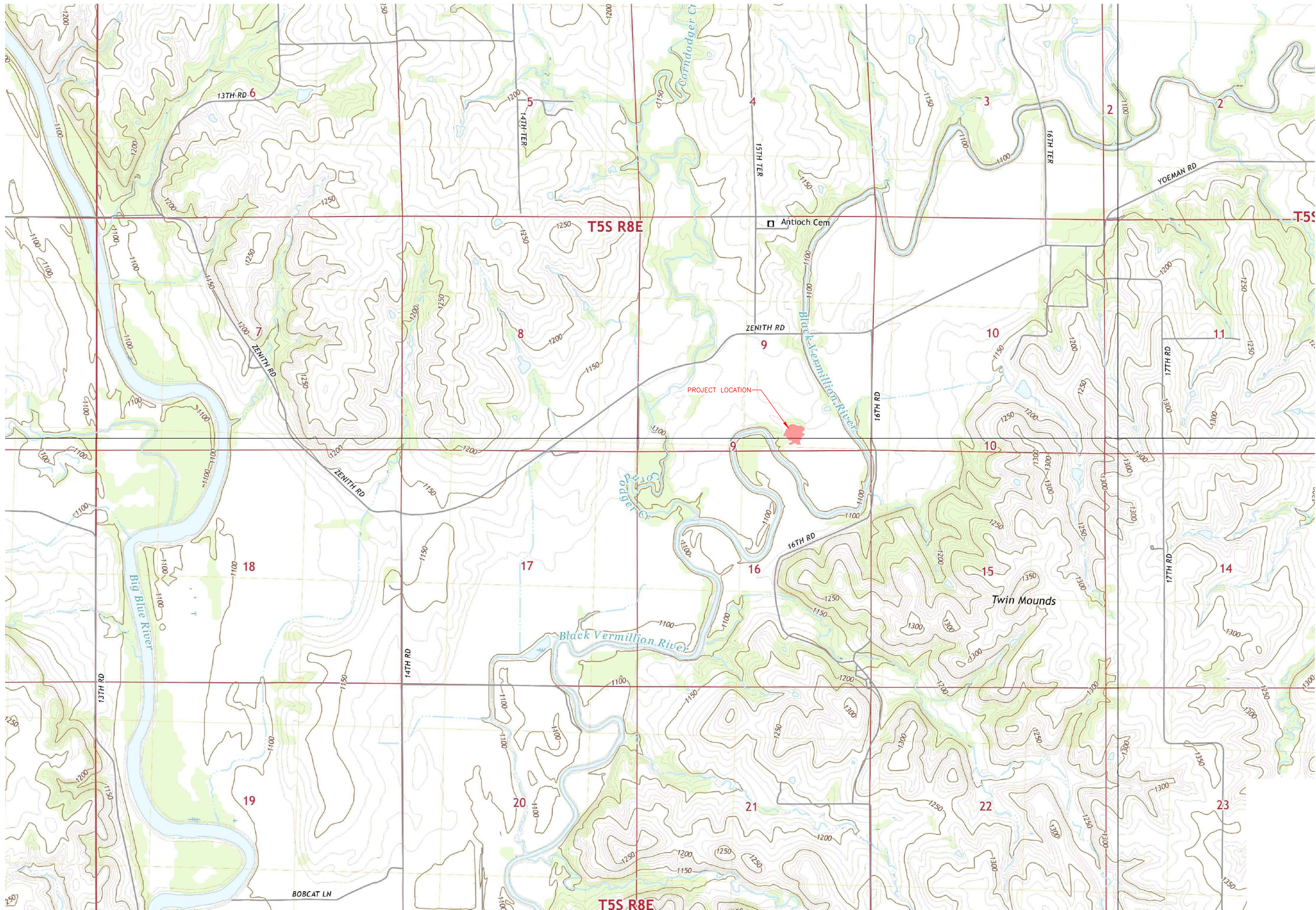
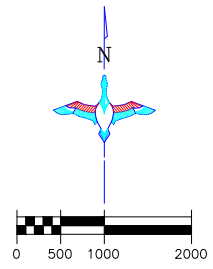
The Contractor is responsible for implementation of the SWP2 plan and installation, inspection and maintenance of the erosion prevention and sediment control BMP's before and during construction.

Contractor and KDHE contact information is provided in the contract documents and project plans.

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SHEET NO. 7 OF 8	APPROVED BY: CAR	APPROVED BY:



OVERALL PLAN VIEW
SCALE 1"=1000'

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