



CONSTRUCTION AS BUILT PLAN

PRACTICE(S) GRASSED WATERWAY 412, POND 570, CRITICAL AREA PLANTING 342  
WDNR RAINGARDEN 1009 USED FOR PLANTING AND SIZING OF PONDS  
LANDOWNER Hunt Hill Audubon Sanctuary  
ADDRESS N2384 Hunt Hill Rd  
LANDOWNER PHONE NO. (715) 635 - 6543 COUNTY WASHBURN  
TOWNSHIP Town of Long Lake T 37 N, R 11 W E/W, Sec. 04  
Washburn Co Land Conservation  
FIELD OFFICE Courthouse Shell Lake TELEPHONE NO. 715 468 - 4654

DIGGERS HOTLINE

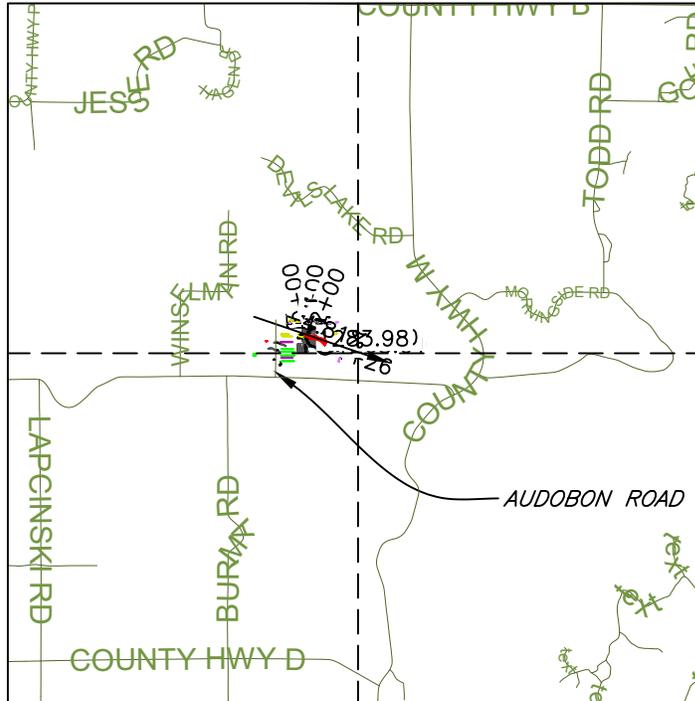
Call 3 Work Days  
Before You Dig!

Nationwide  
811

Toll Free  
1-800-242-8511

TDD  
1-800-542-2289

Website  
www.diggershotline.com



Not to  
Scale

LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the WASHBURN County LCD, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.  
Call Diggers Hotline! Ticket Number \_\_\_\_\_

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Landowner Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Designed by: \_\_\_\_\_ Date: \_\_\_\_\_  
Checked by: \_\_\_\_\_ Date: \_\_\_\_\_  
Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



ITEM	UNIT	QUANTITY	SHEET NUMBER	WI CONSTRUCTION SPEC. OR JOB SHEET NUMBER
GRADING & EXCAVATION	SQFT	30,000.0	29000	SEE TABLE FOR MORE DETAIL
GRAVEL (100% passing the 1¼ inch sieve) ✓	CUYDS	70.0		011 – ROCK AGGREGATE
TOPSOIL	CUYDS	140.0		026 – TOPSOILING
EROSION CONTROL MAT WDOT CLASS I VISUAL APPEARANCE MEETS SPECS	SQ YDS	1,500.0		005 – POLLUTION CONTROL
SEED MIX, IN PLAN OR LAWN TYPE WAS GROWING AND COVERAGE WAS GOOD	ACRES	0.2	✓	WI-710 SEEDING ESTAB.
SEED MIX – NATIVE, HUNT HILL PURCHASE MIX, CONTRACTOR SEED YES	ACRES	0.3	✓	WI-710 SEEDING ESTAB.
NATIVE PLANT PLUGS (NOT A BID ITEM HUNT HILL PURCHASE) YES	UNIT	1,200.0	1054	
EROSION CONTROL MAT WDOT CLASS II YES VISUAL APPEARANCE MEETS SPECS	SQ YDS	220.0	✓	
MOBILIZATION	UNIT	1.0		007 – MOBILIZATION

CHECK MARK INDICATES THE AMOUNTS AND ITEMS INSTALLED AS DESIGNED WERE MET OR ARE ACCURATE

NOTE: CUT AND FILL REPORTS LISTED ON

Quantities are estimated to the neat lines and grades of in-place materials shown on the construction plan unless otherwise stated. Truck yardage, loose fill, shrinkage, etc., must be calculated and compensated for by the contractor preparing a bid or constructing the project.



United States Department of Agriculture

Natural Resources Conservation Service

ESTIMATED QUANTITIES

CLIENT: HUNT HILL  
COUNTY: WASHBURN

Designed BJE Date 5-2019  
Drawn \_\_\_\_\_  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_

File Name WI-005A

Date 08/14

Sheet 2 of 14

## CONSTRUCTION NOTES

The work consists of grading and forming waterways that flow into three different detention ponds. These areas are the upper parking lot, the area alongside the learning center and the lower parking lot. On these the contractor will grade and excavate to the lines and grades within the plan. For the upper parking lot and lower parking lot portions these area will remain in gravel that will be formed into waterways that inlet into detention ponds. While some of the gravel will remain it is estimated that 30% additional gravel will need to be brought into so that there is a minimum depth of six inches of gravel. Within the ponds the plan gives finished grades and elevations. The contractors will need to excavate an additional 4 inches to make room for the topsoil. Once the topsoil and TYPE II erosion blanket has been placed staff from Hunt Hill will plant native plant plugs at a 15 inch spacing. Additional work consists of putting in a waterway alongside the coop and the area near the new shed. Excavate to accommodate for four inches of topsoil. A bottom portion of the waterway which is near the learning center will be planted with native plant plugs. This area is depicted on the plan. Staff from Hunt Hill will do this planting. The remaining portion of this waterway will be covered with erosion blanket and seeded using either the mix included in the plan or one that is designed for lawn establishment.

A new asphalt path is going to be installed starting at the upper parking lot running to the lower parking lot. The contractor will grade this area as depicted on the plan and this will include placing a minimum of four inches of compacted gravel as subgrade for the new asphalt path. The new path area where it runs alongside the learning center, the area alongside the building will be graded to slope into a waterway that will be constructed onto the north side of the new asphalt path. Again excavate to accommodate for four inches of topsoil. Once the topsoil has been placed, seed and cover with erosion control blanket. This waterway flows into another detention pond. Here the staff from Hunt Hill will plant native plant plugs as previously outlined for the other pond and native plant plugs area

The lower parking lot pond on larger storm events will overflow. An additional waterway will be constructed to accommodate these larger storm events to prevent the bank near the new shed from eroding. At the outlet of this waterway currently it has bare soils. This area will be seeded with a native plant seed mix and covered with erosion blanket. Currently at this area there is sufficient topsoil for this type of mix. Due to erosion additional topsoil may need to be brought in to provide a seedbed. The soil surface will need to be prepared for seeding. At the outlet of coop waterway there is a similar situation where the same steps will be taken.

Note: Due to ongoing construction from survey, to design and then to installation the site is continually changing. The volume of needed materials changes as a result. On the volume of topsoil and erosion blanket. All affected areas needing topsoil to establish a seeding has been included in the volume unless specified. For gravel all affected areas where grading of the gravel is needed the volume was determined by taking affected area times the depth of 6 inches. This then was reduced to 30%.

Hunt Hill will purchase the native seed mix and have available to the contractor. They will also purchase the native plant plugs and will plant them.

### GENERAL GUIDLINES

1. ALL UNDERGROUND HAZARDS AND UTILITIES MUST BE INVESTIGATED PRIOR TO CONSTRUCTION. NOTIFICATION OF EFFECTED UTILITY COMPANIES IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTACT DIGGERS HOTLINE AT LEAST THREE DAYS PRIOR TO START OF CONSTRUCTION. ✓
2. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH NRCS PERSONNEL, THE CONTRACTOR, AND THE LANDOWNER PRIOR TO CONSTRUCTION START-UP. ✗
3. THE CONTRACTOR AND/OR LANDOWNER SHALL NOTIFY COUNTY LAND CONSERVATION EMPLOYEE AT LEAST 3 DAYS PRIOR TO START-UP OF CONSTRUCTION. ✓
4. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH WISCONSIN NRCS CONSTRUCTION SPECIFICATIONS (ATTACHED TO THIS PLAN). ✓
5. Staking and the placement of bench marks will be done by the Land Conservation Department (Brent @ 715 468-4654). It is up the contractor to inform the them of there needs. ✓



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

### CONSTRUCTION NOTES

CLIENT: HUNT HILL

COUNTY: WASHBURN

Designed BJE Date 5-2019

Drawn \_\_\_\_\_

Checked \_\_\_\_\_

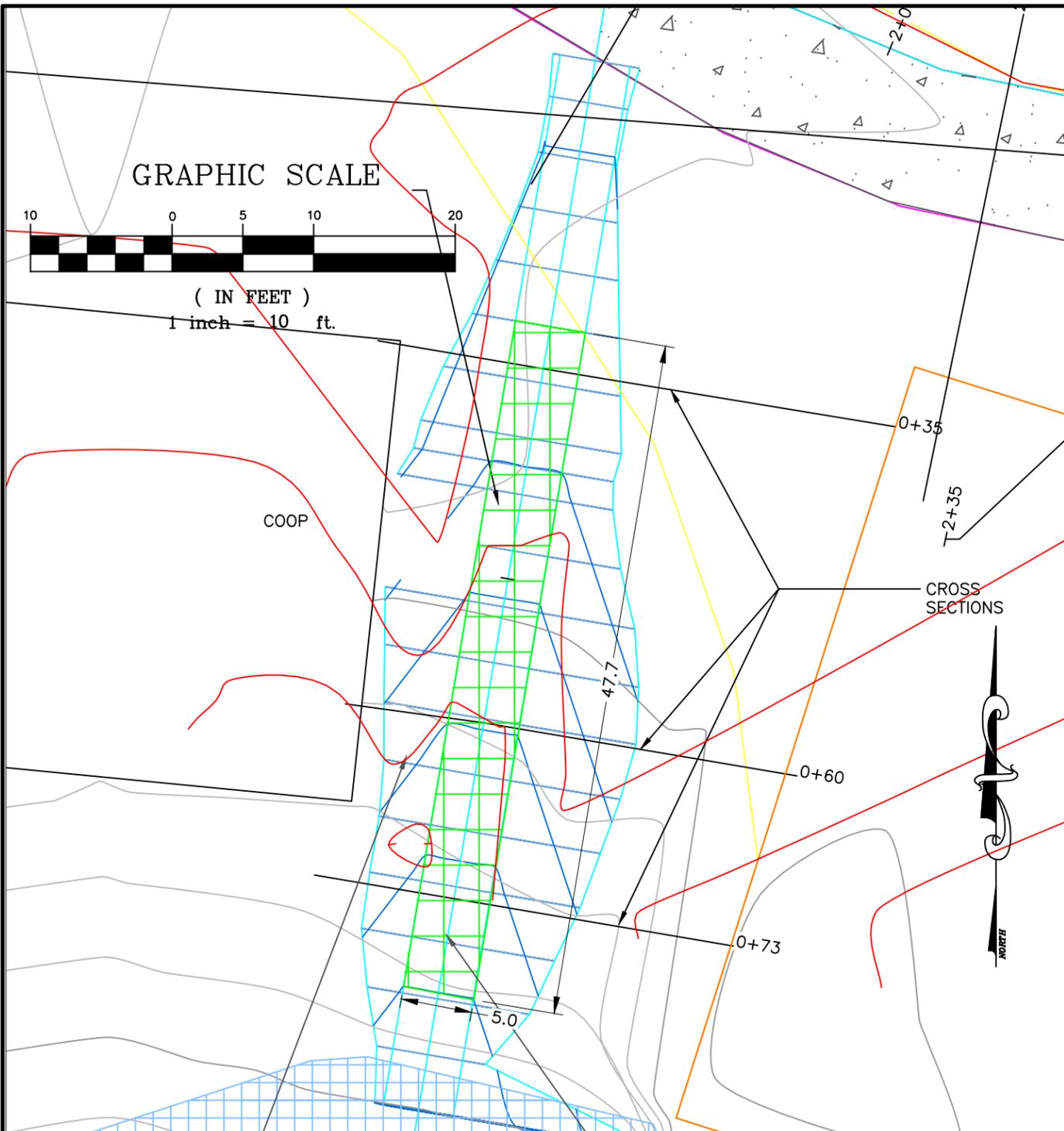
Approved \_\_\_\_\_

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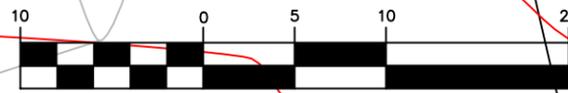
Date  
08/14

Sheet 03 of 14



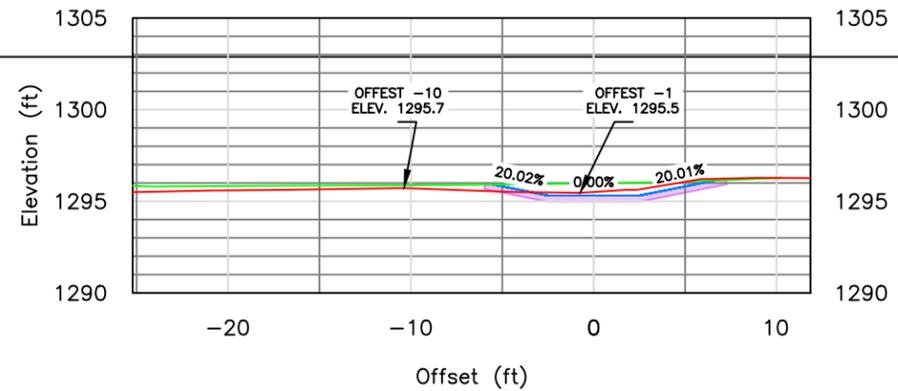


GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.

Alignment - NEAR COOP WW  
CROSS SECTION AT STATION 0+35



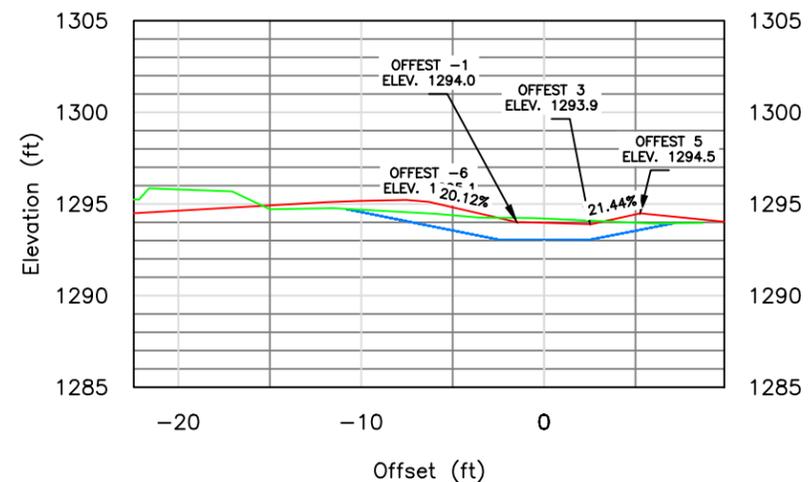
TOPSOIL MIN 4 INCHES

BLUE LINE - FINISHED GROUND  
GREEN LINE - EXISTING GROUND  
MINIMUM 4 INCHES OF TOPSOIL

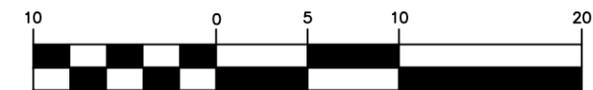
RED LINE SHOWING FINISHED GRADES  
TOPSOIL, E BLANKET. SEED, PLANT PLUGS INSTALLED REASONABLE CLOSE TO DESIGN.

BLUE LINE - FINISHED GROUND  
GREEN LINE - EXISTING GROUND  
MINIMUM 4 INCHES OF TOPSOIL

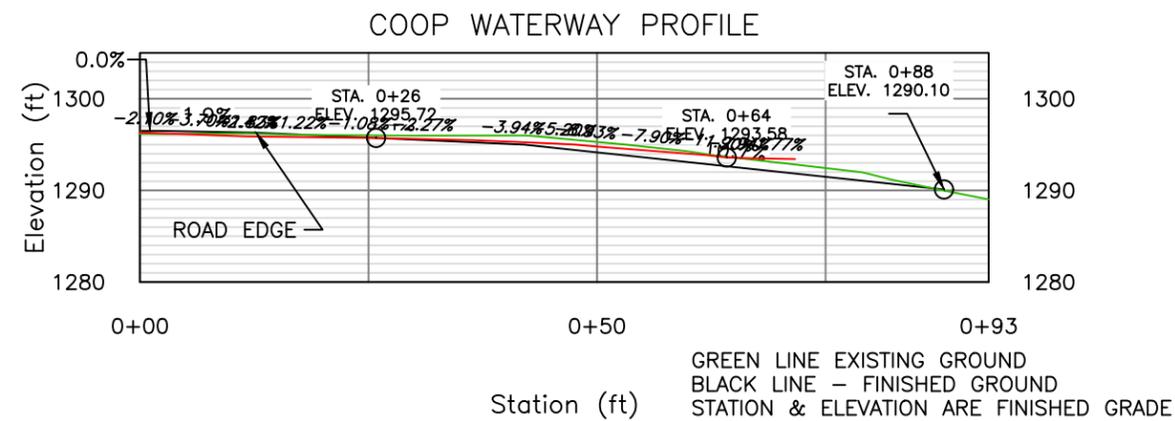
Alignment - NEAR COOP WW  
CROSS SECTION AT STATION 0+60



GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.



GREEN LINE EXISTING GROUND  
BLACK LINE - FINISHED GROUND  
STATION & ELEVATION ARE FINISHED GRADE

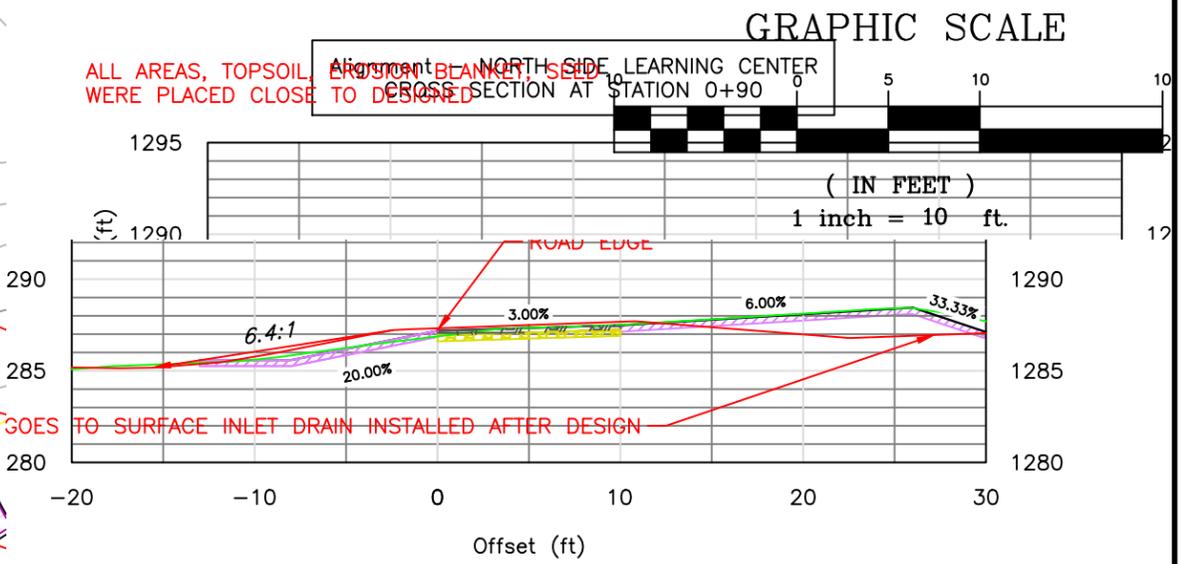
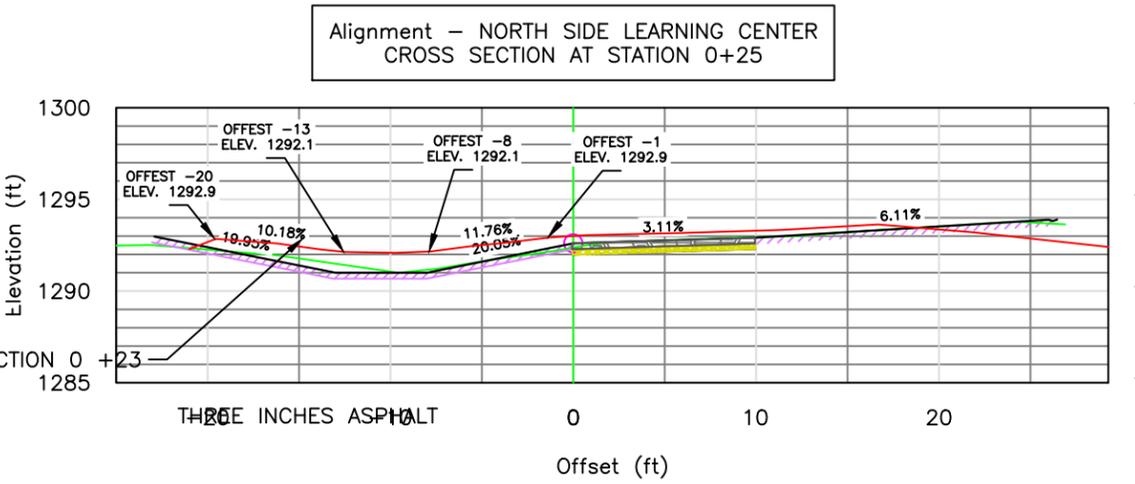
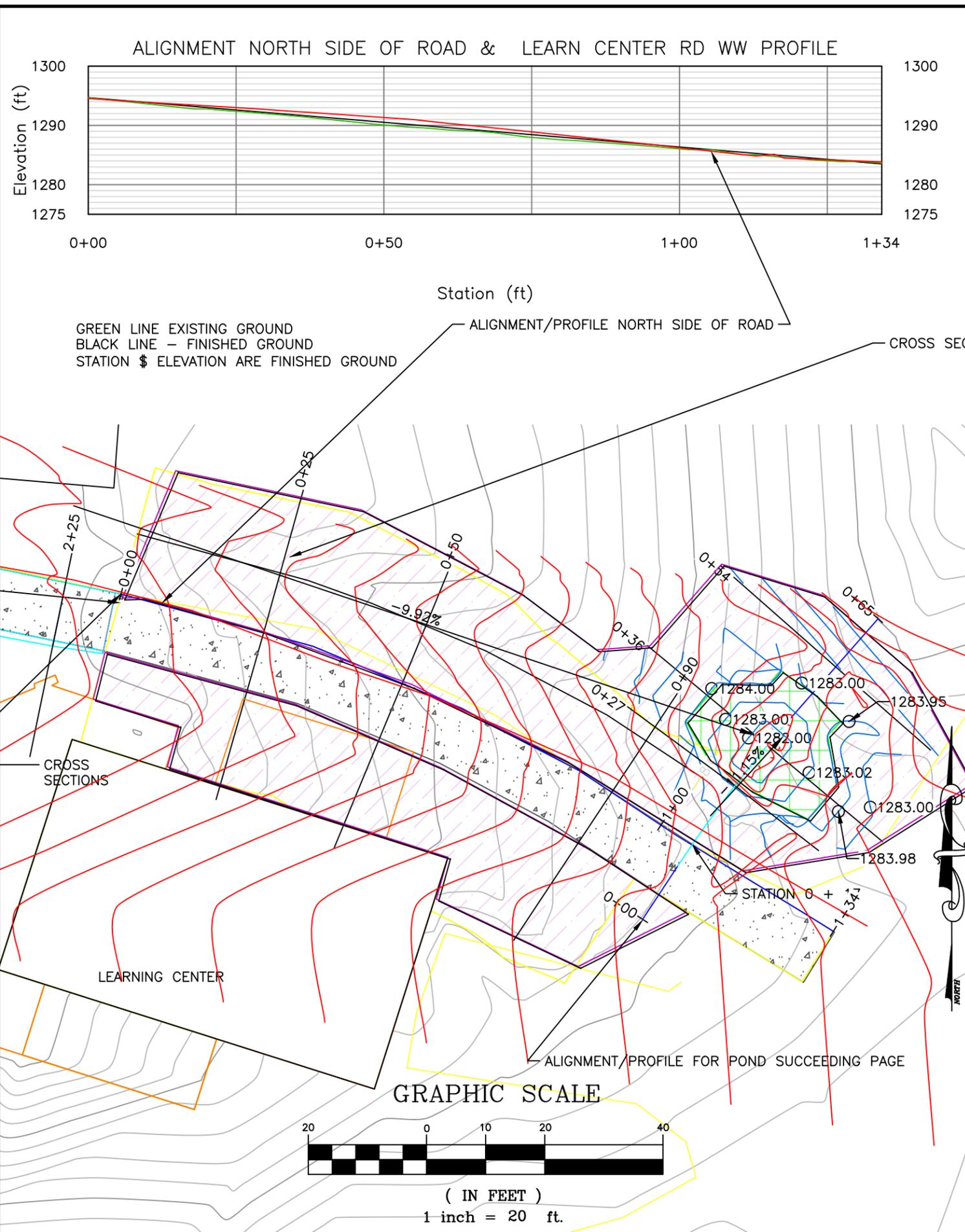
Date	5-2019
Designed	BJE
Drawn	
Checked	
Approved	

PLAN VIEW, CROSS SECTION & PROFILE COOP

OWNER: HUNT HILL  
COUNTY: WASHBURN



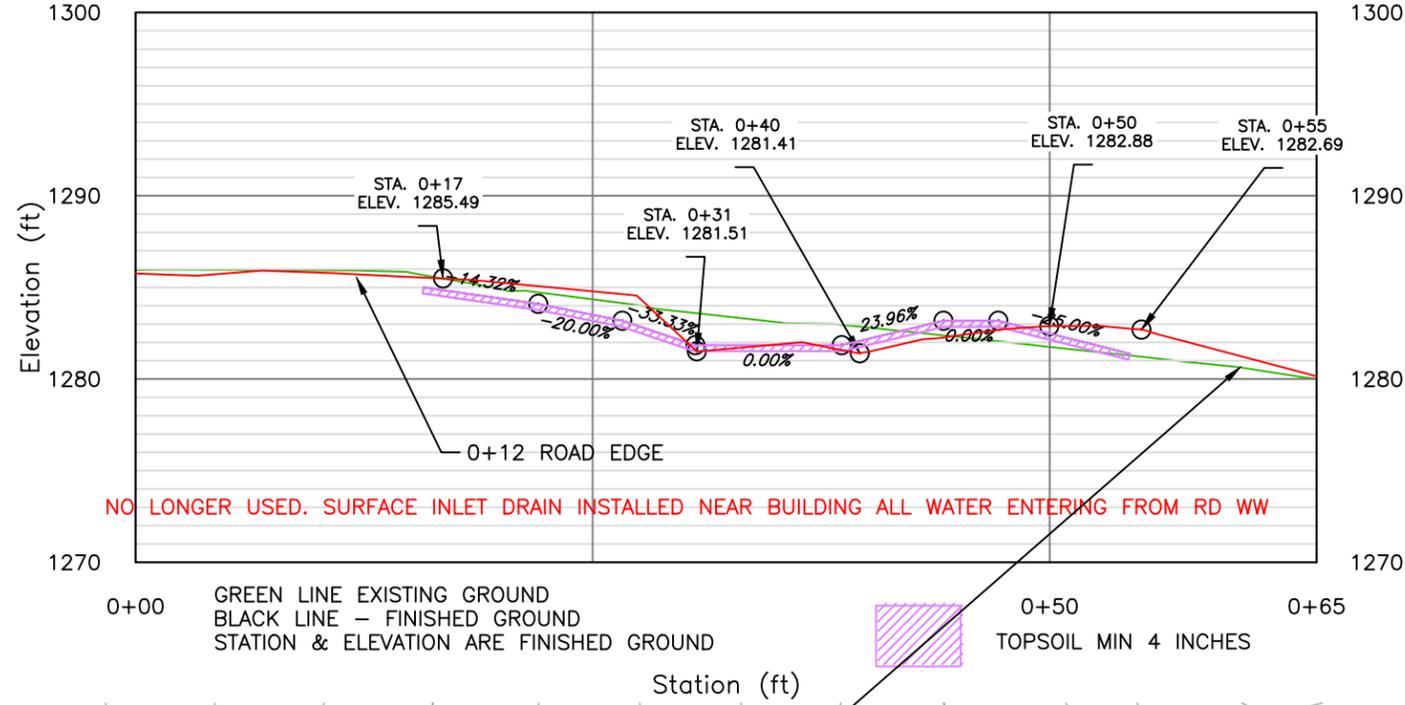
File Name	WI-006
Date	08/14
Sheet	06 of 14



GREEN LINE EXISTING GROUND  
BLACK LINE - FINISHED GROUND  
STATION & ELEVATION ARE FINISHED GROUND

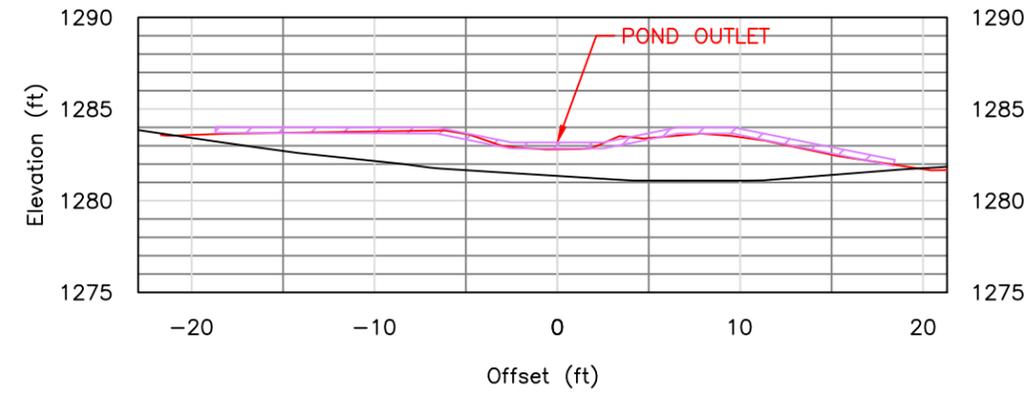
Date	5-2019
BuE	
Designed	
Drawn	
Checked	
Approved	
PLAN VIEW CROSS SECT & PROFILE LEARN CENTER	
OWNER:	HUNT HILL
COUNTY:	WASHBURN
United States Department of Agriculture <b>USDA</b> Natural Resources Conservation Service	
File Name	WI-006
Date	08/14
Sheet 07 of 14	

ALIGNMENT & PROFILE FOR INLET TO POND FOR LEARN CENTER RUNOFF



GREEN LINE - EXISTING GROUND  
BLACK LINE - FINISHED GRADE  
OFFSET & ELEV. FINISHED GRADE

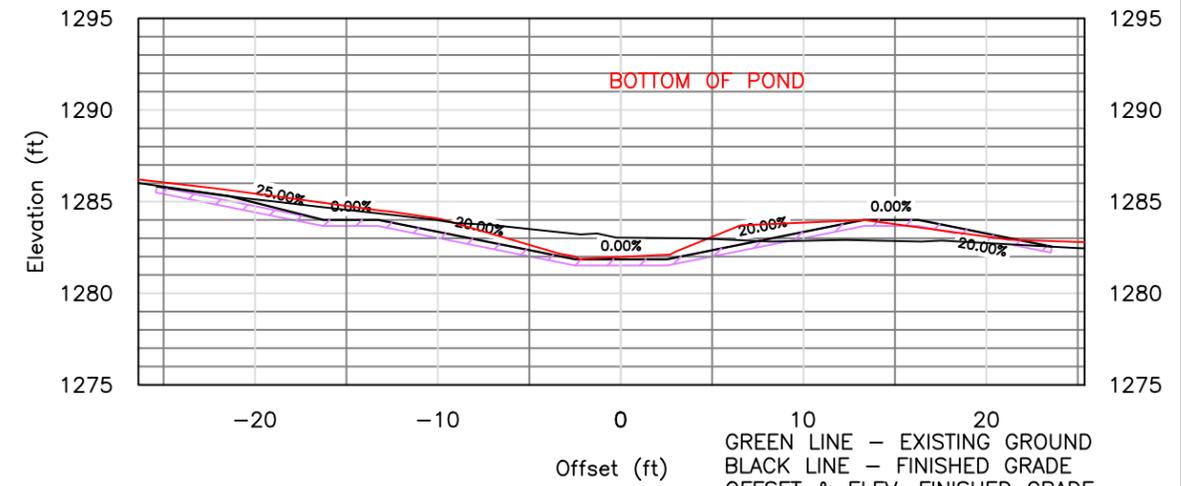
Alignment LEARN CENTER POND  
CROSS SECTION AT STATION 0+54



ALL AREAS HAD TOPSOIL, EROSION BLANKET AND WERE PLANTED ACCORDING TO DESIGN

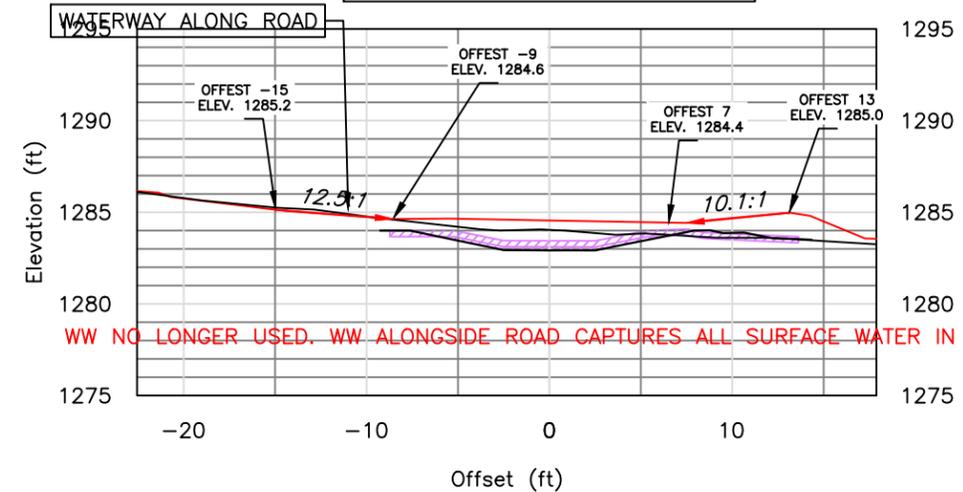
GREEN LINE - EXISTING GROUND  
BLACK LINE - FINISHED GRADE  
OFFSET & ELEV. FINISHED GRADE

Alignment LEARN CENTER POND  
CROSS SECTION AT STATION 0+36

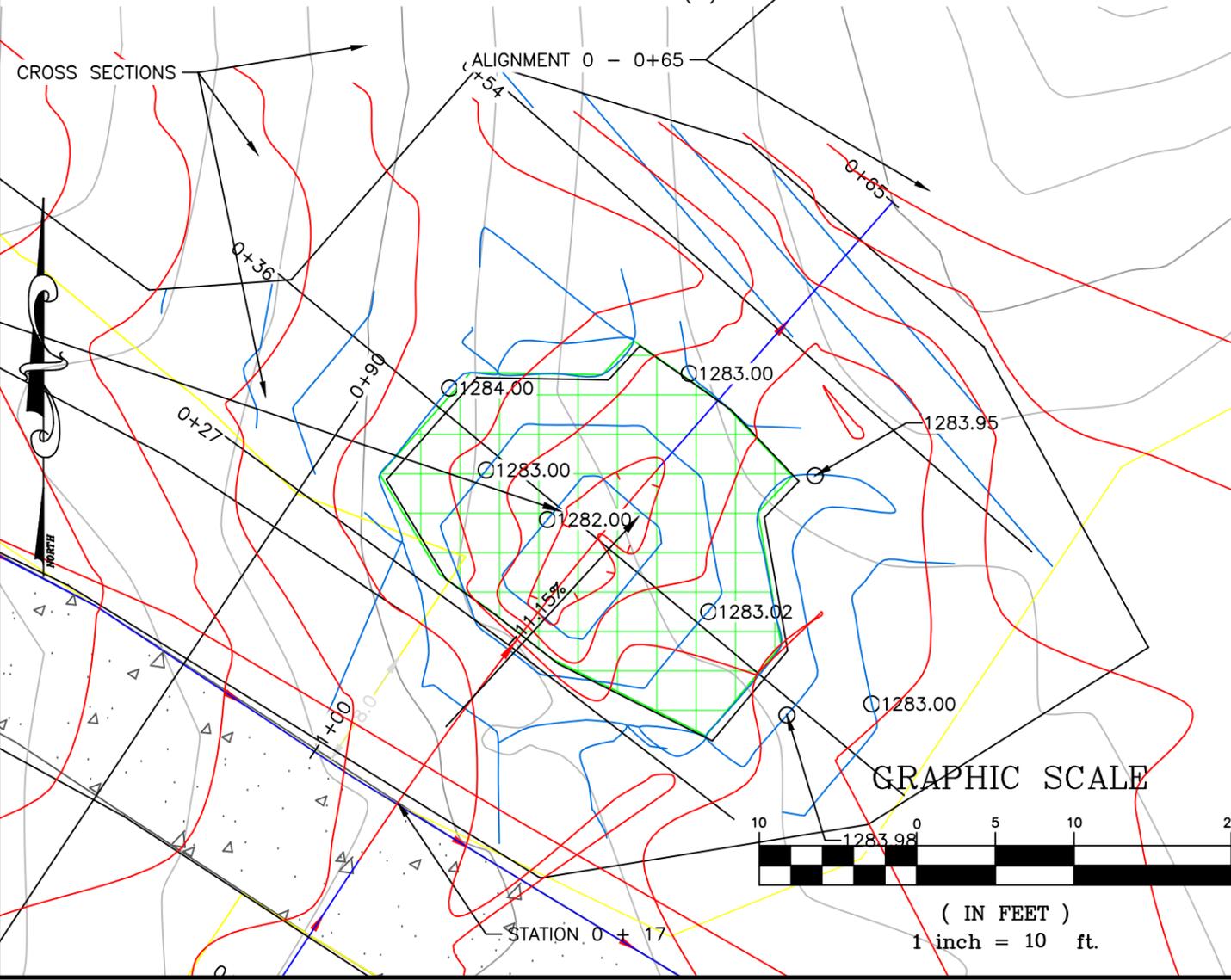


GREEN LINE - EXISTING GROUND  
BLACK LINE - FINISHED GRADE  
OFFSET & ELEV. FINISHED GRADE

Alignment LEARN CENTER POND  
CROSS SECTION AT STATION 0+27



WW NO LONGER USED. WW ALONGSIDE ROAD CAPTURES ALL SURFACE WATER IN THIS WS



GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.

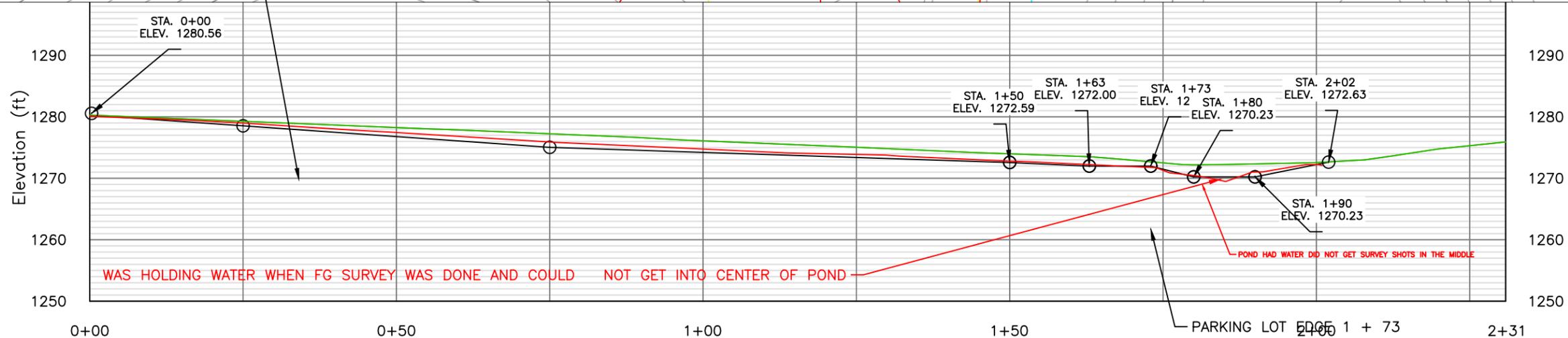
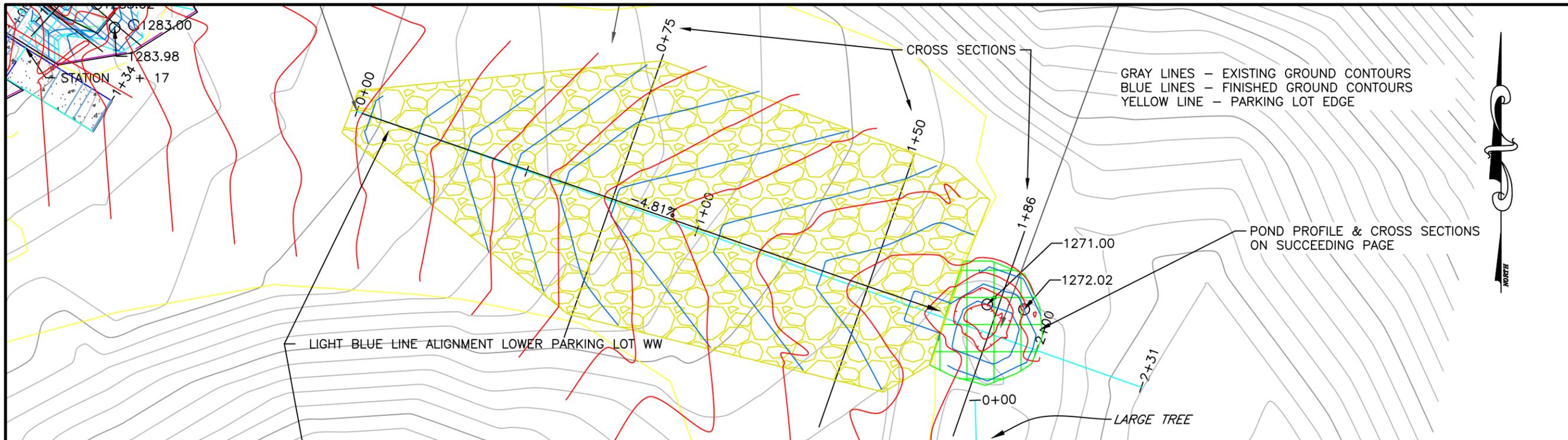
Date	5-2019
Designed	BjE
Drawn	
Checked	
Approved	

PLAN VIEW, CROSS & PROFILE LEARN CENTER POND

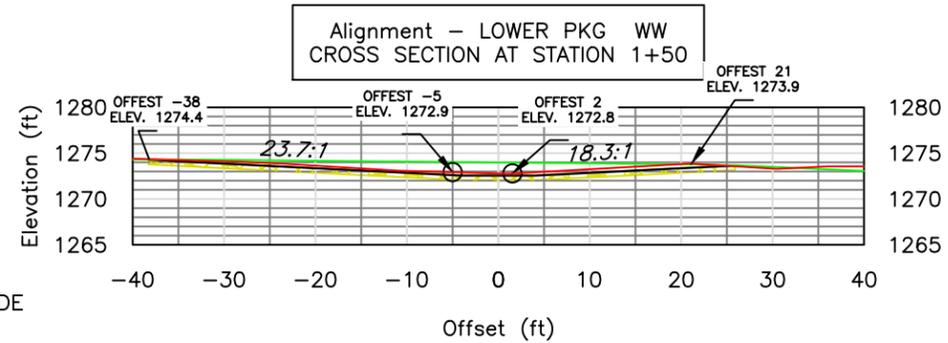
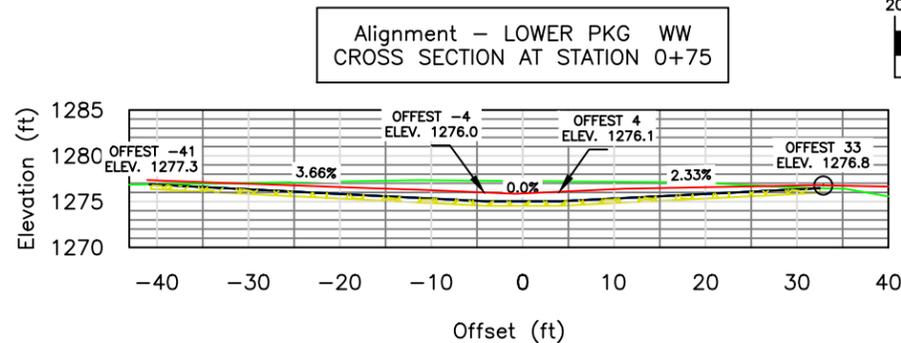
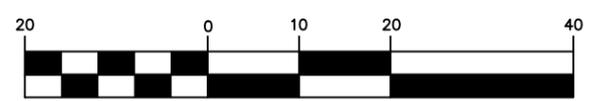
OWNER: HUNT HILL  
COUNTY: WASHBURN



File Name	WI-006
Date	08/14
Sheet	8 of 14



**GRAPHIC SCALE**



 GRAVEL MIN 6 INCHES

ALL AREAS HAD TOPSOIL, EROSION BLANKET AND WERE PLANTED ACCORDING TO DESIGN

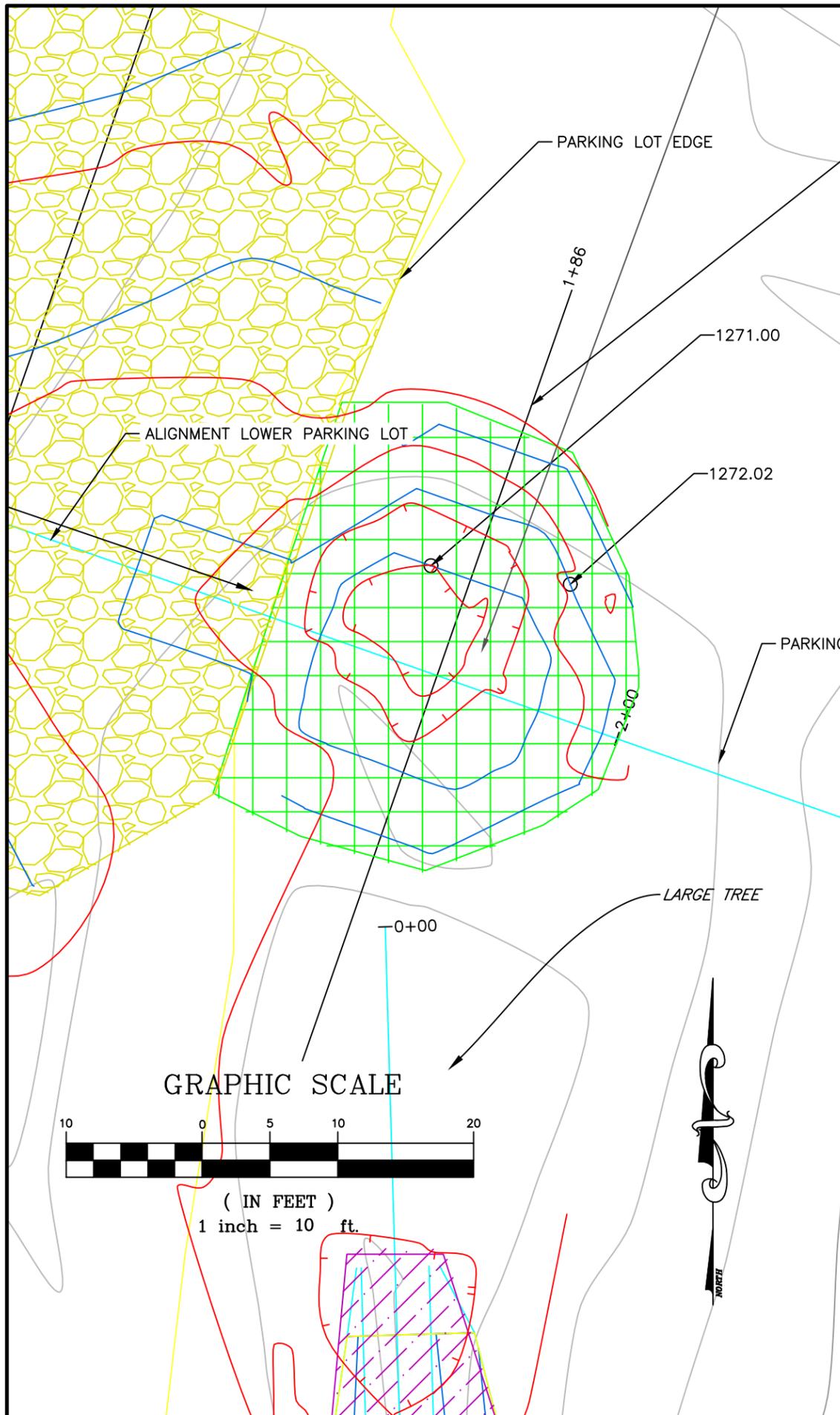
Date	5-2019
Designed	BJE
Drawn	
Checked	
Approved	

**PLAN VIEW LOWER PARKING LOT**

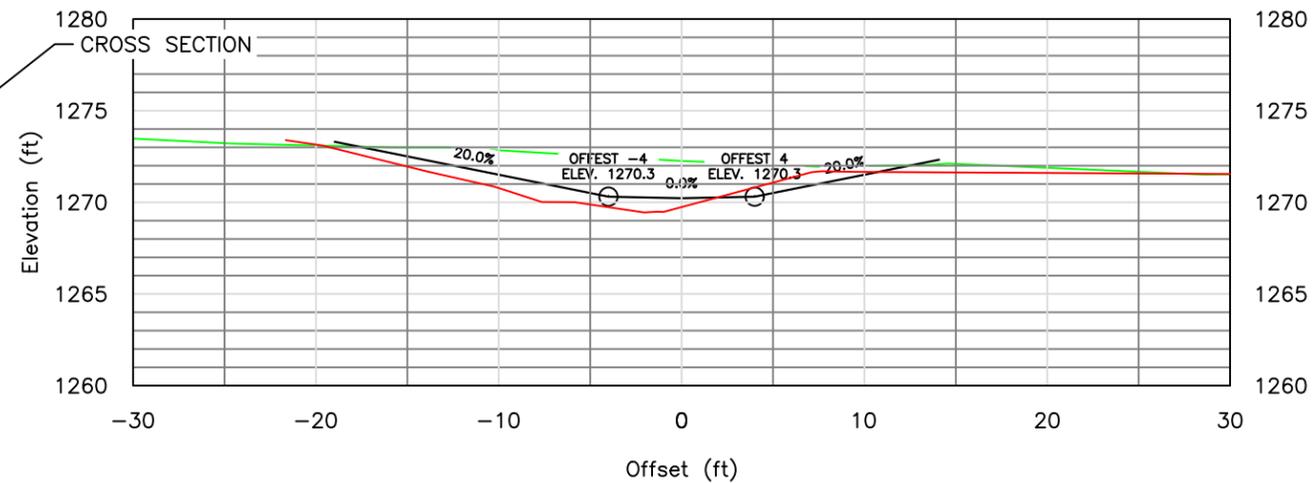
OWNER: HUNT HILL  
 COUNTY: WASHBURN



File Name	WI-006
Date	08/14
Sheet	09 of 14



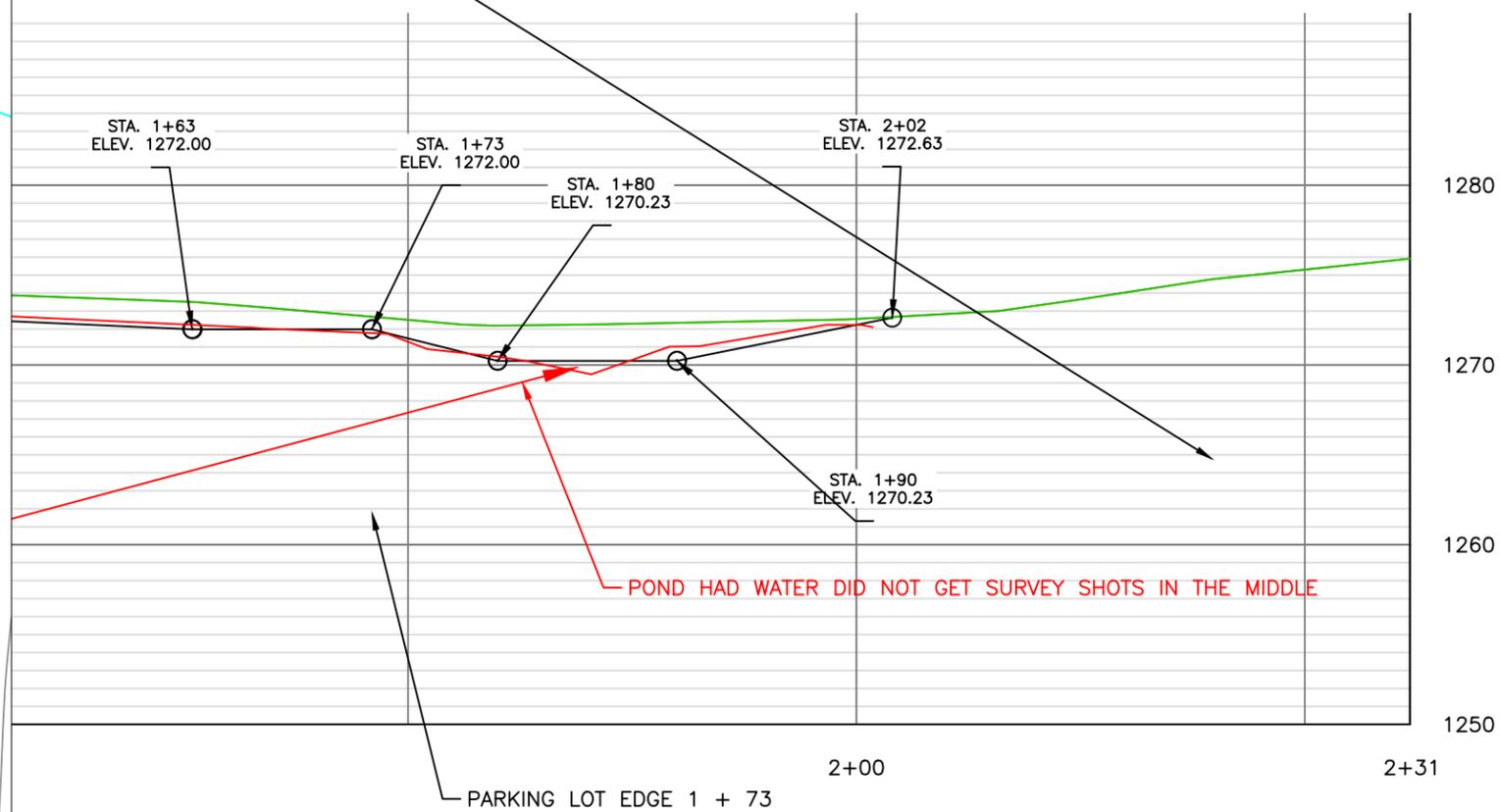
CROSS SECTION AT STATION 1+86



4 INCHES TOPSOIL

ALL AREAS HAD TOPSOIL, EROSION BLANKET AND WERE PLANTED ACCORDING TO DESIGN

CLOSE UP OF PARKING LOT PROFILE GOING THROUGH POND



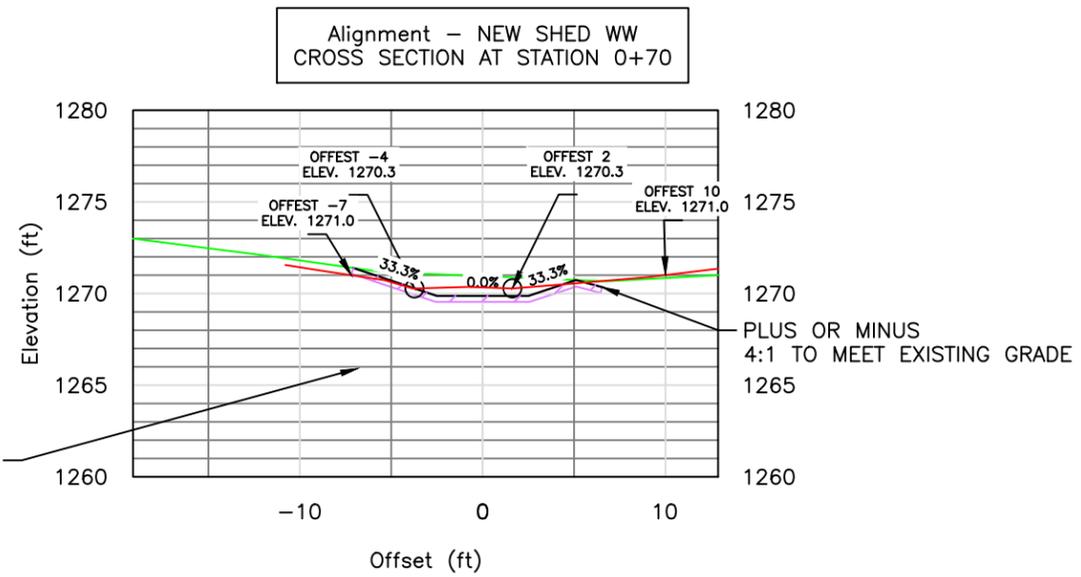
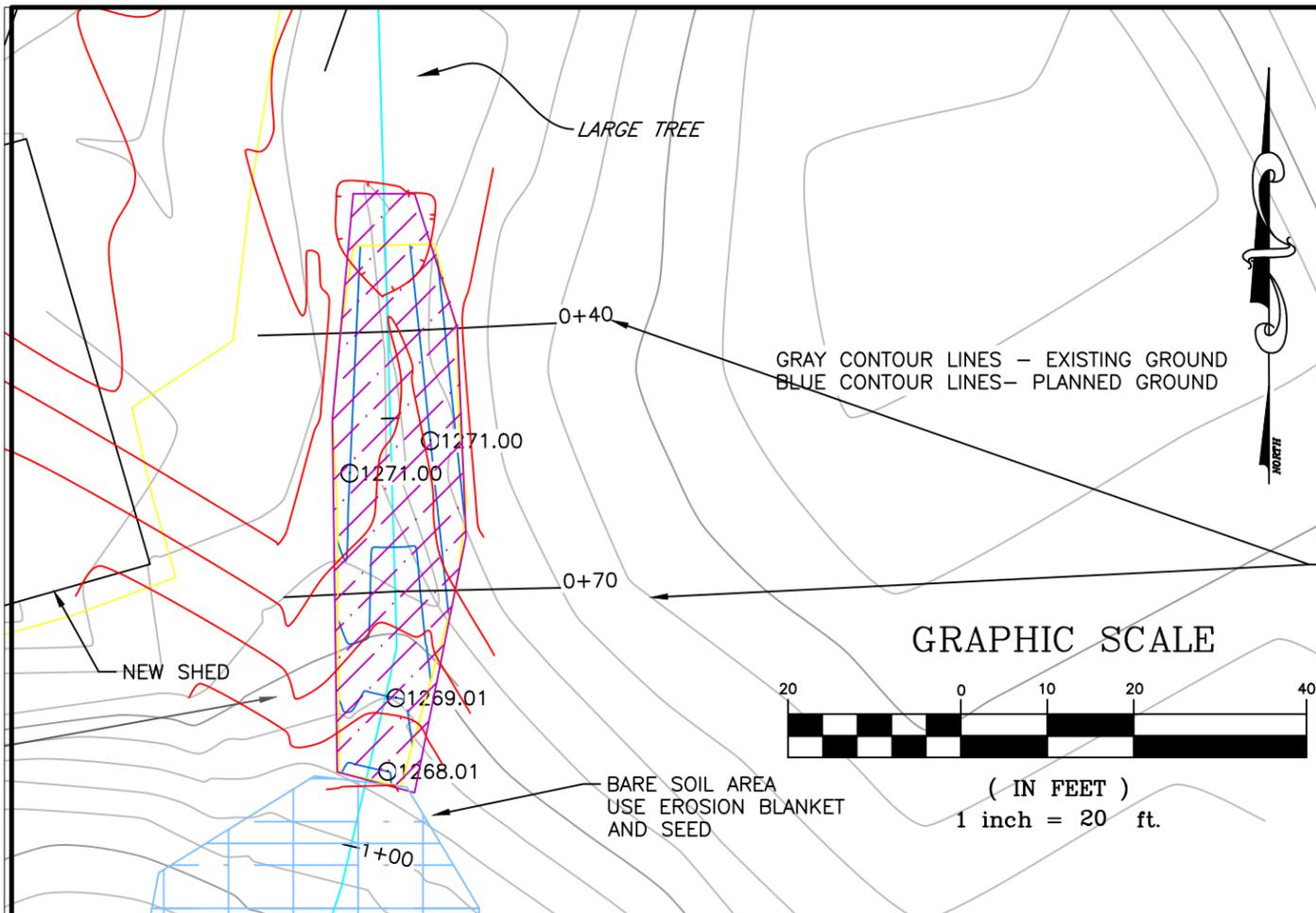
Date	5-2019
Designed	BuE
Drawn	
Checked	
Approved	

PLAN VIEW RETENTION POND LOWER PARKING LOT

OWNER: HUNT HILL  
COUNTY: WASHBURN

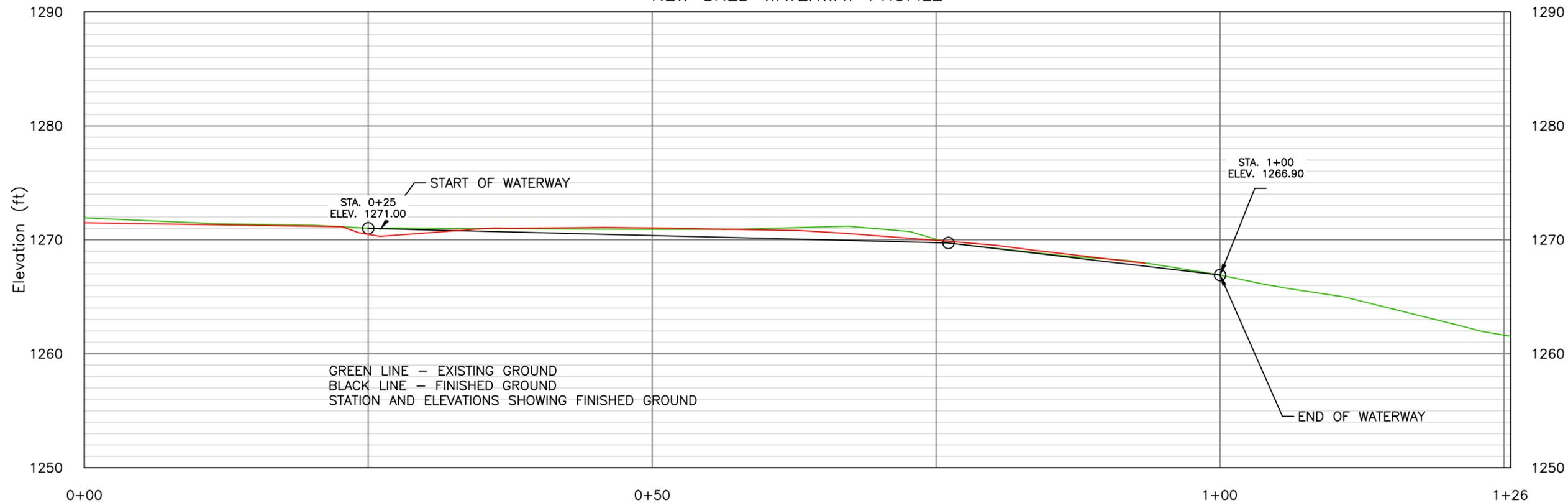


File Name	WI-006
Date	08/14
Sheet	10 of 14

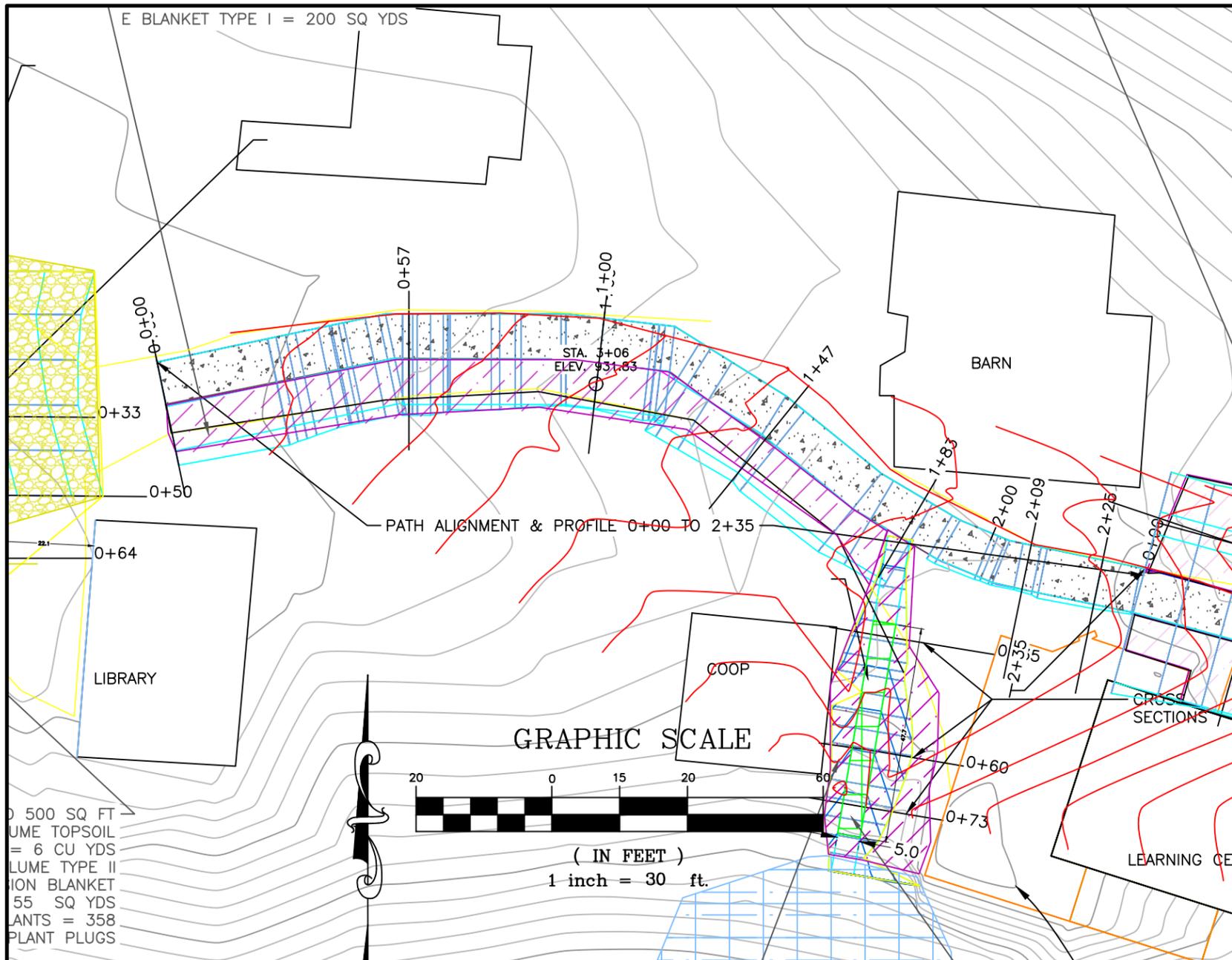


GREEN LINE - EXISTING GROUND  
 BLACK LINE - FINISHED GROUND  
 OFFSET AND ELEVATIONS SHOWING FINISHED GROUND  
 ALL AREAS HAD TOPSOIL, EROSION BLANKET AND WERE PLANTED ACCORDING TO DESIGN

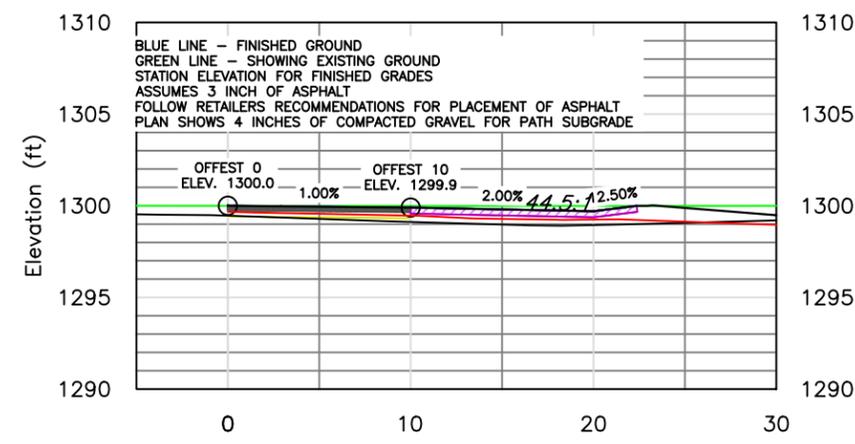
NEW SHED WATERWAY PROFILE



Date	5-2019
Designed	BjE
Drawn	
Checked	
Approved	
PLAN VIEW, PROFILE & CROSS SECTIONS NEW SHED WATERWAY OWNER: HUNT HILL COUNTY: WASHBURN	
File Name	WI-006
Date	08/14
Sheet 11 of 14	

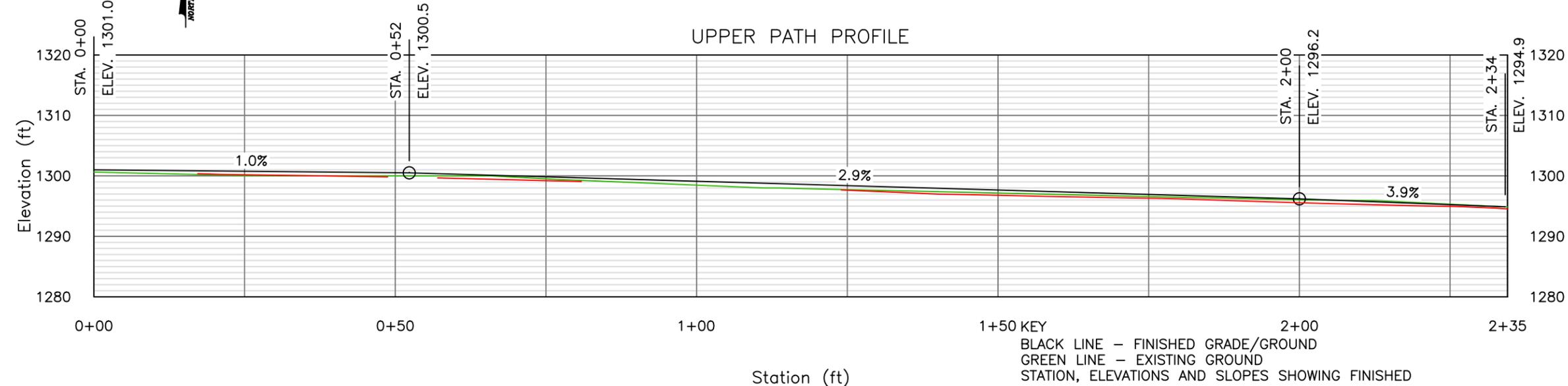
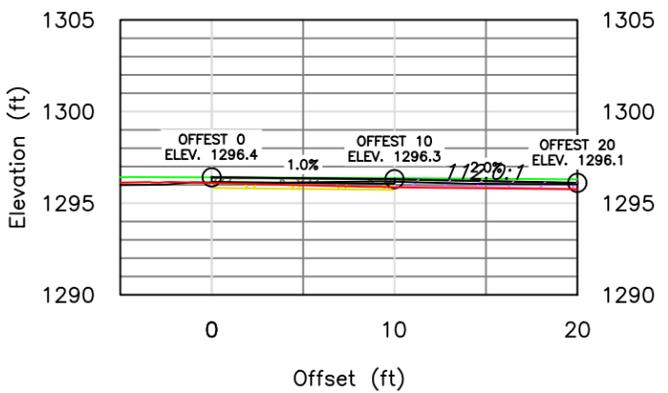


Alignment - UPPER PATH  
CROSS SECTION AT STATION 0+57



- ASPHALT PATH 3 INCHES
- COMPACTED GRAVEL MIN 4 INCHES
- TOPSOIL MIN 4 INCHES

Alignment - UPPER PATH  
CROSS SECTION AT STATION 1+83



1+50 KEY  
BLACK LINE - FINISHED GRADE/GROUND  
GREEN LINE - EXISTING GROUND  
STATION, ELEVATIONS AND SLOPES SHOWING FINISHED

Date	5-2019
Designed	BjE
Drawn	
Checked	
Approved	

PLAN VIEW ASPHALT PATH  
OWNER: HUNT HILL  
COUNTY: WASHBURN



File Name	WI-006
Date	08/14
Sheet 12 of 14	

**SEEDING DATES**

**NORTH**

TIME PERIOD	DATES			TYPE OF SEEDING
Spring	May 1	through	June 15	Permanent
Summer	June 16	through	*** WI-710 *** pg 2	Temporary *
Late Summer	July 15	through	August 10	Permanent
Fall	August 11	through	*** WI-710 *** pg 2	Temporary *
Late Fall	November 1	through	Snow Cover	Dormant
Winter	Snow Cover	through	April 30	Not Allowed

**MATERIALS**

If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer per acre. This is equivalent to 30 pounds nitrogen (N), 15 pounds phosphate (P205), and 15 pounds potash (K2O) per acre. Apply two tons of 80-89 lime or equivalent.

**ANNUAL RYE**

\* Seed a temporary cover crop of **Oats** at 64 #/ac ( 2 bu/ac)  
 A permanent seeding shall be completed during the next acceptable time period following a temporary seeding.

DO NOT HAVE TAG, ASKED CONTRACTOR. SEEDING WAS VISIBLE & TURF - SHOULD BE GOOD

**MINIMUM PURE LIVE SEED (PLS) <sup>1</sup> RATE PER ACRE AND TOTAL POUNDS OF SEED NEEDED**

SEEDING MIX (DESIGN)	ACRES	LOCATION
<b>3</b>	1.00	<b>ww &amp; open</b>
SPECIES	RATE	POUNDS
Kentucky Bluegrass	1.2	1.2
Smooth Bromegrass	12.0	12.0
Timothy	2.4	2.4
Tall Fescue	2.4	2.4
Perennial Ryegrass	6.0	6.0
** Oats	64.0	64.0

SEEDING MIX (AS-BUILT)	ACRES	LOCATION
SPECIES	RATE	POUNDS

ADDITIONAL SEED PERCENT: 20 %

Mulching Required No

AREA WAS COVERED WITH EROSION MAT

\*\* Companion Crop

Total % Germination may also be termed Total % Viable Seed on a tag. If a tag only shows % Germination, the user must include percentage of the seed that germinated during the lab test (% Germination) **plus** the percentage of hard and/or dormant seed. Hard seed and dormant seed are seeds that are still capable of germinating and producing a plant but did not germinate under the conditions of the test in the lab.

Additional native seeds may be required by permitting agencies. These addition are allowed.

Seed mixture shall meet all requirements of the WI weed laws.

Species identified as restricted or prohibited by law shall not be planted.

Certified seed shall be used, and the seeding rates will be based on pure live seed.

For dormant seedings, increase the seeds per square foot by 15%.

**SEEDBED PREPARATION**

Seedbed preparation shall immediately follow construction activities.

Prepare a fine, firm seedbed to a minimum depth of three inches. A seedbed is considered firm when a footprint penetrates 1/4 to 1/2 inch deep.



**INTRODUCED SPECIES SEEDING ESTABLISHMENT**

CLIENT: HUNT HILL  
 COUNTY: WASHBURN

Designed BJE Date 5-2019  
 Drawn \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_

File Name WI-710  
 Date 08/14  
 Sheet 14 of 14

**SEEDING**

Inoculate legumes with the specific inoculum for the species in accordance with the manufacturer's recommendations. When using a hydroseeder, five times the recommended rate of inoculant shall be added to the hydroseeder. Inoculant shall not be mixed with liquid fertilizer.

Seed may be broadcast or drilled as appropriate to the site.

Seed, fertilize, and lime as soon as possible after construction.

Seeding perpendicular to direction of flow is required to limit erosion.

Seed grasses and legumes no more than 1/4 inch deep.

Consider seeding at a lower rate and making 2 passes to ensure more uniform distribution.

**TEMPORARY SEEDING OPTIONS**

Select one of the following species for temporary cover if:

- 1) The required seeds or plant stock are not available or the normal permanent seeding period for the species has passed
  - Forage Sorghum - 1/2 bushel per acre (May 15-July 15)
  - Sorghum - Sudangrass Hybrid - 1 bushel per acre (May 15-July 15)
  - Sudangrass - 1 bushel per acre (May 15-July 15)
  - Winter Wheat - 2 bushels per acre (Aug 1-Oct 1)
  - Winter Cereal Rye - 2 bushels per acre (Aug 1-Oct 15)
  - Oats - 2 bushels per acre (Apr 1-Sept 1)
  - Annual Ryegrass - 20 Pounds per acre (Apr 1-Sept 1)
  
- 2) Triazine herbicide carryover will not allow establishment of permanent cover immediately.
  - Forage Sorghum - 1/2 Bushel per acre (May 15-July 15)
  - Sorghum - Sudangrass Hybrid - 1 Bushel per acre (May 15-July 15)
  - Sudangrass - 1 Bushel per acre (May 15-July 15)

Mulching not required

**DORMANT SEEDING**

Seed is broadcast and incorporated, no-tilled, or drilled into the seedbed .

Seedbed preparations and conditions are similar to conventional seeding.

**MULCHING**

Mulching not required

USE EROSION BLANKET INSTEAD OF MULCH



United States Department of Agriculture

Natural Resources Conservation Service

INTRODUCED SPECIES SEEDING ESTABLISHMENT

CLIENT: HUNT HILL

COUNTY: WASHBURN

Designed BJE Date 5-2019

Drawn \_\_\_\_\_

Checked \_\_\_\_\_

Approved \_\_\_\_\_

File Name WI-710

Date 08/14

## OPERATIONS AND MAINTENANCE PLAN

I agree to do the following for the next 25 years.

1. Repair any rills, gullies, or other erosion that occurs in the seeded area. Fill and compact these areas if necessary
2. During the first year of the seeding establishment growing season, waterway vegetation must be clipped by August 1 to allow seeded grasses to compete with weed species.
3. For Parking Lot area prevent ponding by grading to remove depressions and ruts.
4. Inspect roadside ditches, water-bars, and outlets after major runoff events and remove debris to restore flow capacity as needed.
5. Remove sediment deposits in waterways and inlet and outlet of ponds in the channel to maintain design capacity.
6. Repair rills or gullies in the exit channel of the spillway and reseed and mulch.
7. Maintain vegetative cover in the auxiliary spillway by removing and controlling weeds, trees, and woody plants.

\_\_\_\_\_

Landowner's Signature

\_\_\_\_\_

Date



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

### OPERATIONS & MAINTENANCE PLAN

CLIENT:           HUNT HILL            
COUNTY:           WASHBURN          

Designed <u>  BJE  </u>	Date <u>  5-2019  </u>
Drawn _____	
Checked _____	
Approved _____	

File Name

Date  
  08/14  

Sheet 1 of 1

## QUALITY ASSURANCE PLAN

- Verify that the landowner or contractor notified all utilities prior to construction. Document DIGGERS

HOTLINE Ticket Number: **FLAGS AND RED LINE SHOWING UTILITIES WERE VISIBLE**

- Inspect EROSION CONTROL PRACTICES (silt fence, etc.) if they are called for in the plan. Document proper installation with photographs and diary notation.

**PHOTOGRAOHS TAKEN AND IN LANDOWNER'S FILE**

SEED

- Document species and quantities of pure live seed. Attach seed tags or invoice.

CONSTRUCTION

**IT WAS TURF SEED MIX. DON'T HAVE THE TAG BUT THESE SPECIES WERE VISIBLE.**

- LAY OUT the practice according to the construction plan and the needs of the contractor. Typically this would be setting stakes or flags at the start and end, at drainage structures and along the centerline. If grade stakes are required, record the survey notes in the engineering field book.
- Verify that TOPSOIL IS STRIPPED from the roadbed and appropriately stockpiled prior to any grading or placement of materials. Document in the job diary.

FINAL INSPECTION

**IT WAS PREVIOUSLY GRAVEL. SHOULD NOT HAVE INCLUDED W/IN QC PLAN**

- Survey FINAL PROFILE AND CROSS-SECTIONS of the practice after placement of the surfacing materials. Survey cross-sections at the same stations as prior survey, so that layer thickness can be accurately checked. Verify:
- Correct Grade -For road grade between \_\_\_\_1\_\_\_\_ % and \_\_\_\_9\_10\_\_\_\_%.
- Road Width -For this practice, the planned road width is \_\_\_\_10\_\_\_\_ feet.
- Side Slopes -For this practice, planned side slopes are \_\_50\_\_:1.
- Final Length -Final length of the practice is \_\_\_\_369\_\_\_\_feet. Document the survey in the engineering field book.
- Document installed quantities (payment units) of the practices.

Document all of the above with photographs, data in engineering field book and job diary.



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

### QUALITY ASSURANCE PLAN

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LOWER PARKING LOT



LEARNING CENTER POND



PONDING AREA BELOW

COOP RETENTION AREA