

## Wisconsin Department of Transportation

March 5, 2015

### Division of Transportation Systems Development

Bureau of Project Development  
4802 Sheboygan Avenue, Rm 601  
P O Box 7916  
Madison, WI 53707-7916

Telephone: (608) 266-1631  
Facsimile (FAX): (608) 266-8459

### NOTICE TO ALL CONTRACTORS:

**Proposal #24: 1440-13-71**  
**Fond du Lac - Plymouth**  
**WCL – CTH P**  
**STH 23**  
**Sheboygan County**

**1440-13-74**  
**Fond u Lac - Plymouth**  
**WCL – CTH P**  
**STH 23**  
**Sheboygan County**

### Letting of March 10, 2015

This is Addendum No. 01, which provides for the following:

#### Special Provisions

Revised Special Provisions	
Article No.	Description
3	Prosecution and Progress
4	Traffic
8	Utilities
41	Seeding Upland Buffer Mix, Item SPV.0085.01; Seeding Wet Meadow Mix, Item SPV.0085.02

Added Special Provisions	
Article No.	Description
48	QMP Subgrade
49	Notice to Contractor - Crossing STH 23

Deleted Special Provisions	
Article No.	Description
12	Hauling Restrictions

#### Schedule of Items

Revised Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
205.0100	Common Excavation, Cat 0010	CY	495,000	494,000	738,615
522.0124	CPRC Class III 24-Inch, Cat 0010	LF	3468	3471	3471

## Plan Sheets

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
2	General Notes – Time Warner Cable contact updated.
8	Construction Detail – Changed “Frost Heave Side View Detail” to Excavation Below Subgrade (EBS) detail.
14	Construction Detail – Revised Stationing and added missing dimensions
27	Grading Footprint Detail – Revised with updated line work showing offset median crossover at Scenic View Drive.
29	Grading Footprint Detail – Revised with updated line work showing offset median crossover at Julie Ct/Castle Rock Ct and extended curb and gutter/median pipe move at CTH A.
38	Intersection Detail – Revised with updated line work showing offset median crossover.
44	Intersection Detail – Revised with updated line work showing extended curb and gutter in median and relocated median drain.
48	Intersection Detail – Revised with updated line work showing offset median crossover at Julie Ct/Castle Rock Ct.
58	Erosion Control Temporary – Revised with updated line work showing median crossover at Scenic View Drive.
60	Erosion Control Temporary – Revised with updated line work showing median crossover at Julie Ct/Castle Rock Ct and extended curb and gutter/median pipe move at CTH A.
66	Erosion Control Permanent – Revised with updated line work showing median crossover at Scenic View Drive.
68	Erosion Control Permanent – Revised with updated line work showing median crossover at Julie Ct/Castle Rock Ct and extended curb and gutter/median pipe move at CTH A.
104	Miscellaneous Quantities – Earthwork table changed to reflect changes made along Mainline and at CTH U. (Results in 1000 CY less Common Excavation).
108	Miscellaneous Quantities – Culvert Pipe Summary changed to reflect moving median pipe from 990+30 to 988+40. QTY also raised 3 LF.
109	Miscellaneous Quantities – Culvert Pipe Summary changed to reflect moving median pipe from 990+30 to 988+40.
113	Miscellaneous Quantities – Culvert Pipe Structure Summary changed to reflect moving inlet from 990+30 to 988+40.
114	Miscellaneous Quantities – Culvert Pipe Structure Summary changed to reflect QTY change on page 108.
158	Plan and Profile – Mainline Plan and Profile revised to show line work changes for offset median crossover at Scenic View Drive.
162	Plan and Profile – Mainline Plan and Profile revised to show line work changes for extended curb and gutter/median pipe move at CTH A.
163	Plan and Profile – Mainline Plan and Profile revised to show line work changes for offset median crossover at Julie Ct/Castle Rock Ct intersection.
164	Plan and Profile – Mainline Plan and Profile revised to show line work changes for offset median crossover at Julie Ct/Castle Rock Ct intersection.
173	Plan and Profile – Old Plank Trail Plan and Profile revised to show line work changes for offset median crossover at Scenic View Drive.
181	Plan and Profile – Scenic View Drive Plan and Profile revised to show line work changes for offset median crossover at Scenic View Drive.
185	Plan and Profile – CTH A Plan and Profile revised to show line work changes for extended curb and gutter/median pipe move at CTH A.
187	Plan and Profile –Castle Rock Ct Plan and Profile revised to show line work changes for offset median crossover at Julie Ct/Castle Rock Ct intersection.
188	Plan and Profile –Julie Ct Plan and Profile revised to show line work changes for offset median crossover at Julie Ct/Castle Rock Ct intersection.
270-280	Earthwork Data Sheets revised to include changes in grading along mainline.

286	Earthwork Data Sheet revised to include changes in grading at CTH U.
343-349	Cross Sections – WB Mainline revised median grading for offset median crossover at Scenic View Drive.
383-387	Cross Sections – WB Mainline revised to raise ditch along north side, move median pipe from 990+30 to 988+40, and extend curb and gutter.
401-410	Cross Sections – WB Mainline revised median grading for offset median crossover at Julie Ct/Castle Rock Ct
415	Cross Sections – WB Mainline revised to daylight cut at 1042+00
431-432	Cross Sections – WB Mainline revised to steepen back slopes from 1087+93 – 1089+00.
507-513	Cross Sections – EB Mainline revised median grading for offset median crossover at Scenic View Drive.
550-554	Cross Sections – EB Mainline revised to raise move median pipe from 990+30 to 988+40, extend curb and gutter in median, and move south slope intercept out of old plank trail.
568-577	Cross Sections – EB Mainline revised median grading for offset median crossover at Julie Ct/Castle Rock Ct
623-624	Cross Sections – Chickadee Rd revised cross sections.
625-626	Cross Sections – CTH U revised cross sections.
656	Cross Sections – Castle Rock Ct revised Cross Sections to match into existing
690	Cross Sections – Inez Branch Rd – Steepen back slopes at stations 27+71 to 28+00

Added Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of why sheet was added)
622A	Cross Sections - Missing cross sections at the beginning of Chickadee Rd.

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

*Mike Coleman*

Proposal Development Specialist  
Proposal Management Section

**ADDENDUM NO. 01**  
**1440-13-71 & 1440-13-74**  
**March 5, 2015**

**Special Provisions**

**3. Prosecution and Progress**

*Replace the first four paragraphs with the following:*

Begin work within ten calendar days after the engineer issues a written notice to do so.

The Notice to Proceed will not be issued prior to obtaining the U.S. Army Corps of Engineers Section 404 Permit. It is anticipated that the Notice to Proceed will be issued to allow for a start date no later than May 4, 2015.

Provide the time frame for construction of the project within the 2015 construction season to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Assure that the time frame is consistent with the contract completion time. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the beginning of the approved time frame.

To revise the time frame, submit a written request to the engineer at least two weeks before the beginning of the intended time frame. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

The contract time for completion is based on an expedited work schedule and may require extraordinary forces and equipment.

**4. Traffic**

*Replace the fifth paragraph ("STH 23 is a WisDOT OSOW...width,") with the following:*

STH 23 is a designated WisDOT Freight Network Route. Maintain a width restriction no less than 16 feet, in each direction, at all times during this project. Movement of OSOW is scheduled to occur during this construction project that will require a minimum of 16 ft, in each direction, horizontal clearance.

Enter the correct minimum width restriction in Wisconsin Lane Closure System.

**8. Utilities**

Replace Article 8. Utilities with the following:

This contract comes under the provision of Administrative Rule Trans 220.  
107-065 (20080501)

There are underground and overhead facilities located within the project limits. There are known utility adjustments required for the construction project as noted below. Coordinate construction activities with Diggers Hotline and contact the utilities which have facilities in the area as required per statutes. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

By May 1, 2015, it is anticipated that utility relocations will be completed in the following areas:



- Division Road to Chickadee Drive, on the north side of STH 23.
- Chickadee Drive to CTH U, on the north side of STH 23.
- Spring Valley Drive to the west side of west Plank Road, on the south side of STH 23.
- East side of west Plank Road to CTH A, on the south and north sides of STH 23.
- CTH A to the east project limits, on the south and north sides of STH 23.

By August 1, 2015, it is anticipated that utility relocations will be completed in the remaining areas:

- CTH U to Spring Valley Drive, on the south side of STH 23.
- CTH U to Sunrise Road, on the north side of STH 23.
- Sunrise Road to CTH T, on the north side of STH 23.
- CTH T to the west Plank Road, on the north side of STH 23.
- CTH A intersection, on the north and south sides of STH 23.

Bidders are advised to contact each utility company listed in the plans, prior to preparing their bids, to obtain current information on the status of any utility relocation work stated herein.

**ANR Pipeline Company** – maintains underground **gas** facilities within the project limits.

ANR (TransCanada) has a 30" high pressure gas pipeline crossing STH 23 in the vicinity of station 756+40, with a marker vent & CP Test Station located on each side of STH 23. The vents & test stations will be relocated approximately 120 feet south and 10 feet north of the right of way limits.

ANR has completed the utility relocation work detailed above.

The field contact for this project is: Steve Whitty, W8715 Tower Drive, Adell, WI 53001, (920) 375-0475.

The following requirements shall be followed to safely accommodate construction near the ANR (TransCanada) facility:

Work within the 25' of the pipeline will be performed in accordance with TransCanada procedures to protect the safety of TransCanada facilities. The following guidelines, although not inclusive, are provided in order to protect the pipelines and facilities:

1. No ground disturbance shall be made within the TransCanada easement or within 25', measured at right angles, of the pipeline except in the presence of ANR's company representative.
2. Notice of at least seventy-two (72) hours in advance of construction must be provided. CONTRACTOR must contact the following TransCanada field representatives:

Name: Steve Whitty      Cell: 920-375-0475

TransCanada will arrange for a representative to be on site when work is occurring on or near the easement area, or within 25' of the pipelines. After hours call 1-800-447-8066.

3. CONTRACTOR must hydro-vac or hand expose TransCanada' buried pipeline prior to use of mechanical equipment within 15' of the pipeline.

4. No part of powered equipment shall come within 3' of TransCanada pipelines, or according to applicable State or Federal requirements.

5. No bucket, any attachment or load may be swung over TransCanada pipeline(s) where there is less than 24" of cover.

6. When existing TransCanada buried pipelines are exposed, resulting in an unsupported length of 5 times the diameter of the existing pipeline, as a minimum, the following requirements shall be met:

- A layer of select bedding material, sand or a mixture of sand and crushed stone shall be placed on the bottom of the trench 2 feet wider than the pipeline. This bedding shall be a minimum of 4" thick and be compacted.
- Structural backfill sand shall then be carefully placed in 6 inch lifts and compacted up to the middle of the TransCanada pipeline.
- The backfill, sand or native soil, above the pipe shall be free of rocks, cobbles and boulders and be compacted enough to prevent excessive settlement.

7. In the event of equipment crossings outside of existing road right of way or wherever our technician determines that inadequate cover exists, install and maintain temporary crossings of TransCanada' pipeline(s) at location(s) specified by TransCanada and that are/is perpendicular to TransCanada' pipeline(s). A minimum of five (5) feet of total cover over TransCanada' pipeline(s) is required. If fill is required to obtain the minimum cover, a suitable material (preferably a bank run gravel material, or a combination of wooden mats and bank run gravel, or a TransCanada approved "Portable Land Bridge") will be placed on the existing surface of the ground over the pipeline(s) from a point fifteen (15) feet ahead of the pipeline crossing to a point fifteen (15) feet beyond the pipeline crossing. The crossing area should be a minimum of twenty (20) feet wide so as to adequately bear the crossing weights of the heavy equipment. All vehicular traffic will cross TransCanada' pipeline(s) at these designated locations only.

8. The applicable state one-call system must be contacted at 811 in accordance with its advance notification requirements prior to any ground disturbance.

9. CONTRACTOR will be crossing one or more of TransCanada' transmission pipeline(s). These pipeline(s) are coated with a material to protect them from corrosion. The coating may contain asbestos. If the excavation results in exposing TransCanada' pipeline(s) and there is any damage to the coating, CONTRACTOR will be responsible for all costs, including any disposal costs, associated with the coating repair. If necessary, CONTRACTOR will also be required, to halt its work activity while the coating material is being analyzed. The coating repair, including the removal of the original material, will be performed by TransCanada personnel or a qualified third party contractor selected by TransCanada. All work will be done in accordance with TransCanada's current engineering and environmental standards. During the course of the excavation work, Contractor agrees to cooperate with TransCanada to insure all federal, state and local environmental and safety regulations are followed.

10. Should it be necessary for a TransCanada employee/representative to enter the excavation to inspect its pipeline(s), the excavation at the crossing shall be sloped, permitted safe with trench boxes, or shored in accordance with the requirements of the Occupational Safety and Health Administration.

**Frontier Communication** – maintains underground and overhead **communication** facilities within the project limits.

Frontier Communication plans to install a new underground cable and fiber approximately 42" below existing ground surface from station 781+00 to station 932+50, located within 4' of the north R/W and within 4' of the side road R/W's at Chickadee Drive, Sunrise Road, Scenic View Drive, and CTH T.

Frontier Communication plans to install new underground cable joint with WE-Energies from station 932+50 to station 952+50, along north R/W.

Frontier Communication plans to install new underground cable joint with Plymouth Utilities from station 1087+00 to station 1097+00, located within 2' of the north R/W line and buried at a depth of 3' below existing ground surface; station 6+00 to station 16+00 Twinkle Lane located 2' inside the

north R/W and buried 3' below existing ground surface; station 22+00 to station 32+00 Sandstone Lane located 2' inside the south road R/W and buried 3' below existing ground surface.

Frontier Communication plans to bore underground crossings at stations 781+50, 806+10, 824+10, 842+10, 889+18, 915+75, 952+50, 971+00, 985+80, 1022+50, 1032+50, 1057+70, 1087+20, and 1123+10.

Frontier Communication plans to complete the utility relocation work detailed above by May 1, 2015.

The field contact for this project is: Ryan Osness, 118 Division Street, Plymouth, WI 53073, (920) 893-7455, [ryan.d.osness@ftr.com](mailto:ryan.d.osness@ftr.com).

**Northern Moraine Utility Commission** maintains a sanitary sewer force main crossing within the project limits. No conflicts are anticipated.

Northern Moraine Utility Commission has an existing sanitary force main crossing STH 23 at approximately station 889+00, a minimum 4.5' of cover must be maintained over the existing sanitary sewer force main at the proposed ditch at station 990+00, +/- 65' left.

The field contact for this project is: Scott Randall, P.O. Box 217, N7025 CTH P, Glenbeulah, WI 53023, (920) 526-3808, [nmuc@frontier.com](mailto:nmuc@frontier.com).

**Plymouth Utilities** – maintains underground and overhead **electric** facilities within the project limits.

Plymouth Utilities plans to remove existing poles and wire at station 1087+30.

Plymouth Utilities plans to install underground electric from station 1087+00 to 1097+00, located 2' inside the north R/W line and buried at a depth of 3' below existing ground surface. The existing facilities will be discontinued in-place.

Plymouth Utilities plans to install underground electric along Twinkle Lane from station 6+00 to 21+00, located 2' inside the north R/W and buried 3' below existing ground surface. All the overhead facilities will be removed when the underground is installed.

Plymouth Utilities plans to install underground electric crossing along Branch Road at station 3+50 from existing pole on the north side of Branch Road crossing under Branch Road at a depth of 8' below existing ground surface and placing a pad mount transformer on private property just outside of the south R/W. Discontinue existing facilities in place from station 0+50 to 4+00 Branch Road, approximately 100' left and the existing underground electric that crosses Inez Court.

Plymouth Utilities plans to install underground electric along Sandstone lane from station 22+00 to 32+00, located 2' inside the south road R/W of Sandstone Lane. Existing poles will be removed when the underground portion has been completed.

Plymouth Utilities plans to complete the utility relocation work detailed above by May 1, 2015.

The field contact for this project is: Jim Peterson, 900 CR-PP P.O. Box 277, Plymouth, WI 53073, (920) 893-1471, [jpeterson@plymouthutilities.com](mailto:jpeterson@plymouthutilities.com).

**Time Warner Cable** maintains overhead **communication** facilities within the project limits.

Time Warner Cable maintains an aerial facilities crossing STH 23 at CTH A from station 45+00 to 60+00.

Time Warner Cable will rebuild coaxial and fiber optic facilities along the new WE-Energies pole line, as well as overlash additional fiber to tie into existing storage loops.

Time Warner Cable plans to complete the joint utility relocation work in 25 days. Time Warner Cable anticipates completing the work detailed above by August 1, 2015.

The field contact for this project is: Steven Cramer, 1320 N Dr Martin Luther King Jr Dr, Milwaukee, WI 53212-4002, (414) 277-4045, [steve.cramer@twcable.com](mailto:steve.cramer@twcable.com)

**WE Energies (electricity)** – maintains overhead and underground **electric** facilities within the project limits.

WE Energies will install poles within 2' of the south R/W from station 748+72 to 865+93 and station 896+40 to 955+87.

WE Energies will install poles within 2' of the north R/W from station 866+92 to 896+76 and station 951+07 to 955+93.

WE Energies will install poles within 2' of the R/W at Chickadee Road, CTH U, Sunrise Road, Scenic View Drive, CTH T, Plank Road, Sugarbush Road, and CTH A.

WE Energies will remove the existing poles once the new lines are active. The underground facilities will be adjusted to compensate for any grade changes or discontinued and replaced with overhead.

WE Energies plans to complete the utility relocation work detailed above by August 1, 2015.

The field contact for this project is: Gregory Boerner, 700 Sunset Road, Port Washington, WI 53074, (262) 268-3654.

**West Shore Pipe Line Company** – maintains underground **petroleum** products facilities within the project limits.

An existing 10" high pressure petroleum products pipeline is located under STH 23 at approximately station 1010+50.

West Shore Pipe Line Company (Buckeye Partners, L.P.) will install a new thicker wall pipe at a lower elevation at this same location.

West Shore Pipe Line Company plans to complete the utility relocation work detailed above by May 1, 2015.

Construction operations within 500-feet of the pipeline must submit a seismic vibrating plan to Buckeye Partners, L.P. for review and approval. Verbal and written notice will be given 14 and 21 days respectively. Make arrangements for a Buckeye On-Site Inspector to be present.

General requirements for Construction Vehicle Crossing:

- a. Trucks carrying a maximum axle load up to 15,000 pounds may cross the pipeline right-of-way after Buckeye has confirmed a minimum cover of 48 inches over the pipeline.
- b. For all other cases, earthen ramps, swamp mats, reinforced concrete slabs, or steel plates may be required. Loading conditions and protection measures will be evaluated and dictated by Buckeye's Engineering Department.

- c. During the use of an approved temporary construction road, Buckeye may require that the crossing party provide additional protective measures deemed necessary to prevent damage to the pipeline.
- d. Buckeye will limit the number of temporary construction roads constructed by the crossing party.

Seismic vibrating operations will be paid for separately under the bid item, Seismograph, Item 999.1000.S.01.

The field contact for this project is: Casey Schwandt, 2119 North Quincy Street, Green Bay, WI 54302, (920) 655-1428, [CSchwandt@buckeye.com](mailto:CSchwandt@buckeye.com).

**Wisconsin Public Service Corporation (WPS)** – maintains **gas** facilities within the project limits.

WPS will install a 2" gas main boring under STH 23 starting at station 47+00 CTH A, 30' right, northeasterly to station 59+20 CTH A (located approximately 5' east of the existing sanitary force main, maintained by Northern Moraine Utility Commission), then cross CTH A at station 59+20 CTH A and tie into the existing 2" gas main on the west side of CTH A. The new gas main will be installed 6' below existing ground surface south of STH 23, 8' below existing ground surface under STH 23 and past the north ditch, then 4' below existing ground surface north to station 59+20 CTH A.

The existing gas main will be discontinued in place.

A WPS metering pole in the NW quadrant of STH 23 and CTH A will be removed and a new pole installed outside the project limits.

WPS has completed the utility relocation work detailed above.

The field contact for this project is: Mike Lowther, 933 S Wildwood Ave., Sheboygan, WI 53081, (920) 451-3743, [mllowther@wisconsinpublicservice.com](mailto:mllowther@wisconsinpublicservice.com).

**12. DELETED.**

**41. Seeding Upland Buffer Mix, Item SPV.0085.01; Seeding Wet Meadow Mix, Item SPV.0085.02**

*Replace the third paragraph of C Construction with the following:*

Sow seeding at the following rates or as directed by the engineer:

- Sow Seeding Upland Buffer Mix at a rate of 11.5 lbs/acre.
- Sow Seeding Wet Meadow Mix at a rate of 8.02 lbs/acre.

**48. QMP Subgrade.**

**A Description**

- (1) This special provision describes requirements for subgrade materials within the roadway foundation as defined in standard spec 101.3. Conform to standard spec 207 as modified in this special provision for all work within the roadway foundation at the locations the plans show.
- (2) Provide and maintain a quality control program. A quality control program is defined as all activities, including process control inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of subgrade which meets all the requirements of this provision.
- (3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

## **B Materials**

### **B.1 Quality Control Plan**

- (1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform grading work before the engineer reviews and accepts the plan. Construct the project as the plan provides.
- (2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:
  1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
  2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
  3. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
  4. Location of the QC laboratory, retained sample storage, and control charts and other documentation.
  5. A summary of the locations and calculated quantities to be tested under this provision.
  6. An explanation regarding the basis of acceptance for material that cannot be tested by nuclear methods due to a high percentage of oversized particles.

### **B.2 Personnel**

- (1) Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I present at the site during all subgrade preparation, fill placement, compaction, and nuclear testing activities. Have a nuclear density technician certified under HTCP at level I perform field density and field moisture content testing.

### **B.3 Laboratory**

- (1) Perform quality control testing in a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:  
Materials Management Section  
3502 Kinsman Blvd.  
Madison, Wisconsin 53704  
Telephone: 608-246-5388  
<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

### **B.4 Equipment**

- (1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM Chapter 8 and maintain a calibration record at the laboratory.
- (2) Furnish nuclear gauges from the department's approved product list at <http://www.atwoodsystems.com/materials>. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge within 12 months before using it on the project. Retain a copy of the calibration certificate with the gauge.
- (3) Conform to ASTM D 2950 and CMM 4-5-90 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

## **B.5 Soil Source Study**

- (1) Conduct and submit a soil source study before beginning of grading operations. Ensure that this study identifies each distinct soil type on the project within the top 15 feet of cut areas and all borrow material. Provide the in-bank natural moisture content for each soil. Develop moisture-density curves for each identified soil type by utilizing AASHTO T 99 with a minimum of 5 individual points, and a zero air voids curve at a specific gravity of 2.65. Determine the maximum density and corresponding optimum moisture level for each soil type. Develop a site-specific family of Proctor curves for this contract from the completed soil source study and submit to the engineer for review and acceptance.
- (2) Perform characterization tests on each of the soil types selected for the soil source study. The tests include AASHTO T 89, AASHTO T 90, AASHTO T 27, and AASHTO T 11. Classify each soil type selected according to the AASHTO soil classification system based on the characterization tests. Do not begin grading operations until the engineer accepts the soil source study.
- (3) Use the soil types identified in the soil source study with corresponding maximum densities and optimum moisture values to determine the compaction compliance on the project. Continue the soil source study in those areas of cuts greater than 15 feet that were not accessible during the initial study. Include data on additional soil types if project conditions change. Ensure that tests of additional soil types are complete and the engineer accepts the results before incorporating the material into the roadway foundation.
- (4) Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department at:

NE Region Materials Laboratory  
944 Vanderperren Way  
Green Bay, WI 54304  
Telephone: (920) 492-5677

- (5) Retain and identify 2 representative samples of each Proctor. Submit one sample to the engineer. Retain one sample on site for use when performing textural identification.

## **B.6 Quality Control Documentation**

### **B.6.1 Control Charts**

- (1) Maintain separate control charts for the field density and field moisture content of each grading area. Designate grading areas within the project as follows:
  1. Embankment portions of the project, except within 200 feet of bridge abutments.
  2. Embankment within 200 feet of bridge abutments.
  3. Subgrade cut portions of the project.
  4. Embankment in pipe culvert trenches.
  5. Structure and granular backfill placed at bridge abutments.
- (2) Ensure that all tests are recorded and become part of the project records. Plot required test results on the control charts. Include random and engineer-requested testing but only include the contractor's randomly selected QC test results in the 4-point running average. The contractor may plot other contractor-performed process control or informational tests on the control charts, but do not include them in 4-point running averages.
- (3) Post control charts in an engineer-approved location and update daily. Ensure that the control charts include the project number, the test number, each test element, the applicable control limits, the contractor's individual test results, the running average of the last 4 data points, and

the engineer's quality verification test data points. Use the control charts as part of a process control system for identifying potential problems and assignable causes. Format control charts according to CMM Chapter 8.

- (4) Submit control charts to the engineer in a neat and orderly manner within 10 business days after completing subgrade construction.

### **B.6.2 Records**

- (1) Document all observations, inspection records, adjustments to fill placement procedures, soil changes, and test results daily. Note the results of the observations and inspection records as they occur in a permanent field record.
- (2) Provide copies of the field density and field moisture running average calculation sheets, the one-point Proctor tests, records of procedure adjustments, and soil changes to the engineer daily.
- (3) Submit original testing records to the engineer in a neat and orderly manner within 10 business days after completing subgrade construction.

## **B.7 Contractor Testing**

### **B.7.1 General**

- (1) Have a grading technician certified under HTCP at level I present during all subgrade preparation, fill placement, compaction, and testing. Have a nuclear density technician certified under HTCP at level I perform the testing for field density and field moisture content. During subgrade construction, use sampling and testing methods identified in the CMM Chapter 8 to perform the required tests at randomly selected locations at the indicated minimum frequency for each grading area.
- (2) Determine the cubic yards for testing based on a total load count system the engineer and contractor agree to.
- (3) For each test, provide the cubic yards represented and the test location to within 2 feet horizontally and 0.5 feet vertically.

### **B.7.2 Field Density and Field Moisture**

- (1) Perform the field density and field moisture tests using the nuclear density meter method according to AASHTO T 310. Ensure that each field density test material is related to one of the specific soil types identified in the soil source study in determining the percent compaction. Use textural identification as the primary method of establishing this relationship. Utilize the representative samples retained from the soil source study when performing the textural identification. Use a coarse particle correction according to AASHTO T 224.
- (2) If field density and field moisture tests cannot be performed by the nuclear density method due to a high percentage of oversized particles as determined according to AASHTO T 99, observe the placement of the embankment and document the basis of acceptance. Document daily quantities of untested embankment and locations where untested embankment is placed, and keep a cumulative quantity of untested embankment material for the duration of the project. Include the daily documentation and a summary of the cumulative quantity of untested embankment material with the project records.

### **B.7.3 One-Point Proctor**

- (1) Obtain a representative sample of the fill material and test according to AASHTO T 272. Compare the sample to the curves developed in the soils source study to determine the maximum dry density and optimum moisture. Use the appendix for AASHTO T 272 as a guide in this determination.



#### **B.7.4 Testing Frequency**

##### **B.7.4.1 Subgrade Embankment**

- (1) Perform the required tests at the following frequencies:

<u>Test</u>	<u>Minimum Frequency</u>
Field Density & Moisture (AASHTO T 310)	One per 3,000 cubic yards.
One-Point Proctor (AASHTO T 272)	One per 9,000 cubic yards.

##### **B.7.4.2 Subgrade Embankment Within 200 Feet of Bridge Abutments**

- (1) Perform the required tests at the following frequencies:

<u>Test</u>	<u>Minimum Frequency</u>
Field Density & Moisture (AASHTO T 310)	One per 3,000 cubic yards.
One-Point Proctor (AASHTO T 272)	One per 9,000 cubic yards.

##### **B.7.4.3 Subgrade Cut**

- (1) Perform the required tests at the following frequencies:

<u>Test</u>	<u>Minimum Frequency</u>
Field Density & Moisture (AASHTO T 310)	One per cut area. One per 2,000 linear feet per roadway.

##### **B.7.4.4 Subgrade Embankment in Culvert Pipe Trenches**

- (1) Perform the required tests at the following minimum frequencies:

<u>Test</u>	<u>Minimum Frequency</u>
Field Density & Moisture (AASHTO T 310)	One per trench. For pipes larger than 40-inch diameter, 2 per trench on different lifts.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards.

##### **B.7.4.5 Structure and Granular Backfill at Bridge Abutments**

- (1) Perform the required tests at the following minimum frequencies:

<u>Test</u>	<u>Minimum Frequency</u>
Field Density & Moisture (AASHTO T 310)	2 per abutment on different lifts.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards.

#### **B.7.5 Compaction Zones**

##### **B.7.5.1 Subgrade Embankment**

- (1) Embankment material placed within 6 feet of the finished subgrade elevation is classified as upper zone material. Material placed more than 6 feet below the finished subgrade elevation is classified as lower zone material.

##### **B.7.5.2 Subgrade Embankment Within 200 Feet of Bridge Abutments**

- (1) All embankment material placed within 200 feet of bridge abutments is subject to the quality controls for upper zone material.

#### **B.7.5.3 Subgrade Cut**

- (1) Subgrade material in cut areas is subject to the quality controls for upper zone material.

#### **B.7.5.4 Subgrade Embankment in Culvert Pipe Trenches**

- (1) Material placed within culvert pipe trenches is subject to the quality controls for the zone that the material is located in.

#### **B.7.5.5 Structure and Granular Backfill at Bridge Abutments**

- (1) All backfill material placed adjacent to bridge abutments is subject to the quality controls for upper zone material.

### **B.7.6 Control Limits**

#### **B.7.6.1 Field Density**

- (1) The lower control limit for field density measurements in the upper zone is a minimum of 95% of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 92% of the maximum dry density for any individual test.
- (2) The lower control limit for field density measurements in the lower zone is a minimum of 93% of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 90% of the maximum dry density for any individual test.

#### **B.7.6.2 Field Moisture Content**

- (1) The upper control limit for the field moisture content in the upper and lower zones is 105% of the optimum moisture as determined by AASHTO T 99 or T 272 for the 4-point running average.
- (2) The lower control limit for the field moisture content in the upper and lower zones is 65% of the determined optimum moisture for the 4-point running average. There is no lower control limit for the field moisture of material having less than 5% passing the No. 200 sieve.

### **B.7.7 Corrective Action**

- (1) Notify the engineer if an individual field density test falls below the individual test control limit. The subgrade in this area is unacceptable. Perform corrective actions, acceptable to the engineer, to improve the density of the subgrade material. After corrective action, perform a randomly located retest within the represented quantity to ensure that the material is acceptable.
- (2) Notify the engineer if the field density or field moisture running average point falls below the running average control limit for field density or outside the control limits for field moisture. The subgrade in this area is unacceptable. Perform corrective actions, acceptable to the engineer, to improve the quality of the material represented by the running average point. Retest each corrected area at a new random location within its represented quantity and determine a new 4-point running average. If the new running average is not acceptable, perform further corrective actions and retest at new random locations.
- (3) If the contractor's control data is proven incorrect resulting in a field density or field moisture point falling below the control limit for field density or outside the control limits for field moisture, the subgrade is unacceptable. Employ the methods described above for unacceptable material.

## **B.8 Department Testing**

### **B.8.1 General**

- (1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all verification and independent assurance personnel for the project.

- (2) The department will provide field density and field moisture test results to the contractor on the day of testing. Test results from Proctor split samples will be provided to the contractor within 7 business days after the sample has been received by the department.

### **B.8.2 Verification Testing**

- (1) The department will have an HTCP technician, or ACT under the direction of a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified for contractor testing personnel for each test being verified. The department will notify the contractor before testing so the contractor can observe QV testing.
- (2) The department will test field density and field moisture randomly at locations independent of the contractor's QC work. The department will use split samples for verification of Proctor testing. In all cases, the department will conduct the verification tests in a separate laboratory and with separate equipment from the contractor's QC tests.
- (3) The department will perform verification testing as follows:
  1. The department will conduct verification tests on Proctor split samples taken by the contractor. These samples may be from the Soil Source Study or the one-point Proctor or sample locations chosen by the engineer from anywhere in the process. The minimum verification testing frequency is one per 90,000 cubic yards, with at least one for each soil type identified in the Soil Source Study.
  2. The department will test the first split sample obtained by the contractor for the one-point Proctor. The engineer may select any contractor-retained sample for verification testing.
  3. The department will conduct at least one verification test for field density and field moisture per 30,000 cubic yards.
- (4) Plot verification tests on the contractor's quality control charts as specified in B.6.1. Do not include verification tests in the 4-point running average.
- (5) If verification tests are within specified control limits, no further action is required. If verification tests are not within specified control limits, the engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's sampling and testing procedures and equipment. Both parties will document all investigative work.
- (6) Correct all deficiencies. If the contractor does not respond to an engineer request to correct a deficiency or resolve a testing discrepancy, the engineer may suspend grading work until action is taken. Resolve disputes as specified in B.9.

### **B.8.3 Independent Assurance Testing**

- (1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program, which may include one or more of the following:
  1. Split sample testing.
  2. Proficiency sample testing.
  3. Witnessing sampling and testing.
  4. Test equipment calibration checks.
  5. Reviewing required worksheets and control charts.
  6. Requesting that testing personnel perform additional sampling and testing.
- (2) Plot the independent assurance tests on the contractor's quality control charts as specified in B.6.1. Do not include independent assurance tests in the 4-point running average.

- (3) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend grading work until action is taken. Resolve disputes as specified in B.9.

#### **B.9 Dispute Resolution**

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.
- (2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party tests to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

#### **B.10 Acceptance**

- (1) The department will accept the material tested under this provision based on the contractor QC tests unless it is shown through verification testing or the dispute resolution process that the contractor's test results are in error.

#### **C (Vacant)**

#### **D (Vacant)**

#### **E Payment**

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

### **49. Notice to Contractor – Crossing STH 23**

Insert this article with the following:

"When crossing STH 23, provide the necessary flagging and signing to control construction equipment movements. Flagging operations shall not impede traffic flow on STH 23. All crossing locations are subject to the approval of the engineer.

Maintain, repair, and restore STH 23 at crossing locations. The engineer will determine the type and quality of repair required. Existing facilities may be stabilized, reinforced, or strengthened prior to beginning crossings. This work will be incidental to the work being performed."

**Schedule of Items**

Attached, dated March 5, 2015, are the revised Schedule of Items Pages 2 and 5.

**Plan Sheets**

The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:

Revised: 2, 8, 14, 27, 29, 38, 44, 48, 58, 60, 66, 68, 104, 108, 109, 113, 114, 158, 162, 163, 164, 173, 181, 185, 187, 188, 270-280, 286, 343-349, 383-387, 401-410, 415, 431-432, 507-513, 550-554, 568-577, 623-626, 656, and 690.

Added: 622A

END OF ADDENDUM

GENERAL NOTES

\*ALL J-TURNS AND ASSOCIATED CORE AREAS WILL BE CONSTRUCTED WITH 5" OF HMA, TYPE E-1 OVER 10" OF 1-1/4" OF BASE AGGREGATE DENSE.

\*BOTH RIGHT AND LEFT TURN LANES FOR SIDE ROADS/CROSSOVERS WILL BE CONSTRUCTED TO MATCH THE ADJACENT MAINLINE PAVEMENT STRUCTURE. CONCRETE LANES WILL BE 9'-0" OF CONCRETE OVER 6" OF 1-1/4" OF BASE AGGREGATE DENSE. ASPHALT LEFT TURN LANES WILL BE 12'-0" OF CONCRETE OVER 6" OF 1-1/4" OF BASE AGGREGATE DENSE. ASPHALT RIGHT TURN LANES WILL BE 6'-25" OF HMA, TYPE E-10 OVER 15" OF 1-1/4" BASE AGGREGATE DENSE.

EROSION CONTROL ITEMS SHOWN ARE SUGGESTED LOCATIONS, THE EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

KEEPING SLOPES LOCATIONS SHOWN IN EROSION CONTROL PLAN, MAY NOT INCLUDE ALL DISCOVERED THROUGHOUT THE CONSTRUCTION PROJECT. ADDITIONAL LOCATIONS ARE AT THE DISCRETION OF THE ENGINEER IN THE FIELD.

TOPSOIL, SEED, FERTILIZER, AND MULCH SHALL BE PLACED ON ALL EXPOSED DISTURBED AREAS THROUGHOUT THE PROJECT EXCEPT THE FUTURE ROADBED.

APPLY SOIL STABILIZER TYPE B TO FUTURE ROADBED, BETWEEN SUBGRADE SHOULDER POINTS.

HMA PAVEMENT QUANTITIES WERE CALCULATED USING 110 LB/SY INCH.

THE LOCATIONS OF EXISTING UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

\*DOME BY OTHERS

UTILITIES

ANR PIPELINE COMPANY  
STEVE WISNIEWSKI  
110 DIVISION STREET  
ADELL, WI 53001  
PHONE: 920-686-3441  
FAX: 920-686-3442  
EMAIL: steven.wisniewski@anr.com

FRONTIER  
RYAN OSKES  
115 DIVISION STREET  
ADELL, WI 53001  
PHONE: 920-893-7455  
MOBILE: 920-246-2530  
EMAIL: ryan.oskes@frontier.com

NORTHERN MIDLINE UTILITY COMMISSION  
SCOTT RANDALL  
N7025 CTH P  
P.O. BOX 217  
PLAUMOUTH, WI 53093  
PHONE: 920-526-3808  
EMAIL: mrucc@frontier.com

PLAUMOUTH UTILITIES  
JAY SCHIEFELBEIN  
300 CTH PP  
P.O. BOX 277  
PLAUMOUTH, WI 53093  
PHONE: 920-526-3808  
MOBILE: 920-546-1953  
EMAIL: jay.schiefelbein@plmutilites.com

TIME WARNER CABLE  
STEVEN CRAMER  
110 DIVISION STREET  
ADELL, WI 53001  
PHONE: 414-277-4045  
FAX: 414-277-4046  
EMAIL: steven.cramer@twcable.com

WE ENERGIES  
GREGORY BOERNER  
2115 NORTH QUINCY STREET  
GREEN BAY, WI 54302  
PHONE: 920-451-3122  
MOBILE: 920-451-3122  
EMAIL: gboerner@we-energies.com

WEST SHORE PIPELINE COMPANY  
GREGORY BOERNER  
2115 NORTH QUINCY STREET  
GREEN BAY, WI 54302  
PHONE: 920-451-3122  
MOBILE: 920-451-3122  
EMAIL: gboerner@westshorepipe.com

WISCONSIN PUBLIC SERVICE  
MIKE LUTHER  
315 WEST WISCONSIN AVENUE  
SHEBOYGAN, WI 53081  
PHONE: 920-451-3743  
MOBILE: 920-346-3198  
EMAIL: m.luthe@wisconsinpublicservice.com

COUNTY SURVEYOR OR SURVEY'S CONTACT PERSON

CONTACT: ED MARLEY- SHEBOYGAN COUNTY  
SHEBOYGAN COUNTY HIGHWAY DEPT  
221 NORTH 23RD STREET  
SHEBOYGAN, WI 53081  
PHONE: 920-459-3826  
FAX: 920-459-4017  
ED.MARLEY@sheboyganwi.us

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 2  
March 5, 2015

**DIGGERS HOTLINE**  
Dial 811 or (800)242-8511  
www.DiggersHotline.com

EMERGENCY CONTACT NUMBERS FOR WISCONSIN POWER AND LIGHT COMPANY

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-862-6261  
GAS 24 HOUR EMERGENCY SERVICE: 1-800-862-6263

EMERGENCY CONTACT NUMBERS FOR WISCONSIN PUBLIC SERVICE

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-450-7240  
GAS 24 HOUR EMERGENCY SERVICE: 1-800-450-7280

EMERGENCY CONTACT NUMBERS FOR WE ENERGIES

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-662-4797  
GAS 24 HOUR EMERGENCY SERVICE: 1-800-261-5325

PROJECT NO: 1440-13-71

HWY: STH 23

COUNTY: SHEBOYGAN

GENERAL NOTES

SHEET

2

E

FILE NAME : N:\pds\projects\Sheboygan\1440-13-01\Plan Sheets\1440-13-71\GeneralNotes\020101-0n.dgn

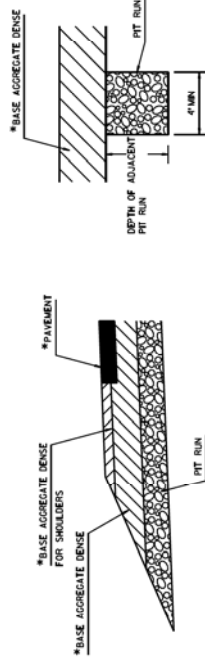
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PLOT BY : dootm

PLOT NAME : 020101.gn

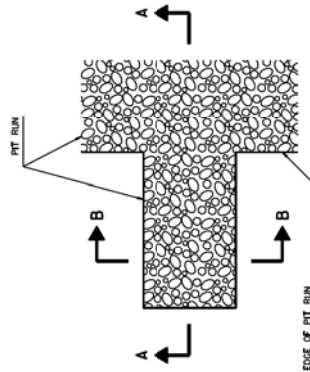
WISDOT/CADD SHEET

42



SECTION A-A

SECTION B-B



**DETAIL FOR FRENCH DRAINS**

DRAINS ARE TO BE CONSTRUCTED IN SUBGRADE IMPROVEMENT/EBS ARE TO BE CONSTRUCTED AT EVERY 250' AND AT EACH SAG VERTICAL CURVE IN THE PROFILE.

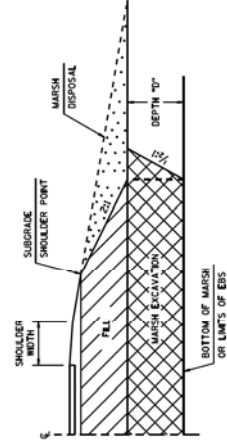
LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE TYPICAL PIT RUN.

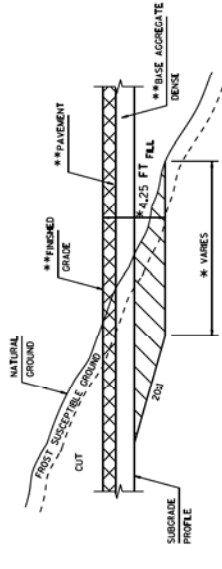
ENGINEER MAY REMOVE FRENCH DRAINS IF FILL MATERIAL IS WELL DRAINING.

\* DONE BY OTHERS.

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 8  
March 5, 2015



**DETAIL FOR MARSH EXCAVATION**



**PROFILE VIEW**

**EXCAVATION BELOW SUBGRADE (EBS)**

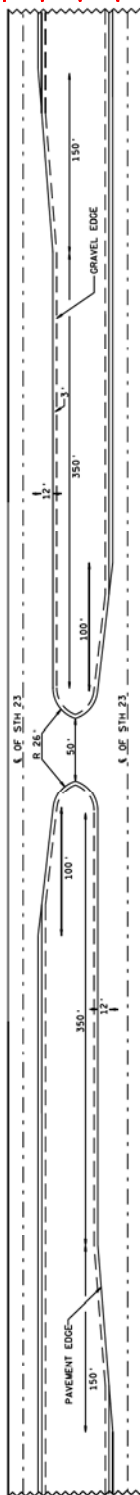
EXACT LOCATION OF EXCAVATION BELOW SUBGRADE (EBS) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EBS AREA TO BE BACKFILLED WITH PIT RUN.

753+00 - 768+00	599+50 - 922+00	1024+00 - 1030+50
837+00 - 841+00	914+50 - 943+50	1040+50 - 1050+00
868+00 - 870+00	971+00 - 979+00	1067+00 - 1068+50
878+00 - 882+00	989+00 - 991+00	1074+50 - 1083+00
885+50 - 893+00	993+00 - 999+50	1132+00 - 1133+00
905+50 - 907+50	1065+50 - 1089+50	1136+00 - 1137+00

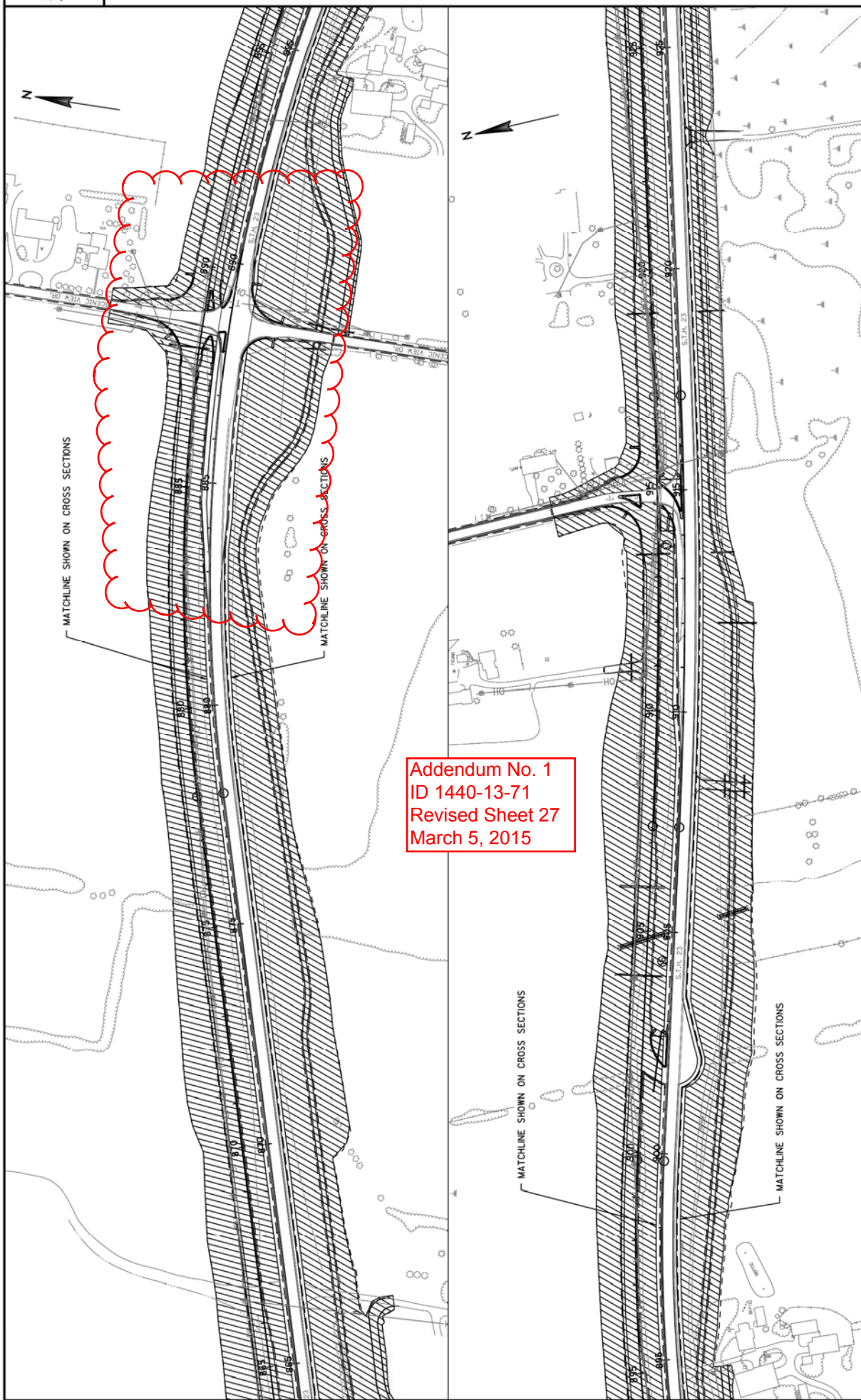
\*\* DONE BY OTHERS

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 14  
March 5, 2015

**MEDIAN CROSSOVERS ALONG STH 23 FOR PUBLIC USE**

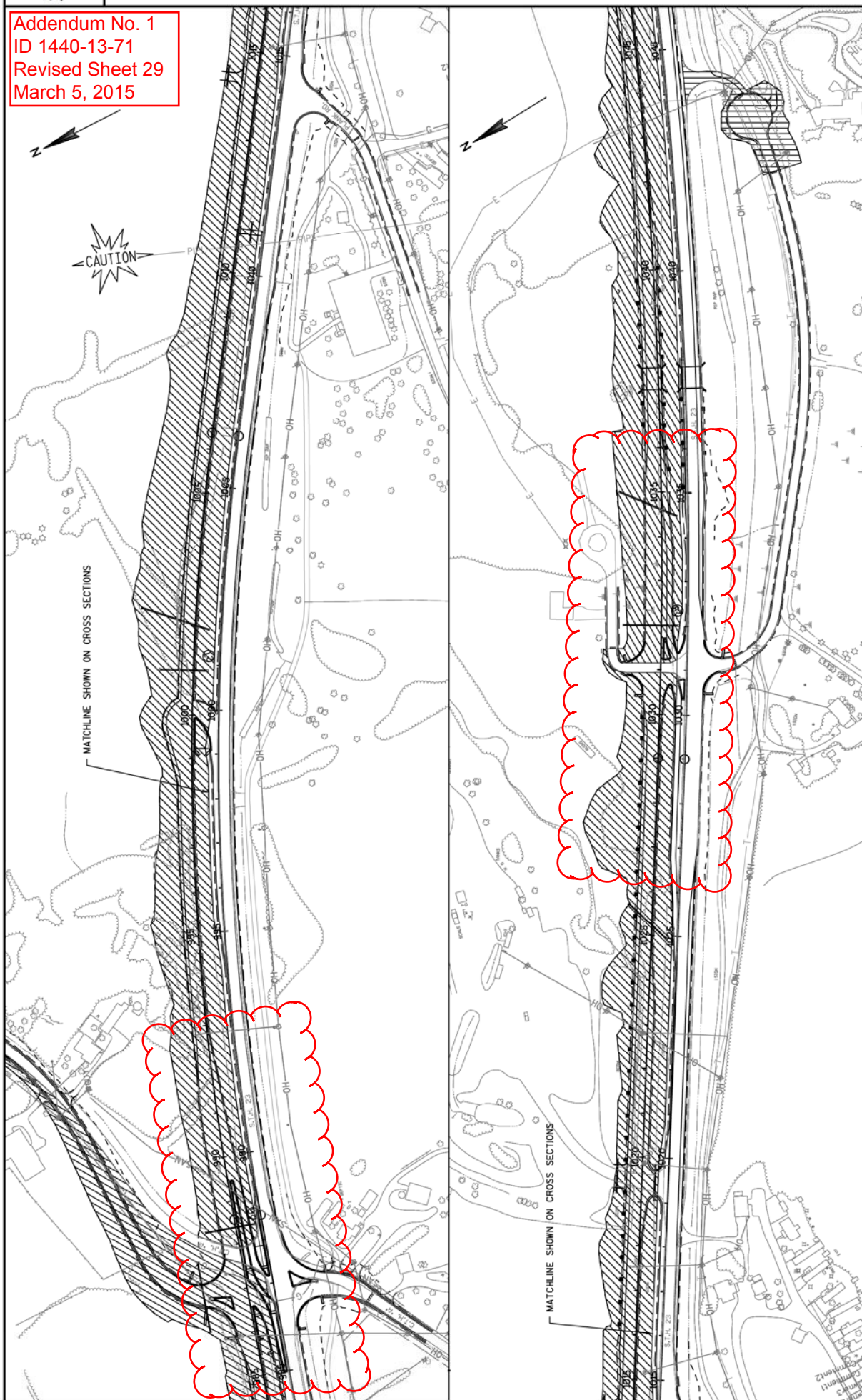
1767+05.36)  
1786+67.62)  
1840+59.36)  
1932+95.04)  
11019+43.54)





Addendum No. 1  
ID 1440-13-71  
Revised Sheet 27  
March 5, 2015

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 29  
March 5, 2015



PROJECT NO: 1440-13-71

HWY:STH 23

**COUNTY: SHEBOYGAN**

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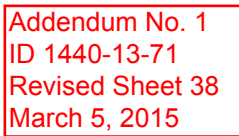
### GRADING FOOTPRINT DETAIL

PLOT SCALE : 1 IN:200 FT

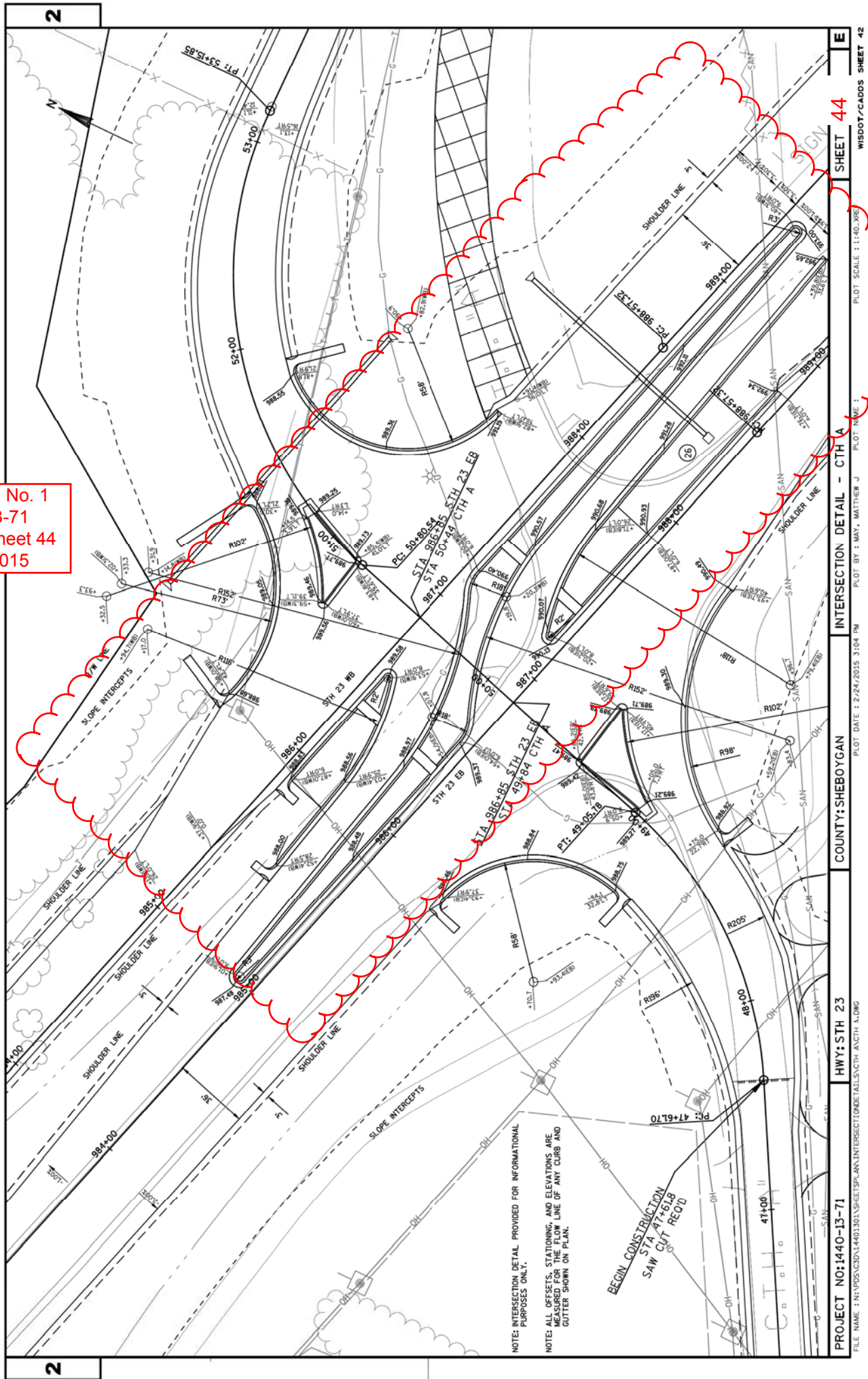
SHEET 29 E

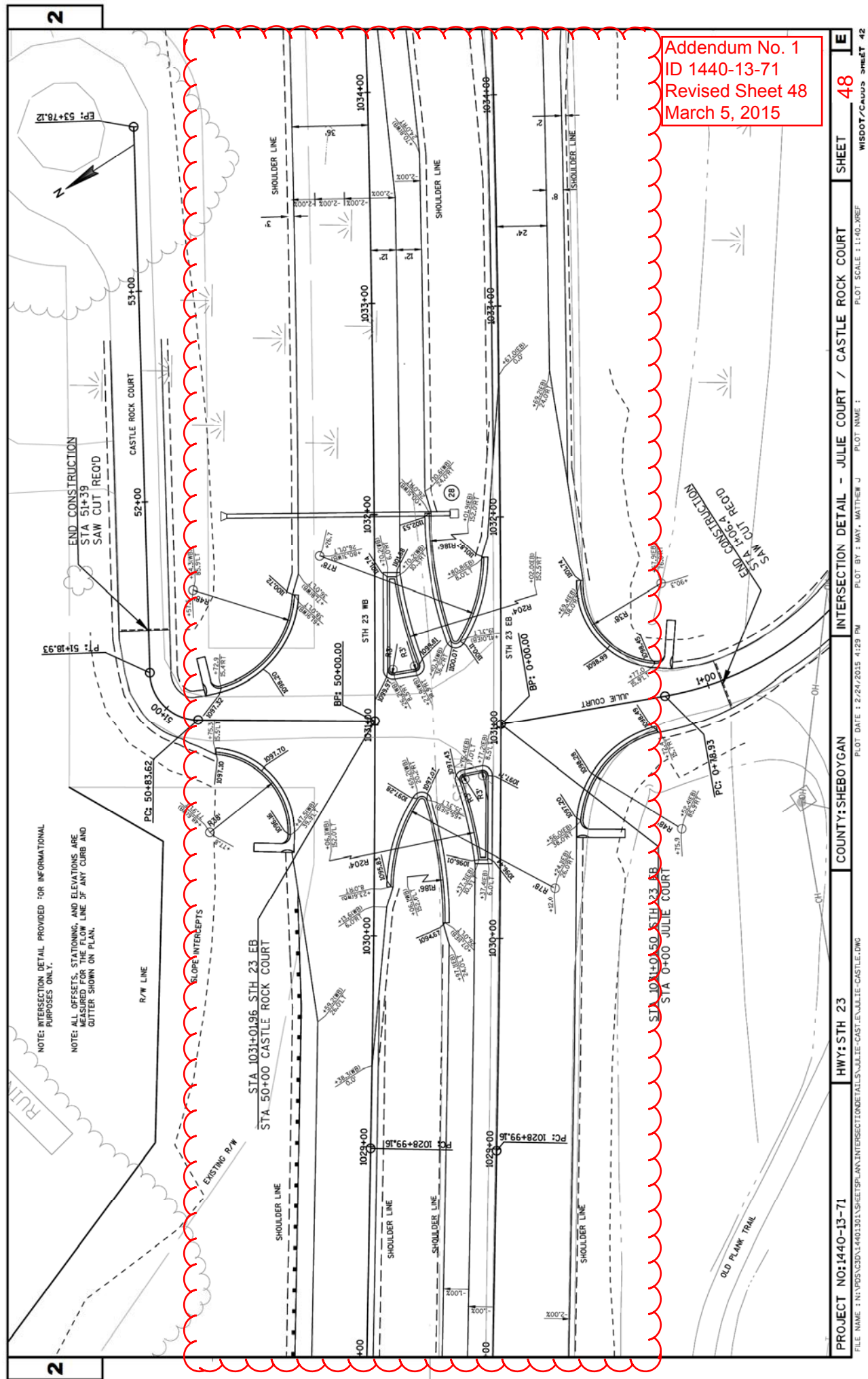


NOTE: ALL OFFSETS, STATIONING, AND ELEVATIONS ARE MEASURED FOR THE FLOW LINE OF ANY CURB AND GUTTER SHOWN ON PLAN.



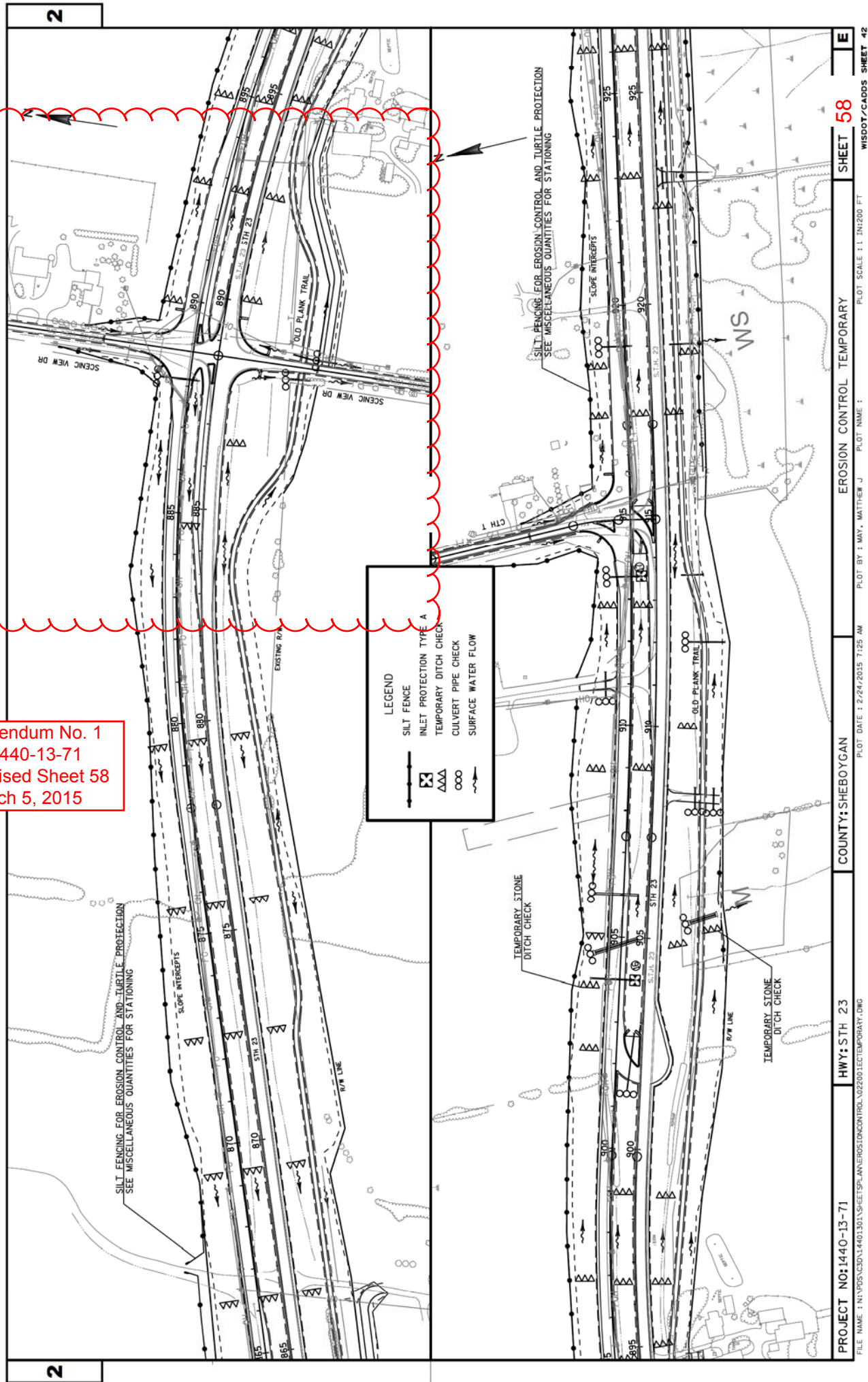
Addendum No. 1  
ID 1440-13-71  
Revised Sheet 44  
March 5, 2015



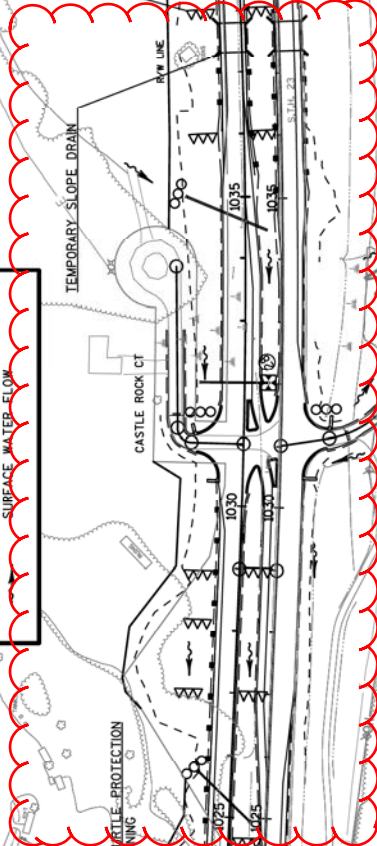




Addendum No. 1  
ID 1440-13-71  
Revised Sheet 58  
March 5, 2015



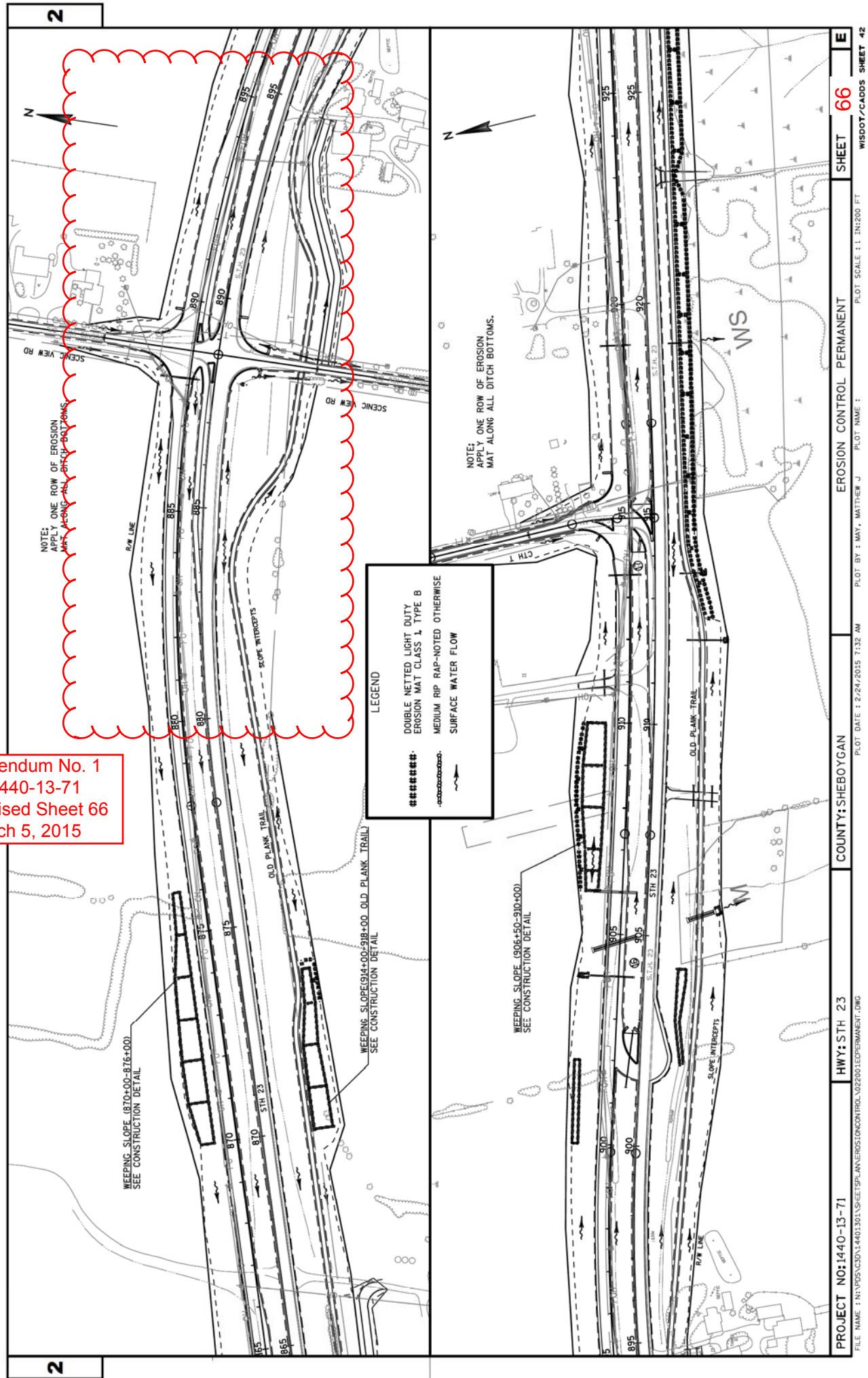
~~SILT FENCING FOR EROSION CONTROL AND TURTLE PROTECTION  
SEE MISCELLANEOUS QUANTITIES FOR STATIONING~~



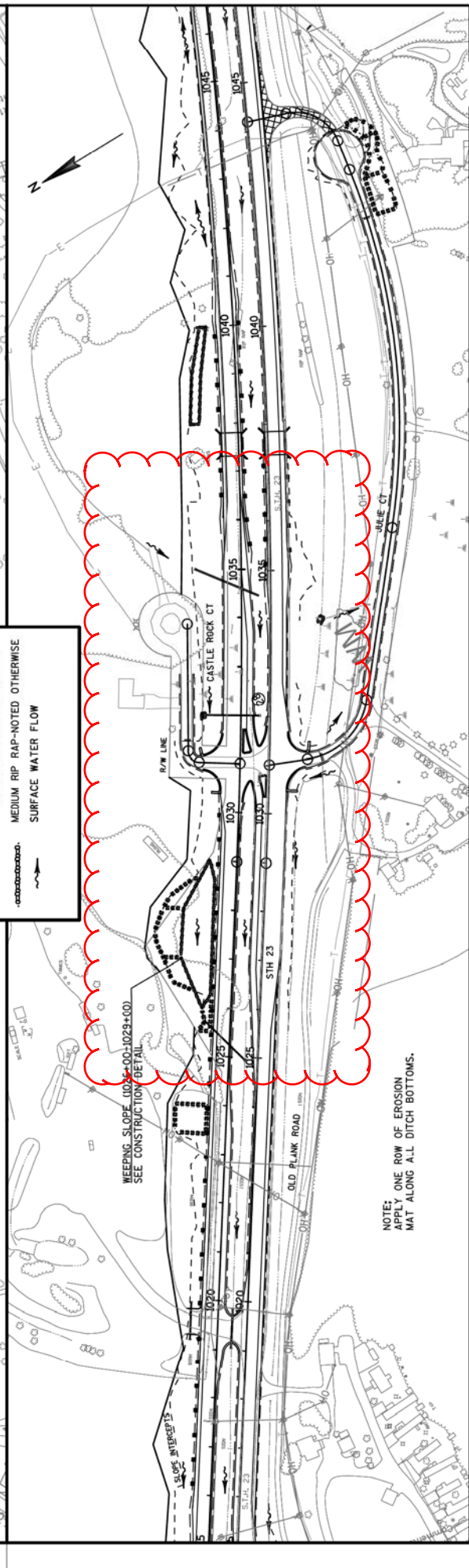
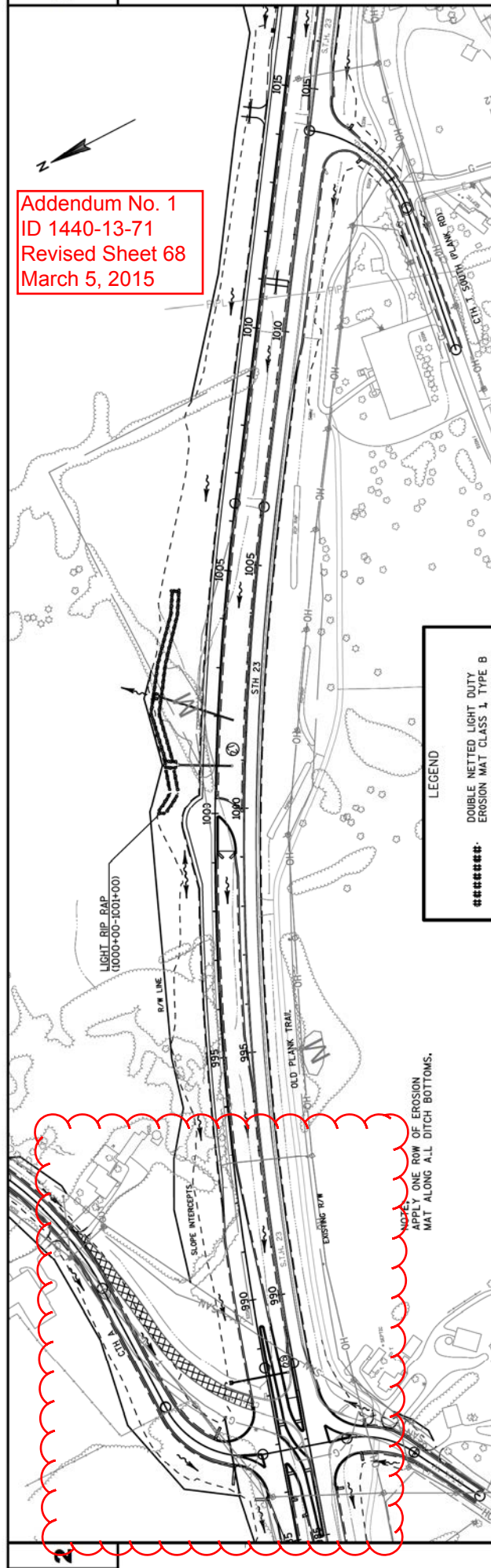
SILT FENCE  
INLET PROTECTION TYPE  
TEMPORARY DITCH CHANNEL  
CULVERT PIPE CHECK



Addendum No. 1  
ID 1440-13-71  
Revised Sheet 66  
March 5, 2015











## 1440-13-71

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE  
 \*\* NOTE: BASED OFF OF WESTBOUND REF LINE  
 \*\*\* VERIFY CONDITIONS OF EXISTING PIPES BEFORE CONSTRUCTION

SHEET 108

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 109  
March 5, 2015

CULVERT PIPE SUMMARY CONTINUED

0.1  
1  
et 109  
5

1440-13-71													
** STATION	LOCATION	CLASS	INLET ELEV.	DISCH. ELEV.	*521.1036 APRON ENDWALLS FOR CPCS 36-INCH EACH	*522.1024 APRON ENDWALLS FOR CPCS 24-INCH EACH	*522.1030 APRON ENDWALLS FOR CPCS 30-INCH EACH	*522.1036 APRON ENDWALLS FOR CPCS 36-INCH EACH	*522.1042 APRON ENDWALLS FOR CPCS 42-INCH EACH	*522.1048 APRON ENDWALLS FOR CPCS 48-INCH EACH	*522.1060 APRON ENDWALLS FOR CPCS 60-INCH EACH	*633.5200 CULVERT MARKER ENDS EACH	**** JOINT TIES EACH
*** UNDERNEATH WB AND EB MAINLINE													
754+84	STH 23	III	1036.8	1032.4	1					1		1	6
772+56	STH 23	III	1012.7	1011.3		1						1	6
784+60	STH 23	III	1005.0	1003.4								1	
809+50	STH 23	III	993.9	993.2								1	
819+00	STH 23	III	994.4	991.8				1				1	6
848+71	STH 23	III	979.0	976.5								1	6
862+49	STH 23	III	992.2	988.7					1			1	6
888+16	STH 23	IV	1042.0	1039.5		1						1	6
904+83	STH 23	III	1000.2	996.2								1	
913+52	STH 23	III	991.0	986.6								1	6
919+03	STH 23	III	988.7	984.0								1	6
928+72	STH 23	III	981.5	977.1		1						1	6
936+37	STH 23	III	983.6	982.0				1				1	6
1002+02	STH 23	IV	982.6	978.2			1					1	6
1034+53	STH 23	IV	1097.8	1092.5			1					1	6
1056+00	STH 23	III	1133.0	1128.8					1			1	6
UNDERNEATH WB MAINLINE													
778+00	STH 23	III	1009.4	1009.0		1						1	6
798+81	STH 23	III	999.4	998.7								1	6
807+00	STH 23	III	999.1	996.1		1						1	6
863+00	STH 23	III	1005.4	1004.5								1	6
904+00	STH 23	III	1007.1	1006.2			1					1	6
906+00	STH 23	III	1000.4	995.6								1	6
967+00	STH 23	III	979.0	978.1		1				1		1	6
978+00	STH 23	III	974.6	973.7								1	6
988+40	STH 23	III	986.8	984.7		1						1	6
1001+00	STH 23	III	999.7	998.7			1					1	6
1025+24	STH 23	III	1071.9	1070.5		1						1	6
1032+00	STH 23	III	1097.2	1094.4		1						1	6
1053+00	STH 23	III	1136.9	1134.4								1	6
1062+49	STH 23	III	1141.0	1140.8		1						1	6
1084+00	STH 23	III	1136.0	1135.4		1						1	6
1088+29	STH 23	III	1076.2	1074.8		1						1	6
UNDERNEATH CROSSOVERS													
767+06	STH 23	III	1043.1	1040.5		1						1	12
820+90	STH 23	III	1001.4	1000.6		1						1	12
840+23	STH 23	III	993.7	992.8		1						1	12
932+60	STH 23	III	988.4	987.7		1						1	12
1019+07	STH 23	III	1050.3	1046.2		1						1	12
UNDERNEATH J-TURN TURNAROUNDS													
901+45	STH 23 MEDIAN	III	1016.8	1013.2		2						2	12
944+35	STH 23 MEDIAN	III	993.2	992.2		2						2	12
SUB TOTALS					1	26	5	2	2	2	1	41	258
* ADDITIONAL QUANTITIES SHOWN ELSEWHERE ** NOTE: BASED OFF OF WESTBOUND REF LINE *** VERIFY CONDITIONS OF EXISTING PIPES BEING EXTENDED **** INCIDENTAL													

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

\*\* NOTE: BASED OFF OF WESTBOUND REF LINE

\*\*\* VERIFY CONDITIONS OF EXISTING PIPES BEING EXTENDED

\*\*\*\* INCIDENTAL

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

## CULVERT PIPE STRUCTURE SUMMARY

1440-13-71

STRUCTURE #	** STATION	LOCATION	CLASS	INLET BASE ELEV	FLOW ELEV.	BOTTOM OF INLET ELEV.	611.0612 INLET COVERS TYPE C	611.0642 INLET COVER FOR CIRC TYPE MS	611.2007 7-FT DIAMETER	611.2008 8-FT DIAMETER	611.3902 INLET MEDIAN FOR CIRC 2 GRATE	*633.5200 CULVERT MARKER ENDS
*** UNDERNEATH WB AND EB MAINLINE												
1	754+88	STH 23	III	1048.3	1035.2	1035.2	1	---	1	---	---	1
2	754+88	STH 23	III	1042.8	1032.4	1032.4	1	---	1	---	---	1
3	772+56	STH 23	III	1015.8	1012.4	1012.4	2	---	---	---	1	1
4	772+56	STH 23	III	1014.7	1011.3	1011.3	2	---	---	---	1	1
5	778+00	STH 23	III	1012.4	1009.4	1009.4	2	---	---	---	1	1
6	784+60	STH 23	III	1009.5	1004.2	1004.2	1	---	1	---	---	1
7	784+60	STH 23	III	1008.4	1003.4	1003.4	1	---	1	---	---	1
8	798+81	STH 23	III	1002.4	999.4	999.4	2	---	---	---	1	1
9	807+00	STH 23	III	1002.1	999.1	999.1	2	---	---	---	1	1
10	809+50	STH 23	III	1001.6	993.5	993.5	1	---	---	---	---	1
11	809+50	STH 23	III	998.8	993.9	993.9	1	---	---	1	---	1
12	819+00	STH 23	III	1001.0	994.4	994.4	2	---	---	---	1	1
13	848+71	STH 23	III	990.6	977.8	977.8	1	---	---	1	---	1
14	848+71	STH 23	III	984.6	979.0	979.0	1	---	---	---	---	1
15	863+00	STH 23	III	1008.4	1005.4	1005.4	2	---	---	---	1	1
16	904+00	STH 23	III	1010.1	1007.1	1007.1	2	---	---	---	1	1
17	914+00	STH 23	III	994.7	989.4	989.4	2	---	---	---	1	1
18	929+47	STH 23	III	987.3	979.8	979.8	2	---	---	---	1	1
19	929+47	STH 23	III	986.6	978.0	978.0	2	---	---	---	1	1
20	967+00	STH 23	III	982.8	974.5	974.5	2	---	---	---	1	1
21	978+00	STH 23	III	976.9	972.5	972.5	2	---	---	---	1	1
26	988+40	STH 23	III	990.3	986.8	986.8	2	---	---	---	1	1
27	1001+00	STH 23	III	1002.7	999.7	999.7	2	---	---	---	1	1
28	1032+00	STH 23	III	1007.2	1004.2	1004.2	2	---	---	---	1	1
29	1053+00	STH 23	III	1139.9	1136.9	1136.9	2	---	---	---	1	1
30	1082+49	STH 23	III	1143.5	1141.0	1141.0	2	---	---	---	1	1
31	1084+00	STH 23	III	1138.5	1136	1136	2	---	---	---	1	1
34	1088+29	STH 23	III	1079.2	1076.2	1076.2	2	---	---	---	1	1
36	1123+29	STH 23	III	967.2	962.5	962.5	2	---	---	---	1	1
37	27+71	STH 22	III	921.7	917.1	917.1	2	---	---	---	1	1
SUBTOTALS							8	44	4	4	22	30

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

\*\* NOTE: BASED OFF OF WESTBOUND REF LINE

\*\*\* VERIFY CONDITIONS OF EXISTING PIPES BEING EXTENDED

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 113  
March 5, 2015

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

PROJECT NUMBER: 1440-13-71

HWY: STH 23

COUNTY: SHEBOYGAN

MISCELLANEOUS QUANTITIES

SHEET

113

E

CULVERT PIPE SUMMARY CONTINUED

1440-13-71

504.0900 CONCRETE MASONRY ENDWALL CY	521.0112 CPCS 12-INCH LF	521.0124 CPCS 24-INCH LF	521.0136 CPCS 36-INCH LF	521.0142 CPCS 42-INCH LF	521.012 APRON ENDWALLS FOR CSCP 12-INCH EACH	521.1024 APRON ENDWALLS FOR CSCP 24-INCH EACH	521.1036 APRON ENDWALLS FOR CPCS 36-INCH EACH
34	46	1990	142	52	2	88	3
PROJECT TOTALS							



521.1042 APRON ENDWALLS FOR CPCS 42-INCH EACH	522.0124 CPRC CLASS III 24-INCH LF	522.0130 CPRC CLASS III 30-INCH LF	522.0136 CPRC CLASS III 36-INCH LF	522.0142 CPRC CLASS III 42-INCH LF	522.0148 CPRC CLASS III 48-INCH LF	522.0154 CPRC CLASS III 54-INCH LF	522.0160 CPRC CLASS III 60-INCH LF
2	3471	282	306	662	517	302	158
PROJECT TOTALS							

522.0324 CPRC CLASS IV 24-INCH LF	522.0330 CPRC CLASS IV 30-INCH LF	522.1024 APRON ENDWALLS FOR CPRC 24-INCH EACH	522.1030 APRON ENDWALLS FOR CPRC 30-INCH EACH	522.1036 APRON ENDWALLS FOR CPRC 36-INCH EACH	522.1042 APRON ENDWALLS FOR CPRC 42-INCH EACH	522.1048 APRON ENDWALLS FOR CPRC 48-INCH EACH
92	283	61	5	6	4	3
PROJECT TOTALS						

522.1060 APRON ENDWALLS FOR CPRC 60-INCH EACH	611.0612 INLET COVERS TYPE C EACH	611.0642 INLET COVER FOR CPRC TYPE MS EACH	611.2007 MANHOLE 7-FT DIAMETER EACH	611.2008 MANHOLE 8-FT DIAMETER EACH	611.3902 INLET MEDIAN FOR CPRC 2 GRATE EACH	633.5200 CULVERT MARKER ENDS EACH
2	8	44	4	4	22	120
PROJECT TOTALS						

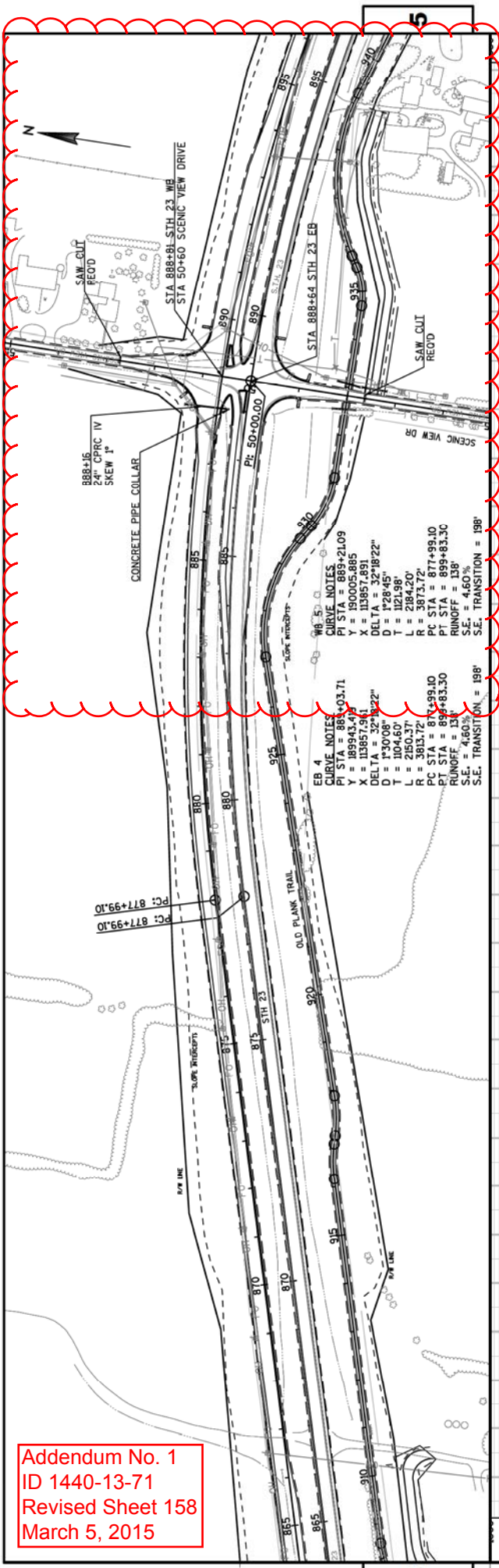
CORRUGATED STEEL CULVERT PIPE THICKNESSES

SIZE (INCH)	THICKNESS (INCH)
12	0.064
24	0.064
36	0.079
42	0.109
60	0.109

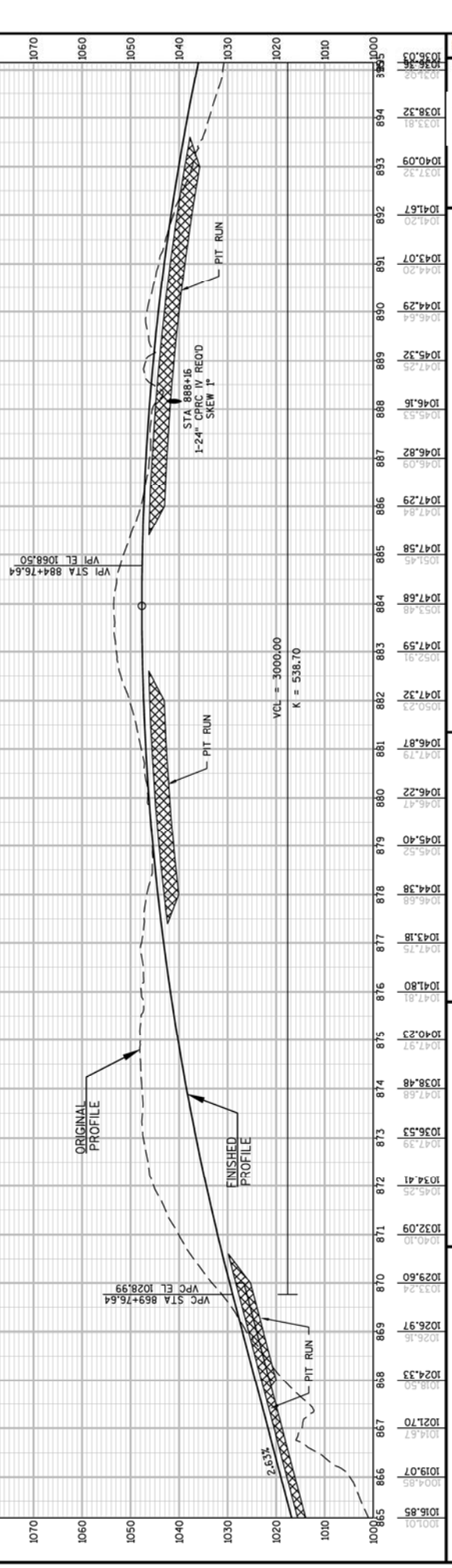
ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 114  
March 5, 2015





Addendum No. 1  
 ID 1440-13-71  
 Revised Sheet 158  
 March 5, 2015





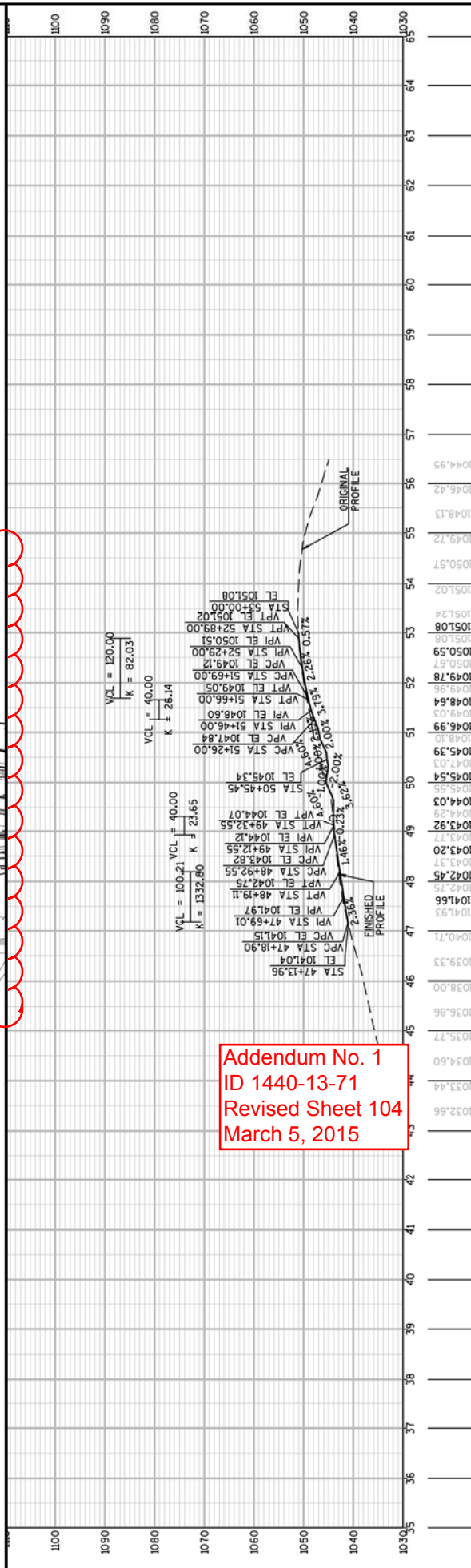
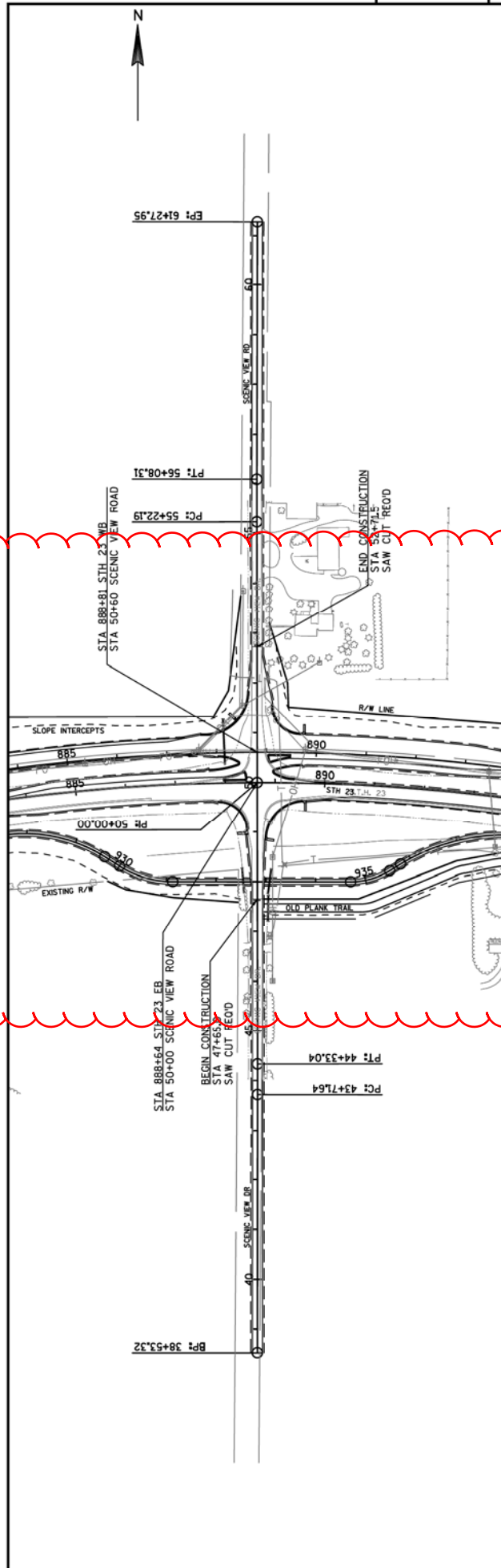




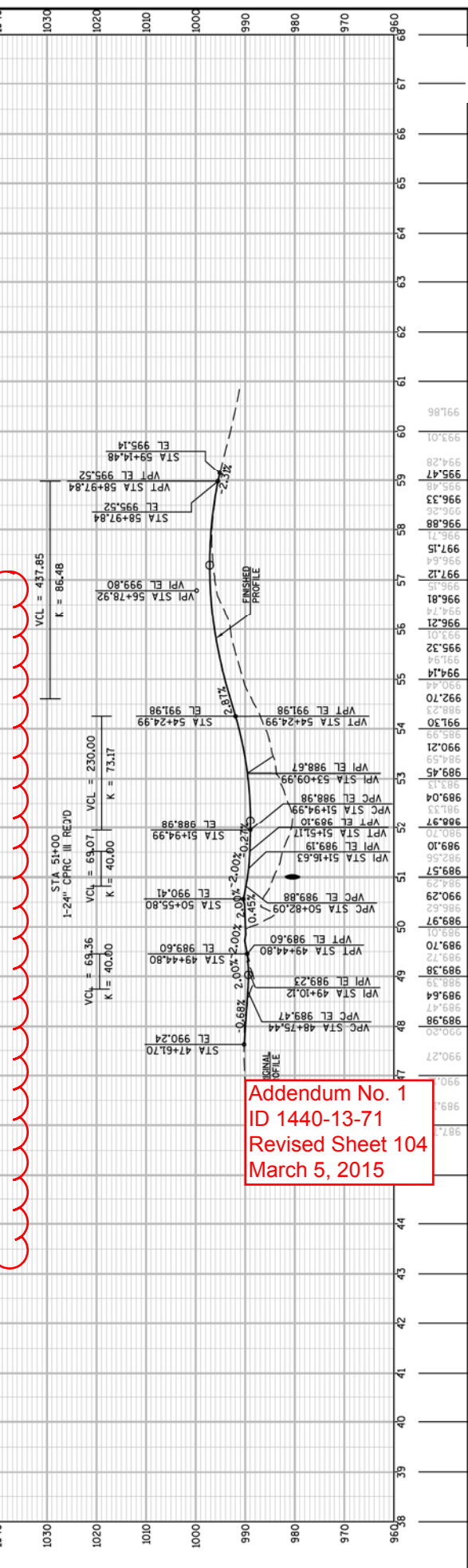
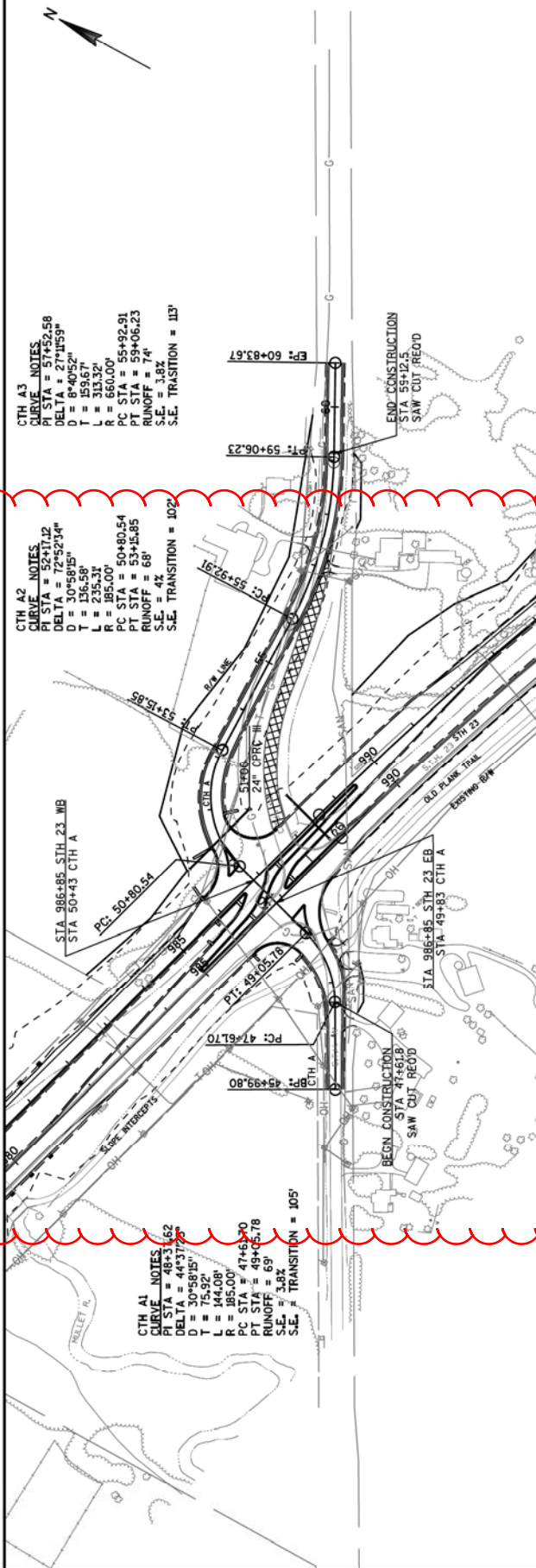






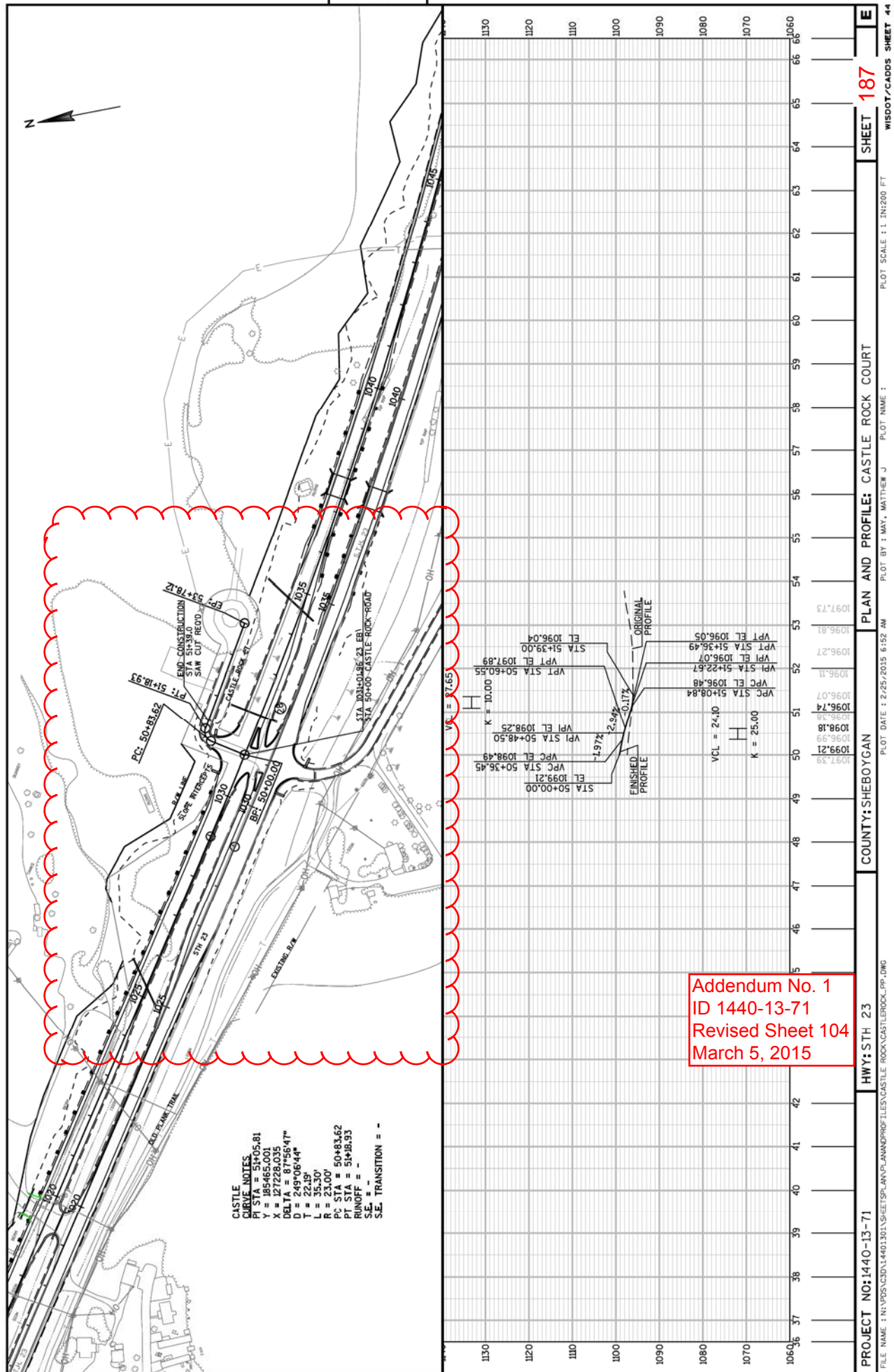


Addendum No. 1  
ID 1440-13-71  
Revised Sheet 104  
March 5, 2015



Addendum No. 1  
ID 1440-13-71  
Revised Sheet 104  
March 5, 2015









STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate	
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Expanded Fill 1.33	Expanded Marsh Backfill 1.50	Reduced Marsh In Fill 0.50	Reduced EBS In Fill 0.95		
																Note 1
745+60.12(1)	74560.12	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0.00	0.00	0.00	0.00
746+00(1)	74600.00	39.88	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0.00	0.00	0.00	0.00
747+00(1)	74700.00	100.00	62.23	0.00	0.00	0.00	115	0	0	0	0	0	0.00	0.00	0.00	115.25
748+00(1)	74800.00	100.00	110.61	0.00	0.00	0.00	320	0	0	0	0	0	0.00	0.00	0.00	435.32
749+00(1)	74900.00	100.00	99.46	0.00	0.00	0.00	389	0	0	0	0	0	0.00	0.00	0.00	824.32
750+00(1)	75000.00	100.00	50.40	2.17	0.00	3.36	278	4	6	5	0	0	0.00	1,104.34	5.91	1,203.28
751+00(1)	75100.00	100.00	24.90	23.00	0.00	5.84	139	47	0	17	67	0	0.00	22.10	0.00	1,008.16
752+00(1)	75200.00	100.00	12.32	98.05	0.00	8.74	69	224	0	27	366	0	0.00	47.74	0.00	461.66
753+00(1)	75300.00	100.00	10.45	159.66	0.00	10.94	477	0	36	1	1,000	0	0.00	82.37	0.00	-465.79
754+00(1)	75400.00	100.00	4.30	246.31	0.00	8.34	27	752	0	36	2,000	0	0.00	116.30	0.00	-1,816.59
755+00(1)	75500.00	100.00	9.39	329.02	0.00	9.12	25	1,065	0	32	3,417	0	0.00	147.02	0.00	-3,075.98
756+00(1)	75600.00	100.00	2.03	208.35	0.00	9.24	21	995	0	34	4,741	0	0.00	179.32	0.00	-3,368.31
757+00(1)	75700.00	100.00	31.61	0.00	0.00	58.51	62	386	0	125	5,254	0	0.00	298.51	0.00	-2,935.80
758+00(1)	75800.00	100.00	85.06	2.32	0.00	36.45	216	4	0	176	5,260	0	0.00	465.57	0.00	-2,006.77
759+00(1)	75900.00	100.00	332.62	6.73	0.00	39.56	773	17	0	141	2,478	0	0.00	599.29	0.00	-2,995.71
760+00(1)	76000.00	100.00	512.54	15.10	0.00	44.09	1,565	40	0	155	4,043	0	0.00	746.45	0.00	2,120.28
761+00(1)	76100.00	100.00	721.89	20.86	0.00	51.05	2,286	67	0	176	6,329	0	0.00	913.82	0.00	5,136.27
762+00(1)	76200.00	100.00	831.87	25.30	0.00	56.81	2,877	85	0	200	9,206	0	0.00	1,103.56	0.00	8,228.11
763+00(1)	76300.00	100.00	704.00	35.05	0.00	112.61	2,844	112	0	314	12,051	0	0.00	1,401.60	0.00	11,077.37
764+00(1)	76400.00	100.00	634.79	34.77	0.00	118.99	2,479	129	0	429	14,530	0	0.00	1,809.04	0.00	13,902.45
765+00(1)	76500.00	100.00	681.52	35.71	0.00	120.80	2,438	131	0	444	16,967	0	0.00	2,230.89	0.00	16,542.07
766+00(1)	76600.00	100.00	533.89	40.20	0.00	125.31	2,251	141	0	456	19,218	0	0.00	2,663.85	0.00	18,340.89
767+00(1)	76700.00	100.00	140.17	0.00	0.00	152.31	1,248	74	0	514	20,466	0	0.00	3,152.24	0.00	19,617.47
768+00(1)	76800.00	100.00	228.54	41.18	0.00	144.82	683	76	0	550	21,149	0	0.00	3,674.97	0.00	20,449.01
769+00(1)	76900.00	100.00	78.38	54.11	0.00	68.36	568	176	0	395	21,718	0	0.00	4,050.01	0.00	20,797.15
770+00(1)	77000.00	100.00	85.83	52.99	0.00	62.82	304	198	0	243	22,022	0	0.00	4,280.78	0.00	21,242.91
771+00(1)	77100.00	100.00	95.15	23.38	0.00	64.85	335	141	0	236	22,357	0	0.00	4,505.38	0.00	21,521.24
772+00(1)	77200.00	100.00	107.52	102.86	0.00	26.58	375	234	0	169	22,732	0	0.00	4,666.23	0.00	21,628.45
773+00(1)	77300.00	100.00	183.46	117.23	0.00	20.61	539	408	0	87	23,271	0	0.00	4,749.26	0.00	22,039.76
774+00(2)	77384.26	84.26	176.22	38.20	0.00	66.97	561	243	0	137	23,832	0	0.00	4,879.08	0.00	22,753.44
775+00(2)	77484.26	100.00	118.39	20.78	0.00	66.97	546	109	0	248	24,378	0	0.00	5,114.71	0.00	22,901.40
776+00(2)	77584.26	100.00	10.98	84.04	0.00	4.22	240	194	0	132	24,617	0	0.00	5,239.95	0.00	22,063.51
777+00(2)	77684.26	100.00	1.47	269.52	0.00	0.00	23	655	0	8	24,640	0	0.00	5,247.38	0.00	20,668.23
778+00(2)	77784.26	100.00	1.20	298.99	0.00	0.00	5	1,053	0	0	24,645	0	0.00	5,247.38	0.00	19,162.93
779+00(2)	77884.26	100.00	10.24	320.78	0.00	0.00	21	1,148	0	0	24,667	0	0.00	5,247.38	0.00	19,011.89
779+09.53(2)	77893.78	9.53	1.55	331.74	0.00	0.00	2	115	0	0	24,669	0	0.00	5,247.38	0.00	18,532.74
779+37.32(2)	77921.58	27.79	0.00	369.38	0.00	0.00	1	361	0	0	24,669	0	0.00	5,247.38	0.00	18,406.07
779+44.83(2)	77929.09	7.51	0.00	315.18	0.00	0.00	0	95	0	0	24,669	0	0.00	5,247.38	0.00	17,818.67
779+82.4(2)	77966.66	37.57	0.00	319.66	0.00	0.00	0	442	0	0	24,669	0	0.00	5,247.38	0.00	17,535.78
780+00(2)	77984.26	17.60	0.00	332.98	0.00	0.00	0	213	0	0	24,669	0	0.00	5,247.38	0.00	17,408.26
780+07.9(2)	77992.16	7.90	0.00	322.52	0.00	0.00	0	96	0	0	24,669	0	0.00	5,247.38	0.00	16,867.19
780+45.47(2)	78029.72	37.57	36.70	289.81	0.00	0.00	26	426	0	0	24,695	0	0.00	5,247.38	0.00	16,412.19
781+00(2)	78084.26	54.53	27.23	97.03	0.00	0.00	65	391	0	0	24,760	0	0.00	5,247.38	0.00	15,377.20
782+00(2)	78184.26	100.00	5.48	347.79	0.00	0.00	61	824	0	0	24,820	0	0.00	5,247.38	0.00	13,379.51
783+00(2)	78284.26	100.00	5.41	471.49	0.00	0.00	20	1,517	0	0	24,840	0	0.00	5,247.38	0.00	
			Subtotal				24,840	13,865	0	5,524						

Notes:

1 - Cut

3 - Fill

4 - Expanded Marsh Backfill

6 - Reduced Marsh in Fill

7 - Reduced EBS in Fill

8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS) \* Fill Factor

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 1 of 1  
March 5, 2015

Addendum No. 1  
ID 1440-13-71  
Revised Sheet 270  
March 5, 2015

Notes:  
1 - Cut  
3 - Fill  
4 - Expanded Marsh Backfill  
6 - Reduced Marsh Excavation that can be used in Fill  
7 - Reduced EBS in Fill  
8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS) \* Fill Factor



STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)							
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Cut	Expanded Fill	Expanded Marsh Backfill	Reduced Marsh In Fill	Reduced EBS In Fill	Mass Ordinate	
																	Note 1
784+00(2)	78384.26	100.00	11.00	358.12	0.00	0.00	30	1,536	0	0	24,871	20,483	0	0.00	0.00	5,247.38	11,366.62
785+00(2)	78484.26	100.00	18.13	201.42	0.00	0.00	54	1,036	0	0	24,925	21,861	0	0.00	0.00	5,247.38	10,042.46
786+00(2)	78584.26	100.00	95.98	18.79	0.00	29.31	211	408	0	54	25,136	22,404	0	0.00	0.00	5,298.95	9,780.00
786+42.66(2)	78626.92	42.66	80.03	13.74	0.00	30.43	139	26	0	47	25,275	22,438	0	0.00	0.00	5,343.79	9,944.50
786+493.46(2)	78677.71	50.80	13.16	22.79	0.00	10.68	88	34	0	39	25,363	22,483	0	0.00	0.00	5,380.53	10,035.32
787+00(2)	78684.26	6.54	21.76	34.56	0.00	5.69	4	7	0	2	25,367	22,493	0	0.00	0.00	5,382.41	10,032.82
788+00(2)	78784.26	100.00	0.00	44.79	0.00	12.28	40	147	0	33	25,407	22,688	0	0.00	0.00	5,414.03	9,919.71
789+00(2)	78884.26	100.00	3.17	276.75	0.00	0.00	6	595	0	23	25,413	23,480	0	0.00	0.00	5,435.63	9,162.35
790+00(2)	78984.26	100.00	5.39	307.16	0.00	0.00	16	1,081	0	0	25,429	24,918	0	0.00	0.00	5,435.63	7,740.04
791+00(2)	79084.26	100.00	3.56	307.98	0.00	0.00	17	1,139	0	0	25,445	26,433	0	0.00	0.00	5,435.63	6,241.54
792+00(2)	79184.26	100.00	7.43	259.80	0.00	0.00	20	1,051	0	0	25,466	27,832	0	0.00	0.00	5,435.63	4,863.46
793+00(2)	79284.26	100.00	3.46	310.92	0.00	0.00	20	1,057	0	0	25,486	29,237	0	0.00	0.00	5,435.63	3,477.55
794+00(2)	79384.26	100.00	30.54	159.64	0.00	0.00	63	871	0	0	25,549	30,396	0	0.00	0.00	5,435.63	2,381.53
795+00(2)	79484.26	100.00	70.30	79.75	0.00	16.61	187	443	0	31	25,736	30,986	0	0.00	0.00	5,464.85	2,017.52
796+00(2)	79584.26	100.00	82.07	94.67	0.00	0.00	282	323	0	31	26,018	31,416	0	0.00	0.00	5,494.07	1,909.36
797+00(2)	79684.26	100.00	33.78	207.25	0.00	0.00	215	559	0	0	26,232	32,159	0	0.00	0.00	5,494.07	1,380.28
798+00(2)	79784.26	100.00	13.38	239.56	0.00	0.00	87	1,049	0	0	26,320	33,260	0	0.00	0.00	5,494.07	367.12
799+00(2)	79884.26	100.00	11.99	326.93	0.00	0.00	47	1,049	0	0	26,367	34,655	0	0.00	0.00	5,494.07	-981.15
800+00(2)	79984.26	100.00	5.84	375.41	0.00	0.00	33	1,301	0	0	26,400	36,385	0	0.00	0.00	5,494.07	-2,677.98
801+00(2)	80084.26	100.00	14.78	334.59	0.00	0.00	38	1,315	0	0	26,438	38,134	0	0.00	0.00	5,494.07	-4,388.49
802+00(2)	80184.26	100.00	49.79	261.85	0.00	0.00	120	1,105	0	0	26,558	39,603	0	0.00	0.00	5,494.07	-5,737.92
803+00(2)	80284.26	100.00	63.52	236.17	0.00	0.00	210	922	0	0	26,767	40,829	0	0.00	0.00	5,494.07	-6,754.71
803+66.26(2)	80350.51	66.26	58.92	250.21	0.00	0.00	150	597	0	0	26,918	41,623	0	0.00	0.00	5,494.07	-7,398.17
804+00(2)	80384.26	33.74	51.55	287.25	0.00	10.33	69	336	0	6	26,987	42,070	0	0.00	0.00	5,500.21	-7,767.67
804+73.55(2)	80457.81	73.55	35.86	304.79	0.00	0.00	119	806	0	14	27,106	43,142	0	0.00	0.00	5,513.58	-8,703.29
805+00(2)	80484.26	26.45	37.96	269.62	0.00	0.00	36	281	0	0	27,142	43,516	0	0.00	0.00	5,513.58	-9,041.35
806+00(2)	80584.26	100.00	30.37	340.80	0.00	0.00	127	1,130	0	0	27,268	45,020	0	0.00	0.00	5,513.58	-10,418.25
807+00(2)	80684.26	100.00	30.30	348.14	0.00	0.00	112	1,276	0	0	27,381	46,717	0	0.00	0.00	5,513.58	-12,002.73
808+00(2)	80784.26	100.00	36.01	370.86	0.00	0.00	123	1,331	0	0	27,504	48,487	0	0.00	0.00	5,513.58	-13,650.82
809+00(2)	80884.26	100.00	11.14	530.78	0.00	0.00	87	1,670	0	0	27,591	50,708	0	0.00	0.00	5,513.58	-15,784.23
809+31.29(2)	80915.55	31.29	5.31	610.50	227.44	0.00	10	661	132	0	27,600	51,588	198	65.89	5,513.58	5,513.58	-16,566.59
809+48.15(2)	80966.41	50.86	3.09	688.77	232.69	0.00	8	1,224	433	0	27,608	53,215	848	282.58	5,513.58	5,513.58	-17,898.00
810+00(2)	80984.26	17.85	2.75	655.92	0.00	0.00	2	445	77	0	27,610	53,806	963	321.04	5,513.58	5,513.58	-18,436.15
811+00(2)	81084.26	100.00	6.76	429.12	0.00	0.00	18	2,009	0	0	27,628	56,479	963	321.04	5,513.58	5,513.58	-21,090.94
812+00(2)	81184.26	100.00	97.15	70.27	0.00	30.58	192	925	0	57	27,820	57,709	963	321.04	5,567.37	5,567.37	-22,056.94
813+00(2)	81284.26	100.00	4.70	122.96	0.00	0.00	189	358	0	57	28,009	58,185	963	321.04	5,621.16	5,621.16	-22,272.71
814+00(2)	81384.26	100.00	78.01	35.08	0.00	62.64	153	293	0	116	28,162	58,574	963	321.04	5,731.35	5,731.35	-22,362.23
815+00(2)	81484.26	100.00	110.16	0.00	0.00	67.08	348	65	0	240	28,511	58,660	963	321.04	5,959.55	5,959.55	-21,796.64
816+00(2)	81584.26	100.00	43.26	44.89	0.00	14.19	284	83	0	151	28,795	58,771	963	321.04	6,102.53	6,102.53	-21,432.94
817+00(2)	81684.26	100.00	0.00	75.38	0.00	7.81	80	223	0	41	28,875	59,067	963	321.04	6,141.24	6,141.24	-21,597.56
818+00(2)	81784.26	100.00	24.22	260.73	0.00	0.00	45	622	0	14	28,920	59,895	963	321.04	6,154.98	6,154.98	-22,362.23
819+00(2)	81884.26	100.00	1.58	687.62	0.00	0.00	48	1,756	0	0	28,967	62,231	963	321.04	6,154.98	6,154.98	-24,650.20
820+00(2)	81984.26	100.00	531.22	1.76	0.00	52.44	987	1,277	0	97	29,954	63,929	963	321.04	6,247.23	6,247.23	-25,238.78
820+491.18(2)	82075.44	91.18	0.00	568.76	0.00	0.00	897	963	0	89	30,851	65,210	963	321.04	6,331.34	6,331.34	-25,511.20
821+00(2)	82084.26	8.82	0.00	598.67	0.00	0.00	0	191	0	0	30,851	65,463	963	321.04	6,331.34	6,331.34	-25,764.71
				Subtotal			6,011	35,356	642	1,141							

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
3 - Fill	EBS Excavation to be backfilled with Pit Run.
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow, Item 208.1100
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)*Fill Factor

Notes:  
1 - Cut  
3 - Fill  
4 - Expanded Marsh Backfill  
6 - Reduced Marsh Excavation that can be used in Fill  
7 - Reduced EBS in Fill  
8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)\*Fill Factor



STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)				
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Cut	Expanded Fill	Expanded Marsh Backfill
							Note 1	Note 3	Note 3		Note 1	1.33	Note 4
													Note 6
													Note 7
													Note 8
821+21.89(2)	82106.14	21.89	0.00	544.83	0.00	0.64	0	463	0	0	30,851	66,080	963
821+35.28(2)	82119.54	13.39	0.00	492.95	0.00	0.81	0	257	0	0	30,851	66,402	963
821+81.29(2)	82165.54	46.01	0.00	470.67	0.00	0.79	0	821	0	1	30,851	67,514	963
821+93.43(2)	82177.69	12.14	0.00	510.66	0.00	0.63	0	221	0	0	30,851	67,808	963
822+00(2)	82184.26	6.57	0.00	543.49	0.00	0.52	0	128	0	0	30,851	67,978	963
822+23.6(2)	82207.86	23.60	0.00	536.47	0.00	0.00	0	472	0	0	30,851	68,606	963
822+40(2)	82284.26	76.40	13.46	484.58	0.00	0.00	19	1,445	0	0	30,870	70,527	963
824+00(2)	82384.26	100.00	32.60	397.23	0.00	0.00	85	1,633	0	0	30,955	72,699	963
824+00(2)	82484.26	100.00	33.90	140.22	0.00	0.00	123	995	0	0	31,079	74,023	963
826+00(2)	82584.26	100.00	4.73	368.44	0.00	0.00	72	942	0	0	31,150	75,276	963
827+00(2)	82684.26	100.00	5.43	289.43	0.00	0.00	19	1,218	0	0	31,169	76,896	963
828+00(2)	82784.26	100.00	28.06	169.76	0.00	0.00	62	850	0	0	31,231	78,027	963
829+00(2)	82884.26	100.00	38.92	123.43	0.00	0.00	124	543	0	0	31,355	78,749	963
830+00(2)	82984.26	100.00	50.85	90.98	0.00	0.00	166	397	0	0	31,521	79,277	963
831+00(2)	83084.26	100.00	130.46	21.57	0.00	46.01	336	208	0	85	31,857	79,554	963
832+00(2)	83184.26	100.00	58.13	69.50	0.00	5.62	349	169	0	96	32,206	79,779	963
833+00(2)	83284.26	100.00	73.75	65.21	0.00	20.49	244	249	0	48	32,450	80,110	963
834+00(2)	83384.26	100.00	91.12	51.93	0.00	35.72	305	217	0	104	32,756	80,399	963
835+00(2)	83484.26	100.00	108.53	30.99	0.00	55.86	370	154	0	170	33,125	80,603	963
836+00(2)	83584.26	100.00	159.61	20.37	0.00	65.74	468	95	0	225	33,622	80,730	963
837+00(2)	83684.26	100.00	254.96	10.96	0.00	120.90	768	58	0	346	34,390	80,807	963
838+00(2)	83784.26	100.00	295.64	7.16	0.00	120.90	1,020	34	0	448	35,409	80,851	963
839+00(2)	83884.26	100.00	390.36	8.13	0.00	120.90	1,270	28	0	448	36,680	80,889	963
840+00(2)	83984.26	100.00	453.72	0.00	0.00	144.51	1,563	15	0	492	38,243	80,939	963
841+00(2)	84084.26	100.00	45.31	54.33	0.00	102.78	924	101	0	458	39,167	81,043	963
842+00(2)	84184.26	100.00	7.96	314.42	0.00	0.00	99	683	0	190	39,266	81,951	963
843+00(2)	84284.26	100.00	2.07	741.80	0.00	0.00	19	1,956	0	0	39,284	84,552	963
844+00(2)	84384.26	100.00	7.25	956.64	0.00	0.00	17	3,145	0	0	39,301	88,736	963
845+00(2)	84484.26	100.00	1.10	1101.05	6.17	0.00	15	3,811	11	0	39,317	93,804	980
846+00(2)	84584.26	100.00	8.37	1074.01	277.19	0.00	18	4,028	525	0	39,334	99,151	1,767
847+00(2)	84684.26	100.00	30.51	1020.68	205.68	0.00	72	3,879	894	0	39,406	104,320	3,109
848+00(2)	84784.26	100.00	24.32	1082.41	276.30	0.00	102	3,895	893	0	39,508	109,500	4,447
849+00(2)	84884.26	100.00	31.99	1029.66	866.61	0.00	104	3,911	2,116	0	39,612	114,702	7,622
850+00(2)	84984.26	100.00	27.16	1007.29	830.41	0.00	110	3,772	3,143	0	39,722	119,719	12,336
851+00(2)	85084.26	100.00	20.98	1065.69	537.32	0.00	89	3,839	2,533	0	39,811	124,824	16,135
852+00(2)	85184.26	100.00	6.19	1172.55	316.15	0.00	50	4,145	1,580	0	39,861	130,337	18,506
853+00(2)	85284.26	100.00	3.91	1255.67	276.86	0.00	19	4,497	1,098	0	39,880	136,318	20,153
854+00(2)	85384.26	100.00	2.91	1279.81	303.64	0.00	13	4,695	1,075	0	39,893	142,562	21,766
855+00(2)	85484.26	100.00	2.49	1374.57	233.98	0.00	10	4,916	996	0	39,903	149,100	23,259
856+00(2)	85584.26	100.00	14.21	1379.61	163.74	0.00	31	5,100	737	0	39,933	155,884	24,364
857+00(2)	85684.26	100.00	11.88	1369.34	0.00	0.00	48	5,091	303	0	39,982	162,654	24,819
858+00(2)	85784.26	100.00	5.51	1353.90	0.00	0.00	32	5,043	0	0	40,014	169,361	24,819
859+00(2)	85884.26	100.00	13.66	1251.41	0.00	0.00	36	4,825	0	0	40,049	175,778	24,819
860+00(2)	85984.26	100.00	18.11	1197.25	0.00	0.00	59	4,535	0	0	40,108	181,809	24,819
860+51.79(2)	86036.04	51.79	25.70	1278.30	0.00	0.00	42	2,374	0	0	40,150	184,967	24,819
				Subtotal			9,299	69,852	15,904	3,112			

Notes:  
1 - Cut  
3 - Fill  
4 - Expanded Marsh Backfill  
6 - Reduced Marsh Excavation that can be used in Fill  
7 - Reduced EBS in Fill  
8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)\*Fill Factor



STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)								
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Expanded Vol (CY)		Reduced EBS In Fill	Mass Ordinate			
											Expanded Fill	Backfill					
								Note 1	Note 3			1.33	Note 4	Note 5	Note 6	Note 7	Note 8
860+84.11(2)	86068.37	32.33	23.60	1149.51	0.00	0.00		30	1,453	0	0	40,180	186,900	24,819	8,272.98	9,287.41	-123,365.03
861+00(2)	86084.26	15.89	21.34	978.79	0.00	2.23		13	626	0	1	40,193	187,732	24,819	8,272.98	9,288.04	-124,183.74
861+59.47(2)	86143.72	59.47	29.19	1044.14	0.00	0.00		56	2,228	0	2	40,249	190,695	24,819	8,272.98	9,290.36	-127,087.79
862+00(2)	86184.26	40.53	45.68	1283.09	0.00	0.00		56	1,747	0	0	40,305	193,019	24,819	8,272.98	9,290.36	-129,355.00
863+00(2)	86284.26	100.00	21.84	1361.30	0.00	0.00		125	4,897	0	0	40,430	199,532	24,819	8,272.98	9,290.36	-135,743.01
864+00(2)	86384.26	100.00	13.91	1357.94	0.00	0.00		66	5,036	0	0	40,496	206,229	24,819	8,272.98	9,290.36	-142,374.19
865+00(2)	86484.26	100.00	9.07	1286.51	0.00	0.00		43	4,897	0	0	40,539	212,742	24,819	8,272.98	9,290.36	-148,844.80
866+00(2)	86584.26	100.00	13.13	1187.20	0.00	0.00		41	4,581	0	0	40,580	218,835	24,819	8,272.98	9,290.36	-154,896.34
867+00(2)	86684.26	100.00	33.92	523.76	0.00	0.00		87	3,168	0	0	40,667	223,049	24,819	8,272.98	9,290.36	-159,023.24
868+00(2)	86784.26	100.00	194.63	213.25	0.00	38.18		423	1,365	0	71	41,090	224,864	24,819	8,272.98	9,357.53	-160,325.89
869+00(2)	86884.26	100.00	636.38	108.80	0.00	115.95		1,539	596	0	285	42,629	225,657	24,819	8,272.98	9,628.69	-159,219.55
870+00(2)	86984.26	100.00	902.18	30.96	0.00	120.00		2,849	259	0	437	45,478	226,001	24,819	8,272.98	10,043.79	-156,162.50
871+00(2)	87084.26	100.00	1640.62	14.57	0.00	0.00		4,709	84	0	222	50,187	226,114	24,819	8,272.98	10,254.91	-151,284.97
872+00(2)	87184.26	100.00	1805.82	12.57	0.00	0.00		6,382	50	0	0	56,569	226,180	24,819	8,272.98	10,254.91	-144,969.54
873+00(2)	87284.26	100.00	1645.01	13.36	0.00	0.00		6,390	48	0	0	62,960	226,244	24,819	8,272.98	10,254.91	-138,642.99
874+00(2)	87384.26	100.00	1407.42	13.37	0.00	0.00		5,653	49	0	0	68,612	226,310	24,819	8,272.98	10,254.91	-133,056.17
875+00(2)	87484.26	100.00	1053.45	18.25	0.00	0.00		4,557	59	0	0	73,170	226,388	24,819	8,272.98	10,254.91	-128,576.86
876+00(2)	87584.26	100.00	701.63	16.89	0.00	0.00		3,250	65	0	0	76,420	226,475	24,819	8,272.98	10,254.91	-125,413.26
877+00(2)	87684.26	100.00	470.77	13.97	0.00	0.00		2,171	57	0	0	78,591	226,551	24,819	8,272.98	10,254.91	-123,318.17
878+00(2)	87784.26	100.00	299.18	7.99	0.00	120.90		1,426	40	0	224	80,017	226,604	24,819	8,272.98	10,467.60	-121,663.29
879+00(2)	87884.26	100.00	151.70	4.59	0.00	120.90		835	23	0	448	80,852	226,635	24,819	8,272.98	10,892.98	-120,293.30
880+00(2)	87984.26	100.00	161.88	0.57	0.00	120.90		581	10	0	448	81,432	226,648	24,819	8,272.98	11,318.36	-119,159.53
881+00(2)	88084.26	100.00	210.84	0.00	0.00	120.90		690	1	0	448	82,123	226,649	24,819	8,272.98	11,743.75	-117,904.95
882+00(2)	88184.26	100.00	365.04	0.25	0.00	120.90		1,066	0	0	448	83,189	226,650	24,819	8,272.98	12,169.14	-116,273.36
883+00(2)	88284.26	100.00	615.07	6.01	0.00	0.00		1,815	12	0	224	85,004	226,665	24,819	8,272.98	12,381.83	-114,190.86
884+00(2)	88384.26	100.00	638.49	1.22	0.00	0.00		2,321	0	0	0	87,326	226,683	24,819	8,272.98	12,381.83	-111,887.24
885+00(2)	88484.26	100.00	453.42	0.00	0.00	21.93		2,022	0	41	89,348	226,686	24,819	8,272.98	12,420.42	-109,816.87	
886+00(2)	88584.26	100.00	142.19	0.24	0.00	131.66		1,103	0	284	90,451	226,687	24,819	8,272.98	12,690.62	-108,355.11	
887+00(2)	88684.26	100.00	28.59	13.54	0.00	117.72		316	26	0	462	90,767	226,721	24,819	8,272.98	13,129.34	-107,489.28
887+69.89(2)	88754.14	69.89	50.20	18.67	0.00	152.94		102	42	0	350	90,869	226,776	24,819	8,272.98	13,462.11	-107,000.18
888+00(2)	88784.26	30.11	84.66	25.49	0.00	179.97		75	25	0	186	90,944	226,809	24,819	8,272.98	13,638.47	-106,723.15
888+39.94(2)	88824.26	39.94	144.69	0.35	0.00	279.48		170	19	0	340	91,114	226,834	24,819	8,272.98	13,961.32	-106,149.53
888+60.24(2)	88844.50	20.30	250.78	0.00	0.00	344.58		149	0	235	91,262	226,834	24,819	8,272.98	14,184.16	-105,704.69	
889+00(2)	88884.26	39.76	260.10	0.00	0.00	284.18		376	0	0	463	91,638	226,834	24,819	8,272.98	14,623.98	-104,743.56
889+09.75(2)	8894.01	9.75	234.92	0.00	0.00	346.16		89	0	0	114	91,728	226,834	24,819	8,272.98	14,732.08	-104,510.42
889+27.14(2)	88911.40	17.40	279.57	0.00	0.00	288.67		166	0	0	205	91,894	226,834	24,819	8,272.98	14,926.37	-104,086.28
889+77.37(2)	88961.63	50.23	286.25	0.00	0.00	205.39		526	0	0	460	92,420	226,834	24,819	8,272.98	15,362.91	-102,979.40
890+00(2)	88984.26	22.63	303.90	0.00	0.00	198.90		247	0	169	92,667	226,834	24,819	8,272.98	15,523.86	-102,518.03	
891+00(2)	89084.26	100.00	228.22	0.00	0.00	198.90		985	0	0	737	93,653	226,834	24,819	8,272.98	16,223.69	-100,601.86
892+00(2)	89184.26	100.00	69.24	1.18	0.00	198.84		551	2	0	737	94,203	226,837	24,819	8,272.98	16,923.40	-99,123.30
893+00(2)	89284.26	100.00	18.92	44.95	0.00	78.63		163	85	0	514	94,367	226,951	24,819	8,272.98	17,411.55	-98,424.45
894+00(2)	89384.26	100.00	10.44	367.40	0.00	0.00		54	764	0	146	94,421	227,967	24,819	8,272.98	17,549.89	-99,201.71
895+00(2)	89484.26	100.00	12.53	386.98	0.00	0.00		43	1,397	0	0	94,464	229,825	24,819	8,272.98	17,549.89	-101,017.19
896+00(2)	89584.26	100.00	15.52	333.34	0.00	0.00		52	1,334	0	0	94,515	231,599	24,819	8,272.98	17,549.89	-102,739.36
897+00(2)	89684.26	100.00	18.16	371.03	0.00	0.00		62	1,304	0	0	94,578	233,334	24,819	8,272.98	17,549.89	-104,411.80
			Subtotal					54,428	36,366	0	8,697						

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
3 - Fill	EBS Excavation to be backfilled with Pit Run.
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow, Item 208.1100
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)*Fill Factor

Notes:  
1 - Cut  
3 - Fill  
4 - Expanded Marsh Backfill  
6 - Reduced Marsh Excavation that can be used in Fill  
7 - Reduced EBS in Fill  
8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)\*Fill Factor



STATION	Real Station	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate					
		Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Expanded Vol (CY)		Reduced EBS						
										Expanded Fill	Backfill			Reduced Marsh	In Fill			
						Note 1	Note 3			Note 1	1.33	Note 4	Note 6	Note 7	Note 8			
898+00(2)	89784.26	100.00	16.91	411.37	0.00	0.00			65	1,449	0	0	94,643	235,261	24,819	8,272.98	17,549.89	-106,273.87
899+00(2)	89884.26	100.00	13.17	475.49	0.00	0.00			56	1,642	0	0	94,699	237,445	24,819	8,272.98	17,549.89	-108,402.46
900+00(2)	89984.26	100.00	16.72	577.99	0.00	0.00			55	1,951	0	0	94,754	240,039	24,819	8,272.98	17,549.89	-110,941.76
901+00(2)	90084.26	100.00	14.22	848.00	0.00	0.00			57	2,641	0	0	94,811	243,552	24,819	8,272.98	17,549.89	-114,396.62
901+59.13(2)	90143.38	59.13	7.38	996.98	0.00	0.00			24	2,020	0	0	94,835	246,238	24,819	8,272.98	17,549.89	-117,059.80
902+00(2)	90184.26	40.87	4.86	1171.30	0.00	0.00			9	1,641	0	0	94,844	248,421	24,819	8,272.98	17,549.89	-119,233.29
902+73.93(2)	90258.18	73.93	8.08	1112.34	0.00	0.00			18	3,126	0	0	94,862	252,579	24,819	8,272.98	17,549.89	-123,373.65
903+00(2)	90284.26	26.07	7.40	1090.28	0.00	0.00			7	1,063	0	0	94,869	253,994	24,819	8,272.98	17,549.89	-124,780.59
904+00(2)	90384.26	100.00	11.73	941.14	0.00	0.00			35	3,762	0	0	94,905	258,997	24,819	8,272.98	17,549.89	-129,748.47
905+00(2)	90484.26	100.00	52.75	662.45	0.00	0.00			119	2,970	0	0	95,024	262,947	24,819	8,272.98	17,549.89	-133,578.64
906+00(2)	90584.26	100.00	292.64	215.88	0.00	49.20			640	1,627	0	91	95,664	265,110	24,819	8,272.98	17,636.44	-134,987.21
907+00(2)	90684.26	100.00	1057.47	17.60	0.00	134.06			2,500	265,685	24,819	8,272.98	17,958.83	132,633.29				-132,633.29
908+00(2)	90784.26	100.00	1694.13	0.00	0.00	20.03			5,096	265,728	24,819	8,272.98	18,229.90	127,220.57				-127,220.57
909+00(2)	90884.26	100.00	1758.40	0.00	0.00	19.62			6,394	265,728	24,819	8,272.98	18,299.65	120,734.22				-120,734.22
910+00(2)	90984.26	100.00	1231.18	6.04	0.00	120.90			5,536	265,743	24,819	8,272.98	18,546.87	114,884.04				-114,884.04
911+00(2)	91084.26	100.00	485.70	0.00	0.00	120.90			3,179	265,758	24,819	8,272.98	18,972.26	111,153.74				-111,153.74
912+00(2)	91184.26	100.00	92.66	83.56	0.00	97.03			1,071	265,964	24,819	8,272.98	19,355.64	109,778.61				-109,778.61
913+00(2)	91284.26	100.00	74.39	186.40	0.00	0.00			309	266,629	24,819	8,272.98	19,526.34	109,907.12				-109,907.12
913+86.52(2)	91372.78	86.52	57.69	199.83	0.00	0.00			217	267,471	24,819	8,272.98	19,526.34	110,532.66				-110,532.66
914+00(2)	91384.26	11.48	62.21	185.50	0.00	0.00			25	267,580	24,819	8,272.98	19,526.34	110,616.11				-110,616.11
914+47.25(2)	91431.50	47.25	12.44	202.48	0.00	0.00			65	268,031	24,819	8,272.98	19,526.34	111,002.28				-111,002.28
914+58.9(2)	91443.15	11.65	4.50	106.92	0.00	0.00			4	268,120	24,819	8,272.98	19,526.34	111,087.41				-111,087.41
915+00(2)	91484.26	41.10	13.76	31.53	0.00	0.00			14	268,260	24,819	8,272.98	19,526.34	111,213.67				-111,213.67
915+25.49(2)	91509.75	25.49	27.65	180.08	0.00	0.00			20	268,393	24,819	8,272.98	19,526.34	111,326.98				-111,326.98
915+47.14(2)	91531.40	21.65	30.10	169.30	0.00	0.00			23	268,579	24,819	8,272.98	19,526.34	111,490.09				-111,490.09
915+97.53(2)	91581.78	50.39	28.86	162.47	0.00	0.00			55	268,991	24,819	8,272.98	19,526.34	111,846.82				-111,846.82
916+00(2)	91584.26	2.47	28.68	160.62	0.00	0.00			3	269,011	24,819	8,272.98	19,526.34	111,863.86				-111,863.86
917+00(2)	91684.26	100.00	17.10	217.78	0.00	0.00			85	269,943	24,819	8,272.98	19,526.34	112,711.07				-112,711.07
918+00(3)	91779.14	94.88	22.45	284.00	0.00	0.00			69	271,115	24,819	8,272.98	19,526.34	113,814.21				-113,814.21
919+00(3)	91879.14	100.00	72.22	253.82	0.00	0.00			175	272,440	24,819	8,272.98	19,526.34	114,963.52				-114,963.52
920+00(3)	91979.14	100.00	137.30	0.00	0.00	0.00			388	273,065	24,819	8,272.98	19,526.34	115,200.65				-115,200.65
921+00(3)	92079.14	100.00	43.36	286.40	0.00	0.00			335	273,771	24,819	8,272.98	19,526.34	115,571.49				-115,571.49
922+00(3)	92179.14	100.00	25.45	334.51	0.00	0.00			127	275,300	24,819	8,272.98	19,526.34	116,973.33				-116,973.33
923+00(3)	92279.14	100.00	26.19	346.62	0.00	0.00			96	276,977	24,819	8,272.98	19,526.34	118,555.28				-118,555.28
924+00(3)	92379.14	100.00	13.89	400.00	0.00	0.00			74	278,816	24,819	8,272.98	19,526.34	120,319.95				-120,319.95
925+00(3)	92479.14	100.00	34.12	423.59	0.00	0.00			89	280,845	24,819	8,272.98	19,526.34	122,259.50				-122,259.50
926+00(3)	92579.14	100.00	12.96	487.11	0.00	0.00			87	283,088	24,819	8,272.98	19,526.34	124,415.31				-124,415.31
927+00(3)	92679.14	100.00	7.04	562.43	0.00	0.00			37	285,673	24,819	8,272.98	19,526.34	126,963.25				-126,963.25
928+00(3)	92779.14	100.00	9.55	622.61	0.00	0.00			31	288,391	24,819	8,272.98	19,526.34	129,851.27				-129,851.27
929+00(3)	92879.14	100.00	9.50	648.61	0.00	0.00			35	291,722	24,819	8,272.98	19,526.34	132,946.96				-132,946.96
930+00(3)	92979.14	100.00	9.16	622.32	0.00	0.00			35	294,853	24,819	8,272.98	19,526.34	136,042.62				-136,042.62
931+00(3)	93079.14	100.00	20.61	610.32	0.00	0.00			55	297,889	24,819	8,272.98	19,526.34	139,023.41				-139,023.41
932+00(3)	93179.14	100.00	18.83	605.01	0.00	0.00			73	300,882	24,819	8,272.98	19,526.34	141,943.68				-141,943.68
932+70.05(3)	93249.19	70.05	68.78	258.47	0.00	0.00			114	302,372	24,819	8,272.98	19,526.34	143,319.77				-143,319.77
933+00(3)	93279.14	29.95	70.20	44.11	0.00	0.00			77	302,595	24,819	8,272.98	19,526.34	143,465.89				-143,465.89
			Subtotal						27,579	52,076	0	2,080						

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
3 - Fill	EBS Excavation to be backfilled with Pit Run.
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow, Item 208.1100
6 - Reduced Marsh in Fill	Reduced EBS Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)*Fill Factor

Notes:

1 - Cut

3 - Fill

4 - Expanded Marsh Backfill

6 - Reduced Marsh in Fill

7 - Reduced EBS in Fill

8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material

EBS Excavation to be backfilled with Pit Run.

Will be backfilled with Select Borrow, Item 208.1100

Reduced Marsh Excavation that can be used in Fill

Reduced EBS Excavation that can be used in Fill

Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)\*Fill Factor



STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)					Mass Ordinate	
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Expanded Vol (CY)		Reduced Marsh In Fill	Reduced EBS In Fill		
											Expanded Fill	Backfill				Note 4
			Note 1	Note 3	Note 1	Note 3	Note 1	Note 3	Note 1	1.33	1.50	Note 4	Note 6	Note 7	Note 8	
933+20.04(3)	93299.18	20.04	2.04	441.39	0.00	0.00	27	180	0	0	122,183	302,834	24,819	8,272.98	19,526.34	-143,678.76
934+00(3)	93379.14	79.96	0.00	618.01	0.00	0.00	3	1,569	0	0	122,186	304,921	24,819	8,272.98	19,526.34	-145,761.99
935+00(3)	93459.14	100.00	4.46	631.48	0.00	0.00	8	2,314	0	0	122,194	307,998	24,819	8,272.98	19,526.34	-148,831.20
936+00(3)	93539.14	100.00	11.62	580.03	0.00	0.00	30	2,244	0	0	122,224	310,982	24,819	8,272.98	19,526.34	-151,785.33
937+00(3)	93619.14	100.00	7.44	702.88	0.00	0.00	35	2,376	0	0	122,260	314,142	24,819	8,272.98	19,526.34	-154,909.79
938+00(3)	93779.14	100.00	29.93	218.45	0.00	0.00	69	1,706	0	0	122,329	316,411	24,819	8,272.98	19,526.34	-157,109.79
939+00(3)	93879.14	100.00	5.34	552.35	0.00	0.00	65	1,427	0	0	122,394	318,310	24,819	8,272.98	19,526.34	-158,942.94
940+00(3)	93979.14	100.00	8.05	423.87	0.00	0.00	25	1,808	0	0	122,419	320,714	24,819	8,272.98	19,526.34	-161,322.55
941+00(3)	94079.14	100.00	17.56	197.50	0.00	0.00	47	1,151	0	0	122,466	322,444	24,819	8,272.98	19,526.34	-162,805.53
942+00(3)	94179.14	100.00	199.67	0.00	0.00	120.90	402	366	0	224	122,869	322,731	24,819	8,272.98	19,739.03	-162,606.81
943+00(3)	94279.14	100.00	538.07	8.82	0.00	120.90	1,366	16	0	448	124,235	322,752	24,819	8,272.98	20,164.41	-160,696.58
944+00(3)	94379.14	100.00	1160.99	1.74	0.00	20.03	3,146	20	0	261	127,381	322,778	24,819	8,272.98	20,412.33	-157,246.43
944+79.57(3)	94458.71	79.57	1582.40	2.58	0.00	0.00	4,043	6	0	30	131,424	322,787	24,819	8,272.98	20,440.37	-153,174.97
945+00(3)	94479.14	20.43	1629.55	7.35	0.00	0.00	1,215	4	0	0	132,639	322,792	24,819	8,272.98	20,440.37	-151,965.02
946+00(3)	94579.14	100.00	1629.29	0.21	0.00	0.00	6,035	14	0	0	138,674	322,811	24,819	8,272.98	20,440.37	-145,948.75
947+00(3)	94679.14	100.00	1268.38	0.00	0.00	0.00	5,366	0	0	0	144,040	322,811	24,819	8,272.98	20,440.37	-140,583.20
948+00(3)	94779.14	100.00	962.69	0.00	0.00	0.00	4,132	0	0	0	148,171	322,811	24,819	8,272.98	20,440.37	-136,451.61
949+00(3)	94879.14	100.00	654.62	0.60	0.00	0.00	2,995	1	0	0	151,166	322,813	24,819	8,272.98	20,440.37	-133,458.08
950+00(3)	94979.14	100.00	628.74	4.53	0.00	0.00	2,377	9	0	0	153,543	322,825	24,819	8,272.98	20,440.37	-131,094.13
951+00(3)	95079.14	100.00	505.98	7.71	0.00	67.08	2,101	23	0	124	155,644	322,855	24,819	8,272.98	20,558.38	-128,865.96
952+00(3)	95179.14	100.00	606.14	3.85	0.00	67.08	2,059	21	0	248	157,704	322,884	24,819	8,272.98	20,794.39	-126,521.03
953+00(3)	95279.14	100.00	475.29	4.61	0.00	67.08	2,003	16	0	248	159,706	322,905	24,819	8,272.98	21,030.41	-124,225.31
954+00(3)	95379.14	100.00	489.54	5.52	0.00	67.08	1,787	19	0	248	161,493	322,930	24,819	8,272.98	21,266.43	-122,149.62
955+00(3)	95479.14	100.00	533.44	1.09	0.00	67.08	1,894	12	0	248	163,387	322,946	24,819	8,272.98	21,502.45	-119,957.58
956+00(3)	95579.14	100.00	661.51	6.52	0.00	67.08	2,213	14	0	248	165,600	322,965	24,819	8,272.98	21,738.47	-117,449.56
957+00(3)	95679.14	100.00	688.28	11.02	0.00	67.08	2,500	32	0	248	168,100	323,008	24,819	8,272.98	21,974.48	-114,679.24
958+00(3)	95779.14	100.00	764.69	10.41	0.00	67.08	2,691	40	0	248	170,791	323,061	24,819	8,272.98	22,210.50	-111,727.43
959+00(3)	95879.14	100.00	912.62	11.12	0.00	67.08	3,106	40	0	248	173,897	323,114	24,819	8,272.98	22,446.51	-108,360.43
960+00(3)	95979.14	100.00	922.55	11.26	0.00	67.08	3,398	41	0	248	177,295	323,169	24,819	8,272.98	22,682.53	-104,703.20
961+00(3)	96079.14	100.00	803.12	8.61	0.00	67.08	3,196	37	0	248	180,491	323,218	24,819	8,272.98	22,918.55	-101,242.56
962+00(3)	96179.14	100.00	748.52	8.62	0.00	67.08	2,873	32	0	248	183,364	323,260	24,819	8,272.98	23,154.56	-98,097.70
963+00(3)	96279.14	100.00	711.82	9.18	0.00	67.08	2,704	33	0	248	186,069	323,304	24,819	8,272.98	23,390.58	-95,123.31
964+00(3)	96379.14	100.00	693.26	9.10	0.00	67.08	2,602	34	0	248	188,671	323,349	24,819	8,272.98	23,626.61	-92,252.43
965+00(3)	96479.14	100.00	659.03	11.73	0.00	67.08	2,504	39	0	248	191,175	323,400	24,819	8,272.98	23,862.61	-89,485.60
966+00(3)	96579.14	100.00	575.26	8.85	0.00	67.08	2,286	38	0	248	193,461	323,451	24,819	8,272.98	24,098.63	-86,936.66
967+00(3)	96679.14	100.00	416.63	23.12	0.00	120.90	1,837	59	0	348	195,297	323,530	24,819	8,272.98	24,429.33	-84,738.72
968+00(3)	96779.14	100.00	161.06	37.89	0.00	120.90	1,070	113	0	448	196,367	323,680	24,819	8,272.98	24,854.71	-83,253.40
969+00(3)	96879.14	100.00	57.51	116.39	0.00	95.76	405	286	0	401	196,772	324,060	24,819	8,272.98	25,235.87	-82,721.68
969+45.01(3)	96924.15	45.01	0.00	146.47	0.00	107.48	48	219	0	169	196,820	324,351	24,819	8,272.98	25,396.81	-82,751.11
969+58.78(3)	96937.92	13.77	1.38	110.58	0.00	67.67	0	66	0	45	196,820	324,438	24,819	8,272.98	25,439.23	-82,781.50
970+00(3)	96979.14	41.22	6.46	19.12	0.00	52.78	6	99	0	92	196,826	324,570	24,819	8,272.98	25,526.58	-82,791.03
970+26.82(3)	97005.96	26.82	26.05	29.45	0.00	20.04	16	24	0	36	196,842	324,602	24,819	8,272.98	25,560.94	-82,761.27
970+50.77(3)	97029.91	23.95	22.74	416.87	0.00	0.00	22	198	0	9	196,864	324,866	24,819	8,272.98	25,569.38	-82,991.70
970+86.7(3)	97065.84	35.92	16.34	554.33	0.00	0.00	26	646	0	0	196,890	325,725	24,819	8,272.98	25,569.38	-83,824.99
971+00(3)	97079.14	13.30	14.54	566.85	0.00	0.00	8	276	0	0	196,898	326,092	24,819	8,272.98	25,569.38	-84,184.75
			Subtotal				74,741	17,667	0	6,361						

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
3 - Fill	EBS Excavation to be backfilled with Pit Run.
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow, Item 208.1100
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)*Fill Factor

9

Notes:  
1 - Cut  
3 - Fill  
4 - Expanded Marsh Backfill  
6 - Reduced Marsh Excavation that can be used in Fill  
7 - Reduced EBS in Fill  
8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)\*Fill Factor



STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)					Mass Ordinate	
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Expanded Fill	Expanded Marsh Backfill	Reduced Marsh In Fill	Reduced EBS In Fill	Note 7	Note 8
972+00(3)	97179.14	100.00	11.89	689.49	0.00	0.00	49	2,327	0	0	196,947	329,186	24,819	8,272.98	25,569.38	-87,230.10
973+00(3)	97279.14	100.00	13.50	823.55	0.00	0.00	47	2,802	0	0	196,994	332,913	24,819	8,272.98	25,569.38	-90,909.64
974+00(3)	97379.14	100.00	14.45	981.16	0.00	0.00	52	3,342	0	0	197,045	337,358	24,819	8,272.98	25,569.38	-95,302.82
975+00(3)	97479.14	100.00	20.23	1,107.78	0.00	0.00	64	3,868	0	0	197,110	342,503	24,819	8,272.98	25,569.38	-100,383.59
976+00(3)	97579.14	100.00	14.67	1,252.75	0.00	0.00	65	4,371	0	0	197,174	348,317	24,819	8,272.98	25,569.38	-106,132.88
977+00(3)	97679.14	100.00	21.01	1,527.53	0.00	0.00	66	5,149	0	0	197,240	355,165	24,819	8,272.98	25,569.38	-112,914.56
978+00(3)	97779.14	100.00	25.53	1,680.78	0.00	0.00	86	5,941	0	0	197,327	363,067	24,819	8,272.98	25,569.38	-120,730.32
979+00(3)	97879.14	100.00	28.54	1,621.29	0.00	0.00	100	6,115	0	0	197,427	371,199	24,819	8,272.98	25,569.38	-128,763.05
980+00(3)	97979.14	100.00	32.24	1,224.49	0.00	0.00	113	5,270	0	0	197,539	378,209	24,819	8,272.98	25,569.38	-135,659.55
981+00(3)	98079.14	100.00	58.25	1,025.85	0.00	0.00	168	4,167	0	0	197,707	383,751	24,819	8,272.98	25,569.38	-141,034.49
982+00(3)	98179.14	100.00	17.96	924.80	0.00	0.00	141	3,612	0	0	197,848	388,555	24,819	8,272.98	25,569.38	-145,697.72
983+00(3)	98279.14	100.00	7.75	464.83	0.00	0.00	48	2,573	0	0	197,896	391,978	24,819	8,272.98	25,569.38	-149,072.70
984+00(3)	98379.14	100.00	11.01	458.40	0.00	0.00	35	1,710	0	0	197,930	394,252	24,819	8,272.98	25,569.38	-151,311.83
985+00(3)	98479.14	100.00	27.13	265.21	0.00	0.00	71	1,340	0	0	198,001	396,034	24,819	8,272.98	25,569.38	-153,023.27
986+00(3)	98579.14	100.00	4.36	385.21	0.00	0.00	58	1,204	0	0	198,059	397,636	24,819	8,272.98	25,569.38	-154,566.76
986+44.26(3)	98623.40	44.26	0.00	452.46	0.00	0.00	4	687	0	0	198,063	398,549	24,819	8,272.98	25,569.38	-155,476.26
986+75.46(3)	98654.60	31.20	0.01	502.45	0.00	0.00	0	552	0	0	198,063	399,283	24,819	8,272.98	25,569.38	-156,210.16
987+00(3)	98679.14	24.54	4.08	508.26	0.00	0.00	2	459	0	0	198,065	399,894	24,819	8,272.98	25,569.38	-156,819.18
987+22.96(3)	98702.10	22.96	23.61	484.75	0.00	0.00	12	422	0	0	198,076	400,455	24,819	8,272.98	25,569.38	-157,368.94
987+43.97(3)	98723.11	21.02	42.18	379.80	0.00	0.00	26	337	0	0	198,102	400,903	24,819	8,272.98	25,569.38	-157,790.81
987+82.88(3)	98762.02	38.91	150.62	6.17	0.00	0.00	139	278	0	0	198,241	401,272	24,819	8,272.98	25,569.38	-158,021.75
988+00(3)	98779.14	17.12	161.47	44.86	0.00	0.00	99	16	0	0	198,340	401,294	24,819	8,272.98	25,569.38	-157,944.33
989+00(3)	98879.14	100.00	16.09	57.85	0.00	107.04	329	190	0	198	198,669	401,547	24,819	8,272.98	25,577.70	-157,618.02
990+00(3)	98979.14	100.00	113.84	6.02	0.00	194.93	241	118	0	559	198,909	401,704	24,819	8,272.98	26,288.95	-156,828.18
991+00(3)	99079.14	100.00	430.89	0.00	0.00	178.66	1,009	11	0	692	199,918	401,719	24,819	8,272.98	26,946.18	-154,960.14
992+00(3)	99179.14	100.00	724.24	0.00	0.00	0.00	2,139	0	0	331	202,057	401,719	24,819	8,272.98	27,260.48	-152,402.98
993+00(3)	99279.14	100.00	582.04	0.00	0.00	120.94	2,419	0	0	224	204,476	401,719	24,819	8,272.98	27,473.25	-149,700.96
994+00(3)	99379.14	100.00	117.76	3.75	0.00	120.44	1,296	7	0	447	205,772	401,728	24,819	8,272.98	27,897.90	-147,849.50
995+00(3)	99479.14	100.00	137.70	704.20	0.00	0.00	244	1,311	0	223	206,016	403,472	24,819	8,272.98	28,109.78	-149,067.80
996+00(3)	99579.14	100.00	32.97	256.77	0.00	18.78	87	1,780	0	35	206,102	405,839	24,819	8,272.98	28,142.82	-151,304.14
997+00(3)	99679.14	100.00	368.72	2.23	0.00	120.90	744	480	0	259	206,846	406,477	24,819	8,272.98	28,388.55	-150,871.37
998+00(3)	99779.14	100.00	431.19	0.74	0.00	120.90	1,481	6	0	448	208,327	406,484	24,819	8,272.98	28,813.94	-148,831.62
998+56.88(3)	99836.02	56.88	252.06	0.73	0.00	128.64	720	2	0	263	209,047	406,486	24,819	8,272.98	29,063.63	-147,781.93
999+00(3)	99879.14	43.12	137.70	0.00	0.00	162.15	311	1	0	232	209,358	406,487	24,819	8,272.98	29,284.24	-147,178.05
999+70.42(3)	99949.56	70.42	40.33	148.37	0.00	1.98	232	193	0	214	209,590	406,744	24,819	8,272.98	29,487.57	-146,932.78
1000+00(3)	99979.14	29.58	26.14	440.83	0.00	0.00	36	323	0	1	209,627	407,174	24,819	8,272.98	29,488.60	-147,324.28
1001+00(3)	100079.14	100.00	16.62	1,254.83	0.00	0.00	79	3,140	0	0	209,706	411,350	24,819	8,272.98	29,488.60	-151,421.42
1002+00(3)	100179.14	100.00	2.66	2,325.29	0.00	0.00	36	5,630	0	0	209,742	420,168	24,819	8,272.98	29,488.60	-160,203.40
1003+00(3)	100279.14	100.00	20.35	2,151.16	0.00	0.00	43	8,290	0	0	209,784	431,193	24,819	8,272.98	29,488.60	-171,186.11
1004+00(3)	100379.14	100.00	22.73	1,330.28	0.00	0.00	80	5,447	0	0	209,864	439,768	24,819	8,272.98	29,488.60	-179,680.97
1005+00(3)	100479.14	100.00	57.10	423.27	0.00	0.00	148	3,247	0	0	210,012	444,086	24,819	8,272.98	29,488.60	-183,852.04
1006+00(3)	100579.14	100.00	3.77	420.44	0.00	7.36	113	1,562	0	14	210,125	446,164	24,819	8,272.98	29,501.55	-185,800.10
1007+00(3)	100679.14	100.00	44.79	471.25	0.00	0.00	90	1,651	0	14	210,215	448,361	24,819	8,272.98	29,514.49	-187,889.15
1008+00(3)	100779.14	100.00	442.85	56.98	0.00	1.36	903	978	0	3	211,118	449,662	24,819	8,272.98	29,516.89	-188,283.94
1009+00(3)	100879.14	100.00	58.15	359.73	0.00	11.40	928	772	0	24	212,046	450,688	24,819	8,272.98	29,539.35	-188,352.64
				Subtotal			15,148	53,681	0	4,179						

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
3 - Fill	EBS Excavation to be backfilled with Pit Run.
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow, Item 208.1100
6 - Reduced Marsh Excavation	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)*Fill Factor

PROJECT NO: 1440-13-71

HWY: STH 23

COUNTY: SHEBOYGAN

EARTHWORK

WB Mainline 1

PLOT NAME: \_\_\_\_\_  
PLOT SCALE: 1:1

SHEET: 276

E

9

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)							
			Cut	Fill	Marsh Exc	EBS	Cut	Fill	Marsh Exc	EBS	Cut	Expanded Fill	Expanded Marsh Backfill	Reduced Marsh in Fill	Reduced EBS In Fill	Mass Ordinate
							Note 1	Note 3			Note 1	1.33	Note 4	Note 5	Note 6	Note 8
1010+00(3)	100979.14	100.00	9.12	636.44	0.00	0.00	125	1,845	0	21	212,170	453,142	24,819	8,272.98	29,559.40	-190,701.65
1011+00(3)	101079.14	100.00	5.99	606.46	0.00	0.00	28	2,302	0	0	212,198	456,203	24,819	8,272.98	29,559.40	-193,734.85
1012+00(3)	101179.14	100.00	5.55	493.85	0.00	0.00	21	2,038	0	0	212,219	458,913	24,819	8,272.98	29,559.40	-196,423.50
1013+00(3)	101279.14	100.00	1.82	532.47	0.00	0.00	14	1,901	0	0	212,233	461,441	24,819	8,272.98	29,559.40	-198,937.63
1014+00(3)	101379.14	100.00	2.49	319.64	0.00	0.00	8	1,578	0	0	212,241	463,539	24,819	8,272.98	29,559.40	-201,028.35
1015+00(3)	101479.14	100.00	10.92	181.56	0.00	0.00	25	0	0	0	212,266	464,774	24,819	8,272.98	29,559.40	-202,237.96
1016+00(3)	101579.14	100.00	47.24	40.44	0.00	0.00	108	411	0	0	212,374	465,320	24,819	8,272.98	29,559.40	-202,677.04
1017+00(3)	101679.14	100.00	324.77	2.50	0.00	120.90	689	80	0	224	213,063	465,426	24,819	8,272.98	29,572.10	-201,811.03
1018+00(3)	101779.14	100.00	316.68	8.26	0.00	120.90	1,188	20	0	0	214,250	465,453	24,819	8,272.98	30,197.49	-200,083.89
1019+00(3)	101879.14	100.00	147.40	107.67	0.00	0.95	859	215	0	226	215,110	465,738	24,819	8,272.98	30,411.86	-199,224.90
1019+18.42(3)	101897.56	18.42	76.40	143.24	0.00	0.00	76	86	0	0	215,186	465,852	24,819	8,272.98	30,412.17	-199,261.98
1019+67.98(3)	101947.12	49.57	5.56	249.93	0.00	0.00	75	361	0	0	215,261	466,332	24,819	8,272.98	30,412.17	-199,666.72
1020+00(3)	101979.14	32.02	23.94	266.23	0.00	0.00	17	306	0	0	215,279	466,739	24,819	8,272.98	30,412.17	-200,056.23
1021+00(3)	102079.14	100.00	23.72	328.07	0.00	0.00	88	1,101	0	0	215,367	468,203	24,819	8,272.98	30,412.17	-201,431.69
1022+00(3)	102179.14	100.00	15.85	381.74	0.00	0.00	73	1,314	0	0	215,440	469,951	24,819	8,272.98	30,412.17	-203,106.64
1023+00(3)	102279.14	100.00	0.00	420.01	0.00	0.00	29	1,485	0	0	215,470	471,926	24,819	8,272.98	30,412.17	-205,051.95
1024+00(3)	102379.14	100.00	14.40	254.72	0.00	22.52	27	1,250	0	42	215,496	473,588	24,819	8,272.98	30,451.79	-206,634.45
1025+00(3)	102479.14	100.00	970.91	18.26	0.00	132.90	1,825	506	0	288	217,321	474,260	24,819	8,272.98	30,725.21	-205,118.50
1026+00(3)	102579.14	100.00	0.00	809.25	0.00	0.00	1,798	1,532	0	246	219,119	476,298	24,819	8,272.98	30,959.01	-205,047.68
1027+00(3)	102679.14	100.00	2236.89	11.39	0.00	132.90	4,142	1,520	0	39	223,262	478,319	24,819	8,272.98	31,192.81	-202,615.55
1028+00(3)	102779.14	100.00	2739.04	15.35	0.00	132.90	9,215	50	0	492	232,476	478,385	24,819	8,272.98	31,660.42	-192,844.82
1029+00(3)	102879.14	100.00	791.34	21.40	0.00	132.90	6,538	68	0	492	239,014	478,476	24,819	8,272.98	32,128.02	-185,775.68
1030+00(3)	102979.14	100.00	299.19	29.31	0.00	144.67	2,020	94	0	148	241,033	478,501	24,819	8,272.98	32,616.35	-183,231.61
1030+39.34(3)	103018.48	39.34	167.76	64.47	0.00	58.23	340	68	0	514	241,377	478,591	24,819	8,272.98	32,756.76	-182,795.57
1030+75.63(3)	103054.27	36.29	20.90	25.46	0.00	0.00	127	60	0	39	241,500	478,772	24,819	8,272.98	32,793.94	-182,699.70
1031+00(3)	103079.14	34.37	7.44	18.92	0.00	0.00	13	20	0	0	241,513	478,798	24,819	8,272.98	32,793.94	-182,713.55
1031+33.05(3)	103112.19	33.05	8.76	177.56	0.00	0.00	10	120	0	0	241,523	478,958	24,819	8,272.98	32,793.94	-182,863.58
1031+61.81(3)	103140.95	28.76	14.55	379.12	0.00	0.00	12	296	0	0	241,536	479,353	24,819	8,272.98	32,793.94	-183,245.50
1032+00(3)	103179.14	38.19	7.34	532.37	0.00	0.00	15	645	0	0	241,551	480,210	24,819	8,272.98	32,793.94	-184,087.30
1033+00(3)	103279.14	100.00	0.90	953.07	0.00	0.00	15	2,751	0	0	241,566	483,869	24,819	8,272.98	32,793.94	-187,730.62
1034+00(3)	103379.14	100.00	2.10	982.08	0.00	0.00	6	3,584	0	0	241,572	488,535	24,819	8,272.98	32,793.94	-192,491.26
1035+00(3)	103479.14	100.00	4.65	1452.26	0.00	0.00	12	4,508	0	0	241,584	494,530	24,819	8,272.98	32,793.94	-198,474.46
1036+00(3)	103579.14	100.00	11.38	1455.84	0.00	0.00	30	5,385	0	0	241,614	501,793	24,819	8,272.98	32,793.94	-205,607.33
1037+00(3)	103679.14	100.00	39.55	1145.52	0.00	0.00	94	4,817	0	0	241,708	508,200	24,819	8,272.98	32,793.94	-211,920.09
				Subtotal			29,663	43,242	0	3,426						
TOTAL							241,708	382,105	16,546	34,520						

Notes:

1 - Cut

3 - Fill

4 - Expanded Marsh Backfill

6 - Reduced Marsh in Fill

7 - Reduced EBS in Fill

8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material  
EBS Excavation to be backfilled with Pit Run.  
Will be backfilled with Select Borrow, Item 208.1100  
Reduced Marsh Excavation that can be used in Fill  
Reduced EBS Excavation that can be used in Fill  
Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)\*Fill Factor

PROJECT NO: 1440-13-71

HWY: STH 23

COUNTY: SHEBOYGAN

EARTHWORK

WB Mainline 1

SHEET: 277

E











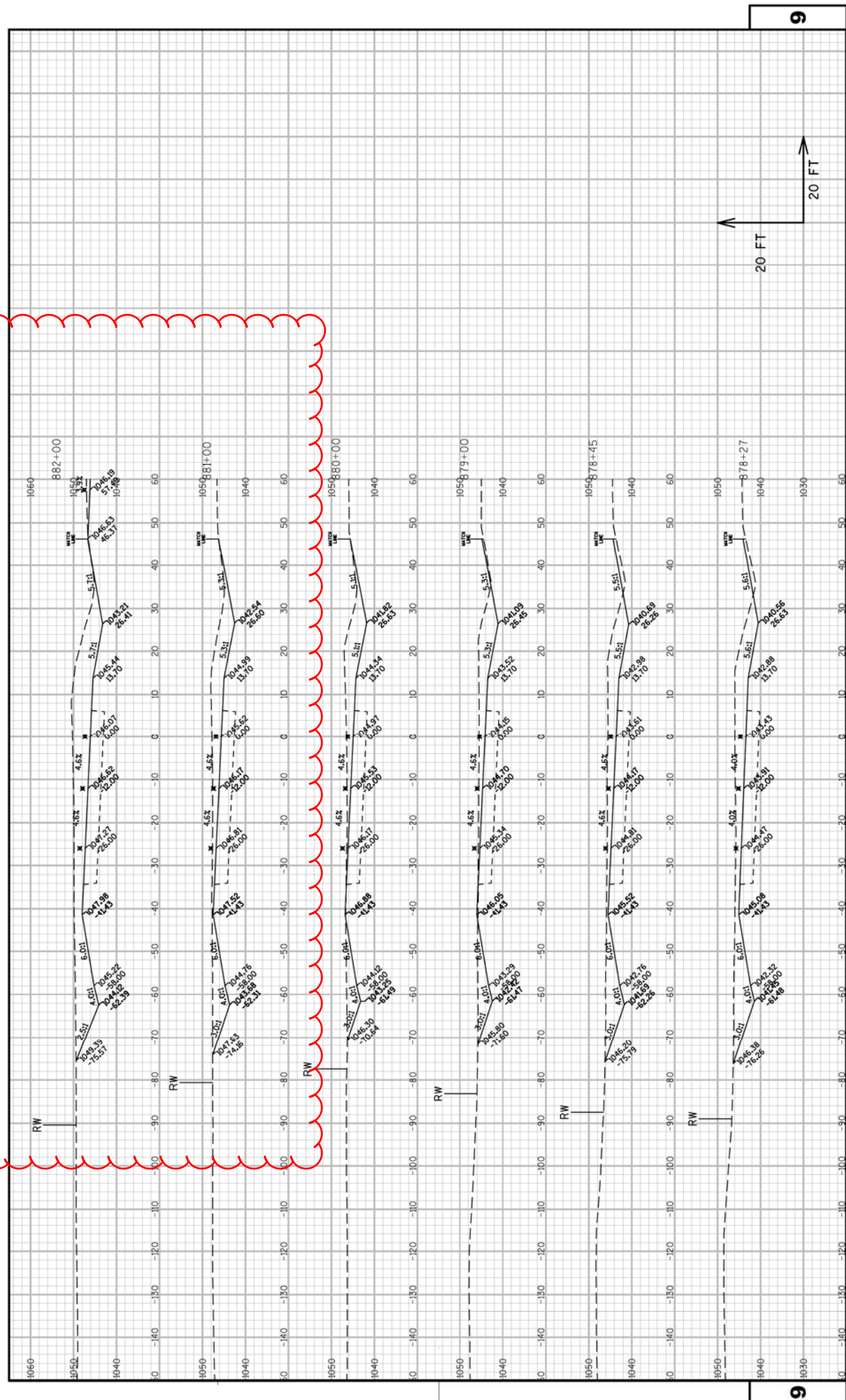
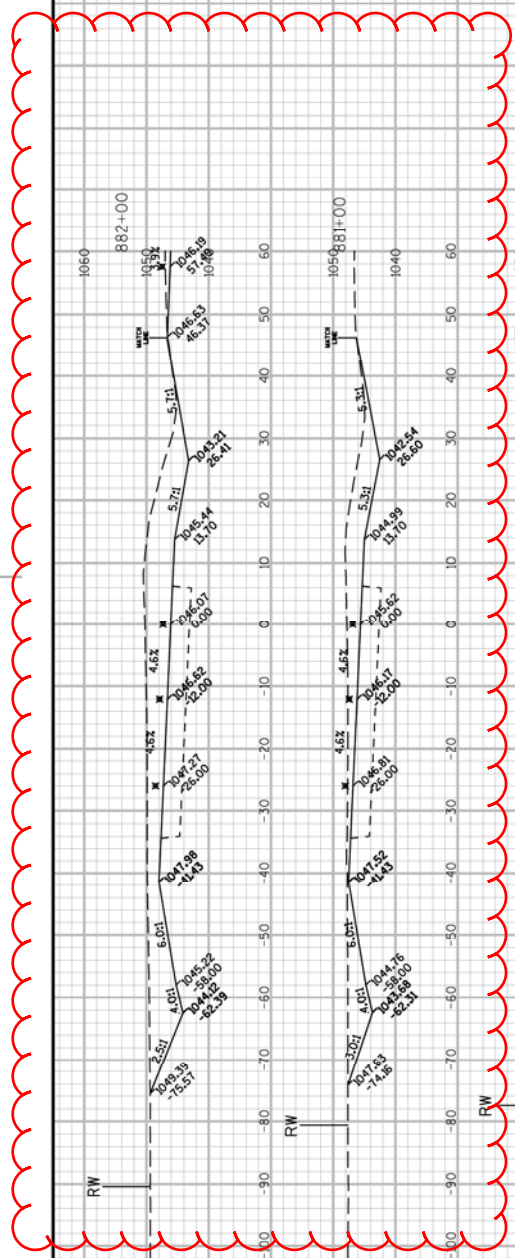
Chickadee Rd												
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Fill	EBS	Cut	Fill	EBS	Cut	Expanded Fill	Reduced EBS In Fill	
						Note 1	Note 3	Note 1	Note 1	Note 7	Note 8	
45+89	4589.00	0.00	4.36	0.06	0.00	0	0	0	0	0.00	0.00	
46+00	4600.00	11.00	4.18	0.07	0.00	2	0	0	2	0.00	1.71	
46+50	4650.00	50.00	2.76	1.40	0.00	6	1	0	8	0.00	6.32	
47+00	4700.00	50.00	0.39	6.11	0.00	3	7	0	11	0.00	-0.02	
47+50	4750.00	50.00	0.00	20.87	0.00	0	25	0	11	0.00	-32.89	
48+00	4800.00	50.00	0.00	75.68	0.00	0	89	0	11	0.00	-151.79	
48+50	4850.00	50.00	6.05	169.87	0.00	6	227	0	17	0.00	-448.57	
49+00	4900.00	50.00	22.48	271.60	0.00	26	409	0	43	0.00	-965.80	
49+10.81	4910.81	10.81	32.13	298.28	0.00	11	114	0	54	0.00	-1,106.65	
49+20.83	4920.83	10.01	30.52	155.95	0.00	12	84	0	66	0.00	-1,207.06	
TOTAL						66	957	0				

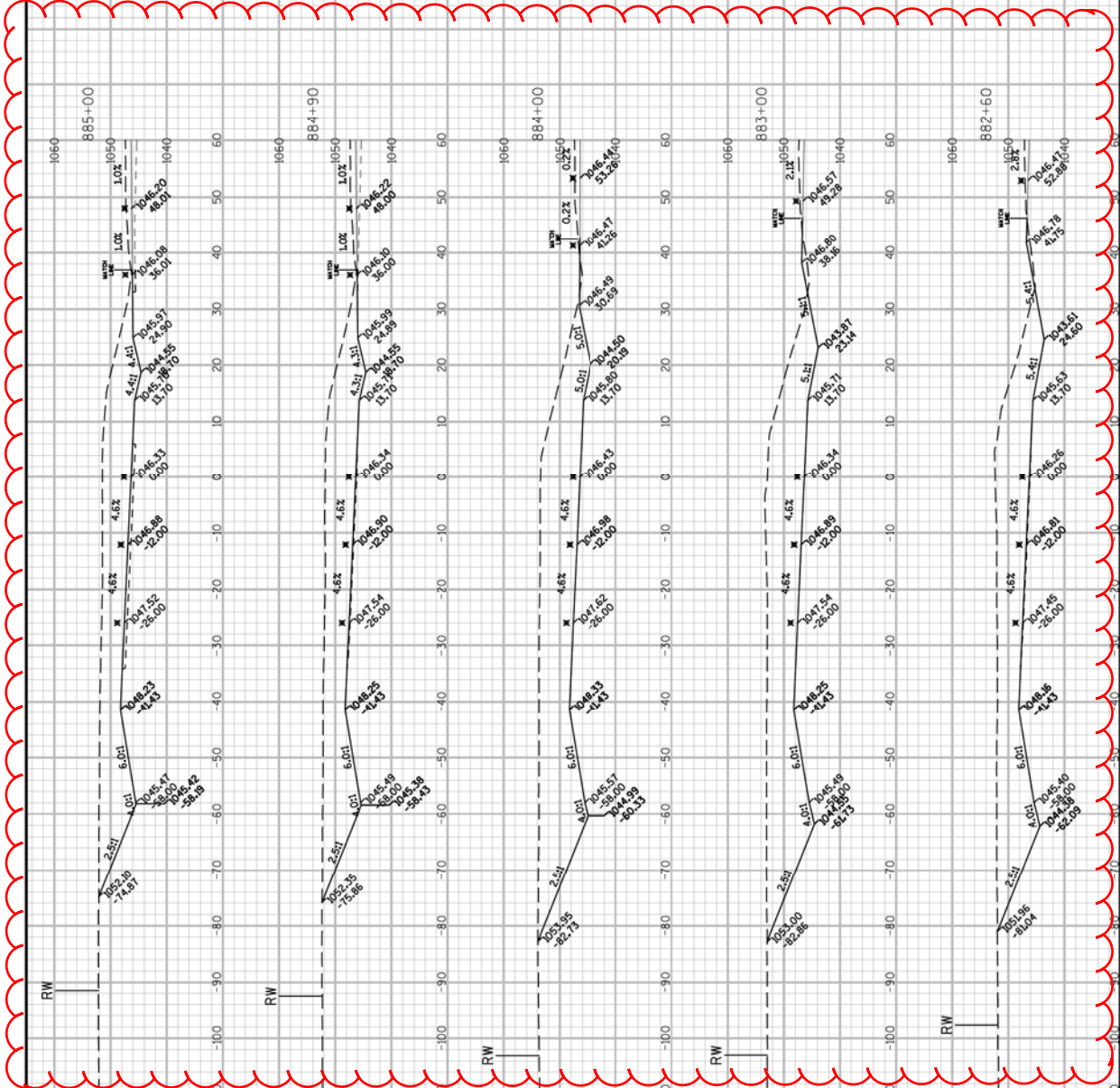
CTH U												
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
			Cut	Fill	EBS	Cut	Fill	EBS	Cut	Expanded Fill	Reduced EBS In Fill	
						Note 1	Note 3	Note 1	Note 1	Note 7	Note 8	
47+00	4700.00	0.00	60.35	0.00	0.00	0	0	0	0	0.00	0.00	
47+24.23	4724.23	24.23	81.99	0.42	0.00	64	0	0	64	0.00	63.62	
47+50	4750.00	25.77	14.56	534.56	0.00	46	255	0	110	0.00	-229.85	
47+76.54	4776.54	26.54	40.68	543.35	0.00	27	530	0	137	0.00	-907.32	
48+00	4800.00	23.46	65.29	544.33	0.00	46	473	0	183	0.00	-1,489.74	
48+04.14	4804.14	4.14	62.18	536.53	0.00	10	83	0	193	0.00	-1,590.12	
48+26.06	4826.06	21.92	30.45	215.77	0.00	38	305	0	231	0.00	-1,958.73	
48+37.33	4837.33	11.27	19.88	126.52	0.00	10	71	0	241	0.00	-2,043.21	
TOTAL						241	1,717	0				

Notes:	Cut includes Salvaged/Unusable Pavement material EBS Excavation to be backfilled with Pit Run. Reduced EBS Excavation that can be used in Fill Mass Ordinate = Cut - (Fill - Reduced Marsh - Reduced EBS)*Fill Factor
1 - Cut	
3 - Fill	
7 - Reduced EBS in Fill	
8 - Mass Ordinate	

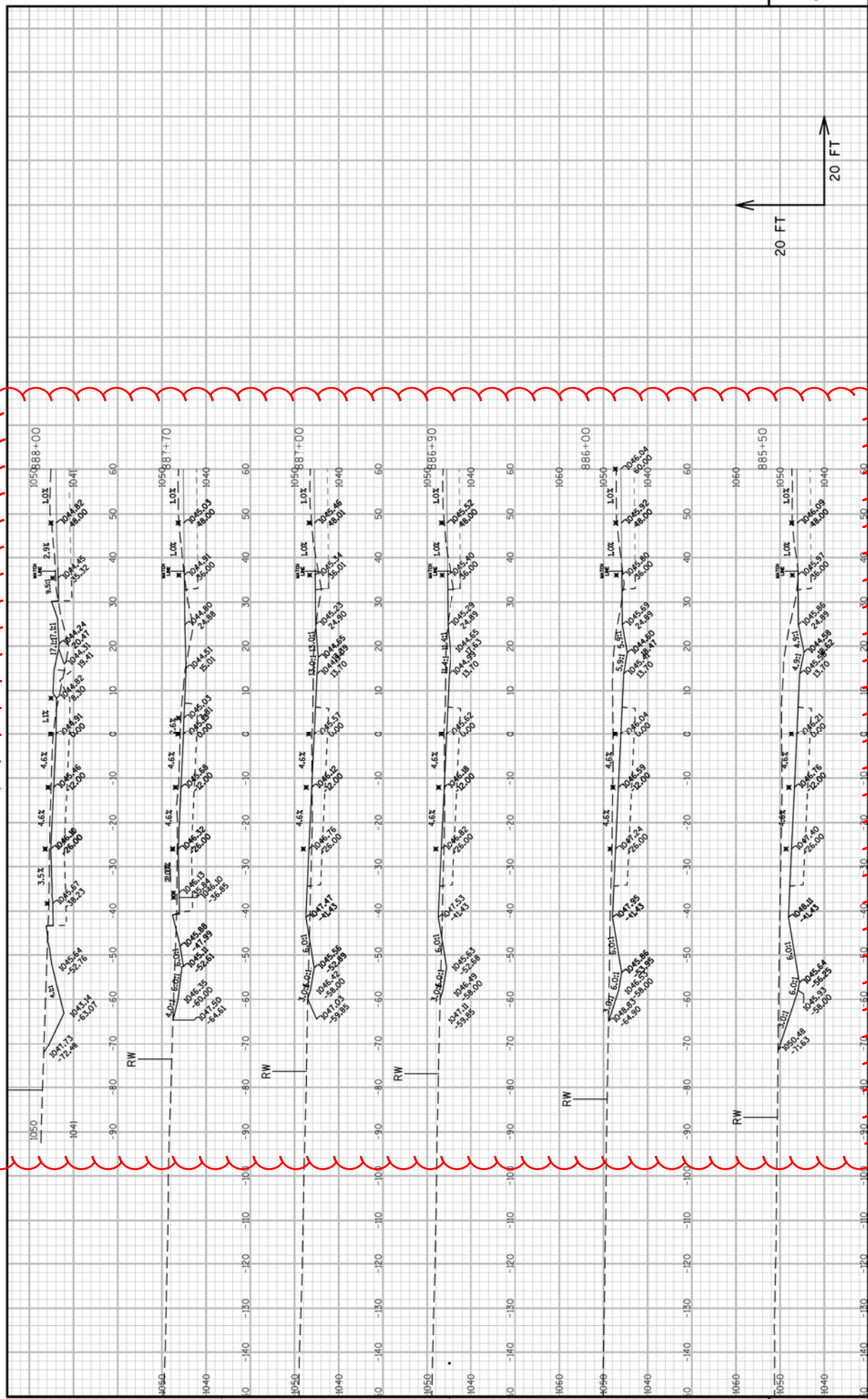
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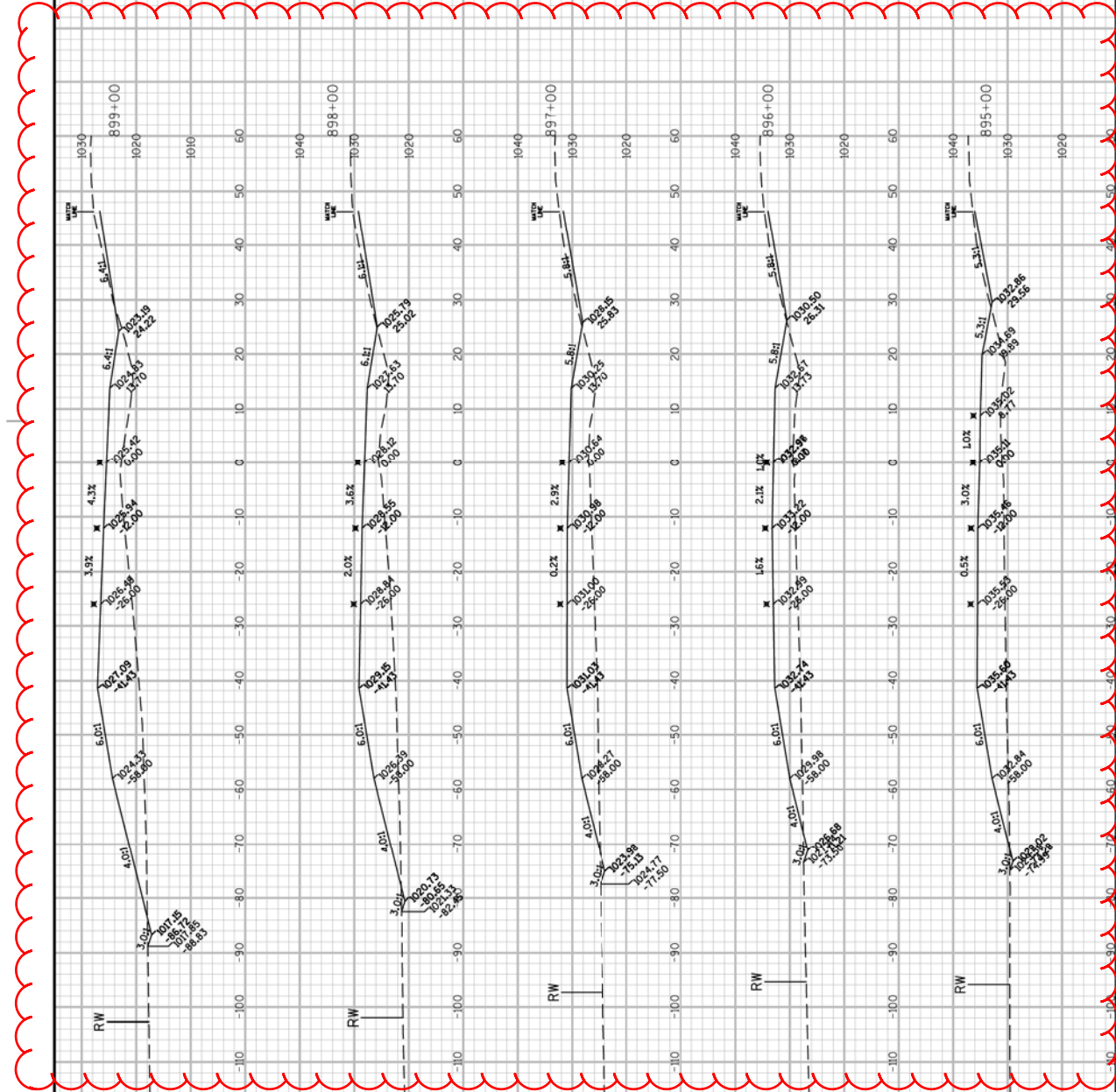








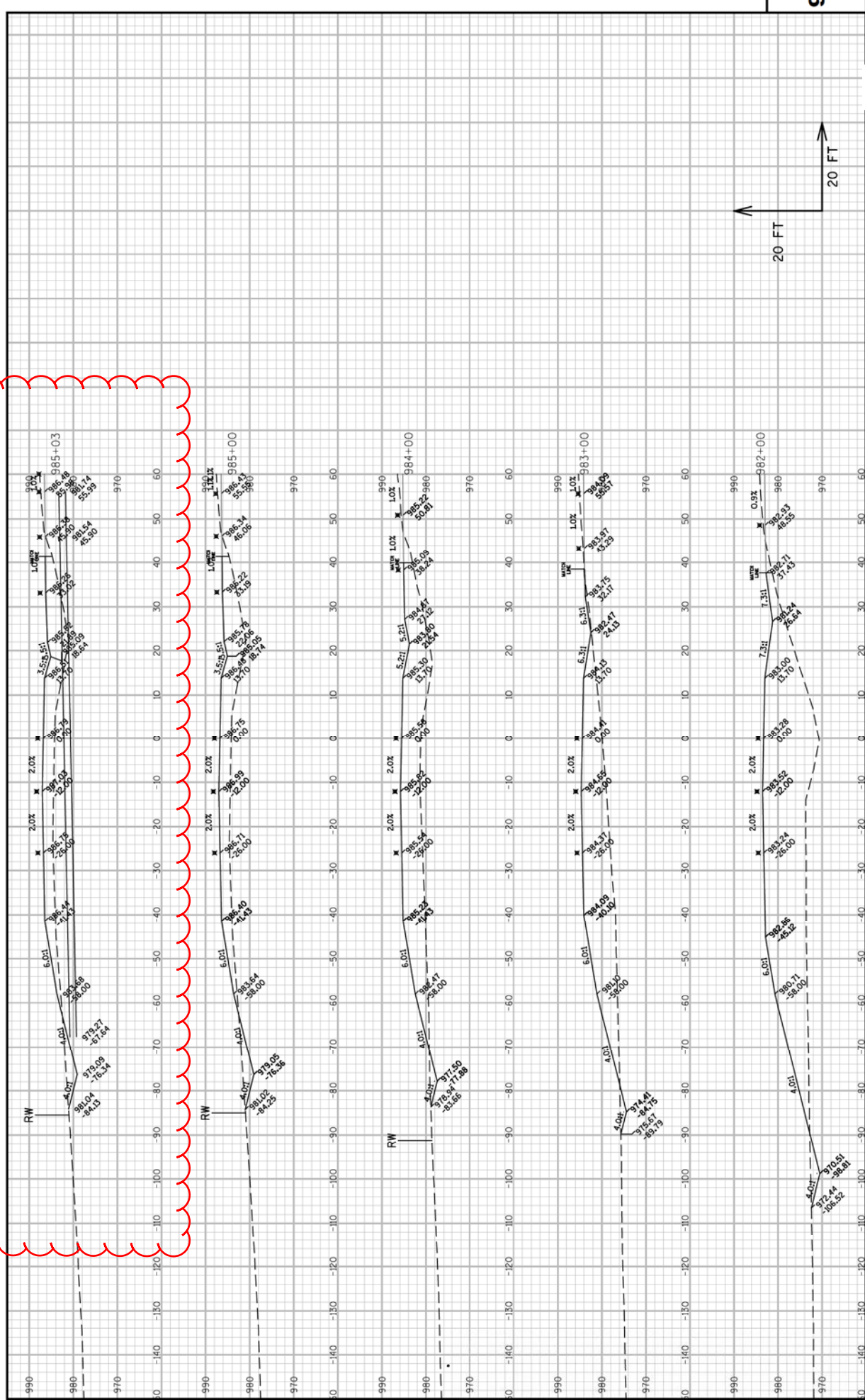


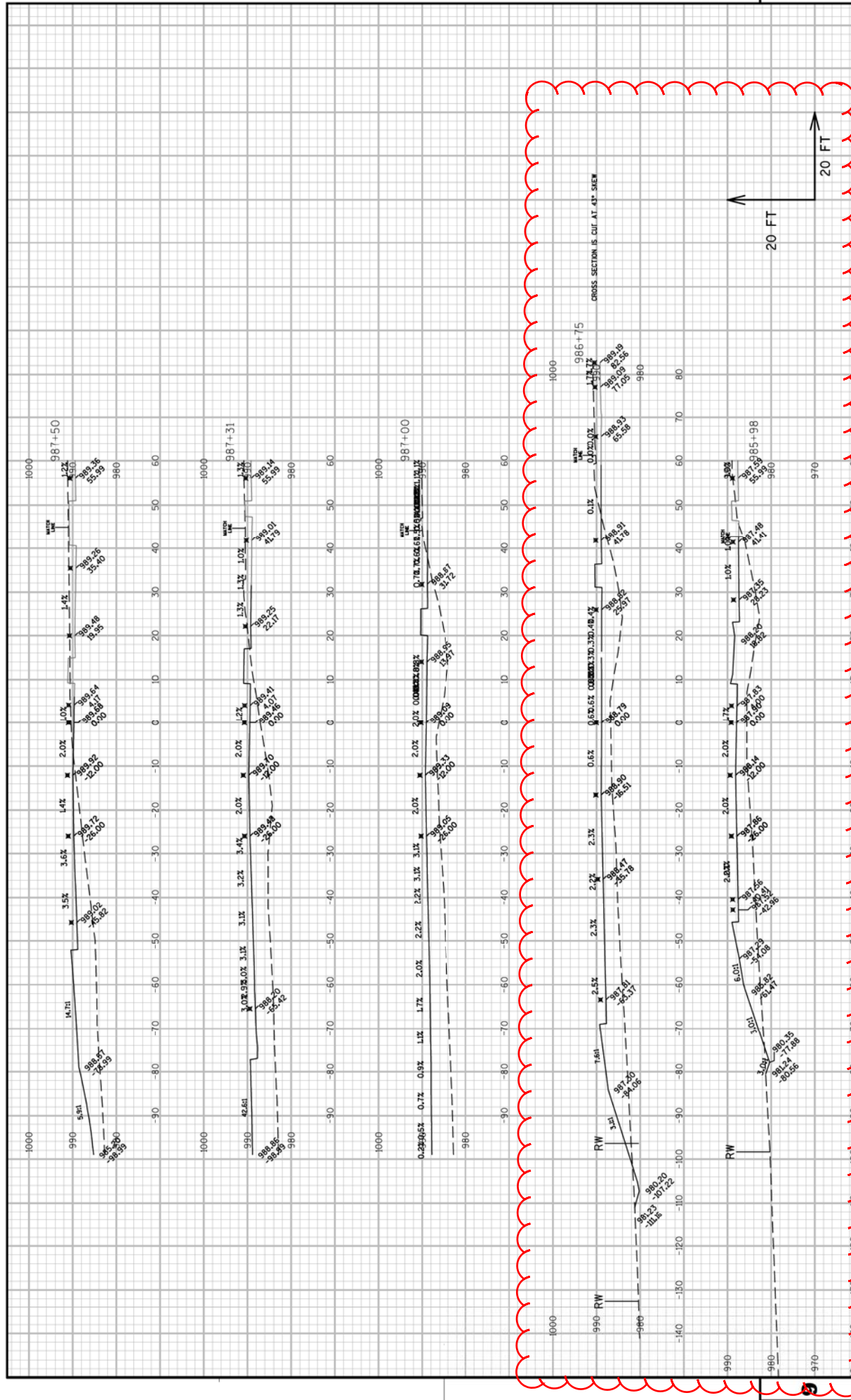


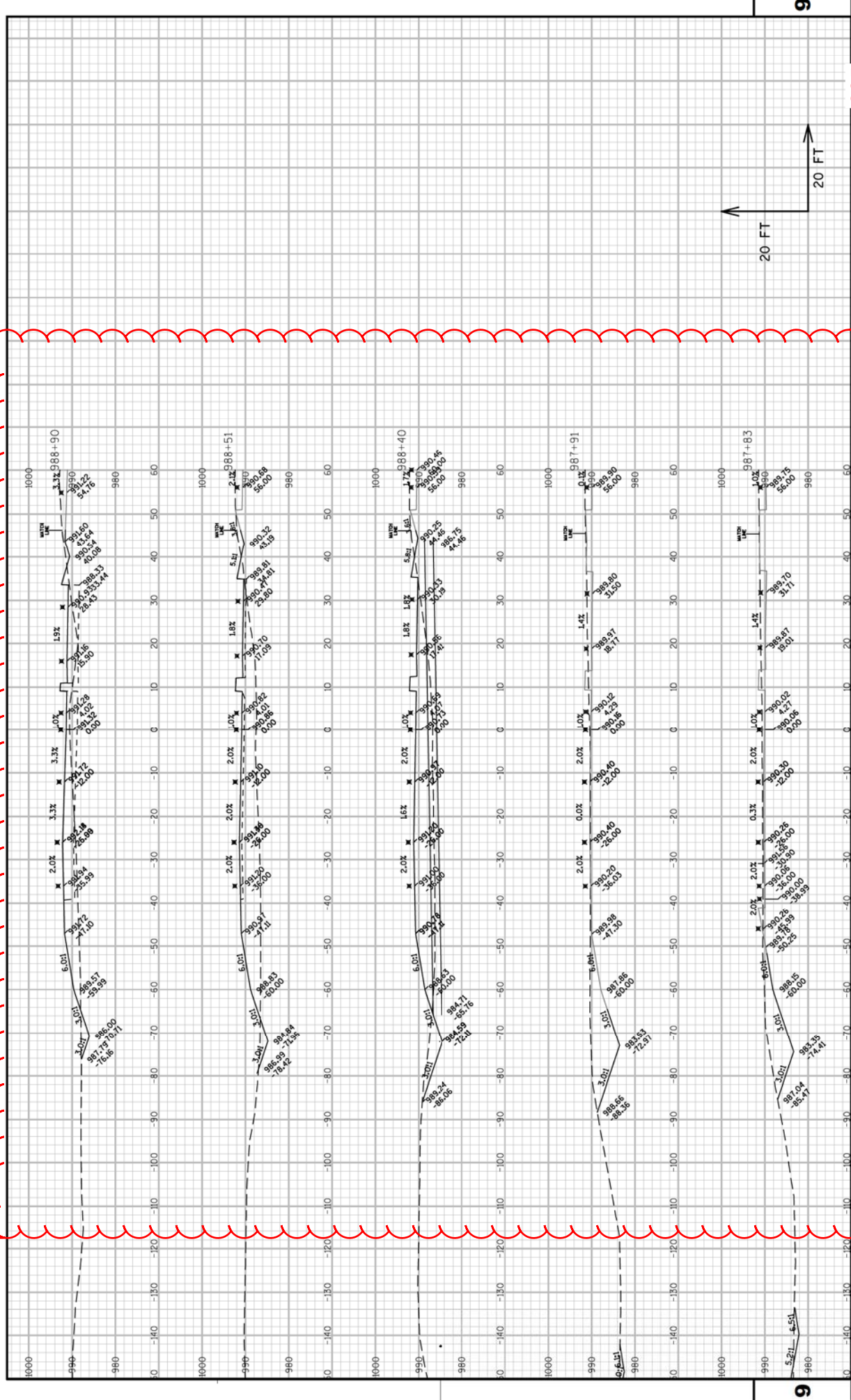
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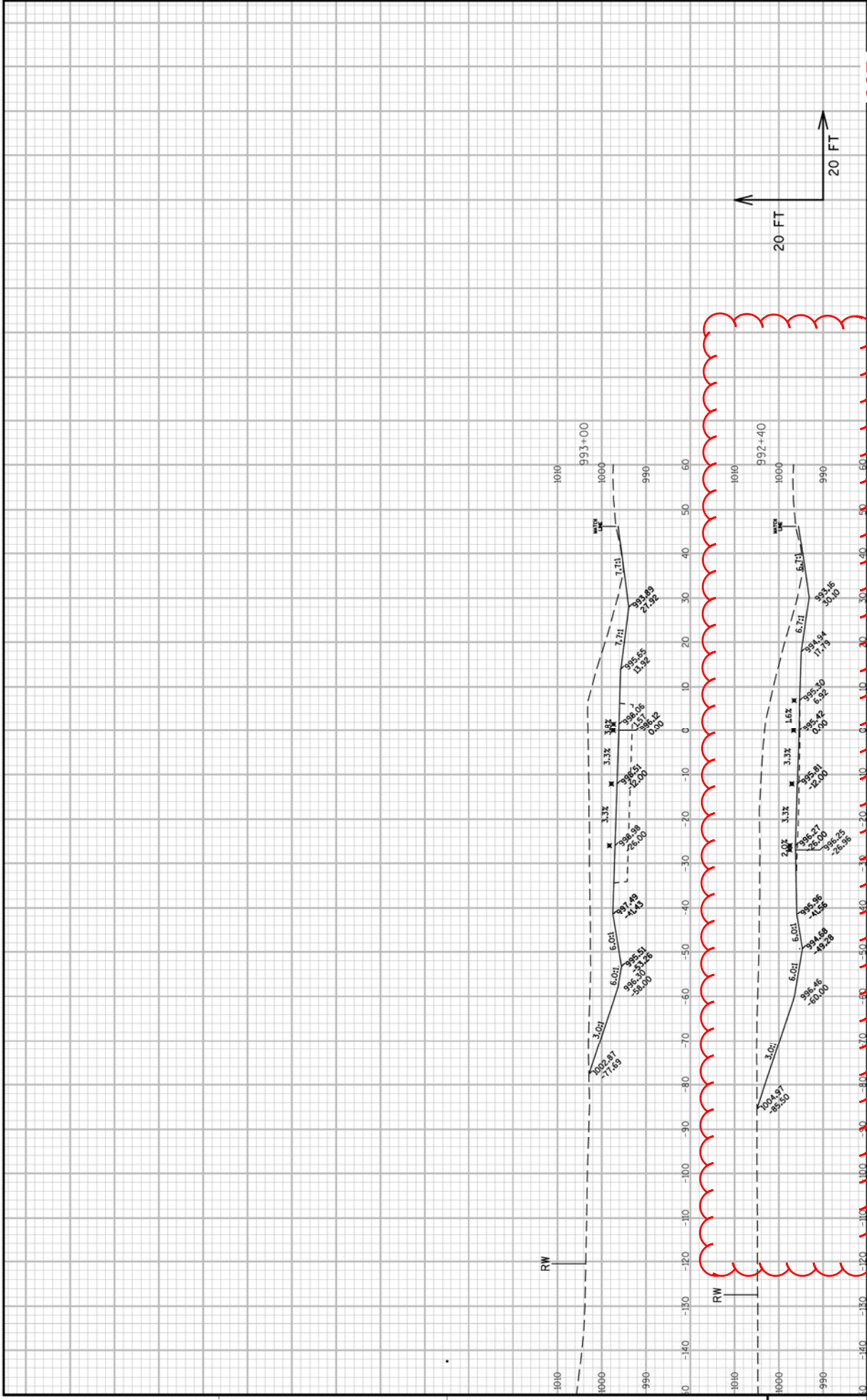


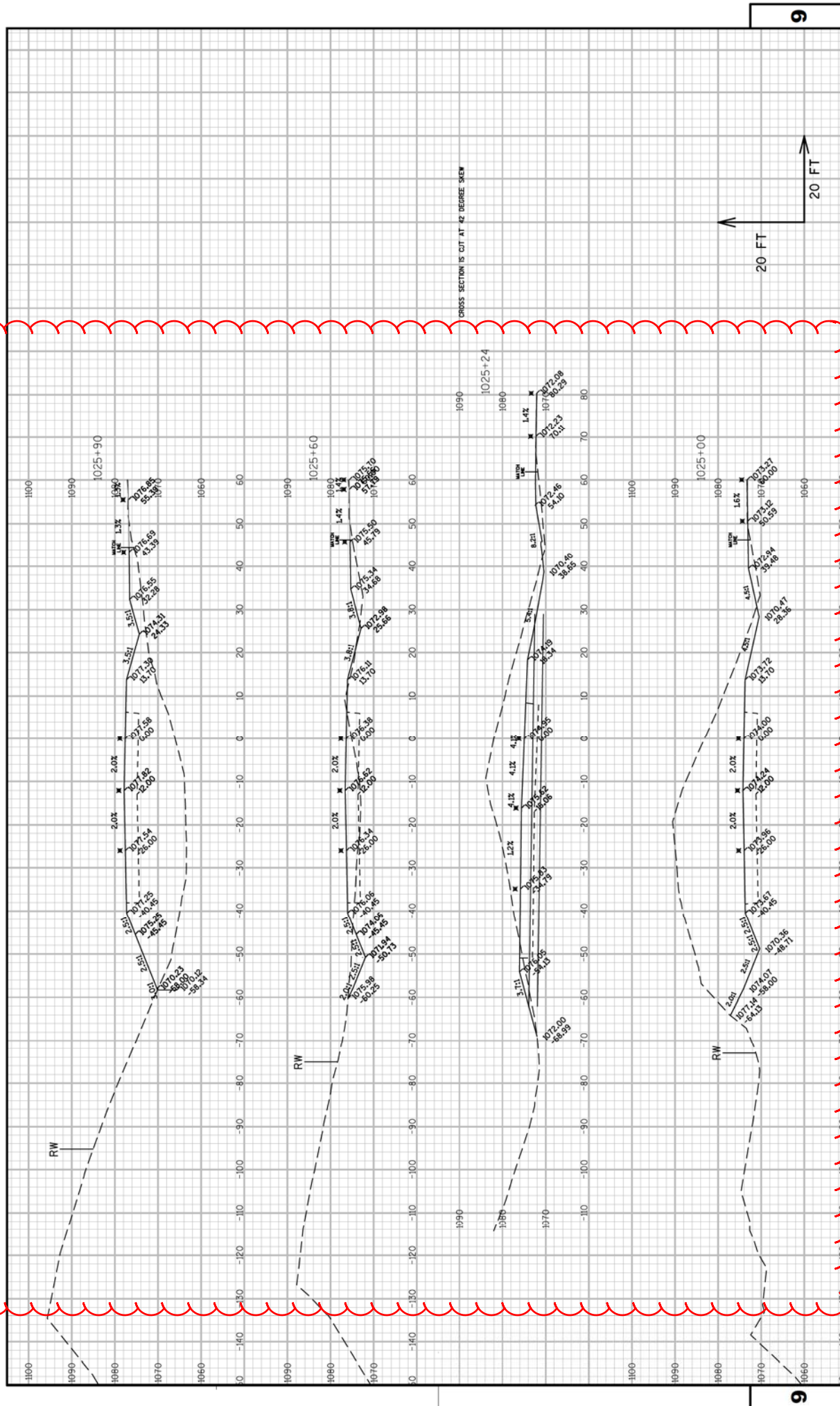


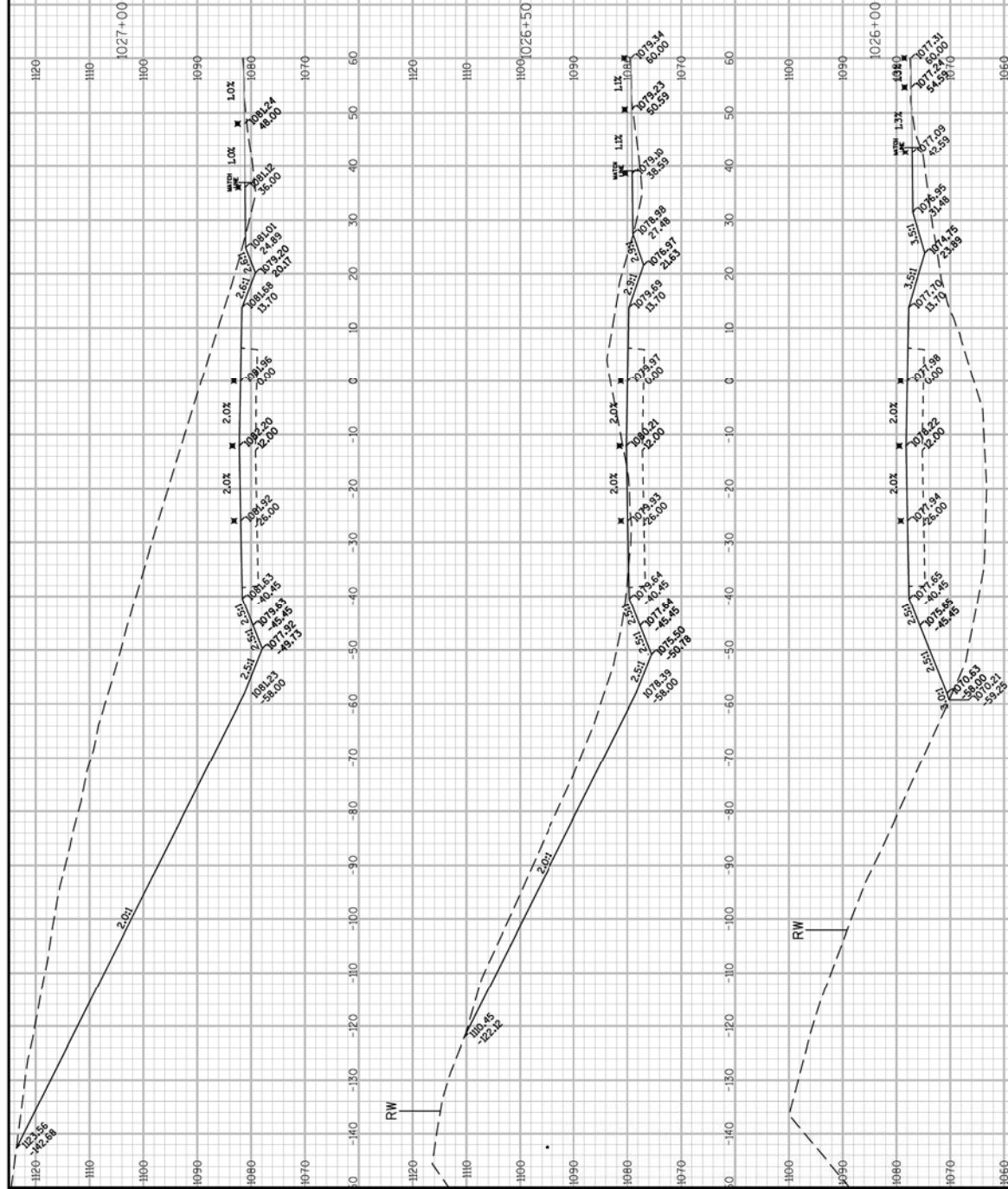






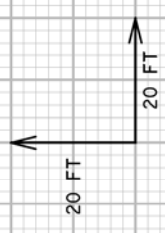




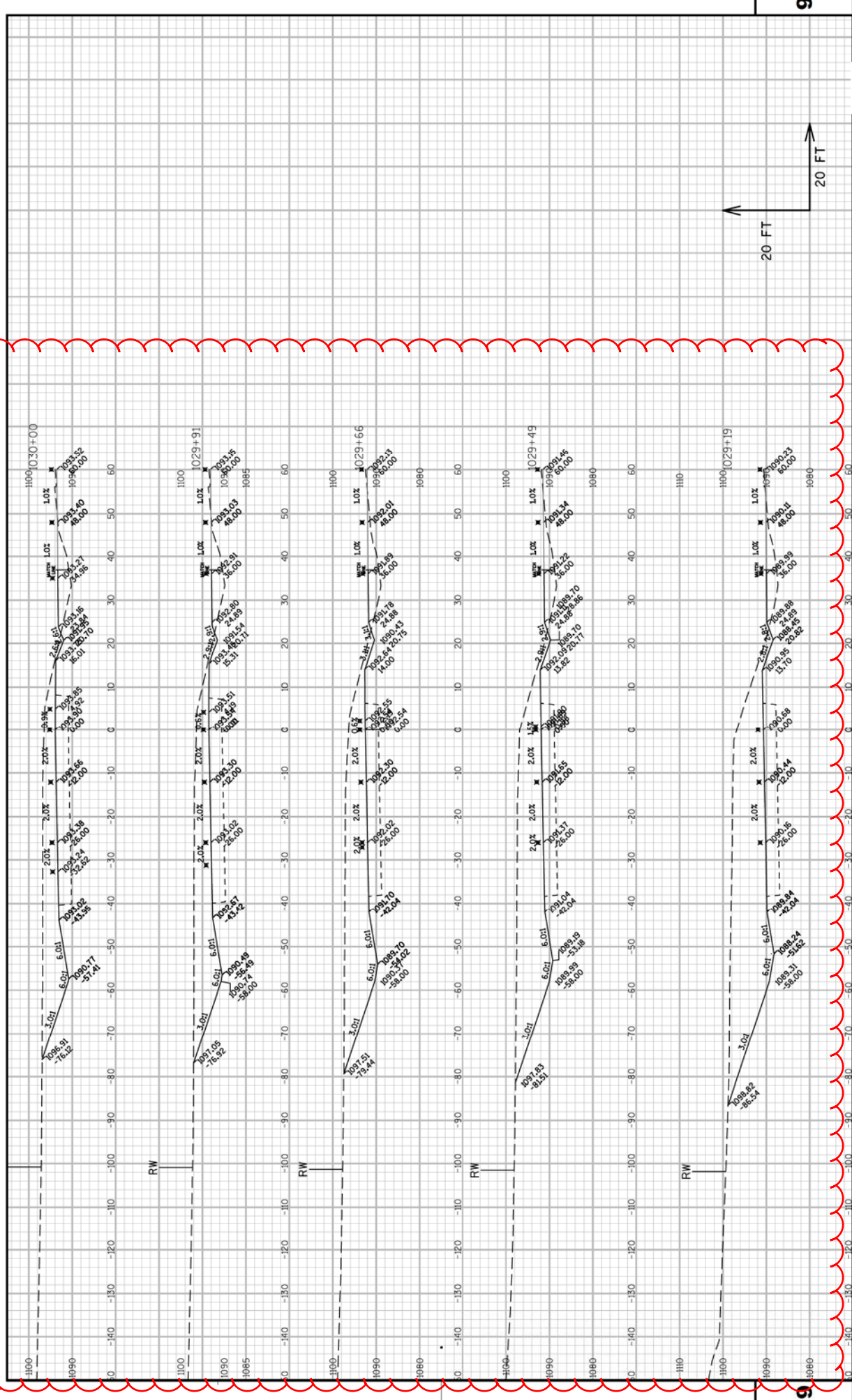


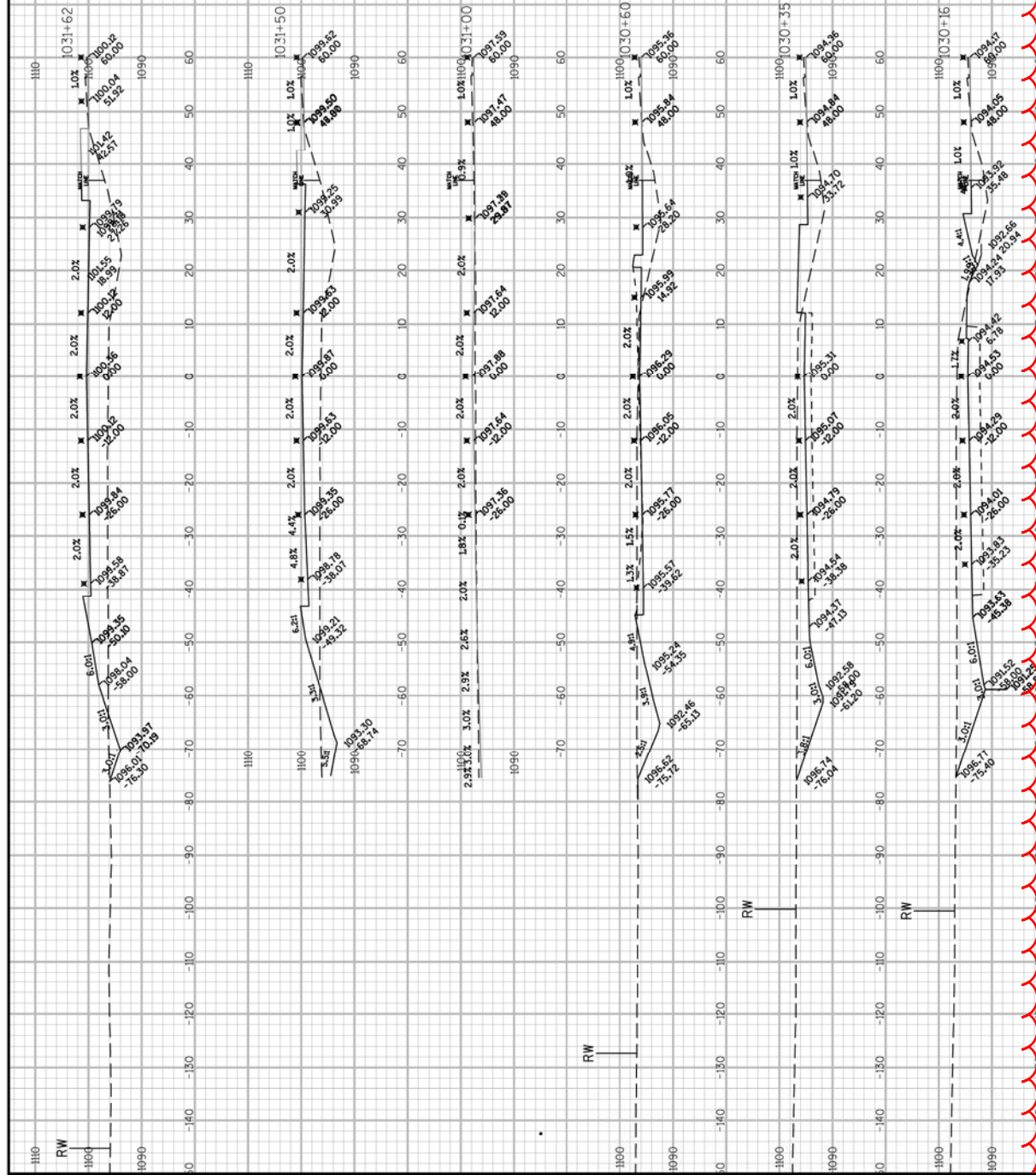
PROJECT No. 440-15-1  
COUNTY: SHEBOYGAN  
CROSS SECTIONS: WESTBOUND  
RW: 5TH 23

FILE NAME: I:\N:\POS\G3D\4401301\DESIGN\XSECTIONS\4401371.XS.11.DWG  
PLOT DATE: 2/24/2015 10:07 AM  
PLOT BY: MAY, MATTHEW J  
PLOT NAME: WISDOT/CADD SHEET 49









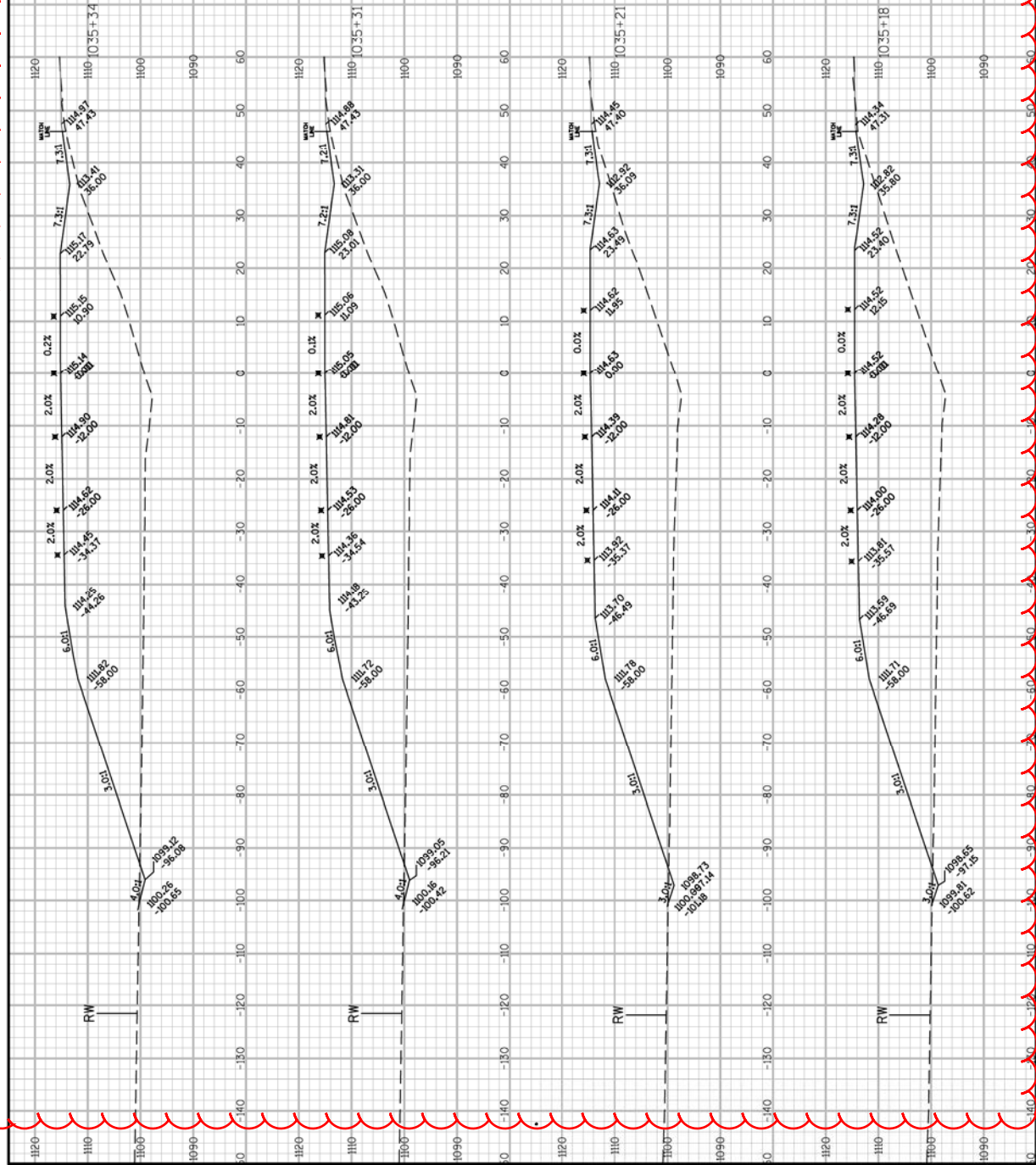
PROJECT NO: 1440-13-71 HWY: STH 23 CROSS SECTIONS: WESTBOUND

FILE NAME: I:\N\POS\GSD\14401301\DESIGN\SECTION\14401371.XS.11.DWG PLOT DATE: 2/24/2015 10:09 AM PLOT BY: MAY, MATTHEW J PLOT NAME: WISDOT/CADD SHEET 49









PROJECT NO: 1440-13-71

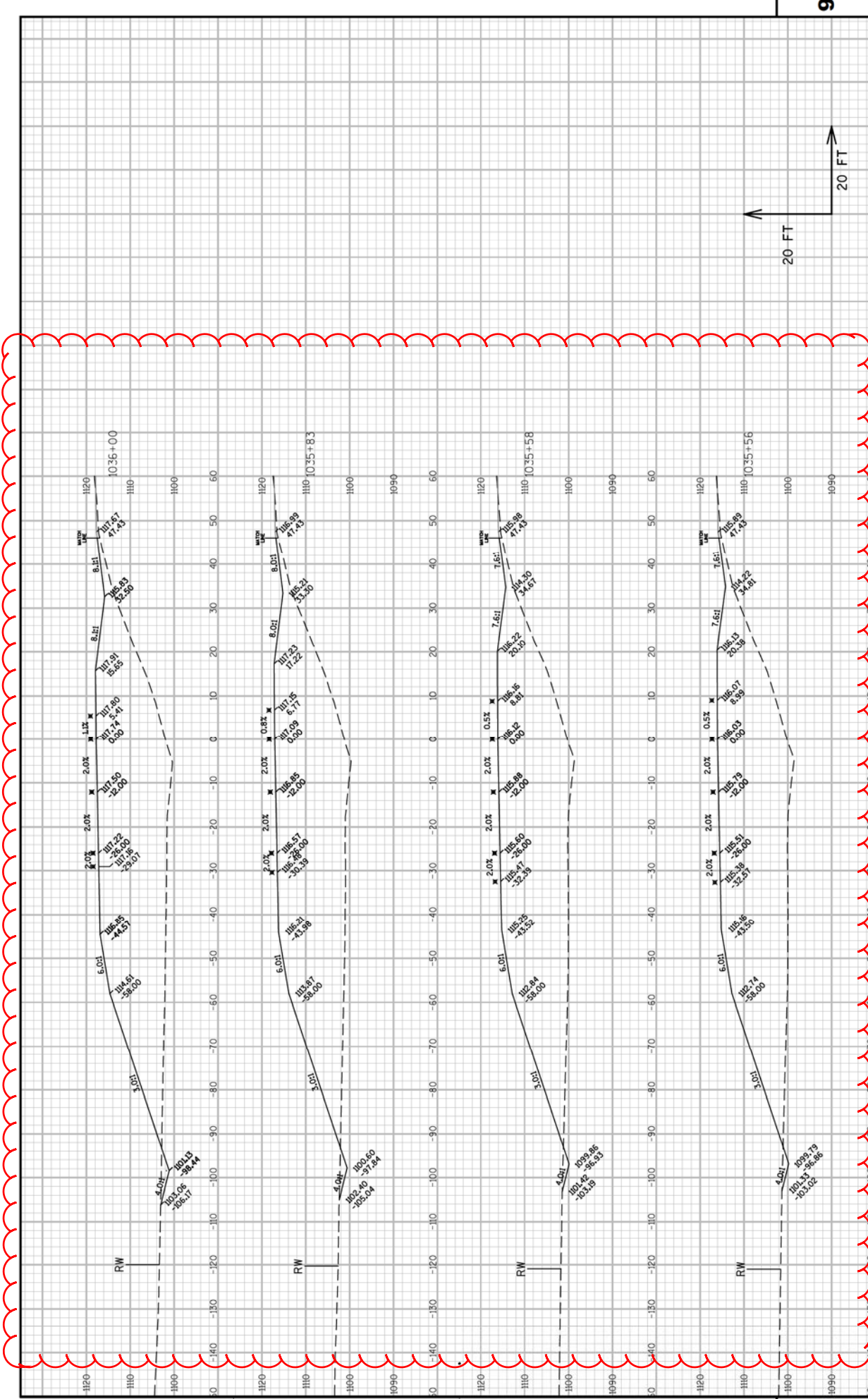
HWY: STH 23

COUNTY: SHEBOYGAN

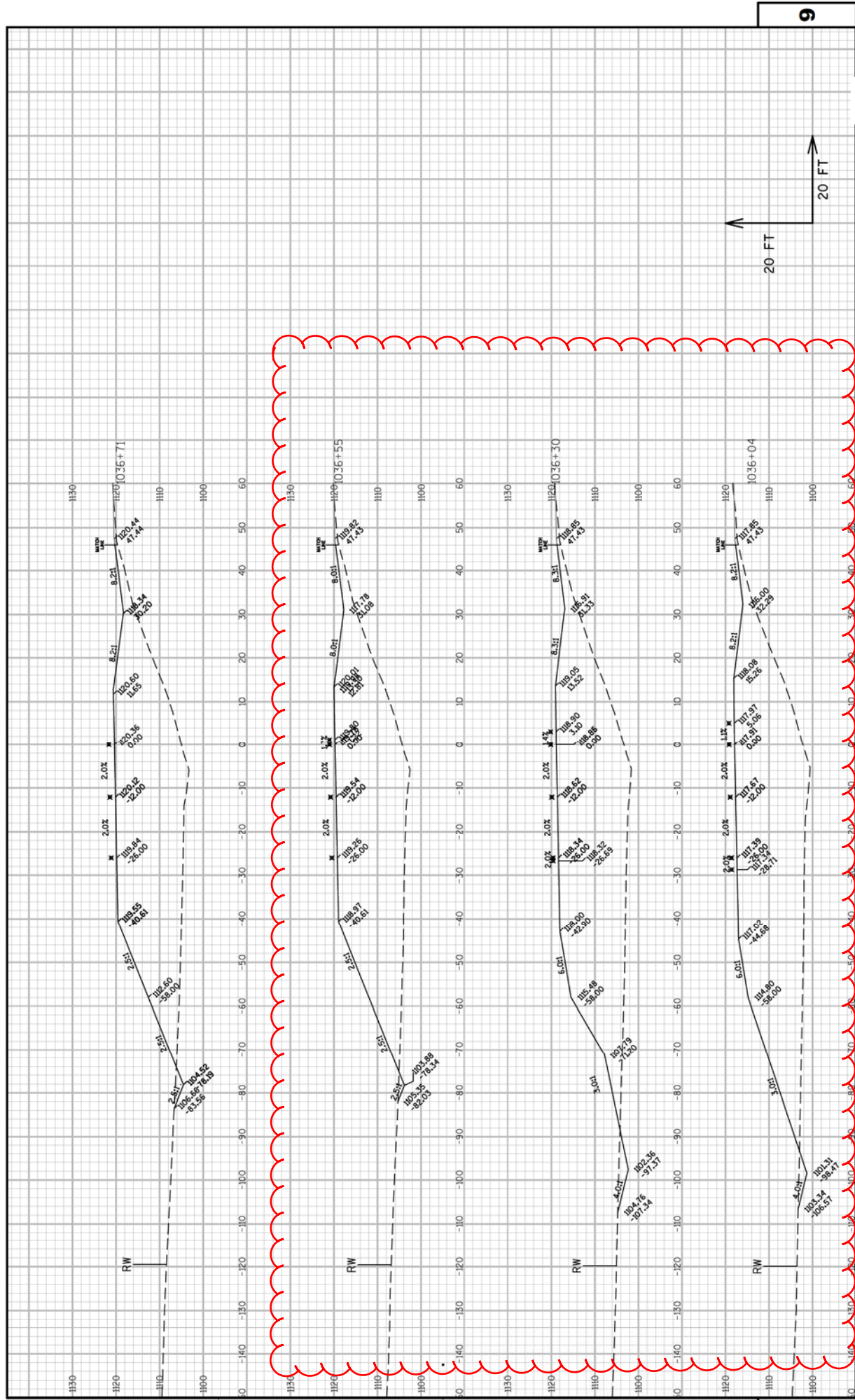
CROSS SECTIONS: WESTBOUND

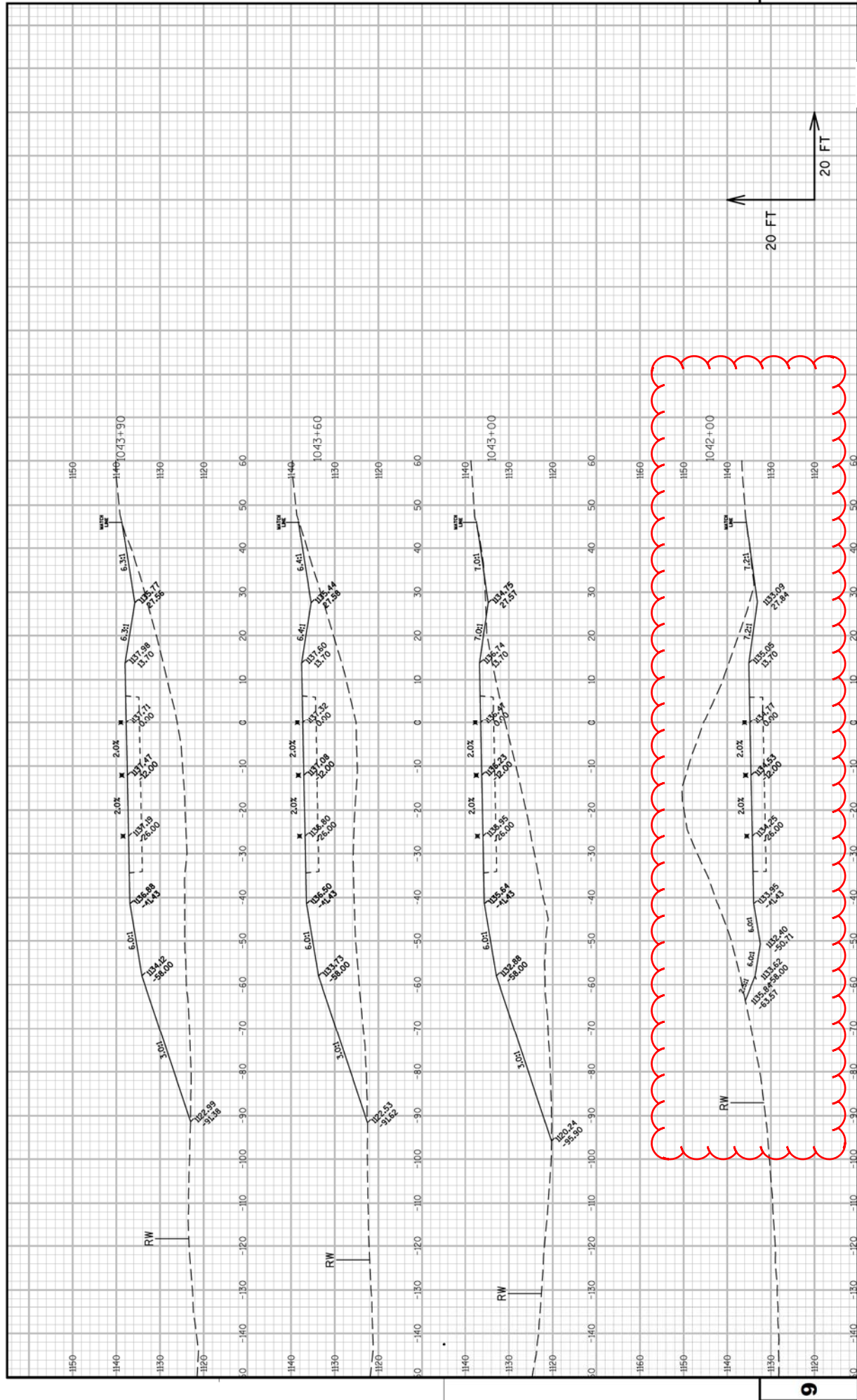
SHEET 408

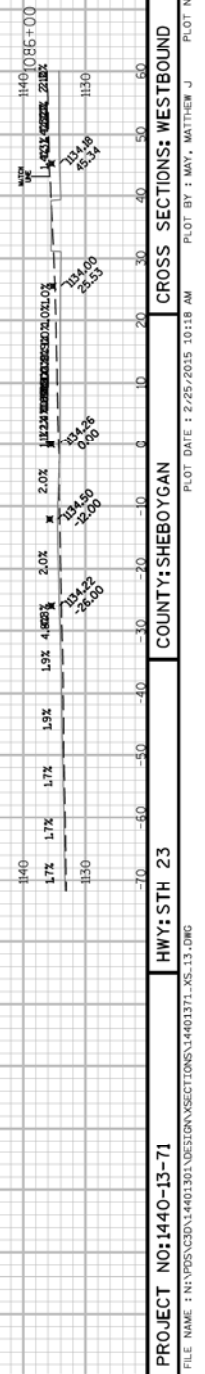
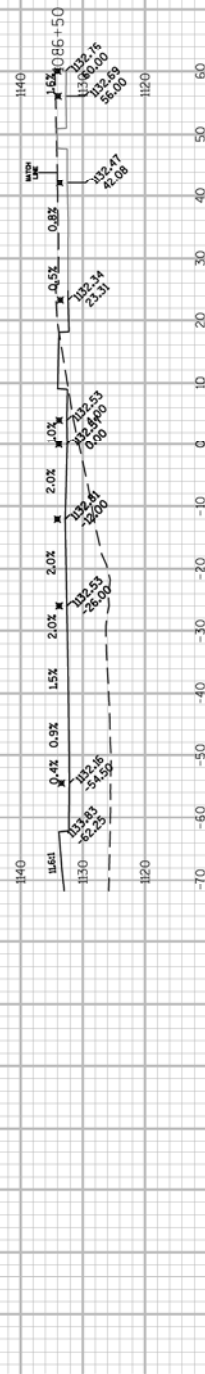
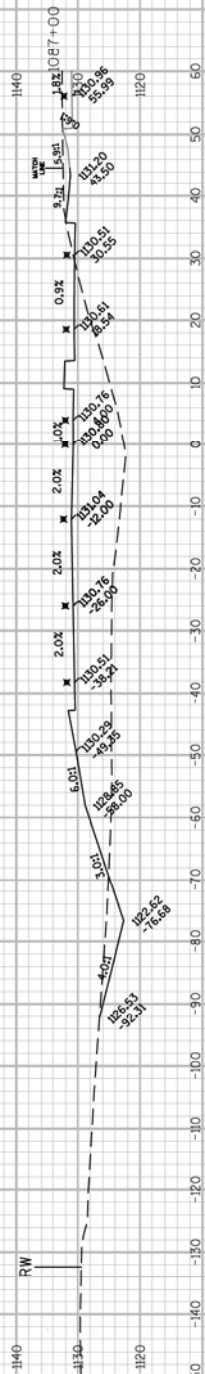
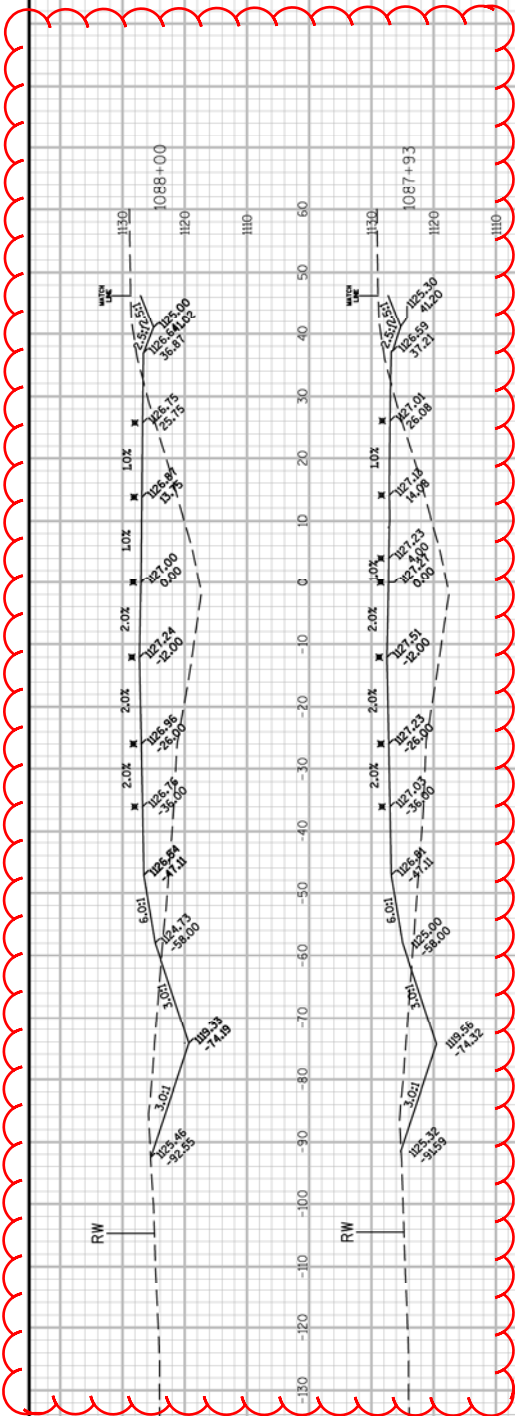
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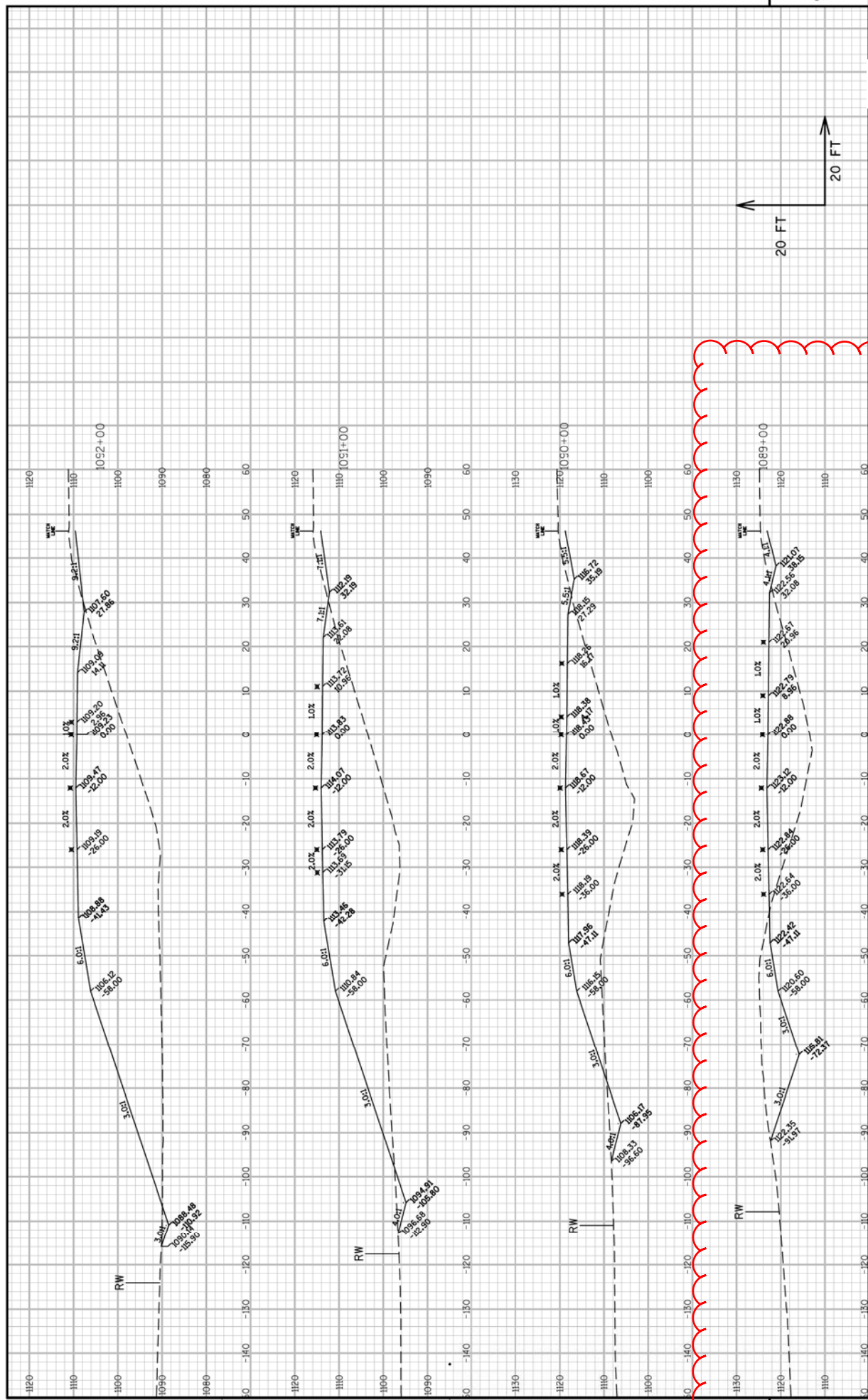


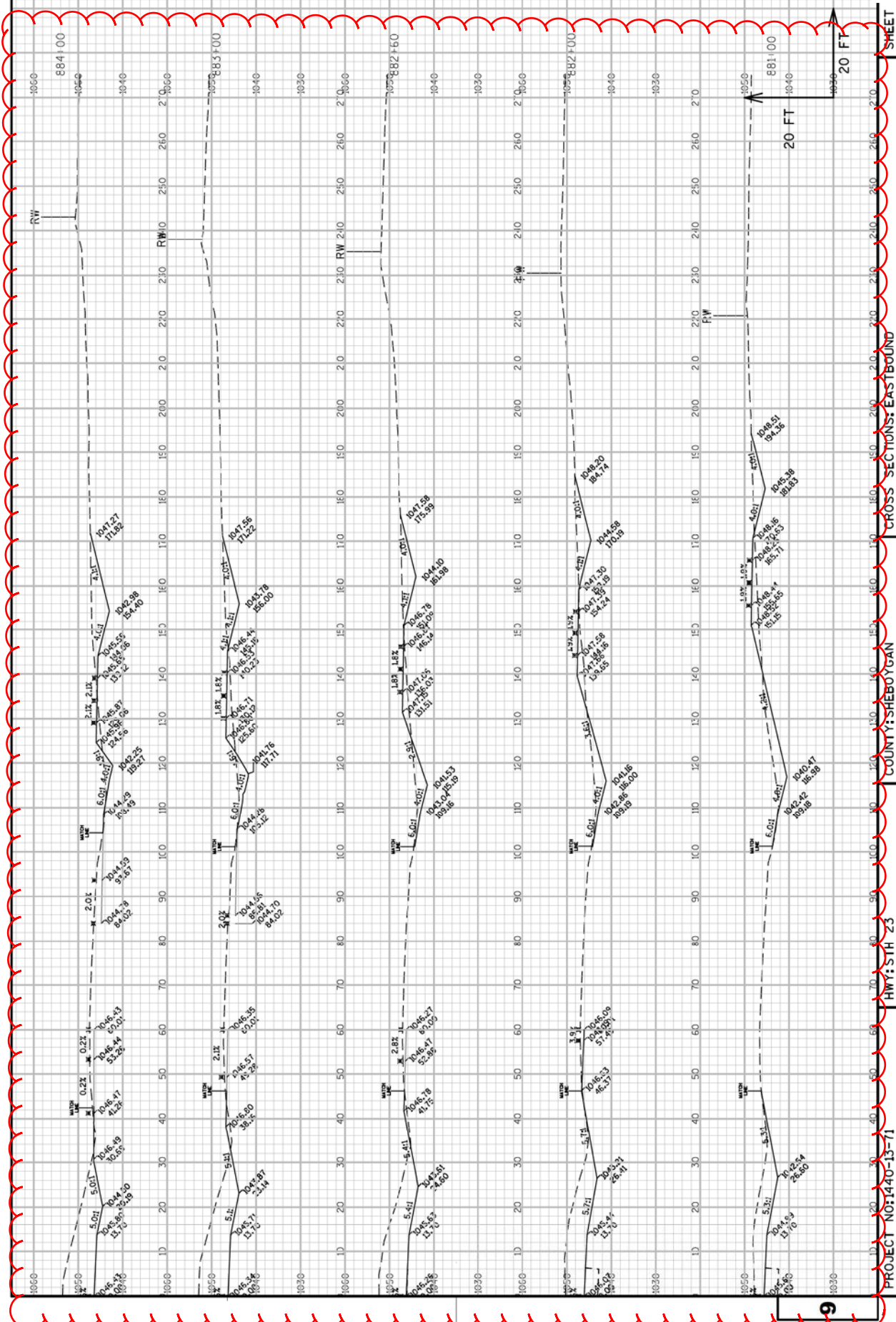
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20 FT  
20 FT

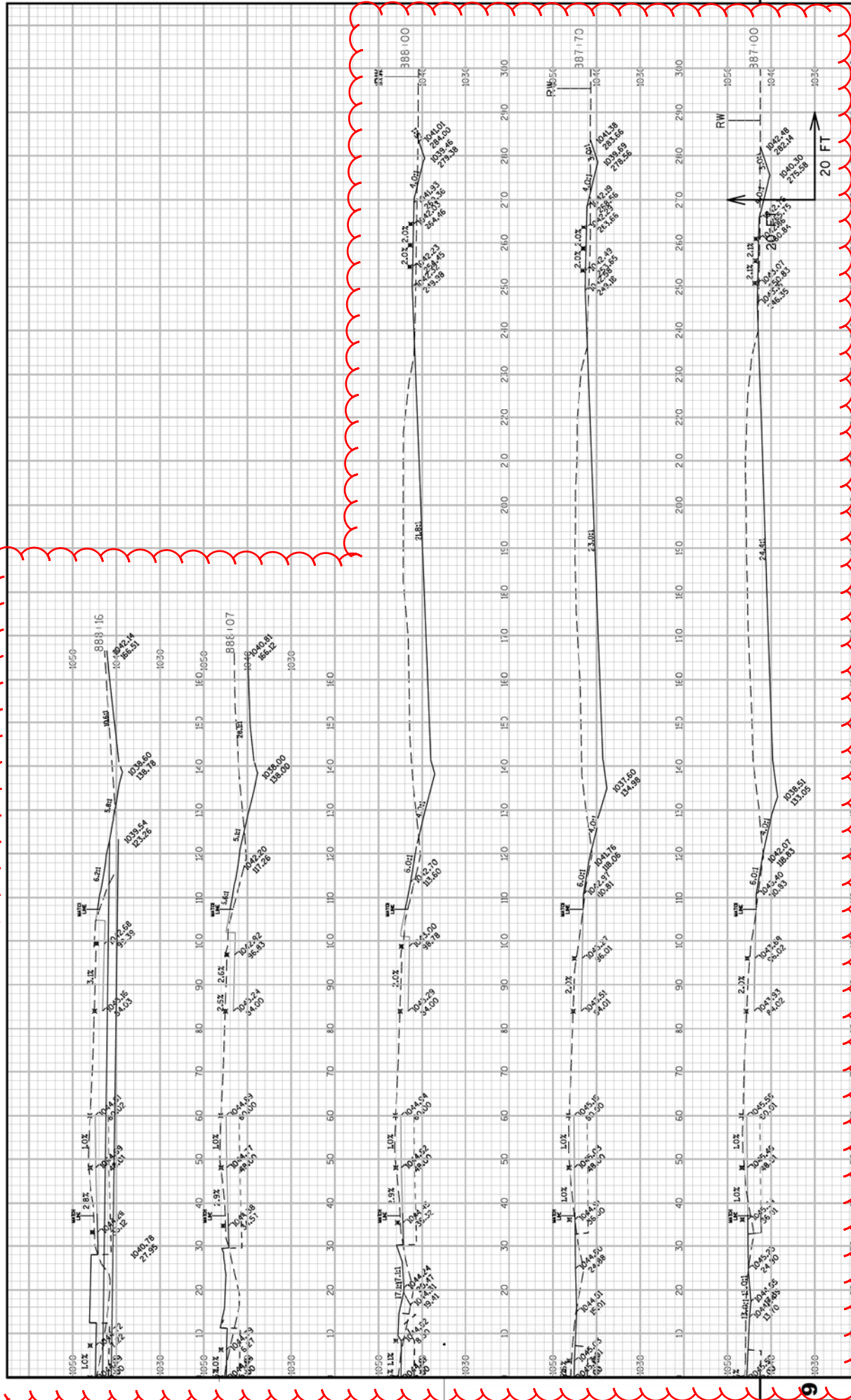


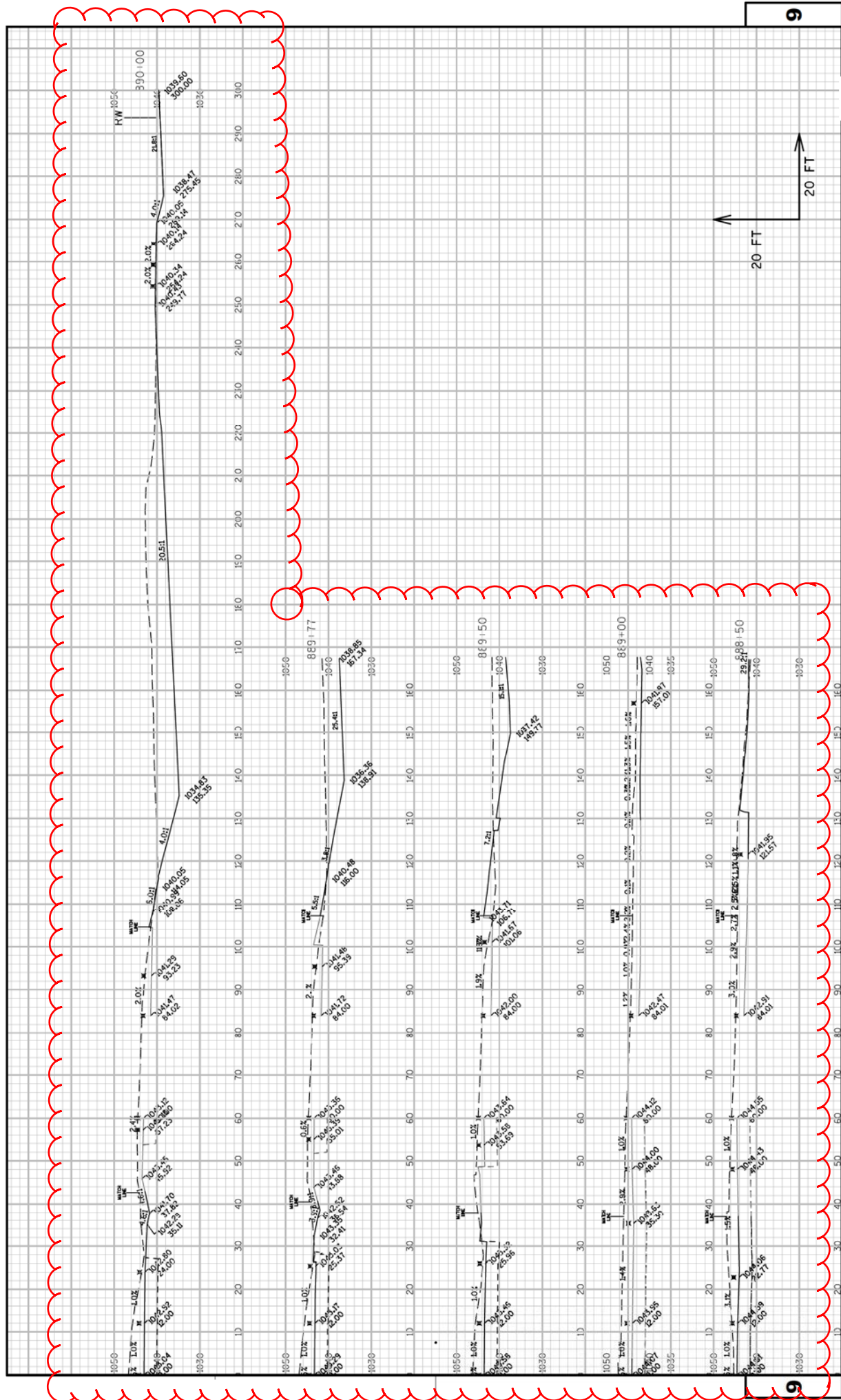


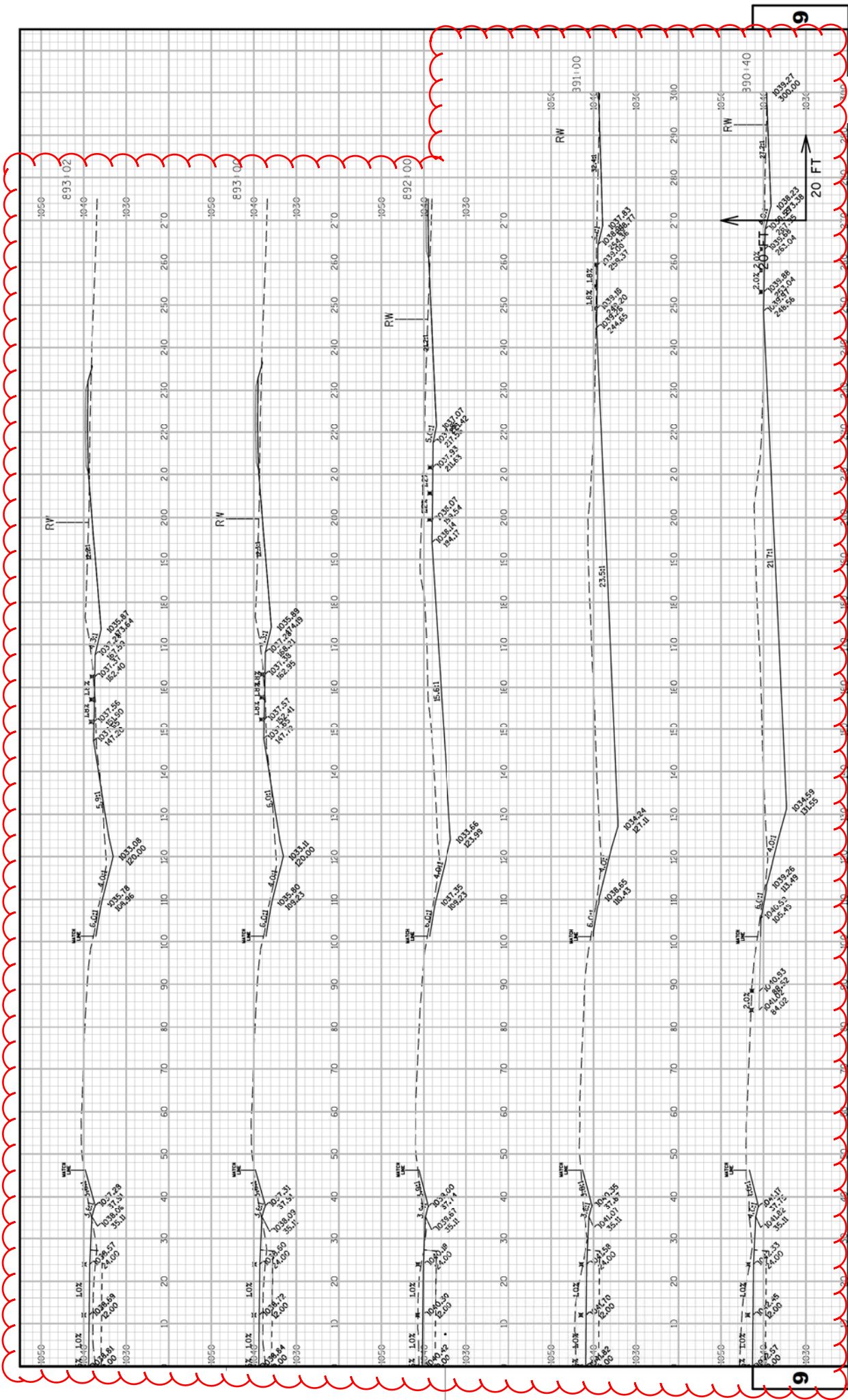




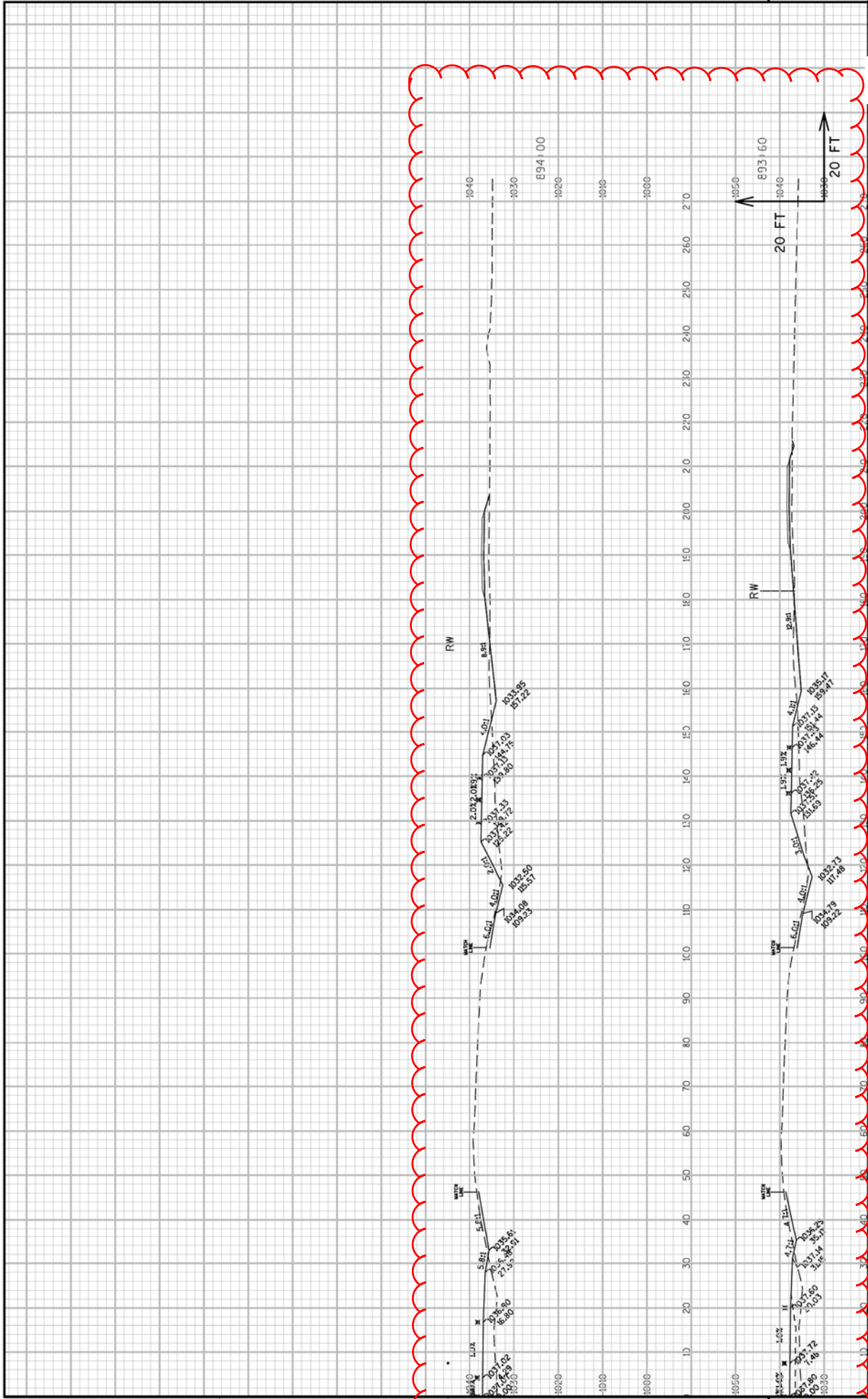


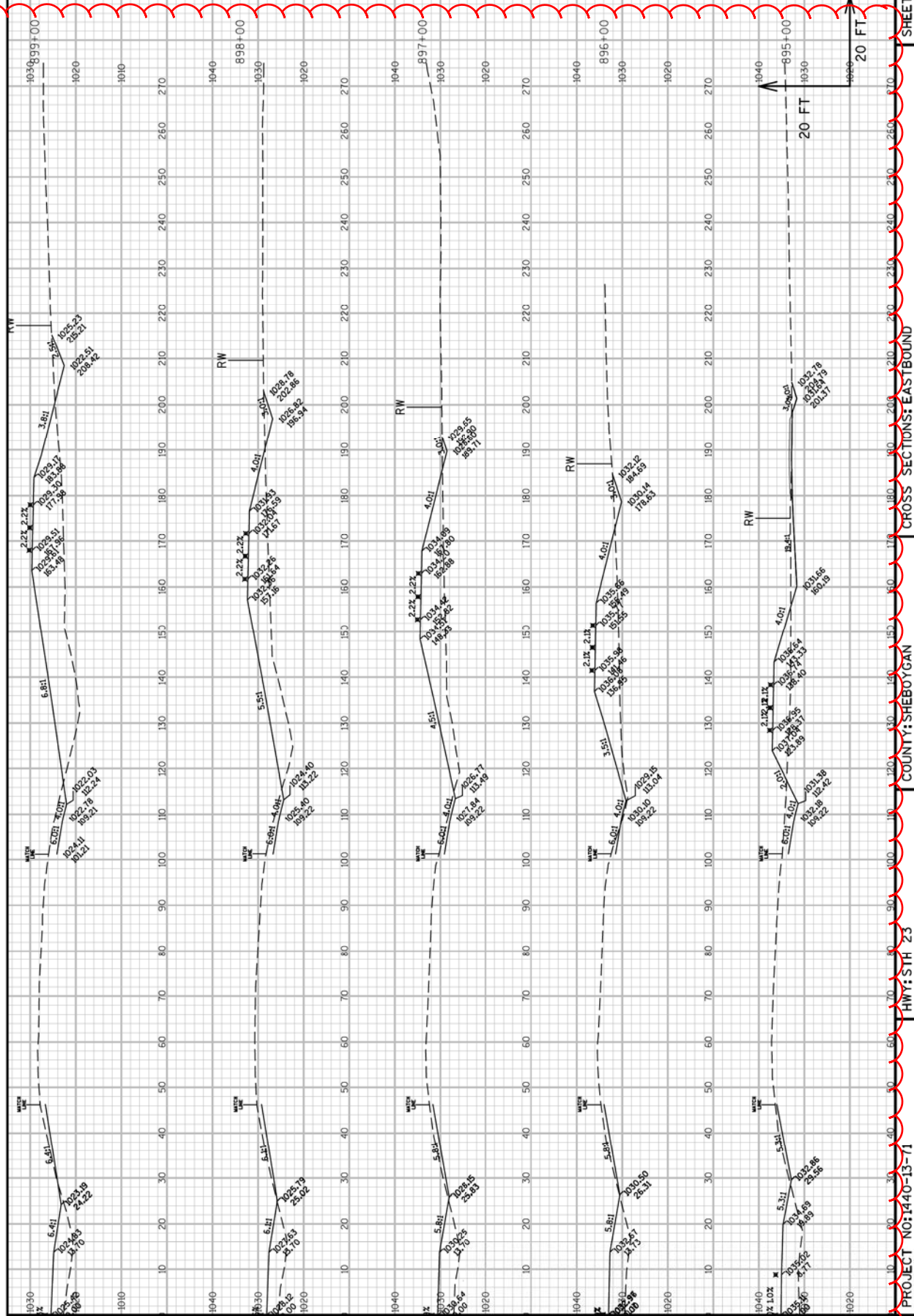


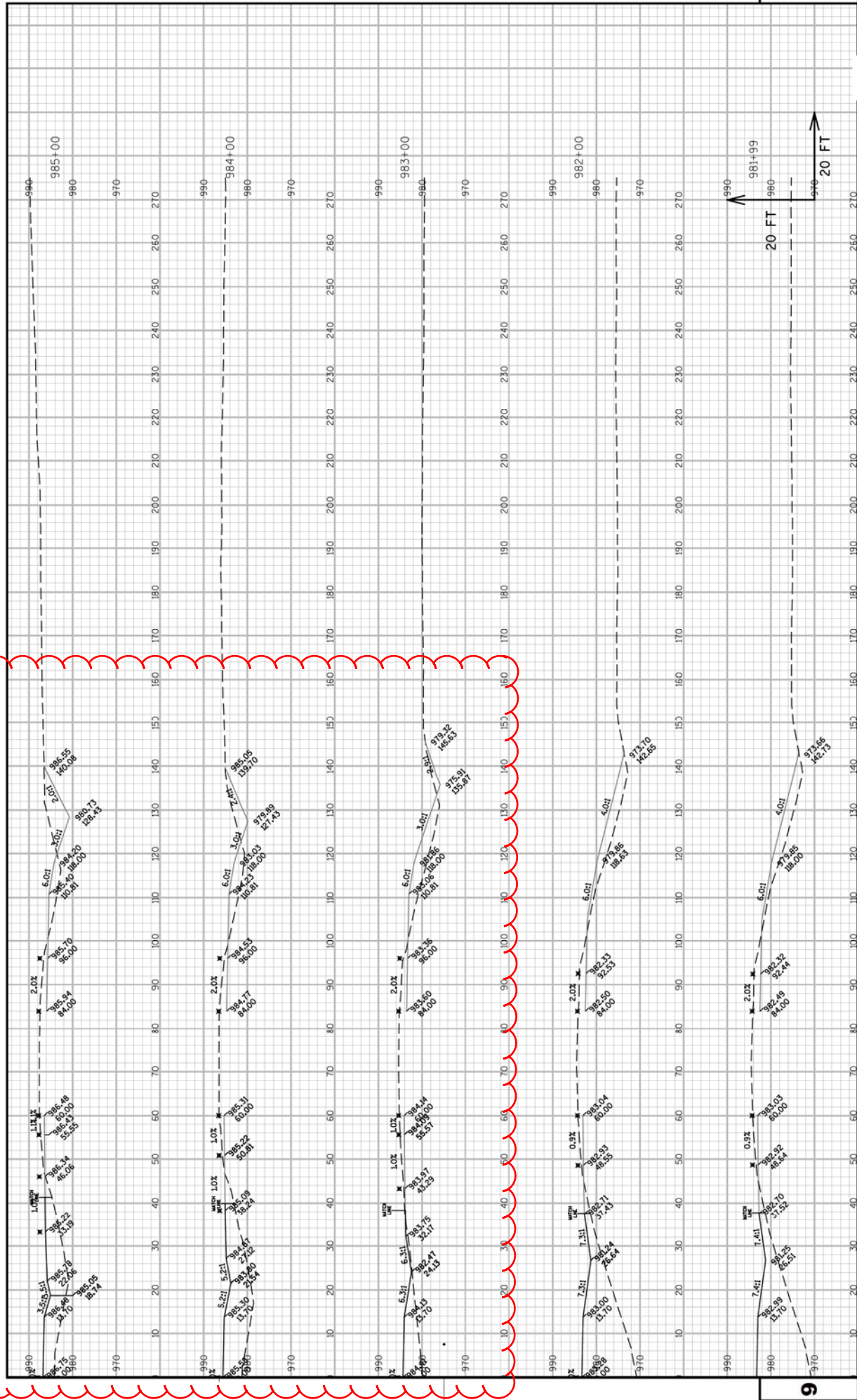






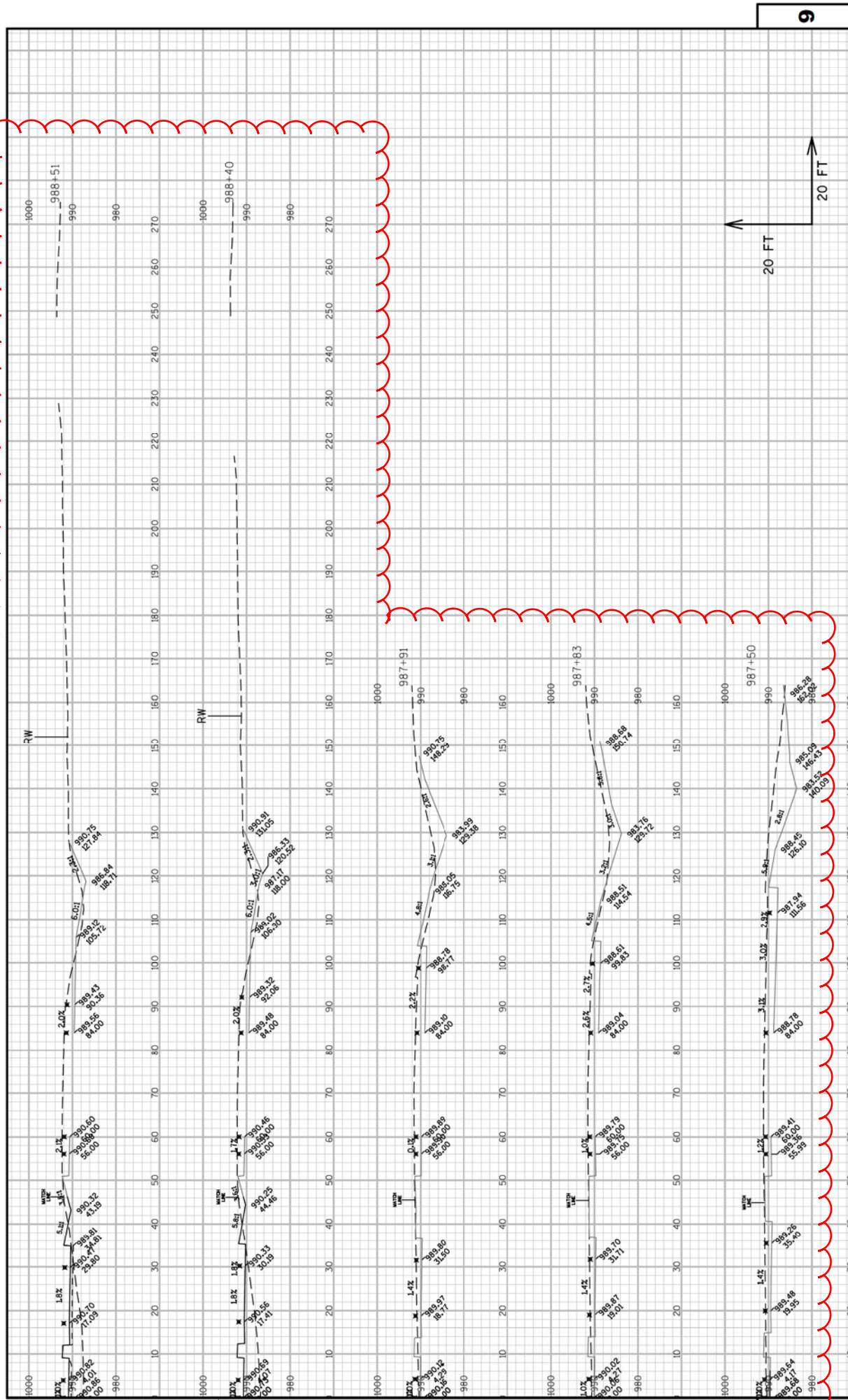


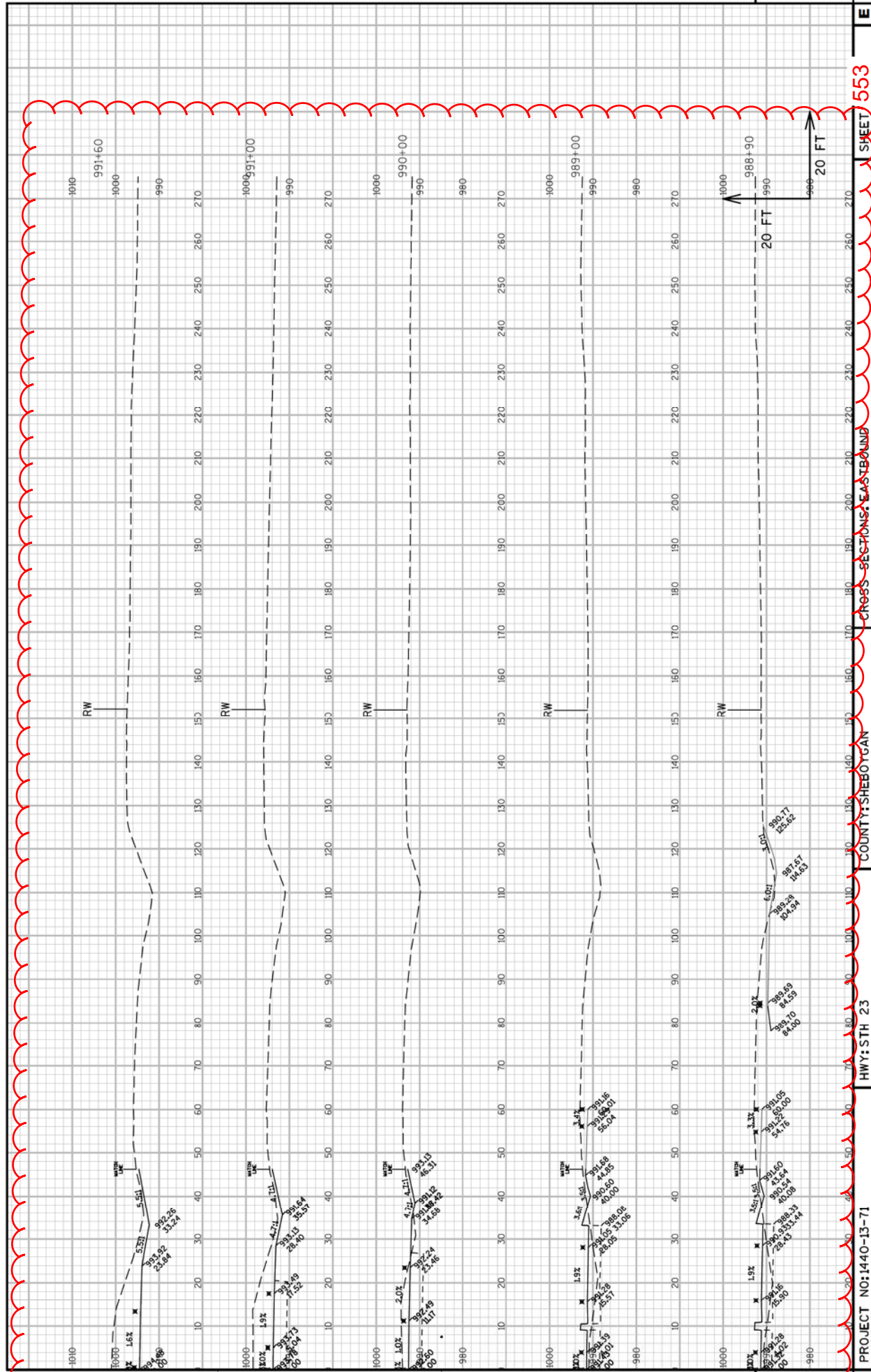












553

SHEET

CROSS-SECTIONS EASTBOUND

COUNTY: SHERBOURNE

HWY: STH 23

PROJECT NO: 1440-13-71

FILE NAME: I:\N:\POS\3030\1440\1301\DESIGN\XSECTION\14401371.XS.09.DWG

PLOT DATE: 2/24/2015 2:35 PM

PLOT BY: MAY, MATTHEW J

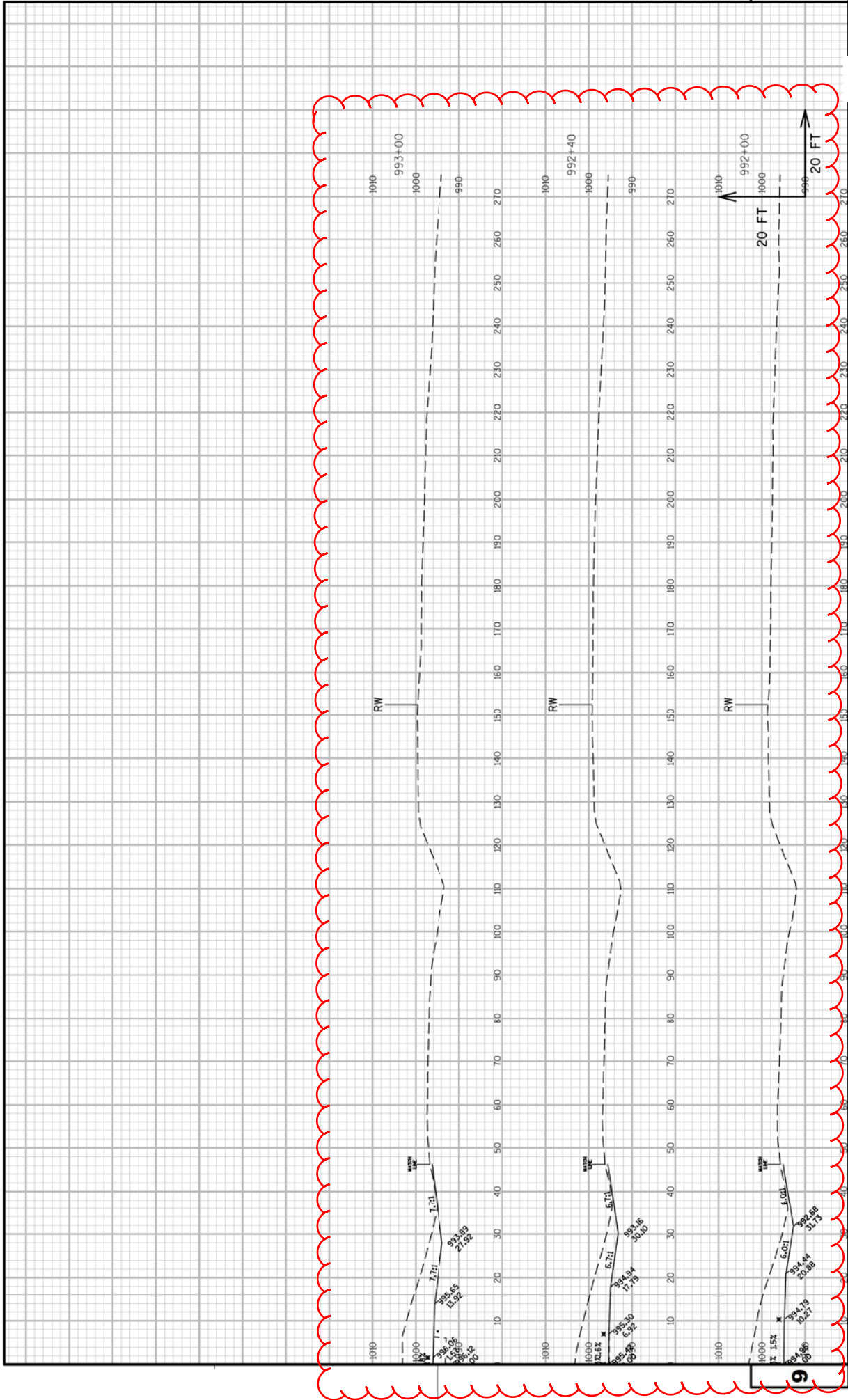
PLOT NAME:

PLOT SCALE: 1:120.XREF

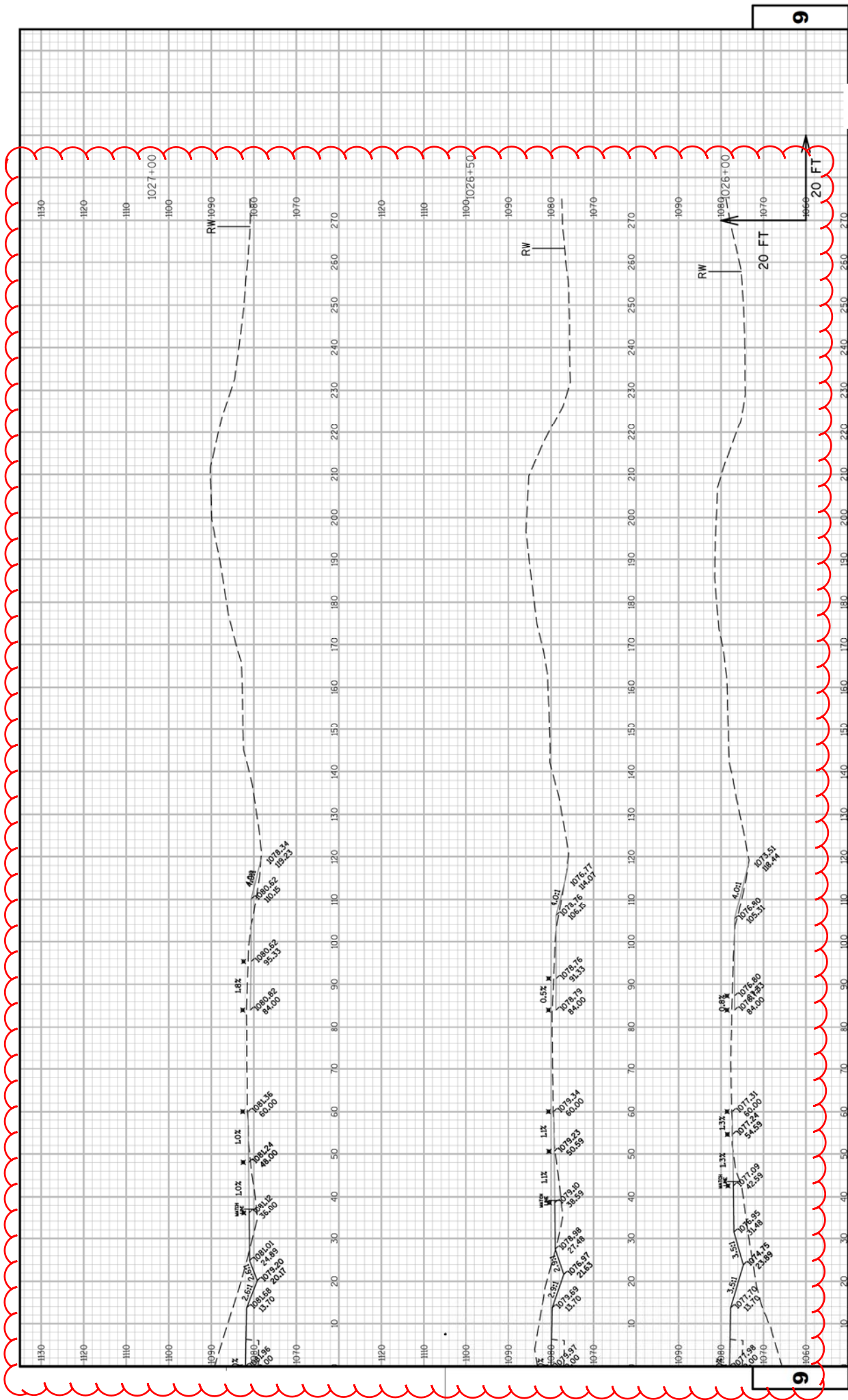
WISDOT/CADD SHEET 49

E



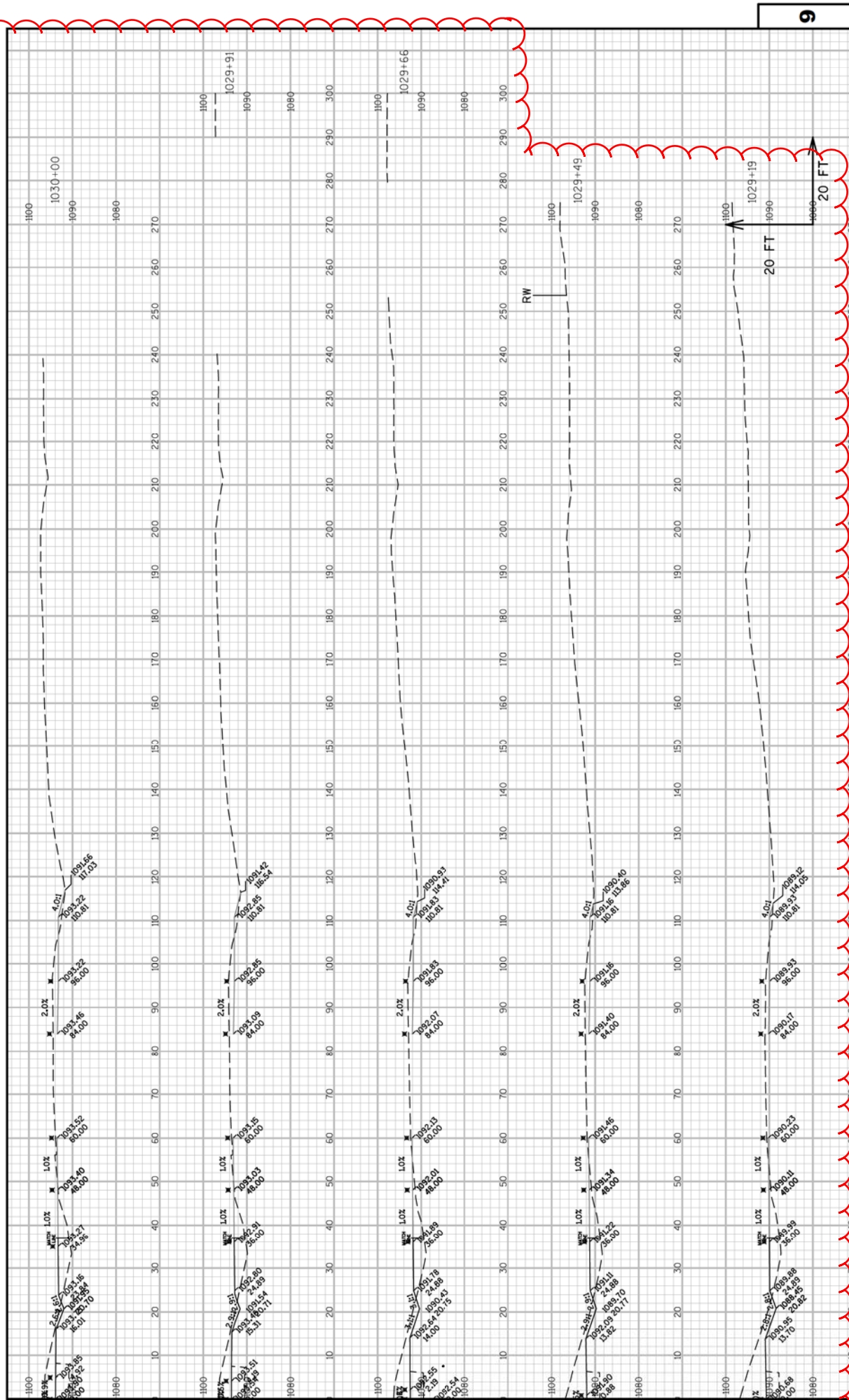


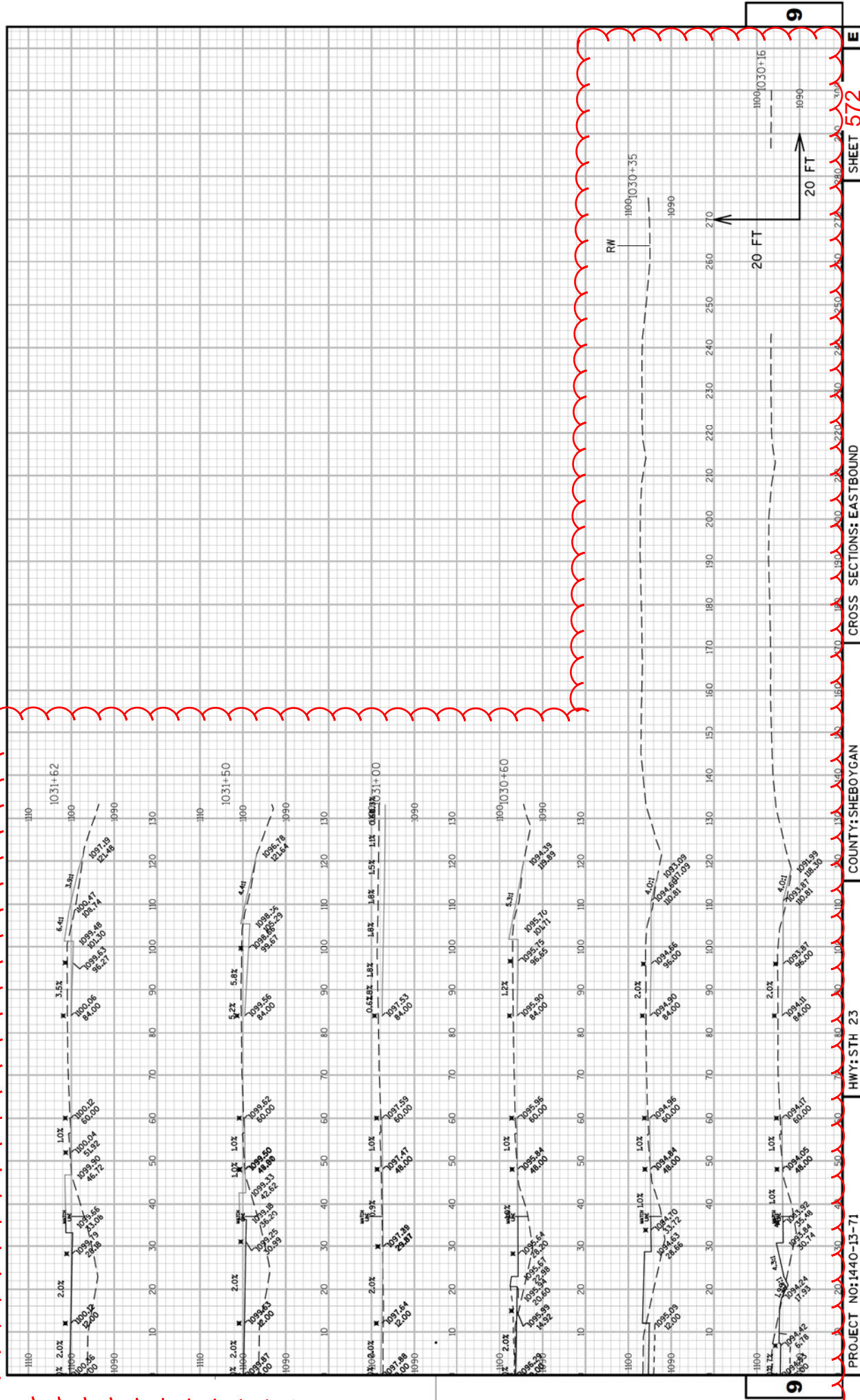




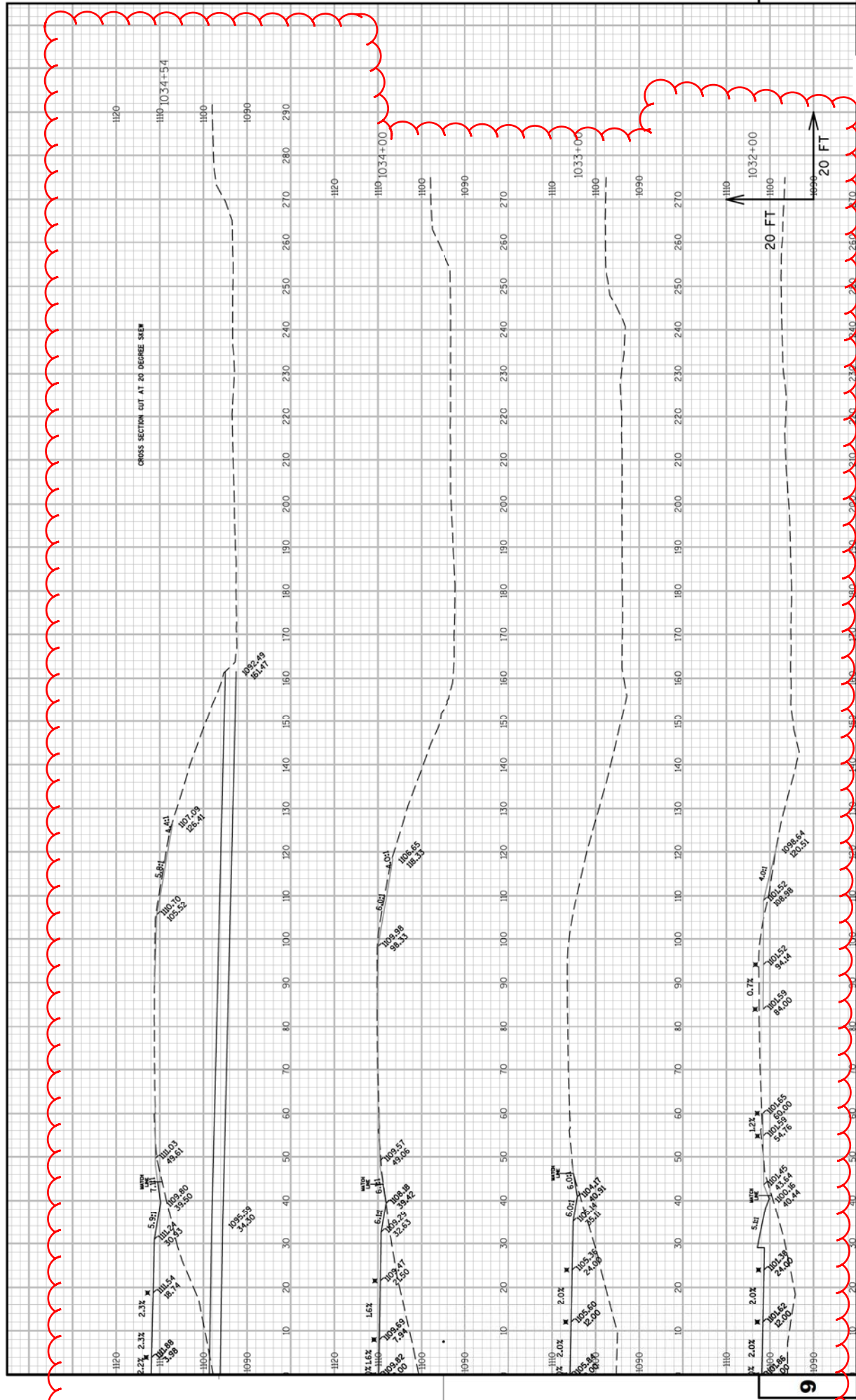


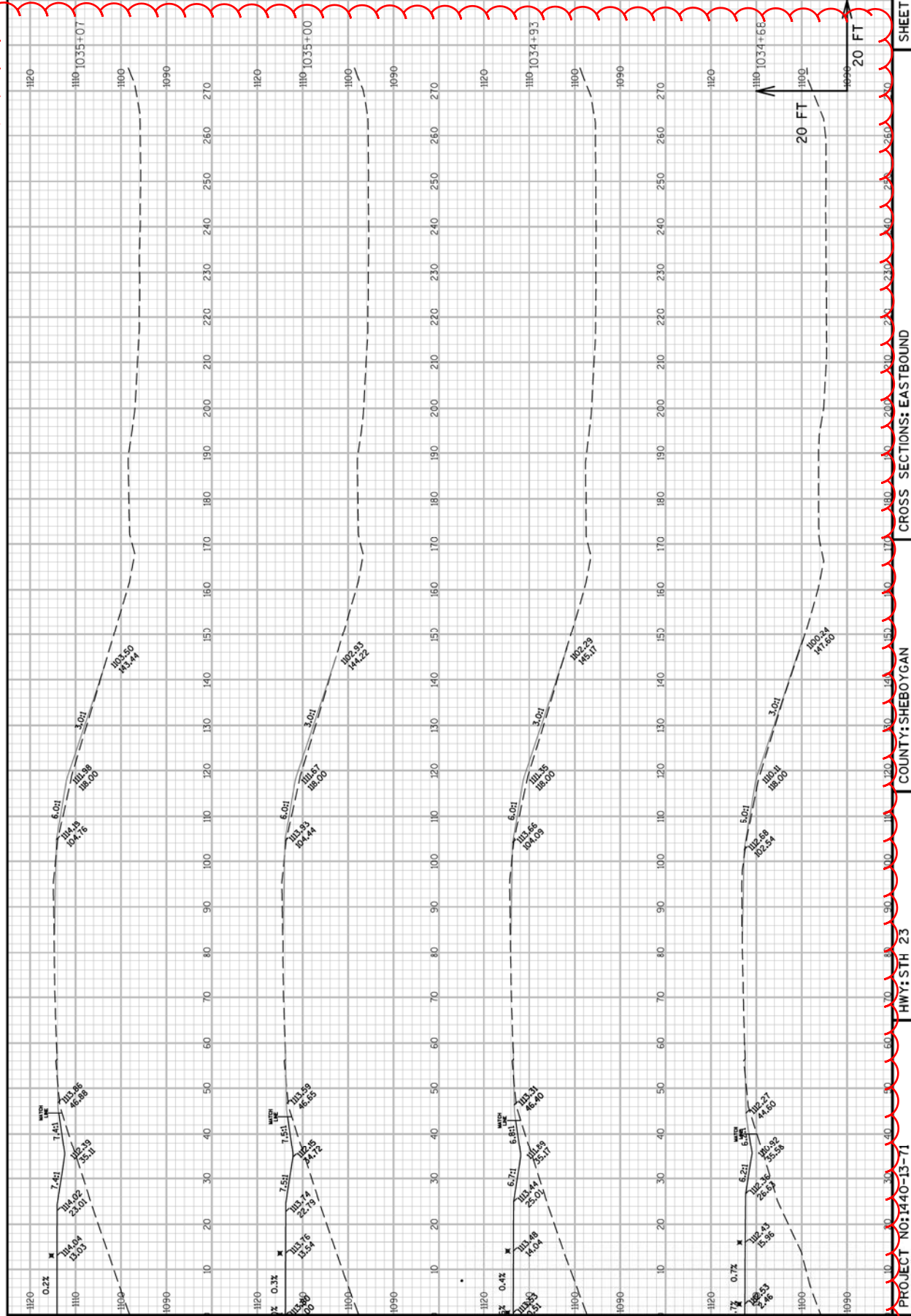


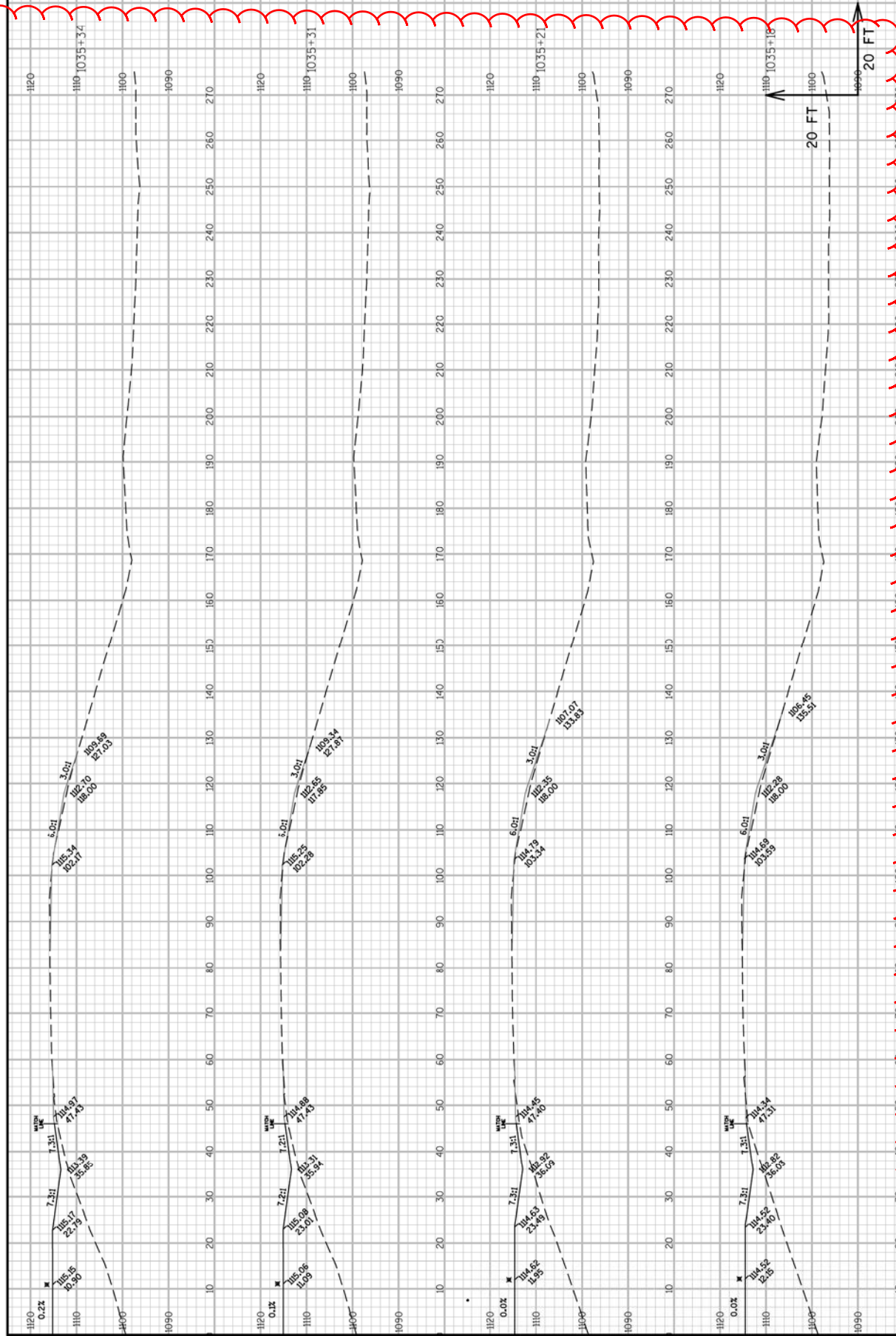






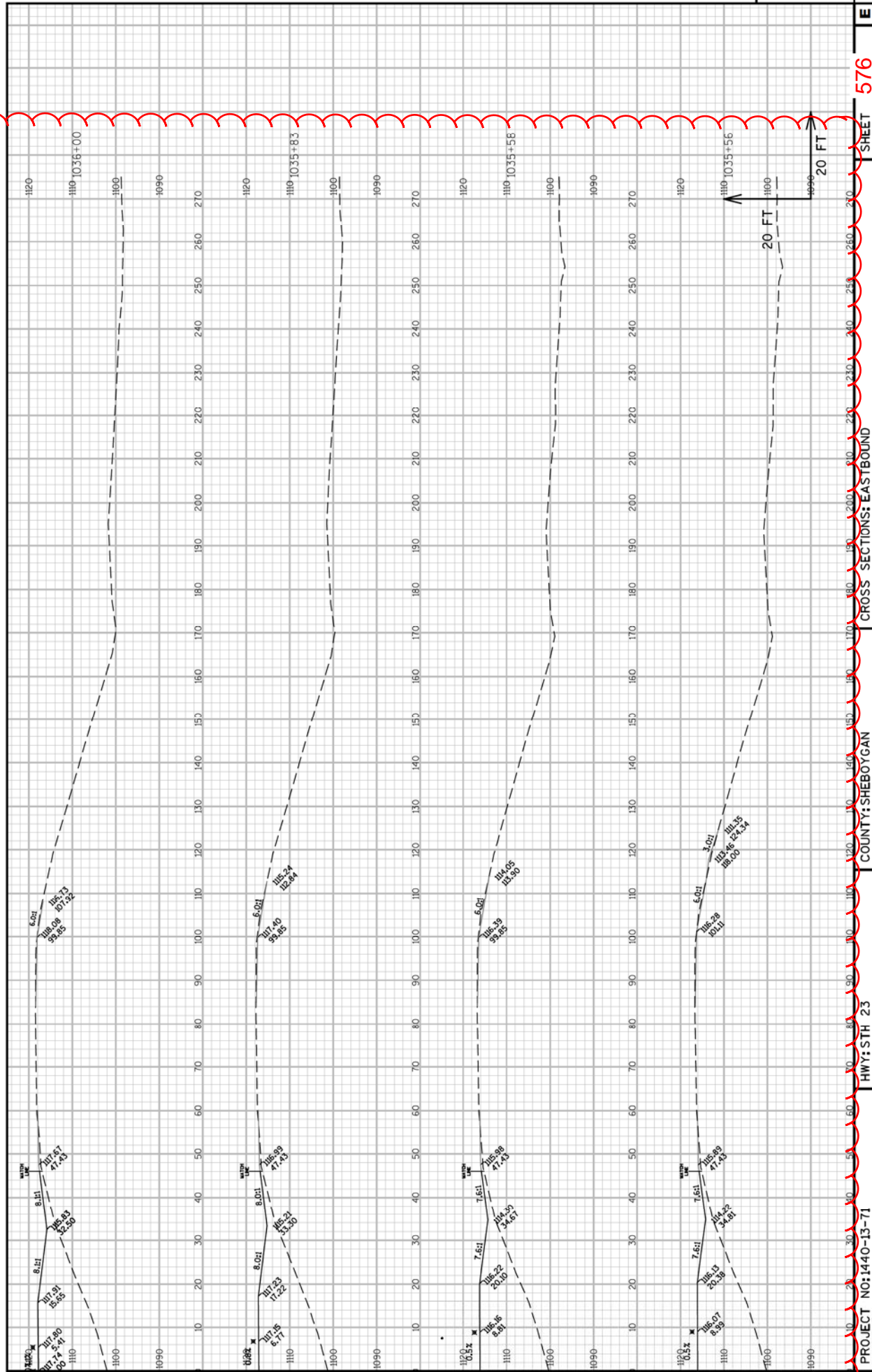


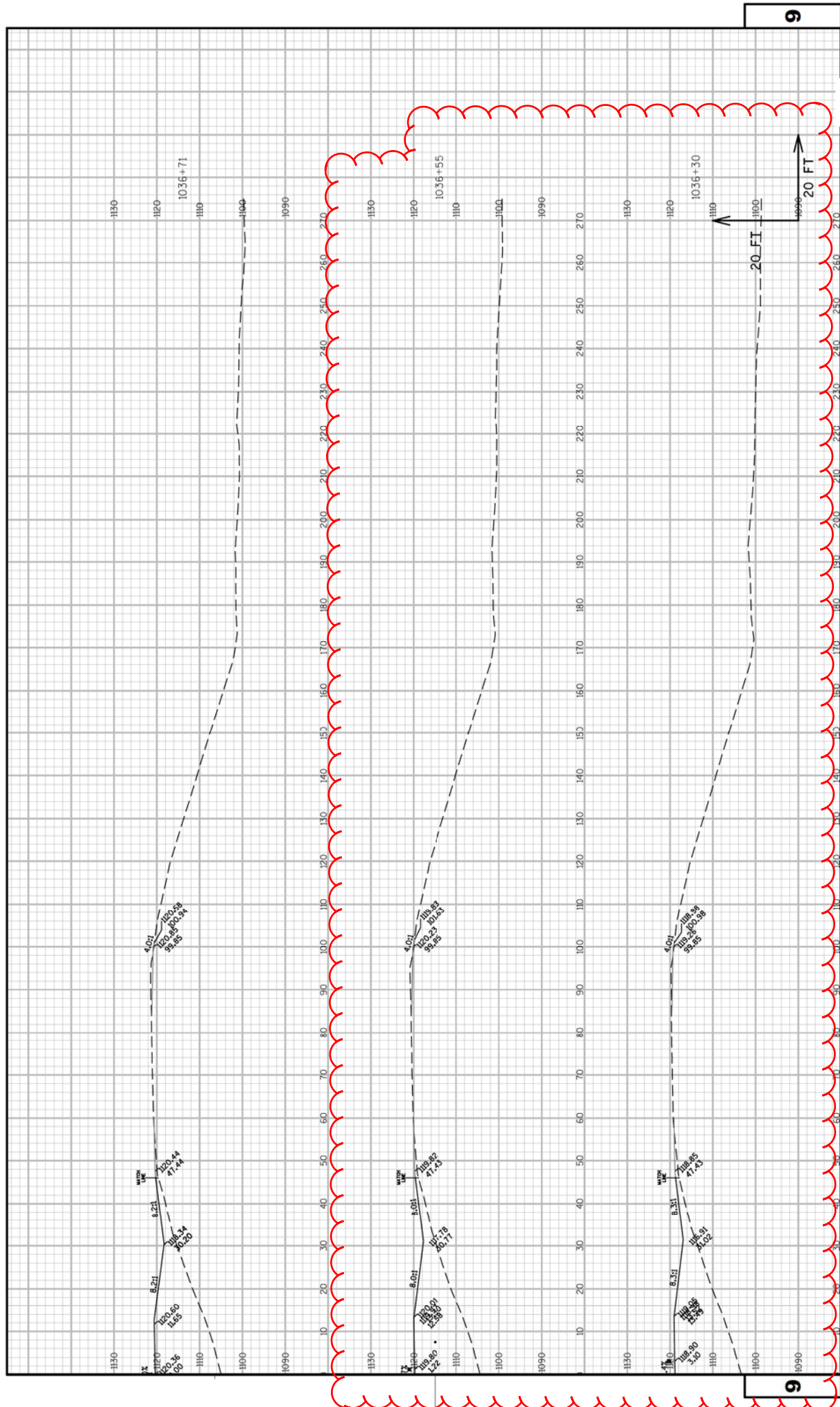


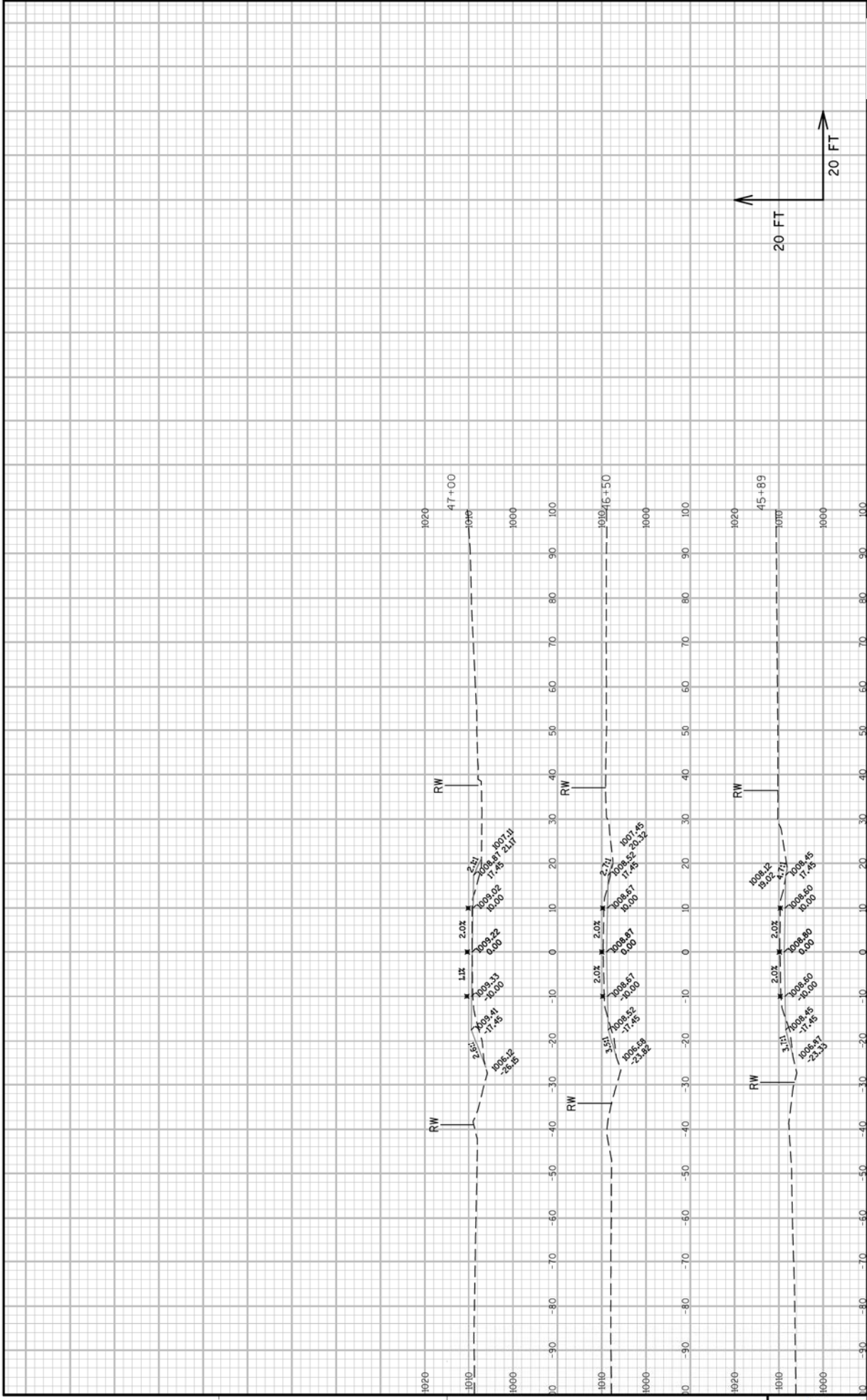


PROJECT NO: 1440-13-71 HWY: STH 23 COUNTY: SHEBOYGAN CROSS SECTIONS: EASTBOUND SHEET 575 E



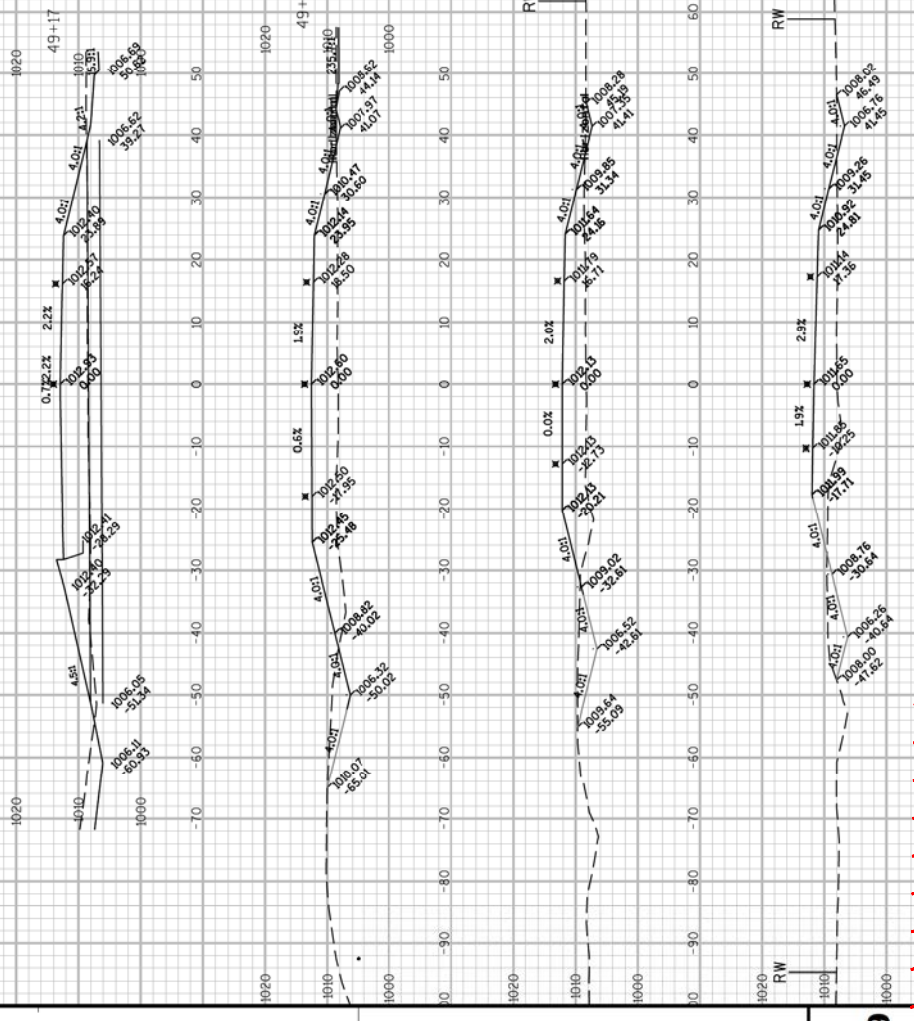










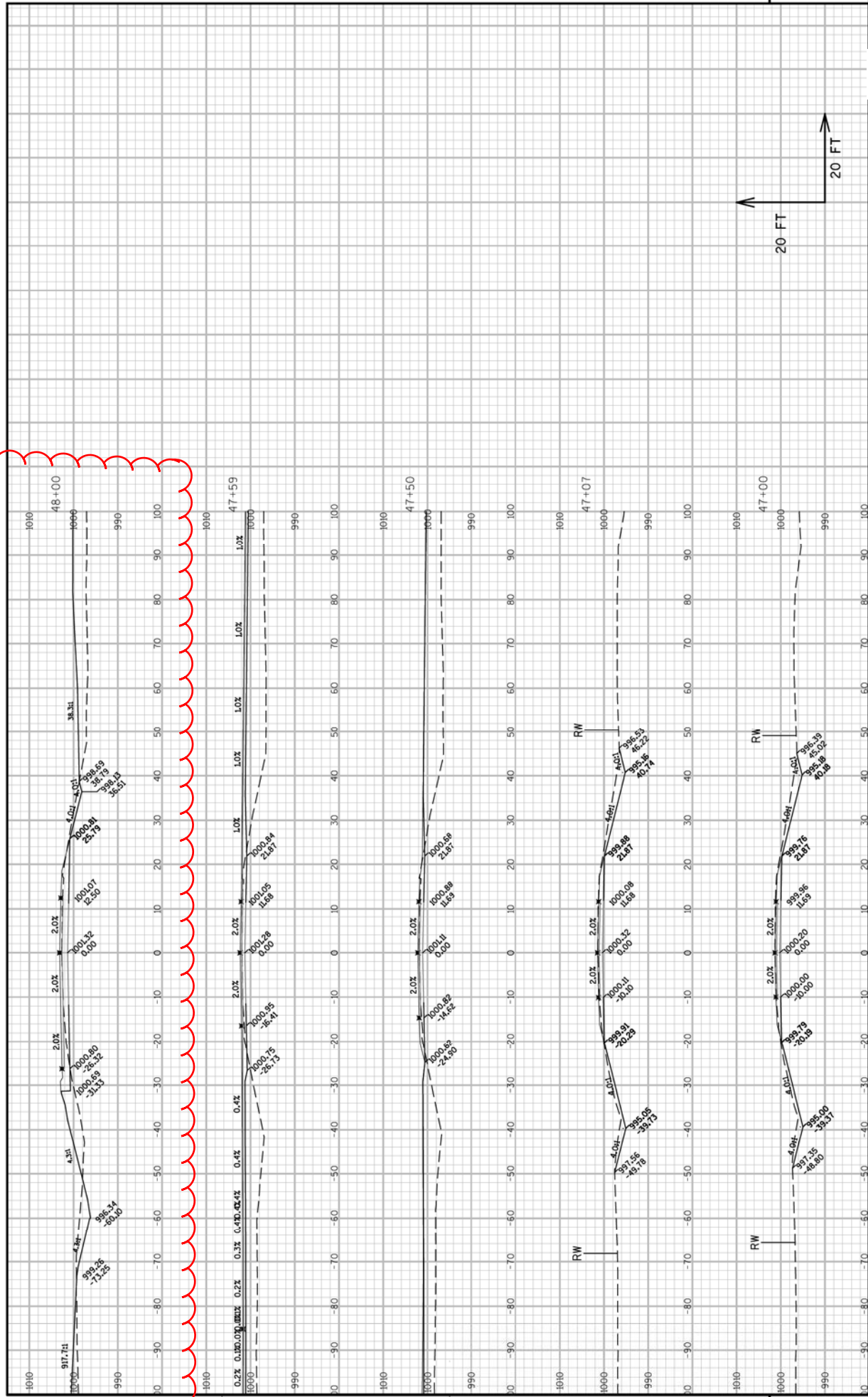


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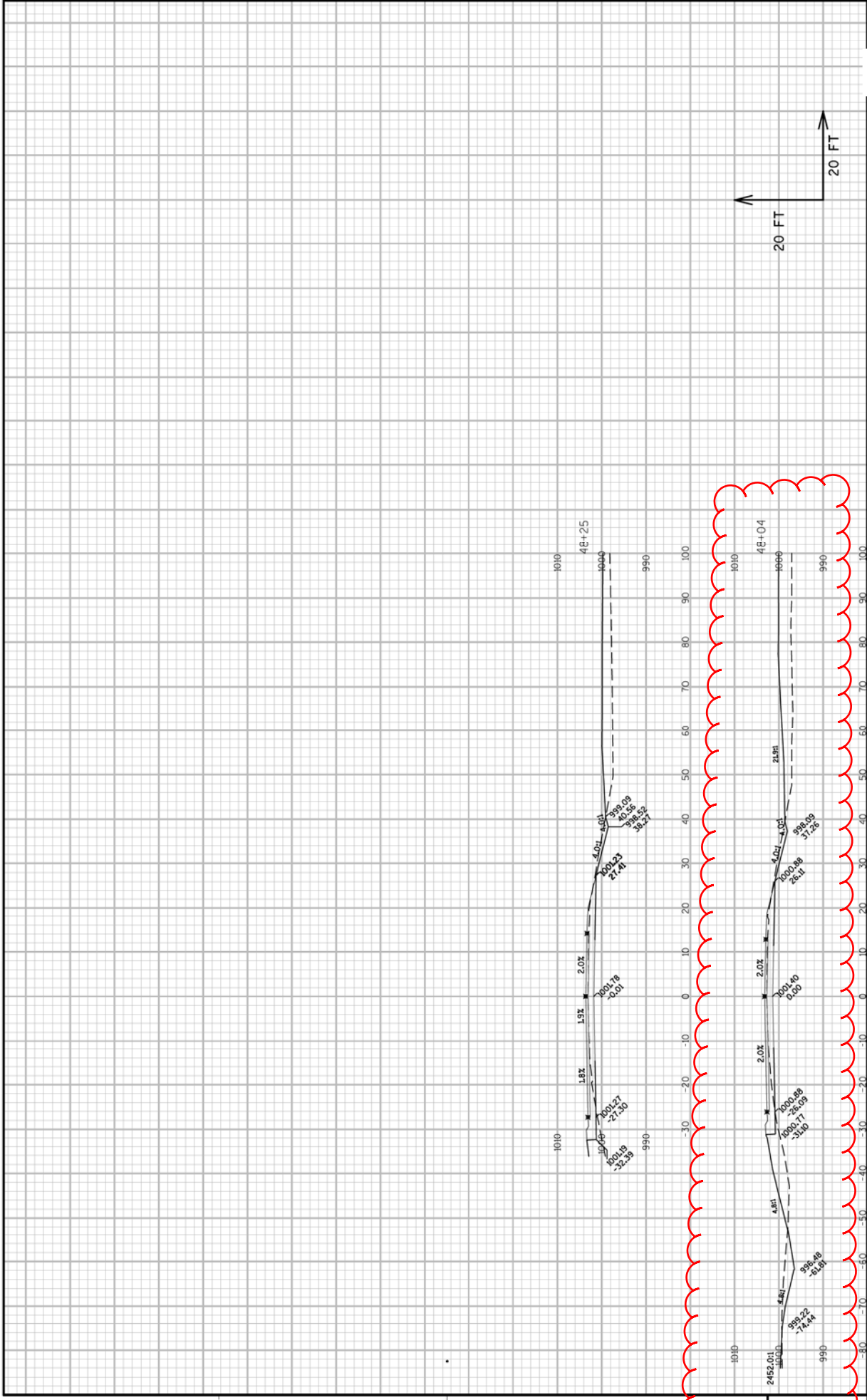
SHEET

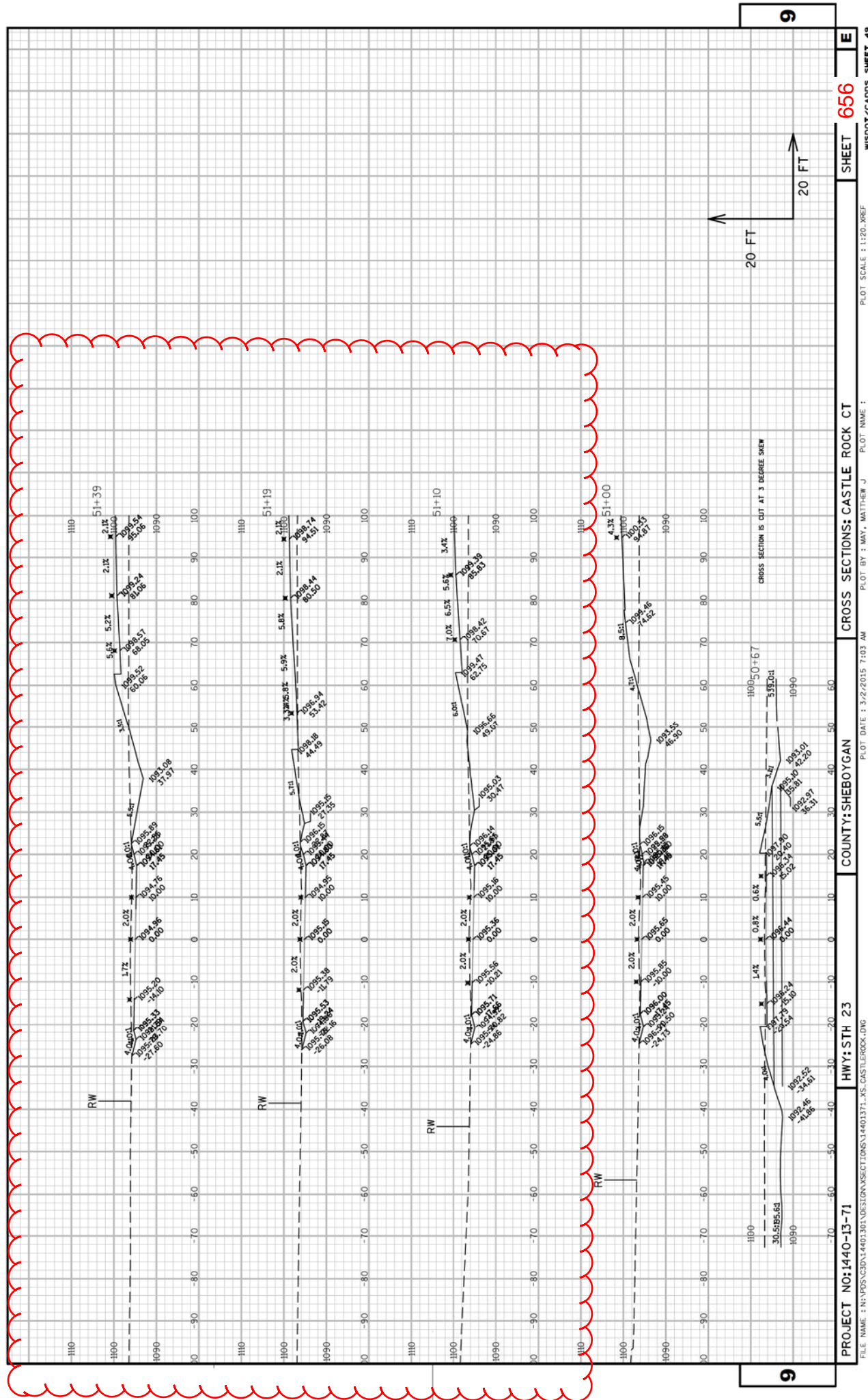
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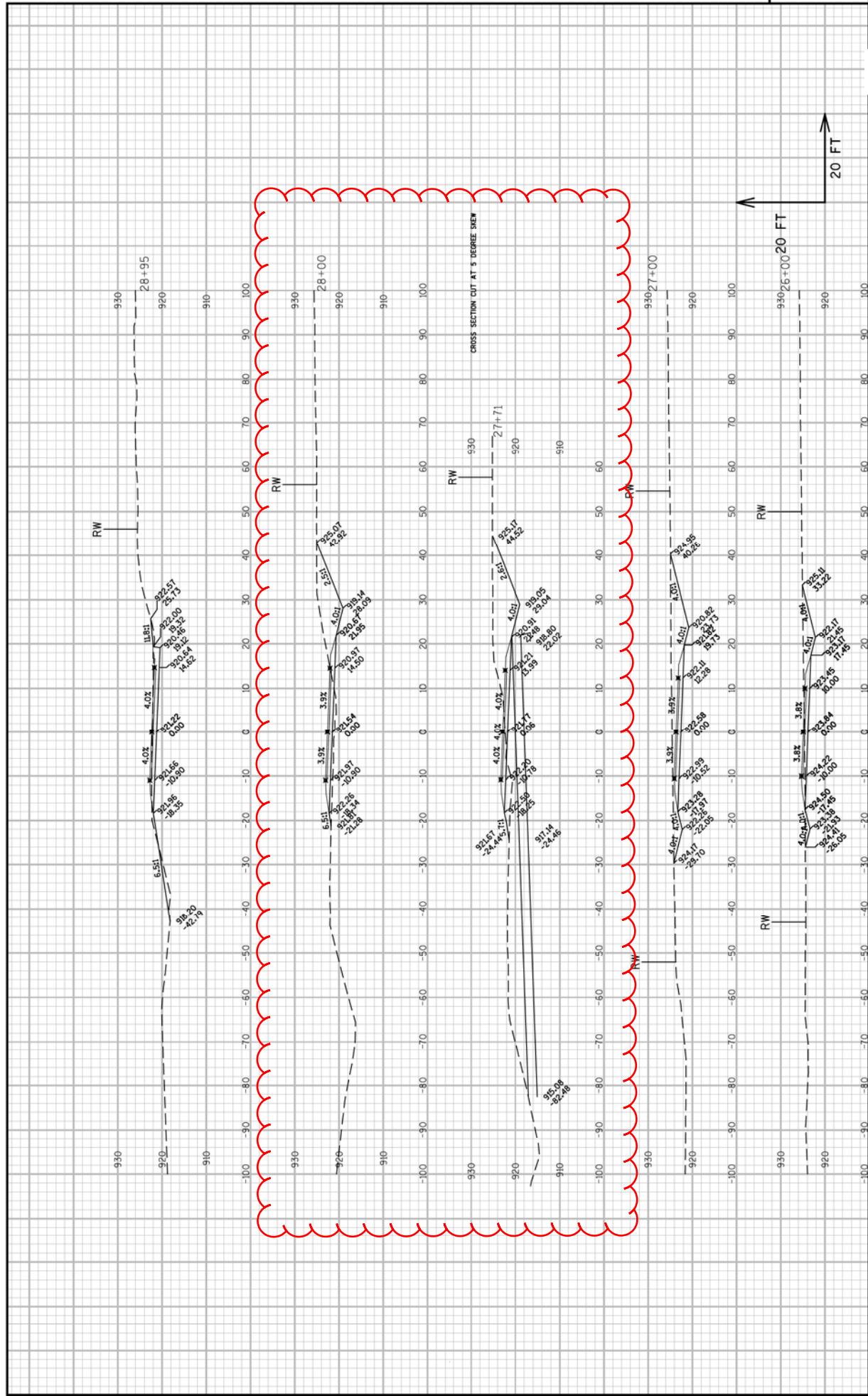
PLOT SCALE : 1:20\_XREF













## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20150310024PROJECT(S):  
1440-13-71  
1440-13-74FEDERAL ID(S):  
N/A  
N/A

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0110	204.0190 Removing Surface Drains	2.000 EACH	.		.	
0120	204.9105.S Removing (item description) 01. Billboard	LUMP	LUMP		.	
0130	205.0100 Excavation Common	738,615.000 CY	.		.	
0140	205.0400 Excavation Marsh	17,000.000 CY	.		.	
0150	206.1000 Excavation for Structures Bridges (structure) 02. B-59-0316	LUMP	LUMP		.	
0160	206.2000 Excavation for Structures Culverts (structure) 01. B-59-0099	LUMP	LUMP		.	
0170	208.0100 Borrow	417,000.000 CY	.		.	
0180	208.1100 Select Borrow	25,000.000 CY	.		.	
0190	210.0100 Backfill Structure	1,755.000 CY	.		.	
0200	213.0100 Finishing Roadway (project) 01. 1440-13-71	1.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20150310024PROJECT(S):  
1440-13-71  
1440-13-74FEDERAL ID(S):  
N/A  
N/A

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0430	520.8000 Concrete Collars for Pipe	17.000 EACH	.		.	
0440	521.0112 Culvert Pipe Corrugated Steel 12-Inch	46.000 LF	.		.	
0450	521.0124 Culvert Pipe Corrugated Steel 24-Inch	1,990.000 LF	.		.	
0460	521.0136 Culvert Pipe Corrugated Steel 36-Inch	142.000 LF	.		.	
0470	521.0142 Culvert Pipe Corrugated Steel 42-Inch	52.000 LF	.		.	
0480	521.1012 Apron Endwalls for Culvert Pipe Steel 12-Inch	2.000 EACH	.		.	
0490	521.1024 Apron Endwalls for Culvert Pipe Steel 24-Inch	88.000 EACH	.		.	
0500	521.1036 Apron Endwalls for Culvert Pipe Steel 36-Inch	3.000 EACH	.		.	
0510	521.1042 Apron Endwalls for Culvert Pipe Steel 42-Inch	2.000 EACH	.		.	
0520	522.0124 Culvert Pipe Reinforced Concrete Class III 24-Inch	3,471.000 LF	.		.	