



Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM MONROE/WAPELLO COUNTY SLIDE REPAIR

US 34 From Albia E. to Ottumwa (Various Locations)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

NO MILEAGE SUMMARY



REVISIONS

TOTAL

39

PROJECT IDENTIFICATION NUMBER

12-68-034-030

PROJECT NUMBER

NHSN-034-6(77)--2R-68

R.O.W. PROJECT NUMBER

INDEX OF SHEETS

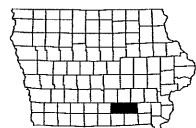
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
C.1	General Notes
C.2	Pollution Prevention Plan
C.3 - 4	Tabulations
J Sheets	Traffic Control and Staging Sheets
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J.1	Tabulation of Special Events
Q Sheets	Soils Sheets
* Q.1 - 8	Soils Sheets - Slide Repairs
W Sheets	Mainline Cross Sections
W.1 - 23	Slide Repair Cross Sections
	* Color Plan Sheets

LETTING DATE
Sept. 18, 2012

SLIDE REPAIR
NHSN-034-6(77)--2R-68

MONROE/WAPELLO CO.

For Project Location Map
Refer to Sheet A.2



MONROE COUNTY		DESIGN DATA RURAL	
2012 AADT	3970	V.P.D.	
20 AADT		V.P.D.	
20 DHV		V.P.H.	
TRUCKS		%	
Total Design ESALs			

WAPELLO COUNTY		DESIGN DATA RURAL	
2012 AADT	4390	V.P.D.	
20 AADT		V.P.D.	
20 DHV		V.P.H.	
TRUCKS		%	
Total Design ESALs			

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Mark A. Van Dyke	Primary Signature Block
C.4	Robert L. Stanley	Geotechnical Design

ROADWAY DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

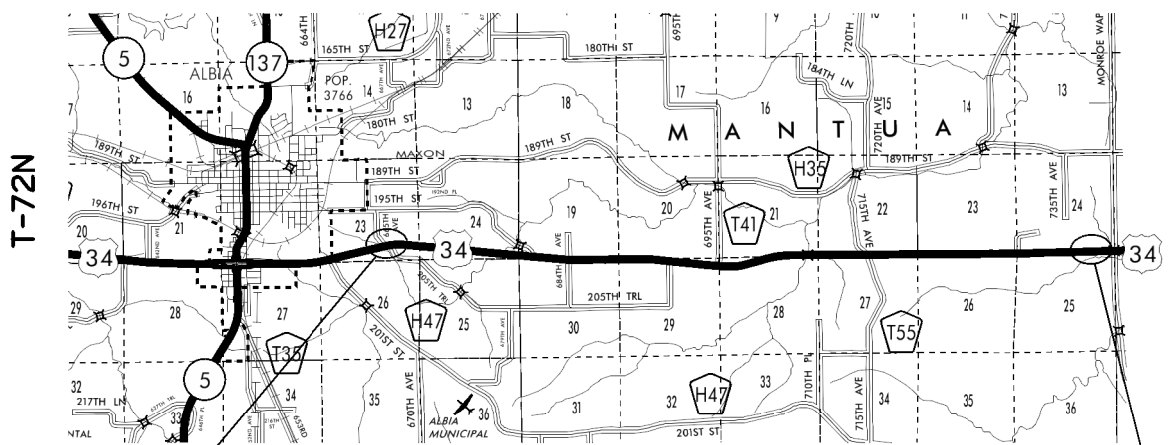
Mark A. Van Dyke 7/2/2012
Signature Date

Mark A. Van Dyke
Printed or Typed Name

My license renewal date is December 31, 2013

Pages or sheets covered by this seal: A.1-A.2, B.1, C.1-C.3, J.1

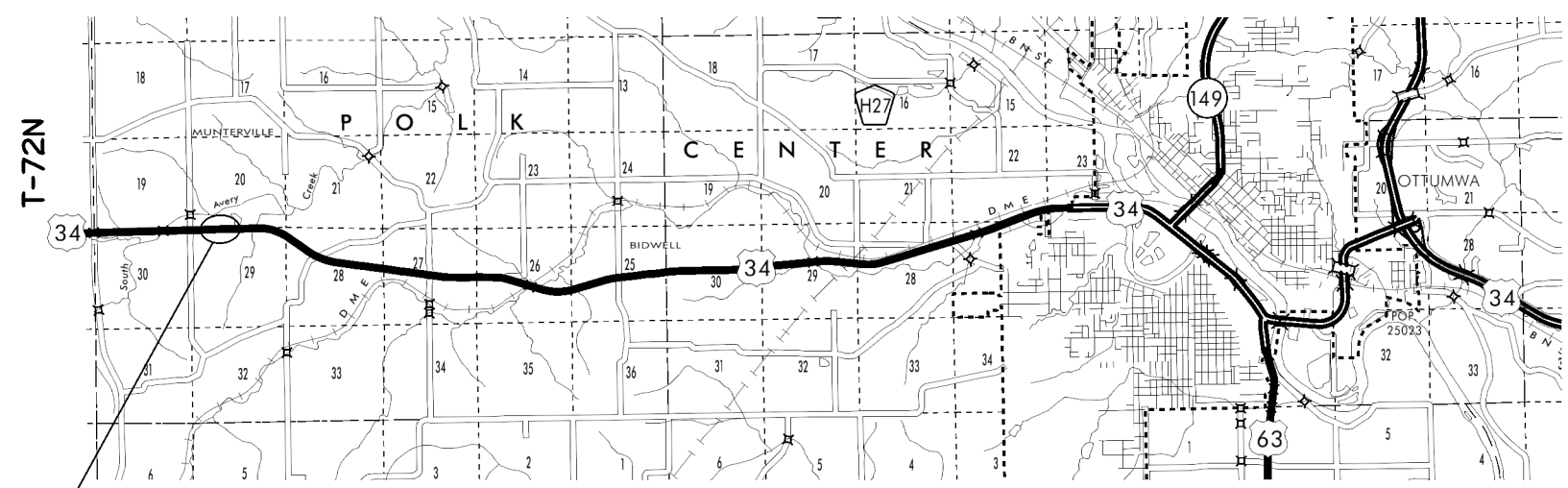
Monroe County



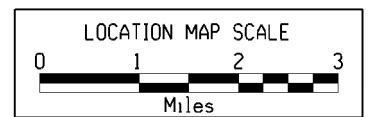
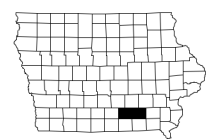
PROJECT LOCATIONS
 MP 169.40/941+00± RT
 MP 169.56/948+00± RT

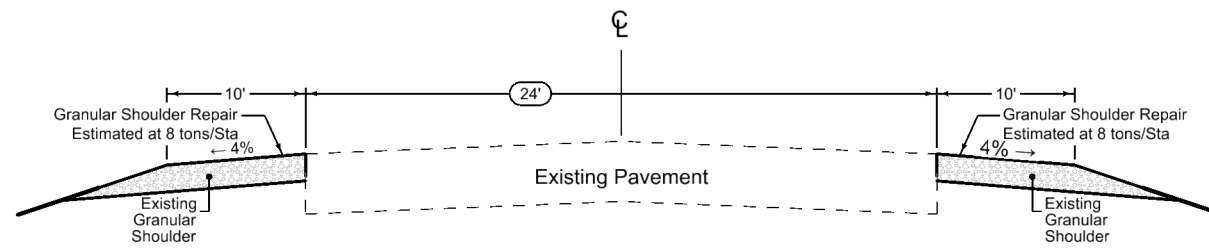
PROJECT LOCATIONS
 MP 176.57/1318+00± LT
 MP 176.63/1321+00± LT

Wapello County



PROJECT LOCATIONS
 MP 177.92/1389+50± LT
 MP 178.25/1408+00± RT
 MP 178.32/1410+00± LT





Granular Shoulder Repair		
STATION TO STATION		Granular Shoulder Tons
1317+00	1321+50	36.0
1385+50	1392+00	52.0
1405+00	1414+00	72.0
Total:		160.0

Granular Shoulder Repair		
STATION TO STATION		Granular Shoulder Tons
938+00	944+00	48.0
945+50	950+50	40.0
1404+50	1413+00	68.0
Total:		156.0

US 34
Granular Shoulder Repair

100-1D 10-18-05
PROJECT DESCRIPTION
This is a slide repair project on US 34 in Monroe and Wapello Counties from Albia East to Ottumwa at various locations. This project will include making repairs to the slides and replacing the cable guardrail at the slide location if present.

105-4 10-18-11
STANDARD ROAD PLANS
The following Standard Road Plans apply to construction work on this project.
Number Date Title
BA-351 04-20-10 High Tension Cable Guardrail
EC-201 04-20-10 Silt Fence
RF-19C 10-19-10 Subdrains (Longitudinal)
RF-19E 10-20-09 Outlets for Longitudinal, Transverse and Backslope Subdrains
TC-1 10-18-11 Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202 04-17-12 Shoulder Closure (One Lane)
TC-213 04-17-12 Lane Closure with Flaggers

100-0A 10-28-97					
ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)					
Item No. Item Code Item Unit Total As Built Qty.					
1	2101-0850001	CLEARING AND GRUBBING	ACRE	0.9	
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	15482	
3	2102-2712070	EXCAVATION, CLASS 12, ROADWAY AND BORROW	CY	2732	
4	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	316	
5	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	60	
6	2502-8220196	SUBDRAIN OUTLET, RF-19E	EACH	3	
7	2505-4008130	REMOVAL OF CABLE GUARDRAIL	LF	3275	
8	2505-6000111	HIGH TENSION CABLE GUARDRAIL	LF	2915	
9	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR	EACH	10	
10	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT	EACH	1	
11	2507-3250005	ENGINEERING FABRIC	SY	19991	
12	2507-8029000	EROSION STONE	TON	33826	
13	2528-8445110	TRAFFIC CONTROL	LS	1	
14	2528-8445113	FLAGGERS	EACH	See Proposal	
15	2533-4980005	MOBILIZATION	LS	1	
16	2602-0000020	SILT FENCE	LF	2100	
17	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	300	
18	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	1200	

232-3C Modified
EROSION CONTROL (NATIVE GRASS SEEDING)
This note ONLY applies to the following two locations on the project: MP 178.25/1408+00± RT and MP 178.32/1410+00± LT.
Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area lying 10 feet or more beyond the shoulder as follows:
SEEDING MIXTURE: Seeding Rate: 2 lbs. per 1000 sq. ft.
Canada wild rye (PLS) 10.0%
Indiangrass (PLS) 7.5%
Big bluestem (PLS) 7.5%
Switchgrass (PLS) 2.5%
Little bluestem (PLS) 2.5%
Sideoats grama (PLS) 2.5%
Grain rye 17.5%
Fescue, Tall 30.0%
Ryegrass, Perennial 20.0%
FERTILIZER: 5 lbs. of 13-13-13 (or equivalent) commercial fertilizer per 1000 sq. ft.
MULCH: 70 lbs. of dry cereal straw per 1000 sq. ft. For areas disturbed, but not seeded by September 30th, scarify to a 3 inch depth and mulch. Consolidate all mulch into the soil with a mulch stabilizer.
Use Certified Noxious Weed Seed Free Mulch as determined by the Iowa Crop Improvement Association or adjacent state's Crop Improvement Association.
Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

232-3A Modified
EROSION CONTROL (RURAL SEEDING)
This note applies to all disturbed areas on the project EXCEPT for the following two locations: MP 178.25/1408+00± RT and MP 178.32/1410+00± LT. At these two locations apply Standard Note 232-3C for the disturbed area lying 10 feet or more beyond the shoulder.
Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area as follows:
SEEDING: 3 lbs. of Tall Fescue (Fawn) per 1000 sq. ft.
FERTILIZER: 17 lbs. of 13-13-13 (or equivalent) commercial fertilizer per 1000 sq. ft.
MULCH: 70 lbs. of dry cereal straw per 1000 sq. ft. For areas disturbed, but not seeded by September 30th, scarify to a 3 inch depth and mulch. Consolidate all mulch into the soil with a mulch stabilizer.
Use Certified Noxious Weed Seed Free Mulch as determined by the Iowa Crop Improvement Association or adjacent state's Crop Improvement Association.
Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

100-4A 10-29-02		
ESTIMATE REFERENCE INFORMATION		
Item No. Item Code Description		
1	2101-0850001	CLEARING AND GRUBBING Estimated quantity for all locations.
-	-	-
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW
3	2102-2712070	EXCAVATION, CLASS 12, ROADWAY AND BORROW Refer to Q-sheets and cross sections for additional information. Excess material to become property of the contractor.
-	-	-
4	2121-7425020	GRANULAR SHOULDERS, TYPE B Refer to Sheet B.1 for locations and details.
-	-	-
5	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.
6	2502-8220196	SUBDRAIN OUTLET, RF-19E Item is for the replacement of existing subdrain outlets at the slide repair areas. Refer to Tab. 104-9 on Sheet C.4 for details and locations.
-	-	-
7	2505-4008130	REMOVAL OF CABLE GUARDRAIL Refer to Tab 110-7B on Sheet C.3 for locations and details. All material to become property of the contractor.
-	-	-
8	2505-6000111	HIGH TENSION CABLE GUARDRAIL
9	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR
10	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT Refer to Tab. 108-9A on Sheet C.3 for locations and details. Deliver the spare parts kit to the Albia maintenance garage. Contact Jay Ridlen at 641-777-4897 prior to delivery.
-	-	-
11	2507-3250005	ENGINEERING FABRIC
12	2507-8029000	EROSION STONE Refer to Q-sheets and cross sections for additional information.
-	-	-
13	2528-8445110	TRAFFIC CONTROL
14	2528-8445113	FLAGGERS Refer to Tab. 105-4 on Sheet C.1 for Standard Road Plans and Tab. 108-23A on Sheet J.1 for the traffic control plan.
-	-	-
15	2533-4980005	MOBILIZATION ---
-	-	-
16	2602-0000020	SILT FENCE
17	2602-0000030	SILT FENCE FOR DITCH CHECKS
18	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK Refer to Tab. 100-17 and Tab. 100-18 on Sheet C.3 for locations. Maintenance of silt fence item is estimated at 50% of the installation quantity.
-	-	-

232-8 10-18-11
EROSION CONTROL (DISTURBED AREAS)
Ensure the top 6 inches of the disturbed areas are free of rock and debris and are suitable for the establishment of vegetation, subject to the Engineer's approval.

262-6 10-18-05
UTILITIES (NOT A POINT 25 PROJECT)
This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

232-10 10-28-97
EROSION CONTROL (EQUIPMENT FOR MAINTENANCE)
The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins, or silt dikes.

281-1 10-18-11
SECTION 404 PERMIT AND CONDITIONS
Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit No. 3. A copy of this permit is available from the Iowa DOT Office of Contracts upon request. The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

POLLUTION PREVENTION PLAN

This Base Pollution Prevention Plan (PPP) includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES**A. Designer:**

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Signature authority on the Base PPP and NOI.

B. Contractor/Subcontractor:

1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Submit a detailed schedule according to Article 2602 of the Specifications and any additional plan notes.
3. Install and maintain appropriate controls.
4. Supervise and implement good housekeeping practices.
5. Conduct joint required inspections of the site with inspection staff.
6. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.

C. RCE/Inspector:

1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
2. Maintain an up-to-date list that identifies contractors and subcontractors as co-permittees.
3. Make these plans available to the DNR upon their request.
4. Conduct joint required inspections of the site with the contractor/subcontractor.
5. Complete an inspection report after each inspection.
6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION**A. This Pollution Prevention Plan (PPP) is for the following projects:**

1. NHSX-034-7(139)--3H-90: The construction of a rehabilitation project that includes clearing and grubbing, full depth patching, cold in-place recycling, base widening, HMA resurfacing, granular shoulders, updating guardrail and cablerail, foreslope flattening at points of access, adding longitudinal subdrain outlets, and small culvert repairs. This US 34 rehabilitation project begins at the Monroe County line and ends at Ottumwa.
2. NHSN-034-6(77)--2R-68: The construction of a slide project at various locations on US 34 from Albia to Ottumwa. This project also includes updating the cable guardrail and granular shoulders at the slide locations.

B. This PPP covers approximately 725 acres with an estimated 27 acres being disturbed. The portion of the PPP covered by this contract has 3 acres disturbed.**C. The PPP is located in an area of two soil association (Adari-Grundy-Haig and Lindley-Keswick-Weller).**

The estimated average SCS runoff curve number for this PPP after completion will be 75.

D. Storm Water Site Map - Refer to the Grading and Paving plans that are on file at the project engineer's office for storm water site map information.

Multiple sources of information comprise the base storm water site map including:

1. Drainage patterns - Plan and Profile sheets and Situation plans.
2. Proposed Slopes - Cross Sections.
3. Areas of Soil Disturbance - construction limits shown on Plan and Profile sheets.
4. Location of Structural Controls - Tabulations on C sheets.
5. Locations of Non-structural Controls - Tabulations on C sheets.
6. Locations of Stabilization Practices - generally within construction limits shown on Plan and Profile sheets.
7. Surface Waters (including wetlands) - Plan and Profile sheets.
8. Locations where storm water is discharged - Plan and Profile sheets.

E. The base site map is amended by contract modifications and progress payments of completed erosion control work.**F. Runoff from this work will flow into various unnamed ditches and water ways to Middle and South Avery Creek and Bear Creek to the Des Moines River.****III. CONTROLS****A. The contractor's work plan and sequence of operations specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.****B. Preserve vegetation in areas not needed for construction.****C. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures.**

Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.

1. EROSION AND SEDIMENT CONTROLS**a. Stabilization Practices**

- 1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
- 2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
- 3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
- 4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector's Daily Reports (IDR) or Contract Modifications.

b. Structural Practices

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
- 2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations.

POLLUTION PREVENTION PLAN

Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.

c. Storm Water Management

- 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

- a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
 - 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
 - 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
 - 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
 - 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
 - 5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
 - 6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
 - 7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
 - 8) Vehicle and Equipment Fueling and Maintenance - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site.
 - 9) Litter Management - Ensure employees properly dispose of litter.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days and after each rain event that is ½" or greater. Storm water monitoring inspections will include:
 1. Date of the inspection.
 2. Summary of the scope of the inspection.
 3. Name and qualifications of the personnel making the inspection.
 4. Rainfall amount.
 5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 6. Major observations related to the implementation of the PPP.
 7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found and complete all actions within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

110-7B
10-19-10

REMOVAL OF CABLE GUARDRAIL

* Not a bid item
① Lane(s) to which the installation is adjacent

No.	Direction of Traffic	Location		Side	Type (High/Low Tension)	Cable	Post * Footings, Concrete	End Terminal*	Remarks
		Station to Station	Station to Station			Remove	Remove	Remove	
						LF	Yes/No	No.	
1	EB	938+50.0	944+00.0	RT	Low Tension	550.0	Yes	2	
2	EB	945+50.0	950+00.0	RT	Low Tension	450.0	Yes	2	
3	WB	1385+60.0	1394+30.0	LT	Low Tension	870.0	Yes	2	
4	WB	1406+00.0	1413+95.0	LT	Low Tension	795.0	Yes	2	
5	EB	1406+00.0	1412+10.0	RT	Low Tension	610.0	Yes	2	
Total =						3275.0			

100-18
04-20-10

**TABULATION OF SILT FENCES
FOR DITCH CHECKS**

Refer to EC-201

Location Station	Side	Length	Remarks
		LF	
940+00	RT	25.0	
940+50	RT	25.0	
942+25	RT	25.0	
946+75	RT	25.0	
947+00	RT	25.0	
1317+50	LT	25.0	
1317+75	LT	25.0	
1321+50	LT	25.0	
1389+15	LT	25.0	
1409+00	RT	25.0	
1410+75	LT	25.0	
1411+00	RT	25.0	
Total:		300.0	

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
938+75.0	942+75.0	RT	425.0	
946+00.0	950+25.0	RT	450.0	
1317+00.0	1318+75.0	LT	200.0	
1320+25.0	1321+50.0	LT	150.0	
1389+00.0	1390+25.0	LT	150.0	
1407+25.0	1409+00.0	RT	200.0	
1407+75.0	1412+75.0	LT	525.0	
Total:			2100.0	

108-9A
04-20-10

HIGH TENSION CABLE GUARDRAIL

Refer to BA-351.

① Lane(s) to which the installation is adjacent.

No.	Direction of Traffic	Location		Dimensions			Bid Items		Remarks	
		Station	Side	Offset	Approach	Obstacle	Trailing	Protection Length		End Anchor
				D ₀	C _A	C ₀	C _T	(C _A +C ₀ +C _T)		No.
1	EB	938+50	RT	11.0		490.0		490.0	2	938+50 to 943+40 plus Anchors
2	EB	946+00	RT	11.0		375.0		375.0	2	946+00 to 949+75 plus Anchors
3	WB	1391+25	LT	11.0		525.0		525.0	2	1386+00 to 1391+25 plus Anchors
4	EB	1405+00	RT	11.0		725.0		725.0	2	1405+00 to 1412+25 plus Anchors
5	WB	1413+50	LT	11.0		800.0		800.0	2	1405+50 to 1413+50 plus Anchors
Totals:								2915.0	10	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

④ Refer to RL-13, EW-203, or EW-204.

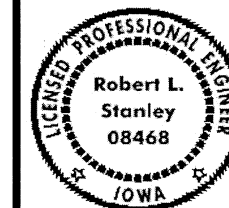
Refer to Soils Sheets

* Not a bid item

Line No.	Road or Lane Ident.	Station to Station	Side	Depth		Longitudinal Subdrain (RF-19C)				Subdrain Outlet			Porous* Backfill	Class "A"* Crushed Stone	Remarks	
				D	Shoulder		Backslope		Bridge Berm ①		RF-19C, RF-19E, or RF-19F					Standard Road Plan and Type
					Size	Length	Size	Length	Size	Type	Length	Station				
IN	IN	FT	IN	FT	IN		FT		IN			CY	CY			
1	U.S. 34	945+00	RT	48.0	4.0	20.0						945+00	6.0	RF-19E		0.2
2	U.S. 34	950+25	RT	48.0	4.0	20.0						950+25	6.0	RF-19E		0.2
3	U.S. 34	1317+00	LT	48.0	4.0	20.0						1317+00	6.0	RF-19E		0.2
Totals						60.0		0.0					3		0.0	0.6

NOTE: These 3 outlets are to be replaced within slide repair locations. All longitudinal subdrains and outlets are to remain functional.

GEOTECHNICAL DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: *Robert Stanley* Date: *6-27-12*

Printed or Typed Name: **Robert L. Stanley**

My license renewal date is December 31, 2012

Pages or sheets covered by this seal: C.4, Q.1-Q.8, W.1-W.23

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. Through traffic will be maintained on the project at all times.
2. Traffic control on this project shall be found in accordance with the TC series of Standard Road Plans found in Tab. 105-4 on Sheet C.1 and/or appropriate Detail Sheets included in the plans. For additional complementary information, refer to Part VI of the Manual on Uniform Traffic Control Devices and the current Standard Specifications.
3. The contractor shall coordinate traffic control with other projects in the area.

102-15
08-01-08

TABULATION OF SPECIAL EVENTS

Event	Location	Date
None Provided		

111-01
04-17-12

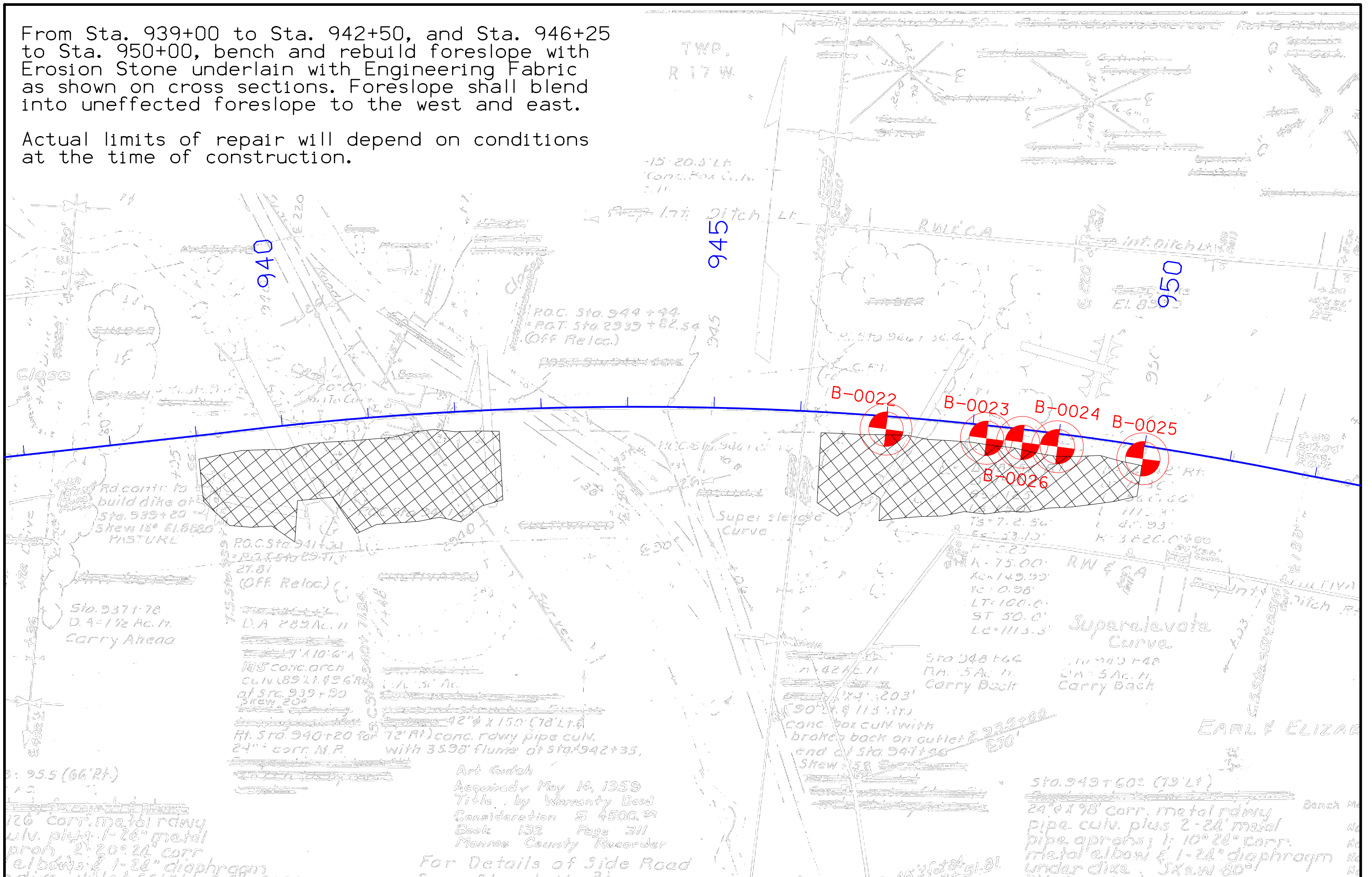
COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
NHSX-034-7(139)--3H-90	HMA Resurfacing

From Sta. 939+00 to Sta. 942+50, and Sta. 946+25 to Sta. 950+00, bench and rebuild foreslope with Erosion Stone underlain with Engineering Fabric as shown on cross sections. Foreslope shall blend into unaffected foreslope to the west and east.

Actual limits of repair will depend on conditions at the time of construction.



126 corr. metal rdwy pipe culv. plus 1-24" metal pipe aprons; 2-20" corr metal elbows & 1-24" diaphragm

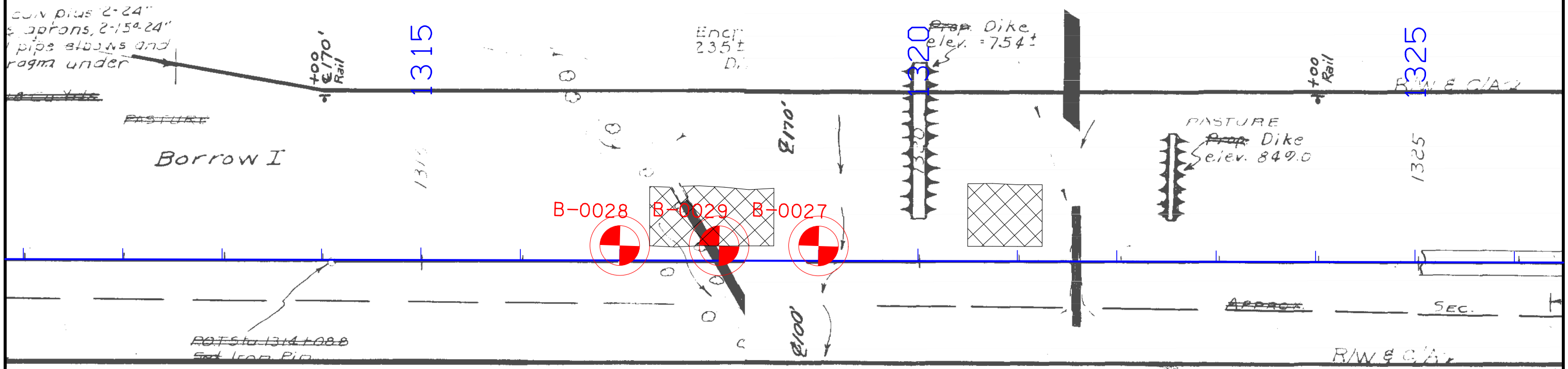
Art Gutch
 Acquired May 14, 1959
 Title by Warranty Deed
 Consideration \$ 4500.00
 Book 132 Page 311
 Monroe County Recorder

For Details of Side Road

From Sta. 1317+30 to Sta. 1318+55, and Sta. 1320+50 to 1321+25, bench and rebuild foreslope with Erosion Stone underlain with Engineering Fabric as shown on cross sections. Foreslope shall blend into unaffected foreslope to the west and east.

Actual limits of repair will depend on conditions at the time of construction.

~~(DECEASED)~~
~~FRANK~~ WILLIS WILCOX



ROT Sta. 1314+00.8
5' x 18" Iron Pipe

~~Sta. 1317+54~~
D.A. = 72 Ac. H
~~Culv. contr. to build~~
5' x 5' x 152' conc box
culv (70' Lt & 82' Rt)
Sta. 1318+00
Skew 30°
~~Compaction of backfill~~
~~112 Cu Yds by 1900~~
~~cont. Rd. Contr. build~~
berm to Elev. 747.0
ft. beyond inlet end of C

Sta. 1319+10
D.A. = 4 Ac. H
Carry Back

Sta. 1321+56
D.A. = 5 Ac. H
~~Rd. Contr. to furnish & place~~
24" Ø x 120' (54' Lt. & 66' Rt.)
conc. rdwy pipe culv.
~~Class 20 exc. 12~~
~~cu yds.~~

~~(DECEASED)~~
~~FRANK~~ WILLIS WILCOX

Bench Marks:

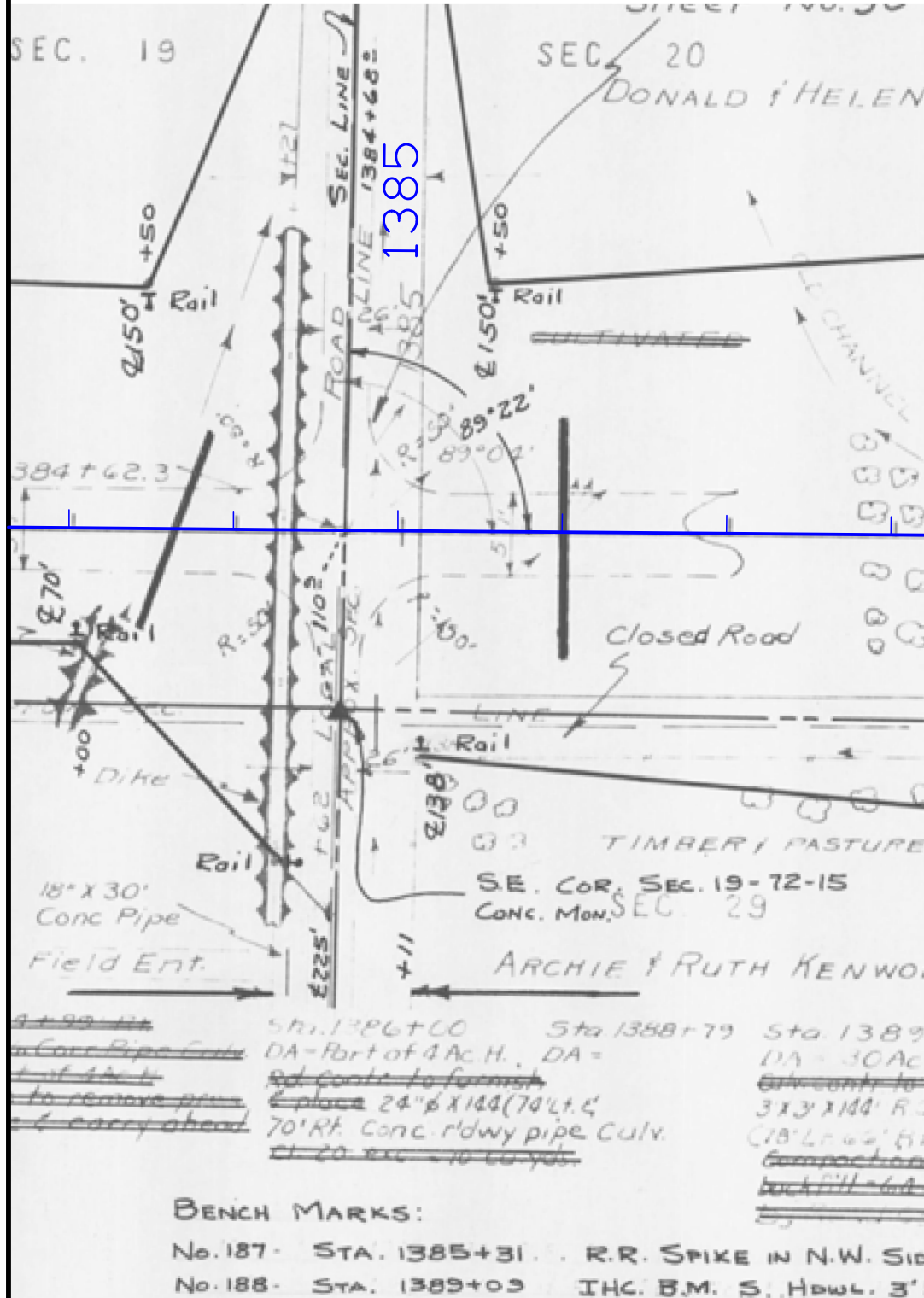
- No. 174 - Sta. 1293 + 70 R.R. Spk. in No. Side 8" Elm 205' Rt.
- No. 175A - Sta. 1300 + 90 R.R. Spk. in So. W. Root 48" Oak
- No. 175 - Sta. 1298 + 40 R.R. Spk. in So. Side Twin 6" Elm 42
- No. 176 - Sta. 1302 + 60 R.R. Spk. in 10" Hickory 200' Rt.
- No. 176 - Sta. 1301 + 00 R.R. Spk. in No. E. Root 40" Cotton
- No. 177 - Sta. 1304 + 00 R.R. Spk. in No. Side Twin 6" Hickory
- No. 177 - Sta. 1303 + 77 R.R. Spk. in So. Side 8" Elm 24' Rt.
- No. 178 - Sta. 1309 + 70 R.R. Spk. in No. Root 18" Elm 23'
- No. 179 - Sta. 1319 + 63 R.R. Spk. in No. E. Root 36" Elm 13'

From Sta. 1389+20 to Sta. 1389+95, bench and rebuild foreslope with Erosion Stone underlain with Engineering Fabric as shown on cross sections. Foreslope shall blend into unaffected foreslope to the west and east.

Actual limits of repair will depend on conditions at the time of construction.

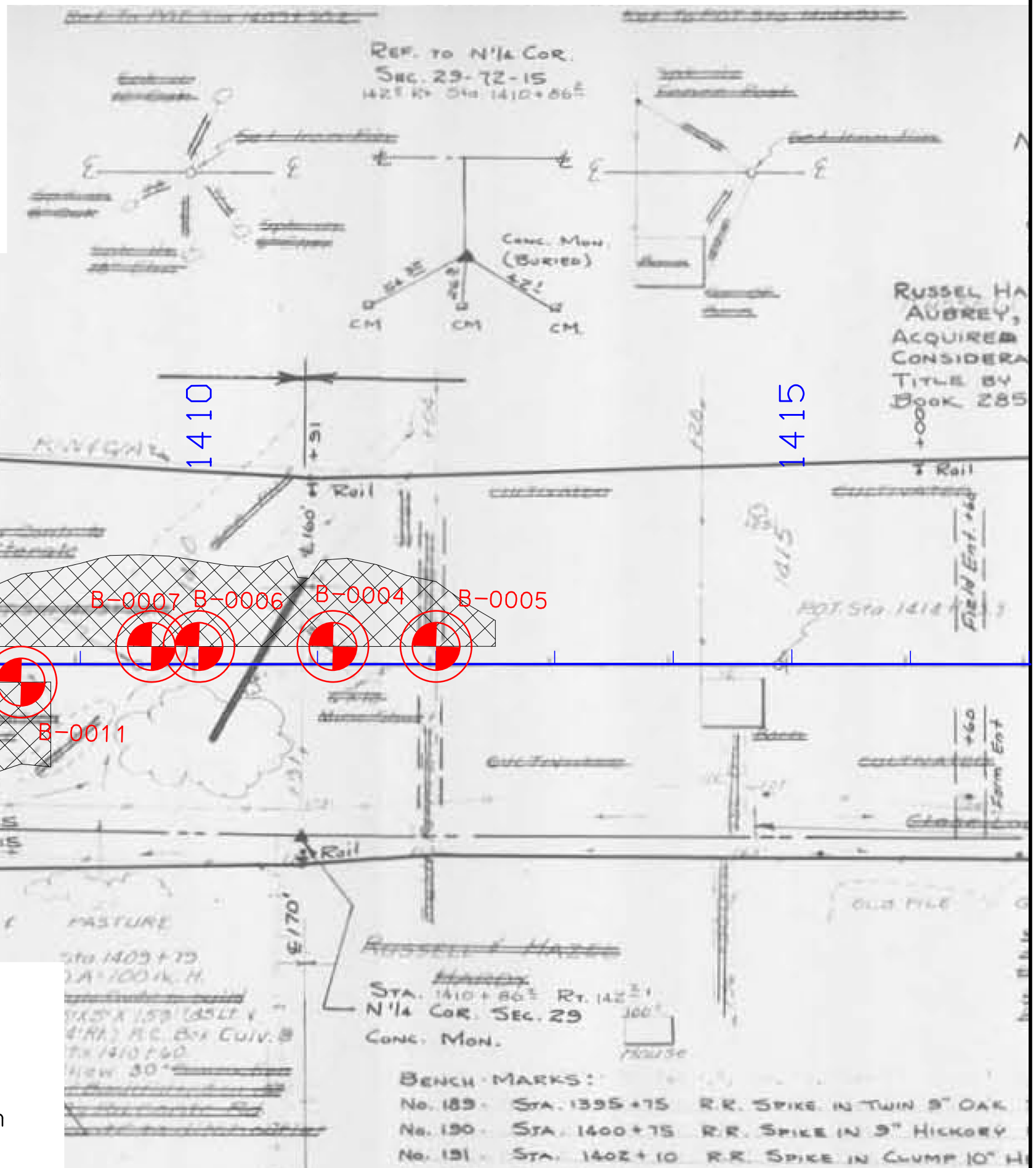
ED WIDTH OF
WAY FT.

DONALD L. ALLEN & HELEN ALLEN
ACQUIRED APRIL 7, 1959 8.5 ACRES
CONSIDERATION \$ 875.00
TITLE BY WARRANTY DEED
BOOK 284 PAGE 507
WAP. CO. RECORDER *Donald L. Allen & Helen Allen*



From Sta. 1407+50 to Sta. 1408+75 on the south side, and Sta. 1408+00 to Sta. 1412+50 on the north side, bench and rebuild foreslope with Erosion Stone underlain with Engineering Fabric as shown on cross sections. Foreslope shall blend into unaffected foreslope to the west and east.

Actual limits of repair will depend on conditions at the time of construction.



The proposed repair at Sta. 1407+50 to 1408+75 on the south side, will obliterate part or most of a previous repair that included erosion stone. If any portion of the previous repair remains in place, the proposed repair shall be modified as needed to provide continuity for drainage between the previous repair and the proposed repair.



940

945

950

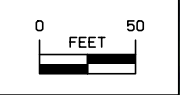
B-0022

B-0023

B-0024

B-0025

B-0026





1315

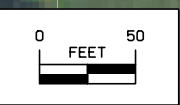
1320

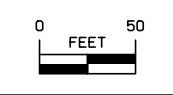
1325

B-0028

B-0029

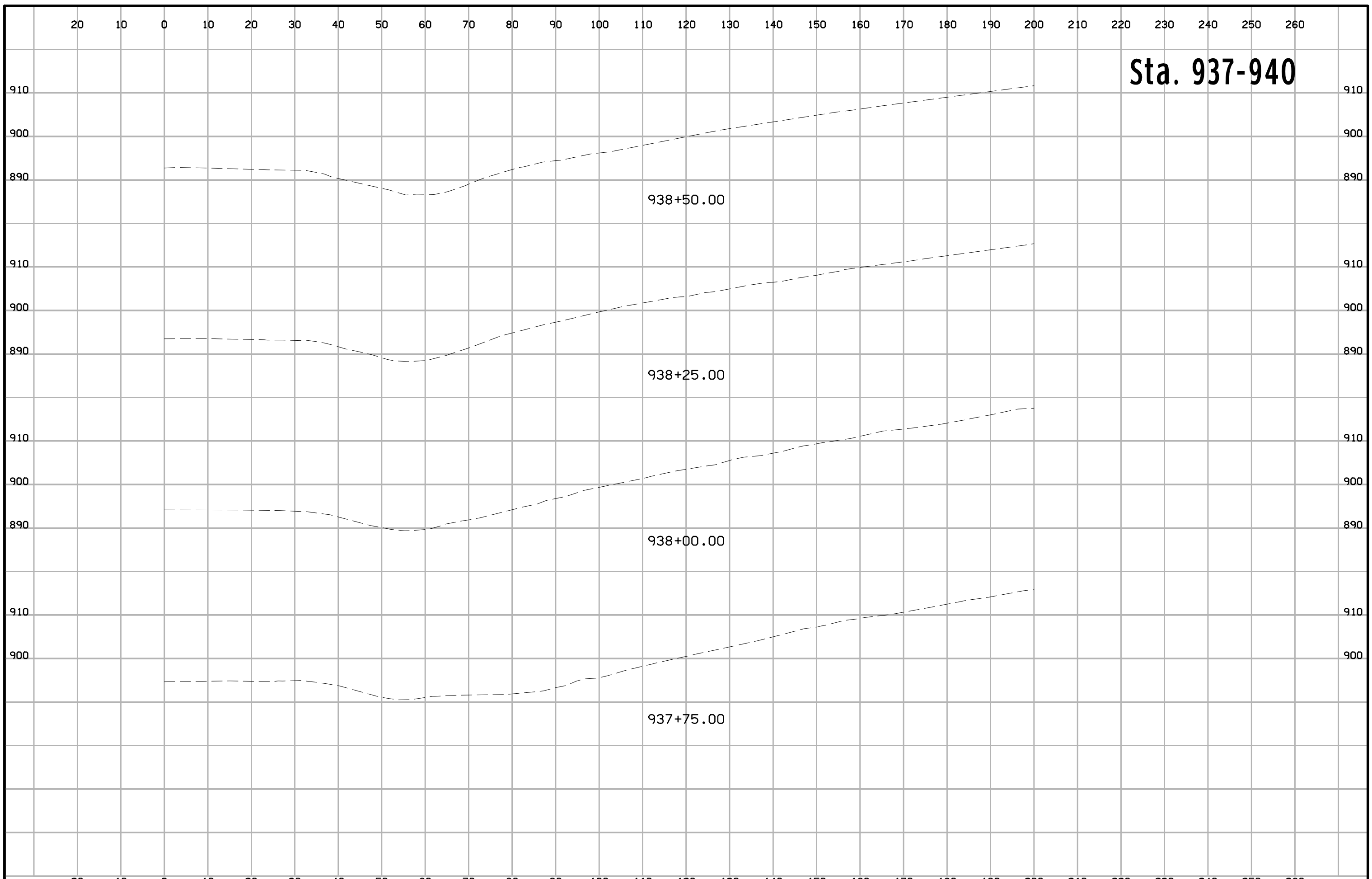
B-0027





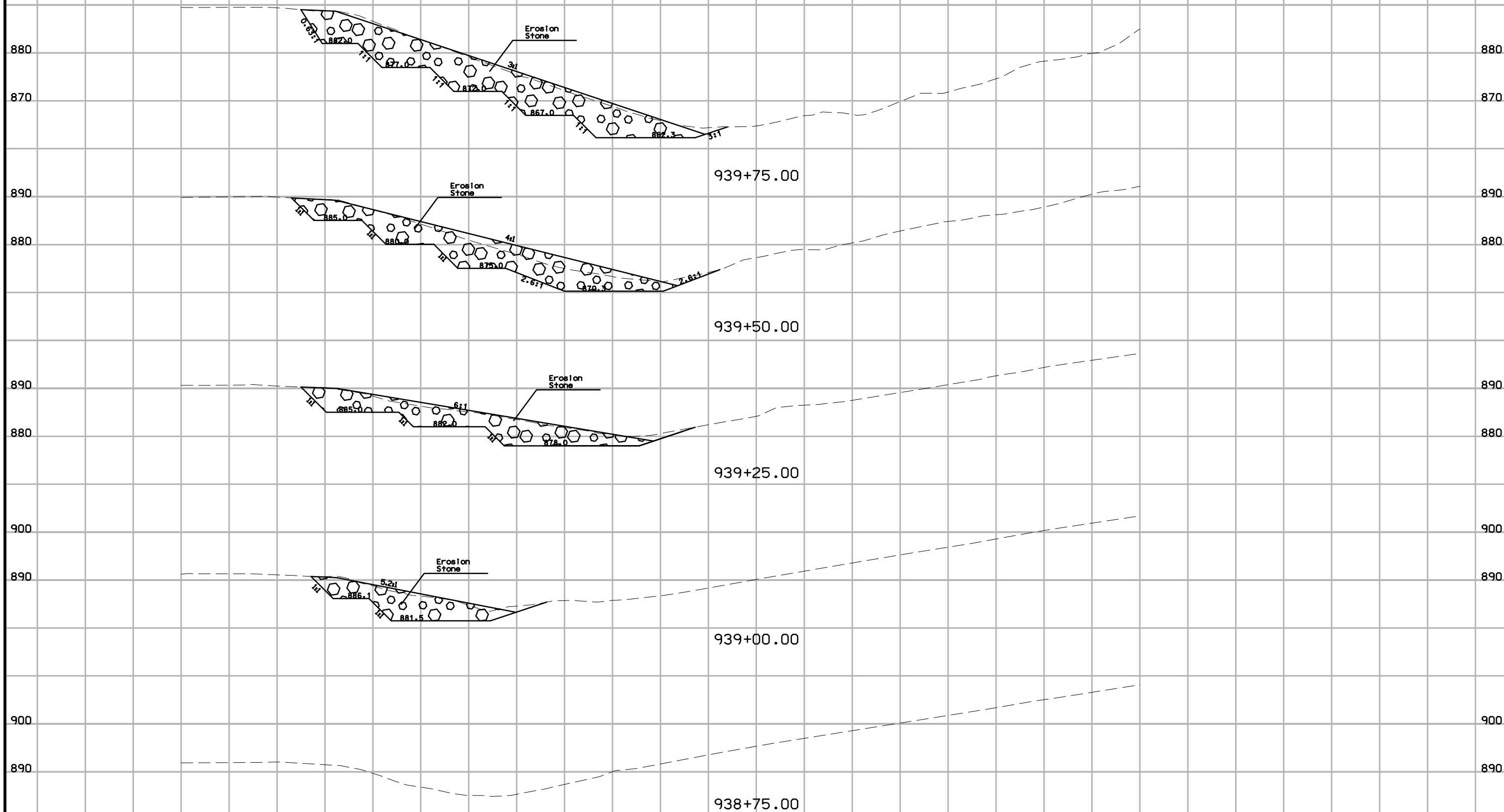


Sta. 937-940



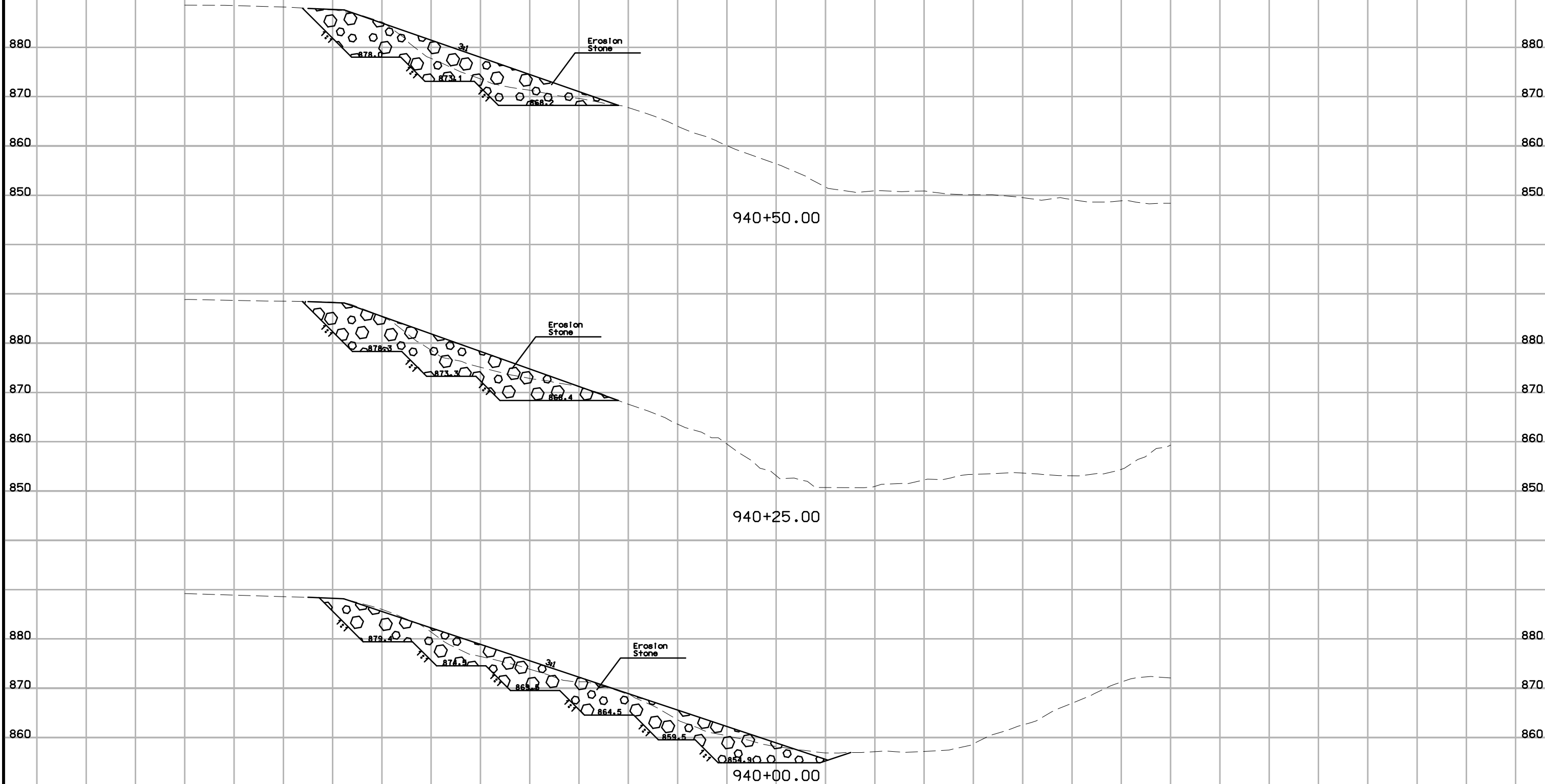
20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260

Sta. 937-940



20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260

Sta. 937-940



20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260

ENGLISH

IOWA DOT

DESIGN TEAM

STANLEY\MEGIVERN\GK\KB

MONROE/WAPELLO COUNTY

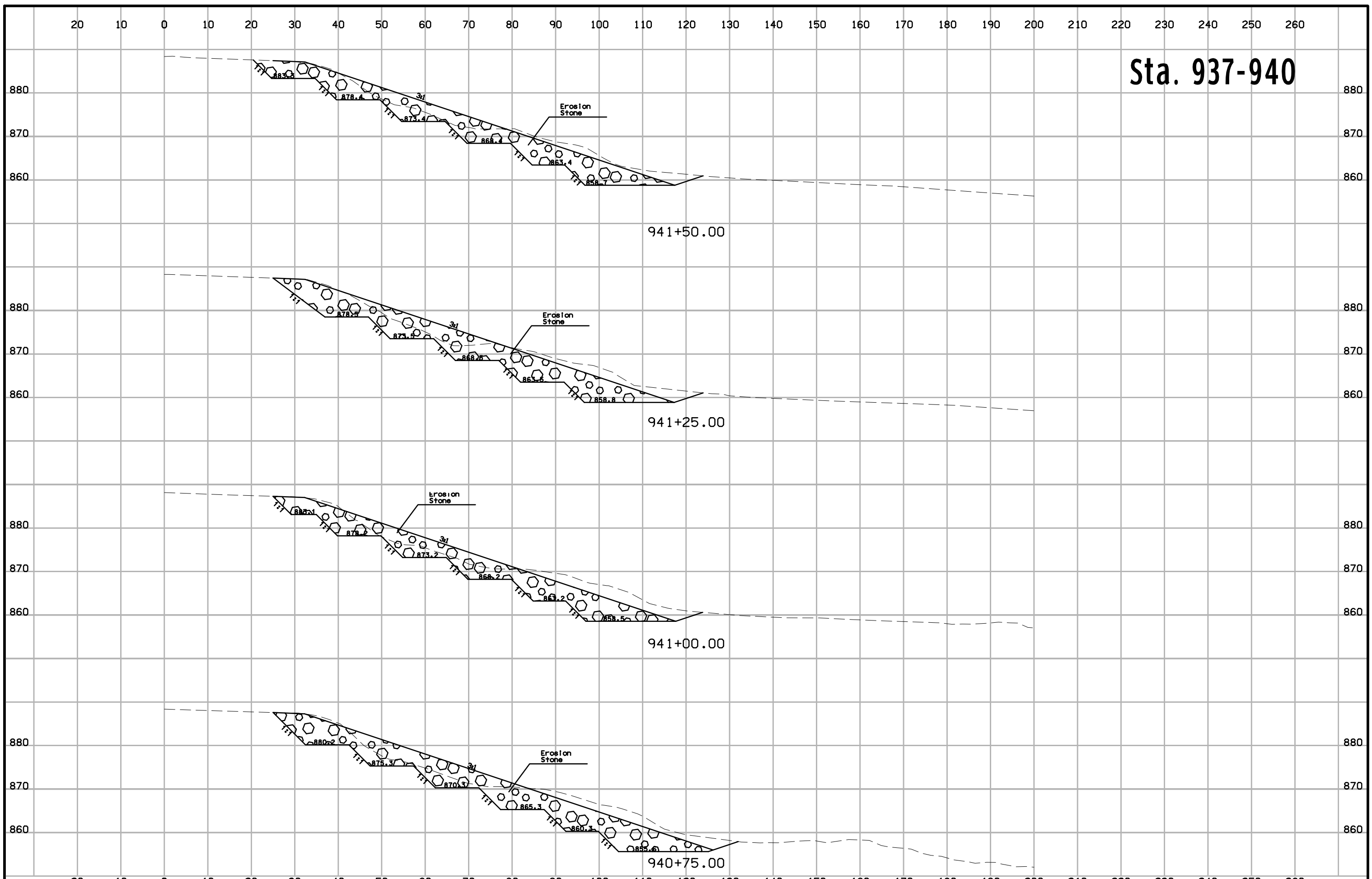
PROJECT NUMBER

NHSN-034-6(77)--2R-68

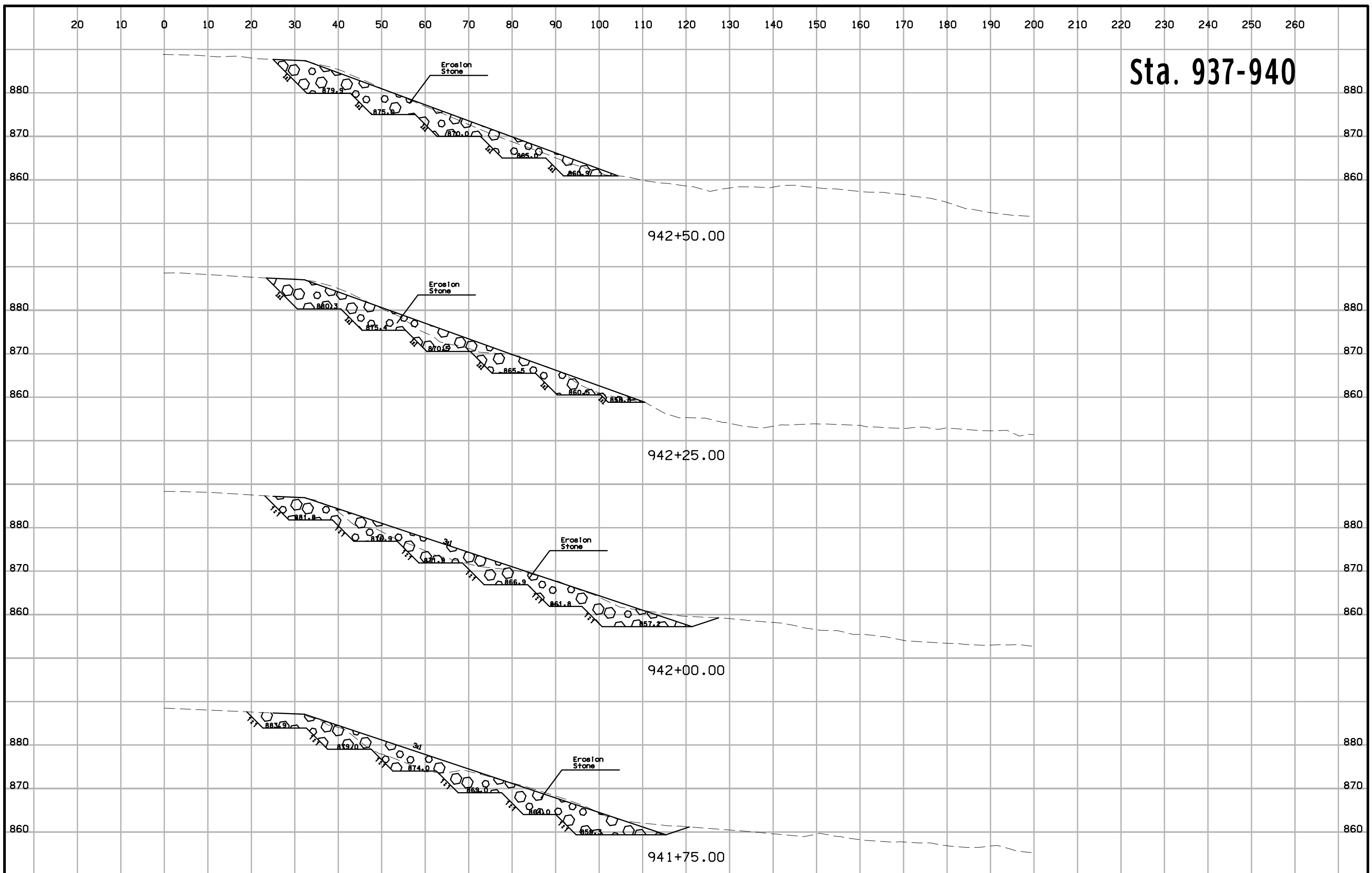
SHEET NUMBER

W.3

Sta. 937-940

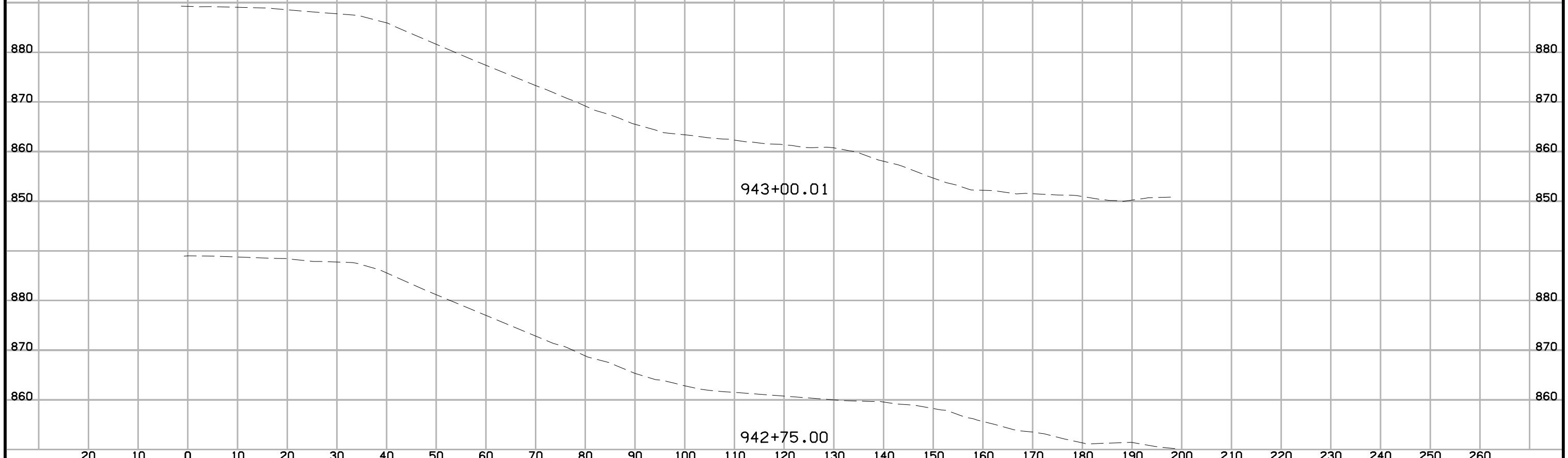


Sta. 937-940

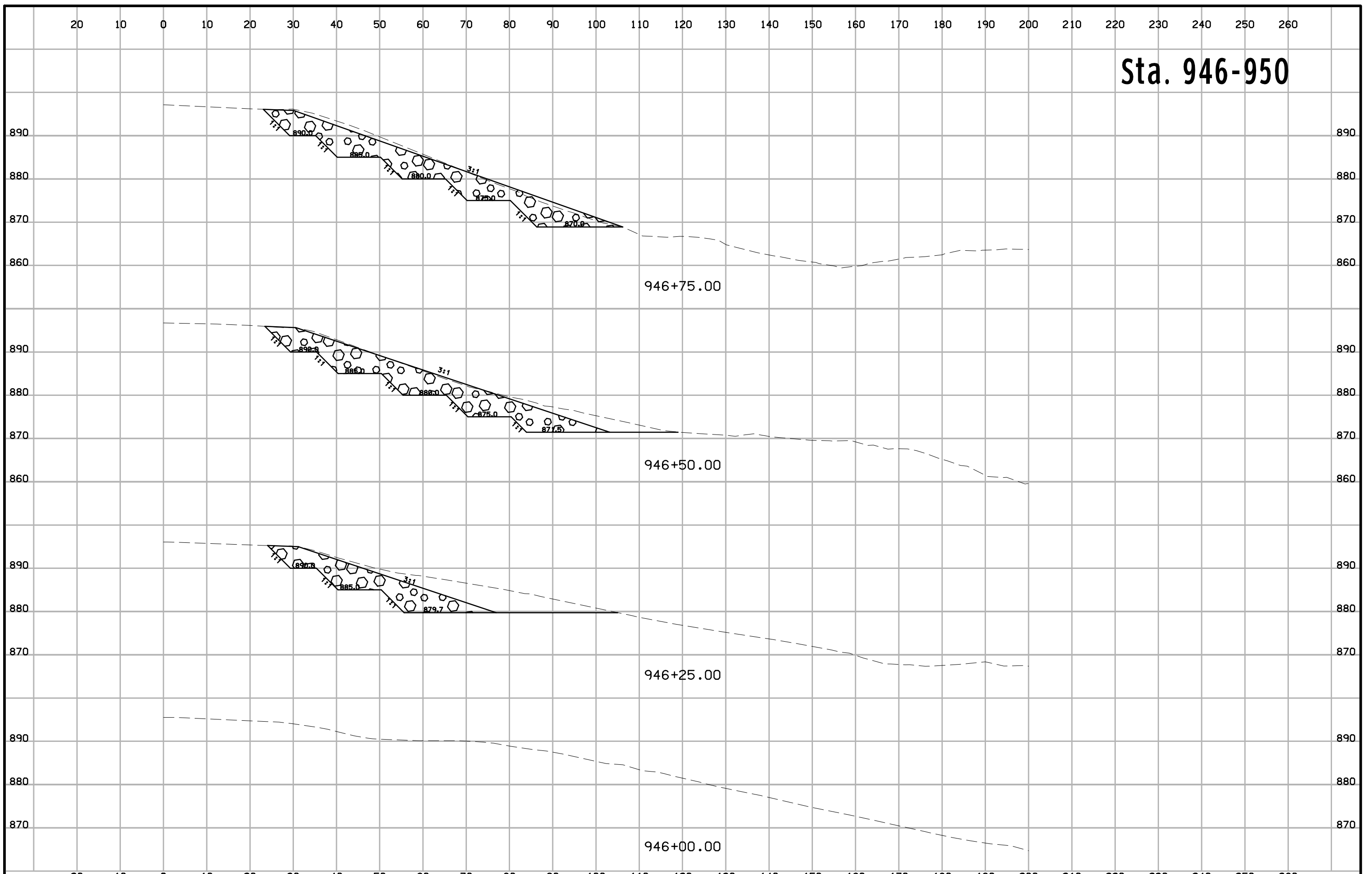


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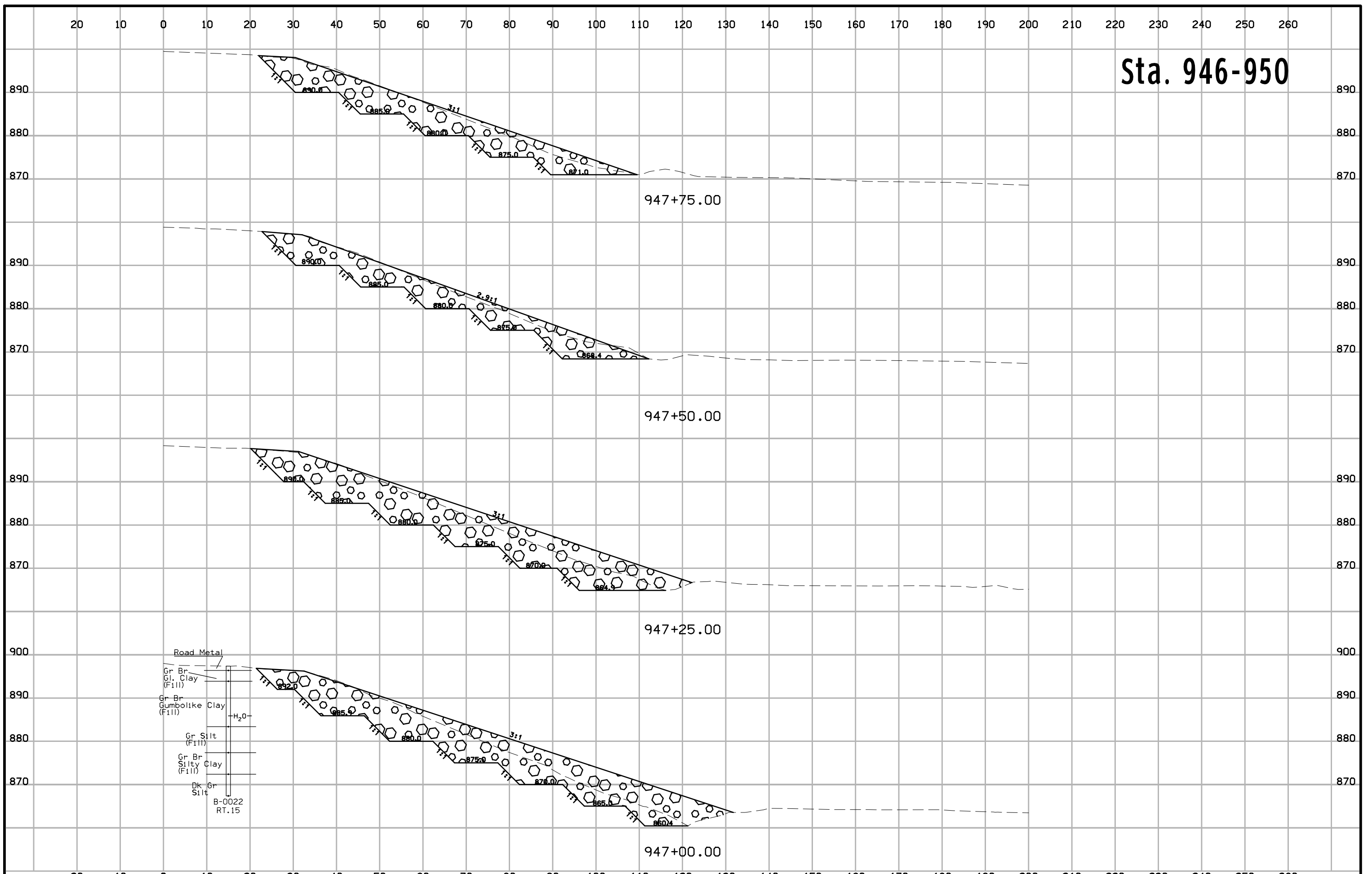
Sta. 937-940



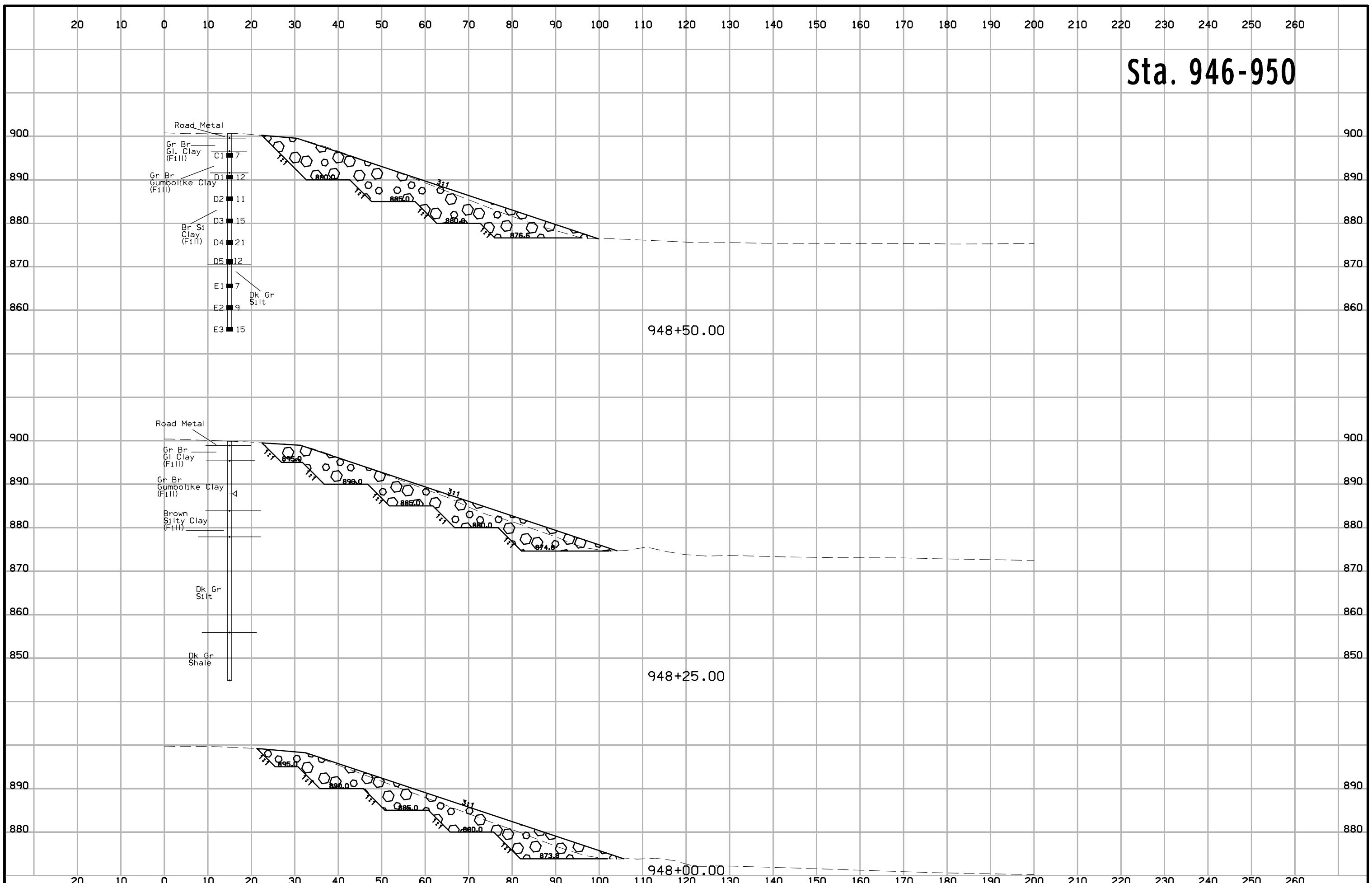
Sta. 946-950



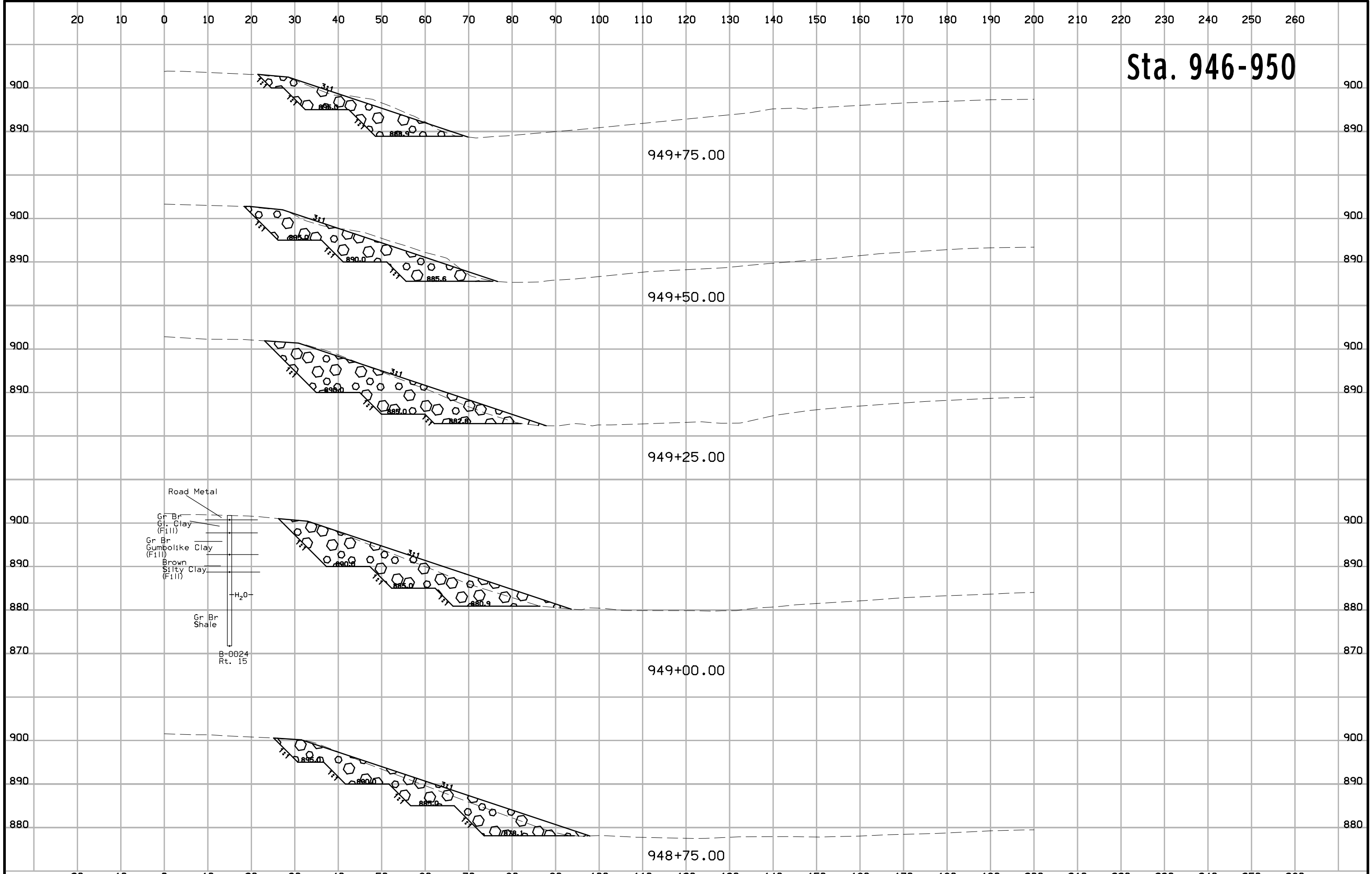
Sta. 946-950



Sta. 946-950

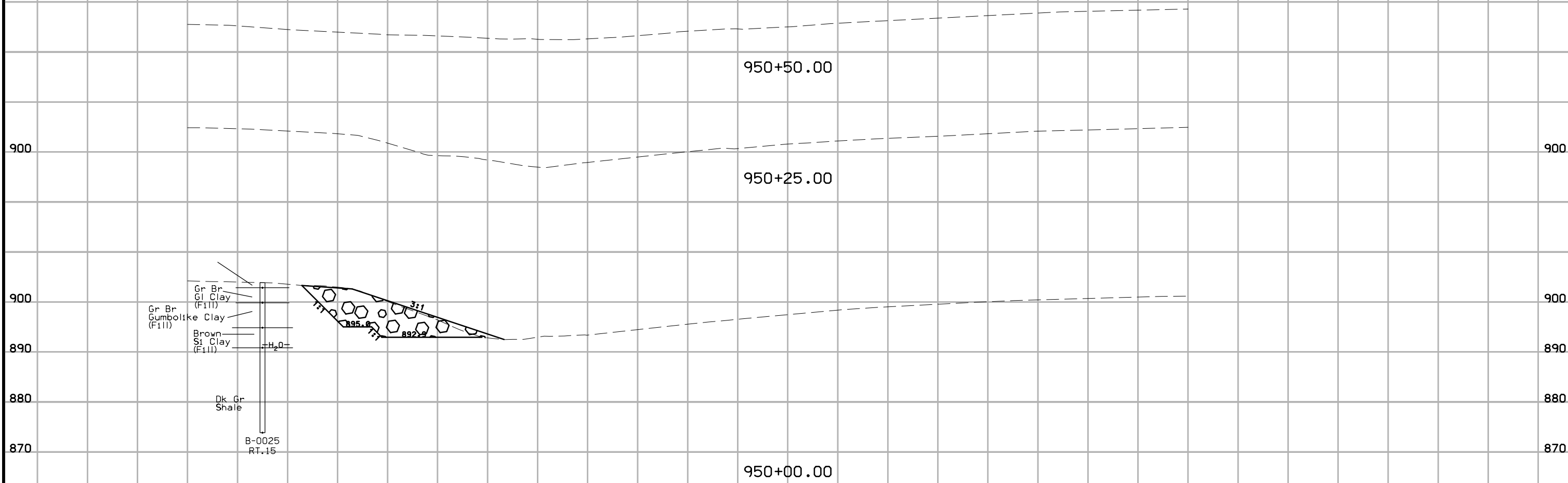


Sta. 946-950



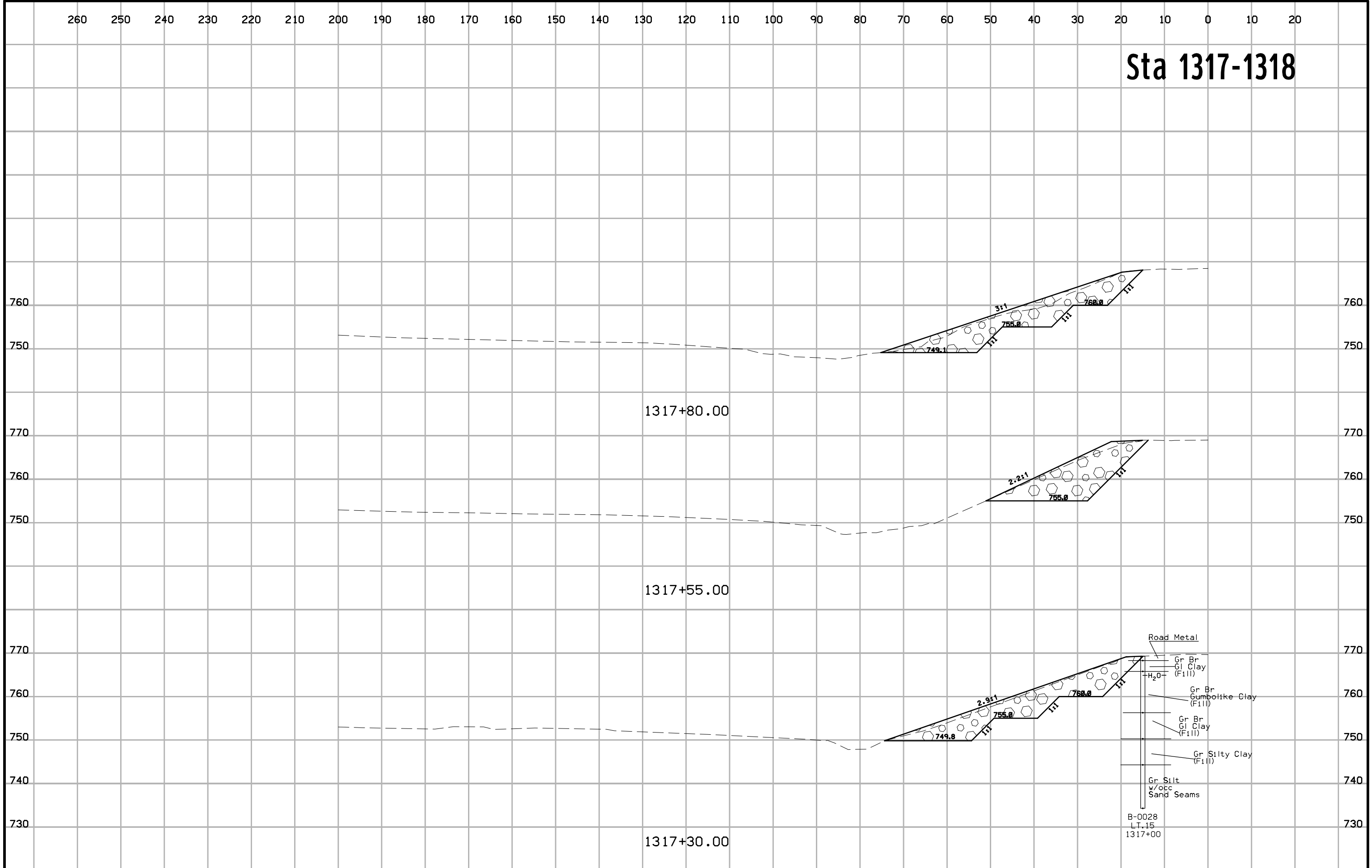
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Sta. 946-950



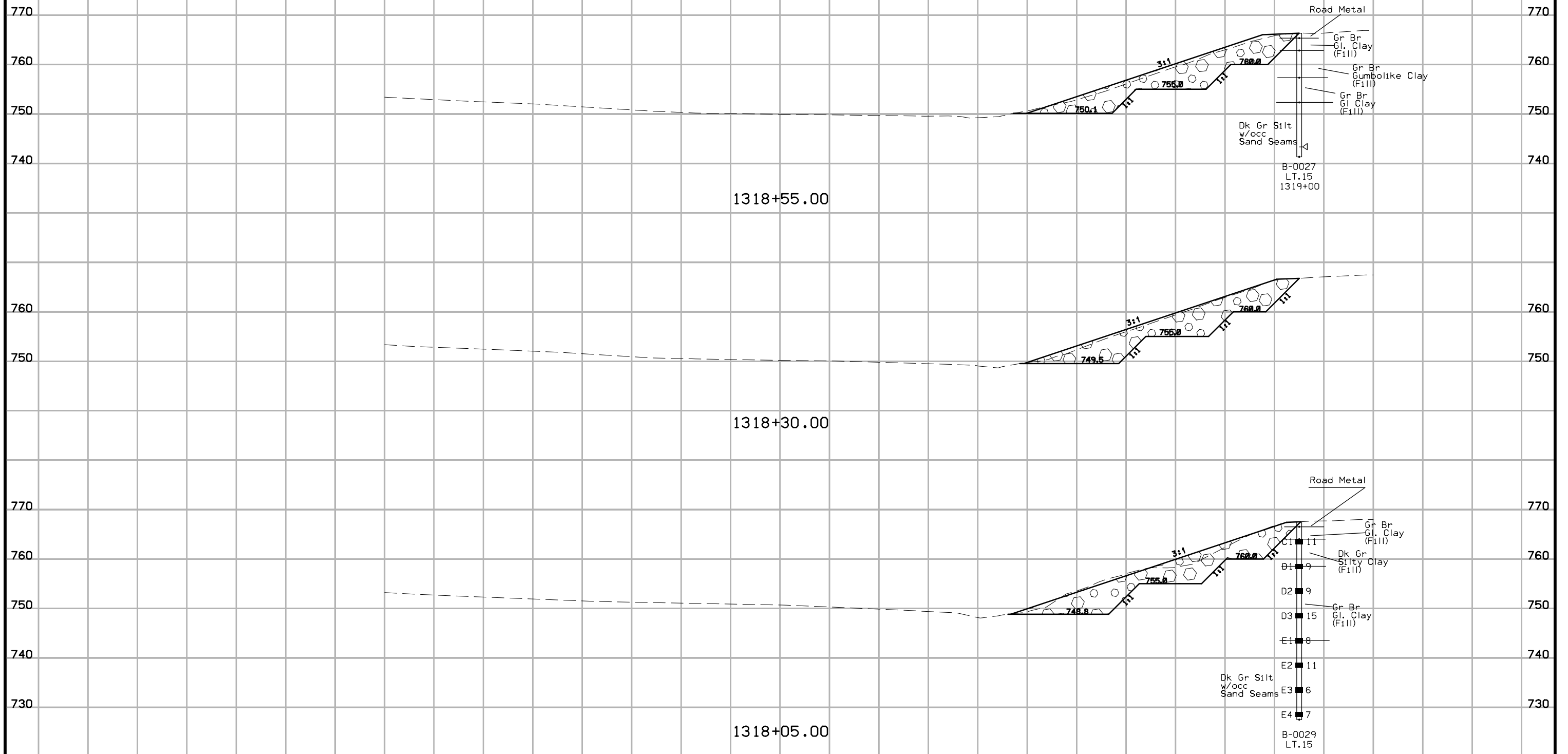
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Sta 1317-1318



260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

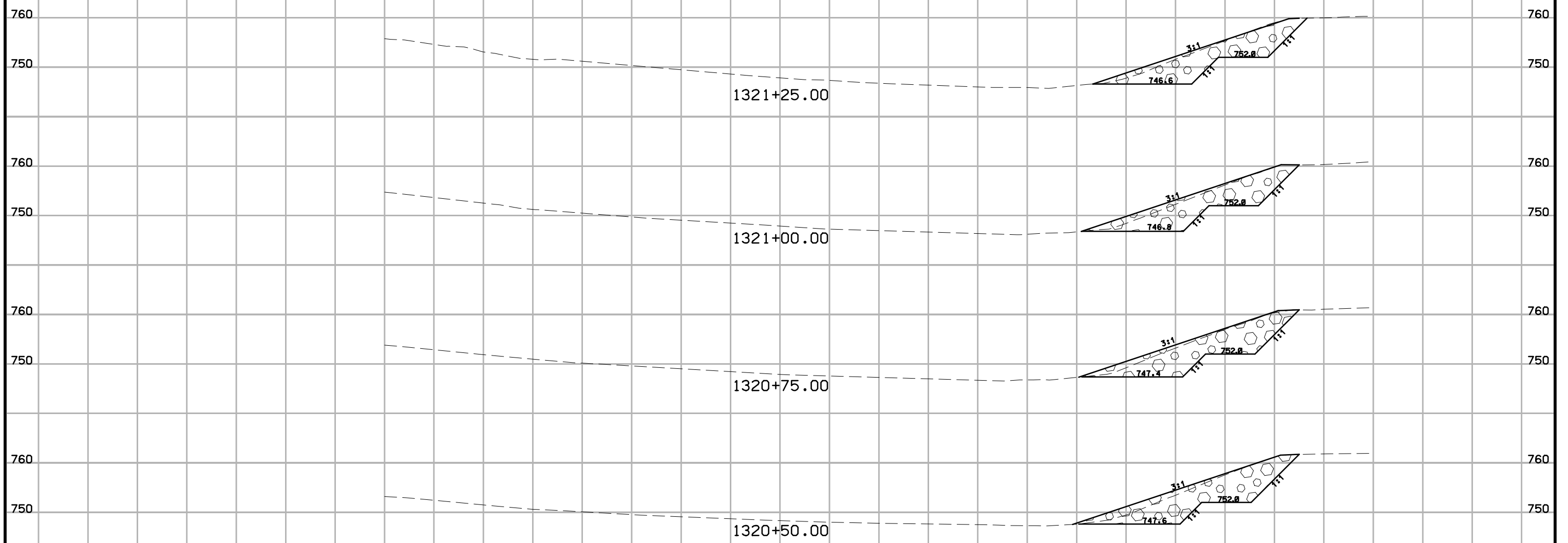
Sta 1317-1318



260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

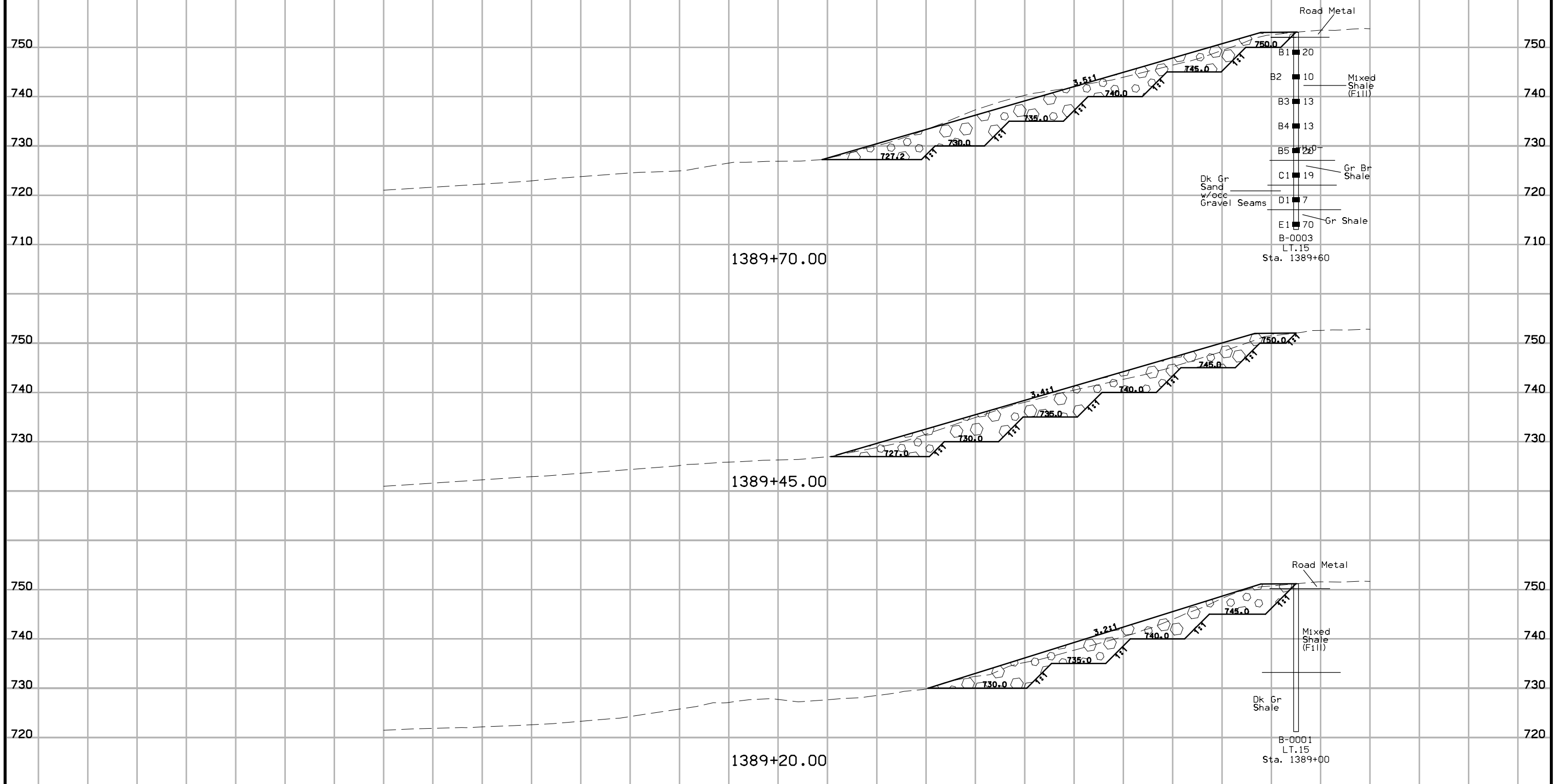
Sta. 1320



260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

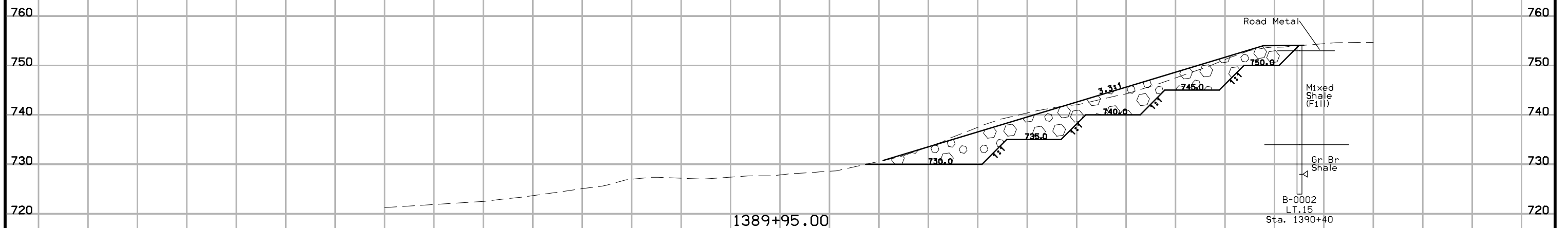
Sta. 1389+20-+90



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260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

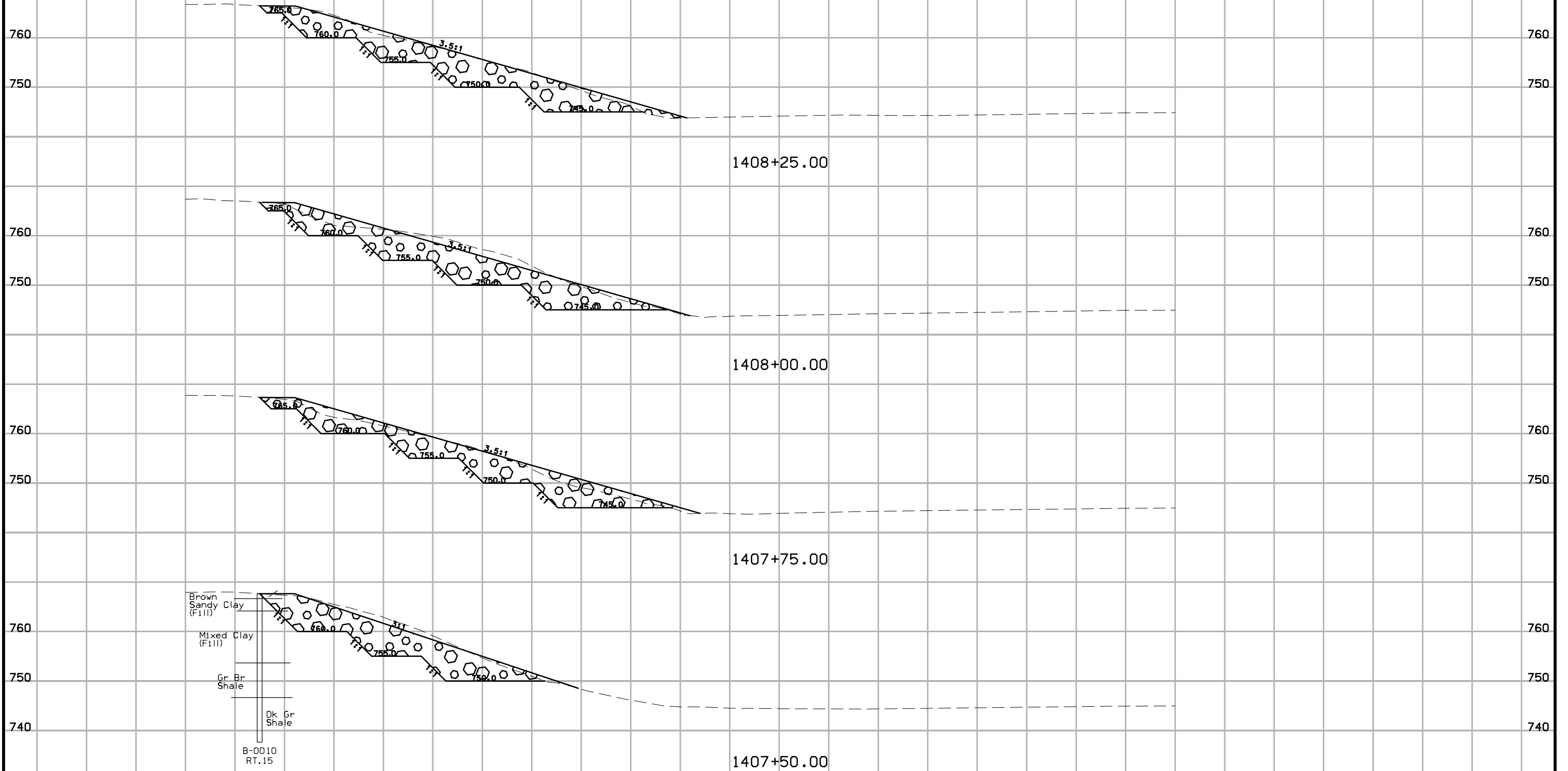
Sta. 1389+20-+90



260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260

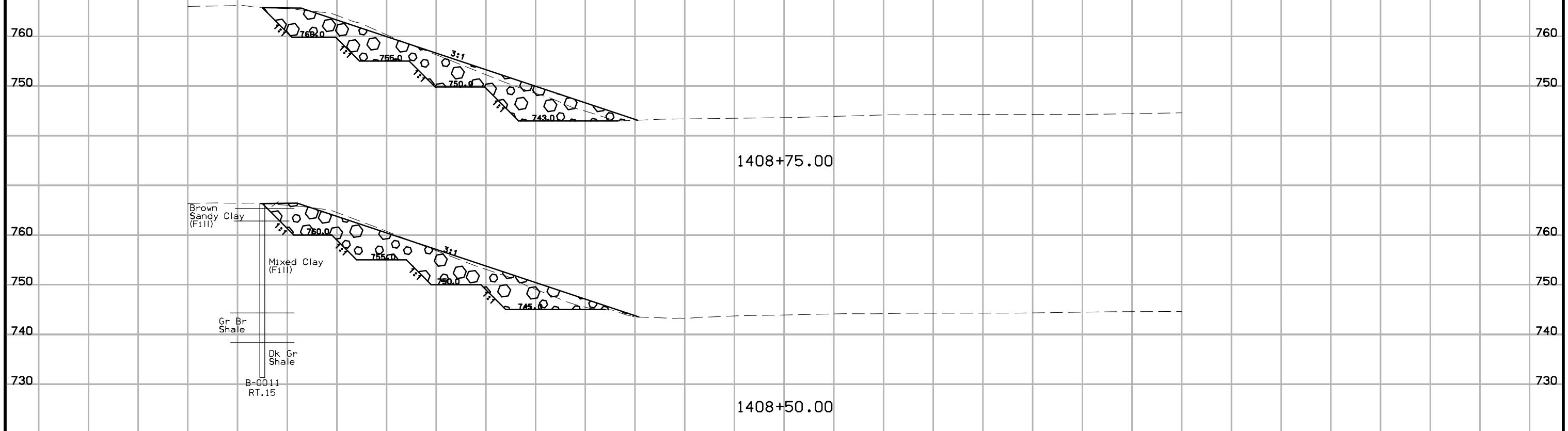
Sta. 1407-1409



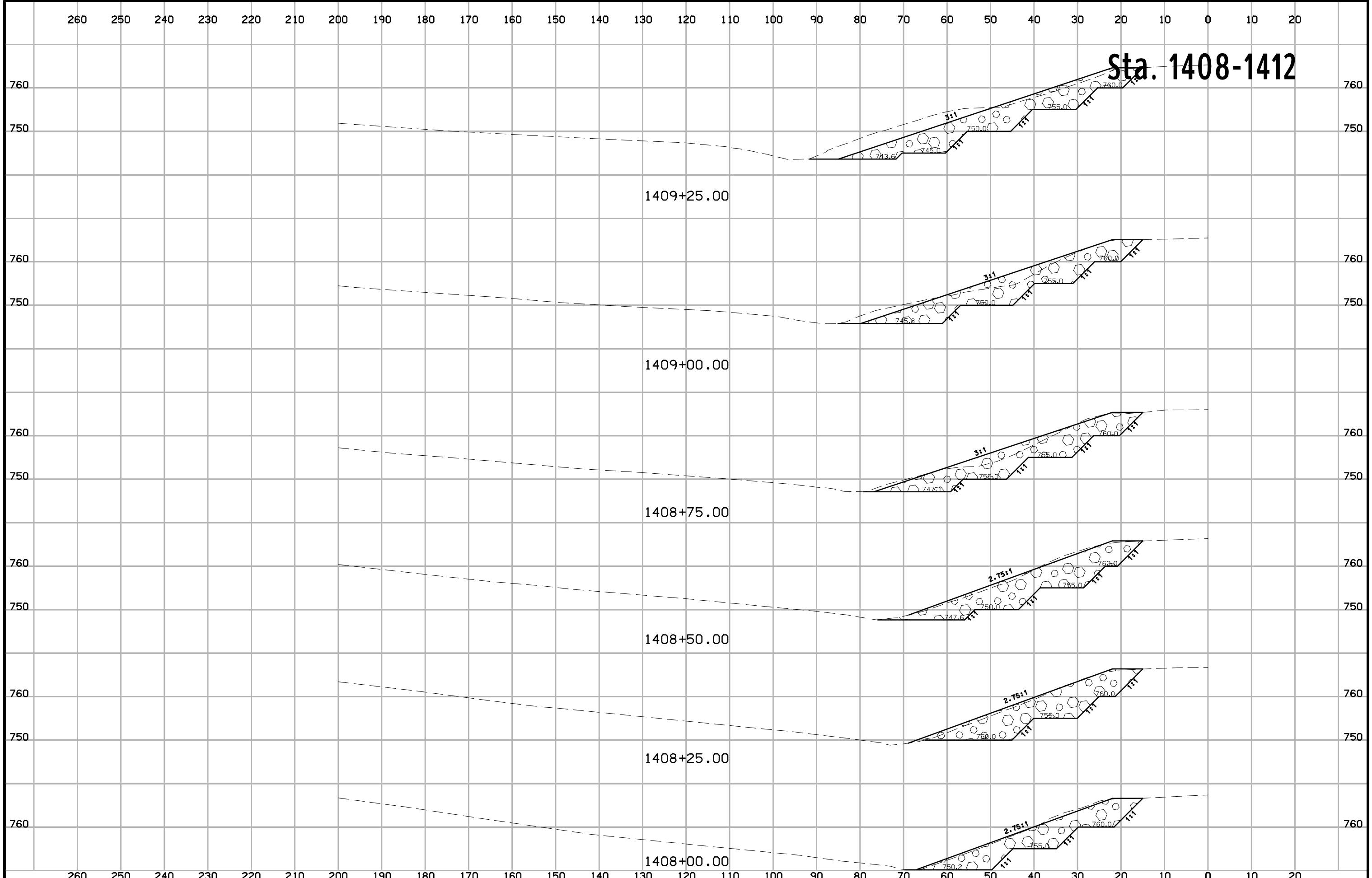
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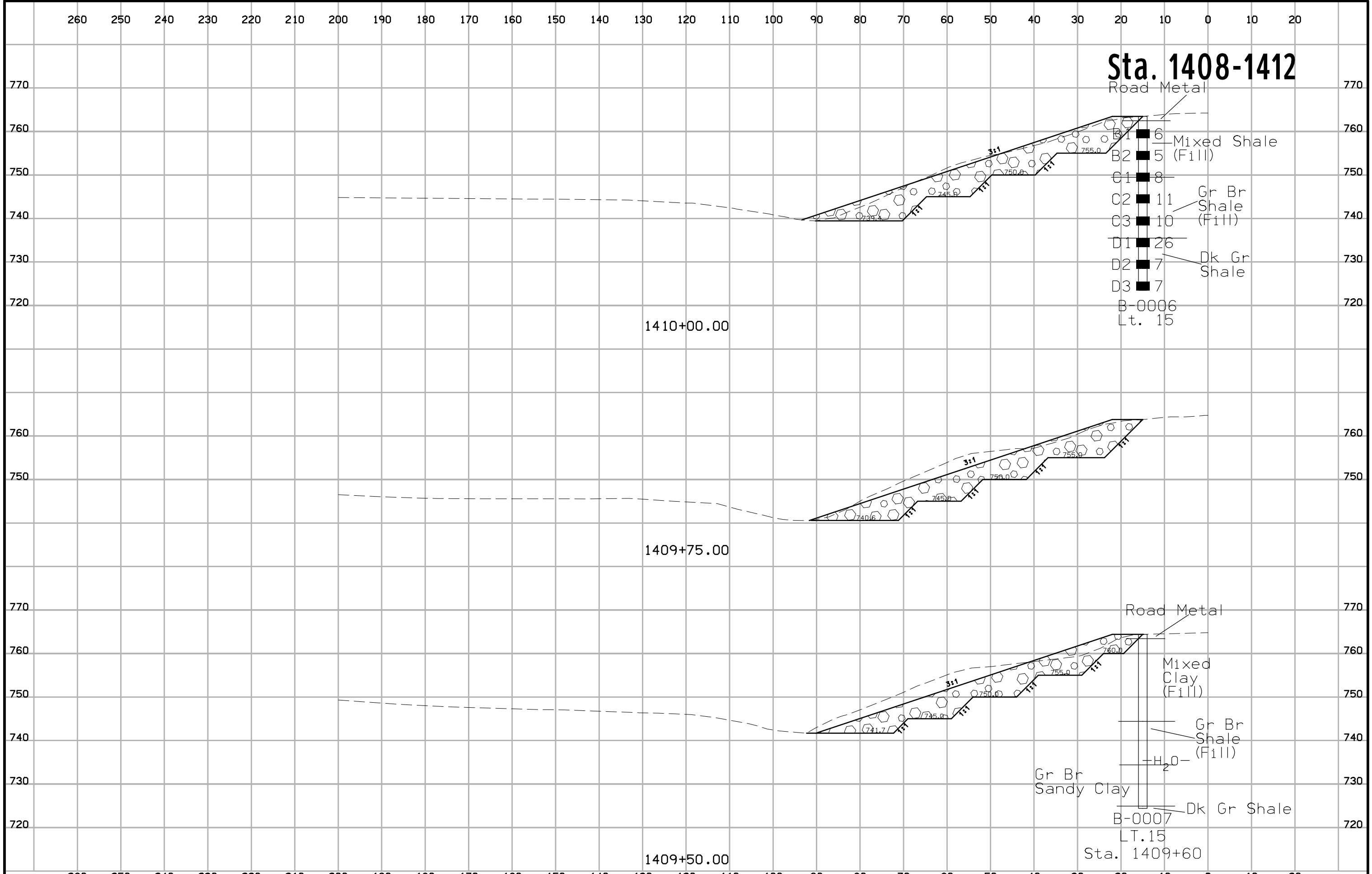
Sta. 1407-1409



Sta. 1408-1412



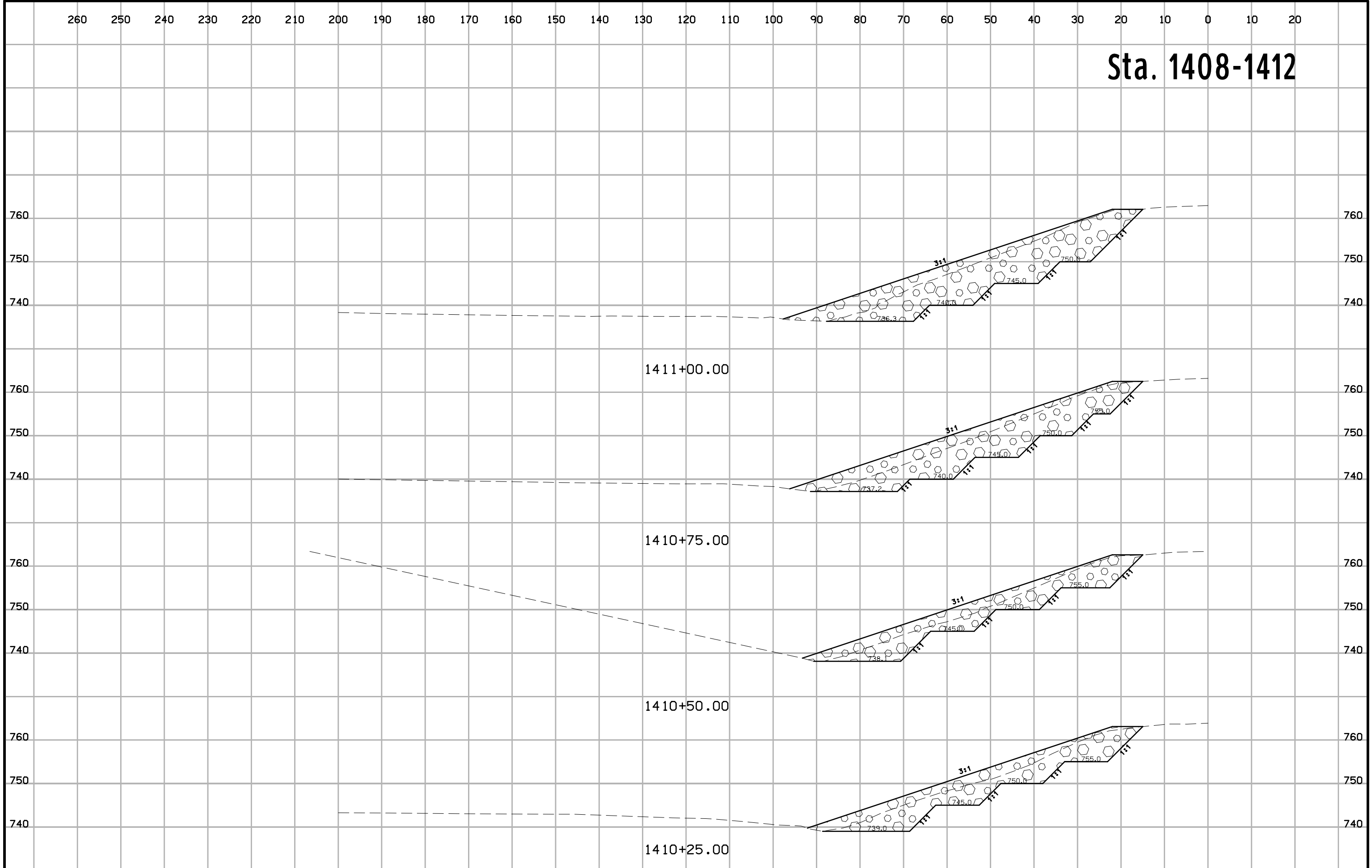
Sta. 1408-1412



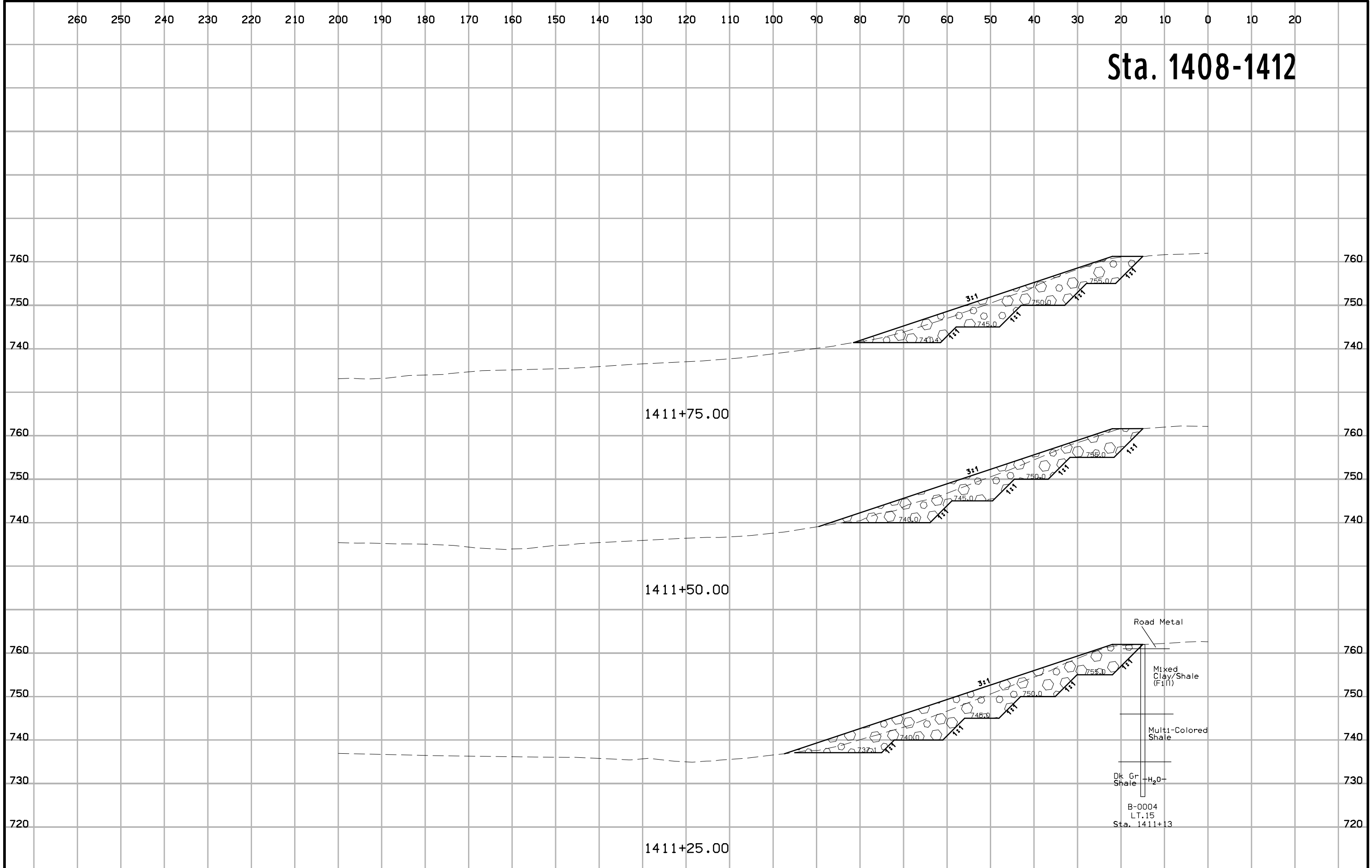
- 6
- 5
- 8
- 11
- 10
- 26
- 7
- 7
- B-0006
- Lt. 15

- Road Metal
- Mixed Clay (Fill)
- Gr Br Shale (Fill)
- +H₂O-
- Gr Br Sandy Clay
- Dk Gr Shale
- B-0007
- LT.15
- Sta. 1409+60

Sta. 1408-1412



Sta. 1408-1412



Sta. 1408-1412

