

Addendum 2

City of Canton, Ohio
Purchasing Department
218 Cleveland Ave. SW, 4th floor
Canton, Ohio 44702

Design of Belden Ave NE Bridge Replacement Project, GP1375, PID 118891

Item/Project

Engineering Department

Responsible Department

Wednesday, April 19th, 2023 at 4:00 PM local time

Proposals Due By

Proposal Submitted By:

Company Name

Street Address

City

State

Zip

Contact Person

Phone No.

Email Address

For reference purposes, attached is preliminary study that has been prepared thus far for the Design of Belden Ave NE Bridge Replacement Project, GP1375, PID 118891.

Thank you.



**BELDEN AVENUE NE BRIDGE
EVALUATION AND COST STUDY
CITY OF CANTON
STARK COUNTY, OHIO**

August 4, 2021

PREPARED FOR:

City of Canton

Attn. Mr. Daniel J. Moeglin, P.E., Canton City Engineer

2436 30th Street NE
Canton, Ohio 44705

PREPARED BY:

LJB Inc.

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DRAFT LPA SCOPE OF SERVICES FORM

DRAFT PROJECT SCHEDULE

2020 BM-191 FORM (STRUCTURAL INVENTORY AND INSPECTION INFORMATION)

EXISTING PLANS



INTRODUCTION

The Belden Avenue NE bridge is owned and maintained by the City of Canton (located in Stark County, Ohio). The structure is a three-span continuous concrete slab on reinforced concrete stub abutments and cap-and-column piers. The bridge currently (2020 inspection) has a general appraisal rating of 4A due to the poor condition of the substructure. The purpose of this evaluation is to complete a construction cost study to evaluate the replacement alternatives for the Belden Avenue NE bridge.

SCOPE OF THIS BRIDGE EVALUATION AND COST STUDY

This bridge replacement evaluation and cost study includes the following:

- > Site visit to determine the probable limits of construction and alternative structure types. The site visit was completed on July 23, 2021. Necessary measurements were taken to help define the replacement scope of work and assist in cost estimating.
- > Preliminary evaluation of four different structure types; three-span continuous concrete slab, three-span composite prestressed concrete box beam, three-span composite prestressed concrete I-girder and three-span composite rolled steel beam.
- > Preliminary evaluation of detour plan.
- > Preliminary evaluation of right-of-way and utility impacts.
- > Preliminary evaluation of environmental requirements.
- > Estimates of probable costs for each of the four alternatives listed above, including anticipated approach roadway costs.
- > Provide a written narrative defining the scope of work for the recommended alternative.
- > This bridge evaluation report also includes the 2020 structural inventory/inspection information, draft LPA scope of services form for the recommended alternative, an estimate of probable cost for each alternative, draft project schedule and existing plans.

> SITE VISIT AND INSPECTION

BELDEN AVENUE NE OVER EAST BRANCH OF NIMISHILLEN CREEK

Structural File Number: **7660456**

Span: **31'-0"** (overall length of the two barrels)

Inspection Date: **12/3/2020 (ODOT BM191) – LJB Site Visit on 7/23/2021**

General Appraisal and Operating Status: **4A**

Structure Type: Three-span continuous concrete slab on reinforced concrete stub abutments and cap-and-column piers

Site Visit and Inspection Findings

- > Approach slabs measured 15-feet in length.
- > The overall bridge length was measured to be 105-feet.
- > The sidewalks on each side of the bridge measured to be 6-feet. The curb heights were measured to be 10-inches.
- > The roadway width over the structure was measured to be approximately 36-feet face-to-face of curb lines.
- > Roadway slab area thickness is 19-inches, with an additional thickness of 14-inches at the sidewalks on each side.
- > The concrete slab has sections of concrete delamination, spalling and exposed reinforcing steel.
- > The abutments have areas of concrete delamination, cracking and spalling. The northeastern section of the north abutment has a 12-foot-wide area that is spalled a depth of 9-inches. This area has undermined the bearing area of the concrete slab.
- > Although the existing plans show capped-pile piers, the piers are actually concrete cap-and-column piers. The concrete of the columns of both piers are cracking significantly near the channel flowline.
- > Based on our site visit, LJB agrees with the 2020 condition inspection and general appraisal rating of a 4 (poor condition). This is mainly due to the deterioration of the substructure, particularly the significant concrete cracks in both pier columns and the loss of bearing area beneath the slab at the north abutment.



ROADWAY VIEW – LOOKING NORTH



ROADWAY VIEW – LOOKING SOUTH



CONCRETE SLAB DETERIORATION





CHANNEL VIEW



STORM PIPE AT NORTH ABUTMENT



ABUTMENT DETERIORATION





PIER COLUMN CRACKING



PIER COLUMN CRACKING



> PRELIMINARY DESIGN EVALUATIONS

PRELIMINARY EVALUATION OF STRUCTURE ALTERNATIVES

This study evaluates four different structure types; three-span continuous concrete slab, three-span composite prestressed concrete box beam, three-span composite prestressed concrete I-girder and three-span composite rolled steel beam. All options will maintain the existing horizontal alignment and vertical profile of Belden Avenue NE and match or increase the existing waterway opening.

COMMON BRIDGE CHARACTERISTICS OF ALL FOUR STRUCTURE ALTERNATIVES

A primary goal of the project is to maintain the vertical profile of Belden Avenue NE. The reason for this goal is to minimize the roadway approach work limits, avoid relocation of existing utilities at the site, minimize impacts to the adjacent business driveways, closely match the waterway opening since the bridge is in a FEMA Zone AE regulatory floodway and not introduce fill in the floodway.

To accomplish this goal, the proposed bridge spans will closely match the existing bridge. The existing span arrangement is 31.39'-39.32'-31.39' and for the purpose of this study, the new span arrangement has been set to be 32'-40'-32' respectfully.

The new span arrangement will have the substructure units (abutments and piers) set in the same location as the existing. According to the existing plans, the abutments are founded on a single row of HP10x42 piles spaced at 7'-4". We anticipate that these piles will be reused in the new construction and additional piles will be added to supplement the existing piles as needed.

According to the existing plans, the piers are capped-pile piers with HP12x53 piles. However, from our site visit, we observed that the piers are concrete cap-and-column piers. The foundations for the existing piers are unknown, but we assume that they are founded on either spread footings or pile foundations. During our site visit, we observed a lot of debris trapped beneath the structure around the piers. For the purpose of this study, we assume that the new piers will be concrete wall type piers to reduce debris build up, which will also reduce future maintenance for the City of Canton. This study utilizes HP12x53 pile foundations for the new pier construction, assuming that existing piles are not present.

The typical section for the bridge will match the existing. The roadway width will be 36'-0" face-to-face of the curbs (10"), with 6'-0" sidewalks on both sides and utilize the BR-2-15 sidewalk railing with concrete barrier. The total out-to-out superstructure width will be 50'-0" for the concrete slab and steel beam alternatives. However, for the prestressed concrete box beam and I-girder alternatives, the bridge will need to be widened to accommodate the straight beams, resulting in a total out-to-out superstructure width of approximately 56'-0" (+/-).

Erosion control at the abutment slopes is assumed to include rock channel protection for this study. Detailed design of all structure alternatives will include hydraulic and scour analysis to confirm no impacts to the FEMA floodway and no-rise in the base flood elevations (BFE). If issues arise during the hydraulic analysis, an option would be to utilize capped-pile-piers to reduce the width of the piers and improve the hydraulics of the floodway.

For the purpose of this study, 100 feet of roadway approach work is assumed on each side of the bridge limits. Therefore, if 20-foot approach slabs are used, the approach work limits will be 80 feet from each end of the bridge approach slabs.



Three-Span Continuous Concrete Slab

This alternative would replace the existing bridge with an identical structure type. From the ODOT Standard Drawing for continuous slab bridges (CS-1-08) with a span arrangement of 32'-40'-32', the slab thickness is listed as 20". However, the existing slab thickness is only 19". Therefore, to maintain the existing vertical alignment of Belden Avenue NE and the low chord elevations, a custom concrete slab design will be required to maintain the 19" slab thickness, which can easily be accomplished. The replacement scope of work is estimated to cost **\$1,592,885**. For additional cost information, refer to the estimates of probable cost.

The estimated environmental, design and plan preparation costs associated with this scope of work is **\$288,933 (15% construction + \$50,000 for environmental. This is a conservative estimate for the City of Canton budgeting purposes)**. These design costs assume that the City of Canton receives funding for the project and ODOT will be involved with the design and plan review.

Three-Span Composite Prestressed Concrete Box Beam

This alternative would replace the existing bridge with an adjacent composite prestressed concrete box beam structure type. Our preliminary beam analysis indicates that an ODOT standard (PSBD-2-07) CB17-48 box beam would be required for the maximum span length of 40'-0". This beam has a depth of 17" and combined with a standard 6" concrete deck, would create a total superstructure depth of 23". Therefore, to match the low chord of the structure, the vertical profile along Belden Avenue NE would need to be raised a minimum of 4 inches. This alternative does not meet the primary goal of the project and has been eliminated for consideration as a viable alternative.

Three-Span Composite Prestressed Concrete I-Girder

This alternative would replace the existing bridge with a composite prestressed concrete I-girder structure type. Our preliminary beam analysis indicates that either an ODOT standard (PSID-1-13) AASHTO TYPE 2 or WF36-49 I-girder would be required for the maximum span length of 40'-0". These beams have a depth of 36" and combined with a standard 8.5" concrete deck and 2" haunch, would create a total superstructure depth of 46.5". Therefore, to match the low chord of the structure, the vertical profile along Belden Avenue NE would need to be raised a minimum of 27.5 inches. This alternative does not meet the primary goal of the project and has been eliminated for consideration as a viable alternative.

Three-Span Composite Rolled Steel Beam

This alternative would replace the existing bridge with a composite rolled steel beam (curved) structure type. Our preliminary beam analysis indicates that a minimum 14" steel beam depth would be required for the maximum span length of 40'-0". This beam depth combined with a standard 8.5" concrete deck and 2" haunch, would create a total superstructure depth of 24.5". Therefore, to match the low chord of the structure, the vertical profile along Belden Avenue NE would need to be raised a minimum of 5.5 inches. This alternative does not meet the primary goal of the project and has been eliminated for consideration as a viable alternative.

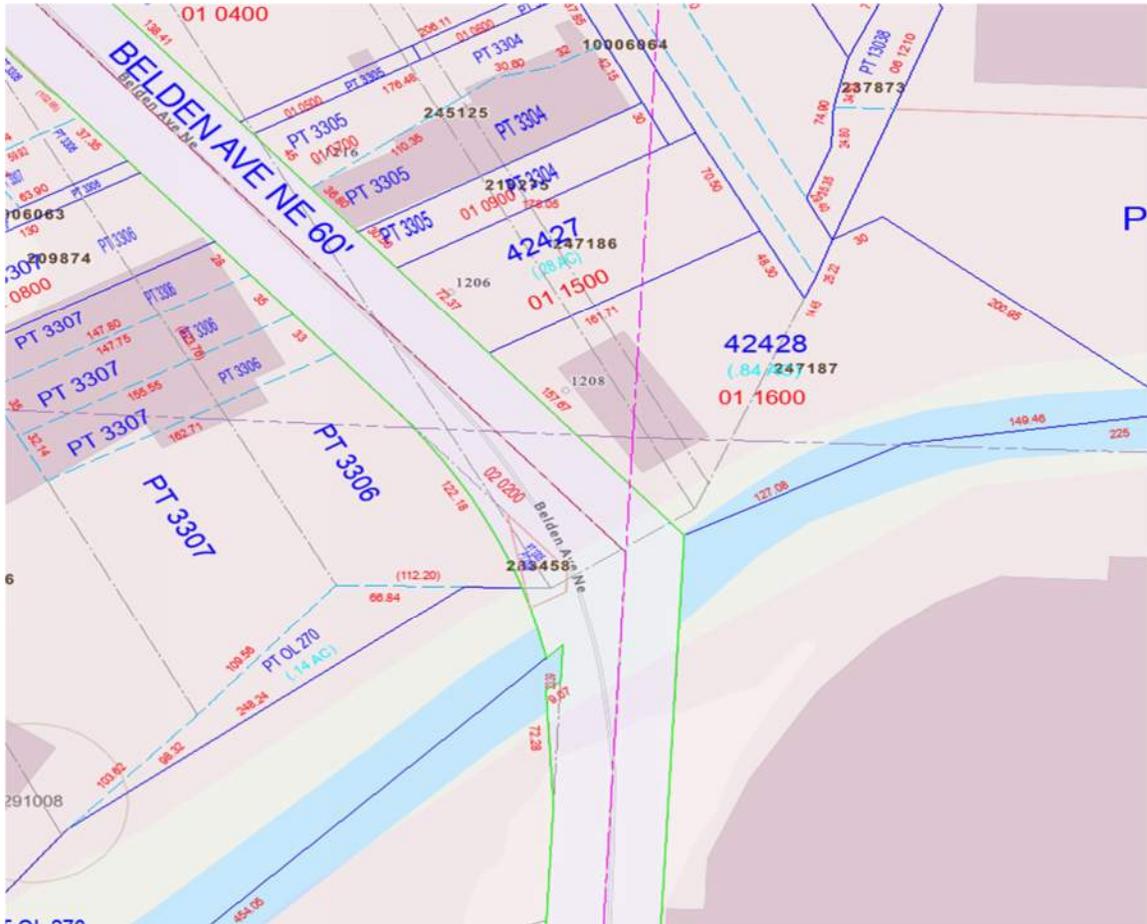
PRELIMINARY EVALUATION OF DETOUR PLAN

The proposed structure will be closed during construction. From our review of the local roadway system, a short detour route can be established with a length of approximately 1-mile. A signed southbound detour option could be Mahoning Road NE to The O-Jay's Parkway NE to Ira Turpin Way NE to Belden Avenue NE.



PRELIMINARY EVALUATION OF RIGHT-OF-WAY IMPACTS

Based on our review of the right-of-way (R/W) information on Stark County Auditor's website, the R/W along Belden Avenue is 60-feet wide and at the bridge location widens out to a variable width with a maximum width of approximately 90-feet. From our review of the Stark County Auditor's website and the existing plans, we anticipate that a maximum of four parcels will be impacted. A combination of permanent and temporary R/W will likely be required to construct the proposed abutments, wingwalls and foundations. Relocations will not be necessary for the construction of the new bridge. The screenshot from the Auditor's website is shown below.



PRELIMINARY EVALUATION OF UTILITY IMPACTS

As part of this evaluation study, LJB contacted OUPS and asked for a design-ticket to be completed. From this information, we anticipate that the following aerial and buried utilities run along Belden Avenue NE in the vicinity of the bridge. Until field survey and utility location is completed during preliminary design engineering, the assumption will be made that these utilities may be impacted during construction.

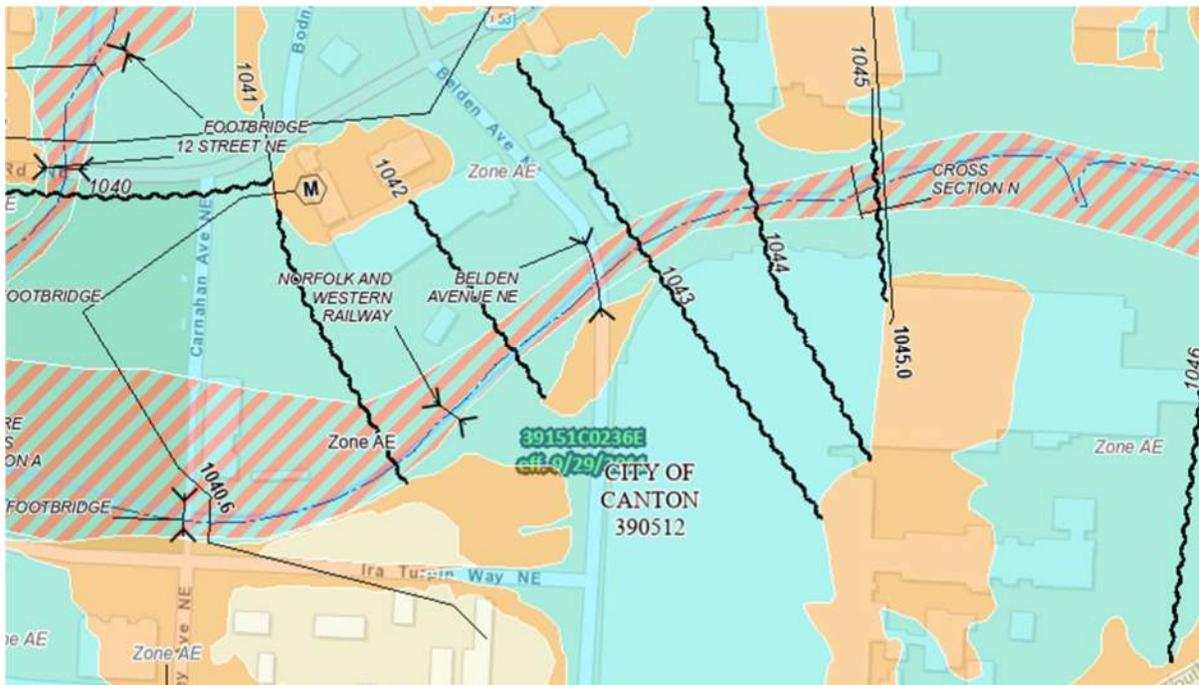
- > Dominion Energy Ohio (gas)
- > AEP (electric – preliminary notified that no underground facilities)
- > AT&T Ohio (fiberoptic and phone)
- > City water line on north and south side of bridge location.

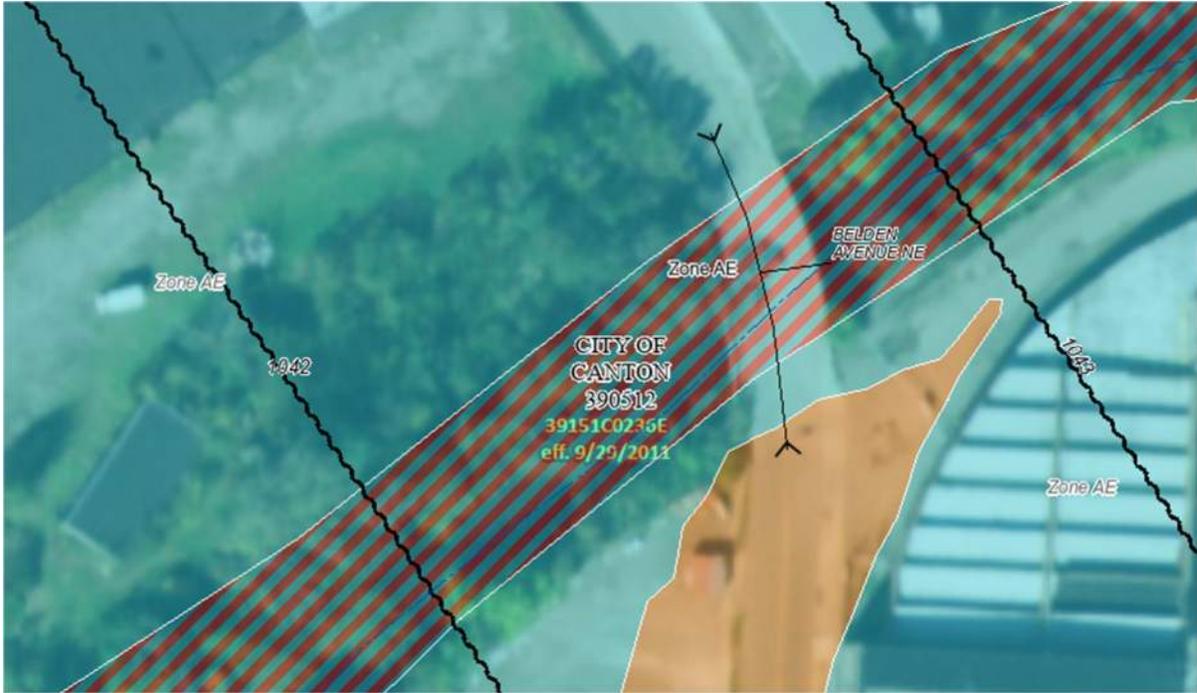
- > City sanitary sewer line on north side of northern bridge abutment.
- > City storm sewer lines on north and south side of bridge location.
- > City electric and traffic lines near the bridge location.

PRELIMINARY EVALUATION OF ANTICIPATED ENVIRONMENTAL REQUIREMENTS

Based on environmental scopes of work for several recently completed bridge replacement projects over streams or channels, LJB anticipates that the following environmental documentation and studies will likely be required for this project

- > The environmental document is anticipated to be a CE Level 2
- > Cultural Resources Phase 1
- > Ecological Survey
- > Wetland Survey
- > Army Corps of Engineers Nationwide Permit
- > Public Involvement
- > Regulated Materials Review (RMR) – formally called ESA Screening
- > Asbestos Survey
- > Floodplain and Floodway Coordination (bridge is located in a Zone AE regulatory floodway with base flood elevations (BFE). Screenshots from FEMA’s website are shown below.





PRELIMINARY EVALUATION OF ENGINEERING SERVICES

As part of this evaluation study, LJB has developed a list of anticipated engineering design and construction plan development services for the project.

- > Field Survey and Utility Coordination
- > Geotechnical Investigations (anticipated four geotechnical borings)
- > ODOT Feasibility Study (likely, but not always required)
- > ODOT Stage 1 and Preliminary R/W Design and Plan Development
- > ODOT Stage 2 and Final R/W Design and Plan Development
- > ODOT Stage 3 Design and Plan Development
- > ODOT Final Tracings Submittal (PS&E Package)

CONCLUSION AND RECOMMENDATION

CONCLUSION AND RECOMMENDATION

Based on this study, LJB recommends a **new three-span continuous concrete slab** on reinforced concrete stub abutments and wall type piers for the replacement structure as described in the above sections of this report. Benefits of this alternative include maintaining the vertical profile along Belden Avenue NE, minimizing the overall bridge width, maintaining the low chord of the bridge to avoid impacts to the FEMA regulatory floodway, maintaining the hydraulic opening at the bridge, and installing a low-maintenance and durable structure type. As discussed in the previous sections of this study, the recommended alternative is also the only option that meets the primary goal of the project.

➤ REPLACEMENT SCOPE OF WORK

REPLACEMENT SCOPE OF WORK FOR PREFERRED ALTERNATIVE

Based on the recent site inspection, past bridge inspection information and preliminary structure type evaluation, LJB recommends replacing the existing three-span continuous concrete slab on reinforced concrete stub abutments and cap-and-column piers with a new three-span continuous concrete slab on reinforced concrete stub abutments and wall type piers.

The scope of construction work will include the following items:

- > Install temporary traffic control signage along the recommended detour route.
- > Close Belden Avenue NE at the bridge location. The limits of this closure will be approximately 500 feet from each end of the bridge. However, while maintaining local access to the nearby businesses.
- > Complete clearing around the existing structure.
- > Remove the existing superstructure slab, sidewalks, barriers and approach slabs.
- > Remove the existing concrete abutments and piers.
- > Relocate existing utilities that conflict with the new construction (if necessary).
- > Install the new foundation, likely consisting of steel HP piling.
- > Construct the new abutments, wingwalls and piers.
- > Construct the new continuous concrete slab superstructure.
- > Construction the new concrete approach slabs.
- > Construct the new bridge/approach slab sidewalks and bridge/approach slab barriers.
- > Complete the construction of the bridge roadway approaches and adjacent business drives near the bridge location.
- > Complete the pavement markings and install new signage that was disturbed during construction.
- > Seal all required concrete surfaces of the abutments, wingwalls, piers, superstructure fascia, bridge/approach slab barriers and sidewalks.
- > Reopen Belden Avenue NE to traffic.
- > Remove temporary traffic control detour signage.

 **ESTIMATES OF PROBABLE COST**



**BELDEN AVENUE NE BRIDGE EVALUATION AND COST STUDY
CITY OF CANTON
ENGINEER'S ESTIMATE, BASED ON 2019 CONSTRUCTION COSTS
THREE-SPAN CONTINUOUS CONCRETE SLAB - COST ESTIMATE**

August 4, 2021

ODOT ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL COST
ROADWAY					
201	CLEARING AND GRUBBING	1	LUMP	\$10,000.00	\$10,000
202	PAVEMENT REMOVED, ASPHALT	640	SY	\$25.00	\$16,000
202	WALK REMOVED	1600	SF	\$5.00	\$8,000
202	CURB REMOVED	320	FT	\$10.00	\$3,200
202	GUARDRAIL REMOVED	100	FT	\$10.00	\$1,000
203	EXCAVATION	100	CY	\$35.00	\$3,500
203	EMBANKMENT	200	CY	\$20.00	\$4,000
204	SUBGRADE COMPACTION	400	SY	\$6.00	\$2,400
606	GUARDRAIL, TYPE MGS	125	FT	\$25.00	\$3,125
606	BRIDGE TERMINAL ASSEMBLY, TYPE 1	4	EACH	\$1,800.00	\$7,200
608	4" CONCRETE WALK	800	SF	\$10.00	\$8,000
608	8" CONCRETE WALK	800	SF	\$15.00	\$12,000
608	DRIVEWAY APRON, COMMERCIAL	800	SF	\$15.00	\$12,000
204	SUBGRADE COMPACTION	400	SY	\$6.00	\$2,400
EROSION CONTROL					

659	TOPSOIL	50	CY	\$70.00	\$3,500
659	SEEDING AND MULCHING	300	SY	\$7.50	\$2,250
659	WATER	10	MGAL	\$10.00	\$100
832	STORM WATER POLLUTION PREVENTION PLAN	1	LUMP	\$5,000.00	\$5,000
DRAINAGE					
609	CURB, TYPE 6	320	FT	\$40.00	\$12,800
611	SANITARY MANHOLE ADJUSTED TO GRADE, INCL. NEW CASTINGS	1	EACH	\$2,000.00	\$2,000
611	CONDUIT, MISC:	1	LUMP	\$10,000.00	\$10,000
PAVEMENT					
254	ASPHALT PLANING	640	SY	\$20.00	\$12,800
301	ASPHALT CONCRETE BASE, PG64-22	110	CY	\$150.00	\$16,500
304	AGGREGATE BASE	150	CY	\$60.00	\$9,000
407	TACK COAT	50	GAL	\$5.00	\$250
441	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	35	CY	\$280.00	\$9,800
441	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22	35	CY	\$200.00	\$7,000
BRIDGE					
202	STRUCTURE REMOVED, OVER 20 FOOT SPAN	1	LUMP	\$100,000.00	\$100,000
202	APPROACH SLAB REMOVED	160	SY	\$150.00	\$24,000
503	COFFERDAMS AND EXCAVATION BRACING	1	LUMP	\$35,000.00	\$35,000
503	UNCLASSIFIED EXCAVATION	1	LUMP	\$15,000.00	\$15,000

505	PILE DRIVING EQUIPMENT MOBILIZATION	1	LUMP	\$25,000.00	\$25,000
505	STEEL PILES HP10X42, FURNISHED	480	FT	\$30.00	\$14,400
505	STEEL PILES HP10X42, DRIVEN	420	FT	\$20.00	\$8,400
505	STEEL PILES HP12X53, FURNISHED	1440	FT	\$40.00	\$57,600
505	STEEL PILES HP12X53, DRIVEN	1280	FT	\$20.00	\$25,600
509	EPOXY COATED REINFORCING STEEL	152000	LB	\$1.25	\$190,000
511	CLASS QC2 CONCRETE WITH QA/QC, SUPERSTRUCTURE, INCLUDING SIDEWALKS	395	CY	\$900.00	\$355,500
511	CLASS QC1 CONCRETE WITH Q/A/QC, PIER ABOVE FOOTINGS	160	CY	\$750.00	\$120,000
511	CLASS QC1 CONCRETE WITH QA/QC, ABUTMENT INCLUDING FOOTINGS	100	CY	\$550.00	\$55,000
511	CLASS QC1 CONCRETE WITH QA/QC, FOOTINGS	90	CY	\$450.00	\$40,500
512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	625	SY	\$27.00	\$16,875
512	SEALING OF CONCRETE SURFACES (NON-EPOXY)	175	SY	\$23.00	\$4,025
516	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AT PIERS ONLY	52	EACH	\$650.00	\$33,800
517	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)	208	FT	\$150.00	\$31,200
518	POROUS BACKFILL WITH GEOTEXTILE FABRIC	75	CY	\$75.00	\$5,625
518	6" PERFORATED CORRUGATED PLASTIC PIPE	120	FT	\$4.00	\$480
518	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	80	FT	\$6.00	\$480
526	REINFORCED CONCRETE APPROACH SLABS (T=13")	280	SY	\$280.00	\$78,400

526	TYPE A INSTALLATION	125	FT	\$140.00	\$17,500
601	ROCK CHANNEL PROTECTION, TYPE B (FILL IN VOIDS BENEATH BRIDGE)	150	SY	\$100.00	\$15,000
846	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	45	CF	\$325.00	\$14,625
INCIDENTALS					
614	MAINTAINING TRAFFIC (DETOUR)	1	LS	\$5,000.00	\$5,000
619	FIELD OFFICE, TYPE B	1	5 MNTH	\$10,000.00	\$10,000
623	CONSTRUCTION LAYOUT STAKES AND SURVEYING	1	LS	\$15,000.00	\$15,000
624	MOBILIZATION	1	LS	\$25,000.00	\$25,000

CONSTRUCTION COST \$1,522,835

INFLATION \$70,050

TOTAL COST **\$1,592,885**

DRAFT LPA SCOPE OF SERVICES FORM

A. Project Identification

County	STA	Route	BELON	Section	00806
Project sponsor / Maintenance responsibility:		City of Canton			
Local Let		Design – City Consultant	ODOT Let	Construction	
Scope field review:	TBD		Scope meeting:	TBD	
Highway Functional Classification		Local			
PID	TBD				
Fiscal Year	2025		Proposed Sale Date	2/15/2025	

B. Design Standard

ODOT, AASHTO, City of Canton

C. Project Description

Transportation Issue to be Corrected:	Replace deficient bridge.
The existing 3-span continuous concrete slab bridge on reinforced concrete stub abutments and cap-and-column piers will be replaced with a new 3-span continuous concrete slab bridge.	
Project to include necessary approach work to accommodate the bridge replacement. The intent is to maintain the horizontal and vertical alignments of Belden Avenue.	

Prior studies / plan (identify):	Bridge Evaluation Study dated 8/12/2021 by LJB Inc.	
Estimated Project Length: (begin pavement to end pavement including bridge)		300 feet
Work Length: (including project length & approach work)		500 feet

Alignment:	Existing	X	Relocated	
Profile:	Existing	X	New	

Logical Termini: (w/explanation)	The logical termini will remain the same as the existing. Sidewalks will be included on both sides of the new bridge (similar to current condition) and connect to the existing sidewalks on the bridge approaches.

D. Typical Sections

Existing:

Width:	Pavement	36 feet	Graded Shoulder		Treated Shoulder	
R/W	60 feet minimum, centered on Belden Avenue, widens and varies at the bridge location, maximum width approximately 90 feet.					
Bridge:	face to face of rails	48 feet (50 feet deck width)	or toe to toe of parapets	36 feet		
Curbs	Yes	X	No			
Curb ramps	Yes		No	X		
Sidewalks	Yes	X	No	Comment	6 feet on bridge, 5 feet and varies on bridge approaches	
Guardrail	Yes	X	No	Type	Type 5	

Proposed:

Width:	Pavement	36 feet	Graded Shoulder		Treated Shoulder	
Bridge	Toe-to-toe curbs	36 feet	Out-to-out	50 feet		
Median:	Yes		No	X	Type	
Curbs:	Yes	X	No		Type	
Curb ramps:	Yes		No	X		
Sidewalks	Yes	X	No	Comment	6 feet on bridge to match existing	
Guardrail	Yes	X	No	Type	MGS on bridge approaches and BR-2-15 sidewalk railing with concrete barrier on the bridge.	

Supplemental Information

ADT	3655 vpd (2015)	Design ADT	4000 vpd
DHV		Certified Traffic	
T24			

Design Speed	25 mph	Legal Speed	25 mph
Comments:			

E. Right-of-Way

Right-of-Way Plan:	Yes	<input checked="" type="checkbox"/>	No		
Approximate Number of Parcels:	4 (temporary & permanent right-of-way anticipated, but TBD)				
Known relocations:	Yes		No	<input checked="" type="checkbox"/>	

Railroad Involvement:	Yes		No	<input checked="" type="checkbox"/>		
Railroad Name:						
Encroachments:						
Airway Highway Clearance:	Yes	<input checked="" type="checkbox"/>	No		Remarks	
Airport Name	Akron-Canton Airport, Kiko Farm Airport-OA19, Millburn Landing Strip, Stark County Sheriff Heliport, Aultman Hospital, Briggs Airport, Minerva Airport-OH15					
Comments:						

Note: Provide a footprint of proposed and existing right of way limits as soon as available to District Env. Coordinator and District Real Estate Administrator.

Caution: Environmental needs to be clear prior to the beginning of right of way acquisition. A Local, utilizing their own monies, assumes many risks by proceeding with acquisition prior to environmental being cleared. These risks include purchasing r/w that may never be used for the project and purchasing a site that contains the need for a hazardous waste cleanup.

F. Utilities

Aerial:

Phone	Yes	TBD	No		Name of Company	AT&T
Cablevision	Yes	TBD	No		Name of Company	TBD
Power	Yes	<input checked="" type="checkbox"/>	No		Name of Company	City of Canton

Buried:

Phone	Yes	TBD	No		Name of Company	AT&T
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Cablevision	Yes	TBD	No		Name of Company	TBD
Power	Yes		No	X	Name of Company	AEP
Gas	Yes	X	No		Name of Company	Dominion Energy
Pipelines:	Yes	TBD	No		Name of Company	TBD
Water	Yes	X	No		Private	Public X
Sanitary Sewer	Yes	X	No		Private	Public X
Storm Sewer	Yes	X	No		Private	Public X
Other						
Comments						

G. Structure Requirements

Existing Structure information:

Structure type:	3-span continuous concrete slab bridge on reinforced concrete stub abutments and cap-and-column piers.					
Sufficiency Rating:	71.2	General Appraisal	4A	Bridge No.	STA-BELON-00806	
Structure File No.	7660456	Crossing	East Branch of Nimishillen Creek			
Bridge length:	105 feet (31.39'-39.23'-31.39')					
Number of Spans	3					
Eligible for the National Historical Register	Yes		No	X		

Proposed Structure:

New Structure:	Yes	X	No			
Rehabilitate Existing Bridge	By:	Complete Replacement				
Structure width:	50 feet	Structure type:	3-span continuous concrete slab bridge			
Number of spans:	3 (32'-40'-32')					
Beam Type:	Concrete Box	Steel				
Other Design Considerations / Explanation of Change in Line/Grade:						
Horizontal and vertical profile of Belden Avenue will match the existing.						

Guardrail Type:	MGS on bridge approaches and BR-2-15 sidewalk railing with concrete barrier on the bridge.
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H. Design Exception(s) required

Yes		No	X	Explain	None anticipated at this time.
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I. Traffic Control

Signing:	Yes	X	No		Remarks	
Striping:	Yes	X	No		Remarks	
Lighting:	Yes	X	No		Remarks	Existing lighting on north bridge approach.
Signals:	Yes		No	X	Remarks	
RPM's:	Yes		No	X	Remarks	

J. Maintenance of Traffic

Detour	Yes		Part Width	
Remarks:	Detour route will include access on Ira Turpin Way.			

K. Driveways

Yes	X	No		Type	Business drives near both ends of the bridge.
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L. Project Funding

Project Cost Estimate	\$2,086,106				
Quantity splits needed in plans to differentiate funding participation:	Yes		No	X	
Comments:	Potentially, but none anticipated at this time.				
Coordination with Concurrent Projects Required:	Yes		No	X	
Comments:	Potentially, but none anticipated at this time.				

Revised 11/9/17

Cost Estimates:

	Total Federal Funds/Percent Split	Total Local Funds/Percent Split		
PE	<u>\$0</u>	<u>0%</u>	<u>\$288,933</u>	<u>100%</u>
RIGHT OF WAY	<u>\$0</u>	<u>0%</u>	<u>\$25,000</u>	<u>100%</u>
UTILITIES	<u>\$0</u>	<u>0%</u>	<u>\$20,000*</u>	<u>100%</u>
CONSTRUCTION	<u>\$1,513,241</u>	<u>95%</u>	<u>\$79,644</u>	<u>5%</u>
CONST ENGINEERING	<u>\$151,324</u>	<u>95%</u>	<u>\$7,964</u>	<u>5%</u>
TOTAL	<u>\$1,664,565</u>		<u>\$421,541</u>	

• - not shown in Municipal Bridge application since there was not a place for it.

M. Cost Recovery

Does the LPA intend to recover any Direct Labor Costs associated with this project?	Yes		No	
Does the LPA intend to recover any Fringe and Overhead Costs associated with this project?	Yes		No	

If the LPA does intend to recover Fringe and Overhead Costs, by what method do they intend to recover those costs?

- 1. Direct Labor only (no indirect cost recovery for fringe benefit or overhead costs)
- 2. Direct Labor plus indirect costs determined using the Federal De Minimis Indirect Cost Rate^a
- 3. Direct Labor plus Approved Fringe Benefit Costs (fringe benefits only)^b
- 4. Direct Labor plus indirect costs determined using the approved applicable Cost Allocation Plan rate
- 5. No cost recovery of any LPA direct labor, fringe benefits, or overhead costs.

Does the LPA currently have a timekeeping system in place?	Yes		No	
------------------------------------------------------------	-----	--	----	--

If so, does that system track both payroll and project hours concurrently?	Yes		No	
----------------------------------------------------------------------------	-----	--	----	--

If different systems, how does the LPA reconcile project hours to payroll?

How often are payroll records prepared?

For employees working on multiple activities, does the LPA track daily time by activity/project on the time sheets? <i>(only tracking hours worked on Federal projects is non-compliant. All activity hours must be shown)</i>	Yes		No	
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----	--	----	--

Does the LPA ensure that timecards are signed by the employee?	Yes		No	
----------------------------------------------------------------	-----	--	----	--

^a The De Minimis Indirect Cost Rate is 10 percent of modified total direct costs (MTDC) per 2 CFR §200.414. Regardless of whether the LPA prepares a CAP or uses the 10-percent de minimis rate, LPAs are required to maintain Federally-compliant time-tracking systems. Accordingly, LPAs are permitted to bill for labor costs and associated indirect costs only if such costs are accumulated, tracked, and allocated in accordance with such systems. Before an LPA is eligible to elect the de minimis rate on any project, the LPA’s time-tracking system and methods for tracking other project costs must be reviewed and approved by the ODOT Office of External Audits. To obtain this approval, LPAs will be required to complete an Internal Control Questionnaire (ICQ), and LPAs with compliant time-tracking systems will be granted approval (be prequalified) to apply the de minimis rate.

^b Annually, the LPA shall submit an updated rate for review and approval by the ODOT Office of External Audits.

N. Environmental

Scope of the Proposed Action /Involvement with Resources:				
These are actions and/or items the District Environmental Staff deems necessary to address as part of the LPA project environmental documentation. This form is not all inclusive, and more items may be required upon initiation of agency coordination and field studies.				
	Not required	Required	Responsibility	Due Date
Tentative CE Level _TBD_		X	City of Canton	
Purpose and Need Statement	X			
ODOT Bridge PA	X			
Cultural Resource Phase I		X	City of Canton	
Cultural Resource Phase II		TBD		
Mitigation	X			
Cultural Resource Section 4(f)	X			
Data Recover Plan-Documentation for Consultation	X			
Section 4(f)/6(f)-Park/Recreation	X			
Ecological MOA	X			
Ecological Survey		X	City of Canton	
Wetland Survey		X	City of Canton	
Section 9/Section 10 Stream	X			
404 NWP-Army Corps of Engineers		X	City of Canton	
404 PCN-Army Corps of Engineers	X			
404 Individual Permit-Army Corps of Engineers	X			
401 OEPA Certification Application	X			
Coast Guard Coordination	X			
ODNR Coastal Zone	X			
Scenic River	X			
Farmland Screening or FCIR	X			
Public Involvement		X	City of Canton	
Public Meeting/Hearing		TBD		
ESA-Screening		X	City of Canton	
ESA Phase I/Phase II/Remediation		TBD		

Drinking Water Resources		TBD	
Flood Plain/Flood Way	X		Bridge is in a Zone AE regulatory floodway with base flood elevations
Environmental Justice	X		
Noise Study	X		
Air Quality	X		

Asbestos Inspection Required:	Yes	X	No	
Comment:				

Any Known Environmental Concerns (ex. historic properties on National Register, wetlands, underground storage tanks, stream relocation):

Potentially wetlands and bat trees

O. Roles / Responsibilities

Construction plan development:	ODOT Prequalified Consultant
Proposal/Specification Development:	ODOT Prequalified Consultant / ODOT
LPA Agreement (ODOT-Let):	ODOT / City of Canton
Form and preliminary legislation:	ODOT / City of Canton
Advertising and award of contract:	ODOT

Construction inspection:	ODOT
R/W plan development:	ODOT Prequalified Consultant
R/W acquisition / appraisals:	ODOT Prequalified Consultant
Utility relocation:	ODOT / City of Canton

P. Field Review

Date:	TBD
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REPRESENTATIVES PRESENT:

Name	Company	Phone	E-mail

Q. COMMITMENT DATES	ODOT-let X	Local-let	Reservoir
ACTIVITY		Due DATE	
Authorization to Proceed		3/30/2022	
Stage 1 Review		9/30/2022	
Stage 2 Review		10/30/2023	
Stage 3 Review		3/15/2024	
R/W Plans Approved		12/15/2023	
Bid document & tracings to District		6/1/2024	

R/W and Utility Clearance	11/15/2024
Environmental Clearance	12/30/2023
Plan Package to C. O.	12/15/2024
Award Date	3/15/2025

Other due dates of interest:

- County to submit plans, proposal, estimate (PS&E) to the District
- County certifies R/W and utility clearance to the District
- County submits bid results to District

Schedule Explanation: Authorization to Proceed Start Date is the date that the District submits the programming package to Central Office. Finish Date for said activity is when a state job number has been established. Start Date for Environmental Clearance is normally the same as the date the project has been programmed. Start Date for Stage 2 Review is the date of submission to the District of the preliminary R/W plans. Finished date for said activity is when comments are returned to the LPA. Start Date for R/W Plan Approved is when the District has received final R/W plans and associated documents. Finish Date for said activity is when the District has approved said plans and associated documents. Start Date for R/W and Utility Clearance is the date that the LPA is authorized to begin acquisition. Finish date for said activity is when the District certifies clearance to FHWA. The LPA should certify R/W and Utility Clearance to the District one month before the R/W and Utility Clearance Finish Date. Start Date for Plan Package to C. O. is the date that the PS&E package leaves the District and the finish date is the day it is logged in at Central Office. One should allow forty-five days from Plan Package to C.O. for PS&E approval and project advertising before the Sale Date. Advertising needs to be three weeks minimum and cannot start until PS&E approval is obtained. Start date for the Award Date is the Sale Date of the project. And the Finish Date for the Award Date is the date the project was awarded. Summary of bid tabs and the identity of the awarded contractor shall be submitted to ODOT no later than one week after the award.

Project Schedule Approval:

	Signature	Date
Environmental Coordinator		
Real Estate Admin.		
Program Manager		
Project Manager		

STA-Belden Avenue NE Bridge Replacement

City of Canton

Draft Project Schedule – for Municipal Bridge Program Application

August 4, 2021

ACTIVITY	DATE
Initial Project Scope Complete	1/30/2022
Authorized Design Consultant	3/30/2022
Feasibility Study, if necessary	7/30/2022
Worst Case Construction Limits	9/30/2022
Stage 1 Submitted	9/30/2022
Stage 1 Completed	11/15/2022
Preliminary R/W Plans Submitted	9/30/2022
Preliminary R/W Plans Approved	11/15/2022
Stage 2 Submitted	10/30/2023
Stage 2 Completed	12/15/2023
Final R/W Plans Submitted	10/30/2023
Final R/W Plans Approved	12/15/2023
Environmental Document Approved	12/30/2023
Right-of-Way Authorized	3/15/2024
Stage 3 Submitted	3/15/2024
Stage 3 Completed	5/1/2024
Final Tracings Submitted	6/1/2024
District R/W Certification	11/15/2024
Plan Package Received in C.O.	12/15/2024
Sale Date	2/15/2025
Award Date	3/15/2025
Estimated Begin Construction	4/30/2025
Estimated End Construction	9/30/2025

(203) Bridge (Dedicated) Name:

Structure File Number: 7660456

Sufficiency Rating: 071.2 Deficiency Rating: SD

BRIDGE INVENTORY AND APPRAISAL

Inventory Bridge Number: STA BELON 00806

EAST BR NIMISHILLEN CREE

Report Date: 7/21/2021

Bridge Status: Active

(2) District: 04	(3) County: 76-STARK	(9) Location: Over E Br Nimishillen	(7) Facility Carried: Belden Ave N.E.
(4) FIPS Code: None	Owner:	(208) Route On Bridge: Municipal	(207) Route Under Bridge: Non Highway Traffic On Bridge (I.E.
(102) Direction of Traffic: 2 - 2-Way Traffic	(103) Temporary Structure:	(110) Designated National Network: Not National Network	(101) Parallel: N
		(42A) Type Serv: (On): Highway-Pedestrian	(42B) Type Serv (Under): Waterway

INVENTORY ROUTE DATA

(5A) Route On/Under: 1 - 1: Route Carried "On" The Structure
 (5B) Hwy Sys: 5 - City Street
 (5D) Route No: BELON (5E) Dir: North (5C) Des: Mainline
 (6) Feature Int: East Br Nimishillen Cree
 (200) CL: 00806 (201) Spec Des: (209) Interstate Mile:
 (29) Avg. Daily Traffic(ADT): 3,655 (30) ADT Year: 2015
 (235) Truck Traf: 0 (210) Corridor: (104) NHS: structure/route is not on nhs
 (26) Functional Class: urban - minor arterial (100) Strahnt: Not A Strahnet Route

(45) Main Spans Number: 3 (43) Type: Concrete Continuous /Slab /Not Applicable
 (46) Approach Spans Nbr: 0 (44) Type: Other /Other /Not Applicable
 (307) Total Spans: 3 (48) Max Span: 39.0 Ft (49) Overall Leng: 105.0 Ft

SUBSTRUCTURE

Abut-Rear (532) Matl: Steel And Concrete (531) Type: Stub - Capped Pile (Single Row Piles) (533) Fnd: Spread Footing
 Abut-Fwd (527) Matl: Steel And Concrete (526) Type: Stub - Capped Pile (Single Row Piles) (528) Fnd: Spread Footing

INTERSECTED ROUTE DATA

(370A) Record Type: (370B) Hwy Sys:
 (370D) Route No: (370E) Dir: (370C) Des:
 (373) Feature Int:
 (382) CL: 0000 (371) Interstate Mile: (387) Special Desig:
 (379) Avg. Daily Traffic(ADT): 0 (380) ADT Year: 0
 (381) Truck Traf: 0 (384) Corridor: (378) NHS: -
 (375) Functional Class: (386) Strahnt:

Pier-Pred (535) Matl: Steel And Concrete (534) Type: Capped Pile (536) Fnd: Cast-In-Place Reinforced Concrete Piles
 (663) Stream Velocity: 003.9 fps (113) Scour: Stable For Scour Conditions
 (92B) Underwater Inspection: N Freq: (655) Chan Prot: Other (Grass, Bushes, Trees)
 0
 (93B) Date of last Underwater Insp: (657) Drainage Area: Sq Mi

CLEARANCE UNDER THE BRIDGE

Min. Horiz on Bridge: (335) NC: Ft (47) Card: 36.0 Ft
 (53) Prac Max Vert On Brg: 99.0 Ft
 Min Vrt Clr On Brg: (336) NC: 0.0 Ft (10) Card: 99.0 Ft
 Min Latl Clr: (338) Right NC: Ft (337) Right Card: Ft
 (340) Left NC: Ft (339) Left Card: Ft

Min. Horiz Under Clear: (326) NC: Ft (325) Card: Ft
 (328) Prac Max Vrt Under Clear: Ft
 Min Vert Under Clear: (327) NC: Ft (54) Card: 0.0 Ft
 Min Lat Under Clear: (329) Right NC: Ft (55) Right Card: 0.0 Ft
 (330) Left NC: Ft (56) Left Card: 0.0 Ft

STRUCTURE INFORMATION

(19) Bypass Length: 2.0 Miles
 (16) Latitude: 40 Deg 48 Min 28.00 Sec (17) Longitude: 81 Deg 20 Min 54.39 Sec
 (20) Toll: On Free Road
 (263) Date Built: 7/1/1984 (264) Major Reconstruction Date:
 (28A) No. Lanes On: 2 (28B) No. Lanes Under: 0
 (301) Horiz Curve: 15D07M (34) Skew: 30 Deg
 (32) App. Rdw Width: 36 Ft (51) Brg. Rdw Width: 36.0 Ft
 (52) Deck Width: 50.0 Ft (424) Deck Area: 5250 Sq. Ft
 (406) Median Type: None /Non Barrier /No Joint
 (33) Bridge Median: No Median
 Sidewalks: (50A) Left 6.0 Ft (50B) Right 6.0 Ft
 Type Curb or Sidewalk:
 (427) Left Matl: Steel (428) Type: Concrete
 (429) Right Matl: Concrete (430) Type: Steel
 (35) Flared: 0 (408) Composite: N - Non-Composite

LOAD RATING INFORMATION

(31) Design Load: HS 20
 (64) Opr Rat Fact/Ton: 2.400
 (66) Inv Rat Fact/Ton: 1.400
 (734) Ohio Percent of Legal Load: 150
 (704) Year of Rating: 2016 (708) Rate Soft: Aashto Brr (Virtis)
 (63) Opr Rat Method: Load Factor (Lf) Rating Reported By Rati
 (65) Inv Rat Method: Load Factor (Lf) Rating Reported By Rati
 Load Rater: (705) Frank (706) Getz (707) PE#: 66992

APPRAISAL

(71) Waterway Adequacy: 9 Superior to present desirable criteria
 (72) Approach Alignment: 7 Better than present minimum criteria
 (67) Calc Str Appraisal: 4 - Meets minimum tolerable limits
 (68) Calc Deck Geometry: 5 - Somewhat better than minimum adequ
 (69) Calc Underclearance: N - Not Applicable

APPROACH INFORMATION

(401) Approach Guardrail:
 (403) Approach Pavement: (402) Grade:

CULVERT INFORMATION

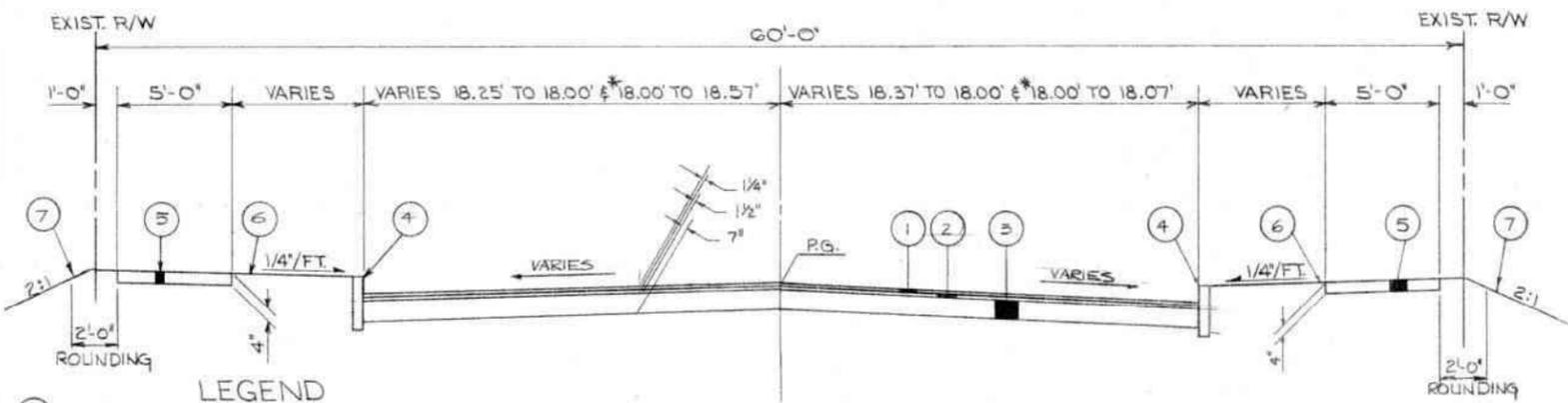
(575) Culvert Type: Not A Culvert Or Rigid Frame (578) Length: 0.0 Ft
 (580) Depth of Fill: 0.0 Ft (582) Headwalls:

GENERAL INFORMATION

(475) Main Member: Slab (477) Moment Plate:
 (414) Expansion Joint: None
 (453) Bearing Devices: None

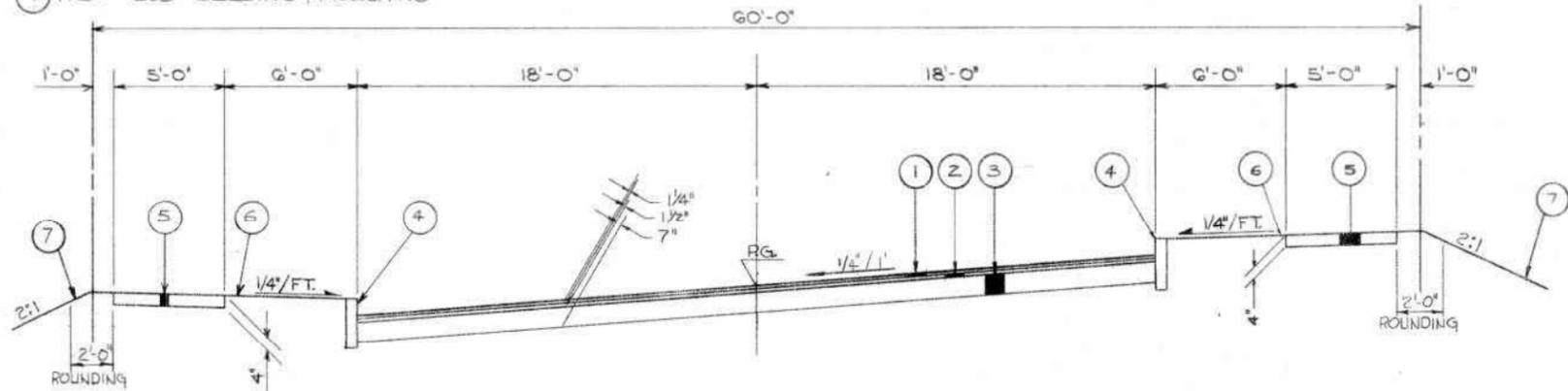
(203) Bridge (Dedicated) Name:		BRIDGE INVENTORY AND APPRAISAL		Report Date: 7/21/2021	
Structure File Number: 7660456		Inventory Bridge Number: STA BELON 00806			
Sufficiency Rating: 071.2 Deficiency Rating: SD		EAST BR NIMISHILLEN CREE		Bridge Status: Active	
(407) Railing: Reinforced Concrete Safety Curb And Para (409) Deck Drainage: Other (Natural-Off The Bridge Ends) (107) Deck Type: Concrete Cast-In-Place Deck Protection: (108B) External: Na (108C) Internal: Na (108A) Wearing Surface: Monolithic Concrete (Concurrently Placed) (423) Thickness: 1.0 in (422) Date of Wearing Surface: 7/1/1984 (547) Slope Protection: Rip Rap (Dumped Rock Or Rock Channel Pro		(38) Navigation: 0 (92C) Spec Insp: N (92A) Fracture Critical Insp: N (474) Main Structure System: Not Applicable (I.E. Culvert, Beam, Slab) (487) Structural Steel Memb: None (482) Paint: None Or Not Applicable (483) PCS Date:		(39) Nav Vert Clr: 0.0 Ft Freq: 0 Freq: 0 (468) Hinges: Not Applicable (Structures With No Hinge) (465) Framing: None Or Not Applicable (426) Bridge Railing Steel:	
GENERAL INFORMATION (CONTINUED)		ORIGINAL PLANS INFORMATION			
(37) Hist Significance: Not Eligible (112) NBIS: Y (842) Hist/Designer: (827) Hist Build Year: (828) Hist Type: None N/A (98A) Border Bridge State: (98B) Border Bridge Resp: (99) Border Bridge SFN:		(250) Fabricator: (249) Contractor: (248) Ohio Original Construction Project No: (252) Microfilm Reel: (251) Standard Drawing: Aperture Cards: (246) Orig: 2 (247) Repair: 2 (245) Fabr: 2			
PROPOSED IMPROVEMENTS		(709) Rating Source: 2 FIELD MEASURED INFORMATION FOR LOAD RATI			
(114) Future ADT (On Bridge): 5073 (115) Year of Future ADT: 2035					
INSPECTION SUMMARY		SURVEY ITEMS		UTILITIES	SPECIAL FEATURES
(58) Deck: 6 (59) Superstructure: 6 (60) Substructure: 4 (62) Culvert: N (61) Channel: 7 (C6) Approaches: General Appraisal: 4 (41) Operational Status: A (90) Inspection date: 12/3/2020 (91) Desig Insp Freq: 12 Mos	(36A) Railings: Meets Acceptable Standards (36B) Transitions: Meets Acceptable Standards (36C) Guardrail: Meets Acceptable Standards (36D) Guardrail Ends: Meets Acceptable Standards (219) Temporary Barrier: (223) Temporary Shoring: (224) Temporary Sub Decking: N	(265) Electric Line: N (266) Gas Line: Y (269) Sanitary Sewer: N (267) Telephone Line: (268) TV Cable: (270) Water Line: (271) Other Utilities:	(283) Lighting: (431) Fence: N (433) Glare-Screen: N (436) Splash-Guard: (459) Catwalks: N (271) Other-Feat: (279) Signs-On: (281) Signs-Under (432) Fence-Ht on Bridge 0.0 FT (434) Noise Barrier Walls		
(253) SFNs Replacing this retired bridge: (255) SFNs That were replaced by this bridge:		Insp 1st: 04 - City Or Municipal Highway Agency 2nd: 3rd: (21) Major Maint 1st: 04 - City Or Municipal Highway Agency 2nd: 3rd: (225) Routine Maint 1st: 04 - City Or Municipal Highway Agency 2nd: 3rd:			

STA-BELDEN AVE. N.E.

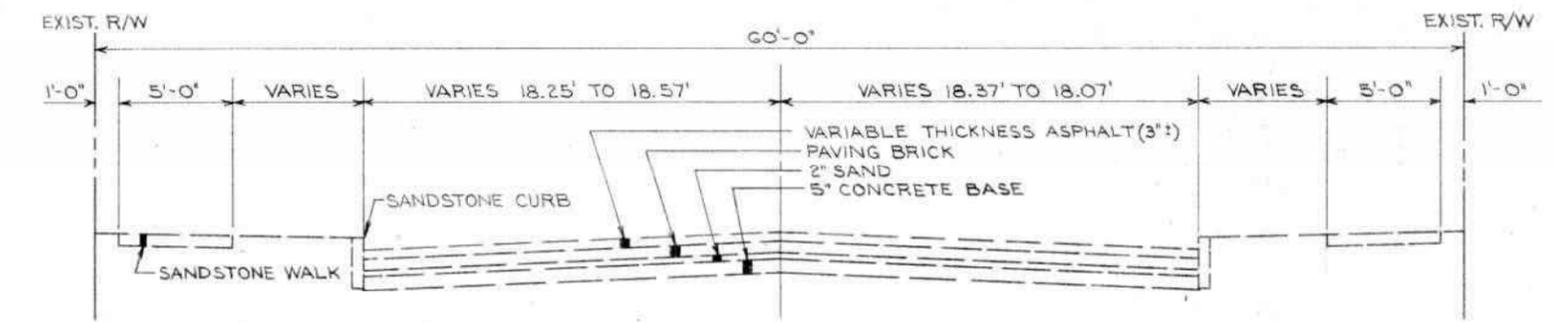


- LEGEND**
- ① ITEM 404 ASPHALT CONCRETE AC-20.
 - ② ITEM 402 ASPHALT CONCRETE AC-20
 - ③ ITEM 301 BITUMINOUS AGGREGATE BASE AC-20, RT-11 OR RT-12.
 - ④ ITEM 609 CONCRETE CURB STANDARD TYPE 6
 - ⑤ ITEM 608 CONCRETE WALK
 - ⑥ ITEM 660 SODDING
 - ⑦ ITEM 659 SEEDING & MULCHING

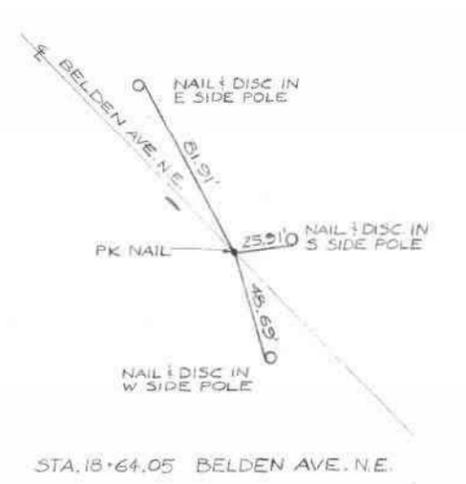
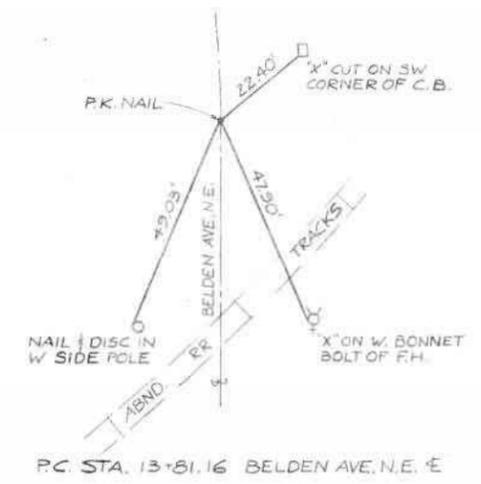
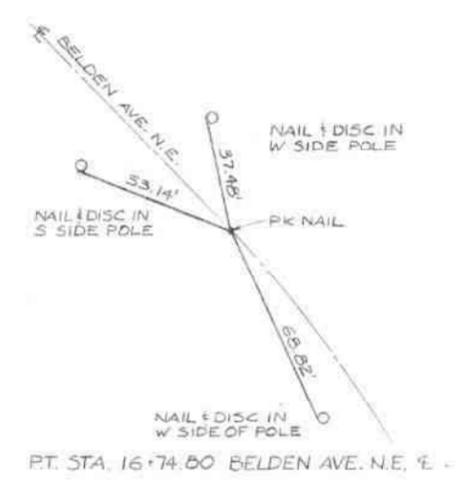
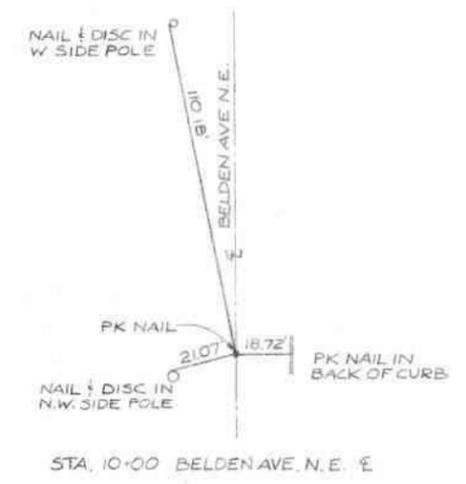
BELDEN AVE. LIMITING STATIONS
 LIMITING STATIONS STA.13+00 TO 13+28.66
 * STA.17+36.05 TO STA.17+40.00



BELDEN AVE. LIMITING STATIONS
 LIMITING STATIONS STA.13+28.66 TO STA.17+36.05



EXISTING TYPICAL SECTION



☉ REFERENCE TIES
 PROPOSED AND
 EXISTING TYPICAL SECTIONS

GENERAL NOTES

GENERAL NOTES

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

MOBILIZATION AS PER PLAN. THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE WHICH SHALL BE IN ACCORDANCE WITH 619.01 AND 619.02. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 624, MOBILIZATION, AS PER PLAN.

ROUNDING OF CORNERS SHOWN ON CROSS SECTION. THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

UNDERGROUND UTILITIES. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64.0RC.

UTILITIES NOTIFICATION. AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

UTILITY OWNERSHIP. THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

OWPS MEMBERS

OHIO BELL TELEPHONE CO.
832 MCKINLEY AVENUE N.W.
CANTON, OHIO 44703

ATTN: MR. PAUL SHAFFER
ENGINEERING MANAGER
(489-2628)

(AERIAL AND UNDERGROUND FACILITIES)

EAST OHIO GAS CO.
332 SECOND STREET N.W.
CANTON, OHIO 44708

ATTN: MR. W. R. KOST
DIV. ENGINEERING SUPV.
(438-6140)

NON-MEMBERS

OHIO POWER CO.
301 CLEVELAND AVENUE S.W.
P.O. BOX 400
CANTON, OHIO 44701

ATTN: MR. JOHN SCHRADER, JR.
ACTING PUBLIC PROJECT
COORDINATOR
(456-8173)

CITY OF CANTON

CITY HALL
218 CLEVELAND AVENUE S.W.
CANTON, OHIO 44702

ATTN: MR. PHILLIP NEFF
CITY ENGINEER
(489-3283)
(SANITARY FACILITIES)

CITY OF CANTON WATER DEPARTMENT
P. O. BOX 1740 - STATION A
CANTON, OHIO 44705
ATTN: MR. J. D. WILLIAMS
SUPERINTENDENT
(489-3310)

EAST OHIO GAS CO.
GAS SUPPLY OPERATION
7015 FREEDOM STREET N.W.
NORTH CANTON, OHIO 44720
ATTN: MR. THOMAS WIESE
GENERAL SUPV.-ENGINEERING
(497-5130)

WARNER CABLE
2700 ATLANTIC BLVD. N.E.
P. O. BOX 8559
CANTON, OHIO 44705
ATTN: MR. TOD DEAN
CHIEF ENGINEER
(456-8166)

WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL. THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR EROSION AND SILTATION CONTROL MEASURE:

207	TEMPORARY SEEDING AND MULCHING	70	SO. YD.
207	STRAW OR HAY BALES	60	EACH
207	TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS	340	CU. YD.
659	COMMERCIAL FERTILIZER	0.17	TON
659	WATER	50	M. GAL.

ITEM 202 GATE AND FENCE REMOVAL

WHERE REQUIRED BY THE PLANS, EXISTING GATES AND FENCES SHALL BE CAREFULLY DISMANTLED AND STORED OUTSIDE THE PROJECT LIMITS FOR SALVAGE BY THE OWNER. FENCES AND GATES NOT CONSIDERED SALVAGABLE BY OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR. PAYMENTS WILL BE MADE AT THE CONTRACT PRICES BID UNDER:

ITEM	UNIT	DESCRIPTION
202	EACH	GATE REMOVED
202	LIN. FT.	FENCE REMOVED

ITEM 202 GATE REMOVED FOR RE-USE

WHERE REQUIRED BY THE PLANS, EXISTING GATES SHALL BE CAREFULLY REMOVED AND EVERY PRECAUTION TAKEN TO AVOID DAMAGE. GATE SHALL BE REMOVED AND STORED WHEN NECESSARY, SO THERE WILL BE NO DAMAGE BEFORE RE-USING. THE CONTRACTOR SHALL BE REQUIRED TO REPLACE SECTIONS LOST OR DAMAGED BY NEGLIGENCE AT NO ADDITIONAL COST TO THE STATE. PAYMENTS WILL BE MADE AT THE CONTRACT PRICES BID UNDER:

ITEM	UNIT	DESCRIPTION
202	EACH	GATE REMOVED FOR RE-USE

ITEM 202 - RAILROAD TRACK REMOVAL

DESCRIPTION. THIS WORK SHALL CONSIST OF THE REMOVAL, AND SATISFACTORY DISPOSAL OF ALL RAILS, TIES AND ANY OTHER OBSTRUCTIONS WHICH ARE NOT DESIGNATED OR PERMITTED TO REMAIN. IT SHALL ALSO INCLUDE THE EXCAVATION AND BACKFILLING OF THE RESULTING TRENCHES, HOLES, AND PITS. RAILROAD TRACKS SHALL NOT BE REMOVED UNTIL SATISFACTORY ARRANGEMENTS HAVE BEEN MADE TO DETOUR ROADWAY TRAFFIC. CONSTRUCTION REQUIREMENTS. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL RAILS, TIES AND ANY OTHER OBSTRUCTIONS WITHIN THE DESIGNATED LIMITS. ALL MATERIALS SHALL BE DESTROYED OR DISPOSED OF AS DESCRIBED IN ITEM 202.

METHOD OF MEASUREMENT. RAILROAD TRACK REMOVAL SHALL BE MEASURED ON A LINEAR FOOT BASIS ALONG THE CENTERLINE OF EXISTING TRACK, INCLUDING BOTH RAILS, AND ALL WORK DESCRIBED ABOVE.

BASIS OF PAYMENT. THE ACCEPTED QUANTITIES OF RAILROAD TRACK REMOVAL, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR UNDER:

UNIT	DESCRIPTION
310 L.F.	RAILROAD TRACK REMOVAL

SEEDING. QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT: OR SLOPE EASEMENT.

ITEM 203 ENHANCEMENT, USING GRANULAR FILL

DURING CONSTRUCTION, SHOULD SOFT SUBGRADE CONDITION BE OBSERVED, THIS MATERIAL SHOULD BE EXCAVATED AND REPLACED WITH GRANULAR MATERIAL. MATERIAL FURNISHED FOR THIS ITEM SHALL BE AS DEFINED IN 203.02. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

203	EXCAVATION	370	C.Y.
203	BORROW	370	C.Y.

ITEM 203 SUBGRADE COMPACTION S.Y.

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. IF, DURING EARTHWORK OPERATIONS, THE SUBGRADE SHOWS EVIDENCE OF EXCESSIVE DEFLECTION, THE SUBGRADE SHALL BE EXCAVATED AND FILLED WITH GRANULAR MATERIAL AS DESCRIBED ABOVE. PAYMENT WILL BE MADE FOR EXCAVATION AND SUBGRADE COMPACTION AS DIRECTED BY THE ENGINEER. ESTIMATED QUANTITY 600 SQ. YDS. RECOMPACTED SUBGRADE.

407 TACK COAT

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AS PER SPEC. 407.05. PLAN QUANTITIES INDICATE AVERAGE APPLICATION RATES OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT AND 7 POUNDS PER SQUARE YARD OF COVER AGGREGATE FOR ESTIMATING PURPOSES ONLY.

ITEM 604 LAMPHOLE ADJUSTED TO GRADE

THE LAMPHOLE ADJUSTED TO GRADE DESIGNED FOR THIS PROJECT SHALL CONFORM TO THE PLANS AND BE PLACED AT THE LOCATION SHOWN. THE WORK SHALL BE PERFORMED AS PER ITEM 604 MANHOLES ADJUSTED TO GRADE.

PAYMENTS WILL BE MADE AT THE CONTRACT PRICES BID UNDER:

ITEM	UNIT	DESCRIPTION
604	EACH	LAMPHOLE ADJUSTED TO GRADE

ITEM 606 TYPE B ANCHOR ASSEMBLY MODIFIED AS PER PLAN

ITEM 606 TYPE B ANCHOR ASSEMBLY, MODIFIED AS PER PLAN, SHALL BE CONSTRUCTED PER STANDARD CONSTRUCTION DRAWING GR-4B OMITTING THE 37'-6" FLARE.

ITEM 607 TEMPORARY FENCE

THE CONTRACTOR SHALL PROVIDE SECURITY TO EXISTING PROPERTIES AT ALL TIMES DURING CONSTRUCTION BY USE OF EXISTING FENCE, NEW FENCE OR TEMPORARY FENCE. THE FOLLOWING ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

607	TEMPORARY FENCE	100	L.F.
-----	-----------------	-----	------

621 TEMPORARY CENTER LINE

DURING THE CONSTRUCTION OF NEW PAVEMENT ON ROADWAYS WHERE TRAFFIC IS PERMITTED, 4 INCH CENTER LINES SHALL BE MAINTAINED IN THE INTERVALS BETWEEN PLACEMENT OF THE VARIOUS COURSES. THE CENTER LINES SHALL BE APPLIED IN ACCORDANCE WITH 621 WITHIN 24 HOURS AFTER THE PLACEMENT OF ANY COURSE. AN ESTIMATED 0.17 MILES OF 4 INCH CENTER LINE IS PROVIDED IN THE GENERAL SUMMARY FOR THE PURPOSE. PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER MILE OF APPLIED CENTER LINE, AND SHALL BE FULL COMPENSATION FOR LABOR, EQUIPMENT AND MATERIAL TO PERFORM THE WORK.

ITEM	UNIT	DESCRIPTION
621	MILES	TEMPORARY 4 INCH CENTER LINE

DRAINAGE

CONNECTIONS TO EXISTING PIPE. WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY ANY OF THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

REVIEW OF DRAINAGE FACILITIES. BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PERTINENT 603 CONDUIT ITEMS OF THE CONTRACT.

DATE BY CEW	DATE 3-30-84	OHIO
CHKD BY M.C.P.	DATE 4-10-85	FHWA REGION 5
FEDERAL PROJECT	STATE PROJECT	

3
23

STA - BELDEN AVE. N.E.
MAINTENANCE OF TRAFFIC NOTES

LOCAL TRAFFIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN TYPE III BARRICADES, LIGHTS, WARNING SIGNS AND DRUMS WITHIN BELDEN AVENUE IN CONFORMANCE WITH THE CURRENT EDITION, LATEST REVISION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

TWO WAY TRAFFIC SHALL BE MAINTAINED TO LOCAL BUSINESSES AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC SHALL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

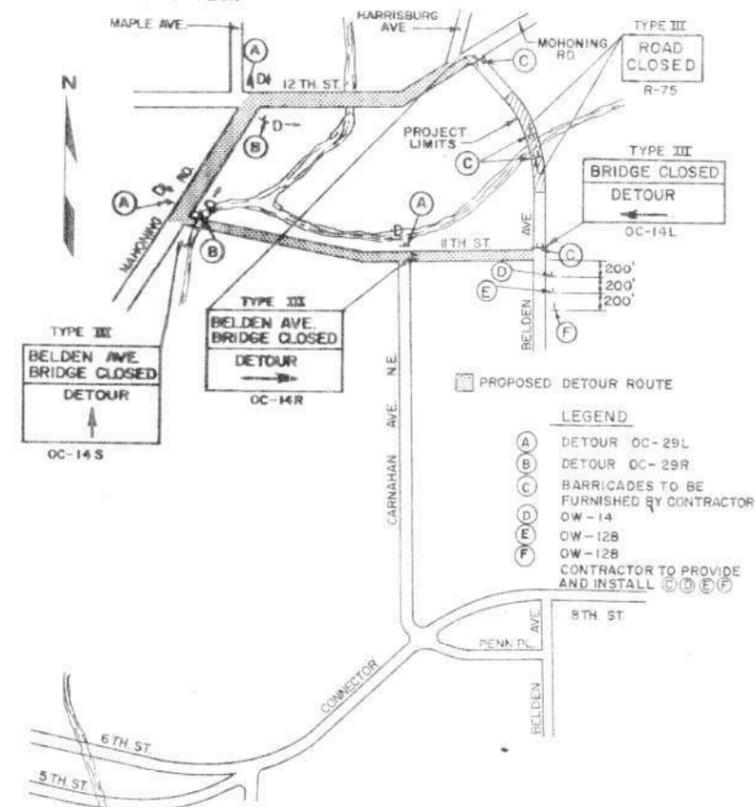
THE USE OF TEMPORARY ROADWAYS SURFACED WITH 410 AGGREGATE AND STABILIZED WITH 616 CALCIUM CHLORIDE SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

410	50	C.Y.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
616	1	TON	CALCIUM CHLORIDE
616	50	M. GAL.	WATER

LOCATION OF LIGHTS, SIGNS AND BARRICADES SHALL BE AS SHOWN ON THE DETOUR PLAN. THE CONTRACTOR SHALL PROVIDE THE CITY OF CANTON SEVEN (7) DAYS NOTICE PRIOR TO IMPLEMENTING THE PROPOSED DETOUR PLAN.

ALTERNATE METHODS. IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC PROVIDED THE INTENT OF THE PROPOSED DETOUR IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

TRAFFIC DETOUR. THE CITY OF CANTON SHALL PROVIDE, ERECT AND MAINTAIN BARRICADES, LIGHTS AND SIGNS OUTSIDE OF BELDEN AVENUE AS SHOWN ON THE DETOUR PLAN.



GENERAL NOTES
&
MAINTENANCE OF TRAFFIC NOTES

ESTIMATED QUANTITIES

CODE	LOCATION		ESTIMATED QUANTITIES															
			202	202	202	606	606	606	607	608	609	611	202	202	202	202		
	FROM	TO	STRUCTURE (CULVERT) REMOVED	CURB REMOVED	CATCH BASIN ABANDONED	GUARD RAIL TYPE 5	BRIDGE TERMINAL ASSEMBLY TYPE A	ANCHOR ASSEMBLY TYPE A	ANCHOR ASSEMBLY TYPE B	FENCE TYPE CL MOD AS PER PLAN	GATE TYPE SPECIAL	CONCRETE WALK	CONCRETE CURB TYPE 6	APPROACH SLAB T=12	FENCE REMOVED	GATE REMOVED FOR RE-USE	GATE REMOVED	PORTION OF STRUCTURE REMOVED (WALL TO EG)
R-1	14+05	14+15	LUMP															
CR-1	12+75	14+36 LT.		158														
CR-2	15+12	17+65 LT.		252														
CR-3	12+75	14+61 RT.		120														
CR-4	15+30	17+53 RT.		235														
AB-1	13+63.31	17+52 RT.																
AB-2	13+36.60	17+90 RT.																
AB-3	16+35.40	20+11 RT.																
G-1	13+77.29	14+14.72 LT.				12.5												
G-2	15+29.37	16+04.37 LT.				50												
G-3	14+44	14+51.32 RT.																
G-4	15+48.21	15+73.2 RT.																
F-1	13+30.37	LT.																
F-2	15+12.49	16+81.57 LT.																
F-3	15+23.37	16+51.57 LT.																
F-4	13+33.75	13+60.06 RT.																
F-5	13+60.06	14+01.06 RT.																
F-6	13+53.76	13+71 RT.																
F-7	14+00	14+30 RT.																
F-8	16+04.57	16+53 RT.																
F-9	16+53	16+83 RT.																
F-10	16+83	17+02.99																
F-11	13+30.33	14+25 RT.																
F-12	13+65	13+95 RT.																
F-13	13+95	14+25 RT.																
SW-1	12+75	14+20.05 LT.																
SW-2	15+32.02	17+65 LT.																
SW-3	12+75	14+47.36 RT.																
SW-4	15+46.12	17+55 RT.																
SW-5	17+02.95	17+35.22 RT.																
C-1	12+75	14+00.88 LT.																
C-2	15+48	17+65 LT.																
C-3	12+75	14+28.9 RT.																
C-4	15+46.12	17+53 RT.																
C-5	13+22	13+71 RT.																
AS-1	14+15.36	14+34.53																
AS-2	15+35.43	15+55.41																
WR-1	13+30.33	14+25 RT.																
TOTALS			LUMP	835	3	67.50	4	1	3	244.10	2	3883.41	725.88	144.51	282.45	1	2	3

ESTIMATED QUANTITIES

CODE	LOCATION		ESTIMATED QUANTITIES									
			603	603	604	604	604	604	602	305	604	
	FROM	TO	24" TYPE B CONDUIT	15" TYPE B CONDUIT	MANHOLE ADJUSTED TO GRADE	CATCH BASIN ADJUSTED TO GRADE	CATCH BASIN RECONSTRUCTED	STANDARD TYPE 6 CATCH BASIN	STANDARD N°1 MANHOLE	CONCRETE MASONRY	9" P.C.C. CONCRETE BASE	ADJUST LAMPHOLE TO GRADE
P-1	14+03.86	14+33.86	30									
P-2	A-1	A-2		22								
P-3	A-3	A-2		14								
AJ-1	13+28	18 RT.										
AJ-2	13+27.75	18 LT.										
AJ-3	13+38	5 LT.										
AJ-4	13+55	E										
AJ-5	15+48.72	82 RT.										
AJ-6	16+03.72	85 RT.										
EB-1	16+53.39	18 LT.										
A-1	17+63.5	18 LT.										
A-2	17+63.5	5 RT.										
A-3	17+63.5	18 RT.										
HW-1	14+33.86	37.5 LT.										
PR-1	17+62	17+65										
TOTALS			30	36	3	2	1	2	1	0.43	60	1

CODE	LOCATION		DRIVE QUANTITIES										
			203	304	404	452	408	203	DRIVE TYPE				
	FROM	TO	TYPE	W-1	W-2	L-1	EMBANKMENT	AGG. BASE	ASPHALT CONC.	8" PLAIN P.C.C. P.V.M.T.	PRIME COAT RT-2, RT-3	EXCVTN INCL. EMBANK'T CONST.	
D-1	15+53	LT.	I	16'	22'	25'	326	12.30		17.81			COMMERCIAL
D-2	14+00	RT.	SEE DETAIL	5HT	N°9	255.93	132.96	41.34	110.50	283.13	82.84		COMMERCIAL
D-3	16+96	LT.	I	30'	36'	14'	7.00	12.31		35.92			COMMERCIAL
D-4	15+87	RT.	I	10'	16'	29'	11.81	6.91		12.59			COMMERCIAL
D-5	16+69	RT.	I	29'	35'	23.5'	22.72	20.95		34.75			COMMERCIAL
TOTAL							306.78	188.03	41.34	211.57	283.13	82.84	

CODE	LOCATION		ESTIMATED QUANTITIES	
			814	814
	FROM	SIDE	WATER VALVE ADJUSTED TO GRADE	FIRE HYDRANT ADJUSTED TO GRADE
W-1	12+29.25	13.23 LT.		
W-2	13+07.32	15.61 LT.		
W-3	13+25.53	3.88 RT.		
W-4	13+37.35	20.35 RT.		
W-5	13+42.60	22.05 RT.		
W-6	14+15.44	20.31 RT.		
W-7	15+61.02	10.13 RT.		
W-8	17+31.46	20.52 LT.		
TOTAL			6	2

CALC. BY C.E.V. DATE 3-20-85	OHIO
CHKD. BY D.M.M. DATE 3-11-85	FHWA REGION 5
FEDERAL PROJECT	STATE PROJECT

STA-BELDEN AVE. N.E.

ITEM 202 CONCRETE DRIVE APPROACHES REMOVED
 STA. 13 + 59 (LT)
 (16) (5.5) = 88 SF
 STA. 16 + 23 (LT)
 (15) (5.5) = 83 SF
 STA. 16 + 97 (LT)
 (34) (5.5) = 187 SF
 STA. 15 + 87 (RT)
 (16) (5.5) = 88 SF
 STA. 16 + 69 (RT)
 (35) (5.5) = 192 SF
 TOTAL WALK REMOVED = 5,747 + 638 = 6,385 SF

ITEM 660 SODDING
 STA. 12 + 75 TO STA. 13 + 94.79 (LT)
 (119.79) (4.5) (1/9) = 59.90 SY
 STA. 13 + 94.79 TO STA. 14 + 14.79 (LT)
 (20) (4.5) (1/9) = 5.00 SY
 STA. 16 + 08 TO STA. 16 + 45 (LT)
 (37) (5.5) (1/9) = 11.31 SY
 STA. 16 + 45 TO STA. 17 + 65 (LT)
 (120) (5.5) (1/9) = 73.33 SY
 STA. 15 + 48.21 TO STA. 16 + 54.5 (RT)
 (106.29) (5.5) (1/9) = 64.96 SY
 SUB-TOTAL 214.50 SY
 LESS DRIVE APPROACHES 34 SY
 TOTAL 180.50 SY

ITEM 301 BITUMINOUS AGGREGATE BASE
 STA. 13 + 00 TO STA. 14 + 15.36
 (115.36) (36) 4,152.96 S.F.
 STA. 15 + 55.41 TO STA. 17 + 40
 (184) (36) 6,645.24 S.F.
 TOTAL 10,798.2 S.F.

ITEM 402 ASPHALT CONCRETE
 SEE ITEM 301
 ITEM 401 (10,798.2) (0.125) (1/27) = 49.99 C.Y.
 FEATHER
 25 (36) (0.125) (1/27) = 2.08 C.Y.
 25 (36) (0.125) (1/27) = 2.08 C.Y.
 TOTAL 54.15 C.Y.

ITEM 659 LIMING
 ITEM 660 SODDING 181 SY
 ITEM 659 SEEDING 330.9 SY
 TOTAL 511.9 SY
 (511.9 SY) (9) (100) (1/1000) (1/2000) = 0.23 TO

ITEM 659 FERTILIZER
 ITEM 660 SODDING 181 SY
 ITEM 659 SEEDING 330.9 SY
 TOTAL 511.9 SY
 (511.9 SY) (9) (20) (1/1000) (1/2000) = 0.05 TO

ITEM 202 PAVEMENT REMOVAL
 STA. 13 + 00 TO STA. 14 + 46.50
 (146.50) (36) (1/9) = 586 SY
 STA. 15 + 20.67 TO STA. 17 + 40
 (219.33) (36) (1/9) = 877 SY
 TOTAL 1,463 SY

ITEM 202 CONCRETE WALK REMOVED
 STA. 12 + 75 TO STA. 14 + 24 (LT)
 (149) (5) = 745 SF
 STA. 15 + 13 TO STA. 17 + 65 (LT)
 (252) (5) = 1,260 SF
 STA. 12 + 75 TO STA. 13 + 05 (RT)
 (30) (2) = 60 SF
 STA. 13 + 05 TO STA. 14 + 62 (RT)
 (157) (12) = 1,884 SF
 STA. 15 + 32 TO STA. 15 + 80 (RT)
 (48) (5) = 240 SF
 STA. 15 + 80 TO STA. 16 + 54 (RT)
 74 (5) = 370 S.F.
 STA. 16 + 54 TO STA. 17 + 53 (RT)
 99 (12) = 1,188 S.F.
 TOTAL 5,747 S.F.

QUANTITIES & COMPUTATIONS

GENERAL SUMMARY

CALC. BY C.E.W.
 DATE 3-21-85
 CHKD BY M.C.P.
 DATE 5-12-85

FHWA REGION	STATE	PROJECT
5	OHIO	

STA- BELDEN AVE. N.E.

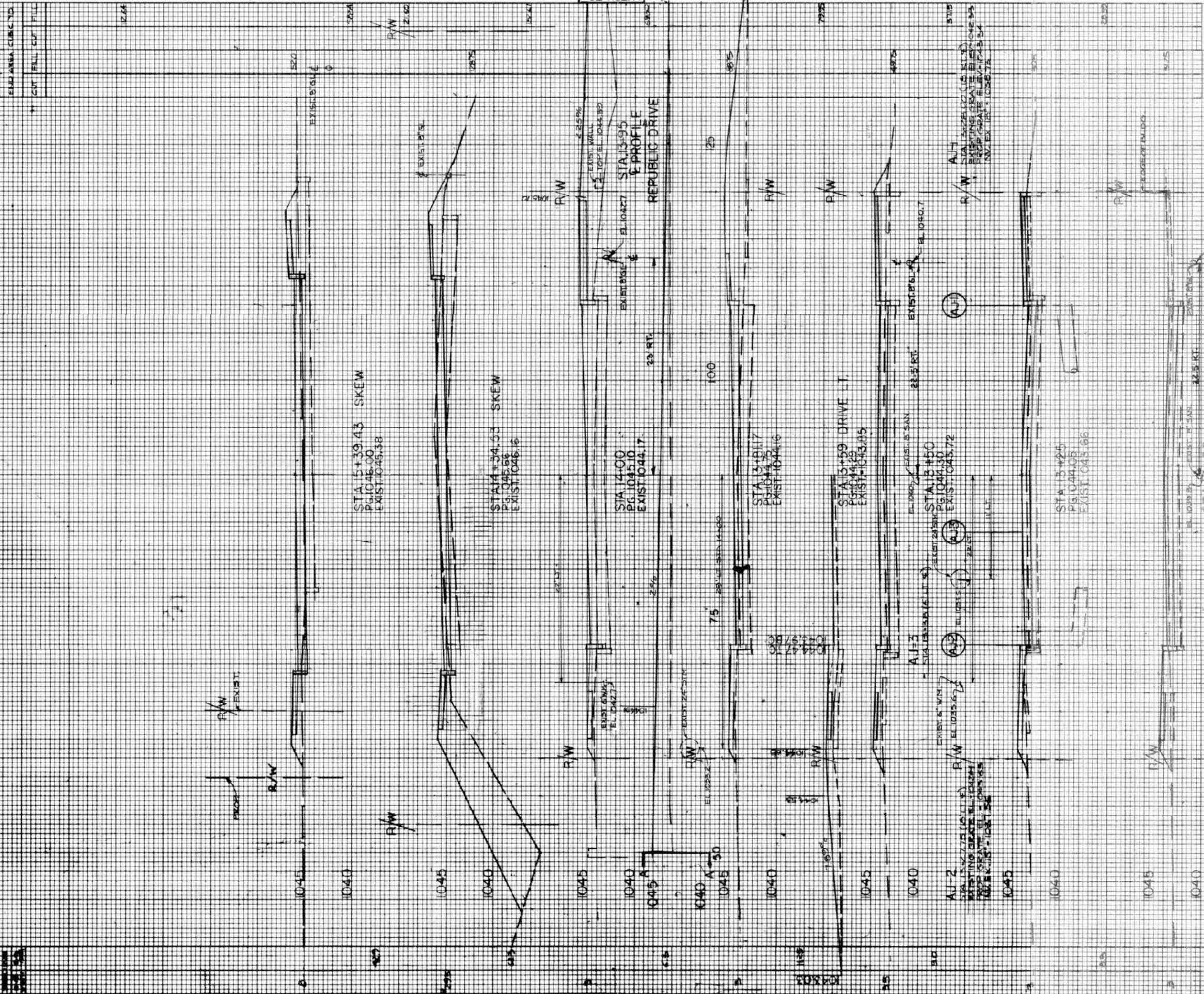
ITEM	SHEET NUMBER										TOTAL			DESCRIPTION
	3	4	6	ITEM	QUAN.	UNIT								
													ROADWAY	
				202	LUMP	LUMP	CLEARING AND GRUBBING							
				202	LUMP	LUMP	STRUCT (CULVERT) REMOVED							
				202	310	LF	RAILROAD TRACK REMOVED							
				202	423	SY	PAVEMENT REMOVED							
				202	6975	SF	SIDEWALK REMOVED							
				202	835	LF	CURB REMOVED							
				202	282	LF	FENCE REMOVED							
				202	2	EA.	GATE REMOVED							
				202	1	EA.	GATE REMOVED FOR REUSE							
				202	3	EACH	CATCH BASIN ABANDONED							
				202	3	C.Y.	PORTION OF STRUCTURE REMOVED (WALL)							
				203	370	C.Y.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION							
				203	370	C.Y.	BORROW- USING GRANULAR MATERIAL							
				203	83	C.Y.	EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION							
				203	1528	CY	EMBANKMENT							
				203	1838	SY	SUBGRADE COMPACTION							
				410	50	CY.	TRAFFIC COMPACTED SURFACE TYPE A OR B							
				606	87.50	LF	GUARD RAIL TYPE B							
				606	1	EACH	ANCHOR ASSEMBLY, STANDARD TYPE A							
				606	3	EACH	ANCHOR ASSEMBLY, STANDARD TYPE B MOD. AS PER PLAN							
				606	4	EACH	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE A							
				203	83	C.Y.	EXCAVATION INCL. EMBANKMENT CONSTRUCTION							
				607	244	LF	FENCE TYPE CL MODIFIED AS PER PLAN							
				607	2	EA.	GATE TYPE SPECIAL							
				607	100	LF	TEMPORARY FENCE							
				608	3883	SF	4" CONCRETE WALK							
				616	1	TON	CALCIUM CHLORIDE							
				616	50	M.GAL	WATER							
							EROSION CONTROL							
				207	70	SY	TEMPORARY SEEDING AND MULCHING							
				207	60	EACH	STRAW OR HAY BALES							
				207	340	CY	TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS							
				659	331	SY	SEEDING AND MULCHING							
				659	0.23	TON	AGRICULTURAL LIMING							
				659	0.22	TON	COMMERCIAL FERTILIZER							
				659	50	M.GAL	WATER							
				660	181	SY	SODDING							
							DRAINAGE							
				602	0.43	CY.	CONCRETE MASONARY							
				603	36	LF	15" CONDUIT TYPE B 706.01 or 706.02							
				603	30	LF	24" CONDUIT TYPE B 706.01 or 706.02							
				604	1	EACH	LAMPHOLE ADJUSTED TO GRADE							
				604	2	EACH	CATCH BASIN STANDARD N#6							
				604	1	EACH	MANHOLE, STANDARD N#1							
				604	3	EACH	MANHOLE ADJUSTED TO GRADE							
				604	2	EACH	CATCH BASIN ADJUSTED TO GRADE							
				604	1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE							
							PAVEMENT							
				301	232	CY.	BITUMINOUS AGGREGATE BASE AC-20 OR RT-11 OR RT-12							
				304	188	CY	AGGREGATE BASE							
				303	6	SY.	9" PORTLAND CEMENT CONCRETE BASE							
				402	54	CY.	ASPHALT CONCRETE AC-20							
				404	45	CY.	ASPHALT CONCRETE AC-20							
				404	41	CY.	ASPHALT CONCRETE AC-20 (DRIVEWAYS)							
				408	283	GAL.	PRIME COAT RT-2, RT-3							
				452	212	CY	B" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT							
				609	726	LF	CURB STANDARD TYPE G							
				611	145	SY.	REINFORCED CONCRETE APPROACH SLAB (T-12)							
							WATER WORK							
				814	6	EACH	WATER VALVE ADJUSTED TO GRADE							
				814	2	EACH	FIRE HYDRANT ADJUSTED TO GRADE							
				614	LUMP	LUMP	MAINTAINING TRAFFIC							
				623	LUMP	LUMP	CONSTRUCTION STAKES							
				624	LUMP	LUMP	MOBILIZATION AS PER PLAN							
							PAVEMENT MARKING							
				021	0.17	MI.	TEMPORARY 4' CENTERLINES							
							FOR STRUCTURE QUANTITIES SEE SHEET N#13							

FINAL SURVEY
 SURVEY PLOTTED
 NOTE BOOK NO. _____
 TEMPLATE AREA CHECKED

ORIGINAL SURVEY
 SURVEY PLOTTED
 NOTE BOOK NO. _____
 TEMPLATE AREA CHECKED

DATE _____

DATE _____



CALC. BY: LCK	DATE: 3-21-83	FHWA REGION: 5	STATE: OHIO	PROJECT:
CHK'D BY: CEW	DATE: 3-28-83			

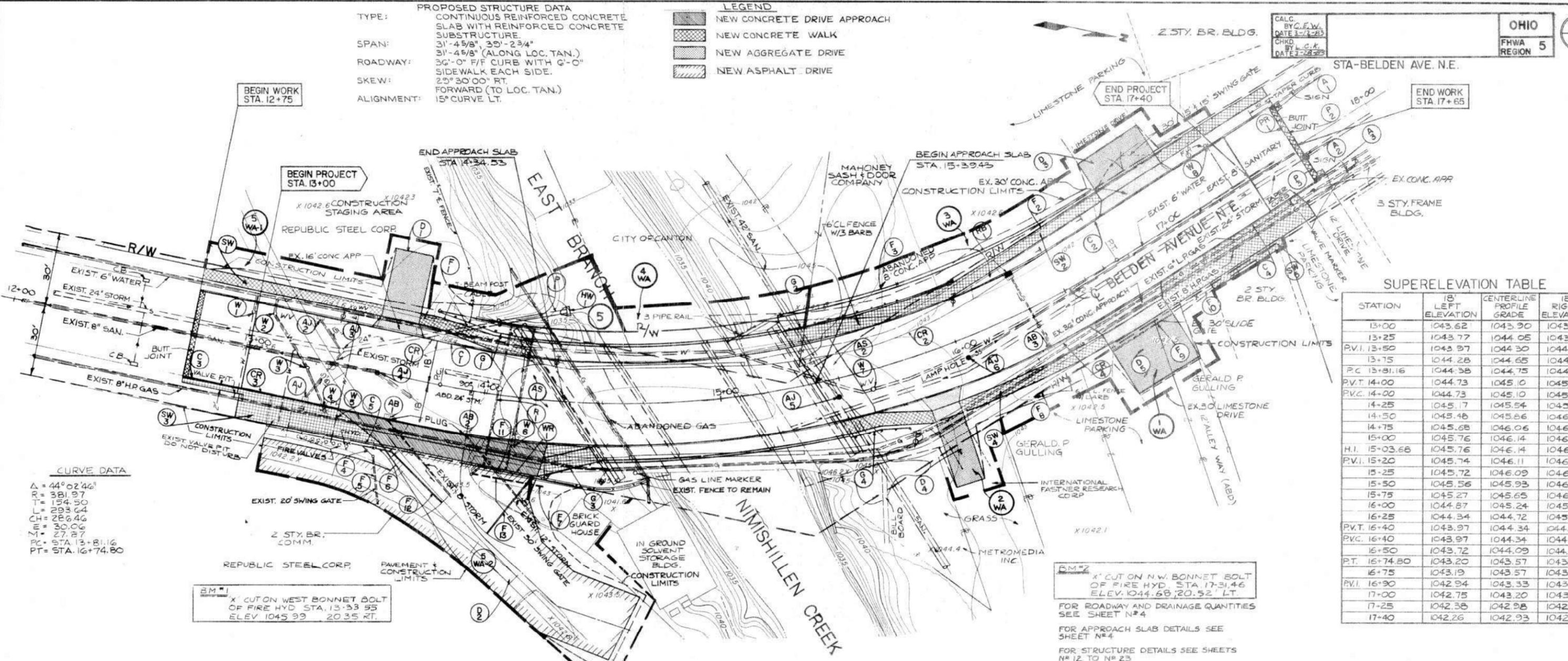
STA. BELDEN AVE N.E.

BELDEN AVE
 STA. 2+50 TO 1+50

PROPOSED STRUCTURE DATA
 TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH REINFORCED CONCRETE SUBSTRUCTURE
 SPAN: 31'-4 5/8", 30'-2 3/4"
 ROADWAY: 36'-0" F/F CURB WITH 6'-0" SIDEWALK EACH SIDE.
 SKEW: 23° 30' 00" RT.
 ALIGNMENT: 15° CURVE LT.

- LEGEND
- NEW CONCRETE DRIVE APPROACH
 - NEW CONCRETE WALK
 - NEW AGGREGATE DRIVE
 - NEW ASPHALT DRIVE

CALC. BY C.E.W. DATE 3-7-83
 CHD BY C.K. DATE 3-28-83
 OHIO REGION 5



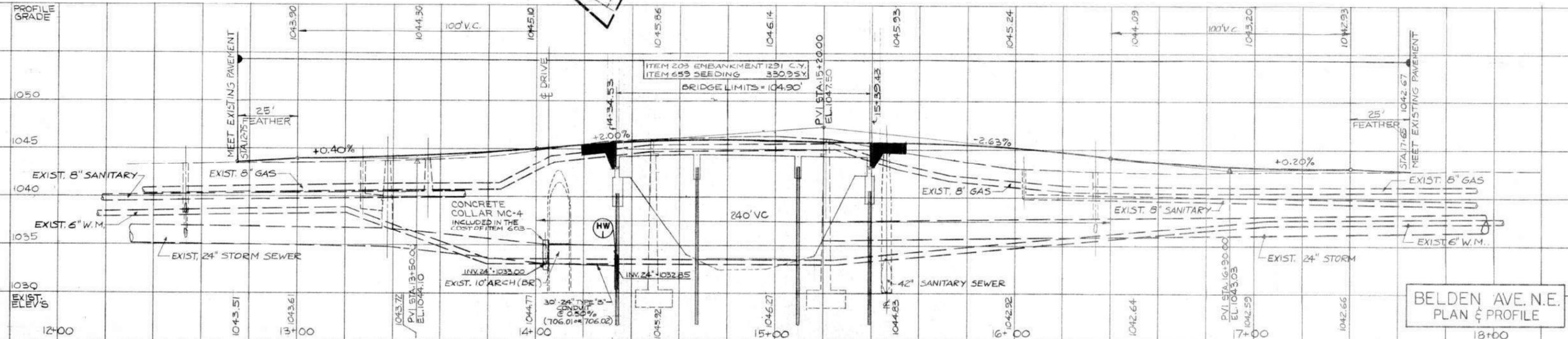
SUPERELEVATION TABLE

STATION	18' LEFT ELEVATION	CENTERLINE PROFILE GRADE	18' RIGHT ELEVATION
13+00	1043.62	1043.90	1043
13+25	1043.77	1044.05	1043
P.V.I. 13+50	1043.97	1044.30	1044
13+75	1044.28	1044.65	1044
P.C. 13+81.16	1044.38	1044.75	1044
P.V.T. 14+00	1044.73	1045.10	1045
P.V.C. 14+00	1044.73	1045.10	1045
14+25	1045.17	1045.54	1045
14+50	1045.48	1045.86	1046
14+75	1045.68	1046.06	1046
15+00	1045.76	1046.14	1046
H.I. 15+03.68	1045.76	1046.14	1046
P.V.I. 15+20	1045.74	1046.11	1046
15+25	1045.72	1046.09	1046
15+50	1045.56	1045.93	1046
15+75	1045.27	1045.65	1046
16+00	1044.87	1045.24	1045
16+25	1044.34	1044.72	1045
P.V.T. 16+40	1043.97	1044.34	1044
P.V.C. 16+40	1043.97	1044.34	1044
16+50	1043.72	1044.09	1044
P.T. 16+74.80	1043.20	1043.57	1043
16+75	1043.19	1043.57	1043
P.V.I. 16+90	1042.94	1043.33	1043
17+00	1042.75	1043.20	1043
17+25	1042.38	1042.98	1042
17+40	1042.26	1042.93	1042

CURVE DATA
 $\Delta = 44^{\circ} 02' 46''$
 $R = 381.97$
 $T = 194.90$
 $L = 293.64$
 $CH = 286.46$
 $ME = 30.06$
 $MS = 27.87$
 $PC = STA. 13+81.16$
 $PT = STA. 16+74.80$

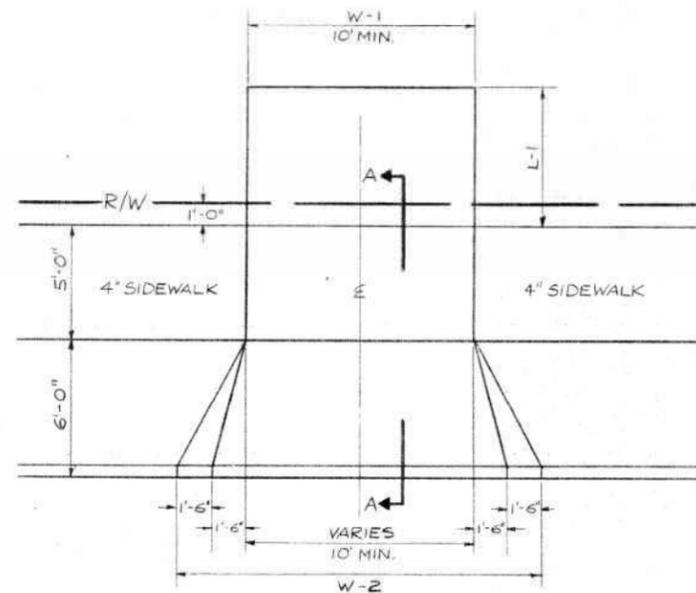
BM #1
 X CUT ON WEST BONNET BOLT OF FIRE HYD. STA. 13+33.55
 ELEV. 1045.99 20.35 RT.

BM #2
 X CUT ON N.W. BONNET BOLT OF FIRE HYD. STA. 17+31.46
 ELEV. 1044.68 20.52' LT.
 FOR ROADWAY AND DRAINAGE QUANTITIES SEE SHEET N#4
 FOR APPROACH SLAB DETAILS SEE SHEET N#4
 FOR STRUCTURE DETAILS SEE SHEETS N# 12 TO N# 23

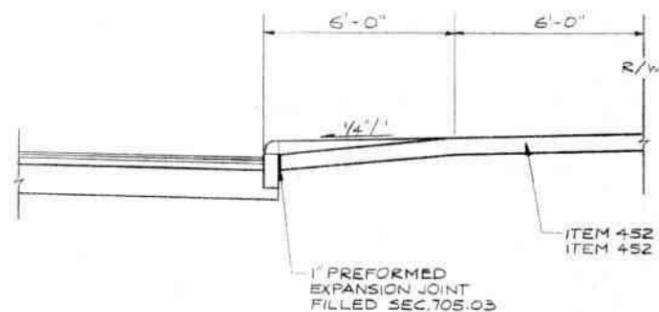


BELDEN AVE. N.E.
 PLAN & PROFILE

STA- BELDEN AVE. N.E.

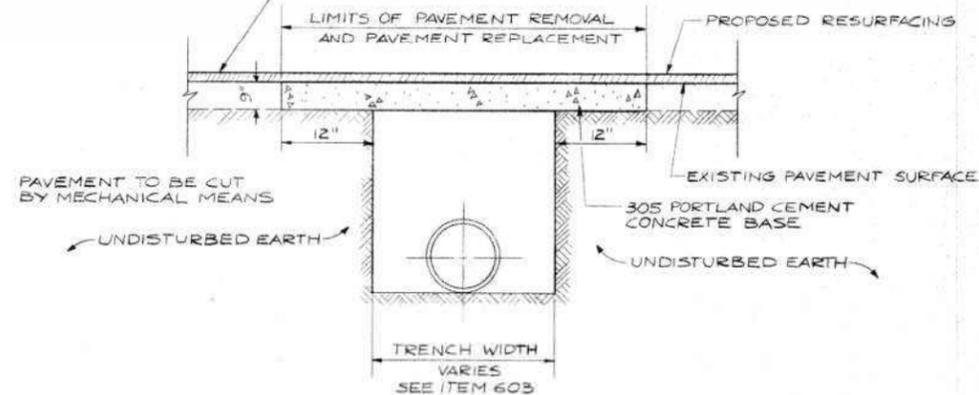


**TYPE I
DRIVEWAY APPROACH**



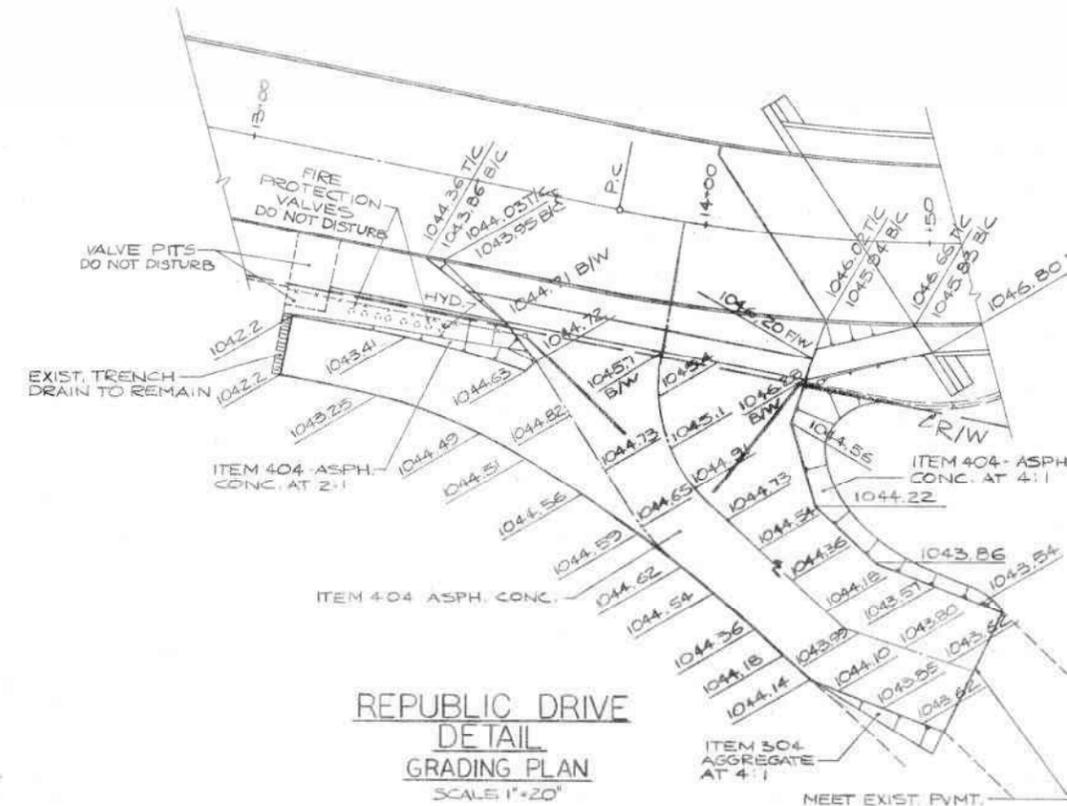
SECTION A-A

SURFACE COURSE TO BE INCLUDED IN PAVEMENT QUANTITIES FOR PAYMENT

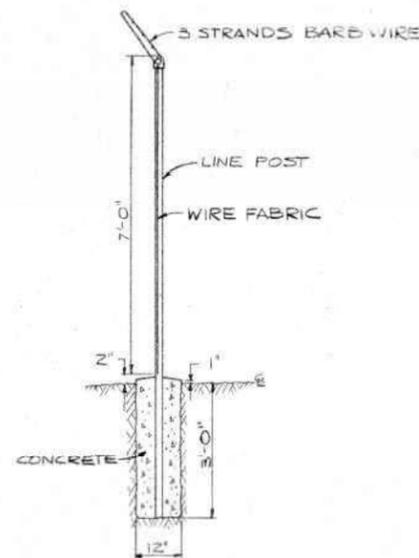


PAVEMENT BASE REPLACEMENT DETAIL

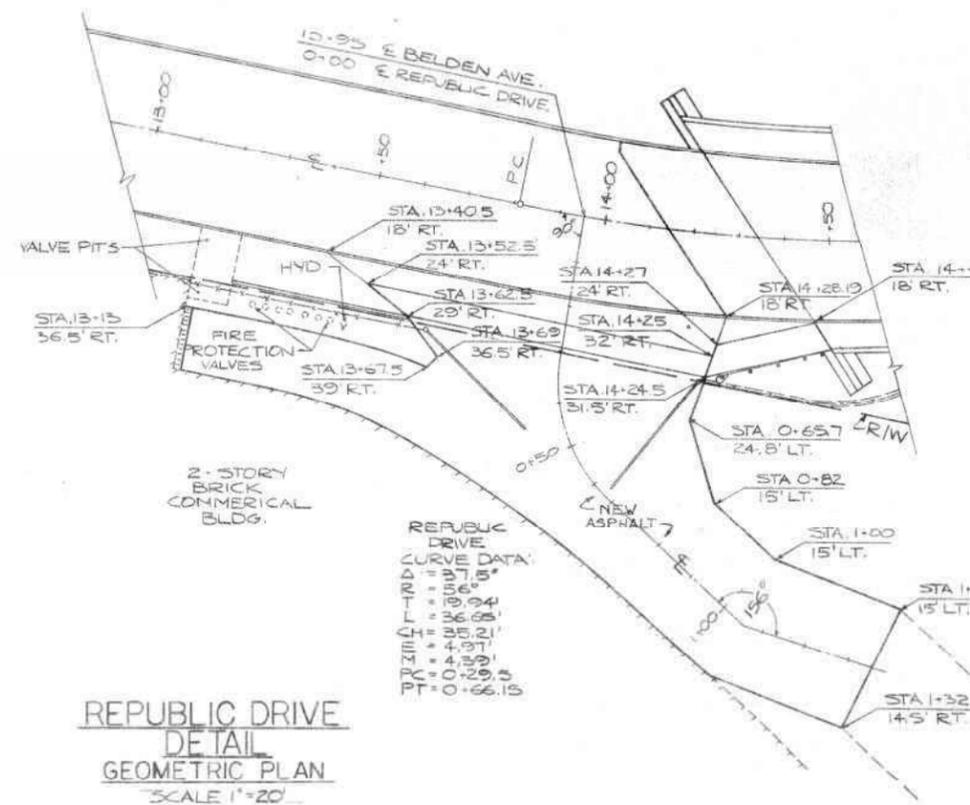
DRIVE AREA BEHIND WALK	
EXISTING DRIVE TYPE OR PARKING AREA	REPLACEMENT MATERIAL
ASPHALT RESIDENTIAL	ITEM 404 2" ASPHALT CONCRETE AC-20 (2-1" COURSES) ITEM 408 PRIME COAT RT-2, RT-3 ITEM 304 6" AGGREGATE BASE
ASPHALT COMMERCIAL	ITEM 404 2 1/2" ASPHALT CONCRETE AC-20 (2-1" COURSES) ITEM 408 PRIME COAT RT-2, RT-3 ITEM 304 8" AGGREGATE BASE
CONCRETE OR BRICK	ITEM 452 6" PLAIN PORTLAND CEMENT CONCRETE (RESIDENTIAL) ITEM 452 8" PLAIN PORTLAND CEMENT CONCRETE (COMMERCIAL)
SLAG, STONE, GRAVEL, ETC.	ITEM 304 8" AGGREGATE BASE - RESIDENTIAL ITEM 304 10" AGGREGATE BASE - COMMERCIAL



**REPUBLIC DRIVE
DETAIL
GRADING PLAN
SCALE 1"=20'**



**FENCE TYPE CL
MODIFIED AS PER PLAN**

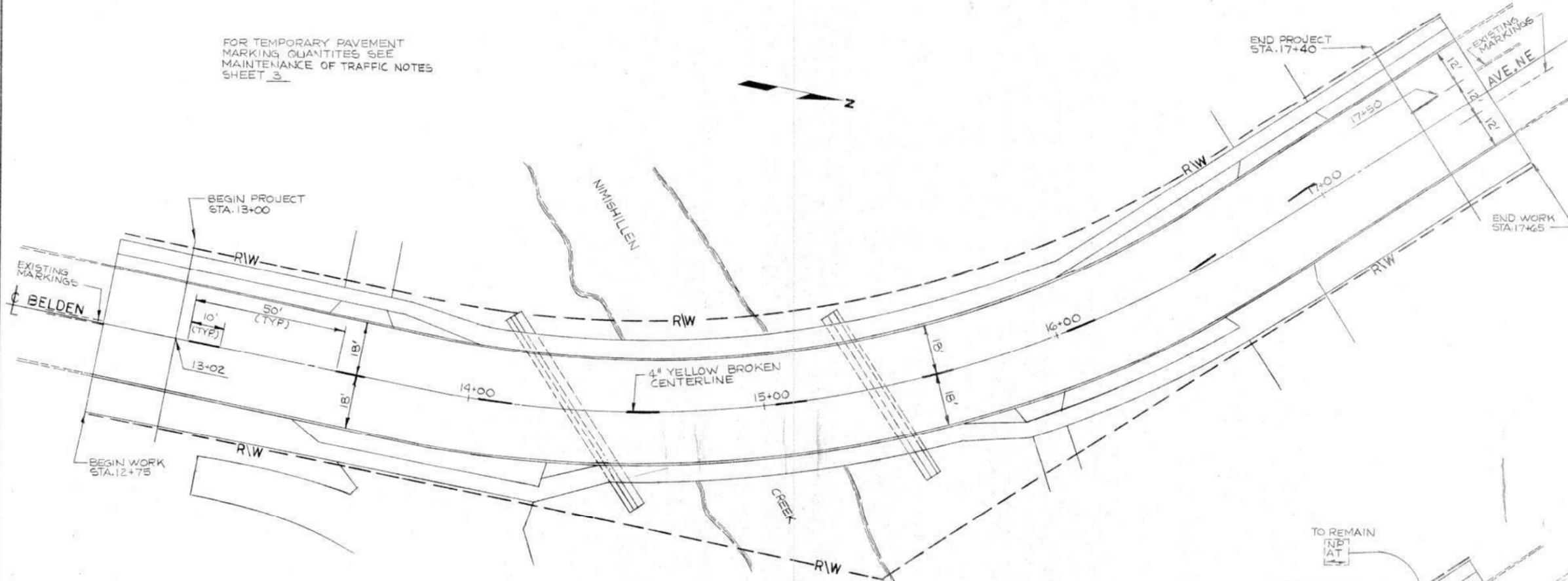


**REPUBLIC DRIVE
DETAIL
GEOMETRIC PLAN
SCALE 1"=20'**

MISCELLANEOUS DETAIL

FOR TEMPORARY PAVEMENT MARKING QUANTITIES SEE MAINTENANCE OF TRAFFIC NOTES SHEET 3.

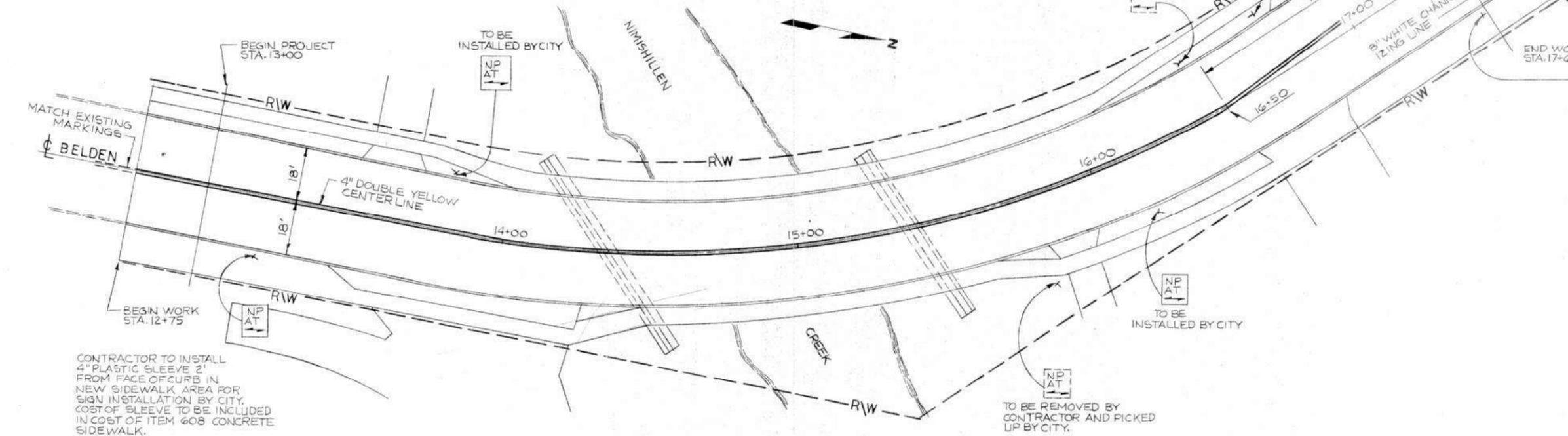
STA. BELDEN AVE. N.E.



TEMPORARY PAVEMENT MARKING PLAN

SCALE: 1" = 20'

- NOTES**
- 1) CONTRACTOR SHALL RETAIN EXISTING MARKINGS ON BOTH SIDES OF BRIDGE DURING BRIDGE CONSTRUCTION.
 - 2) CONTRACTOR SHALL INSTALL TEMPORARY MARKING AS SHOWN AFTER INSTALLATION OF EACH PAVEMENT COURSE EXCEPT FINAL. SEE PERMANENT PLAN.



PERMANENT PAVEMENT MARKING PLAN

SCALE: 1" = 20'

- TO BE REMOVED BY CONTRACTOR AND STORED ON PROJECT SITE AND PICKED UP BY CITY.
- CONTRACTOR TO INSTALL 4" PLASTIC SLEEVE 2' FROM FACE OF CURB IN NEW SIDEWALK AREA. CITY WILL RE-INSTALL SIGN. COST OF SLEEVE TO BE INCLUDED IN COST OF ITEM 608 CONCRETE SIDEWALK.

DENOTES SIGN SYMBOLS

- EXISTING AND WILL REMAIN
- TO BE INSTALLED BY CITY

NOTES

- 1) ALL PERMANENT PAVEMENT MARKINGS WILL BE INSTALLED BY THE CITY OF CANTON AS SOON AS POSSIBLE AFTER THE FINAL COURSE OF PAVEMENT IS INSTALLED.
- 2) EXISTING BRIDGE WEIGHT LIMIT SIGNS THAT ARE NOT SHOWN ARE TO BE REMOVED BY CONTRACTOR AND PICKED UP BY CITY.

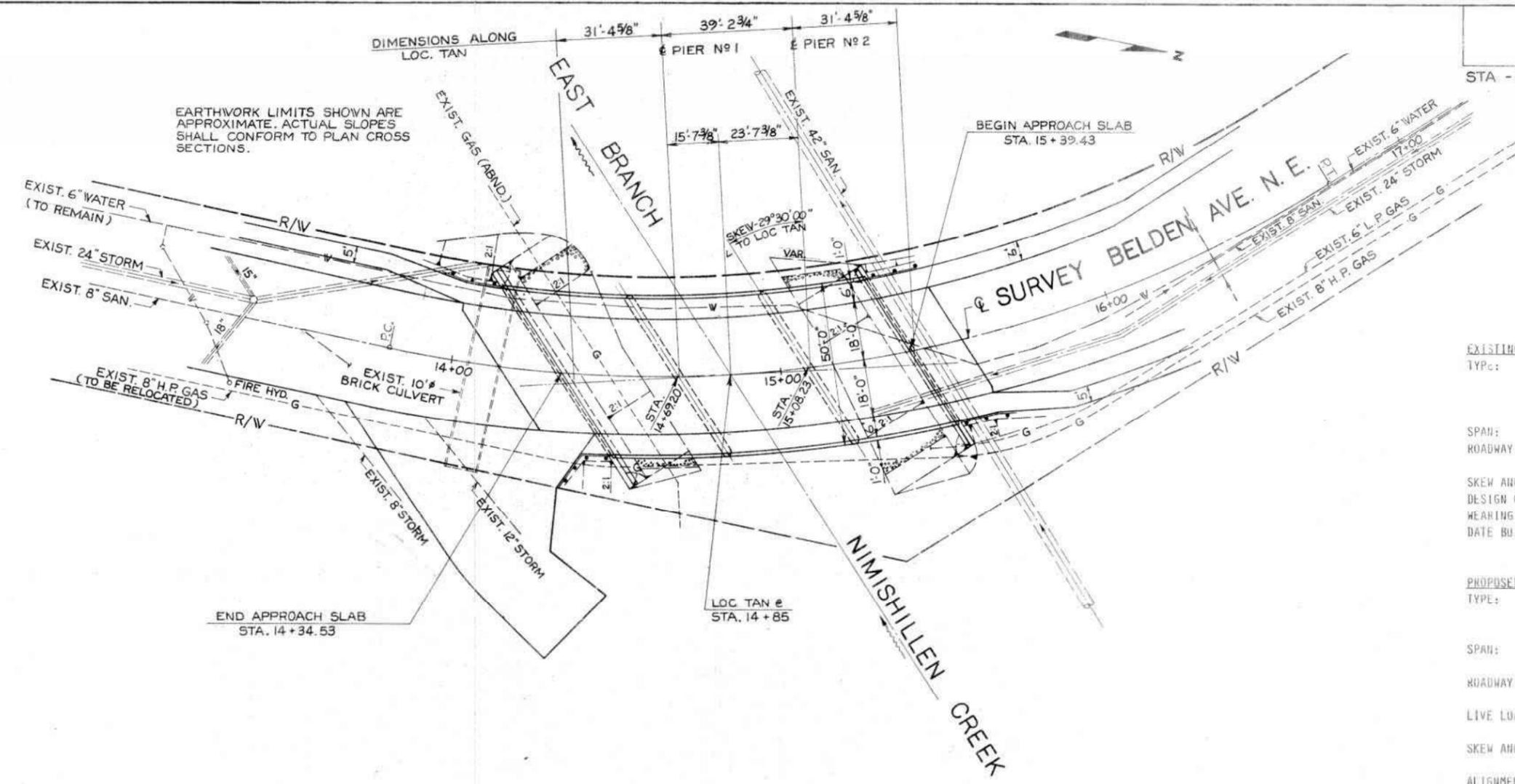
CONTRACTOR TO INSTALL 4" PLASTIC SLEEVE 2' FROM FACE OF CURB IN NEW SIDEWALK AREA FOR SIGN INSTALLATION BY CITY. COST OF SLEEVE TO BE INCLUDED IN COST OF ITEM 608 CONCRETE SIDEWALK.

TO BE REMOVED BY CONTRACTOR AND PICKED UP BY CITY.

STA - BELDEN AVENUE N.E.

CURVE DATA
 $\Delta = 44^\circ 02' 46''$
 $D_c = 15^\circ 00' 00''$
 $R = 381.97'$
 $T = 154.50'$
 $L = 293.64'$
 $CH = 286.46'$
 P.C. STA. 13+81.16
 P.T. STA. 16+74.80

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

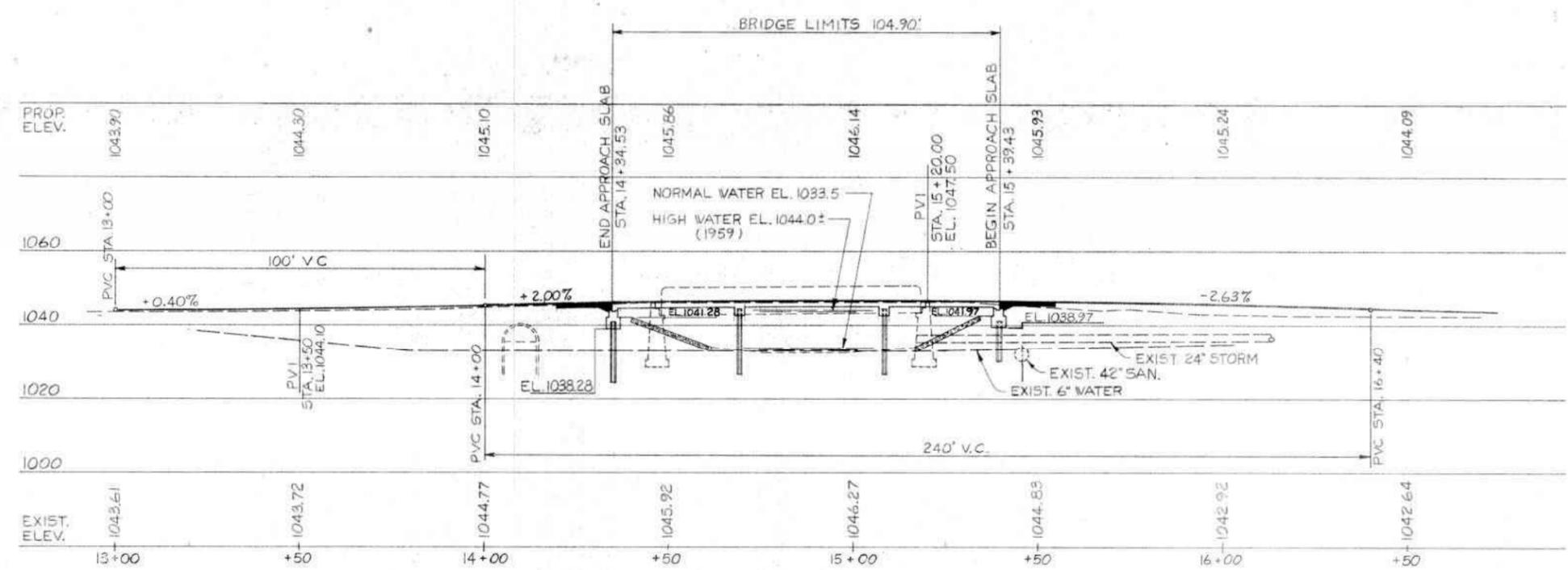


EXISTING STRUCTURE
 TYPE: STEEL STRINGERS AND FLOOR B...
 SUPPORTED ON STEEL RIVETED GIRDERS, WITH TIMBER DECK AND CONCRETE ABUTMENTS.
 SPAN: 74' - 2" F/F BACKWALLS.
 ROADWAY: 36' - 0" F/F CURBS WITH 5' SIDEWALK EACH SIDE.
 SKEW ANGLE: 31°-50'-00" RT. FORWARD.
 DESIGN CAPACITY: LOAD LIMIT 10 TONS.
 WEARING SURFACE: ASPHALT CONCRETE.
 DATE BUILT: 1921

PROPOSED STRUCTURE
 TYPE: CONTINUOUS REINFORCED CONCR...
 SLAB WITH REINFORCED CONCR SUBSTRUCTURE.
 SPAN: 31' - 4-5/8", 39' - 2-3/4", 31' (ALONG LOC TAN).
 ROADWAY: 36' - 0" F/F CURBS WITH 6' SIDEWALK EACH SIDE.
 LIVE LOAD: HS 20-44 AND ALTERNATE MILL. LOADING.
 SKEW ANGLE: 29°-30'-00" RT. FORWARD (TO TAB.).
 ALIGNMENT: 15° CURVE LT.
 SUPERELEVATION: 0.0208' PER FT.
 WEARING SURFACE: MONOLITHIC CONCRETE.
 APPROACH SLABS: AS-1-81 (15').
 SLOPE PROTECTION: CRUSHED AGGREGATE, 601.05.
 TRAFFIC DATA: ADT (1983) 4500

DRAINAGE DATA
 AREA = 44.3 SQ. MI.
 Q100 = 3,737 CFS
 EST. 100 YR. H.W. EL. = 1042.3

ESTIMATED AVERAGE PILE LENGTH OF PILES
 ABUTMENT NO 1 HP 10 x 42 25'
 ABUTMENT NO 2 HP 10 x 42 28'
 PIERS NO 1 & 2 HP 12 x 53 40'

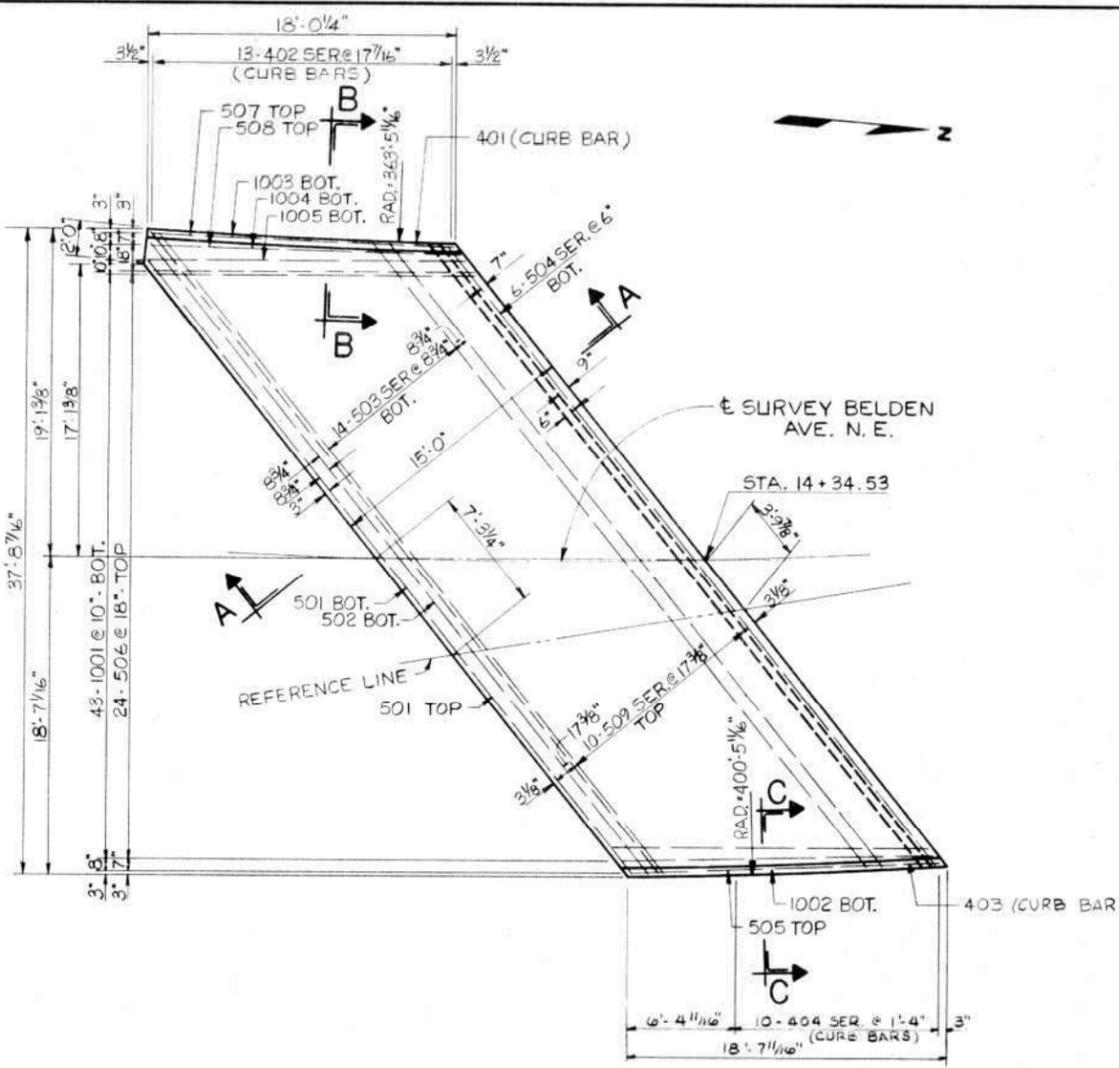


PROFILE ALONG & SURVEY BELDEN AVE. N.E.

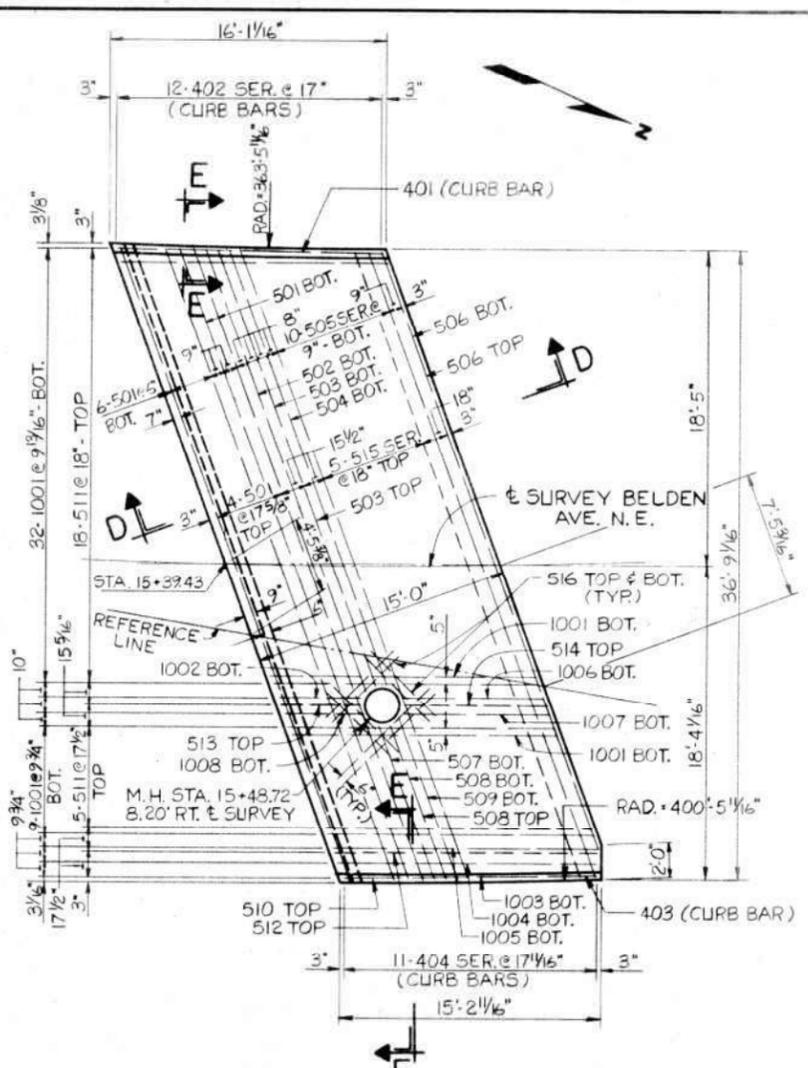
GPO
 GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN
 AKRON, OHIO

SITE PLAN
 BRIDGE NO STA-BELDEN AVE. N.E.
 OVER E.B. NIMISHILLEN CREEK
 STA. 14+34.53 TO STA. 15+39.43

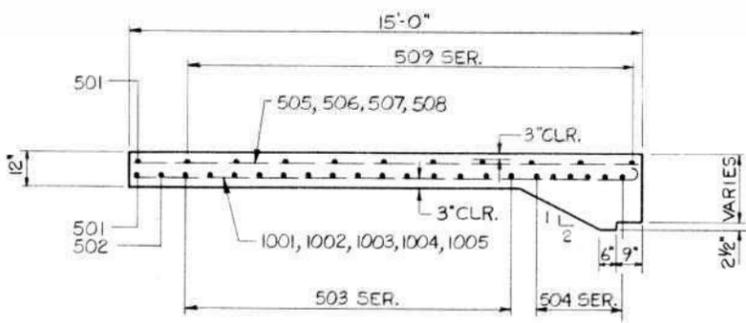
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
K.S.J.	P.L.W.		K.S.J.	RAH	4-1-83



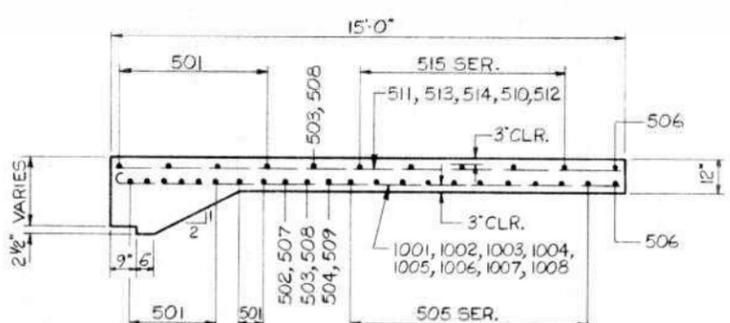
PLAN - APPROACH SLAB NO 1



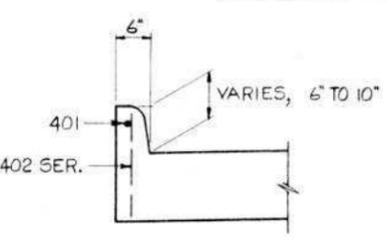
PLAN - APPROACH SLAB NO 2



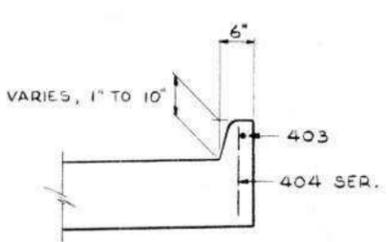
SECTION A-A



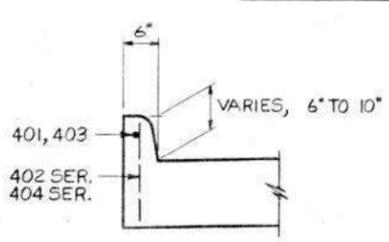
SECTION D-D



SECTION B-B



SECTION C-C



SECTION E E

- NOTES
- 1) PREFIXES "IAS" AND "2AS" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR APPROACH SLAB NO. 1 AND APPROACH SLAB NO. 2 RESPECTIVELY.
 - 2) FOR DETAILS NOW SHOWN, SEE STD. DRAWING NO. AS-1-81.

BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST DIGIT AND ALPHABETICAL LETTER INDICATE LOCATION. THE NEXT DIGIT OF A THREE DIGIT SERIES INDICATES BAR SIZE NUMBER.

EXAMPLE: IAS 502
NO. 5 SIZE BAR
LOCATION - APPROACH SLAB NO. 1

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	SERIES INCREMENT	WEIGHT POUNDS
1AS401	1 SET	17' 6"	ST				12
1AS402S	OF 13	TO 1' 6"	ST			0' 0 3/8"	12
1AS403	1 SET	18' 3"	ST				12
1AS404S	OF 10	TO 0' 10"	ST			0' 0 7/8"	8
1AS501	2 SET	45' 6"	ST				95
1AS502	1 SET	47' 0"	ST				49
1AS503S	OF 14	TO 46' 5"	ST			0' 1 1/8"	687
1AS504S	OF 6	TO 46' 4"	ST			0' 0 3/4"	289
1AS505	1 SET	18' 2"	ST				19
1AS506	24 SET	18' 8"	ST				467
1AS507	1 SET	17' 6"	ST				18
1AS508	1 SET	18' 0"	ST				19
1AS509S	OF 10	TO 47' 9"	ST			0' 2 1/2"	488
1AS1001	43 SET	20' 1"	101	18' 8"			3716
1AS1002	1 SET	19' 7"	101	18' 8"			84
1AS1003	1 SET	18' 11"	101	18' 8"			81
1AS1004	1 SET	19' 5"	101	18' 8"			86
1AS1005	1 SET	19' 11"	101	18' 8"			86
TOTAL							6226

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	SERIES INCREMENT	WEIGHT POUNDS
2AS401	1 SET	15' 7"	ST				10
2AS402S	OF 12	TO 1' 6"	ST			0' 0 3/8"	11
2AS403	1 SET	14' 8"	ST				10
2AS404S	OF 11	TO 1' 6"	ST			0' 0 3/8"	10
2AS501	12 SET	39' 2"	ST				490
2AS502	1 SET	27' 4"	ST				29
2AS503	1 SET	27' 0"	ST				26
2AS504	1 SET	26' 11"	ST				26
2AS505S	OF 10	TO 39' 0"	ST			0' 0 3/8"	405
2AS506	2 SET	37' 3"	ST				78
2AS507	1 SET	9' 6"	ST				10
2AS508	1 SET	9' 7"	ST				20
2AS509	1 SET	10' 5"	ST				15
2AS510	1 SET	14' 6"	ST				15
2AS511	1 SET	14' 11"	ST				372
2AS512	1 SET	4' 1"	ST				16
2AS513	1 SET	4' 1"	ST				9
2AS514	1 SET	38' 9"	ST				9
2AS515S	OF 5	TO 39' 0"	ST			0' 0 3/4"	203
2AS516	16 SET	4' 0"	ST	15' 6"			67
2AS1001	43 SET	16' 11"	101	15' 6"			3130
2AS1002	1 SET	6' 4"	101	14' 11"			27
2AS1003	1 SET	16' 2"	101	14' 9"			70
2AS1004	1 SET	16' 7"	101	15' 2"			71
2AS1005	1 SET	16' 3"	101	14' 10"			70
2AS1006	1 SET	8' 1"	ST				35
2AS1007	1 SET	8' 1"	ST				37
2AS1008	1 SET	6' 1"	101	4' 8"			26
TOTAL							5320

GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN, INC.
AKRON, OHIO

APPROACH SLABS
BRIDGE NO. STA-BELDEN AVE. N.E.
BELDEN AVE. N.E.
OVER E.B. NIMISHILLEN CREEK
STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
J.R.S.	R.L.W.		K.S.J.	RAH	4-1-83	

REFERENCE
 REFERENCE SHALL BE MADE TO THE FOLLOWING:
 STANDARD DRAWING NO. AS-1-81 DATED 11-27-81
 SUPPLEMENTAL SPECIFICATION 824 DATED 10-08-82
 SUPPLEMENTAL SPECIFICATION 836 DATED 03-12-75
 SUPPLEMENTAL SPECIFICATION 852 DATED 06-08-79

DESIGN SPECIFICATIONS
 THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980, 1981 AND 1982 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING:	HS20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS C:	UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
CONCRETE CLASS S:	UNIT STRESS 1500 PSI FOR SUPERSTRUCTURE
REINFORCING STEEL:	ASTM A615, A616, OR A617 - GRADE 60, UNIT STRESS 24,000 PSI
DECK PROTECTIVE METHOD:	EPOXY-COATED REINFORCING STEEL, TOP MAT ONLY
NOTE:	MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1"

ITEM 202, STRUCTURE REMOVED
 EXISTING STRUCTURE SHALL BE REMOVED AS NEATLY AS POSSIBLE TO THE LIMITS INDICATED BELOW, OR AS AUTHORIZED BY THE ENGINEER:
 SUPERSTRUCTURE INCLUDING SIDEWALKS, ASPHALT WEARING SURFACE AND RAILING: TOTAL REMOVAL NORTH AND SOUTH ABUTMENTS: REMOVAL TO 2' BELOW FINISH GRADE
 ALL WORK REQUIRED TO ACCOMPLISH THE REMOVAL, INCLUDING THE EXCAVATION AND ITS DISPOSAL, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 202, STRUCTURE REMOVED.

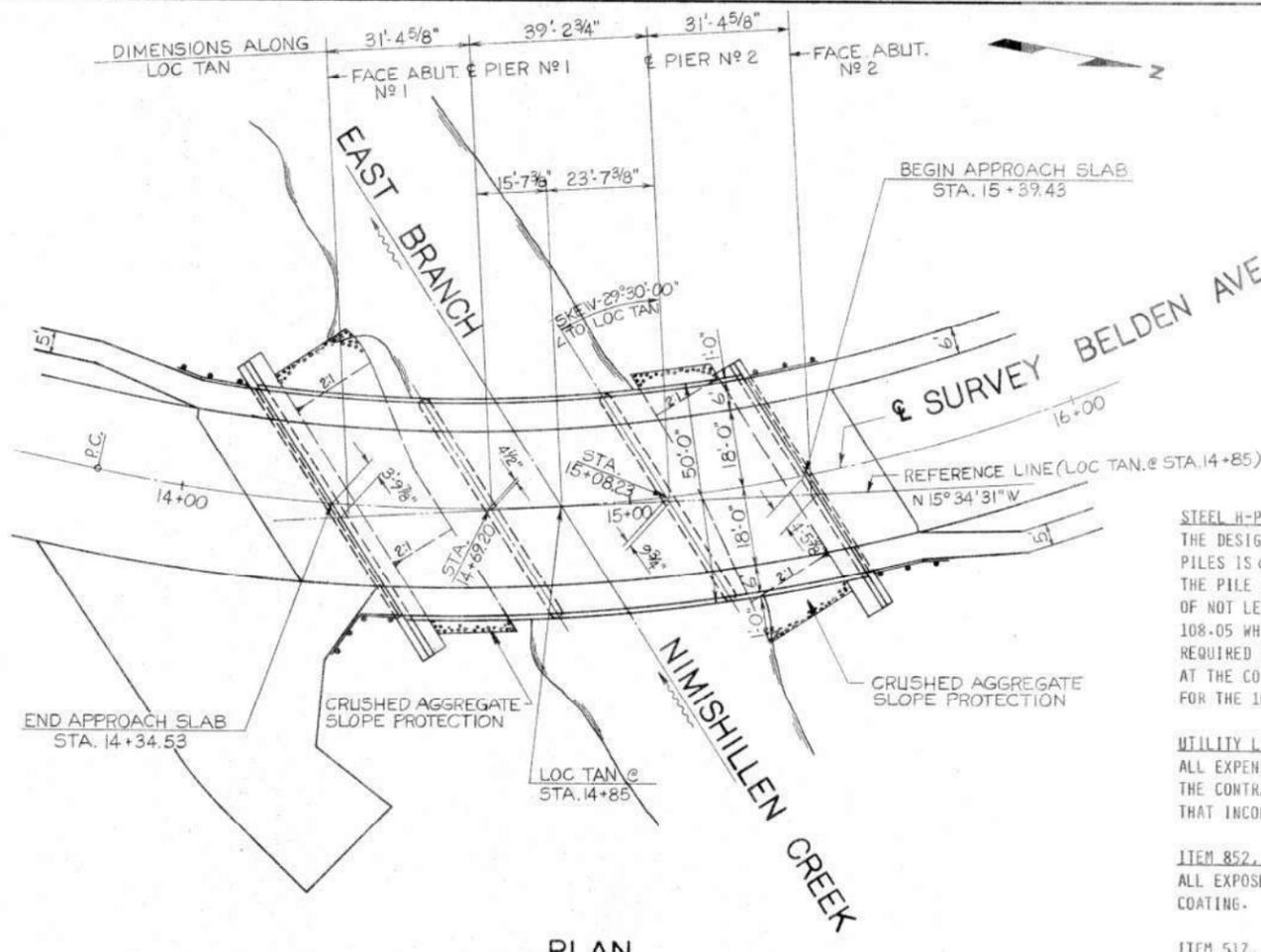
DEMOLITION NOTES
 A SET OF EXISTING STRUCTURE PLANS IS AVAILABLE IN THE OFFICE OF THE CANTON CITY ENGINEER. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHOULD EXAMINE THESE PLANS AND VERIFY AND/OR SUPPLEMENT THE PLAN INFORMATION BY NECESSARY FIELD MEASUREMENTS AND OBSERVATIONS. THE CONTRACTOR SHALL THEREAFTER SUBMIT THREE (3) SETS OF PRINTS OF THE PLANS SHOWING THE DEMOLITION METHODS AND SEQUENCE, DETAILS FOR THE PROTECTION OF CREEK, UTILITIES AND SEWERS AND OTHER NECESSARY INFORMATION TO THE DIRECTOR FOR REVIEW BY THE DEPARTMENT OF TRANSPORTATION. A DEMOLITION SCHEDULE SHALL ALSO BE INCLUDED WITH THE SUBMITTAL.
 NO WORK SHALL BE COMMENCED OR PROSECUTED WITHOUT WRITTEN AUTHORIZATION BY THE DIRECTOR. AUTHORIZATION TO PROCEED WITH THE DEMOLITION WILL ONLY MEAN THAT NO OBJECTION IS TAKEN TO THE METHODS OF DETAILS PROPOSED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO ANY PROPERTY OR PERSON DURING THE PROSECUTION OF HIS WORK, RESULTING FROM HIS METHOD OR MANNER OF EXECUTING THE WORK. THE CONTRACTOR SHALL EXERCISE AT ALL TIMES THE UTMOST CARE SO AS NOT TO ENDANGER LIFE OR PROPERTY.

UNDERGROUND UTILITIES
 THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

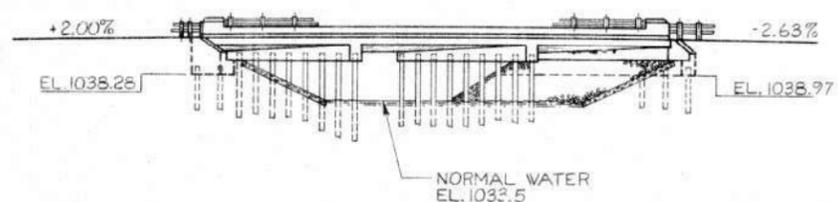
FIELD VERIFICATION OF EXISTING SEWERS AND WATER MAIN
 LOCATION OF EXISTING 24" AND 42" SEWERS AND 6" WATER MAIN AS SHOWN ON THE PLANS ARE BASED ON AVAILABLE RECORDS. PRIOR TO DRIVING PILES, OR PRE-BORING HOLES FOR THE PILES WHERE SPECIFIED IN THE PLANS, THE CONTRACTOR SHALL VERIFY THE SEWER AND MAIN LOCATIONS AT THE SITE. IN CASE THE ACTUAL LOCATIONS ARE DIFFERENT THAT THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE ENGINEER WILL THEN MAKE SUCH CORRECTIONS IN THE PLANS AS ARE DEEMED NECESSARY.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIER	GENERAL
202	LUMP	L.S.	STRUCTURE REMOVED				LUMP
503	87	C.Y.	UNCLASSIFIED EXCAVATION		87		
505	LUMP	L.S.	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP
507	530	L.F.	STEEL PILES, HP10X42 (AS PER PLAN)		530		
507	680	L.F.	STEEL PILES, HP 12 X 53 (AS PER PLAN)			680	
507	81	L.F.	PREBORED HOLES		81		
509	53,676	LB.	REINFORCING STEEL GRADE 60	41,314	9,409	2,953	
511	383	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE	383			
511	20	C.Y.	CLASS C CONCRETE, PIER CAPS			20	
511	79	C.Y.	CLASS C CONCRETE, ABUTMENTS		79		
517	189.67	L.F.	RAILING (ALUMINUM) AS PER PLAN (2 RAIL)	189.67			
518	23	C.Y.	POROUS BACKFILL		23		
601	324	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION		324		
824	44,225	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	42,000		2,225	
852	486	S.Y.	PENETRATING EPOXY TREATMENT FOR CONCRETE SURFACES	338	52	96	



PLAN



ELEVATION

STEEL H-PILES
 THE DESIGN LOAD FOR THE ABUTMENT PILES IS 42 TONS PER PILE AND THE DESIGN LOAD FOR THE PIER PILES IS 65 TONS PER PILE.
 THE PILE HAMMER USED TO INSTALL THE STEEL "H" BEARING PILES SHALL HAVE A STATE'S ENERGY RATIO OF NOT LESS THAN 15,000 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108-05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK.
 AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 12 INCH CAST-IN-PLACE REINFORCED CONCRETE PILES FOR THE 10 INCH STEEL "H" BEARING PILES (HP10X42) WHICH ARE SHOWN AT THE ABUTMENTS.

UTILITY LINES
 ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 852, PENETRATING EPOXY TREATMENT FOR CONCRETE SURFACES
 ALL EXPOSED SURFACES OF SIDEWALKS, PIERS, PARAPETS, AND ABUTMENTS SHALL RECEIVE A PROTECTIVE COATING.

ITEM 517, RAILING (ALUMINUM), AS PER PLAN
 THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIAL AND LABOR NECESSARY TO CONSTRUCT AND ERECT THE COMPLETED ALUMINUM RAILING AS SHOWN IN PLANS, OR AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT AS MODIFIED HEREIN.

MATERIALS:
 REQUIREMENTS IN RESPECT OF THE FOLLOWING COMPONENTS OF THE RAILING SYSTEM SHALL BE AS STATED BELOW:

CAP SCREWS:	ASTM A276, TYPE 430
	DIMENSIONAL REQUIREMENTS AS PER ANSI B18.2-1
CAST END CAPS:	ASTM B26, SAND CAST ALUMINUM, ALLOY SG70A-F
ANCHOR STUDS:	ASTM A449 STEEL
HEX NUTS:	ASTM A563, GRADE B OR BETTER STEEL
EMBEDDED JAM & HEX NUTS:	ASTM A563, GRADE A OR BETTER STEEL

ANCHOR STUDS, HEXAGON NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A165. WASHER SHALL BE MADE OF STEEL WITH DIMENSIONAL REQUIREMENTS OF ANSI B27.2. BOTH CLAMP BAR AND CAP SCREW SHALL BE THREADED TO ANSI B1.1, UNC, CLASS 2 TOLERANCE. RIVETS SHALL HAVE MANUFACTURED HIGH BUTTON HEADS CONFORMING TO ANSI B18.4, SHALL HAVE DRIVEN CONE POINT HEADS, AND SHALL MEET THE REQUIREMENTS OF SECTION 6.5 OF THE ALUMINUM ASSOCIATIONS SPECIFICATIONS FOR ALUMINUM BRIDGE AND OTHER HIGHWAY STRUCTURES.

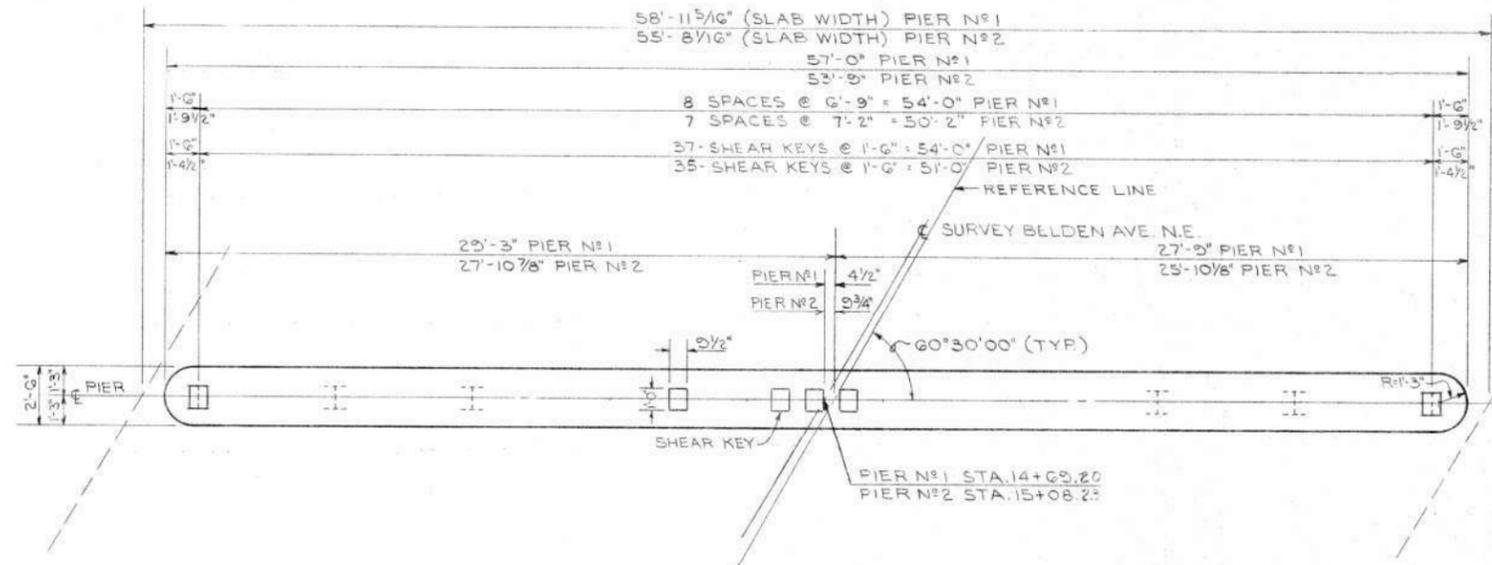
ITEM 511, CONCRETE, CLASS S, SUPERSTRUCTURE
 ALL CONCRETE SURFACES DESIGNATED TO RECEIVE THE PROTECTIVE COATING SHALL BE CURED BY METHOD C WATER CURING.

FOR RAILING DETAILS, SEE SHT. N° 17/12

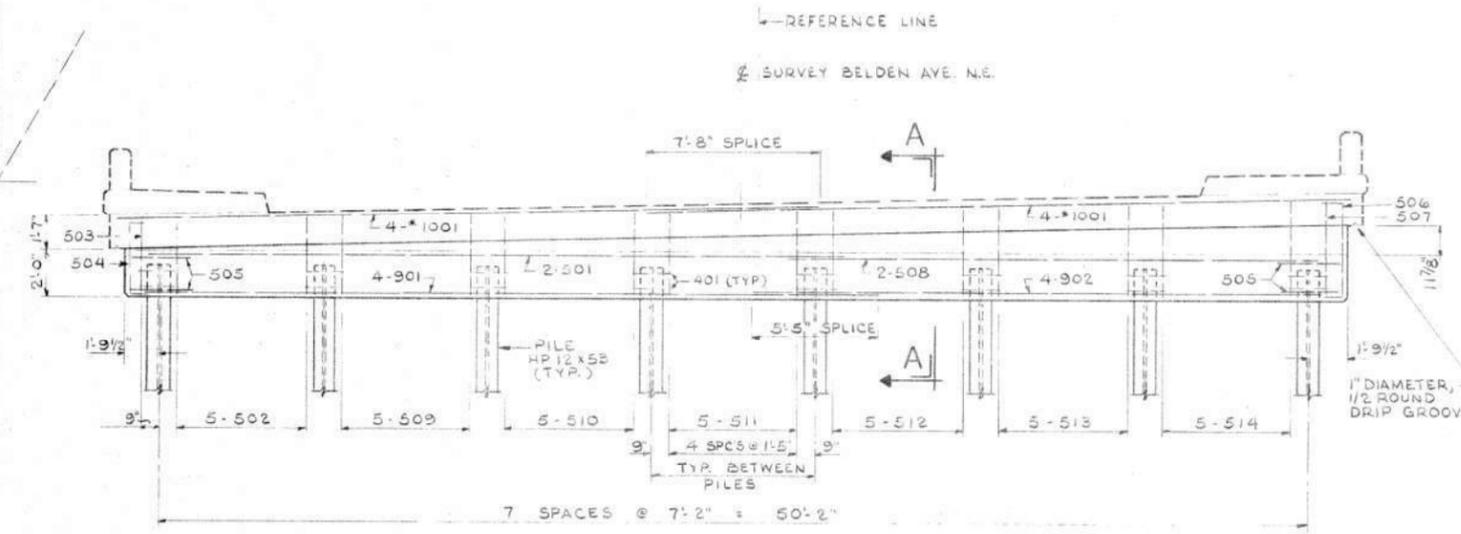
GPD
 GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN, I
 AKRON, OHIO

GENERAL PLAN
 BRIDGE N° STA - BELDEN AVE. N. E.
 BELDEN AVE. N. E.
 OVER E. B. NIMISHILLEN CREEK
 STA. 14+34.53 TO STA. 15+39.43

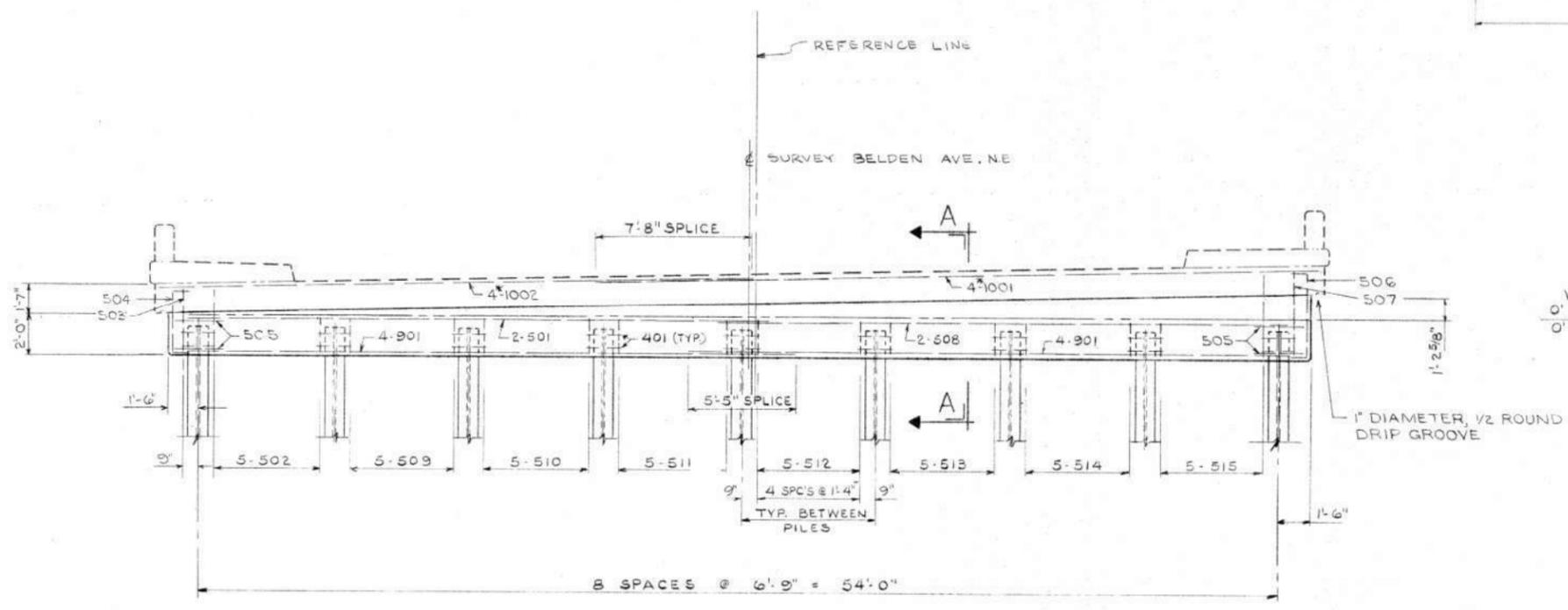
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV
K.S.J.	P.L.W.		K.S.J.	RAH	4-1-83	



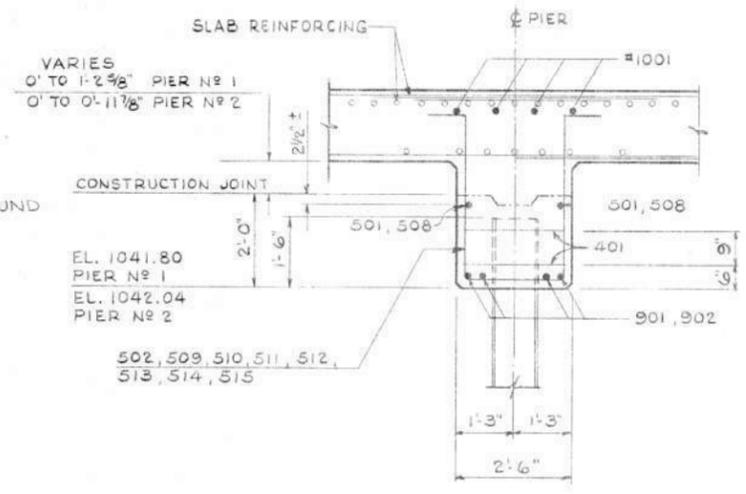
PLAN



ELEVATION PIER N°2



ELEVATION PIER N°1



SECTION A-A

- NOTES
- 1) PREFIXED "1P" AND "2P" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR PIER NO. 1 AND PIER NO. 2 RESPECTIVELY. SEE REINFORCING SCHEDULE.
 - 2) REINFORCING STEEL SHOWN THUS (*) TO BE EPOXY COATED.
 - 3) MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED OTHERWISE.
 - 4) ATTACHMENT OF FALSEWORK SUPPORT MEMBERS TO PIER PILES WILL BE PERMITTED, IF THE ATTACHMENT IS MADE TO THAT PORTION OF PILE ENCASED IN THE PIER CAP.
 - 5) FOR NOTE ON FIELD VERIFICATION OF EXISTING WATER MAIN, SEE SHEET NO. 2/12.

GPD 5
GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN, INC.
AKRON, OHIO

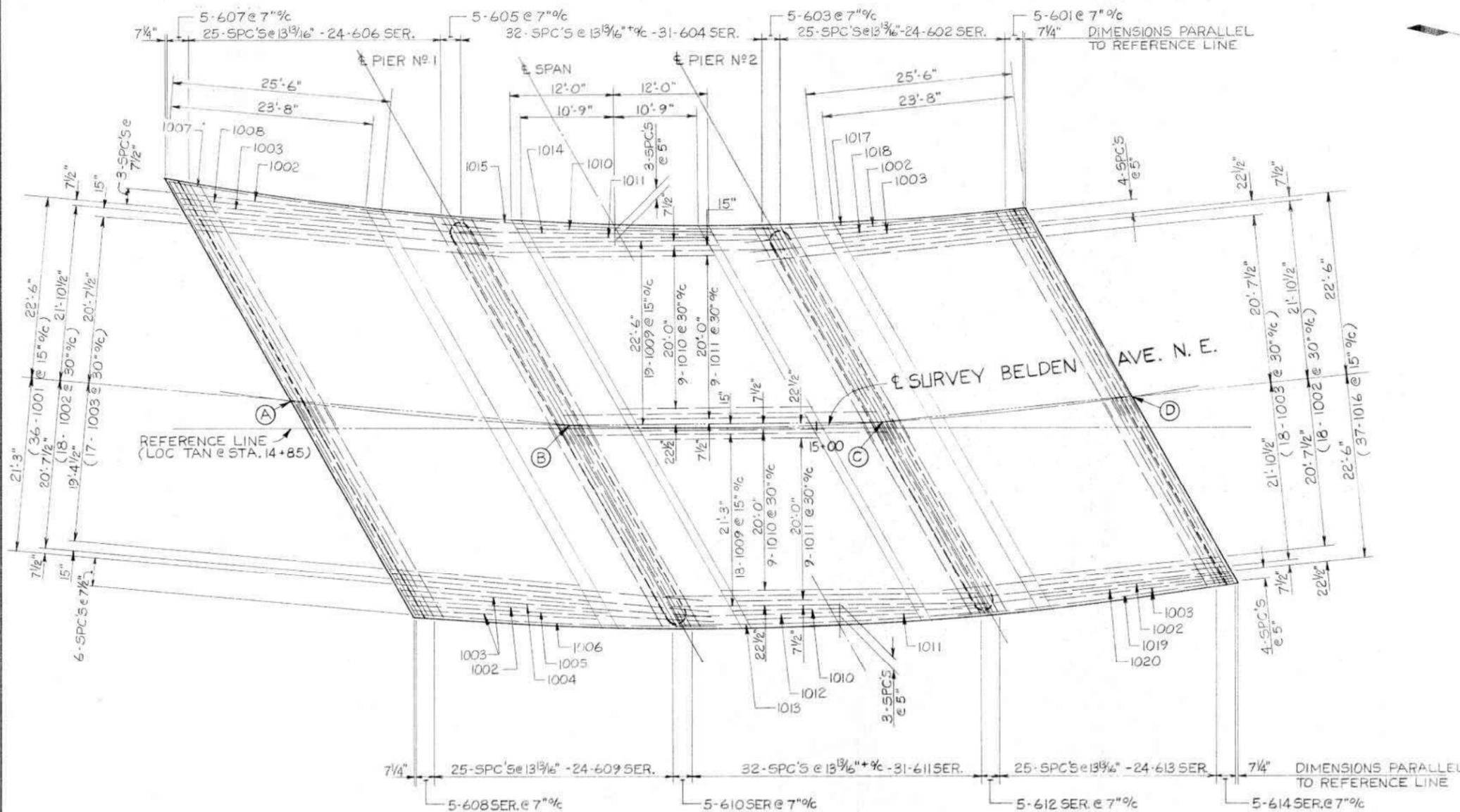
PIER N°s 1 & 2

BRIDGE N° STA-BELDEN AVE. N.E.
BELDEN AVE. N.E.
OVER E.B. NIMISHILLEN CREEK

STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV
JRS	G.W.		K.S.J.	R.H.	4-1-83	

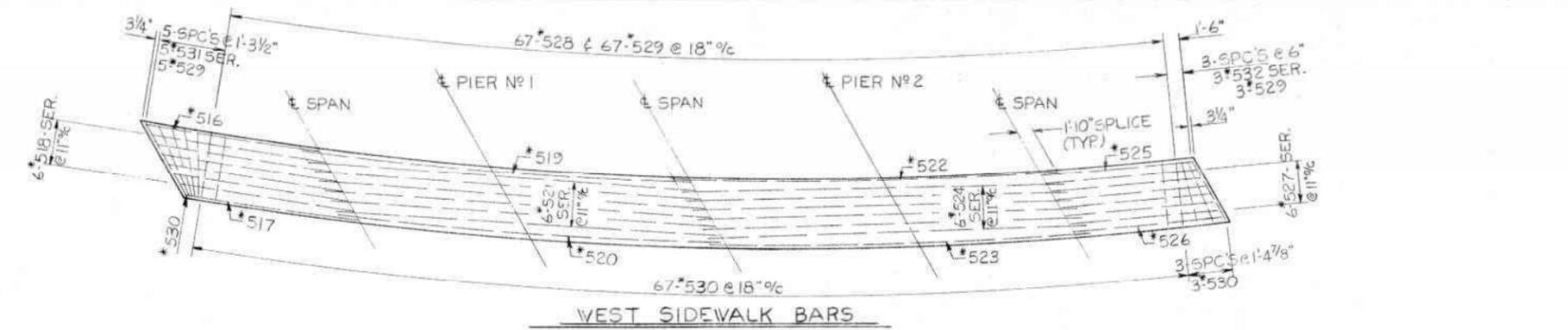
STA - BELDEN AVENUE N.E.



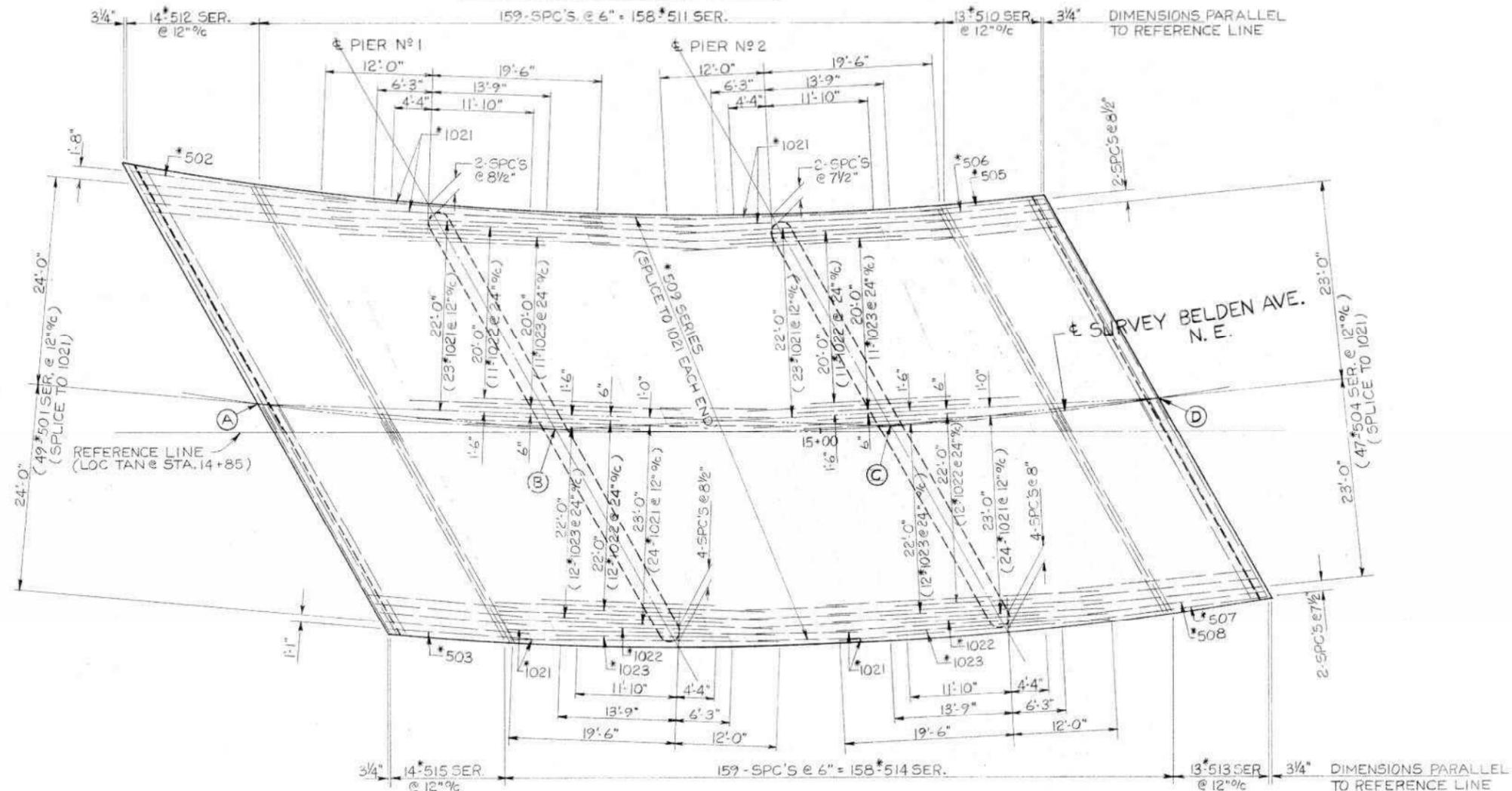
SLAB PLAN - BOTTOM REINFORCING

- NOTES
- 1) PREFIX "S" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR DECK SLAB. SEE REINFORCING SCHEDULE.
 - 2) FOR SLAB SECTIONS, SEE SHEET NO. 8/12
 - 3) FOR REINFORCING STEEL IN TOP OF SLAB, SEE SHEET NO. 7/12
 - 4) FOR LOCATION OF PTS. A, B, C AND D, SEE SHEET NO. 10/12
 - 5) REBARS 1001, 1002 AND 1003 (SPAN NO. 1) SHALL BE PLACED PARALLEL TO CHORD A-B, REBARS 1009, 1010 AND 1011 PARALLEL TO CHORD B-C, AND REBARS 1002, 1003 AND 1016 (SPAN NO. 3) PARALLEL TO CHORD C-D.

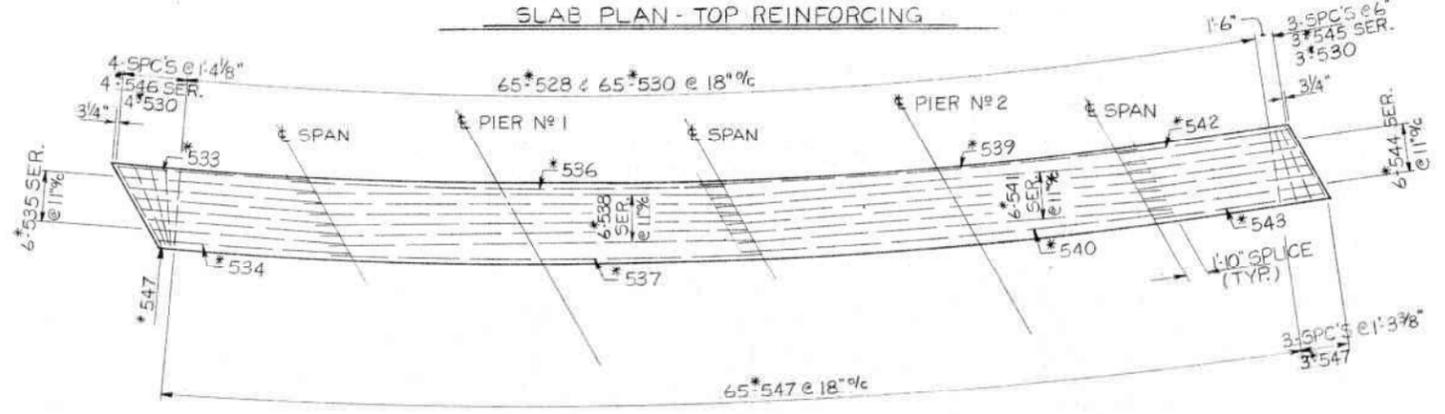
GPI		6/	
GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN, INC. AKRON, OHIO			
SLAB PLAN			
BRIDGE NO STA - BELDEN AVE. N.E. BELDEN AVE. N.E. OVER E.B. NIMISHILLEN CREEK			
STA. 14+34.53 TO STA. 15+39.43			
DESIGNED J.R.S.	DRAWN R.L.W.	CHECKED K.S.J.	REVIEWED DATE R.H. 4.1.83



WEST SIDEWALK BARS



SLAB PLAN - TOP REINFORCING



EAST SIDEWALK BARS

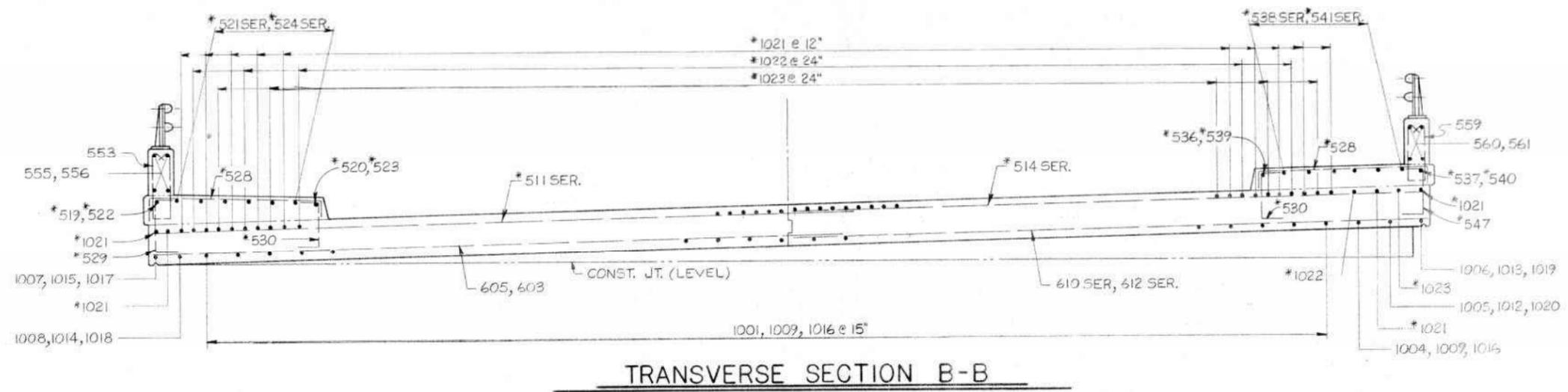
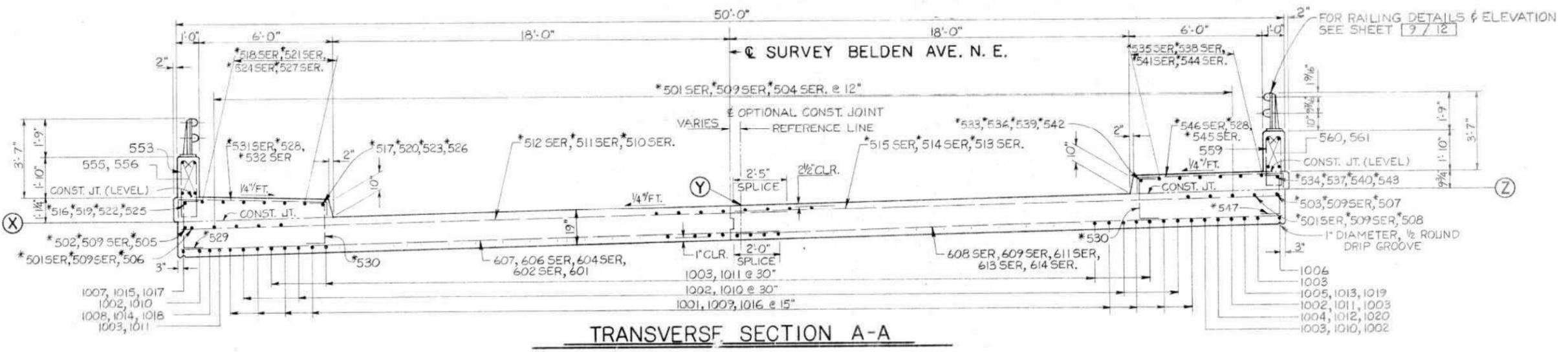
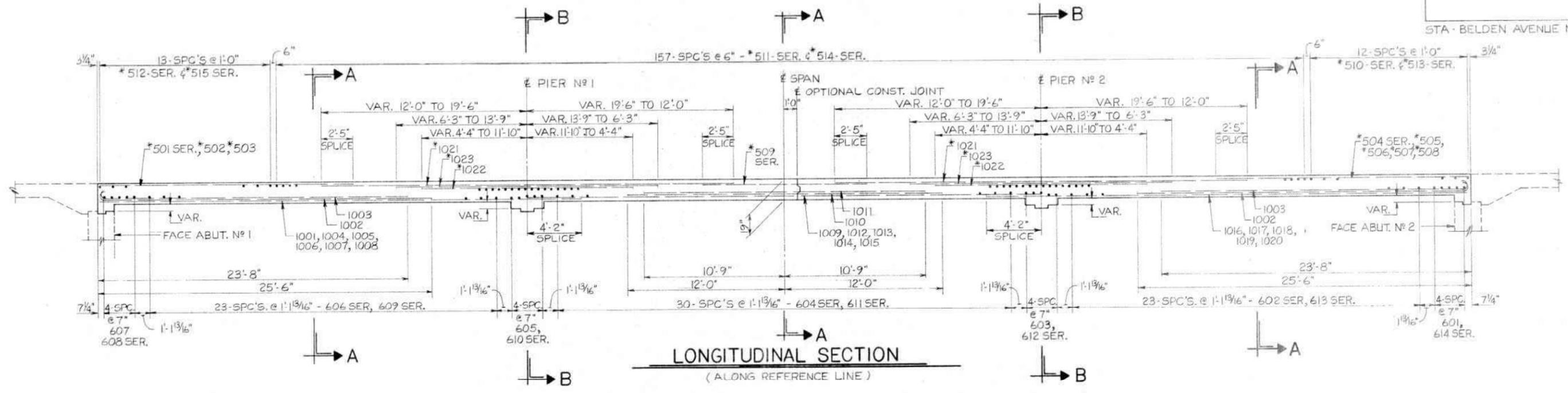
- NOTES
- 1) PREFIX "S" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR DECK SLAB - SEE REINFORCING SCHEDULE.
 - 2) REINFORCING STEEL SHOWN THUS (*) TO BE EPOXY COATED.
 - 3) FOR ADDITIONAL NOTES, SEE SHEET NO. 6/12
 - 4) REBARS 1021, 1022 AND 1023 OVER PIER NO. 1 AND PIER NO. 2 SHALL BE PLACED PARALLEL TO CHORDS A-C AND B-D RESPECTIVELY.
 - 5) TRANSVERSE REBARS IN SIDEWALKS SHALL BE PLACED RADIIALLY.

GPD
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AKRON, OHIO

SLAB PLAN
BRIDGE NO STA - BELDEN AVE. N. E.
BELDEN AVE. N. E.
OVER E. B. NIMISHILLEN CREEK
STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
J.R.S.	RLW.		K.S.J.	RAH	4-1-83

STA - BELDEN AVENUE N.E.



- NOTES**
- 1) PREFIX "S" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR DECK SLAB- SEE REINFORCING SCHEDULE.
 - 2) REINFORCING STEEL SHOWN THUS (*) TO BE EPOXY COATED.
 - 3) FOR ADDITIONAL NOTES, SEE SHEETS NO 6/12, 7/12

G.P.D.

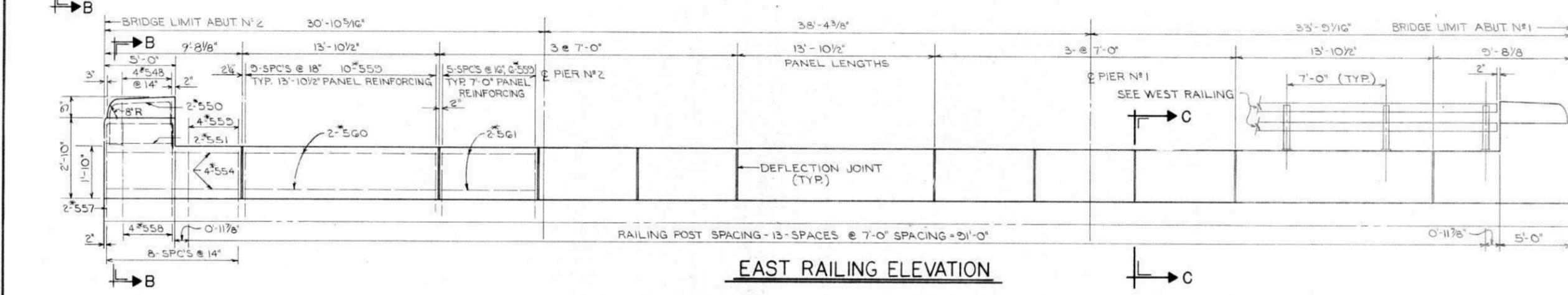
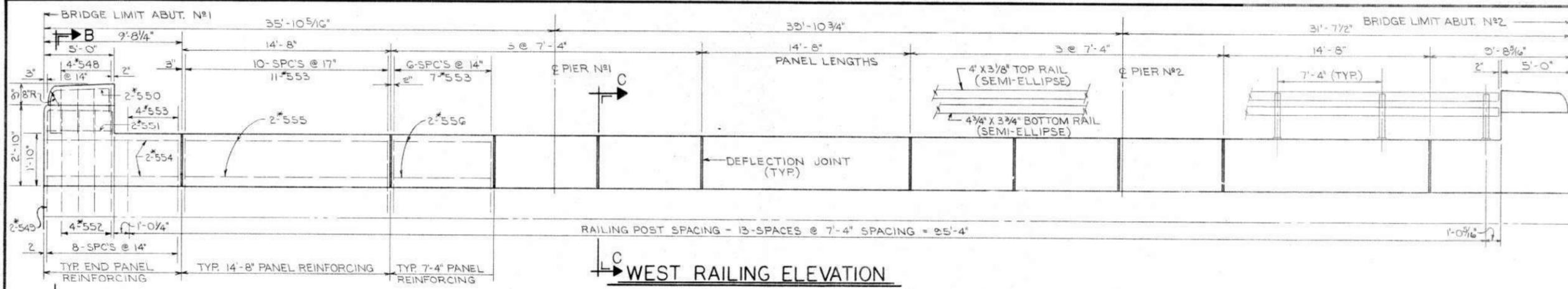
GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN, I
AKRON, OHIO

SLAB SECTIONS

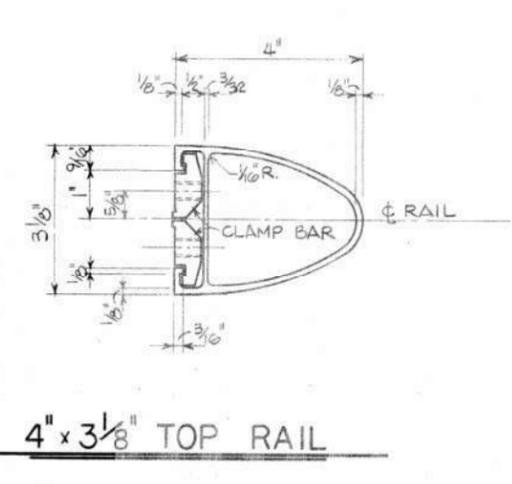
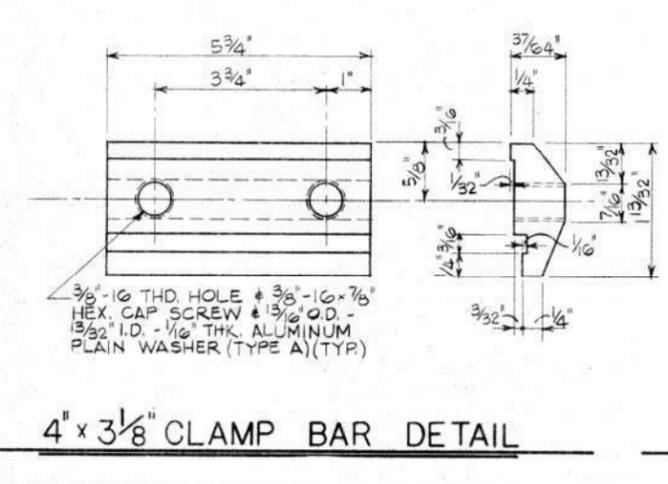
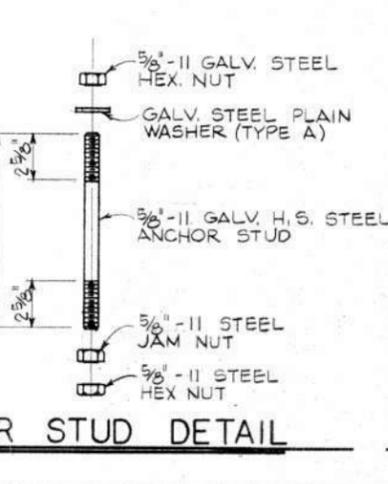
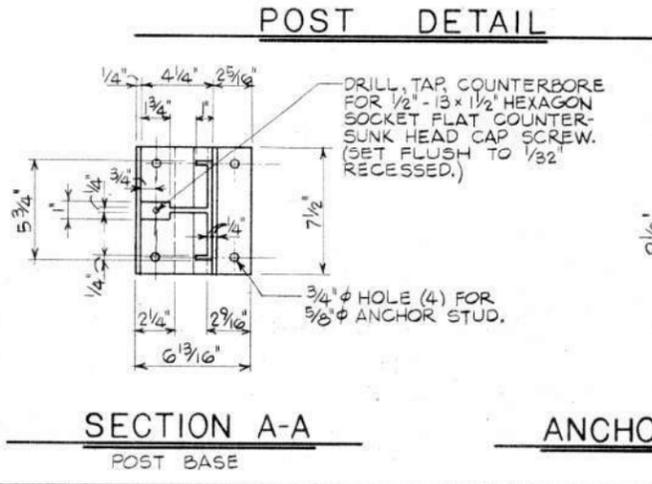
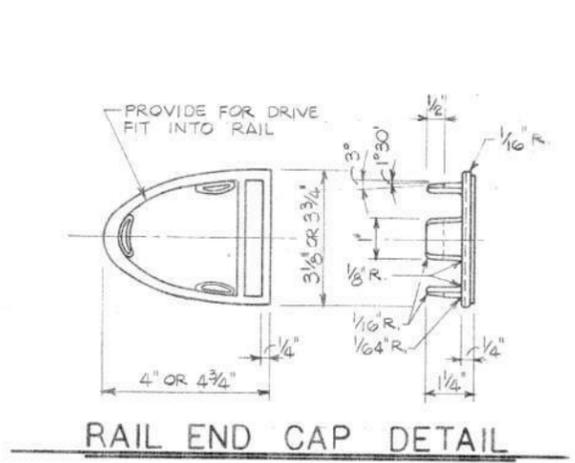
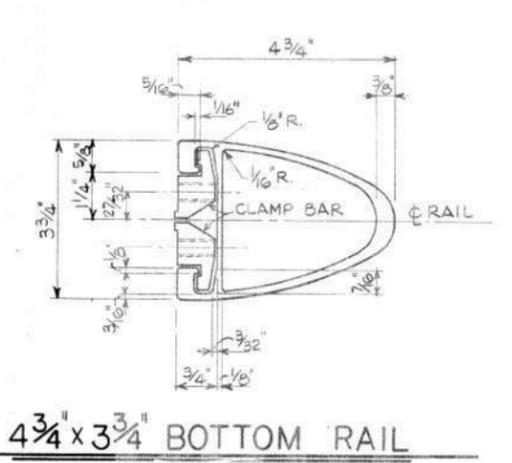
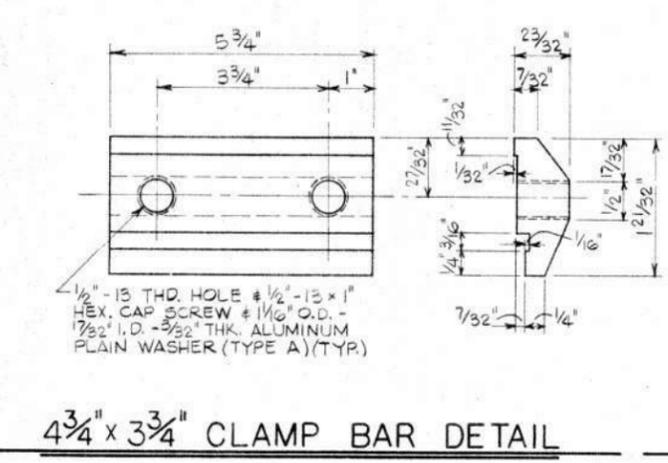
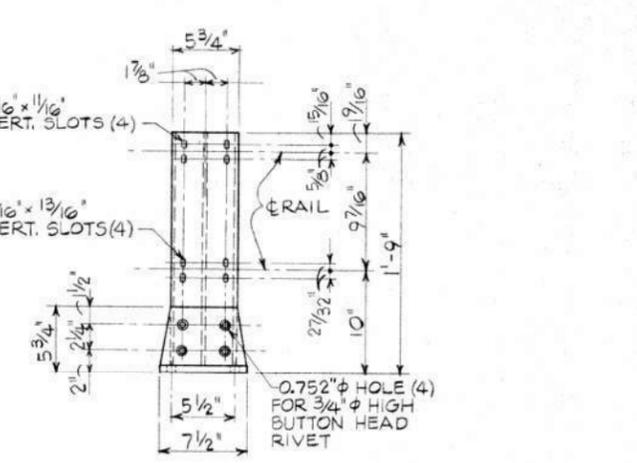
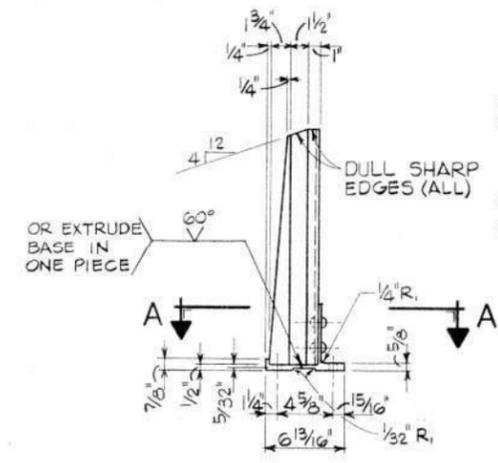
BRIDGE NO STA-BELDEN AVE. N.E.
BELDEN AVE. N.E.
OVER E.B. NIMISHILLEN CREEK

STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	RE
JRS	RLW		KSS	RAH	4-1-83	



- NOTES**
- 1) RAILING DIMENSIONS ARE MEASURED ALONG INSIDE FACE OF THE RAIL.
 - 2) PREFIX "S" WILL BE ADDED TO ALL REBARS SHOWN ON THIS SHEET.
 - 3) REINFORCING STEEL SHOWN THUS (*) TO BE EPOXY COATED.
 - 4) FOR SECTIONS B-B AND C-C, SEE SHEET NO. 10/12.
 - 5) ALL LONGITUDINAL REBARS SHALL BE FIELD BENT AS REQUIRED.
 - 6) CONCRETE PARAPETS SHALL BE PLACED IN ALTERNATING SECTIONS BY THE USE OF BULKHEADS. CLOSING SECTION SHALL BE PLACED AFTER REMOVAL OF BULKHEADS AND AFTER PLACEMENT OF EXPANSION JOINT FILLER. EXPOSED EDGES OF THE FILLER SHALL BE FLUSH WITH THE SURFACE OF THE CONCRETE AND SHALL BE FREE OF MORTAR.
 - 7) PREFORMED EXPANSION JOINT FILLER IN THE PARAPET DEFLECTION JOINTS MAY BE EITHER 1/4" GRAY SPONGE RUBBER OR 1/4" GRAY CELLULOSIC POLYVINYL CHLORIDE (PVC) SPONGE. IF RUBBER IS USED, IT SHALL MEET THE REQUIREMENTS OF AASHTO M-153. THE JOINT FILLER IS INCLUDED WITH ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE FOR PAYMENT.
 - 8) QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH THEIR APPROPRIATE ITEM UNIFORM SUPERSTRUCTURE FOR PAYMENT.
 - 9) FOR GUARD RAIL CONNECTION, SEE SHEET NO. 10/11.

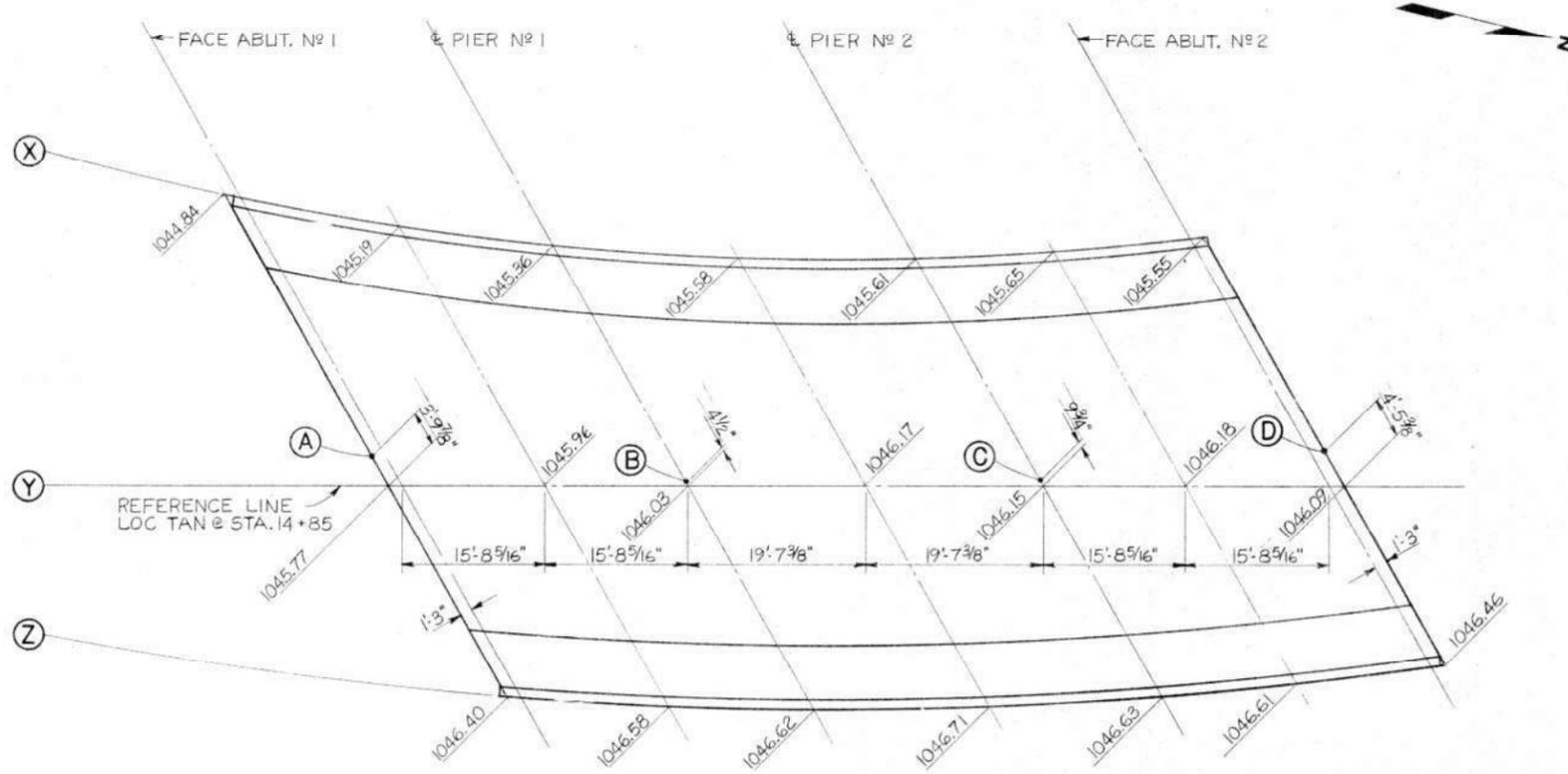


RAILING DETAILS

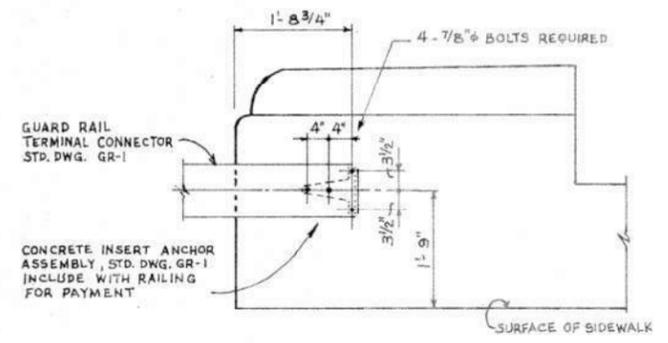
BRIDGE N° STA - BELDEN AVE. N.E. BELDEN AVE. N.E. OVER E.B. NIMISHILLEN CREEK

STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE	BY
K.S.J.	G.W.		J.R.S.	RAH	4-1-83	



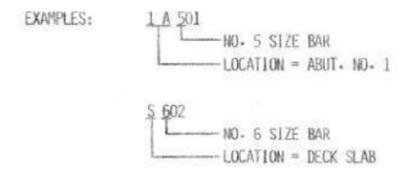
DECK SCREED ELEVATIONS



GUARD RAIL CONNECTION
(BRIDGE TERMINAL ASSEMBLY, TYPE A)

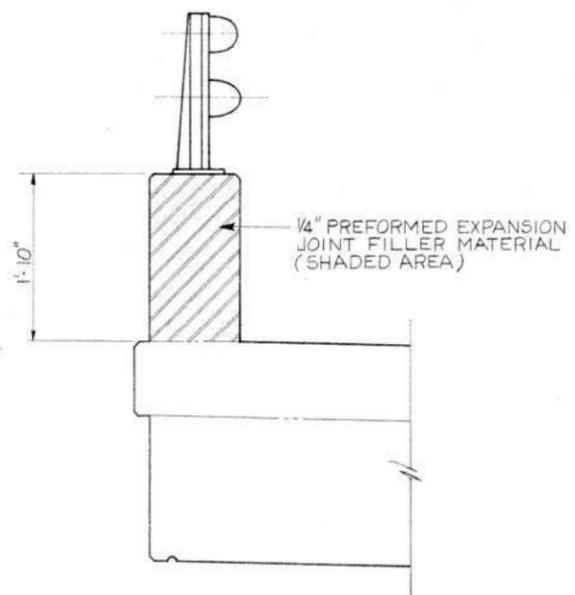
DECK SCREED ELEVATIONS
THE ELEVATIONS SHOWN ARE THOSE WHICH ARE REQUIRED BEFORE FALSEWORK IS RELEASED. PROPER ALLOWANCE HAS BEEN MADE FOR THE DEAD LOAD DEFLECTION CAUSED BY THE WEIGHT OF THE CONCRETE. HOWEVER, NECESSARY ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS.
FOR SCREED ELEVATION LOCATIONS X, Y AND Z, SEE SECTION A-A, SHEET NO. 6/12

BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST DIGIT (IF PRESENT) AND ALPHABETICAL LETTER INDICATE LOCATION. THE NEXT DIGIT OF A THREE DIGIT SERIES, OR THE NEXT TWO DIGITS OF A FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

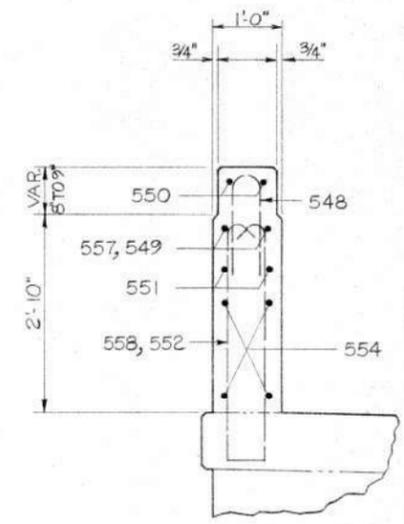


ALL BAR DIMENSIONS ARE GIVEN OUT TO OUT.

REINFORCING STEEL SAMPLES
REFER TO C/S SECTIONS 106-03, 700, 709-01 THROUGH 709-05 AND 709-08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509-08.



SECTION C-C
REFER TO SHT. NO. 9



SECTION B-B
REFER TO SHT. NO. 9

ABUTMENT NO. 1									
MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS	C	SERIES INCREMENT	WEIGHT	POUNDS
1A401	18	9' 4"	107	2' 7 3/4"	1' 9"				112
1A501	4	43' 5"	ST						181
1A502	104	43' 11"	103	2' 11"	2' 1"				750
1A503	4	43' 5"	ST						181
1A504	41	43' 0"	103	1' 8"	3' 3"				342
1A505	4	43' 5"	ST						59
1A506	1	10' 7"	103	0' 11"	4' 11"				74
1A507	1	15' 5"	ST	0' 11"	7' 6"		0' 5 1/2"		81
1A508	2	15' 7"	103	0' 11"	7' 5"				33
1A509	11	10' 3"	125	2' 5"	6' 4"	3' 10"			12
1A510	10	10' 3"	125	2' 5"	6' 4"	3' 10"			11
1A511	1	10' 3"	ST						46
1A512	1	10' 3"	ST						20
1A513	1	10' 3"	ST						17
1A514	1	10' 3"	ST						17
1A515	1	10' 3"	ST						14
1A516	1	10' 3"	ST						26
1A517	1	10' 3"	ST						15
1A518	1	10' 3"	ST						27
1A519	1	10' 3"	ST						12
1A520	1	10' 3"	ST						6
1A521	1	10' 3"	ST						9
1A522	1	10' 3"	ST						10
1A523	1	10' 3"	ST						10
1A524	1	10' 3"	ST						10
1A525	1	10' 3"	ST						10
1A526	1	10' 3"	ST						14
1A527	1	10' 3"	ST						41
1A528	1	10' 3"	ST						41
1A529	1	12' 11"	ST	0' 11"	6' 1"		0' 5"		49
1A530	1	13' 11"	ST						15
1A531	1	15' 10"	ST						17
1A532	1	15' 10"	ST						6
1A533	1	15' 10"	ST						58
1A801	10	4' 5"	104	0' 5"	5' 1"	0' 10"			53
1A802	1	4' 1"	ST			0' 10"			876
1A802S	1	4' 1"	121	3' 4"	4' 0"				
1A1001	4	31' 3"	ST						437
1A1002	4	38' 8"	ST						538
									666
									4948

GPD **IO**

GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN, I.
AKRON, OHIO

MISCELLANEOUS DETAILS

BRIDGE NO. STA. BELDEN AVE. N.E.
BELDEN AVE. N.E.
OVER E.B. NIMISHILLEN CREEK

STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	RE
K.S.J.	R.L.W.		J.R.S.	RAH	4.1.83	

ABUTMENT NO. 2

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	C	SERIES INCREMENT	WEIGHT POUNDS
Z4401	22	9' 4"	107	2' 7 3/4"	1' 9"			137
Z4501		34' 7"	ST					144
Z4502	108	6' 11"	103	2' 11"	2' 1"			779
Z4503		34' 6"	ST					144
Z4504	35	8' 10"	103	1' 8"	3' 3"			292
Z4505		8' 2"	103					54
Z4506		8' 2"	103					54
Z4507		3' 10"	ST					61
Z4508		4' 6"	ST					36
Z4509		4' 6"	ST					42
Z4510S	1 SET OF 4	10' 7"	103	0' 11"	4' 11"			
		TO						
		12' 11"		0' 11"	6' 1"		0' 4 1/2"	49
Z4511		13' 1"	103	0' 11"	6' 2"			27
Z4512		13' 2"	103	1' 0"	6' 2"			14
Z4513		7' 7"	103	1' 0"	3' 4"	2' 10"		7
Z4514		7' 7"	103	1' 0"	3' 4"	3' 4"		8
Z4515		7' 5"	103					15
Z4516		10' 9"	ST					11
Z4517		5' 4"	ST					6
Z4518		12' 3"	ST					13
Z4519		6' 8"	ST					7
Z4520		6' 8"	ST					14
Z4521		9' 1"	103	1' 9"	4' 10"	3' 9"		15
Z4522		9' 1"	103	1' 9"	4' 10"	3' 9"		15
Z4523		10' 7"	103	0' 11"	4' 11"			10
Z4524S	1 SET OF 4	10' 7"	103	0' 11"	4' 11"			10
		TO						
		13' 5"		0' 11"	6' 4"		0' 5 1/2"	50
Z4525		14' 3"	103	0' 11"	6' 9"			45
Z4526		14' 4"	103	1' 0"	6' 9"			15
Z4527		11' 2"	103					9
Z4528		11' 3"	103					9
Z4529		14' 3"	103					8
Z4530		14' 6"	103					8
Z4531		5' 2"	103					3
Z4532		5' 2"	103					3
Z4533		8' 0"	103					8
Z4534		8' 2"	103					8
Z4535		4' 6"	104	0' 5"	3' 10"	0' 10"		20
Z4536		4' 6"	104	0' 5"	4' 6"	0' 10"		20
Z4537		3' 7"	104			0' 10"		7
Z4538		3' 7"	104			0' 10"		7
Z4539		5' 7"	121	3' 2 1/2"	1' 1"			26
Z4540S	1 SET OF 26	5' 7"	121	3' 2 1/2"	1' 1"			26
		TO						
		6' 6"		4' 1 1/2"	1' 1"		0' 0 1/2"	419
Z41001	4	32' 4"	ST					57
Z41002	4	28' 7"	ST					42
TOTAL								4,461

PIER NO. 1 EPOXY COATED BARS

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	C	SERIES INCREMENT	WEIGHT POUNDS
P1001	4	36' 6"	ST					628
P1002	4	29' 10"	ST					513
TOTAL								1,141

PIER NO. 2

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	C	SERIES INCREMENT	WEIGHT POUNDS
Z4401	16	28' 1"	107	2' 0 1/4"	1' 9"			86
Z4501		29' 2"	ST					61
Z4502		9' 6"	108	2' 2"	3' 0"	0' 10"		50
Z4503		9' 4"	108	2' 0"	3' 0"	0' 10"		10
Z4504		4' 6"	103	3' 0"	0' 10"			5
Z4505		7' 10"	119	0' 11 1/2"	2' 5"	3' 0 1/8"		33
Z4506		5' 6"	103	3' 11 7/8"	2' 10"			6
Z4507		11' 4"	108	2' 0"	4' 0"	0' 10"		12
Z4508		2' 3' 7"	ST					4
Z4509		10' 6"	108	2' 2"	3' 1 1/2"	0' 10"		9
Z4510		10' 4"	108			0' 10"		9
Z4511		10' 7"	108			0' 10"		5
Z4512		10' 7"	108			0' 10"		5
Z4513		11' 10"	108			0' 10"		8
Z4514		11' 2"	108			0' 10"		5
Z4901		31' 10"	ST					433
Z4902	4	24' 11"	ST					339
TOTAL								1,410

SLAB MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	C	SERIES INCREMENT	WEIGHT POUNDS
S601	5	29' 1"	ST					
S602S	1 SET OF 24	29' 2"	ST					
		TO						
		30' 1"						0' 0 1/2"
S603	5	30' 2"	ST					
S604S	1 SET OF 31	30' 2"	ST					
		TO						
		31' 10"						0' 0 5/8"
S605	5	31' 10"	ST					
S606S	1 SET OF 24	31' 11"	ST					
		TO						
		33' 11"						0' 1"
S607	5	34' 0"	ST					
S608S	1 SET OF 5	30' 6"	ST					
		TO						
		30' 4"						0' 0 1/4"
S609S	1 SET OF 24	30' 4"	ST					
		TO						
		28' 11"						0' 0 3/4"
S610S	1 SET OF 5	28' 10"	ST					
		TO						
		28' 9"						0' 0 3/8"
S611S	1 SET OF 31	28' 8"	ST					
		TO						
		27' 5"						0' 0 1/2"
S612S	1 SET OF 5	27' 4"	ST					
		TO						
		27' 3"						0' 0 1/4"
S613S	1 SET OF 24	27' 3"	ST					
		TO						
		26' 6"						0' 0 3/8"
S614S	1 SET OF 5	26' 5"	ST					
		TO						
		26' 4"						0' 0 1/4"
S1001	36	38' 8"	ST					
S1002	36	26' 9"	101	25' 4"				
S1003	36	24' 11"	101	23' 6"				
S1004	1	38' 4"	ST					
S1005	1	38' 1"	ST					
S1006	1	37' 8"	124	37' 8"	406' 9"			
S1007	1	39' 10"	124	39' 10"	406' 9"			
S1008	1	39' 4"	124					
S1009	3	39' 0"	65					
S1010	3	24' 0"	65					
S1011	20	21' 6"	65					
S1012	1	38' 8"	124					
S1013	1	38' 4"	124	38' 4"	406' 9"			
S1014	1	39' 6"	124					
S1015	1	40' 0"	124	40' 0"	357' 2"			
S1016	37	35' 2"	124					
S1017	1	35' 8"	124	35' 8"	357' 2"			
S1018	1	35' 8"	124					
S1019	1	34' 10"	124	34' 10"	406' 9"			
S1020	1	35' 0"	62					
TOTAL								4,461

PIER NO. 1

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	C	SERIES INCREMENT	WEIGHT POUNDS
P401	18	8' 1"	107	2' 0 1/4"	1' 9"			97
P402		31' 3"	ST					57
P403		9' 4"	108	2' 2"	3' 0 1/2"	0' 10"		10
P404		4' 6"	103	3' 0"	0' 10"			5
P405		7' 10"	119	0' 11 1/2"	2' 5"	3' 0 1/8"		33
P406		5' 6"	103	3' 11 7/8"	2' 10"			6
P407		11' 4"	108	2' 0"	4' 0"	0' 10"		12
P408		2' 3' 7"	ST					4
P409		10' 6"	108	2' 2"	3' 1 1/2"	0' 10"		9
P410		10' 4"	108			0' 10"		9
P411		10' 7"	108			0' 10"		5
P412		10' 7"	108			0' 10"		5
P413		11' 10"	108			0' 10"		8
P414		11' 2"	108			0' 10"		5
P415		31' 10"	ST					433
P416		24' 11"	ST					339
TOTAL								1,543

PIER NO. 2 EPOXY COATED BARS

MARK	NUMBER	LENGTH	TYPE	A	DIMENSIONS B	C	SERIES INCREMENT	WEIGHT POUNDS
P2001	8	31' 6"	ST					1,084
TOTAL								1,084

FOR REINFORCING NOTES
SEE SHT. 10/12

FOR STANDARD BAR TYPES
SEE SHT. 12/12

GPD

GLAUS, PYLE, SCHOMER, BURNS & DeHAVEN,
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE NO STA-BELDEN AVE. N.E.
BELDEN AVE. N.E.
OVER E.B. NIMISHILLEN CREEK

STA. 14+34.53 TO STA. 15+39.43

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JRS	R.L.W.		JRS	R.L.W.	4-1-83