CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

ADDENDUM NUMBER 1

Project Number 89005559 STP-3376(403)

Project Title Paseo Bridge over Brush Creek

Bid No. 2

ISSUE DATE: **3-17-2017**

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **March 21, 2017**, are amended as follows:

The Bid date for this Project stated in Document 00130 - Invitation to Bid shall be changed to: 2:00 PM, on **March 28, 2017.**

Information to Bidders The following is provided to Bidders for information only:

Q1.	Will lane drops be allowed on Paseo to access the work?
A1.	**Yes**
Q2.	What will be the limitations on days and hours?
A2.	**Normal work hours will apply. We ask that the contractor give us 48 hour notice if there is to be planned weekend work.**
Q3.	Will this project have any Trainee Hours required?
A3.	**No**
Q4.	In the Technical Specifications there is a 05000 Safety Rail section calling for a metal safety rail, I do not see this noted on the plans anywhere. Can you please clarify where this metal safety rail is to be installed?
A4.	**There isn't any safety rail included on this project. This specification can be disregarded/deleted.**
Q5.	On plan sheet No. 2 in the general notes it states, plans of the existing structure are included in the project specifications. These don't seem to be in the specs, can you please provide these as-builts of the existing structure and precast panels
A5.	**Already provided.**
Q6.	Is all the rebar shown on plan Sheet No. 8 in the stamped and stained sidewalk intended to be epoxy coated as stated in the general notes on Sheet No. 2?
A6.	**Yes**
Q7.	On plan Sheet No. 7 there is a note stating all work on this sheet is included in bid alternate group A, Is this note correct? The Paver Bricks Cap bid line item is under Base Bid on the bid form. If it is supposed to be in Alternate A, which line item is it under?
A7.	**Disregard the not on Sheet 7. The Pavers are in the base bid.**

Q8.	Is the intent to remove the existing concrete fill at the bottom of the median planters shown on the Bridge Removal/Repair Sections, Plan Sheet No. 4? Or can this fill be left in place?
A8.	**The intent is that only the trees and vegetation are to be removed. The soil fill and concrete are to be left in place.**
Q9.	Is the sidewalk outside the bridge, Alternate A, to be stamped and stained as well?
A9.	**The sidewalk off the bridge is not stamped or stained.**

Specifications

1. Revisions from previous bid

Drawings:

1. Paseo Intersections As-builts

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

INVITATION TO BID

Project No.: 89005559 STP-3376(403)

Project Title: Paseo Bridge over Brush Creek

Bid No. 2

The **General Services Department** of Kansas City, Missouri will receive sealed Bids until 2:00 PM, on March 28, 2017 at City Hall, 414 East 12th Street, First Floor, Room 102W, Kansas City, Missouri, 64106, for **Project No. 89005559 – Paseo Bridge over Brush Creek - Fed No. STP 3376(403)**. Bids will be opened after that time at the same location.

Bidding Documents will be available online to all interested parties at the Kansas City, Missouri Plan Room, http://www.kcmoplanroom.org. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

This project is funded in part with funds offered by FHWA and administered by MoDOT. The City of Kansas City, Missouri, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry, or national origin in consideration for an award.

For this Project the DBE goal is (11%).

By submitting this bid, the bidder certifies that the bidder is familiar with the Training Provision in the Missouri Highways and Transportation Commission's "General Provisions and Supplement Specifications" which are available on the Missouri Department of Transportation web page at www.modot.mo.gov under "Business with MoDOT" "Standards and Specifications". The number of trainee hours provided under this contract will be 0 slots at 1000 hours per slot 0 hours.

Prior to Bidding, Prime Contractors must have a fully responsive contractor questionnaire on file with the Missouri Highways and Transportation Commission (MHTC) at least seven (7) days prior to the bid opening date. Subcontractors utilized for DBE Goals must appear on the MoDOT/Kansas City Approved DBE List and on the MoDOT DBE Directory located at http://www.modot.mo.gov/business/contractor_resources/bid_opening info/bidGenInfo.shtml.

Each bidder must certify that it is not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal agency and they have not been convicted or had civil judgment rendered within the past 3 years.

The contract will be awarded to the lowest, responsive, responsible bidder.

Bidding Documents will be available online to all interested parties at the Kansas City, Missouri Plan Room, http://www.kcmoplanroom.org. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

A **Pre-Bid Conference** will be held on **March 9, 2017** at **9:00 AM** in the 18th Floor Conference Room, located at 414 East 12th Street, City Hall, Kansas City, Missouri, 64106. Attendance at the pre-Bid conference is ***encouraged*** for all Bidders on this Project

Forward all questions in writing to the following Project Manager and Contract Administrator.

Project Manager: Chad Thompson, P.E.
Phone Number: (816) 513-2738
E-mail: Terry: Chad.Thompson@kcmo.org

Procurement Officer: Darrell Everette
Phone Number: (816) 513-0798
E-mail: Darrell.everette@kcmo.org

View all procurement and contracting opportunities at http://www.kcmo.org

TranSystems
Memorandum
Kansas City, MO 64108

2400 Pershing Road, Suite 400

T 816-329-8600
F 816-329-8601

www.transystems.com

Paseo Bridge over Brush Creek – Project # 89005559

Revisions from previous bid plans and specs:

1. The project scope was separated into a base bid and three groups of prioritized alternates.
    a. The base bid focuses on the bridge repairs.
    b. Alternate Group A covers slope protection repair and the improvements related to the right turn lane at the southeast corner of the project.
    c. Alternate Group B covers the floodlights on the west side of the bridge.
    d. Alternate Group C covers the landscaping off the bridge and the irrigation system.
2. The green roof system and concrete base was deleted and replaced with a landscaped planter. This allows the existing dirt to remain in place and eliminated the need for manhole rings and covers and steps.
3. The planter in the median will just be capped with paver bricks from the sidewalk removals, or with new bricks at the Contractor's option, thus eliminating the concrete cap and balustrade originally proposed.
4. Slope protection repair, in addition to making it an alternate bid item, provides the option for the Contractor to raise the existing slab. The detail for replacement was also modified to be less complicated.

CITY OF KANSAS CITY, MISSOURI

DEPARTMENT OF PUBLIC WORKS

THE PASEO INTERSECTION COMPLEX

PHASE A (BRIDGES)

FEDERAL PROJECT NO. STP-DSB-3471(401)

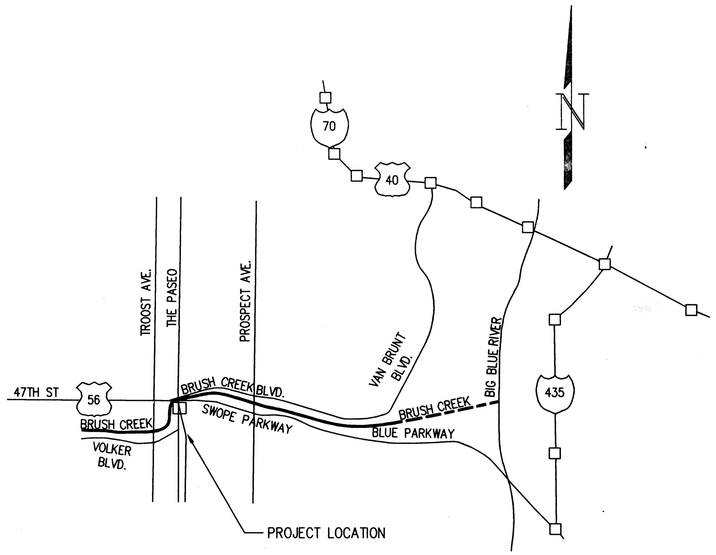
LIST OF DRAWINGS

ROADWAY DWG. NO.	ROADWAY TITLE	BRIDGE DWG. NO.	BRIDGE TITLE
	TITLE SHEET	S1	GENERAL NOTES AND QUANTITIES
G1	GENERAL INFORMATION	S2	BRIDGE PLAN AND PROFILE
R1	SITE PLAN	S3	CONSTRUCTION LAYOUT
R2	ROADWAY CONSTRUCTION	S4	NORTH ABUTMENT–PLAN AND ELEVATION
R3	ROADWAY CONSTRUCTION	S5	SOUTH ABUTMENT–PLAN AND ELEVATION
R4	TRAFFIC CONTROL	S6	NORTH ABUTMENT– REINFORCEMENT
R5	TRAFFIC CONTROL	S7	SOUTH ABUTMENT–REINFORCEMENT
R6	TRAFFIC CONTROL	S8	ABUTMENT DETAILS
R7	ROADWAY DETAILS	S9	PIER PLAN AND ELEVATION
R8	SITE GRADING/UTILITY PLAN	S10	PIER REINFORCEMENT
R9	TRAFFIC SIGNALS	S11	SLAB AND GIRDER PLAN
L1	AMENITY PLAN	S12	ABUTMENT DIAPHRAGM
L2	PAVER AND PLANTER DETAILS	S13	PIER DIAPHRAGM
		S14	DIAPHRAGM DETAILS
		S15	SLAB REINFORCEMENT
		S16	BRIDGE CROSS SECTION
		S17	APPROACH WALLS
		S18	APPROACH WALL DETAILS 1
		S19	APPROACH WALL DETAILS 2
		S20	BARRIER CURB DETAILS
		S21	APPROACH SLAB DETAILS
		S22	VERTICAL CURVE CORRECTION AND DEAD LOAD DEFLECTION
		S23	PRECAST PRESTRESSED CONCRETE GIRDERS – GENERAL
		S24	PRECAST PRESTRESSED CONCRETE GIRDERS – TYPE 1
		S25	PRECAST PRESTRESSED CONCRETE GIRDERS _ TYPE 2
		S26	PRECAST PRESTRESSED CONCRETE GIRDERS – TYPE 3
		S27	CHANNEL WALLS–PLAN AND PROFILE OF NORTH WALLS
		S28	CHANNEL WALLS–PLAN AND PROFILE OF SOUTH WALLS
		S29	CHANNEL WALL DETAILS
		S30	WATER PIPE DETAILS
		S31	GAS PIPE DETAILS
		S32	EXCAVATION
		S33	BORING LOGS
		S34	BILL OF REINFORCEMENT 1
		S35	BILL OF REINFORCEMENT 2
		S36	BILL OF REINFORCEMENT 3
		S37	BILL OF REINFORCEMENT 4
		S38	BILL OF REINFORCEMENT 5
		S39	BILL OF REINFORCEMENT 6
		S40	PRECAST DECK PANELS–ALTERNATE A
		P1	PLANTER AND SIDEWALK SLAB PLANS
		P2	PLANTER AND SIDEWALK ELEVATIONS
		P3	EMBEDDED PLATE LOCATIONS
		P4	PLANTER AND SIDEWALK SECTIONS
		P5	RAILING AND PANEL SECTIONS
		P6	BILL OF REINFORCEMENT 7
		A1	CAST STONE ELEVATIONS
		A2	CAST STONE SECTIONS AND DETAILS
		E1	ELECTRICAL LAYOUT

DESIGN CRITERIA

CURRENT ADT	22600
DESIGN ADT	24400
DESIGN HOURLY VOLUME	2725
TRUCKS	0
DESIGN SPEED	40 MPH

1993



LOCATION PLAN

4000 0 4000 8000 1200

APPROXIMATE SCALE

LEGEND

- RIGHT OF WAY
- TEMPORARY EASEMENT LINE
- FENCE
- TREE
- WOODED AREA
- SS 24" EXISTING STORM SEWER
- 12" WATER EXISTING WATER LINE
- 4" GAS EXISTING NATURAL GAS LINE
- S 8" EXISTING SANITARY SEWER LINE
- T EXISTING TELEPHONE DUCTS
- P EXISTING UNDERGROUND ELECTRICAL POWER LINE
- LP STREET LIGHT POLE
- FIRE HYDRANT
- INLETS/CATCH BASIN
- MH MANHOLE

LENGTH OF PROJECT - PHASE A

	EAST ALIGNMENT	WEST ALIGNMENT
BEGINNING OF PROJECT	STA 11+61.20	STA 11+67.73
END OF PROJECT	STA 16+71.62	STA 16+53.73
PROJECT LENGTH	510.42'	486.00'
BRIDGE LENGTH	192.33'	192.33'

UTILITY BLOCK

UTILITY LOCATION MARKING	1–800–DIG–RITE
STREETS & TRAFFIC	871–3275
WATER DEPARTMENT	274–1256
GAS SERVICE COMPANY	221–3300
K.C.P.& L. COMPANY.	N. OF 39TH ST. 556–3626/S. OF 39TH ST. 276–5523
SOUTHWESTERN BELL TELEPHONE COMPANY	DIAL "0" ASK FOR ENTERPRISE 9800
AMERICAN CABLEVISION	231–1444
POLLUTION CONTROL	274–2800
WESTERN UNION COMPANY	1–800–624–9675

BRUSH CREEK HYDRAULIC DATA

	DISCHARGE	STAGE ELEVATION NGVD	EQUIVALENT PROJECT ELEVATION
500 YEAR FLOOD	28,300 CFS	803.6	81.3
100 YEAR FLOOD	21,600 CFS	800.9	78.6
10 YEAR FLOOD	12,900 CFS	794.7	72.4

HYDRAULIC DATA ESTABLISHED BY KANSAS CITY DISTRICT CORPS OF ENGINEERS AUTHORIZED PROJECT REPORT "BRUSH CREEK CHANNEL MODIFICATION", OCTOBER 1988 ON BASIS OF MODEL STUDY WITH 2060 SQUARE FEET NET CLEAR WATERWAY AND "LOW STEEL" ELEVATION 803.0 AT THE PASEO BRIDGES.

REGISTERED STATE OF MISSOURI BRYCE S. BANIC NUMBER 2557 PROFESSIONAL ENGINEER

September 1, 1993

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Approved Charles E. Ordway Assistant City Engineer

Gurnie C. Gunter
City Engineer

Adopted this 29th day of September 1993

George L. Satterlee George L. Satterlee
Director of Public Works

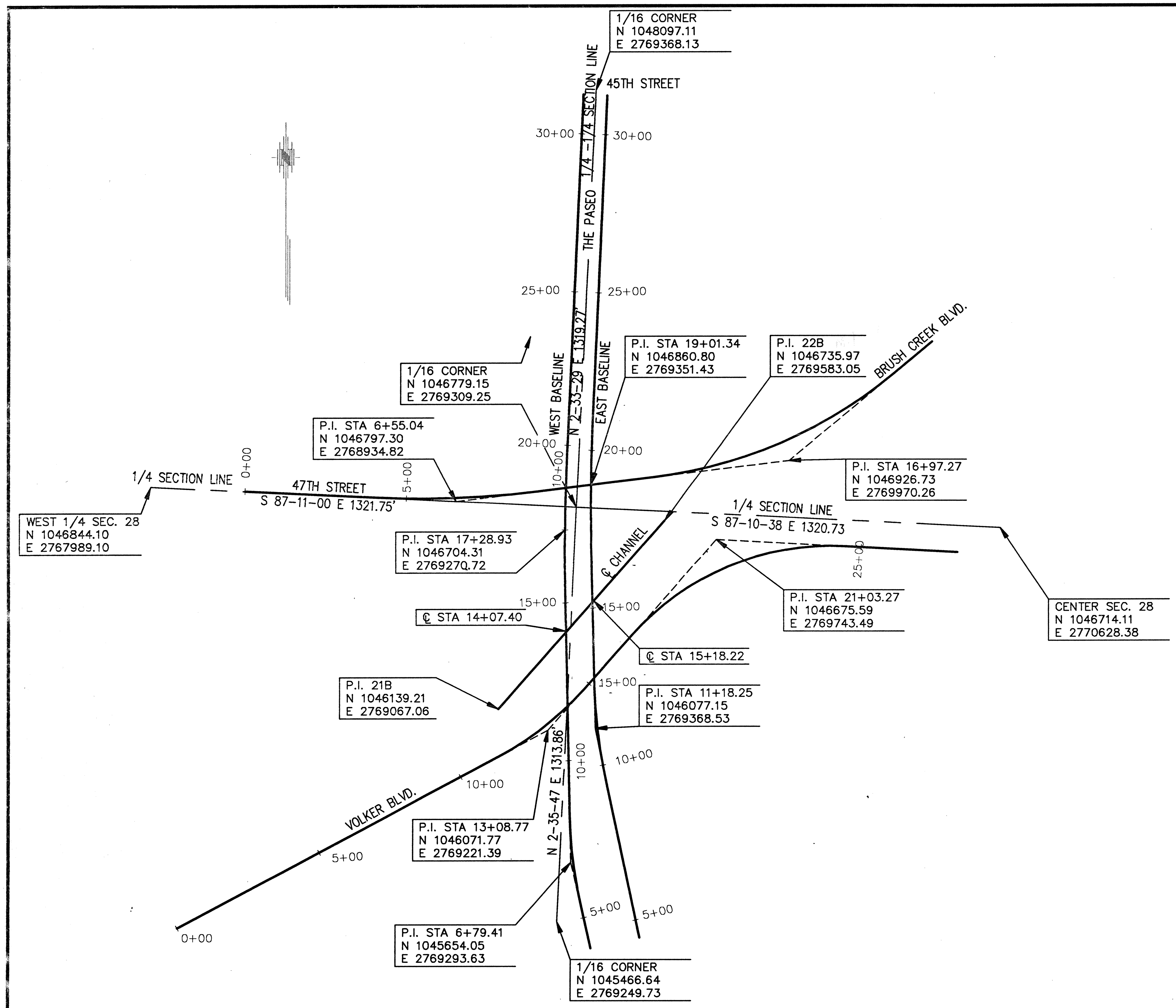
Terry Dopson Terry R Dopson 9/20/93
Director of Parks Recreation & Boulevards

Entry No. 930588

Project No. 381–0897556–5357 C.D. No. 5

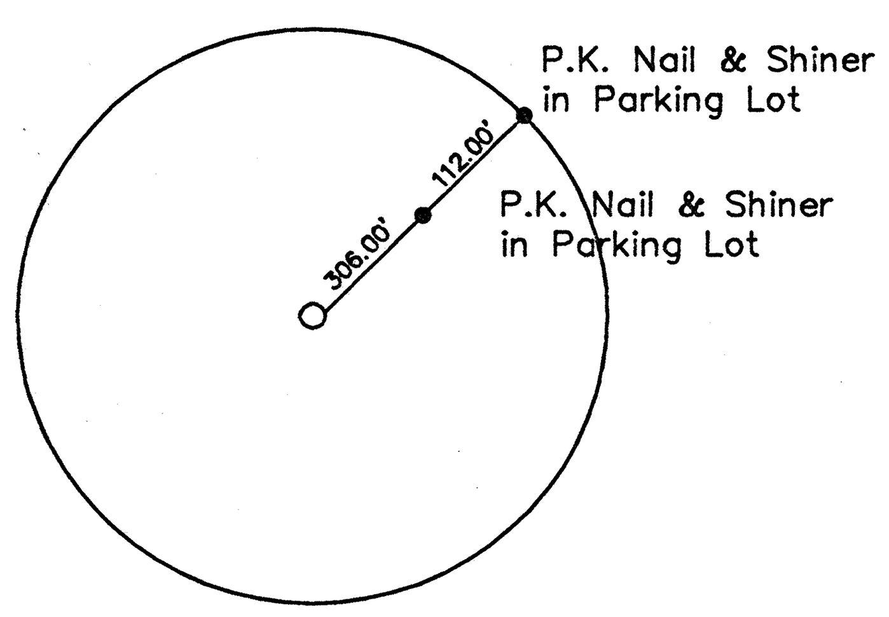
Sheet 1 of 62 File No. 1993–148

08/30/93 11:23 JLS 1=1 C:\9107\KCMO\COVER

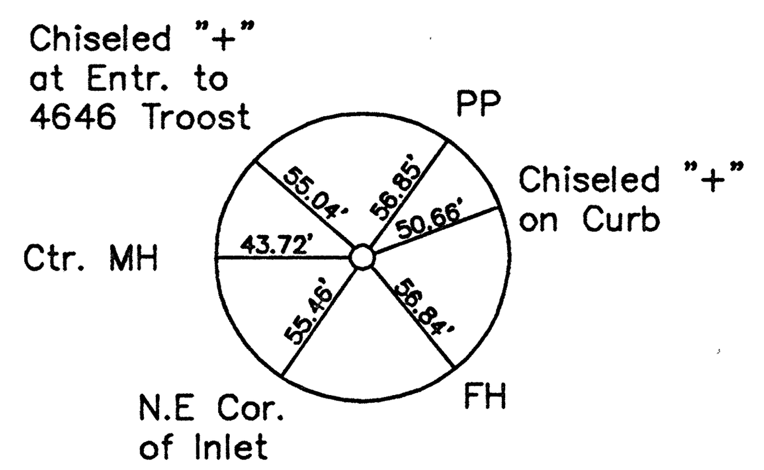


GENERAL NOTES:

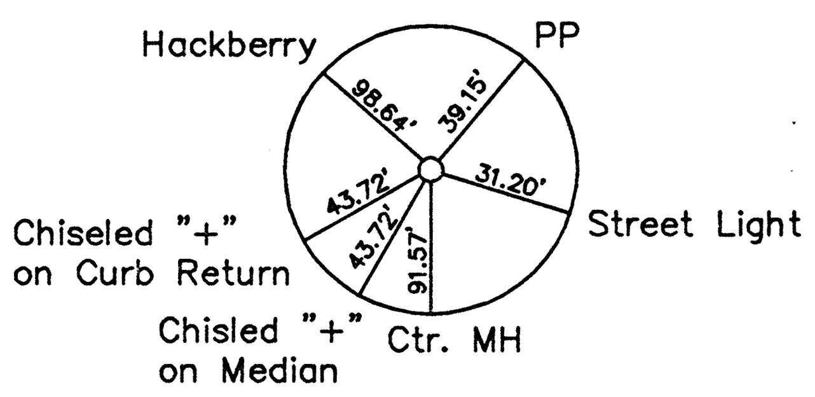
1. ALL EXISTING UTILITIES ARE SHOWN AT LOCATION OF RECORD ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT AS SHOWN. CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION OF ALL UTILITIES WITH THEIR RESPECTIVE OWNERS AS REQUIRED TO PREVENT DAMAGE BY CONTRACTOR'S OPERATIONS.
2. CURVE DATA AND CURVE STATIONING ARE SHOWN BY ARC DEFINITION.
3. REMOVE TREES, SHRUBS, FENCES, AND OTHER EXISTING IMPROVEMENTS WITHIN THE GRADING LIMITS OF THIS CONTRACT EXCEPT THOSE INDICATED, OR MARKED TO REMAIN.
4. "MATCH EXISTING" INDICATES THAT THE NEW CONSTRUCTION IS TO BE TRANSITIONED TO MATCH THE EXISTING GRADE AND SECTION OF EXISTING ROADWAYS AND DRIVEWAYS.



W 1/16 Cor. Sec 28, T 49 N, R 33 W
Found Bar Inside Monument Box at Intersection of 47th Street and The Paseo.



W 1/4 Cor. Sec 28, T 49 N, R 33 W
Found 1/2" Sq. Bar Inside 8" x 8" Monument Box at Intersection of 47th Street and Troost.



Center Sec 28, T 49 N, R 33 W
Found Nail Set in Conc. Inside 8" x 8" Monument Box, 60' N. of Intersection of Swope Parkway and Woodland.

BENCHMARKS

TBM NO. 1	Elev. 88.95	Chiseled "+" on top of Northeast Bolt on Fire Hydrant East of Northbound The Paseo in front of car wash at 4717 The Paseo
TBM NO. 6	Elev. 87.35	Chiseled "+" on top of Southeast flange bolt on fire hydrant on East side of AMOCO station and West side of South bound The Paseo

C:\PASEO\TRAFFIC\9107G01 09/03/93 13:22 JWM 1=1

No.	Revision	By	Date

STATE OF MISSOURI — BRYCE S. BANION — NUMBER E-19967 — REGISTERED PROFESSIONAL ENGINEER

PROJECT ENGINEER
Date
NOTE: This drawing is PRELIMINARY until approved by project eng.

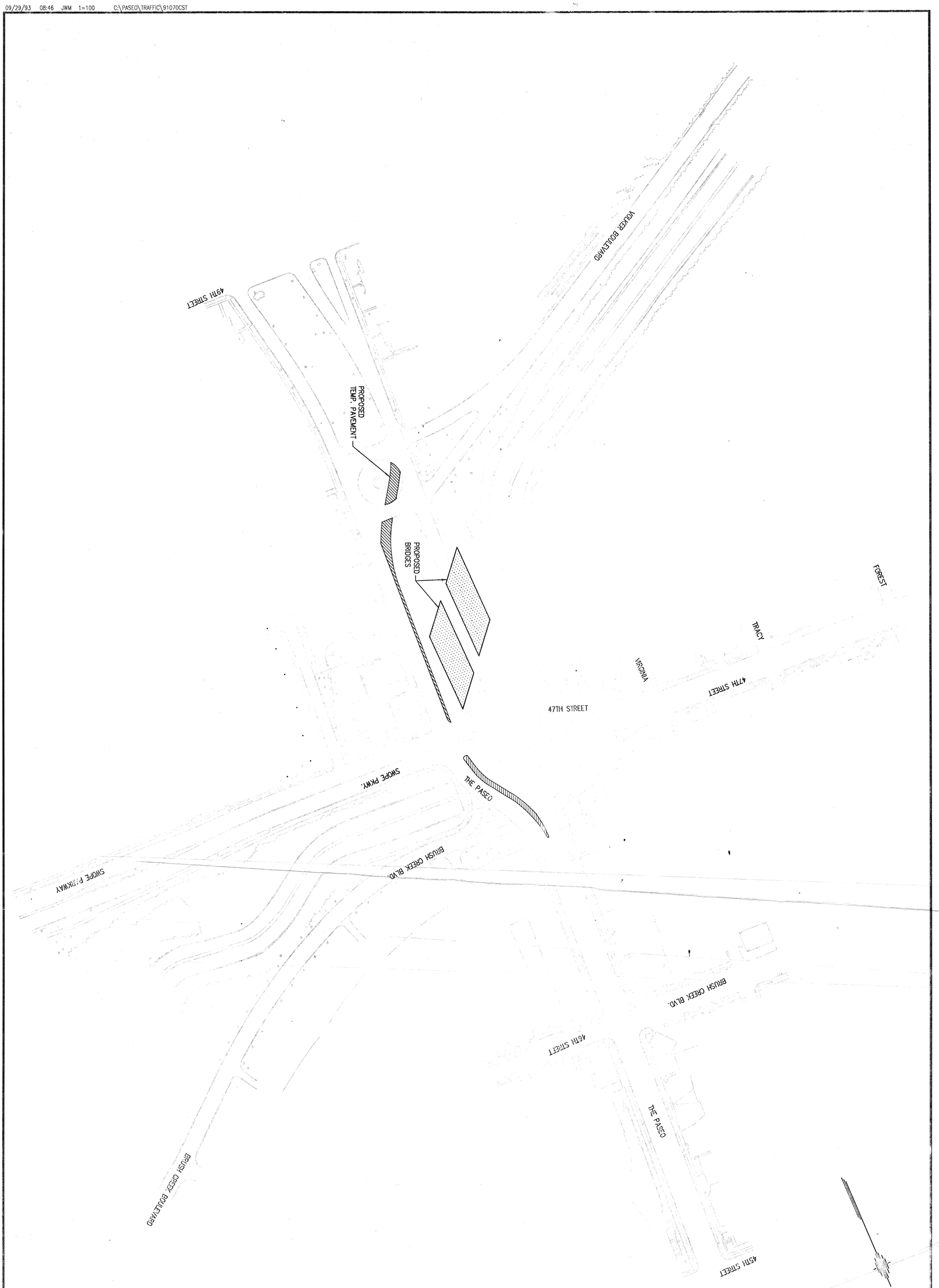
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By BSB
Drawn By LIF
Checked By BSB
Scale 1"=20'H 1"=10'V
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
GENERAL INFORMATION

Dwg. No. G1

09/29/93 08:46 JWM 1=100 C:\PASEO\TRAFFIC\91070CST



Dwg. No. R1

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
SITE PLAN

Designed By BSB
Drawn By MGG
Checked By BSB
Scale 1"=100'
Job No. 9107
Contract No.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

PROJECT ENGINEER
Date 9-30-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

REGISTERED STATE OF MISSOURI BRYCE S. BANION NUMBER E-19466 PROFESSIONAL ENGINEER

No.	Revision	By	Date

Volker Blvd.

Adjust Storm Sewer MH to Match Pavement Grade.

Match Edge of New Pavement with Edge of Existing Pavement. Remove Existing Curb and Gutter

The Paseo (West B)

PC Sta 9+13.96
13.54 Lt. West Baseline

PI Sta 10+00.53
6.35' Lt. West Baseline

PT Sta 10+71.55
43.67' Rt. West Baseline

The Paseo

16" GAS (STEEL)

Detour Curve Data
Δ = 30°24'31"
D = 18°00'00"
T = 86.86'
R = 319.62'
L = 169.63'
E = 11.59'

PC Sta 11+52.81 (tan)
4.31' Rt. East Baseline

The Paseo (East B)

Detour Curve Data
Δ = 31°21'06"
D = 18°00'00"
T = 89.70'
R = 319.62'
L = 174.89'
E = 12.35'

PT Sta 13+15.64
61.91' Rt. East Baseline

Remove Masonry and Concrete Planter

Match Edge of New Pavement with Edge of Existing Pavement. Remove Existing Curb and Gutter

PI Sta 12+26.14 (tan)
55.96' Rt. East Baseline

Match Edge of New Pavement with Edge of Existing Pavement. Remove Existing Curb and Gutter

The Paseo

Exist. R/W

Exist. R/W

TBM No.1

Match Line Sta 15+00

GENERAL NOTES

Remove Exist. Curb & Gutter
Adjacent to new Pavement Const.

LEGEND

New Pavement Const.

Tree/Shrub Removal

TBM No. 1 El. 88.95
Chiseled "+" Top N. Flange Bolt on F.H. E. side N. Bound Paseo in Front of Car Wash S. side 47th Street

9+00 10+00 11+00 12+00 13+00 14+00 15+00

100 95 90 85 80 75 70

C:\PASEO\TRAFFIC\91070PP2
09/29/93 15:39 JMM 1=1

No.	Revision	By	Date

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
BRUCE S. BANGERT
NUMBER E-23867

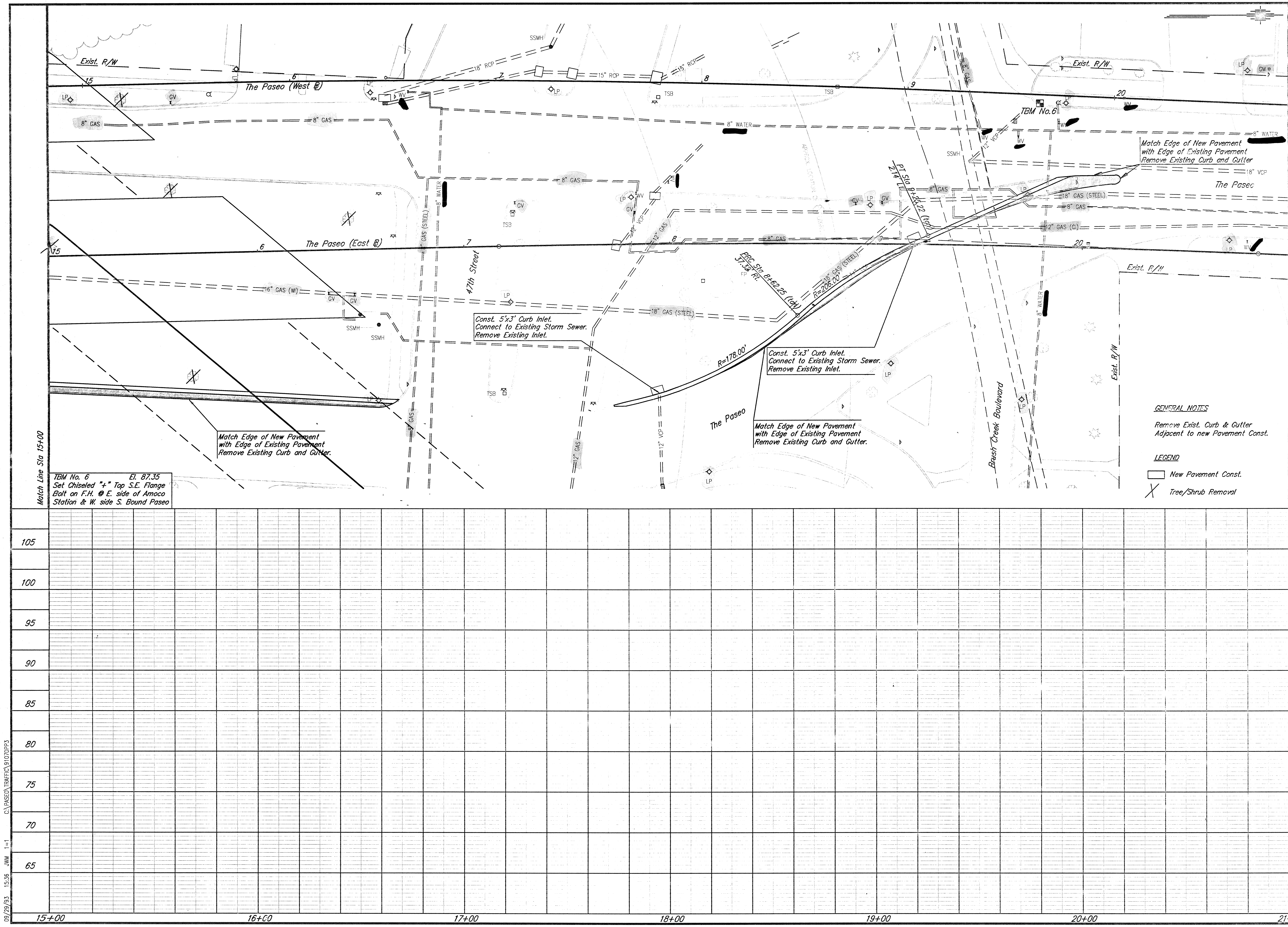
PROJECT ENGINEER
Date 9-29-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By BSB LJF
Drawn By BSB
Checked By BSB
Scale 1"=20H 1"=5V
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
ROADWAY CONSTRUCTION

Dwg. No. R2



Exist. R/W
The Paseo (West ℄)
The Paseo (East ℄)
The Paseo
47th Street
Brush Creek Boulevard
TBM No. 6
8" GAS
8" WATER
18" RCP
15" RCP
16" GAS (W)
18" GAS (STEEL)
12" VCP
18" VCP
12" GAS (C)
PT Sta 8+44.22 (tgt)
PRC Sta 8+62.25 (tgt)
R=178.00'
R=206.00'
Const. 5'x3' Curb Inlet.
Connect to Existing Storm Sewer.
Remove Existing Inlet.
Match Edge of New Pavement
with Edge of Existing Pavement
Remove Existing Curb and Gutter.
TBM No. 6 El. 87.35
Set Chiseled "+" Top S.E. Flange
Bolt on F.H. @ E. side of Amoco
Station & W. side S. Bound Paseo
Match Line Sta 15+00
GENERAL NOTES
Remove Exist. Curb & Gutter
Adjacent to new Pavement Const.
LEGEND
New Pavement Const.
Tree/Shrub Removal
105
100
95
90
85
80
75
70
65
15+00
16+00
17+00
18+00
19+00
20+00
21+00
09/29/93 15:36 JWM 1=1 C:\PASEO\TRAFFIC\9107OPP3

No.	Revision	By	Date

BRYCE S. BAN... — STATE OF MISSOURI — REGISTERED PROFESSIONAL ENGINEER

PROJECT ENGINEER
Date 7-30-93

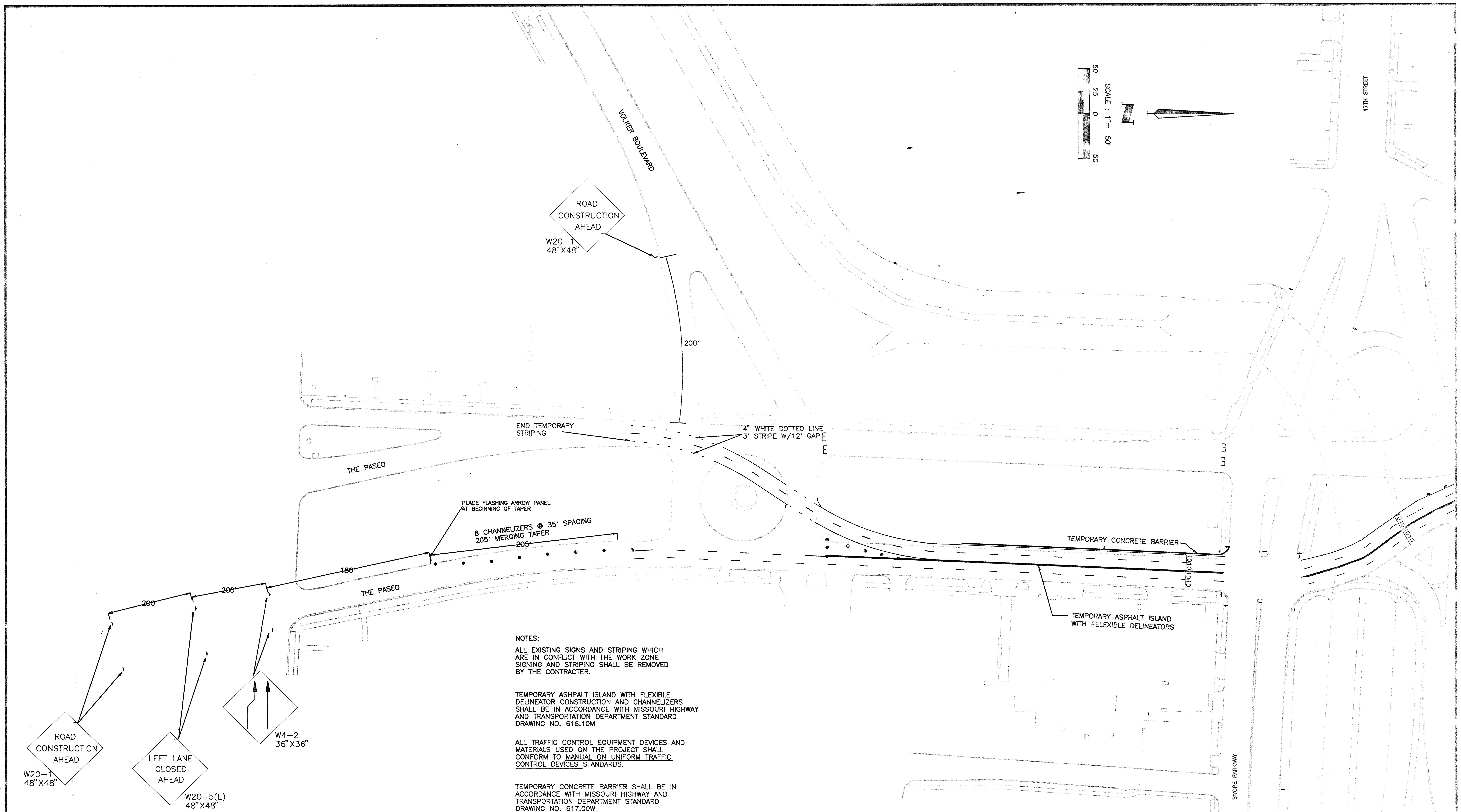
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By BSB
Drawn By LJF
Checked By BSB
Scale 1"=20'H 1"=5'V
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
ROADWAY CONSTRUCTION

Dwg. No. R3



NOTES:

ALL EXISTING SIGNS AND STRIPING WHICH ARE IN CONFLICT WITH THE WORK ZONE SIGNING AND STRIPING SHALL BE REMOVED BY THE CONTRACTER.

TEMPORARY ASHPALT ISLAND WITH FLEXIBLE DELINEATOR CONSTRUCTION AND CHANNELIZERS SHALL BE IN ACCORDANCE WITH MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD DRAWING NO. 616.10M

ALL TRAFFIC CONTROL EQUIPMENT DEVICES AND MATERIALS USED ON THE PROJECT SHALL CONFORM TO <u>MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES</u> STANDARDS.

TEMPORARY CONCRETE BARRIER SHALL BE IN ACCORDANCE WITH MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD DRAWING NO. 617.00W

MATERIALS FOR TEMPORARY PAVEMENT STRIPING SHALL BE INACCORDANCE WITH SECTION 620.40 "SHORT TERM PAVEMENT MARKING" OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

PAYMENT FOR ALL TRAFFIC CONTROL EQUIPMENT, DEVICES AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM UNIT PRICE FOR MAINTENANCE OF TRAFFIC SET FORTH IN THE ITEMIZED PROPOSAL.

ALL SIGNING AND MARKING SHALL REMAIN IN PLACE UNTIL THE CONTRACT IS COMPLETED. AFTER THE CONTRACT IS COMPLETED, SAID SIGNING AND MARKING SHALL BECOME THE PROPERTY AND RESPONSIBLITY OF THE OWNER.

⊕ CHANNELIZER

No.	Revision	By	Date

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER — BRYCE S. BANION

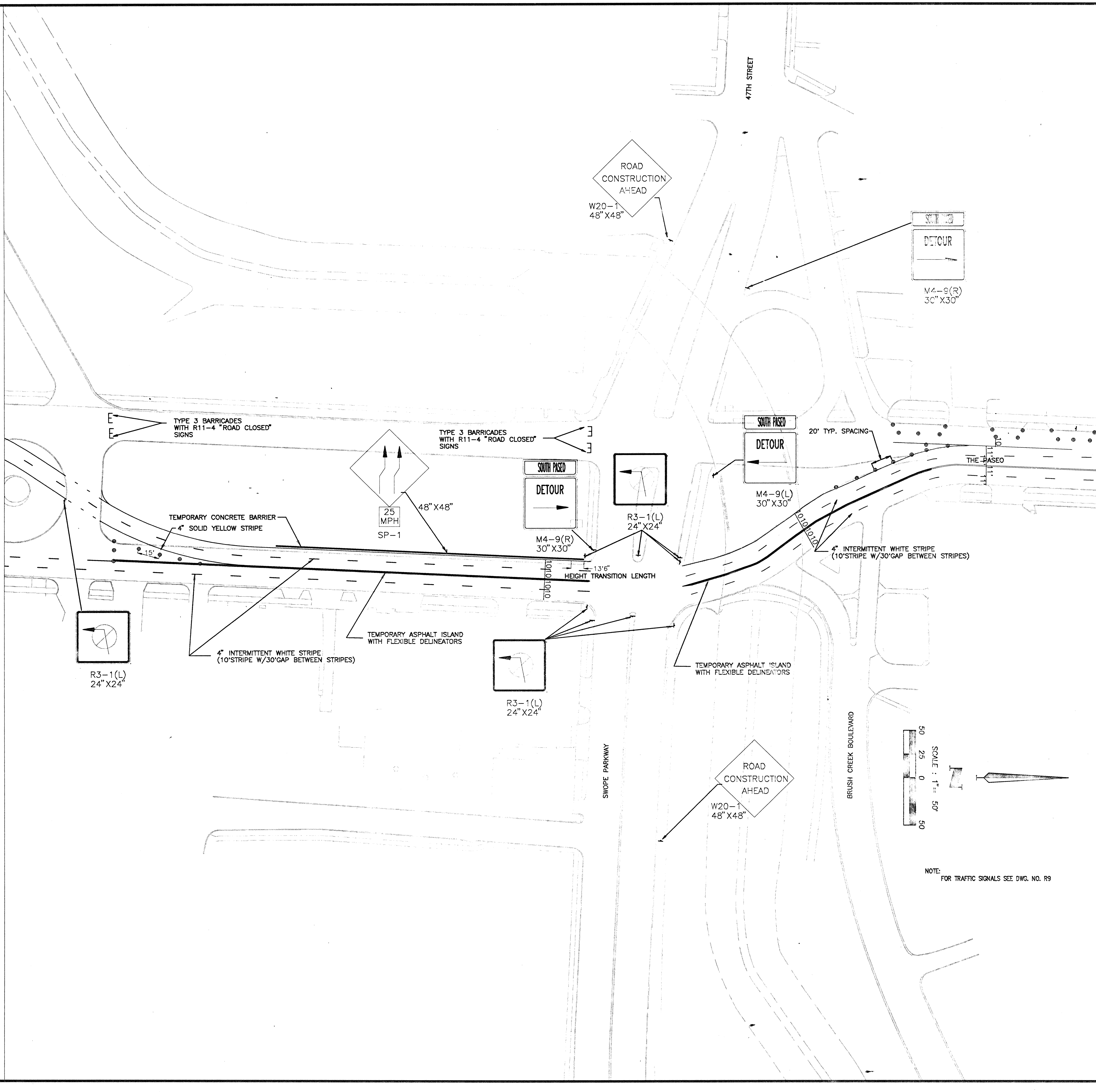
PROJECT ENGINEER
Date
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By RDP
Drawn By DWM
Checked By RDP
Scale 1"=50'
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
TRAFFIC CONTROL PLAN

Dwg. No. R4



No.	Revision	By	Date

PROJECT ENGINEER
Date 9-30-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

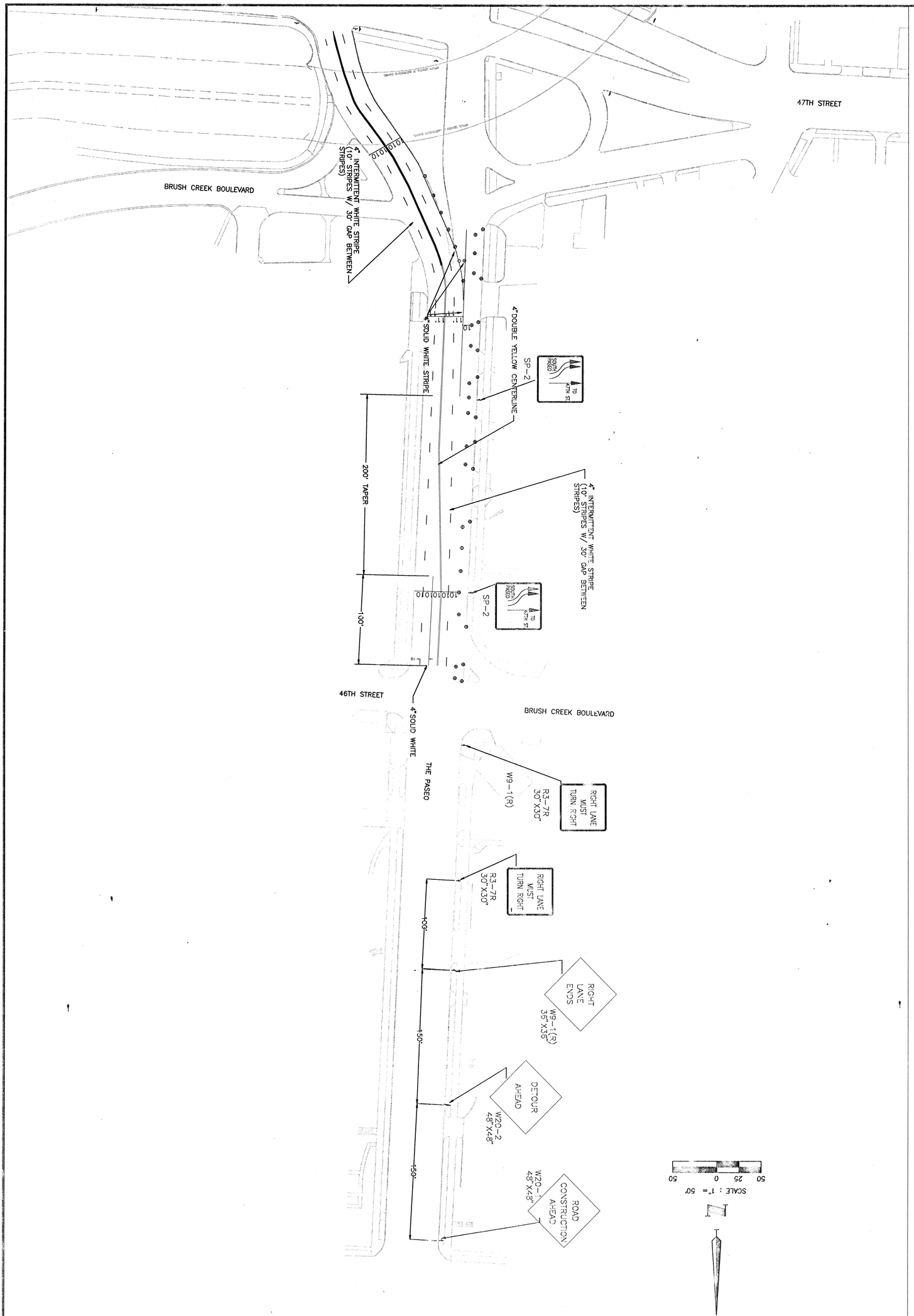
A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By RDP
Drawn By DWM
Checked By RDP
Scale 1"=50'
Job No. 9107
Contract No.

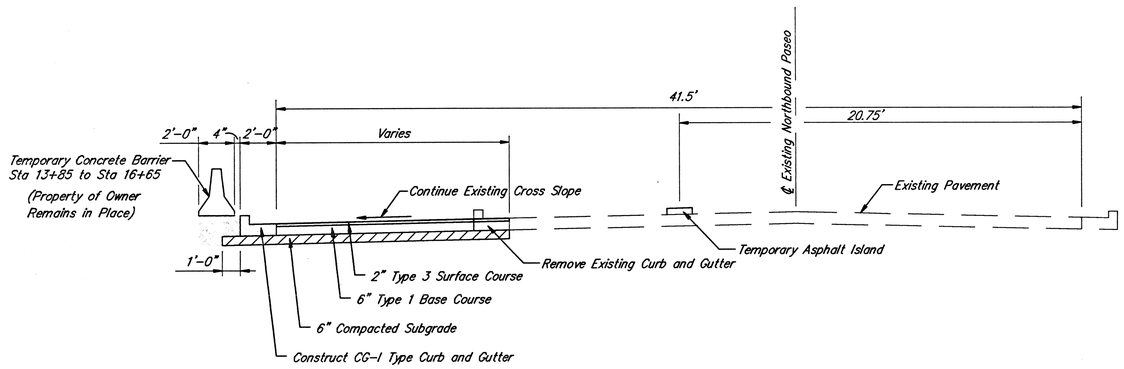
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

TRAFFIC CONTROL PLAN

Dwg. No. R5

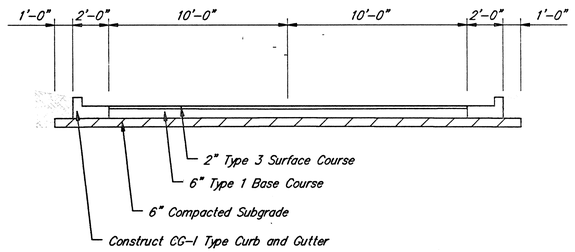


Dwg. No. R6	KANSAS CITY MO. PUBLIC WORKS DEPT. THE PASEO INTERSECTION COMPLEX TRAFFIC CONTROL PLAN	Designed By RDP Drawn By DWM Checked By RDP Scale 1"=50' Job No. 9107 Contract No.	A.C. KIRKWOOD & ASSOCIATES a Division of Shafer Kline & Warren	PROJECT ENGINEER Date 9-30-93 NOTE: This drawing is PRELIMINARY until approved by project eng.	STATE OF MISSOURI BRYCE S. BANION NUMBER REGISTERED PROFESSIONAL ENGINEER	No.	Revision	By	Date



TYPICAL STREET SECTION
Sta 13+15.64 to Sta 20+17.80
The Paseo East ℄

MAINTENANCE OF TRAFFIC				
STANDARD DESIGN	MESSAGE	SIZE WIDTH	SIZE HEIGHT	ESTIMATED NUMBER REQD.
DETOUR SIGNING				
SP-1	SEE TRAFFIC CONTROL PLAN	30"	30"	1
SP-2	SEE TRAFFIC CONTROL PLAN	30"	30"	2
M4-9L	DETOUR LEFT ARROW	30"	30"	1
W20-1	ROAD CONSTRUCTION AHEAD	48"	48"	6
W20-2	DETOUR AHEAD	48"	48"	1
W4-2(L)	PAVEMENT WIDTH TRANSITION	36"	36"	2
W20-5(L)	LEFT LANE CLOSED AHEAD	48"	48"	2
R3-7R	RIGHT LANE MUST TURN RIGHT	30"	30"	2
R3-1(L)	NO LEFT TURN	24"	24"	10
W9-1(R)	RIGHT LANE ENDS	36"	36"	1
M4-9R	DETOUR RIGHT ARROW	30"	30"	2
TOTAL CONSTRUCTION SIGNS				30
TYPE III BARRICADES WITH TYPE A FLASHING LIGHTS				4
CHANNELIZERS				51
TEMPORARY CONCRETE BARRIER				280 LF
4" YELLOW MARKING				900 LF
4" SOLID WHITE MARKING				1350 LF
TEMPORARY ASPHALT ISLANDS WITH FLEXIBLE DELINEATOR				725 LF
TRAFFIC SIGNALS (SEE DWG. NO. R9)				1



TYPICAL STREET SECTION
Sta 10+50 to Sta 12+00 (East ℄)

No.	Revision	By	Date

STATE OF MISSOURI — BRYCE L. S. — NUMBER E-19567 — REGISTERED PROFESSIONAL ENGINEER

PROJECT ENGINEER
Date 3-30-93

NOTE: This drawing is PRELIMINARY until approved by project eng.

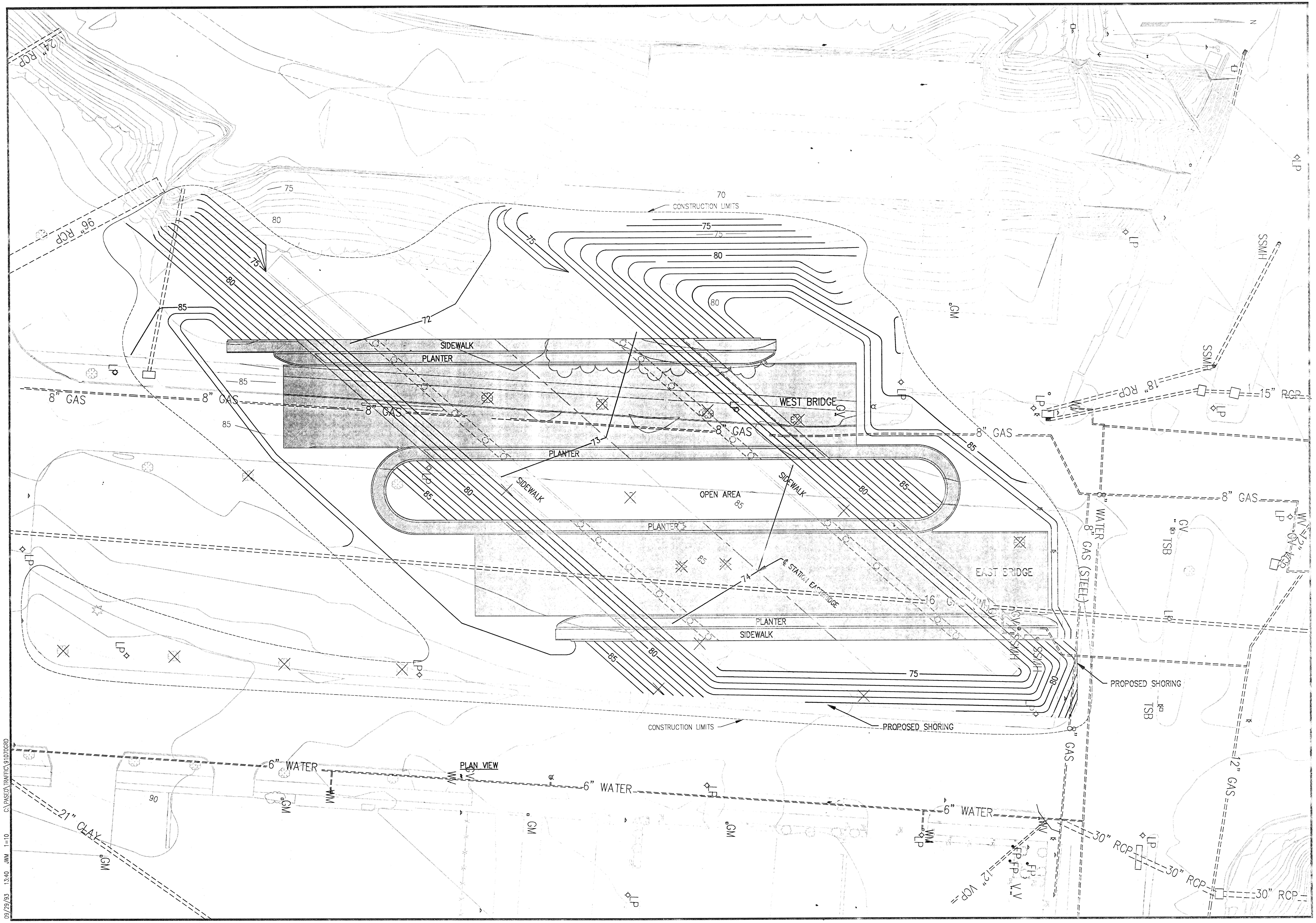
J.C. KINKLOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By	BSB
Drawn By	LIF
Checked By	BSB
Scale	AS SHOWN
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
ROADWAY DETAILS

Dwg. No. R7

09/30/93 13:15 JWM 1=1 C:\PASEO\TRAFFIC\9107R05



No.	Revision	By	Date

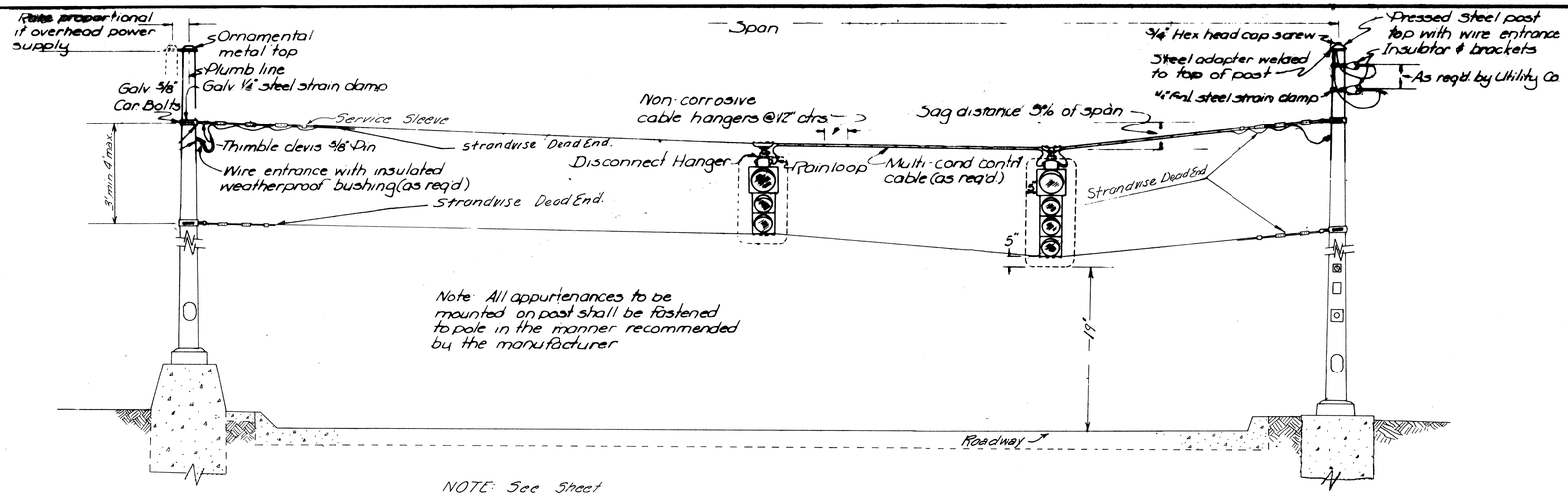
PROJECT ENGINEER
Date 9-28-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

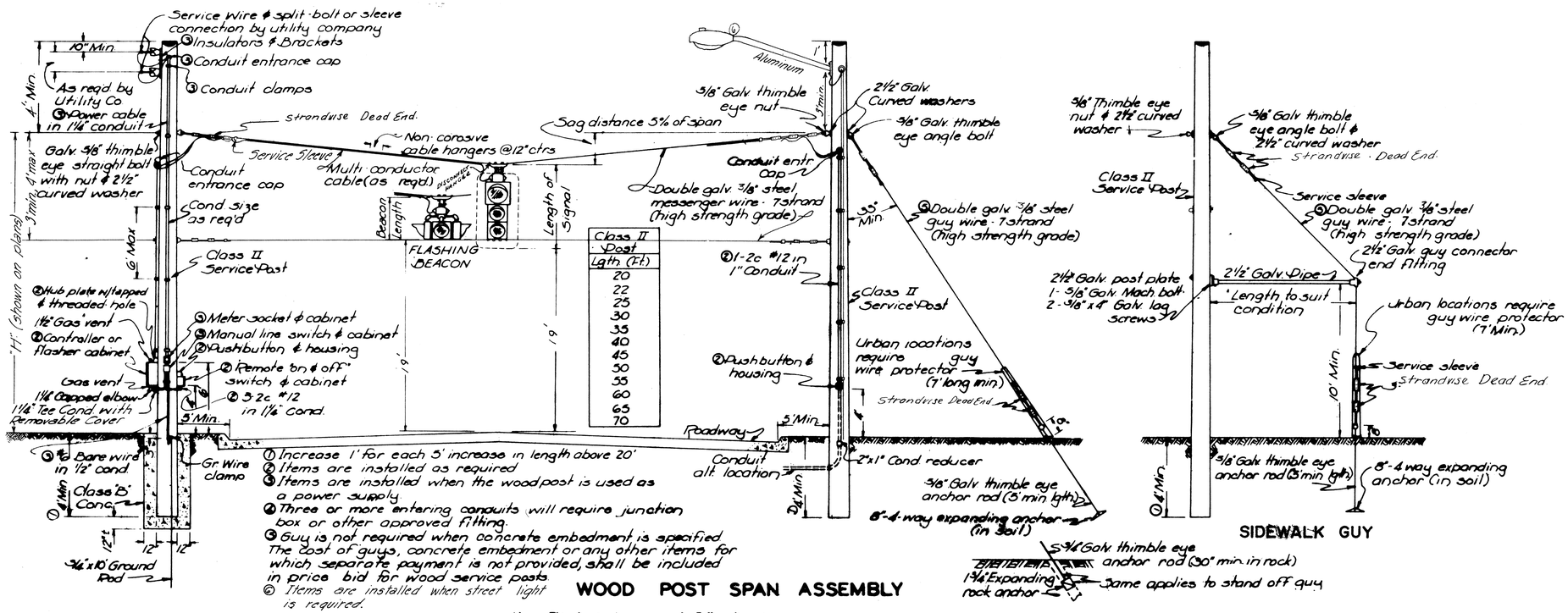
A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By BSB
Drawn By LJF
Checked By BSB
Scale 1=20
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
SITE GRADING \ UTILITY PLAN

Dwg. No. R8





① Increase 1' for each 5' increase in length above 20'
② Items are installed as required
③ Items are installed when the wood post is used as a power supply
④ Three or more entering conduits will require junction box or other approved fitting.
⑤ Guy is not required when concrete embedment is specified. The cost of guys, concrete embedment or any other items for which separate payment is not provided, shall be included in price bid for wood service posts.
⑥ Items are installed when street light is required.

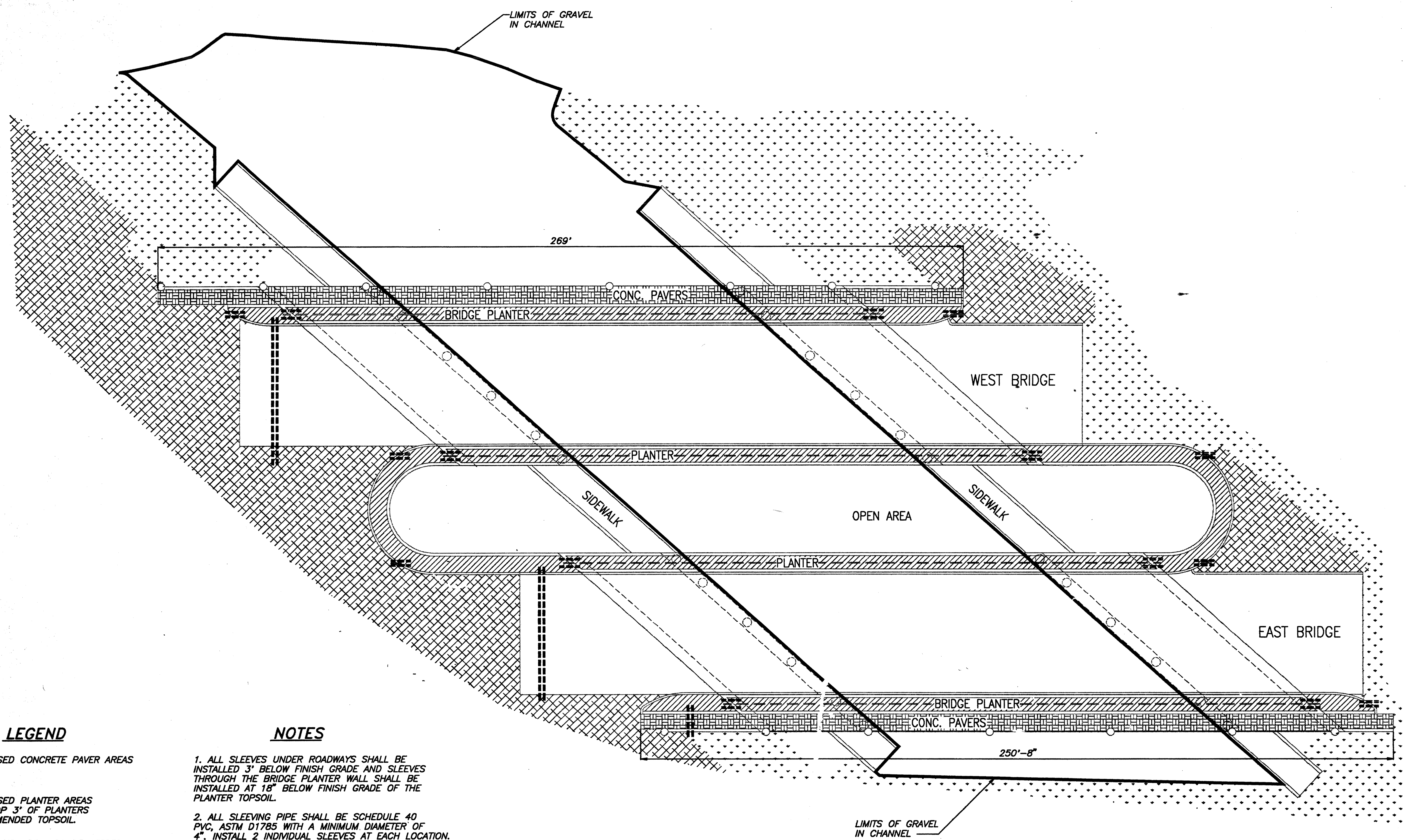
WOOD POST SPAN ASSEMBLY

Note: This drawing is not to scale. Follow dimensions.

TRAFFIC SIGNALS

TCD-0-5 B

Dwg. No. R9



LEGEND

- PROPOSED CONCRETE PAVER AREAS
- PROPOSED PLANTER AREAS FILL TOP 3' OF PLANTERS WITH AMENDED TOPSOIL.
- PROPOSED AREAS TO BE SEEDED (SLOPES LESS THAN 3:1)
- PROPOSED AREAS TO BE SODDED (SLOPES 3:1 AND OVER)
- 2–4" PVC SLEEVES AT PAVEMENT CROSSINGS AND THROUGH PLANTER WALLS.
- PROPOSED PLANTER UNDERDRAIN

NOTES

1. ALL SLEEVES UNDER ROADWAYS SHALL BE INSTALLED 3' BELOW FINISH GRADE AND SLEEVES THROUGH THE BRIDGE PLANTER WALL SHALL BE INSTALLED AT 18" BELOW FINISH GRADE OF THE PLANTER TOPSOIL.
2. ALL SLEEVING PIPE SHALL BE SCHEDULE 40 PVC, ASTM D1785 WITH A MINIMUM DIAMETER OF 4". INSTALL 2 INDIVIDUAL SLEEVES AT EACH LOCATION.
3. ALL SLEEVING PIPE SHALL EXTEND A MINIMUM OF 18" BEYOND ALL VERTICAL WALLS SURFACES AND/OR FOOTINGS AND CAPPED.
4. APPLY BARRICADE PRE–EMERGENT WEED RETARDANT (OR APPROVED EQUAL) ON AREAS TO RECEIVE GRAVEL. PRE–EMERGENT SHALL BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
5. CHANNEL AREA SHALL BE MULCHED WITH A 2" COURSE OF 1" GRAVEL.

PLAN VIEW

SCALE: 1" = 20'

N

AMENITY PLAN

No.	Revision	By	Date

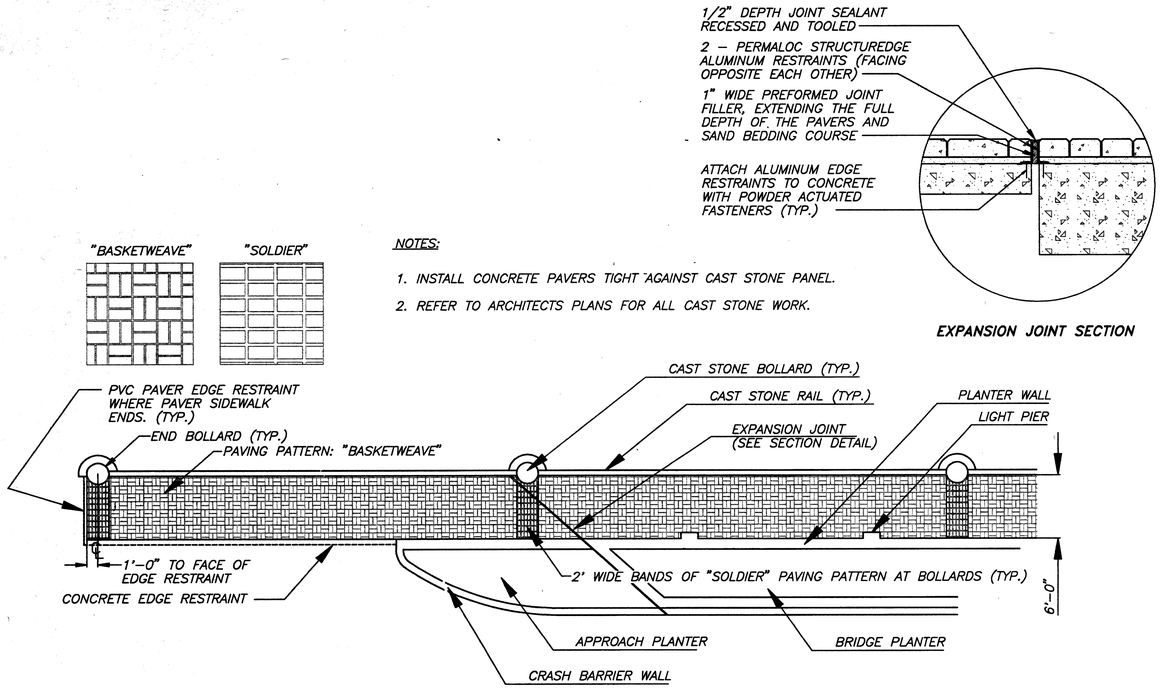
PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By MJG
Drawn By AEH
Checked By ABC
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
AMENITY PLAN

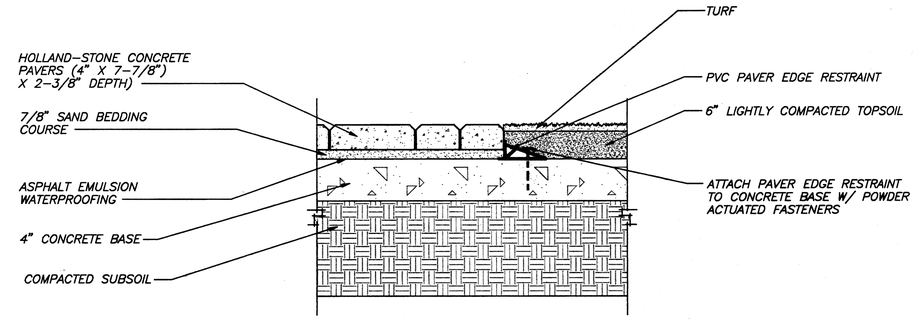
Dwg. No. [illegible] Of 2



CONCRETE PAVERS – PLAN

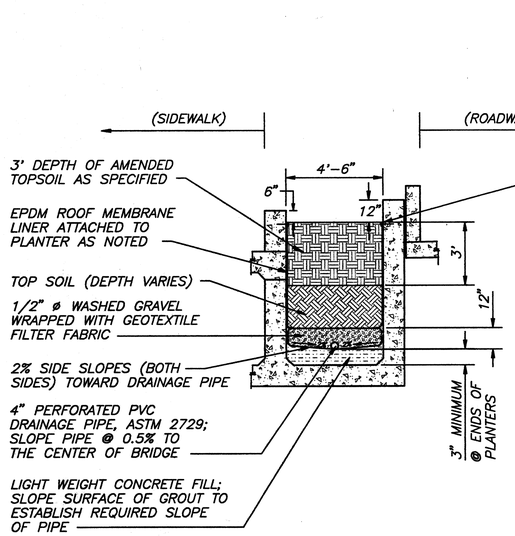
N.T.S.

EXPANSION JOINT SECTION



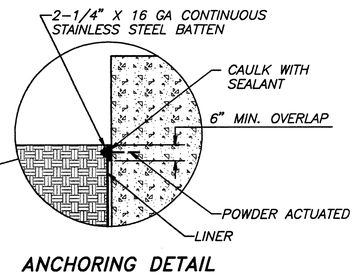
PVC PAVER EDGE RESTRAINT – SECTION

N.T.S.



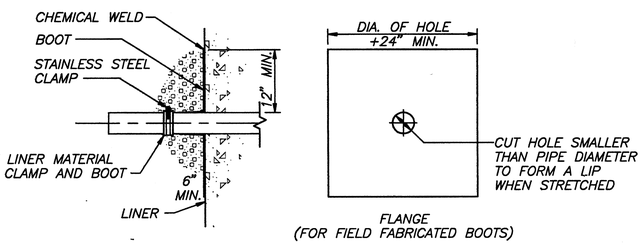
BRIDGE PLANTER – SECTION

N.T.S.

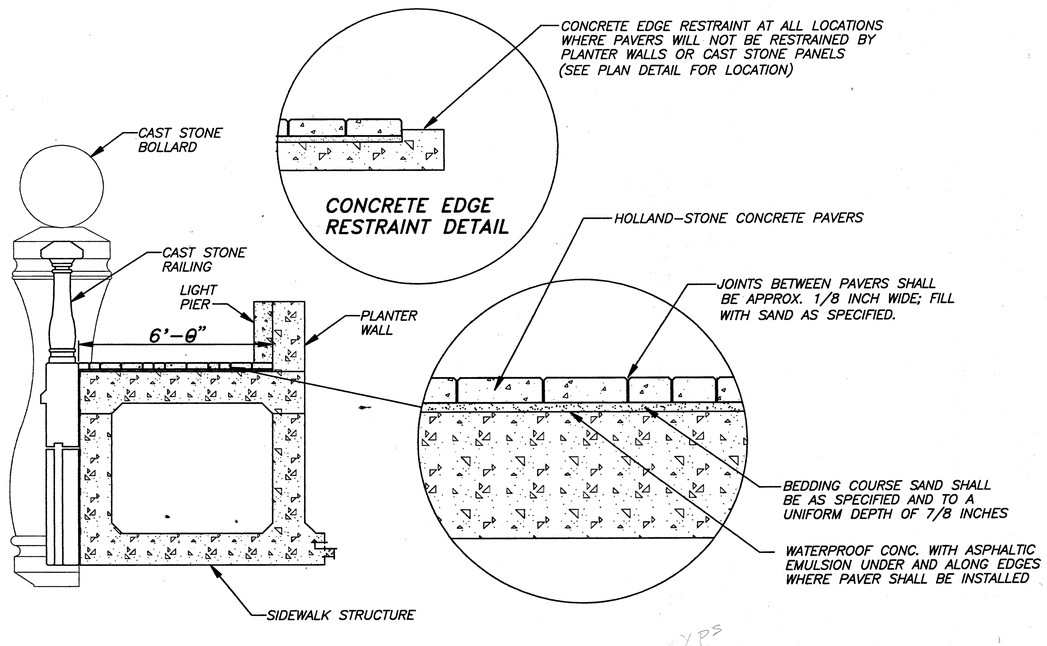


ANCHORING DETAIL

NOTES:
ATTACH 2.25" WIDE X 16 GA STAINLESS STEEL BATTEN PUNCHED @ 12" O.C. TO PLANTER WALL WITH POWDER ACTUATED FASTENERS; USE A BYTLE NON–HARDENING CAULK BETWEEN LINER AND PLANTER WALL AT TOP OF PLANTER AS SHOWN (TYP.)



PENETRATION DETAIL



CONCRETE PAVERS – SECTION

N.T.S.

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-23
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By	MJG
Drawn By	AEH
Checked By	ABC
Scale	AS SHOWN
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PAVER AND PLANTER DETAILS

Dwg. No. 12 OF 2

SUMMARY OF QUANTITIES

ITEM	UNITS	SUBSTRUCTURE								SUPERSTRUCTURE		TOTAL
		WEST BRIDGE				EAST BRIDGE						
		NORTH ABUT.	PIER 1	PIER 2	SOUTH ABUT.	NORTH ABUT.	PIER 1	PIER 2	SOUTH ABUT.	WEST BRIDGE	EAST BRIDGE	
STRUCTURAL EXCAVATION	CU. YDS.	257	475	475	257	220	475	475	257			2891
PAVED SLOPE PROTECTION	SQ. YDS.	245			245	245			245			980
VERTICAL DRAIN AT ABUTMENT	L.S.											L.S.
HP 10 x 42 BEARING PILES	LIN. FT.	180			180	180			180			720
PILE POINT REINFORCEMENT	EA.	11			11	11			11			44
DRILLED SHAFTS	LIN. FT.		84	84			84	84				336
DRILLED SHAFT ROCK EXCAVATION	CU. YDS.		47	48			46	40				181
REINFORCING STEEL	LBS.	6815	12466	12466	6815	6086	12466	12466	6815	5229	5229	86853
EPOXY COATED REINFORCING STEEL	LBS.									79341	79562	158903
CLASS 1 CONCRETE	CU. YDS.	69	84	84	69	62	84	84	69	198	198	1001
TRAP ROCK CONCRETE	CU. YDS.									385	385	770
PRESTRESSED CONCRETE GIRDERS	LIN. FT.									1122	1122	2244
SURFACE SEALING	L.S.											L.S.
ANTI-GRAFFTI COATING	L.S.											L.S.
MANHOLE AND ACCESS DOORS	L.S.											L.S.

SUMMARY OF QUANTITIES

ROADWAYS

ITEM	UNITS	TOTAL
MOBILIZATION	L.S.	L.S.
FIELD OFFICE	L.S.	L.S.
MAINTENANCE OF TRAFFIC	L.S.	L.S.
DEMOLITION AND SITE PREPARATION	L.S.	L.S.
EXCAVATION AND EMBANKMENT	L.S.	L.S.
ASPHALTIC CONCRETE BASE - TYPE 1	SQ. YDS.	690
ASPHALTIC CONCRETE SURFACE - TYPE 3	SQ. YDS.	690
SIDEWALK	SQ. YDS.	72
PORTLAND CEMENT CONCRETE CURB	LIN. FT.	1005
TEMPORARY TRAFFIC SIGNALS	L.S.	L.S.
5' x 3' CURB INLET	EA.	2

SUMMARY OF QUANTITIES

NON-PARTICIPATING ITEMS

ITEM	UNITS	TOTAL
STRUCTURAL EXCAVATION	CU. YDS.	5387
STRUCTURAL ROCK EXCAVATION	CU. YDS.	464
SAND BACKFILL	CU. YDS.	580
VERTICAL DRAINS AT CHANNEL WALLS	L.S.	L.S.
REINFORCING STEEL	LB.	348403
EXPOXY COATED REINFORCING STEEL	LB.	47474
CLASS 1 CONCRETE	SQ. YDS.	898
SEMI LIGHTWEIGHT CONCRETE	SQ. YDS.	865
COLORED CONCRETE	CU. YDS.	310
LIGHTWEIGHT CONCRETE FILL	L.S.	L.S.
CAST STONE	L.S.	L.S.
LIGHTING	L.S.	L.S.
INTERLOCKING PAVERS	SQ. FT.	3118
PLANTER DRAINAGE SYSTEM	LIN. FT.	792
PLANTER LINER	SQ. FT.	14238
TOPSOIL	CU. YDS.	1556
SEEDING	SQ. YDS.	1375
SODDING	SQ. YDS.	1595
ANCHORED WALL ANCHORS	EA.	150
DRILLED DRAINS	EA.	90
WEED RETARDANT	SQ. FT.	29000
GRAVEL	TON	290
PCV SLEEVES	LIN. FT.	320

SUMMARY OF QUANTITIES

NON-PARTICIPATING UTILITIES

ITEM	UNITS	TOTAL
WATER MAIN IMPROVEMENTS	L.S.	L.S.
GAS PIPE INSTALLATION	L.S.	L.S.

SUMMARY OF QUANTITIES (ALT. 1)

PRESTRESSED CONCRETE PANELS

ITEM	UNITS	TOTAL
DEDUCT TRAP ROCK CONCRETE	CU. YDS.	64
DEDUCT EPOXY COATED REINFORCING STEEL	LB.	27747
ADD PRESTRESSED CONCRETE PANELS	SQ. FT.	6930

GENERAL NOTES

SPECIFICATIONS

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1992.
CONSTRUCTION SPECIFICATIONS: CITY OF KANSAS CITY, MISSOURI SPECIFICATIONS, SPECIAL PROVISIONS AND MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1993 AND AMENDMENTS.
ALL "MHTD" REFERENCES HEREIN WILL PERTAIN TO THE MISSOURI STANDARD STANDARD SPECIFICATIONS LIST ABOVE.

LOADING

A DESIGN LIVE LOAD = HS20-44
B FUTURE WEARING SURFACE = 25LBS./SQ. FT.
C OTHER LOADS AASHTO 1992

STEEL H PILES

ALLOWABLE LOAD = 62 TONS PER PILE
ALLOWABLE BEARING = 10,000 PSI

PEDESTAL PILES

ALLOWABLE BEARING = 50,000 PSF

DIMENSIONS

ALL PLAN DIMENSIONS ARE HORIZONTAL AND ARE MEASURED AT 60° F.

DATUM

ALL ELEVATIONS ARE REFERRED TO THE CITY OF KANSAS CITY, MISSOURI DATUM.

BENCH MARK

ALL BENCH MARK DATA WILL BE AS SHOWN ON THE PLANS.

	KCMO	=	NGVD
ELEV.	0.00		722.30

EXISTING UTILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES WITHIN THE WORK AREA, AND PROVIDING PROTECTION FOR THE VARIOUS UTILITIES AFFECTED, BEFORE PROCEEDING WITH THE WORK.

CAST IN PLACE CONCRETE

ALL CAST-IN-PLACE CONCRETE EXCEPT AS NOTED SHALL BE CLASS 1 (F'c= 4000 PSI A.E.). BRIDGE DECK, BARRIER CURBS AND APPROACH SLAB SHALL BE TRAP ROCK CONCRETE (F'c = 4500 PSI A.E.). THE SIDEWALK AND PLANTER STRUCTURES SHALL BE SEMI LIGHTWEIGHT CONCRETE (F'c = 4000 PSI A.E.). SURFACE PIERS AND ABUTMENTS WHICH ARE EXPOSED SHALL BE FREE OF ANY FORIEGN MATERAILS WHICH MIGHT CAUSE STAINING OF THE CONCRETE. ALL EXPOSED CORNERS SHALL BE BEVELED ¾" UNLESS OTHERWISE NOTED.

PRECAST CONCRETE

ULTIMATE COMPRESSIVE STRENGTH = 6000 PSI

CONSTRUCTION CLEARANCE

REINFORCING BARS SHALL BE DEFORMED NEW BILLET STEEL CONFORMING TO ASTM A615-GRADE 60. REINFORCING BARS TO BE WELDED SHALL BE OF A WELDABLE GRADE. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED. ALL REINFORCING BENDS SHALL BE DETAILED IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE, UNLESS OTHERWISE SHOWN ON THE PLANS. BAR DIMENSIONS ARE GIVEN OUT TO OUT OF BAR.

NON-PARTICIPATING ITEMS/UTILITIES

THESE ITEMS DO NOT RECEIVE FEDERAL PARTICIPATING FUNDS.

No.	Revision	By	Date

STATE OF MISSOURI — DAVID WARD SEELEY — NUMBER E-22081 — REGISTERED PROFESSIONAL ENGINEER

PROJECT ENGINEER
Date 9-30-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

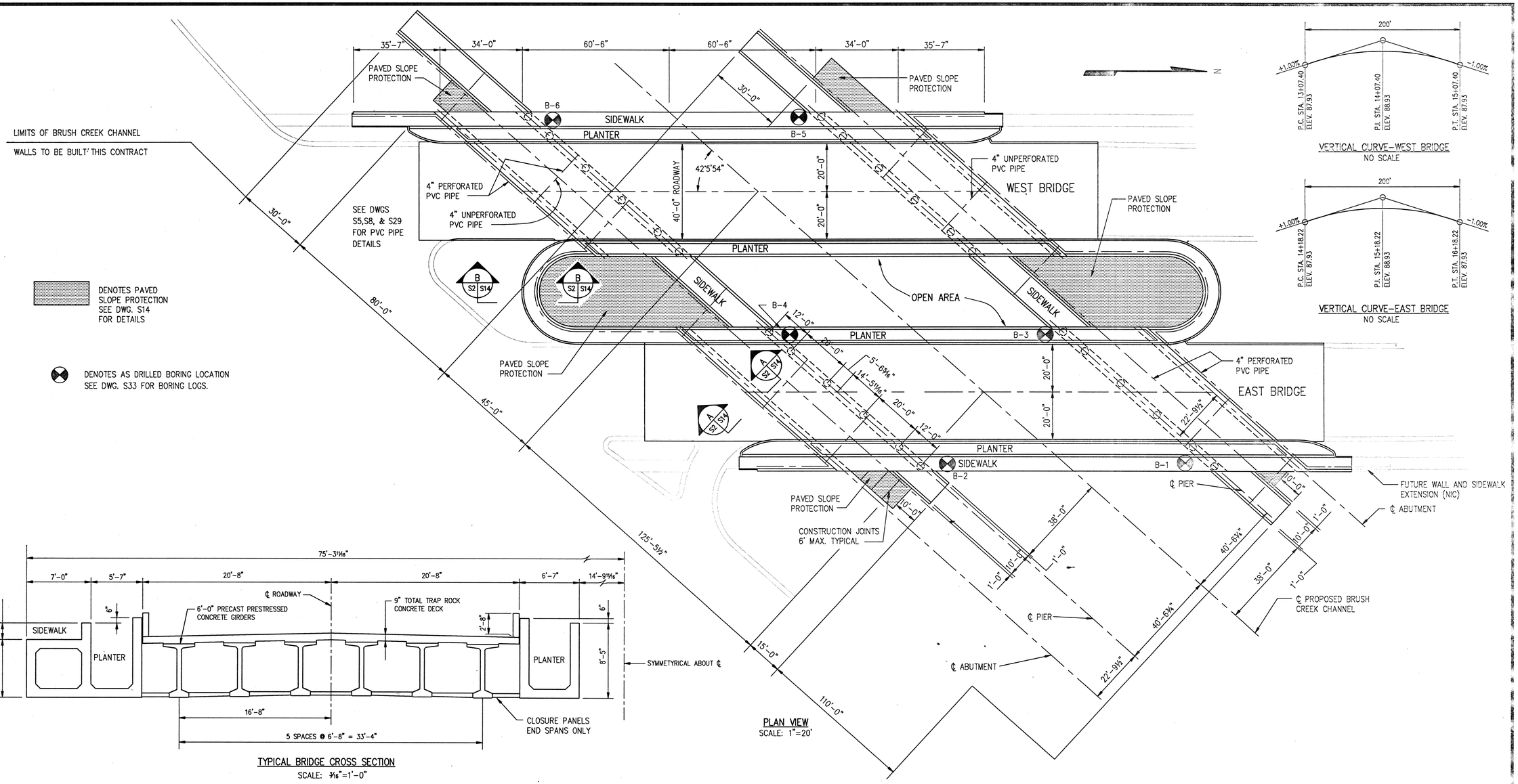
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
GENERAL NOTES AND QUANTITIES

Dwg. No. S1

09/23/93 08:50 MJD 1=1 BAS1



No.	Revision	By	Date

STATE OF MISSOURI DAVID WARD SEALTZ NUMBER E-20034 REGISTERED ENGINEER

PROJECT ENGINEER
Date 9-23-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

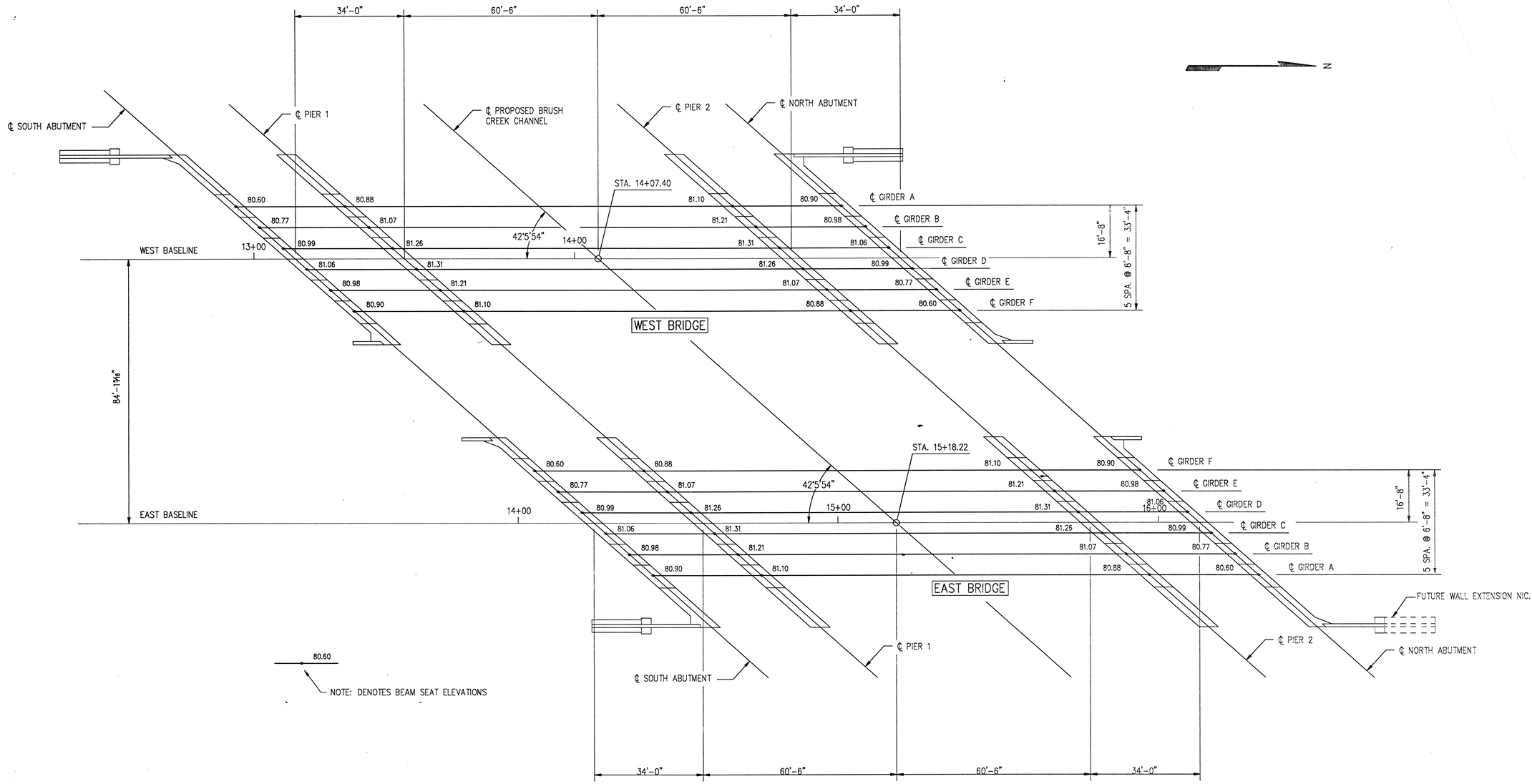
A.C. KINWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BRIDGE PLAN AND PROFILE

Designed By DWS
Drawn By DWS
Checked By BSB
Scale AS SHOWN
Job No. 9107
Contract No.

Dwg. No. S2

09/28/93 15:50 MLD 1"=10' C:\TEMP\S2



09/23/93 07:28 MLD 1=1 B:\S3

No.	Revision	By	Date

STATE OF MISSOURI DAVID WARD SEELEY NUMBER E-2007 REGISTERED PROFESSIONAL ENGINEER

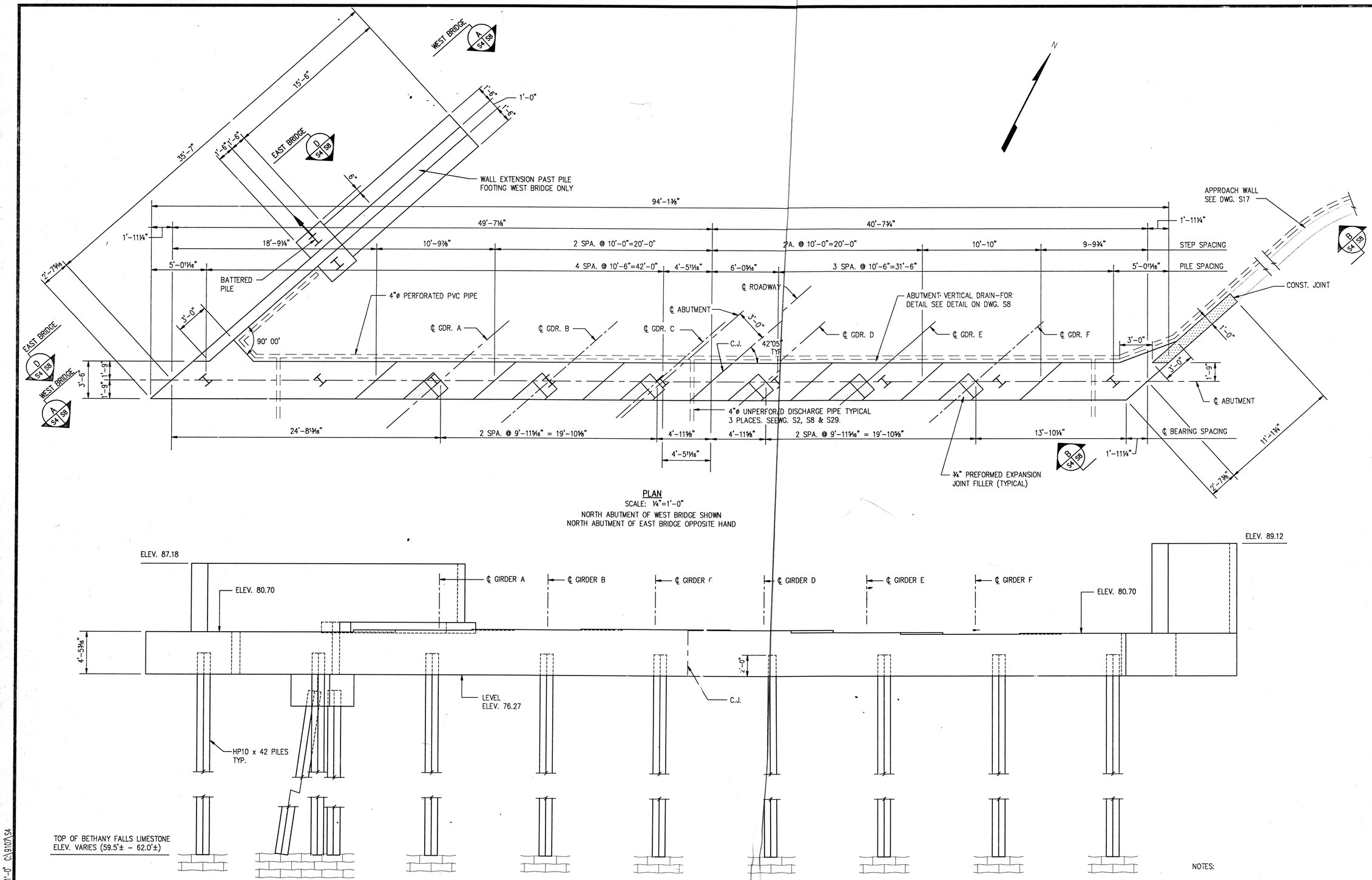
PROJECT ENGINEER
Date 9-23-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
TITLE: PASEO INTERSECTION COMPLEX
CONSTRUCTION LAYOUT

Dwg. No. S3



PLAN
SCALE: ¼"=1'-0"
NORTH ABUTMENT OF WEST BRIDGE SHOWN
NORTH ABUTMENT OF EAST BRIDGE OPPOSITE HAND

ELEVATION
SCALE: ¼"=1'-0"

DENOTES COLORED CONCRETE

NOTES:

1. FOR BEAM SEAT ELEVATIONS SEE CONSTRUCTION LAYOUT DWG. NO. S3.
2. PILES SHALL BE DRIVEN TO BEARING IN BEDROCK AND THEN TO THE MIMIMUM DRIVING RESISTANCE OF 62 TONS PER PILE.

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

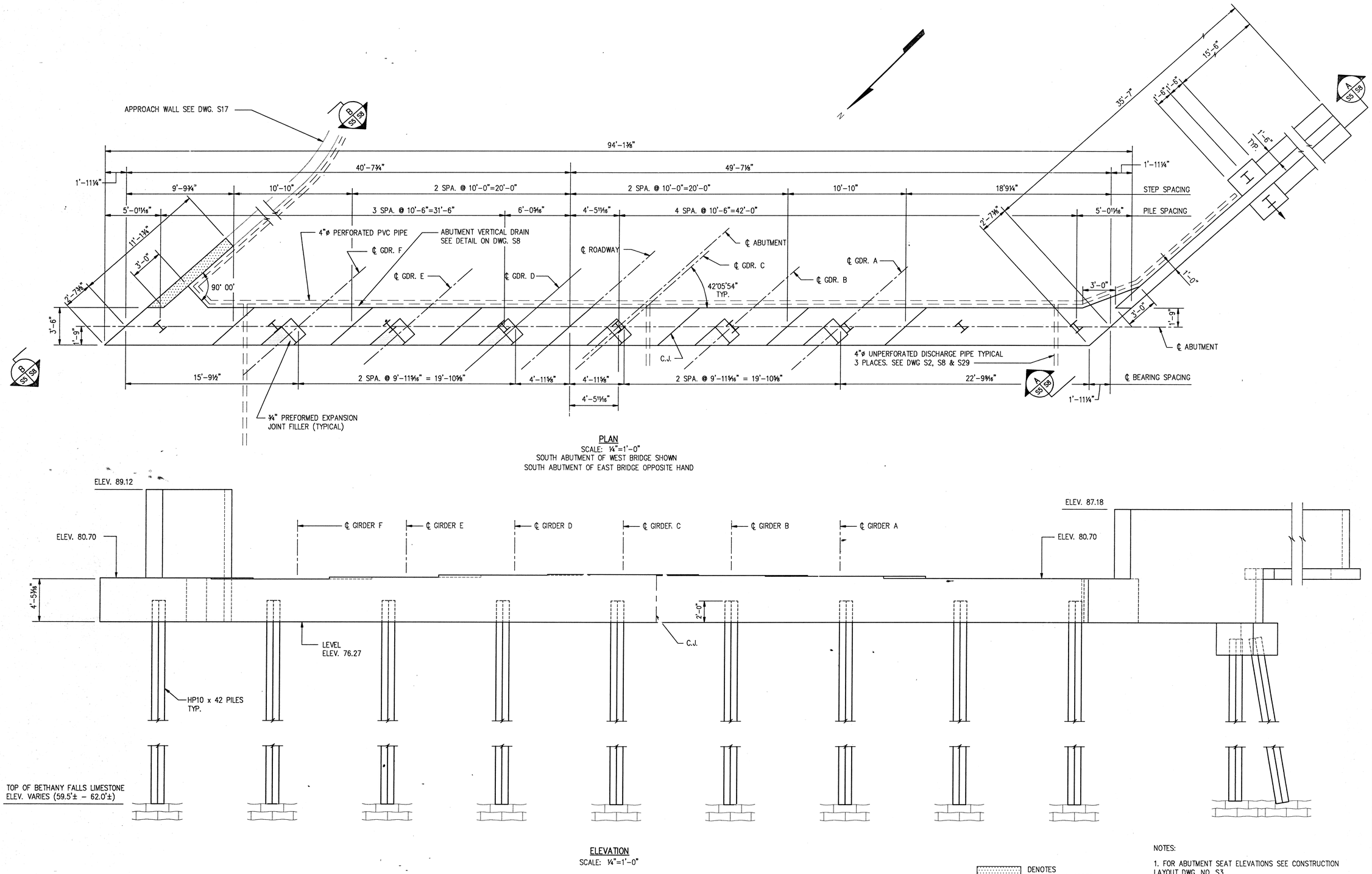
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
NORTH ABUTMENT PLAN AND ELEVATION

Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

Dwg. No. S4

08/09/93 23:50 RRP 1/4"=1'-0" C:\9107\S4



PLAN
SCALE: ¼"=1'-0"
SOUTH ABUTMENT OF WEST BRIDGE SHOWN
SOUTH ABUTMENT OF EAST BRIDGE OPPOSITE HAND

ELEVATION
SCALE: ¼"=1'-0"

DENOTES COLORED CONCRETE

NOTES:

1. FOR ABUTMENT SEAT ELEVATIONS SEE CONSTRUCTION LAYOUT DWG. NO. S3.
2. PILES SHALL BE DRIVEN TO BEARING IN BEDROCK AND THEN TO THE MINIMUM DRIVING RESISTANCE OF 62 TONS PER PILE.

No.	Revision	By	Date

PROJECT ENGINEER
Date 1-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

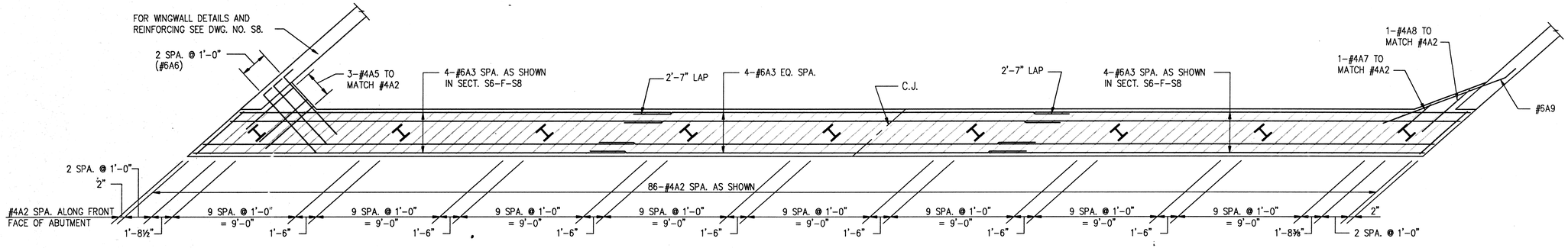
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
SOUTH ABUTMENT PLAN AND ELEVATION

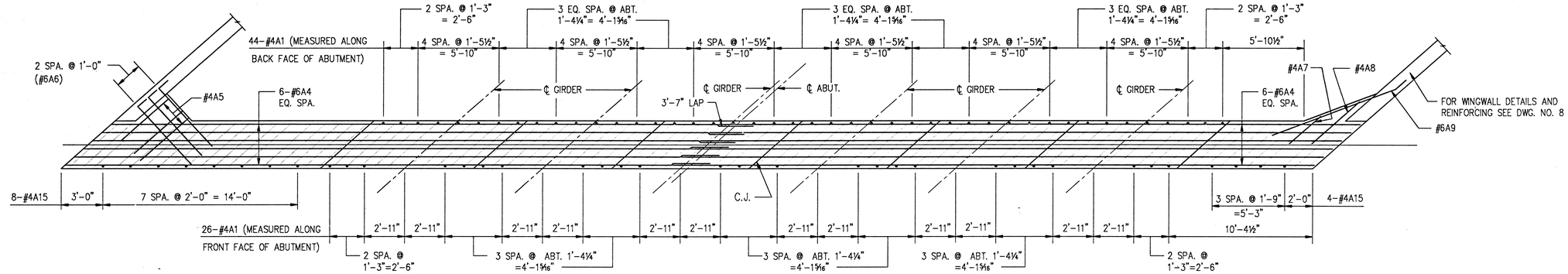
Dwg. No. S5

05/10/93 01:37 RRP 1/4"=1'-0" C:\9107\S5



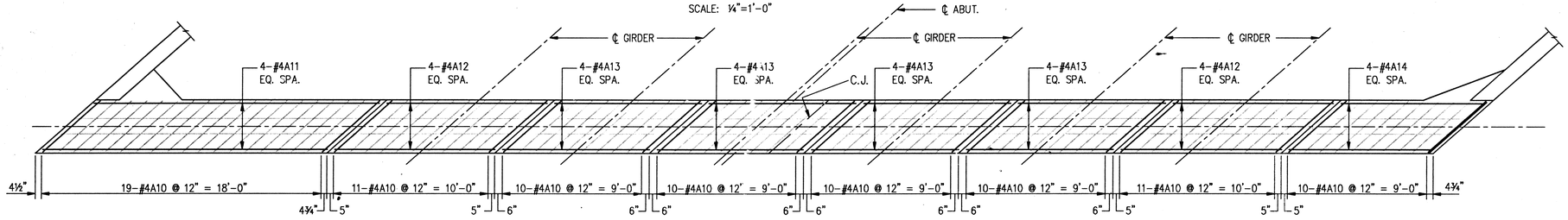
REINFORCING IN BOTTOM OF ABUTMENT

SCALE: ¼"=1'-0"



REINFORCING IN TOP OF ABUTMENT

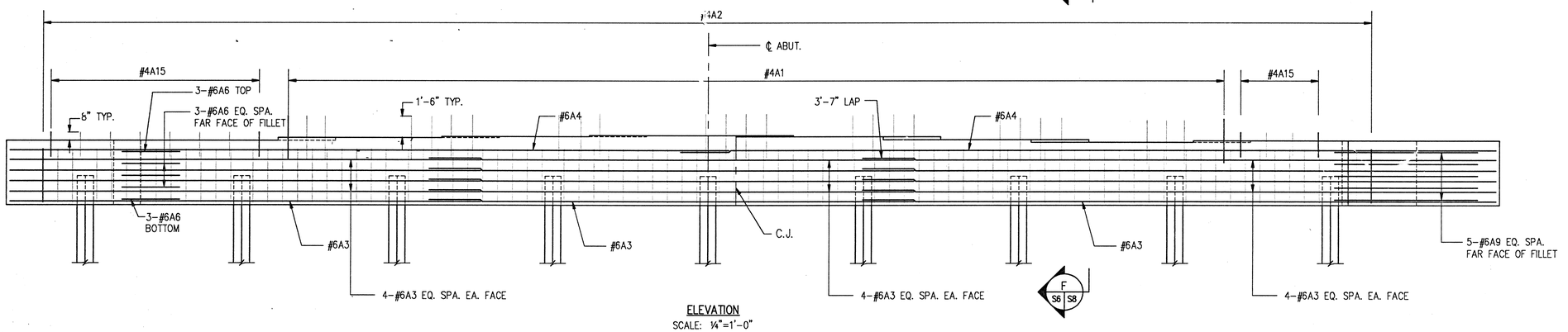
SCALE: ¼"=1'-0"



REINFORCING UNDER GIRDERS

SCALE: ¼"=1'-0"

F S6 S8



ELEVATION

SCALE: ¼"=1'-0"

NORTH ABUTMENT OF WEST BRIDGE SHOWN – NORTH ABUTMENT OF EAST BRIDGE OPPOSITE HAND

No.	Revision	By	Date

PROJECT ENGINEER
Date 3-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

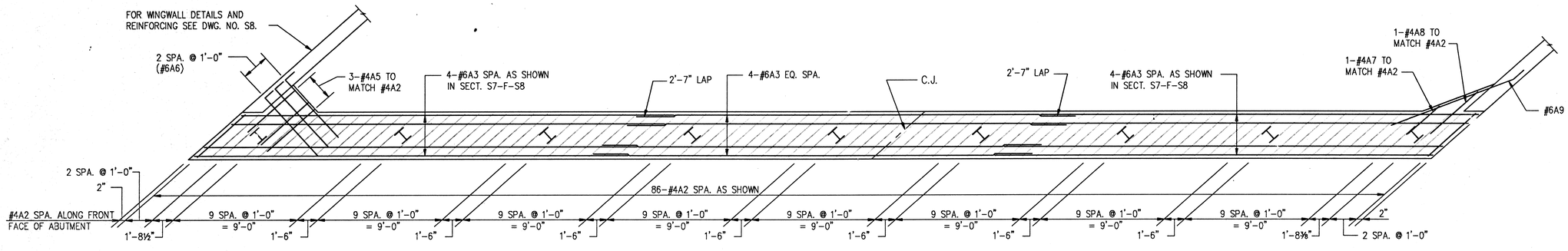
Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

NORTH ABUTMENT REINFORCEMENT

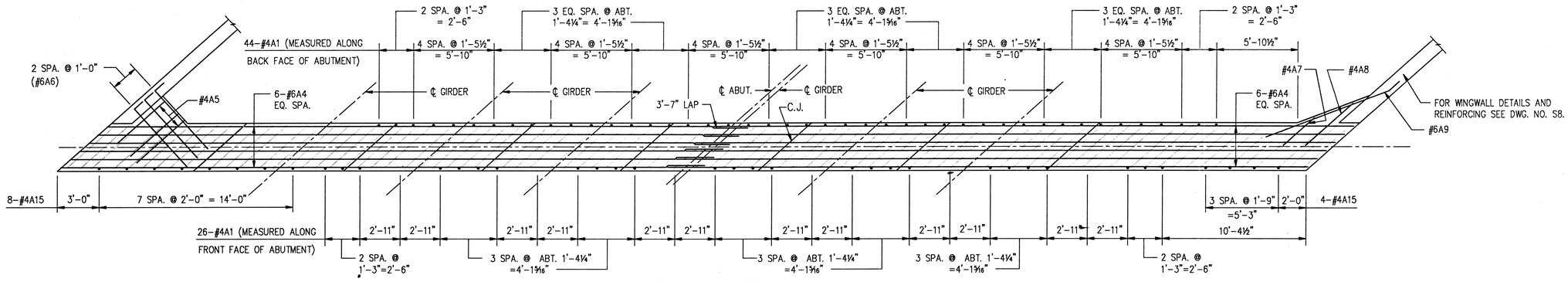
Dwg. No. S6

08/10/93 01:53 RRP 1/4"=1'-0" C:\9107\S6



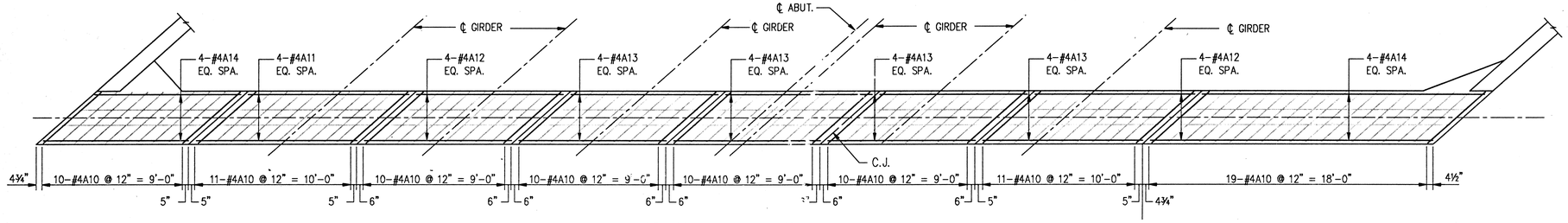
REINFORCING IN BOTTOM OF ABUTMENT

SCALE: ¼"=1'-0"



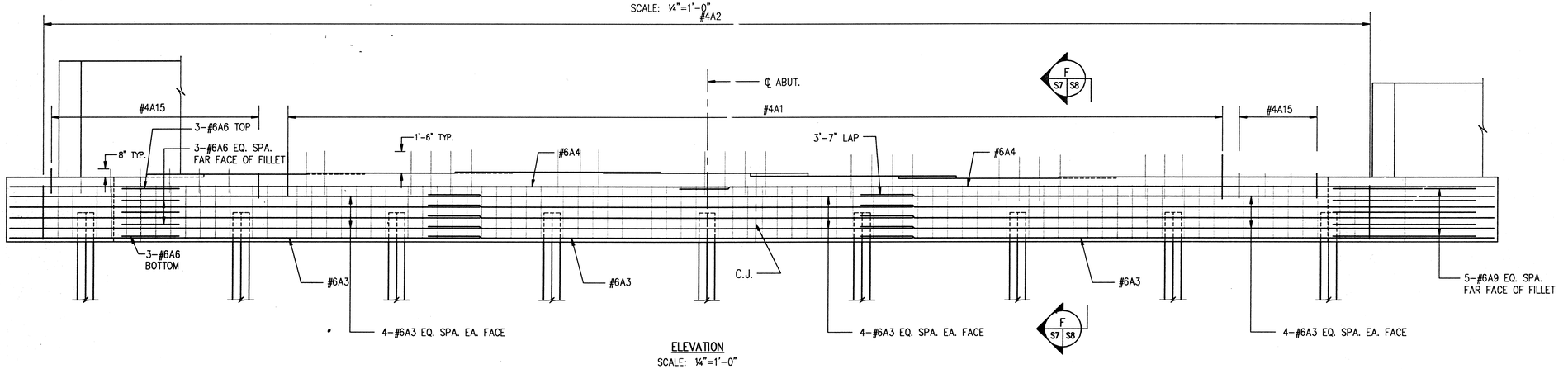
REINFORCING IN TOP OF ABUTMENT

SCALE: ¼"=1'-0"



REINFORCING UNDER GIRDERS

SCALE: ¼"=1'-0"



ELEVATION

SCALE: ¼"=1'-0"

SOUTH ABUTMENT OF WEST BRIDGE SHOWN – SOUTH ABUTMENT OF EAST BRIDGE OPPOSITE HAND

No.	Revision	By	Date

PROJECT ENGINEER
Date 2-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

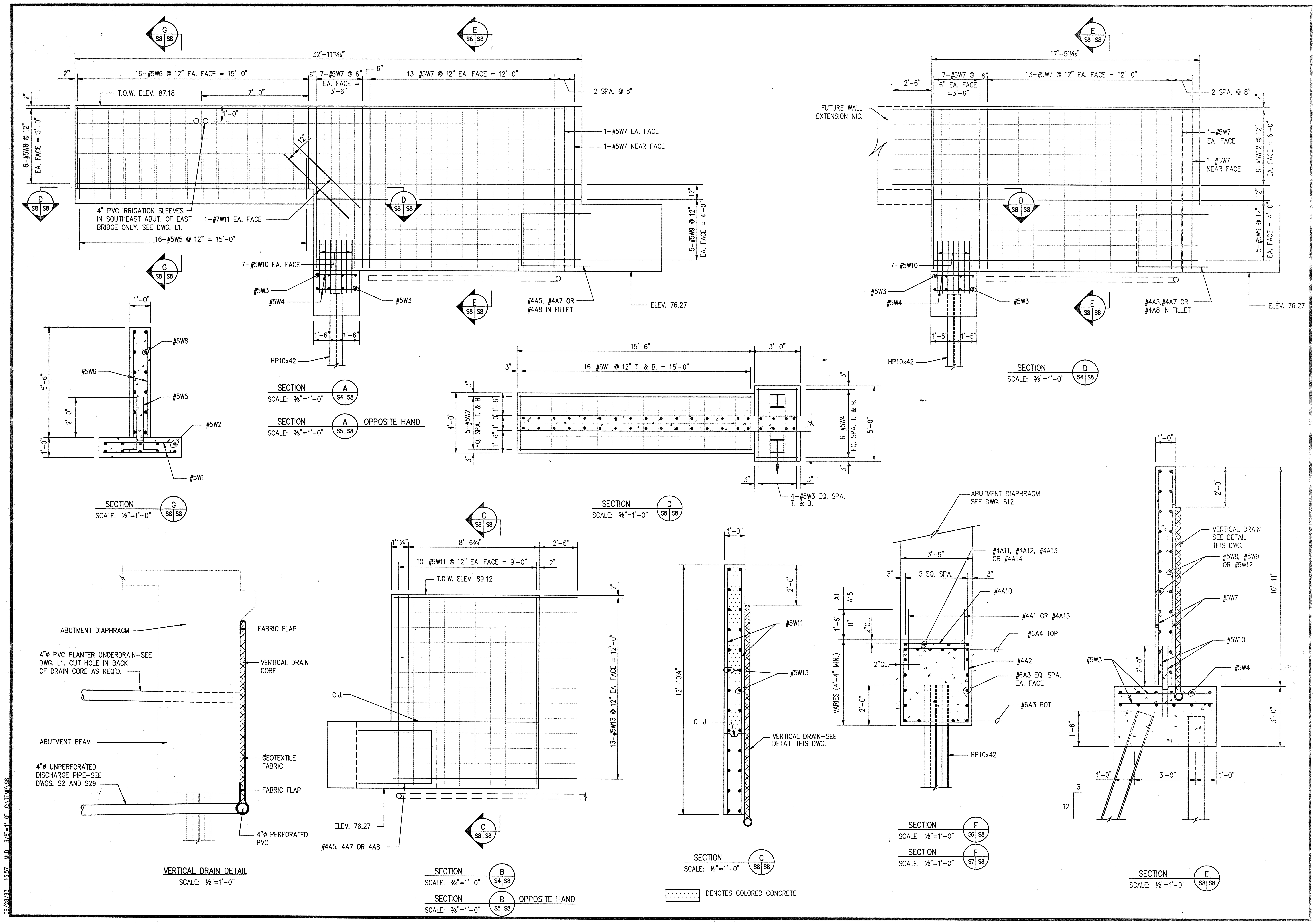
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
SOUTH ABUTMENT REINFORCEMENT

Dwg. No. S7

08/10/93 02:07 RRP 1/4"=1'-0" C:\9107\S7



32'-11 1/16"
16-#5W6 @ 12" EA. FACE = 15'-0"
7-#5W7 @ 6" EA. FACE = 3'-6"
13-#5W7 @ 12" EA. FACE = 12'-0"
2 SPA. @ 8"
T.O.W. ELEV. 87.18
6-#5W8 @ 12" EA. FACE = 5'-0"
1-#5W7 EA. FACE
1-#5W7 NEAR FACE
4" PVC IRRIGATION SLEEVES IN SOUTHEAST ABUT. OF EAST BRIDGE ONLY. SEE DWG. L1.
1-#7W11 EA. FACE
16-#5W5 @ 12" = 15'-0"
5-#5W9 @ 12" EA. FACE = 4'-0"
7-#5W10 EA. FACE
#5W3
#5W4
#4A5, #4A7 OR #4A8 IN FILLET
ELEV. 76.27
HP10x42
SECTION A SCALE: 3/8"=1'-0"
SECTION A OPPOSITE HAND SCALE: 3/8"=1'-0"
17'-5 1/16"
FUTURE WALL EXTENSION NIC.
7-#5W7 @ 6" EA. FACE =3'-6"
6-#5W12 @ 12" EA. FACE = 6'-0"
1-#5W7 NEAR FACE
7-#5W10
SECTION D SCALE: 3/8"=1'-0"
#5W8
#5W6
#5W5
#5W2
#5W1
SECTION G SCALE: 1/2"=1'-0"
16-#5W1 @ 12" T. & B. = 15'-0"
5-#5W2 EQ. SPA. T. & B
6-#5W4 EQ. SPA. T. & B.
4-#5W3 EQ. SPA. T. & B.
SECTION D SCALE: 3/8"=1'-0"
ABUTMENT DIAPHRAGM
FABRIC FLAP
4"ø PVC PLANTER UNDERDRAIN-SEE DWG. L1. CUT HOLE IN BACK OF DRAIN CORE AS REQ'D.
VERTICAL DRAIN CORE
ABUTMENT BEAM
GEOTEXTILE FABRIC
4"ø UNPERFORATED DISCHARGE PIPE-SEE DWGS. S2 AND S29
4"ø PERFORATED PVC
VERTICAL DRAIN DETAIL SCALE: 1/2"=1'-0"
8'-6 3/8"
10-#5W11 @ 12" EA. FACE = 9'-0"
T.O.W. ELEV. 89.12
13-#5W13 @ 12" EA. FACE = 12'-0"
C.J.
ELEV. 76.27
#4A5, 4A7 OR 4A8
SECTION B SCALE: 3/8"=1'-0"
SECTION B OPPOSITE HAND SCALE: 3/8"=1'-0"
#5W11
#5W13
VERTICAL DRAIN-SEE DETAIL THIS DWG.
SECTION C SCALE: 1/2"=1'-0"
DENOTES COLORED CONCRETE
ABUTMENT DIAPHRAGM SEE DWG. S12
#4A11, #4A12, #4A13 OR #4A14
5 EQ. SPA.
#4A10
#4A1 OR #4A15
#6A4 TOP
#4A2
#6A3 EQ. SPA. EA. FACE
#6A3 BOT
VARIES (4'-4" MIN.)
HP10x42
SECTION F SCALE: 1/2"=1'-0"
SECTION F SCALE: 1/2"=1'-0"
VERTICAL DRAIN SEE DETAIL THIS DWG.
#5W8, #5W9 OR #5W12
#5W7
#5W10
#5W3
#5W4
10'-11"
SECTION E SCALE: 1/2"=1'-0"
09/28/93 15:57 MJD 3/8"=1'-0" G:\TEMP\S8

No.	Revision	By	Date

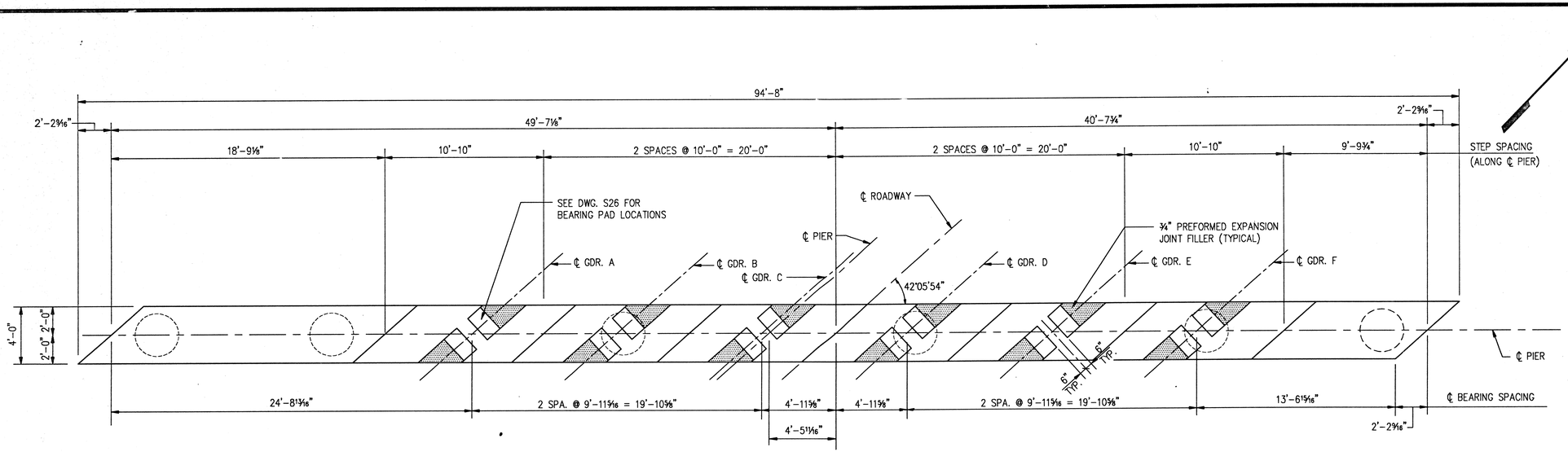
PROJECT ENGINEER
Date
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

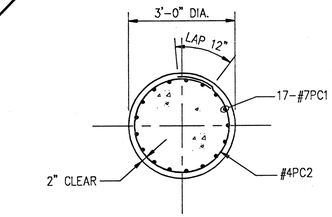
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
ABUTMENT DETAILS

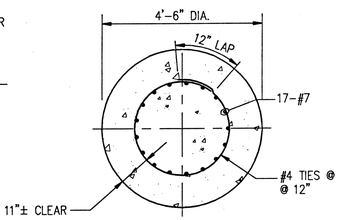
Dwg. No. S8



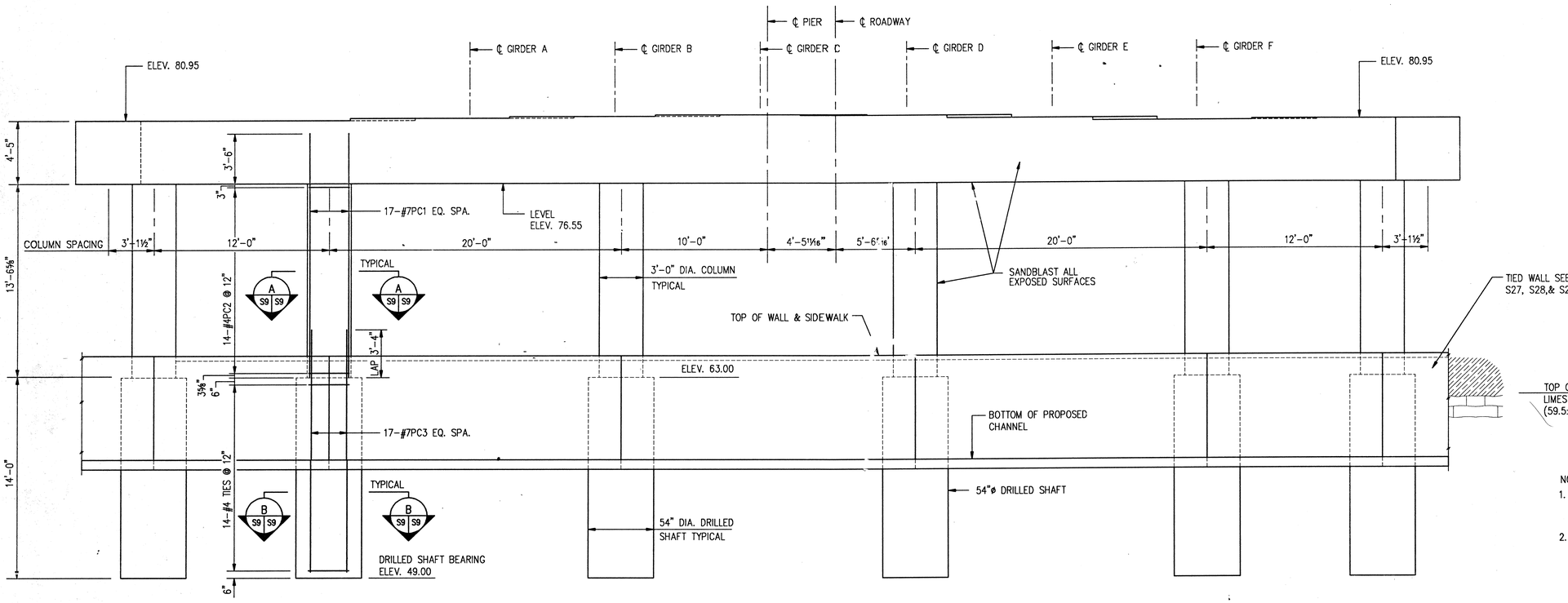
PLAN
(LOOKING ALONG STATIONING)
(WEST BRIDGE PIERS SHOWN
EAST BRIDGE PIERS OPPOSITE HAND)
SCALE: ¼"=1'-0"



SECTION A (S9 | S9)
SCALE: ½"=1'-0"



SECTION B (S9 | S9)
SCALE: ½"=1'-0"



ELEVATION
SCALE: ¼"=1'-0"

NOTES:
1. NORTH PIER SHOWN, SOUTH PIER SIMILAR EXCEPT PIER TOP ELEVATIONS. FOR ELEVATIONS SEE CONSTRUCTION LAYOUT DWG. S3.
2. ALL TEMPORARY CASINGS, CONCRETE, REINFORCEMENT AND EXCAVATION FOR THE DRILLED SHAFTS ARE INCLUDED IN THE UNIT PRICE BID PER FOOT FOR DRILLED SHAFTS. SEE SPECIFICATIONS.

No.	Revision	By	Date

PROJECT ENGINEER
Date 2-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

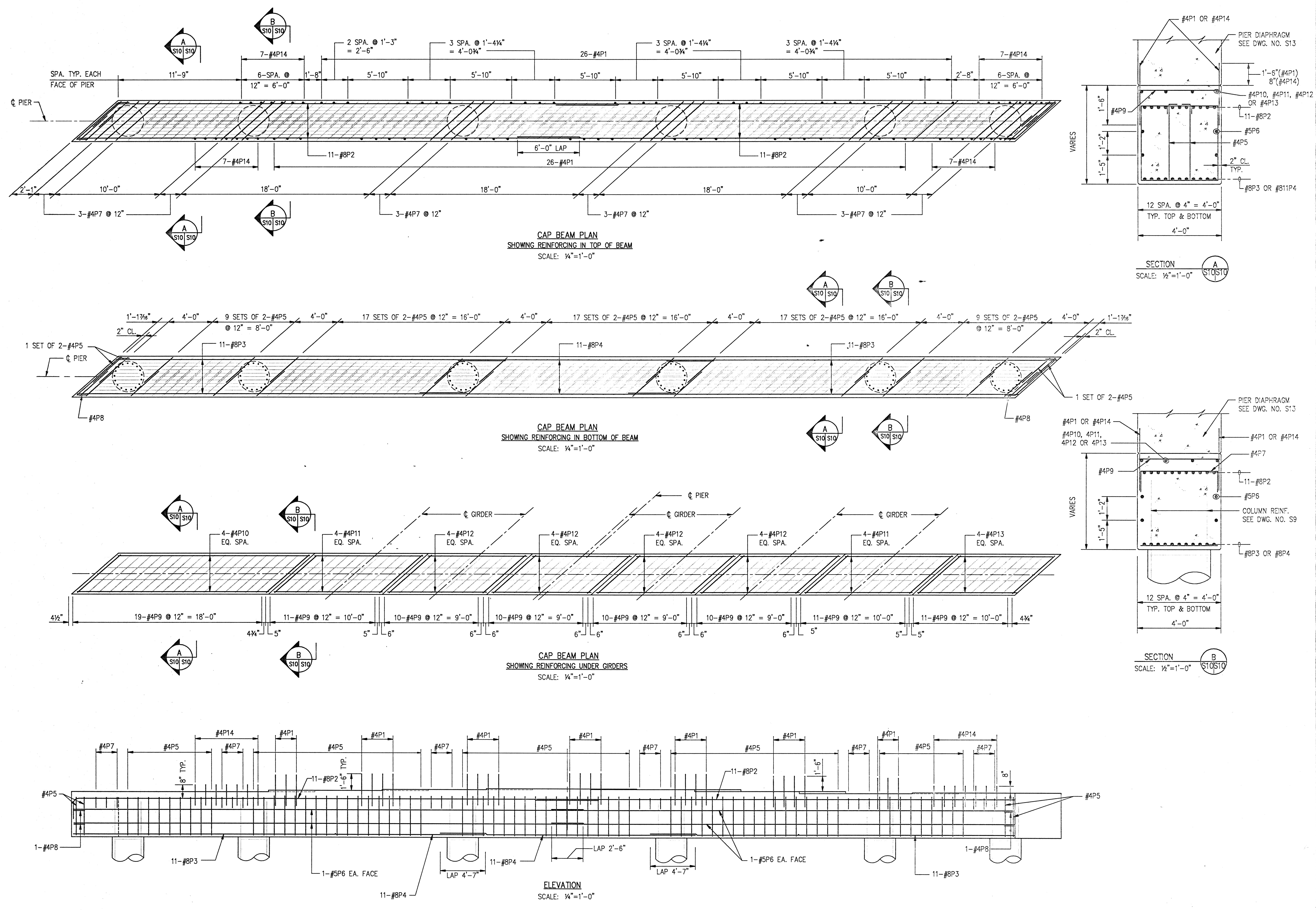
A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PIER PLAN AND ELEVATION

Dwg. No. S9

08/23/93 02:04 jwm 1/4"=1'-0" C:\9107\DSK3\S9



No.	Revision	By	Date

DAVID WARD SEELEY

PROJECT ENGINEER
Date 9-3-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

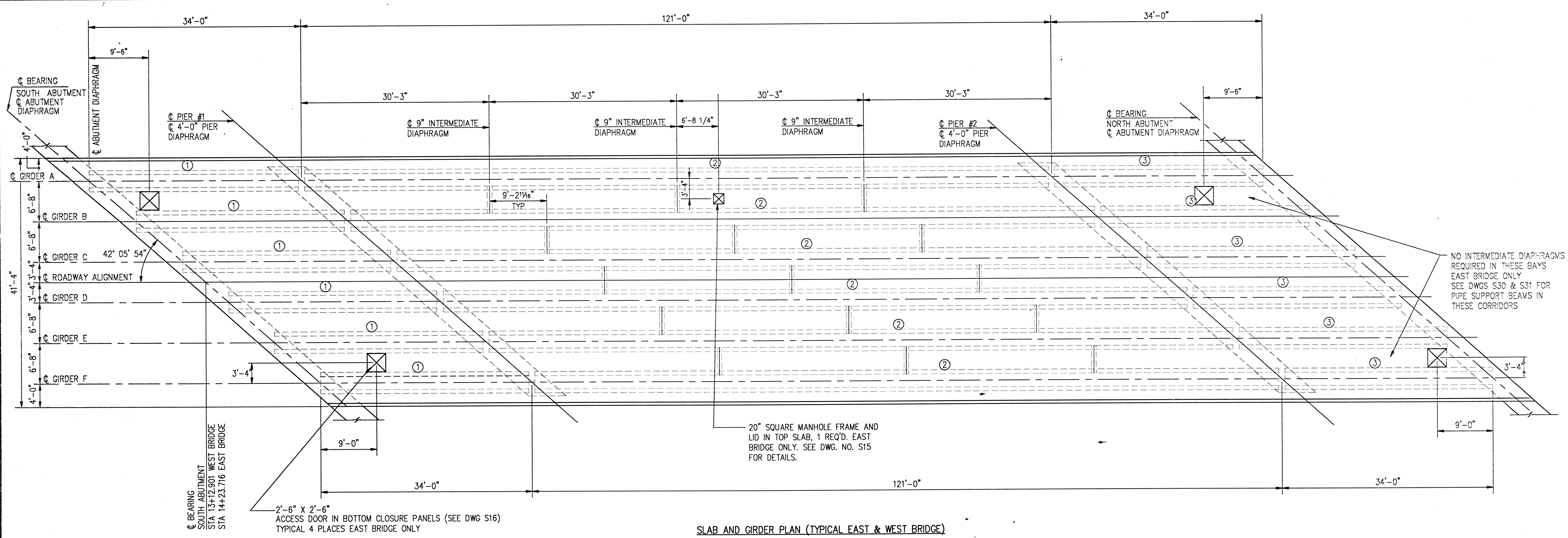
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

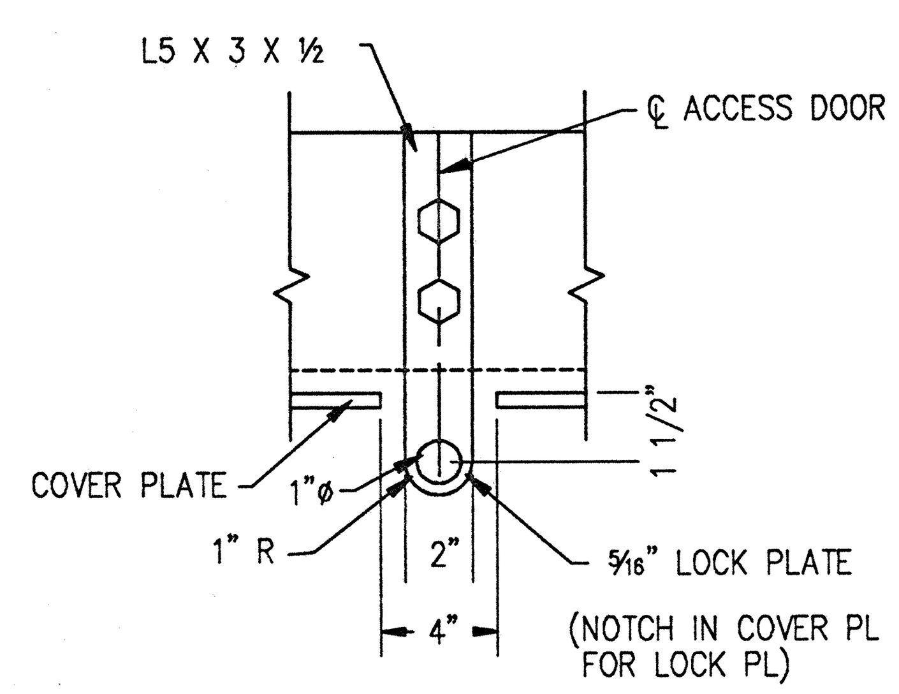
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PIER REINFORCEMENT

Dwg. No. S10

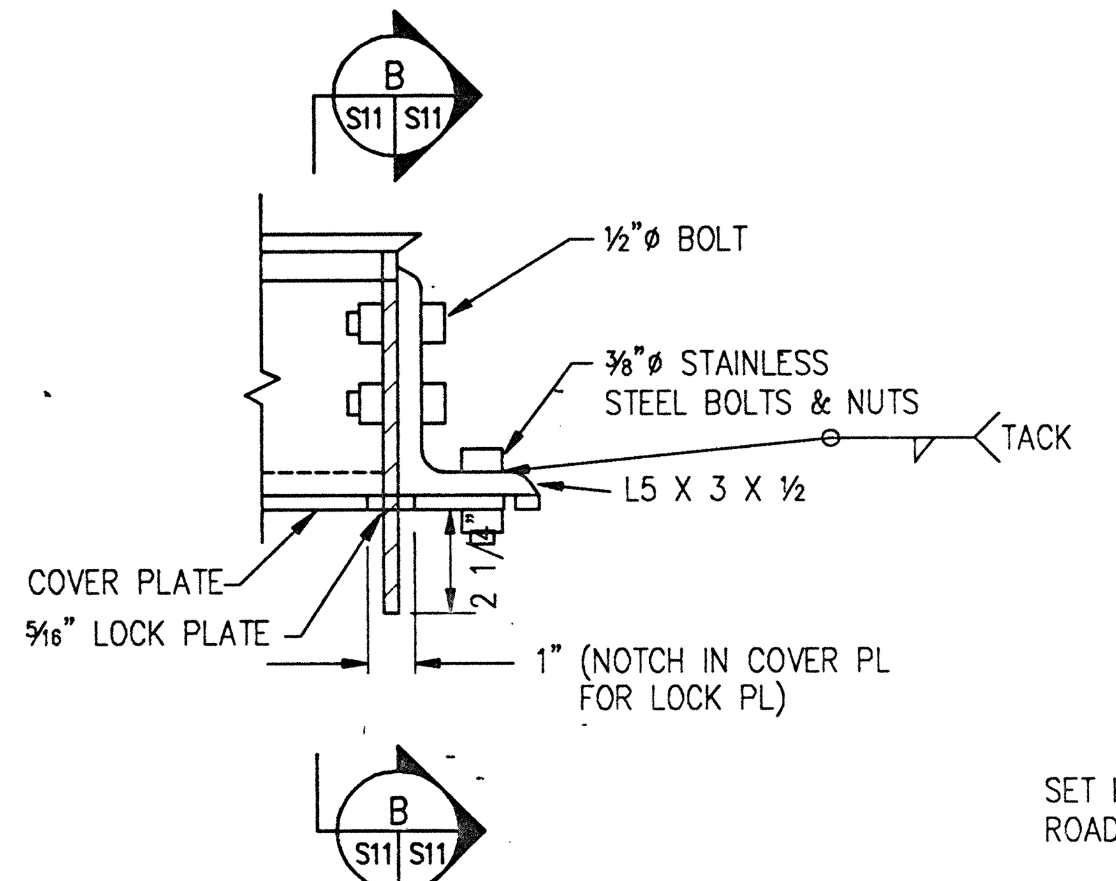
09/23/93 07:45 MLD 1/4"=1'-0" B:\S10



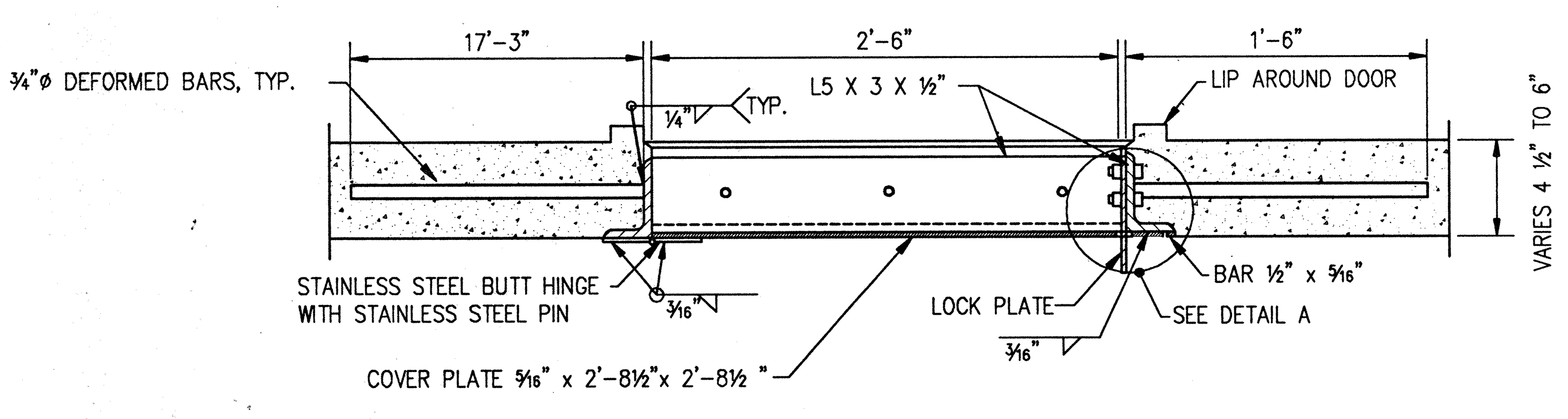
SLAB AND GIRDER PLAN (TYPICAL EAST & WEST BRIDGE)
SCALE: 1/8"=1'-0"



SECTION B (S11/S11)
(No Scale)

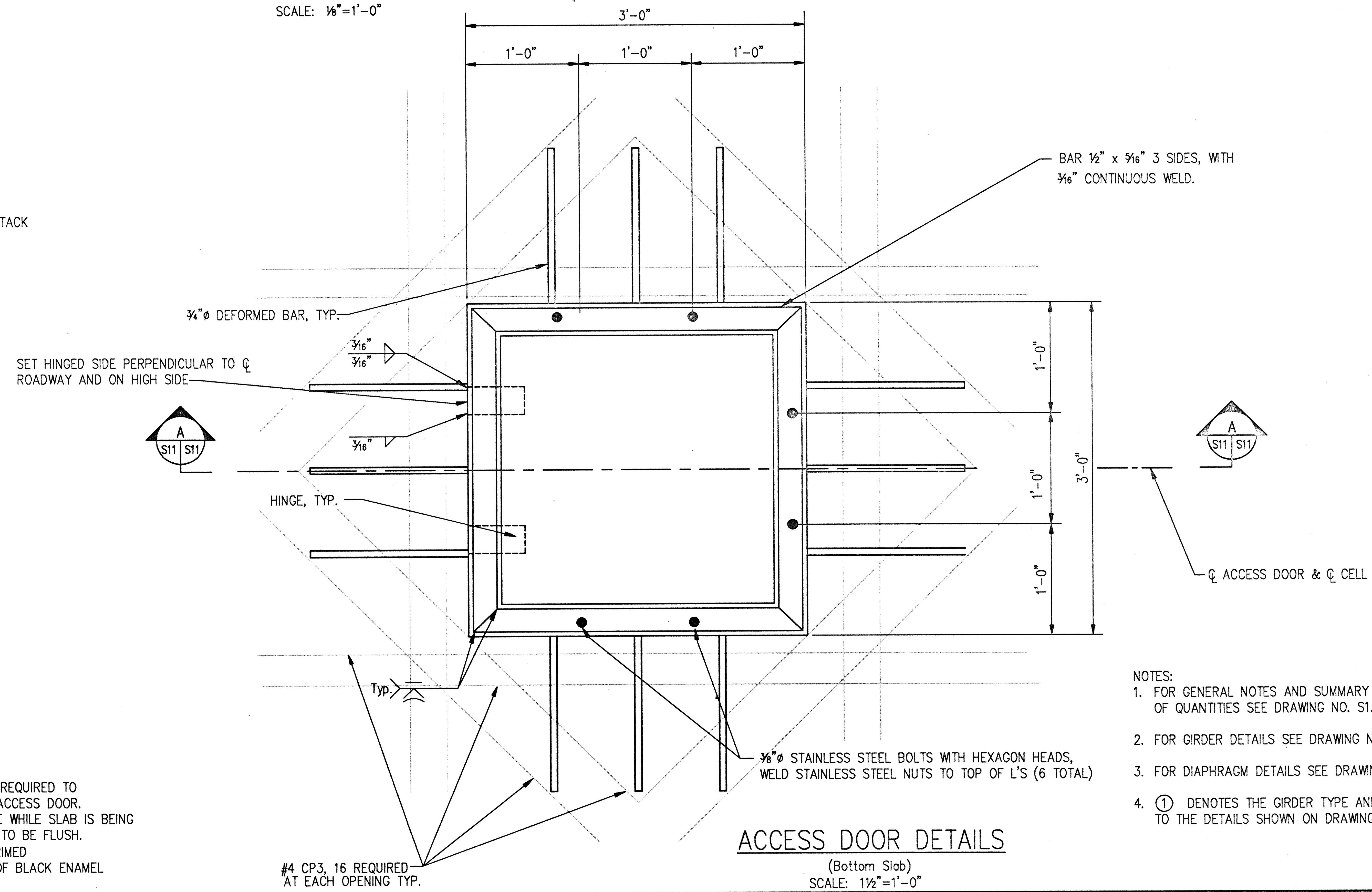


DETAIL A
(No Scale)



SECTION A (S11/S11)
(No Scale)

NOTES:
SLAB REINFORCING SHALL BE CUT AS REQUIRED TO PROVIDE 2" MIN. CLEAR TO EDGE OF ACCESS DOOR. UNIT TO BE ASSEMBLED AND IN PLACE WHILE SLAB IS BEING POURED. BOTTOM SURFACE OF SLAB TO BE FLUSH. ALL METAL SURFACES TO BE SHOP PRIMED AND FIELD COATED WITH TWO COATS OF BLACK ENAMEL



ACCESS DOOR DETAILS
(Bottom Slab)
SCALE: 1 1/2"=1'-0"

NOTES:
1. FOR GENERAL NOTES AND SUMMARY OF QUANTITIES SEE DRAWING NO. S1.
2. FOR GIRDER DETAILS SEE DRAWING NO. S23 THRU S26.
3. FOR DIAPHRAGM DETAILS SEE DRAWING NO. S12, S13, S14
4. (1) DENOTES THE GIRDER TYPE AND REFERS TO THE DETAILS SHOWN ON DRAWING NO. S23 THRU S26.

09/27/93 08:45 MLD 1/8"=1' B:\S11

No.	Revision	By	Date

STATE OF MISSOURI — DAVID WARD SEELEY — REGISTERED PROFESSIONAL ENGINEER

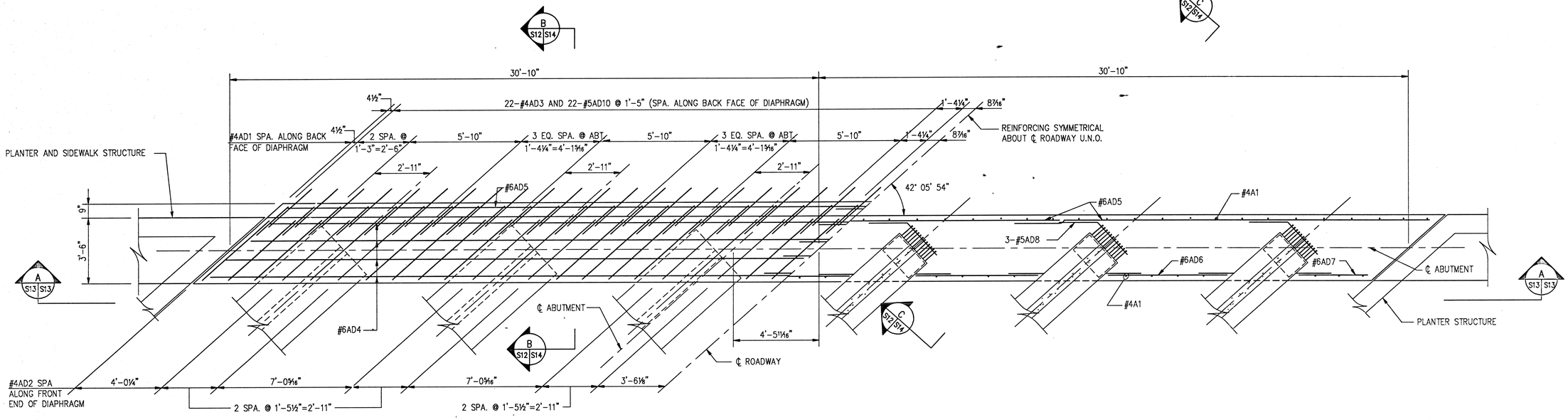
PROJECT ENGINEER
Date 9-30-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
SLAB AND GIRDER PLAN

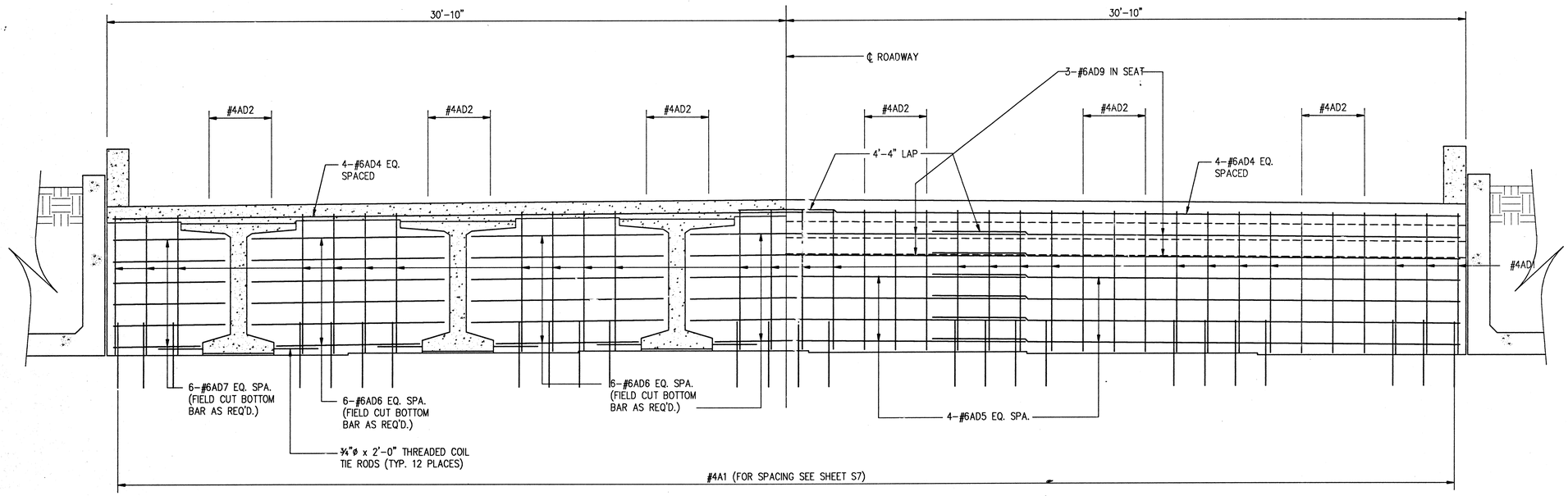
Dwg. No. S11



REINFORCEMENT IN TOP OF DIAPHRAGM

REINFORCEMENT IN BOTTOM OF DIAPHRAGM

PLAN
(NORTH ABUTMENT OF WEST BRIDGE SHOWN
OTHER ABUTMENTS SIMILAR)
SCALE: ⅜"=1'-0"



REINFORCEMENT IN FRONT FACE OF DIAPHRAGM

REINFORCEMENT IN BACK FACE OF DIAPHRAGM

SECTION A S13 S13
SCALE: ⅜"=1'-0"

09/30/93 15:34 JLS 3/8"=1'-0" C:\TEMP\S12

No.	Revision	By	Date

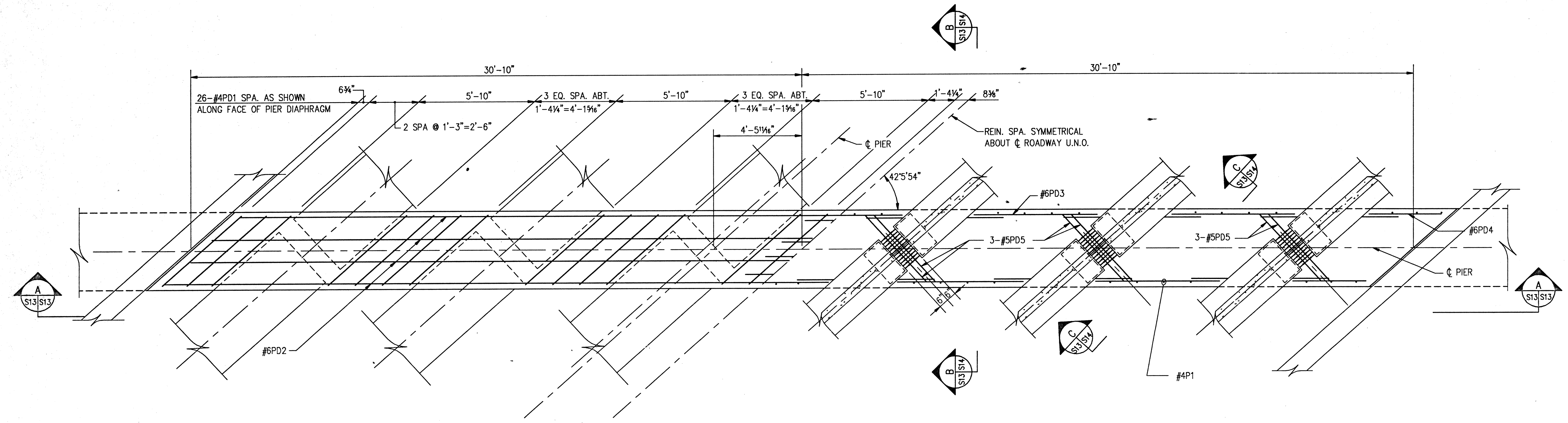
PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
ABUTMENT DIAPHRAGM

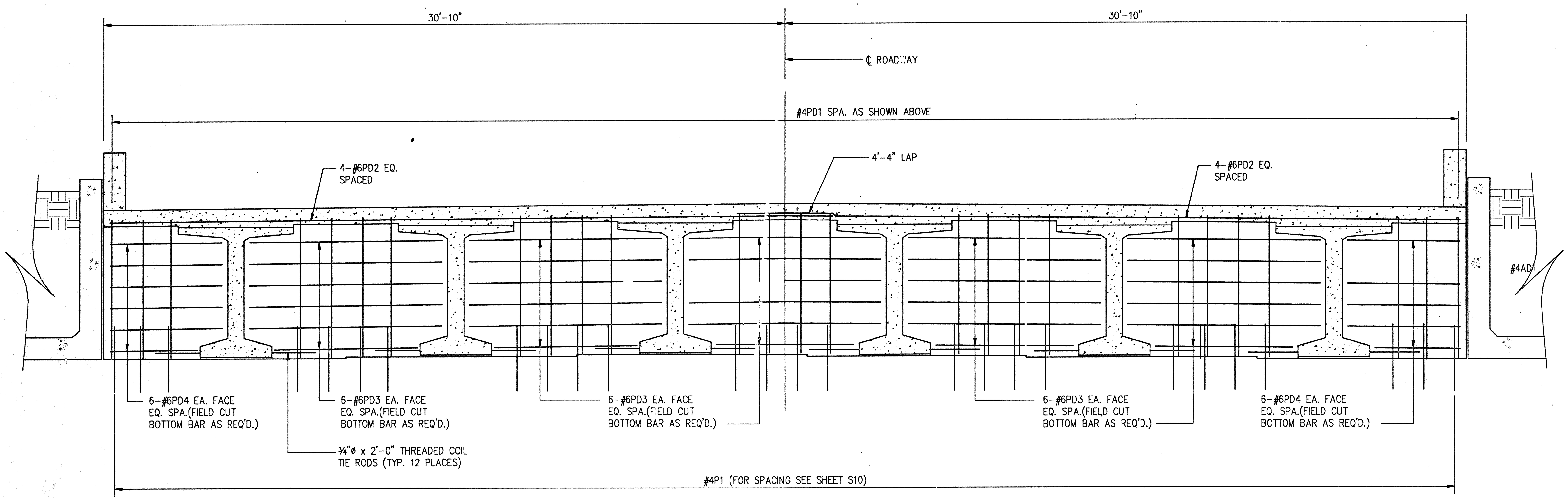
Dwg. No. S12



REINFORCEMENT IN TOP OF DIAPHRAGM

PLAN AT PIER
(LOOKING ALONG STATIONING)
SCALE: ⅜"=1'-0"

REINFORCEMENT IN BOTTOM OF DIAPHRAGM



REINFORCEMENT IN FRONT FACE OF DIAPHRAGM

REINFORCEMENT IN BACK FACE OF DIAPHRAGM

SECTION A S13 S13
SCALE: ⅜"=1'-0"

03/30/93 15:41 JWM 3/8"=1'-0" C:\PASEO\S13

No.	Revision	By	Date

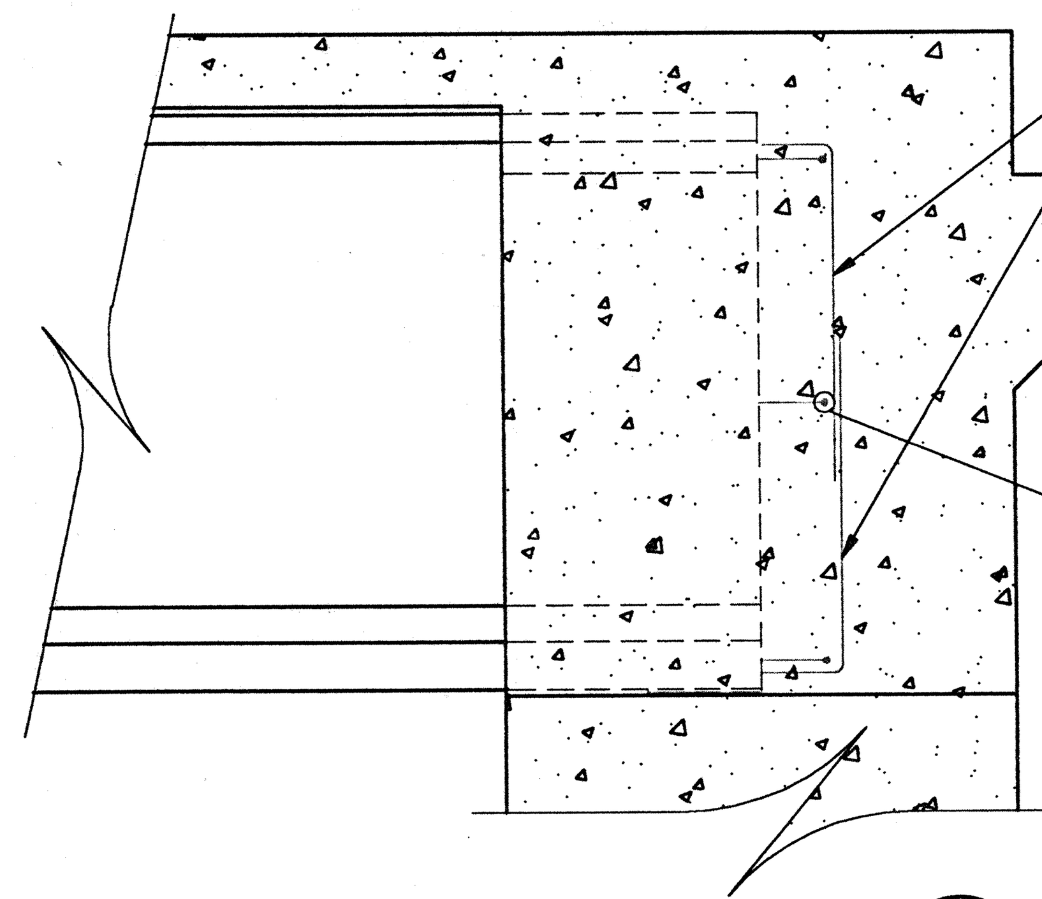
PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

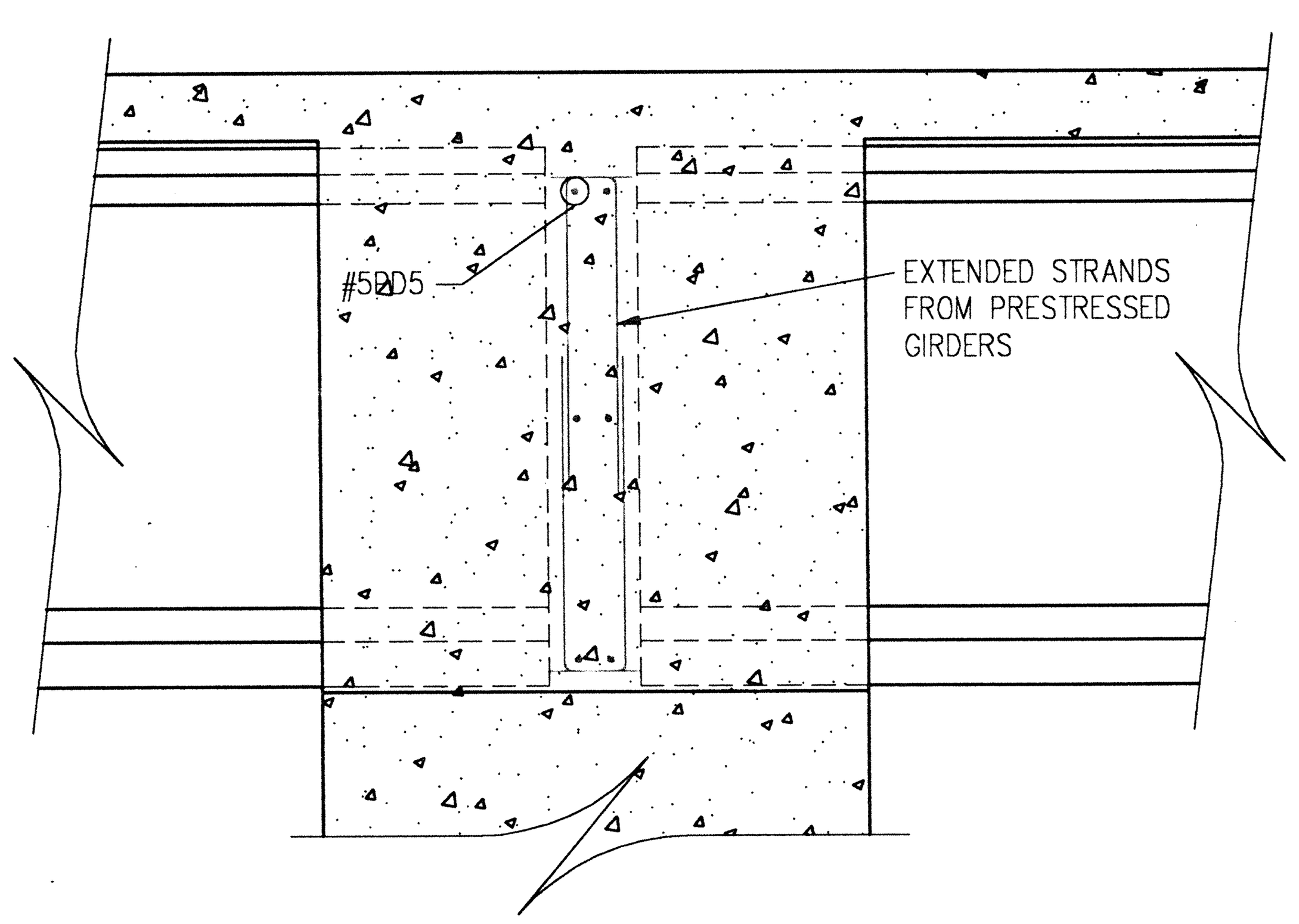
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PIER DIAPHRAGM

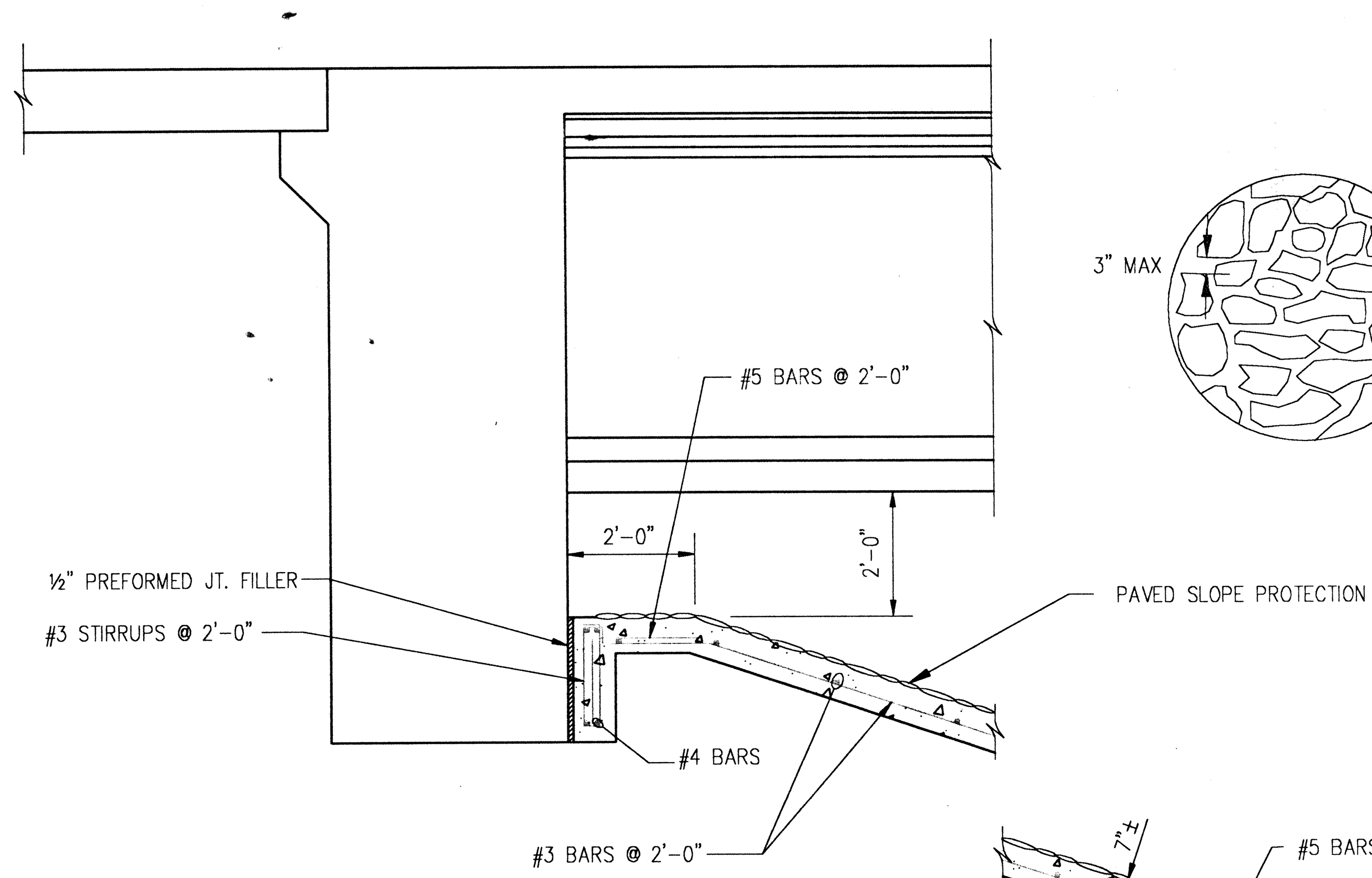
Dwg. No. S13



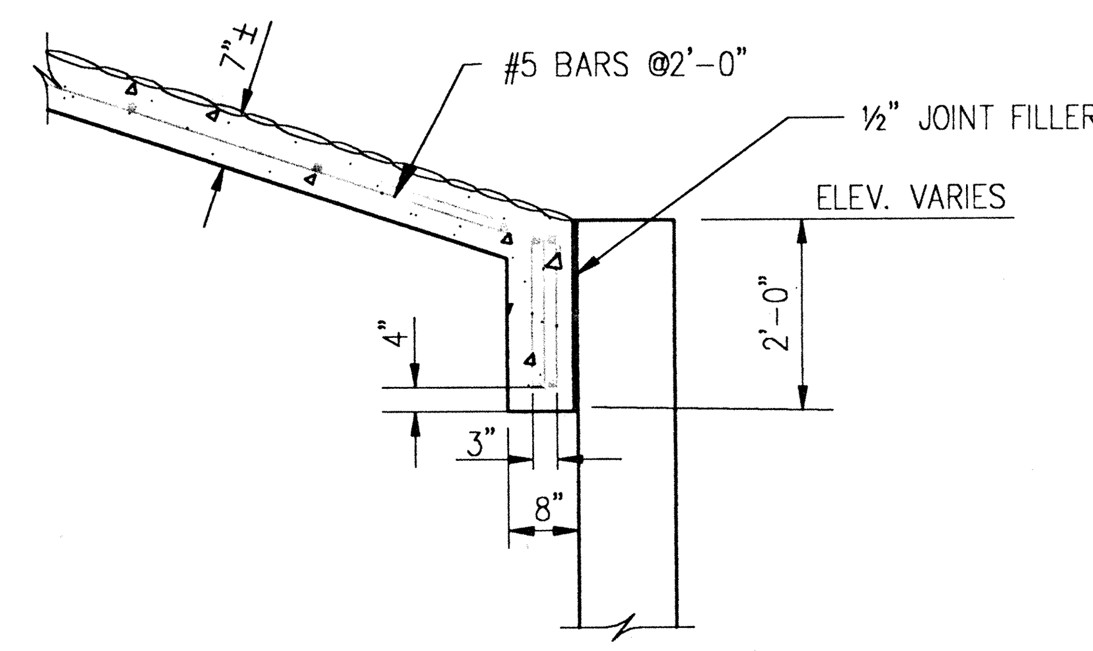
SECTION C (S12 S14)
SCALE: ½"=1'-0"

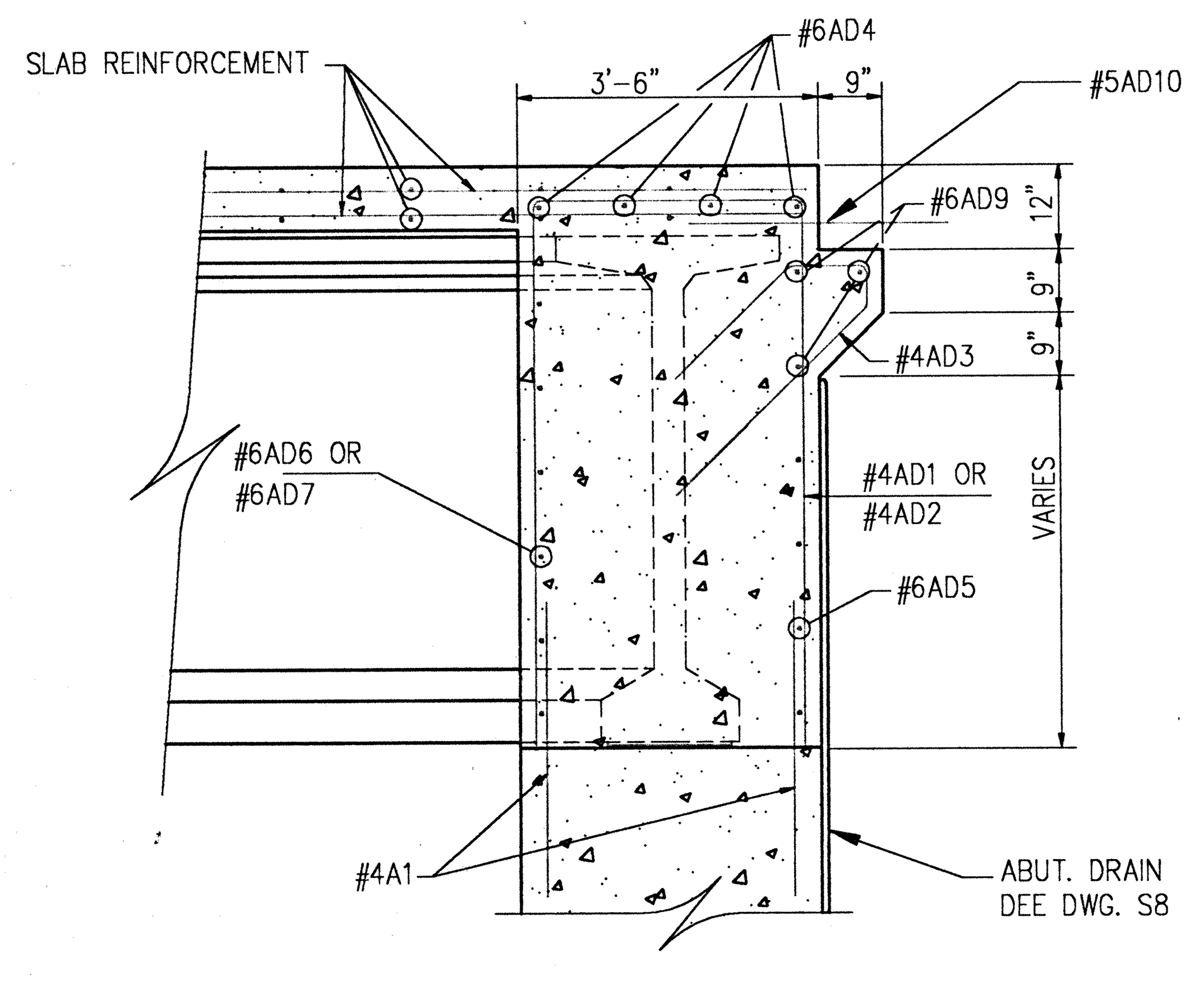


SECTION C (S13 S14)
SCALE: ½"=1'-0"

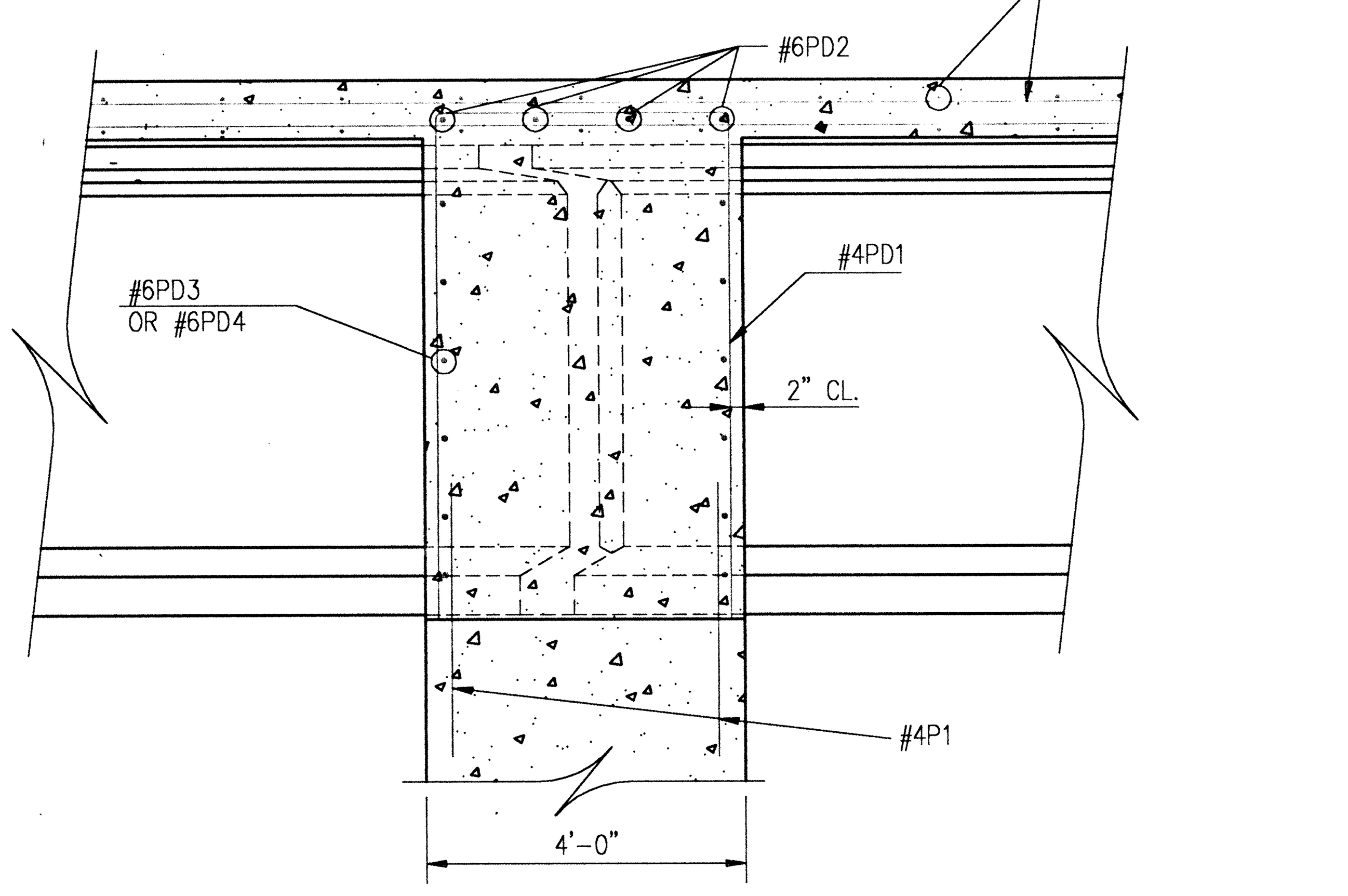


SECTION A (S2 S14)
SCALE: ½"=1'-0"

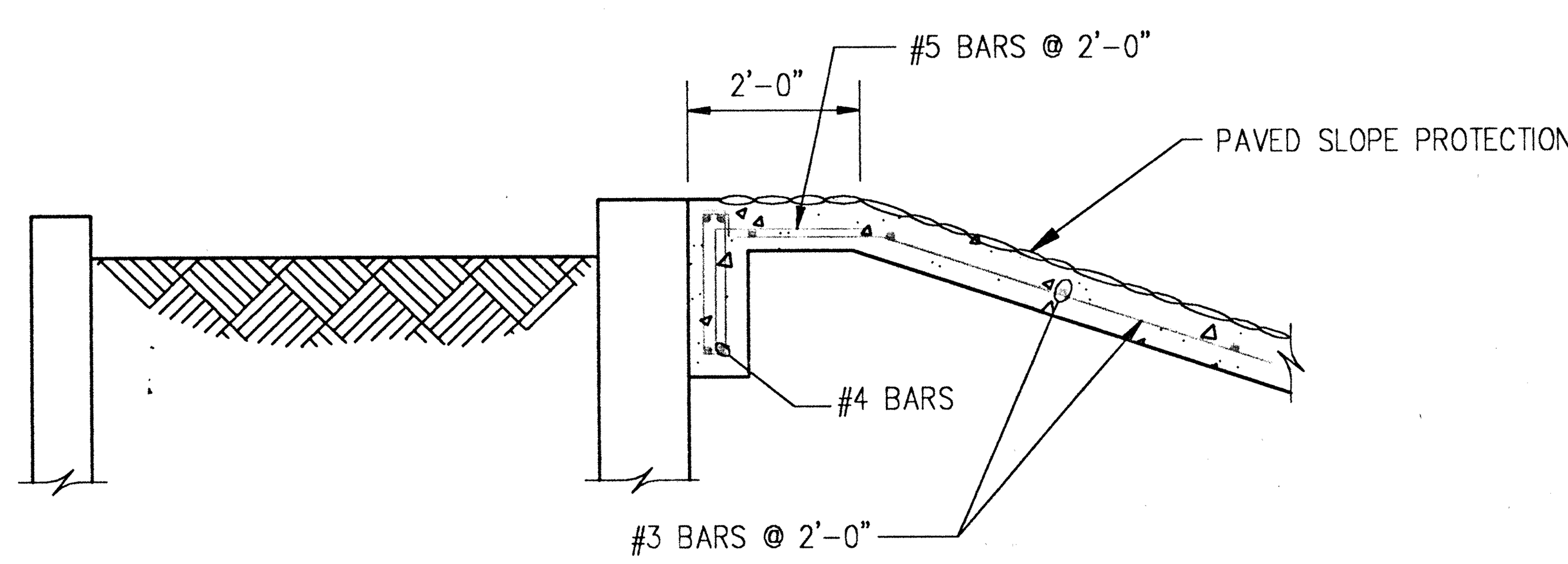




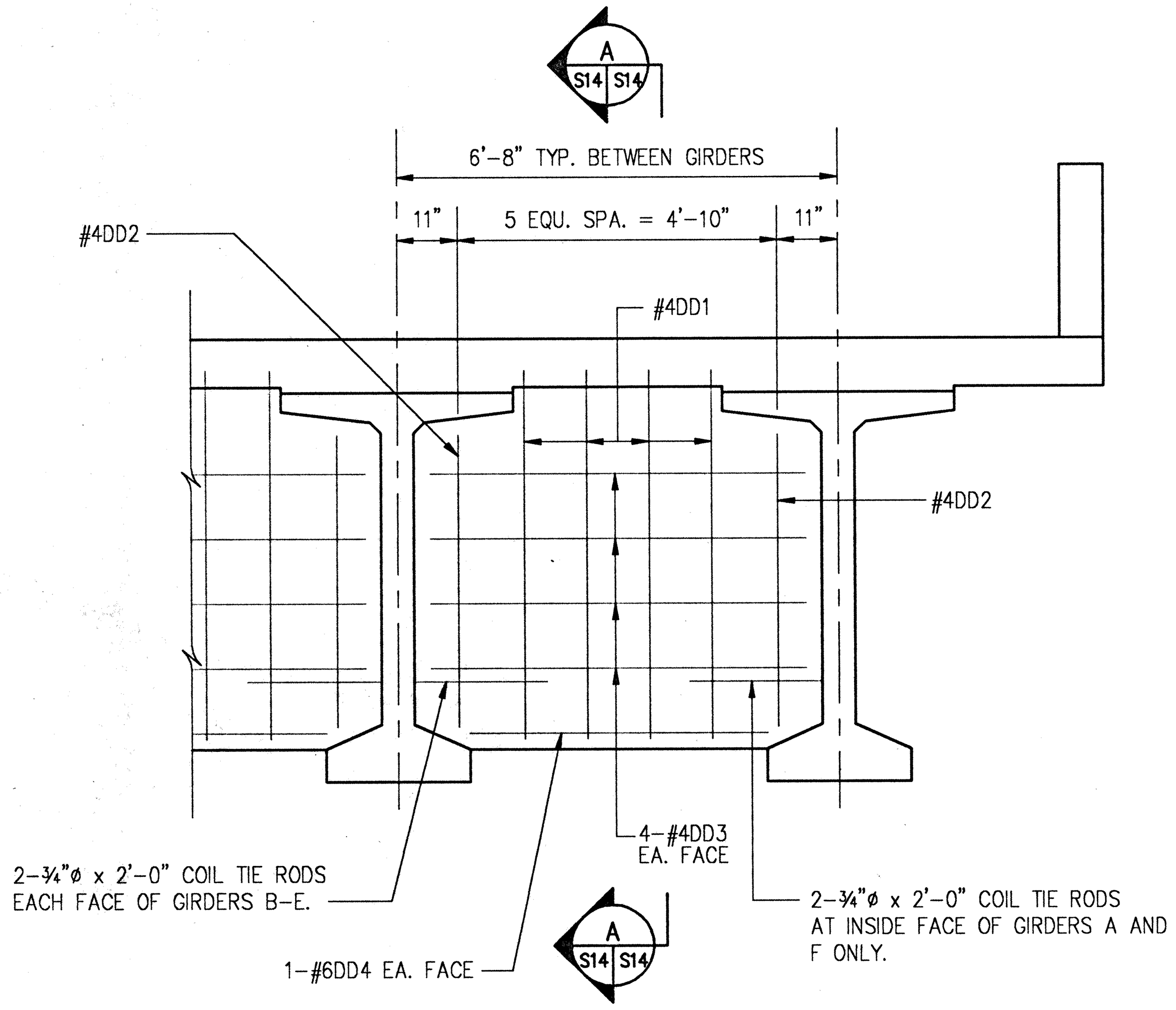
SECTION B (S12 S14)
SCALE: ½"=1'-0"



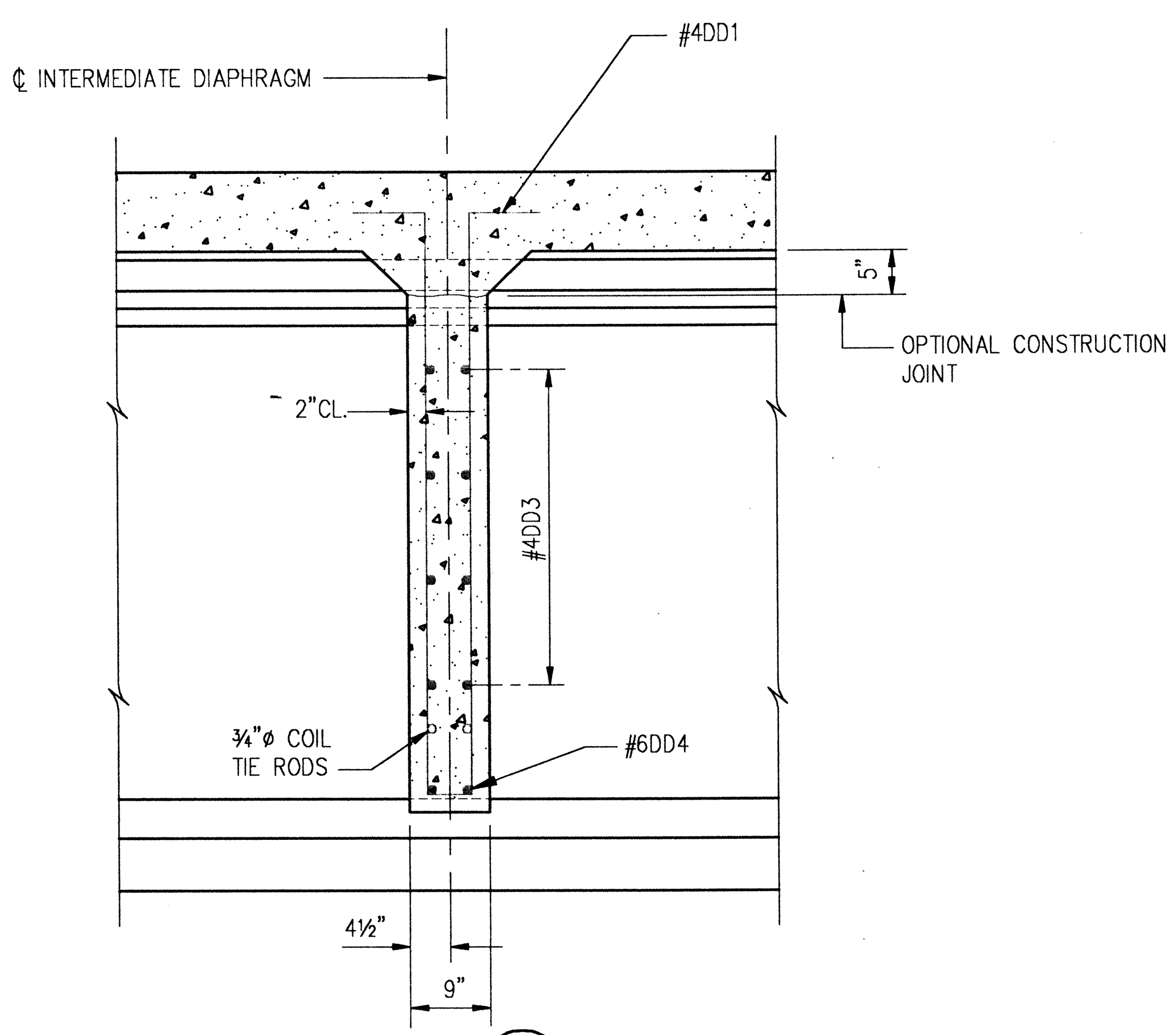
SECTION B (S13 S14)
SCALE: ½"=1'-0"



SECTION B (S2 S14)
SCALE: ½"=1'-0"



PART ELEVATION AT INTERMEDIATE DIAPHRAGM
SCALE: ½"=1'-0"



SECTION A (S14 S14)
SCALE: ¾"=1'-0"

SLOPE PAVING NOTES

HAND PLACE GROUTED FLAGSTONE WITH 2" MIN AND 4" MAX THICKNESS. ALL FACES SHALL BE BROKEN, NO POLISHED OR SAWN STONE. SANDBLAST TO CLEAN STONE AFTER PLACING FLAGSTONE.

IN LIEU OF THE #3 BAR BASE REINFORCMENT, AN APPROVED WIRE MESH ALTERNATE MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.

FLAGSTONE CONCRETE AND REINFORCING ARE INCLUDED IN PAYMENT FOR PAVED SLOPE PROTECTION.

09/08/93 09:30 JLS 1/2"=1'-0" C:\9107\KCMO\S14

No.	Revision	By	Date

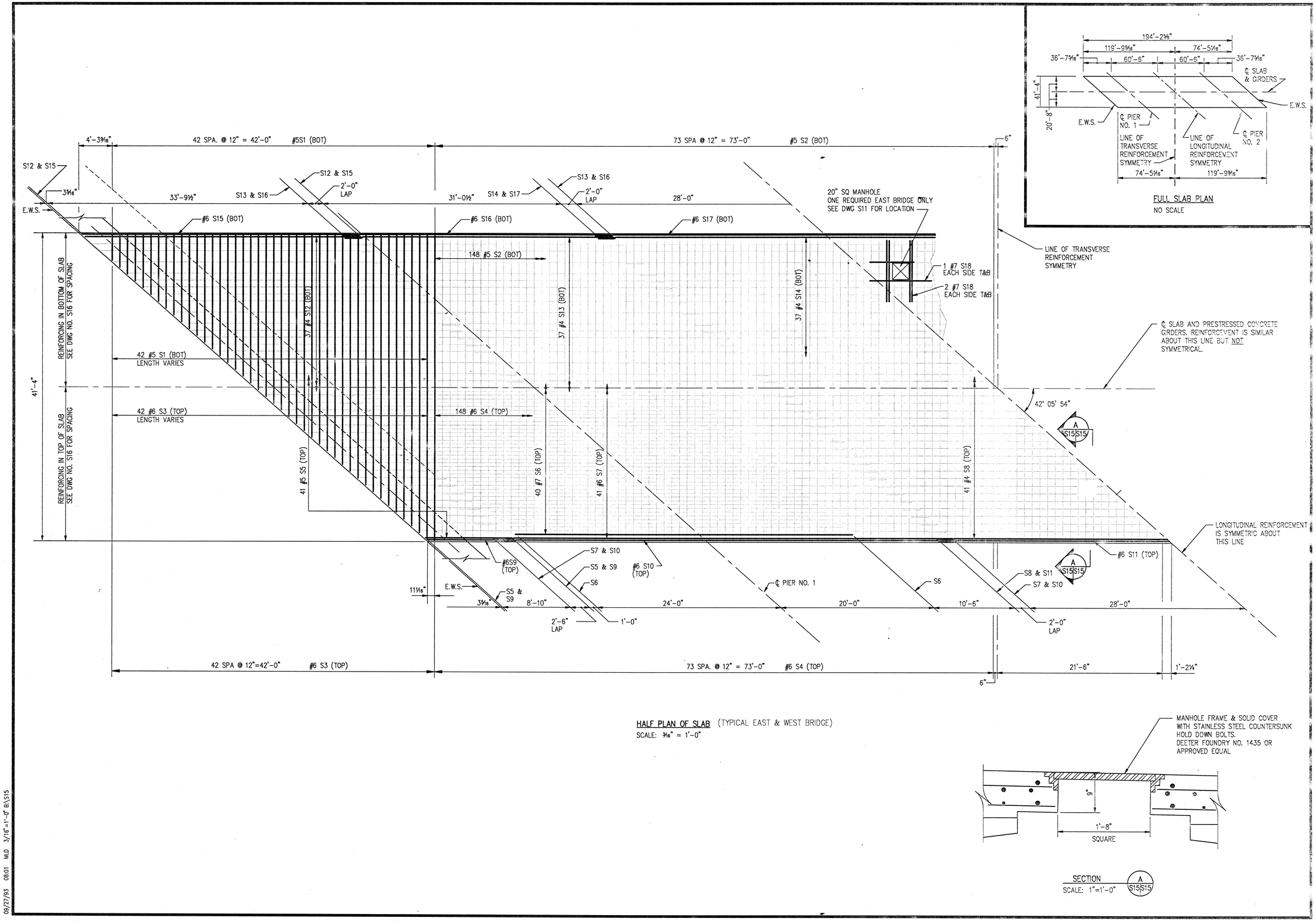
PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
DIAPHRAGM DETAILS

Dwg. No. S14



HALF PLAN OF SLAB (TYPICAL EAST & WEST BRIDGE)
SCALE: ⅜" = 1'-0"

FULL SLAB PLAN
NO SCALE

SECTION A S15S15
SCALE: 1"=1'-0"

No.	Revision	By	Date

DAVID WARD SEELEY NUMBER REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

PROJECT ENGINEER
Date 12-3-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

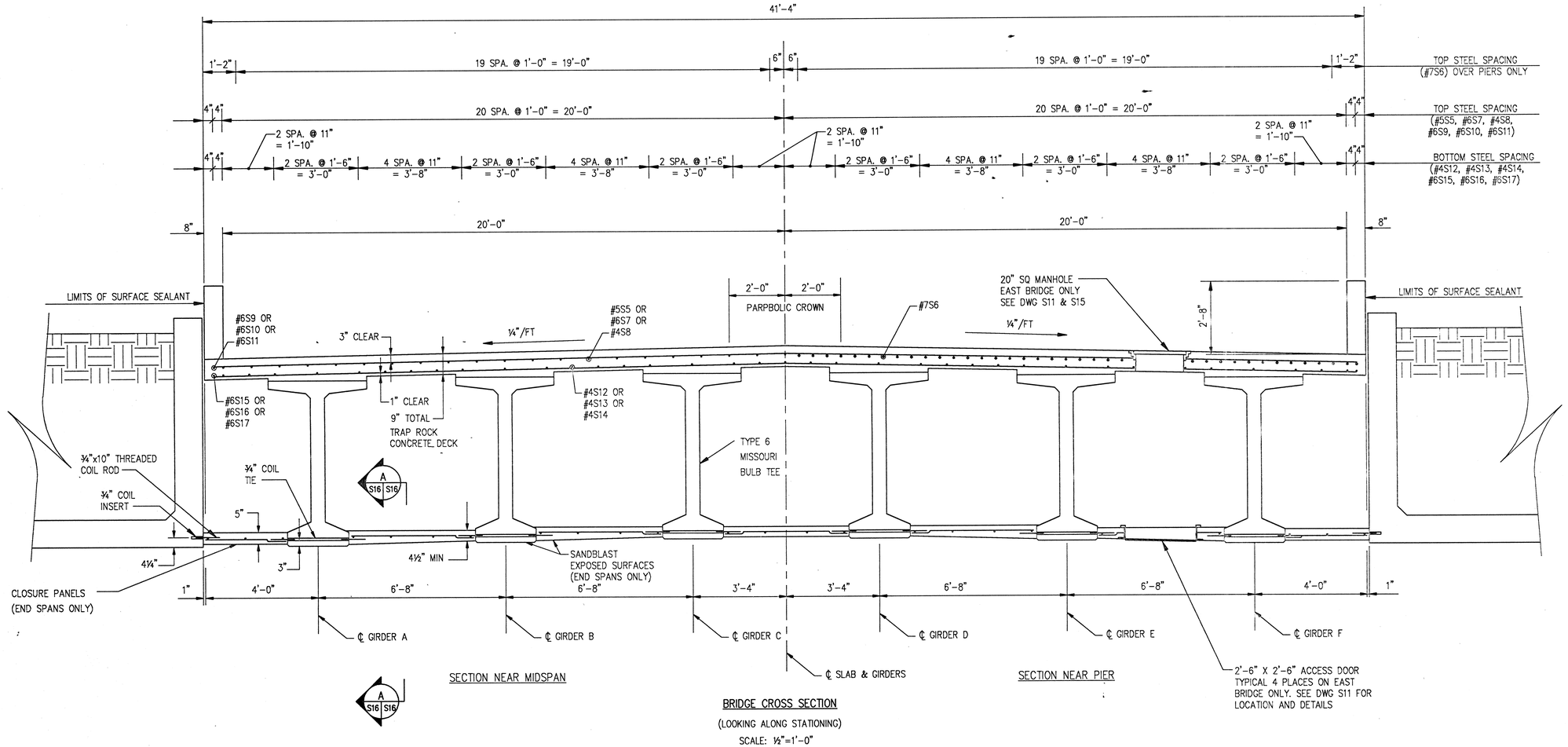
A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
SLAB REINFORCEMENT

Dwg. No. S15

09/27/93 08:01 WLD 3/16"=1'-0" B:\S15



SECTION NEAR MIDSPAN

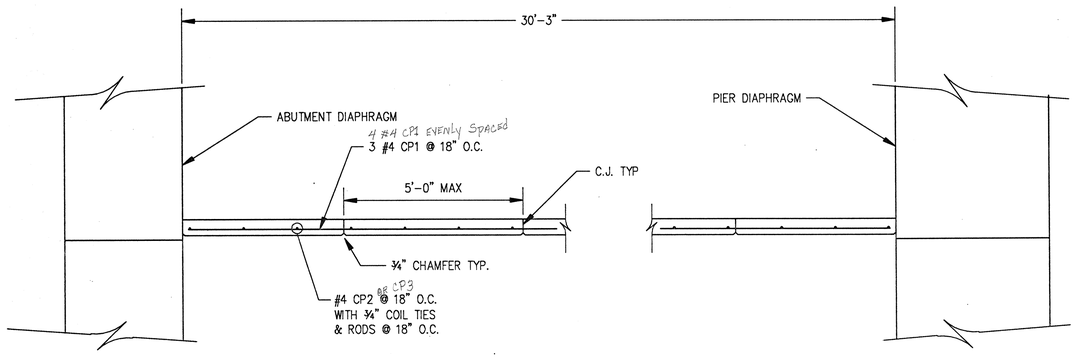
A S16 S16

SECTION NEAR PIER

BRIDGE CROSS SECTION

(LOOKING ALONG STATIONING)

SCALE: ½"=1'-0"



SECTION

SCALE: ½"=1'-0"

A S16 S16

09/27/93 08:04 MLD 1/2"=1'-0" B:\S16

No.	Revision	By	Date

DAVID WARD SEELEY NUMBER E-23031 STATE OF MISSOURI REGISTERED ENGINEER

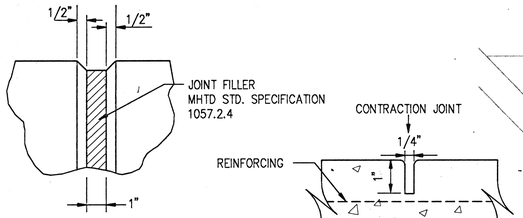
Project Engineer
Date 9-27-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KINGWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

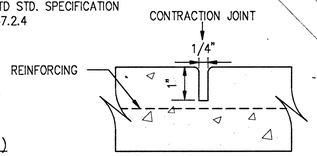
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BRIDGE CROSS SECTION

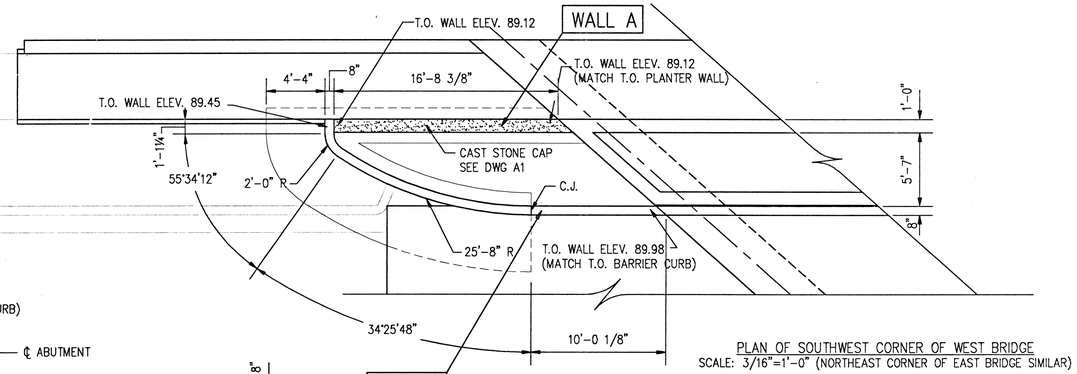
Dwg. No. S16



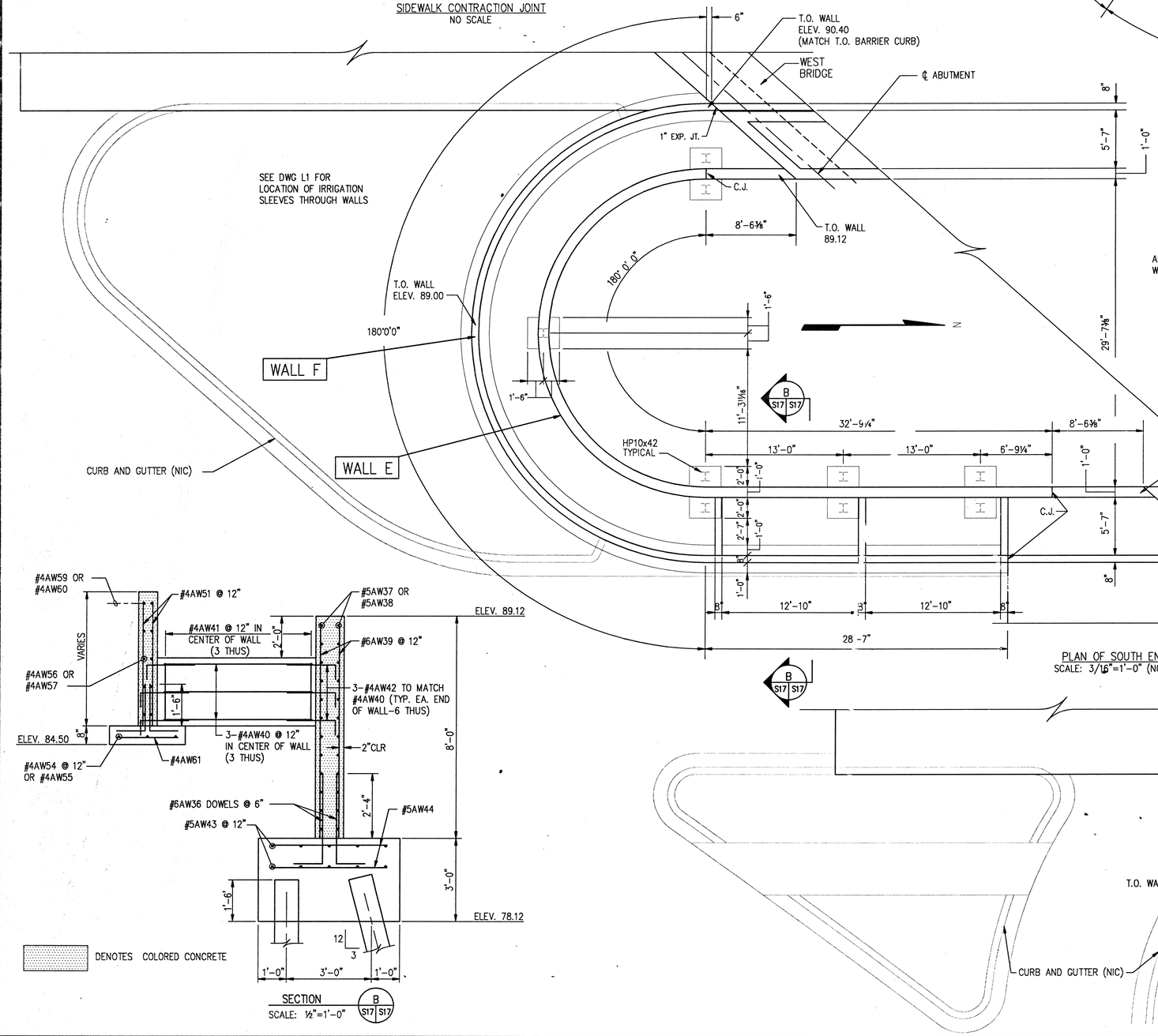
WALL EXPANSION JOINT DETAIL (E.J.)
NO SCALE

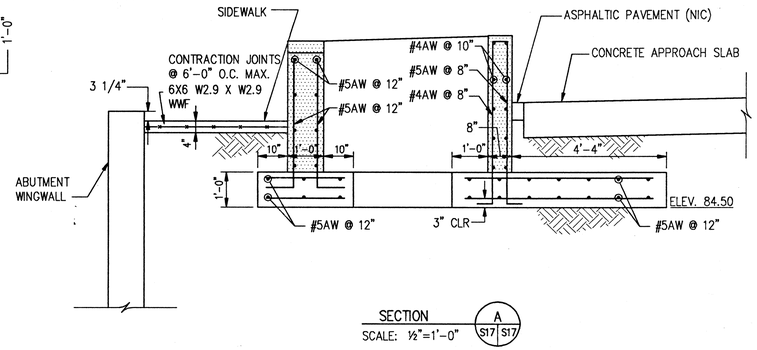


SIDEWALK CONTRACTION JOINT
NO SCALE

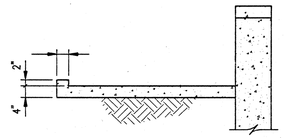


PLAN OF SOUTHWEST CORNER OF WEST BRIDGE
SCALE: 3/16"=1'-0" (NORTHEAST CORNER OF EAST BRIDGE SIMILAR)





SECTION A
SCALE: ½"=1'-0"

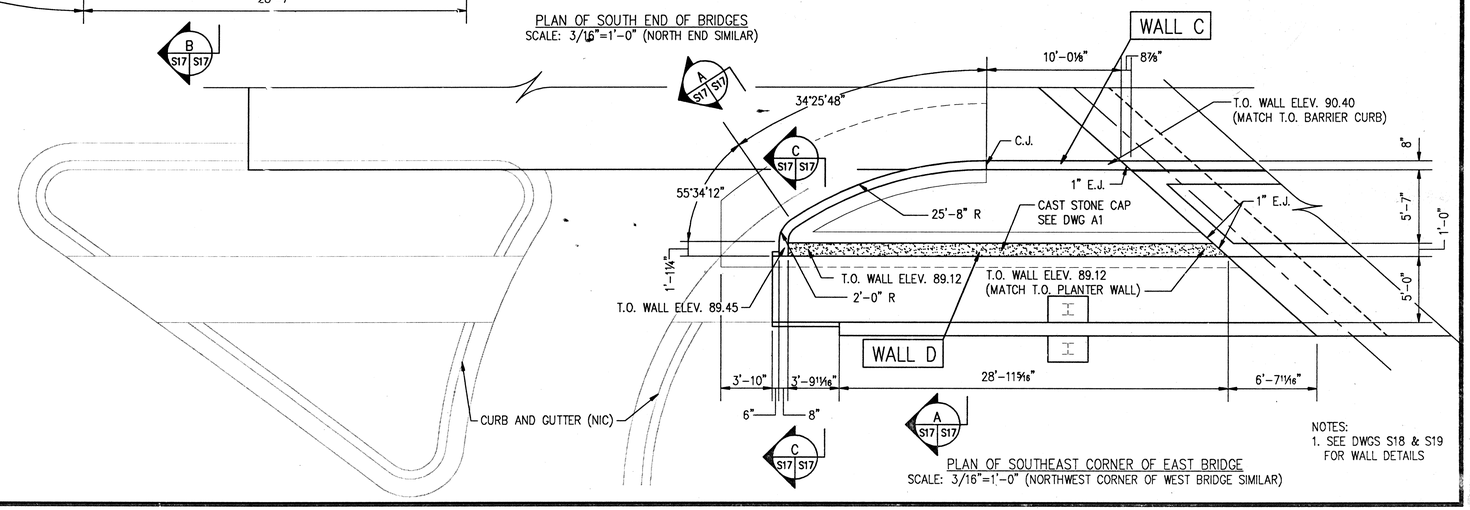


SECTION C
SCALE: ½"=1'-0"

DENOTES COLORED CONCRETE

SECTION B
SCALE: ½"=1'-0"

PLAN OF SOUTH END OF BRIDGES
SCALE: 3/16"=1'-0" (NORTH END SIMILAR)



PLAN OF SOUTHEAST CORNER OF EAST BRIDGE
SCALE: 3/16"=1'-0" (NORTHWEST CORNER OF WEST BRIDGE SIMILAR)

NOTES:
1. SEE DWGS S18 & S19 FOR WALL DETAILS

08/30/93 10:05 JLS 3/16"=1'-0" C:\9107\KCMO\S17

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

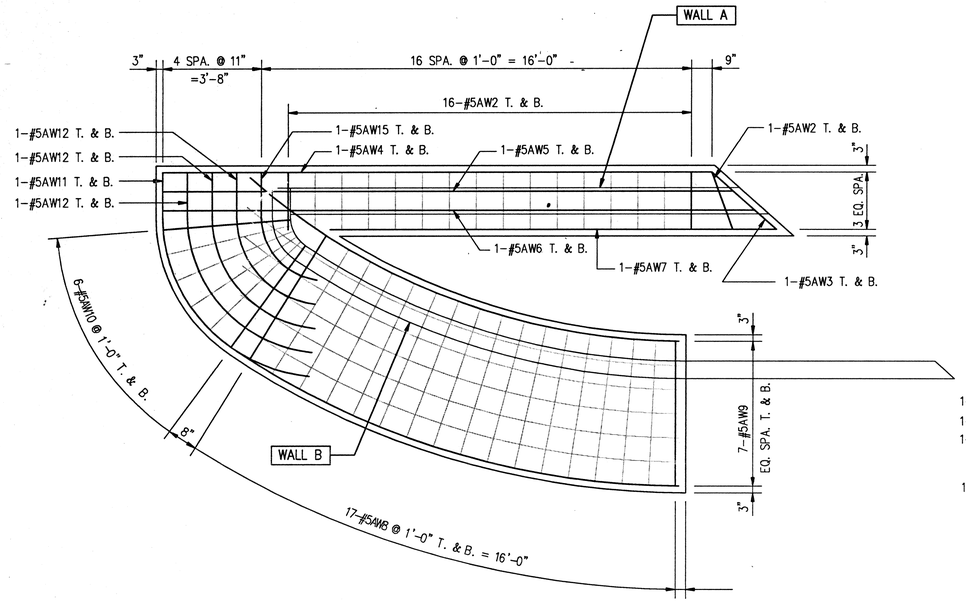
A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

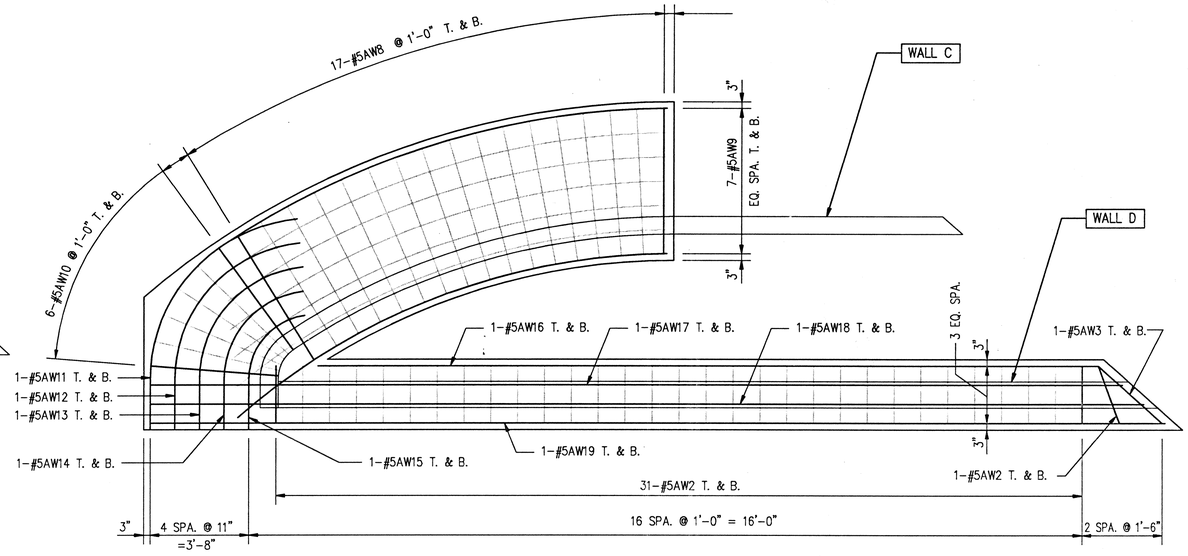
APPROACH WALLS

Designed By	BSB
Drawn By	LJF
Checked By	BSB
Scale	1"=100'
Job No.	9107
Contract No.	

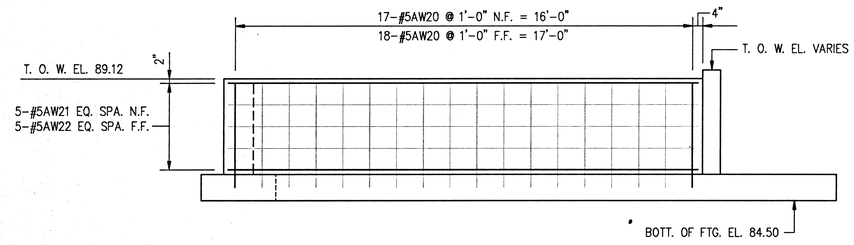
Dwg. No. S17



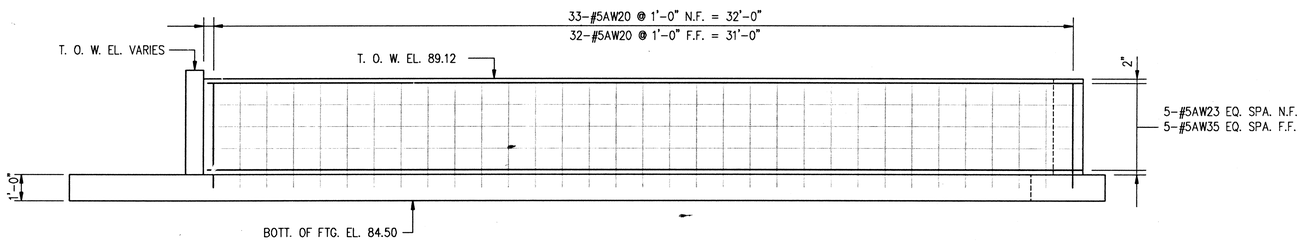
FOOTING PLAN WALLS A AND B
SCALE: ⅜"=1'-0"



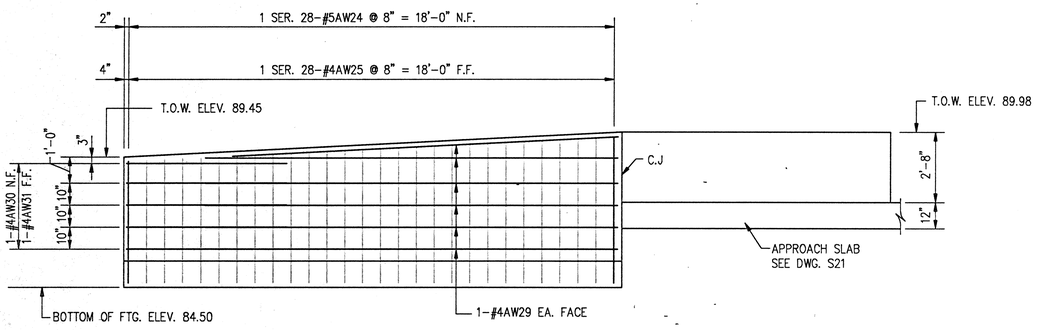
FOOTING PLAN WALLS C AND D
SCALE: ⅜"=1'-0"



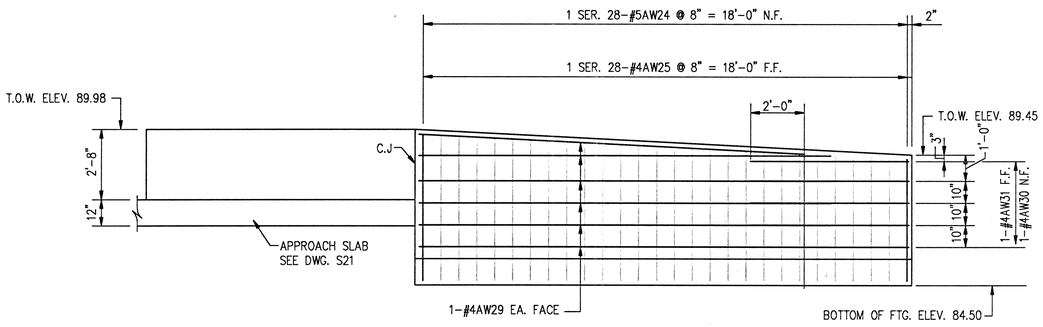
ELEVATION WALL A
SCALE: ⅜"=1'-0"



ELEVATION WALL D
SCALE: ⅜"=1'-0"



ELEVATION WALL B
SCALE: ⅜"=1'-0"



ELEVATION WALL C
⅜"=1'-0" SCALE:

No.	Revision	By	Date

PROJECT ENGINEER
Date 7-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

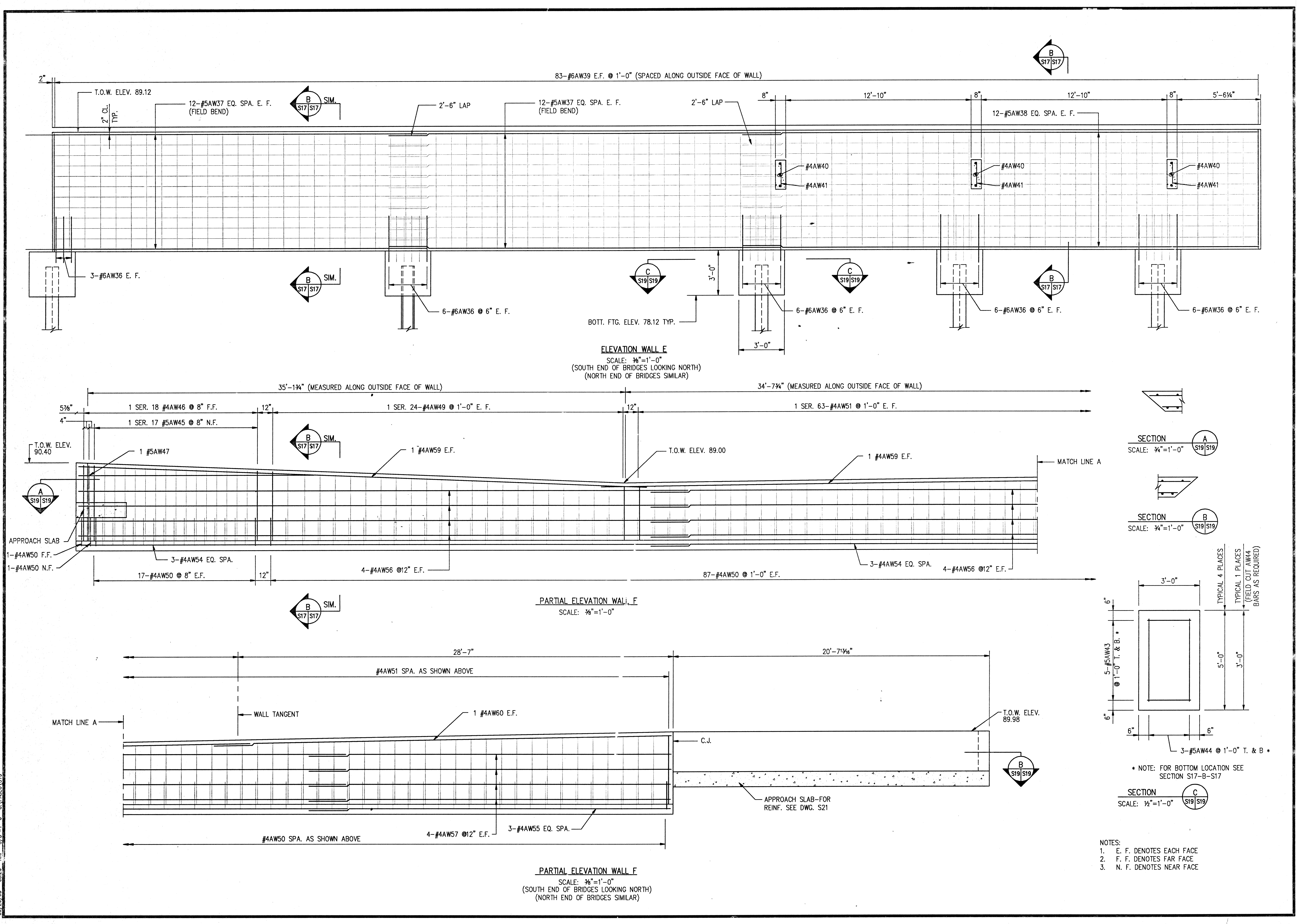
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

APPROACH WALL DETAILS 1

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

Dwg. No. S18

05/20/93 16:15 RRP 3/8"=1'-0" C:\9107\S18


83-#6AW39 E.F. @ 1'-0" (SPACED ALONG OUTSIDE FACE OF WALL)
T.O.W. ELEV. 89.12
2" CL. TYP.
12-#5AW37 EQ. SPA. E. F. (FIELD BEND)
2'-6" LAP
12-#5AW38 EQ. SPA. E. F.
#4AW40
#4AW41
3-#6AW36 E. F.
6-#6AW36 @ 6" E. F.
BOTT. FTG. ELEV. 78.12 TYP.
ELEVATION WALL E
SCALE: 3/8"=1'-0"
(SOUTH END OF BRIDGES LOOKING NORTH)
(NORTH END OF BRIDGES SIMILAR)
35'-1¾" (MEASURED ALONG OUTSIDE FACE OF WALL)
34'-7¾" (MEASURED ALONG OUTSIDE FACE OF WALL)
1 SER. 18 #4AW46 @ 8" F.F.
1 SER. 17 #5AW45 @ 8" N.F.
1 SER. 24-#4AW49 @ 1'-0" E. F.
1 SER. 63-#4AW51 @ 1'-0" E. F.
T.O.W. ELEV. 90.40
1 #5AW47
1 #4AW59 E.F.
T.O.W. ELEV. 89.00
MATCH LINE A
APPROACH SLAB
1-#4AW50 F.F.
1-#4AW50 N.F.
3-#4AW54 EQ. SPA.
4-#4AW56 @12" E.F.
17-#4AW50 @ 8" E.F.
87-#4AW50 @ 1'-0" E.F.
PARTIAL ELEVATION WALL F
SCALE: 3/8"=1'-0"
28'-7"
20'-7 13/16"
#4AW51 SPA. AS SHOWN ABOVE
WALL TANGENT
1 #4AW60 E.F.
T.O.W. ELEV. 89.98
C.J.
APPROACH SLAB-FOR REINF. SEE DWG. S21
3-#4AW55 EQ. SPA.
4-#4AW57 @12" E.F.
#4AW50 SPA. AS SHOWN ABOVE
PARTIAL ELEVATION WALL F
SCALE: 3/8"=1'-0"
(SOUTH END OF BRIDGES LOOKING NORTH)
(NORTH END OF BRIDGES SIMILAR)
SECTION A S19 S19
SCALE: ¾"=1'-0"
SECTION B S19 S19
SCALE: ¾"=1'-0"
TYPICAL 4 PLACES
TYPICAL 1 PLACES (FIELD CUT AW44 BARS AS REQUIRED)
5-#5AW43 @ 1'-0" T. & B. *
3-#5AW44 @ 1'-0" T. & B *
* NOTE: FOR BOTTOM LOCATION SEE SECTION S17-B-S17
SECTION C S19 S19
SCALE: ½"=1'-0"
NOTES:
1. E. F. DENOTES EACH FACE
2. F. F. DENOTES FAR FACE
3. N. F. DENOTES NEAR FACE
05/26/93 08:20 RRP 3/8"=1'-0" C:\PASEO\S19

No.	Revision	By	Date

PROJECT ENGINEER
Date 7-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

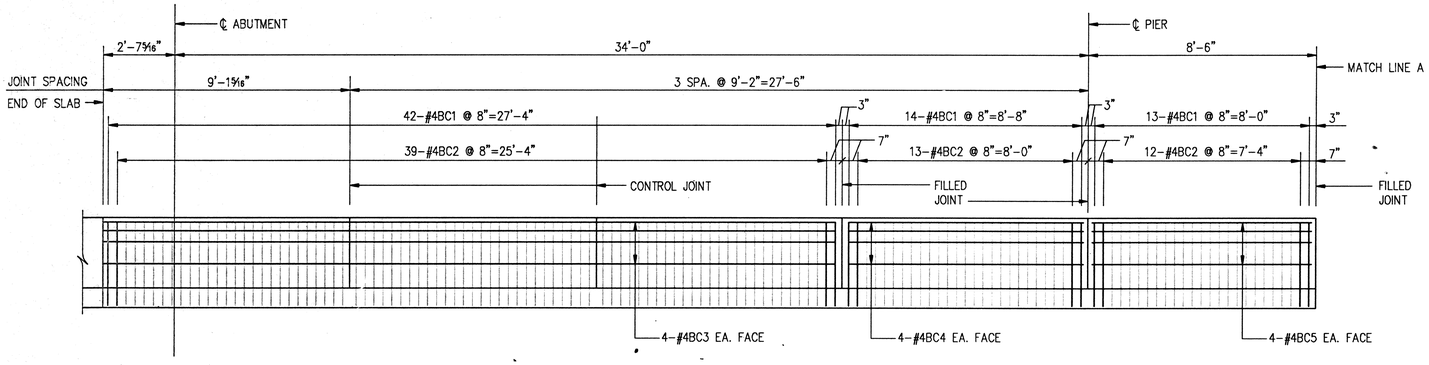
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

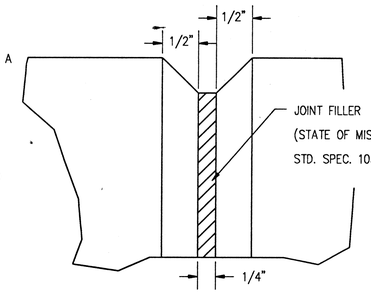
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

APPROACH WALL DETAILS 2

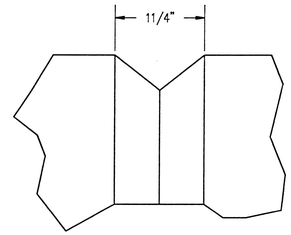
Dwg. No. S19



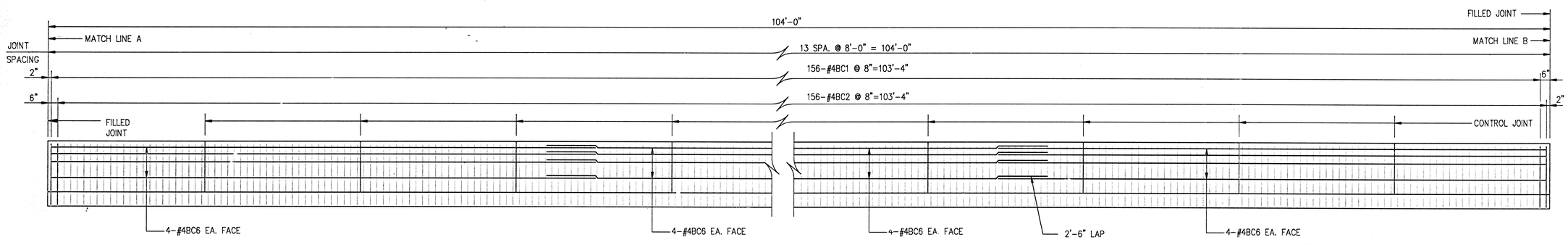
PARTIAL ELEVATION OF BARRIER CURB
SCALE: ⅜"=1'-0"



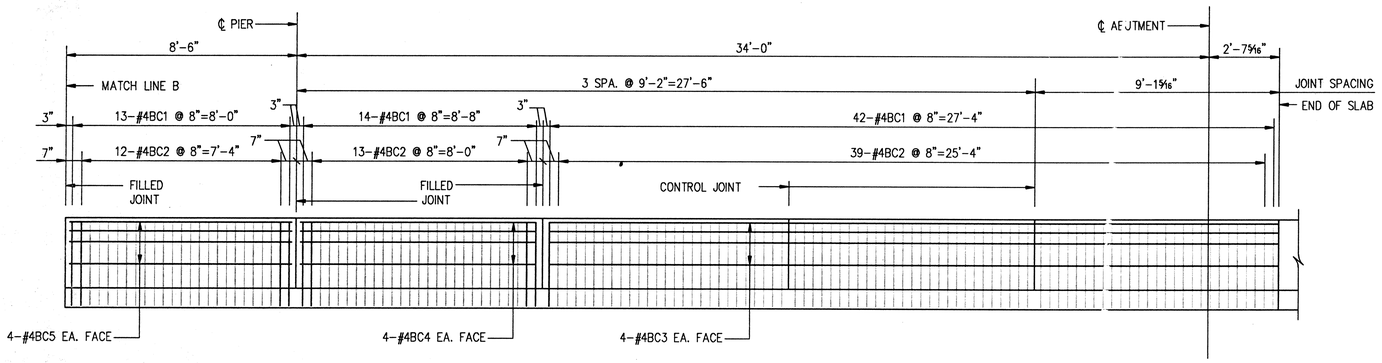
FILLED JOINT DETAIL
NO SCALE



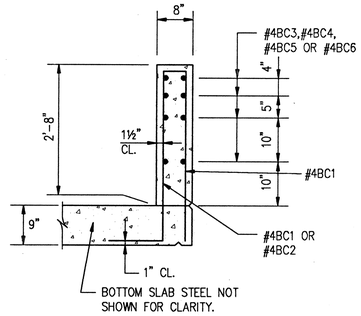
CONTROL JOINT DETAIL
NO SCALE



PARTIAL ELEVATION OF BARRIER CURB
SCALE: ⅛"=1'-0"



PARTIAL ELEVATION OF BARRIER CURB
SCALE: ⅛"=1'-0"



TYPICAL SECTION THRU BARRIER CURB
SCALE: ¾"=1'-0"

NOTES:

1. ONE BARRIER CURB IS SHOWN A TOTAL OF 4 CURBS ARE REQUIRED.
2. BARRIER CURBS ARE TO BE TRAP ROCK CONCRETE. SEE SPECIFICATIONS

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

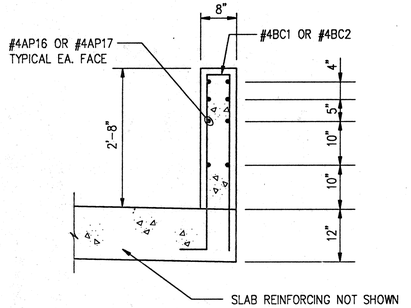
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

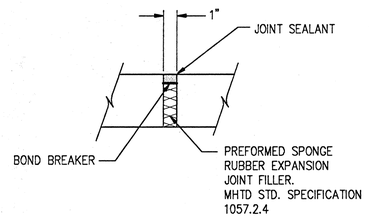
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BARRIER CURB DETAILS

Dwg. No. S20

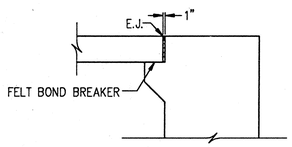
09/23/93 20:49 RRP 1=1 C:\9107\DISK6\S20



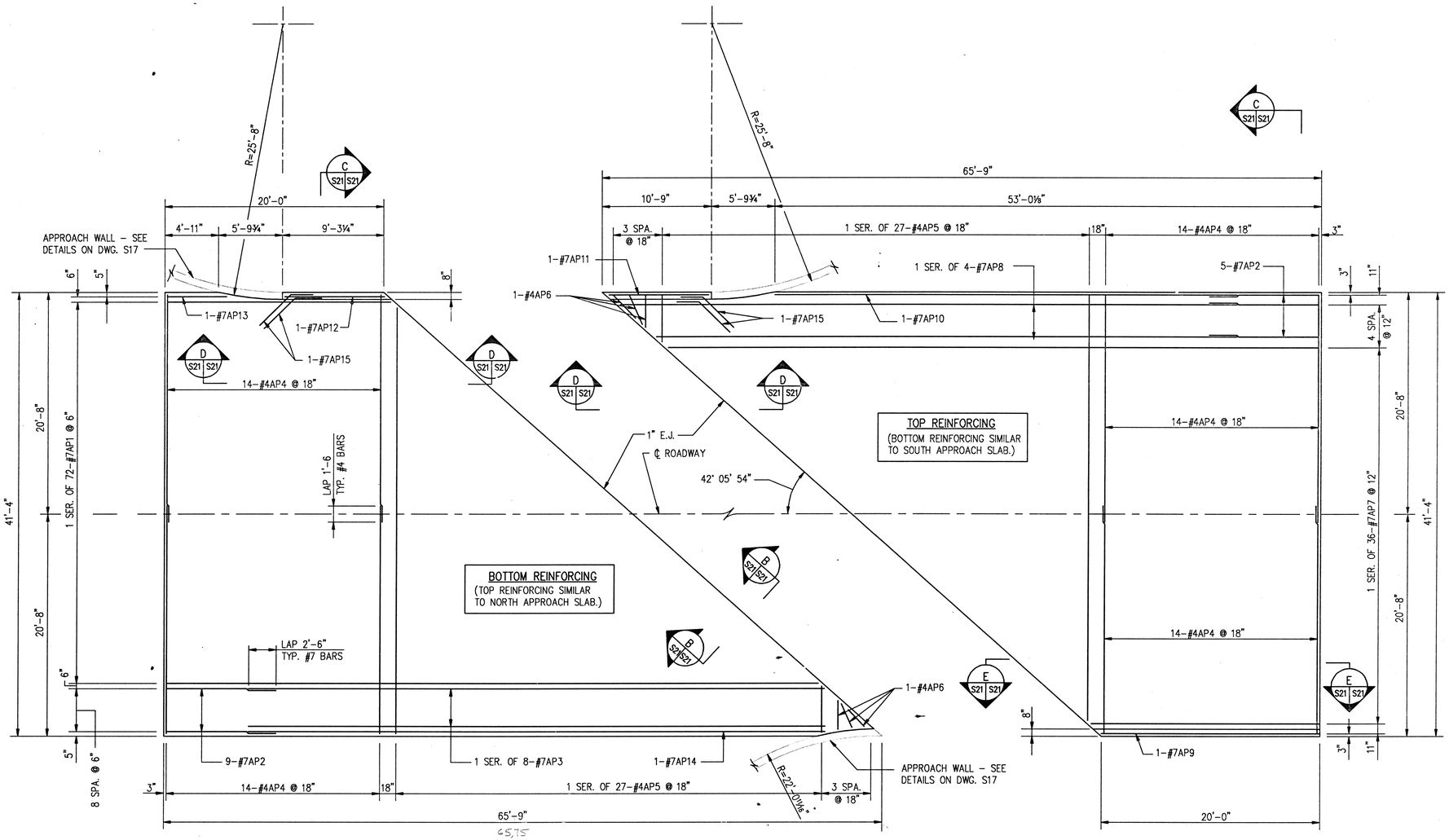
SECTION A S21 S21
SCALE: ¾"=1'-0"



EXPANSION JOINT DETAIL (E.J.)
NO SCALE



SECTION B S21 S21
SCALE: 3/8"=1'-0"



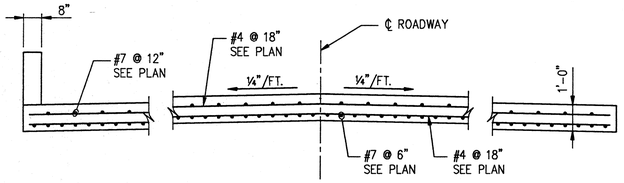
TOP REINFORCING
(BOTTOM REINFORCING SIMILAR TO SOUTH APPROACH SLAB.)

BOTTOM REINFORCING
(TOP REINFORCING SIMILAR TO NORTH APPROACH SLAB.)

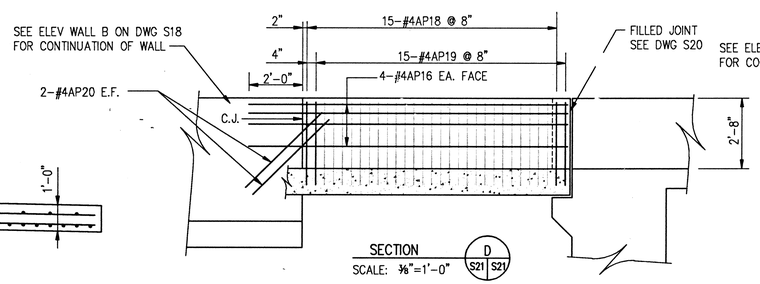
SOUTH APPROACH SLAB AT WEST BRIDGE
(NORTH APPROACH SLAB AT EAST BRIDGE SIMILAR)
SCALE: 3/16"=1'-0"

NORTH APPROACH SLAB AT WEST BRIDGE
(SOUTH APPROACH SLAB AT EAST BRIDGE SIMILAR)
SCALE: 3/16"=1'-0"

20.00 22.87 42.87 45.75

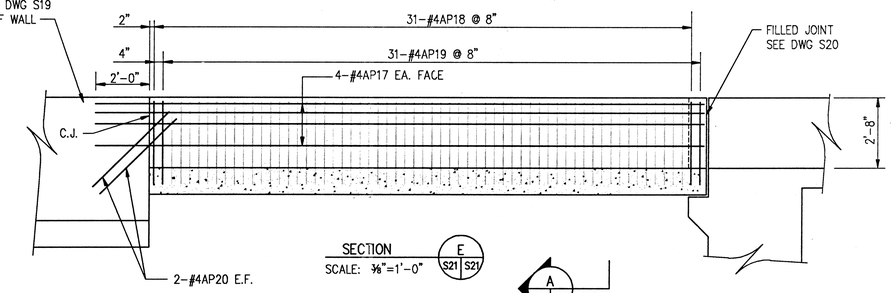


SECTION C S21 S21
SCALE: 3/8"=1'-0"



SECTION D S21 S21
SCALE: ⅜"=1'-0"

PLAN
SCALE: 3/16"=1'-0"



SECTION E S21 S21
SCALE: ⅜"=1'-0"

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

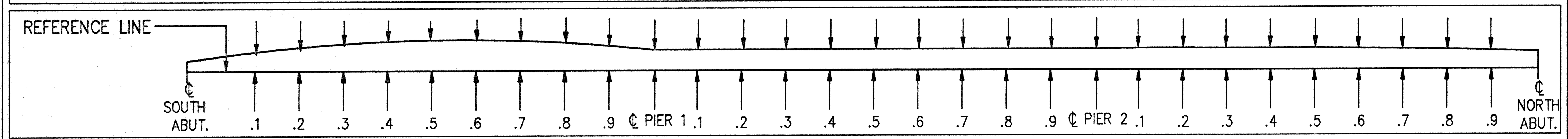
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
APPROACH SLAB DETAILS

Dwg. No. S21

08/23/93 20:55 RRP 3/16"=1'-0" C:\9107\DISK6\S21

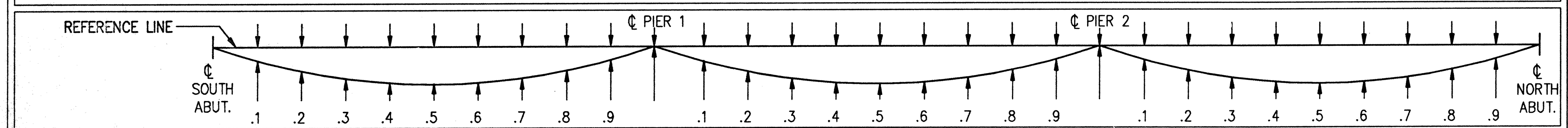
VERTICAL CURVE AND SLOPE CORRECTION *



LOCATION	BRIDGE A																														
	SPAN 1										SPAN 2										SPAN 3										
	℄ BRG ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ PIER 1	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ PIER 2	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ BRG ABUT
GIRDER A	0.043'	0.050'	0.056'	0.062'	0.068'	0.074'	0.078'	0.081'	0.083'	0.084'	0.083'	0.149'	0.200'	0.237'	0.259'	0.266'	0.259'	0.237'	0.200'	0.149'	0.083'	0.088'	0.092'	0.095'	0.096'	0.097'	0.096'	0.095'	0.092'	0.088'	0.083'
GIRDER B	0.083'	0.090'	0.094'	0.097'	0.099'	0.103'	0.099'	0.097'	0.095'	0.091'																					
GIRDER C		0.088'	0.092'	0.095'	0.096'	0.097'	0.096'	0.095'	0.092'	0.088'																					
GIRDER D																						0.088'	0.092'	0.095'	0.096'	0.097'	0.096'	0.095'	0.092'	0.088'	0.083'
GIRDER E																						0.091'	0.095'	0.097'	0.099'	0.103'	0.099'	0.097'	0.094'	0.090'	0.086'
GIRDER F	0.083'	0.088'	0.092'	0.095'	0.096'	0.097'	0.096'	0.095'	0.092'	0.088'	0.083'	0.149'	0.200'	0.237'	0.259'	0.266'	0.259'	0.237'	0.200'	0.149'	0.083'	0.084'	0.083'	0.081'	0.078'	0.074'	0.068'	0.062'	0.056'	0.050'	0.043'

* INCLUDES CORRECTION FOR, SLOPE OF GIRDERS, AND VERTICAL CURVE.

DEAD LOAD DEFLECTIONS †

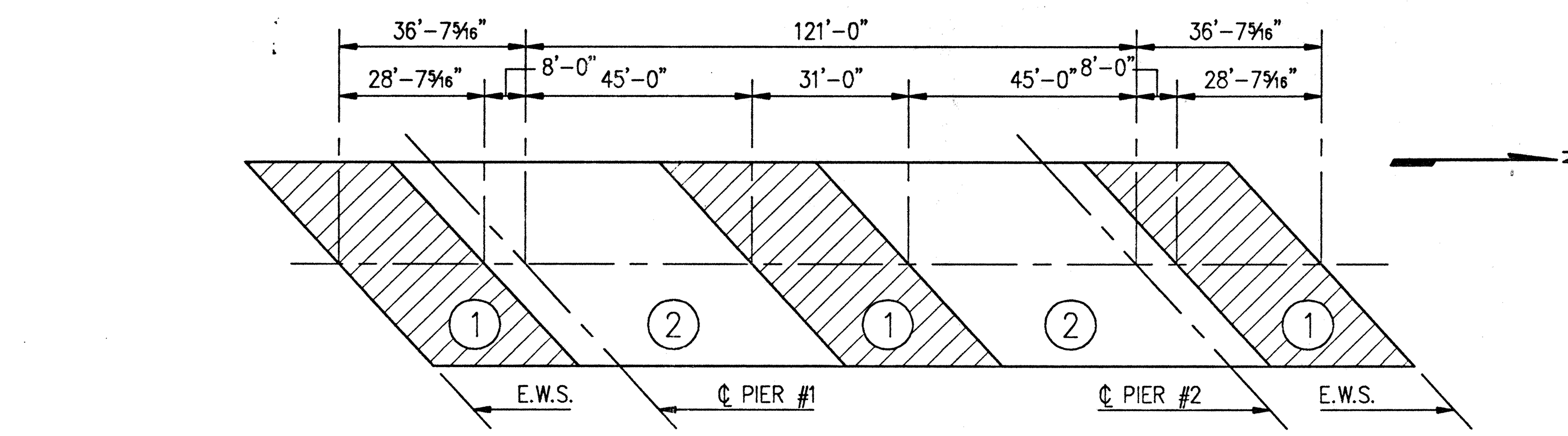


LOCATION	BRIDGE A																														
	SPAN 1										SPAN 2										SPAN 3										
	℄ BRG ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ PIER 1	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ PIER 2	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ BRG ABUT
GIRDER A	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.052'	0.099'	0.136'	0.160'	0.168'	0.160'	0.136'	0.099'	0.052	0.000'	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000'
GIRDER B																															
GIRDER C																															
GIRDER D																															
GIRDER E																															
GIRDER F	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.000'	0.052'	0.099'	0.136'	0.160'	0.168'	0.160'	0.136'	0.099'	0.052	0.000'	0.000'	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000'

† DEFLECTION CAUSED BY WEIGHT OF SLAB, HAUNCHES, AND DIAPHRAGMS.

LOCATION	* ESTIMATED HAUNCH THICKNESS																														
	SPAN 1										SPAN 2										SPAN 3										
	℄ BRG ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ PIER 1	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ PIER 2	.1	.2	.3	.4	.5	.6	.7	.8	.9	℄ BRG ABUT
GIRDER A	0.043'	0.038'	0.047'	0.050'	0.054'	0.059'	0.064'	0.069'	0.074'	0.079'	0.083'	0.128'	0.165'	0.191'	0.206'	0.211'	0.206'	0.191'	0.165'	0.128'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'
GIRDER B	0.083'	0.085'	0.085'	0.085'	0.085'	0.088'	0.085'	0.085'	0.086'	0.086'																					
GIRDER C		0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'																					
GIRDER D																						0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	
GIRDER E																						0.086'	0.086'	0.085'	0.085'	0.088'	0.085'	0.085'	0.085'	0.085'	0.083'
GIRDER F	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.083'	0.128'	0.165'	0.191'	0.206'	0.211'	0.206'	0.191'	0.165'	0.128'	0.083'	0.079'	0.074'	0.069'	0.064'	0.059'	0.054'	0.050'	0.047'	0.038'	0.043'

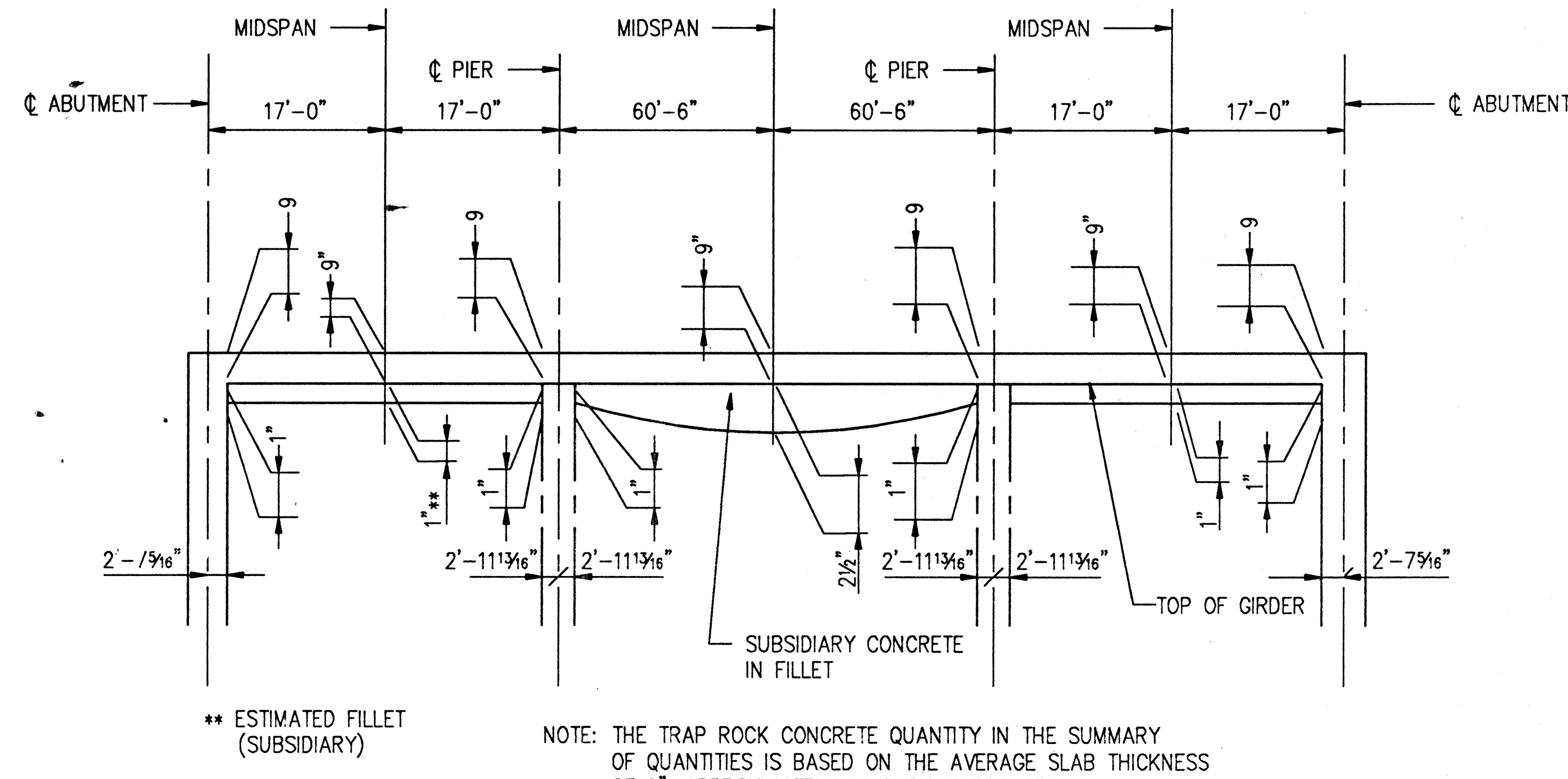
* ESTIMATE ONLY CONTRACTOR SHALL CALCULATE HAUNCH BASED ON MEASURED CAMBER



NOTES:
1. THE POUR SEQUENCE AND TRANSVERSE JOINT SPACING SHALL BE AS SHOWN ABOVE WITH A MINIMUM POUR RATE OF 25 CUBIC YARDS PER HOUR. INDIVIDUAL POURS SHALL PROCEED FROM NORTH TO SOUTH.
2. A RETARDER SHALL BE USED IN ALL DECK CONCRETE.
3. TRANSVERSE CONSTRUCTION JOINTS AND SEQUENCE OF POUR MAY BE ELIMINATED AND THE SLAB MAY BE POURED CONTINUOUSLY FROM ONE END OF THE BRIDGE TO THE OTHER IF THE CONTRACTOR CAN DEMONSTRATE TO THE ENGINEER THAT HE IS CAPABLE OF POURING AND SATISFACTORILY FINISHING THE ROADWAY SLAB AT A RATE OF NOT LESS THAT 41 CUBIC YARDS PER HOUR.

CONCRETE PLACING SEQUENCE (SLAB)

NO SCALE

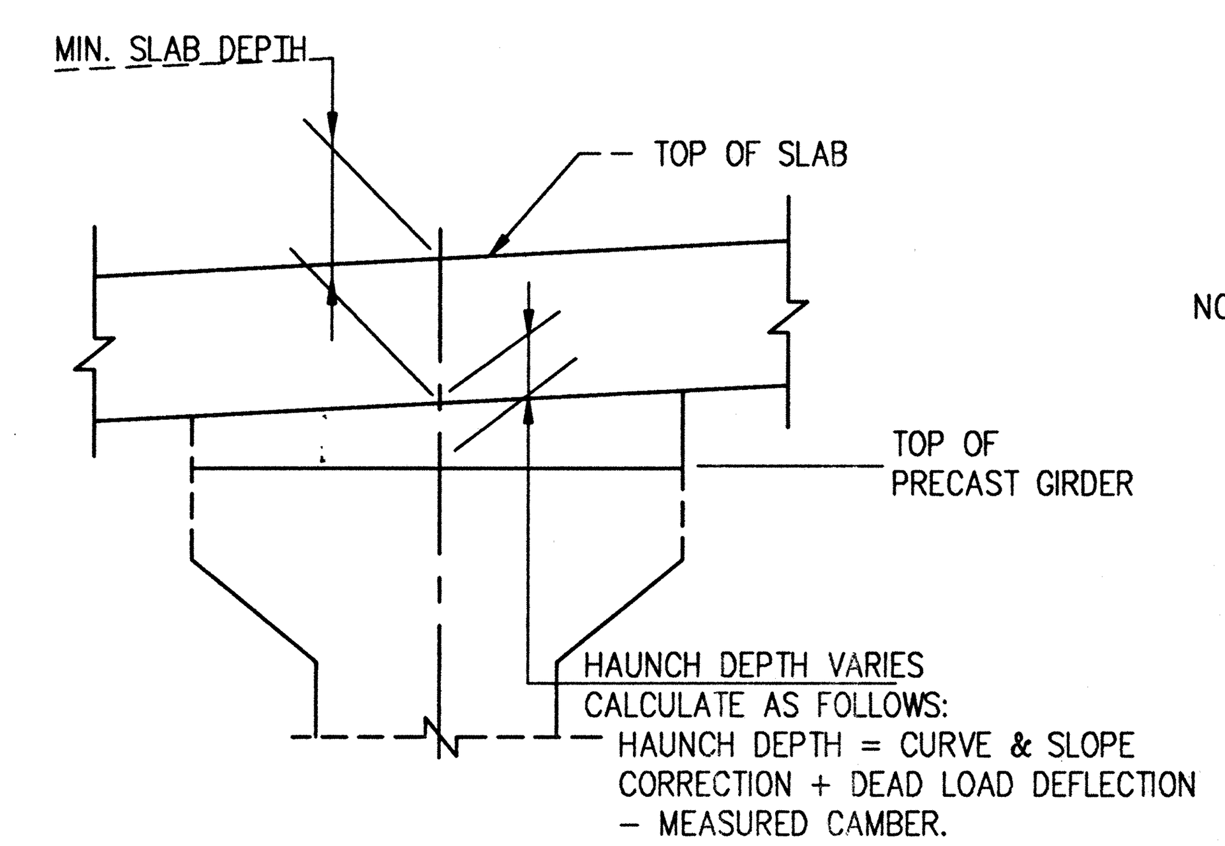


** ESTIMATED FILLET (SUBSIDIARY)

NOTE: THE TRAP ROCK CONCRETE QUANTITY IN THE SUMMARY OF QUANTITIES IS BASED ON THE AVERAGE SLAB THICKNESS OF 9". APPROXIMATELY 14 CUBIC YARDS OF ADDITIONAL CONCRETE WILL BE REQUIRED DUE TO THE VARIANCE IN THE HAUNCH THICKNESS. THE CONCRETE QUANTITY NEEDED TO COMPENSATE FOR BEAM CAMBER IN ORDER TO PROPERLY CONSTRUCT THE BRIDGE TO CROWN GRADE SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE UNIT PRICE BID FOR TRAP ROCK CONCRETE.

SKETCH SHOWING SUBSIDIARY CONCRETE IN HAUNCH

NO SCALE



NOTE: THE FINISHED DECK SLAB SHALL BE CONSTRUCTED TO PLAN GRADE BY VARYING THE DEPTH OF THE HAUNCH OVER THE GIRDER TO PROVIDE FOR PRESTRESS CAMBER, VERTICAL CURVE AND SLOPE, AND CONCRETE DEAD LOAD DEFLECTION. AFTER THE GIRDERS HAVE BEEN ERECTED, AND PRIOR TO PLACING ANY FORMWORK, THE ACTUAL CAMBER IN EACH GIRDER SHALL BE MEASURED IN THE FIELD. ADJUST THE HAUNCH THICKNESS TO COMPENSATE FOR GIRDER CAMBER AND OBTAIN THE PROPER GRADE LINE. THE MINIMUM DEPTH OVER THE GIRDERS SHALL BE 9". IF NECESSARY, THE PLAN GRADE SHALL BE ADJUSTED IN ORDER TO OBTAIN THE MINIMUM SLAB DEPTH. SEE CONCRETE HAUNCH DETAIL.

CONCRETE HAUNCH DETAIL

NO SCALE

08/23/93 21:00 JLS 1=1 C:\9107\DISK6\S22

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

VERTICAL CURVE CORRECTION AND DEAD LOAD DEFLECTION

Dwg. No. S22

GENERAL NOTES

THE MANUFACTURE OF PRECAST PRESTRESSED CONCRETE BEAMS SHALL CONFORM TO THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION SPECIFICATIONS.

THE ULTIMATE COMPRESSIVE STRENGTH OF THE CONCRETE AS DETERMINED BY CYLINDER TESTS AT THE AGE OF 28 DAYS IS 6,000 PSI.

GIRDER LENGTH SHALL REASONABLY CONFORM TO THE LINES AND DIMENSIONS SHOWN ON THE DESIGN PLANS AND BE WITHIN THE TOLERANCES SPECIFIED IN THE LATEST PUBLICATION OF A.A.S.H.T.O., "TENTATIVE STANDARDS FOR PRESTRESSED PILES, SLABS, I-BEAMS, AND BOX BRIDGES AND AN INTERIM MANUAL FOR INSPECTION OF SUCH CONSTRUCTION", EXCEPT AS MODIFIED BY THIS SHEET OR AS MODIFIED BY THE M.H.T.C SPECIFICATIONS.

ALL EXPOSED EDGES OF BEAMS EXCEPT THE TOP AND ENDS SHALL BE BEVELED WITH A ¾-INCH TRIANGULAR MOULDING OR ROUNDED TO A ¾-INCH RADIUS. THE ANGLE OF INTERSECTION BETWEEN WEB AND FLANGE SHALL BE ROUNDED.

TOPS OF BEAMS ARE TO BE STRUCK OFF LEVEL AND GIVEN A WIRE BRUSH OR STIFF BROOM FINISH, APPLIED IN THE DIRECTION TRANSVERSE TO THE LENGTH OF THE GIRDER. AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOPS OF THE BEAM SHALL BE BRUSHED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE.

THE PRESTRESSING STEEL SHALL BE ½-INCH NOMINAL DIAMETER, GRADE 270 "UNCOATED SEVEN WIRE STRESS-RELEIVED STRAND FOR PRESTRESSED CONCRETE", ASTM DESIGNATION A416, LOW RELAXATION STRANDS. MINIMUM ULTIMATE STRENGTH OF STRANDS SHALL BE 41,300 POUNDS.

ULTIMATE COMPRESSIVE CYLINDER STRENGTH OF THE CONCRETE SHALL BE 5,000 PSI MINIMUM BEFORE DETENSIONING OF PRESTRESSING STRANDS.

AN INITIAL TENSILE FORCE OF 1,000 TO 3,000 POUNDS SHALL BE APPLIED TO EACH STRAND TO TAKE UP ANY SLACK IN THE CABLES. A TENSILE FORCE OF 30,983 POUNDS SHALL BE APPLIED TO EACH STRAND. STRANDS WHICH ARE TO BE DEFLECTED SHALL BE STRESSED TO A MAGNITUDE SUCH THAT AFTER DEFLECTION, THEY ARE TENSIONED TO 30,983 POUNDS.

ALL MILD STEEL REINFORCEMENT SHALL BE ASTM A615, GRADE 60. ALL CHAIRS AND SPACERS IN PRECAST, PRESTRESSED GIRDERS SHALL BE GALVANIZED. COIL TIES SHALL BE HELD IN PLACE IN THE FORMS BY SLOTTED WIRE-SETTING-STUDS PROJECTING THROUGH THE FORMS. STUDS ARE TO BE LEFT IN PLACE OR REPLACED WITH TEMPORARY PLUGS UNTIL GIRDERS ARE ERECTED AND THEN REPLACED BY COIL TIE RODS.

TRAPPED AIR HOLES AND SURFACE VOIDS ON THE EXTERIOR INCLINED SURFACE OF THE BOTTOM FLANGE OF ALL EXTERIOR BEAMS SHALL BE FILLED WITH CONCRETE GROUT SO AS TO PRODUCE A NON-POROUS SURFACE.

DETENSIONING OF STRANDS SHALL BE PERFORMED IN A SEQUENCE TO MINIMIZE LATERAL ECCENTRICITY. METHOD AND SEQUENCE OF RELEASE SHALL BE SHOWN IN SHOP DETAILS.

EXTREME CARE SHALL BE EXCERCISED IN LIFTING, HANDLING, STORAGE, AND TRANSPORTATION OF THE BEAM TO PREVENT DAMAGE. THEY SHALL BE LIFTED BY MEANS OF THE DEVICE PROVIDED IN AN UPRIGHT POSITION AT ALL TIMES AND SHALL BE SUPPORTED ON BEARING POINTS POSITIONED BELOW THE DESIGNATED LIFTING POINTS OR BELOW THE DESIGNATED BEARING POINTS.

DURING TRANSPORTATION ONLY, THE BEAMS MAY BE SUPPORTED BY BEARING POINTS BELOW THE GIRDERS AT A MAXIMUM OF 4'-0" FROM THE BEAM END.

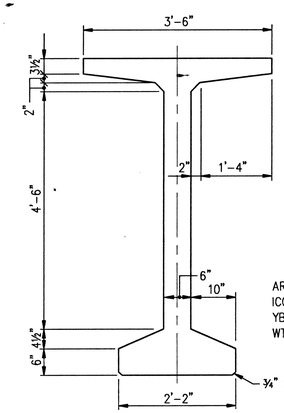
THE GIRDERS SHALL HAVE A MINIMUM AGE OF 35 DAYS BEFORE PLACING OF THE BRIDGE SLAB. THE DIAPHRAGMS SHALL BE POURED AS NOTED ON THE DESIGN PLANS.

ELASTOMERIC BEARING PADS SHALL CONFORM TO M.H.T.C. SPECIFICATIONS. THE PADS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM "PRESTRESSED CONCRETE GIRDERS".

COIL TIES AND BOLTS SHALL HAVE AN ULTIMATE STRENGTH OF 200 PERCENT IN EXCESS OF THE MANUFACTURER'S SAFE LOAD AND SHALL BE APPROVED BY THE ENGINEER. COIL TIES AND BOLTS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM "PRESTRESSED CONCRETE GIRDERS"

THE FINISHED DECK SLAB SHALL BE CONSTRUCTED TO PLAN GRADE BY VARYING THE DEPTH OF THE CONCRETE FILLETS OVER THE BEAMS TO PROVIDE FOR PRESTRESS CAMBER, CONCRETE DEAD LOAD DEFLECTION, AND VERTICAL CURVE. AFTER THE GIRDERS HAVE BEEN ERECTED AND PRIOR TO PLACING ANY FORMWORK, THE ACTUAL CAMBER IN EACH BEAM SHAL BE MEASURED IN THE FIELD. ANY VARIATION BETWEEN THE ACTUAL CAMBER AND THE ERECTION CAMBER SHOWN ON THE DESIGN PLANS SHALL BE CORRECTED BY VARYING THE FILLET DEPTH.

ALL LIFTING DEVICES SHALL BE REMOVED AFTER ERECTION AND BEFORE SLAB PLACEMENT.



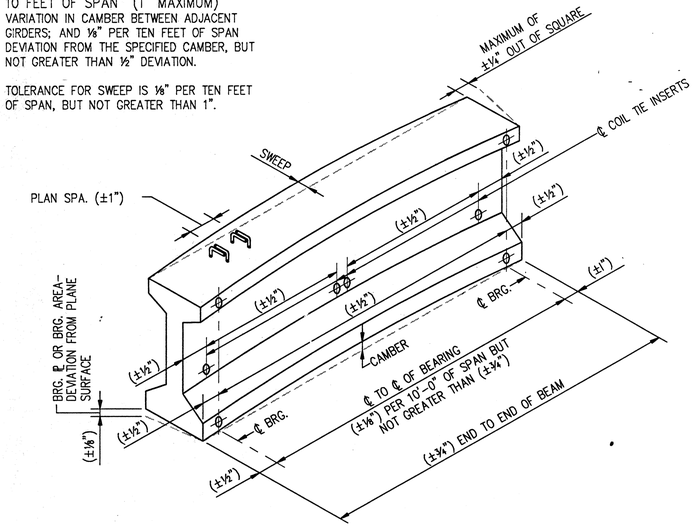
AREA 766.44 SQ. IN.
ICG 520,949 IN⁴
YBOT 36.63 IN.
WT./FT. 799 LB./FT.

TYPE 1,2, & 3

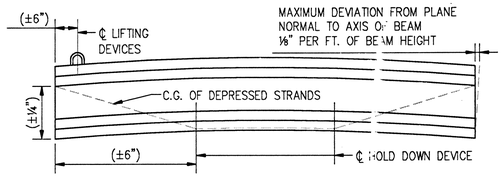
TYPICAL GIRDER SECTION
SCALE: ¾"=1'-0"

NOTE:
TOLERANCE FOR CAMBER IS ⅛" PER 10 FEET OF SPAN (1" MAXIMUM)
VARIATION IN CAMBER BETWEEN ADJACENT GIRDERS; AND ⅛" PER TEN FEET OF SPAN DEVIATION FROM THE SPECIFIED CAMBER, BUT NOT GREATER THAN ½" DEVIATION.

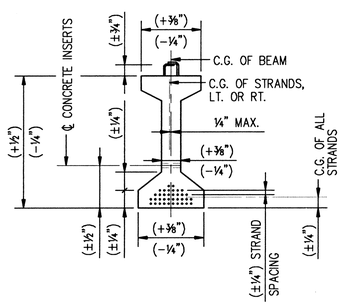
TOLERANCE FOR SWEEP IS ⅛" PER TEN FEET OF SPAN, BUT NOT GREATER THAN 1".

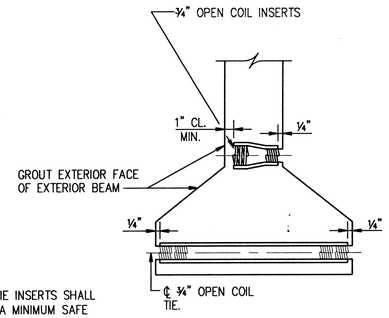


PRESTRESSED CONCRETE GIRDER FABRICATION TOLERANCES
NO SCALE



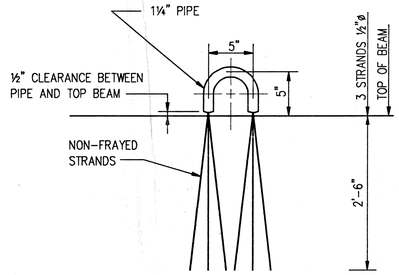
NOTE: DIMENSIONS SHOWN IN PARENTHESIS ARE TOLERANCES ONLY.





NOTE:
COIL TIE INSERTS SHALL HAVE A MINIMUM SAFE WORKING CAPACITY OF 5,000 LBS. WITH A FACTOR OF SAFETY OF 3 TO 1.

DETAIL OF COIL INSERTS
(SEE GIRDER DETAILS DRAWINGS FOR LOCATIONS)
NO SCALE



LIFTING DEVICE
NO SCALE

No.	Revision	By	Date

PROJECT ENGINEER
Date 7-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

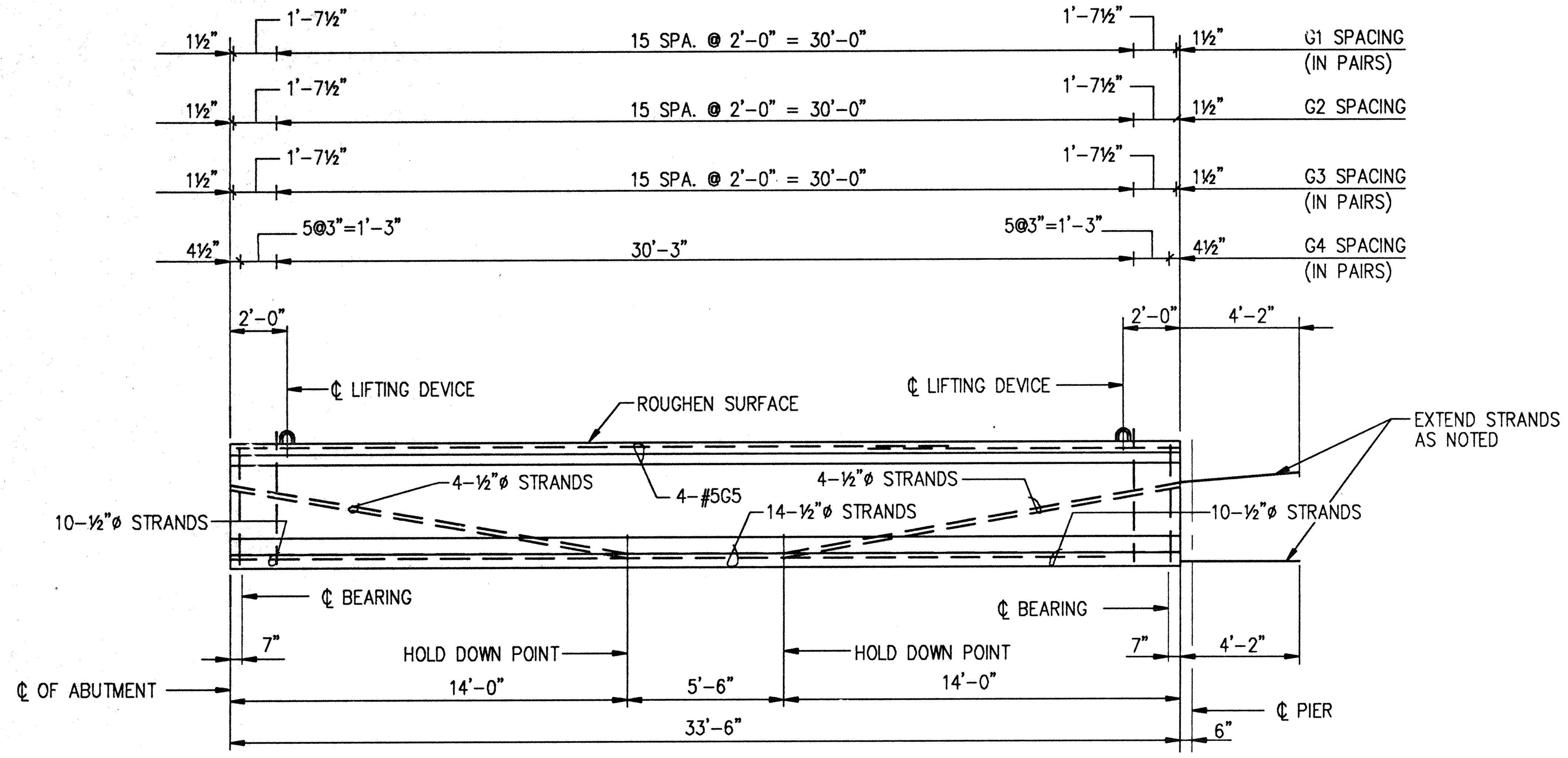
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PRECAST PRESTRESSED CONCRETE GIRDERS
GENERAL

Dwg. No. S23

08/23/93 2:0... RRP 1=12 C:\9107\DISK6\S23



ELEVATION OF TYPE 1 PRESTRESSED CONCRETE GIRDER
(WEIGHT OF ONE GIRDER IS 13.4 TONS, 6 REQUIRED)

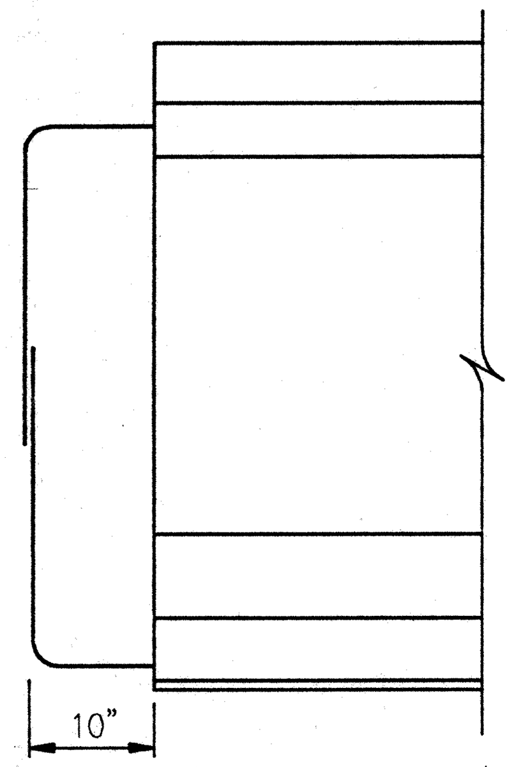
¼"=1'-0" 5 0 5 10

SUMMARY OF QUANTITIES		
ITEM		
6'-0" PRESTRESSED CONCRETE GIRDER, 6 @ 33'-6"	201	FT.
*THE FOLLOWING QUANTITIES ARE GIVEN FOR INFORMATION ONLY		
CONCRETE IN BEAMS (F'c = 6,000 P.S.I.)	39.6	YD.³
PRESTRESSING STEEL, A416, ½"ø STRAND (LOW RELAX)	3,114	FT.
¾" COIL TIE	66	EA.
ELASTOMERIC BEARING PADS, 60 DUR.	12	EA.
¾"øx2'-6" THREADED COIL RODS	24	EA.
¾"øx10" THREADED COIL RODS	108	EA.
REINFORCING STEEL (GR 60)	1,969	LBS.
REINFORCING STEEL (GR 60) (EPOXY COATED)	1,727	LBS.
¾" PREFORMED EXPANSION JOINT FILLER	32	SF.

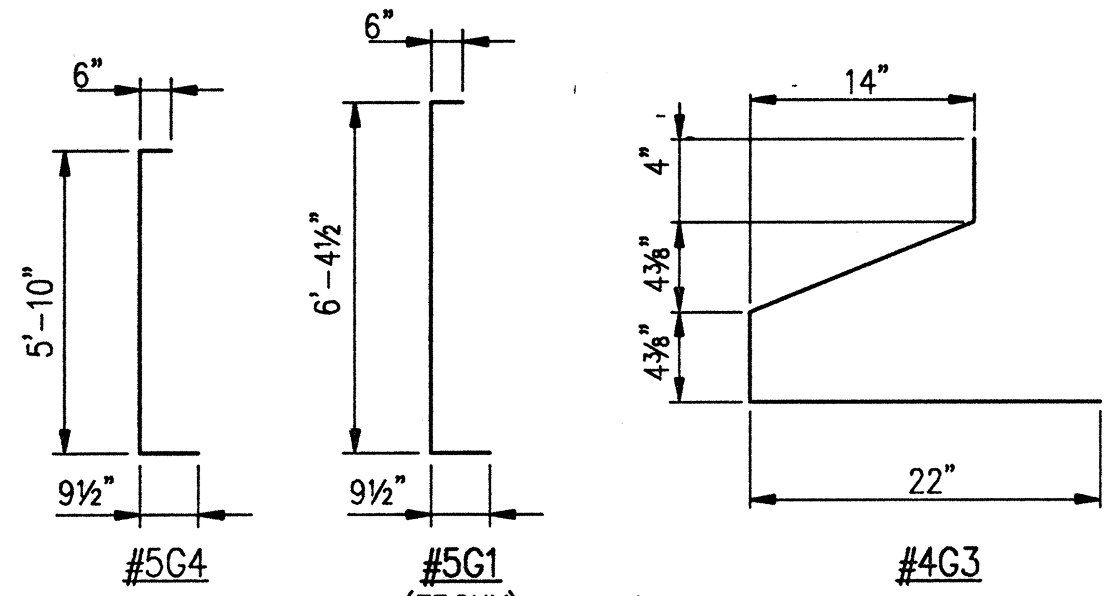
*THESE QUANTITIES SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "6'-0" PRESTRESSED CONCRETE GIRDERS".

BILL OF REINFORCING STEEL			
ONE BEAM LISTED (6 REQUIRED)			
STRAIGHT BARS (GR. 60)			
MARK	SIZE	NO.	LENGTH
G5	5	4	33'-2"
G2	4	18	3'-4"
BENT BARS (GR. 60)			
G1 ⊕	5	36	7'-8"
G3	4	36	3'-9"
G4	5	24	7'-1½"

⊕ EPOXY COATED BARS



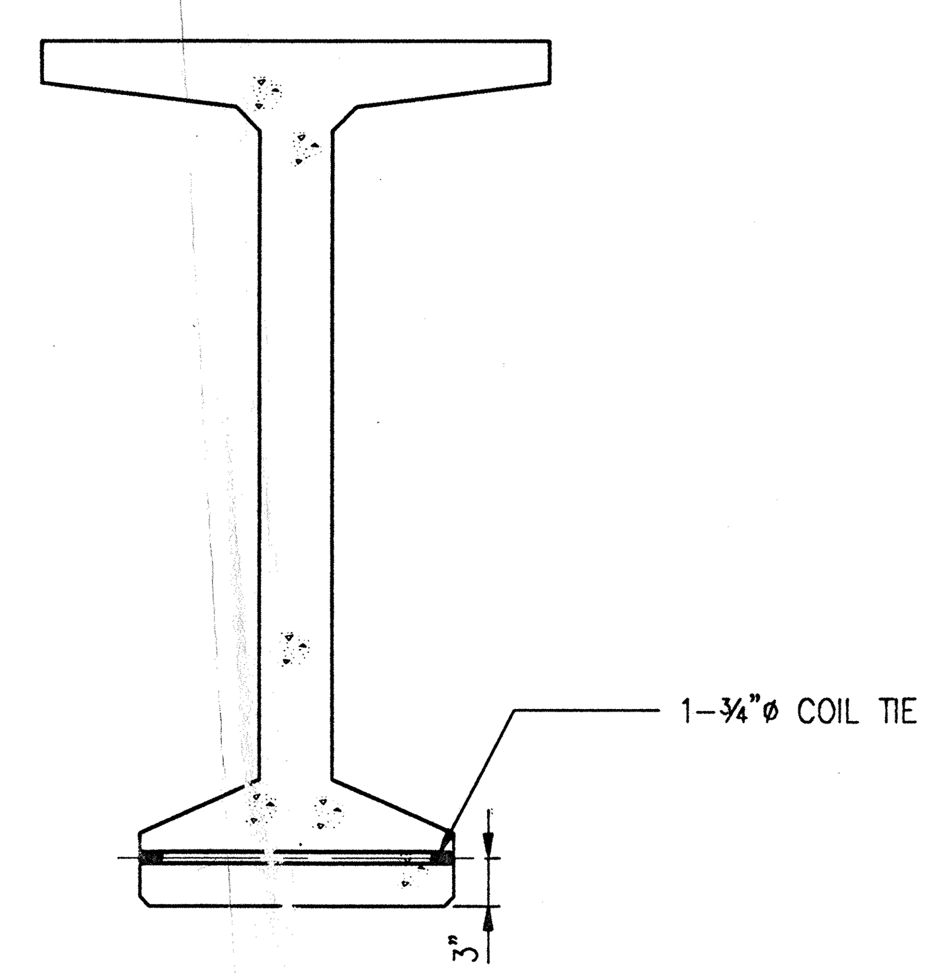
PARTIAL ELEVATION OF GIRDERS AT PIERS
(SHOWS EXTENDED STRANDS AFTER SHOP BENDING)
NO SCALE



BENDING DIAGRAMS
(ALL DIMENSIONS ARE OUT TO OUT OF BARS)
NO SCALE

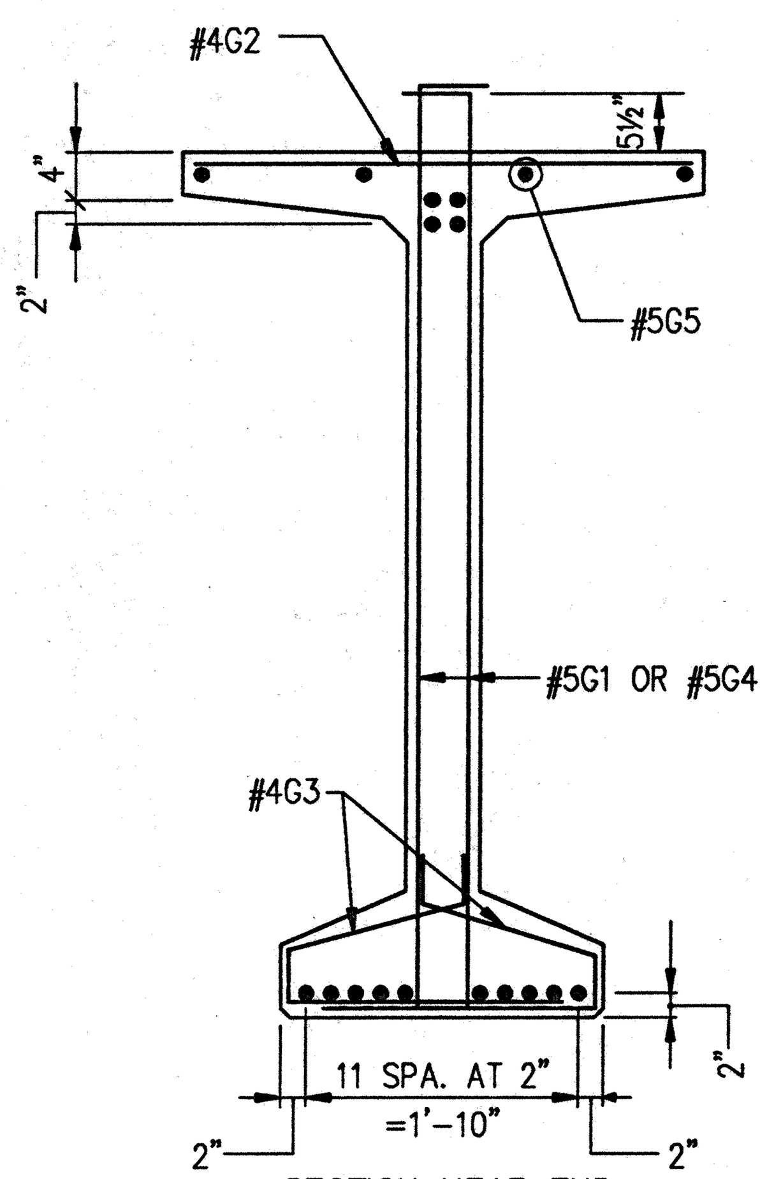
NOTES:

1. FOR GENERAL NOTES, SEE DWG NO. S1.
2. THERE SHALL BE 12 STRANDS EXTENDED FROM THE ENDS OF ALL GIRDERS AS SHOWN IN ELEVATIONS. 10 OF THESE STRANDS SHALL BE FROM THE BOTTOM ROW. THEY SHALL PRODUCE NO LATERAL ECCENTRICITY. 2 STRANDS FROM THE TOP ROW SHALL ALSO BE EXTENDED. STRANDS NOT TO BE EXTENDED SHALL BE CUT WITHIN 1 INCH OF THE END OF THE GIRDER.
3. SANDBLAST GIRDER SIDES WHERE CONCRETE COMES IN CONTACT WITH DIAPHRAGMS.
4. DIMENSIONS ARE MEASURED ALONG ℄ OF GIRDER.
5. FOR BEARING PAD DETAILS, SEE DWG NO. S26.



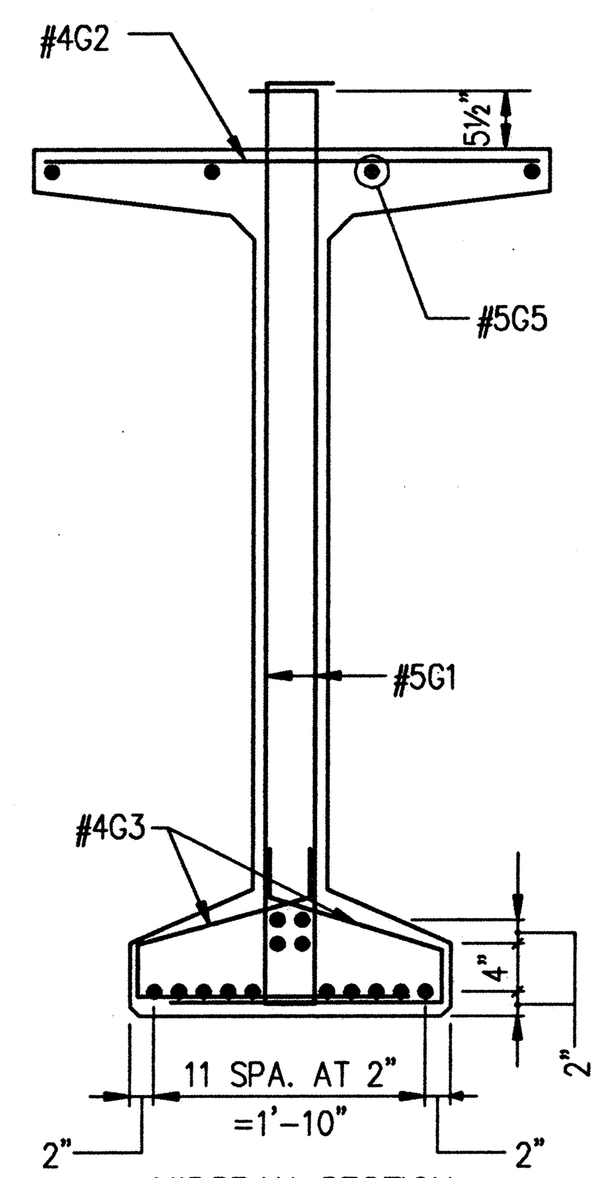
GIRDER A THRU F
COIL TIE INSERT LOCATIONS

¾"=1'-0" 1 6" 0 1 2 3



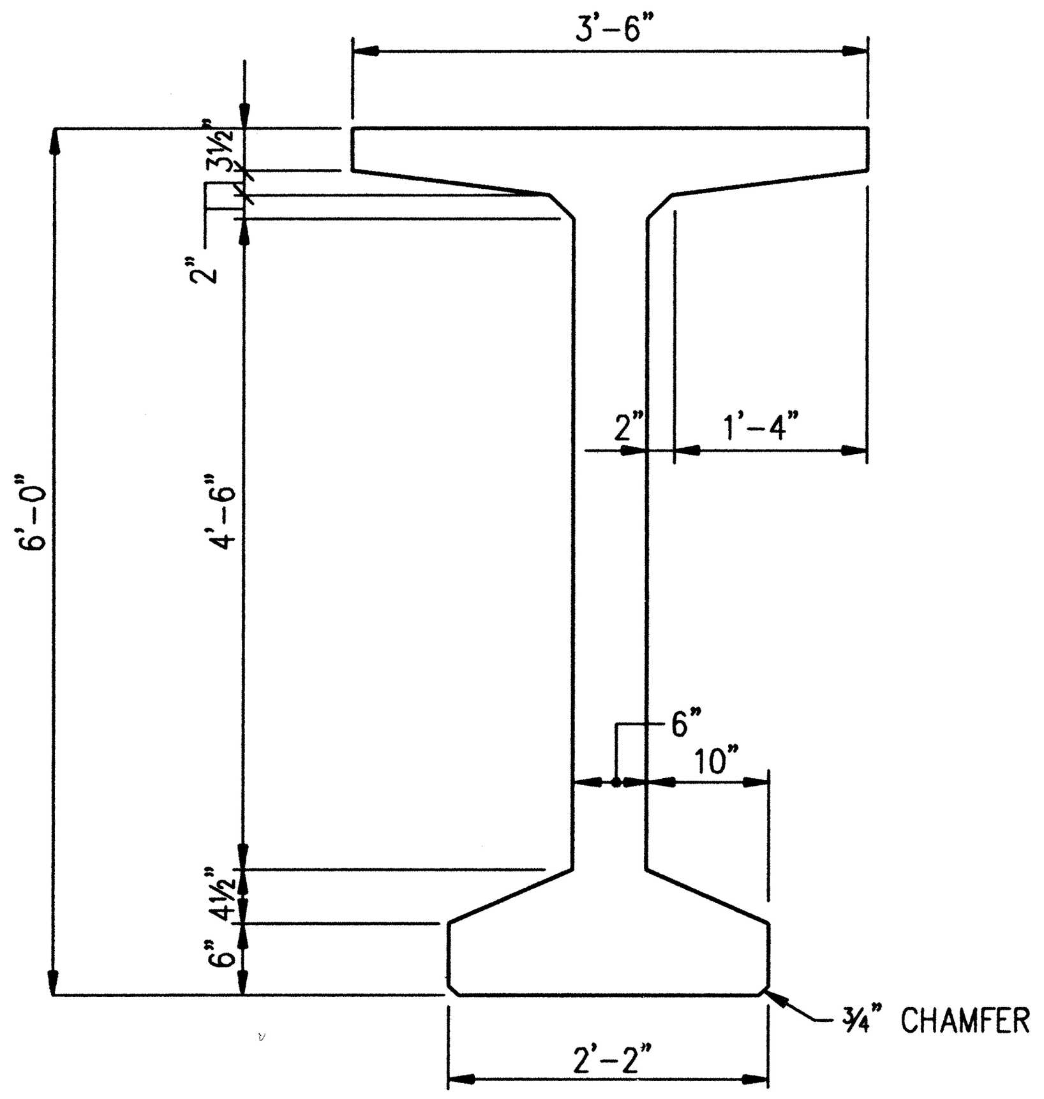
SECTION NEAR END

¾"=1'-0" 1 6" 0 1 2 3



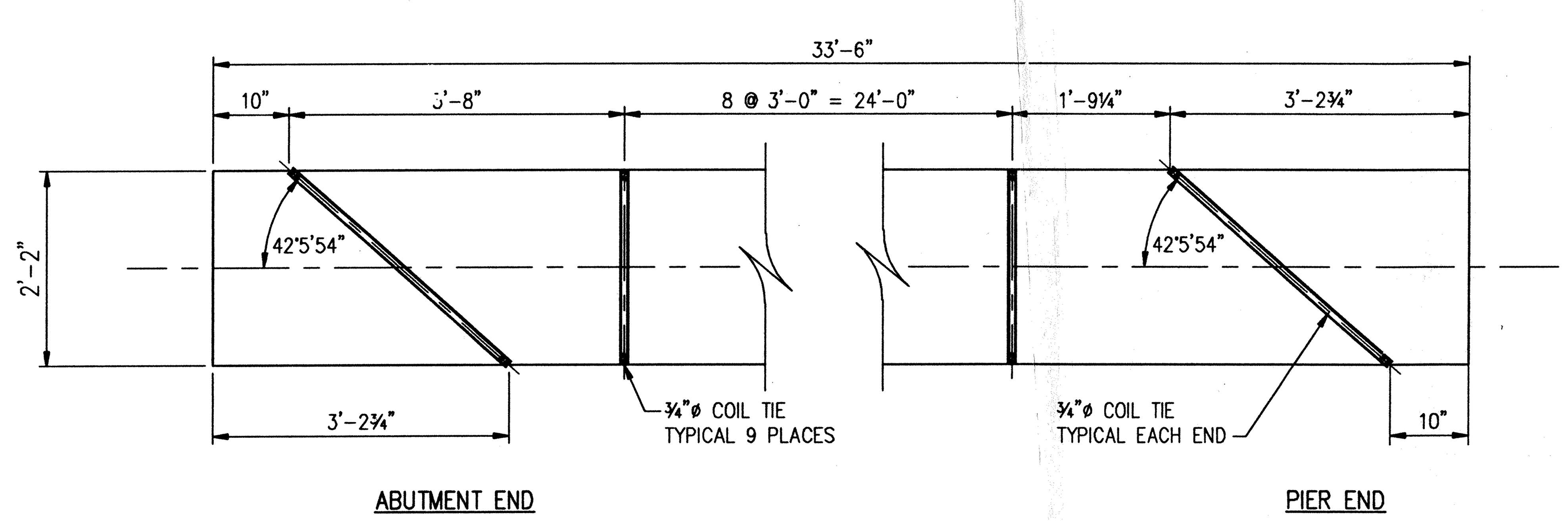
MIDSPAN SECTION

¾"=1'-0" 1 6" 0 1 2 3



6'-0" GIRDER
TYPICAL SECTION

¾"=1'-0" 1 6" 0 1 2 3



PLAN - COIL TIE INSERT LOCATIONS

¾"=1'-0" 1 6" 0 1 2 3

NOTE: ADDITIONAL INSERTS ARE REQUIRED FOR THE WATER PIPE SUPPORTS ON THE EAST BRIDGE (SEE DWG. S30) AND THE GAS PIPE SUPPORTS ON THE WEST BRIDGE (SEE DWG. S31)

08/30/93 09:54 jls 1/4"=1'-0" C:\9107\KCMO\S24

No.	Revision	By	Date

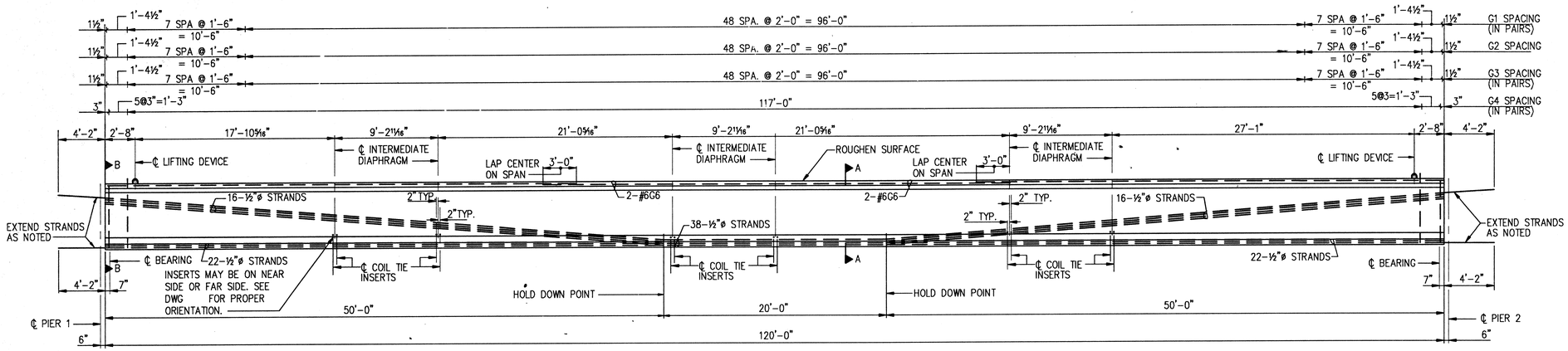
PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PRECAST PRESTRESSED CONCRETE GIRDERS TYPE 1

Dwg. No. S24

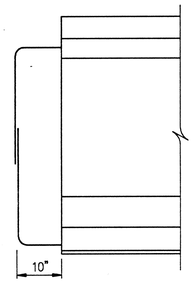


BILL OF REINFORCING STEEL			
ONE BEAM LISTED (6 REQUIRED)			
STRAIGHT BARS (GR. 60)			
MARK	SIZE	NO.	LENGTH
G6	5	12	41'-11"
G2	4	65	3'-4"
BENT BARS (GR. 60)			
G1 ®	5	130	7'-8"
G3	4	130	3'-9"
G4	4	24	7'-1½"

® EPOXY COATED BARS

SUMMARY OF QUANTITIES	
ITEM	
6'-0" PRESTRESSED CONCRETE GIRDER, 6 @ 120'-0""	720 FT.
*THE FOLLOWING QUANTITIES ARE GIVEN FOR INFORMATION ONLY	
¾" OPEN COIL INSERT	60 EA.
CONCRETE IN BEAMS (F'c = 6,000 P.S.I.)	142 YD.³
PRESTRESSING STEEL, A416, ½"ø STRAND (LOW RELAX)	27,992 FT.
¾" COIL TIE	12 EA.
ELASTOMETRIC BEARING PADS, 60 DUR.	12 EA.
¾"øx2'-6" THREADED COIL RODS	84 EA.
REINFORCING STEEL (GR 60)	6,198 LBS.
REINFORCING STEEL (GR 60) (EPOXY COATED)	6,237 LBS.

*THESE QUANTITIES SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6'-0" PRESTRESSED CONCRETE GIRDERS".



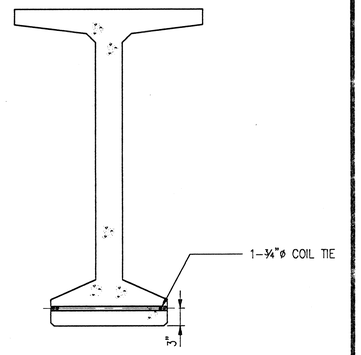
PARTIAL ELEVATION OF GIRDERS AT PIERS
(SHOWS EXTENDED STRANDS AFTER SHOP BENDING)
NO SCALE

ELEVATION OF TYPE 2 PRESTRESSED CONCRETE GIRDER
(WEIGHT OF ONE GIRDER IS 46.9 TONS, 6 REQUIRED

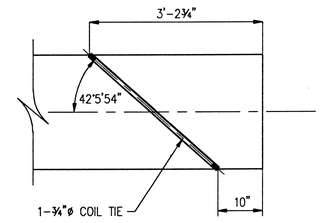
1/16"=1'-0" 5 0 5 10

NOTES:

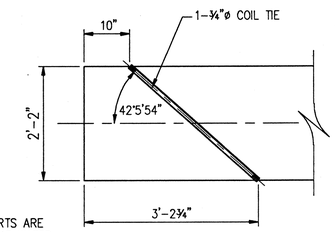
1. FOR GENERAL NOTES, SEE DWG NO. S1.
2. THERE SHALL BE 12 STRANDS EXTENDED FROM THE ENDS OF ALL GIRDERS AS SHOWN IN ELEVATIONS. 10 OF THESE STRANDS SHALL BE FROM THE BOTTOM ROW. THEY SHALL PRODUCE NO LATERAL ECCENTRICITY. 2 STRANDS FROM THE TOP ROW SHALL ALSO BE EXTENDED. STRANDS NOT TO BE EXTENDED SHALL BE CUT WITHIN 1 INCH OF THE END OF THE GIRDER.
3. SANDBLAST GIRDER SIDES WHERE CONCRETE COMES IN CONTACT WITH DIAPHRAGMS.
4. FOR LOCATION OF INTERMEDIATE DIAPHRAGMS, SEE DWG NO. S11.
5. FOR DIAPHRAGM DETAILS, SEE DWG NO. S14.
6. DIMENSIONS ARE MEASURED ALONG ℄ OF GIRDER
7. FOR BEARING PAD DETAILS, SEE DWG NO. 26.



GIRDER A THRU F
COIL TIE INSERT LOCATIONS – PIER DIAPHRAGMS
¾"=1'-0" 1 6" 0 1 2 3

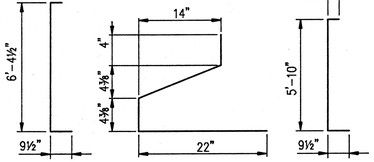


PIER #2

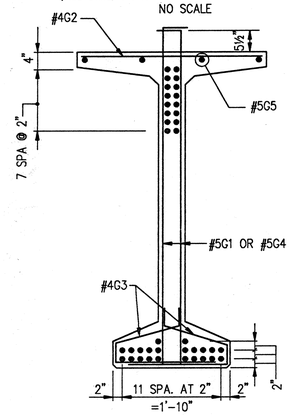


PIER #1

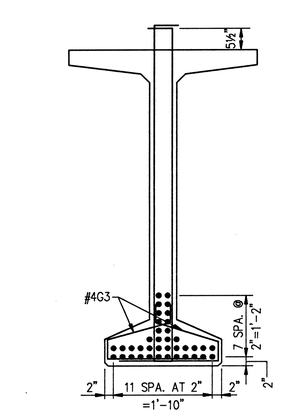
PLAN – COIL TIE INSERT LOCATIONS
¾"=1'-0" 1 6" 0 1 2 3



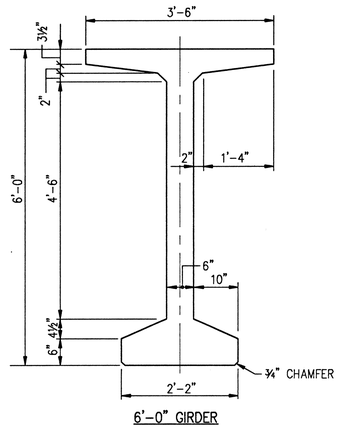
BENDING DIAGRAMS
(ALL DIMENSIONS ARE OUT TO OUT OF BARS)
NO SCALE



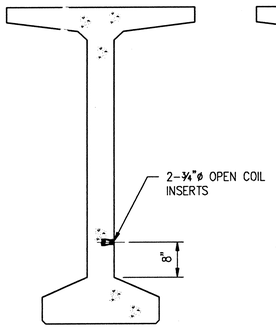
SECTION NEAR END
¾"=1'-0" 1 6" 0 1 2 3



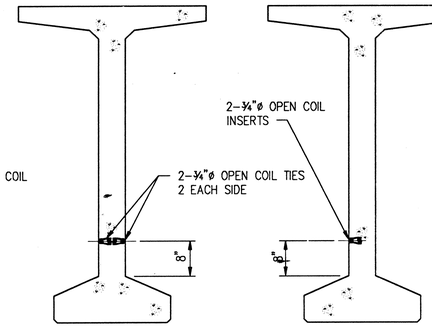
MIDSPAN SECTION
¾"=1'-0" 1 6" 0 1 2 3



6'-0" GIRDER
TYPICAL SECTION
¾"=1'-0" 1 6" 0 1 2 3



GIRDER A



GIRDER B THRU E
COIL TIE INSERT LOCATIONS – INTERMEDIATE DIAPHRAGMS
¾"=1'-0" 1 6" 0 1 2 3

GIRDER F

NOTE:
ADDITIONAL INSERTS ARE REQUIRED FOR THE WATER PIPE SUPPORTS ON THE EAST BRIDGE (SEE DWG. S30) AND THE GAS PIPE SUPPORTS ON THE WEST BRIDGE (SEE DWG. S31)

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

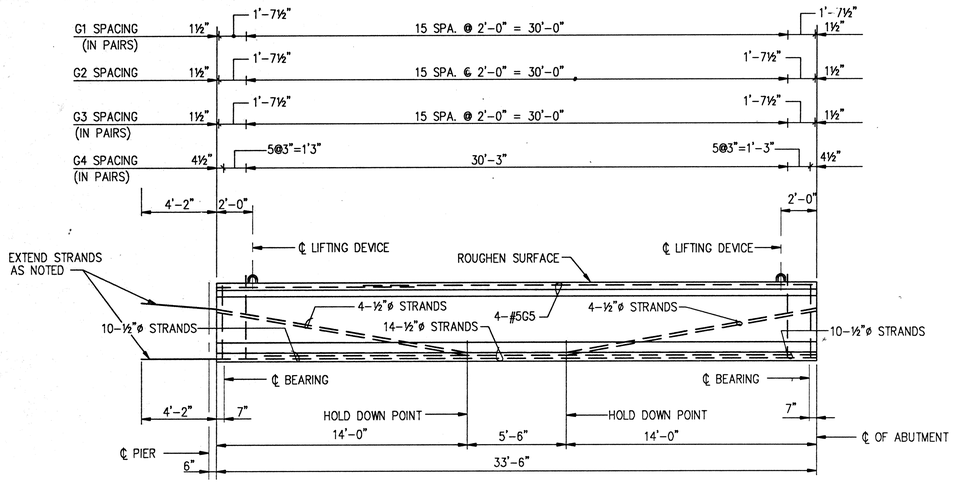
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PRECAST PRESTRESSED CONCRETE GIRDERS TYPE 2

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

Dwg. No. S25

08/24/93 03:21 RRP 1/4"=1'-0" C:\9107\DSK6\S25



ELEVATION OF TYPE 1 PRESTRESSED CONCRETE GIRDER

(WEIGHT OF ONE GIRDER IS 13.4 TONS, 6 REQUIRED)

¼"=1'-0" 5 0 5 10

NOTES:

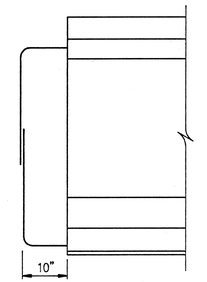
1. FOR GENERAL NOTES, SEE DWG NO. S1.
2. THERE SHALL BE 12 STRANDS EXTENDED FROM THE ENDS OF ALL GIRDERS AS SHOWN IN ELEVATIONS. 10 OF THESE STRANDS SHALL BE FROM THE BOTTOM ROW. THEY SHALL PRODUCE NO LATERAL ECCENTRICITY. 2 STRANDS FROM THE TOP ROW SHALL ALSO BE EXTENDED. STRANDS NOT TO BE EXTENDED SHALL BE CUT WITHIN 1 INCH OF THE END OF THE GIRDER.
3. SANDBLAST GIRDER SIDES WHERE CONCRETE COMES IN CONTACT WITH DIAPHRAGMS.
4. DIMENSIONS ARE MEASURED ALONG ℄ OF GIRDER.

SUMMARY OF QUANTITIES		
ITEM		
6'-0" PRESTRESSED CONCRETE GIRDER, 6 @ 33'-6"	201	FT.
*THE FOLLOWING QUANTITIES ARE GIVEN FOR INFORMATION ONLY		
CONCRETE IN BEAMS (F'c = 6,000 P.S.I.)	39.6	YD.³
PRESTRESSING STEEL, A416, ½"ø STRAND (LOW RELAX)	3,114	FT.
¾" COIL TIE	66	EA.
ELASTOMERIC BEARING PADS, 60 DUR.	12	EA.
¾"øx2'-6" THREADED COIL RODS	24	EA.
¾"øx10" THREADED COIL RODS	108	EA.
REINFORCING STEEL (GR 60)	1,969	LBS.
REINFORCING STEEL (GR 60) (EPOXY COATED)	1,727	LBS.
¾" PREFORMED EXPANSION JOINT FILLER	32	SF.

*THESE QUANTITIES SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "6'-0" PRESTRESSED CONCRETE GIRDERS".

BILL OF REINFORCING STEEL			
ONE BEAM LISTED (6 REQUIRED)			
STRAIGHT BARS (GR. 60)			
MARK	SIZE	NO.	LENGTH
G5	5	4	33'-2"
G2	4	18	3'-4"
BENT BARS (GR. 60)			
G1®	5	36	7'-8"
G3	4	36	3'-9"
G4	4	24	7'-1½"

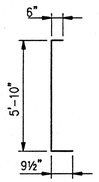
® EPOXY COATED BARS



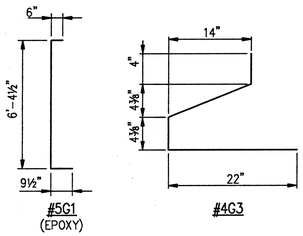
PARTIAL ELEVATION OF GIRDERS AT PIERS

(SHOWS EXTENDED STRANDS AFTER SHOP BENDING)

NO SCALE



#5G4

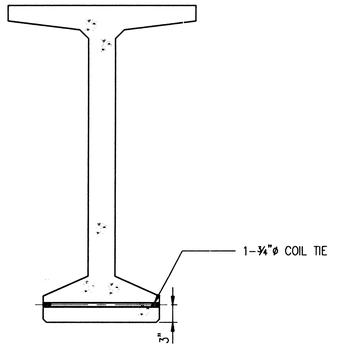


#5G1 (EPOXY) #4G3

BENDING DIAGRAMS

(ALL DIMENSIONS ARE OUT TO OUT OF BARS)

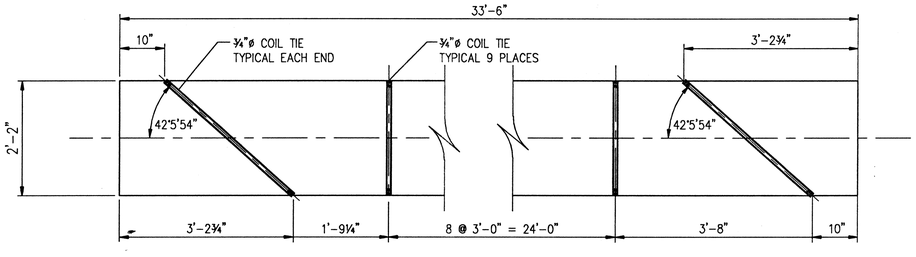
NO SCALE



GIRDER A THRU F

COIL TIE INSERT LOCATIONS – ABUTMENT DIAPHRAGMS

¾"=1'-0" 1 6" 0 1 2 3



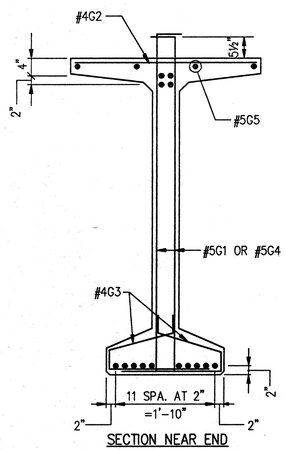
PIER END

ABUTMENT END

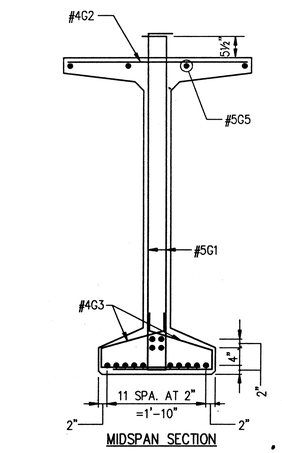
NOTE: ADDITIONAL INSERTS ARE REQUIRED FOR THE WATER PIPE SUPPORTS ON THE EAST BRIDGE (SEE DWG. S30) AND THE GAS PIPE SUPPORTS ON THE WEST BRIDGE (SEE DWG. S31)

PLAN – COIL TIE INSERT LOCATIONS

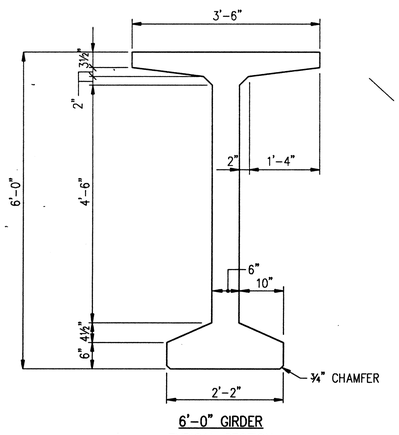
¾"=1'-0" 1 6" 0 1 2 3



SECTION NEAR END

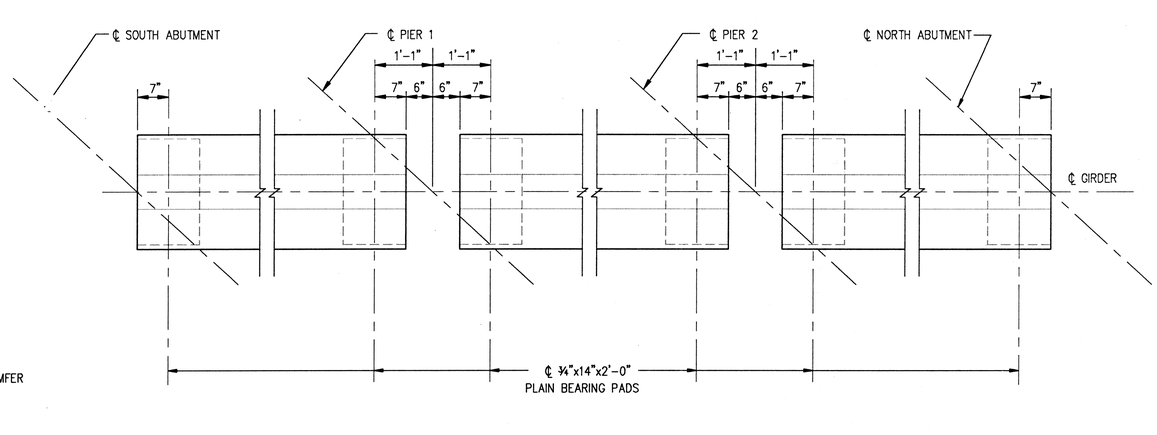


MIDSPAN SECTION



6'-0" GIRDER

TYPICAL SECTION



BEARING PAD PLAN

¾"=1'-0" 1 6" 0 1 2 3

08/30/93 11:04 JLS 1/4"=1'-0" C:\9107\KCMO\S26

No.	Revision	By	Date

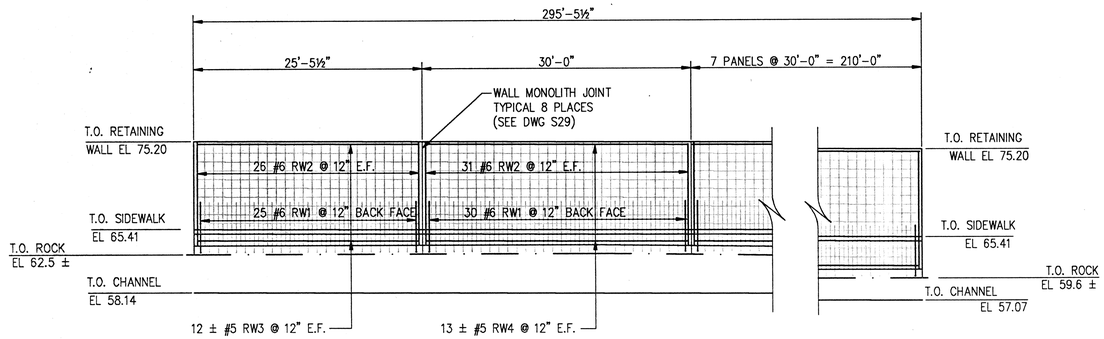
PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

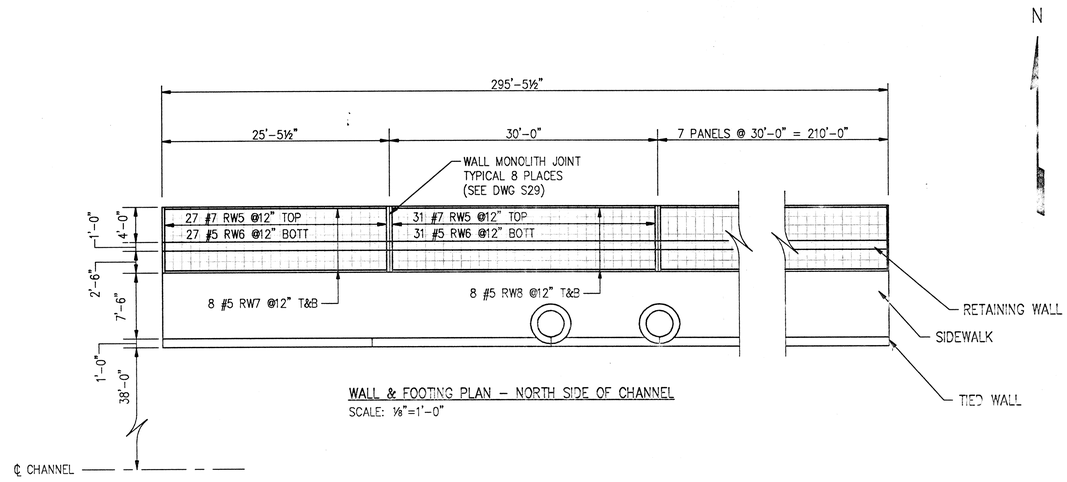
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PRECAST PRESTRESSED CONCRETE GIRDERS TYPE 3

Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

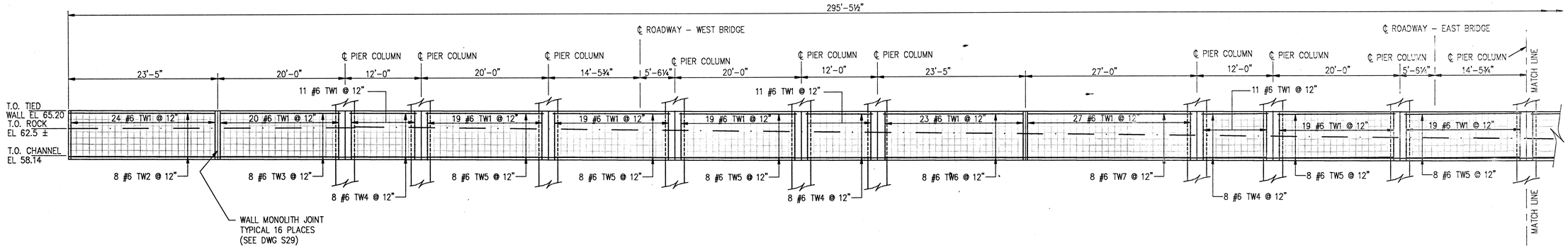
Dwg. No. S26

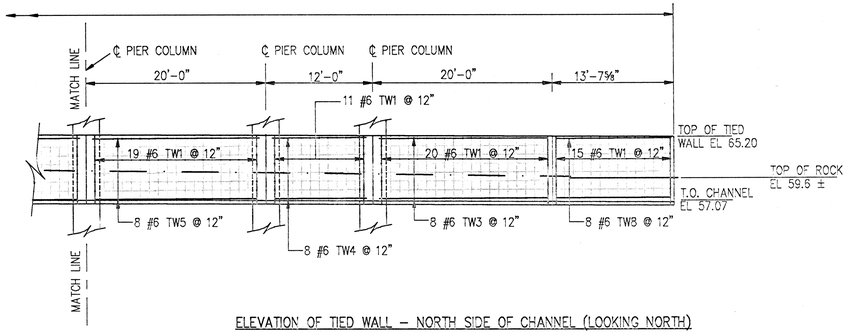


ELEVATION OF RETAINING WALL – NORTH SIDE OF CHANNEL (LOOKING NORTH)
SCALE: ⅛"=1'-0"



WALL & FOOTING PLAN – NORTH SIDE OF CHANNEL
SCALE: ⅛"=1'-0"





ELEVATION OF TIED WALL – NORTH SIDE OF CHANNEL (LOOKING NORTH)
SCALE: ⅛"=1'-0"

NOTES:

1. SEE DWG S2 FOR WALL LOCATION
2. SEE DWG S29 FOR WALL SECTIONS

09/23/93 08:25 MLD 1/8"=1'-0" B:\S27

No.	Revision	By	Date

DAVID WARD SEELEY NUMBER E-24031 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

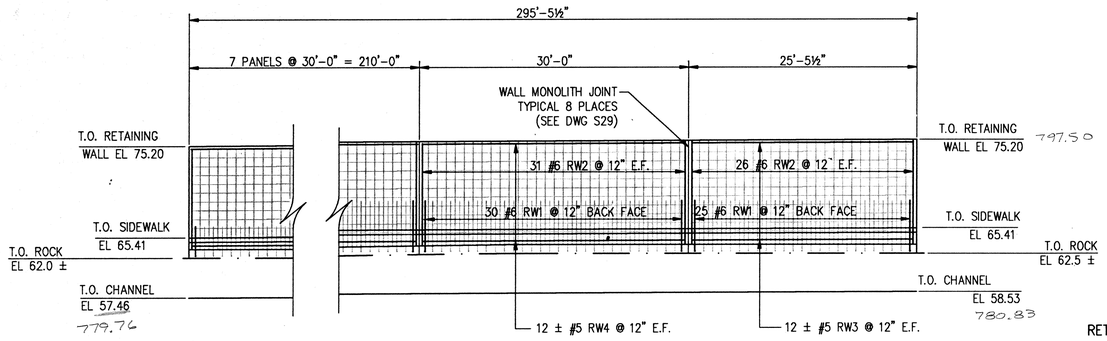
PROJECT ENGINEER
Date 9-3-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

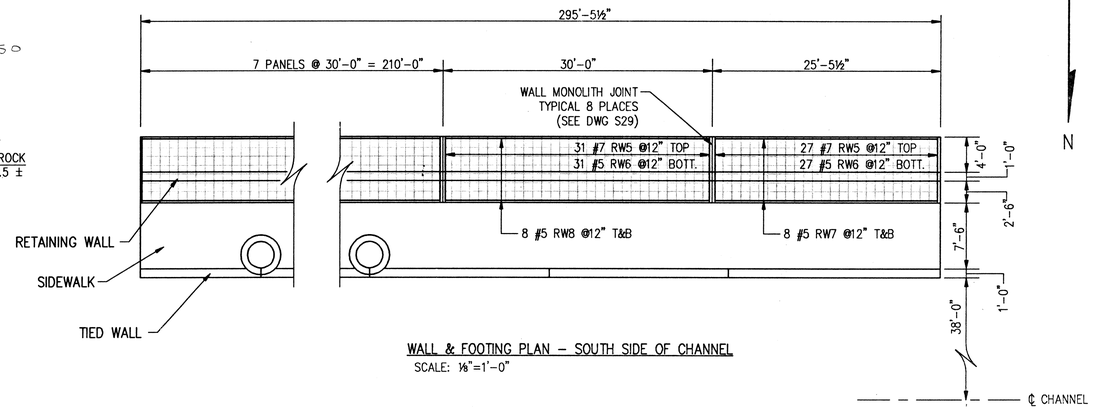
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
CHANNEL WALLS
PLAN & PROFILE OF NORTH WALLS

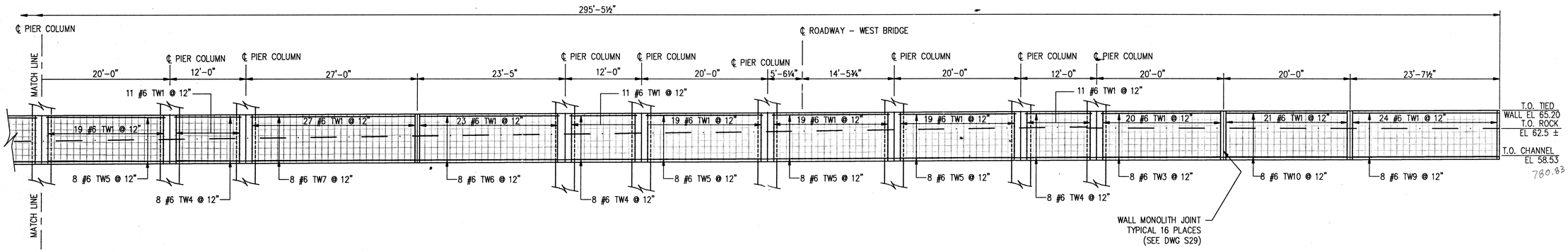
Dwg. No. S27

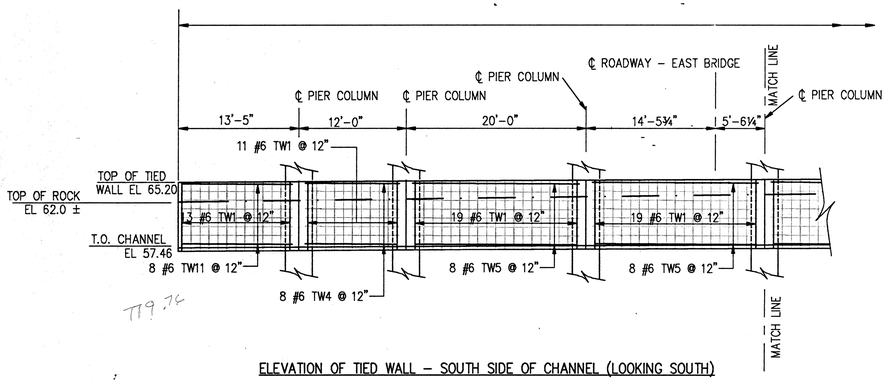


ELEVATION OF RETAINING WALL – SOUTH SIDE OF CHANNEL (LOOKING SOUTH)
SCALE: ⅛"=1'-0"



WALL & FOOTING PLAN – SOUTH SIDE OF CHANNEL
SCALE: ⅛"=1'-0"





ELEVATION OF TIED WALL – SOUTH SIDE OF CHANNEL (LOOKING SOUTH)
SCALE: ⅛"=1'-0"

NOTES:

1. SEE DWG S2 FOR WALL LOCATION
2. SEE DWG S29 FOR WALL SECTIONS

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

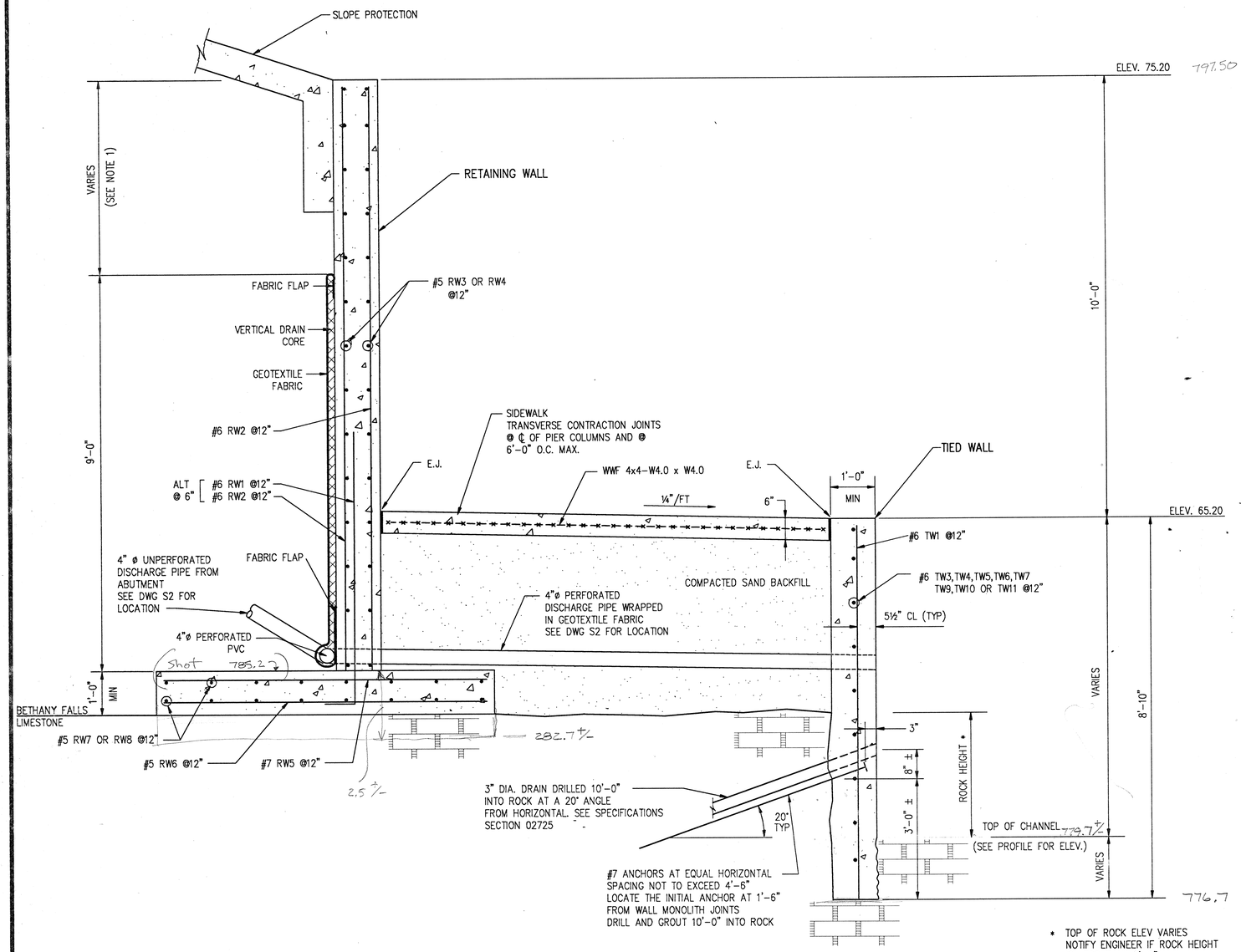
A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
CHANNEL WALLS
PLAN & PROFILE OF SOUTH WALLS

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

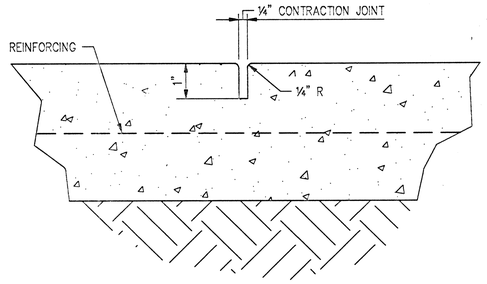
Dwg. No. S28

08/30/93 11:35 JS 1/8"=1'-0" C:\9107\KCWOS28



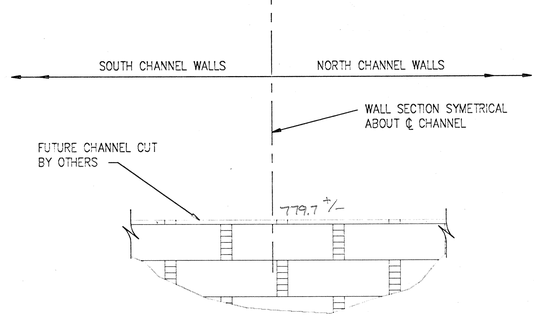
TYPICAL SECTION – ANCHORED WALL

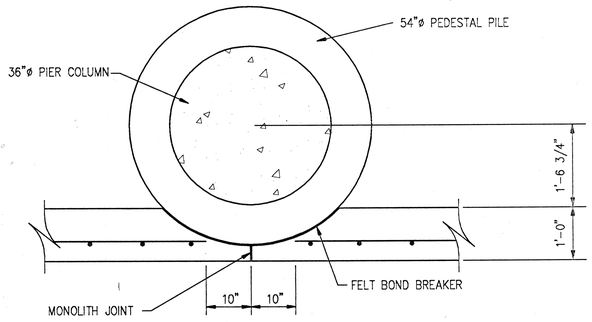
SCALE: ¾"=1'-0"



SIDEWALK CONTRACTION JOINT DETAIL

NO SCALE



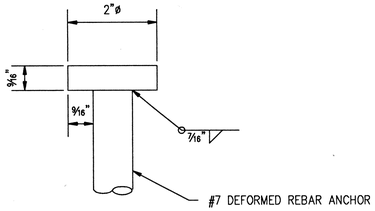


MONOLITH JOINT AT PIER COLUMN DETAIL

NO SCALE

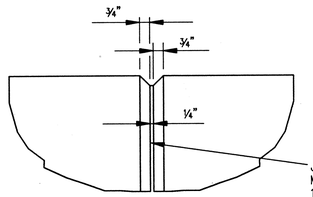
NOTES:

1. HEIGHT OF RETAINING WALL VARIES DEPENDING ON ACTUAL ROCK ELEVATION. THEREFORE, THE LENGTH OF THE VERTICAL BARS MAY VARY AND THE QUANTITY OF THE HORIZONTAL BARS MAY VARY. CONTRACTOR SHOULD FIELD VERIFY WALL HEIGHTS.



ANCHOR HEAD DETAIL

NOT TO SCALE



MONOLITH JOINT DETAIL

NO SCALE

09/23/93 08:30 MLD 3/4"=1'-0" BA\S29

No.	Revision	By	Date

DAVID WARD SEILER NUMBER E-8007 STATE OF MISSOURI REGISTERED ENGINEER

PROJECT ENGINEER Date 9-28-93

NOTE: This drawing is PRELIMINARY until approved by project eng.

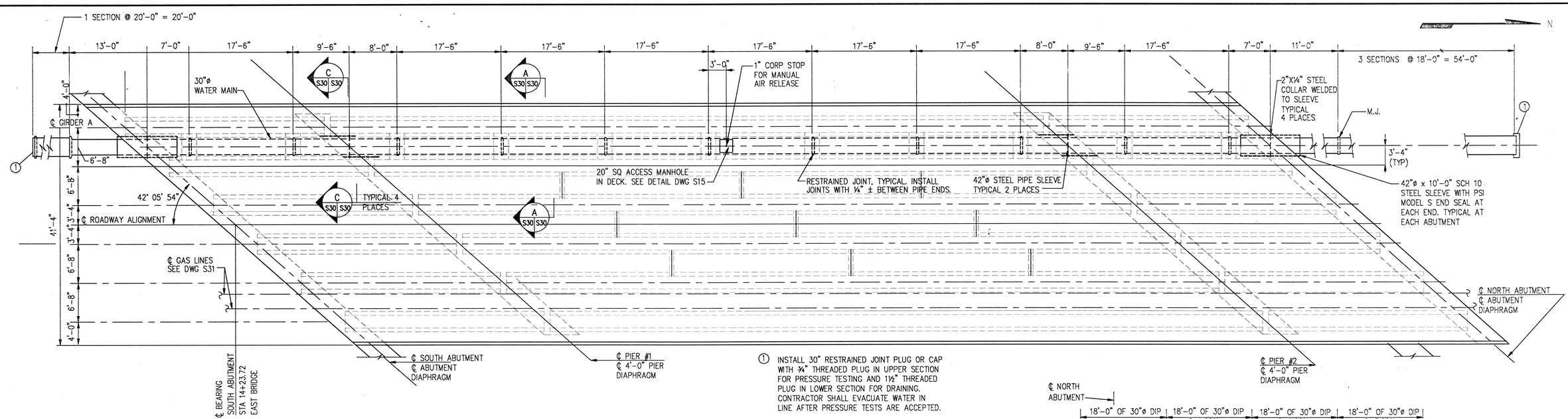
A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

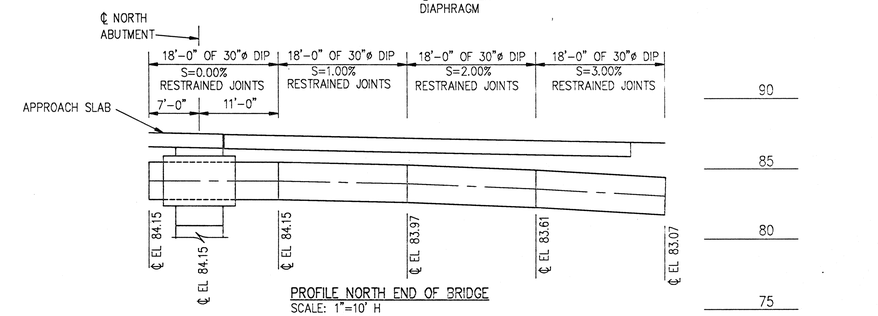
CHANNEL WALL DETAILS

Dwg. No. S29

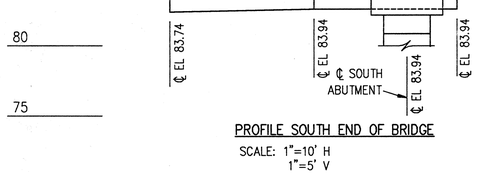


① INSTALL 30" RESTRAINED JOINT PLUG OR CAP WITH ¾" THREADED PLUG IN UPPER SECTION FOR PRESSURE TESTING AND 1½" THREADED PLUG IN LOWER SECTION FOR DRAINING. CONTRACTOR SHALL EVACUATE WATER IN LINE AFTER PRESSURE TESTS ARE ACCEPTED.

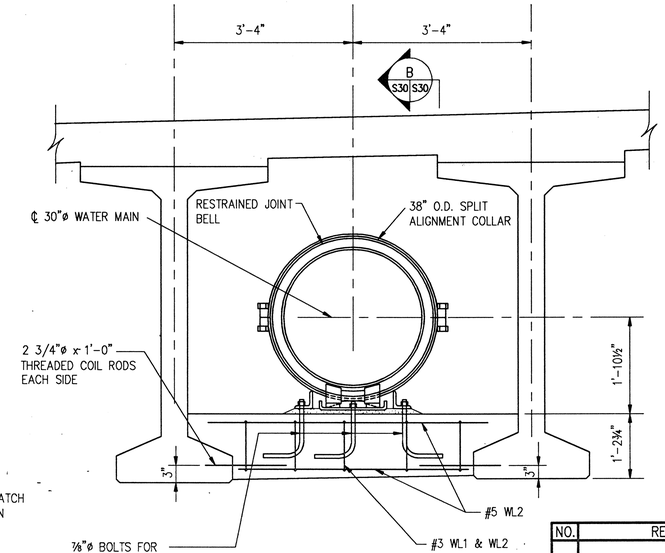
SLAB AND GIRDER PLAN – EAST BRIDGE
SCALE: ⅛"=1'-0"



PROFILE NORTH END OF BRIDGE
SCALE: 1"=10' H
1"=5' V

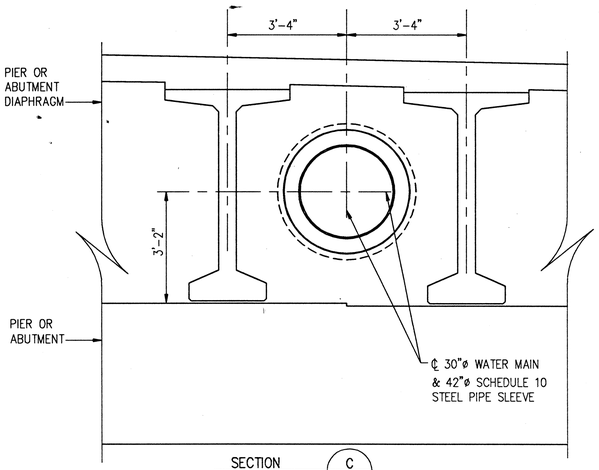


PROFILE SOUTH END OF BRIDGE
SCALE: 1"=10' H
1"=5' V

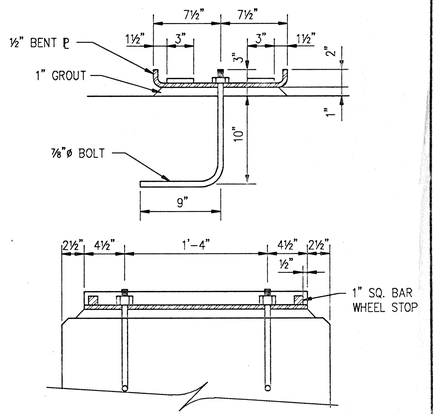


SECTION A S30 S30
SCALE: ¾"=1'-0"

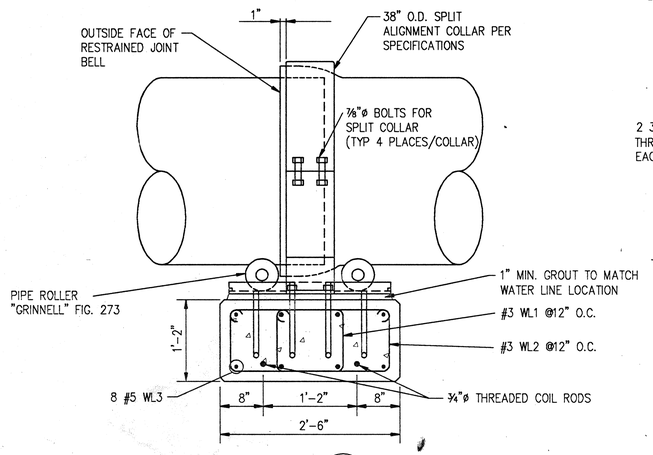
B S30 S30



SECTION C S30 S30
SCALE: ½"=1'-0"



BENT ℄ DETAIL
SCALE: 1½"=1'-0"



SECTION B S30 S30
SCALE: 1"=1'-0"

NO.	REVISIONS	BY	DATE

APPROVED BY H.E. Snider 9-30-93
H.E. SNIDER, DIRECTOR KEB DATE
WATER AND POLLUTION CONTROL DEPARTMENT

DRAWING: D – 17538 E – 2959
C – 17286 PW-5357,PH-A

Designed By DWS
Drawn By DWS
Checked By DGL
Scale AS SHOWN
Job No. 9107
Contract No.
Approved By
PROJECT ENGINEER
Date
NOTE: This drawing is PRELIMINARY until approved by Proj. Engineer

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
WATER LINE IMPROVEMENTS

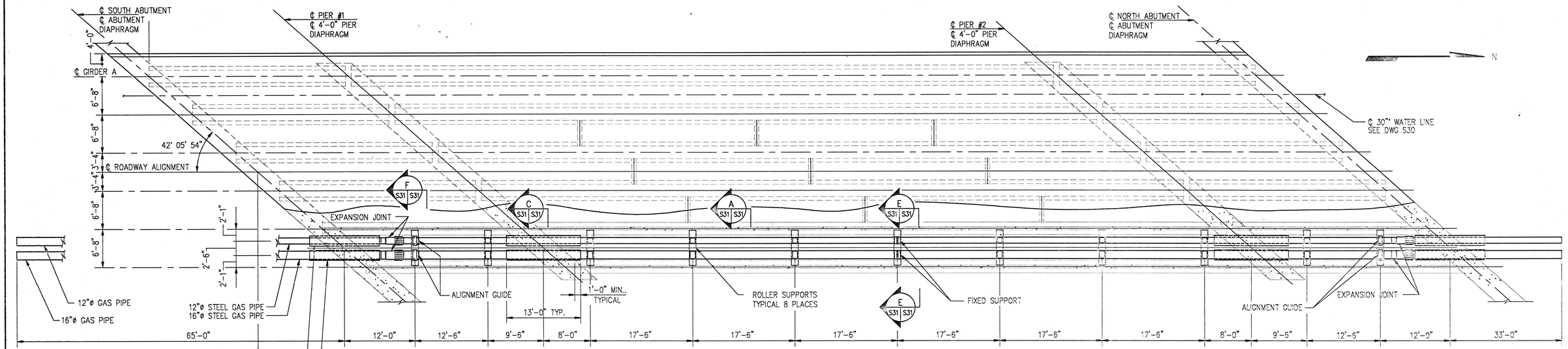
STATE OF MISSOURI DAVID WARD SEELEY NUMBER 2C731 REGISTERED ENGINEER 9/29/93

A.C. KIRKWOOD & ASSOCIATES
A DIVISION OF:
CIVIL ENGINEERS – ELECTRICAL ENGINEERS
MECHANICAL ENGINEERS – LANDSCAPE ARCHITECTS
LAND SURVEYORS – LAND PLANNERS
2640 Main, Kansas City, Missouri 64108
OFFICE: 816-333-4477 FAX: 816-361-0288
Shafer, Kline & Warren P.A.
913-888-7800

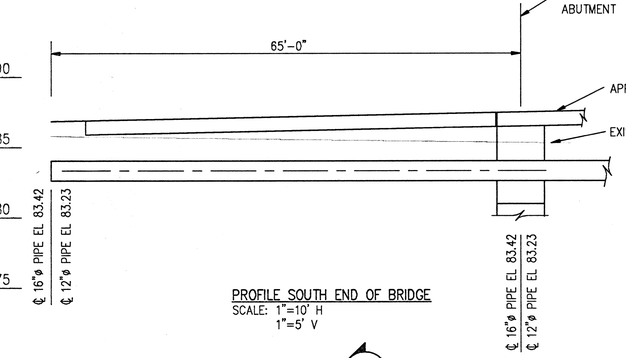
WATER PIPE DETAILS

DWG. NO. S30

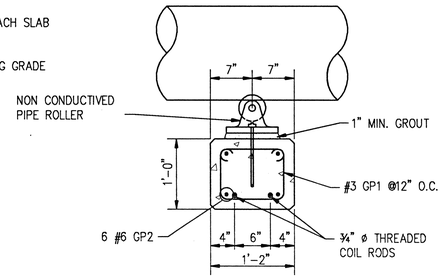
09/28/93 16:09 MLD 1/8"=1'-0" C:\TEMP\S30



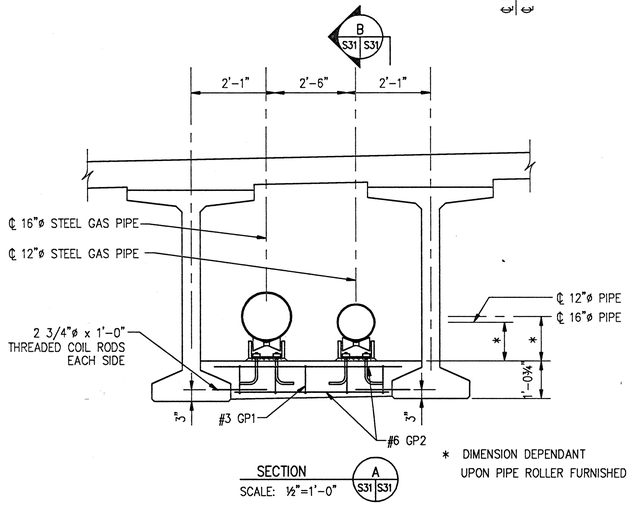
SLAB AND GIRDER PLAN – EAST BRIDGE
SCALE: 1/8"=1'-0"



PROFILE SOUTH END OF BRIDGE
SCALE: 1"=10' H
1"=5' V

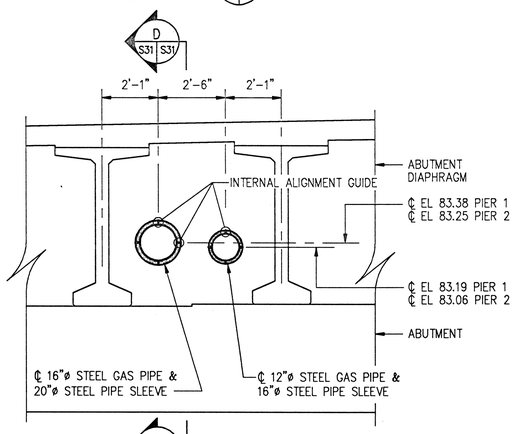


SECTION B S31 S31
SCALE: 1"=1'-0"

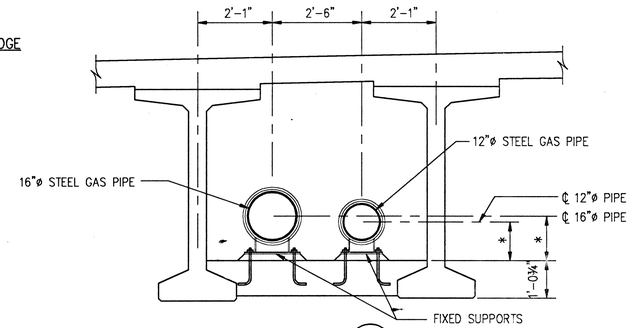


SECTION A S31 S31
SCALE: ½"=1'-0"

* DIMENSION DEPENDANT UPON PIPE ROLLER FURNISHED

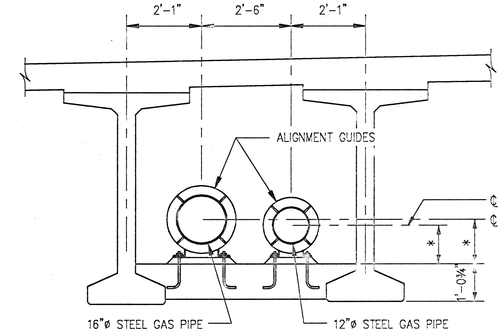


SECTION C S31 S31
SCALE: 3/8"=1'-0"



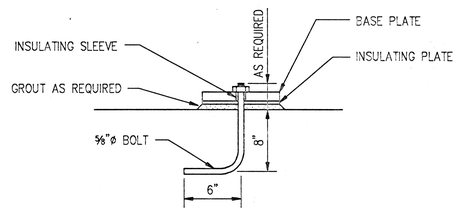
SECTION E S31 S31
SCALE: ½"=1'-0"

* DIMENSION DEPENDANT UPON SUPPORT FURNISHED



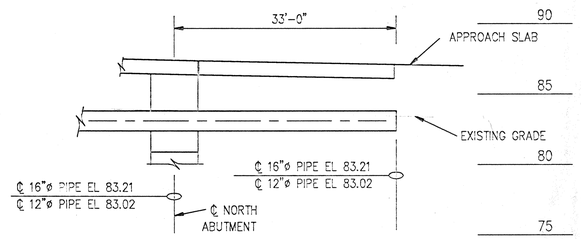
SECTION F S31 S31
SCALE: ½"=1'-0"

* DIMENSION DEPENDANT UPON ALIGNMENT GUIDE FURNISHED



ANCHOR BOLT DETAIL
SCALE: 1½"=1'-0"

LOCATION AND PROJECTION OF ANCHOR BOLTS DEPENDANT ON DEVICE FURNISHED



PROFILE NORTH END OF BRIDGE
SCALE: 1"=10' H
1"=5' V

NOTES:
1. REFERENCE SPECIFICATION SECTION 15100 FOR WORK AND MATERIALS REQUIRED UNDER THIS CONTRACT.

NO.	REVISIONS	BY	DATE

Designed By DWS
Drawn By DWS
Checked By DGL
Scale AS SHOWN
Job No. 9107
Contract No.
Approved By
PROJECT ENGINEER
Date 1-28-93
NOTE: This drawing is PRELIMINARY until approved by Proj. Engineer

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
GAS LINE INSTALLATION

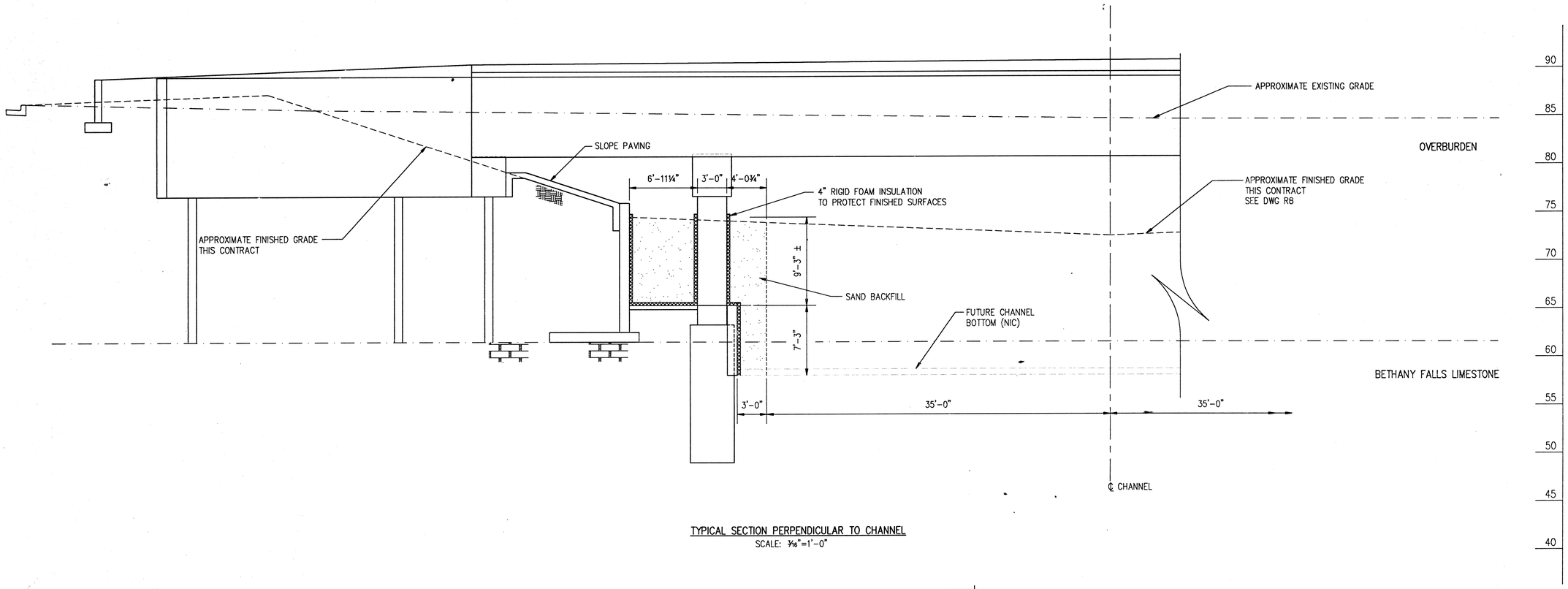
STATE OF MISSOURI REGISTERED PROFESSIONAL DAVID WARD SEELEY NUMBER E-20031

A.C. KIRKWOOD & ASSOCIATES
A DIVISION OF: Shafer, Kline & Warren P.A.
913-558-7600
CIVIL ENGINEERS – ELECTRICAL ENGINEERS
MECHANICAL ENGINEERS – LANDSCAPE ARCHITECTS
LAND SURVEYORS – LAND PLANNERS
2640 Main, Kansas City, Missouri 64108
OFFICE: 816-333-4477 FAX: 816-361-0288

GAS PIPE DETAILS

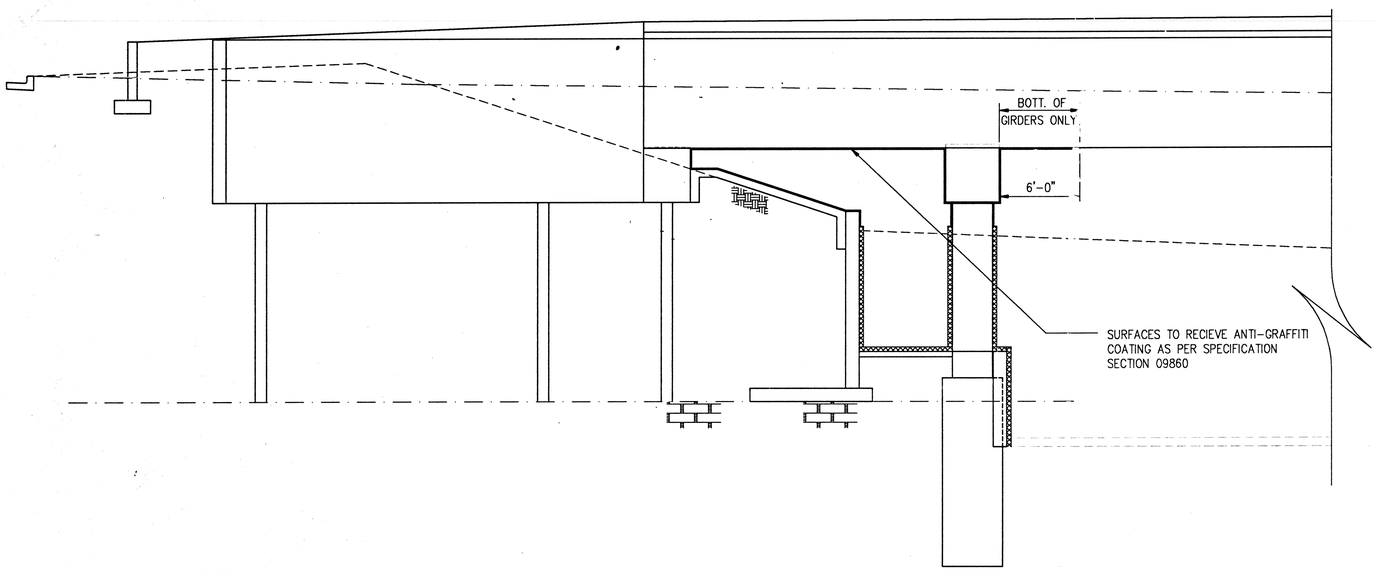
DWG. NO. S31

09/28/93 15:47 MLC 1/8"=1'-0" C:\TEMP\S31



TYPICAL SECTION PERPENDICULAR TO CHANNEL

SCALE: 3/16"=1'-0"



LIMITS OF ANTI-GRAFFITI COATING

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

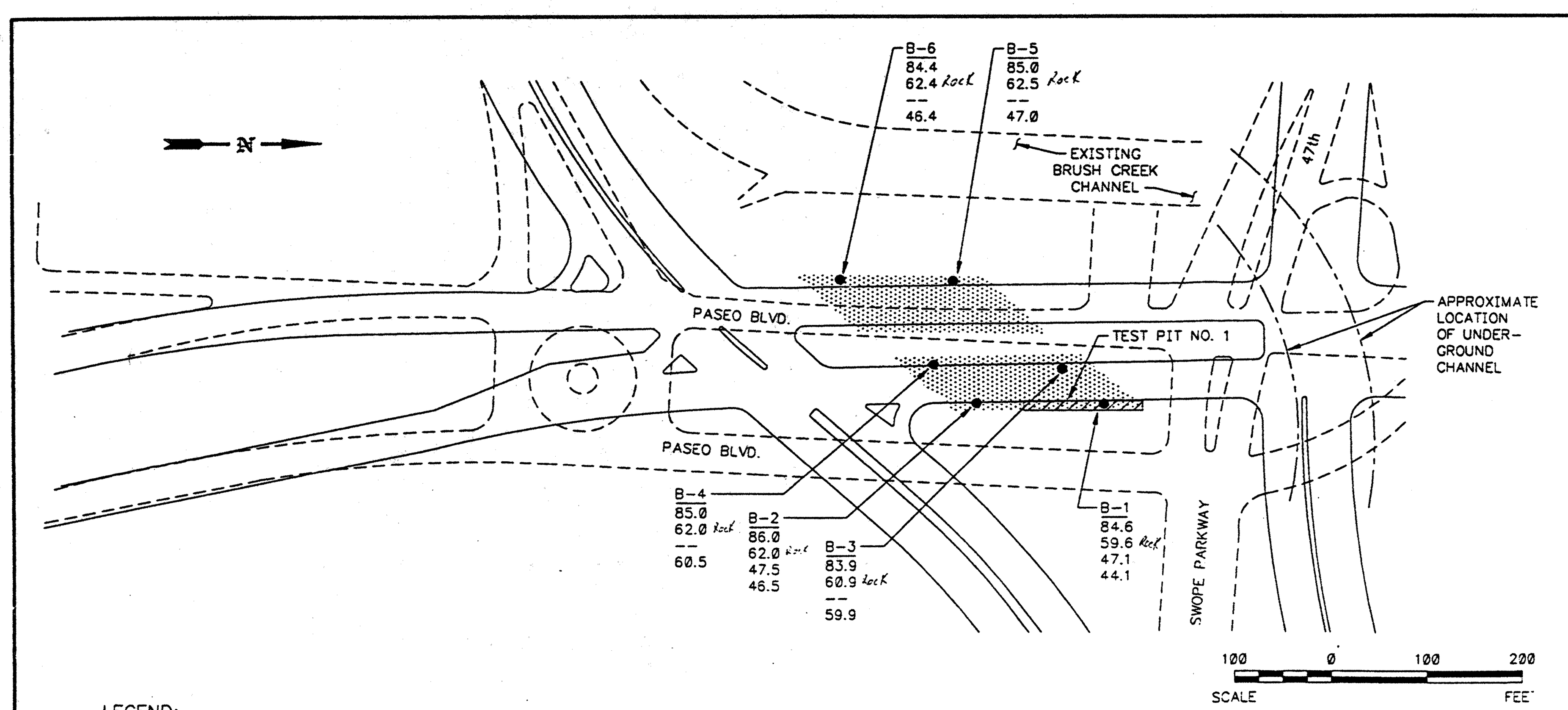
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

EXCAVATION

Dwg. No. S32

03/30/93 09:24 nwr: 3/16"=1'-0" B\S32



LEGEND:

- - - - - - OLD PASEO BLVD.
———— PROPOSED PASEO BLVD.
● B-1 — SOIL BORING LOCATION AND DESIGNATION
84.6 — APPROXIMATE GROUND SURFACE ELEVATION (KANSAS CITY, MISSOURI DATUM)
59.6 — APPROXIMATE ELEVATION - TOP OF BETHANY FALLS LIMESTONE
47.1 — APPROXIMATE ELEVATION - TOP OF HUSHPUCKNEY SHALE
44.1 — APPROXIMATE BOTTOM OF BORING ELEVATION
////// LOCATION OF TEST PIT NO. 1

BORING LOG B-1 (Sheet 1 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 84.6; ELEVATION DATUM: K.C.,MO.; GROUND WATER: Water detected @ 20.0' ATD; OBSERVATIONS:; SHEET 1 of 2; PROJECT NO. 91C7335; TASK NO.:; DATE 11/10/91; RIG CME-55

DESCRIPTION	FIELD NOTES
Stiff, dark grayish-brown, low plastic, Silty, Sandy Clay FILL with angular limestone gravel (3.5)	Boring advanced with 4" dia. CFA and rock drilling bit
ROCK RUBBLE FILL: Angular limestone rubble with average particle size 4"-6" in largest dimension. A few particles were noted to 18" in largest dimension and 4"-6" in thickness (12.0)	3" dia. coring casing installed to depth of 10' Boring continued with NX-size coring equipment and drilling fluid (some bentonite added) NX Run #1 Start: 10.5' Stop: 13.5' Run: 3.0' Rec: 0.25' Lost: 2.75' DWR: 0% Boring continued with 4" dia. CFA
Stiff, dark brown, low plastic, Silty, Sandy CLAY with coarse limestone gravel (CL) Becoming soft to firm, dark olive gray, with strong odor of diesel fuel Becoming very dark gray Quantity of limestone gravel increasing (25.0)	Possible clay filled joint Water detected ATD

Woodward-Clyde Consultants — Figure No. A-1

BORING LOG B-1 (Sheet 2 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 84.6; ELEVATION DATUM: K.C., MO.; GROUND WATER: Water detected @ 20.0' ATD; PROJECT NO. 91C7335; DATE 11/10/91; RIG CME-55

DESCRIPTION	FIELD NOTES
LIMESTONE: Extremely weathered and fractured; originally light gray to gray, finely to microcrystalline, slightly fossiliferous (Bethany Falls Limestone) Upper part of unit represented by calcareous conglomerate With abundant stylolites and argillaceous breaks With abundant discontinuities along bedding planes With several vertical joints (up to 12" long); zones of jointing locally bleached, locally infilled with clayey matter With small cavities infilled with iron oxides (?) and secondary calcite	NX 0/54 0%; NX 5/120 71%. 3" dia. casing installed to depth of 26' Boring continued with NX-size coring equipment and drilling fluid NX Run #2 Start: 26.0' Stop: 30.5' Run: 4.5' Rec: 3.6' Lost: 0.9' DWR: 0% NX Run #3 Start: 30.5' Stop: 40.5' Run: 10.0' Rec: 9.2' Lost: 0.8' DWR: 0%
SHALE: Very stiff, weathered, olive-gray, clayey, calcareous (Hushpuckney Shale) Becoming hard with some carbonized flora Becoming black, subfissile, non-calcareous	Bottom of Boring 40.5' Boring backfilled with auger cuttings upon completion

Woodward-Clyde Consultants — Figure No. A-2

BORING LOG B-2 (Sheet 1 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 86.0; ELEVATION DATUM: K.C., MO.; GROUND WATER: Water detected @ 19.0' ATD; PROJECT NO. 91C7335; DATE 11/11/91; RIG CME-55

DESCRIPTION	FIELD NOTES
Topsoil Very stiff, dark grayish-brown, very low plastic, silty, sandy, Clay FILL with abundant limestone boulders and coarse gravel, with ash, tar, slag, broken glass, asphalt, bricks, etc. (FILL)	Boring advanced with 4" dia. CFA
Stiff, dark brownish-gray, with dark brown mottling, low plastic, Silty CLAY with rootlets, slightly slickensided (CL) Becoming firm Becoming dark gray to dark olive-gray with slight diesel fuel odor	Water detected ATD 3" dia. casing installed to depth of 24.5'
LIMESTONE: Weathered, broken, with clay and gravel (Bethany Falls Limestone)	

Woodward-Clyde Consultants — Figure No. A-3

BORING LOG B-2 (Sheet 2 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 86.0; ELEVATION DATUM: K.C., MO.; GROUND WATER: Water detected @ 19.0' ATD; PROJECT NO. 91C7335; DATE 11/11/91; RIG CME-55

DESCRIPTION	FIELD NOTES
LIMESTONE: Conglomeratic, light gray to medium gray, medium bedded, finely crystalline (sparitic), slightly fossiliferous, with secondary calcite (Bethany Falls Limestone) With abundant stylolites and clayey breaks With zone of fracturing and bleaching along bedding planes Becoming finely to microcrystalline, fossiliferous With small geodes of calcite With 2-foot long vertical joint infilled with calcite coatings and crystals	NX 67/114 59%; NX 39/66 59%. From 24.5', boring continued with NX-size coring equipment and drilling fluid NX Run #1 Start: 24.5' Stop: 34.0' Run: 9.5' Rec: 9.2' Lost: 0.3' DWR: 0% NX Run #2 Start: 34.0' Stop: 39.5' Run: 5.5' Rec: 5.5' Lost: 0.0' DWR: 0%
SHALE: Calcareous, olive-gray, very thinly laminated (Hushpuckney Shale) Becoming black, clayey, structureless	Bottom of Boring 39.5' Boring backfilled with auger cuttings upon completion

Woodward-Clyde Co sultants — Figure No. A-4

BORING LOG B-3 (Sheet 1 of 1)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 83.9; ELEVATION DATUM: K.C. MO.; GROUND WATER: Water detected @ 20.0' ATD; PROJECT NO. 91C7335; DATE 11/11/91; RIG CME-55

DESCRIPTION	FIELD NOTES
Topsoil Stiff, dark grayish-yellow, low plastic, silty, sandy, Clay FILL, with abundant wood, with broken bricks, with limestone gravel (FILL) With limestone boulder at 4.0-5.25'	Boring advanced with 4" dia. CFA No penetration with California sampler because of boulder
Stiff to very stiff, grayish-yellow, low plastic, Silty CLAY (CL) Becoming light brown with dark gray mottling Becoming firm to stiff, dark bluish-gray, with reddish-brown mottling, with iron oxides (?) With trace to little fine sand With little limestone angular gravel	WC>PL Water detected ATD Boring backfilled with auger cuttings upon completion
LIMESTONE: Conglomeratic, medium-gray, finely crystalline, fossiliferous, with secondary calcite (Bethany Falls Limestone)	Bottom of Boring 24.0'

Woodward-Clyde Consultants — Figure No. A-5

BORING LOG B-4 (Sheet 1 of 1)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 85.0; ELEVATION DATUM: K.C., MO.; GROUND WATER: Water detected @ 19.0' ATD; PROJECT NO. 91C7335; DATE 11/11/91; RIG CME-55

DESCRIPTION	FIELD NOTES
Topsoil Stiff, dark gray and dark brown, low plastic, silty, sandy, Clay FILL with abundant limestone gravel and boulders (FILL) With cinder, broken bricks, roofing tar, and asphalt Quantity of sand and fine gravel increasing	Boring advanced with 4" dia. CFA
Stiff, light brown with dark gray mottling, low plastic, Silty CLAY (CL) Becoming firm to stiff, dark bluish-gray with reddish-brown mottling, very silty With root channels, with iron oxides nodules With trace of fine sand With little to some coarse angular limestone gravel	Water detected ATD Boring backfilled with auger cuttings upon completion
LIMESTONE: Weathered, jointed, medium gray, finely crystalline (Bethany Falls Limestone)	Bottom of Boring 24.5'

Woodward-Clyde Consultants — Figure No. A-6

BORING LOG B-5 (Sheet 1 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 85.0; ELEVATION DATUM: K.C. MO.; GROUND WATER: Water detected @ 19.0' ATD; PROJECT NO 91C7335; DATE 11/12/91; RIG CME-55

DESCRIPTION	FIELD NOTES
Topsoil Stiff, light brown, low plastic, Silty CLAY, with root hairs, iron oxides nodules, trace of fine sand, and occasional gravel (CL) Becoming light brown and dark brownish-gray with occasional calcareous nodules Becoming light brown with gray and reddish-brown mottling Becoming firm to stiff and dark brownish-gray Becoming firm, dark bluish-gray, with root hairs and little to some limestone angular gravel	Boring advanced with 4" dia. CFA Water detected ATD 3" dia. casing installed to depth of 23'
LIMESTONE: Weathered, jointed; originally nodular, thin to medium bedded, medium gray, finely crystalline (Bethany Falls Limestone)	NX 4/108 68%

Woodward-Clyde Consultants — Figure No. A-7

BO ING LOG B-5 (Sheet 2 of 2)

PROJECT NAME: Paseo Br ge; PROJECT LOCATION: Paseo & Brush Creek, K nsas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 85.0; ELEVATION ATUM: K.C. MO.; GROUND WATER: Water detected @ 1 0' ATD; PROJECT NO. 91C7335; DATE 11/12/91; RIG CME-55

DESC IPTION	FIELD NOTES
LIMESTONE: Nodula , medium bedded, gray, finely crystalline Bethany Falls Limestone) With abundant stylolite and clayey breaks With discontinuities along bedding planes Becoming light gray, microcrystalline (micritic), with sporadi fossils Becoming finely crysta line With small cavities in illed with secondary calcite With vertical joints (to 12" long) in the interval 35.75-37. ' zone of arenaceous, argillaceous, fossiliferous limestone Becoming microcrystalline, not jointed	NX 52/72 72%. Boring continued with NX-size coring equipment a d drilling fluid NX Run #1 Start: 23.0' Stop: 32.0' Run: 9.0' Rec: 8.8' Lost: 0.2' DWR: 0% NX Run #2 Start: 32.0' Stop: 38.0' Run: 6.0' Rec: 6.0' Lost: 0.0' DWR: 0%
	Bottom of Boring 38.0' Boring backfilled with auger cuttings upon completion

Woodward-Clyde Consultants — Figure No. A-8

BORING LOG B-6 (Sheet 1 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 84.4; ELEVATION DATUM: K.C., MO.; GROUND WATER: Water detected @ 17.5' ATD; PROJECT NO. 91C7335; DATE 11/9/91; RIG CME-55

DESCRIPTION	FIELD NOTES
Firm to stiff, dark brownish-gray, low plastic, silty, sandy, gravelly, Clay FILL with bricks, wire, construction rubble (FILL) Becoming stiff to very stiff	Boring advanced with 4" dia. CFA
Stiff, light brown with dark gray mottling, low plastic, Silty CLAY (CL) With root channels Becoming firm to stiff, dark olive-gray and dark brown, with roots and root hairs, with small pieces of carbonized wood With iron oxides and calcareous nodules With abundant coarse angular limestone gravel	WC>PL Water detected ATD Undisturbed sample lost; Shelby tube destroyed by gravel 3" dia. casing installed to depth of 22'
LIMESTONE: Extremely fractured, weathered, originally gray, finely crystalline (Bethany Falls Limestone) With pockets of gray sandy clay, with cavities (to 1.5" dia) infilled with iron oxides	NX 4/108 31%. Boring continued with NX-size coring equipment and drilling fluid

Woodward-Clyde Consultants — Figure No. A-9

BORING LOG B-6 (Sheet 2 of 2)

PROJECT NAME: Paseo Bridge; PROJECT LOCATION: Paseo & Brush Creek, Kansas City, Missouri; LOGGED BY: G. Papinako; DRILLED BY: R. Herber; SURFACE ELEVATION: 84.4; ELEVATION DATUM: K.C., MO.; GROUND WATER: Water detected @ 17.5' ATD; PROJECT NO. 91C7335; DATE 11/9/91; RIG CME-55

DESCRIPTION	FIELD NOTES
LIMESTONE: Light gray, microcrystalline (micritic), with abundant stylolites, with abundant discontinuous planes, with clayey matter on open bedding planes, with vertical fissures (up to 10" long) Some fissures closed, some infilled with secondary calcite; with small cavities infilled with limonite (Bethany Falls Limestone) Becoming biomicritic, brittle With zone of fracturing along bedding planes With stylolites	NX 54/84 64%. No drilling water return after 25' 25 pounds of bentonite added to drilling water NX Run #1 Start: 22.0' Stop: 31.0' Run: 9.0' Rec: 8.16' Lost: 0.84' DWR: 0% NX Run #2 Start: 31.0' Stop: 38.0' Run: 7.0' Rec: 7.0' Lost: 0.0' DWR: 0%
	Bottom of Boring 38.0' Boring backfilled with auger cuttings upon completion

Woodward-Clyde Consultants — Figure No. A-10

No.	Revision	By	Date

PROJECT ENGINEER
Date 1-11-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
PASEO INTERSECTION COMPLEX
BORING LOGS

Dwg. No. S33

12/22/92 12:26 RRP 12"=1'-0" C:\9107\BORINGS

COMPLETE BILL OF REINFORCING STEEL

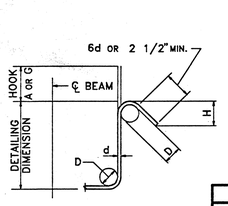
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
SUBSTRUCTURE			**NORTH ABUTMENT WEST BRIDGE**																				
70	4	A1	ABUT. BEAM		20		3'	0"													3'	0"	140
86	4	A2	ABUT. BEAM		34			4 ½"	4'	0"	4'	8"									18'	1"	1039
36	6	A3	ABUT. BEAM		20		31'	8"													31'	8"	1712
12	6	A4	ABUT. BEAM		20		46'	9"													46'	9"	843
3	4	A5	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	25
9	6	A6	ABUT. BEAM		14		1'	0"	5'	6"											6'	6"	88
1	4	A7	ABUT. BEAM		10				3'	0"	3'	7"									9'	7"	6
1	4	A8	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	8
5	6	A9	ABUT. BEAM		14				9'	6"	1'	0"					4¼"	11¼"			10'	6"	79
91	4	A10	ABUT. BEAM		20		4'	10"													4'	10"	294
4	4	A11	ABUT. BEAM		20		18'	5"													18'	5"	49
8	4	A12	ABUT. BEAM		20		10'	6"													10'	6"	56
16	4	A13	ABUT. BEAM		20		9'	8"													9'	8"	103
4	4	A14	ABUT. BEAM		20		9'	5"													9'	5"	25
12	4	A15	ABUT. BEAM		20		1'	8"													1'	8"	13
32	5	W1	ABUT. BEAM		20		3'	6"													3'	6"	117
10	5	W2	WEST WINGWALL		20		15'	0"													15'	0"	156
8	5	W3	WEST WINGWALL		20		4'	6"													4'	6"	38
12	5	W4	WEST WINGWALL		20		2'	6"													2'	6"	31
32	5	W5	WEST WINGWALL		19		2'	9"		10"											3'	7"	120
32	5	W6	WEST WINGWALL		20		5'	4"													5'	4"	178
43	5	W7	WEST WINGWALL		20		10'	9"													10'	9"	482
12	5	W8	WEST WINGWALL		20		32'	6"													32'	6"	407
10	5	W9	WEST WINGWALL		20		17'	0"													17'	0"	177
14	5	W10	WEST WINGWALL		20		3'	6"													3'	6"	51
20	5	W11	EAST WINGWALL		20		12'	4"													12'	4"	257
26	5	W13	EAST WINGWALL		20		11'	10"													11'	10"	321
SUBSTRUCTURE			**SOUTH ABUTMENT WEST BRIDGE**																				
70	4	A1	ABUT. BEAM		20		3'	0"													3'	0"	140
86	4	A2	ABUT. BEAM		34			4 ½"	4'	0"	4'	8"									17'	5"	1039
36	6	A3	ABUT. BEAM		20		31'	8"													31'	9"	1712
12	6	A4	ABUT. BEAM		20		46'	9"													46'	9"	843
3	4	A5	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	25
9	6	A6	ABUT. BEAM		14		1'	0"	5'	6"											6'	6"	88
1	4	A7	ABUT. BEAM		10				3'	0"	3'	7"									9'	7"	6
1	4	A8	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	8
5	6	A9	ABUT. BEAM		14				9'	6"	1'	0"					4¼"	11¼"			10'	6"	79
91	4	A10	ABUT. BEAM		20		4'	10"													4'	10"	294
4	4	A11	ABUT. BEAM		20		18'	5"													18'	5"	49
8	4	A12	ABUT. BEAM		20		10'	6"													10'	6"	56
16	4	A13	ABUT. BEAM		20		9'	8"													9'	8"	103
4	4	A14	ABUT. BEAM		20		9'	5"													9'	5"	25
12	4	A15	ABUT. BEAM		20		1'	8"													1'	8"	13
32	5	W1	ABUT. BEAM		20		3'	6"													3'	6"	117
10	5	W2	WEST WINGWALL		20		15'	0"													15'	0"	156
8	5	W3	WEST WINGWALL		20		4'	6"													4'	6"	38
12	5	W4	WEST WINGWALL		20		2'	6"													2'	6"	31
32	5	W5	WEST WINGWALL		19		2'	9"		10"											3'	7"	120
32	5	W6	WEST WINGWALL		20		5'	4"													5'	4"	178
43	5	W7	WEST WINGWALL		20		10'	9"													10'	9"	482
12	5	W8	WEST WINGWALL		20		32'	6"													32'	6"	407
10	5	W9	WEST WINGWALL		20		17'	0"													17'	0"	177
14	5	W10	WEST WINGWALL		20		3'	6"													3'	6"	51
20	5	W11	EAST WINGWALL		20		12'	4"													12'	4"	257
26	5	W13	EAST WINGWALL		20		11'	10"													11'	10"	321

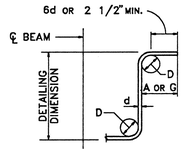
COMPLETE BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
SUBSTRUCTURE			**NORTH ABUTMENT EAST BRIDGE**																				
70	4	A1	ABUT. BEAM		20		3'	0"													3'	0"	140
86	4	A2	ABUT. BEAM		34			4 ½"	4'	0"	4'	8"									18'	1"	1039
36	6	A3	ABUT. BEAM		20		31'	8"													31'	8"	1712
12	6	A4	ABUT. BEAM		20		46'	9"													46'	9"	843
3	4	A5	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	25
9	6	A6	ABUT. BEAM		14		1'	0"	5'	6"											6'	6"	88
1	4	A7	ABUT. BEAM		10				3'	0"	3'	7"									9'	7"	6
1	4	A8	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	8
5	6	A9	ABUT. BEAM		14				9'	6"	1'	0"					4¼"	11¼"			10'	6"	79
91	4	A10	ABUT. BEAM		20		4'	10"													4'	10"	294
4	4	A11	ABUT. BEAM		20		18'	5"													18'	5"	49
8	4	A12	ABUT. BEAM		20		10'	6"													10'	6"	56
16	4	A13	ABUT. BEAM		20		9'	8"													9'	8"	103
4	4	A14	ABUT. BEAM		20		9'	5"													9'	5"	25
12	4	A15	ABUT. BEAM		20		1'	8"													1'	8"	13
32	5	W1	ABUT. BEAM		20		3'	6"													3'	6"	117
10	5	W2	EAST WINGWALL		20		15'	0"													15'	0"	156
8	5	W3	EAST WINGWALL		20		4'	6"													4'	6"	38
12	5	W4	EAST WINGWALL		20		2'	6"													2'	6"	31
32	5	W5	EAST WINGWALL		19		2'	9"		10"											3'	7"	120
32	5	W6	EAST WINGWALL		20		5'	4"													5'	4"	178
43	5	W7	EAST WINGWALL		20		10'	9"													10'	9"	482
12	5	W8	EAST WINGWALL		20		32'	6"													32'	6"	407
10	5	W9	EAST WINGWALL		20		17'	0"													17'	0"	177
14	5	W10	EAST WINGWALL		20		3'	6"													3'	6"	51
20	5	W11	EAST WINGWALL		20		12'	4"													12'	4"	257
26	5	W13	EAST WINGWALL		20		11'	10"													11'	10"	321
SUBSTRUCTURE			**SOUTH ABUTMENT EAST BRIDGE**																				
70	4	A1	ABUT. BEAM		20		3'	0"													3'	0"	140
86	4	A2	ABUT. BEAM		34			4 ½"	4'	0"	4'	8"									18'	1"	1039
36	6	A3	ABUT. BEAM		20		31'	8"													31'	8"	1712
12	6	A4	ABUT. BEAM		20		46'	9"													46'	9"	843
3	4	A5	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	25
9	6	A6	ABUT. BEAM		14		1'	0"	5'	6"											6'	6"	88
1	4	A7	ABUT. BEAM		10				3'	0"	3'	7"									9'	7"	6
1	4	A8	ABUT. BEAM		10				4'	6"	3'	7"									12'	7"	8
5	6	A9	ABUT. BEAM		14				9'	6"	1'	0"					4¼"	11¼"			10'	6"	79
91	4	A10	ABUT. BEAM		20		4'	10"													4'	10"	294
4	4	A11	ABUT. BEAM		20		18'	5"													18'	5"	49
8	4	A12	ABUT. BEAM		20		10'	6"													10'	6"	56
16	4	A13	ABUT. BEAM		20		9'	8"													9'	8"	103
4	4	A14	ABUT. BEAM		20		9'	5"													9'	5"	25
12	4	A15	ABUT. BEAM		20		1'	8"													1'	8"	13
32	5	W1	ABUT. BEAM		20		3'	6"													3'	6"	117
10	5	W2	EAST WINGWALL		20		15'	0"													15'	0"	156
8	5	W3	EAST WINGWALL		20		4'	6"													4'	6"	38
12	5	W4	EAST WINGWALL		20		2'	6"													2'	6"	31
32	5	W5	EAST WINGWALL		19		2'	9"		10"											3'	7"	120
32	5	W6	EAST WINGWALL		20		5'	4"													5'	4"	178
43	5	W7	EAST WINGWALL		20		10'	9"													10'	9"	482
12	5	W8	EAST WINGWALL		20		32'	6"													32'	6"	407
10	5	W9	EAST WINGWALL		20		17'	0"													17'	0"	177
14	5	W10	EAST WINGWALL		20		3'	6"													3'	6"	51
20	5	W11	EAST WINGWALL		20		12'	4"													12'	4"	257
26	5	W13	EAST WINGWALL		20		11'	10"													11'	10"	321

Each Abutment (4 Planes)

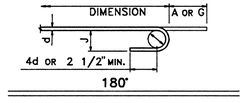
28	4	CP1	CLOSURE PANELS			27'	10" 521
100	4	CP2	"			2'	10" 189
40	4	CP3	"			1'	9" 47





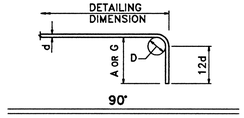
STIRRUP HOOK DIMENSIONS				
GRADES 40–50–60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	8"	7"	4½"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

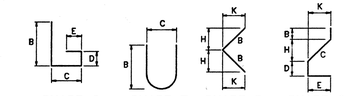


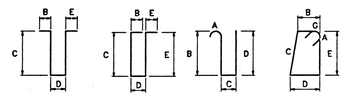
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

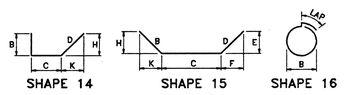
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

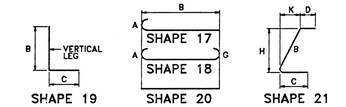
END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	180° HOOKS ALL GRADES A OR G	180° HOOKS ALL GRADES J	90° HOOKS ALL GRADES A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9½"	15"	11¼"	19"
#10	10¾"	17"	13¼"	22"
#11	12"	19"	14¾"	2'–0"
#14	18¼"	2'–3"	21¾"	2'–7"
#18	24"	3'–0"	2'–4½"	3'–5"

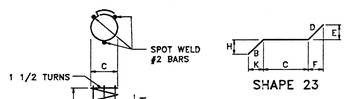
NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E – EPOXY COATED REINFORCEMENT.
S – STIRRUP.
V – BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LNE.
NO. EA. – NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS – ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS – ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

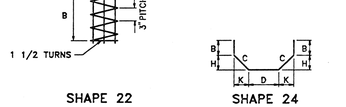


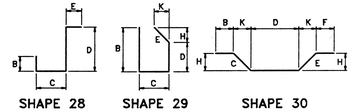


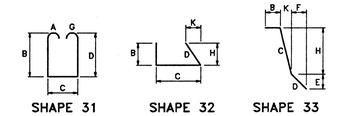


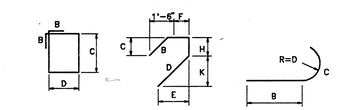


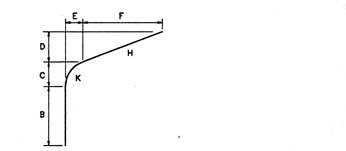












BENDING DIAGRAMS

NOTE: This drawing is not to scale. Follow dimensions.

No.	Revision	By	Date

PROJECT ENGINEER
9-1-93
Date
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BILL OF REINFORCEMENT 1

Designed By	DWS
Drawn By	RRP
Checked By	DWS
Scale	AS SHOWN
Job No.	9107
Contract No.	

Dwg. No. S34

06/15/93 03:16 RRP 12"=1'-0" C:\PASEO\S34

COMPLETE BILL OF REINFORCING STEEL

SUBSTRUCTURE — NORTH PIER WEST BRIDGE

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
52	4	P1	PIER CAP		20		3'	0"													3'	0"	104
22	8	P2	PIER CAP		17		48'	0"													48'	0"	2820
22	8	P3	PIER CAP		20		37'	0"													35'	6"	2173
11	8	P4	PIER CAP		20		25'	0"													25'	0"	734
146	4	P5	PIER CAP		34			4½"	3'	11"	3'	6"									15'	7"	1520
8	5	P6	PIER CAP		20		46'	3"													46'	3"	386
18	4	P7	PIER CAP		24		1'	6"			5'	5½"									8'	5"	101
4	4	P8	PIER CAP		21		5'	5½"	1'	0"	1'	0"					3'	8"	4'	0 11/16"	7'	5"	20
92	4	P9	PIER CAP		20		5'	5"													5'	5"	333
4	4	P10	PIER CAP		20		18'	5"													18'	5'	49
8	4	P11	PIER CAP		20		10'	6"													10'	6'	56
16	4	P12	PIER CAP		20		9'	8"													9'	8"	103
4	4	P13	PIER CAP		20		9'	6"													9'	6"	25
28	4	P14	PIER CAP		20		2'	2"													2'	2"	41
102	7	PC1	PIER COLUMN		20		16'	10"													16'	10"	3510
84	4	PC2	PIER COLUMN		16		2'	8"													9'	5"	528

SUBSTRUCTURE — SOUTH PIER WEST BRIDGE

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
52	4	P1	PIER CAP		20		3'	0"													3'	0"	104
22	8	P2	PIER CAP		17		48'	0"													48'	0"	2820
22	8	P3	PIER CAP		20		37'	0"													35'	6"	2173
11	8	P4	PIER CAP		20		25'	0"													25'	0"	734
146	4	P5	PIER CAP		34			4½"	3'	11"	3'	6"									15'	7"	1520
8	5	P6	PIER CAP		20		46'	3"													46'	3"	386
18	4	P7	PIER CAP		24		1'	6"			5'	5½"									8'	5"	101
4	4	P8	PIER CAP		21		5'	5½"	1'	0"	1'	0"					3'	8"	4'	0 11/16"	7'	5"	20
92	4	P9	PIER CAP		20		5'	5"													5'	5"	333
4	4	P10	PIER CAP		20		18'	5"													18'	5'	49
8	4	P11	PIER CAP		20		10'	6"													10'	6'	56
16	4	P12	PIER CAP		20		9'	8"													9'	8"	103
4	4	P13	PIER CAP		20		9'	6"													9'	6"	25
28	4	P14	PIER CAP		20		2'	2"													2'	2"	41
102	7	PC1	PIER COLUMN		20		16'	10"													16'	10"	3510
84	4	PC2	PIER COLUMN		16		2'	8"													9'	5"	528

SUBSTRUCTURE — NORTH PIER EAST BRIDGE

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
52	4	P1	PIER CAP		20		3'	0"													3'	0"	104
22	8	P2	PIER CAP		17		48'	0"													48'	0"	2820
22	8	P3	PIER CAP		20		37'	0"													35'	6"	2173
11	8	P4	PIER CAP		20		25'	0"													25'	0"	734
146	4	P5	PIER CAP		34			4½"	3'	11"	3'	6"									15'	7"	1520
8	5	P6	PIER CAP		20		46'	3"													46'	3"	386
18	4	P7	PIER CAP		24		1'	6"			5'	5½"									8'	5"	101
4	4	P8	PIER CAP		21		5'	5½"	1'	0"	1'	0"					3'	8"	4'	0 11/16"	7'	5"	20
92	4	P9	PIER CAP		20		5'	5"													5'	5"	333
4	4	P10	PIER CAP		20		18'	5"													18'	5'	49
8	4	P11	PIER CAP		20		10'	6"													10'	6'	56
16	4	P12	PIER CAP		20		9'	8"													9'	8"	103
4	4	P13	PIER CAP		20		9'	6"													9'	6"	25
28	4	P14	PIER CAP		20		2'	2"													2'	2"	41
102	7	PC1	PIER COLUMN		20		16'	10"													16'	10"	3510
84	4	PC2	PIER COLUMN		16		2'	8"													9'	5"	528

COMPLETE BILL OF REINFORCING STEEL

SUBSTRUCTURE — SOUTH PIER EAST BRIDGE

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
52	4	P1	PIER CAP		20		3'	0"													3'	0"	104
22	8	P2	PIER CAP		17		48'	0"													48'	0"	2820
22	8	P3	PIER CAP		20		37'	0"													35'	6"	2173
11	8	P4	PIER CAP		20		25'	0"													25'	0"	734
146	4	P5	PIER CAP		34			4½"	3'	11"	3'	6"									15'	7"	1520
8	5	P6	PIER CAP		20		46'	3"													46'	3"	386
18	4	P7	PIER CAP		24		1'	6"			5'	5½"									8'	5"	101
4	4	P8	PIER CAP		21		5'	5½"	1'	0"	1'	0"					3'	8"	4'	0 11/16"	7'	5"	20
92	4	P9	PIER CAP		20		5'	5"													5'	5"	333
4	4	P10	PIER CAP		20		18'	5"													18'	5'	49
8	4	P11	PIER CAP		20		10'	6"													10'	6'	56
16	4	P12	PIER CAP		20		9'	8"													9'	8"	103
4	4	P13	PIER CAP		20		9'	6"													9'	6"	25
28	4	P14	PIER CAP		20		2'	2"													2'	2"	41
102	7	PC1	PIER COLUMN		20		16'	10"													16'	10"	3510
84	4	PC2	PIER COLUMN		16		2'	8"													9'	5"	528

SUPERSTRUCTURE — NORTH ABUTMENT DIAPHRAGM WEST BRIDGE

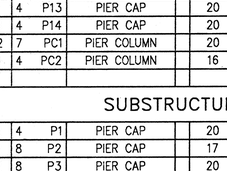
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
26	4	AD1	ABUT. DIAPHRAGM	E	10				6'	5"	4'	8¾"									17'	7"	305
18	4	AD2	ABUT. DIAPHRAGM	E	19		6'	5"	4'	9"											11'	2"	134
44	4	AD3	ABUT. DIAPHRAGM	E	35		1'	9¾"	1'	0"	3'	0"	2'	6"	11½"		6"		1'	8"	6'	4"	186
8	6	AD4	ABUT. DIAPHRAGM	E	20		32'	10"													32'	10"	395
12	6	AD5	ABUT. DIAPHRAGM		20		23'	4"													23'	4"	421
30	6	AD6	ABUT. DIAPHRAGM		20		8'	9"													8'	9"	394
12	6	AD7	ABUT. DIAPHRAGM		20		5'	0"													5'	0"	90
18	5	AD8	ABUT. DIAPHRAGM		14				2'	0"	2'	3"					1'	6½"	1'	8½"	4'	3"	80
9	6	AD9	ABUT. DIAPHRAGM	E	20		23'	4"													23'	4"	315
44	5	AD10	ABUT. DIAPHRAGM	E	20		3'	0"													3'	0"	138

SUPERSTRUCTURE — SOUTH ABUTMENT DIAPHRAGM WEST BRIDGE

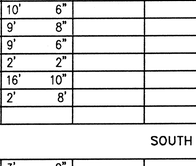
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
26	4	AD1	ABUT. DIAPHRAGM	E	10				6'	5"	4'	8¾"									17'	7"	305
18	4	AD2	ABUT. DIAPHRAGM	E	19		6'	5"	4'	9"											11'	2"	134
44	4	AD3	ABUT. DIAPHRAGM	E	35		1'	9¾"	1'	0"	3'	0"	2'	6"	11½"		6"		1'	8"	6'	4"	186
8	6	AD4	ABUT. DIAPHRAGM	E	20		32'	10"													32'	10"	395
12	6	AD5	ABUT. DIAPHRAGM		20		23'	4"													23'	4"	421
30	6	AD6	ABUT. DIAPHRAGM		20		8'	9"													8'	9"	394
12	6	AD7	ABUT. DIAPHRAGM		20		5'	0"													5'	0"	90
18	5	AD8	ABUT. DIAPHRAGM		14				2'	0"	2'	3"					1'	6½"	1'	8½"	4'	3"	80
9	6	AD9	ABUT. DIAPHRAGM	E	20		23'	4"													23'	4"	315
44	5	AD10	ABUT. DIAPHRAGM	E	20		3'	0"													3'	0"	138

SUPERSTRUCTURE — NORTH ABUTMENT DIAPHRAGM EAST BRIDGE

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
26	4	AD1	ABUT. DIAPHRAGM	E	10				6'	5"	4'	8¾"									17'	7"	305
18	4	AD2	ABUT. DIAPHRAGM	E	19		6'	5"	4'	9"											11'	2"	134
44	4	AD3	ABUT. DIAPHRAGM	E	35		1'	9¾"	1'	0"	3'	0"	2'	6"	11½"		6"		1'	8"	6'	4"	186
8	6	AD4	ABUT. DIAPHRAGM	E	20		32'	10"													32'	10"	395
12	6	AD5	ABUT. DIAPHRAGM		20		23'	4"													23'	4"	421
30	6	AD6	ABUT. DIAPHRAGM		20		8'	9"													8'	9"	394
12	6	AD7	ABUT. DIAPHRAGM		20		5'	0"													5'	0"	90
18	5	AD8	ABUT. DIAPHRAGM		14				2'	0"	2'	3"					1'	6½"	1'	8½"	4'	3"	80
9	6	AD9	ABUT. DIAPHRAGM	E	20		23'	4"													23'	4"	315
44	5	AD10	ABUT. DIAPHRAGM	E	20		3'	0"													3'	0"	138



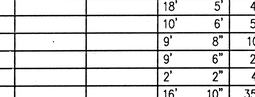
135°



90°

STIRRUP HOOK DIMENSIONS				
GRADES 40–50–60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	8"	7"	4½"

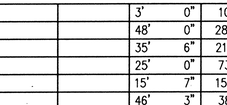
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



180°

SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18



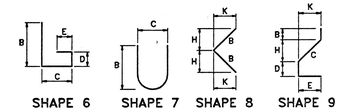
90°

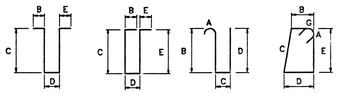
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

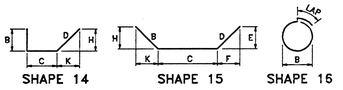
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

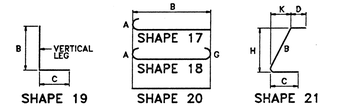
END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	180° HOOKS ALL GRADES		90° HOOKS ALL GRADES	
		A OR G	J	A OR G	
#3	2¼"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3¾"	7"	5"	10"	
#6	4½"	8"	6"	12"	
#7	5¼"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9½"	15"	11¾"	19"	
#10	10¾"	17"	13¼"	22"	
#11	12"	19"	14¾"	2'–0"	
#14	18¼"	2'–3"	21¾"	2'–7"	
#18	24"	3'–0"	2'–4½"	3'–5"	

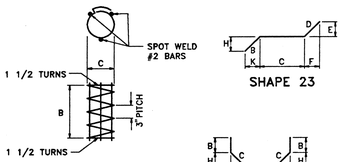
NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E – EPOXY COATED REINFORCEMENT.
S – STIRRUP.
V – BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LNE.
NO. EA. – NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS – ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS – ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

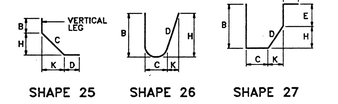


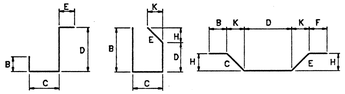


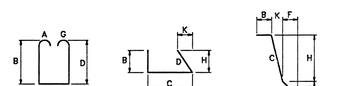


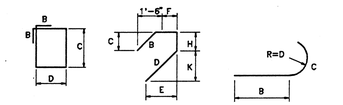


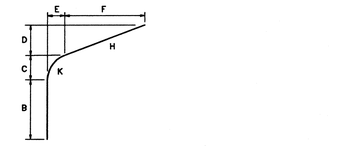












BENDING DIAGRAMS

NOTE: This drawing is not to scale. Follow dimensions.

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BILL OF REINFORCEMENT 2

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

Dwg. No. S35

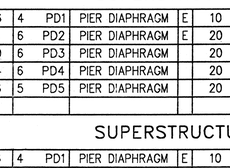
C:\9107\DISK7\S35 1=1 RRP 21:49 08/24/93

COMPLETE BILL OF REINFORCING STEEL

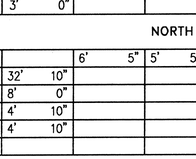
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
SUPERSTRUCTURE			**SOUTH ABUTMENT DIAPHRAGM EAST BRIDGE**																				
26	4	AD1	ABUT. DIAPHRAGM	E	10				6'	5"	4'	8¾"									17'	7"	305
18	4	AD2	ABUT. DIAPHRAGM	E	19		6'	5"	4'	9"											11'	2"	134
44	4	AD3	ABUT. DIAPHRAGM	E	35		1'	9¾"	1'	0"	3'	0"	2'	6"	11½"		6"	1'	8"		6'	4"	186
8	6	AD4	ABUT. DIAPHRAGM	E	20		32'	10"													32'	10"	395
12	6	AD5	ABUT. DIAPHRAGM		20		23'	4"													23'	4"	421
30	6	AD6	ABUT. DIAPHRAGM		20		8'	9"													8'	9"	394
12	6	AD7	ABUT. DIAPHRAGM		20		5'	0"													5'	0"	90
18	5	AD8	ABUT. DIAPHRAGM		14				2'	0"	2'	3"					1'	6½"	1'	8½"	4'	3"	80
9	6	AD9	ABUT. DIAPHRAGM	E	20		23'	4"													23'	4"	315
44	5	AD10	ABUT. DIAPHRAGM	E	20		3'	0"													3'	0"	138
SUPERSTRUCTURE			**NORTH PIER DIAPHRAGM WEST BRIDGE**																				
26	4	PD1	PIER DIAPHRAGM	E	10				6'	5"	5'	5½"									18'	3"	317
8	6	PD2	PIER DIAPHRAGM	E	20		32'	10"													32'	10"	395
60	6	PD3	PIER DIAPHRAGM		20		8'	0"													8'	0"	721
24	6	PD4	PIER DIAPHRAGM		20		4'	10"													4'	10"	174
36	5	PD5	PIER DIAPHRAGM		20		4'	10"													4'	10"	181
SUPERSTRUCTURE			**SOUTH PIER DIAPHRAGM WEST BRIDGE**																				
26	4	PD1	PIER DIAPHRAGM	E	10				6'	5"	5'	5½"									18'	3"	317
8	6	PD2	PIER DIAPHRAGM	E	20		32'	10"													32'	10"	395
60	6	PD3	PIER DIAPHRAGM		20		8'	0"													8'	0"	721
24	6	PD4	PIER DIAPHRAGM		20		4'	10"													4'	10"	174
36	5	PD5	PIER DIAPHRAGM		20		4'	10"													4'	10"	181
SUPERSTRUCTURE			**NORTH PIER DIAPHRAGM EAST BRIDGE**																				
26	4	PD1	PIER DIAPHRAGM	E	10				6'	5"	5'	5½"									18'	3"	317
8	6	PD2	PIER DIAPHRAGM	E	20		32'	10"													32'	10"	395
60	6	PD3	PIER DIAPHRAGM		20		8'	0"													8'	0"	721
24	6	PD4	PIER DIAPHRAGM		20		4'	10"													4'	10"	174
36	5	PD5	PIER DIAPHRAGM		20		4'	10"													4'	10"	181
SUPERSTRUCTURE			**SOUTH PIER DIAPHRAGM EAST BRIDGE**																				
26	4	PD1	PIER DIAPHRAGM	E	10				6'	5"	5'	5½"									18'	3"	317
8	6	PD2	PIER DIAPHRAGM	E	20		32'	10"													32'	10"	395
60	6	PD3	PIER DIAPHRAGM		20		8'	0"													8'	0"	721
24	6	PD4	PIER DIAPHRAGM		20		4'	10"													4'	10"	174
36	5	PD5	PIER DIAPHRAGM		20		4'	10"													4'	10"	181
SUPERSTRUCTURE			**INTERMEDIATE DIAPHRAGM WEST BRIDGE**																				
48	4	DD1	INTER. DIAPHRAGM		10			8"	5'	6"		5"		8"							12'	9"	409
24	4	DD2	INTER. DIAPHRAGM		10				4'	10"		5"									10'	1"	162
96	4	DD3	INTER. DIAPHRAGM		20		5'	10"													5'	10"	374
24	6	DD4	INTER. DIAPHRAGM		20		4'	6"													4'	6"	162
SUPERSTRUCTURE			**INTERMEDIATE DIAPHRAGM EAST BRIDGE**																				
48	4	DD1	INTER. DIAPHRAGM		10			8"	5'	6"		5"		8"							12'	9"	409
24	4	DD2	INTER. DIAPHRAGM		10				4'	10"		5"									10'	1"	162
96	4	DD3	INTER. DIAPHRAGM		20		5'	10"													5'	10"	374
24	6	DD4	INTER. DIAPHRAGM		20		4'	6"													4'	6"	162

COMPLETE BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
SUPERSTRUCTURE			**SLAB WEST BRIDGE**																				
84	5	S1	TRANS. BOTTOM	E	20	V	3'	6"													3'	6"	1949
							41'	0"													41'	0"	
148	5	S2	TRANS. BOTTOM	E	20		41'	0"													41'	0"	6329
84	6	S3	TRANS. TOP	E	20	V	3'	6"													3'	6"	2807
							41'	0"													41'	0"	
148	6	S4	TRANS. TOP	E	20		41'	0"													41'	0"	9114
82	5	S5	LONGIT. TOP	E	20		11'	4"													11'	4"	969
80	7	S6	LONGIT. TOP	E	20		44'	0"													44'	0"	7195
82	6	S7	LONGIT. TOP	E	20		60'	0"													60'	0"	7390
41	4	S8	LONGIT. TOP	E	20		60'	0"													60'	0"	1643
4	6	S9	LONGIT. TOP	E	20		11'	4"													11'	4"	68
4	6	S10	LONGIT. TOP	E	20		60'	0"													60'	0"	360
2	6	S11	LONGIT. TOP	E	20		60'	0"													60'	0"	180
74	4	S12	LONGIT. BOTTOM	E	20		35'	10"													35'	10"	1771
74	4	S13	LONGIT. BOTTOM	E	20		35'	1"													35'	1"	1734
37	4	S14	LONGIT. BOTTOM	E	20		60'	0"													60'	0"	1483
4	6	S15	LONGIT. BOTTOM	E	20		35'	10"													36'	5"	215
4	6	S16	LONGIT. BOTTOM	E	20		35'	1"													32'	3"	211
2	6	S17	LONGIT. BOTTOM	E	20		60'	0"													60'	0"	180
SUPERSTRUCTURE			**SLAB EAST BRIDGE**																				
84	5	S1	TRANS. BOTTOM	E	20	V	3'	6"													3'	6"	1949
							41'	0"													41'	0"	
148	5	S2	TRANS. BOTTOM	E	20		41'	0"													41'	0"	6329
84	6	S3	TRANS. TOP	E	20	V	3'	6"													3'	6"	2807
							41'	0"													41'	0"	
148	6	S4	TRANS. TOP	E	20		41'	0"													41'	0"	9114
82	5	S5	LONGIT. TOP	E	20		11'	4"													11'	4"	969
80	7	S6	LONGIT. TOP	E	20		44'	0"													44'	0"	7195
82	6	S7	LONGIT. TOP	E	20		60'	0"													60'	0"	7390
41	4	S8	LONGIT. TOP	E	20		60'	0"													60'	0"	1643
4	6	S9	LONGIT. TOP	E	20		11'	4"													11'	4"	68
4	6	S10	LONGIT. TOP	E	20		60'	0"													60'	0"	360
2	6	S11	LONGIT. TOP	E	20		60'	0"													60'	0"	180
74	4	S12	LONGIT. BOTTOM	E	20		35'	10"													35'	10"	1771
74	4	S13	LONGIT. BOTTOM	E	20		35'	1"													35'	1"	1734
37	4	S14	LONGIT. BOTTOM	E	20		60'	0"													60'	0"	1483
4	6	S15	LONGIT. BOTTOM	E	20		35'	10"													36'	5"	215
4	6	S16	LONGIT. BOTTOM	E	20		35'	1"													32'	3"	211
2	6	S17	LONGIT. BOTTOM	E	20		60'	0"													60'	0"	180
12	7	S18	AT MANHOLE	E	20		9'	0"													9'	0"	221
SUPERSTRUCTURE			**BARRIER CURBS WEST BRIDGE**																				
588	4	BC1	STIRRUPS	E	28		3'	2½"	5"	3'	2½"		8"								7'	6"	2946
568	4	BC2	STIRRUPS	E	19		3'	2½"	8"												3'	11"	1486
16	4	BC3	LONGIT.	E	20		27'	2"													27'	2"	290
16	4	BC4	LONGIT.	E	20		8'	11"													8'	11"	95
16	4	BC5	LONGIT.	E	20		8'	2"													8'	2"	87
32	4	BC6	LONGIT.	E	20		28'	0"													28'	0"	599
SUPERSTRUCTURE			**BARRIER CURBS EAST BRIDGE**																				
588	4	BC1	STIRRUPS	E	28		3'	2½"	5"	3'	2½"		8"								7'	6"	2946
568	4	BC2	STIRRUPS	E	19		3'	2½"	8"												3'	11"	1486
16	4	BC3	LONGIT.	E	20		27'	2"													27'	2"	290
16	4	BC4	LONGIT.	E	20		8'	11"													8'	11"	95
16	4	BC5	LONGIT.	E	20		8'	2"													8'	2"	87
32	4	BC6	LONGIT.	E	20		28'	0"													28'	0"	599



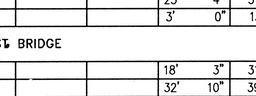
135°



90°

STIRRUP HOOK DIMENSIONS				
GRADES 40–50–60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	8"	7"	4½"

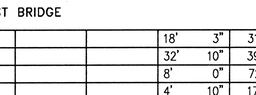
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



180°

SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18



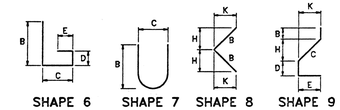
90°

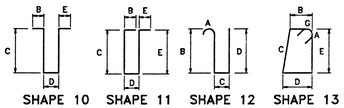
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

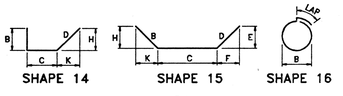
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

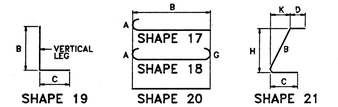
END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	180° HOOKS		90° HOOKS
		ALL GRADES		ALL GRADES
		A OR G	J	A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9½"	15"	11¾"	19"
#10	10¾"	17"	13¼"	22"
#11	12"	19"	14¾"	2'–0"
#14	18¼"	2'–3"	21¾"	2'–7"
#18	24"	3'–0"	2'–4½"	3'–5"

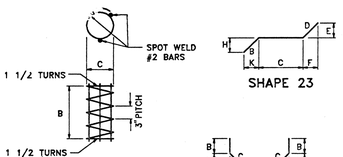
NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E – EPOXY COATED REINFORCEMENT.
S – STIRRUP.
V – BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LNE.
NO. EA. – NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS – ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS – ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

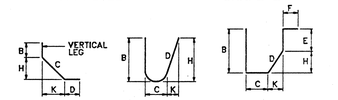


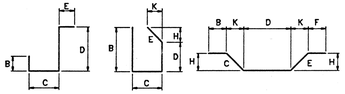


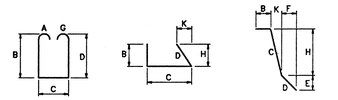


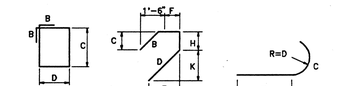


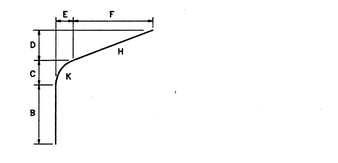












BENDING DIAGRAMS

NOTE: This drawing is not to scale. Follow dimensions.

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BILL OF REINFORCEMENT 3

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

Dwg. No. S36

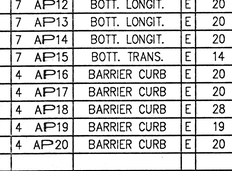
COMPLETE BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
SUPERSTRUCTURE			**NORTH APPROACH SLAB WEST BRIDGE**																					
72	7	AP1	BOTTOM LONGIT.	E	20	V	1	19'	10"													19'	10"	5850
								59'	8"													59'	8"	
14	7	AP2	BOTTOM LONGIT.	E	20			10'	0"													10'	0"	286
8	7	AP3		E	20	V	1	53'	0"													53'	0"	897
								56'	9"													56'	9"	
56	4	AP4	T. & B. TRANS.	E	20			21'	6"													21'	6"	804
54	4	AP5	T. & B. TRANS.	E	20	V	2	39'	8"													39'	8"	790
								4'	3"													4'	3"	
6	4	AP6	T. & B. TRANS.	E	20			2'	6"													2'	6"	10
36	7	AP7	TOP LONGIT.	E	20	V	1	20'	11"													20'	11"	2956
								59'	5"													59'	5"	
4	7	AP8	TOP LONGIT.	E	20	V	1	53'	0"													53'	0"	447
								56'	4"													56'	4"	
1	7	AP9	TOP LONGIT.	E	20			20'	0"													20'	0"	41
1	7	AP10	TOP LONGIT.	E	20			43'	0"													43'	0"	88
1	7	AP11	TOP LONGIT.	E	20			10'	0"													9'	3"	20
1	7	AP12	BOTT. LONGIT.	E	20			9'	1"													9'	1"	19
1	7	AP13	BOTT. LONGIT.	E	20			5'	6"													5'	6"	11
1	7	AP14	BOTT. LONGIT.	E	20			53'	0"													53'	0"	108
4	7	AP15	BOTT. TRANS.	E	14					2'	0"	4'	0"					2'	10"	2'	10"	6'	0"	49
8	4	AP16	BARRIER CURB	E	20			12'	0"													12'	0"	64
8	4	AP17	BARRIER CURB	E	20			22'	0"													22'	0"	118
46	4	AP18	BARRIER CURB	E	28			3'	2½"	5"		3'	2½"	8"								7'	6"	230
46	4	AP19	BARRIER CURB	E	19			3'	2½"	8"												3'	11"	120
8	4	AP20	BARRIER CURB	E	20			5'	0"													5'	0"	27
SUPERSTRUCTURE			**SOUTH APPROACH SLAB WEST BRIDGE**																					
72	7	AP1	BOTTOM LONGIT.	E	20	V	1	19'	10"													19'	10"	5850
								59'	8"													59'	8"	
14	7	AP2	BOTTOM LONGIT.	E	20			10'	0"													10'	0"	286
8	7	AP3		E	20	V	1	53'	0"													53'	0"	897
								56'	9"													56'	9"	
56	4	AP4	T. & B. TRANS.	E	20			21'	6"													21'	6"	804
54	4	AP5	T. & B. TRANS.	E	20	V	1	39'	8"													39'	8"	790
								4'	3"													4'	3"	
6	4	AP6	T. & B. TRANS.	E	20			2'	6"													2'	6"	10
36	7	AP7	TOP LONGIT.	E	20	V	1	20'	11"													20'	11"	2956
								59'	5"													59'	5"	
4	7	AP8	TOP LONGIT.	E	20	V	1	53'	0"													53'	0"	447
								56'	4"													56'	4"	
1	7	AP9	TOP LONGIT.	E	20			20'	0"													20'	0"	41
1	7	AP10	TOP LONGIT.	E	20			43'	0"													43'	0"	88
1	7	AP11	TOP LONGIT.	E	20			10'	0"													9'	3"	20
1	7	AP12	BOTT. LONGIT.	E	20			9'	1"													9'	1"	19
1	7	AP13	BOTT. LONGIT.	E	20			5'	6"													5'	6"	11
1	7	AP14	BOTT. LONGIT.	E	20			53'	0"													53'	0"	108
4	7	AP15	BOTT. TRANS.	E	14					2'	0"	4'	0"					2'	10"	2'	10"	6'	0"	49
8	4	AP16	BARRIER CURB	E	20			12'	0"													12'	0"	64
8	4	AP17	BARRIER CURB	E	20			22'	0"													22'	0"	118
46	4	AP18	BARRIER CURB	E	28			3'	2½"	5"		3'	2½"	8"								7'	6"	230
46	4	AP19	BARRIER CURB	E	19			3'	2½"	8"												3'	11"	120
8	4	AP20	BARRIER CURB	E	20			5'	0"													5'	0"	27

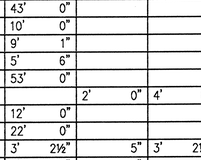
COMPLETE BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
SUPERSTRUCTURE			**NORTH APPROACH SLAB EAST BRIDGE**																					
72	7	AP1	BOTTOM LONGIT.	E	20	V	1	19'	10"													19'	10"	5850
								59'	8"													59'	8"	
14	7	AP2	BOTTOM LONGIT.	E	20			10'	0"													10'	0"	286
8	7	AP3		E	20	V	1	53'	0"													53'	0"	897
								56'	9"													56'	9"	
56	4	AP4	T. & B. TRANS.	E	20			21'	6"													21'	6"	804
54	4	AP5	T. & B. TRANS.	E	20	V	1	39'	8"													39'	8"	790
								4'	3"													4'	3"	
6	4	AP6	T. & B. TRANS.	E	20			2'	6"													2'	6"	10
36	7	AP7	TOP LONGIT.	E	20	V	1	20'	11"													20'	11"	2956
								59'	5"													59'	5"	
4	7	AP8	TOP LONGIT.	E	20	V	1	53'	0"													53'	0"	447
								56'	4"													56'	4"	
1	7	AP9	TOP LONGIT.	E	20			20'	0"													20'	0"	41
1	7	AP10	TOP LONGIT.	E	20			43'	0"													43'	0"	88
1	7	AP11	TOP LONGIT.	E	20			10'	0"													9'	3"	20
1	7	AP12	BOTT. LONGIT.	E	20			9'	1"													9'	1"	19
1	7	AP13	BOTT. LONGIT.	E	20			5'	6"													5'	6"	11
1	7	AP14	BOTT. LONGIT.	E	20			53'	0"													53'	0"	108
4	7	AP15	BOTT. TRANS.	E	14					2'	0"	4'	0"					2'	10"	2'	10"	6'	0"	49
8	4	AP16	BARRIER CURB	E	20			12'	0"													12'	0"	64
8	4	AP17	BARRIER CURB	E	20			22'	0"													22'	0"	118
46	4	AP18	BARRIER CURB	E	20			3'	2½"	5"		3'	2½"	8"								7'	6"	230
46	4	AP19	BARRIER CURB	E	20			3'	2½"	8"												3'	11"	120
8	4	AP20	BARRIER CURB	E	20			5'	0"													5'	0"	27
SUPERSTRUCTURE			**SOUTH APPROACH SLAB EAST BRIDGE**																					
72	7	AP1	BOTTOM LONGIT.	E	20	V	1	19'	10"													19'	10"	5850
								59'	8"													59'	8"	
14	7	AP2	BOTTOM LONGIT.	E	20			10'	0"													10'	0"	286
8	7	AP3		E	20	V	1	53'	0"													53'	0"	897
								56'	9"													56'	9"	
56	4	AP4	T. & B. TRANS.	E	20			21'	6"													21'	6"	804
54	4	AP5	T. & B. TRANS.	E	20	V	2	39'	8"													39'	8"	790
								4'	3"													4'	3"	
6	4	AP6	T. & B. TRANS.	E	20			2'	6"													2'	6"	10
36	7	AP7	TOP LONGIT.	E	20	V	1	20'	11"													20'	11"	2956
								59'	5"													59'	5"	
4	7	AP8	TOP LONGIT.	E	20	V	1	53'	0"													53'	0"	447
								56'	4"													56'	4"	
1	7	AP9	TOP LONGIT.	E	20			20'	0"													20'	0"	41
1	7	AP10	TOP LONGIT.	E	20			43'	0"													43'	0"	88
1	7	AP11	TOP LONGIT.	E	20			10'	0"													9'	3"	20
1	7	AP12	BOTT. LONGIT.	E	20			9'	1"													9'	1"	19
1	7	AP13	BOTT. LONGIT.	E	20			5'	6"													5'	6"	11
1	7	AP14	BOTT. LONGIT.	E	20			53'	0"													53'	0"	108
4	7	AP15	BOTT. TRANS.	E	14					2'	0"	4'	0"					2'	10"	2'	10"	6'	0"	49
8	4	AP16	BARRIER CURB	E	20			12'	0"													12'	0"	64
8	4	AP17	BARRIER CURB	E	20			22'	0"													22'	0"	118
46	4	AP18	BARRIER CURB	E	20			3'	2½"	5"		3'	2½"	8"								7'	6"	230
46	4	AP19	BARRIER CURB	E	19			3'	2½"	8"												3'	11"	120
8	4	AP20	BARRIER CURB	E	20			5'	0"													5'	0"	27

12,935



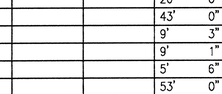
135°



90°

STIRRUP HOOK DIMENSIONS				
GRADES 40–50–60 KSI				
BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	8"	7"	4½"

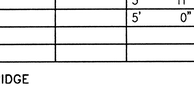
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



180°

SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18



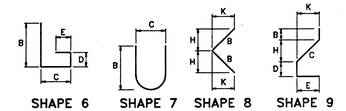
90°

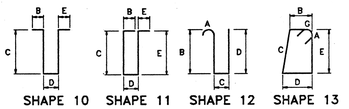
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

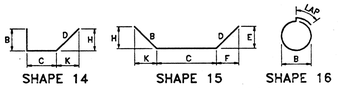
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

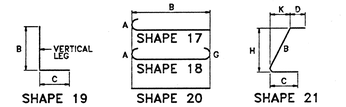
END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	180° HOOKS ALL GRADES A OR G	180° HOOKS ALL GRADES J	90° HOOKS ALL GRADES A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9½"	15"	11¾"	19"
#10	10¾"	17"	13¼"	22"
#11	12"	19"	14¾"	2'-0"
#14	18¼"	2'-3"	21¾"	2'-7"
#18	24"	3'-0"	2'-4½"	3'-5"

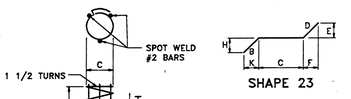
NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E – EPOXY COATED REINFORCEMENT.
S – STIRRUP.
V – BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LNE.
NO. EA. – NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS – ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS – ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

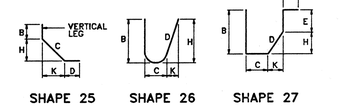


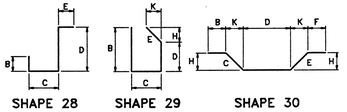


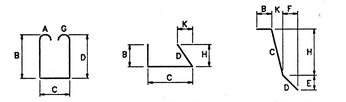


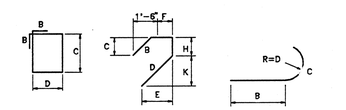


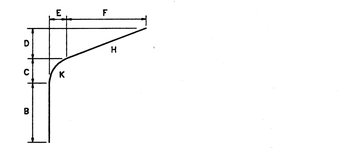












BENDING DIAGRAMS

NOTE: This drawing is not to scale. Follow dimensions.

No.	Revision	By	Date

PROJECT ENGINEER
9-1-93
Date
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX

BILL OF REINFORCEMENT 4

Dwg. No. S37

C:\9107\KCWO\S37
08/30/93 10:34 JJS 1=1

COMPLETE BILL OF REINFORCING STEEL

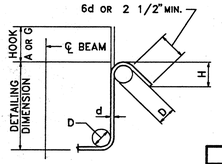
SUBSTRUCTURE — NORTH APPROACH WALLS

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	(V) VARIES	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
98	5	AW2	FTG. WALLS A&B		20			2'	4"													2'	4"	239
4	5	AW3	FTG. WALLS A&B		20			3'	5"													3'	5"	14
2	5	AW4	FTG. WALLS A&B		20			20'	6"													20'	6"	43
2	5	AW5	FTG. WALLS A&B		20			21'	2"													21'	2"	44
2	5	AW6	FTG. WALLS A&B		20			22'	0"													22'	0"	46
2	5	AW7	FTG. WALLS A&B		20			16'	7"													16'	7"	35
68	5	AW8	FTG. WALLS A&B		20			5'	6"													5'	6"	390
28	5	AW9	FTG. WALLS A&B		20			17'	6"													17'	6"	512
24	5	AW10	FTG. WALLS A&B		20			4'	9"													4'	9"	120
4	5	AW11	FTG. WALLS A&B		36			1'	8"	8'	11"	6'	1"									10'	7"	42
4	5	AW12	FTG. WALLS A&B		36			1'	8"	7'	7"	5'	2"									9'	3"	38
4	5	AW13	FTG. WALLS A&B		36			1'	8"	6'	3"	4'	3"									7'	11"	34
4	5	AW14	FTG. WALLS A&B		36			1'	8"	4'	9"	3'	4"									6'	5"	26
4	5	AW15	FTG. WALLS A&B		36			1'	8"	3'	5"	2'	5"									5'	1"	22
2	5	AW16	FTG. WALLS C&D		20			29'	1"													29'	1"	61
2	5	AW17	FTG. WALLS C&D		20			36'	2"													36'	2"	75
2	5	AW18	FTG. WALLS C&D		20			36'	11"													36'	11"	77
2	5	AW19	FTG. WALLS C&D		20			37'	9"													37'	9"	79
100	5	AW20	WALLS A&D		19			4'	2"		10"											5'	0"	522
5	5	AW21	WALLS A&D		20			16'	4"													16'	4"	85
5	5	AW22	WALLS A&D		20			17'	0"													17'	0"	89
5	5	AW23	WALL D		20			32'	5"													32'	5"	169
56	5	AW24	WALLS B&C		19	V	2	4'	6"		8"											5'	2"	319
								5'	1"		8'											5'	9"	
56	4	AW25	WALLS B&C		19	V	2	4'	6"		8"											5'	2"	204
								5'	1"		8'											5'	9"	
24	4	AW29	WALL B&C		20			14'	4"													14'	4"	230
10	4	AW30	WALL B&C		37				11¼"	1'	6½"	1'	6⅝"		9¼"	2'	6⅞"	3'	0"	1'	9¾"	5'	9"	38
10	4	AW31	WALL B&C		37				¼"	1'	2½"	1'	6¼"		7⅝"	2'	6⅜"	2	11½"	1'	5"	5'	3¾"	36
5	5	AW35	WALL D		20			31'	3"													31'	3"	163
54	6	AW36	WALL E		19			3'	6"	1'	0"											4'	6"	365
48	4	AW37	WALL E		20			26'	8"													26'	8"	1335
24	5	AW38	WALL E		20			33'	10"													33'	10"	917
166	6	AW39	WALL E		20			7'	8"													7'	8"	1912
9	4	AW40	WALL E		20			5'	3"													5'	3"	32
18	4	AW41	WALL E		20			1'	7"													1'	7"	19
18	4	AW42	WALL E		14				8"	2'	6"											3'	2"	38
46	5	AW43	WALL E		20			2'	6"													2'	6"	120
30	5	AW44	WALL E		20			4'	6"													4'	6"	141
17	5	AW45	WALL F		20	V		5'	0"													5'	0"	85
								3'	7"													3'	7"	
18	4	AW46	WALL F		20	V	2	5'	0½"													5'	0½"	59
								4'	7"													4'	7"	
1	5	AW47	WALL F		20			5'	0"													5'	0"	5
48	4	AW49	WALL F		20	V	2	4'	7"													4'	7"	134
								3'	8"													3'	8"	
210	4	AW50	WALL F		19			1'	11'		8"											2'	7'	363
126	4	AW51	WALL F		20	V	2	3'	7'													3'	7"	673
								4'	5"													4'	5"	
6	4	AW54	WALL F		20			40'	0"													40'	0"	160
3	4	AW55	WALL F		20			23'	0"													19'	6"	46
16	4	AW56	WALL F		20			40'	0"													40'	0"	428
8	4	AW57	WALL F		20			23'	0"													23'	0"	123
4	4	AW59	WALL F		20			37'	2"													37'	2"	99
2	4	AW60	WALL F		20			30'	3'						8"							30'	3"	40
202	5	AW61	WALL F		20			2'	4"													20'	0"	315

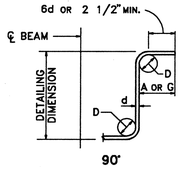
COMPLETE BILL OF REINFORCING STEEL

SUBSTRUCTURE — SOUTH APPROACH WALLS

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	(V) VARIES	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
98	5	AW2	FTG. WALLS A&B		20			2'	4"													2'	4"	239
4	5	AW3	FTG. WALLS A&B		20			3'	5"													3'	5"	14
2	5	AW4	FTG. WALLS A&B		20			20'	6"													20'	6"	43
2	5	AW5	FTG. WALLS A&B		20			21'	2"													21'	2"	44
2	5	AW6	FTG. WALLS A&B		20			22'	0"													22'	0"	46
2	5	AW7	FTG. WALLS A&B		20			16'	7"													16'	7"	35
68	5	AW8	FTG. WALLS A&B		20			5'	6"													5'	6"	390
28	5	AW9	FTG. WALLS A&B		20			17'	6"													17'	6"	512
24	5	AW10	FTG. WALLS A&B		20			4'	9"													4'	9"	120
4	5	AW11	FTG. WALLS A&B		36			1'	8"	8'	11"	6'	1"									10'	7"	42
4	5	AW12	FTG. WALLS A&B		36			1'	8"	7'	7"	5'	2"									9'	3"	38
4	5	AW13	FTG. WALLS A&B		36			1'	8"	6'	3"	4'	3"									7'	11"	34
4	5	AW14	FTG. WALLS A&B		36			1'	8"	4'	9"	3'	4"									6'	5"	26
4	5	AW15	FTG. WALLS A&B		36			1'	8"	3'	5"	2'	5"									5'	1"	22
2	5	AW16	FTG. WALLS C&D		20			29'	1"													29'	1"	61
2	5	AW17	FTG. WALLS C&D		20			36'	2"													36'	2"	75
2	5	AW18	FTG. WALLS C&D		20			36'	11"													36'	11"	77
2	5	AW19	FTG. WALLS C&D		20			37'	9"													37'	9"	79
100	5	AW20	WALLS A&D		19			4'	2"		10"											5'	0"	522
5	5	AW21	WALLS A&D		20			16'	4"													16'	4"	85
5	5	AW22	WALLS A&D		20			17'	0"													17'	0"	89
5	5	AW23	WALL D		20			32'	5"													32'	5"	169
56	5	AW24	WALLS B&C		19	V	2	4'	6"		8"											5'	2"	319
								5'	1"		8'											5'	9"	
56	4	AW25	WALLS B&C		19	V	2	4'	6"		8"											5'	2"	204
								5'	1"		8'											5'	9"	
24	4	AW29	WALL B&C		20			14'	4"													14'	4"	230
10	4	AW30	WALL B&C		37				11¼"	1'	6½"	1'	6⅝"		9¼"	2'	6⅞"	3'	0"	1'	9¾"	5'	9"	38
10	4	AW31	WALL B&C		37				11¼"	1'	2½"	1'	6¼"		7⅝"	2'	6⅜"	2	11½"	1'	5"	5'	3¾"	36
5	5	AW35	WALL D		20			31'	3"													31'	3"	163
54	6	AW36	WALL E		19			3'	6"	1'	0"											4'	6"	365
48	5	AW37	WALL E		20			26'	8"													26'	8"	1335
24	5	AW38	WALL E		20			33'	10"													33'	10"	917
166	6	AW39	WALL E		20			7'	8"													7'	8"	1912
9	4	AW40	WALL E		20			5'	3"													5'	3"	32
18	4	AW41	WALL E		20			1'	7"													1'	7"	19
18	4	AW42	WALL E		14				8"	2'	6"											3'	2"	38
46	5	AW43	WALL E		20			2'	6"													2'	6"	120
30	5	AW44	WALL E		20			4'	6"													4'	6"	141
17	5	AW45	WALL F		20	V		5'	0"													5'	0"	85
								4'	7"													3'	7"	
18	4	AW46	WALL F		20	V		5'	0½"													5'	0½"	59
								4'	7"													4'	7"	
1	5	AW47	WALL F		20			5'	0"													5'	0"	5
48	4	AW49	WALL F		20	V	2	4'	7"													4'	7"	134
								3'	8"													3'	8"	
210	4	AW50	WALL F		19			1'	11'		8"											2'	7'	363
126	4	AW51	WALL F		20	V	2	3'	7'													3'	7"	673
								4'	5"													4'	5"	
6	4	AW54	WALL F		20			40'	0"													40'	0"	160
3	4	AW55	WALL F		20			23'	0'													19'	6"	46
16	4	AW56	WALL F		20			40'	0"													40'	0"	428
8	4	AW57	WALL F		20			23'	0"													23'	0"	123
4	4	AW59	WALL F		20			37'	2"													37'	2"	99
2	4	AW60	WALL F		20			30'	3'													30'	3"	40
202	4	AW61	WALL F		20			2'	4"													2'	4"	315



135°



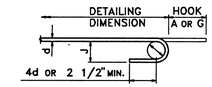
90°

STIRRUP HOOK DIMENSIONS

GRADES 40–50–60 KSI

BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	135° HOOK APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	8"	7"	4½"

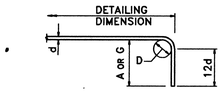
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



180°

SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18



90°

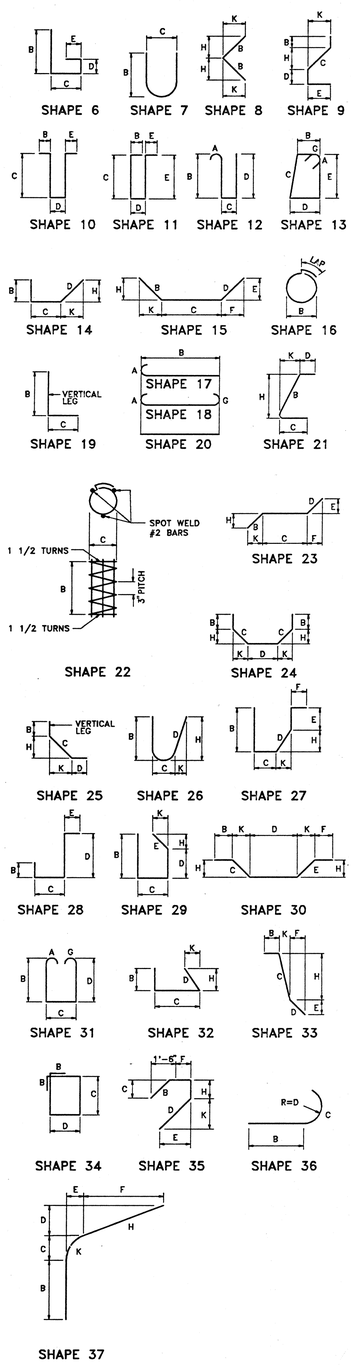
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	D (IN.)	180° HOOKS ALL GRADES A OR G	180° HOOKS ALL GRADES J	90° HOOKS ALL GRADES A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9½"	15"	11¾"	19"
#10	10¾"	17"	13¼"	22"
#11	12"	19"	14¾"	2'–0"
#14	18¼"	2'–3"	21¾"	2'–7"
#18	24"	3'–0"	2'–4½"	3'–5"

NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E – EPOXY COATED REINFORCEMENT.
S – STIRRUP.
V – BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LNE.
NO. EA. – NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS – ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS – ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.



BENDING DIAGRAMS

NOTE: This drawing is not to scale. Follow dimensions.

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BILL OF REINFORCEMENT 5

Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

Dwg. No. S38

08/30/93 10:48 JLS 1=1 C:\9107\KCMO\S38

COMPLETE BILL OF REINFORCING STEEL

SUBSTRUCTURE — SOUTH CHANNEL WALLS

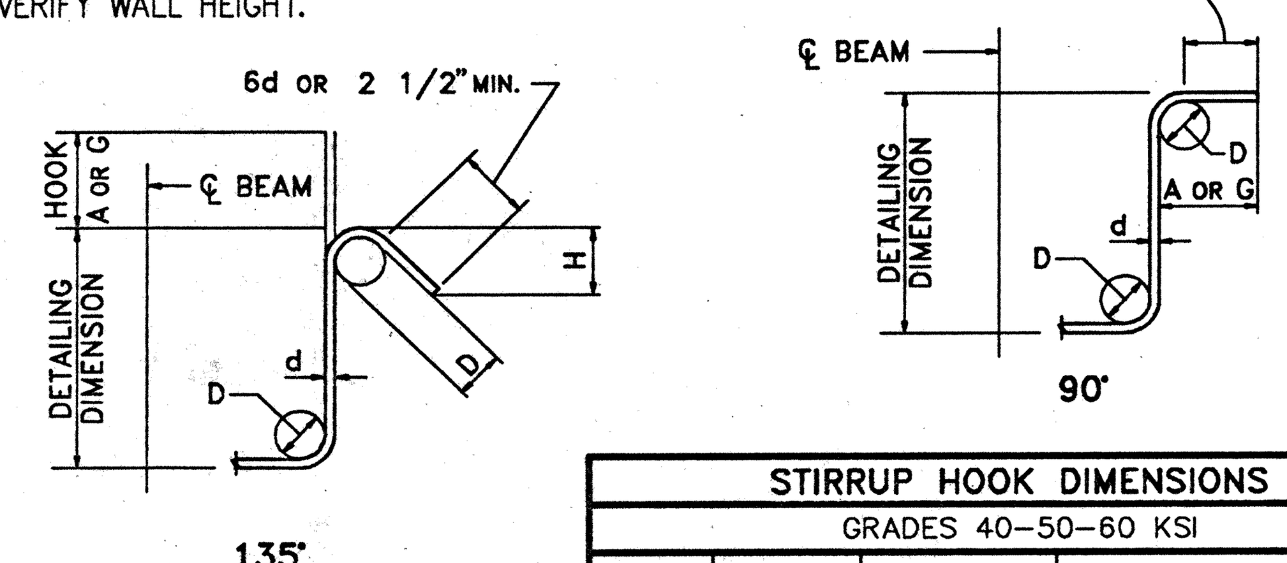
NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
265	6	RW1	RETAINING WALL		19			6'	3"		8"											6'	11"	2753
548	6	RW2	RETAINING WALL		20			14'	4"*													14'	4"*	11797
24	5	RW3	RETAINING WALL		20			25'	1½"													25'	1½"	629
208	5	RW4	RETAINING WALL		20			29'	8"													29'	8"	6463
275	7	RW5	RETAINING WALL		20			7'	2"													7'	2"	4028
275	5	RW6	RETAINING WALL		20			7'	2"													7'	2"	2056
16	5	RW7	RETAINING WALL		20			25'	1½"													25'	1½"	420
128	5	RW8	RETAINING WALL		20			29'	8"													29'	8"	3960
286	6	TW1	TIED WALL		20			8'	7"													8'	7"	3687
8	6	TW3	TIED WALL		20			19'	0"													19'	0"	228
32	6	TW4	TIED WALL		20			10'	4"													10'	4"	497
48	6	TW5	TIED WALL		20			18'	4"													18'	4"	1322
8	6	TW6	TIED WALL		20			22'	5"													22'	5"	269
8	6	TW7	TIED WALL		20			26'	0"													26'	0"	312
8	6	TW9	TIED WALL		20			23'	3"													23'	3"	279
8	6	TW10	TIED WALL		20			19'	8"													19'	8"	236
8	6	TW11	TIED WALL		20			12'	5'													12'	5'	149

* HEIGHT OF RETAINING WALL MAY VARY DEPENDING ON ROCK ELEVATION. CONTRACTOR SHOULD FIELD VERIFY WALL HEIGHT.

COMPLETE BILL OF REINFORCING STEEL

SUBSTRUCTURE — NORTH CHANNEL WALLS

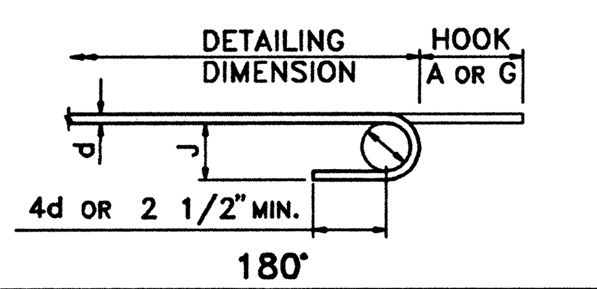
NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	LENGTH FT.	LENGTH IN.	WEIGHT
265	6	RW1	RETAINING WALL		19			6'	3"		8"											6'	11"	2753
548	6	RW2	RETAINING WALL		20			14'	4"*													14'	4"*	11797
48*	5	RW3	RETAINING WALL		20			25'	1½"													25'	1½"	629
208*	5	RW4	RETAINING WALL		20			29'	8"													29'	8"	6436
275	7	RW5	RETAINING WALL		20			7'	2"													7'	2"	4028
275	5	RW6	RETAINING WALL		20			7'	2"													7'	2"	2056
16	5	RW7	RETAINING WALL		20			25'	1½"													25'	1½"	420
128	5	RW8	RETAINING WALL		20			29'	8"													29'	8"	3960
287	6	TW1	TIED WALL		20			8'	7"													8'	7"	3700
8	6	TW2	TIED WALL		20			23'	1"													23'	1"	277
16	6	TW3	TIED WALL		20			19'	0"													19'	0"	457
32	6	TW4	TIED WALL		20			10'	4"													10'	4"	497
48	6	TW5	TIED WALL		20			18'	4"													18'	4"	1322
8	6	TW6	TIED WALL		20			22'	5"													22'	5"	269
8	6	TW7	TIED WALL		20			26'	0"													26'	0"	312
8	6	TW8	TIED WALL		20			13'	3"													13'	3"	159



STIRRUP HOOK DIMENSIONS

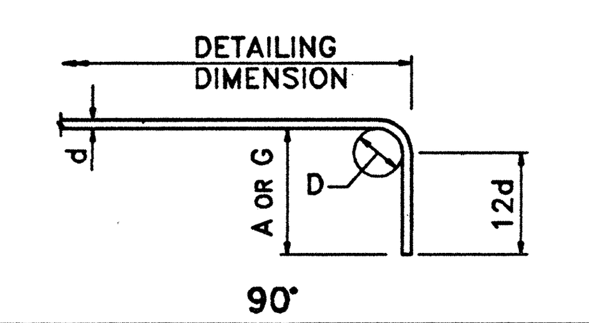
BAR SIZE	D (IN.)	90° HOOK: HOOK A OR G	135° HOOK: HOOK A OR G	135° HOOK: APPROX. H
		GRADES 40-50-60 KSI		
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	8"	7"	4½"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)

D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18



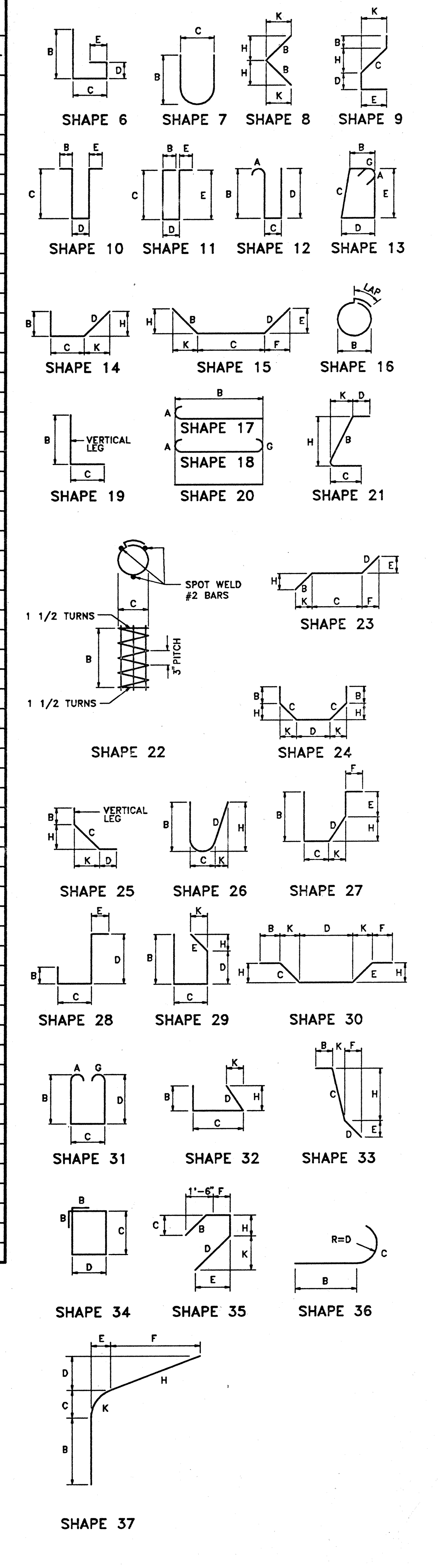
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)

D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	D (IN.)	180° HOOKS, ALL GRADES: A OR G	180° HOOKS, ALL GRADES: J	90° HOOKS, ALL GRADES: A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	12"
#7	5¼"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9½"	15"	11¾"	19"
#10	10¾"	17"	13¼"	22"
#11	12"	19"	14¾"	2'-0"
#14	18¼"	2'-3"	21¾"	2'-7"
#18	24"	3'-0"	2'-4½"	3'-5"

NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E – EPOXY COATED REINFORCEMENT.
S – STIRRUP.
V – BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LNE.
NO. EA. – NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS – ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS – ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.



BENDING DIAGRAMS

NOTE: This drawing is not to scale. Follow dimensions.

No.	Revision	By	Date

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

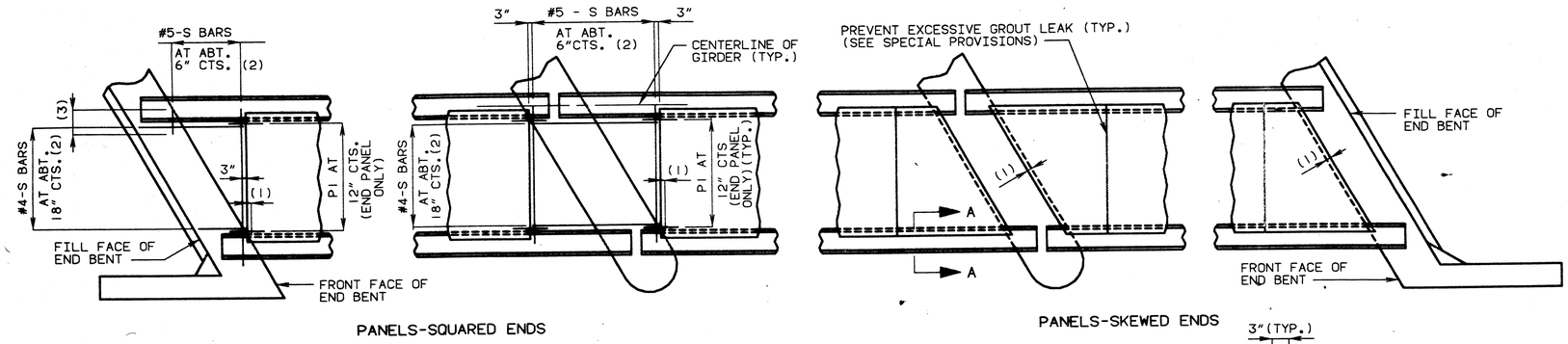
Designed By DWS
Drawn By RRP
Checked By DWS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BILL OF REINFORCEMENT 6

Dwg. No. S39

08/30/93 10:53 JLS 1=1 C:\9107\KCMO\S39

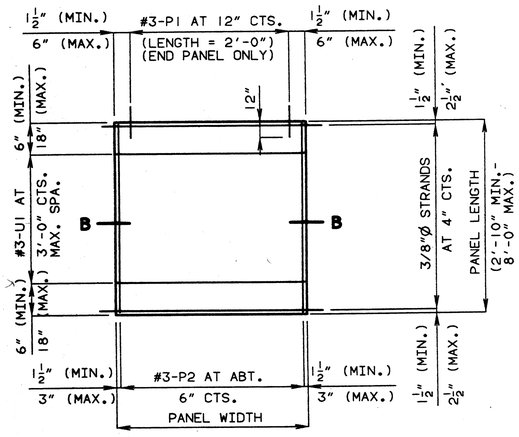
STATE	PROJ. NO.	SHEET NO.
MO.		



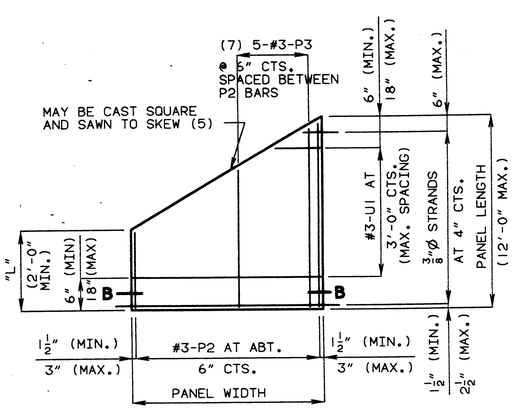
PANELS-SQUARED ENDS

PANELS-SKEWED ENDS

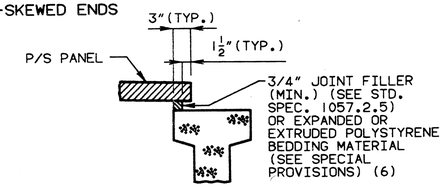
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



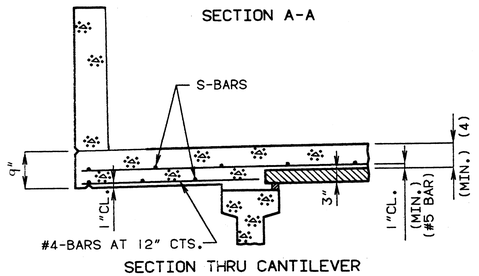
PLAN OF PRECAST PRESTRESSED PANEL



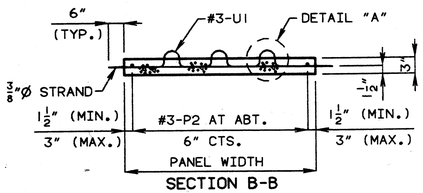
PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)



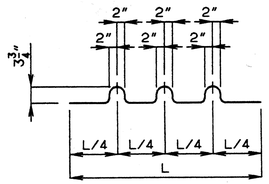
SECTION A-A



SECTION THRU CANTILEVER

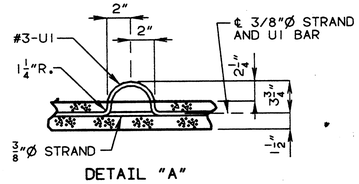


SECTION B-B

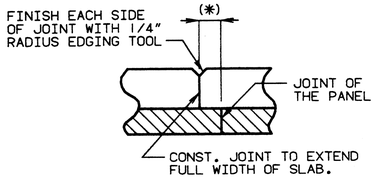


BENDING DIAGRAM FOR UI BAR

(UI BARS MAY BE ORIENTED AT RIGHT ANGLES TO LOCATION AND SPACING SHOWN. UI BARS SHALL BE PLACED BETWEEN PI BARS)



DETAIL "A"



PERMISSIBLE CONST. JOINT

(*) ADJUST THE PERMISSIBLE CONSTRUCTION JOINT TO A CLEARANCE OF 6 INCHES MINIMUM FROM THE JOINTS OF THE PANELS.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

NOTE:

USE SLAB HAUNCHING DIAGRAM ON SHEET NO. FOR DETERMINING THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL WITHIN THE LIMITS NOTED BELOW.

GENERAL NOTES:

PRESTRESSED PANELS:

CONCRETE FOR PRESTRESSED PANELS SHALL BE CLASS A1 WITH F'C = 5,000 PSI, F'CI = 3,500 PSI.

THE TOP SURFACE OF ALL PANELS SHALL RECEIVE A SCORED FINISH WITH A DEPTH OF SCORING OF 1/8 INCH PERPENDICULAR TO THE PRESTRESSING STRANDS IN THE PANELS (SEE SPECIAL PROVISIONS).

PRESTRESSING TENDONS SHALL BE HIGH-TENSILE STRENGTH UNCOATED SEVEN WIRE (7), LOW-RELAXATION STRANDS FOR PRESTRESSED CONCRETE CONFORMING TO AASHTO M203, EXCEPT THAT NOMINAL DIAMETER OF STRAND = 3/8 INCH AND NOMINAL AREA = 0.085 SQ. IN., AND MINIMUM ULTIMATE STRENGTH = 21,250 LBS. (250 KSI). LARGER STRANDS MAY BE USED WITH THE SAME SPACING AND INITIAL TENSION.

INITIAL PRESTRESSING FORCE = 14.9 KIPS/STRAND.

THE METHOD AND SEQUENCE OF RELEASING THE STRANDS SHALL BE SHOWN ON THE SHOP DRAWINGS.

SUITABLE ANCHORAGE DEVICES FOR LIFTING PANELS MAY BE CAST IN PANELS, PROVIDED THEY ARE SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER. PANEL LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWINGS.

WHEN SQUARE END PANELS ARE USED AT SKEWED BENTS, IT IS REQUIRED THAT THE SKEWED PORTION BE CAST FULL DEPTH. NO SEPARATE PAYMENT WILL BE MADE FOR THE ADDITIONAL CONCRETE AND REINFORCING REQUIRED.

MINIMUM JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS SHALL BE 3/4 INCH. THICKER JOINT FILLER OR POLYSTRENE BEDDING MATERIAL MAY BE USED ON ONE OR BOTH SIDES OF THE GIRDER TO REDUCE CAST-IN-PLACE CONCRETE THICKNESS, WITHIN TOLERANCES. NO MORE THAN 2 INCHES TOTAL THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL SHALL BE USED.

THE SAME THICKNESS OF JOINT FILLER MATERIAL SHALL BE USED UNDER ANY ONE EDGE OF ANY PANEL AND THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTRENE BEDDING MATERIAL MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.

AT THE CONTRACTORS OPTION, THE VARIATION IN SLAB THICKNESS OVER PRESTRESSED PANELS MAY BE ELIMINATED OR REDUCED BY INCREASING AND VARYING THE GIRDER TOP FLANGE THICKNESS. DIMENSIONS SHALL BE SHOWN ON THE SHOP DRAWINGS.

NOTES:

(1) END PANELS TO BE DIMENSIONED 1-1/2 INCHES FROM THE INSIDE FACE OF DIAPHRAGM.

(2) S-BARS SHOWN ARE BOTTOM STEEL IN SLAB BETWEEN PANELS AND USED WITH SQUARED END PANELS ONLY.

COST OF S-BARS SHALL BE INCLUDED IN PRICE BID FOR SLAB PER SQUARE YARD.

S-BARS ARE NOT LISTED IN BILL OF REINFORCING.

SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER.

(3) EXTEND S-BARS 18 INCHES BEYOND THE FRONT FACE OF END BENTS ONLY.

SUPPORT FROM DIAPHRAGM FORMS IS REQUIRED UNDER THE OPTIONAL SKEWED END UNTIL CAST-IN-PLACE CONCRETE HAS REACHED 3,000 PSI COMPRESSIVE STRENGTH.

(4) IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMILY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR NECESSARY GRADE ADJUSTMENT.

(5) ANY STRAND 2'-0" OR SHORTER SHALL HAVE A #4 REINFORCING BAR ON EACH SIDE OF IT CENTERED BETWEEN STRANDS. STRANDS 2'-0" OR SHORTER MAY THEN BE DEBONDED AT THE FABRICATORS OPTION.

(6) ALL PANEL SUPPORT PADS SHALL BE GLUED TO THE GIRDER. WHEN SUPPORT THICKNESS EXCEEDS 1-1/2", THE PADS SHALL BE GLUED TOP AND BOTTOM. THE GLUE USED SHALL BE THE TYPE RECOMMENDED BY THE PANEL SUPPORT PADS MANUFACTURER.

(7) USE #3-P3 BARS IF PANEL IS SKEWED 45° OR GREATER.

REINFORCING STEEL:

ALL DIMENSIONS ARE OUT TO OUT.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2 INCH, UNLESS OTHERWISE SHOWN.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE C.R.S.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS.

IF UI BARS INTERFERE WITH PLACEMENT OF SLAB STEEL, UI LOOPS MAY BE BENT OVER, AS NECESSARY, TO CLEAR SLAB STEEL.

WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ. IN./FT., WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES. THE ABOVE ALTERNATIVE REINFORCEMENT CRITERIA MAY BE USED IN LIEU OF THE #3-P3 BARS, WHEN REQUIRED, AND PLACED OVER A WIDTH OF NOT LESS THAN 2FT.

THE REINFORCING STEEL SHALL BE TIED SECURELY TO THE 3/8"Ø STRANDS WITH THE FOLLOWING MAXIMUM SPACING IN EACH DIRECTION:
#3-P2 BARS AT 16 INCHES.
WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS AT 24 INCHES.

TIE THE #3-UI BARS TO THE #3-P2 BARS, TO THE WELDED WIRE FABRIC OR THE WELDED DEFORMED BAR MATS AT ABOUT 36 INCH CENTERS.

ALL REINFORCEMENT OTHER THAN PRESTRESSING STRANDS SHALL BE EPOXY COATED.

S.PAN 3",GS 3.30,P/S, ,A	REVISED:	DEC. 1992
3" PANEL (P/S)		
AUG. 1984		

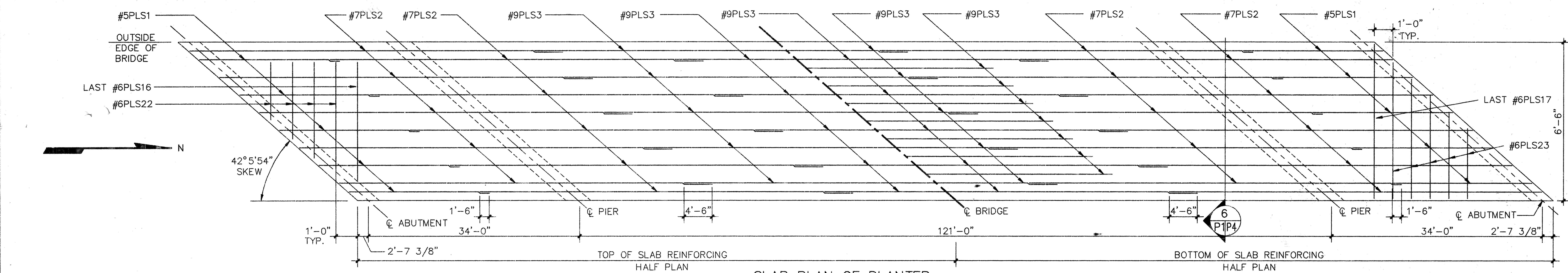
DETAILED 19
CHECKED 19

DETAILS OF PRECAST PRESTRESSED PANELS

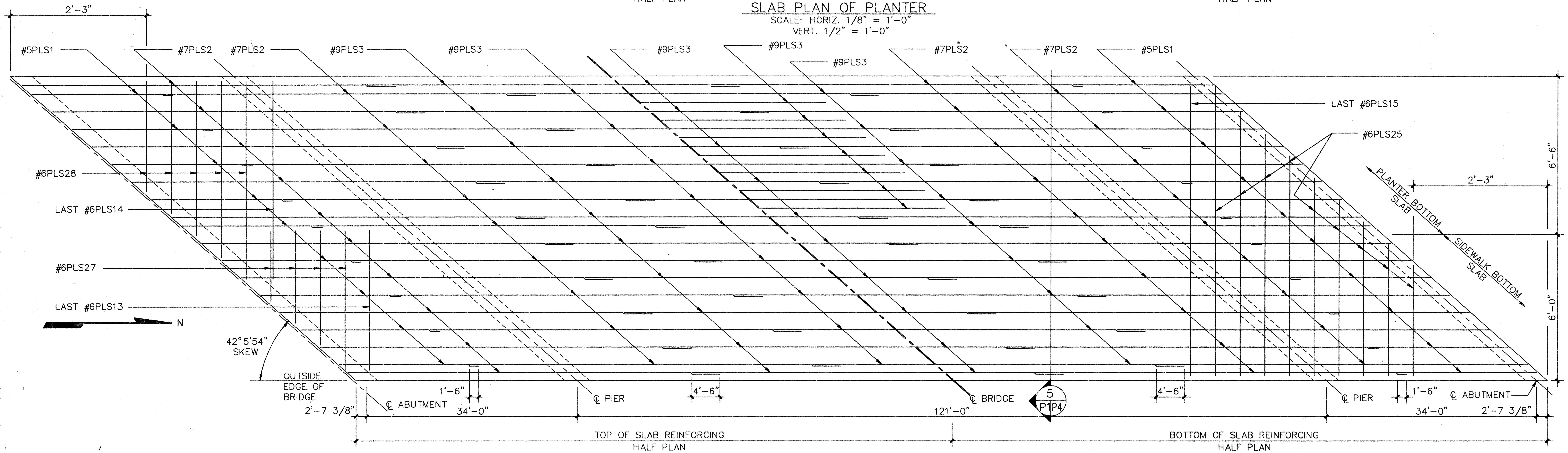
SHEET NO. OF

PRESTRESSED DECK PANELS
ALTERNATE A

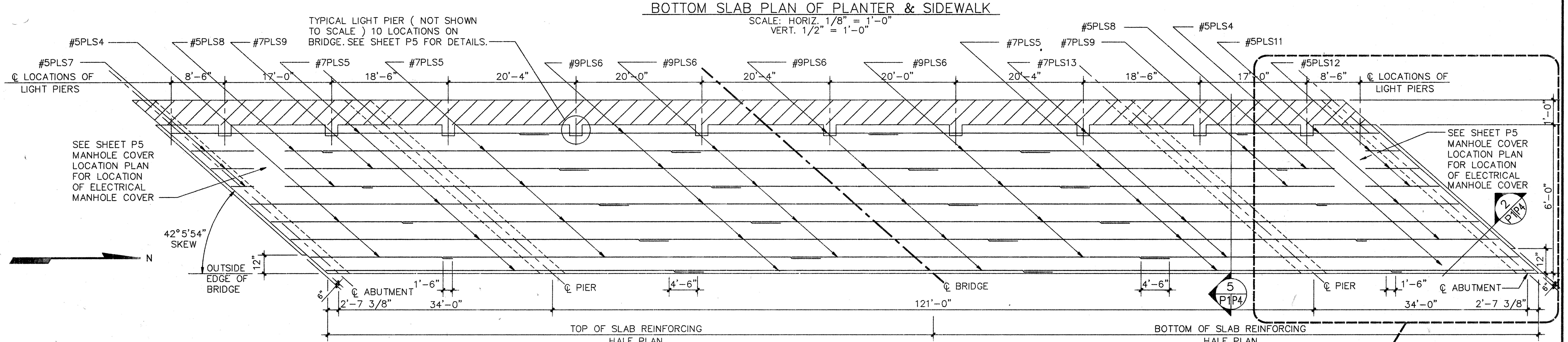
S40



SLAB PLAN OF PLANTER
SCALE: HORIZ. 1/8" = 1'-0"
VERT. 1/2" = 1'-0"



BOTTOM SLAB PLAN OF PLANTER & SIDEWALK
SCALE: HORIZ. 1/8" = 1'-0"
VERT. 1/2" = 1'-0"



INDICATES WALL OF PLANTER & SIDEWALK.

TOP SLAB PLAN OF SIDEWALK
SCALE: HORIZ. 1/8" = 1'-0"
VERT. 1/2" = 1'-0"

SEE SHEET P5 FOR ENLARGED AREA PLAN W/ VARIBLE LENGTH BARS.

No.	Revision	By	Date

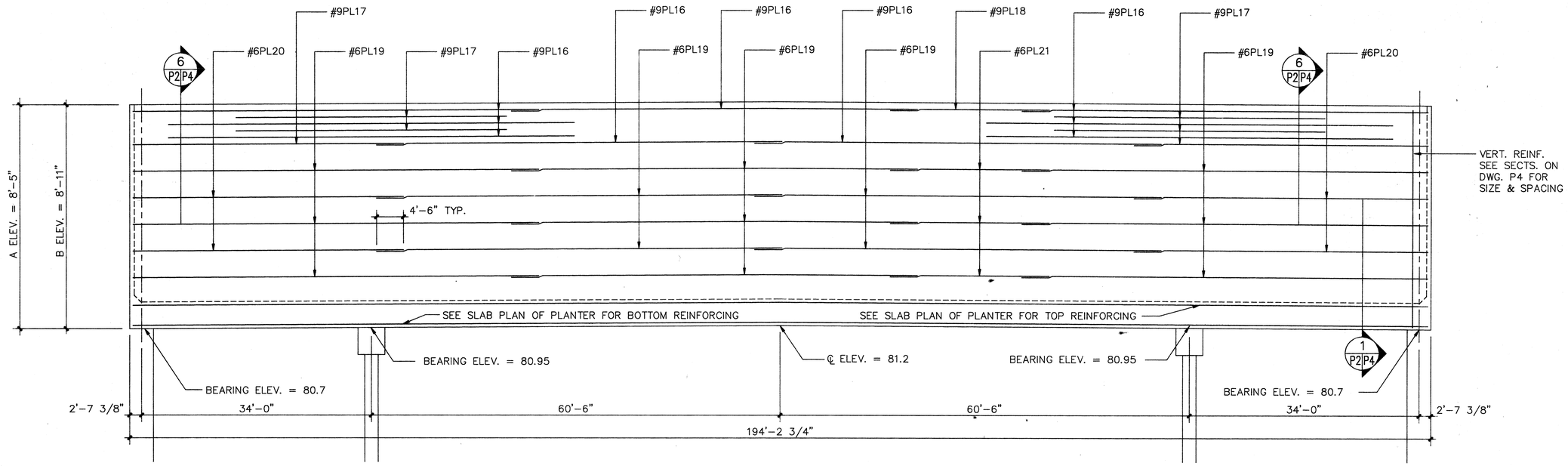
PROJECT ENGINEER
Date 9/1/93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer Kline & Warren

Designed By CJL
Drawn By ESH
Checked By CJL
Scale AS NOTED
Job No. 9107
Contract No.

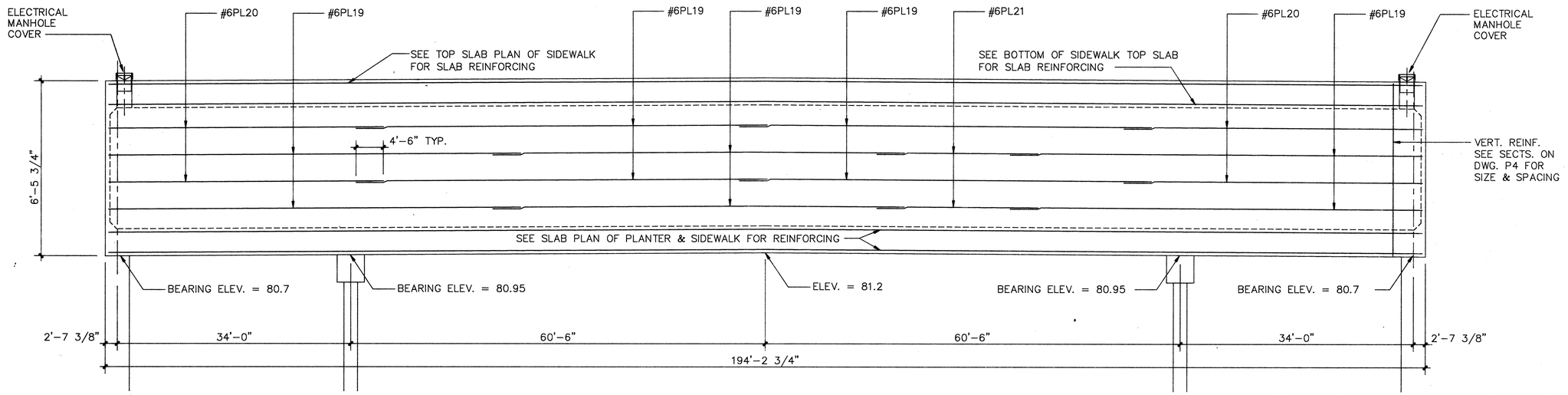
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PLANTER & SIDEWALK SLAB PLANS

Dwg. No. P1



A&B P4|P2 ELEVATION

PLANTER
SCALE: HORIZ. 1/8"=1'-0"
VERT. 1/2"=1'-0"



C P4|P2 ELEVATION

SIDEWALK
SCALE: HORIZ. 1/8"=1'-0"
VERT. 1/2"=1'-0"

No.	Revision	By	Date

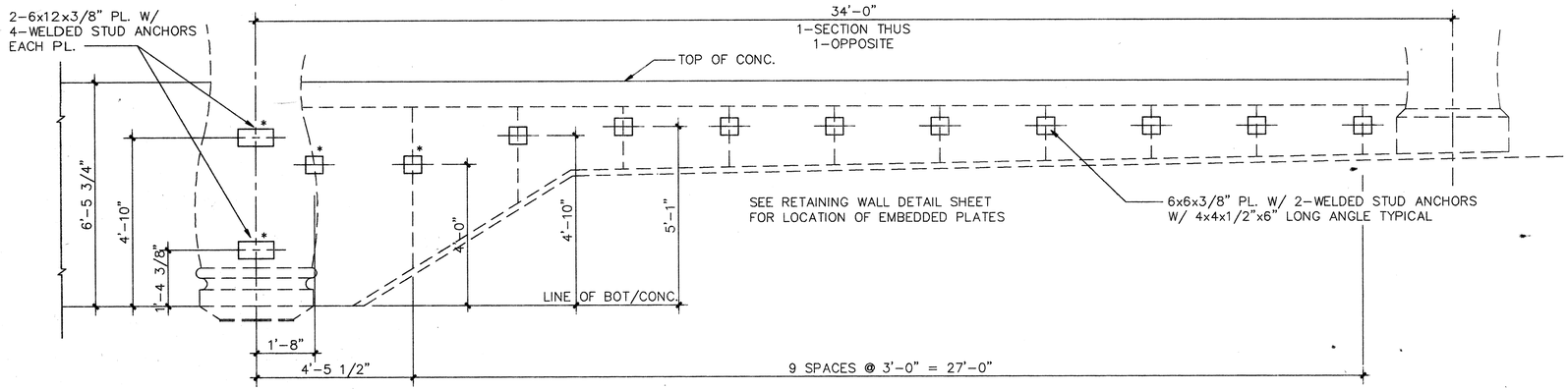
PROJECT ENGINEER
Date 9/1/93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By CJL
Drawn By ESH
Checked By CJL
Scale AS NOTED
Job No. 9107
Contract No.

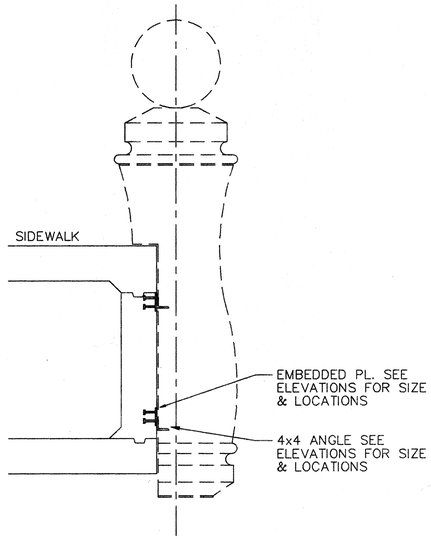
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PLANTER & SIDEWALK ELEVATIONS

Dwg. No. P2



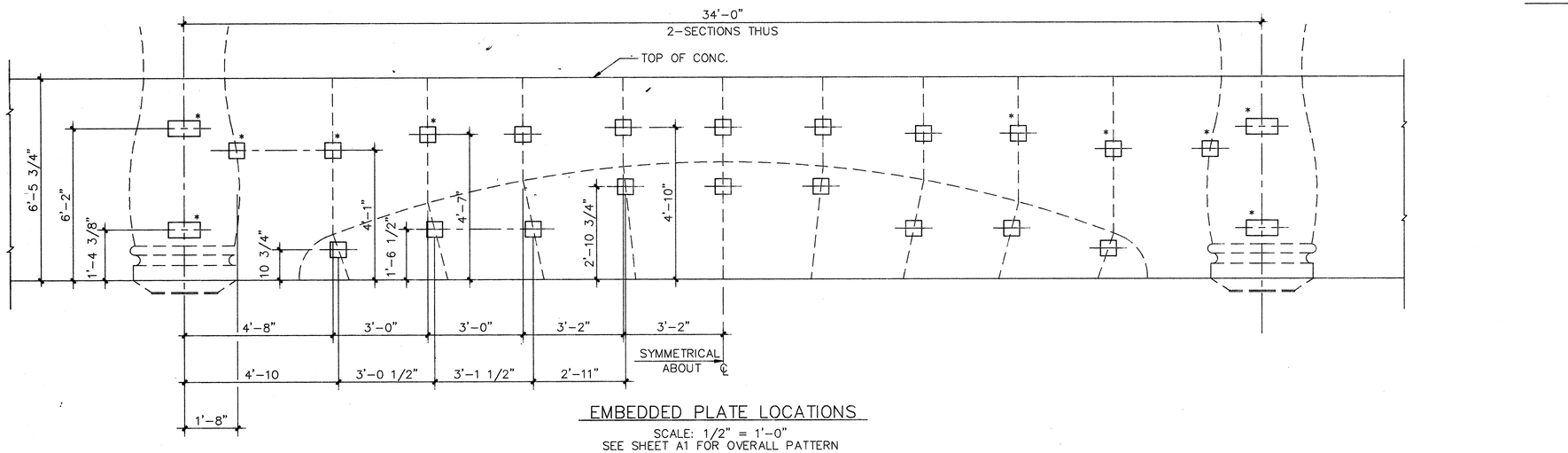
EMBEDDED PLATE LOCATIONS

SCALE: 1/2" = 1'-0"
SEE SHEET A1 FOR OVERALL PATTERN
* DENOTES: USE 8" LONG ANGLE



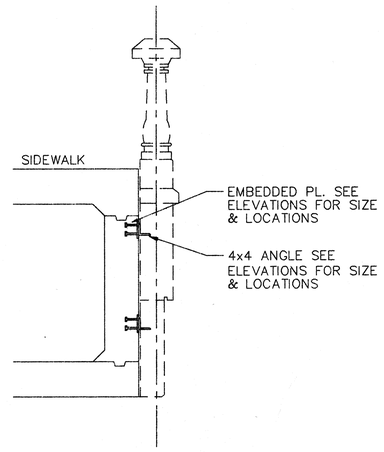
CAST STONE RAILING

SCALE: 1/2" = 1'-0"



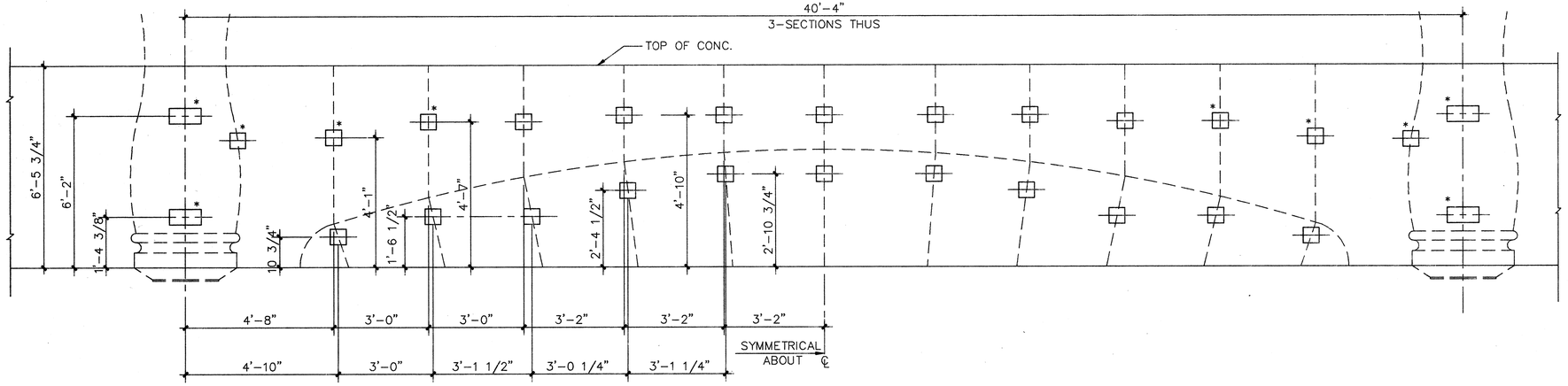
EMBEDDED PLATE LOCATIONS

SCALE: 1/2" = 1'-0"
SEE SHEET A1 FOR OVERALL PATTERN



CAST STONE PANEL

SCALE: 1/2" = 1'-0"



EMBEDDED PLATE LOCATIONS

SCALE: 1/2" = 1'-0"
SEE SHEET A1 FOR OVERALL PATTERN

NOTE:
SEE SHEET P5 FOR DETAILS ON EMBEDDED PLATES.

No.	Revision	By	Date

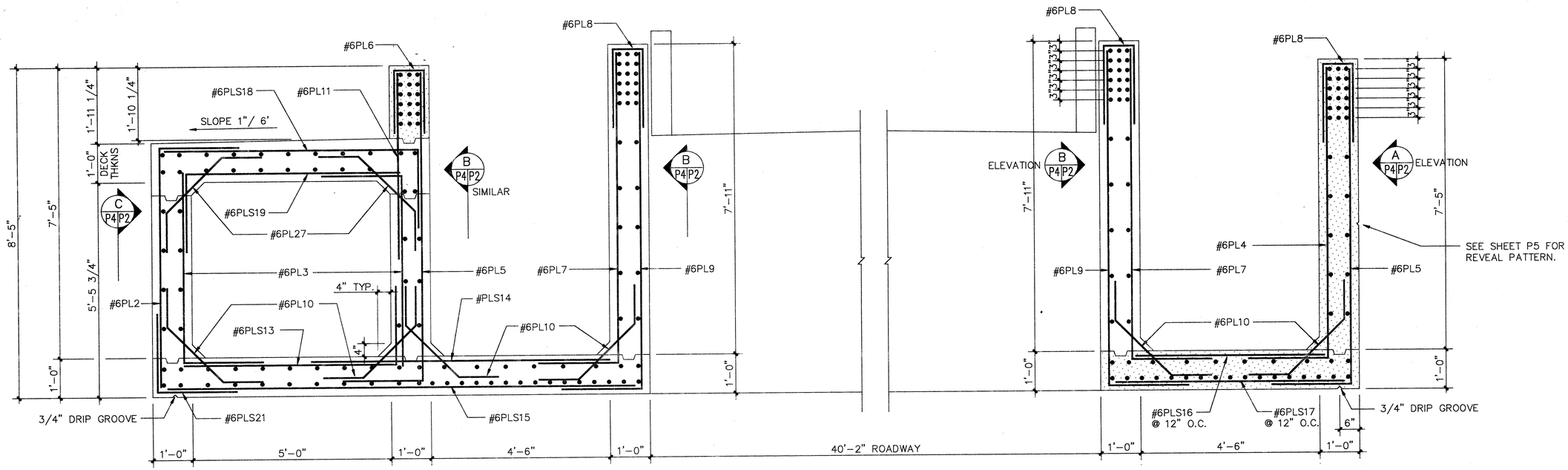
PROJECT ENGINEER
Date 9/1/92
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By CJL
Drawn By ESH
Checked By CJL
Scale 1/2" = 1'-0"
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
EMBEDDED PLATE LOCATIONS

Dwg. No. P3

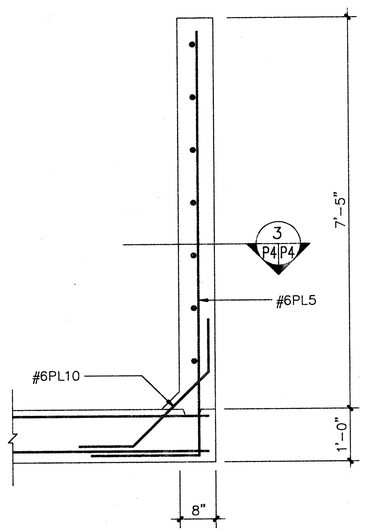


NOTE BOTTOM REINFORCING SHOWN DENOTES MID SPAN CONDITION

DENOTES COLORED CONCRETE

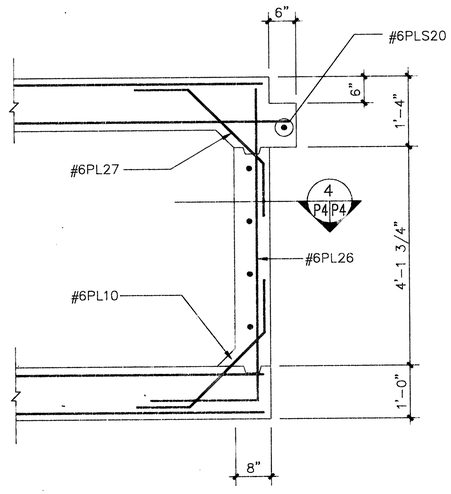
5 P1 P4 SECTION OF PLANTER & SIDEWALK
SCALE: 3/4" = 1'-0"

6 P1 P4 SECTION OF PLANTER
SCALE: 3/4" = 1'-0"

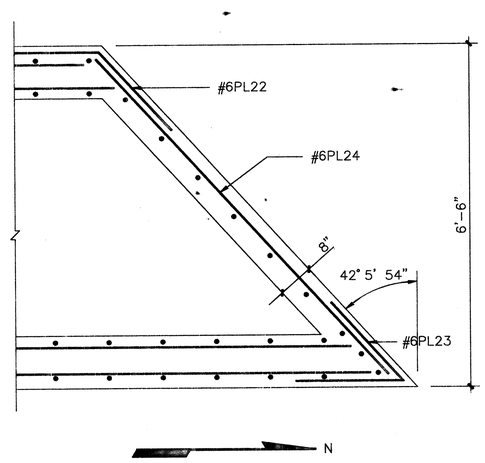


DENOTES COLORED CONCRETE

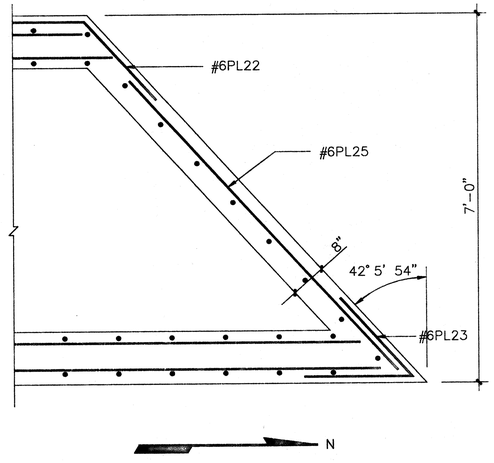
1 P2 P4 SECTION OF PLANTER END WALL
SCALE: 3/4" = 1'-0"



2 P1 P4 SECTION OF SIDEWALK END WALL
SCALE: 3/4" = 1'-0"



3 P4 P4 PLAN OF PLANTER END WALL
SCALE: 3/4" = 1'-0"



4 P4 P4 PLAN OF SIDEWALK END WALL
SCALE: 3/4" = 1'-0"

No.	Revision	By	Date

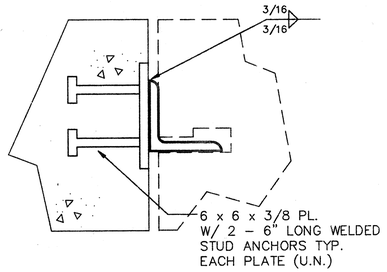
PROJECT ENGINEER
Date 5/1/13
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

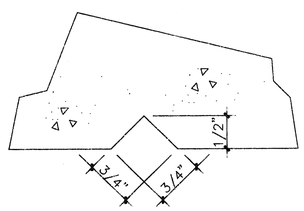
Designed By CJL
Drawn By ESH
Checked By CJL
Scale 3/4"=1'-0"
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
PLANTER & SIDEWALK SECTIONS

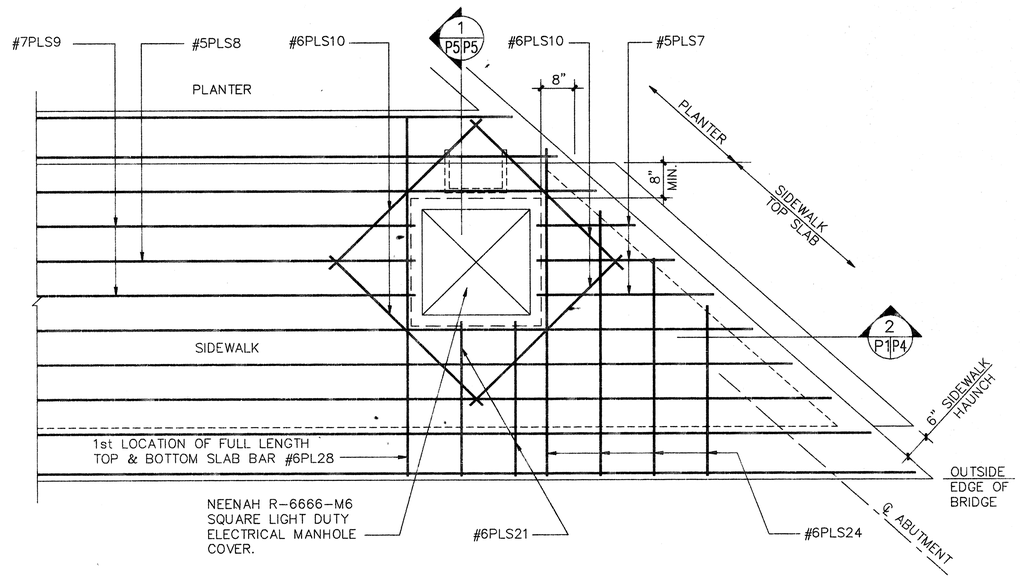
Dwg. No. P4



EMBEDDED PLATE DETAIL
SCALE: 3" = 1'-0"

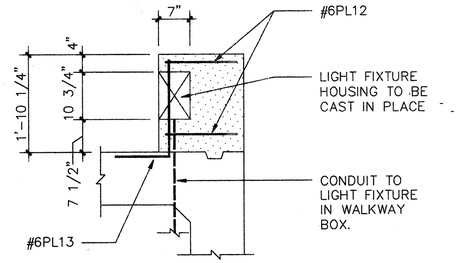


DRIP GROOVE & REVEAL DETAIL
NO SCALE



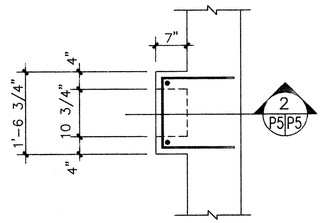
LOCATE 1 ELECTRICAL MANHOLE COVER & STEPS @
EACH END OF BRIDGE ON SIDEWALK A MIN. OF 8" REQ'D.
FROM PLANTER WALL TO EDGE OF MANHOLE COVER

MANHOLE COVER LOCATION PLAN
SCALE: 3/4" = 1'-0"

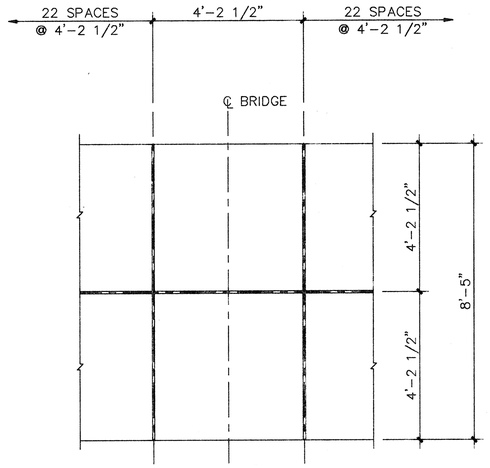


DENOTES COLORED CONCRETE

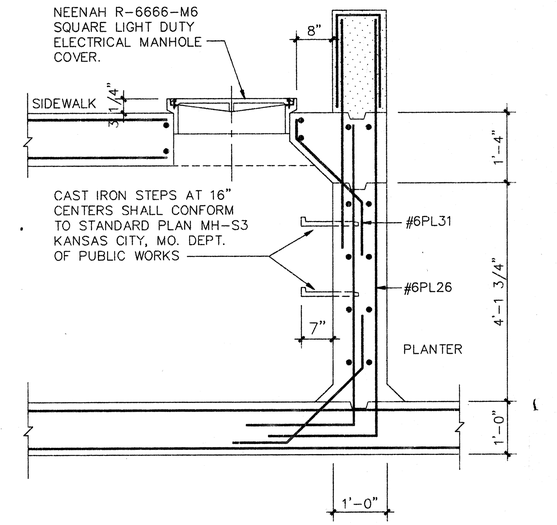
2 P5 P5 SECTION OF LIGHT PIER
SCALE: 3/4" = 1'-0"



PLAN OF LIGHT PIER
SCALE: 3/4" = 1'-0"



PLANTER ELEVATION
SCALE: 1/2" = 1'-0"
REVEAL PATTERN



DENOTES COLORED CONCRETE
MATCH PAVERS TO TOP OF MANHOLE COVER

1 P5 P5 SECTION OF ELECTRICAL MANHOLE LOCATION
SCALE: 3/4" = 1'-0"

No.	Revision	By	Date

PROJECT ENGINEER
Date 9/1/93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By	CJL
Drawn By	ESH
Checked By	CJL
Scale	3/4"=1'-0"
Job No.	9107
Contract No.	

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
RAILING & PANEL SECTIONS

Dwg. No. P5

COMPLETE BILL OF REINFORCING STEEL

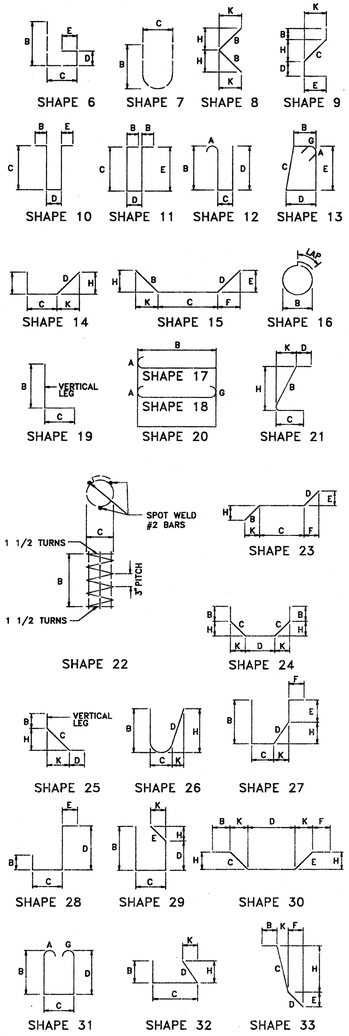
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	WEIGHT
			PLANTER ON EAST BRIDGE																				
194	#6PL4		WALL		19		7'	5"	2'	0"											9'	5"	2740
209	#6PL5		WALL		19		8'	2"	2'	0"											10'	2"	3187
194	#6PL7		WALL		19		7'	11"	2'	0"											9'	11"	2886
388	#6PL8		WALL		10			0"	2'	0"		9"		0"							4'	9"	2765
195	#6PL9		WALL		19		8'	8"	2'	0"											10'	8"	3118
398	#6PL10		WALL		25		1'	0"	2'	0"	1'	0"					1'	5"	1'	5"	4'	0"	2388
54	#9PL16		WALL		20		60'	0"													60'	0"	11016
36	#9PL17		WALL		20		44'	0"													44'	0"	5385
6	#9PL18		WALL		20		27'	6"													27'	6"	561
52	#6PL19		WALL		20		60'	0"													60'	0"	4680
16	#6PL20		WALL		20		44'	0"													44'	0"	1054
12	#6PL21		WALL		20		27'	6"													27'	6"	495
14	#6PL22		WALL		8		2'	0"									1'	11"	11	5 8"	4'	0"	84
14	#6PL23		WALL		8		2'	0"									8 5/8"		1'10	3/8"	4'	0"	84
14	#6PL24		WALL		20		9'	6"													9'	6"	200
20	#5PLS1		SLAB		20		24'	6"													24'	6"	511
40	#7PLS2		SLAB		20		60'	0"													60'	0"	4906
27	#9PLS3		SLAB		20		60'	0"													60'	0"	5508
177	#6PLS16		SLAB		20		5'	0"													5'	0"	1328
177	#6PLS17		SLAB		20		6'	3"													6'	3"	1660
6	#6PLS20		SLAB		20	V	4'	9"													4'	9"	23
							2'	6"													2'	6"	
8	#6PLS21		SLAB		20	V	5'	6"													5'	6"	24
							6'	3"													6'	3"	
			PLANTER & SIDEWALK ON EAST BRIDGE																				
193	#6PL1		WALL		19		2'	0"	2'	0"											4'	0"	1158
195	#6PL2		WALL		19		6'	2"	2'	0"											8'	2"	2389
386	#6PL3		WALL		19		4'	6"	2'	0"											6'	6"	3764
208	#6PL5		WALL		19		8'	2"	2'	0"											10'	2"	3172
194	#6PL6		WALL		10			0"	1'	6"		9"									3'	9"	1091
194	#6PL7		WALL		19		7'	11"	2'	0"											9'	11"	2886
194	#6PL8		WALL		10			0"	2'	0"		9"		0"							4'	9"	1382
195	#6PL9		WALL		19		8'	8"	2'	0"											10'	8"	3118
762	#6PL10		WALL		25		1'	0"	2'	0"	1'	0"					1'	5"	1'	5"	4'	0"	4572
1303	#6PL11		WALL		20		4'	6"													4'	6"	1303
20	#6PL12		WALL		19		1'	10"	1'	0"											2'	10"	85
20	#6PL13		WALL		10			0"	1'	4"	1'	4"		0"							4'	0"	120
54	#9PL16		WALL		20		60'	0"													60'	0"	11016
36	#9PL17		WALL		20		40'	0"													40'	0"	4896
6	#9PL18		WALL		20		23'	6"													23'	6"	480
72	#6PL19		WALL		20		60'	0"													60'	0"	6480
24	#6PL20		WALL		20		40'	0"													40'	0"	1440
16	#6PL21		WALL		20		25'	2"													25'	2"	605
24	#6PL22		WALL		8		2'	0"									1'	11"	11	5 8"	4'	0"	144
24	#6PL23		WALL		8		2'	0"									8 5/8"		1'10	3/8"	4'	0"	144
14	#6PL24		WALL		20		8'	6"													8'	6"	179
8	#6PL25		WALL		20		9'	2"													9"	2"	110
18	#6PL26		WALL		19		6'	2"	2'	0"											8'	2"	221
380	#6PL27		WALL	E	25		1'	0"	2'	0"	1'	0"					1'	5"	1'	5"	4'	0"	2280
8	#6PL31		WALL	E	23			4"	1'	8"	1'	0"	8 1/2"		8 1/2"			3"		3"	3'	0"	36
38	#5PLS1		SLAB	E	20		24'	6"													24'	6"	971
76	#7PLS2		SLAB		20		60'	0"													60'	0"	9321
45	#9PLS3		SLAB		20		60'	0"													60'	0"	9180
6	#5PLS4		SLAB	E	20		23'	8"													23'	8"	148
24	#7PLS5		SLAB	E	20		60'	0"													60'	0"	2943
18	#9PLS6		SLAB	E	20		60'	0"													60'	0"	3876
6	#5PLS7		SLAB	E	20	V	1'	10"													1'	10"	25
							3'	4"													3'	4"	
6	#5PLS8		SLAB	E	20	V	16'	6"													16'	6"	108
							18'	1"													18'	1"	
6	#7PLS9		SLAB	E	20	V	54'	6"													54'	6"	678
							56'	1"													56'	1"	
4	#5PLS11		SLAB	E	20		23'	0"													23'	0"	96
6	#5PLS12		SLAB	E	20	V	1'	8"													1'	8"	12
							3'	3"													3'	3"	
190	#6PLS13		SLAB	E	19		5'	3"	2'	0"											7'	3"	2069
188	#6PLS14		SLAB	E	20		7'	7"													7'	7"	2141
184	#6PLS15		SLAB	E	20		12'	3"													12'	3"	3386
181	#6PLS18		SLAB	E	20		6'	9"	2'	8"											9'	5"	2557
181	#6PLS19		SLAB	E	20		5'	3"	2'	0"											7'	3"	1968
2	#6PLS20		SLAB	E	20		5'	3"													5'	3"	16
8	#6PLS21		SLAB	E	20		2'	11"													2'	11"	36
8	#6PLS22		SLAB		20	V	3'	8"													3'	8"	48
							1'	2"													1'	2"	
10	#6PLS23		SLAB		20	V	5'	11"													5'	11"	55
							2'	7"													2'	7"	
8	#6PLS24		SLAB	E	20	V	6' 2 1/2"														6' 2 1/2"		54
							3' 2 1/2"														3' 2 1/2"		
18	#6PLS25		SLAB	E	20	V 2	11'	0'													11'	0"	178
							2'	2"													2'	2"	
6	#6PLS26		SLAB	E	19	V	4'	6'	2'	0"											6'	6"	36
							3'	0'	2'	0"											5'	0"	
8	#6PLS27		SLAB	E	20	V	5'	4"	2'	0"											7'	4"	48
							3'	4"	2'	0"											5'	4"	
10	#6PLS28		SLAB	E	20	V	7'	0"													7'	0"	75
							3'	6"													3'	6"	

COMPLETE BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	VARIES (V) NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	WEIGHT
			PLANTER ON WEST BRIDGE																				
194	#6PL4		WALL		19		7'	5"	2'	0"											9'	5"	2740
209	#6PL5		WALL		19		8'	2"	2'	0"											10'	2"	3187
194	#6PL7		WALL		19		7'	11"	2'	0"											9'	11"	2886
388	#6PL8		WALL		10			0"	2'	0"		9"		0"							4'	9"	2765
195	#6PL9		WALL		19		8'	8"	2'	0"											10'	8"	3118
398	#6PL10		WALL		25		1'	0"	2'	0"	1'	0"					1'	5"	1'	5"	4'	0"	2388
54	#9PL16		WALL		20		60'	0"													60'	0"	11016
36	#9PL17		WALL		20		44'	0"													44'	0"	5385
6	#9PL18		WALL		20		27'	6"													27'	6"	561
52	#6PL19		WALL		20		60'	0"													60'	0"	4680
16	#6PL20		WALL		20		44'	0"													44'	0"	1054
12	#6PL21		WALL		20		27'	6"													27'	6"	495
14	#6PL22		WALL		8		2'	0"									1'	11"	11	5 8"	4'	0"	84
14	#6PL23		WALL		8		2'	0"									8 5/8"		1'10	3/8"	4'	0"	84
14	#6PL24		WALL		20		9'	6"													9'	6"	200
20	#5PLS1		SLAB		20		24'	6"													24'	6"	511
40	#7PLS2		SLAB		20		60'	0"													60'	0"	4906
27	#9PLS3		SLAB		20		60'	0"													60'	0"	5508
177	#6PLS16		SLAB		20		5'	0"													5'	0"	1328
177	#6PLS17		SLAB		20		6'	3"													6'	3"	1660
6	#6PLS20		SLAB		20	V	4'	9"													4'	9"	23
							2'	6"													2'	6"	
8	#6PLS21		SLAB		20	V	5'	6"													5'	6"	24
							6'	3"													6'	3"	
			PLANTER & SIDEWALK ON WEST BRIDGE																				
193	#6PL1		WALL		19		2'	0"	2'	0"											4'	0"	1158
195	#6PL2		WALL		19		6'	2"	2'	0"											8'	2"	2389
386	#6PL3		WALL		19		4'	6"	2'	0"											6'	6"	3764
208	#6PL5		WALL		19		8'	2"	2'	0"											10'	2"	3172
194	#6PL6		WALL		10			0"	1'	6"		9"									3'	9"	1091
194	#6PL7		WALL		19		7'	11"	2'	0"											9'	11"	2886
194	#6PL8		WALL		10			0"	2'	0"		9"		0"							4'	9"	1382
195	#6PL9		WALL		19		8'	8"	2'	0"											10'	8"	3118
762	#6PL10		WALL		25		1'	0"	2'	0"	1'	0"					1'	5"	1'	5"	4'	0"	4572
1303	#6PL11		WALL		20		4'	6"													4'	6"	1303
20	#6PL12		WALL		19		1'	10"	1'	0"											2'	10"	85
20	#6PL13		WALL		10			0"	1'	4"	1'	4"		0"							4'	0"	120
54	#9PL16		WALL		20		60'	0"													60'	0"	11016
36	#9PL17		WALL		20		40'	0"													40'	0"	4896
6	#9PL18		WALL		20		23'	6"													23'	6"	480
72	#6PL19		WALL		20		60'	0"													60'	0"	6480
24	#6PL20		WALL		20		40'	0"													40'	0"	1440
16	#6PL21		WALL		20		25'	2"													25'	2"	605
24	#6PL22		WALL		8		2'	0"									1'	11"	11	5 8"	4'	0"	144
24	#6PL23		WALL		8		2'	0"									8 5/8"		1'10	3/8"	4'	0"	144
14	#6PL24		WALL		20		8'	6"													8'	6"	179
8	#6PL25		WALL		20		9'	2"													9"	2"	110
18	#6PL26		WALL		19		6'	2"	2'	0"											8'	2"	221
380	#6PL27		WALL	E	25		1'	0"	2'	0"	1'	0"					1'	5"	1'	5"	4'	0"	2280
8	#6PL31		WALL	E	23			4"	1'	8"	1'	0"	8 1/2"		8 1/2"			3"		3"	3'	0"	36
38	#5PLS1		SLAB	E	20		24'	8"													24'	8"	977
76	#7PLS2		SLAB		20		60'	0"													60'	0"	9348
45	#9PLS3		SLAB		20		60'	0"													60'	0"	9180
6	#5PLS4		SLAB	E	20		23'	8"													23'	8"	148
24	#7PLS5		SLAB	E	20		60'	0"													60'	0"	2943
18	#9PLS6		SLAB	E	20		60'	0"													60'	0"	3876
6	#5PLS7		SLAB	E	20	V	1'	10"													1'	10"	25
							3'	4"													3'	4"	
6	#5PLS8		SLAB	E	20	V	16'	6"													16'	6"	108
							18'	1"													18'	1"	
6	#7PLS9		SLAB	E	20	V	54'	6"													54'	6"	678
							56'	1"													56'	1"	
4	#5PLS11		SLAB	E	20		23'	0"													23'	0"	96
6	#5PLS12		SLAB	E	20	V	1'	8"													1'	8"	12
							3'	3"													3'	3"	
181	#6PLS13		SLAB	E	20		5'	3"	2'	0"											7'	3"	1968
184	#6PLS14		SLAB	E	20		7'	7"													7'	7"	2093
169	#6PLS15		SLAB	E	20		12'	3"													12'	3"	3105
181	#6PLS18		SLAB	E	20		6'	9"	2'	8"											9'	5"	2557
181	#6PLS19		SLAB	E	20		5'	3"	2'	0"											7'	3"	1968
2	#6PLS20		SLAB	E	20		5'	3"													5'	3"	16
8	#6PLS21		SLAB	E	20		2'	11"													2'	11"	36
8	#6PLS22		SLAB		20	V	3'	8"													3'	8"	48
							1'	2"													1'	2"	
10	#6PLS23		SLAB		20	V	5'	11"													5'	11"	55
							2'	7"													2'	7"	
8	#6PLS24		SLAB	E	20	V	6' 2 1/2"														6' 2 1/2"		54
							3' 2 1/2"														3' 2 1/2"		
18	#6PLS25		SLAB	E	19	V	11'	0'													11'	0"	189
							3'	0'													3'	0"	
6	#6PLS26		SLAB	E	19	V	4'	6'	2'	0"											6'	6"	36
							3'	0'	2'	0"											5'	0"	
8	#6PLS27		SLAB	E	20	V	5'	4"	2'	0"											7'	4"	48
							3'	4"	2'	0"											5'	4"	
10	#6PLS28		SLAB	E	20	V	7'	0"													7'	0"	75
							3'	6"													3'	6"	

SEE OTHER BILL OF MATERIAL DRAWINGS FOR STANDARD HOOK AND BEND DIMENSIONS.

NOTE: This drawing is not to scale. Follow dimensions.



BENDING DIAGRAMS

No.	Revision	By	Date

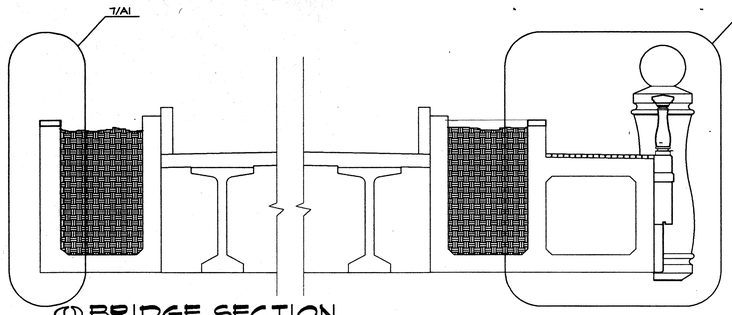
PROJECT ENGINEER
Date 9/1/23
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By CJL
Drawn By ESH
Checked By CJL
Scale AS SHOWN
Job No. 9107
Contract No.

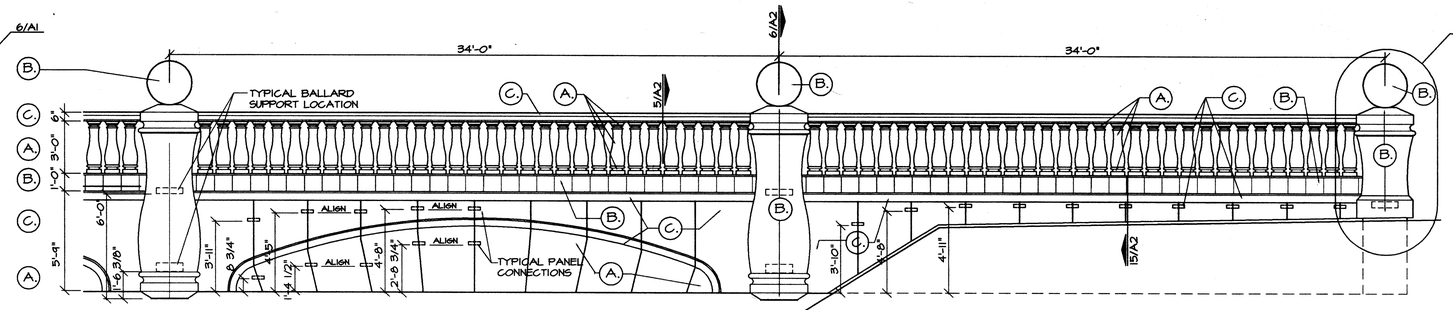
KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BILL OF REINFORCING 7

Dwg. No. P6



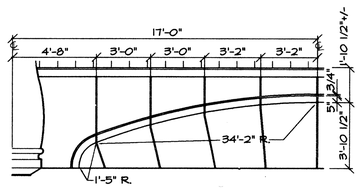
3 BRIDGE SECTION
1/4" = 1'-0"

EAST BRIDGE SHOWN WEST
BRIDGE OPPOSITE HAND



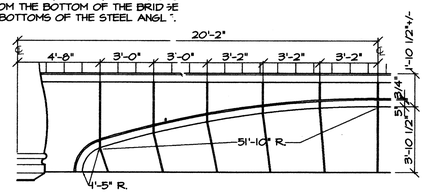
5 BRIDGE SECTION (34'-0")
1/4" = 1'-0"

NOTE: THE ABOVE NOTED PANEL CONNECTORS ARE TO BE MIRRORED ON OTHER HALF OF BRIDGE SECTION (TYPICAL). DIMENSIONS ARE FROM THE BOTTOM OF THE BRIDGE TO THE BOTTOMS OF THE STEEL ANGLE.



4 PANEL RADIUS DETAIL
1/4" = 1'-0" (REF: 34'-0" BRIDGE SECTION)

ALL JOINTS TO HAVE SEALANT AND BACKER ROD TYPICAL.

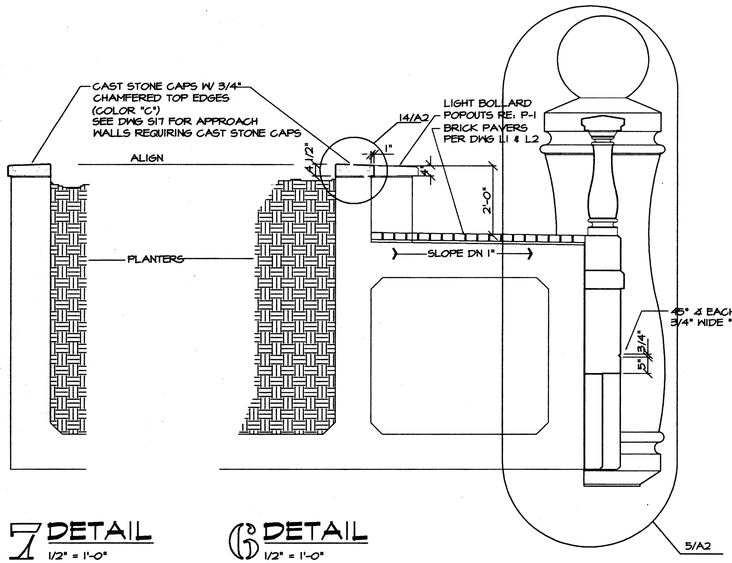


5 PANEL RADIUS DETAIL
1/4" = 1'-0" (REF: 40'-4" BRIDGE SECTION)

ALL JOINTS TO HAVE SEALANT AND BACKER ROD TYPICAL.

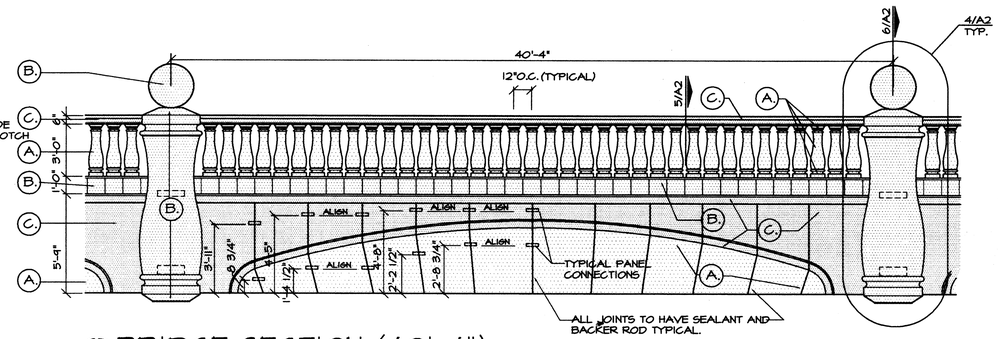
CAST STONE COLORS

KEY		
A.	LIGHT NO. 1101	
B.	MEDIUM NO. 242B	
C.	DARK NO. 258	



7 DETAIL
1/2" = 1'-0"

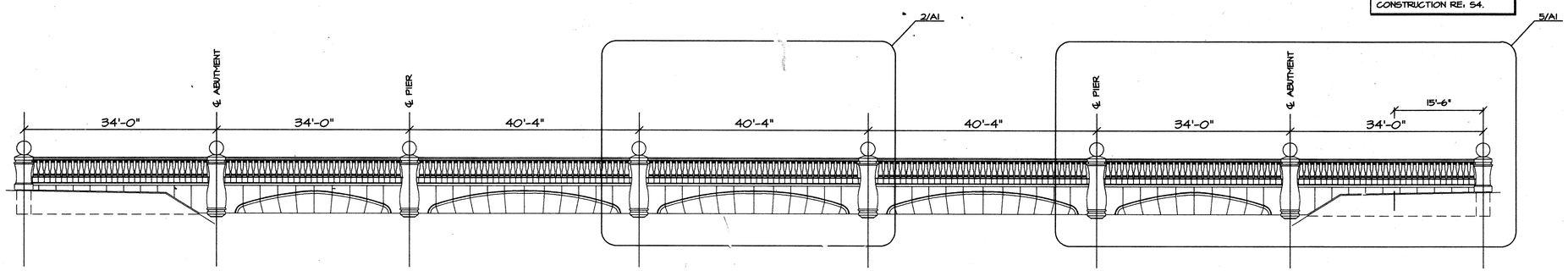
6 DETAIL
1/2" = 1'-0"



2 BRIDGE SECTION (40'-4")
1/4" = 1'-0"

NOTE: THE ABOVE NOTED PANEL CONNECTORS ARE TO BE MIRRORED ON OTHER HALF OF BRIDGE SECTION (TYPICAL). DIMENSIONS ARE FROM THE BOTTOM OF THE BRIDGE TO THE BOTTOMS OF THE STEEL ANGLE.

G.C. NOT TO INSTALL THE LAST 15'-6" OF CAST STONE ON THE NORTHEAST CORNER OF THE EAST BRIDGE, BUT SHALL PRODUCE IT & DELIVER TO THE CITY FOR STORAGE FOR PHASE 2 CONSTRUCTION RE: S4.



1 BRIDGE ELEVATION TYPICAL
3/32" = 1'-0"

CAST STONE PANELS TO BE USED ON EAST SIDE OF EAST BRIDGE AND WEST SIDE OF WEST BRIDGE ONLY.

No.	Revision	By	Date

STATE OF MISSOURI · 13 · HENRY C. KIRKWOOD NUMBER A-5232 REGISTERED ENGINEER

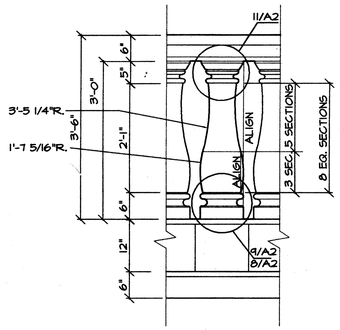
PROJECT ENGINEER
Date 8-24-98
NOTE: This drawing is PRELIMINARY until approved by project eng

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

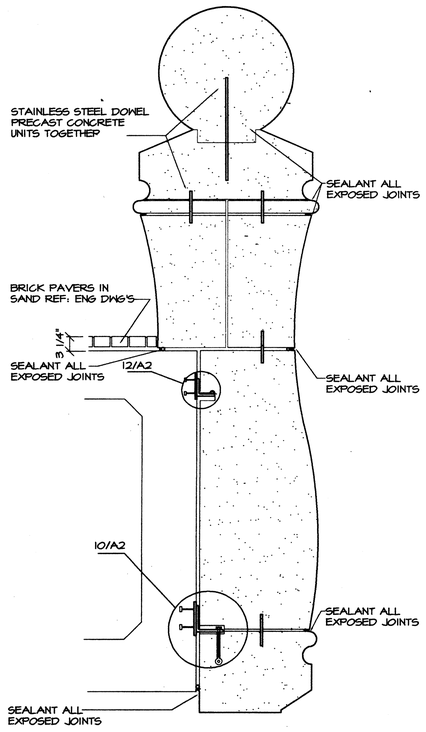
Designed By
Drawn By
Checked By
Scale
Job No.
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
CAST STONE ELEVATIONS

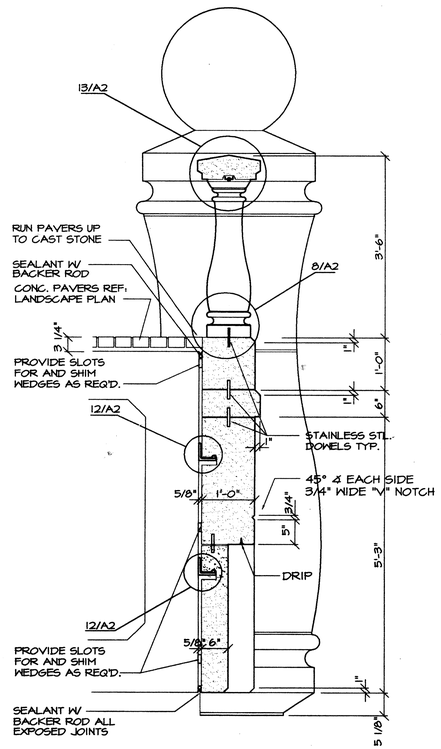
Dwg. No. A1



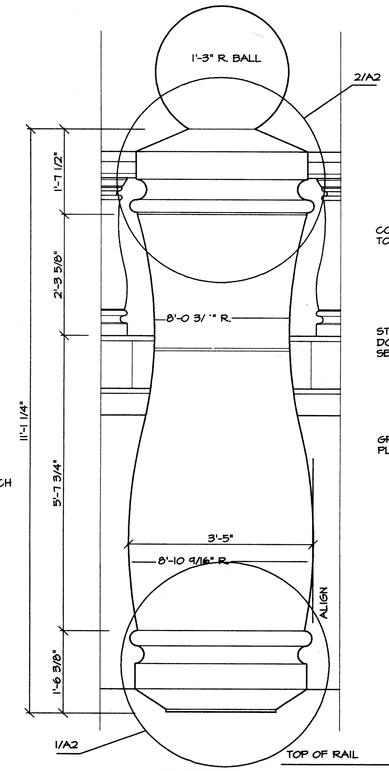
7 DETAIL
3/4" = 1'-0"



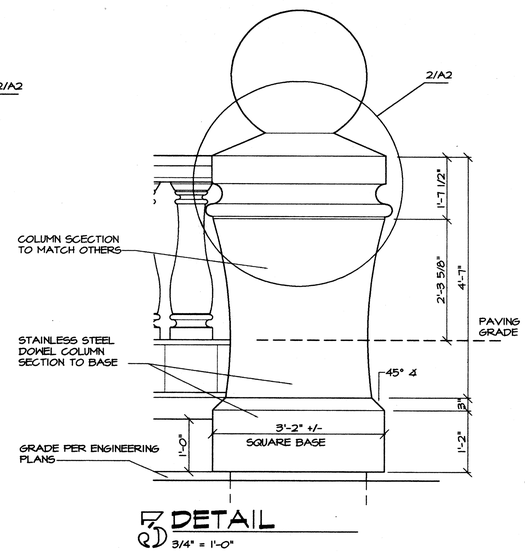
6 SECTION
3/4" = 1'-0"



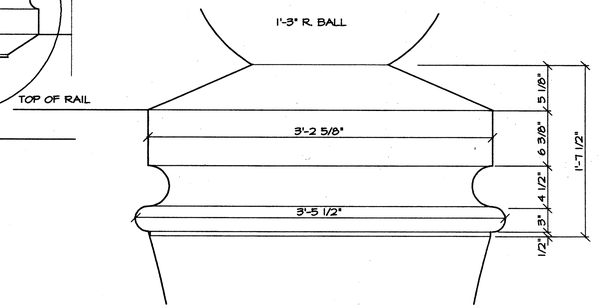
5 SECTION
3/4" = 1'-0"



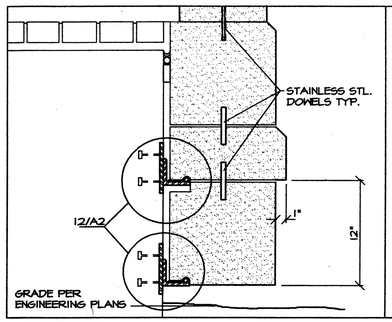
4 DETAIL
3/4" = 1'-0"



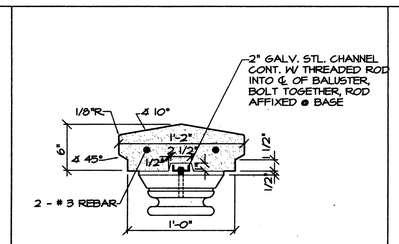
2 DETAIL
1 1/2" = 1'-0"



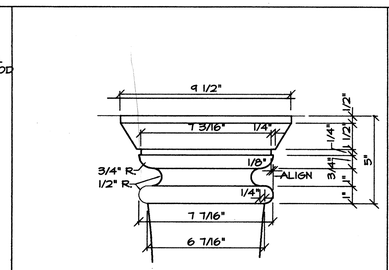
1 DETAIL
1 1/2" = 1'-0"



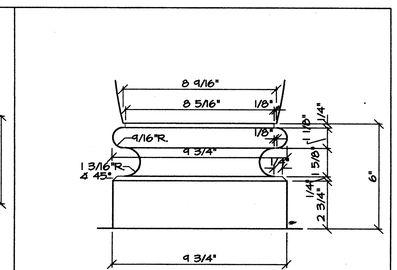
15 DETAIL
1 1/2" = 1'-0"



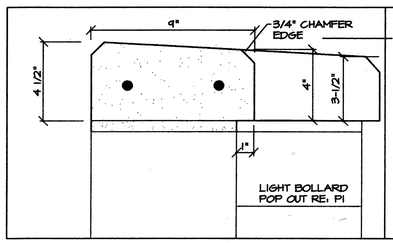
13 DETAIL
3/4" = 1'-0"



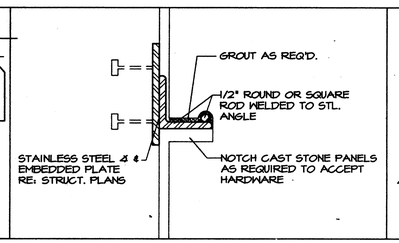
11 DETAIL
3" = 1'-0"



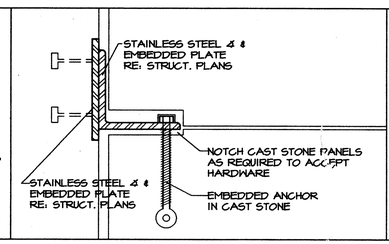
9 DETAIL
3" = 1'-0"



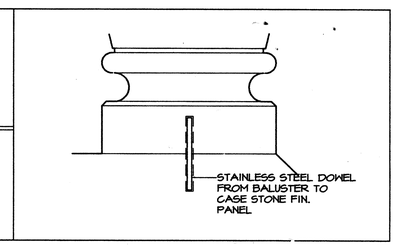
14 DETAIL
3" = 1'-0"



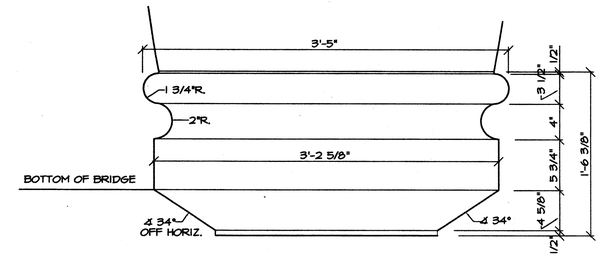
12 DETAIL
3" = 1'-0"



10 DETAIL
3" = 1'-0"



8 DETAIL
3" = 1'-0"



No.	Revision	By	Date

STATE OF MISSOURI • ARCHITECT • HENRY C. KLOVER NUMBER A5232 • REGISTERED
8-26-93

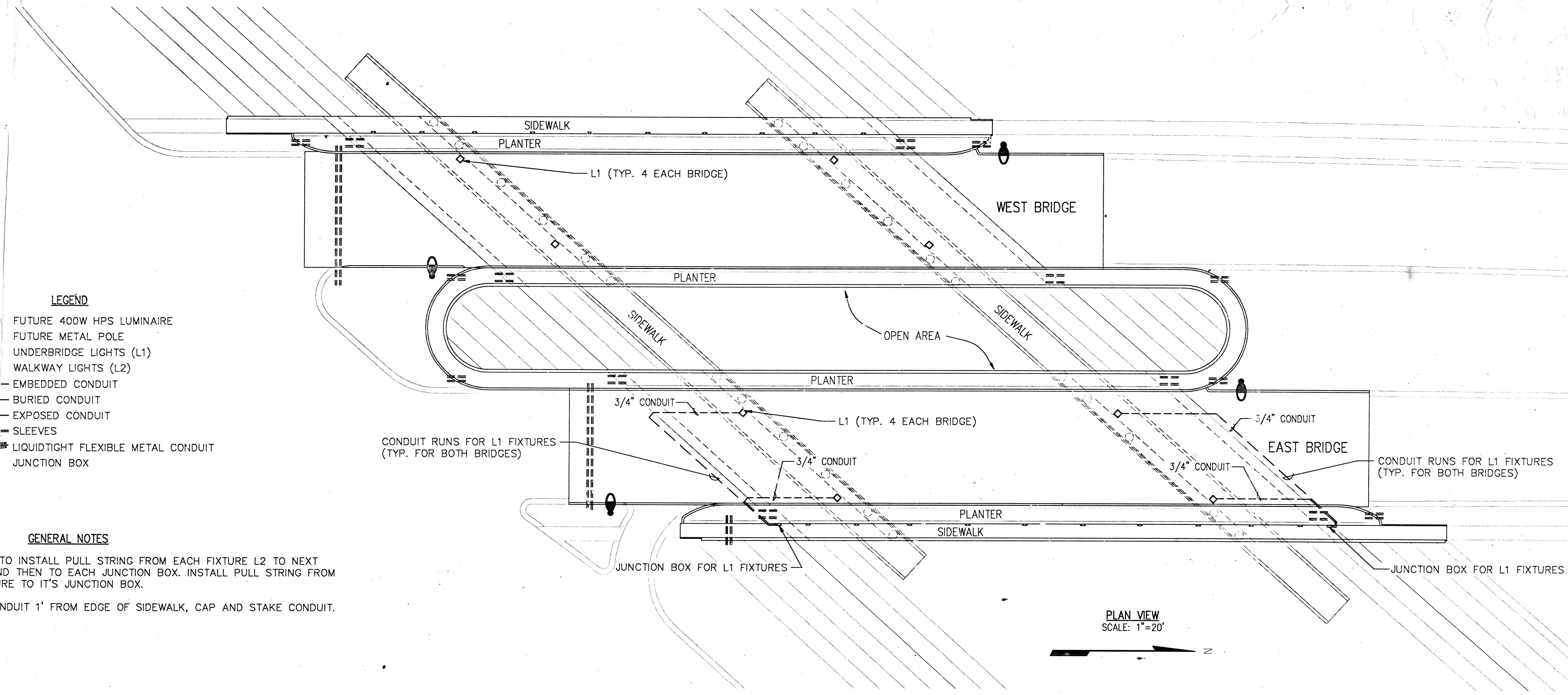
PROJECT ENGINEER
Date 8-26-93
NOTE: This drawing is PRELIMINARY until approved by project eng.

A.C. KIRKWOOD & ASSOCIATES
a Division of
Shafer Kline & Warren

Designed By
Drawn By
Checked By
Scale
Job No.
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
CAST STONE SECTIONS AND DETAILS

Dwg. No. A2



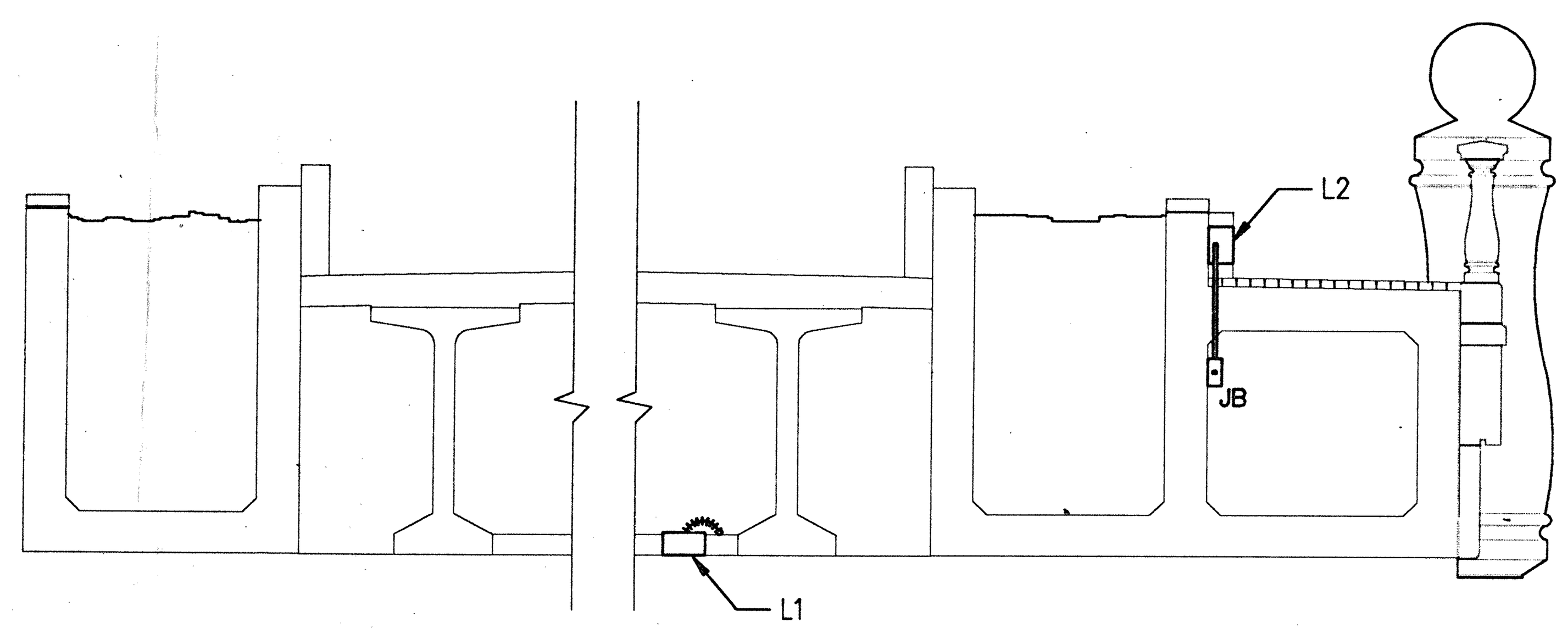
PLAN VIEW
SCALE: 1"=20'

LEGEND

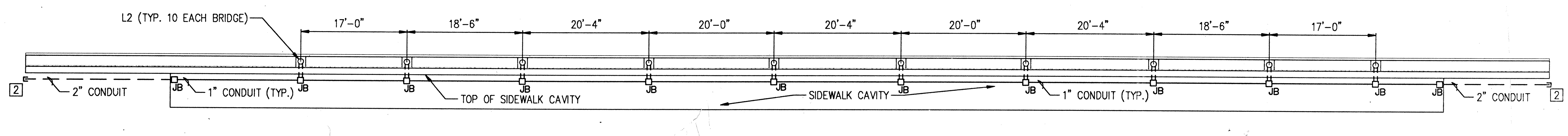
- FUTURE 400W HPS LUMINAIRE
- FUTURE METAL POLE
- UNDERBRIDGE LIGHTS (L1)
- WALKWAY LIGHTS (L2)
- EMBEDDED CONDUIT
- BURIED CONDUIT
- EXPOSED CONDUIT
- SLEEVES
- LIQUIDTIGHT FLEXIBLE METAL CONDUIT
- JB JUNCTION BOX

GENERAL NOTES

1. CONTRACTOR TO INSTALL PULL STRING FROM EACH FIXTURE L2 TO NEXT FIXTURE L2 AND THEN TO EACH JUNCTION BOX. INSTALL PULL STRING FROM EACH L1 FIXTURE TO IT'S JUNCTION BOX.
2. EXTEND 2" CONDUIT 1' FROM EDGE OF SIDEWALK, CAP AND STAKE CONDUIT.



BRIDGE SECTION
SCALE: 1/4"=1'-0"



PLANTER WALL SECTION (TYP. EAST & WEST)
SCALE: 1"=10'

08/30/93 15:21 JLS 1"=10' C:\TEMP\E1

PROJECT ENGINEER
Date 9-1-93
NOTE: This drawing is PRELIMINARY until approved by project eng

A.C. KIRKWOOD & ASSOCIATES
a Division of Shafer, Kline & Warren

Designed By CLB
Drawn By CLB
Checked By HMS
Scale AS SHOWN
Job No. 9107
Contract No.

KANSAS CITY MO. PUBLIC WORKS DEPT.
THE PASEO INTERSECTION COMPLEX
BRIDGE LIGHTING PLAN

Dwg. No. E1