

ATTACHMENT B - Project Design Plans

**PROJECT PLANS FOR CONSTRUCTION OF
HOLLY STREET BRIDGE SEISMIC RETROFIT
IN LOS ANGELES COUNTY IN THE CITY OF PASADENA
FROM LINDA VISTA AVE TO ARROYO DR**

FED AID NO: BHL5 = 5064 (078)
BRIDGE NUMBER: 53C1041

STANDARD ABBREVIATIONS

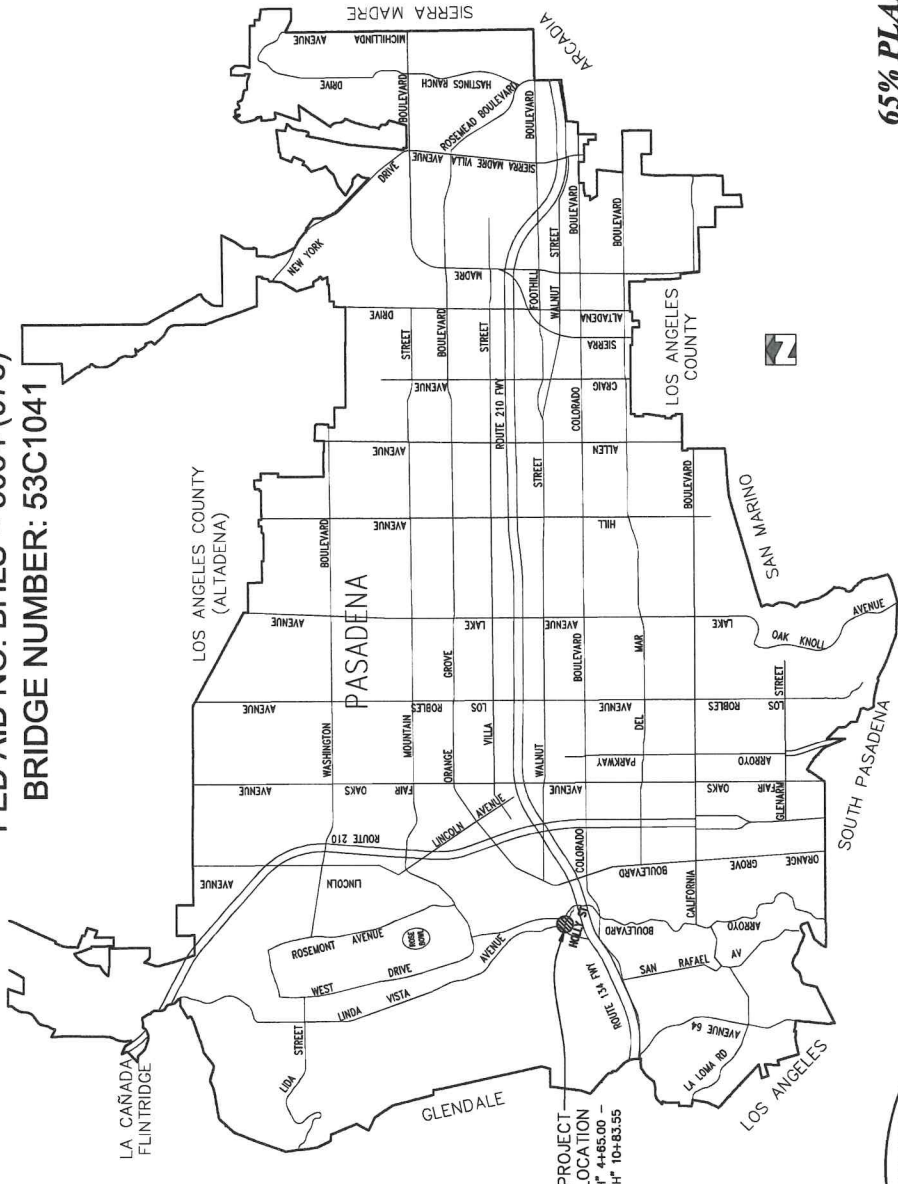
- AB Aggregate Base
- BC Begin Horizontal Curve
- BEG Back of Wall
- BOB Back of Bridge
- EC End Horizontal Curve
- ELEV Elevation
- FL Flow Line
- HA Horizontal Alignment
- HPVZ Horizontal Profile
- PC Point of Curvature
- POT Point of Tangent
- LT Left Hand
- RC Right Hand
- RI Right Hand
- SW Sidewalk
- Var Vertical
- VERT Vertical Curve

GENERAL NOTES

1. ALL WORK TO BE DONE IN ACCORDANCE WITH THE "CALTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION," CURRENT EDITION, INCLUDING ANY SUPPLEMENTS, THE LATEST EDITION OF THE CITY OF PASADENA SUPPLEMENTS AND MODIFICATIONS TO THE ABOVE.
2. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS PRIOR TO BEGINNING WORK.

INDEX OF PLANS

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15-16	STRUCTURE PLAN SHEETS



65% PLANS - FOR REVIEW ONLY

APPROVED _____ DATE _____
 XX REGISTERED CIVIL ENGINEER NO. XX
 REGISTRATION EXPIRES XX XX XXXX

CITY OF PASADENA - DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE SEISMIC RETROFIT SHEET 1 of 39
 LIMITS LINDA VISTA AVE TO ARROYO DR DWG. NO. T-1
 NOT TO SCALE SCALE XX ACCOUNT NUMBER XX

REVISIONS

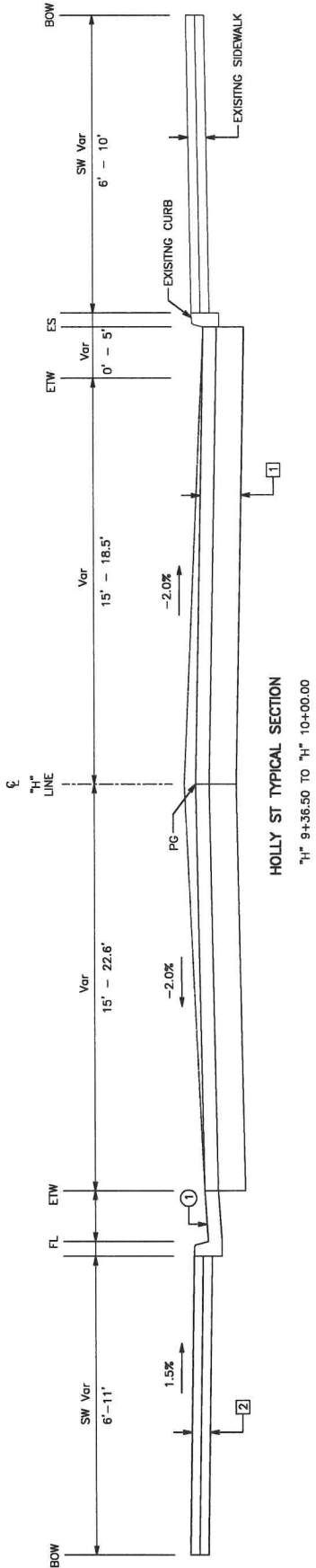
NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

DESIGNED BY D. ISU
 CHECKED BY D. ISU
 DRAWN BY M. FLETCHER
 PROJECT NUMBER 53C1041



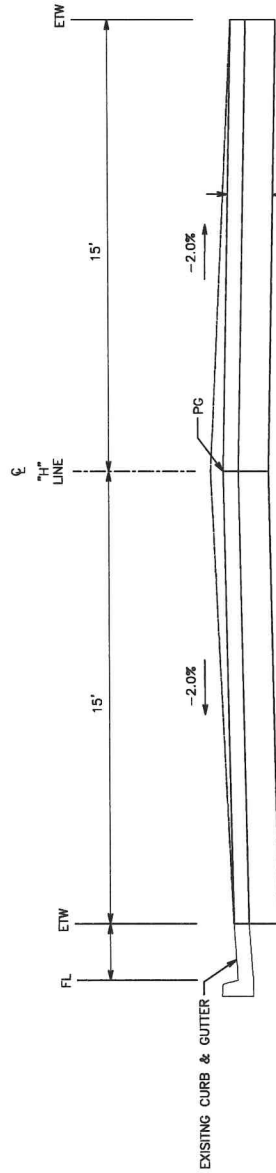
IMPORTANT NOTICE
 Seismicity may trigger a Big Alert identification Code number is 4665.00 -
 For your Big Alert ID, Number Call The Orange County Alert
 Two working days before you dig.

SUBMITTED



HOLLY ST TYPICAL SECTION
 "H" 9+36.50 TO "H" 10+00.00

"H" 5+26.96 TO "H" 9+35.49 - SEE STRUCTURE PLANS, SHEET 16



HOLLY ST TYPICAL SECTION
 "H" 4+75.00 TO "H" 5+26.97

STRUCTURAL SECTION:

1 = 0.55" HMA (TYPE A)
 0.85" AB (CLASS 2)

2 = 0.33" MINOR CONCRETE (SIDEWALK)
 0.33" AB (CLASS 2)

CONSTRUCTION NOTE:

1 6" CURB & GUTTER

TYPICAL SECTIONS

BENCHMARK
 ELEVATION = XX



PREPARED BY: D. HSU
 DESIGNED BY: D. HSU
 CHECKED BY: M. ATKINSON
 DATE: _____

NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVD.

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT: HOLLY STREET BRIDGE SEISMIC RETROFIT
 LIMITS: LINDA VISTA AVE TO ARROYO DR
 SCALE: NOT TO SCALE
 ACCOUNT NUMBER: XX
 SHEET 2 OF 39
 DWG. NO.: X-1
 X

SUBMITTED

CONTROL POINTS				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
100	807.16	1876758.84	6511345.08	MAG
101	812.89	1876634.66	6511546.12	X ON WALK
102	813.30	1876590.58	6511520.19	X ON WALK
103	814.83	1876515.81	6511623.97	X ON WALK
104	814.58	1876557.98	6511834.67	X ON WALK
107	784.38	1876409.40	6511372.45	BOLT
108	817.48	1876385.31	6511783.95	X
200	798.24	1876772.22	6511608.18	MAG
202	798.25	1876592.78	6511608.14	MAG
203	760.05	1876428.53	6511608.02	MAG
204	784.28	1876331.46	6511608.22	MAG

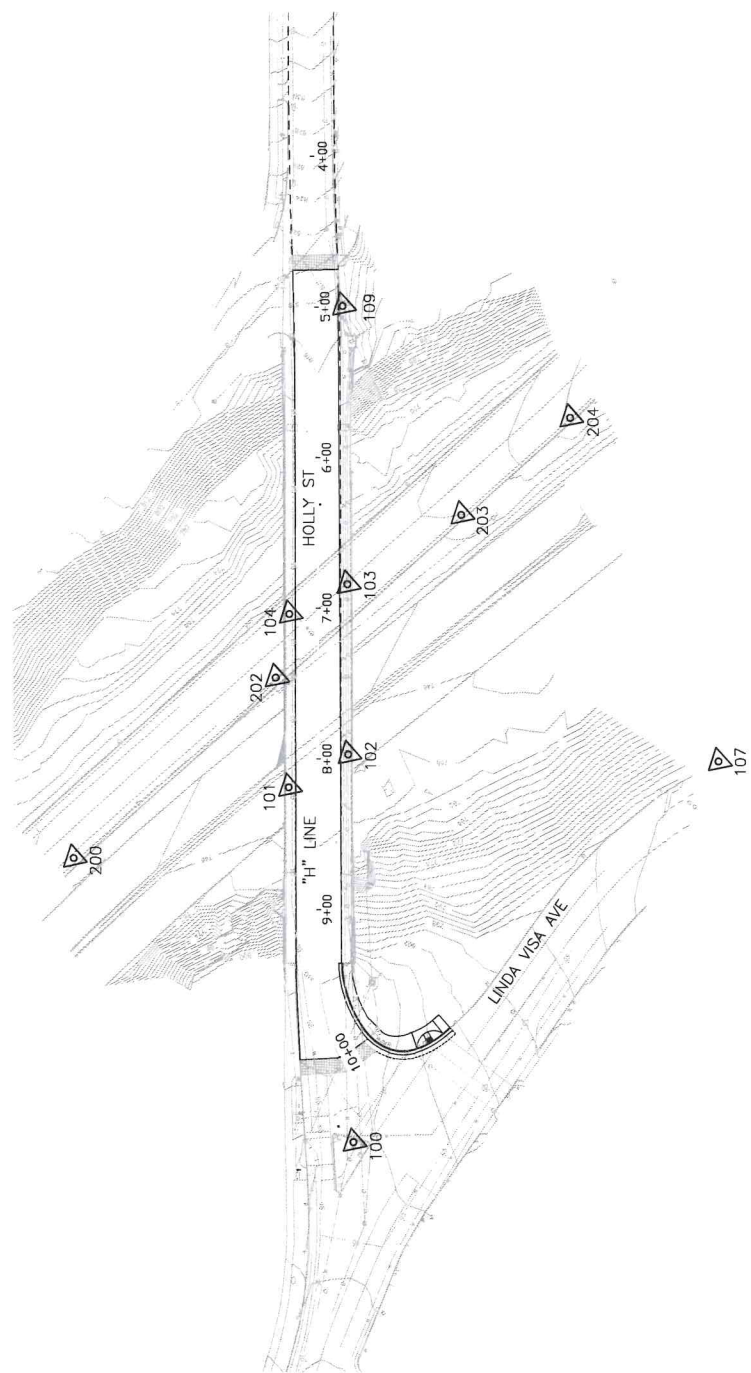
LEGEND:



SURVEY CONTROL POINT

NOTES:

- HORIZONTAL DATUM: NAD 83 CALIFORNIA ZONE 5
- VERTICAL DATUM: CITY OF PASADENA BENCHMARK SYSTEM AS ADJUSTED TO LINDA VISTA AVENUE BENCHMARK A "BOLT E CURB OPP C/L PART OF LAYERDA RD 580/18" ELEVATION: 794.57 FEET.



PROJECT CONTROL

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS		
PROJECT	HOLLY STREET BRIDGE SEISMIC RETROFIT	SHEET 3 OF 39
LIMITS	LINDA VISTA AVE TO ARROYO DR	DWG. NO. PC-2
SCALE	1"=40'	ACCOUNT NUMBER XX

MARK	DATE	DESCRIPTION	BY	CHKD.	APPROVED

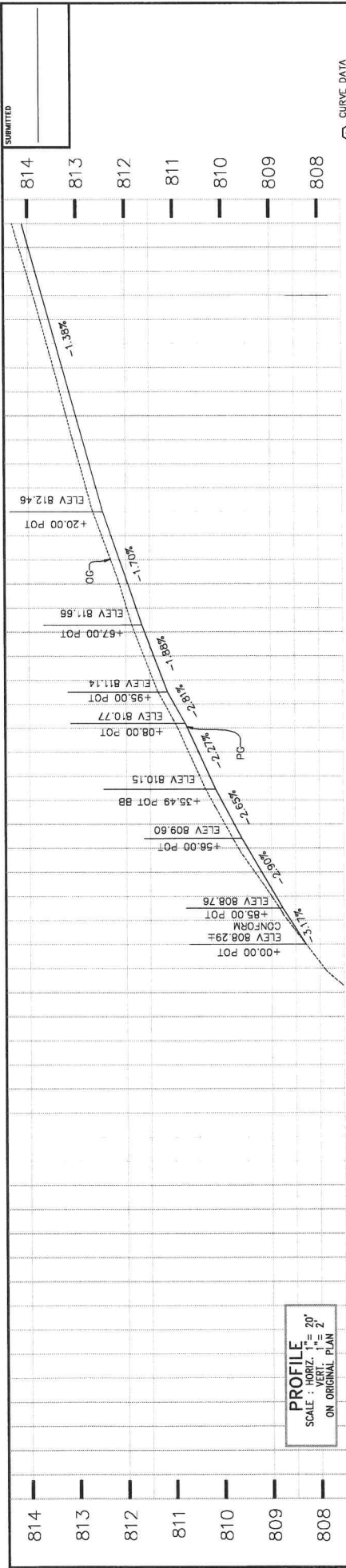
DESIGNED BY	D. HSU
CHECKED BY	D. HSU
DATE	3/1/20
PROJECT	HOLLY STREET BRIDGE SEISMIC RETROFIT
BY	M. PETERSON

DE DOKKEN
REGISTERED PROFESSIONAL ENGINEER
NO. 82009
EXPIRES 3/31/25
1730 N. BROADWAY, SUITE 100, PASADENA, CA 92369
MATTHEW PETERSON

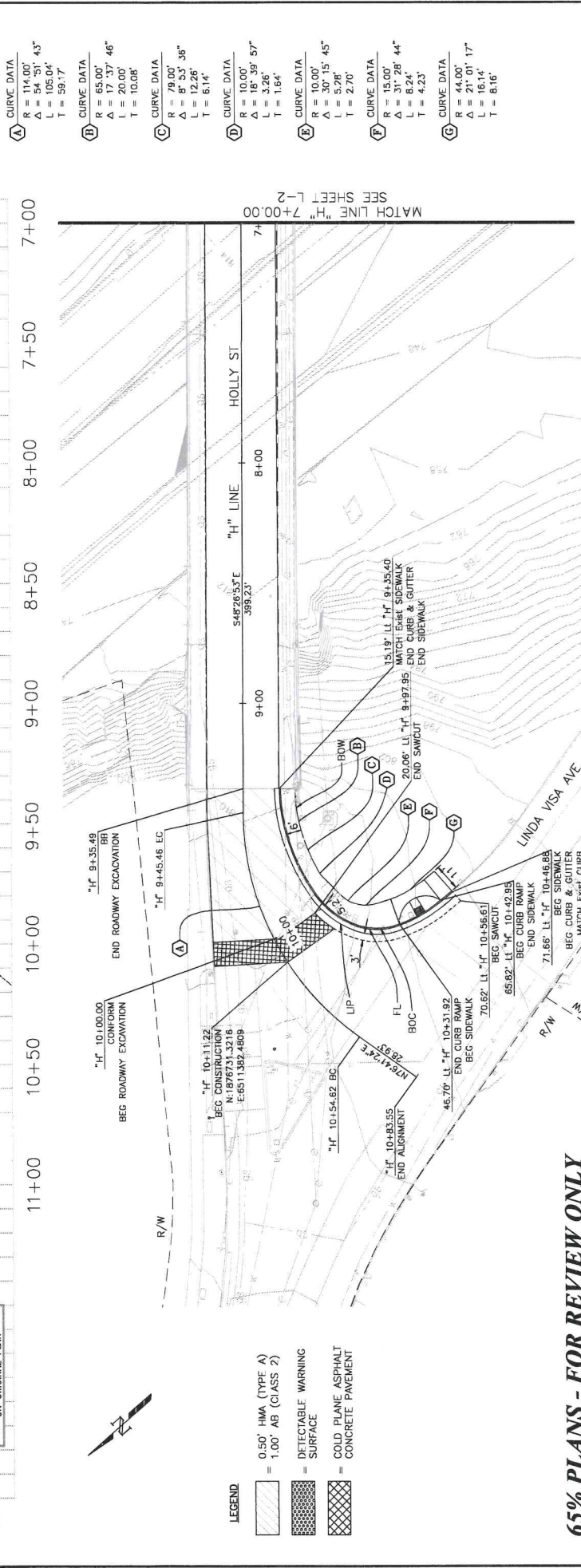
BENCHMARK
ELEVATION = 88

SCALE IN FEET

0 20 40 60 80 100



PROFILE
 SCALE: HORIZ. 1" = 20'
 VERT. 1" = 2'
 ON ORIGINAL PLAN



- LEGEND**
- = 0.50' HMA (TYPE A)
 - = 1.00' AB (CLASS 2)
 - = DETECTABLE WARNING SURFACE
 - = COLD PLANE ASPHALT CONCRETE PAVEMENT

65% PLANS - FOR REVIEW ONLY

BENCHMARK
 ELEVATION = xx

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

PREPARED BY: DEDOKKEN
 DRAWN BY: D. ISU
 CHECKED BY: D. ISU
 APPROVED BY: H. PATRISON

CITY OF PASADENA - DEPARTMENT OF PUBLIC WORKS
 PROJECT: HOLLY STREET BRIDGE SEISMIC RETROFIT
 SHEET: 4 OF 39
 LIMITS: LINDA VISTA AVE TO ARROYO DR
 SCALE: 1" = 20'
 ACCOUNT NUMBER: XX

PLAN AND PROFILE

CURVE DATA

A R = 114.00'
 Δ = 06.04'
 L = 591.7'

B R = 65.00'
 Δ = 17.57'
 L = 20.00'
 T = 10.08'

C R = 79.00'
 Δ = 8.53'
 L = 12.26'
 T = 6.14'

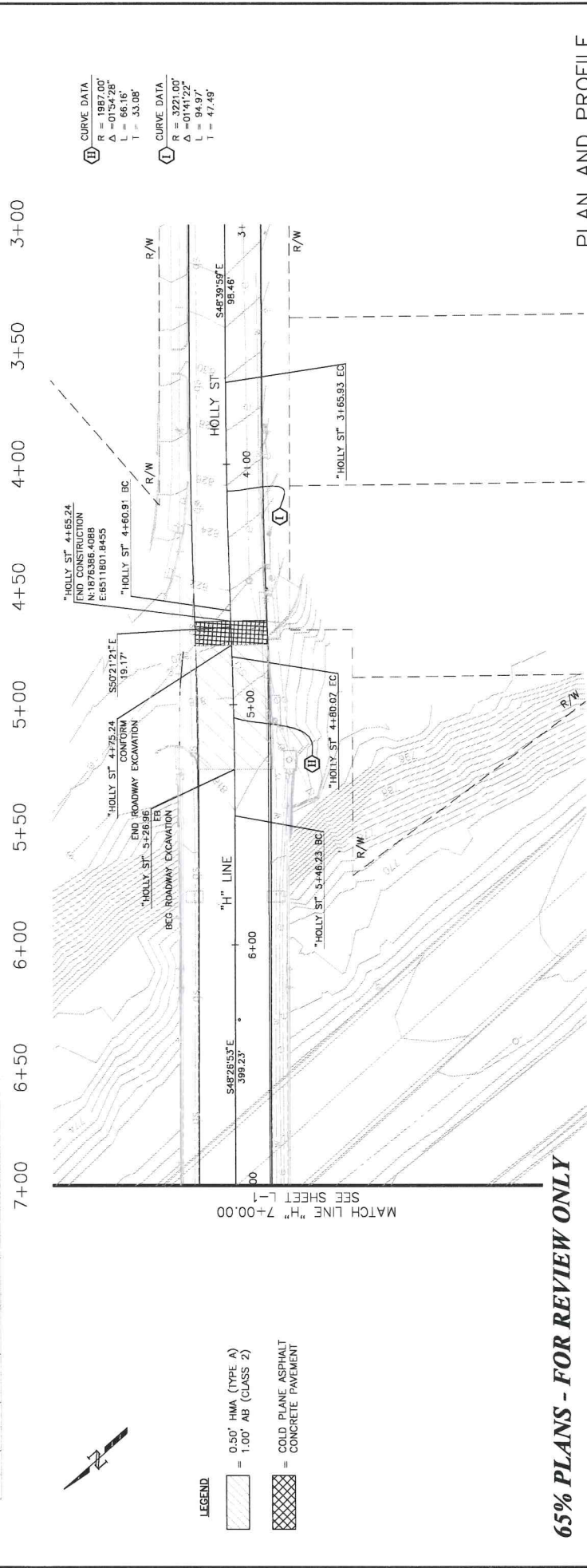
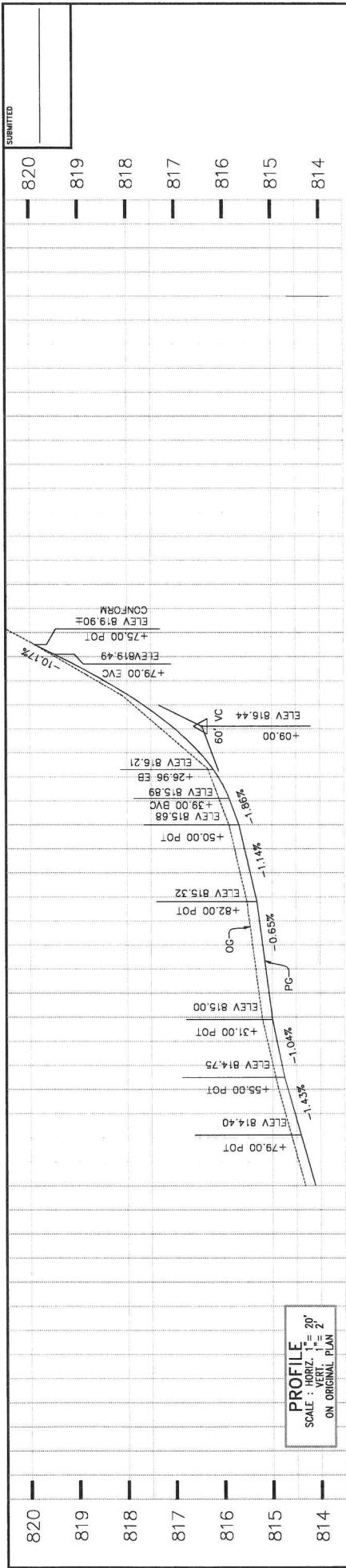
D R = 10.00'
 Δ = 3.26'
 L = 1.64'

E R = 10.00'
 Δ = 30.15'
 L = 5.28'
 T = 2.70'

F R = 15.00'
 Δ = 31.28'
 L = 6.24'
 T = 4.23'

G R = 44.00'
 Δ = 21.01'
 L = 15.14'
 T = 8.16'

MATCH LINE "H" 7+00.00 SEE SHEET L-2



65% PLANS - FOR REVIEW ONLY

LEGEND
 [Hatched Box] = 0.50' HMA (TYPE A)
 [Hatched Box] = 1.00' AB (CLASS 2)
 [Cross-hatched Box] = COLD PLANE ASPHALT CONCRETE PAVEMENT

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

DEEDOKKEN ENGINEERS & ARCHITECTS
 11111 1/2 ST. #100
 MATTHEW AYERSON

CITY OF PASADENA - DEPARTMENT OF PUBLIC WORKS
 PROJECT: HOLLY STREET BRIDGE SEISMIC RETROFIT
 SHEET: 5 OF 39
 LIMITS: LINDA VISTA AVE TO ARROYO DR
 SCALE: 1" = 20'
 ACCOUNT NUMBER: XX
 DRAWN BY: D. HSU
 DESIGNED BY: D. HSU
 CHECKED BY: M. AYERSON
 DATE: 3/17/20

BENCHMARK
 NO. 80099
 DATE 3/17/20
 ELEVATION = XX

SCALE IN FEET
 0 20 40 60 80 100

SUBMITTED

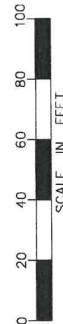


LEGEND

	TREE TO REMAIN
	REMOVE TREE

REMOVE TREE

SHEET	EA
RV-1	18
RV-2	15
TOTAL	33



BENCHMARK
XX
ELEVATION = XX

REVISIONS

MARK	DATE	DESCRIPTION	BY	CHKD.	APPROVED

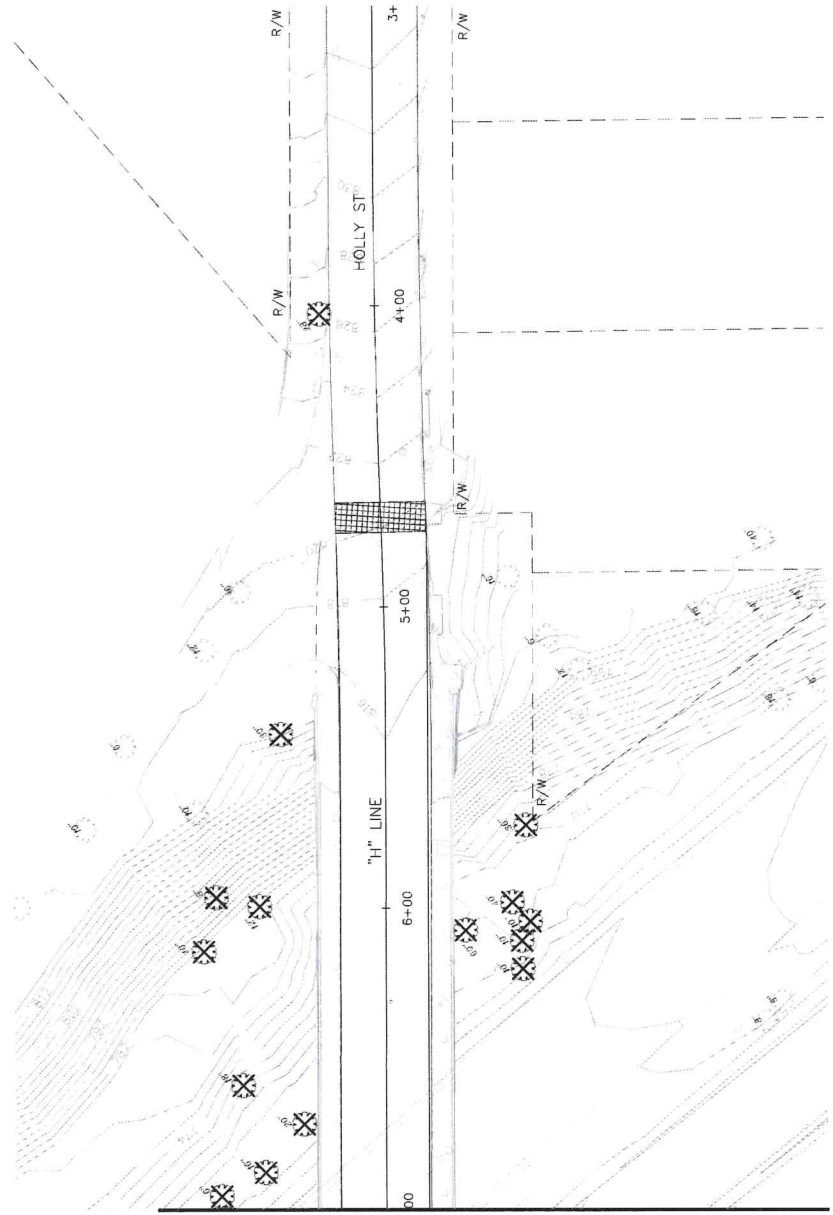
DESIGNED BY: D. ISUI
 CHECKED BY: D. ISUI
 DRAWN BY: M. ATKINSON

DEIDOKKEN
 CIVIL ENGINEERING
 11111 N. GARDEN ST., SUITE 100
 GARDEN GROVE, CA 92641
 MATTHEW ATKINSON
 DATE: _____

REMOVAL PLAN
 CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT: HOLLY STREET BRIDGE SEISMIC RETROFIT
 SHEET 6 OF 39
 LIMITS: LINDA VISTA AVE TO ARROYO DR
 SCALE: 1"=20'
 ACCOUNT NUMBER: XX
 NO. RV-1
 X

MATCH LINE "H" 7+00.00
 SEE SHEET RV-2

SUBMITTED



MATCH LINE "H" 7+00.00
SEE SHEET RV-1



LEGEND



TREE TO REMAIN



REMOVE TREE

BENCHMARK
XX
ELEVATION = 24



PREPARED BY
DE DOKKEN
ENGINEERS
1100 W. 10TH ST. SUITE 100
MATHURAN, WASHINGTON
DATE

DRAWN BY
D. HSU
DESIGNED BY
D. HSU
CHECKED BY
M. ANDERSON

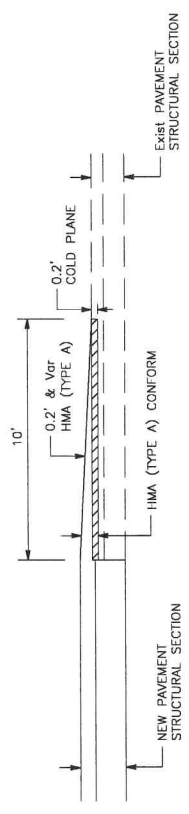
REVISIONS	DATE	DESCRIPTION	BY	CHKD.	APPROVED

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
PROJECT HOLLY STREET BRIDGE SEISMIC RETROFIT
LIMITS LINDA VISTA AVE TO ARROYO DR
SCALE 1"=20'
ACCOUNT NUMBER XX

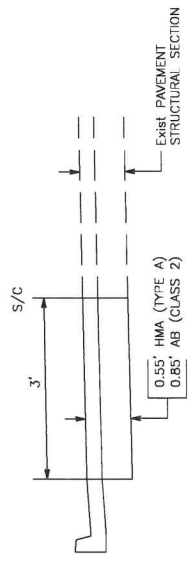
REMOVAL PLAN

SHEET 7 OF 39
DWG. NO. RV-2
X

SUBMITTED



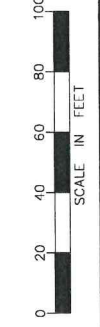
CONFORM DETAIL



SAWCUT DETAIL

CONSTRUCTION DETAILS

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS		PROJECT		LIMITS		SCALE	
HOLLY STREET BRIDGE SEISMIC RETROFIT		LINDA VISTA AVE TO ARROYO DR		NOT TO SCALE		XX	
SHEET 8 OF 39		DWG. NO. C-1		ACCOUNT NO.		XX	



BENCHMARK
 ELEVATION = XX

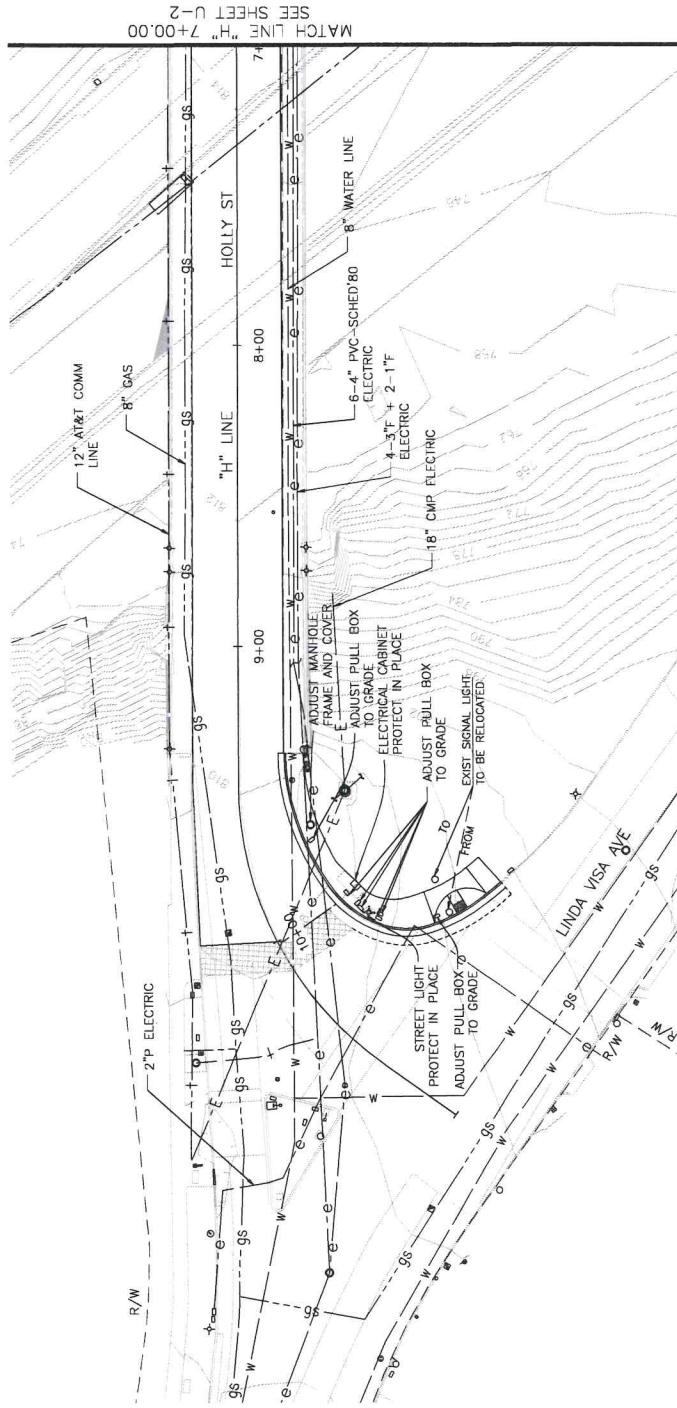
PREPARED BY: DEDOKKEN ENGINEERS
 DESIGNED BY: D. ISU
 DRAWN BY: M. ATKINSON

NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

SUBMITTED

LEGEND

- W — (C) WATER (CITY OF PASADENA, DEPT. OF WATER)
- E — (E) ELECTRIC (CITY OF PASADENA, DEPT. OF POWER)
- GS — (F) GAS SOUTHERN CALIFORNIA GAS
- T — (G) TELEPHONE (AT&T)
- E — (E) ELECTRIC (CITY OF PASADENA, PUBLIC WORKS)
- SD — (F) STORM DRAIN (CITY OF PASADENA, DEPT. OF WATER)



MATCH LINE SEE SHEET U-2

ADJUST PULL BOX TO GRADE		
SHEET	STATION LIMITS	EA
U-1	2633' LT 1/4" 9+68.85	1
U-1	2796' LT 1/4" 9+94.98	1
U-1	2958' LT 1/4" 10+11.09	1
U-1	2973' LT 1/4" 10+03.59	1
U-1	3210' LT 1/4" 10+12.89	1
U-1	4876' LT 1/4" 10+29.68	1
U-1	3427' LT 1/4" 10+10.67	1
TOTAL		7

ADJUST MANHOLE FRAME AND COVER		
SHEET	STATION LIMITS	EA
U-1	2690' LT 1/4" 9+62.65	1
TOTAL		1

RELOCATE SIGNAL LIGHT		
SHEET	STATION LIMITS	EA
U-1	5672' LT 1/4" 10+23.14	1
TOTAL		1



BENCHMARK
ELEVATION = xx

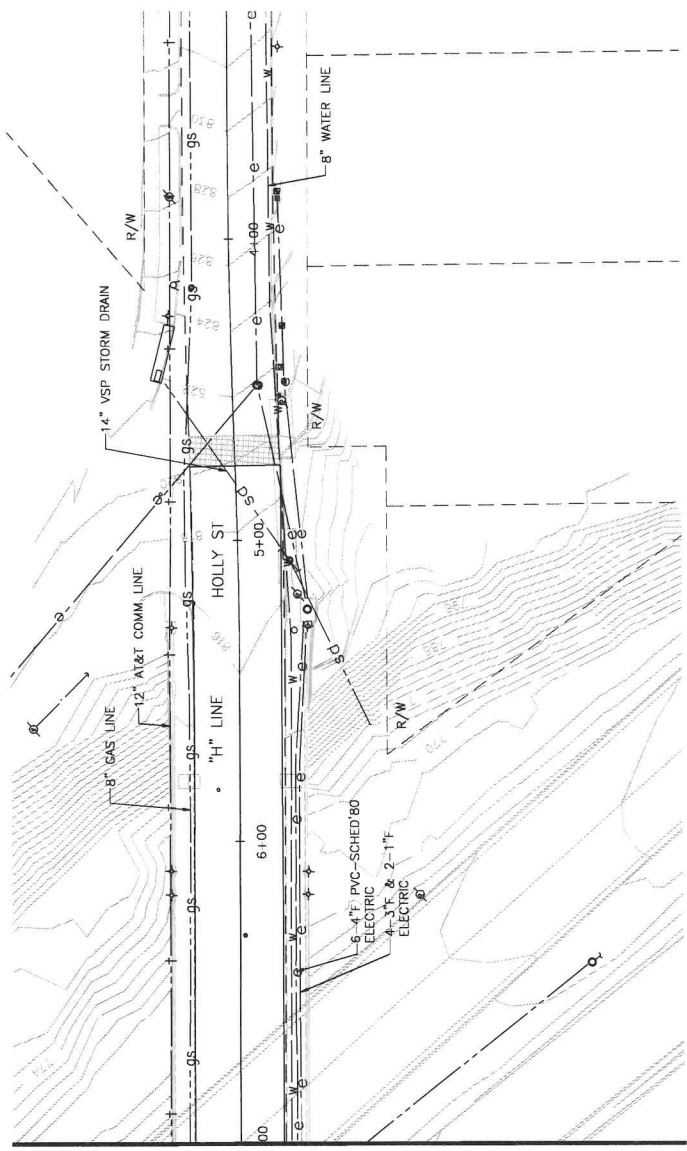
REVISIONS	
NO.	DESCRIPTION

PROJECT: HOLLY STREET BRIDGE SEISMIC RETROFIT
LIMITS: LINDA VISTA AVE TO ARROYO DR
SCALE: 1"=20'
ACCOUNT NUMBER: XX
DRAWN BY: D. ISU
CHECKED BY: M. ATKINSON
DATE: 3/7/20
PREPARED BY: DEIDOKKEN ENGINEERS ARCHITECTS
10100 BIRD BLVD. SUITE 100-100
PASADENA, CA 91104
DATE: 3/7/20

UTILITY PLAN

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
PROJECT: HOLLY STREET BRIDGE SEISMIC RETROFIT
SHEET: 9 OF 39
DWG. NO.: U-1
X

SUBMITTED



MATCH LINE "H" 7+00.00
SEE SHEET U-1

- LEGEND**
- W — (E) WATER (CITY OF PASADENA, DEPT. OF WATER)
 - e — (E) ELECTRIC (CITY OF PASADENA, DEPT. OF POWER)
 - gs — (E) GAS SOUTHERN CALIFORNIA GAS
 - T — (F) TELEPHONE (AT&T)
 - E — (E) ELECTRIC (CITY OF PASADENA, PUBLIC WORKS)
 - SD — (E) STORM DRAIN (CITY OF PASADENA, DEPT. OF WATER)



BENCHMARK
44
ELEVATION = 88

PREPARED BY:
DE DOKKEN
INCORPORATED
1515 W. 10TH ST., SUITE 100
PASADENA, CALIF. 92304
MATTHEW ATKINSON

DATE

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

UTILITY PLAN

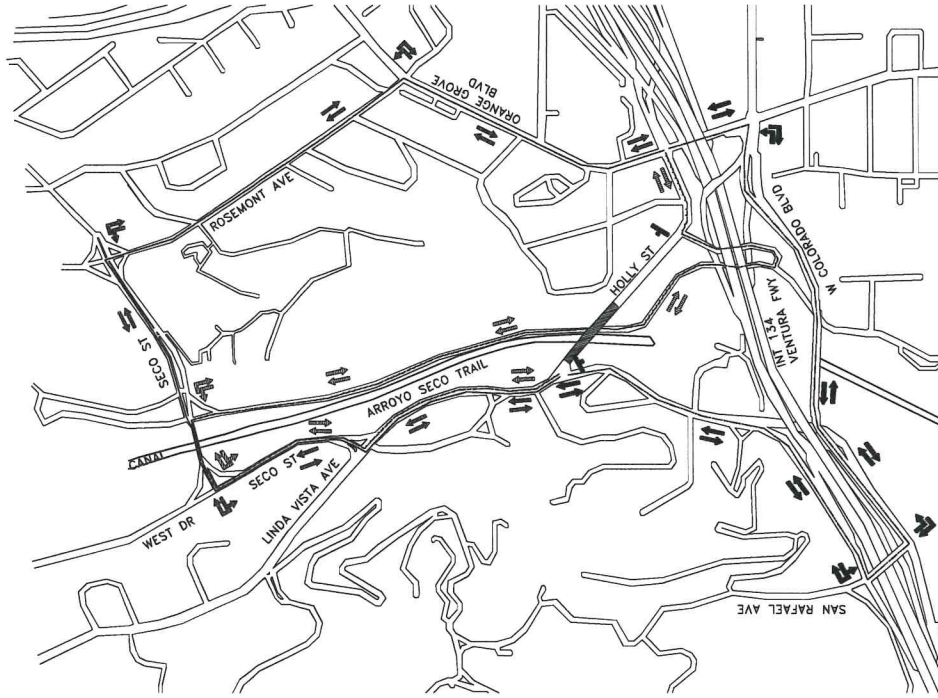
CITY OF PASADENA—DEPARTMENT OF PUBLIC WORKS

PROJECT **HOLLY STREET BRIDGE SEISMIC RETROFIT** SHEET **10** OF **39**

LIMITS **LINDA VISTA AVE TO ARROYO DR** DWG. NO. **U-2**

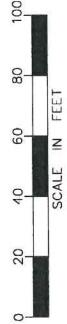
SCALE **1"=20'** ACCOUNT NUMBER **XX**

SUBMITTED



LEGEND

- DETOUR ROUTE 1
- DETOUR ROUTE 2
- DETOUR ROUTE 3
- ▬ CONSTRUCTION AREA



BENCHMARK
 XX
 ELEVATION = XX

PREPARED BY:
DE DOKKEN
 ENGINEERS
 150 BEE HIVE DR. SUITE 100, PASADENA, CA 91105
 MATTHEW ATKINSON

DRAWN BY:
 D. HSU
 CHECKED BY:
 M. ATKINSON

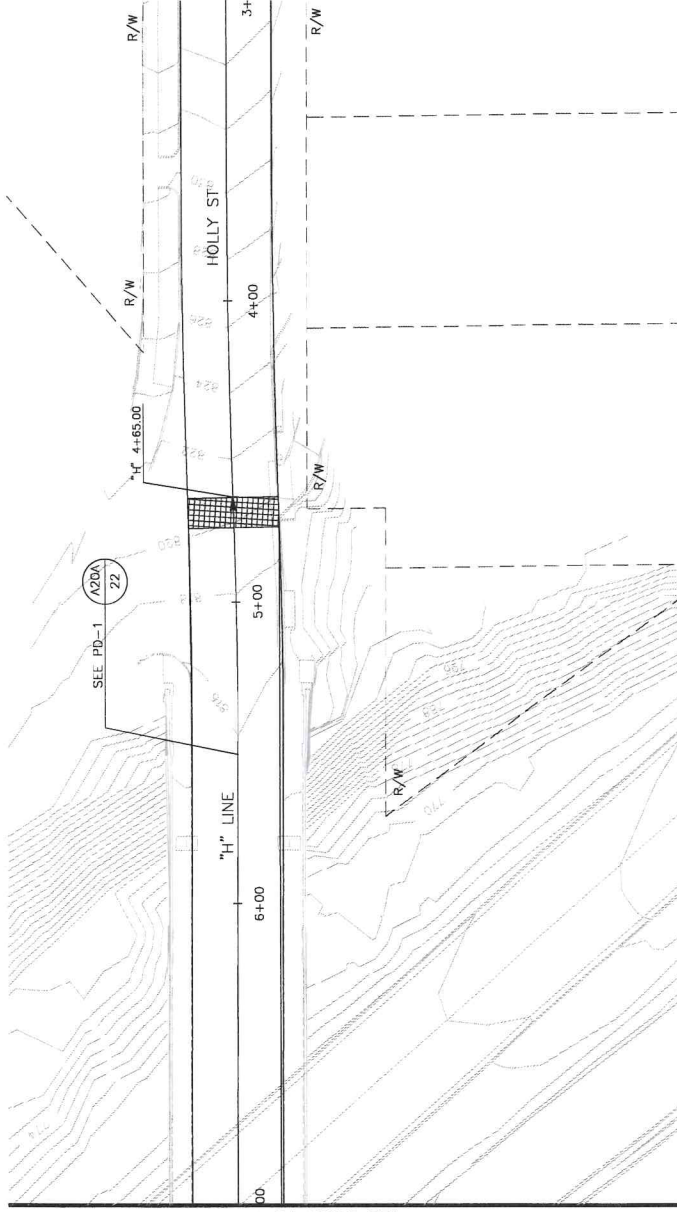
DATE	DESCRIPTION	BY	CHKD.	APPROVED

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE SEISMIC RETROFIT
 LIMITS LINDA VISTA AVE TO ARROYO DR
 SCALE NOT TO SCALE
 ACCOUNT NUMBER XX

DETOUR PLAN

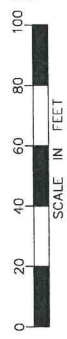
SHEET 11 OF 39
 DWG. DE-1
 NO. X

SUBMITTED



MATCH LINE "H" 7+00.00
SEE SHEET PD-1

BENCHMARK
XX
ELEVATION = XX



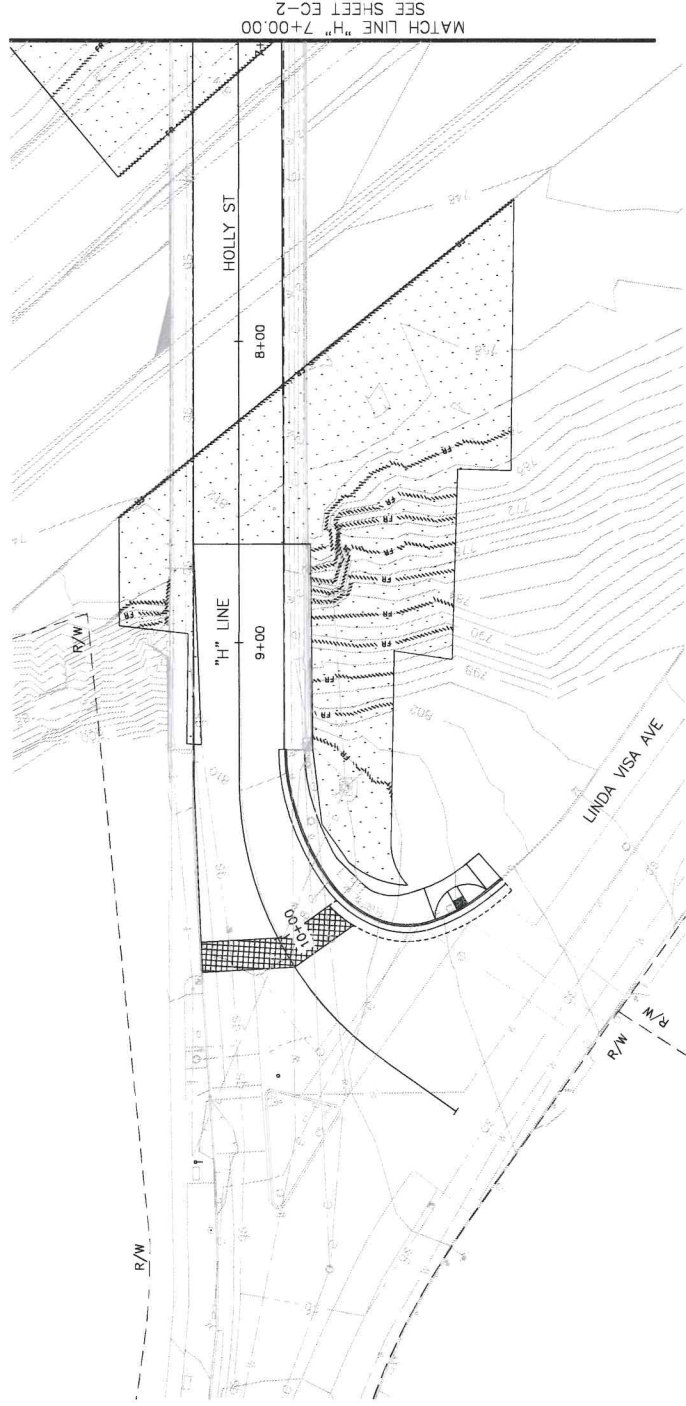
PREPARED BY:
DEIDOKKEN
ENGINEERS ARCHITECTS
115 THE BUNKERS DRIVE, SUITE 100, PASADENA, CA 91106-0000
MATTHEW ATKINSON DATE

DRAWN BY: D. HSU
DESIGNED BY: D. HSU
CHECKED BY: M. ATKINSON

NO.	DATE	REVISIONS DESCRIPTION	BY	CRD.	APPROVED

SIGNING AND STRIPING PLAN
CITY OF PASADENA—DEPARTMENT OF PUBLIC WORKS
PROJECT HOLLY STREET BRIDGE SEISMIC RETROFIT
LIMITS LINDA VISTA AVE TO ARROYO DR
SCALE 1"=20'
ACCOUNT NUMBER XX
SHEET 13 OF 39
DWG. NO. SS-2
X

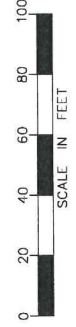
SUBMITTED



- LEGEND**
- FIBER ROLL
 - HYDROSEED

EROSION CONTROL QUANTITIES

SHEET	HYDROSEED	FIBER ROLL
EC-1	4620	760
EC-P	7900	1040
TOTAL	12520	1800



BENCHMARK
XX
ELEVATION = FT

PREPARED BY
DEDOKKEN
ENGINEERING
11100 LINDA VISTA DRIVE
MATTHEW ANDERSON

DATE

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

EROSION CONTROL PLAN

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS

PROJECT **HOLLY STREET BRIDGE SEISMIC RETROFIT** SHEET **14** OF **39**

LIMITS **LINDA VISTA AVE TO ARROYO DR**

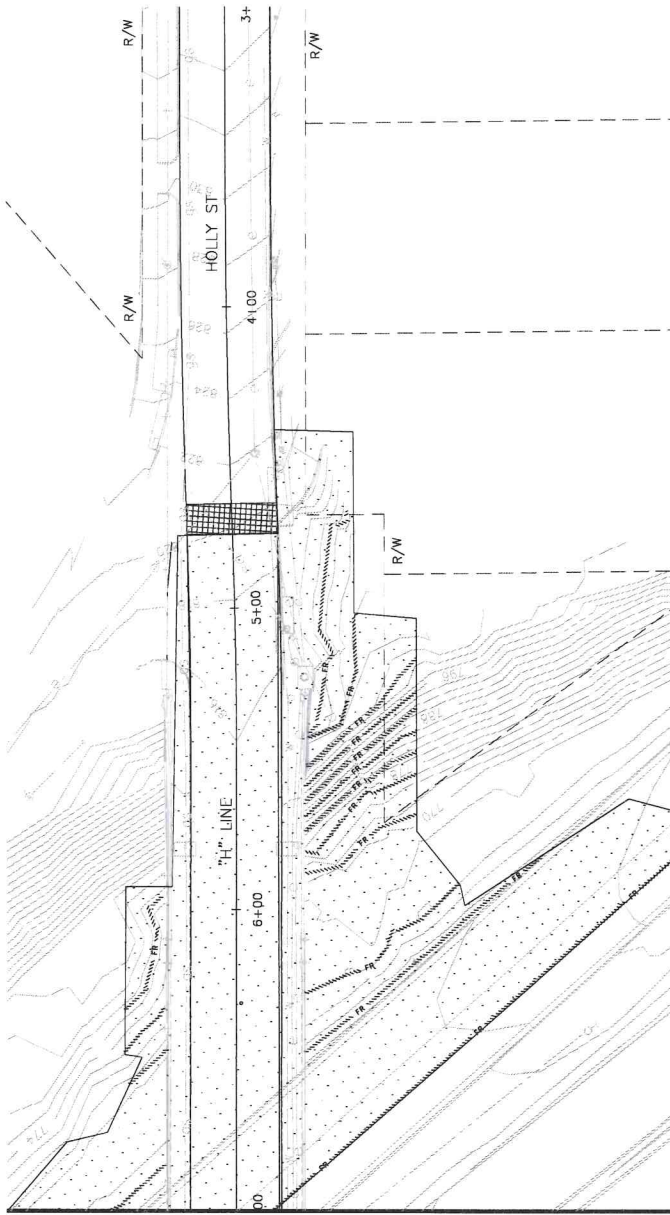
SCALE **1"=20'**

ACCOUNT NUMBER **XX**

DWG. NO. **EC-1**

X

SUBMITTED

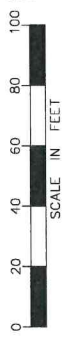


MATCH LINE "H" 7+00.00
SEE SHEET EC-1

LEGEND

- FR FIBER ROLL
- HYDROSEED

BENCHMARK
ELEVATION = XX



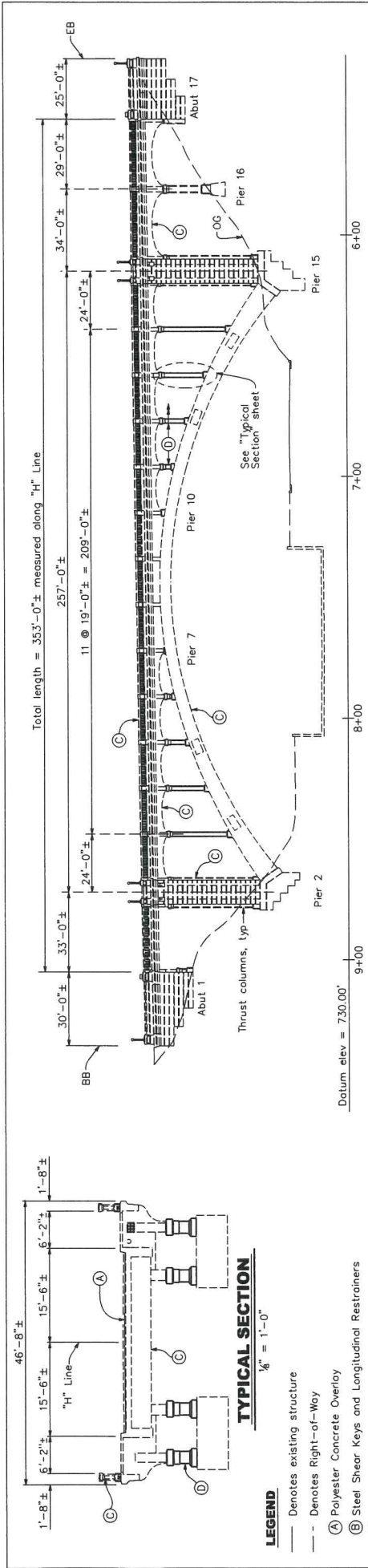
PREPARED BY
DEIDOKKEN
REGISTERED PROFESSIONAL ENGINEER
No. 50170
Exp. 01/17/20
15150 W. BAYVIEW AVE., SUITE 100
MATTHEW ATKINSON DATE

DRAWN BY
D. HSU
DESIGNED BY
D. HSU
CHECKED BY
M. ATKINSON

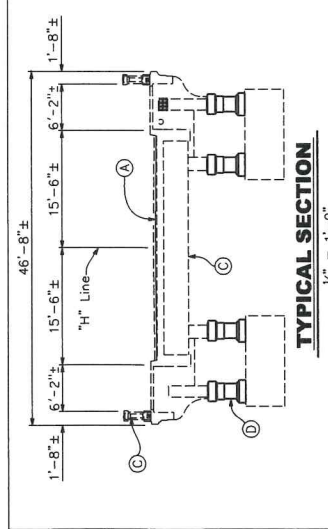
NO.	DATE	DESCRIPTION	BY	CHKD.	APPROVED

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
PROJECT HOLLY STREET BRIDGE SEISMIC RETROFIT
LIMITS LINDA VISTA AVE TO ARROYO DR
SCALE 1"=20'
ACCOUNT NUMBER XX

EROSION CONTROL PLAN
SHEET 15 OF 39
DWG. EC-2
INC. X

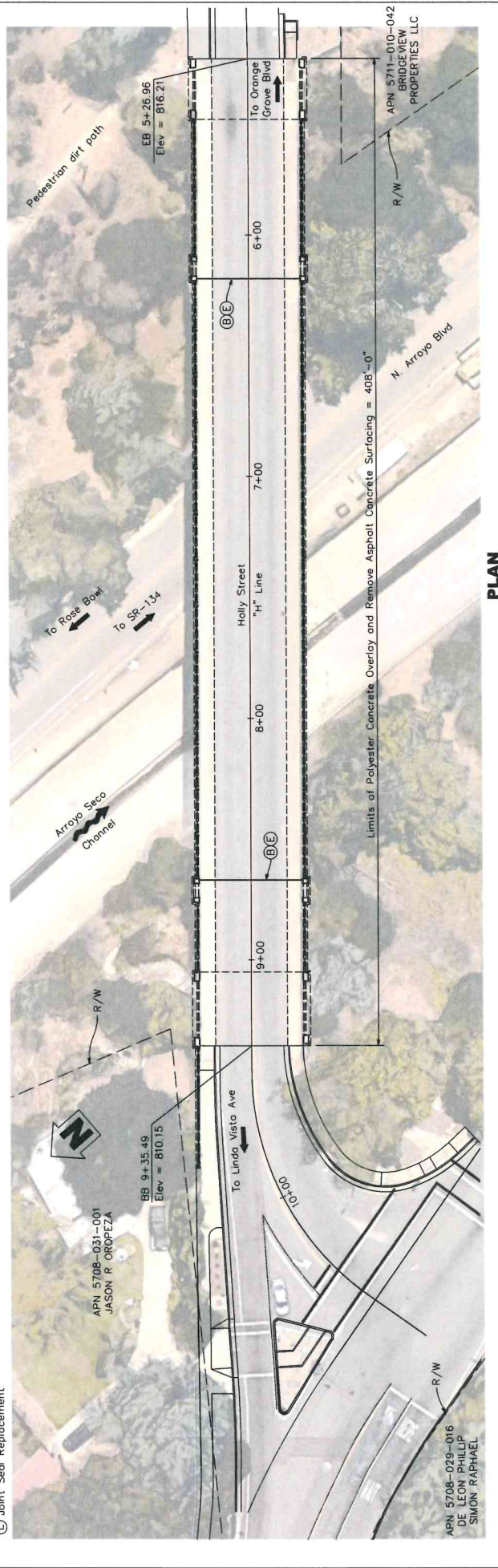


ELEVATION
1" = 20'



TYPICAL SECTION
1/8" = 1'-0"

- LEGEND**
- Denotes existing structure
 - - - Denotes Right-of-Way
 - (A) Polyester Concrete Overlay
 - (B) Steel Shear Keys and Longitudinal Restraints
 - (C) Spalled Concrete Repair
 - (D) Composite Column Casing (CFRP)
 - (E) Joint Seal Replacement



PLAN
1" = 20'

GENERAL PLAN

		DRAWN BY: DANG CHECKED BY: J. NOTTMAGEL DESIGNED BY: REVIEWED BY:	CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION SHEET: 16 OF 39 LIMITS: From Linda Vista Ave to 200' East of Bridge BRIDGE NO.: 53C-1041 SCALE: AS SHOWN ACCOUNT NUMBER:
REVISIONS NO. DATE DESCRIPTION	BY: CHB APPROVED:	DATE:	EXP. DATE:

NOTE:

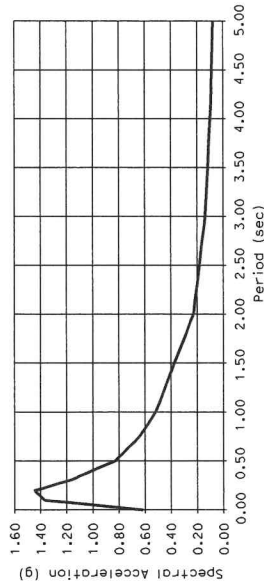
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 8th Edition with Caltrans Amendments, preface dated April 2019.
SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC) Version 2.0, April 2019 with October 2019 Revisions.
DEAD LOAD: Includes 0.035 ksf for future wearing surface

LIVE LOAD: HL-93, Caltrans' "Low Boy" and CA P-15 Permit, design vehicular loads.

SEISMIC LOAD: Soil profile : V₃₀ = 790 m/s
Moment Magnitude : 7.0
Peak Rock Acceleration = 0.62g



REINFORCED CONCRETE: **New** f_y = 60 ksi f_c = 3.6 ksi n = 8
Existing f_y = 33 ksi f_c = 4.5 ksi n = 8

STRUCTURAL STEEL: f_y = 42 ksi f_c = 5 ksi

INDEX TO PLANS

SHEET NO.	TITLE
16	GENERAL PLAN
17	INDEX TO PLANS
18	CONCEPTUAL TEMPORARY SUPPORT LAYOUT
19	ABUTMENT 17 REPAIR DETAILS
20	JOINT REPAIR DETAILS
21	MAIN SPAN ARCH REPAIR DETAILS
22	BARRIER REPAIR DETAILS
23	SOFFIT AND GIRDER REPAIR DETAILS NO. 1
24	SOFFIT AND GIRDER REPAIR DETAILS NO. 2
25	SOFFIT AND GIRDER REPAIR DETAILS NO. 3
26	SOFFIT AND GIRDER REPAIR DETAILS NO. 4
27	MISCELLANEOUS SPALL REPAIR DETAILS
28	TYPICAL SECTION
29	SPANDREL COLUMN REPAIR DETAILS (XS7-020)
31	SHEAR KEY DETAILS NO. 1
32	SHEAR KEY DETAILS NO. 2
33	AS-BUILT NO. 1
34	AS-BUILT NO. 2
35	AS-BUILT NO. 3
36	AS-BUILT NO. 4
37	AS-BUILT NO. 5
38	AS-BUILT NO. 6
39	AS-BUILT NO. 7

STANDARD PLANS DATED 2023

Sheet No.	Title
A10A	Abbreviations (Sheet 1 Of 2)
A10B	Abbreviations (Sheet 2 Of 2)
A10C	Lines And Symbols (Sheet 1 Of 3)
A10D	Lines And Symbols (Sheet 2 Of 3)
A10E	Lines And Symbols (Sheet 3 Of 3)
A10F	Legend - Soil (Sheet 1 Of 2)
A10G	Legend - Soil (Sheet 2 Of 2)
A10H	Legend - Rock
A62C	Limits Of Payment For Excavation And Backfill Bridge
B0-1	Bridge Details
B0-3	Bridge Details
B0-5	Bridge Details
B0-13	Bridge Details
B6-21	Joint Seals (Maximum Movement Rating = 2")

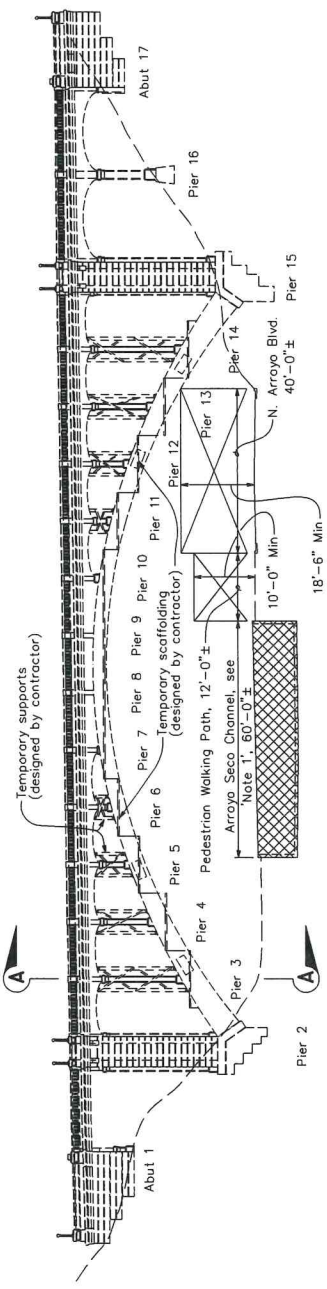


Standard Plan Sheet No. _____
Detail No. _____

ITEM	QUANTITIES	UNIT	QUANTITY
TEMPORARY CONSTRUCTION ACCESS		LS	7500
STRUCTURAL CONCRETE, BRIDGE		CY	40
DRILL AND BOND DOWELL		LF	115
JOINT SEAL (MR 17/2")		LF	60
BAR REINFORCING STEEL		LB	6100
COMPOSITE COLUMN CASING (CFRP)		SOFT	3560
INJECT CRACK (EPOXY)		LF	290
REPAIR SPALLED SURFACE AREA		SOFT	2300
REMOVE ASPHALT CONCRETE SURFACING		SOFT	10480
FURNISH POLYESTER CONCRETE OVERLAY		CF	1410
PLACE POLYESTER CONCRETE OVERLAY		SOFT	10290
BRIDGE REMOVAL (PORTION)		LS	4
MISCELLANEOUS METAL (RESTRAINER - CABLE TYPE)		LB	2260
CONCRETE BARRIER		LF	20

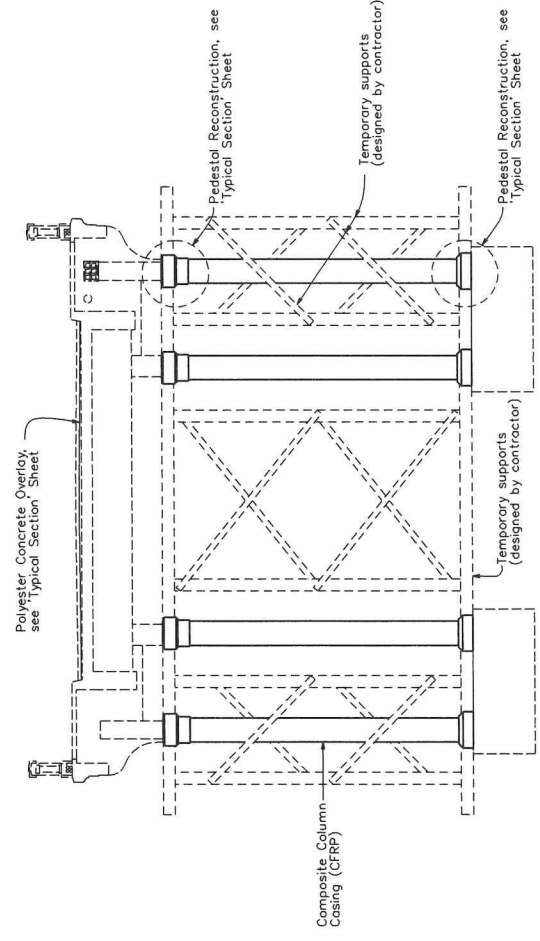
INDEX TO PLANS

	DRAWN BY: DJANG CHECKED BY: J. NOTTMAN DESIGNED BY: _____ REVIEWED BY: _____ EXP. DATE: _____	REVISIONS NO. DATE DESCRIPTION
	CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION SHEET 17 OF 39 LIMITS: From Linda Vista Ave to 200' East of Bridge SCALE: AS SHOWN ACCOUNT NUMBER: _____ BRIDGE NO. 53C-1041 DWG. NO. _____	



ELEVATION
NOT TO SCALE

- NOTES:**
- No supports or construction debris is permitted to be within the channel. Contractor shall submit construction plans and stamped calculations demonstrating that no support loads will be imparted on the existing concrete lined channel. Subject to approval by the Engineer and the Los Angeles County Department of Public Works.
 - Supports, braces, and supports shown for illustrative purposes. size, number, connection details, and location of supports shall be determined by the Contractor. Contractor shall submit removal details, construction plans, and calculations showing the structure will be stable during removal and reconstruction. Subject to approval by the Engineer.
 - The Contractor must maintain full access for pedestrians and vehicles along N. Arroyo Blvd.



SECTION A-A
1" = 5'

REPAIR SEQUENCE

- Place temporary supports. Shim, brace, and anchor supports to prevent movement or overloading of existing super and sub structure. All temporary supports must be installed and inspected by the Engineer prior to beginning of removal.
- Complete all Pedestal Reconstruction and Composite Column installation one pier at a time. Temporary supports shall remain in place until work is complete, subject to approval of the Engineer.
- All spandrel columns work must be complete prior to AC removal and Polyester Concrete Overlay installation.

CONCEPTUAL TEMPORARY SUPPORT LAYOUT

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION	SHEET	18 of 39
LIMITS	From Linda Vista Ave to 200' East of Bridge	BRIDGE NO.	53C-1041	
SCALE	AS SHOWN	DESIGN NUMBER		

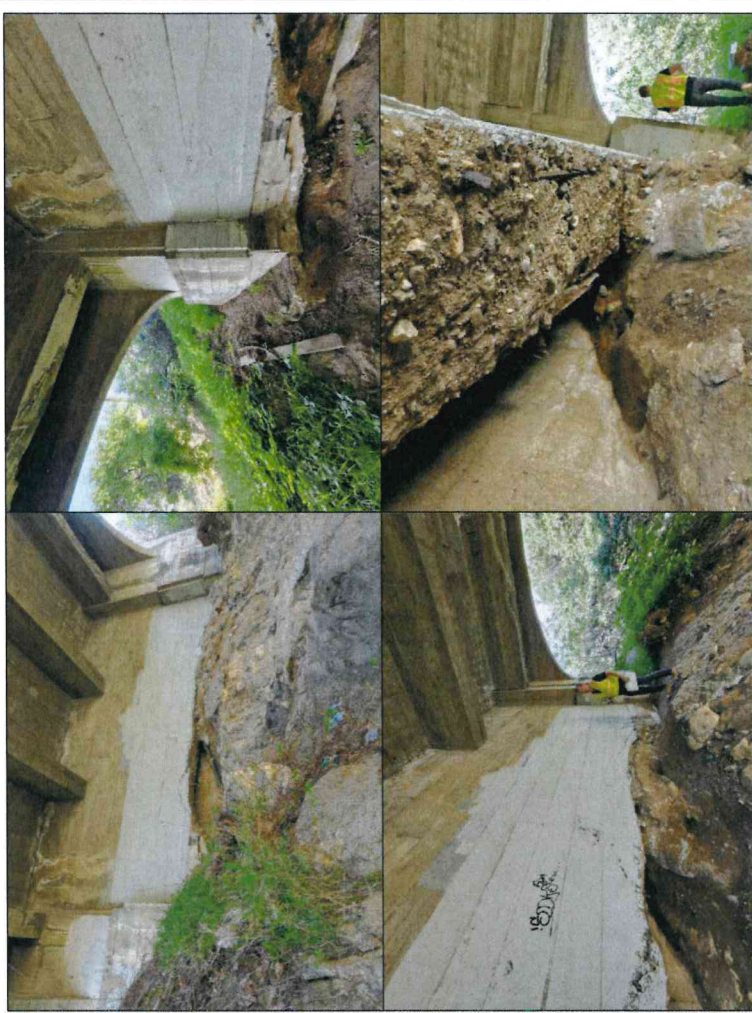
REVISIONS	
NO.	DATE

DESIGNED BY	D. DANG
CHECKED BY	J. NOTTMAGEL
DATE	3-31-26
ENGINEER'S NAME	J. NOTTMAGEL
EXP. DATE	

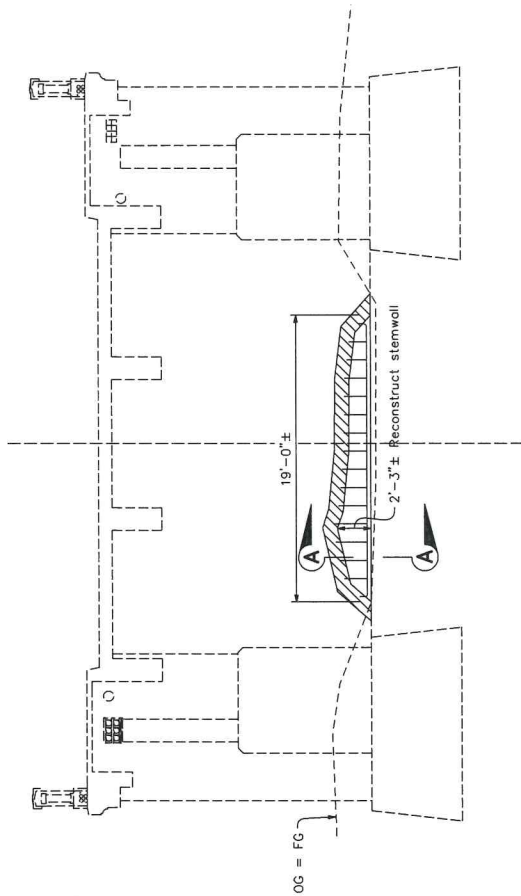


NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



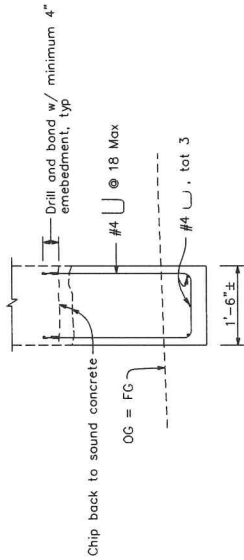
ABUTMENT IMAGES
NO SCALE



LEGEND

Denotes approx limits of spall repair. Additional limits to be determined by the engineer.

ABUTMENT 17 ELEVATION VIEW
1/2" = 1'-0"



SECTION A-A
1/2" = 1'-0"

ABUTMENT 17 REPAIR DETAILS

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT HOLLY STREET BRIDGE RECONSTRUCTION	SHEET 19 OF 39
LIMITS From Linda Vista Ave to 200' East of Bridge	SCALE AS SHOWN	PROJECT NO. 53C-1041
ACCOUNT NUMBER	DWG. NO.	

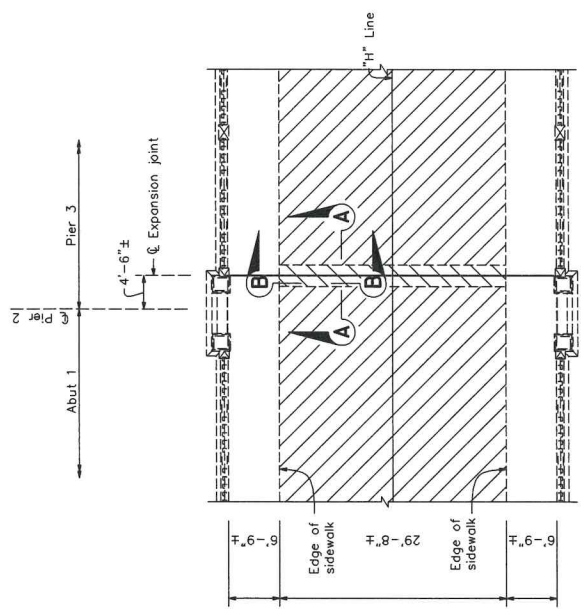
REVISIONS	BY	CHKD.	APPROVED
DESCRIPTION			

DRAWN BY: K. DANG	DATE:
CHECKED BY: J. NOTTMAGEL	REVIEWED BY:

DEDOKKEN
INCORPORATED
1800 W. 10TH STREET, SUITE 100
PASADENA, CA 92366
TEL: 626-799-8888 FAX: 626-799-8889
J. NOTTMAGEL, P.E. CIVIL ENGINEER
CONTRACTOR'S SEAL



NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

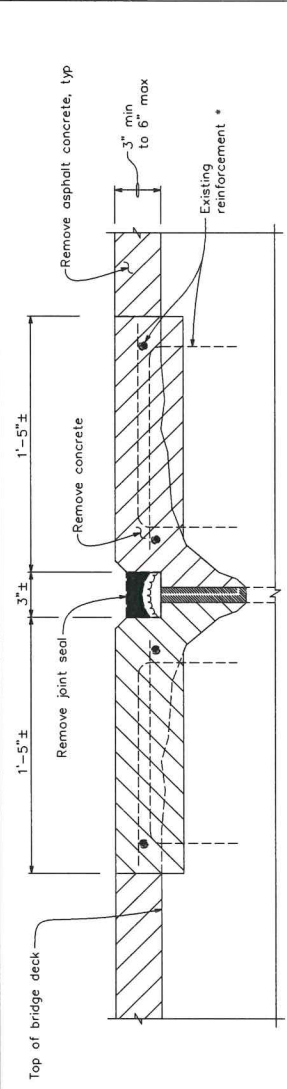


PLAN VIEW
3/8" = 1'-0"

Pier 2 shown, Pier 15 similar

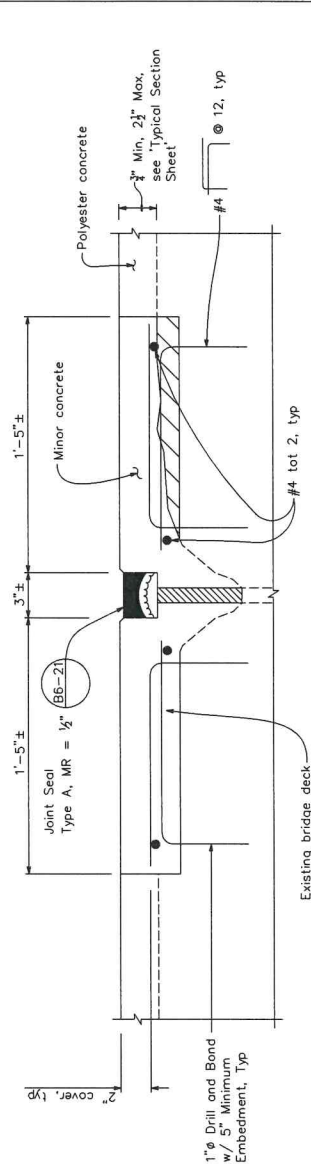
LEGEND:

- Limits of concrete removal
- Limits of asphalt concrete removal

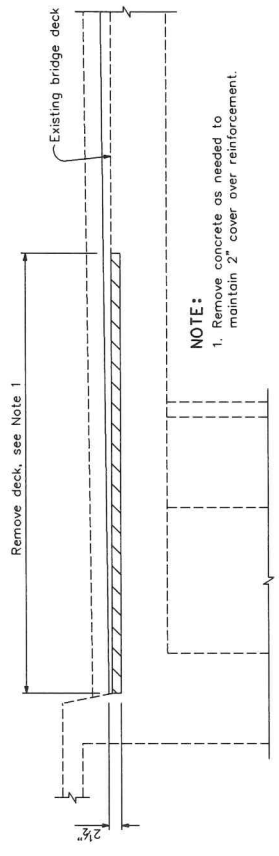


SECTION A-A: REMOVAL
3" = 1'-0"

* Reinforcement may remain if 2" air to deck can be maintained, else remove reinforcement



SECTION A-A: REPLACEMENT
3" = 1'-0"

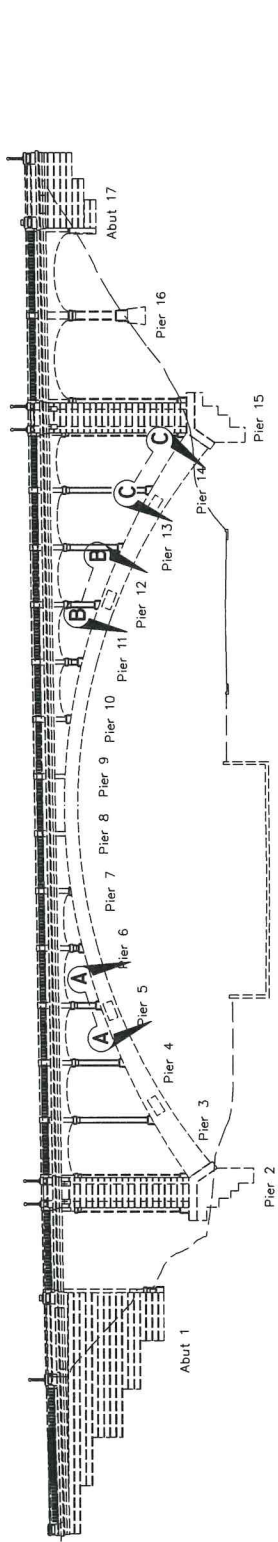


SECTION B-B
1" = 1'-0"

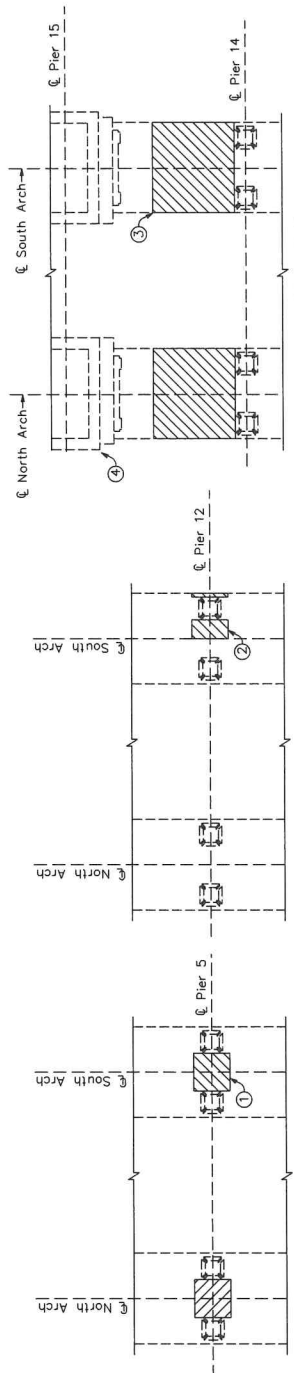
NOTE:
1. Remove concrete as needed to maintain 2" cover over reinforcement.



DE DOKKEN REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF CALIFORNIA, LICENSE NO. 531128 ENGINEER'S NAME		DRAWN BY: DANG CHECKED BY: J. NOTTNAGEL DESIGNED BY: REVIEWED BY:		REVISIONS DATE DESCRIPTION		CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION SHEET 20 of 39	
LIMITS: From Linda Vista Ave to 200' East of Bridge		SCALE: AS SHOWN		ACCOUNT NUMBER		BRIDGE NO. 53C-1041	
DWG. NO.		PROJECT NO.		SHEET NO.		DATE	



Datum elev = 720.00'
 10+00 9+00 8+00 7+00 6+00 5+00
NORTH ARCH ELEVATION (LOOKING SOUTH)
 1" = 20'



VIEW A-A
 8" = 1'-0"

VIEW B-B
 8" = 1'-0"

VIEW C-C
 8" = 1'-0"



① : Spall Repair on South Arch.
 (South Arch Shown, North Arch similar)



② : Spall Repair on South Arch.
 (South Arch Shown, North Arch similar)



③ : Spall Repair on South Arch.
 (South Arch Shown, North Arch similar)



④ : Spall Repair on Pier 15 (North Column).

LEGEND

- Denotes approximate limits of spall repair. Additional limits to be determined by the engineer.
- Denotes approximate limits of crack repair. Additional limits to be determined by the engineer.

← Direction of photo

MAIN SPAN ARCH REPAIR DETAILS

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 21 OF 39
 LIMITS From Lindo Vista Ave to 200' East of Bridge NO. BRIDGE 53C-1041
 SCALE AS SHOWN ACCOUNT NUMBER - - - - - DWG. NO. - - - - -

DATE	BY	CHKD.	APPROVED	REVISIONS

DRAWN BY: K. DANG
 CHECKED BY: J. NOTTMAGEL
 DESIGNED BY: J. NOTTMAGEL
 REVISIONS:

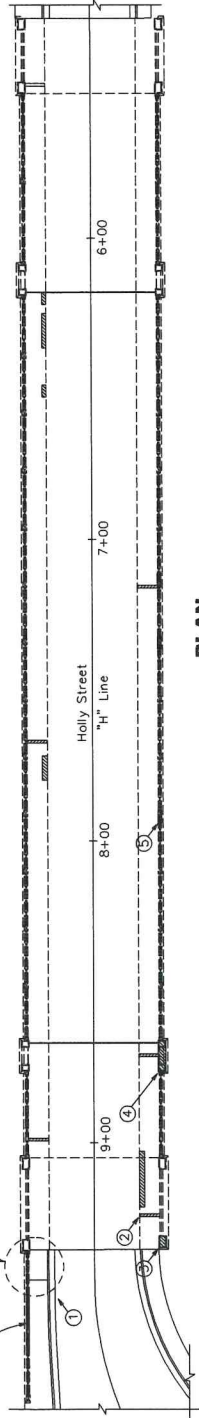
DEDDOKKEN
 ENGINEERS & ARCHITECTS
 1000 N. GARDEN ST. SUITE 200
 PASADENA, CA 92310
 PROJECT'S NAME: _____ EXP. DATE: _____

REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 NO. 51234
 EXPIRES 12/31/24

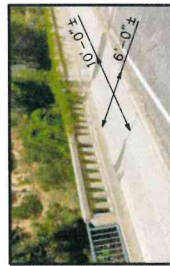
NOTE:
 The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



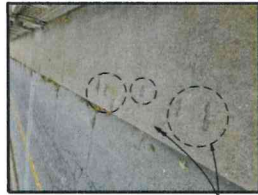
Metal railing removal and Concrete barrier, see "Barrier Repair Details"



PLAN
1" = 20'



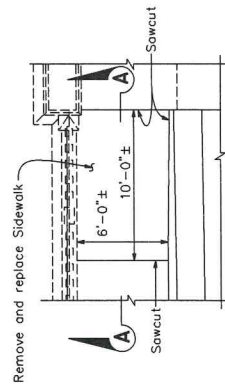
① : Remove and replace Sidewalk



② : Typical Sidewalk Spill Repair



③ : Pedestal Spill Repair



SIDEWALK REPLACEMENT DETAIL
1" = 20'



④ : Pedestal Spill Repair



⑤ : Pedestal Spill Repair

LEGEND

Denotes approx limits of spill repair. Additional limits to be determined by the engineer

Denotes approx limits of crack repair. Additional limits to be determined by the engineer

Direction of photo

NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



DE DOKKEN
J. NOTTMANGEL
ENGINEER'S NAME EXP. DATE

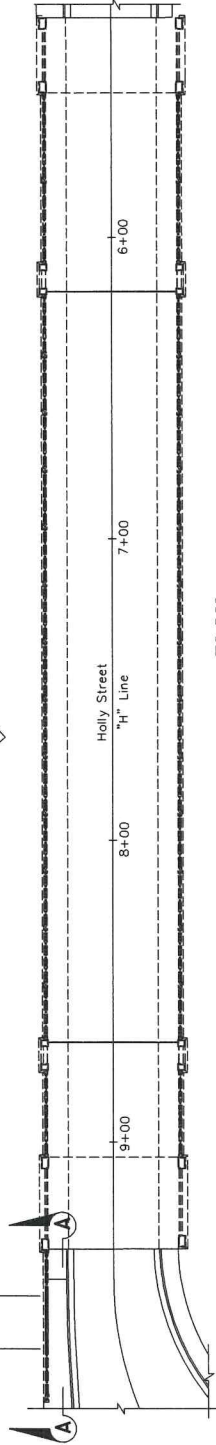
DRAWN BY: DANG
CHECKED BY: J. NOTTMANGEL
DESIGNED BY:
REVIEWED BY:

MARK	DATE	REVISIONS
		DESCRIPTION

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION	SHEET	22 OF 39
LIMITS	From Linda Vista Ave to 200' East of Bridge	BRIDGE NO.	53C-1041	
SCALE	AS SHOWN	ACCOUNT NUMBER		

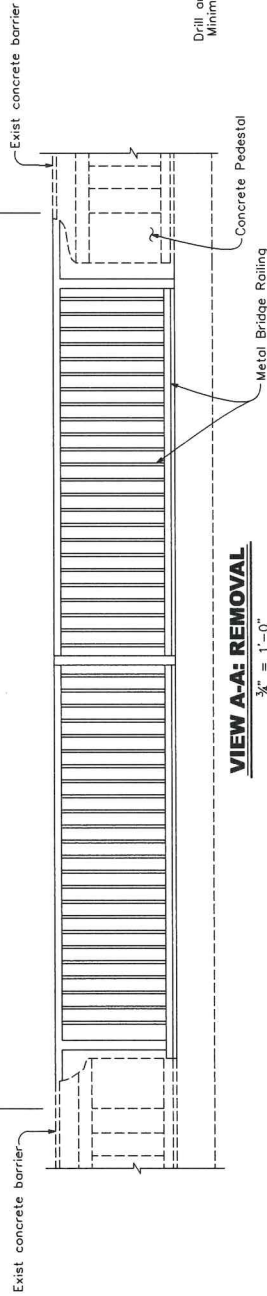
SIDEWALK REPAIR DETAILS

19'-1"± limits of metal railing removal and replace with concrete barrier



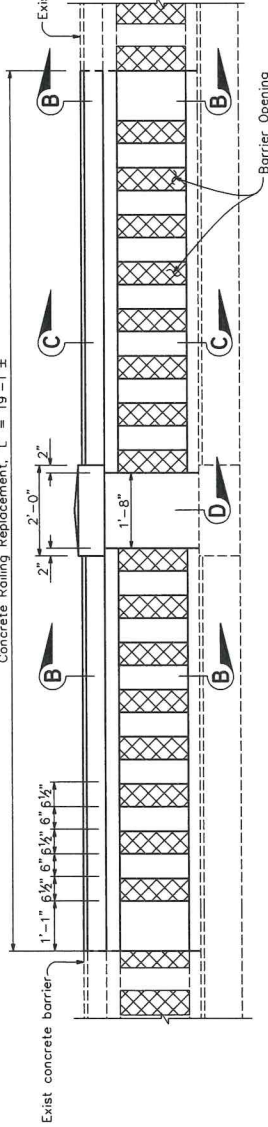
PLAN
1" = 20'

Remove Metal Bridge Railing and Concrete Pedestals
Removal L = 19'-1"

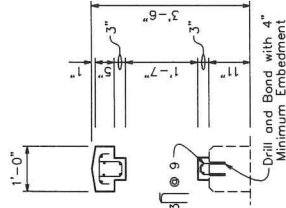


VIEW A-A: REMOVAL
3/4" = 1'-0"

Concrete Railing Replacement, L = 19'-1"

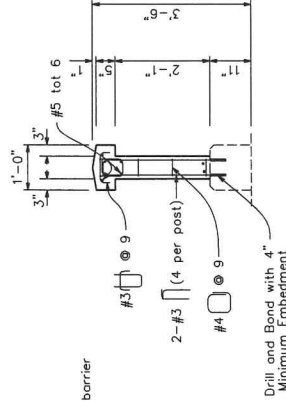


VIEW A-A: CONCRETE BARRIER REPLACEMENT
3/4" = 1'-0"

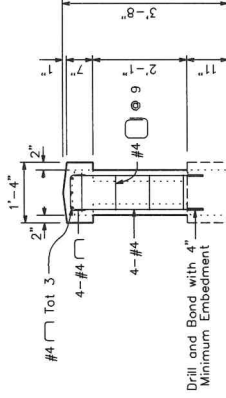


SECTION C-C
3/4" = 1'-0"

For details not shown, see Section B-B



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



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

NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



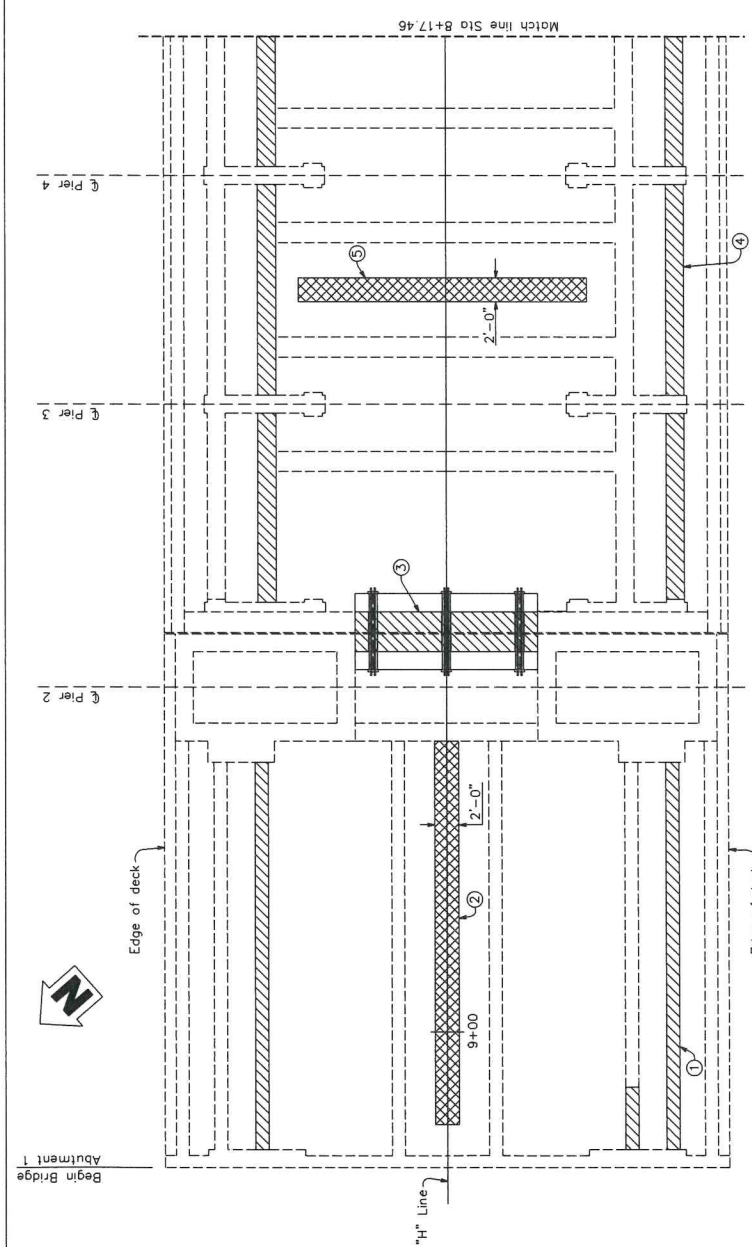
DE DOKKEN
INCORPORATED
1000 W. 10TH ST. SUITE 100
OAKLAND, CA 94612
PHONE: 415.763.1100
FAX: 415.763.1101
WWW.DEDOKKEN.COM

DESIGNED BY: DANG
CHECKED BY: J. NOTTMANGEL
DECISION DATE: 3-31-24
REVIEWED BY: _____

REVISIONS	DATE	DESCRIPTION

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION	SHEET: 23 OF 39
LIMITS: From Linda Vista Ave to 200' East of Bridge	BRIDGE NO.: 53C-1041	DWG. NO.: _____
SCALE: AS SHOWN	ACCOUNT NUMBER: _____	

BARRIER REPAIR DETAILS



PLAN
1" = 5'



④: Span 2, 3, 4 spalled exterior girder (south girder shown, north girder similar)



⑤: Span 3 crack repair along soffit



③: Spall Repair on Transverse Girders @ Pier 2



②: Crack Repair along Soffit



①: Spall Repair on exterior Girder. (South Girder Shown, North Girder similar)

LEGEND

▨ Denotes approx limits of spall repair. Additional limits to be determined by the engineer

▨ Denotes approx limits of crack repair. Additional limits to be determined by the engineer

→ Direction of photo

NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



DEDOKKEN
INCORPORATED
1000 W. 14th St., Suite 200, San Jose, CA 95128
J. NOTTNAGEL, ENGINEER
EXPI. DATE: 3-31-28

DESIGNED BY: DANG
CHECKED BY: J. NOTTNAGEL
PROJECT NO.: 53C-1041
DRAWN BY: [blank]
DATE: [blank]

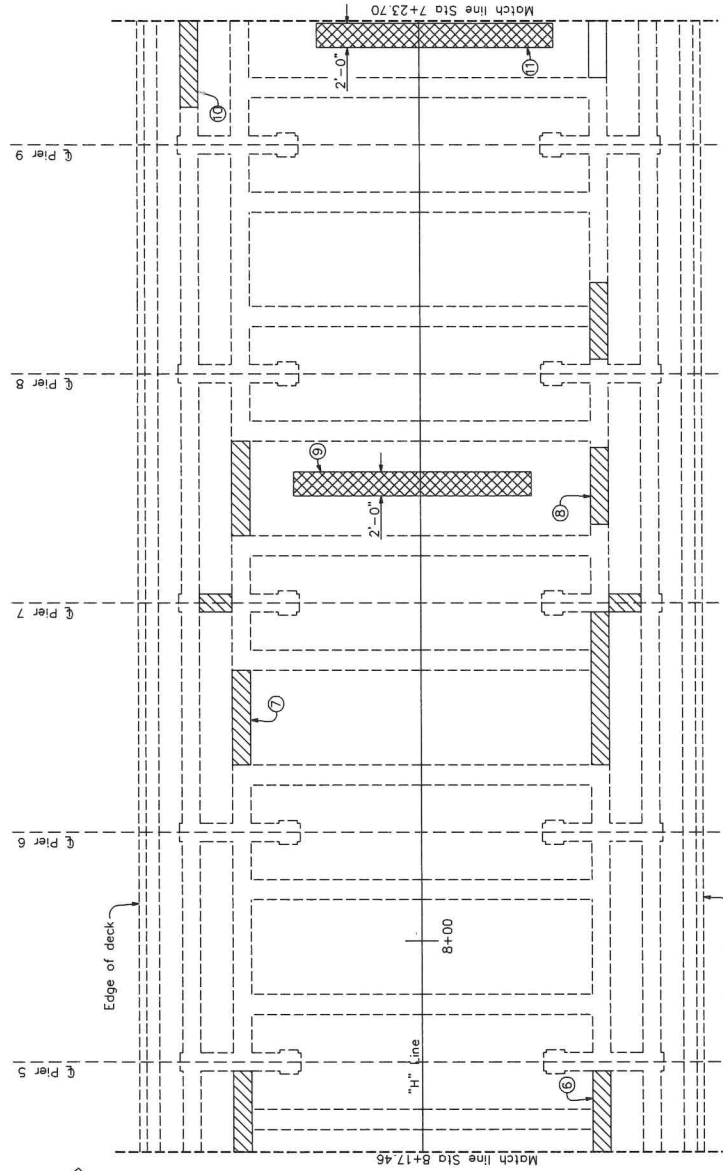
REVISIONS	DATE	DESCRIPTION

BY: [blank]	CHKD: [blank]	APPROVED: [blank]
PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION		
LIMITS: From Linda Vista Ave to 200' East of Bridge		
SCALE: AS SHOWN	BRIDGE NO: 53C-1041	ING. NO: [blank]

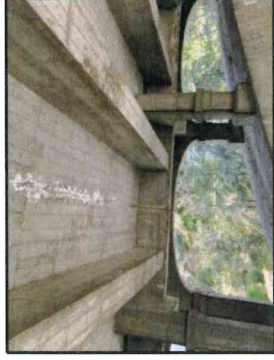
SOFFIT AND GIRDER REPAIR DETAILS NO. 1

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS

SHEET 24 OF 39



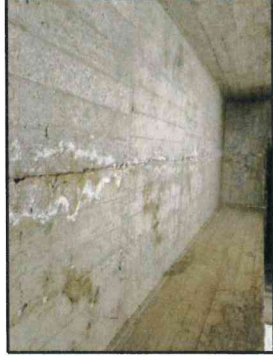
PLAN
1" = 5'



⑤ : Crack repair in Span 7 soffit and spall repair in North Girder



⑩ : Spall repair in Span 9 Exterior Girder (North Girder Shown, South Girder similar)



⑪ : Crack repair in Span 7 soffit

LEGEND

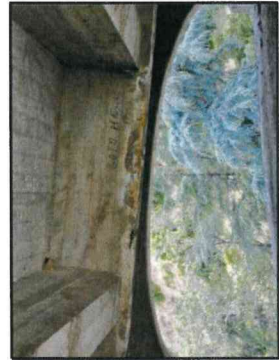
▨ Denotes approximate limits of spall repair. Additional limits to be determined by the engineer

▨ Denotes approximate limits of crack repair. Additional limits to be determined by the engineer

← Direction of photo



⑧ : Spall Repair on Span 7 exterior Girder. (South Girder Shown, North Girder Similar)



⑦ : Spall Repair on Span 6 exterior Girder. (North Girder Shown, South Girder similar)



⑥ : Spall Repair on Span 4 exterior Girder. (South Girder Shown, North Girder similar)

NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

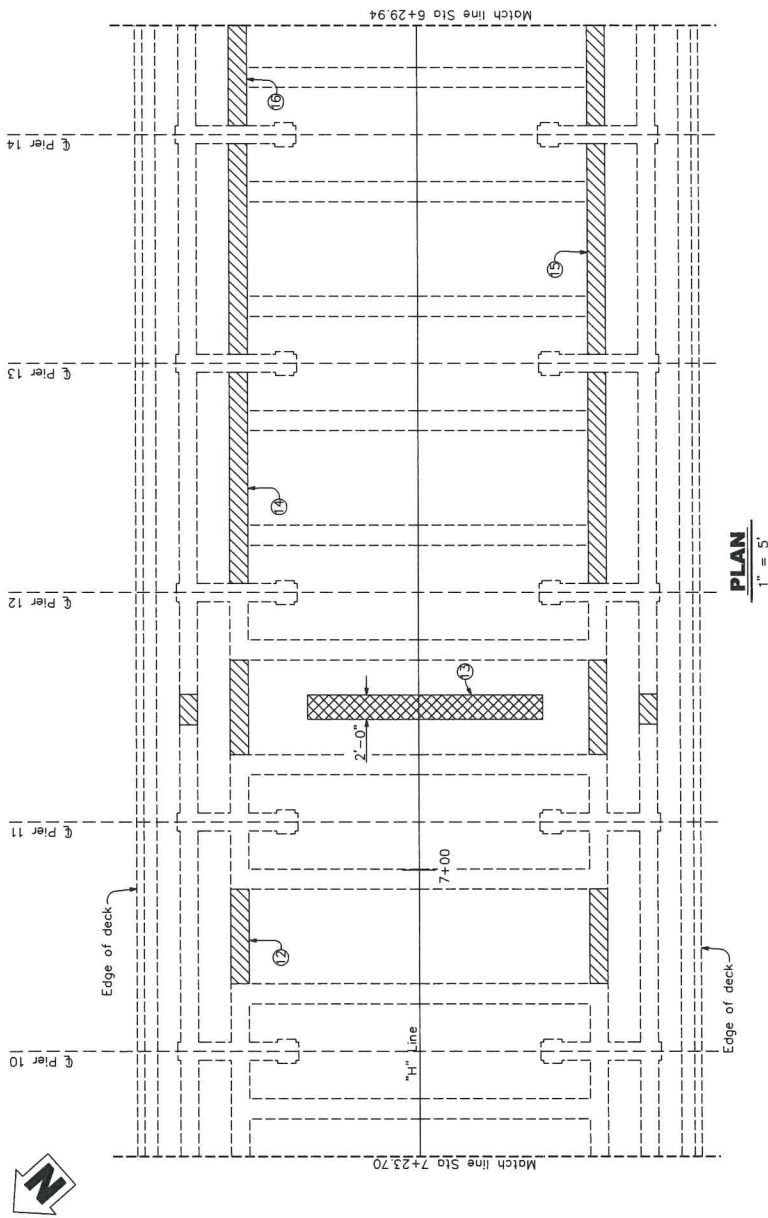
SOFFIT AND GIRDER REPAIR DETAILS NO. 2

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	
PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION
SHEET	25 of 39
LIMITS	From Linda Vista Ave to 200' East of Bridge
SCALE	AS SHOWN
ACCOUNT NUMBER	
DWG. NO.	53C-1041

BY	CHKD.	APPROVED	DATE	DESCRIPTION

BEADOKKEN
 DRAWN BY: J. DANG
 CHECKED BY: J. NOTTMAGEL
 DESIGNED BY: J. NOTTMAGEL
 DATE: 3-21-18
 PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION





PLAN
1" = 5'



15 : Spall Repair on Span 13 Exterior Girder. (South Girder Shown)



16 : Spall Repair on Span 14 Exterior Girder. (North Girder Shown, South Girder Similar)



14 : Spall Repair on Span 12 and 13 Exterior Girder. (North Girder Shown, South Girder similar)



13 : Spall Repair and Crack Repair on Span 11 Soffit and Exterior Girder. (North Girder Shown, South Girder similar)



12 : Spall Repair on Span 10 exterior Girder. (North Girder Shown, South Girder similar)

LEGEND

Denotes approx limits of spall repair. Additional limits to be determined by the engineer

Denotes approx limits of crack repair. Additional limits to be determined by the engineer

← Direction of photo

NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

SOFFIT AND GIRDER REPAIR DETAILS NO. 3

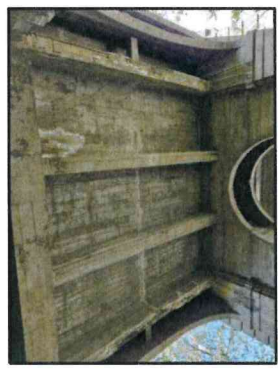
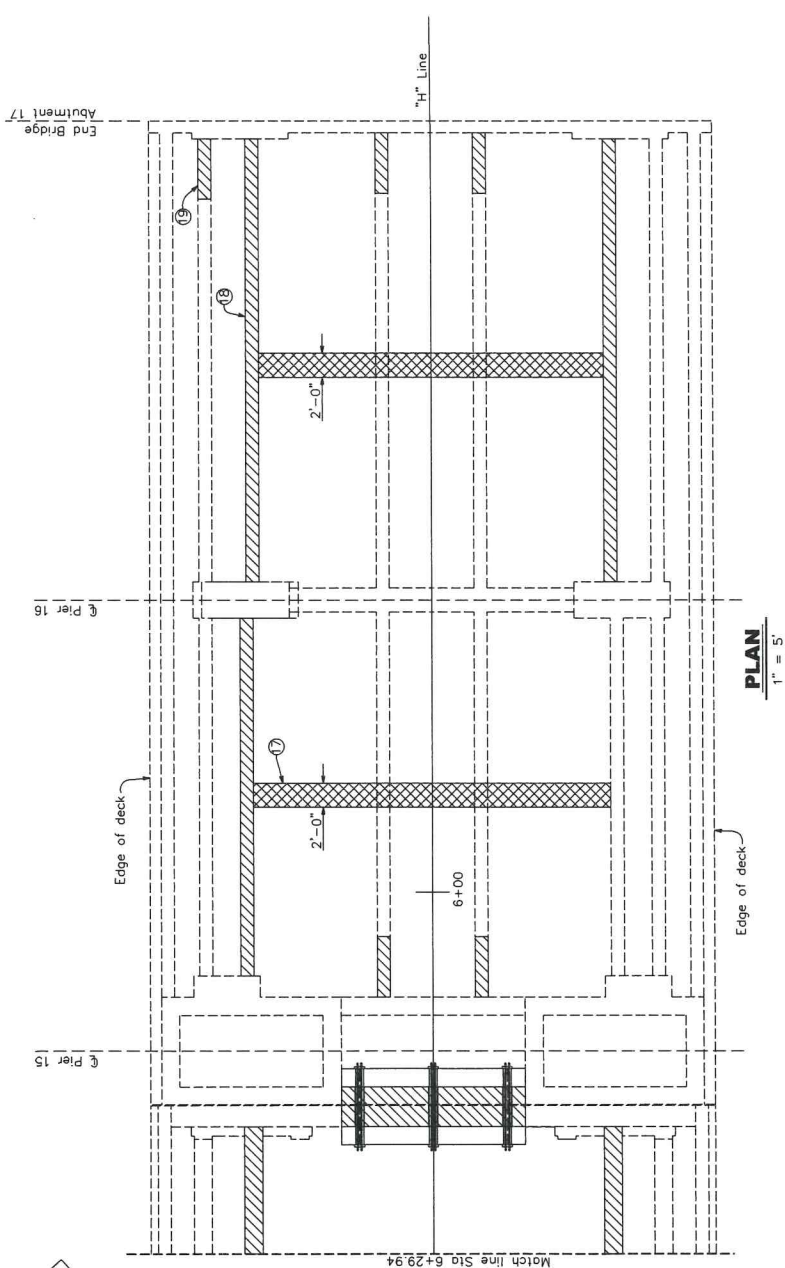
CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION	SHEET	26 of 39
LIMITS	From Linda Vista Ave to 200' East of Bridge	BRIDGE NO.	53C-1041	
SCALE	AS SHOWN	ACCOUNT NUMBER		

REVISIONS		DATE	BY	CHKD.	APPROVED
	RECEPTION				

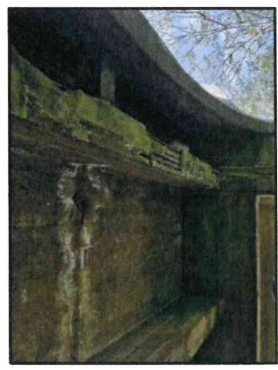
DRAWN BY: DANG	DESIGNED BY: J. NOTTMAGEL	DATE: 3-31-20	EXP. DATE:
CHECKED BY:	DECIDED BY:		



DEDOKKEN
 WILLIAM S. DEDOKKEN, P.E.
 J. NOTTMAGEL, P.E.
 ENGINEERS



17 : Spall and Crack Repair on Span 15 soffit and exterior girders.



18 : Spall Repair on north exterior girder, (North Girder Shown, South Girder Similar)



19 : Spall Repair on north exterior girder, (North Girder Shown, South Girder Similar)

- LEGEND**
- Denotes approx limits of spall repair. Additional limits to be determined by the engineer
 - Denotes approx limits of crack repair. Additional limits to be determined by the engineer
- Direction of photo

NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

SOFFIT AND GIRDER REPAIR DETAILS NO. 4

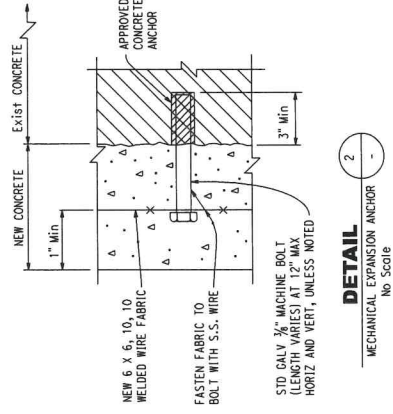
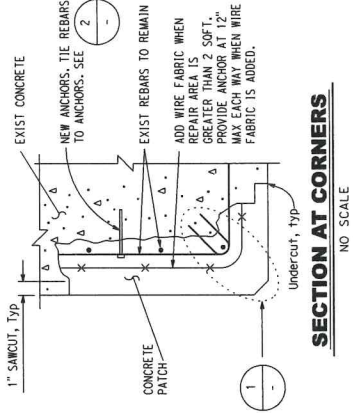
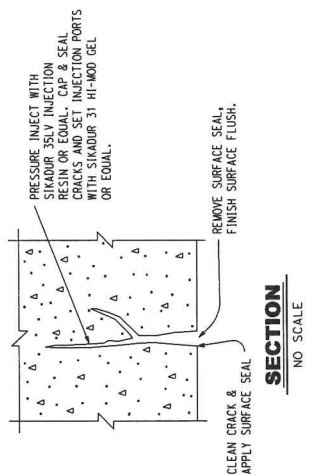
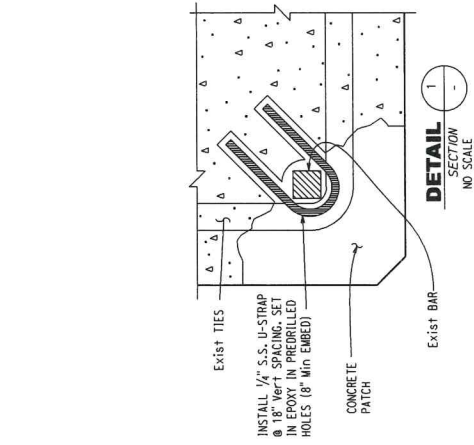
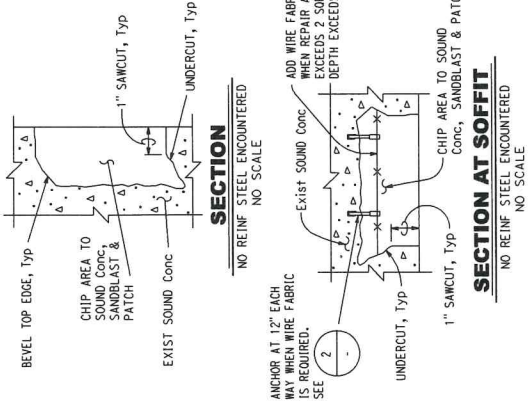
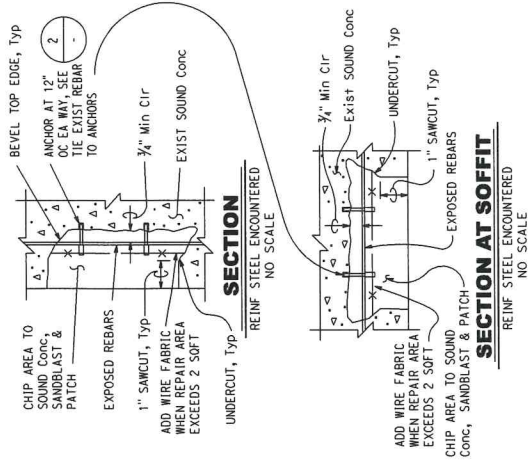
CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	
PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION
SHEET	27 of 39
LIMITS	From Linda Vista Ave to 200' East of Bridge
BRIDGE NO.	53C-1041
SCALE	AS SHOWN
ACCOUNT NUMBER	
DWG. NO.	

REVISIONS	
DATE	REVISION

DE DOKKEN
 ENGINEERS
 1000 W. 10th St., Suite 100, Pasadena, CA 91106
 J. BOTTAGLIONE, ENGINEER
 3-31-08 EXP. DATE



DRAWN BY	DANG
CHECKED BY	J. NOTTMAGEL
DESIGNED BY	
REVIEWED BY	



NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



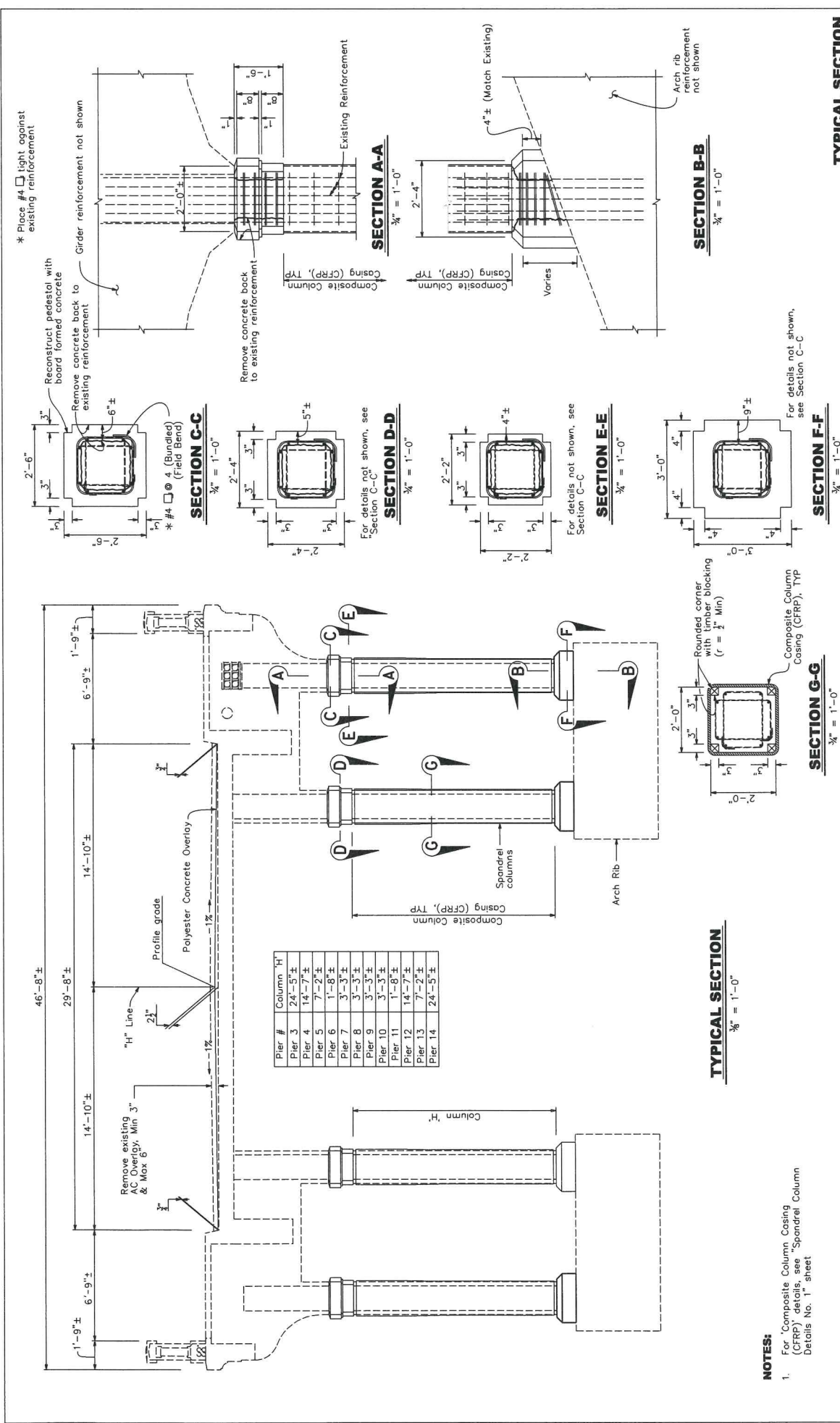
DEDOKKEN
INCORPORATED
1000 W. 10TH ST. SUITE 200
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DESIGNED BY: J. NOTTMANGEL
CHECKED BY: J. NOTTMANGEL
DATE: 3-31-20
EXP. DATE: 3-31-22

REVISIONS		DATE	DESCRIPTION
BY	CHKD	APPROVED	
DRAWN BY: DANG CHECKED BY: J. NOTTMANGEL DATE: 3-31-20 EXP. DATE: 3-31-22			

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION | SHEET: 28 of 39
 LIMITS: From Linda Vista Ave to 200' East of Bridge
 SCALE: AS SHOWN | ACCOUNT NUMBER: -
 BRIDGE NO.: 53C-1041
 ENG. NO.: -

MISCELLANEOUS SPALL REPAIR DETAILS



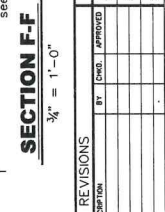
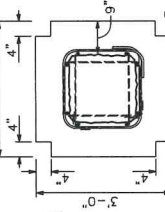
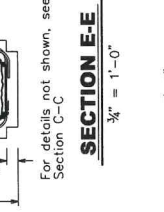
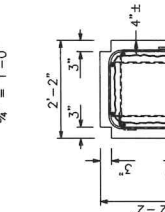
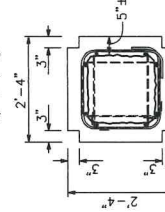
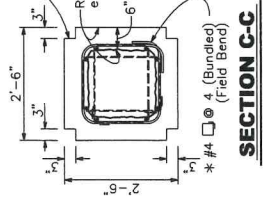
Pier #	Column "H"
Pier 3	24'-5"±
Pier 4	14'-7"±
Pier 5	7'-2"±
Pier 6	1'-8"±
Pier 7	3'-3"±
Pier 8	3'-3"±
Pier 9	3'-3"±
Pier 10	3'-3"±
Pier 11	1'-8"±
Pier 12	14'-7"±
Pier 13	7'-2"±
Pier 14	24'-5"±

* Place #4 light against existing reinforcement

Reconstruct pedestal with board formed concrete
Remove concrete back to existing reinforcement
Girder reinforcement not shown

Remove concrete back to existing reinforcement
Composite Column, TYP

Existing Reinforcement



TYPICAL SECTION
3/8" = 1'-0"

NOTES:
1. For Composite Column Casing (CFRP) details, see "Spandrel Column Details No. 1" sheet

NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

TYPICAL SECTION
CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 29 of 39
LIMITS From Linda Vista Ave to 200' East of Bridge BRIDGE NO. 53C-1041
SCALE AS SHOWN SHEET NUMBER
REV. NO.

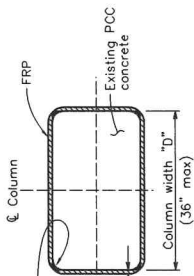
REVISIONS	BY	CHKD.	APPROVED
REVISION			

DESIGNED BY D. K. DANG	REVIEWED BY
DRAWN BY J. NOTINAGEL	DATE
CHECKED BY	DATE
ENGINEER'S NAME J. NOTINAGEL	EXP. DATE

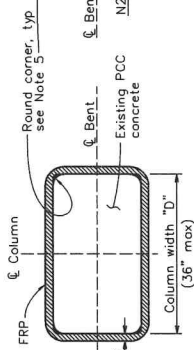


CARBON NOTES:

- For all subsequent notes, surfaces shall be defined as the surface to receive the composite. Fabric refers to the unidirectional or bi-directional fiber. Fiber Reinforced Polymer (FRP) composite is Carbon Fiber and Epoxy resin.
- All surfaces shall be prepared for bonding by means of abrasive blasting or grinding.
- All surfaces shall be cleaned by hand or by oil-free compressed air. All surfaces shall be free of moisture, oils, loose material, debris, or dust.
- All cutting of fabrics, mixing of epoxy, and wetting out of fabric and handling, shall be done in a manner to ensure that the composite materials are free of moisture, oils, debris or dust.
- For non-circular columns remove any sharp corners/edges to a 1/2" radius minimum.
- A primer coat of epoxy shall be applied to the surface and allowed to cure for a minimum of one hour before the application of the FRP composite, or when a tacky surface is obtained.
- Surfaces shall be free of voids, protrusions, and sharp edges. Any voids or uneven surfaces shall be filled with a thickened epoxy.
- Carbon composite system used shall be selected from a list of Galtrons Prequalified composite systems.
- Fabric shall be completely saturated prior to application to the surface. No dry fiber placement is allowed, unless fabric used has removable backing or procedure has been approved by prequalification.
- The composite casing shall adhere firmly to the existing column surface.
- Detail/feather all fabric edges, including termination points, edges and seams with a thickened epoxy; no fiber or cross stitching shall protrude from the surface. Detailing/feathering shall extend a minimum of 6".
- Each composite section shall be wrapped using continuous fabric not less than 2'-0" in height. All wraps of continuous weave shall be terminated a minimum of 12" past the starting point of the initial wrap. Subsequent wraps shall be started (butted) at the ending point of the last wrap.
- The casing thickness shall taper evenly over the full length of the transition zone.
- For non-circular columns use number of layers specified in the "RECTANGULAR COLUMN" table.
- Existing non-circular column surfaces shall be straight or slightly convex outward at all areas, otherwise, the surface shall be filled with thickened epoxy.
- Drainage opening reinforcement shall be the same fiber and resin material used for the column casing. Alternate continuous layer with local bi-axial weave patch at drainage opening.
- Minimum number of layers for the FRP System is based on minimum nominal composite layer thickness of 0.04" for carbon.

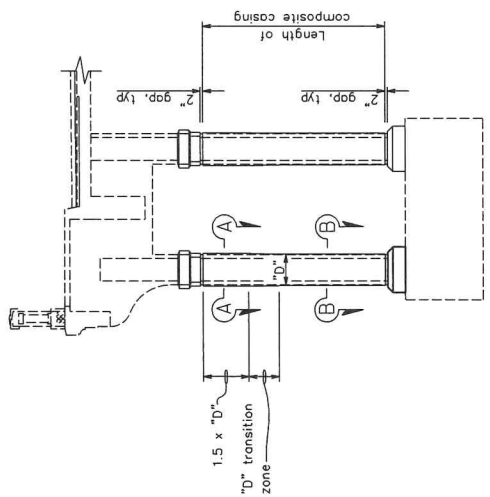


SECTION B-B
NO SCALE

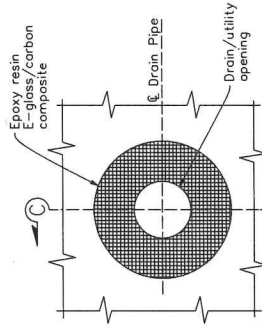


SECTION A-A
NO SCALE

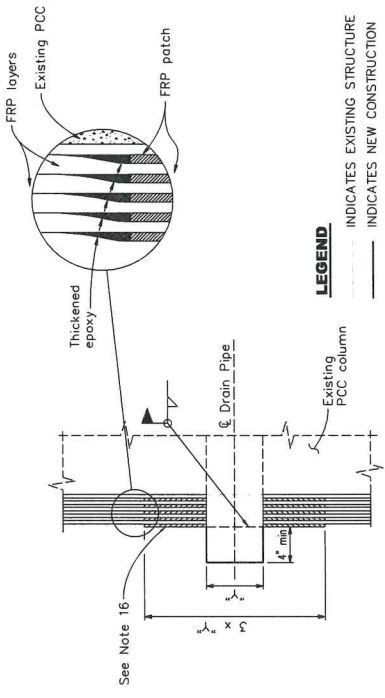
CARBON FRP SYSTEM	
RECTANGULAR COLUMN, NUMBER OF LAYERS (Min)	N1 N2
12"	3 2
18"	4 2
24"	5 3
30"	6 3
36" Max	7 4



COLUMN RETROFIT
NO SCALE



CARBON OPENING
NO SCALE



LEGEND

- INDICATES EXISTING STRUCTURE
- INDICATES NEW CONSTRUCTION
- N1, N2 DENOTES MINIMUM NUMBER OF LAYERS INSIDE THE PLASTIC HINGE ZONE AND OUTSIDE THE PLASTIC HINGE ZONE

SECTION C-C
NO SCALE

SPANDREL COLUMN REPAIR DETAILS (XS7-020)

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION	SHEET	30 of 39
	LIMITS	From Linda Vista Ave to 200' East of Bridge	BRIDGE NO.	53C-1041
	SCALE	AS SHOWN	DRAWING NUMBER	

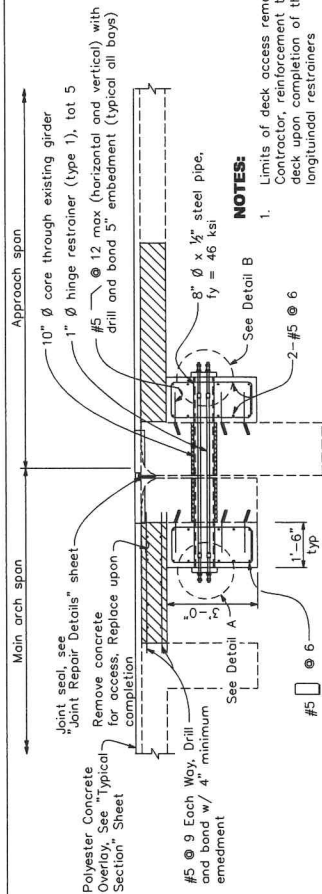
REVISIONS	
MARK	DATE

DESIGNED BY K. DANG	CHECKED BY J. NOTINAGEL
DATE 3-21-28	DATE 3-21-28
ENGINEER'S NAME J. NOTINAGEL	EXP. DATE



NOTE:

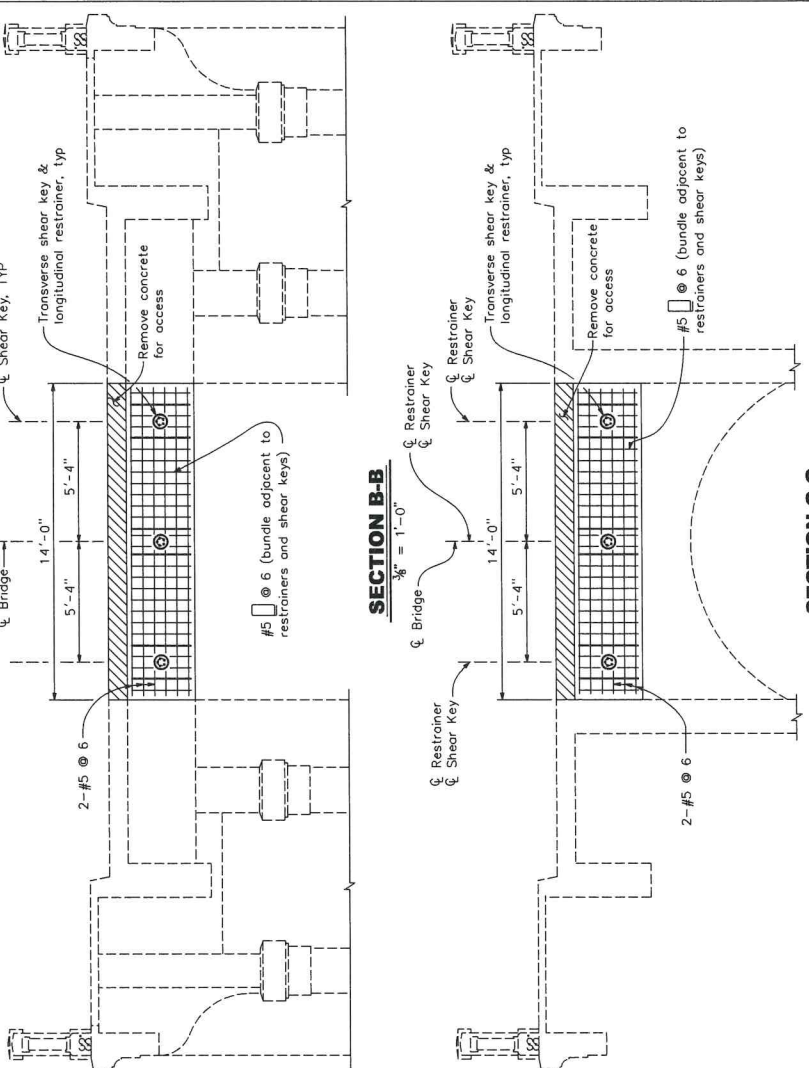
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



SECTION A-A
1/2" = 1'-0"

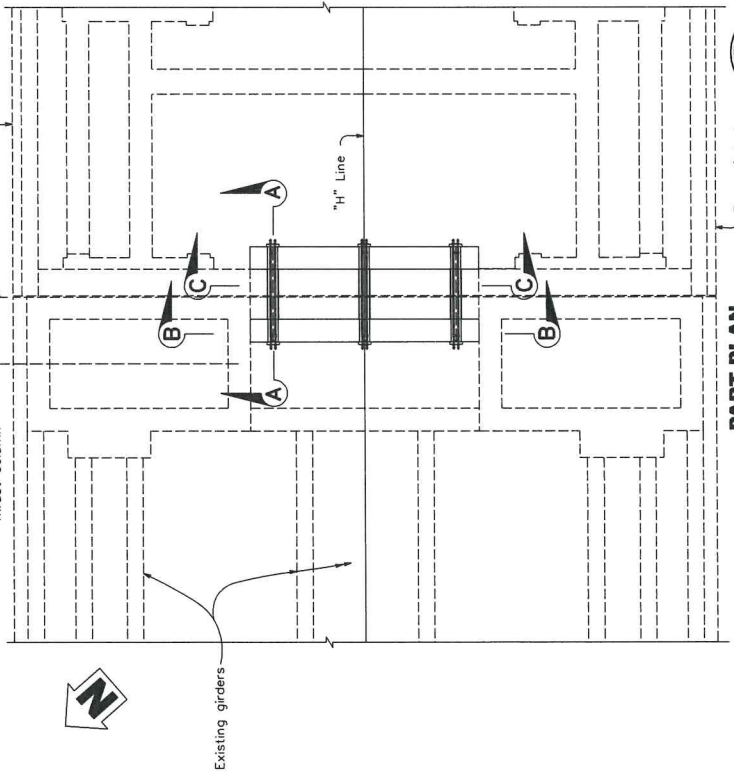
DETAIL A
1/2" = 1'-0"

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



SECTION B-B
3/8" = 1'-0"

SECTION C-C
3/8" = 1'-0"



PART PLAN
1/2" = 1'-0"

NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

NOTES:
1. Limits of deck access removal to be decided by Contractor, reinforcement to remain. Reconstruct deck upon completion of the shear key and longitudinal restrainers

Reinforcement not shown
Disk Spring
Cable Yield Indicator
Anchorage Plate
Sleeve Crout between existing girder and HSS

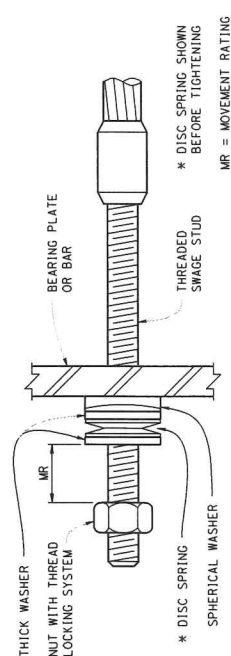


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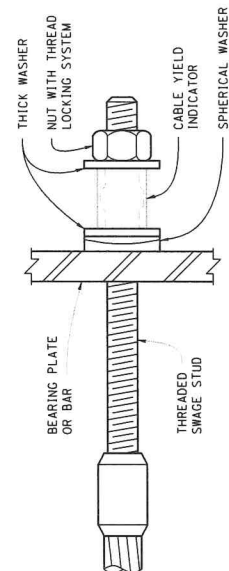
REVISIONS		CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	
NO.	DATE	BY	APPROVED

PROJECT: HOLLY STREET BRIDGE RECONSTRUCTION SHEET: 31 of 39
 LIMITS: From Linda Vista Ave to 200' East of Bridge BRIDGE NO.: 53C-1041
 SCALE: AS SHOWN ACCOUNT NUMBER: -
 DWG. NO.: -

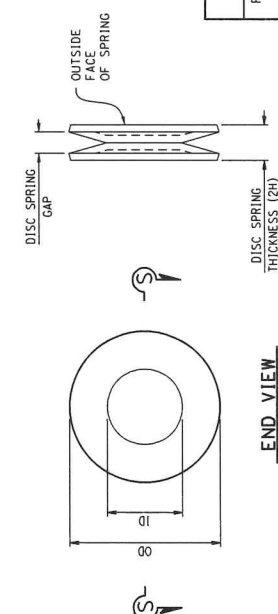
SHEAR KEY DETAILS NO. 1



DISC SPRING HARDWARE
6" ± 1'-0"



CABLE YIELD INDICATOR HARDWARE
6" ± 1'-0"

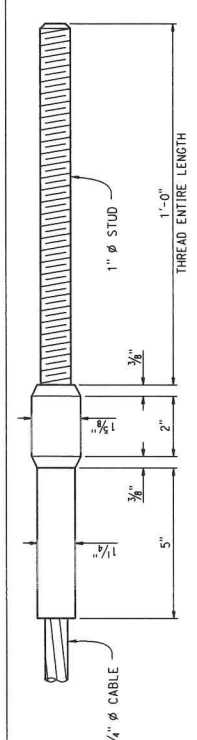


ASSEMBLED SPRING
Before Nut Tightening

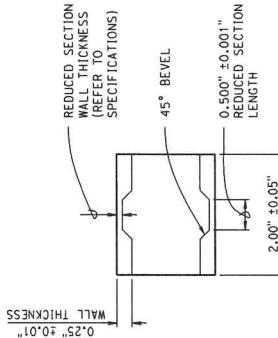
SECTION S-S
Single Disc

DISC SPRING
1" ± 1"

NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



CABLE END SWAGE STUD DETAIL
6" ± 1'-0"



SECTION Y-Y

CABLE YIELD INDICATOR
1" ± 1"

DISC SPRING AND WASHER DIMENSIONS

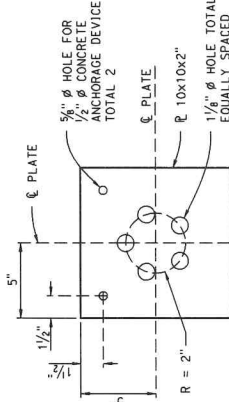
RESTRAINER LENGTH	DISC SPRING	SPHERICAL WASHER	THICK WASHER
L (ft)	ID	H	OD
00.0 - 25.0	1.125	2.00	2.00
	2.00	0.065	1.125
	2.00	0.130	2.00
	2.00	0.75	1.125
	2.00	0.75	2.00
	2.00	0.25	0.25

Restrainer Length (L) :
Use effective cable length, measured from the outer faces of Bearing Plates or Bar.
See Bridge detail sheets for approximate length.
Use ASTM F436, Standard Specification for Hardened Steel Washers for all OD and ID dimensions for washers and disc springs.
Dimensions are inches unless otherwise noted.

RESTRAINER UNIT INSTALLATION PROCEDURE

- For typical straight Restrainers, girder to opposite girder alignment:
1. Install Spherical Washers, Thick Washers, Cable Yield Indicator and Nut with Thread Locking System on the Supported side.
 2. Install Spherical Washers, Thick Washers, Disc Spring and Nut on the Hinge Seat side.
 3. Tighten the nuts on the Hinge Seat side of restrainer units until the Disc Springs collapse and there is no gap remaining between the discs.

4. Place thread locking system on the threaded stud and back off the nut from the Disc Spring a distance equal to the maximum radial expansion of the stud. The nut is applied to the stud after the stud has cooled to ambient conditions for the Movement Rating (MR) as shown on the Structure plans.



ANCHORAGE PLATE
3" ± 1'-0"

NOTES

1. The Corred Holes must be 10" diameter and must be placed on a straight line the entire length of the restrainers and be parallel to the girder.
 2. The Bearing surface must be perpendicular to girders.
 3. Place the Cable Yield Indicator and Disc Spring hardware as shown.
 4. All exposed, non-painted hardware must be galvanized. Dimensions shown are before galvanizing except as noted.
- Indicates existing structure.

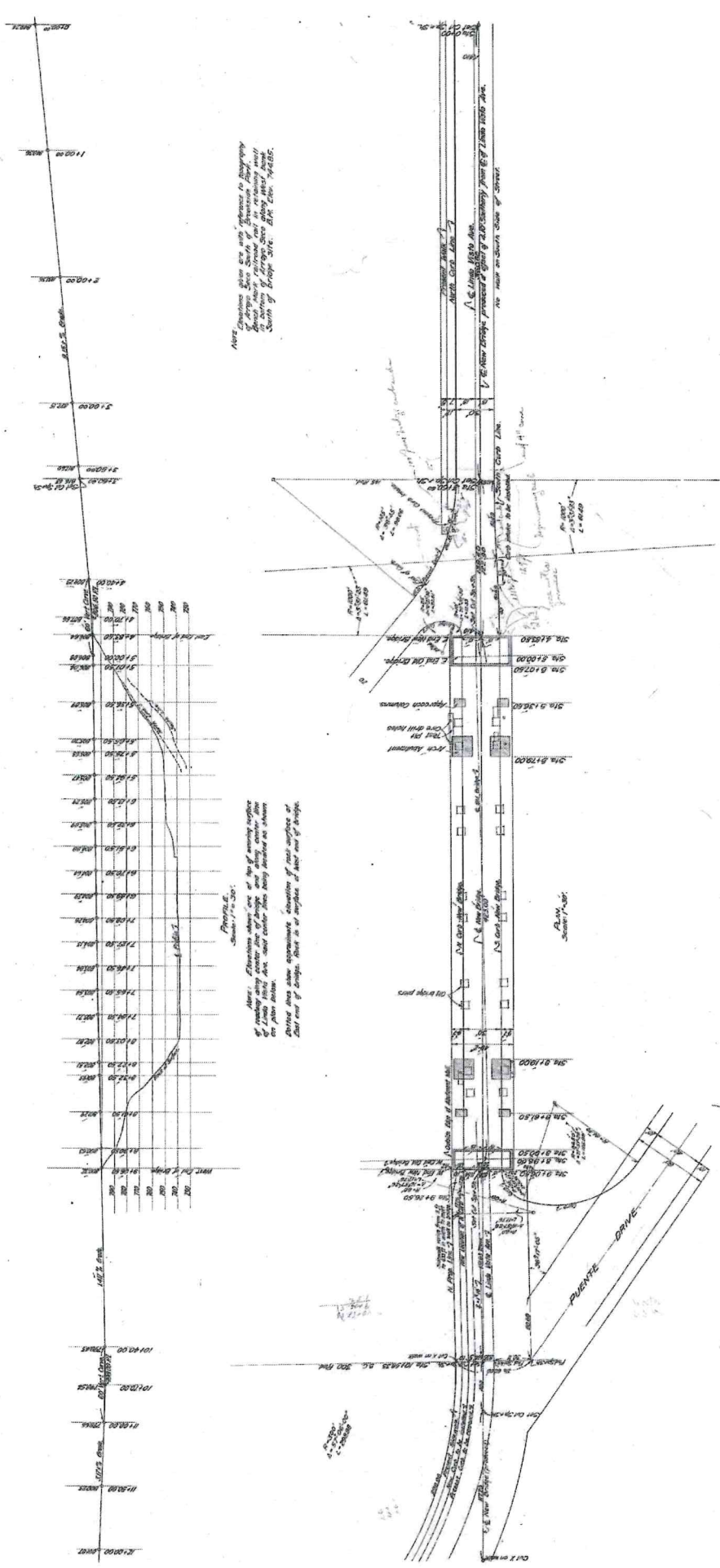
SHEAR KEY DETAILS NO. 2

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION	SHEET	32 of 39
LIMITS	From Linda Vista Ave to 200' East of Bridge	BRIDGE NO.	53C-1041	DWG. NO.
SCALE	AS SHOWN	ACCOUNT NUMBER		

REVISIONS	DATE	DESCRIPTION	BY	CHKD	APPROVED



DRAMA T. DANG
DESIGNED BY
J. NOTTNAGEL
CHECKED BY
J. NOTTNAGEL
REVIEWED BY
J. NOTTNAGEL
EXP. DATE



NOTE: Elevations shown are of the existing surface of the ground and not of the proposed surface of the bridge deck. The bridge deck is shown as a solid line. The ground surface is shown as a dashed line. The bridge deck is shown as a solid line. The ground surface is shown as a dashed line.

NOTE: Elevation shown are of the existing surface of the ground and not of the proposed surface of the bridge deck. The bridge deck is shown as a solid line. The ground surface is shown as a dashed line. The bridge deck is shown as a solid line. The ground surface is shown as a dashed line.

NOTE: Elevation shown are of the existing surface of the ground and not of the proposed surface of the bridge deck. The bridge deck is shown as a solid line. The ground surface is shown as a dashed line. The bridge deck is shown as a solid line. The ground surface is shown as a dashed line.

AS-BUILT NO. 1

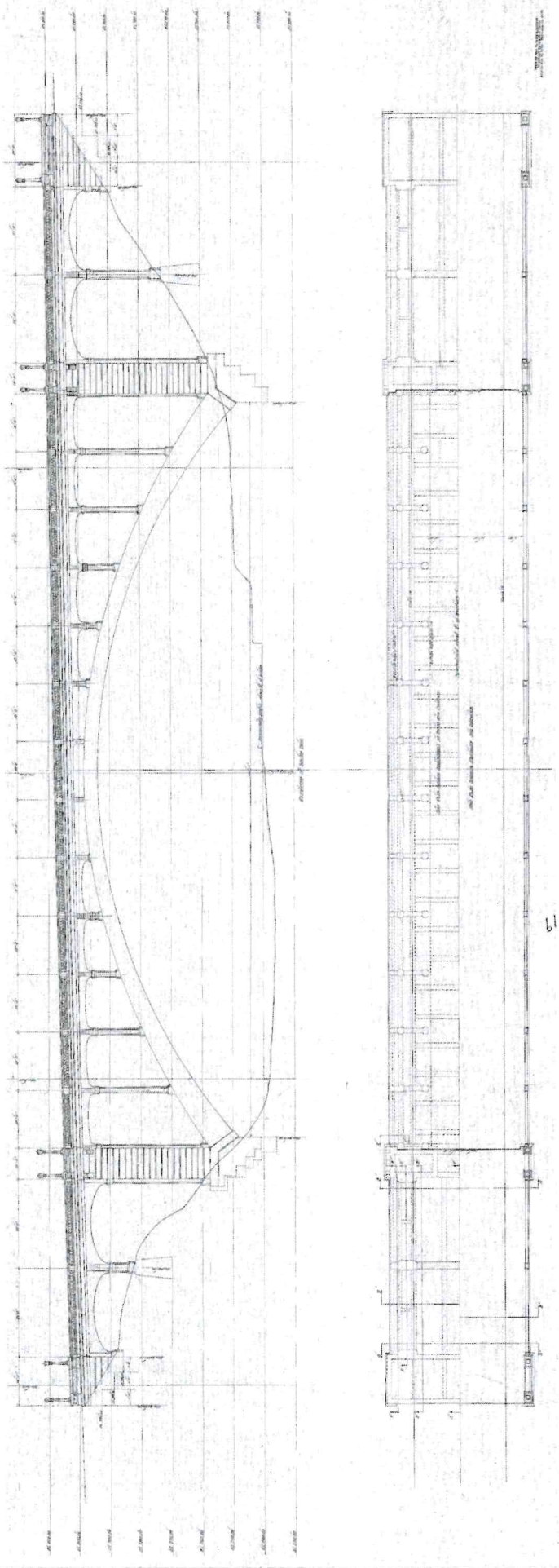
CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS	
PROJECT	HOLLY STREET BRIDGE RECONSTRUCTION
SHEET	33 OF 39
BRIDGE NO.	53C-1041
LIMITS	From Linda Vista Ave to 200' East of Bridge
SCALE	AS SHOWN
ACCOUNT NUMBER	
DWG NO.	

REVISIONS	
MARK	DATE

DRAWN BY	DANG
DESIGNED BY	J. NOTTMAGEL
CHECKED BY	
REVIEWED BY	
DATE	3-31-20
EXPI. DATE	
DRAWER'S NAME	



NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



AS-BUILT NO. 2

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 34 OF 39
 LIMITS From Linda Vista Ave to 200' East of Bridge
 SCALE AS SHOWN ACCOUNT NO. 53C-1041
 D.W.C. NO.

MARK	DATE	REVISIONS

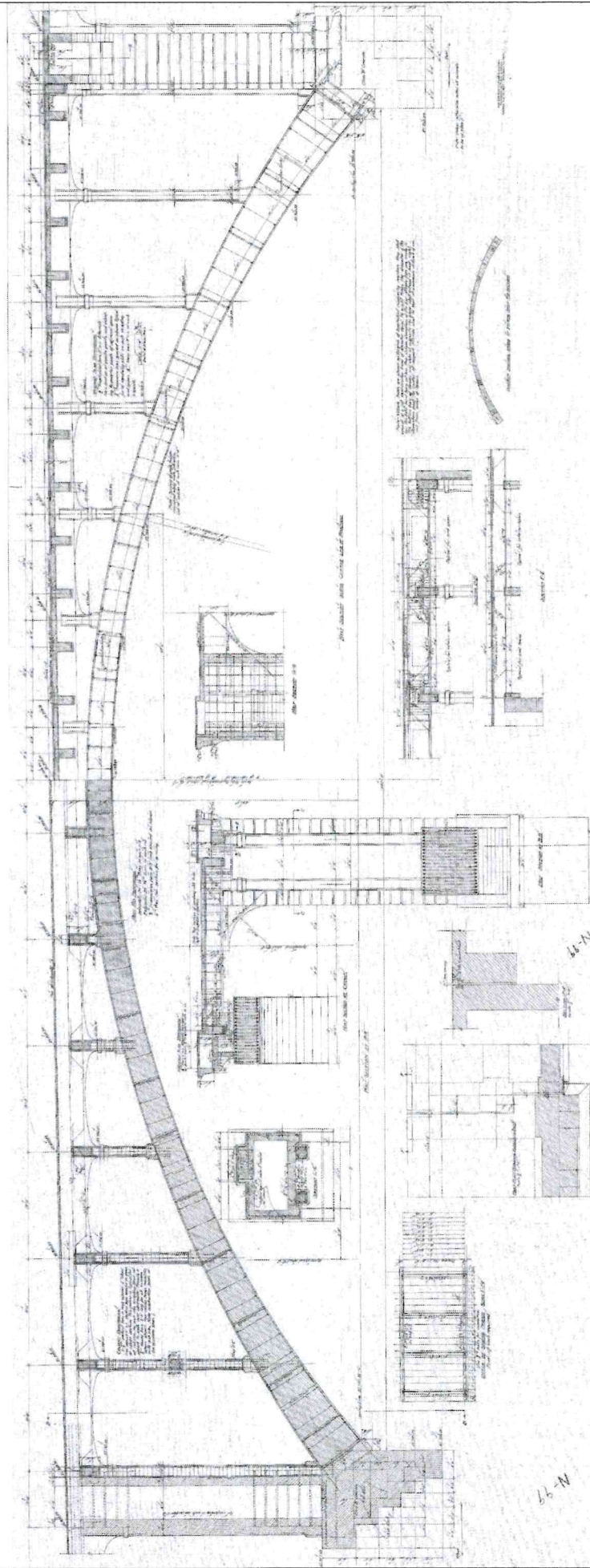
DRAWN BY DANG
 DESIGNED BY J. NOTTMAGEL
 CHECKED BY
 REVIEWED BY



DE DOKKEN
 ENGINEERING ARCHITECTURE INTERIORS
 1010 N. GARDEN ST. PASADENA, CA 92368
 J. NOTTMAGEL
 ENGINEER'S NAME EXP. DATE

NOTE:

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



AS-BUILT NO. 3

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 35 OF 39
 LIMITS From Linda Vista Ave to 200' East of Bridge BRIDGE NO. 53C-1041
 SCALE AS SHOWN ACCOUNT NO.

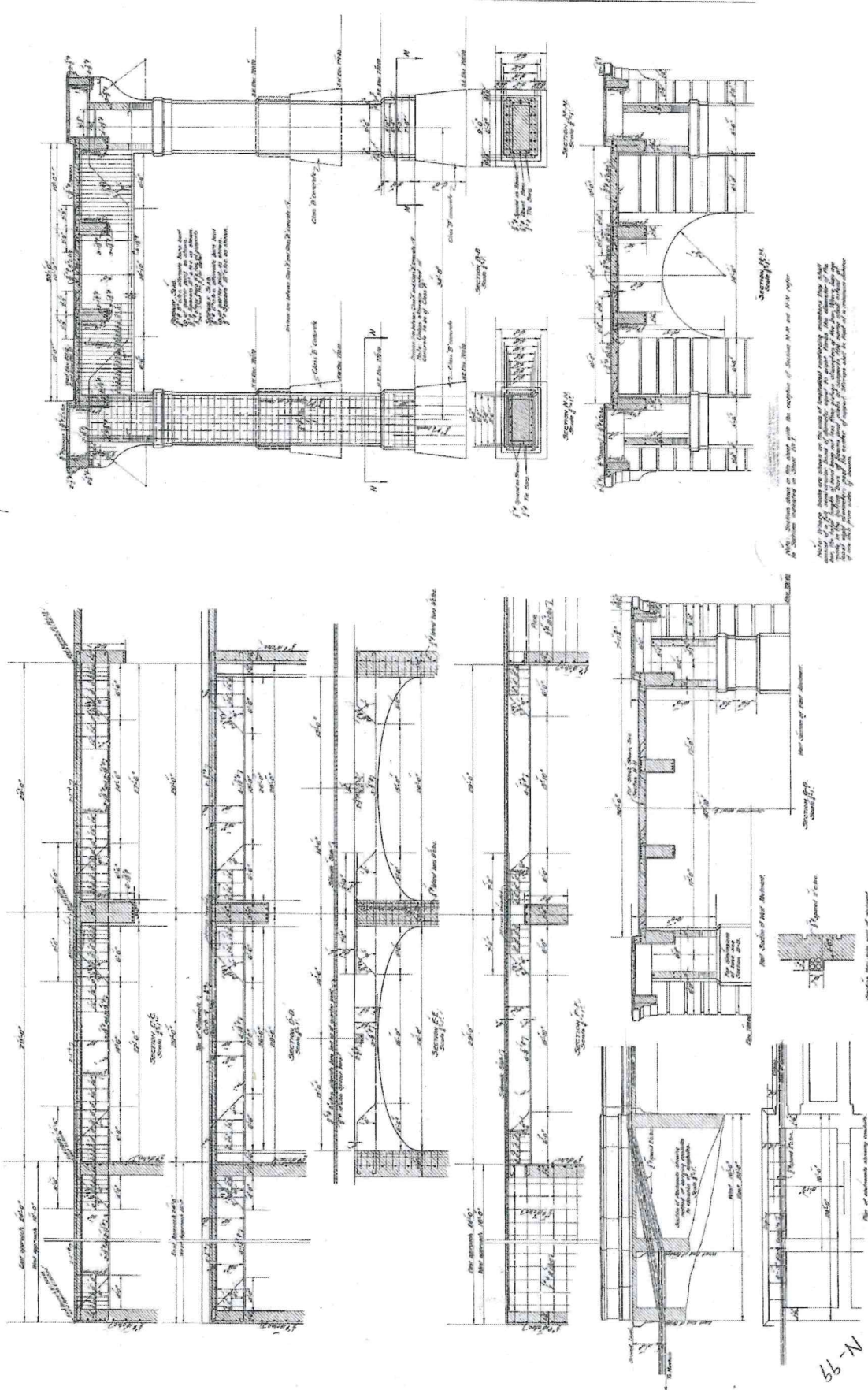
REVISIONS	
DATE	DESCRIPTION

DRAWN BY: DANG
 CHECKED BY: J. NOTTMAGEL
 DESIGNED BY:
 REVISIONS BY:

DE DOKKEN
 CIVIL ENGINEERS
 100 N. GARDEN ST. PASADENA, CALIF. 92369
 J. NOTTMAGEL
 ENGINEER'S NAME EXP. DATE



NOTE:
 The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



AS-BUILT NO. 4

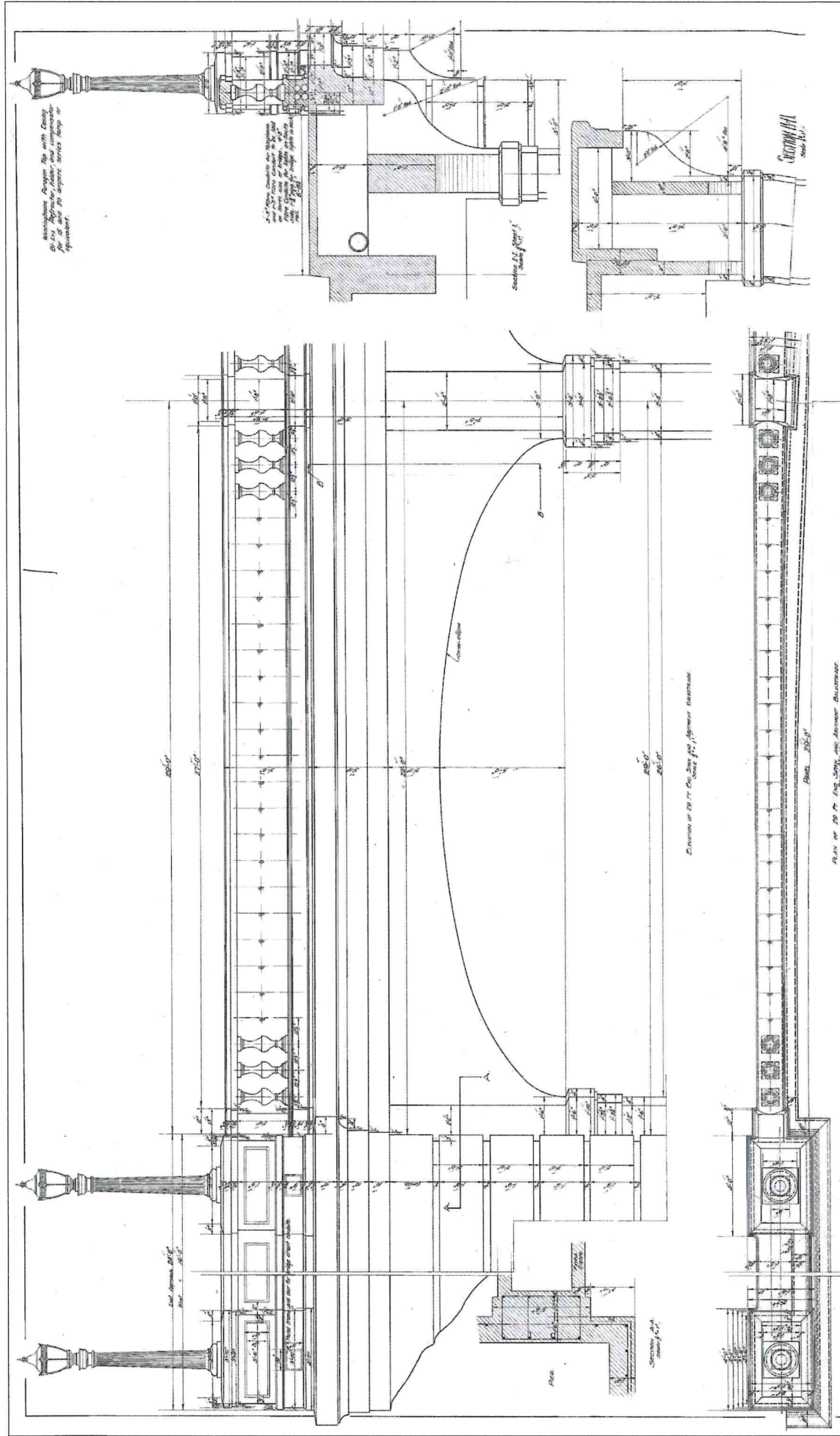
CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 36 OF 39
 LIMITS From Linda Vista Ave to 200' East of Bridge
 SCALE AS SHOWN ACCIDENT NUMBER

REVISIONS	DATE	DESCRIPTION	BY	CHKD	APPROVED

DESIGNED BY: DANG
 CHECKED BY: J. NOTINAGEL
 DESIGNED BY: J. NOTINAGEL
 REVIEWED BY: J. NOTINAGEL
 DATE: 3-21-20
 EXP. DATE: 3-21-22



NOTE:
 The contractor shall verify all controlling field dimensions before ordering or fabricating any material.



AS-BUILT NO. 5

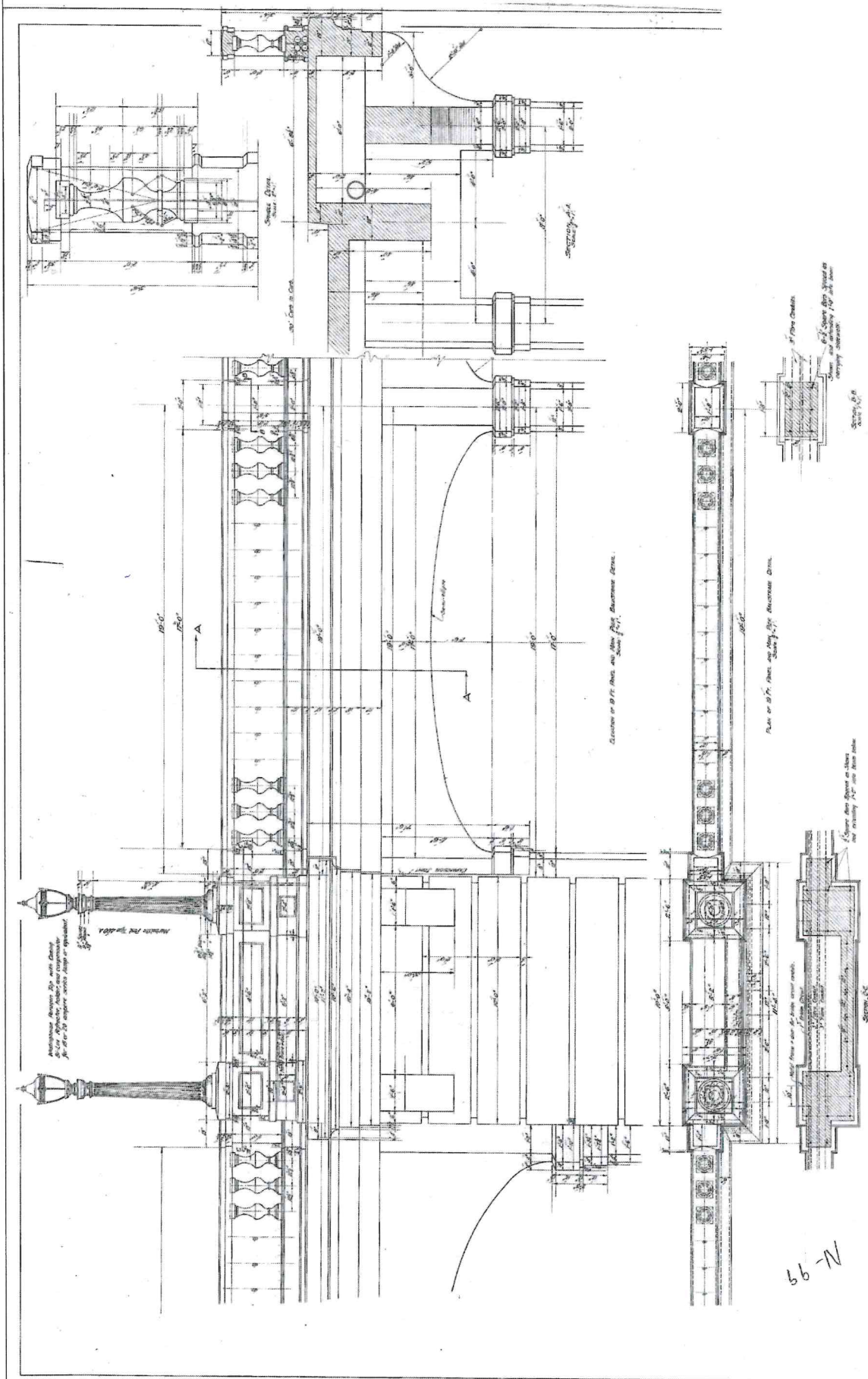
CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 37 OF 39
 LIMITS From Linda Vista Ave to 200' East of Bridge BRIDGE NO. 53C-1041
 SCALE AS SHOWN ACCOUNT NO. _____
 NUMBER _____

MARK	DATE	BY	CHKD.	APPROVED	REVISIONS



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 (909) 799-1111
 FAX (909) 799-1112
 WWW.DEDOKKEN.COM

NOTE:
 The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

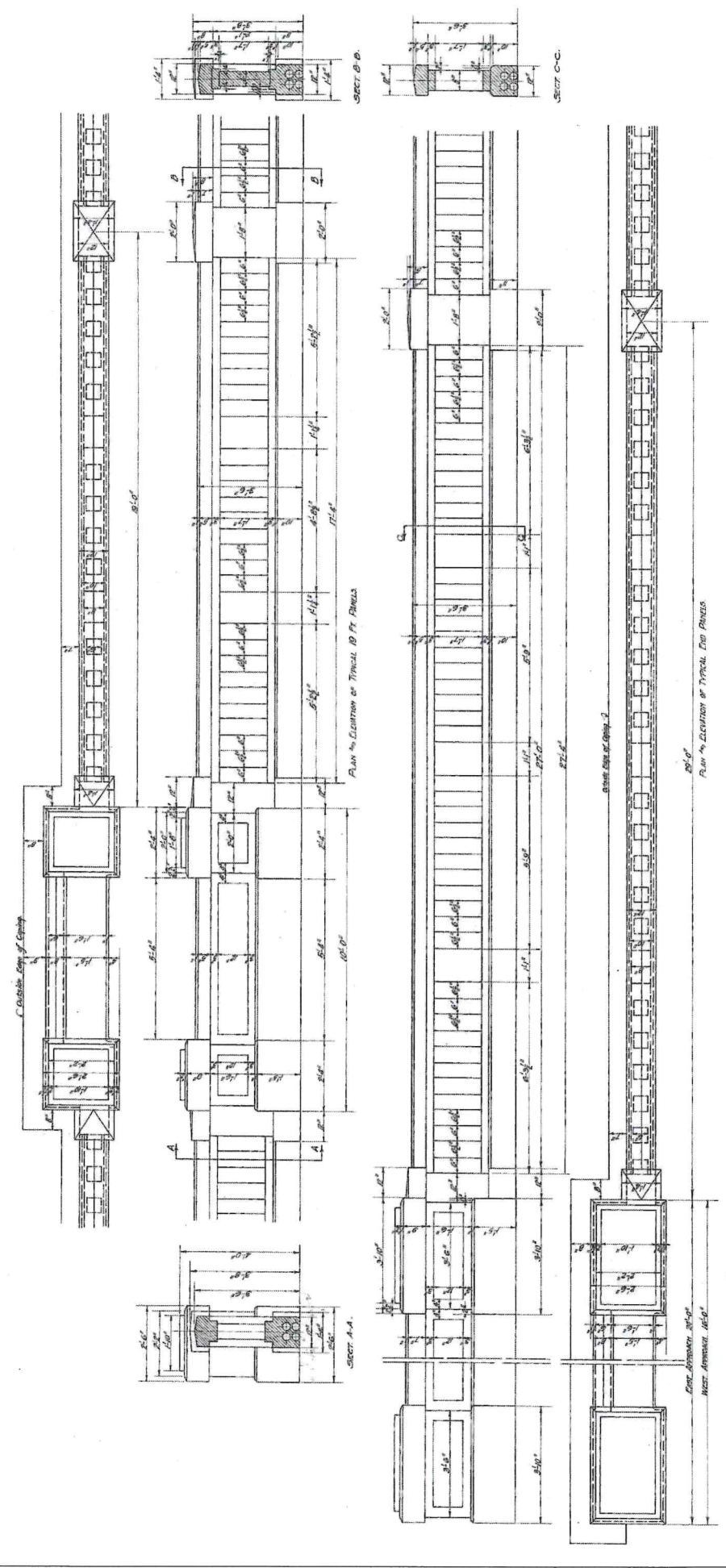


AS-BUILT NO. 6

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS		PROJECT HOLLY STREET BRIDGE RECONSTRUCTION		SHEET 38 OF 39													
LIMITS From Linda Vista Ave to 200' East of Bridge		SCALE AS SHOWN		ACCOUNT NO. 53C-1041													
DRAWN BY DANG		CHECKED BY J. NOTTMAGEL		DATE													
DESIGNED BY J. NOTTMAGEL		REVIEWED BY		DATE													
ENGINEER'S NAME		EXP. DATE		REVISIONS													
				<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION									
NO.	DATE	DESCRIPTION															

NOTE:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

66-71



AS-BUILT NO. 7

CITY OF PASADENA-DEPARTMENT OF PUBLIC WORKS
 PROJECT HOLLY STREET BRIDGE RECONSTRUCTION SHEET 39 of 39
 LIMITS From Linda Vista Ave to 200' East of Bridge BRIDGE NO. 53C-1041
 SCALE AS SHOWN ACCOUNT NUMBER
 DWG. NO.

REVISIONS	
MARK	DATE

DRAWN BY DANG
 CHECKED BY J. NOTTMAGEL
 DESIGNED BY
 REVISIONS
 DATE



DE DOKKEN
 IN THE STATE OF CALIFORNIA
 J. NOTTMAGEL
 ENGINEER'S NAME
 EXP. DATE 3-31-20

NOTE:
 The contractor shall verify all controlling field dimensions before ordering or fabricating any material.