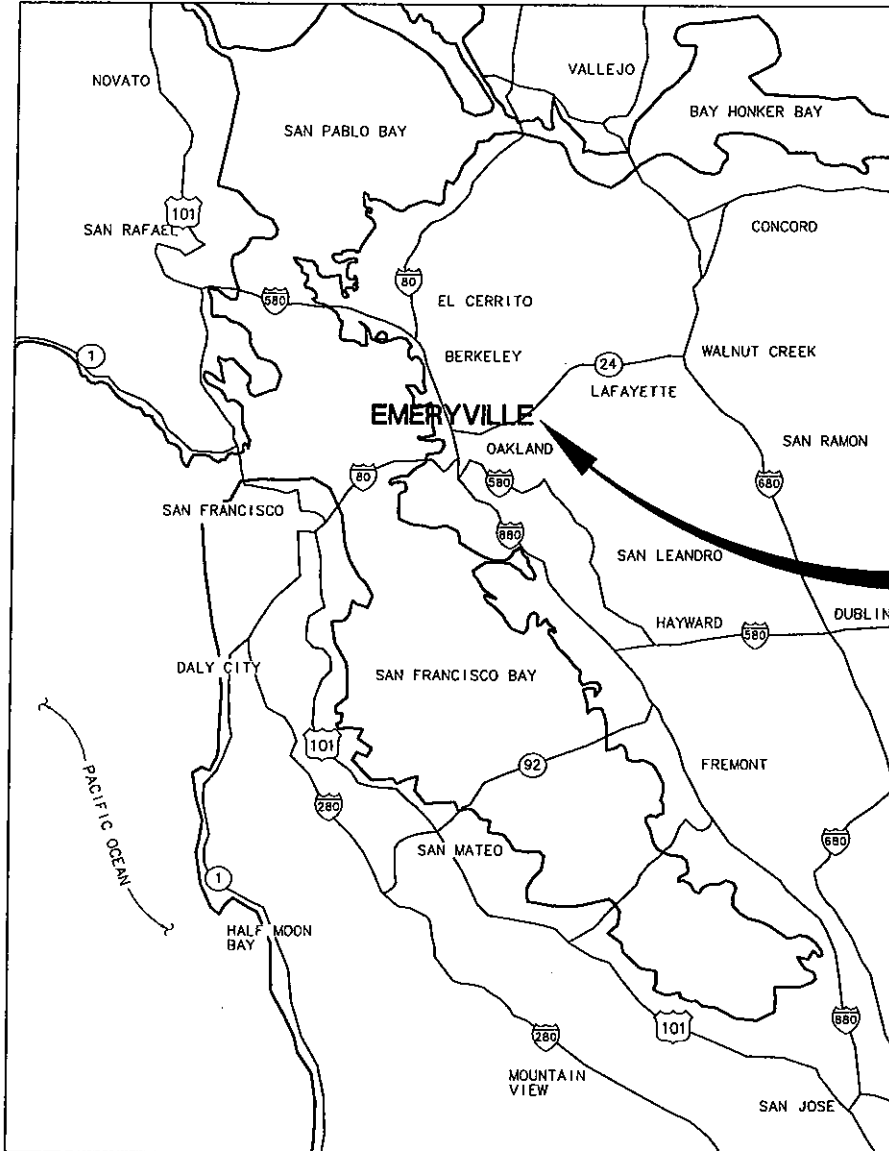


**CITY OF EMERYVILLE  
DEPARTMENT OF PUBLIC WORKS**

**PROJECT PLANS FOR CONSTRUCTION  
OF THE  
SOUTH BAYFRONT PEDESTRIAN  
BICYCLE BRIDGE**

**CITY PROJECT No. EPW 103-09**

To be supplemented by Caltrans Standard Plans dated May 2006  
and  
Caltrans Standard Specifications dated May 2006



**LOCATION MAP**



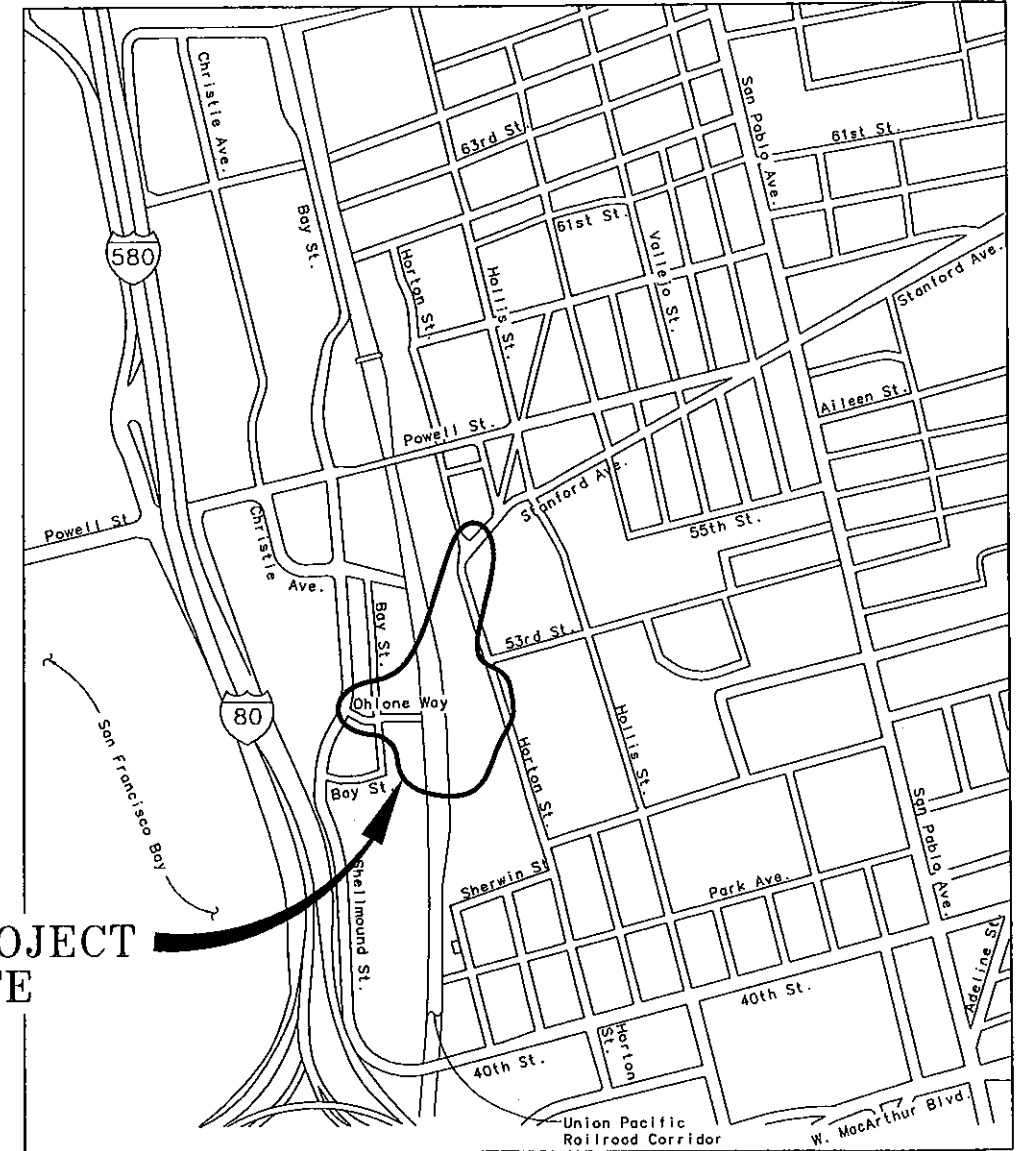
**PROJECT  
LOCATION**

MAHVASH M. HARMS  
STRUCTURAL ENGINEER  
S.E. NO. 2639

DATE

APPROVED & RELEASED FOR CONSTRUCTION  
MAURICE KAUFMAN  
PUBLIC WORKS DIRECTOR

DATE



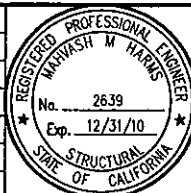
**PROJECT  
SITE**

**SITE MAP**



PLAN CHECK SET/NOT FOR CONSTRUCTION (4/5/10)

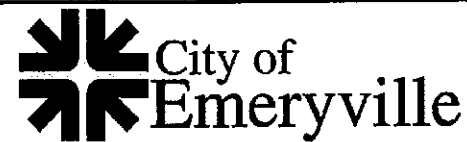
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B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
M. BODEMAR  
DRAWN BY:  
A. ROSALES  
CHECKED BY:  
S. HAYAT  
SCALE:  
NO SCALE

**BIGGS CARDOSA  
ASSOCIATES INC**  
STRUCTURAL ENGINEERS

865 The Alameda  
San Jose, California 95128  
408-288-5515

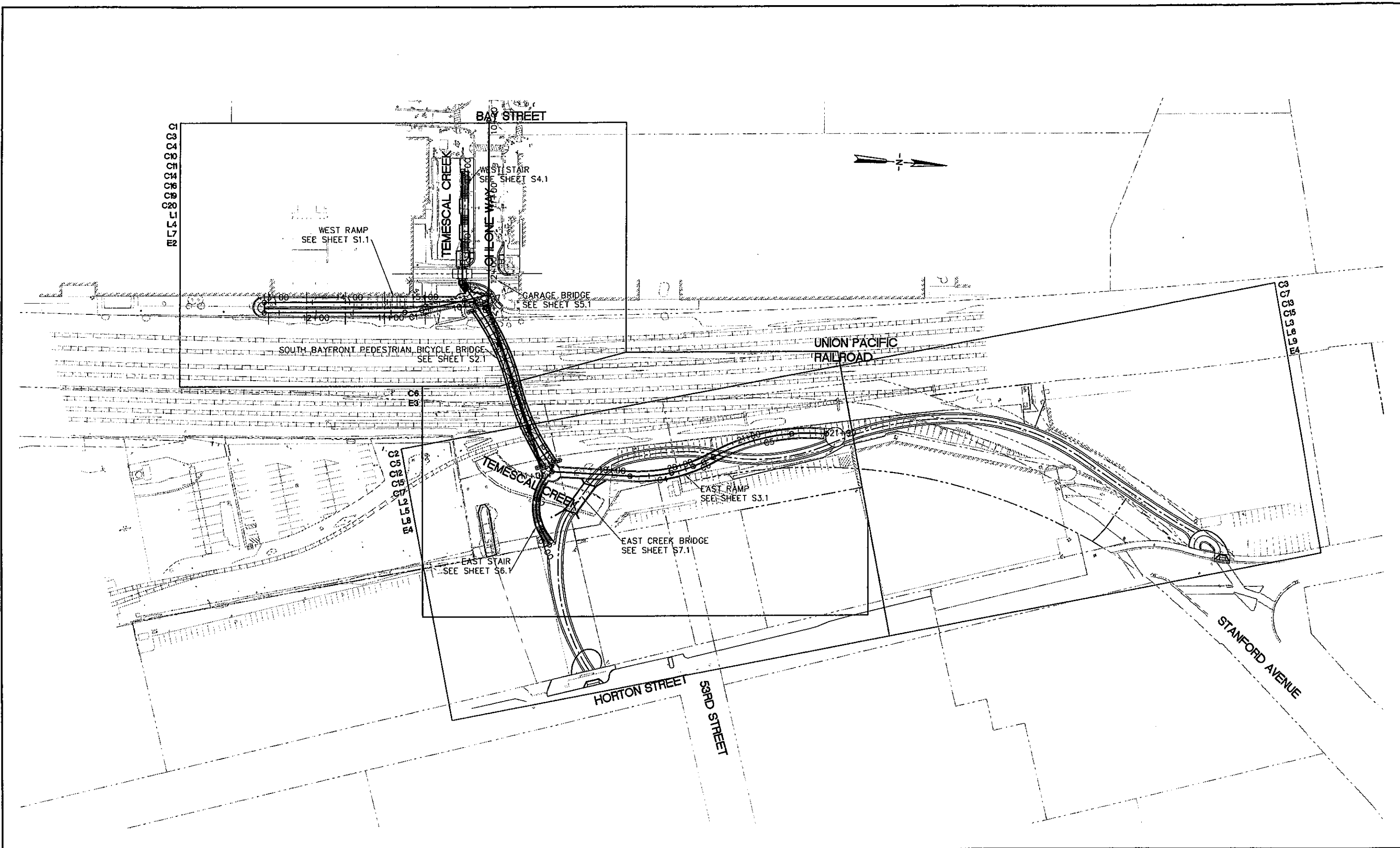


1333 Park Avenue  
Emeryville, CA 94608 (510) 596-4330

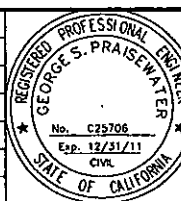
<b>SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE</b>	
EMERYVILLE	CALIFORNIA
<b>TITLE SHEET</b>	

CADD FILENAME 2007073G1
SHEET NO. <b>G1</b>
PAGE NO. <b>1</b>

2007073



REV.	DESCRIPTION	BY	DATE	APP'D.
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B	65% DESIGN SUBMITTAL	SS	10/13/09	SP
A	35% PRELIMINARY DESIGN SUBMITTAL	AM	03/12/09	DL



DESIGNED BY:  
L. O'KEEFE  
DRAWN BY:  
L. O'KEEFE  
CHECKED BY:  
S. PRAISEWATER  
SCALE:  
1" = 60'

**HNTB**  
1735 TECHNOLOGY DRIVE, SUITE 650  
SAN JOSE, CA 95110  
408.451.7300

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS  
885 The Alameda  
San Jose, California 95126  
408-296-5515

**BCA**

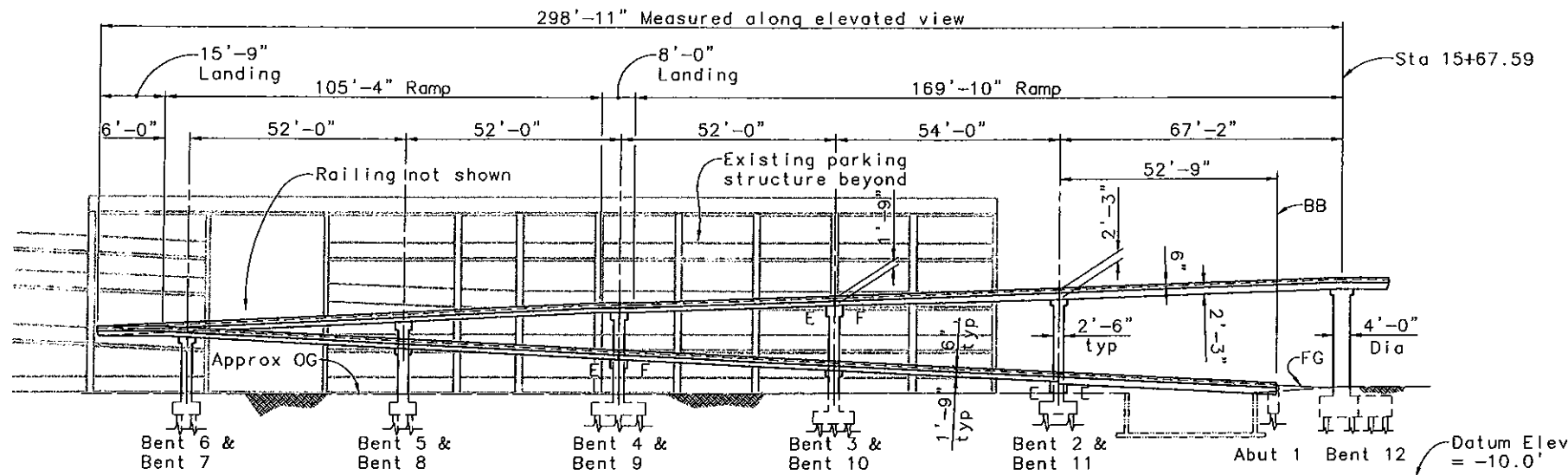
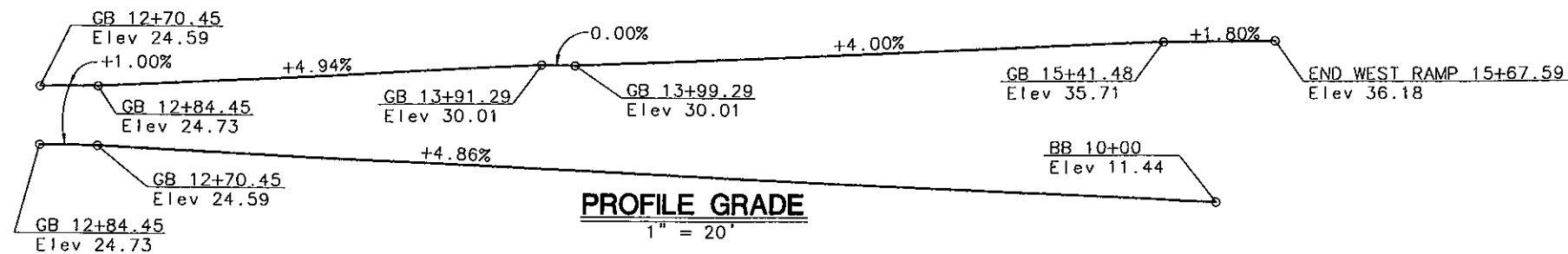
**City of Emeryville**  
1333 Park Avenue  
Emeryville, CA 94608  
(510) 596-4330

**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA

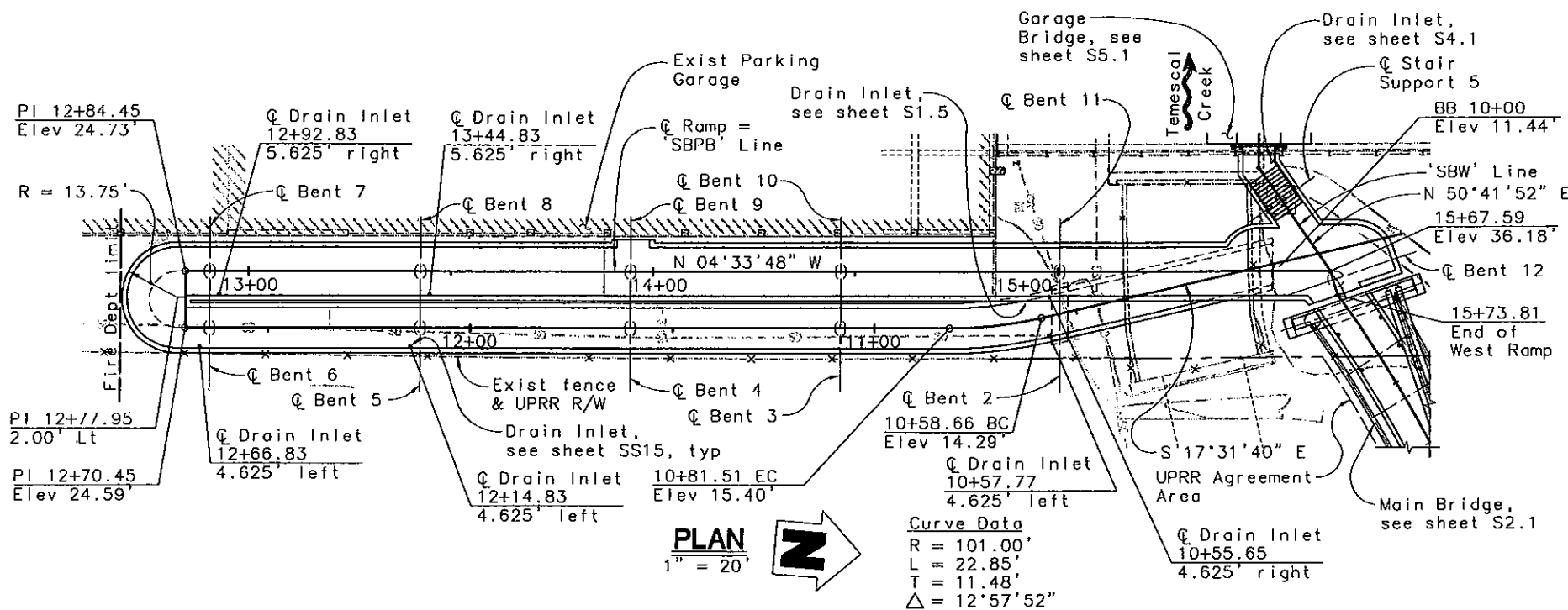
**KEY MAP**

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PAGE NO. <b>3</b>

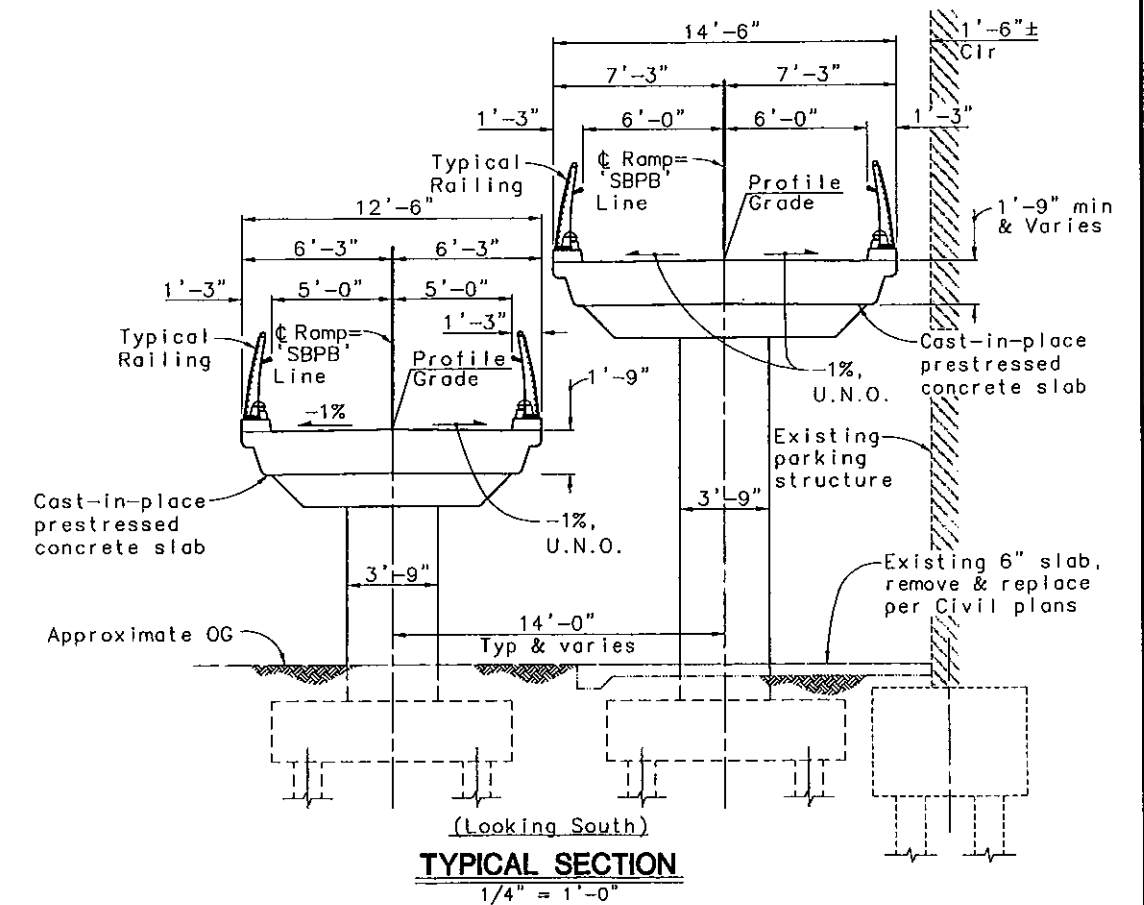
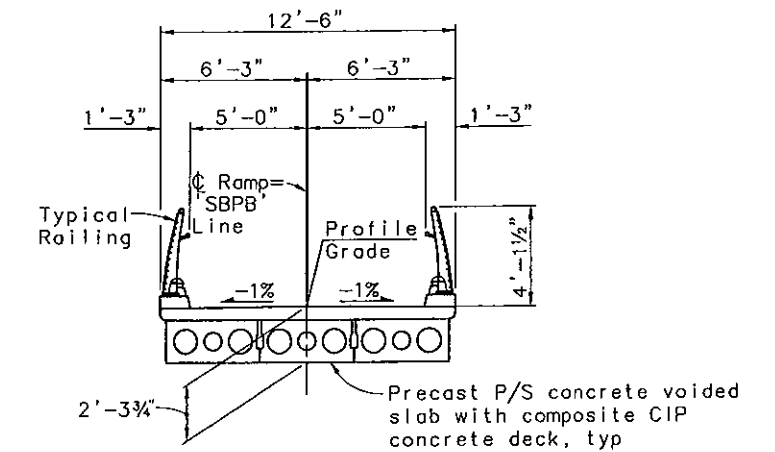
2007073 (G3.DWG)



Note:  
Span lengths shown are measured perpendicular to  $\phi$  Bent 2 thru Bent 11, u.n.o.



- Notes:
1. For 'Pile Data Table' see sheet S1.3.
  2. For deck contours, camber diagram, and super elevation diagrams, see sheet S1.2.
  3. For an elevation view of the stair portion of the structure, see sheet S4.1.



PLAN CHECK SET/NOT FOR CONSTRUCTION (4/15/10)

REV.	DESCRIPTION	BY	DATE	APP'D.
C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% DESIGN SUBMITTAL	JMB	3/12/09	MMH

DESIGNED BY:  
M. BODEMAR

DRAWN BY:  
M. TSE

CHECKED BY:  
S. HAYAT

SCALE:  
AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

2639  
Exp. 12/31/10  
STATE OF CALIFORNIA

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San Jose, California 95128  
408-298-6515

**City of Emeryville**

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Emeryville, CA 94608  
(510) 596-4330

**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**

EMERYVILLE CALIFORNIA

**WEST RAMP - GENERAL PLAN**

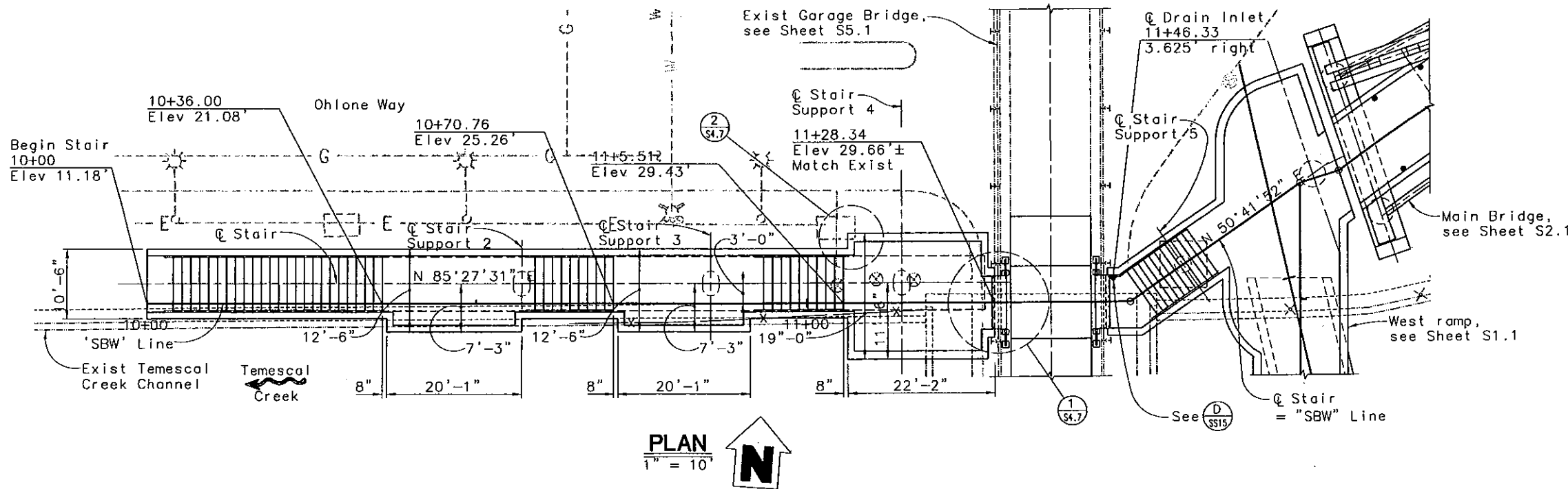
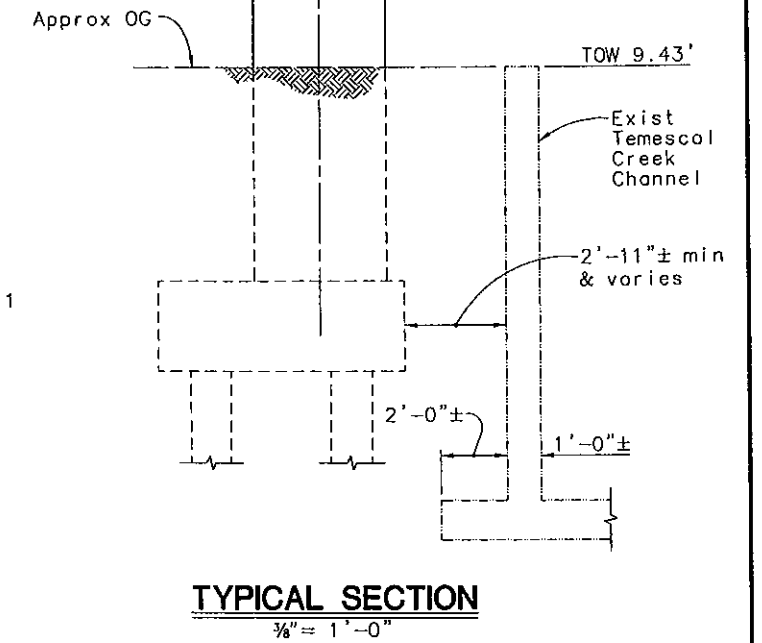
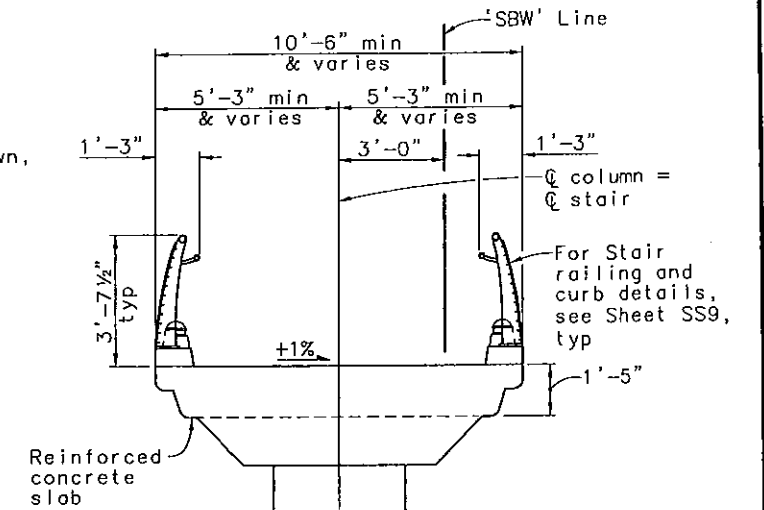
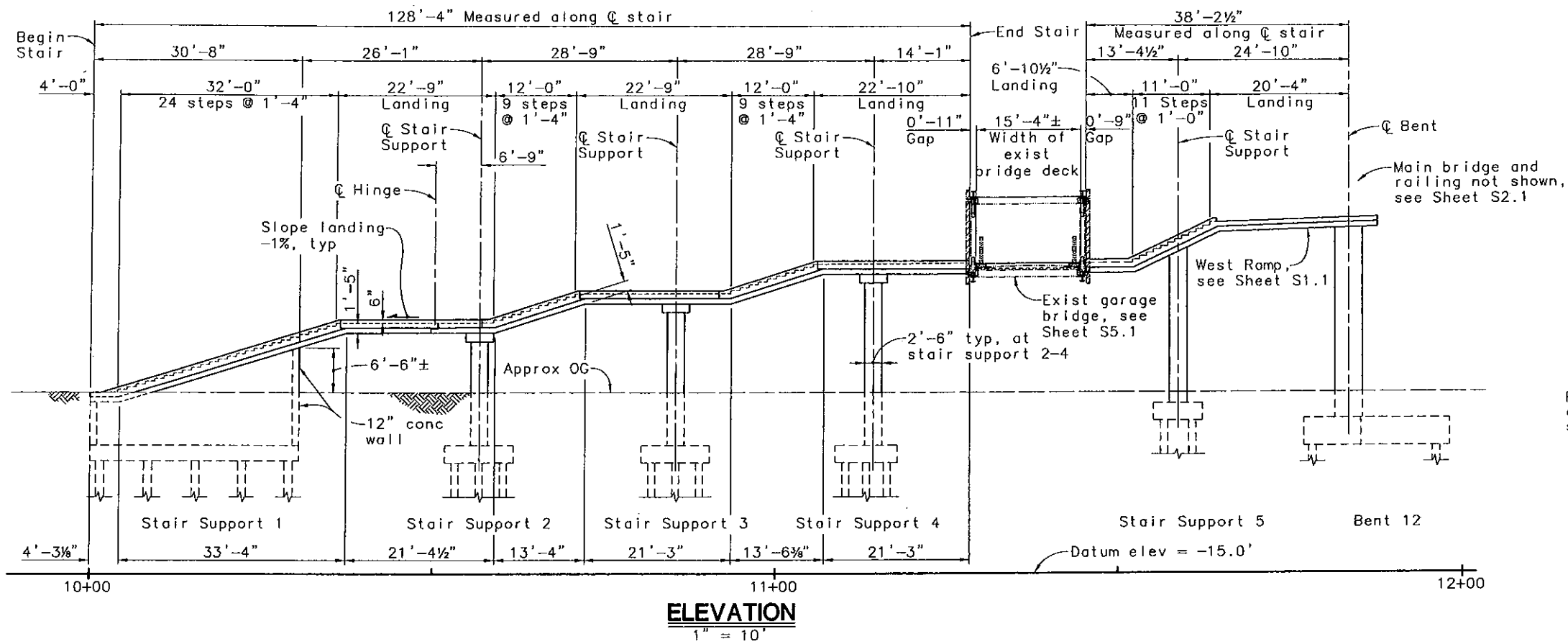
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SHEET NO.  
**S1.1**

PAGE NO.

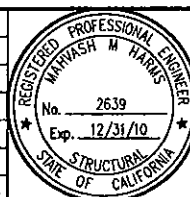
2007073S11

- Notes:**  
 1. For 'Pile Data Table', see sheet S4.2.  
 2. For camber diagram, see sheet S4.2.



PLAN CHECK SET/NOT FOR CONSTRUCTION (4/15/10)

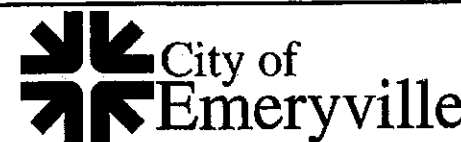
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B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
D. VAN ZANEN  
 DRAWN BY:  
A. ROSALES  
 CHECKED BY:  
S. HAYAT  
 SCALE:  
AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
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Emeryville, CA 94608  
(510) 596-4330

**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA

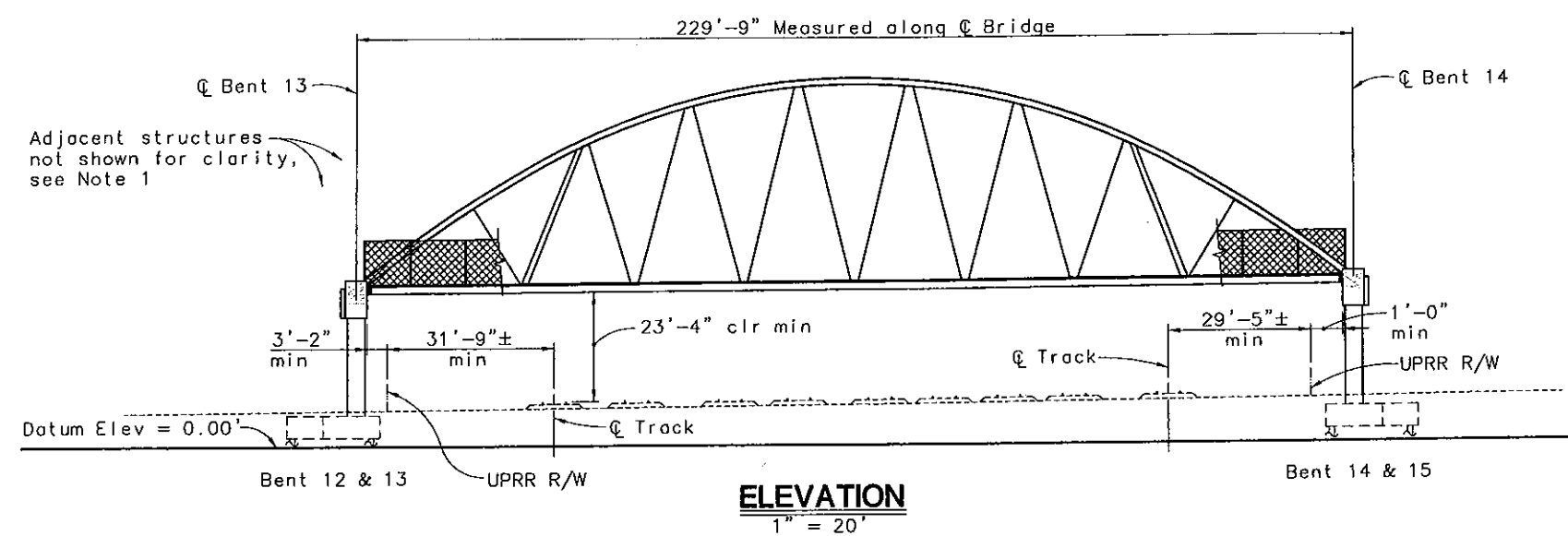
**WEST STAIR - GENERAL PLAN**

CADD FILENAME  
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**S4.1**  
 PAGE NO.

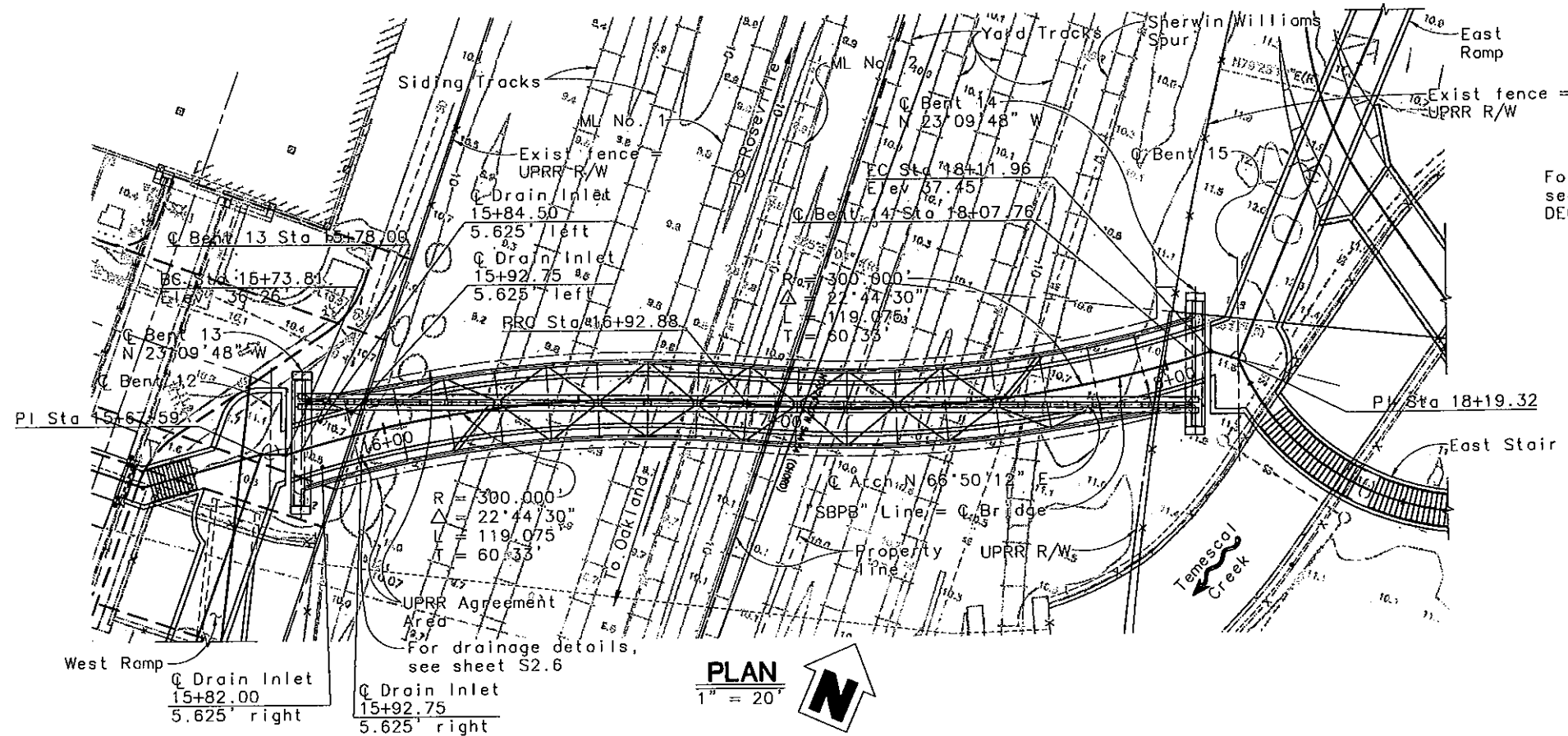
2007073S41

BC Sta 15+73.81  
Elev 36.26' +0.5% EC Sta 18+11.96  
Elev 37.45'

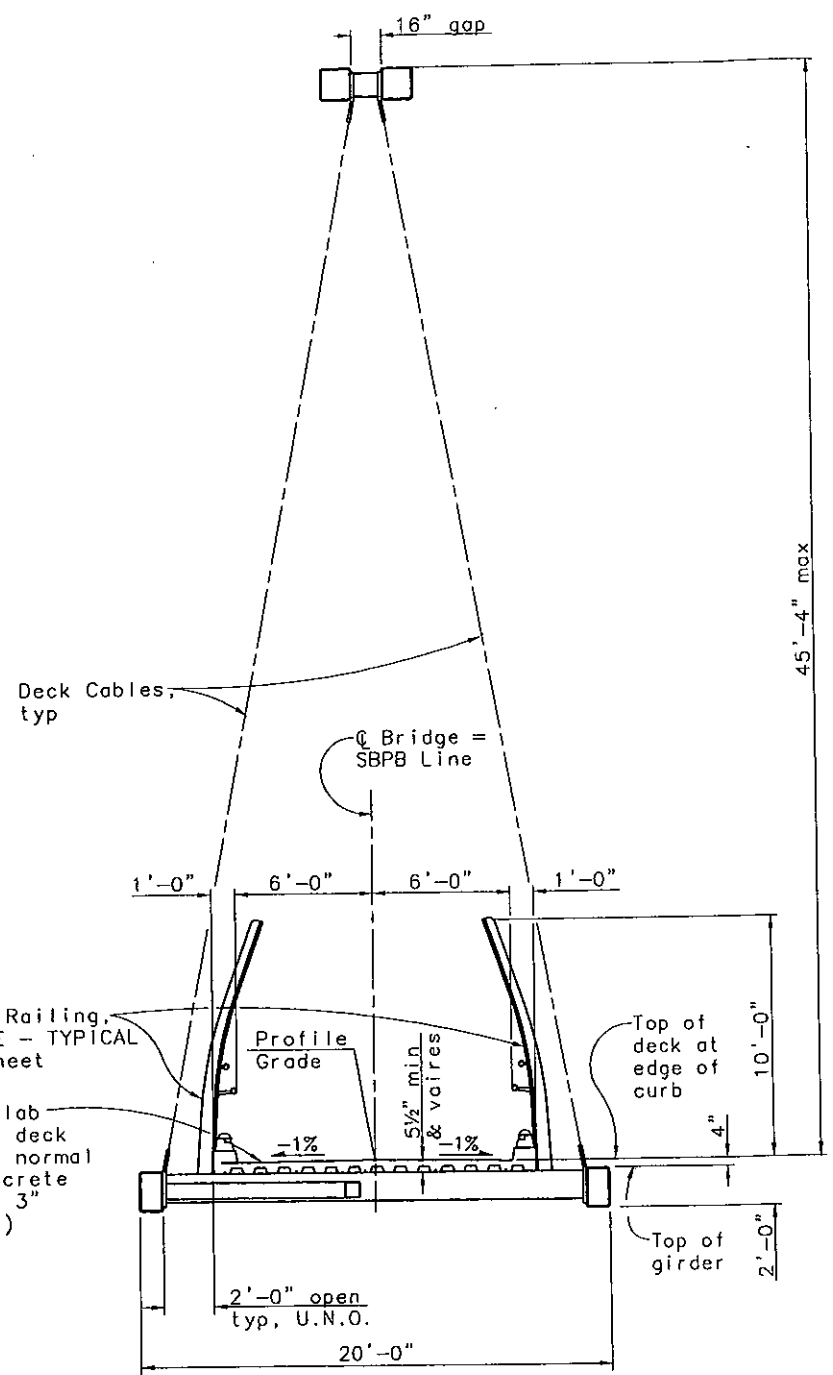
**PROFILE GRADE - "SBPB" LINE**  
NO SCALE



**ELEVATION**  
1" = 20'



**PLAN**  
1" = 20'



**TYPICAL SECTION**  
1/4" = 1'-0"

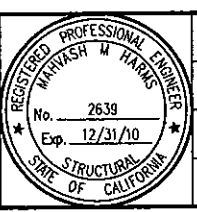
For Main Bridge Railing, see 'MAIN BRIDGE - TYPICAL DECK SECTION' sheet

Concrete slab over metal deck (2 1/2" (min) normal weight concrete over 16 Ga 3" metal deck)

- Notes:**
1. For West Ramp and platform, see sheet S1.1. For East Ramp and platform, see sheet S3.1.
  2. For 'Pile Data Table', see sheet S2.3.
  3. This structure is located approximately at UPRR Mile Post 3.93 (Martinez Subdivision).

PLAN CHECK SET/NOT FOR CONSTRUCTION (4/14/10)

REV.	DESCRIPTION	BY	DATE	APP'D.
C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY: C. PITT  
DRAWN BY: S. HICKEY  
CHECKED BY: E. OKADA  
SCALE: AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

865 The Alameda  
San Jose, California 95126  
408-296-5515



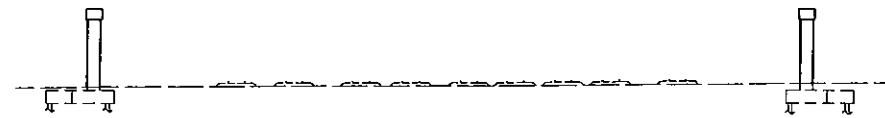
**City of Emeryville**  
1333 Park Avenue  
Emeryville, CA 94608  
(510) 596-4330

**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA

**MAIN BRIDGE - GENERAL PLAN**

CADD FILENAME: 2007073521  
SHEET NO. **S2.1**  
PAGE NO.

2007073



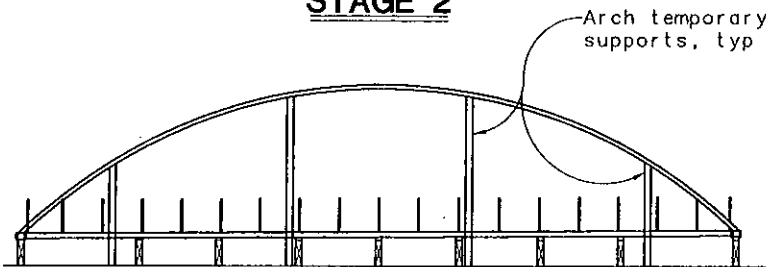
- Excavate soil and install piles.
- Construct footing, columns, and bent cap.

**STAGE 1**



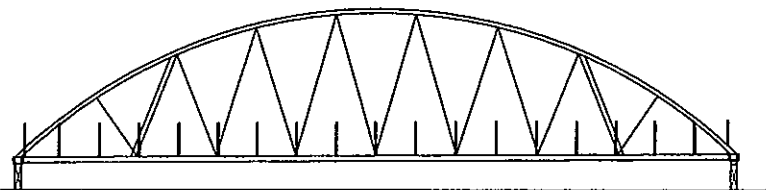
- Assemble floor truss at staging area.
- Floor truss shall be supported on ends as well as at all cable anchorage points.

**STAGE 2**



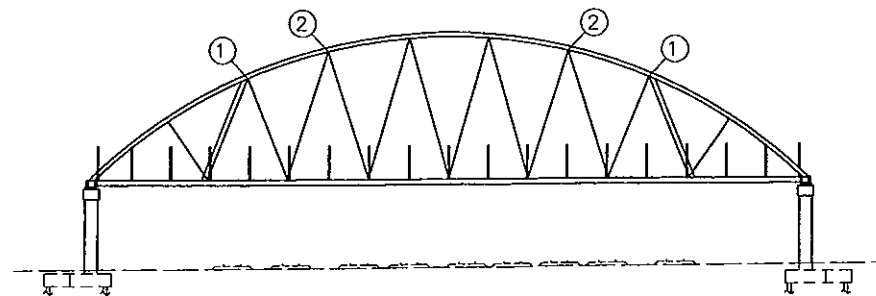
- Assemble & erect Arch at staging area.
- Provide temporary vertical & lateral support to Arch and end members.

**STAGE 3**



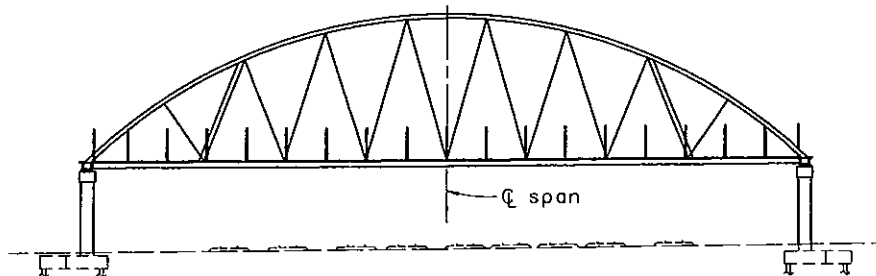
- Erect cables at staging area.
- "Tighten" cables to 1 kip tension.
- Remove temporary floor truss & arch supports.
- Install metal deck.
- Measure and adjust cable forces as directed by Engineer.

**STAGE 4**



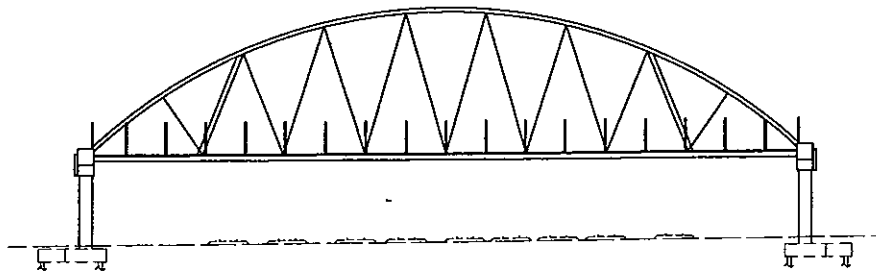
- Install permanent bearings and provide temporary bearings at bent caps. Temporary bearing shall allow sliding of superstructure into final position.
- Lift and move steel superstructure from staging area to bent caps, set on temporary bearings. Lift points shall be symmetrical about the bridge center of mass and shall be located at two points labelled with matching numbers 1 or 2 as shown above. Approximate lifting weight = 250 kips.
- Adjust bridge orientation and lower from temporary bearings onto permanent bearings.
- Provide temporary bracing and tie-downs at ends per Note 7.

**STAGE 5**



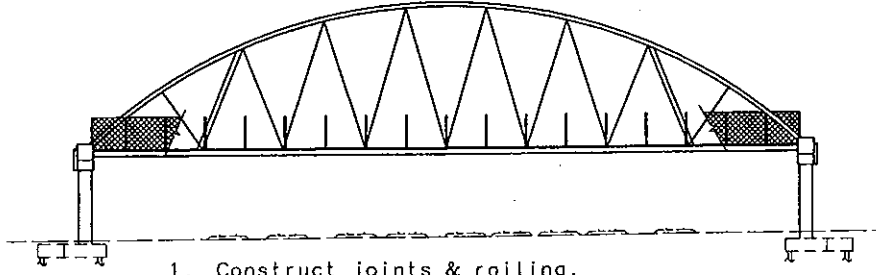
- Place concrete over metal deck.
- Placement shall be symmetric to center span.

**STAGE 6**



- Measured and adjust cable forces as directed by Engineer.
- Construct bent keys.

**STAGE 7**

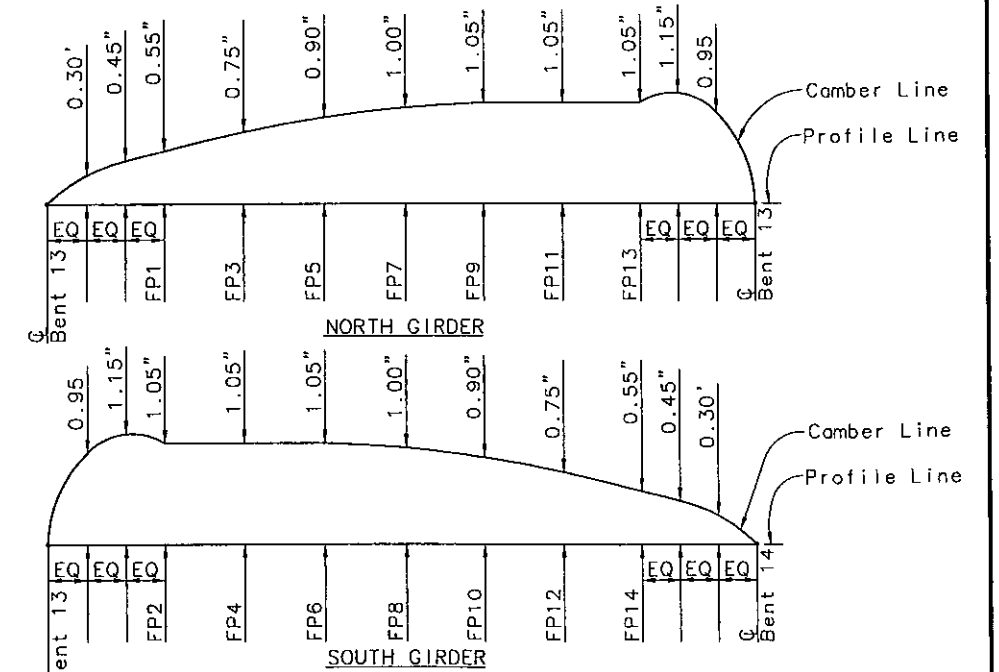


- Construct joints & rolling.
- Verify that final cable forces are within 10% or 1 kip of value shown in 'DECK CABLE DATA TABLE' on 'MAIN BRIDGE DECK CABLE LAYOUT' sheet, adjusting as required.

**STAGE 8**

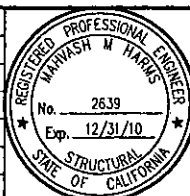
**General Notes:**

- The construction sequence shown is not intended to be the complete step-by-step procedure and is included for information only. The Contractor shall prepare a construction sequence plan including the complete construction sequence, equipment, means, and methods required for construction of the bridge. This plan shall be prepared by a Professional Engineer registered in the State of California, and the plan shall be submitted for acceptance by the Engineer and the Union Pacific Railroad Company.
- If the Engineer determines that the contractor's proposed construction sequence varies substantially from that shown, additional analysis may be required by the Engineer (at the Contractor's expense) to ensure that the stresses and deformations caused by the proposed construction sequence plan will not jeopardize the future load carrying capacity of the structure. If the results of the analysis indicate that the stresses or deformations would be unacceptable, the contractor shall modify the construction sequence plan until acceptable results are obtained.
- The Contractor shall be responsible for the construction sequence in its entirety. The Contractor's bid shall be based solely upon the construction sequence proposed by the Contractor.
- The final structure must conform to the lines, grades, and design dimensions shown on the Plans.
- The Contractor shall be responsible for ensuring that proper support and stability are maintained for the structure at all stages of construction, and shall submit temporary support, bracing, falsework design, and other pertinent working drawings with supporting calculations for acceptance by the Engineer and Union Pacific Railroad Company.
- All plans, working drawings, and design calculations submitted by the Contractor shall bear the seal of a Professional Engineer registered in the State of California.
- The temporary bracing provided to the structure once placed on the support bents shall be capable of resisting forces equal to 20 kips longitudinally and 70 kips transversely at each bent. Temporary tie-downs located at the permanent end member tie-down locations shall be capable of resisting uplift forces equal to 25 kips at each bent.
- It is anticipated that during the lifting of the structure the end member at "Point B" will deflect downward approximately 6" relative to "Point A". See 'END MEMBER ELEVATION' on 'MAIN BRIDGE - END MEMBER DETAILS 1' sheet.



PLAN CHECK SET/NOT FOR CONSTRUCTION (4/14/10)

REV.	DESCRIPTION	BY	DATE	APP'D.
C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
C. PITT

DRAWN BY:  
A. ROSALES

CHECKED BY:  
E. OKADA

SCALE:  
NO SCALE

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

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San Jose, California 95128  
408-296-5515



**City of Emeryville**  
1333 Park Avenue  
Emeryville, CA 94608  
(510) 596-4330

**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA

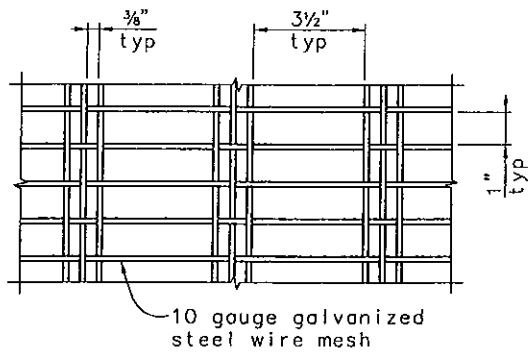
**MAIN BRIDGE - PROPOSED STAGED CONSTRUCTION SEQUENCE**

CAAD FILENAME  
2007073522

SHEET NO.  
**S2.2**

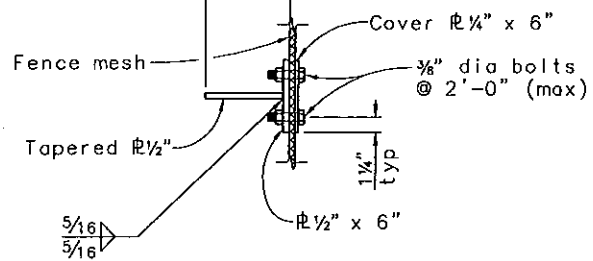
PAGE NO.

2007073

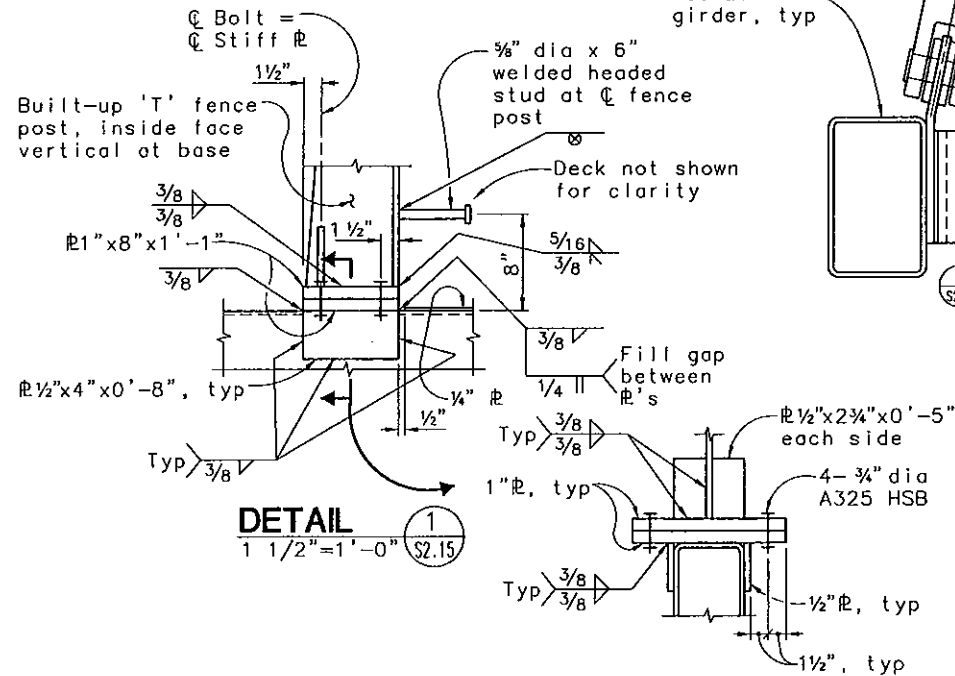


**MESH DETAIL**  
NTS

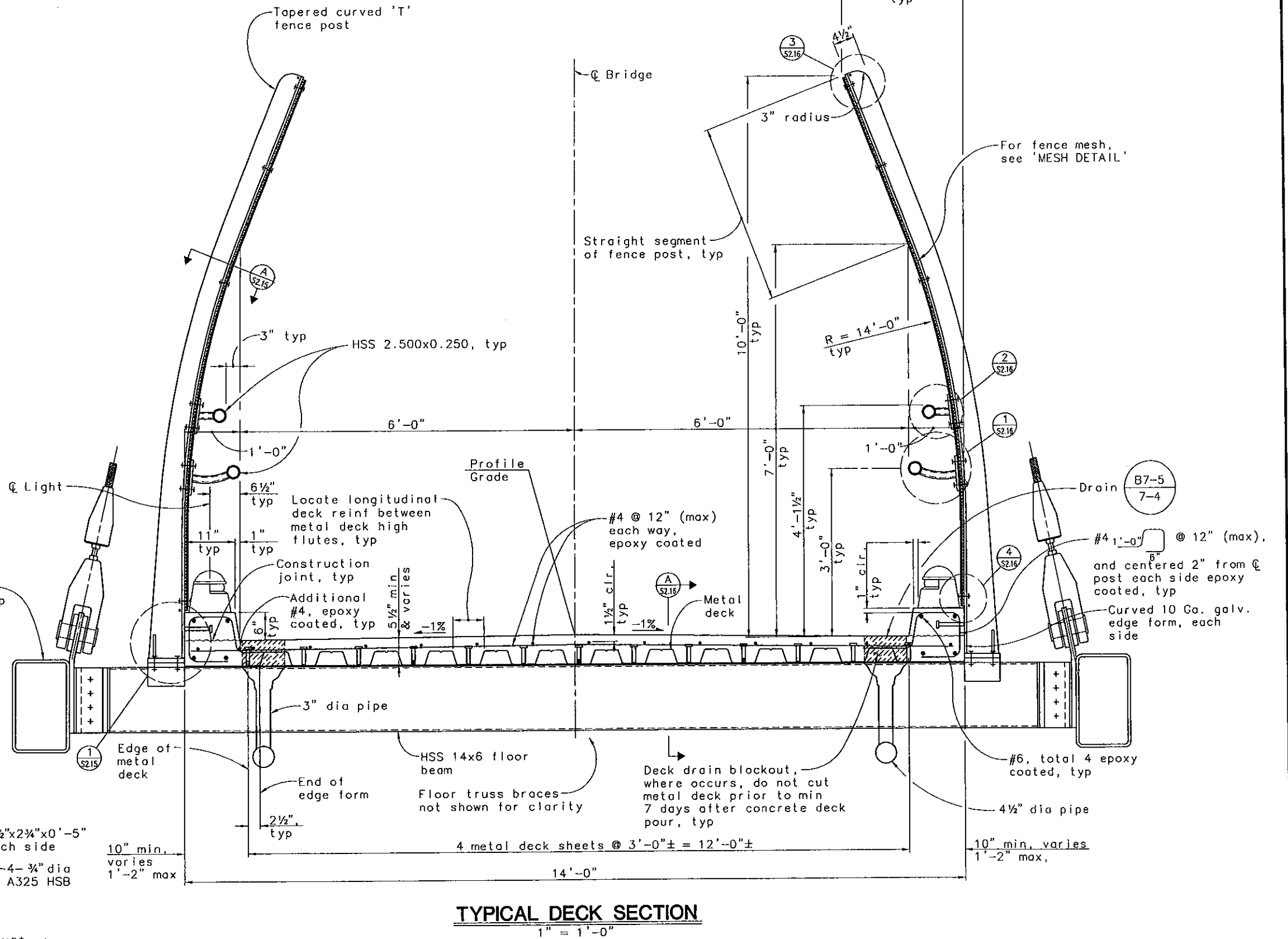
7 1/2" (max), 4 1/2" (min) taper uniformly from bottom to top



**SECTION A**  
1 1/2" = 1'-0" S2.15

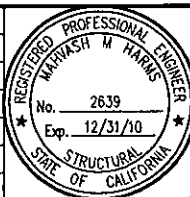


**DETAIL 1**  
1 1/2" = 1'-0" S2.15



PLAN CHECK SET/NOT FOR CONSTRUCTION (4/14/10)

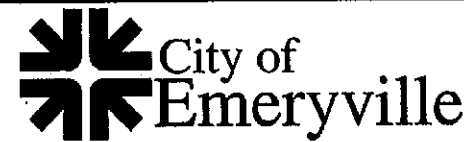
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C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
C. PITT  
DRAWN BY:  
S. HICKEY  
CHECKED BY:  
E. OKADA  
SCALE:  
AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

885 The Alameda  
San Jose, California 95128  
408-296-5515



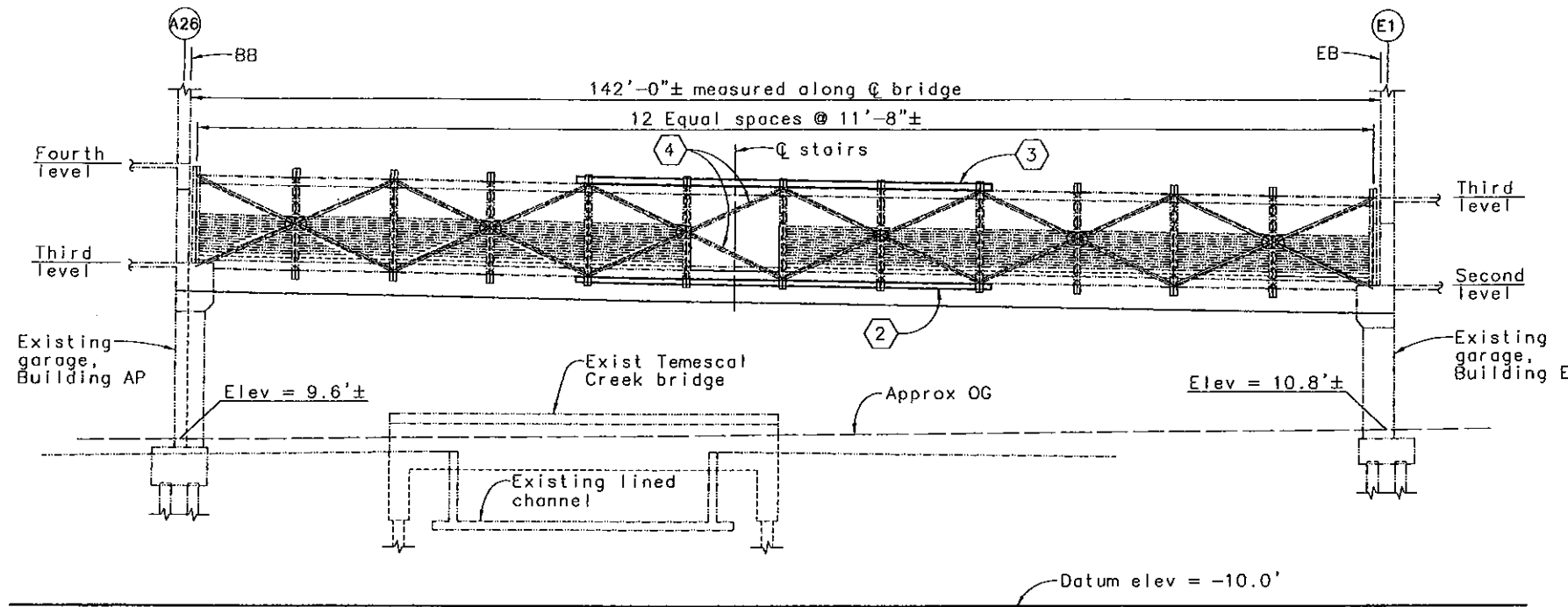
1333 Park Avenue  
Emeryville, CA 94608  
(510) 596-4330

**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA

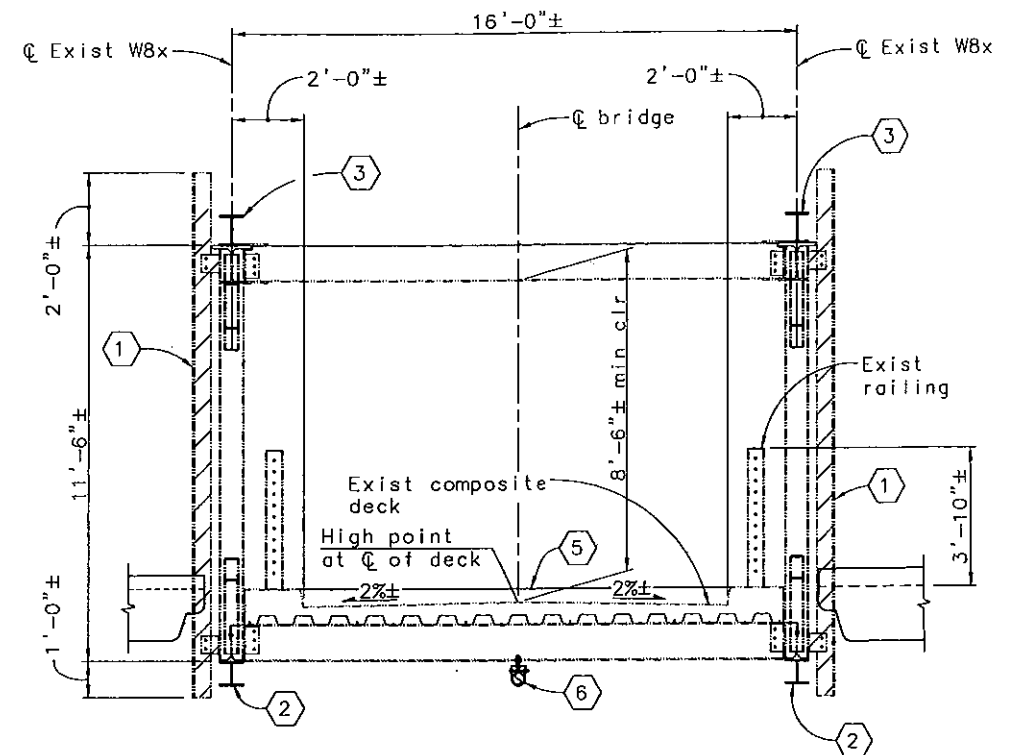
**MAIN BRIDGE - TYPICAL DECK SECTION**

CADD FILENAME 2007073S215
SHEET NO. <b>S2.15</b>
PAGE NO.

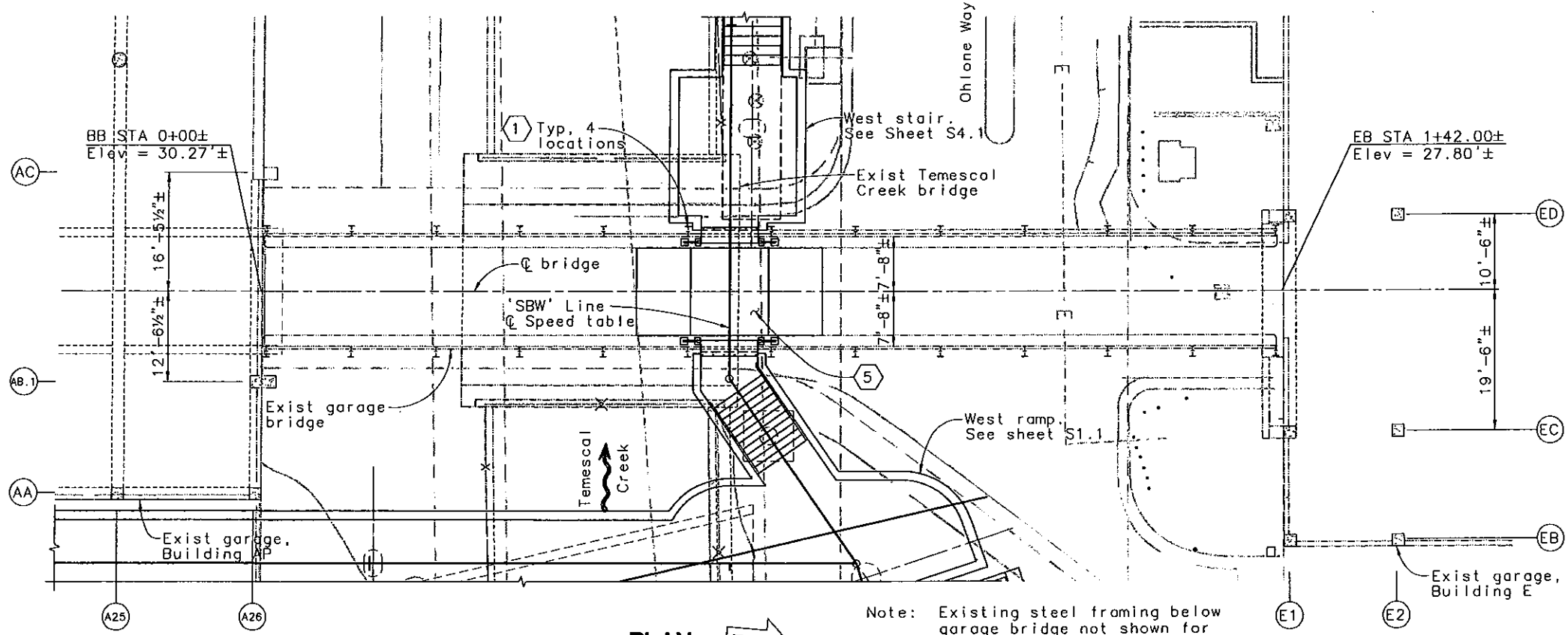
2007073 (2007073S215)



**ELEVATION**  
1" = 10'



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



**PLAN**  
1" = 10'

Note: Existing steel framing below garage bridge not shown for clarity.

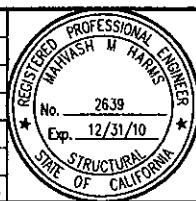
**Modification Legend and Sequence:**

- ① Existing WT6x to be removed
- ② New W8x31 section bolted to bottom of chord
- ③ New W10x39 section bolted to top chord
- ④ Existing HSS 5x5 to be removed as indicated
- ⑤ Speed table/raised pedestrian crossing
- ⑥ New drainage pipe
- ⑦ New W12x22 (Not shown)

Note: Legend above also serves as a Construction Sequence.

PLAN CHECK SET/NOT FOR CONSTRUCTION (4/1/10)

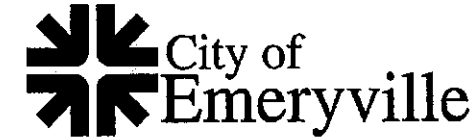
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B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
D. VAN ZANEN  
DRAWN BY:  
J. DELGADO  
CHECKED BY:  
S. HAYAT  
SCALE:  
AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

865 The Alameda  
San Jose, California 95126  
408-298-5515



1333 Park Avenue  
Emeryville, CA 94608

(510) 596-4330

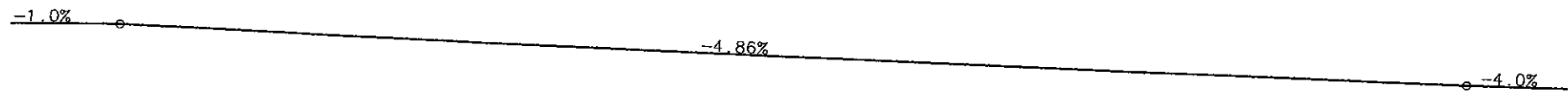
**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA  
**GARAGE BRIDGE GENERAL PLAN**

CADD FILENAME 2007073S51
SHEET NO. <b>S5.1</b>
PAGE NO.

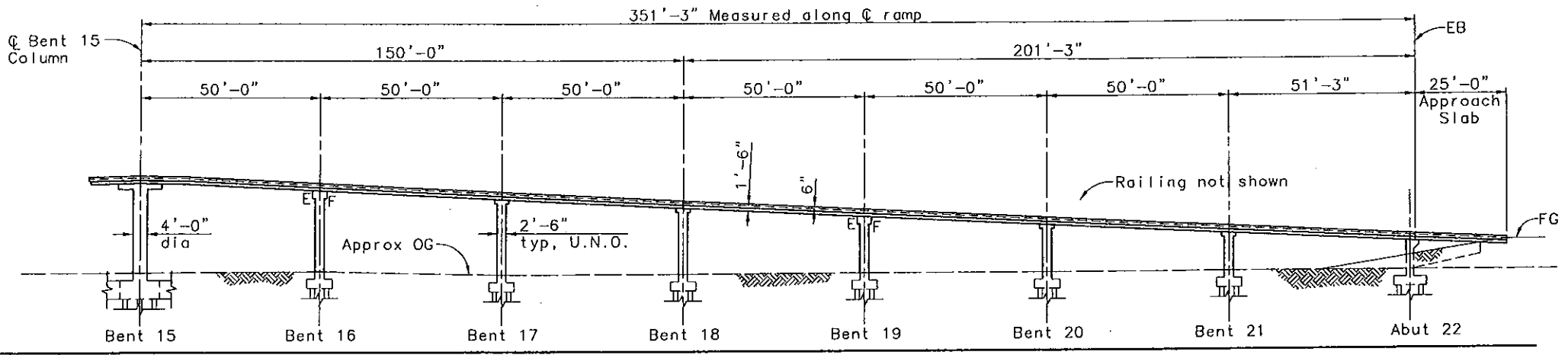
2007073 (2007073S51)



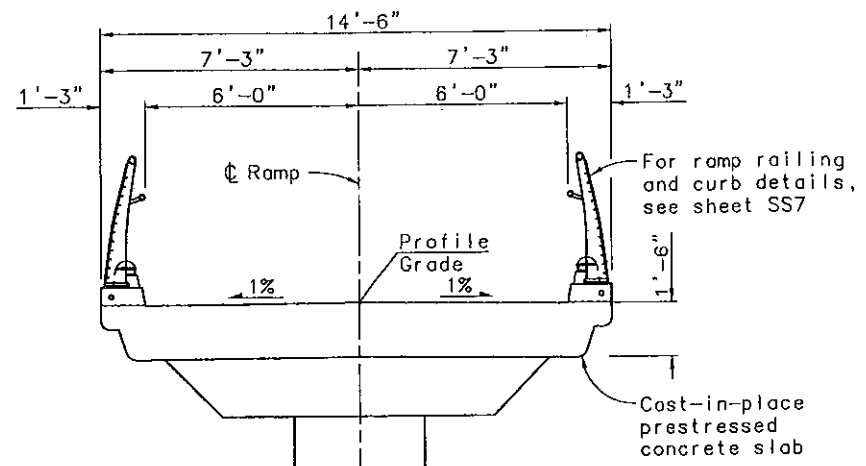
- Notes:
1. For grading, see Civil Sheets.
  2. For retaining walls not shown, see Site Construction Plans.
  3. For 'Pile Data Table', see sheet S3.3.
  4. For deck contours and camber diagram, see sheet S3.2.



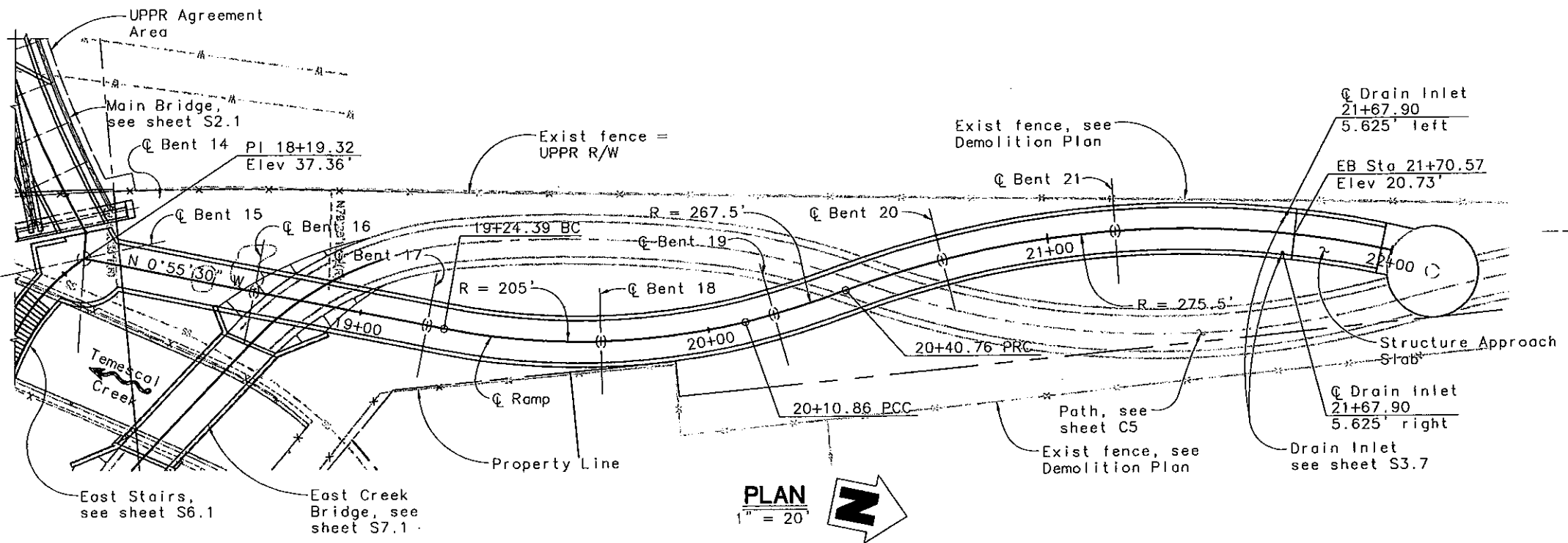
**PROFILE GRADE**  
NO SCALE



**DEVELOPED ELEVATION**  
1" = 20'



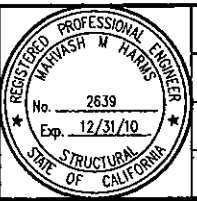
**TYPICAL SECTION**  
3/8" = 1'-0"



**PLAN**  
1" = 20'

PLAN CHECK SET/NOT FOR CONSTRUCTION (4/13/10)

REV.	DESCRIPTION	BY	DATE	APP'D.
C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
D. VAN ZANEN  
DRAWN BY:  
W. WANG  
CHECKED BY:  
S. HAYAT  
SCALE:  
AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
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San Jose, California 95128  
408-298-5515

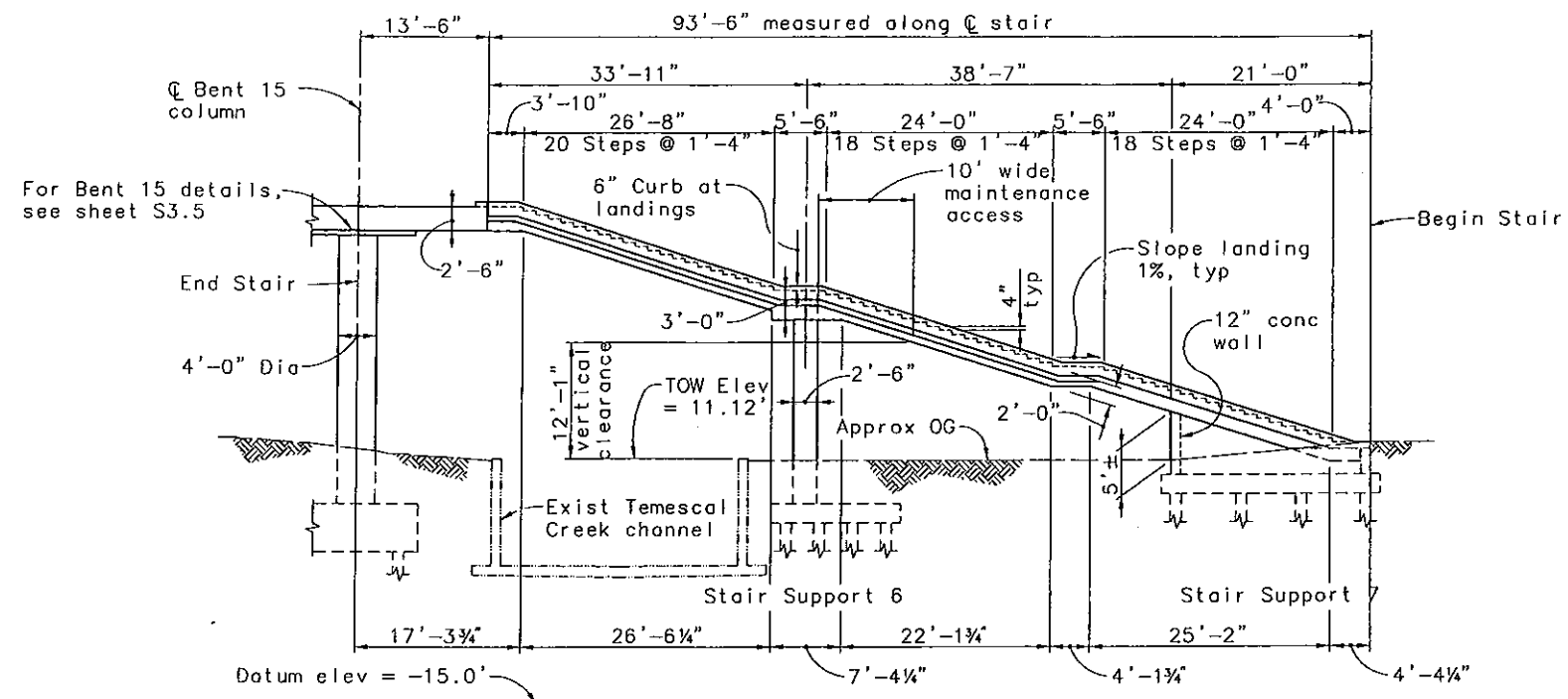


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**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA  
**EAST RAMP - GENERAL PLAN**

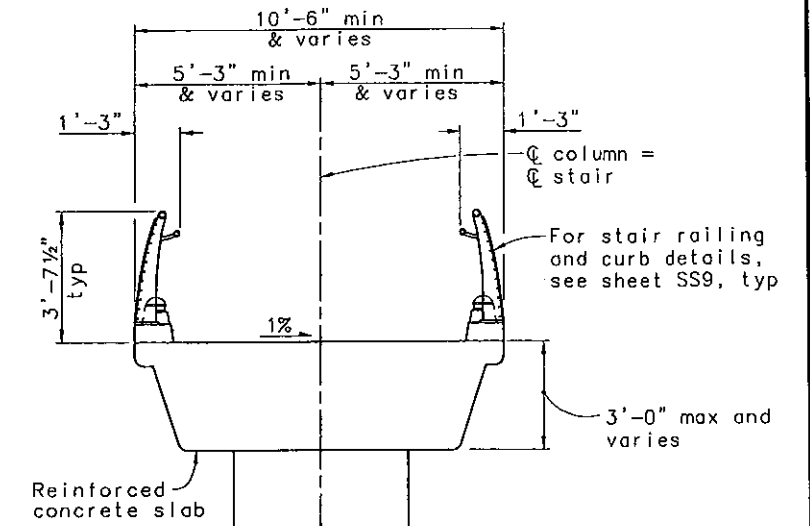
CADD FILENAME 2007073S31
SHEET NO. <b>S3.1</b>
PAGE NO.

2007073

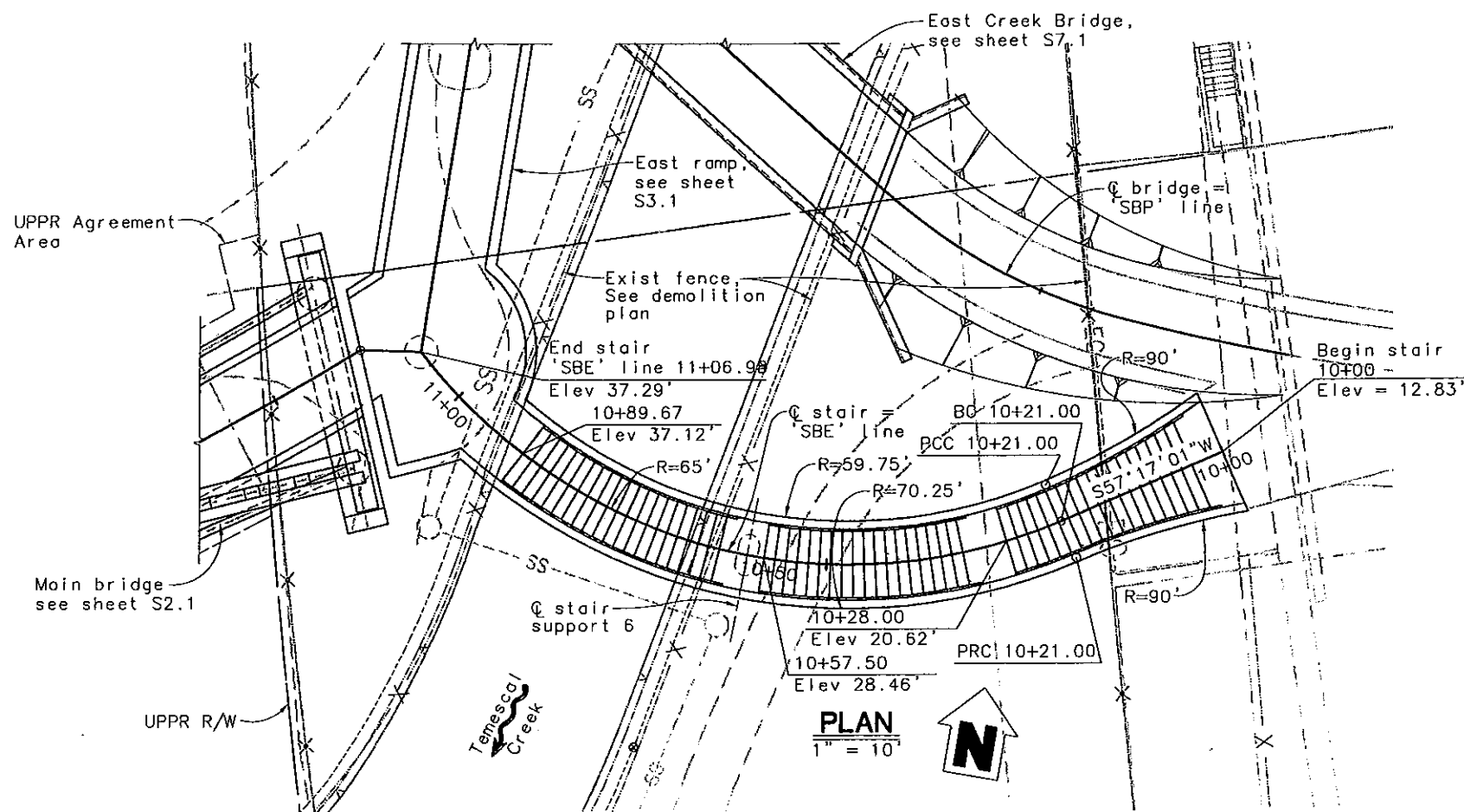


**DEVELOPED ELEVATION**  
1" = 10'

- Notes:  
 1. For 'Pile Data Table', see sheet S6.2.  
 2. For camber diagram, see sheet S6.2.

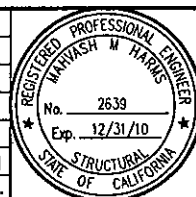


**TYPICAL SECTION**  
3/8" = 1'-0"



PLAN CHECK SET/NOT FOR CONSTRUCTION (4/15/10)

REV.	DESCRIPTION	BY	DATE	APP'D.
C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
D. VAN ZANEN  
 DRAWN BY:  
A. ROSALES  
 CHECKED BY:  
S. HAYAT  
 SCALE:  
AS SHOWN

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San Jose, California 95126  
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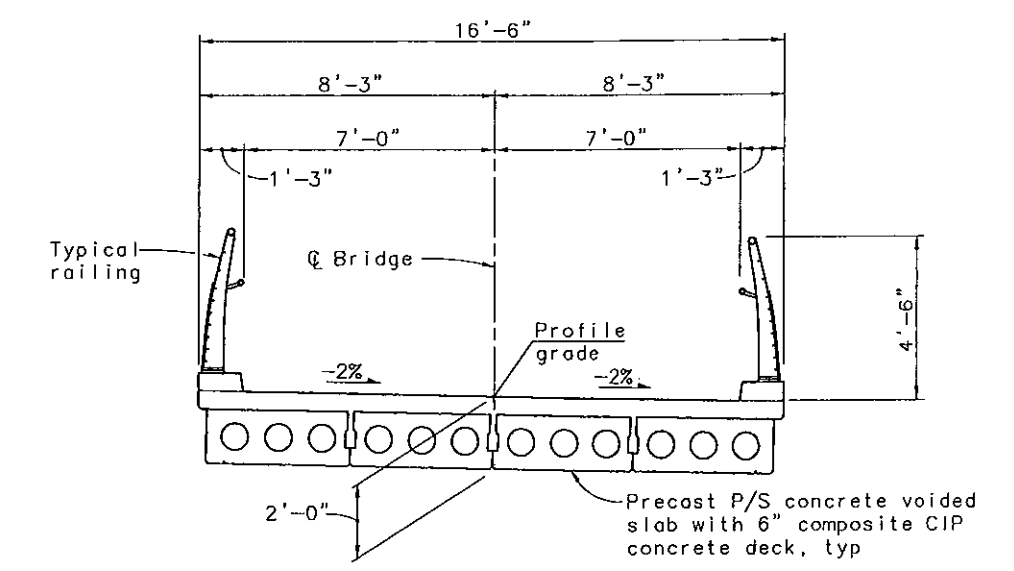
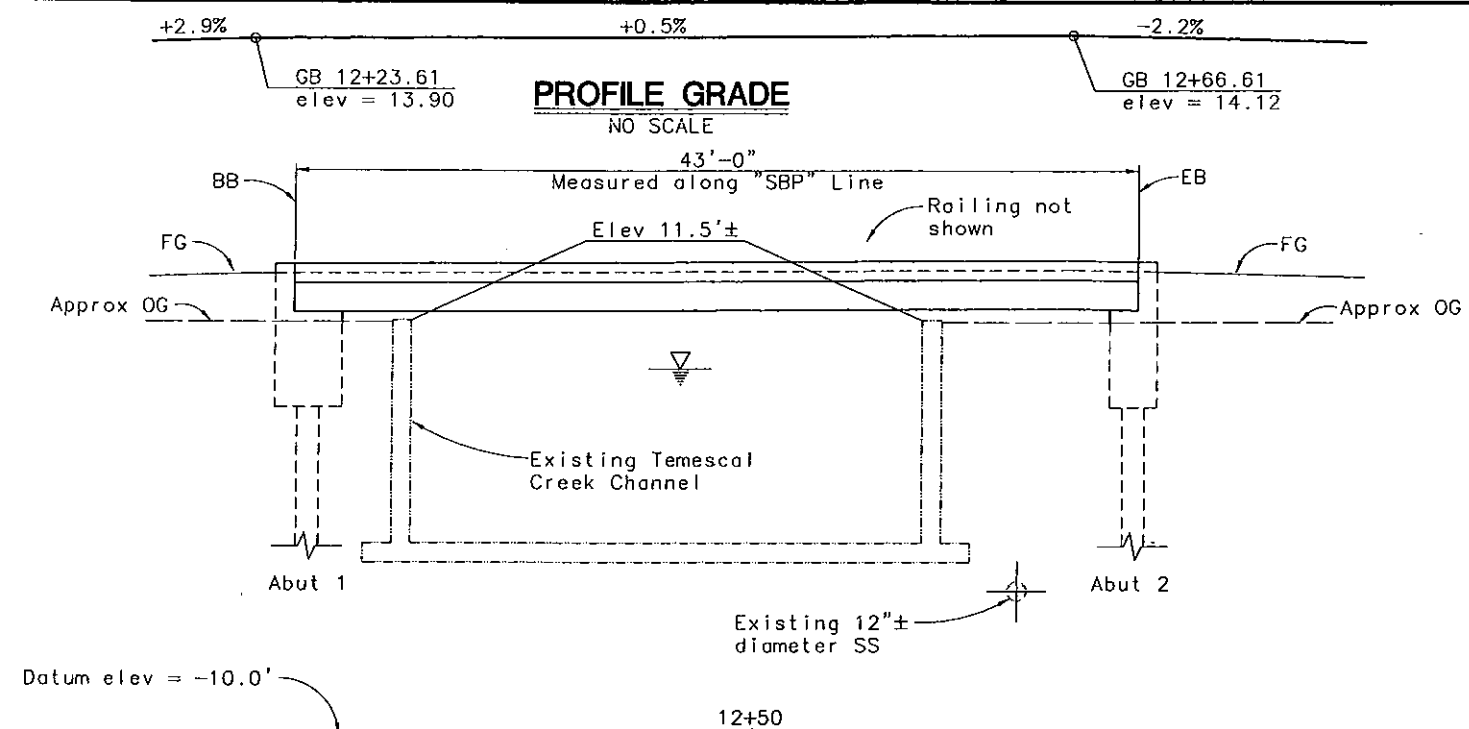


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**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
 EMERYVILLE CALIFORNIA  
**EAST STAIR - GENERAL PLAN**

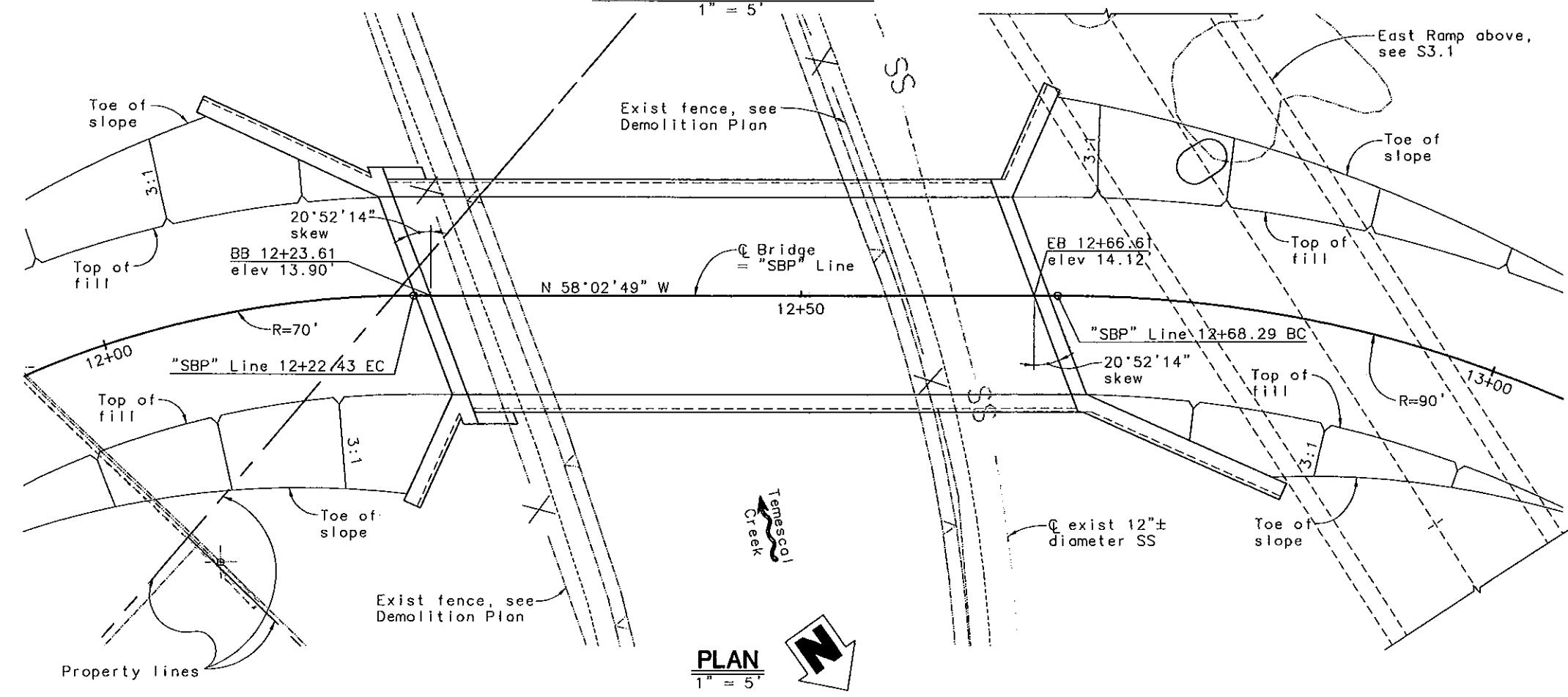
CADD FILENAME: 2007073S61  
 SHEET NO. **S6.1**  
 PAGE NO.

2007073



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

**DEVELOPED ELEVATION**  
1" = 5'



**PLAN**  
1" = 5'

- Notes:**
1. For grading, see 'GRADING AND DRAINAGE' sheets.
  2. For Pile Data Table. See sheet S7.3.

PLAN CHECK SET/NOT FOR CONSTRUCTION (4/1/10)

REV.	DESCRIPTION	BY	DATE	APP'D.
C	100% PROGRESS SUBMITTAL	JMB	4/5/10	MMH
B	65% DESIGN SUBMITTAL	JMB	10/13/09	MMH
A	35% PRELIMINARY DESIGN SUBMITTAL	JMB	3/12/09	MMH



DESIGNED BY:  
D. VAN ZANEN  
DRAWN BY:  
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CHECKED BY:  
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SCALE:  
AS SHOWN

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**SOUTH BAYFRONT PEDESTRIAN BICYCLE BRIDGE**  
EMERYVILLE CALIFORNIA  
**EAST CREEK BRIDGE - GENERAL PLAN**

CADD FILENAME 2007073S71
SHEET NO. <b>S7.1</b>
PAGE NO.

2007073 (2007073S71)