

## TG12.1 – Civil/Sitework at Grade/Ground Level Landscaping

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG12.1-001	5/7/2015	C1-2000s, C1-4000s, C1-5000s		Plan Sheets C1-200x, C1-400x, C1-500x (x = various numbers) graphically show curbs without gutter sections. This is consistent with Note 4 on the various C1-500x sheets, which refers to 6" Curb per SFDPW Std #87169. But the Paving Plans (Sheets C1-600x) graphically indicate that the curb adjacent to the typical street buildup sections (C1-6008) is a curb and gutter section, as depicted on SFDPW Std #87170, rather than curb-only. Please clarify.	Curb and gutter to be provided as shown graphically in the Paving Plans (Sheets C1-600x). Refer to SFDPW Std #87170 for curb and gutter sections.
TG12.1-006	5/7/2015	C1-6008 & C1-5001-C1-5005		Plan Sheet C1-6008 shows that ¼" steel plate is to be used in lieu of 6" of sub-base when 6" isn't available. How do we determine where the steel plate will be required? Plan Sheets C1-5001 thru C1-5005 indicate that much of the street area over the box is very close to this 6" minimum, and the cost differential between steel and sub-base is significant.	For clarification of steel protection plate locations, please refer to attached Civil Sketches QBD006-01 through QBD006-05. Steel plate is not part of TG12.1 scope.
TG12.1-007	5/7/2015	C1-6008 & C1-5001-C1-5005		In areas referenced in drawings that require steel plate, what (if anything) is placed between the steel plate and concrete base?	No additional construction material is required to be placed between the steel plate and the concrete base.
TG12.1-009	5/7/2015			Is special fill (i.e. lightweight) required for the permanent street fills between the TOTB and pavement sections at First, Fremont, and Beale streets?	There is no special fill/lightweight fill required along First, Fremont, and Beale streets between TOTB and the pavement section; standard fill is acceptable.
TG12.1-012	5/7/2015	C1-6008, C1-5002		The permanent roadway sections at First, Fremont, and Beale streets (per C1-6008) include 2" of AC over variable thickness concrete base and 6" of sub-base, over an undefined material under the sub-base. Also, Page 10 of 13 (in TG12.1... document) includes a note to "...include section of structural concrete per detail C1-5002..." There is no structural concrete noted on C1-5002, or the noted/referenced C1-6008 sections. Should this be "concrete base"? This section does not match the sections placed in the Bridge Removal Plans.	The "TG12.1 First and Fremont St. Removal" document is for reference only. The note to "include section of structural concrete per detail C1-5002" on Pg. 10 is meant to refer to the "concrete base" callout as shown on C1-6008.

TG12.1-014	5/7/2015			What base and/or sub-base material is to be placed under the Bus Pad Concrete in the Bus Plaza? Almost all other paved areas that are constructed on the Train Box are built on Geosynthetic material. Is the same required here?	In the Bus Plaza, follow C1-6008, Detail 6, Note 1. "Extend Concrete Pavement to Top of Building Insulation"; therefore, no sub-base is used as concrete extends to top of train box.
TG12.1-021	5/13/2015		Sections 2.3 and 2.4 03 33 12	Technical Specification Section 03 33 12, Landscape Cast-in-Place Concrete, Paragraphs 2.3.D and 2.4.A.2, cite specifications for Micro-reinforcement in the concrete (as well as reinforcing bars and welded wire fabric). The plans show reinforcing bars but not mesh, nor is micro-reinforcement noted. Is micro-reinforcement required in the paving concrete?	Yes, micro-reinforcement is required in the concrete paving.
TG12.1-022	5/13/2015	L1-7310 Detail 10, L1-2302 - L1-2307		Plan Sheet L1-7310 shows a 9" transition slab beneath the Pedestrian or Vehicle Paving at the "On-Building" and "On-Grade" junction. These section cuts are only shown on Sheets L1-2302 and L1-2303 (west end and portion of SW side). There are similar situations elsewhere (i.e. north side and east end), are these transition slabs required here also? If so, please provide limits/dimensions.	No other transition slabs are required except the locations indicated on the drawings.
TG12.1-023	5/13/2015	L1-2302 thru L1-2307		The Legend on Plan Sheet L-0002 includes several symbols for "Expansion Joints" (including a "non-doweled expansion joint" and "Doweled Cold Joint." There's only about 20 doweled cold joints shown on Sheets L1-2302 thru L1-2307, and no non-doweled expansion joints. It appears that all expansion joints are doweled, please confirm.	Non-doweled expansion joints are typically at building edge. Please refer to material plans.
TG12.1-024	5/13/2015		Section 3.12 03 33 12	Technical Specification Section 03 33 12, Landscape Cast-in-Place Concrete, Paragraph 3.12, notes that Staining is required. (1) The concrete has integral color: please confirm that integral color AND staining is required; (2) If required, Paragraphs 2.3 (Materials) nor 3.12 (Staining) note what material is required, please provide; (3) 3.12 states that 3 coats are to be applied at the coverage rate recommended by the manufacturer. Is each coat to be at that rate, or just the total of the 3 coats?	Staining is not required. Please refer to Specification Section 03 33 12, Schedules 3.16 for concrete colors and finishes.

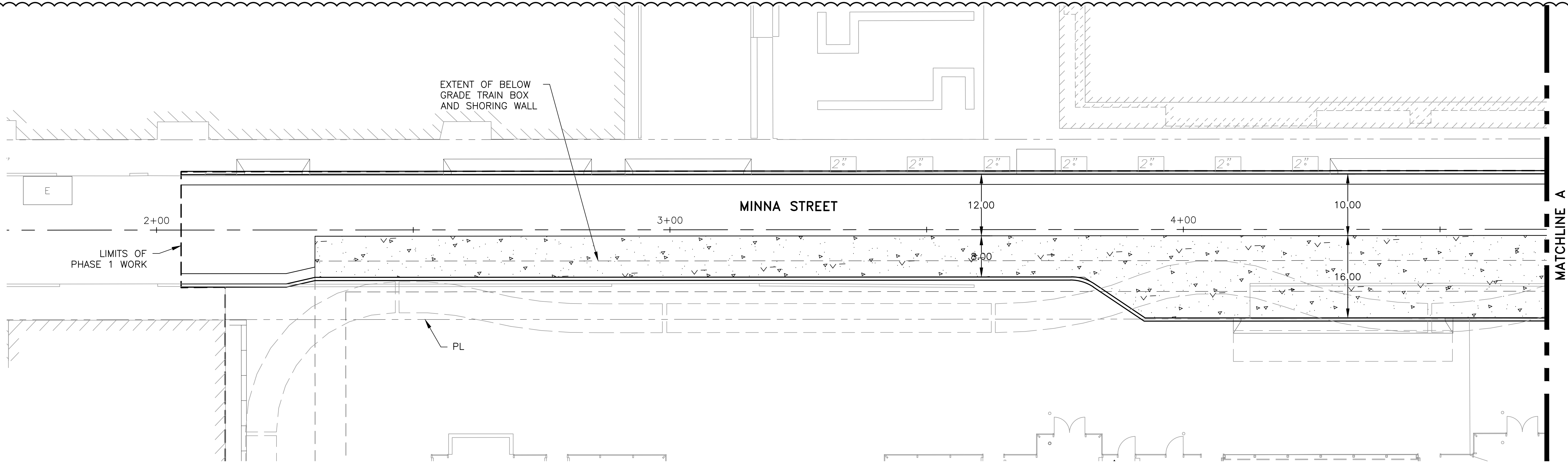
TG12.1-025	5/18/2015			The columns/shafts for the temporary bridges to be removed are nominally 48" diameter, but due to required construction methods (drilled shaft) they are typically larger. What is the maximum diameter of the columns to be removed? Will the TG12.1 Trade Subcontractor be required to perform any chipping to allow removal of these columns, as detailed in the Temporary Bridges Removal Narrative? If so, how much?	CIDH drilled piers vary in diameter as they were installed without sleeves; chipping will be necessary if the TG12.1 Trade Subcontractor chooses to cut and remove through the blackout. A jobsite visit is strongly recommended to assess the extent of the chipping as each of the CIDH piers vary in size. See attached submittals for reference.
TG12.1-026	5/18/2015	L1-2330 - L1-2332, L1-2302 - L1-2304		Plan Sheets L1-2330 through L1-2332 show ventilation manholes and ventilation grates within lift out lids, with notes to "SCD" (See Civil Drawings). No details are provided in the Civil or Landscape Drawings. Similarly, there are "Fuel Intakes" (per Legend) shown on Plan Sheets L1-2302 & L1-2304 with the note "SED" (see Electrical Drawings). No details were found. Please provide details for all three of these features as they relate to the work of TG12.1.	The reference notes in drawings have been amended to state "SAD." Refer to architectural details 9/A1-8717 and 1 & 4/A1-9239 for these elements. See attached sketches SKLA-432.1 through SKLA-432.4 for clarification.
TG12.1-027	5/18/2015		CDSM Cutoff Procedure	The Supplemental Documents list a "CDSM Cutoff Narrative." This file isn't in the referenced BOX link, but upon our prior request we were sent a 7-page document, titled "CDSM Cutoff Procedure." This document includes a narrative and sketches, and noted that others (not TG12.1) will have prepared the beam for future cutoff by providing a beveled 0" to 6" (at the building-side flange) cutout extending 3" minimum into the flange to facilitate its future cutoff. A recent site visit indicates at least some of these cuts are not prepared as noted, with only a thin (<1") cut made at the flange, not the 6" cutout shown. It is impossible to see most of the cuts as they have been patched over. Please confirm what condition the existing shoring beams will be in prior to TG12.1 starting their removals.	The TG07.2 Trade Subcontractor is responsible for the following (from TG07.2 Exhibit A): Cut entirely through the interior flange and 2" into the web of steel soldier pile beams with a cutting torch around the entire CDSM wall perimeter. Grind smooth the edge of the cut surface as necessary to receive WPM-1 waterproofing system, Grace Preprufe. Assume that the cutting of the pile beams will occur between 2' and 8' below the finish grade surface; the precise elevations for the cutting of the pile beams will be determined by future design requirements.  The field conditions may differ from what was shown in the TG07.2 Exhibit A/ CDSM Cutoff Procedure.
TG12.1-028	5/18/2015		CDSM Shoring Wall Removal, Exhibit A	There is currently dewatering pipe, temporary electrical facilities, and other obstructions within or immediately adjacent to the shoring wall alignment. Will others remove these temporary obstructions (excluding the temporary K-Rail and perimeter fencing) prior to the start of the TG12.1 CDSM Shoring Wall Removal operations?	All electrical, dewatering, and miscellaneous conduit and/or PVC lines will be removed by other contractors prior to the TG12.1 Trade Subcontractor's scheduled activities. The removal will be coordinated by Webcor/Obayashi Joint Venture field superintendent.

TG12.1-029	5/18/2015			No Information has been provided on the existing Beale Street Temporary Bridge. Please provide information regarding this structure and its required removal phasing, or confirm that the work required is accurately depicted in the documents already available.	The removal of the Beale Street Bridge will follow a similar process as First and Fremont Street. See attached submittal for reference.
TG12.1-030	5/18/2015	C1-5002 thru C1-5004		What fill material(s) are required under and outside of the "typical street buildup" section (C1-6008) over the Train Box at First, Fremont and Beale streets? We can't find where this is shown in the plans or an applicable specification. The Temporary Bridge Removal scenarios provided show recycled AB, CDF, "structural fill per specifications" and/or extruded polystyrene, but it's unclear whether these are just temporary sections and have to be replaced when final construction is complete, and if so, with what? Please clarify.	In the permanent condition under the "typical street buildup," there is no special fill/lightweight fill required along First, Fremont, and Beale streets between TOTB and the pavement section. Backfill (standard fill) shall be used.
TG12.1-032	5/18/2015			Trade Subcontractor requests a two week bid extension to 6/23. Due to the complexity of the project, specifically regarding the temporary bridges removal, and Trade Subcontractor's focus on other recent Transbay Transit Center trade package bids, more time is needed to competently and competitively bid this package. Thank you.	See Addendum 2 for revised Package Timeline.

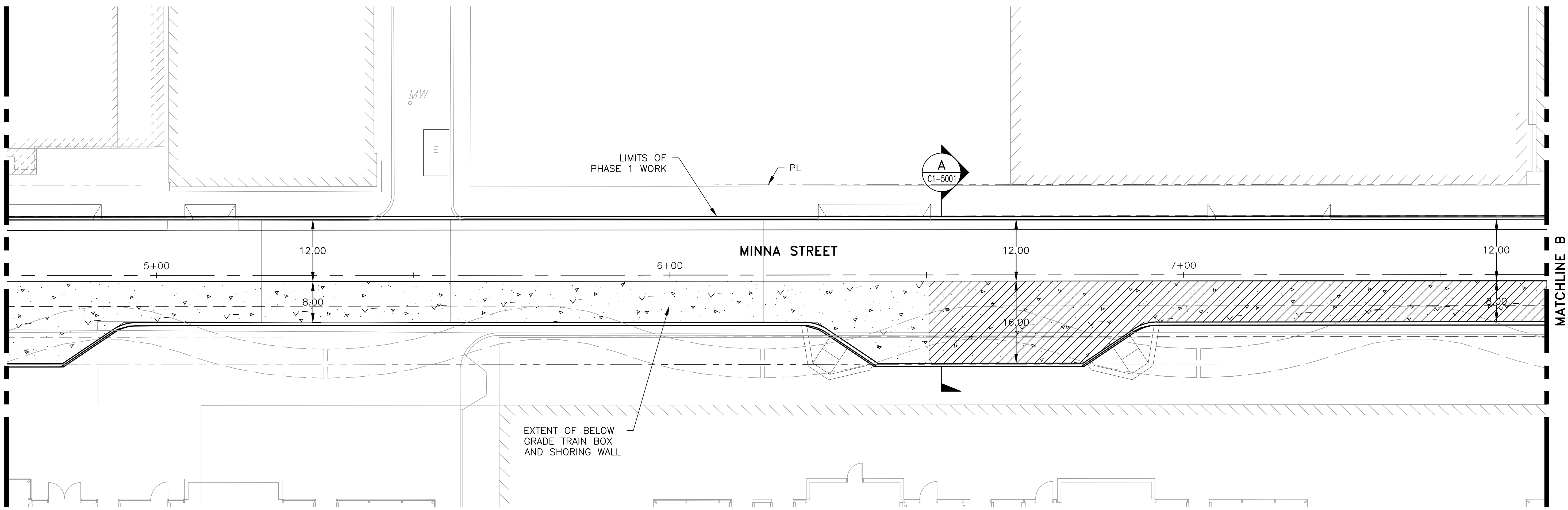


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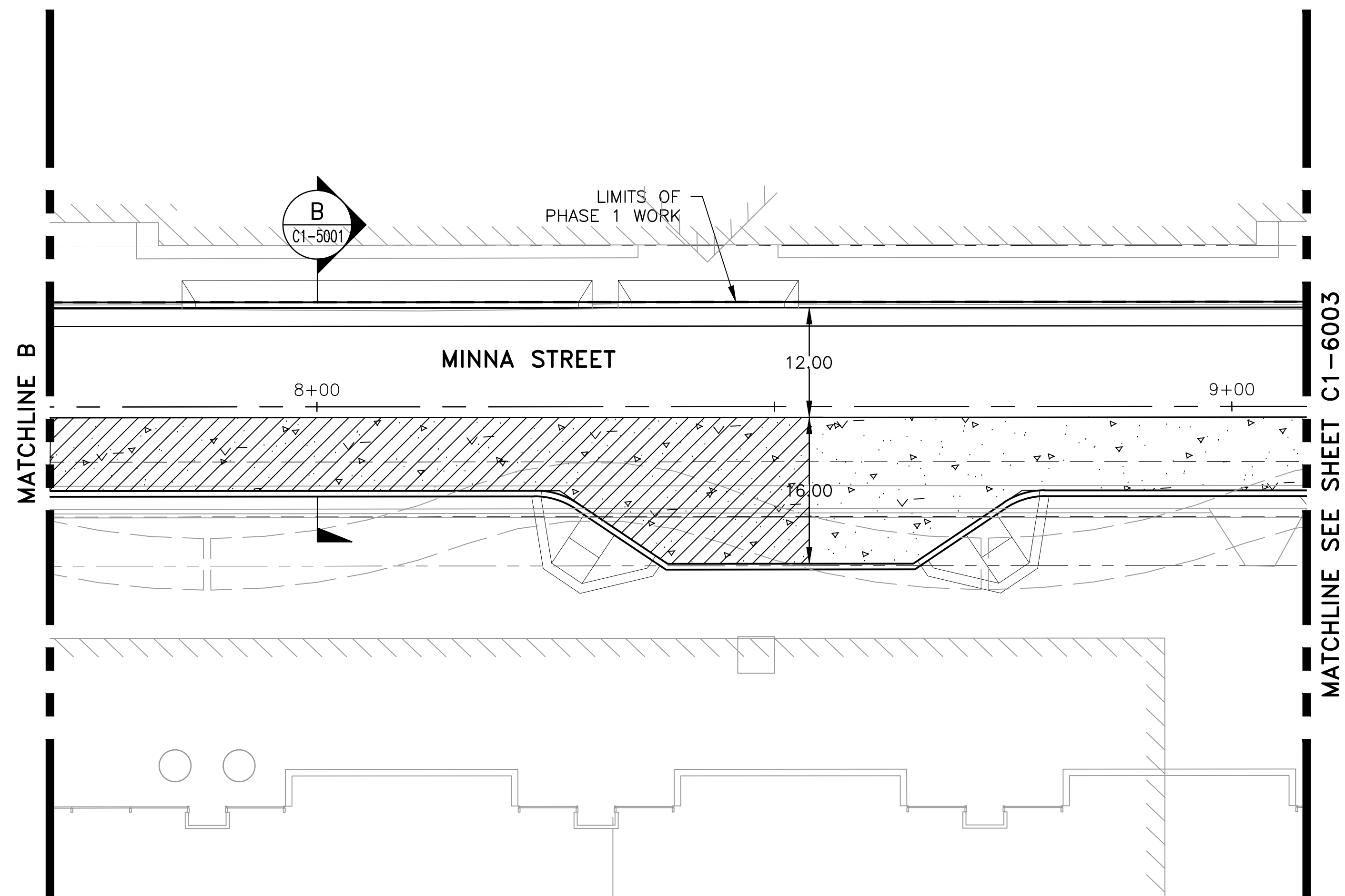
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PLAN 2  
SCALE: 1"=10'



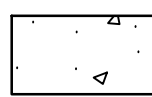
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SCALE: 1"=10'

### NOTES

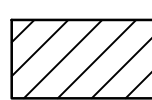
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A  
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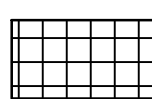
MINNA STREET SECTION (TYP.)



CONCRETE BUS PAD PER SFDPW  
DETAIL NO. 96607



STEEL PLATE USED



JOINT DETAIL IN TRAIN BOX  
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C1-6008.



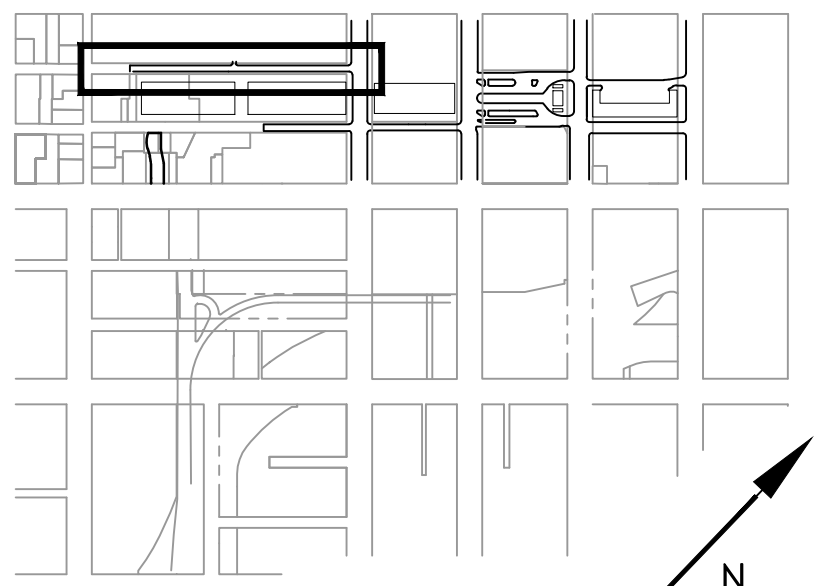
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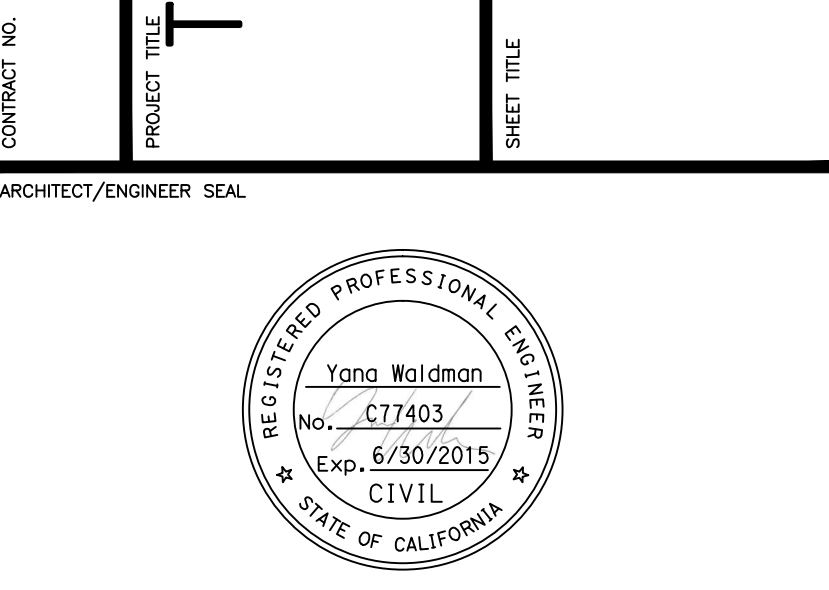
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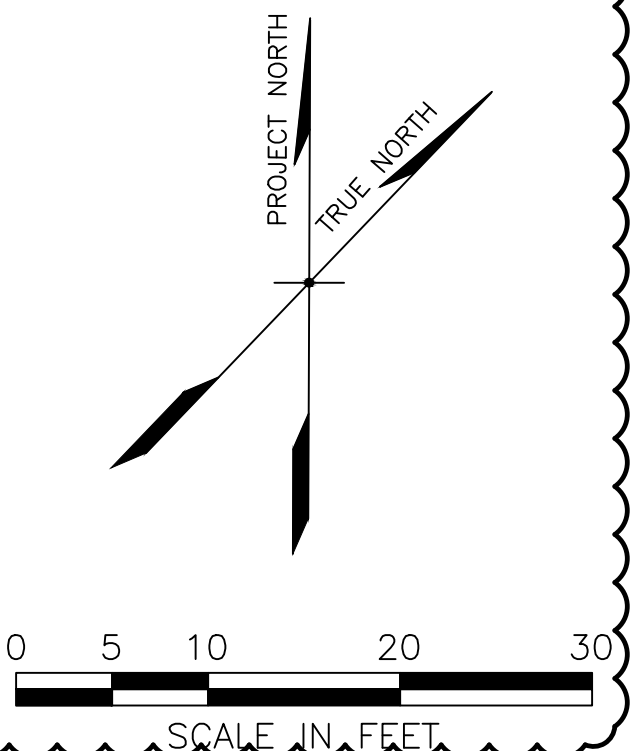
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PAVING PLAN MINNA STREET



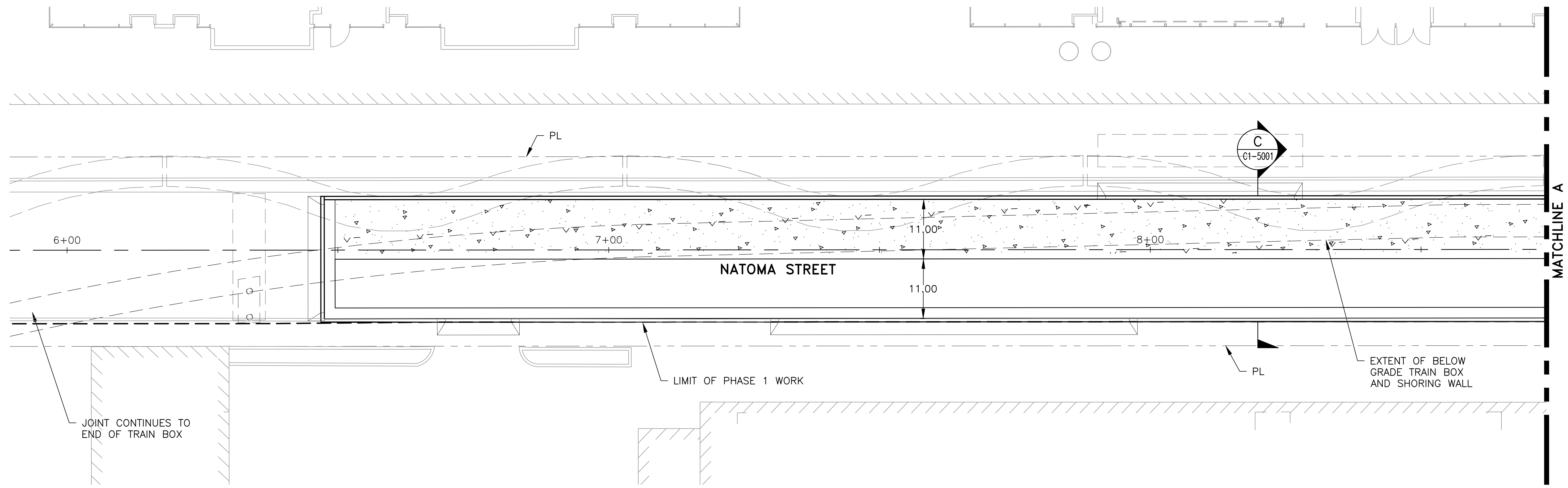
APPROVED:	PRINCIPAL ENGINEER / ARCHITECT	J. EDDY
APPROVED:	PROJECT MANAGER	K. CLINCH
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DESIGNED BY:	CHECKED BY:	
S. LITSAS	Y. WALDMAN	
DRAWN BY:	DATE:	
K. MCWILLEN	04/27/2015	
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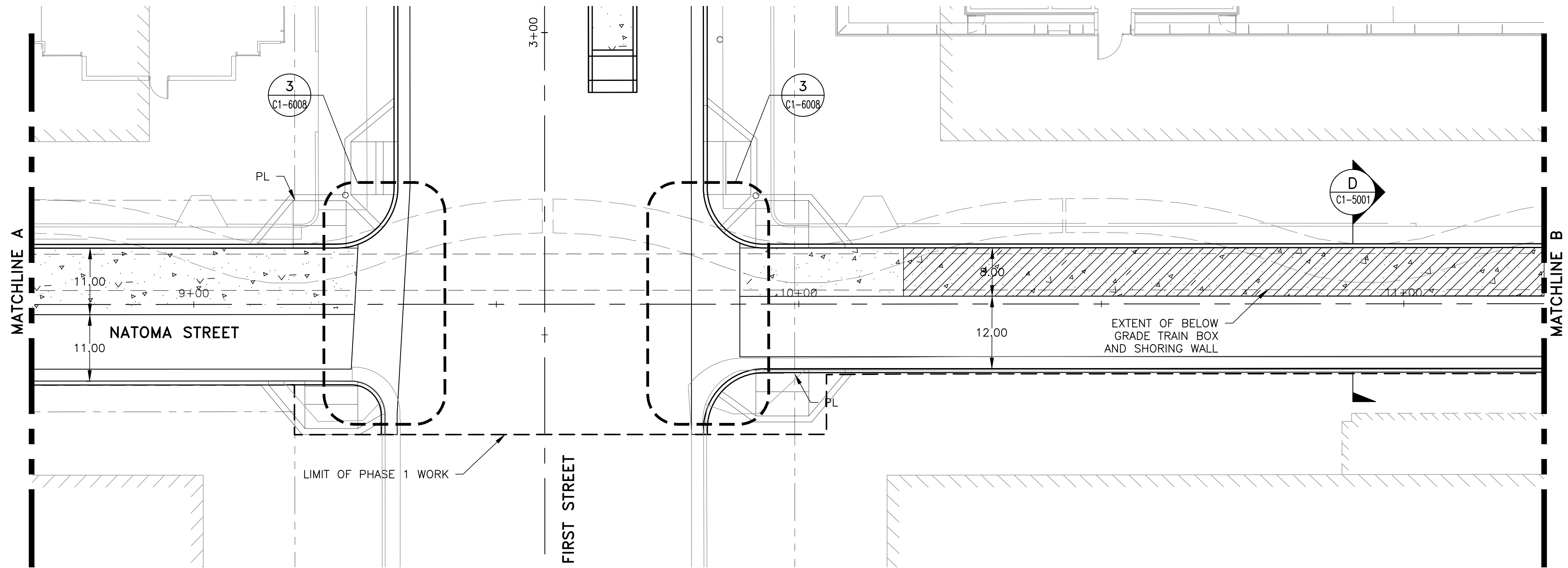
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y.waldman

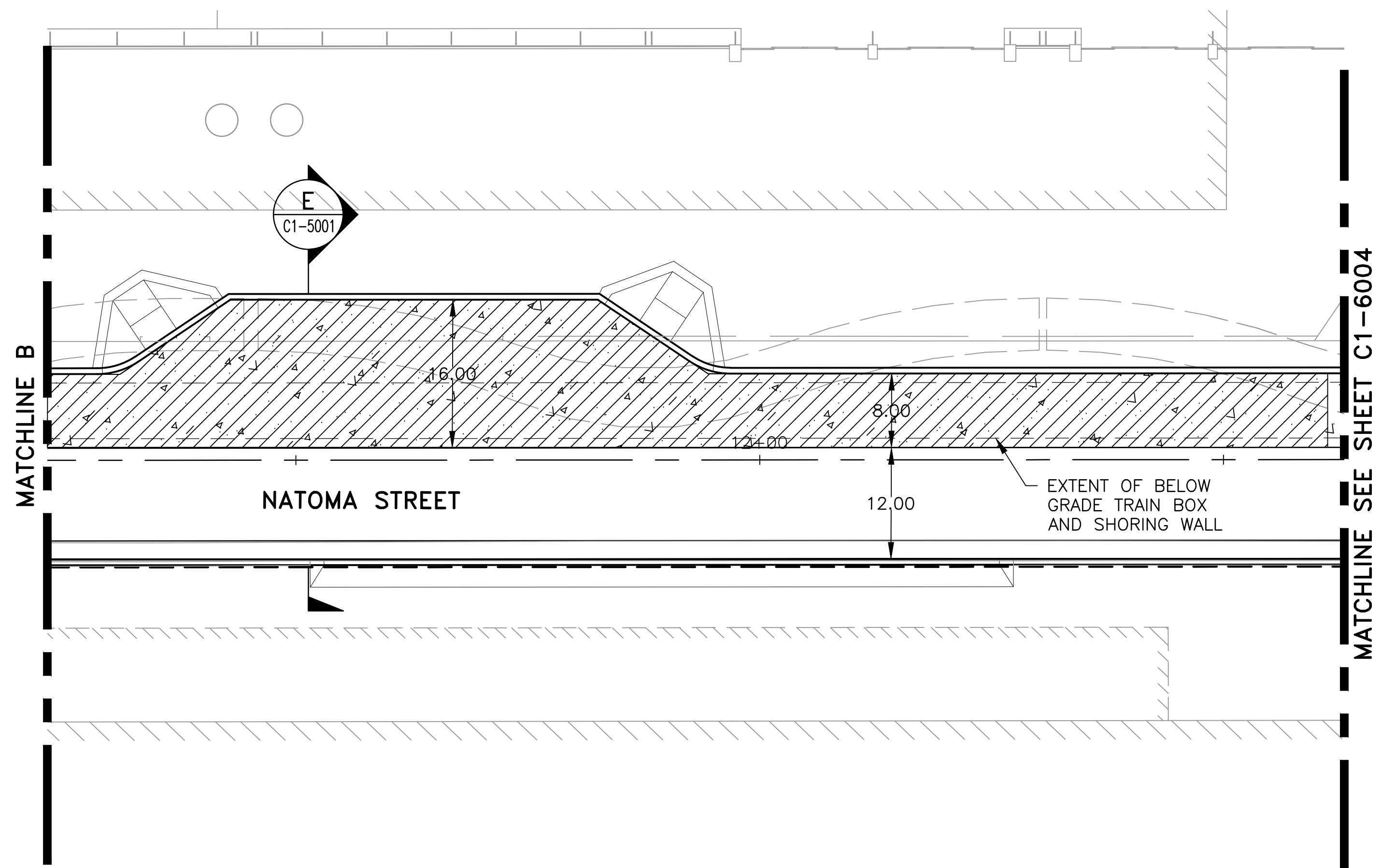
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PLAN 2  
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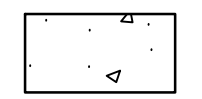
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#### NOTES

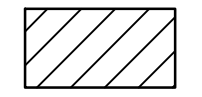
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FOR LEGEND SEE SHEET C-0010. FOR  
ABBREVIATIONS SEE SHEET C-0015.

C  
C1-5001

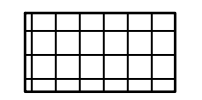
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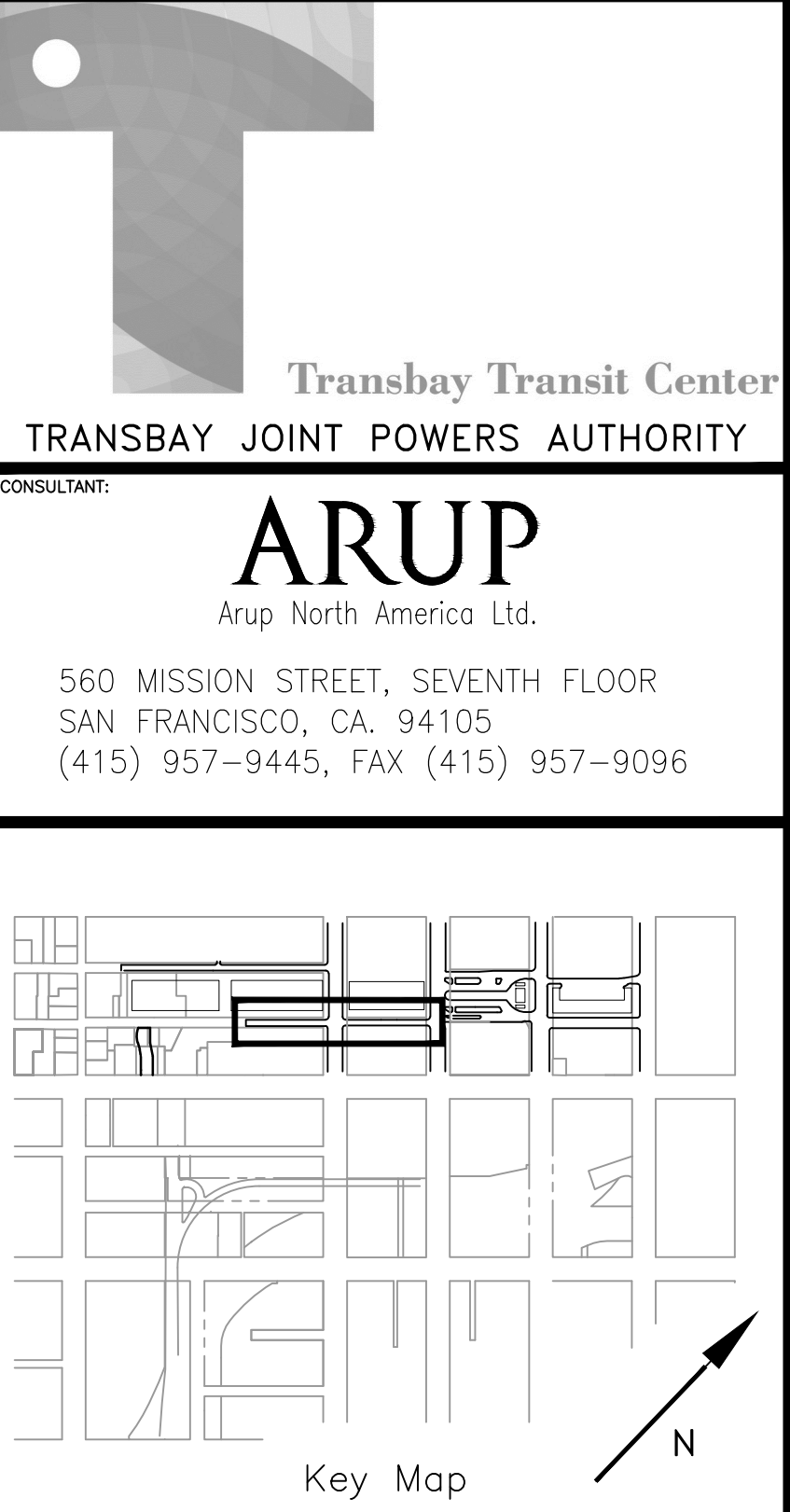
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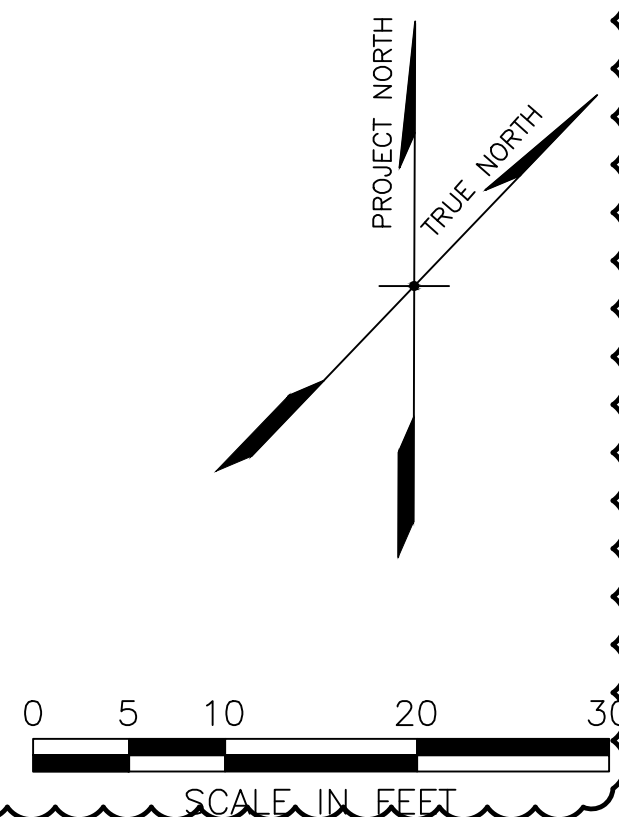
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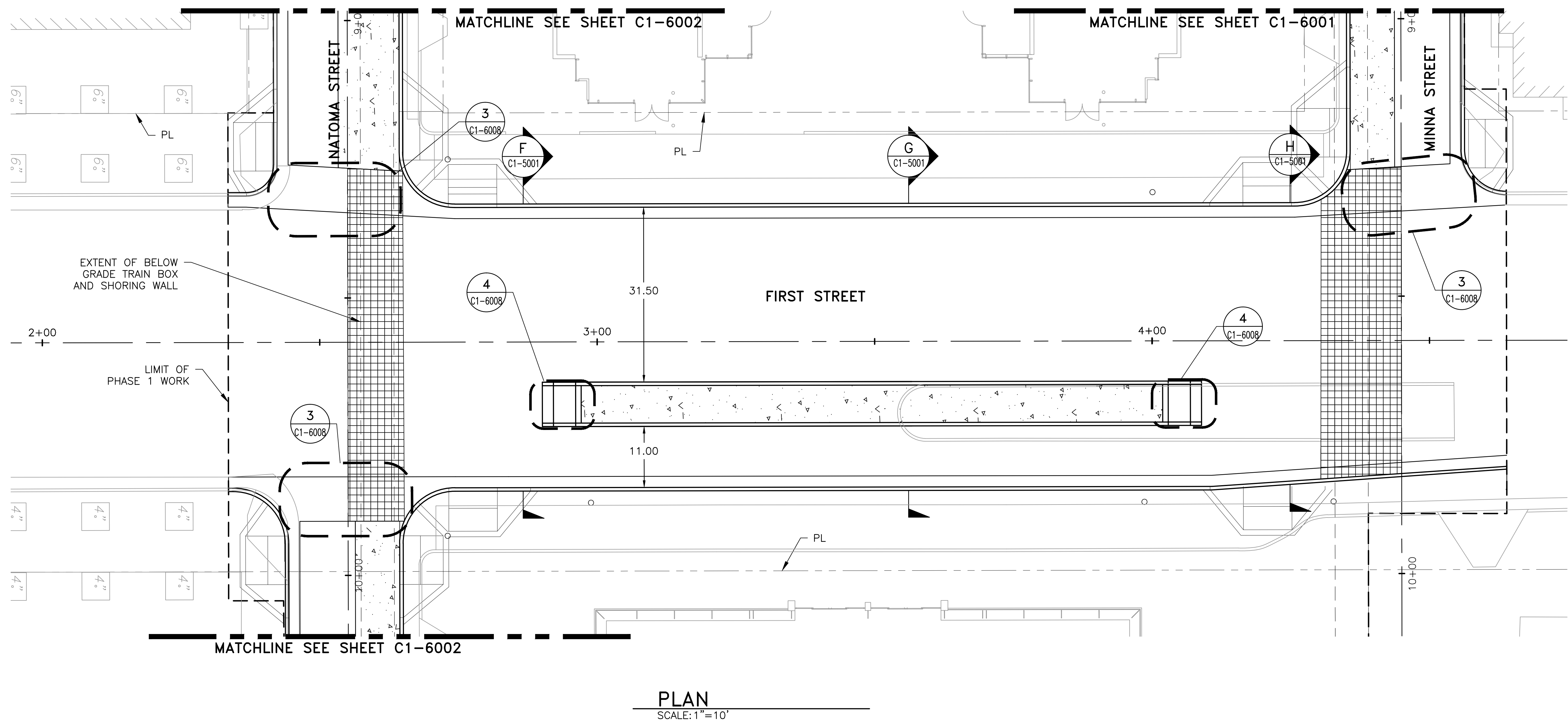
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APPROVED:	PROJECT MANAGER	K. CLINCH
APPROVED:	PROJECT ENGINEER / ARCHITECT	Y. WALDMAN
DESIGNED BY:	CHECKED BY:	
S. LITSAS	Y. WALDMAN	
DRAWN BY:	DATE:	
K. MCMILLEN	04/27/2015	
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#### NOTES

- FOR GENERAL NOTES SEE SHEET C-0005.  
FOR LEGEND SEE SHEET C-0010. FOR  
ABBREVIATIONS SEE SHEET C-0015.

F  
C1-5001

FREMONT STREET SECTION (TYPE)

CONCRETE PAVING

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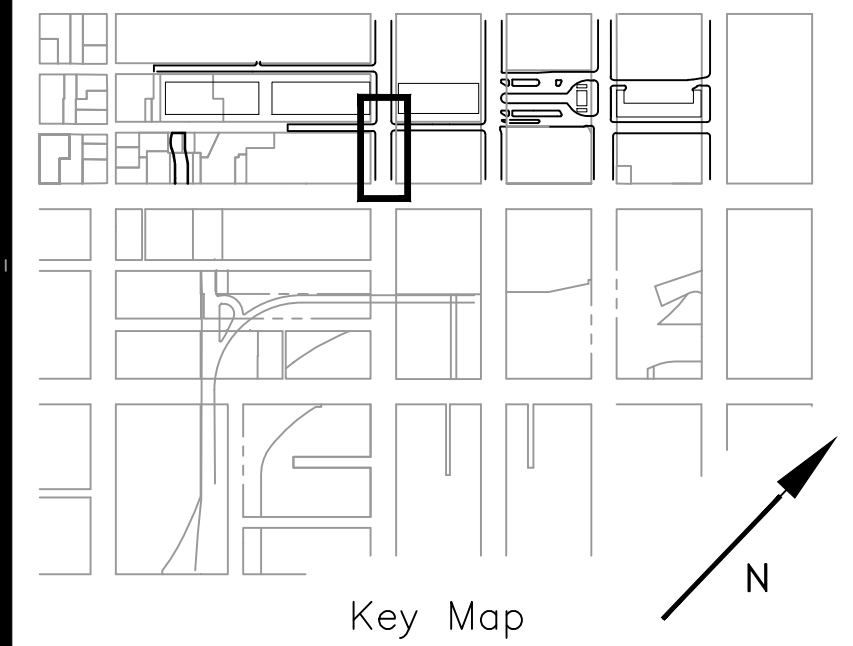


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Key Map

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		BY	DESCRIPTION
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2	08/05/14	TW	PER ASB No. 0123
3	04/27/15	TW	PER ASB No. 0132

08-04-CMGC-000

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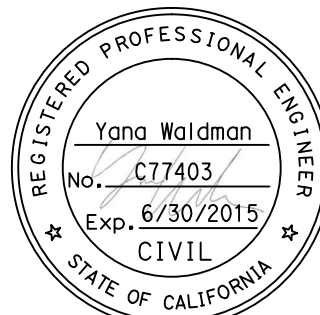
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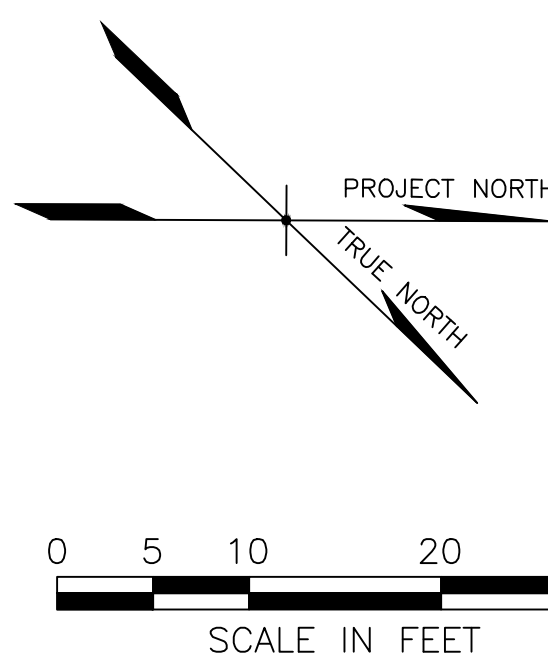
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SHEET TITLE

ARCHITECT/ENGINEER SEAL



APPROVED:	PRINCIPAL ENGINEER / ARCHITECT	J. EDDY
APPROVED:	PROJECT MANAGER	K. CLINCH
APPROVED:	PROJECT ENGINEER / ARCHITECT	Y. WALDMAN
DESIGNED BY:	CHECKED BY:	
S. LITSAS	Y. WALDMAN	
DRAWN BY:	DATE:	
K. McMILLEN	04/27/2015	
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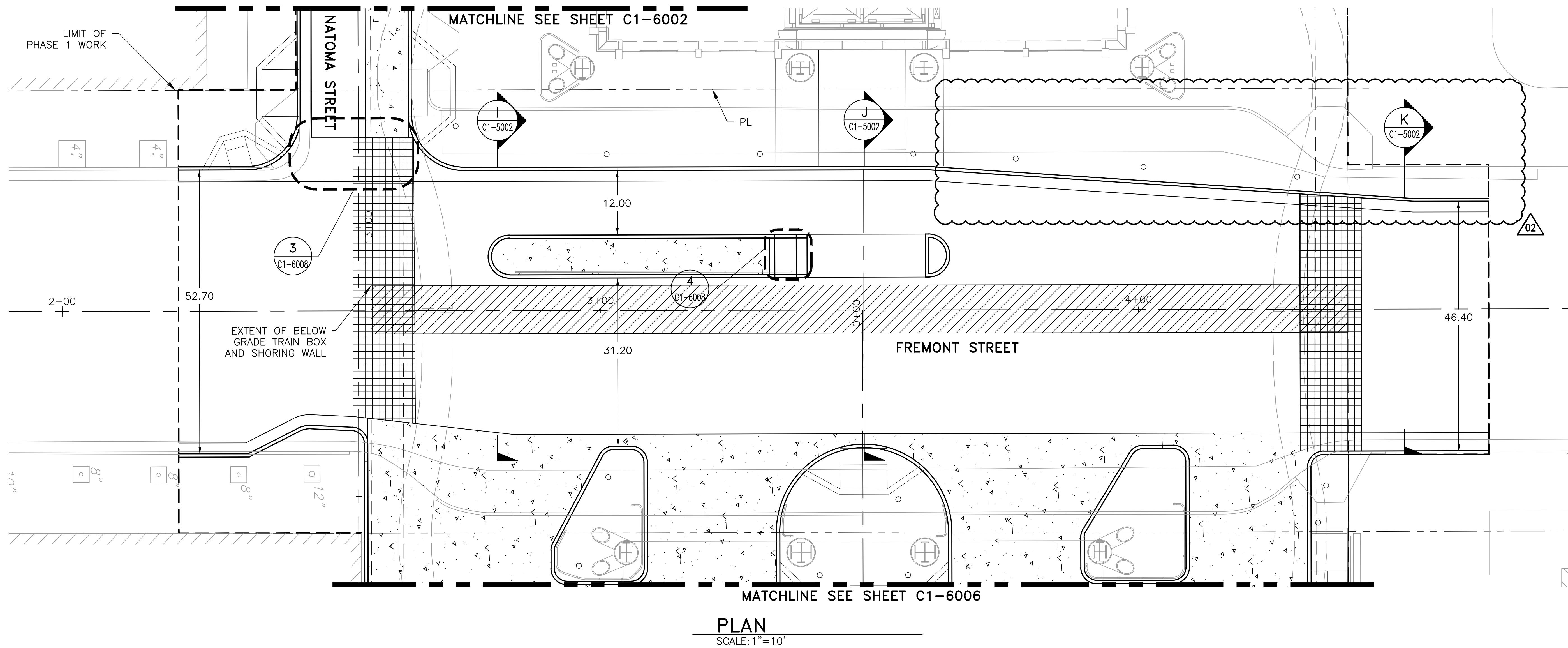
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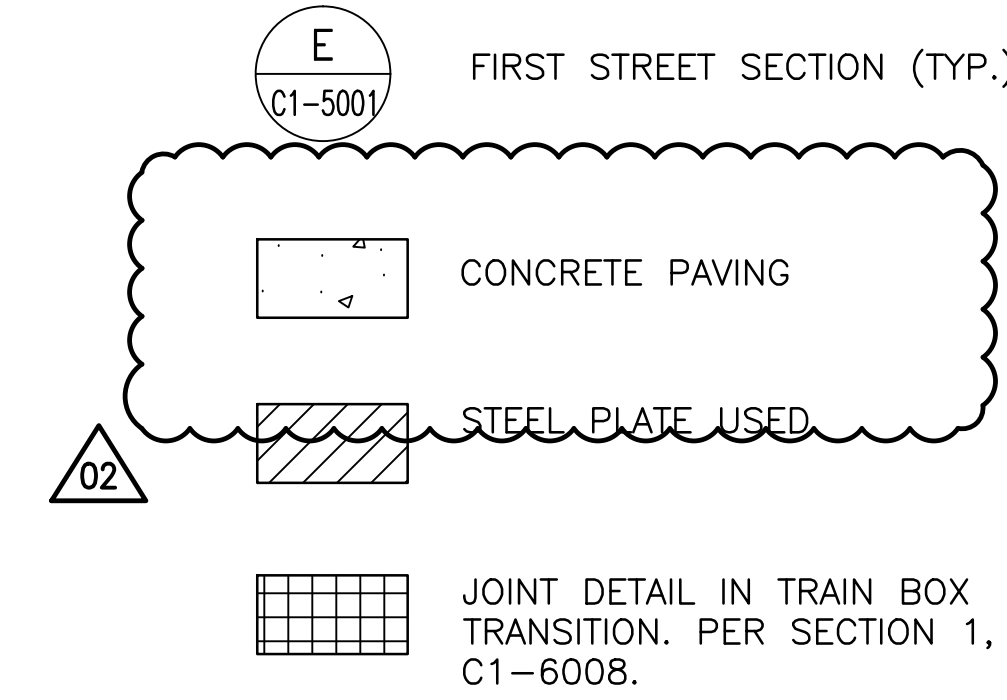
Based on Sheet C1-6003



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**NOTES**  
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Key Map

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2	06/06/14	YW	PER ASI No. 0123
3	04/27/15	YW	PER ASI No. 0132

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
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SAN FRANCISCO, CA

PAVING PLAN FREMONT STREET

ARCHITECT/ENGINEER SEAL

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APPROVED: Y. WALDMAN  
PROJECT ENGINEER / ARCHITECT

DESIGNED BY: S. LITSAS  
CHECKED BY: Y. WALDMAN

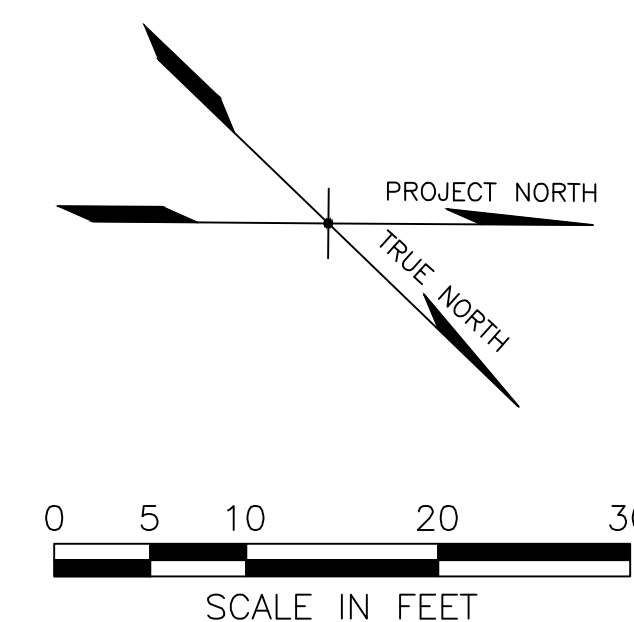
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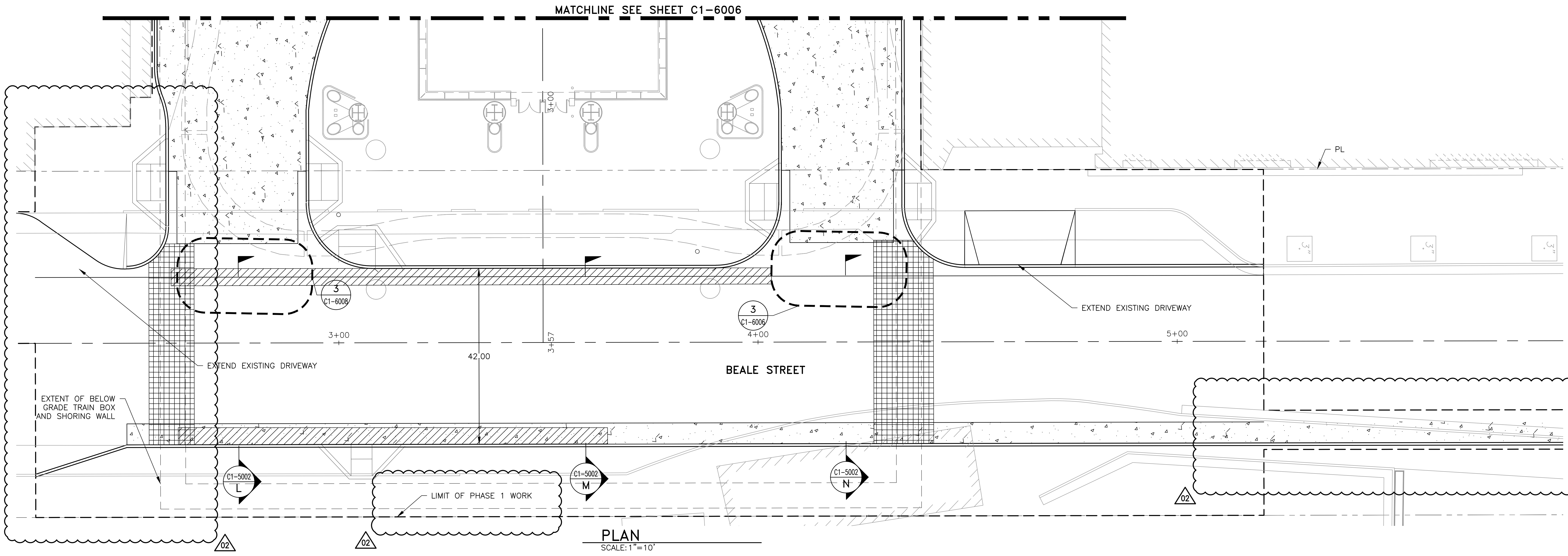
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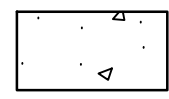
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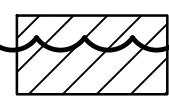
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C1-5001

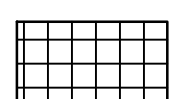
BEALE STREET SECTION (TYP.)



CONCRETE PAVING



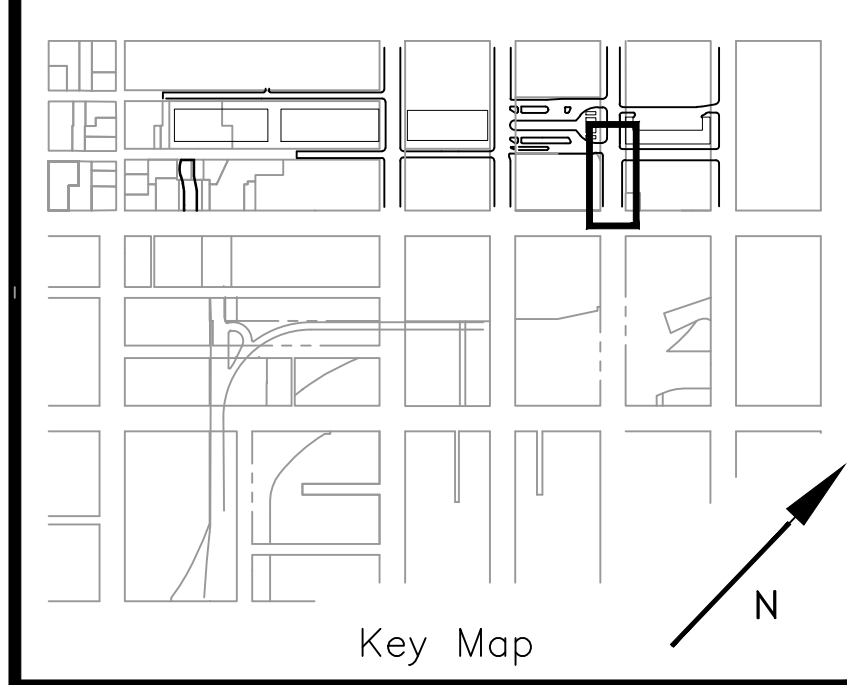
STEEL PLATE USED



JOINT DETAIL IN TRAIN BOX TRANSITION. PER SECTION 1, C1-6008.

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REVISIONS		DESCRIPTION
NO.	DATE	
1	03/31/14	ISSUED FOR CONSTRUCTION
2	05/05/14	PER ASB No. 0123
3	04/27/15	PER ASB No. 0132

08-04-CMGC-000

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PAVING PLAN BEALE STREET

ARCHITECT/ENGINEER SEAL

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APPROVED: PROJECT MANAGER K. CLINCH

APPROVED: PROJECT ENGINEER / ARCHITECT Y. WALDMAN

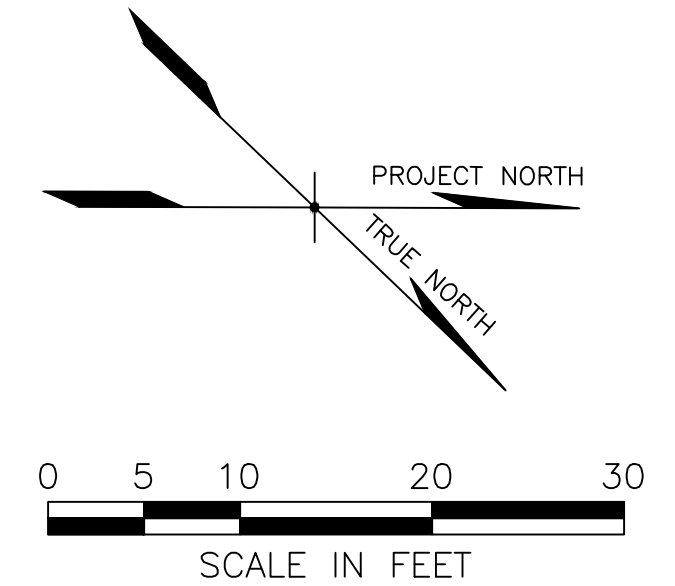
DESIGNED BY: S. LITSAS CHECKED BY: Y. WALDMAN

DRAWN BY: K. McMILLEN DATE: 04/27/2015

SCALE: 1"=10' SIZE: E FACILITY NO. 140 REVISION 2

SHEET NUMBER SK-C- QBD006-05

SEQUENCE NUMBER \_ of \_



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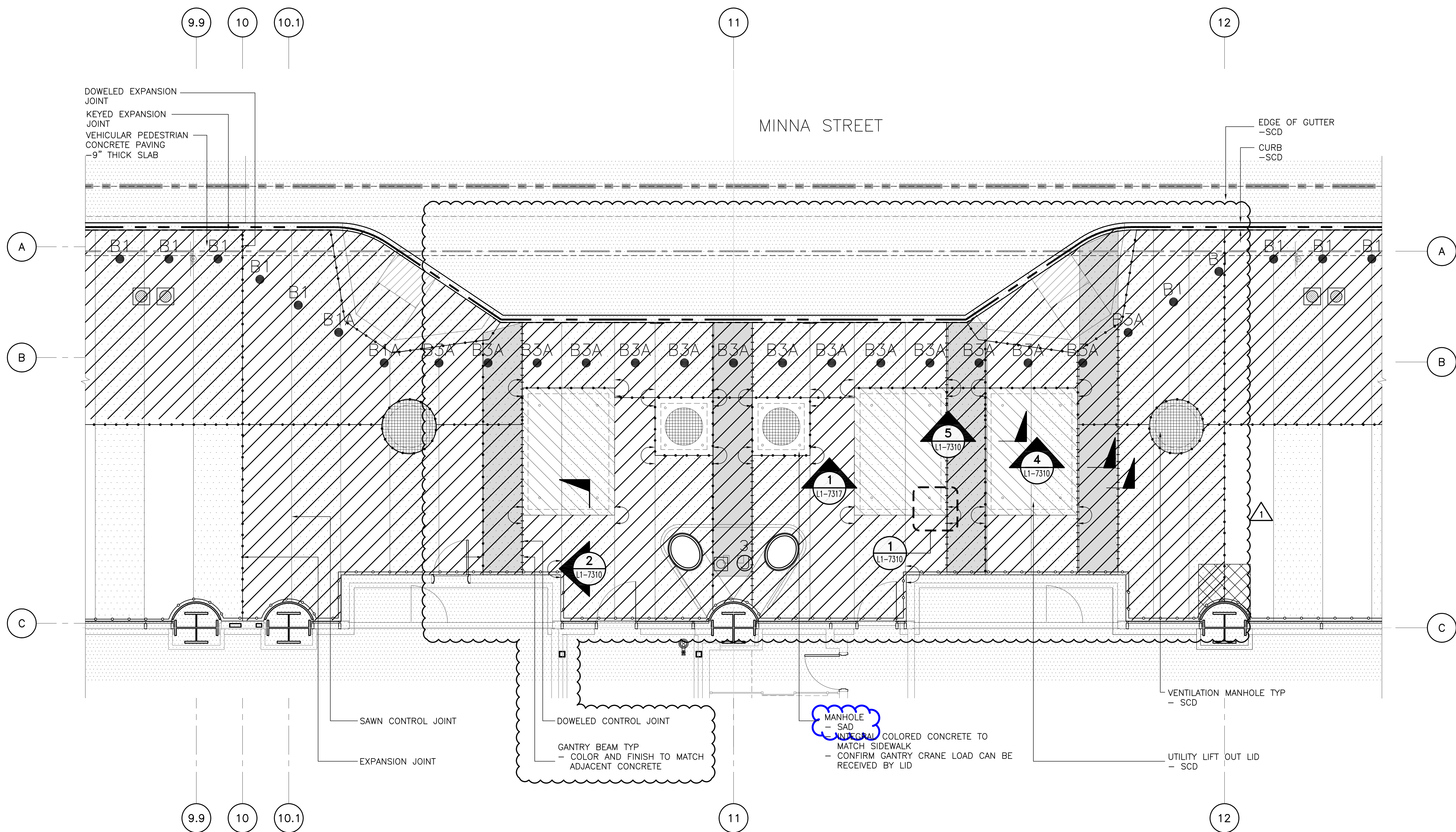
ISSUED FOR CONSTRUCTION







Note: If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

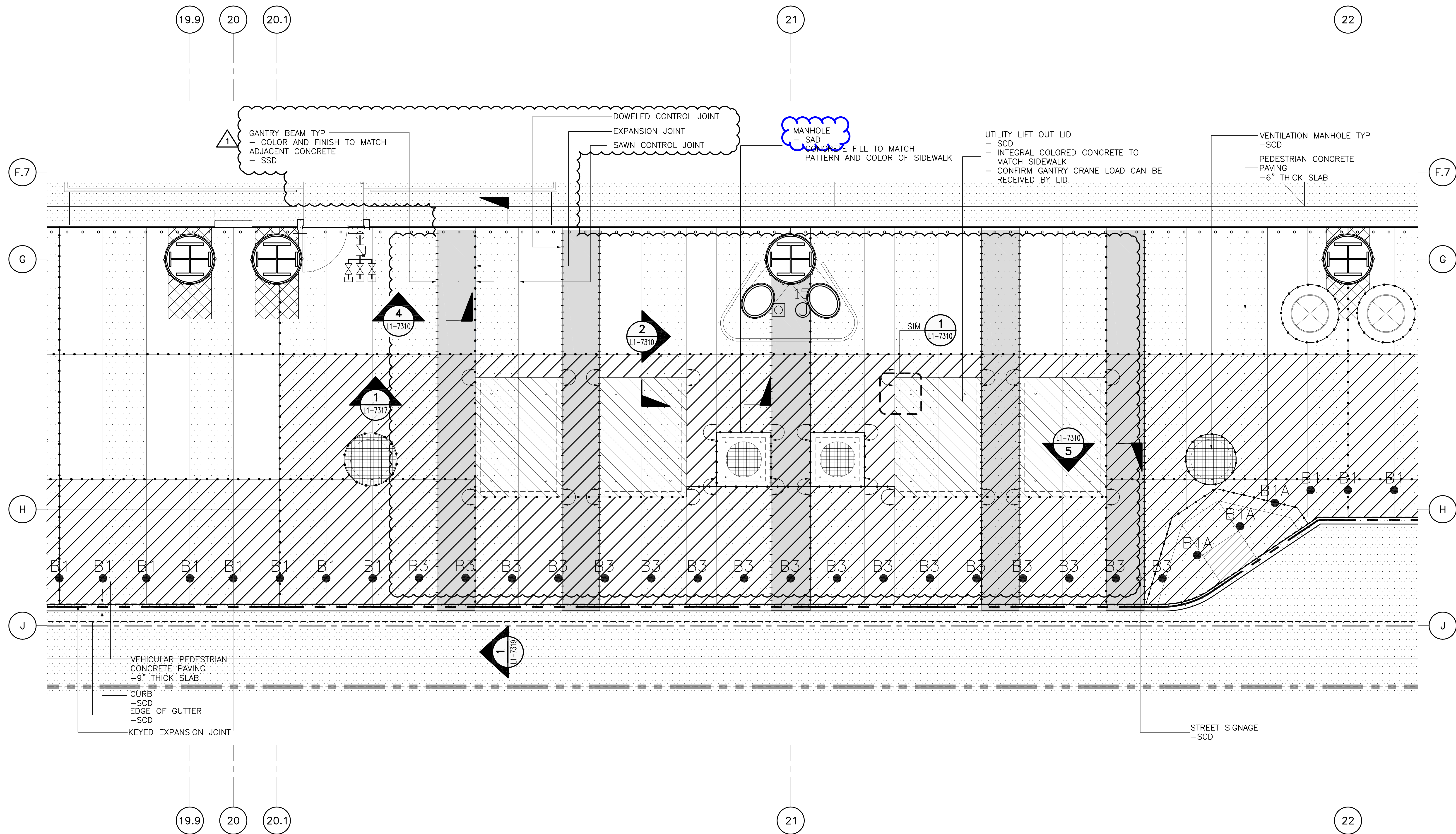


1 GROUND LEVEL PAVING PLAN AT TRANSFORMER VAULTS BETWEEN GRIDLINE 10 AND GRIDLINE 12  
SCALE: 1/4" = 1'-0"



TRANSBAY TRANSIT CENTER PROGRAM		SKLA-432.3	
DRAWING TITLE: Response to RFI TG12.1-026		DRAWN BY: SP	
SCALE: AS SHOWN		CHECKED BY: CL	
DATE: 05/27/15			
PROJECT NO. 08-04-CMCC-000			
PWP			
LANDSCAPE ARCHITECTURE			
MATERIAL ENLARGEMENT PLAN			
PHASE I			
APPROVED: [Signature]			
DESIGNED BY: P. WALKER			
DRAWN BY: M. DELLIS			
SCALE: 1/4" = 1'-0"		E 140	
SHEET NUMBER 11-2331		SEQUENCE NUMBER 1 of 1	





**SKLA-432.4**

DRAWN BY: SJP  
CHECKED BY: CL

DRAWING TITLE:	DATE	BY
	12/16/14	DF
ISSUED FOR CONSTRUCTION	PER ASI NO. 0128	
<h1>Response to RFI TG12.1-026</h1>		
SCALE:	DATE:	06/27/15
PROJECT NO.		

LANDSCAPE ARCHITECTURE  
MATERIAL ENLARGEMENT  
PHASE I

ISSUED FOR CONSTRUCTION



# FIRST, FREMONT AND BEALE STREET TEMPORARY BRIDGE STRUCTURAL DESIGN TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER, SAN FRANCISCO, CA

FOR:



Transbay Transit Center

**Balfour Beatty**  
Infrastructure Inc.

**P&A inc.**

Structural Engineering  
Geo-Structures • Earth Retention

Tel: (415) 259-0191  
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JOB NO. 110010 MAY 24, 2011  
100% SUBMITTAL

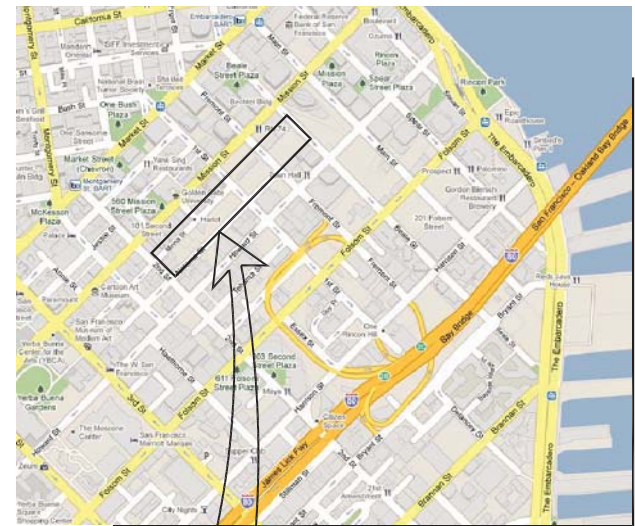
JOB NO. 11001C FEBRUARY 06, 2012  
RESPONSE TO COMMENTS

JOB NO. 110013 OCTOBER 06, 2011  
RESPONSE TO COMMENTS

JOB NO. 11001C  
APRIL 4, 2012  
CONFORMED SET

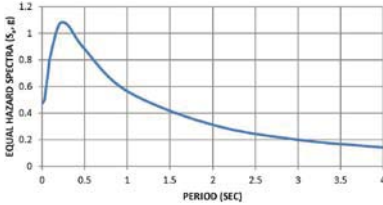
JOB NO. 11001E  
MAY 07, 2012  
BRIDGE ANOMALY MITIGATION

JOB NO. 11001F  
AUGUST 01, 2012  
BEALE ST. TEMP. BRIDGE



PROJECT LOCATION

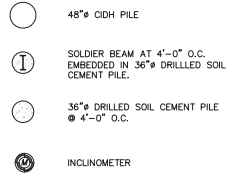
**SITE LOCATION PLAN**

GENERAL NOTES		GENERAL NOTES		GENERAL NOTES		GENERAL NOTES																																																					
<p><b>PART 1 – GENERAL</b></p> <p>1.1 SCOPE OF WORK</p> <p>A. IN ORDER TO ALLOW CONTINUATION OF TRAFFIC ACROSS THE CONSTRUCTION SITE EXCAVATION AT FIRST, FREMONT, AND BEALE STREETS FOR A TOTAL OF THREE (3) BRIDGES, BRIDGES AT EACH CROSSING SHALL PROVIDE A CONNECTION ACROSS THE CONSTRUCTION EXCAVATION, PROVIDING LANES ON BRIDGES TO PROVIDE A PATH FOR VEHICLES AND PEDESTRIANS ACROSS THE CONSTRUCTION SITE.</p> <p>B. RELATED WORK NOT INCLUDED IN THIS PACKAGE:</p> <p>B.1. CONCRETE BASEMENT WALL,</p> <p>B.2. SHORING OR BRACING FOR EXISTING BUILDINGS,</p> <p>B.3. TRESTLES,</p> <p>B.4. STRUT REMOVAL AND REBRACING</p> <p>B.5. PLANNED CONSTRUCTION, OR EXCAVATION OTHER THAN NOTED ABOVE.</p> <p>B.6. BRIDGE TRAFFIC: SIGNAL &amp; SIGNAGE</p> <p>B.7. BRIDGE LIGHTING</p> <p>B.8. BRIDGE MUNI CCS</p> <p>B.9. UTILITY SUPPORT DETAILS</p> <p>B.10. TRAFFIC CONTROL PLANS</p> <p>C. RELATED DOCUMENT:</p> <p>C.1. "FINAL GEOTECHNICAL DATA REPORT" PREPARED BY ARUP, DATED FEBRUARY 2010</p> <p>C.2. CONTRACT 08-04-CMGC-000 DWG'S, REV. 0 DATED 12-10-10.</p> <p>C.3. STRUCTURAL COMBINED.DWG – DATED 9/01/10</p> <p>C.4. XSURVEY.DWG – DATED 7/27/2010</p> <p>C.5. XTRAF-SIGN.DWG – DATED 7/27/2010</p> <p>C.6. RESPONSE TO RFI T-0073.1 DATED APR. 14, 2011: BSE – REQUEST FOR RESPONSE SPECTRA</p> <p>C.7. RESPONSE TO RFI T-0209.3 DATED SEP. 28, 2011: BSE – ABUTMENT BEARING ON CDSM WALL – FOLLOW-UP</p> <p>C.8. RESPONSE TO RFI T-0219 DATED SEP. 14, 2011: BSE – ABUTMENTS AT TEMPORARY BRIDGES</p> <p>C.9. RESPONSE TO RFI T-0222 DATED SEP. 01, 2011: BSE – TEMPORARY BRIDGE PIER LOCATIONS</p> <p>C.10. RESPONSE TO RFI T-0223 DATED SEP. 27, 2011: BSE – TEMPORARY BRIDGE PEDESTRIAN BARRIER HEIGHT</p> <p>C.11. RESPONSE TO RFI T-0228 DATED SEP. 27, 2011: BSE – 6-INCH SIDEWALK AT TEMPORARY BRIDGES</p> <p>C.12. PROJECT SPECIFICATION ADDENDUM NO. 3 SECTION 01 53 13 – TEMPORARY BRIDGES DATED SEPTEMBER 23, 2010</p> <p>C.13. CAD FILES RECEIVED IN RESPONSE TO RFI T-0035.1 DATED MAR. 23, 2011: BSE – REQUEST FOR STRUCTURE SECTION DRAWINGS</p> <p>1.2 CODES AND STANDARDS</p> <p>STRUCTURAL PERFORMANCE: BRIDGES SHALL BE PROVIDED MEETING DESIGN LOADING CRITERIA COMPLIANT WITH THE CURRENT AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD DESIGN SPECIFICATIONS, 4TH EDITION, AND CALTRANS AMENDMENTS.</p> <p>A.1. LIMIT STATE DESIGN</p> <p>A.1.1. STRENGTH I – DC+DW+HL-93 DESIGN VEHICLE W/ 33% IM</p> <p>A.1.2. STRENGTH II – DC+DW+CALIFORNIA PERMIT TRUCK P15 W/ 25% IM</p> <p>A.1.3. SERVICEABILITY AND FATIGUE CHECKS</p> <p>A.1.4. CONSTRUCTION LOADS W/ MANITOWOC-999 SERIES 2 CRANE LOADING WITHOUT ANY HOOK LOAD (WITHIN DESIGNATED AREAS ONLY)</p> <p>A.2. SEISMIC DESIGN</p> <p>A.2.1. BASED ON CALIFORNIA SEISMIC DESIGN CRITERIA (SDC), VERSION 1.6, NOVEMBER 2010</p> <p>A.2.2. DISPLACEMENT DEMANDS ARE CALCULATED BASED ON STRUCTURAL FUNDAMENTAL PERIOD AND DESIGN ACCELERATION RESPONSE SPECTRA.</p> <p>A.2.3. DISPLACEMENT CAPACITY IS BASED ON DUCTILITY OF THE STRUCTURE AND DETERMINED BY PUSH-OVER ANALYSIS IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.</p> <p>B. STANDARD SPECIFICATIONS 2006, CALTRANS</p> <p>C. AMERICAN WELDING SOCIETY, AWS D1.5: 2010 "BRIDGE WELDING CODE", 6TH EDITION</p> <p>D. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) STEEL DESIGN MANUAL, 13TH EDITION</p> <p><b>PART 2 – CONSTRUCTION</b></p> <p>2.1 CONSTRUCTION PROCEDURE</p> <p>A. CONSTRUCTION PROCEDURE FOR THE CDSM WALLS WILL BE COVERED UNDER OTHER SUBMITTALS.</p> <p>B. CONSTRUCTION PROCEDURE FOR INSTALLATION OF TEMPORARY BRIDGES.</p> <p>B.1. SEE SHEET SH-1100 FOR THE CONSTRUCTION PROCEDURE FOR THE INSTALLATION OF THE TEMPORARY BRIDGES</p> <p>B.2. GENERAL CONTRACTOR SHALL RESOLVE ANY CONFLICT BETWEEN BRIDGE COLUMN/PIER/BRACING, STRUTS AND STRUCTURAL COLUMNS/PILE CAPS PRIOR TO START OF CONSTRUCTION.</p> <p>C. PROCEDURE FOR INSTALLATION OF BRIDGE COLUMN PIERS</p> <p>C.1. DRILL 48"Ø HOLE FROM GROUND LEVEL TO THE DESIGNED TIP ELEVATION. A 60" x 20'-0" "STARTER" CASING IS USED IN THE UPPER 20 FT OF LOOSE MATERIAL. HOLE IS SUPPORTED BY DRILLING SLURRY (WATER AND POLYMER).</p> <p>C.2. VERIFY THE TIP ELEVATION MANUALLY ONCE IT IS REACHED.</p>		<p>C.3. PLACE REINFORCEMENT CASE IN THE HOLE. USE RIGGING TO SECURE REINFORCEMENT CAGE TO CASING DURING CONCRETE PLACEMENT.</p> <p>C.4. PLACE CONCRETE BY TREMIE METHOD FROM TIP ELEVATION TO THE TRANSITION CONSTRUCTION JOINT AS INDICATED ON THE PLANS. AS THE CONCRETE IS PLACED SLURRY IS TO BE PUMPED BACK INTO SLURRY TANKS.</p> <p>C.5. THE RIGGING IS TO REMAIN IN PLACE UNTIL THE CONCRETE SETS.</p> <p>C.6. REMOVE RIGGING.</p> <p>C.7. INSTALL THE CONNECTION ELEMENTS AT THE TOP OF BRIDGE COLUMN PILE AS INDICATED ON THE PLANS.</p> <p>C.8. PREPARE THE CONSTRUCTION JOINT.</p> <p>C.9. POUR CONCRETE TO THE DESIGNED TOP OF PILE ELEVATION.</p> <p>2.2 MATERIALS</p> <p>A. CONCRETE AT DRILLED SHAFTS AND ABUTMENTS</p> <p>A.1. PORTLAND CEMENT ASTM C-150 TYPE "I" OR TYPE "II"</p> <p>A.2. NORMAL WEIGHT CONCRETE = 3,500 PSI AT 28 DAYS, PROPORTIONED WITH A MAXIMUM WATER CEMENT RATIO, W/C=0.50. ALL CONCRETE SHALL BE BATCHED, DELIVERED, AND PLACED IN ACCORDANCE WITH ACI 301 AND ASTM C94.</p> <p>A.3. SUBMIT MIX DESIGN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA FOR ENGINEER'S APPROVAL.</p> <p>B. STRUCTURAL LIGHTWEIGHT CONCRETE AT PEDESTRIAN WALK</p> <p>B.1. PORTLAND CEMENT ASTM C-150 TYPE "I" OR TYPE "II"</p> <p>B.2. AGGREGATE: EXPANDED SHALE, CLAY, OR SLATE (ECSs) LIGHTWEIGHT AGGREGATE PRODUCED BY THE ROTARY KILN METHOD SHALL MEET ASTM C330.</p> <p>B.3. GROUND GRANULATED BLAST-FURNACE SLAG SHALL MEET ASTM C989.</p> <p>B.4. MATERIALS SHALL BE PROPORTIONED TO PRODUCE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH = 3,000 PSI IN 28 DAYS.</p> <p>B.5. DENSITY: MATERIALS SHALL BE PROPORTIONED TO PRODUCE CONCRETE WITH A CALCULATED EQUILIBRIUM DENSITY OF 110 PCF ± 3 PCF AS DETERMINED BY ASTM C567-00, SECTION 9.2</p> <p>C. STRUCTURAL STEEL SHALL BE NEW EXCEPT THE W14 GIRDERS AND CAP BEAM FOR THE END SPANS AND IT SHALL MEET OR EXCEEDS THE FOLLOWING REQUIREMENTS</p> <p>C.1. STEEL SHAPES: ASTM A992, GRADE 50 Fy = 50 KSI</p> <p>C.2. STEEL REINFORCEMENT: ASTM A615, GRADE 60 Fy = 60 KSI</p> <p>C.3. STEEL PLATES: ASTM A572, GRADE 50 Fy = 50 KSI</p> <p>C.4. STEEL ANGLES: ASTM A36, GRADE 36 Fy = 36 KSI, U.N.O.</p> <p>C.5. STEEL PIPE SECTIONS FOR CONNECTION BETWEEN CIDH PILE AND CAP BEAM: ANSI B36.1/ASTM A53, Fy = 35 KSI.</p> <p>C.6. STEEL BOLTS: ASTM A490-X BOLTS, MIN. TENSILE STRENGTH = 150 KSI</p> <p>C.7. STANDARD MILD STEEL STUDS MANUFACTURED BY NELSON CONFORM TO ASTM A108 SPECIFICATIONS FROM 1010 THROUGH 1020 MILD STEEL.</p> <p>C.8. WELDED WIRE REINFORCEMENT: ASTM A185, GRADE 65</p> <p>C.9. STRUCTURAL METAL DECK: ASTM A653 GR. 50, 4" DEEP, MAX ALLOWABLE CLEAR SPAN BETWEEN GIRDER FANGES FOR HL-93 &amp; CALIFORNIA PERMIT TRUCK P15 LOADING OF 57 INCHES AND FOR MANITOWOC 999-SERIE 2 CRANE OF 26 INCHES DESIGNED IN ACCORDANCE WITH SECTION 1.2 CODES AND STANDARDS. THE MANUFACTURER IS TO PROVIDE THE CERTIFICATION FOR THE REFERENCED LOADING.</p> <p>C.10. ALL WELDS SHALL BE MADE USING LOW-HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH = 70 KSI. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.</p> <p>C.11. IN COMPLIANCE TO WELDING PROCEDURES AND SPECIFICATIONS' THE FOLLOWING PROCEDURES AND/OR PREPARATIONS ARE TO BE FOLLOWED:</p> <p>C.11.1. JOINT PREPARATIONS AND WELDING PROCEDURES INCLUDING BUT NOT LIMITED TO: WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES, AND WELDING TAPERS OF UNEQUAL PARTS.</p> <p>C.11.2. SEQUENCING AND PROCEDURES OF WELDING TO MINIMIZE THE EFFECT OF SHRINKAGE, RESIDUAL STRESSES, AND TO MAINTAIN ERECTION TOLERANCES.</p> <p>D. ASPHALT CONCRETE</p> <p>D.1. ASPHALT CONCRETE SHALL BE TYPE A UNLESS OTHERWISE SPECIFIED BY THE PROJECT SPECIFICATIONS.</p> <p>D.2. ASPHALT BINDER SHALL BE PERFORMANCE GRADE 64-10 PAVING ASPHALT CONFORMING TO SECTION 92, "ASPHALT," OF THE CALTRANS STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED ON THE PROJECT SPECIFICATIONS.</p> <p>D.3. THE PERCENTAGE OF AIR VOIDS IN THE MIX DESIGN AT THE TARGET ASPHALT BINDER CONTENT SHALL BE BETWEEN 3% AND 5%.</p> <p>D.4. AGGREGATE USED IN ASPHALT CONCRETE SHALL CONFORM TO THE GRADING REQUIREMENTS OF SECTION 39-2.02, "AGGREGATE", OF THE STANDARD SPECIFICATIONS.</p> <p>D.5. AREA SUBJECT TO VEHICLE TRAVEL SHALL BE SURFACES PROVIDING A MINIMUM STATIC COEFFICIENT OF FRICTION EQUAL TO 0.65.</p> <p>D.6. AREA SUBJECT TO PEDESTRIAN TRAVEL SHALL BE SURFACES PROVIDING A MINIMUM STATIC COEFFICIENT OF FRICTION EQUAL TO 0.65 WHERE SLOPES ARE LESS THAN OR EQUAL TO 5%, AND 0.80 WHERE SLOPES EXCEED 5%.</p> <p>E. RAILING</p> <p>E.1. THRIE BEAM: AASHTO M180, CLASS A, TYPE II (ZINC) COATING</p> <p>E.2. CARRIAGE BOLTS: ASTM A307 GRADE A, MIN. TENSILE STRENGTH = 60 KSI</p>		<p>E.3. METAL STUD &amp; TRACK: ASTM A653, MIN. .640 COATING</p> <p>F. PLAIN ELASTOMERIC BEARING</p> <p>F.1. THE MATERIAL SPECIFICATIONS SHALL MEET ALL REQUIREMENTS OF AASHTO M251.</p> <p>F.2. PLAIN ELASTOMERIC BEARINGS SHALL CONFORM TO SECTION 51-1.12H(1) OF CALTRANS STANDARD SPECIFICATIONS.</p> <p>F.3. SHEET PTFE MAY CONTAIN DIMPLES TO ACT AS RESERVOIRS FOR LUBRICANT. THEIR DIAMETER SHALL NOT EXCEED 0.32" AT THE SURFACE OF THE PTFE AND THEIR DEPTH SHALL BE NOT LESS THAN 0.08" AND NOT MORE THAN HALF THE THICKNESS OF THE PTFE. THE RESERVOIRS SHALL BE UNIFORMLY DISTRIBUTED OVER THE SURFACE AREA AND SHALL COVER MORE THAN 20% BUT LESS THAN 30% OF IT. LUBRICANT SHALL BE SILICONE GREASE WHICH SATISFIES MILITARY SPECIFICATION MIL-S-8660.</p> <p>G. POLYETHYLENE VAPOR BARRIER: ASTM E1745 CLASSES A, B, &amp; C</p> <p>H. PLYWOOD: APA RATED CD-X, STRUC I</p> <p><b>PART 3 – Q/A PROGRAM</b></p> <p>3.1. SPECIAL INSPECTION, INSPECTION PROCEDURES AND SITE OBSERVATION</p> <p>A. SPECIAL INSPECTIONS</p> <p>A.1. THE SPECIAL INSPECTORS MUST BE CERTIFIED BY TJPA TO PERFORM THE TYPE OF INSPECTION SPECIFIED.</p> <p>A.2. SPECIAL INSPECTIONS SHALL BE PROVIDED BY THE TJPA FOR PERMANENT AND TEMPORARY WORK ACCORDING TO THE CALIFORNIA BUILDING CODE (CBC) CHAPTER 17 INCLUDING THE SAN FRANCISCO AMENDMENTS, AND THE PROJECT SPECIFICATIONS. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. THE SPECIAL INSPECTOR SHALL SEND REPORTS TO THE OWNER, ARCHITECT, ENGINEER, BUILDING OFFICIAL AND THE CONTRACTOR IN A TIMELY MANNER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION, WHEN WORK IS DONE TO THE SATISFACTION OF THE INSPECTOR, THEN THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT, TO THE BEST OF THEIR KNOWLEDGE, THE WORK WAS COMPLETED IN CONFORMANCE WITH THE PLANS, SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CBC.</p> <p>A.3. ITEMS REQUIRING SPECIAL INSPECTIONS;</p> <p>A.3.1. INSPECTION OF MILL CERTIFICATES OR LAB RESULTS FOR ALL COMPONENTS OF THE TEMPORARY BRIDGES.</p> <p>A.3.2. AWS PREQUALIFIED WELDING PROCEDURES, OR DOCUMENTATION OF QUALIFICATION PERFORMED FOR PROJECT SPECIFIC WELDING PROCEDURES IN ACCORDANCE WITH AWS D1.5 REQUIREMENTS.</p> <p>A.3.3. TESTING OF STRUCTURAL WELDS</p> <p>A.3.4. INSTALLATION OF ALL A490-X BOLTS FASTENERS (UNLESS "TENSION CONTROLS" BOLTS ARE USED) INCLUDING INSPECTION AND ACCEPTANCE OF BOLT HOLES PRIOR TO INSTALLATION OF FASTENERS. INSPECTION IS TO VERIFY PROPER PREPARATION OF HOLES, SPECIALLY NO OVERSIZED HOLES OR FLAME CUTTING HAS BEEN USED TO INCREASE TOLERANCES TO ACHIEVE FIELD FIT.</p> <p>A.3.5. VERIFICATION THAT EXCAVATIONS ARE EXTENDED TO THE PROPER DEPTH.</p> <p>A.3.6. PLACEMENT OF CONCRETE</p> <p>A.4. CONTRACTOR SHALL INSPECT BRIDGE PAVEMENT FOLLOWING USAGE FOR TRAVEL BY CONTRACTOR EQUIPMENT. ALL DAMAGE OR SURFACE IRREGULARITIES RESULTING FROM SUCH USAGE SHALL BE IMMEDIATELY CORRECTED.</p> <p>A.5. APPROACH TRANSITIONS FROM ROAD TO BRIDGES SHALL BE INSPECTED FREQUENTLY FOR SETTLEMENT. REPAIR WITH HOT ASPHALT CONCRETE PAVEMENT AS NECESSARY.</p> <p>A.6. CONTRACTOR SHALL ON A MONTHLY BASIS INSPECT AND REPAIR SURFACE IRREGULARITIES IN BRIDGE PAVEMENT OCCURRING IN VEHICLE AND PEDESTRIAN AREAS.</p> <p>A.7. SPECIAL INSPECTION ITEMS OF METAL DECK</p> <p>PERIODIC INSPECTIONS SHALL BE PERFORMED TO CONFIRM THE PERFORMANCE OF THE METAL DECK WELDS WITH FATIGUE LOADING. THE INSPECTION SHALL CONSIST OF DYE PENETRANT, MAGNETIC PARTICLE OR OTHER NON-DESTRUCTIVE METHOD AS APPROPRIATE FOR THE CONFIGURATION OF THE WELD AND THE DEGREE OF PREPARATION, TO CONFIRM THAT FATIGUE CRACKS ARE NOT FORMING. ON THE TWO MOST HEAVILY TRAVELED BRIDGES, FIRST STREET AND FREMONT STREET, THREE INSPECTIONS WITHIN THE RIGHT LANE (ASSUMED TO BE THE MOST HEAVILY TRAVELED BY TRUCKS) SHALL BE IDENTIFIED FOR TESTING. THESE LOCATIONS SHALL BE AS FOLLOWS:</p> <p>1. DIRECTLY OVER A STEEL GIRDER, DIRECTLY OVER THE BENT CAP</p> <p>2. DIRECTLY OVER A STEEL GIRDER, CENTERED BETWEEN BENT CAPS</p> <p>3. IF THERE IS A LOCALIZED DETEIORATION OF ASPHALT, AT A SITE OF DETEIORATION, IF NO DETEIORATION, AT A RANDOM LOCATION.</p> <p>AT EACH IDENTIFIED LOCATION, AN AREA OF APPROXIMATELY 1-FOOT BY 2-FOOT 6-INCHES OF ASPHALT SHALL BE REMOVED TO EXPOSE AT LEAST THREE WELDS FOR TESTING. IF FATIGUE CRACKS ARE FOUND, ADDITIONAL TESTING MAY BE NECESSARY TO VERIFY THE EXTENT OF CRACKING AND POTENTIAL REPAIRS. THE FHA MANDATED TWO YEAR INSPECTION FREQUENCY IS APPROPRIATE FOR THIS STRUCTURE. INCREASE INSPECTION FREQUENCY IF ACP DETEIORATION IS OBSERVED. TJPA AND/OR DESIGNATED REPRESENTATIVE CAN REQUEST INSPECTION IF THERE IS EVIDENCE OF POTENTIAL DECK WELDING FAILURE.</p> <p>B. SITE OBSERVATION</p> <p>B.1. REPRESENTATIVE OF PB&amp;A SHALL VISIT THE SITE AT LEAST ONCE A WEEK DURING TEMPORARY BRIDGE INSTALLATION AND EXCAVATION OPERATIONS TO PROVIDE STRUCTURAL OBSERVATION IN ACCORDANCE WITH THE SAN FRANCISCO BUILDING CODE. PB&amp;A SHALL ISSUE A WRITTEN REPORT FOR EACH SITE VISIT.</p> <p>C. MONITORING</p> <p>C.1. PLACE A SURVEY MONITORING POINT ON THE BRIDGE DECK AT EACH BENT.</p> <p>C.2. OBTAIN THE READINGS WEEKLY DURING ACTIVE EXCAVATION. KEEP MONITORING UNTIL THE COMPLETION OF THE CONCOURSE LEVEL SLAB.</p>		<p>Mean Horizontal Equal Hazard Spectra East End of Train Box (475 Return Period) FINAL STAGE – TEMPORARY BRIDGE DESIGN</p> 		<p><b>DRAWING INDEX</b></p> <table><tr><td>SH-0100</td><td>GENERAL NOTES AND DRAWING INDEX</td></tr><tr><td>SH-0101</td><td>LEGENDS, SYMBOLS AND ABBREVIATIONS</td></tr><tr><td>SH-1100</td><td>CONSTRUCTION SEQUENCE</td></tr><tr><td>SH-1101</td><td>CRANE TRAVEL LAYOUT</td></tr><tr><td>SH-2100</td><td>PARTIAL PLAN FIRST STREET BRIDGE</td></tr><tr><td>SH-2101</td><td>PARTIAL PLAN FIRST STREET BRIDGE</td></tr><tr><td>SH-2102</td><td>PARTIAL PLAN FREMONT STREET BRIDGE</td></tr><tr><td>SH-2103</td><td>PARTIAL PLAN FREMONT STREET BRIDGE</td></tr><tr><td>SH-2104</td><td>PARTIAL PLAN BEALE STREET BRIDGE</td></tr><tr><td>SH-2105</td><td>PARTIAL PLAN BEALE STREET BRIDGE</td></tr><tr><td>SH-3100</td><td>TEMPORARY BRIDGE KEY ELEVATION</td></tr><tr><td>SH-3101</td><td>TRANSVERSE ELEVATION FIRST STREET BRIDGE</td></tr><tr><td>SH-3102</td><td>TRANSVERSE ELEVATION FREMONT STREET BRIDGE</td></tr><tr><td>SH-3003</td><td>TRANSVERSE ELEVATION BEALE STREET BRIDGE</td></tr><tr><td>SH-3104</td><td>BRIDGE DECKING SECTIONS GRID LINES &amp; BENTS</td></tr><tr><td>SH-3105</td><td>BRIDGE DECKING SECTIONS ABUTMENTS ON THE NORTH SIDE</td></tr><tr><td>SH-3106</td><td>BRIDGE DECKING SECTIONS ABUTMENTS ON THE SOUTH SIDE</td></tr><tr><td>SH-4100</td><td>LONGITUDINAL SECTIONS FIRST &amp; FREMONT STREET BRIDGES</td></tr><tr><td>SH-4101</td><td>LONGITUDINAL SECTION BEALE STREET BRIDGE</td></tr><tr><td>SH-5100</td><td>DETAILS</td></tr><tr><td>SH-5101</td><td>DETAILS</td></tr><tr><td>SH-5102</td><td>DETAILS</td></tr><tr><td>SH-5103</td><td>DETAILS</td></tr><tr><td>SH-5104</td><td>DETAILS</td></tr><tr><td>SH-5105</td><td>DETAILS</td></tr></table>		SH-0100	GENERAL NOTES AND DRAWING INDEX	SH-0101	LEGENDS, SYMBOLS AND ABBREVIATIONS	SH-1100	CONSTRUCTION SEQUENCE	SH-1101	CRANE TRAVEL LAYOUT	SH-2100	PARTIAL PLAN FIRST STREET BRIDGE	SH-2101	PARTIAL PLAN FIRST STREET BRIDGE	SH-2102	PARTIAL PLAN FREMONT STREET BRIDGE	SH-2103	PARTIAL PLAN FREMONT STREET BRIDGE	SH-2104	PARTIAL PLAN BEALE STREET BRIDGE	SH-2105	PARTIAL PLAN BEALE STREET BRIDGE	SH-3100	TEMPORARY BRIDGE KEY ELEVATION	SH-3101	TRANSVERSE ELEVATION FIRST STREET BRIDGE	SH-3102	TRANSVERSE ELEVATION FREMONT STREET BRIDGE	SH-3003	TRANSVERSE ELEVATION BEALE STREET BRIDGE	SH-3104	BRIDGE DECKING SECTIONS GRID LINES & BENTS	SH-3105	BRIDGE DECKING SECTIONS ABUTMENTS ON THE NORTH SIDE	SH-3106	BRIDGE DECKING SECTIONS ABUTMENTS ON THE SOUTH SIDE	SH-4100	LONGITUDINAL SECTIONS FIRST & FREMONT STREET BRIDGES	SH-4101	LONGITUDINAL SECTION BEALE STREET BRIDGE	SH-5100	DETAILS	SH-5101	DETAILS	SH-5102	DETAILS	SH-5103	DETAILS	SH-5104	DETAILS	SH-5105	DETAILS
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## LEGENDS AND SYMBOLS

## LEGEND



## LEGENDS AND SYMBOLS

## LEGEND

TC	TOP OF CURB
FL	FLOW LINE
BW	BACK OF WALK
GB	GRADE BREAK
HR	HANDICAP RAMP
CONC.	CONCRETE
INV.	INVERT
10"	TREE
6"	TREE PIT W/TREE
4"	TREE PIT W/TREE
12"	TREE PIT (NO TREE)
P	CONCRETE PLANTER BOX, 3' HIGH
P	CONCRETE PLANTER BOX, 3' HIGH
COL.	COLUMN (SIZE/SHAPES VARIES)
R	RISER
MW	MONITORING WELL
MONO	MONUMENT COVER
E	ELECTRIC MANHOLE
E	ELECTRIC MANHOLE
E(P)	ELECTRIC MANHOLE (PAVED OVER)
GWP	"GWP" MANHOLE (ELECTRIC)
E	ELECTRIC PULLBOX
EC	ELECTRIC COVER
HVE	HIGH VOLTAGE ELECTRIC MANHOLE
HVE	HIGH VOLTAGE ELECTRIC MANHOLES & COVER
HVE	HIGH VOLTAGE ELECTRIC MANHOLE & COVER
HVE	HIGH VOLTAGE ELECTRIC VAULT COVER
Dote	S.F. DEPT. OF ELECTRICITY PULLBOX
Dote	S.F. DEPT. OF ELECTRICITY MANHOLE
CCSF-ENET	"CCSF-ENET" PULLBOX
FA	FIRE ALARM PULLBOX
FA	FIRE ALARM CALLBOX, 5' HIGH
GV	GAS VALVE
GC	GAS BOX
VENT	GAS VENT
GAS(MR)	6" HIGH METAL ENCLOSURE W/GAS METERS & REGULATORS
DRIP	DRIP VALVE
HH	HATCH HATCHY (MUN) MANHOLE
M	MUNI. POLE
MRY	"MRY" MANHOLE (MUN)
S	SEWER MANHOLE
S	STORM DRAIN MANHOLE
C/D	SEWER CLEANOUT
SV	SEWER VENT
AD	AREA DRAIN
AD	CATCH BASIN
SL	STREET LIGHT PULLBOX
STM	STEAM MANHOLE
T	TELEPHONE MANHOLE
T	TELEPHONE PULLBOX
P.TEL	PUBLIC TELEPHONE STAND, 6' HIGH
MCI	"MCI" MANHOLE (COMMUNICATION)
WU	WESTERN UNION MANHOLE (COMMUNICATION)
MFS	"MFS" MANHOLE (COMMUNICATION)
MFN	"MFN" MANHOLE (COMMUNICATION)
NXLK	"NXLK" MANHOLE (COMMUNICATION)
QWEST	"QWEST" MANHOLE (COMMUNICATION)
ABS	"ABS" MANHOLE (COMMUNICATION)
TCG	"TCG" MANHOLE (COMMUNICATION)
LEV3	"LEVEL 3" MANHOLE (COMMUNICATION)
GST	"GST" MANHOLE (COMMUNICATION)
IC	"INTER-CONNECT" PULLBOX
TV	TELEVISION PULLBOX
TS	TRAFFIC SIGNAL PULLBOX
TSC	TRAFFIC SIGNAL CONTROL BOX, 5'± HIGH
DET	LOOP DETECTOR
WM	WATER METER
WM	WATER METER
A	FIRE HYDRANT
SP	STANDPIPE, 3'± HIGH
STDP	STANDPIPE, 3'± HIGH
HB	HOSEBIB
HPW	HIGH PRESSURE FIRE HYDRANT
HPW	HIGH PRESSURE WATER COVER

## LEGENDS AND SYMBOLS

HPW	HIGH PRESSURE WATER VALVE
HPW	HIGH PRESSURE WATER VALVE
HPW	HIGH PRESSURE WATER MANHOLE
U	UNKNOWN MANHOLE
U	UNKNOWN COVER (PAVED OVER)
U	UNKNOWN COVER
U	UNKNOWN COVER
U	UNKNOWN COVER
U	UNKNOWN FILLER CAP
U	UNKNOWN RISER
U	UNKNOWN VAULT
U	UNKNOWN VENT
U	UNKNOWN FILLER CAP
U	UNKNOWN METAL COVER
U	UNKNOWN METAL COVER
U	"CET" MANHOLE
U	"APS" MANHOLE
U	"TCG" MANHOLE
U	"VW s" MANHOLE
U	"SVWC" COVER
U	"GROUND" VALVE
U	UNKNOWN BOX, 6'± HIGH
EMH-1351-MN	UTILITY IDENTIFYING NUMBER
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
P	PIPE
D	DUCT
E	ELECTRIC LINE
E(NR)	ELECTRIC LINE (NO RECORDS AVAILABLE)
MCI	MCI COMMUNICATION FIBER LINE
MFS	MFS COMMUNICATION FIBER LINE
COMM(NR)	COMMUNICATION FIBER LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
G	GAS LINE
HPG	HIGH PRESSURE GAS LINE
SD	STORM DRAIN LINE
SD(NR)	STORM DRAIN LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
SD	STORM DRAIN LINE (INACCESSIBLE, ASSUMED LOCATION)
S	SANITARY SEWER LINE
SS(NR)	SANITARY SEWER LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
SS	SANITARY SEWER LINE (INACCESSIBLE, ASSUMED LOCATION)
SL	STREET LIGHT AND OR TRAFFIC SIGNAL LINE
SL(NR)	STREET LIGHT AND OR TRAFFIC SIGNAL LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
T	TELEPHONE LINE
T(NR)	TELEPHONE LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
TS(NR)	TRAFFIC SIGNAL LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
U	UNKNOWN UTILITY LINE (NO RECORDS AVAILABLE)
W	WATER LINE
HPW	HIGH PRESSURE WATER LINE

## ABBREVIATIONS

NOTE: FOR TOP AND BOTTOM OF SHORING WALL SEE ELEVATION

## ABBREVIATION:

B.F.	BOTH FLANGES
B.O.W.	BOTTOM OF WALL
B.O.	BOTTOM OF
B.S.	BOTH SIDES
C	CENTER LINE
DIA.	DIAMETER
EL.	ELEVATION
E.G.	EXISTING GRADE
E.W.	EACH WAY
ED	EDGE OF DECK
ETW	EDGE OF TRAVELED WAY
FB	FLAT BAR
F.G.	FINISH GRADE
F.O.	FACE OF
F.P.	FULL PENETRATION
FTG.	FOOTING
HORI.	HORIZONTAL
INCLIA.	INCLINATION ANGLE
M.D.	METAL DECK
O.C.	ON CENTER
O.G.	ORIGINAL GRADE
PL.	PLATE
P.L.	PROPERTY LINE
PG	PROFILE GRADE
ST.	STREET
STRUCT.	STRUCTURAL
TBD	TO BE DETERMINED
T.O.W.	TOP OF WALL
T.O.	TOP OF
TYP.	TYPICAL
UNQ.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
WF	WIDE FLANGE
WWF	WELDED WIRE FABRIC
(E)	EXISTING
(N)	NEW

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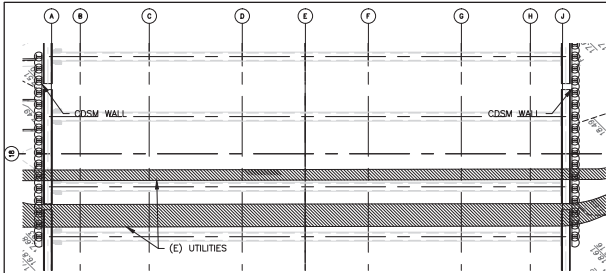
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TRANSBAY JOINT POWERS AUTHORITY			
Key Map			
REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	OL
2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	OL
3	06/07/11	100% PER. START INTERFERENCE	OL
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7	06/07/11	BRIDGE ANOMALY MITIGATION	OL
8	06/07/11	BEALE STREET TEMP. BRIDGE	OL
9	06/07/11	BEALE STREET TEMP. BRIDGE	OL
08-04-CMGC-000			
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FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES			
LEGENDS, SYMBOLS AND ABBREVIATION			
TZ1030-015313437			
ARCHITECT/ENGINEER SEAL			
APPROVED:			
PRINCIPAL ENGINEER			
P. BARAR			
PROJECT MANAGER			
P. BARAR			
PROJECT ENGINEER			
Q. LIU			
DESIGNED BY			
P. BARAR			
ML / PS / CP			
05/02/2011			
AS NOTED			
F			
140			
SEQUENCE NUMBER			
SH-0101			
of			

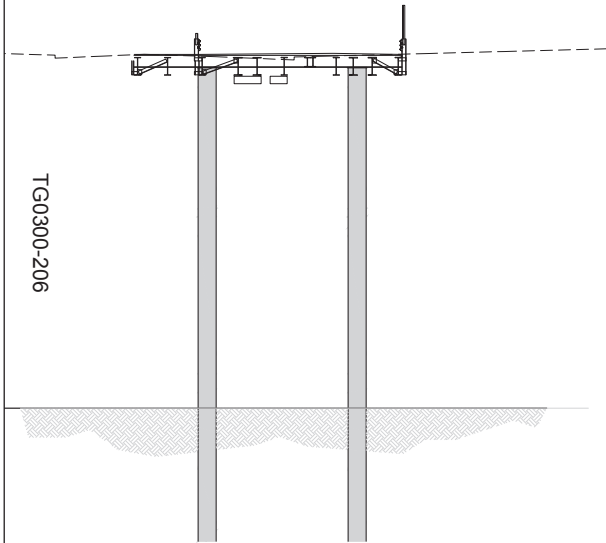






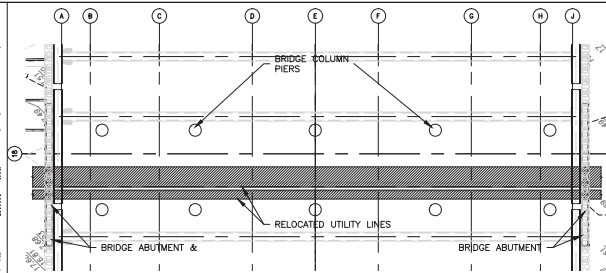
#### STAGE I

- A. PLACE CDSM WALL.
- B. RELOCATE AND/OR ABANDON UTILITIES AS SHOWN ON SECTIONS AND THE "BRIDGE UTILITY SUPPORT SUBMITTAL".



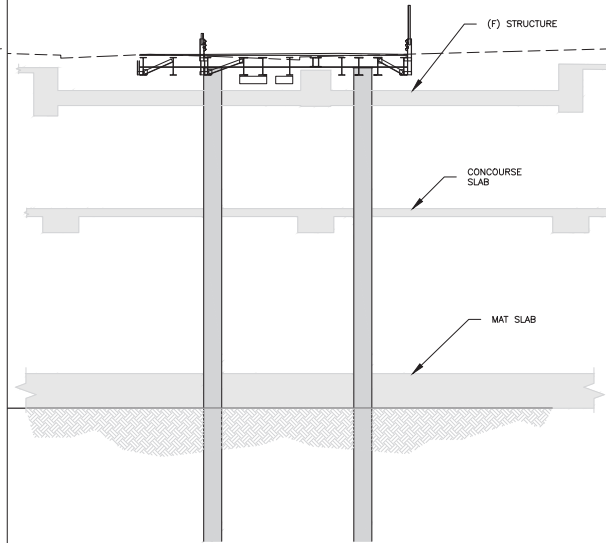
#### STAGE IV

- A. CONTINUE TO EXCAVATE TO THE LEVEL OF THE F.G..



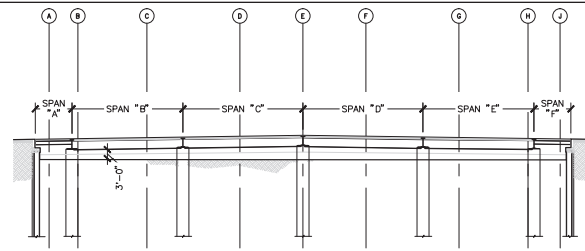
#### STAGE II

- A. DURING PARTIAL CLOSURE OF STREETS INSTALL:
  - A.1. INSTALL THE ABUTMENTS AS SHOWN ON THE PLANS.
  - A.2. DRILLED CDH BRIDGE COLUMN PILES. SEE ADDITIONAL NOTES SHEET SH-0100 FOR CONSTRUCTION PROCEDURE OF CDH BRIDGE COLUMN PILES.
  - A.3. ABUTMENT IN SEGMENTS COORDINATED WITH STREET PARTIAL CLOSURES.



#### STAGE V

- A. CONSTRUCT THE STRUCTURE FROM MAT SLAB LEVEL -> CONCOURSE LEVEL -> THE GROUND LEVEL.



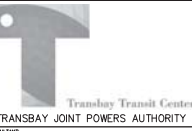
#### ELEVATION

#### STAGE III

- A. DURING FULL CLOSURE OF STREETS;
- B. EXCAVATE TO THE LEVEL OF ABOUT 3 FT. BELOW THE BOTTOM OF THE BRIDGE STRUCTURE (BOTTOM FL'G OF THE W36 GIRDERS)
- C. INSTALL PREFABRICATED SPANS OF THE BRIDGES IN SEQUENCE A THRU F.

#### NOTES:

1. COORDINATE THE TEMPORARY BRIDGE CONSTRUCTION SEQUENCE WITH THE TRAFFIC HANDLING PLAN.
2. ALL OVERHEAD OBSTRUCTIONS FOR ANY PART OF THE CRANE, WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE REMOVED AS NEEDED PRIOR TO COMMENCEMENT OF TEMPORARY BRIDGE CONSTRUCTION ACTIVITIES AS SHOWN.




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CONSTRUCTION SEQUENCE											
Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18

Key Map



NO.	DATE	DESCRIPTION
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2	08/07/11	100% TEMP. BRIDGE SUBMITTAL
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8	08/07/11	BEALE STREET TEMP. BRIDGE
9	08/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

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TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES

CONSTRUCTION SEQUENCE

PROJECT FILE

PROJECT NO.

ARCHITECT/ENGINEER SEAL

PROJECT FILE

PROJECT NO.

ARCHITECT/ENGINEER SEAL

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

DRAWN BY

ML / PS / CP

AS NOTED

SHEET NUMBER

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

DRAWN BY

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AS NOTED

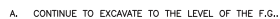
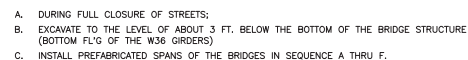
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SH-1100

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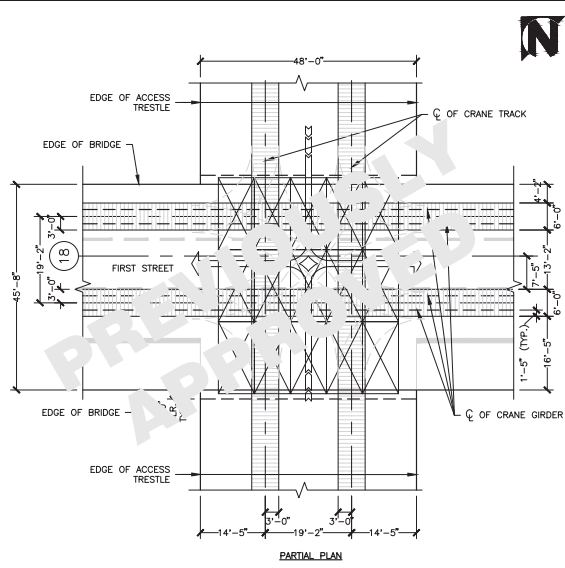
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1. COORDINATE THE TEMPORARY BRIDGE CONSTRUCTION SEQUENCE WITH THE TRAFFIC HANDLING PLAN.
2. ALL OVERHEAD OBSTRUCTIONS FOR ANY PART OF THE CRANE, WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE REMOVED AS NEEDED PRIOR TO COMMENCEMENT OF TEMPORARY BRIDGE CONSTRUCTION ACTIVITIES AS SHOWN.

SH-1100



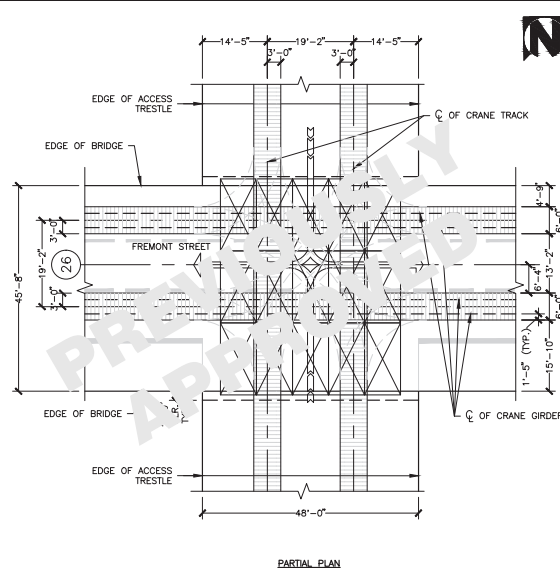
LEGEND:

DENOTES LIMITS CRANE TRACK MOVEMENT

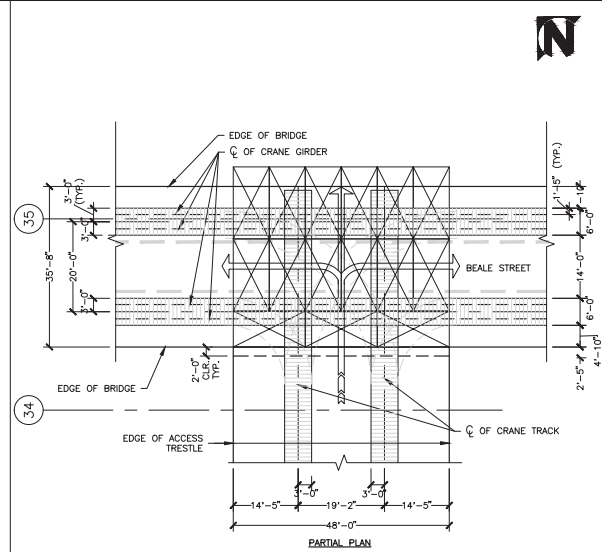
DENOTES 12"X96"X16'-0"

NOTE: TAKE DOWN MUNI OCS WIRES  
NEEDED FOR CRANE CROSSING

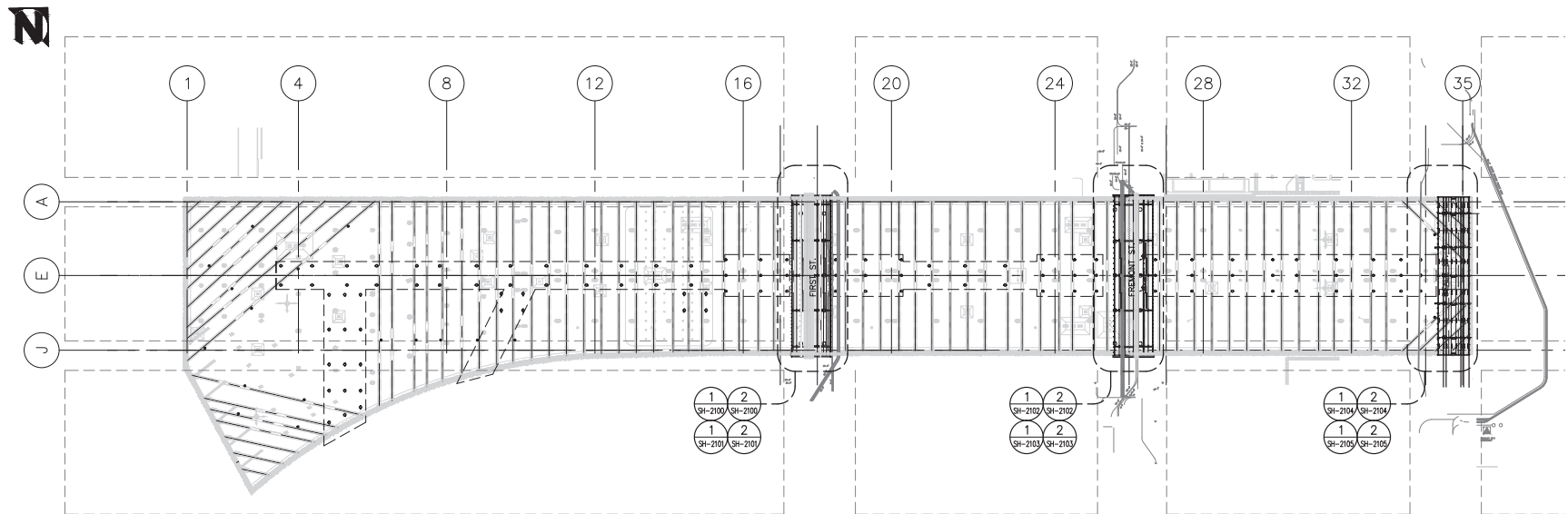
1 CRANE TRAVEL LAYOUT (FIRST STREET)  
SH-1101 SCALE: NTS



2 CRANE TRAVEL LAYOUT (FREMONT STREET)  
SH-1101 SCALE: NTS



3 CRANE TRAVEL LAYOUT (BEALE STREET)  
SH-1101 SCALE: NTS



4 TEMPORARY BRIDGE KEY PLAN  
SH-1101 SCALE: 1" = 80'-0"

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PROFESSIONAL ARCHITECTS

Key Map											
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6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS
7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION
8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE
9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

171030-015313A31

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

CRANE TRAVEL LAYOUT

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

Q. LIU

ML / PS / CP

AS NOTED

SHEET NUMBER

APPROVED:

P. BARAR

P. BARAR

Q. LIU

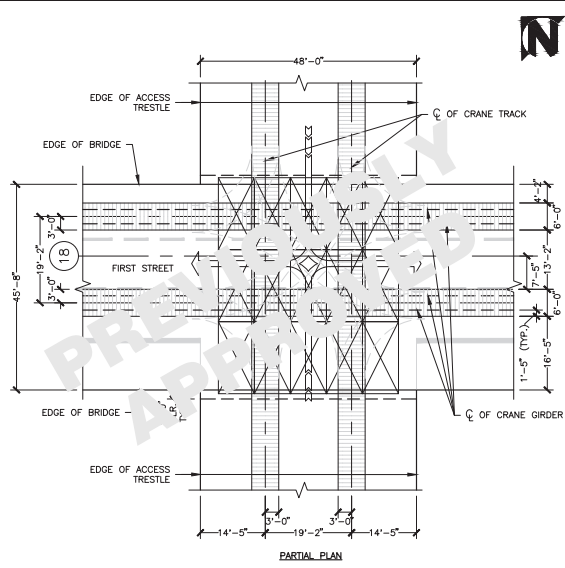
05/02/2011

140

SEQUENCE NUMBER

SH-1101 of





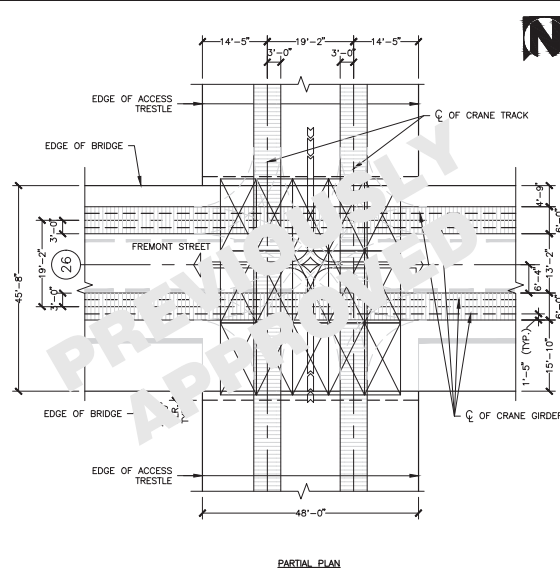
LEGEND:

DENOTES LIMITS CRANE TRACK MOVEMENT

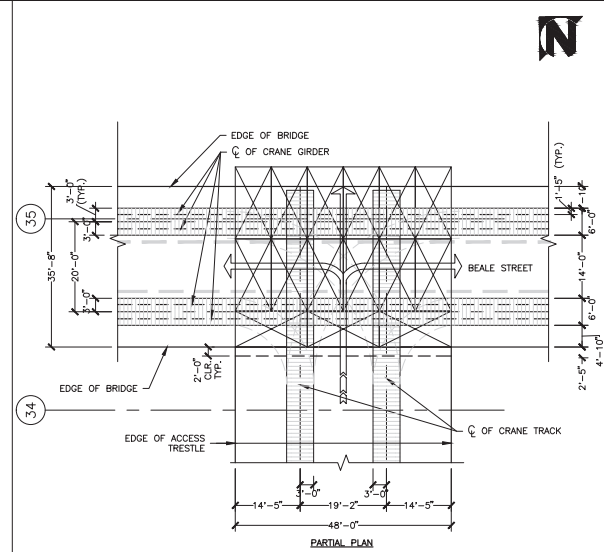
DENOTES 12" X 96" X 16'-0"

NOTE: TAKE DOWN MUNI OCS WIRES  
NEEDED FOR CRANE CROSSING

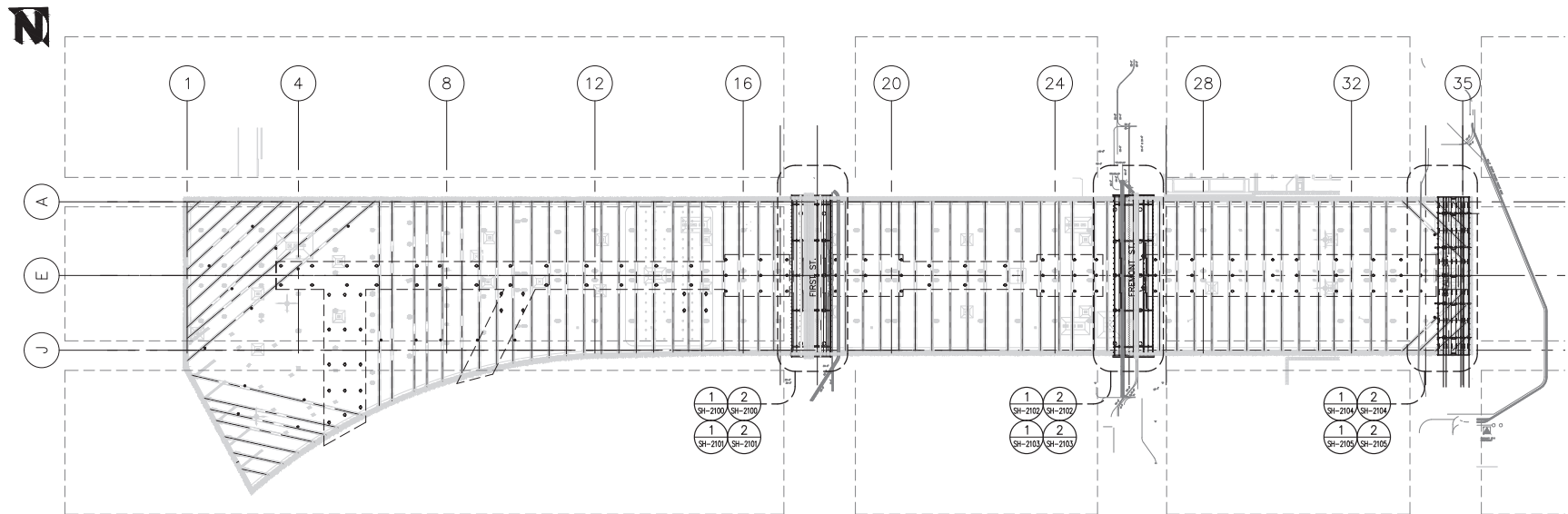
1 CRANE TRAVEL LAYOUT (FIRST STREET)  
SH-1101 SCALE: NTS



2 CRANE TRAVEL LAYOUT (FREMONT STREET)  
SH-1101 SCALE: NTS



3 CRANE TRAVEL LAYOUT (BEALE STREET)  
SH-1101 SCALE: NTS



4 TEMPORARY BRIDGE KEY PLAN  
SH-1101 SCALE: 1" = 80'-0"

Note:  
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size. Scales noted on drawings/details are no longer applicable.

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
PROFESSIONAL ENGINEER

01 02 03 04 05 06 07 08 09 10 11 12

Key Map

BY DATE DESCRIPTION

1 05/02/11 75% TEMP. BRIDGE SUBMITTAL

2 05/02/11 100% TEMP. BRIDGE SUBMITTAL

3 05/02/11 100% PER. STAT. INTERFERENCE SUBMITTAL

4 05/02/11 100% PER. STAT. INTERFERENCE SUBMITTAL

5 05/02/11 RESPONSE TO COMMENTS

6 05/02/11 RESPONSE TO COMMENTS

7 05/02/11 BRIDGE ANOMALY MITIGATION

8 05/02/12 BEALE STREET TEMP. BRIDGE

9 05/02/12 BEALE STREET TEMP. BRIDGE

NO. DATE DESCRIPTION

1 05/02/11 75% TEMP. BRIDGE SUBMITTAL

2 05/02/11 100% TEMP. BRIDGE SUBMITTAL

3 05/02/11 100% PER. STAT. INTERFERENCE SUBMITTAL

4 05/02/11 100% PER. STAT. INTERFERENCE SUBMITTAL

5 05/02/11 RESPONSE TO COMMENTS

6 05/02/11 RESPONSE TO COMMENTS

7 05/02/11 BRIDGE ANOMALY MITIGATION

8 05/02/12 BEALE STREET TEMP. BRIDGE

9 05/02/12 BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

CRANE TRAVEL LAYOUT

171030-015313A31

APPROVED: P. BARAR

APPROVED: P. BARAR

PROJECT MANAGER: P. BARAR

PROJECT ENGINEER: Q. LIU

DESIGNED BY: Q. LIU

CHECKED BY: P. BARAR

DATE: 05/02/2011

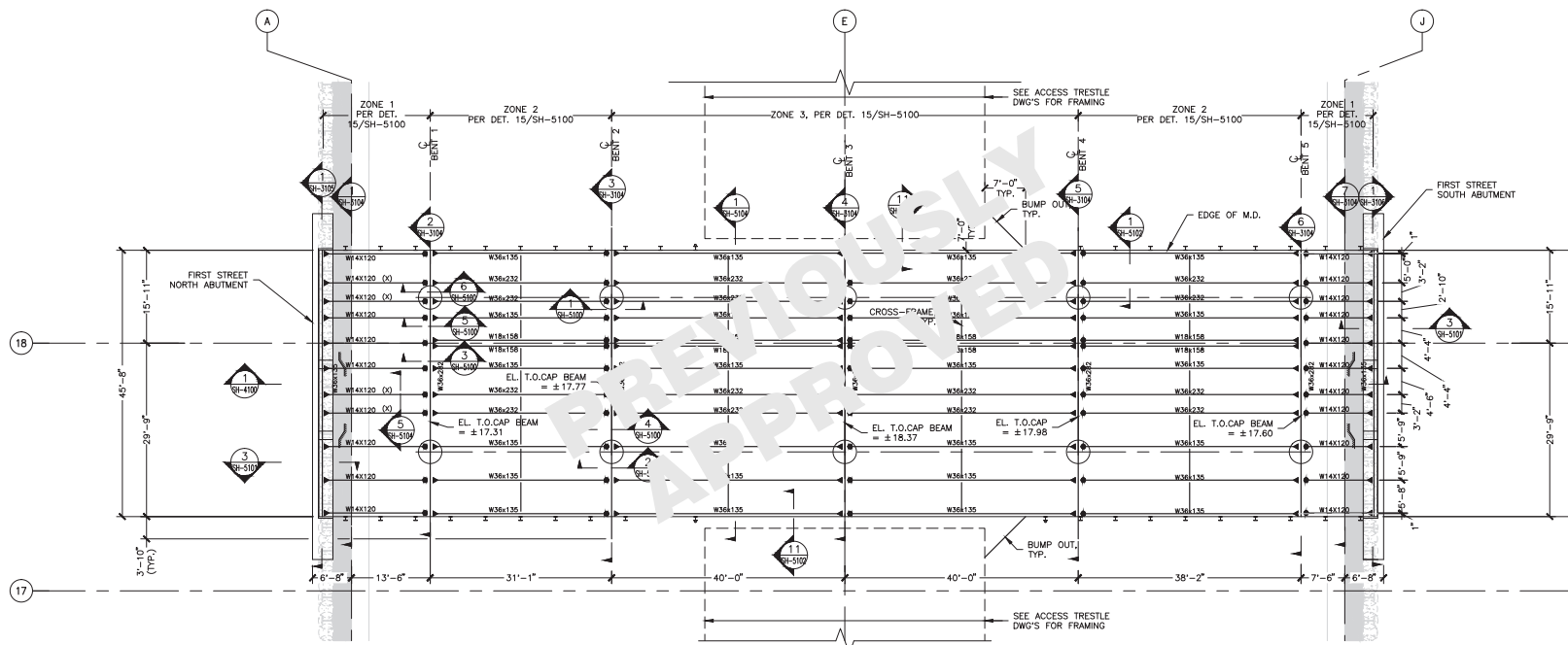
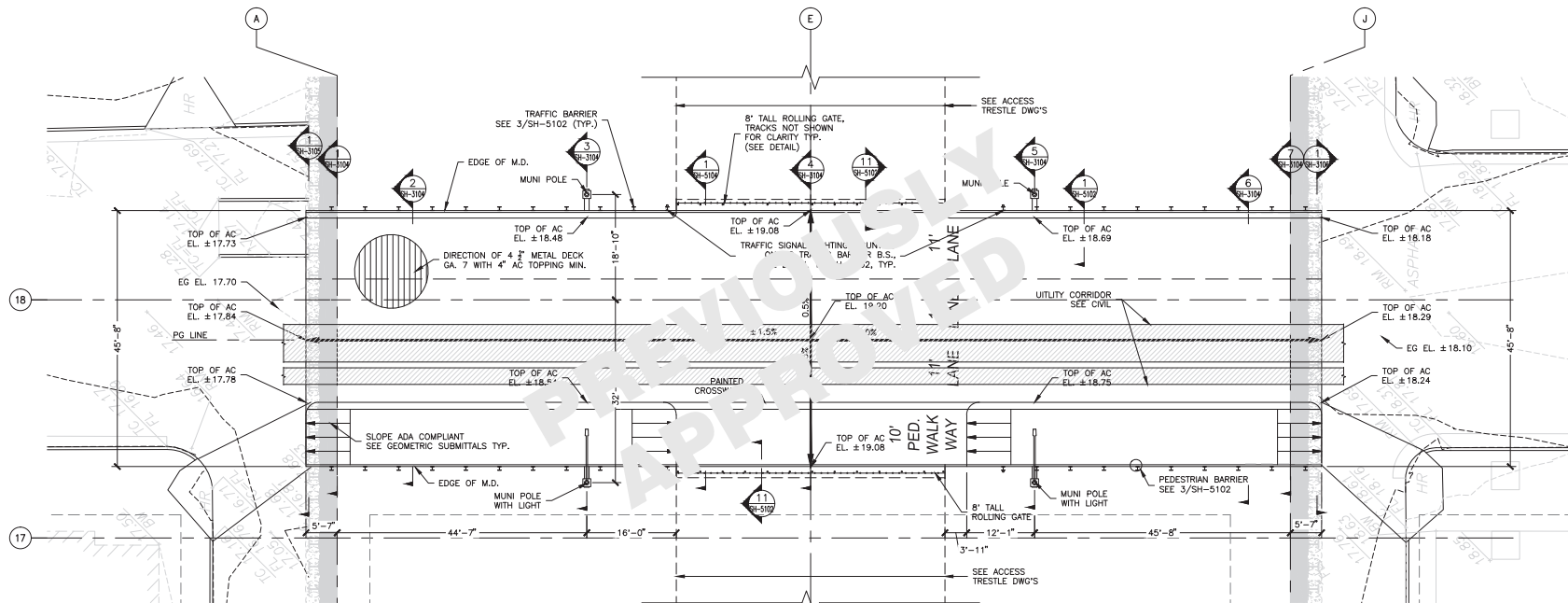
SCALE: 1" = 80'-0"

AS NOTED

SHEET NUMBER: 140

SEQUENCE NUMBER

SH-1101 of



- LEGEND**
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION
  - ▶ DENOTES MOMENT CONNECTION

INDICATES REINFORCEMENT  
 @ BOTTOM FLANGE,  
 SEE 1/SH-5105  
 USE W14X176 OR EQUIVALENT  
 DEEPER BEAM PER  
 CONTRACTOR'S OPTION

Note:  
 If this sheet is not 44" x 34", it has been revised from its original  
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**Transbay Transit Center**  
 TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
 Infrastructure Inc.

**P&A Inc.**  
 PROFESSIONAL ENGINEER

**Key Map**

NO.	DATE	DESCRIPTION	BY	CHKD.
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR
3	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	Q. LIU	P. BARAR
4	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR
5	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR
6	05/07/11	BRIDGE ANOMALY MITIGATION	Q. LIU	P. BARAR
7	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR
8	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR
9	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR

**08-04-CMGC-000**

**TRANSBAY TRANSIT CENTER PROGRAM**  
**TRANSBAY TRANSIT CENTER**  
**SAN FRANCISCO, CA**

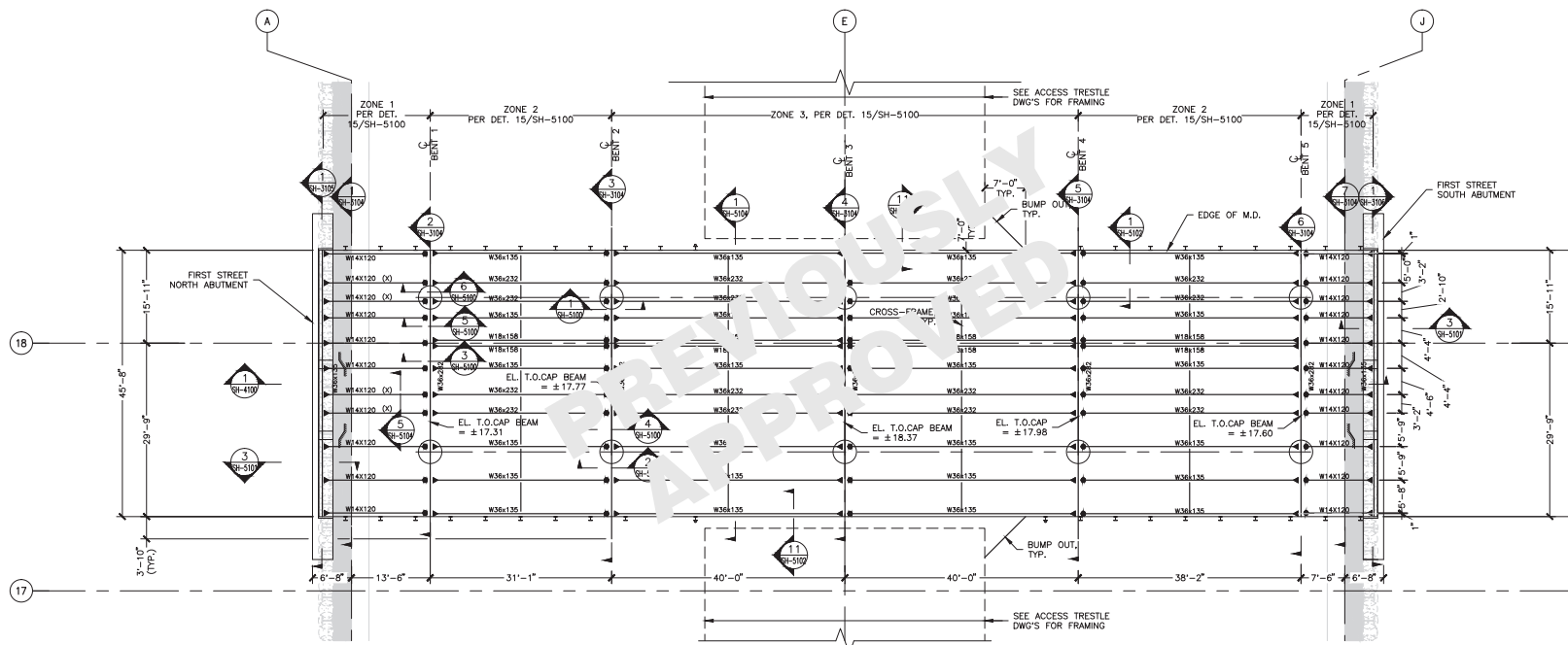
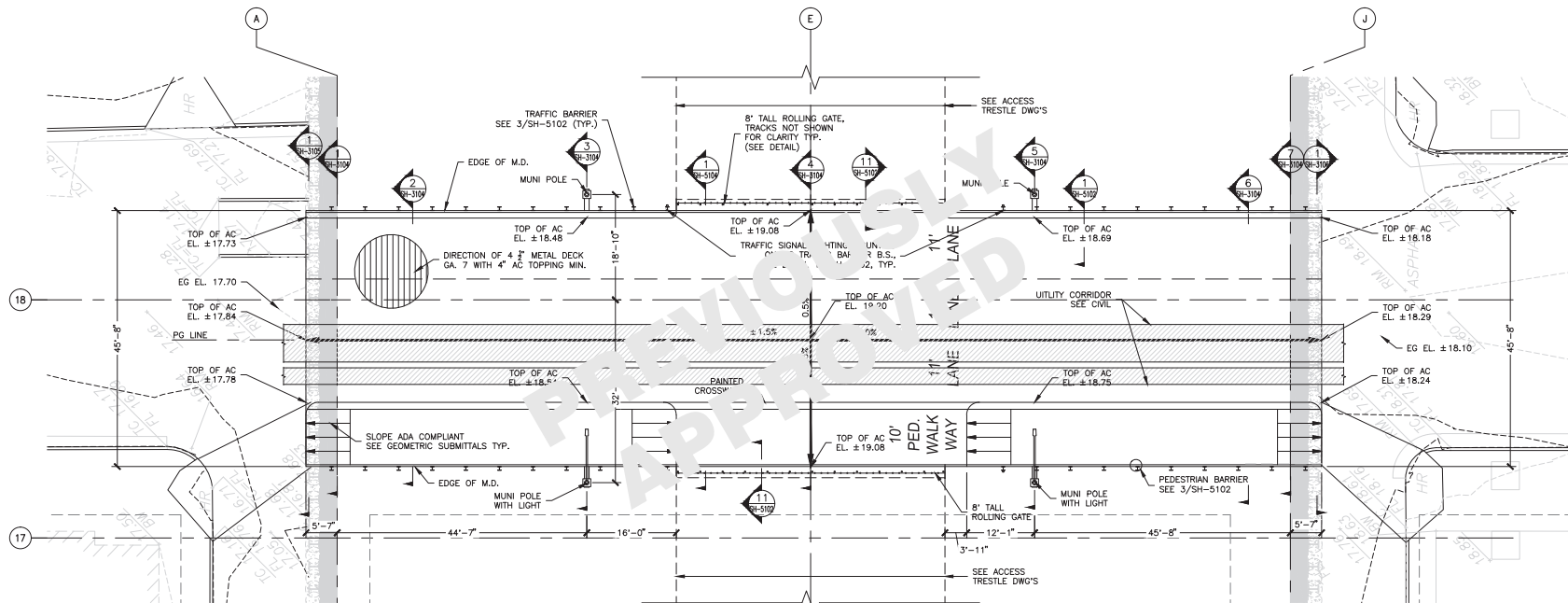
**FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES**

**PARTIAL PLAN**  
**FIRST STREET BRIDGE**

**APPROVED:**  
 PRINCIPAL ENGINEER: P. BARAR  
 PROJECT MANAGER: P. BARAR  
 PROJECT ENGINEER: Q. LIU  
 CHECKED BY: Q. LIU  
 DATE: 05/02/2011  
 SCALE: AS NOTED  
 SHEET NUMBER: 140

**SH-2100**

**SEQUENCE NUMBER**



- LEGEND**
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION
  - ▶ DENOTES MOMENT CONNECTION

INDICATES REINFORCEMENT  
 @ BOTTOM FLANGE,  
 SEE 1/SH-5105  
 USE W14X176 OR EQUIVALENT  
 DEEPER BEAM PER  
 CONTRACTOR'S OPTION

Note:  
 If this sheet is not 44" x 34", it has been revised from its original  
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**Transbay Transit Center**  
 TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
 Infrastructure Inc.

**P&A Inc.**  
 PROFESSIONAL ENGINEER

**REVISIONS**

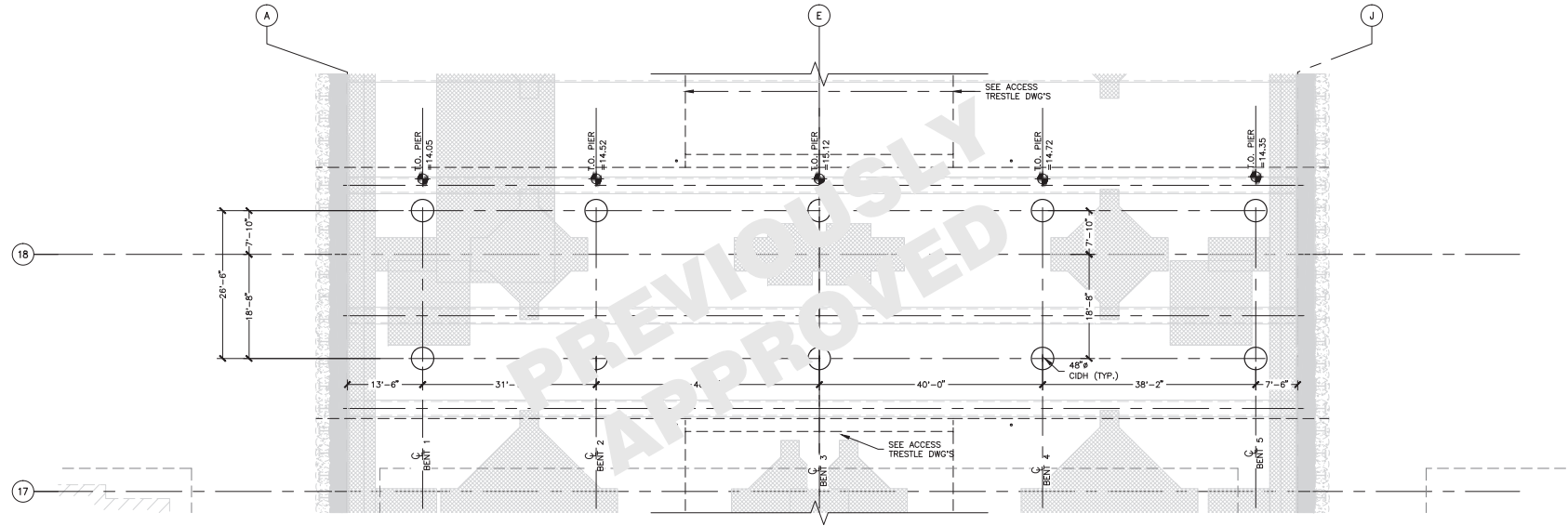
NO.	DATE	DESCRIPTION	BY	CHKD.
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR
3	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	Q. LIU	P. BARAR
4	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR
5	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR
6	05/07/11	BRIDGE ANOMALY MITIGATION	Q. LIU	P. BARAR
7	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR
8	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR
9	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR

**08-04-CMGC-000**  
 TRANSBAY TRANSIT CENTER PROGRAM  
 TRANSBAY TRANSIT CENTER  
 SAN FRANCISCO, CA

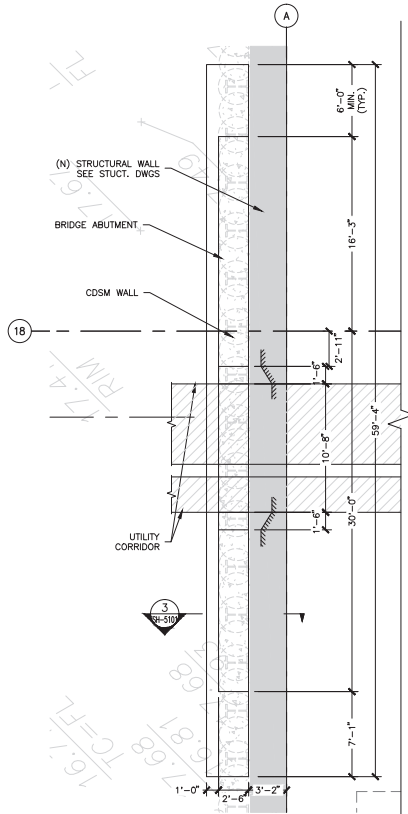
**171030-015313A31**  
 FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
 PARTIAL PLAN  
 FIRST STREET BRIDGE

**APPROVED:**  
 PRINCIPAL ENGINEER P. BARAR  
 PROJECT MANAGER P. BARAR  
 PROJECT ENGINEER Q. LIU  
 CHECKED BY Q. LIU  
 DATE 05/02/2011  
 SCALE AS NOTED  
 SHEET NUMBER 140  
 SEQUENCE NUMBER

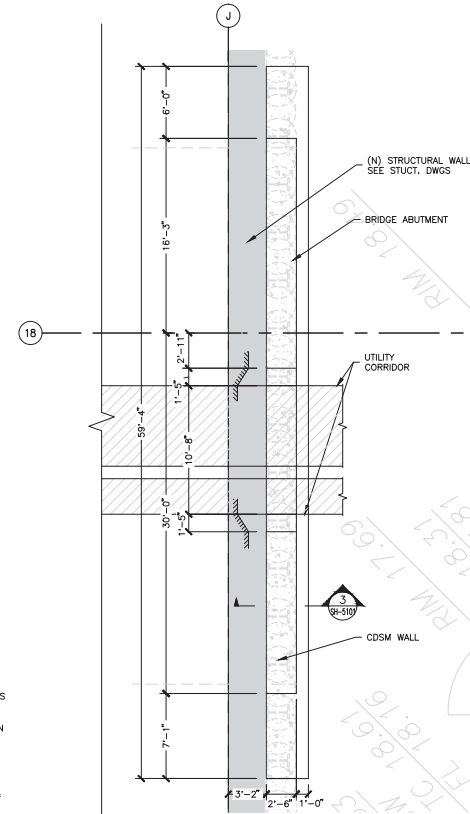
**SH-2100** of



1 FIRST STREET PARTIAL FOUNDATION PLAN  
SCALE: 1/8" = 1'-0"



2 FIRST STREET NORTH ABUTMENT PLAN  
SCALE: 1/4" = 1'-0"



3 FIRST STREET SOUTH ABUTMENT PLAN  
SCALE: 1/4" = 1'-0"

- LEGEND
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION\*
  - ▶ DENOTES MOMENT CONNECTION\*

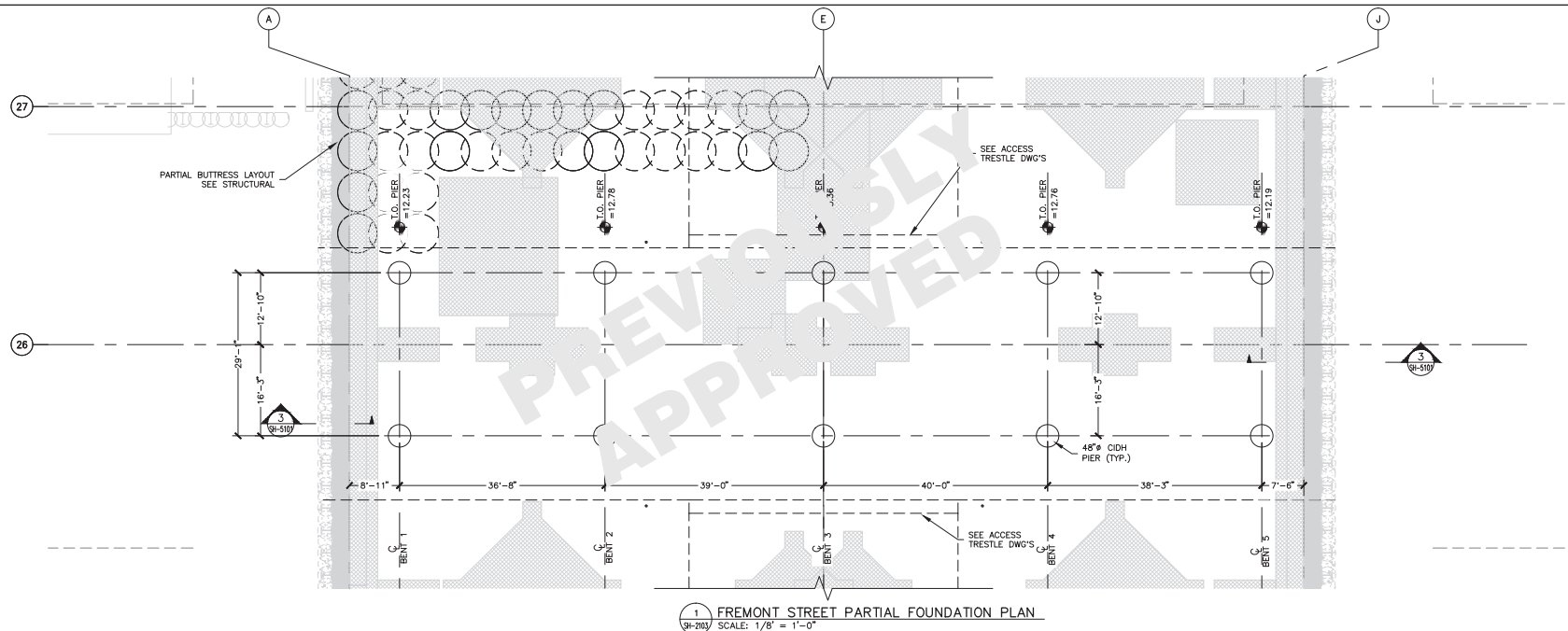
\* SEE SHEET SH-5100 FOR CONNECTION DETAILS

Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

 TRANSBAY JOINT POWERS AUTHORITY  	
NO. DATE DESCRIPTION 1 06/07/11 75% TEMP. BRIDGE SUBMITTAL 2 06/07/11 100% TEMP. BRIDGE SUBMITTAL 3 06/07/11 100% PER. STAT. INTERFERENCE SUBMITTAL 4 06/07/11 RESPONSE TO COMMENTS 5 06/07/11 RESPONSE TO COMMENTS 6 06/07/11 BRIDGE ANOMALY MITIGATION 7 06/07/11 BEALE STREET TEMP. BRIDGE 8 06/07/11 BEALE STREET TEMP. BRIDGE 9 06/07/11 BEALE STREET TEMP. BRIDGE	
BY OL PB PS OL OL OL OL OL OL	
PROJECT TITLE TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES PARTIAL PLAN FIRST STREET BRIDGE	
PROJECT NO. 08-04-CMGC-000 PROJECT FILE TZ1030-015313A31 ARCHITECT/ENGINEER SEAL 	
APPROVED PRINCIPAL ENGINEER P. BARAR PROJECT MANAGER P. BARAR PROJECT ENGINEER Q. LIU DRAWN BY Q. LIU ML / PS / CP DATE 05/02/2011 AS NOTED SHEET NUMBER 140 SEQUENCE NUMBER 140 of 140	

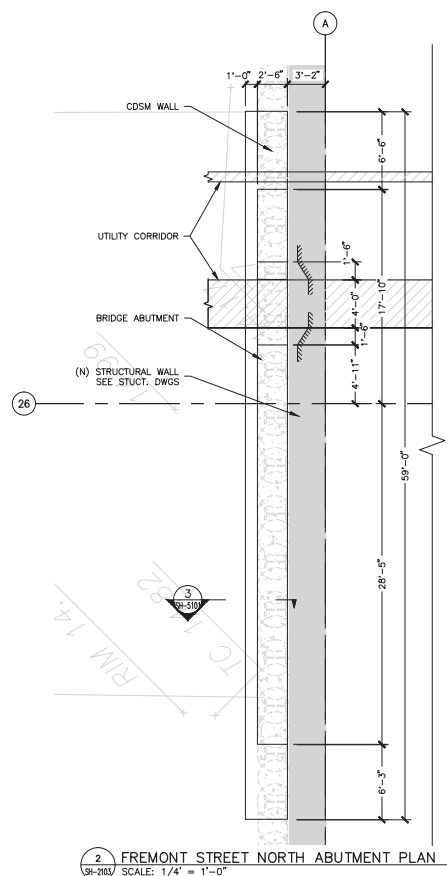




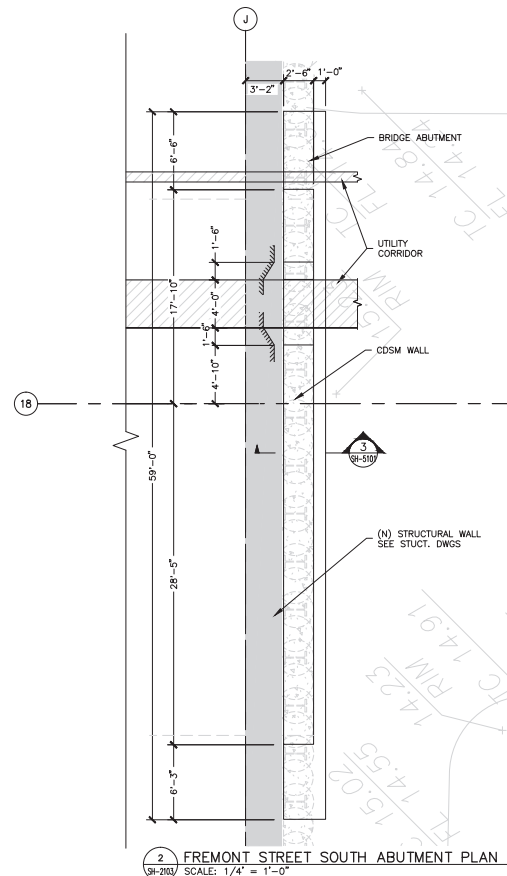


1  
SH-2103

FREMONT STREET PARTIAL FOUNDATION PLAN  
SCALE: 1/8" = 1'-0"

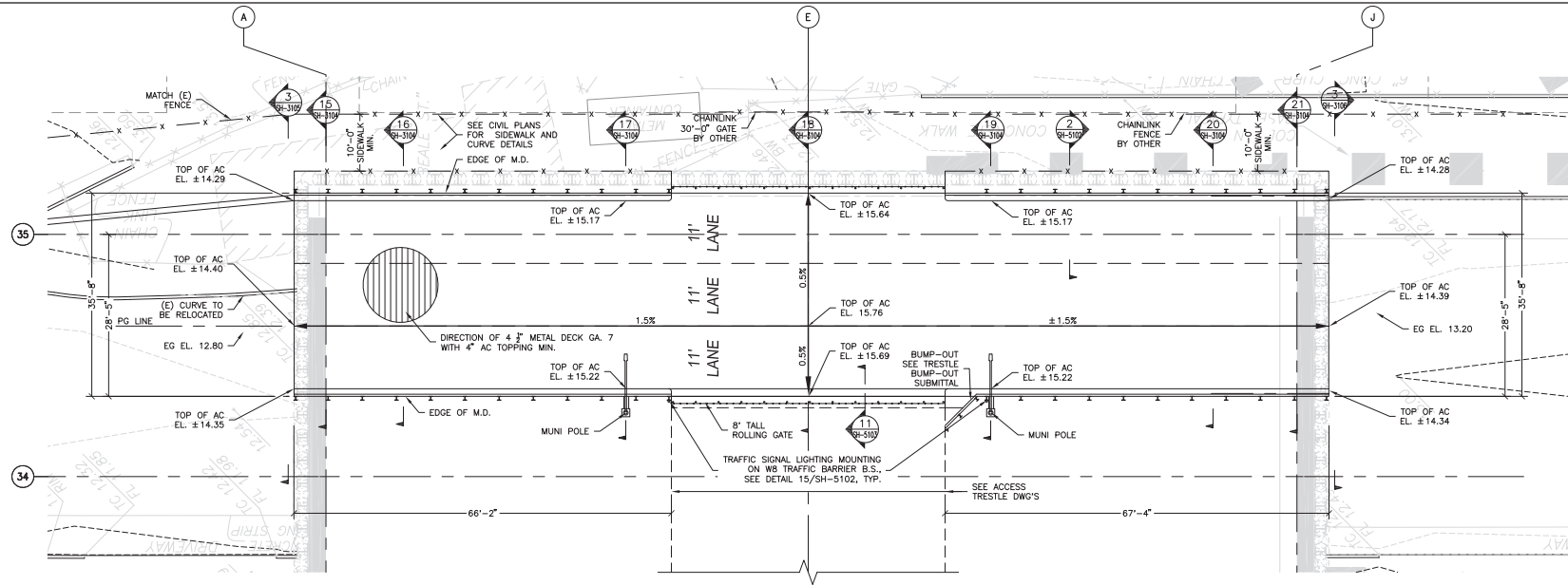


2 FREMONT STREET NORTH ABUTMENT PLAN  
SH-2103 SCALE: 1/4" = 1'-0"

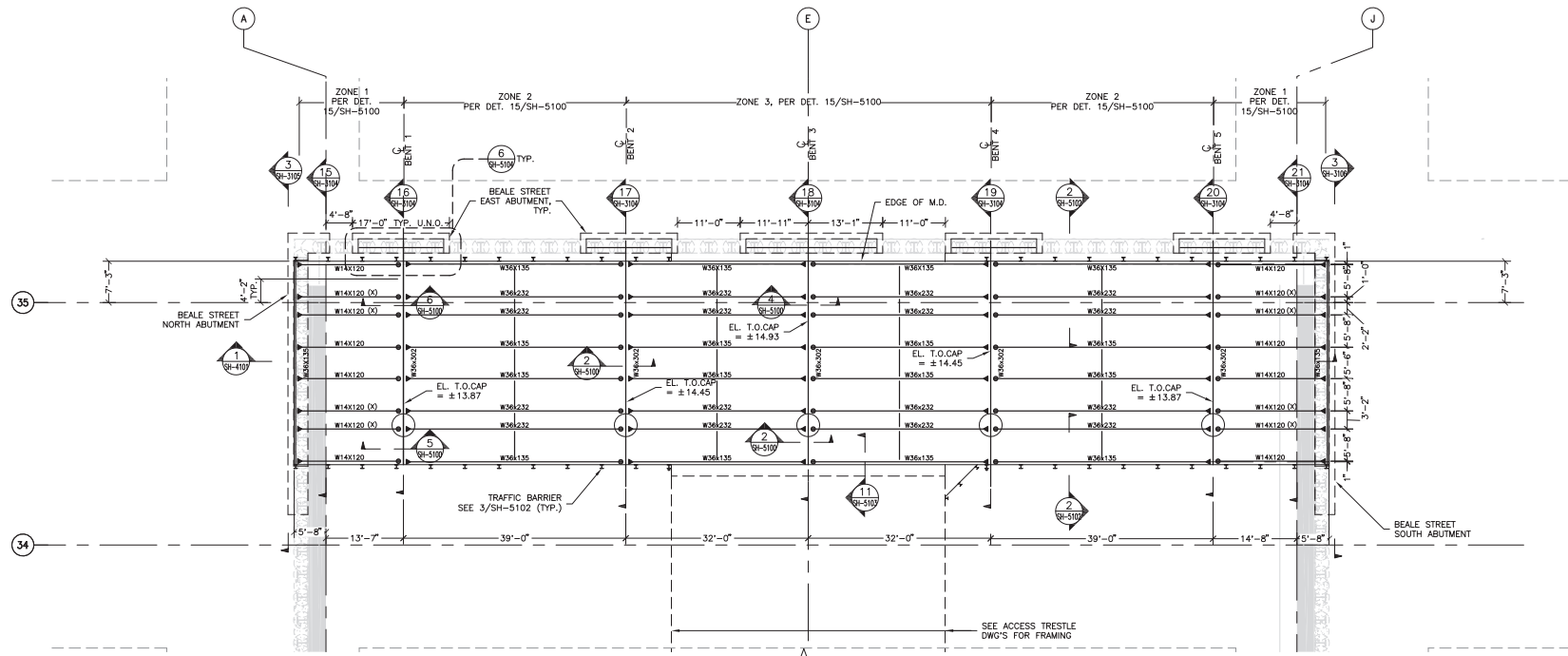


2 FREMONT STREET SOUTH ABUTMENT PLAN  
SH-2103 SCALE: 1/4" = 1'-0"

[illegible]



1 BEALE STREET PARTIAL CIVIL PLAN  
SCALE: 1/8" = 1'-0"



2 BEALE STREET PARTIAL STRUCTURAL PLAN  
SCALE: 1/8" = 1'-0"

- LEGEND
- ◻ DENOTES UTILITY CORRIDOR
  - ◻ DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION\*
  - ▶ DENOTES MOMENT CONNECTION\*

(X) INDICATES REINFORCEMENT  
● BOTTOM FLANGE,  
SEE 15/SH-5105  
USE W14X176 OR EQUIVALENT  
DEEPER BEAM PER  
CONTRACTOR'S OPTION

Note:  
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TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**PI&A Inc.**  
Professional Engineering

REVISIONS		BY		DATE	
1	75% TEMP. BRIDGE SUBMITTAL	BY	DATE		
2	100% TEMP. BRIDGE SUBMITTAL	BY	DATE		
3	100% PER. INTERFERENCE SUBMITTAL	BY	DATE		
4	RESPONSE TO COMMENTS	BY	DATE		
5	RESPONSE TO COMMENTS	BY	DATE		
6	BRIDGE ANCHORAGE MITIGATION	BY	DATE		
7	BEALE STREET TEMP. BRIDGE	BY	DATE		

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

171030-015313A31

FIRST, FREWENT, AND BEALE ST. TEMPORARY BRIDGES

PARTIAL PLAN

BEALE STREET BRIDGE

APPROVED:

PRINCIPAL ENGINEER P. BARAR

PROJECT MANAGER P. BARAR

PROJECT ENGINEER Q. LIU

DESIGNED BY Q. LIU

CHECKED BY P. BARAR

DATE 05/02/2011

SCALE AS NOTED

SHEET NUMBER 140

APPROVED:

PRINCIPAL ENGINEER P. BARAR

PROJECT MANAGER P. BARAR

PROJECT ENGINEER Q. LIU

DESIGNED BY Q. LIU

CHECKED BY P. BARAR

DATE 05/02/2011

SCALE AS NOTED







SHEET NUMBER 140

SH-2104

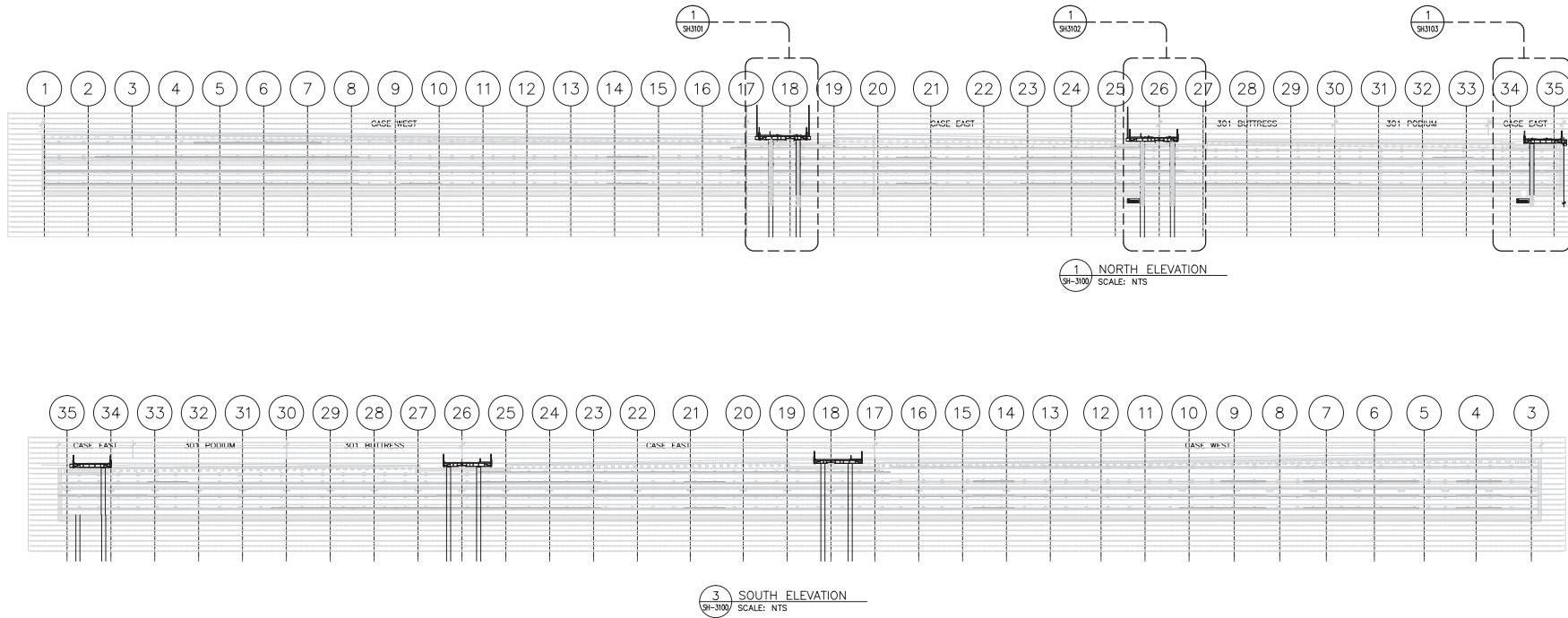
of



Note:  
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 <b>Transbay Transit Center</b> TRANSBAY JOINT POWERS AUTHORITY CONSULTANT		 <b>Balfour Beatty</b> Infrastructure Inc.  <b>P&amp;A Inc.</b> STRUCTURAL ENGINEERING 1000 CALIFORNIA STREET, SUITE 1000 SAN FRANCISCO, CA 94109	
			
 Key Map			
REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	08/07/11	7.5% TEMP. BRIDGE SUBMITTAL	OL
2	08/08/11	7.5% TEMP. BRIDGE SUBMITTAL	OL
3	08/08/11	100% PER REVIEWER COMMENTS SUBMITTAL	OL
4	08/08/11	STRUCTURE INTERFERENCE	PS
5	10/06/11	RESPONSE TO COMMENTS	OL
6	10/06/11	RESPONSE TO COMMENTS	OL
7	04/04/12	CONFORMED SET	OL
8	05/07/12	BRIDGE ANOMALY MITIGATION	OL
9	09/07/12	BEALE STREET TEMP. BRIDGE	OL
08-04-CMGC-000 TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES PARTIAL PLAN BEALE STREET BRIDGE T121030-015313A31			
CONTRACT NO. PROJECT FILE ARCHITECT/OWNER SEAL 			
APPROVED: PRINCIPAL ENGINEER		P. BARAR	
APPROVED: PROJECT MANAGER		P. BARAR	
APPROVED: PROJECT ENGINEER		Q. LIU	
DESIGNED BY Q. LIU		CHECKED BY P. BARAR	
DRAWN BY ML / PS / CP		DATE 05/02/2011	
SCALE AS NOTED		FACILITY NO. 140	
SHEET NUMBER SH-2105		REVISION 1	
of		1	





TRANSBAY JOINT POWERS AUTHORITY

PI&A Inc.

REVISIONS	
NO.	DATE
1	06/07/11
2	06/07/11
3	06/07/11
4	06/07/11
5	06/07/11
6	06/07/11
7	06/07/11
8	06/07/11
9	06/07/11

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
TEMPORARY BRIDGE KEY ELEVATION

TZ1030-015313A31

APPROVED:  
PRINCIPAL ENGINEER  
P. BARAR

APPROVED:  
PROJECT MANAGER  
P. BARAR

APPROVED:  
PROJECT ENGINEER  
Q. LIU

DESIGNED BY:  
Q. LIU

CHECKED BY:  
P. BARAR

DATE:  
05/02/2011

SCALE:  
AS NOTED

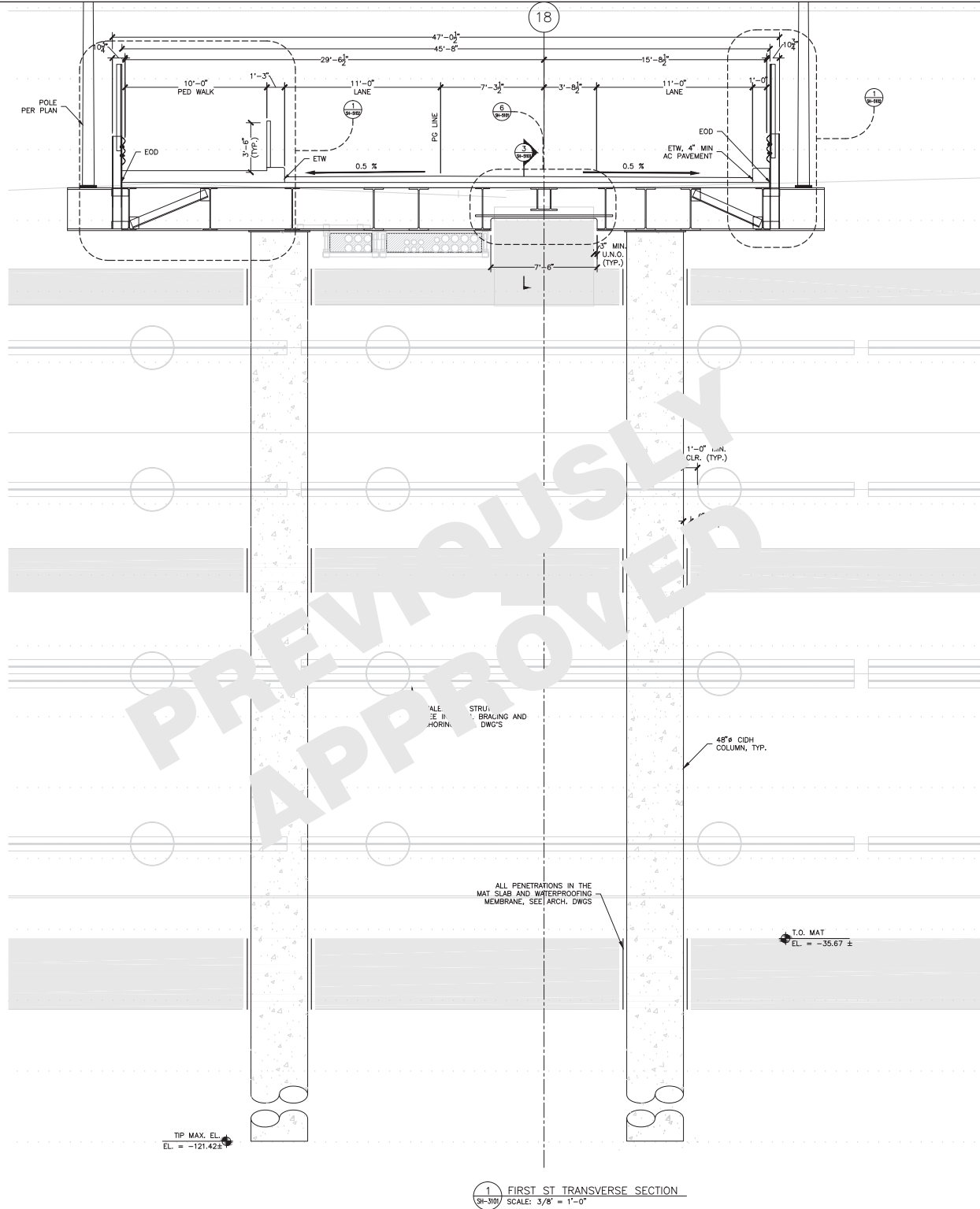
REVISION:  
F

SEQUENCE NUMBER:  
140

SH-3100 of

Note:  
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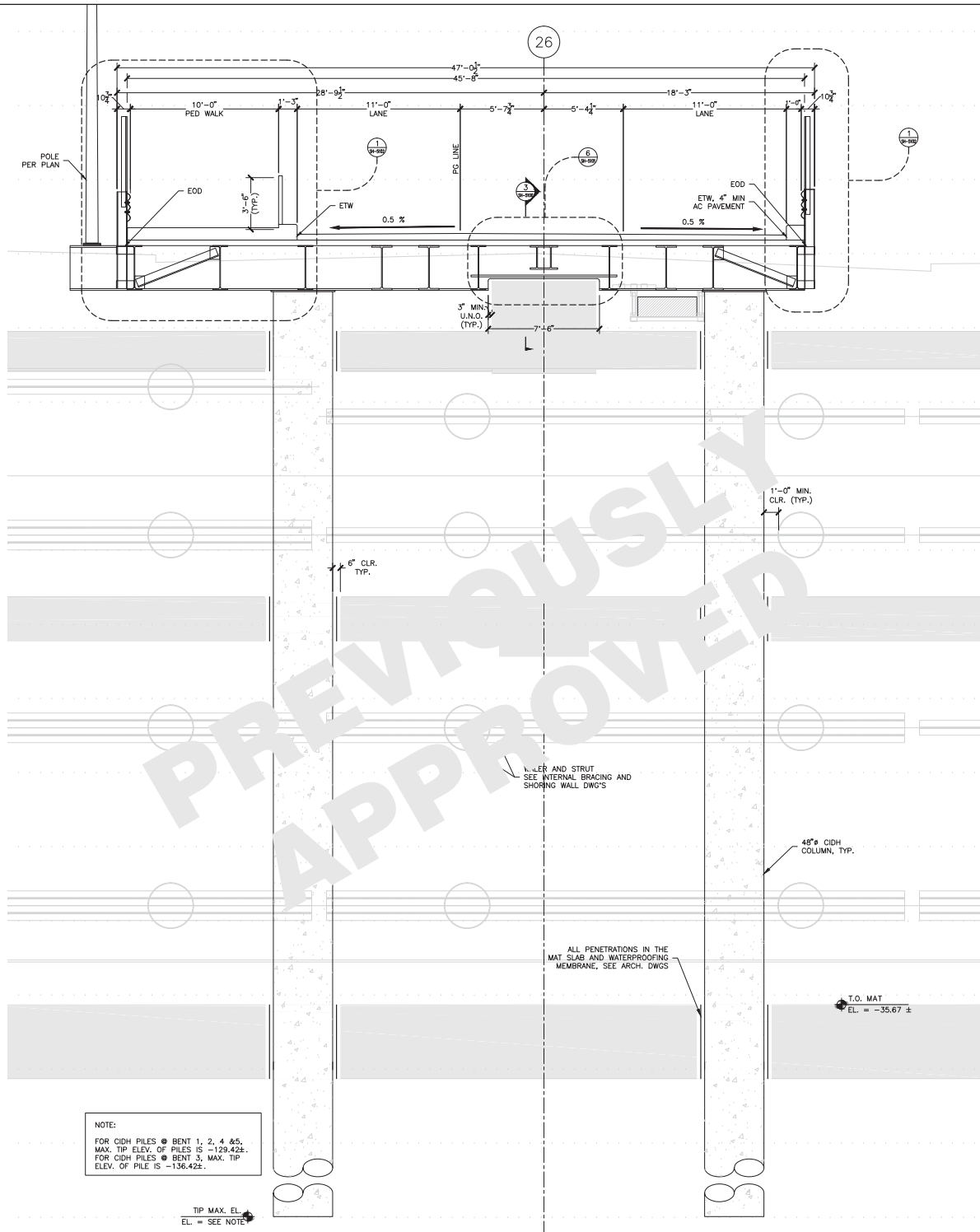
UTILITY CORRIDORE  
SEE ABUTMENT LAYOUT  
SHEETS FOR DIMENSIONS



TRANSBAY JOINT POWERS AUTHORITY			
07 08 09 10 11 12			
NO.	DATE	DESCRIPTION	BY
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	OL
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	PB
3	05/07/11	100% PER. STAT. INTERFERENCE SUBMITTAL	PS
4	05/07/11	RESPONSE TO COMMENTS	OL
5	05/07/11	RESPONSE TO COMMENTS	OL
6	05/07/11	BRIDGE ANOMALY MITIGATION	OL
7	05/07/11	BEALE STREET TEMP. BRIDGE	OL
8	05/07/11	BEALE STREET TEMP. BRIDGE	OL
9	05/07/11	BEALE STREET TEMP. BRIDGE	OL
08-04-CMGC-000			
TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA			
FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES TRANSVERSE ELEVATION FIRST STREET BRIDGE			
PROJECT FILE ARCHITECT/ENGINEER SEAL			
APPROVED: PRINCIPAL ENGINEER P. BARAR APPROVED: PROJECT MANAGER P. BARAR APPROVED: PROJECT ENGINEER Q. LIU DRAWN BY: Q. LIU ML / PS / CP AS NOTED SHEET NUMBER			
CHECKED BY: P. BARAR DATE: 05/02/2011 SCALE: 1/4" = 1'-0" SHEET NUMBER: 140 SEQUENCE NUMBER			
SH-3101 of			

Note:  
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size. Scales noted on drawings/details are no longer applicable.

UTILITY CORRIDORE  
SEE ABUTMENT LAYOUT  
SHEETS FOR DIMENSIONS




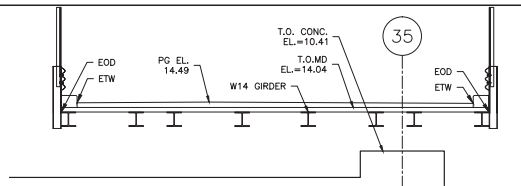
1 FREMONT ST TRANSVERSE SECTION  
SH-3102 SCALE: 3/8" = 1'-0"

Note:  
If this sheet is not 44" x 34", it has been revised from its original  
size. Scales noted on drawings/details are no longer applicable.

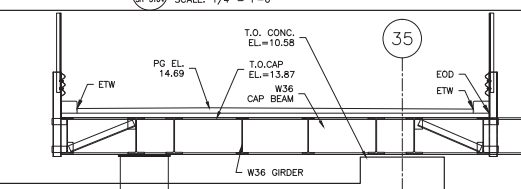
<p>TRANSBAY JOINT POWERS AUTHORITY</p> <p><b>Balfour Beatty</b> Infrastructure Inc.</p> <p><b>PI&amp;A Inc.</b> Structural Engineering</p>																									
<p>07 08 09 10 11 12</p>																									
<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>06/07/11</td> <td>75% TEMP. BRIDGE SUBMITTAL</td> </tr> <tr> <td>2</td> <td>06/07/11</td> <td>100% TEMP. BRIDGE SUBMITTAL</td> </tr> <tr> <td>3</td> <td>06/07/11</td> <td>100% PER. STRUT INTERFERENCE SUBMITTAL</td> </tr> <tr> <td>4</td> <td>06/07/11</td> <td>RESPONSE TO COMMENTS</td> </tr> <tr> <td>5</td> <td>06/07/11</td> <td>RESPONSE TO COMMENTS</td> </tr> <tr> <td>6</td> <td>06/07/11</td> <td>BRIDGE ANOMALY MITIGATION</td> </tr> <tr> <td>7</td> <td>06/07/11</td> <td>BEALE STREET TEMP. BRIDGE</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	3	06/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	4	06/07/11	RESPONSE TO COMMENTS	5	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BEALE STREET TEMP. BRIDGE
NO.	DATE	DESCRIPTION																							
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL																							
2	06/07/11	100% TEMP. BRIDGE SUBMITTAL																							
3	06/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL																							
4	06/07/11	RESPONSE TO COMMENTS																							
5	06/07/11	RESPONSE TO COMMENTS																							
6	06/07/11	BRIDGE ANOMALY MITIGATION																							
7	06/07/11	BEALE STREET TEMP. BRIDGE																							
<p>08-04-CMGC-000</p> <p>TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA</p> <p>FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES TRANSVERSE ELEVATION FREMONT STREET BRIDGE</p> <p>TZ1030-015313A31</p>																									
<p>APPROVED:</p> <p>PRINCIPAL ENGINEER P. BARAR</p> <p>PROJECT MANAGER P. BARAR</p> <p>PROJECT ENGINEER Q. LIU</p> <p>DESIGNED BY Q. LIU</p> <p>ML / PS / CP</p> <p>AS NOTED</p> <p>DATE 05/02/2011</p> <p>NO. 140</p> <p>SHEET NUMBER</p> <p>SEQUENCE NUMBER</p>																									
<p>SH-3102</p> <p>of</p>																									



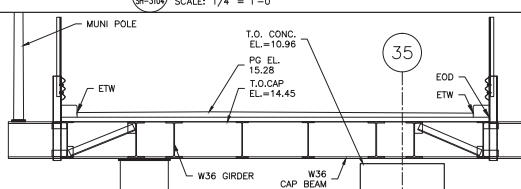
08-04-CMGC-000		TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA		FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES TRANSVERSE ELEVATION BEALE STREET BRIDGE		TZ1030-015313A31	
PROJECT NO.		PROJECT/NUMBER REAL					
APPROVED:		PRINCIPAL ENGINEER		P. BARAR			
DESIGNED BY:		PROJECT ENGINEER		Q. LIU			
DRAWN BY:		CHECKED BY:		P. BARAR			
SCALE:		DATE:		05/02/2011			
AS NOTED		SHEET NO.		140		REVISION	
SHEET NUMBER				SEQUENCE NUMBER			
SH-3103				of			



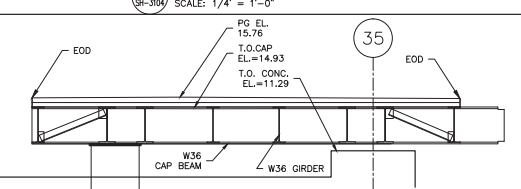
15 BEALE STREET SECTION @ GRID LN. "A"  
SH-3104 SCALE: 1/4" = 1'-0"



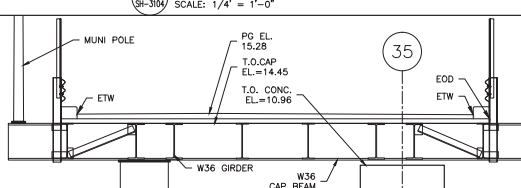
16 BEALE STREET SECTION @ BENT 1  
SCALE: 1" = 1' 0"



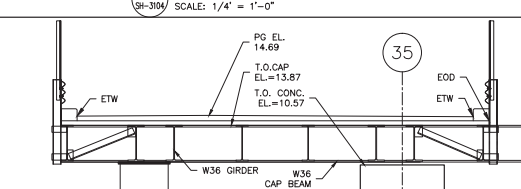
17 BEALE STREET SECTION @ BENT 2



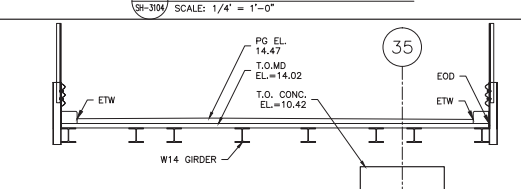
18 BEALE STREET SECTION @ BENT 3







19	BEALE STREET SECTION @ BENT 4
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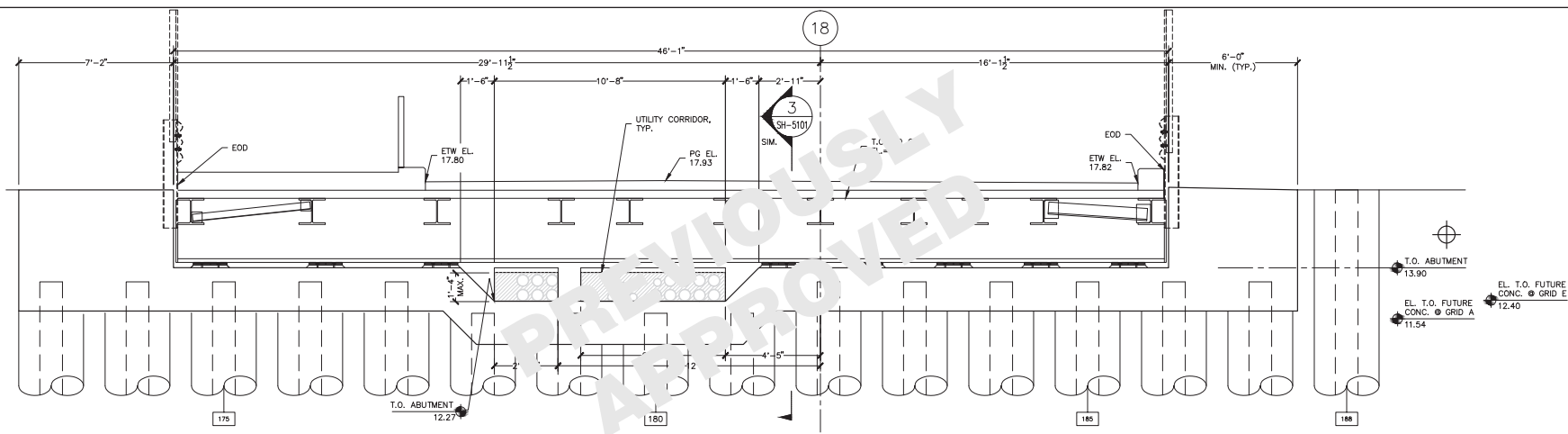


20 BEALE STREET SECTION @ BENT 5

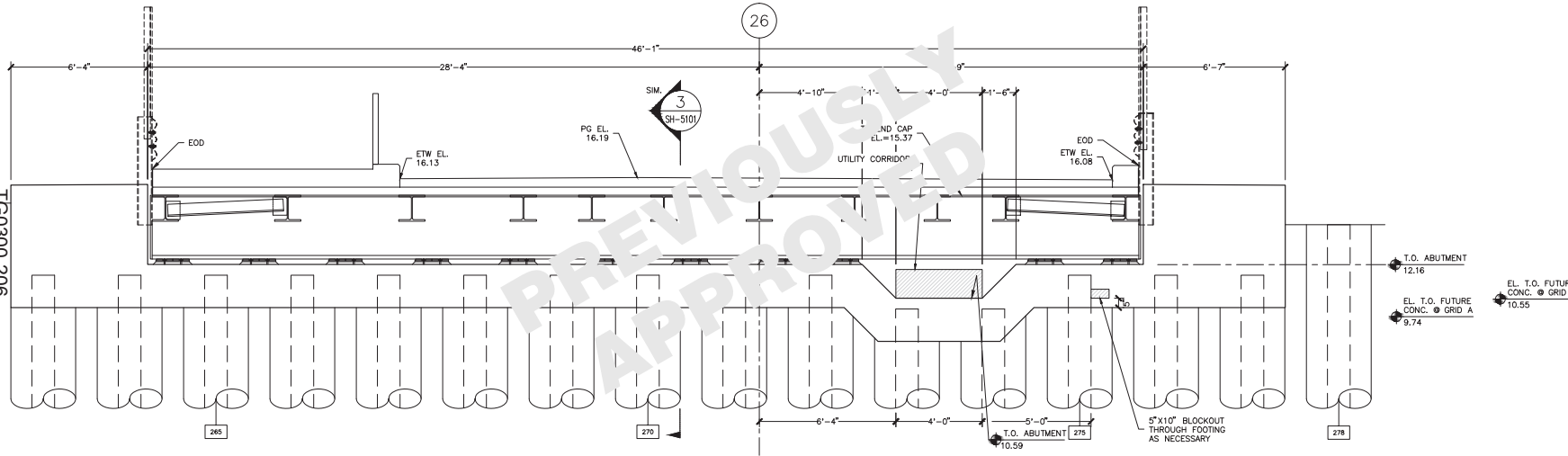


21 BEALE STREET SECTION @ GRID LN. "J"

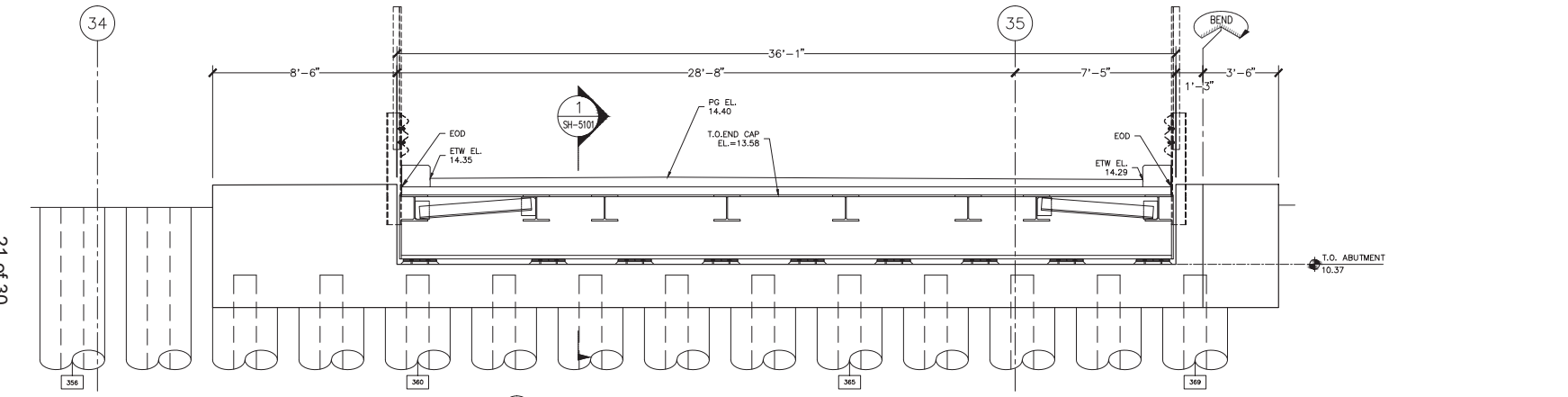
 <b>TRANSBAY JOINT POWERS AUTHORITY</b>		 <b>Balfour Beatty</b> <b>Infrastructure Inc.</b>																															
 <b>PBA Inc.</b> <small>10000 S. DEER CREEK AVENUE, SUITE 100, SAN JOSE, CA 95128</small> <small>408.435.1100   www.pba-inc.com   transbay@pba-inc.com   pba@pba-inc.com</small>																																	
<table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>REVISIONS</th> </tr> <tr> <td>1</td> <td>08/01/11</td> <td>75% TEMP. BRIDGE SUBMITTAL APPROVAL</td> </tr> <tr> <td>2</td> <td>08/02/11</td> <td>100% PER REVIEWERS COMMENTS SUBMITTAL</td> </tr> <tr> <td>3</td> <td>08/04/11</td> <td>100% PER REVIEWERS COMMENTS SUBMITTAL</td> </tr> <tr> <td>4</td> <td>08/09/11</td> <td>STRUCT INTERFERENCE</td> </tr> <tr> <td>5</td> <td>10/06/11</td> <td>RESPONSE TO COMMENTS</td> </tr> <tr> <td>6</td> <td>10/06/11</td> <td>REVISIONS</td> </tr> <tr> <td>7</td> <td>04/04/12</td> <td>CONFIRMED SET</td> </tr> <tr> <td>8</td> <td>05/07/12</td> <td>BRIDGE ANNUALLY MITIGATION</td> </tr> <tr> <td>9</td> <td>08/07/12</td> <td>BEALE STREET TEMP. BRIDGE</td> </tr> </table>				NO.	DATE	REVISIONS	1	08/01/11	75% TEMP. BRIDGE SUBMITTAL APPROVAL	2	08/02/11	100% PER REVIEWERS COMMENTS SUBMITTAL	3	08/04/11	100% PER REVIEWERS COMMENTS SUBMITTAL	4	08/09/11	STRUCT INTERFERENCE	5	10/06/11	RESPONSE TO COMMENTS	6	10/06/11	REVISIONS	7	04/04/12	CONFIRMED SET	8	05/07/12	BRIDGE ANNUALLY MITIGATION	9	08/07/12	BEALE STREET TEMP. BRIDGE
NO.	DATE	REVISIONS																															
1	08/01/11	75% TEMP. BRIDGE SUBMITTAL APPROVAL																															
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4	08/09/11	STRUCT INTERFERENCE																															
5	10/06/11	RESPONSE TO COMMENTS																															
6	10/06/11	REVISIONS																															
7	04/04/12	CONFIRMED SET																															
8	05/07/12	BRIDGE ANNUALLY MITIGATION																															
9	08/07/12	BEALE STREET TEMP. BRIDGE																															
<b>08-04-CMCG-000</b> <b>TRANSBAY TRANSIT CENTER PROGRAM</b> <b>TRANSBAY TRANSIT CENTER</b> <b>SAN FRANCISCO, CA</b>		<b>BRIDGE DECKING SECTIONS</b> <b>GRID LINES &amp; BENTS</b>																															
<b>CONTRACT NO.</b> <b>08-04-CMCG-000</b>		<b>PROJECT FILE</b> <b>08/01/11</b>																															
<b>PROJECT TITLE</b> <b>TRANSBAY TRANSIT CENTER</b>		<b>DESIGN BY</b> <b>Q. LIU</b>																															
<b>APPROVED:</b> <b>PROJECT ENGINEER</b>		<b>CHECKED BY</b> <b>P. BARAR</b>																															
<b>PROJECT MANAGER</b>		<b>DATE</b> <b>05/02/2011</b>																															
<b>PROJECT ENGINEER</b>		<b>SCALE</b> <b>1" = 40'</b>																															
<b>AS NOTED</b>		<b>SEQUENCE NUMBER</b>																															
<b>SH-3104</b>		<b>of</b>																															



1 FIRST STREET NORTH ABUTMENT (LOOKING NORTH)  
SH-3105 SCALE: 1/2" = 1'-0"



2 FREMONT STREET NORTH ABUTMENT (LOOKING NORTH)  
SH-3105 SCALE: 1/2" = 1'-0"



3 BEALE STREET NORTH ABUTMENT (LOOKING NORTH)  
SH-3105 SCALE: 1/2" = 1'-0"

Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

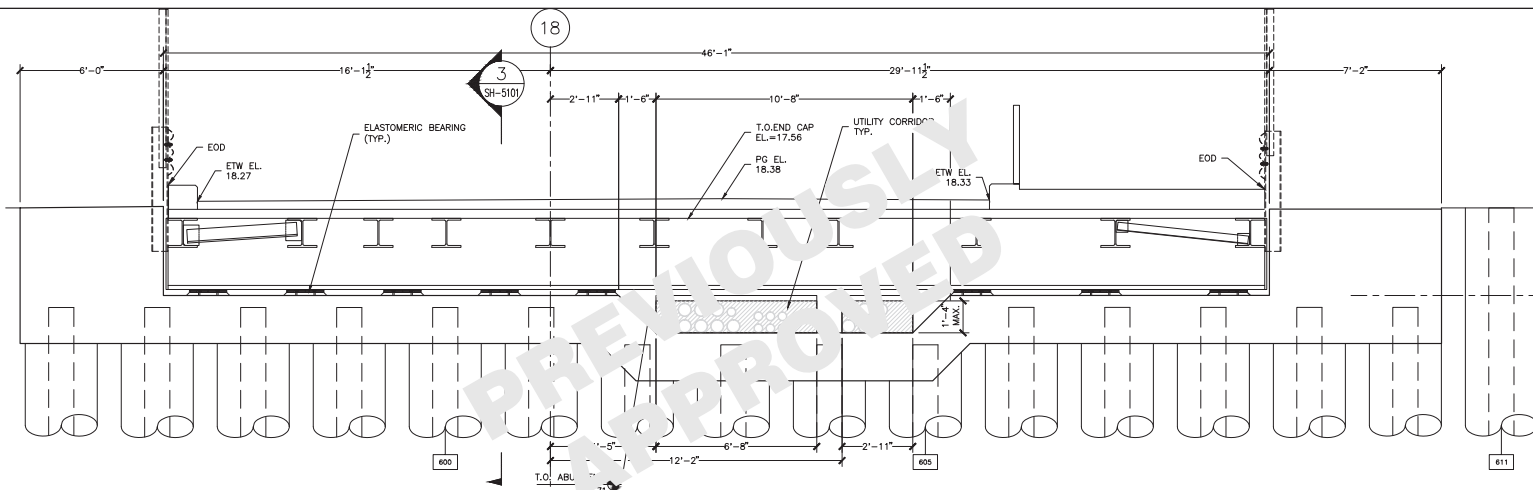
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NO.	DATE	DESCRIPTION
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2	05/27/11	100% TEMP. BRIDGE SUBMITTAL
3	06/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL
4	06/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL
5	06/07/11	RESPONSE TO COMMENTS
6	06/07/11	RESPONSE TO COMMENTS
7	06/07/11	BRIDGE ANOMALY MITIGATION
8	06/07/11	BEALE STREET TEMP. BRIDGE
9	06/07/11	BEALE STREET TEMP. BRIDGE

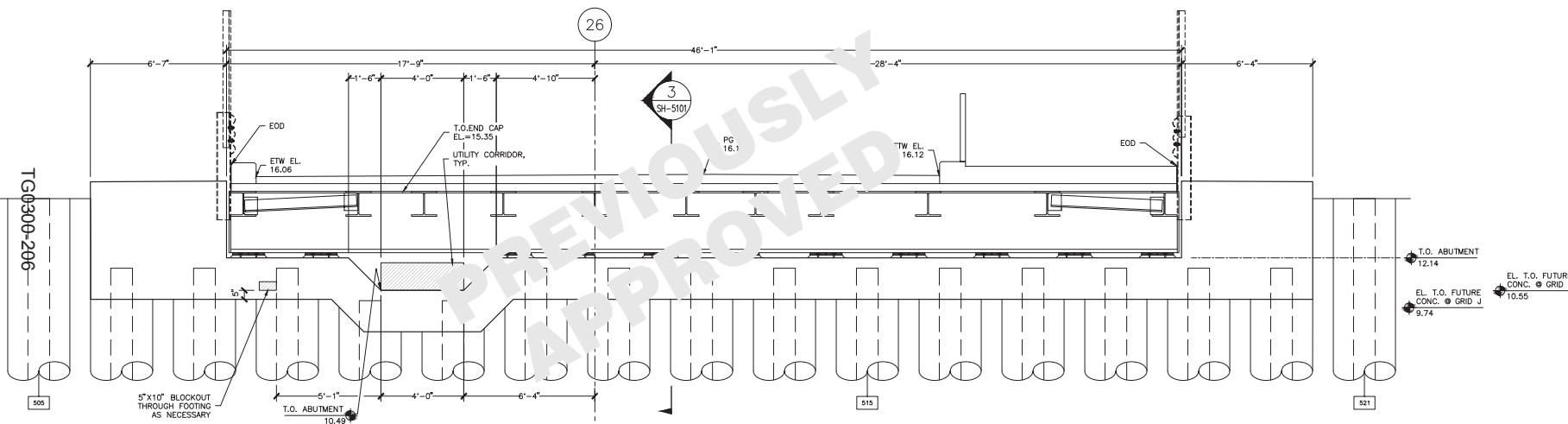
08-04-CMGC-000  
TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA  
FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
BRIDGE DECKING SECTIONS  
ABUTMENTS ON THE NORTH SIDE

PROJECT FILE  
PROJECT NO.  
PROJECT NAME  
PROJECT LOCATION  
PROJECT DATE  
PROJECT SCALE  
PROJECT SHEET  
PROJECT TOTAL SHEETS

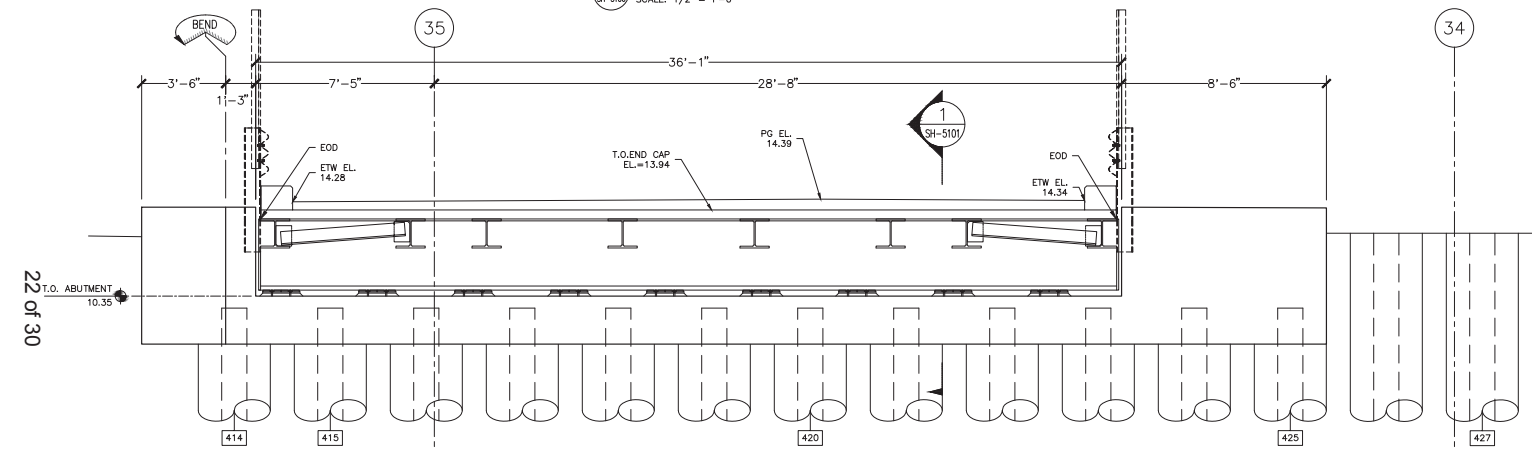
APPROVED	PRINCIPAL ENGINEER	P. BARAR
APPROVED	PROJECT MANAGER	P. BARAR
APPROVED	PROJECT ENGINEER	Q. LIU
DESIGNED BY	Q. LIU	
CHECKED BY	ML / PS / CP	05/02/2011
AS NOTED	F	140
SHEET NUMBER		SEQUENCE NUMBER
SH-3105		of



1 FIRST STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



2 FREMONT STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



3 BEALE STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"

Transbay Transit Center  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
CIVIL ENGINEERING

REVISIONS	
NO.	DESCRIPTION
1	75% TEMP. BRIDGE SUBMITTAL
2	100% TEMP. BRIDGE SUBMITTAL
3	100% PER. STRUT INTERFERENCE SUBMITTAL
4	RESPONSE TO COMMENTS
5	RESPONSE TO COMMENTS
6	BRIDGE ANOMALY MITIGATION
7	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

BRIDGE DECKING SECTIONS

ABUTMENTS ON THE SOUTH SIDE

171030-01531343

APPROVED: \_\_\_\_\_

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY: Q. LIU

CHECKED BY: P. BARAR

DATE: 05/02/2011

SCALE: AS NOTED

SHEET NUMBER: 140

APPROVED: \_\_\_\_\_

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY: Q. LIU

CHECKED BY: P. BARAR

DATE: 05/02/2011

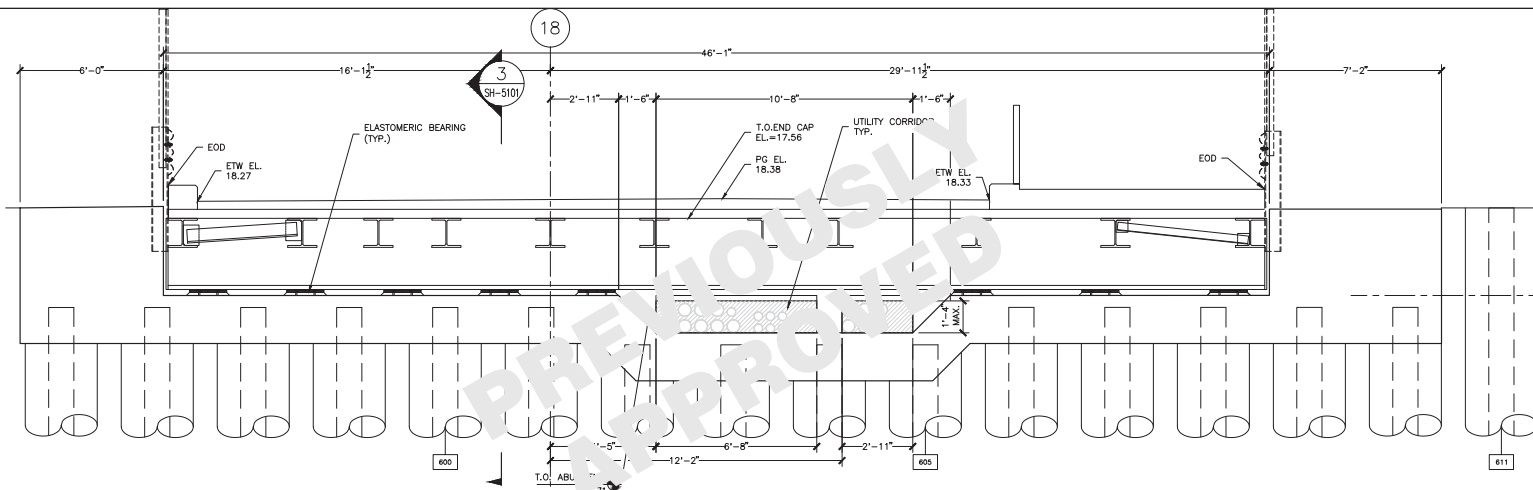
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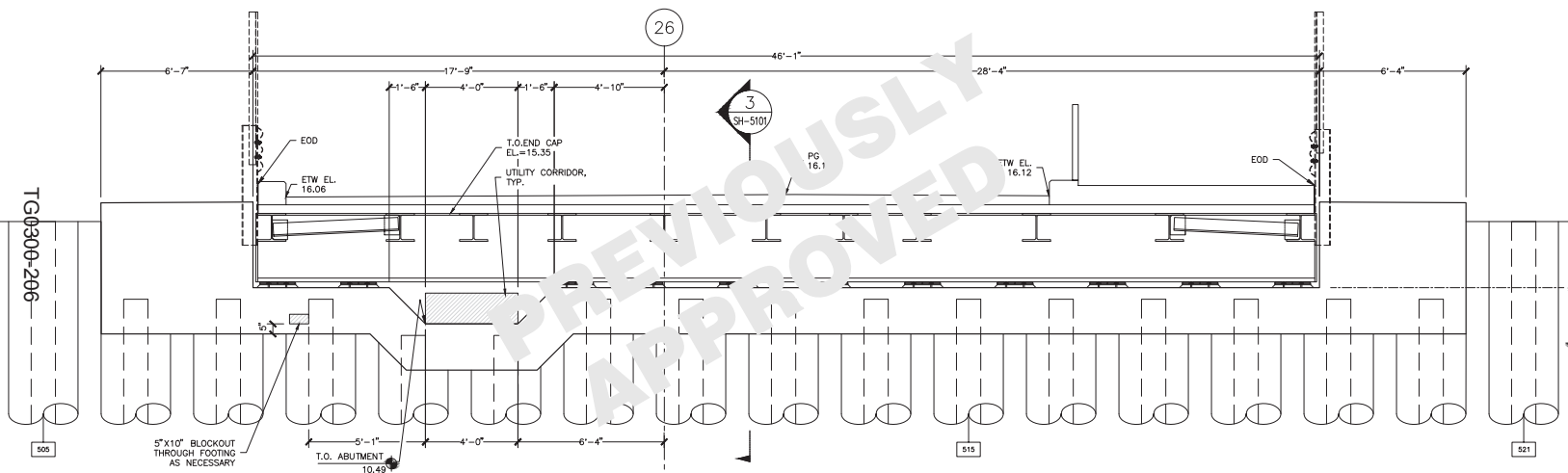
SH-3106 of

Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

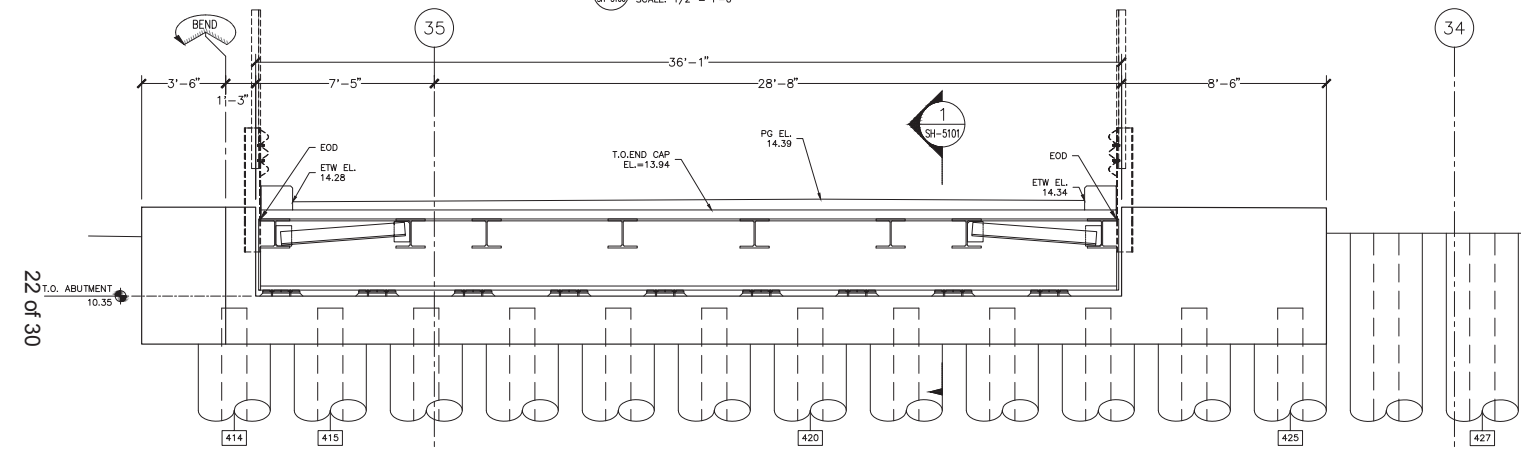




1 FIRST STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



2 FREMONT STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



3 BEALE STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"

Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

REV	DATE	DESCRIPTION
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03	08/07/11	REVISIONS
04	08/07/11	REVISIONS
05	08/07/11	REVISIONS
06	08/07/11	REVISIONS
07	08/07/11	REVISIONS
08	08/07/11	REVISIONS
09	08/07/11	REVISIONS
10	08/07/11	REVISIONS
11	08/07/11	REVISIONS
12	08/07/11	REVISIONS

NO.	DATE	DESCRIPTION
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2	08/07/11	100% TEMP. BRIDGE SUBMITTAL
3	08/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL
4	08/07/11	RESPONSE TO COMMENTS
5	08/07/11	RESPONSE TO COMMENTS
6	08/07/11	BRIDGE ANOMALY MITIGATION
7	08/07/11	BEALE STREET TEMP. BRIDGE
8	08/07/11	BEALE STREET TEMP. BRIDGE
9	08/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000  
TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA  
FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
BRIDGE DECKING SECTIONS  
ABUTMENTS ON THE SOUTH SIDE

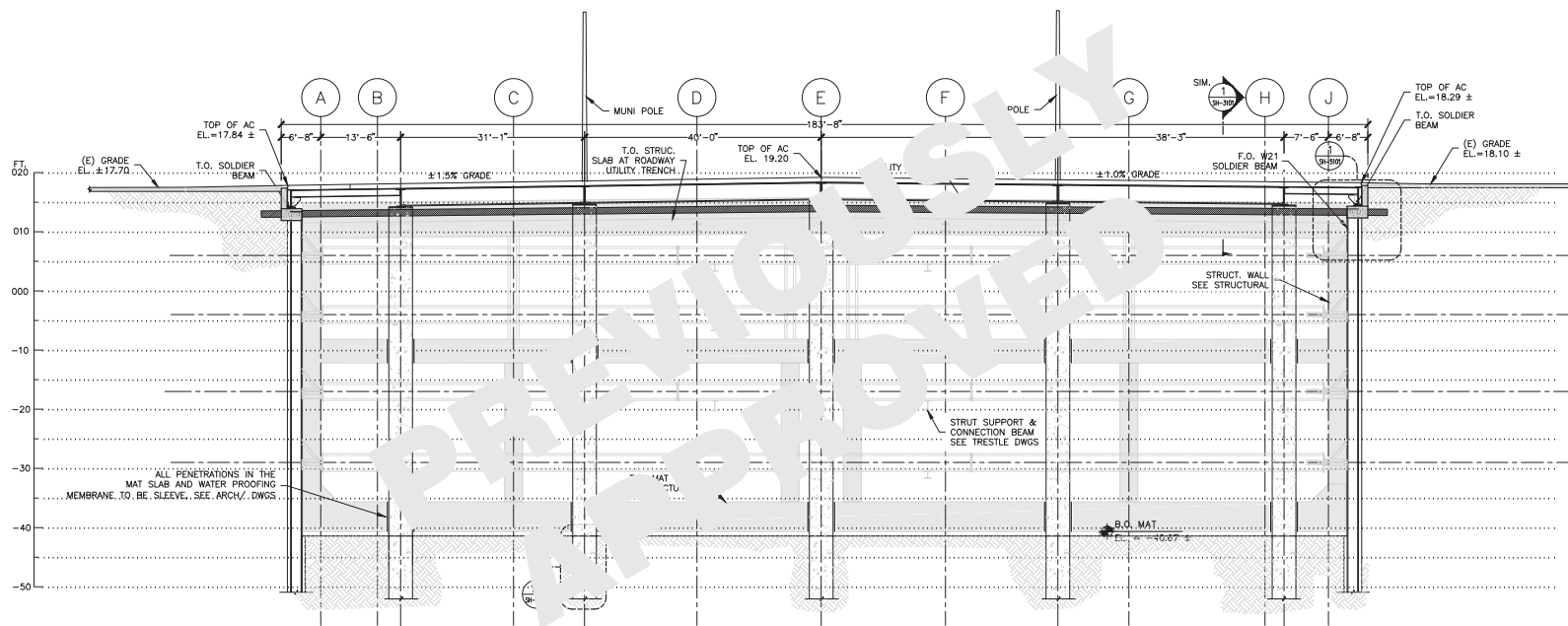
APPROVED:		P. BARAR	
PRINCIPAL ENGINEER		P. BARAR	
APPROVED:		P. BARAR	
PROJECT MANAGER		P. BARAR	
APPROVED:		Q. LIU	
PROJECT ENGINEER		Q. LIU	
DESIGNED BY:		CHECKED BY:	
Q. LIU		P. BARAR	
DATE:		DATE:	
ML / PS / CP		05/02/2011	
SCALE:		SCALE:	
AS NOTED		F 140	
SHEET NUMBER		SEQUENCE NUMBER	
140		140	

SH-3106

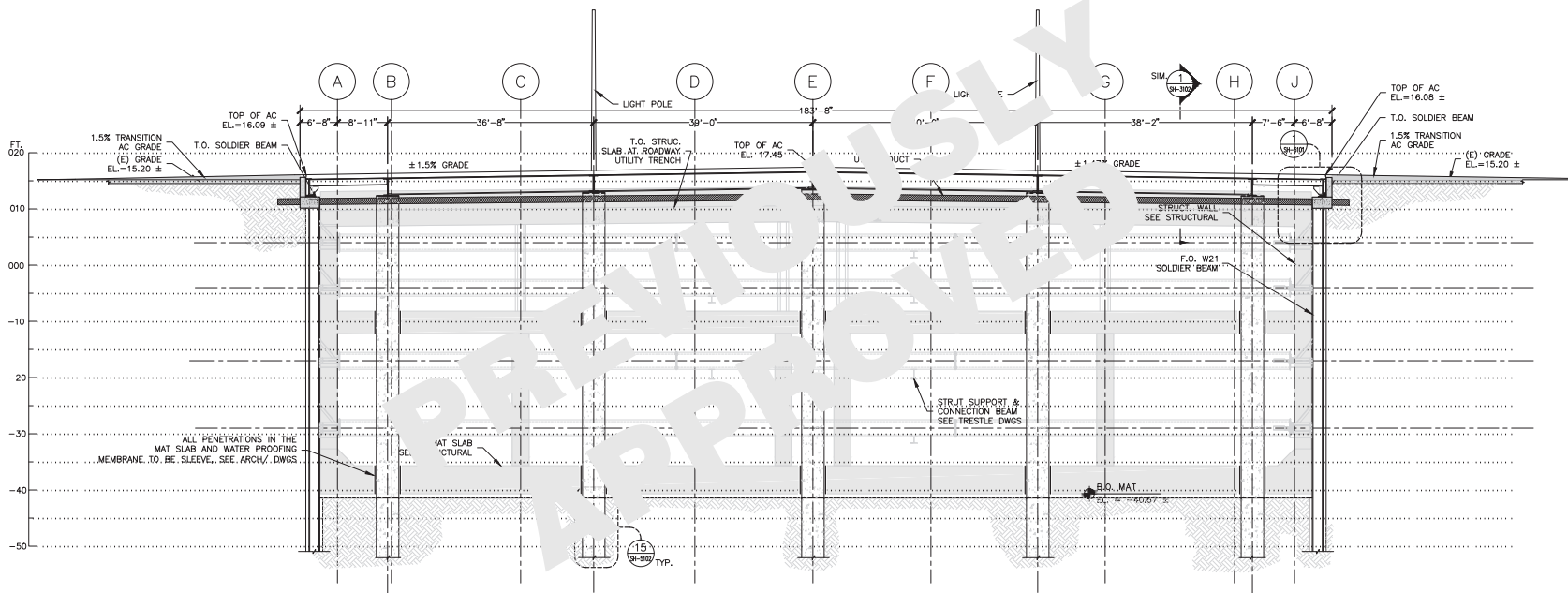
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SH-3106 of





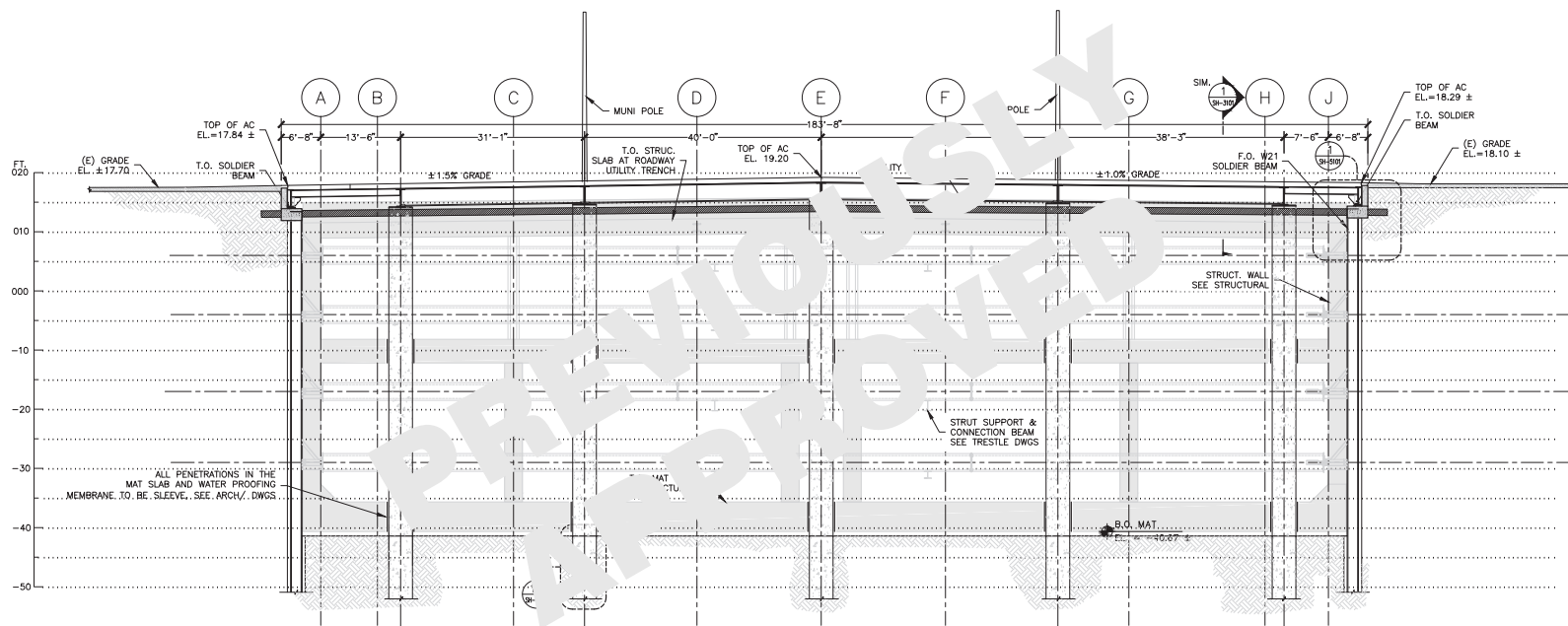
1 FIRST STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"



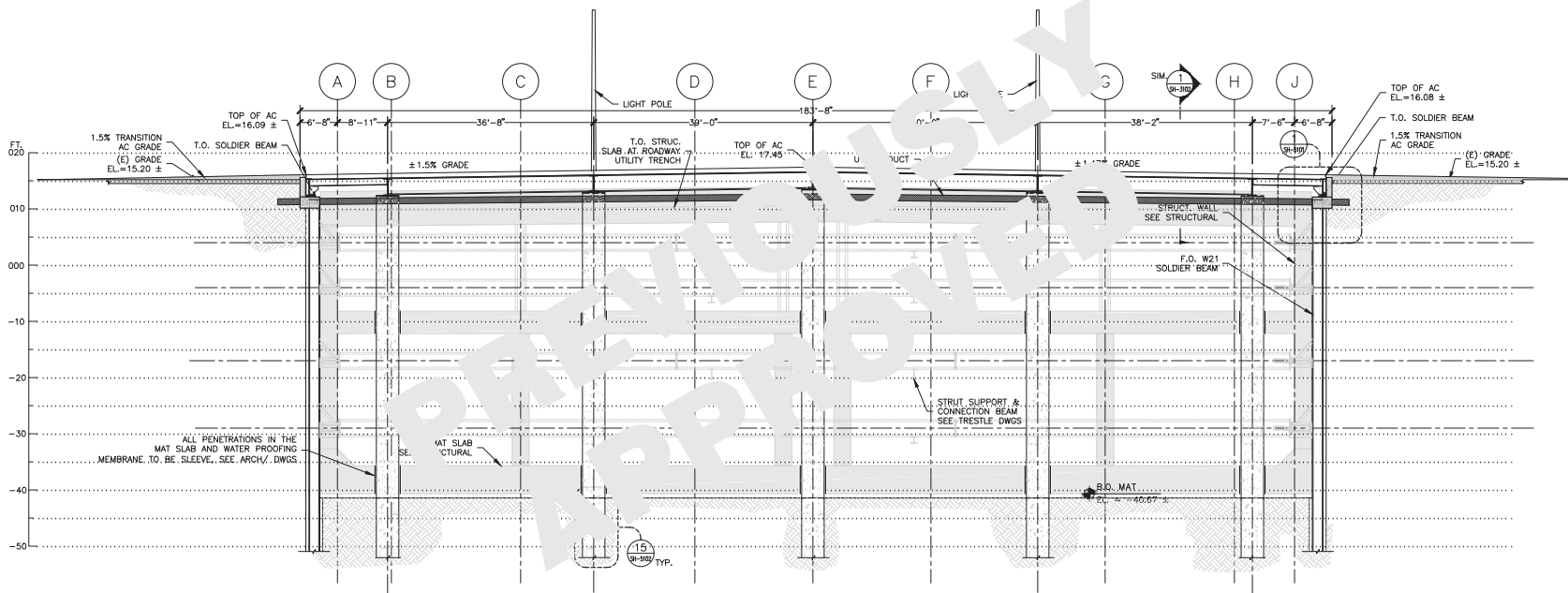
2 FREMONT STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"

Note:  
 If this sheet is not 44" x 34", it has been revised from its original  
 size. Scales noted on drawings/details are no longer applicable.

 Transbay Transit Center TRANSBAY JOINT POWERS AUTHORITY	
 Balfour Beatty Infrastructure Inc.	
 P&A Inc. CONSULTING ENGINEERS	
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1 FIRST STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"



2 FREMONT STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"

Note:  
 If this sheet is not 44" x 34", it has been revised from its original  
 size. Scales noted on drawings/details are no longer applicable.

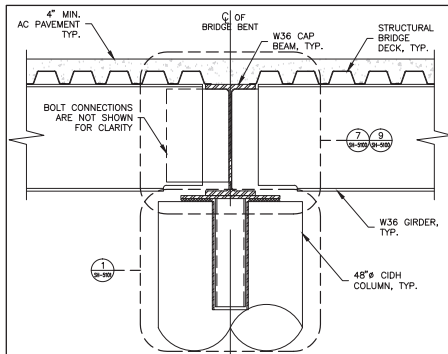
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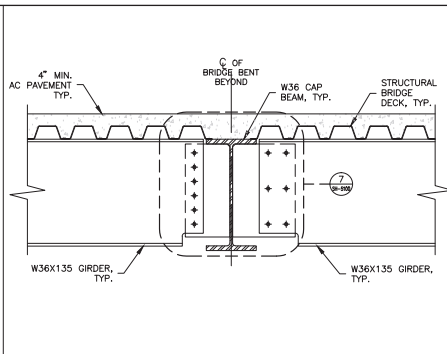


24 of 30

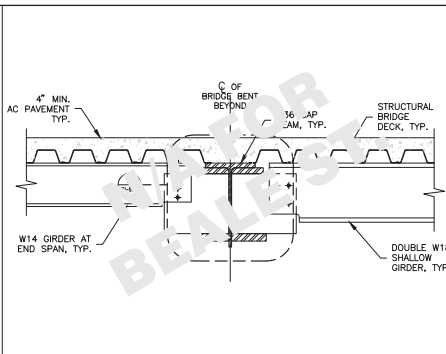
Note:  
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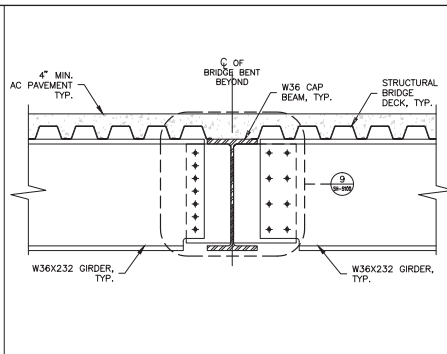
1 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



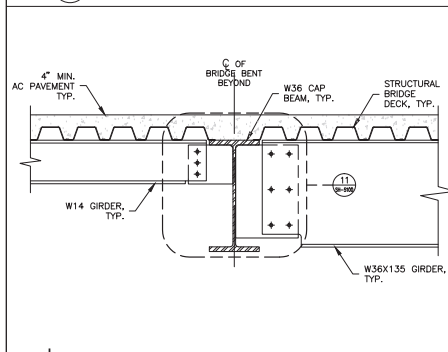
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SH-5100 SCALE: 3/4" = 1'-0"



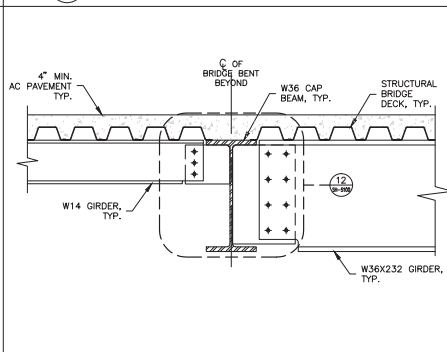
3 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



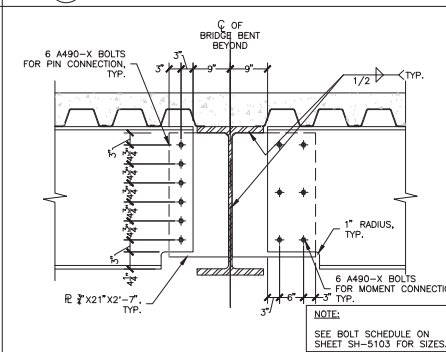
4 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



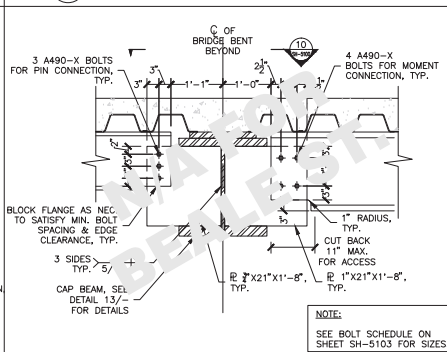
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SH-5100 SCALE: 3/4" = 1'-0"



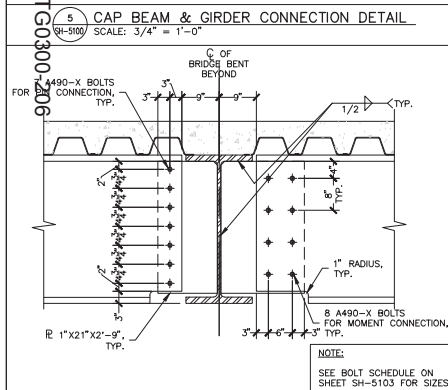
6 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



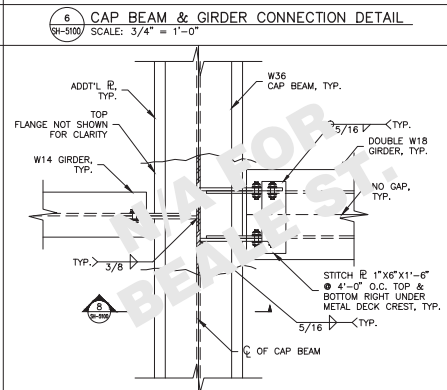
7 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



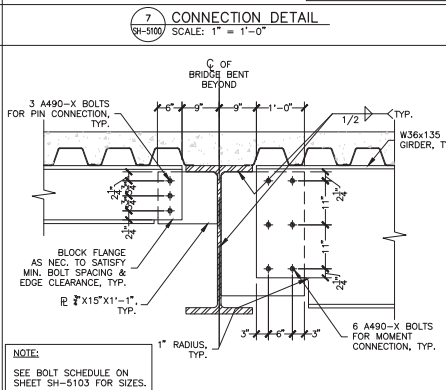
8 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



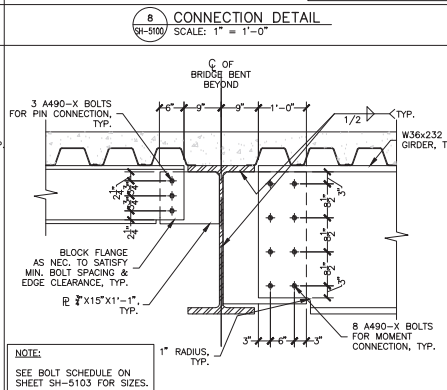
9 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



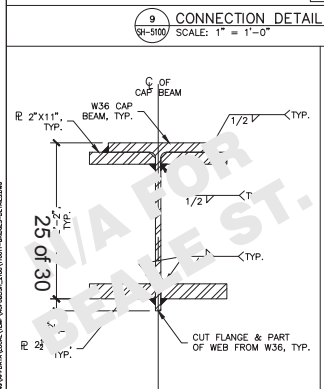
10 CONNECTION DETAIL (PLAN TOP VIEW)  
SH-5100 SCALE: 1" = 1'-0"



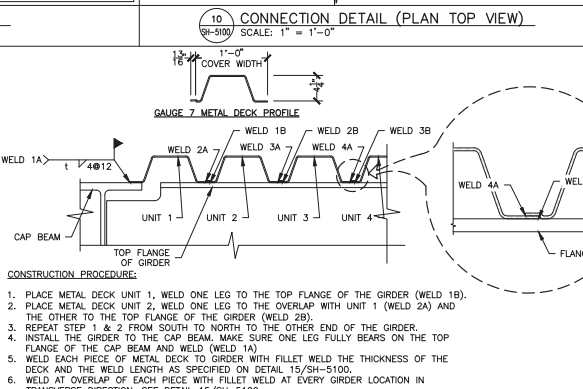
11 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



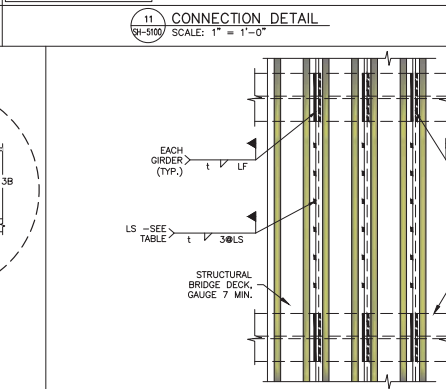
12 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



13 DETAIL  
SH-5100 SCALE: 1-1/2" = 1'-0"



14 BRIDGE DECK DETAIL  
SH-5100 SCALE: 1-1/2" = 1'-0"



15 BRIDGE DECK DETAIL  
SH-5100 SCALE: 1" = 1'-0"

WHERE:  
t = THICKNESS OF METAL DECK  
LF = LENGTH OF DECK-TO-DECK & DECK-TO-GIRDER WELD @ GIRDER LOCATION  
LS = MAX. INTER-SEAM WELD SPACING

NOTE:  
FOR DECK ZONING  
SEE 2/SH-2100 & 2/SH-2102

WELD	ZONE 1	ZONE 2	ZONE 3
DECK TO DECK, DECK TO GIRDER	14.7"	12" FOR W6 GIRDER	6"
LF	FULL WIDTH OF W14X120 FLG.	22" FOR DOUBLE W6 GIRDER	
INTER-SEAM WELD SPACING L <sub>SW</sub>	14" (8'7")	19" (8'5")	36" (3'0")

\* - A & B WELDS AS INDICATED IN DETAIL 14/SH-5100  
\*\* - LENGTH IN THE PARENTHESIS IS THE MIN. TOTAL LENGTH OF INTER-SEAM WELDING FOR THE ENTIRE BRIDGE SECTION

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

08-04-CMGC-000

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

Balfour Beatty  
Infrastructure Inc.

PI&A Inc.

07 08 09 10 11 12

Key Map

REVISIONS

NO.	DATE	DESCRIPTION
1	08/07/11	75% TEMP. BRIDGE SUBMITTAL
2	08/07/11	100% TEMP. BRIDGE SUBMITTAL
3	08/07/11	100% PER. START INTERFERENCE SUBMITTAL
4	08/07/11	RESPONSE TO COMMENTS
5	08/07/11	RESPONSE TO COMMENTS
6	08/07/11	BRIDGE ANOMALY MITIGATION
7	08/07/11	BRIDGE STREET TEMP. BRIDGE

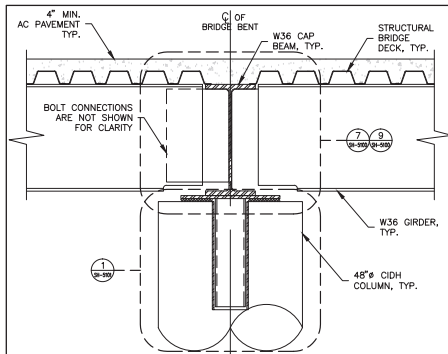
APPROVED: PRINCIPAL ENGINEER P. BARAR  
APPROVED: PROJECT MANAGER P. BARAR  
APPROVED: PROJECT ENGINEER Q. LIU  
DESIGNED BY: Q. LIU  
CHECKED BY: P. BARAR  
DATE: 05/02/2011  
WELDED BY: F. 140  
AS NOTED  
SHEET NUMBER  
SEQUENCE NUMBER

SH-5100

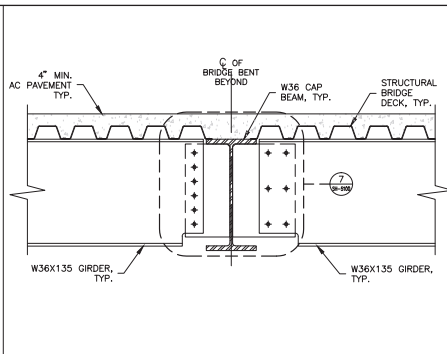
of

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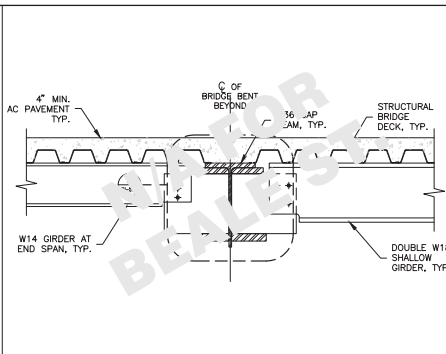




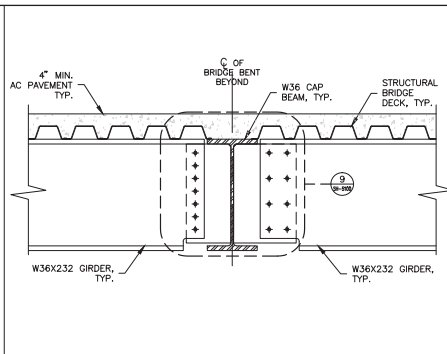
1 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



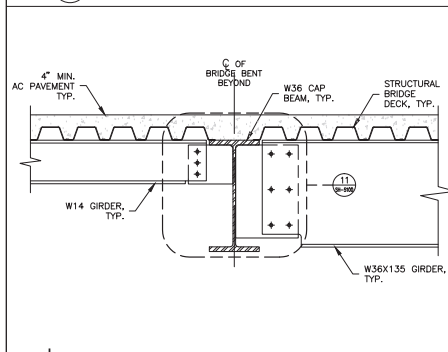
2 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



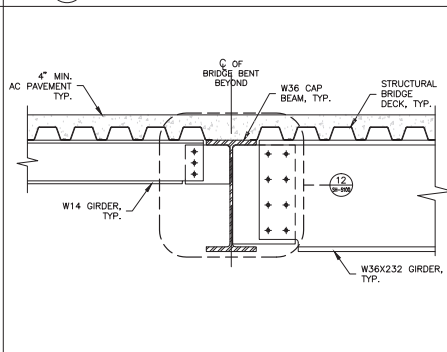
3 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



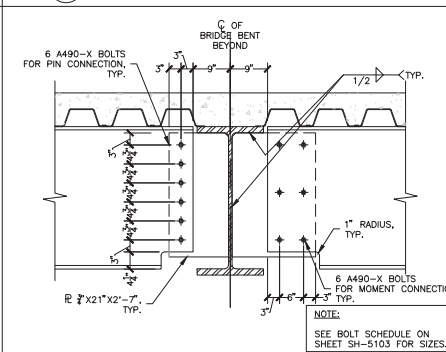
4 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



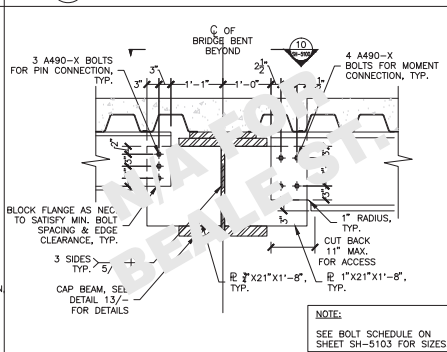
5 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



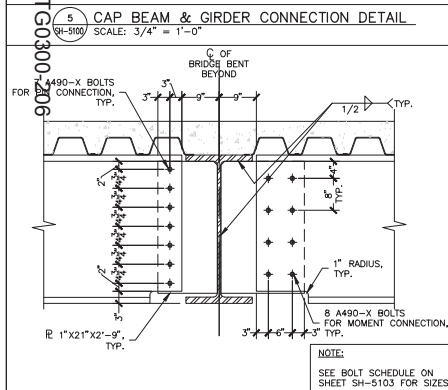
6 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



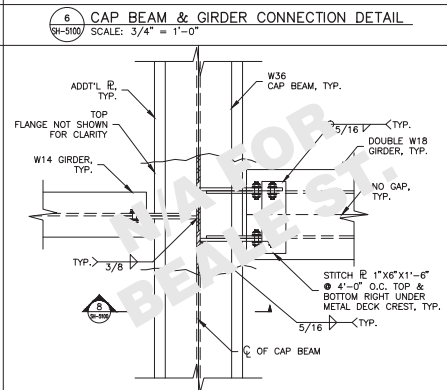
7 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



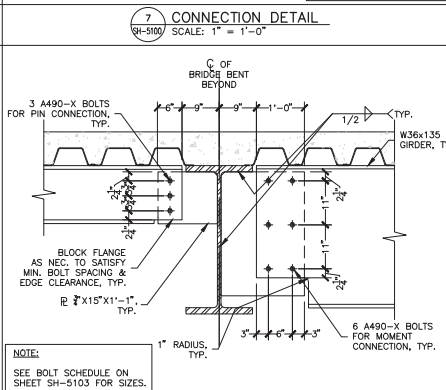
8 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



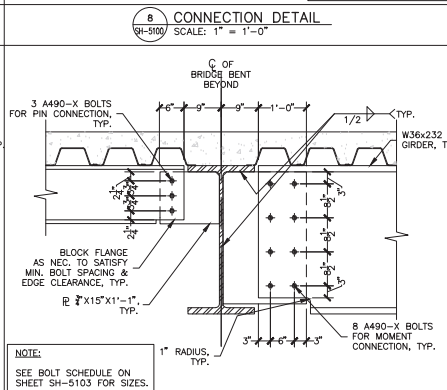
9 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



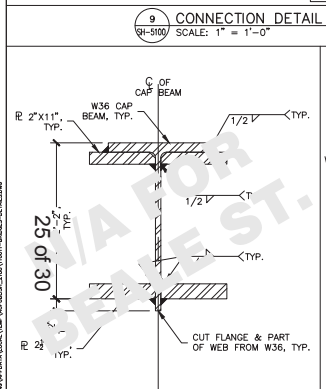
10 CONNECTION DETAIL (PLAN TOP VIEW)  
SH-5100 SCALE: 1" = 1'-0"



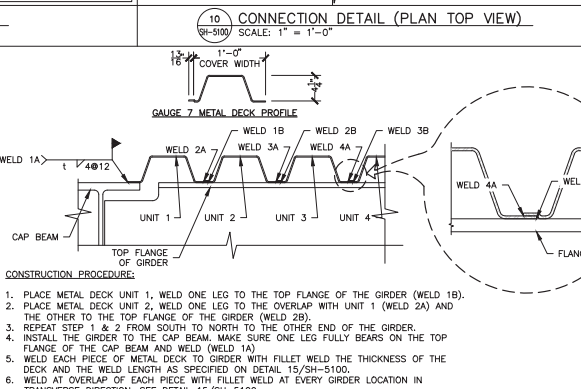
11 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



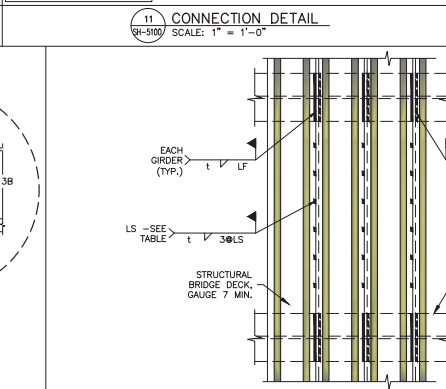
12 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



13 DETAIL  
SH-5100 SCALE: 1-1/2" = 1'-0"



14 BRIDGE DECK DETAIL  
SH-5100 SCALE: 1-1/2" = 1'-0"



15 BRIDGE DECK DETAIL  
SH-5100 SCALE: 1" = 1'-0"

WHERE:  
t = THICKNESS OF METAL DECK  
LF = LENGTH OF DECK-TO-DECK & DECK-TO-GIRDER WELD @ GIRDER LOCATION  
LS = MAX. INTER-SEAM WELD SPACING

NOTE:  
FOR DECK ZONING  
SEE 2/SH-2100 & 2/SH-2102

WELD	ZONE 1	ZONE 2	ZONE 3
DECK TO DECK, DECK TO GIRDER	14.7"	12" FOR W6 GIRDER	6"
LF	FULL WIDTH OF W14X120 FLG.	22" FOR DOUBLE W6 GIRDER	
INTER-SEAM WELD SPACING LSH	14" (87)	19" (63)	36" (39)

\* - A & B WELDS AS INDICATED IN DETAIL 14/SH-5100  
\*\* - LENGTH IN THE PARENTHESIS IS THE MIN. TOTAL LENGTH OF INTER-SEAM WELDING FOR THE ENTIRE BRIDGE SECTION

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

08-04-CMGC-000

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

Balfour Beatty  
Infrastructure Inc.

PI&A Inc.

07 08 09 10 11 12

Key Map

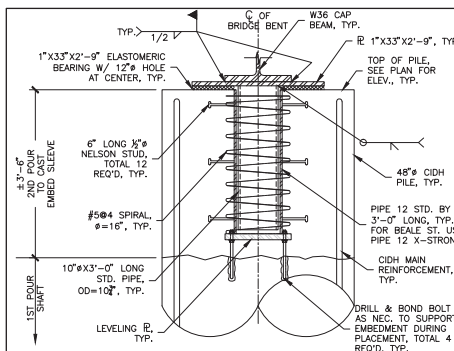
REVISIONS

NO.	DATE	DESCRIPTION
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2	08/07/11	100% TEMP. BRIDGE SUBMITTAL
3	08/07/11	100% PER. START INTERFERENCE SUBMITTAL
4	08/07/11	RESPONSE TO COMMENTS
5	08/07/11	RESPONSE TO COMMENTS
6	08/07/11	BRIDGE ANOMALY MITIGATION
7	08/07/11	BRIDGE STREET TEMP. BRIDGE

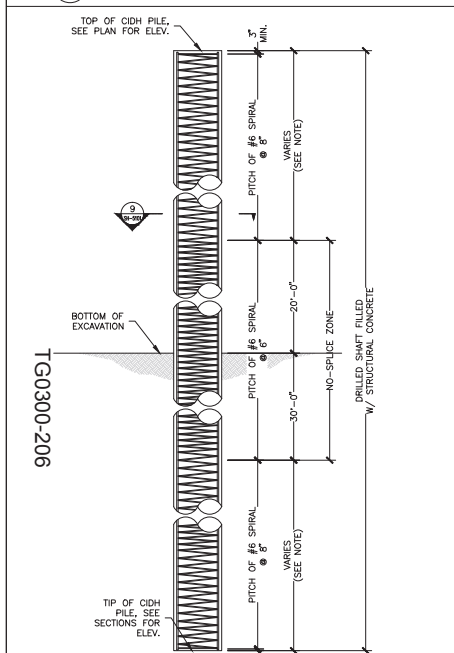
APPROVED: PRINCIPAL ENGINEER P. BARAR  
APPROVED: PROJECT MANAGER P. BARAR  
APPROVED: PROJECT ENGINEER Q. LIU  
DESIGNED BY: Q. LIU  
CHECKED BY: P. BARAR  
DATE: 05/02/2011  
WELDED BY: F. 140  
AS NOTED  
SHEET NUMBER

SH-5100

of

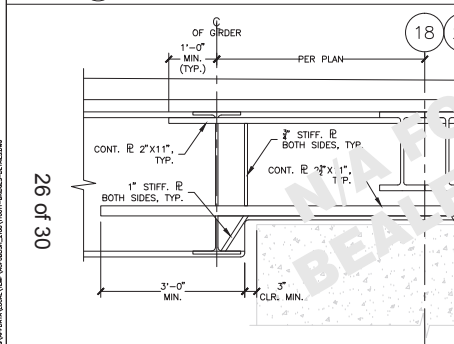


1 CAP BEAM & CIDH PILE CONNECTION DETAIL  
 (SH-510) SCALE: 1" = 1'-0"

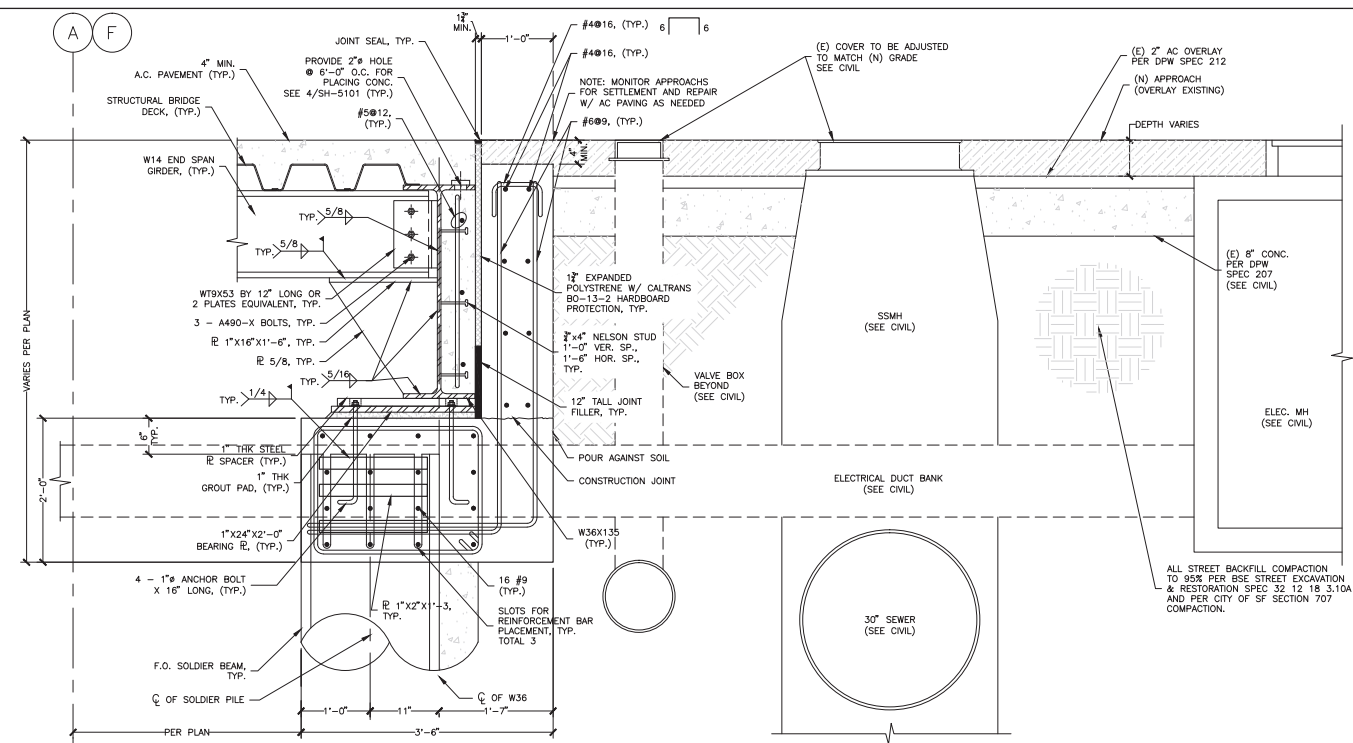


NOTE:  
 1. STAGGERED "ULTIMATE" BUTT SPICES ARE ALLOWED IN MAIN CIDH PILE REINFORCEMENT IN THE ZONE INDICATED PER CALTRANS STANDARD SPECIFICATION 52-6.01C(1).  
 2. SPIRAL SPICES ARE PERMITTED IN THE NO-SPICE ZONE AS APPROVED BY THE ENGINEER.

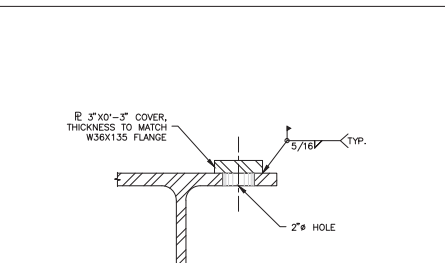
2 CIDH PILE REINFORCEMENT DETAIL  
 (SH-510) SCALE: 1/4" = 1'-0"



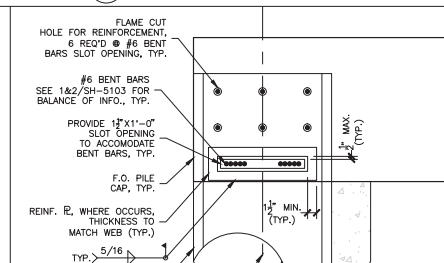
6 DETAIL  
 (SH-510) SCALE: 1" = 1'-0"



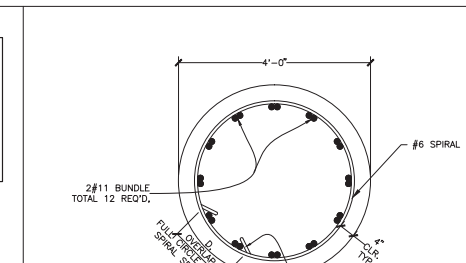
3 TYPICAL ABUTMENT SECTION DETAIL  
 (SH-510) SCALE: 1-1/2" = 1'-0"



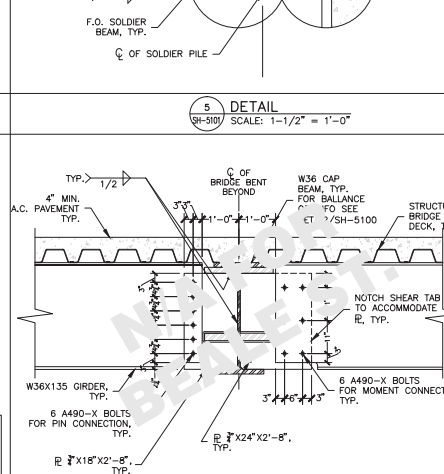
4 DETAIL  
 (SH-510) SCALE: 3" = 1'-0"



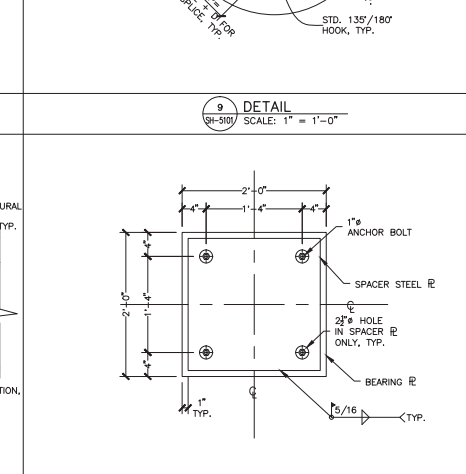
5 DETAIL  
 (SH-510) SCALE: 1-1/2" = 1'-0"



9 DETAIL  
 (SH-510) SCALE: 1" = 1'-0"



7 CONNECTION DETAIL  
 (SH-510) SCALE: 3/4" = 1'-0"



8 BEARING PLATE DETAIL  
 (SH-510) SCALE: 1-1/2" = 1'-0"

Transbay Transit Center  
 TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
 Infrastructure Inc.

**PI&A Inc.**  
 PROFESSIONAL INDEPENDENT  
 CIVIL ENGINEERS

NO.	DATE	DESCRIPTION
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL
2	05/24/11	100% TEMP. BRIDGE SUBMITTAL
3	06/07/11	100% PER. ST. INT. INTERFERENCE SUBMITTAL
4	06/07/11	RESPONSE TO COMMENTS
5	06/07/11	RESPONSE TO COMMENTS
6	06/07/11	BRIDGE ANOMALY MITIGATION
7	06/07/11	BRIDGE STREET TEMP. BRIDGE
8	06/07/11	BRIDGE STREET TEMP. BRIDGE
9	06/07/11	BRIDGE STREET TEMP. BRIDGE

Key Map

TRANSBAY TRANSIT CENTER PROGRAM  
 TRANSBAY TRANSIT CENTER  
 SAN FRANCISCO, CA

08-04-CMGC-000

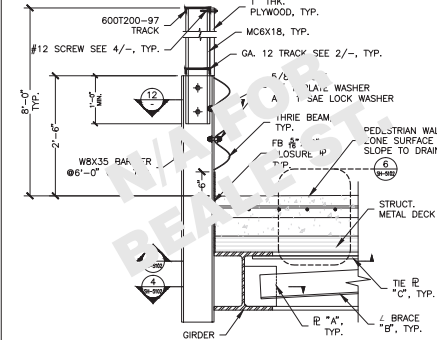
FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES

DETAILS

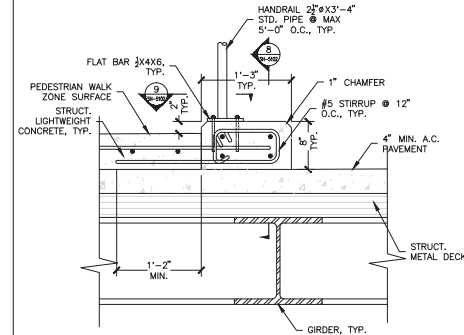
APPROVED: [Signature]  
 PROJECT ENGINEER: P. BARAR  
 PROJECT MANAGER: P. BARAR  
 PROJECT ENGINEER: Q. LIU  
 DRAWN BY: Q. LIU  
 ML / PS / CP  
 AS NOTED  
 SHEET NUMBER: 140

SH-5101

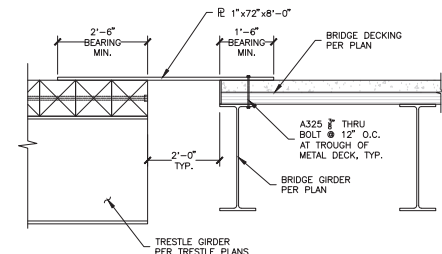
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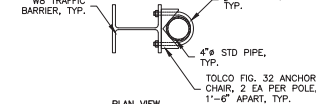
3 PEDESTRIAN BARRIER CONNECTION DETAIL  
SH-5102 SCALE: 1" = 1'-0"










7 TRAFFIC BARRIER CURB DETAIL  
SH-5102 SCALE: 1-1/2" = 1'-0"



11 BRIDGE TO TRESTLE DETAIL  
SH-5102 SCALE: 3/4" = 1'-0"

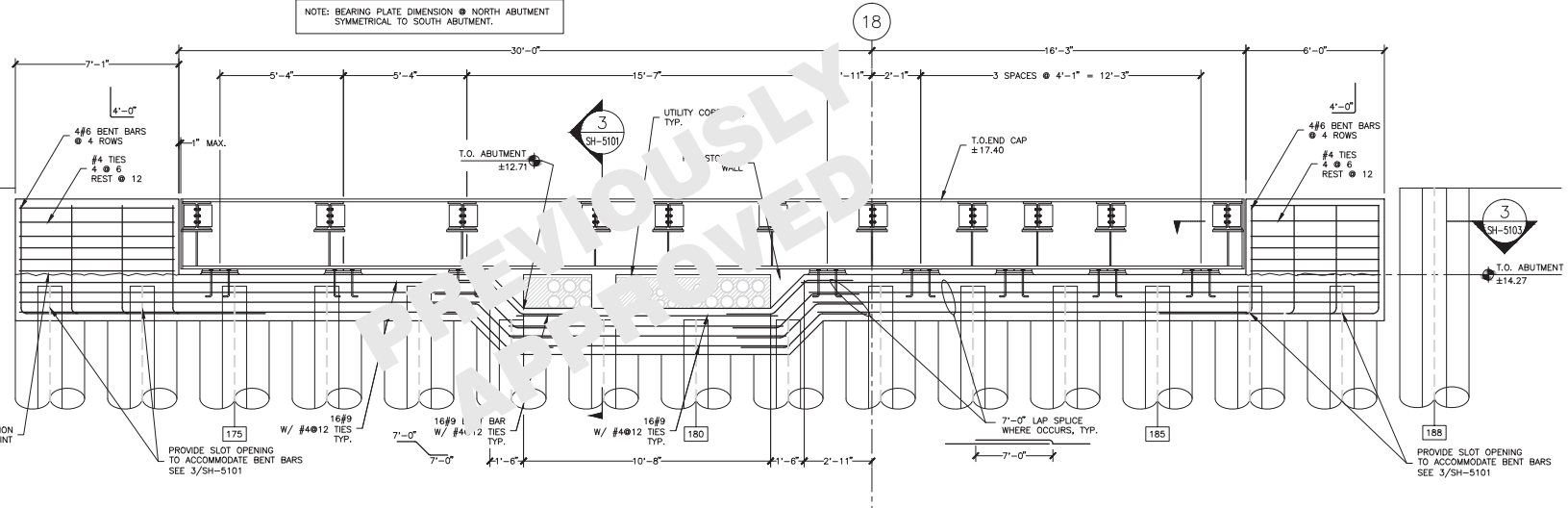


15  
SH-5102

 <p>Transbay Transit Center TRANSBAY JOINT POWERS AUTHORITY</p>																													
 <p>Key Map</p>																													
<p>07 08 09 10 11 12</p>										<p>01 02 03 04 05 06 07 08 09 10 11 12</p>																			
<p>BY</p>										<p>BY</p>																			
<p>REVIEWS</p>										<p>REVIEWS</p>																			
<p>NO. DATE</p>										<p>NO. DATE</p>																			
<p>1. 6/24/11 75% TEMP. BRIDGE SUBMITTAL</p>										<p>1. 6/24/11 75% TEMP. BRIDGE SUBMITTAL</p>																			
<p>2. 6/24/11 100% TEMP. BRIDGE SUBMITTAL</p>										<p>2. 6/24/11 100% TEMP. BRIDGE SUBMITTAL</p>																			
<p>3. 06/15/11 100% PER REVIEWERS COMMENTS SUBMITTAL</p>										<p>3. 06/15/11 100% PER REVIEWERS COMMENTS SUBMITTAL</p>																			
<p>4. 08/08/11 STRUT INTERFERENCE</p>										<p>4. 08/08/11 STRUT INTERFERENCE</p>																			
<p>5. 08/08/11 RESPONSE TO COMMENTS</p>										<p>5. 08/08/11 RESPONSE TO COMMENTS</p>																			
<p>6. 08/08/11 CONFORMED SET</p>										<p>6. 08/08/11 CONFORMED SET</p>																			
<p>7. 08/08/12 BRIDGE ANOMALY MITIGATION</p>										<p>7. 08/08/12 BRIDGE ANOMALY MITIGATION</p>																			
<p>8. 08/07/12 SCALE STREET TEMP. BRIDGE</p>										<p>8. 08/07/12 SCALE STREET TEMP. BRIDGE</p>																			
<p>9. 08/07/12</p>										<p>9. 08/07/12</p>																			
<p>10. 08/07/12</p>										<p>10. 08/07/12</p>																			
<p>11. 08/07/12</p>										<p>11. 08/07/12</p>																			
<p>12. 08/07/12</p>										<p>12. 08/07/12</p>																			
<p>08-04-CMGC-000</p>										<p>08-04-CMGC-000</p>																			
<p>TRANSBAY TRANSIT CENTER PROGRAM</p>										<p>TRANSBAY TRANSIT CENTER PROGRAM</p>																			
<p>TRANSBAY TRANSIT CENTER</p>										<p>TRANSBAY TRANSIT CENTER</p>																			
<p>SAN FRANCISCO, CA</p>										<p>SAN FRANCISCO, CA</p>																			
<p>FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES</p>										<p>FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES</p>																			
<p>DTL</p>										<p>DTL</p>																			
<p>TZ1030-015313A31</p>										<p>TZ1030-015313A31</p>																			
<p>PROJECT/OWNER SEAL</p>										<p>PROJECT/OWNER SEAL</p>																			
																													
<p>APPROVED:</p>										<p>APPROVED:</p>																			
<p>PRINCIPAL ENGINEER</p>										<p>PRINCIPAL ENGINEER</p>																			
<p>PROJECT MANAGER</p>										<p>PROJECT MANAGER</p>																			
<p>PROJECT ENGINEER</p>										<p>PROJECT ENGINEER</p>																			
<p>DESIGNED BY</p>										<p>DESIGNED BY</p>																			
<p>Q. LIU</p>										<p>Q. LIU</p>																			
<p>SCALE: 1/4" = 1' / P. / CP</p>										<p>SCALE: 1/4" = 1' / P. / CP</p>																			
<p>SHEET NUMBER</p>										<p>SHEET NUMBER</p>																			
<p>SH-5102</p>										<p>SH-5102</p>																			
<p>of</p>										<p>of</p>																			

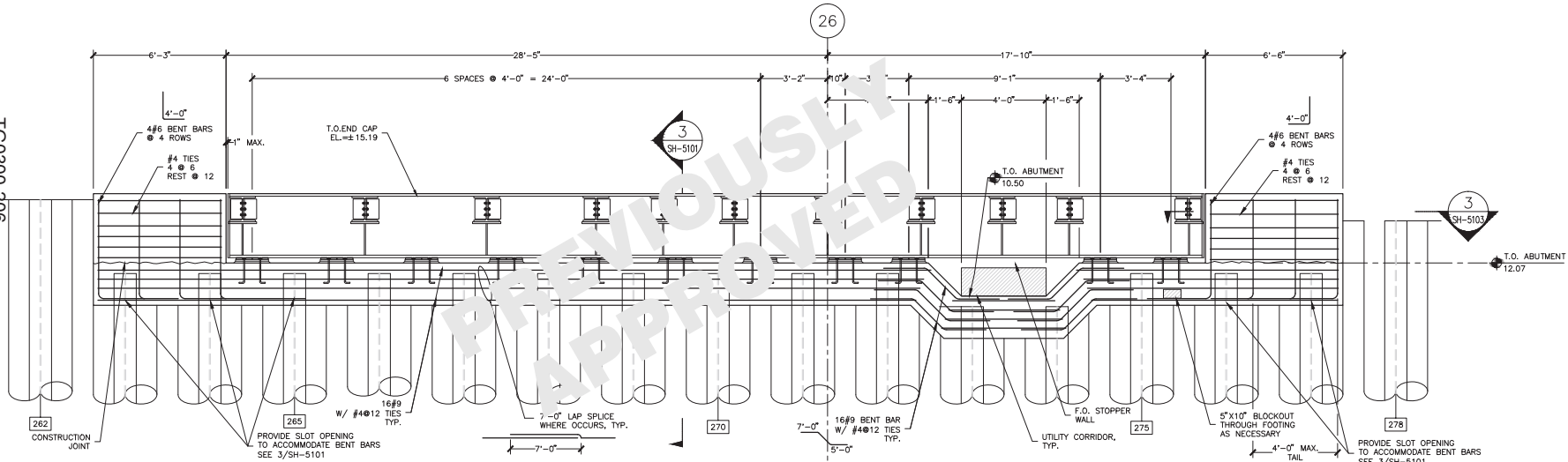
Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

NOTE: BEARING PLATE DIMENSION @ NORTH ABUTMENT SYMMETRICAL TO SOUTH ABUTMENT.



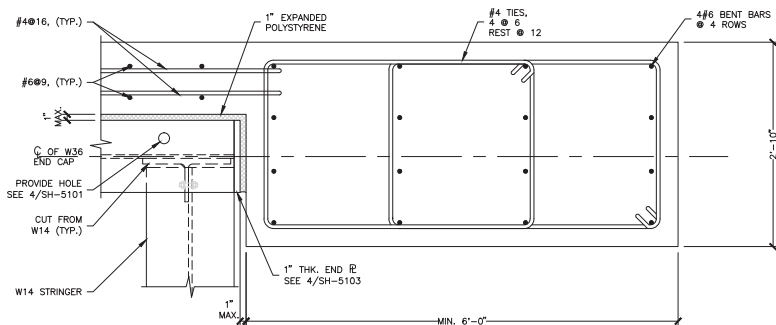
1 ABUTMENT DETAIL  
SCALE: 1/2" = 1'-0"

TG0300-206

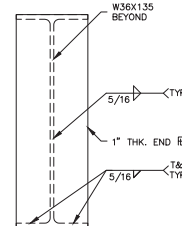


2 ABUTMENT DETAIL  
SCALE: 1/2" = 1'-0"

28 of 30



3 ABUTMENT SECTION DETAIL  
SCALE: 1/2" = 1'-0"



4 END PLATE DETAIL  
SCALE: 1-1/2" = 1'-0"

PLATE SCHEDULE	
PLATE "A"	8"x8"x10'-10" @ EACH BARRIER POST
BRACE "B"	6x6x1/4" @ EACH BARRIER POST
TIE PLATE "C"	2"x4" @ EACH BARRIER POST

BOLT SCHEDULE			
ORDER SIZE	BOLT SIZE	MOMENT CONN.	PIN CONN.
W14X120	1/2"	4	3
W18X158	1/2"	4	4
W36X135	1/2"	6	6
W36X135 NOTCHED	1/2"	6	6
W36X232	1/2"	8	7

- NOTE:
- SEE DETAIL 7/SH-5101 FOR W36X135 NOTCHED SECTION.
  - FOR W14X120 ORDER CONNECTING INTO NOTCHED SECTION OF CAP BEAM (DETAIL 8/SH-5100), USE 1/2" BOLTS.

6 PLATE & BOLT SCHEDULE  
SCALE: N/A

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

Balfour Beatty  
Infrastructure Inc.

PI&A Inc.  
INFRASTRUCTURE PROJECTS

07 08 09 10 11 12

Key Map

BY	DATE	DESCRIPTION
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL
2	06/07/11	100% TEMP. BRIDGE SUBMITTAL
3	06/07/11	100% PER. STAT. INTERFERENCE
4	06/07/11	RESPONSE TO COMMENTS
5	06/07/11	RESPONSE TO COMMENTS
6	06/07/11	BRIDGE ANOMALY MITIGATION
7	06/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

DETAILS

171030-015313A31

APPROVED: PRINCIPAL ENGINEER P. BARAR

APPROVED: PROJECT MANAGER P. BARAR

APPROVED: PROJECT ENGINEER Q. LIU

DESIGNED BY: Q. LIU

CHECKED BY: P. BARAR

DATE: 05/02/2011

SCALE: AS NOTED

SHEET NUMBER: 140

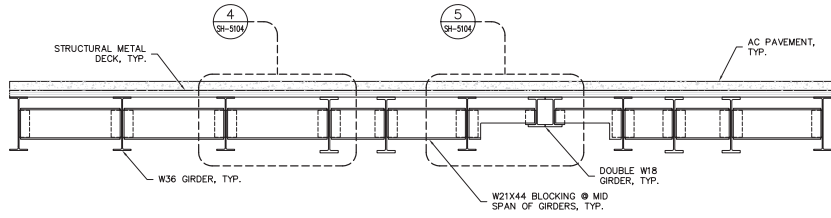
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SH-5103

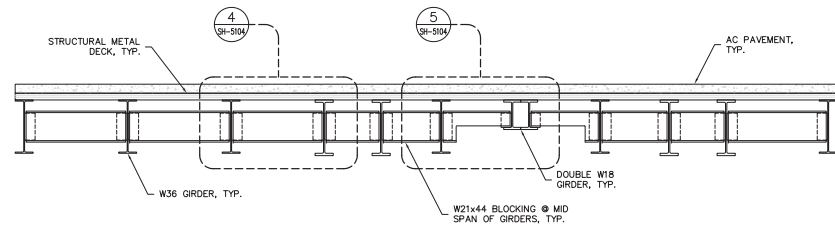
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Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

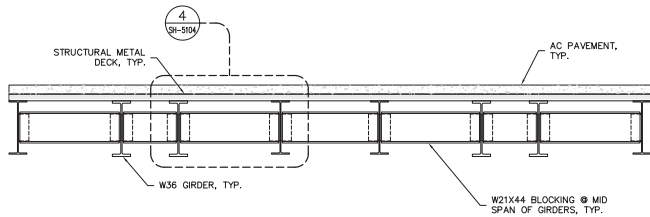




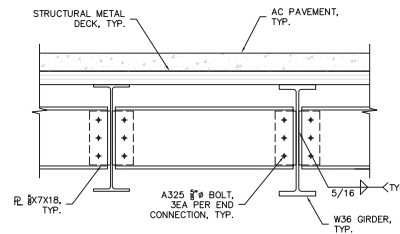
1 FIRST ST. TEMP. BRIDGE TYPICAL CROSS-FRAMES SECTION  
SH-5104 SCALE: 3/8" = 1'-0"



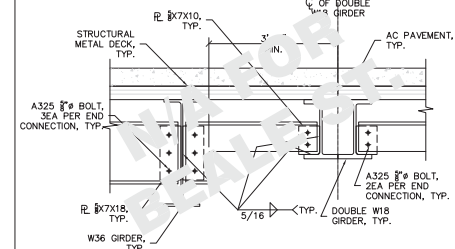
2 FREMONT ST. TEMP. BRIDGE TYPICAL CROSS-FRAMES SECTION  
SH-5104 SCALE: 3/8" = 1'-0"



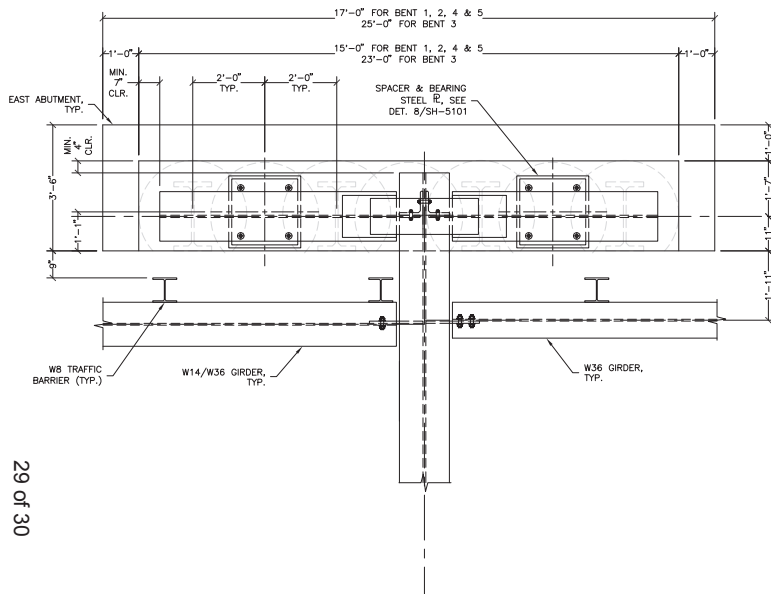
3 BEALE ST. TEMP. BRIDGE TYPICAL CROSS-FRAMES SECTION  
SH-5104 SCALE: 3/8" = 1'-0"



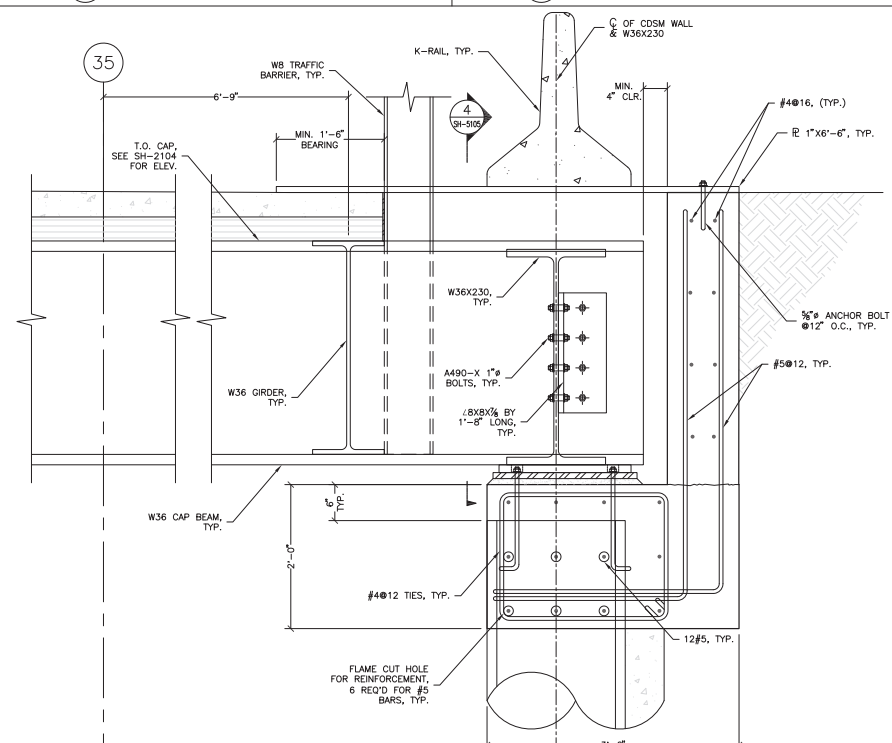
4 CROSS-FRAME CONNECTION DETAIL  
SH-5104 SCALE: 3/4" = 1'-0"



5 CROSS-FRAME CONNECTION DETAIL  
SH-5104 SCALE: 3/4" = 1'-0"



6 CROSS-FRAME CONNECTION DETAIL  
SH-5104 SCALE: 3/4" = 1'-0"

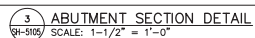
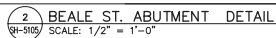
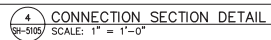


7 TYPICAL EAST ABUTMENT SECTION DETAIL  
SH-5104 SCALE: 1-1/2" = 1'-0"

QY	08	09	10	11	12

Key Map		N	
REVISIONS		DESCRIPTION	BY
NO.	DATE		CL
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	CL
2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	CL
3	06/07/11	100% PER. START INTERFERENCE	PS
4	06/07/11	RESPONSE TO COMMENTS	CL
5	10/06/11	RESPONSE TO COMMENTS	CL
6	02/06/12	BRIDGE ANOMALY MITIGATION	CL
7	05/07/12	BEALE STREET TEMP. BRIDGE	CL
8	08/07/12		





# FIRST, FREMONT AND BEALE STREET TEMPORARY BRIDGE STRUCTURAL DESIGN TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER, SAN FRANCISCO, CA

FOR:



Transbay Transit Center

**Balfour Beatty**  
Infrastructure Inc.

**P&A inc.**

Structural Engineering  
Geo-Structures • Earth Retention

Tel: (415) 259-0191

www.pbainc.com

124 Greenfield Avenue, San Anselmo, CA 94960

Fax: (415) 259-0194

pba@pbainc.com

JOB NO. 110010 MAY 24, 2011  
100% SUBMITTAL

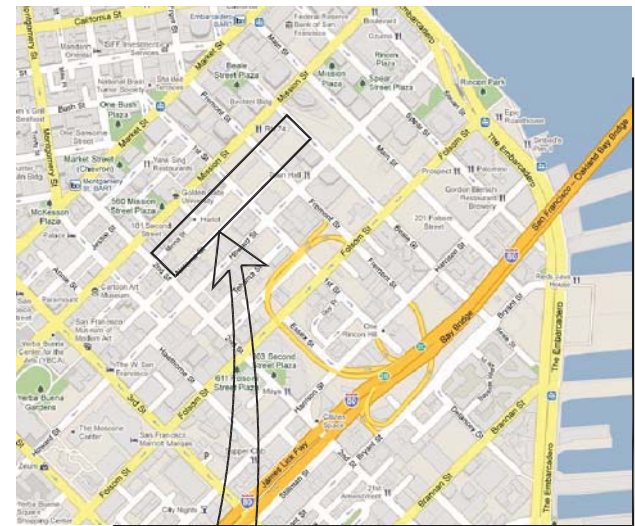
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APRIL 4, 2012  
CONFORMED SET

JOB NO. 11001C FEBRUARY 06, 2012  
RESPONSE TO COMMENTS

JOB NO. 11001E  
MAY 07, 2012  
BRIDGE ANOMALY MITIGATION

JOB NO. 110013 OCTOBER 06, 2011  
RESPONSE TO COMMENTS

JOB NO. 11001F  
AUGUST 01, 2012  
BEALE ST. TEMP. BRIDGE

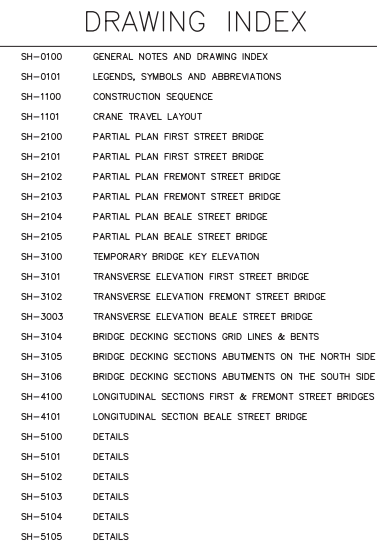


PROJECT LOCATION

**SITE LOCATION PLAN**

## GENERAL NOTES

C.2.OBTAIN THE READINGS WEEKLY DURING ACTIVE EXCAVATION. KEEP MONITORING UNTIL THE COMPLETION OF THE CONCOURSE LEVEL SLAB



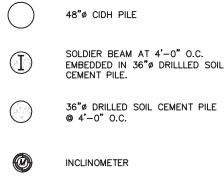
## DRAWING INDEX

SH-0100	GENERAL NOTES AND DRAWING INDEX
SH-0101	LEGENDS, SYMBOLS AND ABBREVIATIONS
SH-1100	CONSTRUCTION SEQUENCE
SH-1101	CRANE TRAVEL LAYOUT
SH-2100	PARTIAL PLAN FIRST STREET BRIDGE
SH-2101	PARTIAL PLAN FIRST STREET BRIDGE
SH-2102	PARTIAL PLAN FREMONT STREET BRIDGE
SH-2103	PARTIAL PLAN FREMONT STREET BRIDGE
SH-2104	PARTIAL PLAN BEALE STREET BRIDGE
SH-2105	PARTIAL PLAN BEALE STREET BRIDGE
SH-3100	TEMPORARY BRIDGE KEY ELEVATION
SH-3101	TRANSVERSE ELEVATION FIRST STREET BRIDGE
SH-3102	TRANSVERSE ELEVATION FREMONT STREET BRIDGE
SH-3103	TRANSVERSE ELEVATION BEALE STREET BRIDGE
SH-3104	BRIDGE DECKING SECTIONS GRID LINES & BENTS
SH-3105	BRIDGE DECKING SECTIONS ABUTMENTS ON THE NORTH SIDE
SH-3106	BRIDGE DECKING SECTIONS ABUTMENTS ON THE SOUTH SIDE
SH-4100	LONGITUDINAL SECTIONS FIRST & FREMONT STREET BRIDGES
SH-4101	LONGITUDINAL SECTION BEALE STREET BRIDGE
SH-5100	DETAILS
SH-5101	DETAILS
SH-5102	DETAILS
SH-5103	DETAILS
SH-5104	DETAILS
SH-5105	DETAILS

08-04-CMGC-000		TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA		FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES		TZ1030-015313A31	
PROJECT/OWNER SEAL							
APPROVED: _____ PRINCIPAL ENGINEER		APPROVED: _____ PROJECT MANAGER		APPROVED: _____ PROJECT ENGINEER		APPROVED: _____ DESIGNER	
DATE: 05/02/2011		DATE: 05/02/2011		DATE: 05/02/2011		DATE: 05/02/2011	
BY: PS/CP		BY: P. BARAR		BY: Q. LIU		BY: Q. LIU	
SCALE: AS NOTED		SCALE: F		SCALE: F		SCALE: F	
SHEET NUMBER		SHEET NUMBER		SHEET NUMBER		SHEET NUMBER	
SH-0100		of					

# LEGENDS AND SYMBOLS

## LEGEND



# LEGENDS AND SYMBOLS

## LEGEND

TC	TOP OF CURB
FL	FLOW LINE
BW	BACK OF WALK
GB	GRADE BREAK
HR	HANDICAP RAMP
CONC.	CONCRETE
INV.	INVERT
10"	TREE
6"	TREE PIT W/TREE
4"	TREE PIT W/TREE
12"	TREE PIT (NO TREE)
P	CONCRETE PLANTER BOX, 3' HIGH
P	CONCRETE PLANTER BOX, 3' HIGH
COL.	COLUMN (SIZE/SHAPES VARIES)
R	RISER
MW	MONITORING WELL
MONO	MONUMENT COVER
E	ELECTRIC MANHOLE
E	ELECTRIC MANHOLE
E(P)	ELECTRIC MANHOLE (PAVED OVER)
GWP	"GWP" MANHOLE (ELECTRIC)
E	ELECTRIC PULLBOX
EC	ELECTRIC COVER
HVE	HIGH VOLTAGE ELECTRIC MANHOLE
HVE	HIGH VOLTAGE ELECTRIC MANHOLES & COVER
HVE	HIGH VOLTAGE ELECTRIC MANHOLE & COVER
HVE	HIGH VOLTAGE ELECTRIC VAULT COVER
Dote	S.F. DEPT. OF ELECTRICITY PULLBOX
Dote	S.F. DEPT. OF ELECTRICITY MANHOLE
CCSF-ENET	"CCSF-ENET" PULLBOX
FA	FIRE ALARM PULLBOX
FA	FIRE ALARM CALLBOX, 5' HIGH
GV	GAS VALVE
GB	GAS BOX
VENT	GAS VENT
GAS(MR)	6" HIGH METAL ENCLOSURE W/GAS METERS & REGULATORS
DRIP	DRIP VALVE
HH	HATCH HATCHY (MUN) MANHOLE
M	MUNI POLE
MRY	"MRY" MANHOLE (MUN)
S	SEWER MANHOLE
S	STORM DRAIN MANHOLE
C/D	SEWER CLEANOUT
SV	SEWER VENT
AD	AREA DRAIN
AD	CATCH BASIN
SL	STREET LIGHT PULLBOX
STM	STEAM MANHOLE
T	TELEPHONE MANHOLE
T	TELEPHONE PULLBOX
P.TEL	PUBLIC TELEPHONE STAND, 6' HIGH
MCI	"MCI" MANHOLE (COMMUNICATION)
WU	WESTERN UNION MANHOLE (COMMUNICATION)
MFS	"MFS" MANHOLE (COMMUNICATION)
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TCG	"TCG" MANHOLE (COMMUNICATION)
LEV3	"LEVEL 3" MANHOLE (COMMUNICATION)
GST	"GST" MANHOLE (COMMUNICATION)
IC	"INTER-CONNECT" PULLBOX
TV	TELEVISION PULLBOX
TS	TRAFFIC SIGNAL PULLBOX
TSC	TRAFFIC SIGNAL CONTROL BOX, 5'± HIGH
DET	LOOP DETECTOR
WM	WATER METER
WM	WATER METER
A	FIRE HYDRANT
SP	STANDPIPE, 3'± HIGH
STDP	STANDPIPE, 3'± HIGH
HB	HOSEBIB
HPW	HIGH PRESSURE FIRE HYDRANT
HPW	HIGH PRESSURE WATER COVER

# LEGENDS AND SYMBOLS

HPW	HIGH PRESSURE WATER VALVE
HPW	HIGH PRESSURE WATER VALVE
W	HIGH PRESSURE WATER MANHOLE
U	UNKNOWN MANHOLE
U	UNKNOWN COVER (PAVED OVER)
U	UNKNOWN COVER
U	UNKNOWN COVER
U	UNKNOWN COVER
U	UNKNOWN FILLER CAP
U	UNKNOWN RISER
U	UNKNOWN VAULT
U	UNKNOWN VENT
U	UNKNOWN FILLER CAP
U	UNKNOWN METAL COVER
U	UNKNOWN METAL COVER
U	"CET" MANHOLE
U	"APS" MANHOLE
U	"TCG" MANHOLE
U	"VW s" MANHOLE
U	"SVWC" COVER
U	"GROUND" VALVE
U	UNKNOWN BOX, 6'± HIGH
EMH-1351-MN	UTILITY IDENTIFYING NUMBER
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
P	PIPE
D	DUCT
E	ELECTRIC LINE
E(NR)	ELECTRIC LINE (NO RECORDS AVAILABLE)
MCI	MCI COMMUNICATION FIBER LINE
MFS	MFS COMMUNICATION FIBER LINE
COMM(NR)	COMMUNICATION FIBER LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
G	GAS LINE
HPG	HIGH PRESSURE GAS LINE
SD	STORM DRAIN LINE
SD(NR)	STORM DRAIN LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
SD	STORM DRAIN LINE (INACCESSIBLE, ASSUMED LOCATION)
S	SANITARY SEWER LINE
SS(NR)	SANITARY SEWER LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
SD	SANITARY SEWER LINE (INACCESSIBLE, ASSUMED LOCATION)
SL	STREET LIGHT AND OR TRAFFIC SIGNAL LINE
SL(NR)	STREET LIGHT AND OR TRAFFIC SIGNAL LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
T	TELEPHONE LINE
T(NR)	TELEPHONE LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
TS(NR)	TRAFFIC SIGNAL LINE (FIELD LOCATED, NO RECORDS AVAILABLE)
U	UNKNOWN UTILITY LINE (NO RECORDS AVAILABLE)
W	WATER LINE
HPW	HIGH PRESSURE WATER LINE

# ABBREVIATIONS

NOTE: FOR TOP AND BOTTOM OF SHORING WALL SEE ELEVATION

## ABBREVIATION:

B.F.	BOTH FLANGES
B.O.W.	BOTTOM OF WALL
B.O.	BOTTOM OF
B.S.	BOTH SIDES
C	CENTER LINE
DIA.	DIAMETER
EL.	ELEVATION
E.G.	EXISTING GRADE
E.W.	EACH WAY
ED	EDGE OF DECK
ETW	EDGE OF TRAVELED WAY
FB	FLAT BAR
F.G.	FINISH GRADE
F.O.	FACE OF
F.P.	FULL PENETRATION
FTG.	FOOTING
HORI.	HORIZONTAL
INCLIA.	INCLINATION ANGLE
M.D.	METAL DECK
O.C.	ON CENTER
O.G.	ORIGINAL GRADE
PL.	PLATE
P.L.	PROPERTY LINE
PG	PROFILE GRADE
ST.	STREET
STRUCT.	STRUCTURAL
TBD	TO BE DETERMINED
T.O.W.	TOP OF WALL
T.O.	TOP OF
TYP.	TYPICAL
UNQ.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
WF	WIDE FLANGE
WWF	WELDED WIRE FABRIC
(E)	EXISTING
(N)	NEW

TG0300-206

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Note:  
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TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**PI&A Inc.**  
Professional Engineering & Architecture

DATE	BY	DESCRIPTION			
07	08	09	10	11	12

Key Map

REVISIONS

NO.	DATE	DESCRIPTION
1	08/07/11	75% TEMP. BRIDGE SUBMITTAL
2	08/07/11	100% TEMP. BRIDGE SUBMITTAL
3	08/07/11	100% PER. START INTERFERENCE
4	08/07/11	100% PER. START INTERFERENCE
5	08/07/11	RESPONSE TO COMMENTS
6	08/07/11	RESPONSE TO COMMENTS
7	08/07/11	BRIDGE ANOMALY MITIGATION
8	08/07/11	BEALE STREET TEMP. BRIDGE
9	08/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES  
LEGENDS, SYMBOLS AND ABBREVIATION

TZ1030-015313437

CONTRACT NO.

PROJECT FILE

ARCHITECT/ENGINEER SEAL

APPROVED:

PRINCIPAL ENGINEER

APPROVED:

PROJECT MANAGER

P. BARAR

PROJECT ENGINEER

Q. LIU

DESIGNED BY

P. BARAR

ML / PS / CP

05/02/2011

AS NOTED

140

SHEET NUMBER

SEQUENCE NUMBER

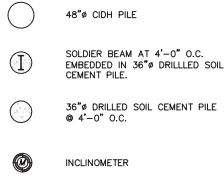
SH-0101

of



# LEGENDS AND SYMBOLS

## LEGEND



# LEGENDS AND SYMBOLS

## LEGEND

TC	TOP OF CURB
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HR	HANDICAP RAMP
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# LEGENDS AND SYMBOLS

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OU	UNKNOWN COVER
OU	UNKNOWN COVER
U	UNKNOWN COVER
F.CAP	UNKNOWN FILLER CAP
UR	UNKNOWN RISER
UV	UNKNOWN VAULT
V	UNKNOWN VENT
F.CAP	UNKNOWN FILLER CAP
UMC	UNKNOWN METAL COVER
UMC	UNKNOWN METAL COVER
CET	"CET" MANHOLE
APS	"APS" MANHOLE
TCG	"TCG" MANHOLE
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# ABBREVIATIONS

NOTE: FOR TOP AND BOTTOM OF SHORING WALL SEE ELEVATION

## ABBREVIATION:

B.F.	BOTH FLANGES
B.O.W.	BOTTOM OF WALL
B.O.	BOTTOM OF
B.S.	BOTH SIDES
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DIA.	DIAMETER
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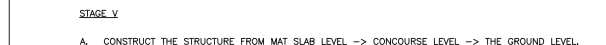
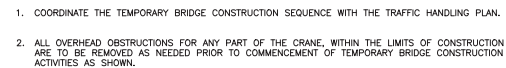
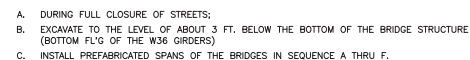
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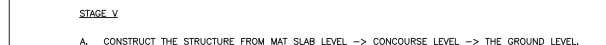
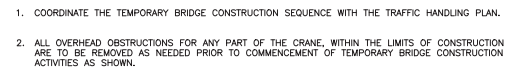
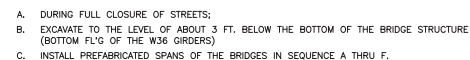
Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

<p>TRANSBAY JOINT POWERS AUTHORITY</p> <p><b>Balfour Beatty</b> Infrastructure Inc.</p> <p><b>PIE&amp;A Inc.</b> Infrastructure Engineering &amp; Architecture</p>																																	
<p>CONSULTANT:</p> <p>07 08 09 10 11 12</p>																																	
<p>Key Map</p> <p>N</p>																																	
<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>06/07/11</td> <td>75% TEMP. BRIDGE SUBMITTAL</td> <td>OL</td> </tr> <tr> <td>2</td> <td>06/07/11</td> <td>100% TEMP. BRIDGE SUBMITTAL</td> <td>OL</td> </tr> <tr> <td>3</td> <td>06/07/11</td> <td>100% PER. START INTERFERENCE</td> <td>PS</td> </tr> <tr> <td>4</td> <td>06/07/11</td> <td>RESPONSE TO COMMENTS</td> <td>OL</td> </tr> <tr> <td>5</td> <td>06/07/11</td> <td>RESPONSE TO COMMENTS</td> <td>OL</td> </tr> <tr> <td>6</td> <td>06/07/11</td> <td>BRIDGE ANOMALY MITIGATION</td> <td>OL</td> </tr> <tr> <td>7</td> <td>06/07/11</td> <td>BEALE STREET TEMP. BRIDGE</td> <td>OL</td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION	BY	1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	OL	2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	OL	3	06/07/11	100% PER. START INTERFERENCE	PS	4	06/07/11	RESPONSE TO COMMENTS	OL	5	06/07/11	RESPONSE TO COMMENTS	OL	6	06/07/11	BRIDGE ANOMALY MITIGATION	OL	7	06/07/11	BEALE STREET TEMP. BRIDGE	OL	<p>TRANSBAY TRANSIT CENTER PROGRAM</p> <p>TRANSBAY TRANSIT CENTER</p> <p>SAN FRANCISCO, CA</p> <p>FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES</p> <p>LEGENDS, SYMBOLS AND ABBREVIATION</p> <p>TZ1030-015313437</p>
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1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	OL																														
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<p>ARCHITECT/ENGINEER SEAL</p> <p>APPROVED:</p> <p>PRINCIPAL ENGINEER P. BARAR</p> <p>DESIGNED BY P. BARAR</p> <p>PROJECT ENGINEER Q. LIU</p> <p>DATE BY PS / CP 05/02/2011</p> <p>SCALE 1/4" = 1'-0"</p> <p>SHEET NUMBER 140</p> <p>SEQUENCE NUMBER</p>																																	
<p>SH-0101 of</p>																																	

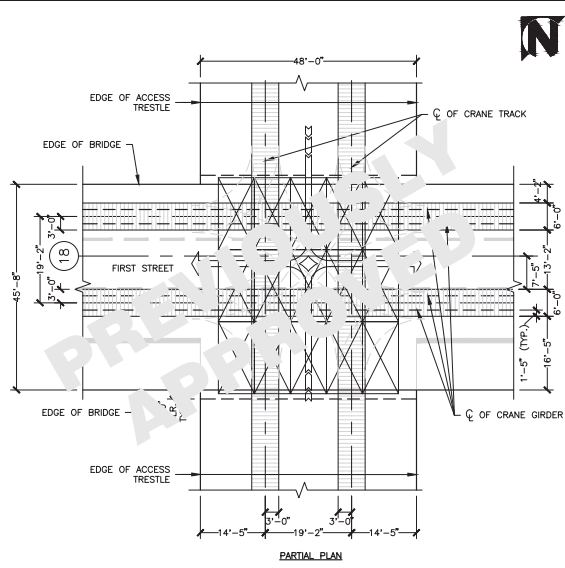




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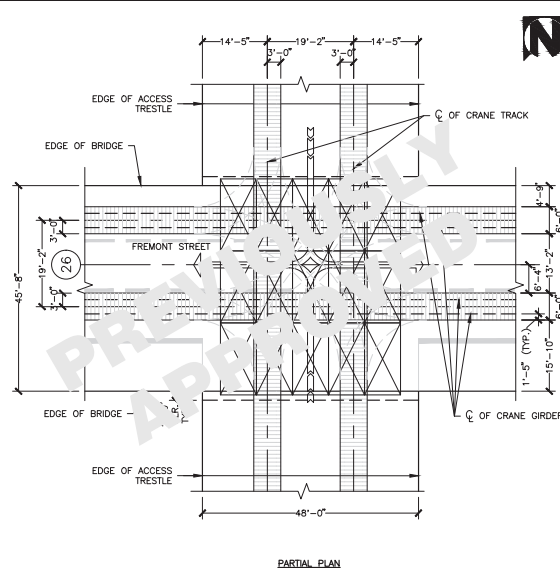
LEGEND:

DENOTES LIMITS CRANE TRACK MOVEMENT

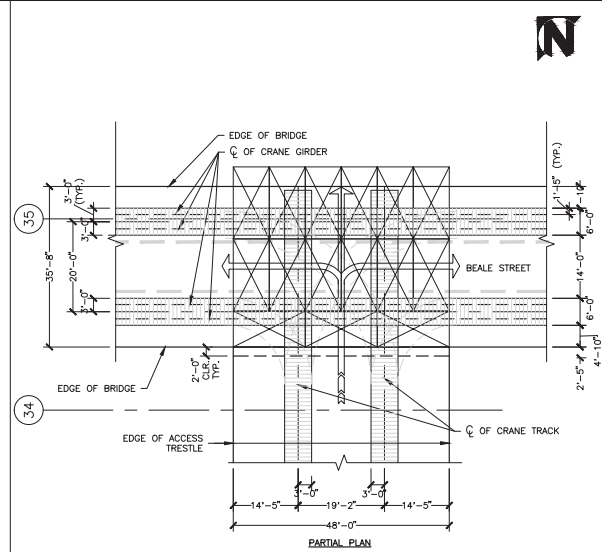
DENOTES 12" X 96" X 16'-0"

NOTE: TAKE DOWN MUNI OCS WIRES  
NEEDED FOR CRANE CROSSING

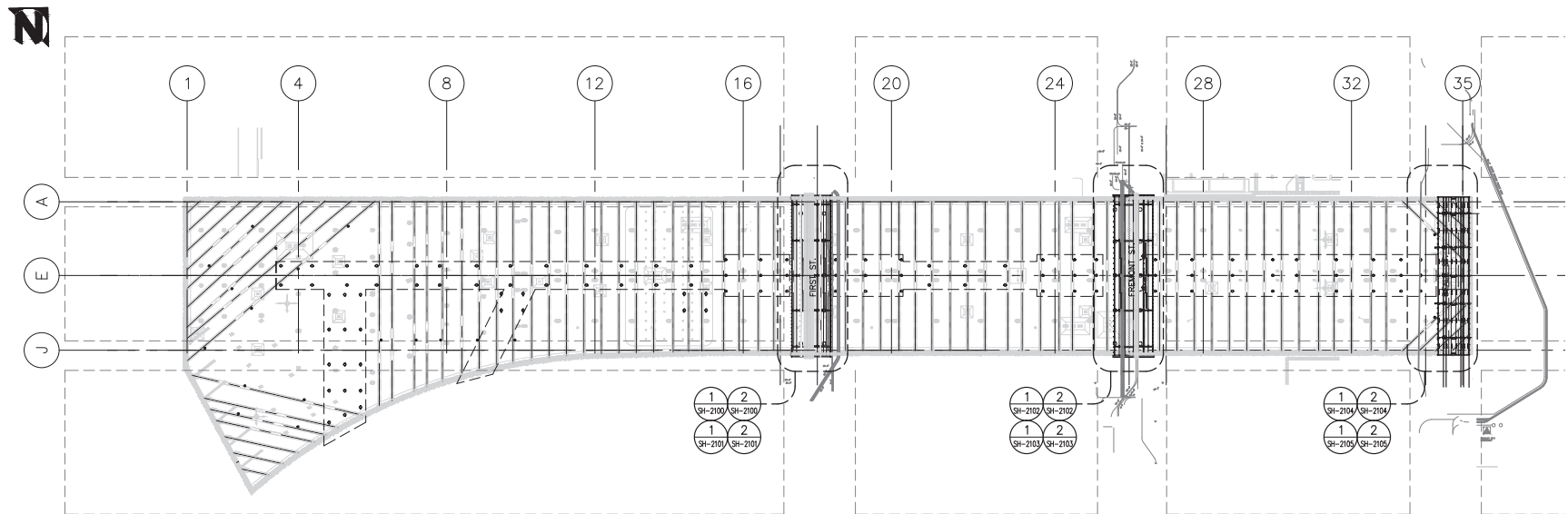
1 CRANE TRAVEL LAYOUT (FIRST STREET)  
SH-1101 SCALE: NTS



2 CRANE TRAVEL LAYOUT (FREMONT STREET)  
SH-1101 SCALE: NTS



3 CRANE TRAVEL LAYOUT (BEALE STREET)  
SH-1101 SCALE: NTS



4 TEMPORARY BRIDGE KEY PLAN  
SH-1101 SCALE: 1" = 80'-0"

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TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
PROFESSIONAL ENGINEER

Key Map											
BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION
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3	06/07/11	100% PER. STAT. INTERFERENCE	3	06/07/11	100% PER. STAT. INTERFERENCE	3	06/07/11	100% PER. STAT. INTERFERENCE	3	06/07/11	100% PER. STAT. INTERFERENCE
4	06/07/11	100% PER. STAT. INTERFERENCE	4	06/07/11	100% PER. STAT. INTERFERENCE	4	06/07/11	100% PER. STAT. INTERFERENCE	4	06/07/11	100% PER. STAT. INTERFERENCE
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6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS
7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION
8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE
9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

PROJECT FILE

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT STATUS

PROJECT FILE

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT STATUS

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

SCALE

AS NOTED

SHEET NUMBER

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

SCALE

AS NOTED

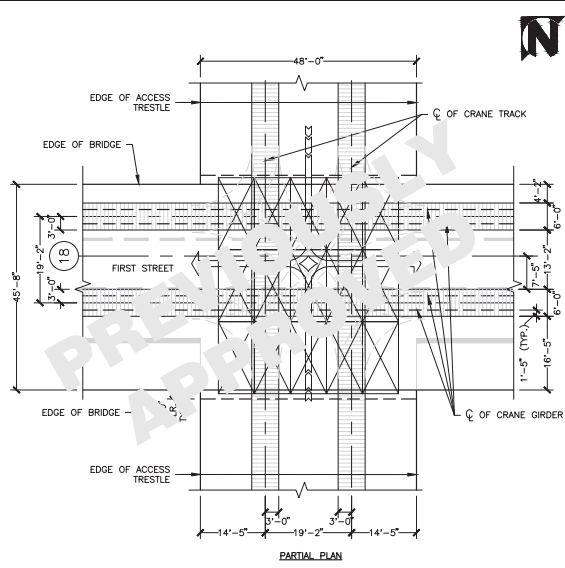
SHEET NUMBER

SH-1101

of

SH-1101

of



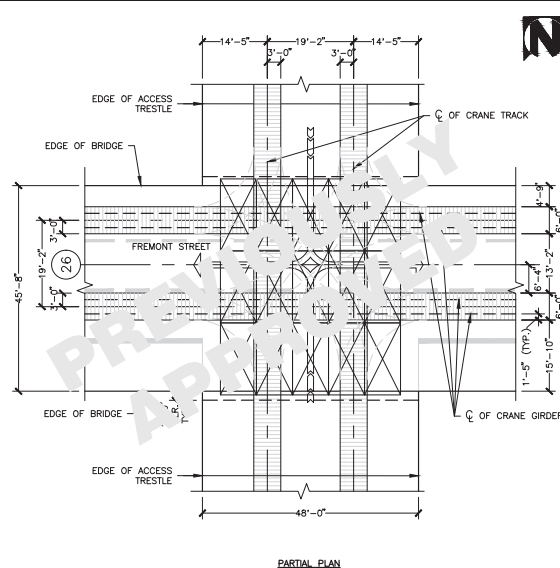
LEGEND:

DENOTES LIMITS CRANE TRACK MOVEMENT

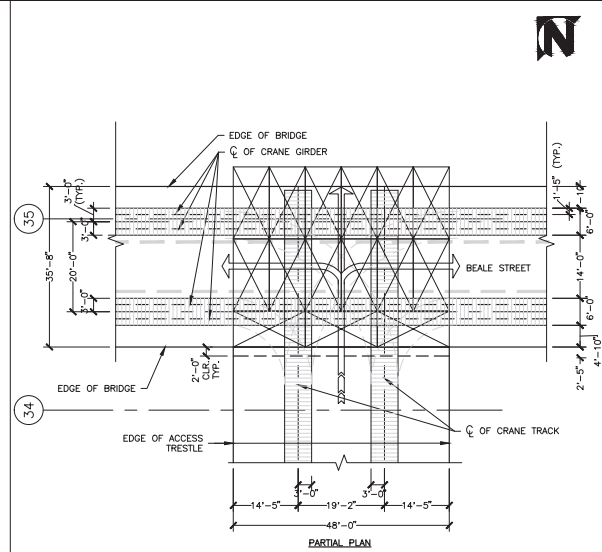
DENOTES 12" X 96" X 16'-0"

NOTE: TAKE DOWN MUNI OCS WIRES  
NEEDED FOR CRANE CROSSING

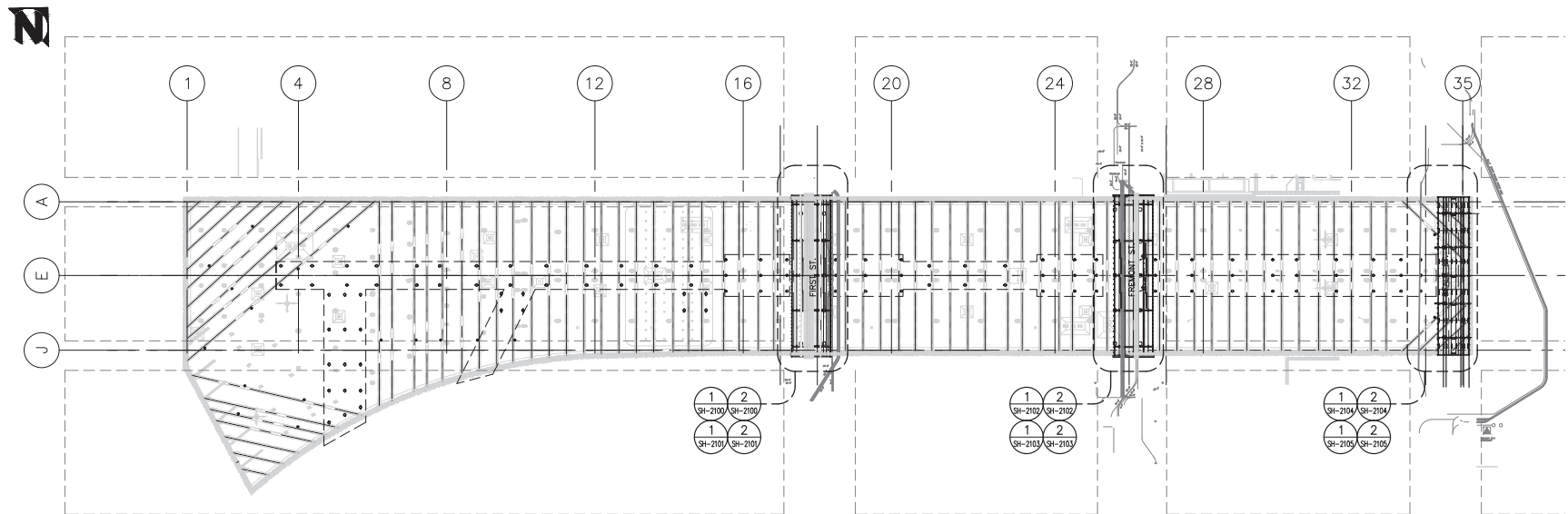
1 CRANE TRAVEL LAYOUT (FIRST STREET)  
SH-1101 SCALE: NTS



2 CRANE TRAVEL LAYOUT (FREMONT STREET)  
SH-1101 SCALE: NTS



3 CRANE TRAVEL LAYOUT (BEALE STREET)  
SH-1101 SCALE: NTS



4 TEMPORARY BRIDGE KEY PLAN  
SH-1101 SCALE: 1" = 80'-0"

Note:  
If this sheet is not 44" x 34", it has been revised from its original  
size. Scales noted on drawings/details are no longer applicable.

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
PROFESSIONAL ARCHITECTS

Key Map											
BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	1	06/07/11	75% TEMP. BRIDGE SUBMITTAL
2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	2	06/07/11	100% TEMP. BRIDGE SUBMITTAL
3	06/07/11	100% PER. STAT. INTERFERENCE	3	06/07/11	100% PER. STAT. INTERFERENCE	3	06/07/11	100% PER. STAT. INTERFERENCE	3	06/07/11	100% PER. STAT. INTERFERENCE
4	06/07/11	100% PER. STAT. INTERFERENCE	4	06/07/11	100% PER. STAT. INTERFERENCE	4	06/07/11	100% PER. STAT. INTERFERENCE	4	06/07/11	100% PER. STAT. INTERFERENCE
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6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS	6	06/07/11	RESPONSE TO COMMENTS
7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION	7	06/07/11	BRIDGE ANOMALY MITIGATION
8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE	8	06/07/11	BEALE STREET TEMP. BRIDGE
9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE	9	06/07/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

PROJECT FILE

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT STATUS

PROJECT FILE

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT STATUS

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

SCALE

AS NOTED

SHEET NUMBER

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

SCALE

AS NOTED

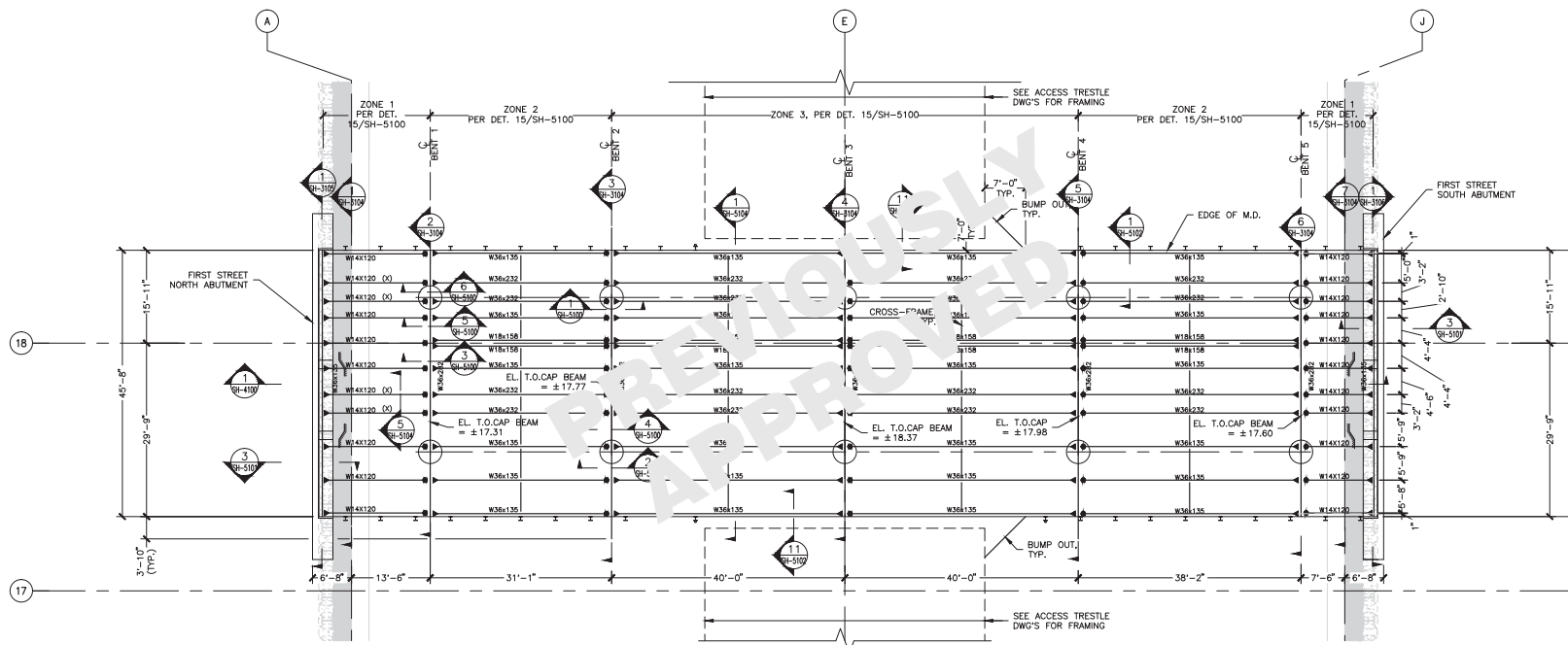
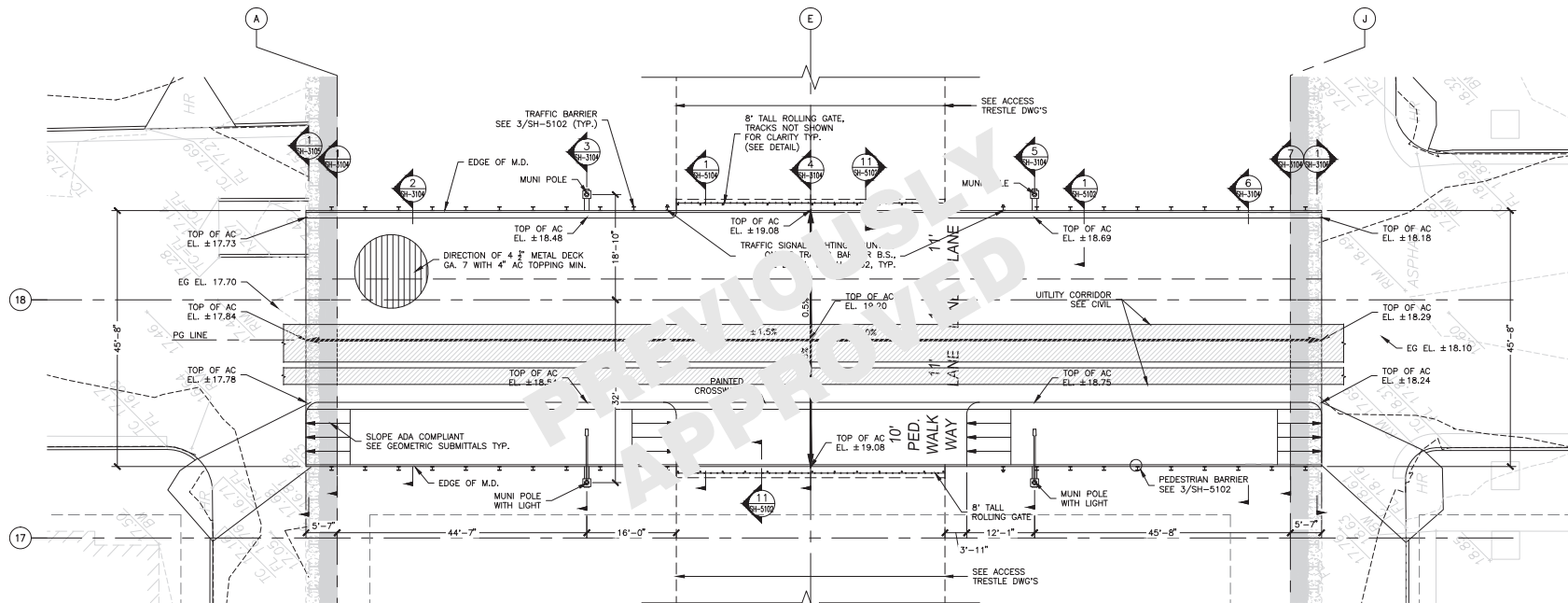
SHEET NUMBER

SH-1101

of

SH-1101

of



- LEGEND**
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION\*
  - ▶ DENOTES MOMENT CONNECTION\*

INDICATES REINFORCEMENT  
 @ BOTTOM FLANGE,  
 SEE 1/SH-5105  
 USE W14X176 OR EQUIVALENT  
 DEEPER BEAM PER  
 CONTRACTOR'S OPTION

Note:  
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**Transbay Transit Center**  
 TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
 Infrastructure Inc.

**P&A Inc.**  
 PROFESSIONAL ENGINEER

**Key Map**

NO.	DATE	DESCRIPTION	BY	CHKD.
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR
3	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	Q. LIU	P. BARAR
4	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR
5	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR
6	05/07/11	BRIDGE ANOMALY MITIGATION	Q. LIU	P. BARAR
7	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR
8	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR
9	05/07/11	BEAL STREET TEMP. BRIDGE	Q. LIU	P. BARAR

**08-04-CMGC-000**

**TRANSBAY TRANSIT CENTER PROGRAM**  
**TRANSBAY TRANSIT CENTER**  
**SAN FRANCISCO, CA**

**FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES**

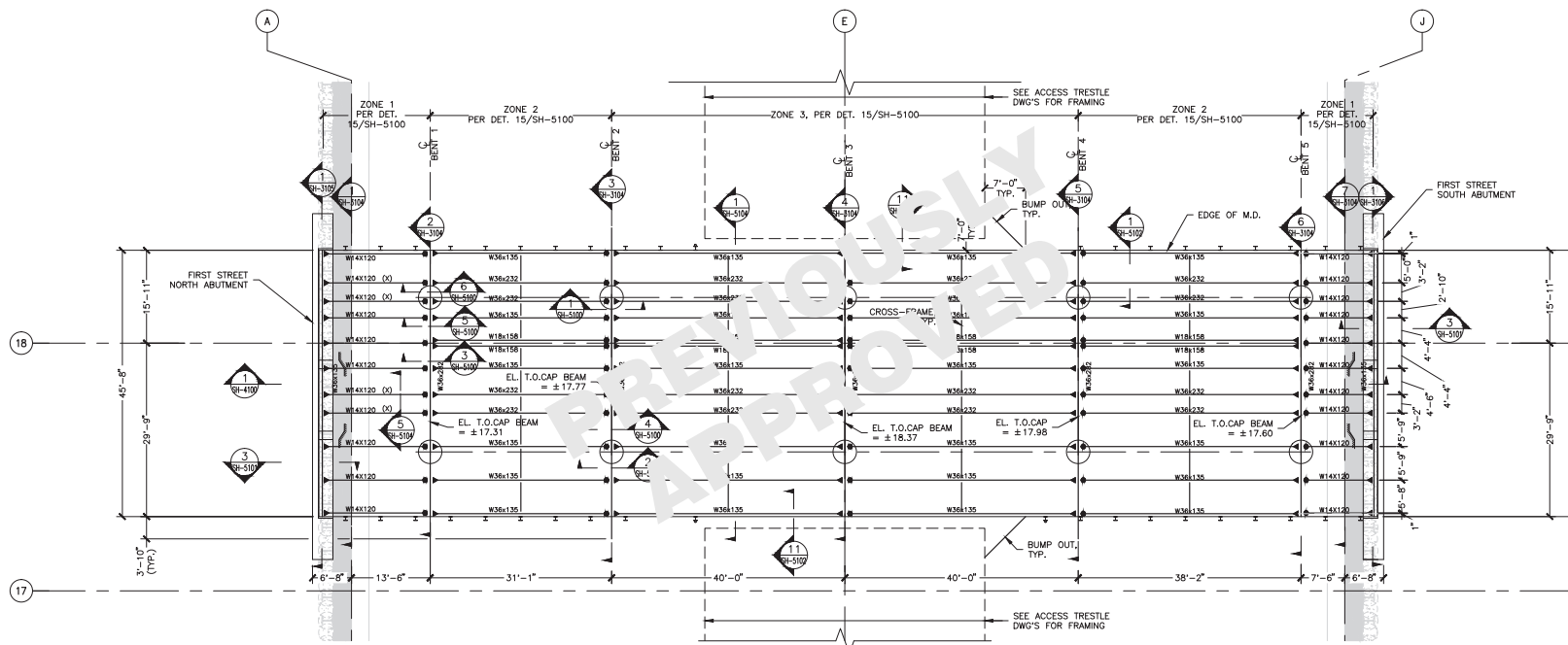
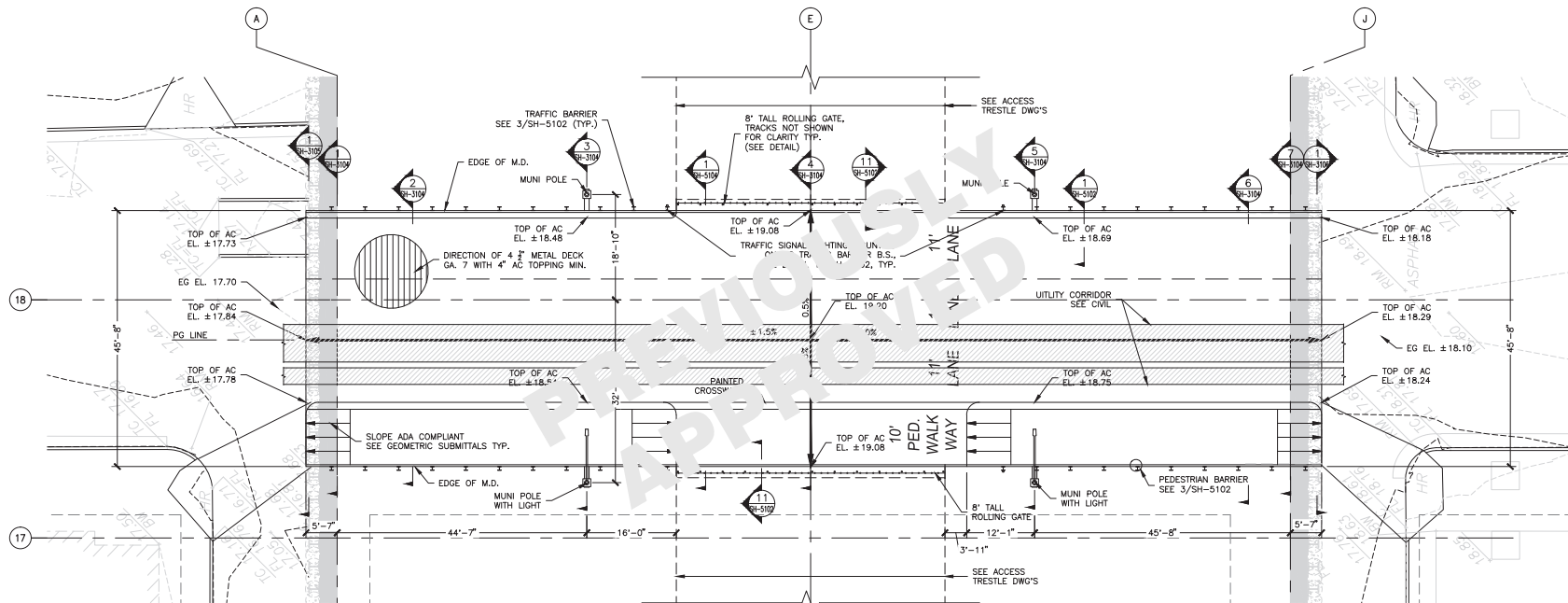
**PARTIAL PLAN**  
**FIRST STREET BRIDGE**

**APPROVED:**  
 PRINCIPAL ENGINEER: P. BARAR  
 PROJECT MANAGER: P. BARAR  
 PROJECT ENGINEER: Q. LIU  
 CHECKED BY: Q. LIU  
 DATE: 05/02/2011  
 SCALE: AS NOTED  
 SHEET NUMBER: 140

**SH-2100**

**SEQUENCE NUMBER**





Note:  
 If this sheet is not 44" x 34", it has been revised from its original  
 size. Scales noted on drawings/details are no longer applicable.

Transbay Transit Center  
 TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
 Infrastructure Inc.

**P&A Inc.**  
 PROFESSIONAL ENGINEER

Key Map

NO.	DATE	DESCRIPTION	BY
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	Q. LIU
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	P. BARAR
3	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	P. BARAR
4	06/06/11	RESPONSE TO COMMENTS	Q. LIU
5	06/06/11	RESPONSE TO COMMENTS	Q. LIU
6	06/06/11	BRIDGE ANOMALY MITIGATION	Q. LIU
7	06/06/11	BRIDGE ANOMALY MITIGATION	Q. LIU
8	06/06/11	BRIDGE ANOMALY MITIGATION	Q. LIU
9	06/06/11	BRIDGE ANOMALY MITIGATION	Q. LIU

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
 TRANSBAY TRANSIT CENTER  
 SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

PARTIAL PLAN  
 FIRST STREET BRIDGE

171030-015313A37

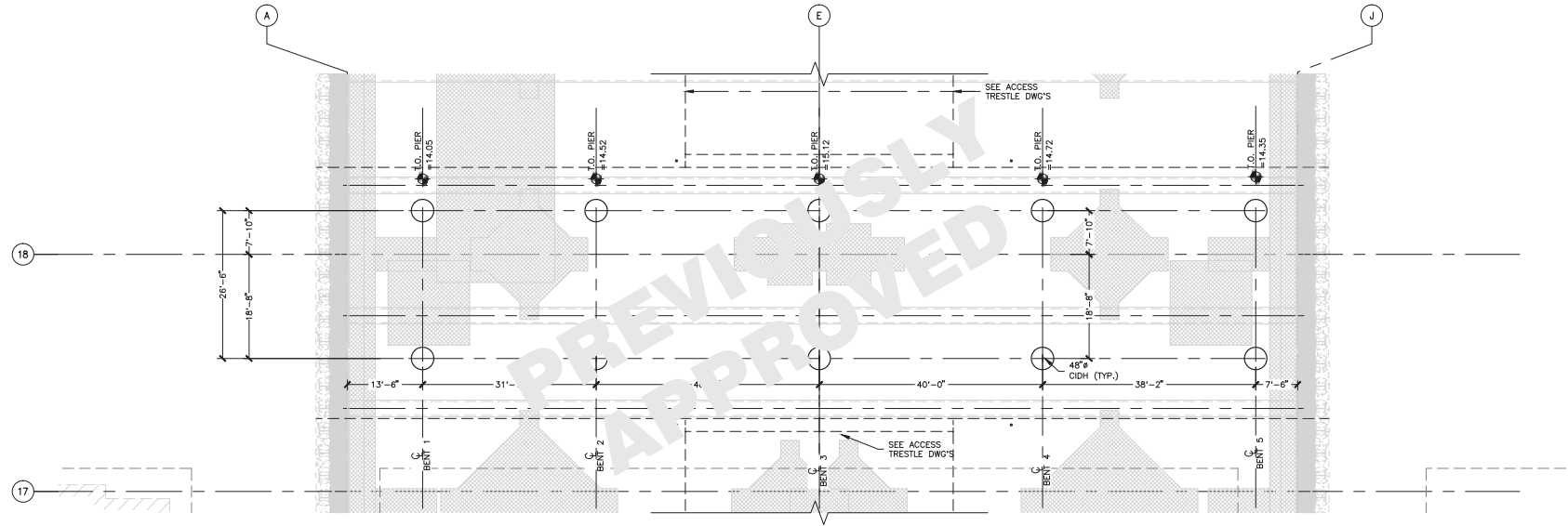
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 PROJECT ENGINEER

APPROVED: P. BARAR  
 PROJECT MANAGER

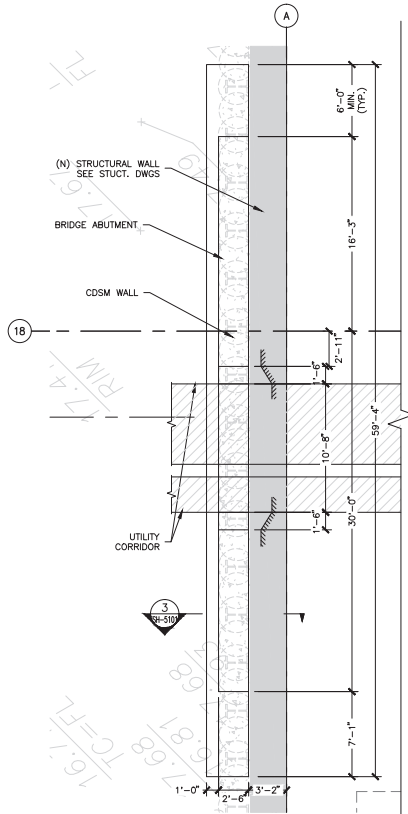
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 DRAWN BY: P. BARAR  
 ML / PS / CP  
 AS NOTED  
 SHEET NUMBER: 140

SEQUENCE NUMBER: 140

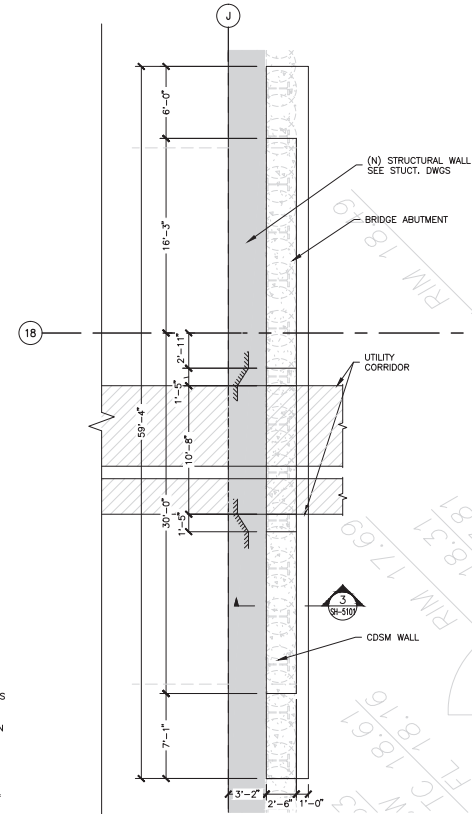
SH-2100 of



1 FIRST STREET PARTIAL FOUNDATION PLAN  
SCALE: 1/8" = 1'-0"



2 FIRST STREET NORTH ABUTMENT PLAN  
SCALE: 1/4" = 1'-0"



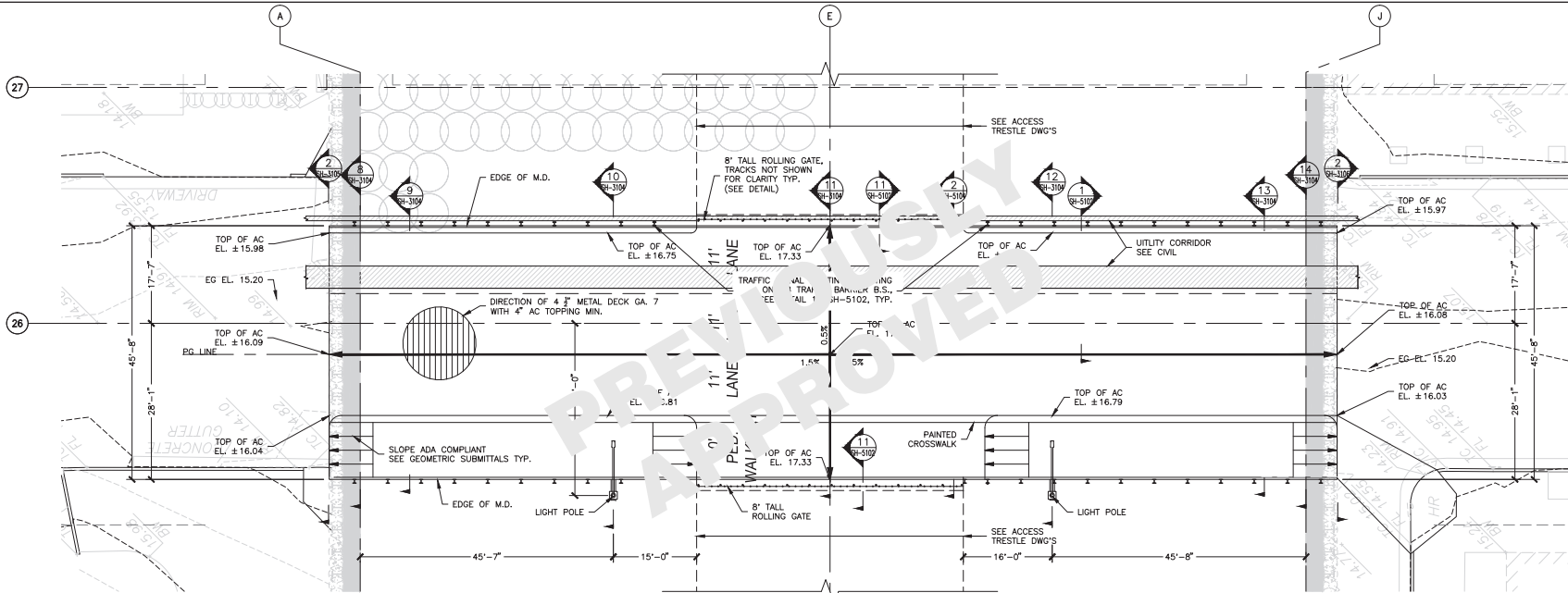
2 FIRST STREET SOUTH ABUTMENT PLAN  
SCALE: 1/4" = 1'-0"

- LEGEND**
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION\*
  - DENOTES MOMENT CONNECTION\*

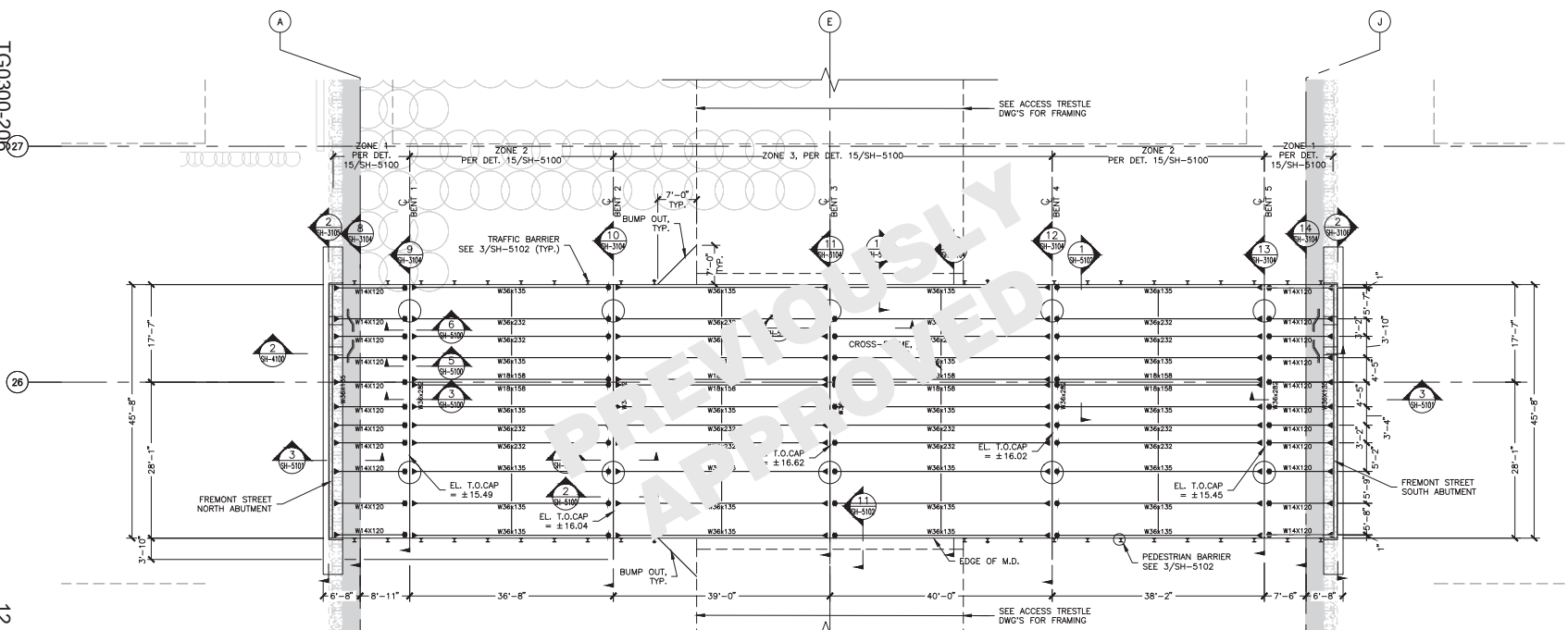
\* SEE SHEET SH-5100 FOR CONNECTION DETAILS

Note:  
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 TRANSBAY JOINT POWERS AUTHORITY  		 Key Map																													
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NO.	DATE	REVISIONS																													
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL																													
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9	06/07/11	BEALE STREET TEMP. BRIDGE																													
<p>08-04-CMGC-000</p> <p>TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA</p> <p>PROJECT TITLE</p> <p>ARCHITECT/ENGINEER SEAL</p> <p>APPROVED:</p> <p>PRINCIPAL ENGINEER P. BARAR</p> <p>PROJECT MANAGER P. BARAR</p> <p>PROJECT ENGINEER Q. LIU</p> <p>DESIGNED BY Q. LIU</p> <p>DRAWN BY ML / PS / CP</p> <p>CHECKED BY E</p> <p>AS NOTED</p> <p>SHEET NUMBER</p> <p>SEQUENCE NUMBER</p> <p>SH-2101</p> <p>of</p>																															



1  
SH-2102  
FREMONT STREET PARTIAL CIVIL PLAN  
SCALE: 1/8" = 1'-0"



2  
SH-2102  
FREMONT STREET PARTIAL STRUCTURAL PLAN  
SCALE: 1/8" = 1'-0"

- LEGEND
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION
  - ▶ DENOTES MOMENT CONNECTION

Note:  
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Transbay Transit Center  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
Professional Engineer

REVISIONS	
NO.	DESCRIPTION
1	75% TEMP. BRIDGE SUBMITTAL
2	100% TEMP. BRIDGE SUBMITTAL
3	100% PER. STAT. INTERFERENCE SUBMITTAL
4	RESPONSE TO COMMENTS
5	RESPONSE TO COMMENTS
6	RESPONSE TO COMMENTS
7	BRIDGE ANOMALY MITIGATION
8	BEALE STREET TEMP. BRIDGE
9	BEALE STREET TEMP. BRIDGE

NO.	DATE	BY	CHK.	APP.
1	05/07/11	Q. LIU	P. BARAR	
2	05/07/11	Q. LIU	P. BARAR	
3	05/07/11	Q. LIU	P. BARAR	
4	05/07/11	Q. LIU	P. BARAR	
5	05/07/11	Q. LIU	P. BARAR	
6	05/07/11	Q. LIU	P. BARAR	
7	05/07/11	Q. LIU	P. BARAR	
8	05/07/11	Q. LIU	P. BARAR	
9	05/07/11	Q. LIU	P. BARAR	

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

PARTIAL PLAN

FREMONT STREET BRIDGE

TS/1030-015313A31

APPROVED:

PRINCIPAL ENGINEER P. BARAR

PROJECT MANAGER P. BARAR

PROJECT ENGINEER Q. LIU

DESIGNED BY Q. LIU

CHECKED BY P. BARAR

DATE 05/02/2011

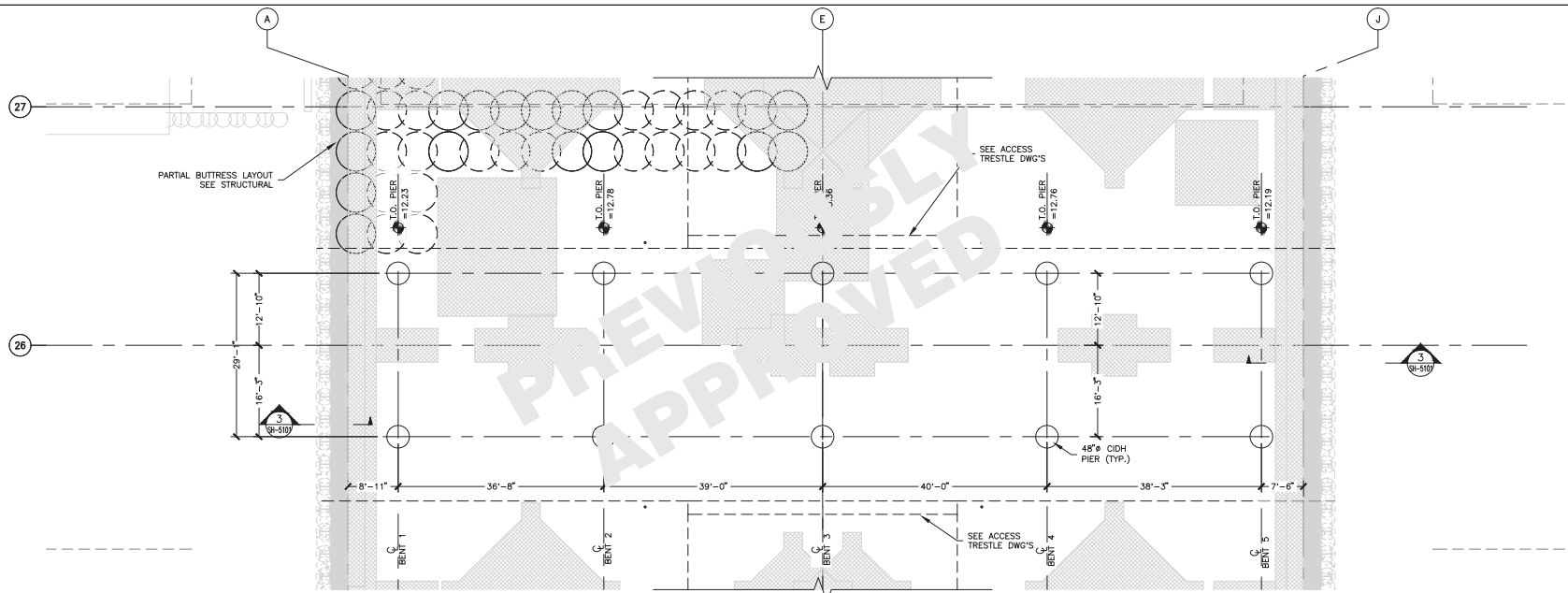
SCALE 1/8" = 1'-0"

AS NOTED

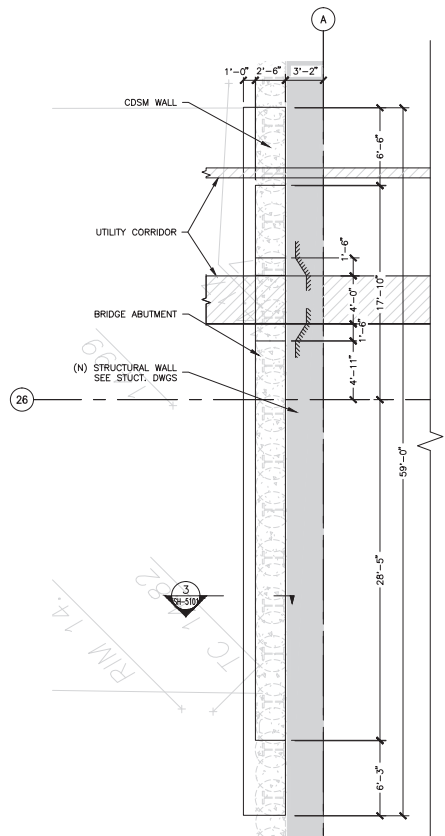
SHEET NUMBER 140

SEQUENCE NUMBER

SH-2102 of

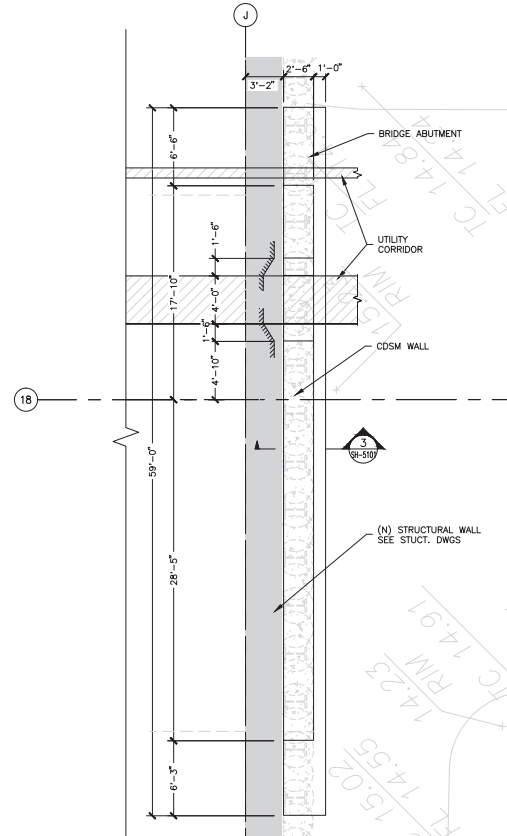


1 FREMONT STREET PARTIAL FOUNDATION PLAN  
 9H-200 SCALE: 1/8" = 1'-0"



2 FREMONT STREET NORTH ABUTMENT PLAN  
 9H-200 SCALE: 1/4" = 1'-0"

- LEGEND
- DENOTES UTILITY CORRIDOR
  - DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION\*
  - DENOTES MOMENT CONNECTION\*



2 FREMONT STREET SOUTH ABUTMENT PLAN  
 9H-200 SCALE: 1/4" = 1'-0"

TRANSBAY JOINT POWERS AUTHORITY

REVISIONS		BY		DATE	
1	75% TEMP. BRIDGE SUBMITTAL	BY	DATE		
2	100% TEMP. BRIDGE SUBMITTAL	BY	DATE		
3	100% PER. STAT. INTERFERENCE	BY	DATE		
4	100% PER. STAT. INTERFERENCE	BY	DATE		
5	RESPONSE TO COMMENTS	BY	DATE		
6	RESPONSE TO COMMENTS	BY	DATE		
7	BRIDGE ANOMALY MITIGATION	BY	DATE		
8	BRIDGE ANOMALY MITIGATION	BY	DATE		
9	BEALE STREET TEMP. BRIDGE	BY	DATE		

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

PROJECT FILE

ARCHITECT/ENGINEER SEAL

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

PROJECT FILE

ARCHITECT/ENGINEER SEAL

APPROVED

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

Q. LIU

ML / PS / CP

AS NOTED

SHEET NUMBER

APPROVED

P. BARAR

P. BARAR

Q. LIU

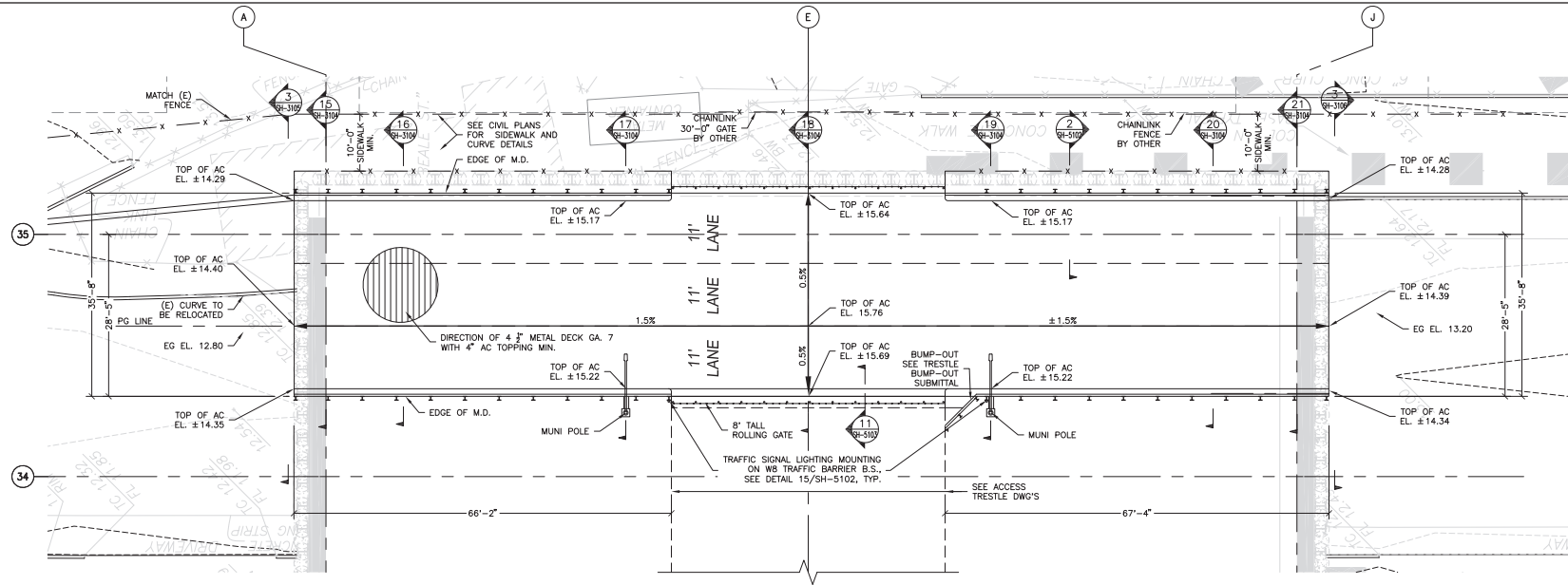
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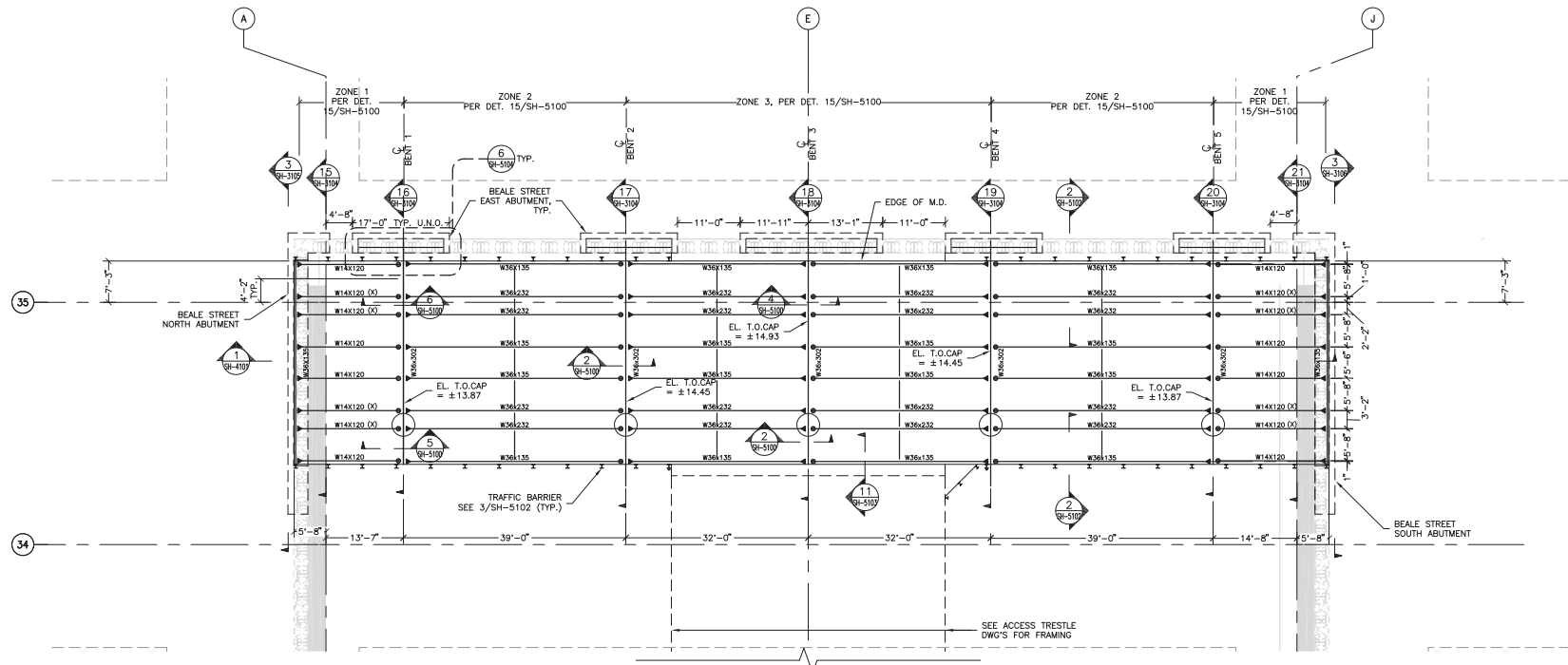
SEQUENCE NUMBER

SH-2103 of





1 BEALE STREET PARTIAL CIVIL PLAN  
SCALE: 1/8" = 1'-0"




2 BEALE STREET PARTIAL STRUCTURAL PLAN  
SCALE: 1/8" = 1'-0"

- LEGEND
- ◻ DENOTES UTILITY CORRIDOR
  - ◻ DENOTES PILE EXCLUSION AREAS
  - DENOTES BRIDGE PIER LOCATION
  - DENOTES PIN CONNECTION\*
  - ▶ DENOTES MOMENT CONNECTION\*

(X) INDICATES R REINFORCEMENT  
● BOTTOM FLANGE,  
SEE 1/SH-5105  
USE W14X176 OR EQUIVALENT  
DEEPER BEAM PER  
CONTRACTOR'S OPTION

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TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
Structural Steel Detailing

REVISIONS		Key Map	
NO.	DATE	BY	DESCRIPTION
1	06/07/11	OL	75% TEMP. BRIDGE SUBMITTAL
2	06/07/11	OL	100% TEMP. BRIDGE SUBMITTAL
3	06/07/11	OL	100% PER. INTERFERENCE SUBMITTAL
4	06/07/11	OL	100% PER. INTERFERENCE SUBMITTAL
5	06/07/11	OL	RESPONSE TO COMMENTS
6	06/07/11	OL	RESPONSE TO COMMENTS
7	06/07/11	OL	BRIDGE ANCHORAGE MITIGATION
8	06/07/11	OL	BEALE STREET TEMP. BRIDGE
9	06/07/11	OL	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES

PARTIAL PLAN

BEALE STREET BRIDGE

PROJECT FILE

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT SCALE

PROJECT STATUS

PROJECT COMMENTS

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

SCALE

SHEET NUMBER

SH-2104

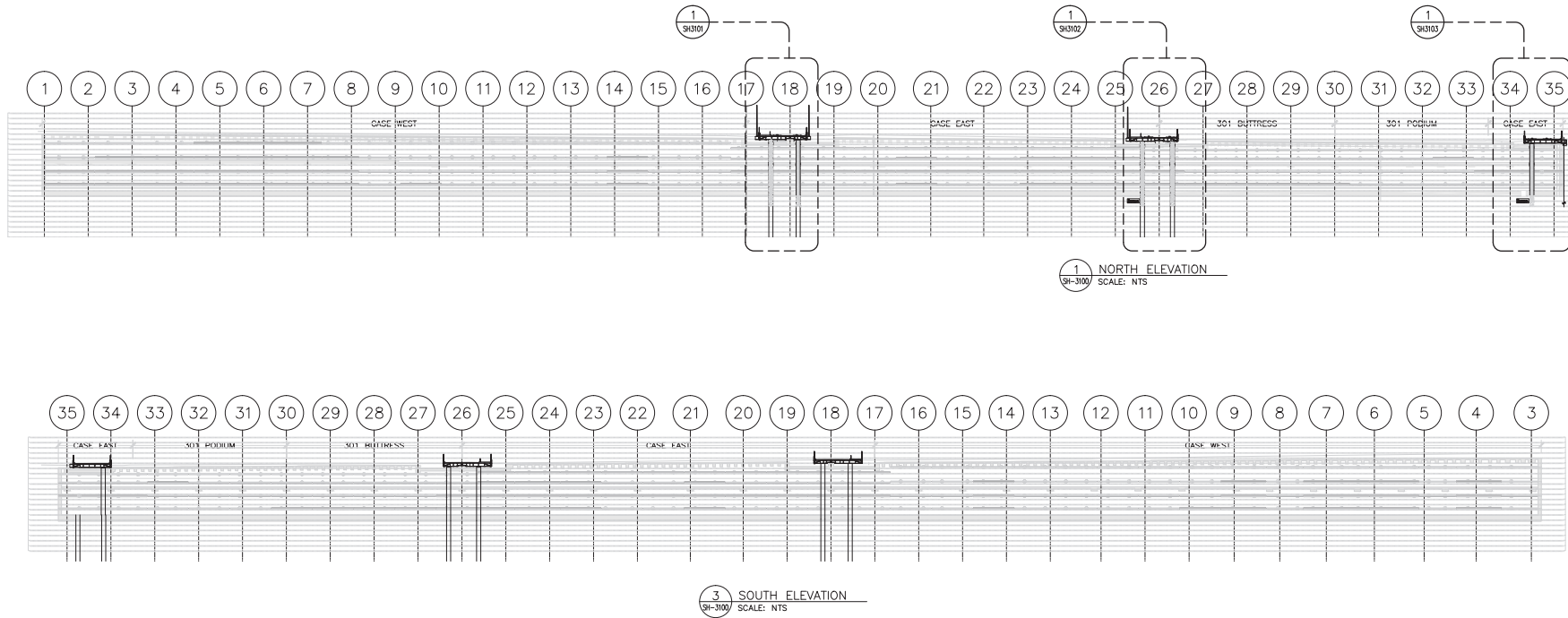
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Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

[illegible]



TRANSBAY JOINT POWERS AUTHORITY

PI&A Inc.

REVISIONS	
NO.	DATE
1	05/07/11
2	05/07/11
3	05/07/11
4	05/07/11
5	05/07/11
6	05/07/11
7	05/07/11
8	05/07/11
9	05/07/11

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
TEMPORARY BRIDGE KEY ELEVATION

TZ1030-015313A31

APPROVED:  
PRINCIPAL ENGINEER  
P. BARAR

APPROVED:  
PROJECT MANAGER  
P. BARAR

APPROVED:  
PROJECT ENGINEER  
Q. LIU

DESIGNED BY:  
Q. LIU

CHECKED BY:  
P. BARAR

DATE:  
05/02/2011

SCALE:  
AS NOTED

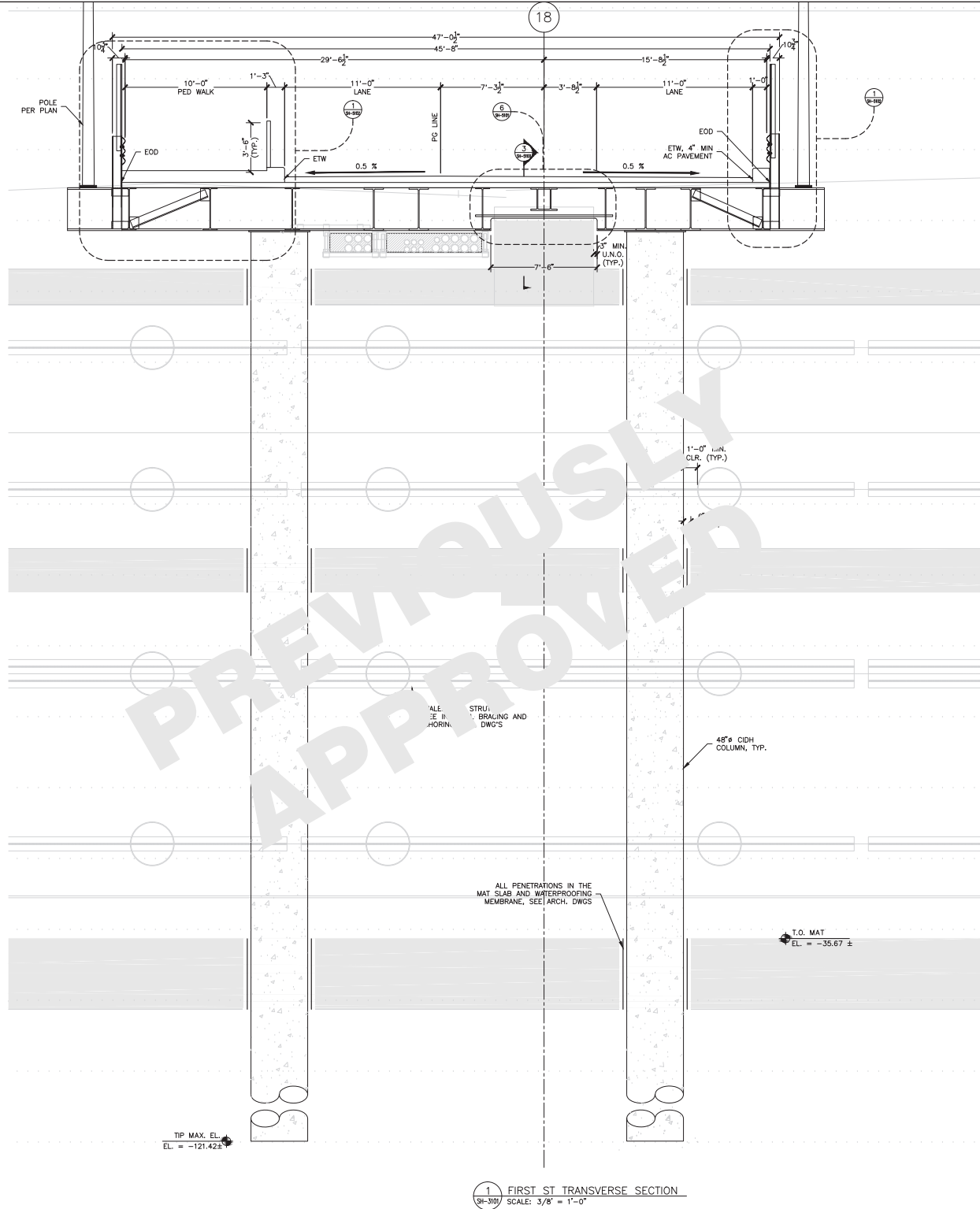
REVISION:  
F

SEQUENCE NUMBER:  
140

SH-3100 of

Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

UTILITY CORRIDORE  
SEE ABUTMENT LAYOUT  
SHEETS FOR DIMENSIONS



1 FIRST ST TRANSVERSE SECTION  
SCALE: 3/8" = 1'-0"

**TRANSBAY TRANSIT CENTER**  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
CIVIL ENGINEERING

07 08 09 10 11 12

NO.	DATE	DESCRIPTION	BY
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	OL
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	PB
3	05/07/11	100% PER. STAT. INTERFERENCE SUBMITTAL	PS
4	05/07/11	RESPONSE TO COMMENTS	OL
5	05/07/11	RESPONSE TO COMMENTS	OL
6	05/07/11	BRIDGE ANOMALY MITIGATION	OL
7	05/07/11	BEALE STREET TEMP. BRIDGE	OL

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

TRANSVERSE ELEVATION  
FIRST STREET BRIDGE

171030-015313A31

APPROVED: **P. BARAR**  
PRINCIPAL ENGINEER

APPROVED: **P. BARAR**  
PROJECT MANAGER

APPROVED: **Q. LIU**  
PROJECT ENGINEER

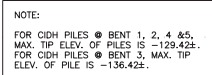
DESIGNED BY: **P. BARAR**  
DATE: **05/02/2011**

SCALE: **AS NOTED**  
SHEET NUMBER: **140**

SH-3101

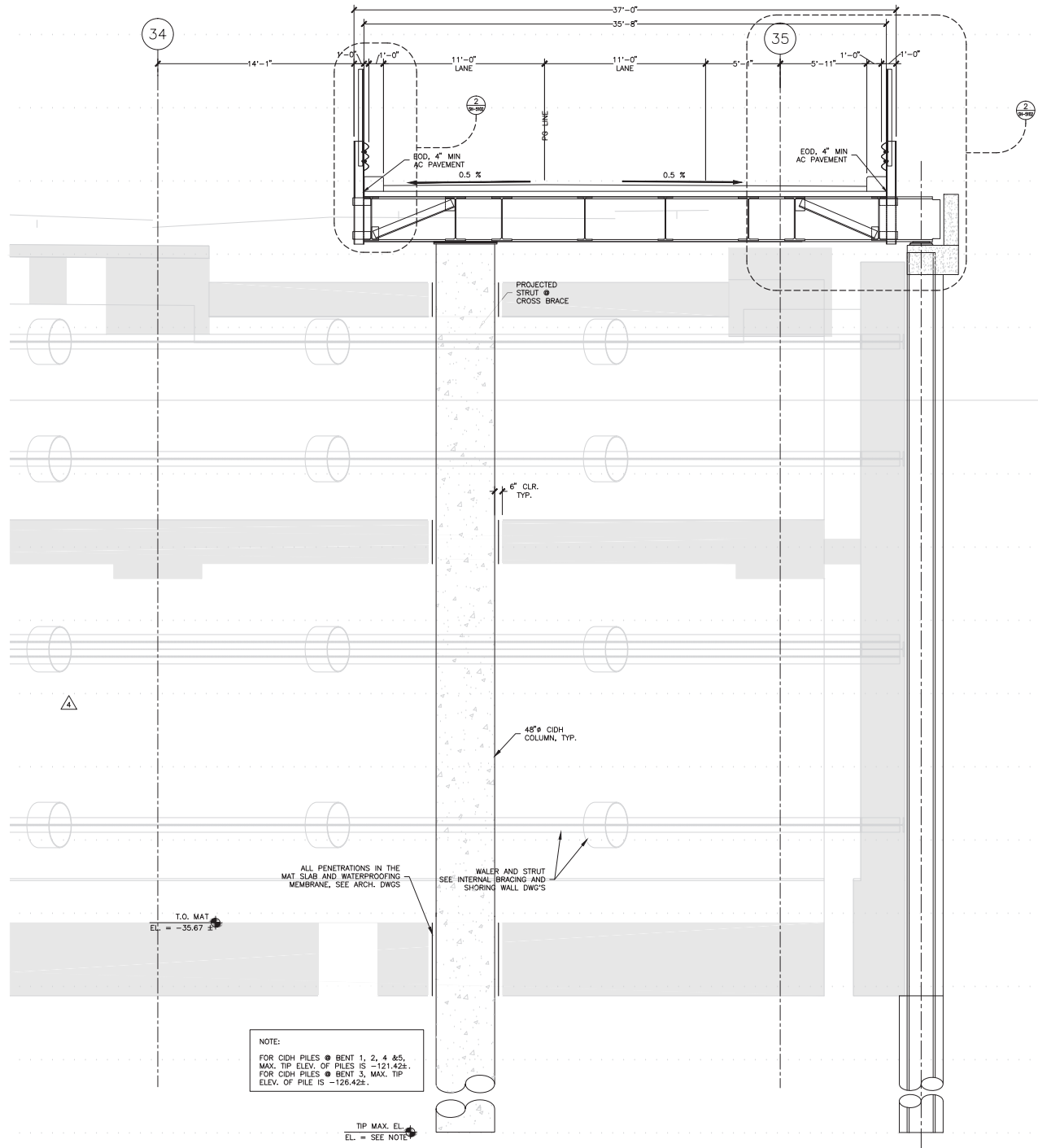
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Note:  
If this sheet is not 44" x 34", it has been revised from its original  
size. Scales noted on drawings/details are no longer applicable.



1 FREMONT ST TRANSVERSE SECTION  
SH-3102 SCALE: 3/8" = 1'-0"

[illegible]





TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
Structural Engineering

NO.	DATE	DESCRIPTION	BY
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	OL
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	PB
3	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	PS
4	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	PS
5	05/07/11	RESPONSE TO COMMENTS	OL
6	05/07/11	RESPONSE TO COMMENTS	OL
7	05/07/11	BRIDGE ANOMALY MITIGATION	OL
8	05/07/11	BEALE STREET TEMP. BRIDGE	OL
9	05/07/11	BEALE STREET TEMP. BRIDGE	OL

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
TRANSVERSE ELEVATION  
BEALE STREET BRIDGE

PROJECT FILE

ARCHITECT/ENGINEER SEAL

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT SCALE

PROJECT SHEET

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT SCALE

PROJECT SHEET

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT SCALE

PROJECT SHEET

APPROVED:

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

AS NOTED

SHEET NUMBER

P. BARAR

P. BARAR

Q. LIU

P. BARAR

05/02/2011

140

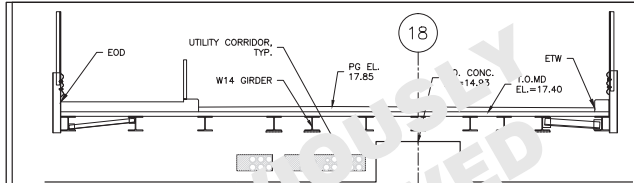
SEQUENCE NUMBER

SH-3103

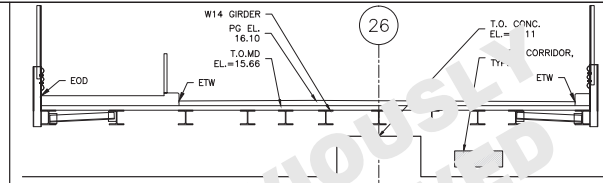
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Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.

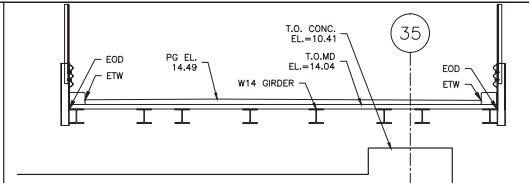




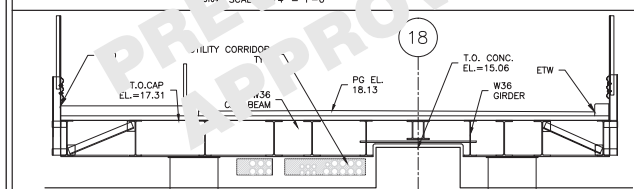
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SH-3104 SCALE: 1/4" = 1'-0"



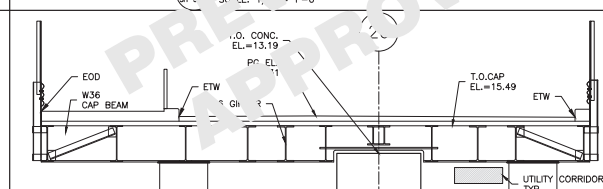
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SH-3104 SCALE: 1/4" = 1'-0"



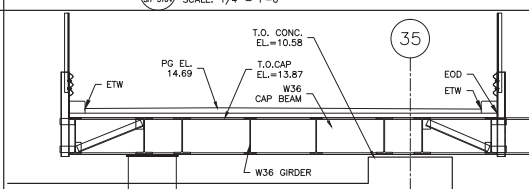
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SH-3104 SCALE: 1/4" = 1'-0"



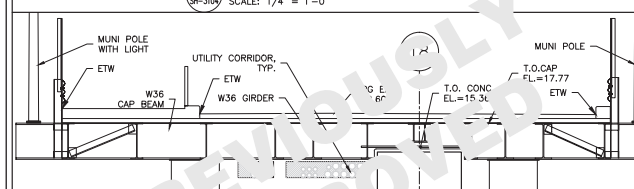
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SH-3104 SCALE: 1/4" = 1'-0"



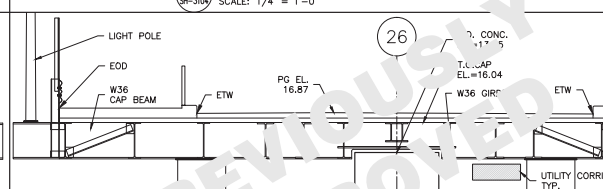
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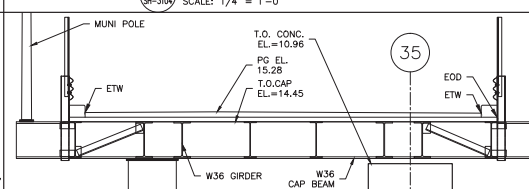
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SH-3104 SCALE: 1/4" = 1'-0"



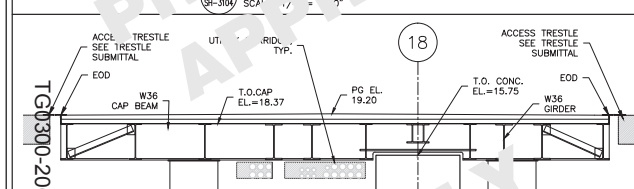
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SH-3104 SCALE: 1/4" = 1'-0"



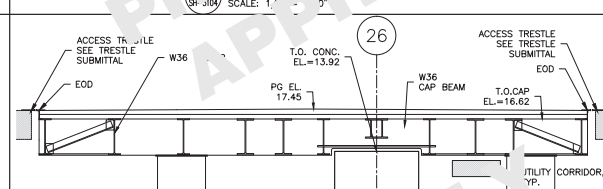
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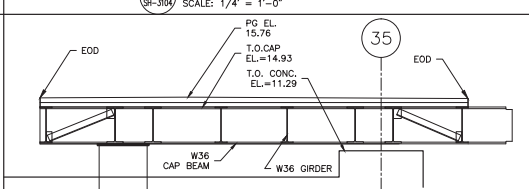
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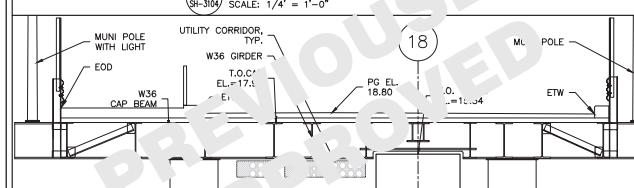
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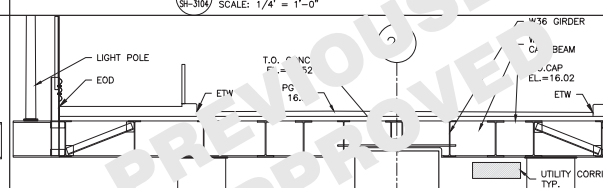
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SH-3104 SCALE: 1/4" = 1'-0"



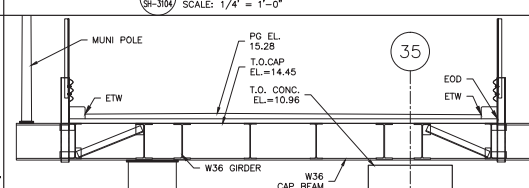
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SH-3104 SCALE: 1/4" = 1'-0"



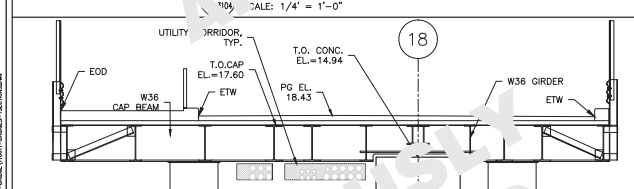
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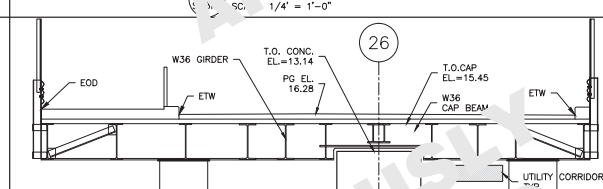
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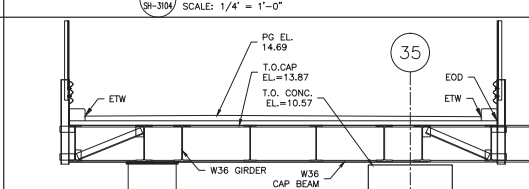
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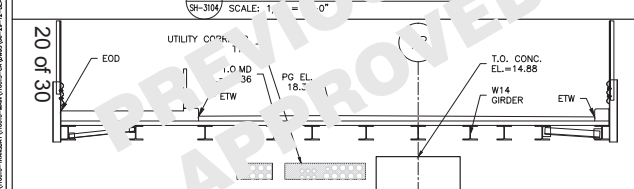
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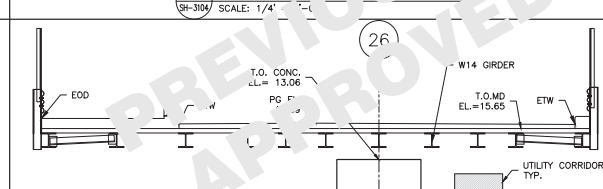
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SH-3104 SCALE: 1/4" = 1'-0"



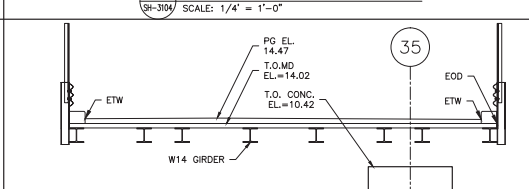
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SH-3104 SCALE: 1/4" = 1'-0"



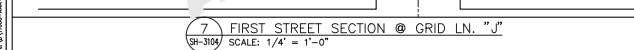
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SH-3104 SCALE: 1/4" = 1'-0"



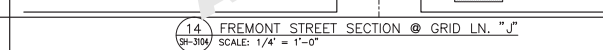
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SH-3104 SCALE: 1/4" = 1'-0"



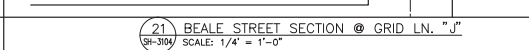
35 BEALE STREET SECTION @ BENT 7  
SH-3104 SCALE: 1/4" = 1'-0"



18 FIRST STREET SECTION @ BENT 8  
SH-3104 SCALE: 1/4" = 1'-0"



26 FREMONT STREET SECTION @ BENT 8  
SH-3104 SCALE: 1/4" = 1'-0"



35 BEALE STREET SECTION @ BENT 8  
SH-3104 SCALE: 1/4" = 1'-0"

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**PI&A Inc.**  
STRUCTURAL ENGINEERS

NO.	DATE	DESCRIPTION	BY	CHKD.	APP'D.
1	08/07/11	75% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR	
2	08/07/11	100% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR	
3	08/07/11	100% PER. BRIDGE SUBMITTAL	Q. LIU	P. BARAR	
4	08/07/11	100% PER. BRIDGE SUBMITTAL	Q. LIU	P. BARAR	
5	08/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR	
6	08/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR	
7	08/07/11	BRIDGE ANOMALY MITIGATION	Q. LIU	P. BARAR	
8	08/07/11	BEALE STREET TEMP. BRIDGE	Q. LIU	P. BARAR	
9	08/07/11	BEALE STREET TEMP. BRIDGE	Q. LIU	P. BARAR	

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

BRIDGE DECKING SECTIONS

GRID LINES & BENTS

PROJECT FILE: 171030-015313A37

PROJECT NO. 171030-015313A37

PROJECT ENGINEER: P. BARAR

PROJECT MANAGER: P. BARAR

PROJECT ENGINEER: Q. LIU

DESIGNED BY: P. BARAR

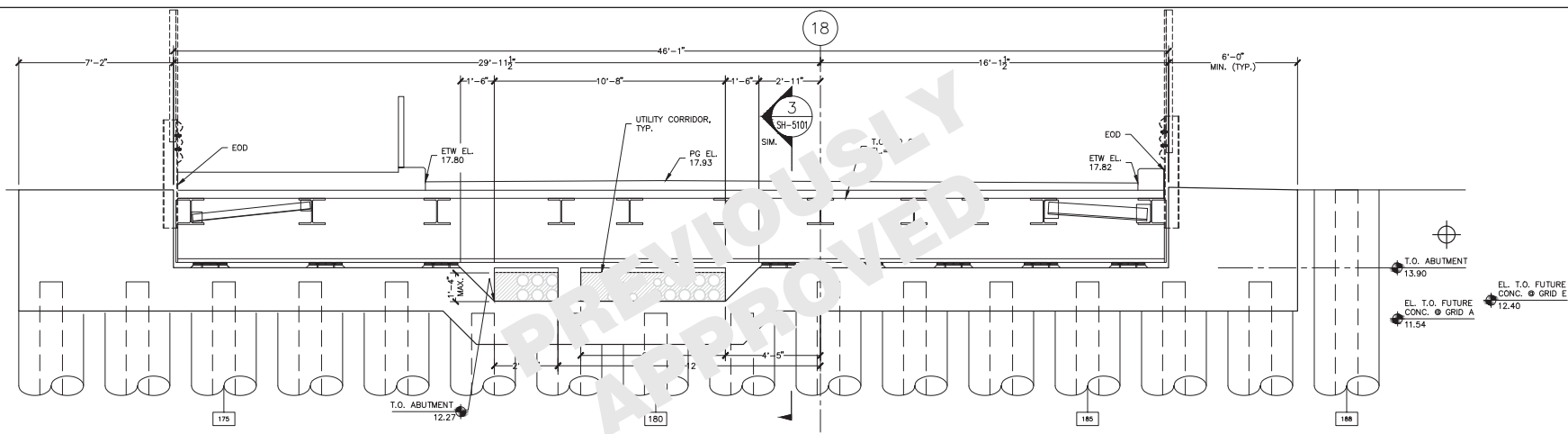
DATE: 05/02/2011

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

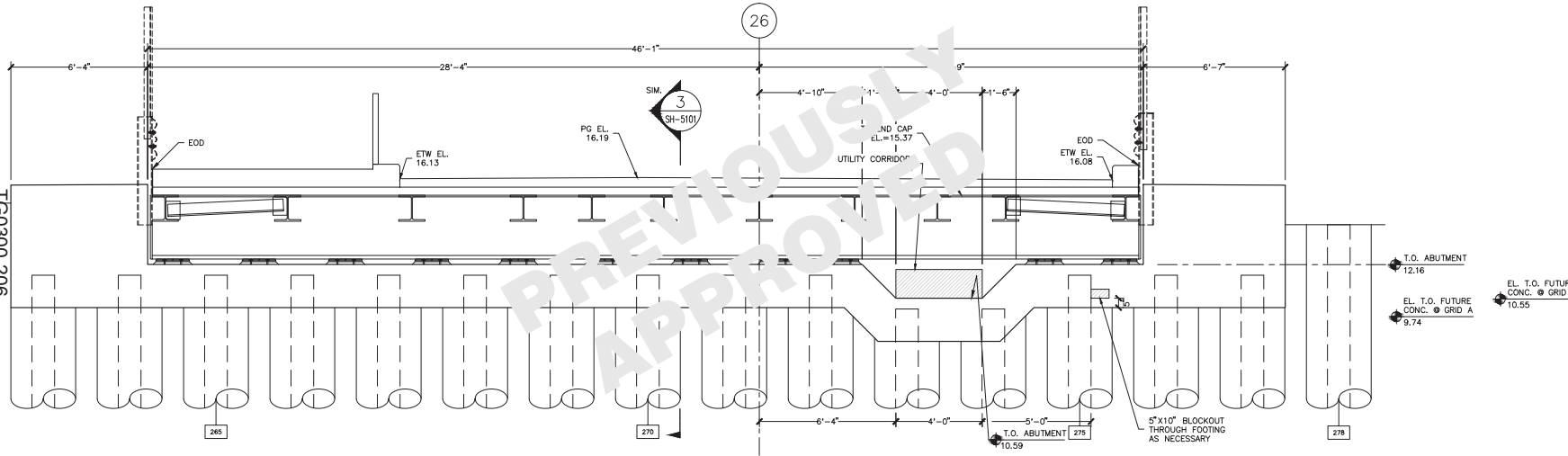
AS NOTED

SHEET NUMBER

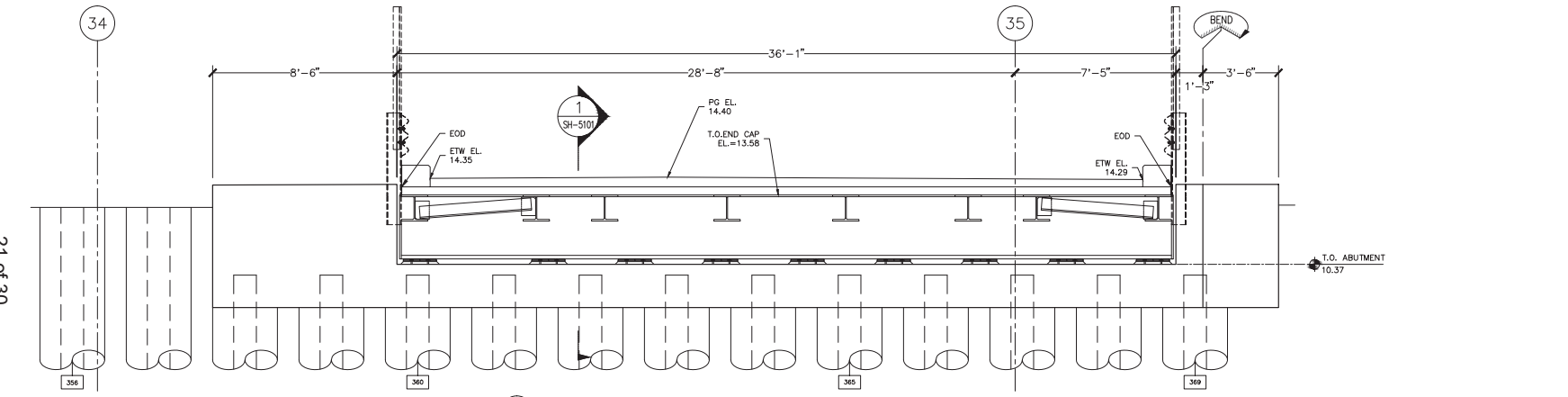
SEQUENCE NUMBER



1 FIRST STREET NORTH ABUTMENT (LOOKING NORTH)  
SH-3105 SCALE: 1/2" = 1'-0"




2 FREMONT STREET NORTH ABUTMENT (LOOKING NORTH)  
SH-3105 SCALE: 1/2" = 1'-0"



3 BEALE STREET NORTH ABUTMENT (LOOKING NORTH)  
SH-3105 SCALE: 1/2" = 1'-0"

Note:  
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TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
STRUCTURAL ENGINEERS

REVISIONS											
NO.	DATE	DESCRIPTION	BY	CHKD.	APP'D.						
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR							
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	Q. LIU	P. BARAR							
3	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	Q. LIU	P. BARAR							
4	05/07/11	100% PER. STRUT INTERFERENCE SUBMITTAL	Q. LIU	P. BARAR							
5	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR							
6	05/07/11	RESPONSE TO COMMENTS	Q. LIU	P. BARAR							
7	05/07/11	BRIDGE ANOMALY MITIGATION	Q. LIU	P. BARAR							
8	05/07/11	BEALE STREET TEMP. BRIDGE	Q. LIU	P. BARAR							
9	05/07/11	BEALE STREET TEMP. BRIDGE	Q. LIU	P. BARAR							

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

BRIDGE DECKING SECTIONS

ABUTMENTS ON THE NORTH SIDE

PROJECT FILE

PROJECT NO.

PROJECT NAME

PROJECT LOCATION

PROJECT DATE

PROJECT STATUS

DESIGNER/ENGINEER SEAL

DESIGNER/ENGINEER

DESIGNER/ENGINEER

DESIGNER/ENGINEER

DESIGNER/ENGINEER

DESIGNER/ENGINEER

APPROVED

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHKD. BY

ML / PS / CP

AS NOTED

SHEET NUMBER

APPROVED

P. BARAR

P. BARAR

Q. LIU

05/02/2011

140

SEQUENCE NUMBER

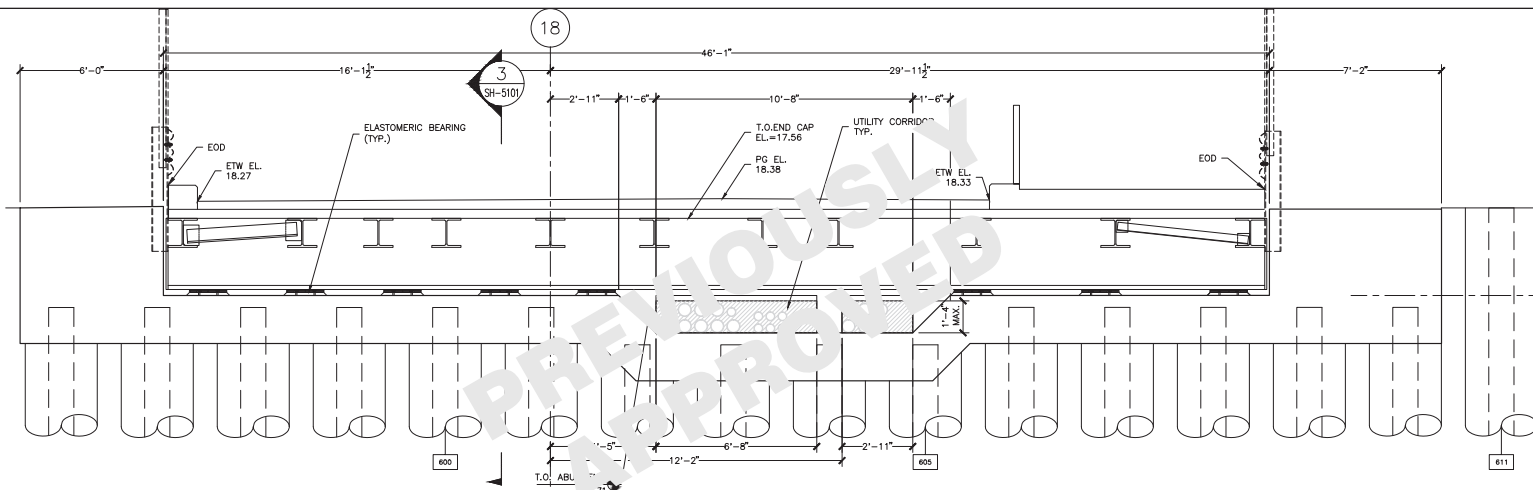
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of

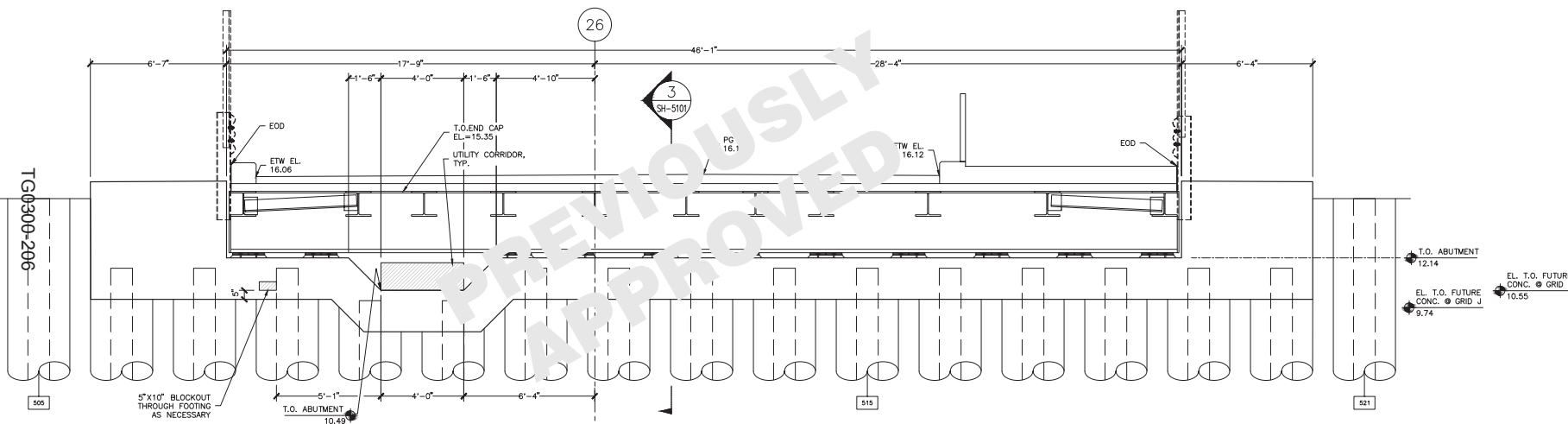
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T10300-206

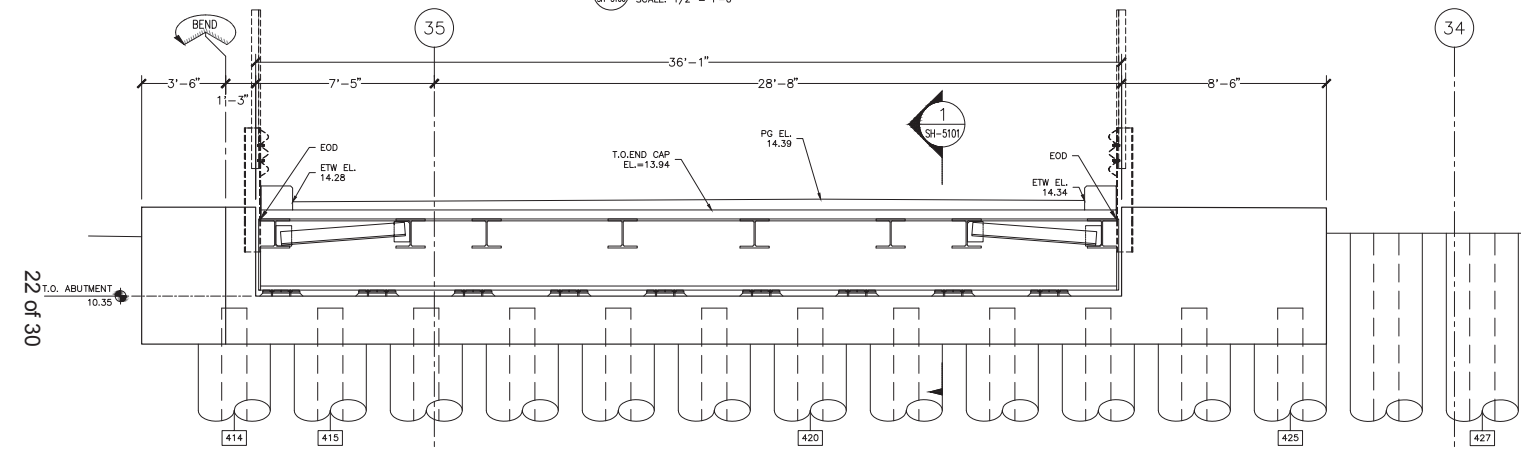
21 of 30



1 FIRST STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"




2 FREMONT STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



3 BEALE STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"

Note:  
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TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**PI&A Inc.**  
Structural Engineering

REVISIONS	
NO.	DESCRIPTION
1	75% TEMP. BRIDGE SUBMITTAL
2	100% TEMP. BRIDGE SUBMITTAL
3	100% PER. STRUT INTERFERENCE SUBMITTAL
4	RESPONSE TO COMMENTS
5	RESPONSE TO COMMENTS
6	RESPONSE TO COMMENTS
7	BRIDGE ANOMALY MITIGATION
8	BEALE STREET TEMP. BRIDGE
9	

BY	DATE	DESCRIPTION
Q. LIU	05/02/11	75% TEMP. BRIDGE SUBMITTAL
P. BARAR	05/02/11	100% TEMP. BRIDGE SUBMITTAL
Q. LIU	05/02/11	100% PER. STRUT INTERFERENCE SUBMITTAL
Q. LIU	05/02/11	RESPONSE TO COMMENTS
Q. LIU	05/02/11	RESPONSE TO COMMENTS
Q. LIU	05/02/11	RESPONSE TO COMMENTS
Q. LIU	05/02/11	BRIDGE ANOMALY MITIGATION
Q. LIU	05/02/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

BRIDGE DECKING SECTIONS

ABUTMENTS ON THE SOUTH SIDE

TRANSBAY TRANSIT CENTER

FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES

TS/1030-01531343

PROJECT TITLE

PROJECT NO.

ARCHITECT/ENGINEER SEAL

APPROVED

PRINCIPAL ENGINEER

PROJECT MANAGER

PROJECT ENGINEER

DESIGNED BY

CHECKED BY

DATE

AS NOTED

SHEET NUMBER

Q. LIU

ML / PS / CP

05/02/2011

140

SEQUENCE NUMBER

P. BARAR

P. BARAR

05/02/2011

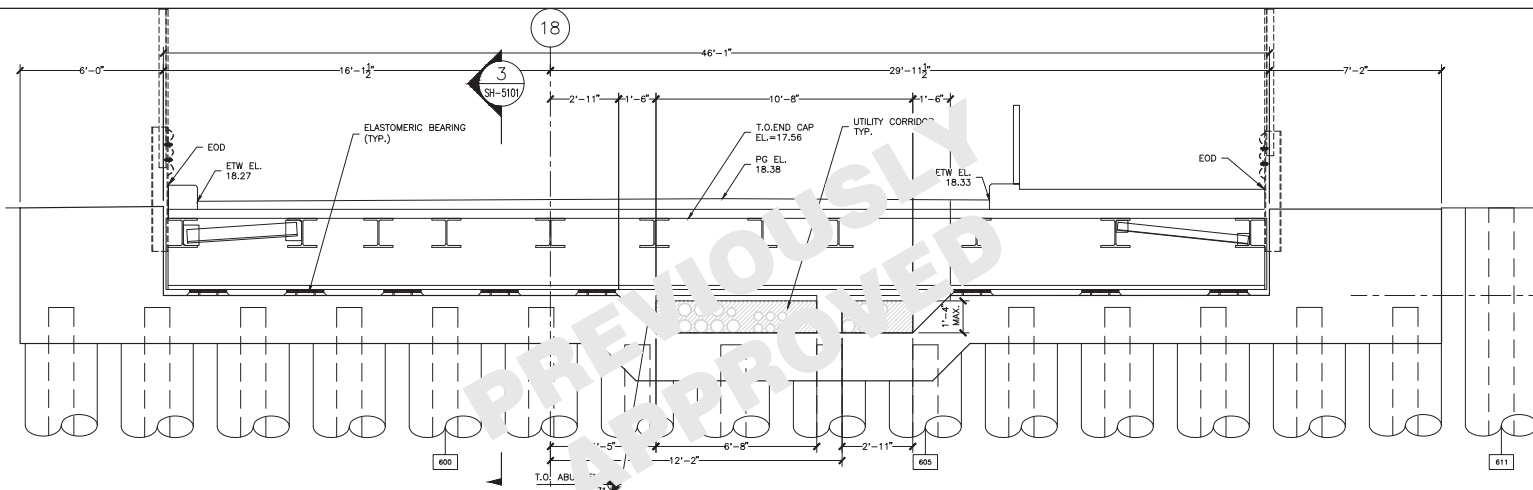
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SEQUENCE NUMBER

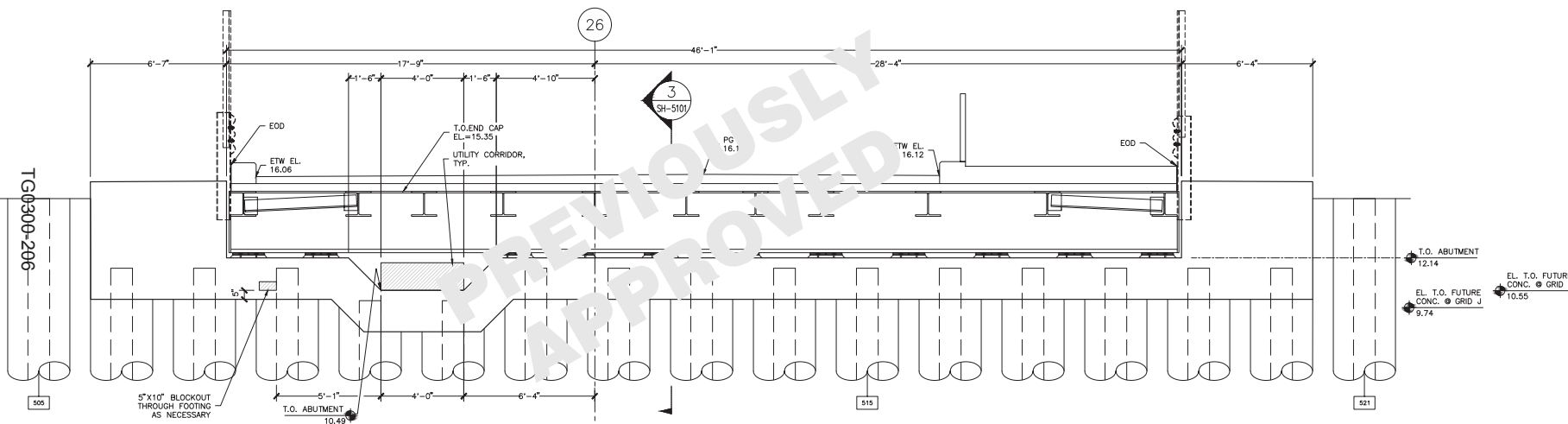
SH-3106

22 of 30

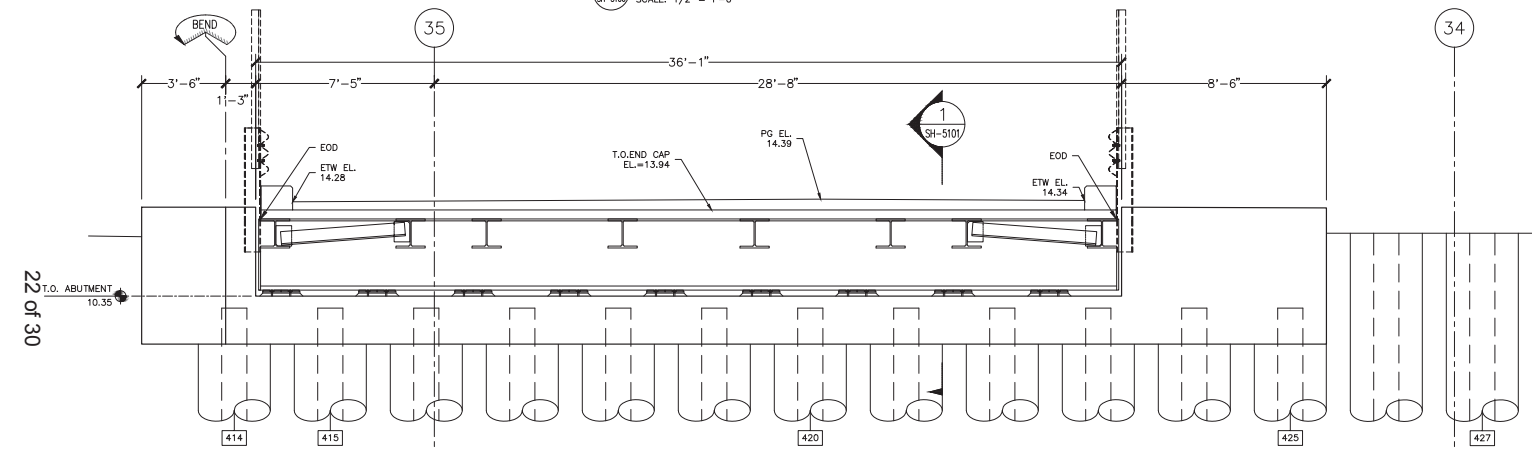
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1 FIRST STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



2 FREMONT STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



3 BEALE STREET SOUTH ABUTMENT (LOOKING SOUTH)  
SH-3106 SCALE: 1/2" = 1'-0"



TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**P&A Inc.**  
Structural Engineering

REVISIONS	
NO.	DESCRIPTION
1	75% TEMP. BRIDGE SUBMITTAL
2	100% TEMP. BRIDGE SUBMITTAL
3	100% PER. STRUT INTERFERENCE SUBMITTAL
4	RESPONSE TO COMMENTS
5	RESPONSE TO COMMENTS
6	BRIDGE ANOMALY MITIGATION
7	BEALE STREET TEMP. BRIDGE

BY	DATE	DESCRIPTION
Q. LIU	05/02/11	75% TEMP. BRIDGE SUBMITTAL
P. BARAR	05/02/11	100% TEMP. BRIDGE SUBMITTAL
Q. LIU	05/02/11	100% PER. STRUT INTERFERENCE SUBMITTAL
Q. LIU	05/02/11	RESPONSE TO COMMENTS
Q. LIU	05/02/11	RESPONSE TO COMMENTS
Q. LIU	05/02/11	BRIDGE ANOMALY MITIGATION
Q. LIU	05/02/11	BEALE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM

TRANSBAY TRANSIT CENTER

SAN FRANCISCO, CA

BRIDGE DECKING SECTIONS

ABUTMENTS ON THE SOUTH SIDE

171030-01531343

APPROVED: \_\_\_\_\_

PRINCIPAL ENGINEER

APPROVED: \_\_\_\_\_

PROJECT MANAGER

APPROVED: \_\_\_\_\_

PROJECT ENGINEER

DESIGNED BY: Q. LIU

CHECKED BY: P. BARAR

DATE: 05/02/2011

SCALE: ML / PS / CP

AS NOTED

SHEET NUMBER

APPROVED: \_\_\_\_\_

PRINCIPAL ENGINEER

APPROVED: \_\_\_\_\_

PROJECT MANAGER

APPROVED: \_\_\_\_\_

PROJECT ENGINEER

DESIGNED BY: Q. LIU

CHECKED BY: P. BARAR

DATE: 05/02/2011

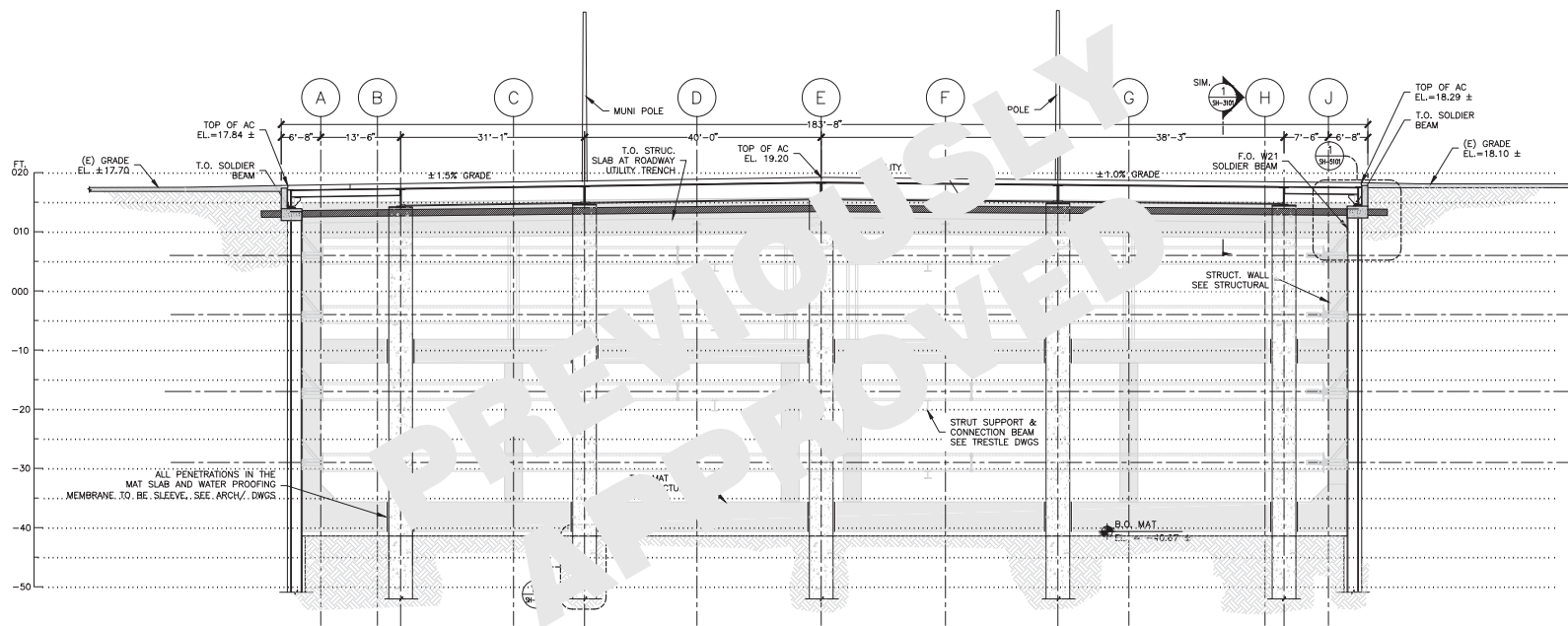
SCALE: ML / PS / CP

AS NOTED

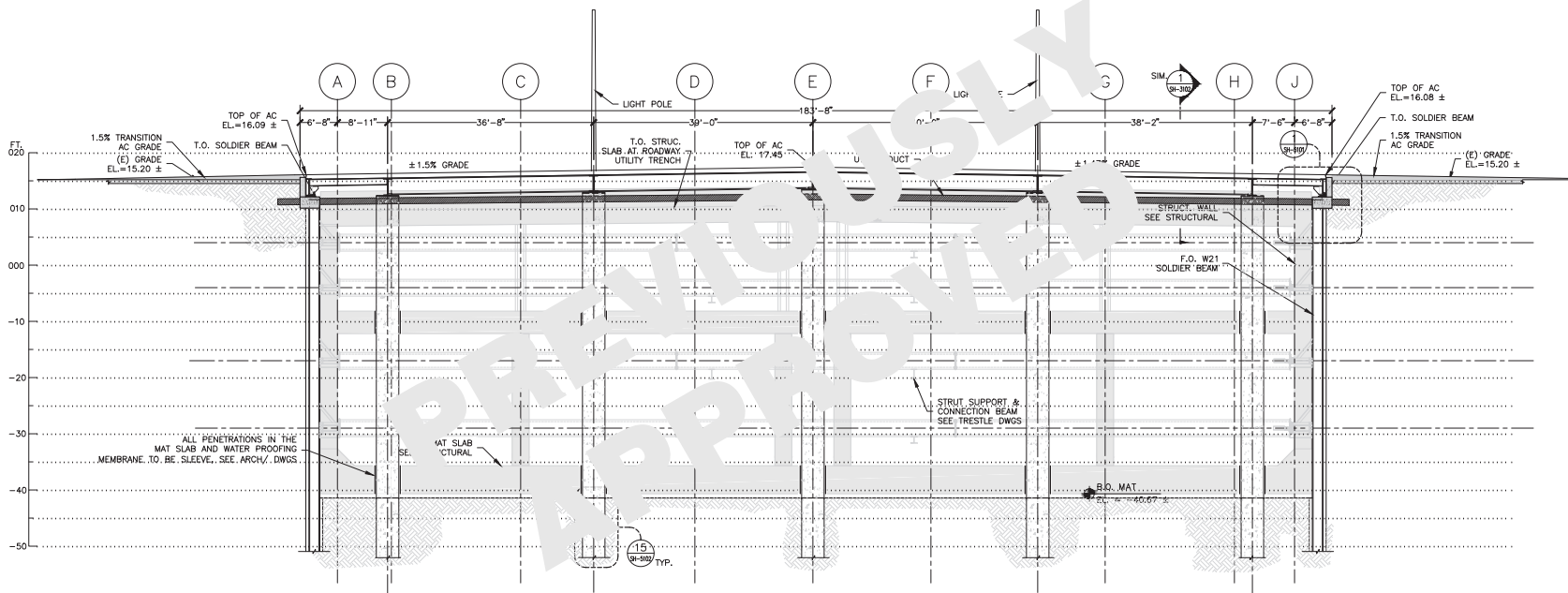
SHEET NUMBER

SH-3106 \_\_\_\_\_ of \_\_\_\_\_

Note:  
If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.



1 FIRST STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"

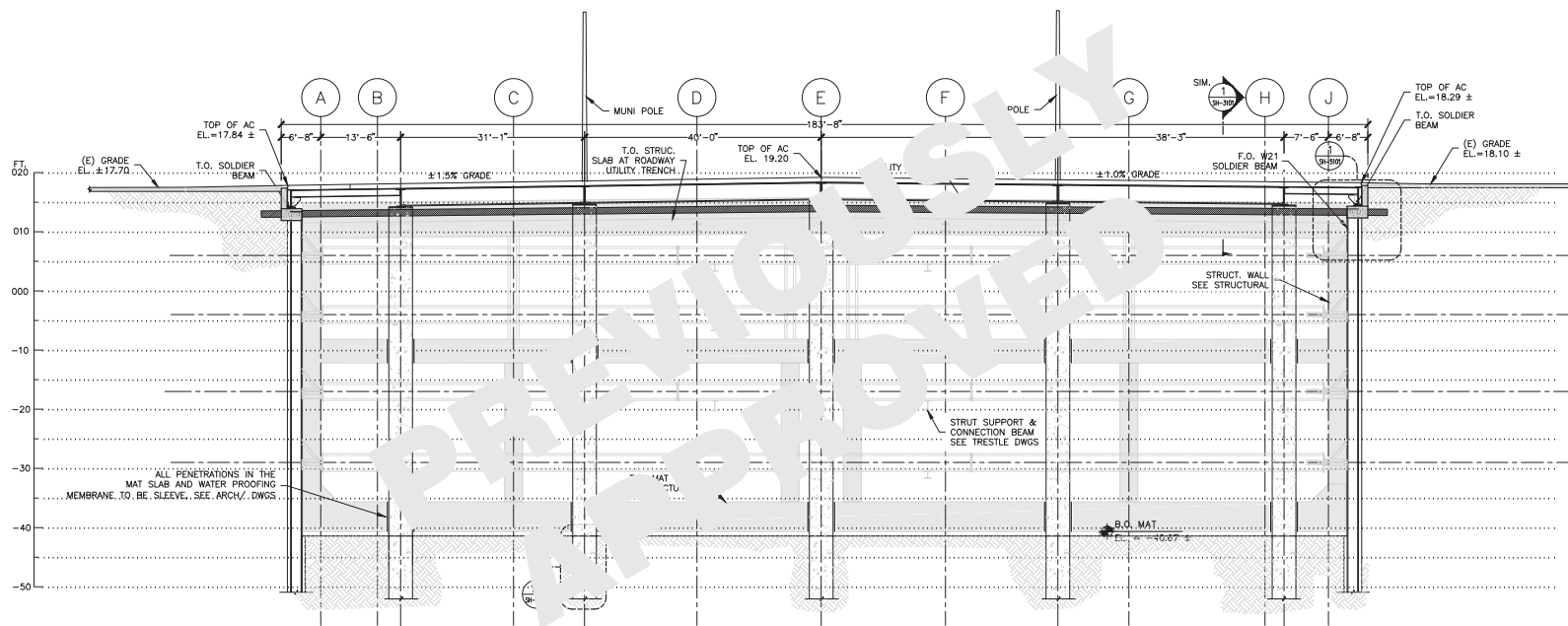


2 FREMONT STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"

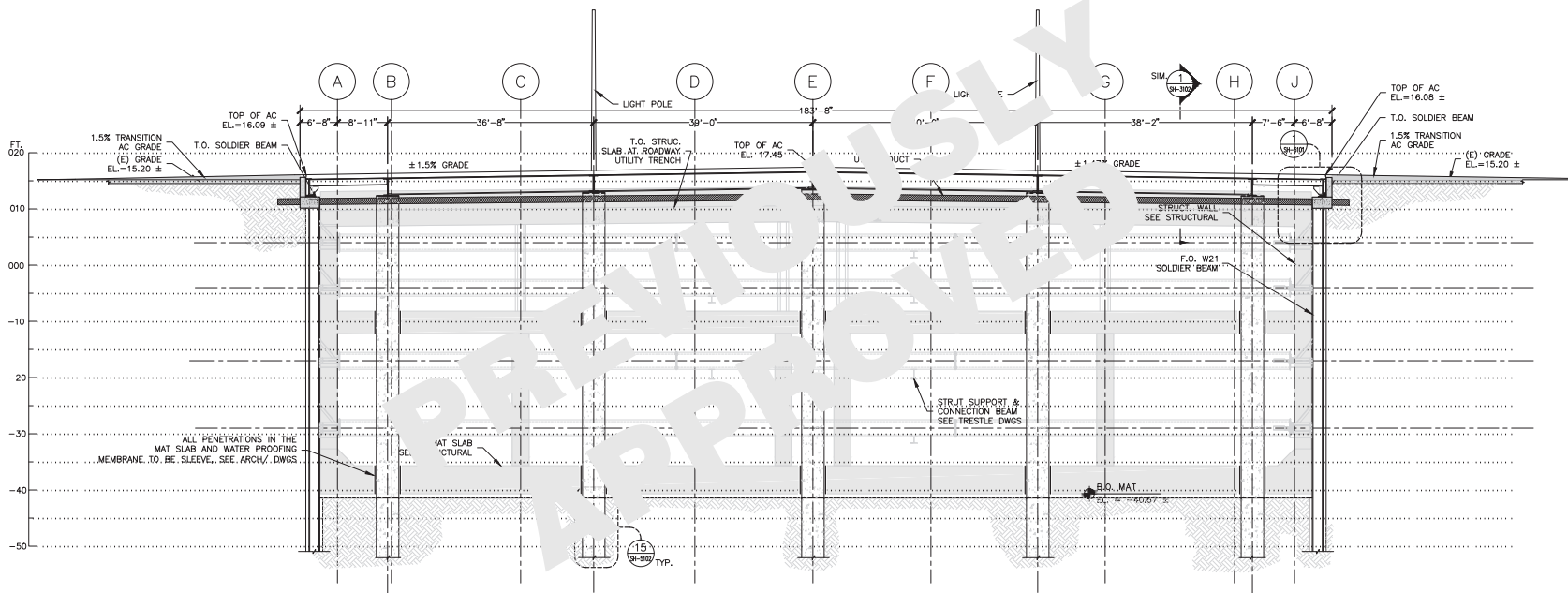
Note:  
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 size. Scales noted on drawings/details are no longer applicable.

Transbay Transit Center TRANSBAY JOINT POWERS AUTHORITY	
07 08 09 10 11 12	
REVISIONS	
NO.	DATE
1	06/07/11
2	06/07/11
3	06/07/11
4	06/07/11
5	06/07/11
6	06/07/11
7	06/07/11
8	06/07/11
9	06/07/11
BY 75% TEMP. BRIDGE SUBMITTAL 100% TEMP. BRIDGE SUBMITTAL 100% PER. STRUT INTERFERENCE SUBMITTAL RESPONSE TO COMMENTS RESPONSE TO COMMENTS BRIDGE ANOMALY MITIGATION BEALE STREET TEMP. BRIDGE	
COMMENT NO.	
08-04-CMGC-000 TRANSBAY TRANSIT CENTER PROGRAM TRANSBAY TRANSIT CENTER SAN FRANCISCO, CA FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES LONGITUDINAL SECTIONS FIRST & FREMONT STREET BRIDGES	
PROJECT FILE PROJECT NO.	
SHEET TITLE T21030-015313A31	
APPROVED PRINCIPAL ENGINEER PROJECT MANAGER PROJECT ENGINEER DRAWN BY ML / PS / CP AS NOTED SHEET NUMBER	
CHECKED/DESIGNER SEAL 	
APPROVED PRINCIPAL ENGINEER PROJECT MANAGER PROJECT ENGINEER DRAWN BY ML / PS / CP AS NOTED SHEET NUMBER	
SH-4100 of	





1 FIRST STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"



2 FREMONT STREET BRIDGE SECTION ALONG PG LINE  
 SH-4100 SCALE: 1/8" = 1'-0"

Note:  
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 Transbay Transit Center TRANSBAY JOINT POWERS AUTHORITY	
 Balfour Beatty Infrastructure Inc.	
 P&A Inc. CONSULTING ENGINEERS	
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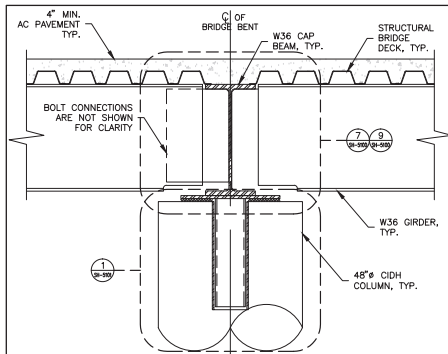
24 of 30

Note:  
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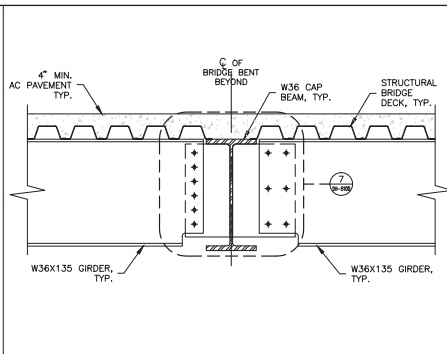


24 of 30

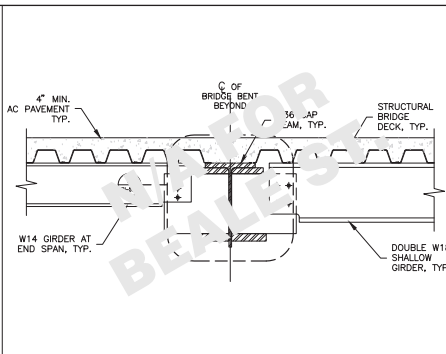
Note:  
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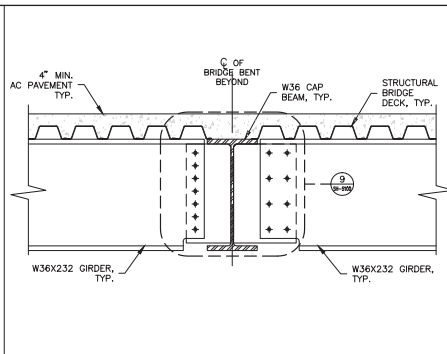
1 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



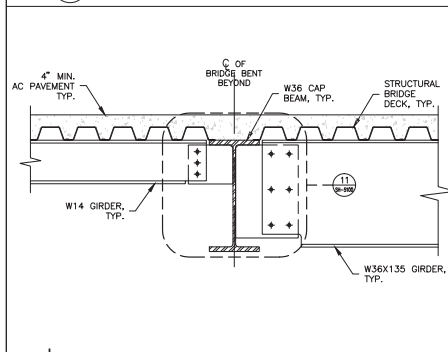
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SH-5100 SCALE: 3/4" = 1'-0"



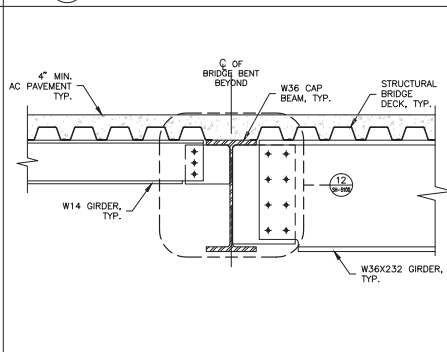
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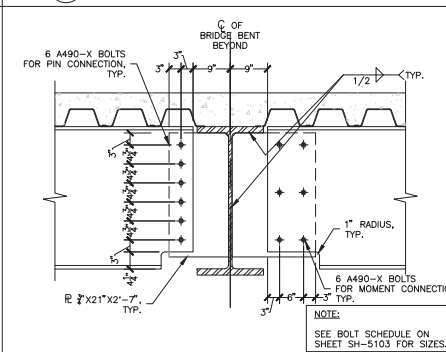
4 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



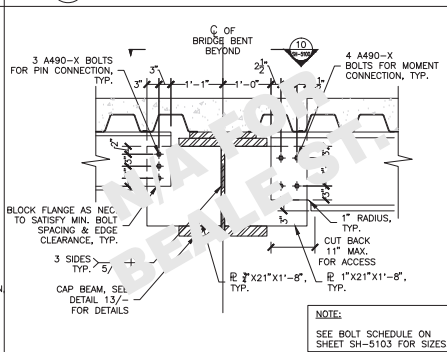
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SH-5100 SCALE: 3/4" = 1'-0"



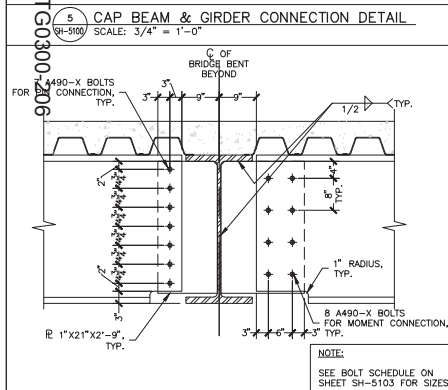
6 CAP BEAM & GIRDER CONNECTION DETAIL  
SH-5100 SCALE: 3/4" = 1'-0"



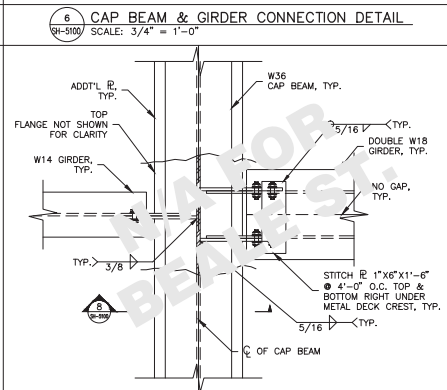
7 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



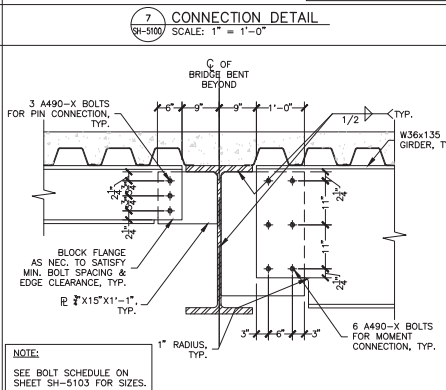
8 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



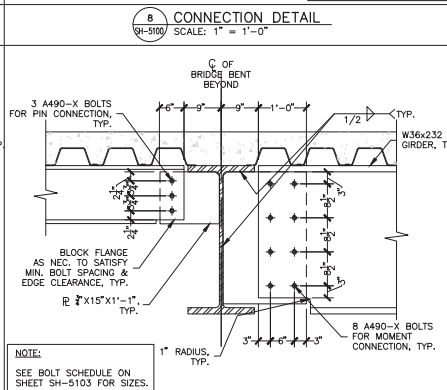
9 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



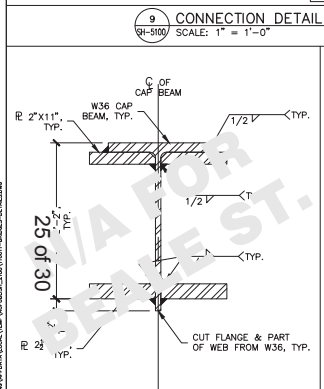
10 CONNECTION DETAIL (PLAN TOP VIEW)  
SH-5100 SCALE: 1" = 1'-0"



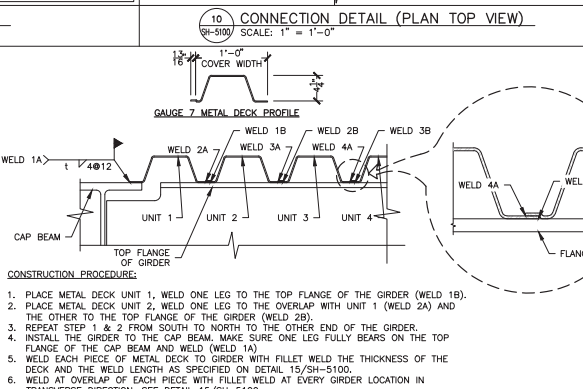
11 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



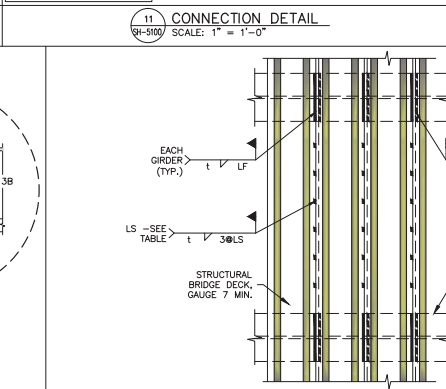
12 CONNECTION DETAIL  
SH-5100 SCALE: 1" = 1'-0"



13 DETAIL  
SH-5100 SCALE: 1-1/2" = 1'-0"



14 BRIDGE DECK DETAIL  
SH-5100 SCALE: 1-1/2" = 1'-0"



15 BRIDGE DECK DETAIL  
SH-5100 SCALE: 1" = 1'-0"

WHERE:  
t = THICKNESS OF METAL DECK  
LF = LENGTH OF DECK-TO-DECK & DECK-TO-GIRDER WELD @ GIRDER LOCATION  
LS = MAX. INTER-SEAM WELD SPACING

NOTE:  
FOR DECK ZONING  
SEE 2/SH-2100 & 2/SH-2102

WELD	ZONE 1	ZONE 2	ZONE 3
DECK TO DECK, DECK TO GIRDER	14.7"	12" FOR W6 GIRDER, 22" FOR DOUBLE W8 GIRDER	6"
INTER-SEAM WELD SPACING LS	14" (8'7")	19" (6'5")	36" (3'0")

\* - A & B WELDS AS INDICATED IN DETAIL 14/SH-5100  
\*\* - LENGTH IN THE PARENTHESIS IS THE MIN. TOTAL LENGTH OF INTER-SEAM WELDING FOR THE ENTIRE BRIDGE SECTION

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

08-04-CMGC-000

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

Balfour Beatty  
Infrastructure Inc.

PI&A Inc.

07 08 09 10 11 12

Key Map

REVISIONS

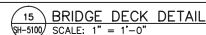
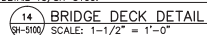
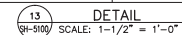
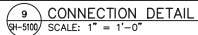
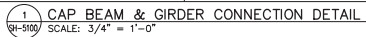
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3	08/07/11	100% PER. START INTERFERENCE SUBMITTAL
4	08/07/11	RESPONSE TO COMMENTS
5	08/07/11	RESPONSE TO COMMENTS
6	08/07/11	BRIDGE ANOMALY MITIGATION
7	08/07/11	BRIDGE STREET TEMP. BRIDGE

APPROVED: PRINCIPAL ENGINEER P. BARAR  
APPROVED: PROJECT MANAGER P. BARAR  
APPROVED: PROJECT ENGINEER Q. LIU  
DESIGNED BY: Q. LIU  
CHECKED BY: P. BARAR  
DATE: 05/02/2011  
WELDED BY: F. 140  
AS NOTED  
SHEET NUMBER  
SEQUENCE NUMBER

SH-5100

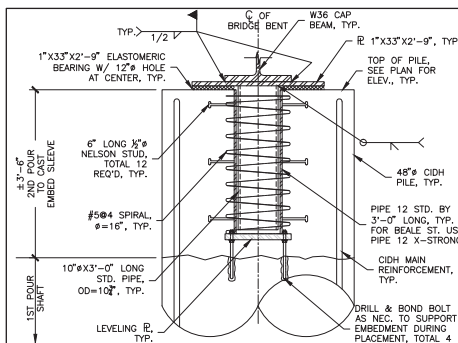
of

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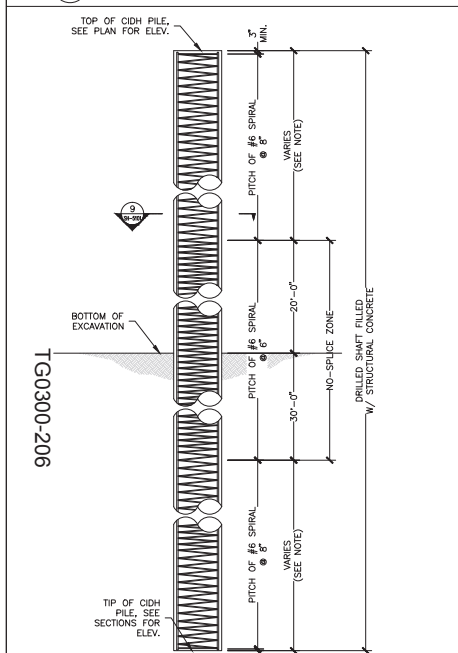


TRANSBAY JOINT POWERS AUTHORITY																																									
CONTRACT/PROJECT																																									
Key Map																																									
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07	08	09	10	11	12																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>REVISIONS</th> <th>BY</th> </tr> <tr> <td>1</td> <td>05/20/11</td> <td>75% TEMP. BRIDGE SUBMITTAL</td> <td>QB</td> </tr> <tr> <td>2</td> <td>05/24/11</td> <td>100% TEMP. BRIDGE SUBMITTAL</td> <td>QB</td> </tr> <tr> <td>3</td> <td>06/15/11</td> <td>100% PER REVIEWERS COMMENTS SUBMITTAL</td> <td>PS</td> </tr> <tr> <td>4</td> <td>08/09/11</td> <td>STREET INTERFERENCE</td> <td>PS</td> </tr> <tr> <td>5</td> <td>08/09/11</td> <td>RESPONSE TO COMMENTS</td> <td>QB</td> </tr> <tr> <td>6</td> <td>02/26/12</td> <td>RESPONSE TO COMMENTS</td> <td>QB</td> </tr> <tr> <td>7</td> <td>04/04/12</td> <td>CONFORMED SET</td> <td>QB</td> </tr> <tr> <td>8</td> <td>06/07/12</td> <td>BRIDGE ANNUALLY MITIGATION</td> <td>QB</td> </tr> <tr> <td>9</td> <td>08/07/12</td> <td>BEALE STREET TEMP. BRIDGE</td> <td>QB</td> </tr> </table>		NO.	DATE	REVISIONS	BY	1	05/20/11	75% TEMP. BRIDGE SUBMITTAL	QB	2	05/24/11	100% TEMP. BRIDGE SUBMITTAL	QB	3	06/15/11	100% PER REVIEWERS COMMENTS SUBMITTAL	PS	4	08/09/11	STREET INTERFERENCE	PS	5	08/09/11	RESPONSE TO COMMENTS	QB	6	02/26/12	RESPONSE TO COMMENTS	QB	7	04/04/12	CONFORMED SET	QB	8	06/07/12	BRIDGE ANNUALLY MITIGATION	QB	9	08/07/12	BEALE STREET TEMP. BRIDGE	QB
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>08-04-CMGC-000</p> <p>TRANSBAY TRANSIT CENTER PROGRAM</p> <p>TRANSBAY TRANSIT CENTER</p> <p>SAN FRANCISCO, CA</p> </div> <div style="width: 45%; text-align: right;"> <p>DETAILS</p> <p>FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES</p> <p>TZ1030-015313A31</p> </div> </div>																																									
<p>APPROVED: _____</p> <p>PROJECT ENGINEER</p>																																									
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<p>DESIGNED BY: _____</p> <p>Q. LIU</p>																																									
<p>DATE: _____</p> <p>05/02/2011</p>																																									
<p>SCALE: _____</p> <p>AS NOTED</p>																																									
<p>SHEET NUMBER _____</p> <p>SEQUENCE NUMBER _____</p>																																									



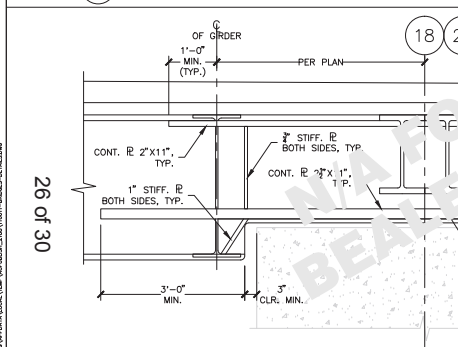


1 CAP BEAM & CIDH PILE CONNECTION DETAIL  
 (SH-510) SCALE: 1" = 1'-0"

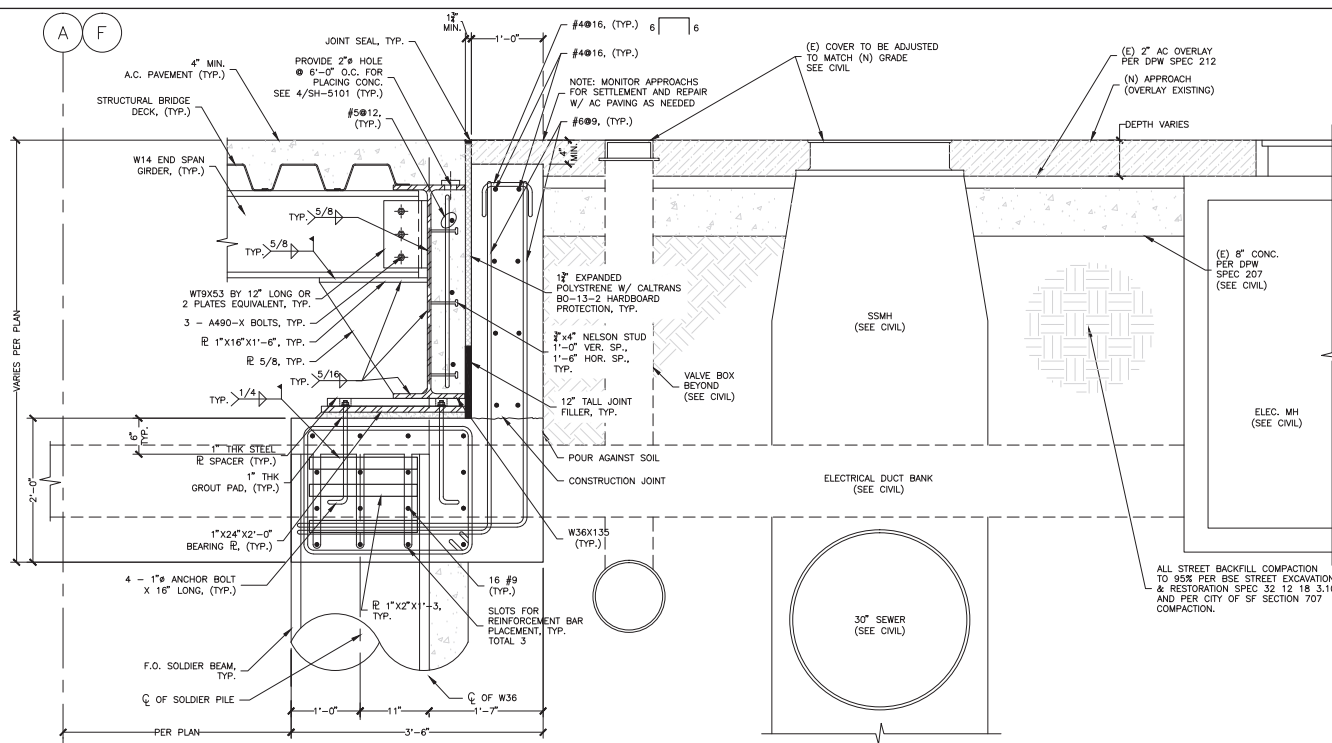


2 CIDH PILE REINFORCEMENT DETAIL  
 (SH-510) SCALE: 1/4" = 1'-0"

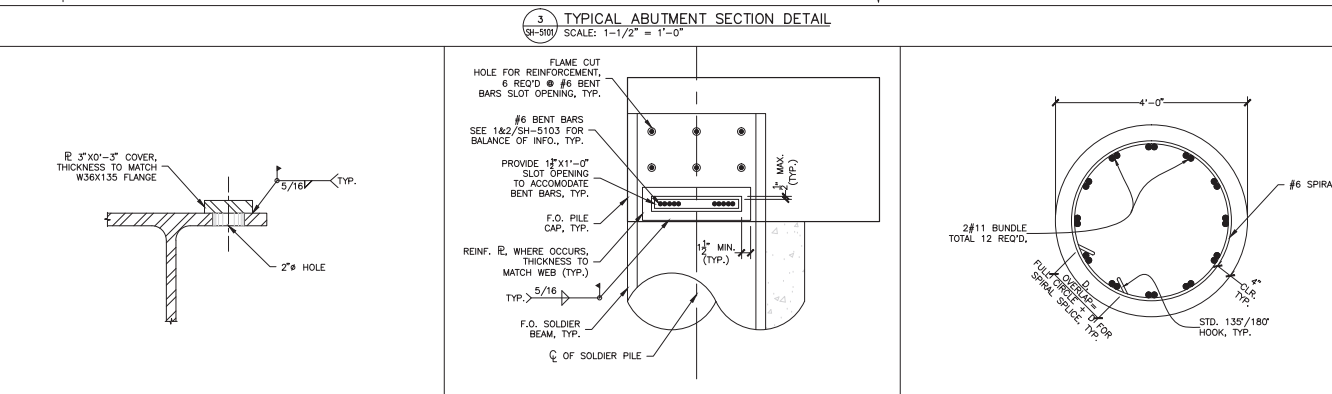
NOTE:  
 1. STAGGERED "ULTIMATE" BUTT SPLICES ARE ALLOWED IN MAIN CIDH PILE REINFORCEMENT IN THE ZONE INDICATED PER CALTRANS STANDARD SPECIFICATION 52-6.01c(1).  
 2. SPIRAL SPLICES ARE PERMITTED IN THE NO-SPLICE ZONE AS APPROVED BY THE ENGINEER.



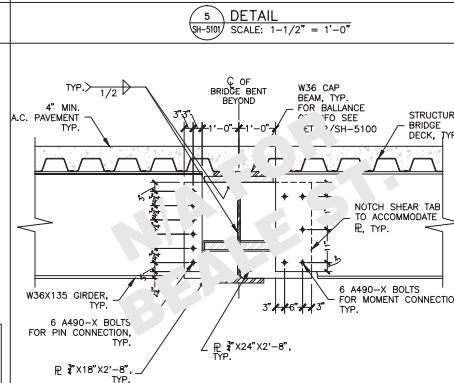
6 DETAIL  
 (SH-510) SCALE: 1" = 1'-0"



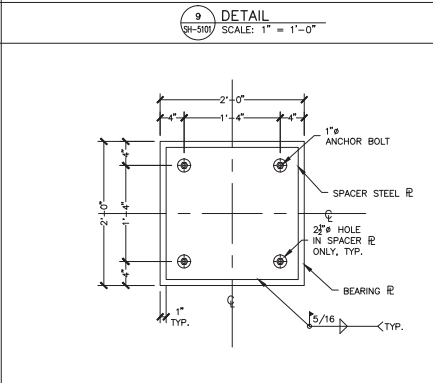
3 TYPICAL ABUTMENT SECTION DETAIL  
 (SH-510) SCALE: 1-1/2" = 1'-0"



4 DETAIL  
 (SH-510) SCALE: 3" = 1'-0"



7 CONNECTION DETAIL  
 (SH-510) SCALE: 3/4" = 1'-0"



8 BEARING PLATE DETAIL  
 (SH-510) SCALE: 1-1/2" = 1'-0"

Transbay Transit Center  
 TRANSBAY JOINT POWERS AUTHORITY

Balfour Beatty  
 Infrastructure Inc.

PI&A Inc.

07 08 09 10 11 12

Key Map

REVISIONS

NO.	DATE	DESCRIPTION
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL
3	05/07/11	100% PER. ST. INTERFERENCE SUBMITTAL
4	05/07/11	RESPONSE TO COMMENTS
5	05/07/11	RESPONSE TO COMMENTS
6	05/07/11	BRIDGE ANOMALY MITIGATION
7	05/07/11	BRIDGE STREET TEMP. BRIDGE
8	05/07/11	BRIDGE STREET TEMP. BRIDGE
9	05/07/11	BRIDGE STREET TEMP. BRIDGE

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
 TRANSBAY TRANSIT CENTER  
 SAN FRANCISCO, CA

FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES

DETAILS

171030-015313A37

APPROVED

PRINCIPAL ENGINEER P. BARAR

PROJECT MANAGER P. BARAR

PROJECT ENGINEER Q. LIU

DESIGNED BY Q. LIU

CHECKED BY P. BARAR

DATE 05/02/2011

SCALE AS NOTED

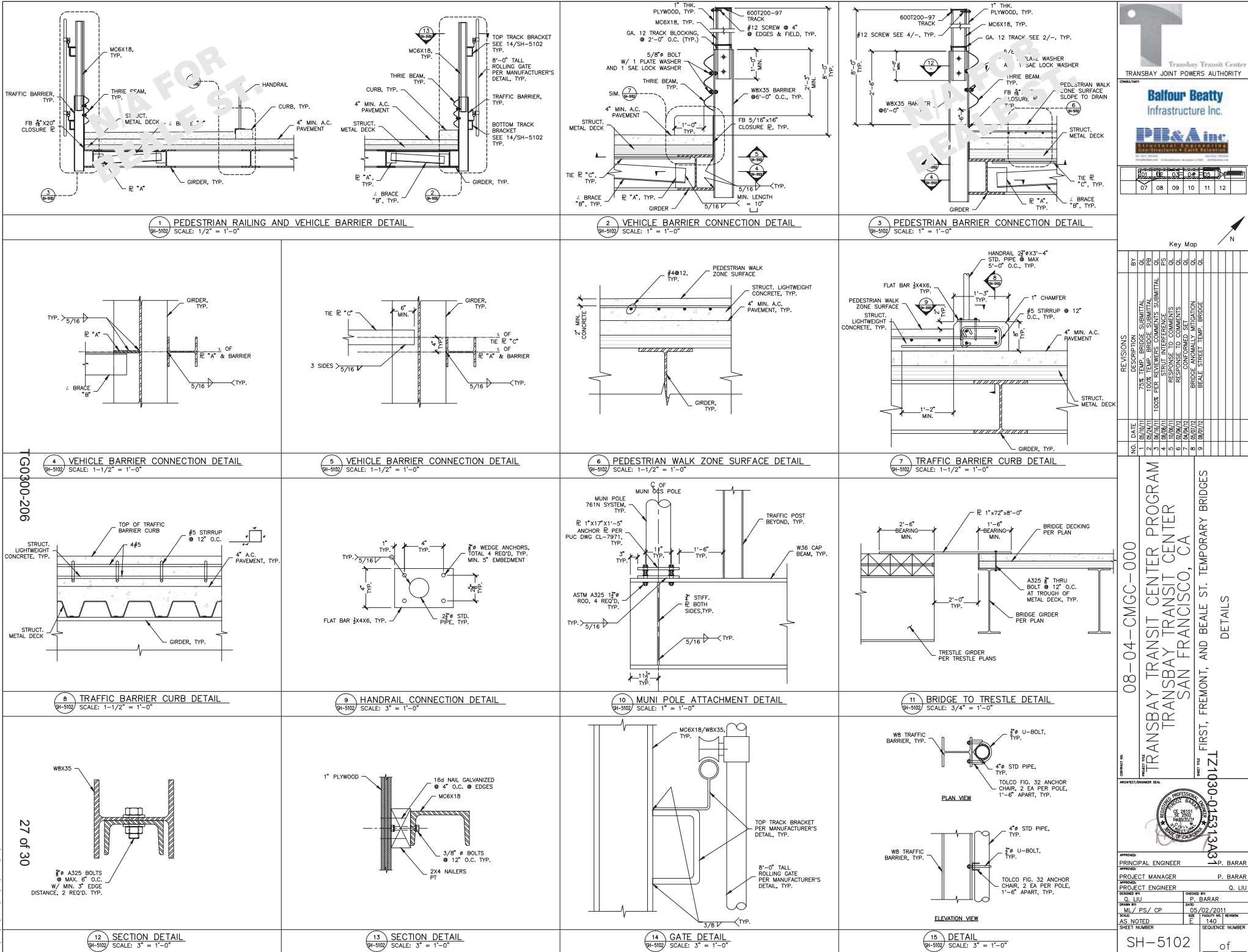
SHEET NUMBER 140

SEQUENCE NUMBER

SH-5101

of

Note:  
 If this sheet is not 44" x 34", it has been revised from its original size. Scales noted on drawings/details are no longer applicable.



Transbay Transit Center  
TRANSBAY JOINT POWERS AUTHORITY

**Balfour Beatty**  
Infrastructure Inc.

**PI&A Inc.**  
Professional Engineer

NO.	DATE	DESCRIPTION	BY	CHKD	APP'D
1	05/07/11	75% TEMP. BRIDGE SUBMITTAL	FB	PS	Q. LIU
2	05/07/11	100% TEMP. BRIDGE SUBMITTAL	FB	PS	Q. LIU
3	05/07/11	100% PER. STAT. INTERFERENCE SUBMITTAL	FB	PS	Q. LIU
4	05/07/11	RESPONSE TO COMMENTS	FB	PS	Q. LIU
5	05/07/11	RESPONSE TO COMMENTS	FB	PS	Q. LIU
6	05/07/11	BRIDGE ANOMALY MITIGATION	FB	PS	Q. LIU
7	05/07/11	BRIDGE STREET TEMP. BRIDGE	FB	PS	Q. LIU

Key Map

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREWONT, AND BEALE ST. TEMPORARY BRIDGES

DETAILS

PROJECT FILE: T21030-015313A37

APPROVED:

PRINCIPAL ENGINEER: P. BARAR

PROJECT MANAGER: P. BARAR

PROJECT ENGINEER: Q. LIU

DESIGNED BY: Q. LIU

DRAWN BY: P. BARAR

ML / PS / CP

05/02/2011

AS NOTED

140

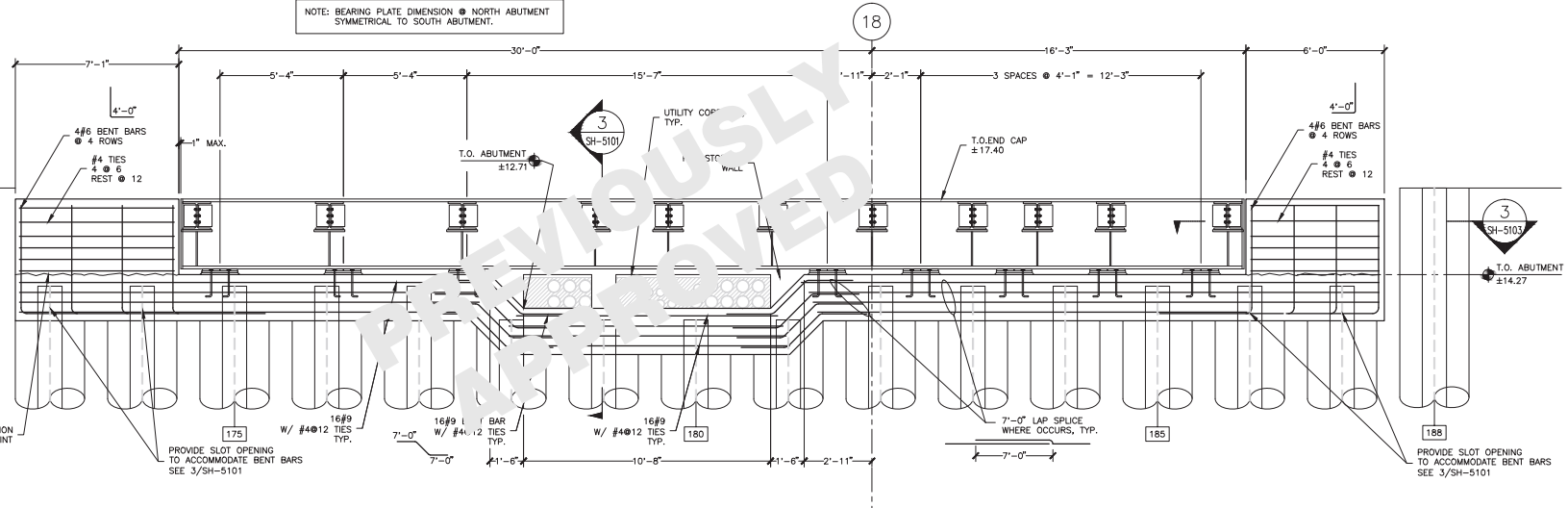
SEQUENCE NUMBER

SH-5102

of

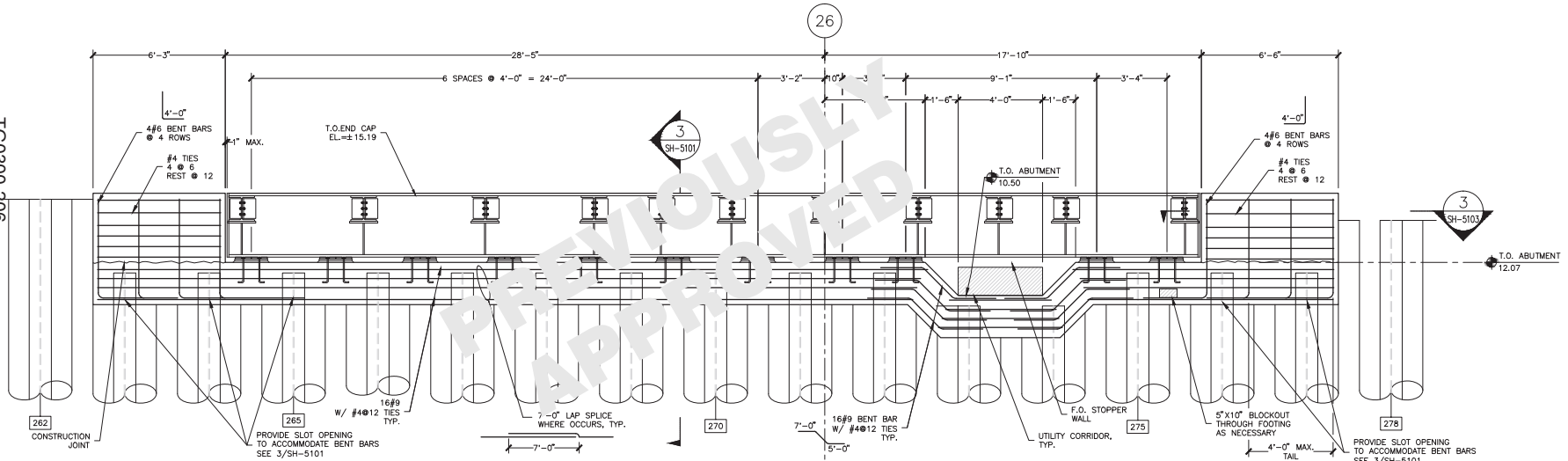
Note:  
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NOTE: BEARING PLATE DIMENSION @ NORTH ABUTMENT SYMMETRICAL TO SOUTH ABUTMENT.



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

TG0300-206



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

28 of 30

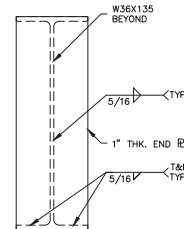
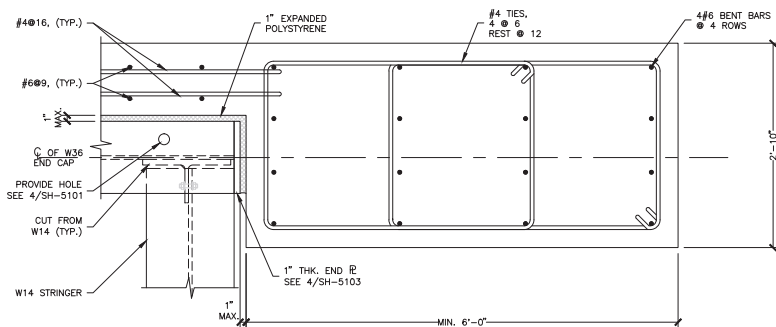


PLATE SCHEDULE	
PLATE "A"	8"x8"x10'-10" @ EACH BARRIER POST
BRACE "B"	6"x6"x8" @ EACH BARRIER POST
TIE PLATE "C"	2"x4" @ EACH BARRIER POST

BOLT SCHEDULE			
ORDER SIZE	BOLT SIZE	MOMENT CONN.	PIN CONN.
W14X120	1/2"	4	3
W18X158	1/2"	4	4
W36X135	1/2"	6	6
W36X135 NOTCHED	1/2"	6	6
W36X232	1/2"	8	7

- NOTE:
- SEE DETAIL 7/SH-5101 FOR W36X135 NOTCHED SECTION.
  - FOR W14X120 ORDER CONNECTING INTO NOTCHED SECTION OF CAP BEAM (DETAIL 8/SH-5100), USE 1/2" BOLTS.

6 PLATE & BOLT SCHEDULE  
SCALE: N/A

TRANSBAY TRANSIT CENTER  
TRANSBAY JOINT POWERS AUTHORITY

Balfour Beatty  
Infrastructure Inc.

PI&A Inc.  
Professional Engineering

07 08 09 10 11 12

Key Map	
BY	DATE
DESIGN	10/20/11
75% TEMP. BRIDGE SUBMITTAL	10/20/11
100% TEMP. BRIDGE SUBMITTAL	10/20/11
100% PER. STAT. INTERFERENCE	10/20/11
RESPONSE TO COMMENTS	10/20/11
RESPONSE TO COMMENTS	10/20/11
BRIDGE ANOMALY MITIGATION	10/20/11
BEALE STREET TEMP. BRIDGE	10/20/11

08-04-CMGC-000

TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA

FIRST, FREWENT, AND BEALE ST. TEMPORARY BRIDGES  
DETAILS

TZ1030-015313A31

APPROVED: PRINCIPAL ENGINEER P. BARAR

APPROVED: PROJECT MANAGER P. BARAR

APPROVED: PROJECT ENGINEER Q. LIU

DESIGNED BY Q. LIU

CHECKED BY P. BARAR

DATE 05/02/2011

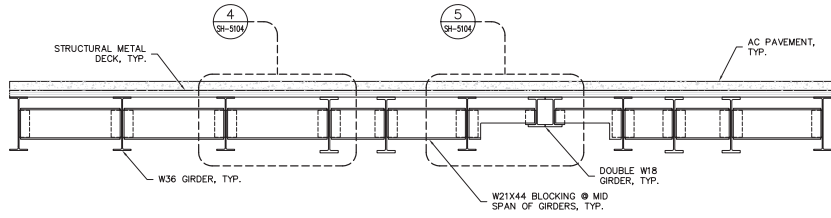
SCALE AS NOTED

SHEET NUMBER 140

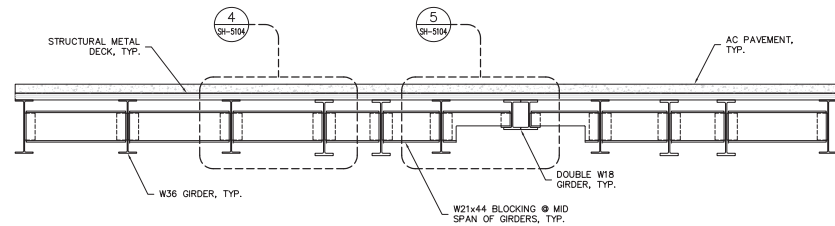
SEQUENCE NUMBER

SH-5103

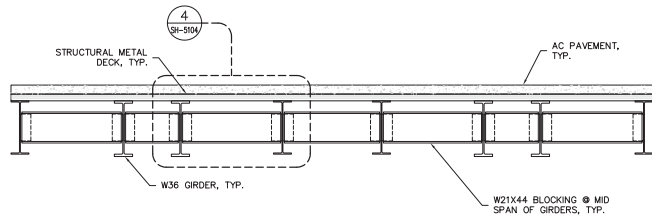
Note:  
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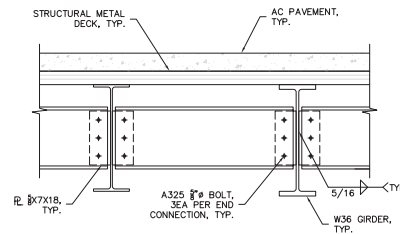
1 FIRST ST. TEMP. BRIDGE TYPICAL CROSS-FRAMES SECTION  
SH-5104 SCALE: 3/8" = 1'-0"



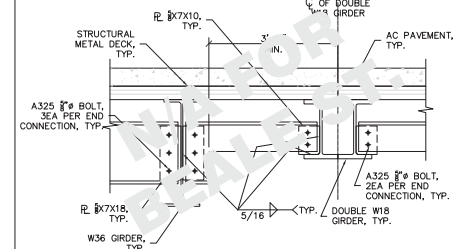
2 FREMONT ST. TEMP. BRIDGE TYPICAL CROSS-FRAMES SECTION  
SH-5104 SCALE: 3/8" = 1'-0"



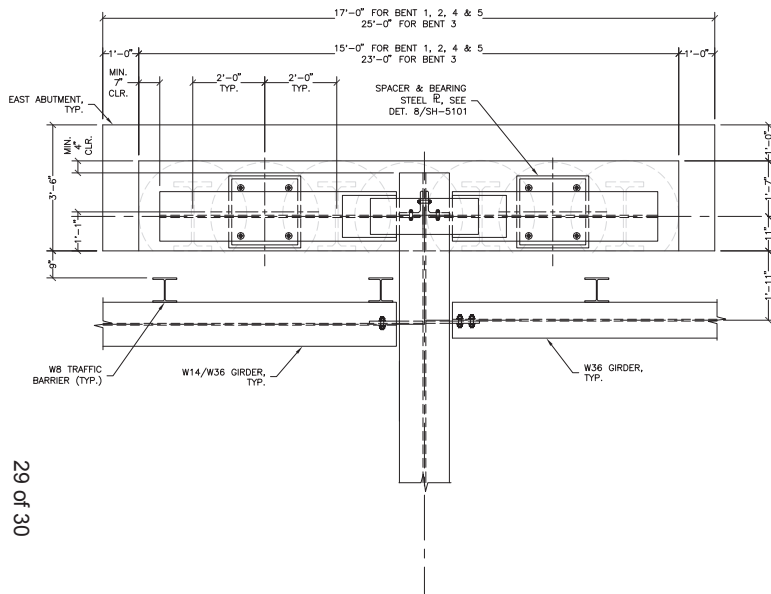
3 BEALE ST. TEMP. BRIDGE TYPICAL CROSS-FRAMES SECTION  
SH-5104 SCALE: 3/8" = 1'-0"



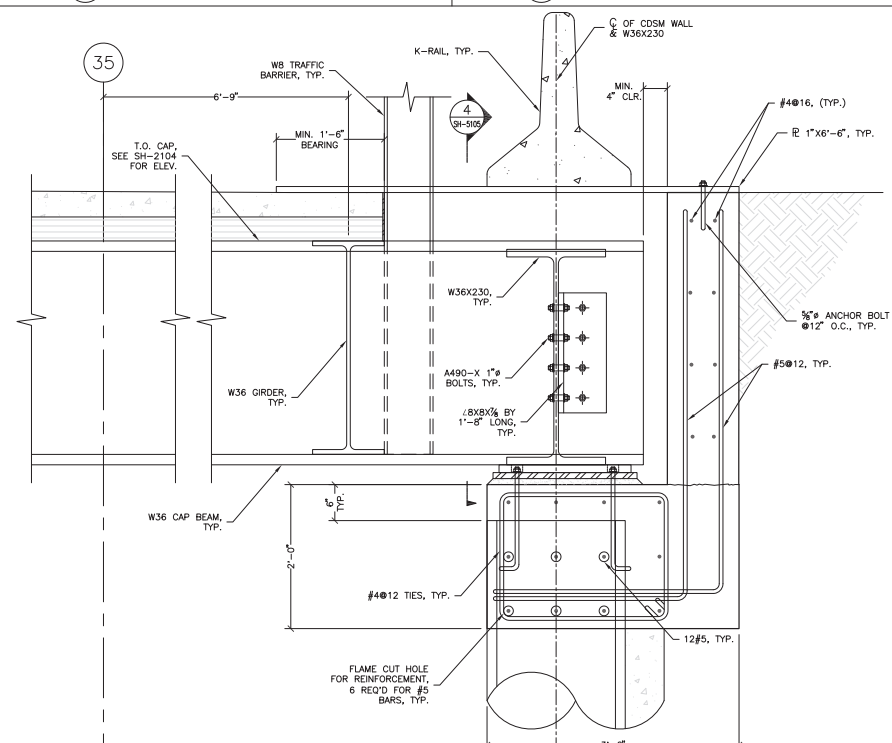
4 CROSS-FRAME CONNECTION DETAIL  
SH-5104 SCALE: 3/4" = 1'-0"



5 CROSS-FRAME CONNECTION DETAIL  
SH-5104 SCALE: 3/4" = 1'-0"



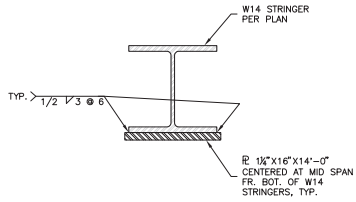
6 CROSS-FRAME CONNECTION DETAIL  
SH-5104 SCALE: 3/4" = 1'-0"



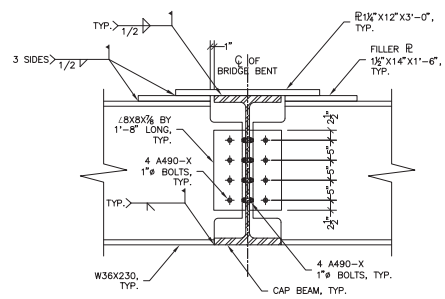
7 TYPICAL EAST ABUTMENT SECTION DETAIL  
SH-5104 SCALE: 1-1/2" = 1'-0"

07	08	09	10	11	12
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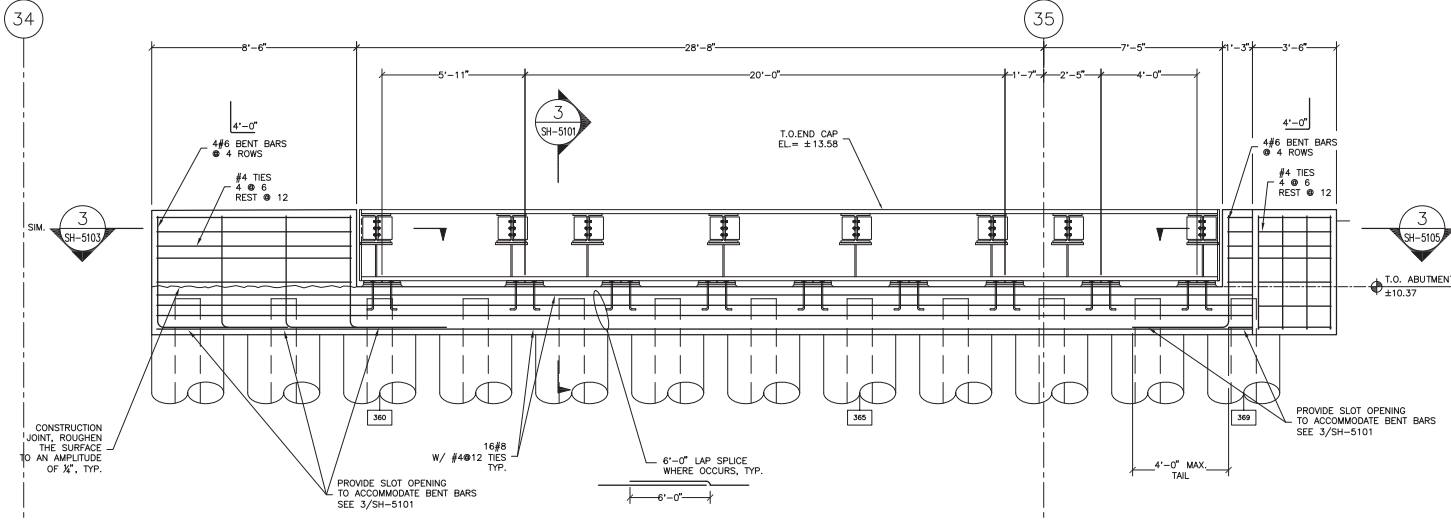
Key Map		BY		CL		PB		PS		CL		CL		CL	
1	75% TEMP. BRIDGE SUBMITTAL	1	06/07/11	1	06/07/11	1	06/07/11	1	06/07/11	1	06/07/11	1	06/07/11	1	06/07/11
2	100% TEMP. BRIDGE SUBMITTAL	2	06/07/11	2	06/07/11	2	06/07/11	2	06/07/11	2	06/07/11	2	06/07/11	2	06/07/11
3	100% PER. START INTERFERENCE	3	06/07/11	3	06/07/11	3	06/07/11	3	06/07/11	3	06/07/11	3	06/07/11	3	06/07/11
4	RESPONSE TO COMMENTS	4	06/07/11	4	06/07/11	4	06/07/11	4	06/07/11	4	06/07/11	4	06/07/11	4	06/07/11
5	BRIDGE ANOMALY MITIGATION	5	06/07/11	5	06/07/11	5	06/07/11	5	06/07/11	5	06/07/11	5	06/07/11	5	06/07/11
6	BEALE STREET TEMP. BRIDGE	6	06/07/11	6	06/07/11	6	06/07/11	6	06/07/11	6	06/07/11	6	06/07/11	6	06/07/11
7		7		7		7		7		7		7		7	
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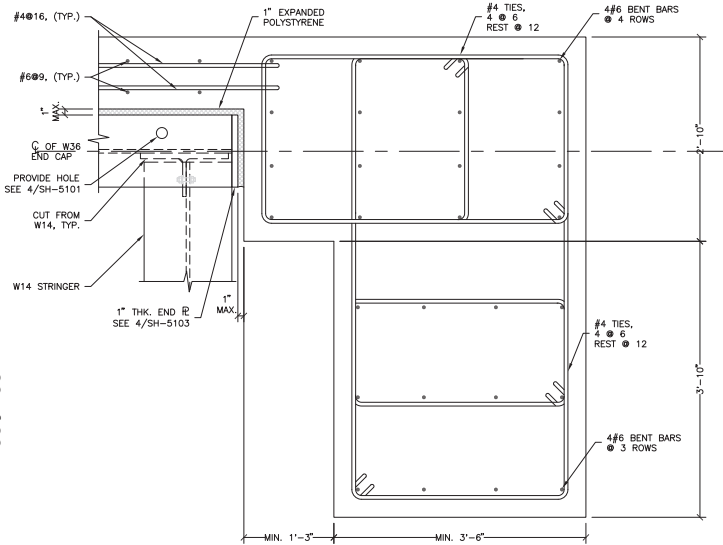
1 SECTION DETAIL  
SH-5105 SCALE: 1-1/2" = 1'-0"



4 CONNECTION SECTION DETAIL  
SH-5105 SCALE: 1" = 1'-0"



2 BEALE ST. ABUTMENT DETAIL  
SH-5105 SCALE: 1/2" = 1'-0"



3 ABUTMENT SECTION DETAIL  
SH-5105 SCALE: 1-1/2" = 1'-0"


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Q7	Q8	Q9	Q10	Q11	Q12

Key Map

NO.	DATE	DESCRIPTION	BY	CHKD.
1	06/07/11	75% TEMP. BRIDGE SUBMITTAL	OL	
2	06/07/11	100% TEMP. BRIDGE SUBMITTAL	OL	
3	06/07/11	100% PER. STAT. INTERFERENCE	PS	
4	06/07/11	RESPONSE TO COMMENTS	OL	
5	06/07/11	RESPONSE TO COMMENTS	OL	
6	06/07/11	BRIDGE ANOMALY MITIGATION	OL	
7	06/07/11	BEALE STREET TEMP. BRIDGE	OL	

08-04-CMGC-000  
TRANSBAY TRANSIT CENTER PROGRAM  
TRANSBAY TRANSIT CENTER  
SAN FRANCISCO, CA  
FIRST, FREMONT, AND BEALE ST. TEMPORARY BRIDGES  
DETAILS

PROJECT/ENGINEER SEAL		030-01513A31
		
APPROVED:		
PRINCIPAL ENGINEER		
PROJECT MANAGER		P. BARAR
PROJECT ENGINEER		Q. LIU
DESIGNED BY:		CHECKED BY:
Q. LIU		P. BARAR
DATE:		05/02/2011
SCALE:		SHEET
AS NOTED		140
SHEET NUMBER		SEQUENCE NUMBER
SH-5105		of

SH-5105 of