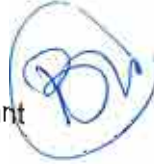


Memorandum

CS Memorandum No. 1409

To: Distribution

From: Beverly Ward, CMB/Risk Management Assistant 

Date: March 28, 2013

Reference: Project No. M544.1, Contract No. CS-149
Task No. 1-8.02, Change Control

Subject: Configuration Management Board Meeting No. 119

Attached please find minutes for Configuration Management Board Meeting No. 119 held on March 27, 2013.

Attachments: CMB Meeting No. 119 Rev. 0 Minutes with attachments

Cc: David Kuehn, STV (w/attachments) david.kuehn@stvinc.com
Shahnam Farhangi, SFMTA (w/attachments)
Joon Park, SFMTA (w/attachments)
John Funghi, SFMTA (w/attachments)
Arthur Wong, SFMTA (w/attachments)
Sarah Wilson, CSP (w/attachments)
Mark Latch, CSP (w/attachments)
Jane Wang, SFMTA (w/attachments)
Aileen Read, CSDG (w/attachments)
CS File No. M544.1.5.0890

Distribution:

Brad Lebovitz, STV bradley.lebovitz@stvinc.com
Luis Zurinaga, SFCTA luis.zurinaga@sfcta.org
Albert Hoe, SFMTA
Roger Nguyen, SFMTA
Richard Redmond, CSP
Mark Benson, CSP
Ross Edwards, CSP
Eric Stassevitch, CSP
Brian Kelleher, SFMTA
Beverly Ward, CSP

CMB Meeting Minutes #119

DATE: March 28, 2013
 MEETING DATE: **March 27, 2013**
 LOCATION: 821 Howard St, Main Conference Room
 TIME: 3:00 PM
 ATTENDEES: A. Hoe (AH), R Edwards (RE), M. Benson (MB), R. Redmond, (RR), R. Nguyen (RN), B. Kelleher(BK), E. Stassevitch (ES), B. Ward (BW), B. Lebovitz (BL), L. Zurinaga (LZ)
 COPIES TO: Attendees: S. Farhangi (SF), J Funghi (JF), A. Wong (AW), J. Park (JP), S. Wilson (SW), M. Latch (ML), J. Wang (JW), A. Read (AR), D. Kuehn (DK)
 REFERENCE: Project No. M544.1, Contract No. 149 Task 1-8.02
 Final Design
 SUBJECT: Configuration Management Board Meeting # 119 – Rev. No. 0

RECORD OF MEETING (*Italicized text indicates status update of open items*)

ITEM #	DISCUSSION	ACTION BY DUE DATE
1-	<p>1252 - Tunnel Boring Machine (TBM) Assembly Submittal – R. Redmond presented for review TBM assembly submittal from the Contractor. Review of the submittal by the CMB suggested the submittal response be Revise and Resubmit with the following bullet points be addressed with resubmittal:</p> <ul style="list-style-type: none"> • Must have 11ft lanes per the Contract specs • Means and Methods must comply with all contract requirements • Need the deck redesign <ul style="list-style-type: none"> ○ How will it be done ○ Timing (weekends) • Gantry Crane <ul style="list-style-type: none"> ○ No specs on its capacity - crane safety checklist ○ How close do trucks that back up under the gantry to unload affect the highway off ramp ○ How is the public protected , fence between sidewalk by Speedway and the gantry track ○ What load is applied to the road under the gantry rail dunnage <ul style="list-style-type: none"> ▪ new sewer runs under the gantry crane track ○ CalTrans must approve its use as it is so close to the highway <ul style="list-style-type: none"> ▪ Visual and aerial easement ▪ Operating too close to the highway?? ○ Is the gantry crane demobilized after the 1st TBM installation • A L E moving system for the TBM <ul style="list-style-type: none"> ○ safety plan ○ any design calcs required • Schedule duration can't be evaluated properly (due to pdf redaction) • Field office should review for all contract requirements 	


ITEM #	DISCUSSION	ACTION BY DUE DATE
2-	<p>1252 - Segment Spalls Repair Procedure Submittal – R. Redmond presented for review the Contractor’s proposed procedure for repairing the non-structural damage to the segments which include minor spalling or chips in the concrete. The submittal proposes a fast setting patching material to be used “Crete Red Line” (see attached). Review of the submittal by the CMB suggested the submittal response be Revise and Resubmit with the following bullet points be addressed with resubmittal:</p> <ul style="list-style-type: none"> • Designer of Record comments are to returned procedure, as noted, but revise and resubmit before repair can be performed <ul style="list-style-type: none"> ○ In particular, how deep , how wide , does any weld crete get applied ○ To what extent is the spall to large or too deep for this application ○ Does the spall need to be chipped back to more sound concrete ○ How • Photo 3 - not to be considered here, as this spall is " into " the zone of the gasket • Identify Luis Piek (a PE ??) , <ul style="list-style-type: none"> ○ Is he the Quality reviewer?? ○ who is the reviewer and acceptor of the actual repair made (Luis ??) or the (Segment Manufacturer) 	
3-	<p>1252 – Retrieval Shaft Option B – R. Edwards and A. Hoe presented for consideration a delivery schedule for a plan B option for the Retrieval Shaft to include design, procurement and construction at the Pagoda Theatre site by issuing a new contract to PB/Telamon for Design Services of the Retrieval Shaft in conjunction with elements of BIH’s PCC 10 Proposal for Site Preparation (demo, utilities, compensation grout pipes and restoration). This option will continue to be evaluated by Senior Program Management if an agreement cannot be reached between SFMTA and the Contractor to lower the cost of PCC 10 to within budgeted amounts. An Option C was also introduced suggesting PB/Tealmon do the design work and issue a request for a cost from BIH based on that design.</p>	
4-	<p>The Program Trend/Change Control Log dated 03/27/13 was not viewed at this week’s meeting. The log is updated to include most recent changes and trends for 1252. The log is attached for distribution with these meeting minutes.</p>	

ACTION ITEMS

ITEM #	MTG DATE	MTG ACTION DATE	DESCRIPTION	BIC	DUE DATE	STATUS
1	11/07/12	11/07/12	1300 – 1254 – SF Planning Request - Cost	RE	04/03/13	Open
1	02/20/13	02/27/13	1252 – Update on Micro Pile	ML/RE	04/03/13	Open
2	12/12/12	03/20/13	1252 – Verification of California Class1 correct site for disposal of hazardous material from 1252 as built information included in 1300 docs.	RE/QC	04/03/13	Open

Meeting adjourned at 5:15pm

These meeting minutes have been prepared by B. Ward and reviewed by, E. Stassevitch and are the preparer's interpretation of discussions that took place. If the reader's interpretation differs, please contact the author in writing within four (4) days of receipt of these minutes.

Signed:  [initials of preparer & reviewer] Date: 28 Mar 13 [Date review completed]

Meeting Agenda

Project No. M544.1, Contract No. CS-149
Program/Construction Management
Configuration Management Board (CMB) Meeting No. 119
March 27, 2013
3:00pm – 5:00pm
 Central Subway Project Office
 821 Howard St. 2nd Floor
 Main Conference Room

Attendees:

Mark Benson	Albert Hoe	Roger Nguyen	Sarah Wilson
Ross Edwards	Jim Kelly	Joon Park	Arthur Wong
Shahnam Farhangi	David Kuehn	Richard Redmond	Luis Zurinaga
John Funghi	Mark Latch	Eric Stassevitch	
John Haley	Brad Lebovitz	Beverly Ward	

1. **1252** – Tunnel Boring Machine (TBM) Assembly Submittal
 – Segment Spalls Repair Procedure Submittal
2. **Trend/Change Log** – 03/27/13
3. **Other Business** –


Meeting Attendance Sheet

Project No. M544.1, Contract No. 149
Program/Construction Management
Configuration Management Board Meeting No. 119
March 27, 2013
3:00 p.m. – 5:00 p.m.
 Central Subway Project Office
 821 Howard, 2nd Floor
 Main Conference Room

Deliver Meeting Attendance Sheet with original signatures/initials to Document Control.

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Please enter initials if your name is listed below. Please enter name, affiliation, phone number and email address if your name is not listed below.				
Benson, Mark	CSP	(415) 701-4295	Mark.Benson@sfmta.com	MB
Edwards, Ross	CSP	(415) 701-5296	Ross.Edwards@sfmta.com	RE
Farhangi, Shahn timer	SFMTA	(415) 554-0721	Shahn timer.Farhangi@sfmta.com	
Funghi, John	SFMTA	(415) 701-4299	John.Funghi@sfmta.com	
Haley, John	SFMTA		John.Haley@sfmta.com	
Hoe, Albert	SFMTA	(415) 701-4289	Albert.Hoe@sfmta.com	AH
Kelleher, Brian	SFMTA	(415) 701-5289	Kelleher.Brian@sfmta.com	BK
Kelly, Jim	SFMTA		Jim.Kelly@sfmta.com	
Kuehn, David	STV/PMOC	(510) 464-8053	David.kuehn@stvinc.com	
Latch, Mark	CSP	(415) 701-5294	Mark.Latch@sfmta.com	
Lebovitz, Brad	STV/PMOC	(510) 464-8052	Bradley.lebovitz@stvinc.com	BL
Nguyen, Roger	SFMTA	(415) 701-4312	Roger.Nguyen@sfmta.com	

central  subway

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Park, Joon	SFMTA	(415) 701-4742	Joon.Park@sfmta.com	
Redmond, Richard	CSP	(415) 701-4288	Richard.Redmond@sfmta.com	RR
Stassevitch, Eric	CSP	(415) 701-4426	Eric.Stassevitch@sfmta.com	
Ward, Beverly	CSP	(415) 701-5291	Beverly.Ward@sfmta.com	
Wilson, Sarah	CSP	(415) 243-0950	Sarah.Wilson@sfmta.com	
Wong, Arthur	SFMTA	(415) 701-4305	Arthur.Wong@sfmta.com	
Zurinaga, Luis	SFCTA	(415) 716-6956	Luis.zurinaga@sfcta.org	
ROGER NGUYEN	SFMTA			

PROJECT: Contract 1252 - Tunnels

DATE: 3/15/2013

TO: SF Municipal Transportation Agency
821 Howard Street
San Francisco, CA 94103

REF: Segment Spalls Repair Procedure
31 74 17-025

ATTN: Sarah H. Wilson

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
<input type="checkbox"/> Shop Drawings	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Approved as Submitted
<input type="checkbox"/> Letter	<input type="checkbox"/> Your Use	<input type="checkbox"/> Approved as Noted
<input type="checkbox"/> Prints	<input type="checkbox"/> As Requested	<input type="checkbox"/> Returned After Loan
<input type="checkbox"/> Change Order	<input type="checkbox"/> Review and Comment	<input type="checkbox"/> Resubmit
<input type="checkbox"/> Plans		<input checked="" type="checkbox"/> Submit
<input type="checkbox"/> Samples	SENT VIA:	<input type="checkbox"/> Returned
<input type="checkbox"/> Specifications	<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Returned for Corrections
<input checked="" type="checkbox"/> Other: Made from Submittal	<input type="checkbox"/> Separate Cover Via: Mail	<input type="checkbox"/> Due Date:

ITEM NO.	COPIES	DATE	ITEM NUMBER	REV. NO.	DESCRIPTION	STATUS
1	5	3/15/2013	SUT 31 74 17-025	001	Segment Spalls Repair Procedure	NEW

Remarks: In accordance with specification section 31 74 17 see attached Segment Spalls Repair Procedure.

CC:

Signed: 
Alessandro Tricamo

Barnard Impregilo Healy JV

SUBMITTAL

NO. 31 74 17-025

PO BOX 78270
San Francisco, CA 94107

Phone: 415-546-0799
Fax: 415-546-3822

PACKAGE NO: 317417

TITLE: Segment Spalls Repair Procedure

REQUIRED START: 3/15/2013

PROJECT: Contract 1252 - Tunnels

REQUIRED FINISH: 4/12/2013

DRAWING:

DAYS HELD: 0

STATUS: NEW

DAYS ELAPSED: 0

BIC: SFMTA

DAYS OVERDUE: -28

RECEIVED FROM		SENT TO		RETURNED BY		FORWARDED TO	
BIHJV	ATR	SFMTA	SHW	SFMTA	SHW	BIHJV	ATR

Revision						Drawing					
No.	Description / Remarks	Received	Sent	Returned	Forwarded	Status	Sepias	Prints	Date	Held	Elapsed
001	Segment Spalls Repair Procedure	3/15/2013	3/15/2013			NEW	0	0		0	0

Memorandum

ARUP

To	BIHJV	Date	March 1, 2013
Copies	Jon Hurt, Michele Mangione	Reference number	MM/LP
From	Luis Piek (San Francisco)	File reference	
Subject	Cosmetic Defects on Segmental Tunnel Lining		

Introduction

This memorandum clarifies the influence of minor damage due to casting of the segmental tunnel lining to be used for the Third Street Light Rail Program, Phase 2 – Central Subway. Photographs showing minor spalling or chips of the concrete at typical locations have been reviewed including both 4 ft and 5 ft long segments.

Influence of Defects on Segment Performance

The photographs shown below have been reviewed and show non-structural damage that is primarily cosmetic and does not compromise the structural integrity of the segment nor the performance of the gaskets. The damage can be readily repaired using standard procedures for similar precast concrete works.



Photo 1. Spall on the radial joint near the footed gasket

Memorandum



Photo 2. Spall on the radial joint near the footed gasket



Photo 3. Spall on the circumferential joint near the footed gasket

Repair Procedure

The repair procedure attached to this memo has been reviewed and is considered appropriate for repair of these types of minor surface defects.

**Third Street Light Rail Program
Phase 2 – Central Subway Tunneling
Contract No. 1252**

SECTION 13 74 17

**PROPOSED SPALLING REPAIR PROCEDURE FOR STRESS
RELIEF PORTIONS OF THE TUNNEL SEGMENTS**

Rev No.	Issue Date
00	March 1, 2013

Precast Management is requesting to be able to perform patching of minor spalls that occur on the raised stress relief areas on the radial and circumferential sides of the segment with the approved patching material shown in the Method Statement, Speed Crete Red Line fast setting patching material, per the directions provided by the. It is noted that most of these same surfaces will be covered with packing prior to final placement in the tunnel.

Attached are pictures of several segments as an example of areas where PMC would like to perform patching.







The above picture represents an segment patched with the procedures and materials mentioned on page 2 of this request



SPEED CRETE® RED LINE

FAST SETTING PATCHING MATERIAL

DESCRIPTION

SPEED CRETE RED LINE is a fast setting, cement-based concrete and masonry patching compound. SPEED CRETE RED LINE is a proprietary formulation of blended portland cements, finely processed selected aggregates, and specific chemical additives. SPEED CRETE RED LINE, when combined with the correct amount of water, undergoes a chemical "hyper hydration" and produces a stable, low permeability, cementitious matrix.

PRIMARY APPLICATIONS

- Interior and exterior
- Vertical, overhead and horizontal repairs
- Used at no slump consistency
- Outstanding repair material for concrete pipe, curbs, sidewalks, formed and precast concrete

FEATURES/BENEFITS

- Initial set in 8 to 10 minutes
- Final set within 20 minutes
- May be "shaved" to desired shape
- High strength
- Excellent durability
- Compatible with Galvanic Anodes

TECHNICAL INFORMATION

Material Properties at 75°F (24°C)

Compressive Strength , psi (MPa) ASTM C 109	
24 Hour	2,550 (17.6)
7 Day	5,290 (36.5)
28 Day	6,100 (42.1)
Set Time , ASTM C 266	
Initial	8 Min
Final	20 Min
Tensile Strength , psi (MPa) ASTM C 190	
7 Day Ave.	309 (2.1)
28 Day Ave.	395 (2.7)
Flexural Strength , psi (MPa) ASTM C 78	
28 Day Ave.	918 (6.3)

Shear Bond Strength, psi (MPa) ASTM C 1042

24 Hour Ave.	906 (6.2)
7 Day Ave.	1,084 (7.5)

Freeze Thaw Durability Factor ASTM C 666

310 Cycles	96.75%
------------	--------

Shrinkage 50% RH ASTM C 157

28 Day Ave.	-0.143%
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Expansion 100% RH ASTM C 157

28 Day Ave.	0.077%
-------------	--------

Scaling Resistance ASTM C 672

25 Cycles	0% loss
-----------	---------

Chloride Permeability ASTM C 1202

1300 coulombs	low
---------------	-----

Values presented are typical and not necessarily referenced to create specifications.

PACKAGING

SPEED CRETE RED LINE is packaged in 50 lb (22.7 kg) poly-lined bags, and 50 lb (22.7 kg) pails.

SHELF LIFE

1 year in original, unopened package.

COVERAGE

One 50 lb (22.7 kg) bag yields approximately 0.5 cu ft (0.014 m³). With the addition of 40 lbs (18.14 kg) of 3/8 inch (0.95 cm) pea rock the yield is approximately 0.7 ft³ (0.02 m³).

DIRECTIONS FOR USE

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oil and all other contaminants. Mechanically abrade the surface to achieve a surface profile equal to CSP 6 - 7 in accordance with ICRI Guideline 03732. Properly clean profiled area. **Priming:** Clean and prime exposed steel with DURALPREP AC. Concrete should be primed with a spray or brush coat of DURALPREP AC. Alternately, a Saturated Surface Dry (SSD) concrete surface can be primed with a scrub coat of SPEED CRETE RED LINE. The repair must be made before the scrub coat dries out.

SPEED CRETE® RED LINE
Fast Setting Patching Material

Master Format #: 03 0150

Revised: 4.09



The Euclid Chemical Company

19218 Redwood Rd. • Cleveland, OH 44110
Phone: [216] 531-9222 • Toll-free: [800] 321-7628 • Fax: [216] 531-9596
www.euclidchemical.com

An **RPIM** Company



Mixing: SPEED CRETE RED LINE will require approximately 5 to 5.5 qts (4.73 to 5.20 L) of potable water per 50 lb bag (22.7 kg) to achieve the proper mix consistency. Pour the measured amount of water into a clean mixing container, then add the measured amount of SPEED CRETE RED LINE, and thoroughly mix for no more than 60 seconds to a stiff, no slump, putty-like consistency. Mix small quantities of SPEED CRETE RED LINE in a clean pail with a hand trowel. Use a rotary mixer with rubber tip blades for mixing quantities up to 100 lbs. (45.4 kg). To fill patches 2 inches (5.1 cm) deep or greater, add clean, pre-dampened, 3/8 inch (.96 cm) size pea gravel or chip stone to the SPEED CRETE RED LINE. Do not use limestone aggregate. The mix ratio must not exceed 40 pounds (18 kg) of rock to each 50 lb (22.7 kg) bag or pail of SPEED CRETE RED LINE. **Mixing procedure:** Start mixer, load water, load rock, then load the SPEED CRETE RED LINE. Mix for no more than 60 seconds.

Application: To ensure complete bond with the entire surface, force the SPEED CRETE RED LINE firmly into the SSD area by hand or with a trowel. Slightly overfill the patch, and following initial set, shave the material to conform to the contour of the surrounding surface. Always shave SPEED CRETE RED LINE toward the common bonding edge between the patching material and the existing surface. Cure material using standard curing practices. For additional information, contact your local Euclid Chemical representative.

Cold Weather Installation: Application at temperatures below 40°F(4°C) extends the set time. Heating the patch area until warm, using warm water for mixing and tenting or insulating the patch area after application will assist in reaching higher strength development. Do not use direct heat on the patch after its installation.

CLEAN-UP

Clean application tools and mixing equipment with water immediately following use.

PRECAUTIONS/LIMITATIONS

- Store covered storage away from all moisture.
- Mix no more than 60 seconds.
- Use only potable water with SPEED CRETE RED LINE.
- Mix to a stiff, putty-like, no slump consistency.
- Do not re-temper or add sand to SPEED CRETE RED LINE.
- Do not overwork or over-trowel patching material.
- Do not feather-edge SPEED CRETE RED LINE.
- Clean mixing equipment between batches.
- In all cases, consult the Material Safety Data Sheet before use.

WARRANTY: The Euclid Chemical Company ("Euclid") solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Unless authorized in writing by an officer of Euclid, no other representations or statements made by Euclid or its representatives, in writing or orally, shall alter this warranty. EUCLID MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Euclid product fails to conform with this warranty, Euclid will replace the product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and Buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Euclid does not authorize anyone on its behalf to make any written or oral statements which in any way alter Euclid's installation information or instructions in its product literature or on its packaging labels. Any installation of Euclid products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Euclid's products for the Buyer's intended purposes.

Please let Precast Management know if this is acceptable.

Sincerely,
Mark Noah, PE
Quality Control Manager

From: Fowler, Matthew E
Sent: Thursday, March 21, 2013 1:36 PM
To: Wilson, Sarah H (SFMTA)
Cc: Leong, Kristie; Latch, Mark; Leong, Mun; smirnoff@pbworld.com
Subject: RE: CN1252 Submittal: 31 74 17-025 | Segment Spalls Repair Procedure-Response=ANR

DP1.16.30.C3

Sarah,

This submittal comprises the following two documents:

1. "Proposed spalling repair procedure for stress relief portions of the tunnel segments," by Precast Management Corp. dated March 1, 2013
2. Arup Memo from Luis Piek to BIHJV, March 1, 2013 "Cosmetic Defects on Segmental Lining"

We concur with Luis Piek's assessment that the chipping and spalling immediately adjacent to the gaskets on both the radial and circumferential joints illustrated in the included photographs is non-structural and cosmetic and does not compromise the structural integrity of the reinforced concrete segment or the function of the gaskets.

The repair procedure prepared by PMC seeks approval to patch "minor spalls that occur on the raised stress relief areas on the radial and circumferential sides of the segment" with Euclid Speed Crete Red Line cement-based patching compound per the manufacturer's "Directions for Use."

The proposed Speed Crete product is acceptable. We recommend the repair procedure be expanded to (1) clearly state the limits of the procedure's applicability (i.e., on how deep or extensive of a spall or chip can it be applied) and, for the benefit of those doing the work, (2) the surface prep and priming procedures. The Red Line spec sheet lists options for priming; indicate which will be used and confirm that the primers, if used, will not harm the gasket.

Lastly, a point of clarification on comments made in the procedure about most of the areas being covered with packing; the raised "stress relief" pads are present only on the radial joint faces of the segments and the plastic packing materials are only used on the circumferential joints.

I recommend the procedure be returned "approved as noted, resubmittal required" with the above notes for repairs of the non-structural, cosmetic chipping and spalling adjacent to the gaskets.

Thanks,
Matt

- NO EXCEPTIONS TAKEN
- MAKE CORRECTIONS NOTED
- REJECTED
- REVISE AND RESUBMIT
- SUBMIT SPECIFIED ITEM(S)

Review is only for general conformance with the design concept of the project and general compliance with the requirements of the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor's responsibilities include, but are not limited to actual dimensions which shall be confirmed and correlated at the job site; preferred fabrication processes and techniques of construction; coordination of the contractor's work with that of all other trades; and the satisfactory performance of the contractor's work.

Sustainable Streets Division
 San Francisco Municipal Transportation Agency
 City and County of San Francisco

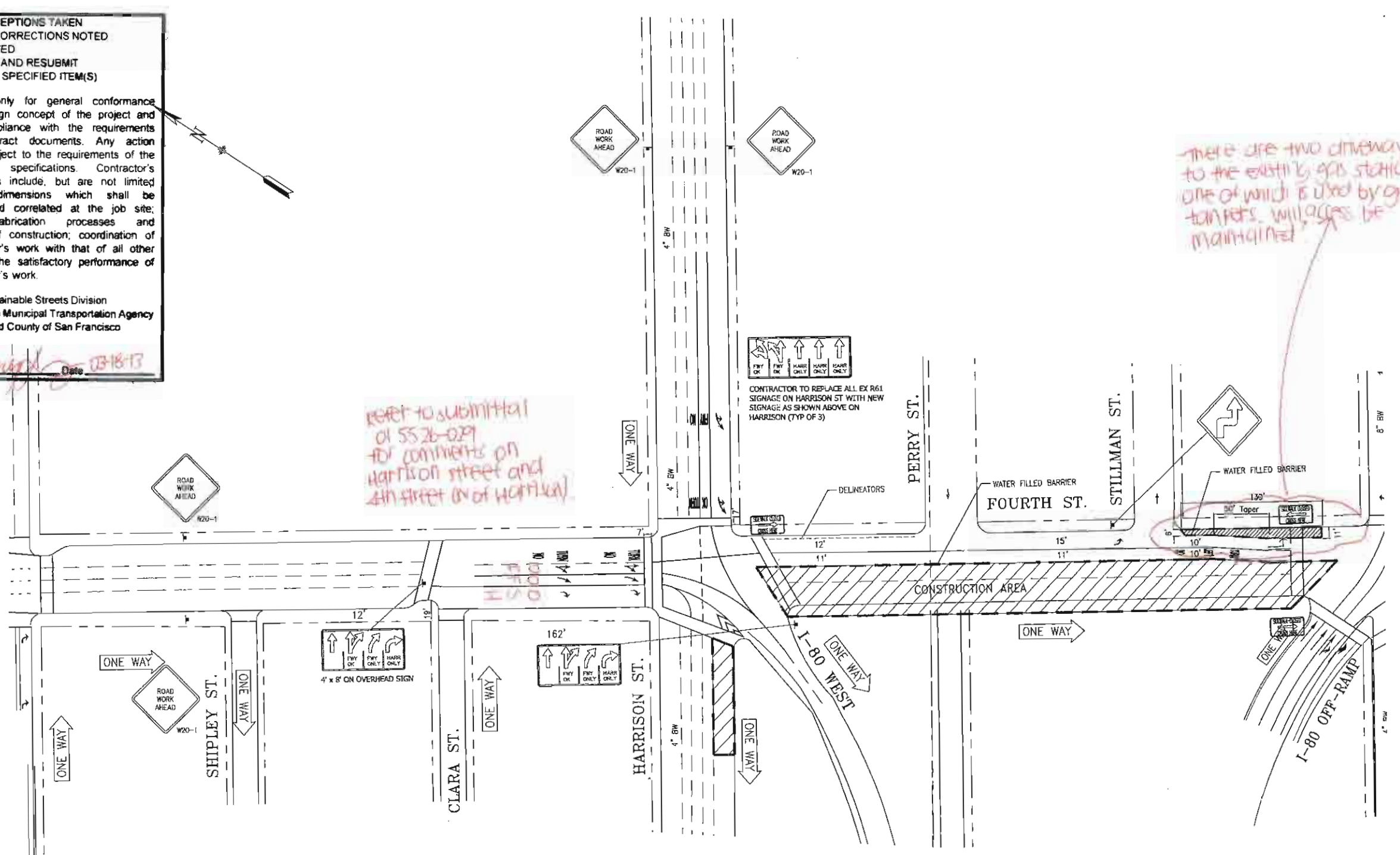
By *K. [Signature]* Date *03-18-13*

LEGEND

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE SIGN
- TRAFFIC CONE DELINEATOR
- WATER BARRIER
- TYPE 3 BARRICADE
- FLAGGER
- TANS
- TOW AWAY NO STOPPING
- FLASHING ARROW SIGN
- TEMPORARY ORANGE FENCING
- SFPD 10B OFFICER

- TRAFFIC CONTROL NOTES:**
1. WORKING HOURS AS INDICATED.
 2. PEDESTRIAN CONTROLS WILL BE PROVIDED AS SHOWN.
 3. PEDESTRIANS SHALL BE PROTECTED FROM ENTERING THE DEMOLITION ZONE BY PHYSICAL BARRIERS DESIGNED, INSTALLED, AND MAINTAINED TO THE SATISFACTION OF THE RESIDENT ENGINEER.
 4. TEMPORARY "NO PARKING/TOW AWAY" SIGNS STATING THE DATE AND TIME OF PROHIBITION WILL BE POSTED 72 HOURS PRIOR TO COMMENCING WORK.
 5. ACCESS WILL BE MAINTAINED TO ALL BUSINESS, DRIVEWAYS, AND RESIDENCES UNLESS OTHER ARRANGEMENTS ARE MADE.
 6. WORK THAT DISTURBS NORMAL TRAFFIC SIGNAL TIMING OPERATIONS, OR WORK WITHIN 150 FEET OF A SIGNALIZED INTERSECTION, SHALL BE COORDINATED WITH THE CITY OF SF (OPT). CITY WILL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO COMMENCING WORK.
 7. ALL PERMANENT TRAFFIC CONTROL DEVICES WILL BE MAINTAINED 24 HOURS A DAY, 7 DAYS PER WEEK, BY THE CONTRACTOR.
 8. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MUTCD 2006 EDITION FOR TEMPORARY TRAFFIC CONTROL.
 9. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM VIEW WHEN NOT IN USE.
 10. OPT HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO INSURE PUBLIC SAFETY.
 11. ALL WORK AFFECTING BUS STEPS SHALL BE COORDINATED WITH THE AFFECTED TRANSIT DISTRICT AT LEAST 72 HOURS IN ADVANCE OF STARTING WORK.

- SIGNAGE NOTES:**
1. ALL WARNING SIGNS AND CONES FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED OR RETROREFLECTIVE AS SPECIFIED IN THE REQUIREMENTS.
 2. FLASHING WARNING LIGHTS SHALL BE USED DURING NIGHT LANE CLOSURES.
 3. FLASHING ARROW SIGNS SHALL BE USED WHEN SHIFTING TRAFFIC TO THE OPPOSITE SIDE OF THE STREET, SHIFTING TRAFFIC AT NIGHT, AND FOR WORK ON ARTERIAL STREETS.
 4. THE MAXIMUM SPACING BETWEEN CONES IN A TAPER SHALL BE APPROXIMATELY AS SHOWN IN TABLE 1 AND 50 FOOT MAXIMUM SPACING ON TANGENT.
 5. CONSTRUCTION AREA TRAFFIC CONTROL DEVICES SHALL MEET CALIFORNIA 2006 MUTCD STANDARDS.



REFER TO SUBMITTAL 01 55 26-029 FOR COMMENTS ON HARRISON STREET AND 4TH STREET (N OF HARRISON)

THERE ARE TWO DRIVEWAYS TO THE EXISTING GAS STATION, ONE OF WHICH IS USED BY GAS TANKERS. WILL ACCESS BE MAINTAINED?



GENERAL CONTRACTOR
BARNARD CONSTRUCTION

SCHEDULE
 AT ALL TIMES

CENTRAL SUBWAY TUNNEL CONTRACT
SFMTA CONTRACT MR 1252
TRAFFIC CONTROL PLAN

4TH STREET - DURING TBM ASSEMBLY
 BETWEEN BRYANT AND HARRISON



TRAFFIC CONTROL PLAN

01 55 26-030

SHEET 36

- NO EXCEPTIONS TAKEN
- MAKE CORRECTIONS NOTED
- REJECTED
- REVISE AND RESUBMIT
- SUBMIT SPECIFIED ITEM(S)

Review is only for general conformance with the design concept of the project and general compliance with the requirements of the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor's responsibilities include, but are not limited to actual dimensions which shall be confirmed and correlated at the job site; preferred fabrication processes and techniques of construction; coordination of the contractor's work with that of all other trades; and the satisfactory performance of the contractor's work.

Sustainable Streets Division
 San Francisco Municipal Transportation Agency
 City and County of San Francisco

By *K. [Signature]* Date *03-18-13*

- ### LEGEND
- WORK AREA
 - DIRECTION OF TRAVEL
 - PORTABLE SIGN
 - TRAFFIC CONE DELINEATOR
 - WATER BARRIER
 - TYPE 3 BARRICADE
 - FLAGGER
 - TANS
 - FLASHING ARROW SIGN
 - TEMPORARY ORANGE FENCING
 - SFPD 10B OFFICER

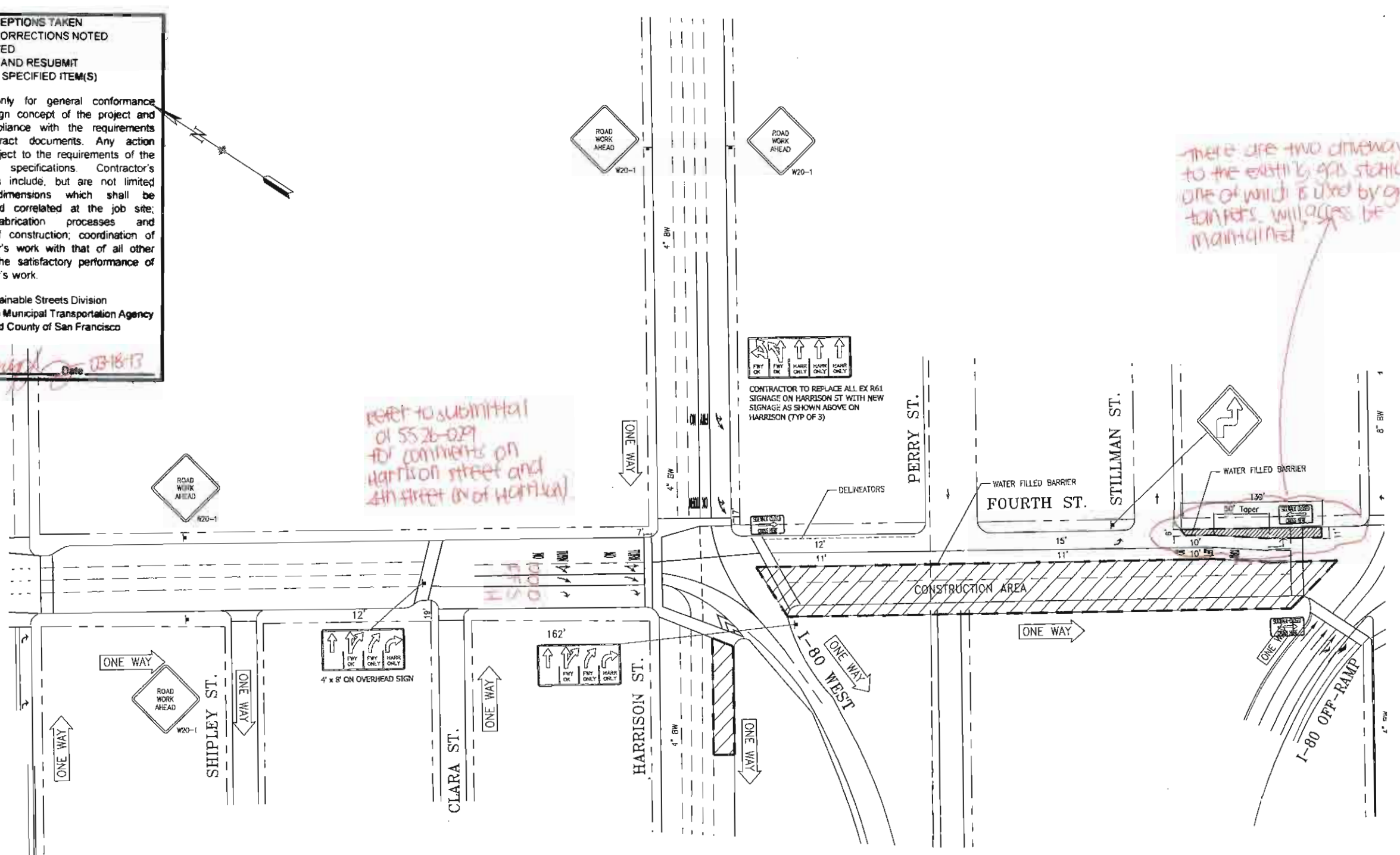
- ### TRAFFIC CONTROL NOTES:
1. WORKING HOURS AS INDICATED.
 2. PEDESTRIAN CONTROLS WILL BE PROVIDED AS SHOWN.
 3. PEDESTRIANS SHALL BE PROTECTED FROM ENTERING THE DEMOLITION ZONE BY PHYSICAL BARRIERS DESIGNED, INSTALLED, AND MAINTAINED TO THE SATISFACTION OF THE RESIDENT ENGINEER.
 4. TEMPORARY "NO PARKING/TOW AWAY" SIGNS STATING THE DATE AND TIME OF PROHIBITION WILL BE POSTED 72 HOURS PRIOR TO COMMENCING WORK.
 5. ACCESS WILL BE MAINTAINED TO ALL BUSINESS, DRIVEWAYS, AND RESIDENCES UNLESS OTHER ARRANGEMENTS ARE MADE.
 6. WORK THAT DISTURBS NORMAL TRAFFIC SIGNAL TIMING OPERATIONS, OR WORK WITHIN 150 FEET OF A SIGNALIZED INTERSECTION, SHALL BE COORDINATED WITH THE CITY OF SF (OPT). CITY WILL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO COMMENCING WORK.
 7. ALL PERMANENT TRAFFIC CONTROL DEVICES WILL BE MAINTAINED 24 HOURS A DAY, 7 DAYS PER WEEK, BY THE CONTRACTOR.
 8. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MUTCD 2006 EDITION FOR TEMPORARY TRAFFIC CONTROL.
 9. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM MFW WHEN NOT IN USE.
 10. OPT HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO INSURE PUBLIC SAFETY.
 11. ALL WORK AFFECTING BUS STEPS SHALL BE COORDINATED WITH THE AFFECTED TRANSIT DISTRICT AT LEAST 72 HOURS IN ADVANCE OF STARTING WORK.

- ### SIGNAGE NOTES:
1. ALL WARNING SIGNS AND CONES FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED OR RETROREFLECTIVE AS SPECIFIED IN THE REQUIREMENTS.
 2. FLASHING WARNING LIGHTS SHALL BE USED DURING NIGHT LANE CLOSURES.
 3. FLASHING ARROW SIGNS SHALL BE USED WHEN SHIFTING TRAFFIC TO THE OPPOSITE SIDE OF THE STREET, SHIFTING TRAFFIC AT NIGHT, AND FOR WORK ON ARTERIAL STREETS.
 4. THE MAXIMUM SPACING BETWEEN CONES IN A TAPER SHALL BE APPROXIMATELY AS SHOWN IN TABLE 1 AND 50 FOOT MAXIMUM SPACING ON TANGENT.
 5. CONSTRUCTION AREA TRAFFIC CONTROL DEVICES SHALL MEET CALIFORNIA 2006 MUTCD STANDARDS.

Refer to submittal 01 55 26-029 for comments on Harrison street and 4th street (N of Harrison)

There are two driveways to the existing gas station, one of which is used by gas tanks. Will access be maintained?

CONTRACTOR TO REPLACE ALL EX R61 SIGNAGE ON HARRISON ST WITH NEW SIGNAGE AS SHOWN ABOVE ON HARRISON (TYP OF 3)



GENERAL CONTRACTOR
BARNARD CONSTRUCTION

SCHEDULE
 AT ALL TIMES

**CENTRAL SUBWAY
 TUNNEL CONTRACT
 SFMTA CONTRACT MR 1252
 TRAFFIC CONTROL PLAN**

4TH STREET - DURING TBM ASSEMBLY
 BETWEEN BRYANT AND HARRISON

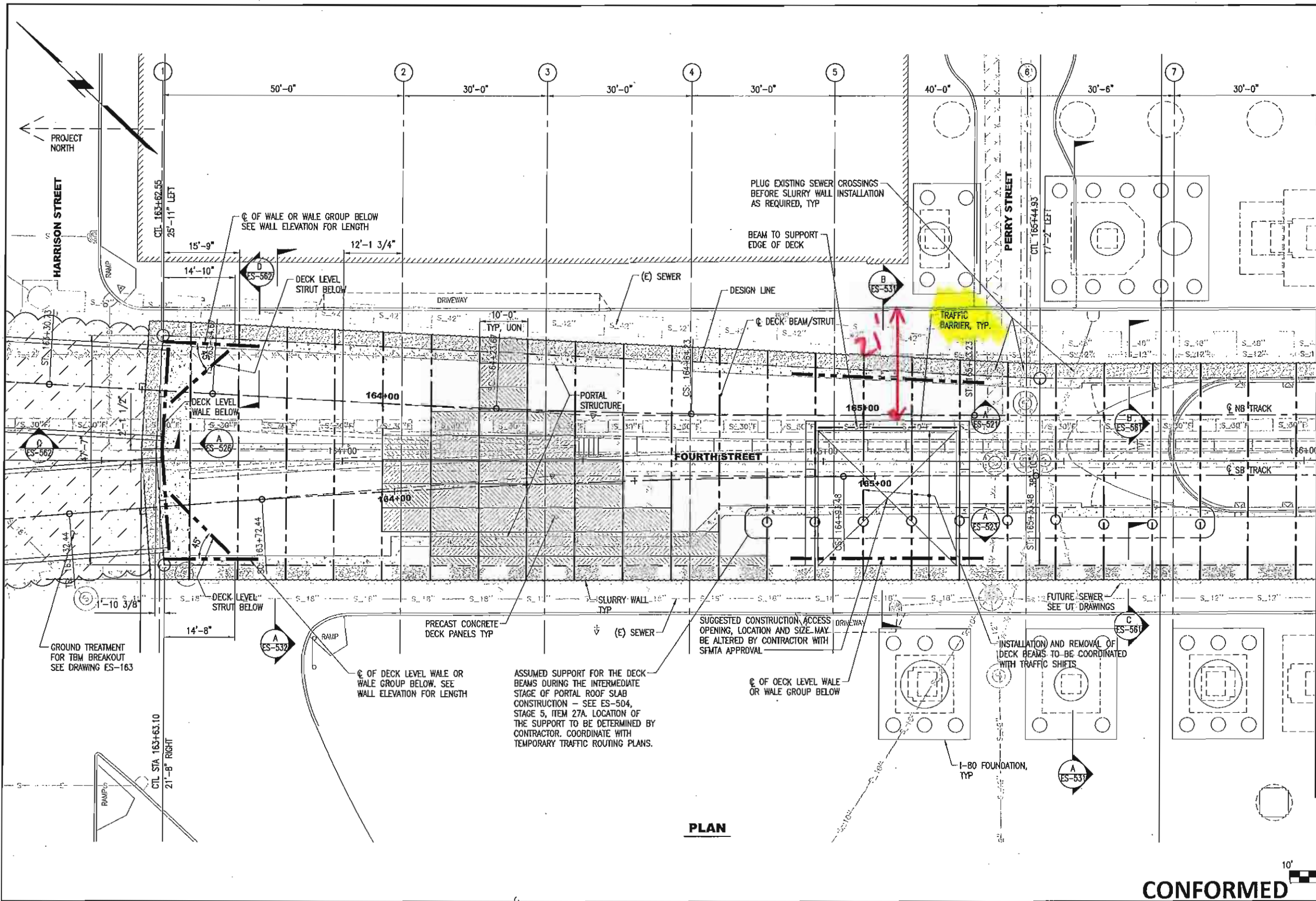


TRAFFIC CONTROL PLAN

01 55 26-030

SHEET 36

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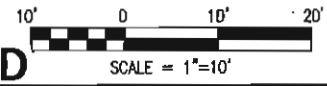


- LEGEND**
- C OF DECK BEAM/STRUT, STRUT, WALE OR WALE GROUP
 - ▨ PRECAST CONCRETE DECK PANEL
 - C OF STRUT, WALE OR WALE GROUP (TO REMAIN UNTIL PORTAL STRUCTURE AND BACKFILL ARE INSTALLED OR REBRACING IS INSTALLED, SEE SEQUENCES)
 - - - DESIGN LINE

- NOTES**
1. SEE GENERAL NOTES AND SPECIFICATIONS FOR CONTRACTOR'S SHORING DESIGN REQUIREMENTS.
 2. AN ASSUMED CONSTRUCTION SCHEME IS SHOWN HEREIN. CONTRACTOR SHALL DEVELOP ITS OWN SCHEME TO SUIT ITS MEANS AND METHODS FOR APPROVAL. FOR MANDATORY REQUIREMENTS FOR THIS LOCATION SEE SPECIFICATION.
 3. SEE DRAWINGS ES-502 TO ES-504 FOR ASSUMED SEQUENCE OF CONSTRUCTION.
 4. RE-STRUTTING WILL BE REQUIRED IN SOME LOCATIONS TO INSTALL PORTAL STRUCTURES. SEE WALL ELEVATIONS.
 5. SEE DRAWING ES-564 FOR CONCRETE DECK PANEL, PRECAST DECK BEAM/STRUT, STRUT, AND WALE DESIGN REQUIREMENTS.
 6. SEE DRAWINGS ES-521 TO ES-526 FOR WALL ELEVATIONS AND ES-541 TO ES-544 FOR SLURRY WALL REINFORCING.

MATCH LINE CTL STA 166+02.65
SEE DRAWING NO. ES-512

PLAN



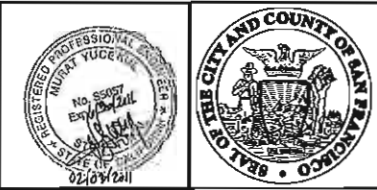
CONFORMED

DATE	DESCRIPTION	REV.	BY	CHECKED	APPROVED
01/21/2011	ISSUED FOR BID	0			

PB TELAMON

SOHA ENGINEERS

DESIGNED: M. YUCEKUL
 DRAWN: K. SMITH
 CHECKED: A. DEL
 REVIEWED: M. HUDSON
 RECOMMENDED: M. FOWLER
 APPROVED: R. EDWARDS
 DATE: JAN 21 2011



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

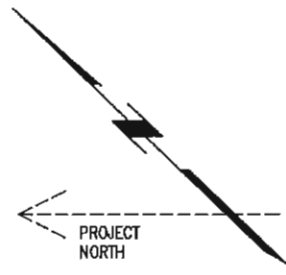
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 EXECUTIVE DIRECTOR/CDD

THIRD STREET LIGHT RAIL PROGRAM
 PHASE 2 - CENTRAL SUBWAY TUNNELS

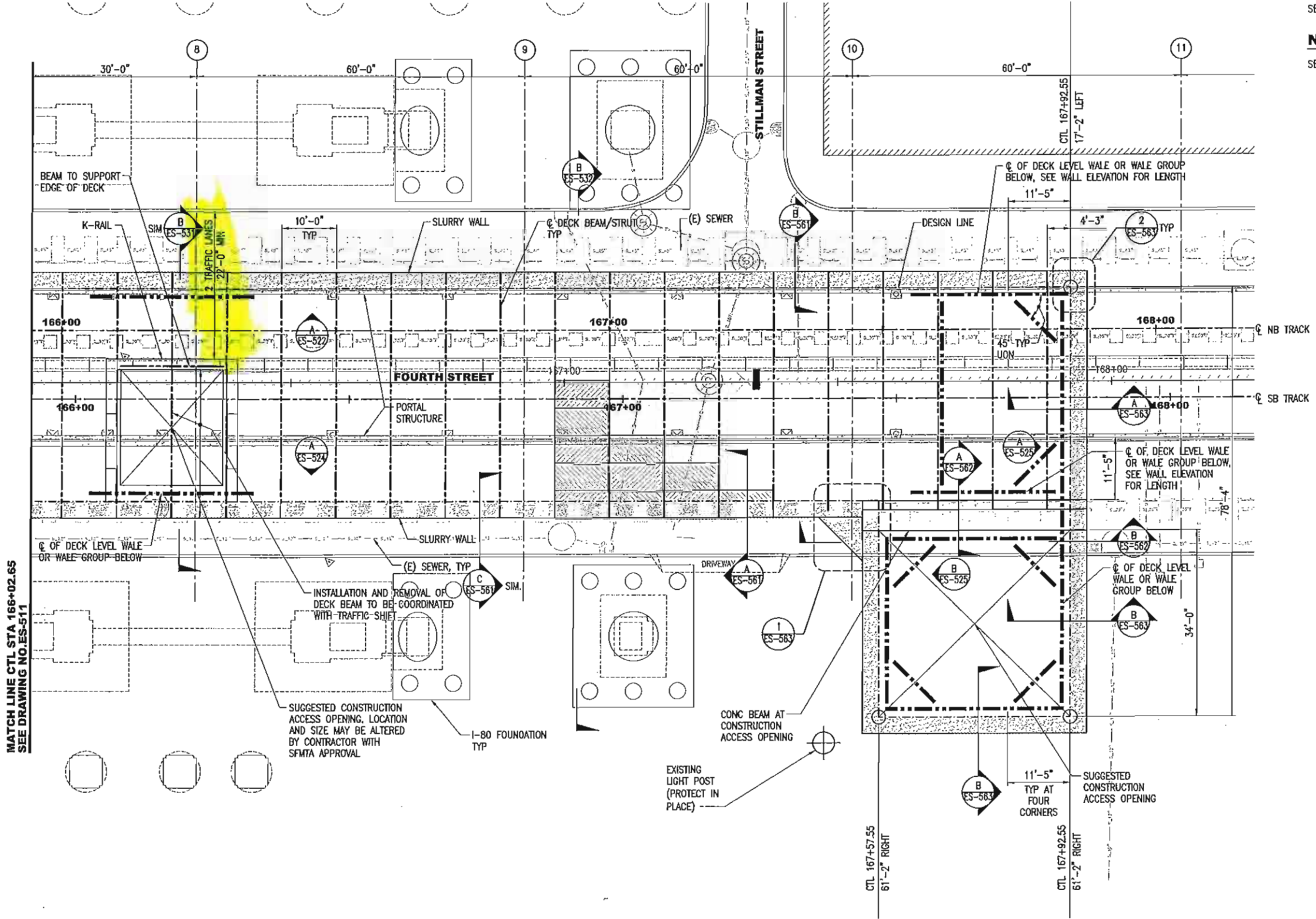
EXCAVATION AND GROUND SUPPORT
 TBM LAUNCH BOX
 TEMPORARY DECKING PLAN - SHEET 1 OF 2

CONTRACT NO.	1252
SHEET CONTROL NO.	CL-18196
DRAWING NO.	ES-511
SHEET NO.	319
REVISION	0

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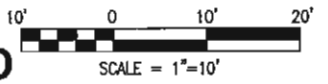
LEGEND
SEE DRAWING ES-511
NOTES
SEE DRAWING ES-511



MATCH LINE CTL STA 166+02.65
SEE DRAWING NO. ES-511

SUGGESTED CONSTRUCTION
ACCESS OPENING. LOCATION
AND SIZE MAY BE ALTERED
BY CONTRACTOR WITH
SFMTA APPROVAL

PLAN



CONFORMED

01/21/2011	ISSUED FOR BID	0			
DATE	DESCRIPTION	REV. NO.	BY	CHECKED	APPROVED

PB TELAMON

SOHA ENGINEERS

DESIGNED: M. YUCERUL
 DRAWN: K. SMITH
 CHECKED: A. OEL
 REVIEWED: M. HUDSON
 RECOMMENDED: M. FOWLER
 APPROVED: R. EDWARDS
 DATE: JAN 21 2011



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

APPROVED: [Signature]
 EXECUTIVE DIRECTOR/CEO

THIRD STREET LIGHT RAIL PROGRAM
 PHASE 2 - CENTRAL SUBWAY TUNNELS

EXCAVATION AND GROUND SUPPORT
 TBM LAUNCH BOX
 TEMPORARY DECKING PLAN - SHEET 2 OF 2

CONTRACT NO. 1252
 SFMTA CONTROL NO. CL-18197
 DRAWING NO. ES-512
 SHEET NO. 320
 REVISION 0

Barnard Impregilo Healy JV

TRANSMITTAL

No. 01382

PO BOX 78270
San Francisco, CA 94107

Phone: 415-546-0799
Fax: 415-546-3822

PROJECT: Contract 1252 - Tunnels

DATE: 3/15/2013

TO: SF Municipal Transportation Agency
821 Howard Street
San Francisco, CA 94103

REF: SB TBM Assembly Work Plan
31 71 19-006

ATTN: Sarah H. Wilson

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
<input type="checkbox"/> Shop Drawings	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Approved as Submitted
<input type="checkbox"/> Letter	<input type="checkbox"/> Your Use	<input type="checkbox"/> Approved as Noted
<input type="checkbox"/> Prints	<input type="checkbox"/> As Requested	<input type="checkbox"/> Returned After Loan
<input type="checkbox"/> Change Order	<input type="checkbox"/> Review and Comment	<input type="checkbox"/> Resubmit
<input type="checkbox"/> Plans		<input checked="" type="checkbox"/> Submit
<input type="checkbox"/> Samples	SENT VIA:	<input type="checkbox"/> Returned
<input type="checkbox"/> Specifications	<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Returned for Corrections
<input checked="" type="checkbox"/> Other: Made from Submittal	<input type="checkbox"/> Separate Cover Via: Mail	<input type="checkbox"/> Due Date:

ITEM NO.	COPIES	DATE	ITEM	NUMBER	REV. NO.	DESCRIPTION	STATUS
1	4	3/15/2013	SUT	31 71 19-006	001	SB TBM Assembly Work Plan	NEW

Remarks: In accordance with Specification Section 31 71 19, Paragraph 1.07. A.5.a.6 1, we are submitting the SB TBM Assembly Work Plan.

CC:

Signed: 

Matt Paulisich

Barnard Impregilo Healy JV

SUBMITTAL

NO. 31 71 19-006

PO BOX 78270
San Francisco, CA 94107

Phone: 415-546-0799
Fax: 415-546-3822

PACKAGE NO: 317119

TITLE: SB TBM Assembly Work Plan

REQUIRED START: 3/15/2013

PROJECT: Contract 1252 - Tunnels

REQUIRED FINISH: 4/12/2013

DRAWING:

DAYS HELD: 0

STATUS: NEW

DAYS ELAPSED: 0

BIC: SFMTA

DAYS OVERDUE: -28

RECEIVED FROM		SENT TO		RETURNED BY		FORWARDED TO	
BIHJV	MP	SFMTA	SHW	SFMTA	SHW	BIHJV	MP

Revision						Drawing					
No.	Description / Remarks	Received	Sent	Returned	Forwarded	Status	Sepias	Prints	Date	Held	Elapsed
001	SB TBM Assembly Work Plan	3/15/2013	3/15/2013			NEW	0	0		0	0



**BARNARD
IMPREGILO
HEALY** JOINT VENTURE

THIRD STREET LIGHT RAIL PROGRAM

PHASE 2 – CENTRAL SUBWAY

CONTRACT 1252 - TUNNELS

Central Subway

SB TBM Assembly Work Plan

Specification Section 31 71 19

Submittal Number 31 71 19 – 06

Review Cycle 1

March 15, 2013



Submitted for your approval in accordance with Specification Section 31 71 19 is the Tunneling Work Plan for the SB TBM Assembly - 1.07 A.5.a.6 1) initial assembly.

Overview

The assembly phase for the SB TBM has been broken down into 2 major phases of work, assembly of the shield and assembly of the backup.

Shield Assembly – Site Layout

The shield will be assembled inside the Launch Box adjacent to the toe of the access ramp. A 200 ton gantry crane and smaller hydraulic gantry (used for upending the shield pieces) will be erected. Both cranes will span Fourth Street. Two lanes of traffic will be routed adjacent to the crane's Eastern travel way and underneath both superstructures. The remaining work area will be available for unloading and staging of all the TBM and conveyor components.

The opening of the launch box will be reconfigured to allow for 2 lanes of traffic to pass across a corner of the Launch Box roadway deck, yet allow for access of material and equipment into the shaft. The design of this configuration will be submitted under separate cover.

The shaft invert adjacent to the working portals will be elevated above the Launch Box base slab by approximately 4 ft. This temporary concrete allows the shield to be set at the proper grade to begin mining. Upon completion of mining this temporary slab will be removed for construction of the permanent works.

The continuous conveyor belt storage cassette will be partially installed before or during the TBM assembly as time permits.

Shield Assembly- Lowering

BIH JV has contracted with specialized contractor Barnhart Crane and Rigging for shaft service during the assembly period. Barnhart will provide equipment, engineering, personnel, and coordination for the movement of all pieces into and out of the shaft.



Shield Assembly - Moving

BIH JV has contracted with ALE, a specialized heavy lifting company from Madrid Spain, to provide engineering, equipment, support, and coordination for moving both shields from the assembly area to the face. A skid system utilizing Hillman type rollers and hydraulic cylinders reacting from anchored tracks provide locomotion to the shield. Four vertical cylinders allow elevation, roll, and pitch adjustment. To safely descend the steeply graded invert, ALE will install a redundant strand jack system for braking.

Once the shield has been set in the cradle, it will be jacked through the seal and the thrust frame erected.

TBM Backup Assembly - Shaft Configuration

The concrete shaft invert from the rear of the shield will be elevated with structural fill. This allows the trailing gear to transition to the correct elevation in the tunnel bore. Rail and ties will be installed from the thrust frame back to the shaft opening.

TBM Backup Assembly- Installation

The trailing decks and conveyor bridge will be lowered into the shaft using the gantry system. The bridge will be assembled in two pieces due to its length. After connecting the bridge to the shield individual gantries will be lowered and moved along the rail and connected.

TBM Commissioning

Once the shield and supporting backup have been installed the TBM will be connected to the shaft utilities, tested, commissioned, and launched. The details and procedures for the actual startup and launch of the TBM will be covered under separate submittal.

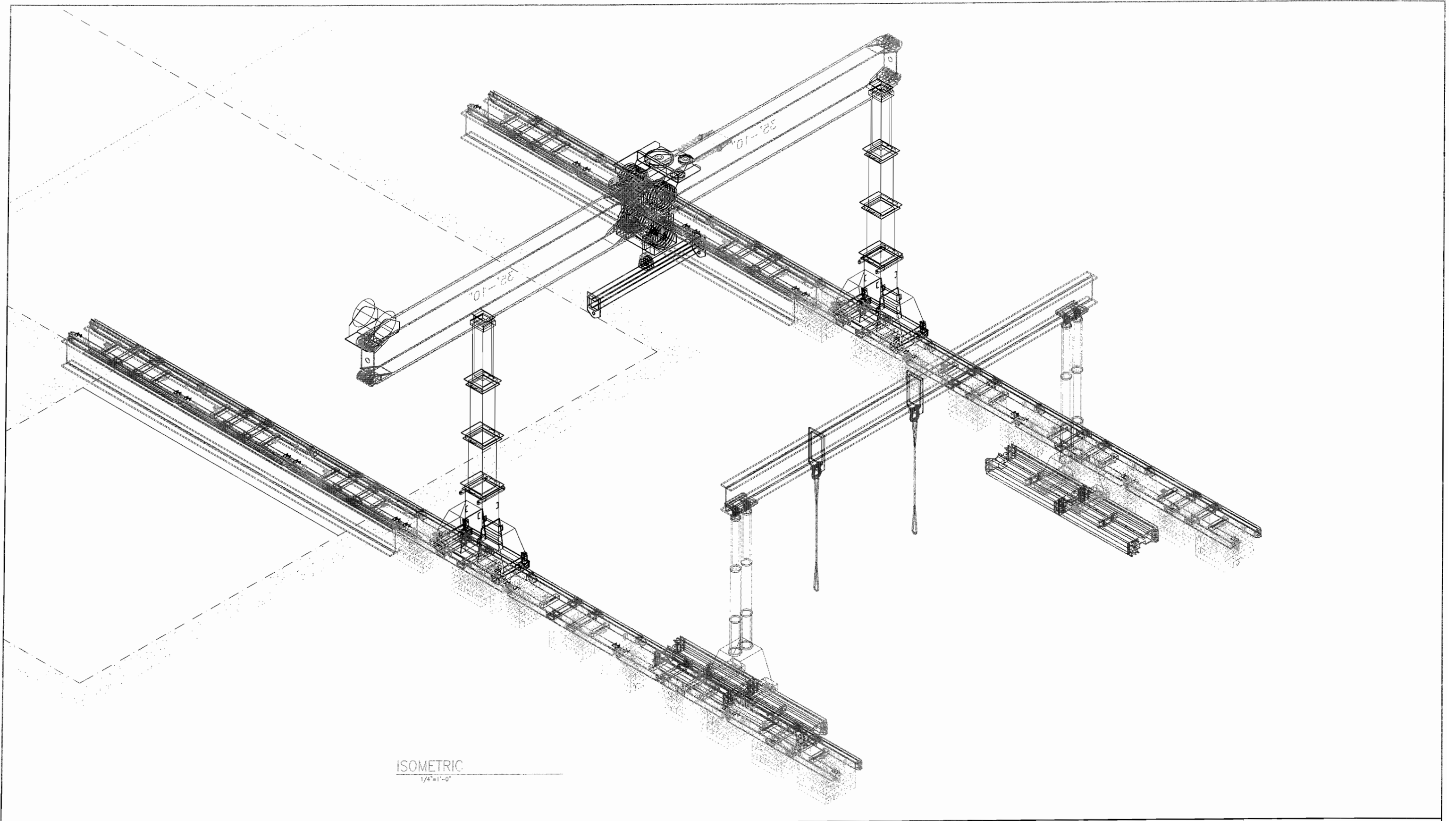
Attached Drawings

The attached drawings illustrate the major equipment and sequences involved in assembling the Southbound TBM.



**BARNARD
IMPREGILO
HEALY** JOINT VENTURE

Shield Assembly



ISOMETRIC
1/4"=1'-0"

REV	DATE	DESCRIPTION

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**BARNARD
IMPREGILO
HEALY** JOINT VENTURE

CITY AND COUNTY OF SAN FRANCISCO
MTA

CENTRAL SUBWAY TUNNELS1252

TBM LOWERING
Barnhart
Gantry System Layout

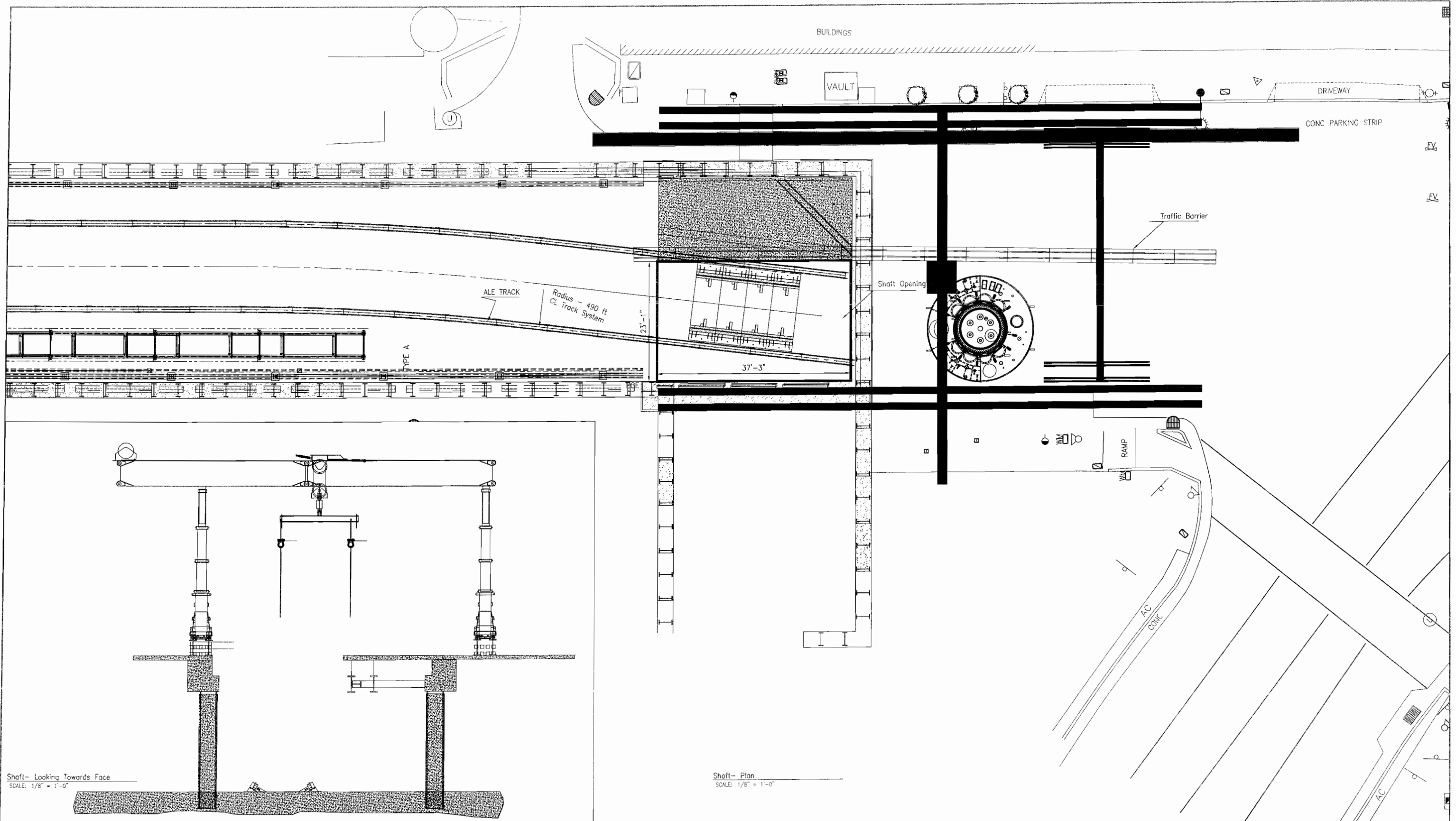
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Shaft - Looking Towards Face
SCALE: 1/8" = 1'-0"

Shaft - Plan
SCALE: 1/8" = 1'-0"

- NOTES:
1. Erect Gantry.
 2. Install Ale Track.
 3. Assemble 4 Cradles.

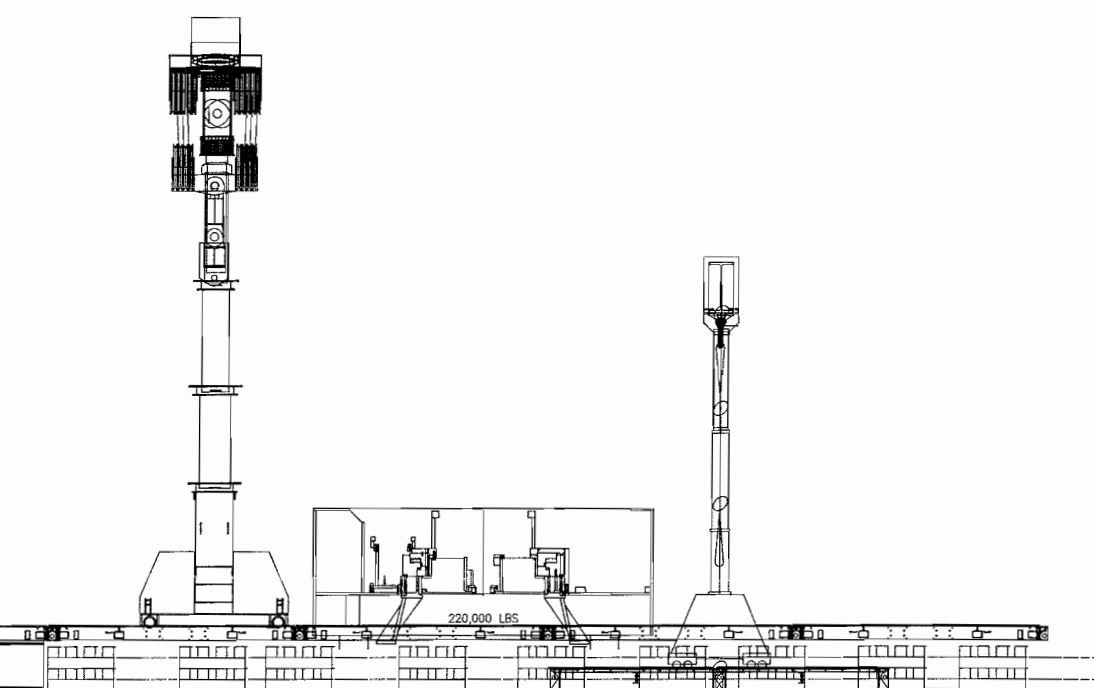
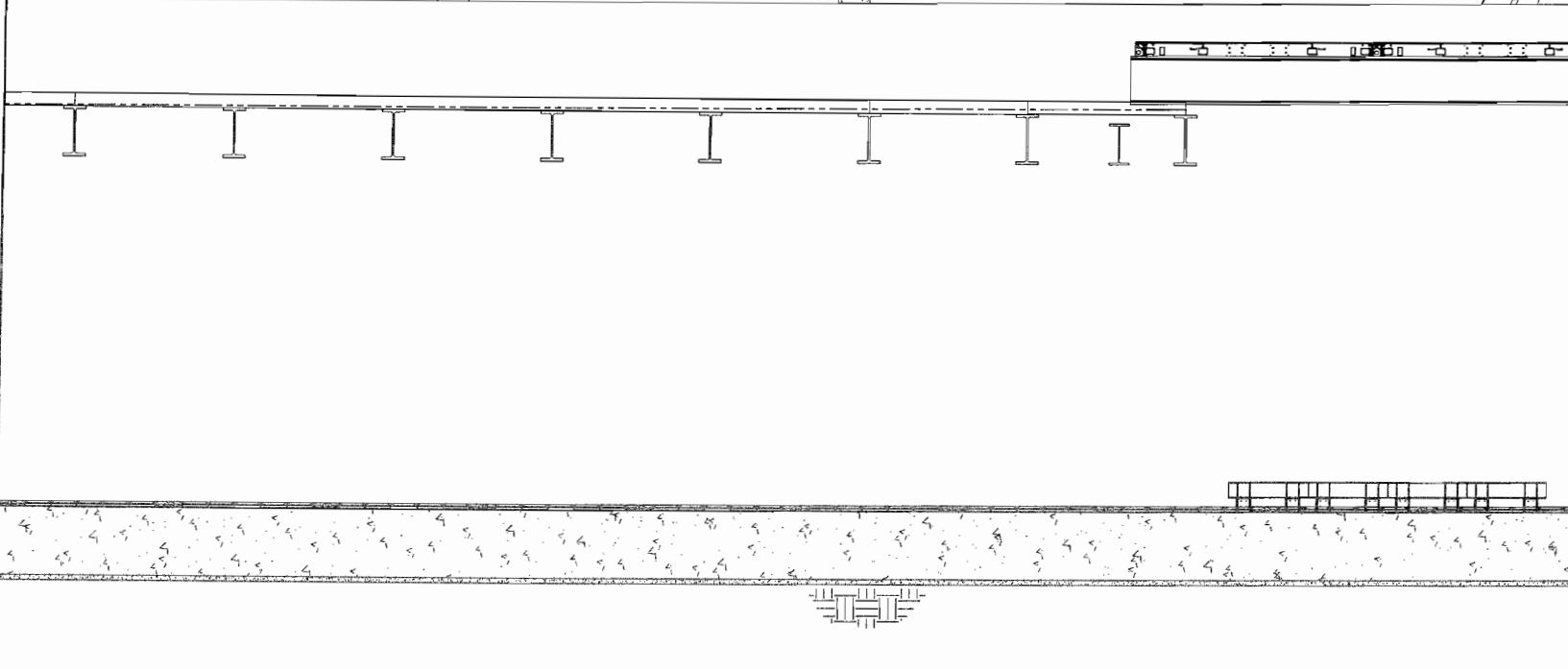
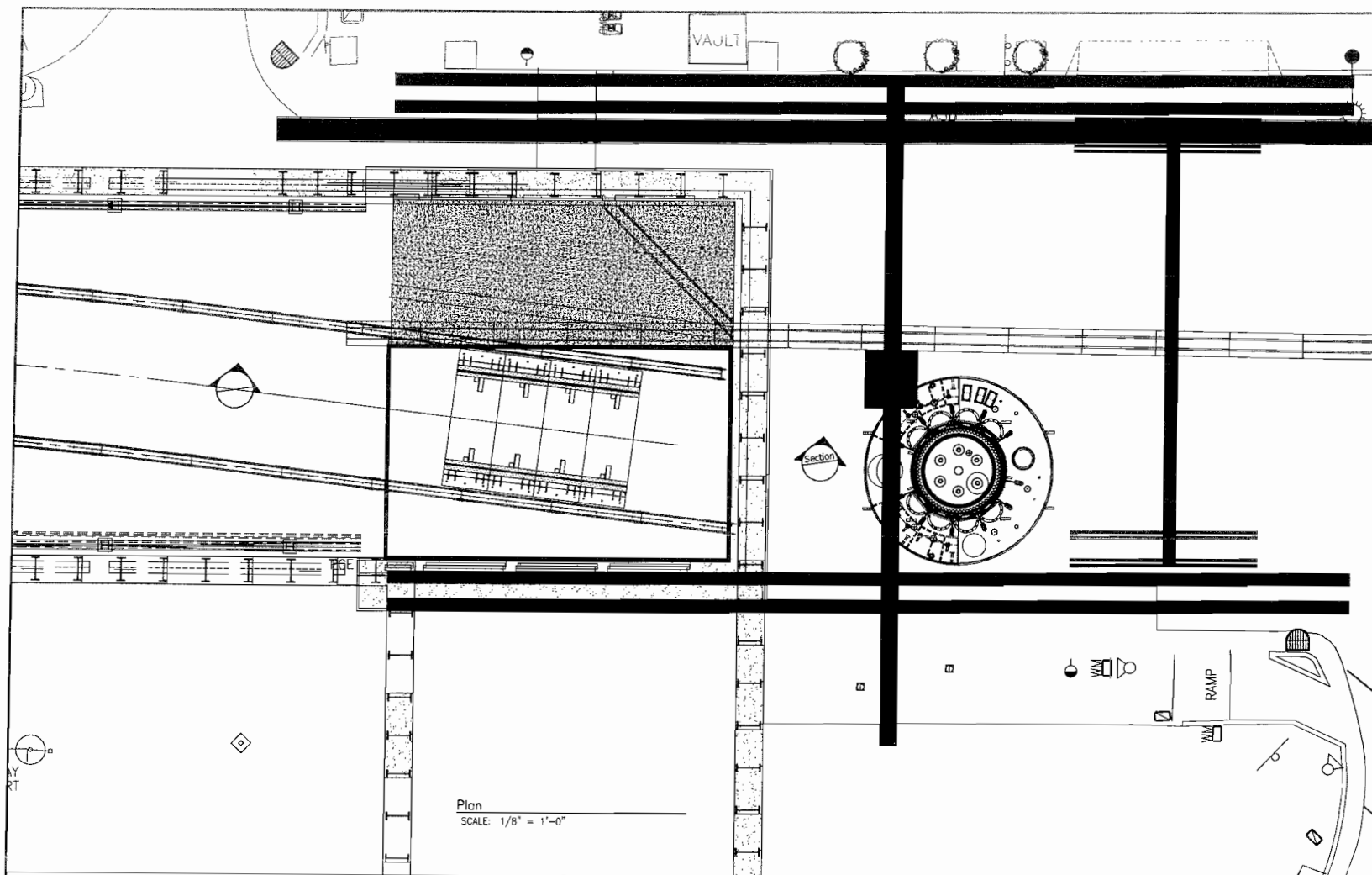
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CITY AND COUNTY OF SAN FRANCISCO
MTA
Central Subway Tunnels 1252
TBM ASSEMBLY
Barnhart
Gantry System Site Layout

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Shaft- Section Perpendicular To CL of Shield
SCALE: 3/16" = 1'-0"

NOTES: 1. Unload Forward Shield With C/H Support. (220,000 lbs). Install ALE Track.
3. Rotate FWD SHIELD Into Vertical Using 2 Lines.



CITY AND COUNTY OF SAN FRANCISCO
MTA
Central Subway Tunnels 1252
TBM ASSEMBLY
SB SHIELD ASSEMBLY

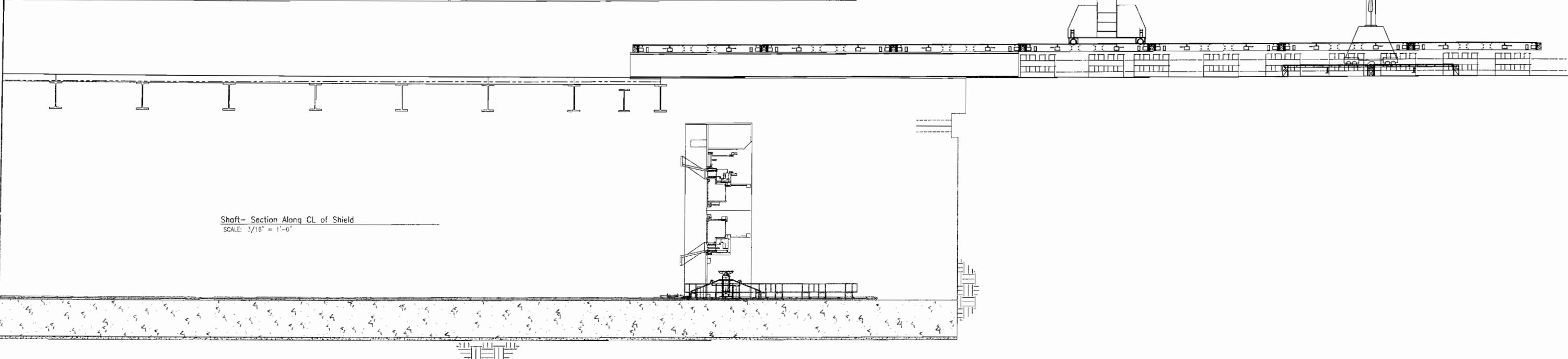
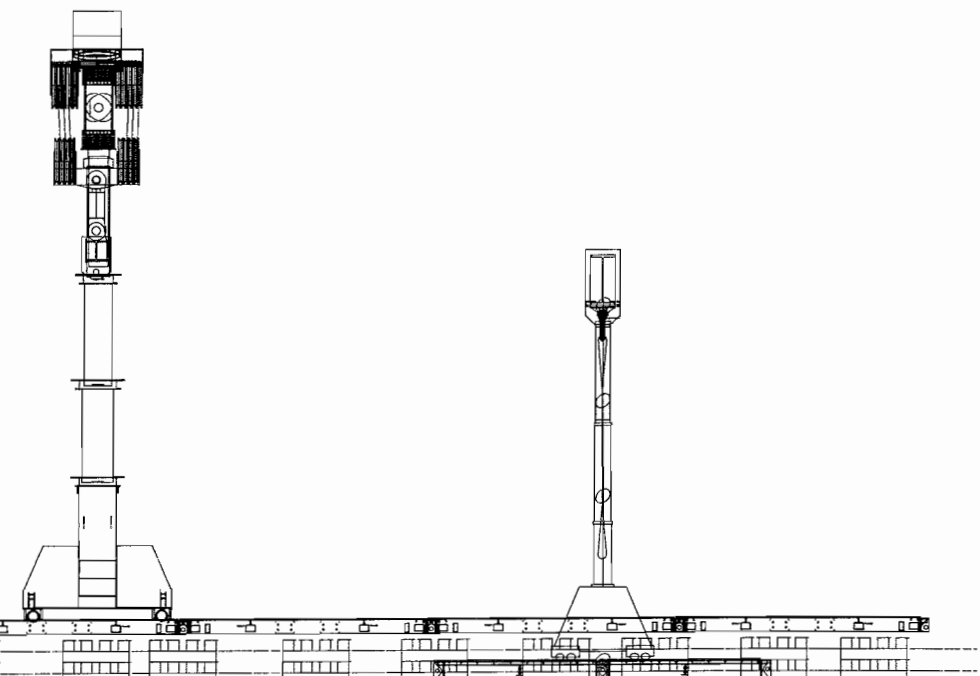
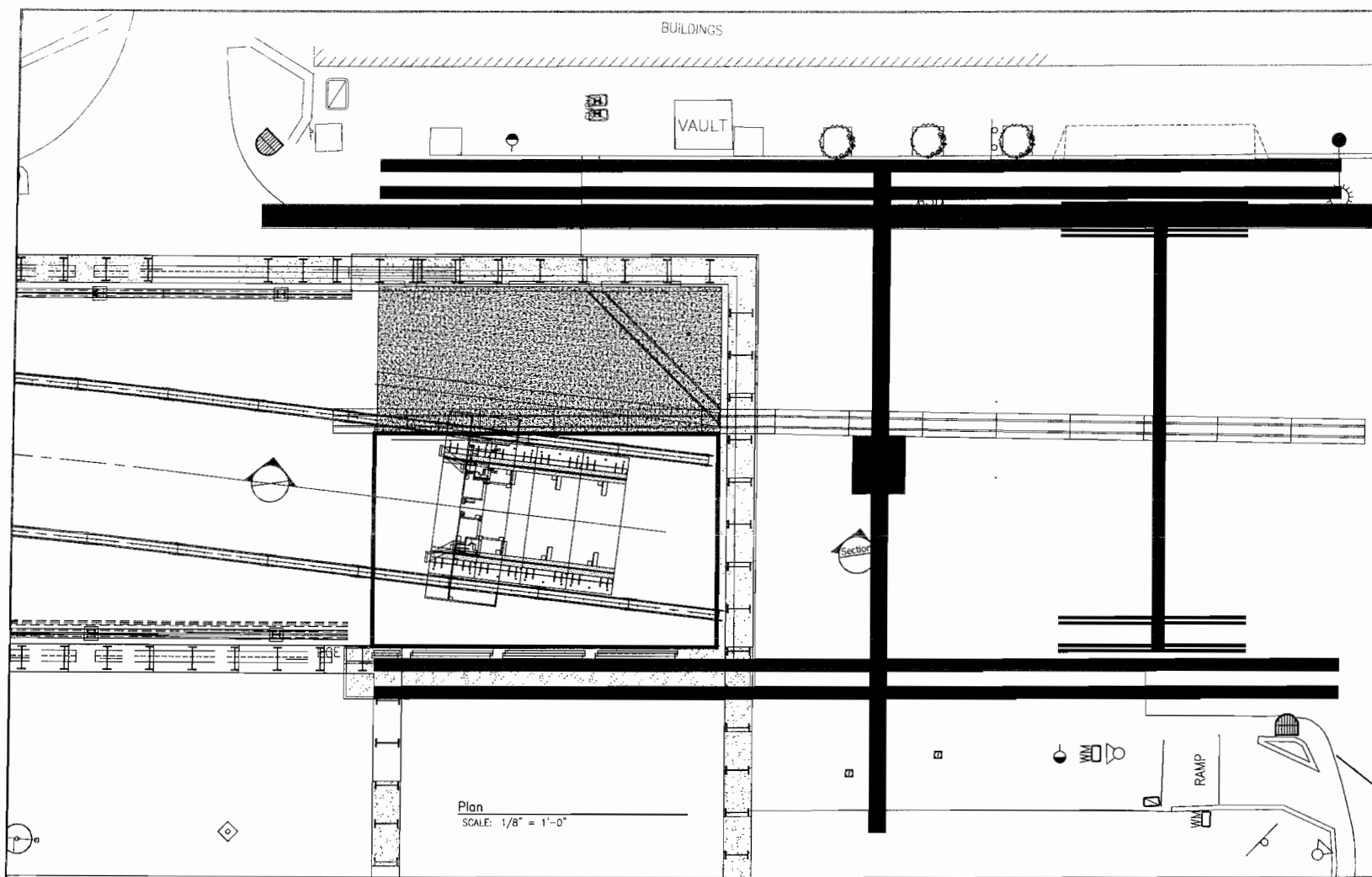
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SHEET 2
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- NOTES:
1. Unload Forward Shield With C/H Support. (220,00lbs). Install Ale Track.
 2. Rotate Into Vertical Using 2 Lines.
 3. Weld Jacking Ears Onto Shield Body. Install ALE Skid

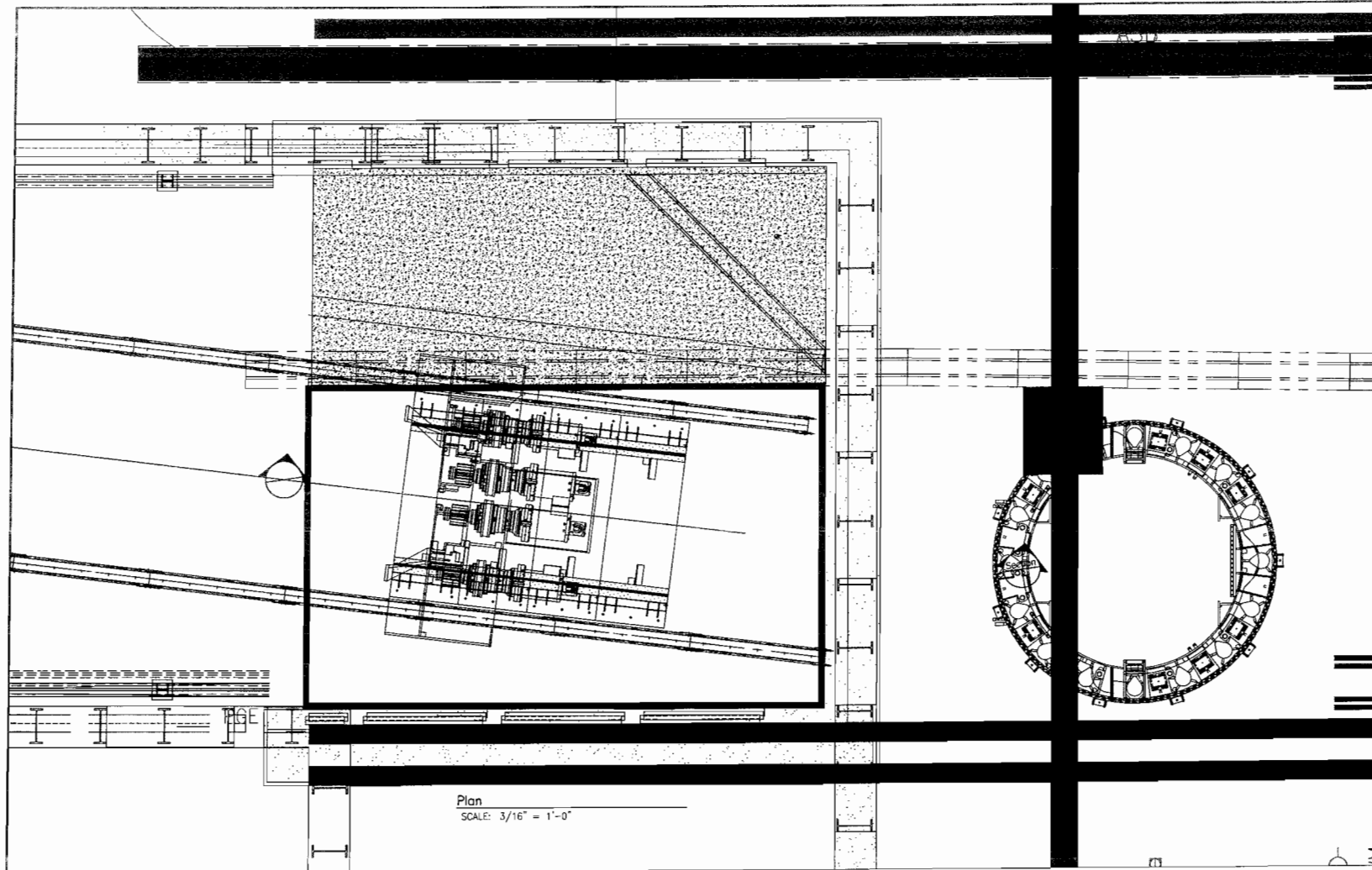


CITY AND COUNTY OF SAN FRANCISCO
MTA
Central Subway Tunnels 1252
TBM ASSEMBLY
SB SHIELD ASSEMBLY

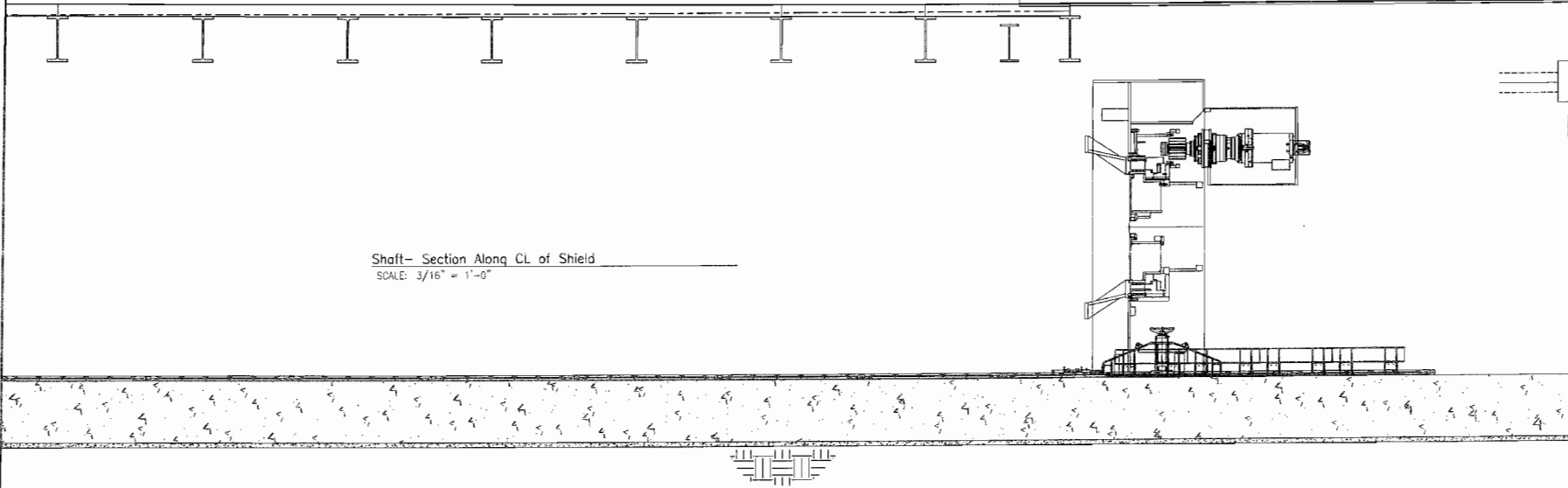
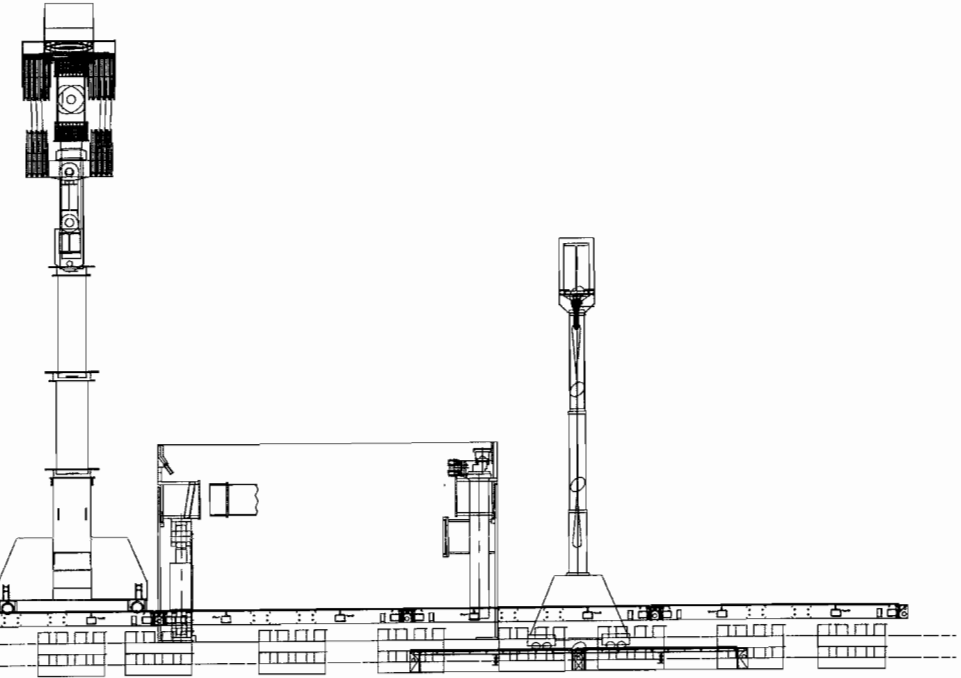
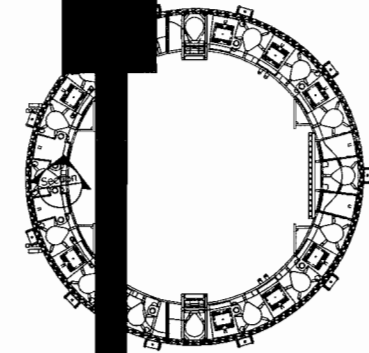
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Plan
SCALE: 3/16" = 1'-0"



Shaft- Section Along CL of Shield
SCALE: 3/16" = 1'-0"

- NOTES:
1. Install Manlock and Drive Motors.
 2. Stage B&C Ring (254,000 lbs).

REV	DATE	DESCRIPTION



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Central Subway Tunnels 1252
TBM ASSEMBLY
SB SHIELD ASSEMBLY

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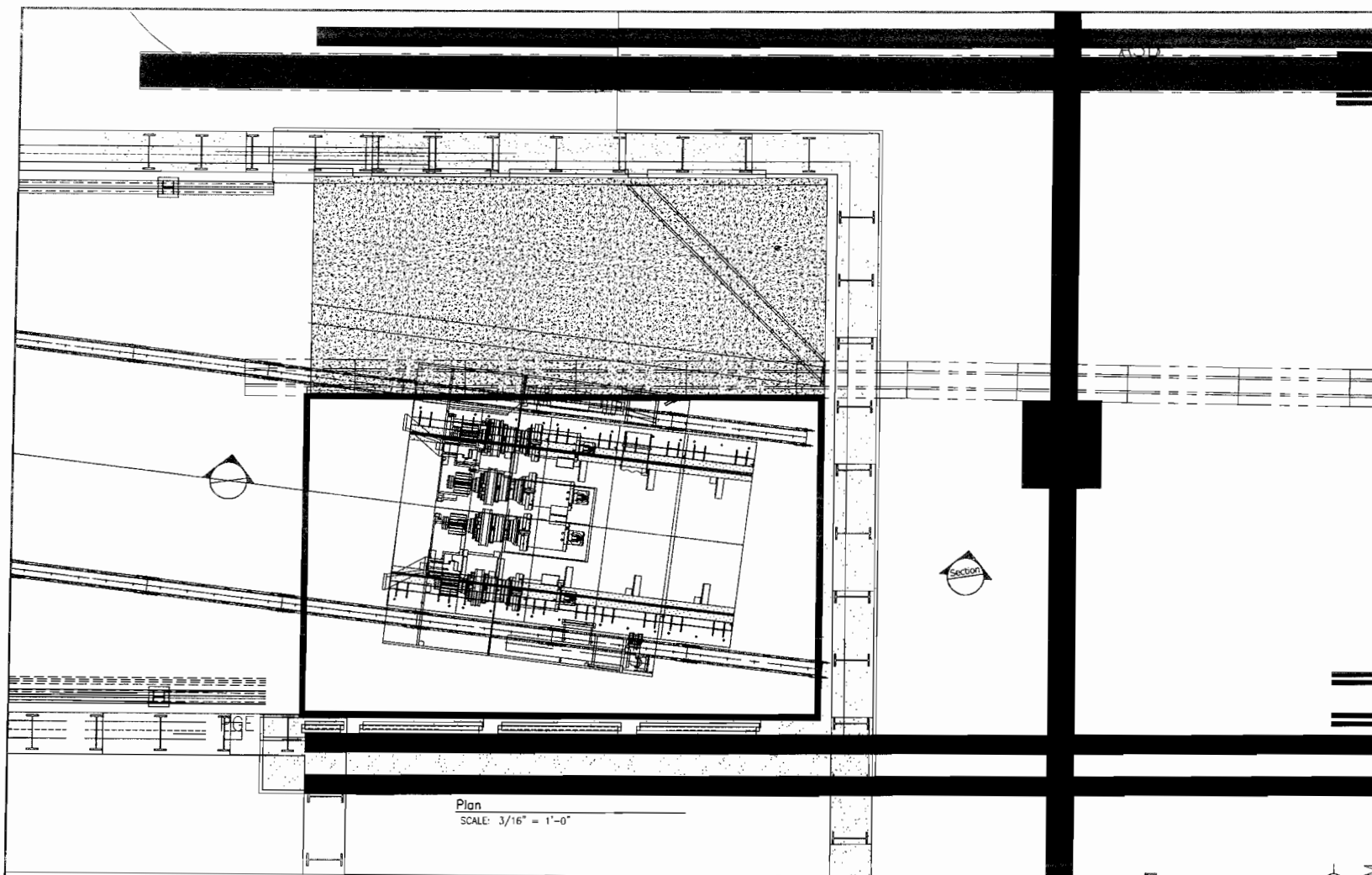
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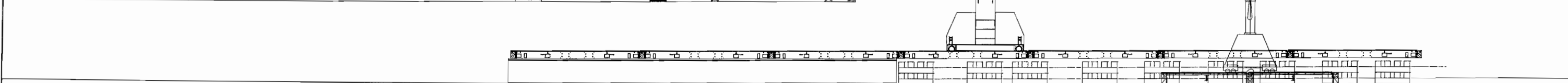
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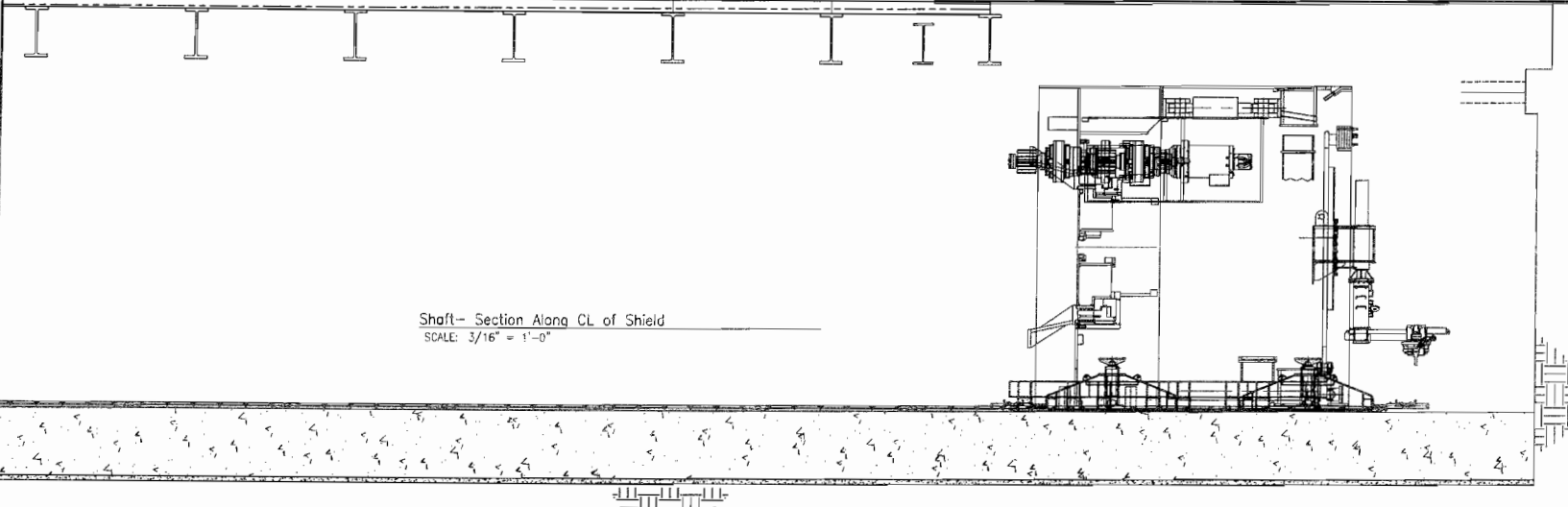
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Plan
SCALE: 3/16" = 1'-0"

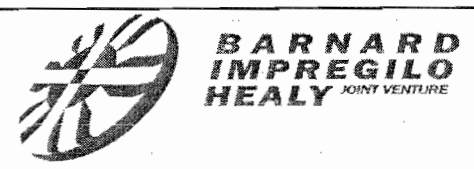


Section



Shaft- Section Along CL of Shield
SCALE: 3/16" = 1'-0"

NOTES: 1. Tip and Install B&C Ring (254,000 lbs).



CITY AND COUNTY OF SAN FRANCISCO
MTA
Central Subway Tunnels 1252
TBM ASSEMBLY
SB SHIELD ASSEMBLY

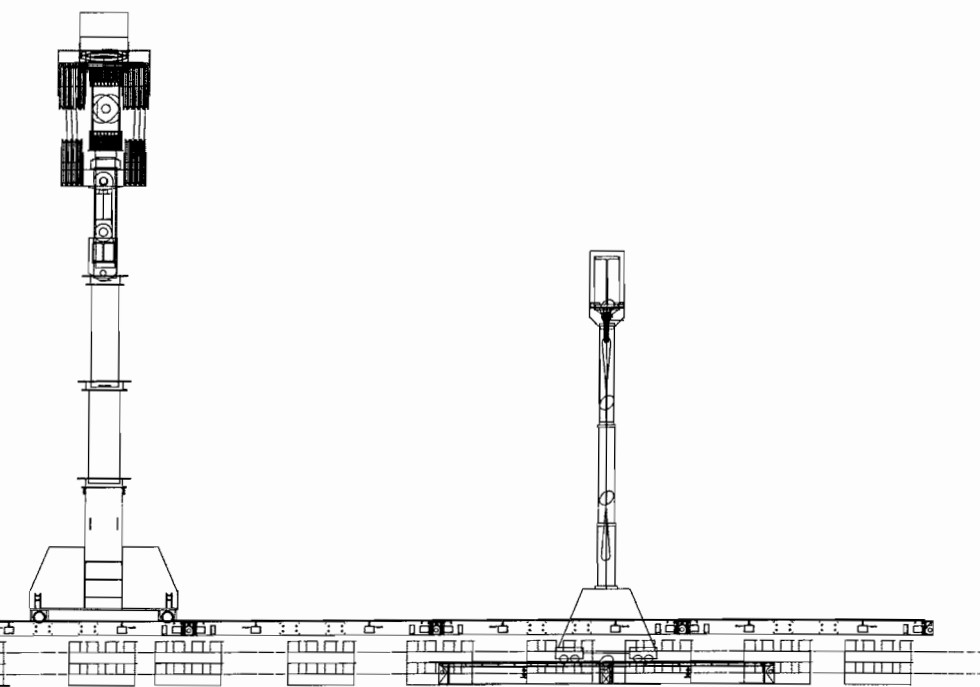
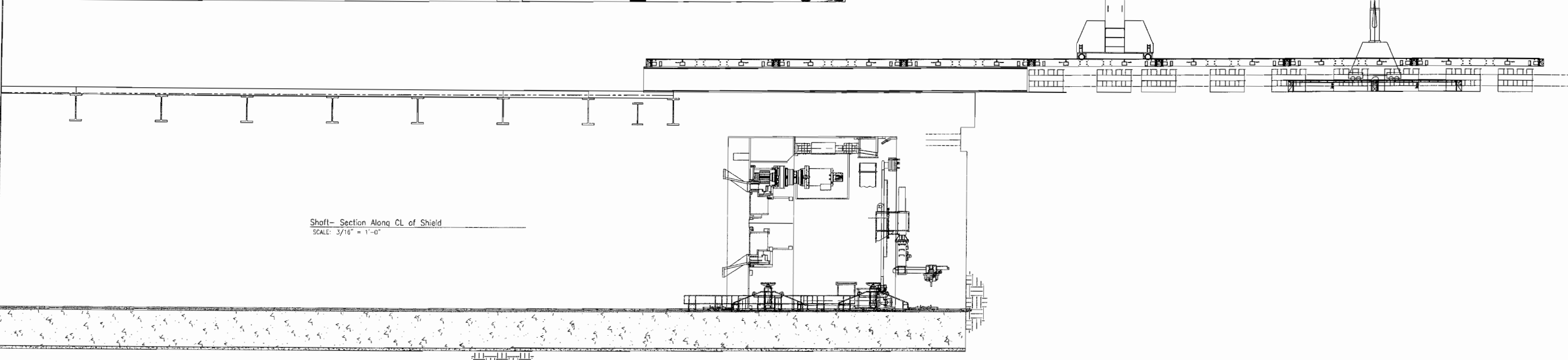
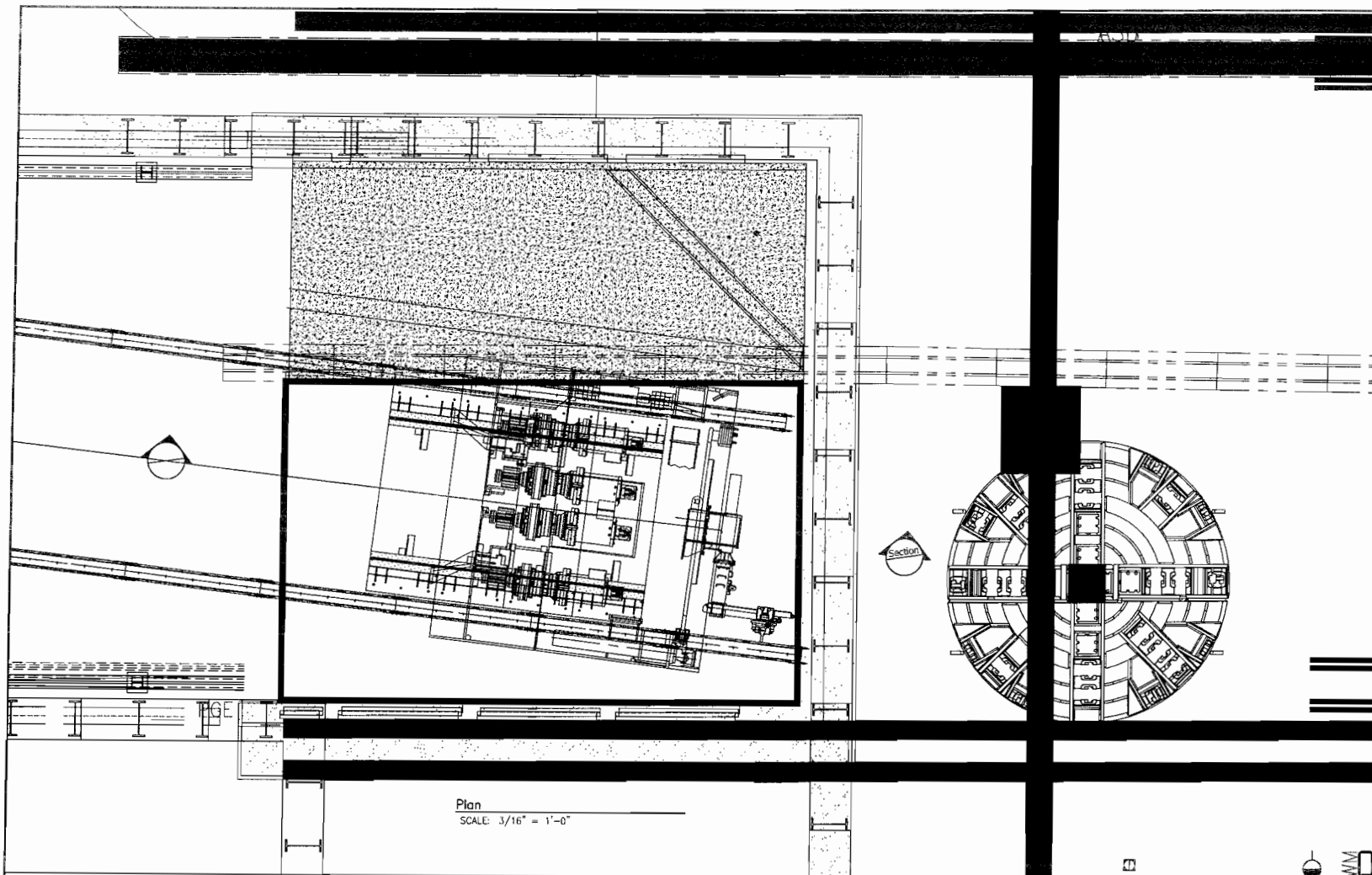
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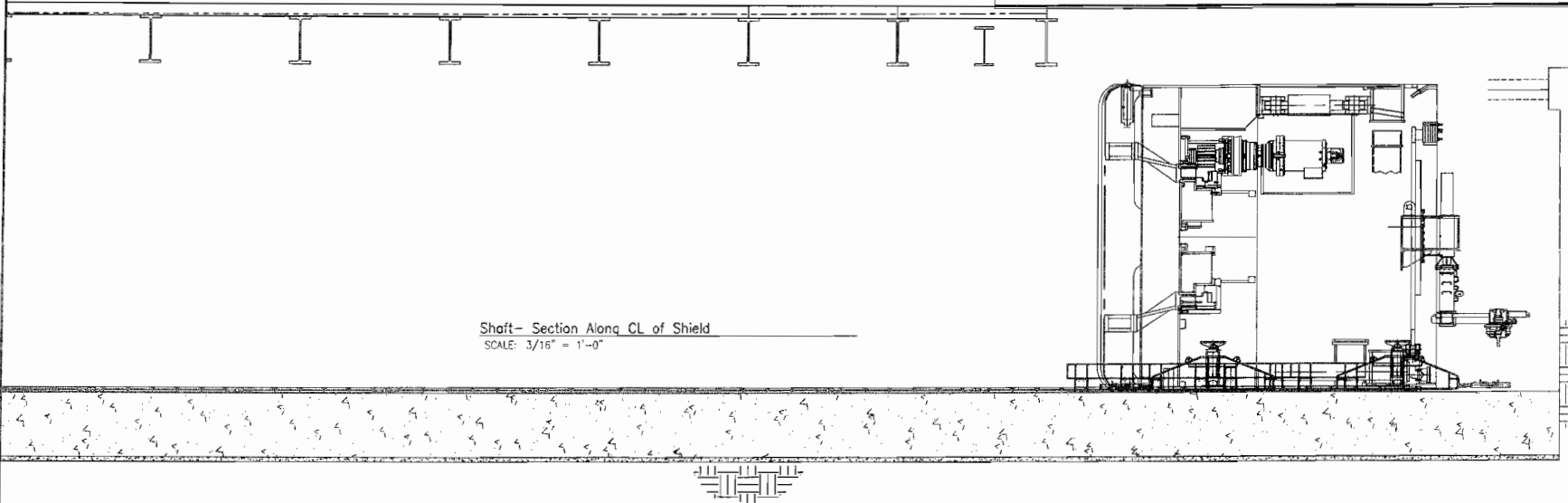
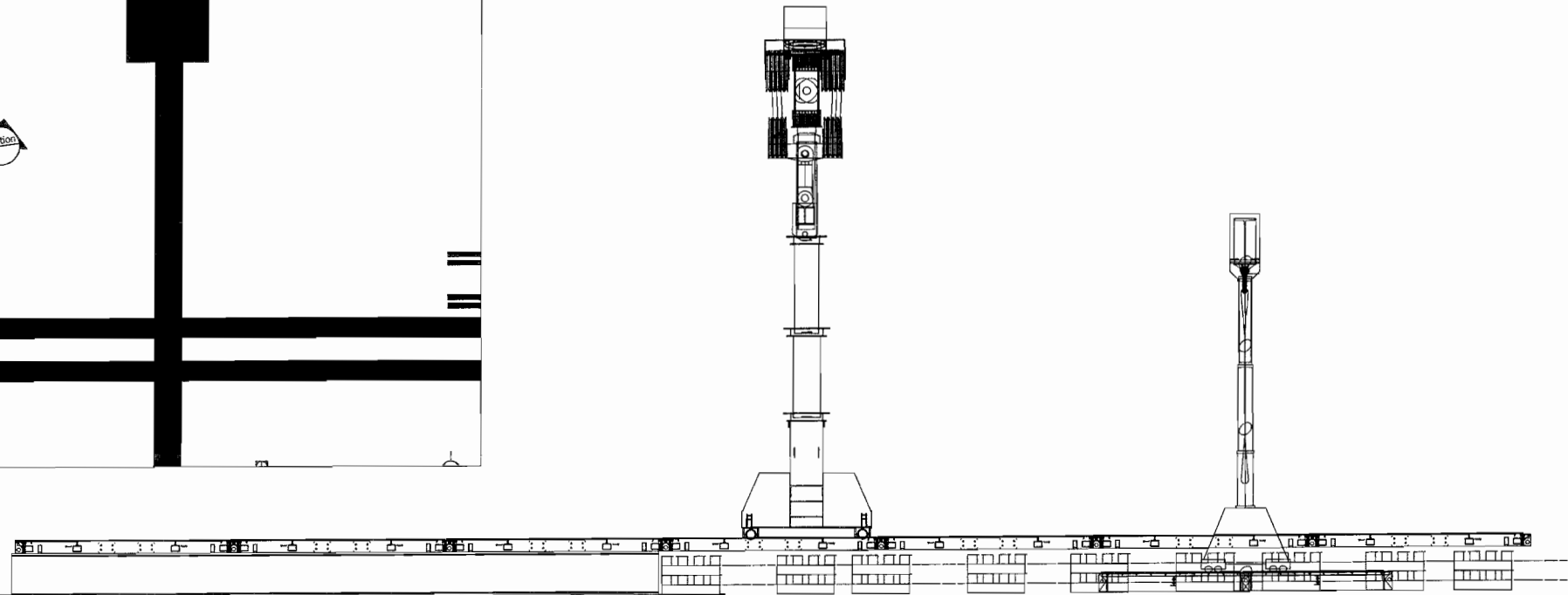
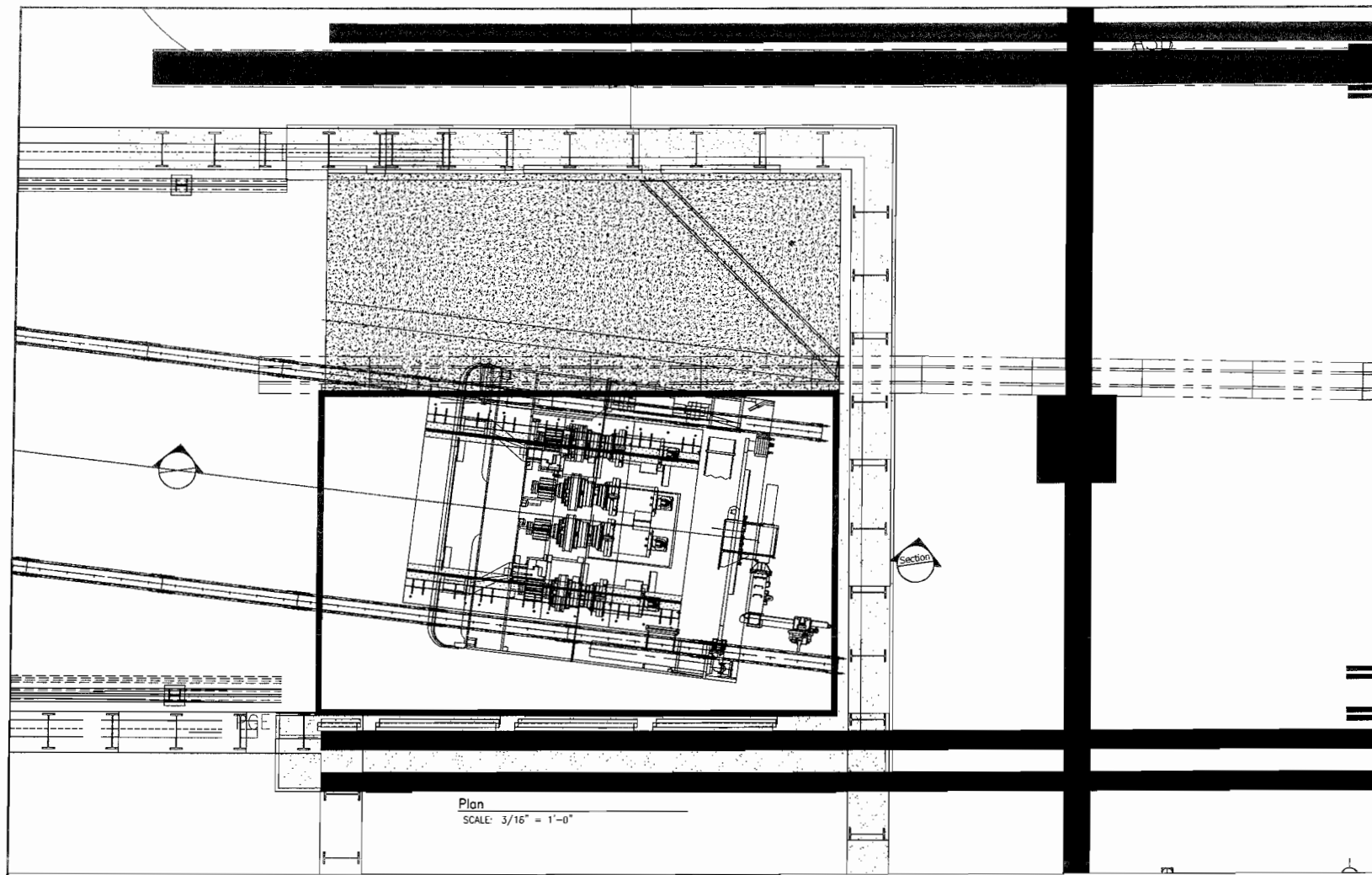


NOTES: 1. Skid Shield Aft in Shaft.

REV	DATE	DESCRIPTION

<p>BARNARD IMPREGILO HEALY JOINT VENTURE</p>		CITY AND COUNTY OF SAN FRANCISCO		MTA	
		Central Subway Tunnels 1252			
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		CHECKED BY:	DATE:	SCALE: AS NOTED	SHEET 6
					REV. A

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NOTES: 1. Hong Cutterhead. (78,000 lbs).

REV	DATE	DESCRIPTION



CITY AND COUNTY OF SAN FRANCISCO
MTA

Central Subway Tunnels 1252

TBM ASSEMBLY
SB SHIELD ASSEMBLY

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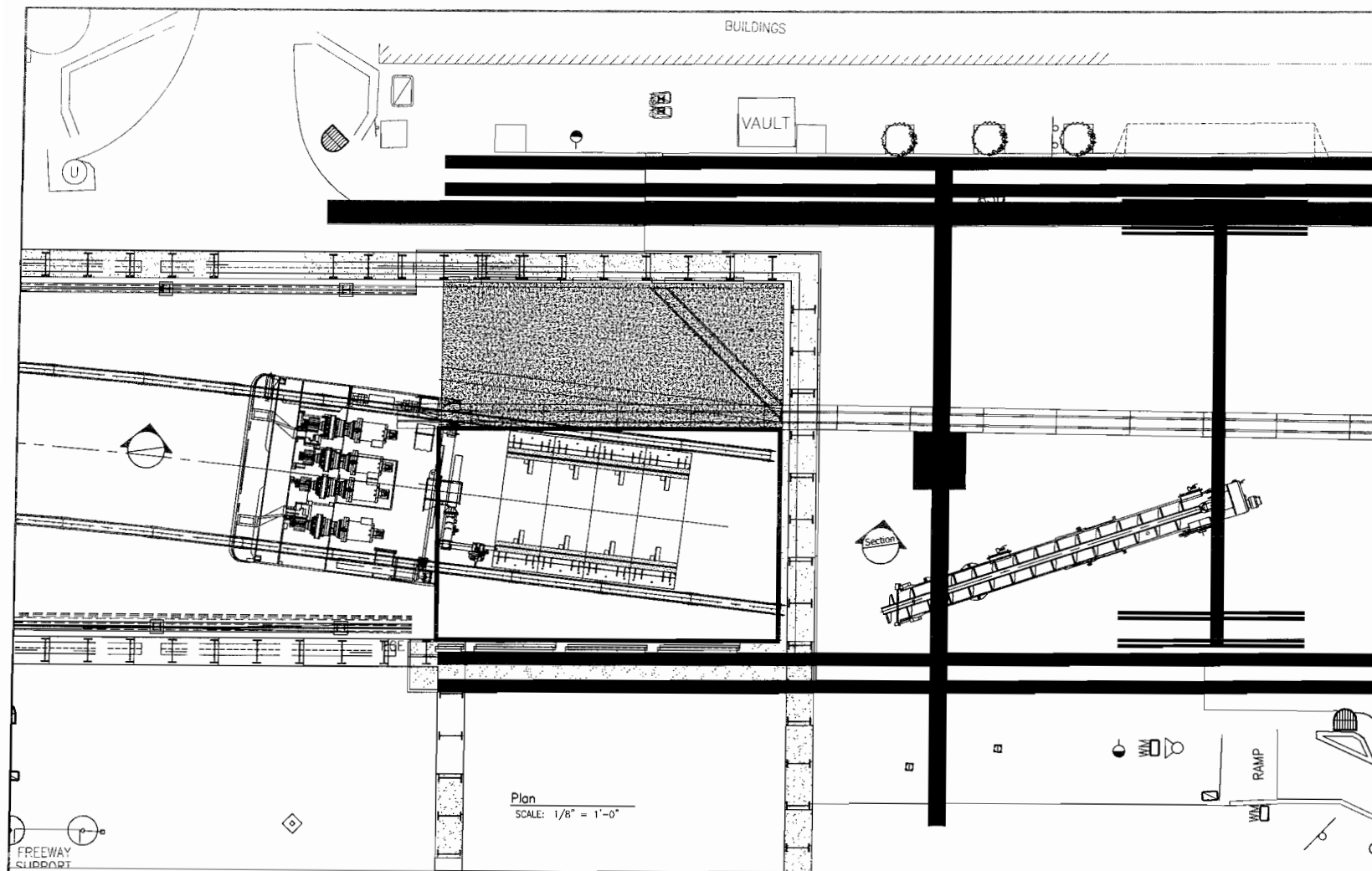
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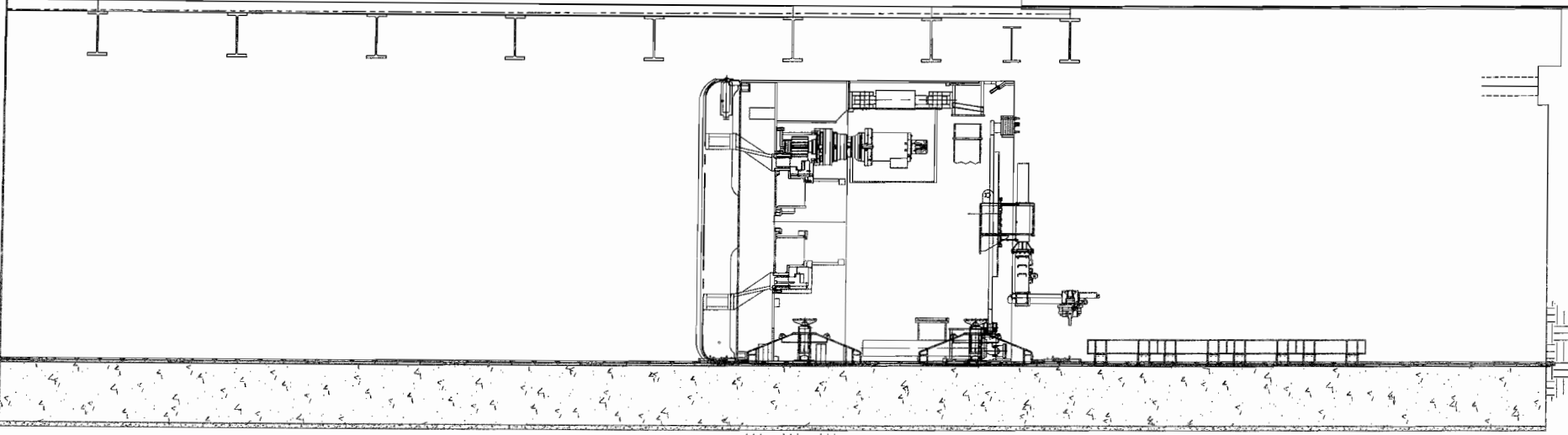
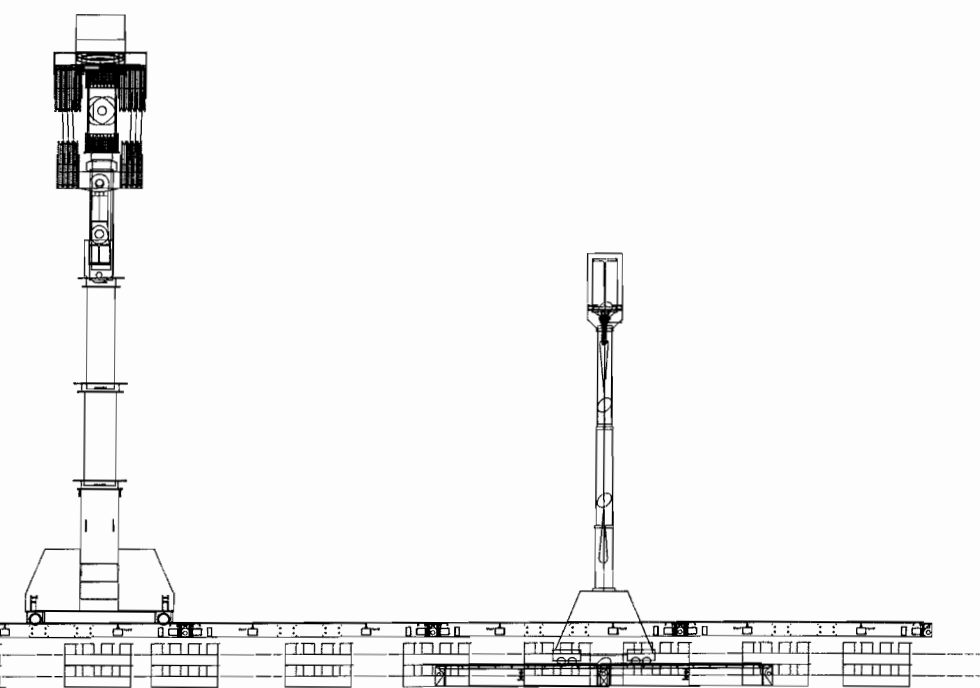
DWG. NO. 0221-001.07

SHEET 7

REV. A



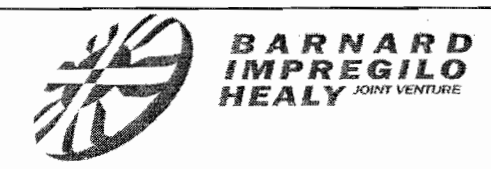
Section



Shaft - Section Along CL of Shield
SCALE: 3/16" = 1'-0"

- NOTES:
1. Move Shield Forward.
 2. Unload Screw Test Rigging and Lowering Angle. (75,000 lbs) Lowering Angle +/- 18 Degrees From Horizontal.

REV	DATE	DESCRIPTION



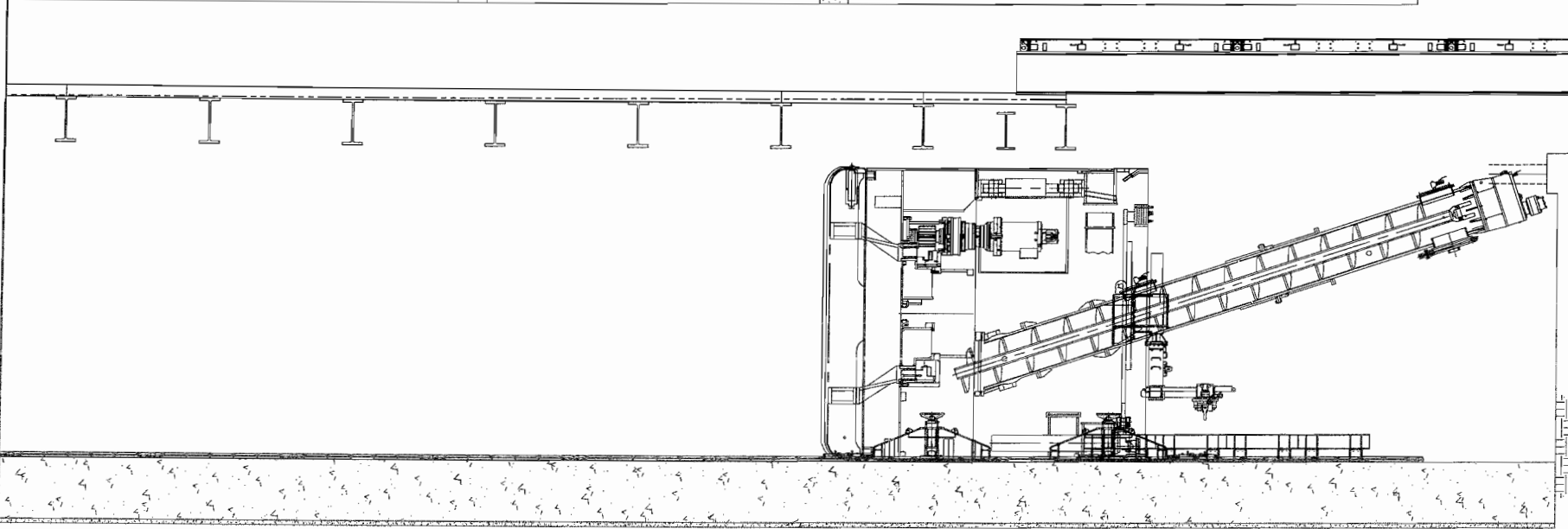
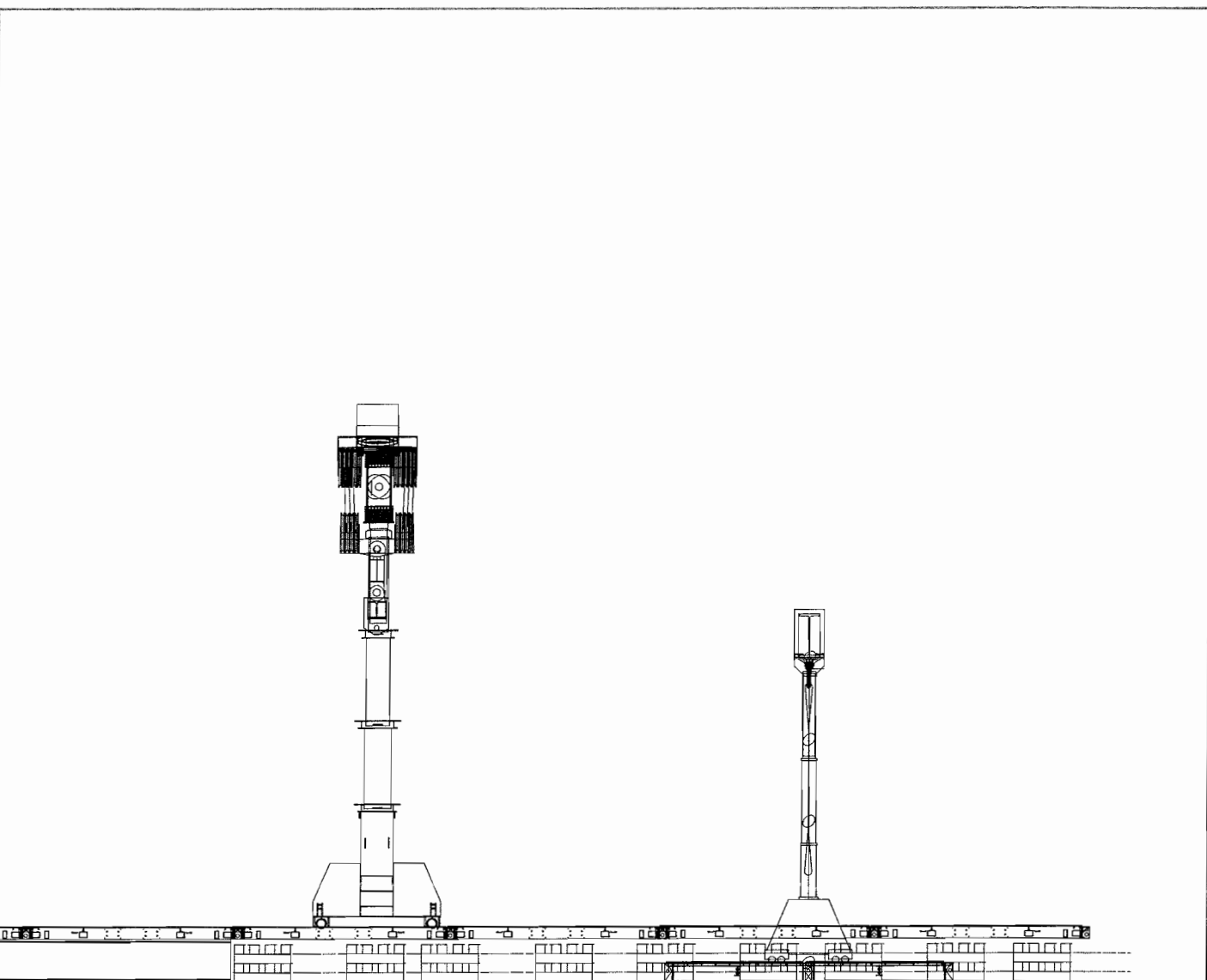
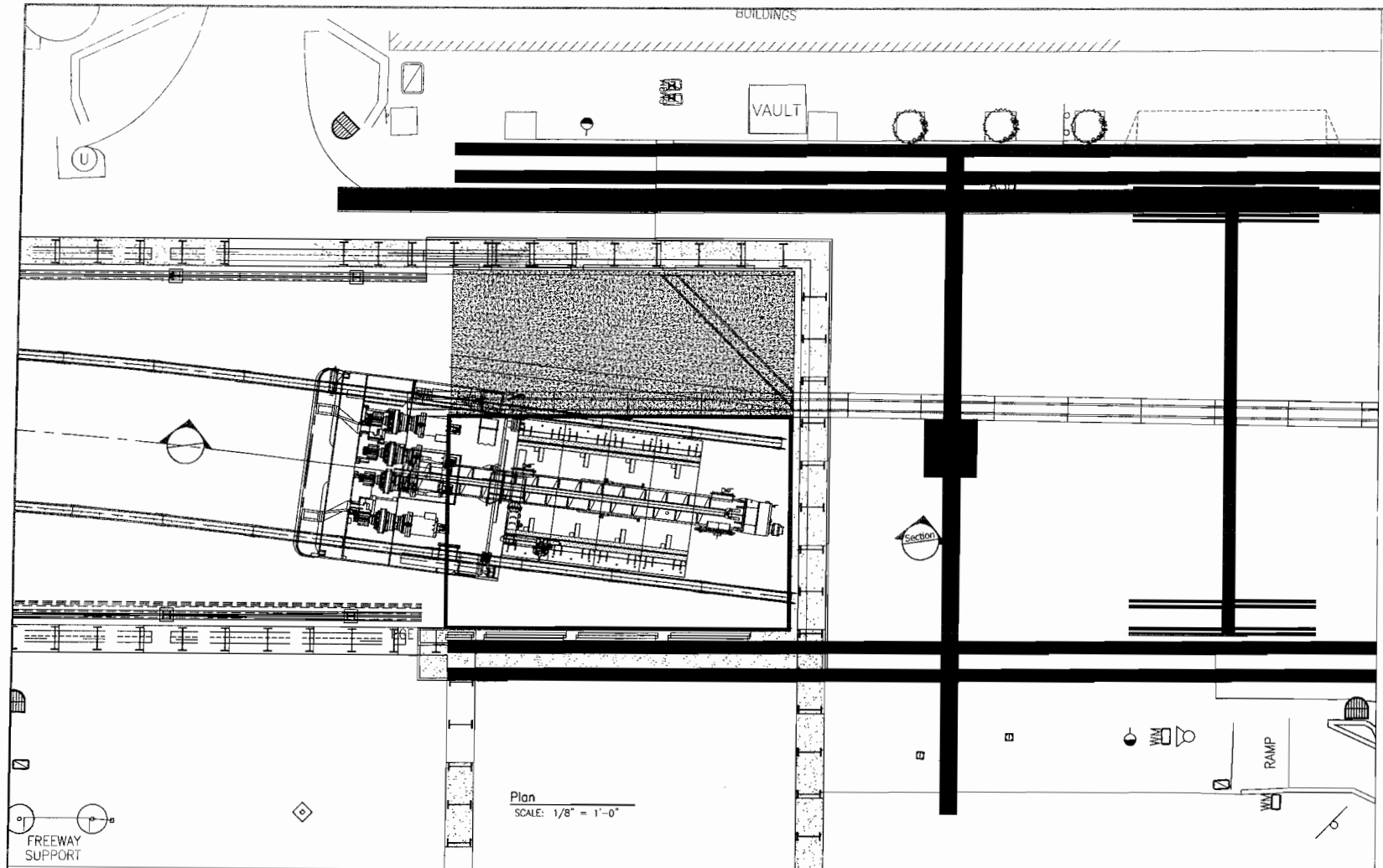
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DWG. NO. 0221-001.01	SHEET 8	REV. A
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Shaft-- Section Along CL of Shield
SCALE: 3/16" = 1'-0"

NOTES: 1. Move Shield Aft While Threading Screw Through Erector and Shield Body.



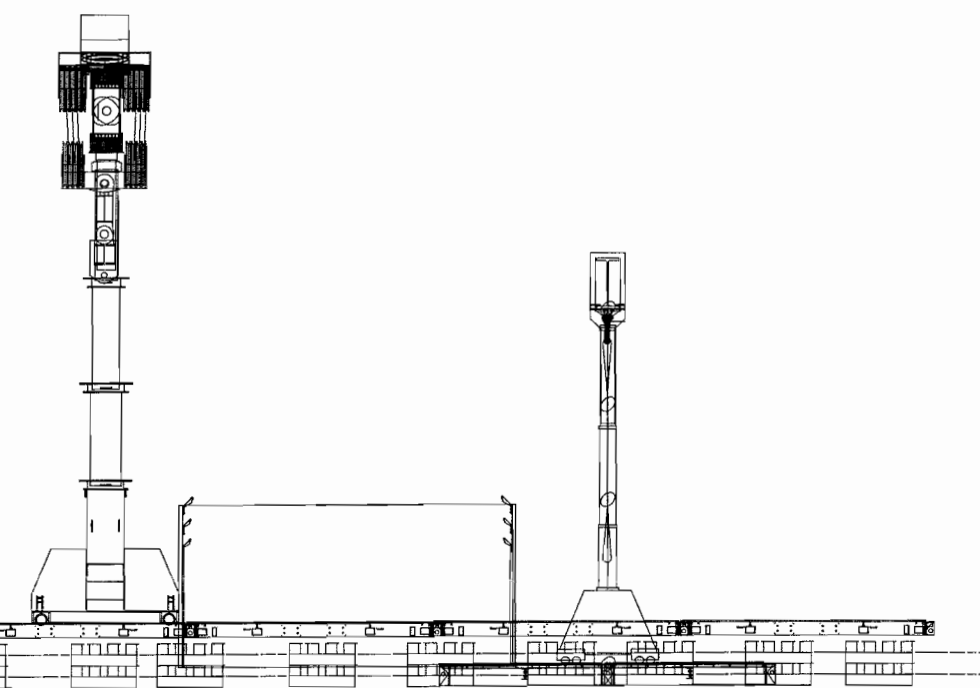
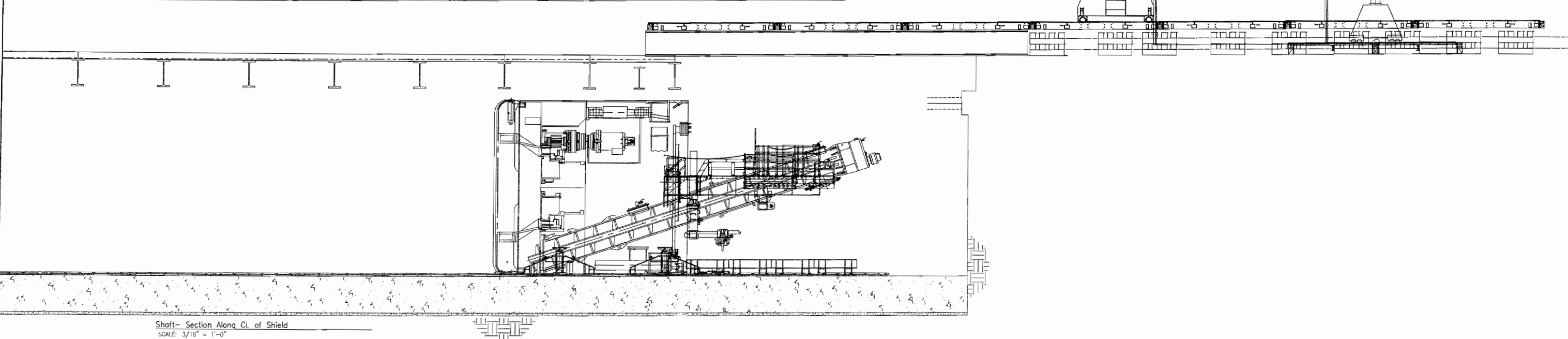
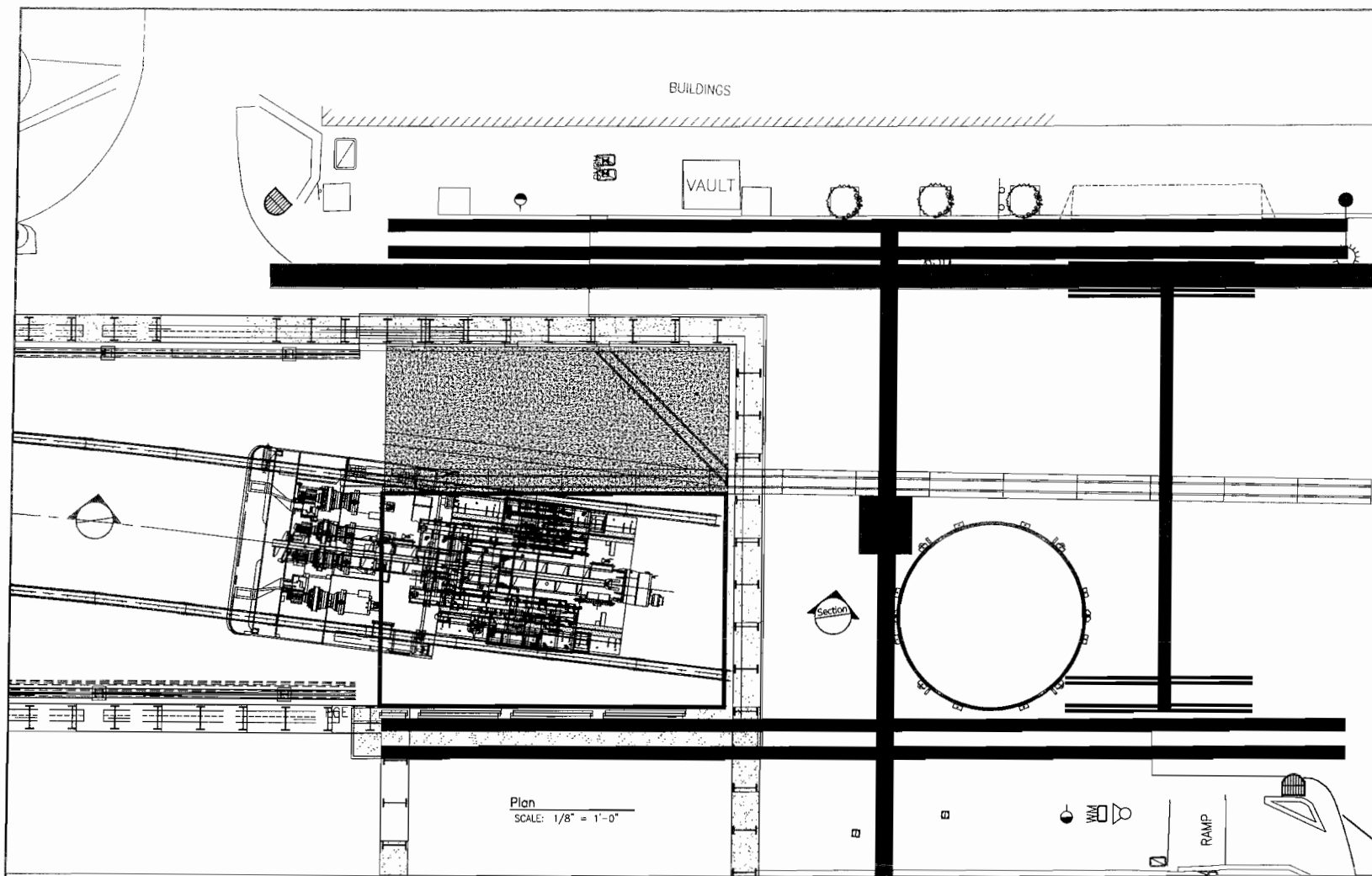
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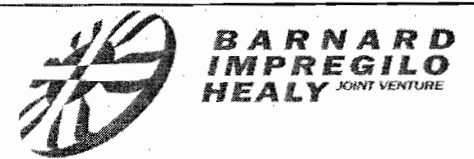
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- NOTES:
1. Install Rear Scaffolding.
 2. Stage Tail Can. (78,000 lbs)



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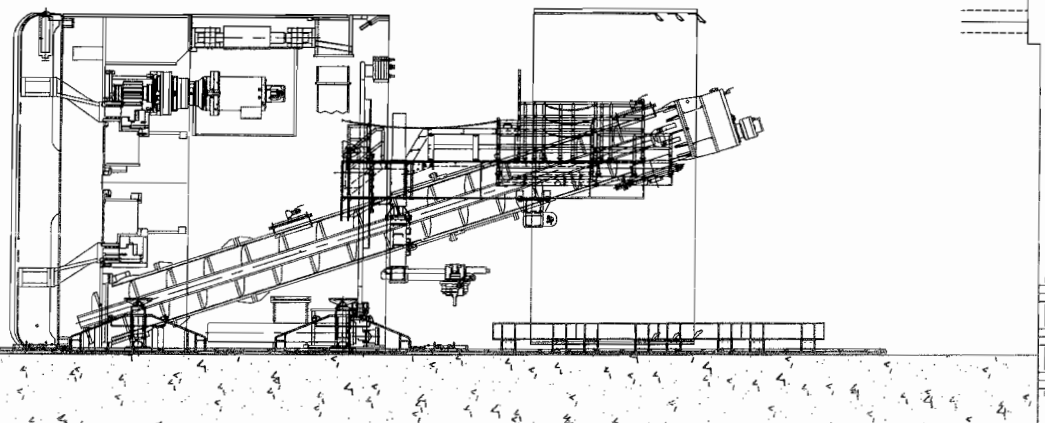
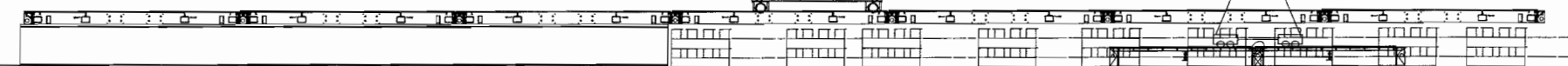
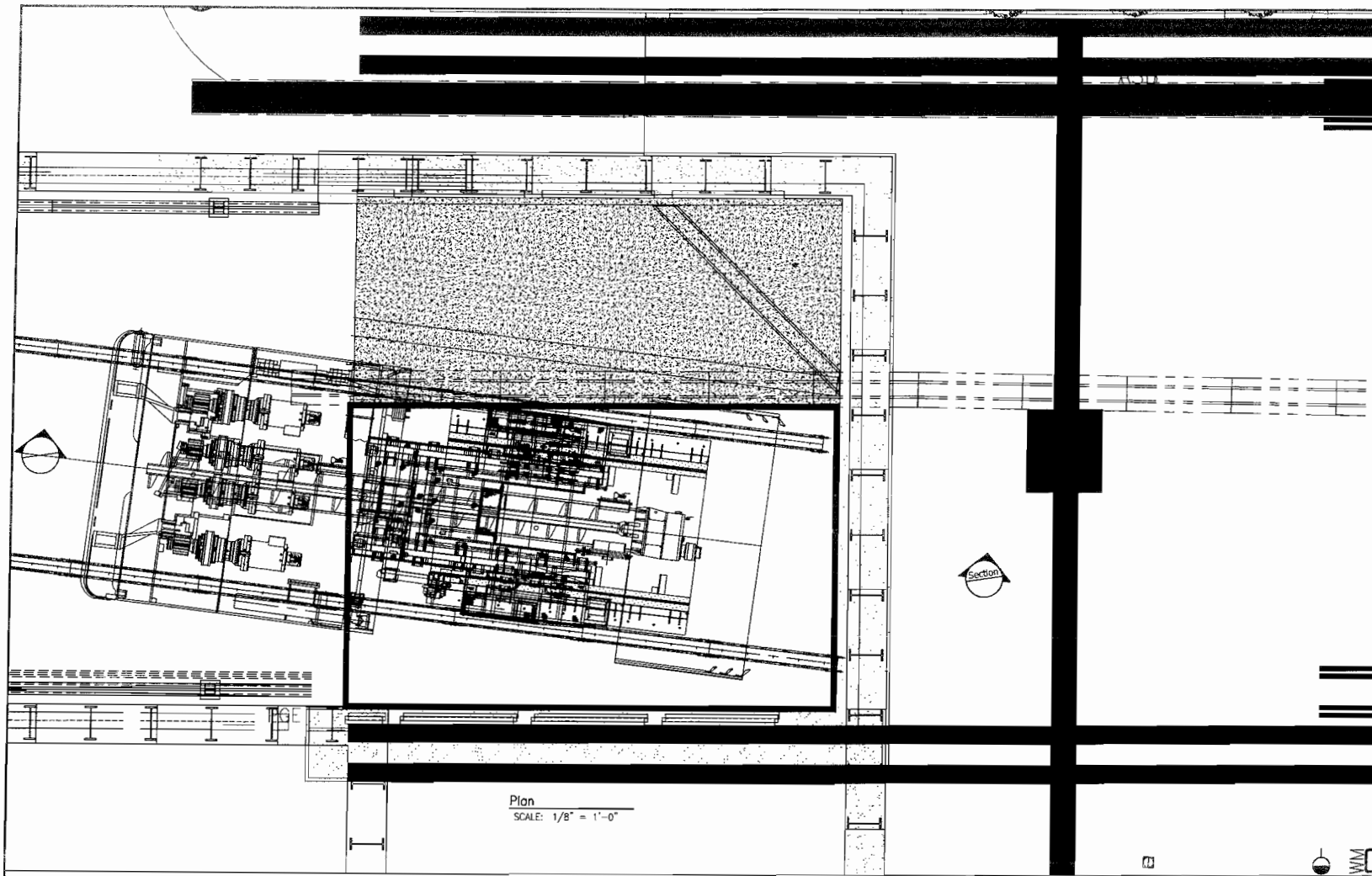
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SCALE: AS NOTED

DWG. NO. 0221-001.01

SHEET 10

REV. A

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- NOTES:
1. Set Tail Con. (78,000 lbs)
 2. Move Shield Aft and Align With Con.



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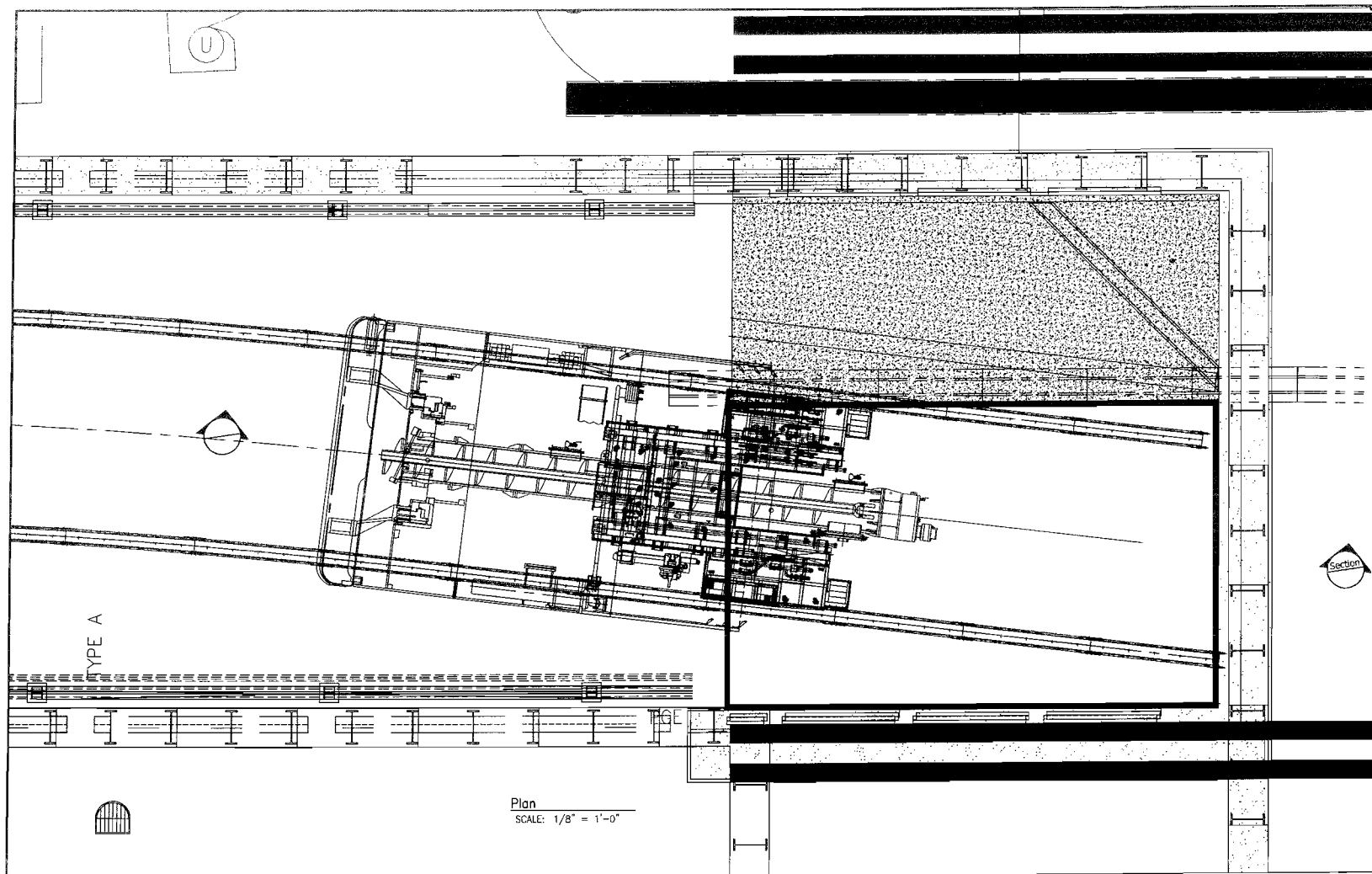
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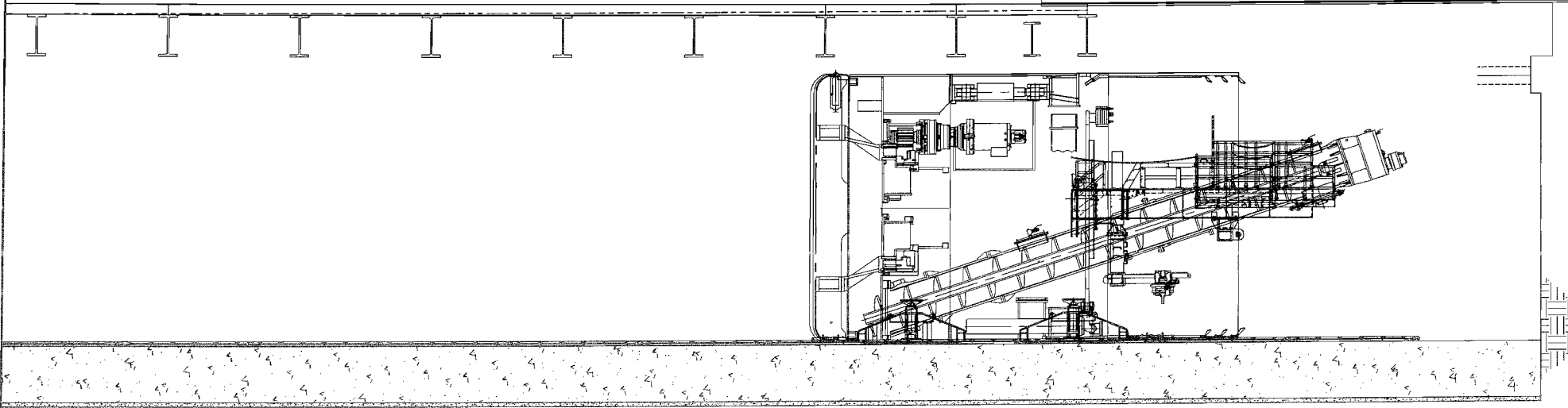
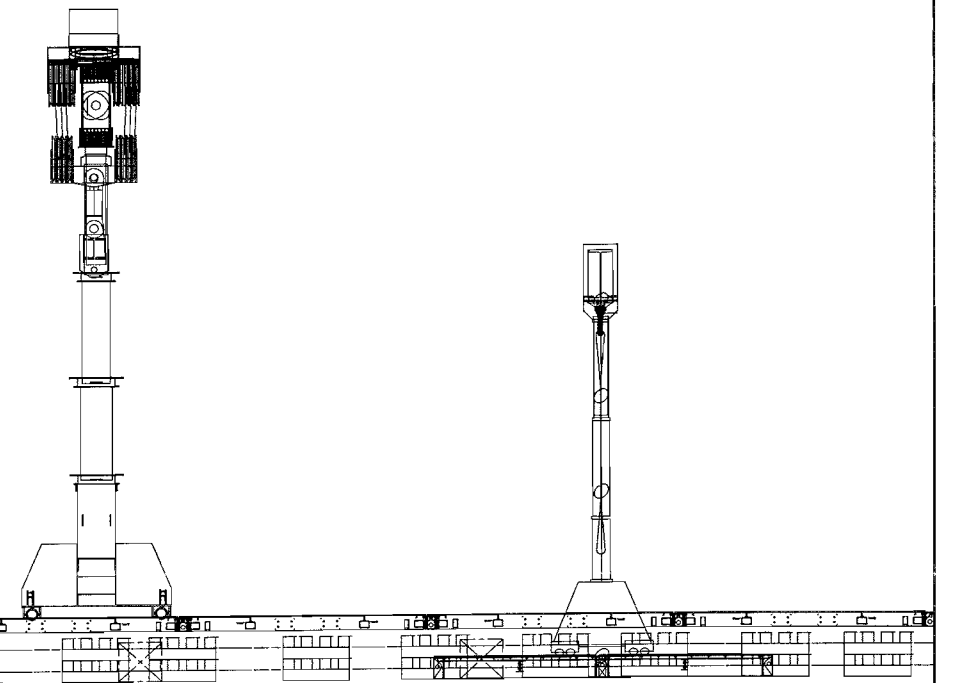
SHEET 11

REV. A

REV	DATE	DESCRIPTION



Plan
SCALE: 1/8" = 1'-0"



Shaft- Section Along CL of Shield
SCALE: 3/16" = 1'-0"

NOTES: 1. Move Shield Towards Weld Pit.



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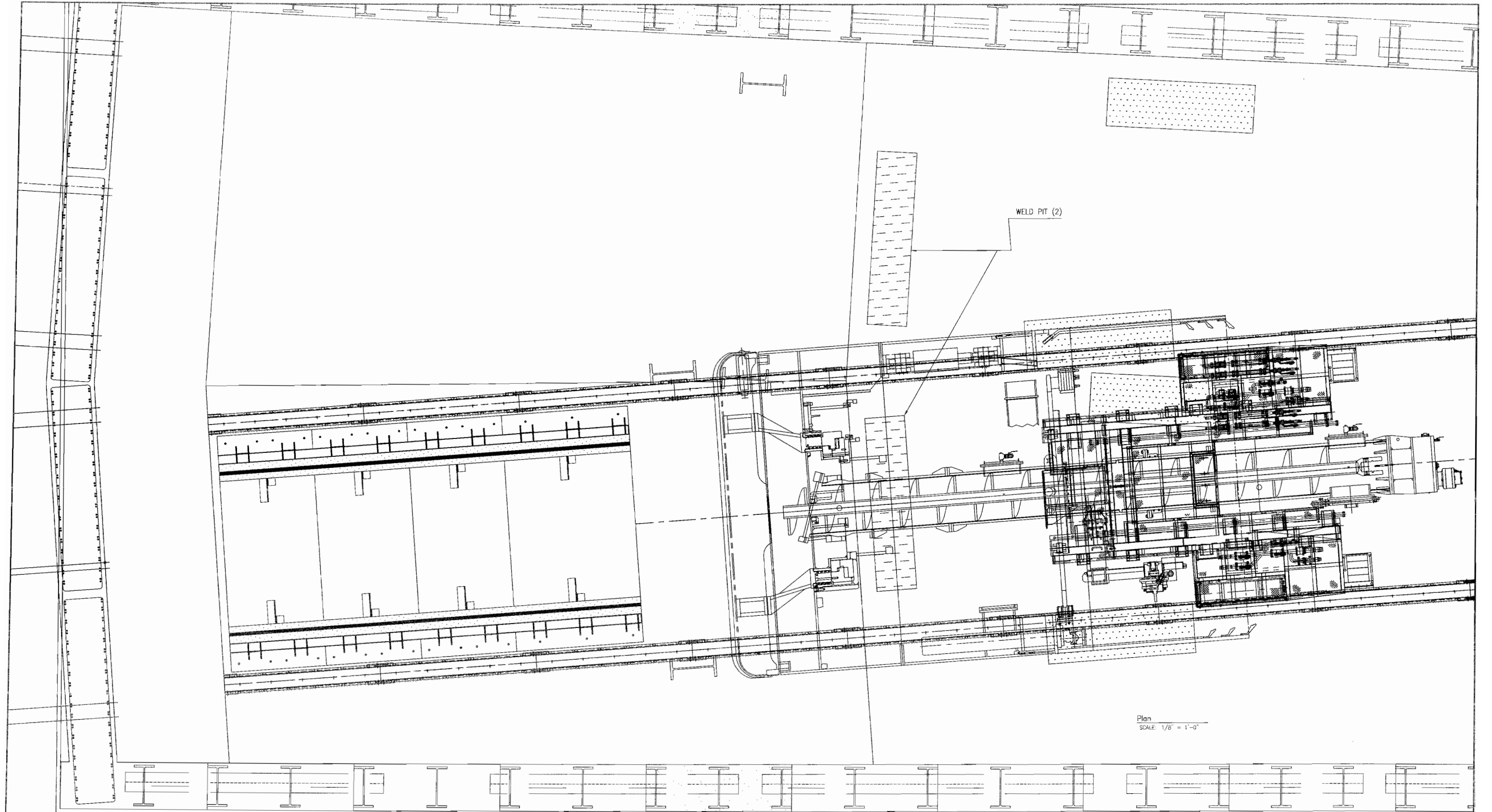
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SHEET 12
REV. A

REV	DATE	DESCRIPTION

This sheet is originally drawn 24" x 36" and this line measures 1" if this line does not measure 1", scale accordingly



Plan
SCALE: 1/8" = 1'-0"

- NOTES:
1. Use Skid System To Position Shield and Weld Circumferential Joint(s).
 2. Remove Skid Rail in Rear Of Shaft.

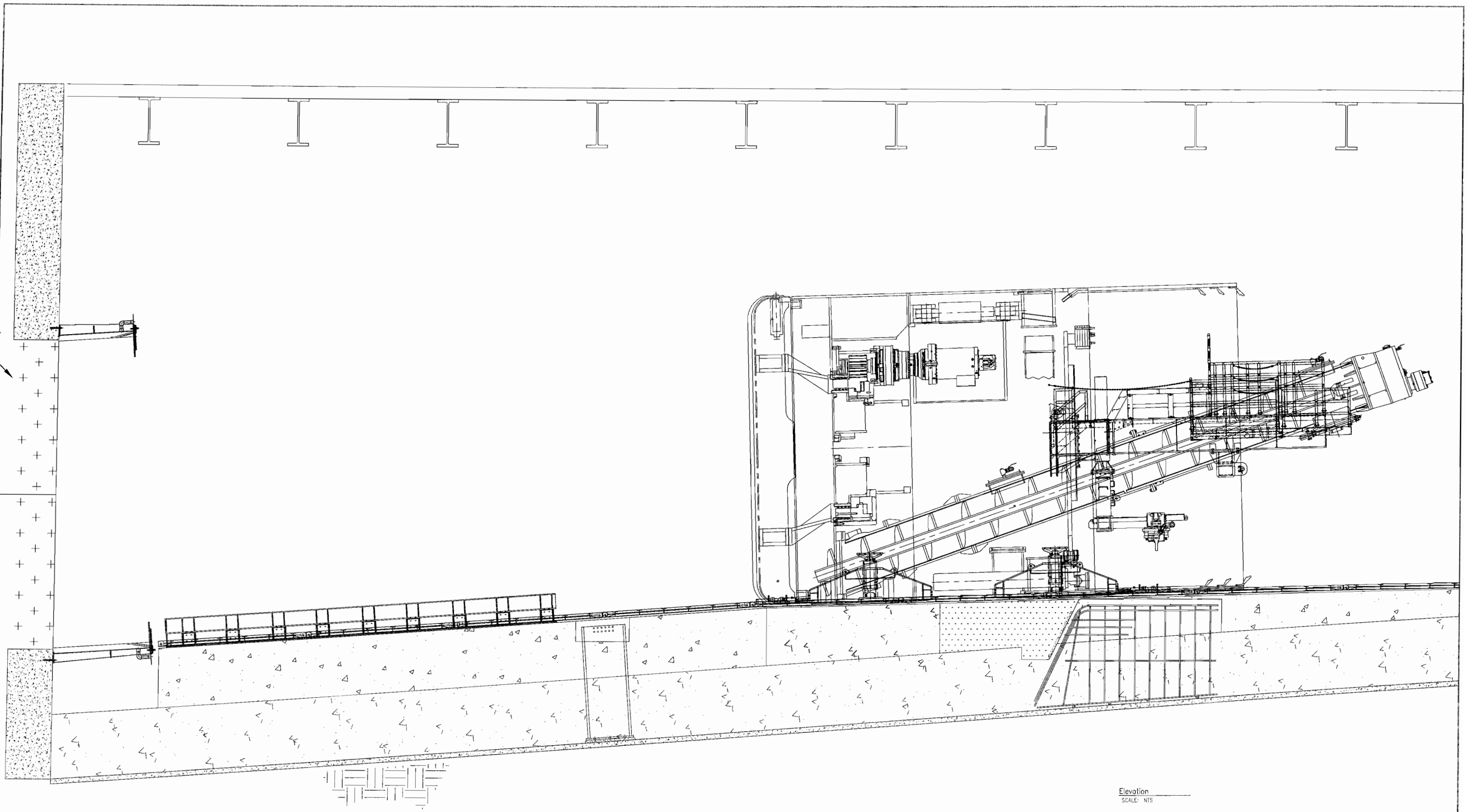


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Elevation
SCALE: NTS

NOTES: 1. Block Shield In Place and Seal Weld.



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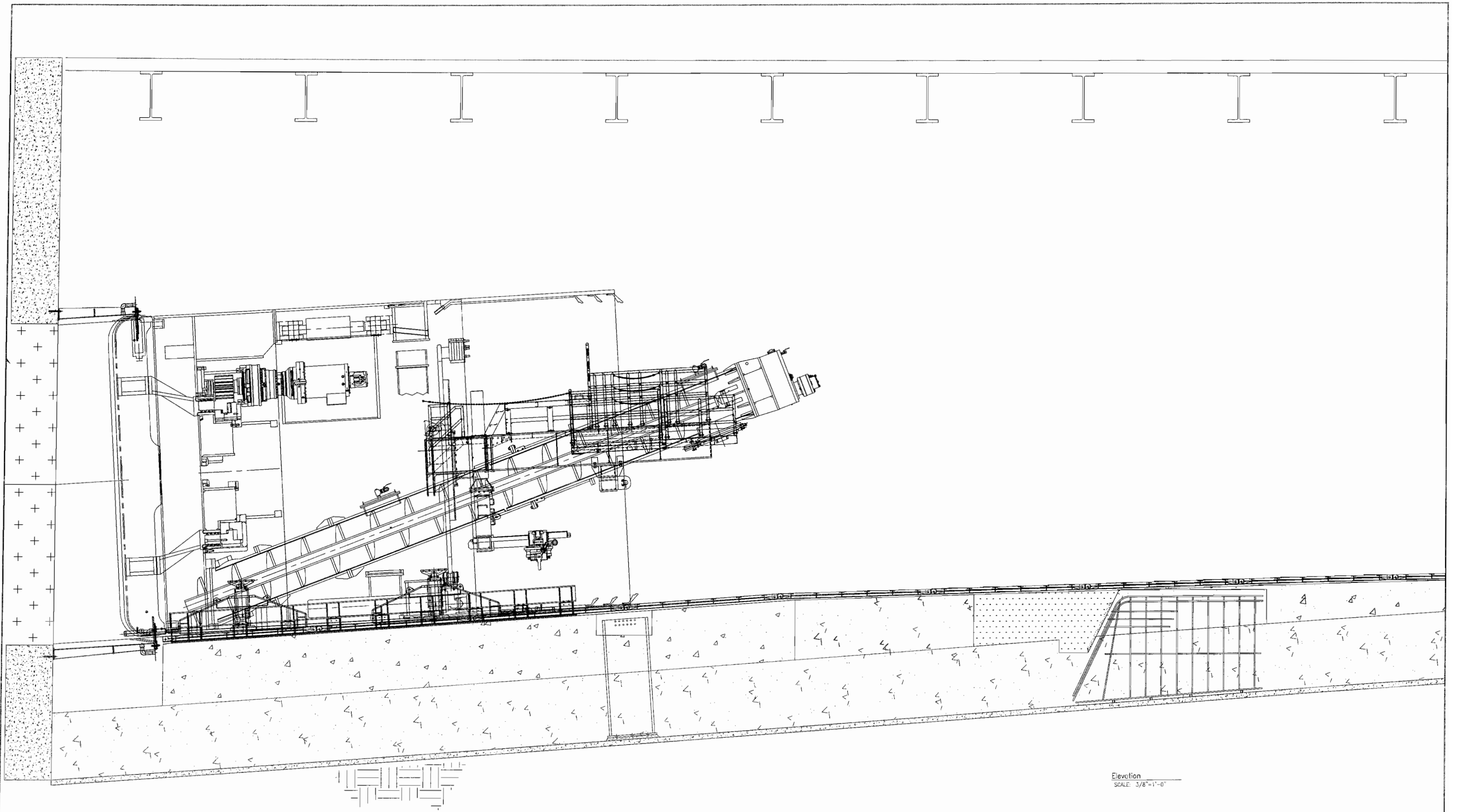
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ELEC. FILE NO. 0221-001
SCALE: AS NOTED

DWG. NO. 0221--001.01

SHEET 14
REV. A

REV	DATE	DESCRIPTION



Elevation
SCALE: 3/8"=1'-0"

- NOTES:**
1. Set Shield On Cradle.
 2. Partially Start Shield In Entrance Seal.



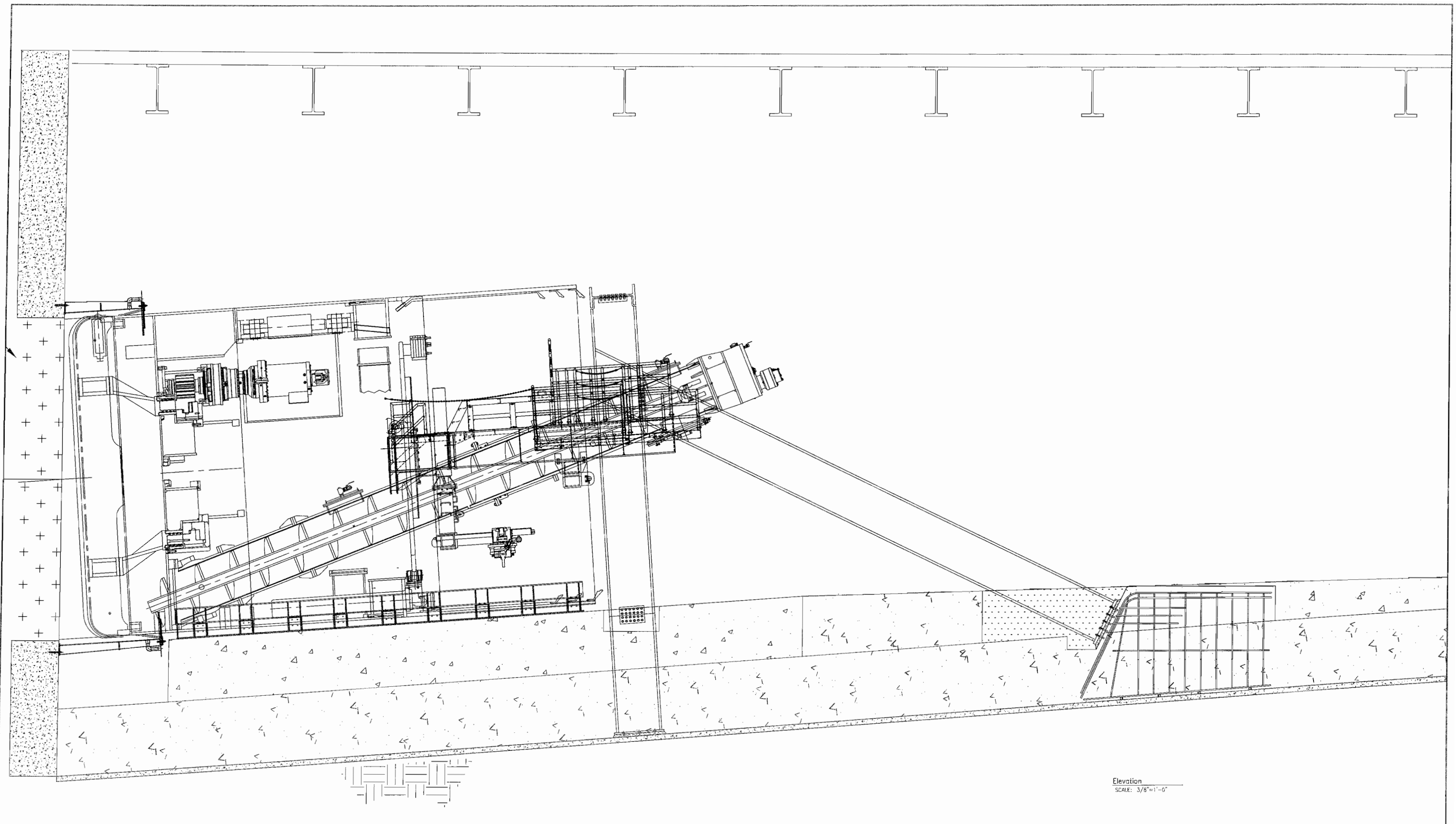
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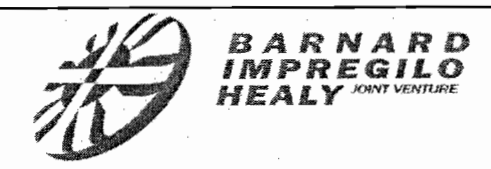
DWG. NO.	0221-001.01	SHEET	15	REV.	A
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REV	DATE	DESCRIPTION



Elevation
SCALE: 3/8"=1'-0"

NOTES: 1. Install Thrust Frame.



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DWG. NO. 0221-001.01
SHEET 17
REV. A

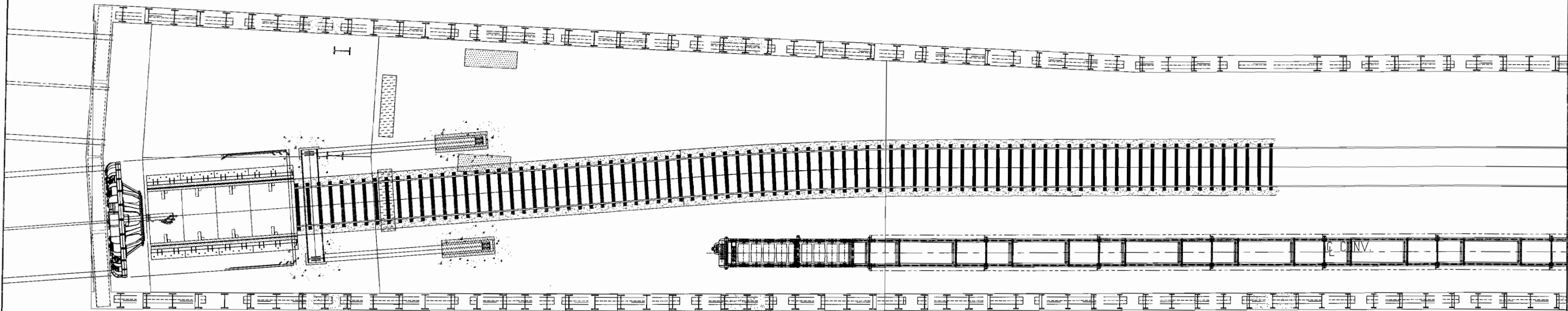
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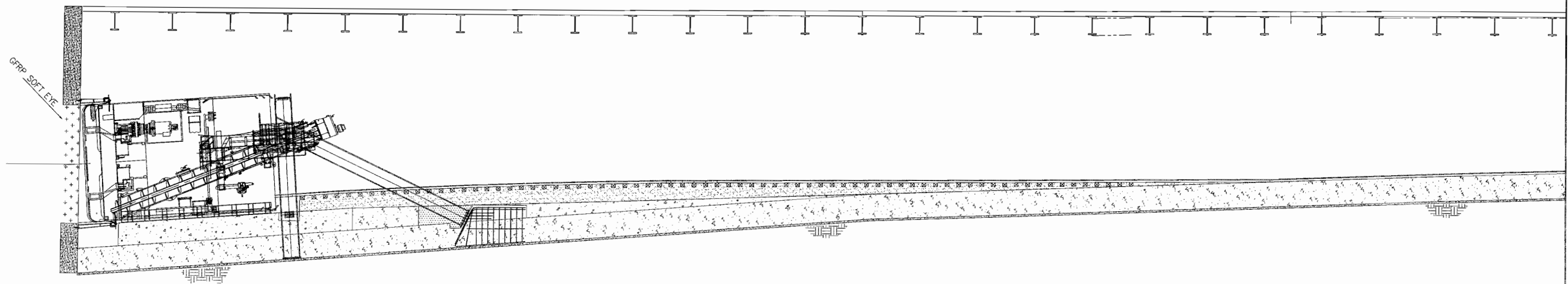


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Backup Assembly



PLAN
SCALE: 1/8"=1'-0"



ELEVATION ALONG CENTERLINE OF SOUTH BOUND DTA
SCALE: 1/8"=1'-0"

- NOTES:
1. Place Structural Fill.
 2. Install Rail.

REV	DATE	DESCRIPTION



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SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

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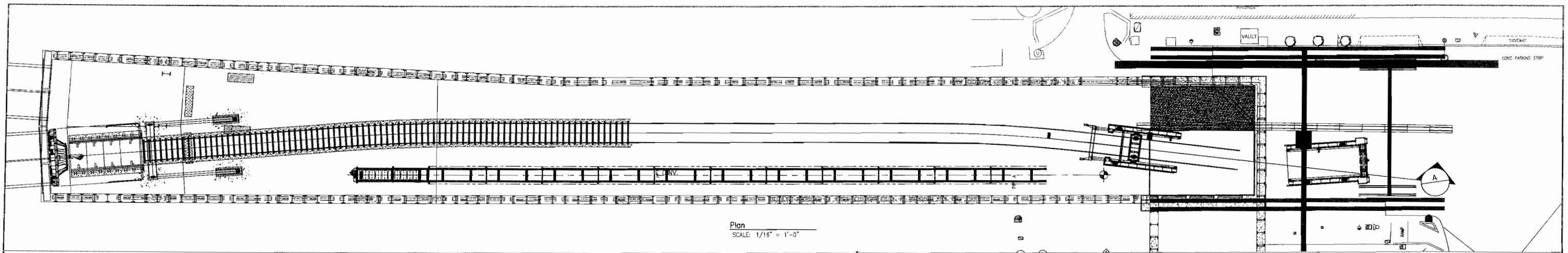
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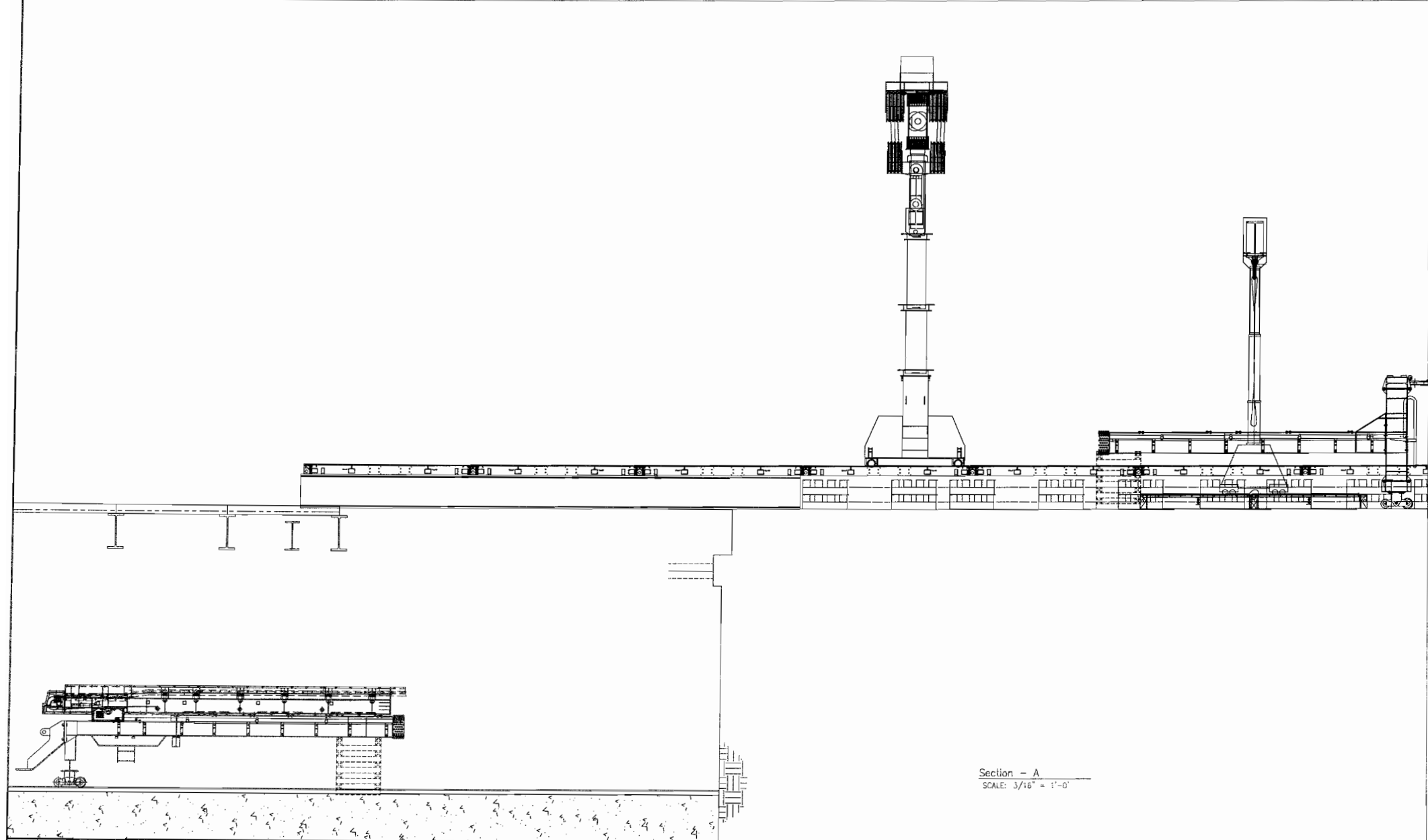
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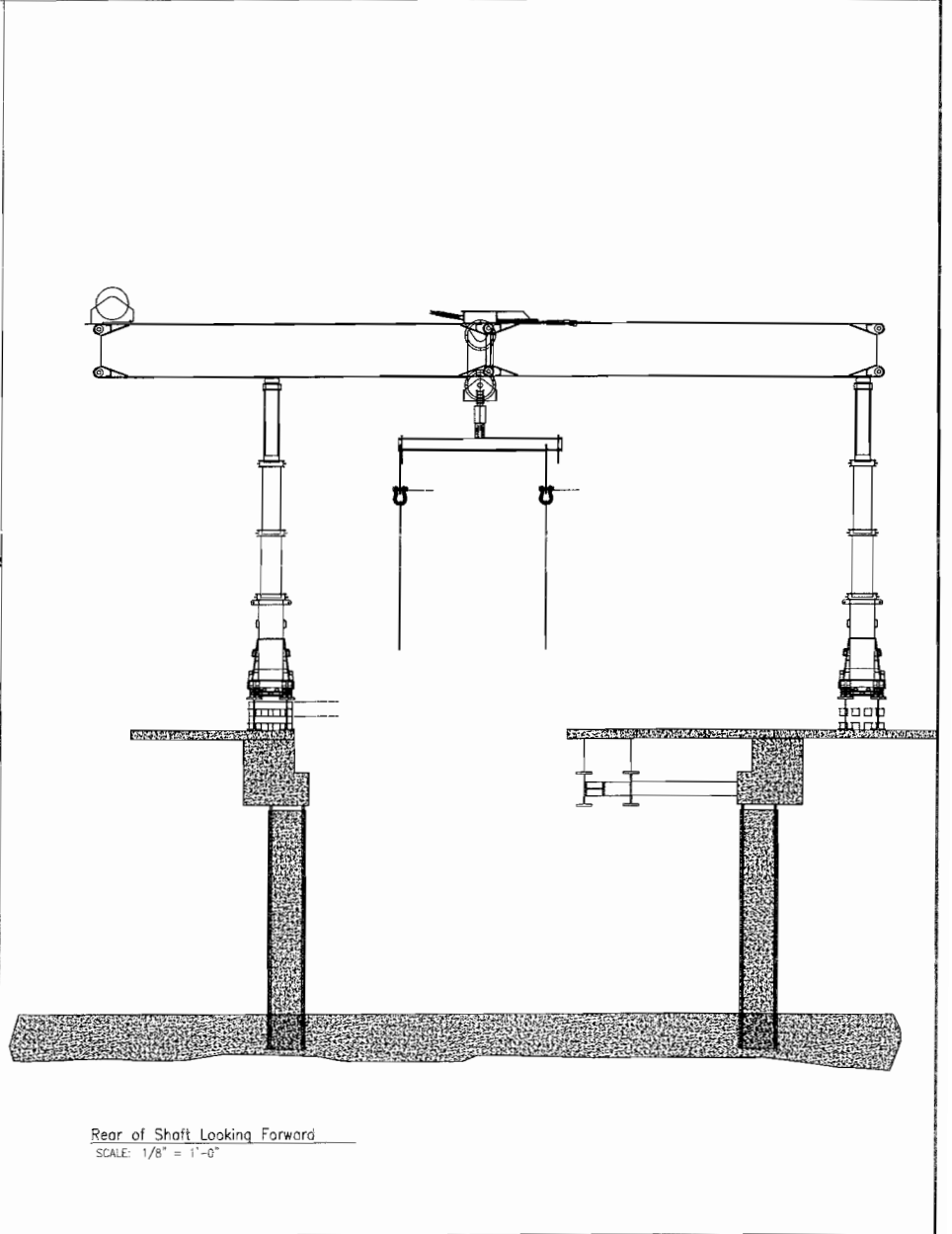
SHEET 1
REV. A



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




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



Rear of Shaft Looking Forward
SCALE: 1/8" = 1'-0"

REV	DATE	DESCRIPTION

NOTES: 1. Prior to Lowering install Temporary Wheels.
2. Lower Forward Section of Bridge and Forward Half Of Conveyor 1.

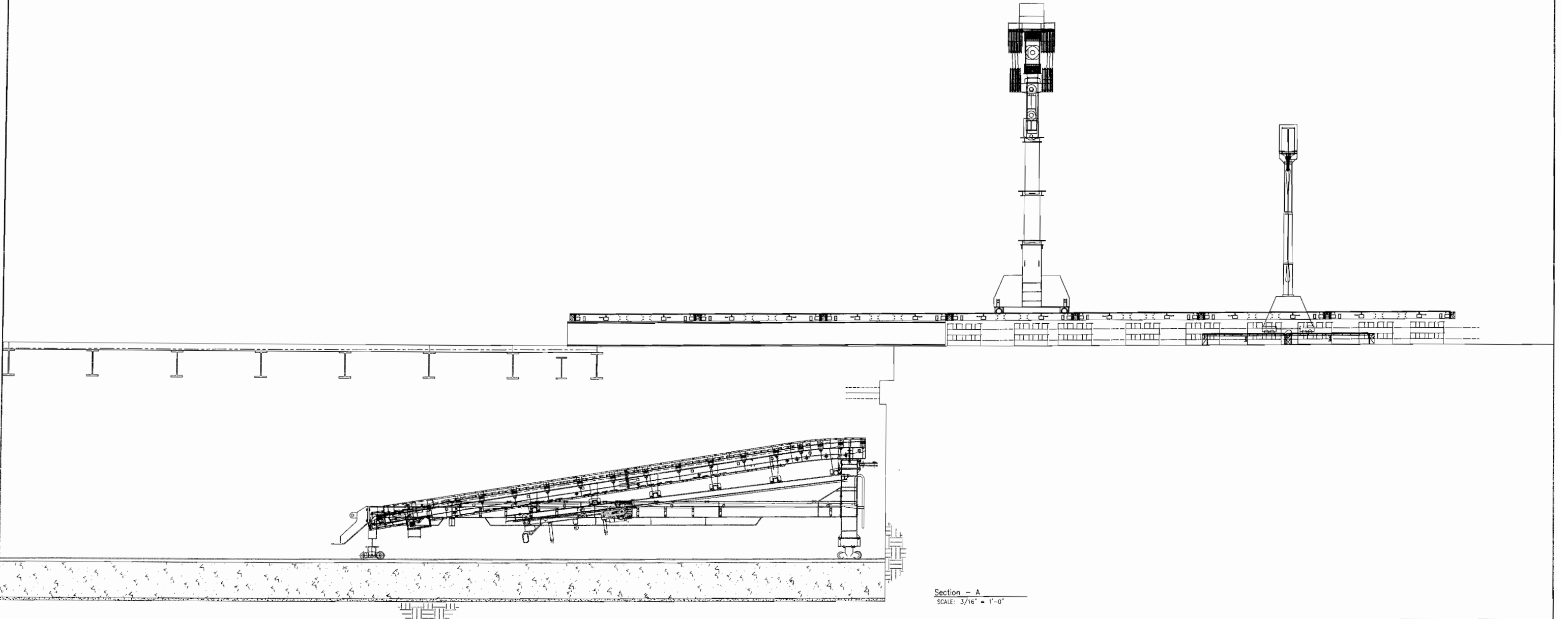
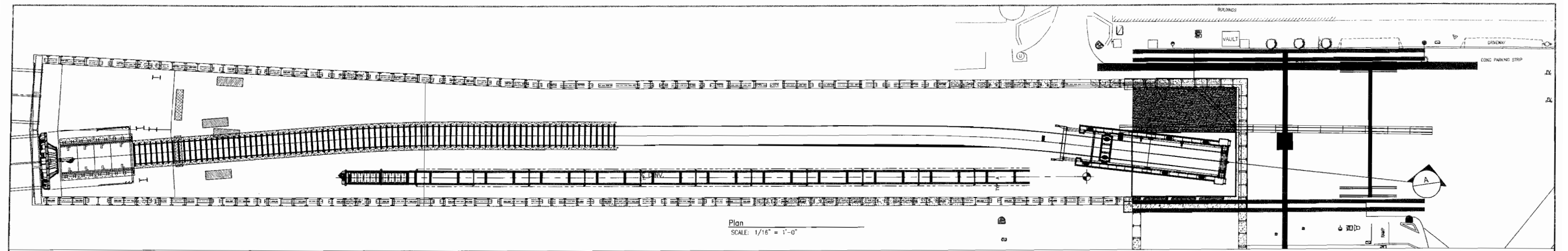


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	CHECKED BY:	DATE:	SCALE: AS NOTED			

This sheet is originally drawn 24" x 36" and this line measures 1" If this line does not measure 1", scale accordingly



NOTES: 1. 1. Install Rear Section of Bridge, Segment Hoist, and Conveyor.

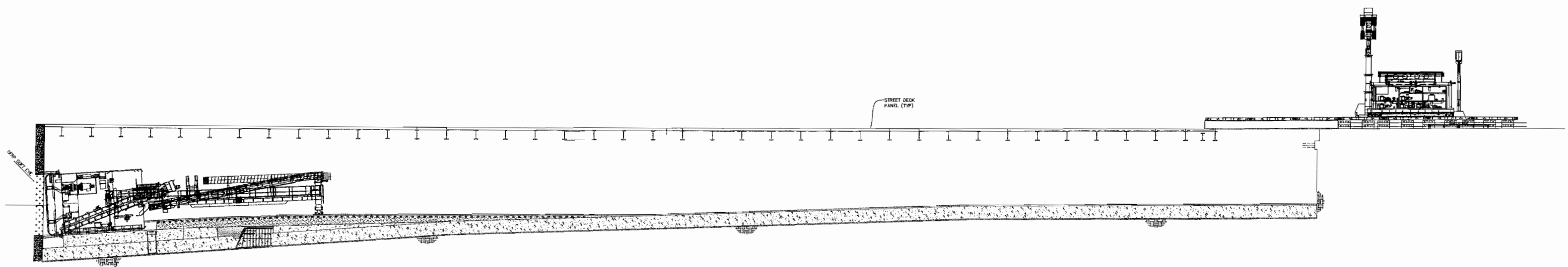
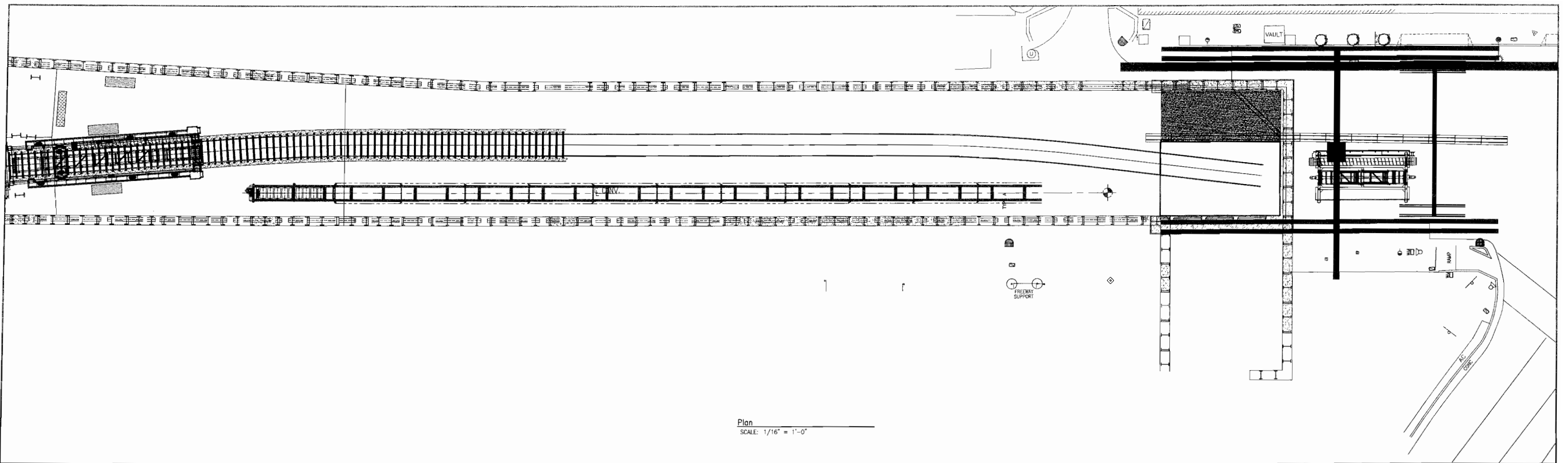


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This sheet is originally drawn 24" x 36" and this line measures 1" If this line does not measure 1", scale accordingly



NOTES: 1. Use the MSV to trim the bridge to the shield.
2. Stage deck 1.

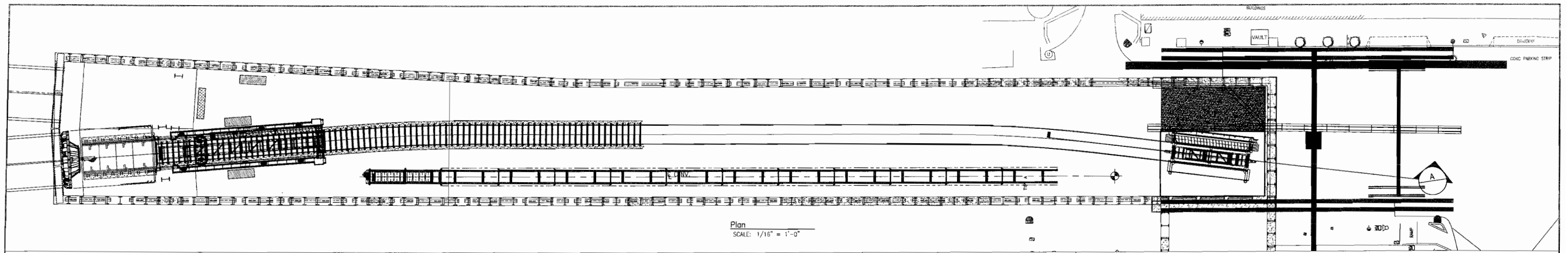
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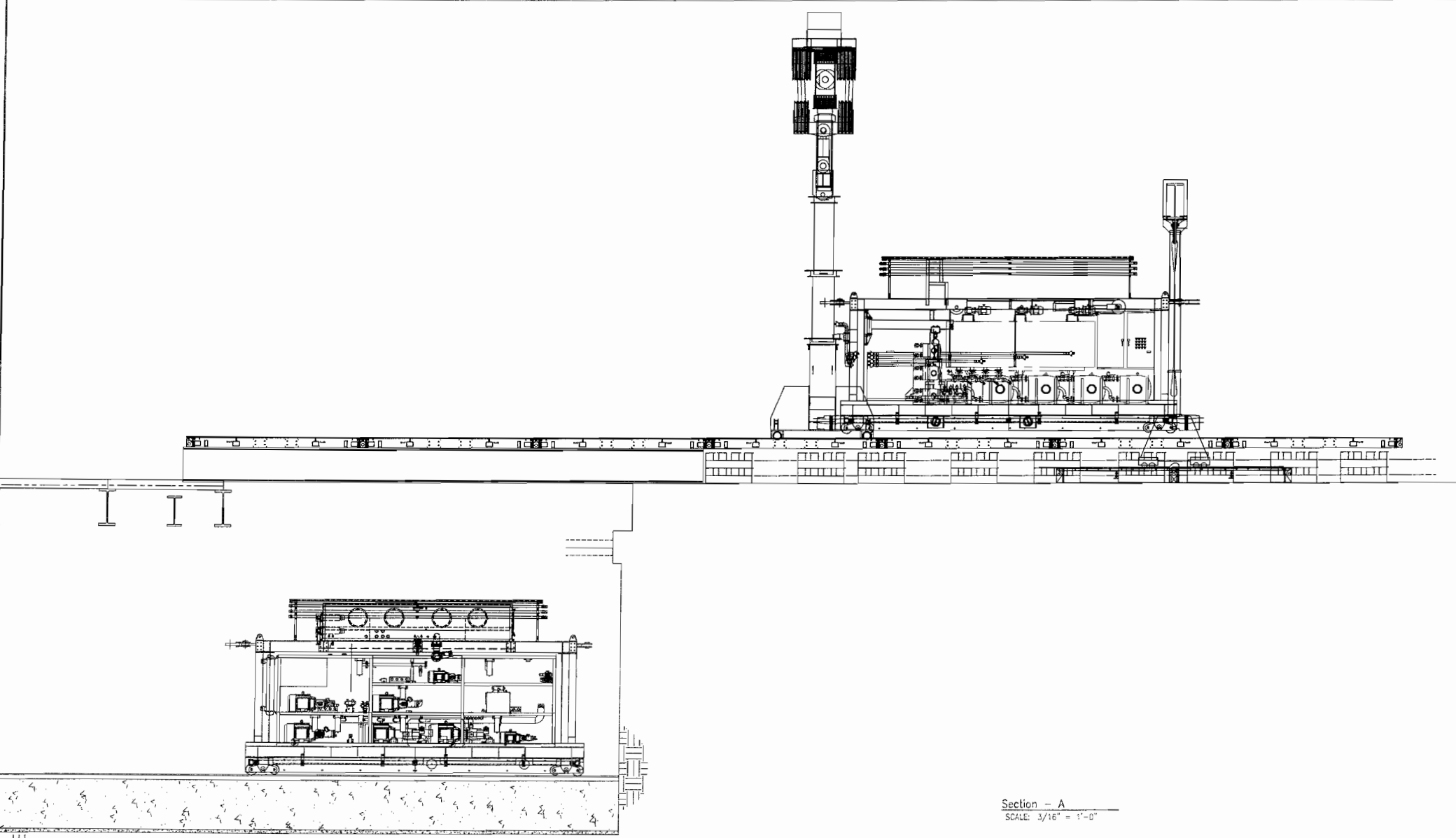
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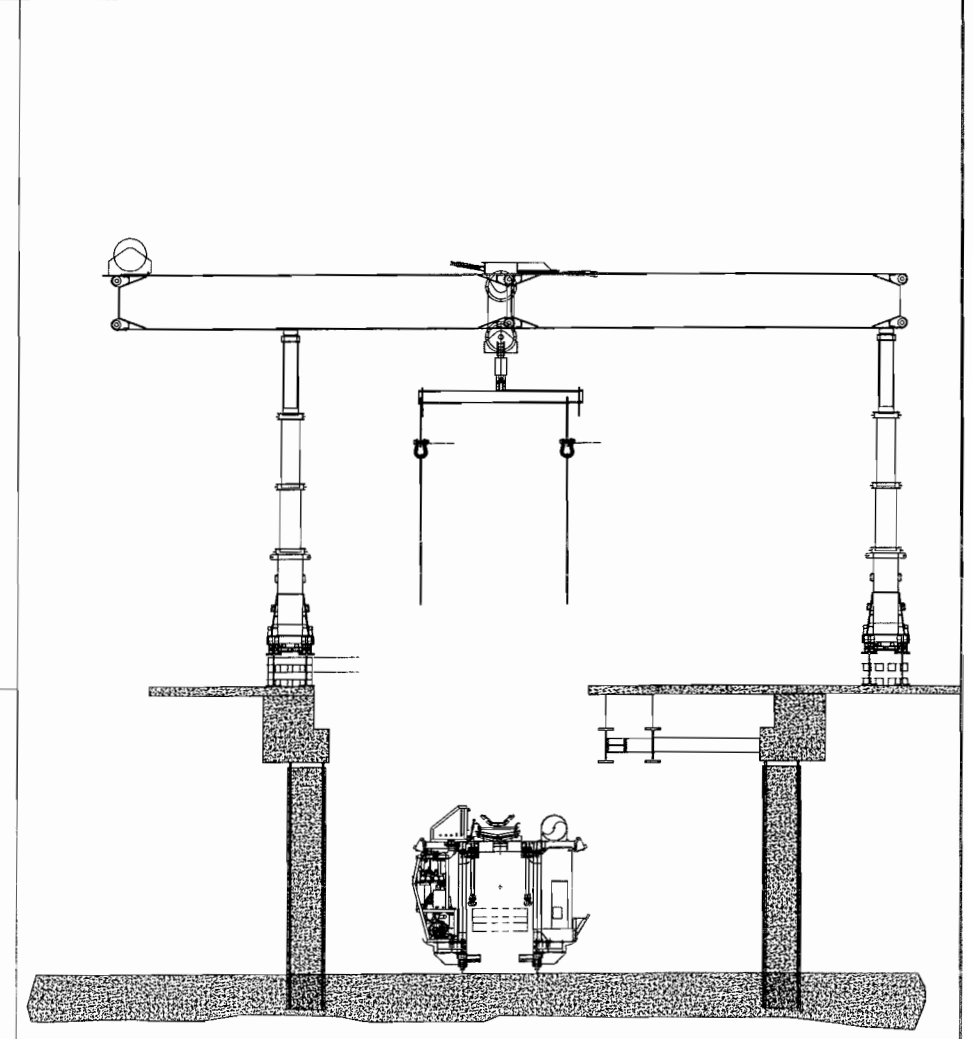
This sheet is originally drawn 24" x 36" and this line measures 1". If this line does not measure 1", scale accordingly.



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



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



Rear of Shaft Looking Forward
SCALE: 1/8" = 1'-0"

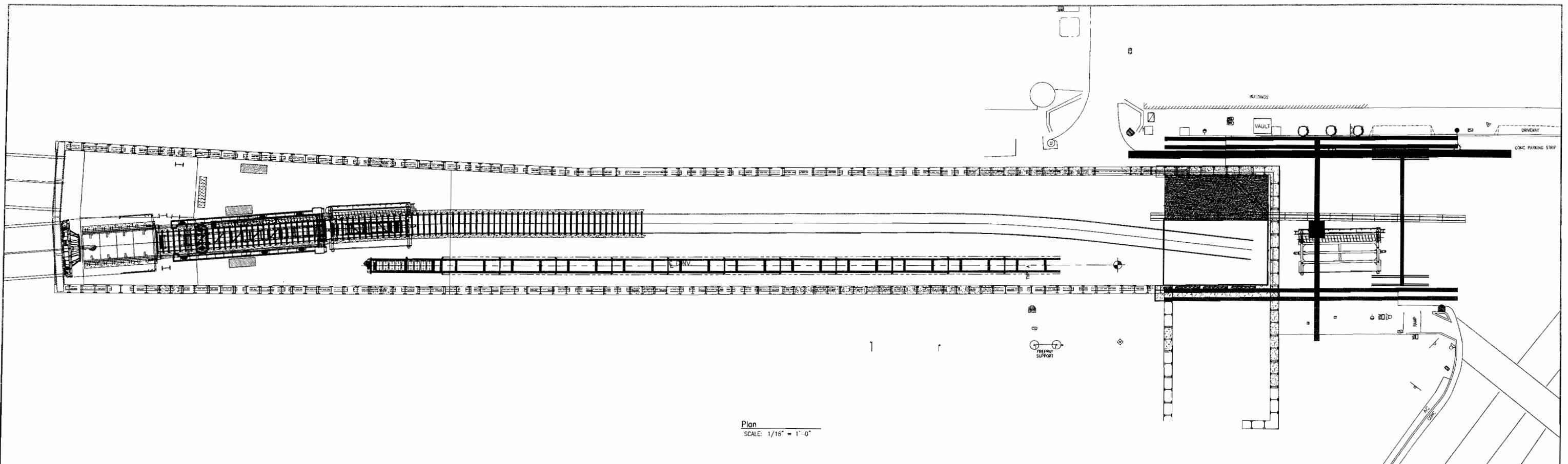
NOTES: 1. Lower Deck 1 and Stage Deck 2.



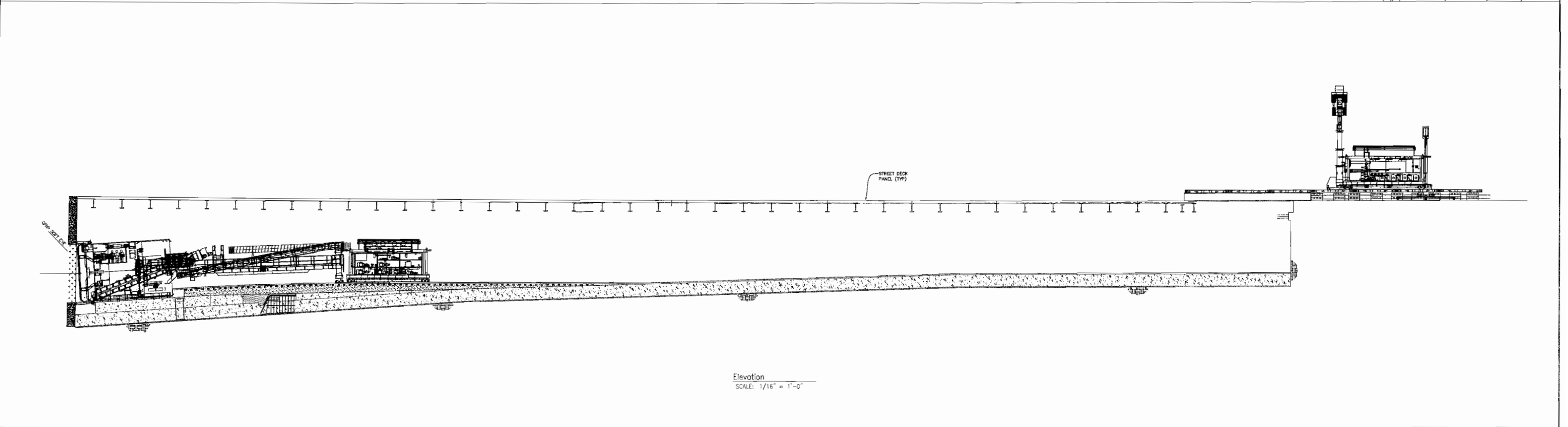
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Plan
SCALE: 1/16" = 1'-0"



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

REV	DATE	DESCRIPTION

NOTES: 1. Use The MSV to Tram Deck No. 1.

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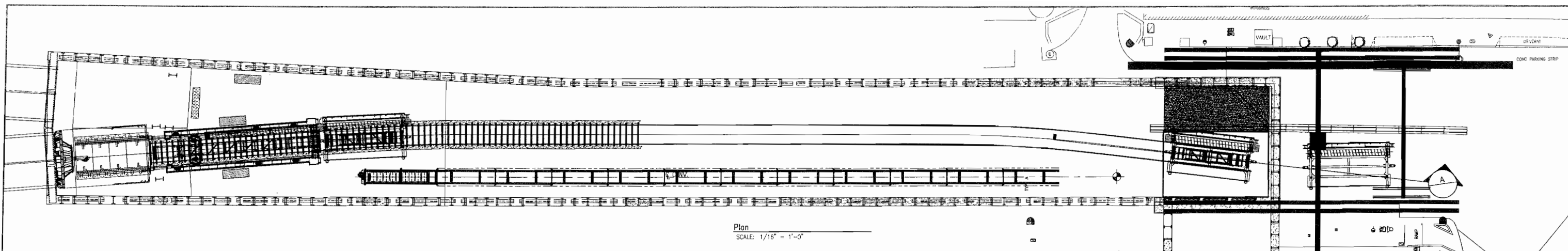
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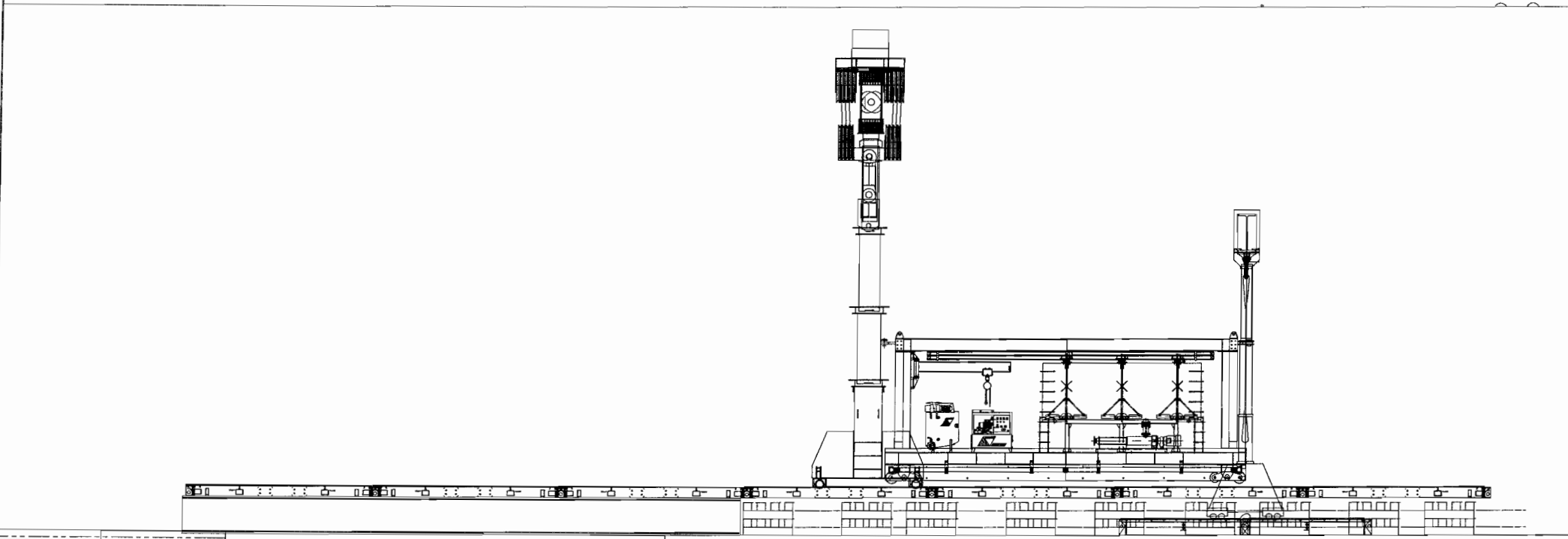
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DWG. NO. 0221-001.01	SHEET 6	REV. A

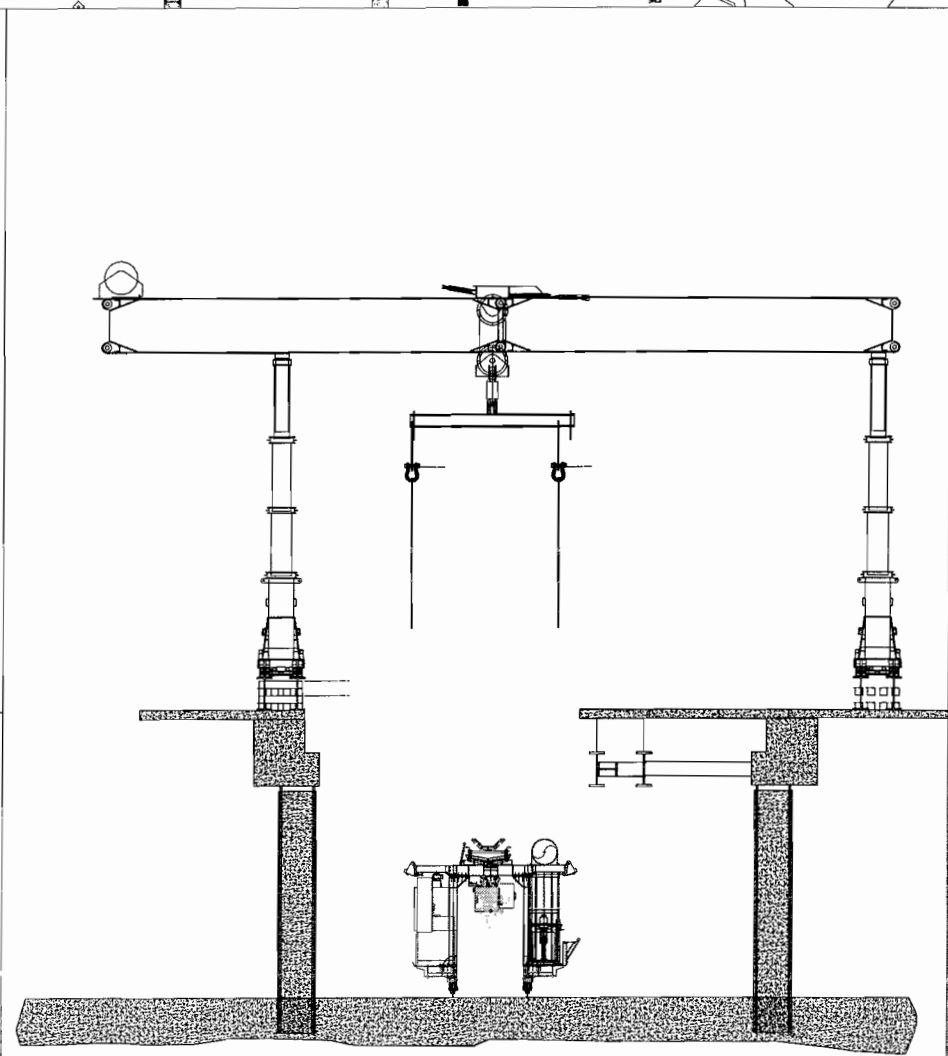
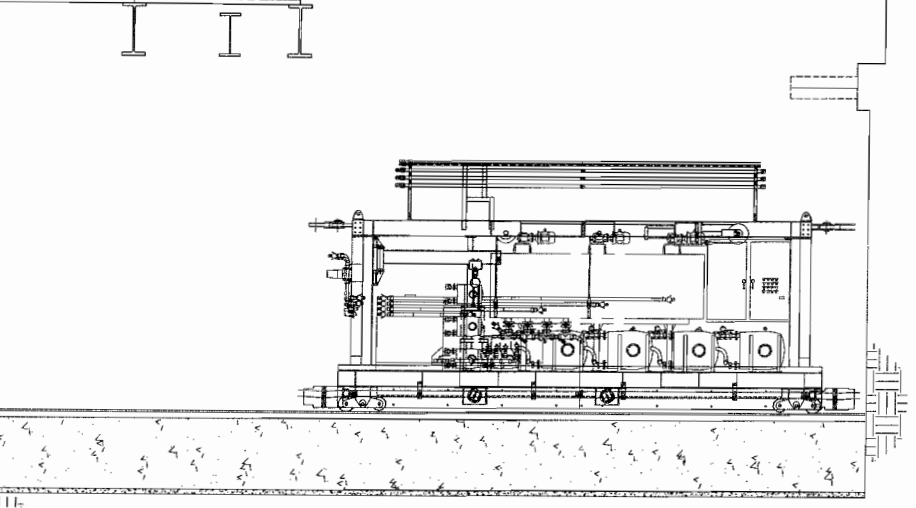
This sheet is originally drawn 24" x 36" and this line measures 1". If this line does not measure 1", scale accordingly.



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



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



Rear of Shaft Looking Forward
SCALE: 1/8" = 1'-0"

NOTES: 1. Lower Deck 2 and Stage Deck 3.

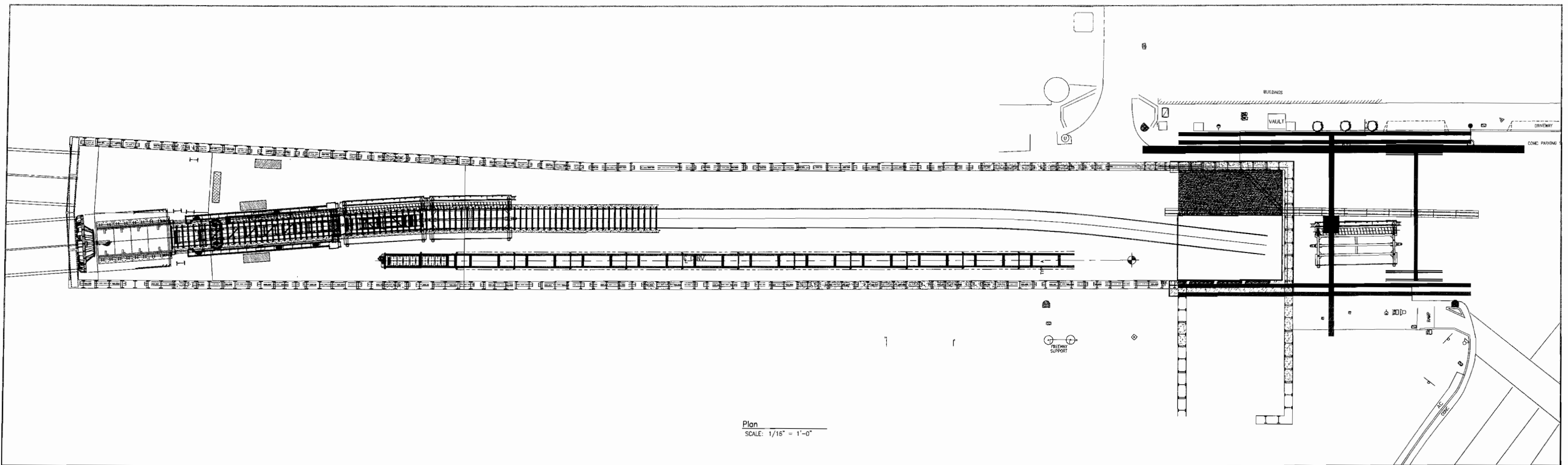


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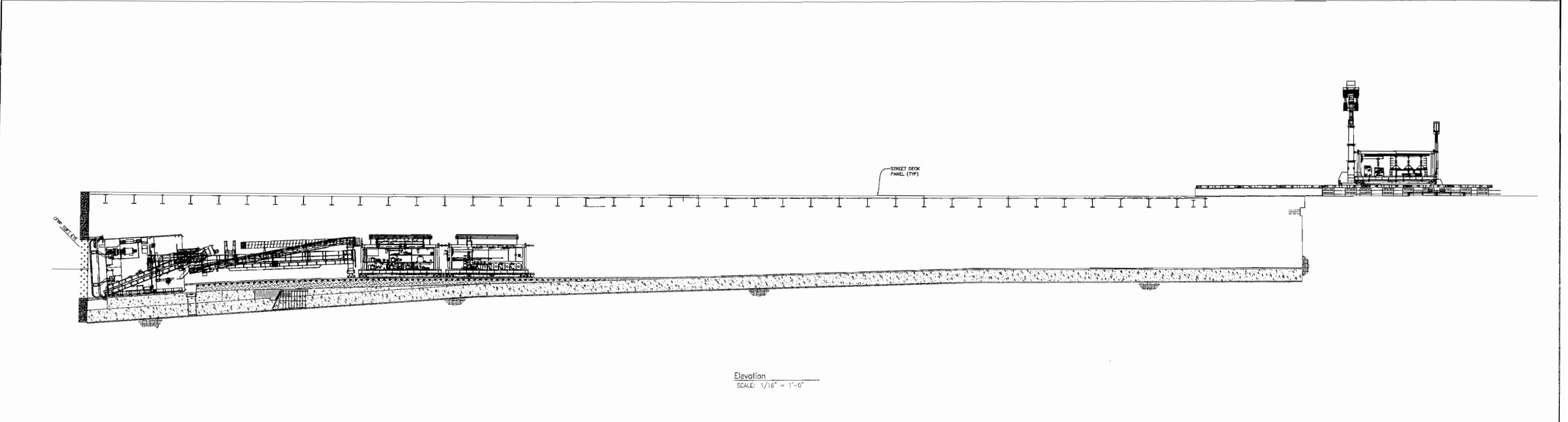
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This sheet is originally drawn 24" x 36" and this line measures 1" If this line does not measure 1", scale accordingly



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




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

REV	DATE	DESCRIPTION

NOTES: 1. Use The MSV To Tram Deck No. 2.

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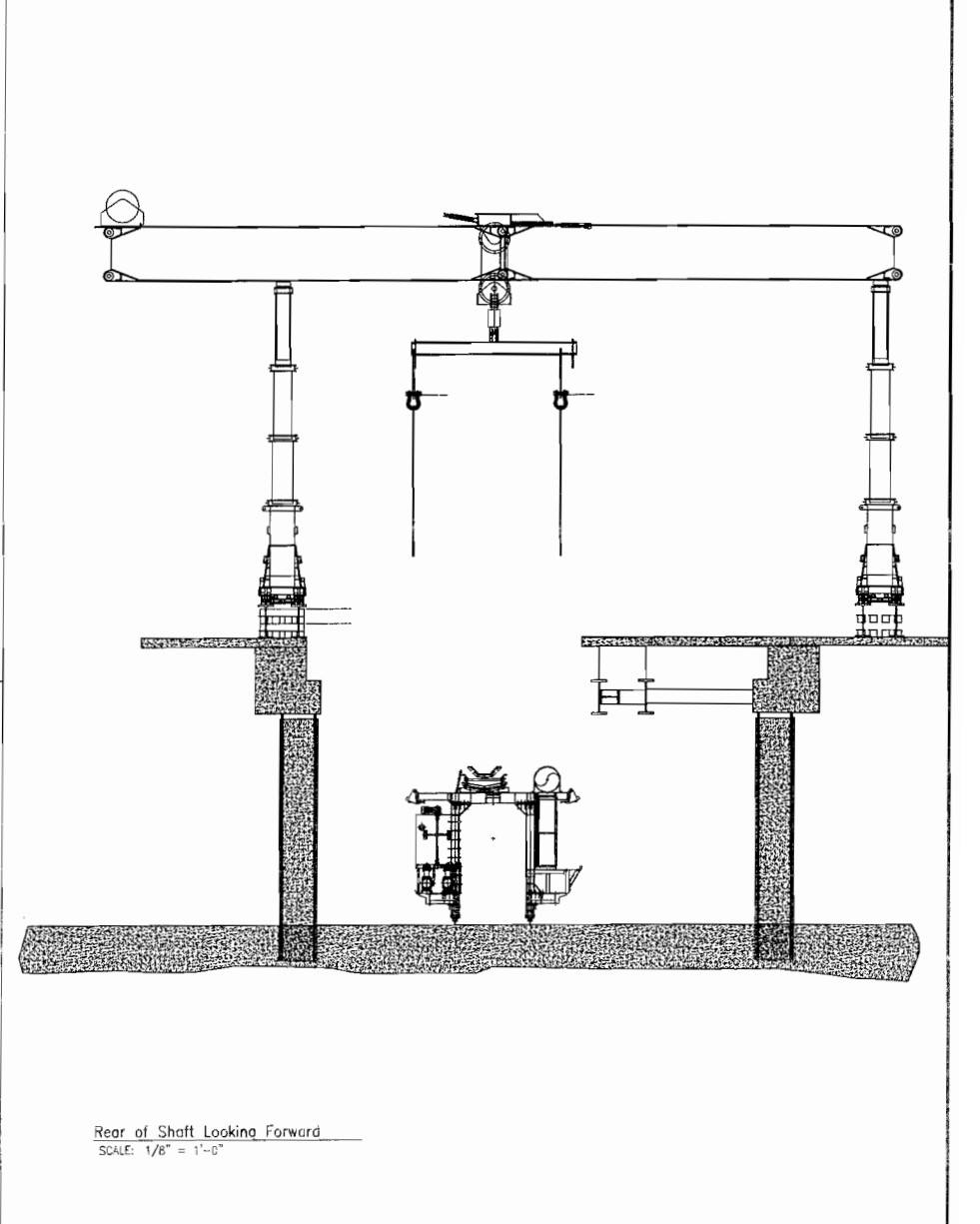
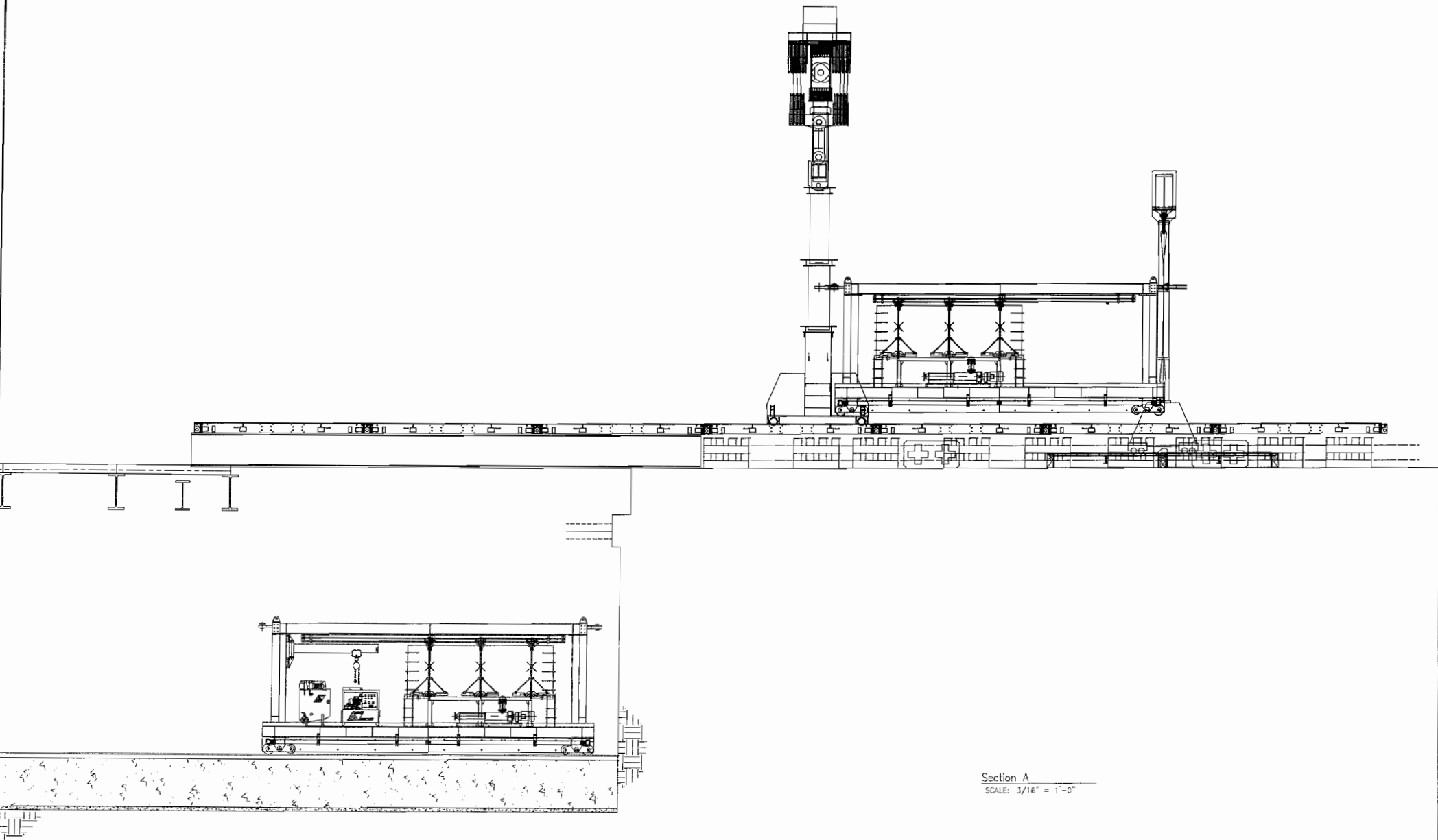
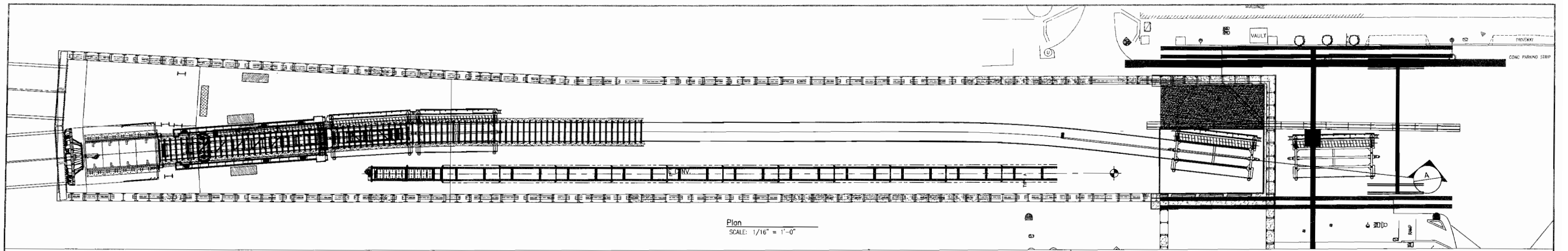


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NOTES: 1 Lower Deck 3 and Stage Deck 4.

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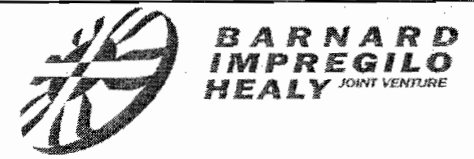
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SCALE: AS NOTED

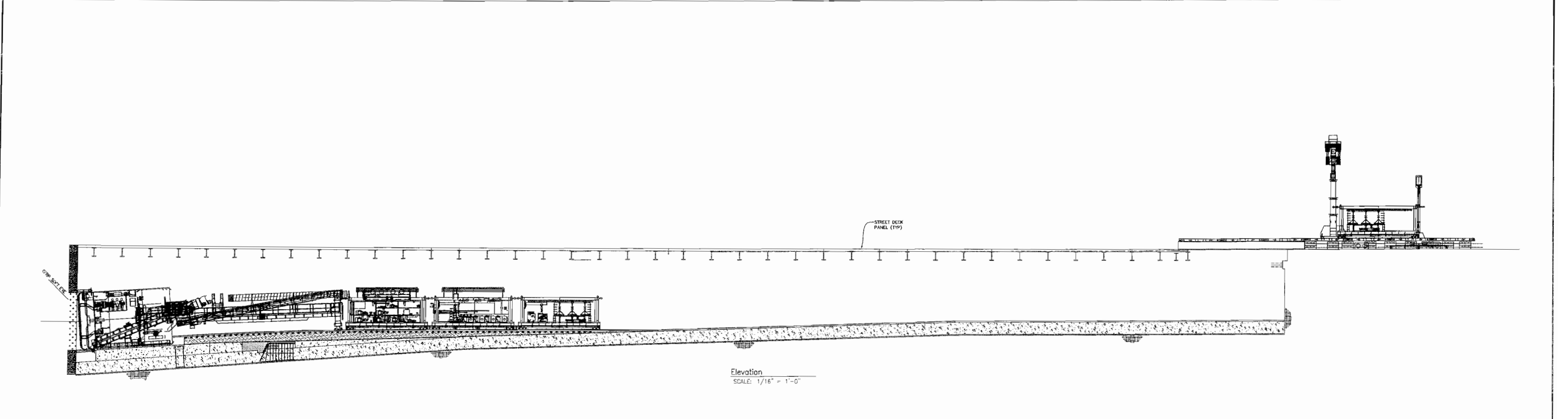
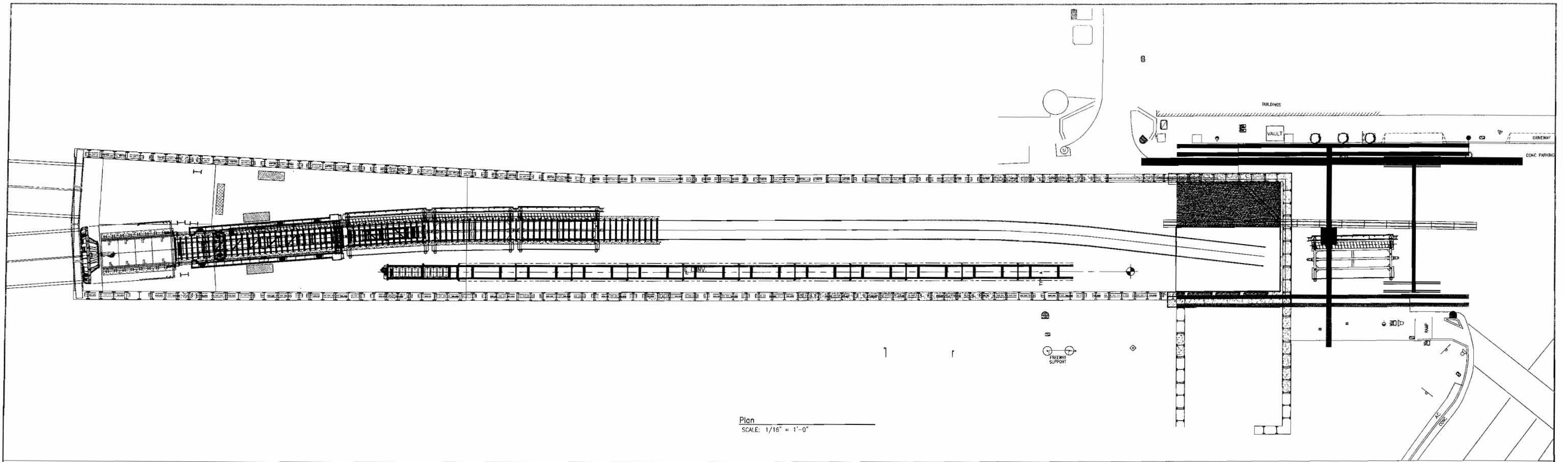
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SHEET 9

REV. A



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Central Subway Tunnels 1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly



NOTES: 1. Use the MSV to tram deck No. 3.



CITY AND COUNTY OF SAN FRANCISCO
MTA
Central Subway Tunnels 1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

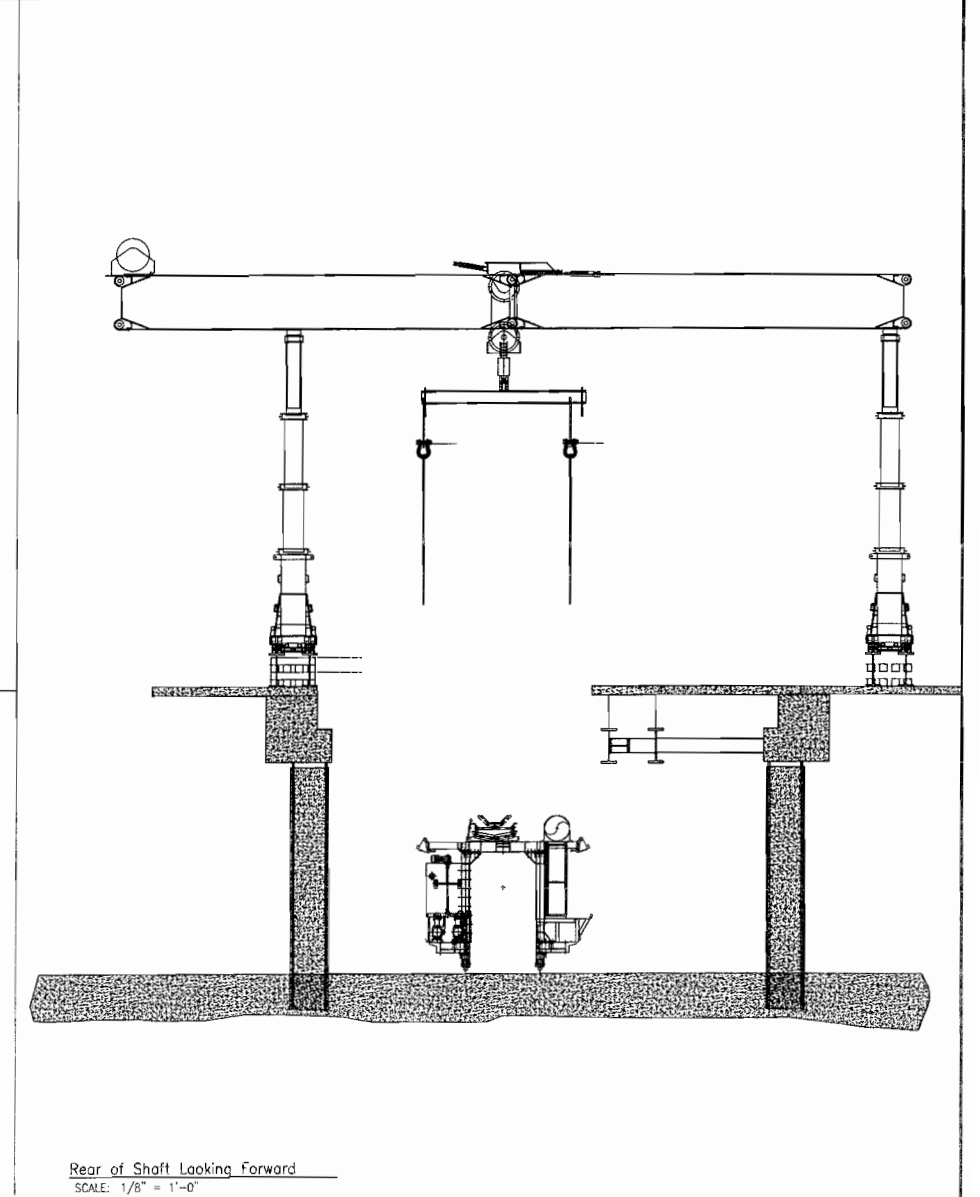
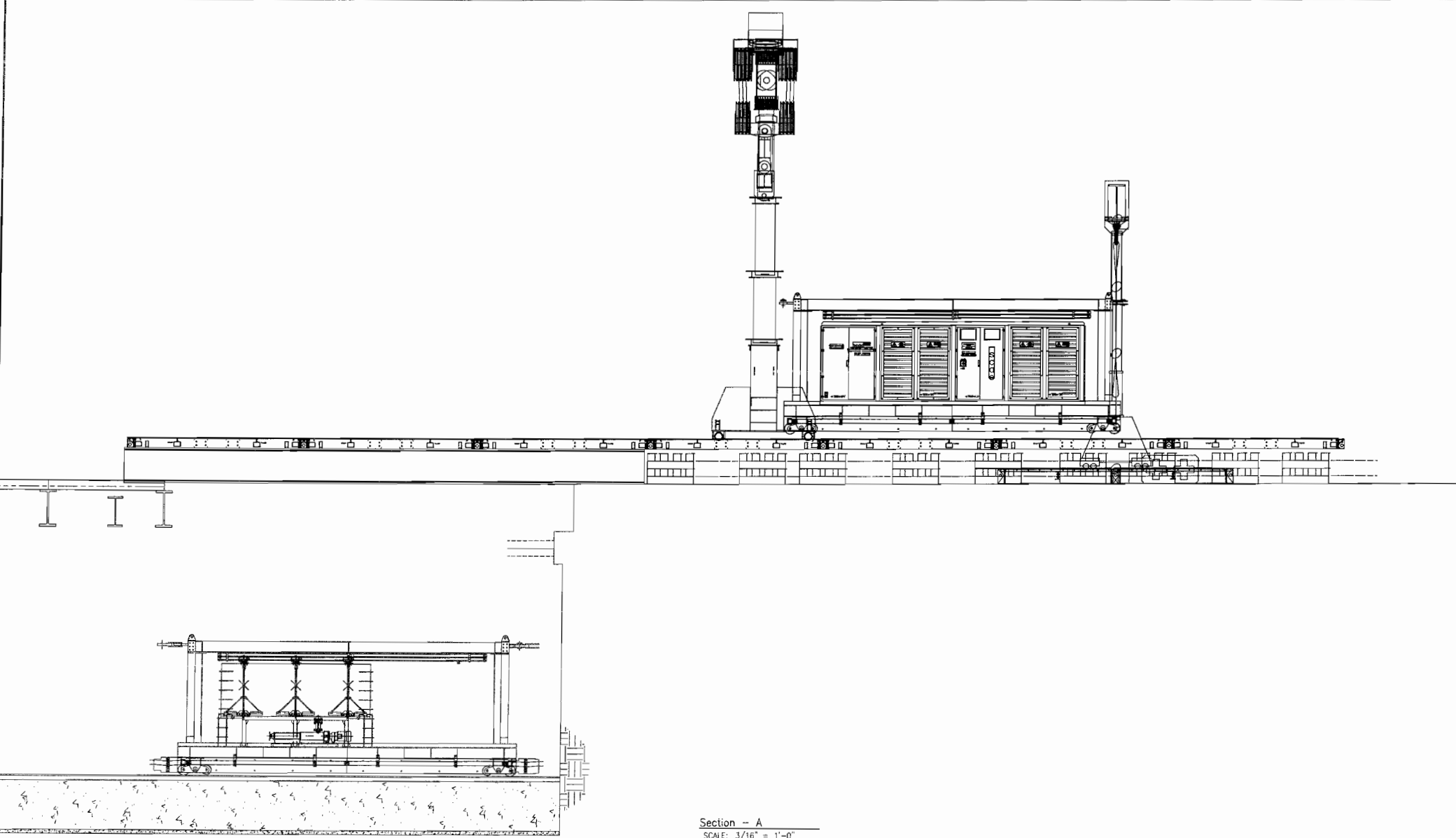
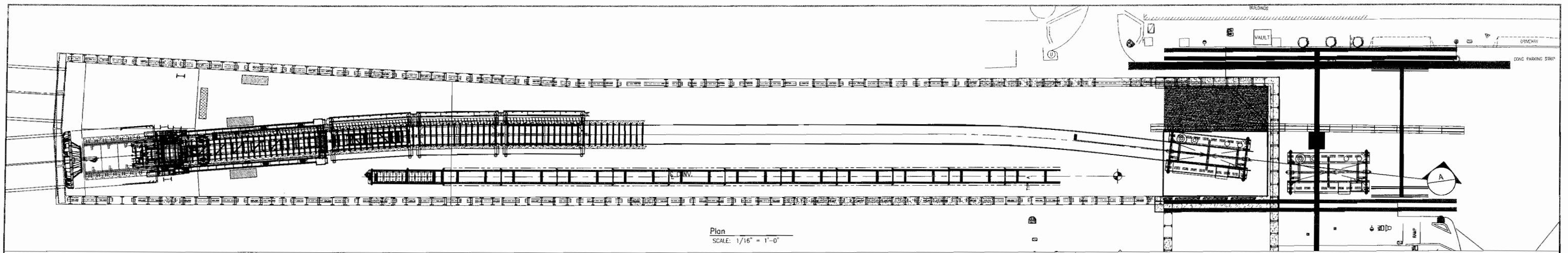
REV	DATE	DESCRIPTION

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DWG. BY: MLP
DATE: 2/22/2013
ELEC. FILE NO. 0221-001.01
SCALE: AS NOTED

DWG. NO. 0221-001.01
SHEET 10
REV. A

This sheet is originally drawn 24" x 36" and this line measures 1". If this line does not measure 1", scale accordingly.



REV	DATE	DESCRIPTION

NOTES: 1. Lower Deck 4 and Stage Deck 5.

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BARNARD IMPREGILO HEALY JOINT VENTURE

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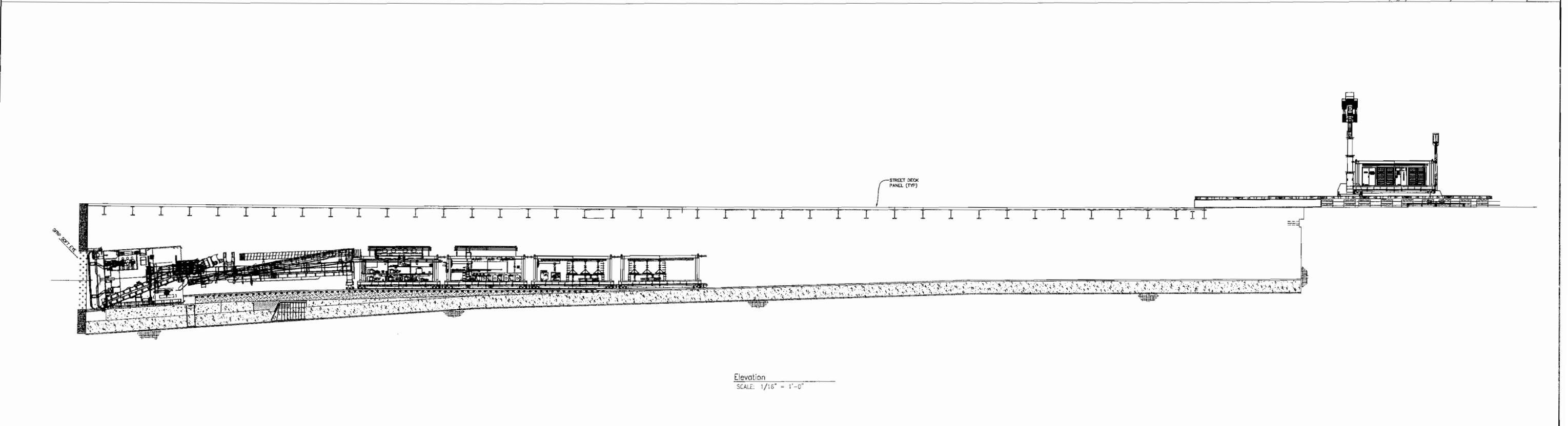
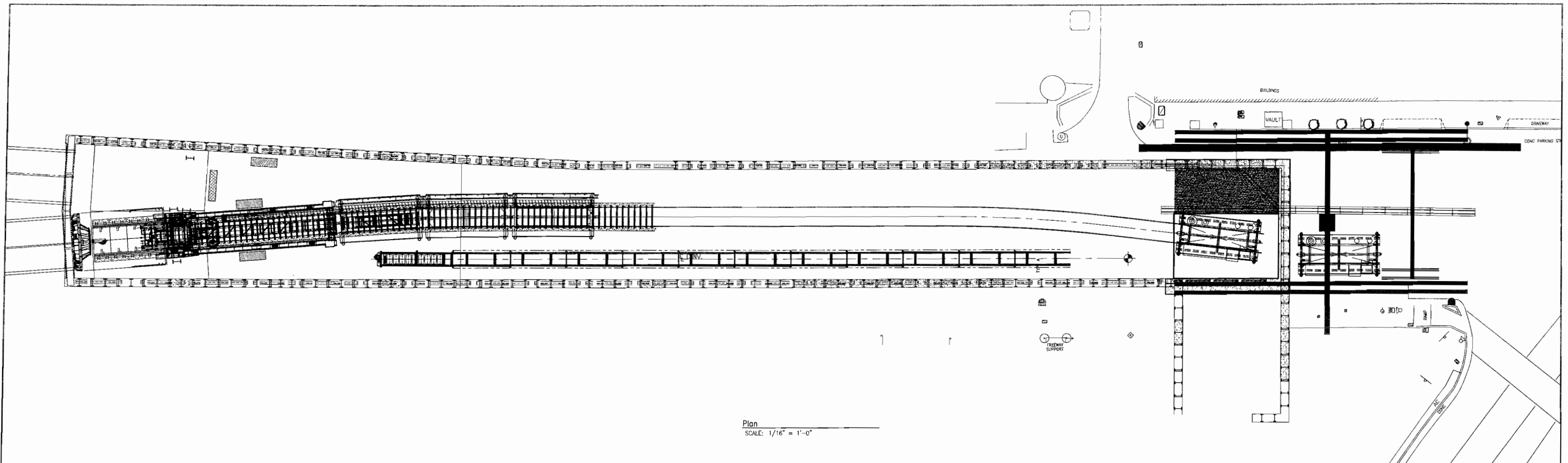
DATE: 02/28/2013
DATE:

ELEC. FILE NO. 0221-001.01
SCALE: AS NOTED

CITY AND COUNTY OF SAN FRANCISCO
MTA

CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

DWG. NO. 0221-001.01
SHEET 11
REV. A



NOTES: 1. Use The MSV To Tram Deck No. 4.



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CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

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CHECKED BY:

DATE: 02/28/2013

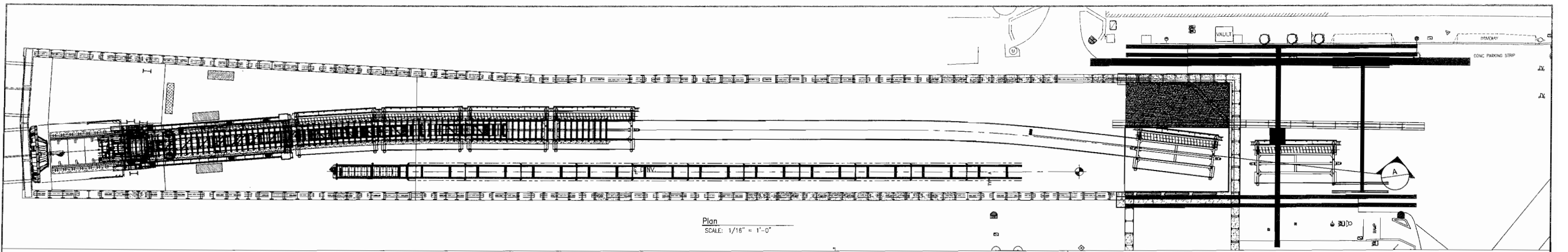
ELEC. FILE NO. 0221-001.01
SCALE: AS NOTED

DWG. NO. 0221-001.01

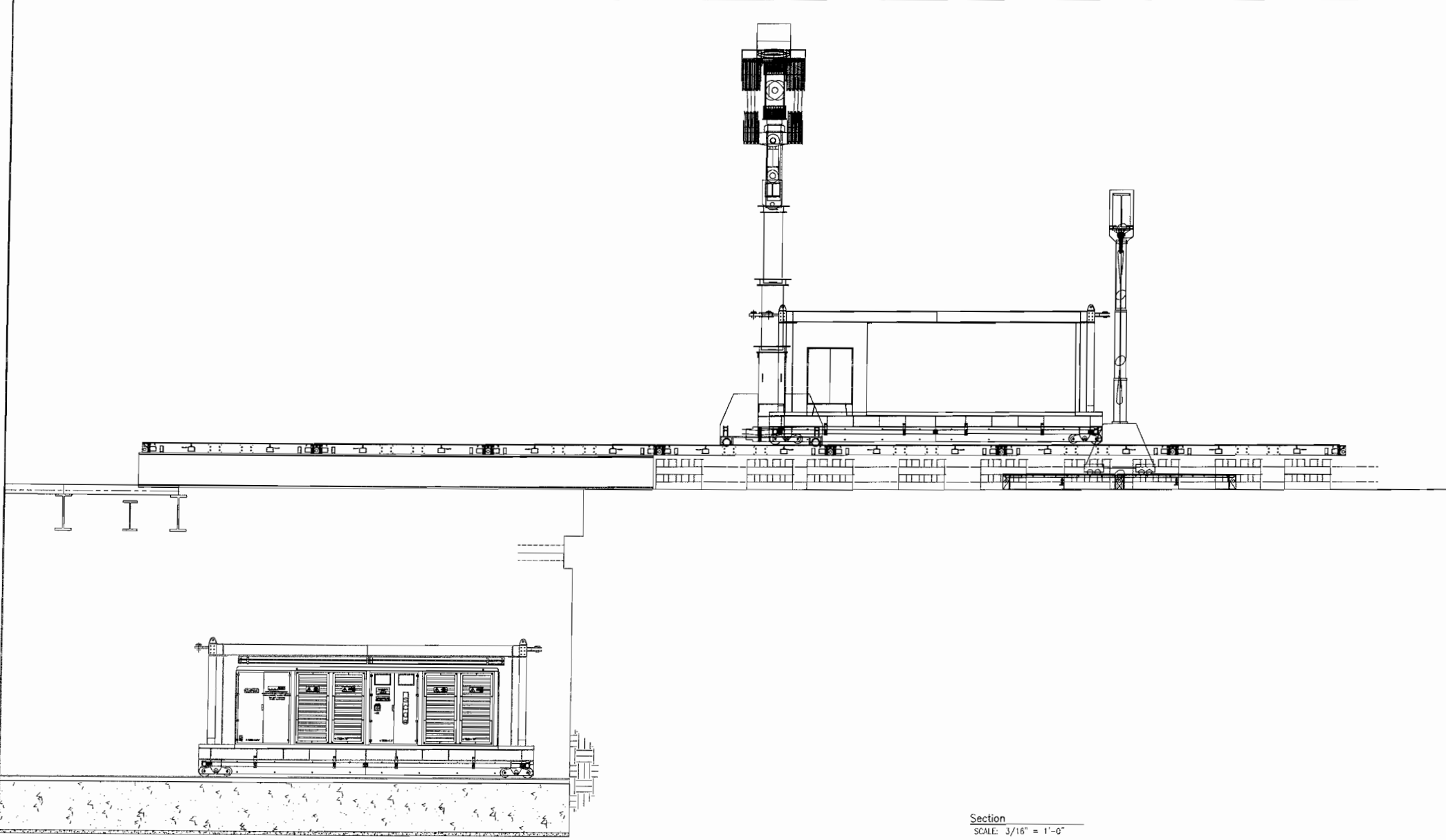
SHEET 12

REV. A

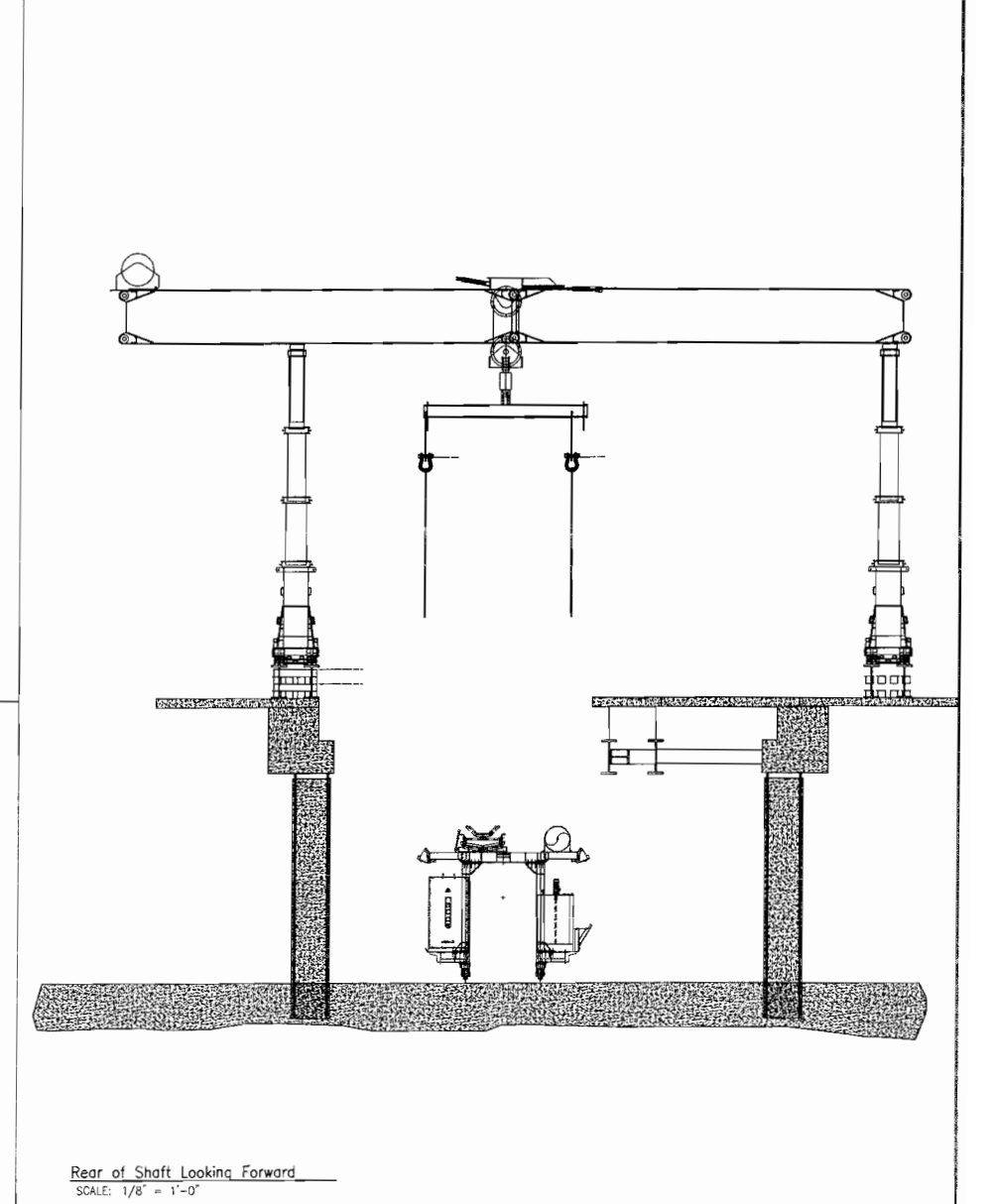
REV	DATE	DESCRIPTION



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



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



Rear of Shaft Looking Forward
SCALE: 1/8" = 1'-0"

NOTES: 1. Lower Deck 5 and Stage Deck 6.

REV	DATE	DESCRIPTION



CITY AND COUNTY OF SAN FRANCISCO
MTA
CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Tralling Gear Assembly

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CHECKED BY:

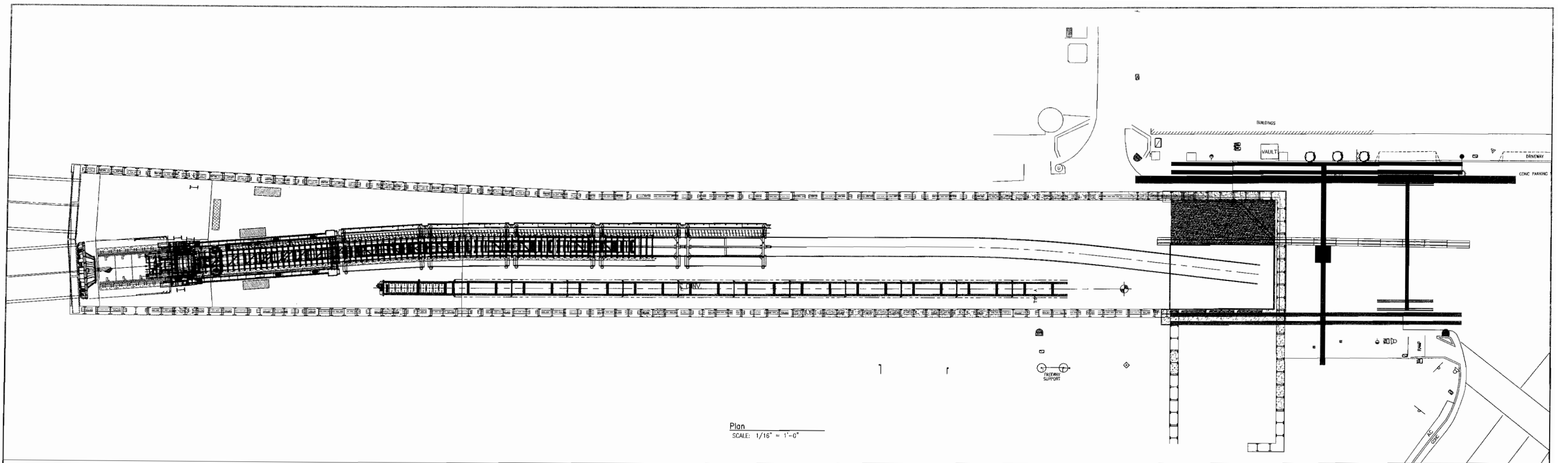
DATE: 02/29/2013

ELEC. FILE NO. 0221-001.01
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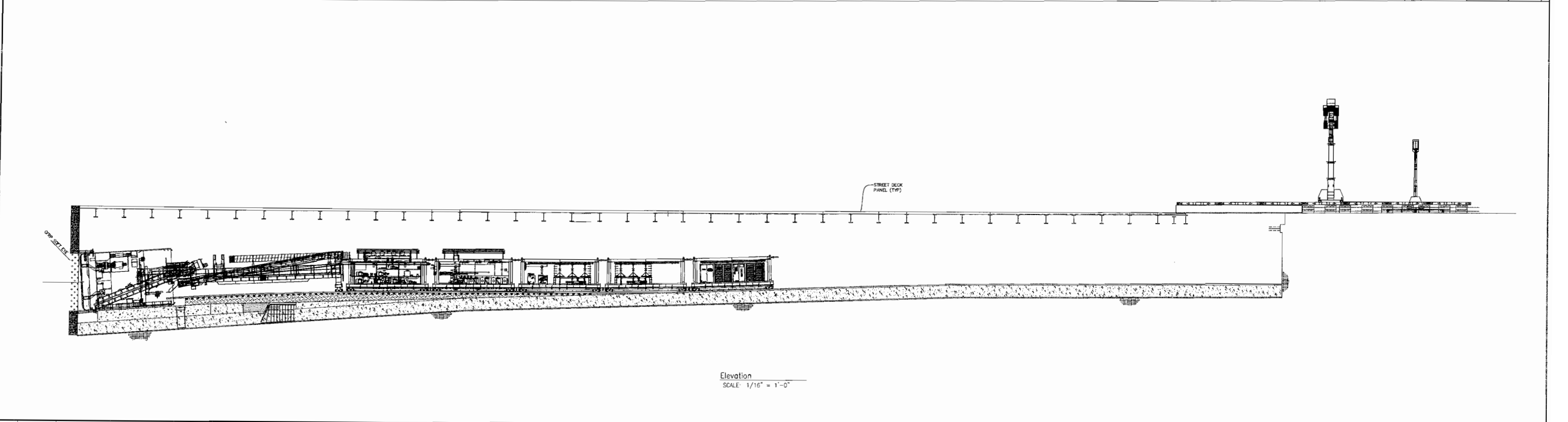
DWG. NO. 0221-001.01

SHEET 13

REV. A



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



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

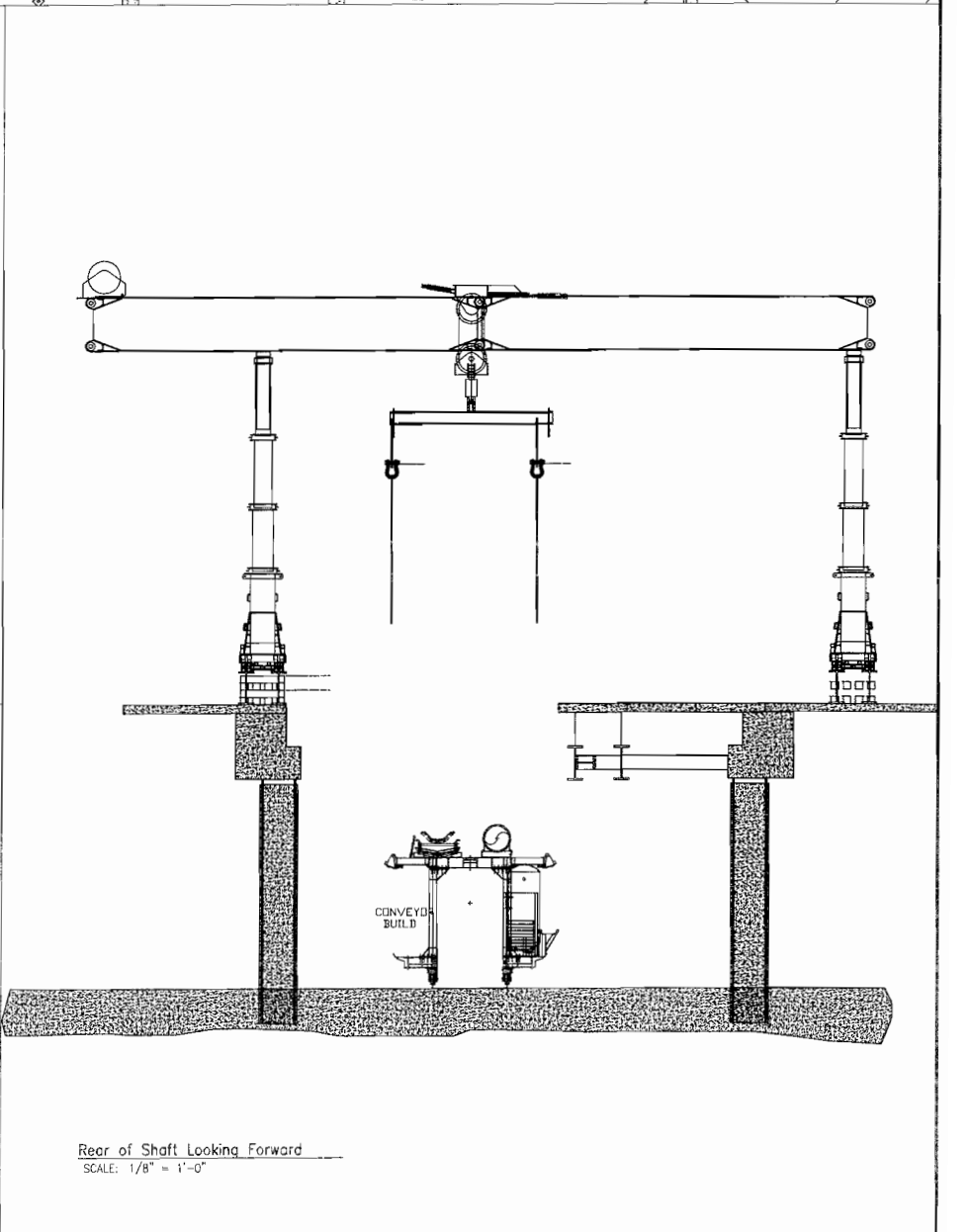
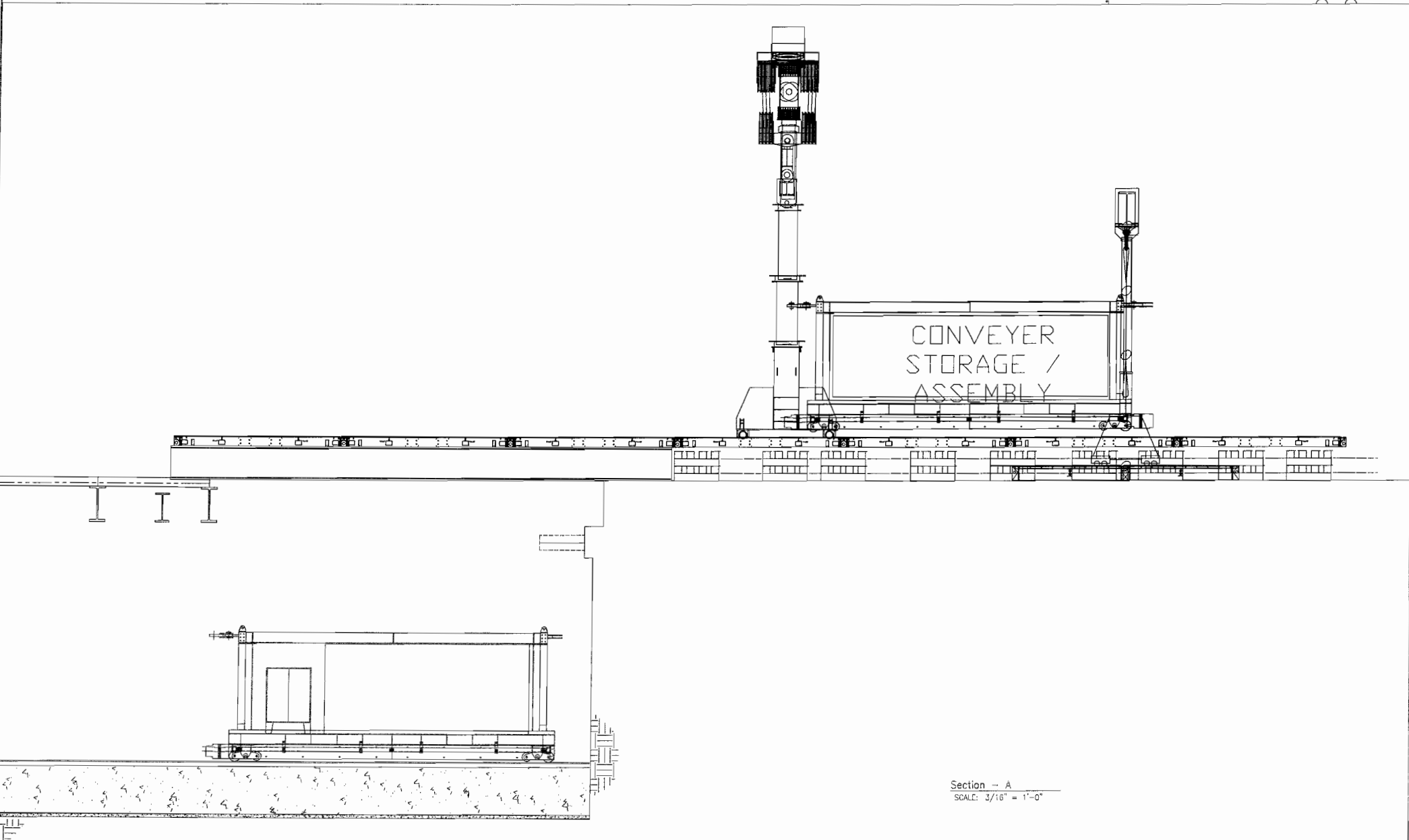
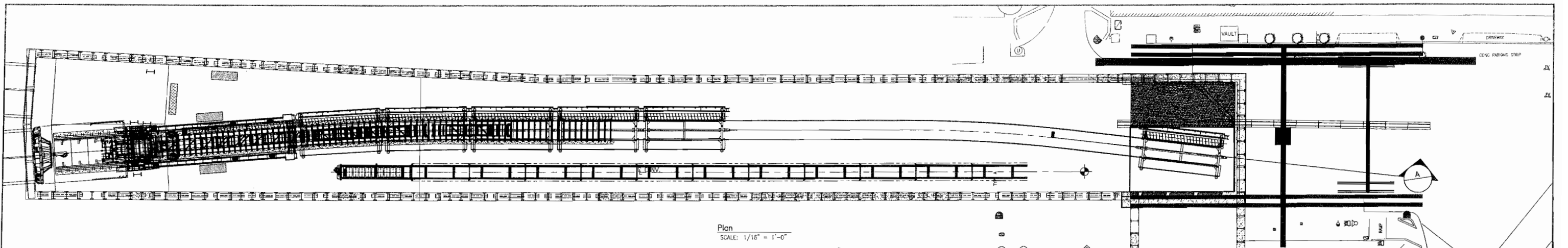
NOTES: 1. Use the MSV to tram deck No. 5.



CITY AND COUNTY OF SAN FRANCISCO
MTA
CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

REV	DATE	DESCRIPTION

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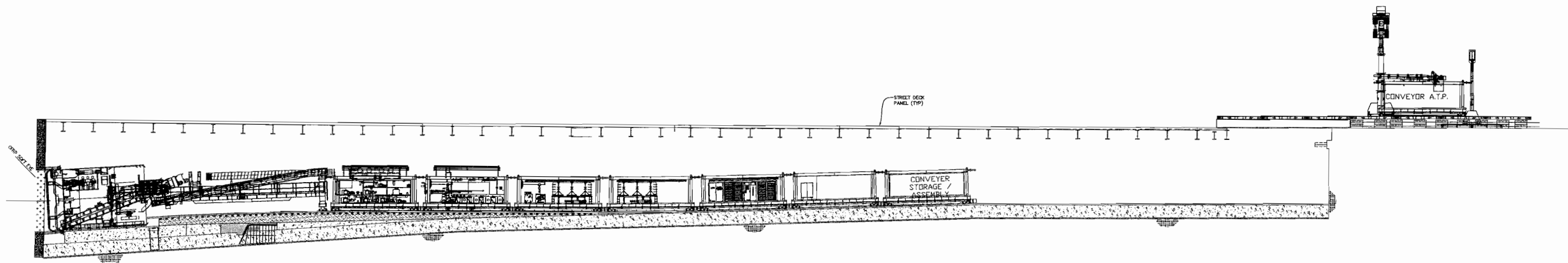
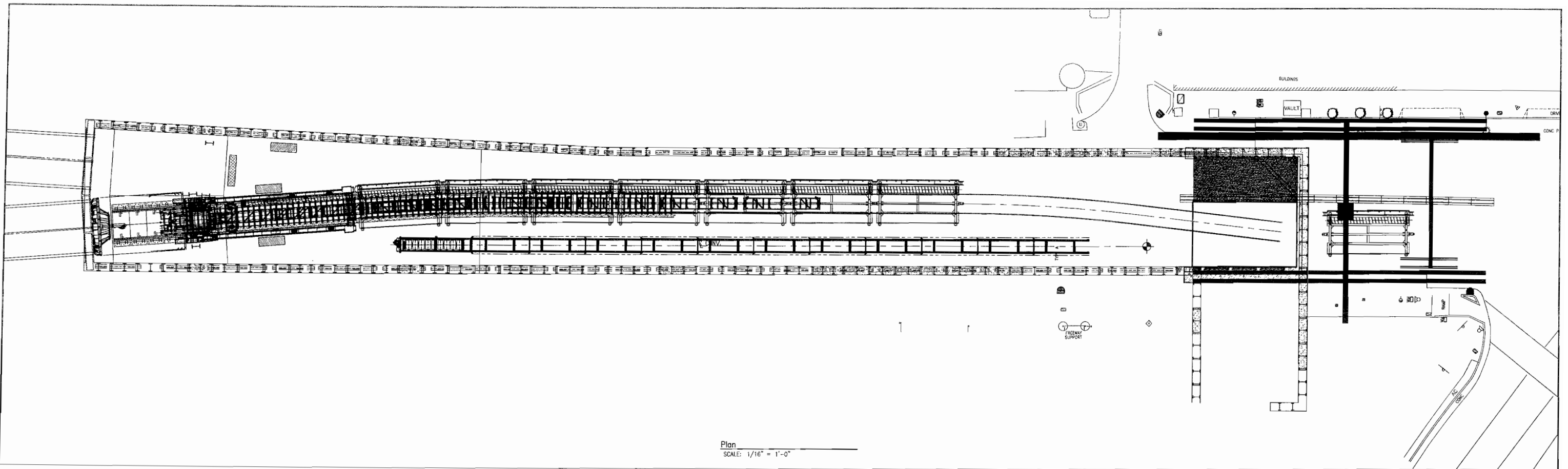
NOTES: 1. Lower Deck 6 and Stage Deck 7.

REV	DATE	DESCRIPTION



CITY AND COUNTY OF SAN FRANCISCO
MTA
CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

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	CHECKED BY:	DATE:	SCALE: AS NOTED			



REV	DATE	DESCRIPTION

NOTES: 1. Use The MSV To Tram Deck No. 7.



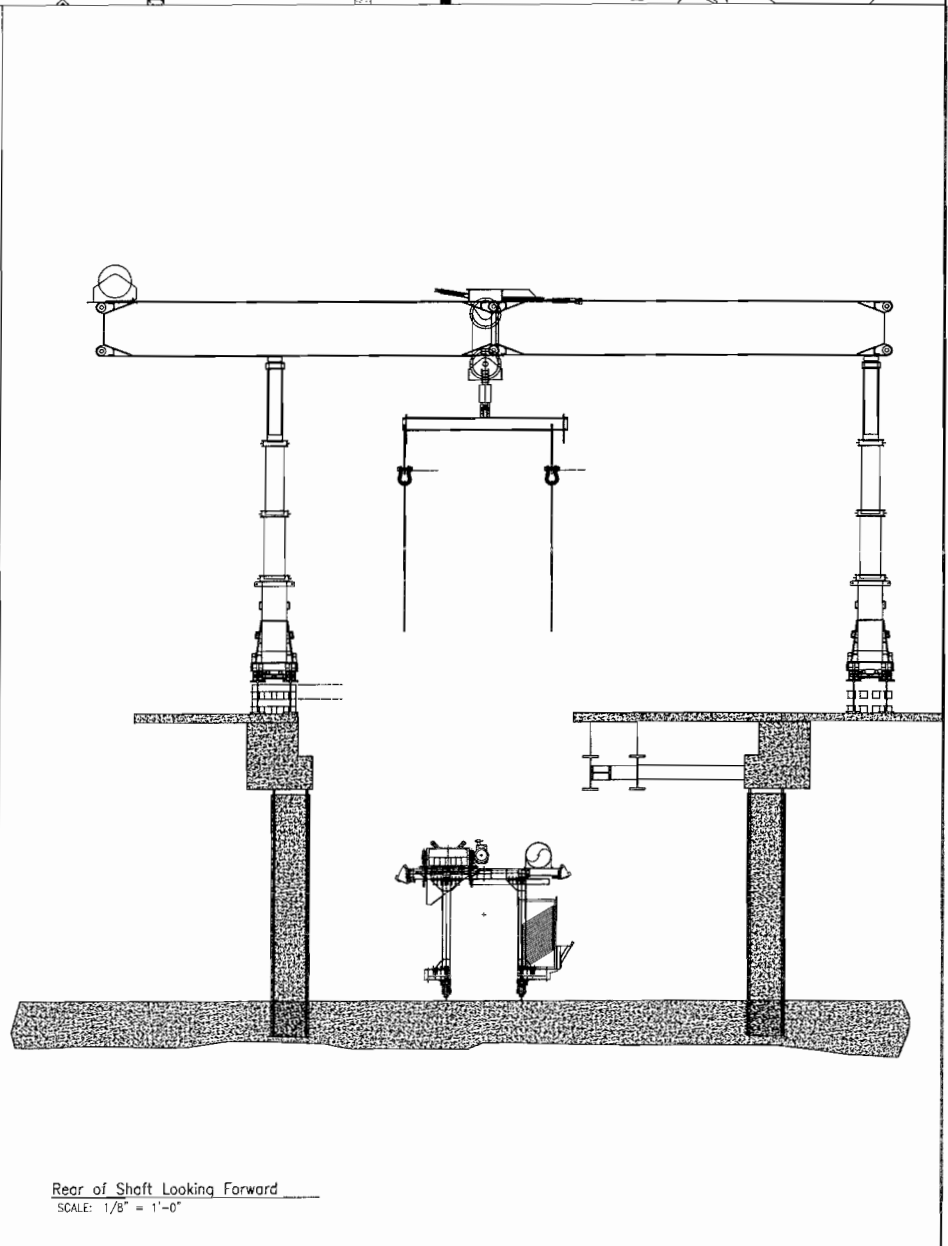
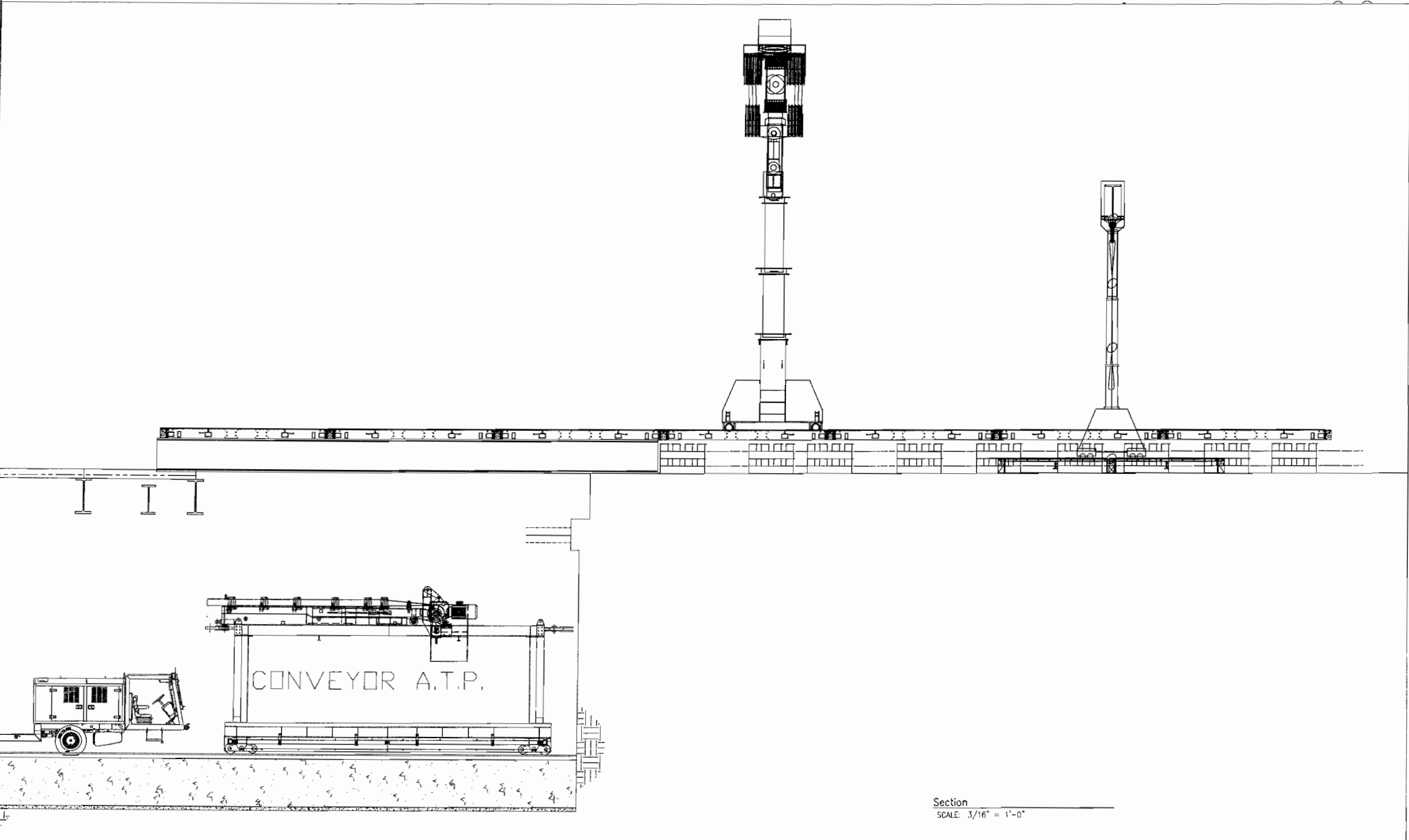
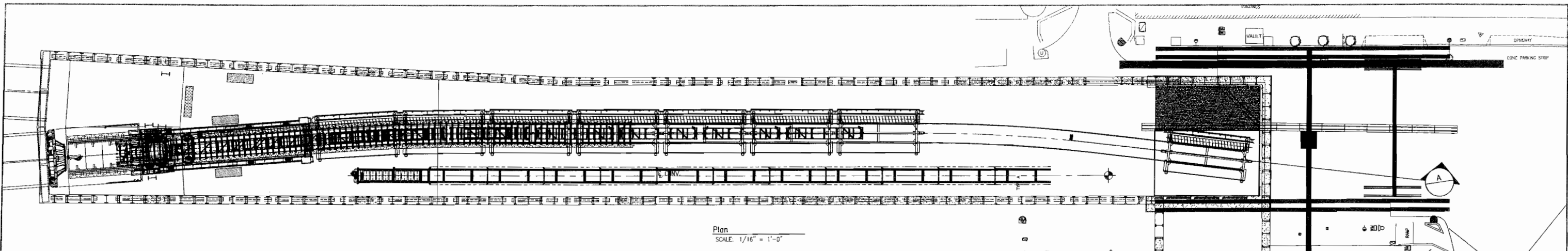
CITY AND COUNTY OF SAN FRANCISCO
MTA
CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

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DWG. BY: MLP	DATE: 03/11/2013	ELEC. FILE NO. 0221-001.01
CHECKED BY:	DATE:	SCALE: AS NOTED

DWG. NO. 0221-001.01	SHEET 16	REV. A
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This sheet is 24" x 36" and this line measures 1". If this line does not measure 1", scale accordingly.



REV	DATE	DESCRIPTION

NOTES: 1. Lower Deck 6 and Stage Deck 7.

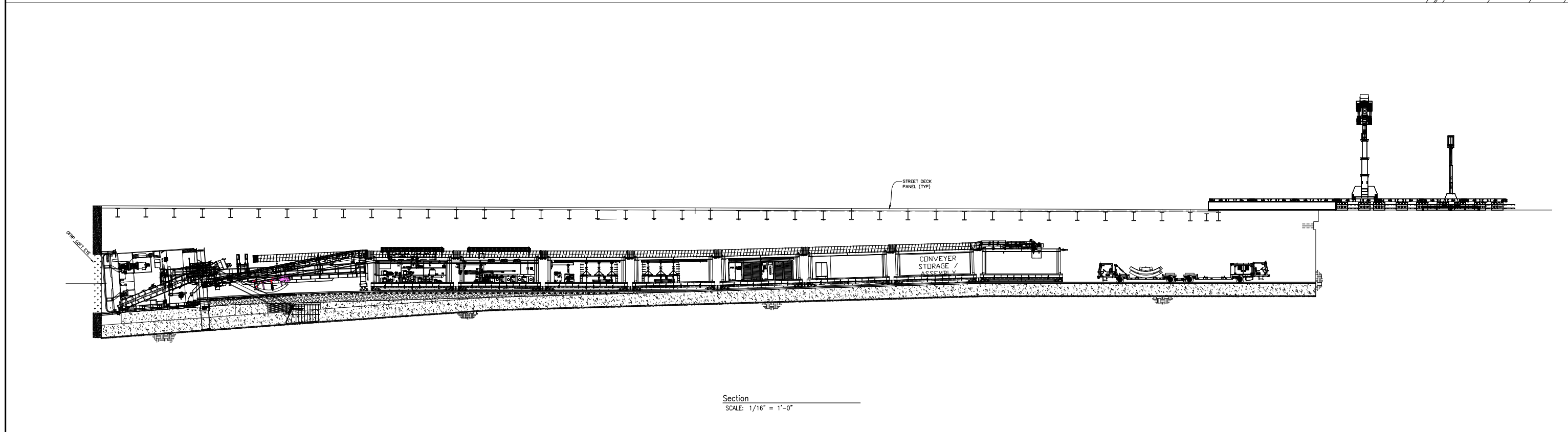
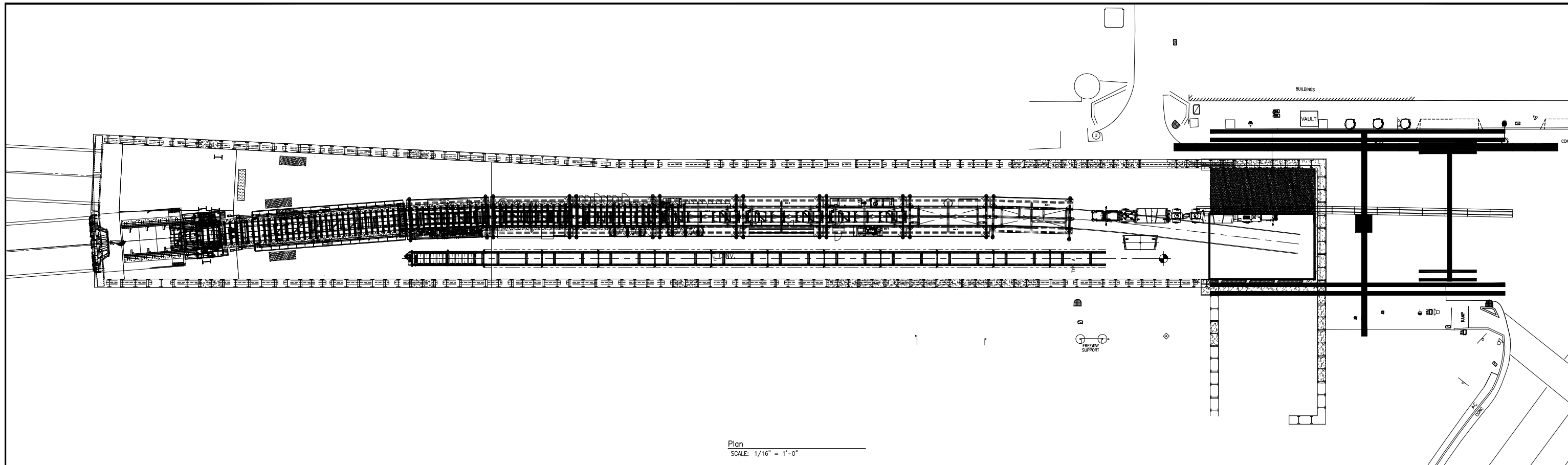
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**BARNARD
IMPREGILO
HEALY** JOINT VENTURE

DWG. BY: MLP
CHECKED BY: DATE: 03/12/2013
ELEC. FILE NO. 0221-001.01
SCALE: AS NOTED

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MTA
CENTRAL SUBWAY TUNNELS1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

DWG. NO. 0221-001.01
SHEET 17
REV. A



- NOTES:
1. Complete Installation of Fanline and MSV Guide Plates.
 2. Test Systems.



CITY AND COUNTY OF SAN FRANCISCO
MTA
CENTRAL SUBWAY TUNNELS 1252
SOUTH BOUND TBM LAUNCH
Trailing Gear Assembly

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DATE: 02/28/2013
DATE:

ELEC. FILE NO. 0221-001.01
SCALE: AS NOTED

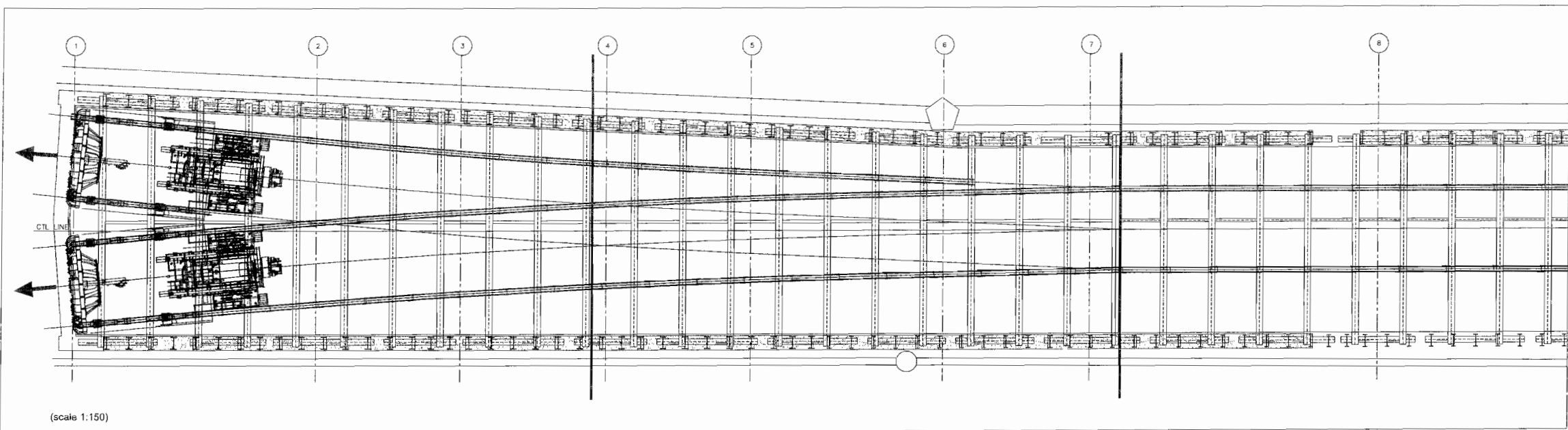
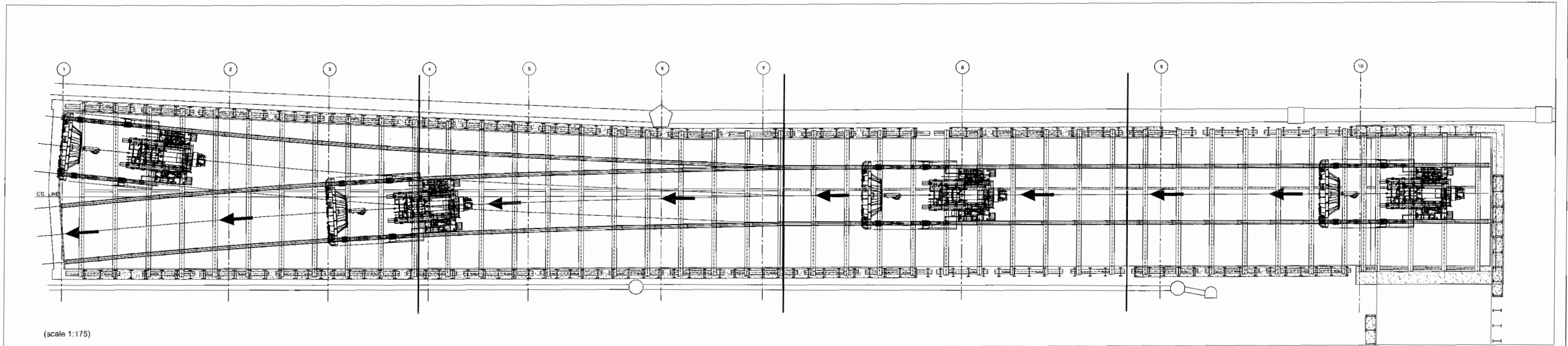
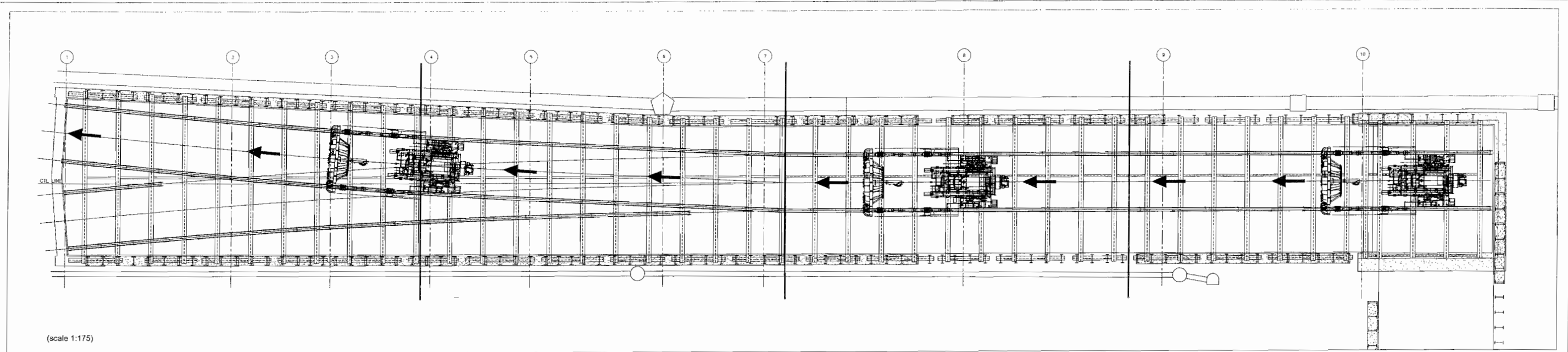
DWG. NO. 0221-001.01
SHEET 18
REV. A

REV	DATE	DESCRIPTION



**BARNARD
IMPREGILO
HEALY** JOINT VENTURE

Equipment



DRAWING STATUS

PROPOSAL FOR INFORMATION ONLY

RELEASED FOR CONSTRUCTION FINAL RECORDS/AS BUILT

Rev.	Date	Drawn	Check	Description	QF19 (issue 5)
0					

ALE  ALE Heavylift Iberica, S.A.
 Madrid, Spain
 Tel: +34 91 884 54 03
 Fax: +34 91 884 58 40
 Web: www.ale-heavylift.com

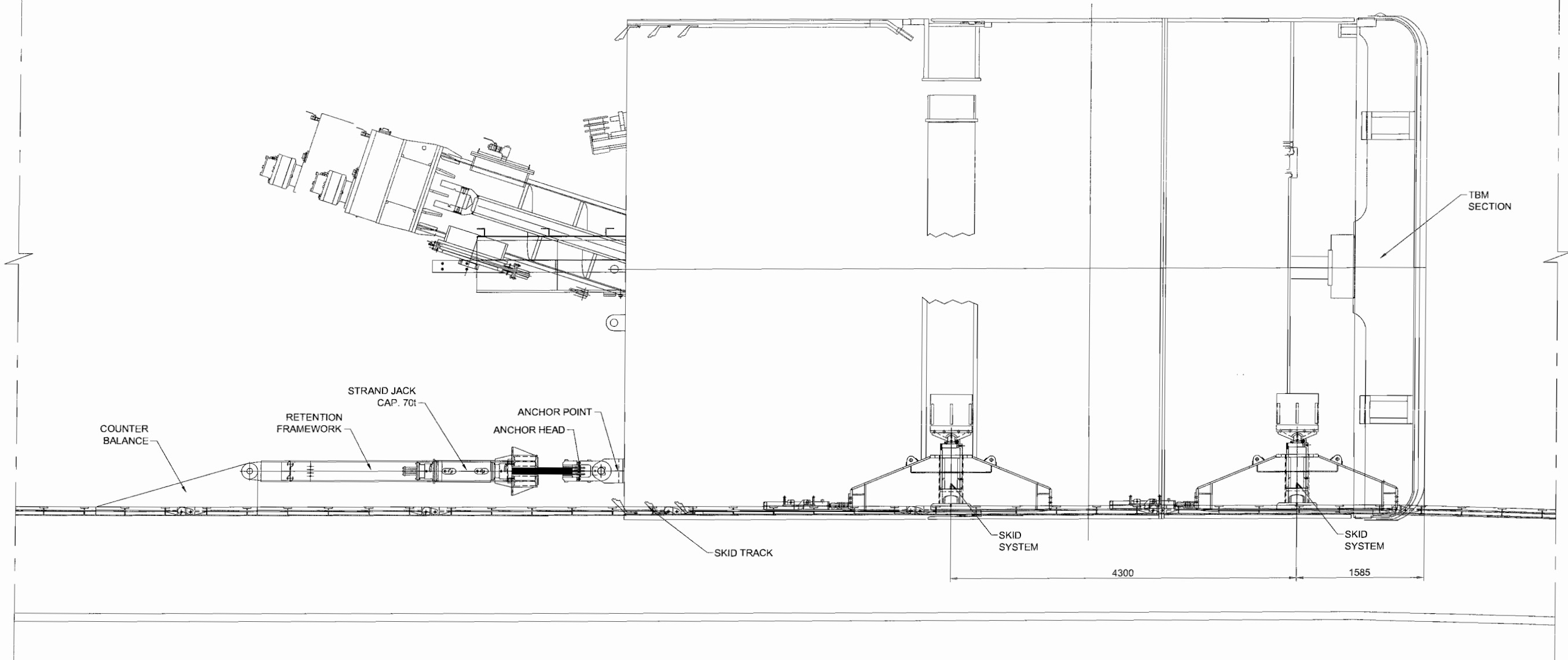
Client: **BARNARD IMPREGILO**

Project Title: **TBM INSTALLATION IN SAN FRANCISCO**

Drawing Title: **GENERAL ARRANGEMENT SKIDDING**

Date	Drawn	Checked	Scale (A1)	Sheet
27.11.2012	I.S.M	S.S	1/175	1 of 1
Project No.	Rev.	Drawing No.		
BND-01	0	BND-01-04		

DETAIL OF RETENTION SYSTEM
(scale 1:25)



DRAWING NOTES:

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
- ALL WEIGHTS ARE IN t (METRIC TONNES) UNLESS OTHERWISE STATED.
- ALL DETAILS ARE PROVISIONAL AND ARE SUBJECT TO CONFIRMATION.

TECHNICAL NOTES:

DRAWING STATUS

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Rev.	Date	Drawn	Check	Description	QF19 (Issue 5)
A	23.11.2012	I.S.M	S.S	GENERAL CHANGE.	
0					

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 Madrid, Spain
 Tel: +34 91 884 54 03
 Fax: +34 91 884 58 40
 Web: www.ale-heavylift.com

Client: **BARNARD IMPREGILO**

Project Title: **DESCENSO DE TUNELADORA EN SAN FRANCISCO**

Drawing Title: **GENERAL DISCRPTION OF SKIDDING OPERATIONS
DETAIL OF RETENTION SYSTEM**

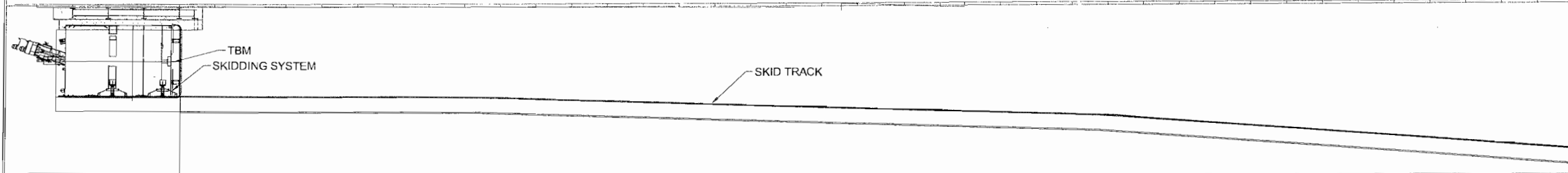
Date	Drawn	Checked	Scale (A1)	Sheet
27.11.2012	I.S.M	S.S	1/25	2 of 2

Project No.	Drawing No.	Rev.
BDN-01	BDN-01-03	0

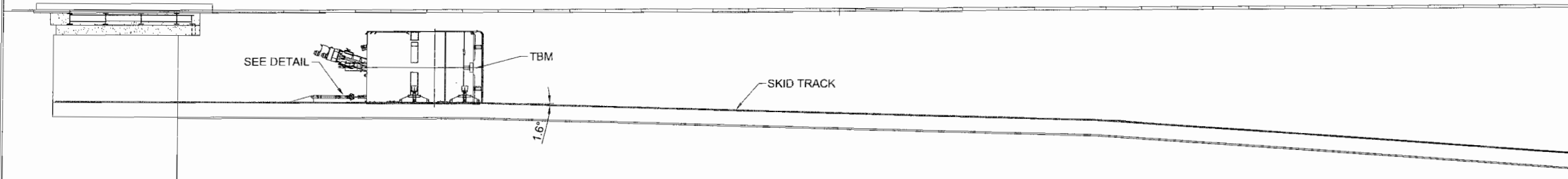
DO NOT SCALE IF IN DOUBT ASK The content of this drawing is confidential and must not be disclosed without the written permission of ALE.

File Location: D:\BND-01-03-0.dwg

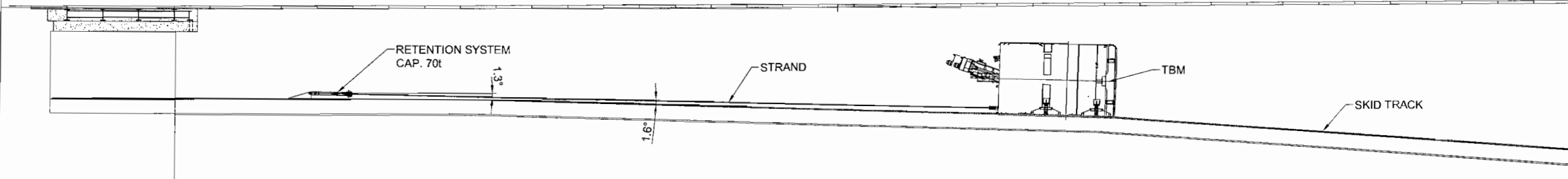
STAGE 1: LOAD ON TBM SECTION ON SKIDDING SYSTEM



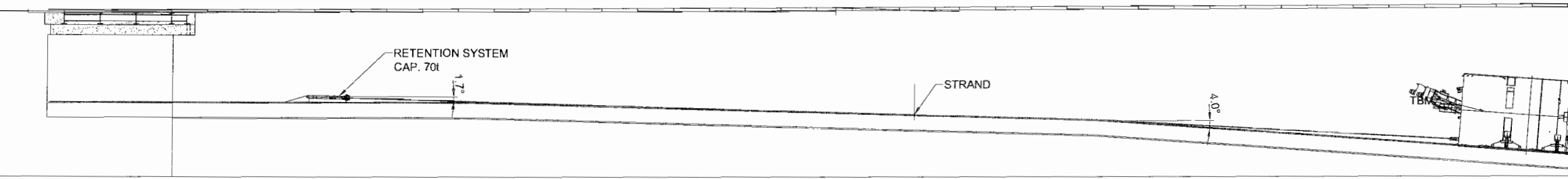
STAGE 2: INITIAL ADVANCE OF TBM UNTIL START OF SIGNIFICANT SLOPE (TAN. 1.6 ≈ 3%) AND INSTALATION OF RETENTION SYSTEM



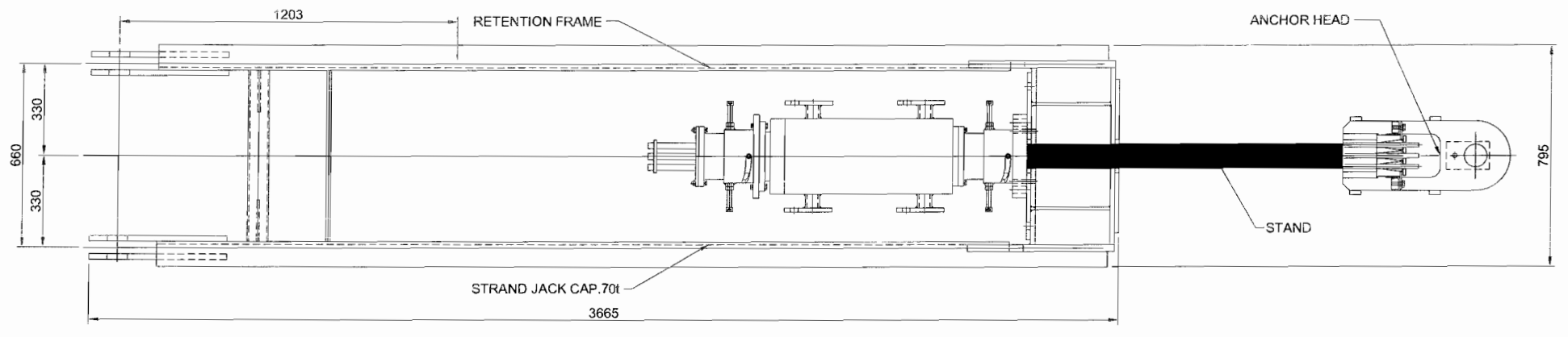
STAGE 3: INTERMEDIATE ADVANCE OF TBM SECTION ON INCLINE



STAGE 4: FINAL ADVANCE OF TBM SECTION ON INCLINE (TAN. 4° ≈ 7%)



DETAIL OF RETENTION SYSTEM (scale 1:10)



DRAWING NOTES:

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
- ALL WEIGHTS ARE IN t (METRIC TONNES) UNLESS OTHERWISE STATED.
- ALL DETAILS ARE PROVISIONAL AND ARE SUBJECT TO CONFIRMATION.

TECHNICAL NOTES:

DRAWING STATUS

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Rev.	Date	Drawn	Check	Description	QF19 (Issue 5)
0					

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 Madrid, Spain
 Tel: +34 91 884 54 03
 Fax: +34 91 884 58 40
 Web: www.ale-heavylift.com

Client: BARNARD IMPREGILO

Project Title: DESCENSO DE TUNELADORA EN SAN FRANCISCO

Drawing Title: GENERAL DISCRPTION OF SKIDDING OPERATIONS
 DETAIL OF RETENTION SYSTEM

Date: 26.11.2012	Drawn: I.S.M	Checked: S.S	Scale (A1): 1/20	Sheet: 1 of 2
Project No.: BDN-01	Drawing No.: BDN-01-03	Rev.: 0		



**BARNARD
IMPREGILO
HEALY** JOINT VENTURE

Schedule

Schedule

Project: Central T. Subway Project Location: San Francisco Ca. Sheet No. _____

Description: TBM Lowering Schedule Estimator: MWH Date: _____

Starting Date: _____ Completion Date: _____ Contract Time: _____

Item No.	Description	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24																								
	Shield Assembly																																																
	Upright and Lower Ring A onto the Cradle																																																
	Install Drive Motors and Manlock																																																
	Upright and Lower Ring B & C onto the Cradle																																																
	Install ALE Skidding System																																																
	Move TBM Main Body Back																																																
	Lower Cutterhead into Position and Install																																																
	Install Rotary Union																																																
	Slide Ring A, B, and C Forward																																																
	Install Screw Conveyor																																																
	Install Scaffolds																																																
	Slide TBM Forward																																																
	Upright and Lower Ring D																																																
	Move TBM To Welding Area																																																
	Remove ALE Rail System																																																
	Trailing Gear Assembly																																																
	Install Rail System for Backup Gantries																																																
	Lower and Install the Bridge Sections																																																
	Install Inclined Conveyor System																																																
	Move Bridge Section Forward to the TBM																																																
	Lower Gantry #1																																																
	Hook Up Hydraulics and Electrical to the Shield Systems																																																
	Lower Gantry #2																																																
	Hook Up Tail Seal Grease and Grout System to the Shield																																																
	Lower Gantry #3																																																
	Hook Up the Bentonite System to the Shield																																																
	Lower Gantry #4																																																
	Electrical and Power Hook up to the Cabin and Shield																																																
	Lower Gantry #5																																																
	Hook Up Transformers																																																
	Lower Gantry #6																																																
	Hook Up Transformer, Cooling System and Dewatering System																																																
	Lower Gantry #7																																																
	Hook Up Air System and Grout Hose Reel																																																
	Lower Gantry #8																																																
	Install Muck Pumping System / Short Conveyor																																																
	Lower Gantry #9																																																
	Install Duct Extender, Fans and High Voltage Cable																																																
	Install Segment Feeder																																																
	Install Belt Conveyor																																																
	Startup																																																
	Systems Testing																																																
	Backup Testing																																																
	Comissioning																																																

Activity ID	Activity Name	Org Dur	Start	Finish	Total Float	2013												2014															
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec						
1252- Update 12 - PB Design Pagoda Theater with PCC 10						499	12-Mar-13	06-Oct-14	149																								
Retrieval Shaft						499	12-Mar-13	06-Oct-14	149																								
BIH Site Development						125	12-Mar-13	31-Jul-13	523																								
BIH Utilities & Restorations						60	22-Apr-13	16-Jul-13	386																								
BIH						100	12-Mar-13	31-Jul-13	6																								
TUN-10-3540	Retrieval Shaft - SFMTA Permit Issuance incl. DBI Plan Check (Demolition)	34	12-Mar-13*	26-Apr-13	11	[Gantt bar: Mar 12 - Apr 26]																											
TUN-10-3670	Retrieval Shaft - BIH CMOD for Demo, Site Work, & Pre Demo Shaft Instrumentation	15	01-Apr-13	19-Apr-13	6	[Gantt bar: Apr 01 - Apr 19]																											
TUN-10-3800	Retrieval Shaft - BIH CMOD for Comp Grouting, Site Work, & Post Demo Shaft Instrumentation	35	01-Apr-13	17-May-13	26	[Gantt bar: Apr 01 - May 17]																											
TUN-10-3140	Retrieval Shaft - Install Instrumentation (Pre Demo)	15	22-Apr-13	10-May-13	6	[Gantt bar: Apr 22 - May 10]																											
TUN-10-3100	Retrieval Shaft - Mobilize Demolition Subcontractor	5	06-May-13	10-May-13	6	[Gantt bar: May 06 - May 10]																											
TUN-10-3110	Retrieval Shaft - Demo Building and Foundations	25	13-May-13	17-Jun-13	6	[Gantt bar: May 13 - Jun 17]																											
TUN-10-3150	Retrieval Shaft - Install Instrumentation (Post Demo)	15	18-Jun-13	09-Jul-13	21	[Gantt bar: Jun 18 - Jul 09]																											
TUN-10-3120	Retrieval Shaft - Sitework & Soundwalls	25	18-Jun-13	23-Jul-13	11	[Gantt bar: Jun 18 - Jul 23]																											
TUN-10-3130	Retrieval Shaft - Install Compensation Grout Pipes & Pre-Condition	30	18-Jun-13	30-Jul-13	6	[Gantt bar: Jun 18 - Jul 30]																											
TUN-10-3810	Retrieval Shaft - BIH Demob	1	31-Jul-13	31-Jul-13	6	[Gantt bar: Jul 31 - Jul 31]																											
Contractor B Construction						259	15-Mar-13	24-Mar-14	6																								
PB Design & Permits						60	15-Mar-13	07-Jun-13	12																								
TUN-10-3580	Retrieval Shaft - License Agreements for Comp Grout TAMs	60	15-Mar-13*	07-Jun-13	12	[Gantt bar: Mar 15 - Jun 07]																											
TUN-10-3760	Retrieval Shaft - PB Design Retrieval Shaft Start	0	20-Mar-13*		6	[Gantt bar: Mar 20 - Mar 20]																											
TUN-10-3490	Retrieval Shaft - PB Design Retrieval Shaft Instrumentation	23	20-Mar-13	19-Apr-13	8	[Gantt bar: Mar 20 - Apr 19]																											
TUN-10-3680	Retrieval Shaft - PB Design Retrieval Shaft	23	20-Mar-13	19-Apr-13	6	[Gantt bar: Mar 20 - Apr 19]																											
TUN-10-3500	Retrieval Shaft - PB Design Retrieval Shaft Compensation Grouting	33	20-Mar-13	03-May-13	10	[Gantt bar: Mar 20 - May 03]																											
TUN-10-3780	Retrieval Shaft - PB Geotechnical Investigation	48	20-Mar-13	24-May-13	17	[Gantt bar: Mar 20 - May 24]																											
TUN-10-3550	Retrieval Shaft - SFMTA Permit Issuance incl. DBI Plan Check (Shaftl)	20	22-Apr-13	17-May-13	22	[Gantt bar: Apr 22 - May 17]																											
TUN-10-3790	Retrieval Shaft - PB Design Retrieval Shaft Final Documents	34	22-Apr-13	07-Jun-13	8	[Gantt bar: Apr 22 - Jun 07]																											
Procurement for Contractor B						35	10-Jun-13	29-Jul-13	8																								
TUN-10-3690	Retrieval Shaft - Approval / Authorization for issuance of contract	5	10-Jun-13	14-Jun-13	8	[Gantt bar: Jun 10 - Jun 14]																											
TUN-10-3700	Retrieval Shaft - Director of Transportation Approval	0		14-Jun-13	8	[Gantt bar: Jun 14 - Jun 14]																											
TUN-10-3710	Retrieval Shaft - Advertise	0	17-Jun-13		8	[Gantt bar: Jun 17 - Jun 17]																											
TUN-10-3720	Retrieval Shaft - Bid Period	20	17-Jun-13	15-Jul-13	8	[Gantt bar: Jun 17 - Jul 15]																											
TUN-10-3730	Retrieval Shaft - Bid Opening	0		15-Jul-13	8	[Gantt bar: Jul 15 - Jul 15]																											
TUN-10-3740	Retrieval Shaft - Review / Award Contract	10	16-Jul-13	29-Jul-13	8	[Gantt bar: Jul 16 - Jul 29]																											
Contractor B Construction						164	30-Jul-13	24-Mar-14	6																								
TUN-10-3750	Retrieval Shaft - NTP	0	30-Jul-13		8	[Gantt bar: Jul 30 - Jul 30]																											
TUN-10-3180	Retrieval Shaft - Mobilize Secant Pile Subcontractor	5	01-Aug-13	07-Aug-13	6	[Gantt bar: Aug 01 - Aug 07]																											
TUN-10-3160	Retrieval Shaft - Guidewalls	10	08-Aug-13	21-Aug-13	6	[Gantt bar: Aug 08 - Aug 21]																											
TUN-10-3170	Retrieval Shaft - Secant Piles	50	22-Aug-13	31-Oct-13	6	[Gantt bar: Aug 22 - Oct 31]																											
TUN-10-3770	Retrieval Shaft - Jet Grout	15	01-Nov-13	21-Nov-13	6	[Gantt bar: Nov 01 - Nov 21]																											
TUN-10-3290	Retrieval Shaft - Install Dewatering System	5	22-Nov-13	02-Dec-13	6	[Gantt bar: Nov 22 - Dec 02]																											
TUN-10-3190	Retrieval Shaft - Mobilize Excavation Resources	5	03-Dec-13	09-Dec-13	6	[Gantt bar: Dec 03 - Dec 09]																											
TUN-10-3210	Retrieval Shaft - Excavate Level 1	4	10-Dec-13	13-Dec-13	6	[Gantt bar: Dec 10 - Dec 13]																											
TUN-10-3220	Retrieval Shaft - Install Level 1 Bracing	8	16-Dec-13	26-Dec-13	6	[Gantt bar: Dec 16 - Dec 26]																											
TUN-10-3230	Retrieval Shaft - Excavate Level 2	5	27-Dec-13	03-Jan-14	6	[Gantt bar: Dec 27 - Jan 03]																											
TUN-10-3240	Retrieval Shaft - Install Level 2 Bracing	8	06-Jan-14	15-Jan-14	6	[Gantt bar: Jan 06 - Jan 15]																											
TUN-10-3250	Retrieval Shaft - Excavate Level 3	6	16-Jan-14	23-Jan-14	6	[Gantt bar: Jan 16 - Jan 23]																											
TUN-10-3260	Retrieval Shaft - Install Level 3 Bracing	8	24-Jan-14	04-Feb-14	6	[Gantt bar: Jan 24 - Feb 04]																											
TUN-10-3270	Retrieval Shaft - Excavate to Invert	6	05-Feb-14	12-Feb-14	6	[Gantt bar: Feb 05 - Feb 12]																											
TUN-10-3280	Retrieval Shaft - Pour Mud Slab	2	13-Feb-14	14-Feb-14	6	[Gantt bar: Feb 13 - Feb 14]																											
TUN-10-3300	Retrieval Shaft - Pour Base Slab	10	18-Feb-14	03-Mar-14	6	[Gantt bar: Feb 18 - Mar 03]																											
TUN-10-3400	Retrieval Shaft - Remove Level 3 Bracing	5	18-Mar-14	24-Mar-14	6	[Gantt bar: Mar 18 - Mar 24]																											
BIH Prep for TBM/ Construct Bulk Head/ Site Restoration						131	02-Apr-14	06-Oct-14	119	[Gantt bar: Apr 02 - Oct 06]																							

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Trend Log

Contract Cost Estimate and Allocated Contingencies											
Item #	Date Initiated	CMB No.	Change Description	Change Type	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number	Utility Reimbursements	
					Approval Action	Approval Date					
CONSTRUCTION TRENDS											
Contract 1250 - Utilities Relocation #1 (Portal & MOS)											
1250-0001	04/15/10	081-0001	Delete Option MF-OPT1 "Fire Protection Sprinkler System"	1	N/A		(50,000)	Cleared City Attorney's Office; to Shahnam for execution. [In "Current Forecast" - Sep2010 Cost Report.] COMPLETE, NO FURTHER ACTION; CMOD #1	CMOD #1 Approved		
1250-0002	05/07/10	081-0002	Changes to Sewer on 4th between Howard and Folsom	2	CMB-0001	Agree	07/12/10	+107,174	Differing conditions as AWSS is directly over existing sewer; unable to install sewer manhole per plan. [In "Current Forecast" - Sep2010 Cost Report.] No reimbursement from SFPUC Sewer. COR #2-\$34,135; COR #5-\$73,039 COMPLETE, NO FURTHER ACTION; CMOD #2	CMOD #2 Approved	
1250-0003	05/28/10	081-0003	Quantity Adjustment for JT-6 and JT-7	4	CMB-0002	Agree	08/04/10	+192,420	In April 2010 pay app, JT-6 bid qty exceeded by 344% (230 vs 1021) and JT-7 bid qty exceeded by 112% (500 vs. 1060) [In "Current Forecast" - Sep2010 Cost Report.] COMPLETE, NO FURTHER ACTION; CMOD #3	CMOD #3 Approved	
1250-0004	07/02/10	081-0004	Demolition of existing brick and concrete footing on 4th between Howard and Folsom	2	CMB-0003	Agree	07/12/10	+170,000	Unforeseen bricks and concrete footing discovered on east side of 4th Street between Folsom and Howard. [In "Current Forecast" - Sep2010 Cost Report.] COR #3-RFI #76 COMPLETE, NO FURTHER ACTION; CMOD #4	CMOD #4 Approved	
1250-0005	04/20/10	081-0005	Modify AWSS at 4th/Bryant and 4th/Harrison	3	CMB-0004	Agree	08/04/10	+586,000	At 4th/Bryant, AWSS conflict with new 48" sewer and AT&T duct bank. At 4th/Harrison, AWSS conflict with 18" sewer. [In "Current Forecast" - Sep2010 Cost Report.] No reimbursement from SFPUC AWSS. PCC #2: RFI #s 34, 49 & 51 COMPLETE, NO FURTHER ACTION; CMOD #5	CMOD #5 Approved	
1250-0006	04/29/10	081-0006	Install four additional piles and reinforce existing foundation at 401 4th Street	2	CMB-0005	Agree	08/25/10	+130,000	Existing foundation was discovered to be part brick and part concrete, which is different from plan. Also, foundation was unstable and required additional reinforcement. Refer to RFIs #85R1, 88.1, 100, 101, 102 COMPLETE, NO FURTHER ACTION; CMOD #6	CMOD #6 Approved	
1250-0007	10/06/10	081-0007	Additional work to install 48" sewer due to various utility conflicts at 4th/Bryant	2	N/A		+32,964	48" RCP sewer in conflict with existing AT&T duct bank that needs to remain in service until new joint trench is installed to enable switchover. This conflict forced contractor into a more expensive means to install sewer. Also, 48" RCP sewer in conflict with existing 30" force main and 24" steel pipes. No reimbursement from SFPUC Sewer. COMPLETE, NO FURTHER ACTION; CMOD #9	CMOD #9 Approved		
1250-0008	10/06/10	081-0008	Relocate TPC vault on 4th Street between Howard and Folsom	6	N/A		+19,500	Contractor uncovered existing TPC conduits on top of AT&T duct bank on 4th near Howard, a differing site condition. An AT&T intercept vault is to be installed, however, TPC conduits can not reside inside AT&T intercept vault. Joint Trench utilities participation cost TBD. Executed on 10/14/2010. Refer to RFI #62 (\$19,500) Expected Reimbursement from TPC. RE has provided documentation of notification to TPC, July August '10. See final 1250 Form B actual costs COMPLETE, NO FURTHER ACTION; CMOD #8	CMOD #8 Approved	(19,500)	
1250-0009	10/06/10	081-0009	Install additional sewer and provide temporary connections at 4th/Stillman	3	N/A		+47,000	Location of existing sewer to be intercepted differs from where it's shown in the plan, hence additional sewer to be installed. Also, due to optional sewer MH not buildable until (E) AT&T DB is removed, additional sewer is necessary to tie into (E) main as interim. New sewer is supposed to tie into optional MH. No reimbursement from SFPUC Sewer. RFI #91 COMPLETE, NO FURTHER ACTION; CMOD #7	CMOD #7 Approved		

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CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number	Utility Reimbursements	
					Approval Action	Approval Date					
1250-0010	10/06/10	081-0010	Perform AT&T wye cast connection and chipping of existing duct bank at various locations	6	N/A			+48,181	AT&T was supposed to tie-in its own facility. However, AT&T's contractor, who is hired to install vaults, stated it is not in their scope of work. Refer to RFI #82.1. AT&T intercept vault at 4th/Harrison can not be installed at design location due to utility conflicts. AT&T vault to be shifted a few feet instead of vault being on top of existing duct bank. This will cause additional excavation, joint trench and modification to existing duct bank. Joint Trench utilities participation cost TBD. SFMTA and AT&T are negotiating with Contractor. (\$48,181) Expected Reimbursement from AT&T. RE has provided documentation of notification to AT&T, Sept-Oct '10. See final 1250 Form B actual costs. COMPLETE, NO FURTHER ACTION; CMOD #10	CMOD #10 Approved	(48,181)
1250-0011	10/06/10	081-0011	Remove existing piles and shoring at 801 Howard	2				-0.	This change order has been incorporated in CMOD #16 (Trend #30) COMPLETE, NO FURTHER ACTION; CMOD #16	CMOD #16 Approved	
1250-0012	10/06/10	081-0012	Additional work related to AT&T facilities due to unforeseen conditions.	6	CMB-0047	Agree	08/03/11	-0.	This is the total of all force account work related to AT&T facility. SFMTA to seek reimbursement from AT&T through the Form B process. (\$67,798) Expected Reimbursement from AT&T. Cost captured in Trend #15 COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20 Approved	
1250-0013	10/06/10	081-0013	Additional work related to PG&E facilities due to unforeseen conditions.	6	CMB-0047	Agree	08/03/11	-0.	This is the total of all force account work related to PG&E facility. SFMTA to seek reimbursement from PG&E through the Form B process. (\$30,547) Expected Reimbursement from AT&T. Cost captured in Trend #15 COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20 Approved	
1250-0014	10/06/10	081-0014	Remove brick wall at sewer sta 152+94 (west side) on 4th between Howard and Folsom.	2				-0.	This change order has been incorporated in CMOD #16 (Trend #30) COMPLETE, NO FURTHER ACTION; CMOD #16	CMOD #16 Approved	
1250-0015	10/06/10	081-0015	Archaeological Findings - Charges for rental of steel plates, triton barriers, shoring and labor for maintenance.	2				+784,771	Midden deposits were discovered on 4th Street between Howard and Folsom. Contractor stopped work. Contractor requesting payment for rental charges of trench plates, barricades, and shoring, and cost of maintenance. Total cost exposure is projected through end of November 2010. The \$290,703.00 is expected to be the final estimate for the rental of trench plates, barriers and shoring. \$597,000 Arch, \$179,000 DIFF, \$8,500 Traffic COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20	
1250-0016	10/06/10	081-0016	Additional AWSS modification at 4th/Harrison	1	CMB-0016	Agree	11/10/10	+156,418	New alignment is proposed by Design team. No reimbursement from SFPUC AWSS. COR #33 Supplemental COMPLETE, NO FURTHER ACTION; CMOD #12	CMOD #12 Approved	
1250-0017	10/06/10	081-0017	Protection Work at PG&E Vault 1611	6				-0.	Expected Reimbursement from PG&E or work to be deferred \$6,400. RE has notified PG&E via email dated 10/29/10 that SFMTA expects full reimbursement for this work if implemented. Follow-up pending. Work was not performed and will need to be addressed in a future contract.		
1250-0018	10/06/10	081-0018	Demolition and Support Work at PG&E Vault 1611	6				-0.	Expected Reimbursement from PG&E or work to be deferred \$25,000. RE has notified PG&E via email dated 10/29/10 that SFMTA expects full reimbursement for this work if implemented. Follow-up pending. Work was not performed and will need to be addressed in a future contract.		
1250-0019	10/06/10	081-0019	Extended overhead delay claim due to Archaeological discoveries	2					Old Note: Potential delay claim if issue extends project duration. Amount is estimated at \$3,000.00 per day for 60 days (\$180K). New Note: By exercising all option work, additional 84 calendar days is added to the contract time. In addition, midden mitigation will start on 10/7/10. As a result, the potential for extended overhead cost is averted. This trend has been superseded by Trend #37. COMPLETE, NO FURTHER ACTION		
1250-0020	10/06/10	081-0020	Sewer modification under I-80 freeway at 2 locations	3				+39,062	Inverts of existing sewer where new sewer will tie into are found to be different than shown in plan and would create a reverse slope. Additional pipe and manhole are required to fix slope. Refer to RFI Nos. 2S01 and 147. No reimbursement from SFPUC Sewer. COMPLETE, NO FURTHER ACTION; CMOD #11	CMOD #11 Approved	
1250-0021	10/06/10	081-0021	Install new AWSS lateral including hydrant at NW 4th/Harrison	2					Existing AWSS lateral at SW 4th/Harrison is in conflict with new 18" sewer. Instead of modifying the lateral to avoid the sewer, a new lateral at NW corner is a preferred solution. CM awaiting design revision from Design team. Trend No. 21 is combined with Trend No. 22.		
1250-0022	10/06/10	081-0022	Install additional 30 feet of DIP and new AWSS at 4th/Harrison	2	CMB-0026	Agree	01/12/11	+160,908	AWSS Point of connection on 4th Street was found to be cast iron instead of ductile iron as shown in DPW as-built. Due to this differing condition, additional length of pipe needs to be replaced and lead joint to be installed in order to install a ductile iron tee. Also, existing AWSS hydrant lateral is in conflict with new 18" sewer. The preferred solution was to install a new ductile iron lateral at a different location rather than installing vertical offsets on an existing cast iron lateral. No reimbursement from SFPUC AWSS. COMPLETE, NO FURTHER ACTION; CMOD #15	CMOD #15 Approved	

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CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number	Utility Reimbursements	
					Approval Action	Approval Date					Actual/Forecast
1250-0023	10/06/10	081-0023	Steel plates and shoring standby for 2 months due to PG&E delay at Clementina	3				+24,981	Sewer at Clementina was delayed by 2 months due to PG&E vault conflict. PG&E will not pay cost of steel plates and shoring standby because PG&E drawings were sent to MTA during design phase and PG&E was not made aware of the conflict then. COMPLETE, NO FURTHER ACTION; CMOD #13	CMOD #13 Approved	
1250-0024	10/06/10	081-0024	Utility support and work around for AT&T facilities	6	CMB-0048	Agree	08/24/11	+95,311	Contract specs specified AT&T to compensate contractor directly for workaround & support. AT&T refused to pay Synergy. Synergy considers AT&T's refusal as a changed condition to CN 1250 contract. (\$95,311) Reimbursement from AT&T. See Final 1250 Form B actual costs. COMPLETE, NO FURTHER ACTION; CMOD #19	CMOD #19 Approved	(95,311)
1250-0025	10/06/10	081-0025	Utility support and work around for PG&E facilities	6					Contract specs specified PG&E to compensate contractor directly for workaround & support. PG&E negotiated \$100,000 directly with Synergy and will pay synergy directly as well.		
1250-0026	10/06/10	081-0026	Utility support and work around for SFWD facilities	3	CMB-0028	Agree	02/09/11	+66,510	Total cost known to date (10/5/10) of all SFWD support and workaround. See COR #12, 20, 32 and 35. Agreed amount is total of COR #12, 20 and 32. Total exposure is equal to agreed amount plus COR #35. No reimbursement from SFWD. COMPLETE, NO FURTHER ACTION; CMOD #14	CMOD #20 Approved	
1250-0027	10/06/10	081-0027	Trucking and labor support for Archaeological mitigation	2				-0-	Synergy is asked to provide trucking for delivery of midden soil to Sonoma State University lab. Other support work includes traffic control, plating, loading and unloading of midden soil. The amount shown are charges up to end of November 2010 only. Additional charges are expected which will be tracked as Trend No. 28. COMPLETE, NO FURTHER ACTION	CMOD #20 Approved	
1250-0028	12/08/10	081-0028	Trucking and labor support for Archaeological mitigation, Part II	2				-0-	Synergy is asked to provide trucking for delivery of midden soil to Sonoma State University lab. Other support work includes traffic control, plating, loading and unloading of midden soil. The amount shown are expected charges beyond November 2010. COMPLETE, NO FURTHER ACTION	CMOD #14 Approved	
1250-0029	12/08/10	081-0029	Cost overrun for bid item UD-10 "Additional excavation and backfill"	4	CMB-0036	Agree	05/04/11	+112,500	Bid item UD-10 is to pay for excavation of connection hole and kill hole for SFWD line. Contract only included 200 cubic yard for this work. The size of excavations is dictated by field conditions and per the direction of SFWD inspector. RE's estimate of the total volume of dirt to be excavated is 630 cy. Examples of differing conditions encountered are: location of existing water line is different than where it's shown in the plan, existing waterline where shown in the plan to be connected to is inactive, differing condition at 5th/Clementina, connection holes and kill holes need to be expanded due to other utilities in the way. COMPLETE, NO FURTHER ACTION; CMOD #17	CMOD #17 Approved	
1250-0030	12/08/10	081-0030	Supplement bid item GE-4 "Allowance for differing site conditions" related to the installation of publicly owned facilities only (sewer, water, AWSS, Joint trench)	4	CMB-0030	Agree	04/13/11	+235,595	This change order is to supplement GE-4 for cost overrun related to the installation of publicly owned infrastructure only. GE-4 cost overrun for installation of privately owned infrastructure is being tracked separately and a separate change order will be issued. COMPLETE, NO FURTHER ACTION; CMOD #16	CMOD #16 Approved	
1250-0031	12/08/10	081-0031	Unused allowance for bid item GE-8 "Allowance for cast-in-place utility vaults"	4				-0-	Bid item GE-8 is an allowance to pay contractor for designing and constructing cast-in-place manholes as required for installation of new systems. Only one CIP vault was installed. Credit amount included in Trend #43		
1250-0032	12/08/10	081-0032	Unused allowance for bid item UD-5 "Handling and disposal of Class I Hazardous Waste"	4				-0-	Bid item UD-5 is an allowance to pay contractor for handling and disposal of Class I Hazardous Waste. No class I hazardous waste was off hauled away from the job site. Class I soil found under the I-80 freeway was put back in the trench as backfill. This bid item is expected to remain unused. However, contractor is claiming to recover "General Conditions" cost. Credit amount included in Trend #43		
1250-0033	12/08/10	081-0033	Unused allowance for bid item UD-6 "Transportation of Class I Hazardous Waste"	4				-0-	Bid item UD-6 is an allowance to pay contractor for transporting of Class I Hazardous Waste. No class I hazardous waste was off hauled away from the job site. Class I soil found under the I-80 freeway was put back in the trench as backfill. This bid item is expected to remain unused. However, contractor is claiming to recover "General Conditions" cost. Credit amount included in Trend #43		
1250-0034	12/08/10	081-0034	Cost overrun for bid item TR-6 "Allowance for manual traffic control"	4	CMB-0037	Agree	05/04/11	+68,820	Bid item TR-6 is an allowance to pay for off-duty police officers and parking control officers. Contract allowance amount is \$50,000.00. Contract specs calls for police officers at 4 intersections (4th/Howard, 4th/Folsom, 4th/Harrison and 4th/Bryant). The average cost of 1 police officer is about \$800.00 per day (\$100.00 per hour). The \$50,000.00 allowance is only good for 60 days for 1 police officer. Hence, additional money was needed for traffic control support. Final amount paid police officers is \$87,500.00. Additional billings for parking control officers (from Al Herce of DPT) is forthcoming; RE estimated this bill to be about \$60,000.00. COMPLETE, NO FURTHER ACTION; CMOD #18	CMOD #18 Approved	

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					Approval Action	Approval Date				
1250-0035	12/08/10	081-0035 Premium cost for requesting contractor to accelerate work on 4th Street between Howard and Folsom	2							
1250-0036	12/08/10	081-0036 Rental/Maintenance costs for support of Archeological Trenches (Part 1 of 4) \$255,840; Support Work During Archeologist Mitigation Efforts (Part 2 of 4) \$199,741; Mobilization and Equipment Standby Costs (Part 3 of 4) \$67,728; Additional Overhead/Indirect Costs During Archeological Delay Period (Part 4 of 4) \$124,186	2	CMB-0041	Agree	07/13/11 02/15/12 07/25/12 09/12/12		Due to archaeological discoveries, contractor may potentially claim for compensation for his equipment that were idle for the duration of the waiting period. RE's estimate is based on Caltrans rate for equipment standby for 5 months (May to October). RE has not received any change order request related to this item. RE to verify if his equipment were indeed idle during this time period. 2/15: Rental/Maintenance Costs for Support (Part 2 of 4); -0- Addl Work as Result of Archeological Shutdown (3 of 4). 07/25: Revised mod - compensation for 1 of 3) Rental/Maintenance, 2 of 3) Addl Work result of Archeological support, 3 of 3) Addl OH/Indirect cost. RE to add Equipment Standby time to revised mod. 09/12: RE to Prepare Modification 10/29: CMod 20 is being issued as a unilaterally change, by the SFMTA that represents the SFMTA's estimate of a fair and reasonable final compensation amount for the additional work. COMPLETE, NO FURTHER ACTION	CMOD #20 Approved	
1250-0037	12/08/10	081-0037 Compensation for loss of production, inefficiency and disruption of work due to archaeological discovery	2					Due to archaeological discoveries, contractor may potentially claim for compensation for loss of production, inefficiency and disruption of work. RE has not received any change order request related to this item. Amount shown is a ROM cost by the RE. RE expects a COR from the contractor but change justification is very unlikely. Initial draft COR was \$898,453. RE has adjusted to \$661,559 removing the month of October and option work. This was then revised to 800,000. There has been no official submittal from Synergy. SFMTA has directed Synergy to submit anything related to the Architectural delays through the claims process. This will be carried in the Potential Claim Log. COMPLETE, NO FURTHER ACTION		
1250-0038	03/18/11	081-0038 Project Delay due to archaeological discovery and PG&E Issues.	2					Due to archaeological discoveries compounded with PG&E's ability to perform service switchover to Olivet University and de-energize a live duct bank in conflict with 48" sewer. The project will realize an estimated 6 weeks of non-compensable delay to the substantial completion date of 4/6/11. 47 days estimated by RE. Contractor submitted COR 51 in the amount of \$1,144,776.74 on September 1st, 2011. RE responded requesting additional backup on October 19th, 2011. Subsequently, no additional information has been provided by the contractor, therefore, SFMTA has directed Synergy to submit anything related to the Architectural delays through the claims process. This will be carried in the Potential Claim Log.		
1250-0039	05/18/11	081-0039 Remove BP-4 (Waterproofing) from Contract	4					-0- Bid item was not used. Contractor requesting compensation to recover for General Conditions cost. Bid item amount total is \$40,000. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A	
1250-0040	05/18/11	081-0040 Delete SW-8 (24" Sewer) from Contract	4					-0- Bid item was not used. Contractor requesting compensation to recover for General Conditions cost. Bid item amount total is \$73,117. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A	
1250-0041	05/18/11	081-0041 Delete UD-5 and UD-6 (Class I Off haul and Handling) from Contract	4					-0- Bid items were not used. Contractor requesting compensation to recover for General Conditions cost. Bid items total amount is \$150,000. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A	
1250-0042	05/25/11	081-0042 Delete GE-6 (Hazmat) from Contract	4					-0- Bid item was not used. Contractor requesting compensation to recover for General Conditions cost. Bid item amount total is \$100,000. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A	
1250-9001	10/06/10	081-9001 Utility Companies refusal to contribute to utility support costs and work around. (Voided. Recorded individually in TR-0059-TR-0061.)	7						VOIDED	
1250-0043	08/03/11	081-0043 Unit Rate Adjustment for Entire 1250 Bid Items	4				(333,904)	Pursuant to General Provision GP-11, COR is to adjust contract value to account for fix overhead costs for bid items not performed or where the bid item performed varied by 25%. COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20 Approved	

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					Approval Action	Approval Date					Actual/Forecast
Contract 1250 Totals											
							+2,694,211	<p>Total Changes to the Contract in the amount of \$2,694,211, represents a \$740,834 OVER RUN of the original allocated contingency of \$1,953,377.</p> <p>Changes that will be Utility Reimbursement credits through the Form B process in the amount of \$162,992 will offset some of this OVER RUN.</p> <p>Final Contract Closeout Total \$11,968,150 will be reduce by \$2,275,419 Utility Reimbursement credits for a Final Program cost of \$9,692,731 for CN 1250</p>		(162,992)	
Contract 1251 - Utilities Relocation #2 (UMS)											
Contract 1251 Totals											
							+3,962,032	<p>Total Changes to the contract in the amount of 3,962,032 represents an UNDERRUN of allocated contingency in the amount of \$1,405,265.32.</p> <p>Changes that will be Utility Reimbursement credits through the Form B process in the amount of \$1,224,828 will increase the UNDERRUN.</p> <p>Final Contract Closeout Total \$20,794,581 will be reduce by \$7,618,112 Utility Reimbursement credits for a Final Program cost of \$13,176,469 for CN 1251</p>		(1,224,828)	
Contract 1252	COR No.	PCC No.	1252 Change Description	Change Type	CMB Change No.	Configuration Management Board Agree/Disagree	Decision Date	Actual/Forecast	Comments	Contract Modification No.	
1252-0001	04/23/12	1	AWSS Conflict w/ Low Pressure Water	6	CMB-0091	Agree to Merit Agree to Cost	10/10/12 1/16/13	+16,907	AWSS contract work was made more difficult by the proximity of a water line which was closer than indicated on UT-501. See COR 008 for TIA request. 10/10/12 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$16,900	CMOD #17	
1252-0002	04/23/12	2	AWSS Add. Tie-Rods 4th-Harrison	6	CMB-0086	Agree to Merit Agree to Cost	10/10/12 12/19/12	+58,000	The AWSS line must be restrained a certain distance beyond the 90 degree elbow we are installing under contract 1252. The 1252 contract work includes excavating on both sides of this 12-foot portion of pipe. Additional work scope (per Michael Smith @ DPW): Station 162+80 to 162+90 - Restrain the existing 12-inch tee to the existing pipe north of the tee. Restrain any other joints that are not restrained on the existing pipe up to the new pipe to be installed. 10/10/12 - Merit info presented to CMB - Agreed 12/19/12 - CMB - NOT TO EXCEED Amount \$58,000	CMOD #17	
1252-0003	04/23/12	3	AT&T Vault Conflict-4th & Harrison	6	CMB-0092	Agree to Merit Agree to Cost	10/10/12 1/16/13	+16,015	After excavation of the roadway surface and subgrade at Fourth and Harrison streets an AT&T vault was discovered to be in conflict with the current alignment of the 42" RCP sewer main. Verbal authorization was given by an At&T representative to make modifications to the vault. COR 003 has been submitted by BIH in response to this issue. Work is to be charged via SFMTA Form B agreement to AT&T. 10/10/12 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$21,089	CMOD #17	(16,015)
1252-0004	05/18/12	6	PG&E live electrical delays	6	CMB-0088	Agree to Merit Agree to Cost	11/28/12 1/9/2013	+7,402	PG&E lines indicated on contract drawing UD-502 thru 504 were to be abandoned yet were not yet abandoned when BIH started work. They were abandoned on 5/21. 11/28/12 - Merit info presented to CMB - Agreed 01/09/13 - CMB - NOT TO EXCEED Amount \$7,600	CMOD #10	
1252-0005	06/06/12	7	Oil filled pipe @ Launch Box	2	CMB-0093	Agree to Merit Agree to Cost	1/16/13 1/16/13	+9,980	Synergy Demo Crew exposed an existing 6" steel line which had oil in it on the West side of 4th St between Harrison and Bryant. 01/16/13 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$10,000	CMOD #5 Approved	

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1252-0006	04/23/12	8	TIA - Associated w/ COR 001, COR 002, and COR 003	6		Agree to Merit	10/10/12	+269,904	TIA and Overhead Costs related to COR 001, 002 and 003. 10/10/12 - Merit info associated w/COR's 001, 002 & 003 presented to CMB - Agreed.	CMOD #17	
1252-0007	06/12/12	9	MOS - Live Utilities: PGE, AT&T, and SFWD 8" Water Line extra kill hole location	2		Agree to Merit	11/14/12	-0-	Live PG&E Electrical Lines Conflict: BIH was notified that PG&E had live electrical lines running through each headwall work zone @ Moscone station. 8 inch Low Pressure Water Line Conflict: Contract drawings show this utility to be abandoned and capped prior to work. Synergy struck and damaged the water line. SFWD directed Synergy to excavate a kill hole so they could properly abandon the line. 11/04/12 - COR Evaluation for Merit presented to CMB.		
1252-0008	06/19/12	10	MOS - Demo PGE duct bank / SF City 911 fiber optic line	2	CMB-0094	Agree to Merit Agree to Cost	10/10/12 1/16/13	+4,916	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered a PG&E duct bank that contained a live San Francisco 911 fiber optic line. 11/14/12 - Presented to CMB. The narrative will be rewritten CMB agrees with partial merit labor work involved in supporting the utility agencies. This item will be brought back to the CMB for approval. 01/09/13 - CMB - NOT TO EXCEED Amount 4,919.54	CMOD #3 Approved	
1252-0009	07/02/12	11	MOS - Traffic Signal line re-route south headwall	6	CMB-0095	Agree to Merit Agree to Cost	1/16/13	+37,500	After potholing Synergy discovered several traffic lines which were in the proposed location of the south MOS headwall. Traffic Lines re-routed. 01/16/13 - CMB - NOT TO EXCEED Amount \$37,500	CMOD #19	
1252-0010	01/00/00	12	MOS - Archaeological Standby North Headwall	2	CMB-0096	Agree to Merit Agree to Cost	12/11/12 1/16/13	+16,892	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered a layer of "Midden" or Native American debris. 12/11/12 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$7,600	CMOD #6 Approved	
1252-0011	07/06/12	13	MOS - SL conduit from PG&E vault @ north headwall	6		Agree to Merit	11/28/12	+10,903	Permanent power is required to supply an existing Street Light box north of the MOS N headwall. 11/28/12 - Merit info presented to CMB - Agreed		
1252-0012	06/26/12	15	LB - Pre-Excavation for Slurry Walls	2	CMB-0087	Agree to Merit Agree to Cost	11/28/12 12/19/12	+96,000	Pre-excavation of slurry wall panels due to CDF encased sewer line. The concrete encasement was found by the Contractor to extend to a depth of 9'-11' below the top of guide wall or street surface. The 8" VCP sewer main and concrete encasement was incorrectly shown in the contract drawings to be approximately 4'-5' below the street surface. 11/28/12 - Merit info presented to CMB - Agreed 12/19/12 - CMB - NOT TO EXCEED Amount \$96,000	CMOD #22	
1252-0013	07/02/12	17	MOS - Standby Time @ south headwall due to live TS lines	6		Agree to Merit	11/21/12	-0-	Standby delays related to the discovery of traffic lines within the proposed location of the south MOS headwall. 11/14/12 - COR presented to CMB. CMB requested additional revisions to the evaluation. CMB agrees with partial merit. The COR will be brought back to the CMB for approval. 11/21/12 - COR revisited at mtg for clarification the issue is related to CMB action from item 3 -7/25/12 (Mtg #88) specifically acted on 08/01/12 (CMB Mtg. 89) referred originally as Trend #15.	CMOD #19	
1252-0014	Closed	19	UMS - Grant street 2 way conversion (e- & striping)	7					In order to implement a full street closure for Stockton Street at the UMS location the DPT recommended that Grant Street be converted from an existing one-way street to a two way street for vehicular traffic. Closed - Work is done. 07/18/12 - This potential change was brought before the CMB. Board's decision to have DPT perform the work. CLOSED; NO FUTHER ACTION		
1252-0015	06/22/12	20	PROJECT WIDE - Utility Demo limit reduction credit	5					BIH's subcontractor Synergy Project Management (SPM) would like to minimize the limits of utility demo at the Launch Box, Moscone station, UMS station and TBM Retrieval Shaft locations. Closed - SFMTA to BIH/SPM "Build per Plan".		

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1252-0016	04/02/12	21	UMS - Reduced Duration	5	CMB-0073	Agree Cost (Conditionally)	8/01/12	-0-	No cost change for acceleration of utility relocation, ground improvements (jet grouting), and headwall construction at Union Square/Market Street Station. 08/01/12 - CMB approval condition upon incorporating correctness to backup documentation as required by & documented in CMB mtg. RE to prepare modification.	CMOD #8	
1252-0017	07/10/12	22	MOS - Asbestos Pipe at north headwall	2	CMB-0090	Agree to Merit Agree to Cost	12/12/12 1/09/13	+5,705	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered fryable asbestos-laden transite pipe. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 - CMB - NOT TO EXCEED Amount \$6,000	CMOD #5 Approved	
1252-0018	07/10/12	23	MOS - Brick Wall #2 discovered @ north headwall	2		Agree to Merit	12/6/12	-0-	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered a buried wall. 11/14/12 COR presented to CMB. Evaluation for merit will be rewritten and brought back to CMB for approval. 11/21/12 - Merit info presented to CMB - Agreed		
1252-0019	08/10/12	26	MOS - Asbestos Pipe at south headwall	2	CMB-0085	Agree to Merit Agree to Cost	12/12/12 1/09/13	+30,000	Transite pipe was discovered during MOS south headwall excavation. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 CMB - NOT TO EXCEED Amount \$30,000	CMOD #16	
1252-0020	08/10/12	27	MOS - Oil filled pipe at south headwall	2	CMB-0089	Agree to Merit Agree to Cost	12/12/12 1/09/13	+8,226	A pipe containing oil was discovered during MOS south headwall excavation. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 CMB - NOT TO EXCEED Amount \$8,600	CMOD #5 Approved	
1252-0021	06/19/12	29	MOS - Todco scaffolding reimbursement	2	CMB-0097	Agree to Merit Agree to Cost	12/12/12 1/16/13	+1,718	1252 contract work requires the removal of scaffolding erected by Fine Line Construction, the contractor performing renovations on the Woolf House. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 - CMB - NOT TO EXCEED Amount \$1,717	CMOD #3 Approved	
1252-0022	Closed	closed	Disputed Work Items - NTP2 vs. NTP3	7				-0-	BIH interpretation of Special Provisions SP-3 NTP2 description includes activities that SFMTA interprets to be within NTP3. These activities include: Ellis Street and Green Street shafts and associated compensation grouting, MOS headwalls and jet grouting, jet grouting at crosspassage 5, UMS head walls and jet grouting, OCS removal along Stockton Street from Geary to Ellis, and the TBM retrieval shaft. On April 13, SFMTA released the MOS headwalls and jet grouting, jet grouting at crosspassage 5, UMS jet grouting, OCS removal along Stockton Street from Geary to Ellis, and preparatory and utility work necessary for the construction of the retrieval shaft.		
1252-0023	05/30/12	4	Manhole in east guidewall footprint	2				-0-	While performing excavation for the east side guidewalls at the TBM Launch Box, BIH's subcontractor CJA-NCC encountered a manhole near the bottom of the excavation which was unexpected. BIH has stated that removal of the manhole prior to the installation of the guidewalls was necessary to ensure the successful installation of the slurry walls.		
1252-0024	Closed	closed	2" gas line inside 16" casing	2				-0-	While performing excavation for the Sewer and AWSS trench at the intersection of Fourth and Harrison streets, BIHJV's subcontractor Synergy encountered what was identified to be a 16" depressurized gas main. This gas main contained a 2" gas line which is shown on contract drawing UD-502 to be abandoned/removed.		
1252-0025	04/23/12	5	CDF Encasement on 42" RCP	2				+140,596	While performing excavation for the east side guidewalls at the TBM Launch Box, BIH's subcontractor CJA/NCC encountered a CDF backfill at the existing 42" RCP sewer which reportedly had a significantly higher compressive strength than the 50-150 psi. which was anticipated. BIH claims that the CDF conflicted with the construction of the guidewalls and it could not be excavated by conventional means.		
1252-0026	Closed	closed	Damage to Live LPW main at 4th and Folsom	2				-0-	Synergy Demo Crew hit a blow-off valve on the 8" water line at the Southwest corner of the MOS headwalls. SFWD is to install a permanent cap per contract drawing WD-404.		
1252-0027	Closed	14	MOS - 76 Gas Station fencing	1					SFMTA requested BIH to install fencing around the perimeter of the 76 gas station at 4th and Folsom St. Issue closed, cost of fence paid by BIH in return for use of gas station lot. CMB - Temporary use of 800 Folsom Street site for construction staging. Use of this site would be a tradeoff between SFMTA and BIH. The Contractor would maintain the sites security and up-keep in exchange for not billing.		

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1252-0028	Closed	16	LB - SPTC delays due to concrete encased 8" sewer	2					Closed. Combined with COR 015. 07/25/12 - Verbal information presented to CMB as a potential change.		
1252-0029	08/06/12	18	MOS - South Headwall re-design	1				-0-	Costs related to leave end stops in place and a "T-Section" at the Moscone headwalls return walls. 11/14/12 - Presented to CMB. RE is recommending a possible compensation value of \$135K. CMB agrees with partial merit for labor and material cost of this COR. RE will proceed with scoping the work.		
1252-0030	08/02/12	24	Ellis - Utility demolition	3		Agree to Merit	12/6/12	+38,678	BIH says that no utilities were shown at Ellis; however, Reference Drawing UE-126 shows utilities. 12/06/12 - Merit info presented to CMB - Agreed		
1252-0031	Closed	25	Crack Gauges	4				-0-	BIH disagrees wih SFMTA on the total number of crack gauges to be installed on the project. Per the contract drawings a total of 926 crack gauges are to be installed. BIH claims that a total of 50 are to be installed.		
1252-0032	08/07/12	28	Ellis asbestos abatement	2		Agree to Merit	12/6/12	+35,386	A steam line containing asbestos was discovered during potholing at the Ellis Street Shaft. 12/06/12 - Merit info presented to CMB - Agreed	CMOD #16	
1252-0033	-	30	LB - Class 1 Hazardous Material Hauloff	2				-0-	BIH trucking costs for Class 1 haul off. Also see COR 054 regarding Class 1 Haz material haul off for Phase 2. Cost to be reimbursed by "ES-8". Additional costs hazardous waste allowances.		
1252-0034	-	70	LB - Jet Grout Quantity Overrun	4		Agree to Merit	3/20/13	+768,600	The contract drawings call for the contractor to determine the extent of jet grouting at the launch box. Bid Item ES-3 has an estimated quantity of 2,831 CY of in-situ treated ground. The Contractor has currently installed 3,929 CY of Soilcrete (Jet Grout) for ground treatment. This translates to an additional quantity of 1,098 CY of ground treatment beyond the quantity listed for Bid Item ES-3. By subtracting 212 CY for the "scallop" portion of the columns the total is 886 CY. 03/20/13 - Merit info presented to CMB - Agreed		
1252-0035	01/00/00	unsubmitted	Utility Removal UD-304 and UD-503	6				TBD	RFI 00134 asks whether certain utilities indicated on drawings UD-304 (On Stockton inside limits of future UMS Station) and on UD-503 (On Fourth and Stillman Streets outside limits of Launch Box) may be left in place. Answer: "Confirmed, the utilities in question can be abandoned in place and are not required to be removed. The Engineer will seek an adjustment to Bid Item GB-3 for the elimination of this work."		
1252-0036	05/17/12	35	Additional Road Base on Fourth Street	2				-0-	BIH's subcontractor Synergy Project MaNagement (SPM) discovered what they believe to be an additional layer of road base under the existing asphalt and road base layer while performing roadway demo work along the west side of Fourth street between Harrison and Bryant St. The additional layer is estimated by BIH/SPM to be approximately 8" - 12" thick. 12/06/12 - Evaluation of merit presented to CMB - Agreed No Merit for this change.		
1252-0037	01/00/00	unsubmitted	DPW permitting potential impacts	7				TBD	DPW Permitting issue to cause potential impacts. DPW is not issuing BIH permits for excavating the MOS headwalls, jet grouting at the LB, and excavating support at the LB, as they claim to have not been able to conduct a thorough review of the project's design documents and were not included in the design process. BIH may be required to re-sequence and stand many other potential impacts w/o said permits.		
1252-0038	05/30/12	38	Manhole in West Guidewall Footprint	3	CMB-0101	Agree to Merit Agree to Cost	12/05/12 1/23/13	+3,821	While performing excavation for the west side guidewalls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered a manhole foundation within the excavation at approximate station 165+70. It was necessary to chip away a portion of the existing manhole to gain the necessary clearance to construct the west slurry wall. 12/05/12 - CMB agreed with Evaluation of Merit 01/23/13 - CMB - NOT TO EXCEED Amount \$4,052.17	CMOD #12	
1252-0039	01/00/00	unsubmitted	Panel W-33 Obstruction	2				TBD	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered buried (wood pile?) debris located approximately 12 feet below the guide wall within Launch Box Diaphragm Wall Panel W-33, This trend is being tracked separately from Trend 20 because we believe it may be a different structure. BIH has not provided adequate information substantiating the merging of the two trends.		
1252-0040	08/23/12	1	PCC No.1 - Revisions to Moscone North Headwall Elevation (Top)	1	CMB-0099	Agree to Cost	1/16/2013	+20,358	SFMTA initiated change to revise headwall elevations to facilitate a change in the roof elevation of MOS station. 01/16/13 CMB - NOT TO EXCEED Amount \$20,500	CMOD #7 Approved	

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1252-0041	08/23/12		PCC No. 2 - Revisions to UMS Headwall Concrete and Reinforcement Limits	1				-0-	SFMTA initiated change to revise UMS headwall concrete and reinforcement limits to provide a cost savings. 08/29/12 - Revised PCC presented.		
1252-0042	08/24/12	31	Retrieval Shaft - Unmarked 12" Steel Pipe	2	CMB-0108	Agree to Merit Agree to Cost	1/2/2013 2/27/13	+1,200	While performing excavation for the joint trench at the retrieval shaft BIH's subcontractor Synergy Project Management (SPM) discovered an abandoned 12" dia. steel pipe which appears to run continuously under Columbus Ave. 01/02/13 - Merit info presented to CMB - Agreed 2/27/13 - Cost presented to CMB - agreed to NTE \$1,250	CMOD #13	
1252-0043	08/31/12	32	LB - Panel W29 Wood Pile	2		Agree to Merit	11/28/12	+81,000	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered what appeared to be a wood pile within Launch Box Diaphragm Wall Panel W-29. 11/28/12 - Merit info presented to CMB - Agreed	CMOD #20	
1252-0044	09/04/12	33	Ret Shaft - 20" Water Line Conflict	2		Agree to Merit	11/14/12	-0-	During excavation for the joint trench at the retrieval shaft SPM discovered that the MRY Duct Bank is directly above an active 20" low pressure waterline. As a result the work at the Retrieval Shaft must reportedly be altered. 11/14/12 - Presented to CMB, the CMB agrees with some merit of this COR, element of change not defined clearly. RE will proceed with scoping the work.		
1252-0045	09/11/12	34	LB - Panel W28 Wood Pile	2				+81,000	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered what appeared to be a wood pile within Launch Box Diaphragm Wall Panel W-28.		
1252-0046	01/00/00	36	MOS - Catch Basin @ south headwall	3				-0-	A catch basin on the NW corner of 4th and Folsom interfered with the construction of the MOS Headwalls. Removal of the catch basin was needed in order for the headwalls to be built. BIH claims the catch basin was not shown in the contract drawings. Closed due to improper notification.		
1252-0047	01/00/00	37	UMS - 12" steel pipe removal	3				-0-	A 12" steel pipe at the north UMS headwall location interfered with the demolition of other existing UMS utilities. BIH claims the steel pipe was not shown in the contract drawings. Closed due to improper notification.		
1252-0048	09/07/12	39	MOS - 16" Steel Pipe removal @ northeast headwall	3	CMB-0102	Agree to Cost	1/23/13	+2,952	SPM removed an unmarked 16" steel pipe from the excavation of the NE MOS Headwall. Construction of the MOS headwall could not commence without this utility being removed. BIH claims the 16" steel pipe was not shown in the contract drawings.	CMOD #14	
1252-0049	01/00/00	40	MOS - Extra Road Base @ northeast headwall	2				-0-	BIH's subcontractor Synergy Project Management (SPM) discovered what they believe to be an additional layer of road base under the existing asphalt at the NE MOS headwall location. The road base in this location was approx. 20" thick on a patch that was roughly 25' x 25'. Closed due to improper notification.		
1252-0050	05/18/12	41	LB - Impacts due to live PG&E electrical lines (Synergy)	6	CMB-0098	Agree to Merit Agree to Cost	1/16/13	+1,217	Based on direction from the SFMTA, Synergy provided a full time flagger for one night shift of work @ the intersection of I-80 off-ramp near 4th/Bryant streets in order to assist PGE while they performed the abandoning of the existing live PGE electrical at the Launch Box location which was shown to be dead in the contract drawings. 01/13/13 - CMB agreed with Evaluation of Merit 01/16/13 CMB - NOT TO EXCEED Amount \$1,245	CMOD #10	
1252-0051	01/00/00	executed	Contract Amendment No. 2	1				(3,040,713)	0	CMOD #2 Approved	
1252-0052	08/17/12	42	LB - Panel W25 Wood Pile	2		Agree to Merit	11/28/12	+116,785	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered an obstruction within Launch Box Diaphragm Wall Panel W-25. 11/28/12 - CMB agreed with Evaluation of Merit	CMOD #20	
1252-0053	08/22/12	43	LB - Panel W30 Wood Pile	2		Agree to Merit	11/28/12	+47,185	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered an obstruction within Launch Box Diaphragm Wall Panel W-30. 11/28/12 - CMB agreed with Evaluation of Merit	CMOD #20	

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1252-0054	09/19/12	44	MOS - 16" steel pipe removal @ southeast headwall	3	CMB-0109	Agree to Merit Agree to Cost	12/06/12 2/27/13	+1,600	SPM removed an unmarked 16" steel pipe from the excavation of the NE MOS Headwall. Construction of the MOS headwall could not commence without this utility being removed. BIH claims the 16" steel pipe was not shown in the contract drawings. 12/06/12 - CMB agreed with Evaluation of Merit 2/27/13 - Cost presented to CMB - agreed to NTE \$1,800	CMOD #14	
1252-0055	06/09/12	45	Ret Shaft - Credit for reduced AT&T conduits	6				(331)	Credit to install 2 less conduits in the AT&T infrastructure at the Retrieval Shaft Joint Trench. The conduit notes on page JT-701 of the contract documents require 8 EA 4" conduits as laid out on the AT&T line. The reduced materials would result in 6 EA 4" conduits as a result.		(331)
1252-0056	09/25/12	46	UMS - Unmarked steel pipes (6", 12", 14") / Duct Bank	6	CMB-0103	Agree to Merit Agree to Cost	12/06/12 1/23/2013	7475.28	While performing excavation for the utility demolition at the south UMS headwall BIH/Synergy discovered a 6" dia. steel pipe, 16" dia. steel pipe, 18" dia. steel pipe, and a concrete duct bank. BIH claims the utilities were not shown in the contract drawings. 12/206/12 - CMB agreed with Evaluation of Merit 01/23/13 - CMB - NOT TO EXCEED Amount \$7,461	CMOD #18	
1252-0057	09/25/12	47	Ret Shaft - unmarked 10" steel pipe/duct bank	6	CMB-0104	Agree to Merit Agree to Cost	12/06/12 1/23/13	+2,108	Synergy Project Management (SPM), discovered an abandoned duct bank and 10" steel pipe which traveled underneath Columbus Avenue between Powell and Union Streets. Removal of the duct bank was necessary to complete the construction of the 36" RCP sewer main relocation work in this area. The status of the removal of the steel pipe is uncertain and may have not been necessary for the sewer main relocation. 12/06/12 - CMB agreed with Evaluation of Merit 01/23/13 - CMB Not to Exceed \$2,201	CMOD #13	
1252-0058	09/28/12	48	UMS - 3'x5' brick sewer at south headwall	6	CMB-0114	Agree to Merit Agree to Cost	12/06/12 03/13/13	+12,475	Synergy Project Management (SPM), discovered a brick sewer within the utility demolition limits at the UMS South headwall. The sewer encountered was larger than the 12" pipe which was shown in the contract drawings. Removal and disposal of the sewer commenced on September 26th and was completed by September 28th. Removal of the sewer was necessary for headwall construction. 12/06/12 - CMB agreed with Evaluation of Merit 03/13/13 - CMB - NOT TO EXCEED Amount \$1,2474.65	CMOD #18	
1252-0059	01/00/00	49	Ret Shaft - Tree trimming debris haul off	7				-0-	Synergy Project Management (SPM), was requested by the SFMTA to remove and dispose of debris near the Northeast corner of Columbus Avenue and Union Street. The debris resulted from tree trimming activities performed by MUNI operations. CLOSED; NO FURTHER ACTION.		
1252-0060	10/10/12	50	Ret Shaft - 12" steel pipe removal at Union/Columbus	6	CMB-0110	Agree to Merit Agree to Cost	12/12/12 02/27/13	+2,200	On October 4th 2012, the Contractor discovered and removed a 12" Steel pipe at the intersection of Union Street and Columbus Avenue. Removal and disposal of the steel pipe was necessary in order to complete the proposed sewer re-location work near the Retrieval Shaft. Sewer work included the construction of a manhole which had been positioned in the field to avoid an existing MUNI duct bank. 12/212/12 - CMB agreed with Evaluation of Merit 2/27/13 - Cost presented to CMB - Agreed to NTE \$2,600	CMOD #13	
1252-0061	10/11/12	51	Ret Shaft - Elevation design conflict (30" low psi water / sewer)	3				+26,000	03/13/13 - Merit info presented to CMB - Agreed		
1252-0062	09/07/12	53	Chinatown - Night drilling for instrumentation	7				-0-	Closed.		
1252-0063	-	54	LB Class 2 Hazardous Material Haul Off (Phase 2)	2				-0-	Cost to be reimbursed by "ES-8". Additional costs hazardous waste allowances.		
1252-0064	10/10/12	4	PCC No. 4 - Ret shaft sewer pipe material change	1				-0-	Change approximately 65 ft. of pipe for sewer bypass around the TBM Retrieval Shaft from 3' X 5' oval glass fiber reinforced pipe to a 48-inch (OD) HDPE SD-17 pipe with casing insulator placed inside a 54-inch diameter, 1/2-inch thick steel casing pipe. In addition, delete permanent sheet pile wall that was to have been placed along the west side of the trench to facilitate future maintenance access to the sewer along the shaft.		
1252-0065	12/18/12	57	PCC No. 8 - UMS - Tree Removal	1				-0-	SFMTA is directing removal of a tree at at the northeast corner of Stockton and O'Farrell St. CLOSED; NO FURTHER ACTION.		
1252-0066	10/10/12	5	PCC No. 5 - Ret Shaft Water Dist. Pipe Material Change	1				-0-	Change material type of approximately 188 linear feet of 20-inch water line and approximately 125 linear feet of 30-inch water line from Welded Steel Pipe (WSP) to Ductile Iron Pipe (DIP) with TR-Flex joints. Install 6-inch thick concrete cap over 20-inch water line where cover is less than 24 inches..		

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1252-0067	10/26/12	58	Ret Shaft - Additional 10" steel pipe removal	6	CMB-0111	Agree to Merit Agree to Cost	12/12/12 02/27/13	+700	Work is a continuation of work performed in COR 047. 12/12/12 - CMB agreed with Evaluation of Merit 2/27/13 - Cost presented to CMB - Agreed to NTE \$860.85	CMOD #13	
1252-0068	10/10/12		PCC No. 3 - General Detour Signage	1	CMB-0112	Agree to Cost	02/27/13	+6,153	Full closure of Stockton Street at Union Square was not anticipated under the 1252 Contract. The implementation of detour signage associated with the full closure of Stockton Street was to occur under the 1300 Contract. After the award of the 1252 Contract it was decided that a full closure of Stockton could be implemented to help reduce the headwall construction durations. As a result of the full closure the City Traffic Engineer has requested that a portion of the 1300 detour signs be installed now under the 1252 Contract to help alleviate traffic congestion and provide better detour signage around Union Square. 10/03/12 - PCC presented to CMB. CMB directed the RE to get a price quote from DPT do the work as a price comparison. This item will be brought back to the CMB at a later date. 11/14/12 - PCC presented to CMB. The CMB did not agree that Central Subway needed to take the lead on implementing detour signage, but suggested that the RE study the traffic activity and at the end of November report findings. 2/27/13 - Cost presented to CMB - Agreed to NTE \$6,152.60		
1252-0069	11/08/12		PCC No. 6 - Supplemental instrumentation of BART tunnel lining.	1				+657,884	Implement additional instrumentation of BART tunnel lining: (A) Existing bolt preload force – Determine the actual load in 12 bolts. (B) Bolt force sensor – Install 12 bolt force sensors at bolts for a total of 24 bolts. (C) Rail movement under dyNamic train loading – Install dyNamic strain gauges (2 per rail, 8 per tunnel). 10/31/12 - PCC presented to CMB for merit. CMB directed RE to proceed with obtaining a price quote from Contractor to perform the work.		
1252-0070	01/00/00	unsubmitted	Full Closure of 4th Street	1				TBD	SFMTA allowed full closure of 4th Street in order to facilitate construction of Launch Box Slurry Wall Construction Week Ending 11/04/12 - 11/11/12.		
1252-0071	11/07/12	61	LB - Panel P-17 Buried Obstruction	2		Agree to Merit	1/2/13	+1,473	CJA-NCC discovered an unmarked buried water main at Panel P-17, approximately 6' below the guidewall at CTL Station 165+52, while performing slurry diaphragm wall excavation. 01/02/13 - CMB agreed with Evaluation of Merit.	CMOD #21	
1252-0072	11/14/12	62	LB – Panel P-9 Buried Obstruction	2		Agree to Merit	1/23/13	+150,000	CJA-NCC discovered a buried obstruction while excavating slurry diaphragm wall panel P-9 at the Launch Box location. 01/02/13 - Presented to CMB for merit, CMB did not agree. CMB suggested inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. 01/23/13 - Revised write up presented CMB agreed with Evaluation of Merit.	CMOD #21	
1252-0074	11/16/12	65	LB – Panel P-12 Buried Obstruction	2		Agree to Merit	1/23/13	+150,000	CJA-NCC discovered a buried obstruction (water main) while excavating slurry diaphragm wall panel P-12 at the Launch Box location. 01/02/13 - Presented to CMB for merit, CMB did not agree. CMB suggested inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. 01/23/13 - Revised write up presented; CMB agreed with Evaluation of Merit.	CMOD #21	
1252-0075	11/19/12	66	Retrieval Shaft - Unmarked 12" Steel Pipe	2		Agree to Merit	1/23/13	+3,700	While performing excavation for the joint trench at the retrieval shaft BIH's subcontractor Synergy Project Management (SPM) discovered an abandoned 12" dia. steel pipe which appears to be a Low Pressure Water Main. 01/23/13 - Merit info presented to CMB - Agreed 2/27/13 - Cost presented to CMB - Agreed to NTE \$3,800	CMOD #13	
1252-0076	11/19/12	67	LB - Panel P-10 Buried Obstruction	2		Agree to Merit	1/23/13	+18,000	CJA-NCC discovered a buried obstruction or concrete encased clay sewer pipe, approximately 7' below the top of the guide wall while excavating slurry diaphragm wall panel P-10 at the Launch Box location. 01/02/13 - Presented to CMB for merit, CMB did not agree. CMB suggested inspector's daily tags as backup be attached or reference the tag numbers in the write-up when force account work is involved. 01/23/13 - Merit info presented to CMB - Agreed	CMOD #21	
1252-0077	12/21/12		PCC No. 7 Bart Temporary Annex Wall	1	CMB-0106	Agree to Cost	1/30/13	+15,500	SFMTA is requesting Contractor construct temporary wall for Bart Annex for SFMTA use. 01/30/13 - CMB - NOT TO EXCEED Amount \$15,380	CMOD #11	
1252-0078	12/28/12		UMS Headwall - Unknown Buried Pipe	1	CMB-0100	Agree to Merit Agree to Cost	1/16/13 1/16/13	+75,000	Related to COR 063. SFMTA instructed BIH to perform investigation into the 48" diameter steel pipe as it is a Differing Site Condition. 01/30/13 01/16/13 - CMB - NOT TO EXCEED Amount \$75,000	CMOD #4 Approved	(75,000)

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1252-0079	01/09/13		PCC 10, FA CO 3 Relocation of TBM Retrieval Shaft	1					Modify Bid Item ST -4 Construction of Base Bid Permanent Retrieval Shaft to relocate the TBM retrieval Shaft to 1731-1741 Powell Street - 01/09/13 - Draft PCC10 presented to CMB for Contractor Design Activity to be paid on FA. NTE value \$20K increased to \$50K in final doc. 02/20/13 - COST IS NOT REFLECTED HERE - SCOPE IS FUNDED BY OTHER CPT 690 \$\$\$\$ 03/06/13 - Cost proposal received from BIH . SFMTA will develop a detail estimate of what is believed to be the scope of work. 03/13/13 - PCC 10 presented for CMB change approval of \$50K NTE amount to perform design activities. CMB requested CM team return with a more detailed estimate, Contractor's cost proposal, of the bulleted items as listed on the PCC and backup documentation as evidence of work completed by the Contractor.		
1252-0080	12/19/12	0	Segment Measuring Frequency	7				(1,300,000)	RFI 203.1 - In light of gauging frequency, and the difficulties of erecting a ring with cast in gaskets, BIH JV alternately proposes to assemble a ring on the Master ring at an interval of every 500th ring cast. The assembled ring would be comprised of randomly selected segments, or segments chosen by the Engineer.		
1252-0081	09/09/12	0	F21 and Old Navy Instrumentation Proposal	7				-0-	Wang Technology is proposing instrumentation changes to the Liquid Level Sensors and Tilt Beams in the basements of Old Navy and Forever 21.		
1252-0082	01/14/13	68	UMS – AT&T Vault Walkway @ N Headwall	2	CMB-0112	Agree to Merit Agree to Cost	1/16/13 2/27/13	+2,000	SPM discovered an walkway at the UMS north headwall. This walkway is located at the UMS north headwall and connects the south AT&T vault, located within the utility demolition limits, to an north AT&T, located outside of the utility demolition limits. SPM proposes to construct 3'x5' wall to the extents necessary, inside this walkway. The wall will be constructed of plywood and necessary reinforcement in order to create a bulkhead that will isolate the walkway and north vault from the south vault. 01/16/13 - CMB recommendation Contractor/Sub-contractor proceed on Force Account with a "Not to Exceed Amount" \$2K.		
1252-0084	01/24/13		PCC 11, FA CO 2 UMS – Cap and Remove 48" Steel pipe	1	CMB-0105	Agree to Cost	1/23/13	+150,000	BIH/Synergy encountered a buried 48" Diameter steel pipe during work at the UMS S. Headwall. The pipe is located 6 feet from the south UMS headwall and 5 feet from the face of the curb. This PCC is to complete removal of pipe @ S. Headwall and Investigate and remove pipe if necessary @ the North headwall. 01/30/13 - CMB - NOT TO EXCEED Amount \$150,000	CMOD #9	(150,000)
1252-0085	01/24/13	71	LB – Ramp Excavation Wood Piles Obstruction	2				+800	BIHJV encountered numerous groups of wood piles while performing excavation of the Launch Box ramp. The wood piles are approximately 16"+ in diameter and are located along the north and south perimeter walls of the Launch Box ramp excavation area. 01/30/13 - CMB did not agree with merit of change suggestion the RE negotiate w/Contractor for another concession.		
1252-0086	02/08/13	72	Ellis Shaft Jet Grout Obstruction	2				+54,000	On February 6th, 2013, CJA/NCC was drilling column R3 of the Ellis Shaft and reported hitting an obstruction 52ft below existing grade. The obstruction reportedly caused the jet grout monitor to shear off. At this time it is not known what the obstruction is or if it caused the monitor to be sheared off.		
1252-0087	02/14/13	73	MOS - Unknown 16" Pipe removal @ northwest headwall	2				+3,000	BIH-JV's subcontractor, Synergy, encountered an abandoned 16" pipe while installing the 12" waterline at the north headwall of Moscone. The pipe was at the same elevation as the new 12" waterline and therefore needed to be removed to facilitate the installation of the new 12" waterline. 03/13/13 - Merit info presented to CMB - Agreed		
1252-0088	NA	74	Whole Foods - Unknown brick obstruction in Comp Grout Trench	0				-0-	BIH has decided not to submit a COR as production was not significantly impacted.		
1252-0089	03/11/13	75	Hazardous Waste Disposal Denial - Spoils Containment Cost Impacts	7				+1,100,000	BIH submitted change order request (COR) 030 seeking reimbursement for the demonstrated additional costs of excavating, handling and disposing of excavated material found to contain hazardous material to a permitted landfill over that which can be disposed of at an unregulated dump site. The SFMTA refused reimbursement for such costs under the hazardous waste bid item allowance. As a result of this determination, BIH is modifying its approach to the construction and handling operations of tunnel spoils generated during tunneling operations.		
1252-0090	03/08/13	76	MOS - 16" Pipe removal @ SW Headwall	2		Agree to Merit	3/20/13	+2,000	BIH-JV's subcontractor, Synergy, encountered an abandoned 16" pipe while installing the 12" waterline at the south headwall of Moscone. The pipe was at the same elevation as the new 12" waterline and therefore needed to be removed to facilitate the installation of the new 12" waterline. 03/20/13 - Merit info presented to CMB - Agreed		

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1252-0091	03/06/13	77	Comp Grout - WFB-5 Drilling Obstruction	2				+10,000	On March 06,2013, BIHJV encountered a potential Differing Site Condition (DSC) while drilling the compensation grouting hole WFB-5 located at Whole Foods and more precisely at CTL Station 160+38. This potential DSC consists of an obstruction located at a depth of 9' below grade which prevented CJA-NCC from drilling any further.		
1252-0092	03/07/13	78	Comp Grout - WF & ATT	2			3/20/13	-0-	BIHJV encountered multiple potential Differing Site Conditions (DSC's) of varying dimensions while excavating the compensation grouting trench for the drill holes located at Whole Foods and AT&T. 03/20/13 - Merit info presented to CMB - Agreed to No Merit for this change.		
1252-0093	03/07/13	79	Comp Grout - Old Navy	2		Agree to Merit	3/20/13	+45,000	BIHJV encountered a potential Differing Site Condition (DSC) while sawcutting the pavement for the compensation grouting holes located at Old Navy. The original design was to drill the compensation grout holes between two existing PG&E lines. It was discovered in the field that there is not enough clearance between the existing PG&E lines for the original design to be possible and multiple other potential DSCs were also encountered including, but not limited to, tile duct banks, concrete of unknown contents, and steel pipes. 03/20/13 - Merit info presented to CMB - Agreed		
1252-0094	03/12/13	80	MOS North Asbestos Wrapped 20" Waterline	2				+43,000	BIHJV's subcontractor, Synergy Project Management was performing the installation of low pressure water distribution piping at the Moscone north headwall and discovered an unknown material wrapping around the existing 20" waterline which appeared to contain asbestos material.		
1252-0095	03/11/13	81	12" Waterline Tee Connection Location (MOS South)	2				+5,000	BIHJV's subcontractor, Synergy Project Management, encountered a potential Differing Site Condition (DSC) upon exposing the tie-in point for the 12" waterline at the south headwall of Moscone. The potential DSC consists of two 45 degree elbows in the existing 12" waterline at the point of the tee connection. SFWD has surveyed the field conditions and indicated that the tee connection will need to be moved to the west.		
1252-0096	03/13/13	82	MOS 20" Conflict with 16" AWSS @ South Headwall	2				+50,000	Upon exposing the existing 20" waterline at the south headwall of MOS, in preparation for installing the new 20" waterline shown on WD-403 and amended by RFI 0155, BIHJV's subcontractor Synergy Project Management encountered a potential DSC. The potential DSC consisted of a crossing conflict between the new 16" AWSS, the new 20" waterline, and the existing 6" PE gas. These three utilities cross at multiple locations however the existing depths are roughly the same.		
Contract 1252 Totals								+60,486	Total Changes and Potential Change (trends) to the contract are currently \$60,486 Out of Scope Changes to the Contract for Relocation of TBM (Trend 79, PCC 10) to be paid out of CPT690, funded separately. Not include in total above and being tracked separately from original Program Costs of \$1.5783B		(241,346)
CONSTRUCTION TRENDS (Based on #1252 Trending Log and CMod) - SUBTOTALS:								+60,486	The \$60,486 represents an UNDERRUN of allocated contingency. Current Balance = (33,658,454 - 60,486) = \$33,597,968 This does not include potential reimbursements from utilities		(241,346)
DESIGN TRENDS											
FD-001	07/31/10	084-0001	Narrowing of Platform at UMS	1	CMB-0006	Agree	08/04/10	(800,000)	[In "Current Forecast" - Sep2010 Cost Report.]		
FD-002	07/12/10	084-0002	Redux of Station Emergency Ventilation Fans (UMS)	1	CMB-0009	Agree (Conditionally)	08/25/10	(2,000,000)	Further actions: Designer required to receive Fire/Life/Safety approval before proceeding with this change. Designer to allocate cost impacts by Station (Current figures are "place-holders.". [In "Current Forecast" - Sep2010 Cost Report.]		
FD-002	07/12/10	085-0001	Redux of Station Emergency Ventilation Fans (CTS)	1	CMB-0009	Agree (Conditionally)	08/25/10	(500,000)	Further actions: Designer required to receive Fire/Life/Safety approval before proceeding with this change. Designer to allocate cost impacts by Station (Current figures are "place-holders.". [In "Current Forecast" - Sep2010 Cost Report.]		
FD-002	07/12/10	086-0001	Redux of Station Emergency Ventilation Fans (MOS)	1	CMB-0009	Agree (Conditionally)	08/25/10	(500,000)	Further actions: Designer required to receive Fire/Life/Safety approval before proceeding with this change. Designer to allocate cost impacts by Station (Current figures are "place-holders.". [In "Current Forecast" - Sep2010 Cost Report.]		
FD-003	07/31/10	085-0002	Lowering of CTS	1	To be verified	Info Only	08/25/10	+7,000,000	Presented to CMB for information/consideration.		
FD-004	07/29/10	084-0003	UMS Structural Configuration	1	CMB-0007	Agree	08/18/10	(8,000,000)	[In "Current Forecast" - Sep2010 Cost Report.]		

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FD-005	08/22/10	084-0004	UMS Alternate Station Access/Vent Shaft @ Union Square	1	CMB-0010	Agree	12/29/10	(22,500,000)	Documentation to be filed.		
FD-006	08/03/10	084-0005	Station Headwalls - UMS	1	CMB-0008	Agree	08/18/10	-0-			
FD-006	08/03/10	086-0002	Station Headwalls - MOS	1	CMB-0008	Agree	08/18/10	-0-			
FD-007	08/03/10		Cross-passages	1	CMB-0018	Agree	09/15/10	-0-			
FD-008	07/30/10		Trolley Re-route @ Columbus & Powell	1	CMB-0017	Agree	09/15/10	+2,000,000			
FD-009	10/06/10	082-0003	ECP to Modify Sidewalk Vault Demolition and Construction Sequence to Facilitate Construction of Joint Utilities Trench and Future UMS Station	1	CMB-0019	Agree	12/15/10	+3,000,000			
FD-010	10/06/10	082-0004	Redesign Stockton Street Sanitary Sewer to conform to SFPUC Sewer Criteria that preclude placement of relocated sanitary sewer under sidewalks	1	CMB-0020	Agree	11/17/10	+2,000,000			
FD-011	10/06/10	082-0005	Reconfigure Routing of Water, Sewer and Gas laterals from buildings on north side of Ellis Street	1	CMB-0021	Agree	11/17/10	+500,000			
FD-012	10/06/10	082-0006	Recognize cost transfers from design allowances allocated to contingency to explicit line items in final design estimates	1	CMB-0022	Disagree	11/17/10	-0-			
FD-013	10/06/10	082-0007	Increase Extent of Sub-sidewalks Vault Secondary Closure Walls and Waterproofing	1	CMB-0023	Agree	11/17/10	+4,100,000			
FD-014	10/06/10	082-0008	Include OCS system for rerouting trolley buses to Fifth Street	1	CMB-0024	Agree	12/15/10	+3,100,000			
FD-015	10/06/10	082-0009	Subsidewalk Vault Secondary Closure Walls for Buildings at 800 Market and 838 Market	1	CMB-0025	Agree	11/17/10	+1,000,000			
FD-016	10/06/10	085-0003	Underpinning of Mandarin Tower	1	CMB-0011	over taken by FD-021	01/19/11	+5,000,000	Additional Information Pending.		
FD-017	10/06/10	085-0004	CTS Ground Improvement	1	CMB-0012	over taken by FD-021	01/19/11	+10,300,000	Additional Information Pending.		
FD-018	10/06/10	084-0006	UMS Apple Store Entrance	1	CMB-0013	Disagree	11/10/10	-0-	Additional Information Pending.		
FD-019	10/06/10	086-0003	MOS TOD Configuration	1	CMB-0014	Agree	11/10/10	TBD			
FD-020	10/06/10	084-0007	UMS Emergency Stair #4 Relocation	1	CMB-0015	Agree	11/10/10	TBD			
FD-021	01/14/11	085-0005	CTS Lowering and Stations Reconfiguration	1	CMB-0027	Agree	01/19/11	(18,000,000.00)	Agreement with changes to project configuration only. Additional Information required related to cost and schedule impacts. No agreement on Design cost impact, Design costs directly related to this change to be tracked separately		
FD-022	02/16/11	084-0008	Sewer Replacement along Geary & O'Farrell	1	CMB-0029	Agree	02/23/11	(134,000)	This trend has both an EPC number as well as a Construction Trend Number. See also Construction Trend No. 1251-0003		
FD-023	11/17/10	087-0001	Emergency walkways through crossover cavern changed from outside the main tracks to between the main tracks.	1	CMB-0032	Agree	07/27/11				
FD-024	11/17/10	087-0002	Diamond crossover on surface segment to a tandem (universal) crossover.	1	CMB-0033	Agree	08/24/11	(350,000)			
FD-025	04/13/11	083-0001	Bid Option for TBM Retrieval Shaft		CMB-0034	Agree	04/13/11	(10,000,000)	Will require changes to Bid Schedule to incorporate Traffic, Utilities and Pavement Demo/Restoration as incidental costs to the Bid Option. Estimated DP1 cost impact is approx. 80-100 hrs. of engineering time.		
FD-026	05/31/11	084,085,086	Air Replenishment System for Stations	1	CMB-0040	Agree	07/13/11	+1,245,000	Install air replenishment system at MOS, CTS and UMS to address the requirements of the SFFD Bulletin 5.07. The air replenishment system will be used to fill firefighter's self-contained breathing apparatus during firefighting operations in the three subway stations.		
FD-027	07/21/11	082-0010	1 Stockton street (Apple Store) Secondary Closure Wall		CMB-0043	Agree	08/03/11	+500,000	1) Add secondary closure wall to supplement recently completed primary closure wall built by owner to isolate the sub-sidewalk basement of 1 Stockton Street (Apple Store). 2) Modify position of joint trench (and all associated conduits, ducts etc.) for secondary closure wall to be constructed.		
FD-028	08/03/11	086-0004	MOS Revisions to Emergency Ventilation Requirements		CMB-0052	Agree	09/07/11	+500,000	Changes will extend the date of the 90% (pre-final) submittal by 20 working days and the 100% (final) submittal by 40 working days. CMB did not approve a time extension for 90% or 100% submittal delivery. Project Controls estimated \$321,645.		

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FD-029	08/08/11	085-0006	CTS Revisions to Emergency Ventilation Requirements		CMB-0053	Agree	09/07/11	+1,000,000	Changes will extend the date of the 90% (pre-final) submittal by 20 working days and the 100% (final) submittal by 40 working days. CMB did not approve a time extension for 90% or 100% submittal delivery. Project Controls estimated \$411,895.		
FD-030	08/08/11	084-0009	UMS Revisions to Emergency Ventilation Requirements		CMB-0054	Agree	09/07/11	+1,000,000	Changes will extend the date of the 90% (pre-final) submittal by 20 working days and the 100% (final) submittal by 40 working days. CMB did not approve a time extension for 90% or 100% submittal delivery. Project Controls estimated 733,420.		
FD-031	10/31/11		Accessibility Improvements at the SE corner of Union Square (UMS)								
FD-032	10/31/11		Union Square Entrance Reconfiguration (UMS)								
FD-033	10/31/11		Additional Compensation Grouting due to Tunnel Settlement Alert and Trigger Levels (All Stations)					+21,040,000	ECP dated 11/17/11. ECP being routed for approval.		
FD-034	12/09/11		Operational Performance and Safety Enhancement at 4th and King		CMB-0062	Agree	12/14/11	+450,000	SFMTA Operations requested that the design of the 4th & King tie-in work be expanded to include a number of improvements at the junction involving the turn-back area extending to the scissors crossover at 6th & King. SFMTA Ops confirmed that the requested changes result in an arrangement that is consistent with standard operation practices and therefore does not involve new or unacceptable risks. CS 1553 Memorandum No. 0081. Conditionally agreed upon verification/resolution of Buy America issue for the switches. 3/14/12: "Buy America" issue no longer applicable. Revised ECP element - remove H&K switch machines and replace with hydraulic/120V switch machines such as Nortrak or equal.		
FD-035	06/26/12		Tunnel Air Replenishment System		CMB-0071	Agree	07/11/12	+1,215,000	Design and construct a fire fighter air replenishment system for Central Subway tunnel as described in SF Fire Code 511.2, Bulletin 5.07 except as noted in the Central Subway Request for Approval of Variance for the ARS to SFFD on March 5, 2012, and subsequently approved by SFFD. Design Impact: ROM - \$215K Construction Impact: ROM - \$1M		
FD-036	06/26/12		Surface Segment Sewers - 4th St.		CMB-0072	Agree	07/18/12	+2,200,000	Replace current unreinforced brick crown from 1906 as it may not be able to withstand loading for construction of the CS trackway section. Reconstruct manholes between Brannan and King Streets as existing are in conflict with proposed rail. Replace service laterals and provide sleeves for future replacement. Additional potential scope option of \$1.5M-Sewer and \$2.3M-Force Main may be requested. If so, it will be Cost to SFPUC		
FD-037	08/27/12		Platform Display System Signs		CMB-0077	Agree (Conditionally)	08/29/12	+500,000	Modify Stations (Contracts 1253, 1254 and 1255) and Surface, Track and Systems (Contract 1256) technical specifications and drawings for the Platform Display System (PDS) to match the changes made to the PDS units being supplied under the Integrated Systems Replacement (ISR) Project, Contract No.1260. 08/29/12: CMB agreement condition upon follow up action to evaluate procurement by CN1260		
FD-038	11/07/12		Elongated Sidewalk Bulb-out at Chinatown Station					TBD	CTS Sidewalk Bulb out (Southwest corner Stockton/Washington To bring the Central Subway Project - Chinatown Station in closer conformance wit the City's General Plan, SF Planning Department in its May, 2012 GPR Letter (recommends) making design changes specifically the extension of the sidewalk bulb-out at Stockton Street to help create a "station plaza". This elongated bulbout on the southwest corner (SWC) of Stockton and Washington Streets in front of the station headhouse would also include bike racks, benches, trees and other landscape features. Design Impact: ROM - \$TBD Construction Impact: ROM - \$TBD		
FINAL DESIGN TRENDS (Based on All ECPs) - SUBTOTALS									Incorporated budget increases have been absorbed by allocated and unallocated funds and the program budget to date remains \$1,578,300,000.		-0-
OTHER TRENDS											

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						Approval Action	Approval Date				
X51-001	07/31/10	082-0001	1251 Revised estimate, escalation impact and contingency.	7				+9,532,314	Cost Transfer #0033 (Base \$\$), 0033a (Allocated Contingency), 0036 (Base \$\$ Escalation , 0036a (Allocated Contingency Escalation). [Sep2010 Cost Report]	BT-0033, BT-0033-A, BT0036, BT-0036-A	
X51-002	07/31/10	082-0002	Form B Credit for 1251 Utilities	7				(7,697,949)	Reserve and Contingencies removed as per communications with PG&E. This is consistent with the 1250 utility agreement. [Cost Transfer #0034 - Aug2010 Cost Report].	BT-0034	
X52-001	07/31/10	083-0001	1252-(TUN) Revised estimate, escalation impact and contingency	7				(2,165,462)	Cost Transfer #0035 (Base \$\$), 0035a (Allocated Contingency), 0037 (Base \$\$ Escalation , 0037a (Allocated Contingency Escalation). [Sep2010 Cost Report]	BT-0037, BT-0037-A	
X03-001	08/31/10	003-0001	OEWD's Pilot Training Program	7				+75,000	Workforce training pilot program in conjunction with the City/County's Office of Economic and Workforce Development (OEWD). Provides specialized training to SF residents to perform tunneling work. Central Subway financial responsibility being investigated. Requires further clarification		
X53-001	07/18/11	084-0001	CS 155-2 (DP2) CBP4 - Construction Budget Adjustment YOY	7	CMB-0044	Agree	07/27/11		Adjust construction budget in Section 6 of Contract No. CS 155-2 to Year of Expenditure		
X53-002	10/25/11		Change UMS Advertise Date to April 4th, 2012						DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out Advertise Dates.		
X53-003	04/11/12	084-0002	CN1253 (UMS) Construction Budget Adjustment 90%					+55,720,600	CMB is currently vetting the 90% estimate of \$221,534,723 which represents a \$XX increase from the 65% base amount in 2010\$. Increase would deplete current YOY dollars and require use of unallocated contingency.		
X53-004	06/26/12	084-0002	Approve/Execute/Certify durations change for UMS Contract						Shortened the duration for Approve/Execute/Certify - UMS Contract from 40 to 24days to reflect an optimistic but doable duration for contractor submittals.		
X54-001	07/13/11	085-0001	CS 155-2 (DP2) CBP5 - Construction Budget Adjustment YOY	7	CMB-0045	Agree	07/27/11		Adjust construction budget in Section 6 of Contract No. CS 155-2 to Year of Expenditure		
X54-002	10/25/11		Change CTS Advertise Date to May 23rd, 2012		CMB-0061	Agree	12/28/11		DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out Advertise Dates.		
X54-003	11/02/11		Change CTS Advertise Date to February 8th, 2012						Change CTS Advertise Date from May 23, 2012 to February 8, 2012 (-74 working days)		
X54-005	12/06/11		Revisions to CTS Construction Schedule		CMB-0060	Agree	12/28/11				
X54-006	12/07/11	085-0002	CS 155-2 (DP2) CBP4 - Construction Budget Adjustment - allowed	7							
X55-001	07/18/11	086-0001	CS 155-2 (DP2) CBP6 - Construction Budget Adjustment YOY	7	CMB-0046	Agree	07/27/11		Adjust construction budget in Section 6 of Contract No. CS 155-2 to Year of Expenditure		
X55-002	10/25/11		Change MOS Advertise Date to June 25th, 2012						DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out Advertise Dates.		
X55-003	11/02/11		Change MOS Advertise Date to May 23rd, 2012						Change MOS Advertise Date from June 25, 2012 to May 23, 2012 (-22 working days)		
X55-004	06/26/12		Change MOS Advertise Date to Aug 20, 2012						Change MOS to August 20, 2012		
X56-001	10/25/11		Change STS Advertise Date to July 27th, 2012						DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out the Station's Advertise Dates. STS Advertise Date is staggered from Station's Advertise Dates.		
X56-002	12/14/11		STS Construction Schedule Revision for Equipment Procurement								
X56-003	06/26/12		Change STS Advertise Date to October 1, 2012						Change STS Advertise Date to October 1, 2012		
X40-001	10/19/11	028-0001	SFPUC CDD Updated Budgets	7		Authorized		+505,127	1250 SFPUC CDD Monthly Service Report Final & 1251 SFPUC CDD Estimate	BT-0172, BT-0177	
X80-001	10/19/11	071-0001	DP1: CS 155-1 Modifications No. 2 & 3	see Prof. Serv		Authorized		+560,585	Modification No. 2: \$395,584.59, Modification No. 3: \$165,000. Individual details listed in Professional Services. See trend 1551-0002,1551-0005 - 1551-0009	BT-0170, BT-0171, BT-0173	
X80-002		071-0002	DP1: CS 155-1 Modification No. 4	7		Authorized		+135,898	Modification No. 4: \$135,898 Individual details listed in Professional Services. See trends 1551-0010 - 1551-0014.	BT-0187	

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X80-003	10/27/11	029-0001	Increase City Auditor Budget	7		Authorized		+50,220	Reduce unallocated Contingency to increase City Auditor budget as authorized in Budget Authorization #51.	BR#51, BT-0181	
X80-004	10/27/11	232-0001	Increase SFCTA Budget	7		Authorized		+20,000	Increase SFCTA budget per per Budget Authorization #51 to conduct travel forecast (TEP CEQA Modeling) to satisfy PMO review and SFMTA Fleet Plan light rail vehicle.	BR #51, BT-0182	
X80-005	7/1/10, 11/2/10,3/24/11	072-0001	DP2: CS 155-2 Modification No. 1	7		Authorized		+1,010,000	Modification No. 1: \$1,010,600 Individual details listed in Professional Services. See trends 1552-0002, 1552-0003 and 1552-0005.	BT-0194, BR#53	
X80-006	5/6/10,7/25/11, 9/22/11	072-0002	DP2: CS 155-2 Exercised Options	see Prof. Serv		Authorized		+366,771	Individual details listed in Professional Services. See trends 1552-0001, 1552-0007 and 1552-0014.	BT-0023, BT-0194	
X80-007	11/08/11	151-0001	Operations SFMTA Transit Services			Authorized		+50,000	CSP request services to support and test OCS for 30/45 trolley reroute. Authorized per Budget Revision #53	BR #53, BT-0189	
X80-008	09/01/11	081-0001	SFMTA Safety, Training, Security & Enforcement Div PCOs	7		Authorized		+60,000	CSP request PCOs to support 1251 and 1252 construction for one year. Authorized \$60,000 per Budget Revision #45.	BR #45, BT-0190	
X80-009	11/30/11	016-0001	SFMTA Sustainable Streets 30 and 45 re-route	7		Authorized		-0-	CSP request services to support 30/45 trolley reroute. \$162,600 was reduced from DPT staffing plan budget.	BT-0188	
X80-010	11/09/11	073-0001	DP3: CS 155-3 Modification No. 1	7		Authorized		+152,882	Modification No. 1: \$152,882 Individual details listed in Professional Services. See trends 1553-0012 and 1553-0013.	BT-0203	
X80-011	8/9/11, 9/22/11, 10/11/11, 11/9/11	073-0002	DP3: CS 155-3 Exercised Options	see Prof. Serv		Authorized		+1,026,398	Individual details listed in Professional Services. See trends 1553-0001 - 1553-0004, 1553-0006, 1553-0009 - 1553-0011, 1553-0014. Updated from \$971,686 to include Trend 1553-0014.	BT-0203	
X80-012		151-0002	OCS materials procured directly for work in reference to CN1251 CMOD#12.		CMB-0065	Agree	1/25/2012, 2/29/12	+126,149	See also Trend 1251-0023		
X80-013	05/30/12	073-0003	DP3: Provide Vibration Impact Analysis and Extend PC Support Technical and CSP Quality Manager	1				+133,906	Amend #2: Vibration Impact Analysis \$38,380 Amend #3: PC Support Tech \$34,483; Quality Manager - \$61,043	TBD	
X80-014	12/17/12		For combining the stations and track and systems into Contract 1300 (SSTS)	7					Stations and track and systems into Contract 1300 (SSTS)		
X80-015	12/17/12		Changing the Bid Opening date and condensing the Contract Duration for Contract 1300	7					Changing the Bid Opening date and condensing the Contract Duration for Contract 1300		
X80-016	02/19/13		Change to Tunnel and CTS interface and buffer float Contract 1300 (SSTS)	7					Change (MPS) reducing the number of days currently in (from 550 calendar days from NTP to 450 calendar days) for the key interface between CTS and the tunnel completion. Reduced number of days will be issued as part of Add #3 of the 1300 contract. 1/23/13 CMB Agreed verbally to change @ Mtg #111.		
OTHER TRENDS (Based on Various Trends)									Current Forecast reflects a net +3,537,933 unfavorable impact for all Other Trends.		-0-
GRAND TOTALS									Current Forecast reflects an estimated net +66,751,620 unfavorable exposure to the project to date. Incorporated budget increases have been absorbed by allocated and unallocated funds and the program budget to date remains \$1,578,300,000.		(241,346)
PROFESSIONAL SERVICES TRENDS: The following trends are listed for administrative purposes. The dollar amounts are reflected in the "Other Trends" section of this log in the form of cost (budget) transfers - ie CCOP's. The total values indicated for each professional contract are for tracking all potential cost exposures and may or may not be approved.											
Contract CS-155-1											
1551-0001	07/30/10	071-0001	Conform Contract Terms per Negotiations from 10/2/09 to 11/6/09	7				-0-	To be addressed in Amendment 1.	Amendment 1 Pending	-0-

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						Approval Action	Approval Date					Actual/Forecast
1551-0002	02/18/11		071-0002	Project Office Delay (Adjustments for OH Rate and Team Productivity impact)	7		Authorized	07/29/11	+101,411	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved	
1551-0003	02/18/11		071-0003	Additional Construction Support for CP-1	7							-0-
1551-0004	02/18/11		071-0004	Redesign Required by Barney's and PUC for CP-2	7							-0-
1551-0005	02/18/11		071-0005	Archeological Monitoring 16.20.C1 (total)	7		Authorized	07/29/11	+197,173	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved	
1551-0006	02/18/11		071-0006	Eyebolts	7		Authorized	07/29/11	+50,000	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved	
1551-0007			071-0007	Secondary Closure Walls 800/838 Market	1		Authorized	07/29/11	+47,400	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved	
1551-0008			071-0008	Delete Optional Tasks - Tasks 1-14	1				-0-	Deleted Options in the amount of (\$529,952) in Amendment has been reversed through Budget Authorization #50. COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved	
1551-0009			071-0009	CTS Lowering	1		Authorized	12/08/11	+165,000	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #3	Amendment 3 Approved	
1551-0010			071-0010	Modify Sidewalk Vault Demo ECP-FD009	7		Authorized	12/08/11	+39,311	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved	
1551-0011			071-0011	Modify Stockton St. Sewer ECP-FD010	7		Authorized	12/08/11	+4,112	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved	
1551-0012			071-0012	Reconfigure Utilities N. Side Ellis ECP-FD011	7		Authorized	12/08/11	+2,448	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved	
1551-0013			071-0013	Extend SubSidewalk Closure Wall ECP-FD013	7		Authorized	12/08/11	+85,233	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved	
1551-0014			071-0014	Reroute OCS to Fifth St. ECP-FD014	7		Authorized	12/08/11	+4,794	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved	
1551-0015			071-0015	Retrieval Shaft Redesign - Sewer By Pass	7				+56,000	Awaiting documentation from Designer		
1551-0016			071-0016	Design Measures for Settlement Protection	7				+99,000	Awaiting documentation from Designer		
1551-0017			071-0017	Incorporate Headwalls MOS/UMS	1		Disagree at this time	11/01/11	+42,000	In letter dated November 1, 2011 DPM responded that until concurrence with DP2 on cost transfer or additional documentation, the requested change is denied.		
1551-0018			071-0018	Prepare Utility Composite	-		Disagree	11/01/11	+50,000	DPM responded that Program does not agree in letter dated November 1, 2011.		
1551-0019			071-0019	Incorporate Cross Passages	1		Disagree at this time	11/01/11	+43,000	In letter dated November 1, 2011 DPM responded that until concurrence with DP2 on cost transfer or additional documentation, the requested change is denied.		
Contract CS-155-1 Total									+986,882	Of the total cost exposure shown, Contract Modifications and Authorized Option dollars have been absorbed by DP1 allocated contingency in the amount of \$696,483 of a total budget of \$705,000. Additional potential exposure is +\$391,411. Currently, overall contract value remains unchanged in the amount of \$6,500,000.		-0-
Contract CS-155-2												
1552-0001	05/06/10		072-0001	Optional Task 2.50 and Task 12.07	1		Authorized	05/06/10	+274,775	CS Letter 0473 from ED/CEO Optional Task 2.50 to support art enhancement activities NTE \$164,383 and Optional Task 12.07 to support design structures for Public Art NTE \$110,392.		
1552-0002	07/01/10		072-0002	Expanded Hydraulic Testing at CTS	7		Authorized	07/01/10	+26,100	Estimated cost breakdown is included in the 7/1/10 letter from CSDG and includes signed approval by SFMTA. Amendment No. 1 authorized by ED/CEO on 12/21/11. COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved	
1552-0003	10/11/10		072-0003	Additional Soil Borings at UMS Station - Task No. 3.10 Supplemental Investigations	7		Authorized	11/02/10	+34,500	Estimated cost breakdown is included in the 10/11/10 letter from CSDG and includes signed approval by SFMTA. Amendment No. 1 authorized by ED/CEO on 12/21/11. COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved	
1552-0004	02/11/11		072-0004	MOS TOD White Paper Proposal	1				+33,847	Conceptual study will assess a potential high rise building at the Moscone station headhouse. Estimated cost breakdown is included in the 2/11/2011 letter from CSDG - On Hold .		
1552-0005	03/24/11		072-0005	CTS - Alternate 5	7		Authorized	03/24/11	+950,000	CS Letter from DED dated 3/24/11 has agreed to a modification of \$950,000 for performing additional work. Amendment No. 1 authorized by ED/CEO on 12/21/11. COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved	
1552-0006	06/28/11		072-0006	Audited Overhead Rate Adjustment for Year 2010 - Request for Amendment	7				-0-	Estimated cost of \$406,320 is included in the 6/28/11 letter from CSDG. See 1552-0006 Rev. 1 for most current estimate		

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1552-0007	07/25/11	072-0007	REVIT and CAD Support (to City Staff) Option to DP2 Contract (Optional Services Task 12.12)	1		Authorized	07/25/11	+79,200	CS Letter No. 0768 from ED/CEO dated 7/25/11 has authorized Optional Task 12.12 NTE \$79,200.		
1552-0008	08/03/11	072-0008	MOS Revisions to Emergency Ventilation Requirements	-		Provide further Justification	09/07/11	-0-	CMB did not approve a \$60,000 proposed increase. Document References ECP FD028, CSDG letter dated 8/8/11. DPM responded that program does not agree in letter dated 10/17/11.		
1552-0009	08/03/11	072-0009	CTS Revisions to Emergency Ventilation Requirements	-		Provide further Justification	09/07/11	-0-	CMB did not approve an \$80,000 proposed increase. Document References ECP FD029, CSDG letter dated 8/8/11. DPM responded that program does not agree in letter dated 10/17/11.		
1552-0010	08/03/11	072-0010	UMS Revisions to Emergency Ventilation Requirements	-		Provide further Justification	09/07/11	-0-	CMB did not approve a \$100,000 proposed increase. Document References ECP FD030, CSDG letter dated 8/8/11. DPM responded that program does not agree in letter dated 10/17/11.		
1552-0011	08/17/11	072-0011	Audited Overhead Rate Adjustment for Year 2010 - Request for Amendment - Rev. 1	7				+426,322	Estimated cost breakdown is included in the 8/17/11 letter from CSDG. This is a revision to the 6/28/11 letter and cost breakdown.		
1552-0012	08/23/11	072-0012	Station Air Replenishment System	-		Disagree	10/17/11	+36,240	Estimated cost breakdown is included in the 8/23/11 letter from CSDG. DPM responded that program does not agree in letter dated 10/17/11.		
1552-0013	09/01/11	072-0013	COR for Additional Services Related to MOS Constructability Review and Assessment of Alternatives	-				-0-	Cost charged to Task 2.70- part of base work		
1552-0014	09/22/11	072-0014	Proposal for Additional Work to provide Structural Engineering Support (Optional Services)	1		Authorized Optional Task 12.01.C5 only	11/04/11	+35,724	Estimated cost breakdown is included in the 9/22/11 letter from CSDG. Referenced Optional Work Tasks 12.01.C5 and 12.07.C5 - Effort re-evaluated - proposed cost to be resubmitted. CS Letter No. 1232 dated 11/4/11 from Director of Transportation has authorized Optional Task 12.01.C5 for the amount of \$12,796.	Option	
Contract CS-155-2 Total								+1,896,708	Of the total cost exposure shown, Contract Modifications and Authorized Option dollars have been absorbed by DP2 allocated contingency in the amount of \$1,046,324 of a total budget of \$4,890,707. Overall contract value remains unchanged in the amount of \$39,949,959.		-0-
Contract CS-155-3											
1553-0001	08/09/11	073-0001	Authorization to commence optional tasks 9.20J Technical Specifications Item J Facility SCADA	1		Authorized	08/01/11	+259,305	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0002	08/09/11	073-0002	Authorization to commence optional tasks 12.05 Architectural Plans	1		Authorized	08/01/11	+257,129	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0003	08/09/11	073-0003	Authorization to commence optional tasks 12.13J Facility SCADA Design	1		Authorized	08/01/11	+169,553	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0004	08/09/11	073-0004	Authorization to commence optional tasks 12.12E traction power cables for CAD production	1		Authorized	08/01/11	+52,800	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0005	09/19/11	073-0005	Proposal to hire Wilson Ihrig to support Acoustics, Noise and Vibration tasks.	7		Authorized	03/08/12	+38,380	Signed by Director of Transportation 3/8/2012. COMPLETE, NO FURTHER ACTION ; Amendment 2	Amendment 2 Approved	
1553-0006	09/22/11	073-0006	Proposal to exercise optional task 12.07 Public Art.	1		Authorized	11/04/11	+10,285	Letter dated 9/22/11 to DOM. PMCM response pending. Priced level of Effort assumed for this task. SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task.		
1553-0007	09/27/11	073-0007	Proposal to exercise optional sub-task 12.12 structural design of the OCS attachments.	7				+59,460	Letter dated 9/27/11 to DOM. NOT FOLLOWING CONTRACT REQUIREMENTS FOR PROPER NOTIFICATION OF CHANGE. PMCM has responded to clarify scope in stations and Tunnel Design. Awaiting resubmittal of request by DP3		
1553-0008	10/05/11	073-0008	Scope Clarification - Add Emergency and Location Signage.	7		Disagree A.12.08-Signage	11/09/11		Letter dated 10/5/11 to DOM. NOT FOLLOWING CONTRACT REQUIREMENTS FOR PROPER NOTIFICATION OF CHANGE. CS Memo No. 0882 from DOM to DP3 PM considers A.12.08 Signage as part of the work necessary to complete the trackway elements of the scope. The work in question is considered part of the base scope of services.		
1553-0009	10/11/11	073-0009	Proposal to exercise mechanical optional task A 12.11 to design a water line on the FBS station platform.	1		Authorized	11/04/11	+33,000	SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0010		073-0010	Proposal to exercise Task 12.01 Surface Segment site Drainage	1		Authorized	11/04/11	+108,240	SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0011		073-0011	Proposal to exercise Task 12.02 Sewer Relocation and Analysis Report.	1		Authorized	11/04/11	+81,374	SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task. COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0012	11/09/11	073-0012	CTS - Alternate 5	7		Authorized	01/18/12	+88,855	Contract Modification No. 1 authorized by ED/CEO on 1/18/12 COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved	

- 1 - Owner Directed Change in Scope
- 2 - Unforeseen Conditions
- 3 - Errors and Omissions
- 4 - Quantity Variation
- 5 - Value Engineering
- 6 - Private Utilities
- 7 - Other

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	CMB No.	Change Description	Change Type	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number	Utility Reimbursements
					Approval Action	Approval Date				
1553-0013	11/09/11	073-0013	Proposal for Geotechnical Services	7	Authorized	01/18/12	+64,027	Letter dated October 7, 2011 to DOM. PM/CM response pending. Contract Modification No. 1 authorized by ED/CEO on 1/18/12 COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved	
1553-0014	02/06/12	073-0014	Authorization to commence optional tasks 12.12E traction power cables for CAD production, Optional task 2.50 Coordination with Art		Authorized	02/06/12	+54,712	SFMTA Letter 1381 from Director of Transportation dated 2/06/12 authorizing optional tasks 12.12e in the amount of \$41,280 and 2.50 for \$13,432 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0015	03/20/12	073-0015	Proposal for additional services in Response to Approved (ECP) FD-034 Operation Performance and Safety Enhancements to 4th and King and 6th and King.	1			+26,026	FD-034 was updated by CMB on 3/14/12. Proposal transmitted via letter CS1553 No. 0012 dated 3/20/12 to DOM. Amendment #4 PENDING	Option	
1553-0016	03/23/12	073-0016	Proposal for additional work - Tunnel Air Replenishment System (Exercise Optional Service)	7	Authorized	04/26/12	+173,119	SFMTA letter 1658 from Director of Transportation dated 4/26/2012 authorizing \$173,119 in optional tasks. Included in FD-035 to be presented to CMB on 6/26/12	Option	
1553-0017	05/14/12	073-0017	Extension of PC Support Technician	1	Authorized	05/04/12	+34,483	Signed by Director of Transportation 5/14/12 COMPLETE, NO FURTHER ACTION; Amendment #3	Amendment 3 Approved	
1553-0018	05/14/12	073-0018	Extension of CSP Quality Manager	1	Authorized	05/04/12	+61,043	Signed by Director of Transportation 5/14/12 COMPLETE, NO FURTHER ACTION; Amendment #3	Amendment 3 Approved	
1553-0019	04/09/12	073-0019	Authorization to commence optional task 12.02 Utility Plans for design of repositioned and reconstructed manholes for the 78 inch diameter sewer on 4th St.	1	Authorized	04/09/12	+52,712	SFMTA Letter 1630 from the Director of Transportation dated 4/9/2012 authorizing optional task 12.02 in the amount of \$52,712 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0020	04/09/12	073-0020	Authorization to commence optional task 12.12 civil and structural support for traction power duct banks	1	Authorized	04/09/12	+109,000	SFMTA Letter 1630 from the Director of Transportation dated 4/9/2012 authorizing optional task 12.12 in the amount of \$109,000 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0021	04/26/12	073-0021	Authorization to commence optional task 12.11 design of the tunnel based Air Replenishment System including fill panels, feeder pipes, gauges, valves, fire proofing, anchors, supports, low level alarms, wiring, signage, connections to SCADA and monitoring devices, equipment placement, and impact protection	1	Authorized	04/26/12	+173,119	SFMTA Letter 1658 from the Director of Transportation dated 4/26/2012 authorizing optional task 12.11 in the amount of \$173,119 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0022	04/26/12	073-0022	Increased authorization for optional task 12.12.e CAD production support	1	Authorized	04/26/12	+30,000	SFMTA Letter 1658 from the Director of Transportation dated 4/26/2012 authorizing the increase in optional task 12.12e in the amount of \$30,000 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0023	05/21/12	073-0023	Authorization to commence option task 12.11 structural design support for Fire Protection and Plumbing designs	1	Authorized	05/21/12	+39,204	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 12.11 in the amount of \$39,204 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0024	05/21/12	073-0024	Authorization to commence optional task 12.12 structural design support for Traction Power and Power/Lighting designs	1	Authorized	05/21/12	+43,638	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 12.12 in the amount of \$43,638 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0025	05/21/12	073-0025	Authorization to commence optional task 12.13 structural design support for Telephone and CCTV designs	1	Authorized	05/21/12	+24,328	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 12.13 in the amount of \$24,328 COMPLETE, NO FURTHER ACTION; OPTION	Option	
1553-0026	05/21/12	073-0026	Authorization to commence optional task 9.20 Technical Specifications for structural design support for above designs	1	Authorized	05/21/12	+3,039	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 9.20 in the amount of \$3,039 COMPLETE, NO FURTHER ACTION; OPTION	Option	
Contract CS-155-3 Total							+2,046,831	Of the total cost exposure shown, Contract Modifications and Authorized Option dollars have been absorbed by DP3 allocated contingency in the amount of \$1,168,995 of a total budget of \$4,598,725. Overall contract value remains unchanged in the amount of \$19,919,526.		-0-

- 1 - Owner Directed Change in Scope
- 2 - Unforeseen Conditions
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