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- Figure A.11 - Alternative 5B Plan and Profile
- Figure A.12 - Alternative 5B Portal
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CITY AND COUNTY OF SAN FRANCISCO
 COUNTY OF SAN MATEO

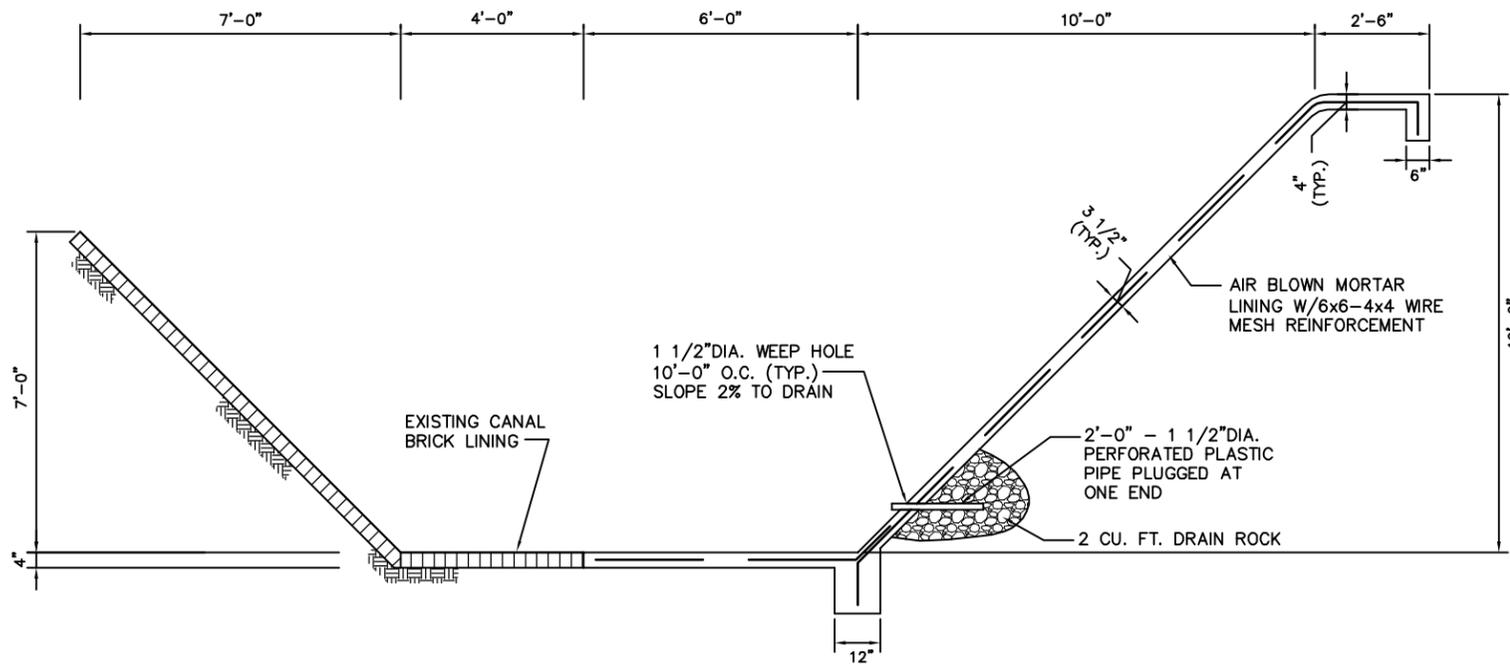
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VISTA GRANDE DRAINAGE
 BASIN TUNNEL ANALYSIS

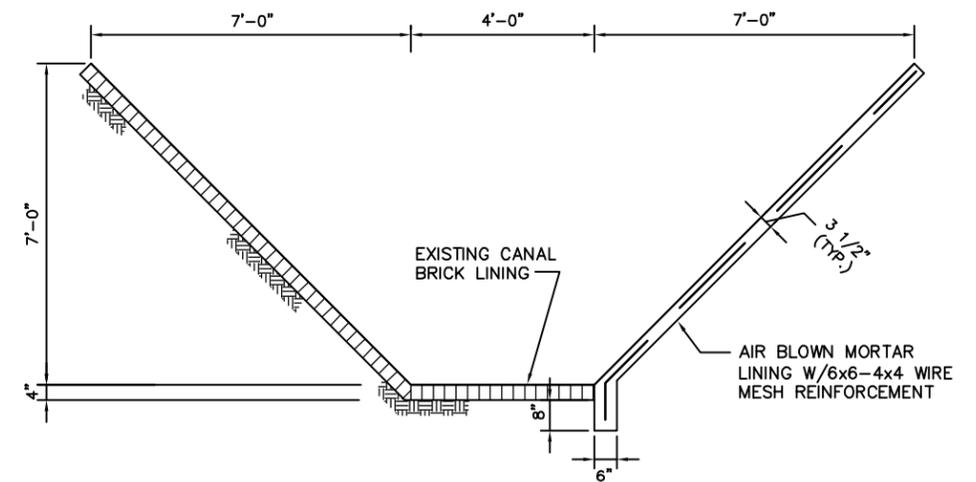
FIGURE A.1
 GENERAL ARRANGEMENT

DRAWN EN	DATE 5/2008		
CHECKED RHS	SCALE 1:600		
DESIGNED ESH			1 REV.



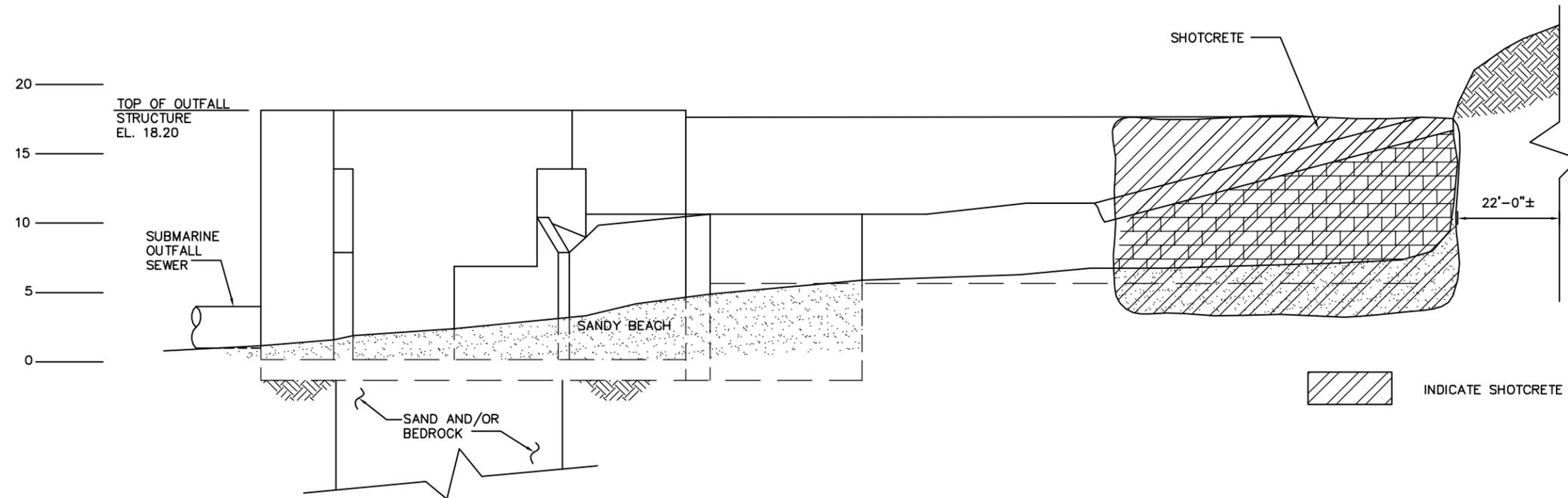
EXISTING TYPICAL WIDE SECTION OF CANAL (1)

SCALE: 1"=4'-0"
 STA. 0+10 TO STA. 1+70
 STA. 7+35 TO STA. 15+90
 STA. 19+81 TO STA. 20+88
 STA. 25+85 TO 27+43



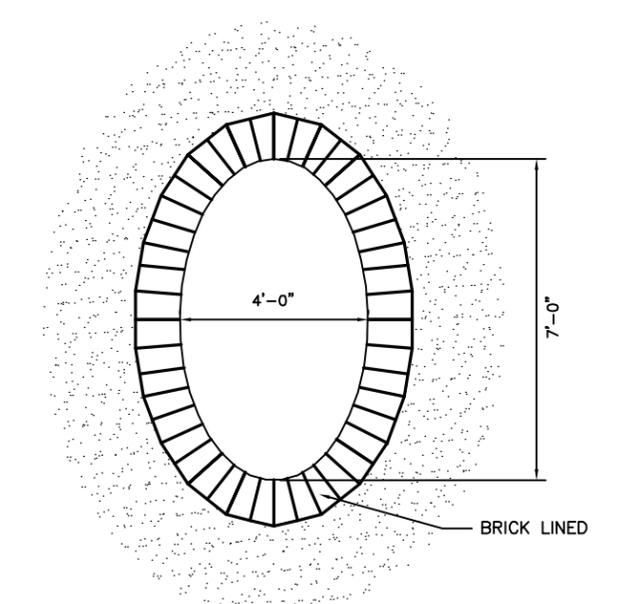
EXISTING TYPICAL NARROW SECTION OF CANAL (2)

SCALE: 1"=4'-0"
 STA. 1+70 TO STA. 7+35
 STA. 15+90 TO STA. 19+81
 STA. 20+88 TO STA. 25+85
 STA. 27+43 TO 35+60



SOUTH ELEVATION OF EXISTING DALY CITY OUTFALL STRUCTURE (3)

SCALE: 1"=10'-0"



EXISTING SECTION OF VISTA GRANDE TUNNEL (4)

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

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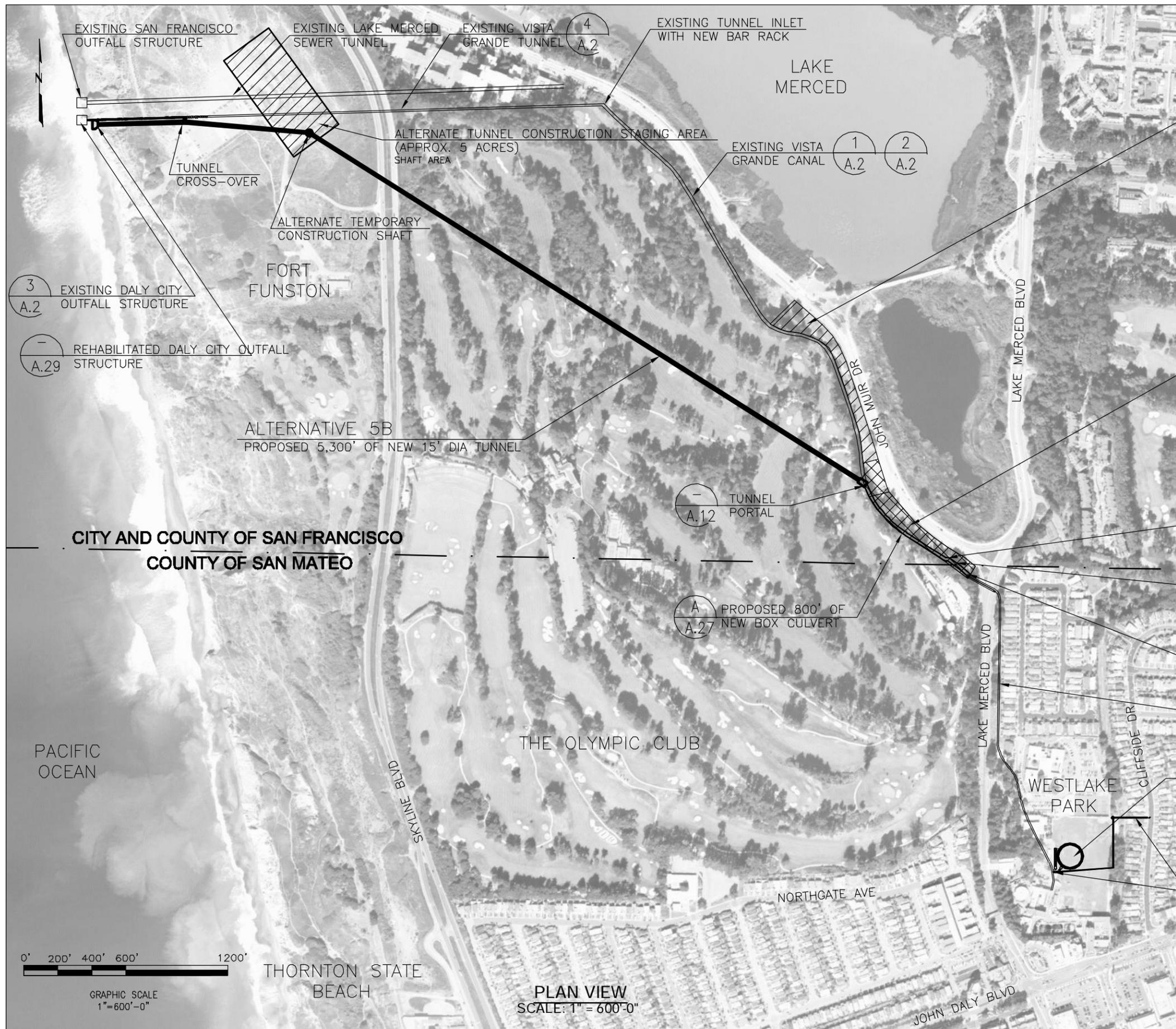
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BASIN TUNNEL ANALYSIS

FIGURE A.2
EXISTING FACILITIES &
AS-BUILT DESIGNS

NOTES:

- ELEVATIONS OF OUTFALL REFERENCE NGVD 1929 DATUM.
- FOR REFERENCE ONLY. REFER TO THE CITY OF DALY CITY-VISTA GRANDE STORM SEWER CANAL WIDENING AND REPAIR AUGUST 1973 DWG. C 73-E-22 FOR FULL DETAILS.

DRAWN ECB	DATE 10/2007		
CHECKED RHS	SCALE AS SHOWN		
DESIGNED ESH			0 REV.



- TUNNEL CONSTRUCTION STAGING AREA (APPROX. 3.9 ACRES)
 - PORTAL WORK AREA
 - WATER TREATMENT PLANT
 - SLURRY SEPARATION PLANT
 - SEGMENT STORAGE
 - MACHINE SHOP
 - SPARE PARTS STORAGE
 - GROUT PLANT
 - MATERIAL STORAGE
 - OFFICES AND DRYHOUSE
 - CREW PARKING
 - SUBSTATION
 - TEMPORARY SPOILS STORAGE
 - DUMP TRUCK STAGING AREA
 - CRANE

- CANAL IMPROVEMENT STAGING AREA (APPROX. 2.0 ACRES)
 - CANAL EXCAVATION AREA
 - BOX CULVERT SEGMENT STORAGE
 - EXCAVATION EQUIPMENT
 - TEMPORARY SPOILS STORAGE
 - DUMP TRUCK STAGING AREA
 - CRANE (PORTABLE)

WETLANDS DEVELOPMENT (FUTURE) LIFT STATION

DEBRIS SCREENS (A.22)

DROP STRUCTURE

EXISTING 5'x8' BOX CULVERT

UNDERGROUND STORMWATER STORAGE TANK (A.20)

NEW CULVERTS TO CONNECT WITH EXISTING CULVERTS

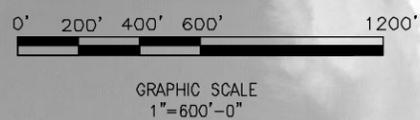
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VISTA GRANDE DRAINAGE BASIN TUNNEL ANALYSIS

FIGURE A.10
ALTERNATIVE 5B
SITE MAP

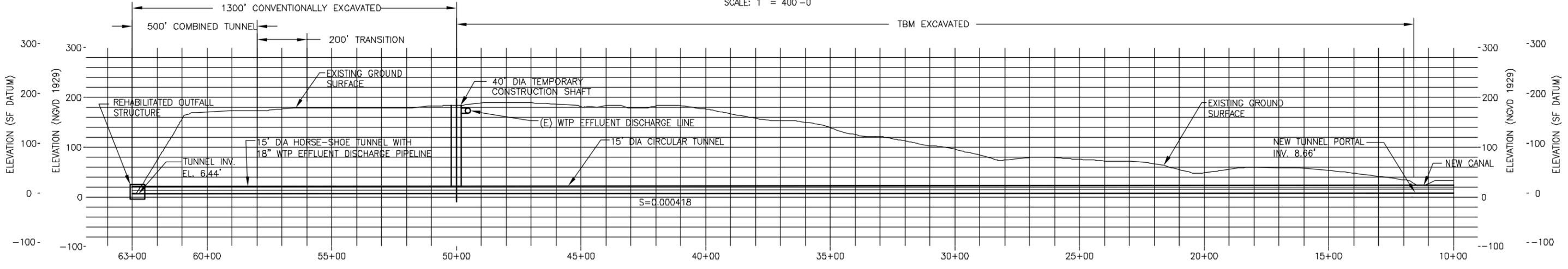
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CHECKED RHS	SCALE 1:800		
DESIGNED ESH			1 REV.



PLAN VIEW
SCALE: 1" = 600'-0"



PLAN VIEW - SF DATUM
SCALE: 1" = 400'-0"



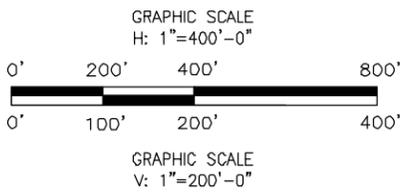
PROFILE - NGVD 1929 DATUM
SCALE: HORIZONTAL = 1" = 400'
VERTICAL = 1" = 200'-0"

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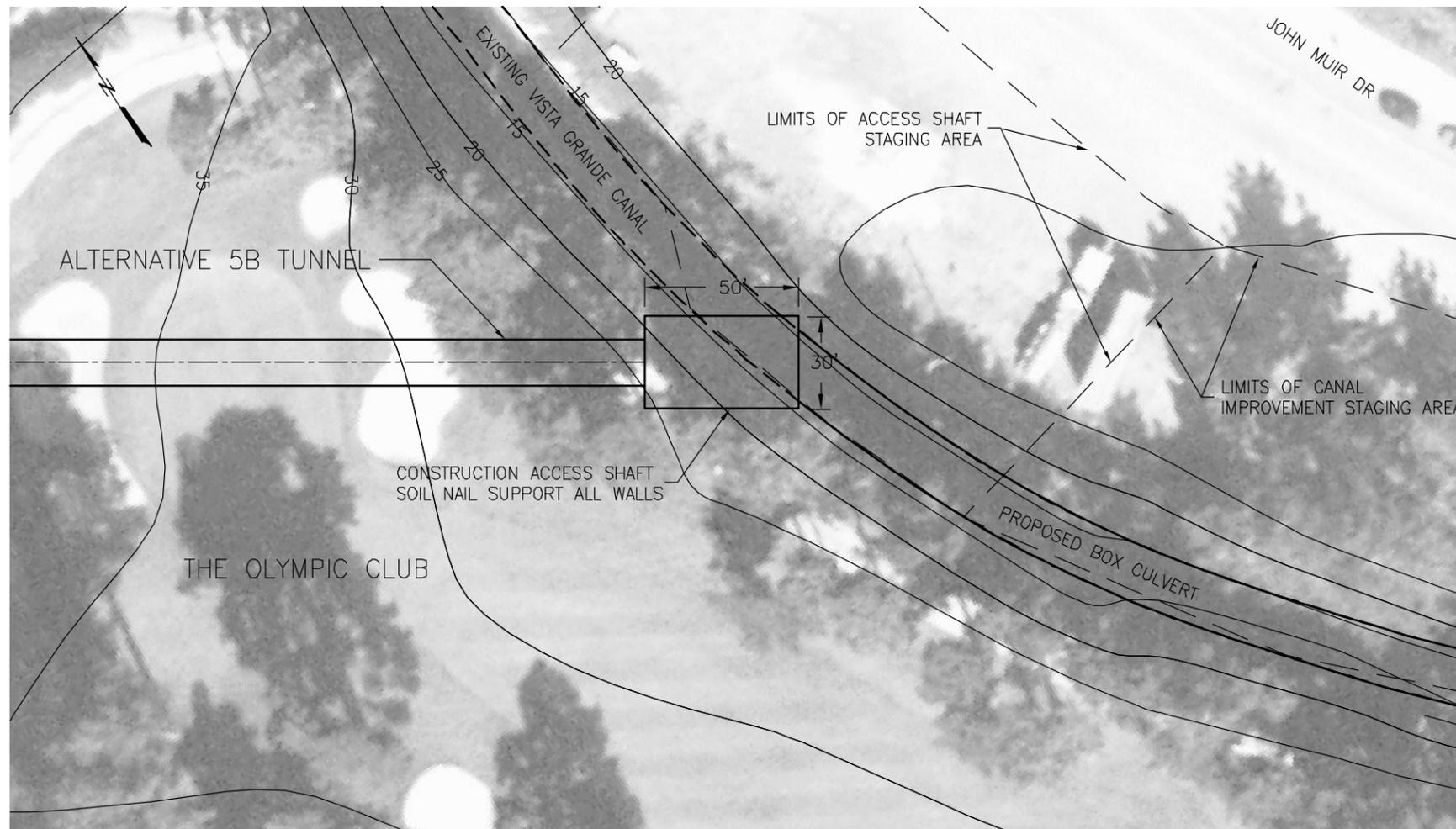
VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.11
ALTERNATIVE 5B
PLAN AND PROFILE



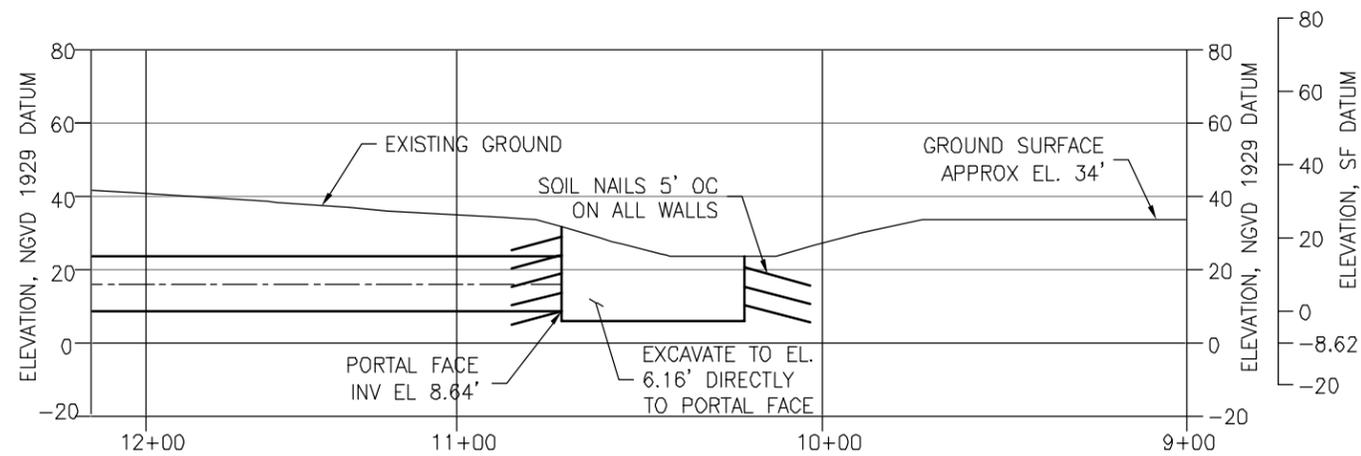
- NOTES:
1. THE PLAN REFERENCES THE SAN FRANCISCO DATUM.
 2. THE PROFILE REFERENCES THE NGVD 1929 DATUM. AN ADDITIONAL ELEVATION BAR CORRELATING THE SAN FRANCISCO DATUM HAS BEEN INCLUDED FOR REFERENCE.

DRAWN EGB	DATE 5/2008		1 REV.
CHECKED RHS	SCALE SHOWN		
DESIGNED ESH			



PLAN VIEW—REFERENCE SF DATUM

SCALE: 1"=50'-0"



PROFILE—REFERENCE NGVD 1929 DATUM

SCALE: 1"=50'-0"

HORIZ SCALE 1"=50'



NOTES:

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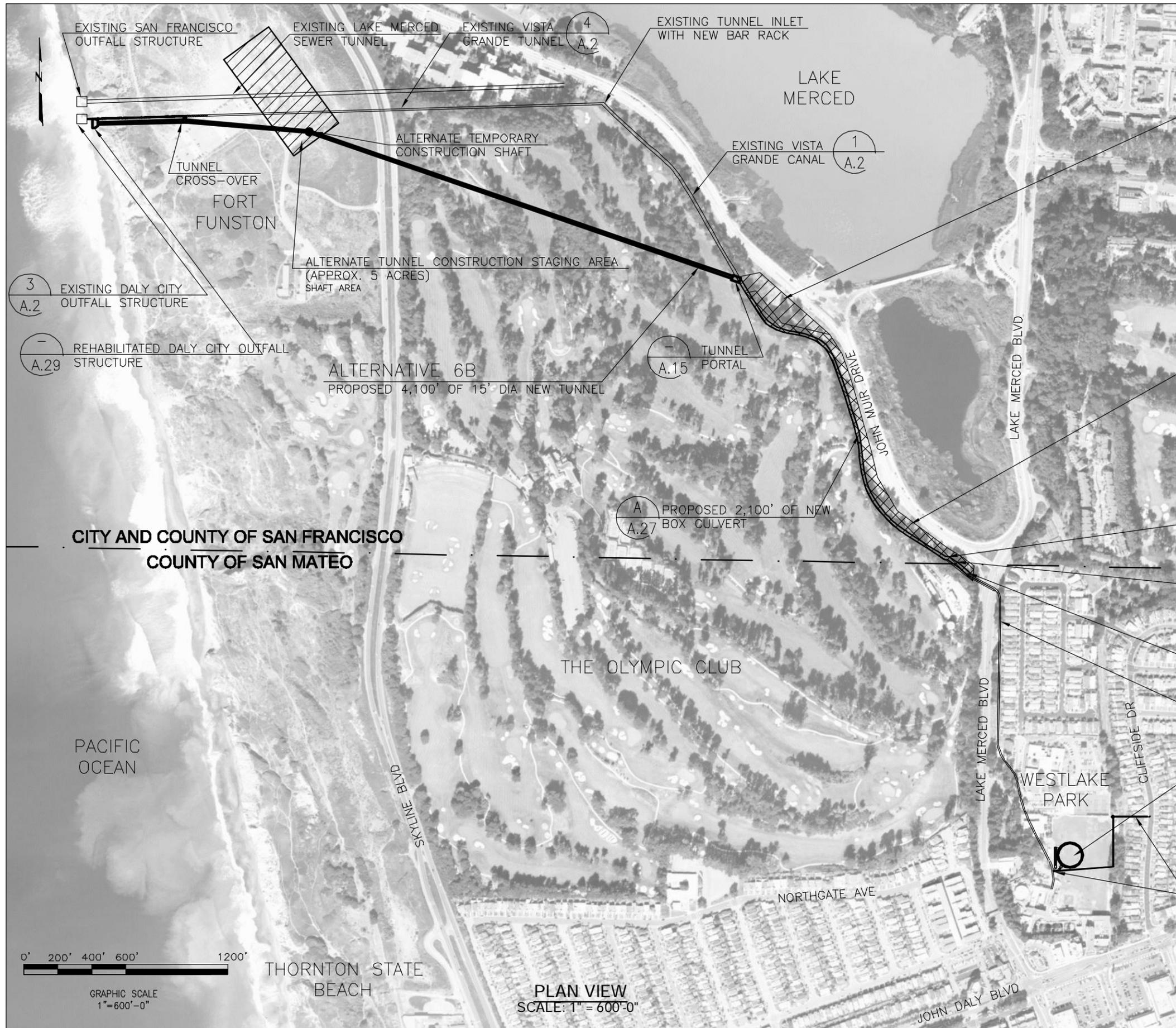
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BASIN TUNNEL ANALYSIS

FIGURE A.12
ALTERNATIVE 5B PORTAL

DRAWN EGB	DATE 5/2008		1 REV.
CHECKED R/S	SCALE SHOWN		
DESIGNED ESH			



TUNNEL CONSTRUCTION STAGING AREA
 (APPROX. 3.9 ACRES)
 PORTAL WORK AREA
 WATER TREATMENT PLANT
 SLURRY SEPARATION PLANT
 SEGMENT STORAGE
 MACHINE SHOP
 SPARE PARTS STORAGE
 GROUT PLANT
 MATERIAL STORAGE
 OFFICES AND DRYHOUSE
 CREW PARKING
 SUBSTATION
 TEMPORARY SPOILS STORAGE
 DUMP TRUCK STAGING AREA
 CRANE

CANAL IMPROVEMENT STAGING AREA
 (APPROX. 3.1 ACRES)
 CANAL EXCAVATION AREA
 BOX CULVERT SEGMENT STORAGE
 EXCAVATION EQUIPMENT
 TEMPORARY SPOILS STORAGE
 DUMP TRUCK STAGING AREA
 CRANE (PORTABLE)

WETLANDS DEVELOPMENT
 (FUTURE) LIFT STATION

DEBRIS
 SCREENS (A.22)

DROP
 STRUCTURE

EXISTING 5'X8'
 BOX CULVERT

UNDERGROUND
 STORMWATER
 STORAGE TANK (A.20)

NEW CULVERTS TO
 CONNECT WITH
 EXISTING CULVERTS

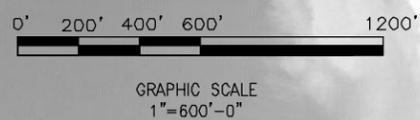
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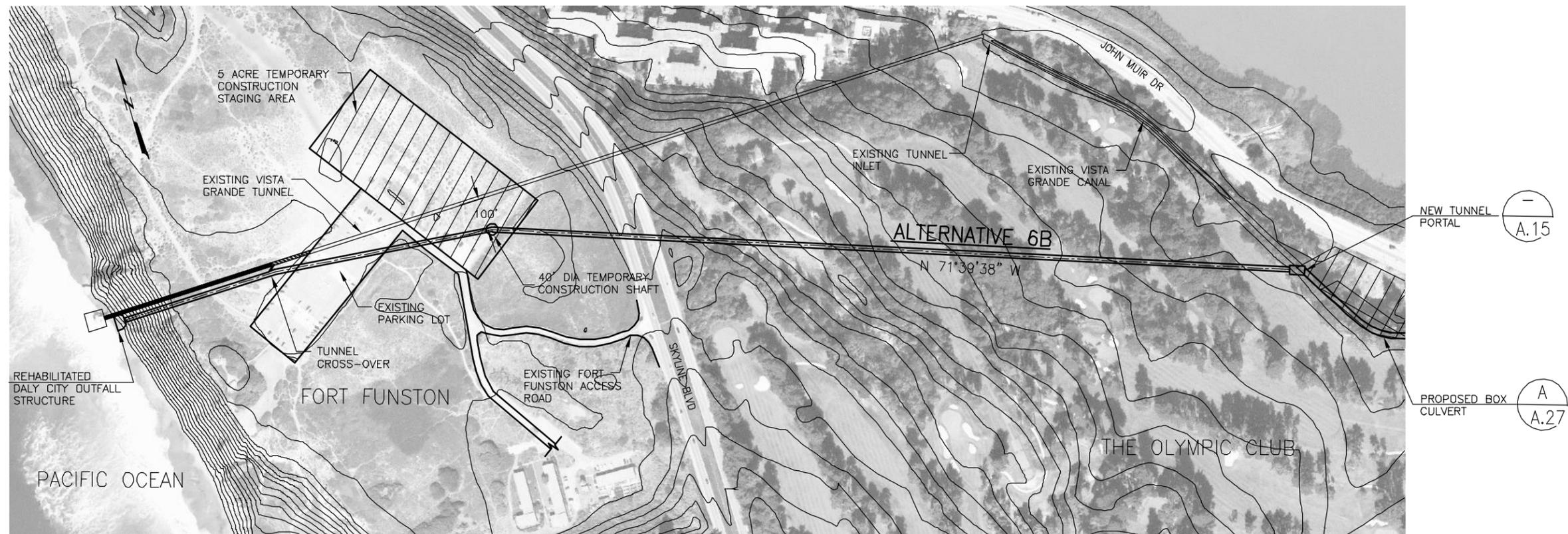
VISTA GRANDE DRAINAGE
 BASIN TUNNEL ANALYSIS

FIGURE A.13
ALTERNATIVE 6B
SITE MAP

DRAWN EN	DATE 5/2008		
CHECKED RHS	SCALE 1:600		
DESIGNED ESH			1 REV.

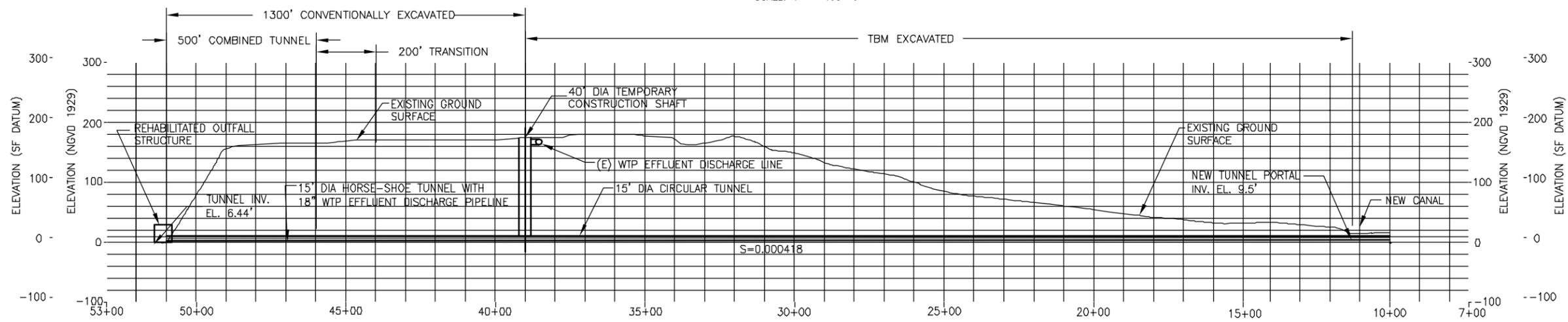


PLAN VIEW
 SCALE: 1" = 600'-0"



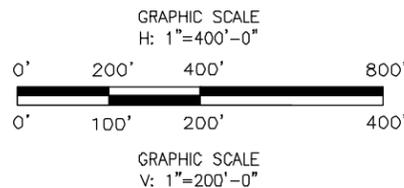
PLAN VIEW – SF DATUM

SCALE: 1" = 400'-0"



PROFILE – NGVD 1929 DATUM

SCALE: HORIZONTAL = 1" = 400'
VERTICAL = 1" = 200'-0"



NOTES:

1. THE PLAN REFERENCES THE SAN FRANCISCO DATUM.
2. THE PROFILE REFERENCES THE NGVD 1929 DATUM. AN ADDITIONAL ELEVATION BAR CORRELATING THE SAN FRANCISCO DATUM HAS BEEN INCLUDED FOR REFERENCE.

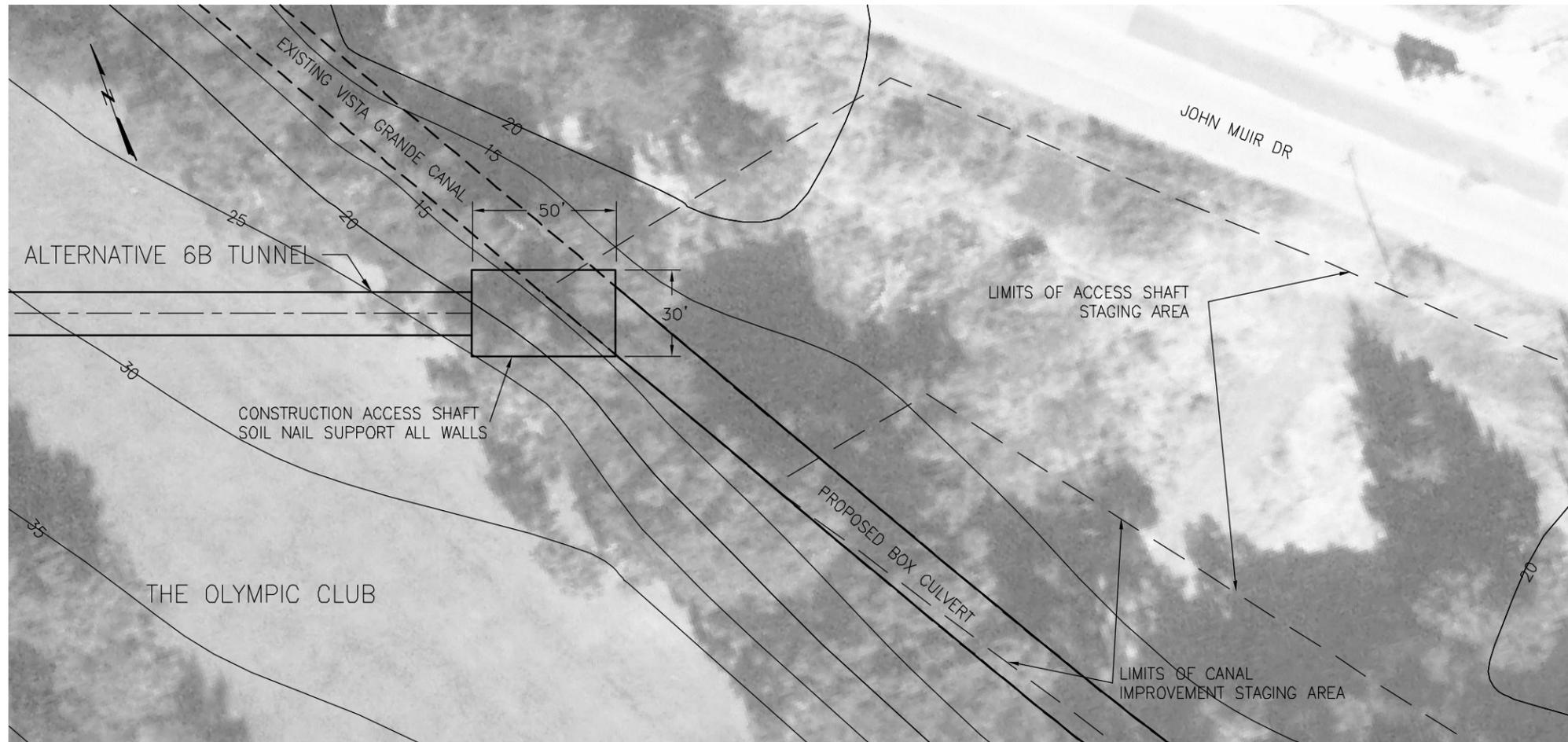
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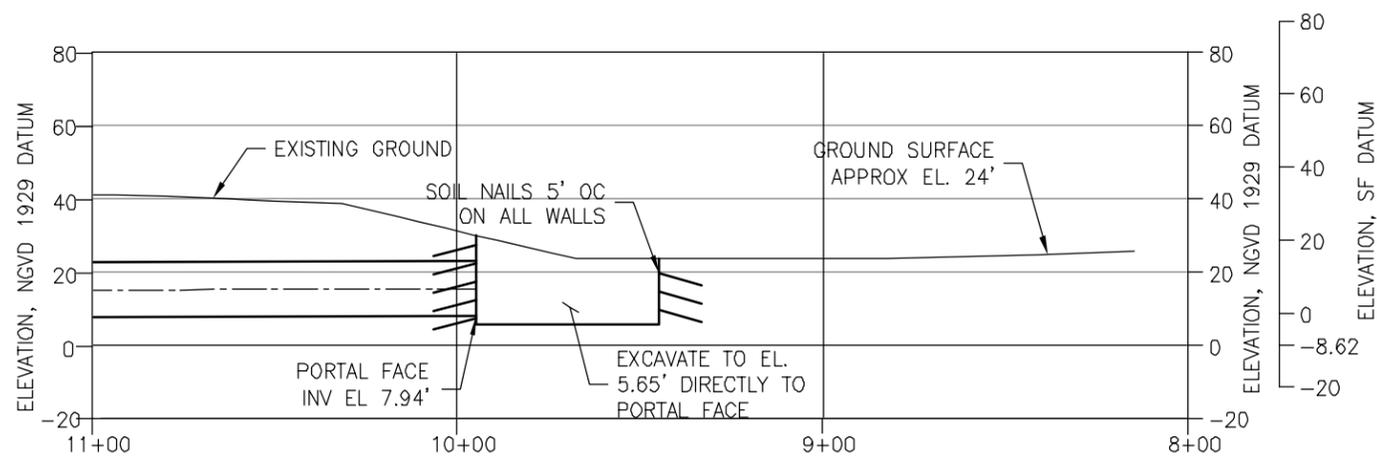
VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.14
ALTERNATIVE 6B
PLAN AND PROFILE

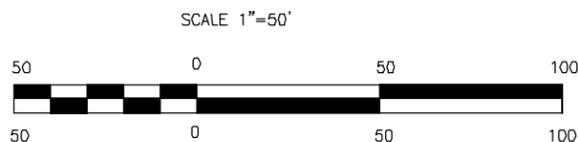
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CHECKED RHS	SCALE SHOWN		
DESIGNED ESH			



PLAN VIEW—REFERENCE SF DATUM
SCALE: 1"=50'-0"



PROFILE—REFERENCE NGVD 1929 DATUM
SCALE: 1"=50'-0"



- NOTES:
1. THE PLAN REFERENCES THE SAN FRANCISCO DATUM.
 2. THE PROFILE REFERENCES THE NGVD 1929 DATUM. AN ADDITIONAL ELEVATION BAR CORRELATING THE SAN FRANCISCO DATUM HAS BEEN INCLUDED FOR REFERENCE.

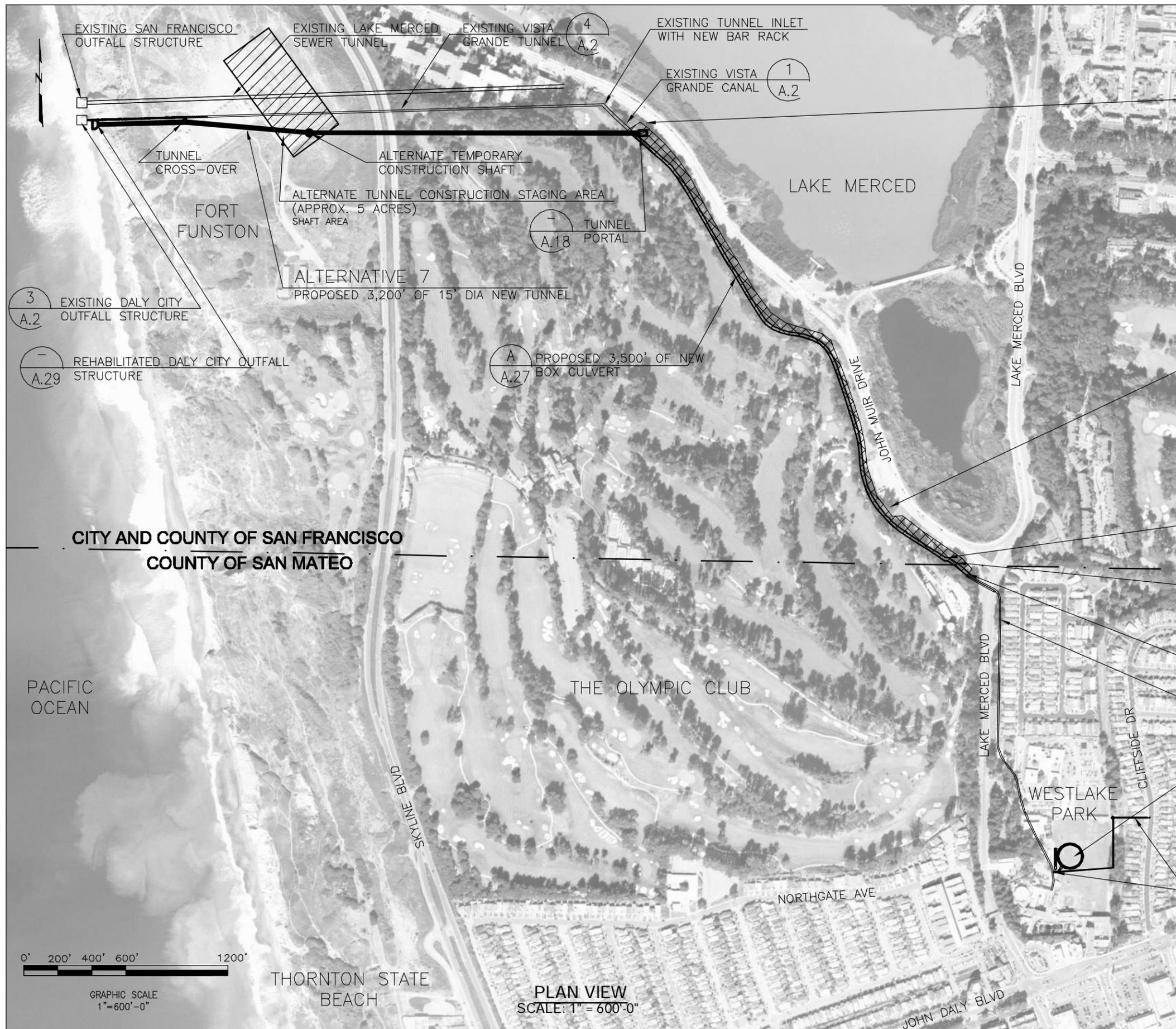
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BASIN TUNNEL ANALYSIS

FIGURE A.15
ALTERNATIVE 6B PORTAL

DRAWN EGB	DATE 5/2008		1 REV.
CHECKED RHS	SCALE AS SHOWN		
DESIGNED ESH			



- TUNNEL CONSTRUCTION STAGING AREA**
 (APPROX. 3.9 ACRES)
 PORTAL WORK AREA
 WATER TREATMENT PLANT
 SLURRY SEPARATION PLANT
 SEGMENT STORAGE
 MACHINE SHOP
 SPARE PARTS STORAGE
 GROUT PLANT
 MATERIAL STORAGE
 OFFICES AND DRYHOUSE
 CREW PARKING
 SUBSTATION
 TEMPORARY SPOILS STORAGE
 DUMP TRUCK STAGING AREA
 CRANE

- CANAL IMPROVEMENT STAGING AREA**
 (APPROX. 4.4 ACRES)
 CANAL EXCAVATION AREA
 BOX CULVERT SEGMENT STORAGE
 EXCAVATION EQUIPMENT
 TEMPORARY SPOILS STORAGE
 DUMP TRUCK STAGING AREA
 CRANE (PORTABLE)

WETLANDS DEVELOPMENT
 (FUTURE) LIFT STATION

DEBRIS
 SCREENS (A.22)

DROP
 STRUCTURE

EXISTING 5'X8'
 BOX CULVERT

UNDERGROUND
 STORMWATER
 STORAGE TANK (A.20)

NEW CULVERTS TO
 CONNECT WITH
 EXISTING CULVERTS

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**VISTA GRANDE DRAINAGE
 BASIN TUNNEL ANALYSIS**

**FIGURE A.16
 ALTERNATIVE 7
 SITE MAP**

DRAWN EN	DATE 5/2008		
CHECKED RHS	SCALE 1:600		
DESIGNED ESH			1 REV.

(3) A.2 EXISTING DALY CITY
 OUTFALL STRUCTURE

(-) A.29 REHABILITATED DALY CITY OUTFALL
 STRUCTURE

(-) A.18 TUNNEL
 PORTAL

(A) A.27 PROPOSED 3,500' OF NEW
 BOX CULVERT

ALTERNATIVE 7
 PROPOSED 3,200' OF 15" DIA NEW TUNNEL

ALTERNATE TUNNEL CONSTRUCTION STAGING AREA
 (APPROX. 5 ACRES)
 SHAFT AREA

EXISTING TUNNEL INLET
 WITH NEW BAR RACK

EXISTING VISTA GRANDE CANAL
 (1) A.2

EXISTING VISTA GRANDE TUNNEL
 (4) A.2

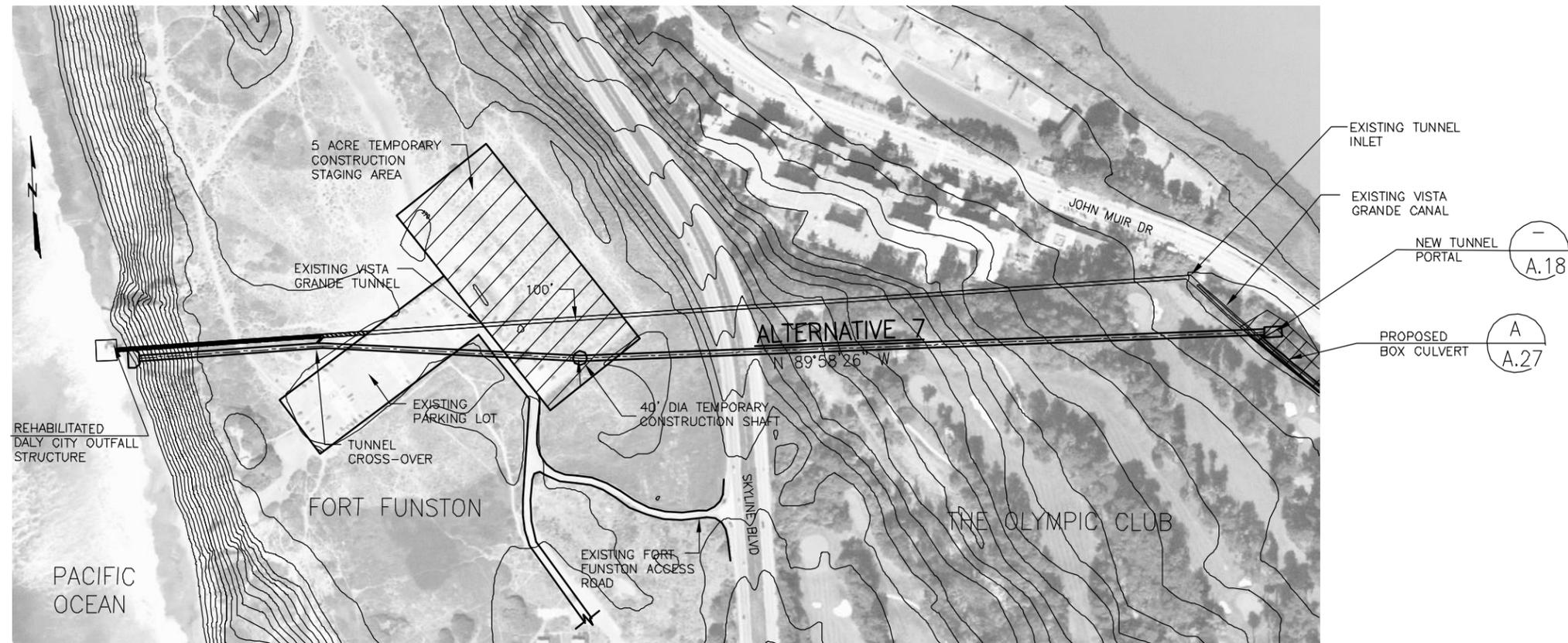
EXISTING LAKE MERCED
 SEWER TUNNEL

EXISTING SAN FRANCISCO
 OUTFALL STRUCTURE

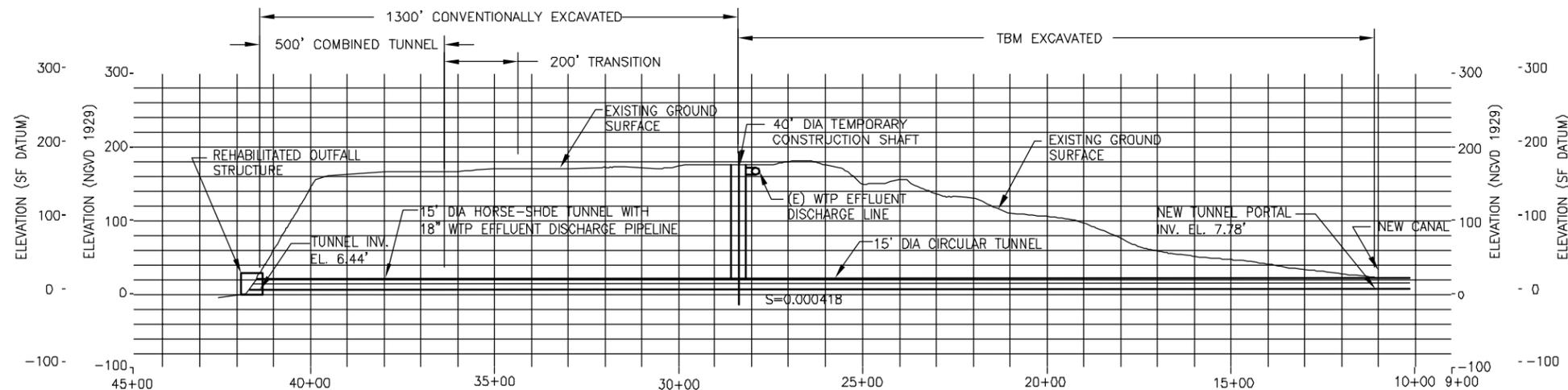


GRAPHIC SCALE
 1" = 600'-0"

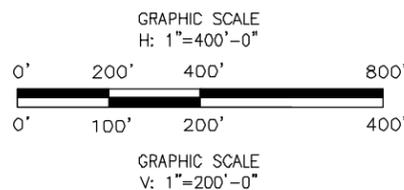
PLAN VIEW
 SCALE: 1" = 600'-0"



PLAN VIEW - SF DATUM
SCALE: 1" = 400'-0"



PROFILE - NGVD 1929 DATUM
SCALE: HORIZONTAL = 1" = 400'
VERTICAL = 1" = 200'-0"



- NOTES:
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 2. THE PROFILE REFERENCES THE NGVD 1929 DATUM. AN ADDITIONAL ELEVATION BAR CORRELATING THE SAN FRANCISCO DATUM HAS BEEN INCLUDED FOR REFERENCE.

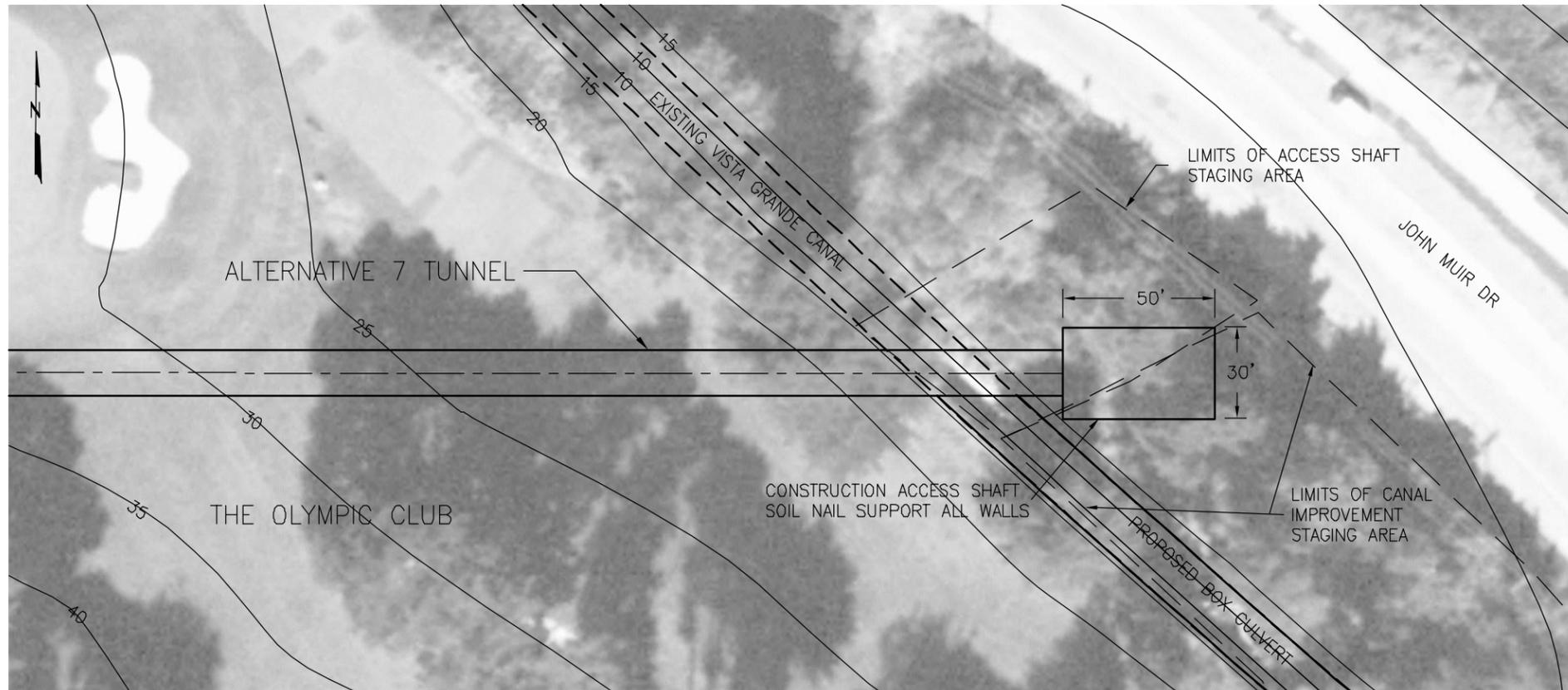
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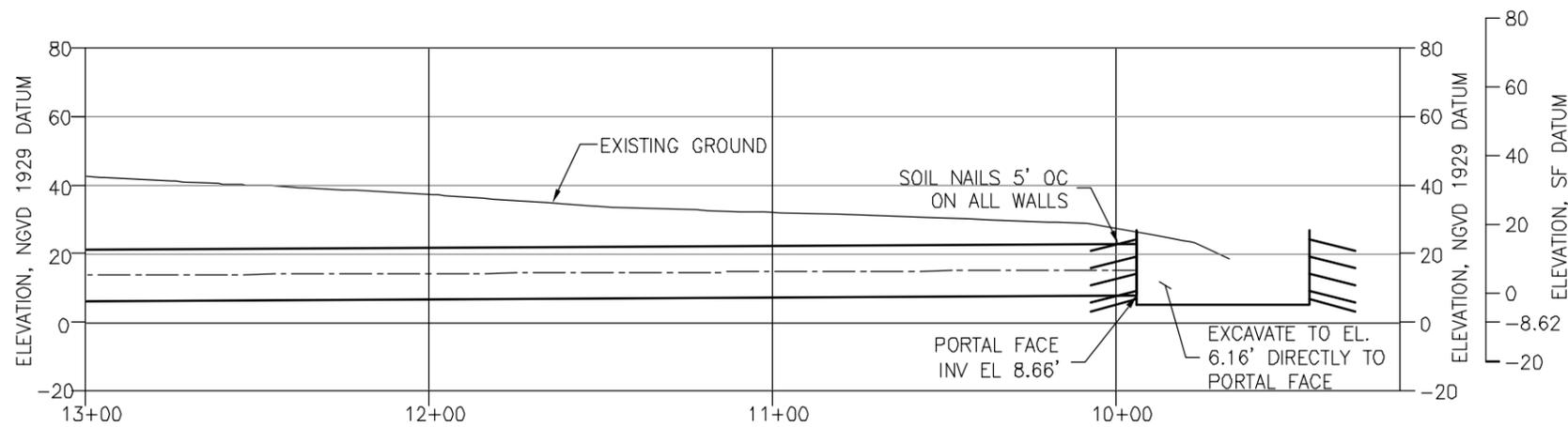
VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.17
ALTERNATIVE 7
PLAN AND PROFILE

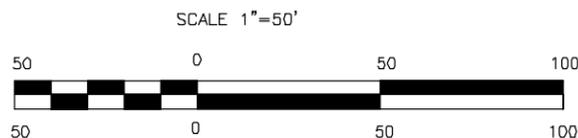
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CHECKED RHS	SCALE SHOWN		
DESIGNED ESH			



PLAN VIEW—REFERENCE SF DATUM
SCALE: 1"=50'-0"



PROFILE—REFERENCE NGVD 1929 DATUM
SCALE: 1"=50'-0"



NOTES:

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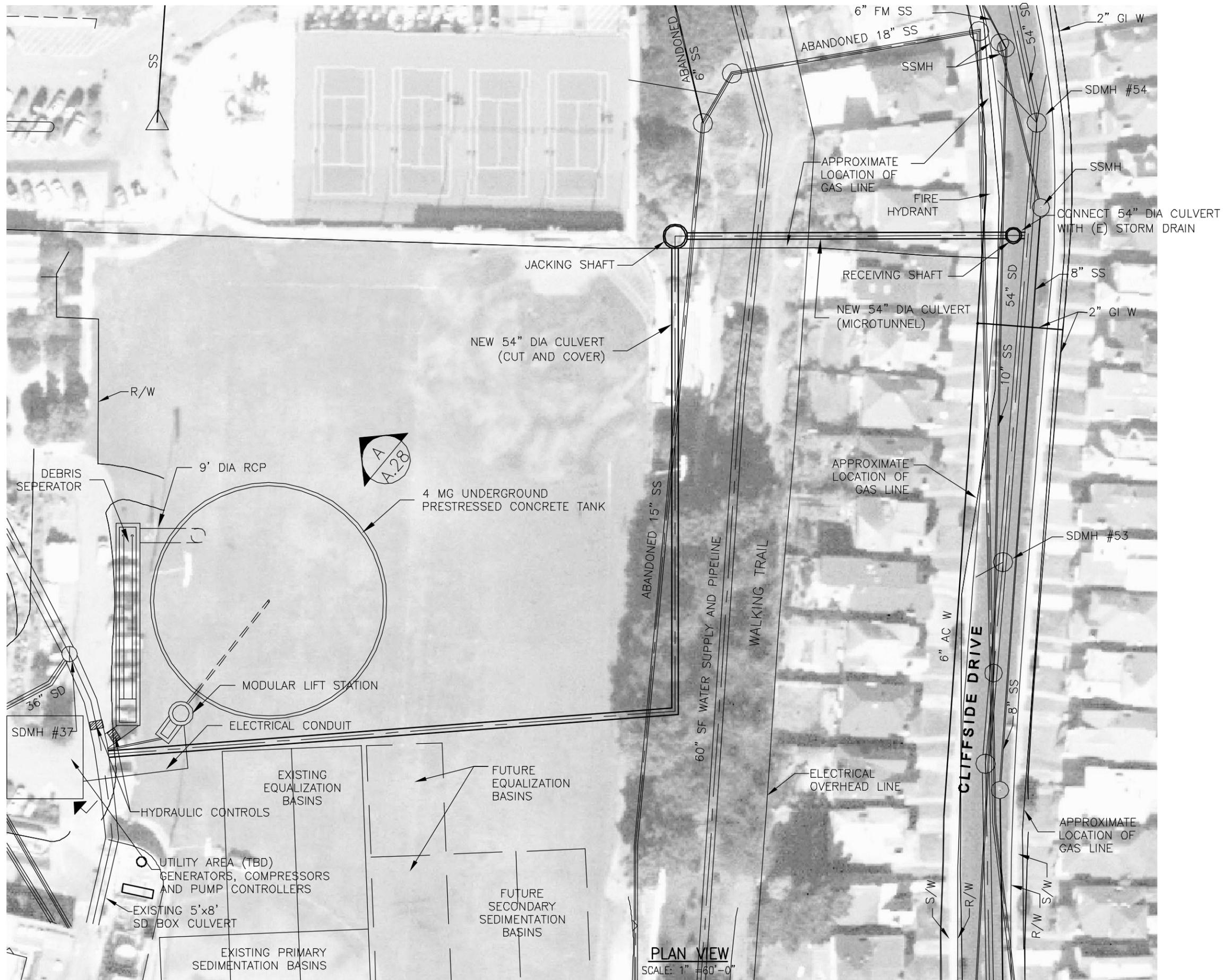
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FIGURE A.18
ALTERNATIVE 7 PORTAL

DRAWN EGB	DATE 5/2008	1 REV.
CHECKED RHS	SCALE AS SHOWN	
DESIGNED ESH		



PLAN VIEW
SCALE: 1" = 60'-0"

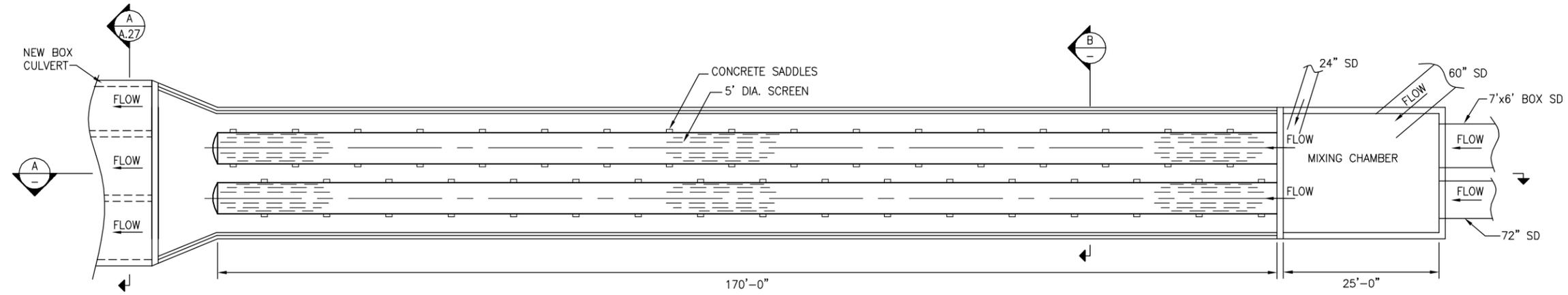
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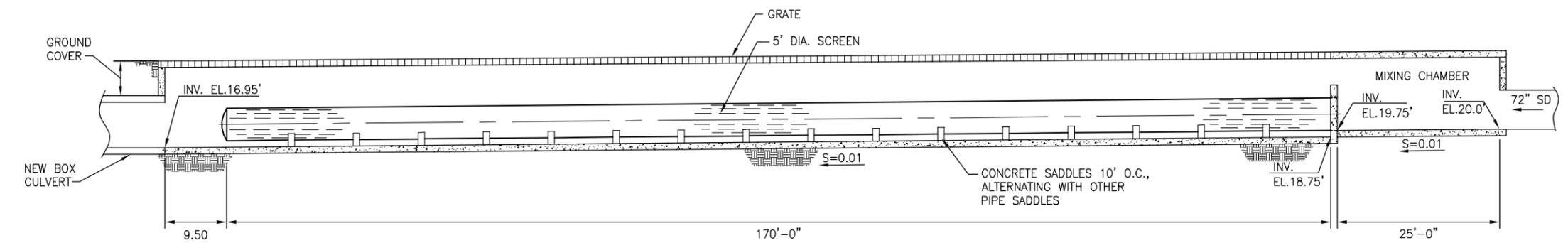
VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.20
4 MG UNDERGROUND STORMWATER
STORAGE TANK SITE MAP

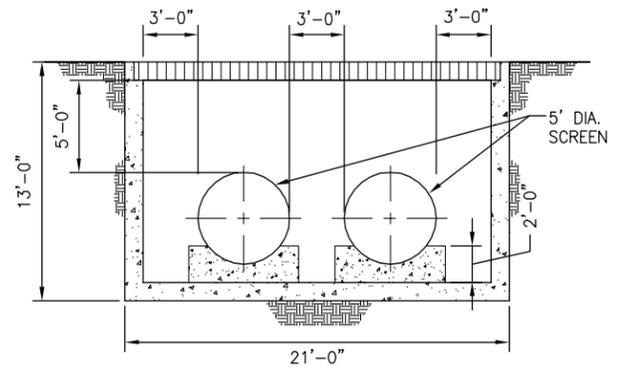
DRAWN EGB	DATE 5/2008	1 REV.
CHECKED RHS	SCALE 1"=60'	
DESIGNED ESH		



PLAN VIEW
SCALE: 1" = 20'-0"



SECTION A-A
SCALE: 1" = 20'-0"



SECTION B-B
SCALE: 1" = 10'-0"

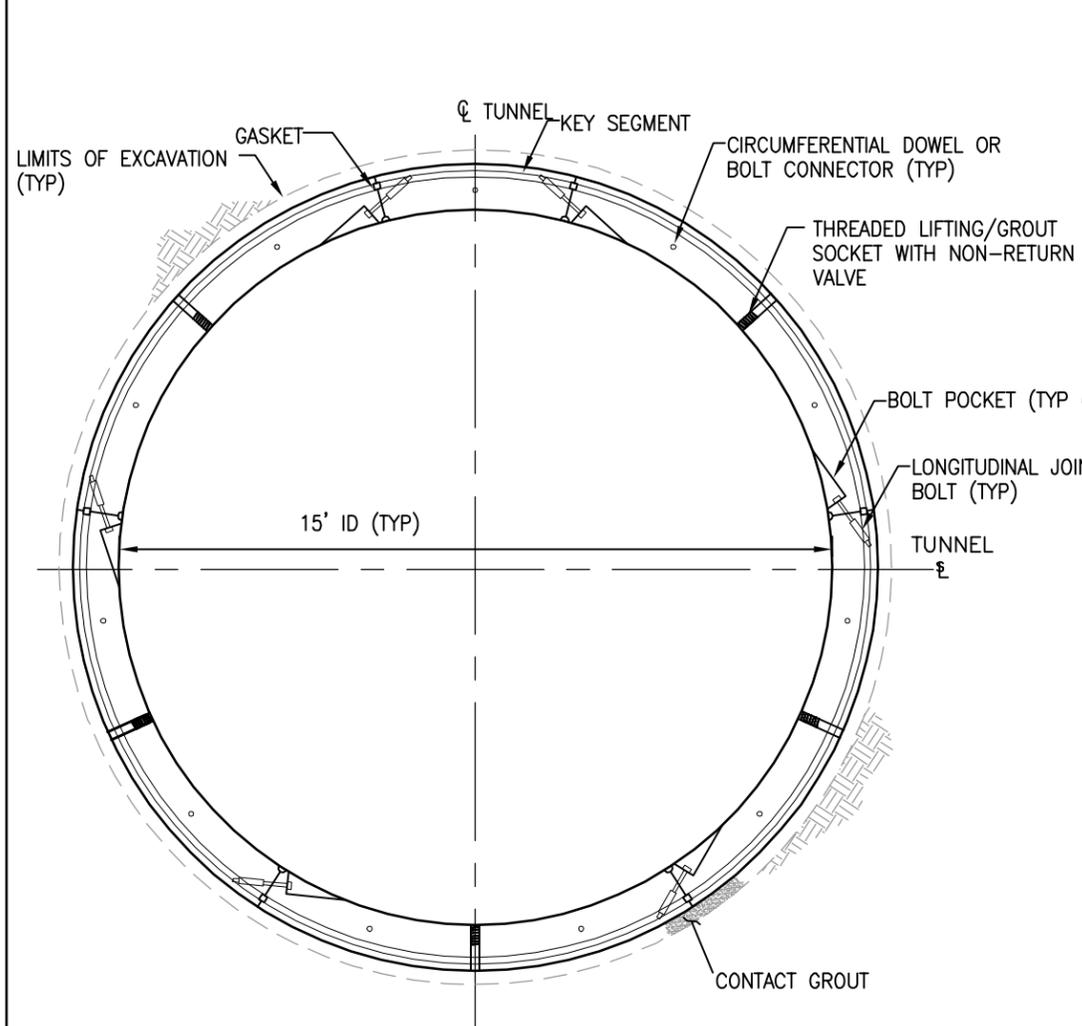
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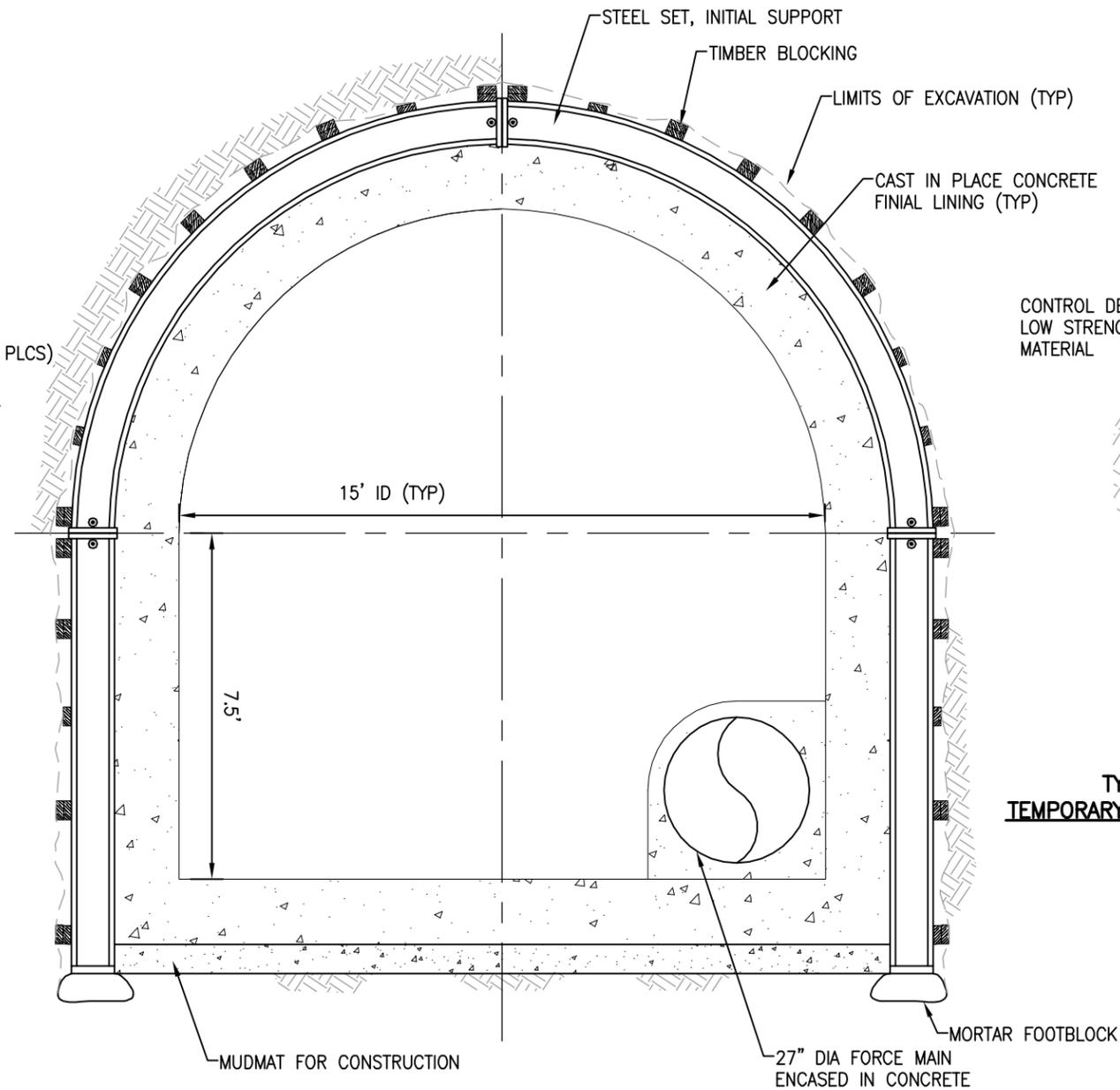
VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.22
4 MG STORAGE OPTION
DEBRIS SCREEN AT CANAL INLET

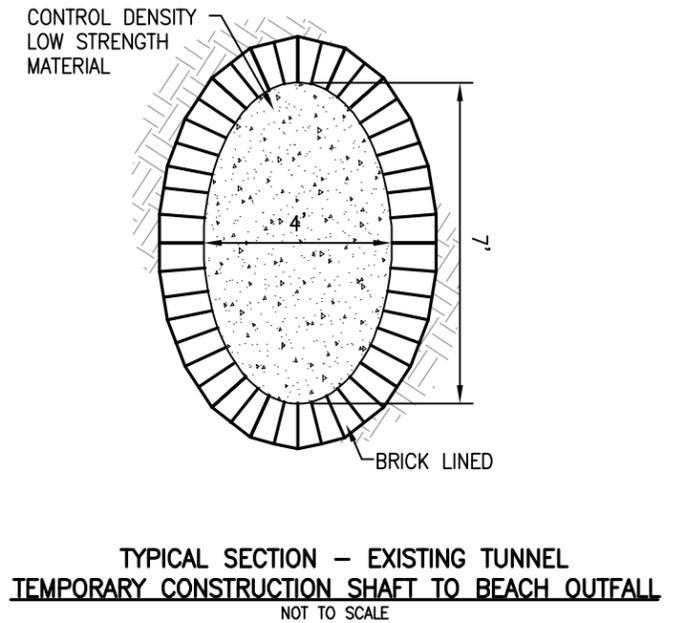
DRAWN EGB	DATE 10/2007		
CHECKED RHS	SCALE AS SHOWN		
DESIGNED ESH			0 REV.



**TYPICAL SECTION – BOLTED, GASKETED, PRECAST SEGMENTS
EXISTING CANAL TO TEMPORARY CONSTRUCTION SHAFT**
NOT TO SCALE



**TYPICAL SECTION – STEEL RIB INITIAL SUPPORT, CONCRETE FINAL LINING
TEMPORARY CONSTRUCTION SHAFT TO BEACH OUTFALL STRUCTURE**
NOT TO SCALE



**TYPICAL SECTION – EXISTING TUNNEL
TEMPORARY CONSTRUCTION SHAFT TO BEACH OUTFALL**
NOT TO SCALE

NOTES:

1. DESIGN OF INITIAL TUNNEL SUPPORT AND FINAL LINING WILL BE DETERMINED IN A LATER DESIGN PHASE.
2. JOINT CONNECTION ASSEMBLY SHALL BE BASED ON A BOLTED AND GASKETED TYPE SYSTEM. GASKET TYPE SHALL BE BASED ON A GROOVED TYPE SYSTEM.
3. ADJACENT RINGS SHALL BE ROTATED SUCH THAT LONGITUDINAL JOINTS IN ONE RING ARE NOT ALIGNED WITH LONGITUDINAL JOINTS IN AN ADJACENT RING.

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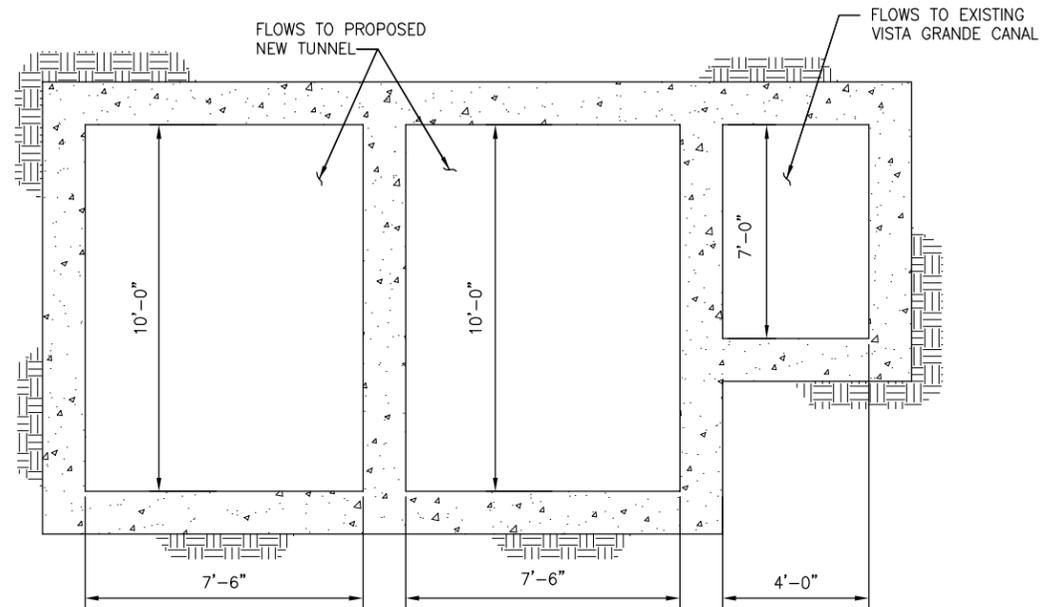
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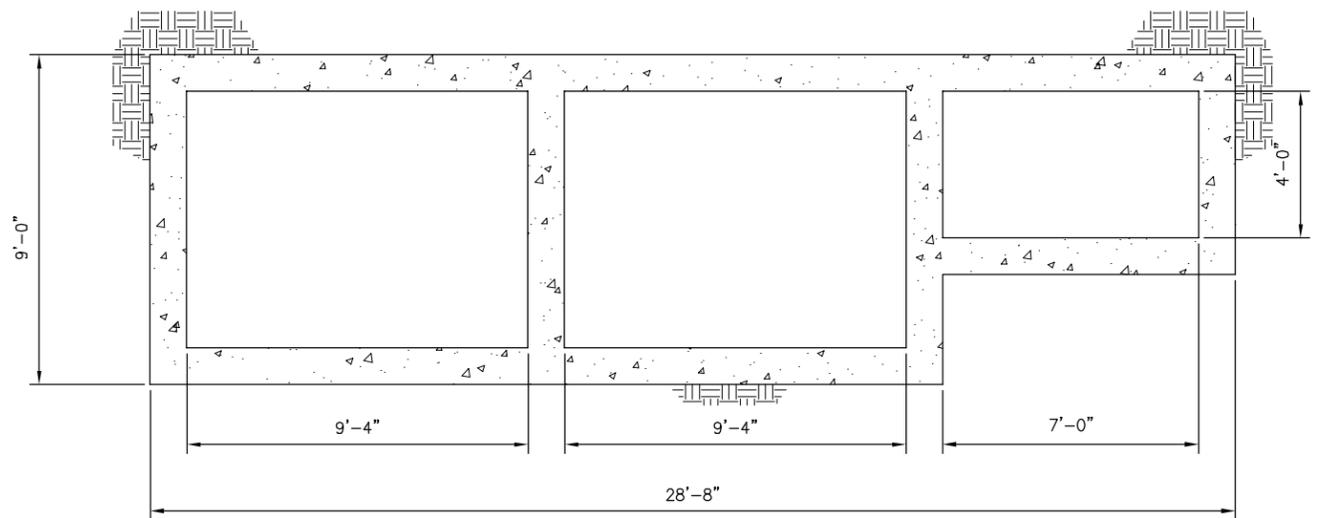
VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.25
TUNNEL LINING
TYPICAL SECTIONS

DRAWN EGB	DATE 5/2008		
CHECKED RHS	SCALE AS SHOWN		
DESIGNED ESH			1 REV.



NEW BOX CULVERT ALTERNATIVES 5B, 6, & 7
 SCALE: 1" = 5'-0"
 A A
 A.19 A.22

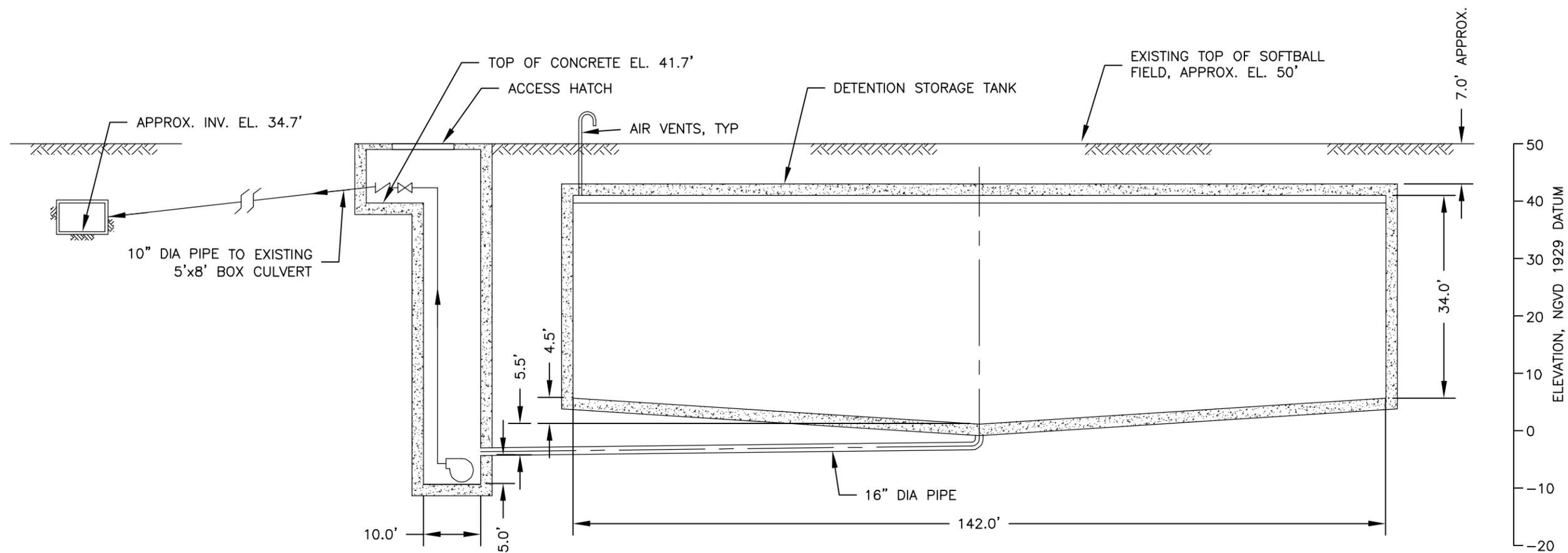


BOX CULVERT ALTERNATIVE DIMENSIONS
 SCALE: 1" = 5'-0"

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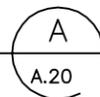
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 BASIN TUNNEL ANALYSIS
 FIGURE A.27
 NEW BOX CULVERT

DRAWN EGB	DATE 10/2007	
CHECKED RHS	SCALE AS SHOWN	
DESIGNED ESH		0 REV.



SECTION

SCALE: 1' = 20"



JACOBS ASSOCIATES

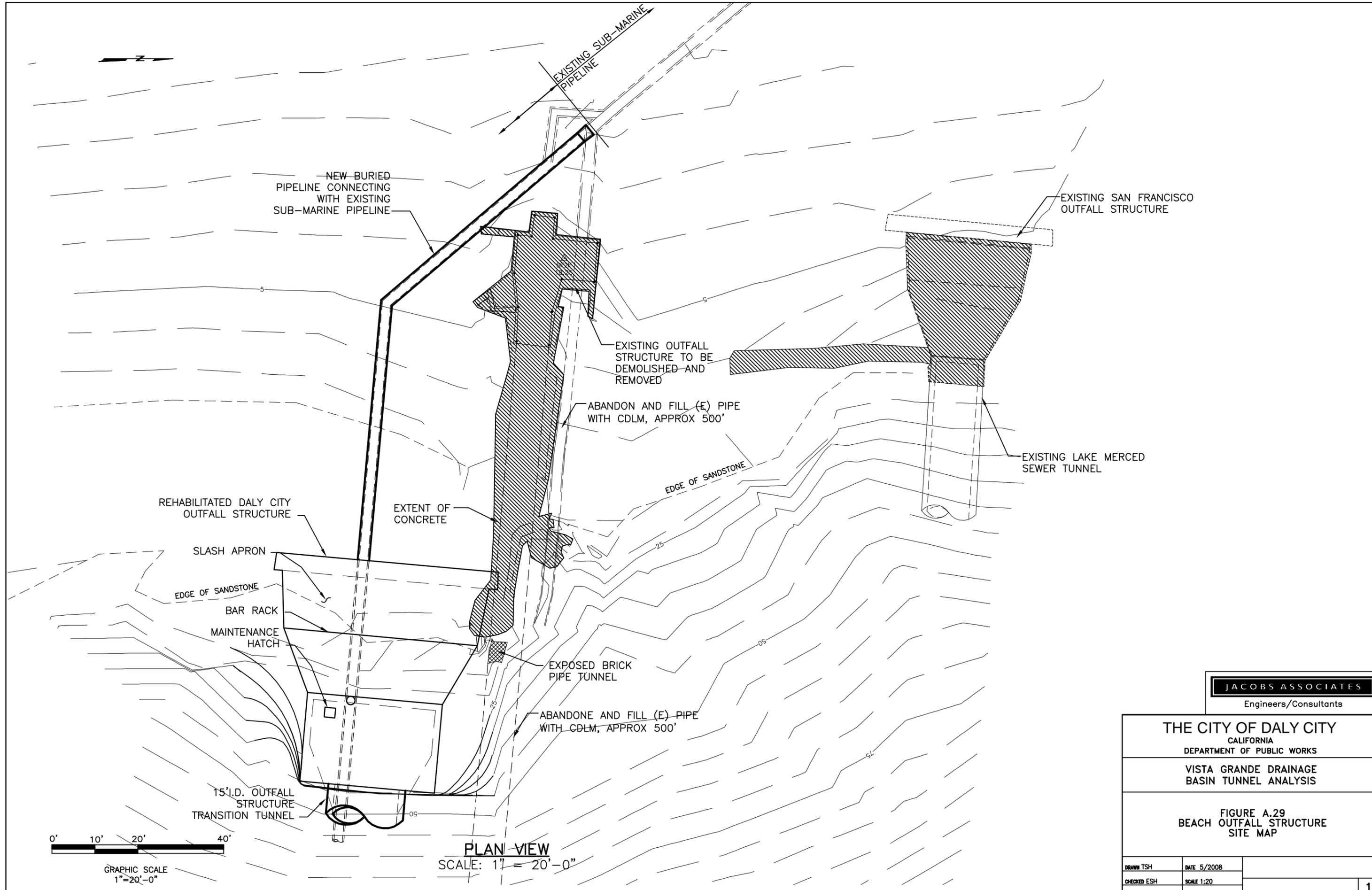
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DEPARTMENT OF PUBLIC WORKS

VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.28
4 MG STORMWATER STORAGE TANK
SECTION-A

DRAWN BBW	DATE 5/2008	
CHECKED RHS	SCALE AS NOTED	
DESIGNED ESH		1 REV.



JACOBS ASSOCIATES
Engineers/Consultants

THE CITY OF DALY CITY
CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

VISTA GRANDE DRAINAGE
BASIN TUNNEL ANALYSIS

FIGURE A.29
BEACH OUTFALL STRUCTURE
SITE MAP

DRAWN TSH	DATE 5/2008		
CHECKED ESH	SCALE 1:20		
DESIGNED MLS			1 REV.