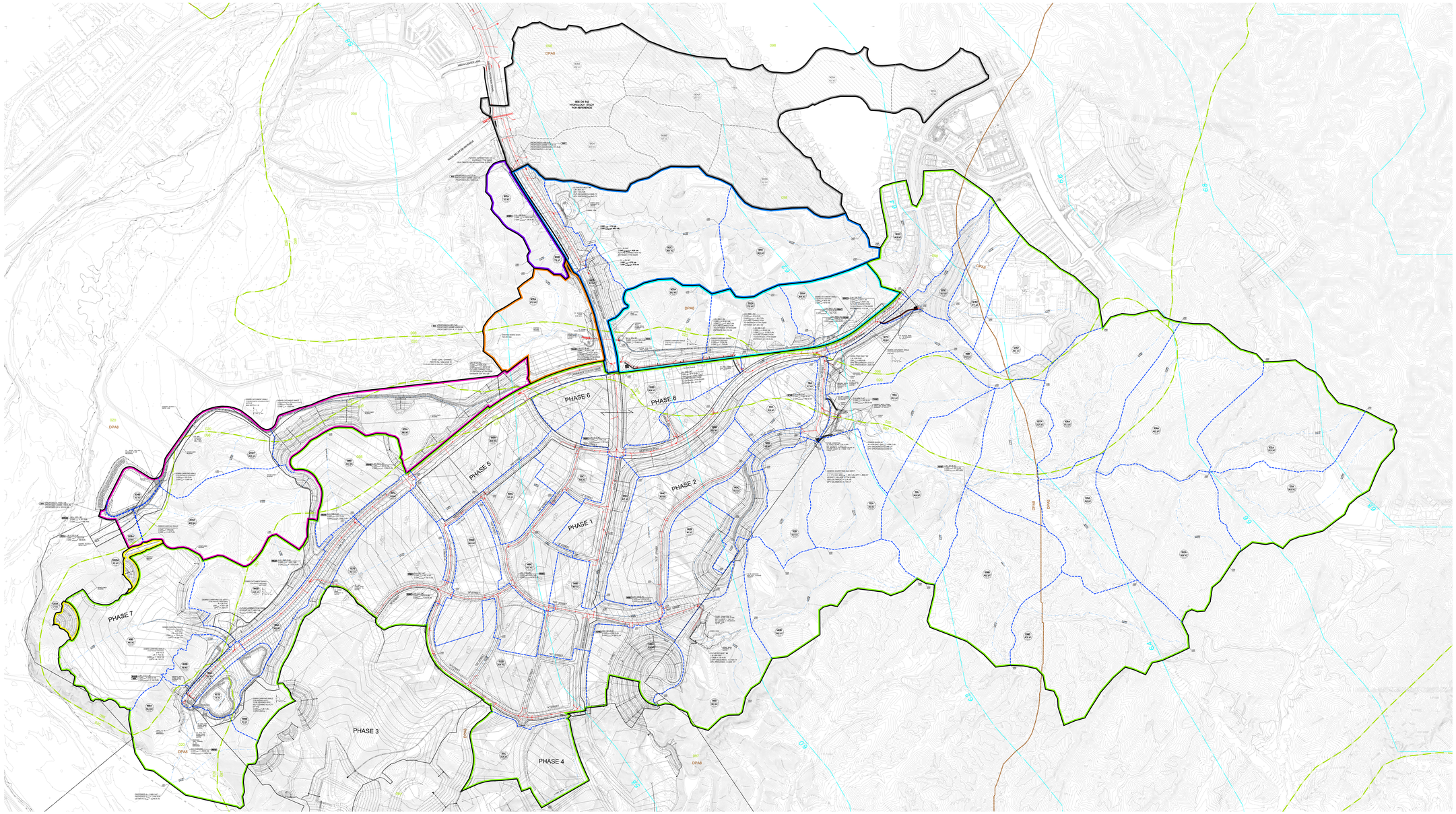
Revised Draft SEIR Appendix 5.5a (Continued)

Entrada South Hydrology and Drainage Concept (Part 5 of 6)

D-8: AVTTM 61105-01, 02, 05, & 06


PHASE 1
PHASE 2
PHASE 3
PHASE 4
PHASE 5
PHASE 6
PHASE 6
PHASE 7
SEE DS-R2 HYDROLOGY STUDY FOR REFERENCE
MESA COUNTY LINE
DPA8
DPA6
DPA7
Q06
Q08
Q09
Q20
Q21
Q22
Q23
Q24
Q25
Q26
Q27
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Q29
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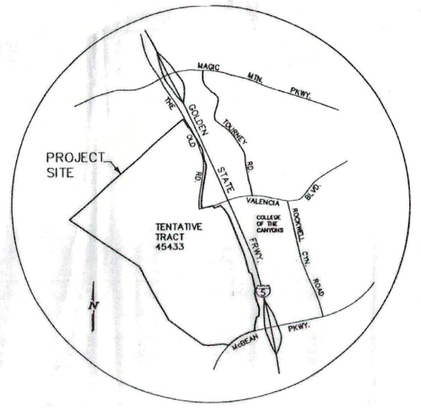
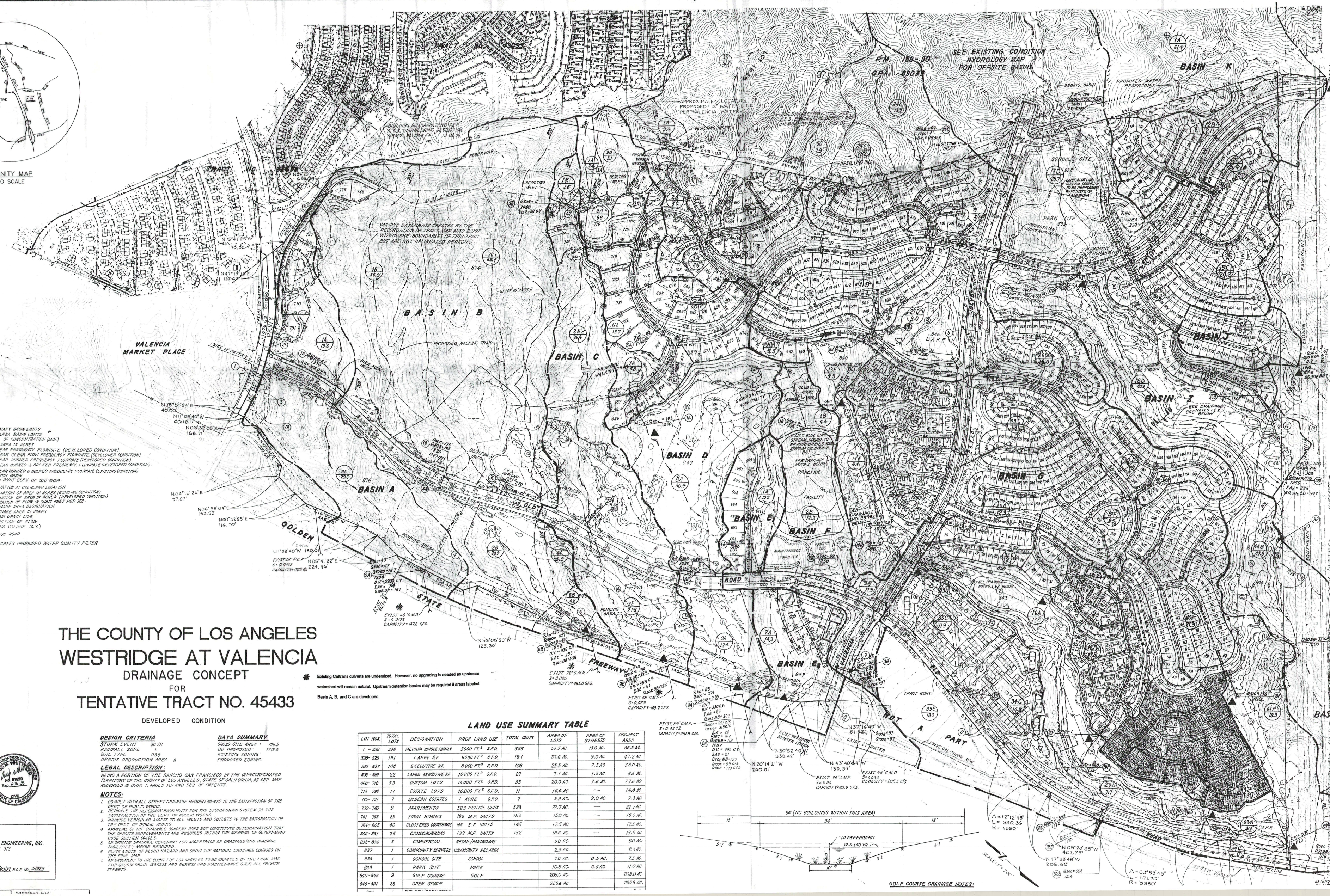
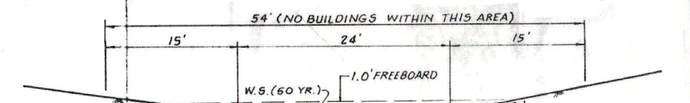
Q57
Q58
Q59

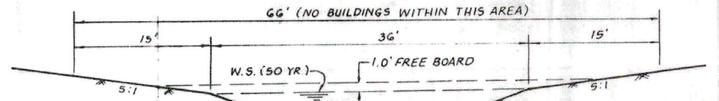
D-9: Westridge Tract 45433



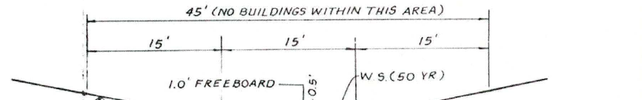




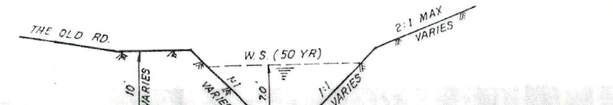
SECTION B-B
EARTHEN CHANNEL
W/O OPTIONAL ALIGNMENT
WITHIN GOLF COURSE (HOLES 7-8)
SCALE: 1" = 8' HORIZ
1" = 8' VERT.



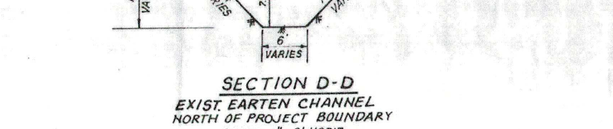
SECTION B-B
EARTHEN CHANNEL
W/OPTIONAL ALIGNMENT
WITHIN GOLF COURSE (HOLES 7-8)
SCALE: 1" = 8' HORIZ
1" = 8' VERT.



SECTION C-C
EARTHEN CHANNEL
WITHIN GOLF COURSE (HOLE 1)
SCALE: 1" = 8' HORIZ
1" = 8' VERT.



SECTION D-D
EXIST EARTEN CHANNEL
NORTH OF PROJECT BOUNDARY
SCALE: 1" = 8' HORIZ
1" = 8' VERT.



SECTION "EE"
EXIST. CONCRETE CHANNEL
NORTH OF PROJECT BOUNDARY
SCALE: 1" = 8' HORIZ
1" = 8' VERT.

LEGEND:

- PRIMARY BASIN LIMITS
- SUBAREA BASIN LIMITS
- TC ..... TIME OF CONCENTRATION (MIN)
- A ..... SUB-AREA IN ACRES
- Q25 ..... 25 YEAR FREQUENCY FLOWRATE (DEVELOPED CONDITION)
- Q50C ..... 50 YEAR CLEAR FLOW FREQUENCY FLOWRATE (DEVELOPED CONDITION)
- Q50B ..... 50 YEAR BURNED FREQUENCY FLOWRATE (DEVELOPED CONDITION)
- Q50BM ..... 50 YEAR BURNED & BULKED FREQUENCY FLOWRATE (DEVELOPED CONDITION)
- Q50C-EX ..... 50 YEAR BURNED & BULKED FREQUENCY FLOWRATE (EXISTING CONDITION)
- QCB ..... Q DITCH BASIN
- (49) ..... HIGH POINT ELEV. OF SUB-AREA
- (E) ..... ELEVATION AT OVERLAND LOCATION
- ΣAc ..... SUMMATION OF AREA IN ACRES (EXISTING CONDITION)
- ΣAd ..... SUMMATION OF AREA IN ACRES (DEVELOPED CONDITION)
- ΣQ ..... SUMMATION OF FLOW IN CUBIC FEET PER SEC
- 1A ..... DRAINAGE AREA DESIGNATION
- (2.5) ..... DRAINAGE AREA IN ACRES
- SD ..... STORM DRAIN LINE
- DIRECTION OF FLOW
- D.V. ..... DEBRIS VOLUME (C.Y.)
- AR ..... ACCESS ROAD
- INDICATES PROPOSED WATER QUALITY FILTER

THE COUNTY OF LOS ANGELES
WESTRIDGE AT VALENCIA
DRAINAGE CONCEPT
FOR
TENTATIVE TRACT NO. 45433

DEVELOPED CONDITION

DESIGN CRITERIA

STORM EVENT ..... 50 YR.
RAINFALL ZONE 6
SOIL TYPE D38
DEBRIS PRODUCTION AREA 8

DATA SUMMARY

GROSS SITE AREA 798.5
DU PROPOSED 1713.0
EXISTING ZONING
PROPOSED ZONING

LEGAL DESCRIPTION:

BEING A PORTION OF THE RANCHO SAN FRANCISCO IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 1, PAGES 521 AND 522 OF PATENTS

NOTES:

1. COMPLY WITH ALL STREET DRAINAGE REQUIREMENTS TO THE SATISFACTION OF THE DEPT. OF PUBLIC WORKS
2. DEDICATE THE NECESSARY EASEMENTS FOR THE STORM DRAIN SYSTEM TO THE SATISFACTION OF THE DEPT. OF PUBLIC WORKS
3. PROVIDE VEHICULAR ACCESS TO ALL INLETS AND OUTLETS TO THE SATISFACTION OF THE DEPT. OF PUBLIC WORKS
4. APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5
5. AN OFFSITE DRAINAGE COVENANT FOR ACCEPTANCE OF DRAINAGE (AND DRAINAGE FACILITIES) MAYBE REQUIRED.
6. PLACE NOTE OF FLOOD HAZARD AND SHOW THE NATURAL DRAINAGE COURSES ON THE FINAL MAP
7. AN EASEMENT TO THE COUNTY OF LOS ANGELES TO BE GRANTED ON THE FINAL MAP FOR STORM DRAIN INGRESS AND EGRESS AND MAINTENANCE OVER ALL PRIVATE STREETS

✱ Existing Caltrans culverts are undersized. However, no upgrading is needed as upstream watershed will remain natural. Upstream detention basins may be required if areas labeled Basin A, B, and C are developed.

LAND USE SUMMARY TABLE

LOT NOS	TOTAL LOTS	DESIGNATION	PROP LAND USE	TOTAL UNITS	AREA OF LOTS	AREA OF STREETS	PROJECT AREA
1 - 338	338	MEDIUM SINGLE FAMILY	5000 FT² S.F.D.	338	53.5 AC.	13.0 AC.	66.5 AC.
339- 529	191	LARGE S.F.	6500 FT² S.F.D.	191	37.6 AC.	9.6 AC.	47.2 AC.
530- 637	108	EXECUTIVE S.F.	8000 FT² S.F.D.	108	25.5 AC.	7.5 AC.	33.0 AC.
638- 659	22	LARGE EXECUTIVE S.F.	10000 FT² S.F.D.	22	7.1 AC.	1.5 AC.	8.6 AC.
660- 712	53	CUSTOM LOTS	15000 FT² S.F.D.	53	20.0 AC.	7.6 AC.	27.6 AC.
713- 724	11	ESTATE LOTS	40,000 FT² S.F.D.	11	14.6 AC.	—	14.6 AC.
725- 731	7	McBEAN ESTATES	1 ACRE S.F.D.	7	5.3 AC.	2.0 AC.	7.3 AC.
732- 740	9	APARTMENTS	523 RENTAL UNITS	523	22.7 AC.	—	22.7 AC.
741 -765	25	TOWN HOMES	183 M.F. UNITS	183	15.0 AC.	—	15.0 AC.
766- 805	40	CLUSTERED CONDOMINIUMS	145 S.F. UNITS	145	17.5 AC.	—	17.5 AC.
806- 831	25	CONDOMINIUMS	132 M.F. UNITS	132	18.6 AC.	—	18.6 AC.
832- 836	5	COMMERCIAL	RETAIL/RESTAURANT		5.0 AC.		5.0 AC.
837	1	COMMUNITY SERVICES	COMMUNITY REC. AREA		2.3 AC.		2.3 AC.
838	1	SCHOOL SITE	SCHOOL		7.0 AC.	0.5 AC.	7.5 AC.
839	1	PARK SITE	PARK		10.5 AC.	0.5 AC.	11.0 AC.
840-848	9	GOLF COURSE	GOLF		208.0 AC.		208.0 AC.
849- 881	28	OPEN SPACE			235.6 AC.		235.6 AC.

GOLF COURSE DRAINAGE NOTES:

DRAINAGE CONCEPT
APPROVED FOR DRAINAGE
APPROVED BY: [signature] RCE NO. 45869 DATE: 3/1/08
CHECKED BY: DATE:
LAND DEVELOPMENT DIVISION
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

OPTIONS FOR DRAINAGE IMPROVEMENTS

OPTION "A": UTILIZE EXISTING TRAP CHANNEL (E-E) AND 5'W X 2' RCB.

OPTION "B": UTILIZE TEMPORARY PRIVATE DETENTION BASIN (E-E) WITH OPTION "A" IN CONJUNCTION WITH OLD DRAINAGE DITCH AND ROAD IMPROVEMENTS. (INCLUDES 24" CMP, 2' RIPRAP, 3' RIPRAP, 5' RIPRAP, 6" GRAVEL, 2" ASPHALT, 2" ASPHALT, 2" GRAVEL, 2" GRAVEL)

OPTION "B1": 5'W X 2' RCB, 24" CMP, 2' RIPRAP, 3' RIPRAP, 5' RIPRAP, 6" GRAVEL, 2" ASPHALT, 2" ASPHALT, 2" GRAVEL

PLANS PREPARED BY:
ALLIANCE LAND PLANNING & ENGINEERING, INC.
2931 BELLMAR OAKS WAY, SUITE 102
CARLSBAD, CA 92008
SIGNATURE [signature] R.C.E. NO. 45869

REGISTERED PROFESSIONAL ENGINEER
Neil Walter Thorn
No. 51029
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

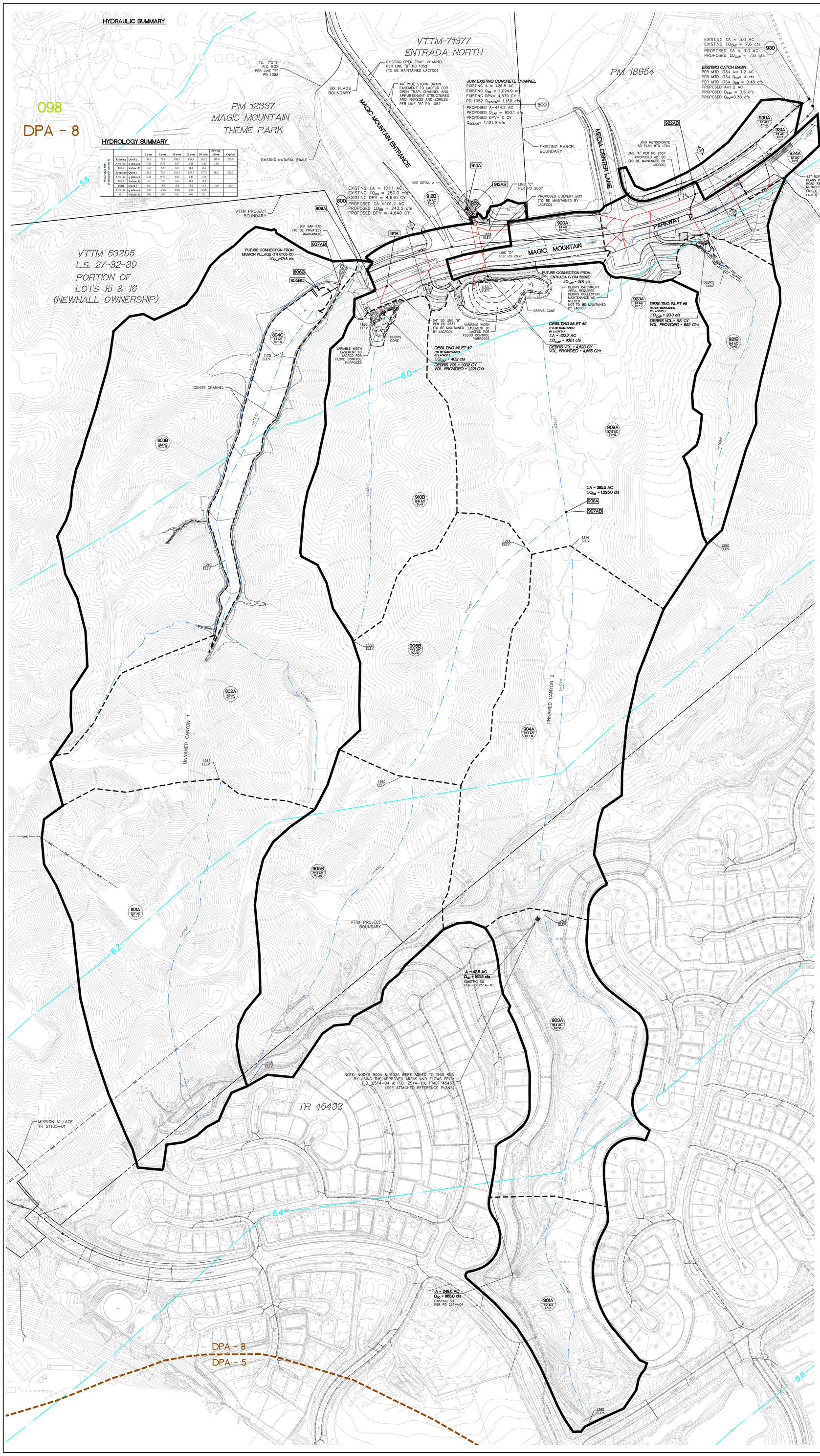
PREPARED FOR:

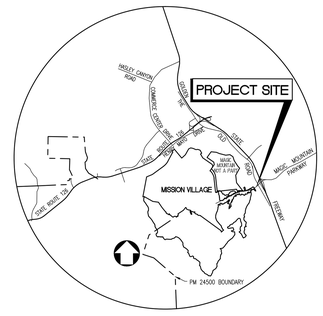
D-10: DS 542

HYDRAULIC SUMMARY

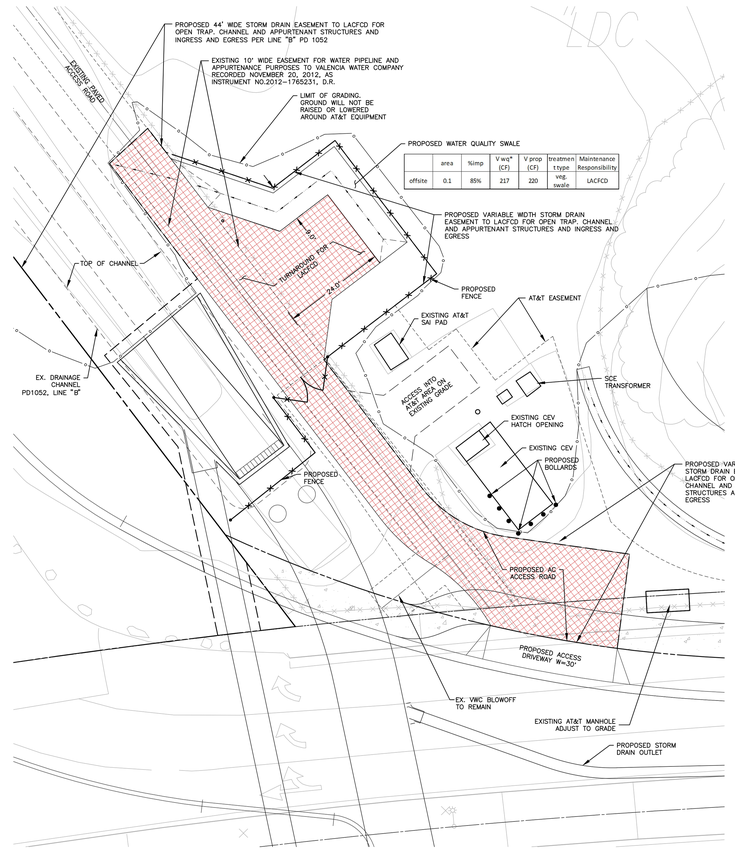
HYDROLOGY SUMMARY

Watershed 098 (Unnamed Canyon 1)		2 year	5 year	10 year	25 year	50 year	50 year Burn	Capital
Existing	Q (cfs)	31.0	76.3	108.2	149.9	182.2	188.0	250.0
Area (ac)	q (cfs/ac)	0.31	0.75	1.07	1.48	1.80	1.86	
101.1	Vol (ac-ft)	3.2	5.9	8.0	11.1	13.6		
Proposed	Q (cfs)	31.5	70.4	102.4	144.7	177.8	183.1	243.5
Area (ac)	q (cfs/ac)	0.31	0.70	1.01	1.43	1.76		
101.2	Vol (ac-ft)	3.2	5.9	8.0	11.1	13.7		
Delta	Q (cfs)	0.5	-5.9	-5.8	-5.2	-4.4	-4.9	-6.5
Area (ac)	q (cfs/ac)	0.00	-0.06	-0.06	-0.05	-0.05		
0.1	Vol (ac-ft)	0.0	0.0	0.0	0.0	0.1		





VICINITY MAP
NOT TO SCALE
THOMAS GUIDE PAGE 4550 B2, B3, C2



	area	%imp	V wq* (CF)	V prop (CF)	treatment type	Maintenance Responsibility
offsite	0.1	85%	217	220	vegetated swale	LACFCD

DETAIL A
AT&T FACILITY AT MAGIC MOUNTAIN PARKWAY
SCALE: 1"=10'

HYDROLOGY STUDY APPROVED
CHECKED BY: RCE NO. 76892 DATE 12/26/2017
APPROVED BY: DATE 12/26/2017
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

LEGEND:

- PROJECT BOUNDARY
- EXISTING DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE SUB-AREA BOUNDARY
- FLOW PATH
- SD — PROPOSED STORM DRAIN
- SD — EXISTING STORM DRAIN
- CDFG — CA DEPT. OF FISH AND GAME JURISDICITON
- FP — EXISTING FLOODWAY
- FW — EXISTING FLOODPLAIN
- SEA23 — SEA RIVER CORRIDOR
- FEMA — FEMA ZONE
- TIME OF CONCENTRATION PATH
- 7.6 — 50 YEAR ISOHYET
- DPA - 8 / DPA - 5 — DEBRIS POTENTIAL AREA (DPA)
- 097 / 020 — SOIL CLASSIFICATION BOUNDARY
- 201A / 347 AC / Tc=13 — SUBAREA NODE; ACREAGE; TIME OF CONCENTRATION
- 800 — WATERSHED OUTLET NODE
- 205A — CONFLUENCE NODE
- PROPOSED AT&T, VWC AND LACFCD ACCESS

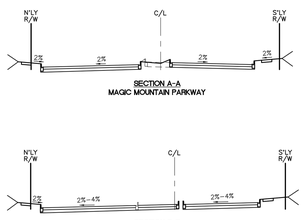
DRAINAGE DESIGN CRITERIA:

1. 50-YR, 24-HR ISOHYETS: 5.9, 6.0, 6.2, 6.4, 6.6
2. SOIL TYPES: 98
3. DESIGN STORMS: 50-YR, 24-HR
4. PERCENT IMPERVIOUS VALUES: UNDEVELOPED – 1%
5. DPA = 8, 35,500 CY PER SQ MI
6. BULK FACTOR = 1.359

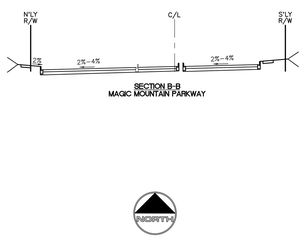
SUMMARY TABLE

Magic Mountain (Decked Street) Proposed condition

Subarea	Node	Soil Type	% imp	A+ea (Ac)	LAMDA (Ac)	50-Yr Isohyet (in)	50-Yr Tc (min)	QC/Q$_p$ (cfs)	Q_{50} up (cfs)	Q_{DB} up (cfs)	Q_{DB} design (cfs)	Note
801A		98	0.01	32.7	32.7	6.2	11	70.7	70.7	94.0	94.0	
802A		98	0.01	31.5	64.2	6.1	17	54.3	122.8	163.3	163.3	
803B		98	0.01	32.2	32.2	6.0	17	53.3	53.3	70.9	70.9	
804C		98	0.01	4.8	4.8	6.0	12	9.6	9.6	12.8	12.8	
	805BC				37.0				62.1	82.6	82.6	
	806B				37.0				62.1	82.6	82.6	
	807AB				101.2				183.1	243.5	243.5	
	808A				101.2				183.1	243.5	243.5	
900A		98	0.68	249	249	7.2	6	863.0	863.0		863.0	
901A		98	0.01	11.6	260.6	6.4	8	30.3	893.3	41.3	991.6	
902A		98	0.85	42.5	303.1	7.2	5	163.5	880.2		977.0	
903A		98	0.01	16.4	319.5	6.3	12	38.1	918.1	47.7	1006.0	
904A		98	0.01	25.7	345.2	6.2	13	50.9	882.4	69.2	979.5	
905B		98	0.01	23.1	23.1	6.2	10	52.7	52.7			
906B		98	0.01	17.2	40.3	6.2	10	39.3	74.6			
	907A-B				385.5				952.5		1025.0	
	908A				385.5				952.5		1025.0	
909A		98	0.01	37.2	422.7	6.2	12	76.8	930.1	104.4	1032.4	
910B		98	0.01	18.6	18.6	6.2	11	40.2	40.2	54.7	54.7	
	911B				18.6				40.2		212.0	future connection from Mission Village (QH171.8cfs)
912B		98	0.79	2.9	21.5	5.9	6		47.8			
	913A-B				444.2				950.1		1121.9	
	914A				444.2			961.9	950.1	1046.6	1121.9	
920A		98	0.95	3.4	3.4	6	5	11.0	11.0		49.9	future connection from Entrada (QH36.9cfs)
921B		98	0.01	9.4	9.4	6.1	11	20.3	20.3	27.6	27.6	
	922A-B				12.8				30.7		51.0	
923A		98	0.7	5.8	18.6	6	6	16.7	46.8		56.2	
924A		98	0.95	1.2	19.8	6	5	3.5	50.3		59.9	per approved DCR for Entrada
930A		98	0.1	1.8	1.8	6	9	4.1	4.1		4.1	
931A		98	0.95	1.2	3	6	6	3.5	7.6		7.6	



SECTION A–A
MAGIC MOUNTAIN PARKWAY



SECTION B–B
MAGIC MOUNTAIN PARKWAY

NORTH

FEET: 100' 50' 0 100' 200'
INCHES: 1 1/2 0 1 2

REVISIONS: NO. DATE

HUNSAKER & ASSOCIATES PLAN CORP
PLANNING • ENGINEERING • SURVEYING
26074 Avenue Hall, Suite #13 • Valencia, CA 91355
(661) 294-9972 • FAX (661) 294-9931

PREPARED BY:

OWNER/DEVELOPER: NEWHALL LAND
23101 W. SPRINGFIELD CT. #300
SANTA CLARITA, CA 91350
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. SAM BOWING

MISSION VILLAGE TR. 61105
PROPOSED HYDROLOGY MAP FOR
MAGIC MOUNTAIN DEEDED STREET 542
ROUGH GRADING

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

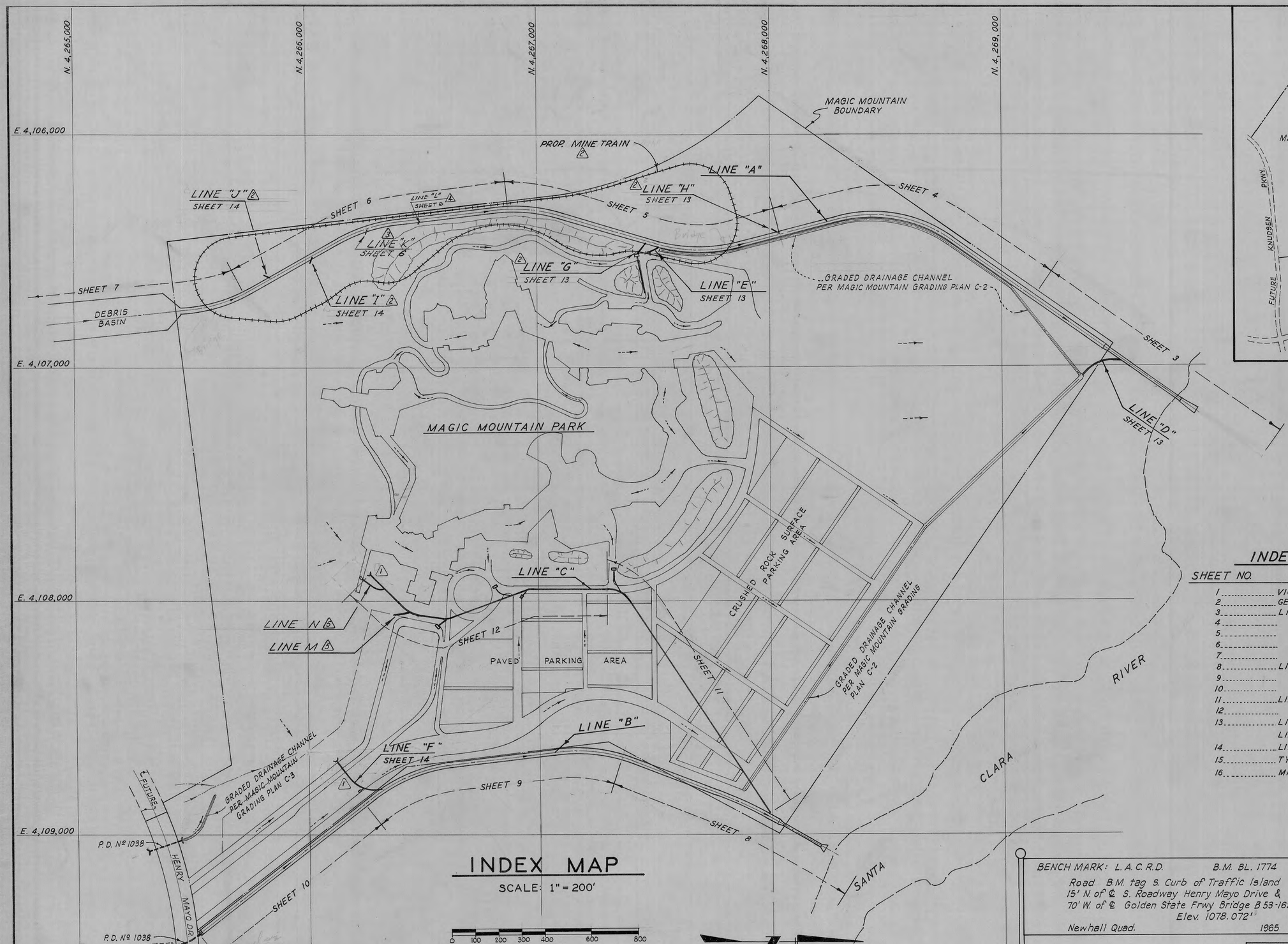
PERMIT NO.

SHEET 1 OF 1

12/26/2017
JASON W. FUGUMPSKI

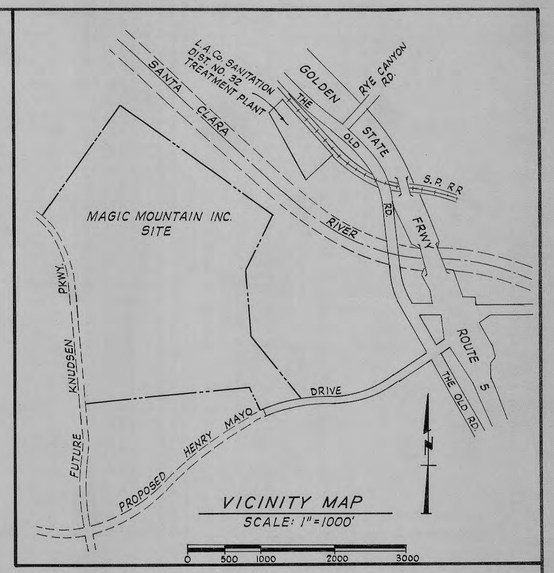
Q:\Newhall Ranch\61105 Mission Village\61105-03\Storm\Hydrology\MV101-08.dgn - mwendeborg Friday, Dec 29, 2017 4:31pm by mwendeborg

D-11: PD 1052



INDEX MAP

SCALE: 1" = 200'



VICINITY MAP

SCALE: 1" = 1000'

NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

INDEX OF DRAWINGS

SHEET NO.	TITLE
1	VICINITY MAP, INDEX MAP, INDEX OF DRAWINGS.
2	GENERAL NOTES, STANDARD PLANS, HYDRAULIC ELEMENTS.
3	LINE "A STA. 3+45.00 TO STA. 12+00.00 PLAN & PROFILE
4	" STA. 12+00.00 TO STA. 24+00.00 "
5	" STA. 24+00.00 TO STA. 36+00.00 "
6	" STA. 36+00.00 TO STA. 47+23.60 "
7	" STA. 47+23.60 TO STA. 50+00.00 "
8	LINE "B" STA. 2+00.00 TO STA. 11+47.74 "
9	" STA. 11+47.74 TO STA. 23+00.00 "
10	" STA. 23+00.00 TO STA. 32+15.43 "
11	LINE "C" STA. 0+00.00 TO STA. 12+43.96 "
12	" STA. 12+43.96 TO STA. 23+48.00 "
13	LINE "D" STA. 0+00.00 TO STA. 1+61.22 "
	LINE "E" STA. 0+00.00 TO STA 0+45.00 "
14	LINE "F" STA. 0+00.00 TO STA. 2+[illegible] "
15	TYPICAL STRUCTURAL SECTIONS AND DETAILS
16	MISCELLANEOUS STRUCTURAL DETAILS

BENCH MARK: L.A.C.R.D. B.M. BL. 1774
Road B.M. tag S. Curb of Traffic Island
15' N. of ℄ S. Roadway Henry Mayo Drive &
70' W. of ℄ Golden State Frwy Bridge B 53-1625
Elev. 1078.072'
Newhall Quad. 1965

Andrew L. Frum R.C.E. Nº 12607
DATE: 8-24-70

P.D. NO. 1052

3-4-77	3 ADDED LINE "M" & "N" ON INDEX MAP. REMOVED 91'OF 36" S.D. @ END OF LINE "C"	Valcon Inc. R.C.E. 13696	3/22/77
11-11-76	2 ADDED LINE "L" ON INDEX MAP	VALCON INC. R.C.E. 13696	11/23/76

STORMS & LOWE CONSULTING ENGINEERS

DATE		REVISION	REVISED BY:	DATE	APPROVED BY:
11-1-70	1	REVISE LOCATION OF LINE "F", STATIONS OF LINE "C" AND "2"	Andrew L. Frum R.C.E. 12607	11/6/70	J. Iguchi
11-12-74	2	ADDED MINE TRAIN, LINES "G", "H", "I" & "J" ON INDEX MAP	Valcon Inc. R.C.E. 13696	11/28/75	Howard A. Slayzer
9-23-76	3	ADDED LINE "K" ON INDEX MAP	Valcon, Inc. R.C.E. 13696	10/8/76	Howard A. Slayzer

OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION

STORMS & LOWE Consulting Engineers
CIVIL ENGINEERS
3229 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
732 S. TWAIN 735-1484

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

VICINITY MAP, INDEX MAP, INDEX OF DRAWINGS

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION
APPROVED BY: Carroll D. Smith, DIVISION ENGINEER DATE: 10-7-70
CHECKED BY: J. Iguchi, R.C.E. NO. 11786, OFFICE OF COUNTY ENGINEER DATE: 10-7-70

SHEET 1 OF 16

HYDRAULIC ELEMENTS

LINE	STATION	TO STATION	* Q 25 (c.f.s.)
"A"	50+00.00	28+12.00	1900
	28+12.00	27+50.00	1946
	27+50.00	16+00.00	2038
	16+00.00	6+30.17	2106
	6+30.17	3+45.00	2233
"B"	32+15.43	22+17.98	1160
	22+17.98 (2)	13+80.00	1540
	13+80.00	4+55.81	1640
	4+55.81	2+00.00	1756
"C"	~~22+57.00~~	~~21+19.00~~	~~31.4~~
	~~21+19.00~~	~~19+40.00~~	~~26.7~~
	19+40.00	16+53.00	67
	16+53.00	15+60.00	89
	15+60.00	11+68.00	103
	11+68.00	0+00.00	131
"D"	1+61.22	0+00.00	155
"E"	0+45.00	0+00.00	6 (3)
"F"	2+67.00 (2)	0+82.00	502
	0+82.00	0+00.00	509
"G"	0+79.00	0+00.00	36 (3)

* Design Flows based on 25 year Storm Frequency.

"H"	0+37.00	0+00.00	7 (3)
"I"	0+38.00	0+00.00	5 (3)
"J"	0+17.00	0+00.00	2.5 (3)

"K"	0+20.00	0+00.00	12.1 (3) (5)
"L"	0+20.00	0+00.00	5.5 (3)
"M"	1+40.00	0+00.00	29.3 (3)
"N"	0+83.00	0+00.00	31.4 (3)

LIST OF STANDARD PLANS

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

Bedding Details _____ 2-D177
Removable Protection Bar _____ 2-D175
C.B. No. 5 _____ 2-D164
C.B. No. 5A _____ 2-D195
M.H. No. 2 _____ 2-D184
J.S. No. 1 _____ 2-D189
J.S. No. 2 _____ 2-D112
T.S. No. 3 _____ 2-D188
Standard Drop Step _____ 2-D96
Conc. Rings, Reducer for manhole _____ 2-D107
Manhole frame and cover _____ 2-D181
Catch basin reinforcement _____ 2-D172
Frame & grating for catch basin _____ 2-D227
J.S. No. 3 _____ 2 D191
R/W Chain link fence & gate details _____ 2 D178
Headwall fence & gate details _____ 2 D-180

LOS ANGELES COUNTY ENGINEER

Pipe bedding for storm drains _____ D-54
Protection barrier No. 4 _____ D-70
Inlet & Outlet protection _____ D-56
Protection barrier No. 1 _____ D-67
Protection barrier No. 2 _____ D-68

LOS ANGELES COUNTY ROAD DEPT.

Driveway details _____ 36-01

GENERAL NOTES

1. Elevations are in feet above U.S.G.S. mean sea level datum of 1929.
2. All work shall be done in accordance with "Standard Specifications for Public Works Construction", 1970 edition, and shall be prosecuted only in the presence of the County Engineer.
3. Approval of this plan by the County of Los Angeles does not constitute a representation as to the accuracy of the location, or existence or nonexistence of any underground utility, pipe or structure within the limits of this project.
4. All reinforced concrete pipe shall be bedded in accordance with Case Ad bedding per D-54, unless otherwise specified.
5. All manhole covers not in street paving shall be provided with Allen socket set screw locking devices. The Contractor shall drill and tap two holes to a depth of 1 inch at 90 degrees to pick hole and install 3/4 inch by 3/4 Allen socket set screws.
6. All pipe shall be placed in a trench in natural ground and/or compacted fill. The ground level before the trenching shall be at least 3 feet above top of pipe elevation, or at finish surface elevation, whichever is less. All backfill in easements shall be compacted to the density required by the grading plan.
7. A soils engineer shall certify that all fills and backfills over underground storm drains have been compacted or consolidated to a 90% density. This certification shall be submitted to the County Engineer prior to acceptance of the work by the County
8. The contractor's attention is directed to Section 7-10.4.1 of the Standard Specifications for Public Works Construction in regard to safety orders. The contractor shall conform to the "Minimum Public Safety Requirements" as shown on Los Angeles County Engineer Standard S-2.
9. The contractor shall notify the Construction Division by telephone, 629-4747, extension 81551, at least 24 hours before starting any work under this contract.
10. This storm drain will not be accepted for maintenance until the system is cleaned to the satisfaction of the County Engineer.
11. (1) The channel lining shall be concrete or gunite or "shotcrete". If shotcrete is used the following shall apply: (a) The nozzle pressure shall be 80 p.s.i minimum, (b) The minimum 28 day compression strength shall be 3500 p.s.i., (c) The min. thickness shall be 5 inches, (d) Coarse aggregate shall not exceed 28% of the mix and, if used shall be No. 4 crushed aggregate, (e) The finished surface for "shotcrete" shall have the same "n" factor (roughness) as broom finish gunite.

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

The existence and location of any underground utility pipes or structures shown on these plans are obtained by a search of the available records. To the best of our knowledge there are no existing utilities except as shown on this map.
The contractor is required to take due precautionary measures to protect the utility lines shown and any other lines not of record or not shown on this drawing.

Andrew L. Fram — Registered Civil Engineer No. 12607

August 24, 1970 — Date

NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290 **ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.**

CONCRETE & REINFORCEMENT NOTES

1. All concrete shall be Portland cement concrete with an ultimate 28 day compressive strength of 3000 p.s.i.
2. Finish all exposed edges with 3/4" chamfers.
3. Dimensions are from face of concrete to center of reinforcing bars unless otherwise specified.
4. All steel shown adjacent to a face of concrete shall be placed 2-1/2 inches from the concrete face unless otherwise shown.
5. Longitudinal steel shall be continuous and extend through all construction joints except transverse joints in open channels and around all corners unless otherwise shown.
6. All steel that is to be continuous shall have a minimum lap at splices of 30 bar diameters, or 18" whichever is greater.
7. At the beginning and end of all pours a layer of reinforcement shall be placed within 3 inches of the transverse construction joints.
8. Transverse reinforcement and transverse joints shall be placed at right angles (or radial) to conduit center line unless otherwise shown.
9. Unless otherwise shown, concrete dimensions shall be measured vertically or horizontally and parallel or at right angles (or radial) to the center line of construction.
10. Unless otherwise shown, transverse joint keyways in both slabs and walls shall be placed at the end of each pour but the spacing thereof shall not exceed 50 feet nor be less than 10 feet.
11. Transverse construction joints shall not be placed within 30 inches of manhole or junction structure openings.
12. All pipe shall be embedded a minimum of 5 inches into headwalls or other structures, unless specified otherwise.
13. All construction joints in the footing of slabs and walls shall be in the same plane. No staggering of joints will be permitted.
14. No concrete shall be placed until forms and reinforcing steel have been placed, inspected and approved.
15. Reinforcement shall be deformed bars, per A.S.T.M. A-615 Grade 60, and A.S.T.M. A-305-50T.
16. All bar bends and hooks shall conform to the American Concrete Institute "Manual of Standard Practice".

RIP-RAP NOTES

1. Rock for grouted rip-rap shall conform to State of California Division of Highways Standard Specifications as last revised for Grouted Rock Slope Protection. Rock shall be 1/2 ton class and shall be placed in accordance with Method B Placement. The largest dimension shall not exceed 3 times the smallest dimension.
2. There shall be a grout bed of at least 2 inches beneath the first layer of rock. All the voids between the rocks shall be filled with grout. Maximum spacing between rocks shall be 2 inches.
3. Surface rocks shall project 1/3 to 1/4 their diameter above the grout surface.

Andrew L. Fram R.C.E. Nº 12607
DATE: 8-24-70

P.D. NO. 1052

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION
APPROVED BY: _____ DIVISION ENGINEER DATE: _____
CHECKED BY: _____ R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

3-4-77	(6) ADDED Q25 FOR LINE "M" & "N"	Volcon, Inc. R.C.E. 13696	3/22/77
11-11-76	(5) ADDED Q25 FOR LINE "L" & "K"	Volcon, Inc. R.C.E. 13696	11/23/76

DATE		REVISION	REVISED BY:	DATE	APPROVED BY:
11-2-70	(2)	REVISE STATIONS OF HYDRAULIC ELEMENTS TO CONFORM TO REALIGNMENTS	Andrew L. Fram R.C.E. 12607	11/6/70	
11-12-74	(3)	REVISED Q25 IN LINE "E" AND ADDED LINE "G", "H", "I", "J"	Volcon, Inc. RCE13696	11/18/75	Edward C. Harris
9-23-76	(4)	ADDED Q25 FOR LINE K	Volcon, Inc. R.C.E. 13696	10/6/76	Edward C. Harris

STORMS & LOWE CONSULTING ENGINEERS — OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION

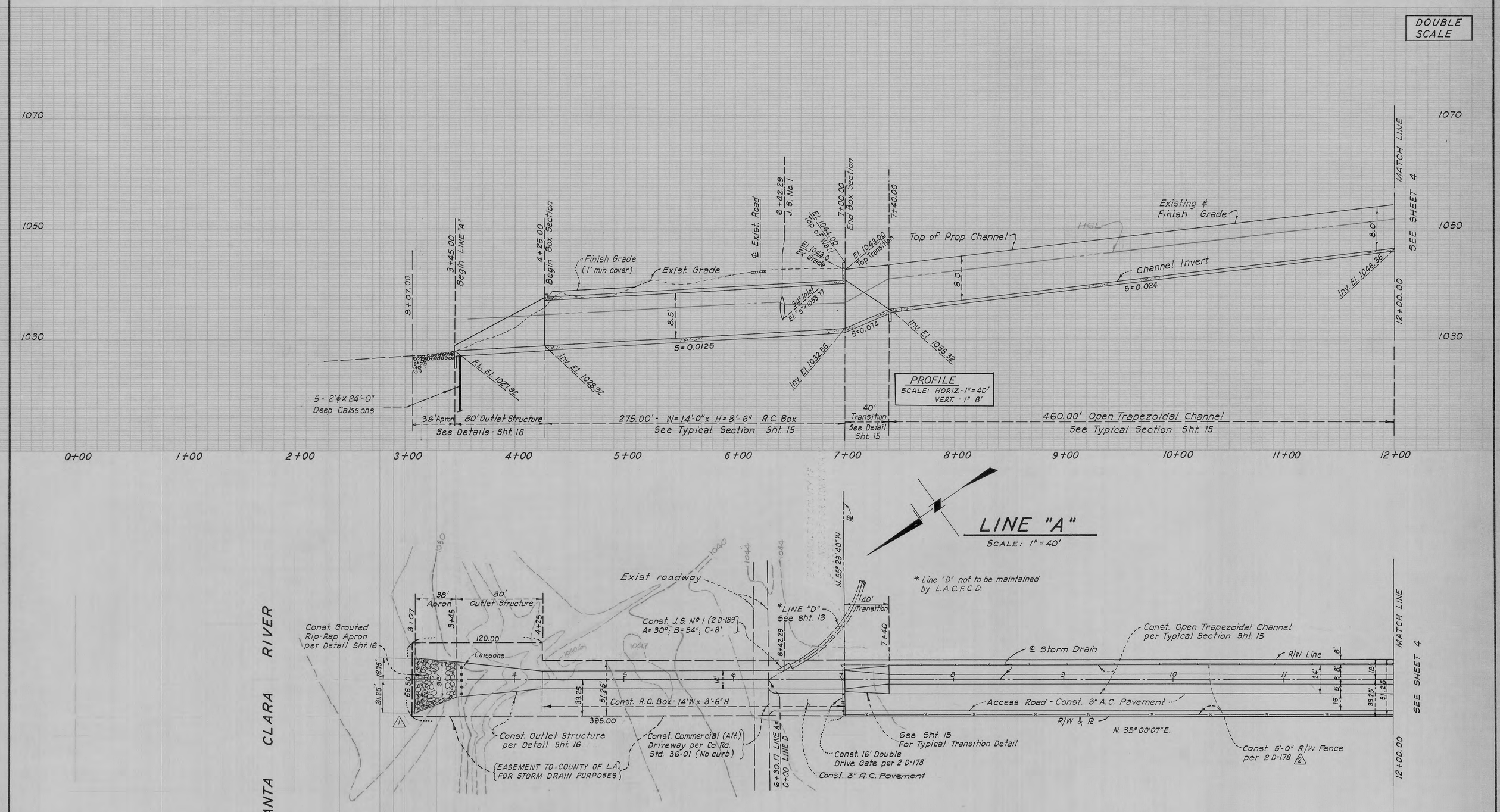
STORMS & LOWE
Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXHINSTER 5-6431
LAS VEGAS, NEVADA — 522 E. TWAIN — 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISIONS	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
(1) ADD CONCRETE OR SHOTCRETE ALT. 9-30-70	8-24-70	NONE	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA — CALIFORNIA

GENERAL NOTES, STANDARD PLANS, HYDRAULIC ELEMENTS



NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

P.D. NO. 1052

Andrew L. Strom R.C.E. Nº 12607
DATE: 8-24-70

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE, COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: J. Franch R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

STORMS & LOWE
Consulting Engineers
JOB. NO.
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 755-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

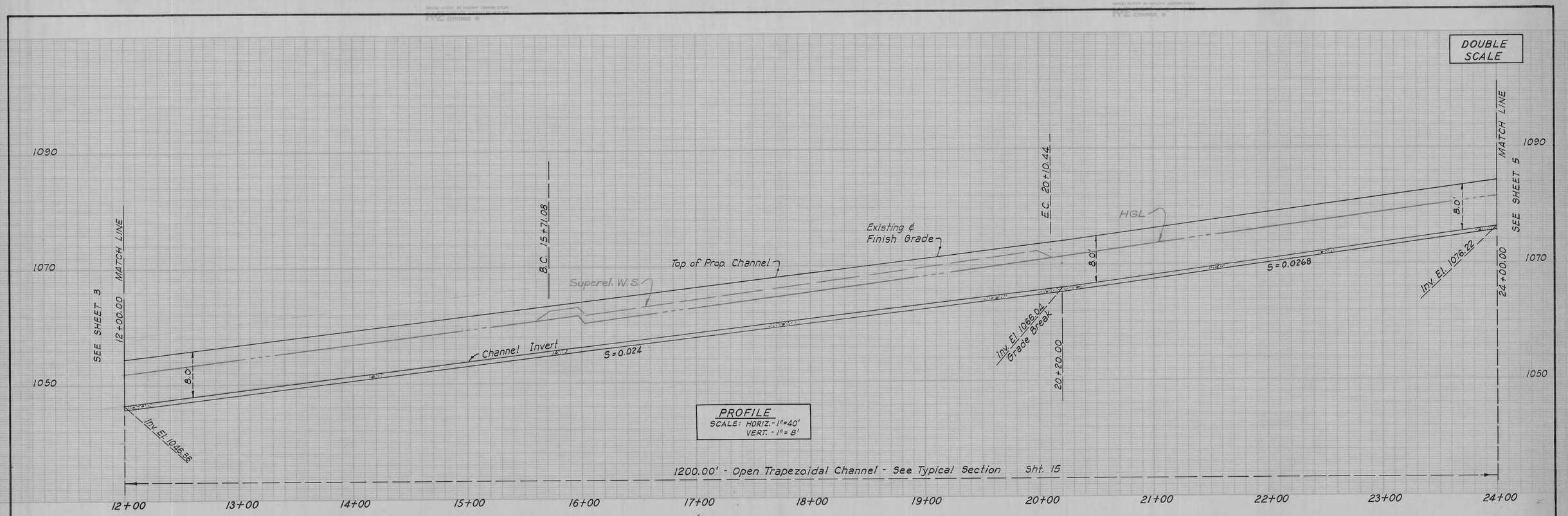
REVISIONS
1 REVISE RIP-RAP APRON DIMENSIONS 9-30-70
2 REVISE FENCE LOCATION ON E-1106 9-30-70

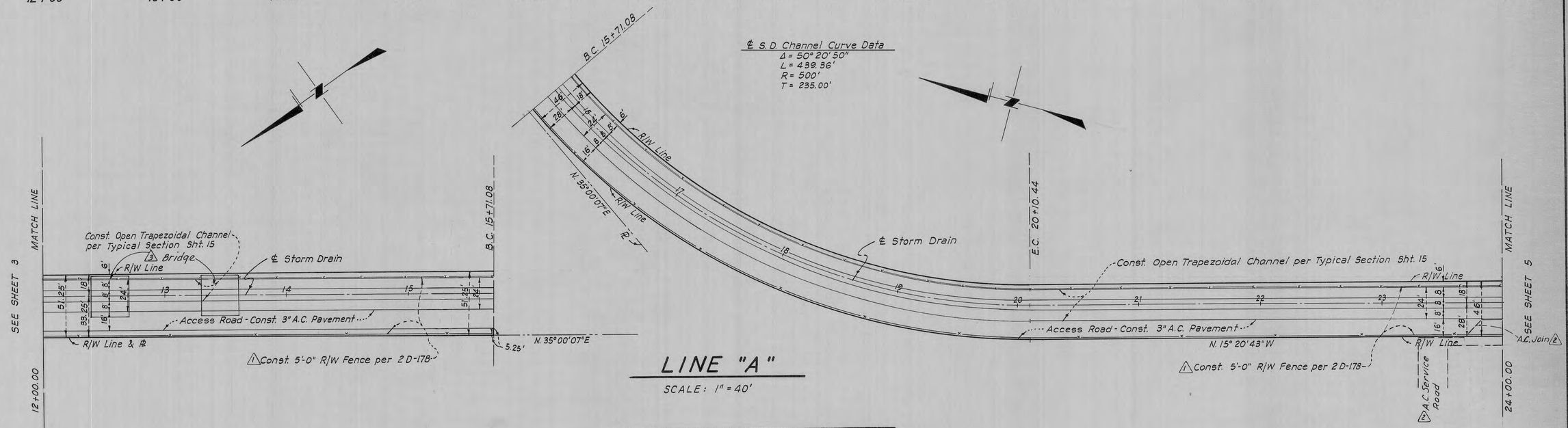
DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "A"
PLAN AND PROFILE STA. 3+45.00 TO STA. 12+00.00

SHEET 3 OF 16





LINE "A"

SCALE: 1" = 40'

No.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED A.C.	Valcon, Inc. RCE 12636	Leonard C. Eding	1/28/75
3	ADDED BRIDGES	Valcon, Inc. RCE 12636		

P.D. NO. 1052

Andrew L. Gruen R.C.E. Nº 12607
DATE: 8-24-70

NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

STORMS & LOWE
Consulting Engineers
JOB. NO.
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE: AXMINSTER 5-6431
LAS VEGAS, NEVADA
922 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISION: 1 REVISE FENCE LOCATION ON EAST SIDE 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "A"
PLAN AND PROFILE STA.12+00.00 TO STA.24+00.00

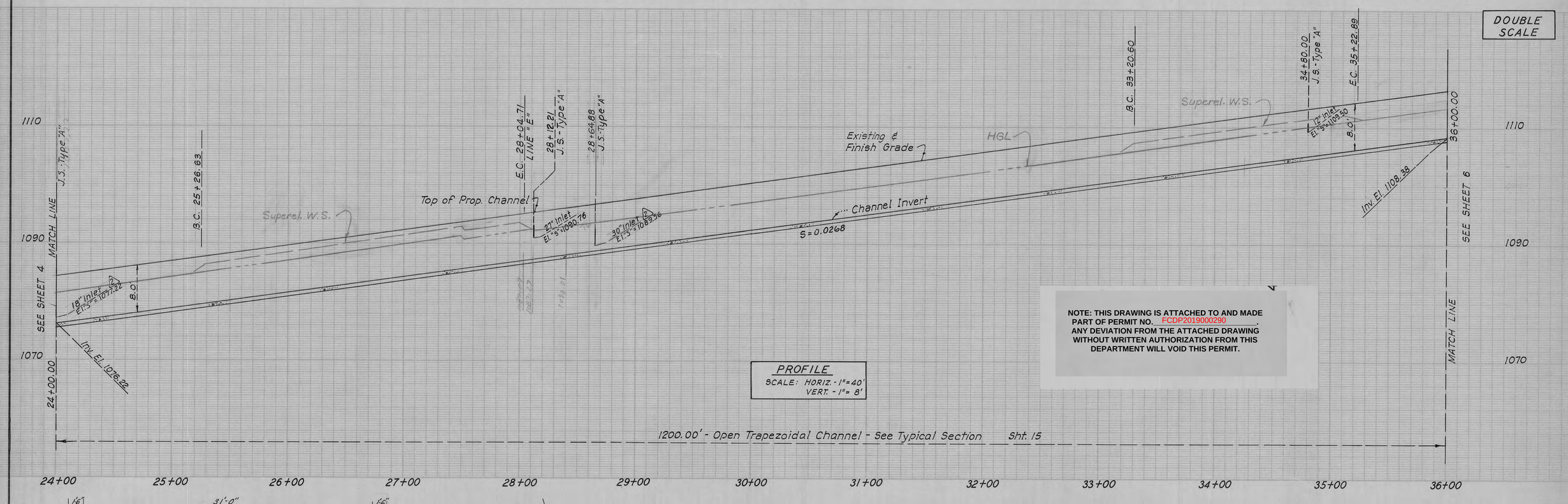
COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: J. Spence R.C.E. NO 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

SHEET 4 OF 16

P-6-133



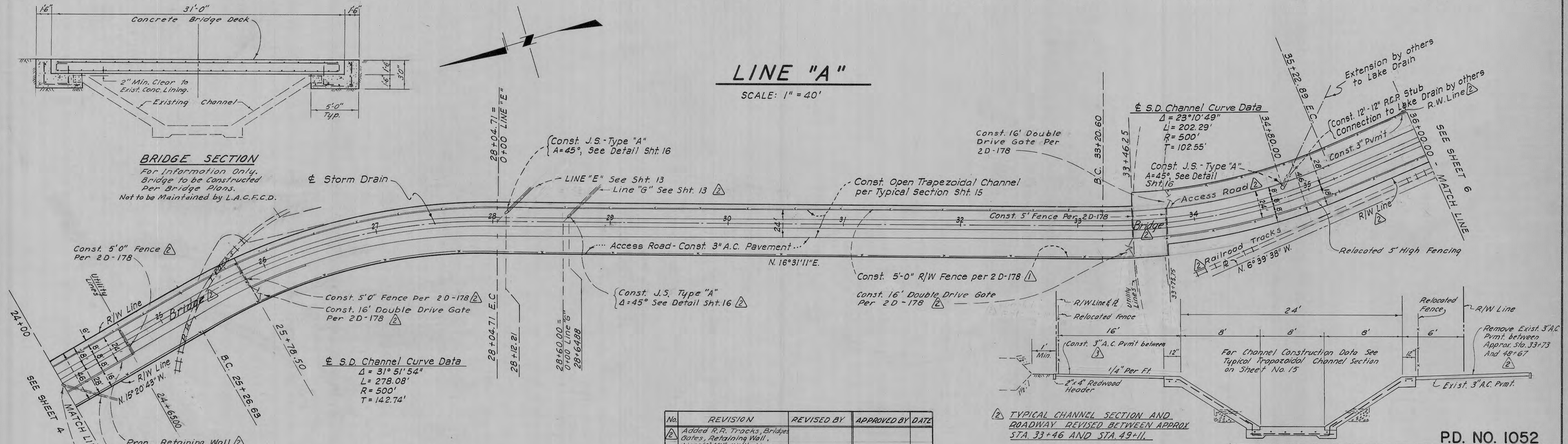
NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290 . ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

BRIDGE SECTION

For Information Only. Bridge to be Constructed per Bridge Plans. Not to be Maintained by L.A.C.F.C.D.

LINE "A"

SCALE: 1" = 40'



(2) TYPICAL CHANNEL SECTION AND ROADWAY REVISED BETWEEN APPROX STA. 33+46 AND STA. 49+11.

No.	REVISION	REVISED BY	APPROVED BY	DATE
(2)	Added R.R. Tracks, Bridge, Gates, Retaining Wall, Lines "G" & "H", Utility Lines Relocated Access Rd., R/W Lines, Fences, and Bridge Section Over Channel	Valon Jr. R.C.E. 13696	Howard C. Hung	1/24/75

Andrew L. Shaw R.C.E. Nº 12607
DATE: 8-24-70

P.D. NO. 1052

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: [signature] R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

STORMS & LOWE
Consulting Engineers
JOB NO.
2629 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

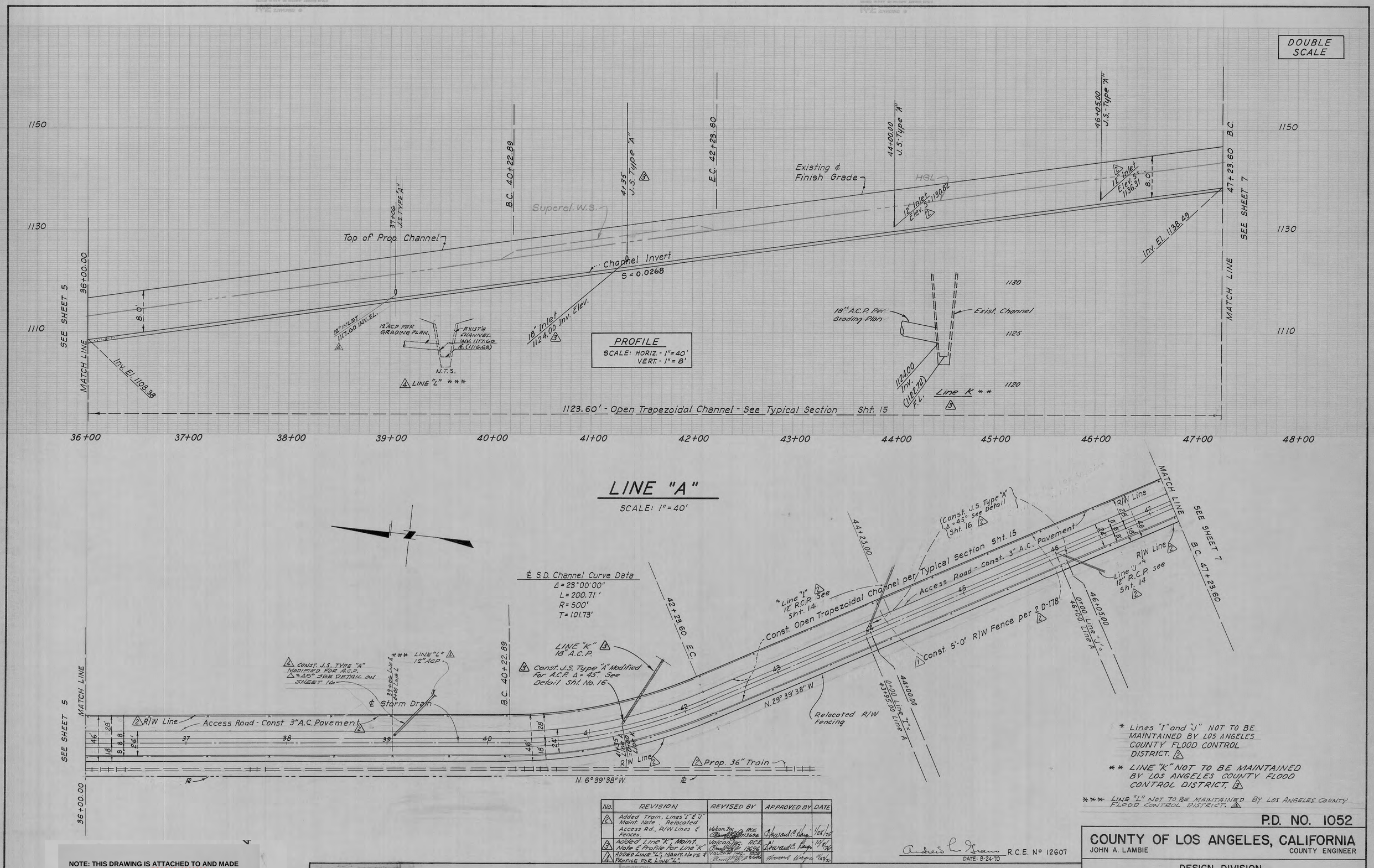
REVISION: (1) REVISE FENCE LOCATION ON R. 31156 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "A"
PLAN AND PROFILE STA. 24+00.00 TO STA. 36+00.00

SHEET 5 OF 16



* Lines "I" and "J" NOT TO BE MAINTAINED BY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT. 2

** LINE "K" NOT TO BE MAINTAINED BY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT. 3

*** LINE "L" NOT TO BE MAINTAINED BY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT. 4

No.	REVISION	REVISED BY	APPROVED BY	DATE
2	Added Train, Lines "I" & "J" Maint. Note. Relocated Access Rd., R/W Lines & Fences.	Valcon Inc. Donald L. Wolf R.C.E. 13696	Howard C. Kemp	1/28/75
3	Added Line "K", Maint. Note & Profile for Line "K"	Valcon Inc. Donald L. Wolf R.C.E. 13696	Howard C. Kemp	10/8/70
4	ADDED LINE "L", MAINT. NOTE & PROFILE FOR LINE "L".	VALCON INC. Donald L. Wolf R.C.E. 13696	Howard C. Kemp	7/29/72

R.C.E. Nº 12607
DATE: 8-24-70

NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

STORMS & LOWE
Consulting Engineers
JOB NO.
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISIONS: 1 REVISE FENCE LOCATION ON E. SIDE 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "A"
PLAN AND PROFILE STA. 36+00.00 TO STA. 47+23.60

P.D. NO. 1052

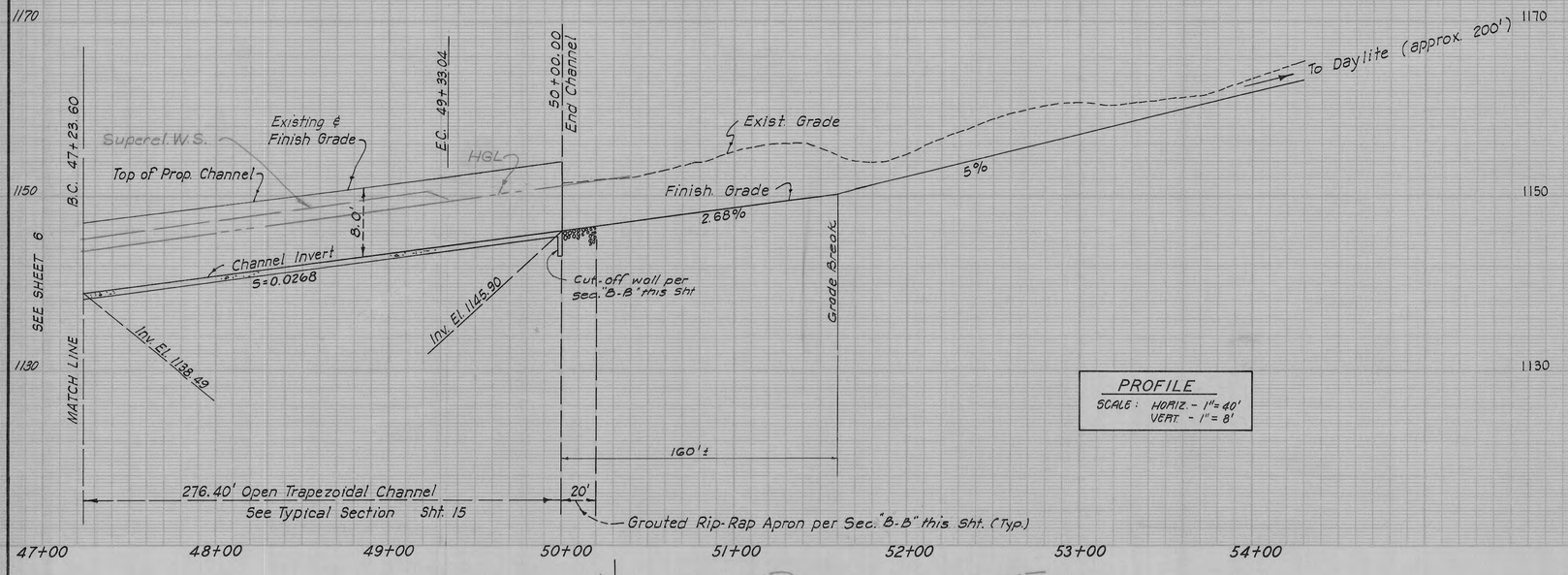
COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

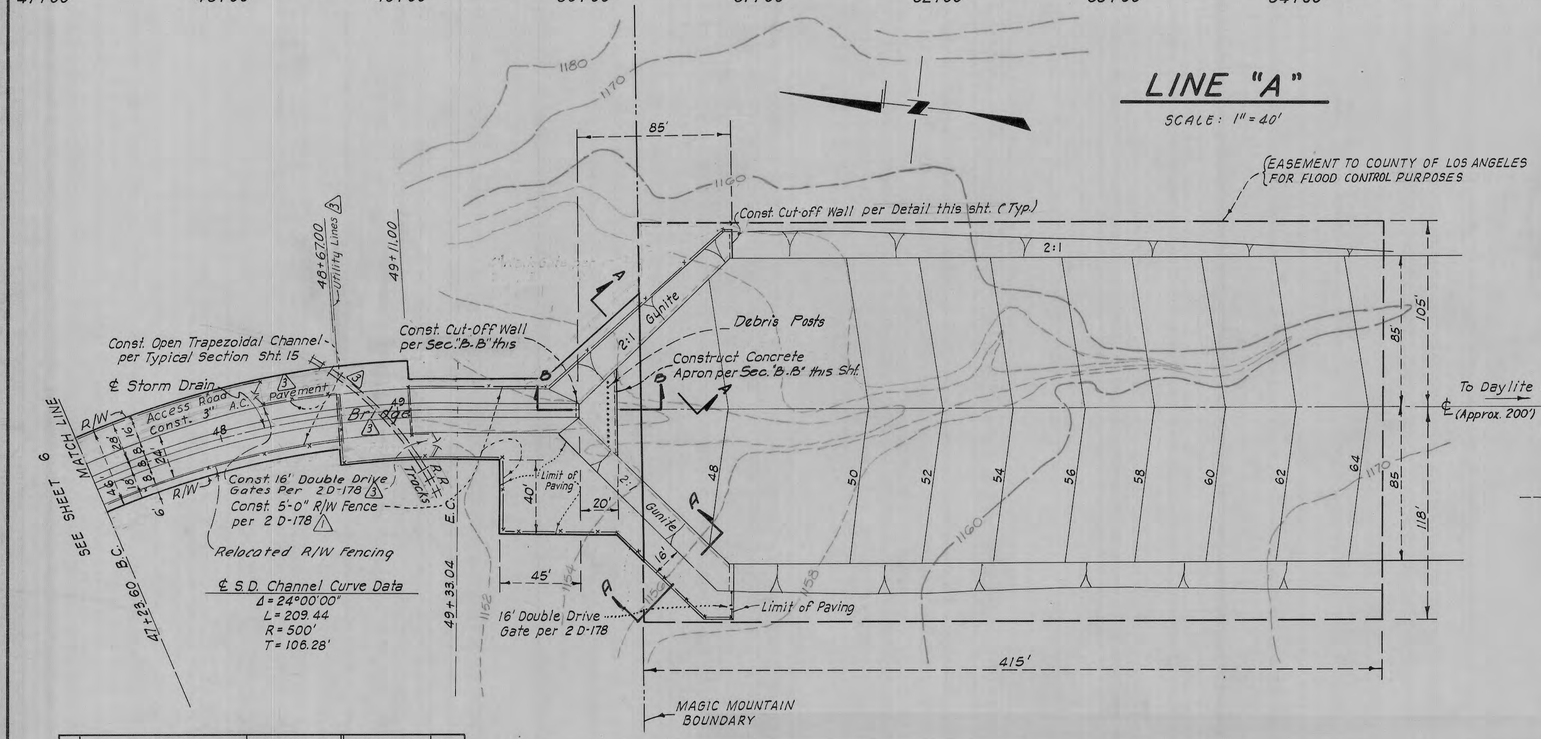
SHEET 6 OF 16

DOUBLE SCALE

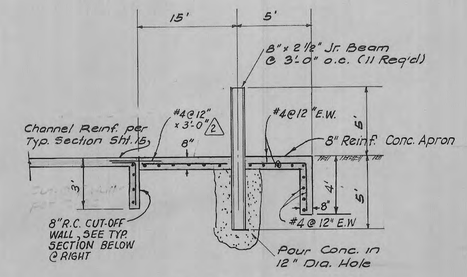


PROFILE
SCALE: HORIZ. - 1" = 40'
VERT. - 1" = 8'

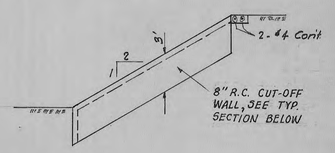
NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.



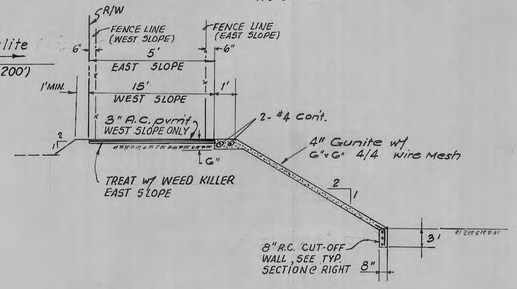
LINE "A"
SCALE: 1" = 40'



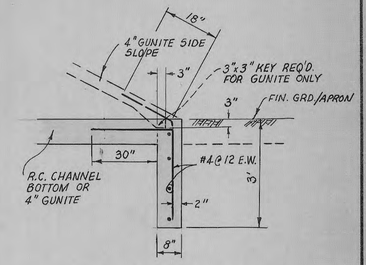
SECTION "B-B"
NO SCALE



CUT-OFF WALL DETAIL
NO SCALE



TYP. SECTION "A-A"
NO SCALE



TYPICAL SECTION
(CUT-OFF WALL)
NO SCALE

P.D. NO. 1052

Andrew L. Shaw R.C.E. Nº 12607
DATE: 8-24-70

No.	REVISION	REVISED BY	APPROVED BY	DATE
3	Added Train, Bridge, Gates, Utility Lines: Relocated Access Rd., R/W Lines, Fence	Valiant Eng. R.C.E. 13696	Howard C. Hung	1/24/75

STORMS & LOWE
Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
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522 E. TWAIN 755-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISION:
3 REVISE FENCE LOCATION ON E. SIDE 9-30-70
2 REVISE STRUCTURAL DETAILS 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	B.C. & G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "A"
PLAN AND PROFILE STA. 47+23.60 TO STA. 50+00.00

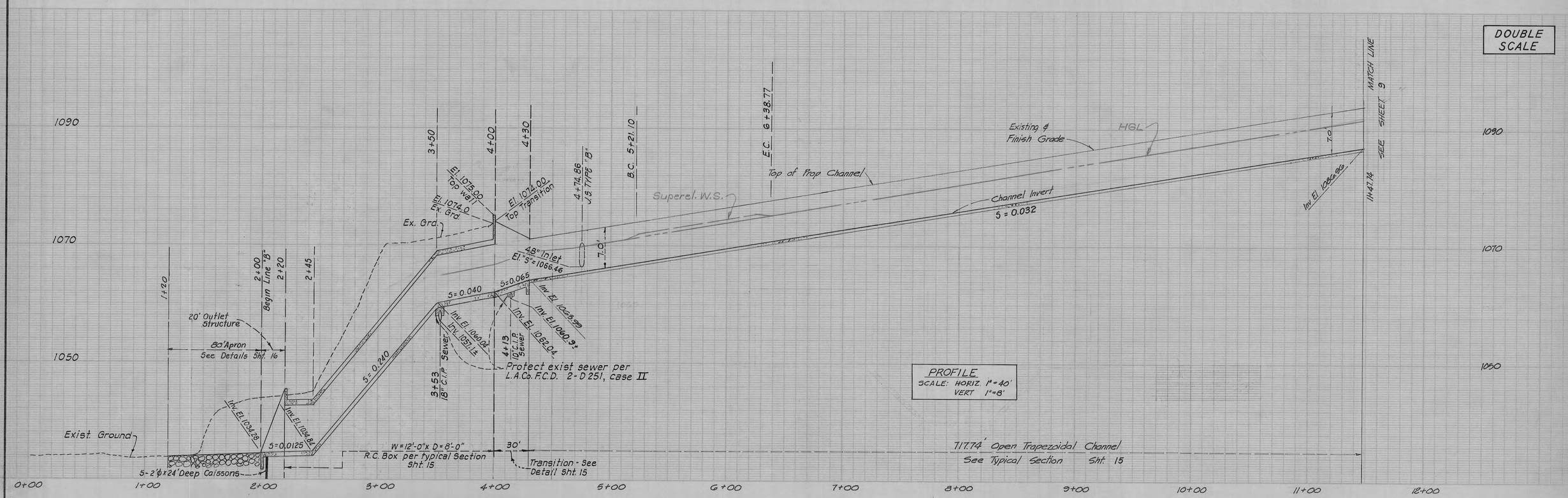
COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE COUNTY ENGINEER

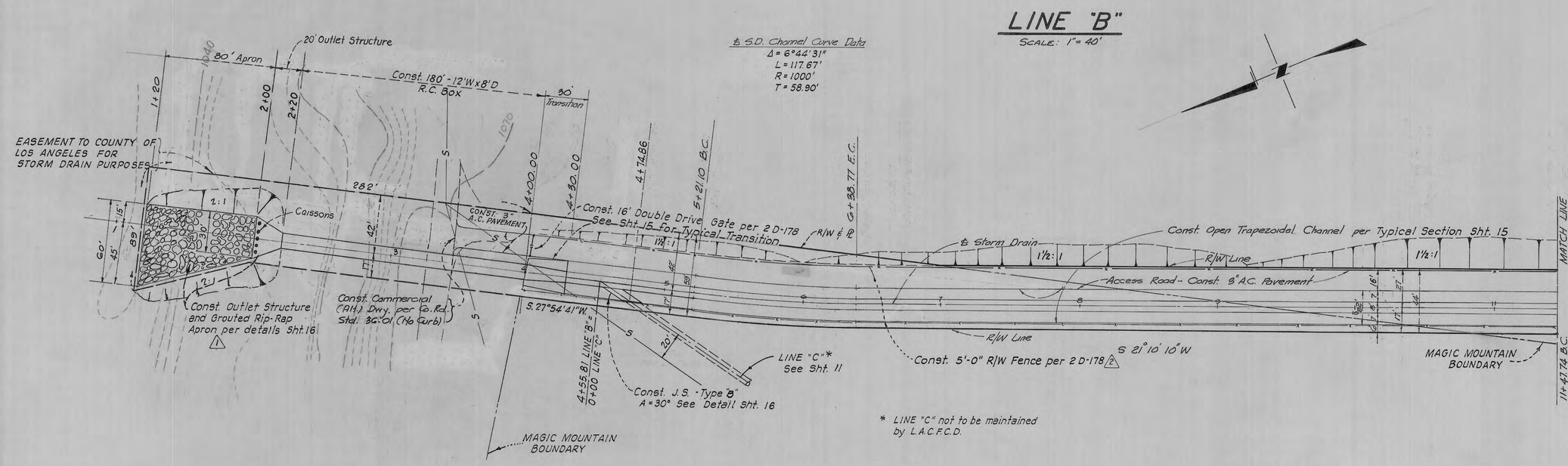
DESIGN DIVISION

CHECKED BY: J. Spence R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

SHEET 7 OF 16

P-5-133





P.D. NO. 1052

NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

Andrew L. Stone R.C.E. Nº 12607
DATE: 8-24-70

STORMS & LOWE Consulting Engineers
JOB NO.
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2832 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISION:		
1 REVISE OUTLET APRON DIMENSIONS	9-30-70	
2 REVISE FENCE LOCATION BY N.J.O.	9-30-70	

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	R.G.-G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

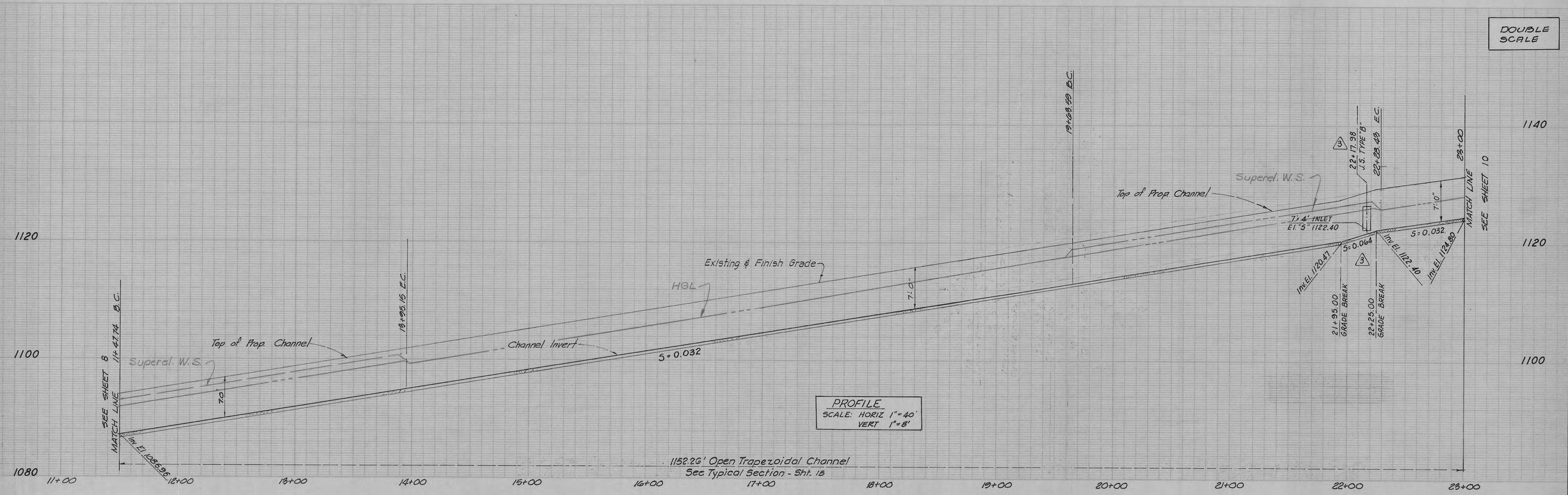
LINE "B"
PLAN AND PROFILE STA. 2+00.00 TO STA. 11+47.74

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: J. Sanchez R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

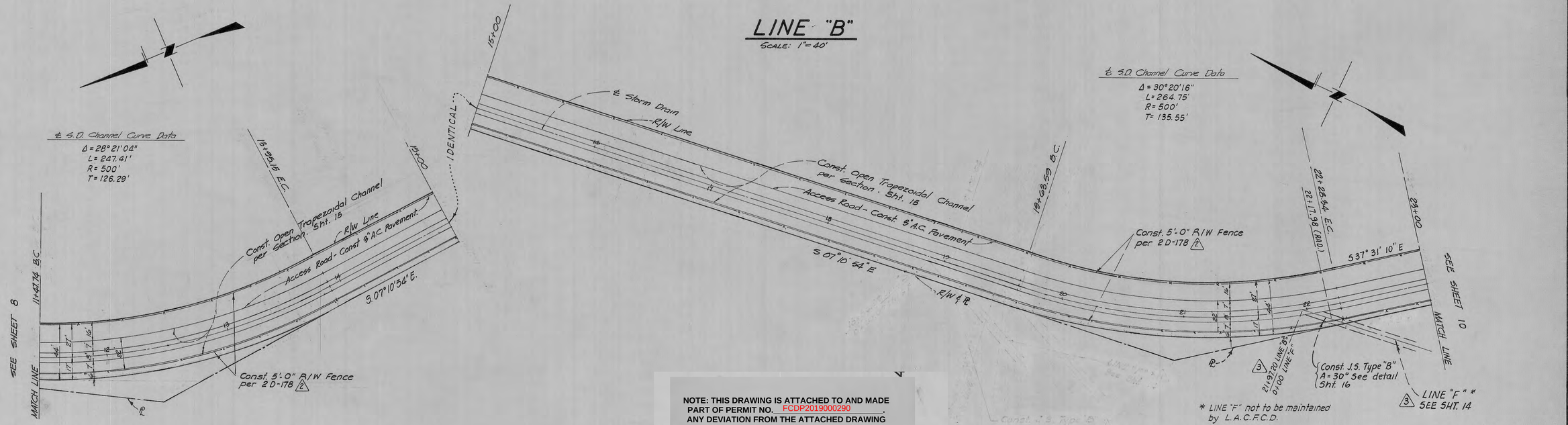
SHEET 8 OF 16



PROFILE
SCALE: HORIZ 1"=40'
VERT 1"=8'

LINE "B"

SCALE: 1"=40'



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R.C.E. Nº 12607
DATE: 8-24-70

P.D. NO. 1052

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: A. Yuki — R.C.E. NO. 11786 — DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

STORMS & LOWE CONSULTING ENGINEERS			OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION	
DATE	REVISION	REVISED BY:	DATE	APPROVED BY:
11-2-70	3 REVISE LOCATION OF GRADE BRK AND JUNCTION WITH LINE "F"	CE 12607	11/6/70	A. Yuki

STORMS & LOWE
Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 755-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

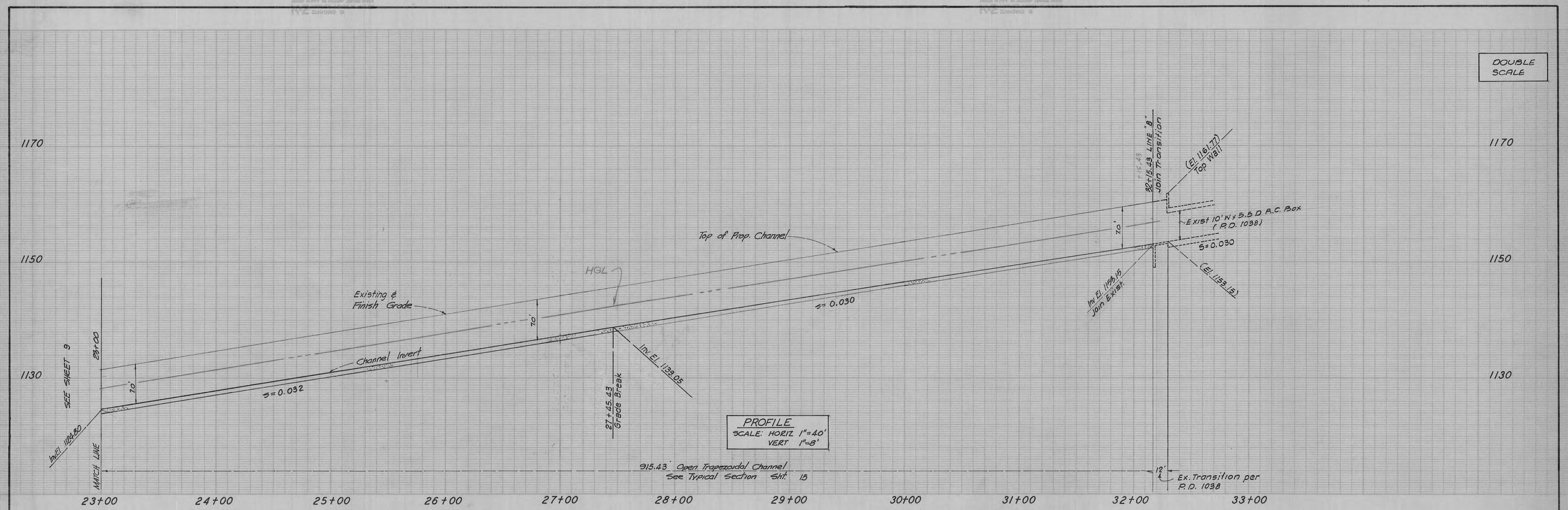
REVISION:
1 REVISE LOCATION OF LINE "F" AND J.S. TYPE "B" 9-30-70
2 REVISE LOCATION OF FENCE SO. W. SIDE 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	S.W.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA — CALIFORNIA

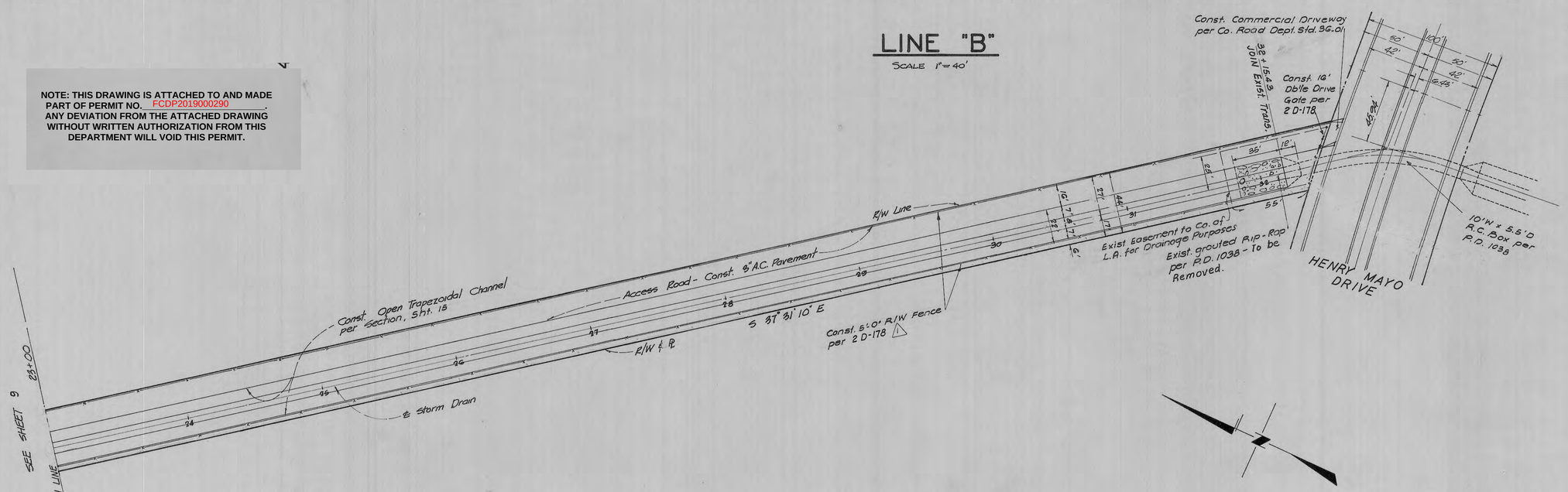
LINE "B"
PLAN AND PROFILE — STA. 11+47.74 TO STA. 23+00.00

SHEET 9 OF 16



LINE "B"

SCALE 1" = 40'



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P.D. NO. 1052

Andrew R. Green R.C.E. Nº 12607
DATE: 8-24-70

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: J. Yauch R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

STORMS & LOWE
Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 755-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

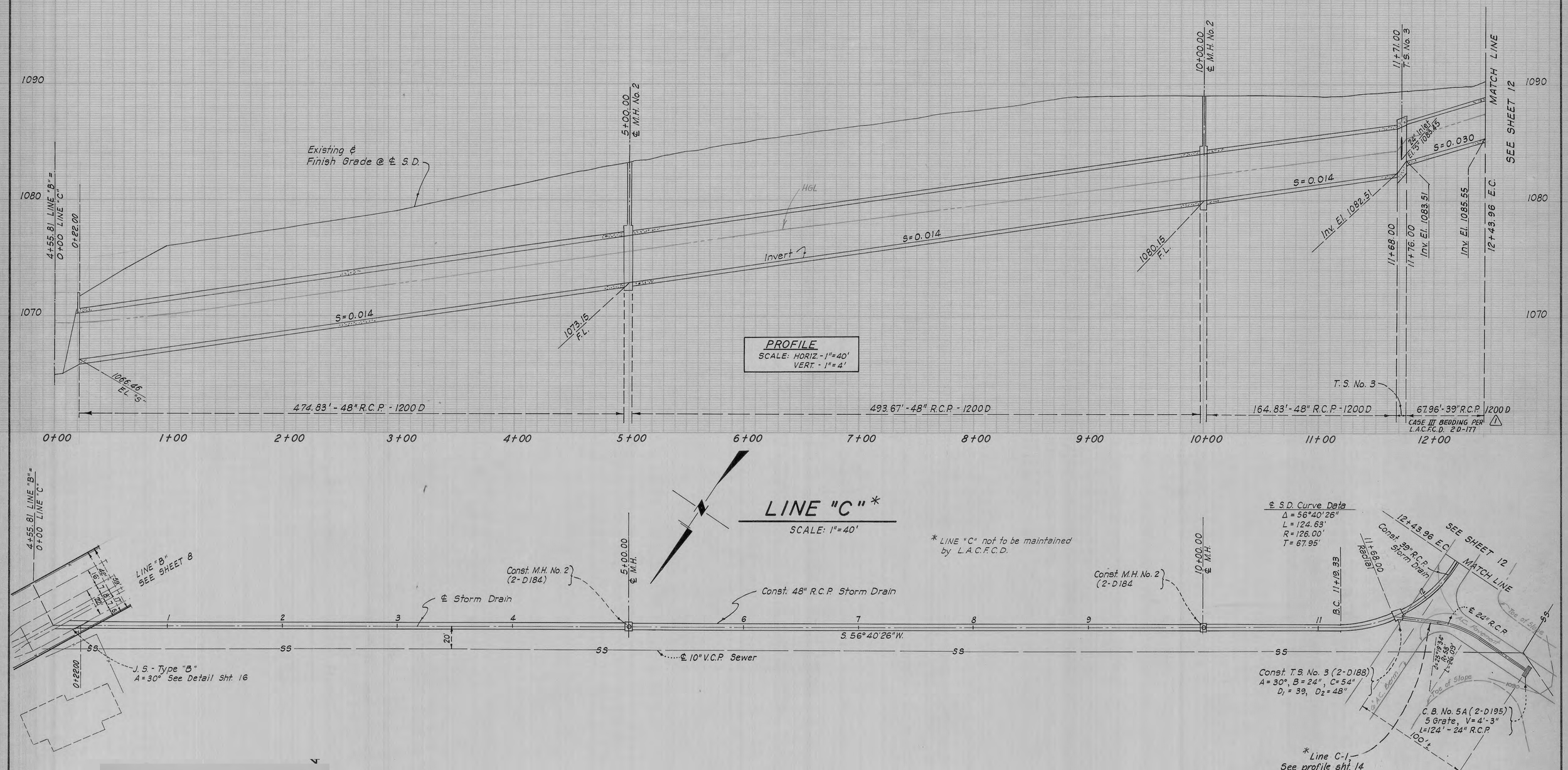
REVISION:
1 Bridge Location of Crange on N. Side 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	B.C. & R.G	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "B"
PLAN AND PROFILE STA. 23+00.00 TO STA. 32+15.43

SHEET 10 OF 16



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P.D. NO. 1052

Andrew C. Graw R.C.E. Nº 12607
DATE: 8-24-70

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: J. Gauck R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

STORMS & LOWE
Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 735-4466

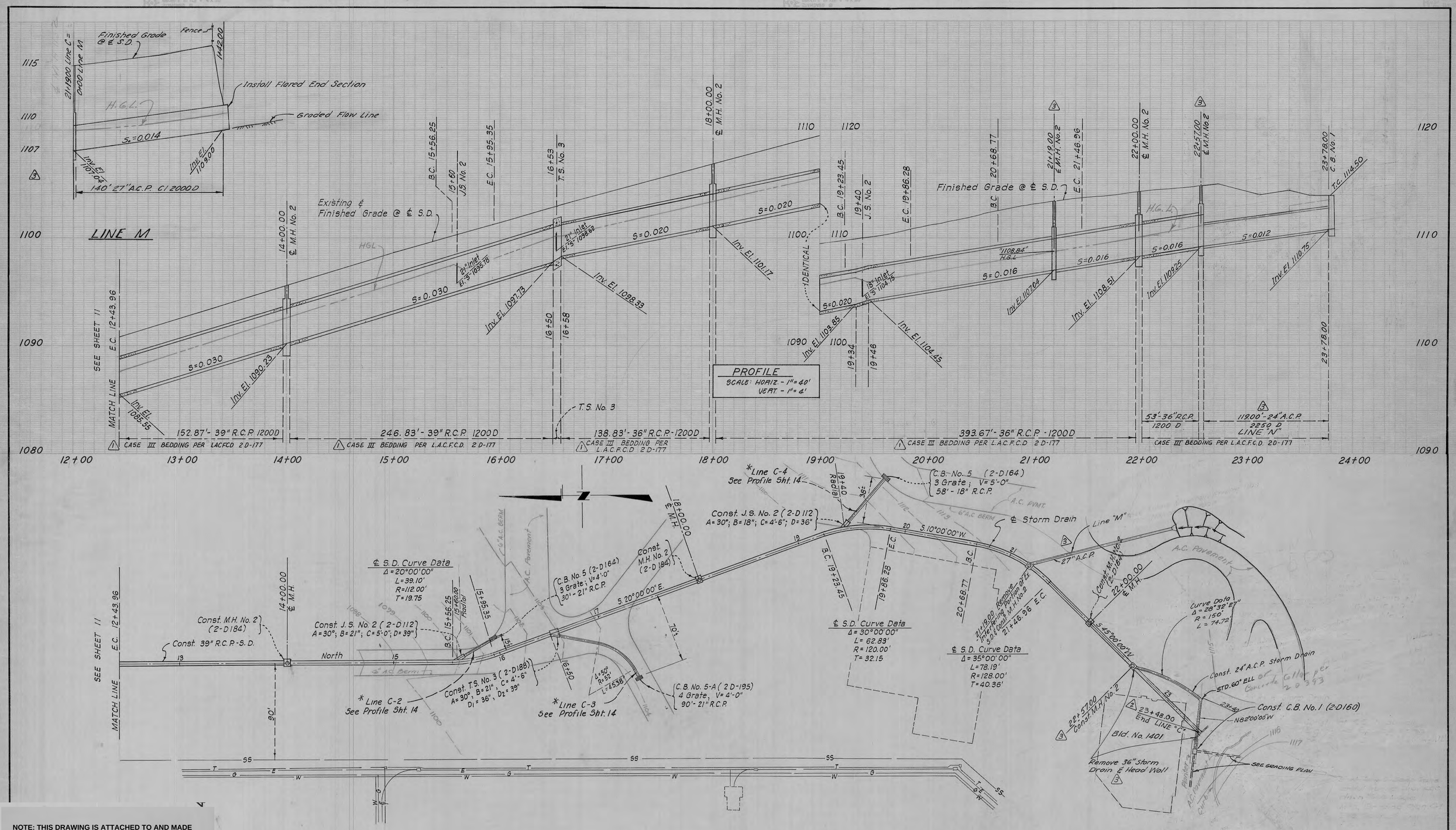
R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISION:			
△ REVISE BEDDING AND D-LOAD 9-30-70			
DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA — CALIFORNIA

LINE "C"
PLAN AND PROFILE — STA. 0+00.00 TO STA. 12+43.96

SHEET 11 OF 16



NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

* LINE "C" not to be maintained by L.A.C.F.C.D.

P.D. NO. 1052

R.C.E. Nº 12607
DATE: 8-24-70

DATE	REVISION	REVISED BY	DATE	APPROVED BY
11-2-70	(2) REVISE INLET LOCATION OF LINE "C" TO AVOID CONFLICT WITH WATER LINE ADD M.H. @ STA 22+50 & 21+19	R.C.E. 12607	11/6/70	
3-4-77	(3) REMOVE S.D. & INLET FROM STA 22+57 TO 23+40. ADDED LINE M & LINE N.	Valcon, Inc. R.C.E. 13696	3/22/77	

STORMS & LOWE CONSULTING ENGINEERS
OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION

STORMS & LOWE Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES, CALIFORNIA
PHONE AXminster 5-6431
LAS VEGAS, NEVADA 522 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

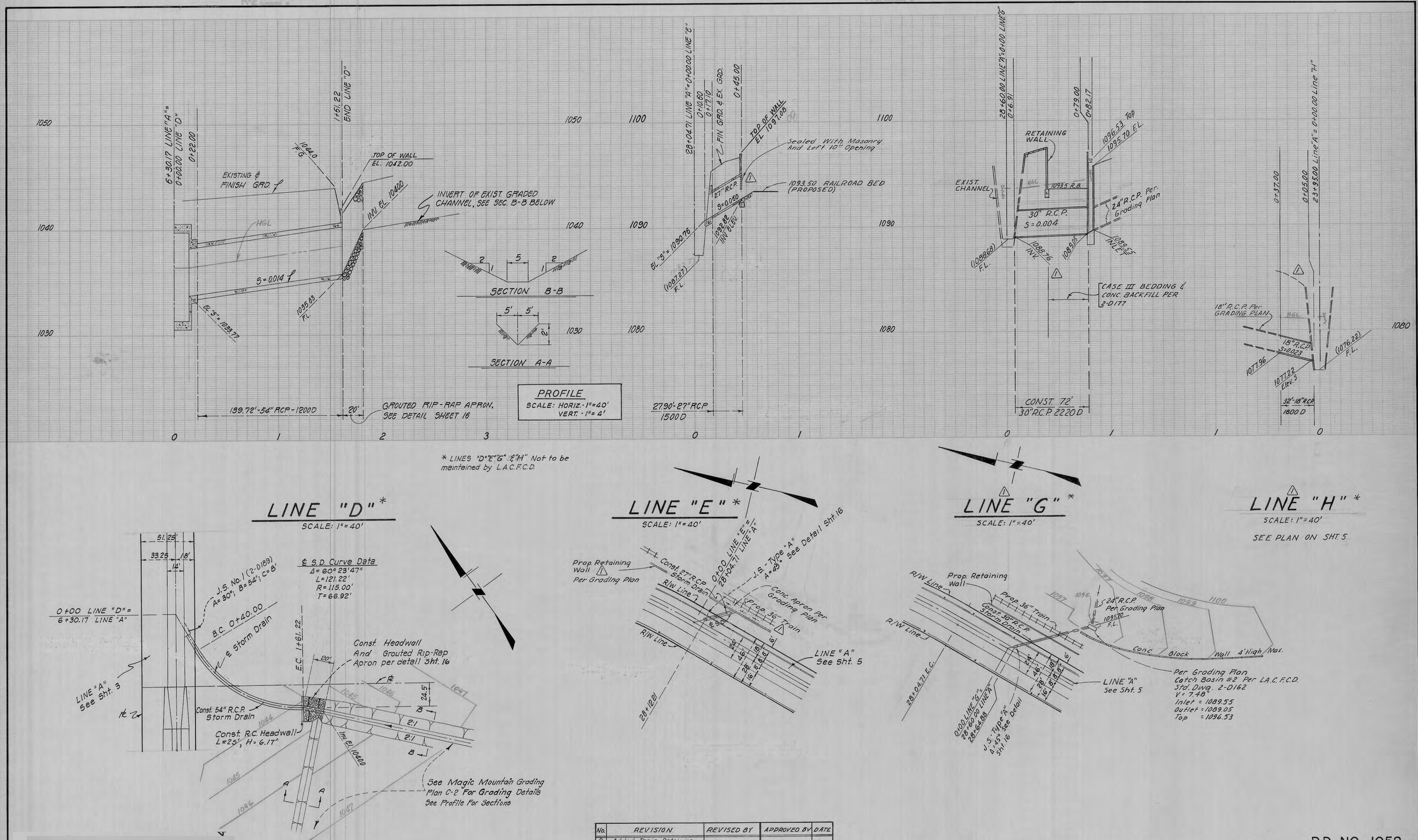
REVISION: (1) REVISED BEDDING AND D-LOADS FOR 36" AND 39" PIPE 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	G.E.R.	J.N.O.

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA
LINE "C"
PLAN AND PROFILE STA. 12+43.96 TO STA. 24+34.13

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER
DESIGN DIVISION
CHECKED BY: R.C.E. NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

SHEET 12 OF 16



* LINES "D" "E" "G" & "H" Not to be maintained by L.A.C.F.C.D.

LINE "D"*

SCALE: 1"=40'

LINE "E"*

SCALE: 1"=40'

LINE "G"*

SCALE: 1"=40'

LINE "H"*

SCALE: 1"=40'

SEE PLAN ON SHT. 5

No.	REVISION	REVISED BY	APPROVED BY	DATE
1	Added Train, Retaining Wall, Lines "G" & "H" Revised. Maint. Note, Inlet for Line "E"	Valcon, Inc. RCE 13696	[illegible]	1/21/75

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STORMS & LOWE
Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXminster 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 755-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISION:

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	AS SHOWN	R.G.	J.N.O.

Andrew L. Thom R.C.E. 12607
DATE: 8-24-70

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

LINE "D, E, G & H"
PLAN AND PROFILE

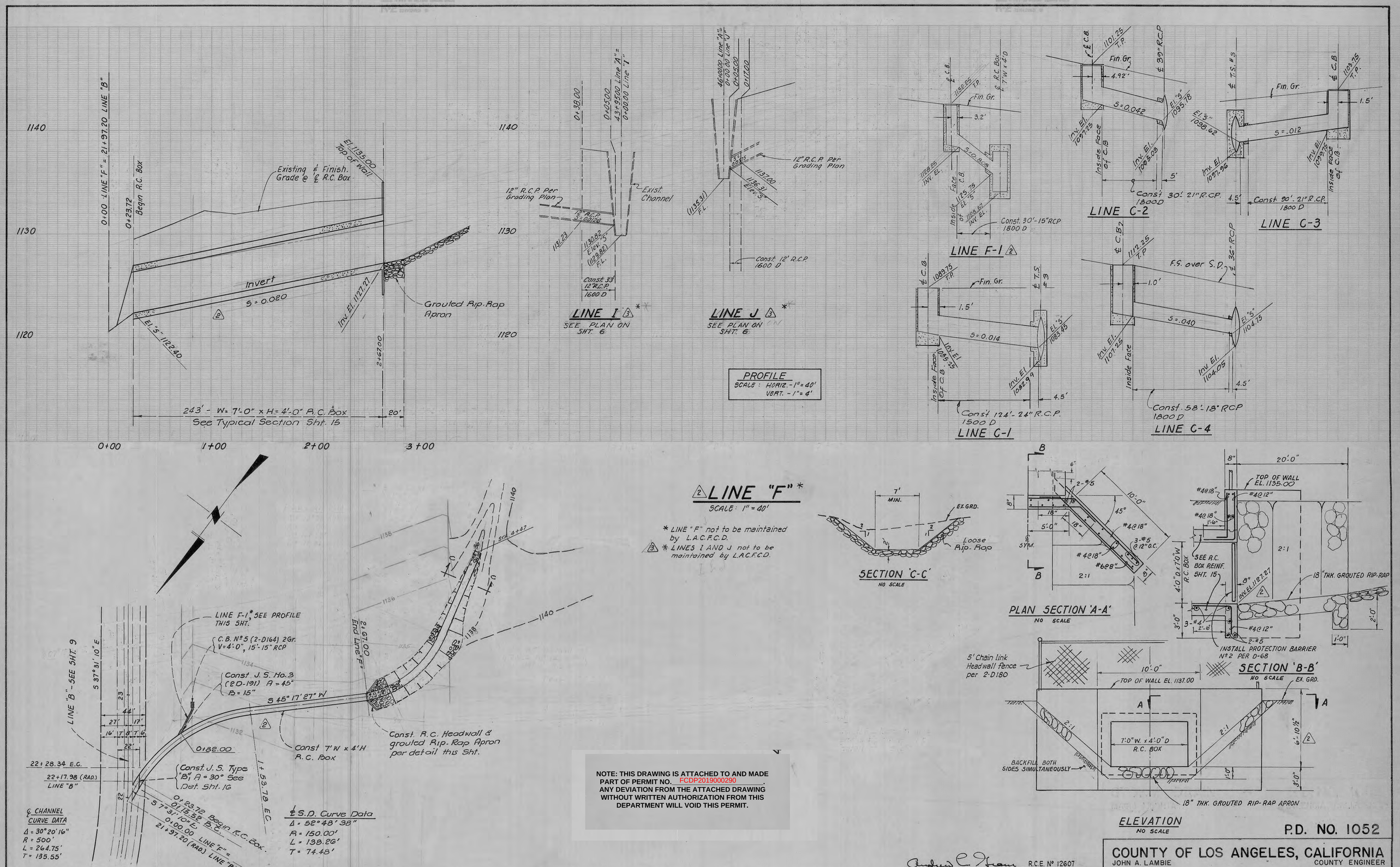
P.D. NO. 1052

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: [signature] RCE NO. 11786 DATE: 10-7-76
OFFICE OF COUNTY ENGINEER

SHEET 13 OF 16



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R.C.E. Nº 12607
DATE: 8-24-70

P.D. NO. 1052

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: R.C.E. NO. 11786 DATE 10-7-70
OFFICE OF COUNTY ENGINEER

MAGIC MOUNTAIN STORM DRAIN
VALENCIA — CALIFORNIA

LINE "F"
PLAN AND PROFILE — STA. 0+00.00 TO STA. 6+76.02

DATE	REVISION	REVISED BY:
11-2-70	(2) RE-ALIGNMENT OF LINE F, REDESIGN TO CONFORM, REVISE LINE F-1, INLET	R.C.E. 12607
11-12-74	(3) Added Profile For Lines "I" And "J"; Maint. Note	Valcon, Inc. R.C.E. 13686

STORMS & LOWE CONSULTING ENGINEERS

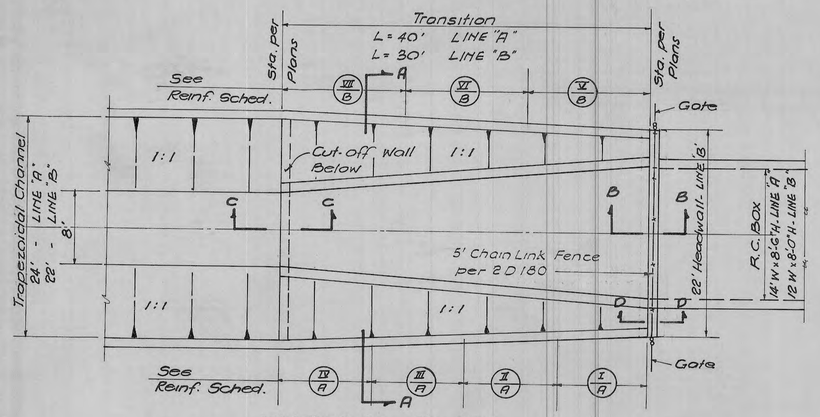
OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION	
DATE	APPROVED BY
11/6/70	
1/28/75	

STORMS & LOWE Consulting Engineers
JOB. NO.
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

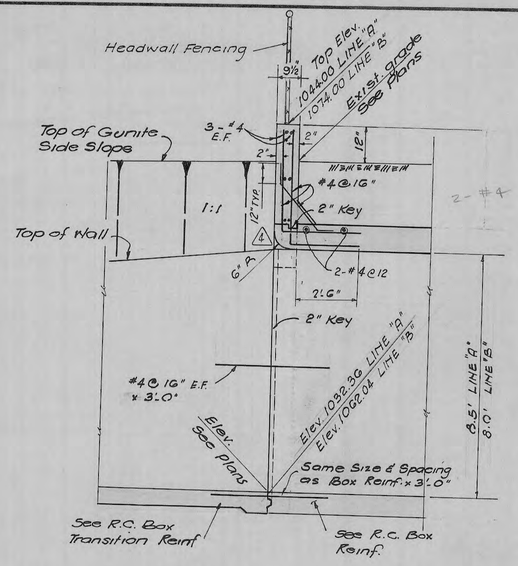
REVISION:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
(1) RE-ALIGN & REDESIGN LINE F	9-30-70			
	8-24-70	AS SHOWN	S.W.	J.N.O.

SHEET 14 OF 16

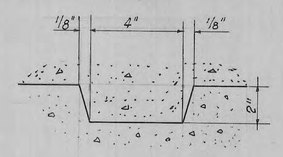


TYPICAL PLAN

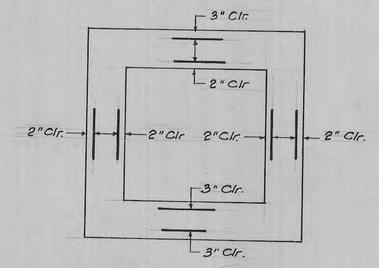
CHANNEL TO R.C. BOX TRANSITION



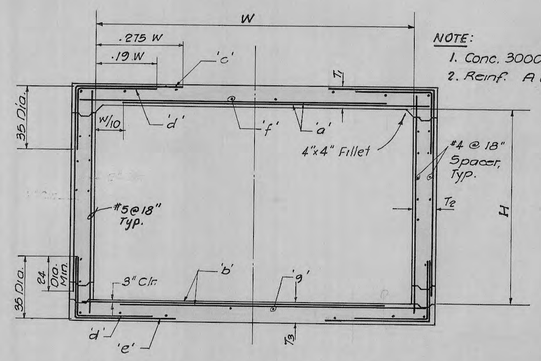
TYPICAL SECTION B-B



TYP. KEY DETAIL



R.C. BOX
TYP. REINF. CLEARANCES

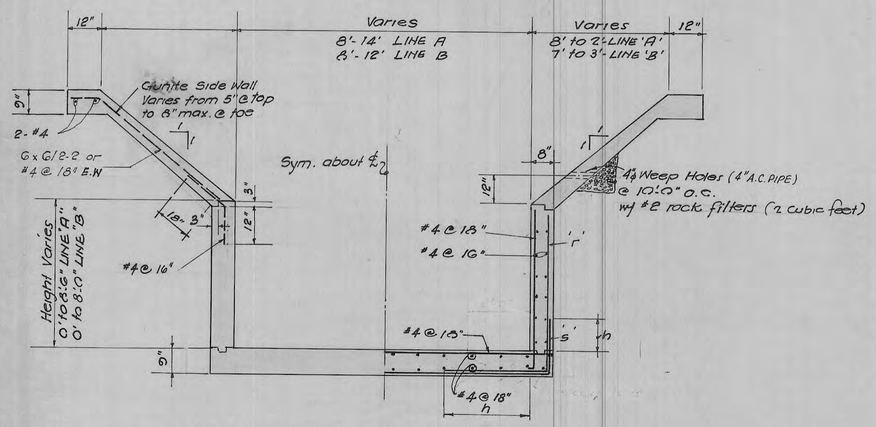


NOTE:
1. Conc. 3000 #/□"
2. Reinf. A 615 Grade 60

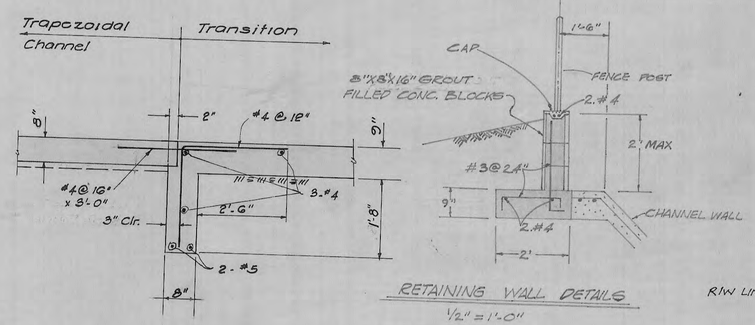
TYPICAL R.C. BOX SECTION

R.C. BOX SCHEDULE				
LINE		A *	B *	F *
SIZE		14'W x 8'-6"H	12'-0" x 8'-0"H	7'-0W x 4'-0"H
COVER		2'	5'	4'
LOCATION		STA. 4+25 to STA. 7+00	STA 2+20 to STA 4+00	STA 0+23.72 (5) to STA 2+67.00
CONC.	T_1	11"	10"	8 1/2"
	T_2	11"	9 1/4"	7 3/4"
	T_3	11"	10"	8 1/2"
REINF.	a	#6 @ 10"	#6 @ 11"	#5 @ 10"
	b	#6 @ 10"	#6 @ 11"	#5 @ 10"
	c	#6 @ 10"	#6 @ 11"	#5 @ 10"
	d	#6 @ 10"	#6 @ 11"	#5 @ 10"
	e	#6 @ 10"	#6 @ 11"	#5 @ 10"
	f	#4 @ 8"	#4 @ 8"	#4 @ 18"
	g	#4 @ 12"	#4 @ 12"	#4 @ 18"

* Designed for H-20 Loading

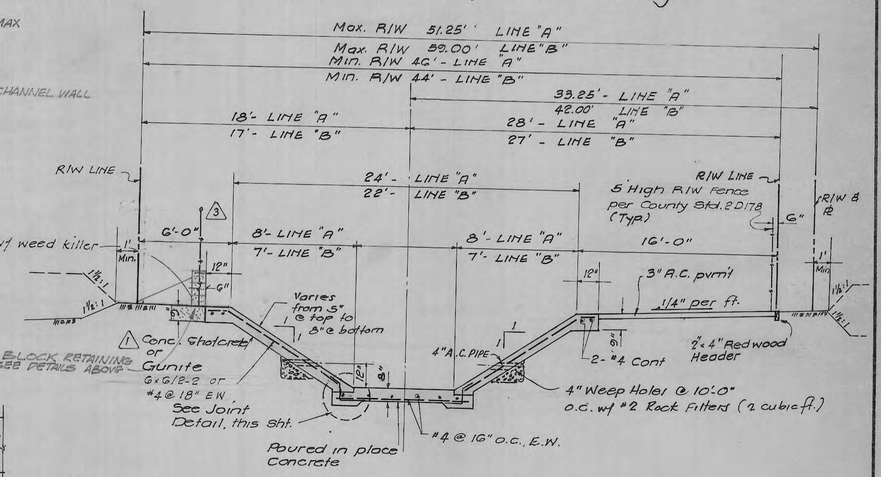


TYPICAL SECTION "A-A"



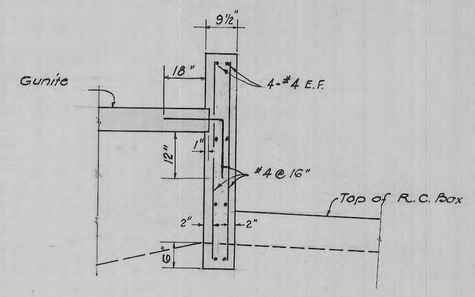
RETAINING WALL DETAILS
1/2" = 1'-0"

TYPICAL SECTION "C-C"

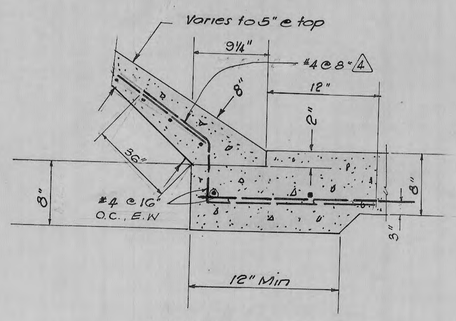


TYPICAL TRAPEZOIDAL CHANNEL SECTION

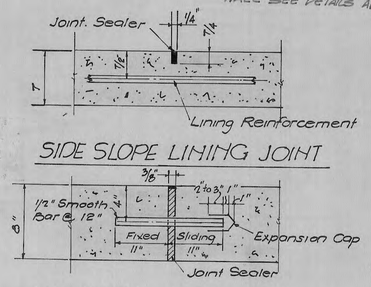
REINF. SCHEDULE								
CHANNEL		A				B		
LOCATION		I	II	III	IV	V	VI	VII
Reinf.	r	#5 @ 11"	#5 @ 12"	#5 @ 12"	#4 @ 11"	#4 @ 10"	#5 @ 12"	#4 @ 11"
	s	#5 @ 11"	#5 @ 12"	——	——	#5 @ 10"	——	——
	h	4'-0"	4'-0"	——	——	3'-6"	——	——



TYPICAL SECTION "D-D"



JOINT DETAIL



SIDE SLOPE LINING JOINT

INVERT LINING JOINT

NOTE: Lining Reinforcement shall not extend through joint.

TRANSVERSE JOINT DETAIL

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P.D. NO. 1052

STORMS & LOWE CONSULTING ENGINEERS			OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION	
DATE	REVISIONS	REVISED BY:	DATE	APPROVED BY
11-2-70	(5) REVISE LENGTH TO CONFORM TO REALIGNMENT OF LINE "F"	Andrew L. Frame CE 12607	11/6/70	H. Fynch

STORMS & LOWE Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES, 8, CALIFORNIA
PHONE AXMINSTER 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 755-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2832 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISION:
1. REVISE TO GIVE CONC. OR SHOTCRETE - REVISE ETC. 9-30-70
2. REVISE LENGTH OF NOSE F 9-30-70
3. REVISE TRENCH SECTION 9-30-70
4. REVISE STRUCTURAL DETAILING 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	NONE	B.C.	J.N.O

Andrew L. Frame R.C.E. Nº 12607
DATE: 8-24-70

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

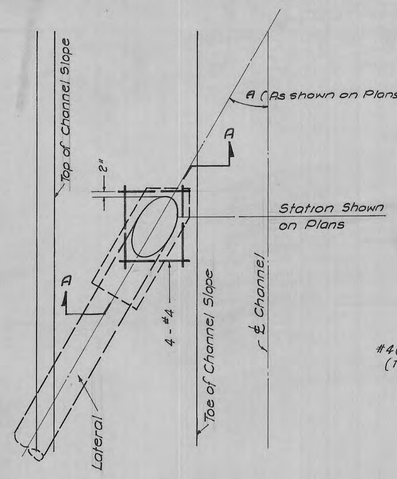
TYPICAL STRUCTURAL SECTIONS AND DETAILS

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE
COUNTY ENGINEER

DESIGN DIVISION

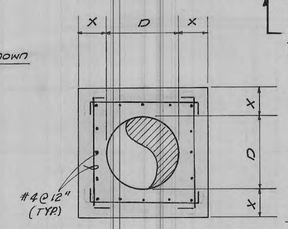
CHECKED BY: H. Fynch RCE NO. 18786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

SHEET 15 OF 16

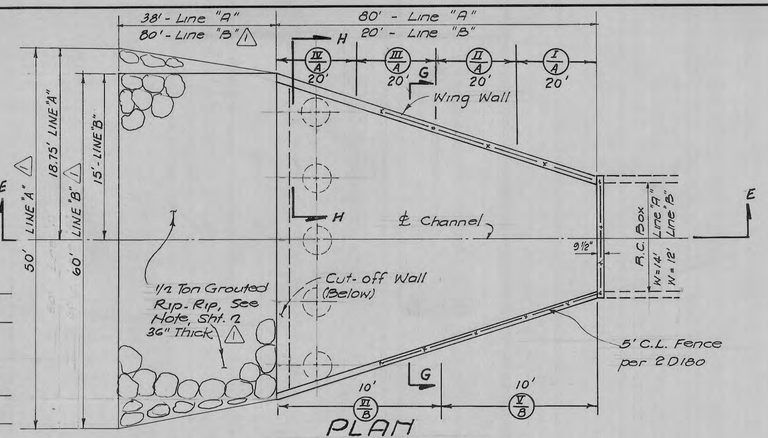


PLAN

D	X	Y	Z
12"	7"	49"	T+2"
27"	9"	78"	T+2"

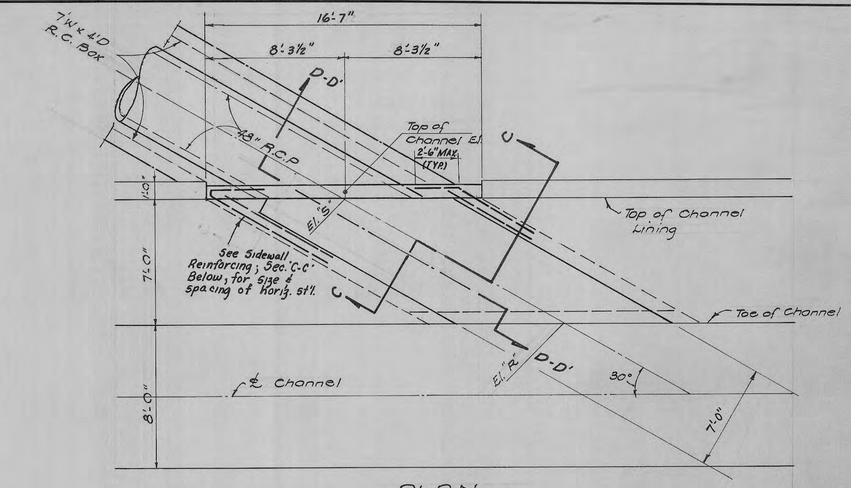


SECTION "B-B"



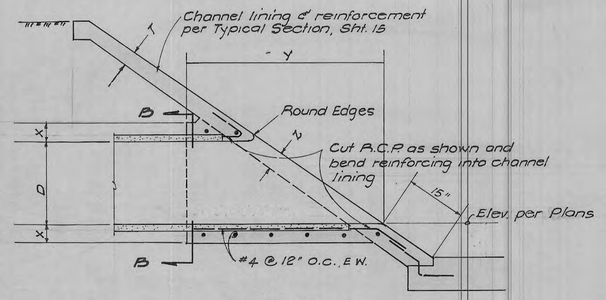
PLAN

TYP. OUTLET STRUCTURE DETAILS



PLAN

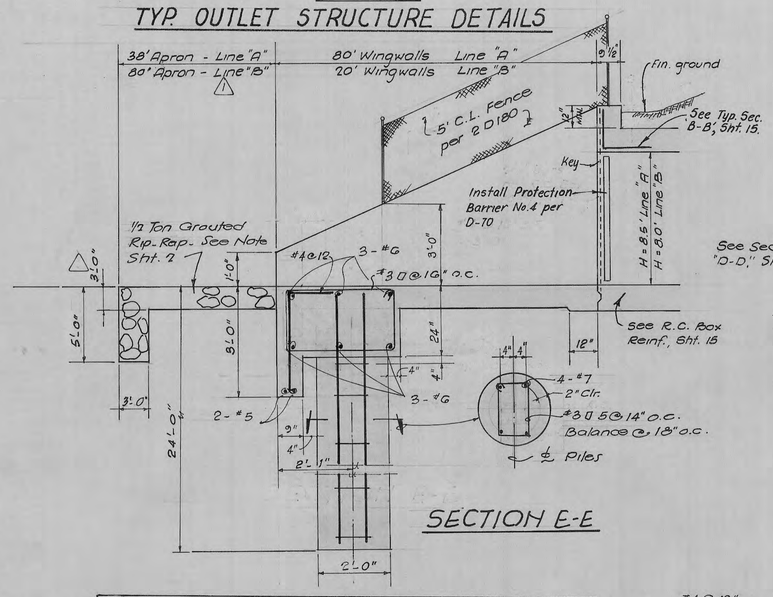
Not to Scale



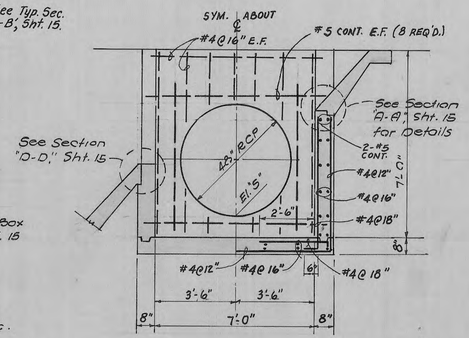
SECTION "A-A"

JUNCTION STRUCTURE TYPE "A"

Not to Scale

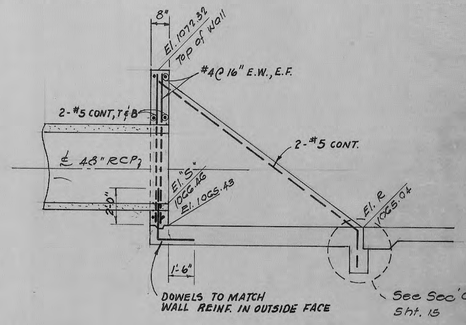


SECTION E-E



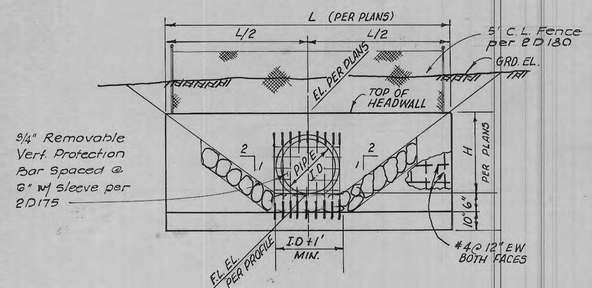
SECTION C-C

NOTE: 48" RCP ONLY SHOWN. SIDE WALL AND HEADWALL DETAILS FOR R.C. BOX. IDENTICAL.

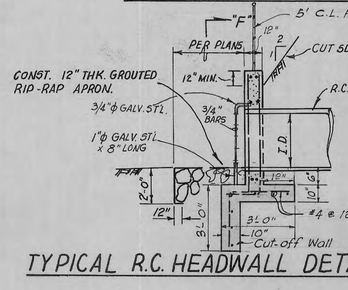


SECTION D-D

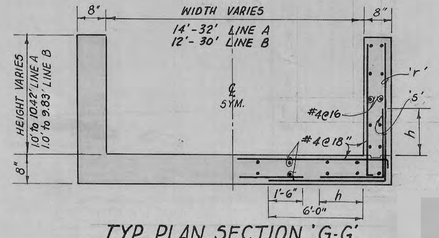
OUTLET STRUCTURE REINFORCING SCHEDULE							
CHANNEL		'A'				'B'	
LOCATION		I	II	III	IV	V	VI
REINF.	r	#5 @ 12"	#4 @ 12"	#4 @ 24"	#4 @ 18"	#4 @ 12"	#4 @ 18"
	s	#5 @ 12"	#4 @ 12"	#4 @ 24"	—	#4 @ 12"	—
h		3'-6"	3'-0"	2'-6"	—	3'-0"	—



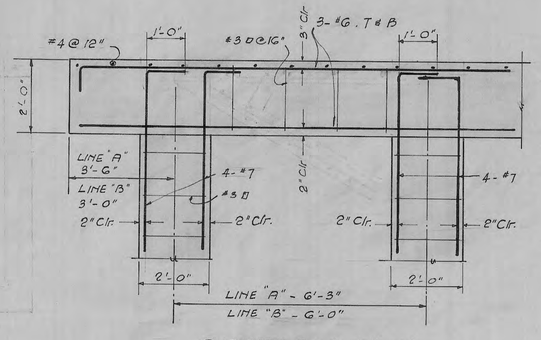
ELEVATION SECTION "F-F"



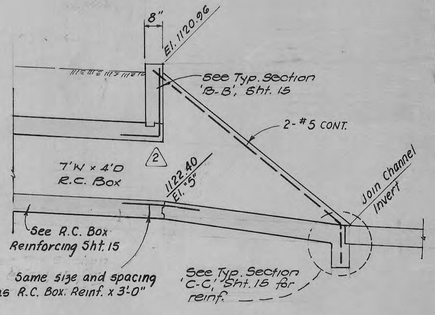
TYPICAL R.C. HEADWALL DETAILS



TYP. PLAN SECTION 'G-G'



SECTION H-H



SECTION 'D'-D'

JUNCTION STRUCTURE TYPE "B"

Not to Scale

NOTE: THIS DRAWING IS ATTACHED TO AND MADE PART OF PERMIT NO. FCDP2019000290. ANY DEVIATION FROM THE ATTACHED DRAWING WITHOUT WRITTEN AUTHORIZATION FROM THIS DEPARTMENT WILL VOID THIS PERMIT.

STORMS & LOWE CONSULTING ENGINEERS			OFFICE OF THE COUNTY ENGINEER DESIGN DIVISION	
DATE	REVISION	REVISED BY:	DATE	APPROVED BY:
10-22-70	2 REVISE JUNCTION EL. "S" FOR JUNCTION OF LINE "A" AND CHANNEL	CE 12607 11/6/70		

STORMS & LOWE Consulting Engineers
2829 WEST VERNON AVENUE
LOS ANGELES 8, CALIFORNIA
PHONE AXminster 5-6431
LAS VEGAS, NEVADA
522 E. TWAIN 735-4466

R. DUELL & ASSOCIATES
PLANNING DESIGN ARCHITECTURE
2932 WILSHIRE BLVD., SANTA MONICA, CALIFORNIA

REVISIONS: 1 REVISE THICKNESS AND DIMENSIONS OF RIP-RAP 9-30-70

DATE:	SCALE:	DRAWN BY:	CHECKED BY:
8-24-70	NONE	B.C.	J.N.O.

R.C.E. Nº 12607
DATE: 8-24-70

MAGIC MOUNTAIN STORM DRAIN
VALENCIA CALIFORNIA

MISCELLANEOUS STRUCTURAL DETAILS

P.D. NO. 1052

COUNTY OF LOS ANGELES, CALIFORNIA
JOHN A. LAMBIE — COUNTY ENGINEER

DESIGN DIVISION

CHECKED BY: D. Synck RCE NO. 11786 DATE: 10-7-70
OFFICE OF COUNTY ENGINEER

SHEET 16 OF 16

D-12: Drainage Concept Hydrology Study LID/Water Quality Report Revision Job No. 0930, By Alliance Land Planning & Engineering, Inc.
Date: 12/2017

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
HYDROLOGY UNIT

TO: Alliance

Date: 11/16/17

ATTN: Craig M. Whitteker

REVIEW OF REVISED HYDROLOGY STUDY

		DATE OF REPORT	**October 2017**
TR/PM NO.	**53295**	**PLAN CHECK NO.**	**3**

We have reviewed your Revised Hydrology Study.

[X] The Hydrology Study has been approved.

[X] Refer to comments below:

COMMENTS:

1. Infiltration rate for the project site has been assumed but must be approved by Geotechnical and Materials Engineering Division prior to the grading plans. Any changes to the assumed infiltration rate may require a revised Hydrology Study and/or Tentative Map.

2. Work within soft bottom drainage areas (which may include but is not limited to soft bottom basins, channels, watercourses, grade to drain) will require maintenance permits from Fish and Game, Army Corps of Engineers, and RWQCB prior to approval of the storm drain, and the permits must be still active prior to acceptance.

3. A Drainage Benefit Assessment Area must be established prior to the recordation of the final map. This DBAA will be to finance the future ongoing maintenance and capital replacement of all water quality devices/systems identified to be maintained by the County of Los Angeles.

REVIEWED BY _____
VILONG TRUONG (626) 458-4921

REGISTERED PROFESSIONAL ENGINEER
VILONG TRUONG
NO. C82680
CIVIL
STATE OF CALIFORNIA

APPROVED BY: _____

HYDROLOGY STUDY
APPROVED

CHECKED BY: _____ RCE NO. 82680 DATE 11/16/2017

APPROVED BY: _____ DATE 11/16/2017

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

DRAINAGE CONCEPT
HYDROLOGY STUDY
LID / WATER QUALITY REPORT

— REVISIONS —

County of Los Angeles

Entrada
Tentative Tract No. 53295
Job No. 0930

Prepared For:
Newhall Land & Farming, Co.
25124 Springfield Ct. Suite 300
Valencia, CA 91355

Prepared By:
Alliance Land Planning & Engineering, Inc.
2248 Faraday Ave.
Carlsbad, CA 92008

REGISTERED PROFESSIONAL ENGINEER
CRAIG M. WHITTAKER
NO. 51929
EXP 6-30-18
CIVIL
STATE OF CALIFORNIA

October 2017

ANCE

mo

i Dom 6-5-19

ENTRADA SOUTH

DRAINAGE CONCEPT REPORT

DEVELOPED CONDITION

Version 11.3, MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - DEV. CONDITION - BASIN A STORM DAY 4

LOCATION	SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
930 1A	284.9	746.00	284.9	746.00	2	1030.	.01000	.00	.00	0.	98	0	A31	.00
930 2A	11.0	22.28	295.9	730.01	4	110.	.01000	7.25	.00	0.	98	12	A31	.10
930 3A	.0	.00	295.9	725.92	4	1.	.01000	7.25	.00	0.	98	99	A31	.00
930 4B	15.7	35.33	15.7	35.33	4	260.	.05000	2.00	.00	0.	98	11	A31	.80
930 5B	1.3	3.41	17.0	38.67	4	110.	.01000	2.50	.00	0.	98	8	A31	.91
930 6B	2.2	4.19	19.2	42.85	4	370.	.01000	2.50	.00	0.	98	16	A31	.91

****
* CONFLUENCE Q'S *
* 930 7A TA 1160 QA 725.88 QAB 764.74 QB 38.86 930 7B TB 1157 QB 42.51 QBA 598.68 QA 556.18 *
* 930 7AB TAB 1160 QAB 764.74 QA 725.88 QB 38.86 *
****

LOCATION	SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
930 7AB	19.2	42.51	315.1	764.74	4	20.	.01000	7.50	.00	0.	98	0	A31	.00
930 8C	.0	.00	.0	.00	4	1.	.01000	.00	.00	0.	98	99	A31	.00
930 9C	3.0	6.36	3.0	6.36	4	230.	.04200	2.00	.00	0.	98	12	A31	.60
930 10C	1.6	4.37	4.6	10.68	4	50.	.04200	2.00	.00	0.	98	7	A31	.60
930 11C	7.5	21.19	12.1	31.86	4	380.	.01000	2.25	.00	0.	298	7	A31	.10
930 12C	2.3	5.60	14.4	36.90	4	310.	.05500	2.00	.00	0.	98	9	A31	.60
930 13C	.0	.00	14.4	36.64	4	1.	.01000	2.50	.00	0.	98	99	A31	.00
930 14C	2.0	5.47	16.4	41.73	4	200.	.05500	2.00	.00	0.	98	7	A31	.60
930 15C	2.0	5.47	18.4	46.62	4	480.	.05500	2.00	.00	0.	98	7	A31	.60
930 16C	3.4	8.74	21.8	54.68	4	90.	.02000	2.50	.00	0.	98	8	A31	.60
930 17C	8.8	27.01	30.6	76.93	4	440.	.01000	3.25	.00	0.	298	6	A31	.01
930 18C	1.0	3.28	31.6	78.15	4	320.	.02000	2.75	.00	0.	98	5	A31	.60
930 19D	.0	.00	.0	.00	4	1.	.01000	.00	.00	0.	98	99	A31	.00
930 20D	3.9	9.09	3.9	9.09	4	30.	.01000	2.00	.00	0.	98	10	A31	.60
930 21D	2.1	4.89	6.0	13.97	4	100.	.01000	2.00	.00	0.	98	10	A31	.60
930 22D	1.7	4.65	7.7	18.56	4	520.	.05000	2.00	.00	0.	98	7	A31	.60
930 23D	1.9	6.23	9.6	23.28	4	30.	.01000	2.00	.00	0.	98	5	A31	.60
930 24D	2.2	6.01	11.8	29.25	4	80.	.01000	2.25	.00	0.	98	7	A31	.60
930 25D	1.1	3.61	12.9	32.25	4	200.	.01800	2.00	.00	0.	98	5	A31	.60
930 26D	1.1	2.89	14.0	34.75	4	90.	.01000	2.50	.00	0.	98	8	A31	.91
930 27D	.8	2.65	14.8	36.65	4	750.	.05500	2.00	.00	0.	98	5	A31	.85
930 28D	.0	.00	14.8	36.24	4	1.	.01000	2.50	.00	0.	98	99	A31	.00
930 29D	1.3	3.55	16.1	39.29	4	310.	.04000	2.00	.00	0.	98	7	A31	.60
930 30D	2.9	7.07	19.0	45.83	4	80.	.04000	2.00	.00	0.	98	9	A31	.60

****
* CONFLUENCE Q'S *
* 930 31C TC 1156 QC 77.37 QCD 123.05 QD 45.68 930 31D TD 1156 QD 45.68 QDC 123.05 QC 77.37 *
* 930 31CD TCD 1156 QCD 123.05 QC 77.37 QD 45.68 *
****

LOCATION	SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
930 31CD	19.0	45.68	50.6	123.05	4	380.	.01000	3.75	.00	0.	98	0	A31	.00
930 32C	.0	.00	50.6	121.79	4	1.	.01000	3.75	.00	0.	98	99	A31	.00

Version 11.3, MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - DEV. CONDITION - BASIN A STORM DAY 4

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
930	33C	11.1	24.98	61.7	145.66	4	180.	.05500	3.00	.00	0.	98	11	A31	.80
930	34E	.0	.00	.0	.00	4	1.	.01000	.00	.00	0.	98	99	A31	.00
930	35E	2.4	6.56	2.4	6.56	4	700.	.01000	2.00	.00	0.	98	7	A31	.60
930	36E	4.7	12.85	7.1	18.51	4	230.	.01000	2.00	.00	0.	98	7	A31	.60
930	37E	.0	.00	7.1	18.19	4	1.	.01000	2.00	.00	0.	98	99	A31	.00

```
**********************************************************************************************************************
*                                                    CONFLUENCE Q'S                                                   *
*    930   38C  TC 1157 QC   144.98 QCE   161.86 QE    16.87     930   38E  TE 1155 QE    18.19 QEC   150.52 QC   132.34   *
*                                930   38CE TCE 1157 QCE   161.86 QC   144.98 QE    16.87                                *
**********************************************************************************************************************
```

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
930	38CE	7.1	18.19	68.8	161.86	4	420.	.01000	4.25	.00	0.	98	0	A31	.00
930	39C	1.5	3.41	70.3	163.83	4	1.	.01000	4.25	.00	0.	98	11	A31	.91
930	40C	1.5	3.56	71.8	167.07	4	10.	.01000	4.25	.00	0.	98	10	A31	.85
930	41C	5.4	14.94	77.2	176.02	4	10.	.01000	4.25	.00	0.	98	7	A31	.80
930	42C	1.0	2.27	78.2	178.12	4	10.	.01000	4.25	.00	0.	98	11	A31	.91
930	43C	.0	.00	78.2	178.11	4	1.	.01000	4.25	.00	0.	98	99	A31	.00
930	44C	8.7	26.03	86.9	192.98	4	330.	.01000	4.50	.00	0.	98	6	A31	.80

```
**********************************************************************************************************************
*                                                    CONFLUENCE Q'S                                                   *
*    930   45A  TA 1160 QA   764.03 QAC   942.22 QC   178.19     930   45C  TC 1158 QC   191.87 QCA   864.46 QA   672.59   *
*                                930   45AC TAC 1160 QAC   942.22 QA   764.03 QC   178.19                                *
**********************************************************************************************************************
```

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
930	45AC	86.9	191.87	402.0	942.22	4	1100.	.02500	6.75	.00	0.	98	0	A31	.00
930	46A	4.7	11.12	406.7	935.18	4	60.	.02500	6.75	.00	0.	98	10	A31	.80
930	47A	10.0	22.23	416.7	945.92	4	150.	.01000	8.00	.00	0.	98	10	A31	.01
930	48A	.0	.00	416.7	940.77	4	1.	.01000	8.00	.00	0.	98	99	A31	.00
930	49A	62.1	123.00	478.8	1041.73	5	120.	.01000	11.00	.00	0.	98	0	A31	.00

DRAINAGE BASIN A

DEBRIS VOLUME

DPA 8	35,000 CY/MI^2 =	55 CY/AC
AREA 2A	UNDEVELOPED AREA	11.0 AC
	DEBRIS YIELD	605 CY
AREA 11C	UNDEVELOPED AREA	7.5 AC
	DEBRIS YIELD	412.5 CY
AREA 17C	UNDEVELOPED AREA	8.8 AC
	DEBRIS YIELD	484 CY

Version 11.3, MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE:

HYDROGRAPH AT 930 49A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.00	100	45.19	200	47.34	300	49.18	400	52.46
500	55.48	600	60.05	700	65.37	800	71.85	900	81.41
1000	104.33	1050	130.00	1100	173.44	1110	195.46	1120	229.79
1130	271.80	1131	276.82	1132	281.73	1133	285.83	1134	290.98
1135	296.17	1136	301.54	1137	307.31	1138	313.48	1139	320.02
1140	327.27	1141	335.28	1142	345.19	1143	356.04	1144	367.80
1145	380.76	1146	395.00	1147	411.05	1148	428.12	1149	450.82
1150	481.86	1151	518.84	1152	563.39	1153	614.45	1154	668.45
1155	722.26	1156	780.87	1157	844.22	1158	911.55	1159	973.86
1160	1020.35	1161	1041.73	1162	1031.29	1163	981.76	1164	897.71
1165	801.85	1166	709.11	1167	625.26	1168	553.12	1169	494.31
1170	444.94	1171	403.82	1172	368.74	1173	338.37	1174	313.40
1175	291.74	1176	273.52	1177	257.63	1178	245.39	1179	233.47
1180	223.02	1181	214.67	1182	206.35	1183	199.86	1184	192.96
1185	187.65	1186	182.97	1187	177.52	1188	173.37	1189	168.54
1190	164.92	1191	161.55	1192	158.36	1193	154.30	1194	151.46
1195	148.80	1196	146.17	1197	142.76	1198	140.51	1199	138.28
1200	136.13	1201	132.99	1202	130.94	1203	129.11	1204	127.46
1205	125.91	1206	124.44	1207	122.04	1208	120.61	1209	119.11
1210	117.54	1211	116.08	1212	114.76	1213	113.54	1214	112.27
1215	110.04	1216	108.92	1217	107.79	1218	106.72	1219	105.65
1220	104.50	1221	103.32	1222	102.24	1223	101.24	1224	99.36
1225	98.52	1226	97.65	1227	96.94	1228	96.26	1229	95.59
1230	94.97	1231	94.33	1232	93.65	1233	93.00	1234	92.33
1235	91.64	1236	90.96	1237	89.20	1238	88.37	1239	87.52
1240	86.65	1241	85.86	1242	85.16	1243	84.56	1244	84.04
1245	83.56	1246	83.06	1247	82.56	1248	82.07	1249	81.63
1250	81.18	1251	80.75	1252	80.38	1253	80.06	1254	79.76
1255	78.45	1256	78.11	1257	77.73	1258	77.35	1259	76.97
1260	76.57	1261	76.16	1262	75.74	1263	75.35	1264	75.05
1265	74.83	1266	74.62	1267	74.43	1268	74.19	1269	73.88
1270	73.58	1271	73.25	1272	72.87	1273	72.53	1274	72.17
1275	71.80	1276	71.44	1277	71.08	1278	70.69	1279	70.31
1280	69.00	1281	68.73	1282	68.43	1283	68.13	1284	67.83
1285	67.56	1286	67.37	1287	67.20	1288	67.04	1289	66.92
1290	66.75	1291	66.52	1292	66.28	1293	66.06	1294	65.88
1295	65.75	1296	65.62	1297	65.51	1298	65.42	1299	65.29
1300	65.08	1310	63.08	1320	60.41	1330	58.93	1340	57.58
1350	56.00	1360	54.29	1370	51.94	1380	51.22	1390	50.46
1400	49.75	1420	48.23	1440	46.75	1460	45.20	1500	45.19

TOTAL VOLUME THIS HYDROGRAPH = 172.87(Ac.Ft)

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7   930    1A   284.9 441158    746.200  4
8  5   0.      1. 100.     28. 200.     30. 300.     31. 400.     33.
8 10 500.     35. 600.     38. 700.     42. 800.     46. 900.     52.
8 151000.     67.1050.     83.1100.    110.1110.    125.1120.    150.
8 201130.    176.1131.    178.1132.    181.1133.    184.1134.    187.
8 251135.    190.1136.    194.1137.    199.1138.    204.1139.    210.
8 301140.    217.1141.    224.1142.    232.1143.    240.1144.    248.
8 351145.    257.1146.    267.1147.    278.1148.    290.1149.    309.
8 401150.    332.1151.    361.1152.    399.1153.    454.1154.    527.
8 451155.    610.1156.    690.1157.    742.1158.    746.1159.    708.
8 501160.    642.1161.    566.1162.    490.1163.    423.1164.    366.
8 551165.    321.1166.    284.1167.    253.1168.    228.1169.    208.
8 601170.    190.1171.    175.1172.    165.1173.    156.1174.    149.
8 651175.    142.1176.    136.1177.    131.1178.    127.1179.    123.
8 701180.    119.1181.    116.1182.    113.1183.    110.1184.    107.
8 751185.    105.1186.    102.1187.    100.1188.     98.1189.     96.
8 801190.     94.1191.     92.1192.     91.1193.     89.1194.     88.
8 851195.     86.1196.     84.1197.     83.1198.     82.1199.     81.
8 901200.     80.1201.     79.1202.     78.1203.     77.1204.     75.
8 951205.     74.1206.     73.1207.     73.1208.     72.1209.     71.
81001210.     70.1211.     69.1212.     69.1213.     68.1214.     67.
81051215.     66.1216.     65.1217.     64.1218.     64.1219.     63.
81101220.     63.1221.     62.1222.     62.1223.     62.1224.     61.
81151225.     61.1226.     60.1227.     60.1228.     59.1229.     59.
81201230.     58.1231.     58.1232.     57.1233.     56.1234.     55.
81251235.     55.1236.     54.1237.     54.1238.     54.1239.     54.
81301240.     53.1241.     53.1242.     52.1243.     52.1244.     52.
81351245.     51.1246.     51.1247.     51.1248.     51.1249.     51.
81401250.     50.1251.     50.1252.     50.1253.     49.1254.     49.
81451255.     49.1256.     48.1257.     48.1258.     48.1259.     48.
81501260.     48.1261.     48.1262.     48.1263.     47.1264.     47.
81551265.     47.1266.     46.1267.     46.1268.     46.1269.     45.
81601270.     45.1271.     45.1272.     44.1273.     44.1274.     44.
81651275.     44.1276.     44.1277.     43.1278.     43.1279.     43.
81701280.     43.1281.     43.1282.     43.1283.     43.1284.     43.
81751285.     42.1286.     42.1287.     42.1288.     42.1289.     42.
81801290.     42.1291.     42.1292.     42.1293.     42.1294.     41.
81851295.     41.1296.     41.1297.     41.1298.     40.1299.     40.
81901300.     40.1310.     39.1320.     38.1330.     37.1340.     36.
81951350.     34.1360.     33.1370.     33.1380.     32.1390.     32.
82001400.     31.1420.     30.1440.     29.1460.     28.1500.     28.
7   930   49A    62.1 421156    123.200  4
8  5   0.      1. 100.      7. 200.      7. 300.      7. 400.      8.
8 10 500.      8. 600.      9. 700.      9. 800.     10. 900.     11.
8 151000.     14.1050.     17.1100.     23.1110.     27.1120.     31.
8 201130.     36.1131.     37.1132.     38.1133.     38.1134.     39.
8 251135.     40.1136.     41.1137.     42.1138.     43.1139.     44.
8 301140.     45.1141.     46.1142.     48.1143.     50.1144.     52.
8 351145.     54.1146.     56.1147.     59.1148.     62.1149.     67.
8 401150.     76.1151.     86.1152.     97.1153.    108.1154.    117.
8 451155.    121.1156.    123.1157.    122.1158.    119.1159.    115.
8 501160.    109.1161.    101.1162.     93.1163.     85.1164.     74.
8 551165.     64.1166.     56.1167.     48.1168.     41.1169.     37.
8 601170.     34.1171.     32.1172.     30.1173.     28.1174.     27.
8 651175.     26.1176.     25.1177.     24.1178.     24.1179.     23.
8 701180.     22.1181.     22.1182.     21.1183.     21.1184.     20.
8 751185.     20.1186.     20.1187.     19.1188.     19.1189.     18.
8 801190.     18.1191.     18.1192.     18.1193.     17.1194.     17.
8 851195.     17.1196.     17.1197.     16.1198.     16.1199.     16.
8 901200.     16.1201.     15.1202.     15.1203.     15.1204.     15.
8 951205.     15.1206.     15.1207.     14.1208.     14.1209.     14.
81001210.     14.1211.     14.1212.     14.1213.     14.1214.     14.
81051215.     13.1216.     13.1217.     13.1218.     13.1219.     13.
81101220.     13.1221.     13.1222.     13.1223.     13.1224.     12.
81151225.     12.1226.     12.1227.     12.1228.     12.1229.     12.
81201230.     12.1231.     12.1232.     12.1233.     12.1234.     12.
81251235.     12.1236.     12.1237.     11.1238.     11.1239.     11.
81301240.     11.1241.     11.1242.     11.1243.     11.1244.     11.
81351245.     11.1246.     11.1247.     11.1248.     11.1249.     11.
81401250.     11.1251.     11.1252.     11.1253.     11.1254.     11.
81451255.     10.1256.     10.1257.     10.1258.     10.1259.     10.
81501260.     10.1261.     10.1262.     10.1263.     10.1264.     10.
81551265.     10.1266.     10.1267.     10.1268.     10.1269.     10.
81601270.     10.1271.     10.1272.     10.1273.     10.1274.     10.
81651275.     10.1276.     10.1277.     10.1278.     10.1279.     10.
81701280.      9.1281.      9.1282.      9.1283.      9.1284.      9.
81751285.      9.1286.      9.1287.      9.1288.      9.1289.      9.
81801290.      9.1291.      9.1292.      9.1293.      9.1294.      9.
81851295.      9.1296.      9.1297.      9.1298.      9.1299.      9.
81901300.      9.1310.      9.1320.      8.1330.      8.1340.      8.
81951350.      8.1360.      8.1370.      7.1380.      7.1390.      7.
82001400.      7.1420.      7.1440.      7.1460.      7.1500.      7.
```

Basin A

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
2A	11.0	0.10	98	1230	0.015	6.20	12	2.45	0.82	0.83
4B	15.7	0.80	98	1180	0.020	6.20	11	2.55	0.82	0.88
5B	1.3	0.91	98	820	0.035	5.36	8	2.56	0.82	0.89
6B	2.2	0.91	98	1980	0.020	5.36	16	1.85	0.78	0.89
9C	3.0	0.60	98	820	0.035	5.36	12	2.12	0.80	0.86
10C	1.6	0.60	98	590	0.042	5.36	7	2.73	0.83	0.87
11C	7.5	0.01	98	1000	0.118	6.20	7	3.16	0.84	0.84
12C	2.3	0.60	98	900	0.040	5.36	9	2.43	0.82	0.87
14C	2.0	0.60	98	630	0.034	5.44	7	2.77	0.83	0.87
15C	2.0	0.60	98	730	0.055	5.36	7	2.73	0.83	0.87
16C	3.4	0.60	98	890	0.047	5.44	8	2.60	0.82	0.87
17C	8.8	0.01	98	850	0.129	6.20	6	3.40	0.85	0.85
18C	1.0	0.60	98	350	0.030	5.44	5	3.25	0.85	0.88
20D	3.9	0.60	98	730	0.010	5.36	10	2.31	0.81	0.86
21D	2.1	0.60	98	610	0.005	5.36	10	2.31	0.81	0.86
22D	1.7	0.60	98	530	0.015	5.36	7	2.73	0.83	0.87
23D	1.9	0.60	98	480	0.060	5.36	5	3.20	0.85	0.88
24D	2.2	0.60	98	640	0.060	5.36	7	2.73	0.83	0.87
25D	1.1	0.60	98	370	0.030	5.36	5	3.20	0.85	0.88
26D	1.1	0.91	98	900	0.052	5.36	8	2.51	0.82	0.89
27D	0.8	0.85	98	430	0.050	5.36	5	3.20	0.85	0.89

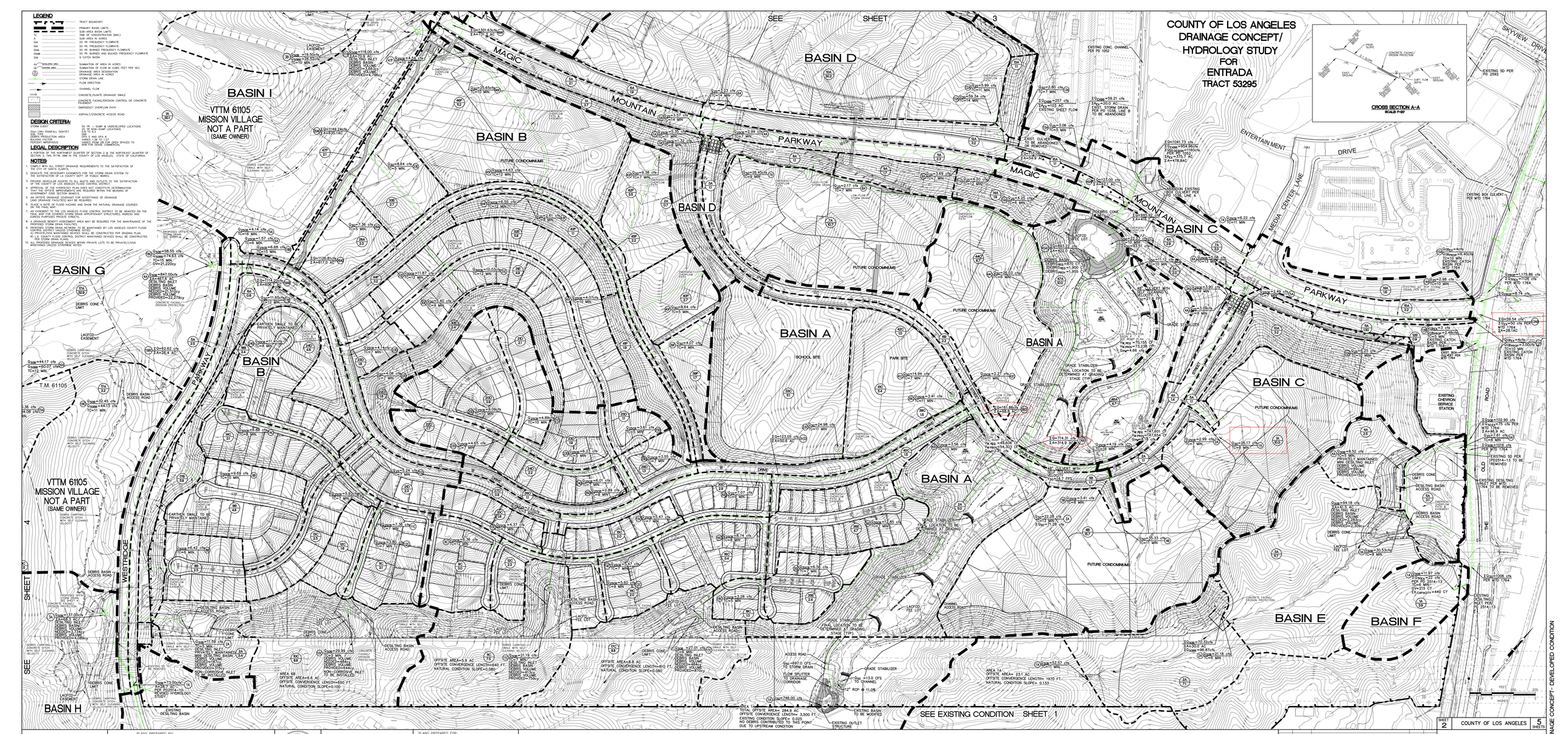
Note: Skipped No. 3A, 8C, 13C, 19D, 28D

Basin A Continued

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
29D	1.3	0.60	98	660	0.041	5.36	7	2.73	0.83	0.87
30D	2.9	0.60	98	980	0.055	5.36	9	2.43	0.82	0.87
33C	11.1	0.80	98	1180	0.020	6.10	11	2.51	0.82	0.88
35E	2.4	0.60	98	740	0.047	6.10	7	3.11	0.84	0.88
36E	4.7	0.60	98	860	0.055	6.10	7	3.11	0.84	0.88
39C	1.5	0.91	98	1280	0.030	5.36	11	2.21	0.81	0.89
40C	1.5	0.85	98	1070	0.030	5.36	10	2.31	0.81	0.89
41C	5.4	0.80	98	600	0.020	6.10	7	3.11	0.84	0.89
42C	1.0	0.91	98	1125	0.020	5.36	11	2.21	0.81	0.89
44C	8.7	0.80	98	530	0.020	6.10	6	3.34	0.85	0.89
46A	4.7	0.80	98	990	0.020	6.10	10	2.63	0.82	0.88
47A	10.0	0.01	98	1060	0.033	6.10	10	2.63	0.82	0.82

Note: Skipped No's: 32C, 34E, 37E, 43C

COUNTY OF LOS ANGELES DRAINAGE CONCEPT/ HYDROLOGY STUDY FOR ENTRADA TRACT 53295



ALLIANCE LAND PLANNING & ENGINEERING
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23823 WEST VALENCIA BLVD.
SUITE 200
VALENCIA, CA 91355
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FAX: (661) 294-1927
CIVIL ENGINEERING • LAND PLANNING • WILDER DESIGN • SURVEYING

PLANS PREPARED BY:
ALLIANCE LAND PLANNING & ENGINEERING INC.
2248 FARADAY AVE. CARLSBAD, CA. 92008
(760) 431-9896

PLANS PREPARED UNDER THE DIRECTION OF:
CRAIG M. WHITEKER R.C.E. 51929 — 9/15/2017
DATE

REGISTERED PROFESSIONAL ENGINEER — CRAIG M. WHITEKER — NO. 51929 — EXP. 6-30-18 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED FOR:
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVE : ALEX HERRELL

HYDROLOGY STUDY APPROVED
CHECKED BY: Ali Sanaei, EP, CFM — Date 11/06/2017
APPROVED BY: Mark Pestrella — Date 11/06/2017
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

NO.	DATE	BY	APPR.

SHEET 2 — COUNTY OF LOS ANGELES — 5 SHEETS

DRAINAGE CONCEPT/
HYDROLOGY STUDY
FOR ENTRADA
TENTATIVE TRACT 53295
DEVELOPED CONDITION

ENTRADA DRAINAGE CONCEPT - DEVELOPED CONDITION

PLAN PREPARATION DATE:

I:\2421\2932\HYDROLOGY\2930-HYDRO-SHT-02.dwg