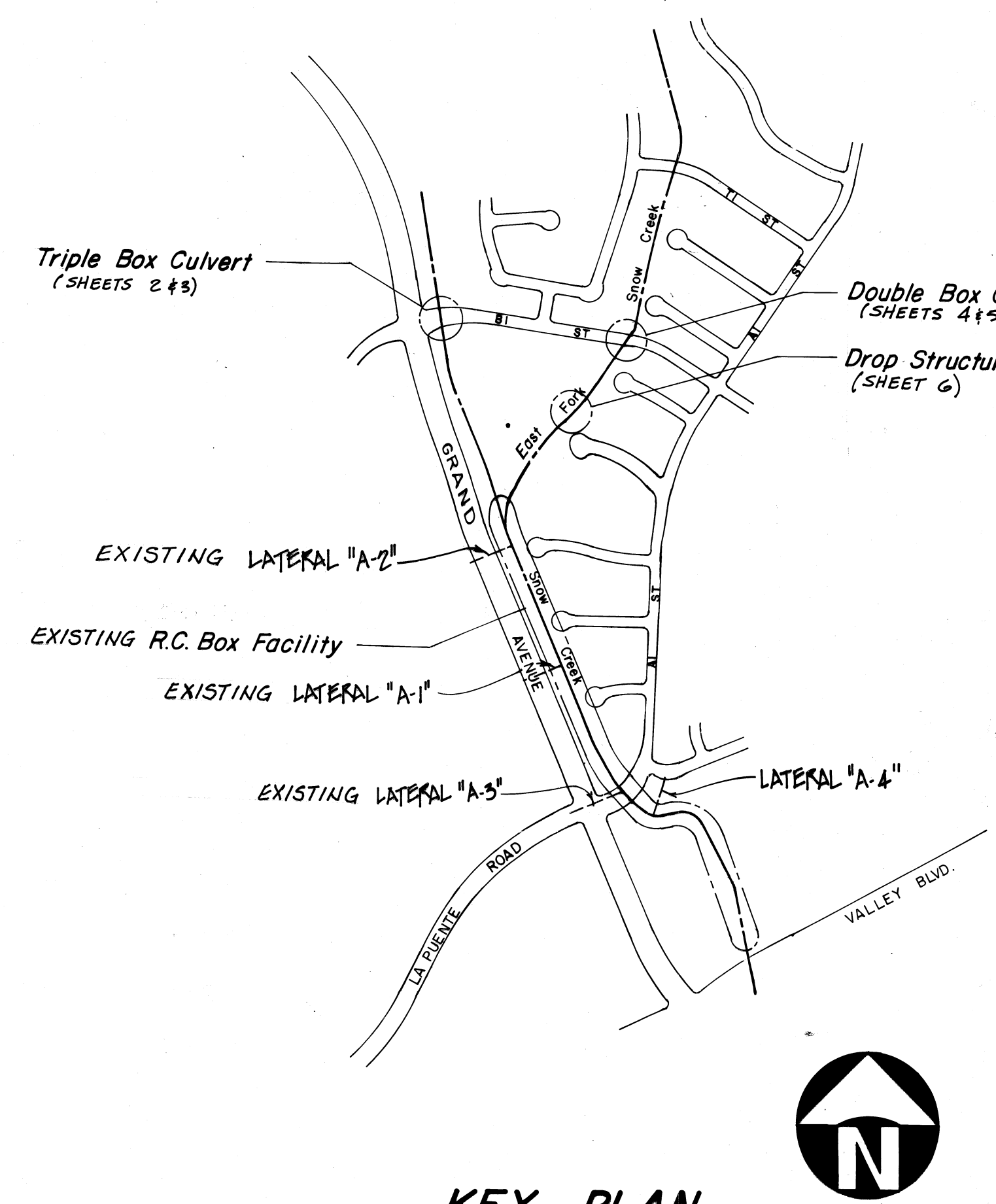


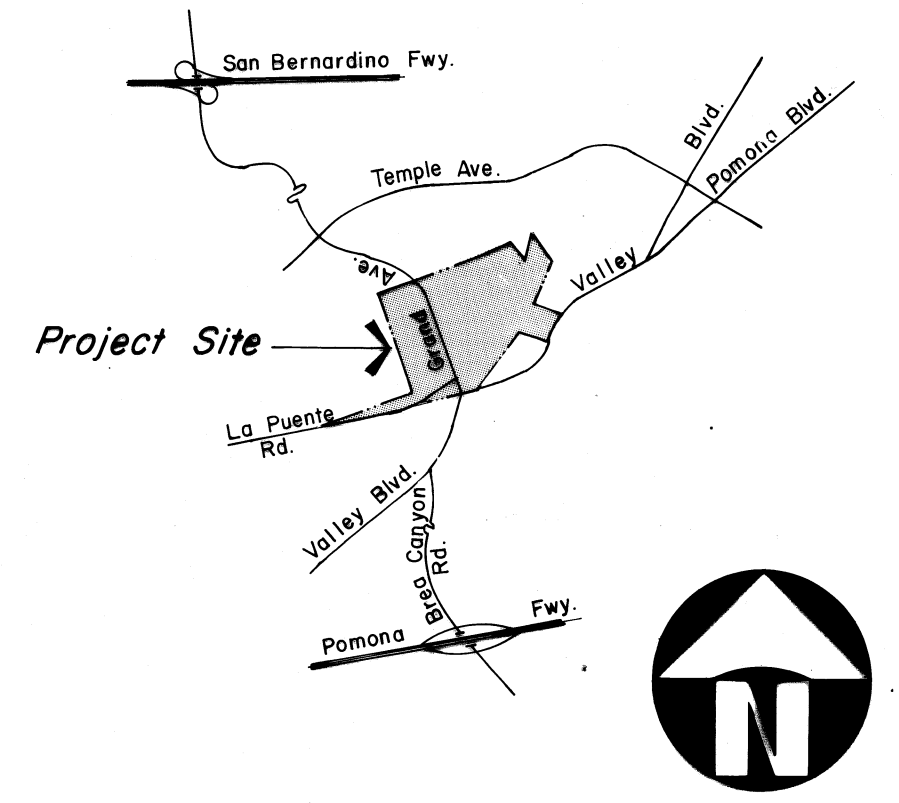
BENCH MARK:
 C.G. 1781 ELEV. 617.011
 R.D.B.M. TAG NR CTR OF CONC. HEADWALL 24 FT. N. & LA PUENTE RD. + 0.2 MI. W/O GRAND AVE.

MISCELLANEOUS TRANSFER DRAIN PLANS FOR TRACT No. 32158 M.T.D. No.

BASIS OF BEARINGS
 N22°58'05"W FOR THE CENTERLINE OF GRAND AVENUE AS SHOWN ON TRACT NO. 40715, M.B. 998/80-84 WAS USED AS BASIS OF BEARINGS FOR THIS TRACT.



KEY PLAN
 Scale 1" = 600'



VICINITY MAP

DESIGN CRITERIA FOR CONCRETE STRUCTURES

- Concrete (Working stress design per ACI 318-63)
 $f'_c = 4,000$ psi
 $f'_s = 1,800$ psi
 $v'_c = 70$ psi
 $n = 8$
- Reinforcing Steel
 $f_y = 60,000$ psi (60 grade)
 $f'_s = 24,000$ psi
- Soils and Foundation
 See report by Leighton and Associates entitled "Design Parameters for Reinforced Concrete Box Culverts, Parent Tract 32158 Stearns Ranch, City of Walnut, California" dated July 6, 1981.
- Live Load
 AASHTO HS 20-44

STRUCTURAL NOTES

- ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAYS COMPRESSIVE STRENGTH OF 4000 P.S.I. CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
- CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
- NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAS BEEN PLACED, INSPECTED BY CITY ENGINEER AND APPROVED.
- EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMBERED 3/4".
- DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO FACE OF BAR AND SHALL BE 2 1/2 INCHES UNLESS OTHERWISE SHOWN.
- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS.
- ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTES "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" CHAPTER 7 (ACI 318-77).
- NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWINGS WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
- LONGITUDINAL STEEL SHALL BE LAPPED 40 BAR DIAMETERS AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED AS SHOWN ON DRAWINGS.
- PLACING OF REINFORCEMENT SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTES "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" CHAPTER 7 (ACI 318-77).
- UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS TRANSVERSE BARS SHALL BE PLACED RADIIALLY. STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS. SPACING SHALL BE AT THE CENTERLINE OF CONSTRUCTION FOR SINGLE-BARREL BOXES, STRAIGHT BARS AND L-BARS IN WALLS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
- THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
- LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS, UNLESS OTHERWISE SHOWN.
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), AS DETAILED ON THE DRAWINGS, SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 30 FEET OR BE LESS THAN 10 FEET. ALL CONSTRUCTION JOINTS IN BOTTOM SLAB, TOP SLAB, AND SIDE WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
- TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
- TRANSVERSE JOINTS SHALL BE PLACED AT THE JUNCTION OF INLET AND OUTLET SECTIONS WITH CLOSED CONDUIT SECTIONS.
- TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS.
- TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED AT ALL LOCATIONS WHERE THERE IS A TRANSITION FROM CUT TO FILL AT THE SUBGRADE FOR THE STRUCTURE.

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND 1982-85 SUPPLEMENT.
- 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER, (714) 594-9702. ALL WORK SHALL BE PROSECUTED IN THE PRESENCE OF THE CITY ENGINEER AND COUNTY ENGINEER.
- ELEVATIONS ARE IN FEET ABOVE U.S.C. AND G.S. MEAN SEA LEVEL DATUM OF 1929.
- ALL STATE AND LOCAL TRENCH SAFETY RULES WILL BE RIGIDLY ENFORCED.
- THE ENGINEER, VTN, HAS INVESTIGATED ALL AVAILABLE RECORDS OF THE CITY AND OF THE UTILITY COMPANIES INVOLVED, AND ALL KNOWN SUBSTRUCTURES ARE SHOWN HEREON. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SUBSTRUCTURES, WHETHER OR NOT SHOWN HEREON, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR THE TOTAL EXPENSE OF REPAIR OR REPLACEMENT OF SAID SUBSTRUCTURES DAMAGED BY HIS OPERATIONS IN CONNECTION WITH THE PROSECUTION OF SAID WORK.
- THIS STORM DRAIN WILL NOT BE ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT UP TO GRADE, AND THE SYSTEM IS CLEANED TO THE SATISFACTION OF THE CITY ENGINEER AND COUNTY ENGINEER.
- THE CONTRACTOR MUST MAINTAIN ALL TRAFFIC SIGNS IN AN ERECT, READILY DISCERNIBLE POSITION AND FREE FROM OBSTRUCTIONS TO MOTORISTS' VISION, AND SHALL RESET SAME IN THE PROPER POSITION UPON COMPLETION OF CONSTRUCTION.
- ALL FILLS AND BACKFILLS SHALL BE COMPACTED TO RELATIVE DENSITY OF 90% OR GREATER PER ASTM D1557, UNLESS OTHERWISE SPECIFIED BY THE SOILS ENGINEER AND APPROVED BY THE COUNTY ENGINEER AND CITY ENGINEER DURING CONSTRUCTION.
- THE SOILS ENGINEER, LEIGHTON & ASSOCIATES, SHALL CERTIFY THAT ALL FILLS AND BACKFILLS HAVE BEEN PROPERLY COMPACTED.
- THE SOILS ENGINEER, LEIGHTON & ASSOCIATES, SHALL INSPECT AND APPROVE THE BOTTOM OF ALL EXCAVATIONS PRIOR TO PLACING FILL MATERIAL OR CONCRETE, AS THE CASE MAY BE.
- AT ALL STREET CROSSINGS, FILL AND BACKFILL SHALL BE A NON-EXPANSIVE MATERIAL HAVING A SAND EQUIVALENT GREATER THAN 20.
- HEAVY COMPACTION EQUIPMENT SHALL NOT BE USED FOR BACKFILLING THE STRUCTURES IN ORDER TO PREVENT DAMAGE TO THE STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STRUCTURES RESULTING FROM INAPPROPRIATE COMPACTION TECHNIQUES AND EQUIPMENT.
- STRUCTURES SHALL NOT BE BACKFILLED UNTIL THEY HAVE BEEN INSPECTED AND APPROVED BY THE COUNTY ENGINEER AND THE CITY ENGINEER, AND UNTIL THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 4,000 PSI AS DETERMINED BY APPROPRIATE TESTS.
- THE BACKFILL SHALL BE BROUGHT UP UNIFORMLY ON ALL SIDES OF THE STRUCTURE.
- FOR SOIL PROPERTIES AND FOUNDATION DESIGN CRITERIA, REFER TO THE REPORT ENTITLED "DESIGN PARAMETERS FOR REINFORCED CONCRETE BOX CULVERTS, PARENT TRACT 32158, STEARNS RANCH, CITY OF WALNUT, CALIFORNIA" BY LEIGHTON AND ASSOCIATES, INC., DATED JULY 6, 1981, PROJECT NO. 277013-18.
- ELEVATION OF THE TOP OF MANHOLES SHALL BE AT FINISHED GRADE ELEVATION, UNLESS OTHERWISE SHOWN.

DRAWING LIST

DWG. NO.	TITLE
1	TITLE SHEET, NOTES, VICINITY MAP & KEY PLAN.
2	SNOW CREEK—TRIPLE BOX CULVERT PLAN AND SECTION.
3	SNOW CREEK—TRIPLE BOX CULVERT SECTIONS AND DETAILS.
4	EAST FORK SNOW CREEK—DOUBLE BOX CULVERT PLAN AND SECTION.
5	EAST FORK SNOW CREEK—DOUBLE BOX CULVERT SECTIONS AND DETAILS.
6	EAST FORK SNOW CREEK—DROP STRUCTURE NO. 1 PLAN AND SECTIONS.
7	TYPICAL CONSTRUCTION JOINT DETAILS.
8	MISCELLANEOUS DETAILS.
9	TYPICAL EARTHWORK DETAILS.

STANDARD DRAWINGS

THE FOLLOWING STANDARD DRAWINGS TAKEN FROM THE LOS ANGELES COUNTY FLOOD CONTROL "DESIGN MANUAL" HAVE BEEN REFERENCED ON THIS PROJECT:

- DWG. NO. 2-D 178 — ~~DELETED~~ TYPICAL FENCE AND GATE DETAILS—FOR CHANNEL RIGHTS—OF—WAY.
- DWG. NO. 2-D 180 — ~~DELETED~~ TYPICAL FENCE, GATE & HEADWALL DETAILS FOR CHANNEL WALLS.
- DWG. NO. 2-D 189 JUNCTION STRUCTURE NO. 1 PLAN AND SECTIONS.
- DWG. NO. 2-D 071 STANDARD A-615 REINFORCING BARS.

REFERENCES
 TOPOGRAPHY: DON READ CORP., AUG. 1978
 SURVEY FIELD NOTES: VTN

ADDITIONAL NOTES

Approval of this plan by the CITY of WALNUT 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.

The Contractor shall notify the City Engineer, CITY of WALNUT by telephone (714) 594-9702, at least 48-hours before starting any work under this contract.

No revisions shall be made in these plans without the approval of the CITY Engineer.

Before work can be started, the Contractor must obtain all necessary permits from the City of Walnut.

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.

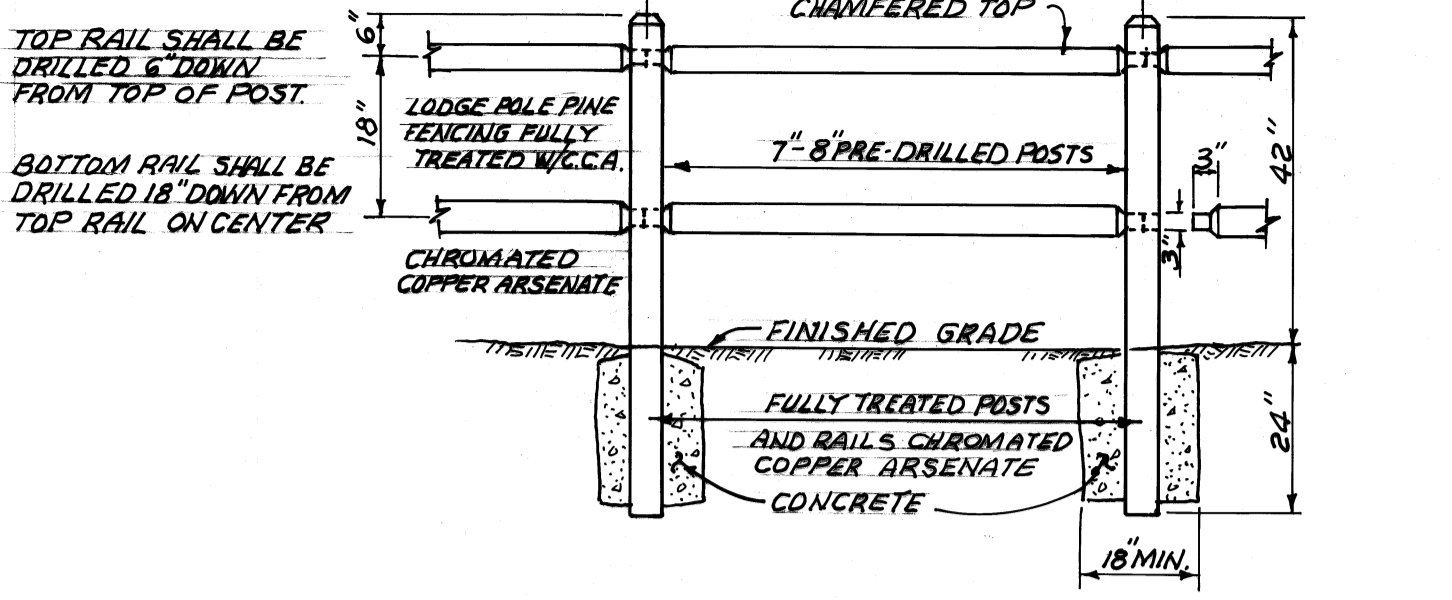
The Contractor shall conform to the "Minimum Public Safety Requirements" as shown on Los Angeles County Engineer Standard S-2.

NOTE: IF CONSTRUCTION OF IMPROVEMENTS AS SHOWN HEREON ARE NOT COMPLETED WITHIN 18 MONTHS OF APPROVAL DATE THESE PLANS ARE SUBJECT TO REVIEW BY THE CITY.

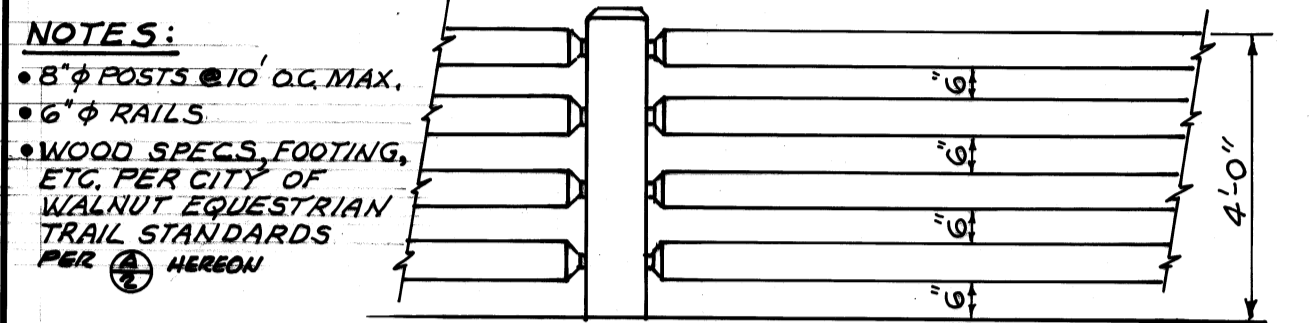
UTILITY COMPANIES

Rowland Heights Co. Water District 3021 S. Fullerton St. Rowland Heights, CA 213-697-1726	Sd. Calif. Gas Co. 708 N. Vincent Covina, CA 91722 714-981-5795
Walnut Valley Water District 271 S. Brea Canyon Rd Walnut, CA 91789 714-595-7554	General Telephone Co. 235 W. Mission Pomona, CA 91766 714-629-5105
Sewers—City of Walnut 21201 La Puente Rd Walnut, CA 91789 714-595-7543	So. Calif Edison Co. 800 W. Cienega San Dimas, CA 91773 714-592-3725
	Metropolitan Water District 1111 Sunset Blvd. Los Angeles, CA 90012 213-626-4282

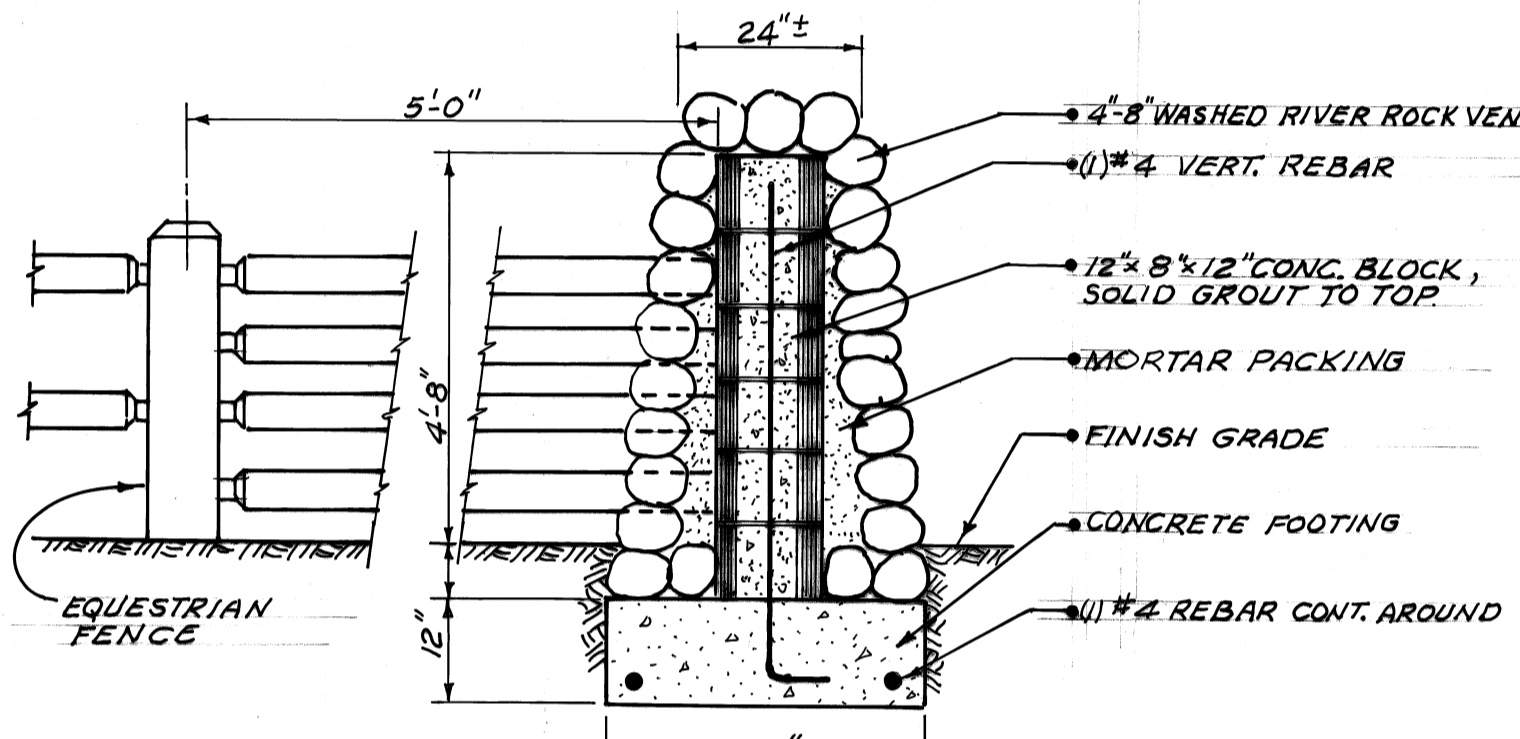
APPROVED CITY OF WALNUT, CITY ENGINEER	CITY OF WALNUT
BY <i>Ronald L. Kranzer</i> DATE <i>2-14-84</i> RONALD L. KRANZER RCE 18503	MISC. TRANSFER DRAIN NO.
Prepared By: VTN Consolidated, Inc. ENGINEERS ARCHITECTS PLANNERS 2301 Campus Drive, Irvine, California 92713 (714) 851-5200	TITLE SHEET, NOTES, VICINITY MAP & KEY PLAN
Signature <i>Earl Roy Becker</i> 1-18-84 SE 1405 Date	TRACT No. 32158
Signature <i>James J. McCarthy</i> 10-27-83 RCE 17069 Date	Designed By: <i>FRANK DU</i> Drawn By: <i>JOHN MILNE</i> Checked By: <i>F.P.D. & P.F.I.</i>
	139 A sheet no. 1 of 9



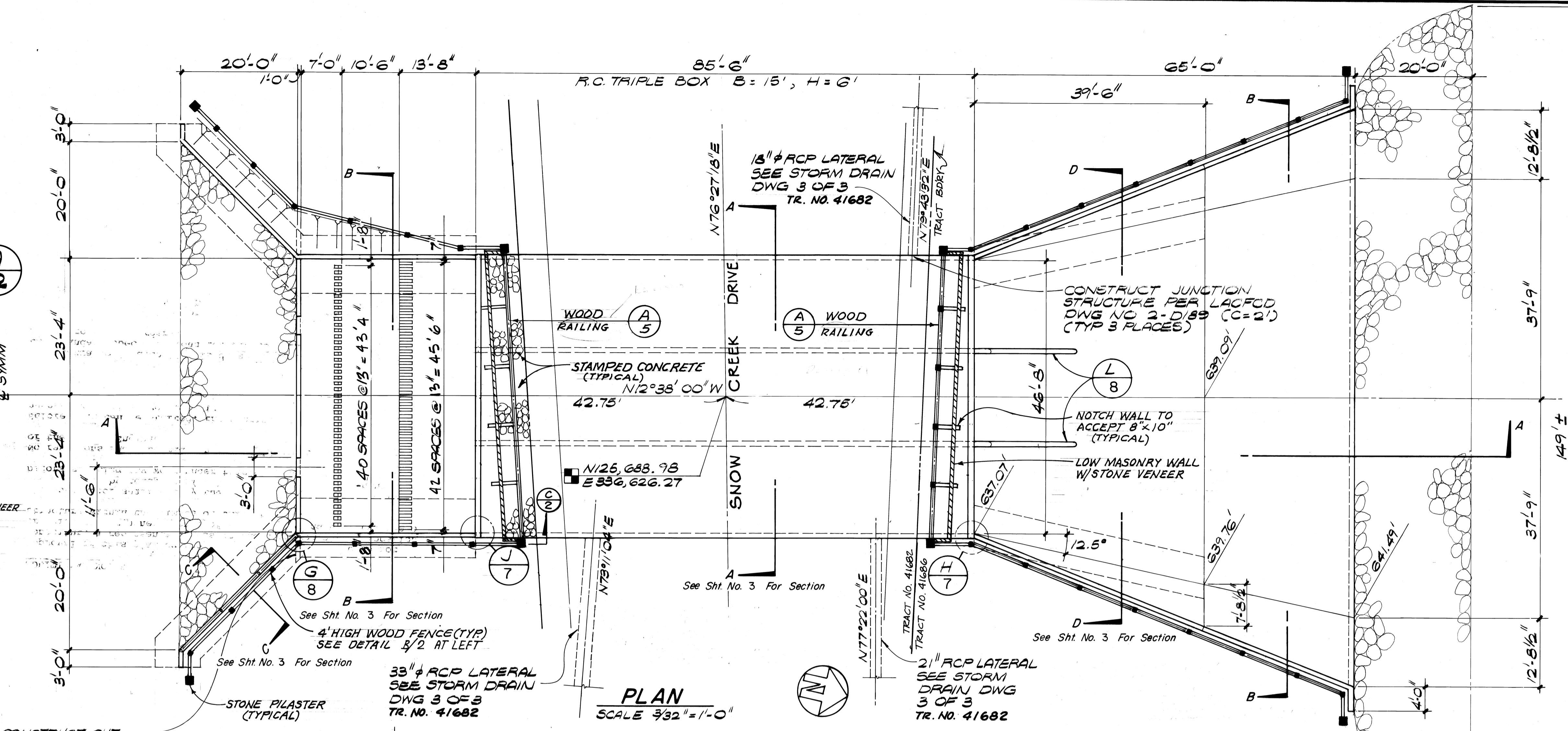
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NOT TO SCALE



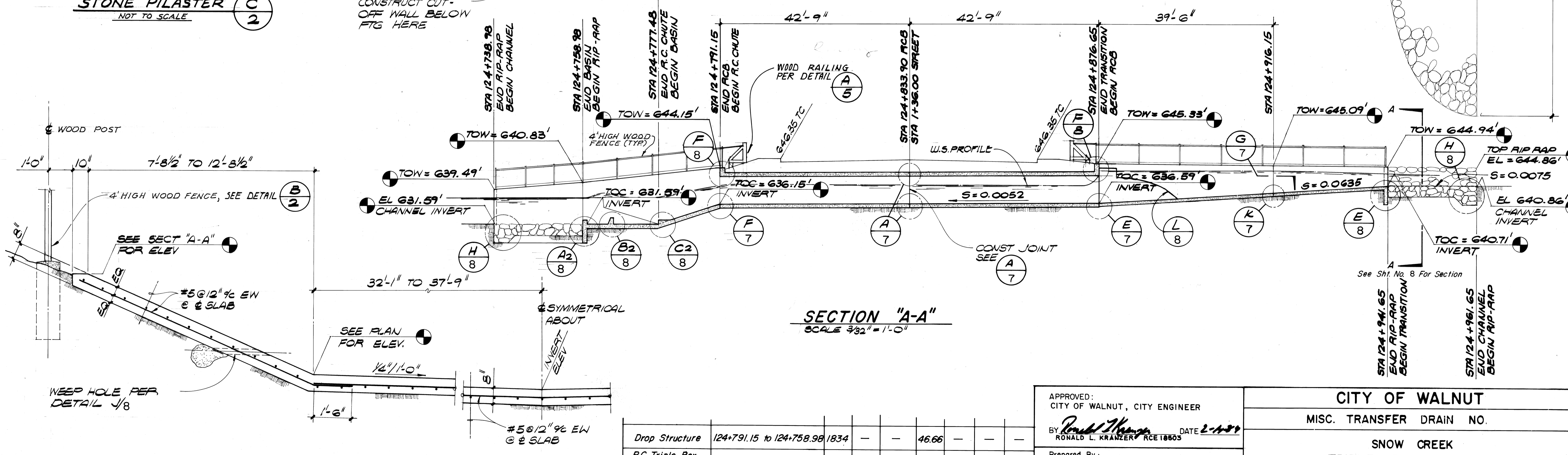
4 HIGH WOOD FENCE
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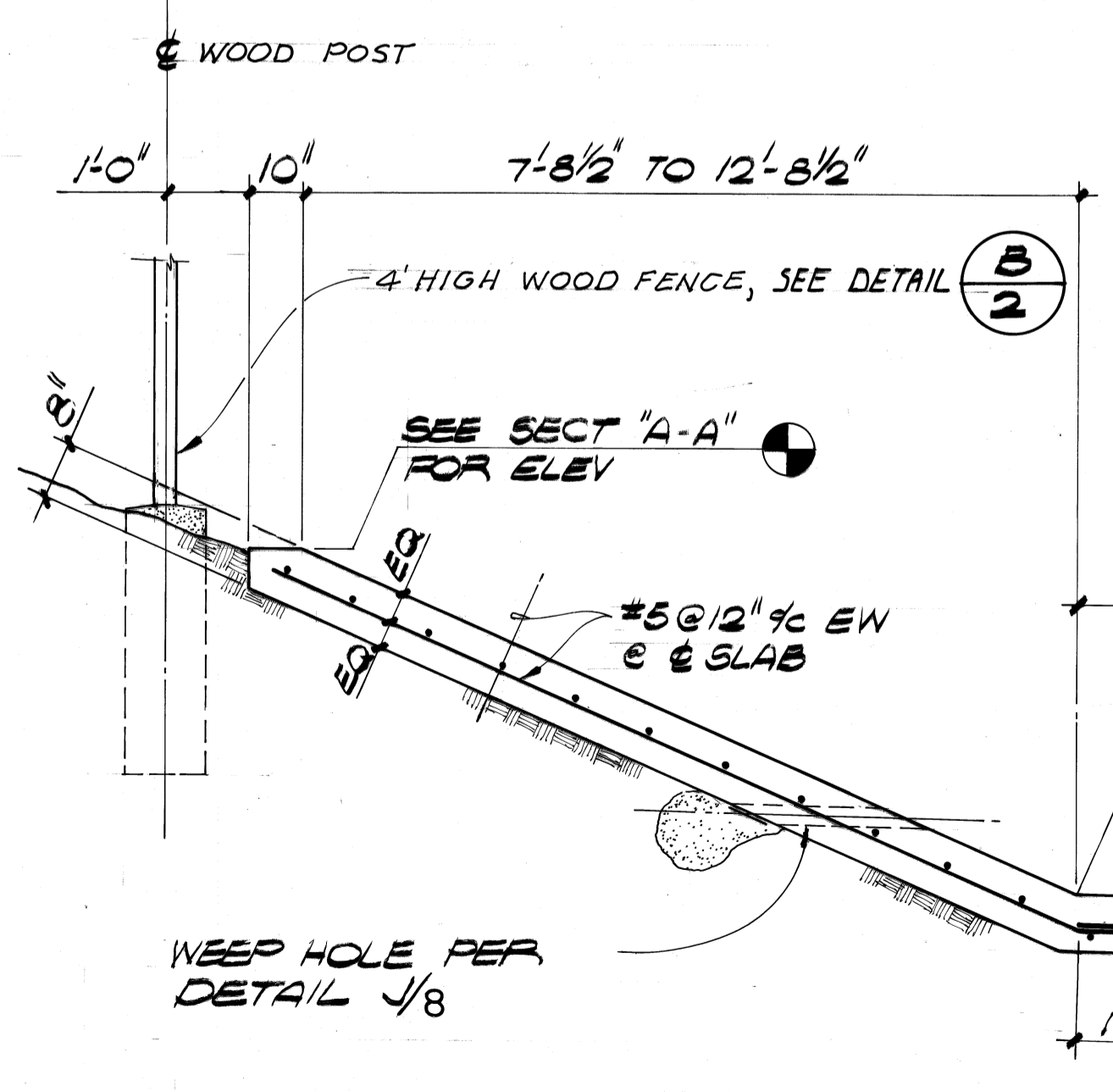
STONE PILASTER
NOT TO SCALE



PLAN
SCALE 3/32" = 1'-0"



SECTION "A-A"
SCALE 3/32" = 1'-0"



SECTION "B-B"
SCALE 1/2" = 1'-0"

STRUCTURE DESIGN UNDER SUPERVISION OF EARL ROY BECKER

Signature *Earl Roy Becker* 1-18-04
SE 1405 Date

Drop Structure	Station	Q50	n	So	b	Vn	dn	dc
R.C. Triple Box B=15', H=6'	124+791.15 to 124+791.15	1834	0.014	0.0052	3x15	13.03	3.12	3.75
Transition	124+941.65 to 124+876.65	1834	0.014	0.0635				
Type of Structure	Station to Station	Q50	n	So	b	Vn	dn	dc

HYDRAULIC DATA

APPROVED:
CITY OF WALNUT, CITY ENGINEER
Ronald L. Kranzer DATE *2-1-00*
RONALD L. KRANZER RCE18805

Prepared By:
VCM
Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2307 Campus Drive, Irvine, California 92713 (714) 851-5200

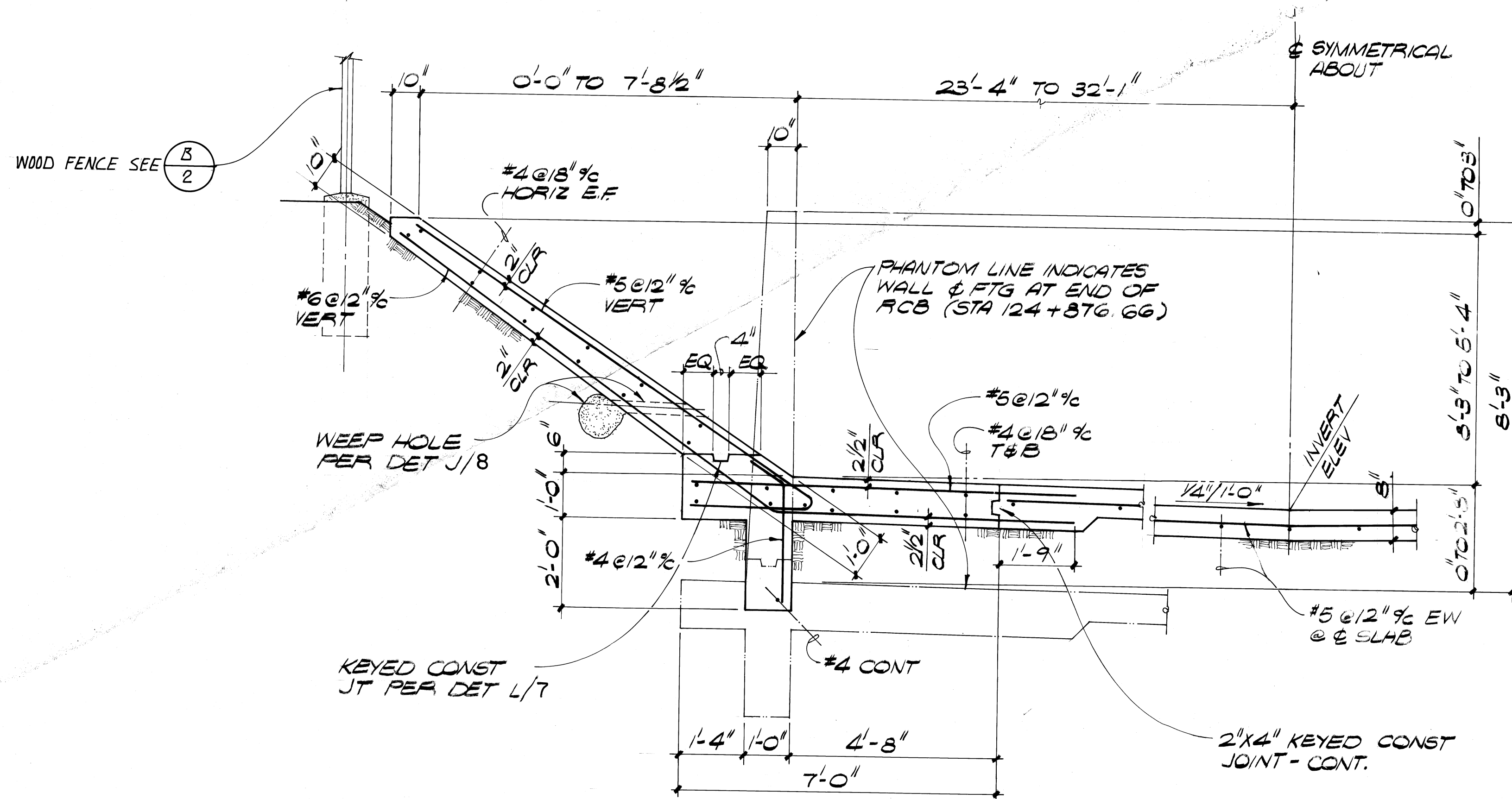
Signature *James L. DeConley* 02-27-03
RCE 17069 Date

CITY OF WALNUT
MISC. TRANSFER DRAIN NO.
SNOW CREEK
TRIPLE BOX CULVERT
PLAN AND SECTION

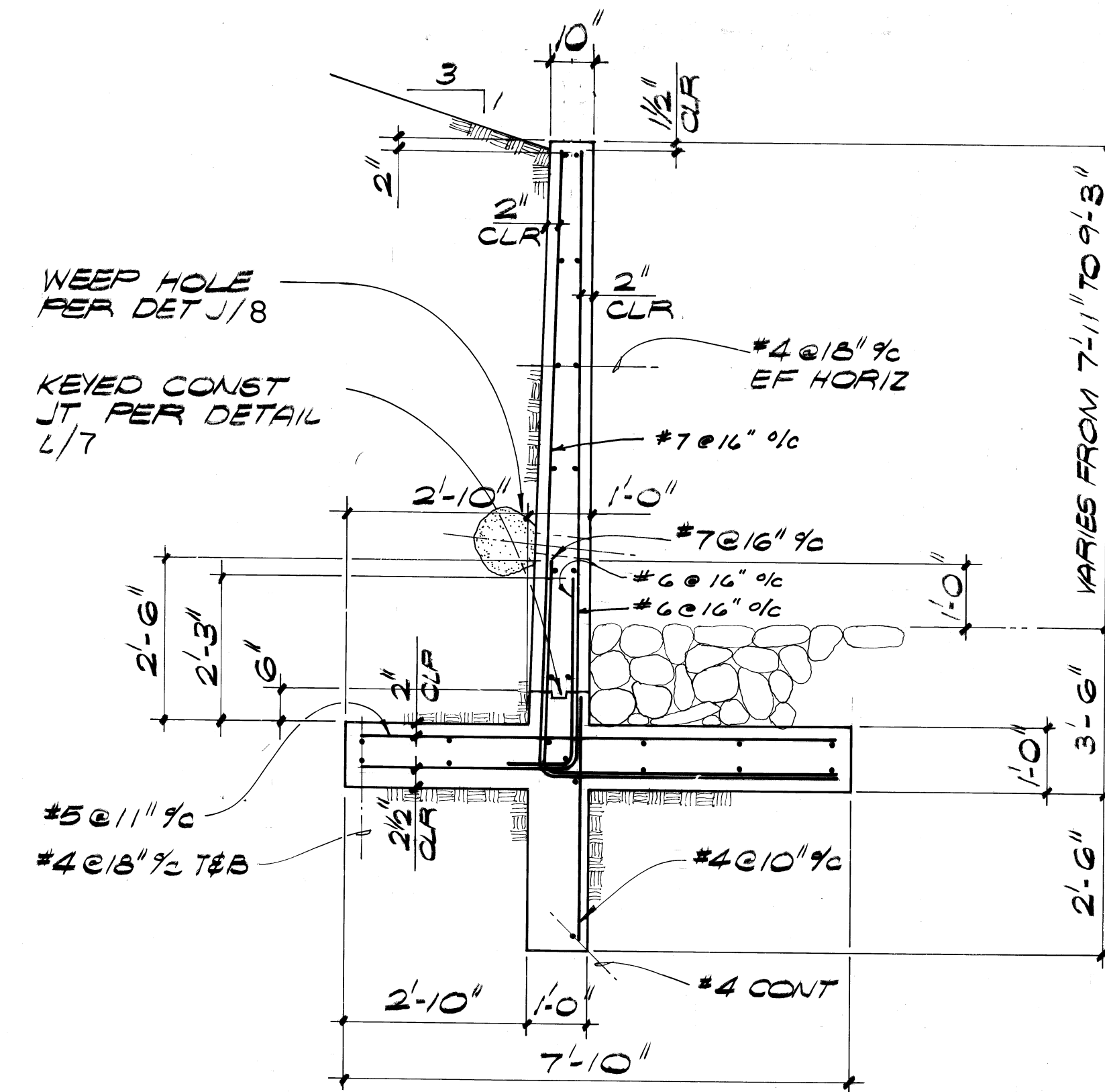
TRACT No. 32158
Designed By: *CHU/PRESNELL*
Drawn By: *JOHN MILNE*
Checked By: *E.R.E./A.F.I.*

sheet no. 2 of 9

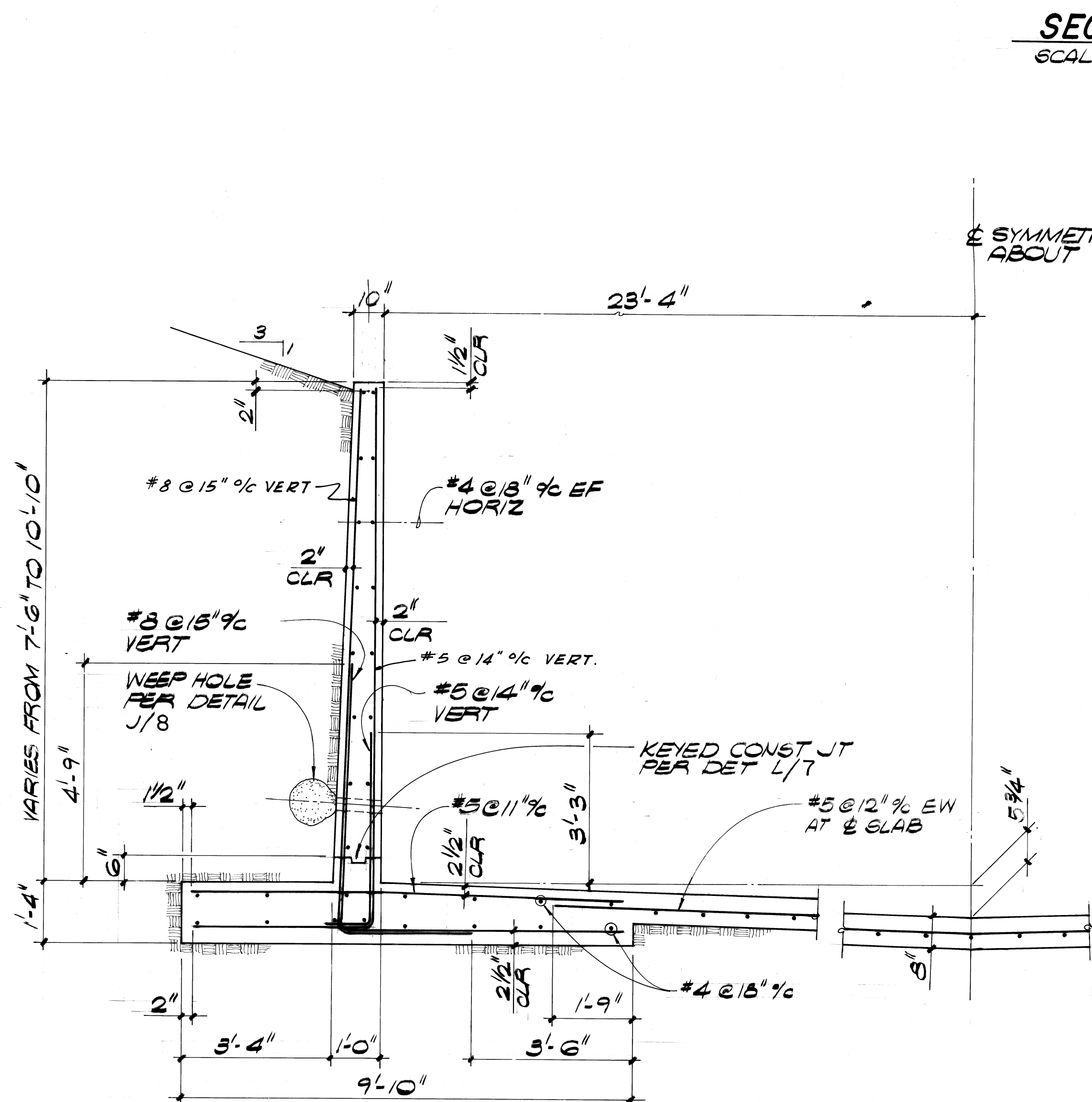
139B



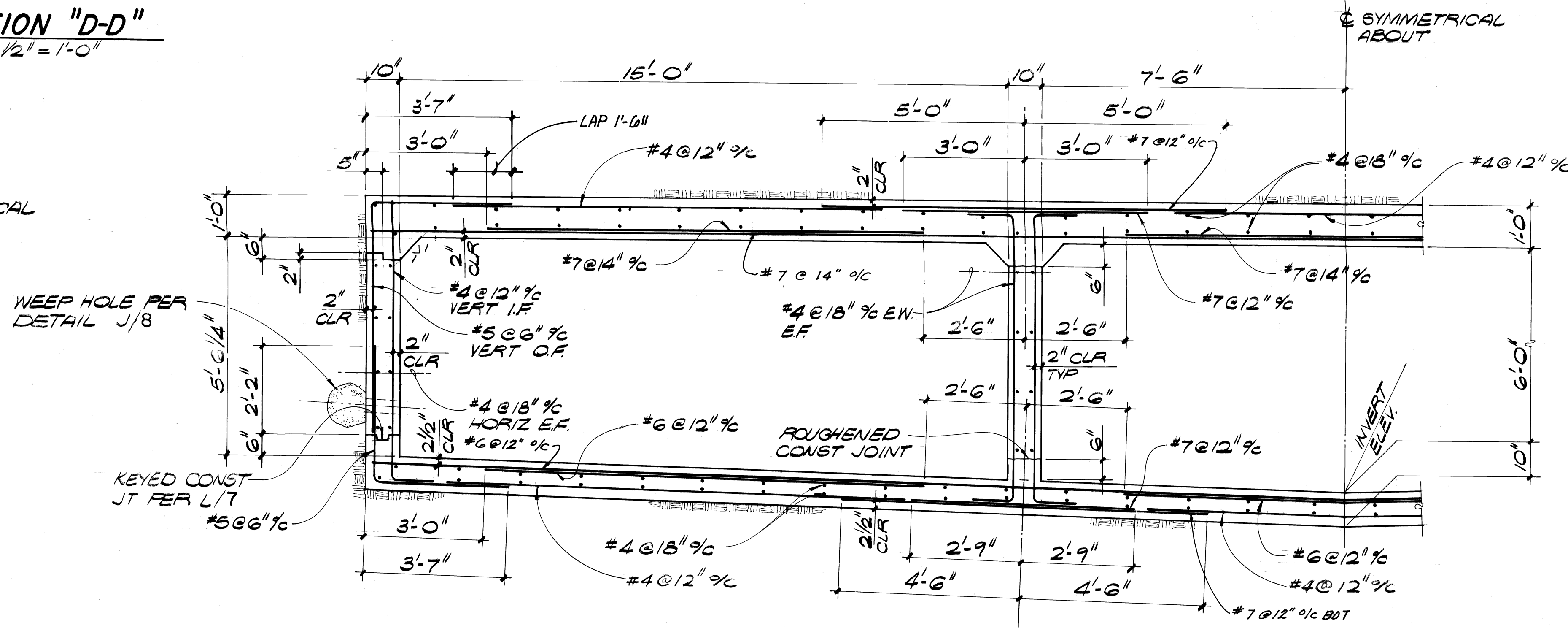
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SECTION "C-C"
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SECTION "B-B"
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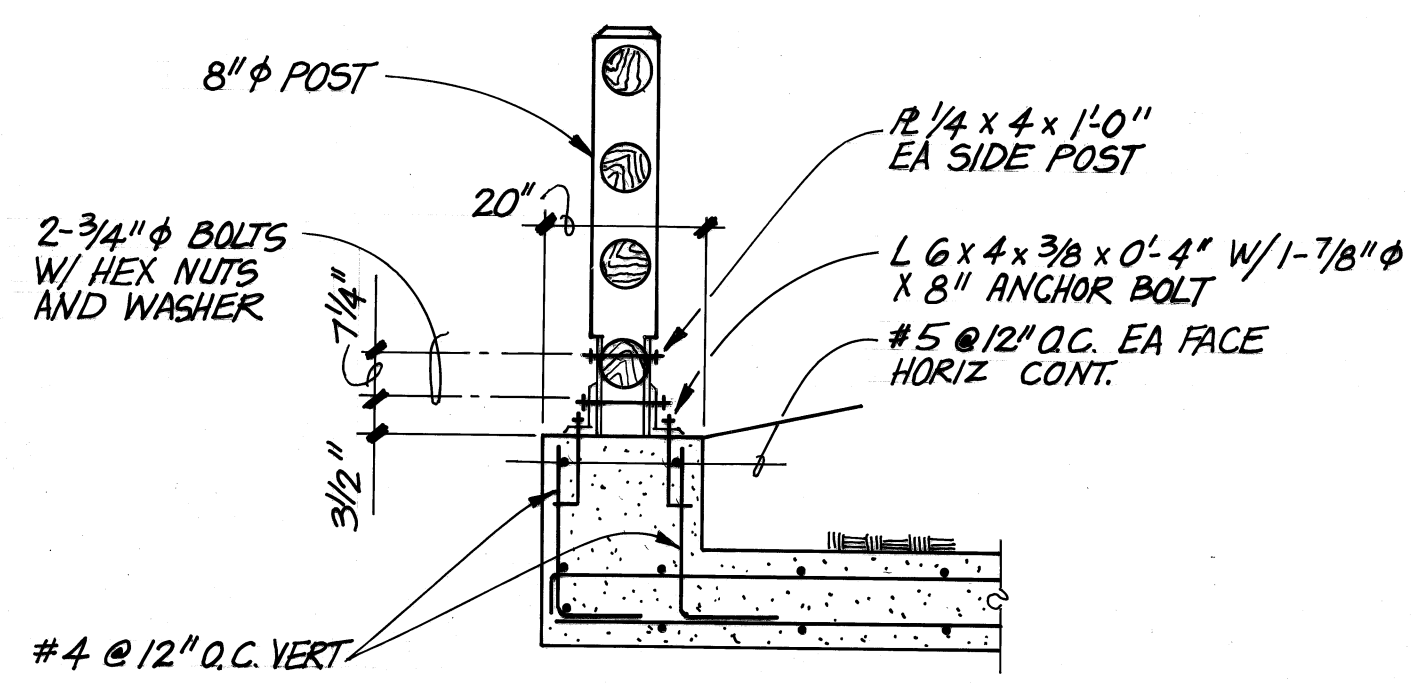


BOX CULVERT SECTION "A-A"
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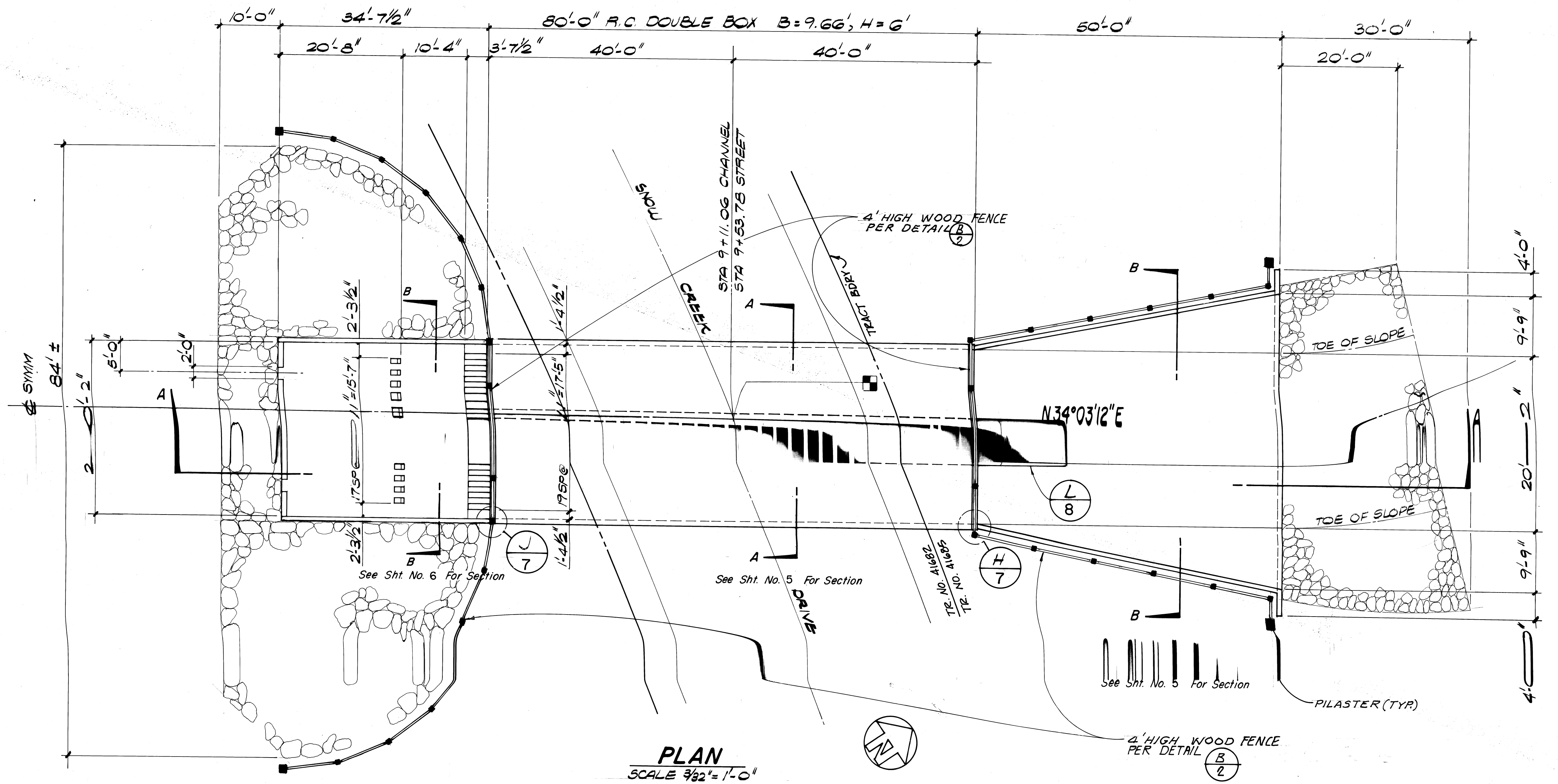
APPROVED
CITY OF WALNUT, CITY ENGINEER
By: *Ronald L. Kranzer* DATE: 2-17-84
RONALD L. KRANZER RCE 18505
Prepared By:
VTN Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive, Irvine, California 92713 (714) 851-5200
Signature: *John L. McCarthy* 10-27-83
RCE 17069 Date

STRUCTURE DESIGN UNDER
SUPERVISION OF EARL ROY BECKER
Signature: *Earl Roy Becker* 1-18-84
SE 1405 Date

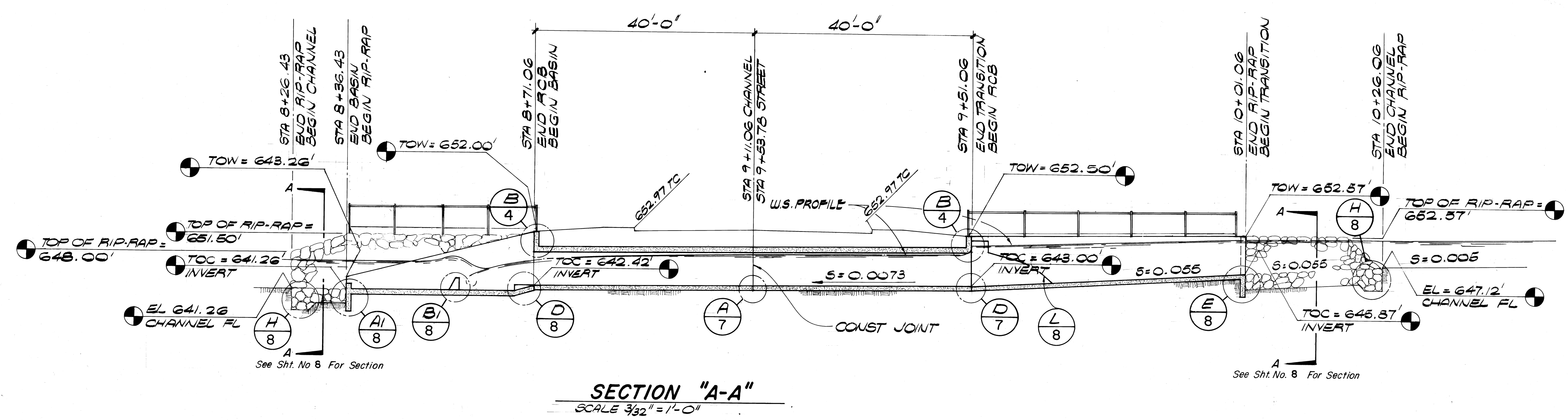
CITY OF WALNUT
MISC. TRANSFER DRAIN NO.
SNOW CREEK
TRIPLE BOX CULVERT
SECTIONS AND DETAILS 139C
TRACT No. 32158
Designed By: *AL PRESNELL*
Drawn By: *JOHN MILNE*
Checked By: *ROY BECKER*
sheet no. 3 of 9



DETAIL B
SCALE 1/2" = 1'-0"



PLAN
SCALE 3/32" = 1'-0"



SECTION "A-A"
SCALE 3/32" = 1'-0"

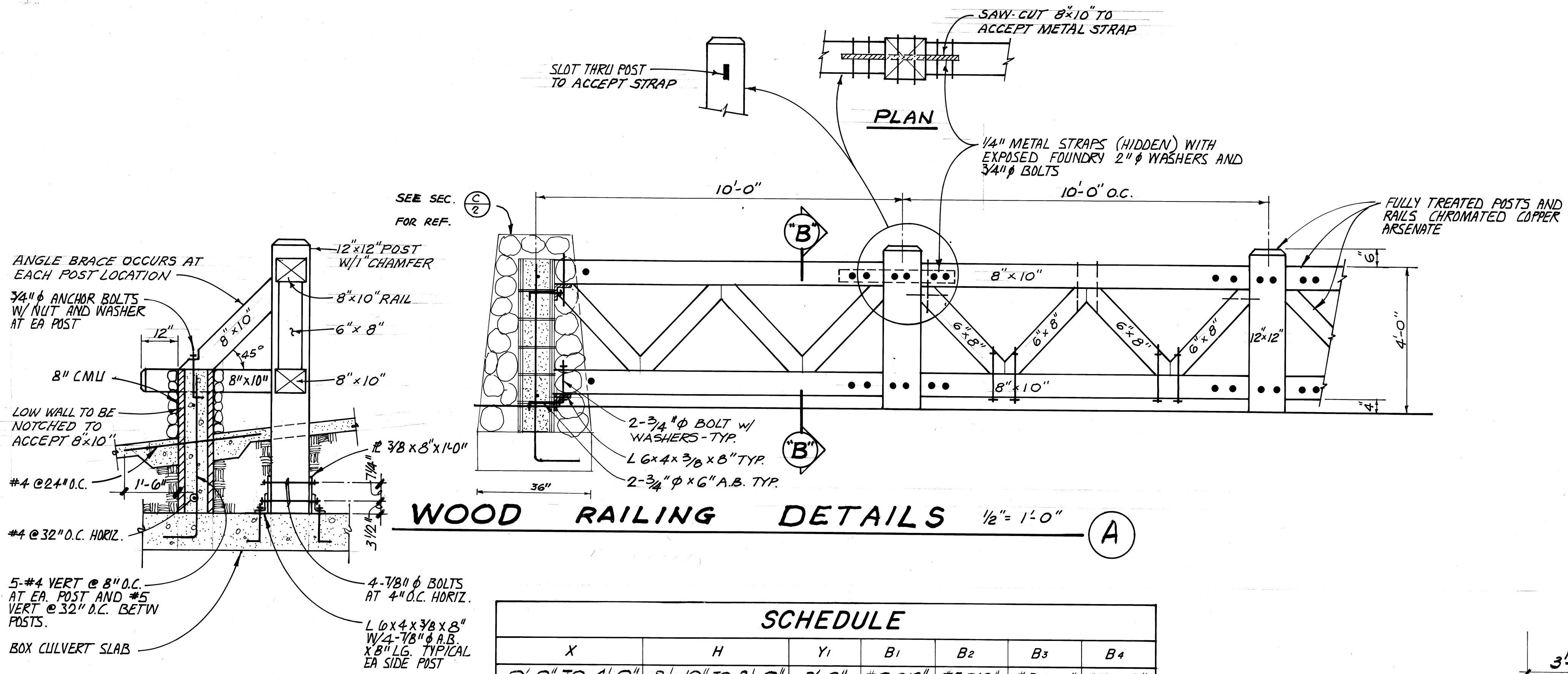
STRUCTURE DESIGN UNDER SUPERVISION OF EARL ROY BECKER
Signature: *Earl Roy Becker* 1-18-84
S.E. 1405 Date

Type of Structure	Station to Station	Q ₅₀	n	S ₀	b	V _n	D _n	D _c
Stilling Basin	8+71.06 to 8+36.43	1499	0.014	—	—	—	—	—
R.C. Double Box B=9.66', H=6'	9+51.06 to 8+71.06	1499	0.014	0.0073	2x9.66	16.33	4.75	5.69
Transition	10+01.06 to 9+51.06	1499	0.014	0.055	—	—	—	—

HYDRAULIC DATA

APPROVED
CITY OF WALNUT, CITY ENGINEER
BY: *Ronald L. Kraner* DATE 2-24-84
RONALD L. KRANER PRC 18503
Prepared By:
VTN Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive, Irvine, California 92713, Tel: 851-5200
Signature: *John Milne* 10-27-83
RCE 17069 Date

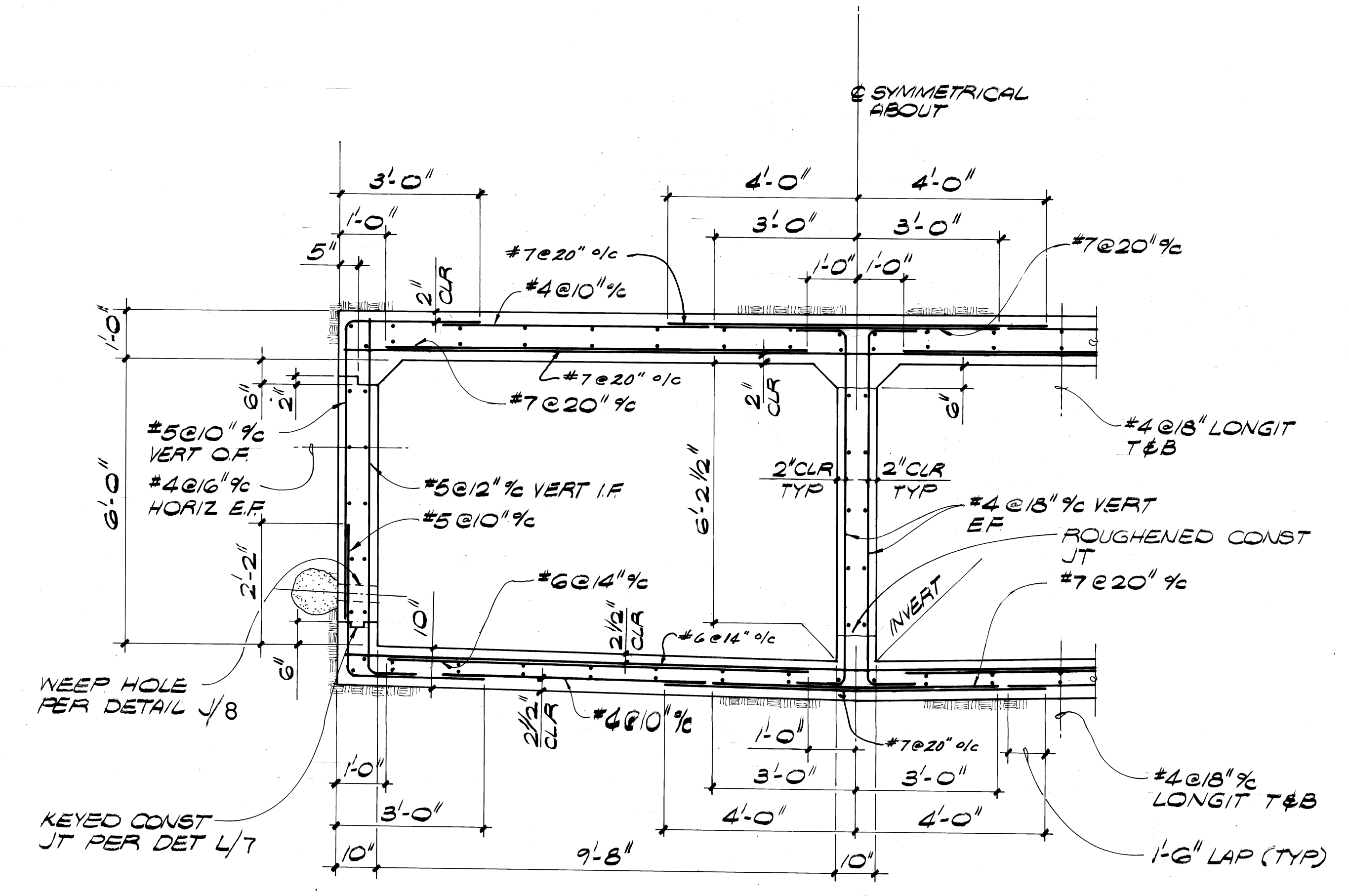
CITY OF WALNUT
MISC. TRANSFER DRAIN NO.
EAST FORK SNOW CREEK
DOUBLE BOX CULVERT
PLAN AND SECTION
139D
TRACT No. 32158
Designed By: *CHU/DU*
Drawn By: *JOHN MILNE*
Checked By: *E.R.B./A.P.I.*
sheet no. 4 of 9



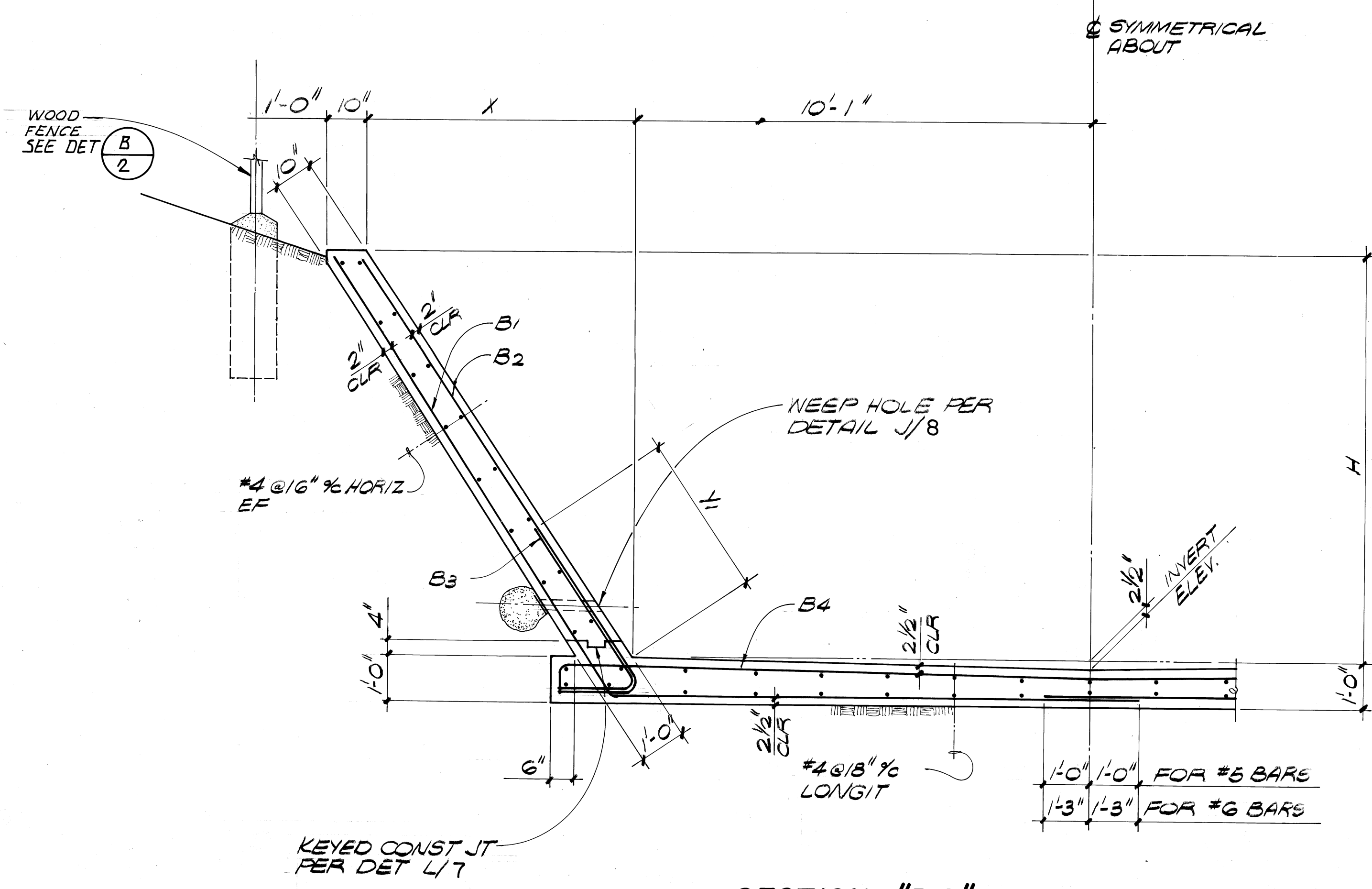
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SCALE 1/2" = 1'-0"

SCHEDULE

X	H	Y ₁	B ₁	B ₂	B ₃	B ₄
0'-0" TO 4'-0"	8'-10" TO 8'-0"	3'-6"	#6 @ 12"	#5 @ 16"	#5 @ 16"	#5 @ 8"
4'-1" TO 7'-3"	7'-11" TO 7'-3"	4'-0"	#5 @ 10"	#6 @ 16"	#6 @ 16"	#6 @ 8"
7'-4" TO 9'-9"	7'-2" TO 6'-6"	4'-6"	#5 @ 12"	#7 @ 14"	#7 @ 14"	#7 @ 7"



SECTION "A-A"
SCALE 1/2" = 1'-0"



SECTION "B-B"
SCALE 1/2" = 1'-0"

STRUCTURE DESIGN UNDER
SUPERVISION OF EARL ROY BECKER

Signature: *Earl Roy Becker* 1-18-84
S.E. 1405 Date

APPROVED
CITY OF WALNUT, CITY ENGINEER
BY: *Ronald L. Kranzer* DATE: *12/27/84*
RONALD L. KRANZER RCE 18505

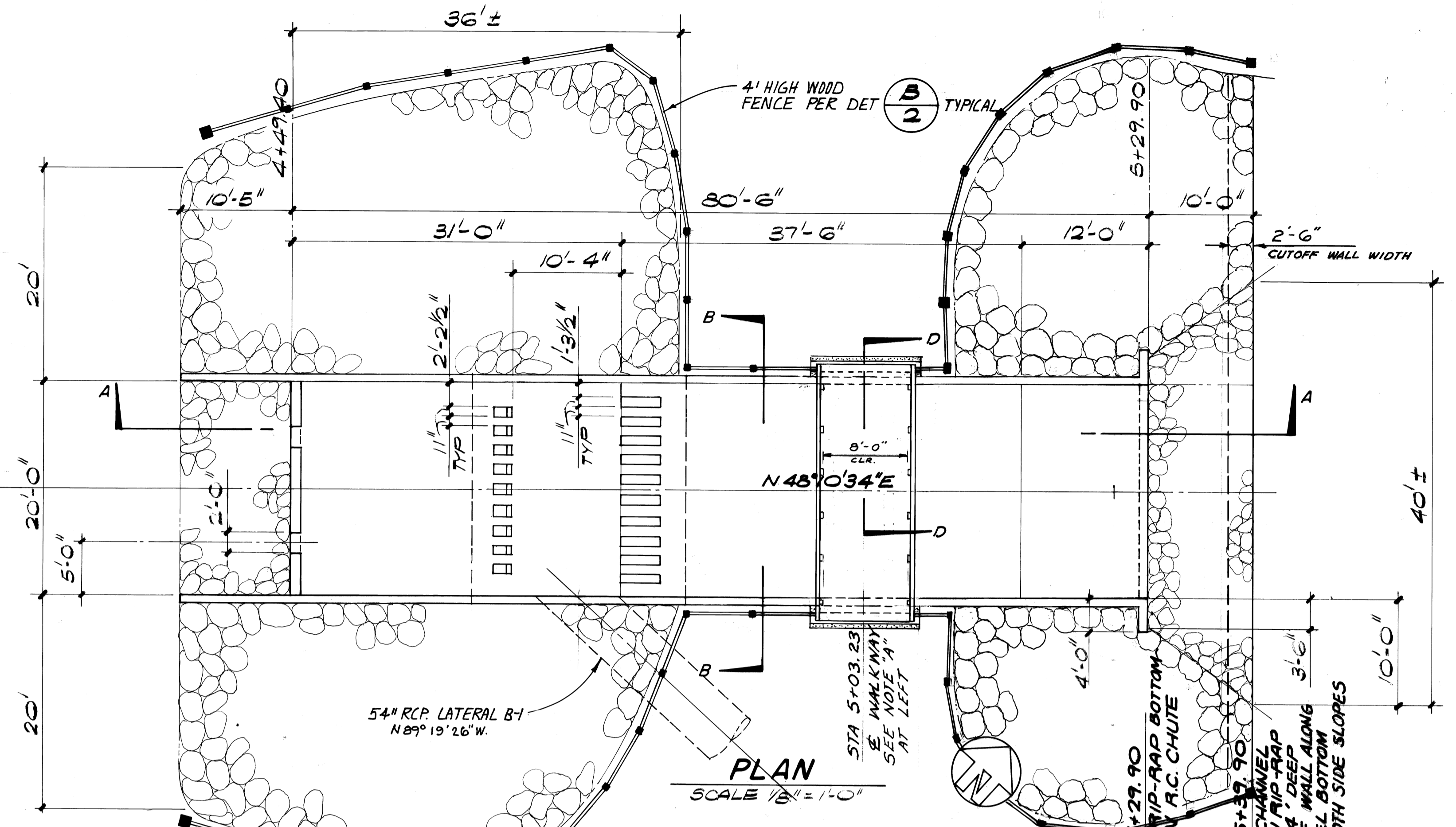
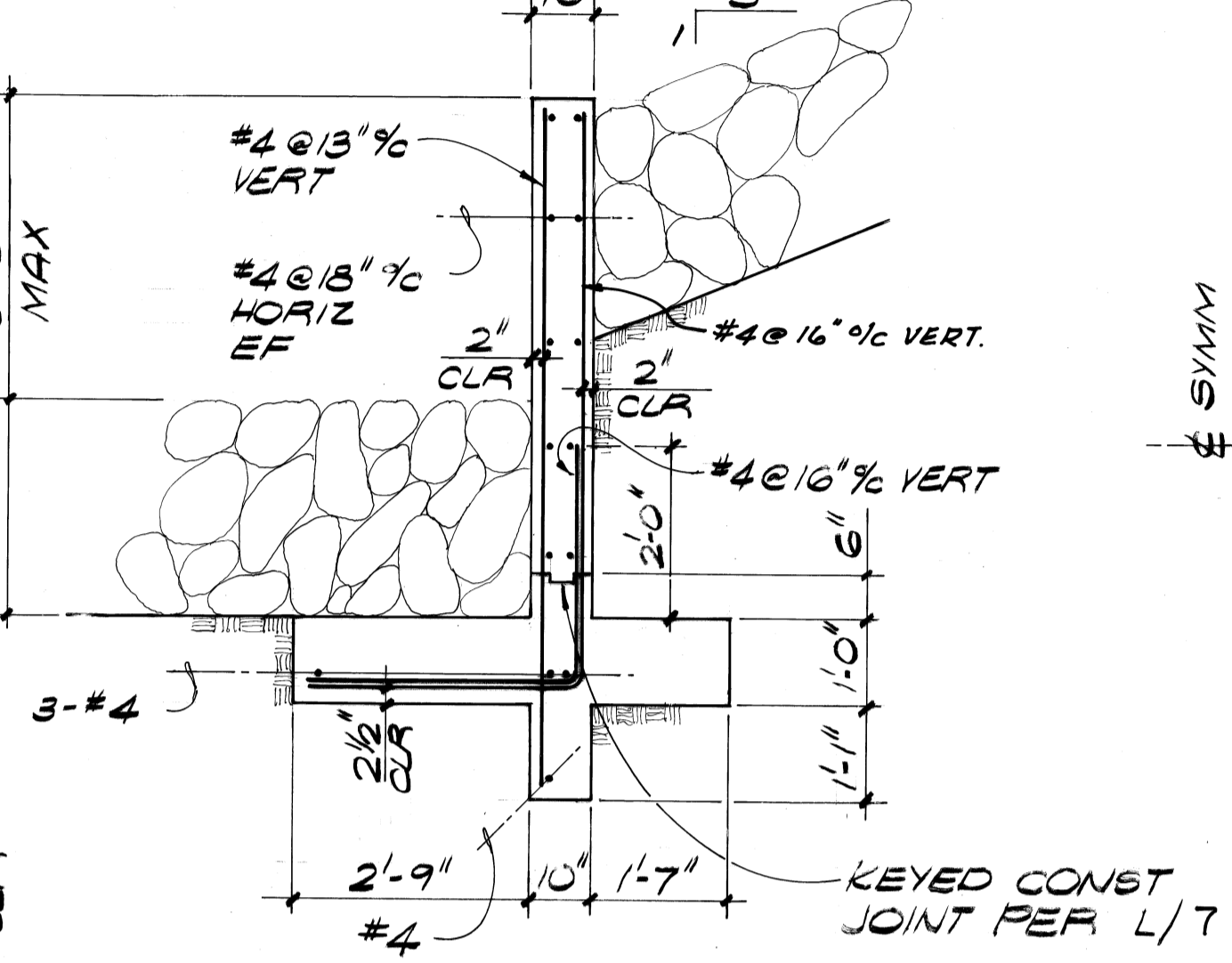
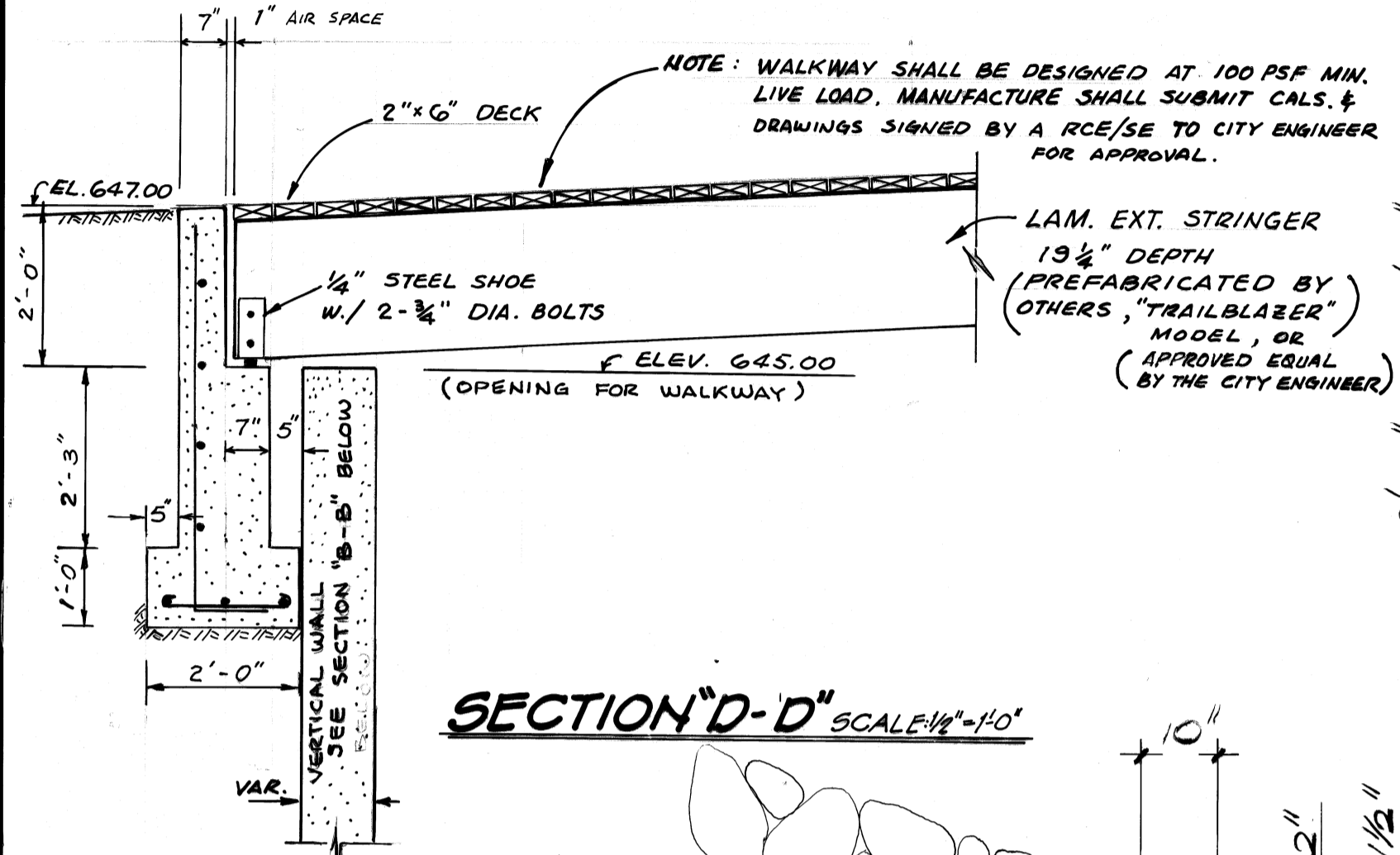
Prepared By:
vtm Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive, Irvine, California 92713 (714) 851-5200
Signature: *Frank Du* 10-27-83
RCE 17069 Date

CITY OF WALNUT
MISC. TRANSFER DRAIN NO.

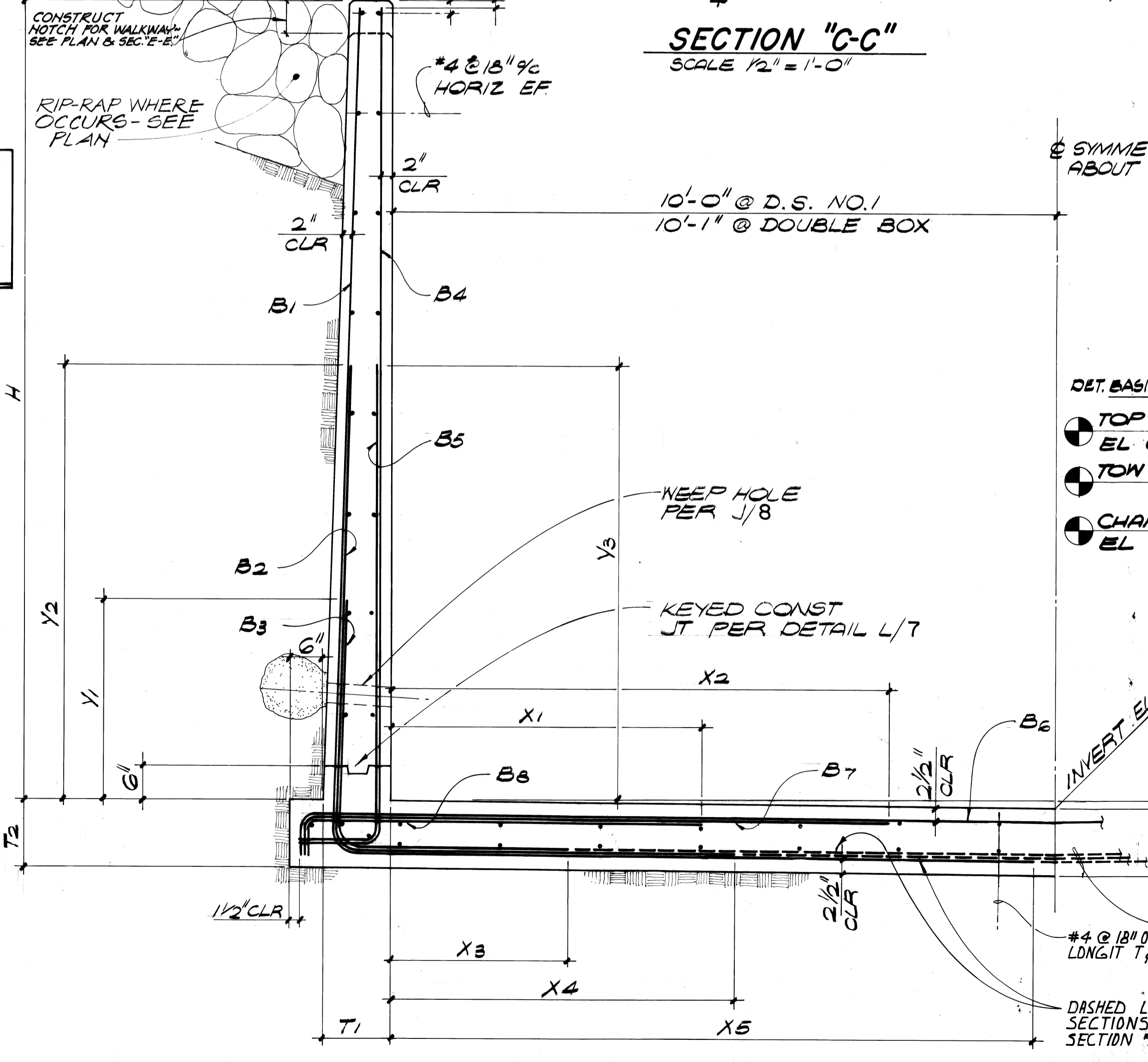
SNOW CREEK
**DOUBLE BOX CULVERT
SECTIONS AND DETAILS
AND WOOD GUARDRAIL DETAILS 139E**
TRACT No. 32158
Designed By: *FRANK DU*
Drawn By: *JOHN MILNE*
Checked By: *ROY BECKER*
sheet no. 5 of 9

CHANNEL SCHEDULE

H	T1	T2	T3	B1	B2	B3	B4	B5	B6	B7	B8	X1	X2	X3	X4	X5	Y1	Y2	Y3
4'-0" & LESS	11"	11"	10"	#4@8"			#4@8"		#4@6"	#4@6"			4'-0"	2'-2"	6'-4"				
4'-1" TO 8'-0"	11"	11"	10"	#5@6"	#5@6"		#4@6"	#4@6"	#4@6"	#4@6"			4'-0"	2'-2"	6'-4"		2'-6"	2'-6"	
8'-1" TO 12'-0"	1'-0"	1'-0"	11"	#7@8"	#7@8"	#7@8"	#7@8"	#7@8"	#6@8"	#6@8"	#6@8"	3'-0"	5'-9"	2'-6"	4'-3"	8'-0"	2'-3"	4'-9"	3'-8"
12'-1" TO 14'-0"	1'-2"	1'-2"	1'-1"	#8@8"	#8@8"	#8@8"	#7@6"	#7@6"	#7@6"	#7@6"			5'-0"	2'-4"	4'-6"	9'-8"	2'-6"	5'-6"	4'-6"
WALL SECTION 'A'	1'-0"	1'-8"	1'-7"	#8@8"	#8@8"	#8@8"	#6@12"	#6@12"	#6@6"							11'-9"	5'-6"	7'-6"	6'-6"
WALL SECTION 'B'	1'-2"	1'-8"	1'-7"	#9@16S"	#9@16S"	#9@16S"	#8@12"	#8@12"	#7@6"							12'-3"	4'-0"	6'-6"	4'-6"

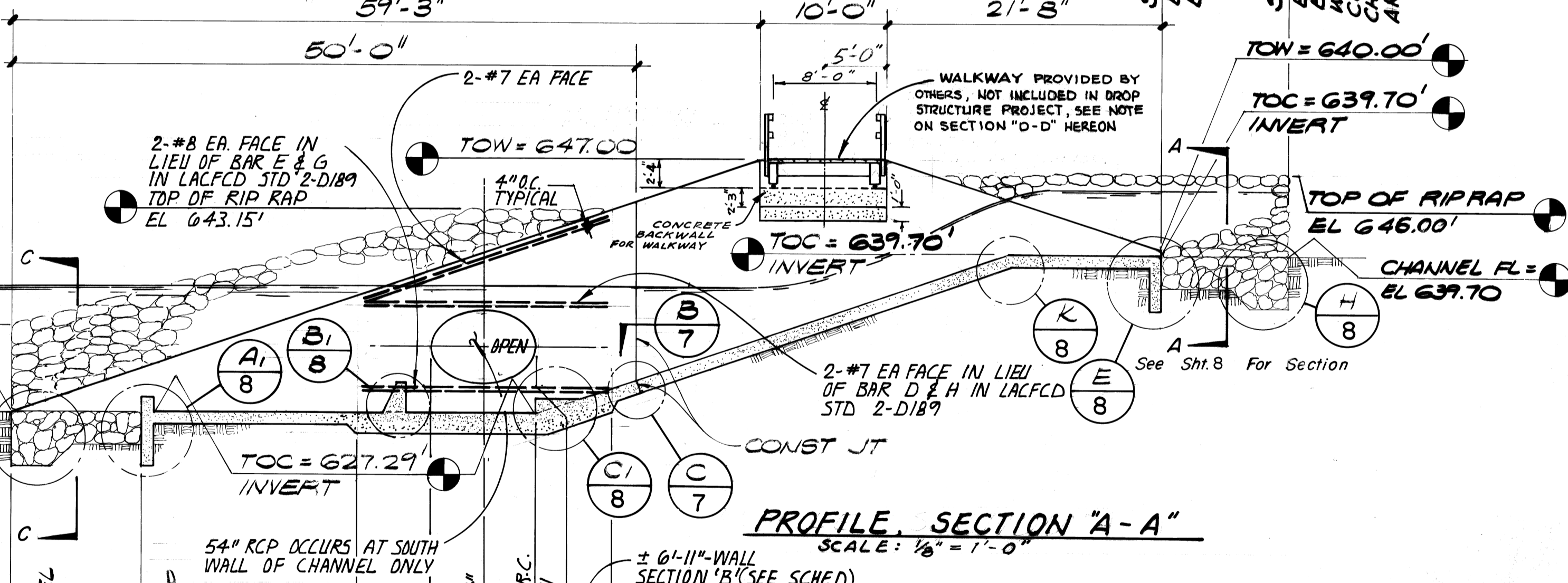


NOTE "A"
BACKFILL FOR DROP STRUCTURE WALLS SHALL BE PLACED AND COMPACTED PRIOR TO CONSTRUCTION OF WALKWAY.



SYMMETRICAL ABOUT

- DET. BASIN W.S. ELEV. 637.40
- TOP OF RIP RAP EL 634.00'
- TOW = 627.25'
- CHANNEL FL EL 627.20'



Type of Structure	Station to Station	Q80	n	Vc	b	Vn	Dn	Dc
Stilling Basin	4+80.40 to 4+89.40	1499	0.014	17.22	20.00	8.00	5.2	3.0
R.C. Chute	5+29.90 to 4+80.40	1499	0.014	13.28	20.00	62.45	1.20	5.6

HYDRAULIC DATA

APPROVED
CITY OF WALNUT, CITY ENGINEER
BY: *Ronald L. Kranzer* DATE 2-11-84
RONALD L. KRANZER RCE 18603

Prepared By:
VPM Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive Irvine, California 92711 (714) 851-5200
Signature: *John Milne* 10-27-83
RCE 17069 Date

CITY OF WALNUT
MISC. TRANSFER DRAIN NO.

EAST FORK SNOW CREEK
DROP STRUCTURE NO. 1
PLAN AND SECTIONS

139F

TRACT No. 32158

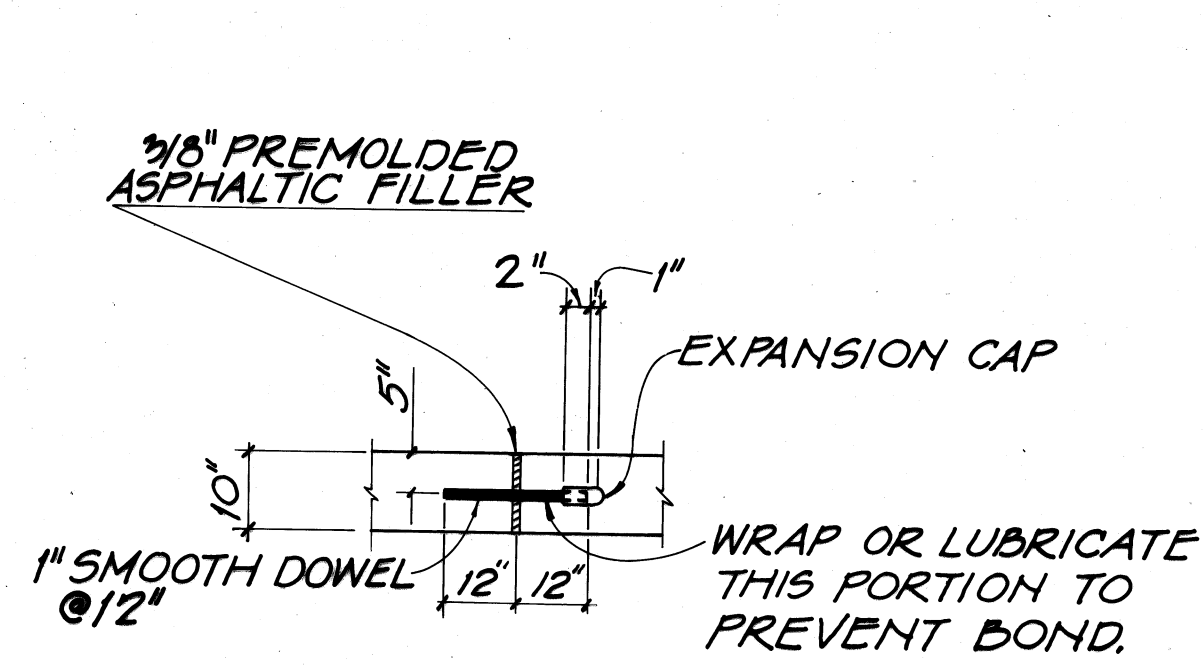
Designed By: *John Milne*
Drawn By: *John Milne*
Checked By: *E.R.B./A.P.*

sheet no. 6 of 9

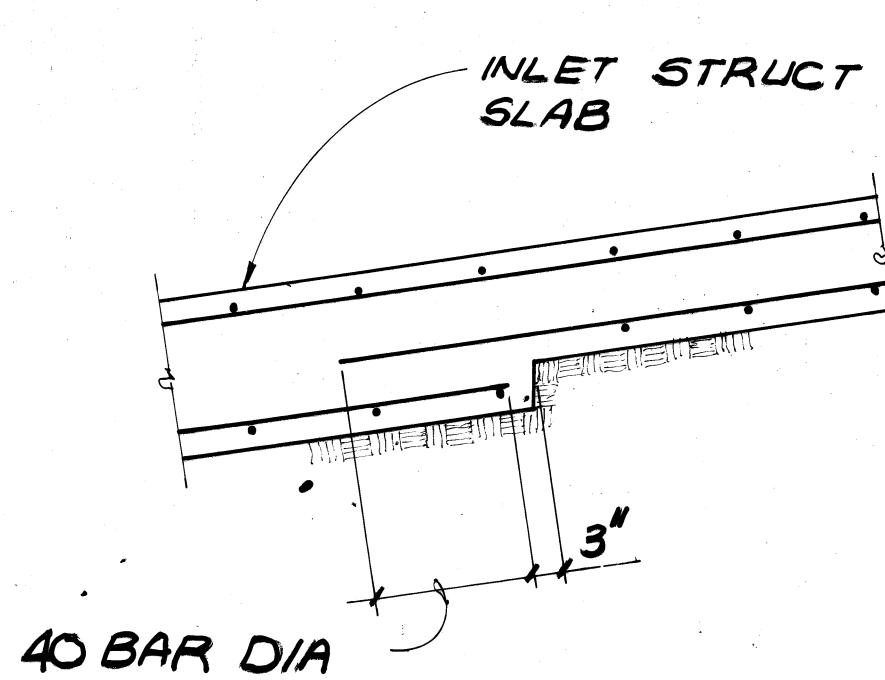
STRUCTURE DESIGN UNDER SUPERVISION OF EARL ROY BECKER
Signature: *Earl Roy Becker* 1-18-84
SE 1405 Date

LAP BARS B1, B2, AND B3 AT \pm OF CHANNEL AT WALL SECTIONS 'A' AND 'B'. LAP LENGTH SHALL BE 4'-6" FOR #7 BARS AND 3'-6" FOR #8 BARS

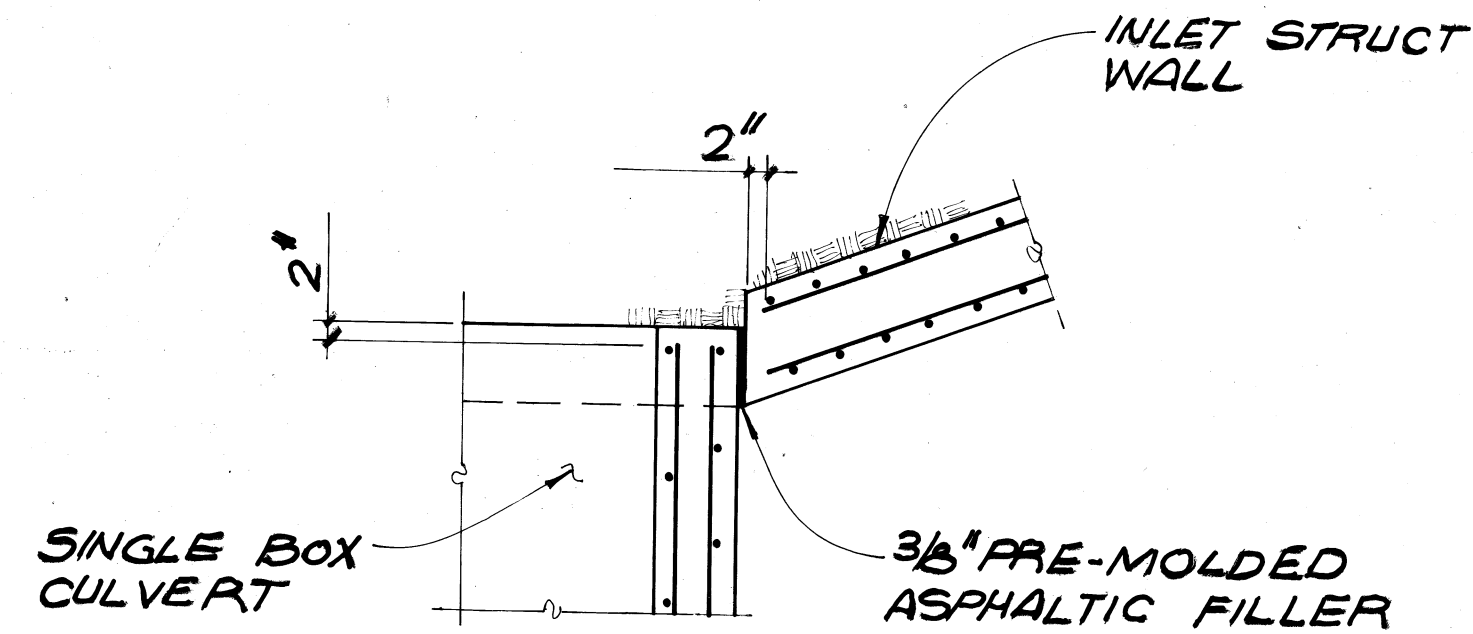
DASHED LINE INDICATES REINF. CONDITION AT WALL SECTIONS 'A' AND 'B' ONLY SEE SCHED AND PROFILE SECTION "A-A".



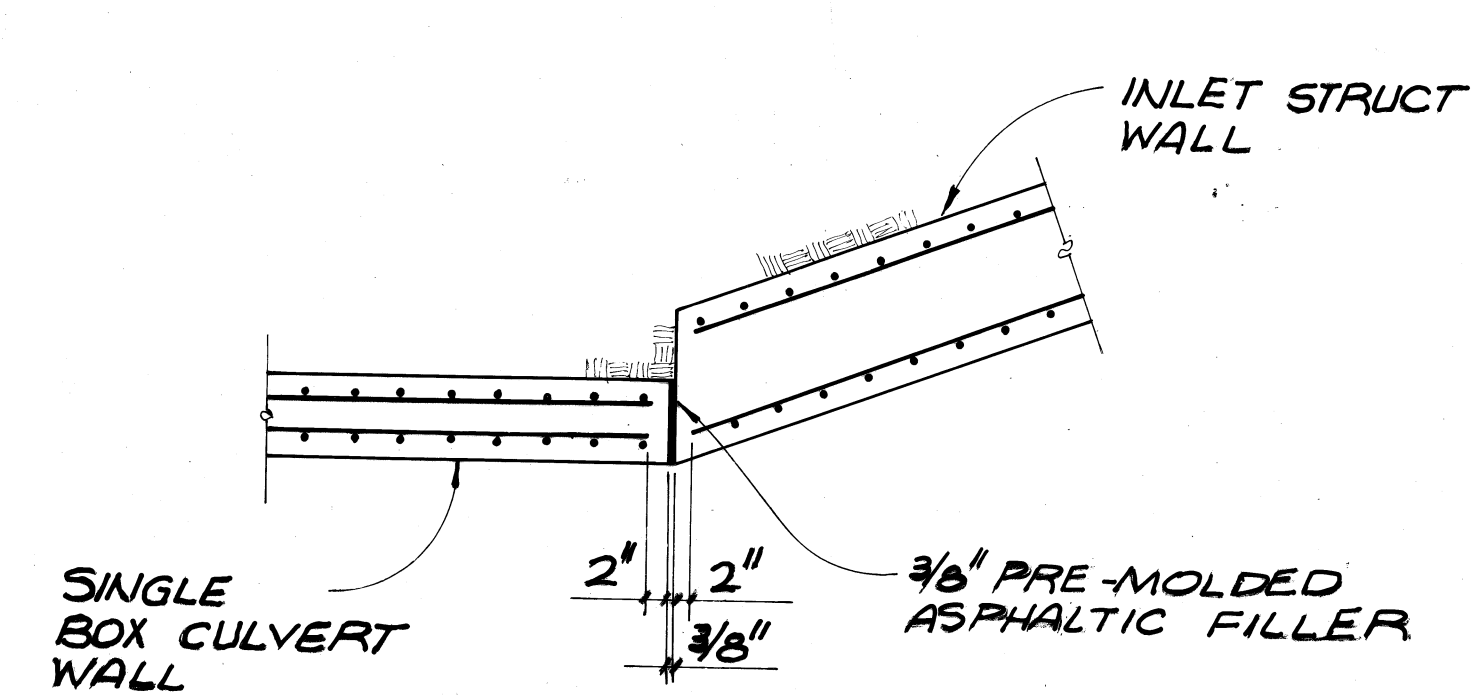
DETAIL Q
NO SCALE



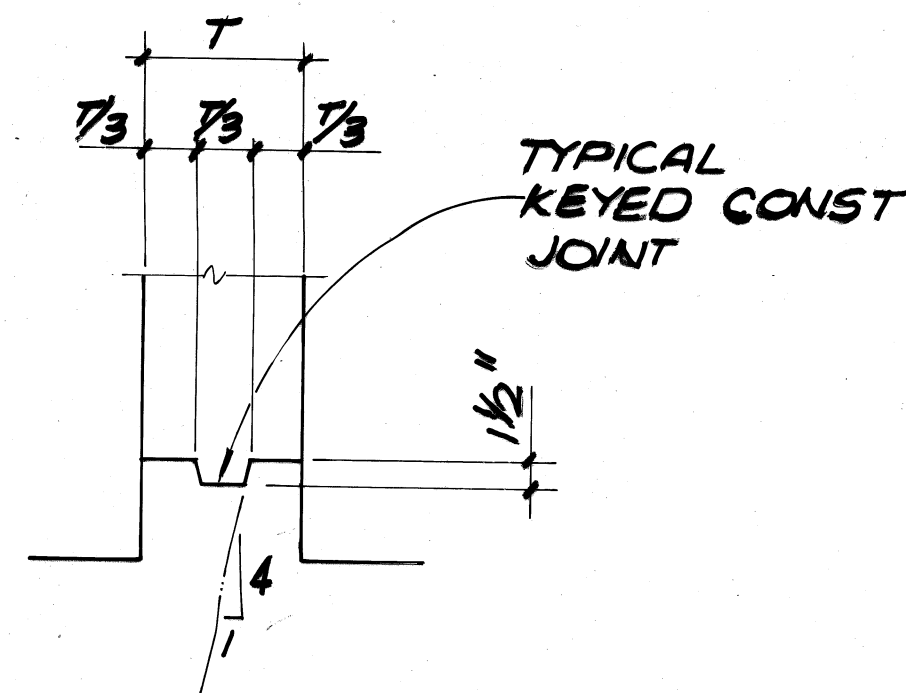
DETAIL P
SCALE 1/2" = 1'-0"



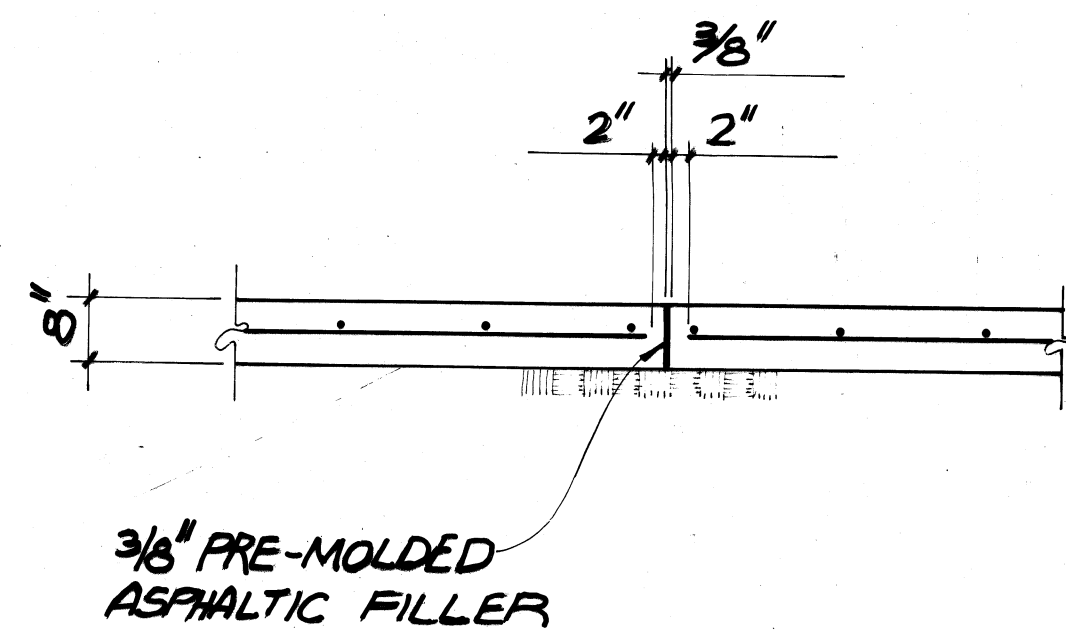
DETAIL N
SCALE 1/2" = 1'-0"



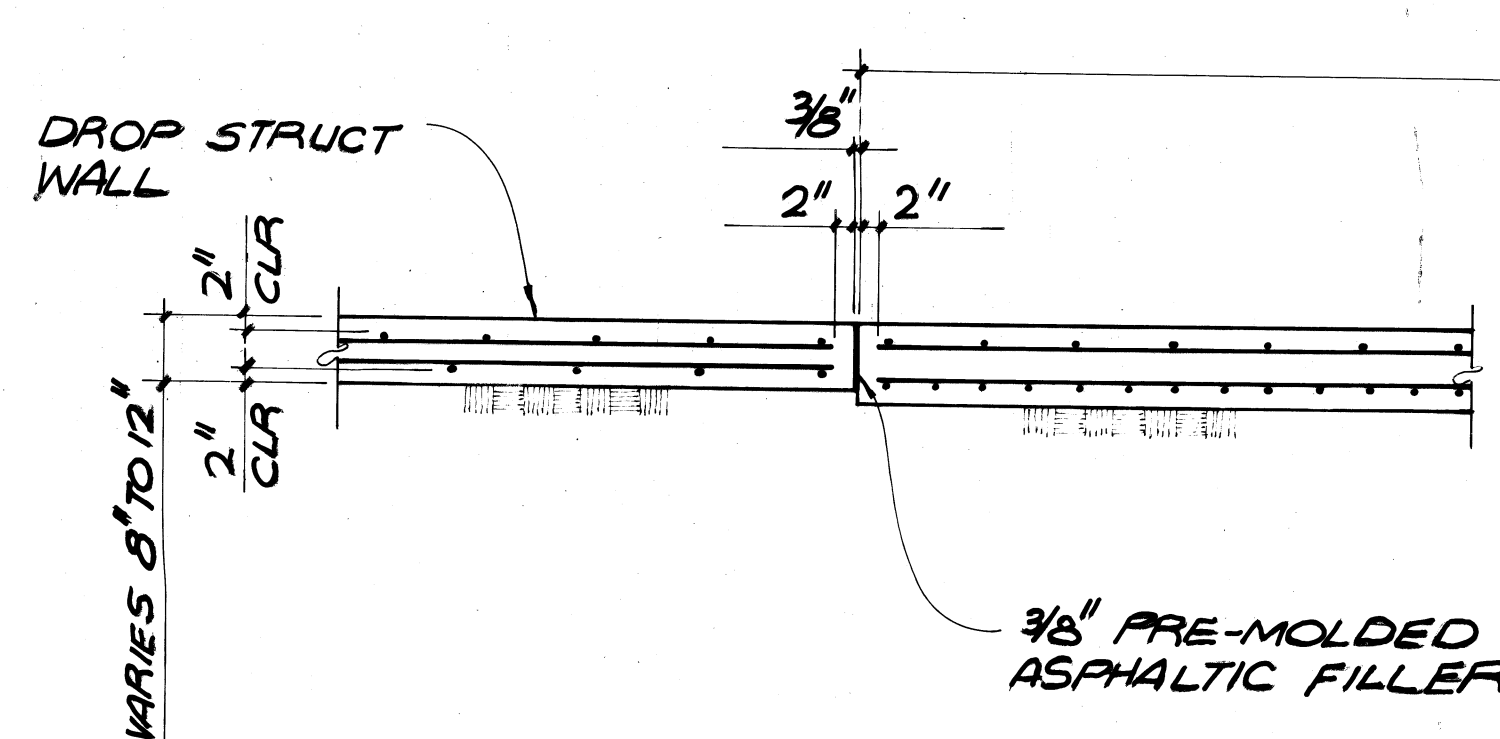
DETAIL M
SCALE 1/2" = 1'-0"



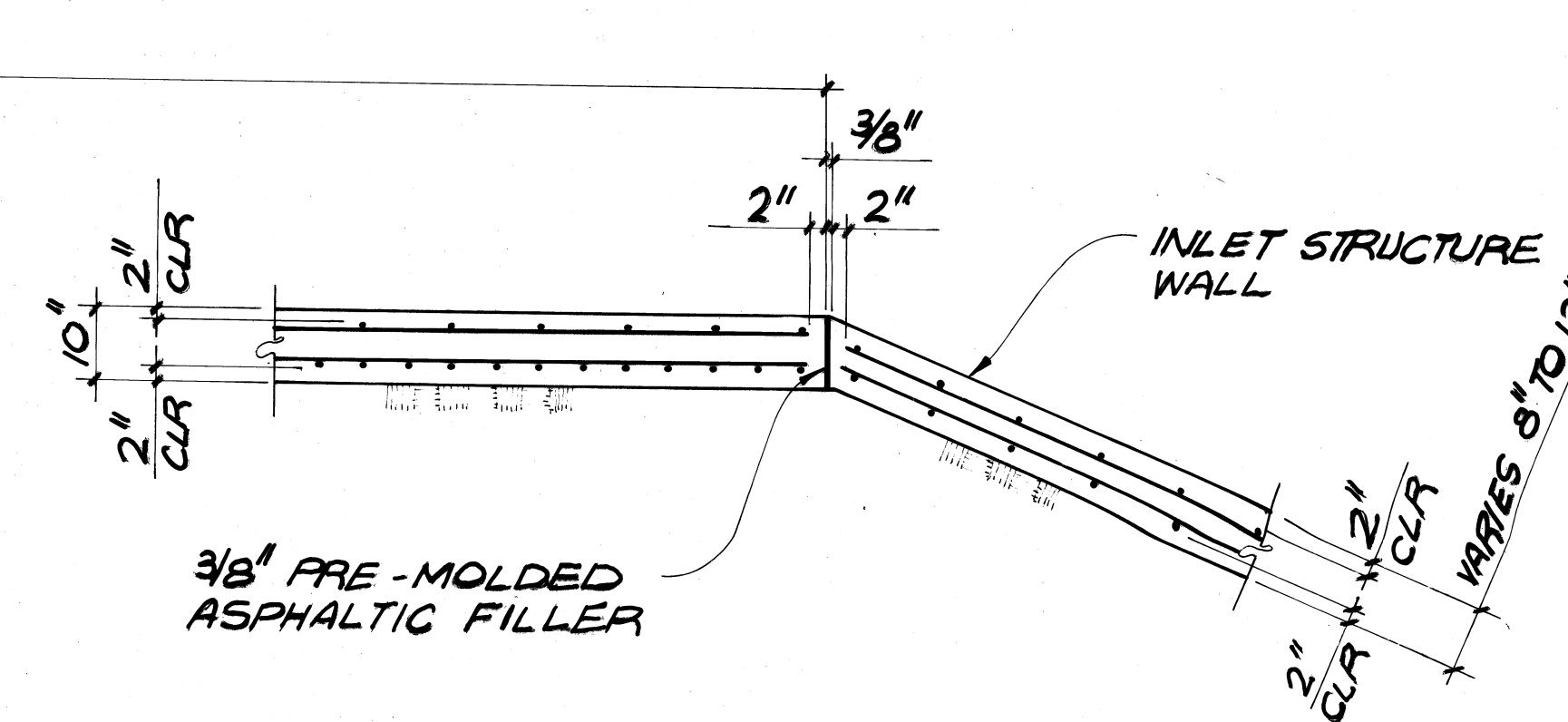
DETAIL L
NO SCALE



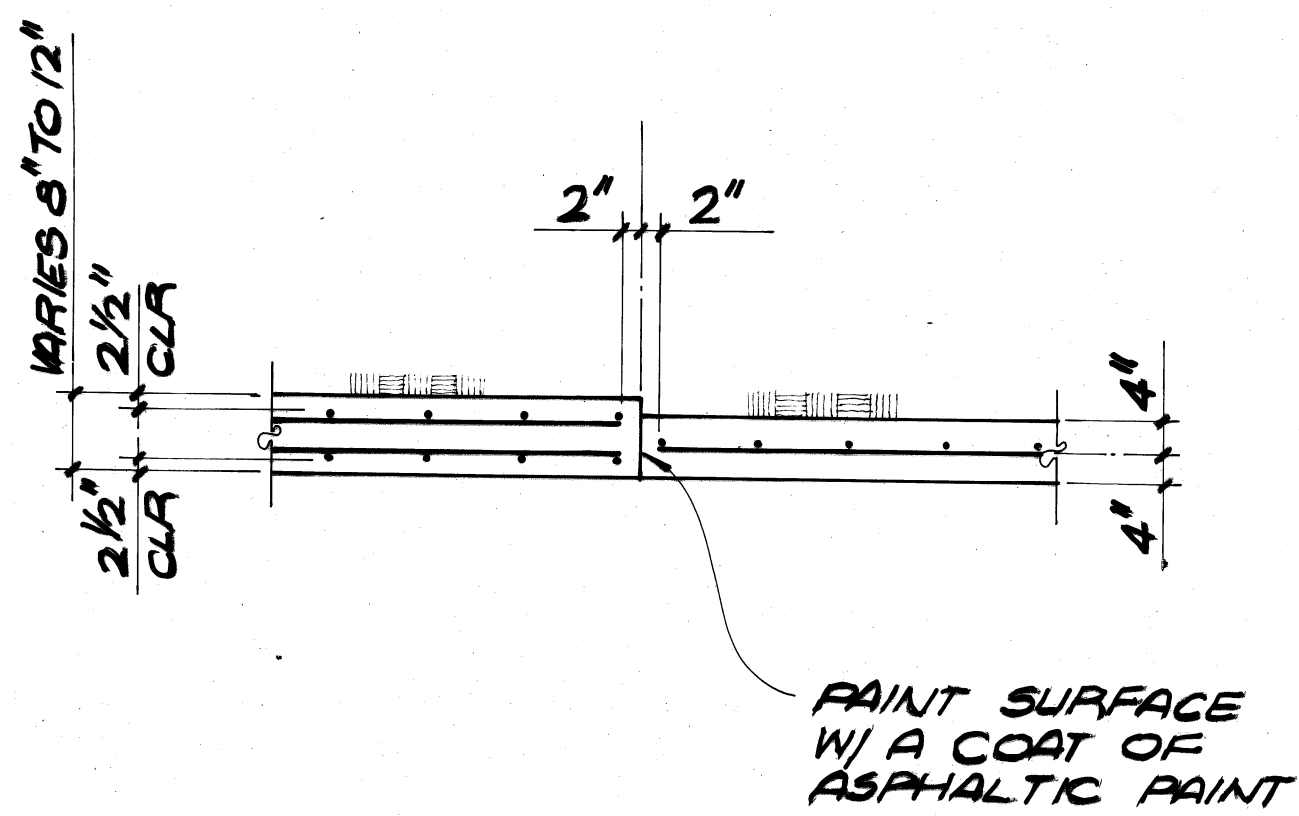
DETAIL K
SCALE 1/2" = 1'-0"



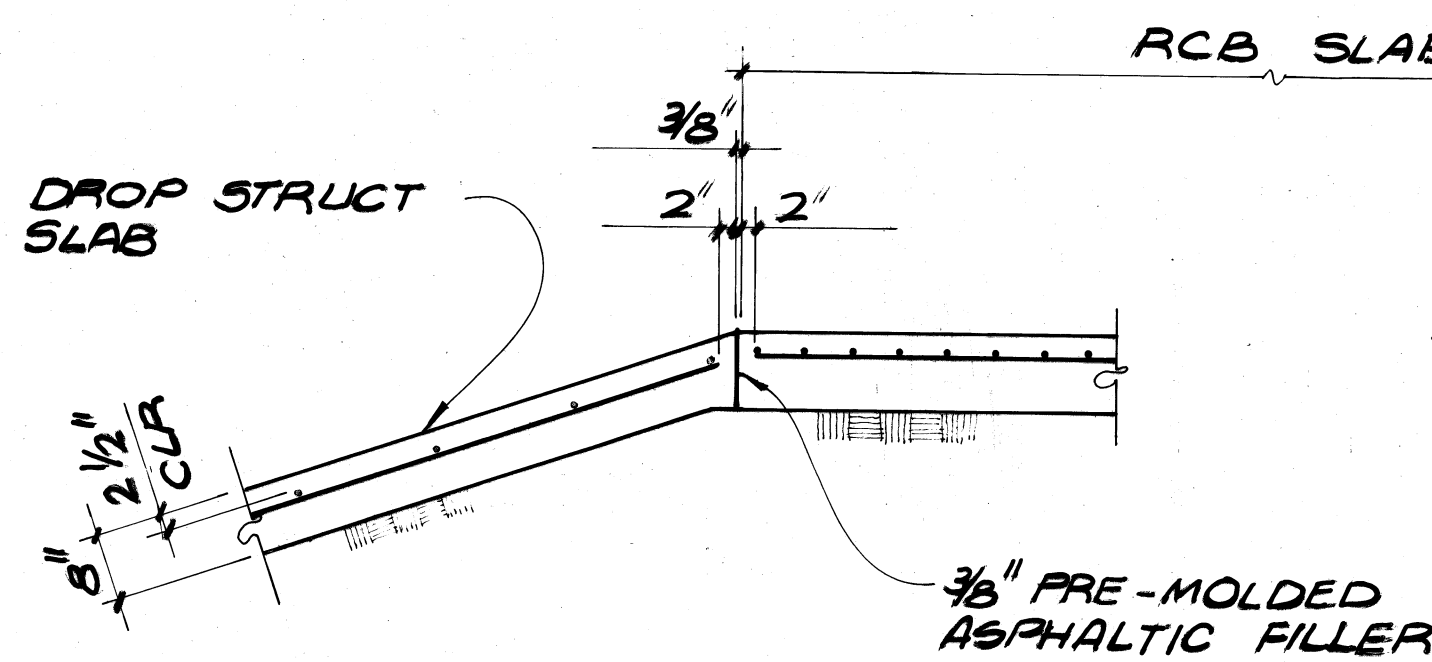
DETAIL J
SCALE 1/2" = 1'-0"



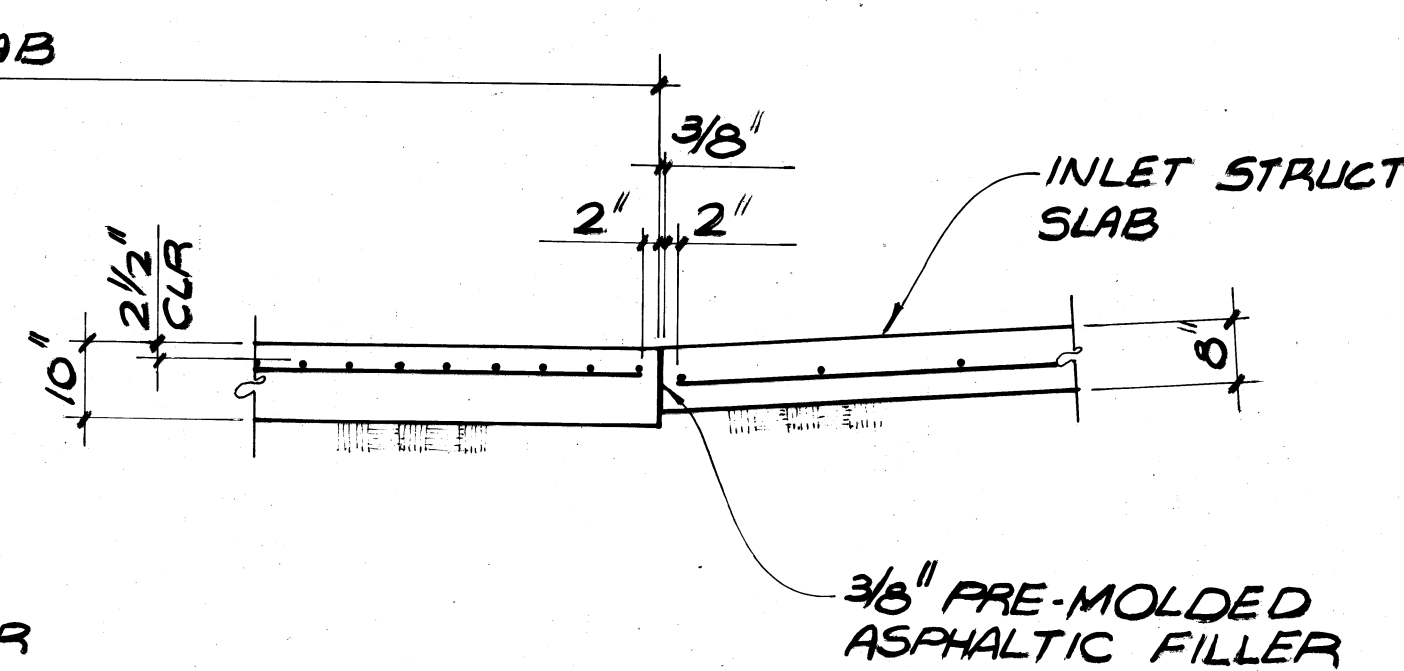
DETAIL H
SCALE 1/2" = 1'-0"



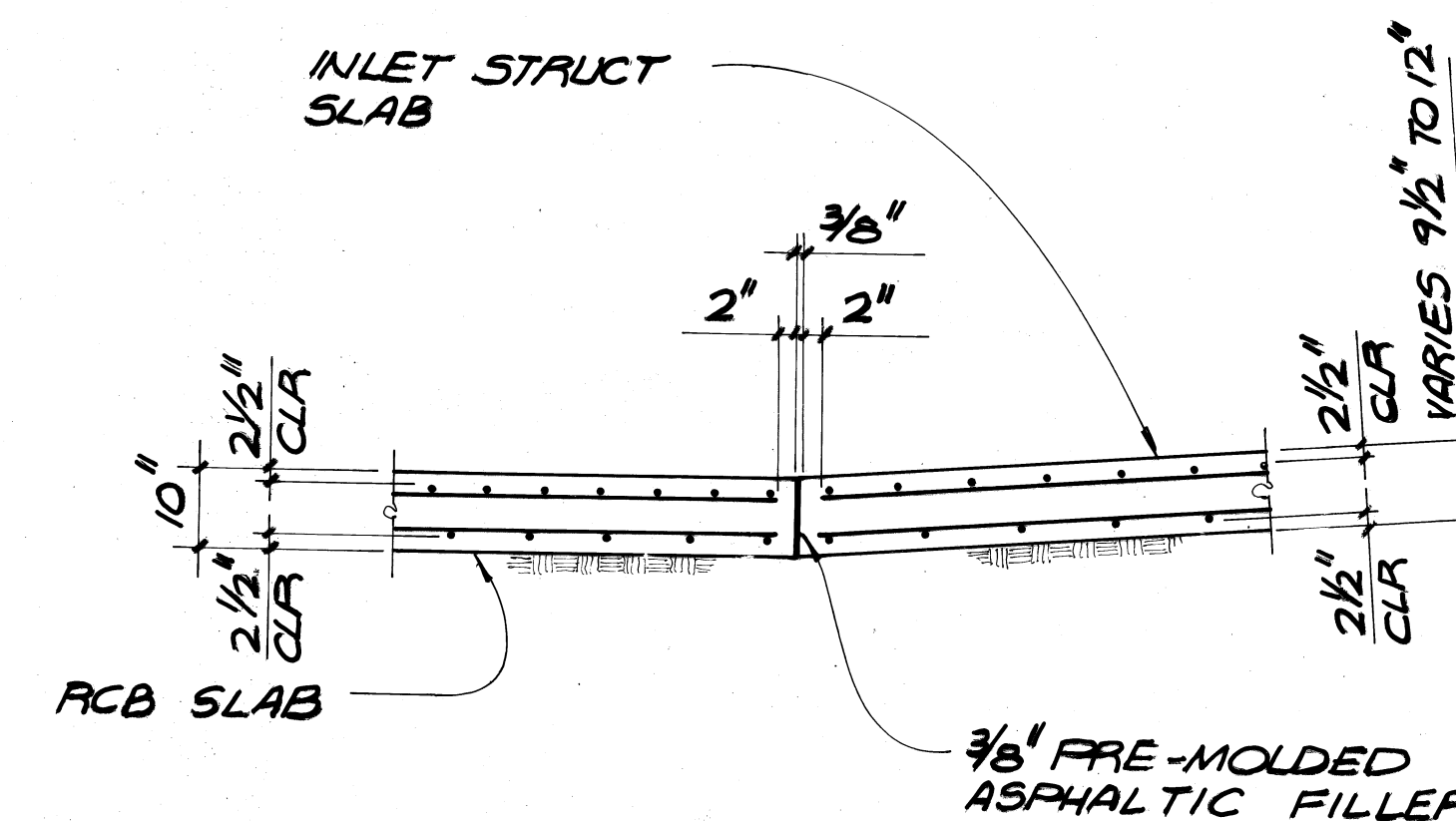
DETAIL G
SCALE 1/2" = 1'-0"



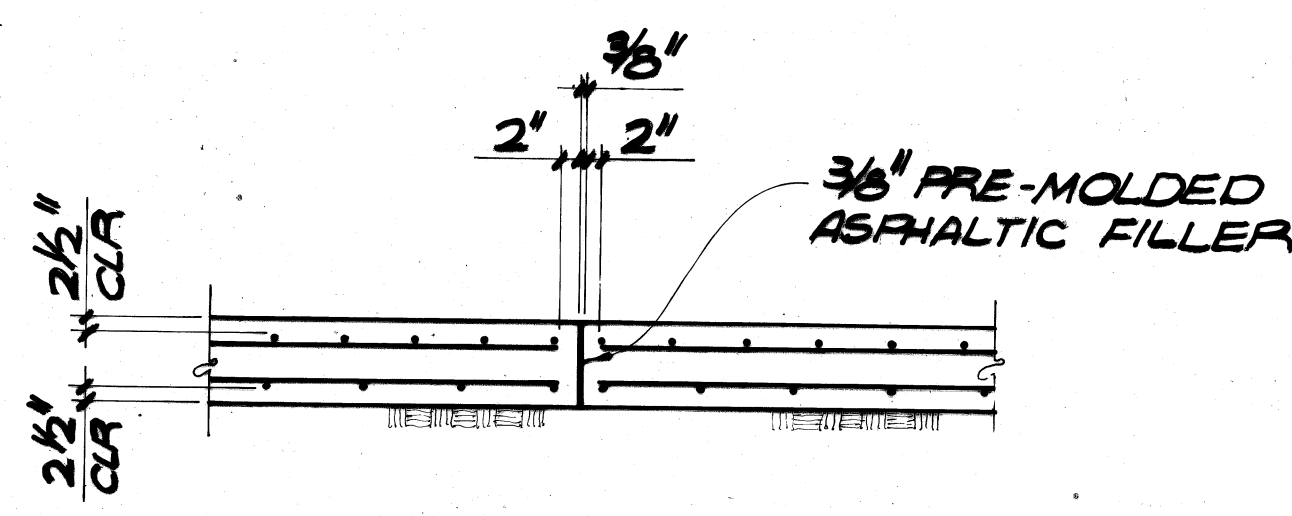
DETAIL F
SCALE 1/2" = 1'-0"



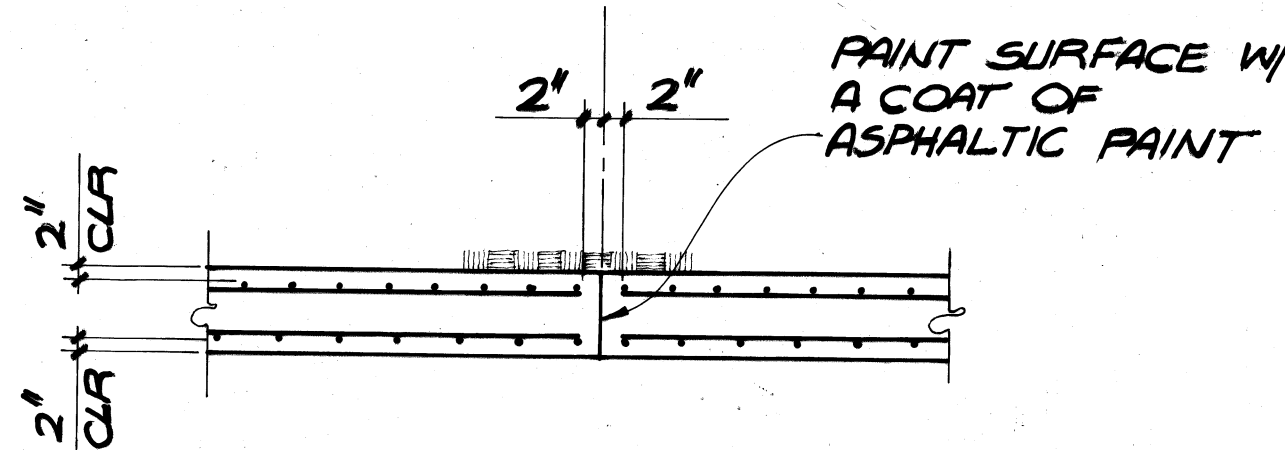
DETAIL E
SCALE 1/2" = 1'-0"



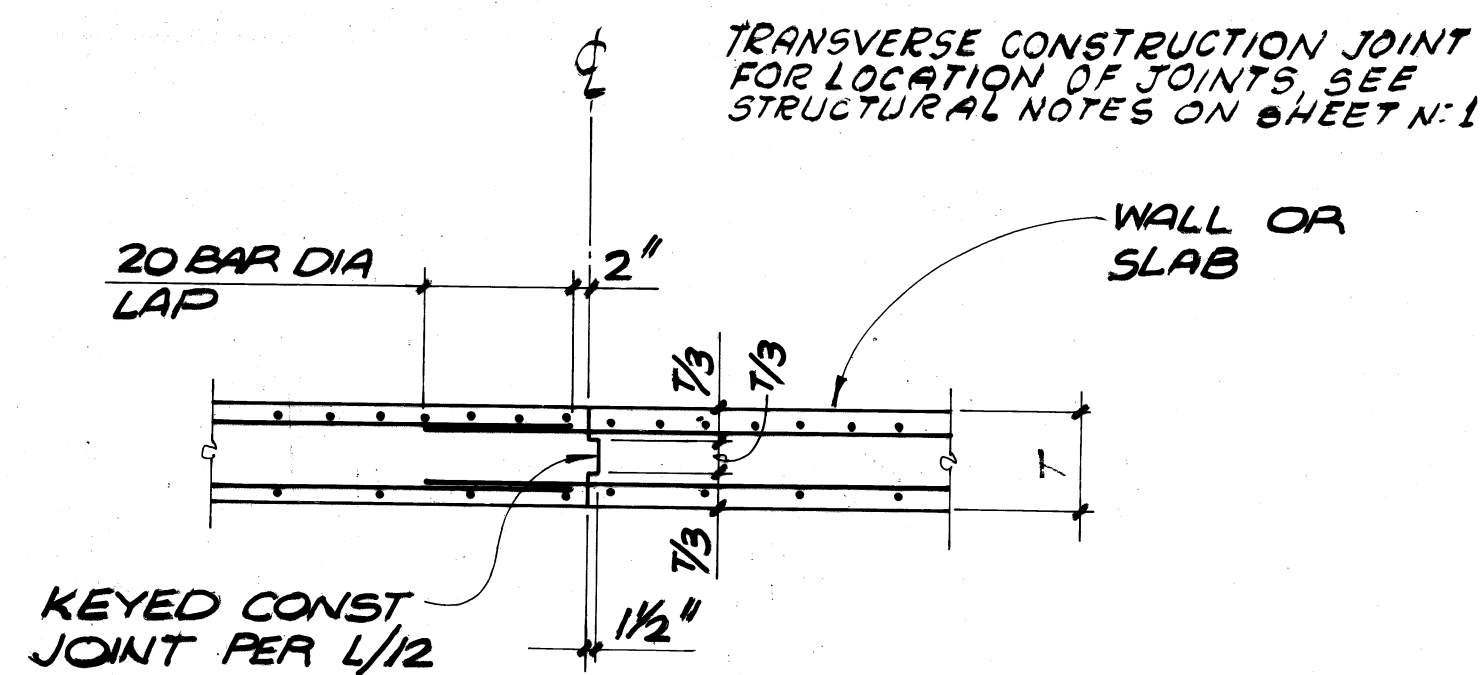
DETAIL D
SCALE 1/2" = 1'-0"



DETAIL C
SCALE 1/2" = 1'-0"



DETAIL B
SCALE 1/2" = 1'-0"

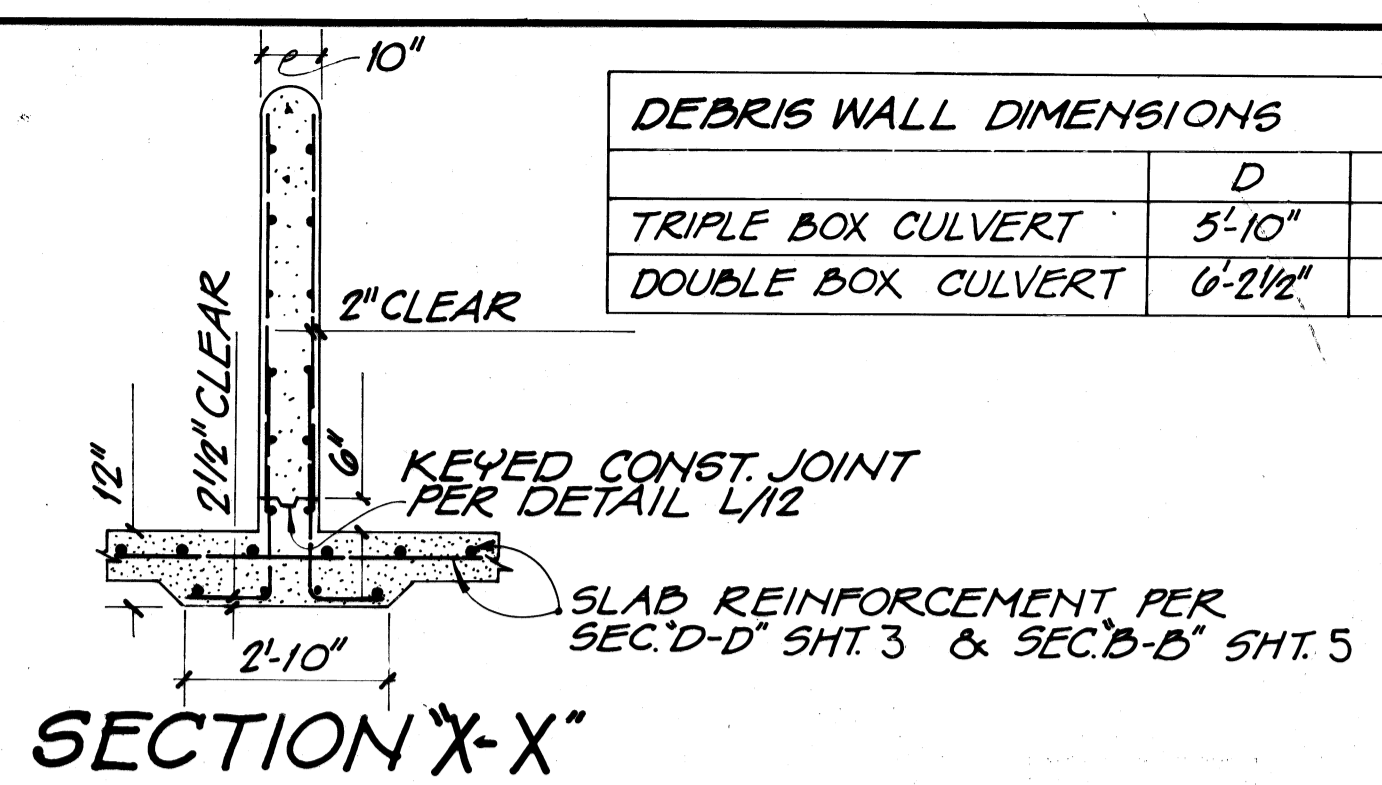
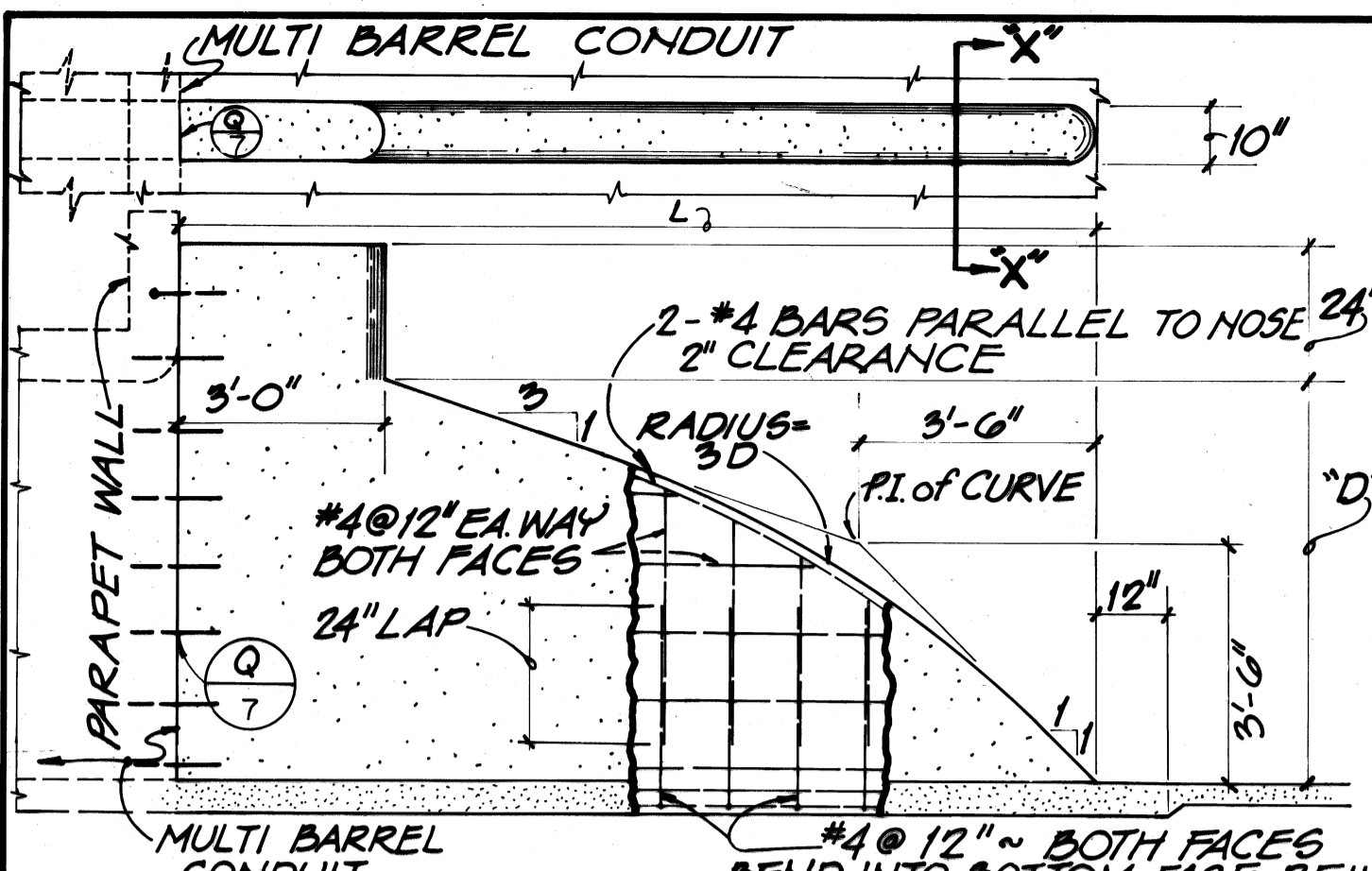


DETAIL A
SCALE 1/2" = 1'-0"

APPROVED
CITY OF WALNUT, CITY ENGINEER
By: *Ronald L. Kranzer* DATE 2-11-83
RONALD L. KRANZER RCE 18503
Prepared By:
VTP Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive Irvine, California 92714 (714) 851-5200
Signature: *Carl Roy Becker* 1-18-83
SE 1405 Date

CITY OF WALNUT
MISC. TRANSFER DRAIN NO.
TYPICAL CONSTRUCTION JOINT DETAILS
139G
TRACT No. 32158
Designed By: AL PRESNELL
Drawn By: MING CHU
Checked By: ROY BECKER
sheet no. 7 of 9

STRUCTURE DESIGN UNDER SUPERVISION OF EARL ROY BECKER.

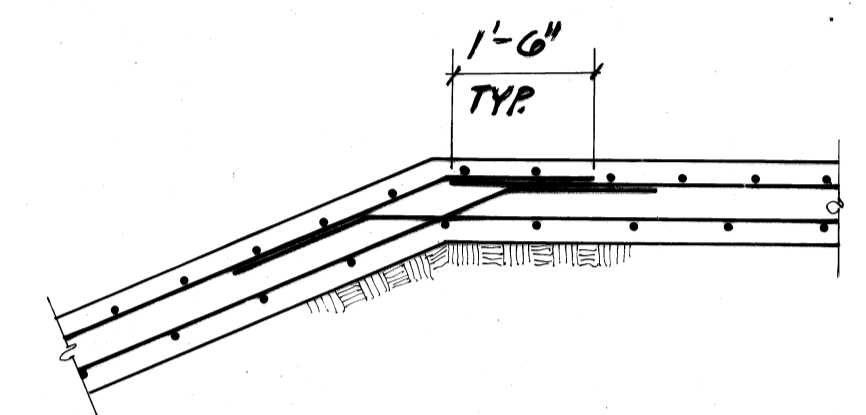


DEBRIS WALL DIMENSIONS		
	D	L
TRIPLE BOX CULVERT	5'-10"	13'-6"
DOUBLE BOX CULVERT	6'-2 1/2"	14'-7 1/2"

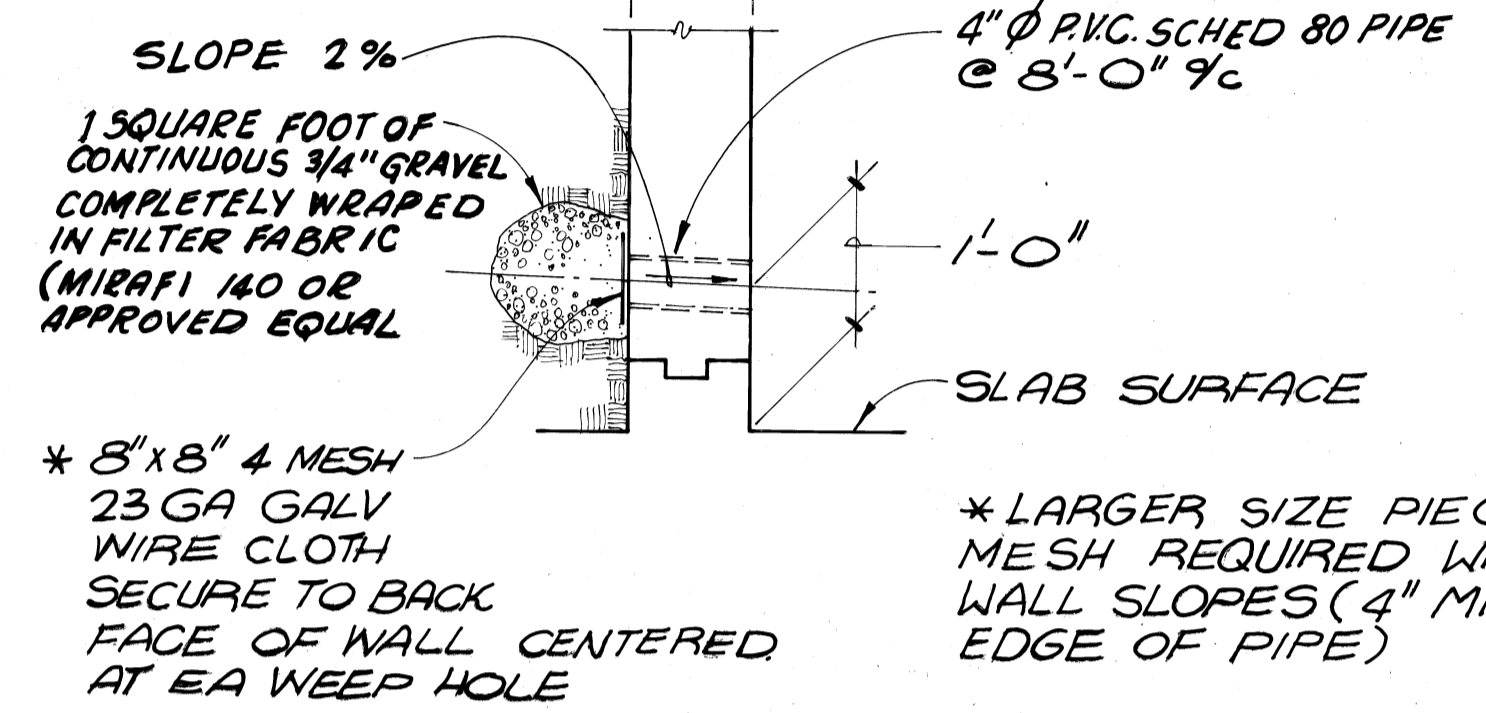
RIPRAP NOTES

1. Rocks for grouted riprap shall be good quality broken concrete and/or river run rock. The smallest dimension shall exceed 3 inches and the largest dimension shall not exceed 18 inches. The largest dimension shall not exceed 4 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 be imbedded from 1/2 to 2/3 of their maximum dimension.

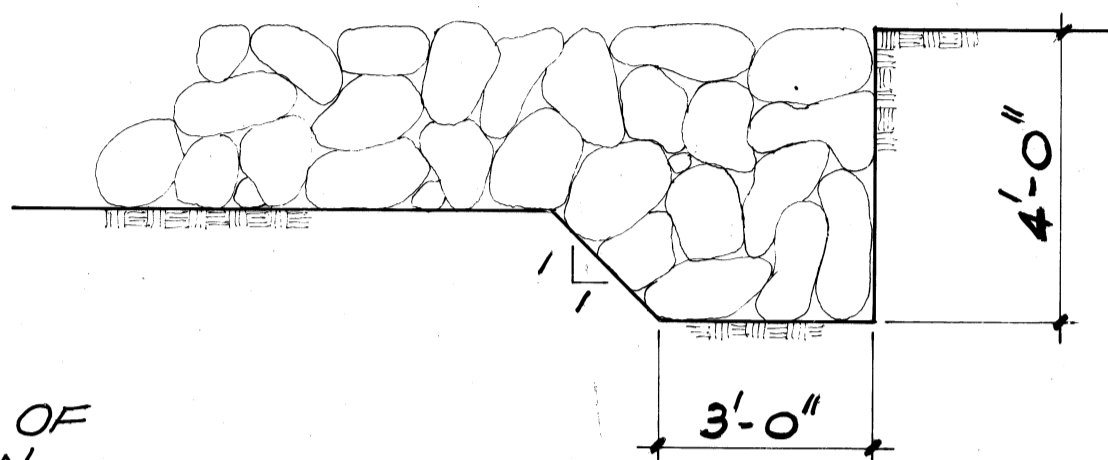
DEBRIS WALL
NO SCALE



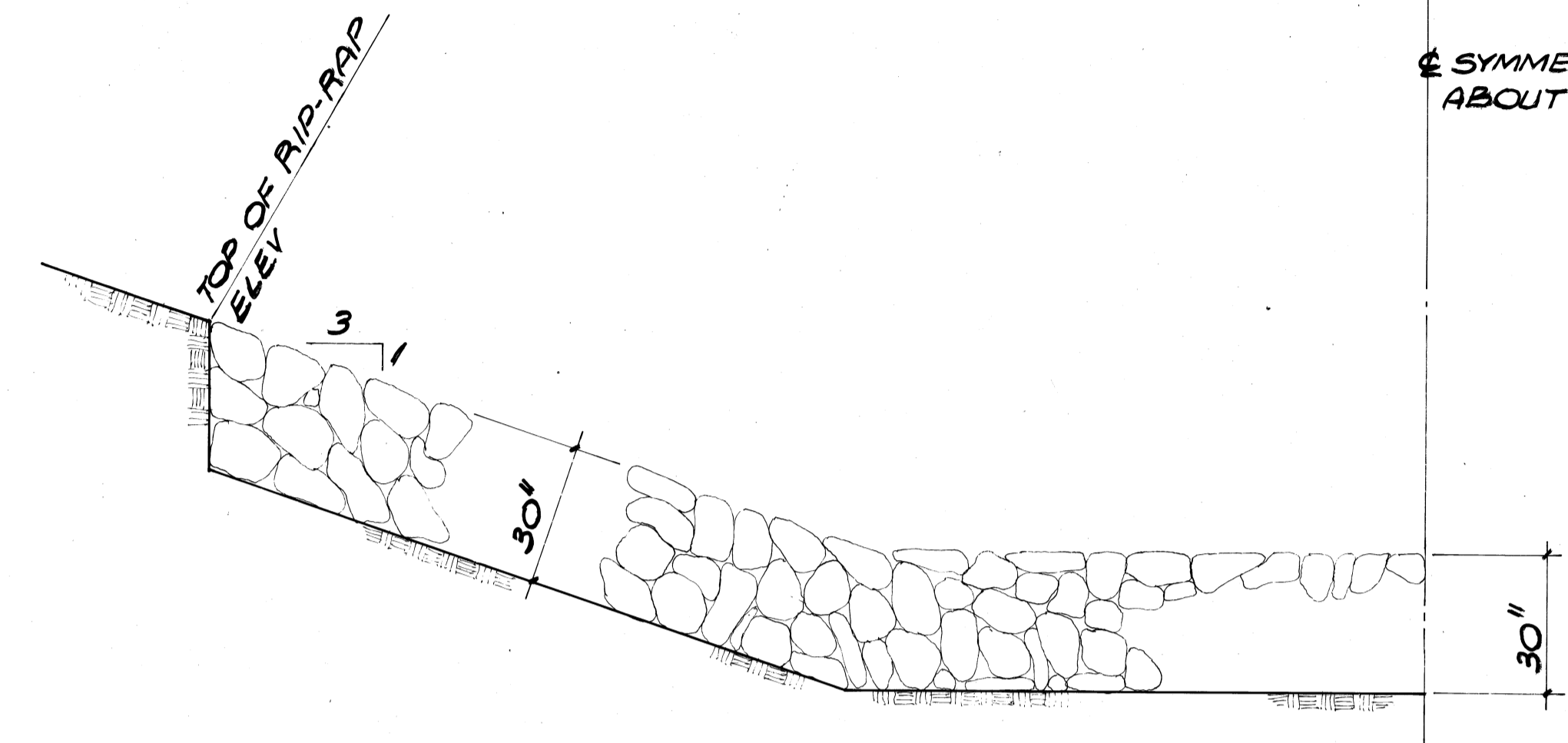
DETAIL K
SCALE 1/2" = 1'-0"



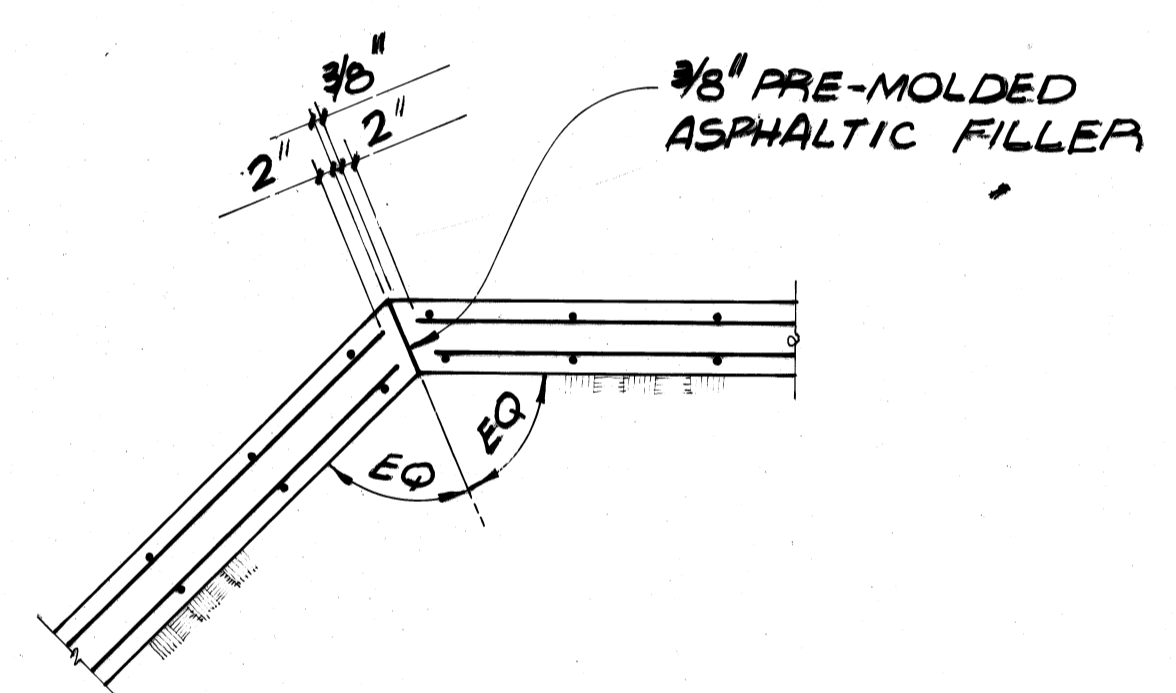
DETAIL J
NO SCALE



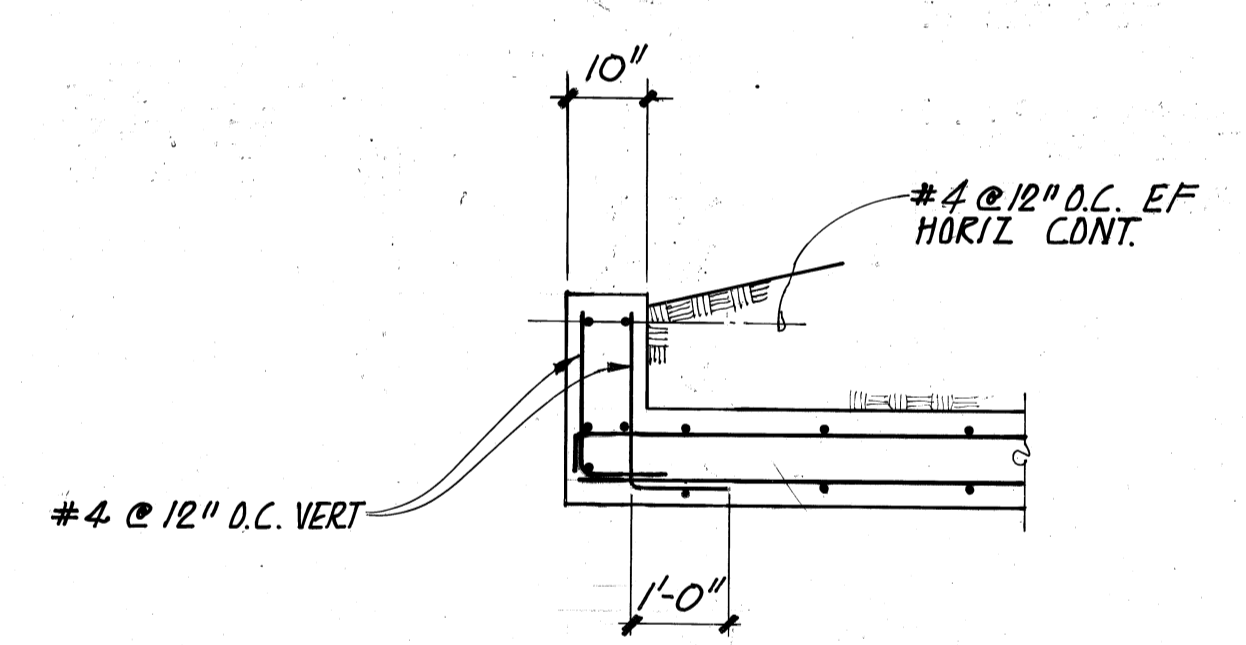
DETAIL H
SCALE 3/8" = 1'-0"



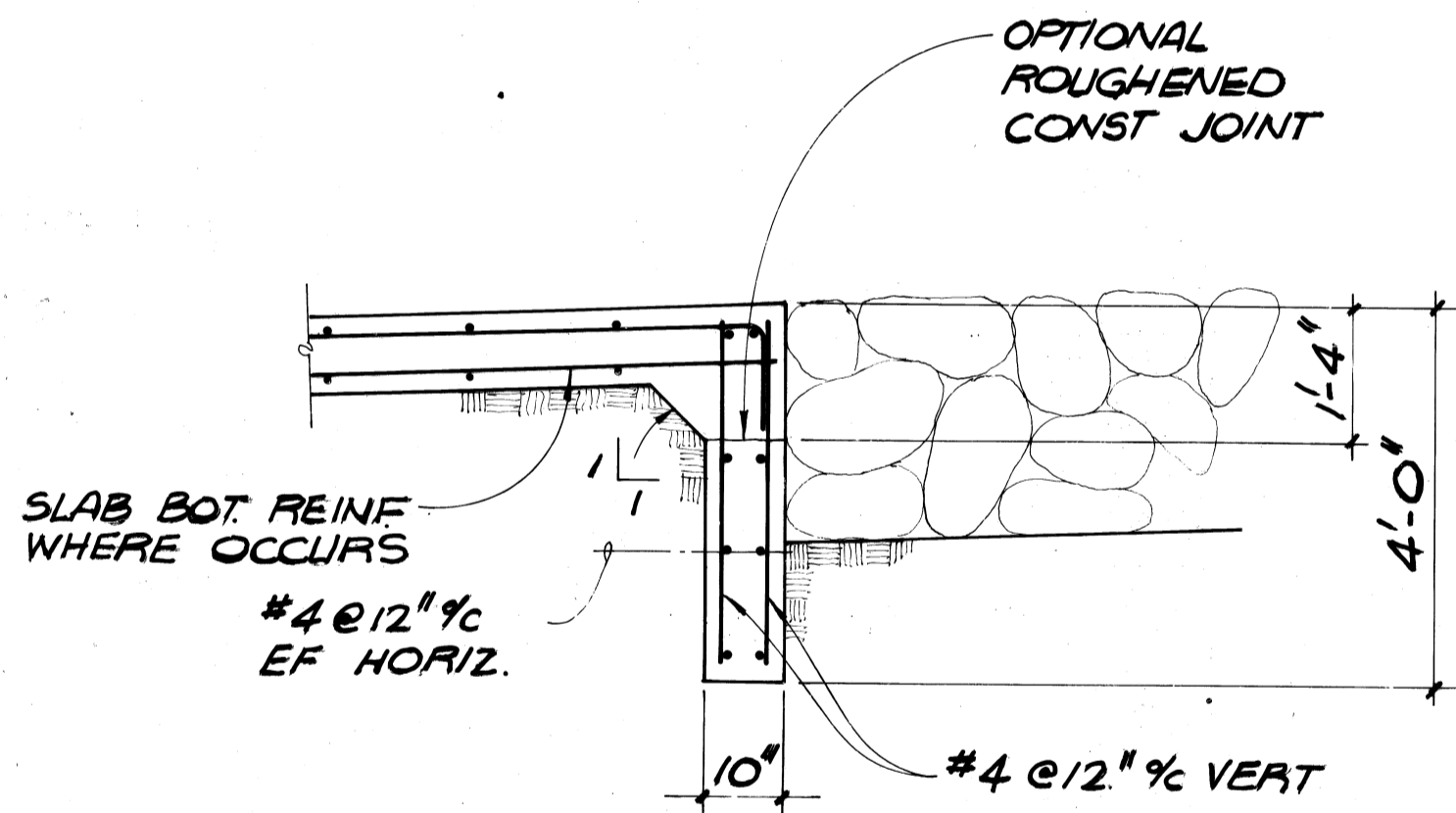
SECTION A-A
SCALE 3/8" = 1'-0"



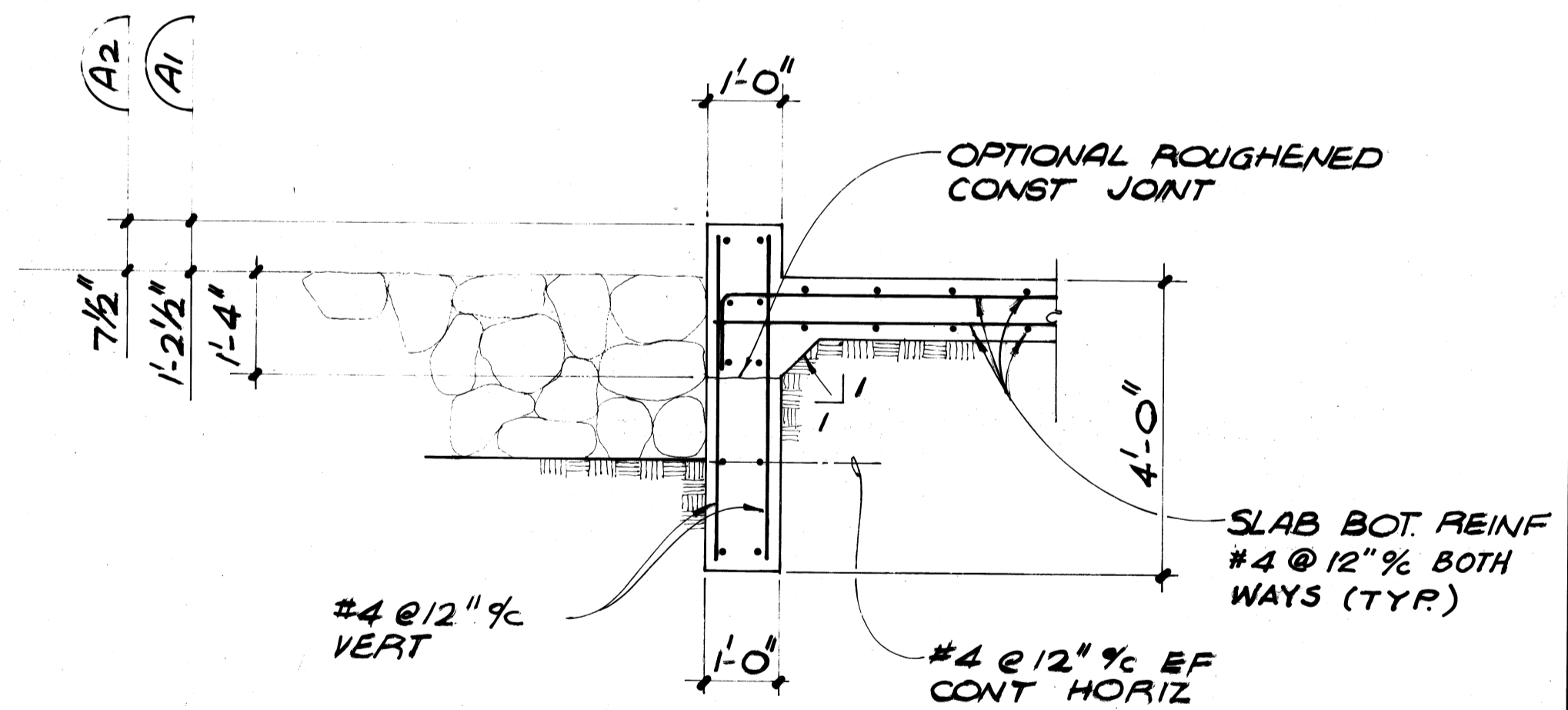
DETAIL G
SCALE 1/2" = 1'-0"



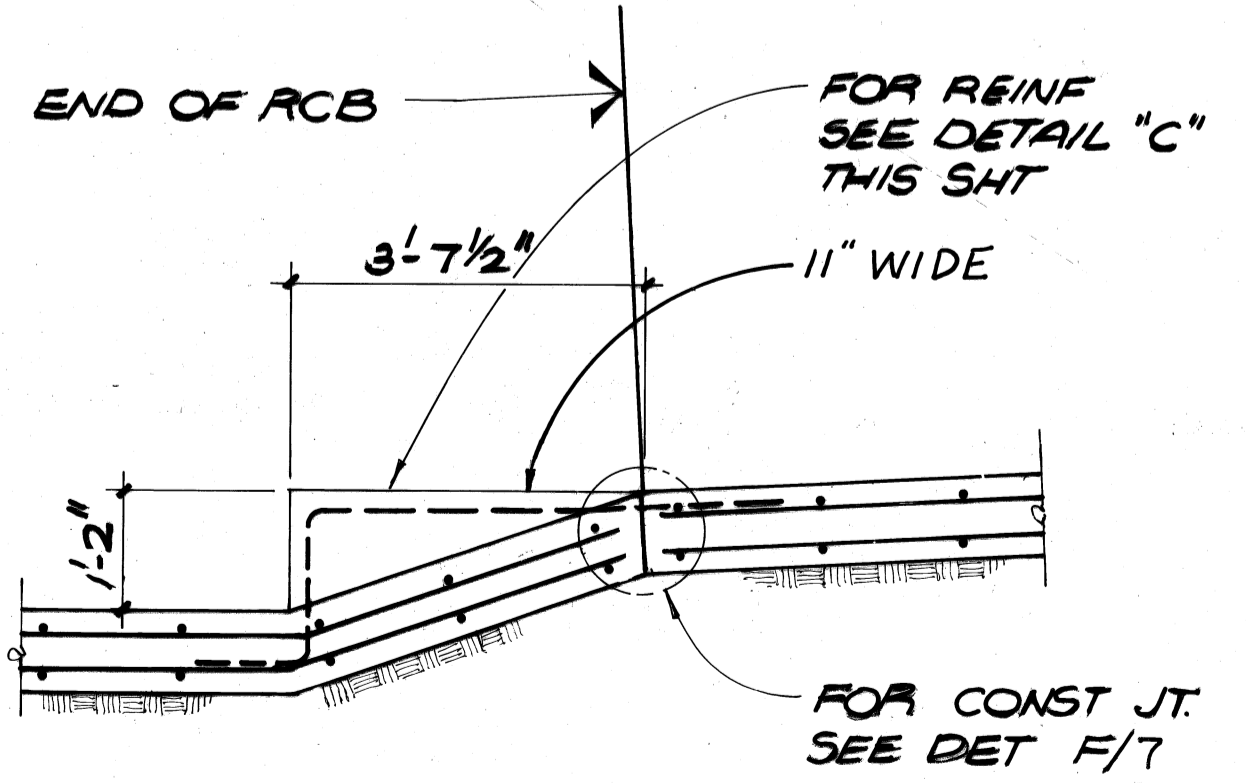
DETAIL F
SCALE 1/2" = 1'-0"



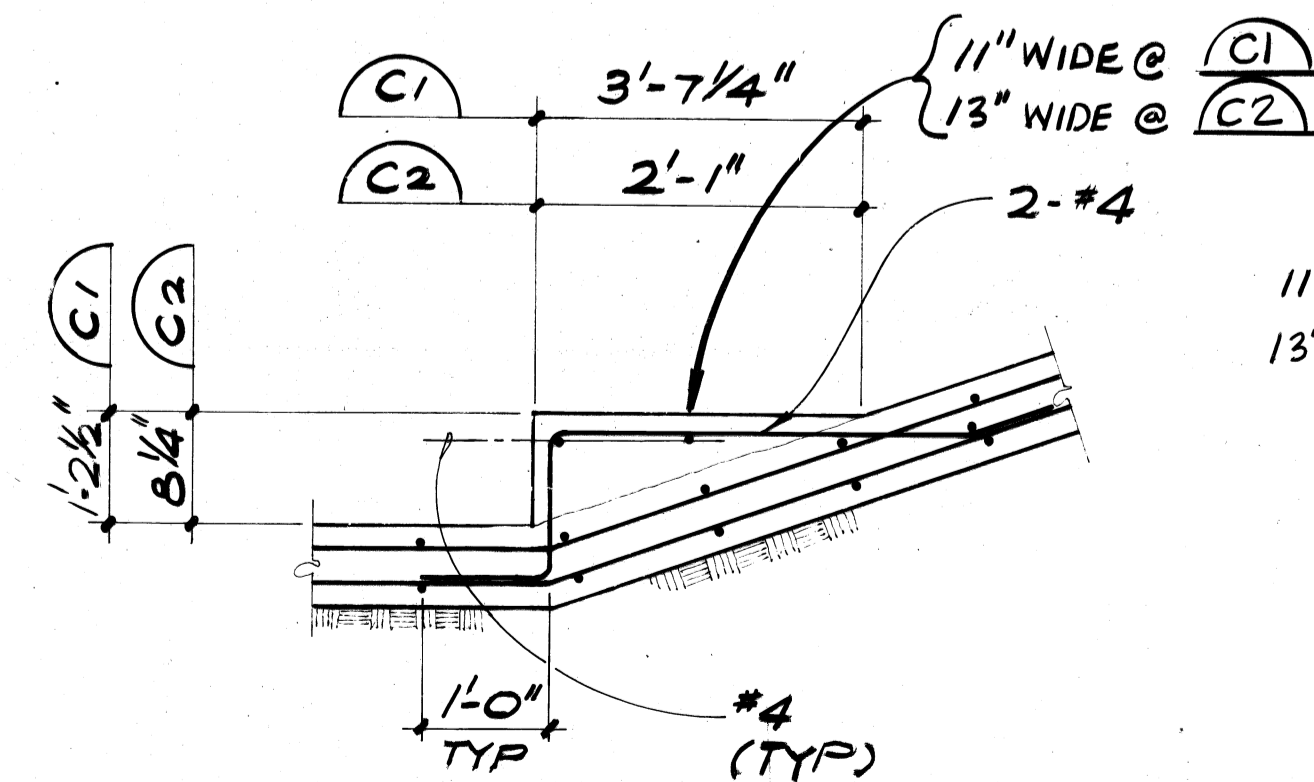
DETAIL E
SCALE 1/2" = 1'-0"



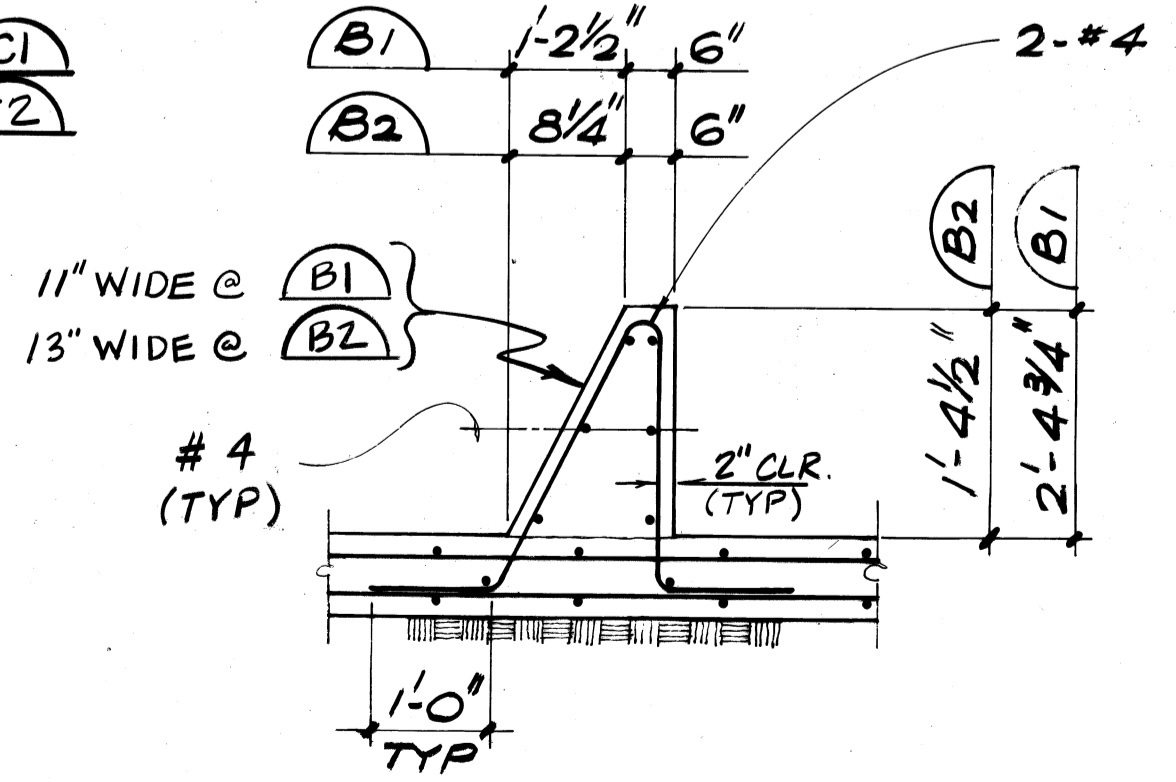
DETAIL A
SCALE 1/2" = 1'-0"



DETAIL D
SCALE 1/2" = 1'-0"



DETAIL C
SCALE 1/2" = 1'-0"



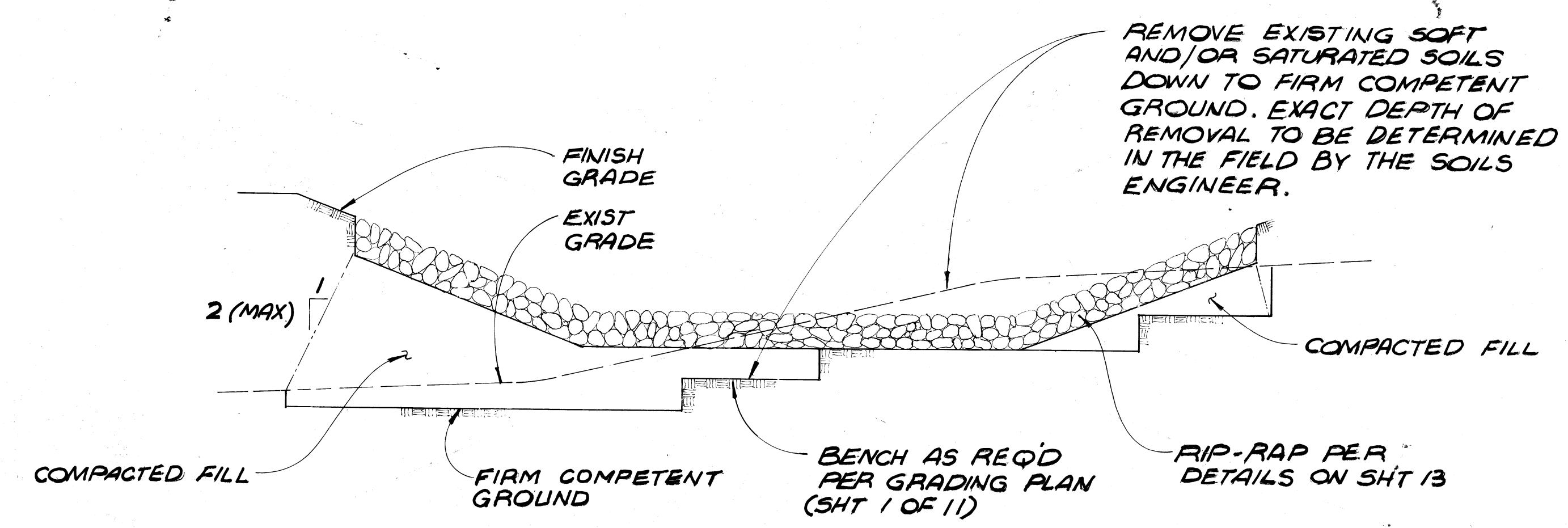
DETAIL B
SCALE 1/2" = 1'-0"

STRUCTURE DESIGN UNDER SUPERVISION OF EARL ROY BECKER
Signature: *Earl Roy Becker* 1-18-84
SE 1405 Date

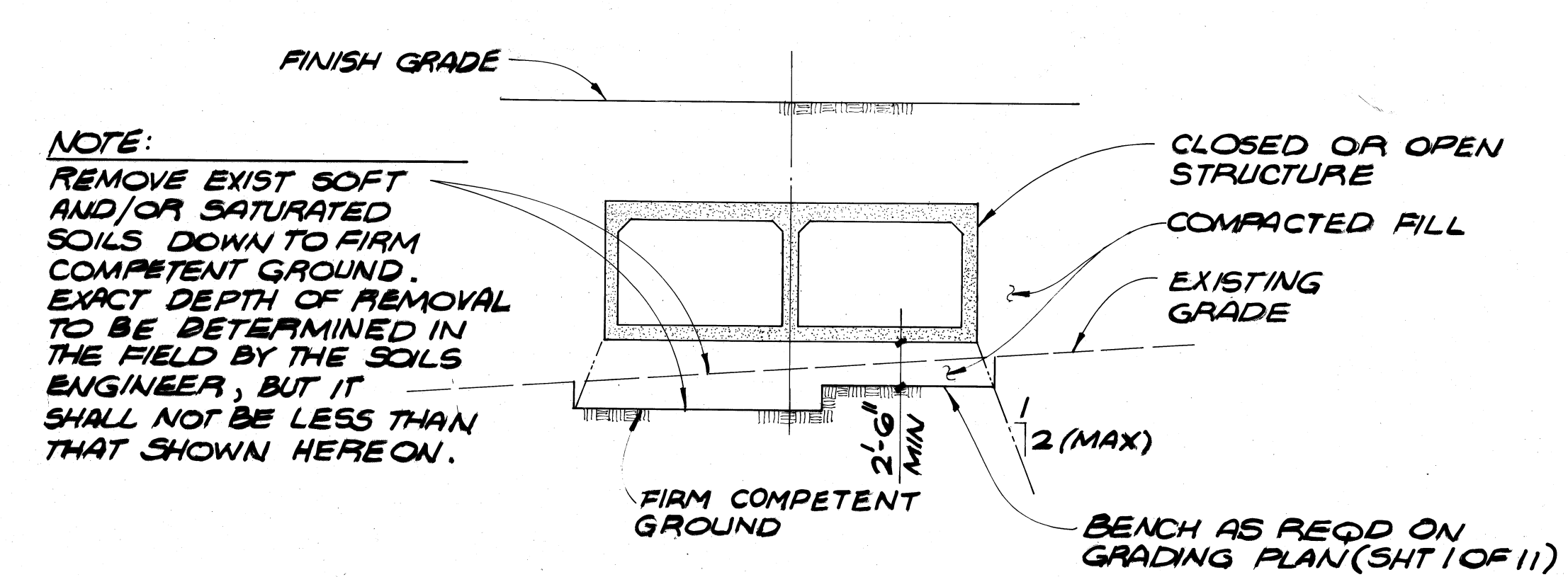
APPROVED
CITY OF WALNUT, CITY ENGINEER
BY: *Ronald L. Kranzer* DATE: 2-14-87
RONALD L. KRANZER RCE 18503
Prepared By:
VTT Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive Irvine, California 92713 (714) 851-5200
Signature: *Frank Du* 10-27-83
RCE 17069 Date

CITY OF WALNUT
MISC. TRANSFER DRAIN NO.
MISCELLANEOUS DETAILS
TRACT No. 32158
Designed By: **FRANK DU**
Drawn By: **JOHN MILNE**
Checked By: **ROY BECKER**
sheet no. 8 of 9

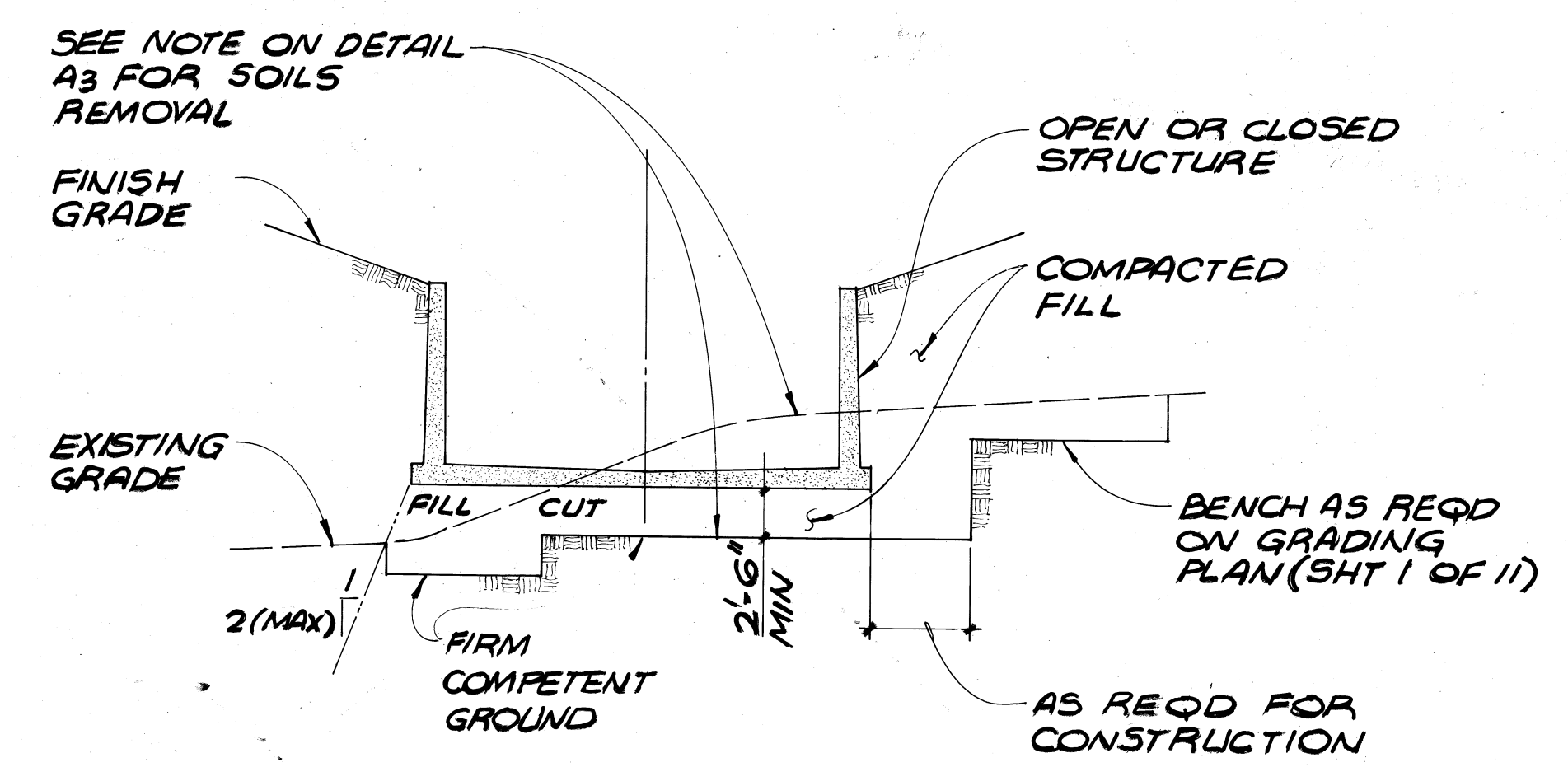
139H



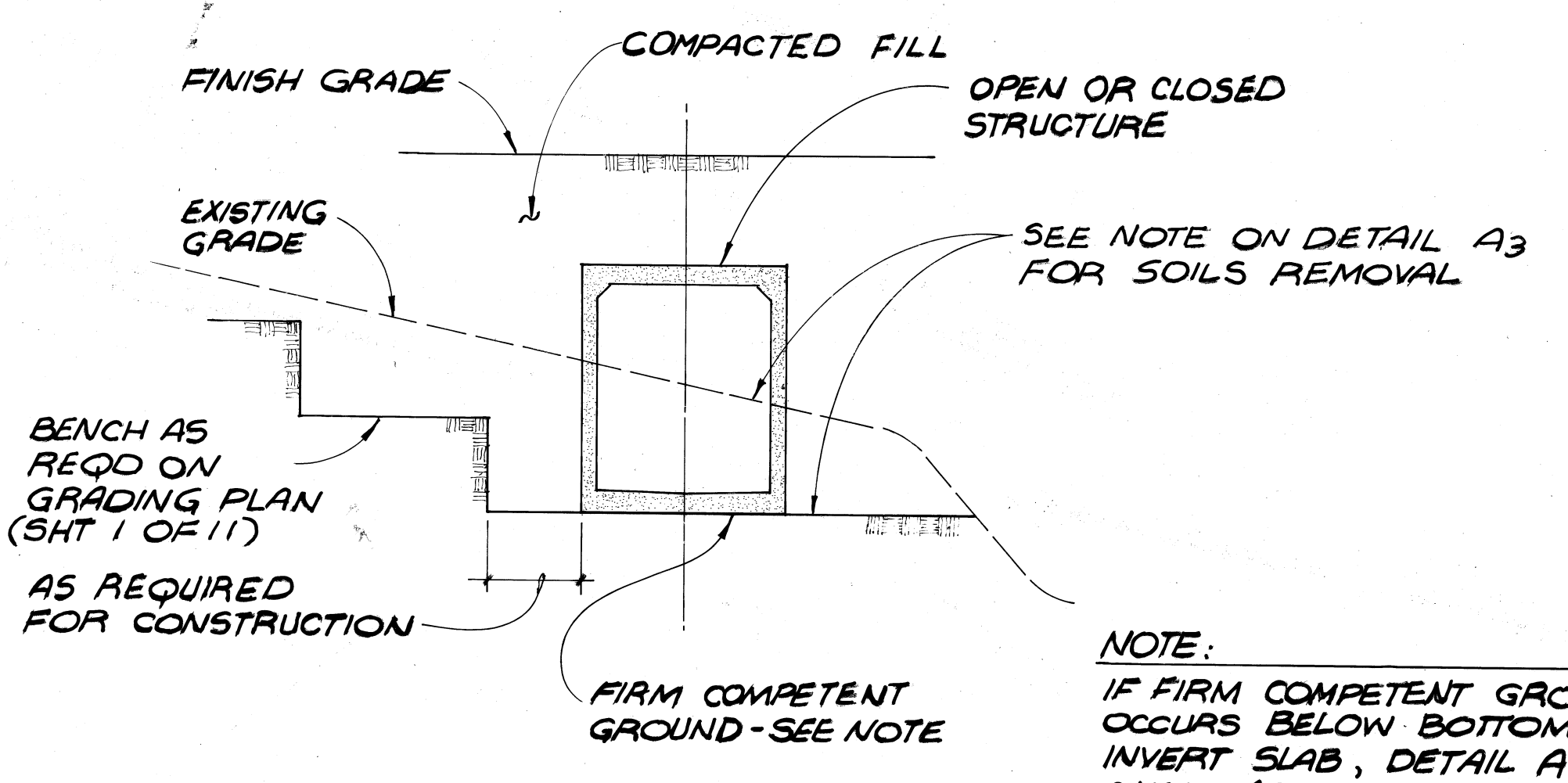
EARTHWORK REQUIREMENTS FOR RIP-RAP (B)
NO SCALE 9



DRAINAGE STRUCTURE IN FILL (A3)
NO SCALE



DRAINAGE STRUCTURE IN CUT & FILL (A2)
NO SCALE



DRAINAGE STRUCTURE IN CUT (A1)
NO SCALE

TYPICAL EARTHWORK REQUIREMENTS FOR DRAINAGE STRUCTURES (A)
9

NOTE:
FOR ADDITIONAL EARTHWORK REQUIREMENTS INCLUDING INSPECTIONS, SEE NOTES ON SHT NO. 1 OF 9

STRUCTURE DESIGN UNDER SUPERVISION OF EARL ROY BECKER
Signature *Earl Roy Becker* 1-18-84 Date
SE 1405

APPROVED
CITY OF WALNUT, CITY ENGINEER
By *Ronald L. Kranzer* DATE 2-11-84
RONALD L. KRANZER RCE#6503
Prepared By:
VTTI Consolidated, Inc.
ENGINEERS ARCHITECTS PLANNERS
2301 Campus Drive, Irvine, California 92713 (714) 851-5200
Signature *James L. McCarty* 10-21-83 Date
RCE 47069

CITY OF WALNUT
MISC. TRANSFER DRAIN NO.
TYPICAL EARTHWORK DETAILS
139J
TRACT No. 32158
Designed By: **ROY BECKER**
Drawn By: **JOHN MILNE**
Checked By: **ROY BECKER**
sheet no. 9 of 9