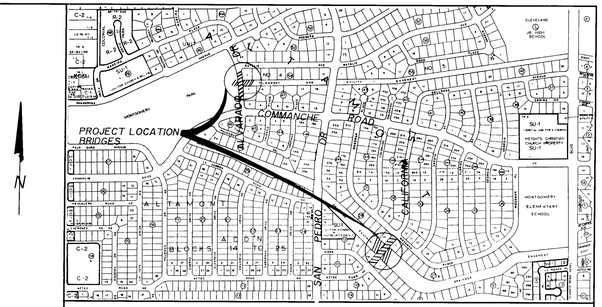
CITY OF ALBUQUERQUE

CROSSING STRUCTURES
FOR
ALVARADO DR. N.E.
AND
CALIFORNIA ST. N.E.
OVER THE HAHN ARROYO



VICINITY MAP ZONE MAP G-18-Z

INDEX OF DRAWINGS

GENERAL NOTES

1. All work detailed in these plans and specified in the contract shall, except as otherwise stated or provided for in the special provisions of the contract, be constructed in accordance with the City of Albuquerque-Standard Specifications for Public Works Construction - 1986 Edition.

2. Two (2) working days prior to any excavation the contractor shall contact Line Location Service, 260-1990, and request that the existing utilities be located.

3. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with the minimum amount of delay.

4. The Contractor is to allow two weeks from time of notification to start of utility relocation by utility company crews. No additional compensation will be allowed for delays or inconvenience caused by utility company work crews. The Contractor may be required to reschedule his activities to allow utility crews to perform their required work. Any damage to lines, valves, meters, etc., will be repaired or replaced by the Contractor at his expense.

5. All utilities, utility service lines and underground facilities shall be installed and approved prior to paving. See sheet 2 & 3 for gate valves to be closed during new water line installation.

6. Backfill compaction shall be as specified on Standard Drawing 2405.

7. Tack coat requirements shall be determined by the Field Engineer.

8. Sidewalks and wheelchair ramps shall be constructed whenever a new curb return is constructed.

9. If the curb is depressed for a drivepad or handicap ramp, the drivepad or ramp shall be constructed prior to the acceptance of the curb and gutter.

10 All storm drainage facilities shall be completed prior to final acceptance.

11. Disposal of all waste material shall be the responsibility of the Contractor as specified in Section 6.14, General Conditions, City of Albuquerque - Standard Specifications for Public Works Construction - 1986 Edition.

12. Contractor shall obtain a barricading permit from the City of Albuquerque prior to any work on California Street or Alvarado Drive. Traffic control to be as specified in Section 19 Construction Traffic Control, City of Albuquerque - Standard Specifications for Public Works Construction - 1986 Edition.

13. Numerous gas line conflicts exist throughout this project. The Gas Company of New Mexico is to relocate the 2" gas mains along both Alvarado Drive & California Street, one time, to a permanent location. The gas lines will be relocated during the early stages of the crossing structure project once the contractor has removed the concrete channel lining. It is preferable that the gas line relocations be concurrent with the waterline relocation. The gas line is to be relocated horizontally and vertically in a manner that will avoid conflicts with the bridge structure, pilings and channel lining.

14. The existing pedestrian bridge and bike path shall remain open to the public during construction of the adjacent main bridge. The pedestrian bridges shall be removed only after pedestrian access exists across the proposed main bridge. The Contractor is to provide chain link fencing to separate these paths from the construction activity for the safety of the pedestrians. The Contractor is to also present a plan for this fencing at the pre-construction meeting to the Project Engineer for his approval. The cost of the fencing shall be incidental to the cost of the other items of work and no separate payment will be made.

15. All work within Montgomery Park shall be coordinated by the contractor with the City of Albuquerque Park Management Division (857-8650). Contractor shall notify park management 7 days prior to commencing construction.

16. See Bridge General Notes on sheet 7.

SCANNED BY
BY LASON

APPROVAL OF AS BUILT DRAWINGS
CHIEF CONSTRUCTION ENGINEER
DATE 7/13/92

REV.	SHEETS	CITY ENGR.	DATE	USER DEPT.	DATE	USER DEPT.	DATE

APPROVAL OF REVISIONS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
2/6 4057.90012

SET No.
DATE

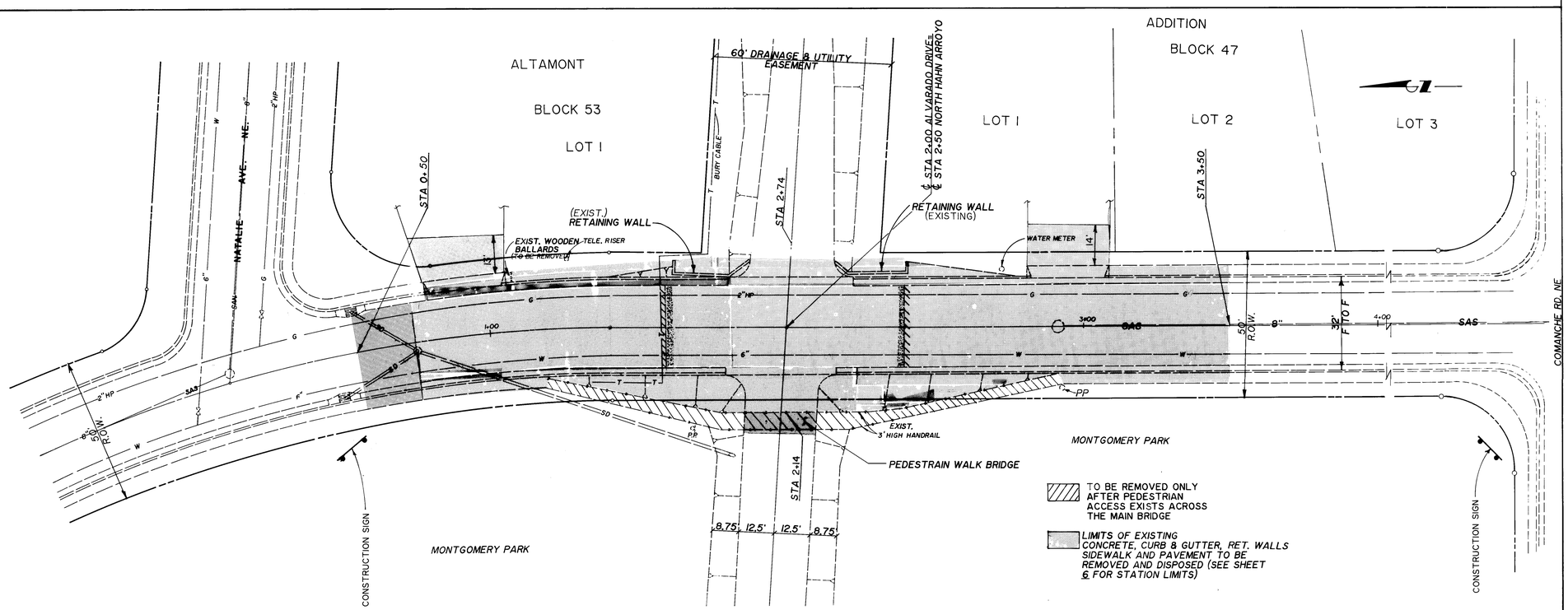
DUANE B. CATANACH
NEW MEXICO
4457
REGISTERED PROFESSIONAL ENGINEER

TIERRA ENGINEERING CONSULTANTS INC.
632 PASEO DE PERALTA
SANTA FE, NEW MEXICO 87501
505/982-2845
105 SIXTH ST. S.W.
SUITE 202
ALBUQUERQUE, NEW MEXICO 87103
505/242-2270

APPROVAL FOR CONSTRUCTION
7-3-91
CITY ENGINEER

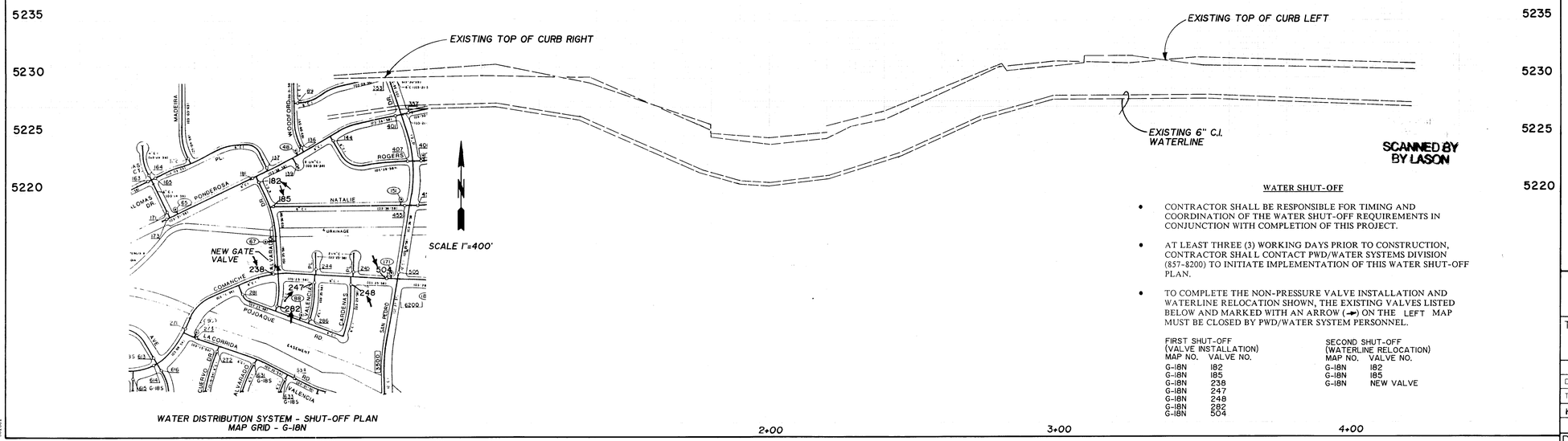
PROJECT No. 4057.90

SHEET 1 OF 12



ALVARADO DRIVE NE.

SCALE: 1"= 20' HORIZ.
1"= 5' VERT.



WATER DISTRIBUTION SYSTEM - SHUT-OFF PLAN
MAP GRID - G-18N

WATER SHUT-OFF

- CONTRACTOR SHALL BE RESPONSIBLE FOR TIMING AND COORDINATION OF THE WATER SHUT-OFF REQUIREMENTS IN CONJUNCTION WITH COMPLETION OF THIS PROJECT.
- AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PWD/WATER SYSTEMS DIVISION (857-8200) TO INITIATE IMPLEMENTATION OF THIS WATER SHUT-OFF PLAN.
- TO COMPLETE THE NON-PRESSURE VALVE INSTALLATION AND WATERLINE RELOCATION SHOWN, THE EXISTING VALVES LISTED BELOW AND MARKED WITH AN ARROW (→) ON THE LEFT MAP MUST BE CLOSED BY PWD/WATER SYSTEM PERSONNEL.

FIRST SHUT-OFF (VALVE INSTALLATION) MAP NO.	VALVE NO.	SECOND SHUT-OFF (WATERLINE RELOCATION) MAP NO.	VALVE NO.
G-18N	182	G-18N	182
G-18N	185	G-18N	185
G-18N	238	G-18N	NEW VALVE
G-18N	247		
G-18N	248		
G-18N	282		
G-18N	504		

LEGEND

T.C.	TOP OF CURB
SAS	SANITARY SEWER
W.M.	WATER METER
G.V.	GATE VALVE
F	FLOW LINE
	DIRECTION OF FLOW
—W—	WATER LINE
C.I.	CAST IRON
—G—	GAS LINE
HP	HIGH PRESSURE
M.H	MANHOLE
P.P.	POWER POLE

NOTE:

1. EXISTING PEDESTRIAN BRIDGE T-BEAMS TO BE SALVAGED AND TRANSPORTED TO A STORAGE SITE IDENTIFIED BY THE ENGINEER.
2. EXISTING PEDESTRIAN BRIDGE ABUTMENTS TO BE DEMOLISHED. SEE DETAIL ON SHEET 10 FOR LIMITS OF REMOVAL.
3. CONTRACTOR TO PROVIDE A DETAILED TRAFFIC CONTROL PLAN FOR REVIEW & APPROVAL FOR EACH SPECIFIC PHASE OF WORK (7) SEVEN DAYS PRIOR TO INSTALLATION. SPECIAL ADVANCE WARNING SIGNS WILL BE REQUIRED ON COMANCHE RD., NATALIE AVE., & ALVARADO DR.
4. A FULL STREET CLOSURE R/W TO R/W WILL BE REQUIRED DURING BRIDGE CONSTRUCTION.

SCANNED BY BY LASON

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
26 40 57 19 01 29 2

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

AS BUILT INFORMATION
BENCH MARKS
STA NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET
STAMPED "N.M. 367-4, 1969" SET IN CONCRETE
POST FLUSH WITH THE GROUND, ELEVATION 5202.40'
INITIAL BY ____ DATE
MYLAR BY ____ DATE
INSPECTIONS BY ____ DATE
FIELD ANGLE BY ____ DATE
FIELD TRAVERSE BY ____ DATE
VERIFICATION BY ____ DATE
EXAMINATION BY ____ DATE
CORRECTED BY ____ DATE
MICRO-FILM INFORMATION
RECORDED BY ____ DATE
NO ____

ENGINEER'S SEAL
EDWARD B. CRAMER NEW MEXICO (6457) REGISTERED PROFESSIONAL ENGINEER
4-17-91

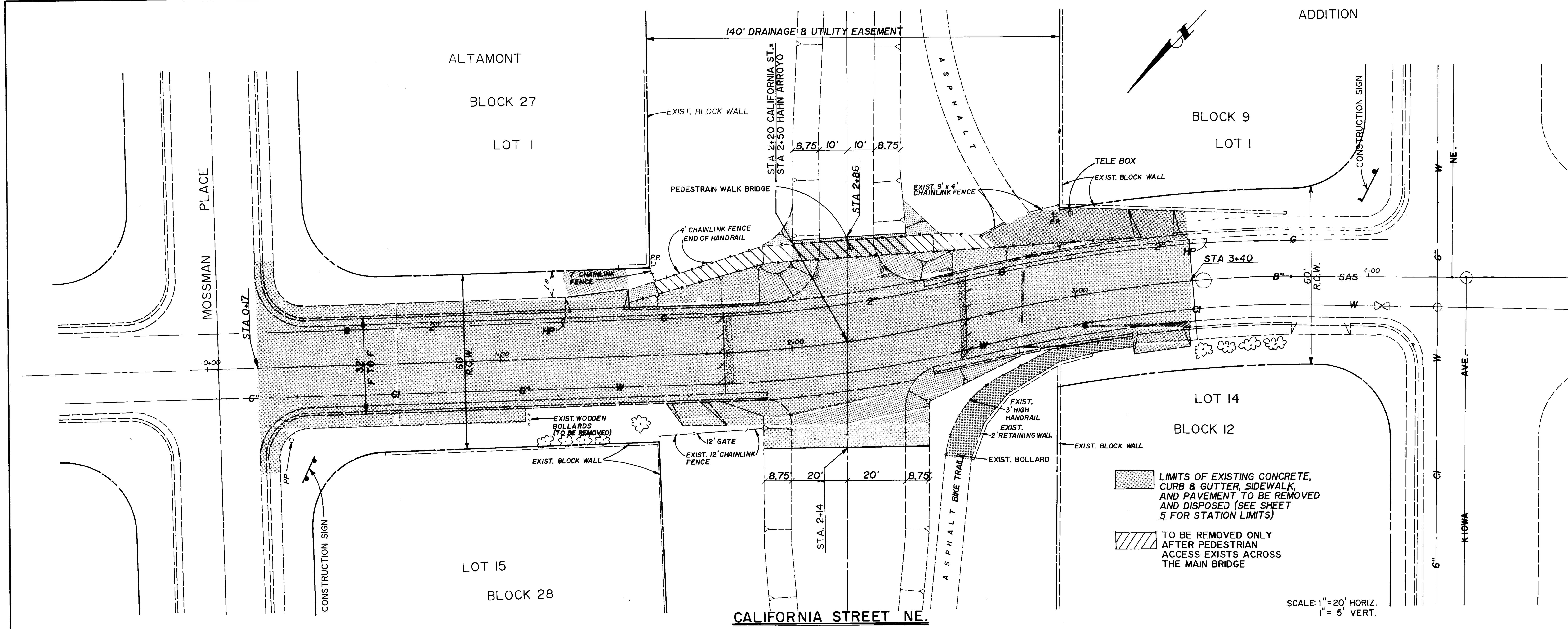
NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY C.C.	DATE 12-27-90
		DRAWN BY A.M., R.V., S.S.	DATE 12-27-90
		CHECKED BY D.H.	DATE 1-8-91

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: EXISTING CONDITIONS, BARRICADING PLAN & LIMITS OF REMOVAL FOR ALVARADO DRIVE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	Roger Brea	7-3-91	WATER	M.C.Chen	5-30-91
Trans. Dev	R.D. Brunk	6-28-91	WASTE WATER	M.C.	"
HYDROLOGY	CAM	5-28-91			

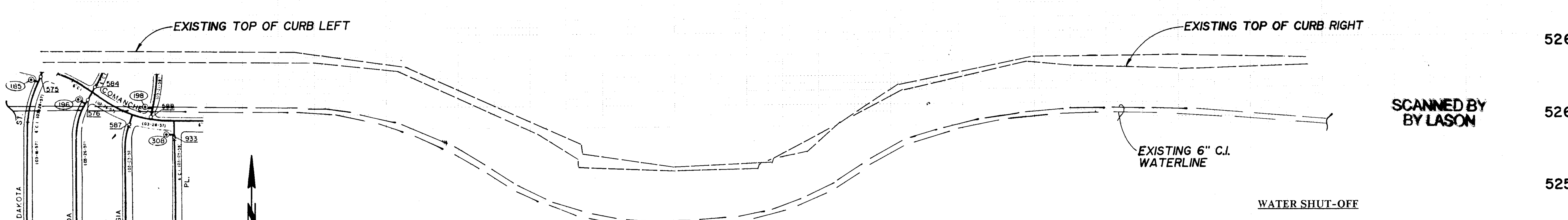
DRAWING NO. 4057.90 | MAP NO. G-18 | SHEET 2 OF 12

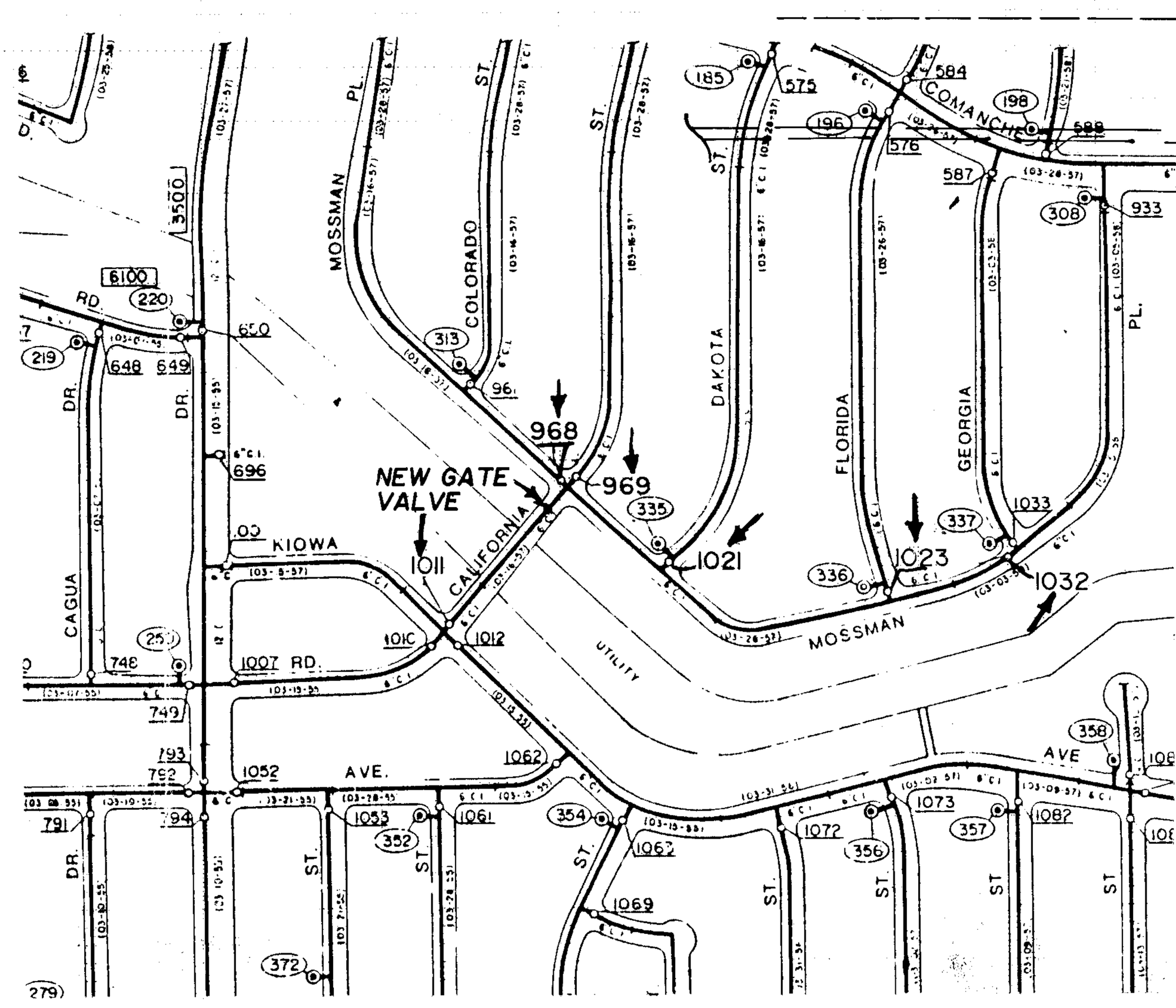


CALIFORNIA STREET NE.

LEGEND

T.C.	=	TOP OF CURB
SAS	=	SANITARY SEWER
W.M.	=	WATER METER
G.V.	=	GATE VALVE
FL	=	FLOW LINE
→	=	DIRECTION OF FLOW
—W—	=	WATER LINE
C.I.	=	CAST IRON
—G—	=	GAS LINE
HP	=	HIGH PRESSURE
M.H	=	MANHOLE
P.P.	=	POWER POLE





WATER DISTRIBUTION SYSTEM - SHUT-OFF PLAN
MAP GRID - G-18S

SCANNED BY
BY LASON

WATER SHUT-OFF

- CONTRACTOR SHALL BE RESPONSIBLE FOR TIMING AND COORDINATION OF THE WATER SHUT-OFF REQUIREMENTS IN CONJUNCTION WITH COMPLETION OF THIS PROJECT.
- AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PWD/WATER SYSTEMS DIVISION (857-8200) TO INITIATE IMPLEMENTATION OF THIS WATER SHUT-OFF PLAN.
- TO COMPLETE THE NON-PRESSURE VALVE INSTALLATION AND WATERLINE RELOCATION SHOWN, THE EXISTING VALVES LISTED BELOW AND MARKED WITH AN ARROW (→) ON THE LEFT MAP MUST BE CLOSED BY PWD/WATER SYSTEM PERSONNEL.

FIRST SHUT-OFF (VALVE INSTALLATION)

MAP NO.	VALVE NO.
G-18S	968
G-18S	969
G-18S	1011
G-18S	1021
G-18S	1023
G-18S	1032

SECOND SHUT-OFF (WATERLINE RELOCATION)

MAP NO.	VALVE NO.
G-18S	1011
G-18S	NEW VALVE

NOTE:

1. EXISTING PEDESTRIAN BRIDGE T-BEAMS TO BE SALVAGED AND TRANSPORTED TO A STORAGE SITE IDENTIFIED BY THE ENGINEER.
2. EXISTING PEDESTRIAN BRIDGE ABUTMENTS TO BE DEMOLISHED. SEE DETAIL ON SHEET 10 FOR LIMITS OF REMOVAL.
3. CONTRACTOR TO PROVIDE A DETAILED TRAFFIC CONTROL PLAN FOR REVIEW & APPROVAL FOR EACH SPECIFIC PHASE OF WORK (7) SEVEN DAYS PRIOR TO INSTALLATION. SPECIAL ADVANCE WARNING SIGNS WILL BE REQUIRED ON MOSSMAN PL., KIOWA AVE., & CALIFORNIA ST.
4. A FULL STREET CLOSURE R/W TO R/W WILL BE REQUIRED DURING BRIDGE CONSTRUCTION.

AS BUILT INFORMATION: CONTRACTOR / WORK ORDER / INSPECTOR / ACCEPTANCE BY / FIELD VERIFICATION BY / DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION: NO. / RECORDED BY / DATE

BENCH MARKS: STA NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "N.M. 367-4, 1969" SET IN CONCRETE POST FLUSH WITH THE GROUND, ELEVATION 5202.40'

SURVEY INFORMATION — FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

ENGINEER'S SEAL

REVISIONS

NO.	DATE	REMARKS	BY

DESIGN: DESIGNED BY C.C. DATE 12-27-90; DRAWN BY A.M., R.V., S.S. DATE 12-27-90; CHECKED BY D.H. DATE 1-8-91

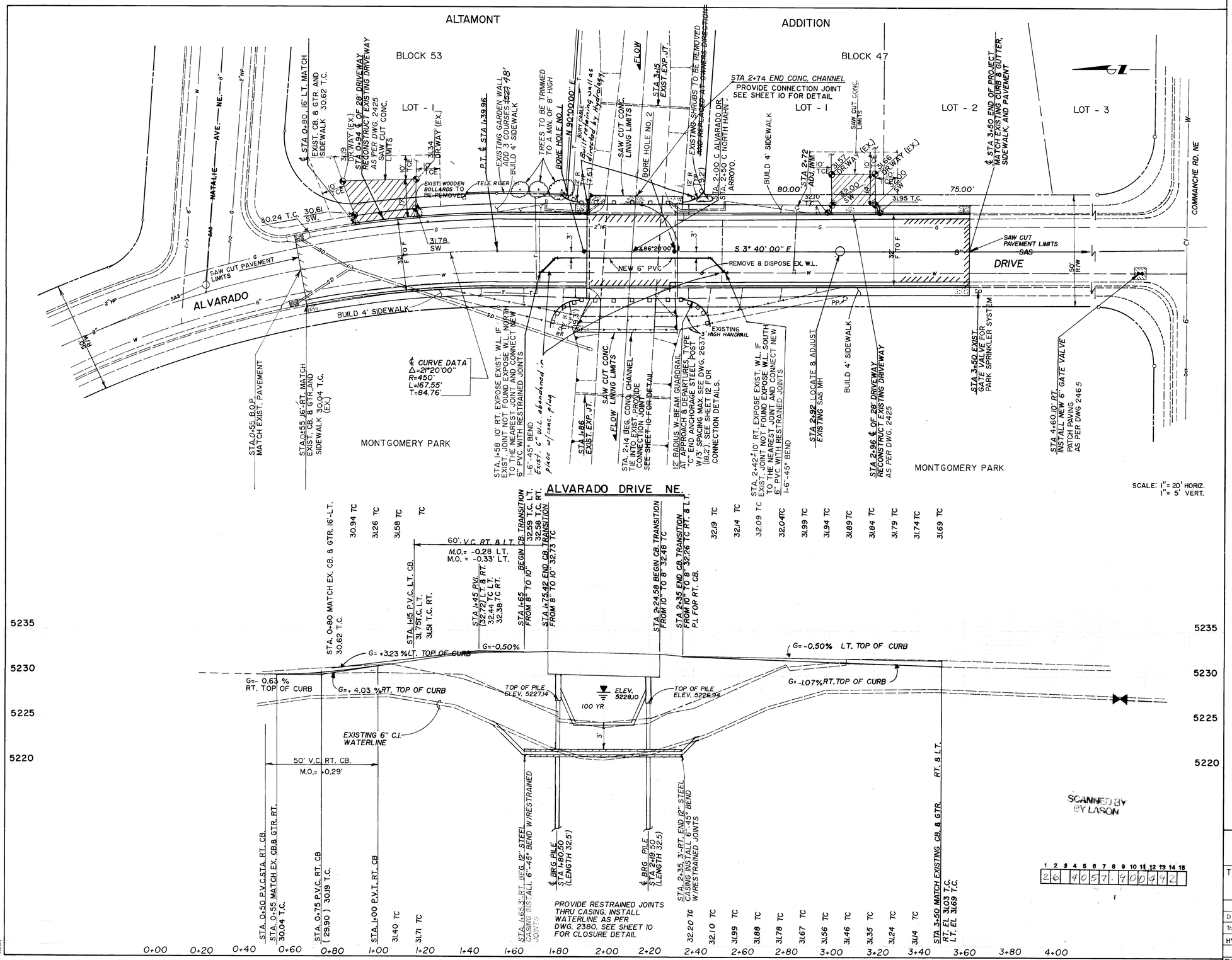
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
26 4057 900342

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: EXISTING CONDITIONS, BARRICADING PLAN & LIMITS OF REMOVAL FOR CALIFORNIA STREET

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	[signature]	7-3-91	WATER	[signature]	5-30-91
Trans Dev	[signature]	6-28-91	WASTE WATER	[signature]	
HYDROLOGY	CAM	5-28-91			

DRAWING NO. 4057.90 | MAP NO. G-18 | SHEET 3 OF 12



LEGEND

T.C.	=	TOP OF CURB
SAS	=	SANITARY SEWER
W.M.	=	WATER METER
G.V.	=	GATE VALVE
	=	FLOW LINE
	=	DIRECTION OF FLOW
—W—	=	WATER LINE
C.I.	=	CAST IRON
—G—	=	GAS LINE
HP	=	HIGH PRESSURE
M.H	=	MANHOLE
P.P.	=	POWER POLE
	=	SPOT ELEVATION (NEW)
SW	=	SIDEWALK
TCE	=	TEMPORARY CONSTRUCTION EASEMENT

NOTES:

1. EXISTING 6" WATERLINE TO BE REMOVED AND RELOCATED WITH P.V.C. BETWEEN STATION 1+58 AND 2+42 USING RESTRAINED JOINTS.
2. 2" GAS LINE TO BE RELOCATED BY THE GAS COMPANY OF NEW MEXICO AFTER BRIDGE IS COMPLETED AND BEFORE STREET IS PAVED. GAS COMPANY OF NEW MEXICO NEEDS A TWO WEEK NOTICE BEFORE RELOCATING GAS LINE.
3. NO SEPARATE PAYMENT WILL BE MADE FOR THE RELOCATION OF EXISTING AERIAL UTILITY LINES NECESSARY TO ACCOMMODATE CONSTRUCTION ACTIVITY.
4. EXTEND EXISTING SPRINKLER SYSTEM TO NEW SIDEWALK, AND COVER AREA WITH SOD.

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

BENCH MARKS

STA NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "NM 367-4, 1969" SET IN CONCRETE POST FLUSH WITH THE GROUND. ELEVATION 5202.40'

AS BUILT INFORMATION

CONSTRUCTION STAKED BY DATE
INSPECTION BY DATE
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWING CORRECTED BY DATE

MICRO-FILM INFORMATION

RECORDED BY DATE
NO

ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER ROGER A. LINEE 9457 STATE OF NEW MEXICO

NO.	DATE	REMARKS
		REVISIONS
		DESIGN
		DESIGNED BY C.C. DATE 12-18-90
		DRAWN BY A.M. & R.V. DATE 12-27-90
		CHECKED BY D.H. DATE 1-8-91

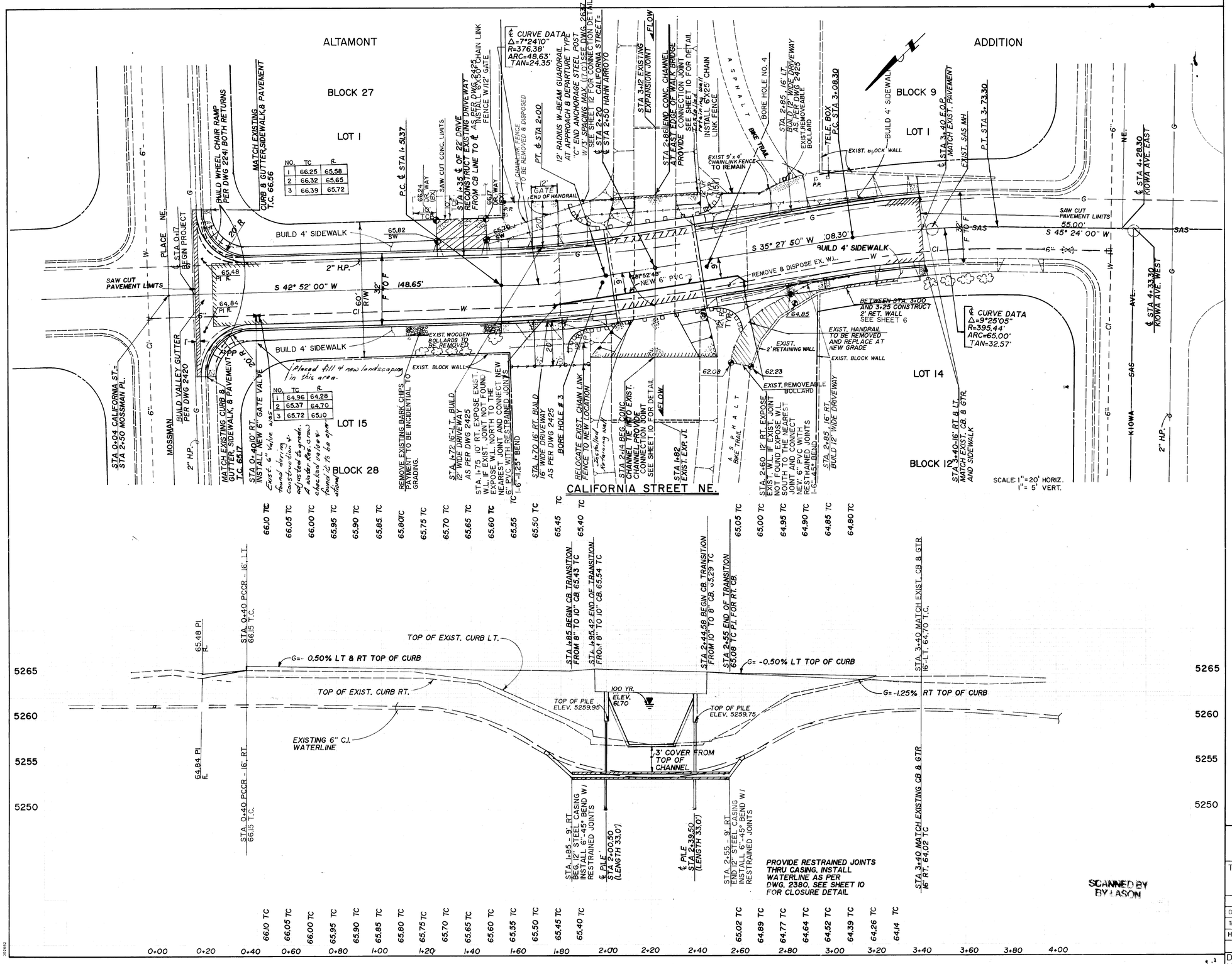
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: ALVARADO DRIVE NE
PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	Roger A. Linee	7-3-91	WATER	MLO for	5-30-91
Trans. Dev.	[illegible]	6-28-91	WASTE WATER	MLO	"
HYDROLOGY	CAM	5-28-91			

DRAWING NO. 4057.90 | MAP NO. G-18 | SHEET 4 OF 12

302682



NOTES:

1. BIKE TRAIL TO BE RELOCATED BETWEEN EXISTING BOLLARD AND THE NEW DRIVEWAY ON THE WEST SIDE OF CALIFORNIA STREET. MATCH EXISTING ASPHALT AT THE BOLLARD AND GRADE EAST AT 7.7% SLOPE TO MEET NEW DRIVEWAY.
2. EXISTING RETAINING WALL NEEDS ONE COURSE OF 8" CMU ADDED ON TOP FROM APPROXIMATELY 15' EAST OF THE BOLLARD TO STATION 3+00, 23'-RIGHT. BUILD 2' RETAINING WALL FROM STATION 3+00 TO STATION 3+25, 23'-RIGHT.
3. REMOVE EXISTING HANDRAIL AND RE-INSTALL ON NEW GRADE FROM THE BOLLARDS TO BACK OF SIDEWALK. APPROXIMATELY 40' L.F.
4. NO SEPARATE PAYMENT WILL BE MADE FOR THE RELOCATION OF EXISTING AERIAL UTILITY LINES NECESSARY TO ACCOMMODATE CONSTRUCTION ACTIVITY.

LEGEND

T.C.	=	TOP OF CURB
SAS	=	SANITARY SEWER
W.M.	=	WATER METER
G.V.	=	GATE VALVE
℄	=	FLOW LINE
℄	=	DIRECTION OF FLOW
—W—	=	WATER LINE
C.I.	=	CAST IRON
—G—	=	GAS LINE
HP	=	HIGH PRESSURE
M.H	=	MANHOLE
P.P.	=	POWER POLE
◉	=	SPOT ELEVATION (NEW)
SW	=	SIDEWALK
TCE	=	TEMPORARY CONSTRUCTION EASEMENT

NO.	TC	ft
1	66.25	65.58
2	66.32	65.65
3	66.39	65.72

NO.	TC	ft
1	64.96	64.28
2	65.37	64.70
3	65.72	65.10

SURVEY INFORMATION

NO.	FIELD NOTES BY	DATE
	MARQUEZ SURVEY CO.	10/90

BENCH MARKS

STA NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET
STAMPED "N.M. 367-4, 1969" SET IN CONCRETE
POST FLUSH WITH THE GROUND. ELEVATION 5202.40'

AS BUILT INFORMATION

CONTRA. NO.
AS BUILT BY
INSPECTORS
FIELD CHANGE BY
VERIFICATION BY
CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY
DATE
NO

ENGINEER'S SEAL

REVISIONS

NO.	DATE	REMARKS	BY
		DESIGN	

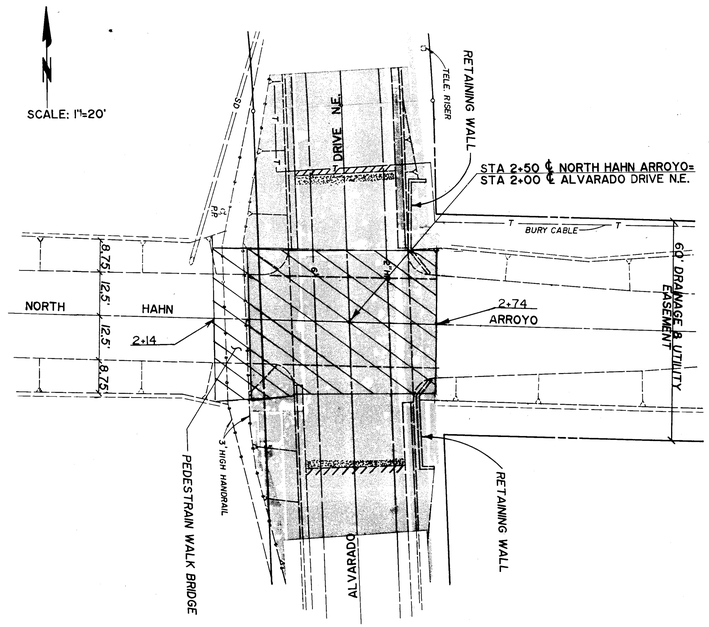
DESIGNED BY C.C. DATE 12-27-90
DRAWN BY A.M., R.V., S.S. DATE 12-27-90
CHECKED BY D.H. DATE 1-8-91

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

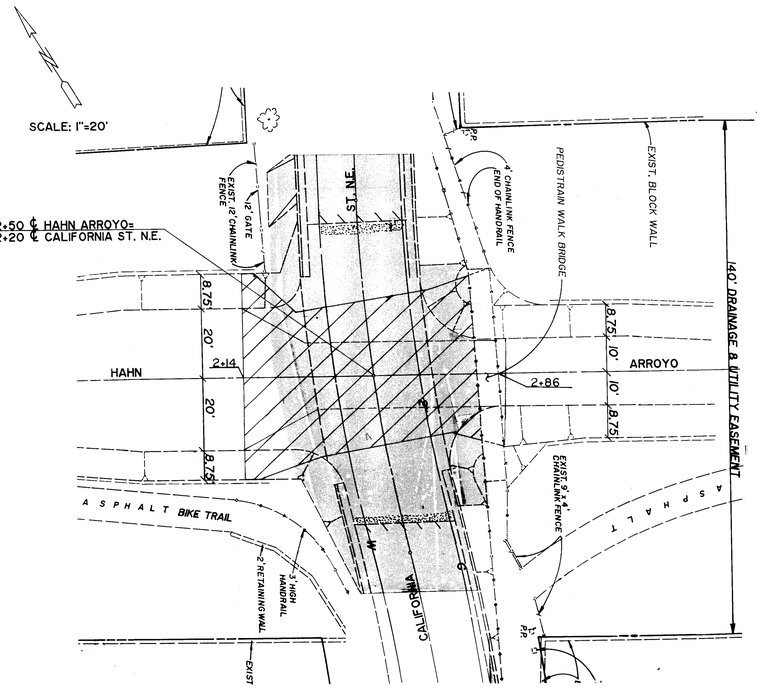
TITLE: CALIFORNIA STREET PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	Ronald Bohannan	7-3-91	WATER	[illegible] for	5-30-91
Trans. Dir.	[illegible]	6-28-91	WASTE WATER	[illegible]	"
HYDROLOGY	CAM	5-28-91			

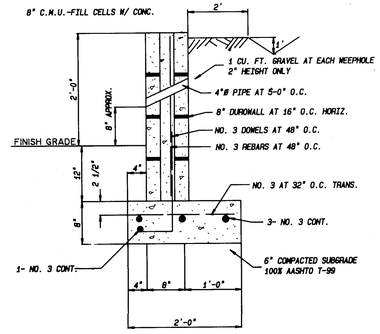
DRAWING NO. 4057.90
MAP NO. G-18
SHEET 5 OF 12



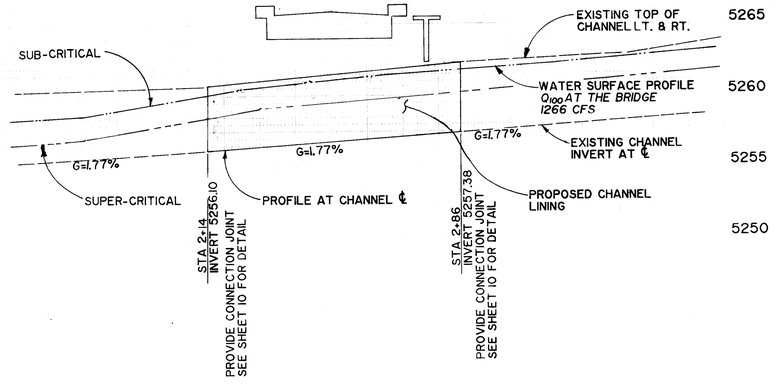
NORTH HAHN ARROYO AT ALVARADO DR. N.E.



HAHN ARROYO AT CALIFORNIA ST. N.E.



TYPICAL SECTION
RETAINING WALL 2'-0"
SEE SHEET 5 FOR LOCATION



NOTE:

CONSTRUCTION OF CONNECTION JOINTS TO BE CONSIDERED INCIDENTAL TO CHANNEL CONSTRUCTION AND NO SEPARATE PAYMENT WILL BE MADE.

SCANNED BY BY LASON

SURVEY INFORMATION
FIELD NOTES BY MARQUEZ SURVEY CO. DATE 10/90
NO

AS BUILT INFORMATION
BENCH MARKS
STA NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET
STAMPED "NM 367-4, 1969" SET IN CONCRETE
POST FLUSH WITH THE GROUND, ELEVATION 5202.40'
DATE
DATE
DATE
MICRO-FILM INFORMATION
DATE

ENGINEER'S SEAL
4-17-91

NO	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
	DATE 12-27-90	DESIGNED BY C.C.	
	DATE 12-27-90	DRAWN BY S.S.	
	DATE 1-8-91	TRACED BY D.H.	

1 2 3 4 5 6 7 8 9 10 11 12 13 14
26 40571 19 06 42

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: CHANNEL PROFILE ALVARADO DRIVE N.E. AND CALIFORNIA STREET N.E.

APPROVALS	ENGINEER	DATE	APPROVALS		DATE
D.R.C. Chair	Roger L Green	7-3-91	WATER	M.C. Chan	5-30-91
Trans. Dev.	R. Brunk	6-28-91	WASTE WATER	MCO	"
HYDROLOGY	CAM	5-28-91			

DRAWING NO. 4057.90 | MAP NO. G-18 | SHEET 6 OF 12

GENERAL NOTES: (FOR BOTH BRIDGES)

1. WORKMANSHIP AND MATERIAL SHALL CONFORM TO CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1986 EDITION.

2. CONCRETE FOR STRUCTURAL CAST-IN-PLACE CONCRETE USE CLASS A. CHAMFER ALL EXPOSED EDGES OF CONCRETE STRUCTURES 3/4 INCH UNLESS NOTED OTHERWISE ON THE DETAILS.

3. REINFORCING BARS. ALL REINFORCING BARS SHALL CONFORM TO AASHTO M-31, GRADE 60, UNLESS NOTED OTHERWISE ON THE DETAILS DIMENSIONS REFER TO CENTERLINE OF BAR UNLESS NOTED OTHERWISE ON THE DETAILS.

4. STRUCTURAL STEEL TO BE CARBON STEEL CONFORMING TO AASHTO SPECIFICATIONS M-183 UNLESS NOTED OTHERWISE ON THE DETAILS. SHOP PLANS MUST BE APPROVED BY THE ENGINEER BEFORE FABRICATION IS STARTED.

5. ~~FOUNDATION DATA. FOUNDATION DATA SHOWN ON PLANS ARE FOR DESIGNERS ONLY. THE ENGINEER IS NOT RESPONSIBLE FOR ANY INTERPRETATION OR ASSUMPTIONS MADE BY THE CONTRACTORS BASED ON THIS INFORMATION.~~

6. CONTRACTOR SHALL VERIFY IN THE FIELD ALL DIMENSIONS, ELEVATIONS AND DETAILS PERTAINING TO THE EXISTING STRUCTURE WHICH WILL BE INVOLVED IN THE NEW CONSTRUCTION, BEFORE PROCEEDING WITH THE NEW WORK.

7. **TOP OF CONCRETE DECK ELEVATION AT ANY DESIRED POINTS WILL BE FURNISHED BY THE FIELD ENGINEER UPON REQUEST.**

8. ALL PREFORMED BITUMINOUS JOINT FILLER SHALL CONFORM TO AASHTO SPECIFICATION M-213. COST OF JOINT FILLER IS INCIDENTAL TO THE COMPLETION OF THE WORK AND NO DIRECT PAYMENT WILL BE MADE THEREFORE.

9. METAL BRIDGE RAILING POSTS AND TUBES SHALL RECEIVE ONE PRIME COAT OF RED LEAD IN CONFORMANCE WITH SECTION 615 OF THE STANDARD SPECIFICATIONS AND TWO COATS OF PAINT CONFORMING TO AASHTO M-70, TYPE 1, CLASS B. PAINT SHALL BE TINTED COLOR SAMPLES, TINTED COLOR SAMPLES SHALL BE SUBMITTED TO THE CITY FOR APPROVAL.

10. STRUCTURAL PRECAST/PRESTRESSED CONCRETE

10.1 GENERAL:

A. STRUCTURAL PRECAST/PRESTRESSED CONCRETE CONSTRUCTION SHALL INCLUDE MANUFACTURE, TRANSPORTATION, AND INSTALLATION, AS REQUIRED FOR THE PRECAST PORTIONS OF THE STRUCTURE AS SHOWN AND SPECIFIED, INCLUDING BOTH CONVENTIONALLY AND REINFORCED AND PRETENSIONED MEMBERS

B. WORK SPECIFIED ELSEWHERE:

1. GROUTING
2. INSERT AND FITTINGS TO BE INSTALLED BY OTHER TRADES

10.2 STANDARDS:

A. MANUFACTURE, TRANSPORTATION AND INSTALLATION SHALL BE BY A COMPANY SPECIALIZING ;IN PROVIDING PRECAST PRODUCTS AND SERVICES NORMALLY ASSOCIATED WITH PRECAST PRESTRESSED CONCRETE CONSTRUCTION.

B. THE FOLLOWING SPECIFICATIONS, STANDARDS AND CODES, LATEST EDITIONS SHALL GOVERN WITH MODIFICATIONS AS SPECIFIED HEREIN:

1. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AASHTO
2. AWS D12.1 RECOMMENDED PRACTICES FOR WELDING REINFORCING, STEEL, METAL INSERT AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION.

10.3 SHOP DRAWINGS AND SUBMITTALS:

A. THE MANUFACTURER SHALL PREPARE AND SUBMIT TO THE ENGINEER 6 SETS OF SHOP DRAWINGS FOR APPROVAL AND SHALL NOT PROCEED WITH MANUFACTURE PRIOR TO APPROVAL OF DRAWINGS BY THE ENGINEER AND GENERAL CONTRACTOR.

B. SHOP DRAWINGS SHALL BE COMPLETE AND SHALL INCLUDE A LAYOUT PLAN; CONNECTION AND ANCHORAGE DETAILS; SIZE AND INSERT; AND MEMBER IDENTIFICATION MARKS. THESE IDENTIFICATION MARKS SHALL APPEAR ON THE MANUFACTURED UNITS TO FACILITATE CORRECT FIELD PLACEMENT.

C. 6 SETS OF DESIGN CALCULATIONS, OR GRAPHIC DESIGN OF MANUFACTURER'S STANDARD UNITS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

D. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO CHECK THE SHOP DRAWINGS AND TO ENSURE THEIR CONFORMANCE WITH THE OVERALL BRIDGE DIMENSIONS, AND TO RESOLVE ANY CONFLICTS BETWEEN THE PRECAST/PRESTRESSED CONCRETE WORK, HIS WORK AND THAT OF OTHER TRADES, PRIOR TO HIS APPROVAL OF THE SHOP DRAWINGS.

10.4 TESTING:

A. SAMPLING AND TESTING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD PROCEDURE, SUBJECT TO APPROVAL BY THE ENGINEER.

10.5 DESIGN:

A. PRECAST/PRESTRESSED CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AASHTO. DESIGN SUPPORT LIVE AND DEAD LOADS INDICATED IN THE DRAWINGS.

10.6 CONCRETE STRENGTH:

A. CONCRETE STRENGTH SHALL CONFORM TO THE REQUIREMENTS FOR RELEASE STRENGTH AND 28-DAY STRENGTH SHOWN ON THE STRUCTURAL DRAWINGS OR IN APPROVED DESIGN CALCULATIONS.

10.7 PRESTRESS FORCE:

A. TENSIONING AND RELEASING OF STRESSING STRAND MAY BE BY EITHER SINGLE OR MULTIPLE STRAND PROCEDURES.

10.8 OPENINGS:

A. WHERE PRACTICAL, PRIMARILY ON THIN SECTIONS, THE MANUFACTURER SHALL ONLY PROVIDE FOR THOSE OPENINGS, 6 IN. OR LARGER AS SHOWN ON THE STRUCTURAL DRAWINGS. OTHER OPENINGS, INSERT, AND FITTINGS SHALL BE LOCATED, FURNISHED, AND INSTALLED BY THE TRADE REQUIRING SAME AFTER THE PRECAST/PRESTRESSED PRODUCTS HAVE BEEN ERECTED.

10.9 ATTACHMENTS:

A. SUBJECT TO APPROVAL OF THE ENGINEER, PRECAST/PRESTRESSED PRODUCTS MAY BE DRILLED OR "SHOT" PROVIDED NO CONTACT IS MADE WITH THE PRESTRESSING STEEL. SHOULD SPALLING OCCUR, IT SHALL BE REPAIRED BY THE TRADE DOING THE DRILLING OR SHOOTING.

10.10 TOLERANCES:

A. THE DIMENSIONS OF PRODUCTS SHALL BE AS SHOWN ON THE PLANS. PRODUCTS SHALL BE FABRICATED AND FURNISHED TO THE FOLLOWING TOLERANCES: CASTING TOLERANCE TO BE IN ACCORDANCE WITH THE LATEST EDITION OF P.C.I. QUALITY CONTROL MANUAL MNL-116.

10.11 FINISHES:

A. STANDARD UNDERSIDE: RESULTING FORM CASTING AGAINST APPROVED FORMS USING GOOD INDUSTRY PRACTICE IN CLEANING OF FORMS, DESIGN OF CONCRETE MIX, PLACING AND CURING. SMALL FURNACE HOLES CAUSED BY AIR BUBBLES, NORMAL FORM JOINT MARKS, AND MINOR CHIPS AND SPALLS WILL BE TOLERATED, BUT NO MAJOR OR UNSIGHTLY IMPERFECTIONS, HONEYCOMB, OF STRUCTURAL DEFECTS WILL BE PERMITTED.

B. STANDARD TOP: RESULT OF VIBRATING SCREED AND ADDITIONAL HAND FINISHING AT PROJECTIONS. NORMAL COLOR VARIATIONS, MINOR INDENTATIONS DUE TO REQUIRED COVERING, AND MINOR CHIPS AND SPALLS WILL BE PERMITTED. NO MAJOR IMPERFECTIONS, HONEYCOMB, OR STRUCTURAL DEFECTS WILL BE PERMITTED.

C. EXPOSED VERTICAL ENDS: STRANDS SHALL BE RECESSED AND THE ENDS OF THE MEMBER WILL RECEIVE SACKED FINISH.

10.12 TRANSPORTING:

A. CARE SHALL BE USED IN TRANSPORTING PRECAST/PRESTRESSED UNITS TO THE JOBSITE. MEMBERS SHALL BE HANDLED IN SUCH MANNER AS TO PREVENT EXCESSIVE STRESSES, SPALLING OR UNDESIRABLE CRACKING.

10.13 QUALIFIED ERECTOR:

A. INSTALLATION OF PRECAST/PRESTRESSED CONCRETE SHALL BE PERFORMED BY THE MANUFACTURER OR A COMPETENT ERECTION CONTRACTOR HAVING EXPERIENCE IN THE ERECTION OF THIS TYPE OF MATERIAL. MEMBERS SHALL BE LIFTED BY MEANS OF SUITABLE LIFTING DEVICES AT POINTS PROVIDED BY THE MANUFACTURER. TEMPORARY SHORING AND BRACING, IF NECESSARY, SHALL COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.

10.14 ALIGNMENT:

A. MEMBERS SHALL BE PROPERLY ALIGNED AND LEVELED AS REQUIRED BY THE APPROVED SHOP DRAWINGS. VARIATIONS BETWEEN ADJACENT MEMBERS SHALL BE REASONABLY LEVELED OUT BY ACTING, LOADING. OR ANY OTHER FEASIBLE METHOD AS RECOMMENDED BY THE MANUFACTURER AND ACCEPTABLE TO THE ENGINEER.

10.15 REPAIR:

A. MEMBERS DAMAGED DURING ERECTION MAY BE REPAIRED PROVIDING SUCH DAMAGE DOES NOT IMPAIR THE STRUCTURAL ADEQUACY OR APPEARANCE.

DESIGN DATA

DESIGN IS IN ACCORDANCE WITH AASHTO SPECIFICATIONS, DATED 1983 & INTERIMS TO DATE.

DESIGN STRESSES:
STRUCTURAL STEEL: AASHTO M-183, fs = 20,000 PSI
REINFORCED CONCRETE: f'_c = 4,000 PSI @ 28 DAYS
fc = 1,600 PSI, fs = 24,000 PSI (GRADE 60)

LIVELOAD: HS 20-44 (ROADWAY), 60 PSF (SIDEWALK)
WEARING SURFACE DESIGN LOAD: AVERAGE 4" THICK ASPHALT SURFACE (50 PSF)

HORIZONTAL WIND VELOCITY: 80 M.P.H

PRECAST PRESTRESSED CONCRETE: DESIGN ACCORDING TO AASHTO SPECIFICATION. DATE 1983 & INTERIMS TO DATE. f'_c = 5,500 PSI; f'_{ci} = 5000 PSI. 1/2" 0 HIGH STRENGTH SEVEN-WIRE STRAND LOW-RELAXATION: f's = 41,300 lbs PER STRAND. F_{si} = 31,000 LBS. PER STRAND.

CONCRETE CURB AND SIDEWALKS TO BE CAST ON PRECAST PRESTRESSED BEAMS. AT FACTORY.

f'_c = 5,000 PSI @ 28 DAYS
fc = 2,000 PSI
fs = 24,000 PSI (GRADE 60)

DRAWING REQUIRED:

GENERAL NOTES AND ESTIMATED QUANTITIES
STRUCTURE PLAN AND PROFILE
GIRDER PLAN AND SECTION
ABUTMENT DETAILS

METAL BRIDGE RAILING - TYPE C BMR-004-08
EXCAVATION AND BACKFILL
FOR BRIDGES SHEET II

SUPPLEMENTAL SPECIFICATION

SPECIFICATION FOR AUGERED-PRESSURE GROUTED PILING INSTALLATION. (STS 6 THRU 9)

COST REQUIREMENTS:

1. L3 X L3 X 1/4 NOSING, ELASTOMERIC BEARING PAD, COMPRESSION JOINT, WATERPROOFING MEMBRANE, BITUMINOUS JOINT FILLER SHALL BE INCIDENTAL TO THE COST OF OTHER ITEMS OF THE COMPLETION OF THE WORK AND NO DIRECT PAYMENT WILL BE MAKE THEREFOR.

2. REBAR SHALL BE INCIDENTAL TO THE COST OF CONCRETE OR PRECAST ITEM INVOLVED.

3. ALL REINFORCING STEEL WITHIN 4'-0" OF EXPANSION JOINT SHALL BE EPOXY COATED AND COST SHALL BE INCIDENTAL TO THE CONCRETE OR PRECAST ITEM INVOLVED.

ESTIMATED QUANTITIES

ITEM	UNIT	ALVARADO DRIVE SUPERSTRUCTURE	ALVARADO DRIVE NORTH ABUT.	ALVARADO DRIVE SOUTH ABUT.	ALVARADO DRIVE TOTAL	CALIFORNIA STREET SUPERSTRUCTURE	CALIFORNIA STREET NORTH ABUT.	CALIFORNIA STREET SOUTH ABUT.	CALIFORNIA STREET TOTAL
STRUCTURE EXCAVATION FOR BRIDGES	CU. YDS.		30	30	60		30	30	60
PRECAST/PRESTRESSED BEAM UNITS-18"x60"	LIN. FT.	280			280	280			280
SUPERSTRUCTURE CONCRETE, BRIDGE SIDEWALK CLASS A	CU. YDS.	12			12	12			12
METAL RAILING, TYPE C	LIN. FT.	92			92	92			92
AUGERED CAST-IN-PLACE CONCRETE PILES	LIN. FT.		227.5	227.5	455		231	231	462
SUBSTRUCTURE CONCRETE, CLASS A	CU. YDS.		13.5	13.5	27		13.5	13.5	27

SCANNED BY BY LASON

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

BENCH MARKS
STA NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET
STAMPED "NM 367-4 1969" SET IN CONCRETE
POST FLUSH WITH THE GROUND, ELEVATION 5202.40'

AS BUILT INFORMATION
CONTRACTOR
WORK BY DATE
INSPECTORS
ACCEPTANCE BY DATE
FIELD LOCATION BY
ELEVATIONS DATE
DRAWINGS
CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO

ENGINEER'S SEAL
RICHARD B. CALLAWAY 14457 REGISTERED PROFESSIONAL ENGINEER
4-17-91

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY C.C. DATE 12-27-90
DRAWN BY S.S. DATE 12-27-90
CHECKED BY D.H. DATE 1-8-91

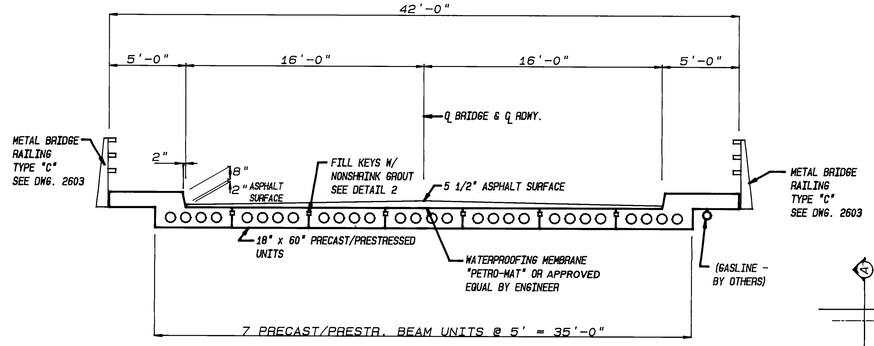
1 2 3 4 5 6 7 8 9 10 11 12
26 4057.90 07 92

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: BRIDGE GENERAL NOTES & ESTIMATED QUANTITIES

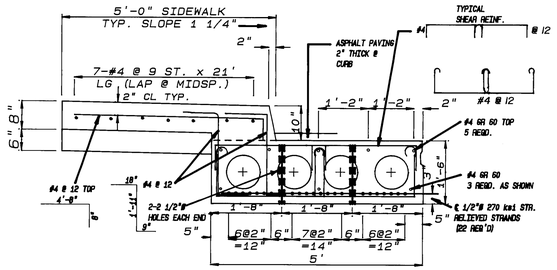
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair		7-3-91	WATER		5-30-91
Trans. Dev.		6-28-91	WASTE WATER		"
HYDROLOGY		5-28-91			

DRAWING NO. 4057.90 | MAP NO. G-18 | SHEET 7 OF 12



SECTION THRU BRIDGES

NOT TO SCALE

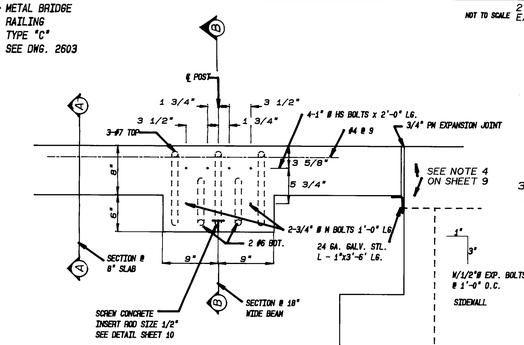


SECTION A-A

SECTION @ 8" SLAB

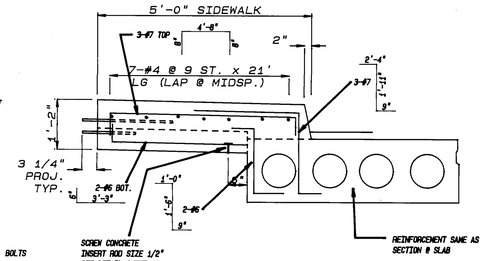
TYPICAL EXTERNAL BEAM SECTION

NOT TO SCALE 2 REQD. EACH BRIDGE



ELEVATION AT GUARD POST AND EXPANSION JOINT

NOT TO SCALE

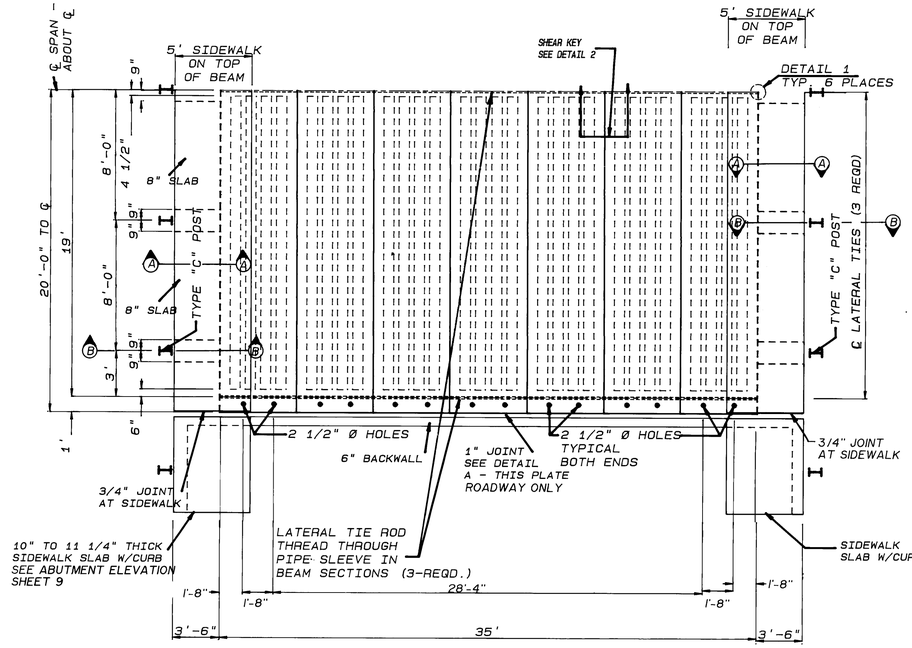


SECTION B-B

SECTION @ 18" WIDE BEAM

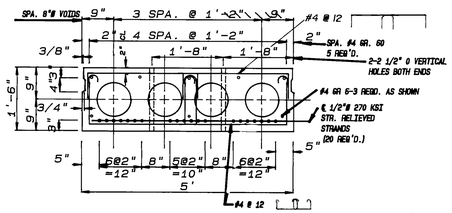
TYPICAL EXTERNAL BEAM SECTION

NOT TO SCALE



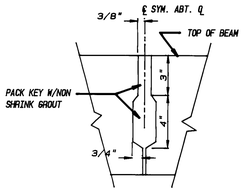
BEAM PLAN

NOT TO SCALE



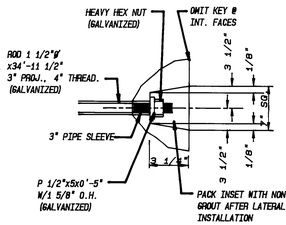
TYPICAL INTERIOR BEAM SECTION

NOT TO SCALE PRECAST/ PRESTRESSED (5 REQD.) EACH BRIDGE



SHEAR KEY DETAIL 2

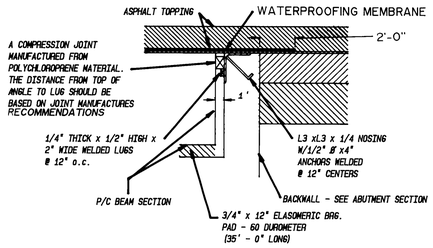
NOT TO SCALE



DETAIL 1

LATERAL TIE AND INSET

NOT TO SCALE



DETAIL A

NOT TO SCALE

SCANNED BY LASON

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

BENCH MARKS

STA. NM367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "NM 367-4, 1969 SET IN CONCRETE POST FLUSH WITH THE GROUND, ELEVATION 5202.40

AS BUILT INFORMATION

CONTRACTOR

WORK INSPECTED BY DATE

ACCEPTANCE BY DATE

FIELD VERIFICATION BY DATE

DRAWINGS CORRECTED BY DATE

MICRO-FILM INFORMATION

RECORDED BY DATE

NO

ENGINEER'S SEAL

BRUCE B. CANAHAN NEW MEXICO 4457 REGISTERED PROFESSIONAL ENGINEER

NO.	REMARKS	BY	DATE
	REVISIONS DESIGN	DESIGNED BY J.M.	4-10-91
		DRAWN BY C.C.	4-16-91
		CHECKED BY D.H.	4-16-91

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

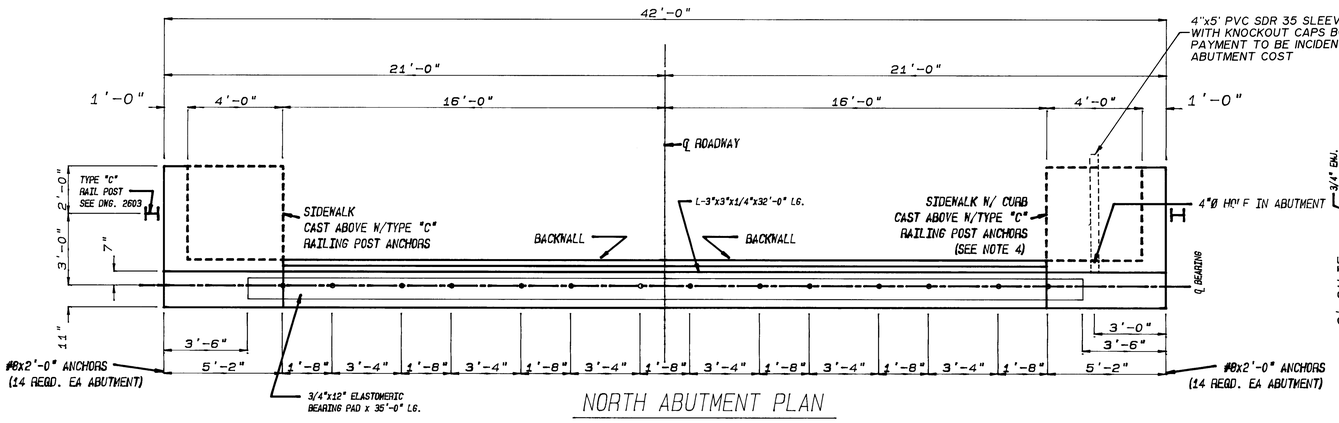
TITLE: SUPER STRUCTURE DECK PLAN
CALIFORNIA ST. & ALVARADO DR. BRIDGES

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	Roger L. Green	7-3-91	WATER	M.C. Chen	5-30-91
Trans. Dev	L. Dan Le	6-24-91	WASTE WATER	M.C.	"
HYDROLOGY	C.A.M.	5-28-91			

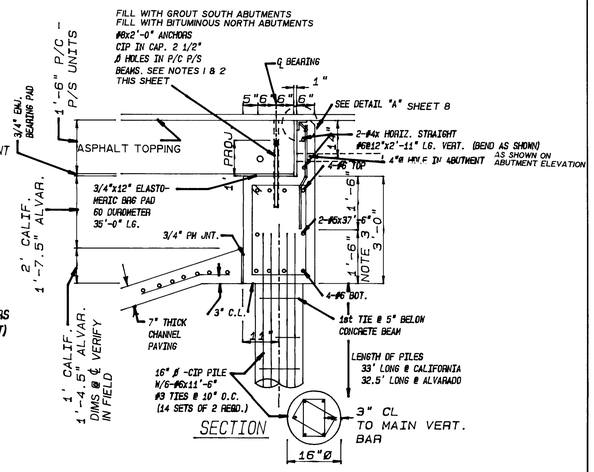
DRAWING NO. 4057.90

MAP NO. G-18

SHEET 8 OF 12



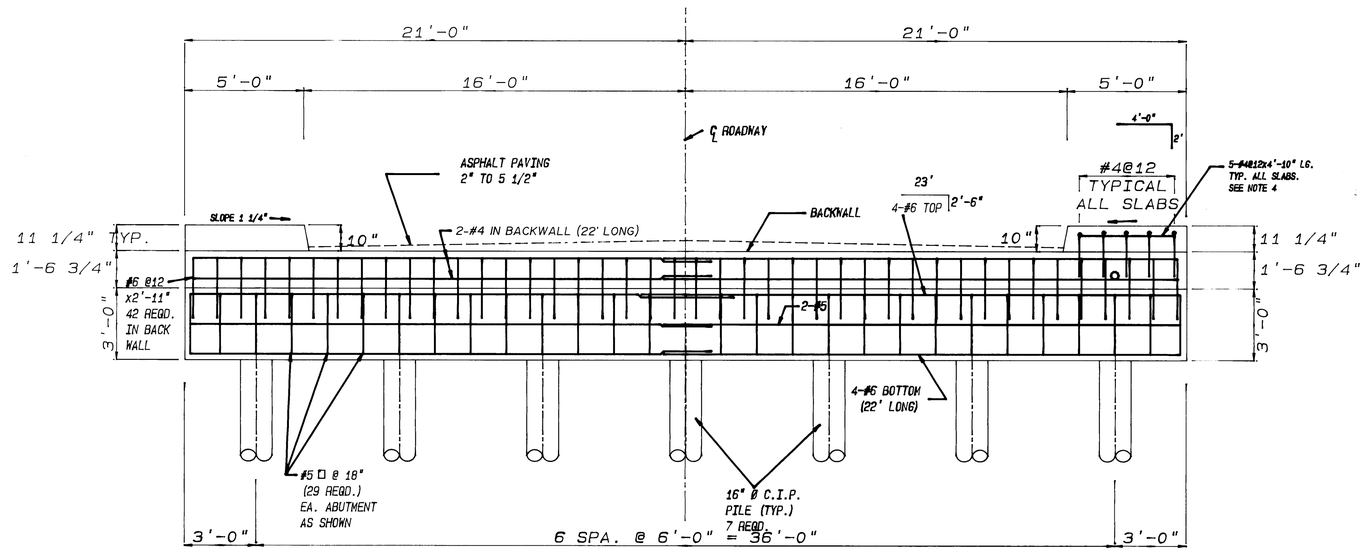
NORTH ABUTMENT PLAN



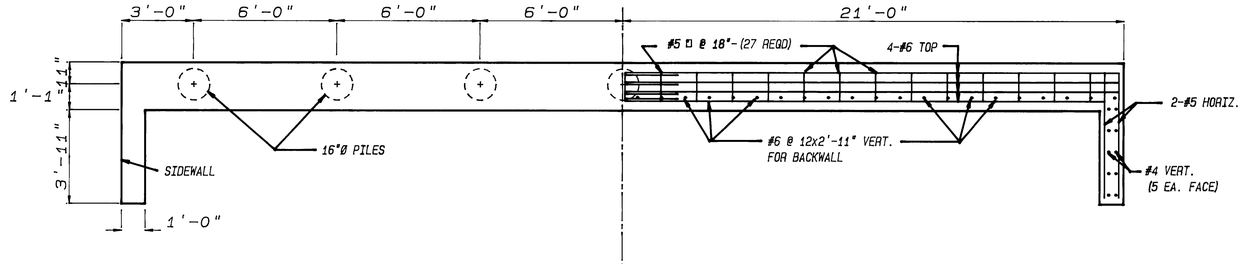
SECTION

NOTES

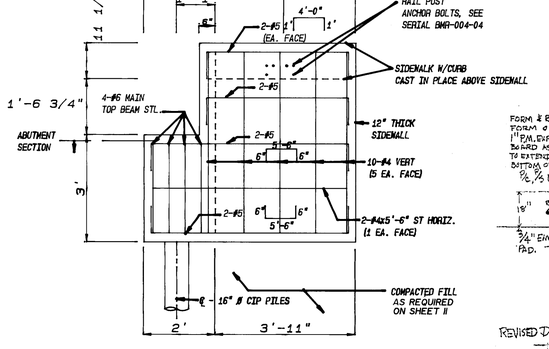
1. FILL HOLES WITH NON-SHRINK GROUT AT SOUTH ABUTMENTS.
2. FILL HOLES WITH BITUMINOUS AT NORTH ABUTMENTS (EXPANSION END)
3. EXTEND VERTICAL REINFORCING BARS FROM PILES 1'-6" INTO ABUTMENT BEAM.
4. SIDEWALKS SHOWN CAST IN PLACE ABOVE SIDEWALLS ARE TO BE POURED AFTER PRECAST BEAMS ARE INSTALLED. TOPS OF SIDEWALKS & CURB SURFACES ARE TO BE SMOOTH AND MATCH THE ADJACENT SIDEWALK & CURB SURFACES ON THE BRIDGE SUPER-STRUCTURE. PAYMENT FOR THESE SLABS ARE TO BE INCLUDED IN THE SUB-STRUCTURE CONCRETE ITEM.
5. LOCATE 6" WATERLINE PRIOR TO ANY AUGERING. IF EXISTING WATERLINE IS WITHIN 2 FEET OF AUGER HOLE, CONTACT FIELD ENGINEER.



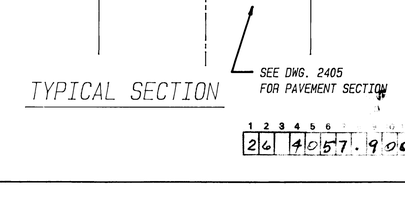
ABUTMENT ELEVATION
(SHOWING TYPICAL REINFORCING PLACEMENT)



ABUTMENT SECTION
(SHOWING TYPICAL REINFORCEMENT PLACING)

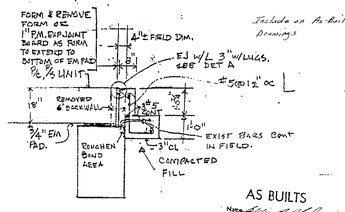


ELEVATION (SIDEWALL)

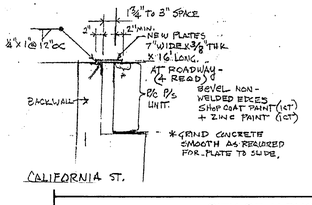


TYPICAL SECTION

SCANNED BY BY LASON



REVISED DETAIL - NORTH ABUTMENT
ALVARADO DR. 12/16/91.



SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

BENCH MARKS
STA. NM367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "NM. 367-4, 1969 SET IN CONCRETE POST FLUSH WITH THE GROUND, ELEVATION 5202.40

AS BUILT INFORMATION
CONTRACTOR
WORK BEGUN — DATE
INSPECTORS
ACCEPTANCE BY — DATE
FIELD LOCATION BY
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	J.M.
			DATE 4-10-91
			DRAWN BY C.C.
			DATE 4-16-91
			CHECKED BY D.H.
			DATE 4-16-91

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: ABUTMENT & WINGWALL DETAIL
CALIFORNIA ST. & ALVARADO DR.
BRIDGES

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	Roger A. Blue	7-3-91	WATER	M. Wilson	5-30-91
Trans. Dev	R. Bruce	6-24-91	WASTE WATER	MD	"
HYDROLOGY	CAM	5-28-91			

DRAWING NO. 4057.90
MAP NO. G-18
SHEET 9 OF 12

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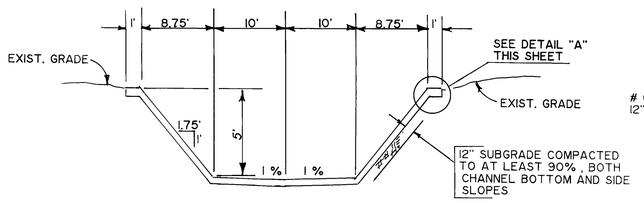
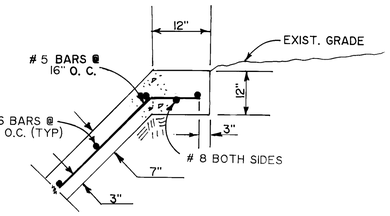
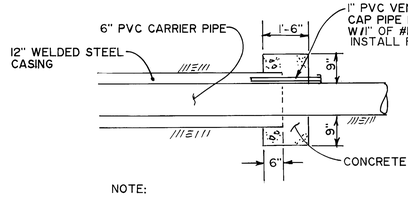
2 6 4 0 5 7 . 9 0 0 9 9 2



STA. 2+86 CALIFORNIA ST.

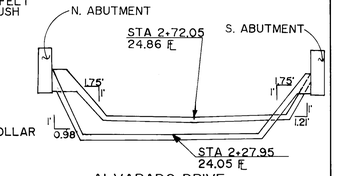


DETAIL "A"

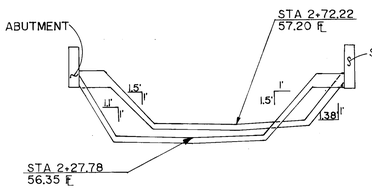


NOTE:
CARRIER PIPE SHALL BE INSTALLED INTO CASING AS PER STD. DWG. 2380

END CAP DETAIL



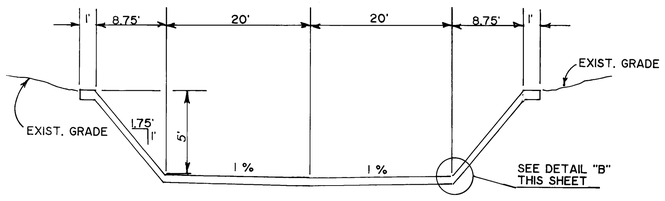
ALVARADO DRIVE
SECTION ON EAST & WEST EDGE OF BRIDGE
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL
SKEW 3°40' LT.



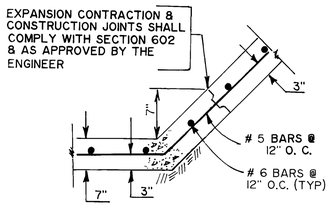
CALIFORNIA STREET
SECTION ON EAST & WEST EDGE OF BRIDGE
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL
SKEW 8°08' LT.

NOTE:

CONSTRUCTION OF CONNECTION JOINTS TO BE CONSIDERED INCIDENTAL TO CHANNEL CONSTRUCTION AND NO SEPARATE PAYMENT WILL BE MADE.

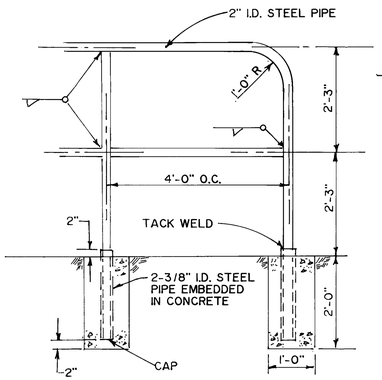


STA. 2+14 CALIFORNIA ST.



CHANNEL INVERT SIDE SLOPE INTERSECTION

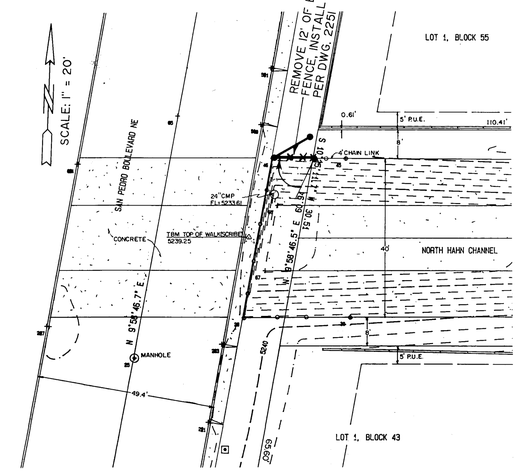
DETAIL "B"



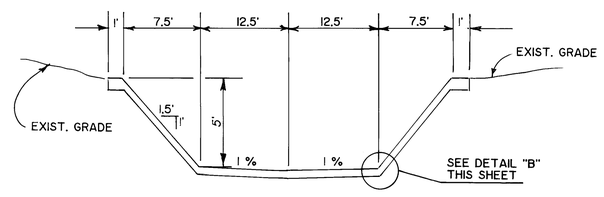
TUBULAR HANDRAIL DETAIL

HANDRAIL NOTES:

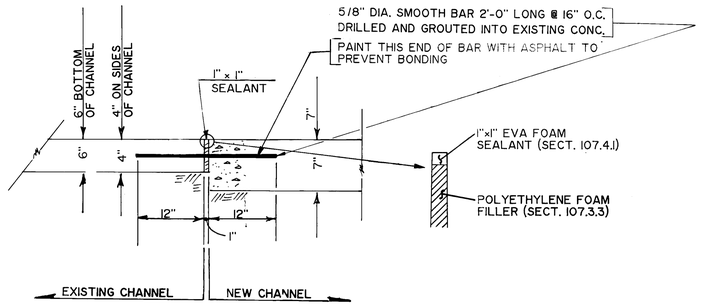
1. SPECIFICATIONS FOR 2" I.D. STANDARD WEIGHT SEAMLESS STEEL PIPE, ASTM DESIGN A53-55
2. ALL STEEL HANDRAIL SHALL RECEIVE PRIME COAT OF RED LEAD PAINT AND TWO (2) FIELD COATS OF ALUMINUM PAINT, CONFORMING WITH REQUIREMENTS OF SECTION 157 CITY SPECS.



12' GATE
AT
SAN PEDRO BLVD. & N. HAHN ARROYO

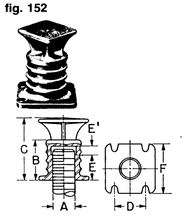


STA. 2+14 & 2+74 ALVARADO DR



CONNECTION JOINT DETAIL
SECTION C-C

screw concrete insert
fig. 152



SIZE RANGE: For use with ¾ through 12 inch pipe.
MATERIAL: Malleable iron.
FINISH: Black.
SERVICE: Upper attachment for suspending pipe from a concrete ceiling where no lateral adjustment is required.
APPROVALS: Underwriters' Laboratories listed and Factory Mutual approved for pipe sizes through 8 inch.
FEATURES:
- Ellminates the necessity of drilling holes in wooden forms.
- Reduced overall-height and four slots for nail attachment gives stability to the insert while the concrete is being poured.

ORDERING: Specify rod size, figure number, name.

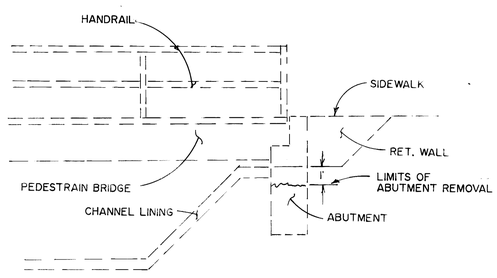
loads • weights • packaging

rod size A	pipe size	maximum* ft/com load, lbs	weight (approx) lbs each	number of pieces per carton
⅜	¾-2	610	.31	50
½	2½-3½	1130	.32	50
⅝	4-5	1260	.37	40
¾	6	2500	.64	25
⅞	8-12	2500	.71	...

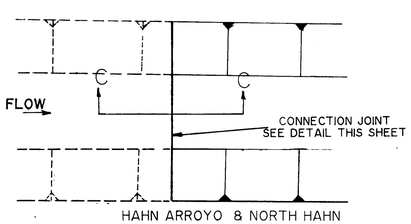
dimensions (inches)

rod size A	B	C	D	E	E'	F
⅜	11/32	2¼	1	½	⅜	1⅝
½	17/32	2¼	1	½	⅜	1⅝
⅝	17/32	2¼	1	⅝	⅜	1⅝
¾	1⅝	2½	1¼	15/16	7/16	2
⅞	1⅝	2½	1¼	1	⅜	2

* Based on insert only with minimum safety factor of 5. Rating is subject to the condition that the concrete used is of sufficient strength to hold the insert.



EXISTING PEDESTRAIN BRIDGE ABUTMENT



HAHN ARROYO & NORTH HAHN

PLAN

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
INSPECTORS
ACCEPTANCE BY — DATE
FINAL INSPECTION BY
CERTIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO

BENCH MARKS
STA. NM 367-4 IS A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "NM 367-4, 1969" SET IN CONCRETE POST FLUSH WITH THE GROUND. ELEVATION 5202.40

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
	MARQUEZ SURVEY CO.	10/90

ENGINEER'S SEAL
RICHARD B. CAMMACK NEW MEXICO 14457 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY
		DESIGN	
	DATE 4-10-91		
	DATE 4-10-91		
	DATE 4-10-91		

DESIGNED BY C.C.
DRAWN BY A.M.
CHECKED BY D.H.

9 10 11 12
26 4057.90 1092

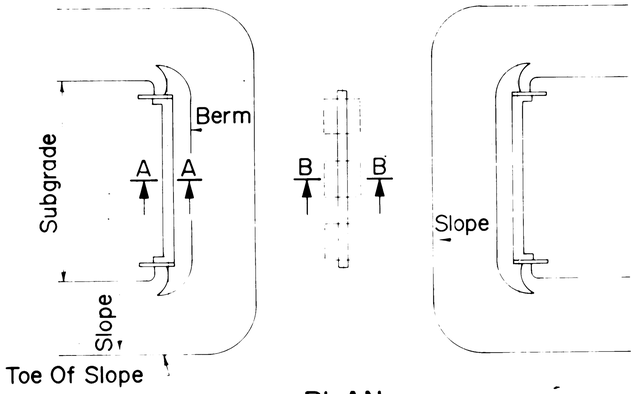
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE:
MISC. DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair		7-3-91	WATER		5-30-91
Trans. Dev		6-24-91	WASTE WATER		"
HYDROLOGY	CAM	5-28-91			

DRAWING NO. 4057.90 | MAP NO. G-18 | SHEET 10 OF 12

125490

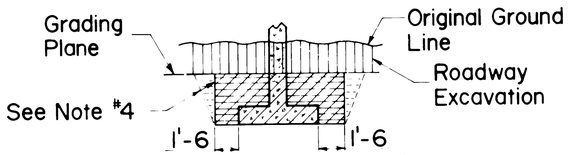


PLAN

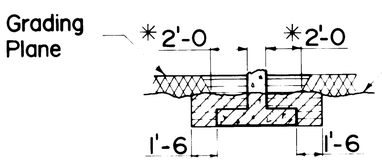
HALF ELEVATION IN CUT SECTION

HALF ELEVATION IN FILL SECTION

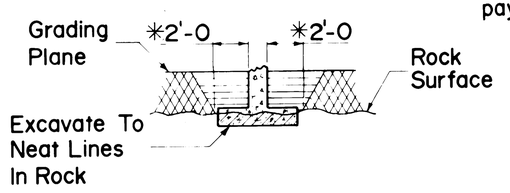
PROFILE



IN CUT SECTION
SECTION B-B

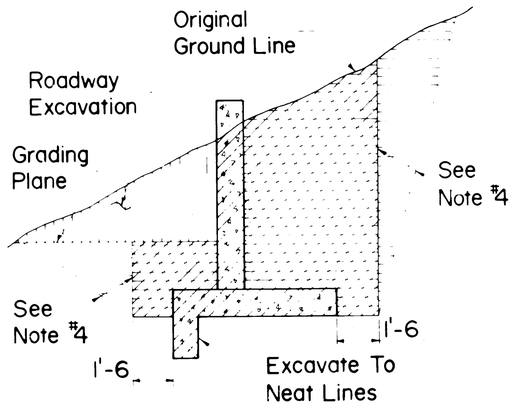


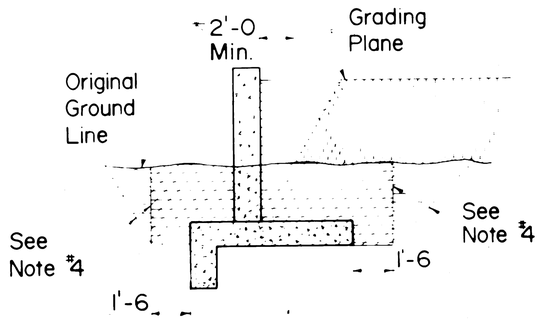
IN FILL SECTION
SECTION B-B



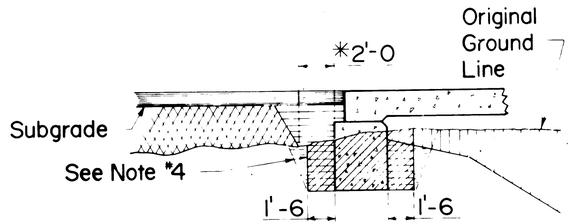
EXCAVATION IN ROCK
SECTION B-B

*SEE NOTE #3

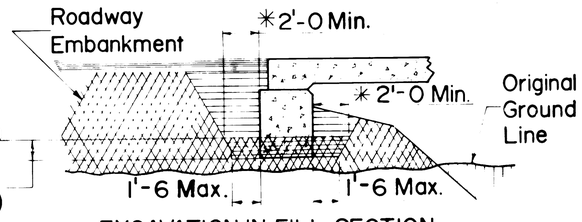




RETAINING WALLS

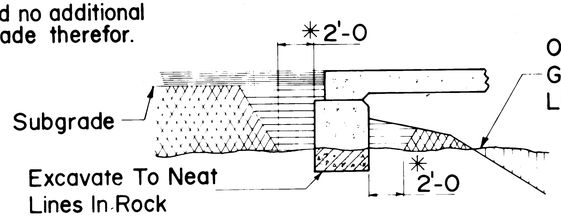


EXCAVATION NORMAL
SECTION A-A



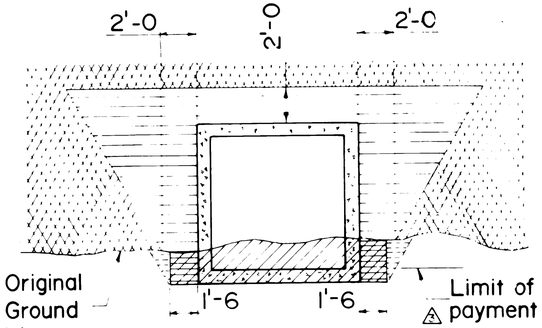
EXCAVATION IN FILL SECTION
SECTION A-A

Note: The 1'-0 excavation back down to grading plane is incidental to the construction and no additional payment shall be made therefor.



EXCAVATION IN ROCK
SECTION A-A

Note: Earthwork for CBC's to be in accordance with Section 206 of the Specifications.



Horizontal Lined Areas Indicate Backfill For The Full Length Of CBC s.

METHOD OF PLACING BACKFILL AROUND CBCs

SCANNED BY BY LASON

GENERAL NOTES

1. Earthwork shall be in accordance with Section 501 of the Specifications unless otherwise noted.
2. Compact Roadway Embankment 1.0' (Min.) above bottom of abutment. Excavation to bottom of abutment elevation shall be delayed until the contractor is ready to place the abutment forms and concrete.
3. All Details are shown with the Roadway Embankment placed first and the structural backfill material placed on top of it. The contractor shall use this placement order so the structural backfill can be compacted to the maximum density required. No embankment material shall be within 2'-0 of the concrete structure.
4. Where the site of work or character of material to be excavated requires a slope less than vertical and the contractor obtains approval from the Engineer to make a cut less than vertical, instead of using cofferdams, the slope of the cut shall not be steeper than the stability of the material permits. This additional excavation and backfill, beyond a vertical cut, shall be considered incidental to the completion of the work and no additional payment will be made therefor.
5. Grading Plane is the surface to which precise grading is finished such as subgrade under the template section of a road, roadway side slopes, ditches adjacent to piers, ditch slopes at wingwalls, subgrade under abutments and retaining walls.

LEGEND

- Roadway Excavation
- Roadway Embankment
- Structure Backfill
- Structure Excavation

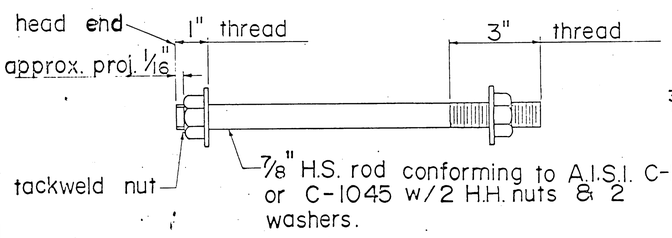
FILL SECTION A-A ~ GENERAL NOTE 5	11-7-80 E.R.D.
ADDED NOTES TO CBC DETAIL	1-4-80 E.R.D.
REVISED GENERAL NOTE #1	1-4-80 E.R.D.
REVISED TITLE	1-4-80 E.R.D.

NEW MEXICO
STATE HIGHWAY DEPARTMENT

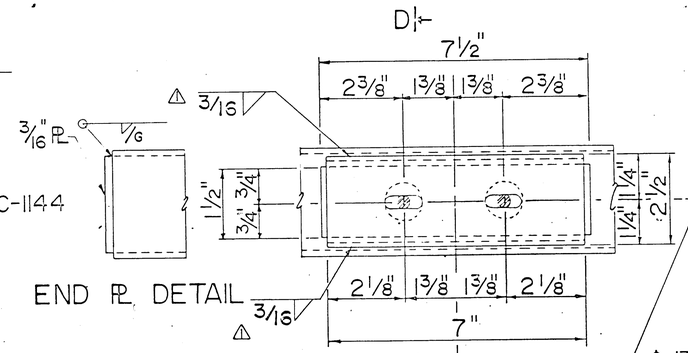
EXCAVATION AND BACKFILL FOR BRIDGES, WALLS AND CBC's

DESIGNED BY	J.D.G.	OFFICE ENGR.	
DRAWN BY	A.J.S.	SUPERVISOR	BRIDGE ENGINEER
CHECKED BY	E.R.D.	APPROVED DIRECTOR PROJ. DEVELOPMENT DIVISION	DATE

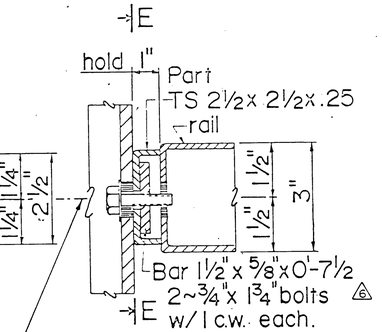
FHWA Region No.	STATE		SHEET NO	TOTAL SHEETS
6	NEW MEXICO			

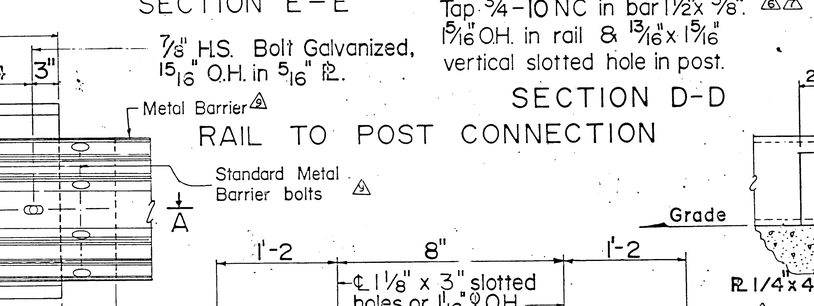


ALTERNATE POST ANCHOR BOLT DETAIL
(TYPE A & B RAIL)



END PL. DETAIL

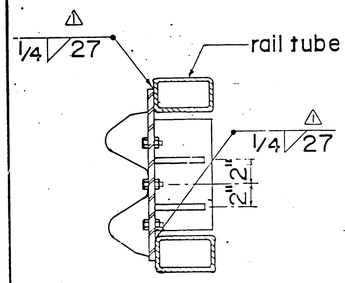




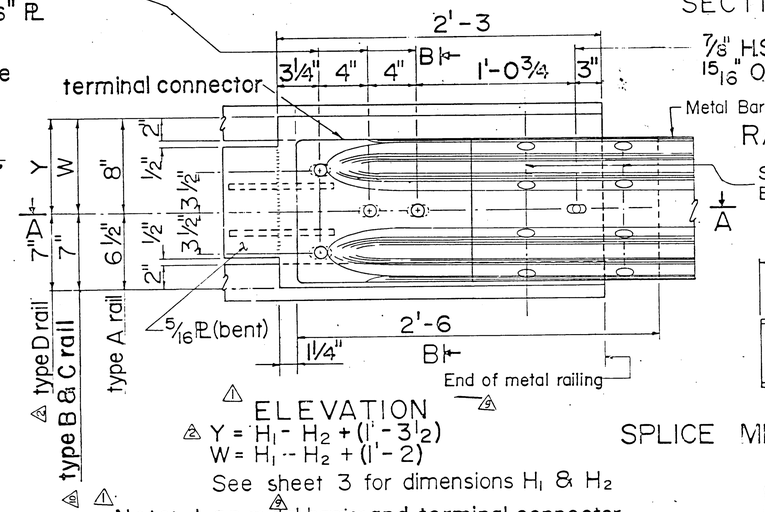
SECTION E-E

SECTION D-D

RAIL TO POST CONNECTION



SECTION B-B



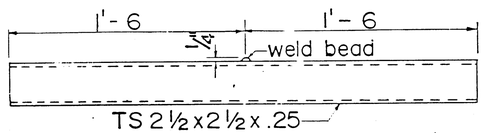
ELEVATION

Y = $H_1 - H_2 + (1' - 3\frac{1}{2})$
W = $H_1 - H_2 + (1' - 2)$

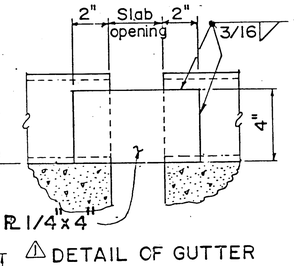
See sheet 3 for dimensions H_1 & H_2

Note: Lap metal barrier and terminal connector so that the projecting edge faces away from approaching traffic

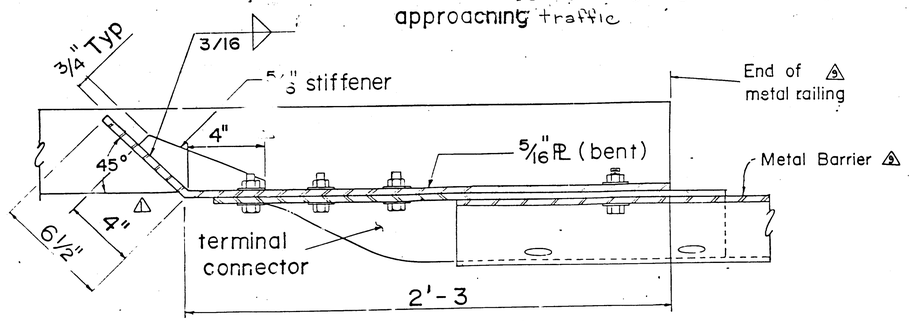
SPLICE MEMBER FOR TS 5 x 3 x .1875 RAIL



SPLICE MEMBER FOR TS 3 x 3 x .1875 RAIL

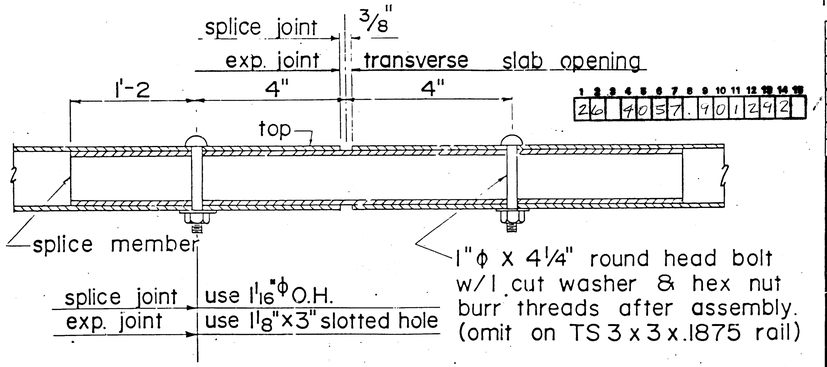


DETAIL OF GUTTER AT DECK JOINT



SECTION A - A

METAL BARRIER CONNECTION DETAILS



RAIL JOINT DETAIL

GENERAL NOTES

1. Design in accordance with 1977 AASHTO Specifications.
2. All rails to be parallel to grade unless otherwise shown.
3. See structure details for post spacing and other details not shown.
4. Details shown are for steel only. A steel or aluminum railing of an alternate design may be substituted for the railing shown on these sheets provided the alternate design is approved by the Engineer before fabrication.
5. Steel rail tubes shall conform to the requirements of ASTM designation A500 or A501. Post spacing shown on the plans is based on the use of TS5x3x.1875 conforming to the requirements of ASTM designation A500 grade B. If the contractor elects to use tubes of another grade, the post spacing shown on the plans will be revised by the Bridge Design Section.
6. Metal railing will be paid for at the unit price per foot.
7. Terminal connector shall be AASHTO-ARBA STD HM-TF 13/RE-8, shall conform to AASHTO Specification M-180 be galvanized and of class B sheet thickness
8. Caulking compound used under gutter channels and rail post base plates shall be a single component cold applied, non sagging compound having either a silicone rubber base or a synthetic rubber base of the chemically curing type and shall conform to the requirements of Federal Specifications TT-S-001543 A or TT-S-230C.

IDENT. NO.	DESCRIPTION	DATE	BY
	REVISIONS (OR CHANGE NOTICES)		
6	STRENGTHENED RAIL-POST CONNECTION	2-6-80	E.R.D.
5	CHANGED SERIAL DESIGNATION	10-26-79	E.R.D.
4	ADDED TYPE "C" TO CONNECTION DETAIL	4-19-65	P.A.Z.
3	CHANGE GUARDRAIL TO "TAL BARR., DEL. BRIDGE	3-9-85	P.A.Z.
2	ADDED GENERAL NOTE NO. 8	10-28-81	W.R.D.
1	UPDATE 3/4" THREAD	3-13-81	E.R.D.

NEW MEXICO
STATE HIGHWAY DEPARTMENT

METAL RAILING
GENERAL NOTES & TYPICAL DETAILS

DESIGNED BY GV	APPROVAL H. Taclan	2-16-76
DRAWN BY G.V.	RECOMMENDED BRIDGE ENGINEER	DATE
CHECKED BY M.G.	APPROVED Roy Cooper Jr. Sh. ENGINEER OF DESIGN	3-17-76 DATE

SERIAL BMR-001-10

PROJECT NO. 4057.90

SHEET 12 OF 12

THIS SERIAL REVISED: 4-19-82