

CONSTRUCTION PLANS
FOR THE
ARENAL ROAD
STORM DRAIN
FOR THE
HYDROLOGY DIVISION
PUBLIC WORKS DEPARTMENT
CITY OF ALBUQUERQUE

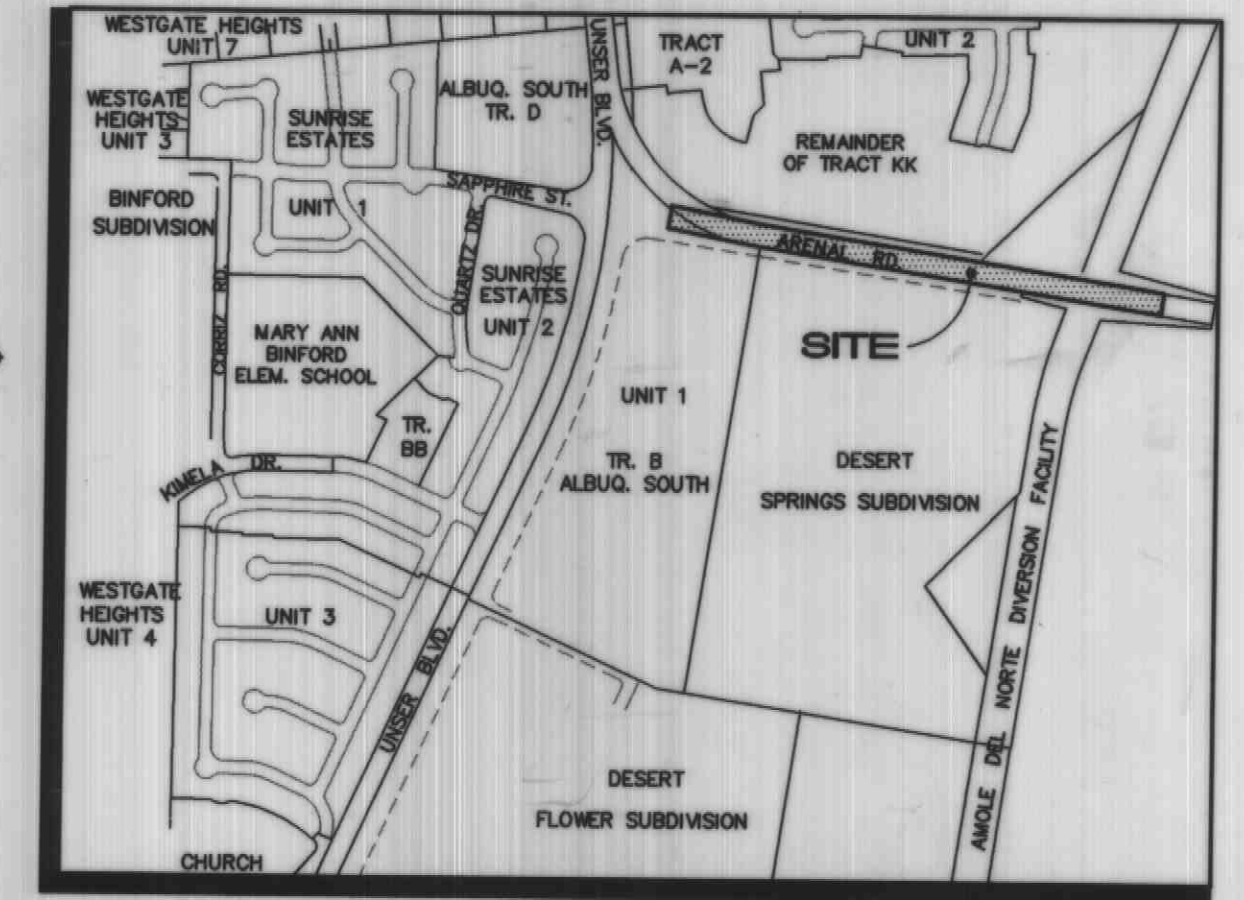
GENERAL NOTES

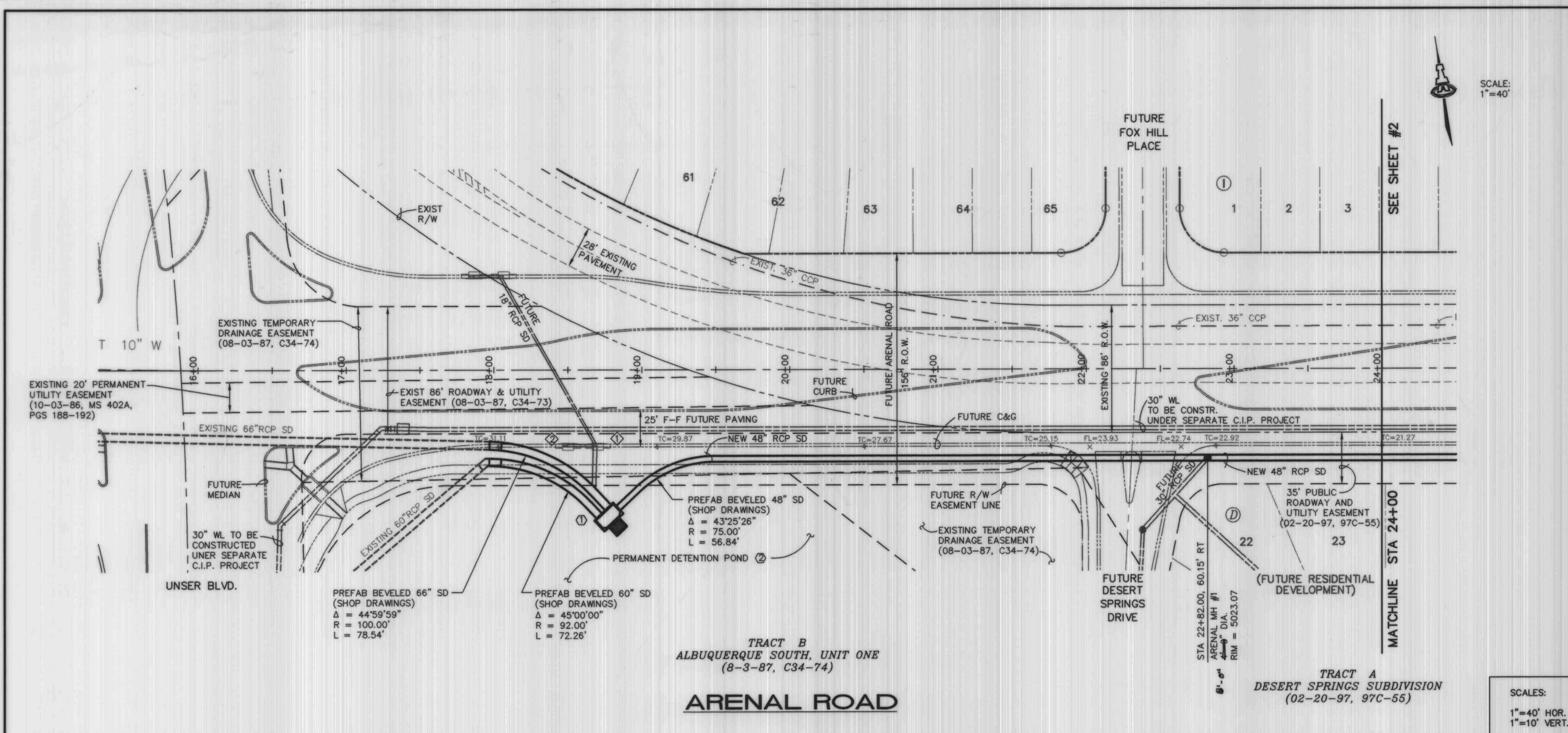
- All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with the City of Albuquerque Standard Specifications for Public Works Construction 1986 Edition as amended with Update No. 6.
- Prior to construction, the Contractor shall excavate & 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 minimum delay.
- Two (2) working days prior to any excavation, Contractor must contact Line Locating Service @ 260-1990 for location of existing utilities.
- Contractor shall support all existing, underground utility lines which become exposed during construction. Payment for supporting work shall be incidental to storm drain line pay item costs.
- All street centerlines shown on the plans are the centerlines of future street alignment as determined by splitting the distance between existing curbs.
- Contractor shall conduct his operations in a manner which will minimize interference with local traffic. Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property, and to protect them from damage, injury, or loss. Contractor shall erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety continuously and not limited to normal working hours, throughout the duration of the project. Contractor shall adhere to Section 19 of the General Conditions of the City of Albuquerque Standard Specifications for Public Works Construction, 1986, as amended with Update No. 6.
- The Contractor agrees that he shall assume the sole and complete responsibility for the job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify, and hold harmless the Owner & Engineer from any and all liability real or alleged, in connection with the performance of work on this project, excepting liability arising from the sole negligence of the Owner or Engineer.
- TRAFFIC CONTROL: Five (5) working days prior to beginning construction the Contractor shall submit to the Construction Coordination Division a detailed construction schedule. Two (2) working days prior to construction, the Contractor shall obtain a barricading permit from the Construction Coordination Division. Contractor shall notify Barricade Engineer (768-2551) prior to occupying an intersection. See Section 19 of the specifications.
- The Contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street or into any public drainage facility.
- Contractor shall assist the Engineer/Inspector in the recording of data on all utility lines and accessories as required by the City of Albuquerque for the preparation of record drawings. Contractor shall not cover utility lines and accessories until all data has been recorded.
- Existing curb and gutter, sidewalks and driveways not to be removed under the contract which are damaged or displaced by the Contractor, shall be removed and replaced by the Contractor at his expense.
- All work on this project shall be performed in accordance with applicable federal, state, and local laws, rules, and regulations concerning construction safety and health.
- The Contractor is responsible for protecting and maintaining all existing monumentation controls. In the event of inadvertent destruction or alteration, the Contractor must immediately notify the City Chief Surveyor.
- PNM will provide at no cost to the City or the Contractor the required personnel for inspection or observation deemed necessary by PNM while the Contractor is exposing PNM's cables. However, the Contractor shall be charged the total cost associated with repairs to any damaged cables or for any cost associated with supporting or relocating the poles and cables during construction.
- WARNING--EXISTING UTILITY LINE LOCATIONS are shown in an approximate manner only, and such lines may exist where none are shown. The location of any such existing lines is based upon information provided by the utility company, the Owner, or by others, and the information may be incomplete or may be obsolete by the time construction commences.

The Engineer has undertaken no field verification of the location, depth, size, or type of existing underground utility lines, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The Contractor shall inform itself of the location of any utility line in or near the area of the work in advance of and during excavation work. The Contractor is fully responsible for any and all damage caused by its failure to locate, identify, and preserve any and all existing utilities. The Contractor shall comply with State statutes, municipal and local ordinances, rules and regulations pertaining to the location of these lines and facilities, in planning and conducting excavation, whether by calling or notifying the utilities, complying with "Blue Stakes" procedures, or otherwise.
- All street striping altered or destroyed shall be replaced by the Contractor to existing patterns. Replacement shall be with plastic reflectorized pavement markings. Any such striping shall be considered incidental to pavement construction and no separate payment shall be made therefor.
- Graded access for residents across the construction zone shall be maintained during construction. On residential streets, one lane of traffic must be maintained at all times.
- The Contractor shall be responsible for notifying utilities for any adjustment or relocation of existing utilities required by construction. The Contractor may be required to reschedule his activities to allow utility crews to perform their work. No additional costs will be allowed for delays or inconvenience caused by utility company crews.
- The Contractor shall confine his work within the street right-of-way. Overnight parking of the Contractor's equipment shall not obstruct access roads or traffic lanes.
- The removal and replacement of all signs, posts, fences, mail boxes and road markings shall be considered incidental to storm drain line construction.
- All pipe bedding shall conform to Section 701 of the specifications.
- All storm drain line pipe shall be reinforced concrete pipe, Class III.
- All excavation, trenching and shoring must be accomplished in accordance with OSHA 29CFR 1926.650 Subpart P.
- Contractor shall maintain a graffiti-free work site. Contractor shall promptly remove any and all graffiti from equipment, whether permanent or temporary.
- Any work affecting an arterial roadway requires twenty-four (24) hour construction.

INDEX TO DRAWINGS

SHEET	TITLE
1	COVER SHEET
2	STORM DRAIN PLAN & PROFILE - STA 16+00 TO STA 24+00
3	STORM DRAIN PLAN & PROFILE - STA 24+00 TO STA 33+00
4	STORM DRAIN PLAN & PROFILE - STA 33+00 TO STA 35+00
5	JUNCTION BOX SECTIONS & DETAILS
6	POND SECTIONS & DETAILS
7	SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS
8	TYPICAL TRAFFIC CONTROL AND SIGNING EXAMPLES





KEYED CONSTRUCTION NOTES

- CONCRETE JUNCTION BOX. SEE SHEET 5 FOR DETAILS.
- PERMANENT DETENTION POND. SEE SHEET 5 & 6 FOR DETAILS.

AS-BUILT INFORMATION		BENCH MARKS	
CONTRACTOR	MCC INC.	ACS MONUMENT "1-M10" LOCATED AT THE SOUTHEAST CORNER OF SAGE RD. & UNSER BLVD.	
DATE	1/98	ELEV. = 5079.88	
DESIGNED BY	Steve Youtsey	TBM: RIM OF SOUTHWESTERLY MANHOLE AT SAPPHIRE ST. & UNSER BLVD.	
CHECKED BY	Steve Youtsey	ELEV. = 5035.84	
RECORDED BY	Steve Youtsey		

SURVEY INFORMATION		FIELD NOTES	
DATE	1/97	ALS	
NO.	1		

FUTURE STORM DRAIN INLET DATA TABLE (NOT IN CONTRACT)				
INLET NO.	INLET TYPE	STATION* & OFFSET	TOP GR. EL.	INV. OUT
1	A, SGL DBL THROAT	18+68.37, 50' RT	29.84	25.26(N&W) 25.16(S)
2	A, SGL DBL THROAT	18+48.37, 50' RT	30.04	25.67

FUTURE CONNECTOR PIPE DATA TABLE				
FROM INLET NO.	DIA. (IN)	LENGTH (FT)	SLOPE (FT/FT)	
1 (N)	18	54'	1.0%	
1 (S)	18	27'	6.7%	
2	18	20	2.0%	

REVISIONS		REMARKS	
NO.	DATE	BY	

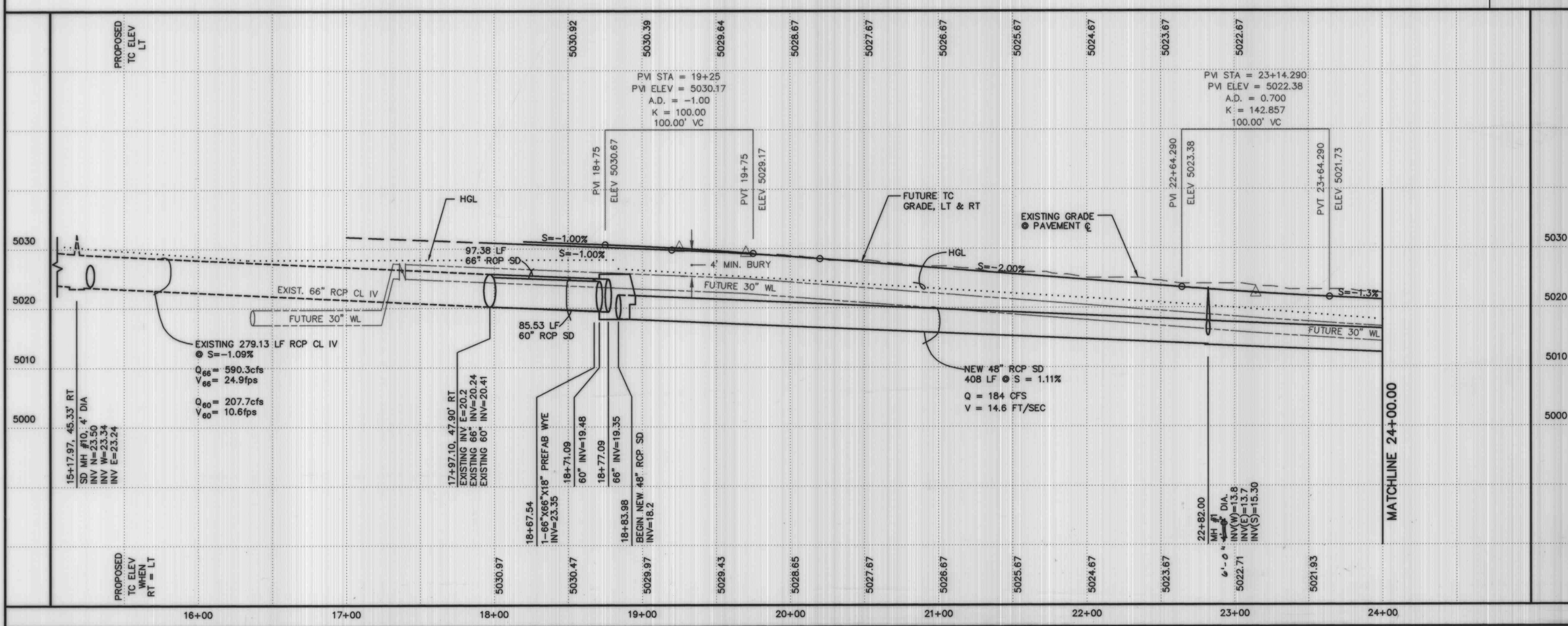
ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico
974PVI.DWGms VIEW: 1 12/17/97

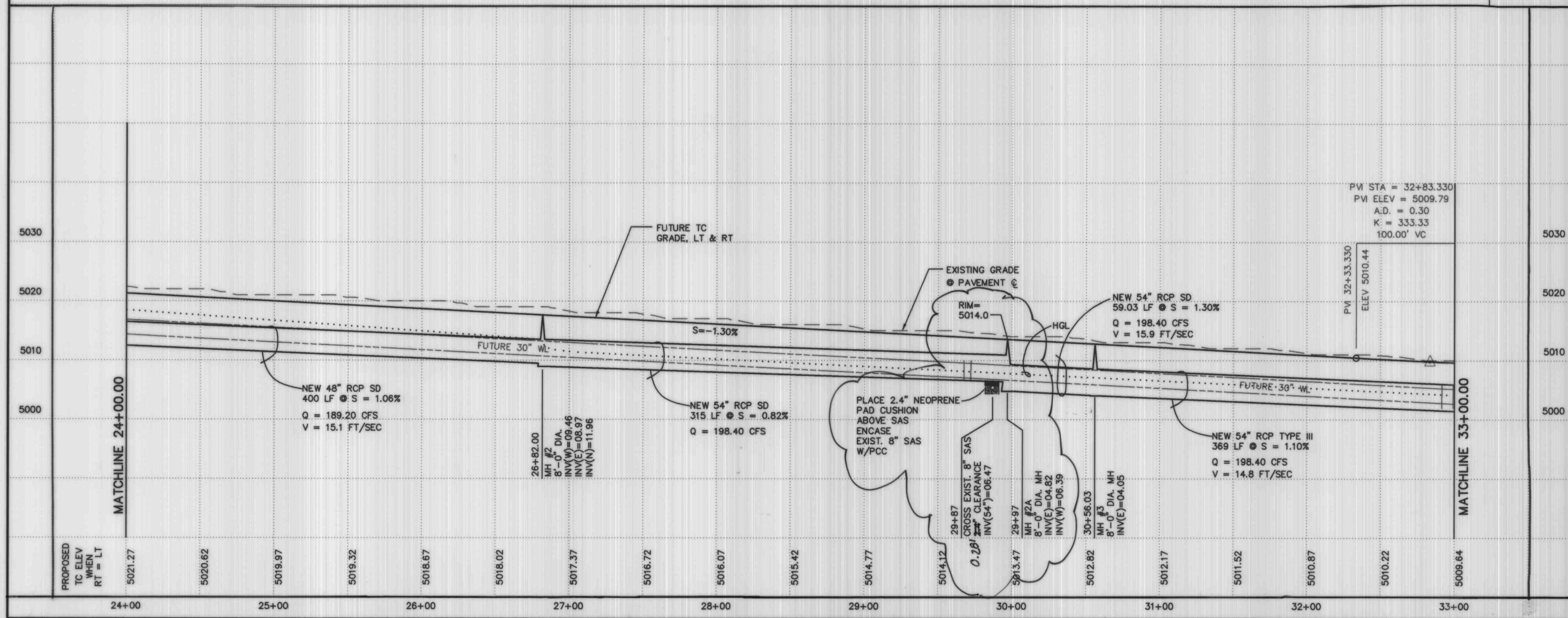
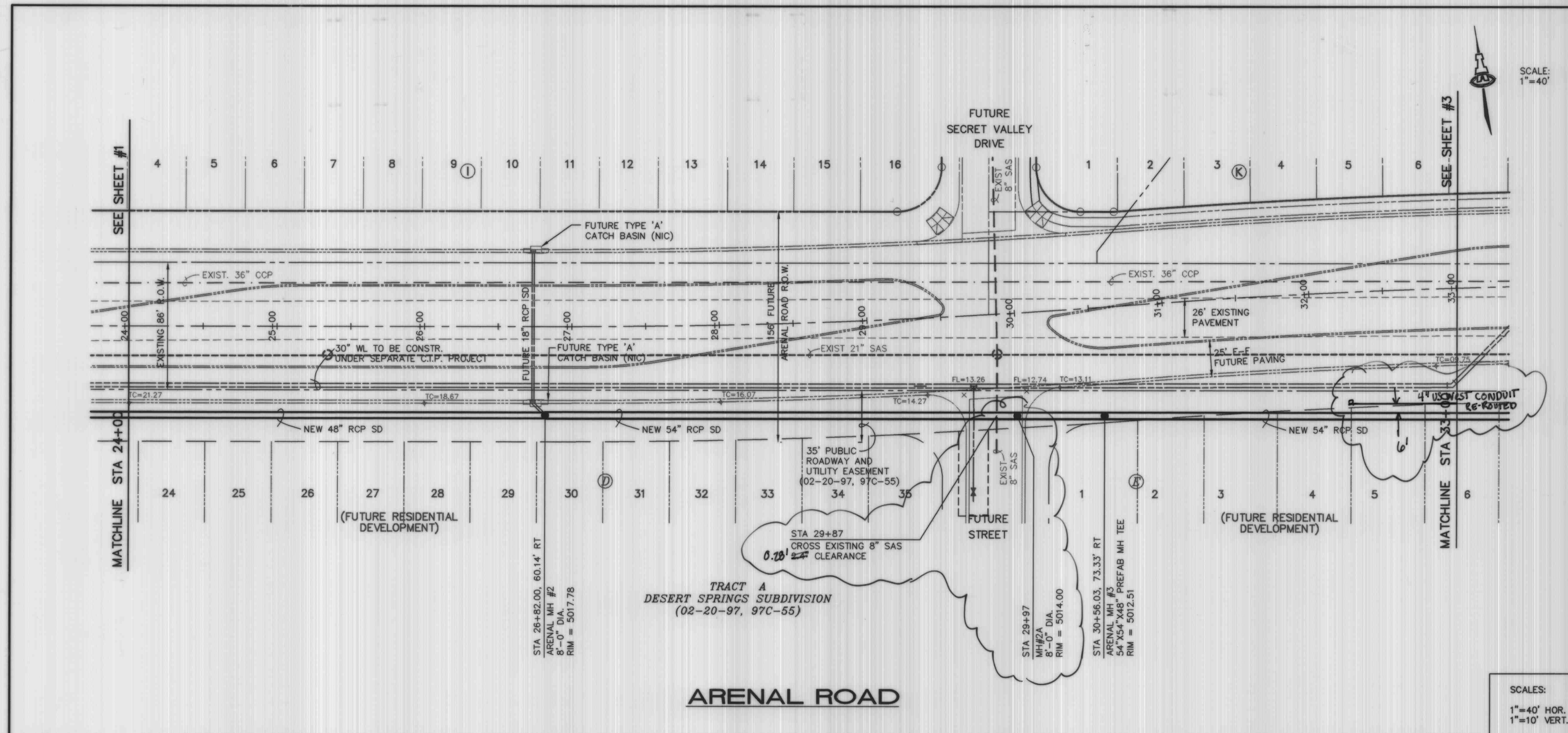
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: **ARENAL ROAD STORM DRAIN STORM DRAIN PLAN & PROFILE STA 16+00 TO STA 24+00**

Design Review Committee: **APPROVED** JAN - 8 1998
City Engineer Approval: **APPROVED** JAN - 8 1998

City Project No. **5803.91** Zone Map No. **M-10** Sheet **2** Of **8**





AS-BUILT INFORMATION

CONTRACTOR: **NCE, INC.**

DESIGNED BY: **Steve Yotsey** 11/11/97

CHECKED BY: **COA** 11/11/97

APPROVED BY: **Steve Yotsey** 11/11/97

DATE: **11/11/97**

BENCH MARKS

ACS MONUMENT "1-M10" LOCATED AT THE SOUTHEAST CORNER OF SAGE RD. & UNSER BLVD. ELEV. = 5079.88


TBM: RIM OF SOUTHWESTERLY MANHOLE AT SAPPHIRE ST. & UNSER BLVD. ELEV. = 5035.84

SURVEY INFORMATION

FIELD NOTES: 1/97

1 ALS

ENGINEER'S SEAL



REVISIONS

NO.	DATE	REMARKS	BY
1	7/11/97	DESIGN	

DESIGNED BY: MJC **DATE:** 7/11/97

DRAWN BY: EMS **DATE:** 7/11/97

CHECKED BY: FCA **DATE:** 7/11/97

ISAACSON & ARFMAN, P.A.
 Consulting Engineering Associates
 128 Monroe Street N.E.
 Albuquerque, New Mexico
 974PVI.DWGems VIEW: 2 04/21/98

CITY OF ALBUQUERQUE
 PUBLIC WORKS DEPARTMENT
 ENGINEERING GROUP

TITLE: **ARENAL ROAD STORM DRAIN**
STORM DRAIN PLAN & PROFILE
STA 24+00 TO STA 33+00

Design Review Committee: _____

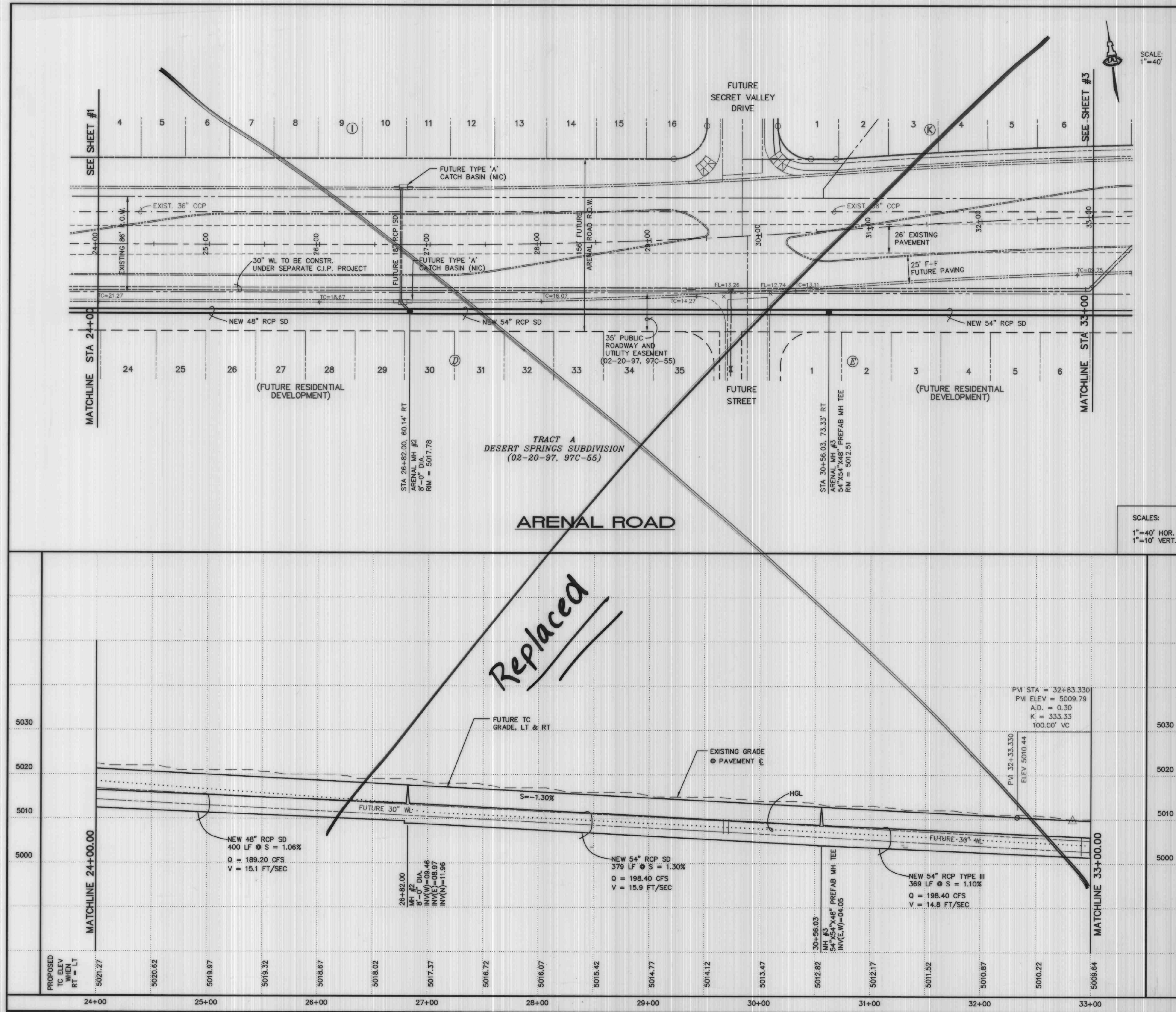
City Engineer Approval: _____

City Project No. **5803.91**

Zone Map No. **M-10**

Sheet **3** Of **8**

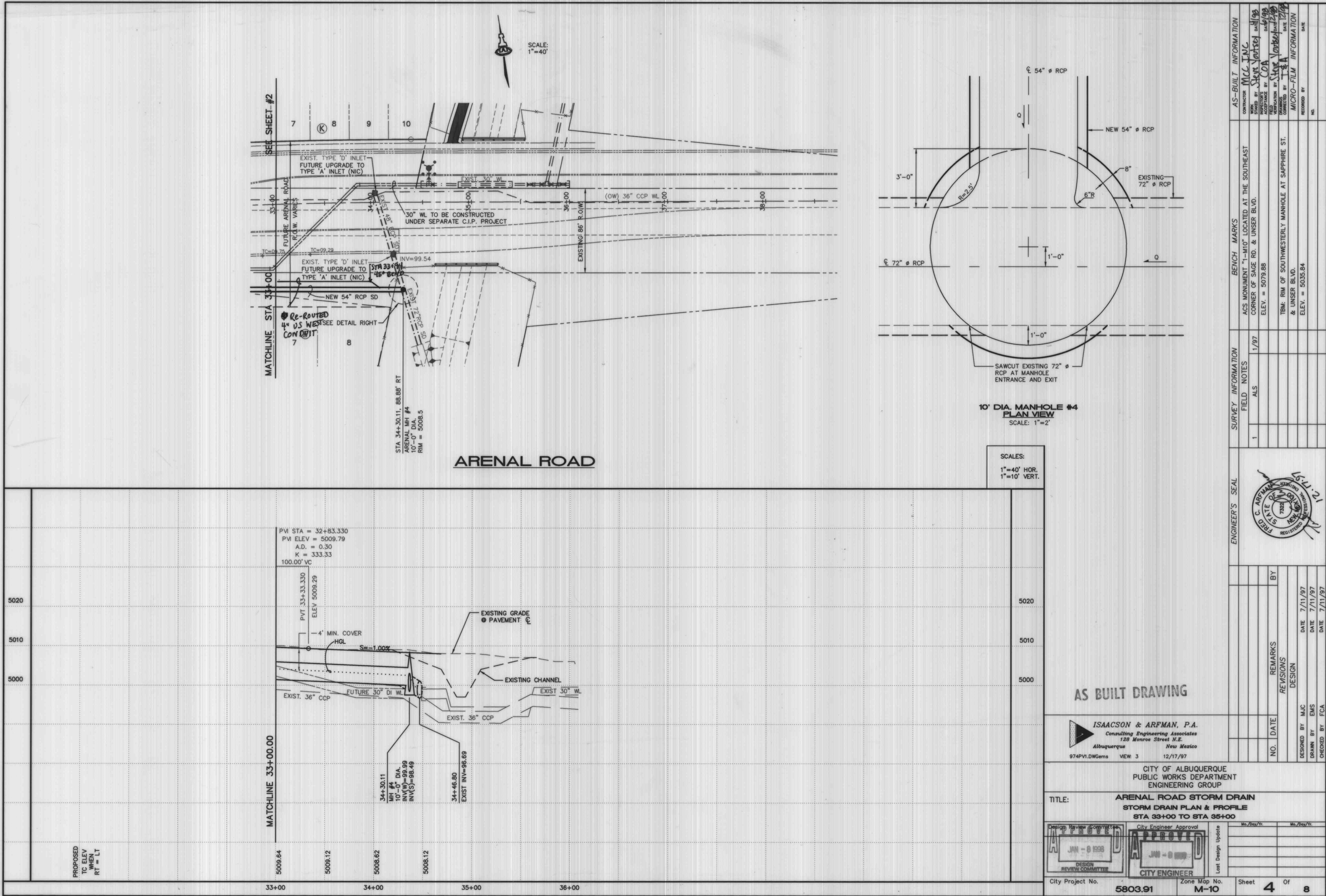
• NOTE: BUBBLED AREAS ARE
CHANGED INFORMATION
AS BUILT DRAWING

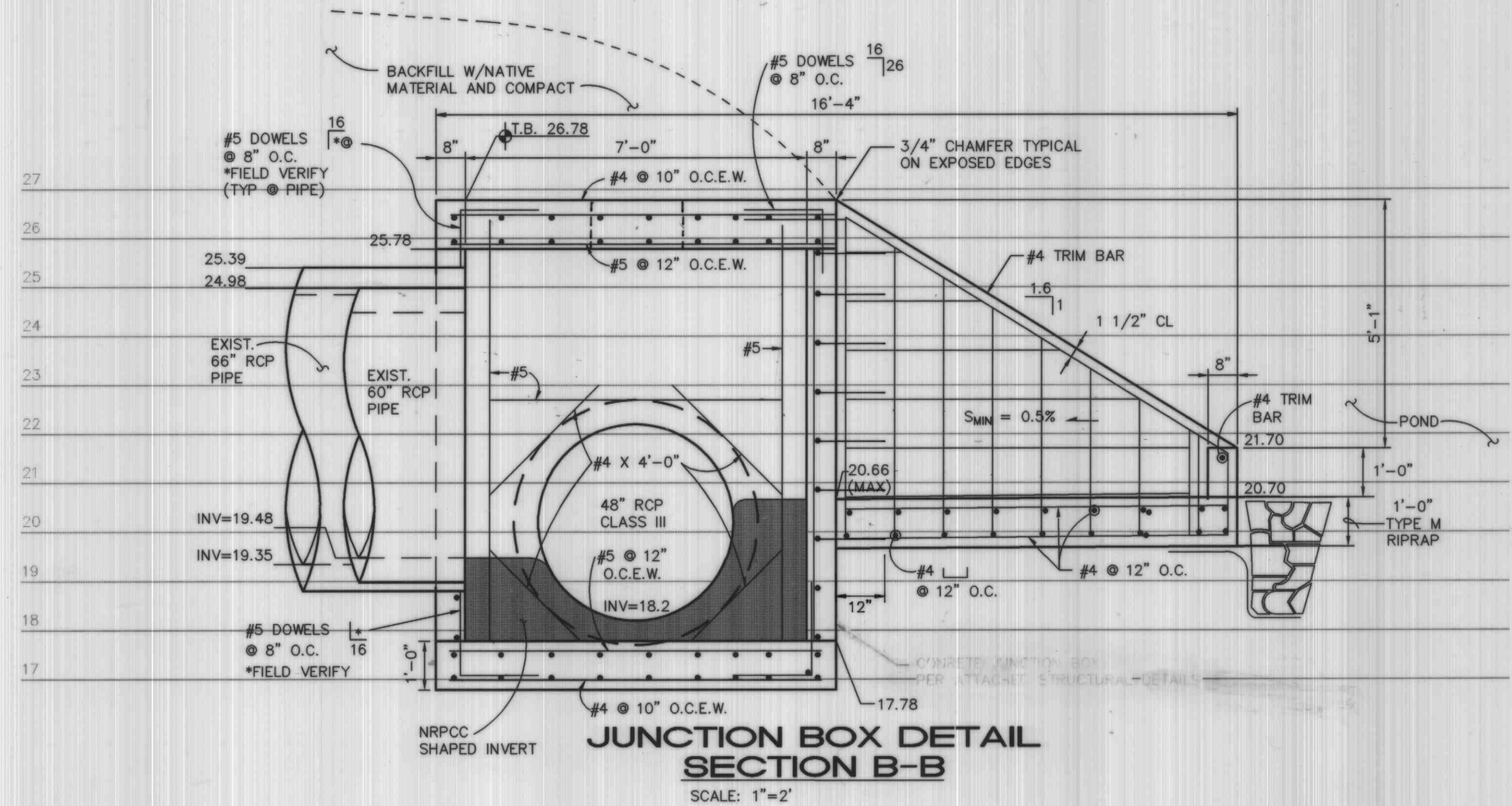
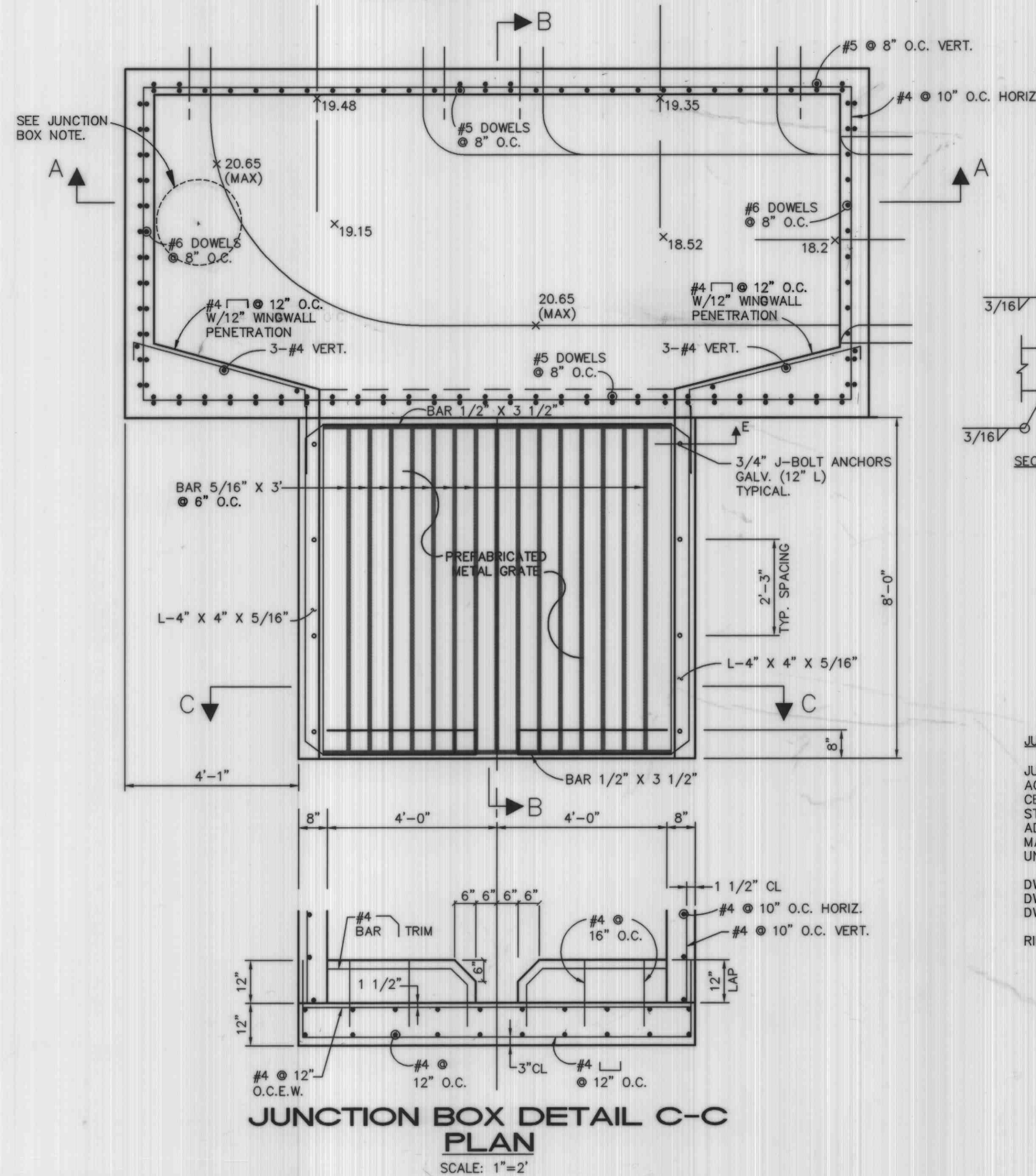
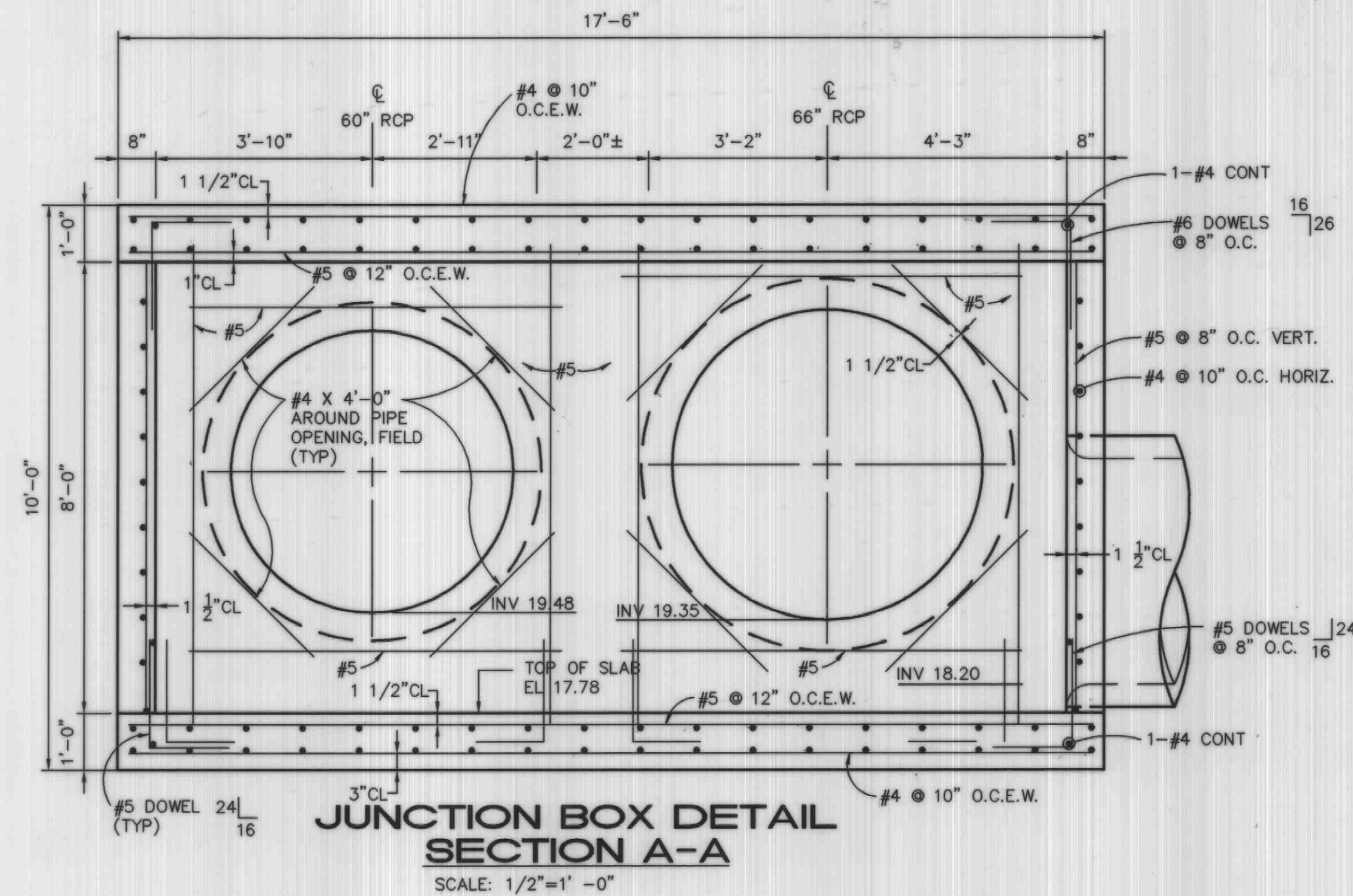


SCALE:
1"=40'

SCALES:
1"=40' HOR.
1"=10' VERT.

<p>ISAACSON & ARFMAN, P.A. Consulting Engineering Associates 128 Monroe Street N.E. Albuquerque, New Mexico 974PV1.DWG Date: 12/17/97</p>		<p>CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP</p>														
<p>TITLE: ARENAL ROAD STORM DRAIN STORM DRAIN PLAN & PROFILE STA 24+00 TO STA 33+00</p>																
<p>DESIGN REVIEW COMMITTEE JAN - 8 1998 DESIGN REVIEW COMMITTEE</p>		<p>CITY ENGINEER JAN - 8 1998</p>														
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<p>Sheet 3 Of 8</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REMARKS</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	REMARKS	BY									
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<p>CHECKED BY: FCA DATE: 7/11/97</p>		<p> </p>														
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CONCRETE & REINFORCING NOTES

- ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS LISTED BELOW:
F_c = 4000 PSI ALL CAST-IN-PLACE CONCRETE FOR THE STRUCTURE.
- ALL REFERENCES TO PUBLICATIONS SHALL MEAN THE LATEST CURRENT EDITIONS.
- ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, MINIMUM YIELD STRENGTH OF 40,000 PSI. REINFORCING TO BE WELDED SHALL BE A CARBON EQUIVALENT IN ACCORDANCE WITH TABLE 5.2 OF THE STRUCTURAL WELDING CODE, REINFORCING STEEL, ANSI/AWS D1.4. ALL WELDING OF REINFORCING SHALL BE IN ACCORDANCE WITH AWS D1.4.
- ALL CONCRETE AND REINFORCING STEEL SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 301 AND THE ACI STANDARD DETAILING MANUAL, ACI 315.
- PROVIDE STEEL BAR SUPPORTS AND SPACERS FOR REBAR IN ACCORDANCE WITH ACI 315 AND STEEL CHAIRS WITH 22 GAGE SAND PLATES FOR ALL REBAR BEARING ON GRADE. NO PLASTIC, WOOD OR BRICK SUPPORTS WILL BE PERMITTED.
- WHERE LAPPED SPLICES IN REINFORCING OCCUR, THE LAP SHALL BE MADE AS FOLLOWS: HORIZONTAL AND VERTICAL REINFORCING 30 BAR DIAMETERS OR 24" MINIMUM UNLESS OTHERWISE NOTED.
- ALL HORIZONTAL REINFORCING IN CONTINUOUS FOOTINGS AND WALLS SHALL BE CONTINUOUS AROUND CORNERS OR HAVE CORNER BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL BARS AND LAP 30 BAR DIAMETERS OR 24" MINIMUM.
- VERTICAL BULKHEADS IN FOOTINGS AND WALL ARE PERMITTED AT POINTS NO CLOSER THAN 10'-0" FROM ANY CORNER OF INTERSECTION. HORIZONTAL REINFORCING SHALL BE CONTINUOUS THROUGH BULKHEADS. NO SPLICES SHALL BE MADE WITHIN 5'-0" OF ANY BULKHEAD.
- CONCRETE COVER FOR REINFORCING SHALL BE AS FOLLOWS: FOOTINGS - 3" FROM BOTTOM AND SIDES, 2" FROM TOP. PEDESTALS AND COLUMNS - 1-1/2" FROM TIES. SLABS ON GRADE - AS NOTED ON DRAWINGS. BASEMENT AND RETAINING WALLS - AS NOTED ON DRAWINGS. BEAMS - 1-1/2" FROM TOP, BOTTOM AND SIDES.

STRUCTURAL STEEL NOTES

- ALL STRUCTURAL AND MISCELLANEOUS STEEL MEMBERS, SHAPES AND CONNECTIONS SHALL BE ASTM A36, HAVING A MINIMUM YIELD STRENGTH OF 36,000 PSI.
- ALL STRUCTURAL STEEL TUBE SHAPES SHALL BE ASTM A500, GRADE B, HAVING A MINIMUM YIELD STRENGTH OF 46,000 PSI.
- ALL STRUCTURAL STEEL PIPES SHAPES SHALL BE ASTM A53, GRADE B, HAVING A MINIMUM YIELD STRENGTH OF 35,000 PSI.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING FOR ALL MISCELLANEOUS STEEL.
- ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS AND SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AWS AND AISI.
- ALL ANCHOR BOLTS SHALL BE ASTM A307 UNLESS OTHERWISE NOTED.
- ALL CONNECTIONS BOLTS SHALL BE ASTM A325N UNLESS OTHERWISE NOTED. TIGHTEN BY SNUG TIGHT METHOD.

JUNCTION BOX NOTE:

JUNCTION BOX SHALL HAVE A 24" DIA. ACCESS PORT ON THE SOUTHWESTERLY CENTER OF BOX. CONSTRUCT PER C.O.A. STANDARD DRAWINGS LISTED BELOW AND ADJUST TO FINAL GRADE USING A MAXIMUM OF 4 COURSE OF MASONRY UNITS.

DWG. 2102: NOTES E, K & L
DWG. 2107: NOTES E & G
DWG. 2110

RIM ELEVATION = 5027.0

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR	INSPECTOR	DATE	NO.	ALSO	DATE	BY	REMARKS
MLC, INC.	Steve Vortsey	12/08/97	1	1/97	7/11/97	DESIGN	NO. DATE
ACS MONUMENT "1-M10" LOCATED AT THE SOUTHEAST CORNER OF SAGE RD. & UNSER BLVD.		ELEV. = 5079.88		TBM: RIM OF SOUTHWESTERLY MANHOLE AT SAPPHIRE ST. & UNSER BLVD.		ELEV. = 5035.84	
MICRO-FILM INFORMATION		RECORDED BY		DATE		NO.	
MICRO-FILM INFORMATION		RECORDED BY		DATE		NO.	



AS BUILT DRAWING


ISAACSON & ARFMAN, P.A. Consulting Engineering Associates 128 Monroe Street N.E. Albuquerque, New Mexico 974DTL.DWGms VIEW: 1 12/08/97		CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP	
TITLE: ARENAL ROAD STORM DRAIN JUNCTION BOX SECTIONS & DETAILS			
Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APPROVED JUN - 8 1998 DESIGN REVIEW COMMITTEE	APPROVED JUN - 8 1998 CITY ENGINEER	Least Design Update	
City Project No. 5803.91	Zone-Map No. M-10	Sheet 5	Of 8



- GENERAL NOTES
1. ALL SLOPES GREATER THAN 3:1 SHALL BE RIPRAPPED.
 2. ALL RIPRAP USED SHALL BE PLACED IN ACCORDANCE WITH COA STANDARD SPECIFICATIONS.
 3. MIRAFI 700X FILTER FABRIC, OR AND ENGINEERS APPROVED EQUIVALENT, SHALL BE PLACED UNDER ALL ARMAMENT IN ACCORDANCE WITH MANUFACTURERS AND COA STANDARDS.





AS BUILT DRAWING

 **ISAACSON & ARFMAN, P.A.**
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico

974DTL DWGems VIEW: 2 12/08/9

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: ARENAL ROAD STORM DRAIN
POND SECTIONS & DETAILS

Design Review Committee 		City Engineer Approval 		Last Design Update <table border="1"> <tr> <th>Mo./Day/Yr.</th> <th>Mo./Day/Yr.</th> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>		Mo./Day/Yr.	Mo./Day/Yr.										
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City Project No. 5803.91		Zone Map No. M-10		Sheet 6 Of 8													

SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
FIELD NOTES					
1	ALS	1/97	ACS MONUMENT "1-M10" LOCATED AT THE SOUTHEAST CORNER OF SAGE RD. & UNSER BLVD. ELEV. = 5079.88	CONTRACTOR MILL INC.	INSPECTOR'S Steve VanBee DATE 4/1/98
				FIELD REVISION BY COA DATE 6/1/98	FIELD REVISION BY Steve VanBee DATE 12/1/98
			TBM: RIM OF SOUTHWESTERLY MANHOLE AT SAPPHIRE ST. & UNSER BLVD.	REVISION BY JSA	REVISION BY JSA DATE 12/1/98
			ELEV. = 5035.84	MICRO-FILM INFORMATION	
				RECORDED BY	DATE
				NO.	



NO.		DATE	REMARKS	BY
<i>REVISIONS</i>				
<i>DESIGN</i>				
DESIGNED BY	MJC	DATE	7/11/97	
DRAWN BY	EMS	DATE	7/11/97	
CHECKED BY	COA	DATE	7/11/97	
IN CHARGE	COA	DATE	7/11/97	

CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

1. CONTRACTOR MUST OBTAIN FROM CONSTRUCTION COORDINATION AN EXCAVATION/BARRICADING PERMIT BEFORE ENGAGING IN ANY CONSTRUCTION, MAINTENANCE OR REPAIR WORK IN ANY OF THE CITY OF ALBUQUERQUE'S RIGHTS-OF-WAY. EMERGENCY WORK THAT WOULD PRESERVE LIFE OR PROPERTY IS EXCLUDED WITH THE UNDERSTANDING, THAT A PERMIT SHALL BE OBTAINED WITHIN 24 TO 48 HOURS.

2. CONTRACTOR SHALL AT THE TIME OF PERMIT REQUEST, SUBMIT FOR APPROVAL BY CONSTRUCTION COORDINATION, A TRAFFIC CONTROL PLAN DETAILING ALL EXISTING TOPOGRAPHY SUCH AS LANE WIDTHS, DRIVEWAYS, AND BUSINESS/RESIDENTIAL ACCESSES. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL PHASES OF WORK AND SCHEDULES INVOLVED IN THE CONSTRUCTION PROJECT. ANY SEPARATE PHASES OF A CONSTRUCTION PROJECT SHALL BE GIVEN AN INDIVIDUAL PERMIT EACH. BLANKET PERMITS WILL NOT BE ISSUED.

3. THESE TYPICAL TRAFFIC CONTROL PLANS DO NOT REFLECT THE EXISTING TOPOGRAPHY SUCH AS DRIVEWAYS, LANE WIDTHS, AND BUSINESS/RESIDENTIAL ACCESSES. EVERY LOCATION THAT REQUIRES CONSTRUCTION TRAFFIC CONTROL SHALL HAVE A DETAILED TRAFFIC CONTROL PLAN SHOWING ALL EXISTING TOPOGRAPHY.

4. CONSTRUCTION SHALL NOT BEGIN UNLESS A TRAFFIC CONTROL PLAN HAS BEEN APPROVED AND VERIFIED BY CONSTRUCTION COORDINATION.

5. CONSTRUCTION COORDINATION SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY TRAFFIC CONTROL CHANGES NEEDED BY CONTRACTOR, THAT WERE NOT PREVIOUSLY APPROVED. THESE TRAFFIC CONTROL CHANGES SHALL BE REQUESTED IN WRITING ACCOMPANIED WITH A TRAFFIC CONTROL PLAN REFLECTING SUCH CHANGES.

6. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, SERVICE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL DEVICES SHALL NOT BE REMOVED OR ALTERED IN ANY WAY WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION, PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.

7. THE CONSTRUCTION TRAFFIC CONTROL INITIAL SET-UP SHALL BE BY AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED WORKSITE TRAFFIC SUPERVISOR. THE MAINTENANCE AND SERVICING SHALL ALSO BE DONE BY AN ATSSA CERTIFIED WORKSITE TRAFFIC SUPERVISOR OR EQUIVALENT.

8. CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND SERVICE ALL TRAFFIC CONTROL DEVICES 24 HOURS A DAY, 7 DAYS A WEEK THROUGHOUT LENGTH OF PROJECT. CONTRACTOR IS RESPONSIBLE THAT ALL TRAFFIC CONTROL DEVICES COMPLY WITH THE MUTCD, LATEST EDITION.

9. ALL ADVANCE WARNING SIGNS SHALL BE DOUBLE INDICATED WHENEVER THERE ARE MULTI-LANE TRAFFIC IN ANY ONE GIVEN DIRECTION AND THERE IS SUFFICIENT MEDIAN SPACE.

10. ALL BARRICADES IN ALL TAPERS AND TANGENTS SHALL BE PLACED APART, A DISTANCE MEASURED IN FEET, EQUAL TO THAT OF THE POSTED SPEED LIMIT. NO EXCEPTIONS UNLESS APPROVED BY CONSTRUCTION COORDINATION PER MUTCD SECTION 6A-4.

11. ALL WORK IN ARTERIAL ROADWAYS SHALL BE ON A CONTINUOUS 24-HOUR PER DAY BASIS UNTIL COMPLETED.

12. CONTRACTOR IS RESPONSIBLE TO PROVIDE CONSTRUCTION COORDINATION, A WEEKLY LOG OF DAILY INSPECTIONS OF BARRICADE AND MAINTENANCE SCHEDULES ON PROJECTS THAT ARE OVER ONE WEEK DURATION.

13. EQUIPMENT OR MATERIALS SHALL NOT BE STORED WITHIN 15 FEET OF A TRAVELLED TRAFFIC LANE DURING NON-WORKING HOURS WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION.

14. CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND AND THROUGH THE CONSTRUCTION AREA.

15. CONTRACTOR IS RESPONSIBLE FOR OBLITERATION OF ANY CONFLICTING STRIPING AND RESPONSIBLE FOR ALL TEMPORARY STRIPING.

16. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FACILITIES, BUSINESSES AND/OR RESIDENTS AT ALL TIMES.

17. CONTRACTOR SHALL PROVIDE ACCESS SIGNS FOR BUSINESSES LOCATED WITHIN THE CONSTRUCTION AREA UNDER THE SUPERVISION OF CONSTRUCTION COORDINATION. EACH ACCESS SIGN SHALL HAVE 5 INCH, WHITE OPAQUE LETTERING ON BLUE REFLECTORIZED BACKGROUND. ACCESS SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE BID AND NOT PART OF THE CONTRACT UNLESS OTHERWISE STATED. NO MORE THAN 3 BUSINESSES SHALL BE LISTED ON A ACCESS SIGN. SHOPPING CENTERS AND MALLS SHALL BE LISTED AS SUCH.

18. ALL ADVANCE WARNING SIGNS SHALL MEET THE MINIMUM REFLECTIVE INTENSITY REQUIREMENTS SET FORTH BY THE CITY OF ALBUQUERQUE. CONSTRUCTION COORDINATION SHALL DETERMINE ALL REQUIREMENTS AND APPROVE OR DISAPPROVE ANY ADVANCE WARNING SIGN PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.

19. 48 HOURS PRIOR TO OCCUPYING OR CLOSING OF A RIGHT-OF-WAY, CONTRACTOR SHALL NOTIFY: POLICE, FIRE DEPARTMENT, SCHOOLS, HOSPITALS, TRANSIT AUTHORITY, BUSINESSES AND/OR RESIDENTS THAT WILL BE AFFECTED BY THE CONSTRUCTION.

20. ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY CONSTRUCTION COORDINATION.

21. EXCAVATIONS SHALL BE PLATED, TEMPORARILY PATCHED OR RESURFACED PRIOR TO OPENING OF TRAFFIC. A MINIMUM OF 11 FEET SHALL BE PROVIDED FOR TRAFFIC IN ANY GIVEN DIRECTION. CONTRACTOR IS RESPONSIBLE FOR ANY WORK INVOLVED IN SATISFYING THESE REQUIREMENTS.

22. CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE FOLLOWING:
1. STANDARDS AND REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
2. THE CITY OF ALBUQUERQUE TRAFFIC CODE, LATEST EDITION.
3. SECTION 19 OF THE CITY OF ALBUQUERQUE'S STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION, AS WELL AS OTHER SECTIONS.

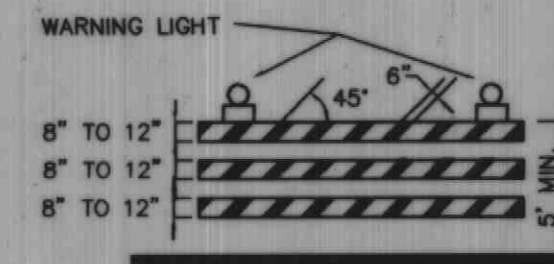
23. FAILURE TO COMPLY WITH ANY OF THE ABOVE MENTIONED, WILL BE ADEQUATE CAUSE TO CEASE ALL WORK ON ANY CONSTRUCTION PROJECT. WORK WILL NOT RESUME UNTIL ALL REQUIREMENTS ARE ADDRESSED AND APPROVED BY CONSTRUCTION COORDINATION.

24. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN NEW-CLEAN CONDITION. WASHING OF EQUIPMENT IS INCIDENTAL TO ITS PLACEMENT AND MAINTENANCE.

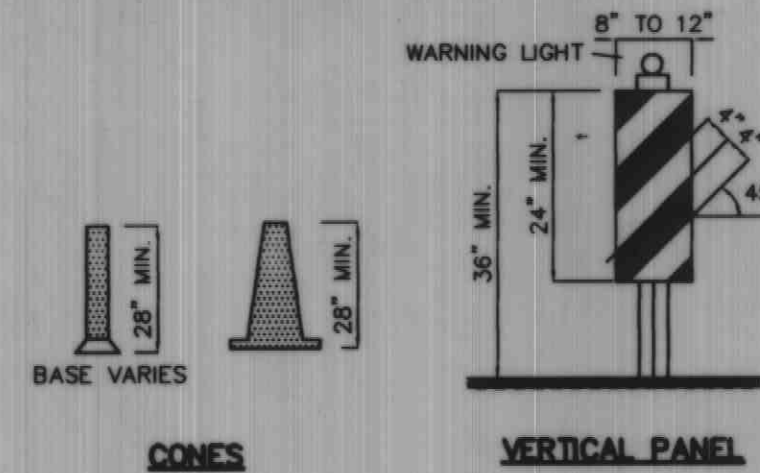
25. TRAFFIC CONTROL STANDARDS APPLY ONLY WHERE THE CONSTRUCTION TRAFFIC CONTROL PLANS ARE NOT SPECIFIC.

26. ADVANCE WARNING SIGNS SHALL BE 36"x36" MIN. WITH SUPER ENGINEERING GRADE SHEETING OR BETTER. MOUNTING HEIGHT AT TOP OF SIGN SHALL BE THE SAME AS FOR A 48" SIGN AS INDICATED IN THE M.U.T.C.D.

27. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORKSITE. ALL GRAFFITI SHALL BE PROMPTLY REMOVED FROM ALL EQUIPMENT, BOTH PERMANENT AND TEMPORARY.



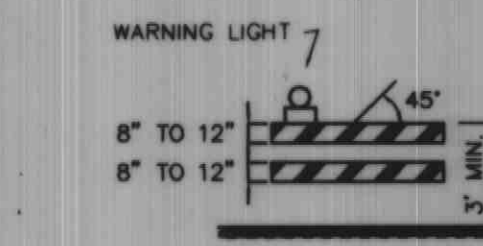
TYPE III BARRICADE



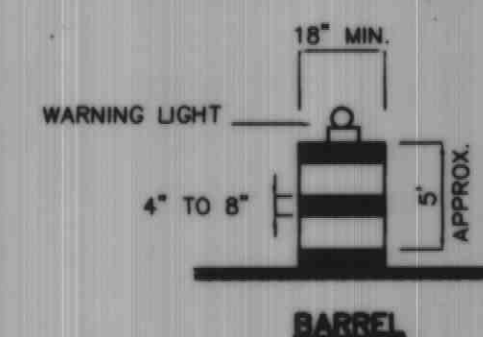
CONES

VERTICAL PANEL

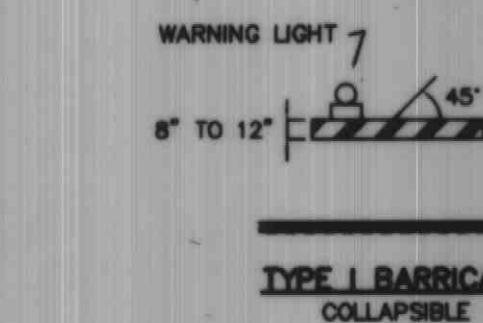
HIGH LEVEL WARNING DEVICE



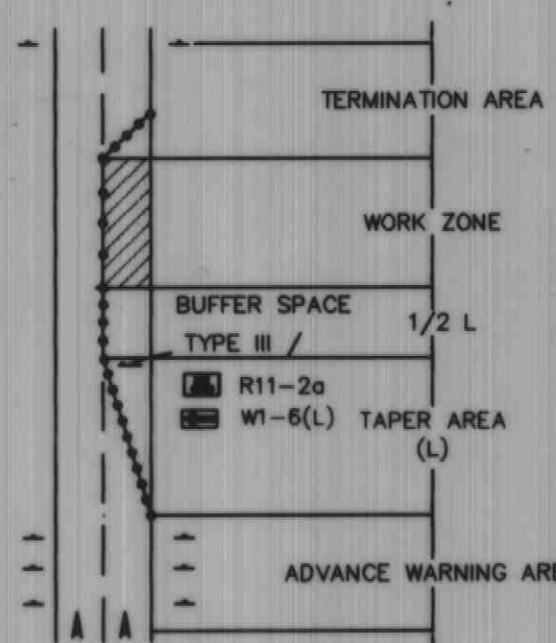
TYPE I BARRICADE



BARREL



TYPE I BARRICADE



TRAFFIC CONTROL ELEMENTS

LEGEND

WORK AREA
BARRICADE - TYPE I, TYPE II, OR BARREL
BARRICADE - TYPE III
VERTICAL PANEL

WARNING SIGN
DISTANCE BETWEEN SIGNS - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET
FLAGMAN POSITION
SPACING BETWEEN BARRICADES - A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET
TAPER LENGTH - SEE CHART BELOW

THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET.

TAPER REQUIREMENTS

SPEED LIMIT (MPH)	TAPER LENGTH (L) (FEET)			MINIMUM NUMBER OF DEVICES FOR TAPER	MAXIMUM DEVICE SPACING IN FEET	
	10' LANE	11' LANE	12' LANE		ALONG TAPER	AFTER TAPER
20	70	75	80	5	20	20
25	105	115	125	6	25	25
30	150	165	180	7	30	30
35	205	225	245	8	35	35
40	270	295	320	9	40	40
45	450	495	540	13	45	45
50	500	550	600	13	50	50
55	550	605	660	13	55	55

RECOMMENDED SIGN SPACING(D) FOR ADVANCE WARNING SIGN SERIES

SPEED MILES PER HOUR	MINIMUM DISTANCE BETWEEN SIGNS	FROM LAST SIGN TO TAPER
0-20	10 X SPEED LIMIT	10 X SPEED LIMIT
25-30	10 X SPEED LIMIT	10 X SPEED LIMIT
30-35	10 X SPEED LIMIT	10 X SPEED LIMIT
40-45	10 X SPEED LIMIT	10 X SPEED LIMIT
50-60	10 X SPEED LIMIT	10 X SPEED LIMIT

TAPER CRITERIA

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPER:	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/2 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSIDE TAPERS	100 FEET PER LANE

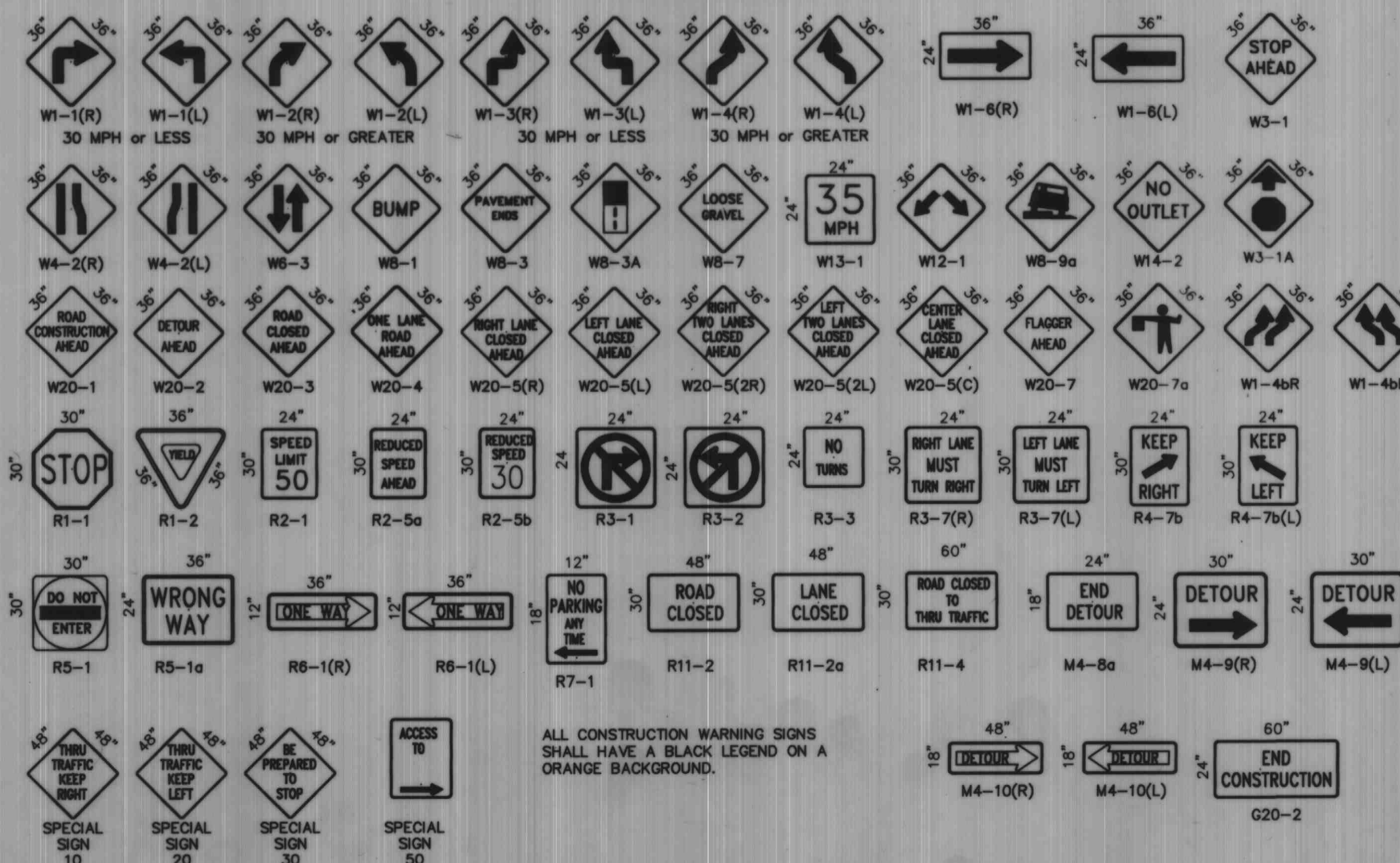
TAPER LENGTH COMPUTATION

SPEED LIMIT	L = WS ² / 60
40 MPH OR LESS	
45 MPH OR GREATER	L = W x S

L = TAPER LENGTH
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED OR OFF-PEAK 85-PERCENTILE SPEED IN MPH

AS BUILT DRAWING

SIGN FACE DETAILS



ALL CONSTRUCTION WARNING SIGNS SHALL HAVE A BLACK LEGEND ON A ORANGE BACKGROUND.

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: **ARENAL RD STORM DRAIN
SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS**

DESIGN REVIEW COMMITTEE: **COA**
CITY ENGINEER APPROVAL: **Standard**

PROJECT NO. **580391** MAP NO. **M-10** SHEET **7** OF **8**

