

# CITY OF ALBUQUERQUE

## CONSTRUCTION PLANS FOR

# CONSTITUTION AVENUE WATER LINE REHABILITATION

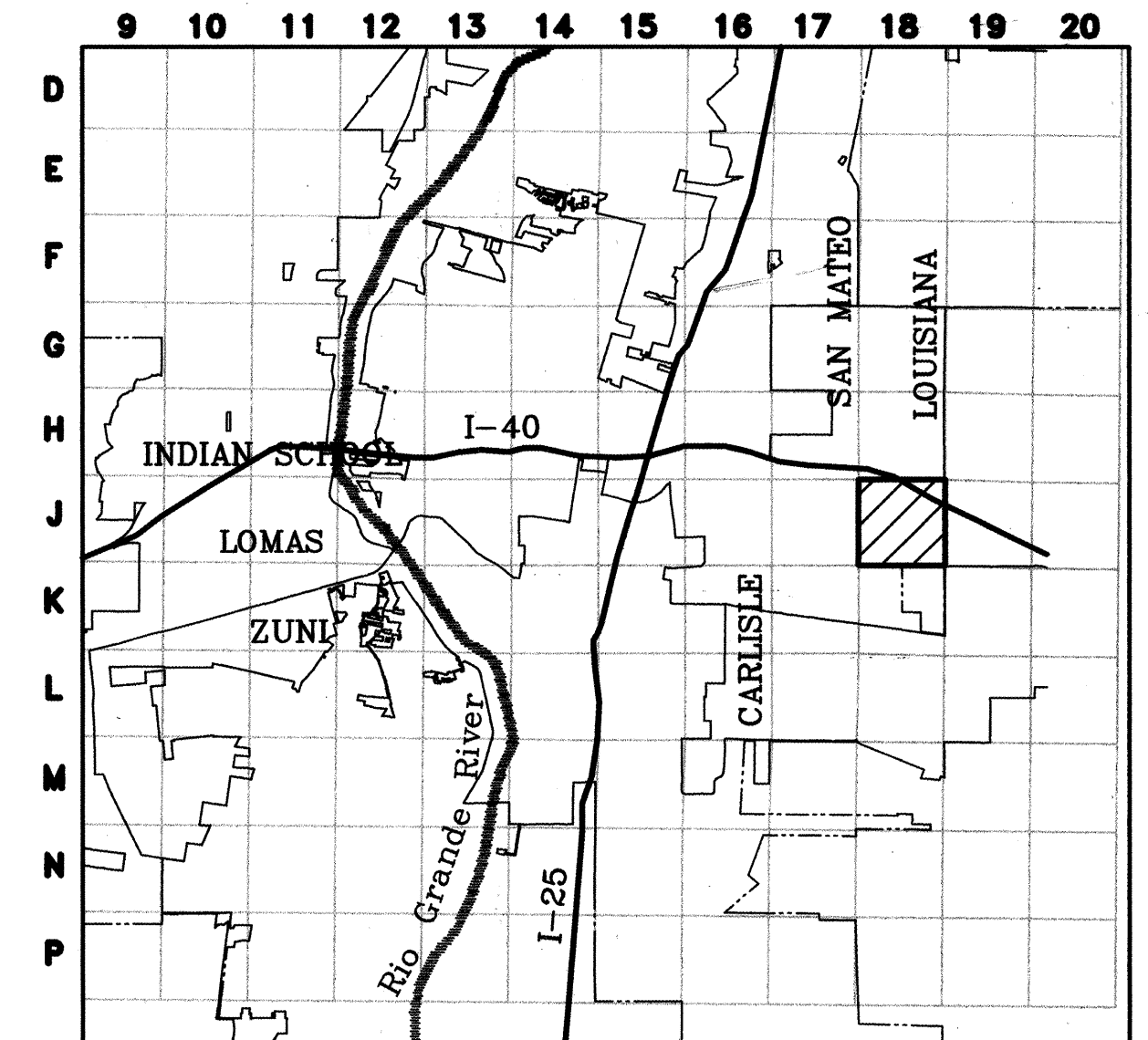
MARCH 2004

CITY PROJECT NO. 631593

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  
26 631593 105



PROJECT LOCATION MAP

PROJECT AREA

### UTILITY COMPANY CONTACTS

BUSINESS	NAME	PHONE
PNM-ELECTRIC	MARK BOUCHARD	(505)241-3402
PNM-GAS CO. OF NM	JEFF ROMANOWSKI	(505)241-7703
AT&T	DAVID CROWEL	(505)842-2911
MCI WORLDCOM	ANDY DARNELL	(505)346-4470
COMCAST	RITA ERICKSON	(505)761-6235
TIME WARNER TELECOM	ROYAL HARRISON	(505)938-7339
XSPEDIUS	STEVE BENJAMIN	(505)998-2220
MCLEOD USA	RICK MUELLER	(505)244-3161
QWEST/US WEST	DAVID MULLER	(505)245-8706
CITY OF ALBUQUERQUE	GREG OLSON	(505)768-2719
GENUITY	JEFF KETTERER	(317)633-5562
UNIVERSAL ACCESS	BRYAN PRICE	(505)660-6476

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE INDICATED RECORD DRAWINGS ARE BASED UPON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR IN THE FORM OF RED-LINED CONSTRUCTION DRAWING MARKUPS TO THE ORIGINAL DESIGN DRAWINGS. THE TRANSFER OF INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. HOWEVER, I HAVE NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THE INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS. ALL INFORMATION INCLUDING VERTICAL AND HORIZONTAL DIMENSIONS SHOULD BE FIELD CHECKED PRIOR TO USE ON FUTURE PROJECTS.

APPROVAL OF RECORD DRAWINGS  
THOMAS E. SHOEMAKER  
DATE 3/16/05  
Thomas E. Shoemaker

**B** Boyle Engineering Corporation  
consulting engineers  
Suite 800  
2501 AMERICAS PARKWAY, N.E.  
ALBUQUERQUE, NM 87110  
(505) 883-7700

ALL AS-BUILTS		DATE		USER DEPARTMENT		DATE		USER DEPARTMENT		DATE	
REV.	SHEETS	CITY ENGINEER	DATE	ENGINEER	DATE	APPROVED FOR CONSTRUCTION					
ENGINEERS STAMP & SIGNATURE		APPROVALS		ENGINEER		APPROVED FOR CONSTRUCTION					
		DRC Chairman		3/16/05		APPROVED FOR CONSTRUCTION					
		Transportation		3/16/05							
		Water/Wastewater		3/16/05							
		Hydrology		3/16/05							
		C.I.P.		3/16/05							
Constr. Mngmnt.		3/16/05		City Engineer		4-16-04					
Constr. Coord.		3/16/05		City Engineer		4-16-04					
City Project No.		631593		Sheet		1		Of		14	



GENERAL NOTES

- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT N.M. ONE-CALL SYSTEM, INC., 260-1990, FOR LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL ALSO CALL TRAFFIC ENGINEERING AT 857-8000 FOR LOCATION OF TRAFFIC INTERCONNECT WIRING AND OTHER TRAFFIC SIGNAL EQUIPMENT.
- 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 (AS AMENDED THROUGH UPDATE #7.) REFERENCED TO HEREIN AS THE "STANDARD SPECIFICATIONS".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMING AND COORDINATION OF WATER SHUTOFF. AT LEAST (5) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT THE WATER SYSTEMS DIVISION, 857-8200, TO INITIATE IMPLEMENTATION OF THE NON-PRESSURIZED CONNECTION PLAN.
- FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO 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 (924-3400) PRIOR TO OCCUPYING AN INTERSECTION.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES HAS BEEN DETERMINED BY INFORMATION PROVIDED BY OTHERS, AND SHALL BE CONSIDERED APPROXIMATE ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND SIZE OF ALL EXISTING UTILITY LINES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO LOCATE ANY AND ALL UTILITIES.
- THE CONTRACTOR SHALL SUPPORT AND MAINTAIN OPERATIONAL ALL UTILITIES EXPOSED DURING TRENCHING AND OTHER CONSTRUCTION OPERATIONS. ALL CONSTRUCTION ACTIVITIES INVOLVING GAS, POWER, WATER, FIBER OPTIC, TRAFFIC SIGNAL EQUIPMENT, AND/OR OTHER UTILITY LINES SHALL BE COORDINATED WITH THE OWNER OF THE UTILITY PRIOR TO ANY DISTURBANCE. NO UTILITY SERVICE SHALL BE DISRUPTED WITHOUT FIRST NOTIFYING ALL AFFECTED PARTIES 48 HOURS IN ADVANCE.
- THE CONTRACTOR SHALL NOTIFY WATER UTILITY DIVISION OF PUBLIC WORKS (PH. 857-8200) AND THE CITY OF ALBUQUERQUE FIRE DEPARTMENT AT LEAST FIVE (5) WORKING DAYS IN ADVANCE OF ANY DAY THAT FIRE HYDRANTS WILL BE TAKEN OUT OF AND RETURNED TO SERVICE. REFER TO SECTION 18 (GENERAL CONDITIONS) OF THE SPECIFICATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL WATERLINE CONNECTIONS TO EXISTING FACILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO ALLOW OBTAINING CORRECT ADAPTERS AND OTHER FITTINGS. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING VALVE BOXES, MANHOLES, SEWER SERVICES, PAVEMENTS, PAVEMENT MARKINGS, CURB & GUTTER, DRIVE PADS, WHEEL CHAIR RAMPS, AND SIDEWALKS DURING CONSTRUCTION, APART FROM THESE SECTIONS INDICATED FOR REMOVAL ON THE PLANS AND SHALL REPAIR OR REPLACE PER C.O.A. STANDARDS AT CONTRACTOR'S EXPENSE.
- QUANTITIES SHOWN FOR THE VARIOUS BID ITEMS ARE FOR CONTRACTOR INFORMATION ONLY. PAYMENT SHALL BE BASED ON ACTUAL QUANTITIES AS CONSTRUCTED.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLITION DEBRIS IN AN ENVIRONMENTALLY ACCEPTABLE MANNER. ALL SALVAGED MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH SECTION 801.15 OF THE STANDARD SPECIFICATIONS.
- TEMPORARY WATER SERVICE IS TO BE PROVIDED FOR ANY RESIDENCE, SCHOOL OR BUSINESS WHICH WILL BE OUT OF SERVICE MORE THAN FOUR HOURS.
- ALL WATER SERVICE LINES ARE TO BE REPLACED FROM THE NEW MAIN TO THE METER WITH NEW SERVICE LINES OF THE SAME SIZE AS THE METER.
- NEW SERVICE LINES SHALL BE INSTALLED USING TRENCHLESS TECHNOLOGY, SUCH AS: THE GRICE SYSTEM, HOLE-HOG SYSTEM, OR EQUIVALENT.
- NO PAYMENT SHALL BE MADE FOR PAVEMENT, OR CURB & GUTTER REMOVAL AND REPLACEMENT ASSOCIATED WITH THE REPLACEMENT OF WATER SERVICES.
- ALL WATER VALVE BOXES AND SEWER MANHOLES WITHIN THE NEW PAVEMENT ARE TO BE ADJUSTED TO FINISH GRADE PER COA STANDARD DETAILS.
- WHERE WATERLINES ARE TO BE REPLACED, PAVEMENT SHALL BE REMOVED AND REPLACED A MINIMUM OF 8 FEET WIDE WITH A MAXIMUM PAY WIDTH OF 9 FEET WIDE UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS OR APPROVED BY THE ENGINEER.
- STREET CENTERLINE GRADES SHALL BE RESTORED BY THE CONTRACTOR TO THE EXISTING CENTERLINE GRADES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SMOOTH TRANSITIONS SHALL BE MADE BETWEEN EXISTING PAVEMENT WHICH REMAINS IN PLACE AND PAVEMENT WHICH IS BEING REPLACED.
- WHERE SEWER LINES ARE TO BE REPLACED, PAVEMENT SHALL BE REMOVED AND REPLACED FULL STREET WIDTH UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS OR APPROVED BY THE ENGINEER.
- ALL STREET STRIPING AND MARKING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKINGS BY THE CONTRACTOR TO THE SAME LOCATION AS EXISTING OR AS INDICATED ON THE CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL NOT STORE AND/OR PARK EQUIPMENT IN FRONT OF PRIVATE RESIDENCES OVER NIGHT.

(GENERAL NOTES CONTINUED)

- THE CONTRACTOR SHALL MAINTAIN ALL TRENCHES IN A SAFE CONDITION PROTECTING THE WORKERS AND THE GENERAL PUBLIC. TRENCH PROTECTION SHALL BE IN ACCORDANCE WITH O.S.H.A. 29CFR 1926.650 SUBPART P. EXCAVATIONS SHALL BE SLOPED, BRACED OR SHORED AS REQUIRED BY O.S.H.A. REGULATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND FOR KNOWLEDGE AND COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS. NO ADDITIONAL COMPENSATION WILL BE MADE THEREFORE.
- ALL OPEN EXCAVATIONS SHALL BE BACKFILLED OR ADEQUATELY FENCED AT THE END OF EACH WORK DAY TO PREVENT SMALL CHILDREN AND/OR VEHICLES FROM ENTERING THE EXCAVATIONS. ALL OPEN EXCAVATIONS SHALL BE BACKFILLED OVER WEEKENDS AND WHEN THE CONTRACTOR IS NOT WORKING THE FOLLOWING DAY.
- THE CONSTRUCTION DRAWINGS SHOW THE APPROXIMATE ELEVATION OF THE EXISTING PAVEMENT AT THE CENTERLINE OF THE STREET. THE CONTRACTOR SHALL INSTALL THE NEW WATER LINE WITH A MINIMUM OF THREE FEET OF COVER OVER THE WATER LINE REGARDLESS OF ITS ALIGNMENT IN THE STREET.
- LOCATIONS OF PIPES AND OTHER UTILITIES ARE ESTIMATED. CONTRACTOR TO ADJUST ELEVATION OF NEW WATER LINE DURING CONSTRUCTION TO MISS THESE UTILITIES. CONTRACTOR TO MARK THEIR EXACT LOCATION ON THE AS-BUILT DRAWINGS AS THEY ARE ENCOUNTERED.
- PAVEMENT REPLACEMENT**

**RESIDENTIAL STREET - FLEXIBLE PAVEMENT**

FOR PAVEMENT CUTS > 8 FEET WIDE AND > 100 FEET LONG, PAVEMENT SHALL BE REPLACED AS PER CITY STANDARD DRAWING NO. 2405 TO MATCH THE THICKNESS OF THE REMOVED PAVING SECTION. THE TOP OR FINISH COURSE SHALL BE 2" THICK TYPE "B" GRADATION. THE ADDITIONAL THICKNESS OF ASPHALT CONCRETE SHALL BE TYPE "A" GRADATION.

FOR PAVEMENT CUTS < 8 FEET WIDE, THE PAVEMENT SHALL BE REPLACED AS PER CITY STANDARD DRAWING NO. 2465 TO MATCH EXISTING PAVEMENT THICKNESS PLUS 2 INCHES.

**ARTERIAL/COLLECTOR STREET - FLEXIBLE PAVEMENT**

FOR PAVEMENT CUTS > 8 FEET WIDE AND > 100 FEET LONG, PAVEMENT SHALL BE REPLACED TO THE ORIGINAL THICKNESS AS PER CITY STANDARD DRAWING NO. 2407. THE TOP OR FINISH COURSE SHALL BE 2" THICK TYPE "B" GRADATION. THE ADDITIONAL THICKNESS OF ASPHALT CONCRETE SHALL BE TYPE "A" GRADATION.

FOR PAVEMENT CUTS < 8 FEET WIDE, THE PAVEMENT SHALL BE REPLACED AS PER CITY STANDARD DRAWING NO. 2465 TO MATCH EXISTING PAVEMENT THICKNESS PLUS 2 INCHES.

**STREETS DESIGNATIONS**

THE FOLLOWING STREETS WITHIN THE WATER REPLACEMENT PROJECT AREA ARE DESIGNATED AS ARTERIAL STREETS:  
CONSTITUTION AVENUE

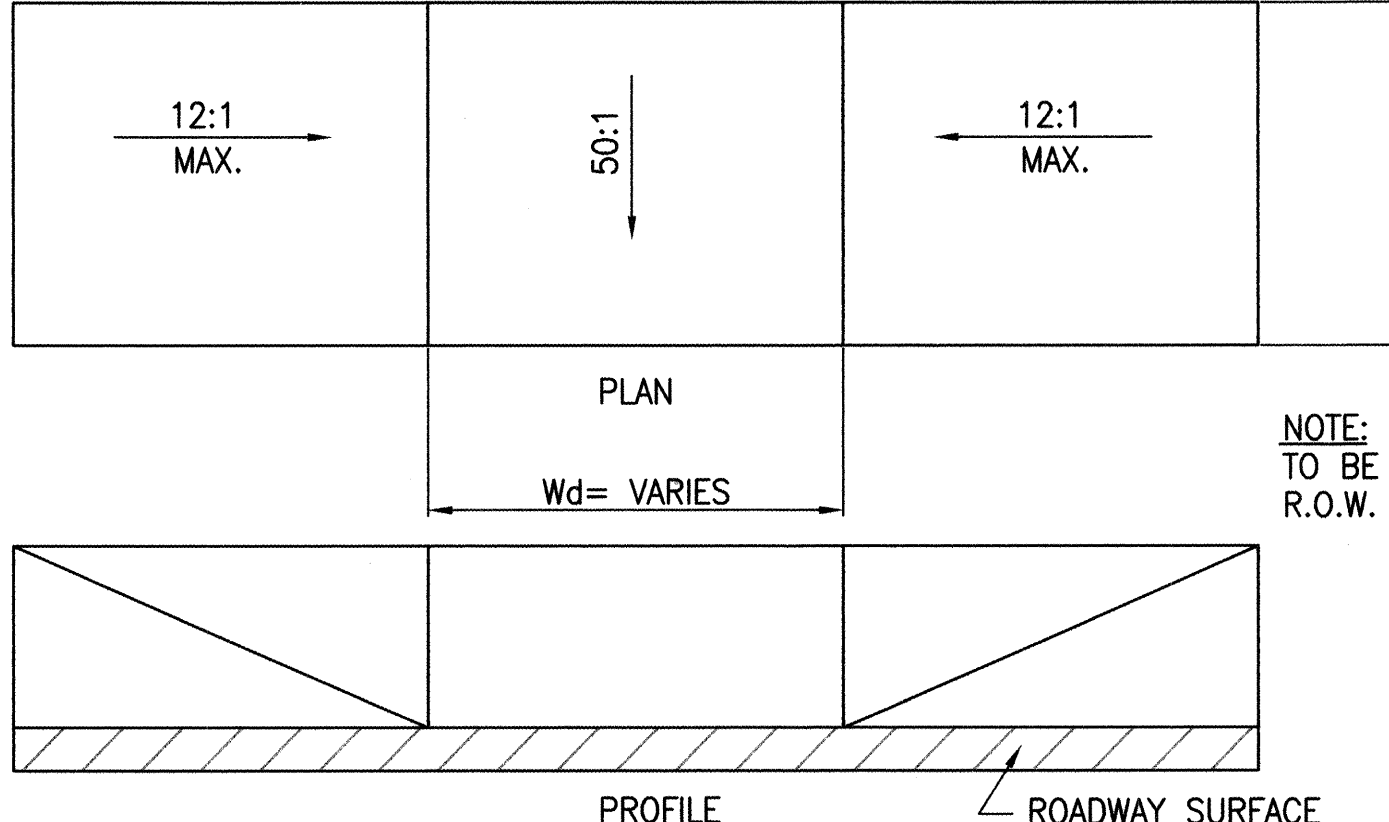
THE REMAINING STREETS WITHIN THE PROJECT AREA, NOT DESIGNATED AS EITHER ARTERIAL OR COLLECTOR, ARE DESIGNATED AS RESIDENTIAL STREETS.

THE ALLEYS WITHIN THE PROJECT AREA, WHETHER PAVED OR NOT PAVED, ARE DESIGNATED AS RESIDENTIAL ALLEYS.

QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE BASED ON PAVEMENT THICKNESS ASSUMPTIONS.
- CONTRACTOR TO CONSTRUCT TRANSITION FROM EXISTING SIDEWALK WIDTH TO WHEEL CHAIR RAMP WIDTH AS NECESSARY.
- WATER SERVICE LINES LOCATED IN PRESSURE ZONES OW, IW, AND IE THAT ARE TO BE REPLACED SHALL HAVE A DUAL CHECK VALVE INSTALLED ON THEM INSIDE THE METER BOX. THIS APPLIES TO THE FOLLOWING STREETS/AREAS ON THIS PROJECT:  
N/A
- CONTRACTOR SHALL NOTIFY THE CITY OF ALBUQUERQUE GEODETIC SURVEY NOT LESS THAN THREE (3) WORKING DAYS PRIOR TO STARTING WORK THAT WILL IMPLY ANY EXISTING ACS GEODETIC SURVEY MONUMENTS SHALL BE DONE BY THE CITY OF ALBUQUERQUE GEODETIC SURVEY. ANY ACS MONUMENTS DAMAGED OR DESTROYED DUE TO THE FAILURE OF CONTRACTOR TO NOTIFY AS STATED ABOVE SHALL BE REPLACED BY THE CITY OF ALBUQUERQUE GEODETIC SURVEY AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY ENGINEER NO LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO ENSURE THE PRESERVATION OF ALL OTHER PERMANENT SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. ONLY THE ENGINEER SHALL DO REPLACEMENT. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT CONTRACTOR EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED.
- DRIVEPADS 6' MIN. FLAT B/W EACH IN LOCATIONS WHERE SIDEWALKS ARE CONSTRUCTED AT THE BACK OF CURB. A MINIMUM OF 6' OF LEVEL SIDEWALK MUST BE MAINTAINED BETWEEN DRIVEPADS. IF A MINIMUM OF 6' CANNOT BE ACHIEVED, THEN THE TWO DRIVEPADS SHALL BE CONSTRUCTED AND JOINED AS ONE LARGE DRIVEPAD.

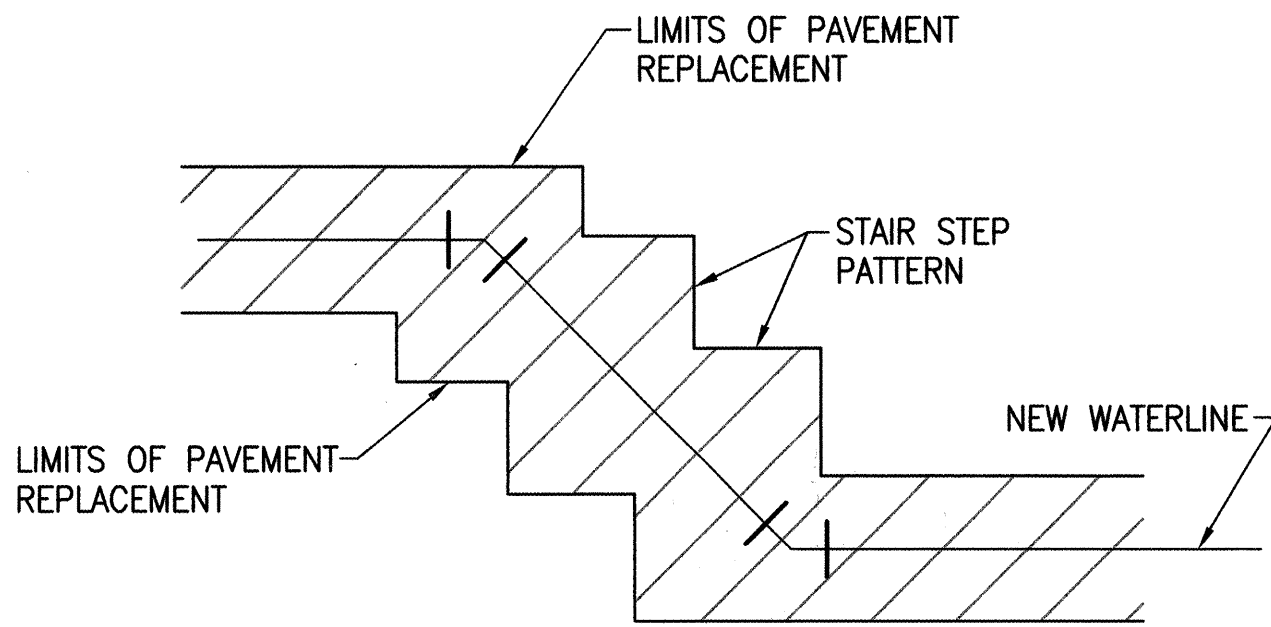
LEGEND

PROPOSED	EXISTING	DESCRIPTION
8" SAS	8" VCP SAS	SANITARY SEWER LINE W/SIZE & MATERIAL
NA	8" RCP SD	STORM SEWER LINE W/SIZE & MATERIAL
6" WL	6" ST WL	WATER LINE W/ SIZE & MATERIAL
	XX=SS SANITARY SEWER SD STORM DRAIN CO CLEAN OUT	MANHOLE: XX=SS SANITARY SEWER SD STORM DRAIN CO CLEAN OUT
	MUELLER 1960	WATER LINE / VALVE
		FIRE HYDRANT, MODEL & YEAR (FOR EXISTING ONLY)
		DROP INLET
	NA	REDUCER
	NA	PIPE COUPLING
		TEE
		CROSS
		BEND
	NA	CAP OR PLUG
		POLE
		SIGN
		POLE W/ LIGHT
		LIGHT POLE
	UGT	UNDERGROUND TELEPHONE LINE
	2" HP G	UNDERGROUND GAS LINE
	CATV UG	UNDERGROUND CATV LINE
	UGE	UNDERGROUND ELECTRIC
	OHE	OVERHEAD ELECTRIC
		RIGHT OF WAY LINE
		PRESSURE ZONE BOUNDARY
		GRAVEL/GRADED/UNPAVED ROAD
		PAVED ROAD
		CURB AND GUTTER AND SIDEWALK
		BUILDING
		CONCRETE SIDEWALK OR DRIVEWAY
		WIRE FENCE
		CHAINLINK FENCE
		BLOCK WALL
	3'-6" S/W	3'-6" SIDEWALK
		ZONE MAP BOUNDARY
		WATER METER
	WM	WHEEL CHAIR RAMPS



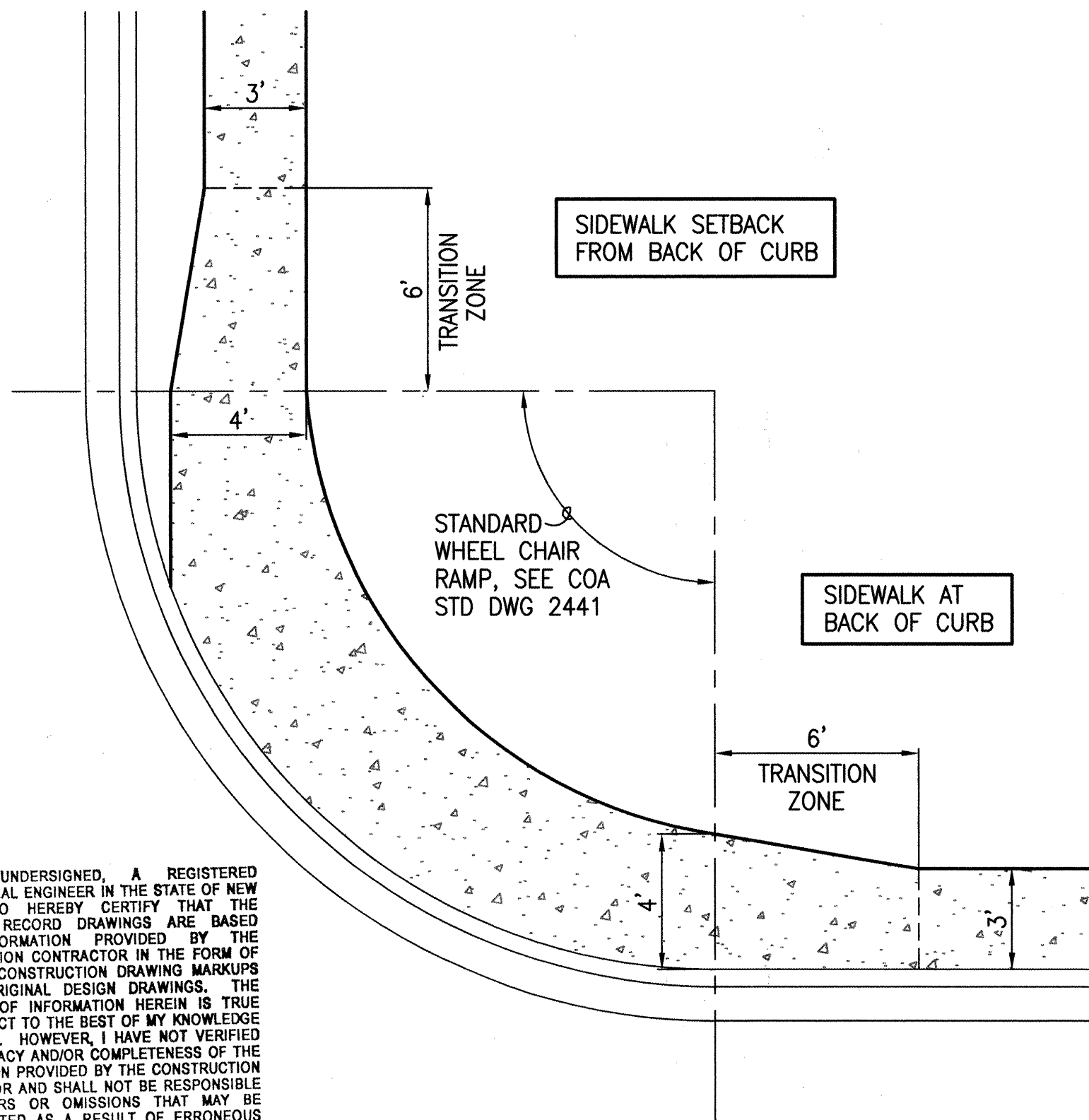
MODIFIED DRIVEPAD DETAIL

NTS



TYPICAL DIAGONAL CUT PAVEMENT REPLACEMENT DETAIL

NTS



WHEEL CHAIR RAMP TO 3' WIDE SIDEWALK TRANSITION

NTS



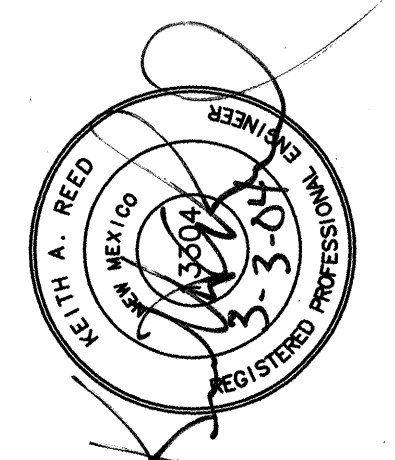
CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE REHABILITATION**  
**LEGEND AND GENERAL NOTES**

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APR 16 2004	APR 16 2004		
DESIGN REVIEW COMMITTEE	CITY ENGINEER		

City Project No.	Zone Map No.	Sheet	Of
631593	N/A	2	14

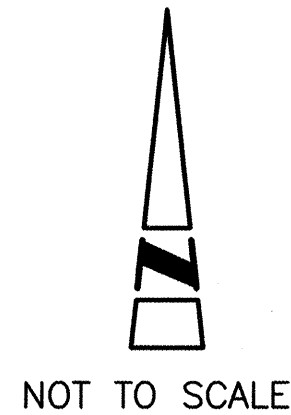
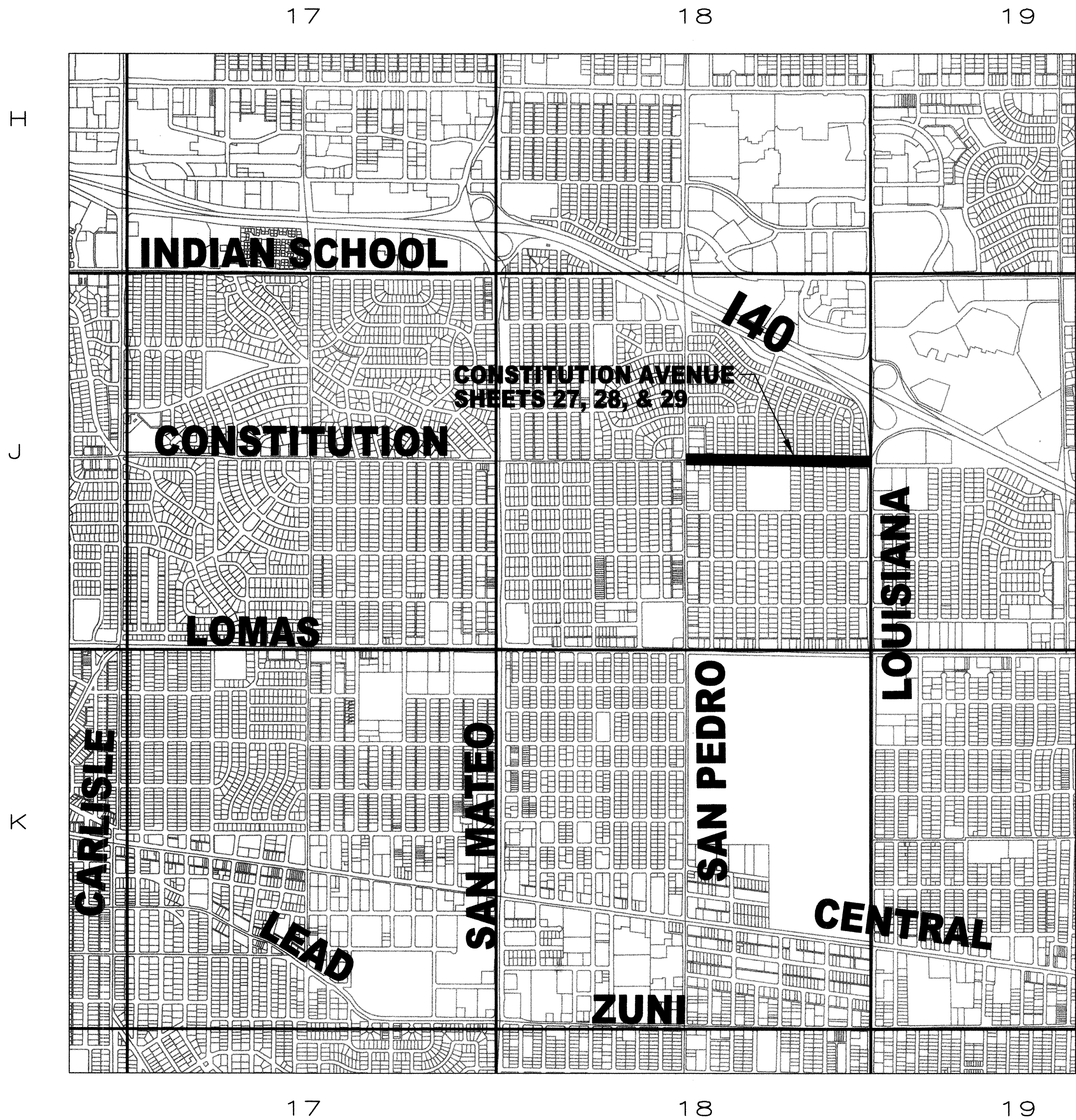
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WORKED BY	RMCI	RMCI	RMCI	DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
INSPECTED BY	DEC	DEC	DEC	DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
ACCEPTANCE BY	DEC	DEC	DEC	DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
VERIFY BY	DEC	DEC	DEC	DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
DRAWINGS CORRECTED BY	DEC	DEC	DEC	DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
MICRO-FILM INFORMATION				DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
RECORDED BY				DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE
DATE				DATE	DATE	DATE	DATE	NO.	DATE	DATE	DATE	DATE	DATE	DATE	DATE



AS-BUILT	REMARKS	DATE	DATE	DATE	DATE
9/25					
NO.	DATE	DATE	DATE	DATE	DATE
DESIGNED BY	KAR	DATE	04/03	DATE	04/03
DRAWN BY	KAR	DATE	04/03	DATE	04/03
CHECKED BY	KWW	DATE	04/03	DATE	04/03

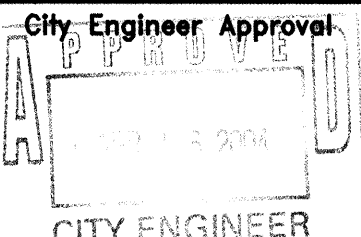
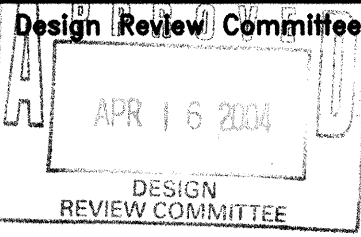


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MESA REPRO



CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

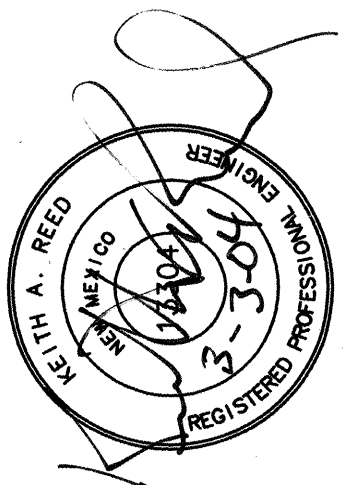
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REHABILITATION  
LOCATION MAP**

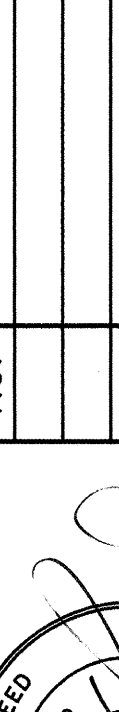


City Project No. 631593 Zone Map No. N/A Sheet 3 of 14

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE INDICATED RECORD DRAWINGS ARE BASED UPON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR IN THE FORM OF RED-LINED CONSTRUCTION DRAWING MARKUPS TO THE ORIGINAL DESIGN DRAWINGS. THE TRANSFER OF INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. HOWEVER, I HAVE NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THE INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS. ALL INFORMATION INCLUDING VERTICAL AND HORIZONTAL DIMENSIONS SHOULD BE FIELD VERIFIED PRIOR TO USE ON FUTURE PROJECTS.

*[Signature]*  
10/25/05

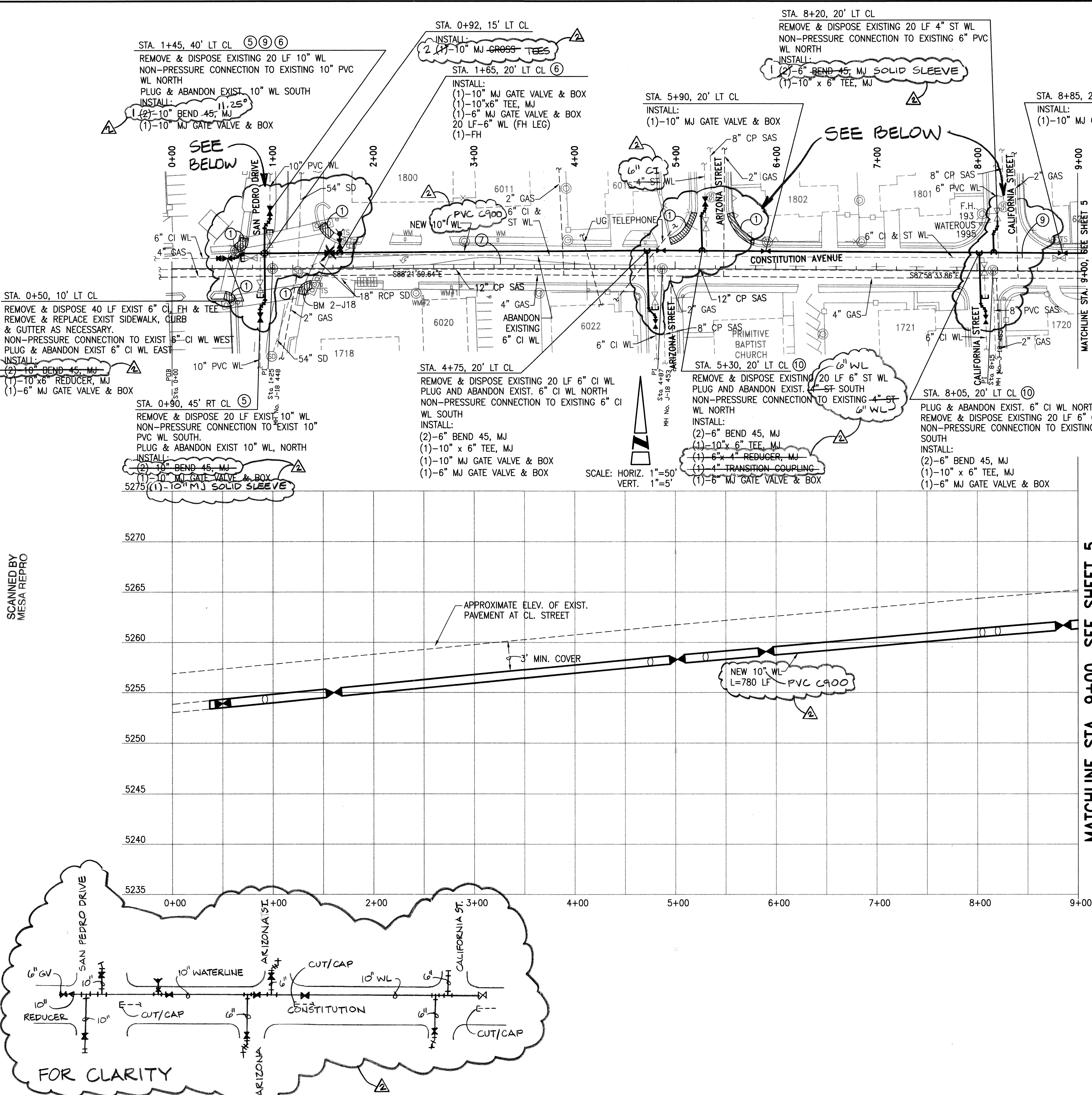


ENGINEERS SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
		FIELD NOTES		DATE			
		NO.					
DESIGNED BY		REVISIONS		MICRO-FILM INFORMATION		RECORDED BY	
KAR		DATE		04/03		DATE	
CAL		DATE		04/03		DATE	
KWW		DATE		04/03		DATE	

10/25/05: Boyle Eng.



SCANNED BY  
MESA REPRO



### KEYED NOTES:

- REMOVE AND DISPOSE EXIST. CURB, GUTTER, AND SIDEWALK. REPLACE WITH NEW WHEELCHAIR RAMP PER COA STD. DWG. NO. 2441 CASE II.
- NOT USED
- REMOVE & REPLACE MH FRAME AND COVER AND REHABILITATE MANHOLE.
- REMOVE, DISPOSE AND REPLACE DAMAGED/MISSING CURB AND GUTTER, SIDEWALKS AND DRIVEPADS TO THE NEAREST JOINT AS SHOWN AND AS DIRECTED BY THE ENGINEER. ALL CURB AND GUTTER TO BE REPLACED PER C.O.A. STD DWG 2415, ALL SIDEWALK PER C.O.A. STD DWG 2430, AND ALL DRIVEPADS PER C.O.A. STD. DWG 2425 OR PER THE DETAIL ON SHEET 2 FOR INADEQUATE ROW. LIMITS AS SHOWN ARE APPROXIMATE.
- FIELD LOCATE END OF 6" PVC WL. REMOVE & REPLACE ALL STEEL WL NORTH & SOUTH.
- REMOVE & REPLACE TRAFFIC CONTROL LOOPS AS NECESSARY PER C.O.A. STD. DWG. 2552.
- REPLACE PAVEMENT MARKINGS IDENTIFYING LANES, TURN ARROWS, & MEDIAN TO EXISTING DESIGNATIONS. REPLACE DOUBLE YELLOW STRIPING FROM STA. 1+45 TO STA. 9+00 INCLUDING REPAIRING OR REPLACING STOP BARS/CROSSWALKS AT SAN PEDRO AS NEEDED.
- FIELD LOCATE END OF 4" ST AND BEGINNING OF 6" PVC. REMOVE & REPLACE ALL STEEL PIPING.
- EXIST. 6" CI WL (ACTIVE) FROM SAN PEDRO TO CALIFORNIA ST. EXIST. 6" ST WL (POSSIBLY ABANDONED) MAY BE ENCOUNTERED JUST NORTH OF AND PARALLEL TO CI WL IN THIS AREA. ONLY ONE EXIST. WL SHOWN FOR CLARITY.
- EXIST. 6" CI WL WAS INSTALLED AFTER ORIGINAL 4" ST WL ON ARIZONA ST. & CALIFORNIA ST. NORTH OF CONSTITUTION. 4" ST LINES MAY STILL EXIST FOR APPROX. 50 LF NORTH OF EXIST. WL IN CONSTITUTION.

### NOTES:

- WATER LINE CONNECTIONS SHALL BE CONSTRUCTED PER C.O.A. STD. DWG. 2301. UNIT PRICES FOR WATER LINE CONNECTIONS SHALL INCLUDE DISPOSAL OF DRAINED WATER, AND DISPOSAL OF EXISTING WATER LINE AND FITTINGS.
- ALL NEW WATER LINE FITTINGS AND VALVES SHALL BE MECHANICALLY RESTRAINED PER THE RESTRAINED JOINT DETAIL SHEET.
- METER BOX REPLACEMENT AND METER BOX RELOCATION SHALL BE PER C.O.A. STD. DWG. 2362 PER THE FOLLOWING SCHEDULE:

ADDRESS	LOCATION	METER SIZE	REPLACE BOX	RELOCATE BOX
1800 SAN PEDRO DR	R5	3/4"	X	
6011 CONSTITUTION AVE	F5	1-1/4"	X	
6020 CONSTITUTION AVE	F8	1-1/4"		
6022 CONSTITUTION AVE	F4	3/4"	X	X

- SERVICE LINE REPLACEMENT AND METER YOKE/COPPERSETTER REPLACEMENT TO BE FIELD VERIFIED. QUANTITIES REFLECT NEED FOR REPLACEMENT.
- PROVIDE MINIMUM CLEARANCE OF 6 INCHES BETWEEN STORM DRAIN PIPE AND NEW WATER MAIN. MINIMUM CLEARANCE APPLIES TO WATER MAIN GOING OVER OR UNDER STORM DRAIN PIPE.
  - REMOVE, DISPOSE AND REPLACE A MAX 9' WIDTH OF RESIDENTIAL ASPHALT PAVEMENT PER NOTE 26 SHEET 2 FROM STA. 0+50 TO STA. 9+00. INSTALL (3)-2" CTS 1800# ASPHALT CONCRETE PAVEMENT (3205 SY).
  - 2" MILL AND INLAY FROM STA. 1+45 TO STA. 9+00 THE REMAINING STREET WIDTH TO THE CURB RETURNS. INSTALL 1800# ASPHALT CONCRETE PAVEMENT (2700 SY). NO MILL AND INLAY IN SAN PEDRO INTERSECTION.
  - FOR WATER SHUT-OFF PLANS, SEE SHEET 9.

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE INDICATED RECORD DRAWINGS ARE BASED UPON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR IN THE FORM OF RED-LINED CONSTRUCTION DRAWING MARKUPS TO THE ORIGINAL DESIGN DRAWINGS. THE TRANSFER OF INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. HOWEVER, I HAVE NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THE INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERONEOUS INFORMATION PROVIDED BY OTHERS. ALL INFORMATION INCLUDING VERTICAL AND HORIZONTAL DIMENSIONS SHOULD BE FIELD VERIFIED PRIOR TO USE ON FUTURE PROJECTS.

10/15/05



CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE  
REHABILITATION  
CONSTITUTION AVENUE PLAN & PROFILE**

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APR 16 2004 DESIGN REVIEW COMMITTEE	APR 15 2004 CITY ENGINEER		
City Project No. 631593	Zone Map No. J-18	Sheet 4	Of 14

AL A01-160-05



STA. 11+05, 20' LT CL  
REMOVE & DISPOSE EXIST. FH & LEG  
PLUG & ABANDON EXIST. 6" ST WL SOUTH  
REMOVE & DISPOSE EXISTING 20 LF 6" ST WL  
NON-PRESSURE CONNECTION TO EXISTING 6" ST  
WL NORTH  
INSTALL:  
(1)-6" TEE, MJ  
(2)-6" BEND 45, MJ  
(1)-6" MJ GATE VALVE & BOX  
(1)-6" TRANSITION COUPLING  
(1)-10" MJ GATE VALVE & BOX  
(1)-10" x 6" TEE, MJ  
(1)-FH  
20 LF-6" WL FOR FH LEG  
(1)-SIDEWALK BUBBLE PER  
C.O.A. STD. DWG. 2431

STA. 13+83, 20' LT CL  
REMOVE & DISPOSE EXISTING 20 LF 4" ST WL  
PLUG & ABANDON EXIST. 4" ST WL SOUTH  
NON-PRESSURE CONNECTION TO EXIST. 4" ST  
WL NORTH  
INSTALL:  
(1)-6" x 4" REDUCER, MJ  
(1)-4" TRANSITION COUPLING  
(2)-6" BEND 45, MJ  
(1)-6" MJ GATE VALVE & BOX  
(1)-10" x 6" TEE, MJ  
(1)-10" MJ GATE VALVE & BOX

STA. 16+53, 20' LT CL  
REMOVE & DISPOSE EXISTING 20 LF 6" ST WL  
PLUG & ABANDON EXIST. 6" ST WL SOUTH  
NON-PRESSURE CONNECTION TO EXISTING 6" ST  
WL NORTH  
INSTALL:  
(2)-6" BEND 45, MJ  
(1)-6" TRANSITION COUPLING  
(1)-6" MJ GATE VALVE & BOX  
(1)-10" x 6" TEE, MJ

STA. 9+90, 20' LT CL ⑤  
REMOVE & DISPOSE EXISTING 20 LF 6" ST WL  
NON-PRESSURE CONNECTION TO EXIST. WL SOUTH  
INSTALL:  
(2)-6" BEND 45, MJ  
(1)-6" MJ GATE VALVE & BOX  
(1)-10" x 6" TEE, MJ

STA. 13+45, 20' LT CL  
REMOVE & DISPOSE EXIST. 6" CI  
FH LEG AND FH  
INSTALL:  
(1)-10" x 6" TEE, MJ  
(1)-6" MJ GATE VALVE & BOX  
(1)-6" MJ GATE VALVE & BOX  
REMOVE AND RELAY FH  
(1)-SIDEWALK BUBBLE PER C.O.A.  
STD. DWG. 2431

STA. 17+60, 20' LT CL  
REMOVE & DISPOSE EXISTING 20 LF 6" CI WL  
PLUG & ABANDON EXIST. 6" CI WL NORTH  
NON-PRESSURE CONNECTION TO EXISTING 6" CI  
WL SOUTH  
INSTALL:  
(2)-6" BEND 45, MJ  
(1)-10" x 6" TEE, MJ  
(1)-6" MJ GATE VALVE & BOX  
(1)-10" MJ GATE VALVE & BOX

## KEYED NOTES:

- REMOVE AND DISPOSE EXIST. CURB, GUTTER, AND SIDEWALK. REPLACE WITH NEW WHEELCHAIR RAMP PER COA STD. DWG. NO. 2441 CASE II.
- NOT USED
- REMOVE & REPLACE MH FRAME AND COVER AND REHABILITATE MANHOLE.
- REMOVE, DISPOSE AND REPLACE DAMAGED/MISSING CURB AND GUTTER, SIDEWALKS AND DRIVEPADS TO THE NEAREST JOINT AS SHOWN AND AS DIRECTED BY THE ENGINEER. ALL CURB AND GUTTER TO BE REPLACED PER C.O.A. STD DWG 2415, ALL SIDEWALK PER C.O.A. STD DWG 2430, AND ALL DRIVEPADS PER C.O.A. STD. DWG 2425 OR PER THE DETAIL ON SHEET 2 FOR INADEQUATE ROW. LIMITS AS SHOWN ARE APPROXIMATE.
- VERIFY SIZE & LOCATION OF SUPPLY TO SCHOOL W/ALBUQUERQUE PUBLIC SCHOOLS. COORDINATE SHUT-OFF FOR NIGHTTIME, WEEKEND, OR OTHER TIME WHEN SCHOOL IS NOT IN SESSION.
- REPLACE CROSSWALK STRIPING AT FLORIDA ST.
- REPLACE DOUBLE YELLOW STRIPING FROM STA. 9+00 TO 18+00.

## NOTES:

- WATER LINE CONNECTIONS SHALL BE CONSTRUCTED PER C.O.A. STD. DWG. 2301. UNIT PRICES FOR WATER LINE CONNECTIONS SHALL INCLUDE DISPOSAL OF DRAINED WATER, AND DISPOSAL OF EXISTING WATER LINE AND FITTINGS.
- ALL NEW WATER LINE FITTINGS AND VALVES SHALL BE MECHANICALLY RESTRAINED PER THE RESTRAINED JOINT DETAIL SHEET.
- METER BOX REPLACEMENT AND METER BOX RELOCATION SHALL BE PER C.O.A. STD. DWG. 2362 PER THE FOLLOWING SCHEDULE:

ADDRESS	LOCATION	METER SIZE	REPLACE BOX	RELOCATE BOX
6316 CONSTITUTION	F5	2"		

SERVICE LINE REPLACEMENT AND METER YOKE/COPPERSETTER REPLACEMENT TO BE FIELD VERIFIED. QUANTITIES REFLECT NEED FOR REPLACEMENT.

- PROVIDE MINIMUM CLEARANCE OF 6 INCHES BETWEEN STORM DRAIN PIPE AND NEW WATER MAIN. MINIMUM CLEARANCE APPLIES TO WATER MAIN GOING OVER OR UNDER STORM DRAIN PIPE.
- REMOVE, DISPOSE AND REPLACE A MAX 9' WIDTH OF RESIDENTIAL ASPHALT PAVEMENT PER NOTE 26 SHEET 2 FROM STA. 9+00 TO STA. 18+00. INSTALL (2)-2" LPTS 1500# ASPHALT CONCRETE PAVEMENT (2200 SY) 3480
- 2" MILL AND INLAY FROM STA. 9+00 TO STA. 18+00 THE REMAINING STREET WIDTH TO THE CURB RETURNS. INSTALL 1800# ASPHALT CONCRETE PAVEMENT (3350 SY).
- FOR WATER SHUT-OFF PLANS, SEE SHEET 9.

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE INDICATED RECORD DRAWINGS ARE BASED UPON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR IN THE FORM OF RED-LINED CONSTRUCTION DRAWING MARKUPS TO THE ORIGINAL DESIGN DRAWINGS. THE TRANSFER OF INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. HOWEVER, I HAVE NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THE INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS. ALL INFORMATION INCLUDING VERTICAL AND HORIZONTAL DIMENSIONS SHOULD BE FIELD VERIFIED PRIOR TO USE ON FUTURE PROJECTS.

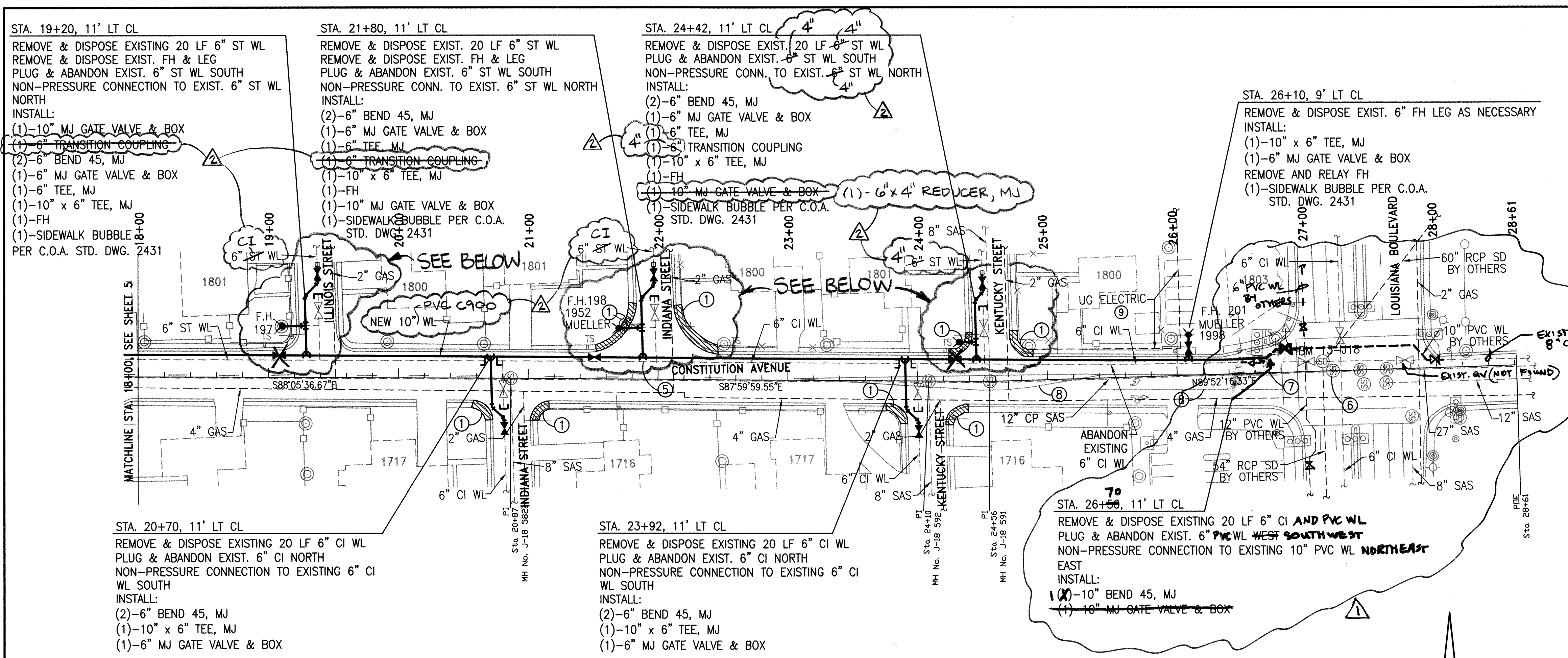


CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: CONSTITUTION AVENUE WATERLINE  
REHABILITATION  
CONSTITUTION AVENUE PLAN & PROFILE

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APR 16 2004 DESIGN REVIEW COMMITTEE	APR 16 2004 CITY ENGINEER		
City Project No. 631593	Zone Map No. J-18	Sheet 5	Of 14





### KEYED NOTES:

- REMOVE AND DISPOSE EXIST. CURB, GUTTER, AND SIDEWALK. REPLACE WITH NEW WHEELCHAIR RAMP PER COA STD. DWG. NO. 2441 CASE II.
- NOT USED
- REMOVE & REPLACE MH FRAME AND COVER AND REHABILITATE MANHOLE.
- REMOVE, DISPOSE AND REPLACE DAMAGED/MISSING CURB AND GUTTER, SIDEWALKS AND DRIVEPADS TO THE NEAREST JOINT AS SHOWN AND AS DIRECTED BY THE ENGINEER. ALL CURB AND GUTTER TO BE REPLACED PER C.O.A. STD DWG 2415, ALL SIDEWALK PER C.O.A. STD DWG 2430, AND ALL DRIVEPADS PER C.O.A. STD. DWG 2425 OR PER THE DETAIL ON SHEET 2 FOR INADEQUATE ROW. LIMITS AS SHOWN ARE APPROXIMATE.
- EXIST. WL TRANSITIONS FROM 6" ST (WEST) TO 6" CI (EAST) AT INDIANA ST.
- FIELD VERIFY EXACT LOCATION OF MH J-18593
- VERIFY WITH ENGINEER THAT CITY PROJ. #660193 CONSTRUCTED WL AND SD. IF SO, FIELD VERIFY LOCATION OF NEW 10" PVC WL INSTALLED IN INTERSECTION. DO NOT LEAVE ANY 6" WL IN SERVICE BETWEEN NEW 10" WL INSTALLED BY THIS PROJECT AND 10" WL BY OTHERS IN THIS AREA.
- REPLACE DOUBLE YELLOW STRIPING FROM STA. 18+00 TO STA. 27+00. REPLACEMENT PAVEMENT MARKINGS IDENTIFYING LANES, TURN ARROWS, & MEDIAN TO EXIST. DESIGNATIONS.
- FIELD VERIFY LOCATION OF UNDERGROUND 12, 470-VOLT CABLE IN CONDUIT. CONTACT PNM WITH A MINIMUM 2 WEEKS NOTICE TO SCHEDULE PNM CREWS AND EQUIPMENT TO SUPPORT CABLE AND CONDUIT.

### NOTES:

- WATER LINE CONNECTIONS SHALL BE CONSTRUCTED PER C.O.A. STD. DWG. 2301. UNIT PRICES FOR WATER LINE CONNECTIONS SHALL INCLUDE DISPOSAL OF DRAINED WATER, AND DISPOSAL OF EXISTING WATER LINE AND FITTINGS.
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- METER BOX REPLACEMENT AND METER BOX RELOCATION SHALL BE PER C.O.A. STD. DWG. 2362 PER THE FOLLOWING SCHEDULE:

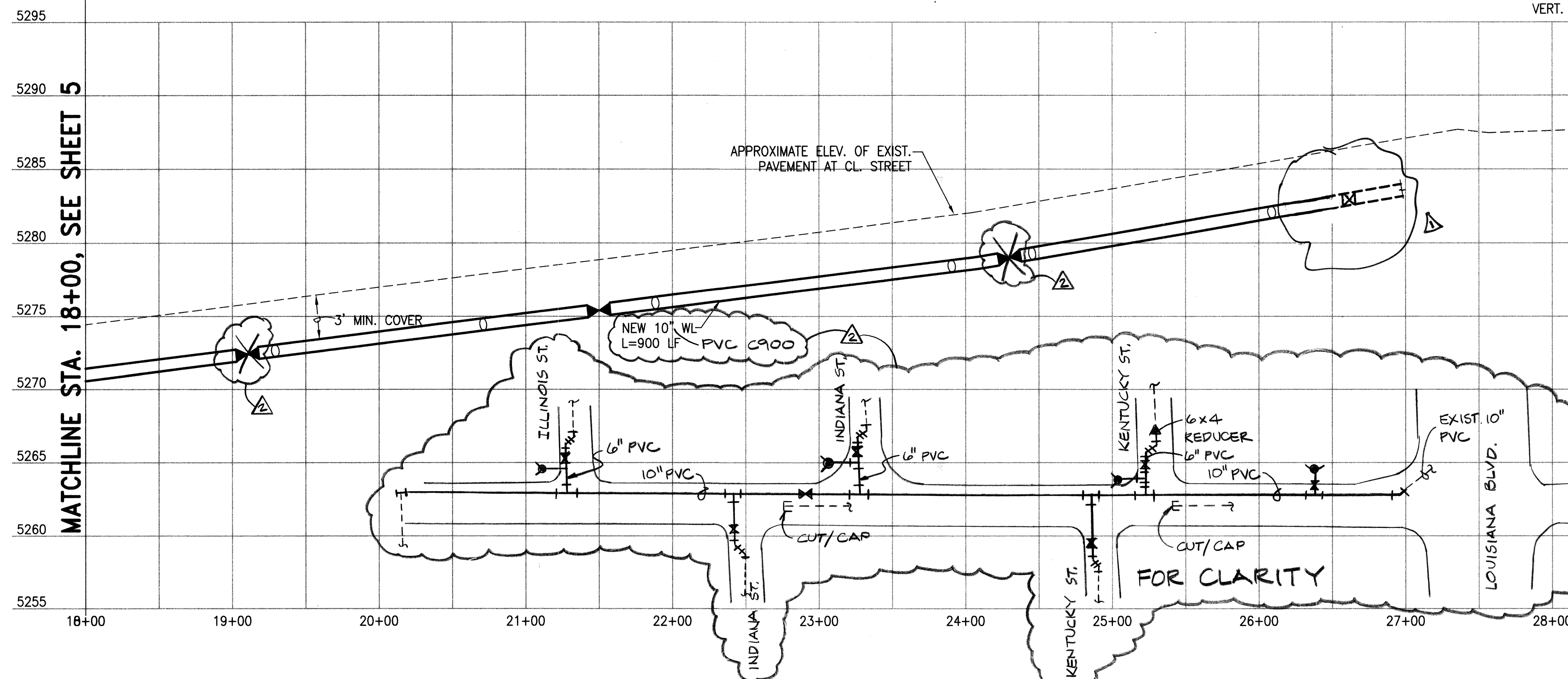
ADDRESS	LOCATION	METER SIZE	REPLACE BOX	RELOCATE BOX

SERVICE LINE REPLACEMENT AND METER YOKE/COPPERSETTER REPLACEMENT TO BE FIELD VERIFIED. QUANTITIES REFLECT NEED FOR REPLACEMENT.

- PROVIDE MINIMUM CLEARANCE OF 6 INCHES BETWEEN STORM DRAIN PIPE AND NEW WATER MAIN. MINIMUM CLEARANCE APPLIES TO WATER MAIN GOING OVER OR UNDER STORM DRAIN PIPE.
- REMOVE, DISPOSE AND REPLACE A MAX 9' WIDTH OF RESIDENTIAL ASPHALT PAVEMENT PER NOTE 26 SHEET 2 FROM STA. 18+00 TO STA. 27+00. INSTALL (2)-2" JETS 1500# ASPHALT CONCRETE PAVEMENT (3350 SY).
- 2" MILL AND INLAY FROM STA. 18+00 TO STA. 27+00 THE REMAINING STREET WIDTH TO THE CURB RETURNS. INSTALL 1800# ASPHALT CONCRETE PAVEMENT (3350 SY).
- FOR WATER SHUT-OFF PLANS, SEE SHEETS 9.

SCANNED BY  
MESA REPRO

SCALE: HORIZ. 1"=50'  
VERT. 1"=5'



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CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT UTILITY DESIGN SECTION			
TITLE: <b>CONSTITUTION AVENUE WATERLINE REHABILITATION CONSTITUTION AVENUE PLAN &amp; PROFILE</b>			
Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APR 16 2004	APR 16 2004		
CITY ENGINEER			
City Project No.	Zone Map No.	Sheet	Of
631593	J-18	6	14

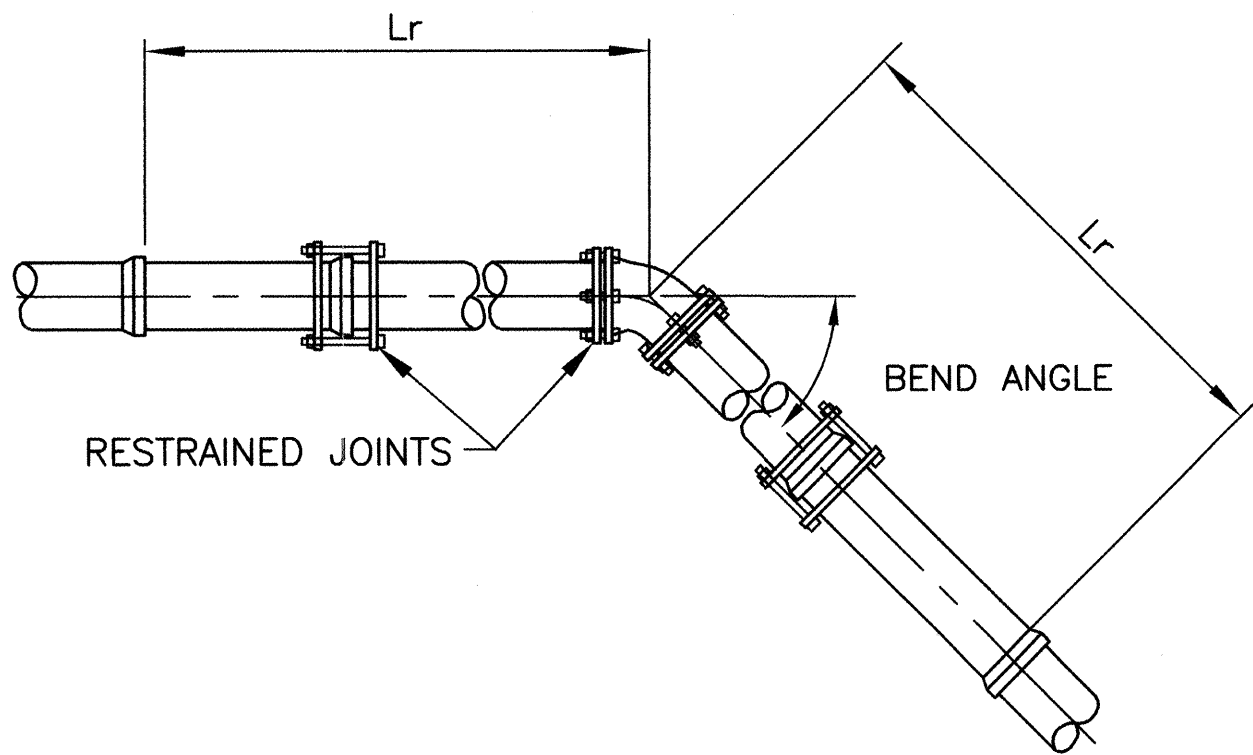


RESTRAINED JOINTS FOR SMALL DIAMETER PVC WATER LINES

1. HORIZONTAL BEND

BEND ANGLE	PIPE SIZE				
	4"	6"	8"	10"	12"
90°	14'	20'	26'	31'	36'
45°	6'	8'	11'	13'	15'
22 1/2°	3'	4'	5'	6'	7'
11 1/4°	1'	2'	3'	3'	4'

Lr = LENGTH OF PIPE TO BE RESTRAINED



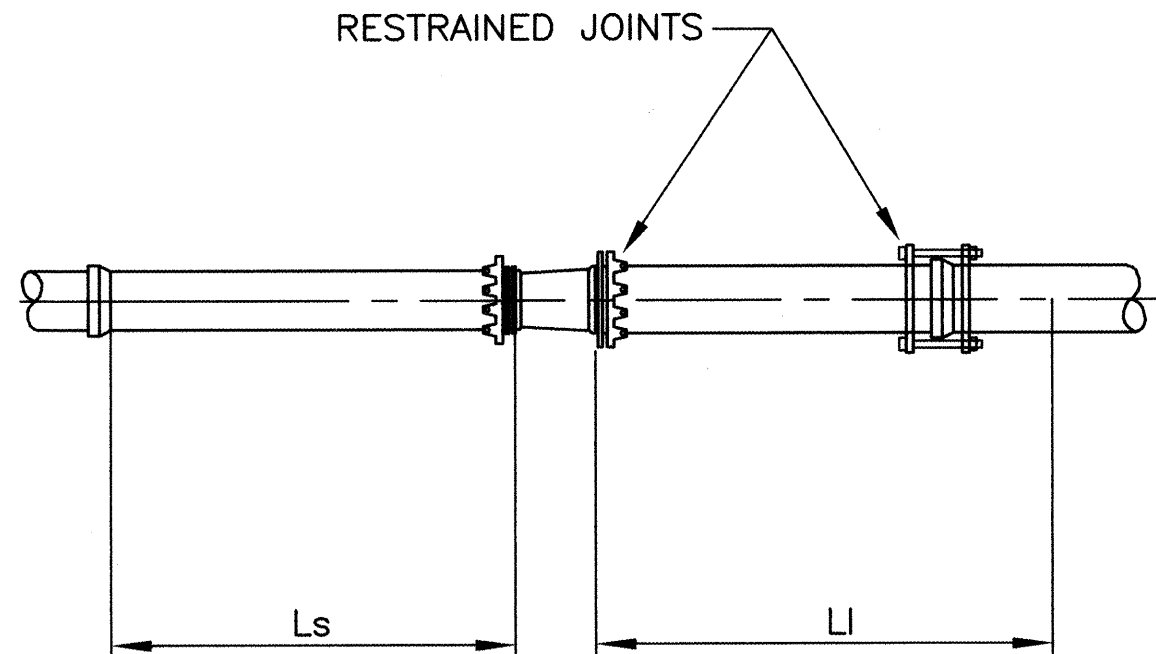
4. REDUCER

SMALL END	Ls/LI			
	6"	8"	10"	12"
4"	42'/28'	100'/52'	169'/70'	256'/88'
6"		39'/30'	87'/53'	146'/74'
8"			36'/29'	81'/54'
10"				36'/30'
12"				

NOTE: IF THE SMALLER SIDE OF THE REDUCER IS UN-OBSTRUCTED (FREE OF BENDS, VALVES, TEES OR OTHER FITTINGS) FOR A MINIMUM LENGTH OF Ls, THEN NO RESTRAINT IS REQUIRED; OTHERWISE THE PIPE MUST BE RESTRAINED FOR A LENGTH OF LI, ON THE LARGER SIDE OF THE REDUCER.

Ls = UN-OBSTRUCTED STRAIGHT RUN LENGTH AVAILABLE ON THE SMALLER SIDE OF REDUCER

LI = LENGTH OF PIPE TO BE RESTRAINED ON THE LARGER SIDE OF REDUCER

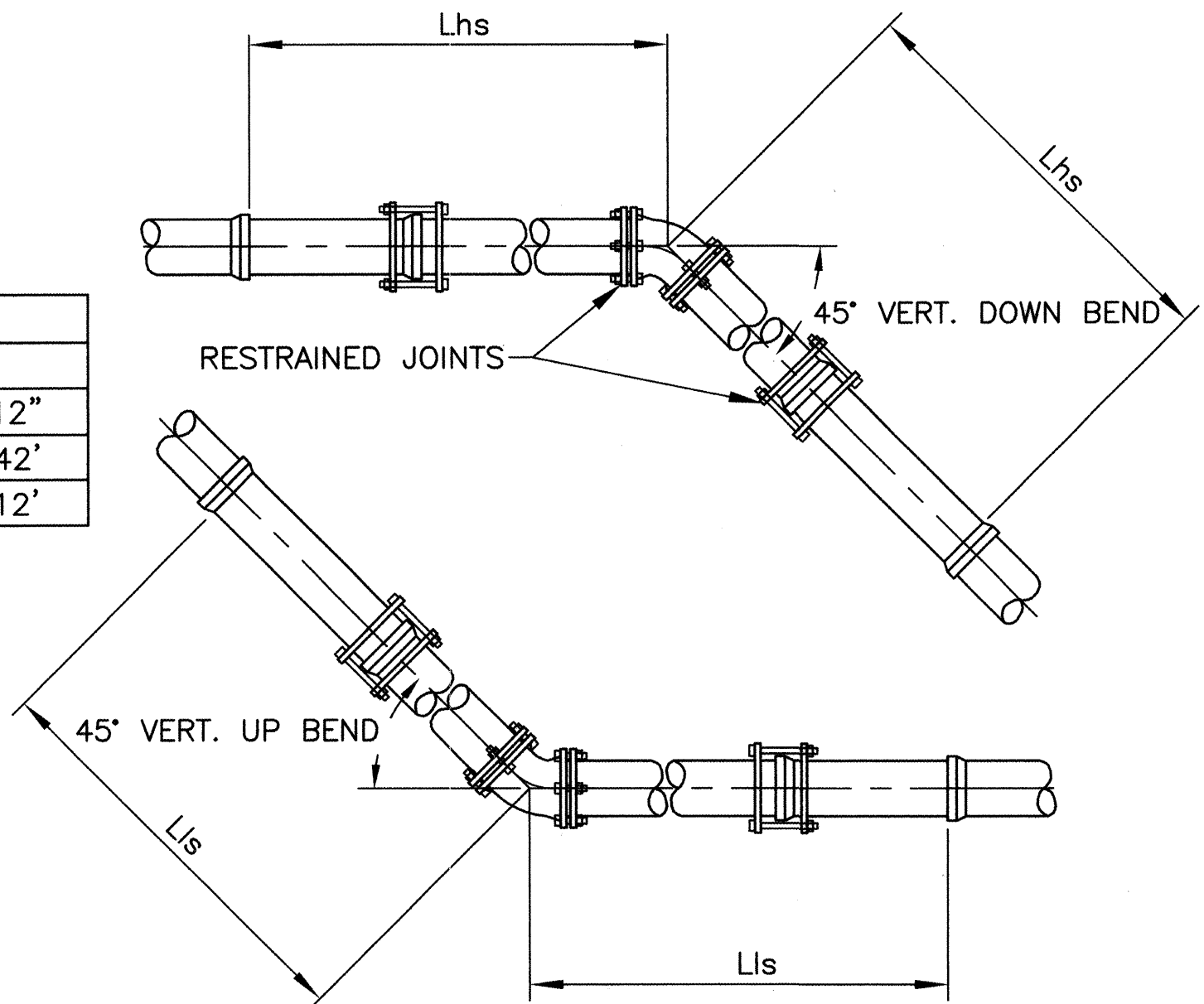


2. VERTICAL OFFSET (45°)

	PIPE SIZE				
	4"	6"	8"	10"	12"
Lhs	16'	23'	30'	36'	42'
Lis	5'	6'	8'	10'	12'

Lhs = LENGTH OF PIPE TO BE RESTRAINED ON VERTICAL DOWN BENDS

Lis = LENGTH OF PIPE TO BE RESTRAINED ON VERTICAL UP BENDS

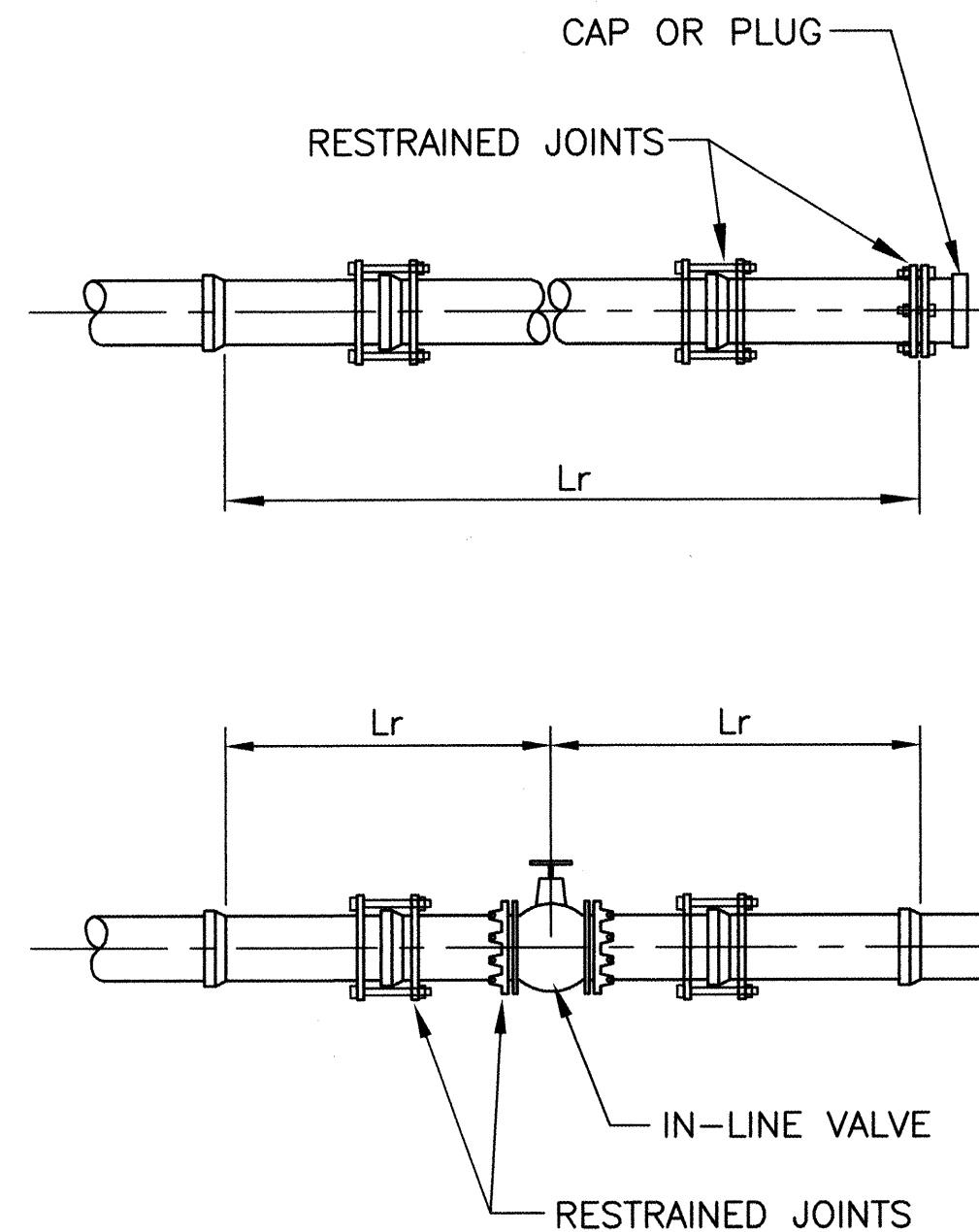


5. IN-LINE VALVES & DEAD ENDS

Lr	PIPE SIZE				
	4"	6"	8"	10"	12"
Lr	39'	55'	72'	86'	102'

NOTE: VALVES SHALL BE RESTRAINED ON BOTH SIDES.

Lr = LENGTH OF PIPE TO BE RESTRAINED



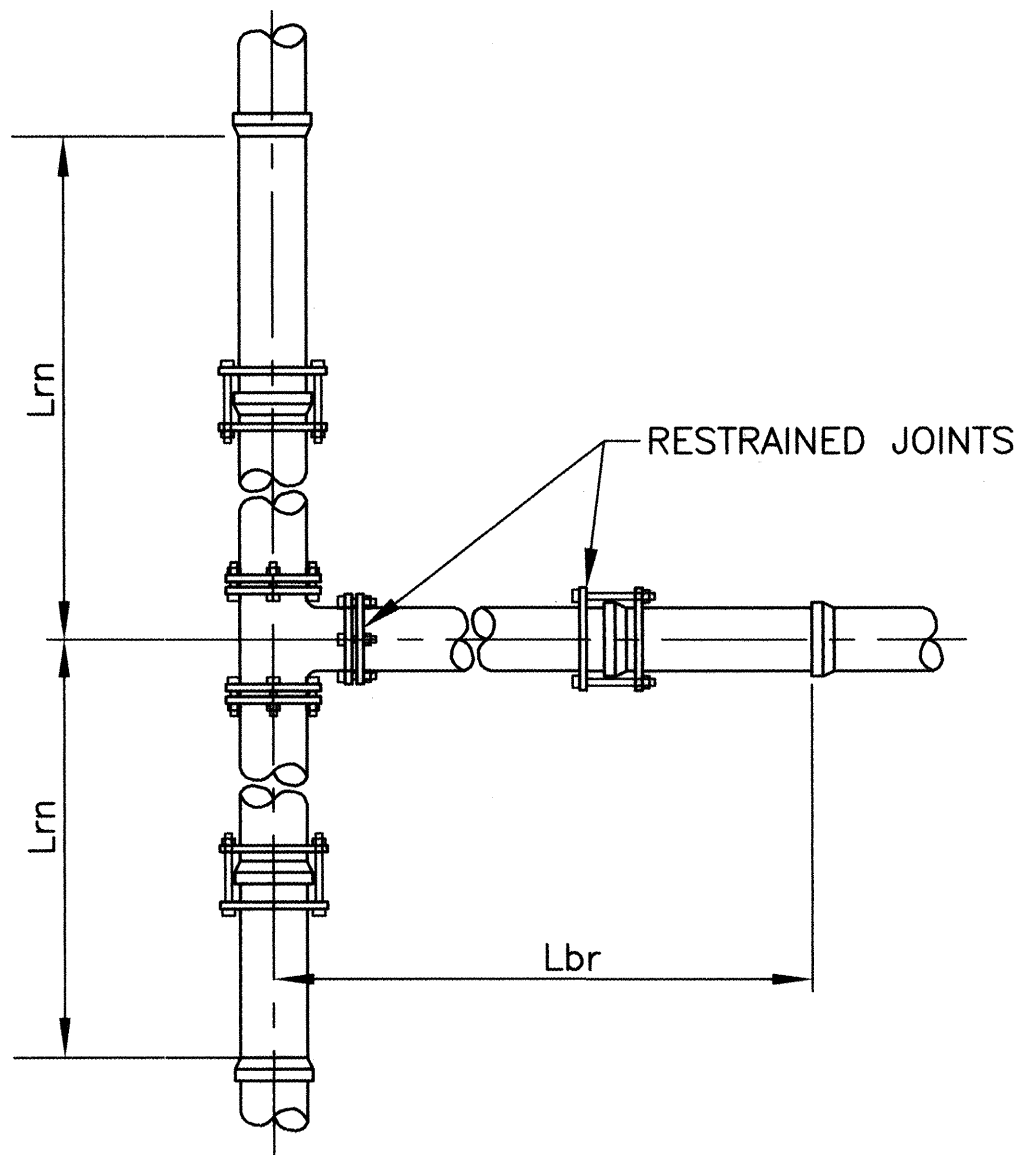
3. TEE

BRANCH SIZE	Lbr (Lrn=0.5') / Lbr (Lrn=10')				
	4"	6"	8"	10"	12"
4"	36'/FO	35'/FO	34'/FO	32'/FO	31'/FO
6"		52'/3'	51'/FO	50'/FO	49'/FO
8"			69'/19'	69'/5'	68'/FO
10"				84'/33'	83'/21'
12"					99'/47'

NOTE: IF Lrn > 20', THEN ALL TEE SIZES NEED TO BE RESTRAINED AT THE FITTING ONLY (FO).

Lrn = SHORTEST LENGTH OF PIPE RESTRAINED ON EITHER SIDE OF THE TEE

Lbr = LENGTH OF PIPE TO BE RESTRAINED ON THE BRANCH



WATER METER LOCATION DIAGRAM

FIRST DIGIT: TELLS YOU THE GENERAL LOCATION OF THE METER AS YOU FACE THE HOUSE FROM THE STREET.

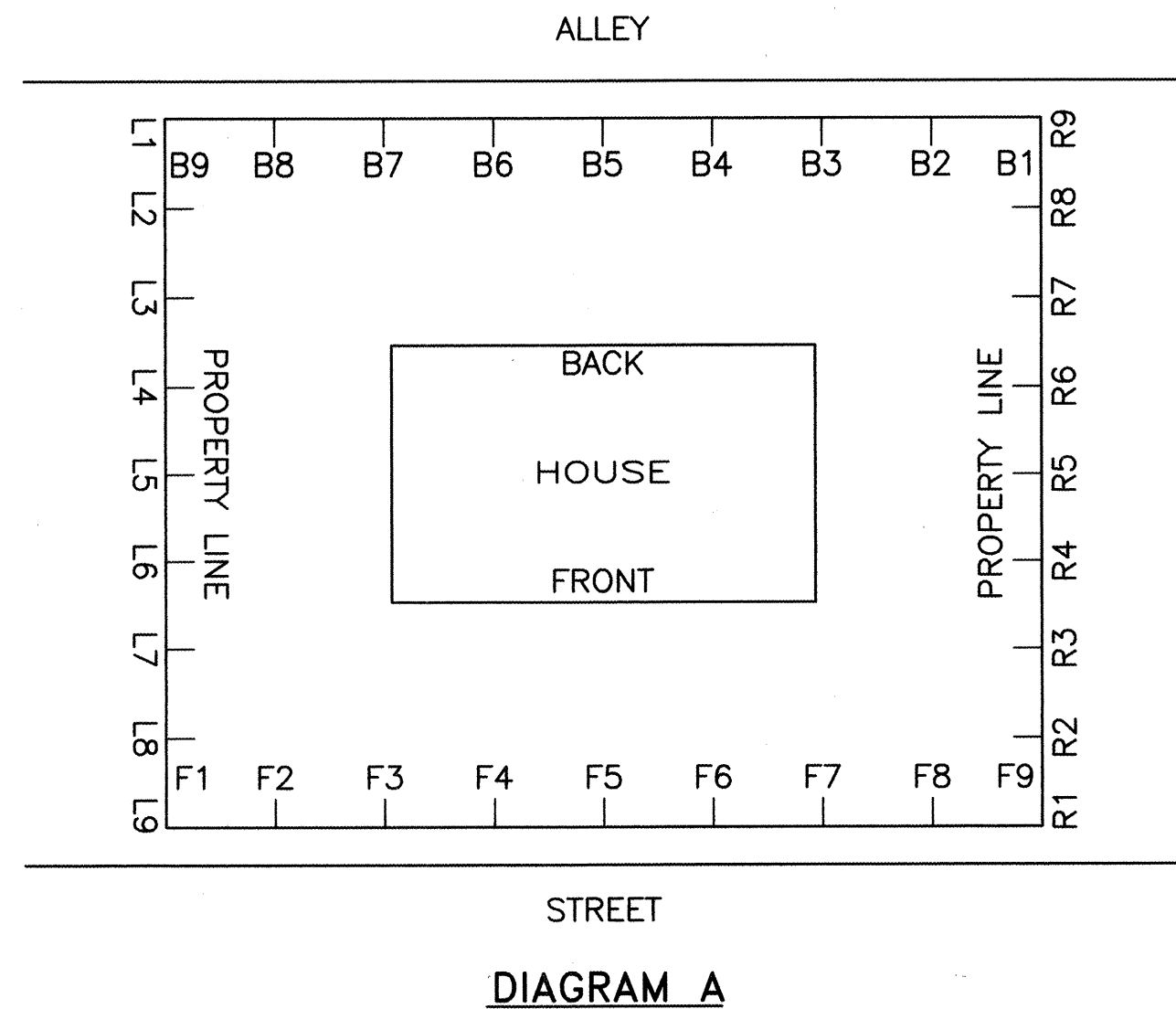
F (FRONT), B (BACK OR ALLEY),  
L (LEFT SIDE OF PROPERTY),  
R (RIGHT SIDE OF PROPERTY)

SECOND DIGIT: TELLS YOU THE SPECIFIC LOCATION OF THE METER.

CODE 1 THRU 9, REFER TO DIAGRAM A  
D REFERS TO A SHARED METER BOX

THIRD DIGIT: TELLS YOU WHICH METER YOU ARE LOOKING FOR IF THERE IS MORE THAN ONE:

E - EAST W - WEST N - NORTH  
S - SOUTH M - MIDDLE METER



NOTES:

- ALL JOINTS AND FITTINGS WITHIN THE SPECIFIED RESTRAINED LENGTH, MUST BE RESTRAINED.
- ALL LENGTHS ARE IN FEET.
- ALL RESTRAINED JOINT LENGTHS ARE BASED ON THE CONDITIONS NOTED UNDER "BASIS OF DESIGN". ANY CHANGES TO THESE CONDITIONS MUST BE NOTED AND LENGTHS RECALCULATED AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL NOTE THE LOCATION, TYPE AND EXTENT OF ALL RESTRAINED JOINTS INSTALLED ON THIS PROJECT AS PART OF THE RECORD DRAWINGS.
- THE CONTRACTOR SHALL SUBMIT THRUST RESTRAINT DESIGN FOR PIPE THAT IS NOT THE SIZE OR MATERIAL TYPE SHOWN IN THESE DETAILS.

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10/15/05

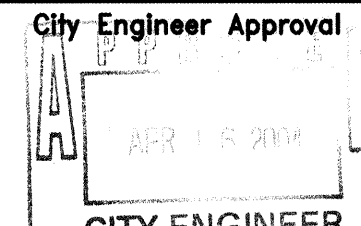
BASIS OF DESIGN

- PIPE MATERIAL = PVC
- TEST PRESSURE = 150 PSI
- SOIL TYPE = "SM" (ASTM STANDARD D24870)
- TRENCH TYPE & BEDDING = TYPE 4, (ANSI/AWWA C150/A21.50)
- PIPE COVER = 3' MINIMUM



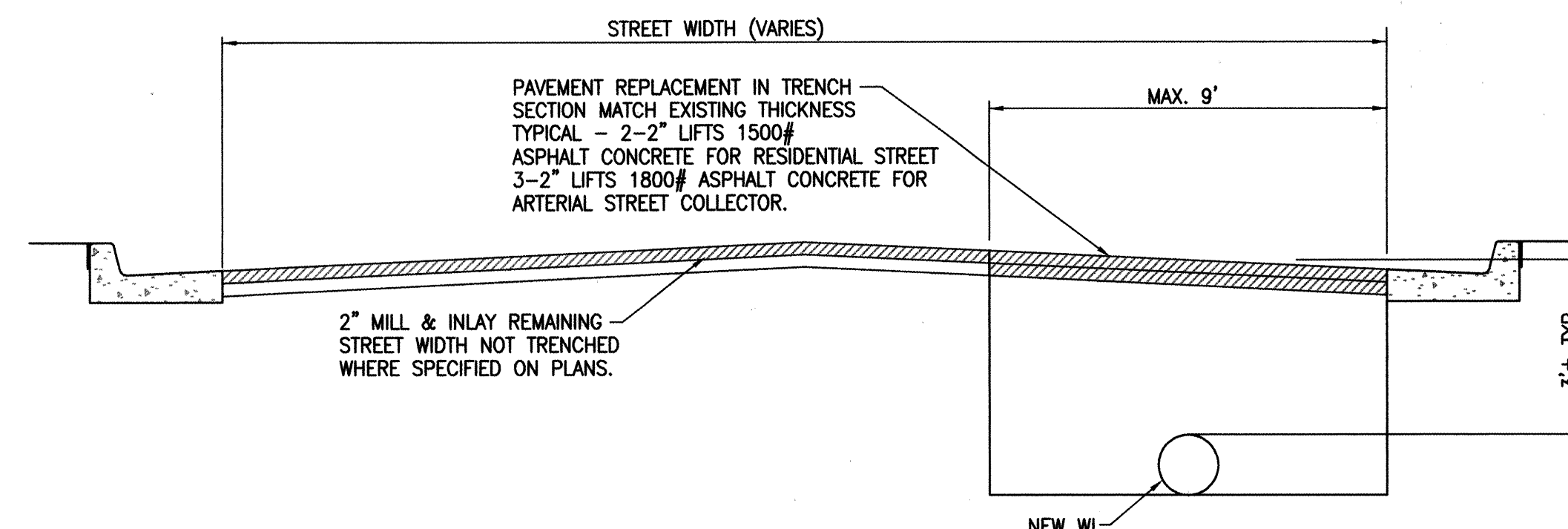
CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE  
REHABILITATION  
WATER METER LOCATION DIAGRAM**



City Project No. 631593 Zone Map No. N/A Sheet 7 of 14





## TYPICAL TRENCH SECTION

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10/25/05

**Boyle Engineering Corporation**  
consulting engineers

Suite 800  
6501 AMERICAS PARKWAY, N.E.  
ALBUQUERQUE, NM, 87110  
(505) 883-7700

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE REHABILITATION  
MISCELLANEOUS DETAILS**

Design Review Committee

APR 16 2004

DESIGN  
REVIEW COMMITTEE

City Engineer Approval

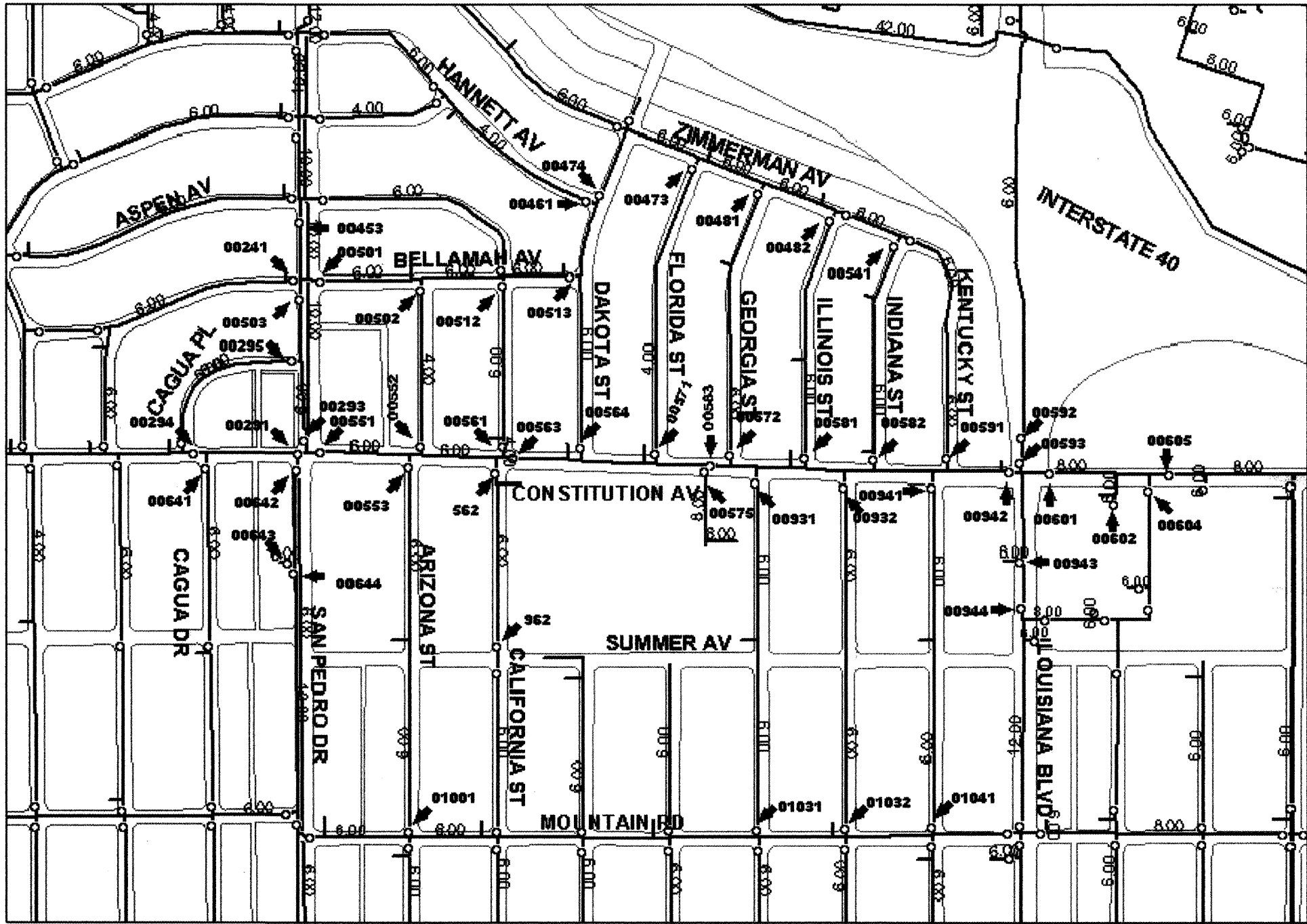
APR 16 2004

CITY ENGINEER

Last Design Update

City Project No.	631593	Zone Map No.	N/A	Sheet	8	Of	14
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**CONSTITUTION  
SEE SHEETS 4 THRU 6  
ZONE ATLAS J-18**

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10/25/03

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMING AND COORDINATION OF WATER SHUTOFF. AT LEAST (5) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT THE WATER SYSTEMS DIVISION, 857-8200, TO INITIATE IMPLEMENTATION OF THE NON-PRESSURIZED CONNECTION PLAN.



CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE  
REHABILITATION  
WATER VALVE SHUT-OFF PLAN**

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APR 16 2004	APR 16 2004		
DESIGN REVIEW COMMITTEE	CITY ENGINEER		

City Project No.	Zone Map No.	Sheet	Of
631593	—	9	14

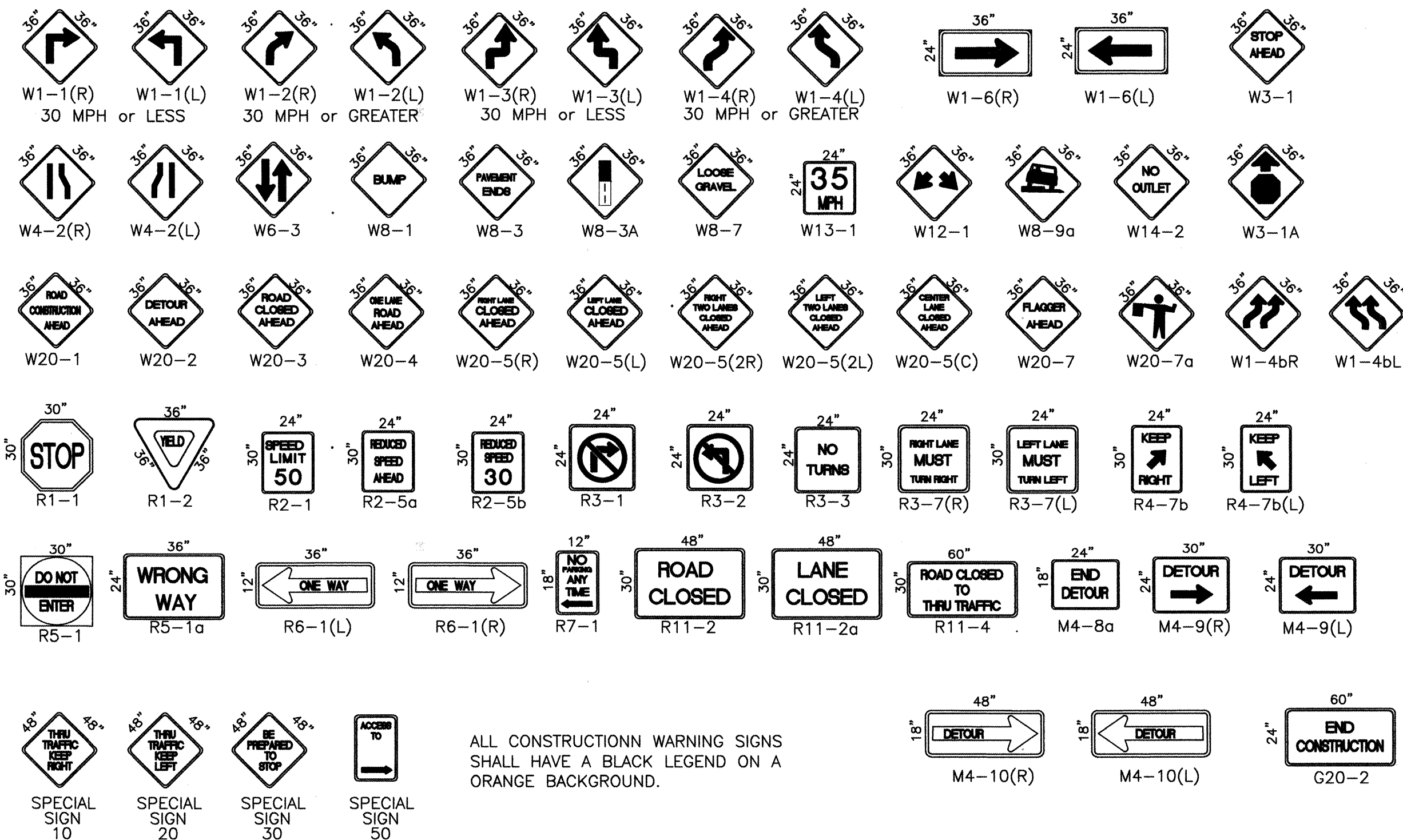


CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

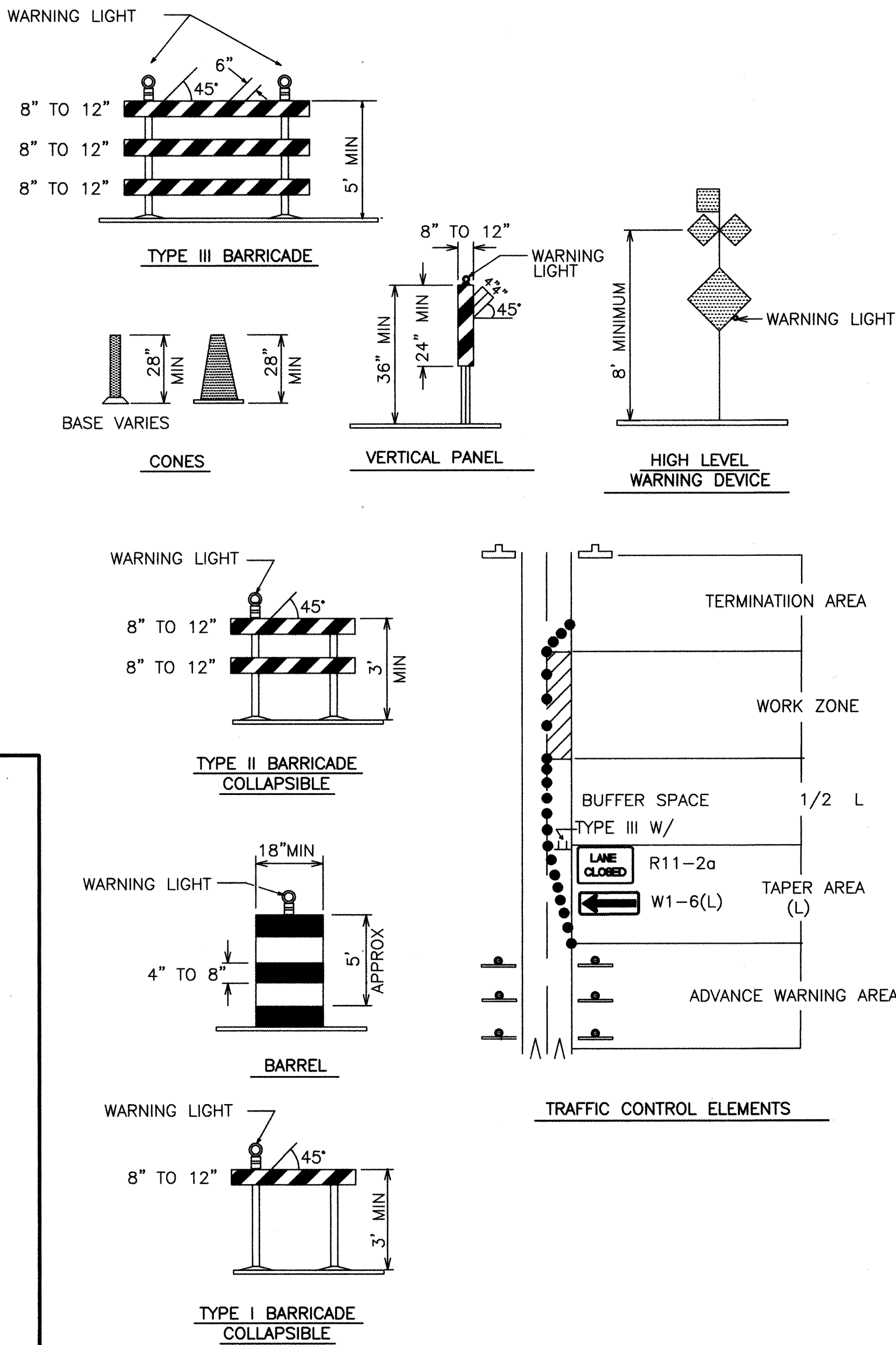
1. CONTRACTOR MUST OBTAIN FROM CONSTRUCTION COORDINATION AN EXCAVATION/BARRICADING PERMIT BEFORE ENGAGING IN ANY CONSTRUCTION, MAINTENANCE OR REPAIR WORK IN ANY OF THE CITY OF ALBUQUERQUE'S RIGHTS-OF-WAY. EMERGENCY WORK THAT WOULD PRESERVE LIFE OR PROPERTY IS EXCLUDED WITH THE UNDERSTANDING, THAT A PERMIT 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 SEPERATE 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 TRAVELED 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 IT'S 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.
28. ALL WORK IN CONSTITUTION IS REQUIRED TO BE PERFORMED USING EXTENDED HOUR CONSTRUCTION FROM 7:00 AM TO 7:00 PM USING A MINIMUM OF TEN (10) PERSONNEL DOING PRODUCTIVE WORK AT ALL TIMES IF TWO-WAY TRAFFIC CANNOT BE MAINTAINED.
29. NO WORK ON THE CONSTITUTION AVENUE SANITARY SEWER OR WATERLINE IS ALLOWED FROM 10:00 PM TO 7:00 AM DUE TO NOISE IN A RESIDENTIAL AREA.
30. ALL LANE CLOSURES ON SAN PEDRO AND LOUISIANA MUST BE PERFORMED AT NIGHT AFTER 6:00 PM, OR THROUGHOUT THE WEEKEND FROM 6:00 PM FRIDAY THROUGH 5:00 AM MONDAY.
31. ALL WORK IN FRONT OF MARK TWAIN ELEMENTARY SCHOOL SHALL BE PERFORMED DURING THE SUMMER MONTHS WHEN SCHOOL IS NOT IN SESSION.
32. AT LEAST ONE LANE ON CONSTITUTION EACH WAY MUST BE MAINTAINED AT ALL TIMES.
33. NOT USED
34. ALL DEBRIS IN THE WORK ZONE SHALL BE REMOVED AND HAULED AWAY AT THE END OF EACH WORK DAY.
35. EQUIPMENT AND MATERIALS SHALL ONLY BE STORED ON APPROPRIATELY ZONED PRIVATE PROPERTY.
36. CONTRACTOR SHALL BE LIMITED TO ONLY WORKING IN ONLY 3 CONSECUTIVE BLOCKS AT ANY ONE TIME, AND IN NO MORE THAN TWO DIFFERENT LOCATIONS WITHIN ONE MILE OF EACH OTHER. FINAL PAVING ON ONE BLOCK MUST BE ACCOMPLISHED AND REOPENED TO TRAFFIC BEFORE TRENCHING WORK CAN PROCEED TO A FOURTH BLOCK. A BLOCK IS EQUAL TO 660 LINEAR FEET.

SIGN FACE DETAILS



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



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 STREET LIMIT OF THE STREET  
TAPER LENGTH - SEE CHART BELOW  
THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET.

TAPER REQUIREMENT

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 LIMIT (MPH)	MINIMUM DISTANCE IN FEET BETWEEN SIGNS	MINIMUM DISTANCE IN FEET 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:	L MINIMUM
MERGING TAPER	1/2 L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	100 FEET MAXIMUM
TWO-WAY TRAFFIC TAPER	100 FEET PER LANE
DOWNSTREAM TAPERS	100 FEET PER LANE

TAPER LENGTH COMPUTATION

SPEED LIMIT	FORMULA
40 MPH OR LESS	$L = \frac{WS^2}{60}$
40 MPH OR GREATER	$L = W \times S$
L = TAPER LENGTH W = WIDTH OF OFFSET IN FEET S = POSTED SPEED OR OFF-PEAK 85-PERCENTILE SPEED IN MPH	

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10/25/05

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DEVELOPMENT GROUP

TITLE: TRAFFIC CONTROL  
SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	MO./DAY/YR.	MO./DAY/YR.
COA	STV		
CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
631593		10	14

SCANNED BY  
MESA REPRO

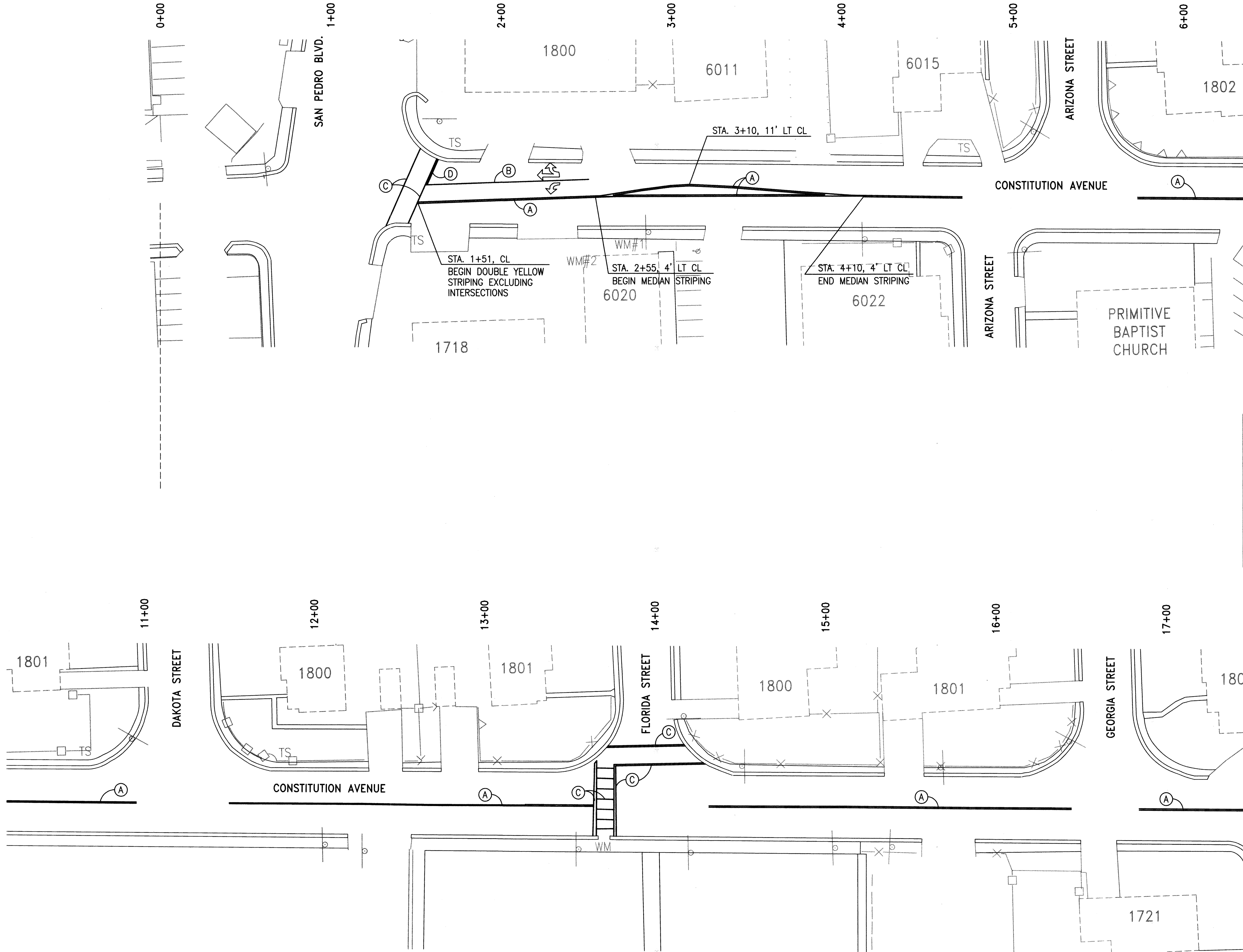
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SCANNED BY  
MESA REPRO



MARK TWAIN ELEMENTARY SCHOOL  
6316 CONSTITUTION

**STRIPING LEGEND**

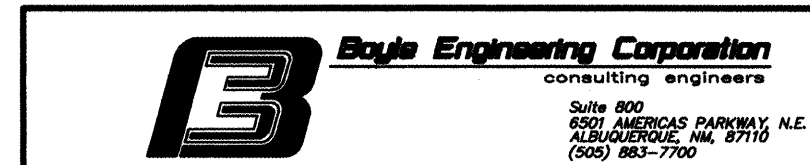
(A) 4" DOUBLE YELLOW PLASTIC  
(B) 4" SOLID WHITE PLASTIC  
(C) 12" SOLID WHITE PLASTIC  
(D) 24" SOLID WHITE PLASTIC

REFLECTORIZED ARROWS  
(LT. TURN, STRAIGHT, & RT. TURN)

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10/15/05

SCALE: HORIZ. 1"=30'

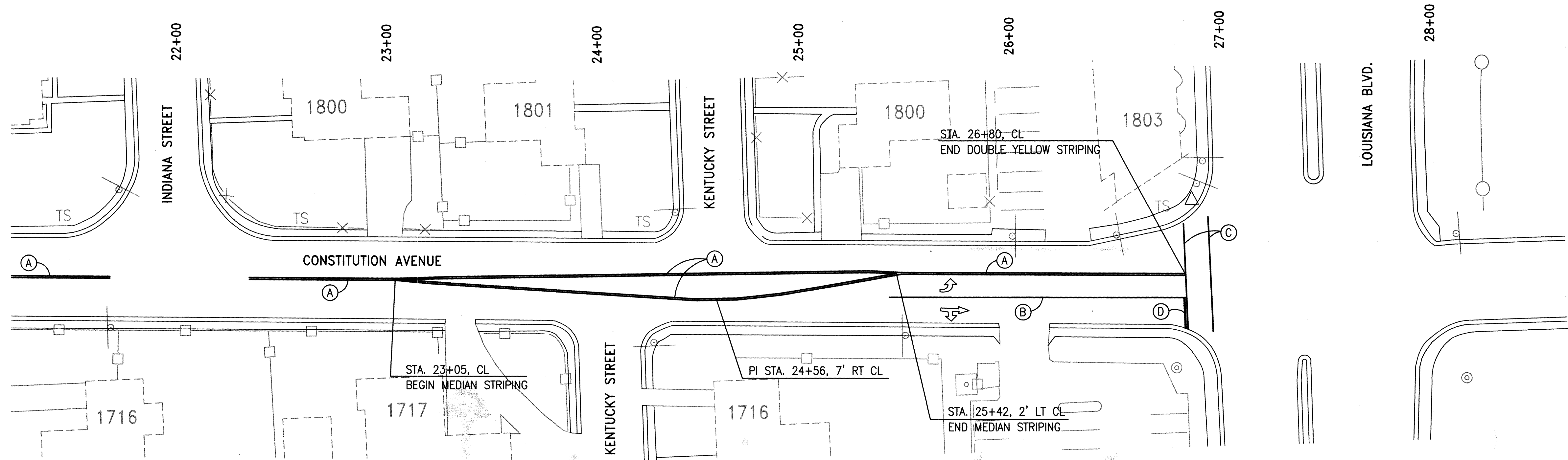


CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT UTILITY DESIGN SECTION			
TITLE: <b>CONSTITUTION AVENUE WATERLINE REHABILITATION CONSTITUTION AVENUE STRIPING PLAN</b>			
Design Review Committee APR 16 2004 DESIGN REVIEW COMMITTEE	City Engineer Approval APR 16 2004 CITY ENGINEER	Mo./Day/Yr. 	Mo./Day/Yr. 
City Project No. 631593	Zone Map No. J-18	Sheet 12	of 14

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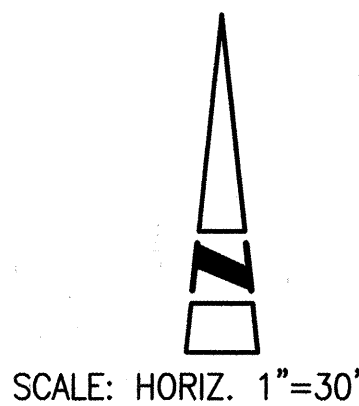


SCANNED BY  
MESA REPRO



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*[Signature]*  
10/25/05



**STRIPING LEGEND**

- (A) 4" DOUBLE YELLOW PLASTIC
- (B) 4" SOLID WHITE PLASTIC
- (C) 12" SOLID WHITE PLASTIC
- (D) 24" SOLID WHITE PLASTIC

REFLECTORIZED ARROWS  
(LT. TURN, STRAIGHT, & RT. TURN)

Boyle Engineering Corporation  
consulting engineers  
Suite 800  
2001 AMERICAS PARKWAY, N.E.  
ALBUQUERQUE, NM 87110  
(505) 883-7700

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE  
REHABILITATION  
CONSTITUTION AVENUE STRIPING PLAN**

Design Review Committee

APPROVED

APR 16 2004

DESIGN REVIEW COMMITTEE

City Engineer Approval

APPROVED

APR 16 2004

CITY ENGINEER

Last Design Update

Mo./Day/Yr.	Mo./Day/Yr.

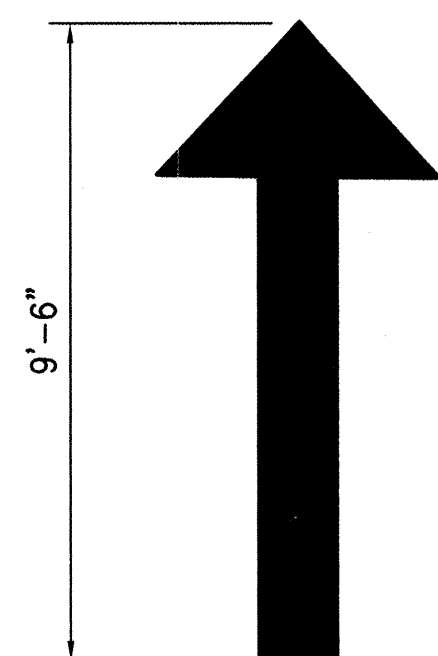
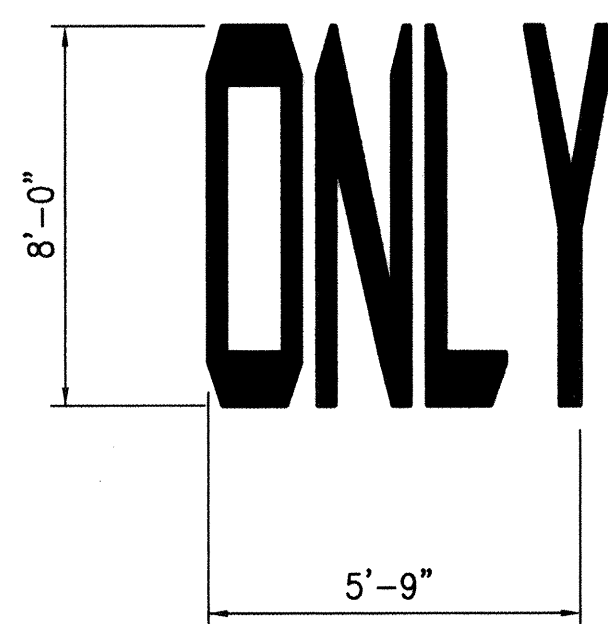
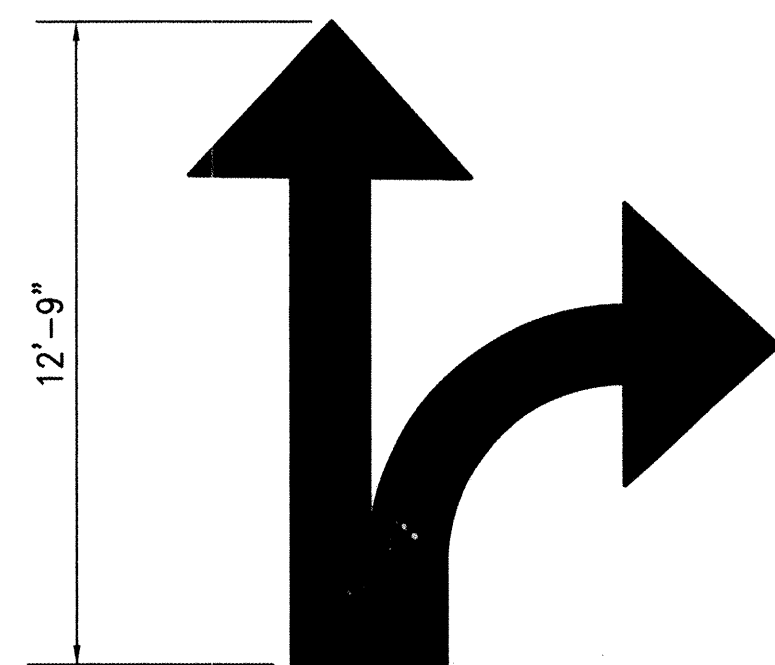
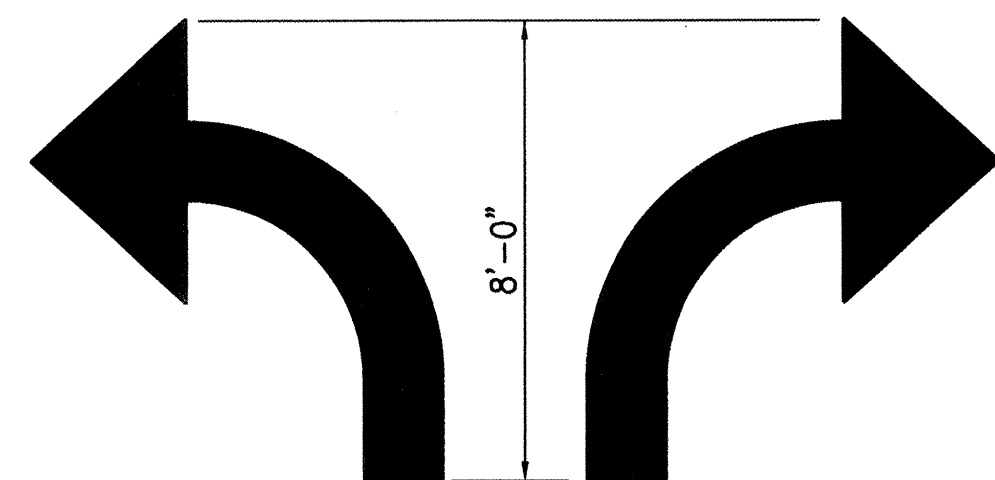
DESIGNED BY	KAR	DATE	04/03
DRAWN BY	JTE	DATE	04/03
CHECKED BY	KWW	DATE	04/03

City Project No.	631593	Zone Map No.	J-18	Sheet	13	of	14
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ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
		FIELD NOTES		AERIAL PHOTOGRAMMETRY BY PWT USING 1996 BASE CITY CONTROL POINTS USED:		CONTRACTOR	
		NO.		DATE		STATIONED BY	
						INSPECTOR'S	
						FIELD OFFICE BY	
						FIELD OFFICE BY	
						CORRECTED BY	
						CORRECTED BY	
						MICRO-FILM INFORMATION	
						RECORDED BY	
						DATE	
						NO.	

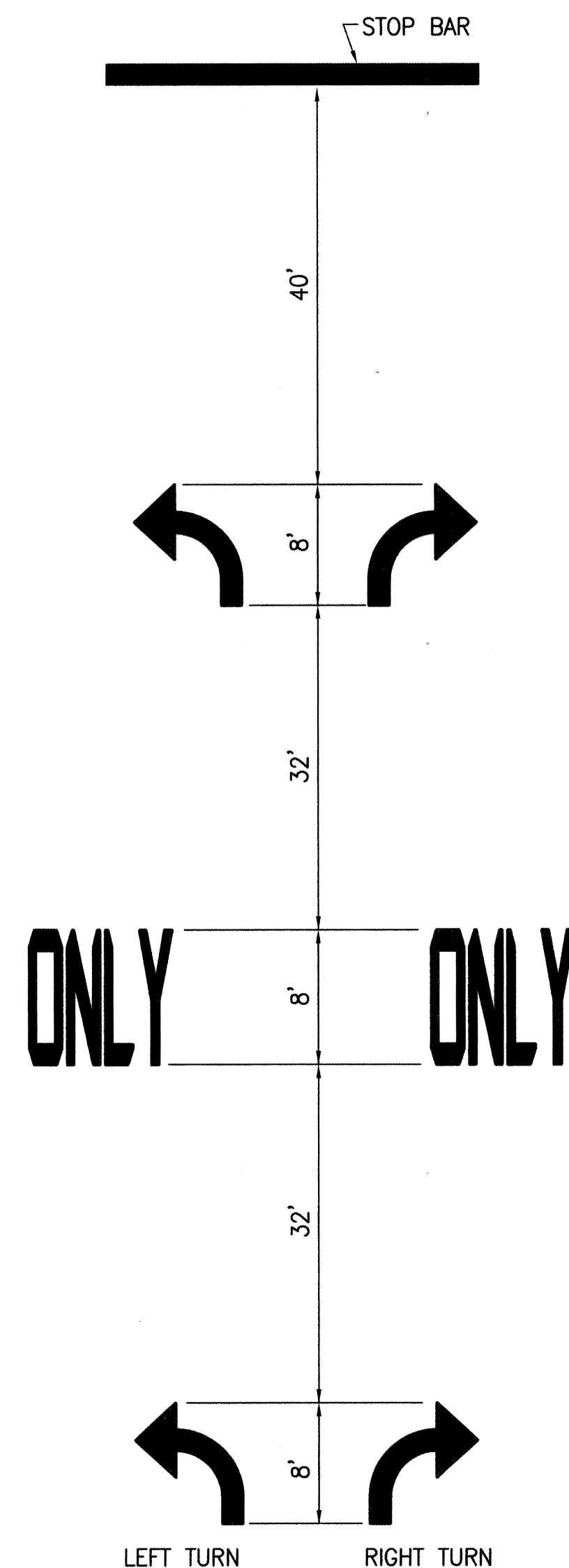
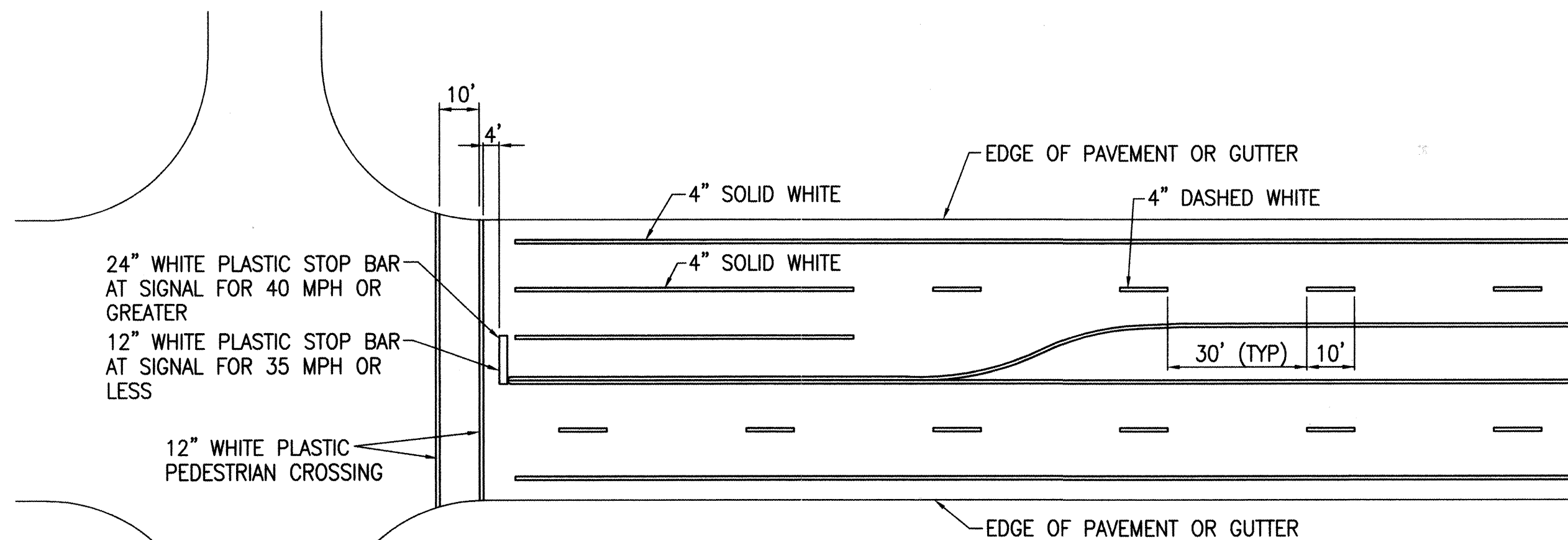


SCANNED BY  
MESA REPRO

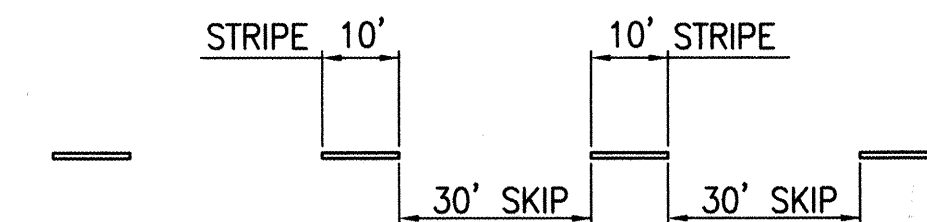


DETAIL NO. 2  
PLASTIC PAVEMENT WORD AND SYMBOL MARKINGS

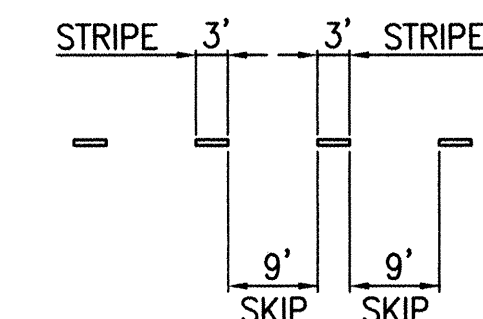
DETAIL NO. 1 - TYPICAL MULTI-LANE  
TWO-WAY MARKING WITH SINGLE LANE  
TWO-WAY LEFT TURN CHANNELIZATION



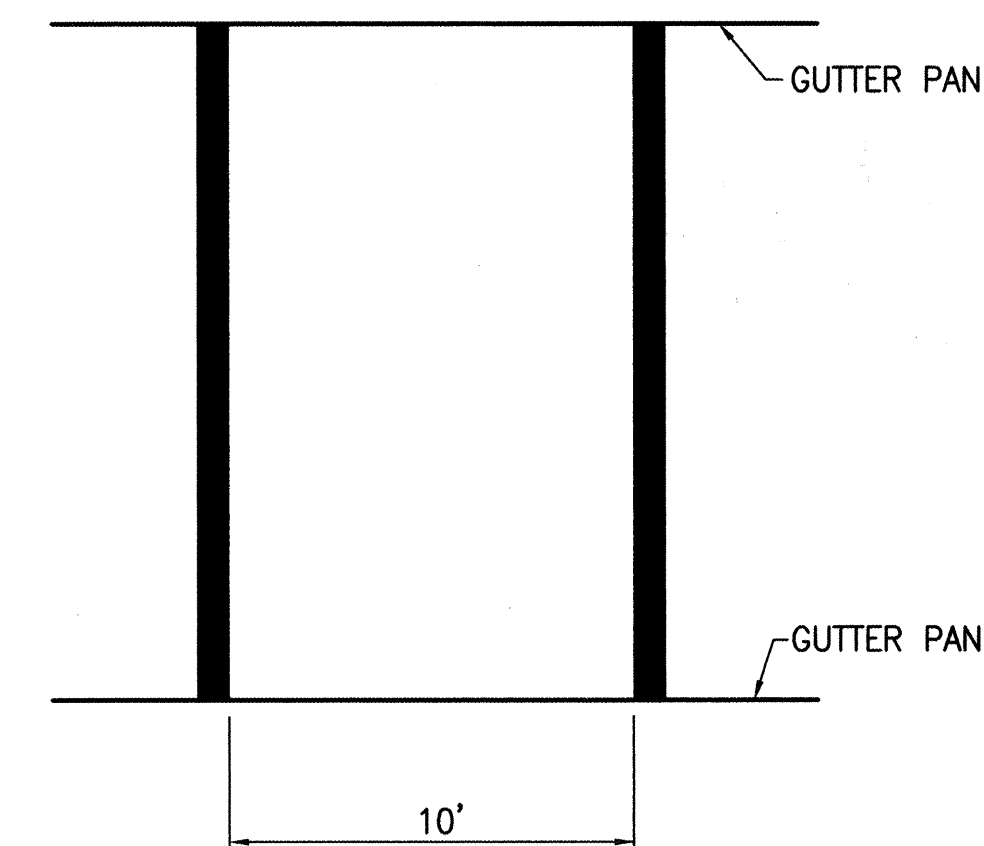
DETAIL NO. 3  
PLASTIC LEFT OR RIGHT TURN ONLY PAVEMENT  
WORD AND SYMBOL MARKINGS



DETAIL NO. 5  
4" BROKEN WHITE PLASTIC



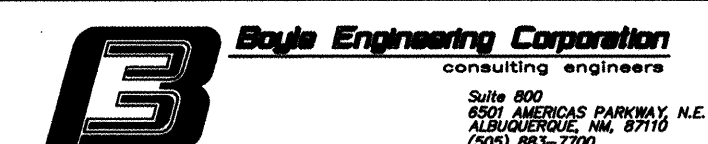
DETAIL NO. 6  
6" & 4" DOTTED WHITE PLASTIC



DETAIL NO. 4  
CROSSWALK

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE INDICATED RECORD DRAWINGS ARE BASED UPON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR IN THE FORM OF RED-LINED CONSTRUCTION DRAWING MARKUPS TO THE ORIGINAL DESIGN DRAWINGS. THE TRANSFER OF INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. HOWEVER, I HAVE NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THE INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS. ALL INFORMATION INCLUDING VERTICAL AND HORIZONTAL DIMENSIONS, SHOULD BE FIELD VERIFIED PRIOR TO USE ON FUTURE PROJECTS.

K. K. K.  
10/25/05



CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
UTILITY DESIGN SECTION

TITLE: **CONSTITUTION AVENUE WATERLINE  
REHABILITATION  
TYPICAL STRIPING DETAILS**

Design Review Committee <b>APPROVED</b> APR 16 2004 DESIGN COMMITTEE	City Engineer Approval <b>APPROVED</b> APR 16 2004 CITY ENGINEER	Mo./Day/Yr. 	Mo./Day/Yr. 
City Project No. 631593	Zone Map No. J-18	Sheet 14	Of 14