FOR AN 8" WATERLINE SUNSHINE PLUMBING & HEATING, INC.

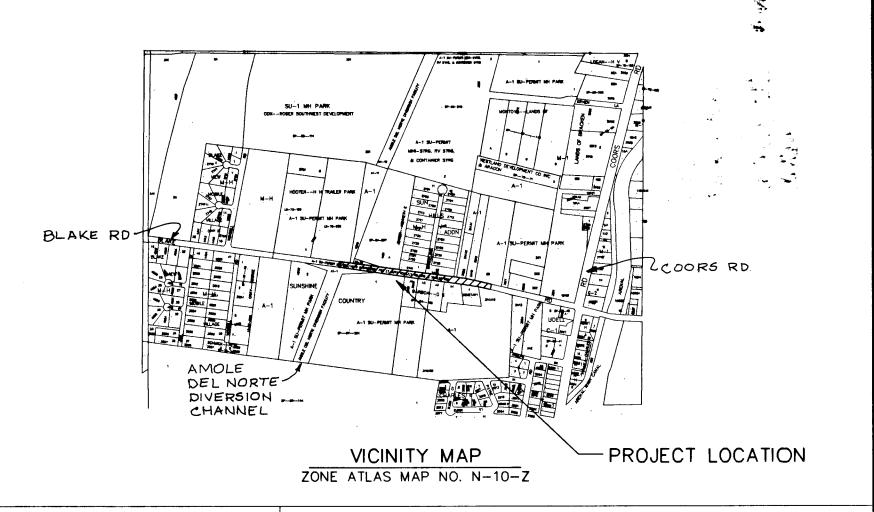
SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER AND INDEX
2	PLAN & PROFILE BLAKE ROAD, S.W.
3	SIGNING & TRAFFIC CONTROL
4	CONSTRUCTION DETAILS





SCANNED BY BY LASON



COA SPECIFICATIONS AND STANDARDS

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH COA STANDARD SPECIFICATIONS, LATEST EDITION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING TECHNICAL SPECIFICATIONS AND CONSTRUCTION STANDARD DETAIL DRAWINGS:

STS 801, INSTALLATION OF WATER TRANSMISSION, COLLECTOR, AND DISTRIBUTION LINES.

STS 701, TRENCHING, EXCAVATION, AND BACKFILL.

DWG. 2301, WATERLINE CONNECTION DETAILS
DWG. 2315, WATER PIPE TRENCH TERMINOLOGY
DWG. 2325, WATER VALVE BOX

DWG. 2328, RING & COVER FOR VALVE BOX

DWG. 2333, WATER VALVE ANCHORAGE DWG. 2340, FIRE HYDRANT INSTALLATION

RECORD DRAWINGS

LARRY READ & ASSOCIATES

Civil Engineers

Albuquerque, New Mexico 87199-0235 (585) 858-3165

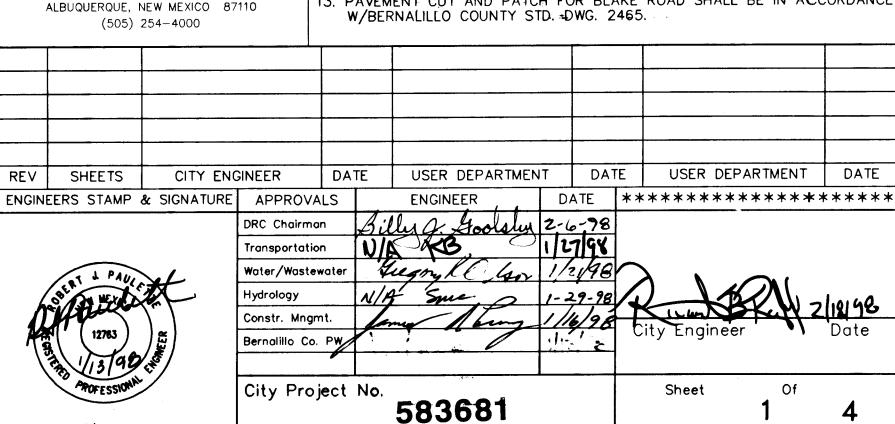
WILSON

&COMPANY

4775 INDIAN SCHOOL ROAD N.E.

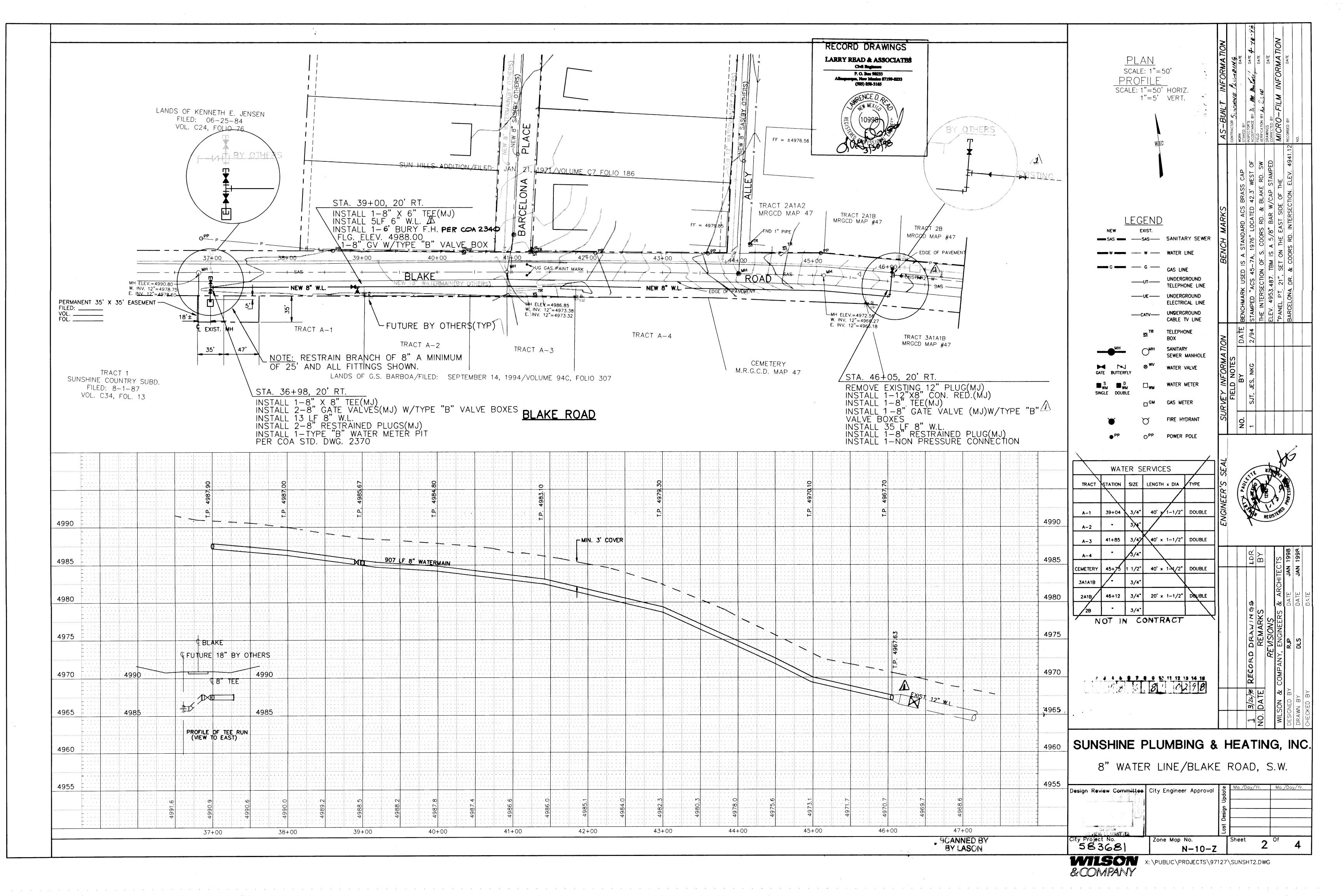
GENERAL NOTES

- CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC WORKS
 CONSTRUCTION, 1986 EDITION AS AMENDED THROUGH UPDATE 6,
 WILL BE REFERRED TO HEREIN AS THE "STANDARD SPECIFICATIONS
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALLS SYSTEM (260-1990) AND DETERMINE LOCATION OF EXISTING UTILITIES.
- PRIOR TO ANY 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 OR SURVEYOR IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITHOUT DELAY.
- ALL EXISTING SIGNS, MARKERS, DEFLECTORS, MAILBOXES, ETC., WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED, STORED AND RESET BY THE CONTRACTOR.
- DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE ENGINEER AND SHALL NOTIFY THE ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL SHALL BE ONLY BY THE CITY SURVEYOR. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF
- 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 BERNALILLO COUNTY PUBLIC WORKS(848-1500).
- ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKINGS BY CONTRACTOR TO LOCATION AS EXISTING OR AS INDICATED BY THIS PLAN SET.
- 7. ANY WORK AFFECTING AN ARTERIAL ROADWAY REQUIRES TWENTY-FOUR (24) HOUR CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMING AND COORDINATION OF WATER SHUTOFF. AT LEAST FIVE (5) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT THE WATER SYSTEMS DIVISION, 857-8200, TO INITIATE IMPLEMENTATION OF THE NON-PRESSURIZED CONNECTION PLAN. IN ORDER TO COMPLETE THIS CONNECTION, THE FOLLOWING VALVES MUST BE CLOSED BY WATER SYSTEMS PERSONNEL.
- 9. LIMIT OPEN TRENCH TO 200 FEET MAXIMUM.
- 10. EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29CFR 1926.650, SUBPART P
- 1. THE CITY OF ALBUQUERQUE IS DEVELOPING NEW REQUIREMENTS FOR FILLING/FLUSHING NEW LINES. CONTRACTOR SHALL CONFORM TO LATEST REQUIREMENTS.
- 12. ALL COMPACTION OF TRENCHES SHALL BE 95% OF MAXIMUM DENSITY INACCORDANCE WITH ASTM D 1557.
- 13. PAVEMENT CUT AND PATCH FOR BLAKE ROAD SHALL BE IN ACCORDANCE W/BERNALILLO COUNTY STD. DWG. 2465.



WILSON X

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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 GA-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 MUTCH SECTION GA-4.
- 11. CONTRACTOR SHALL NOT BEGIN WORK BEFORE 8:30 A.M. OR END WORK AFTER 4:00 P.M. WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION.
- 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. 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 GA-4 OF THE MUTCD, LATEST EDITION.
- 18. 24 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.
- 19. ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY CONSTRUCTION COORDINATION.
- 20. 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.

- 21. 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 ALBLIQUEDOLE TRAFFIC CODE 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.
- 4. BERNALILLO COUNTY PUBLIC WORKS APPLICABLE CODES & STANDARDS.

22. 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.

BERNALILLO COUNTY TRAFFIC CONTROL GENERAL NOTES

- 1. SUBJECT TO THE APPROVED TRAFFIC CONTROL PLAN, AT LEAST ONE LANE SHALL BE OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL PROVIDE PROPER SIGNAGE & FLAGMEN AND SHALL MAINTAIN THE TRAFFIC LANES IN SUCH A MANNER AS TO ASSURE PROPERTY SAFETY TO THE TRAVELING PUBLIC ON ALL AFFECTED ROADS. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL PRIVATE & PUBLIC PROPERTY AT ALL TIMES, EXCEPT WHEN GRADING, PAVING, EXCAVATION & BACKFILL OPERATIONS ARE BEING CONDUCTED IMMEDIATELY IN FRONT OF THE PROPERTY, IN WHICH CASE ACCESS WILL NOT BE DENIED FOR MORE THAN 4 HOURS WITHOUT APPROVAL BY THE COUNTY.
- 2. TRAFFIC LANES PROVIDED DURING CONSTRUCTION SHALL BE MAINTAINED, IN SUCH A CONDITION UNDER ALL WEATHER CONDITIONS, SO AS TO PERMIT THE REASONABLE PASSAGE OF PASSENGER VEHICLES, AND SHALL BE KEPT GRADED & SMOOTH, AND WATERED SEVERAL TIMES DAILT TO CONTROL DUST.
- 3. A DAILY TRAFFIC CONTROL LOG SHALL BE MAINTAINED BY THE CONTRACTOR REFLECTING THE TYPES & LOCATIONS OF ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, ETC. BEING USED ON THE PROJECT IN COMPLIANCE WITH THE APPROVED TRAFFIC CONTROL PLAN. THIS LOG SHALL BE SUBMITTED TO THE BERNALILLO COUNTY TRAFFIC CONTROL MANAGER UPON COMPLETION OF THE PROJECT CONSTRUCTION OR WHEN SO REQUESTED BY THE PROJECT OR THE BERNALILLO COUNTY TRAFFIC CONTROL MANAGER.
- 4. ALL NEW STREET PAVING ABUTTING EXISTING AREAS SHALL MATCH THE ELEVATIONS OF THOSE AREAS.
- 5. CONTRACTOR SHALL PROVIDE A WEEKLY CONSTRUCTION ACTIVITY SCHEDULE TO BERNALILLO COUNTY PUBLIC WORKS DEPARTMENT, ATTN: HOSS FOSTER.
- 6. PROJECT IS SUBJECT TO THE REQUIREMENTS OF COUNTY ORDINANCE NO. 95-12 & 83-28. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS. CONTRACTOR SHALL CALL 848-1500 FOR MORE INFORMATION.
- 7. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE COUNTY TRAFFIC CONTROL MANAGER AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK. TRAFFIC CONTROL PLANS SHALL BE PREPARED IN ACCORDANCE WITH MUTCO REQUIREMENTS AND BY CERTIFIED PERSONNEL AND MUST BE APPROVED PRIOR TO COMMENCEMENT OF WORK ON THE PROJECT. CALL 848-1604 FOR FURTHER INFORMATION.
- 8. THE CONTRACTOR SHALL FILE WEEKLY WRITTEN REPORTS TO THE TRAFFIC CONTROL MANAGER DESCRIBING THE TRAFFIC CONTROL PLAN THAT WILL BE IN EFFECT FOR THE FOLLOWING WEEK.

RIGHT

SPECIAL

SIGN

SPECIAL

SIGN

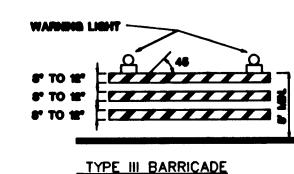
20

SPECIAL

SIGN 30 SPECIAL

SIGN 40 SPECIAL

SIGN 50



VERTICAL PANEL

TO # - 46

P TO EF

TYPE II BARRICADE

COLLAPSIBLE

BARREL

S' TO M'

ALL ADVANCE WARNING SIGNS SHALL

BE A MINIMUM OF FORTY EIGHT (48)

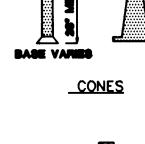
INCHES BY FORTY EIGHT (48) INCHES

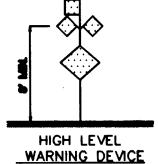
IN SIZE AND SHALL HAVE ONE

WARNING LIGHT.

TYPE I BARRICADE







BUFFER SPACE

TYPE # /

黑 R11-2a

₩1-6(L)



● BARRICADE - TYPE II, OR BARREL

BARRICADE - TYPE III

DISTANCE BETWEEN SIGNS - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET

FLAGMAN POSITION

3

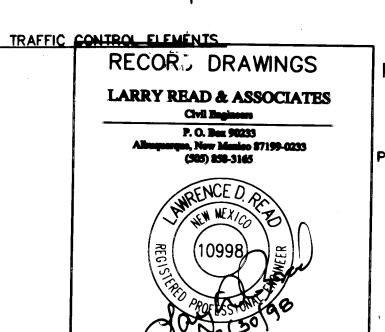
SPACING BETWEEN BARRICADES— A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET

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

TAPER LENGTH - SEE CHART BELOW

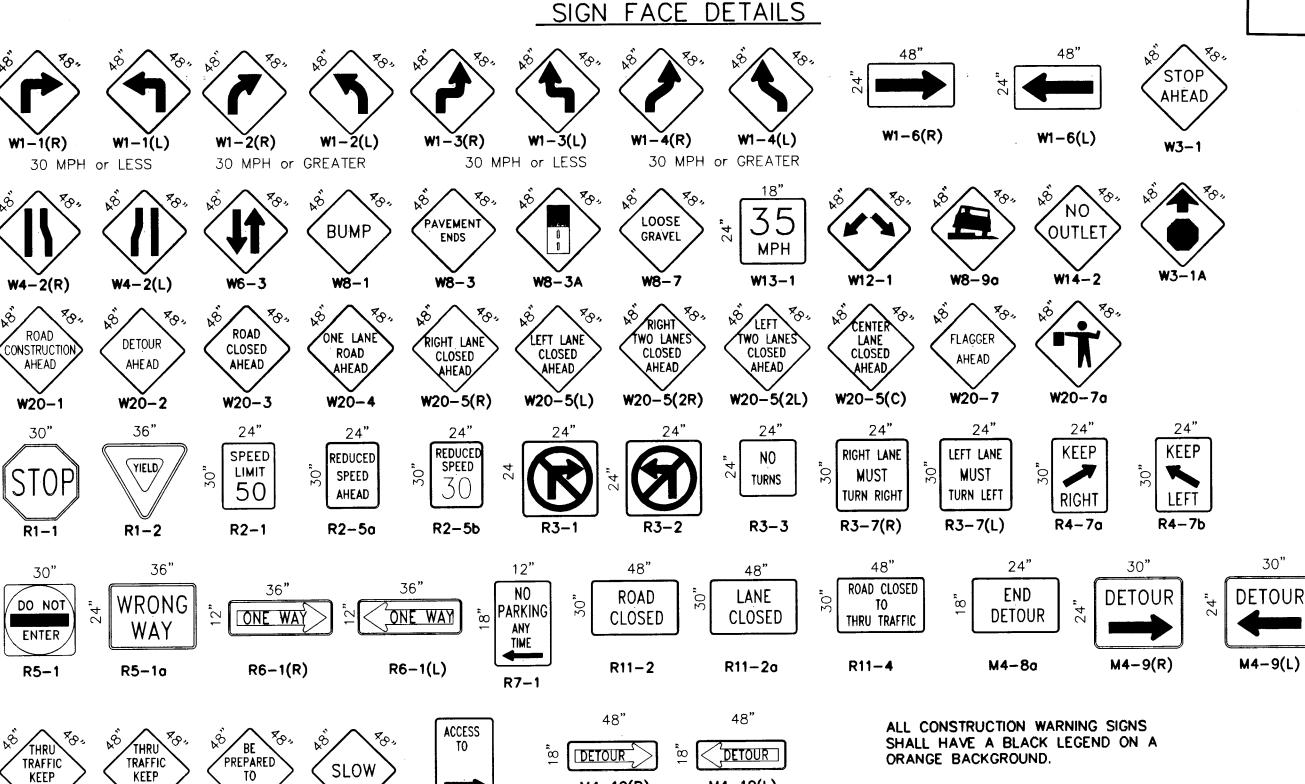
TAPER RECUIREMEN

ı			TAPER	REQUI	REMEN ³	rs –		
TERMINATION AREA	SPEED	TAPER LENGTH (FEET)			MINIMUM NUMBER	MAXIMUM DEVICE SPACING IN FEET		
	(MPH)	10' LANE	11' LANE	12' LANE	OF DEVICES FOR TAPER	ALONG TAPER	AFTER TAPER	
WORK ZONE	20	70	75	80	5	20	50	
	25	105	115	125	6	25	60	
OE .	30	150	165	180	7	30	70	
	35	205	225	245	8	35	80	
TAPER AREA	40	270	295	320	9	40	90	
U	45	450	495	540	13	45	100	
	50	500	550	600	13	50	100	
/ANCE WATHING AREA	55	550	605	660	13	55	40	
i								



SCANNED BY

1	• '	
RECOMMEN	DED SIGN	SPACING FOR
ADVANCE	WARNING	SIGN SERIES
SPEED	MINIMUM [DISTANCE IN FEET
MILES PER HOUR	BETWEEN SIGNS	FROM LAST SIGN TO TAPER
0-20	200	200
25-30	300	250
30-35	300	300
40-45	500	400
50-60	500-1600	500-1000



M4-10(L)

M4-10(R)

TAPER CRITERIA TYPE OF TAPER TAPER LENGTH UPSTREAM TAPER: MERGING TAPER L MINIMUM SHIFTING TAPER ? L MINIMUM ? L MINIMUM SHOULDER TAPER 100 FEET MAXIMUM TWO-WAY TRAFFIC TAPER DOWNSTREAM TAPERS 100 FEET PER LANE TAPER LENGTH COMPUTATION SPEED LIMIT 40 MPH OR LESS

 $L = W \times S$

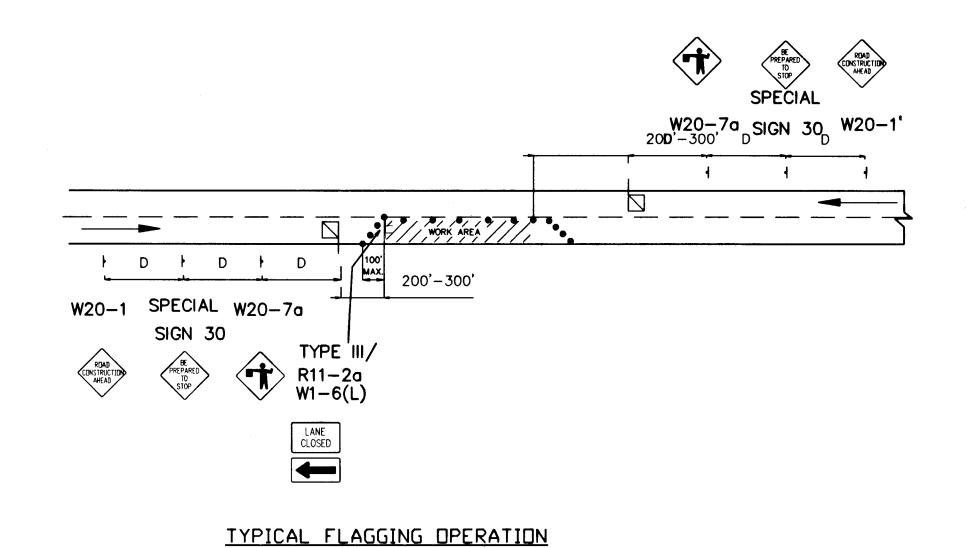
L = TAPER LENGTH W = WDTH OF OFFSET IN FEE S = POSTED SPEED OR OFF-F 85-PERCENTILE SPEED IN

45 MPH OR GREATER

SUNSHINE	PLUMBING	&	HEATING,	INC.

TRAFFIC CONTROL & SIGNAGE BLAKE RD. S.W.

iga Raview Committee	City Engineer	Approval	Last Design Update	Mo./Day/Y	r.	Mo./Da	ay/Yr.
Project No. 58368	Zone Map N	o. N-10		Sheet	3	Of	4



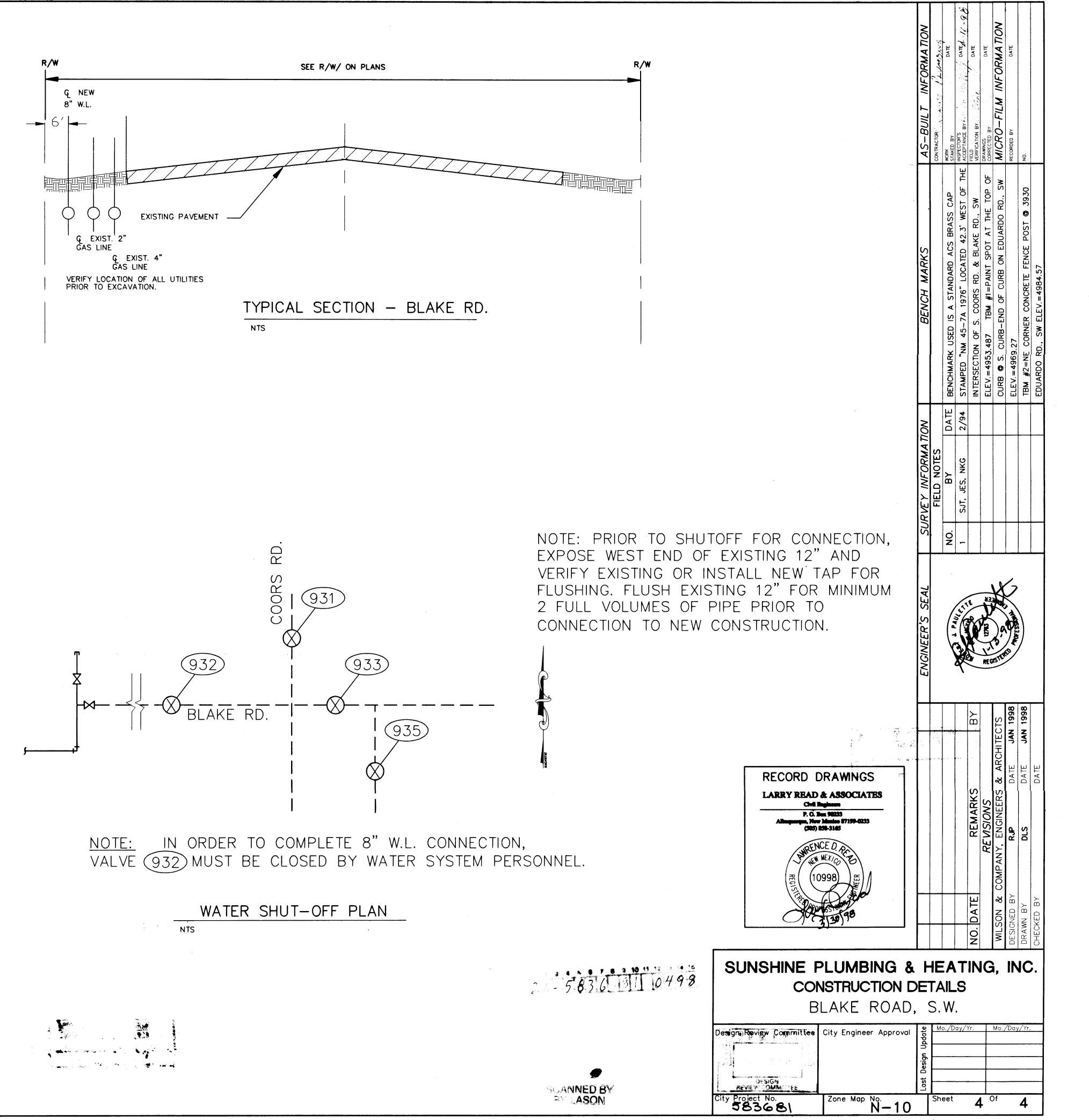
LENGTH OF RESTRAINED PIPE (feet)

PIPE SIZE	90,	45*	22-1/2*	11 1/4	RUN-OFF TEE *	VALVE	MAT'L.
6"	27'	11'	5'	3'	3'	73'	PVC
8"	35'	14'	7'	3'	25'	96'	PVC
12"	48'	20'	10'	5'	63'	136'	PVC

DESIGN ASSUMPTIONS FOR RESTRAINED PIPE

- TEST PRESSURE = 150 PSI
 SOUL TYPE = SM (ASTM D2487)
 TRENCH TYPE = TYPE 4 (ANSI/AWWA/A21.50)
 PIPE COVER = 3' MINIMUM (≤ 12")
 4' MINIMUM (> 12")
- 5. SAFETY FACTOR = 2.00

SUBMIT CALCULATIONS FOR APPROVAL FOR THRUST RESTRAINT DESIGN FOR CONDITIONS NOT MEETING SIZE, TYPE, OR MATERIALS SHOWN IN THESE DETAILS.



WILSON & COMPANY

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