

# GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT PHASE II



CITY OF ALBUQUERQUE  
PARKS AND RECREATION DEPARTMENT  
PLANNING AND DESIGN DIVISION

## SITE IMPROVEMENTS

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FOR INFORMATION ONLY

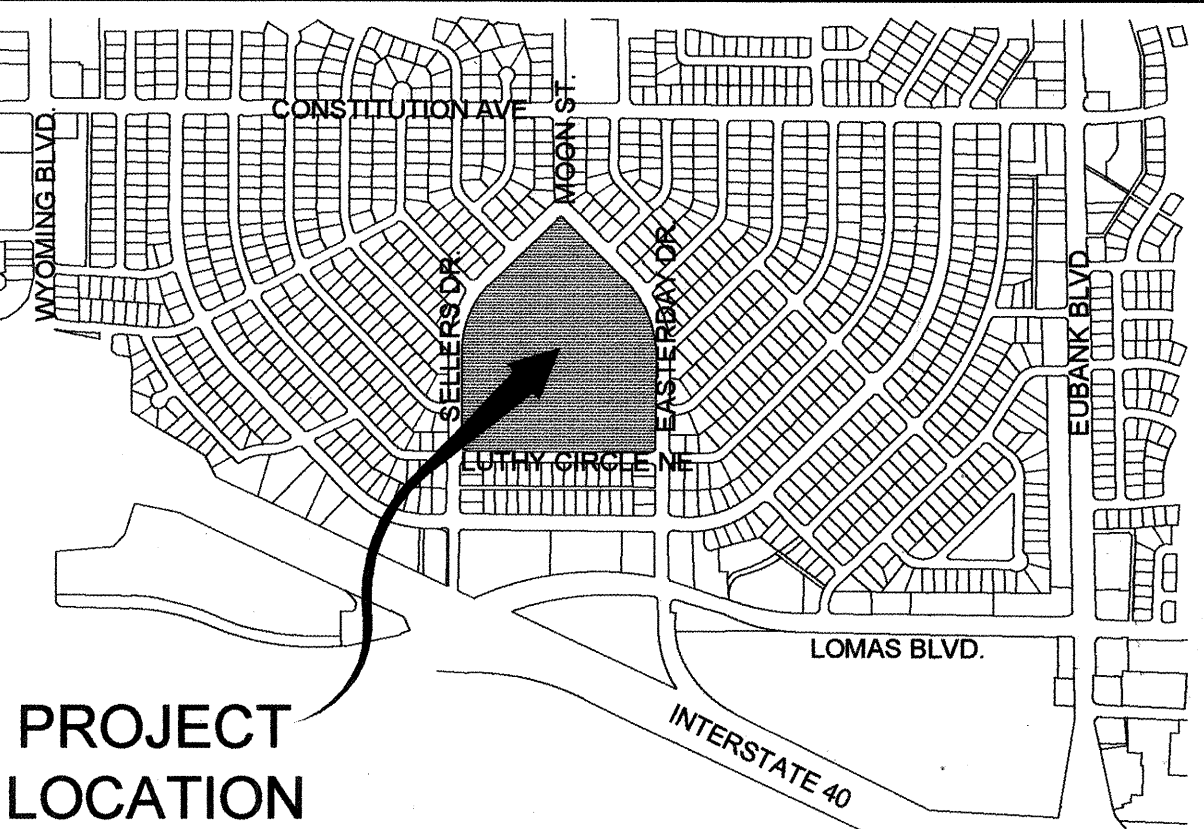
#### CONSTRUCTION NOTES:

1. WHEN ABUTTING NEW CURB AND GUTTER TO EXISTING PAVEMENT, A 1' WIDE SECTION OF EXISTING PAVEMENT ADJACENT TO THE CURB AND GUTTER SHALL BE SAWCUT, REMOVED, AND REPLACED AS PER THE STANDARD SPECIFICATIONS.
2. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS.
3. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
4. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE CONSTRUCTION OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.
6. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY COSTS INCURRED FOR REPAIRS SHALL BE THE COST OF THE CONTRACTOR.
7. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
8. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E. BARRICADING, TOPSOIL DISTURBANCE AND EXCAVATION PERMITS, ETC.)
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AT HIS EXPENSE ANY AND ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.
10. ALL PERMANENT PAVEMENT MARKING AND TRAFFIC SIGNING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR PER PLAN.
11. THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.
12. ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), U.S. DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
13. THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.
14. ALL SAWCUT PAVEMENT SHALL HAVE A UNIFORM EDGE AND BE SPRAYED WITH TACK.
15. CONTRACTOR SHALL INSTALL TEMPORARY PROTECTIVE FENCING AS SHOWN ON THE PLAN PRIOR TO THE START OF WORK. NO WORK SHALL BE PERFORMED BEYOND THESE LIMITS. VEHICLE AND EQUIPMENT TRAVEL WITHIN THESE LIMITS IS PROHIBITED.
16. CONTRACTOR SHALL NOT DRIVE OR PARK BENEATH TREES AND SHALL RESTRICT UNNECESSARY TRAVEL ACROSS UNDISTURBED AREAS OF THE SITE. TRAVEL SHALL BE RESTRICTED TO DISTURBED AREAS AND AREAS WITHIN THE IMMEDIATE SCOPE OF WORK.

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REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
ENGINEERS' STAMP & SIGNATURE		APPROVALS		ENGINEER		DATE	
		DRC Chairman		12-30-99		12-30-99	
		Transportation		12-15-99		12-15-99	
		Water/Wastewater		12-15-99		12-15-99	
		Hydrology		12-15-99		12-15-99	
		C.I.P.		12-15-99		12-15-99	
Const. Mngmt.		12-15-99		12-15-99		12-15-99	
Const. Insp.		12-15-99		12-15-99		12-15-99	
CITY PROJECT NO.				SHEET			
624591				1 OF 15			



VICINITY MAP  
ZONE MAP J-20

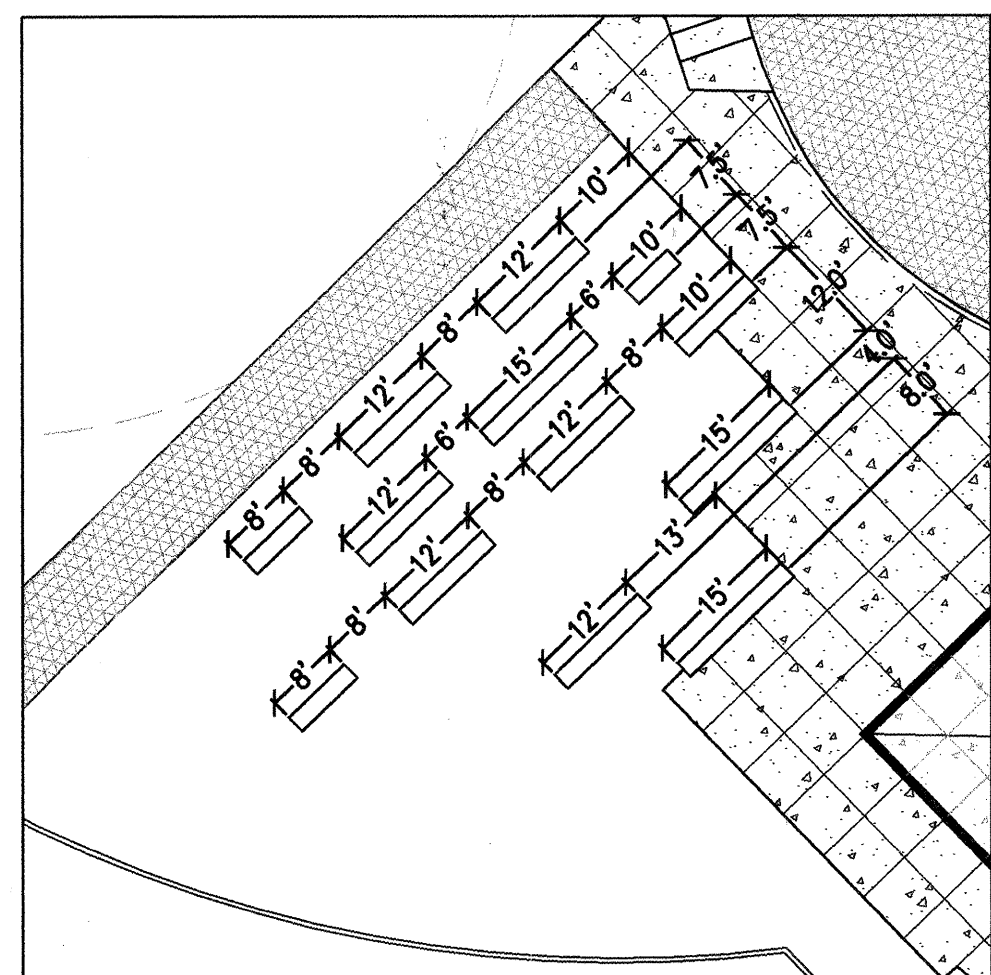
#### NOTICE TO CONTRACTORS

1. 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 THROUGH UPDATE No.6
- \* 2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (280-1990) FOR LOCATION OF EXISTING UTILITIES.
- \* 3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
4. 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 CONST. COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (788-2551) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
5. 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.
6. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE 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 OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE, UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS. ANY PERMANENT SURVEY MONUMENT LOCATED WITHIN 50' OF THE PROJECT LIMITS NOT SHOWN ON THE PLANS THAT IS DESTROYED DURING CONSTRUCTION WILL BE REPLACED AT DESIGNER'S EXPENSE.
7. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE VICINITY OF EXISTING CITY FACILITIES. ANY DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED IN KIND, AS DETERMINED BY THE OWNER'S REPRESENTATIVE. REPLACEMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE, AS PER C.O.A. SPECS.
8. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.

#### THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☒ ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- ☒ BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- ☒ TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE CITY ENGINEER.
- ☒ SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ☐ IF CURB IS DEPRESSED FOR A DRIVEPAD, THE DRIVEPAD SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF CURB AND GUTTER.
- ☒ ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.
- ☒ THE REQUESTOR OR DEVELOPER SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ALL CURB AND GUTTER OR SIDEWALK DAMAGED AFTER APPROVAL BY THE CITY ENGINEER OF WORK COMPLETED BY THE CONTRACTOR.

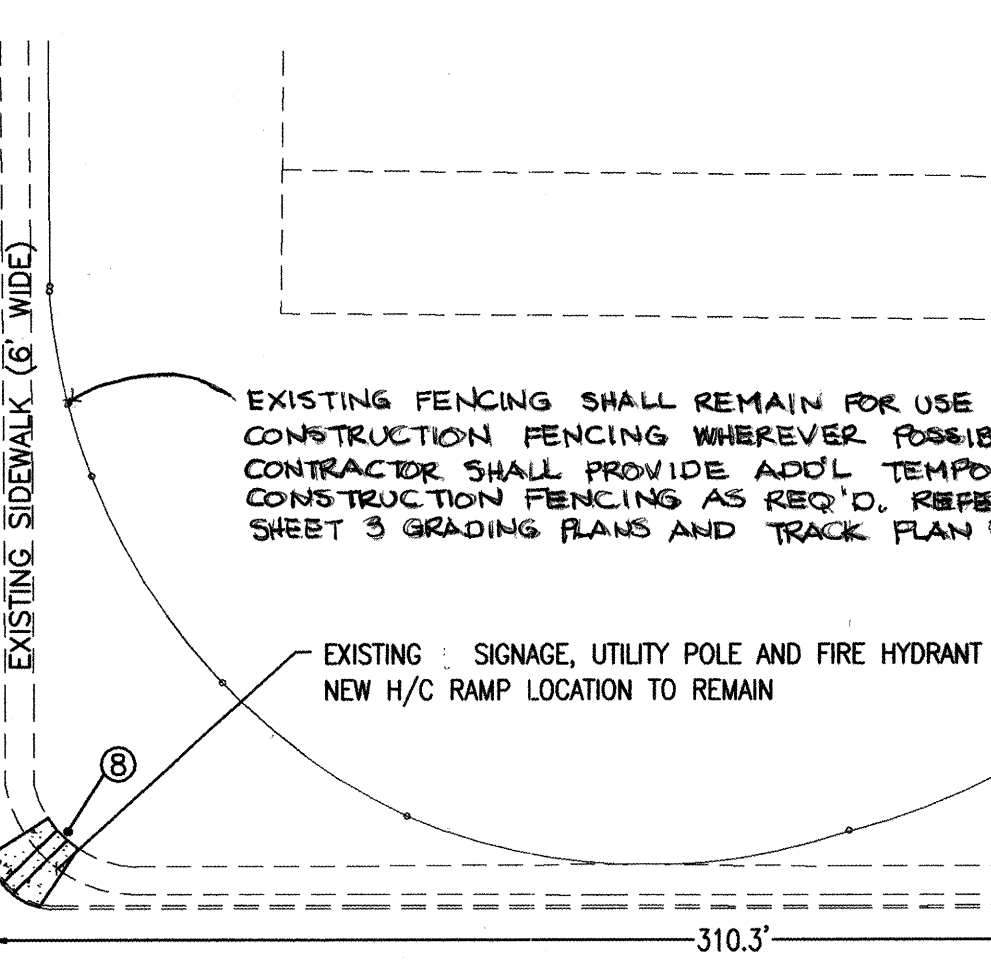




PART OF ADDITIVE ALTERNATE NO. 2  
ENLARGED SEAT WALL LAYOUT  
SCALE: 1"=20'-0"

POINT TABLE

STATION	POINT	Easting	Northing
0+00	1	4307.177	4978.145
0+01	2	4307.177	5117.894
0+02	3	4307.177	5308.775
0+03	4	4292.677	5132.395
0+04	5	4292.677	5103.395
0+05	6	4410.632	5472.231
0+06	7	4428.130	5480.134
0+07	8	4451.993	5487.613
0+08	9	4474.480	5492.441
0+09	10	4571.187	5473.098
0+10	11	4579.548	5468.412
0+11	12	4668.778	5463.730
0+12	13	4663.073	5417.905
0+13	14	4714.547	5425.133
0+14	15	4754.547	5425.133
0+15	16	4816.614	5438.879
0+16	17	4951.880	5446.557
0+17	18	5000.081	5435.203
0+18	19	4668.718	5355.593
0+19	20	4670.718	5355.593
0+20	21	4693.619	5341.691
0+21	22	4693.619	5330.691
0+22	23	4741.229	5387.938
0+23	24	4741.229	5398.938
0+24	25	4755.131	5412.840
0+25	26	4766.131	5412.840



CURVE TABLE

NUMBER	DEFLECTION ANGLE	CHORD DIRECTION	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH
C1	89°33'44"	N 63°21'30" W	63.5666	1000.0000	166.7339	166.5409
C2	46°03'42"	S 23°01'51" W	63.7664	150.0	120.5889	117.3677
C3	73°16'57"	S 80°57'39" E	17.4743	23.4938	30.0491	28.0423
C4	54°15'14"	S 71°26'47" E	72.4602	141.4359	133.9267	128.9790
C5	08°34'23"	S 85°42'48" W	11.4681	153.0000	22.8934	22.8721
C6	38°31'26"	S 78°53'23" E	34.9429	99.9943	67.2330	65.9737
C7	25°11'06"	S 72°13'13" E	66.7932	299.0000	131.4286	130.3731
C8	46°51'29"	S 83°03'25" E	65.4319	150.9943	123.4873	120.0745
C9	02°12'52"	N 60°44'06" W	4.7932	248.0000	9.5852	9.5846
C10	24°58'31"	S 77°30'45" W	32.5558	147.0000	64.0773	63.5712
C11	43°27'09"	S 86°45'04" W	72.9219	183.0000	138.7856	135.4834
C12	10°26'45"	S 76°44'44" E	24.8637	272.0000	49.5896	49.5209

LEGEND

CONTACT	SYMBOL	QUANTITY	DESCRIPTION	EXACT FURNISHINGS LOCATIONS TO BE AS DIRECTED ON SITE
DUNOR, INC. SITE FURNITURE AS AVAILABLE FROM EXHIBIT, INC. ALBUQUERQUE 505.281.0151. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS		1	ACCESSIBLE PICNIC TABLE MODEL NO. 63-579-42PL (2 SEATS) RECYCLED PLASTIC (GREY) WITH EMBEDDED STEEL SUPPORTS (BRONZE). SET ON CONCRETE SLAB AS SHOWN	
BASE BID		1	FOUR-SEAT PICNIC TABLE MODEL NO. 63-579-44PL RECYCLED PLASTIC (GREY) WITH EMBEDDED STEEL SUPPORTS (BRONZE).	
MATERIALS INC. 505.867.9035		1	TWO-SEAT PICNIC TABLE MODEL NO. 63-579-42PL RECYCLED PLASTIC (GREY) WITH EMBEDDED STEEL SUPPORTS (BRONZE).	
ENERPLAN, INC.		1	BENCH MODEL NO. 11-60 RECYCLED PLASTIC (GREY) WITH EMBEDDED STEEL SUPPORTS (BRONZE).	
		1	ACCESSIBLE BENCH MODEL NO. 11-60 RECYCLED PLASTIC (GREY) WITH (2) STEEL ARMRESTS AND EMBEDDED STEEL SUPPORT (BRONZE) SET ON 4'x6' CONCRETE SLABS	
		1	TRASH RECEPTACLES: MATERIALS INC. "RINCONADA" MODEL; INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. COMPLETE W/LINERS PER CITY STANDARD.	
		2	12" PIPE GATE - SEE COR. DETAIL 2251.	

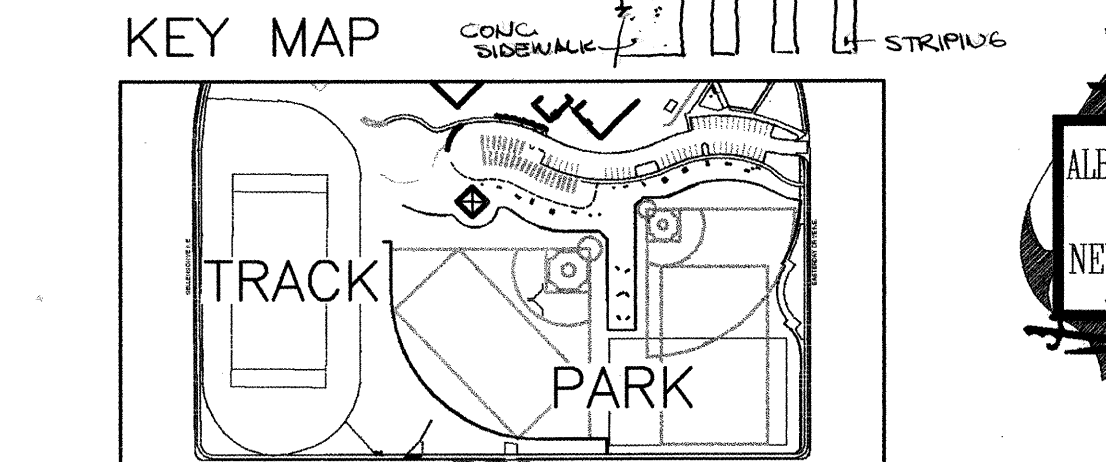
- NEW ASPHALT PAVEMENT AND/OR BIKE PATH - SEE KEYED NOTES
- NEW CONCRETE PAVEMENT WITH 6' x 6' SCORED GRID PATTERN - SEE KEYED NOTES
- EXISTING PAVEMENT TO BE REMOVED - SEE KEYED NOTES
- EXISTING FENCE AND CONCRETE MOW STRIP - SEE KEYED NOTES
- NEW FENCE AND MOWSTRIP - SEE KEYED NOTES
- NEW MOWSTRIP - SEE KEYED NOTES
- EXTRUDED CURB
- TURNDOWN EDGE

\* NOTE: EXISTING PERIMETER FENCING SHALL REMAIN FOR USE AS CONSTRUCTION FENCING, TYP.

SUMMARY OF ADDITIVE ALTERNATE CONSTRUCTION ITEMS

ADDITIVE ALTERNATE NUMBER ONE:  
ALL SITE FURNISHINGS EXCEPT RELOCATION OF EXISTING DRINKING FOUNTAIN (CONCRETE PADS AROUND ACCESSIBLE TABLES AND BENCHES ARE INCIDENTAL TO SITE FURNISHINGS.)

ADDITIVE ALTERNATE NUMBER TWO:  
BALL FIELD OUTFIELD FENCING AND MOW CURB (BASE BID WILL BE EDGE OF TURF--NO MOW CURB--ONLY).  
ALL CONCRETE SEAT WALLS.



SCALE: 1" = 40'-0"  
OCTOBER 20, 1999

GENERAL LAYOUT NOTES

- VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF PROJECT WORK, AND NOTIFY THE CITY PARKS DEPARTMENT PROJECT MANAGER OF ANY CONDITIONS THAT CONFLICT WITH THE PROPOSED WORK. REFER TO SHEET 3 GRADING PLAN FOR EXISTING SURVEY INFORMATION.
- ALL PROPOSED PROJECT WORK SHALL BE STAKED AND APPROVED BY THE LANDSCAPE ARCHITECT OR CITY'S PROJECT MANAGER PRIOR TO CONSTRUCTION. DIMENSIONS ARE TO THE FACE OF WALL, CURB, OR STEEL EDGE AND CURVES ARE 5' RADIUS UNLESS OTHERWISE NOTED. CONTRACTOR SHALL VERIFY POINTS OF TANGENCY FOR LAYOUT OF CURVES AT NEW PORTIONS OF ACCESS DRIVE, AND SHALL PROVIDE MINOR ADJUSTMENTS TO DIMENSIONS AS NECESSARY TO EFFECT SMOOTH CURVE TRANSITIONS.
- COORDINATE ALL SLEEVING FOR IRRIGATION LINES OR UTILITIES; POSITION SLEEVES TO PROVIDE 18" MINIMUM COVER BELOW THE FINAL FINISHED GRADE. REFER TO SHEET 11 IRRIGATION PLAN AND SHEET 3 GRADING PLAN.
- MINIMIZE DISTURBANCE TO AREAS OUTSIDE IMMEDIATE GRADING OR CONSTRUCTION AREAS. ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS, NOT OTHERWISE LANDSCAPED OR DEVELOPED SHALL BE REPAIRED OR RESEEDED WITH NATIVE GRASS SEED AS SPECIFIED. REFER TO SHEET 3 GRADING PLAN AND SHEET 10 PLANTING PLAN.
- "BY OTHERS", ADDITIVE ALTERNATE, OR FUTURE CONSTRUCTION IS INDICATED ON THIS SHEET; REFER TO SUBSEQUENT SHEETS FOR ADDITIONAL INFORMATION REGARDING COORDINATION OF SUCH NON-BASE BID CONSTRUCTION.

KEYED DEMOLITION NOTES

- REMOVE AND DISPOSE PORTIONS OF EXISTING ASPHALT AS REQUIRED TO ACCOMMODATE NEW DRIVE LANE CONNECTIONS AND ISLANDS.
- REMOVE AND DISPOSE PORTIONS OF EXISTING CONCRETE WALK AS REQUIRED TO ACCOMMODATE NEW PARKING LOT/SIDEWALK LAYOUT.
- REMOVE AND DISPOSE EXISTING CONCRETE PAVEMENT AT EXISTING BASKETBALL COURT; REMOVE AND SALVAGE SIX (6) EXISTING BASKETBALL GOALS TO A.P.S. STORAGE UNLESS OTHERWISE DIRECTED.
- REMOVE AND DISPOSE EXISTING +/- 110 L.F. CHAIN LINK FENCE AND GATE.
- REMOVE AND SALVAGE EXISTING PIPE GATE TO A.P.S. STORAGE UNLESS OTHERWISE DIRECTED.
- RELOCATE EXISTING BACK STOPS AS SHOWN ON PLAN.
- RELOCATE EXISTING DRINKING FOUNTAIN AS SHOWN ON PLAN--CAP EXISTING WATER SOURCE LINE AND REPAIR CRUSHER FINES SURFACE AT EXISTING LOCATION AS REQUIRED--EXISTING FOUNTAIN TO REMAIN
- REMOVE AND DISPOSE PORTION OF EXISTING CONCRETE CURB AND GUTTER AT TURNAROUND.

KEYED CONSTRUCTION NOTES

- ALL REFERENCES TO STANDARD SPECIFICATIONS AND DETAILS REFER TO CITY OF ALBUQUERQUE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION UNLESS OTHERWISE NOTED.
- NEW CONCRETE MOW CURB AS PER STANDARD DETAIL NO. 2726.
  - PROVIDE AND INSTALL NEW 10' WIDE CHAIN LINK ACCESS GATE AT EXISTING 4' HEIGHT CHAIN LINK FENCE. REFERENCE STANDARD SPECIFICATIONS AND DETAILS. STD DETAIL 2252.
  - PROVIDE AND INSTALL NEW TOP RAIL, SIDE BRACKETS, BOTTOM WIRE AND 4' HEIGHT CHAIN LINK FENCE AS REQUIRED TO CLOSE EXISTING OPENINGS IN PERIMETER FENCING. STD DETAIL 2252.
  - NEW PAVILION - REFERENCE DETAIL SHEET 14.
  - PROVIDE AND INSTALL NEW 4' HEIGHT CHAIN LINK FENCE WITH MOW CURB AS PER STANDARD DETAIL NO. 2725.
  - NEW CONCRETE SEAT WALL - REFERENCE DETAIL SHEETS.
  - PROVIDE AND INSTALL NEW ASPHALT PAVEMENT AS PER STD DETAIL 2405, RESIDENTIAL STREET SECTION.
  - NEW ACCESSIBLE WHEEL CHAIR RAMP AS PER STANDARD DETAIL NO. 2441, CASE 2; ("WING" DIMENSIONS MAY VARY FROM 7' STANDARD, AS REQ'D TO MEET 12:1 MAX. SLOPE.)
  - INSTALL EXISTING BACK STOPS WITH NEW MOW STRIP WHERE SHOWN AS SIMILAR TO STANDARD DETAIL NO. 2725.
  - PROVIDE AND INSTALL +/- 110 L.F. NEW CONCRETE MOW CURB AT EXISTING FENCE. HAND FINISH AS REQUIRED. SEE STANDARD DETAIL NO. 2725.
  - PROVIDE AND INSTALL NEW EXTRUDED CONCRETE CURB AS PER DETAIL 4, SHEET 12.
  - PROVIDE AND INSTALL NEW 4" CONCRETE PAVEMENT WITH 6' GRID SCORE PATTERN PER STANDARD SPECIFICATIONS SECTION 300.
  - DELETE
  - PROVIDE AND INSTALL NEW ASPHALT AS PER STD DETAIL 2405
  - POST AND CABLE, BY OTHERS.
  - PROVIDE AND INSTALL NEW DOUBLE TURN-DOWN CONCRETE SIDEWALK AS PER DETAIL 5, SHEET 12.
  - PROVIDE AND INSTALL NEW SINGLE TURN-DOWN CONCRETE SIDEWALK OR PAVING AS PER DETAIL 6, SHEET 12.
  - PROVIDE AND INSTALL NEW CONCRETE MAINTENANCE ACCESS/WHEELCHAIR RAMP AS PER DETAIL 9, SHEET 12.

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CITY OF ALBUQUERQUE  
PARKS AND RECREATION DEPARTMENT  
PLANNING AND DESIGN DIVISION

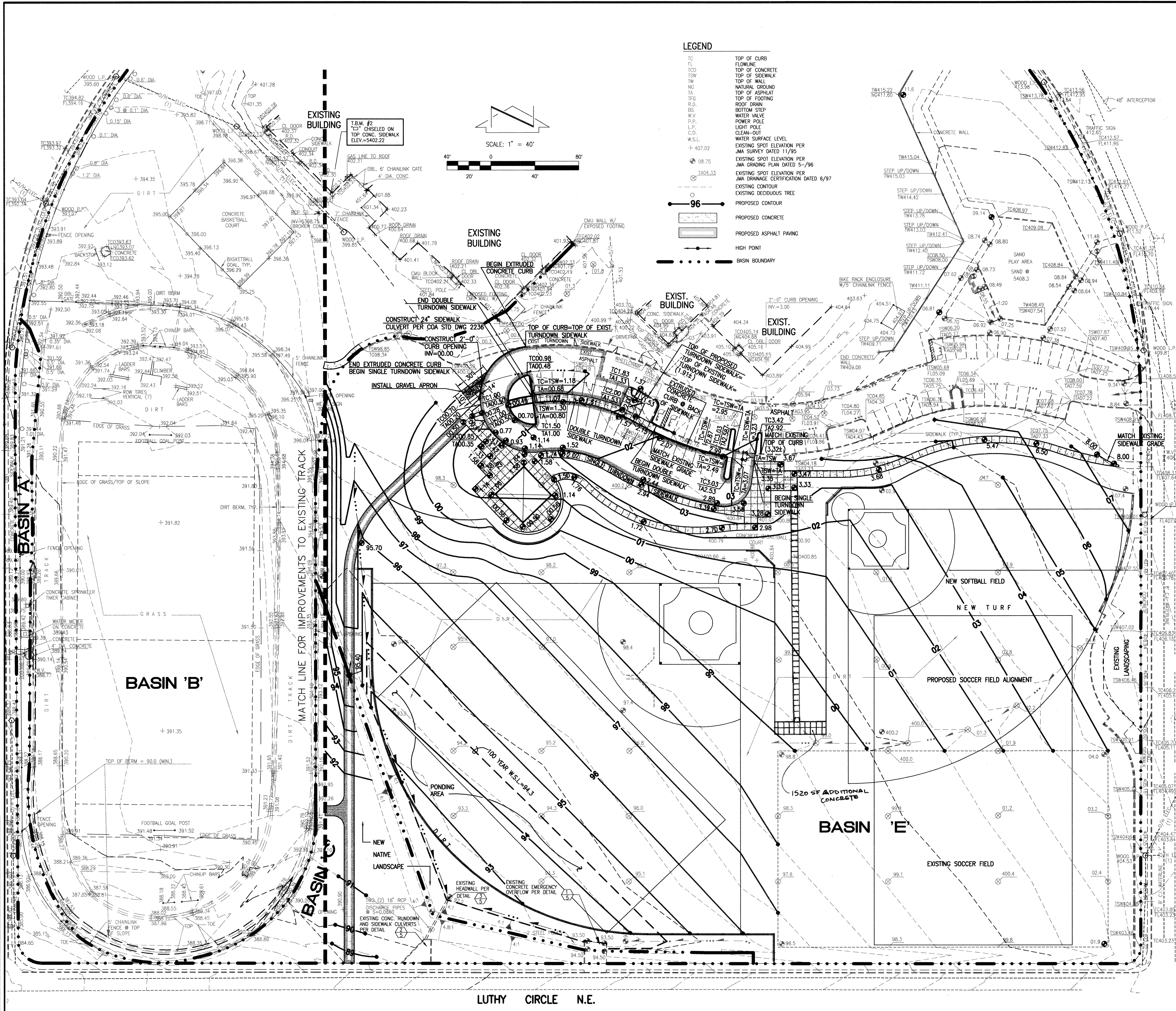
**DIMENSION PLAN**  
GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT PHASE II  
SITE LAYOUT

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
DEC 30 1999	DEC 30 1999		
City Project No.	Zone Map No.	Sheet	Of
6245.91	J-20	2	15

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		LANDSCAPE ARCHITECT'S SEAL	
CONTRACTOR	DATE	AC.S. 1 3/4" ALUMINUM DISC STAMPED "A.C.S."	DATE	NO.	DATE		DESIGNED BY: GRJ DRAWN BY: GSW CHECKED BY: GRJ
INSPECTOR'S REVIEW	DATE	TRAFFIC LIGHT BASE LOCATED AT THE	DATE	BY	DATE		
FIELDWORK BY	DATE	INTERSECTION OF LOMAS BLVD. N.E. AND	DATE	REVISIONS	DATE		
FIELDWORK BY	DATE	EASTERN DR. N.E. IN THE N.W. QUADRANT	DATE	DESIGN	DATE		
MICRO-FILM INFORMATION		ELEVATION= 5404.375					
RECORDED BY		NO.					



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Plot Time: 09:29 am



FOR INFORMATION ONLY

950618

**Jmm** JEFF MORTENSEN & ASSOCIATES, INC.  
600-B MIDWAY PARK BLVD. N.E.  
ALBUQUERQUE, N.M. 87109  
ENGINEERS & SURVEYORS 505/245-4250

CITY OF ALBUQUERQUE  
PARKS AND RECREATION DEPARTMENT  
PLANNING & DESIGN DIVISION

TITLE: GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT-PHASE II

Design Review Committee	City Engineer Approval	Ms./Date/Tr.	Ms./Date/Tr.
<i>n/a</i>	<i>n/a</i>		

City Project No.	Zone Map No.	Sheet	Of
624591	J-20	3	15

REVISIONS/REMARKS		BY	DATE

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
NO.	DATE	FIELD NOTES	DATE	CONTRACTOR	DATE	RECORDED BY	DATE
950612	11/95	JMA	05/96	JMA	05/96	JMA	05/96
950612	06/97	JMA	06/97	JMA	06/97	JMA	06/97

DESIGNED BY: JAP Date: 08-99

DRAWN BY: SGH/JJR Date: 08-99

CHECKED BY: JGM Date: 08-99

10-22-99

10-22-99



File Path: C:\MORTENSEN\950618\950618.DWG  
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Plot Time: 09:52 am

CALCULATIONS

SITE CHARACTERISTICS

1. PRECIPITATION ZONE = 3
2.  $P_{6,100} = P_{360} = 2.60$  IN.
3. TOTAL AREA OF BASINS C & E ( $A_T$ ) = 560,250 SF/12.87 AC
4. EXISTING LAND TREATMENT
- A. BASIN 'C' -  $A_{TC} = 29,410/0.68$  AC
- | TREATMENT | AREA (SF/AC) | %   |
|-----------|--------------|-----|
| C         | 29,410/0.68  | 100 |
- B. BASIN 'E' -  $A_{TE} = 530,840/12.19$  AC
- | TREATMENT | AREA (SF/AC) | %    |
|-----------|--------------|------|
| B         | 40,340/0.93  | 7.6  |
| C         | 341,860/7.85 | 64.4 |
| D         | 148,640/3.41 | 28.0 |
5. DEVELOPED LAND TREATMENT
- A. BASIN 'C' -  $A_{TC} = 29,410/0.68$  AC
- | TREATMENT | AREA (SF/AC) | %    |
|-----------|--------------|------|
| C         | 25,910/0.60  | 88.2 |
| D         | 3,500/0.08   | 11.8 |
- B. BASIN 'E' -  $A_{TE} = 530,840/12.19$  AC
- | TREATMENT | AREA (SF/AC) | %    |
|-----------|--------------|------|
| B         | 237,160/5.45 | 44.7 |
| C         | 119,640/2.75 | 22.6 |
| D         | 174,040/3.99 | 32.7 |
6. EXISTING CONDITION
- A. BASIN 'C'

1. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = 1.29(0.68) / 0.68 = 1.29 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.29 / 12) 0.68 = 0.0731 \text{ AC.FT.} = 3,180 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = 3.45(0.68) = 2.3 \text{ CFS}$$

B. BASIN 'E'

1. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.92(0.93) + 1.29(7.85) + 2.36(3.41)) / 12.19 = 1.56 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.56 / 12) 12.19 = 1.5858 \text{ AC.FT.} = 69,080 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = 2.60(0.93) + 3.45(7.85) + 5.02(3.41) = 46.6 \text{ CFS}$$

7. DEVELOPED CONDITION

A. BASIN 'C'

1. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (1.29(0.60) + 2.36(0.08)) / 0.68 = 1.42 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.42 / 12) 0.68 = 0.0802 \text{ AC.FT.} = 3,490 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = 2.60(0.60) + 3.45(2.75) + 5.02(0.08) = 2.5 \text{ CFS}$$

B. BASIN 'E'

1. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.92(5.45) + 1.29(2.75) + 2.36(3.99)) / 12.19 = 1.47 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.47 / 12) 12.19 = 1.4982 \text{ AC.FT.} = 65,260 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = 2.60(5.45) + 3.45(2.75) + 5.02(3.99) = 43.7 \text{ CFS}$$

8. COMPARISON

$$A. \Delta V_{100} = 3,180 + 69,080 - 3,490 - 65,260 = 3,510 \text{ CF (DECREASE)}$$

$$B. \Delta Q_{100} = 2.3 + 46.6 - 2.5 - 43.7 = 2.7 \text{ CFS (DECREASE)}$$

9. HYDROGRAPH CALCULATIONS - BASIN 'E'

A. BASE TIME

$$t_B = 2.107 E (A_T / Q_p) - 0.25 (A_D / A_T)$$

$$E = 1.47 \text{ IN.}$$

$$A_T = 12.19 \text{ AC}$$

$$Q_p = 43.7 \text{ CFS}$$

$$A_D = 3.99 \text{ AC}$$

$$t_B = 0.78 \text{ HR} = 46.9 \text{ MIN}$$

B. TIME TO PEAK

$$t_p = 0.7 t_c + (1.6 - A_D / A_T) / 12$$

$$t_c = 0.2 \text{ HR}$$

$$A_D = 3.99 \text{ AC}$$

$$A_T = 12.19 \text{ AC}$$

$$t_p = 0.25 \text{ HR} = 14.8 \text{ MIN}$$

C. TIME OF PEAK

$$t_{pk} = 0.25 (A_D / A_T)$$

$$A_D = 3.99 \text{ AC}$$

$$A_T = 12.19 \text{ AC}$$

$$t_{pk} = 0.08 \text{ HR} = 4.9 \text{ MIN}$$

10. POND DISCHARGE RATE

A. PRESSURE CONDITION

$$Q = CA(2gh)^{0.5}$$

$$C = 0.6$$

$$g = 32.2 \text{ FT/S}$$

$$h = 94.5 - 92.16 - 0.75 = 1.59 \text{ FT}$$

$$A = 1.77 \text{ SF/PIPE (2 PIPES)} = 3.54 \text{ SF (2 - 18" PIPES)}$$

$$Q = 21.5 \text{ CFS}$$

B. GRAVITY FLOW CONDITION

USING FEILD'S CALCULATOR FOR GRAVITY FLOW IN PIPES

$$\text{LET: } D = 18"$$

$$S = 0.0733$$

$$n = 0.013$$

$$\text{THEREFORE: } Q = 28.4 \text{ CFS/PIPE} = 56.8 \text{ CFS TOTAL CAPACITY}$$

C. PRESSURE CONDITION GOVERNS DISCHARGE RATE: Q = 21.5 CFS

11. EMERGENCY OVERFLOW CAPACITY

$$Q = CLH^{1.5}$$

$$C = 2.70$$

$$L = 24.0 \text{ FT}$$

$$H = 1.0 \text{ FT}$$

$$Q_{\text{OVERFLOW}} = 64.8 \text{ CFS} \gg Q_E = 43.7 \text{ CFS}$$

12. SIDEWALK CULVERT CALCULATIONS

$$Q = CLH^{1.5}$$

$$C = 2.60$$

$$L = 2.83 \text{ FT (24" CULVERT @ 45 DEGREE SKEW)}$$

$$H = 0.67 \text{ FT}$$

$$Q_{\text{CULVERT}} = 4.0 \text{ CFS}$$

$$B. \text{ NUMBER OF SIDEWALK CULVERTS REQUIRED}$$

$$Q_{\text{RELEASE}} / Q_{\text{CULVERT}} = \text{TOTAL}$$

$$21.5 \text{ CFS} / 4.0 \text{ CFS} = 5.375 \text{ CULVERTS}$$

$$\text{THEREFORE: THE FIVE 24" CULVERTS AND ONE 15" CULVERT ARE SUFFICIENT}$$

13. POND VOLUME CALCULATIONS

$$\text{ELEVATION AREA (SF) VOLUME (CF) * VOLUME (CF)}$$

$$92.2 \quad 0 \quad 1,920 \quad 1,920$$

$$93.0 \quad 4,800 \quad 12,150 \quad 14,070$$

$$94.0 \quad 19,500 \quad 11,010 \quad 25,080$$

$$94.5 \quad 24,525$$

$$\text{POND VOLUME} = 25,080 \text{ CF} > \text{POND REQUIRED} = 20,730 \text{ CF}$$

$$100 \text{ YEAR W.S.L.} = 94.3$$

DRAINAGE PLAN

EXECUTIVE SUMMARY

THE PURPOSE OF THIS DRAINAGE PLAN IS TO OBTAIN GRADING AND PAVING PERMIT APPROVALS. THIS PROJECT CONSISTS OF THE MODIFICATION OF AN EXISTING ASPHALT PARKING LOT, CONSTRUCTION OF TWO SHARED ATHLETIC FIELDS, AS WELL AS VARIOUS LANDSCAPING UPGRADES FOR THE GRANT MIDDLE SCHOOL PHASE 2 PARK IMPROVEMENTS LOCATED AT 1111 EASTERDAY DRIVE NE. THERE WILL BE AN EXCHANGE OF CURRENTLY UNDEVELOPED LAND FOR AN AREA OF IMPERVIOUS PAVING, AS WELL AS AN EXCHANGE OF CURRENTLY UNDEVELOPED LAND FOR VARIOUS LANDSCAPING IMPROVEMENTS. THE ONLY BASINS EFFECTED BY THESE PROPOSED IMPROVEMENTS AND HENCE THE ONLY BASINS ANALYZED IN THE DRAINAGE CALCULATIONS CONTAINED HEREIN ARE BASINS C AND E. AS A RESULT OF THE AFOREMENTIONED IMPROVEMENTS, THE HYDROLOGY OF THE SITE WILL BE IMPACTED AS DEMONSTRATED IN THE DRAINAGE CALCULATIONS CONTAINED HEREIN. WITH A DECREASE OF 2.7 CFS IN PEAK DISCHARGE, THE RUNOFF EXITING BASIN E, THE LARGEST BASIN, IS CONTROLLED IN BOTH THE EXISTING AND DEVELOPED SCENARIOS BY AN EXISTING BERM AND OUTLET STRUCTURE, AND WILL REMAIN AT 21.5 CFS. NO OFFSITE FLOWS ENTER THIS SITE. ONSITE FLOWS EXIT THE SITE AT SEVERAL LOCATIONS IN THE FORM OF SURFACE FLOWS WITH THE EXCEPTION OF BASIN E AS PREVIOUSLY DISCUSSED. DOWNSIDE CAPACITY HAS BEEN CALCULATED TO BE A TOTAL OF 216 CFS. OTHER OFFSITE BASINS CONTRIBUTE 166 CFS ALLOWING 49 CFS FROM THE GRANT MIDDLE SCHOOL SITE. ONSITE BASIN B, CONTAINING AN ATHLETIC TRACK IS TO BE RECONSTRUCTED BY OTHERS. AS A RESULT OF THE DOWNSIDE CAPACITY ANALYSIS, DISCHARGE FROM BASIN B IS LIMITED TO 8 CFS.

INTRODUCTION

A DRAINAGE INFORMATION SHEET IS INCLUDED WITH THIS SUBMITTAL. NO INFRASTRUCTURE IS ANTICIPATED, HENCE AN INFRASTRUCTURE LIST IS NOT INCLUDED WITH THIS SUBMITTAL. FURTHERMORE, NO PLATTING IS PROPOSED. AS PREVIOUSLY STATED, THIS PROJECT CONSISTS OF THE MODIFICATION OF AN EXISTING PAVED PARKING LOT, CONSTRUCTION OF ATHLETIC FIELDS AS WELL AS LANDSCAPING UPGRADES. THE PARKING LOT IS TO BE EXTENDED TO THE WEST AND MODIFIED TO PROVIDE A TURN AROUND. ALSO PROPOSED AS PART OF THIS PROJECT IS THE CONSTRUCTION OF TWO BASEBALL FIELDS AND ONE SOCCER FIELD. LASTLY, LANDSCAPING UPGRADES INCLUDING PAVED WALKING TRAILS, ARE PROPOSED.

REFERENCES

THE FOLLOWING IS A LIST OF PREVIOUSLY APPROVED DRAINAGE PLANS FOR THIS SITE AS WELL AS SURROUNDING SITES THAT EFFECT OR ARE EFFECTED BY THIS DEVELOPMENT. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF THOSE PLANS WHICH ARE KNOWN TO THE ENGINEER AT THE TIME OF PREPARATION.

1. DRAINAGE PLAN GRANT MIDDLE SCHOOL PHASE 1 PARK IMPROVEMENTS (J20-D13)
2. MASTER DRAINAGE PLAN GRANT MIDDLE SCHOOL (J20-D13)

THE AFOREMENTIONED MASTER DRAINAGE PLAN CONTAINS SUPPLEMENTAL SITE AND DRAINAGE INFORMATION WHICH ANALYZES THE DOWNSIDE CAPACITY FOR THE AREA. THIS ANALYSIS DETERMINED THAT THE TOTAL DOWNSIDE CAPACITY FOR THIS AREA IS 216 CFS. OF THIS DOWNSIDE CAPACITY, 166 CFS IS ACCOUNTED FOR BY OTHER OFFSITE BASINS CONTRIBUTING TO THE EXISTING FACILITIES, ALLOWING A TOTAL DISCHARGE FROM THE GRANT MIDDLE SCHOOL SITE OF 49 CFS. THE COMBINED PEAK RATE OF DISCHARGE FROM BASINS A, C, D, E AND F IN THE DEVELOPED SCENARIO WILL BE 41 CFS, THUS ALLOWING A PEAK RATE OF DISCHARGE FROM BASIN B OF 8 CFS.

PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED NORTH OF LUTHY CIRCLE N.E. IT IS BOUNDED ON THE NORTH, EAST AND WEST SIDES BY EASTERDAY DRIVE N.E. AND SELLERS DRIVE N.E. ALL OF THESE ROADWAYS ARE FULLY DEVELOPED RESIDENTIAL PUBLIC STREETS WITH CURB AND GUTTER, SIDEWALKS AND ASPHALTIC CONCRETE PAVING. THE CURRENT LEGAL DESCRIPTION IS BLOCK 35, MESA VILLAGE, AS SHOWN BY PANEL 358 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS, BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS, DATED SEPTEMBER 20, 1996. THE EXTREME SOUTHWEST CORNER OF THE SITE LIES WITHIN A FLOOD HAZARD ZONE 0 (DEPTH 1'). PORTIONS OF THIS SITE CONTRIBUTE TO THIS FLOOD HAZARD ZONE. A SITE VISIT CONDUCTED BY THIS OFFICE CONFIRMED THAT THE SITE APPEARS TO DRAIN AS SHOWN ON THE TOPOGRAPHIC SURVEY AND SUPPLEMENTAL TOPOGRAPHIC DATA OBTAINED AS PART OF THE PHASE 1 DRAINAGE CERTIFICATION.

EXISTING CONDITIONS

AT PRESENT, THE GENERATED RUNOFF EXISTS THE SITE AT SEVERAL LOCATIONS. THIS DRAINAGE PLAN ANALYZES ONLY BASINS C AND E AS THEY ARE THE ONLY BASINS EFFECTED BY THE IMPROVEMENTS PROPOSED AS PART OF THIS PLAN. BASIN C CURRENTLY DRAINS TO THE SOUTH VIA SURFACE FLOW AND DISCHARGES BY SHEETFLOW INTO LUTHY CIRCLE N.E. THE RUNOFF FROM BASIN E FLOWS IN A SOUTHWESTERLY DIRECTION TO AN EXISTING ONSITE BERM AND DETENTION POND. THE POND DISCHARGES AT A CONTROLLED RATE OF 21.5 CFS VIA TWO 18" RCP STORM DRAIN PIPES TO AN EXISTING CONCRETE RUNDOWN WHICH DISCHARGES INTO LUTHY CIRCLE N.E. VIA SIX SIDEWALK CULVERTS.

DEVELOPED CONDITIONS

AS DESCRIBED ABOVE, THE PROPOSED IMPROVEMENTS INCLUDE THE MODIFICATION OF THE EXISTING ASPHALT PARKING LOT TO INCLUDE A TURN AROUND AS WELL AS ADDITIONAL PARKING. ALSO PROPOSED IS THE CONSTRUCTION OF ATHLETIC FIELDS AND LANDSCAPING IMPROVEMENTS, ALL WITHIN BASINS C AND E. ALL HISTORIC FLOW PATHS WITHIN BASINS C AND E WILL BE REMAIN UNALTERED. BASIN C WILL CONTINUE TO DRAIN IN A SOUTHERLY DIRECTION, DISCHARGING BY SHEETFLOW INTO LUTHY CIRCLE N.E. BASIN E WILL CONTINUE TO DRAIN IN A SOUTHWESTERLY DIRECTION TO THE EXISTING ONSITE BERM AND DETENTION POND. AS A RESULT OF THE EXCHANGE IN LAND TREATMENTS, BASIN E WILL EXPERIENCE A DECREASE IN THE PEAK RATE OF DISCHARGE. THE POND WILL CONTINUE TO DISCHARGE AT A CONTROLLED RATE OF 21.5 CFS VIA TWO 18" RCP STORM DRAIN PIPES TO AN EXISTING CONCRETE RUNDOWN WHICH DISCHARGES INTO LUTHY CIRCLE N.E. VIA SIX SIDEWALK CULVERTS.

ALSO WITHIN BASIN E, THE CONSTRUCTION OF TWO BASEBALL FIELDS AND A SOCCER FIELD AS WELL AS WALKING PATHS AND VARIOUS LANDSCAPING FEATURES WILL FURTHER AID IN DECREASING THE PEAK RATE OF DISCHARGE WITHOUT ALTERING EXISTING DRAINAGE PATTERNS AND HISTORIC FLOW PATHS. BASIN B WHICH CONTAINS THE EXISTING TRACK IS PROPOSED TO UNDERGO VARIOUS IMPROVEMENTS AND IS TO BE ANALYZED BY WILSON AND COMPANY. THE REMAINDER OF THE SITE, NAMELY BASINS A, D AND F WILL REMAIN UNCHANGED. AS PREVIOUSLY STATED, NO OFFSITE FLOWS ENTER THE SITE IN THE EXISTING OR DEVELOPED SCENARIOS.

GRADING PLAN

THE GRADING PLAN SHOWS: 1) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AS TAKEN FROM THE TOPOGRAPHIC SURVEY PREPARED BY JEFF MORTENSEN AND ASSOCIATES, INC. 11/95, 2) EXISTING SPOT ELEVATIONS TAKEN FROM THE GRADING PLAN PREPARED BY JEFF MORTENSEN & ASSOCIATES, INC. 5/96, 3) EXISTING SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS TAKEN FROM THE DRAINAGE CERTIFICATION PREPARED BY JEFF MORTENSEN & ASSOCIATES, INC. 6/97, 4) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS, 5) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS, 6) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 7) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. THE GRADING PLAN APPEARS ON SHEET 3 OF 15 OF THIS SUBMITTAL.

CALCULATIONS

THE CALCULATIONS CONTAINED HEREIN ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. ALSO CONTAINED HEREIN ARE CALCULATIONS FOR A HYDROGRAPH PER SUBSECTION A-9, HYDROGRAPH FOR SMALL WATERSHEDS, DEMONSTRATED BY THESE CALCULATIONS AS WELL AS THOSE FOR POND DISCHARGE, EMERGENCY OVERFLOW CAPACITY, SIDEWALK CULVERT CAPACITY AS WELL AND POND VOLUME, THE DECREASE IN RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS WILL CONTINUE TO BE HANDLED THROUGH THE USE OF AN ADEQUATELY SIZED PONDING AREA AND OUTLET STRUCTURE.

CONCLUSION

THIS PROPOSED GRADING AND DRAINAGE PLAN IS CONSISTENT WITH OTHERS FOR THIS SITE AND HAS FOLLOWED REQUIREMENTS SET FORTH BY CITY OF ALBUQUERQUE HYDROLOGY. RUNOFF WILL CONTINUE IN HISTORIC PATHS OVER THE ENTIRETY OF BASINS C AND E WHILE BASINS A, D AND F WILL REMAIN UNCHANGED. THE DOWNSIDE CAPACITY ANALYSIS PERFORMED BY JEFF MORTENSEN & ASSOCIATES ILLUSTRATES THAT THE RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS RESULTS IN A NET DECREASE IN THE PEAK RATE OF DISCHARGE TO THE DETENTION POND, AND THE PEAK RATE OF DISCHARGE EXITING THE SITE REMAINS UNCHANGED.

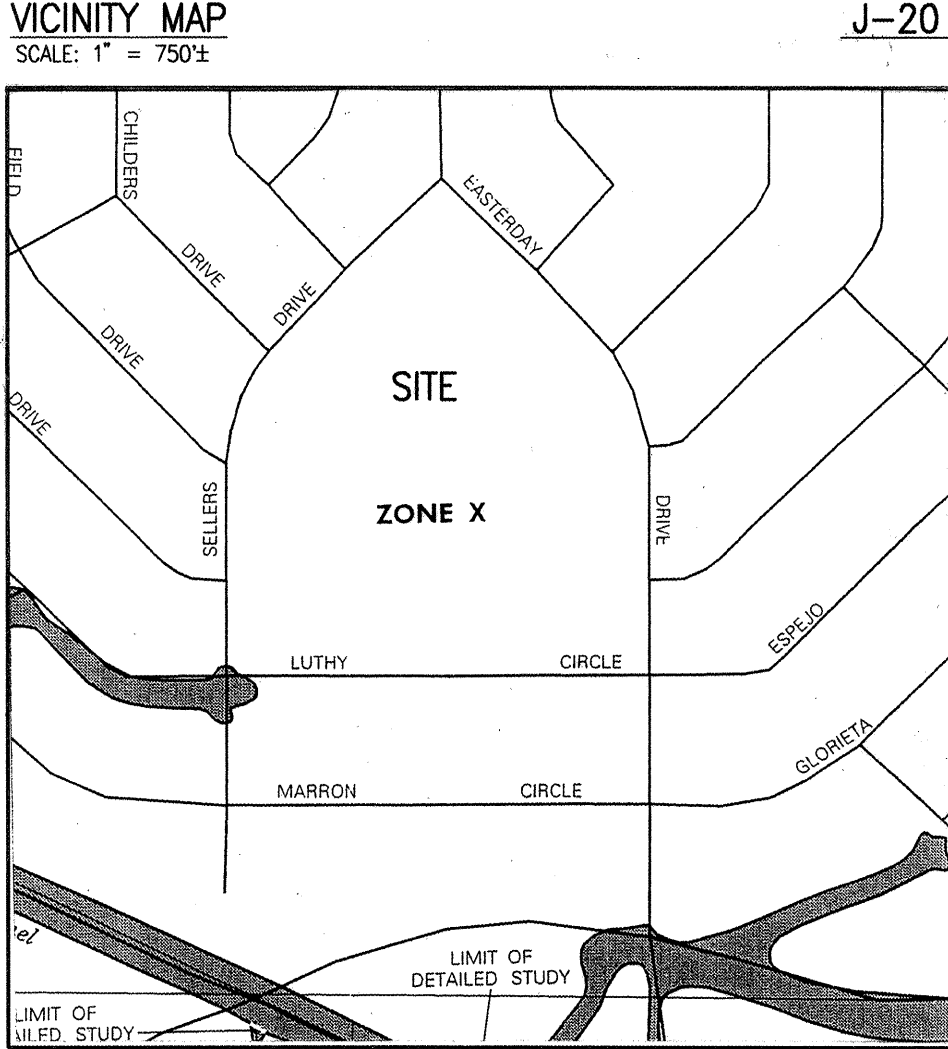
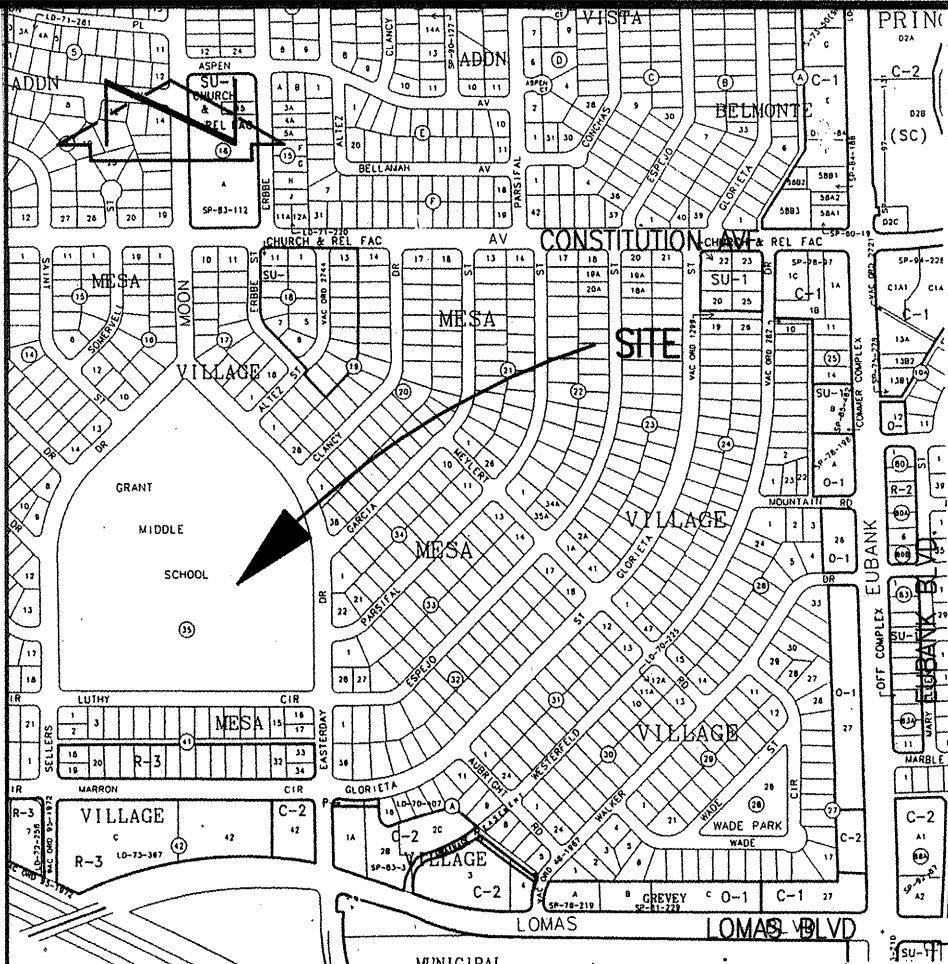
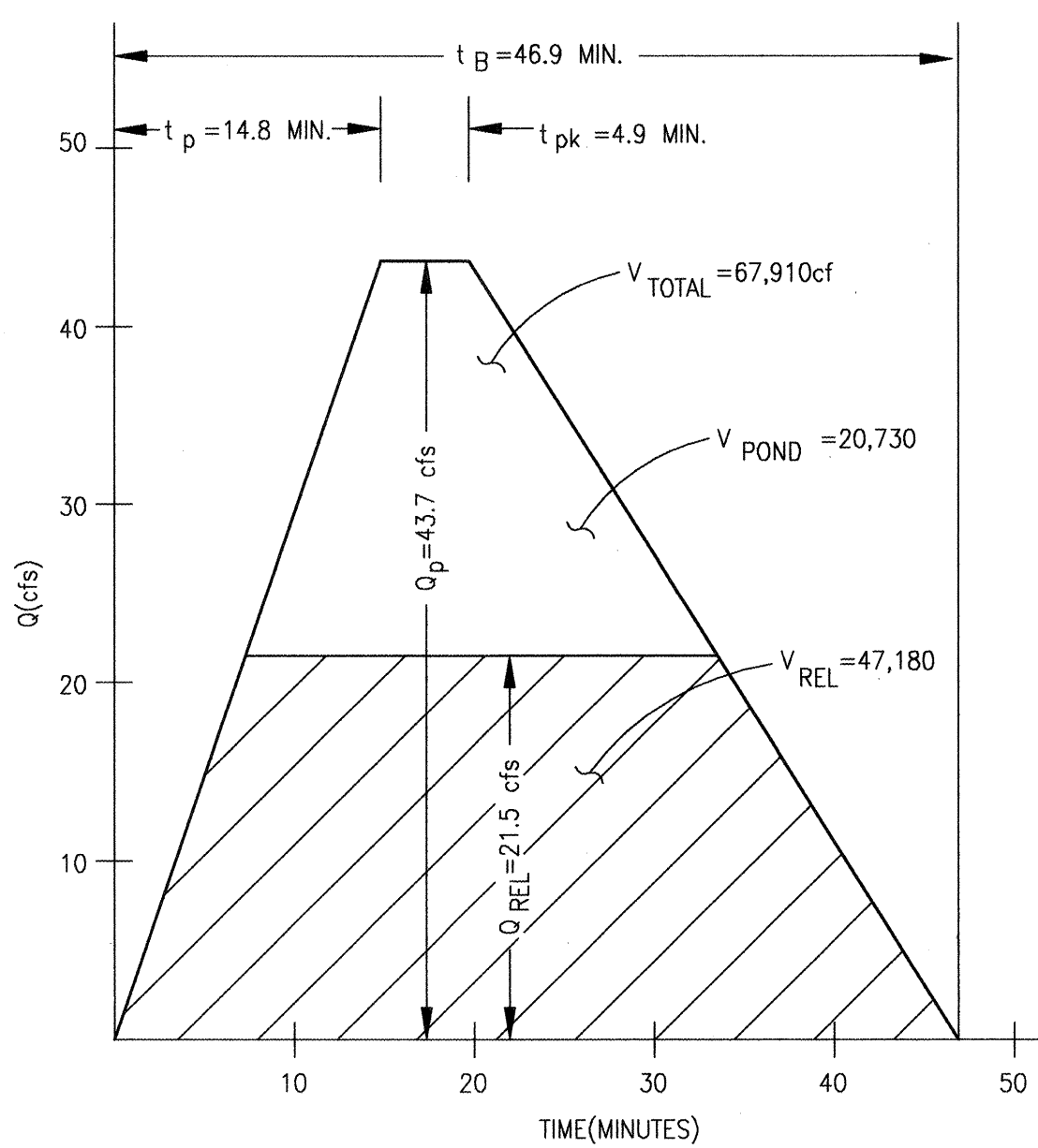
GENERAL NOTES:

1. 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 SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, REVISION 6, AMERICAN PUBLIC WORKS ASSOCIATION.
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND 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, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO SCHOOL FACILITIES DURING CONSTRUCTION.
6. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
7. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
8. 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.
9. CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
10. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO ENSURE 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 BE DONE ONLY BY THE ENGINEER.
11. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL (CONTAMINATED OR OTHERWISE), ASPHALTIC PAVING, CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
12. A BORROW SITE FOR IMPORT MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A BORROW SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY OBTAINING THE REQUIRED COMPACTION. THE CONTRACTOR SHALL SELECT AND USE METHODS WHICH SHALL NOT BE INJURIOUS OR DAMAGING TO THE EXISTING FACILITIES AND STRUCTURES WHICH SURROUND THE WORK AREAS.
14. THE CONTRACTOR SHALL CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS IN ORDER TO PRESERVE THE EXISTING IMPROVEMENTS AND SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE EXISTING FACILITIES.
15. CAUTION: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. 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.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
4. ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

UNIT HYDROGRAPH (BASIN 'E')



SCALE: 1" = 500'

T.B.M. #1: A "C" CHISELED ON THE TOP OF CURB AS SHOWN ON THE DRAWING. (SHEET 3)  
ELEVATION = 5407.85 FEET  
T.B.M. #2: A "C" CHISELED ON TOP OF CONCRETE SIDEWALK AS SHOWN ON THE DRAWING. (SHEET 3)  
ELEVATION = 5402.22 FEET

LEGAL DESCRIPTION  
BLOCK 35, MESA VILLAGE

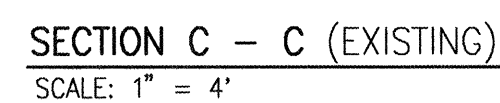
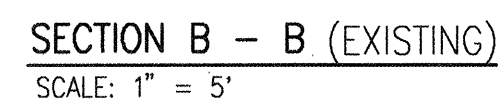
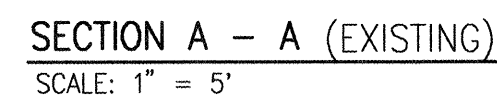
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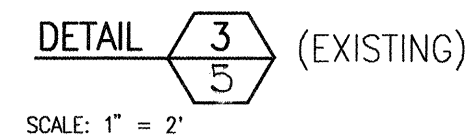
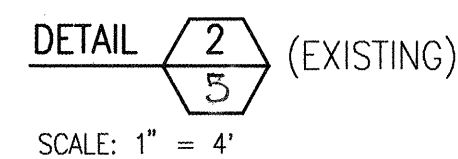
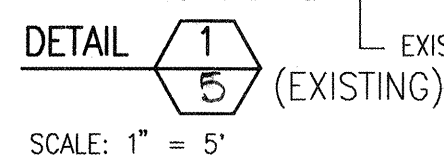
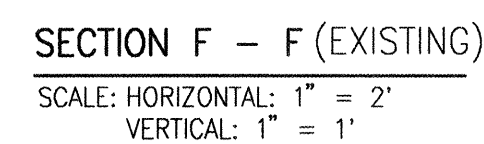
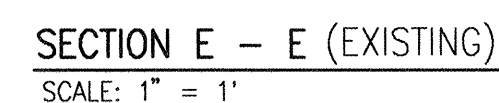
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JEFF MORTENSEN & ASSOCIATES, INC.  
600-B MIDWAY PARK BLVD. N.E.  
ALBUQUERQUE, NEW MEXICO 87109  
ENGINEERS & SURVEYORS (S05) 345-4250





**SECTION D - D (EXISTING)**  
SCALE: 1" = 1'

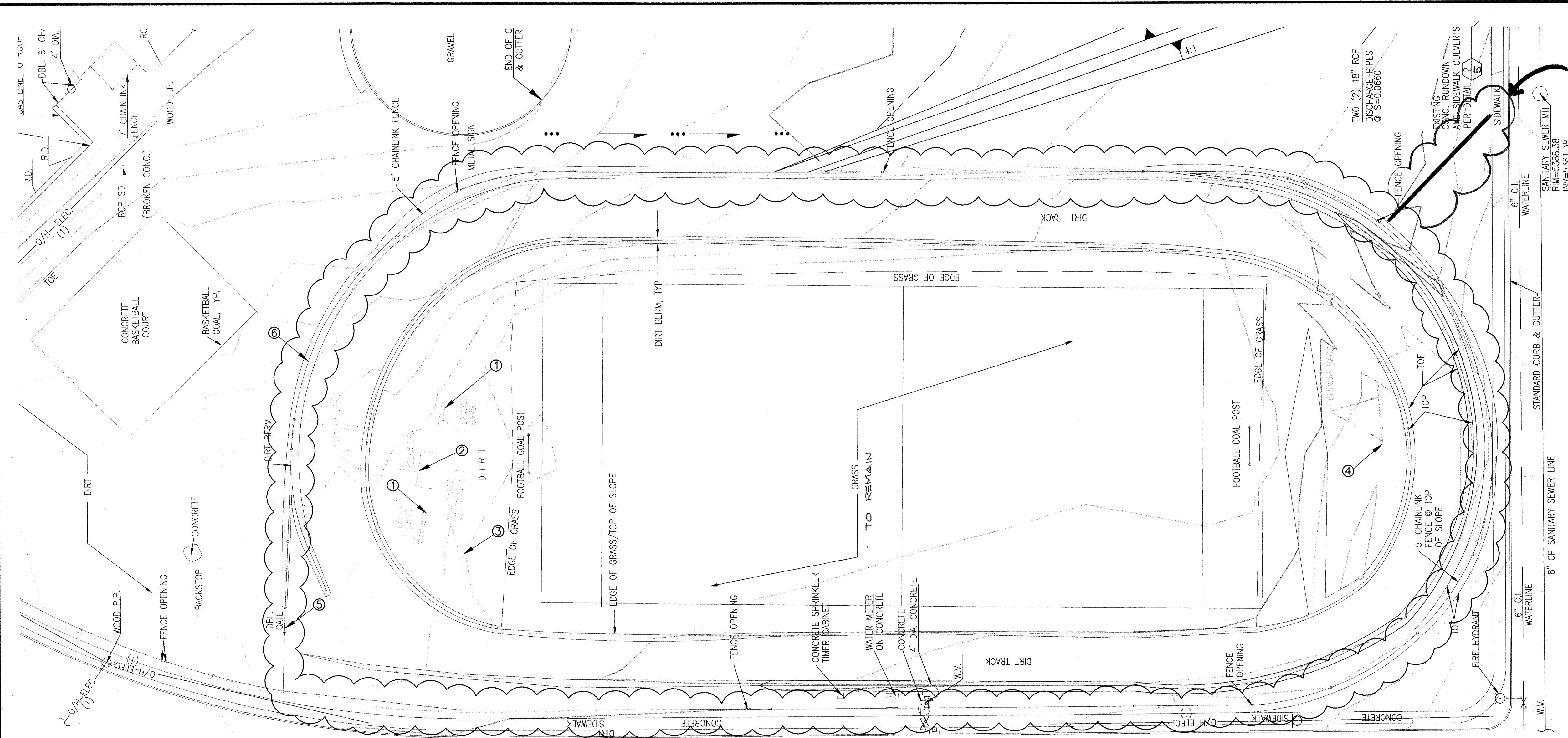


City Project No.	624591	Zone Map No.	J-20	Sheet	5	Of	15
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[illegible]



990731A SHEETS:W0973X.DWG(9-21-99) L.B.



REMOVE AND SALVAGE FENCE

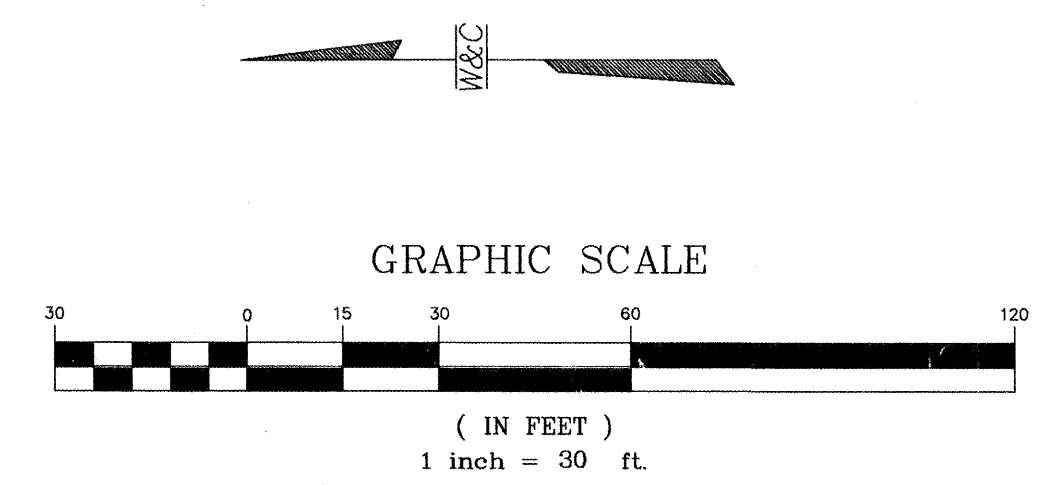
### KEYED NOTES

- 1 REMOVE AND SALVAGE LADDER BARS TO APS YARD
- 2 REMOVE AND SALVAGE CLIMBER TO APS YARD
- 3 REMOVE AND DISPOSE VERTICAL ROW TIRES
- 4 REMOVE AND SALVAGE CHINUP BARS TO APS YARD AND FOOTBALL GOAL
- 5 REMOVE AND DISPOSE GATE
- 6 CHAINLINK FENCE TO REMAIN AS CONSTRUCTION FENCE. REMOVE AND DISPOSE CHAINLINK FENCE PER PLAN - SEE SHEETS AT END OF TRACK CONSTRUCTION. 20FIS AND 70FIS COORDINATE CHAINLINK REMOVAL W/ PROJECT MANAGER

BE REMOVED FOR GRADING AND REINSTALLED

### LEGEND

- 5070 EXISTING INTERMEDIATE CONTOUR
- 5071 EXISTING INDEX CONTOUR
- + 5359.15 EXISTING SPOT ELEVATION
- SOD REMOVE AND REPLACE LIMITS
- FENCE PORTION TO BE REMOVED



FOR INFORMATION ONLY

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP

GRANT MIDDLE SCHOOL  
EXISTING CONDITIONS/DEMOLITION PLAN  
NEW PARK DEVELOPMENT- PHASE II

DESIGNED BY  
DRAWN BY  
CHECKED BY

REVISIONS  
DATE  
BY

APPROVED  
DATE  
BY

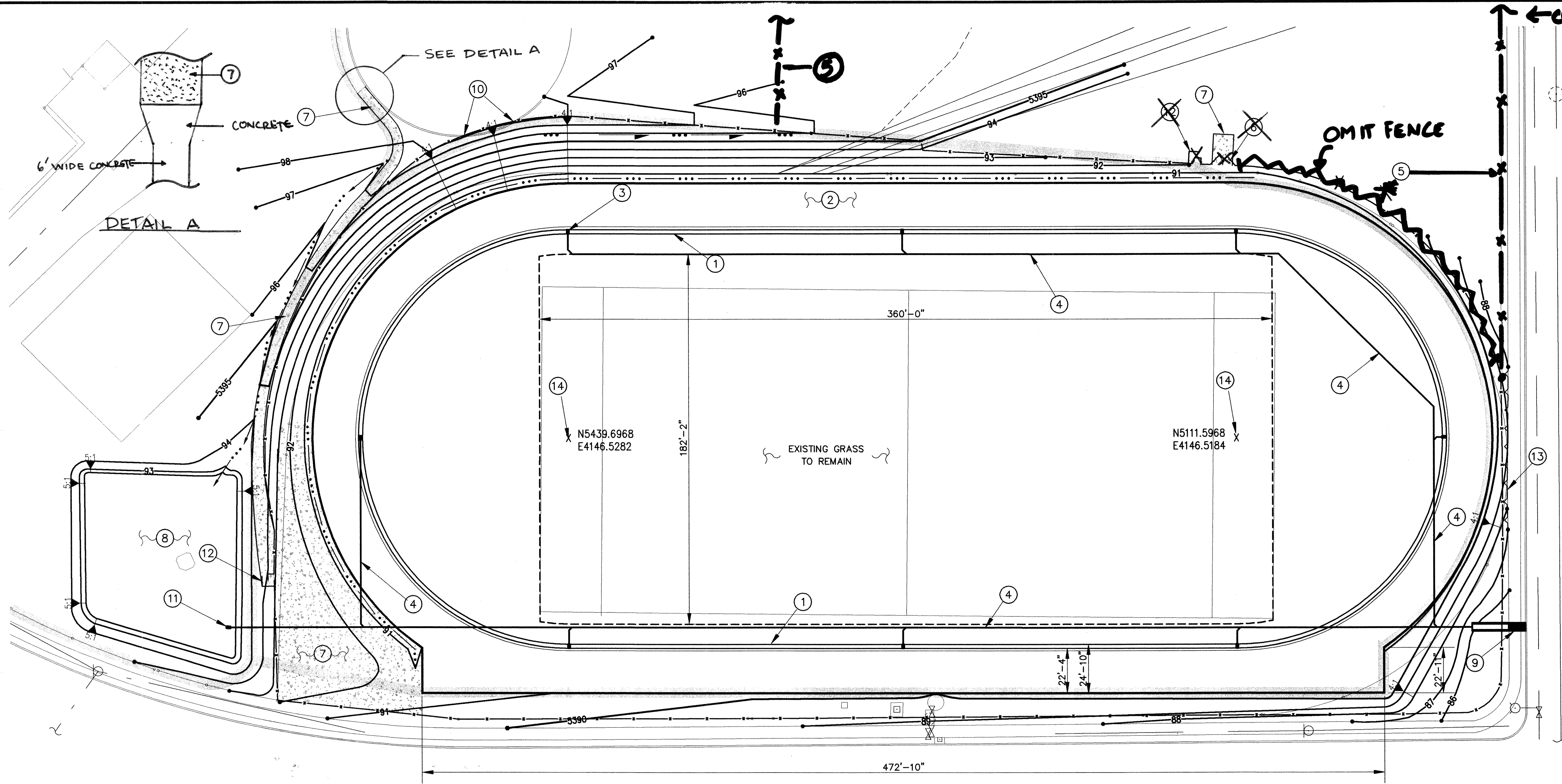
City Project No.  
624591

MAP NO.  
J-20

SHEET  
6 OF  
15

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
		FIELD NOTES		ACS 1 3/4" ALUMINUM DISK STAMPED "A.C.S.", B.M. 10-J20" SET IN THE SE CORNER OF A TRAFFIC LIGHT BASE LOCATED AT THE INTERSECTION OF LOMAS BLVD. N.E. AND EASTERDAY DR. N.E. IN THE N.W. QUADRANT OF THE INTERSECTION. ELEV.=5404.375 FT. (M.S.L.D.).		CONTRACTOR	
		NO.		DATE		WORK	
		BY		DATE		STARTED BY	
		REMARKS		DATE		ACCEPTANCE BY	
NO.		DATE		DATE		DRAWINGS	
WILSON & COMPANY, ENGINEERS & ARCHITECTS		M.J.		OCT 1999		MICRO-FILM INFORMATION	
DESIGNED BY		P.M.		OCT 1999		RECORDED BY	
DRAWN BY		D.S.A.		OCT 1999		NO.	
CHECKED BY							



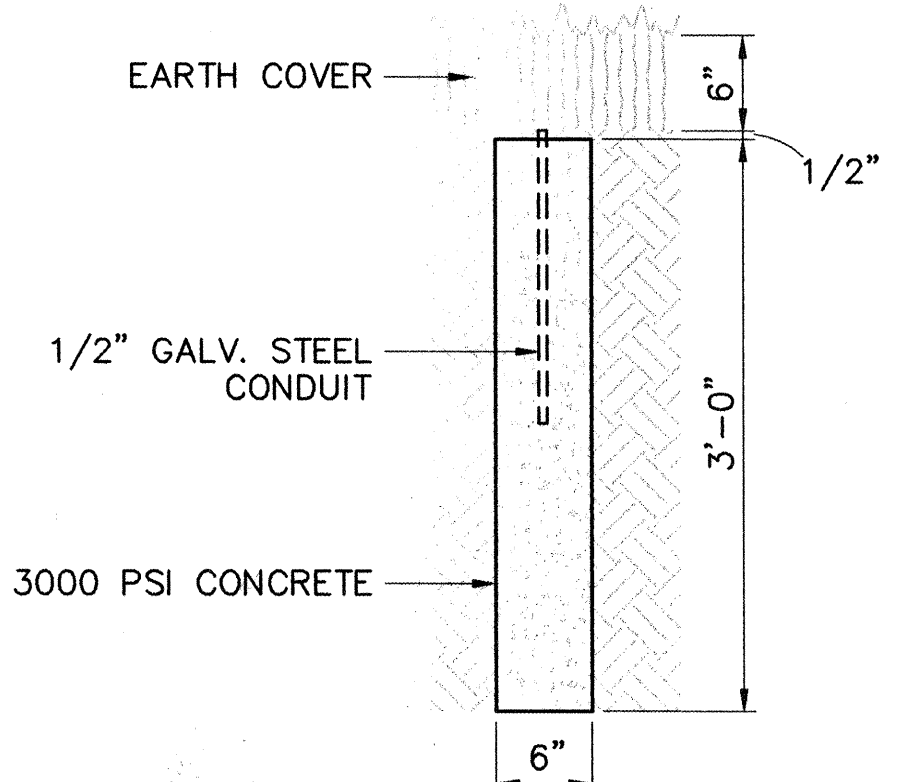


# KEYED NOTES

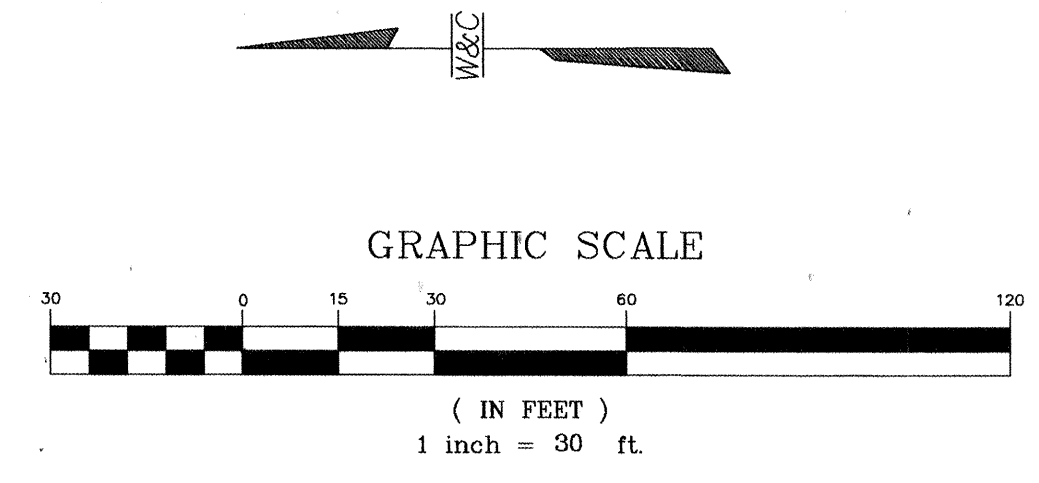
- 1 PROPOSED CONCRETE INNER CURB - DETAIL SHT. 9 OF 15
- 2 PROPOSED 400m TRACK ASPHALT - SEE DETAIL SHEET 9 OF 15
- 3 PROPOSED 12" CATCH BASIN (8" TYP) - DETAIL SHT. 9 OF 15
- 4 PROPOSED STORM DRAIN (INSTALL PRIOR TO DEMOLITION)
- 5 PROPOSED 4' CHAIN LINK FENCE - COA DETAIL 2252
- 6 PROPOSED 12' x 4' DOUBLE GATE - COA DETAIL 2252
- 7 PROPOSED ASPHALT 8' WIDE - COA DETAIL 2405
- 8 PROPOSED DETENTION POND
- 9 PROPOSED CONCRETE RUNDOWN - DETAIL SHT. 9 OF 15
- 10 DEMO OF COL-DE-SAC BY OTHERS
- 11 PROPOSED TYPE 'D' INLET - COA DETAIL 2206 AND DETAIL SHEET 8 OF 15
- 12 PROPOSED SERPENTINE GATE - DETAIL SHT. 9 OF 15
- 13 PROPOSED RETAINING WALL - DETAIL SHT. 9 OF 15
- 14 PROPOSED RADIUS MONUMENT - DETAIL SHT. 7 OF 15

# LEGEND

- 5070 PROPOSED INTERMEDIATE CONTOUR
- 5071 PROPOSED INDEX CONTOUR
- + 5359.15 EXISTING SPOT ELEVATION
- PROPOSED SWALE
- SOD REMOVE AND REPLACE LIMITS

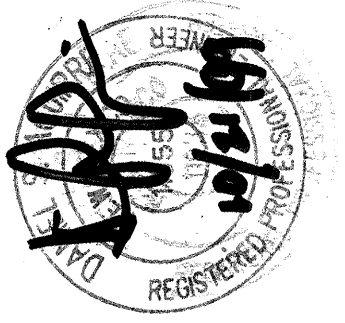


RADIUS MONUMENT  
NTS



← CONNECT TO EXISTING

OM IT FENCE

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR	DATE	ACS 1 3/4" ALUMINUM DISK STAMPED "A.C.S."	DATE	NO.	BY		REMARKS REVISIONS WILSON & COMPANY, ENGINEERS & ARCHITECTS DESIGNED BY: MJL DRAWN BY: PJM CHECKED BY: DSA
WORK	DATE	B.M. 10-J20 SET IN THE SE CORNER OF A TRAFFIC LIGHT BASE LOCATED AT THE INTERSECTION OF LOMAS BLVD. N.E. AND EASTERDAY DR. N.E. IN THE N.W. QUADRANT OF THE INTERSECTION. ELEV.=5404.375 FT. (M.S.L.D.).	DATE	NO.	BY		
STAGED BY	DATE		DATE	NO.	BY		
FIELD ACCEPTANCE BY	DATE		DATE	NO.	BY		
DRAWINGS	DATE		DATE	NO.	BY		
CORRECTED BY	DATE		DATE	NO.	BY		
MICRO-FILM INFORMATION	DATE		DATE	NO.	BY		
NO.	DATE		DATE	NO.	BY		

FOR INFORMATION ONLY

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP

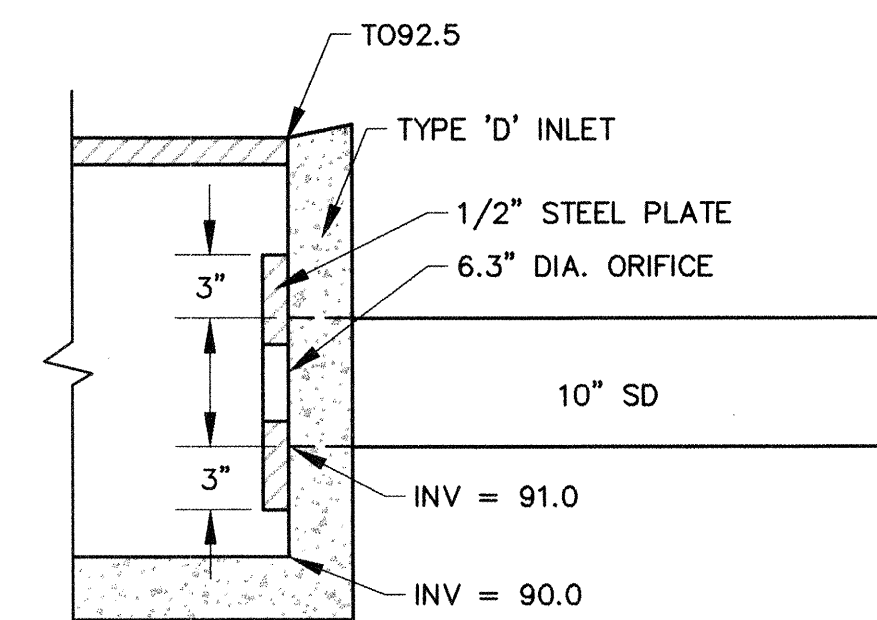
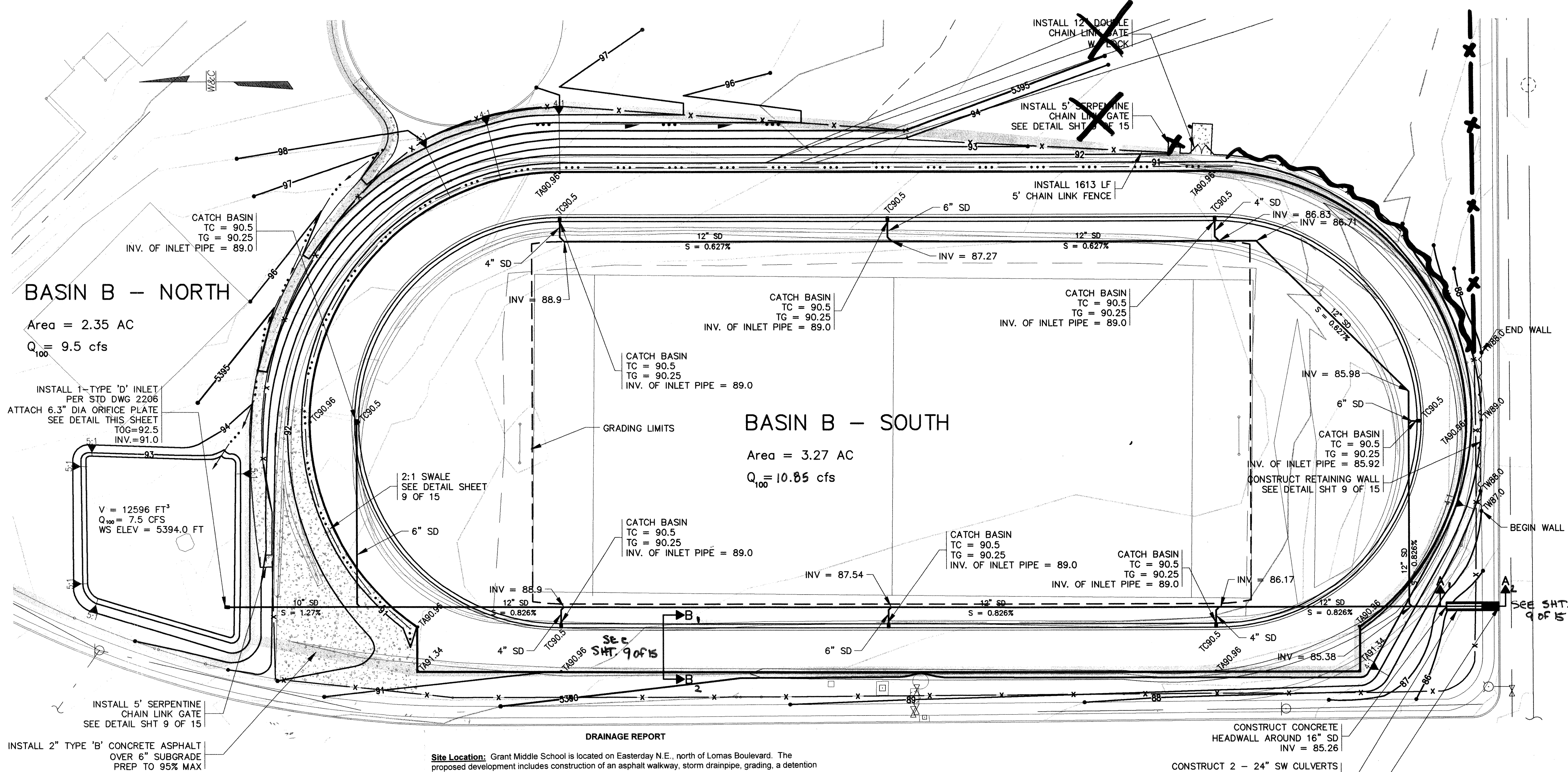
GRANT MIDDLE SCHOOL  
SITE PLAN  
NEW PARK DEVELOPMENT - PHASE II

Design Review Committee  
City Engineer Approval  
Last Design Update

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

City Project No. 624591  
MAP NO. J-20  
SHEET 7 OF 15





ORIFICE PLATE INSTALLATION DETAIL  
NTS

**Site Location:** Grant Middle School is located on Easterday N.E., north of Lomas Boulevard. The proposed development includes construction of an asphalt walkway, storm drainpipe, grading, a detention pond, and an all weather asphalt track.

**Methodology:** Section 22.2 of the City of Albuquerque DPM was used in the hydrology analysis of the site. A principal design storm of 100-yr 6-hour event was used.

**Existing Drainage Condition:** See Grant Middle School Master Drainage Plan dated 9-29-99 by Jeff Mortensen & Associates, Inc. (Ref. 1).

**Proposed Conditions:** The proposed improvements divide Basin B into two basins, Basin B-North and Basin B-South. Basin B-North is approximately 2.35 acres and occupies the area north of the existing track. The improvements to the basin include a detention pond with a storage capacity of 0.289 Acre-FT and 1600 FT<sup>2</sup> asphalt walkway. Runoff from this basin will be collected in the proposed detention pond. A controlled discharge of 2-cfs will be allowed to enter the main storm drain line for the track (see computation below).

#### Basin B-North Controlled Discharge

$$Q = CA(2gh)^{1/2}$$

Solve for A...

$$A = Q / (C(2gh)^{1/2}) = 2 \text{ cfs} / ((.67 \times (2 \times 32.2 \times 1.5)^{1/2}) = 0.215 \text{ FT}^2$$

Solve for Diameter of pipe @ Q = 2-cfs

$$R = (A/\pi)^{1/2} = 0.261 \text{ FT}$$

$$\text{Dia} = 2R = 0.522 \text{ FT} = 6.3" \text{ (orifice plate)}$$

Basin B-South is approximately 3.27 acres and is primarily comprised of the track and field. The proposed improvements include an all weather asphalt running track, asphalt paving directly north of the track, and grading. Runoff from the east and north berms will be collected and detained by a proposed 2:1 graded swale outside the track. Runoff from the track and field will sheet flow to the inside running lanes and collected by a concrete valley curb with a controlled discharge of 7-cfs into the main storm drain located along the west side of the track. The storm drain mainline will discharge 9-cfs thru 2 proposed 24" sidewalk culverts located on Easterday N.E. (see computation below).

#### Basin B-South Controlled Discharge

$$Q @ \text{Diameter} = 6" =$$

$$Q = CA(2gh)^{1/2} = .67 \times 0.196 \text{ FT}^2 (2 \times 32.2 \text{ FT/S}^2 \times 1.25)^{1/2} = 1.18 \text{ cfs}$$

$$Q @ \text{Diameter} = 4" =$$

$$Q = CA(2gh)^{1/2} = .67 \times 0.087 \text{ FT}^2 (2 \times 32.2 \text{ FT/S}^2 \times 1.25)^{1/2} = 0.53 \text{ cfs}$$

Therefore, 4" and 6" outlet pipes at inlets along track drain...

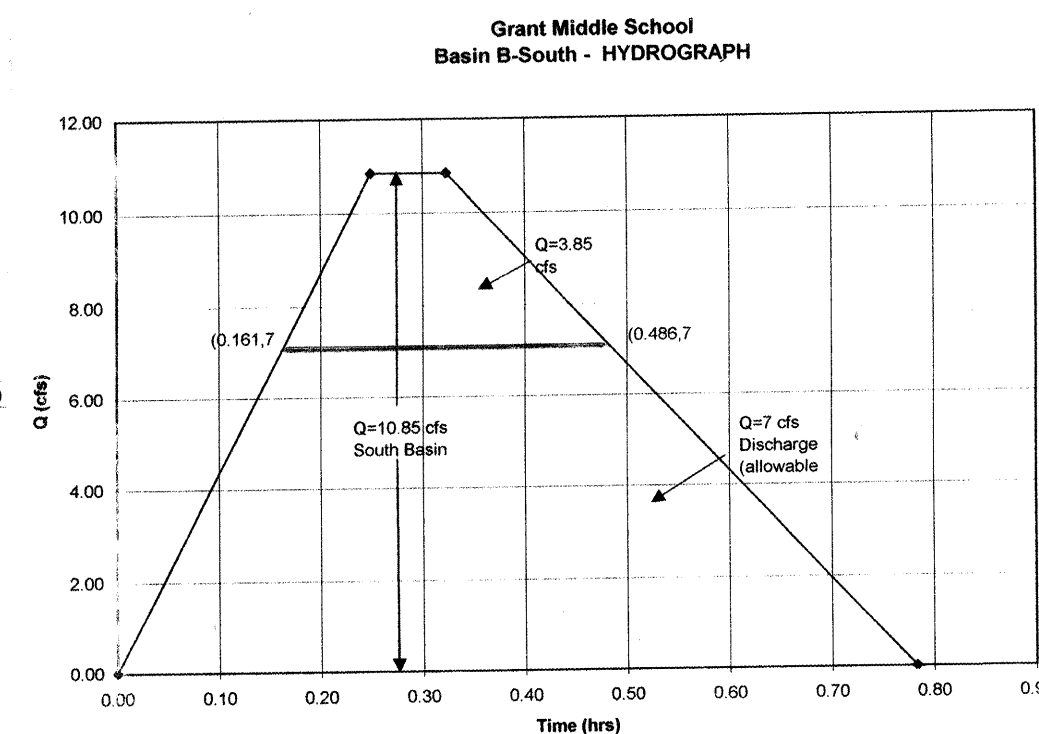
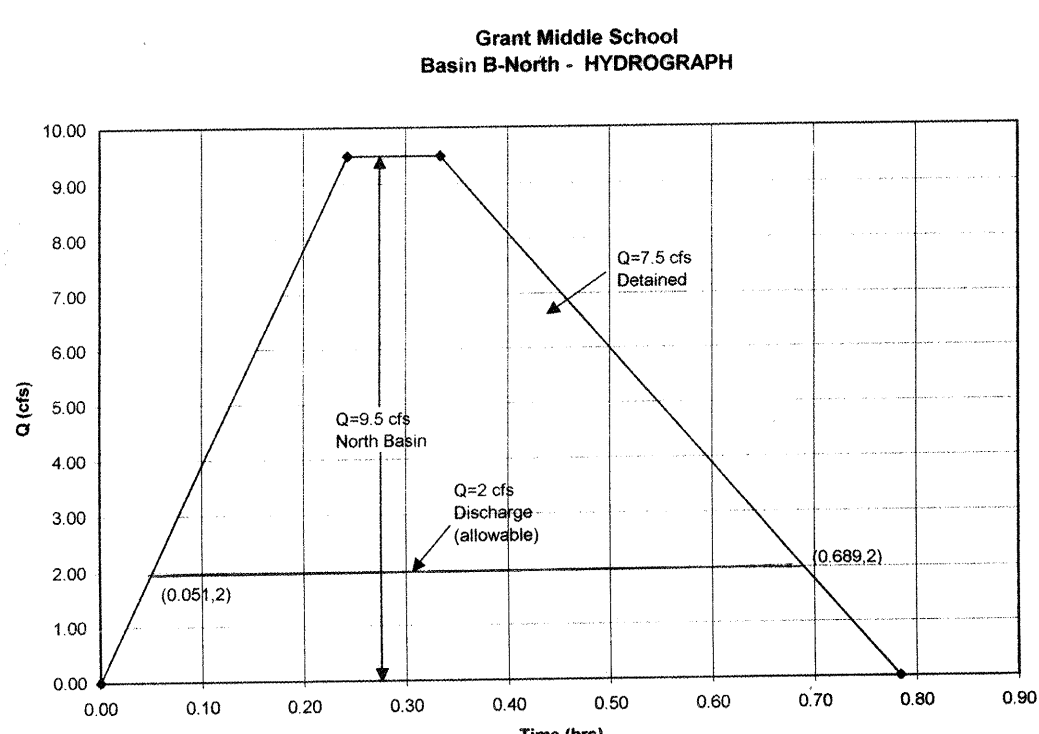
Use 4-4" pipes (Q = 2.1-cfs) and 4-6" pipes (Q = 4.7-cfs)  $\pm$  7-cfs

Table 1 provides a breakdown of the proposed land types for each basin including their respective volumetric runoff and discharge values.

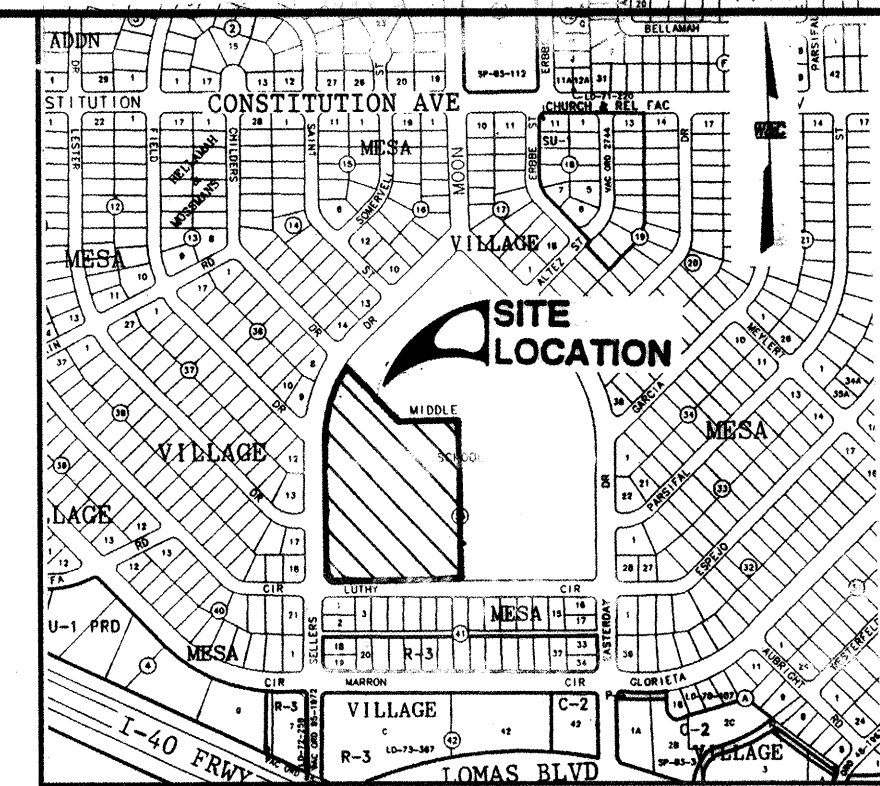
Table 1: TREATMENT						
Basin	Area (ac)	%A	%B	%C	%D	V <sub>500</sub> (acre-ft)
B-North	2.35	0	0	61.7	38.3	0.331
B-South	0.97	0	70.3	0	29.7	0.367
<b>Total</b>	<b>3.27</b>					<b>20.35</b>
<b>Controlled Discharge</b>						<b>9.0</b>

**Conclusions:** According to the Grant Middle School Drainage Master Plan, the allowable peak rate of discharge from Basin B onto the city storm drain system is 9-cfs. The proposed improvements will divide Basin B (1) into two basins. The Basin B-North will detain approximately 7.5-cfs and control discharge 2-cfs. The total discharge will then be conveyed to the Easterday N.E. storm drain system via of 2-24" sidewalk culverts. Basin B-South will detain 3.85-cfs and control discharge 7-cfs. The proposed improvements in Basin B (Ref. 1) therefore do not impact the down stream capacity of the storm drain system.

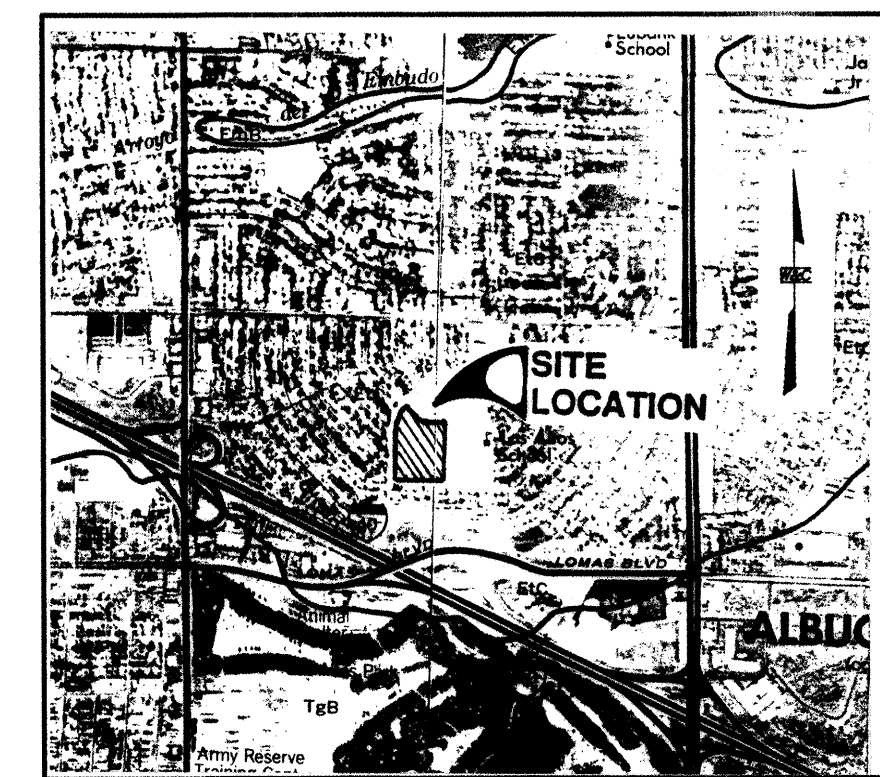
Reference 1: Grant Middle School Master Drainage Plan dated 9-29-99 by Jeff Mortensen & Associates, Inc.



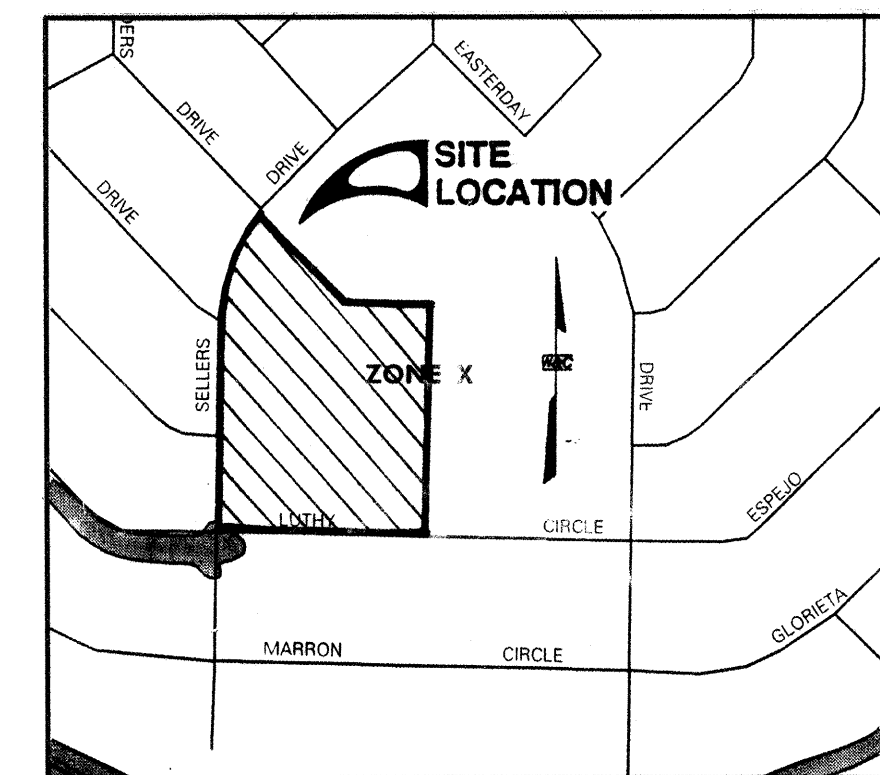
- ALL GRADING AND CONSTRUCTION UNDER THIS PLAN TO BE CONSTRUCTED IN ACCORDANCE WITH THE "CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", LATEST EDITION.
- CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY COSTS INCURRED FOR REPAIRS SHALL BE THE COST OF THE CONTRACTOR.
- PAVING/ROADWAY GRADES SHALL BE  $\pm$ .05 FT. FROM SHOWN PLAN ELEVATIONS.
- PADS SHALL NOT VARY FROM A TRUE HORIZONTAL PLANE BY MORE THAN  $\pm$ .01 FOOT AT ANY POINT. THIS TRUE PLANE SHALL NOT VARY FROM THE SHOWN PAD ELEVATION BY  $\pm$ .02 FOOT, UNLESS PERMITTED BY OWNER.
- CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS AND GRADING OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS AND INSPECTION APPROVALS NECESSARY FOR THE CONSTRUCTION OF THESE FACILITIES AND ALL GRADING OPERATIONS.
- THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
- UNLESS OTHERWISE SHOWN, DRAINAGE SWALES SHALL HAVE A MINIMUM 1% SLOPE IN THE DIRECTION OF FLOW.
- ALL SCARIFYING, EXCAVATION, COMPACTION, AND REPLANTED SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS.



LOCATION MAP  
ZONE ATLAS MAP NO. J-20



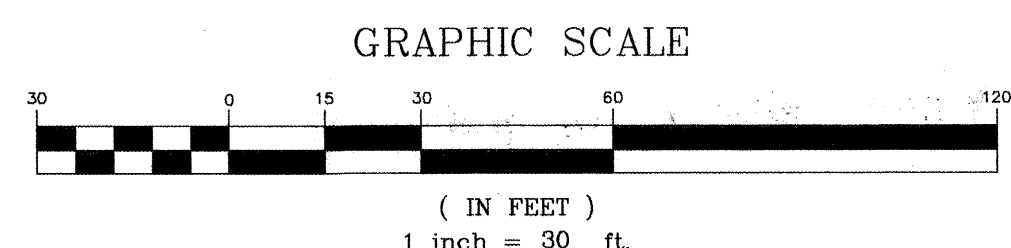
SOILS MAP  
REFERENCE: SCS BERNALILLO COUNTY SOIL SURVEY  
SHEET NO. 31 & 32



FLOOD INSURANCE MAP  
REFERENCE: FLOOD INSURANCE STUDY  
PANEL 358

#### LEGEND

- 5070 EXISTING INTERMEDIATE CONTOUR
- 5071 EXISTING INDEX CONTOUR
- 5175 PROPOSED INTERMEDIATE CONTOUR
- 5173 PROPOSED INDEX CONTOUR
- 15' PROPOSED SPOT ELEVATION
- ... PROPOSED SWALE
- X PROPOSED FENCE
- ~ PROPOSED RETAINING WALL



CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP

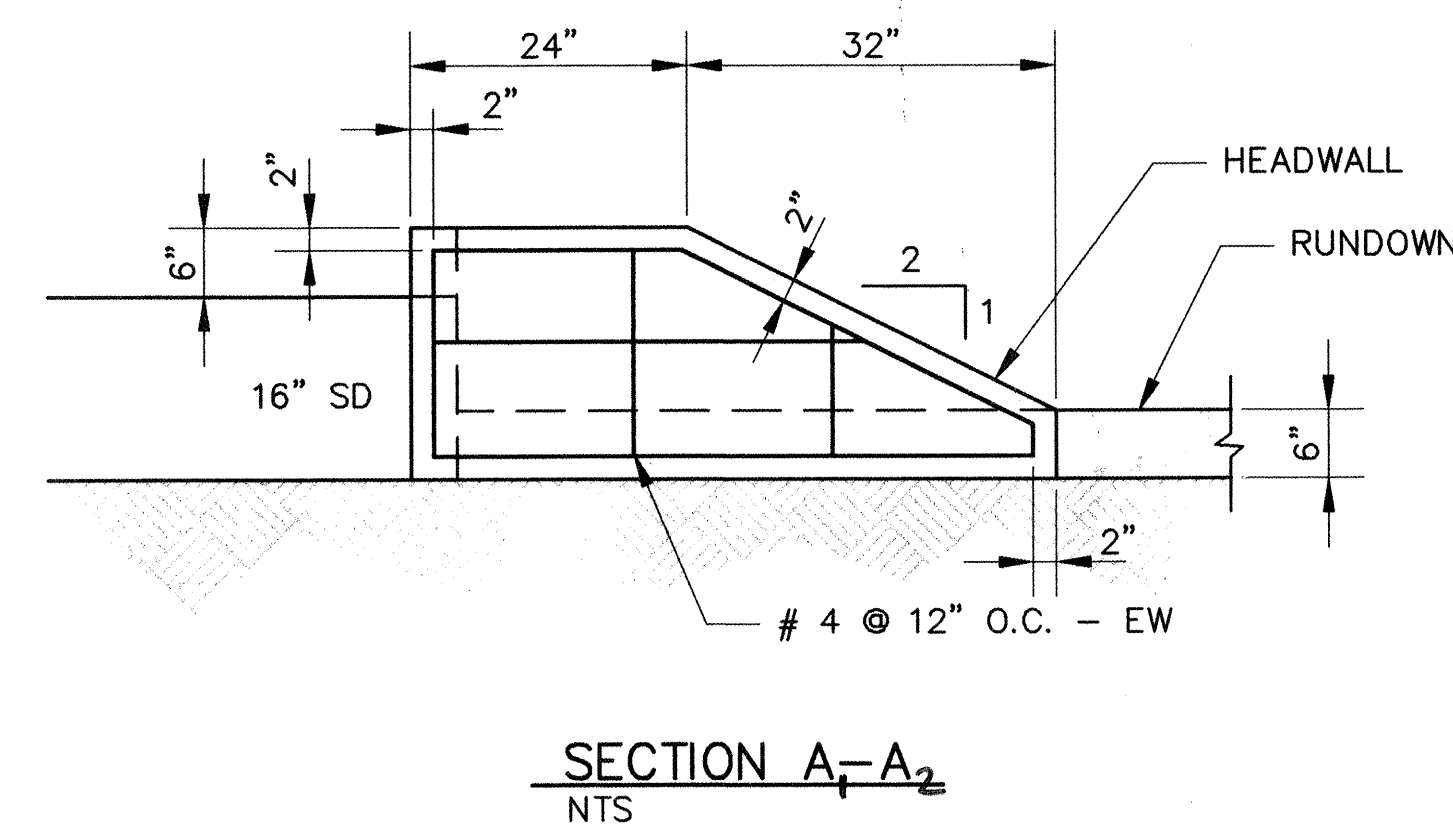
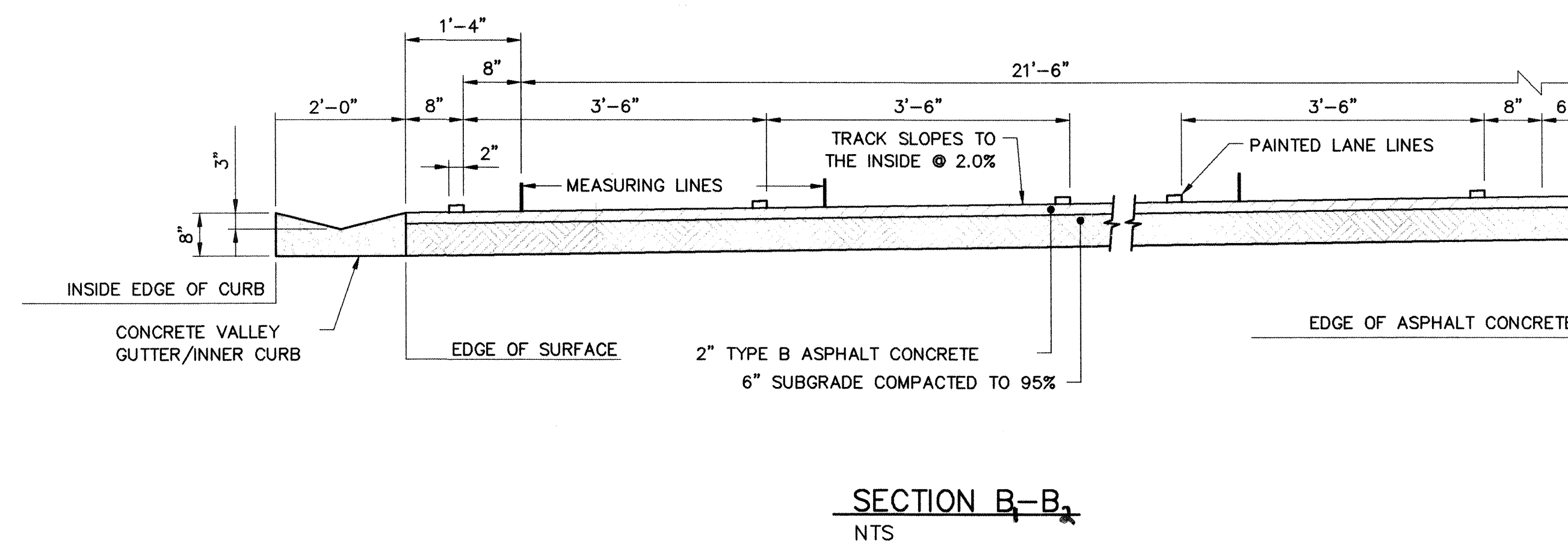
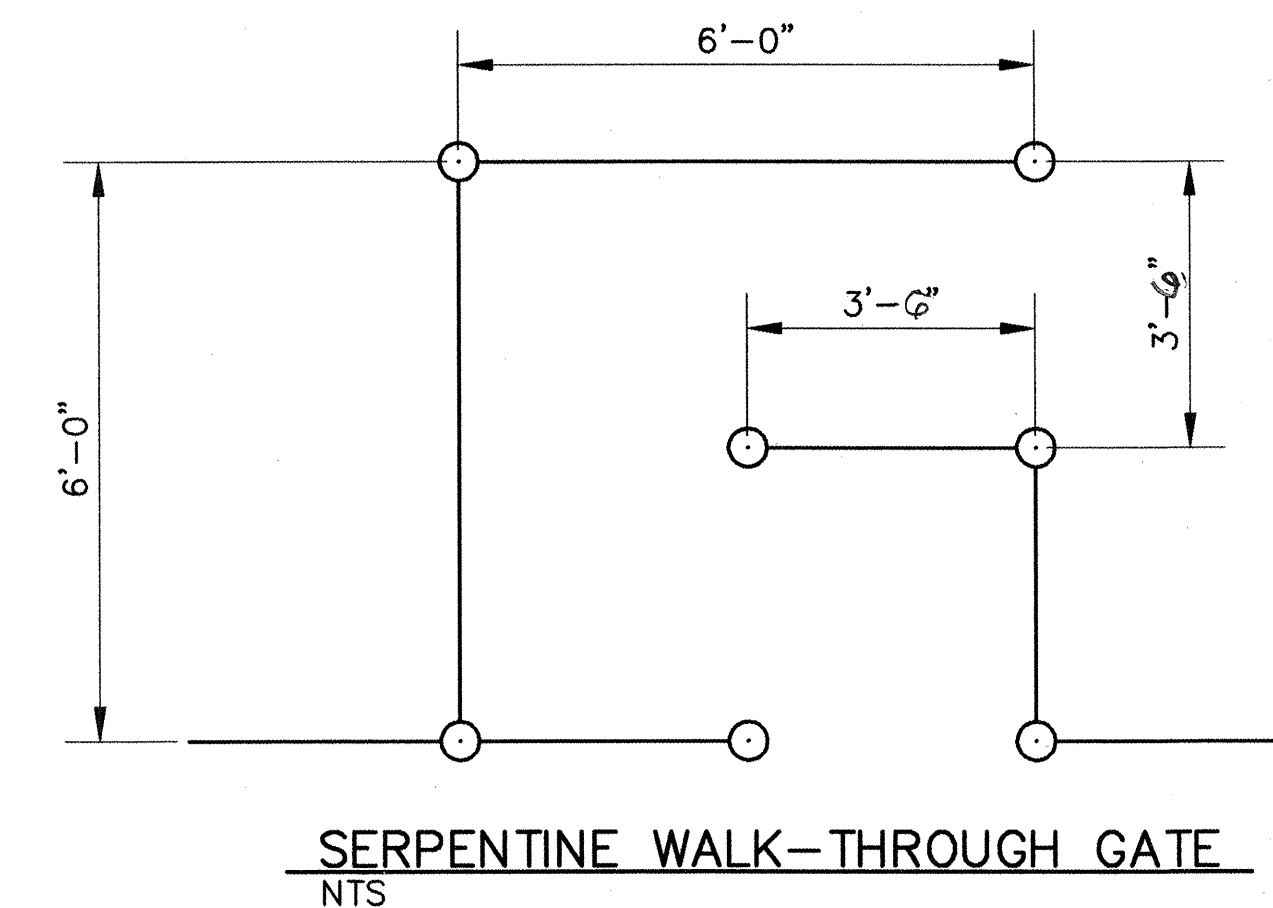
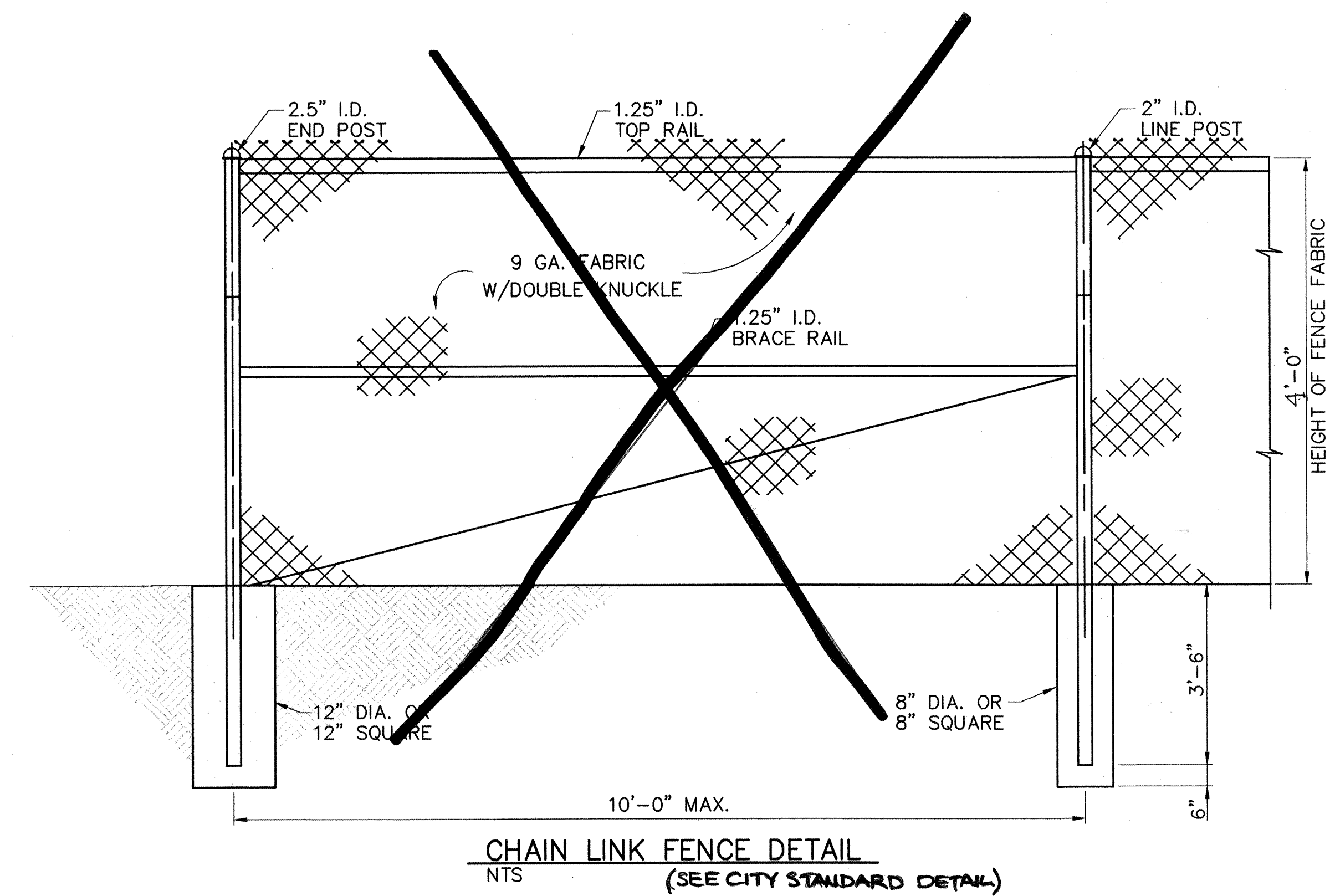
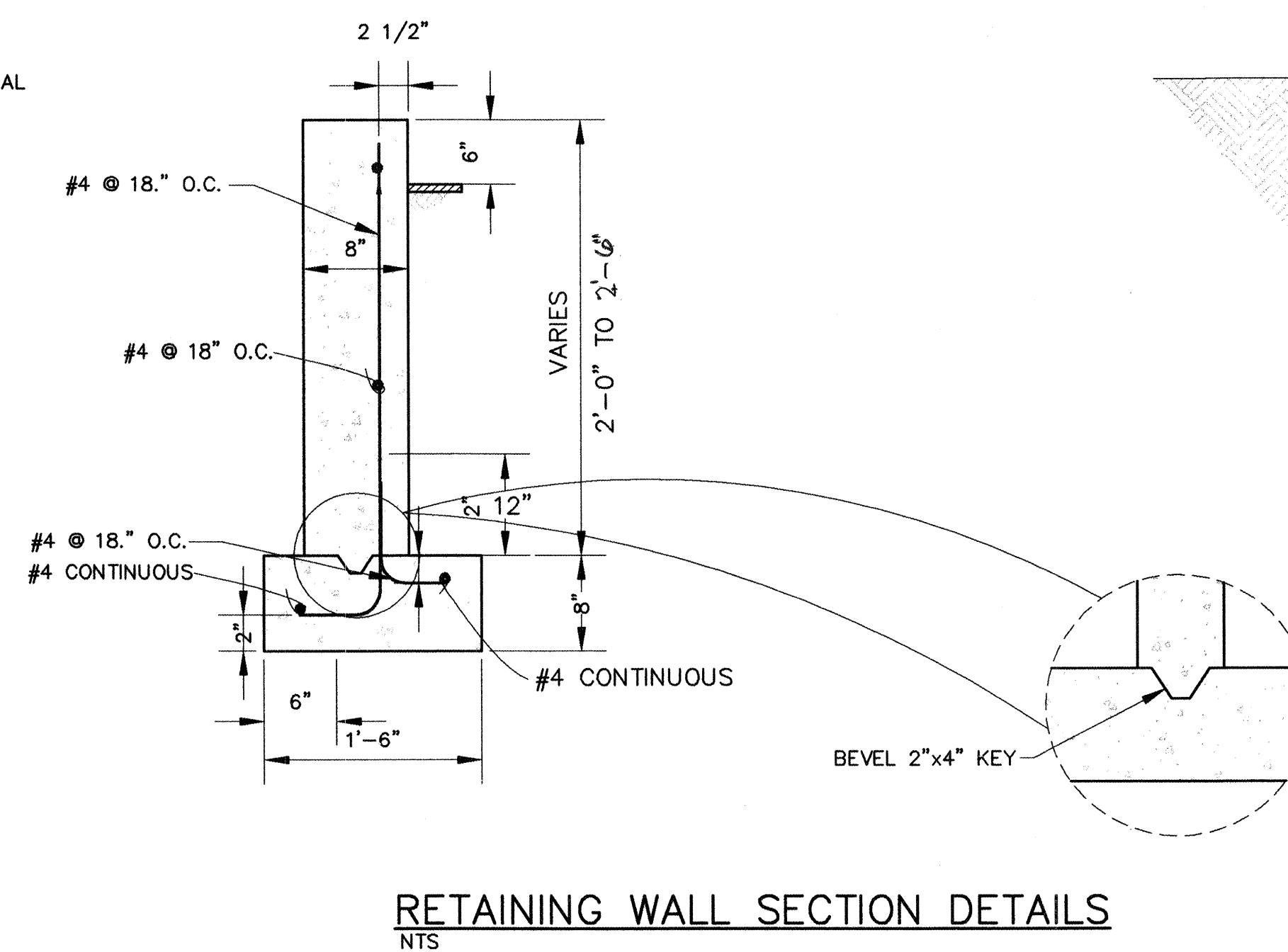
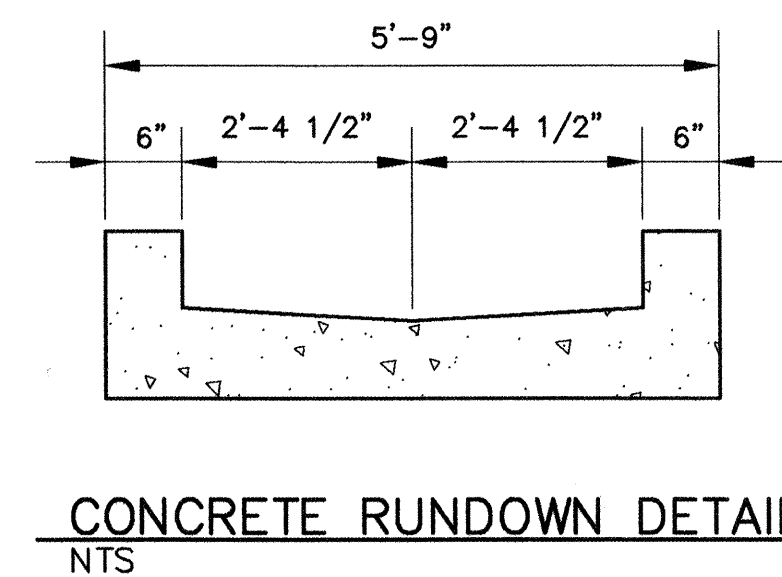
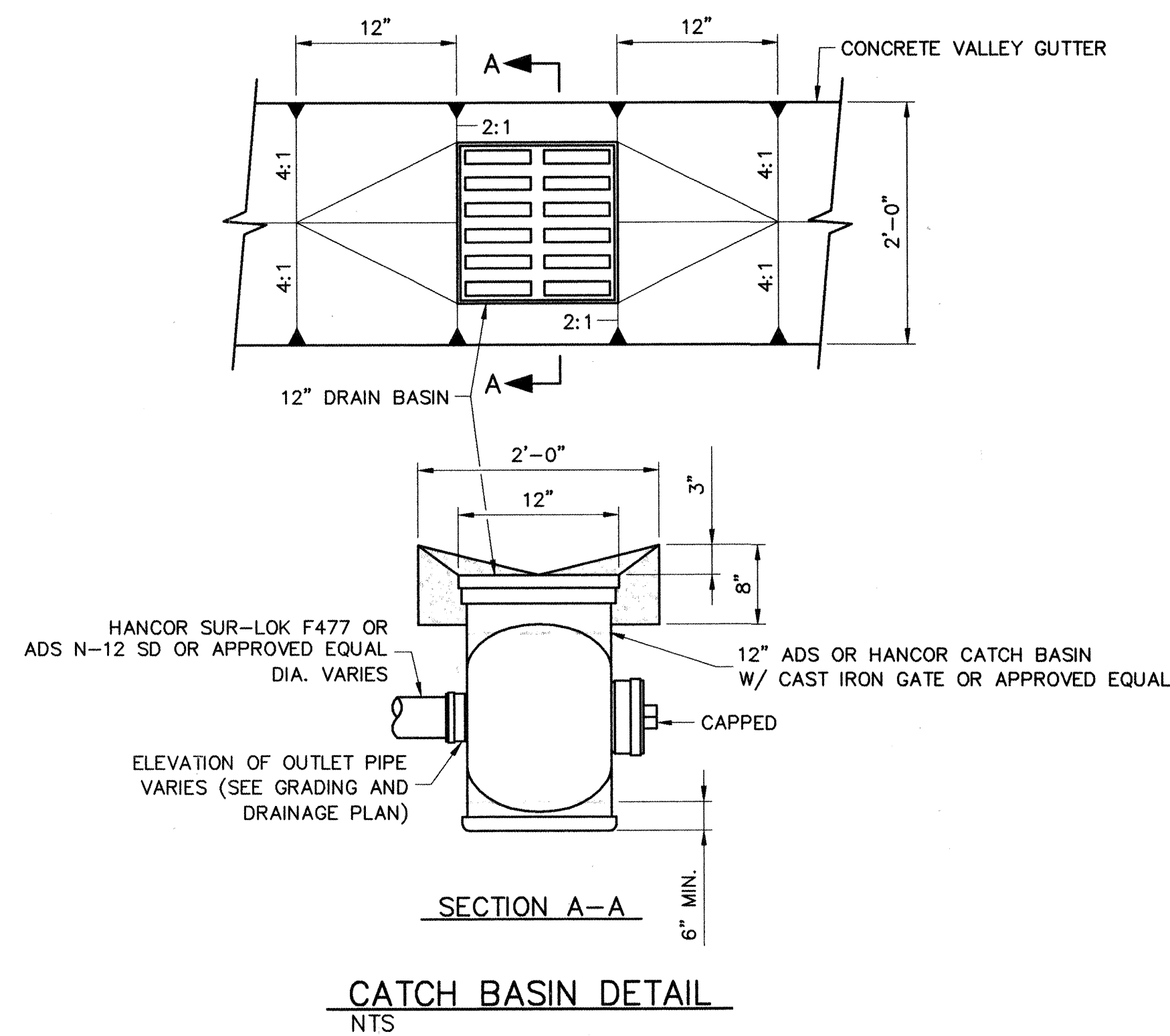
#### GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT - PHASE II

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

City Project No. 624591 MAP NO. J-20

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		NO. DATE	
CONTRACTOR	DATE	CONTRACTOR	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
ACS 1 3/4" ALUMINUM DISK STAMPED "A.C.S.", B.M. 10-420" SET IN THE SE CORNER OF A TRAFFIC LIGHT BASE LOCATED AT THE INTERSECTION OF LOMAS BLVD. N.E. AND EASTERDAY DR. N.E. IN THE N.W. QUADRANT OF THE INTERSECTION. ELEV = 5404.375 FT. (M.S.L.D.)											
MICRO-FILM INFORMATION											
RECORDED BY											
NO.											



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FOR INFORMATION ONLY

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP  
GRANT MIDDLE SCHOOL  
DETAILS  
W PARK DEVELOPMENT- PHASE 1

Design Review Committee		City Engineer Approval		Mo./Day/Yr.		Mo./Day/Yr.	
		Last Design Update					

City Project No.	MAP NO.	SHEET	OF
624591	J-20	9	15











## GRANT MIDDLE SCHOOL: NEW PARK DEVELOPMENT - PHASE II

## IRRIGATION VALVE SCHEDULE: Existing Controller "A"

VALVE NO./KEY	VALVE SIZE	HEAD TYPE Nozzle and/or flow range (GPM)	(Approximate) TOTAL ZONE GPM/ Precipitation Rate (inches per hour)	Minimum Run Time to apply 0.50" of Water
V1 (existing to remain)	2"	Toro 300 Series Stream Rotor Pop-Ups 1.15 - 4.58 GPM	67.7 GPM (± 1.10 in./hr.)	27.3 min.
V2 (existing to remain)	1 1/2"	Rainbird 1400 Series Bubblers 0.25 - 0.50 GPM	33.25 GPM	10.0 min.
V3 (relocated & combined w/former V6 heads)	2"	Toro 640 Series Gear-Driven Rotors 12.9 GPM (360° #42 Nozzles)	129.0 GPM (± 0.40 in./hr.)	75.0 min.
V4 (relocated, zone modified)	2"	Toro 640 Series Gear-Driven Rotors 6.7-12.9 GPM (90° #40 Nozzles/ 180° #42 Nozzles)	97.0 GPM (± 0.80-1.0 in./hr.)	37.5 min.
V5 (relocated, zone modified)	2"	Toro 640 Series Gear-Driven Rotors 6.7 - 12.9 GPM (90° #40 Nozzles/ 180° #42 Nozzles)	45.4 GPM (± 0.80-1.0 in./hr.)	37.5 min.
V6 (relocated & re-zoned for New Softball Field)	2"	Toro 640 Series Gear-Driven Rotors 12.9 GPM (360° #42 Nozzles)	129.0 GPM (± 0.42 in./hr.)	75.0 min.
V7 (existing, zone modified)	2"	Toro 640 Series Gear-Driven Rotors 6.7-12.9 GPM (90° #40 Nozzles/ 180° #42 Nozzles)	71.2 GPM (± 0.80-1.0 in./hr.)	37.5 min.
V8 (existing, zone modified)	2"	Toro 640 Series Gear-Driven Rotors 10.2-12.9 GPM (270° #41 Nozzles/ 360° #42 Nozzles)	123.6 GPM (± 0.42 in./hr.)	72.0 min.
V9 (* see note below)	2"	Toro 640 Series Gear-Driven Rotors 12.9 GPM (180° #42 Nozzles)	129.0 GPM (± 0.80 in./hr.)	37.5 min.
V10 (existing to remain)	1"	Rainbird 1400 Series Bubblers 0.50 GPM (Future - 0.25 - 0.50 GPM)	10.0 GPM (Future - 40 GPM max.)	10.0 min.
V11 (existing to remain)	1 1/2"	Rainbird 1400 Series Bubblers 0.25 - 0.50 GPM	20.0 GPM (Future - 50 GPM max.)	10.0 min.
V12 & V13 (existing to remain)	2"	Toro 640 Series Gear-Driven Rotors ± 6.5 - 12.7 GPM (90° #40 Nozzles/ 180° #42 Nozzles)	70.0 GPM ea. (± 0.80-1.0 in./hr.)	(37.5 min. ea.) 75.0 min.
V14 (existing to remain)	1 1/2"	Toro 640 Series Gear-Driven Rotors ± 10.2 - 12.7 GPM (238° #41 Nozzles/ 360° #42 Nozzles)	35.6 GPM (± 0.40-0.50 in./hr.)	75.0 min.
V15 & V16		Reserved for Future		

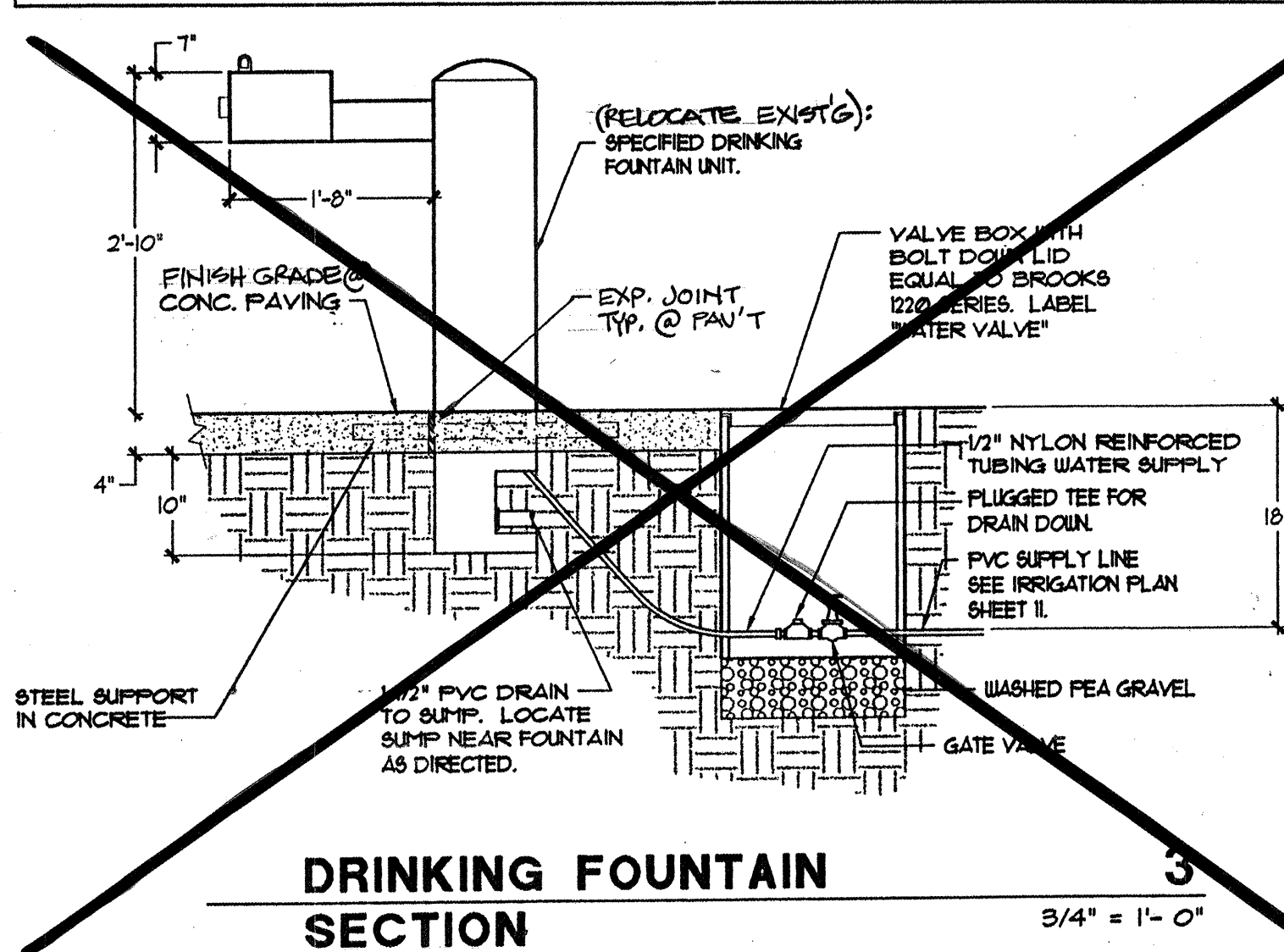
\* Note: Modify V9 as part of Additive Alternate No. 1; for Base Bid, extend new 4" lateral beyond existing Soccer Field and cap for future Baseball Field irrigation as shown.

## IRRIGATION VALVE SCHEDULE: New Controller "B"

V17 & V24** (New)	2"	Toro 640 Series Gear-Driven Rotors 12.9 GPM (360° #42 Nozzles)	129.0 GPM ea. (± 0.40 in./hr.)	(37.5 min. ea.) 75.0 min.
V18 (New)	2"	Toro 640 Series Gear-Driven Rotors 12.9 GPM (120°-180° #42 Nozzles)	77.4 GPM (± 0.80 in./hr.)	37.5 min.
V19** & V23** (New)	3"	Toro 640 Series Gear-Driven Rotors 12.9 GPM (360° #42 Nozzles)	154.8 GPM ea. (± 0.40 in./hr.)	(75.0 min. ea.) 150.0 min.
V20 & V21 (New)	1 1/2"	Rainbird 1400 Series Bubblers 0.25-0.50 GPM	35.5 & 30.5 GPM	10.0 min.
V22** (New)	2"	Toro 640 Series Gear-Driven Rotors 6.7-12.9 GPM (90° #40 Nozzles/ 120°-180° #42 Nozzles)	142.4 GPM (± 0.80-1.0 in./hr.)	37.5 min.
V25 - V32		Reserved for Future		

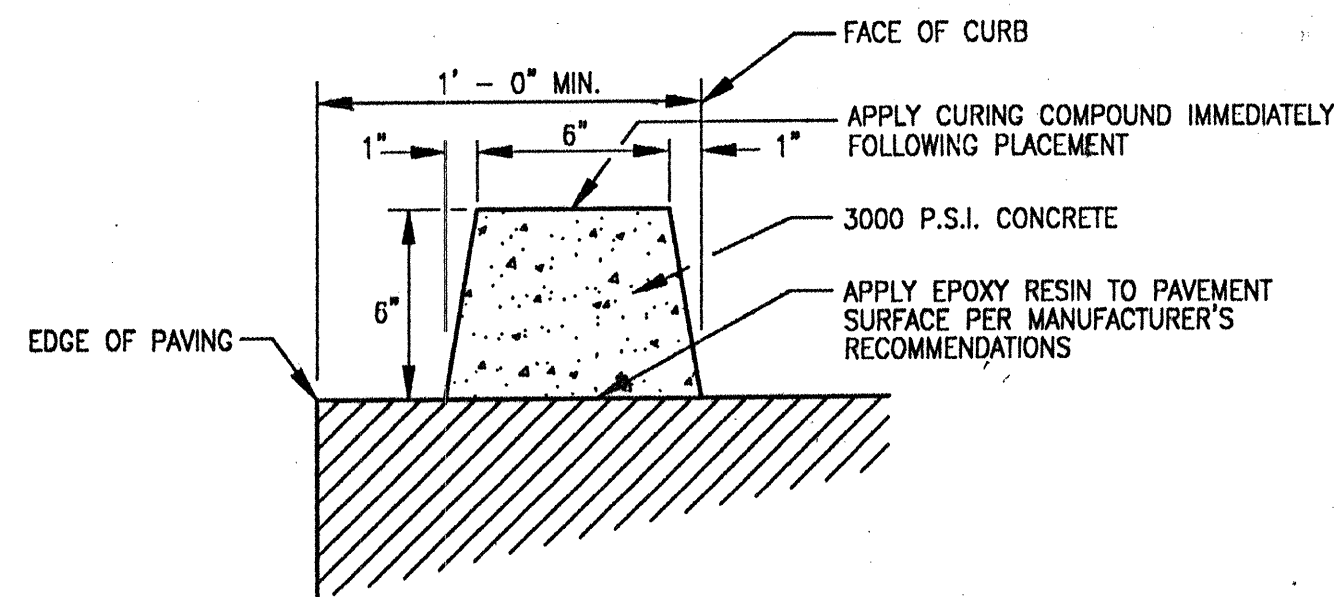
\*\* To be installed as part of Additive Alternate No. 1 ONLY.

Total Minimum Run Time, Valve Zones V1 - V32, to apply 0.50" of Water (running Zones concurrently up to 200 GPM, including Zones on both Controllers "A" and "B") = 522.0 MINUTES (8 HRS., 42 MINUTES);  
RUNNING V1+2+4, V3+10+11, V5+6, V7+9, V8+10, V12+24, V13+17, V14+23, V19+21, V20+22



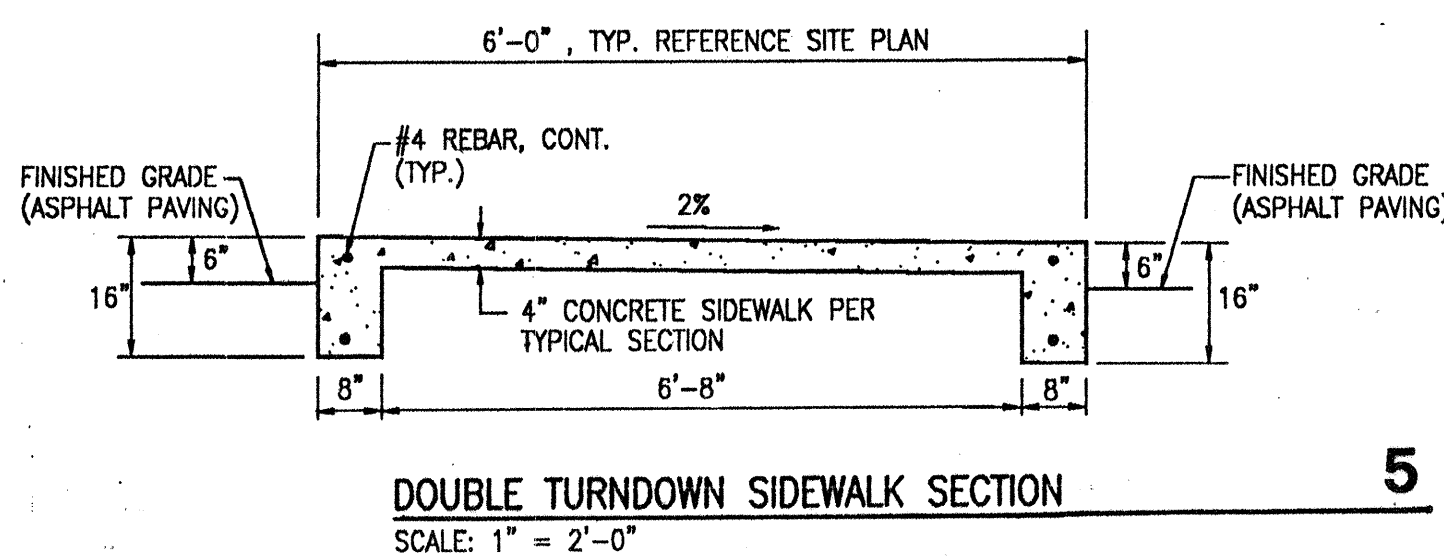
## IRRIGATION LEGEND

SYMBOL	DESCRIPTION	DETAIL
[M]	New 2" Water Meter (including U.E.C.'s, tap-in, meter installation, box and pipe)	City Std. Dwg. 2637
[E]	New 4" FEBCO 825 reduced pressure backflow preventer with 3" Master meter and control valve with pulse transmission in Brooks Box 1730 with locking cover	City Std. Dwg. 2702A
[C]	New Motorola/Toro MIR 5000S "Scorpio" 16-Station controller; in Strong Box enclosure; complete with grounding as required; coordinate radio tie-in to existing Irrinet at McCollum School	Install as per Manf. instructions
[X]	New Gate valve/Isolation valve	City Std. Dwg. 2706
[G]	For new valves up to 2" size/145 GPM: Rainbird PEB Series automatic valve assembly. For new 3" valves/over 145 GPM: Irritrol 100 Century Series automatic valve assembly, model 100P3. (Valve as indicated on drawings, in valve box.)	City Std. Dwg. 2703
[V6]	Valve Key Notation: Valve Size Approximate gallons per minute	
[#42]	New Toro 640 Series with #42 nozzle gear-driven pop-up sprinkler - 360° full circle (at ± 45-50 psi, typ.)	Detail No. 2 Sheet 12
[#40]	New Toro 640 Series with #40 #42 nozzle gear-driven pop-up sprinkler - part circles (at ± 45-50 psi, typ.)	
[1.0]	Rainbird 1400 full circle pressure compensating bubbler, 0.5 gpm (at 20-90 psi, typ.)	
[0.25]	Rainbird 1400 full circle pressure compensating bubbler, 0.25 gpm (at 20-90 psi, typ.)	
[4"]	New 4" SDR-21 Class 200 PVC 1120 or 1220 pipe mainline, unless otherwise noted	
[4"]	Existing Schedule 40 PVC pipe lateral to remain	
[4"]	New Schedule 40 PVC pipe lateral (size as indicated on plans)	
[4"]	Class 200 PVC pipe sleeve (2 sizes larger than pipe being sleeved)	
[@]	Rainbird 33 DRC Quick-Coupling Valve	City Std. Dwg. 2708
[@]	CRISPIN AIR RELEASE VALVE IN BROOKS BOX SHALL BE INSTALLED IN BROOKS BOX AT HIGH POINT OF MAINLINE - SEE TO MATCH LINE	CITY STD DWG 2705



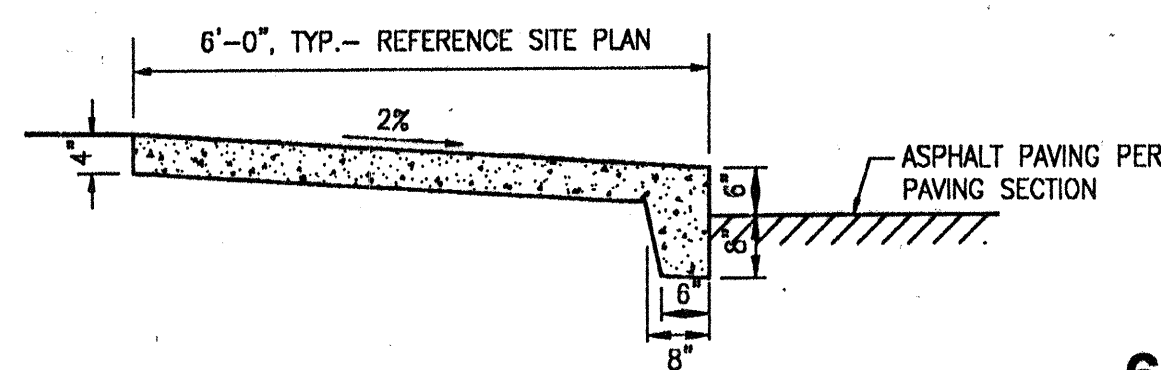
TYPICAL EXTRUDED CONCRETE CURB SECTION

SCALE: 1" = 6"



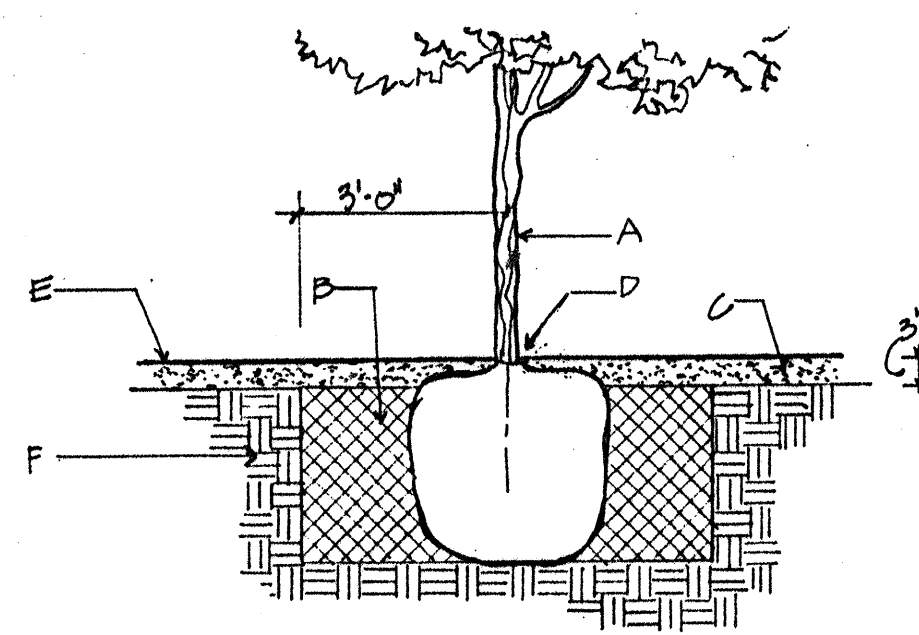
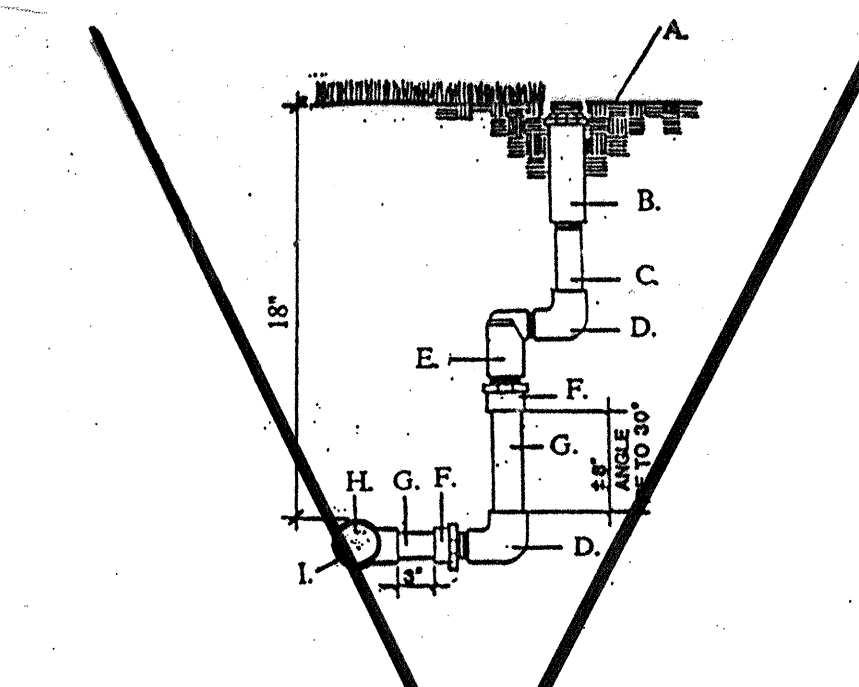
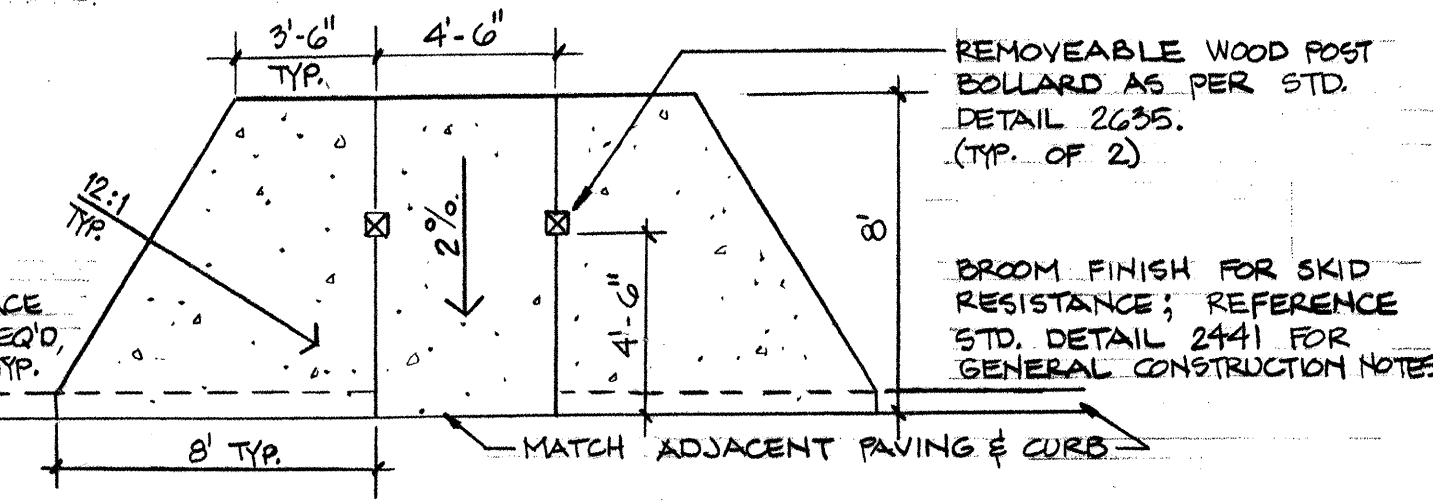
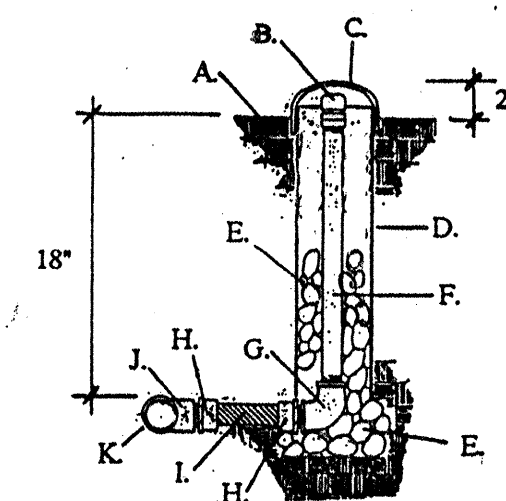
DOUBLE TURNDOWN SIDEWALK SECTION

SCALE: 1" = 2'-0"



SINGLE TURNDOWN SIDEWALK SECTION

SCALE: 1" = 2'-0"

TREE IN CRUSHER FINES MULCH  
NTSGEAR DRIVEN SPRINKLER HEAD  
/ SWING JOINT ASSEMBLY  
NTSMAINTENANCE ACCESS / WHEELCHAIR RAMP  
NTS

## GENERAL NOTES

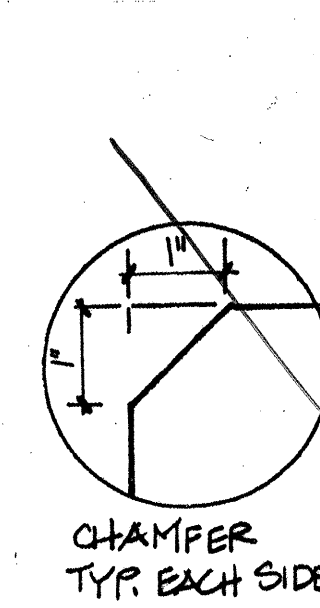
1. Lateral line pressure testing shall be completed prior to installation of flex pipe assembly. Lateral line testing shall be accomplished by installing a plug in the outlet of lateral line tees and ells.

2. FOR BUBBLER LOCATIONS FOR SHRUBS IN NATIVE SEED/ MULCHED PLANTING AREAS, REFERENCE CITY STD DETAIL 2710.

3. LOCATE BUBBLER 12" OUT FROM EDGE OF ROOTBALL, ON UPHILL SIDE, TYP.

## CONSTRUCTION NOTES

A. Finish grade.  
B. Bubbler head (reference the Drawings).  
C. 4" PVC slip cap. Do not weld.  
D. 4" perforated pvc drain pipe. Pipe shall be wrapped in Teflon filter fabric. Secure filter fabric to pipe with 3 evenly spaced plastic snap ties.  
E. 1/2" - 3/4" washed rock - in bottom half of drain pipe.  
F. Sch. 80 PVC nipple.  
G. Sch. 40 PVC threaded ell.  
H. Sch. 40 PVC MIP adapter.  
I. PVC flexible vinyl pipe, std., IPS from Agricultural Products, Inc., (818/768-3303).  
J. Sch. 40 PVC SxSxT tee or SxT ell.  
K. Lateral pipe.

BUBBLER HEAD AT TREE  
NTS

1" WEEP HOLES @ 6' O.C. REQUIRED AT SEMI CIRCULAR SEATING WALL SOUTH EAST OF PAVILION.

## PART OF ADD. ALT. #2

CONCRETE SEAT WALL DETAIL - FOR AMPHITHEATRE  
SCALE: 3/4"=1'0"

NOTE  
USE CITY STD. DETAILS FOR ALL RISERS

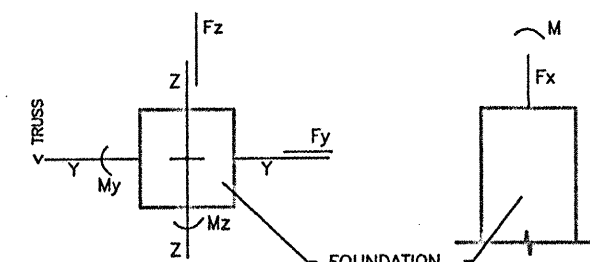
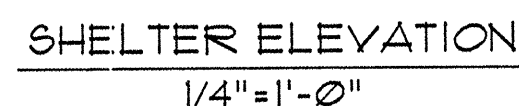
DO NOT OMIT  
FOR INFORMATION ONLY

**G. Robert Johns, ASLA**  
LANDSCAPE ARCHITECTS  
3218 SILVER AVENUE SE  
ALBUQUERQUE, NEW MEXICO 87106  
PHONE: (505)266-8027  
FAX: (505)266-6234

CITY OF ALBUQUERQUE  
PARKS AND RECREATION DEPARTMENT  
PLANNING AND DESIGN DIVISIONGRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT  
SITE/LANDSCAPE  
DETAILS  
PHASE II

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
APPROVED DEC 30 1999	APPROVED DEC 30 1999		
DESIGN REVIEW COMMITTEE	CITY ENGINEER		
City Project No.	Zone Map No.	Sheet	Of
624591	J-20	12	15





LOADS TO FOUNDATION (KIPS, FT. KIPS)		REACTIONS			
LOAD COMBINATION	AXIAL (F <sub>x</sub> )	SHEAR (F <sub>y</sub> )	SHEAR (F <sub>z</sub> )	MOMENT (M <sub>2</sub> )	MOMENT (M <sub>3</sub> )
DEAD + LIVE	11.75	1.94	.00	.00	.00
DEAD + WIND	-10.17	-2.83	.91	.00	.00

NOTES: PER DJK: SQR36MU 10/20/95

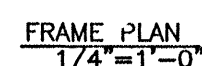
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DESIGN OF FOUNDATION TO BE PERFORMED BY AN ENGINEER OR ARCHITECT. THIS DRAWING IS NOT INTENDED AS A FOUNDATION DESIGN. IT IS SUBMITTED AS A REFERENCE TO MINIMUM SLAB DIMENSIONS AND ANCHOR BOLT LOCATIONS.

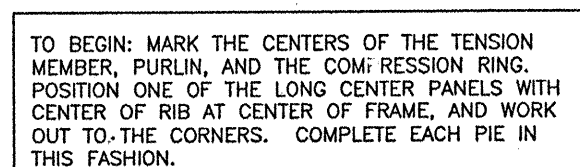
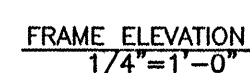
IF WALLS ARE TO BE SPECIFIED, CONSULT FACTORY FOR REVERSED SLAB DIMENSIONS.



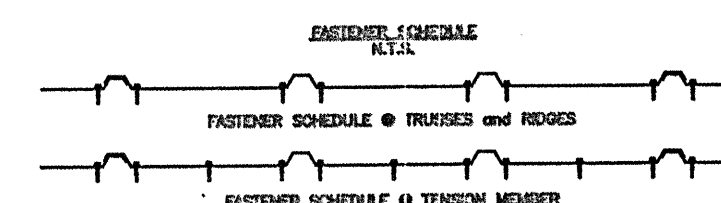
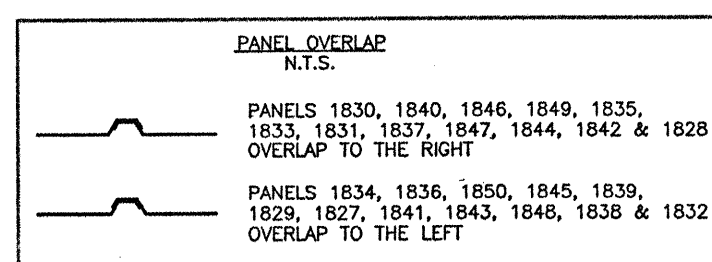
**SCALE: 3/4"=1'**



**MATERIAL SPECIFICATIONS:**  
COLUMNS: TS 8" x 8" x 1/4  
TUBULAR SHAPES: ASTM A500 GRADE B 46 KSI  
COLD FORMED CEEES: A570 GRADE 50  
CONNECTION BOLTS: ASTM A 325  
CONNECTION PLATES: ASTM A36  
ANCHOR BOLTS: ASTM A307  
WELDING PROCESS: GAS METAL ARC WELDING  
WELDING ELECTRODES: E70xx

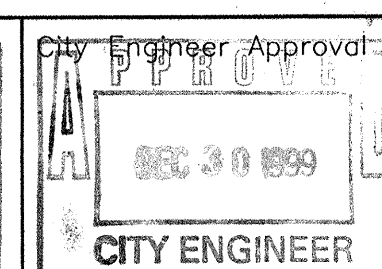


\* DIMENSION APPROXIMATE -  
DEPENDS ON TOP ALIGNMENT OF PANELS.  
PURLINS MUST BE TIGHT AGAINST TRUSSES  
AND PARALLEL TO THE TENSION MEMBER.



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**GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT - PH. II**  
**PAVILION DETAILS**



Zone Map No  
J-20

DESIGN	Designed By: GRJ	DATE:
	Drawn By: SSW	DATE:



## 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 24HOUR 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 EXISTING 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 OCCUPANCY 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.

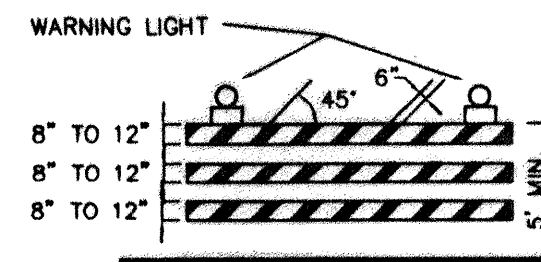
23. FAILURE TO COMPLY WITH ANY OF THE ABOVE MENTIONED, WILL BE ADEQUATE CAUSE TO CEASE ALL WORK ON ANY CONSTRUCTION PROJECT. WORK WILL NOT RESUME UNTIL ALL REQUIREMENTS ARE ADDRESSED AND APPROVED BY CONSTRUCTION COORDINATION.

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

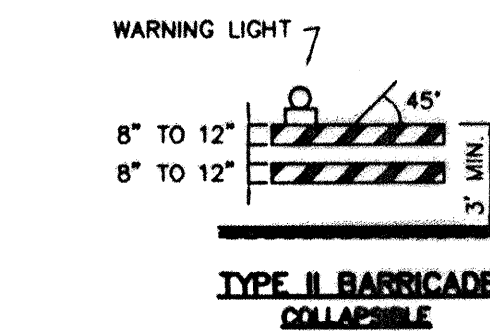
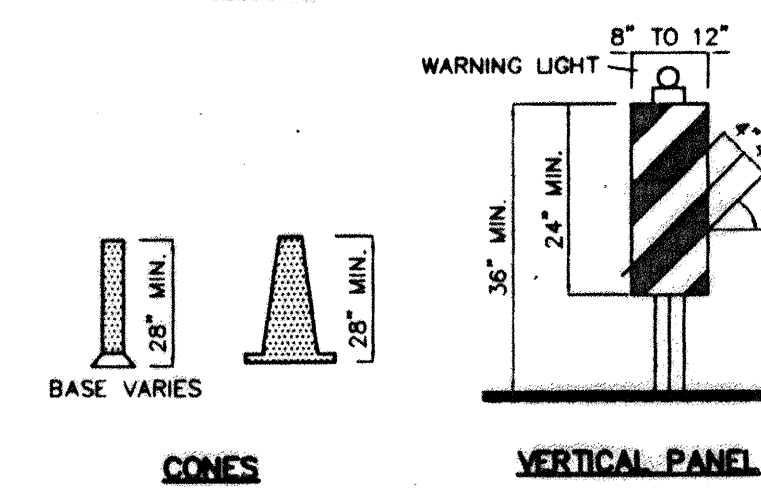
25. TRAFFIC CONTROL STANDARDS APPLY ONLY WHERE THE CONSTRUCTION TRAFFIC CONTROL PLANS ARE NOT SPECIFIC.

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. 

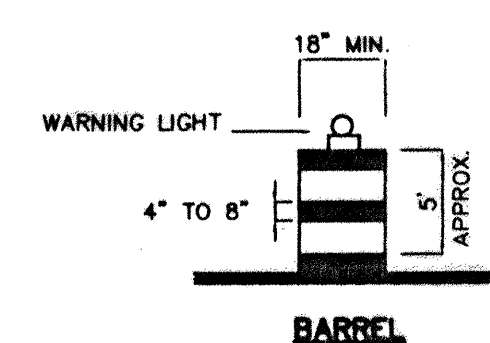
27. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORKSITE. ALL GRAFFITI SHALL BE PROMPTLY REMOVED FROM ALL EQUIPMENT, BOTH PERMANENT AND TEMPORARY. 



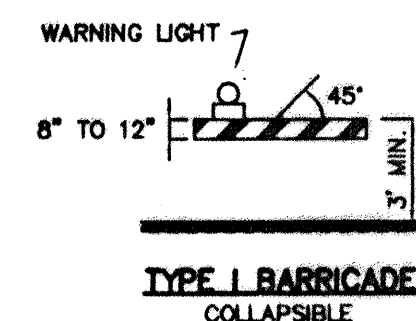
TYPE III BARRICADE



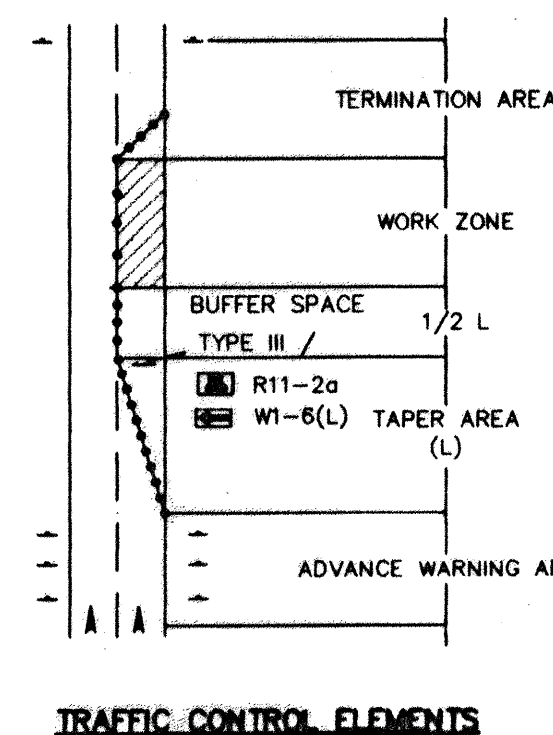
TYPE II BARRICADE



TYPE I BARRICADE



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

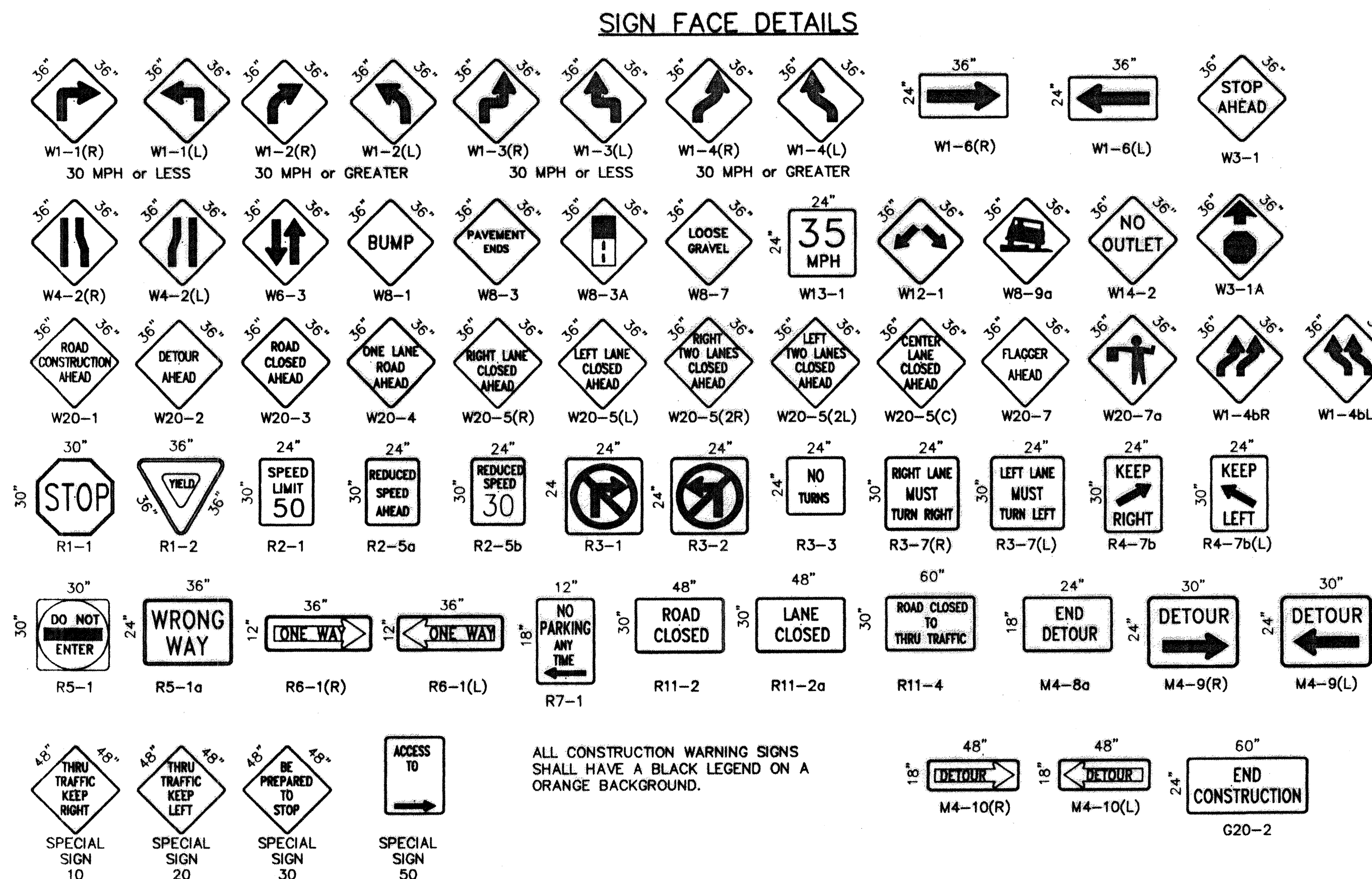
SPEED MILES PER HOUR	MINIMUM DISTANCE IN FEET	
	BETWEEN SIGNS	FROM LAST SIGN TO TAPER
0-20	10 X SPEED LIMIT	10 X SPEED LIMIT
25-30	10 X SPEED LIMIT	10 X SPEED LIMIT
30-35	10 X SPEED LIMIT	10 X SPEED LIMIT
40-45	10 X SPEED LIMIT	10 X SPEED LIMIT
50-60	10 X SPEED LIMIT	10 X SPEED LIMIT

## 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

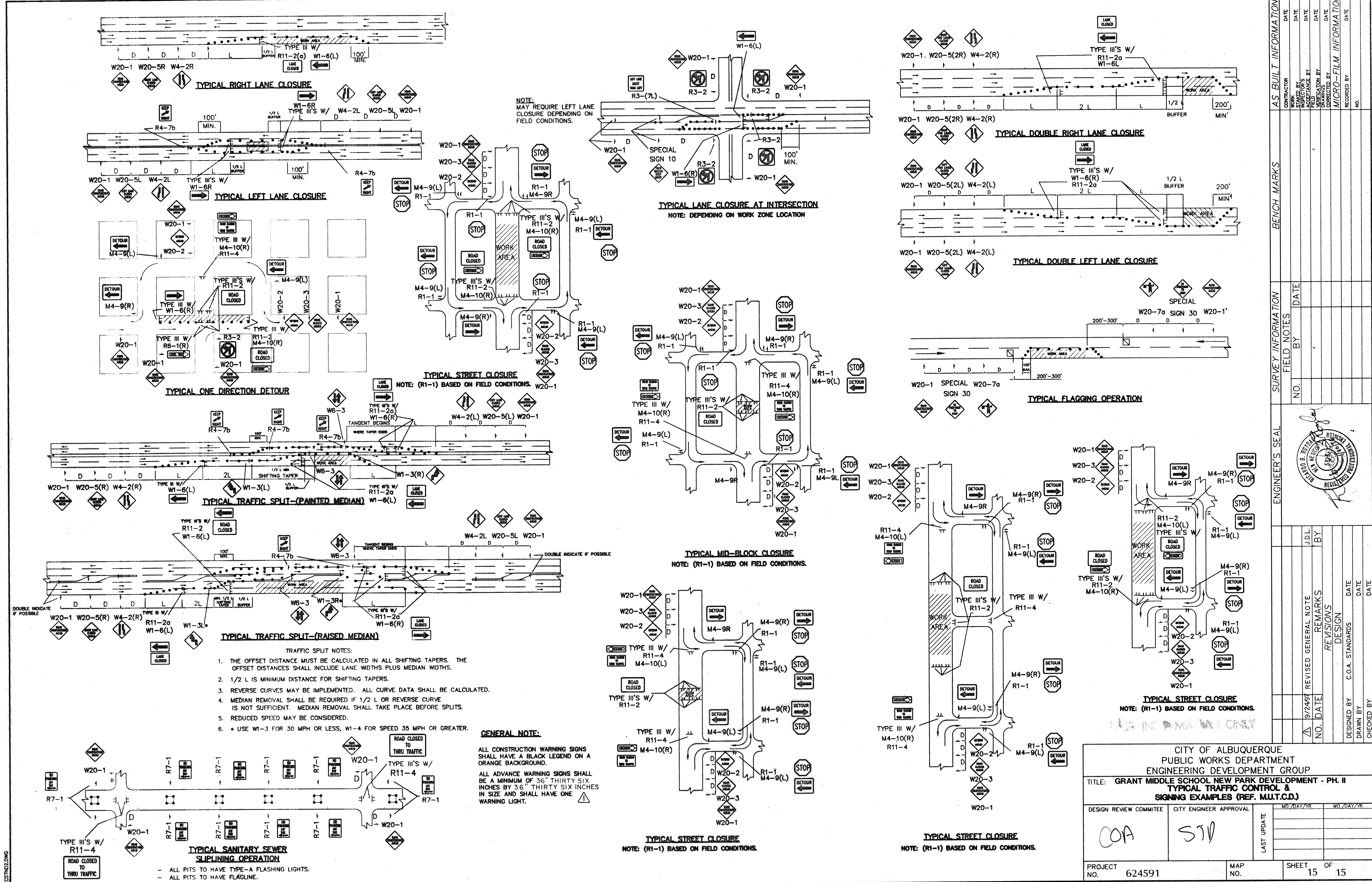
SPEED LIMIT	
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR GREATER	$L = W \times S$
L = TAPER LENGTH	
W = WIDTH OF OFFSET IN FEET	
S = POSTED SPEED OR OFF-PEAK 85-PERCENTILE SPEED IN MPH	



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

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP	
TITLE: GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT - PH. II SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS	
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL
PROJECT NO. 624591	MAP NO.
SHEET 14 OF 15	





- TRAFFIC SPLIT NOTES:**
1. THE OFFSET DISTANCE MUST BE CALCULATED IN ALL SHIFTING TAPERS. THE OFFSET DISTANCES SHALL INCLUDE LANE WIDTHS PLUS MEDIAN WIDTHS.
  2. 1/2 L IS MINIMUM DISTANCE FOR SHIFTING TAPERS.
  3. REVERSE CURVES MAY BE IMPLEMENTED. ALL CURVE DATA SHALL BE CALCULATED.
  4. MEDIAN REMOVAL SHALL BE REQUIRED IF 1/2 L OR REVERSE CURVE IS NOT SUFFICIENT. MEDIAN REMOVAL SHALL TAKE PLACE BEFORE SPLITS.
  5. REDUCED SPEED MAY BE CONSIDERED.
  6. \* USE W1-3 FOR 30 MPH OR LESS, W1-4 FOR SPEED 35 MPH OR GREATER.

**GENERAL NOTE:**

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

ALL ADVANCE WARNING SIGNS SHALL BE A MINIMUM OF 36" THIRTY SIX INCHES BY 36" THIRTY SIX INCHES IN SIZE AND SHALL HAVE ONE WARNING LIGHT.

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP			
TITLE: GRANT MIDDLE SCHOOL NEW PARK DEVELOPMENT - PH. II TYPICAL TRAFFIC CONTROL & SIGNING EXAMPLES (REF. M.U.T.C.D.)			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST UPDATE	MO./DAY/YR
COA	STP		
PROJECT NO.	624591	MAP NO.	
SHEET 15 OF 15			