

CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES
RICHLAND HILLS PARK
IMPROVEMENTS

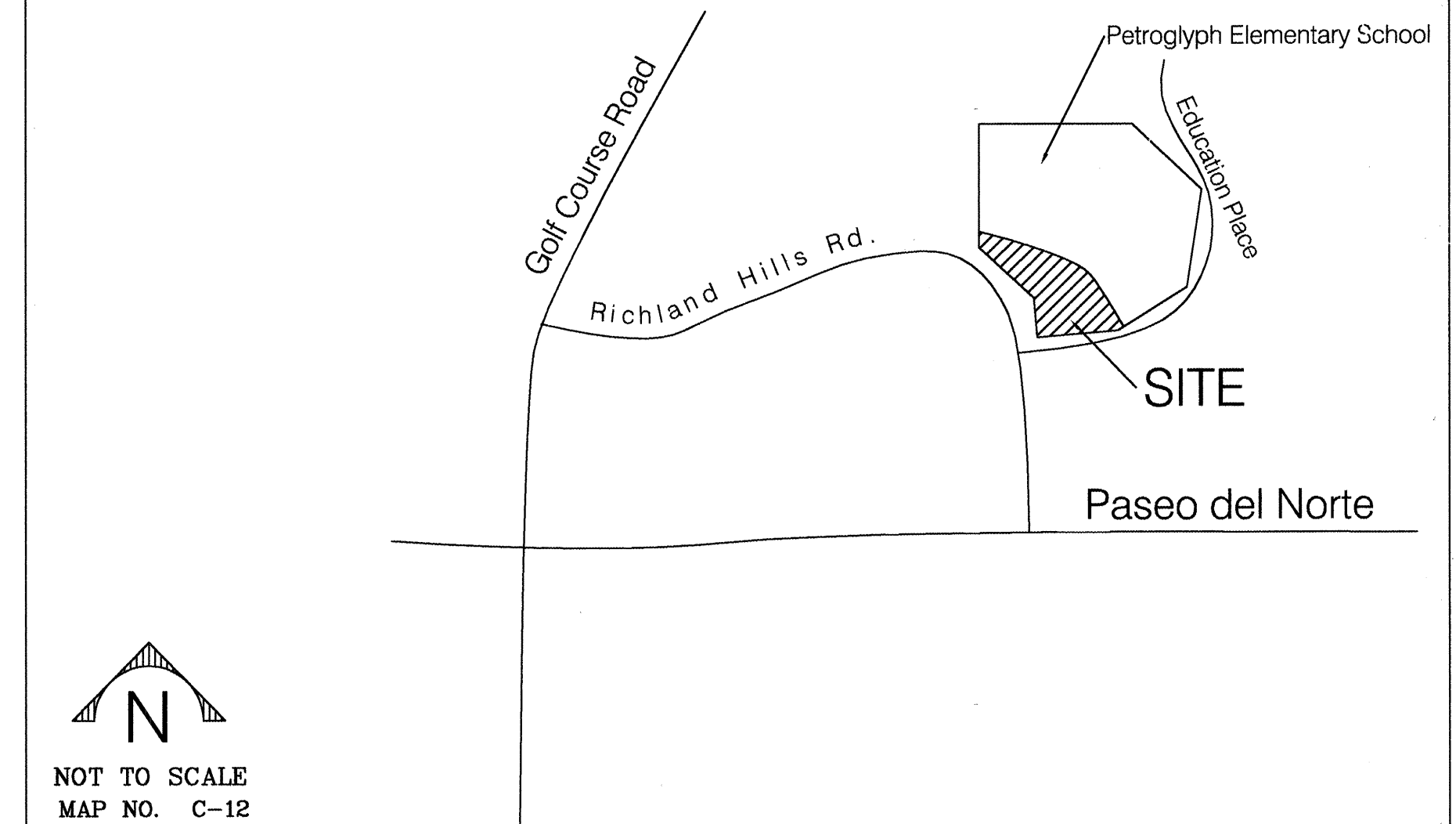
8601 RICHLAND HILLS ROAD NW 2.06 ACRES

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FOR INFORMATION ONLY

VICINITY MAP



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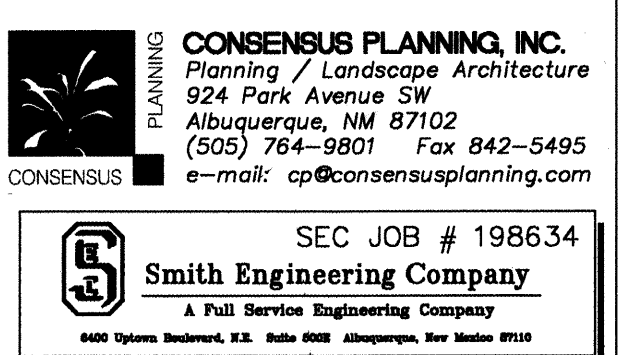
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REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
ENGINEERS STAMP & SIGNATURE		APPROVED	ENGINEER	DATE	APPROVED FOR CONSTRUCTION		
		DRC Chairman	<i>Suzanne L. Mortier</i>	7-22-99	<i>7/22/99</i>		
		Transportation	<i>R.W. Korns</i>	7-22-99			
		Water/Wastewater	<i>R.W. Korns</i>	7-20-99			
		Hydrology	<i>R.W. Korns</i>	7/20/99			
		N.M. Utilities	<i>Colleen K. Fung</i>	7-22-99			
		Constr. Coord.	<i>[Signature]</i>	6-27-99	CITY ENGINEER	DATE	
PROJECT NUMBER 566371						SHEET 1 OF 15	

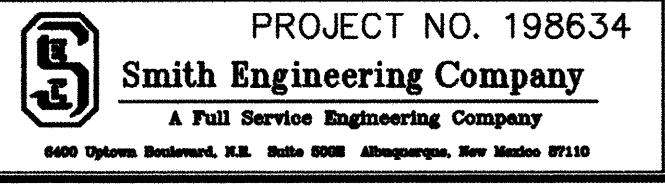
- 1 ~~THREE (3)~~ ^{FIVE (5)} WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A DETAILED CONSTRUCTION SCHEDULE TO THE CITY CONSTRUCTION COORDINATION DIVISION. TWO (2) DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (768-2551) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF SPECIFICATIONS.
- 2 THE CONTRACTOR WILL NOTIFY THE FIELD ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK, IN ORDER THAT THE FIELD ENGINEER MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF A MONUMENT IS DISTURBED. REPLACEMENT WILL BE DONE ONLY BY THE CITY SURVEYOR. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR WILL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4 OF SPECIFICATIONS.
- 3 THE SPECIFICATIONS USED FOR THIS PROJECT ARE THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1994 EDITION, UPDATE NO.6.
- 4 ALL NEW MANHOLES SHALL BE TYPE "E" (COA DWG. 2102) UNLESS OTHERWISE NOTED ON THE PLANS.
- 5 THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, BUT NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH MATERIALS.
- 6 ALL WATER VALVE BOXES AND MANHOLES IN THE STREET CONSTRUCTION ARE TO BE ADJUSTED TO FINISH GRADE AND WILL BE MEASURED AND PAID PER EACH.
- 7 SUBGRADE PREPARATION UNDER SIDEWALKS AND DRIVE PADS, AND SUBGRADE AND SUBBASE PREPARATION UNDER CURB AND GUTTER IS CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF SUCH, AND NO DIRECT PAYMENT SHALL BE MADE FOR THOSE ITEMS OF WORK.
- 8 THE WATER SYSTEMS DIVISION (857-8200) WILL BE NOTIFIED BY THE CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THE EXISTING PUBLIC WATER FACILITIES. REFER TO SECTION 18 OF SPECIFICATIONS.
- 9 ALL EXCAVATION WILL BE GOVERNED BY FEDERAL, STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- 10 ALL SIGNS AND CODING WILL BE IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" CURRENT EDITION PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
- 11 THE CONTRACTOR IS TO EXERCISE CARE TO AVOID DISTURBING ANY EXISTING UNDERGROUND UTILITIES. IT WILL BE HIS RESPONSIBILITY TO COORDINATE WITH THE UTILITY COMPANIES IN ORDER TO PREVENT ANY SERVICE DISRUPTION. SEE SECTION 18 "UTILITIES", CITY OF ALBUQUERQUE, STANDARD SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS.
- 12 WHEN ABUTTING NEW PAVEMENT TO EXISTING INTERSECTING STREETS, SAW CUT EXISTING PAVEMENT TO A STRAIGHT LINE AND AT RIGHT ANGLES AND REMOVE ANY BROKEN OR CRACKED PAVEMENT. NO DIRECT PAYMENT WILL BE MADE FOR SAW CUTTING.
- 13 ALL GAS VALVES, GAS MANHOLES, ELECTRICAL MANHOLES, TELEPHONE MANHOLES, AND UTILITY POLES WILL BE ADJUSTED TO GRADE BY EACH UTILITY COMPANY. CONTRACTOR WILL COORDINATE THROUGH CITY UTILITY COORDINATOR.
- 14 WHEN REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK IS REQUIRED, REMOVE BACK TO NEAREST SUITABLE JOINT UNLESS OTHERWISE DIRECTED BY THE CITY FIELD ENGINEER.
- 15 THE CONTRACTOR WILL NOTIFY THE UTILITY COMPANIES BY CALLING NEW MEXICO ONE CALL SYSTEM 260-1990 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK IN NEW AREAS.
- 16 CONTRACTOR WILL MAKE ALL WATER VALVES AND MANHOLES ACCESSIBLE TO THE CITY AT ALL TIMES.
- 17 CONTRACTOR WILL PLACE BITUMINOUS MATERIAL WITH THE USE OF A LAYDOWN MACHINE WHERE PAVEMENT IS 8 FEET IN WIDTH OR WIDER.
- 18 ALL SUBGRADE AND SUBBASE MATERIAL ENCOUNTERED IN PAVEMENT REMOVAL AND REPLACEMENT THAT IS DETERMINED BY THE FIELD ENGINEER TO MEET THE SPECIFICATIONS, CAN BE REUSED. HOWEVER, THE MATERIAL WILL BE PROCESSED AND COMPACTED TO MEET MOISTURE CONTENT AND PERCENT COMPACTION REQUIRED BY THE SPECIFICATIONS.
- 19 CONTRACTOR WILL NOT PAVE OVER ANY SURFACE FEATURE, I.E., GAS VALVE, MANHOLE COVER, ETC. WITHOUT PRIOR APPROVAL FROM THE CITY FIELD ENGINEER.
- 20 CONTRACTOR WILL CONFINE HIS WORK WITHIN THE CONSTRUCTION EASEMENT LIMITS AND/OR RIGHT-OF-WAY, OR PROVIDE COPIES OF AGREEMENTS WITH ADJACENT LANDOWNERS TO THE CITY OF ALBUQUERQUE.
- 21 ALL WATER VALVES AND FIRE HYDRANTS REMOVED TO BE SALVAGED AND RETURNED TO THE C.O.A.
- 22 MINIMUM BOTTOM WIDTH OF TRENCHES FOR RIGID PIPE SHALL BE EQUAL TO THE OUTSIDE DIAMETER PLUS 16 INCHES. BEDDING MATERIAL SHALL BE CLASS II, III, OR IV UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS.
- 23 MINIMUM BOTTOM WIDTH OF TRENCHES FOR NON-RIGID PIPE SHALL BE EQUAL TO THE OUTSIDE DIAMETER PLUS 12 INCHES. BEDDING MATERIAL SHALL BE CLASS I, II, OR III.
- 24 THE CONTRACTOR AGREES TO TAKE NECESSARY SAFETY PRECAUTIONS AS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES TO PROTECT PEDESTRIAN AND VEHICULAR TRAFFIC IN THE CONSTRUCTION AREA, WHICH INCLUDE BUT ARE NOT LIMITED TO: MAINTAINING ADEQUATE WARNING SIGNS, BARRICADES, LIGHTS, GUARD FENCES, WALKS AND BRIDGES.
- 25 ALL STRUCTURAL CONCRETE TO BE 4000 PSI UNLESS OTHERWISE NOTED ON PLANS.
- 26 ALL REINFORCING STEEL TO BE GRADE 60.
- 27 ALL EXPOSED EDGES ON CAST-IN-PLACE CONCRETE STRUCTURES WILL HAVE A 1" CHAMFER UNLESS OTHERWISE NOTED.
- 28 ALL SPLICES IN REINFORCING STEEL TO BE 2-FOOT 6-INCH MINIMUM UNLESS OTHERWISE NOTED.

- 29 PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL CONFLICTING UTILITIES. SHOULD A CONFLICT EXIST BETWEEN THE FIELD INFORMATION AND THE PLANS, THE CONTRACTOR WILL NOTIFY THE CITY FIELD ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH MINIMUM AMOUNT OF DELAY.
- 30 THE REPLACEMENT OF THE EXISTING UTILITIES AND THE INSTALLATION OF NEW UTILITY LINES WILL BE COMPLETED IN ADVANCE OF STARTING THE PAVEMENT WORK. TEMPORARY PAVEMENT WILL BE PLACED IN ALL TRENCHES REQUIRED FOR THE UTILITY REPLACEMENTS IN THOSE AREAS THAT MUST MAINTAIN TRAFFIC UNTIL THE FINAL PAVEMENT WORK STARTS IN EACH AREA. TEMPORARY STRIPING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. MAINTENANCE OF THE TEMPORARY PAVING AND STRIPING WILL BE AT THE CONTRACTOR'S EXPENSE.
- 31 TACK COAT FOR SURFACE COURSE REQUIREMENTS WILL BE DETERMINED BY THE CITY FIELD ENGINEER.
- 32 THE CONTRACTOR WILL CONTACT THE CITY OF ALBUQUERQUE TRAFFIC DIVISION 764-1599, ONE (1) WEEK IN ADVANCE OF ANY CHANGES REQUIRED IN THE TRAFFIC SIGNALIZATION OF THIS PROJECT. ALL WORK ASSOCIATED WITH NEW TRAFFIC SIGNALIZATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 33 ALL NEW STREET PAVING, DRIVEWAYS, SIDEWALKS, AND CURB AND GUTTERS, ABUTTING EXISTING AREAS SHALL MATCH THE ELEVATION OF THOSE AREAS.
- 34 PERMANENT PAVEMENT STRIPING AND MARKINGS WILL BE PLACED BY THE CONTRACTOR. ROAD SHALL NOT BE OPENED TO TRAFFIC UNTIL IT IS STRIPED. ALL STRIPING, PAVEMENT MARKINGS INCLUDING CROSSWALKS, ARROWS AND LINE MARKINGS ARE TO BE CONSTRUCTED OF HOT PLASTIC OR COLD PLASTIC IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 35 ALL EXCAVATED MATERIAL THAT IS NOT REQUIRED TO BE REUSED MUST BE REMOVED FROM THE PROJECT AREA WITHIN FOUR DAYS OF EXCAVATION. SPOIL PILES WILL BE ALLOWED ONLY AS DIRECTED BY THE CITY FIELD ENGINEER.
- 36 THE CONTRACTOR WILL COORDINATE THE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND UTILITY COMPANIES WORKING IN THE SAME AREA. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE THEIR ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCE CAUSED BY UTILITY COMPANY WORK CREWS. A CONTRACT EXTENSION MAY BE ALLOWED AS DELINEATED IN CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS.
- 37 ALL CONSTRUCTION EASEMENTS ON PRIVATE PROPERTY WILL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.
- 38 EXISTING MEDIAN CURB AND GUTTER AND STANDARD CURB AND GUTTER, NOT DISTURBED BY CONTRACTOR, BUT OUT OF ALIGNMENT, DISPLACED VERTICALLY, BADLY BROKEN AND/OR DETERIORATED, WILL BE REPLACED AS DIRECTED BY THE CITY FIELD ENGINEER AND PAID FOR AT CONTRACT UNIT PRICES.
- 39 ALL TRAFFIC CONTROL DEVICES REQUIRED FOR DRIVEWAY CLOSURES, UTILITY CONSTRUCTION OR FOR OTHER REASONS AND NOT SHOWN ON THE SIGNING PLANS WILL BE FURNISHED BY THE CONTRACTOR AND WILL BE PAID AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS AND BID PROPOSAL. PRIOR TO PLACING THE TRAFFIC CONTROL DEVICES, THE CONTRACTOR WILL NOTIFY THE AFFECTED OWNERS IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR MUST MAKE PROVISIONS TO PROVIDE ACCESS TO PROPERTIES. REFER TO SECTION 19 OF THE SPECIFICATIONS.
- 40 ALL UTILITY LINES WHICH ARE NOT SPECIFICALLY DESIGNATED TO BE REMOVED AND REPLACED ON THE PLANS, WILL BE MAINTAINED IN SERVICE. SHORING, SHEETING AND OTHER MEANS OF SUPPORT SHALL BE EMPLOYED BY THE CONTRACTOR TO PREVENT DAMAGE OR LOSS OF THESE EXISTING UTILITIES. BEAM AND CABLE OR OTHER ADEQUATE SUPPORTS WILL BE USED FOR TEMPORARY SUPPORT OF ALL UTILITY LINES WHICH CROSS THE TRENCH. ANY DAMAGE TO EXISTING UTILITIES WILL PROMPTLY BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR WILL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SIGNIFICANT DEVIATION OF EXPOSED UTILITIES FROM THE LOCATIONS SHOWN ON THE PLANS SO THAT CONFLICTS CAN BE RESOLVED IN A TIMELY MANNER.
- 41 THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING COA INFRASTRUCTURE (C & G, PAVING, ETC.) DURING CONSTRUCTION, APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS, AND WILL REPAIR OR REPLACE SAME AT HIS OWN EXPENSE. HE WILL SUITABLY PROTECT THE CURB AND GUTTER FROM INCIDENTAL SPLASHING DURING THE TACK COAT APPLICATION AND WILL BE RESPONSIBLE FOR CLEANING SAME AT HIS OWN COST SHOULD SPLASHING OCCUR.
- 42 ALL INTERFERING PORTIONS OF ABANDONED UTILITY LINES WHICH ARE EXPOSED AS A RESULT OF CONSTRUCTION WILL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- 43 STATIONS OF STORM DRAIN INLETS ARE TO THE CENTER OF GRATE. ALL STORM DRAIN INLETS WILL BE TYPE "A" UNLESS OTHERWISE NOTED ON THE PLANS.
- 44 SHORING COSTS WILL BE CONSIDERED INCIDENTAL TO THE TRENCH AND BACKFILL COSTS.
- 45 THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING NPDES PERMITS REQUIRED BY APPLICABLE CITY, STATE, AND FEDERAL REGULATIONS.
- 46 ALL STORM DRAIN AND CONNECTOR PIPE WILL BE CLASS IV REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED ON THE PLANS.
- 47 THE TERM REMOVE USED IN THIS PLAN SET INCLUDES THE DISPOSAL OF SAID MATERIAL IN ACCORDANCE WITH CITY OF ALBUQUERQUE SPECIFICATIONS, LATEST EDITION.
- 48 CONTRACTOR WILL SURVEY AND LOG EXISTING ELEVATIONS OF CURB-AND-GUTTER, SIDEWALK, AND PAVEMENT WHICH WILL BE REMOVED FOR CONSTRUCTION OF IMPROVEMENTS. CONTRACTOR WILL REPLACE REMOVED CURB-AND-GUTTER, SIDEWALK, DRIVE PADS, AND PAVEMENT TO ELEVATIONS PRIOR TO REMOVAL UNLESS OTHERWISE INDICATED ON THE PLANS.
- 49 CONTRACTOR WILL CONSTRUCT TEMPORARY ASPHALT PAVEMENT AS DIRECTED BY THE COA ENGINEER TO PROVIDE ACCESS TO LOCAL BUSINESS, ETC. TEMPORARY PAVEMENT SHALL BE REMOVED AND DISPOSED OF PRIOR TO PLACEMENT OF FULL WIDTH PAVEMENT SECTION. TEMPORARY PAVING SHALL BE PER COA STD. DWG. 2415 AND PAID FOR PER COA STD. SPECIFICATIONS.

- 50 ALL CLASSES OF SEEDING SHALL BE DRY LAND MIX PLACED AT 1.5 LBS/1000 S.F. WITH FERTILIZER 21-12-12 PLACED AT 5 LBS/1000 S.F.
- 51 PRE-WETTING OF THE EMBANKMENT FOUNDATION AND KEY TRENCH SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE EMBANKMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
- 52 ALL ASPHALTIC CONCRETE SHALL BE MINIMUM 1800 LB. STABILITY AND COMPACTED TO 95% MODIFIED MARSHALL DENSITY UNLESS OTHERWISE NOTED ON THE PLANS.
- 53 ALL RIP-RAP MATERIAL USED ON THIS PROJECT SHALL BE A NATURAL ROCK MATERIAL CONFORMING TO THE SIZE AND MATERIAL PROPERTY REQUIREMENTS SET FORTH IN THE COA STANDARD SPECIFICATIONS. NO BROKEN CONCRETE OR RUBBLE WILL BE ACCEPTED.

LEGEND:

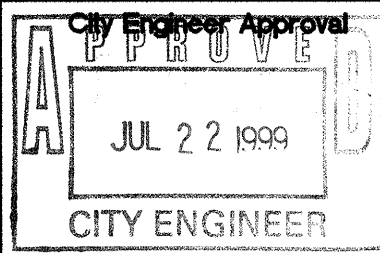
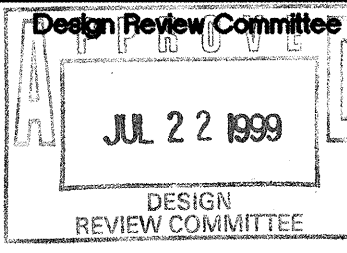
- X—X— EXISTING CHAIN LINK FENCE
- OH/E— EXISTING OVERHEAD ELECTRIC
- EXISTING SAS MANHOLE
- NEW TEE MANHOLE
- BORING
- NEW PAVEMENT
- EXISTING CONTOUR LINE
- 5460 EXISTING INDEX CONTOUR LINE
- NEW STORM DRAIN
- CENTERLINE
- NEW CONCRETE SIDEWALK (4" THICK) AND CURB LINES
- NEW CONCRETE SIDEWALKS AND CURB LINES 6" THICK TO ACCOMMODATE COA SERVICE VEHICLES INTO PARKS
- HORIZONTAL AND VERTICAL CONTROL POINT
- EXISTING UNDERGROUND TELEPHONE
- EXISTING SAS FLOW ARROW
- STORM DRAIN FLOW ARROW
- ESMNT EASEMENT LINE
- RIPRAP PROTECTION
- NEW STORM DRAIN BEND
- NEW STORM DRAIN WYE
- SLOPE INDICATOR
- 84.3 EXISTING SPOT ELEVATION
- 84.33 NEW SPOT ELEVATION
- RIGHT OF WAY
- PROPERTY LINE
- 5400 NEW INDEX CONTOUR LINE
- NEW CONTOUR LINE
- PROPOSED DRAINAGE BASIN BORDER
- DRAINAGE FLOW DIRECTION ARROW



CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS PROJECT

GENERAL NOTES & LEGEND



Design Update	Mr. / Day / Yr.	Mr. / Day / Yr.

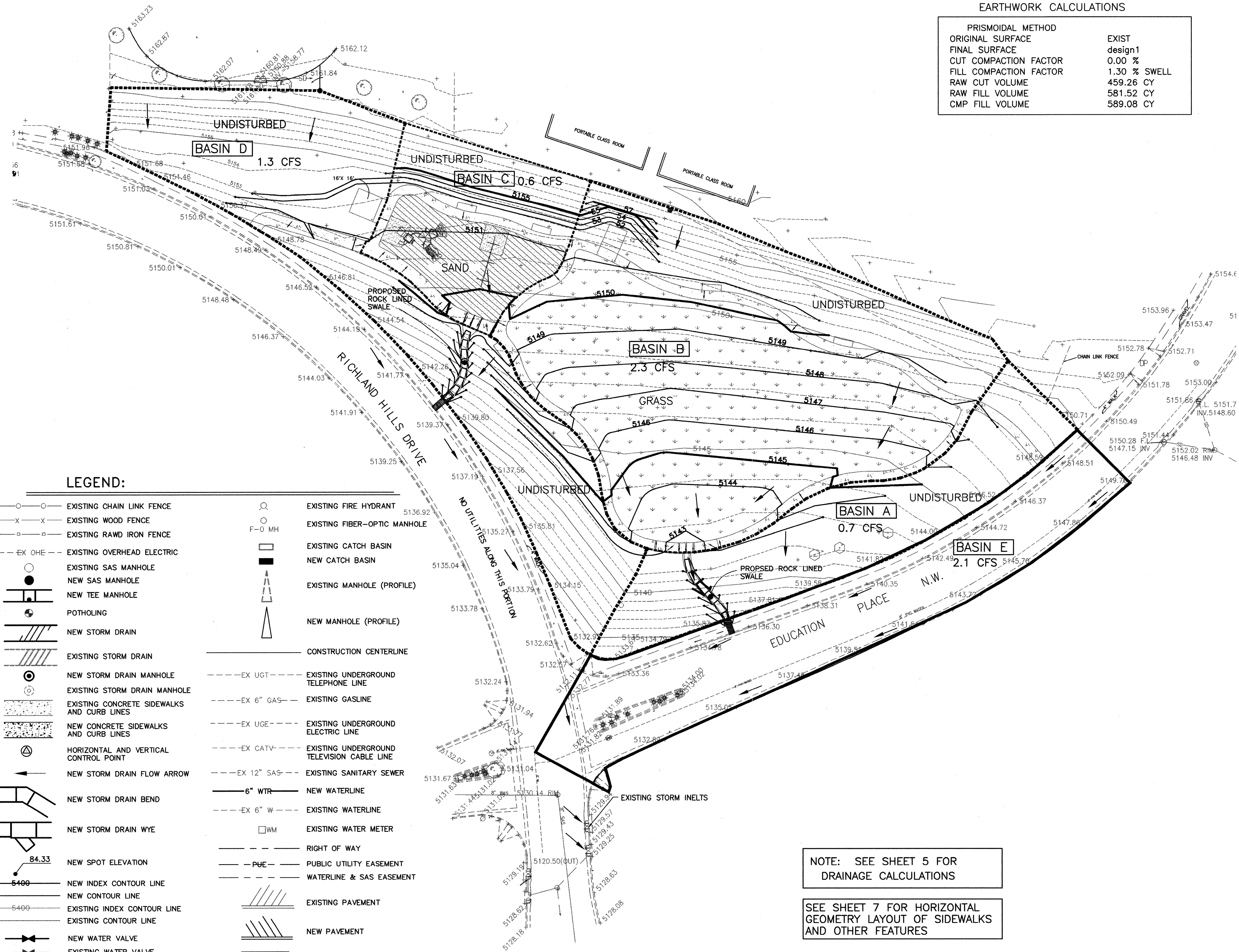
City Project No. 566371

Zone Map No. C-12-Z

Sheet 2 of 15

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- LEGEND:**
- | | | | |
|--|--------------------------------------------|--|------------------------------|
| | EXISTING CHAIN LINK FENCE | | EXISTING FIRE HYDRANT |
| | EXISTING WOOD FENCE | | EXISTING FIBER-OPTIC MANHOLE |
| | EXISTING RAWD IRON FENCE | | EXISTING CATCH BASIN |
| | EXISTING OVERHEAD ELECTRIC | | NEW CATCH BASIN |
| | EXISTING SAS MANHOLE | | EXISTING MANHOLE (PROFILE) |
| | NEW SAS MANHOLE | | NEW MANHOLE (PROFILE) |
| | NEW TEE MANHOLE | | |
| | POTHOLING | | |
| | NEW STORM DRAIN | | |
| | EXISTING STORM DRAIN | | |
| | NEW STORM DRAIN MANHOLE | | |
| | EXISTING STORM DRAIN MANHOLE | | |
| | EXISTING CONCRETE SIDEWALKS AND CURB LINES | | |
| | NEW CONCRETE SIDEWALKS AND CURB LINES | | |
| | HORIZONTAL AND VERTICAL CONTROL POINT | | |
| | NEW STORM DRAIN FLOW ARROW | | |
| | NEW STORM DRAIN BEND | | |
| | NEW STORM DRAIN WYE | | |
| | NEW SPOT ELEVATION | | |
| | NEW INDEX CONTOUR LINE | | |
| | NEW CONTOUR LINE | | |
| | EXISTING INDEX CONTOUR LINE | | |
| | EXISTING CONTOUR LINE | | |
| | NEW WATER VALVE | | |
| | EXISTING WATER VALVE | | |
| | CITY OF ALBUQUERQUE | | |
| | TOP OF CURB | | |
| | FLOWLINE | | |
| | TOP OF PIPE | | |
| | EXISTING SPOT ELEVATION | | |



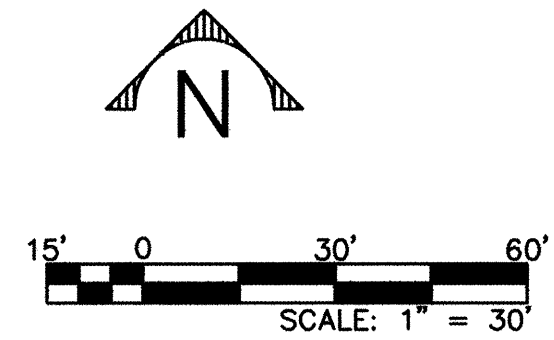
EARTHWORK CALCULATIONS

PRISMOIDAL METHOD	
ORIGINAL SURFACE	EXIST
FINAL SURFACE	design1
CUT COMPACTION FACTOR	0.00 %
FILL COMPACTION FACTOR	1.30 % SWELL
RAW CUT VOLUME	459.26 CY
RAW FILL VOLUME	581.52 CY
CMP FILL VOLUME	589.08 CY

NOTE: SEE SHEET 5 FOR DRAINAGE CALCULATIONS


SEE SHEET 7 FOR HORIZONTAL GEOMETRY LAYOUT OF SIDEWALKS AND OTHER FEATURES

FOR INFORMATION ONLY



PROJECT NO. 198634
Smith Engineering Company
A Full Service Engineering Company
6400 Olympic Boulevard, N.E. Suite 2000 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE CAPITAL IMPLEMENTATION PROGRAM LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES	
TITLE: RICHLAND HILLS PARK IMPROVEMENTS PROJECT	
CONCEPTUAL GRADING AND DRAINAGE PLAN	
Design Review Committee APPROVED JUL 22 1999 DESIGN REVIEW COMMITTEE	City Engineer Approval APPROVED JUL 22 1999 CITY ENGINEER
City Project No. 566371	Zone Map No. C-12-Z
Sheet 4	of 15

						ENGINEERS SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION			
								FIELD NOTES		MONUMENT IS A 1.75" ALUMINUM DISK STAMPED "ACS BM.2-C12" AND IS EXPOSED TO TOP OF CONCRETE CURB, ON THE S.S.W. CURB RETURN AT THE INTERSECTION OF PARADISE HILLS BLVD. AND DAVENPORT ST. N.W.		CONTRACTOR WORK STARTED BY DATE ACCEPTANCE BY DATE FIELD REVISIONS BY DATE DRAWINGS CORRECTED BY DATE <i>MICRO-FILM INFORMATION</i> RECORDED BY DATE NO.			
				NO.				BY						DATE	
				CREW: MWR, DS, AG.				05/97							
NO.		DATE		REMARKS		BY									
				REVISIONS											
				DESIGN											
DESIGNED BY		R.J.D.		DATE		JULY, 1999									
DRAWN BY		R.J.D.		DATE		JULY, 1999									
CHECKED BY		P.J.C.		DATE		JULY, 1999									

RICHLAND HILLS DRIVE DRAINAGE CALCULATIONS

Note: all TC's are assumed to be 12 minutes

PROJECT NAME = RICHLAND HILLS PARK PROJECT													
HYDROLOGIC CALCULATIONS (for small watersheds < 40 acres (per DPM Section 22))													
Precipitation Zone = 1													
Table A-9 (DPM) Peak Discharge (cfs/acre)													
FORMULA: Total Qp (cfs) = QpA*Aa+QpB*Ba+QpC*Ca+QpD*Da -- Note - "a" = area in acres													
EXISTING CONDITIONS													
Basin & Condition or Analysis Point	Return Period	Qp per Land Treatment Type (cfs/acre)	and		Land Treatment Type (acres)								
	6-hr.	QpA	A	A	QpB	B	B	QpC	C	C	QpD	D	D
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
ENTIRE SITE	100	1.29	0.0000	0.0	2.03	2.3600	84.0	2.87	0.0000	0.0	4.37	0.4500	16.0
ENTIRE SITE	10	0.24	0.0000	0.0	0.76	2.3600	84.0	1.49	0.0000	0.0	2.89	0.4500	16.0
DEVELOPED CONDITIONS													
Basin & Condition or Analysis Point	Return Period	Qp per Land Treatment Type (cfs/acre)	and		Land Treatment Type (acres)								
	6-hr.	QpA	A	A	QpB	B	B	QpC	C	C	QpD	D	D
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
A	100	1.29	0.0000	0.0	2.03	0.3385	99.7	2.87	0.0000	0.0	4.37	0.0010	0.3
A	10	0.24	0.0000	0.0	0.76	0.3385	99.7	1.49	0.0000	0.0	2.89	0.0010	0.3
Basin & Condition or Analysis Point													
	6-hr.	QpA	A	A	QpB	B	B	QpC	C	C	QpD	D	D
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
B	100	1.29	0.0000	0.0	2.03	0.9800	89.1	2.87	0.0000	0.0	4.37	0.1200	10.9
B	10	0.24	0.0000	0.0	0.76	0.9800	89.1	1.49	0.0000	0.0	2.89	0.1200	10.9
Basin & Condition or Analysis Point													
	6-hr.	QpA	A	A	QpB	B	B	QpC	C	C	QpD	D	D
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
C	100	1.29	0.0000	0.0	2.03	0.2145	83.4	2.87	0.0000	0.0	4.37	0.0428	16.6
C	10	0.24	0.0000	0.0	0.76	0.2145	83.4	1.49	0.0000	0.0	2.89	0.0428	16.6
Basin & Condition or Analysis Point													
	6-hr.	QpA	A	A	QpB	B	B	QpC	C	C	QpD	D	D
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
D	100	1.29	0.0000	0.0	2.03	0.5959	96.6	2.87	0.0000	0.0	4.37	0.0212	3.4
D	10	0.24	0.0000	0.0	0.76	0.5959	96.6	1.49	0.0000	0.0	2.89	0.0212	3.4
Basin & Condition or Analysis Point													
	6-hr.	QpA	A	A	QpB	B	B	QpC	C	C	QpD	D	D
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
E	100	1.29	0.0000	0.0	2.03	0.0500	10.0	2.87	0.0000	0.0	4.37	0.4500	90.0
E	10	0.24	0.0000	0.0	0.76	0.0500	10.0	1.49	0.0000	0.0	2.89	0.4500	90.0
TOTAL 100 YEAR												2.81	7.2
TOTAL 10 YEAR												2.81	2.2
P													

RICHLAND HILLS PARK DRAINAGE ANALYSIS

Richland Hills Park is located on a 2.2 +/- acre parcel of undeveloped land located in the northwest section of Albuquerque. The southern section of the park is at the intersection of Education Place NW and Richland Hills Drive, and is approximately 2 mile north of Paseo Del Norte. Access to the park will be off of Richland Hills Drive and off of Education Place. The soils at this site are classified as an MWA (Madurez Series - Wink association). This soil is a fine sandy loam found on slopes from 1 to 9%. The local climate in this area is considered semiarid and is hot and dry with an average annual rainfall of 8". The project is site is classified as zone X on the flood insurance Rate map firm #35001c0116d).

PREVIOUS MASTER DRAINAGE PLAN

The master drainage plan for the subdivision is titled "Drainage Report for Richland Hills Unit 1 (Map #C-12). Community Sciences Corporation, October 1993 (Revised March 1994), James D. Hughes PE. The following information is a summary of the drainage information for the park as provided in that report.

Basin 112 is designated park area and these flows were considered in Richland Hills Road NW and Extension of Education Place NW design. Basin 112 is shown to free discharge into Education Place (Plate 2). Flows from Education Place combine with flows from Richland Hills Rd NW at their intersection, and continue southerly on Richland Hills Rd NW. Just south of the intersection of the two streets, a Type Double A single throat and Type Double C are located on both sides of Richland Hills Rd NW.

Basin 112 Data and Qp 100-yr. :
Area = 0.0044 sq. mi. , (2.816 acres) , Tc=12 min. Land Treatments % (A=0%, B=80%, C=0%, D=20%), Qp100-yr = 7.17 cfs

HYDROLOGIC ANALYSIS

The City of Albuquerque's Development Process Manual (DPM) Section 22.2 was used to compute the 100 -year 6-hour peak flows and runoff volumes for the on-site basins. Precipitation is in zone 1 along with tables A-8 and A-9 were used for these calculations. The park was divided into 8 sub-basins based on developed runoff patterns. The existing condition flows were computed for comparison purposed only. There are no off-site flows entering the site for either existing or developed conditions.

A. Existing Conditions - On-site

There is no off-site drainage flows entering the park site. The existing site is undeveloped and is vegetated with native grasses and sage brush. The grades on the site, from the existing side walk on Richland Hills Drive are approximately 17% or about 1 to 6 slopes. The slopes are less severe - 1:14 or about 7% - towards the north. The entire 2.81 acres was analyzed as one basin to calculate the existing 100 - and 10 year peak discharge and excess precipitation. Please refer to the tables on this sheet. The existing 100 Q = 6.8 cfs. The existing excess precipitation is .2056 acre-ft.

There are no existing drainage improvements on the site.

B. DEVELOPED CONDITIONS

The developed park will have paved impermeable areas including concrete sidewalks covered shelters, drip irrigated landscaped areas for native shrubs and trees, irrigated grass areas and a sand area for a children's playground.

Basin A shall remain relatively undisturbed . 99.7% of the area is assigned to land treatment type B. 0.3% of the area is assigned to land treatment type D which is the new sidewalk coming into the park from Education Place. An estimated 0.7 cfs will flow onto education place from this basin.

Basin B is 89.1% irrigated grass and 10.9% concrete sidewalks and shelter pads . Land treatment B was used for the grass and land treatment D for the sidewalks. The proposed sidewalks on the perimeter of this basin shall have a 2% cross slope directed to towards the interior of the park. This will eliminate developed impermeable surface flows from eroding the existing slopes leading to Richland Hills Drive and Education Place. Basin B runoff will shall be directed to the south end of the basin. At this location, the side walk slopes shall be transitioned to empty into a rock lined swale that will take the flow down to a new sidewalk culvert across the existing sidewalk on Education Place. An estimated 2.3 cfs will drain from this basin to Education Place.

Basin C encompasses the sand play area, concrete sidewalk, and the undisturbed slopes on the north side of the basin. 83.4% of the area is assigned to land treatment B and 16.6% to land treatment D. An estimated 0.6 cfs will drain from Basin C and shall be directed to the south end of the basin where the sidewalk shall transition to a 2% cross slope into a new rock lined swale that will take the flow down to a new sidewalk culvert built across the existing 4' wide sidewalk on Richland Hills Drive.

Basin D remains, for the most part, undeveloped. 96.6% of the area remains in land treatment B with 3.4% in land treatment D. An estimated 1.3 cfs will sheet flow out onto Richland Hills Drive.



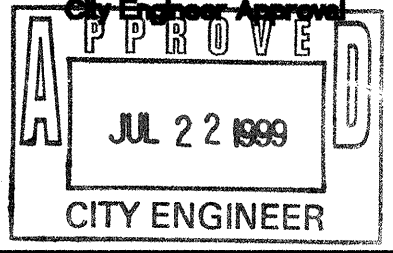
Base E includes Education Place (paved w/ curb and gutter). This basin drains to the existing storm inlets on the north side of Richland Hills Drive just east of the intersection. 0.45 acres of Basin E are impermeable pavement with .050 acres defined as land treatment B. An estimated 2.1 cfs drains to the inlets in the 100 year event.

SUMMARY

The allowable volume as stated in the master drainage study is 7.2 cfs. The proposed calculated discharge of 7.2 cfs equals the allowable. No detention facilities should be required on this park site.

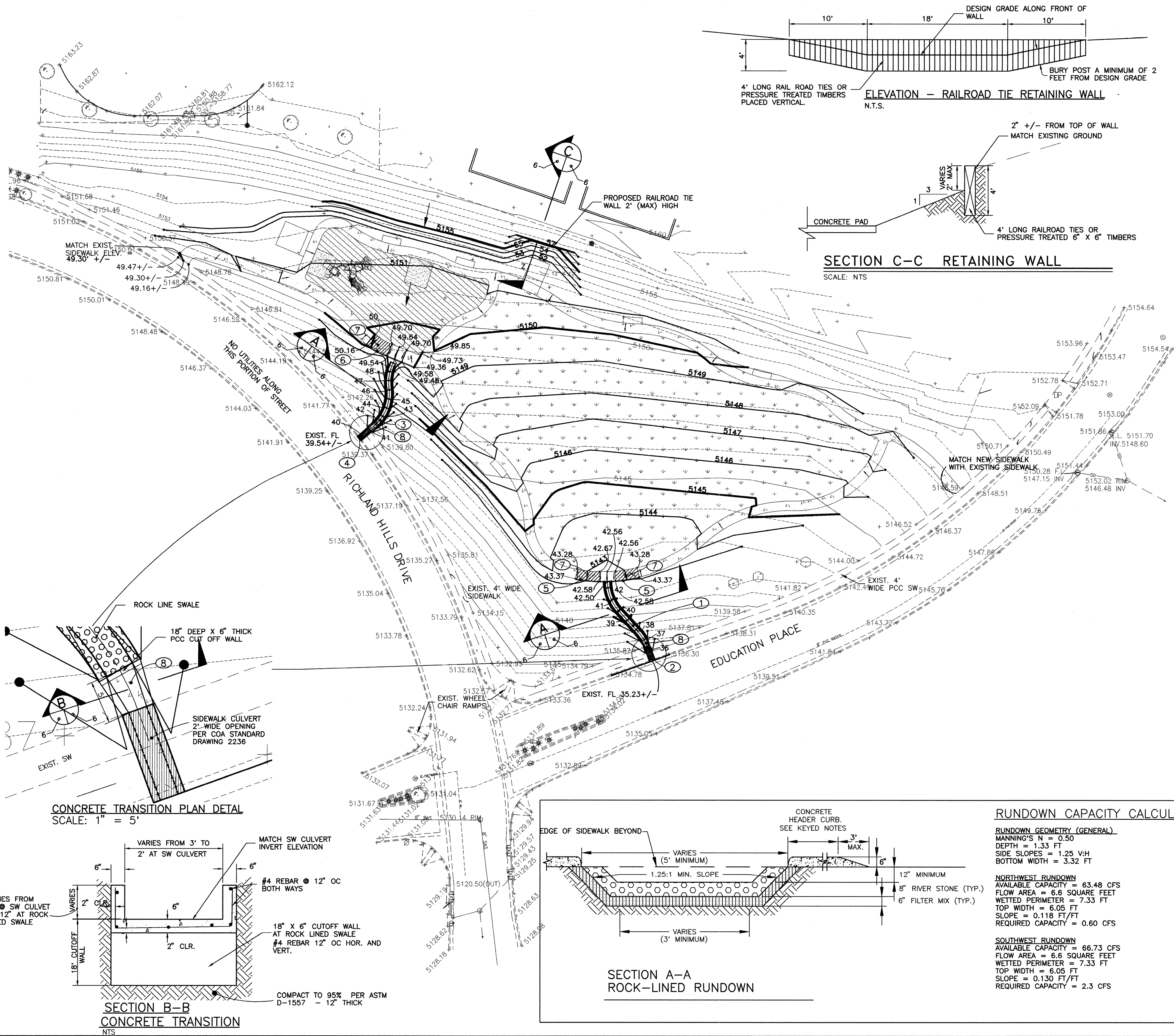
PROJECT NAME = RICHLAND HILLS PARK PROJECT													
HYDROLOGIC CALCULATIONS (for small watersheds < 40 acres (per DPM Section 22))													
Precipitation Zone = 1													
Table A-8 (DPM) Excess Precipitation - E - (in.)													
FORMULAS: Weighted E (in.) = EaA*Aa+EaB*Ba+EaC*Ca+EaD*Da / (total area "a") -- Note - "a" = area in acres													
Total Runoff Volume (ac-ft) = Weighted E (in.) * (total area "a") / (12 in./ft)													
Basin & Condition or Analysis Point	Return Period	EaA	A	A	EaB	B	B	EaC	C	C	EaD	D	D
	6-hr.												
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
	100	0.44	0.0000	0.0	0.67	2.3600	84.0	0.99	0.0000	0.0	1.97	0.4500	16.0
	10	0.08	0.0000	0.0	0.22	2.3600	84.0	0.44	0.0000	0.0	1.24	0.4500	16.0
DEVELOPED FOR ENTIRE SITE													
FORMULAS: Weighted E (in.) = EaA*Aa+EaB*Ba+EaC*Ca+EaD*Da / (total area "a") -- Note - "a" = area in acres													
Total Runoff Volume (ac-ft) = Weighted E (in.) * (total area "a") / (12 in./ft)													
Basin & Condition or Analysis Point	Return Period	EaA	A	A	EaB	B	B	EaC	C	C	EaD	D	D
	6-hr.												
		(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)	(ac)	(%)	(%)
	100	0.44	0.0000	0.0	0.67	2.1800	77.4	0.99	0.0000	0.0	1.97	0.6348	22.6
	10	0.08	0.0000	0.0	0.22	2.1800	77.4	0.44	0.0000	0.0	1.24	0.6348	22.6

FOR INFORMATION ONLY

 PROJECT NO. 198634 Smith Engineering Company A Full Service Engineering Company 6400 Upper Boulevard, N.E. Suite 2000 Albuquerque, New Mexico 87110	
CITY OF ALBUQUERQUE CAPITAL IMPLEMENTATION PROGRAM LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES	
TITLE: RICHLAND HILLS PARK IMPROVEMENTS PROJECT DRAINAGE CALCULATIONS AND ANALYSIS	
Design Review Committee  JUL 22 1999 DESIGN REVIEW COMMITTEE	City Engineer Approval  JUL 22 1999 CITY ENGINEER
City Project No. 566371	Zone Map No. C-12-Z
Sheet 5 of 15	

N:\198634\OPTIONAL\IMPROVE.dwg P1 JUL 09 13:16:50 1999

N:\198634\OPTIONAL\IMPROVE.dwg
Drawing name: improve.dwg
Saved on: June 13, 1999 at 4:13 PM



KEYED NOTES:

1. CONSTRUCT ROCK-LINED RUNDOWN PER DETAIL ON THIS SHEET
2. INSTALL NEW 24" WIDE SINGLE SIDEWALK CULVERT PER COA STANDARD DRAWING DWG.2236
3. CONSTRUCT ROCK-LINED RUNDOWN PER DETAIL ON THIS SHEET
4. INSTALL NEW 24" WIDE SINGLE SIDEWALK CULVERT PER COA STANDARD DRAWING DWG.2236
5. INSTALL 42" (MINIMUM) HEADER CURB PER COA STANDARD DRAWING DWG.2415. SEE SECTION A-A THIS SHEET.
6. INSTALL 35" (MINIMUM) HEADER CURB PER COA STANDARD DRAWING DWG.2415. SEE SECTION A-A THIS SHEET. HEADER CURB SHALL BE INSTALLED ON DOWNSTREAM SIDE OF SIDEWALK TO BLOCK AND CHANNEL RUN-OFF TO THE ROCK LINED CHANNEL.
7. TRANSITION SIDEWALK CROSS SLOPE.
8. CONSTRUCT PCC TRANSITION SECTION FROM ROCK LINED SWALE TO SIDEWALK CULVERT PER DETAILS ON THIS SHEET.

SIDEWALK CULVERT CALCULATIONS

CULVERT GEOMETRY (RECTANGULAR SECTION)
MANNING'S N = 0.013
DEPTH = 0.50 FT
BOTTOM WIDTH = 2.00 FT

NORTHWEST RUNDOWN
AVAILABLE CAPACITY = 7.17 CFS
FLOW AREA = 0.50 SQUARE FEET
WETTED PERIMETER = 2.00 FT
TOP WIDTH = 2.00 FT
SLOPE = 0.100 FT/FT
REQUIRED CAPACITY = 0.60 CFS

SOUTHWEST RUNDOWN
AVAILABLE CAPACITY = 7.17 CFS
FLOW AREA = 0.50 SQUARE FEET
WETTED PERIMETER = 2.00 FT
TOP WIDTH = 1.00 FT
SLOPE = 0.100 FT/FT
REQUIRED CAPACITY = 2.3 CFS

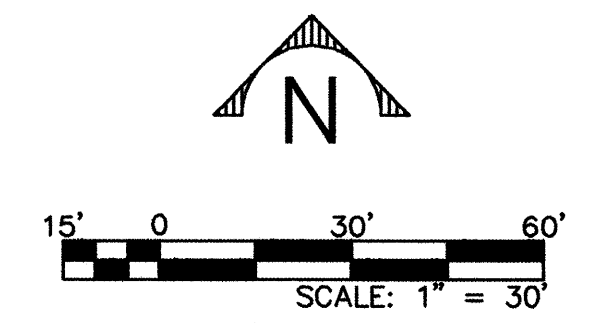
SIDEWALK CULVERT CALCULATIONS
ASSUMING RECTANGULAR WEIR

RECTANGULAR WEIR EQUATION
 $Q = 2/3 C_b \sqrt{2g} h^{3/2}$
Where: C = discharge coefficient use 0.622
b = width of weir = 2'
g = 32.2
h = depth of water - use 0.5' depth

Q = 2.4 cfs
Required = 2.3 cfs

Weir equation taken from "CIVIL ENGINEERING REFERENCE MANUAL", by Michael R. Lindeburg, page 5-8.

FOR INFORMATION ONLY



RUNDOWN CAPACITY CALCULATION

RUNDOWN GEOMETRY (GENERAL)
MANNING'S N = 0.50
DEPTH = 1.33 FT
SIDE SLOPES = 1.25 V:H
BOTTOM WIDTH = 3.32 FT

NORTHWEST RUNDOWN
AVAILABLE CAPACITY = 63.48 CFS
FLOW AREA = 6.6 SQUARE FEET
WETTED PERIMETER = 7.33 FT
TOP WIDTH = 6.05 FT
SLOPE = 0.118 FT/FT
REQUIRED CAPACITY = 0.60 CFS

SOUTHWEST RUNDOWN
AVAILABLE CAPACITY = 66.73 CFS
FLOW AREA = 6.6 SQUARE FEET
WETTED PERIMETER = 7.33 FT
TOP WIDTH = 6.05 FT
SLOPE = 0.130 FT/FT
REQUIRED CAPACITY = 2.3 CFS

AS BUILT INFORMATION				BENCH MARKS				SURVEY INFORMATION				ENGINEERS SEAL				
CONTRACTOR	DATE	WORK BY	DATE	MONUMENT IS A 1.75" ALUMINUM DISK STAMPED "ACS BM-2-C12" AND IS EXPOSED TO TOP OF CONCRETE CURB ON THE S.W. CURB RETURN AT THE INTERSECTION OF PARADISE HILLS BLVD. AND DOWNTOWN ST. N.W.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY	NO.

PROJECT NO. 198634
Smith Engineering Company
A Full Service Engineering Company
6000 Uptown Southwest, N.E. Suite 2000 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES

TITLE: **RICHLAND HILLS PARK IMPROVEMENTS PROJECT**
GRADING AND DRAINAGE PLAN

APPROVED
JUL 22 1999
DESIGN REVIEW COMMITTEE

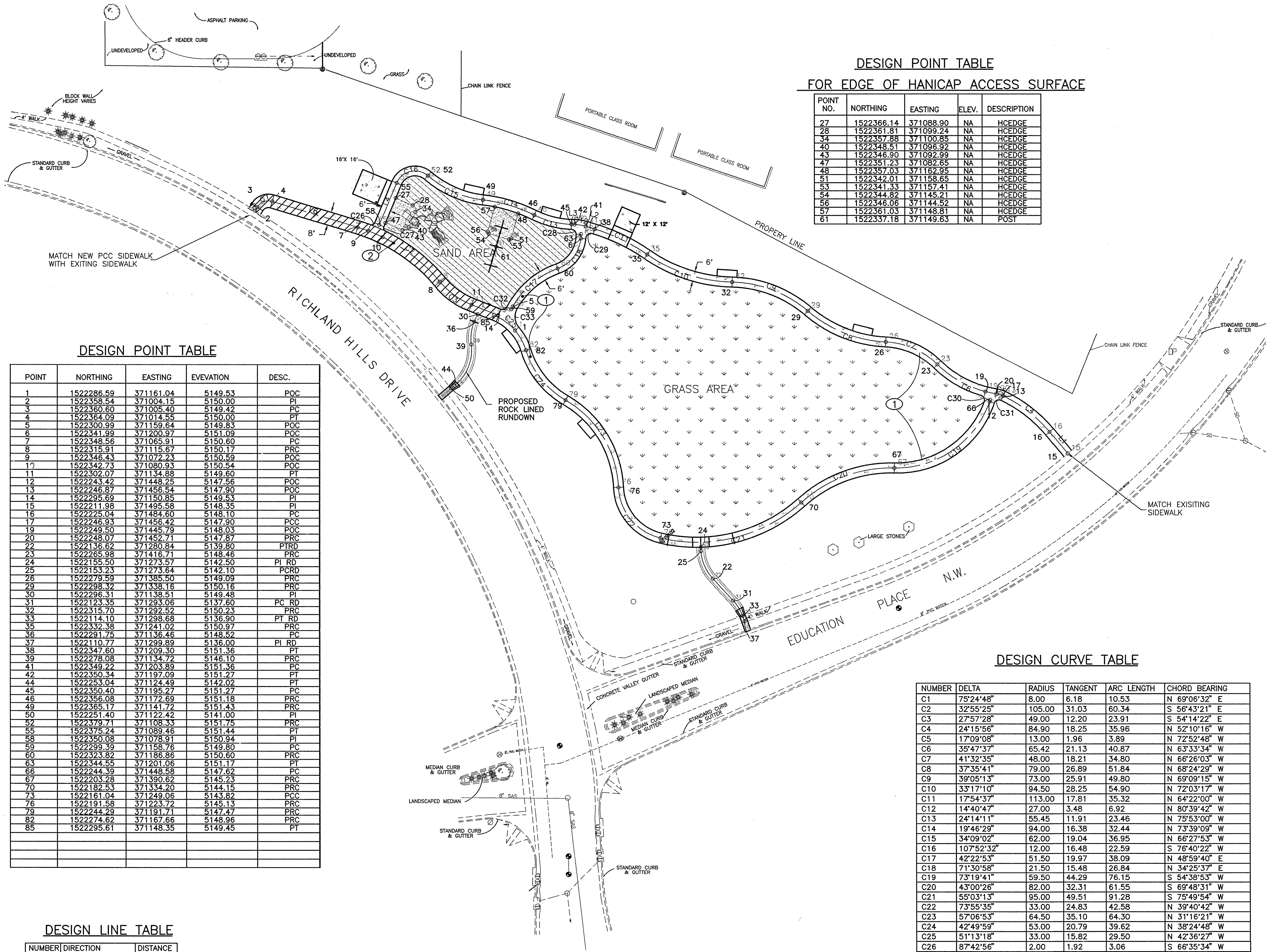
APPROVED
JUL 22 1999
CITY ENGINEER

City Project No. **566371**

Zone Map No. **C-12-Z**

Sheet **6** of **15**

Drawing name: Richland Hills.dwg
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DESIGN POINT TABLE

POINT	NORTHING	EASTING	ELEVATION	DESC.
1	1522286.59	371161.04	5149.53	POC
2	1522358.54	371004.15	5150.00	PI
3	1522360.60	371005.40	5149.42	PC
4	1522364.09	371014.55	5150.00	PT
5	1522300.99	371159.64	5149.83	POC
6	1522341.99	371200.97	5151.09	POC
7	1522348.56	371065.91	5150.60	PC
8	1522315.91	371115.67	5150.17	PRC
9	1522346.43	371072.23	5150.59	POC
10	1522342.73	371080.93	5150.54	POC
11	1522302.07	371134.88	5149.60	PT
12	1522243.42	371448.25	5147.56	POC
13	1522246.87	371456.54	5147.90	POC
14	1522295.59	371150.85	5149.53	PI
15	1522211.98	371495.58	5148.35	PC
16	1522225.04	371484.60	5148.10	PC
17	1522246.93	371456.42	5147.90	POC
18	1522249.50	371445.79	5148.03	POC
19	1522248.07	371452.71	5147.87	PRC
20	1522136.62	371280.84	5139.80	PT RD
21	1522265.98	371416.71	5148.46	PRC
22	1522155.50	371273.57	5142.50	PI RD
23	1522153.23	371273.64	5142.10	PRC
24	1522279.59	371385.50	5149.09	PRC
25	1522298.32	371338.16	5150.16	PRC
26	1522296.31	371138.51	5149.48	PI
27	1522123.35	371293.06	5137.60	PC RD
28	1522315.70	371292.52	5150.23	PRC
29	1522114.10	371298.68	5136.90	PT RD
30	1522332.58	371241.02	5150.97	PRC
31	1522291.75	371136.46	5148.52	PC
32	1522110.77	371299.89	5136.00	PI RD
33	1522347.60	371209.30	5151.36	PT
34	1522278.08	371134.72	5146.10	PRC
35	1522349.22	371203.89	5151.36	PC
36	1522350.34	371197.09	5151.27	PT
37	1522253.04	371124.49	5142.02	PT
38	1522350.40	371195.27	5151.27	PC
39	1522356.08	371172.69	5151.18	PRC
40	1522365.17	371141.72	5151.43	PRC
41	1522251.40	371122.42	5141.00	PI
42	1522379.71	371108.33	5151.75	PRC
43	1522375.24	371089.46	5151.44	PT
44	1522350.08	371078.91	5150.94	PI
45	1522299.89	371158.73	5148.80	PC
46	1522323.82	371186.86	5150.60	PRC
47	1522344.55	371201.06	5151.17	PT
48	1522244.39	371448.58	5147.62	PC
49	1522203.28	371390.62	5145.23	PRC
50	1522182.53	371334.20	5144.15	PRC
51	1522161.04	371249.06	5143.82	PC
52	1522191.58	371223.72	5145.13	PRC
53	1522224.62	371187.71	5147.47	PRC
54	1522274.62	371167.66	5148.96	PRC
55	1522295.61	371148.35	5149.45	PT

DESIGN LINE TABLE

NUMBER	DIRECTION	DISTANCE
L1	N 40°02'18" W	17.06 FT
L2	N 73°19'18" W	5.65 FT
L3	N 88°00'05" W	1.82 FT
L4	S 22°44'06" W	27.28 FT
L5	N 31°24'08" E	2.41 FT
L6	S 73°11'04" E	53.66 FT
L7	S 68°13'07" E	17.21 FT

DESIGN POINT TABLE
FOR EDGE OF HANICAP ACCESS SURFACE

POINT NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
27	1522366.14	371088.90	NA	HCEDGE
28	1522361.81	371099.24	NA	HCEDGE
34	1522357.88	371100.85	NA	HCEDGE
40	1522348.51	371096.92	NA	HCEDGE
43	1522346.90	371092.99	NA	HCEDGE
47	1522351.23	371082.65	NA	HCEDGE
48	1522357.03	371162.95	NA	HCEDGE
51	1522342.01	371158.65	NA	HCEDGE
53	1522341.33	371157.41	NA	HCEDGE
54	1522344.82	371145.21	NA	HCEDGE
56	1522346.06	371144.52	NA	HCEDGE
57	1522361.03	371148.81	NA	HCEDGE
61	1522337.18	371149.63	NA	POST

DESIGN CURVE TABLE

NUMBER	DELTA	RADIUS	TANGENT	ARC LENGTH	CHORD BEARING
C1	75°24'48"	8.00	6.18	10.53	N 69°06'32" E
C2	32°55'25"	105.00	31.03	60.34	S 56°43'21" E
C3	27°57'28"	49.00	12.20	23.91	S 54°14'22" E
C4	24°15'56"	84.90	18.25	35.96	N 52°10'16" W
C5	17°09'08"	13.00	1.96	3.89	N 72°52'48" W
C6	35°47'37"	65.42	21.13	40.87	N 63°33'34" W
C7	41°32'35"	48.00	18.21	34.80	N 66°26'03" W
C8	37°35'41"	79.00	26.89	51.84	N 68°24'29" W
C9	39°05'13"	73.00	25.91	49.80	N 69°09'15" W
C10	33°17'10"	94.50	28.25	54.90	N 72°03'17" W
C11	17°54'37"	113.00	17.81	35.32	N 64°22'00" W
C12	14°40'47"	27.00	3.48	6.92	N 80°39'42" W
C13	24°14'11"	55.45	11.91	23.46	N 75°53'00" W
C14	19°46'29"	94.00	16.38	32.44	N 73°39'09" W
C15	34°09'02"	62.00	19.04	36.95	N 66°27'53" W
C16	107°52'32"	12.00	16.48	22.59	S 76°40'22" W
C17	42°22'53"	51.50	19.97	38.09	N 48°59'40" E
C18	71°30'58"	21.50	15.48	26.84	N 34°25'37" E
C19	73°19'41"	59.50	44.29	76.15	S 54°38'53" W
C20	43°00'26"	82.00	32.31	61.55	S 69°48'31" W
C21	55°03'13"	95.00	49.51	91.28	S 75°49'54" W
C22	73°55'35"	33.00	24.83	42.58	N 39°40'42" W
C23	57°06'53"	64.50	35.10	64.30	N 31°16'21" W
C24	42°49'59"	53.00	20.79	39.62	N 38°24'48" W
C25	51°13'18"	33.00	15.82	29.50	N 42°36'27" W
C26	87°42'56"	2.00	1.92	3.06	S 66°35'34" W
C27	87°07'15"	2.00	1.90	3.04	N 20°49'32" W
C28	86°40'14"	3.00	2.83	4.54	N 44°39'58" W
C29	102°08'10"	3.00	3.71	5.36	S 55°18'51" W
C30	93°45'22"	3.00	3.20	4.91	N 26°39'32" W
C31	97°33'39"	3.00	3.42	5.11	N 67°02'24" E
C32	83°58'40"	3.00	2.70	4.40	N 69°47'33" E
C33	70°45'48"	9.50	6.75	11.73	S 05°32'33" E

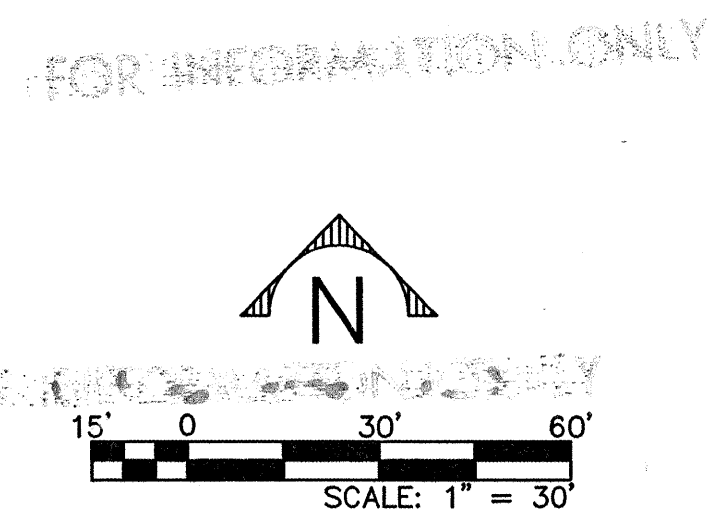
KEYED NOTES:

- CONSTRUCT 6' WIDE X 4" PCC SIDEWALK PER COA DRAWING DWG.2430.
- CONSTRUCT 8' WIDE X 6" SURFACE FOR PARK AND RECREATION VEHICLES TO ACCESS PARK FOR MAINTENANCE. REFER TO COA DWG.2415 SECTION B-B FOR DETAILS.

6" THICK SIDEWALK FOR COA MAINTENANCE ACCESS. ALL OTHER SIDEWALK PAVING SHALL BE 4" THICK UNLESS OTHERWISE NOTED.

NOTE:

ALL SIDEWALK GRADES SHALL BE 5% OR LESS. WHEEL CHAIR RAMPS SHALL BE 8.33% OR LESS.

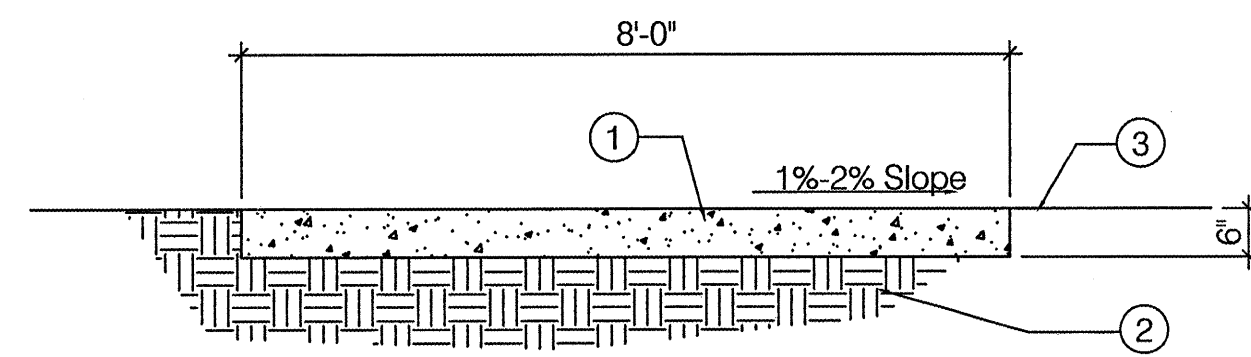


PROJECT NO. 198634
Smith Engineering Company
A Full Service Engineering Company
8000 Uptown Boulevard, N.E. Suite 800B, Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS PROJECT
HORIZONTAL GEOMETRY PLAN

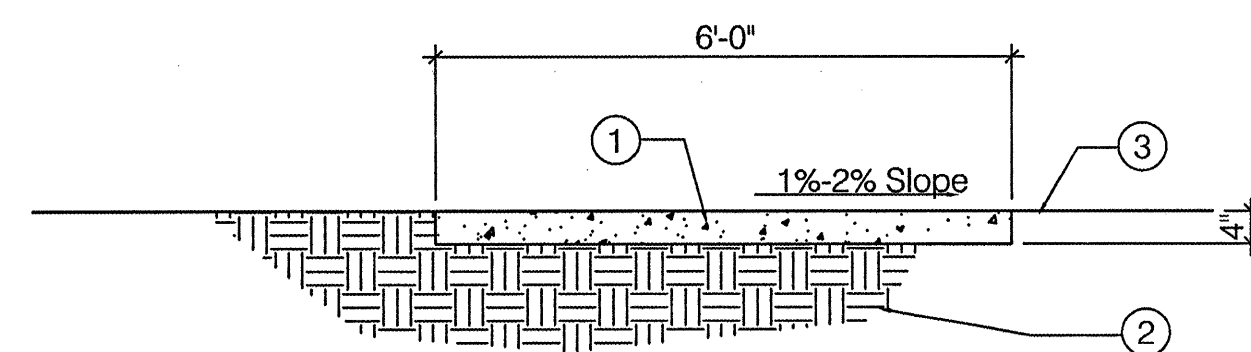
DESIGN REVIEW COMMITTEE JUL 22 1999	CITY ENGINEER APPROVAL JUL 22 1999	DESIGN UPDATE
DESIGNED BY: R.J.D.	DRAWN BY: R.J.D.	CHECKED BY: P.J.C.
DATE: JULY, 1999	DATE: JULY, 1999	DATE: JULY, 1999



THICKENED 8' CONCRETE WALK

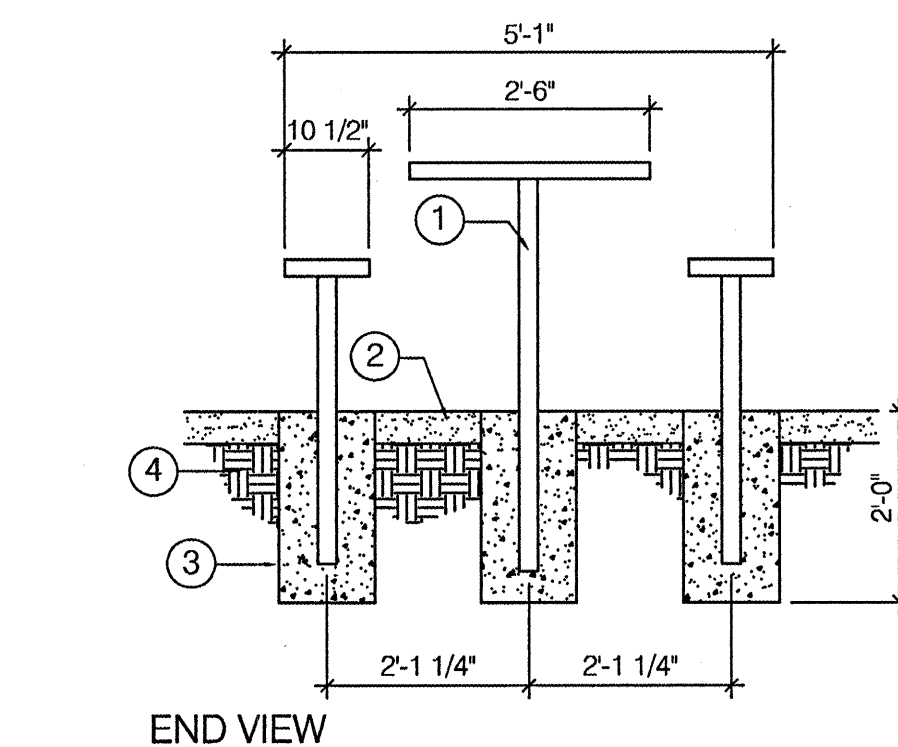
CONSTRUCTION NOTES:

- 1 4,000 psi concrete, medium broom finish perpendicular to traffic flow and 4" trowelled edge. Unless otherwise noted, control joints shall be @ 5'-0" and expansion joints shall be @ 20'-0". See details 4/11 and 2/10.
- 2 Compacted subgrade.
- 3 Surface treatment - see Landscape Plan, sheet 14.



6' CONCRETE WALK

1 6' CONCRETE WALK
Scale: 1/2" = 1'-0"

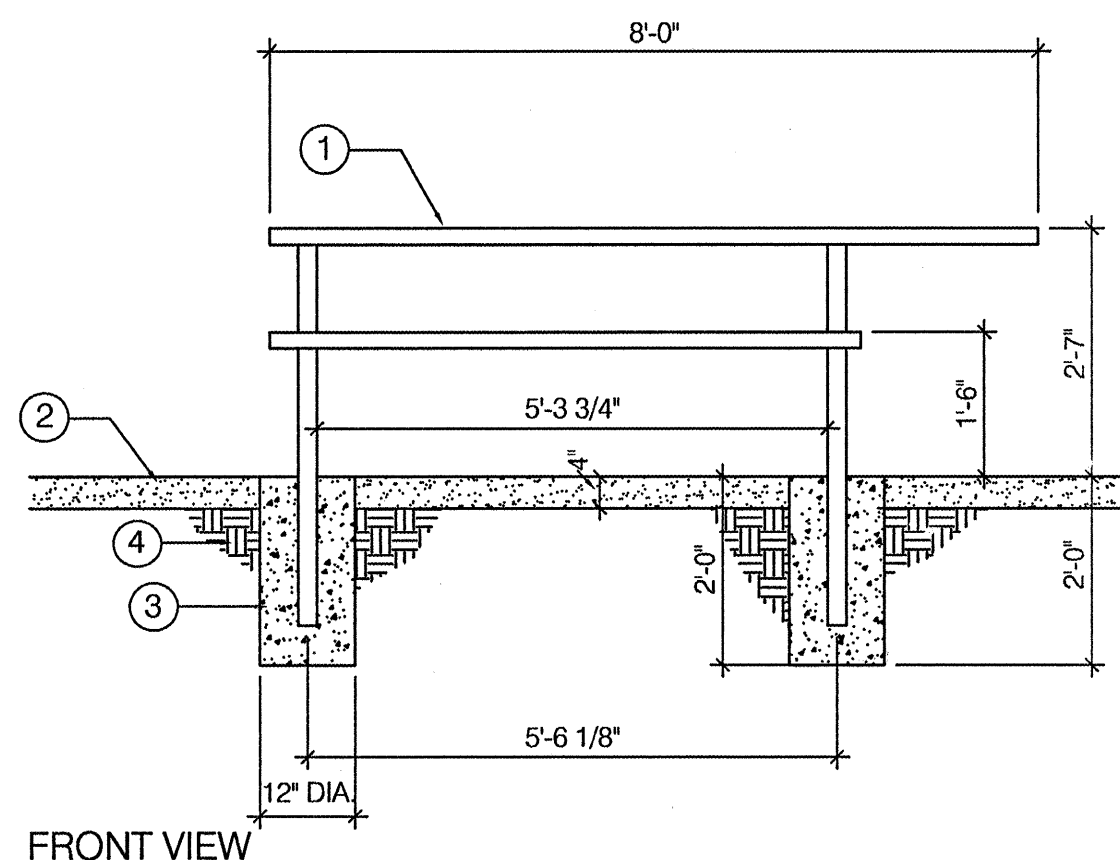


END VIEW

NOTE: Install per manufacturer's specifications.

CONSTRUCTION NOTES

- 1 Handicap accessible picnic table - see Site Amenities Legend, sheet 10.
- 2 4" thick concrete slab.
- 3 Concrete footing, 4,000 psi.
- 4 Compacted subgrade.

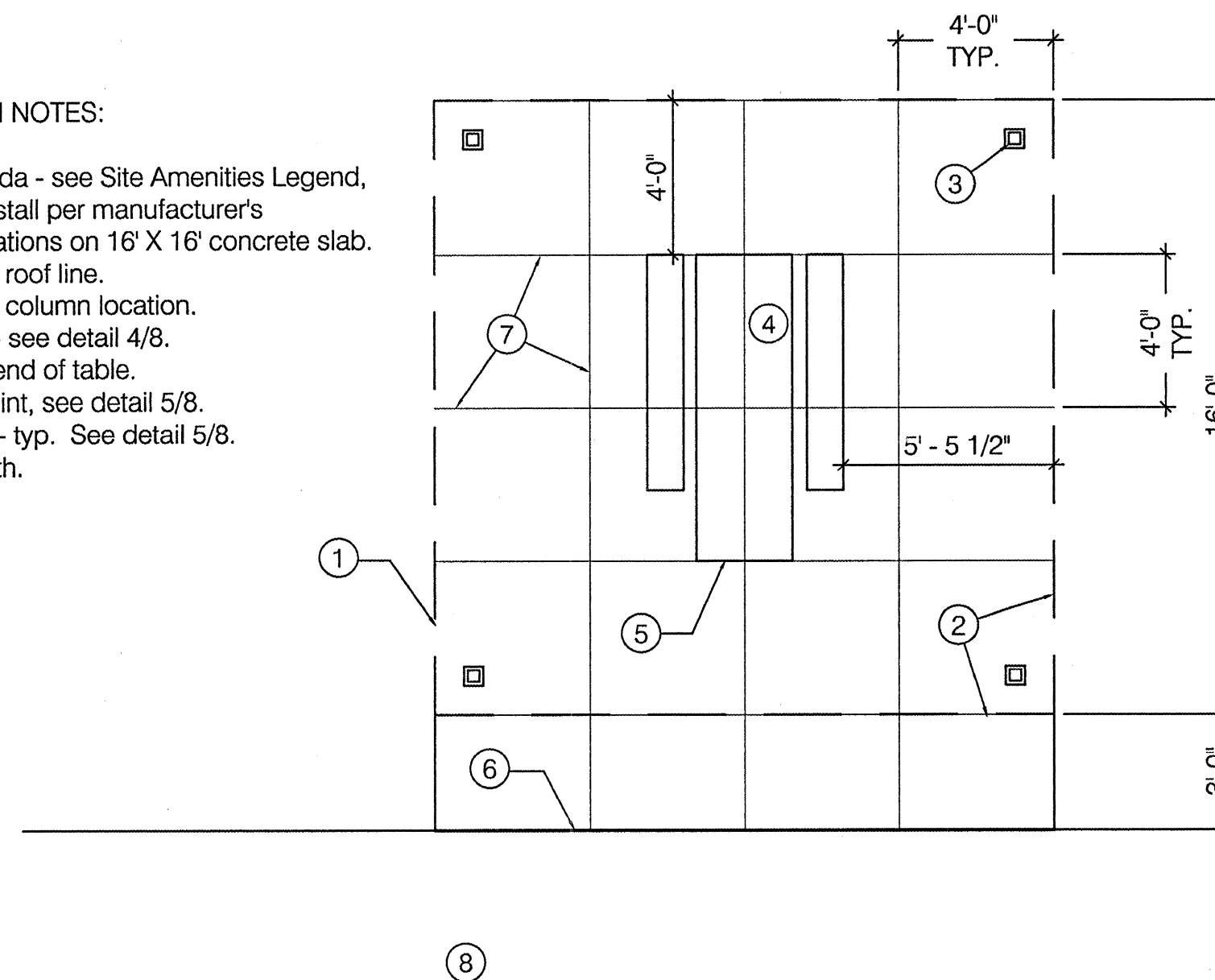


FRONT VIEW

4 PICNIC TABLE
Scale: 1/2" = 1'-0"

CONSTRUCTION NOTES:

- 1 Picnic Ramada - see Site Amenities Legend, sheet 10. Install per manufacturer's recommendations on 16' X 16' concrete slab.
- 2 Approximate roof line.
- 3 Approximate column location.
- 4 Picnic table - see detail 4/8.
- 5 'Accessible' end of table.
- 6 Expansion joint, see detail 5/8.
- 7 Control joint - typ. See detail 5/8.
- 8 Concrete path.

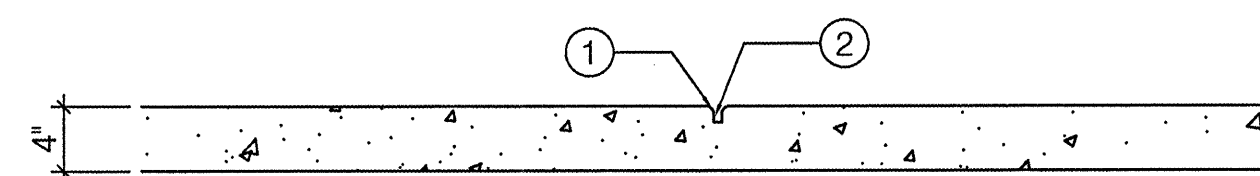


2 16' RAMADA STRUCTURE
Scale: 1/4" = 1' - 0"

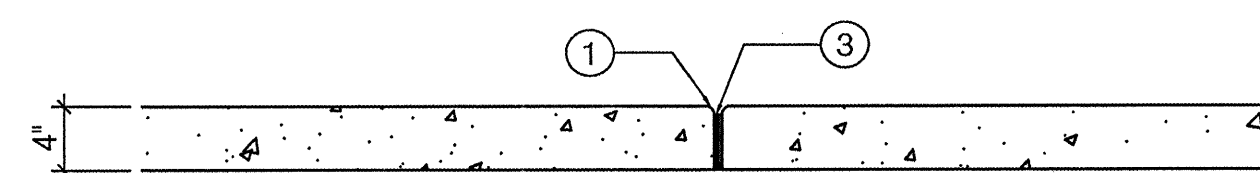
CONSTRUCTION NOTES:

- 1 1/2" radius - typ.
- 2 1/2" X 1" tooled joint.
- 3 1/2" felt expansion joint material w/ polyurethane sealant.

NOTE: Expansion joint material shall be flush to 1/8" below top of slab.

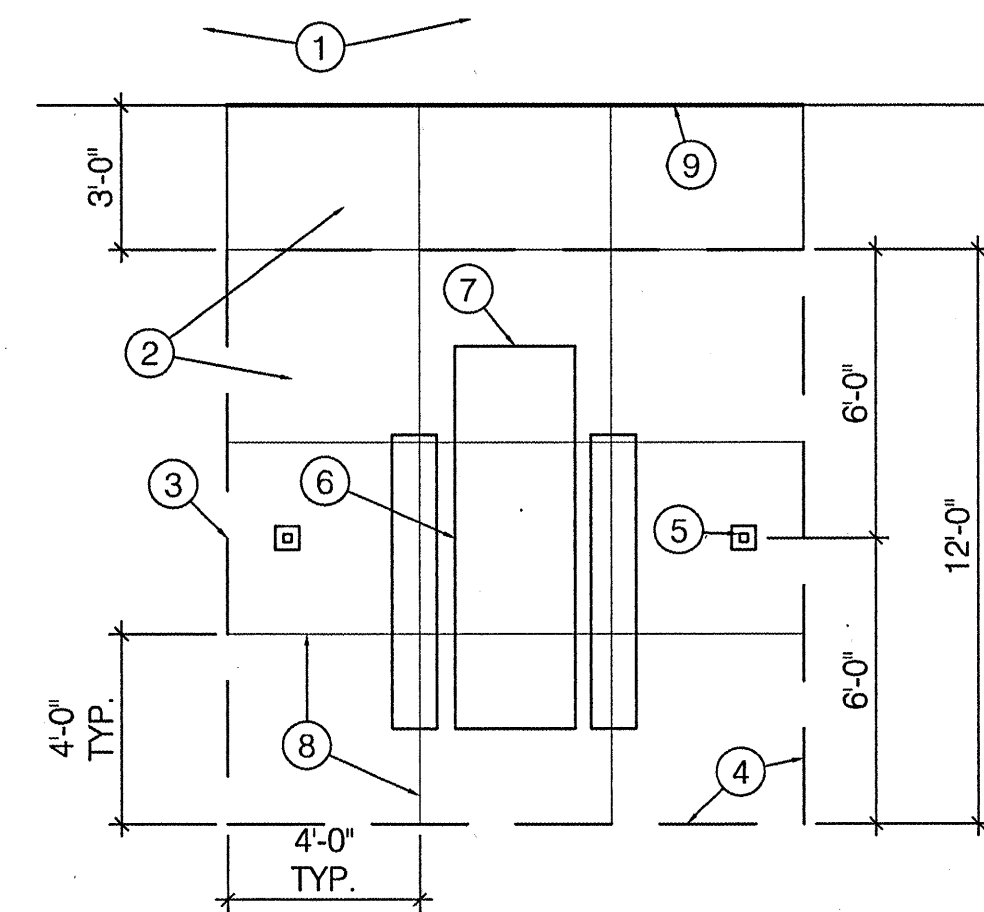


Control Joint



Expansion Joint

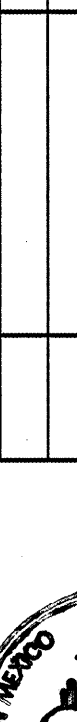
5 CONCRETE JOINTS
Scale: 1" = 1'- 0"

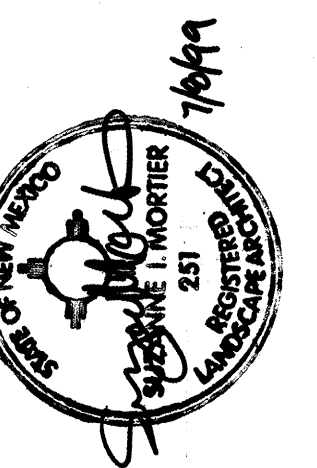


CONSTRUCTION NOTES

- 1 Concrete sidewalk, see detail 1/8.
- 2 4", 4,000 psi. concrete slab on compacted subgrade.
- 3 Picnic Ramada, see Site Amenities Legend, sheet 10. Install per manufacturer's recommendations.
- 4 Edge of slab and approximate roof line.
- 5 Approximate column location.
- 6 Picnic table, see Site Amenities Legend, sheet 10 and detail 4/8.
- 7 'Accessible' end of table.
- 8 Control joint - typ., see detail 5/8.
- 9 Expansion joint - typ., see detail 5/8.

3 12' RAMADA STRUCTURE
Scale: 1/4" = 1' - 0"

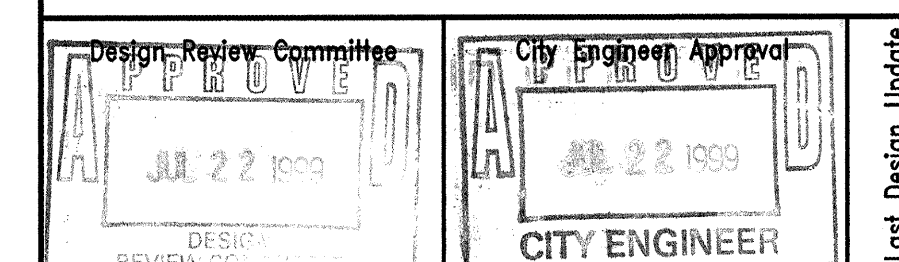
ENGINEERS SEAL		FIELD NOTES		BENCH MARKS		AS BUILT INFORMATION	
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					WORK STARTED BY		
					INSPECTOR'S DATE		
					FIELD CHANGE BY		
					VERIFICATION BY		
					DATE		
					DATE		
					DATE		
					DATE		
					DATE		
					MICRO-FILM INFORMATION		
					RECORDED BY		
					DATE		
					NO.		



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CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE & CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS
SITE DETAILS - MISCELLANEOUS



City Project No. 566371 Zone Map No. C-12 Sheet 8 of 15





NOTE: Install per manufacturer's specifications.

CONSTRUCTION NOTES:

- ① Bench with back - see Site Amenities Legend, sheet 10.
- 2 Concrete pad, 4,000 psi.
- 3 Concrete footing, 4,000 psi.
- 4 Compacted subgrade.

1 BENCH

Scale: 1/2" = 1'-0"



- ① Landscape boulder, 3' min. dimension in each direction.
- 2 Surface treatment, see landscape plans.
- 3 Compacted subgrade to 95%.

Note: Boulders to be moss rock or as approved by Owner's Representative.

2 LANDSCAPE BOULDER

Scale: 1/2"=1'-0"



- ① Litter receptacle - see Site Amenities Legend, sheet 10, and Site Plan, sheet 3, for locations.
- 2 Concrete pad, 4,000 psi.
- 3 Compacted subgrade.
- 4 Surface treatment - see landscape plans.

3 LITTER RECEPTACLE

Scale: 1" = 1'-0"



- ### CONSTRUCTION NOTES

- 1 Concrete pad w/ medium broom finish, 4,000 psi.
See Site Plan, sheet 3, for location.
- 2 Concrete footing, 4,000 psi.
- 3 Bicycle rack - see Site Amenities Legend, sheet 10.
- 4 Compacted subgrade.
- 5 1/2" radius trowelled edge.
- 6 Surface treatment - see Planting Plan, sheet 13.

1 BICYCLE RACK

Scale: 1/2" = 1'-0"

Site Amenities Legend

QUANTITY	MANUFACTURER	MODEL #	DESCRIPTION
1	Poligon	SQ-12-2H	Metal shade structure w/ pitched roof. Roof Color: Surrey. Frame Color: Light Stone.
1	Poligon	SQ-16M	Metal shade structure w/ pitched roof. Roof Color: Surrey. Frame Color: Light Stone.
6	Webcoat	B8WBRCs	8' bench with back, inground mounted. Color: Clay.
2	Webcoat	T8STDHDCPS	8' Picnic Table, inground mounted. Color: Clay
1	Gametime	7703	Loop bicycle rack. Color: Black.
4	Materials, Inc.	TR3329-111 Rinconada III	Litter receptacle with dark gray integral color #8084/ Davis Colors.

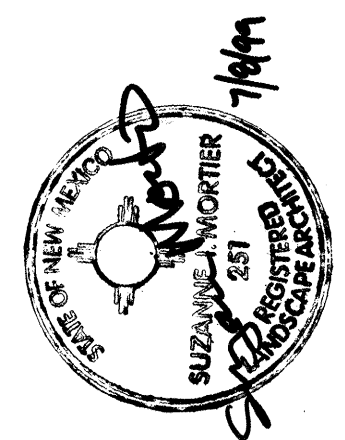
Manufacturer Representatives

Materials, Inc.
1-505-867-9035

Leisure Design Systems, Inc.
1-800-543-2232

Poligon
Webcoat
Gametime

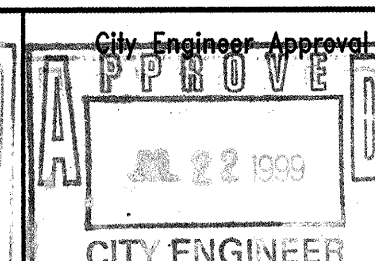
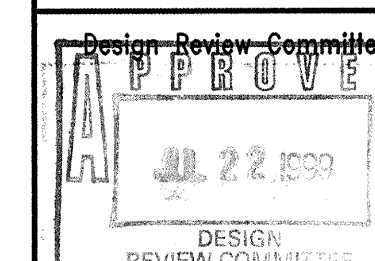
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						CONTRACTOR	
						WORK STARTED BY	
						INSPECTOR'S DATE	DATE
						FIELD ADJUSTED BY	DATE
						VERIFICATION BY	DATE
						NOTES CORRECTED BY	DATE
						MICRO-FILM INFORMATION	
						RECORDED BY	DATE
						NO.	



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CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE & CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS
SITE DETAILS - MISCELLANEOUS



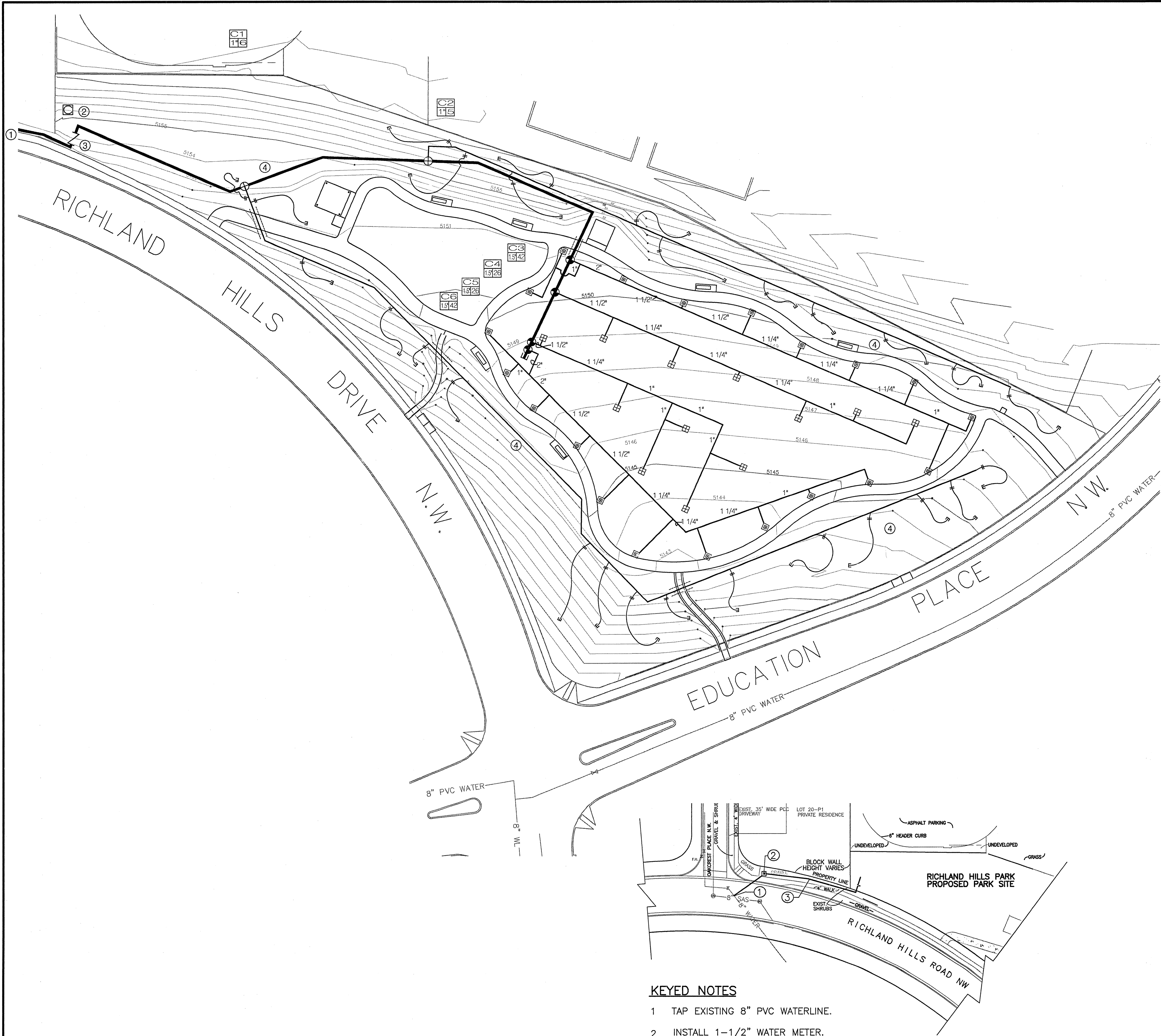
Last Design Update

City Project No.

566371

Zone Map No.
C 13

Sheet 10 of 15



KEYED NOTES

- TAP EXISTING 8" PVC WATERLINE.
- INSTALL 1-1/2" WATER METER.
- INSTALL 1-1/2" WATERLINE IN R.O.W.
- DO NOT DISTURB EXISTING TREE
OR EXISTING IRRIGATION SYSTEM.

1 WATER TAP PLAN



Scale: 1" = 50'

GENERAL IRRIGATION NOTES

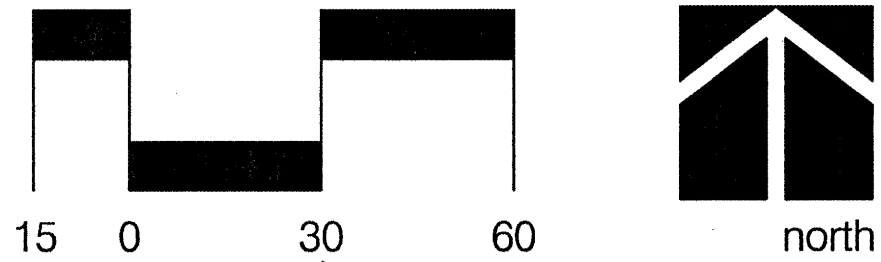
- The system design assumes a minimum static pressure of 70 PSI at the 1 1/2-inch point-of-connection. The irrigation contractor shall verify pressure and flow on site prior to construction.
- The irrigation contractor shall become thoroughly familiar with the specifications for this and related work prior to construction.
- The irrigation contractor shall determine the exact location of underground utilities and electrical wiring prior to construction.
- The irrigation contractor shall not install the sprinkler system when it is obvious in the field that obstructions or grade differences exist that might not have been considered in the engineering, or if the discrepancies in construction details, legend, notes, or specifications are discovered. All such obstructions or discrepancies shall be brought to the attention of the Owner's Representative.
- The drawings are diagrammatic. In some cases, irrigation components may be shown outside of planting areas for clarity. The irrigation contractor shall avoid any conflicts between the irrigation system, planting materials, and above ground utilities. Irrigation pipe and wiring shall be installed in landscaped areas whenever possible.
- All irrigation components shall be installed in accordance with section 1001-Landscape Irrigation System, and referenced details contained within the City of Albuquerque standard specifications manual, latest edition.
- Per the Albuquerque Water Conservation Landscaping and Water Waste Ordinance, the irrigation contractor shall have an irrigation audit performed by an authorized irrigation auditor certified by the Irrigation Association. Contact Park Management at least 24 hours prior to audit at 857-8650. The irrigation contractor shall submit four (4) copies of the audit results to the Owner's Representative for distribution. The contractor shall not seed or sod any turf areas until the water audit has been performed and approved by the Water Resources Department.
- Scorpio unit to operate as a remote unit to an Irrinet remote-ready controller located at Riverview Park with proper frequency installed by a certified Motorola service facility. Coordinate with Tom Ellis at Park Management at 857-8650.

IRRIGATION CONSTRUCTION NOTES

- Irrigation point-of-connection. Contact NEW MEXICO UTILITIES prior to tapping existing 8" PVC waterline and installing 1 1/2" meter. Install per N.M. Utilities Details and Specs. See Water Tap Plan, this sheet, for location.
- Controller location - see Irrigation Legend. Final location shall be coordinated in the field with the Owner's Representative.
- Backflow Preventer/Master Valve - see Irrigation Legend. Final location shall be coordinated in the field with the Owner's Representative.
- Contractor shall minimize disturbance of plants in areas outside of the new perimeter sidewalk. Locate lateral and mainline as close to perimeter sidewalk as possible.

IRRIGATION EQUIPMENT SCHEDULE

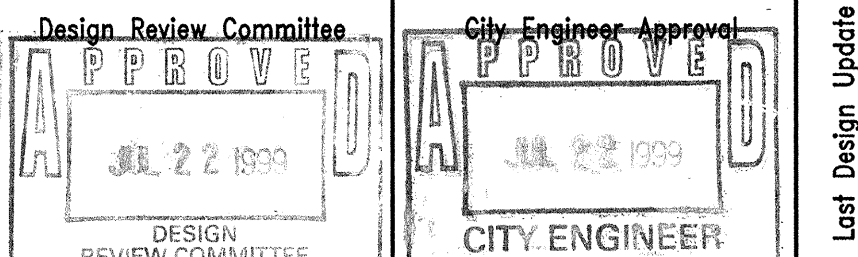
SYMBOL	DESCRIPTION
	Meter: 1 1/2" Turbo
	Sleeving: Class 200 PVC (2 sizes larger than pipe to be sleeved)
	Backflow Prevention Assembly: Febcu 825Y, 1 1/2" Bronze Backflow Prevention Assembly w/ heat tape and "Hot Box" enclosure and Multi-Jet Master Meter Unit (1 1/2") w/ Master Valve (COA Detail 2701)
	Irrigation Mainline: Schedule 40 Bell End PVC, 28" Depth, 1 1/2" unless otherwise noted
	Lateral Pipe: Schedule 40 PVC, 18" Depth, 3/4" unless otherwise noted
	Automatic Valve Assembly: Rain Bird PEB-PRS-B Series w/ Flow Control and Manual Activation, size as indicated on plans (COA Detail 2703)
	Rotor Pop-Up Sprinkler Assembly: Hunter I-20 Series (COA Detail 2709) #4 Nozzle, (Adjustable), 43" Radius, 4.2 GPM @ 50 PSI, .25"/hr. Precipitation Rate #4 Nozzle, (360"), 43" Radius, 4.2 GPM @ 50 PSI, .25"/hr. Precipitation Rate
	Automatic Drip Valve Assembly: Rain Bird PEB Series, Rain Bird RBY-100-200MX Wye Filter, and Rain Bird PSI-M30X Pressure Regulator (COA Detail 2709-A)
	Drip Irrigation Tubing: 1/2" Polyethylene Pipe as needed, 6" depth min., 36" length max., w/Compression Fittings and Flush Cap. Connection to PVC Lateral and Flush Caps shall be placed in 6" Valve Box. 1/4" Barb Connectors and 1/4" Distribution Tubing as needed. Tubing shall be pinned every 4'.
	Xeri-Bug Emitters as Defined Below w/ 1/4" Distribution Tubing pinned at each plant: Trees - (4) 2 GPH Xeri-Bug XB-20 Emitters per tree Shrubs - (2) 1 GPH Xeri-Bug XB-10 Emitters per shrub
	Irrigation Controller: MIR5000 Scorpio Unit, M5S-1S-S (8 station), in Stainless Steel Enclosure w/Dome Antenna
	Indicates Controller and Station Number
	Indicates Lateral Discharge in GPM
	Indicates Remote Control Valve Size in Inches



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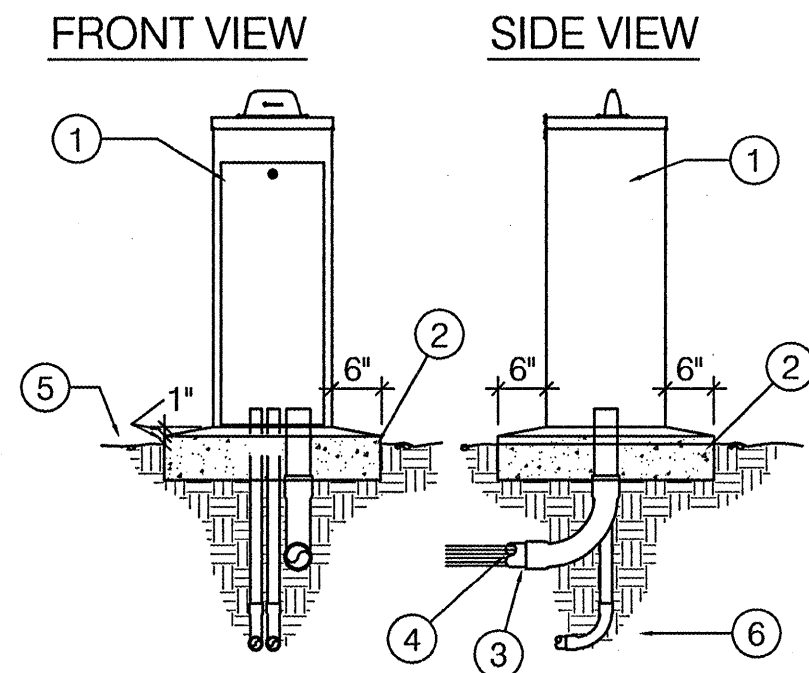
CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE & CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS
IRRIGATION PLAN, NOTES AND LEGEND



City Project No. 566371 Zone Map No. C-12 Sheet 11 of 15

AS BUILT INFORMATION				BENCH MARKS				SURVEY INFORMATION				ENGINEERS SEAL			
CONTRACTOR	DATE	INSPECTOR'S	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE				
WORKED BY	DATE	ACCEPTED BY	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE				
DRAMING	DATE	VERIFICATION BY	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	REMARKS REVISIONS DESIGN			
RECORDED BY	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE				
MICRO-FILM INFORMATION				NO.				BY				NO.			
												DATE			
												BY			
												DATE			
												BY			
												DATE			
												BY			
												DATE			



CONSTRUCTION NOTES:

- 1 Irrigation controller with pedestal. See Irrigation Legend, sheet 11. Install per manufacturer's standards.
- 2 4,000 psi concrete base. 6" minimum thickness. All edges shall be tooled with 1/2" radius.
- 3 4" rigid PVC long sweep ell extend 12" beyond concrete base.
- 4 24-volt wires from controller to automatic valves. See specifications.
- 5 Finish grade.
- 6 120 volt service in conduit, per N.E.C.

1 PEDESTAL CONTROLLER

SCALE: 1/2" = 1' - 0"

Valve Legend

Valve #	Head Type	Nozzle	Valve Size	GPM
C1	xeri-bird	XB-10/20	1"	6
C2	xeri-bird	XB-10/20	1"	5
C3	I-20	#4	1.5"	42
C4	I-20	#4	1.5"	26
C5	I-20	#4	1.5"	26
C6	I-20	#4	1.5"	42
C7	Master Valve	N/A	1.5"	-

Irrigation Schedule

Program	Valves	PR Calc.	Run Time	Cycles	Total GPM	Remarks
1	C1, C2	-	120 min.	1	11	drip valves
2	C3	.25"/hr.	120 min.	1	42	-
3	C4	.25"/hr.	120 min.	1	26	-
4	C5	.25"/hr.	120 min.	1	26	-
5	C6	.25"/hr.	120 min.	1	42	-

KEYED NOTES

- 1 INSTALL 214 LF OF 1.5 " RIGID ELECTRICAL CONDUIT. INSTALL 3 - #4 AWG CABLE
- 2 INSTALL NEW ELECTRICAL METER PEDESTAL PER PNM STANDARDS. SEE PNM DISTRIBUTION STANDARD DS-19-84.0 FOR DETAILS
- 3 INSTALL NEW 1-1/2" REC INTO SECONDARY POWER PEDESTAL. CONTRACTOR SHALL COORDINATE THIS WORK WITH THE PUBLIC SERVICE COMPANY.

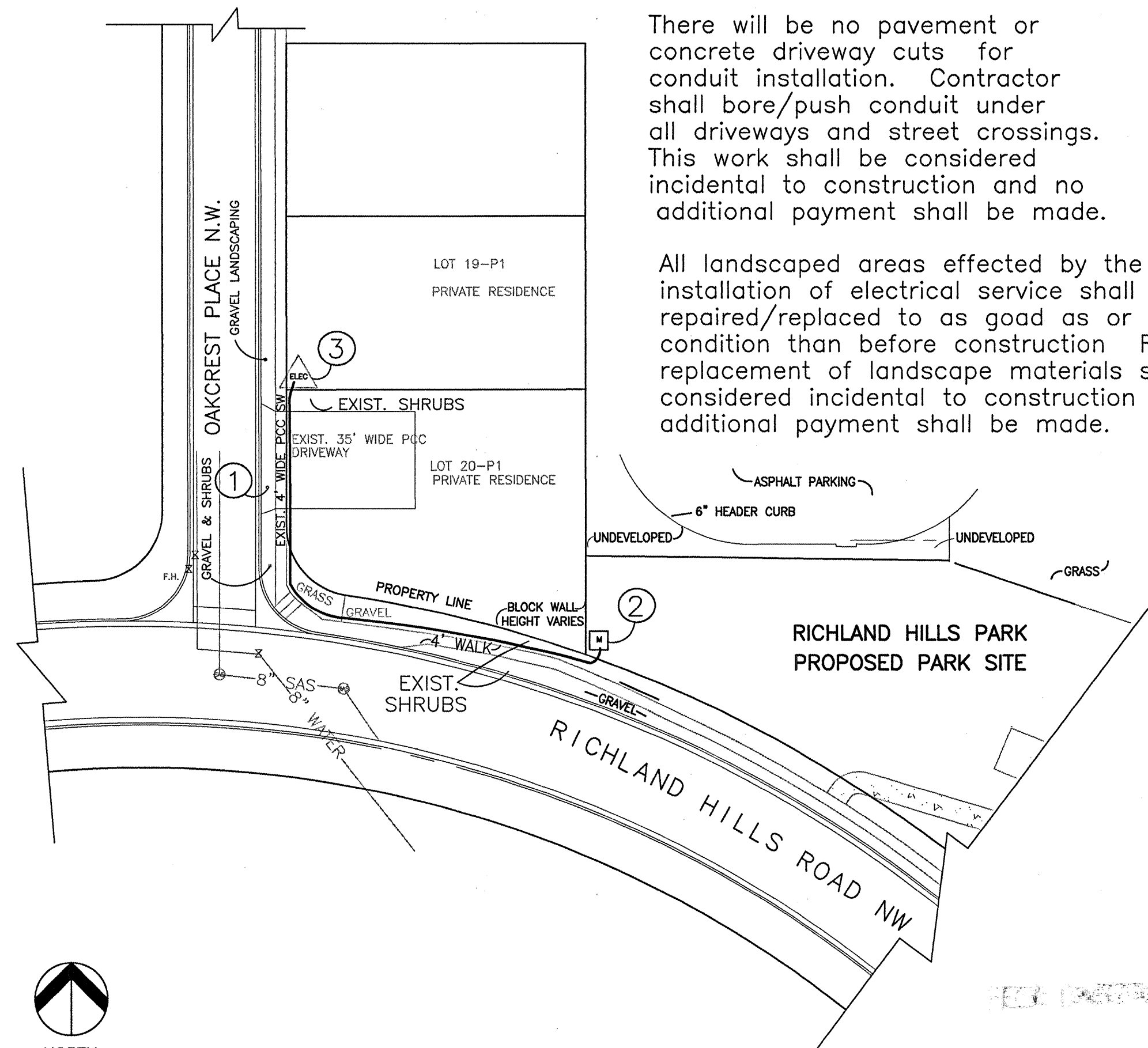
LEGEND

NEW	EXISTING	ITEM
		ELECTRIC PEDESTAL SECONDARY
		IRRIGATION CONTROLLER CABINET
		ELECTRIC METER PEDESTAL
		ELECTRICAL CONDUIT RUN

GENERAL NOTES

There will be no pavement or concrete driveway cuts for conduit installation. Contractor shall bore/push conduit under all driveways and street crossings. This work shall be considered incidental to construction and no additional payment shall be made.

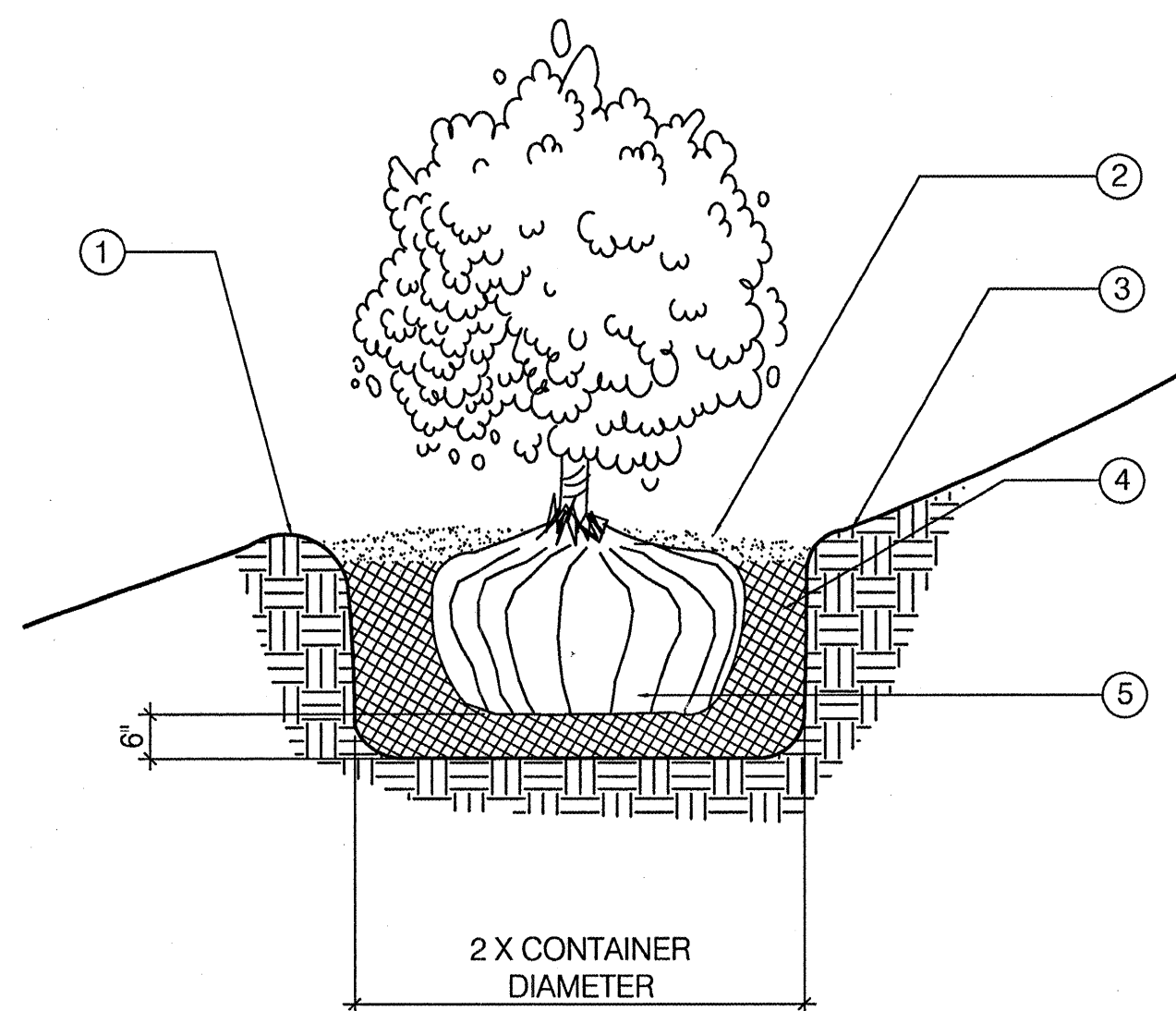
All landscaped areas effected by the installation of electrical service shall be repaired/replaced to as good as or better condition than before construction. Repair/replacement of landscape materials shall be considered incidental to construction and no additional payment shall be made.



2 ELECTRICAL SERVICE PLAN

NO SCALE

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CITY OF ALBUQUERQUE CAPITAL IMPLEMENTATION PROGRAM LANDSCAPE ARCHITECTURE & CONSTRUCTION SERVICES			
TITLE: RICHLAND HILLS PARK IMPROVEMENTS IRRIGATION NOTES/DETAILS			
Design Review Committee	City Engineer Approval	Update	No. / Day / Yr.
City Project No.	566371	Zone Map No.	C-12
Sheet	12	of	15

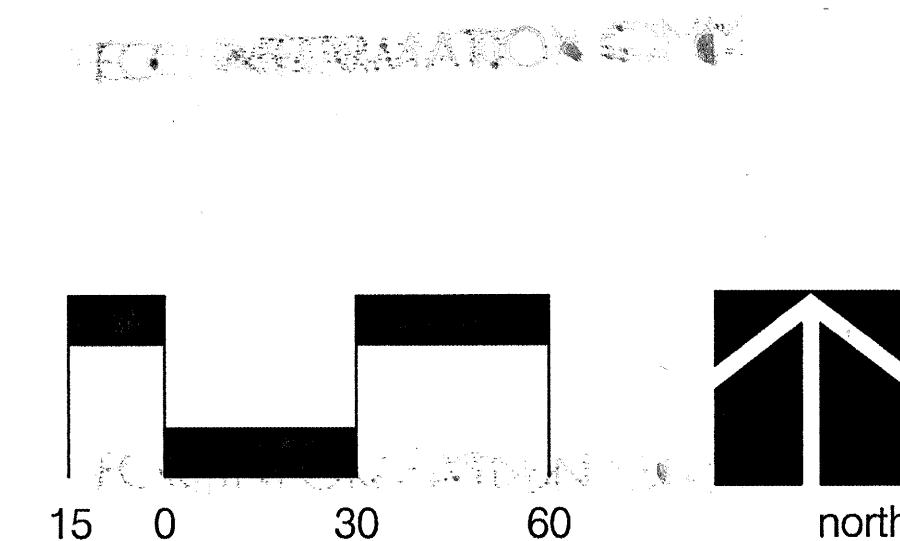


- 1 4" deep water detention basin.
- 2 Mulch per Planting Plan, sheet 13.
- 3 Original grade of slope.
- 4 Specified planting mix - water and
tamp to remove air pockets.
- 5 Rootball.

★ All proposed new plant material shall be located in the field with Owner's Representative.

Organic fertilizer of dry aged, weed free steer manure to a depth of 3", or preparation approved by the owner's representative, shall be spread over turf areas prior to rototilling.

Apply additional 1 lb. Nitrogen per 1000 square feet to turf area 4 weeks after seeding.



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CITY OF ALBUQUERQUE CAPITAL IMPLEMENTATION PROGRAM LANDSCAPE ARCHITECTURE & CONSTRUCTION SERVICES							
TITLE: RICHLAND HILLS PARK IMPROVEMENTS PLANTING PLAN							
Design Review Committee 		City Engineer Approval 		Last Design Update	Mo. / Day / Yr.	Mo. / Day / Yr.	
City Project No. 566371		Zone Map No. C-12		Sheet 13 of 15			

CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

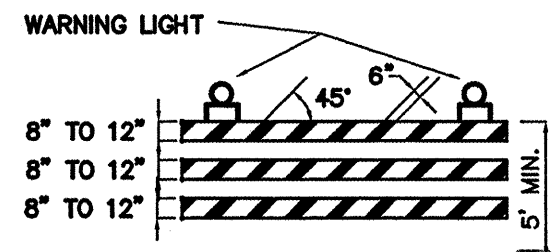
23. FAILURE TO COMPLY WITH ANY OF THE ABOVE MENTIONED, WILL BE ADEQUATE CAUSE TO CEASE ALL WORK ON ANY CONSTRUCTION PROJECT. WORK WILL NOT RESUME UNTIL ALL REQUIREMENTS ARE ADDRESSED AND APPROVED BY CONSTRUCTION COORDINATION.

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

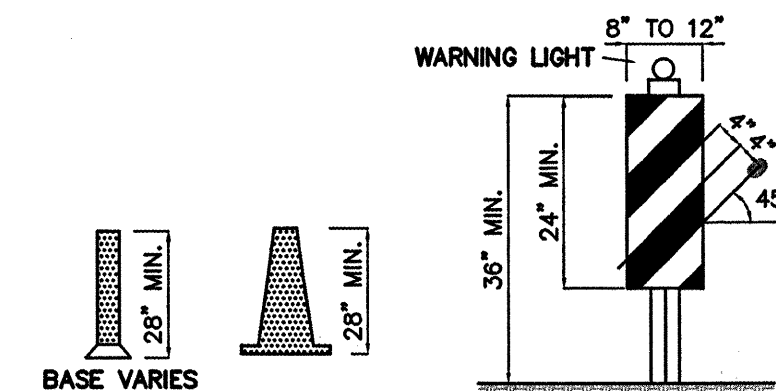
25. TRAFFIC CONTROL STANDARDS APPLY ONLY WHERE THE CONSTRUCTION TRAFFIC CONTROL PLANS ARE NOT SPECIFIC.

26. ADVANCE WARNING SIGNS SHALL BE 36"x36" WITH SUPER ENGINEERING GRADE SHEETING OR BETTER. MOUNTING HEIGHT AT TOP OF SIGN SHALL BE THE SAME AS FOR A 48-INCH SIGN AS INDICATED IN THE MUTCD.

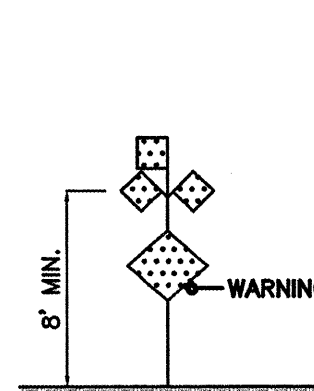
27. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.



TYPE III BARRICADE

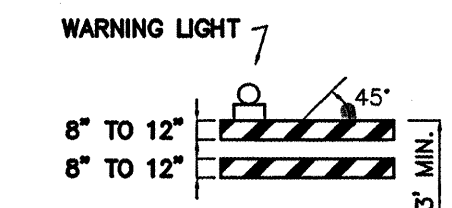


VERTICAL PANEL

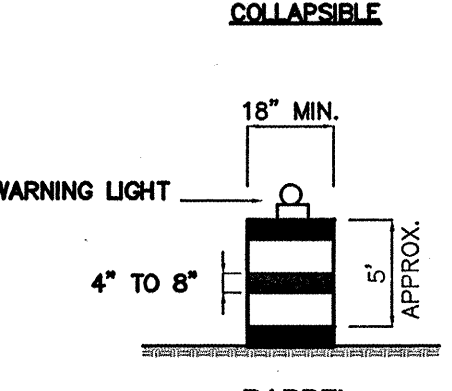


HIGH LEVEL WARNING DEVICE

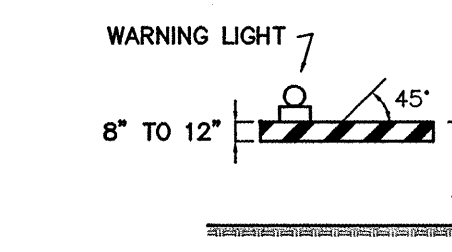
CONES



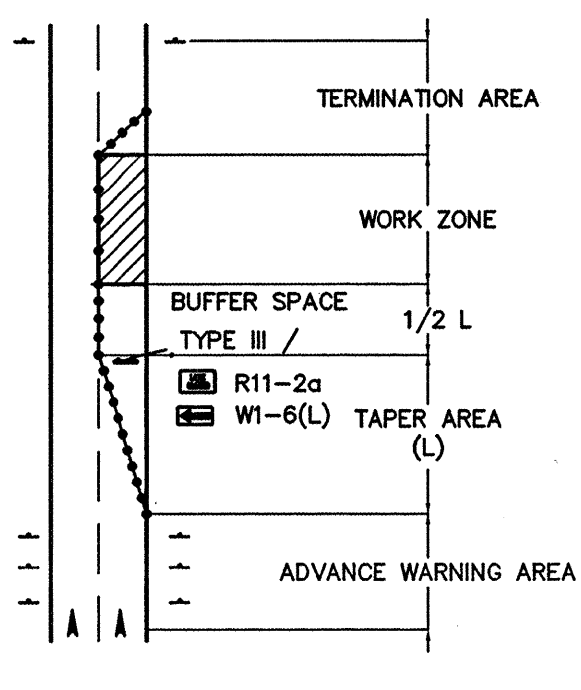
TYPE II BARRICADE



BARREL



TYPE I BARRICADE



TRAFFIC CONTROL ELEMENTS

LEGEND

- WORK AREA
BARRICADE - TYPE I, TYPE II, OR BARREL
BARRICADE - TYPE III
VERTICAL PANEL
WARNING SIGN
DISTANCE BETWEEN SIGNS - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET
FLAGMAN POSITION
SPACING BETWEEN BARRICADES- A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET
TAPER LENGTH - SEE CHART BELOW
THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET.

TAPER REQUIREMENTS

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

RECOMMENDED SIGN SPACING(D) FOR ADVANCE WARNING SIGN SERIES

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

TAPER CRITERIA

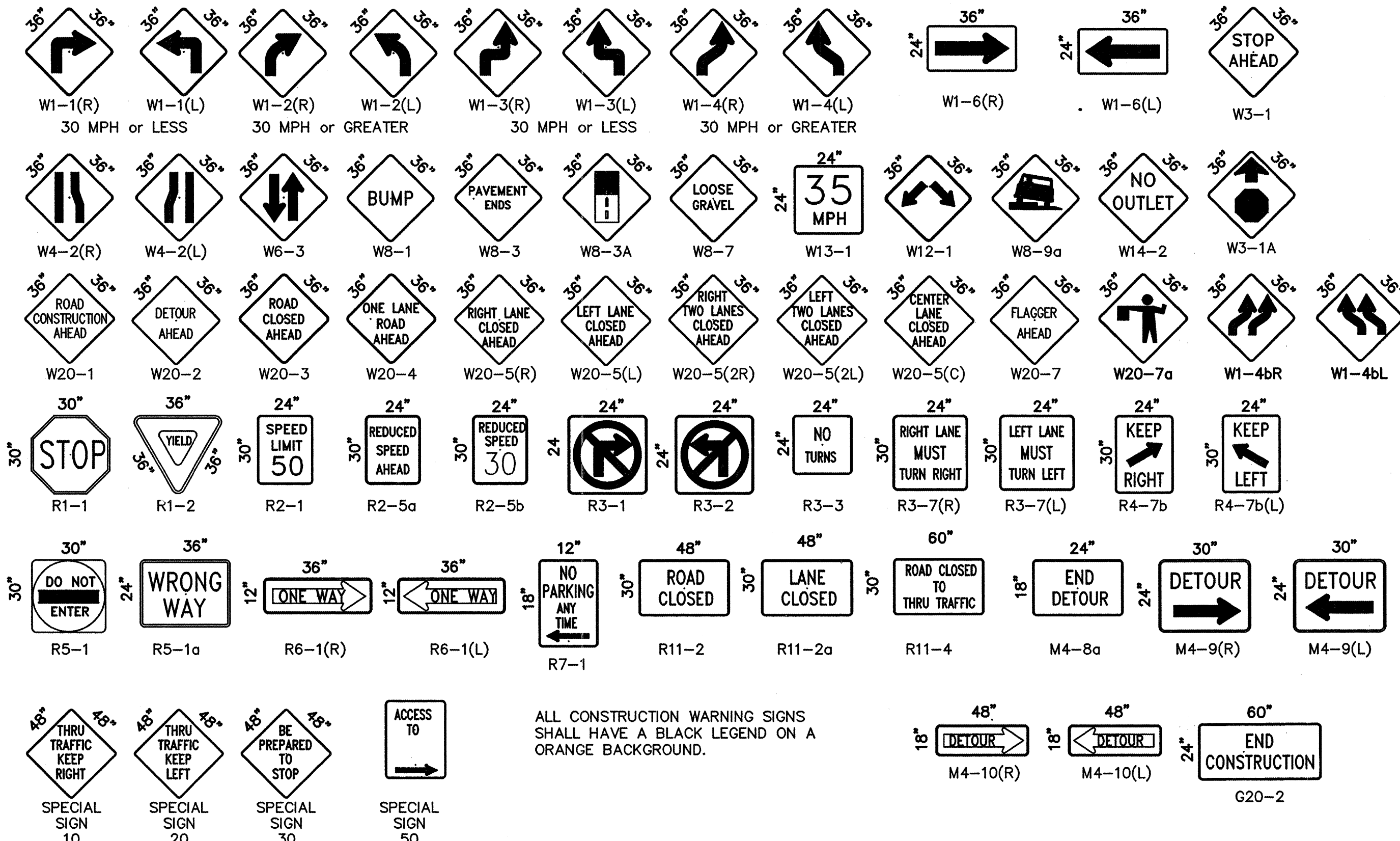
TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPER:	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/2 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSIDE TAPERS	100 FEET PER LANE

TAPER LENGTH COMPUTATION

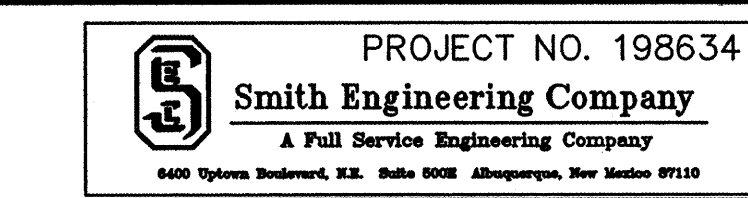
SPEED LIMIT	L =
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR GREATER	$L = W \times S$

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

SIGN FACE DETAILS

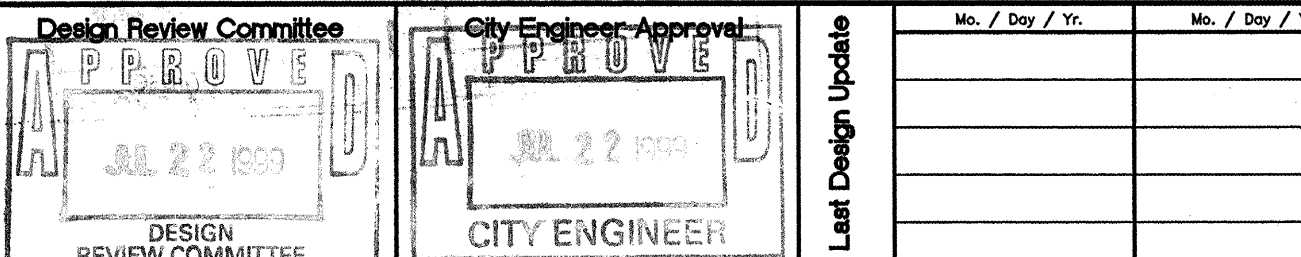


ALL CONSTRUCTION WARNING SIGNS SHALL HAVE A BLACK LEGEND ON A ORANGE BACKGROUND.

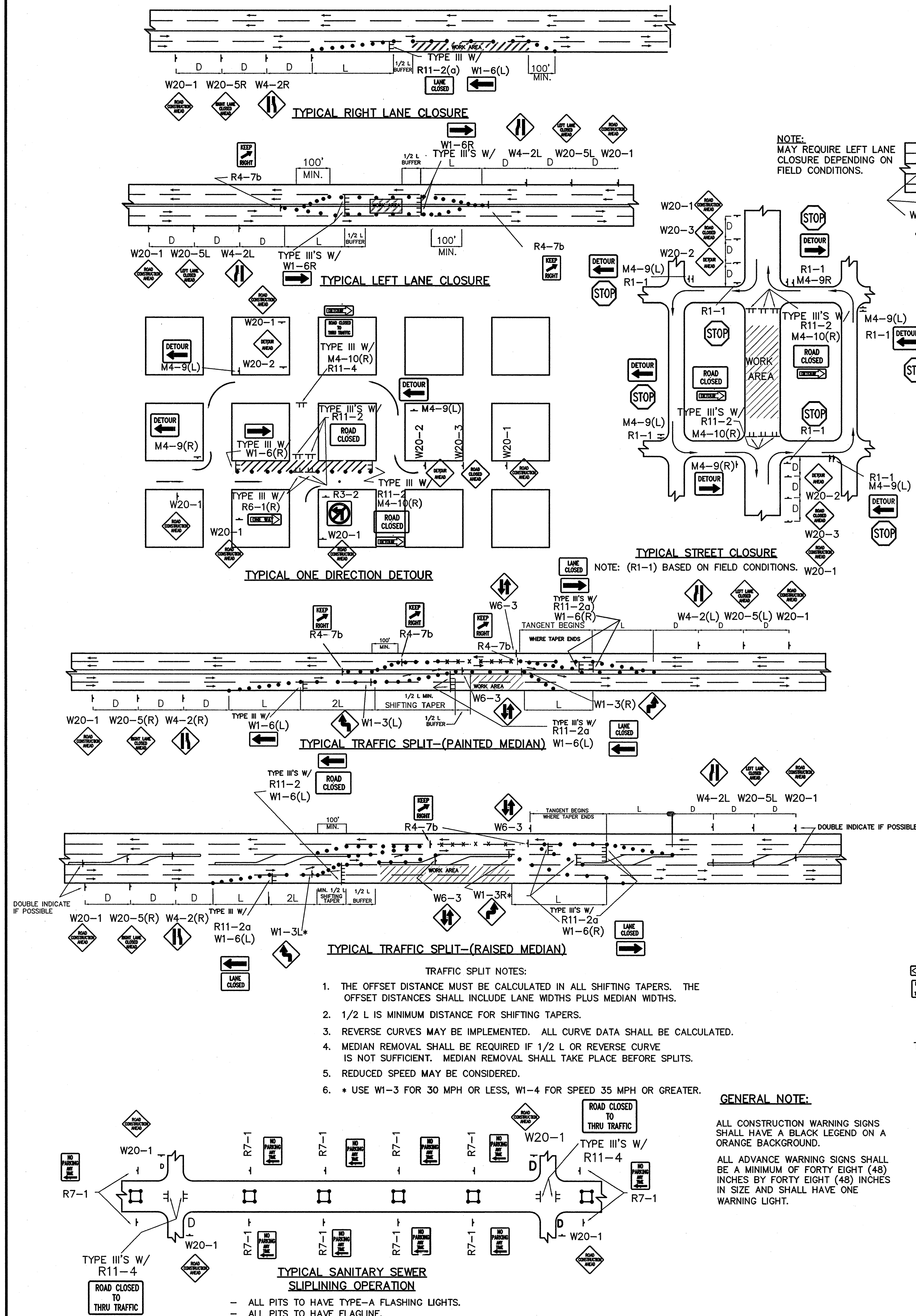


CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS PROJECT
SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS



Drawing name: N:\198633\OPTION\TRAFC002.DWG
Saved on: February 7, 1999 at 11:46 AM



AS-BUILT INFORMATION

CONTRACTOR	DATE
SMITH ENGINEERING COMPANY	05/97

BENCH MARKS

MONUMENT IS A 1.75" ALUMINUM DISK STAMPED "AS BUILT" AND IS EPOCHED TO TOP OF CONCRETE CURB, ON THE S.W. CORNER RETURN AT THE INTERSECTION OF PARADISE HILLS BLVD. AND DAVENPORT ST. N.W.

SURVEY INFORMATION

FIELD NOTES	DATE	BY
CREW: MWR, DS, AG	05/97	

ENGINEERS SEAL

J. DELVINE
REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
NO. 13282
7/19/98

REVISIONS

NO.	DATE	REMARKS	BY
1	JULY, 1999	DESIGN	R.J.D.
2	JULY, 1999	DESIGN	R.J.D.
3	JULY, 1999	DESIGN	P.J.C.

PROJECT NO. 198634
Smith Engineering Company
A Full Service Engineering Company
6400 Uptown Boulevard, N.E. Suite 800B Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAM
LANDSCAPE ARCHITECTURE AND CONSTRUCTION SERVICES

TITLE: RICHLAND HILLS PARK IMPROVEMENTS PROJECT
TYPICAL TRAFFIC CONTROL AND SIGNING EXAMPLES

APPROVED
DESIGN REVIEW COMMITTEE
JUL 22 1999

APPROVED
CITY ENGINEER
JUL 22 1999

City Project No. 566371
Zone Map No. C-12-Z
Sheet 15 of 15