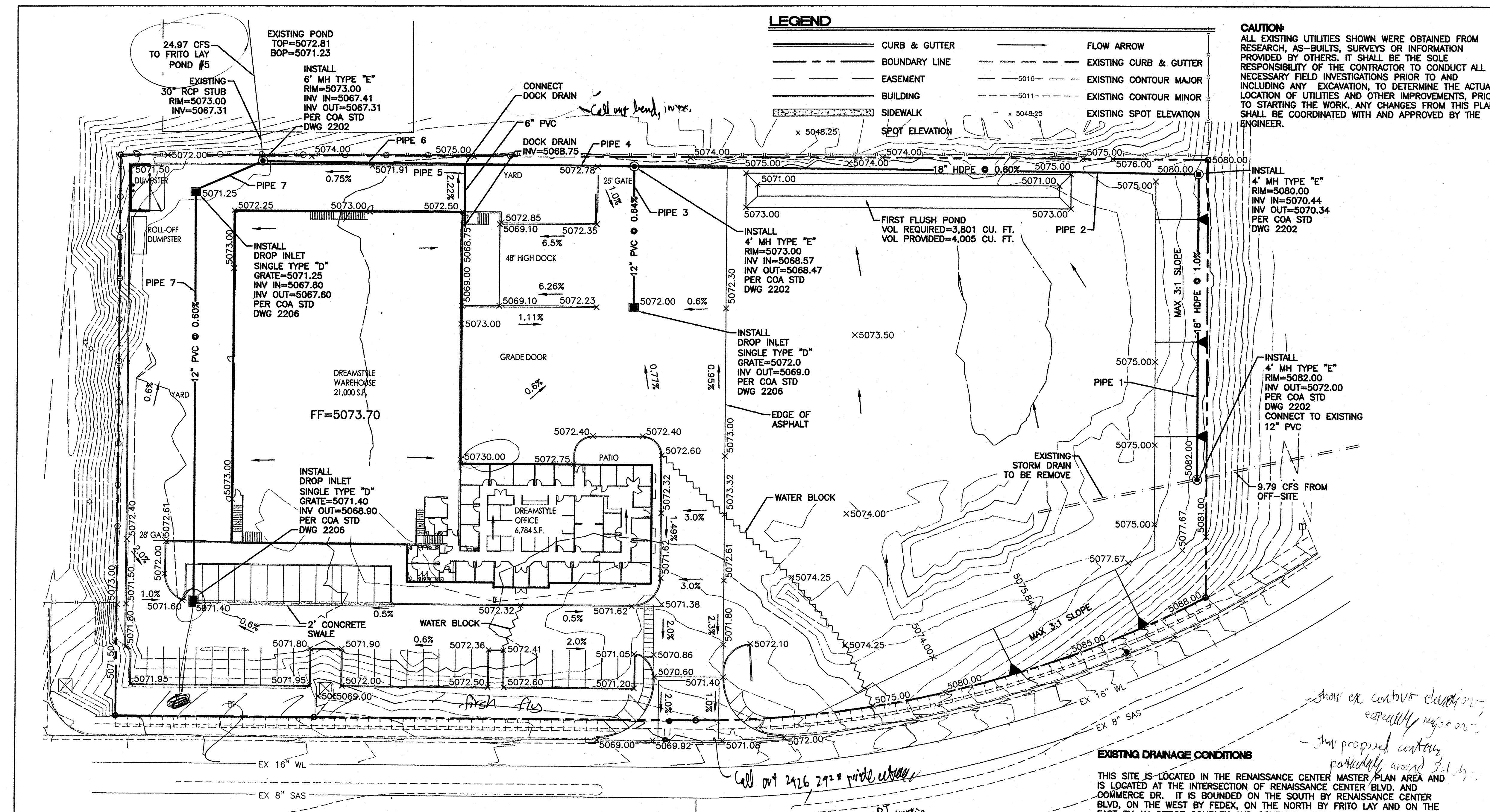
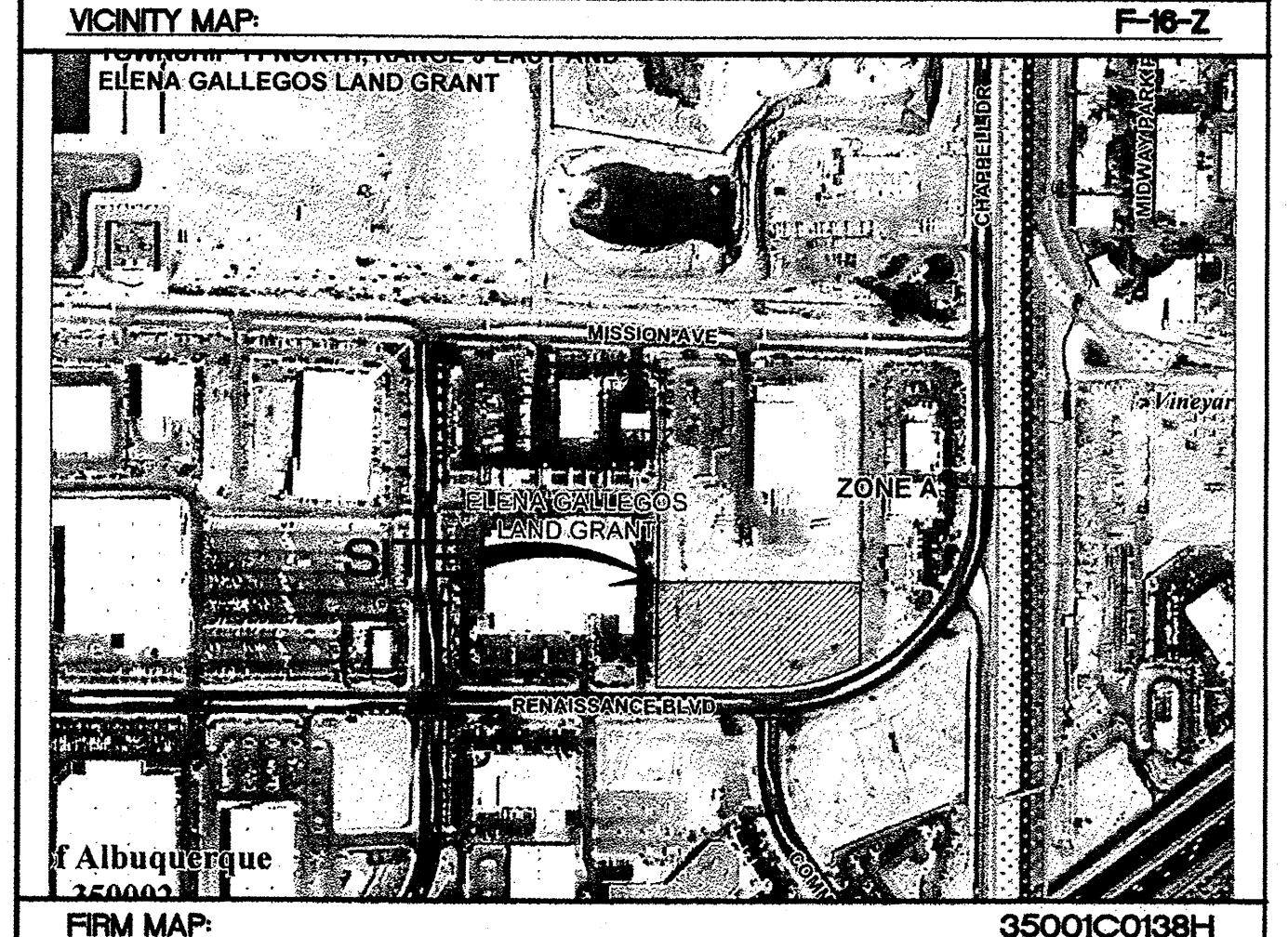
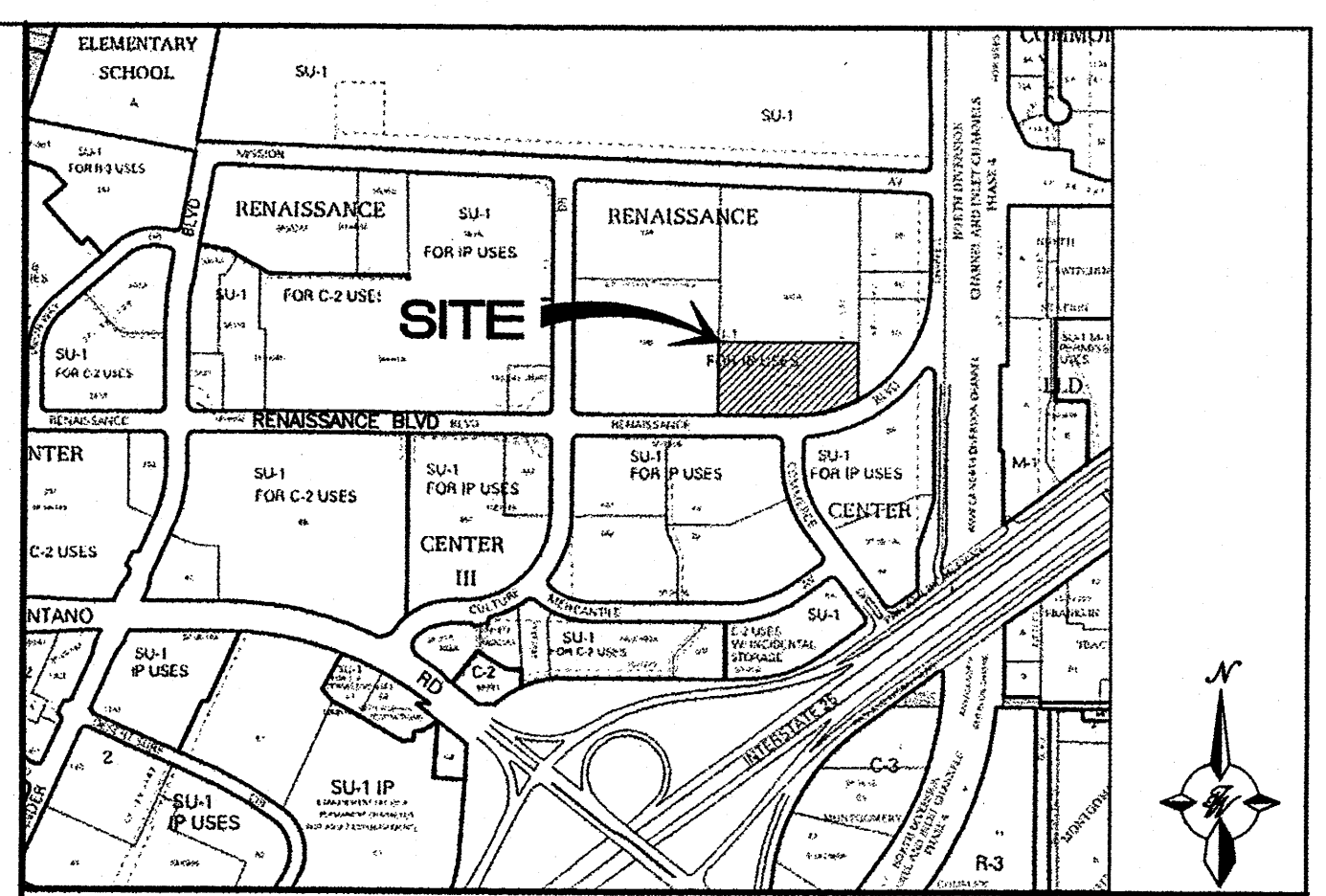




LEGEND

—	CURB & GUTTER	—	FLOW ARROW
- - -	BOUNDARY LINE	- - -	EXISTING CURB & GUTTER
- - -	EASEMENT	- - -	EXISTING CONTOUR MAJOR
- - -	BUILDING	- - -	EXISTING CONTOUR MINOR
- - -	SIDEWALK	- - -	EXISTING SPOT ELEVATION
- - -	SPOT ELEVATION	- - -	

CAUTION:
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.



NOTICE TO CONTRACTORS

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

EROSION CONTROL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

Pipe Capacity							
Pipe	D (in)	Slope (%)	Area (ft ²)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	18	0.60	1.77	0.375	10.61	9.79	5.54
2	18	0.60	1.77	0.375	10.61	9.79	5.54
3	12	0.64	0.79	0.250	3.72	3.68	4.69
4	24	0.60	3.14	0.500	22.84	13.47	4.29
5	6	2.22	0.20	0.125	1.09	0.35	1.78
6	24	0.60	3.14	0.500	22.84	13.82	4.40
7	18	0.60	1.77	0.375	10.61	4.48	2.52
8	12	0.60	0.79	0.250	3.60	2.96	3.77

Manning's Equation:
 $Q = 1.49/n \cdot A \cdot R^{2/3} \cdot S^{1/2}$

A = Area
R = D/4
S = Slope
n = 0.01 HDPE/PVC

PROPOSED DRAINAGE CONDITIONS

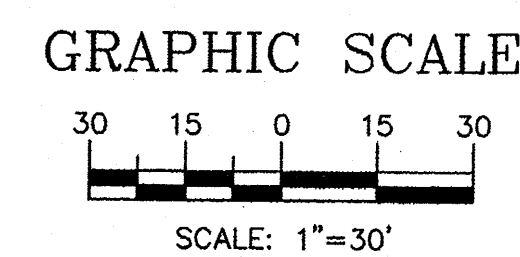
THIS SITE WILL CONTAIN SEVEN BASINS WITH FIVE OF THE BASINS DRAINING TO AN EXISTING STORM SEWER STUB THAT IS CONNECTED TO FRITO LAY POND #5. THE EXISTING STORM SEWER PIPE FROM THE OFFICE COMPLEX WILL BE INTERCEPTED WITH A NEW STORM SEWER AND ROUTED AROUND THE PERIMETER OF THE SITE AND CONNECT TO THE EXISTING STUB MENTIONED ABOVE.

BASINS 1, 2 AND 4 WILL DRAIN TO AREA INLETS THAT ARE CONNECTED TO THE STORM SEWER. BASIN 3 WILL DRAIN THE TRUCK DOCK AREA THROUGH A STORM DRAIN OPENING ON THE NORTH SIDE OF THE DOCK.

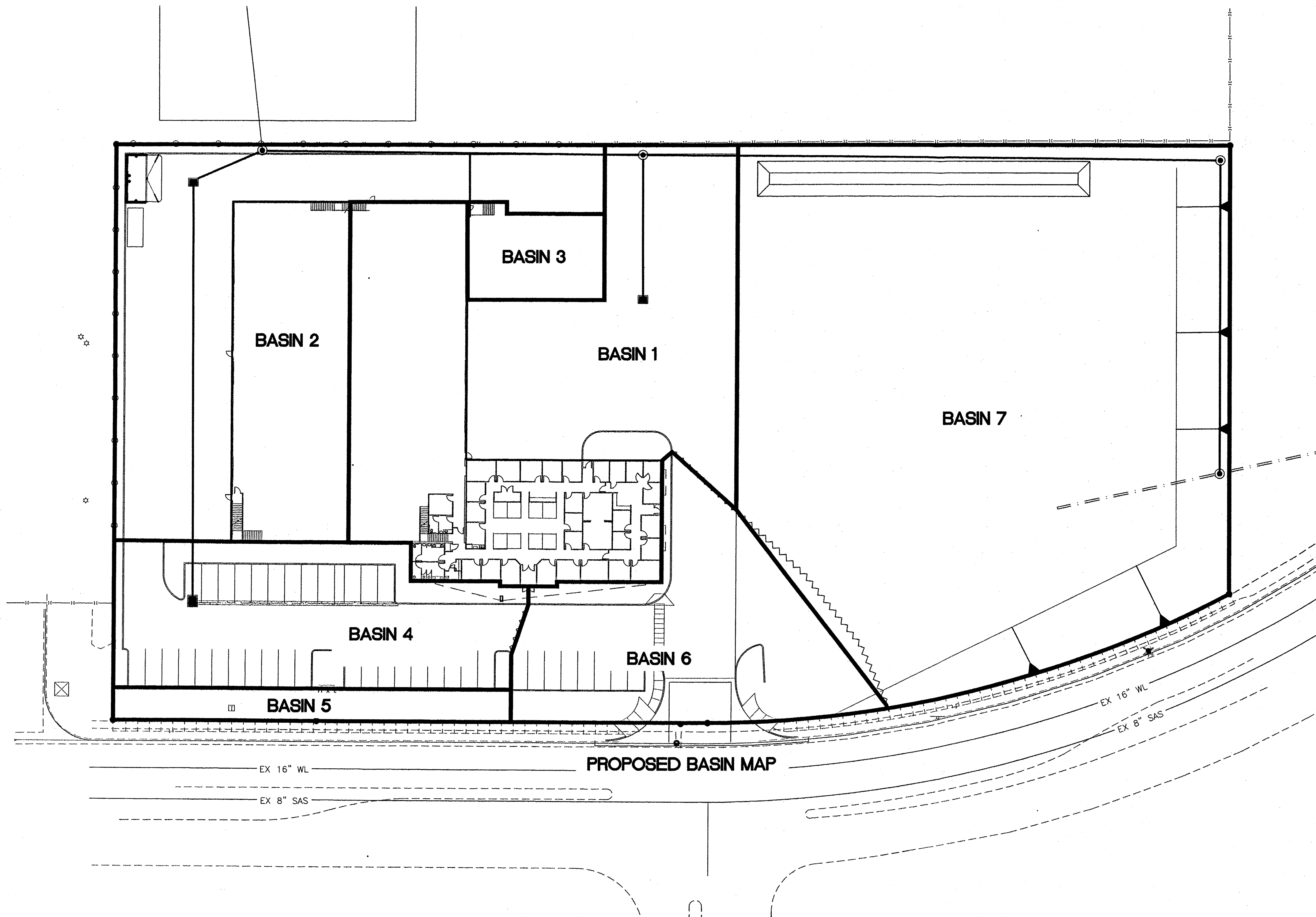
BASINS 5 AND 6 WILL DRAIN TO THE STREET GENERATING 1.82 CFS. THE ORIGINAL FRITO LAY DRAINAGE PLAN ALLOWED FOR 0.66 CFS TO BE DISCHARGED TO THE STREET. THE ADDITIONAL 0.96 CFS BEING DISCHARGED WILL BE COMPENSATED BY REMOVING FLOW FROM THE OVERALL SYSTEM WITH THE REQUIREMENT OF THE FIRST FLUSH POND FOUND IN BASIN 7.

BASIN 7 WILL REMAINED UNDEVELOPED AT THIS TIME AND WILL DRAIN TO A FIRST FLUSH POND DESIGNED TO HOLD 4,008 CUBIC FEET OR WATER WHICH IS GREATER THAN THE 3,801 CUBIC FEET REQUIRED. THE POND WILL OVERFLOW TO THE AREA INLET LOCATED IN BASIN 1 NEAR THE TRUCK DOCK AND BE CONVEYED TO FRITO LAY DETENTION POND #5.

THIS SITE WILL DISCHARGE A TOTAL OF 24.16 CFS TO FRITO LAY POND #5 WHICH IS LESS THAN THE 24.97 ALLOWED IN THE APPROVED DRAINAGE PLAN. THAT TOTAL INCLUDES THE 9.79 CFS BEING PASSED THROUGH FROM THE ADJACENT OFFICE COMPLEX.



ENGINEER'S SEAL RONALD R. BOHANNAN P.E. #7868	TRACT 9A RENAISSANCE CENTER GRADING AND DRAINAGE PLAN	DRAWN BY BJF DATE 05/04/15 2015009-GRB
TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierawestllc.com		SHEET # D1 JOB # 2015009

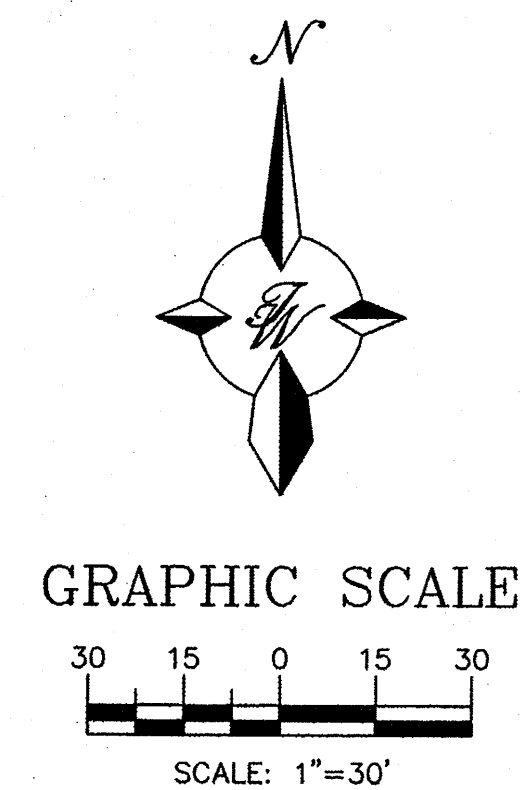


Weighted E Method												
On-Site Basins												
Basin	Area (sf)	Area (acres)	Treatment A %	Treatment B %	Treatment C %	Treatment D %	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	34,424	0.79	0%	2%	0%	98%	2.093	0.138	3.68	1.319	0.087	2.45
2	28,583	0.66	0%	8%	0%	92%	2.013	0.110	2.96	1.255	0.069	1.95
3	3,220	0.07	0%	0%	0%	100%	2.120	0.013	0.35	1.340	0.008	0.23
4	14,542	0.33	0%	8%	0%	92%	2.013	0.056	1.50	1.255	0.035	0.99
5	3,377	0.08	0%	100%	0%	0%	0.780	0.005	0.18	0.280	0.002	0.07
6	14,470	0.33	0%	15%	0%	85%	1.919	0.053	1.44	1.181	0.033	0.93
7	64,488	1.48	0%	30%	0%	70%	1.718	0.212	5.88	1.022	0.126	3.68
		3.74					3.08		15.99			

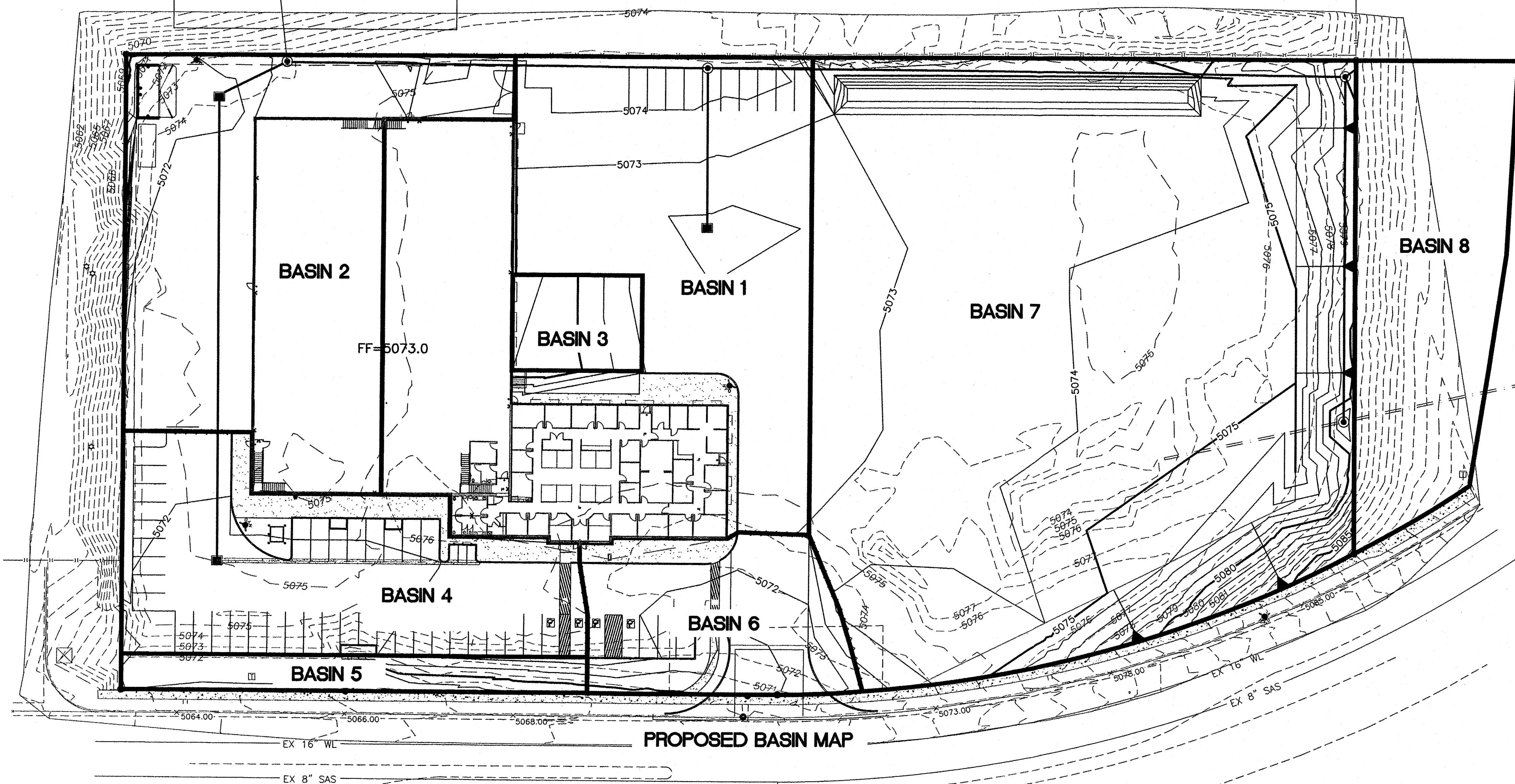
Equations:			
Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d$ / (Total Area)			
Volume = Weighted D * Total Area			
Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$			

Excess Precipitation, E (inches)			
Zone 2	100-Year	10-Year	
E _a	0.53	0.13	
E _b	0.78	0.28	
E _c	1.13	0.52	
E _d	2.12	1.34	

Peak Discharge (cfs/acre)			
Zone 2	100-Year	10-Year	
Q _a	1.56	0.38	
Q _b	2.28	0.95	
Q _c	3.14	1.71	
Q _d	4.70	3.14	



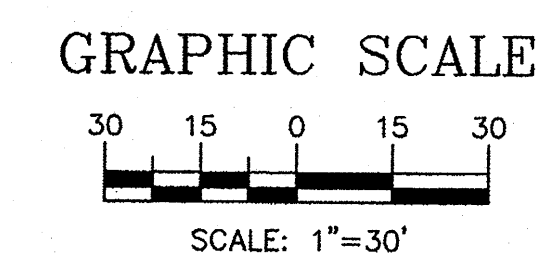
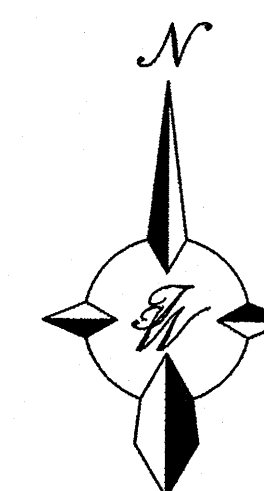
	TRACT 9A	DRAWN BY BJF
	RENAISSANCE CENTER	DATE 05/04/15
	GRADING AND DRAINAGE PLAN	2015009-GRB
	TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # D2 JOB # 2015009



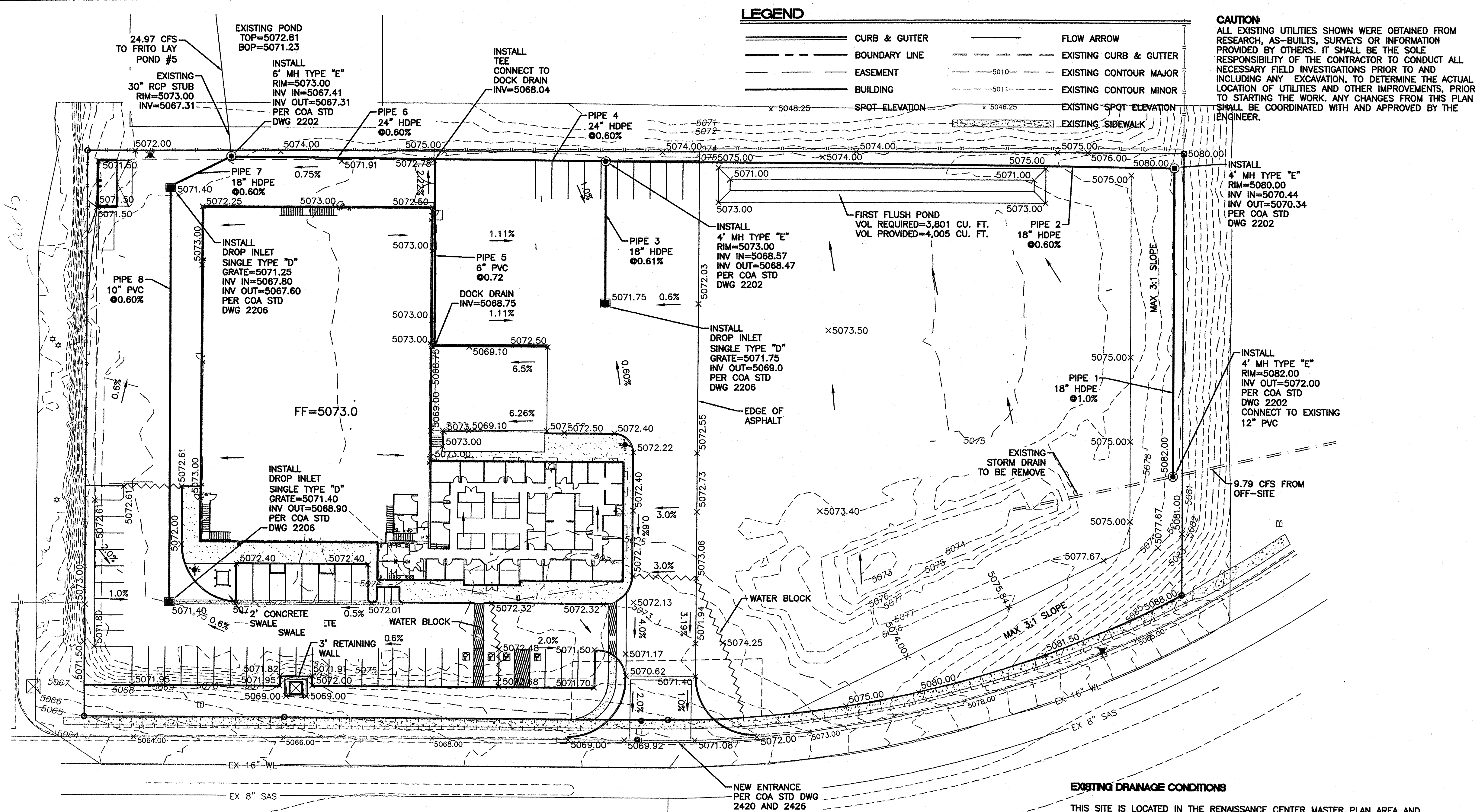
Renaissance Blvd, N.E.

- 1) Ex. easement/blanket easement - either easement - blanket or easement - blanket
- 2) Meet drainage or demonstrate compensation.
- 3) FF utility analysis Renaissance or high note ponds in pond S not agreeable w/ prop. owner

Weighted E Method																																																																
On-Site Basins																																																																
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year			10-Year																																																		
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs																																																
1	41,955	0.96	0%	0	2%	0.02	0%	0.00	98%	0.94	2,093	0.168	4.48	1,319	0.106	2.98																																																
2	28,583	0.66	0%	0	8%	0.05	0%	0.00	92%	0.60	2,013	0.110	2.96	1,255	0.069	1.95																																																
3	3,220	0.07	0%	0	0%	0.00	0%	0.00	100%	0.07	2,120	0.013	0.35	1,340	0.008	0.23																																																
4	16,617	0.38	0%	0	8%	0.03	0%	0.00	92%	0.35	2,013	0.064	1.72	1,255	0.040	1.13																																																
5	3,577	0.08	0%	0	100%	0.08	0%	0.00	0%	0.00	0.780	0.005	0.19	0.280	0.002	0.08																																																
6	8,593	0.20	0%	0	25%	0.05	0%	0.00	75%	0.15	1,785	0.029	0.81	1,075	0.018	0.51																																																
7	67,804	1.56	0%	0	30%	0.47	0%	0.00	70%	1.09	1,718	0.223	6.19	1,022	0.133	3.86																																																
8	14,040	0.32	0%	0	100%	0.32	0%	0.00	0%	0.00	0.780	0.021	0.73	0.280	0.008	0.31																																																
											16.68																																																					
Equations:																																																																
Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)																																																																
Volume = Weighted D * Total Area																																																																
Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad																																																																
<table><tr><th colspan="4">Excess Precipitation, E (inches)</th><th colspan="4">Peak Discharge (cfs/acre)</th></tr><tr><th>Zone 2</th><th>100-Year</th><th>10 - Year</th><th></th><th>Zone 2</th><th>100-Year</th><th>10 - Year</th><th></th></tr><tr><td>Ea</td><td>0.53</td><td>0.13</td><td></td><td>Qa</td><td>1.56</td><td>0.38</td><td></td></tr><tr><td>Eb</td><td>0.78</td><td>0.28</td><td></td><td>Qb</td><td>2.28</td><td>0.95</td><td></td></tr><tr><td>Ec</td><td>1.13</td><td>0.52</td><td></td><td>Qc</td><td>3.14</td><td>1.71</td><td></td></tr><tr><td>Ed</td><td>2.12</td><td>1.34</td><td></td><td>Qd</td><td>4.70</td><td>3.14</td><td></td></tr></table>																	Excess Precipitation, E (inches)				Peak Discharge (cfs/acre)				Zone 2	100-Year	10 - Year		Zone 2	100-Year	10 - Year		Ea	0.53	0.13		Qa	1.56	0.38		Eb	0.78	0.28		Qb	2.28	0.95		Ec	1.13	0.52		Qc	3.14	1.71		Ed	2.12	1.34		Qd	4.70	3.14	
Excess Precipitation, E (inches)				Peak Discharge (cfs/acre)																																																												
Zone 2	100-Year	10 - Year		Zone 2	100-Year	10 - Year																																																										
Ea	0.53	0.13		Qa	1.56	0.38																																																										
Eb	0.78	0.28		Qb	2.28	0.95																																																										
Ec	1.13	0.52		Qc	3.14	1.71																																																										
Ed	2.12	1.34		Qd	4.70	3.14																																																										



	TRACT 9A RENAISSANCE CENTER	DRAWN BY BJF
	GRADING AND DRAINAGE PLAN	DATE 06/10/15
	TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrowestllc.com	2015009-GRB
	SHEET # D2	JOB # 2015009



Renaissance Blvd, N.E.

Pipe Capacity							
Pipe	D (in)	Slope (%)	Area (ft ²)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	18	0.60	1.77	0.375	10.61	9.79	5.54
2	18	0.60	1.77	0.375	10.61	9.79	5.54
3	18	0.61	1.77	0.375	10.69	10.67	6.04
4	24	0.60	3.14	0.500	22.84	20.46	6.51
5	6	0.72	0.20	0.125	0.62	0.35	1.78
6	24	0.60	3.14	0.500	22.84	20.81	6.62
7	18	0.60	1.77	0.375	10.61	4.68	2.65
8	10	0.60	0.55	0.208	2.21	1.72	3.15

Manning's Equation:
 $Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$

A = Area
R = D/4
S = Slope
n = 0.01 HDPE/PVC

FIRST FLUSH CALCULATIONS:

3.08 ACRES OF IMPERVIOUS AREA = 134,165 SQ. FT
134,165 SQ. FT * (0.34"/12) = 3,801 CU. FT = 0.087 AC-FT
OF VOLUME REQUIRED TO BE RETAINED ON-SITE.

PROPOSED DRAINAGE CONDITIONS

THIS SITE WILL CONTAIN SEVEN BASINS WITH FIVE OF THE BASINS DRAINING TO AN EXISTING STORM SEWER STUB THAT IS CONNECTED TO FRITO LAY POND #5. THE EXISTING STORM SEWER PIPE FROM THE OFFICE COMPLEX WILL BE INTERCEPTED WITH A NEW STORM SEWER AND ROUTED AROUND THE PERIMETER OF THE SITE AN CONNECT TO THE EXISTING STUB MENTIONED ABOVE.

BASINS 1, 2 AND 4 WILL DRAIN TO AREA INLETS THAT ARE CONNECTED TO THE STORM SEWER. BASIN 3 WILL DRAIN THE TRUCK DOCK AREA THROUGH A STORM DRAIN OPENING ON THE NORTH SIDE OF THE DOCK.

BASINS 5 AND 6 WILL DRAIN TO THE STREET GENERATING 1.00 CFS. THE ORIGINAL FRITO LAY DRAINAGE PLAN ALLOWED FOR 0.68 CFS TO BE DISCHARGED TO THE STREET. THE ADDITIONAL 0.34 CFS BEING DISCHARGED WILL BE COMPENSATED BY REMOVING THAT FLOW FROM THE OVERALL SYSTEM WITH THE REQUIREMENT OF THE FIRST FLUSH POND FOUND IN BASIN 7. THE MINIMAL FLOW GOING TO THE STREET WILL NOT IMPACT PROPERTIES DOWN STREAM SINCE ALL OF THE PROPERTIES DRAIN A SMALL AMOUNT TO THE WIDE STREET.

BASIN 7 WILL REMAINED UNDEVELOPED AT THIS TIME AND WILL DRAIN TO A FIRST FLUSH POND DESIGNED TO HOLD 4,008 CUBIC FEET OR WATER WHICH IS GREATER THAN THE 3,801 CUBIC FEET REQUIRED. THE POND WILL OVERFLOW TO THE AREA INLET LOCATED IN BASIN 1 NEAR THE TRUCK DOCK AND BE CONVEYED TO FRITO LAY DETENTION POND #5.

THIS SITE WILL DISCHARGE A TOTAL OF 24.89 CFS TO FRITO LAY POND #5 WHICH IS LESS THAN THE 24.97 ALLOWED IN THE APPROVED DRAINAGE PLAN. THAT TOTAL INCLUDES THE 10.52 CFS BEING PASSED THROUGH FROM THE ADJACENT OFFICE COMPLEX.

EXISTING DRAINAGE CONDITIONS

THIS SITE IS LOCATED IN THE RENAISSANCE CENTER MASTER PLAN AREA AND IS LOCATED AT THE INTERSECTION OF RENAISSANCE CENTER BLVD. AND COMMERCE DR. IT IS BOUNDED ON THE SOUTH BY RENAISSANCE CENTER BLVD, ON THE WEST BY FEDEX, ON THE NORTH BY FRITO LAY AND ON THE EAST BY AN OFFICE COMPLEX AND CONTAINS APPROXIMATELY 3.74 ACRES.

THE SITE CURRENTLY DRAINS TO A TEMPORARY RETENTION POND WITH SOME FLOWS GOING TO THE STREET. THIS SITE WAS INCLUDED IN THE FRITO LAY AND CHAVEZ-GRIEVES DRAINAGE REPORT (P16/D51) APPROVED ON SEPTEMBER 10, 1998 AND WILL CONTINUE TO FOLLOW THAT DRAINAGE SCHEME THAT ALLOWS ALL OF THE DRAINAGE TO FLOW TO FRITO LAY DETENTION POND #5.

THE SITE DOES ACCEPT OFF-SITE FLOWS (10.52 CFS) FROM THE OFFICE COMPLEX WHICH IS ALSO CONTAINED IN THE TEMPORARY RETENTION POND. NO OTHER OFF-SITE FLOWS ENTER THE SITE. AS SHOWN ON THE FIRM MAP THERE ARE NO FLOOD PLAINS ON THIS PROPERTY.

Capacity of a Single 'D' Storm Drop Inlet

Capacity of the grate:
L = 40" - 2(2" min) - 7(1/4" max) = 32 1/2" = 2.7083'

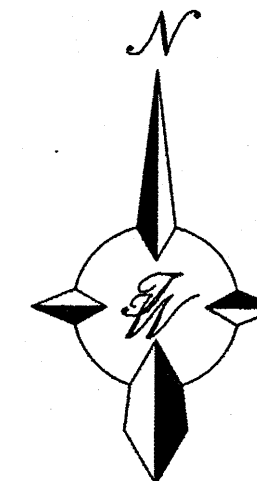
W = 28" - 13(1/2" max) = 18 1/2" = 1.54'

Area = 2.7083' x 1.54' = 4.18 ft²

Effective Area = 4.18 - 4.18 (0.5 missing area) = 2.09 ft² at the grate

Orifice Equation

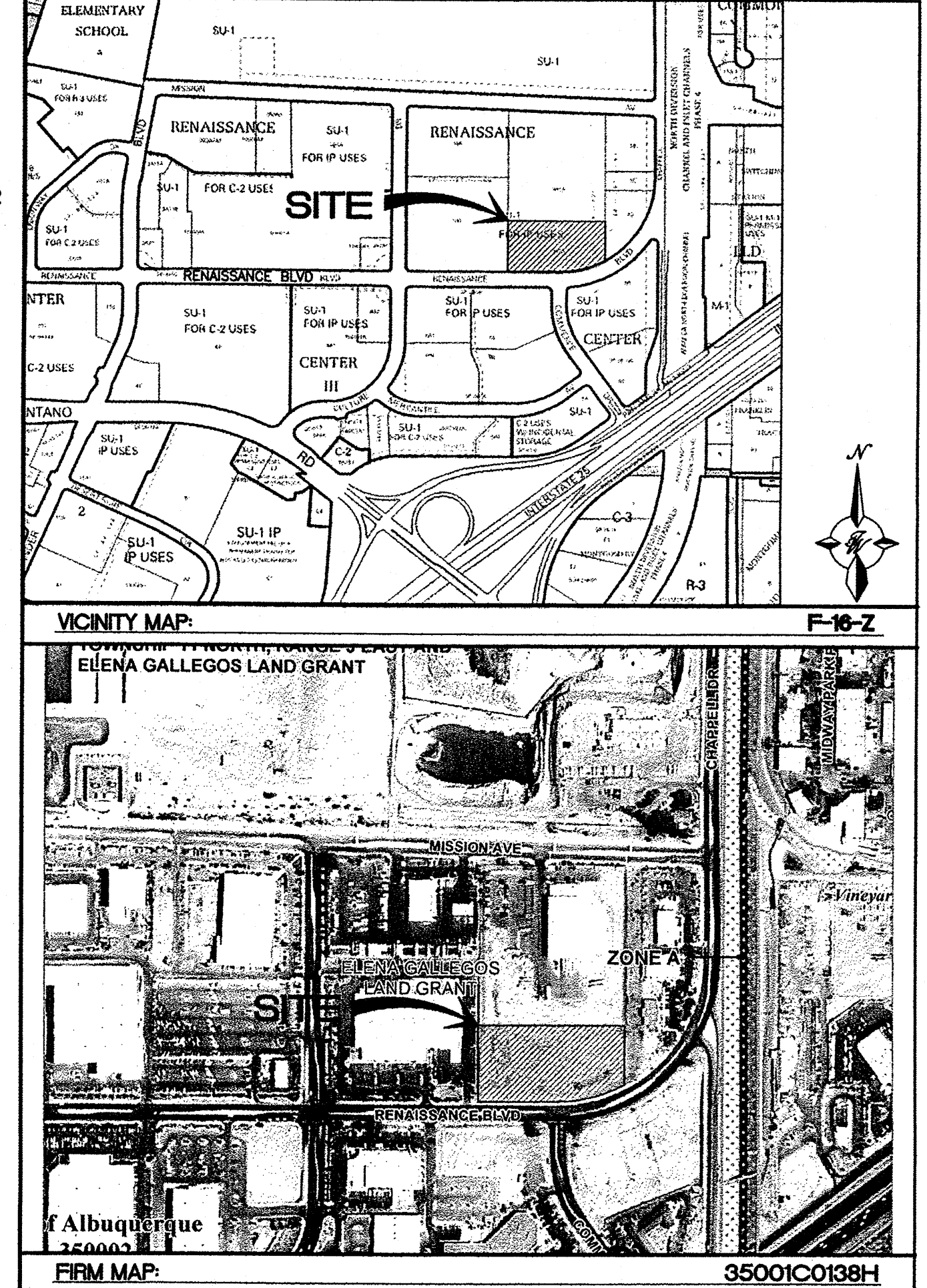
Q = CA sqrt(2gh)
Q = 0.612 * 2.09 * sqrt(2 * 32.2 * 0.67)
Q = 8.24 cfs



GRAPHIC SCALE



SCALE: 1"=30'



NOTICE TO CONTRACTORS

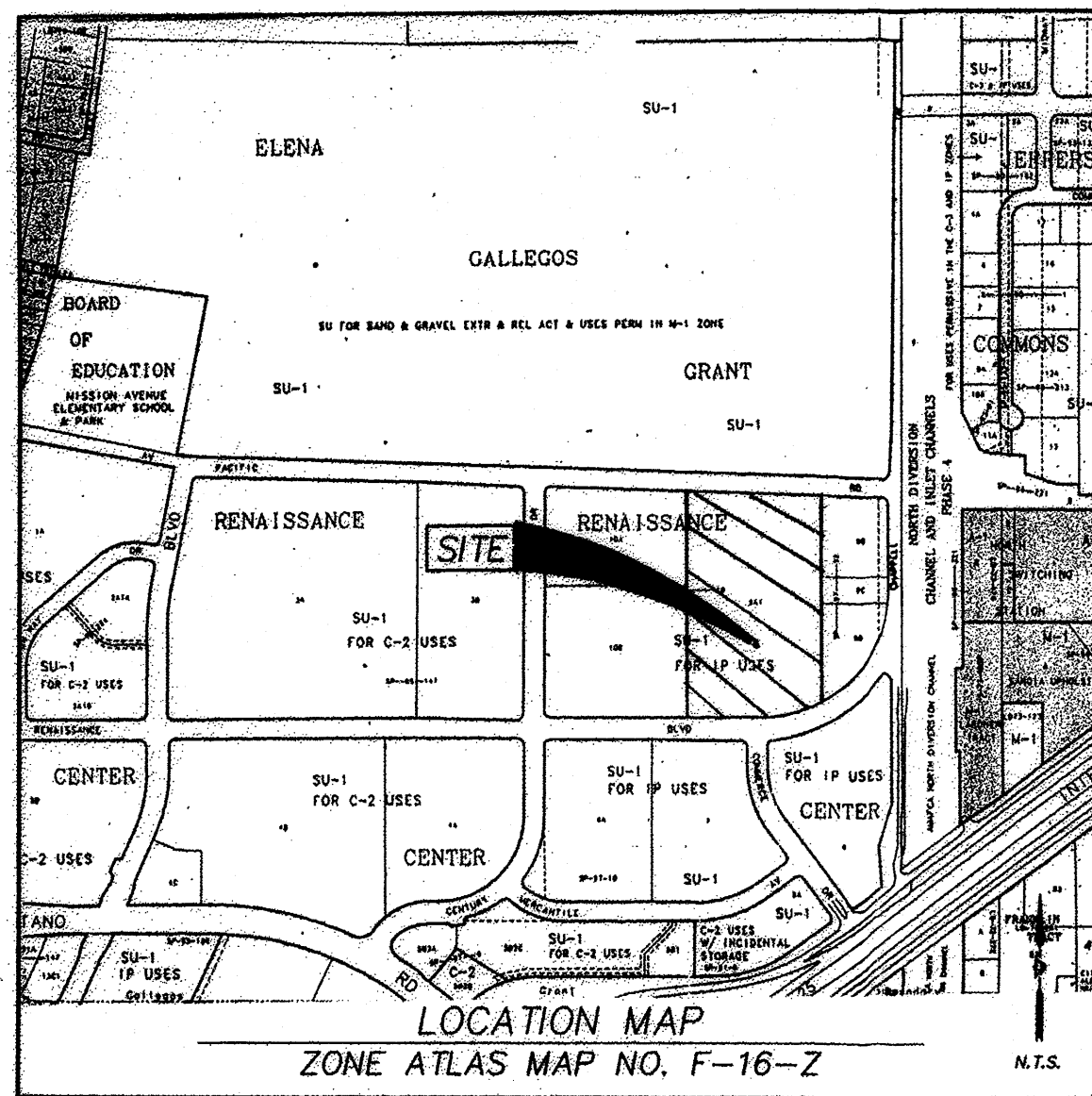
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

EROSION CONTROL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

ENGINEER'S SEAL RONALD R. BOHANNAN P.E. #7868	TRACT 9A RENAISSANCE CENTER GRADING AND DRAINAGE PLAN	DRAWN BY BJF DATE 06/18/15 2015009-GRB
	 TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # D1 JOB # 2015009

DRB # 4/24/15



SUBDIVISION DATA:

GROSS SUBDIVISION ACREAGE: 12.127 ACRES±
 ZONE ATLAS INDEX NO: F-16-Z
 NO. OF TRACTS CREATED: 2
 NO. OF LOTS CREATED: 0
 MILES OF FULL-WIDTH STREETS CREATED: 0 MILES
 DATE OF SURVEY: FEBRUARY 19, 1998

EASEMENTS

THIS PLAT SHOWS EXISTING RECORDED AND APPARENT EASEMENTS AS NOTED.

PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT ARE GRANTED FOR THE COMMON AND JOINT USE OF:

1. PNM ELECTRIC SERVICES FOR THE INSTALLATION, MAINTENANCE, AND SERVICE OF OVERHEAD AND UNDERGROUND ELECTRICAL LINES, TRANSFORMERS, POLES AND ANY OTHER EQUIPMENT, FIXTURES, STRUCTURES AND RELATED FACILITIES REASONABLY NECESSARY TO PROVIDE ELECTRICAL SERVICE.
2. PNM GAS SERVICES FOR INSTALLATION, MAINTENANCE, AND SERVICE OF NATURAL GAS LINES, VALVES AND OTHER EQUIPMENT AND FACILITIES REASONABLY NECESSARY TO PROVIDE NATURAL GAS.
3. U.S. WEST FOR THE INSTALLATION, MAINTENANCE AND SERVICE OF ALL BURIED AND AERIAL COMMUNICATION LINES AND OTHER RELATED EQUIPMENT AND FACILITIES REASONABLY NECESSARY TO PROVIDE COMMUNICATION SERVICES, INCLUDING BUT NOT LIMITED TO ABOVE GROUND PEDESTALS AND CLOSURES.
4. JONES INTERCABLE FOR THE INSTALLATION, MAINTENANCE, AND SERVICE OF SUCH LINES, CABLE, AND OTHER RELATED EQUIPMENT AND FACILITIES REASONABLY NECESSARY TO PROVIDE CABLE TV SERVICE.

INCLUDED IS THE RIGHT TO BUILD, REBUILD, CONSTRUCT, RECONSTRUCT, LOCATE, RELOCATE, CHANGE, REMOVE, MODIFY, RENEW, OPERATE, AND MAINTAIN FACILITIES FOR THE PURPOSES DESCRIBED ABOVE, TOGETHER WITH FREE ACCESS TO, FROM, AND OVER SAID EASEMENTS, INCLUDING SUFFICIENT WORKING AREA SPACE FOR ELECTRIC TRANSFORMERS, WITH THE RIGHT AND PRIVILEGE TO TRIM AND REMOVE TREES, SHRUBS OR BUSHES WHICH INTERFERE WITH THE PURPOSES SET FORTH HEREIN. NO BUILDING, SIGN, POOL (ABOVEGROUND OR SUBSURFACE), HOT TUB, CONCRETE OR WOOD POOL DECKING, OR OTHER STRUCTURE SHALL BE ERRECTED OR CONSTRUCTED ON SAID EASEMENTS, NOR SHALL ANY WELL BE DRILLED OR OPERATED THEREON. PROPERTY OWNERS SHALL BE SOLELY RESPONSIBLE FOR CORRECTING ANY VIOLATIONS OF VIOLATIONS OF NATIONAL ELECTRICAL SAFETY CODE CAUSED BY CONSTRUCTION OR POOLS, DECKING, OR ANY STRUCTURES ADJACENT TO WITHIN OR NEAR EASEMENTS SHOWN ON THIS PLAT.

NOTES:

1. MISC. DATA: ZONING SU FOR IP USES
2. BEARINGS SHOWN ARE GRID BEARINGS (NM CENTRAL ZONE-NAD 1927).
3. ALL DISTANCES ARE GROUND DISTANCES.
4. THIS PROPERTY LIES WITHIN PROJECTED SECTION 34, TOWNSHIP 11 NORTH, RANGE 3 EAST, N.M.P.M., ELENA GALLEGOS GRANT, BERNALILLO COUNTY, NEW MEXICO.
5. THE PURPOSE OF THIS PLAT IS TO REPLAT THE EXISTING TRACT INTO TWO NEW TRACTS.
6. PLAT SHOWS ALL EASEMENTS OF RECORD.
7. SP NO. 98030410420295
8. A DRAINAGE EASEMENT IS GRANTED TO TRACTS 9B, 9C, 9D OVER AND ACROSS TRACT 9-A-1-B FOR THE BENEFIT OF 9B, 9C, 9D TO BE MAINTAINED BY TRACT 9-A-1-B.
9. A DRAINAGE EASEMENT IS GRANTED TO TRACTS 9B, 9C, 9D AND 9-A-1-B OVER AND ACROSS TRACT 9-A-1-A ALONG WITH A PERMANENT PONDING EASEMENT FOR THE BENEFIT OF 9B, 9C, 9D AND 9-A-1-B TO BE MAINTAINED BY TRACT 9-A-1-A.

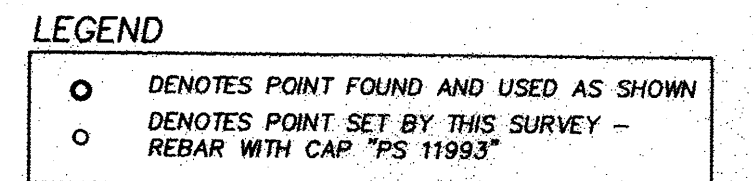
LEGAL DESCRIPTION

A TRACT OF LAND COMPRISING OF TRACT 9-A-1 OF RENAISSANCE CENTER AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON MARCH 31, 1997, IN VOLUME 97C, FOLIO 95, CONTAINING 12.127 ACRES (528,231 SQ. FT.) MORE OR LESS, NOW COMPRISING TRACTS 9-A-1-A AND 9-A-1-B, RENAISSANCE CENTER.

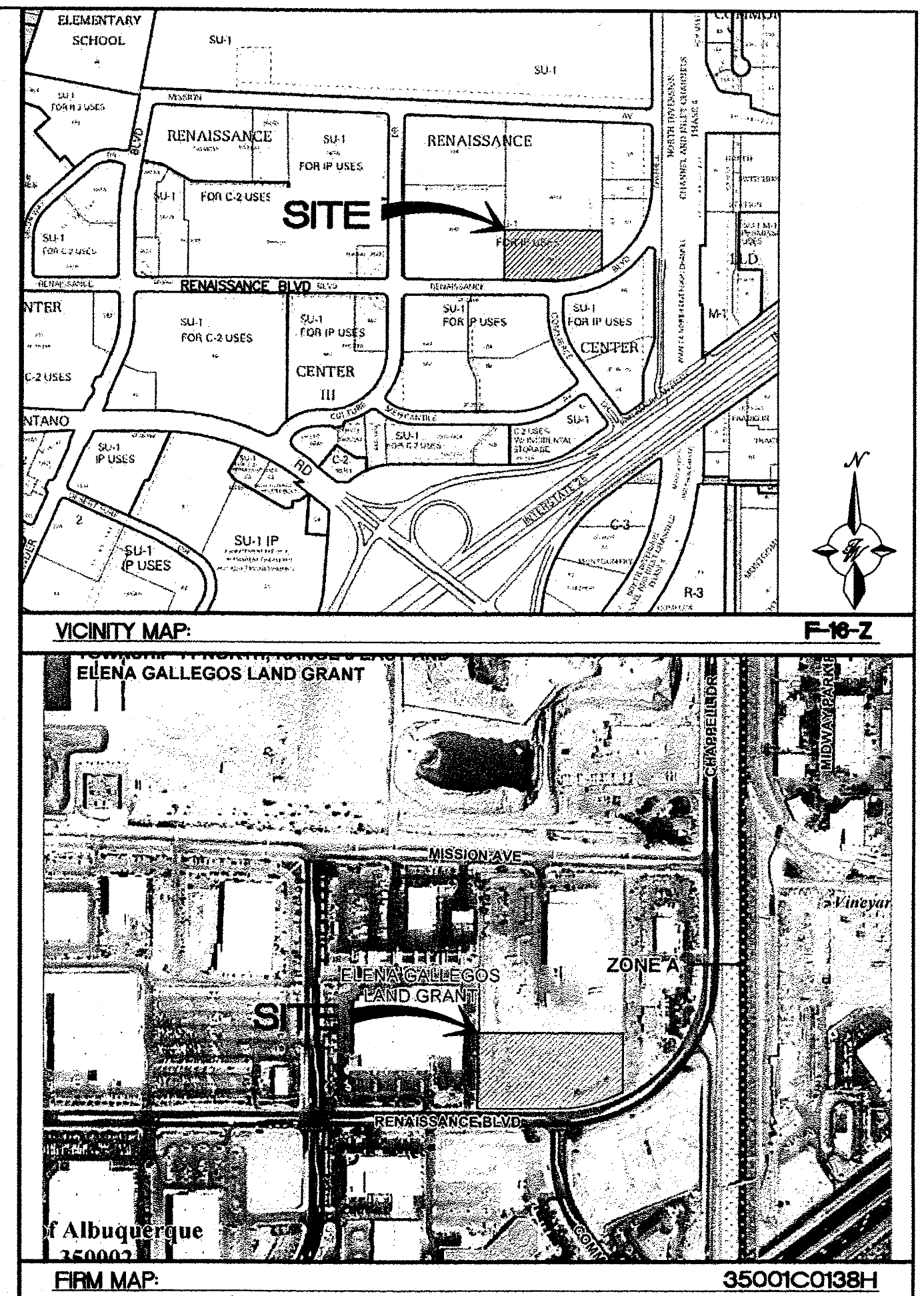


THIS IS TO CERTIFY THAT TAXES ARE CURRENT AND PAID ON UPC & *Super Code 4 & 5* *and 6* *and 7* *and 8* *and 9* *and 10* *and 11* *and 12* *and 13* *and 14* *and 15* *and 16* *and 17* *and 18* *and 19* *and 20* *and 21* *and 22* *and 23* *and 24* *and 25* *and 26* *and 27* *and 28* *and 29* *and 30* *and 31* *and 32* *and 33* *and 34* *and 35* *and 36* *and 37* *and 38* *and 39* *and 40* *and 41* *and 42* *and 43* *and 44* *and 45* *and 46* *and 47* *and 48* *and 49* *and 50* *and 51* *and 52* *and 53* *and 54* *and 55* *and 56* *and 57* *and 58* *and 59* *and 60* *and 61* *and 62* *and 63* *and 64* *and 65* *and 66* *and 67* *and 68* *and 69* *and 70* *and 71* *and 72* *and 73* *and 74* *and 75* *and 76* *and 77* *and 78* *and 79* *and 80* *and 81* *and 82* *and 83* *and 84* *and 85* *and 86* *and 87* *and 88* *and 89* *and 90* *and 91* *and 92* *and 93* *and 94* *and 95* *and 96* *and 97* *and 98* *and 99* *and 100* *and 101* *and 102* *and 103* *and 104* *and 105* *and 106* *and 107* *and 108* *and 109* *and 110* *and 111* *and 112* *and 113* *and 114* *and 115* *and 116* *and 117* *and 118* *and 119* *and 120* *and 121* *and 122* *and 123* *and 124* *and 125* *and 126* *and 127* *and 128* *and 129* *and 130* *and 131* *and 132* *and 133* *and 134* *and 135* *and 136* *and 137* *and 138* *and 139* *and 140* *and 141* *and 142* *and 143* *and 144* *and 145* *and 146* *and 147* *and 148* *and 149* *and 150* *and 151* *and 152* *and 153* *and 154* *and 155* *and 156* *and 157* *and 158* *and 159* *and 160* *and 161* *and 162* *and 163* *and 164* *and 165* *and 166* *and 167* *and 168* *and 169* *and 170* *and 171* *and 172* *and 173* *and 174* *and 175* *and 176* *and 177* *and 178* *and 179* *and 180* *and 181* *and 182* *and 183* *and 184* *and 185* *and 186* *and 187* *and 188* *and 189* *and 190* *and 191* *and 192* *and 193* *and 194* *and 195* *and 196* *and 197* *and 198* *and 199* *and 200* *and 201* *and 202* *and 203* *and 204* *and 205* *and 206* *and 207* *and 208* *and 209* *and 210* *and 211* *and 212* *and 213* *and 214* *and 215* *and 216* *and 217* *and 218* *and 219* *and 220* *and 221* *and 222* *and 223* *and 224* *and 225* *and 226* *and 227* *and 228* *and 229* *and 230* *and 231* *and 232* *and 233* *and 234* *and 235* *and 236* *and 237* *and 238* *and 239* *and 240* *and 241* *and 242* *and 243* *and 244* *and 245* *and 246* *and 247* *and 248* *and 249* *and 250* *and 251* *and 252* *and 253* *and 254* *and 255* *and 256* *and 257* *and 258* *and 259* *and 260* *and 261* *and 262* *and 263* *and 264* *and 265* *and 266* *and 267* *and 268* *and 269* *and 270* *and 271* *and 272* *and 273* *and 274* *and 275* *and 276* *and 277* *and 278* *and 279* *and 280* *and 281* *and 282* *and 283* *and 284* *and 285* *and 286* *and 287* *and 288* *and 289* *and 290* *and 291* *and 292* *and 293* *and 294* *and 295* *and 296* *and 297* *and 298* *and 299* *and 300* *and 301* *and 302* *and 303* *and 304* *and 305* *and 306* *and 307* *and 308* *and 309* *and 310* *and 311* *and 312* *and 313* *and 314* *and 315* *and 316* *and 317* *and 318* *and 319* *and 320* *and 321* *and 322* *and 323* *and 324* *and 325* *and 326* *and 327* *and 328* *and 329* *and 330* *and 331* *and 332* *and 333* *and 334* *and 335* *and 336* *and 337* *and 338* *and 339* *and 340* *and 341* *and 342* *and 343* *and 344* *and 345* *and 346* *and 347* *and 348* *and 349* *and 350* *and 351* *and 352* *and 353* *and 354* *and 355* *and 356* *and 357* *and 358* *and 359* *and 360* *and 361* *and 362* *and 363* *and 364* *and 365* *and 366* *and 367* *and 368* *and 369* *and 370* *and 371* *and 372* *and 373* *and 374* *and 375* *and 376* *and 377* *and 378* *and 379* *and 380* *and 381* *and 382* *and 383* *and 384* *and 385* *and 386* *and 387* *and 388* *and 389* *and 390* *and 391* *and 392* *and 393* *and 394* *and 395* *and 396* *and 397* *and 398* *and 399* *and 400* *and 401* *and 402* *and 403* *and 404* *and 405* *and 406* *and 407* *and 408* *and 409* *and 410* *and 411* *and 412* *and 413* *and 414* *and 415* *and 416* *and 417* *and 418* *and 419* *and 420* *and 421* *and 422* *and 423* *and 424* *and 425* *and 426* *and 427* *and 428* *and 429* *and 430* *and 431* *and 432* *and 433* *and 434* *and 435* *and 436* *and 437* *and 438* *and 439* *and 440* *and 441* *and 442* *and 443* *and 444* *and 445* *and 446* *and 447* *and 448* *and 449* *and 450* *and 451* *and 452* *and 453* *and 454* *and 455* *and 456* *and 457* *and 458* *and 459* *and 460* *and 461* *and 462* *and 463* *and 464* *and 465* *and 466* *and 467* *and 468* *and 469* *and 470* *and 471* *and 472* *and 473* *and 474* *and 475* *and 476* *and 477* *and 478* *and 479* *and 480* *and 481* *and 482* *and 483* *and 484* *and 485* *and 486* *and 487* *and 488* *and 489* *and 490* *and 491* *and 492* *and 493* *and 494* *and 495* *and 496* *and 497* *and 498* *and 499* *and 500* *and 501* *and 502* *and 503* *and 504* *and 505* *and 506* *and 507* *and 508* *and 509* *and 510* *and 511* *and 512* *and 513* *and 514* *and 515* *and 516* *and 517* *and 518* *and 519* *and 520* *and 521* *and 522* *and 523* *and 524* *and 525* *and 526* *and 527* *and 528* *and 529* *and 530* *and 531* *and 532* *and 533* *and 534* *and 535* *and 536* *and 537* *and 538* *and 539* *and 540* *and 541* *and 542* *and 543* *and 544* *and 545* *and 546* *and 547* *and 548* *and 549* *and 550* *and 551* *and 552* *and 553* *and 554* *and 555* *and 556* *and 557* *and 558* *and 559* *and 560* *and 561* *and 562* *and 563* *and 564* *and 565* *and 566* *and 567* *and 568* *and 569* *and 570* *and 571* *and 572* *and 573* *and 574* *and 575* *and 576* *and 577* *and 578* *and 579* *and 580* *and 581* *and 582* *and 583* *and 584* *and 585* *and 586* *and 587* *and 588* *and 589* *and 590* *and 591* *and 592* *and 593* *and 594* *and 595* *and 596* *and 597* *and 598* *and 599* *and 600* *and 601* *and 602* *and 603* *and 604* *and 605* *and 606* *and 607* *and 608* *and 609* *and 610* *and 611* *and 612* *and 613* *and 614* *and 615* *and 616* *and 617* *and 618* *and 619* *and 620* *and 621* *and 622* *and 623* *and 624* *and 625* *and 626* *and 627* *and 628* *and 629* *and 630* *and 631* *and 632* *and 633* *and 634* *and 635* *and 636* *and 637* *and 638* *and 639* *and 640* *and 641* *and 642* *and 643* *and 644* *and 645* *and 646* *and 647* *and 648* *and 649* *and 650* *and 651* *and 652* *and 653* *and 654* *and 655* *and 656* *and 657* *and 658* *and 659* *and 660* *and 661* *and 662* *and 663* *and 664* *and 665* *and 666* *and 667* *and 668* *and 669* *and 670* *and 671* *and 672* *and 673* *and 674* *and 675* *and 676* *and 677* *and 678* *and 679* *and 680* *and 681* *and 682* *and 683* *and 684* *and 685* *and 686* *and 687* *and 688* *and 689* *and 690* *and 691* *and 692* *and 693* *and 694* *and 695* *and 696* *and 697* *and 698* *and 699* *and 700* *and 701* *and 702* *and 703* *and 704* *and 705* *and 706* *and 707* *and 708* *and 709* *and 710* *and 711* *and 712* *and 713* *and 714* *and 715* *and 716* *and 717* *and 718* *and 719* *and 720* *and 721* *and 722* *and 723* *and 724* *and 725* *and 726* *and 727* *and 728* *and 729* *and 730* *and 731* *and 732* *and 733* *and 734* *and 735* *and 736* *and 737* *and 738* *and 739* *and 740* *and 741* *and 742* *and 743* *and 744* *and 745* *and 746* *and 747* *and 748* *and 749* *and 750* *and 751* *and 752* *and 753* *and 754* *and 755* *and 756* *and 757* *and 758* *and 759* *and 760* *and 761* *and 762* *and 763* *and 764* *and 765* *and 766* *and 767* *and 768* *and 769* *and 770* *and 771* *and 772* *and 773* *and 774* *and 775* *and 776* *and 777* *and 778* *and 779* *and 780* *and 781* *and 782* *and 783* *and 784* *and 785* *and 786* *and 787* *and 788* *and 789* *and 790* *and 791* *and 792* *and 793* *and 794* *and 795* *and 796* *and 797* *and 798* *and 799* *and 800* *and 801* *and 802* *and 803* *and 804* *and 805* *and 806* *and 807* *and 808* *and 809* *and 810* *and 811* *and 812* *and 813* *and 814* *and 815* *and 816* *and 817* *and 818* *and 819* *and 820* *and 821* *and 822* *and 823* *and 824* *and 825* *and 826* *and 827* *and 828* *and 829* *and 830* *and 831* *and 832* *and 833* *and 834* *and 835* *and 836* *and 837* *and 838* *and 839* *and 840* *and 841* *and 842* *and 843* *and 844* *and 845* *and 846* *and 847* *and 848* *and 849* *and 850* *and 851* *and 852* *and 853* *and 854* *and 855* *and 856* *and 857* *and 858* *and 859* *and 860* *and 861* *and 862* *and 863* *and 864* *and 865* *and 866* *and 867* *and 868* *and 869* *and 870* *and 871* *and 872* *and 873* *and 874* *and 875* *and 876* *and 877* *and 878* *and 879* *and 880* *and 881* *and 882* *and 883* *and 884* *and 885* *and 886* *and 887* *and 888* *and 889* *and 890* *and 891* *and 892* *and 893* *and 894* *and 895* *and 896* *and 897* *and 898* *and 899* *and 900* *and 901* *and 902* *and 903* *and 904* *and 905* *and 906* *and 907* *and 908* *and 909* *and 910* *and 911* *and 912* *and 913* *and 914* *and 915* *and 916* *and 917* *and 918* *and 919* *and 920* *and 921* *and 922* *and 923* *and 924* *and 925* *and 926* *and 927* *and 928* *and 929* *and 930* *and 931* *and 932* *and 933* *and 934* *and 935* *and 936* *and 937* *and 938* *and 939* *and 940* *and 941* *and 942* *and 943* *and 944* *and 945* *and 946* *and 947* *and 948* *and 949* *and 950* *and 951* *and 952* *and 953* *and 954* *and 955* *and 956* *and 957* *and 958* *and 959* *and 960* *and 961* *and 962* *and 963* *and 964* *and 965* *and 966* *and 967* *and 968* *and 969* *and 970* *and 971* *and 972* *and 973* *and 974* *and 975* *and 976* *and 9*

Judy D. Woodward Bern. Co. PLAT R 12.00

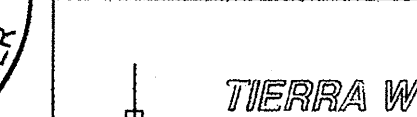


DRB CASE NO. 97-88
SHEET 2 OF 2



1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITY CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
4. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

ENGINEER'S SEAL	TRACT 9A RENAISSANCE CENTER	DRAWN BY BJF
	GRADING AND DRAINAGE PLAN	DATE 7/13/15
RONALD R. BOHANNAN P.E. #7868	 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	2015009-GRB
		SHEET # D1
		JOB # 2015009

Manning's Equation:
 $Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$

3.08 ACRES OF IMPERVIOUS AREA = 134,165 SQ. FT
 134,165 SQ. FT * (0.34"/12) = 3,801 CU. FT = 0.087 AC-FT
 OF VOLUME REQUIRED TO BE RETAINED ON-SITE.

THIS SITE IS LOCATED IN THE RENAISSANCE CENTER MASTER PLAN AREA AND IS LOCATED AT THE INTERSECTION OF RENAISSANCE CENTER BLVD. AND COMMERCE DR. IT IS BOUNDED ON THE SOUTH BY RENAISSANCE CENTER BLVD, ON THE WEST BY FEDEX, ON THE NORTH BY FRITO LAY AND ON THE EAST BY AN OFFICE COMPLEX AND CONTAINS APPROXIMATELY 3.74 ACRES.

THE SITE CURRENTLY DRAINS TO A TEMPORARY RETENTION POND WITH SOME FLOWS GOING TO THE STREET. THIS SITE WAS INCLUDED IN THE FRITO LAY AND CHAVEZ-GRIEVES DRAINAGE REPORT (F16/D51) APPROVED ON SEPTEMBER 10, 1998 AND WILL CONTINUE TO FOLLOW THAT DRAINAGE SCHEME THAT ALLOWS ALL OF THE DRAINAGE TO FLOW TO FRITO LAY DETENTION POND #5.

THE SITE DOES ACCEPT OFF-SITE FLOWS (10.52 CFS) FROM THE OFFICE COMPLEX WHICH IS ALSO CONTAINED IN THE TEMPORARY RETENTION POND. NO OTHER OFF-SITE FLOWS ENTER THE SITE. AS SHOWN ON THE FIRM MAP THERE ARE NO FLOOD PLAINS ON THIS PROPERTY.

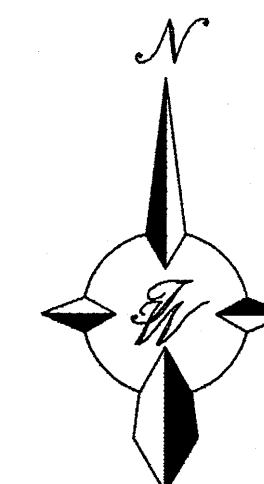
THIS SITE WILL CONTAIN SEVEN BASINS WITH FIVE OF THE BASINS DRAINING TO AN EXISTING STORM SEWER STUB THAT IS CONNECTED TO FRITO LAY POND #5. THE EXISTING STORM SEWER PIPE FROM THE OFFICE COMPLEX WILL BE INTERCEPTED WITH A NEW STORM SEWER AND ROUTED AROUND THE PERIMETER OF THE SITE AND CONNECT TO THE EXISTING STUB MENTIONED ABOVE.

BASINS 1, 2 AND 4 WILL DRAIN TO AREA INLETS THAT ARE CONNECTED TO THE STORM SEWER. BASIN 3 WILL DRAIN THE TRUCK DOCK AREA THROUGH A STORM DRAIN OPENING ON THE NORTH SIDE OF THE DOCK.

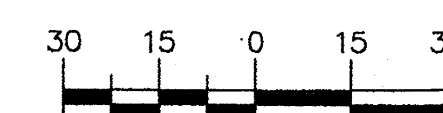
BASINS 5 AND 6 WILL DRAIN TO THE STREET GENERATING 0.66 CFS. THE ORIGINAL FRITO LAY DRAINAGE PLAN ALLOWED FOR 0.66 CFS TO BE DISCHARGED TO THE STREET.

BASIN 7 WILL REMAIN UNDEVELOPED AT THIS TIME AND WILL DRAIN TO A DESILTING POND DESIGNED TO HOLD 4,008 CUBIC FEET OF WATER WHICH IS GREATER THAN THE 3,801 CUBIC FEET REQUIRED. THE POND WILL OVERFLOW TO THE AREA INLET LOCATED IN BASIN 1 NEAR THE TRUCK DOCK AND BE CONVEYED TO FRITO LAY DETENTION POND #5.

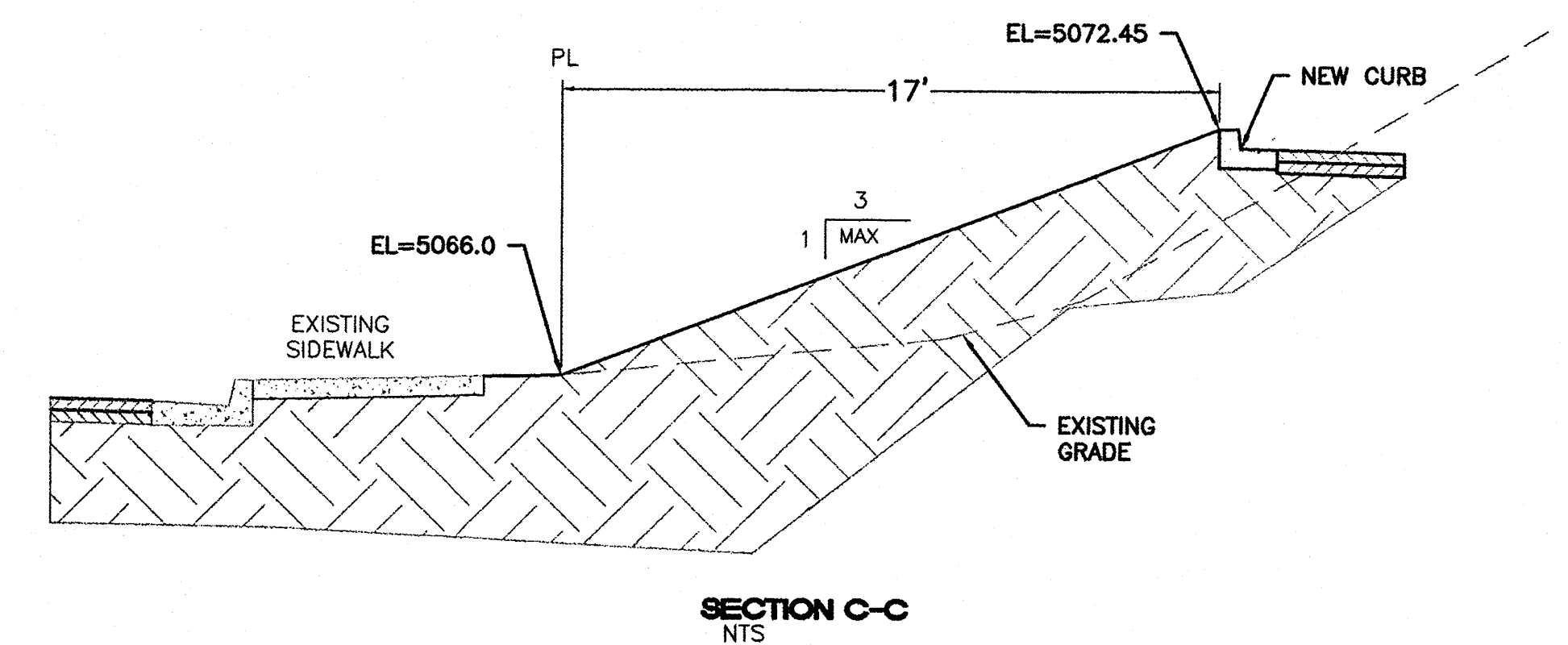
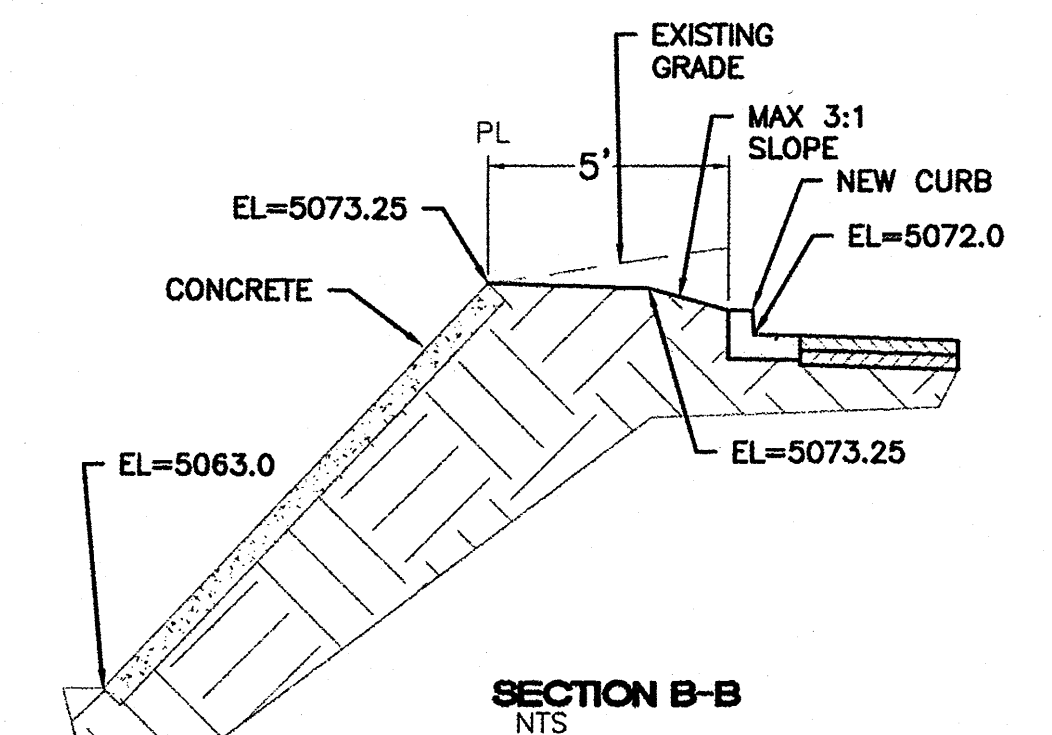
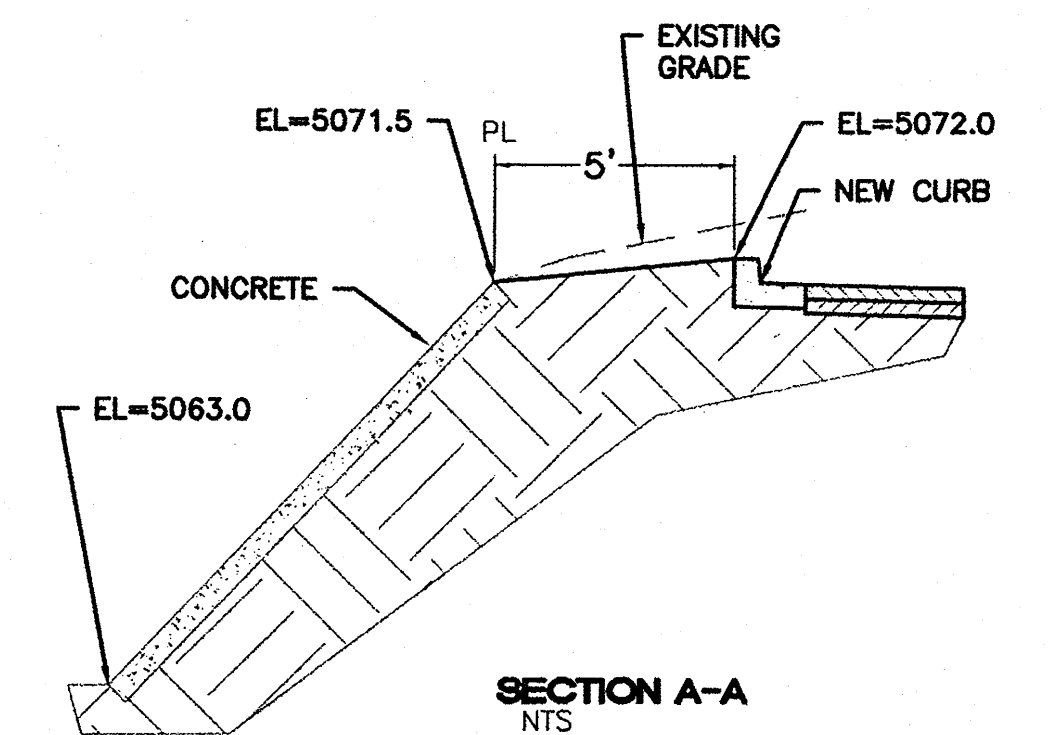
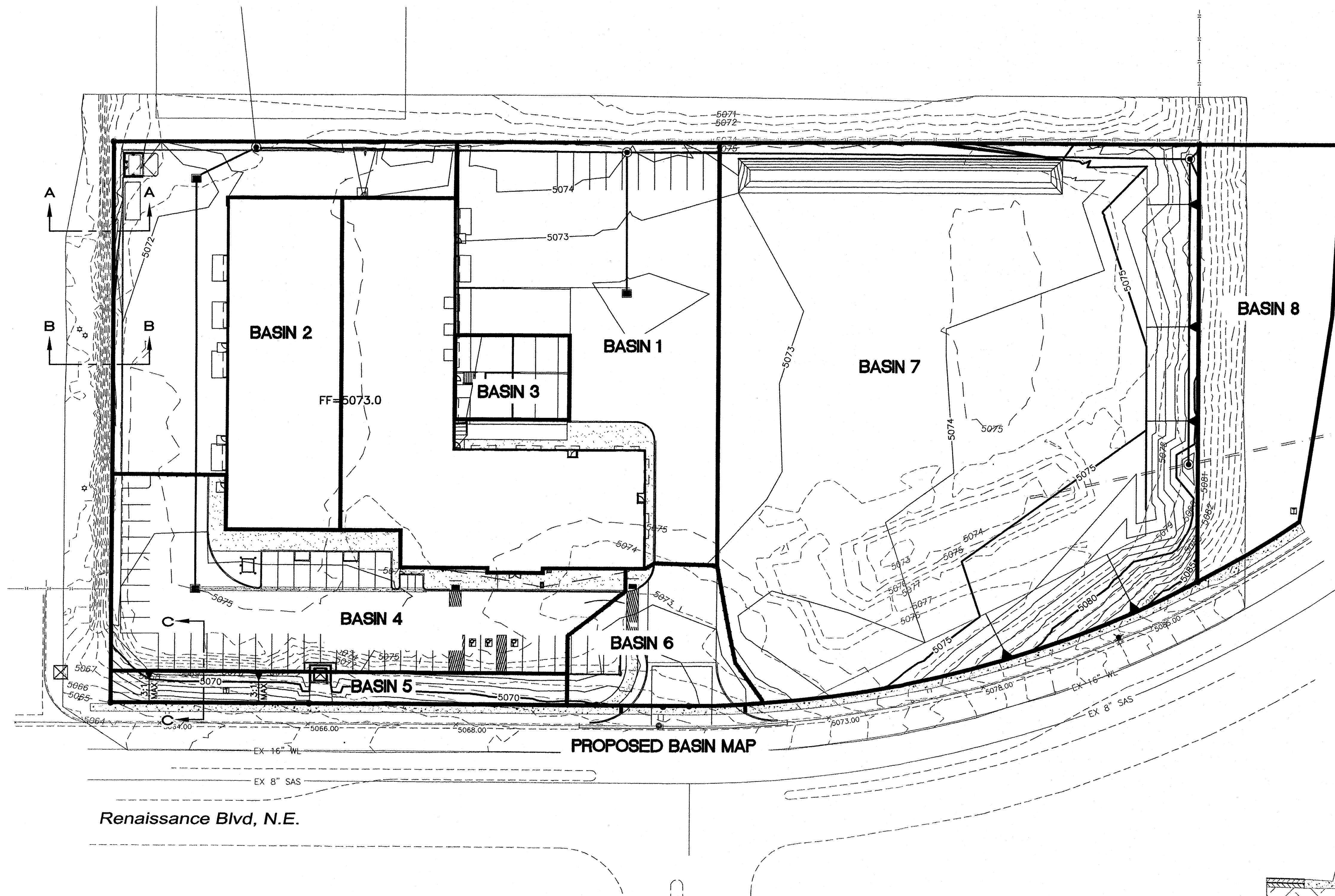
THIS SITE WILL DISCHARGE A TOTAL OF 24.89 CFS TO FRITO LAY POND #5 WHICH IS LESS THAN THE 24.97 ALLOWED IN THE APPROVED DRAINAGE PLAN. THAT TOTAL INCLUDES THE 10.52 CFS BEING PASSED THROUGH FROM THE ADJACENT OFFICE COMPLEX.



GRAPHIC SCALE



SCALE: 1"=30'



Weighted E Method

On-Site Basins

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year			10-Year		
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	41,955	0.96	0%	0	2%	0.02	0%	0.00	98%	0.94	2.093	0.168	4.48	1.319	0.106	2.98
2	28,583	0.66	0%	0	8%	0.05	0%	0.00	92%	0.60	2.013	0.110	2.96	1.255	0.069	1.95
3	3,220	0.07	0%	0	0%	0.00	0%	0.00	100%	0.07	2.120	0.013	0.35	1.340	0.008	0.23
4	19,840	0.46	0%	0	8%	0.04	0%	0.00	92%	0.42	2.013	0.076	2.05	1.255	0.048	1.35
5	3,983	0.09	0%	0	100%	0.09	0%	0.00	0%	0.00	0.780	0.006	0.21	0.280	0.002	0.09
6	4,950	0.11	0%	0	30%	0.03	0%	0.00	70%	0.08	1.718	0.016	0.45	1.022	0.010	0.29
7	67,804	1.56	0%	0	30%	0.47	0%	0.00	70%	1.09	1.718	0.223	6.19	1.022	0.133	3.86
8	14,040	0.32	0%	0	100%	0.32	0%	0.00	0%	0.00	0.780	0.021	0.73	0.280	0.008	0.31

Equations:

Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d$ / (Total Area)

Volume = Weighted D * Total Area

Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$

Excess Precipitation, E (inches)		
Zone 2	100-Year	10-Year
E_a	0.53	0.13
E_b	0.78	0.28
E_c	1.13	0.52
E_d	2.12	1.34

Peak Discharge (cfs/acre)		
Zone 2	100-Year	10-Year
Q_a	1.56	0.38
Q_b	2.28	0.95
Q_c	3.14	1.71
Q_d	4.70	3.14

Capacity of a Double 'D' Storm Drop Inlet

Capacity of the grate:

$L = 80' - 2(2' \text{ nose}) - 14(1/2' \text{ middle bars}) - 6' \text{ center pipe}$
 $= 63'$
 $= 5.25'$

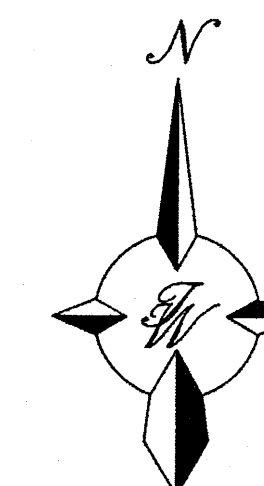
$W = 25' - 13(1/2' \text{ middle bars})$
 $= 18.5'$
 $= 1.54'$

$\text{Area} = 5.25' \times 1.54'$
 $= 8.09 \text{ ft}^2$

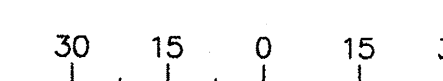
$\text{Effective Area} = 8.09 - 8.09(0.5 \text{ blocking factor})$
 $= 4.04 \text{ ft}^2 \text{ at the grate}$

Orifice Equation

$Q = CA \sqrt{2gh}$
 $Q = 0.674 \text{ ft}^2 \sqrt{2(32.2)(0.67)}$
 $Q = 15.93 \text{ cfs}$



GRAPHIC SCALE



SCALE: 1"=30'

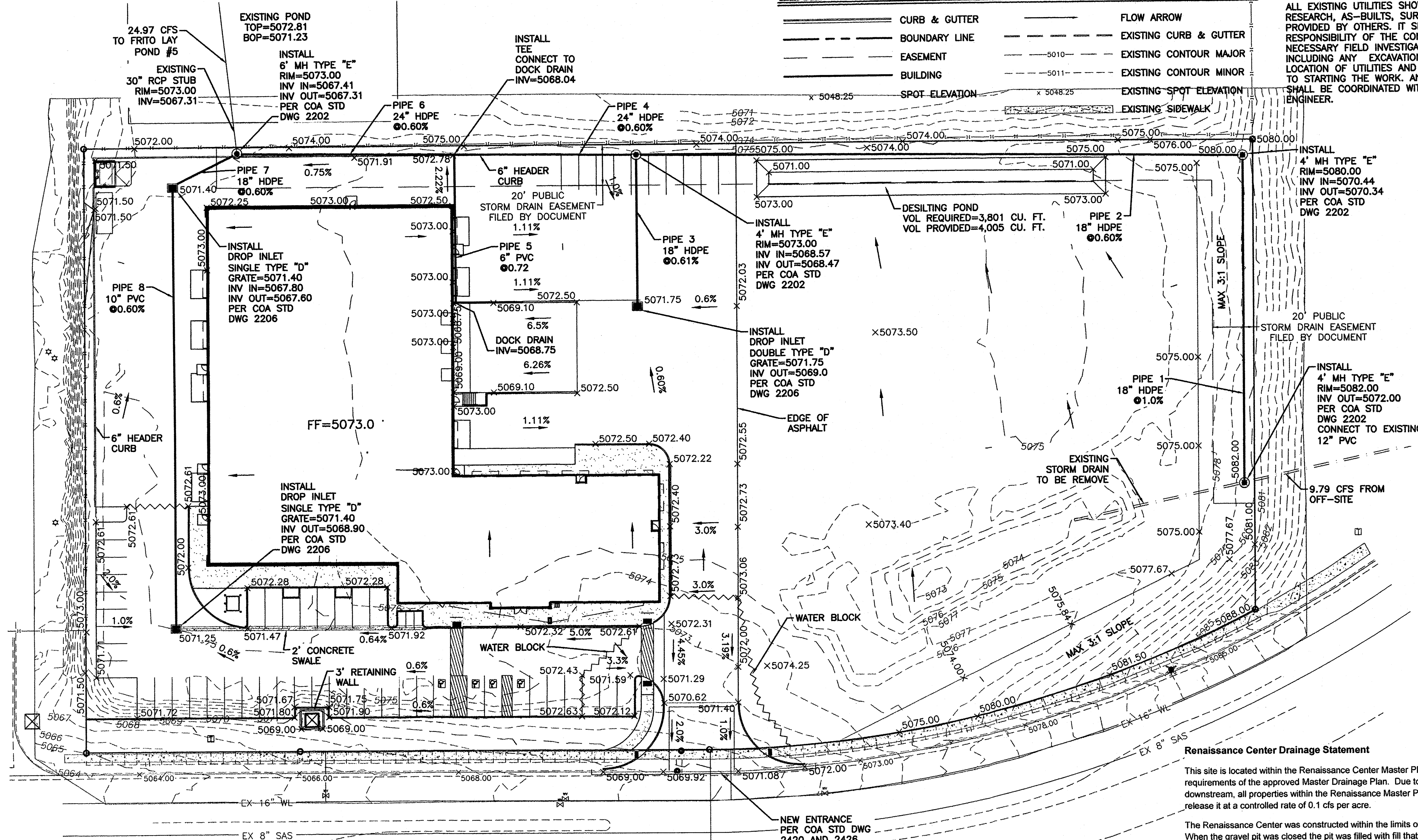
ENGINEER'S SEAL RONALD R. BOHANNAN P.E. #7868	TRACT 9A RENAISSANCE CENTER	DRAWN BY BJF
	GRADING AND DRAINAGE PLAN	DATE 06/18/15
	TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	2015009-GRB
	SHEET # D2	JOB # 2015009

LEGEND

— Curb & Gutter	— FLOW ARROW
--- BOUNDARY LINE	--- EXISTING CURB & GUTTER
--- EASEMENT	--- EXISTING CONTOUR MAJOR
--- BUILDING	--- EXISTING CONTOUR MINOR
--- SPOT ELEVATION	--- EXISTING SPOT ELEVATION
	--- EXISTING SIDEWALK

CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

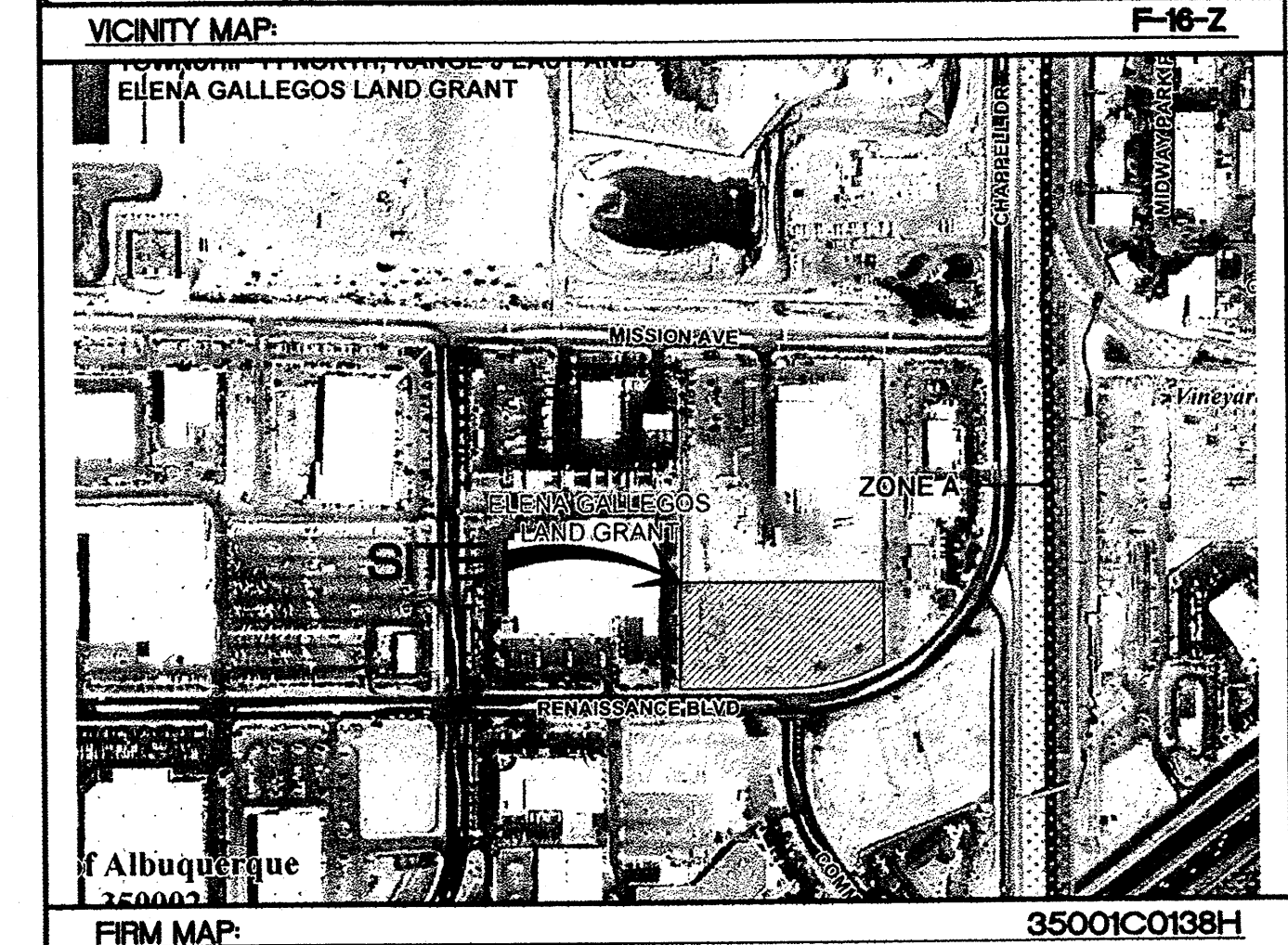
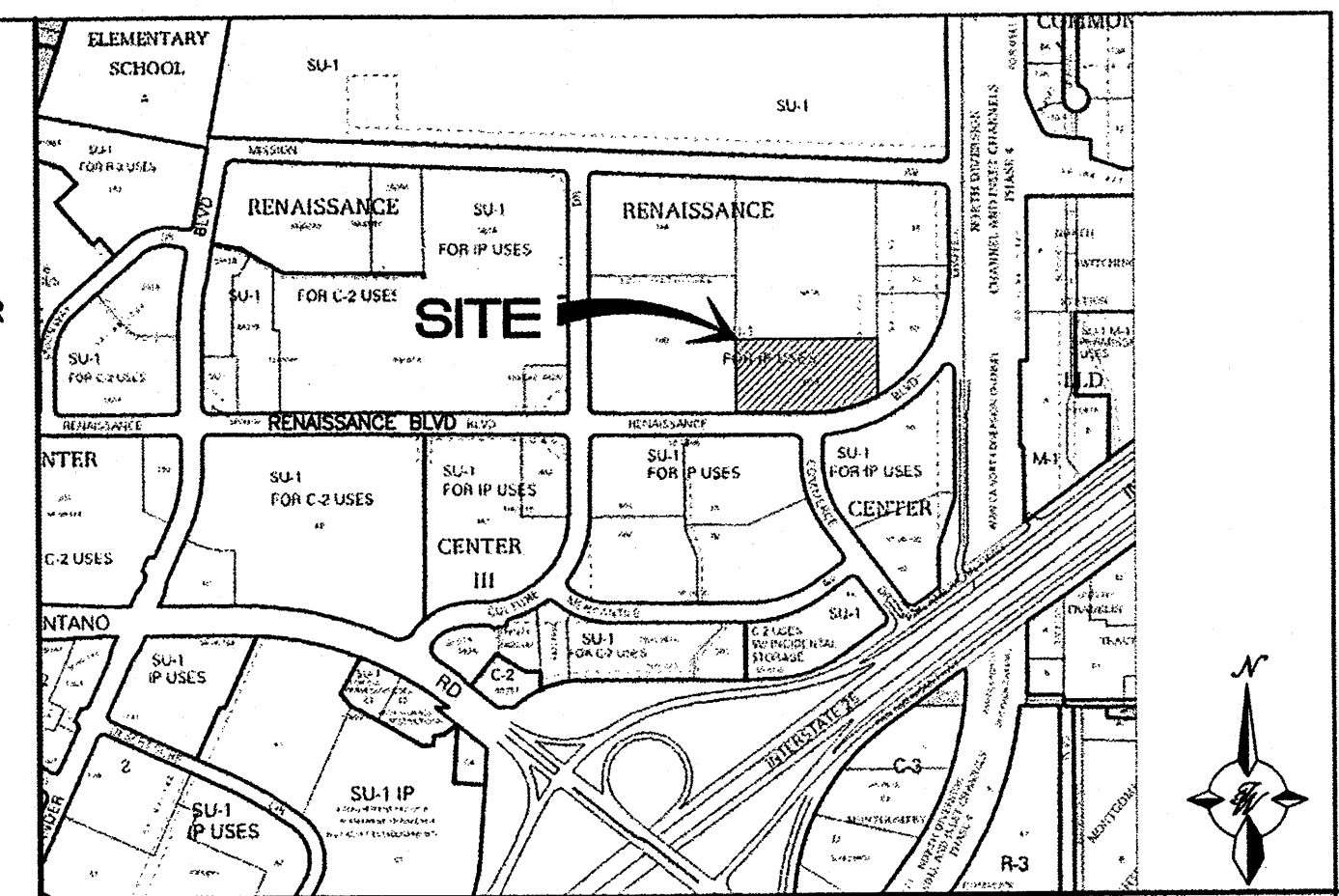


Renaissance Center Drainage Statement

This site is located within the Renaissance Center Master Plan area and is subject to the requirements of the approved Master Drainage Plan. Due to limited drainage capacity downstream, all properties within the Renaissance Master Plan must detain storm water and release it at a controlled rate of 0.1 cfs per acre.

The Renaissance Center was constructed within the limits of a gravel pit that is no longer in use. When the gravel pit was closed the pit was filled with fill that was not compacted. This causes the potential for collapsible soils with any new construction. Due to the potential for collapsible soils it is recommended that all detention ponds shall be lined or located away from any structures. Parking lot ponding is encouraged whenever possible not to exceed a depth of eight (8) inches.

Retention ponds shall not be located within the Renaissance Center Master Plan area due to the potential for collapsible soils. For this reason the City of Albuquerque requirement to provide for the retention of the "first flush" flow shall be waived. Since the discharge rate from any detention pond is so minor any trash that enters those ponds will be captured and can be removed from the ponds on a regular basis. The detention ponds within the Renaissance Center drain to a regional pond in the southwest corner of the Master Plan area where the discharge is controlled by a manual valve. Therefore there is no direct discharge to the Rio Grande, thus meeting the intention of the City Drainage Ordinance.



NOTICE TO CONTRACTORS

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

EROSION CONTROL NOTES

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

NOTE:

UNLESS OTHERWISE NOTED ON THE PLAN, ALL SPOT ELEVATIONS ARE FLOW LINE ELEVATIONS.

Pipe Capacity							
Pipe	D (in)	Slope (%)	Area (ft ²)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	18	0.60	1.77	0.375	10.61	9.79	5.54
2	18	0.60	1.77	0.375	10.61	9.79	5.54
3	18	0.61	1.77	0.375	10.69	10.67	6.04
4	24	0.60	3.14	0.500	22.84	20.46	6.51
5	6	0.72	0.20	0.125	0.62	0.35	1.78
6	24	0.60	3.14	0.500	22.84	20.81	6.62
7	18	0.60	1.77	0.375	10.61	4.68	2.65
8	10	0.60	0.55	0.208	2.21	2.05	3.76

Manning's Equation:
 $Q = 1.49/n \cdot A \cdot R^{2/3} \cdot S^{1/2}$

A = Area
R = D/4
S = Slope
n = 0.01 HDPE/PVC

DESILTING POND CALCULATIONS

3.08 ACRES OF IMPERVIOUS AREA = 134,165 SQ. FT
134,165 SQ. FT * (0.34"/12) = 3,801 CU. FT = 0.087 AC-FT
OF VOLUME REQUIRED TO BE RETAINED ON-SITE.

EXISTING DRAINAGE CONDITIONS

THIS SITE IS LOCATED IN THE RENAISSANCE CENTER MASTER PLAN AREA AND IS LOCATED AT THE INTERSECTION OF RENAISSANCE CENTER BLVD. AND COMMERCE DR. IT IS BOUNDED ON THE SOUTH BY RENAISSANCE CENTER BLVD. ON THE WEST BY FEDEX, ON THE NORTH BY FRITO LAY AND ON THE EAST BY AN OFFICE COMPLEX AND CONTAINS APPROXIMATELY 3.74 ACRES.

THE SITE CURRENTLY DRAINS TO A TEMPORARY RETENTION POND WITH SOME FLOWS GOING TO THE STREET. THIS SITE WAS INCLUDED IN THE FRITO LAY AND CHAVEZ-GRIEVES DRAINAGE REPORT (F16/D51) APPROVED ON SEPTEMBER 10, 1998 AND WILL CONTINUE TO FOLLOW THAT DRAINAGE SCHEME THAT ALLOWS ALL OF THE DRAINAGE TO FLOW TO FRITO LAY DETENTION POND #5.

THE SITE DOES ACCEPT OFF-SITE FLOWS (10.52 CFS) FROM THE OFFICE COMPLEX WHICH IS ALSO CONTAINED IN THE TEMPORARY RETENTION POND. NO OTHER OFF-SITE FLOWS ENTER THE SITE. AS SHOWN ON THE FIRM MAP THERE ARE NO FLOOD PLAINS ON THIS PROPERTY.

PROPOSED DRAINAGE CONDITIONS

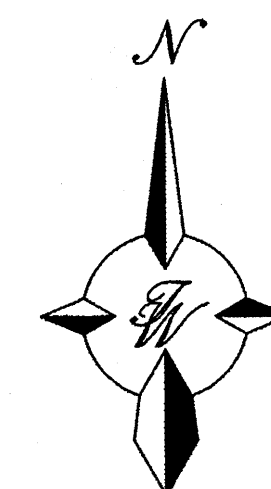
THIS SITE WILL CONTAIN SEVEN BASINS WITH FIVE OF THE BASINS DRAINING TO AN EXISTING STORM SEWER STUB THAT IS CONNECTED TO FRITO LAY POND #5. THE EXISTING STORM SEWER PIPE FROM THE OFFICE COMPLEX WILL BE INTERCEPTED WITH A NEW STORM SEWER AND ROUTED AROUND THE PERIMETER OF THE SITE AND CONNECT TO THE EXISTING STUB MENTIONED ABOVE.

BASINS 1, 2 AND 4 WILL DRAIN TO AREA INLETS THAT ARE CONNECTED TO THE STORM SEWER. BASIN 3 WILL DRAIN THE TRUCK DOCK AREA THROUGH A STORM DRAIN OPENING ON THE NORTH SIDE OF THE DOCK.

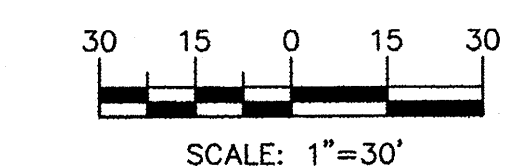
BASINS 5 AND 6 WILL DRAIN TO THE STREET GENERATING 0.66 CFS. THE ORIGINAL FRITO LAY DRAINAGE PLAN ALLOWED FOR 0.66 CFS TO BE DISCHARGED TO THE STREET.

BASIN 7 WILL REMAIN UNDEVELOPED AT THIS TIME AND WILL DRAIN TO A DESILTING POND DESIGNED TO HOLD 4,008 CUBIC FEET OR WATER WHICH IS GREATER THAN THE 3,801 CUBIC FEET REQUIRED. THE POND WILL OVERFLOW TO THE AREA INLET LOCATED IN BASIN 1 NEAR THE TRUCK DOCK AND BE CONVEYED TO FRITO LAY DETENTION POND #5.

THIS SITE WILL DISCHARGE A TOTAL OF 24.89 CFS TO FRITO LAY POND #5 WHICH IS LESS THAN THE 24.97 ALLOWED IN THE APPROVED DRAINAGE PLAN. THAT TOTAL INCLUDES THE 10.52 CFS BEING PASSED THROUGH FROM THE ADJACENT OFFICE COMPLEX.



GRAPHIC SCALE



ENGINEER'S SEAL RONALD R. BOHANNAN P.E. #7868	TRACT 9A RENAISSANCE CENTER GRADING AND DRAINAGE PLAN	DRAWN BY BJF DATE 7/20/15 2015009-GRB
	TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # D1 JOB # 2015009

