

CITY OF ALBUQUERQUE

Planning Department

Suzanne Lubar, Director



Richard J. Berry, Mayor

May 31, 2016

Fred Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St NE
Albuquerque, New Mexico 87108

**RE: Clean Machine Car Wash
4200 San Mateo Blvd NE
Grading and Drainage Plan
Engineers Stamp Date 5/5/16 (G18D049)**

Dear Mr. Arfman,

Based upon the information provided in your submittal received 5/5/16, this plan is approved for Building Permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Please attach a copy of this approved plan to the construction sets in the permitting process prior to sign-off by Hydrology.

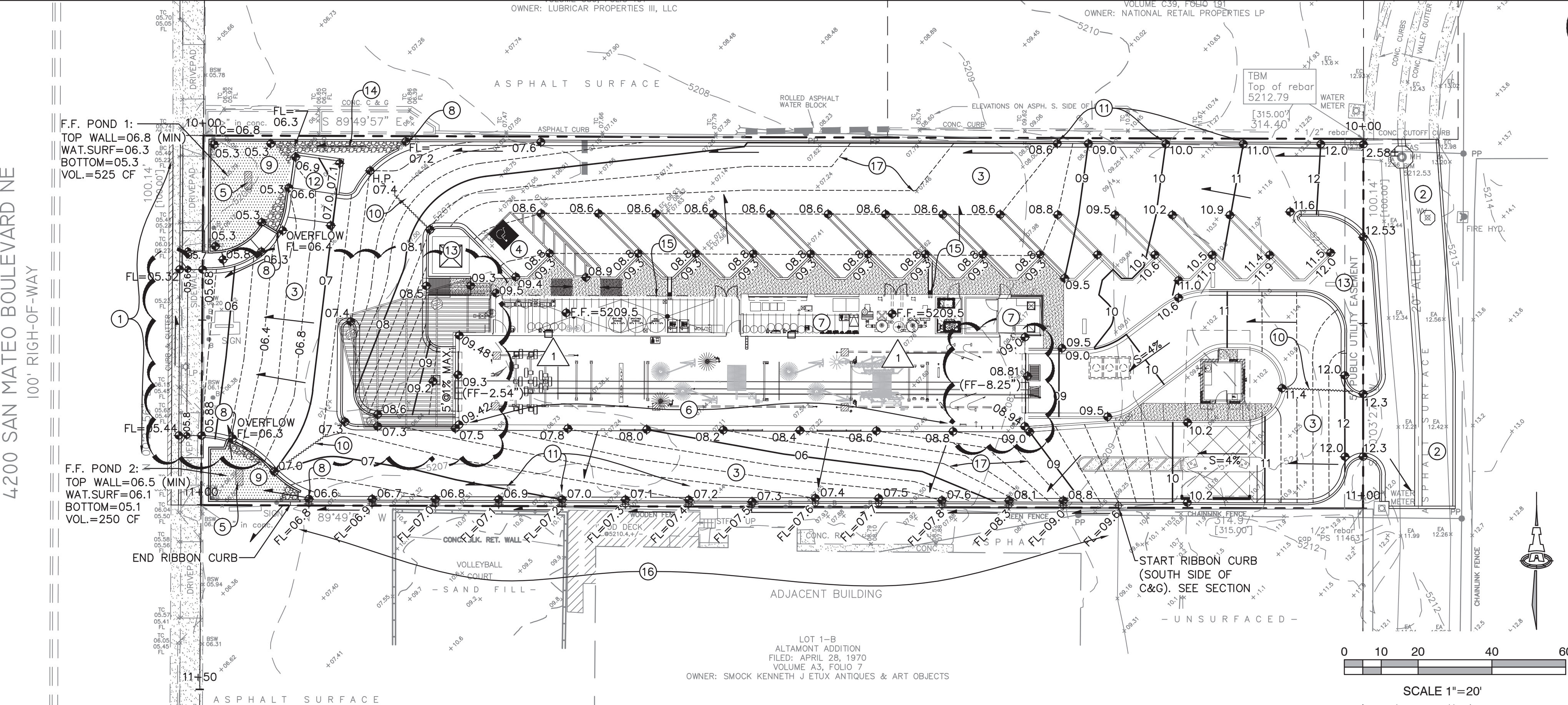
If you have any questions, please contact me at 924-3986 or Rudy Rael at 924-3977.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Hydrology
Planning Department

RR/AC
C: File

GRADING AND DRAINAGE PLAN



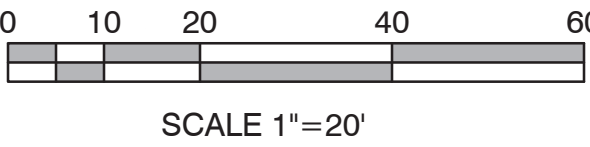
4200 SAN MATEO BOULEVARD NE
100' RIGHT-OF-WAY

F.F. POND 1:
TOP WALL=06.8 (MIN)
WAT.SURF=06.3
BOTTOM=05.3
VOL.=525 CF

F.F. POND 2:
TOP WALL=06.5 (MIN)
WAT.SURF=06.1
BOTTOM=05.1
VOL.=250 CF

END RIBBON CURB

LOT 1-B
ALTAMONT ADDITION
FILED: APRIL 28, 1970
VOLUME A3, FOLIO 7
OWNER: SMOCK KENNETH J ETUX ANTIQUES & ART OBJECTS



KEYED NOTES

- NOT USED
- CONSTRUCTION WITHIN THE PUBLIC ALLEY AND WITHIN THE R.O.W. INCLUDING REMOVE / REPLACE ASPHALT PAVEMENT, DRIVEPADS AND NEW CONCRETE ALLEY GUTTER, SHALL BE CONSTRUCTED BY PUBLIC WORK ORDER
- PROPOSED PAVING. SEE PAVING PLAN (CP-101) AND DETAILS (CP-501) FOR PAVEMENT MATERIAL, JOINT INFORMATION, SECTIONS, PARKING LAYOUT, DIMENSIONS, STRIPING, ETC.
- CONSTRUCT HC PARKING PAVEMENT TO ADA STANDARDS. MAX. 2% SLOPE IN ANY DIRECTION.
- CONSTRUCT INFILTRATION TRENCH. SEE CG-501 FOR DETAIL.
- BUILDING EXTENDED STEMWALL TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
- SEE ARCHITECTURAL FOR INTERIOR TRANSITIONS BETWEEN CAR WASH AREA AND OFFICE SPACES.
- CONSTRUCT 24" WIDE (BOTTOM WIDTH) CURB CUT AT FLOWLINE (FL=) SHOWN TO PASS DISCHARGE INTO AND OUT OF (OVERFLOW LOCATION) 'FIRST FLUSH' RETENTION PONDING AREAS. PROVIDE FRACTURED FACE ROCK EROSION PROTECTION AT INLET AND OVERFLOW (LIMITS HATCHED). ALL 'FIRST FLUSH' PONDING AND CURB CUTS MUST BE INSTALLED PER PLAN. SEE CP-501 FOR POND CURB DETAIL.
- HATCHED AREA REPRESENTS EXTENTS OF 'FIRST FLUSH' RETENTION PONDING. CONSTRUCT TO ELEVATIONS SHOWN.
- PAVEMENT GRADE BREAK.
- NOTE: TO ENSURE READABILITY, NOT ALL PAVEMENT SPOT ELEVATIONS SHOW ADJACENT TOP OF CURB / TOP OF WALK. TEXT SHOWN WITHIN FLOWLINE REPRESENTS FLOWLINE ELEVATION. ADD 0.5' TYPICAL FOR TOP OF ADJACENT CURB OR WALK ELEVATIONS.
- CONSTRUCT NEW CONCRETE DUMPSTER PAD AND ENCLOSURE AT ELEVATIONS SHOWN.
- DEPRESS LANDSCAPING FOR WATER HARVESTING. TYPICAL. NOTE: NO WATER HARVESTING SHALL OCCUR WITHIN 10' OF BUILDING.
- CONSTRUCT 3' WIDE FRACTURED FACE ROCK SWALE AT ELEVATIONS SHOWN. SEE CG-501 FOR DETAIL.
- ROOF STORMWATER DISCHARGE TO SIDEWALK INLET PIPED THROUGH FACE OF CURB. SEE ARCHITECTURAL FOR DETAIL.
- CONSTRUCT CONCRETE RIBBON CURB (4" THICK X 12" WIDE) ALONG BACK OF ON-SITE CURB AND GUTTER AT FLOWLINE ELEVATIONS SHOWN TO DIRECT ADJACENT PROPERTY STORMWATER WEST. TOP OF CURB AT PROPERTY LINE TO BE 1/4" BELOW EXISTING GRADE ON ADJACENT PROPERTY. SEE DETAIL ON SHEET CG-501.
- 0.2' CONTOURS ARE PROVIDED WHERE NECESSARY TO CLARIFY DRAINAGE INTENT.

CONSTRUCTION STAKING / LAYOUT

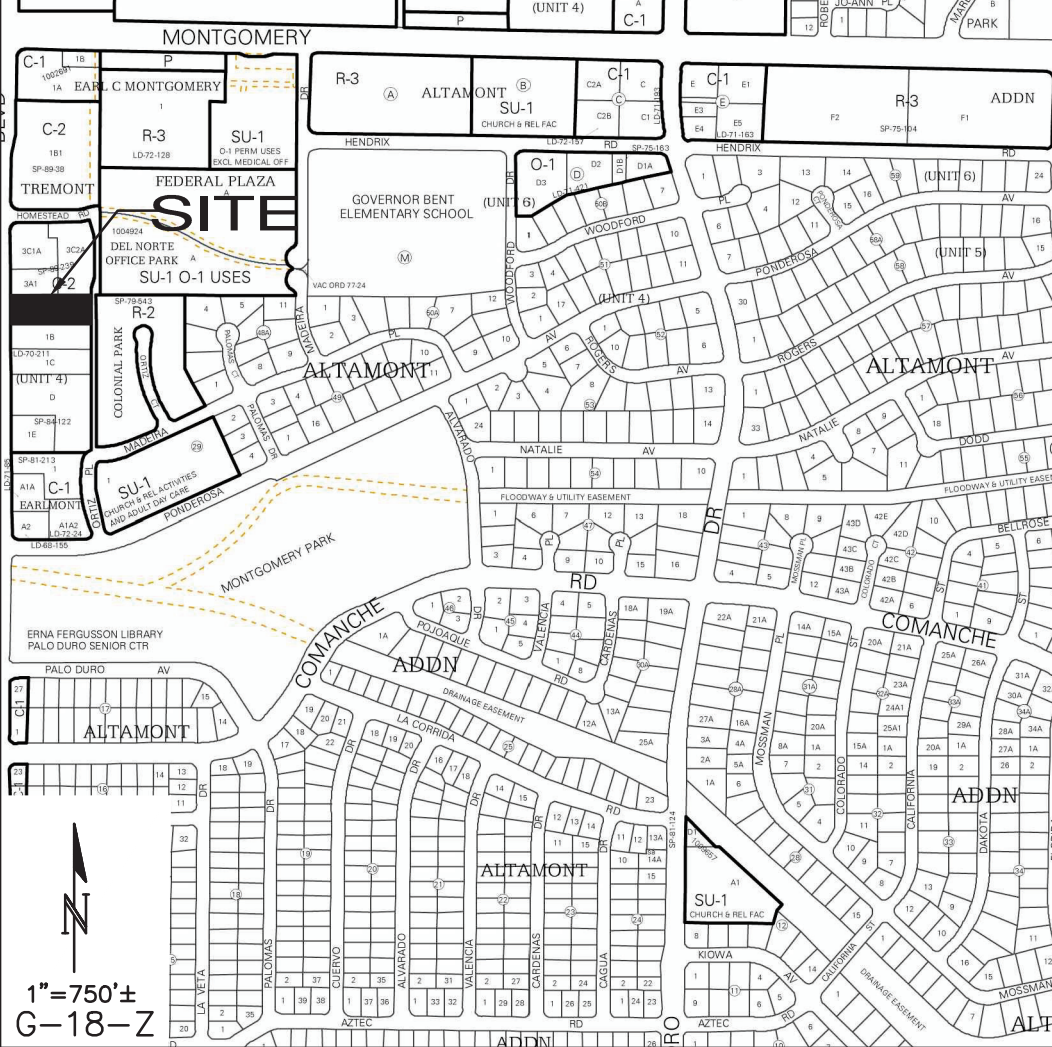
TO FACILITATE ACCURACY IN CONSTRUCTION STAKING, UPON WRITTEN REQUEST FROM THE CONTRACTOR, A FILE CONTAINING THE ELECTRONIC DATA COMPRISING THE SITE DEVELOPMENT DRAWINGS WILL BE FORWARDED TO THE LICENSED LAND SURVEYOR TO PERFORM CONSTRUCTION STAKING. ALL SITE CONSTRUCTION LAYOUT MUST BE PERFORMED BY A LICENSED SURVEYOR USING ELECTRONIC DATA PROVIDED IN AUTOCAD *.DWG (CURRENT VERSION) BY ISAACSON & ARFMAN, P.A. CONTACT PROJECT CIVIL ENGINEER AT (505)-268-8842

IN ORDER TO MAINTAIN THE INTEGRITY OF HORIZONTAL AND VERTICAL CONTROL FOR THE SITE, THE SURVEYOR EMPLOYED BY THE CONTRACTOR TO PERFORM CONSTRUCTION LAYOUT STAKING SHALL SET AND PROTECT ADDITIONAL TRAVERSE POINTS OUTSIDE THE AREAS OF CONSTRUCTION ACTIVITY.

LEGEND

- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR (1' INCREMENT)
- PROPOSED CONTOUR (0.2' INCREMENT)
- PROPOSED SPOT ELEVATION
- FLOW ARROW
- FINISH FLOOR ELEVATION
- PROPOSED GRADE BREAK
- PROPOSED FIRST FLUSH RETENTION PONDING AREA.

VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS A FULLY DEVELOPED COMMERCIAL PROPERTY WITHIN C.O.A. VICINITY MAP G-18. THE SITE IS BOUND TO THE EAST BY A PUBLIC ALLEY, TO THE WEST BY SAN MATEO BLVD. NE, AND TO THE NORTH AND SOUTH BY FULLY DEVELOPED COMMERCIAL PROPERTIES.

SITE AREA: 0.72 ACRES

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE DEMOLITION OF THE EXISTING BUILDING / SITE AND NEW CONSTRUCTION TO INCLUDE A CAR WASH WITH OFFICE, CONCRETE PAVED ACCESS AND PARKING, PEDESTRIAN WALKS, DRAINAGE IMPROVEMENTS, AND LANDSCAPING.

LEGAL: LOT ONE-A (1-A) IN BLOCK FORTY-EIGHT (48) IN UNIT NO. 4 OF ALTAMONT, AN ADDITION TO THE CITY OF ALBUQUERQUE, NEW MEXICO.

ADDRESS: 4200 SAN MATEO BLVD NE, ALBUQUERQUE, NM 87110

BENCHMARK: ACS STATION 23-G-18: 1" METALLIC DISC STAMPED "ACS BM 23-G18" EPOXIED TO THE TOP OF CURB ESE RETURN OF COMANCHE ROAD, NE AND LA CORRIDA ROAD, NE. ELEV. 5224.168 NAVD 1988

TEMPORARY BENCHMARKS: TOP OF 1/2" REBAR AT NE PROPERTY CORNER. ELEV. 5212.79 (NAVD 1988)

OFF-SITE: OFF-SITE DRAINAGE FROM THE PROPERTY TO THE SOUTH WILL BE REDIRECTED WEST ALONG THE SOUTH PROPERTY LINE VIA A CONCRETE GUTTER.

FLOOD HAZARD: PROPERTY IS LOCATED WITHIN ZONE X, DESIGNATING AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOOD PLAIN ACCORDING TO THE FLOOD INSURANCE RATE MAP, BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS PER MAP NO. 35001C0139G, EFFECTIVE DATE SEPTEMBER 26, 2008.

DRAINAGE PLAN CONCEPT: THIS SITE IS AN INFILL PROPERTY LOCATED IN A FULLY DEVELOPED PART OF THE CITY. THE PROPERTY WILL CONTINUE TO DRAIN FROM WEST TO EAST.

STORMWATER CONTROL MEASURES ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" [0.44" LESS 0.1" FOR INITIAL ABSTRACTION] OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM.

FIRST FLUSH RETENTION PONDS WILL BE CONSTRUCTED AT THE NORTHWEST AND SOUTHWEST PROPERTY CORNERS (WITHIN THE LANDSCAPING). STORM WATER FROM THE IMPERVIOUS AREAS SHALL BE DIRECTED TO THESE PONDS VIA CURB OPENINGS BEFORE FREE DISCHARGING (<= 85% TREATMENT D) TO SAN MATEO BLVD. N.E. THERE WILL BE NO SIGNIFICANT CHANGE TO THE 100-YEAR, 6-HOUR DISCHARGE RATE. SEE CG-501 FOR FIRST FLUSH RETENTION POND LOCATIONS AND VOLUMES.

ENGINEER: FRED C. ARFMAN, P.E., NMPE 7322
ISAACSON & ARFMAN, PA
128 MONROE NE, 87111
TELEPHONE: (505) 268-8828

SURVEYOR: ANTHONY L. HARRIS, NMPS 11463
THE SURVEY OFFICE, LLC
333 LOMAS BLVD. N.E.
TELEPHONE: (505) 998-0303

FRED C. ARFMAN
NEW MEXICO
7322
PROFESSIONAL ENGINEER
05-05-16

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
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CLEAN MACHINE CAR WASH
4200 SAN MATEO BLVD NE
CLEAN MACHINE CAR WASH, LLC.

GRADING & DRAINAGE PLAN

Date:	No.	Revision:	Date:	Job No.
04-01-16	1	Update entry / exit grades	04-01-2016	2128
Drawn By:				
BUB				
Ckd By:				
FCA				
				CG-101
				SH. OF



GENERAL NOTES

- A. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT OR CITY OF ALBUQUERQUE SPECIFICATIONS IF NO GEOTECHNICAL REPORT IS MADE AVAILABLE BY THE OWNER.

B. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

C. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT / CITY OF ALBUQUERQUE SPECIFICATIONS.

D. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE. IF PERMITS ARE DELAYED OR ISSUED WITH CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.

E. COORDINATE WORK WITH SITE PLAN, PAVING PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.

F. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND VERIFY THE ARCHITECT'S INTENT BEFORE PROCEEDING.

G. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

H. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. CONTRACTOR SHALL REGULARLY UPDATE ARCHITECT REGARDING THE STATUS OF THE INSPECTIONS.

I. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

J. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL IN THE RIGHT-OF-WAY.

K. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN THAT CONFORMS TO THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN BARRICADING PERMITS FROM THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

L. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

M. PAVEMENT GRADES IN MARKED HANDICAPPED PARKING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. FOR ALL ACCESSIBLE ROUTES, MAXIMUM ALLOWABLE CROSS SLOPE IS 2.0% AND MAXIMUM LONGITUDINAL SLOPE WITHOUT RAMP IS 5.0%. FOLLOW ALL ADA ACCESSIBILITY GUIDELINES OR CITY CODES, WHICHEVER IS MORE STRINGENT.

N. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.

O. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

P. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.

Q. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.
- R. SOIL TESTING AND INSPECTION SERVICES DURING EARTHWORK OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

S. CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS AT CONTRACTOR'S SOLE EXPENSE. PROPERTY CORNERS SHALL ONLY BE RESET BY A REGISTERED LAND SURVEYOR.

T. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NPDES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. OWNER WILL COORDINATE.

O. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES (FIRST FLUSH PONDS) WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.

P. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.

Q. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS. BUILDING PAD ELEVATION SHALL BE ±0.05' FROM PLAN ELEVATION.

R. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

S. ALL EROSION PROTECTION SHALL BE FRACTURED FACE ROCK (F.F. ROCK) = 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.).

T. SIDESLOPES STEEPER THAN 3:1 BUT LESS THAN 2:1 MUST HAVE PERMANENT EROSION CONTROL (F.F. ROCK) INSTALLED, TYPICAL. NO SLOPE SHALL BE STEEPER THAN 2:1.

U. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

V. POND DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN (TOP OF POND, BOTTOM OF POND, SIZE OF ORIFICE, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES. SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.

W. ENGINEER RECOMMENDS THAT OWNER MAINTAIN EROSION PROTECTION ELEMENTS. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

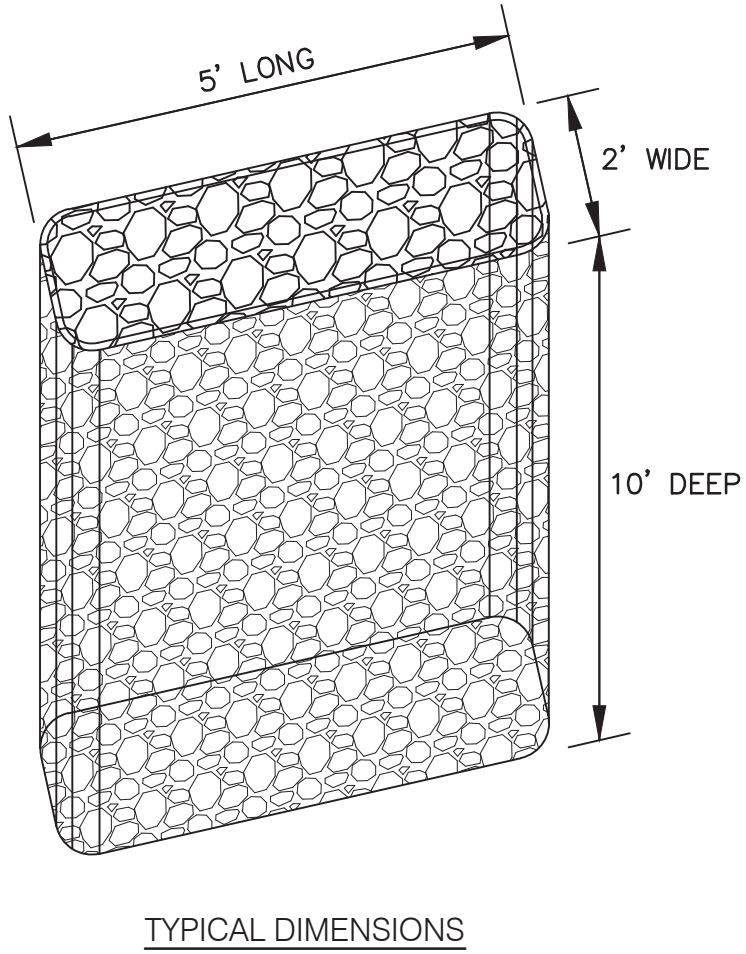
X. MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.

Y. IF THE SITE IS SMALL ENOUGH NOT TO REQUIRE A SWPPP/NPDES PERMIT (LESS THAN ONE ACRE), THE CONTRACTOR SHALL STILL BE RESPONSIBLE FOR USING EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PUBLIC RIGHT-OF-WAY.

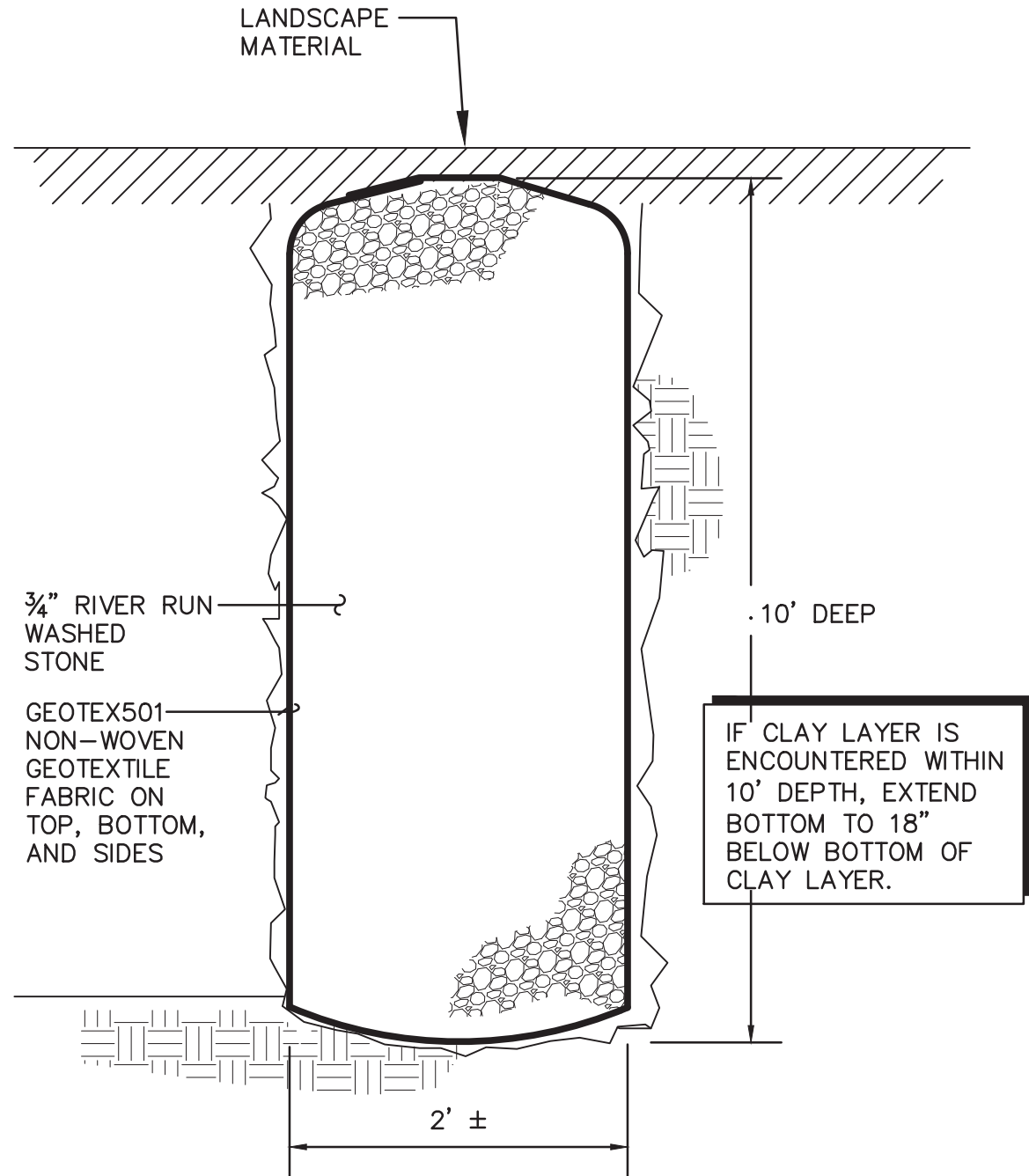
Z. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (811) FOR LOCATION OF EXISTING UTILITIES.

AA. FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE, ALL CONSTRUCTION, INCLUDING RUNDOWNS AND POND OVERFLOW ELEVATIONS SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION.

AB. GRADING OF FIRST FLUSH BASINS WILL BE INSPECTED AS PART OF ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. DURING LANDSCAPING, FIRST FLUSH BASINS WILL BE SMOOTHLY INTEGRATED INTO LANDSCAPING WHILE MAINTAINING REQUIRED TOP AND BOTTOM ELEVATION, VOLUME AND INLET / OVERFLOW ELEVATIONS.



TYPICAL DIMENSIONS



INFILTRATION TRENCH

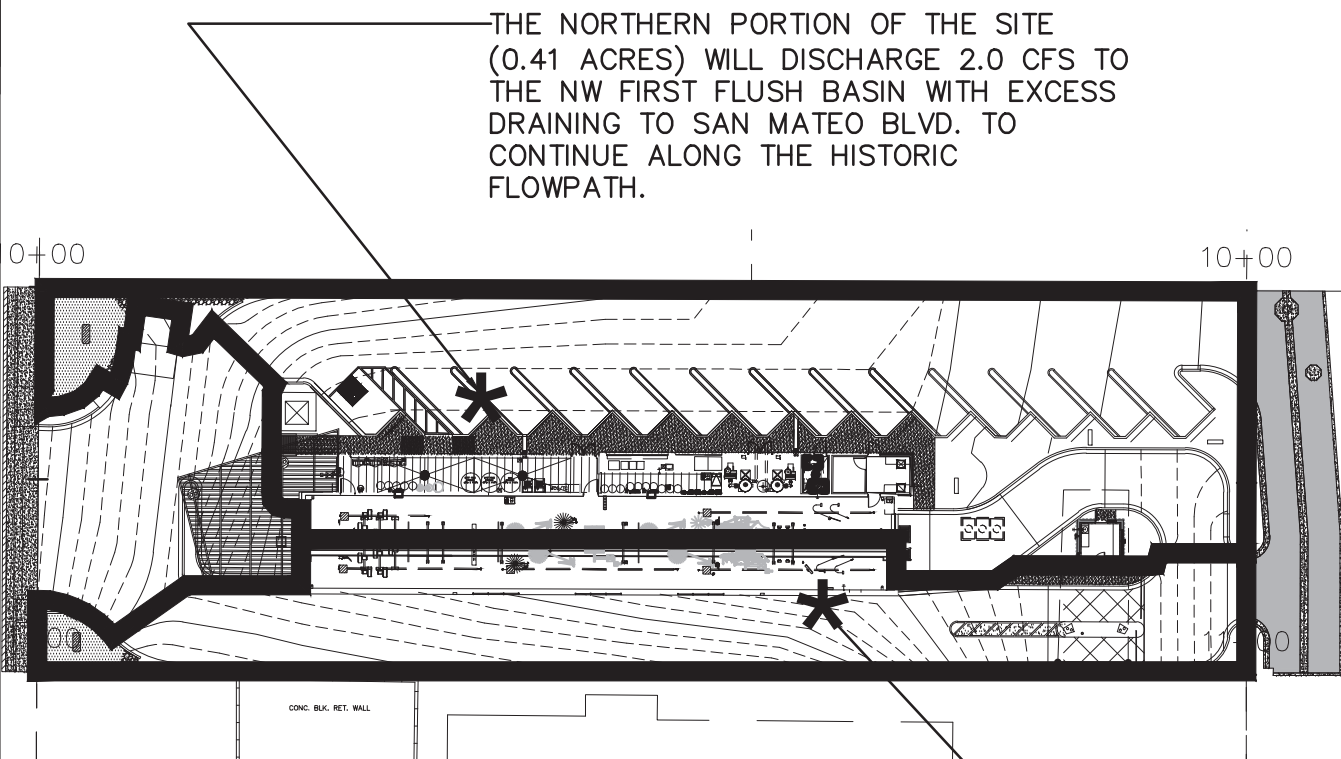
SCALE: N.T.S.

FIRST FLUSH CALCULATIONS

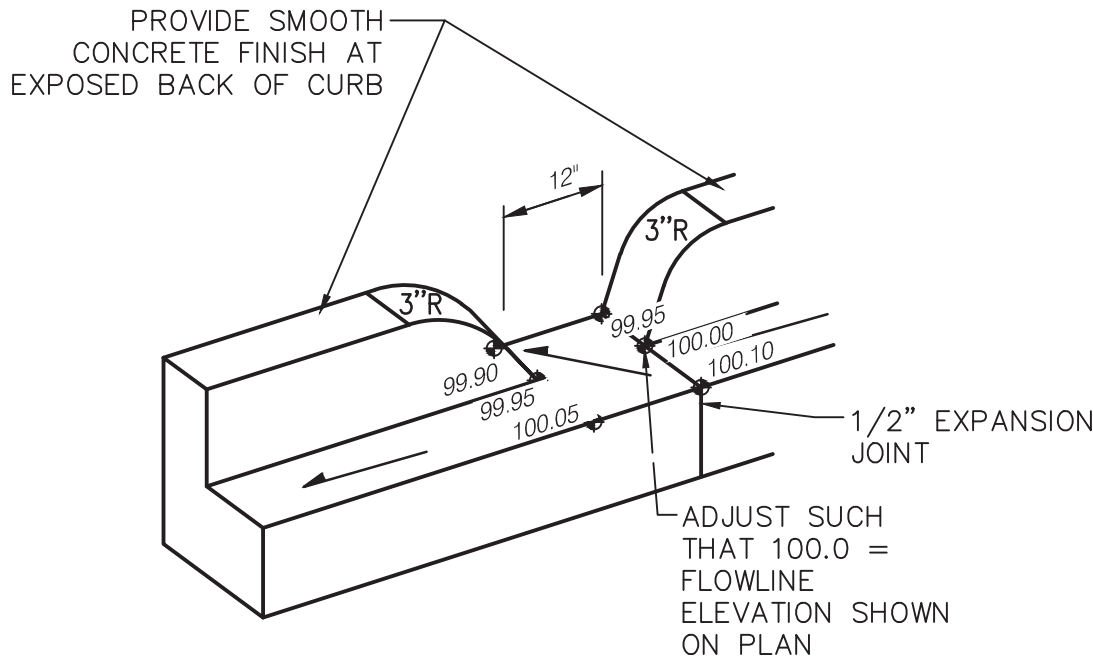
OVERALL PROPERTY		DESCRIPTION	
Area of basin flows =	31512	SF	= 0.72 Ac
The following calculations are based on Treatment areas as shown in table to the right			
Sub-basin Weighted Excess Precipitation (see formula above)		LAND TREATMENT	
Weighted E =	2.16	in	A = 0%
Sub-basin Volume of Runoff (see formula above)			B = 10%
V ₃₆₀ =	5679	CF	C = 5%
Sub-basin Peak Discharge Rate: (see formula above)			D = 85%
Q _p =	3.4	cfs	FIRST FLUSH VOL
			759 CF

REQUIRED FIRST FLUSH POND VOL = 759 CF

FIRST FLUSH RETENTION VOLUME PROVIDED PER PLAN = 775 CF



THE SOUTHERN PORTION OF THE SITE (0.21 ACRES) WILL DISCHARGE 1.0 CFS TO THE SW FIRST FLUSH BASIN WITH EXCESS DRAINING TO SAN MATEO BLVD. TO CONTINUE ALONG THE HISTORIC FLOWPATH.



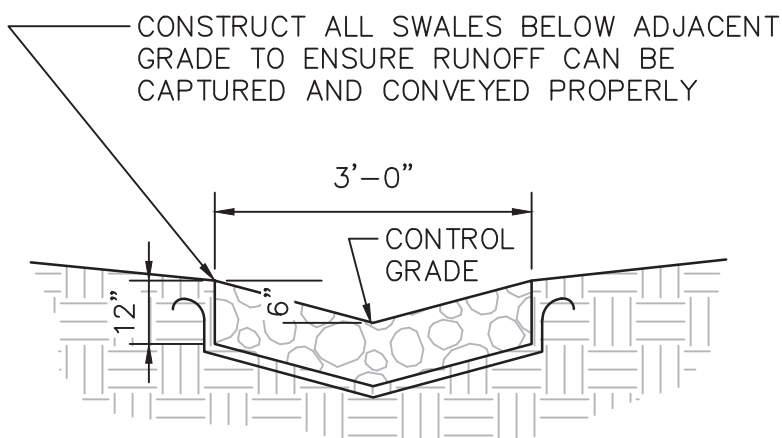
GENERAL NOTES

- EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE SHAPED WITH A 3/8" EDGING TOOL.

CURB OPENING

SEE CG-101 KEYED NOTE 10

SCALE: N.T.S.

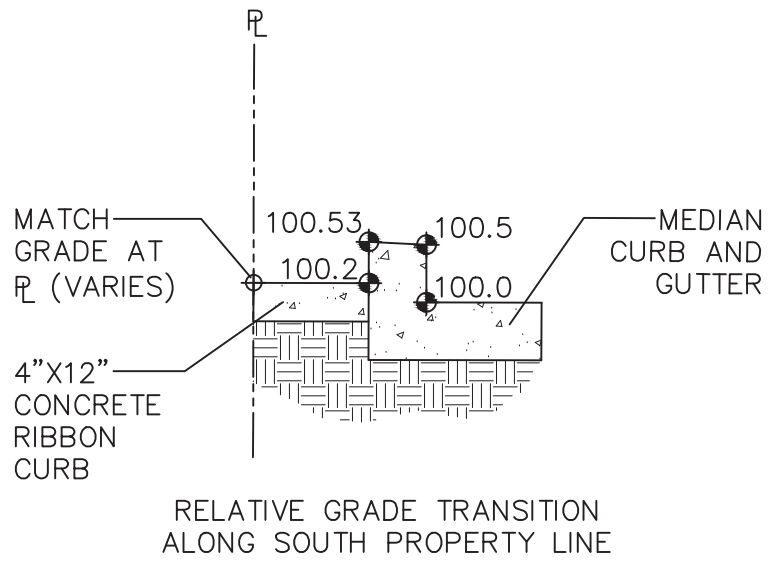


- VARY ANGULAR FACE ROCK SIZE BETWEEN 4" AND 8" DIA. (AVG.=6")

- PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION

ROCK SWALE

SCALE: N.T.S.



CONCRETE RIBBON CURB

AT BACK OF SOUTH CURB AND GUTTER WHERE INDICATED

SCALE: N.T.S.

OVERALL SITE CALCULATIONS

CALCULATIONS: CLEAN MACHINE CAR WASH : November 2, 2015					
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993					
ON-SITE					
AREA OF SITE:		31512	SF	=	0.7
		100-year, 6-hour			
HISTORIC FLOWS:		DEVELOPED FLOWS:		EXCESS PRECIP:	
	Treatment SF	%		Treatment SF	% Precip. Zone 3
Area A =	0	0%	Area A =	0	0%
Area B =	0	0%	Area B =	3151	10%
Area C =	6302.4	20%	Area C =	1576	5%
Area D =	25209.6	80%	Area D =	26785	85%
Total Area =	31512	100%	Total Area =	31512	100%
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)					
Weighted E =		$\frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$			
		A _A + A _B + A _C + A _D			
Historic E =	2.15 in.	Developed E =	2.16 in.		
On-Site Volume of Runoff: V ₃₆₀ = E*A / 12					
Historic V ₃₆₀ =	5635 CF	Developed V ₃₆₀ =	5679 CF		
On-Site Peak Discharge Rate: Q _p = Q _{pA} A _A +Q _{pB} A _B +Q _{pC} A _C +Q _{pD} A _D / 43,560					
For Precipitation Zone 3					
Q _{pA} = 1.87		Q _{pC} = 3.45			
Q _{pB} = 2.60		Q _{pD} = 5.02			
Historic Q _p =	3.4 CFS	Developed Q _p =	3.4 CFS		

ENGINEER'S CERTIFICATION

PER C.O.A. HYDROLOGY BUILDING PERMIT APPROVAL, PRIOR TO CERTIFICATE OF OCCUPANCY RELEASE, ENGINEER'S CERTIFICATION PER THE DPM CHECKLIST IS REQUIRED.

CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS-BUILT SURVEY PREPARED, STAMPED AND DATED BY A LICENSED SURVEYOR WHICH INCLUDES:

- AS-BUILT SPOT ELEVATIONS AT EACH DESIGN SPOT ELEVATION SHOWN ON THE APPROVED PLAN;
- TOP AND BOTTOM ELEVATIONS DEFINING ALL FIRST FLUSH RETENTION PONDS, AND OTHER SITE PONDING;
- NOTE ANY ITEMS NOT CONSTRUCTED;
- SHOW LINework FOR ANYTHING CONSTRUCTED DIFFERENT FROM THE APPROVED PLAN.



FRED C. ARFMAN
NEW MEXICO
7322
LICENSED PROFESSIONAL ENGINEER
05-0516

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

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Albuquerque, New Mexico 87108
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2128 CG-101.dwg
May 05,2016

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CLEAN MACHINE CAR WASH
4200 SAN MATEO BLVD NE
CLEAN MACHINE CAR WASH, LLC.

GRADING & DRAINAGE DETAILS

Date: .
No. Revision: .
Drawn By: .
Ckd By: .

Date: .
Job No. 2128
CG-501
SH. OF

N:\PROJECTS\2015\20150502_20 CG-101.dwg, 5/5/2016 1:05:17 PM, BJB