CITY OF ALBUQUERQUE

Planning Department
Suzanne Lubar, Director



December 23, 2015

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

RE: South Las Altos Children's Park Grading and Drainage Plan Engineers Stamp Date 12/9/15 (K20D062)

Dear Mr. Arfman,

Based upon the information provided in your submittal received 12/9/15, this plan is approved for Grading Permit and Building Permit. Please be advised that, before either Permit can be issued, an Erosion and Sediment Control Plan prepared by a registered engineer under the laws of the State of New Mexico, must submitted and approved by the water quality section. Contact Curtis Cherne at 924-3420 for further information.

Albuquerque

PO Box 1293

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

New Mexico 87103

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, please contact me at 924-3695 or Rudy Rael at 924-3977.

www.cabq.gov

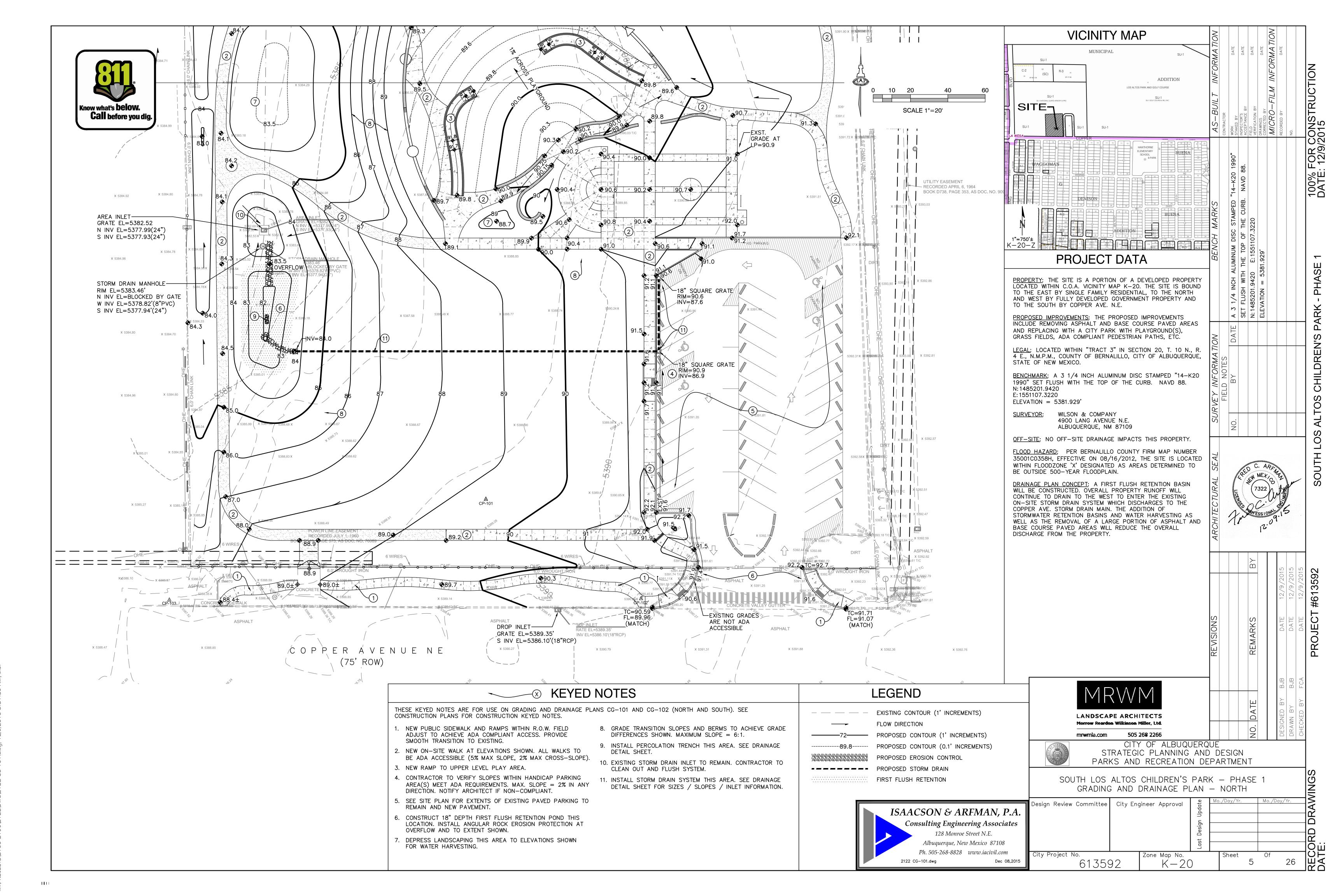
Rita Harmon, P.E.

Sincerely,

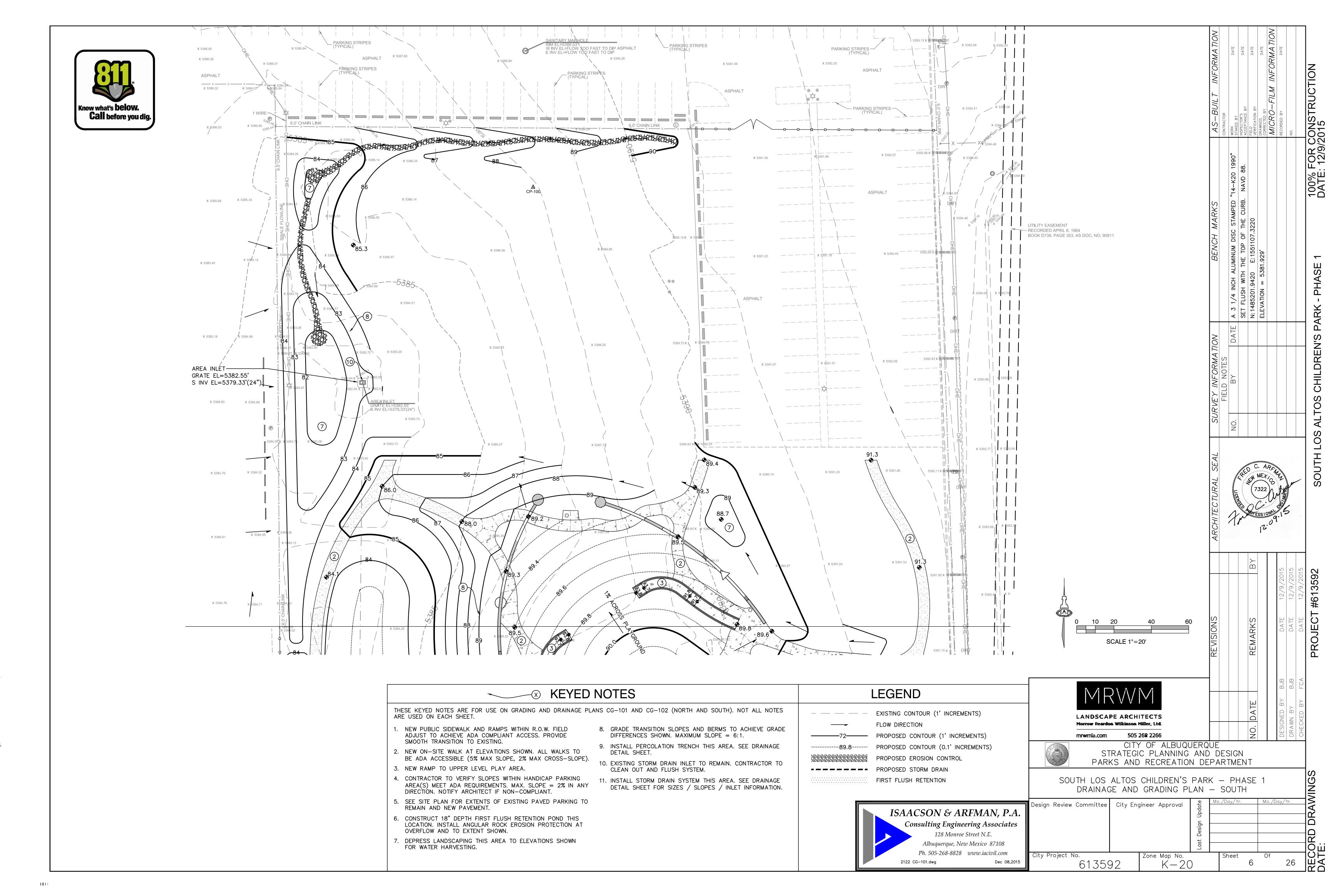
Senior Engineer, Hydrology

Planning Department

RR/RH C: File



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M:\PROJECTS\2100-2199\2122\DWG\2122 CG-101.dwa, 12/9/

- . 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.
- ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.
- 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 OWNER AND
- ARCHITECT IMMEDIATELY. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.
- 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 , ENGINEER AND VERIFY THE ARCHITECT / ENGINEER'S INTENT BEFORE
- G. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY. H. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL
- CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR

PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING

- AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
 - K. 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
 - L. 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.
 - M. 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.
 - N. 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
 - O. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.
 - P. 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.

-12" END SECTION

INV = 5384.0

- FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED Q. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT.
 - R. MAXIMUM SLOPES SHALL BE 4:1.

- S. 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.
- F. 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.
- U. 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.
- V. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES 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 CITY-APPROVED ESC PERMIT MUST BE

8"ø

-(TI#2)

///RiM=5390.9[™]

4ÑV=5386.9

- INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT.
- O. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBLITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.
- P. STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' (DEFINED AS THE 90TH PERCENTILE STORM EVENT. PER THE CITY DRAINAGE ORDINANCE, THE 90TH PERCENTILE STORM EVENT, WHICH IS 44 INCHES, IS TO BE MANAGED. REDUCE 0.44 INCH BY THE 0.1 INCH FOR THE INITIAL IMPERVIOUS ABSTRACTION IN TABLE A-6 OF SECTION 22 OF THE DPM. MULTIPLY THE REMAINING 0.34 INCH BY YOUR IMPERVIOUS AREA. THIS IS THE PORTION TO RETAIN.
- Q. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25
- N. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.
- S. ALL EROSION PROTECTION TO BE FRACTURED FACE ROCK (F.F. ROCK) TO BE MINIMUM 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.).
- CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS. U. POND DESIGN PARAMETERS (TOP OF POND, BOTTOM OF POND, SIZE OF

ORIFICE, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO FOR

CERTIFICATION PURPOSES. V. 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

CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION (FIRST PRIORITY), AND/OR NMDOT STANDARD SPECIFICATIONS FOR PUBLIC WORK (SECOND PRIORITY.)

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

WORK SHALL. UNLESS OTHERWISE NOTED IN THE PLANS. BE

INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON

MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL

CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE

CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT,

WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER

W. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN

ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

Y. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION

OVERALL CALCULATIONS

ACTUAL OCCURRENCES.

BE INCIDENTAL TO THE PROJECT COST.

CALCULATIONS: South Los Altos Children's Park: November 4, 2015

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993 ON-SITE AREA OF SITE: 189457 SF 100-year, 6-hour **HISTORIC FLOWS: DEVELOPED FLOWS: EXCESS PRECIP:** Treatment SF % Precip. Zone Treatment SF % 0 Area A $E_A = 0.66$ Area A $E_{\rm B} = 0.92$ Area B 18945.7 | 10% Area B 94729 $E_{\rm C} = 1.29$ 94728.5 66310 Area C Area C $E_D = 2.36$ 75782.8 | 40% 28419 15% Area D Area D 189457 189457 Total Area 100% Total Area

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

 $E_AA_A + E_BA_B + E_CA_C + E_DA_D$ $A_A + A_B + A_C + A_D$

1.68 in. Developed E 1.27 in. Historic E = On-Site Volume of Runoff: V360 = E*A / 12

26540 CF | Developed V₃₆₀ 19980 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D / 43,560$ For Precipitation Zone 3

 $Q_{pA} = 1.87$ $Q_{pC} = 3.45$ $Q_{pB} = 2.60$ $Q_{pD} = 5.02$ 17.4 CFS Developed Q_p =

FIRST FLUSH REQUIREMENT

DESCRIPTION IMPERVIOUS AREA 28419 SF Area of basin flows = LAND TREATMENT The following calculations are based on Treatment areas as shown in table to the right Sub-basin Weighted Excess Precipitation (see formula above) A = 0%Weighted E = 0% Sub-basin Volume of Runoff (see formula above) C = 0%100%

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#613592

RE DA

ub-basin Peak Discharge Rate: (see formula above)

FIRST FLUSH VOL. 805 CF

LANDSCAPE ARCHITECTS Morrow Reardon Wilkinson Miller, Ltd. mrwmla.com

505 268 2266 CITY OF ALBUQUERQUE STRATEGIC PLANNING AND DESIGN PARKS AND RECREATION DEPARTMENT

SOUTH LOS ALTOS CHILDREN'S PARK - PHASE 1

DRAINAGE DETAILS

Design Review Committee City Engineer Approval City Project No. Zone Map No. 613592 K - 20

STORM DRAIN DESIGN

194 LF 12"ø S=1.5%

FIRST FLUSH PONDING Contour | Area | Volume 1567 5383.50 5382.00 124 1268 CF **1268** CF TOTAL VOL REQUIRED: 805 CF

 $\left(\begin{array}{c} \Pi \# \end{array} \right)$ parking lot inlets (two total) shall be constructed with: 12"ø ADS NYLOPLAST BASIN

- 2' SUMP
- LOCKING 2X2 ROAD & HIGHWAY GRATE • 8" WIDE X 6" DEEP CONCRETE COLLAR

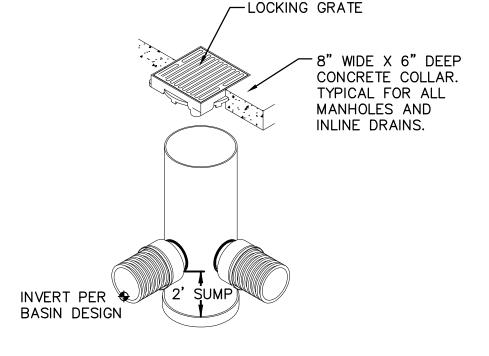
STORM DRAIN STRUCTURES SCALE: N.T.S.

A. ALL STORM DRAIN LINES AND FITTINGS SHALL BE THE FOLLOWING MATERIAL

< 12" DIA. SHALL BE EITHER ADS N-12 WT PIPE OR SDR 35. = 12" DIA. SHALL BE ADS MEGA GREEN WT PIPE OR SDR 35.

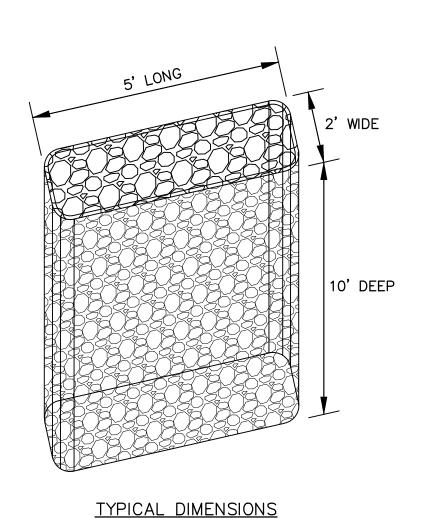
- B. INSTALL ALL STORM DRAIN INLETS AND PIPE PER MANUFACTURER'S SPECIFICATIONS.
- C. STORM DRAIN SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO ENSURE PROPER FUNCTIONING DURING STORM EVENTS. ENGINEER RECOMMENDS THAT OWNER PUT IN PLACE INSPECTION AND MAINTENANCE REQUIREMENTS SCHEDULED TO OCCUR MONTHLY AND AFTER EACH STORM EVENT.

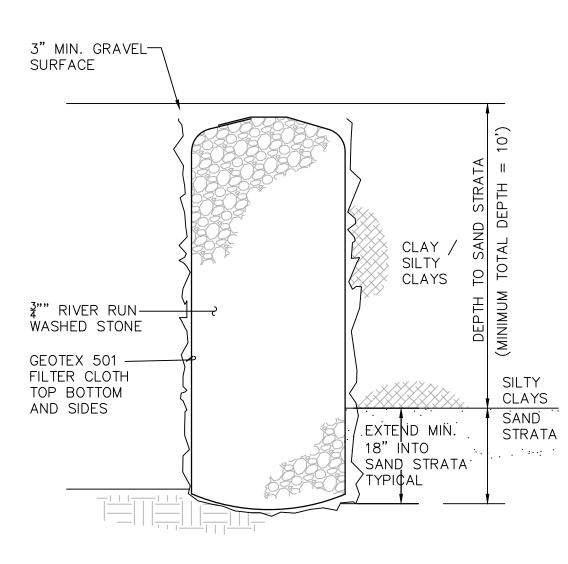
STORM DRAIN GENERAL NOTES

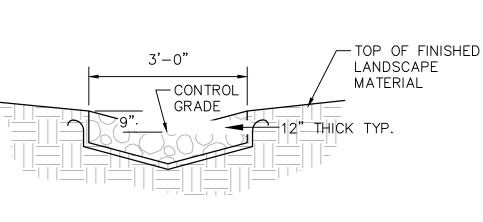


ADS NYLOPLAST BASIN MANHOLES GENERAL DESIGN INFORMATION

SCALE: N.T.S.







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

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

PERCOLATION TRENCH

SCALE: N.T.S.

FRACTURED FACE ROCK SWALE

SCALE: N.T.S.

CONSTRUCT ALL SWALES

AND FRACTURED FACE

PROTECTION BELOW

ADJACENT GRADE TO

CONVEYED PROPERLY

ENSURE RUNOFF CAN BE

ROCK EROSION

CAPTURED AND

`ALL PARKING LOT´ÖÏSCHARGE

 $(3 \text{ CFS}\pm) \text{ WILL BE COLLECTED}$

DRAIN INLETS AND PIPED TO

THE FIRST FLUSH RETENTION

AT THE PROPOSED STORM

POND

ISAACSON & ARFMAN, P.A Consulting Engineering Associates 128 Monroe Street N.E. Albuquerque, New Mexico 87108 Ph. 505-268-8828 www.iacivil.com 2122 CG-101.dwg

Dec 08,2015