CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

June 6, 2016

Fred C. Arfman
Isaacson & Arfman, P.A.
128 Monroe Street NE
Albuquerque, NM, 87108

RE: **Alice King Charter School**
Grading and Drainage Plan
Engineer's Stamp Date 4-19-2016 (File: J19D085)

Dear Mr. Arfman:

Based upon the information provided in your submittal received 10-23-2015, the above-referenced plan is approved for SO-19 Permit and Building Permit

Please attach a copy of this approved plan in the construction sets when submitting for a building permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

Orig: Drainage file

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Alice King Charter School Building Permit #: _____ City Drainage #: J-19D085

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Lot 1, Mesa Del Norte Heights Addition Unit 11

City Address: 8100 Mountain Road Place NE - Albuqerque, NM 87110

Engineering Firm: Isaacson & Arfman, P.A. Contact: Fred C. Arfman

Address: 128 Monroe Street NE - Albuquerque, NM 87108

Phone#: (505) 268-8828 Fax#: _____ E-mail: freda@iacivil.com

Owner: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Other Contact: Wayjohn Surveying, Inc. Contact: Thomas D. Johnston

Address: 330 Louisiana Blvd. NE - Albuquerque, NM 87108

Phone#: (505) 255-2052 Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

____ TRAFFIC/ TRANSPORTATION

____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

____ ENGINEER/ ARCHITECT CERTIFICATION

____ CONCEPTUAL G & D PLAN

X GRADING PLAN

____ DRAINAGE MASTER PLAN

____ DRAINAGE REPORT

____ CLOMR/LOMR

____ TRAFFIC CIRCULATION LAYOUT (TCL)

____ TRAFFIC IMPACT STUDY (TIS)

____ EROSION & SEDIMENT CONTROL PLAN (ESC)

____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: X Yes ____ No

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL

____ SITE PLAN FOR SUB'D APPROVAL

____ SITE PLAN FOR BLDG. PERMIT APPROVAL

____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE

____ FOUNDATION PERMIT APPROVAL

____ GRADING PERMIT APPROVAL

X SO-19 APPROVAL

____ PAVING PERMIT APPROVAL

____ GRADING/ PAD CERTIFICATION

____ WORK ORDER APPROVAL

____ CLOMR/LOMR

____ PRE-DESIGN MEETING

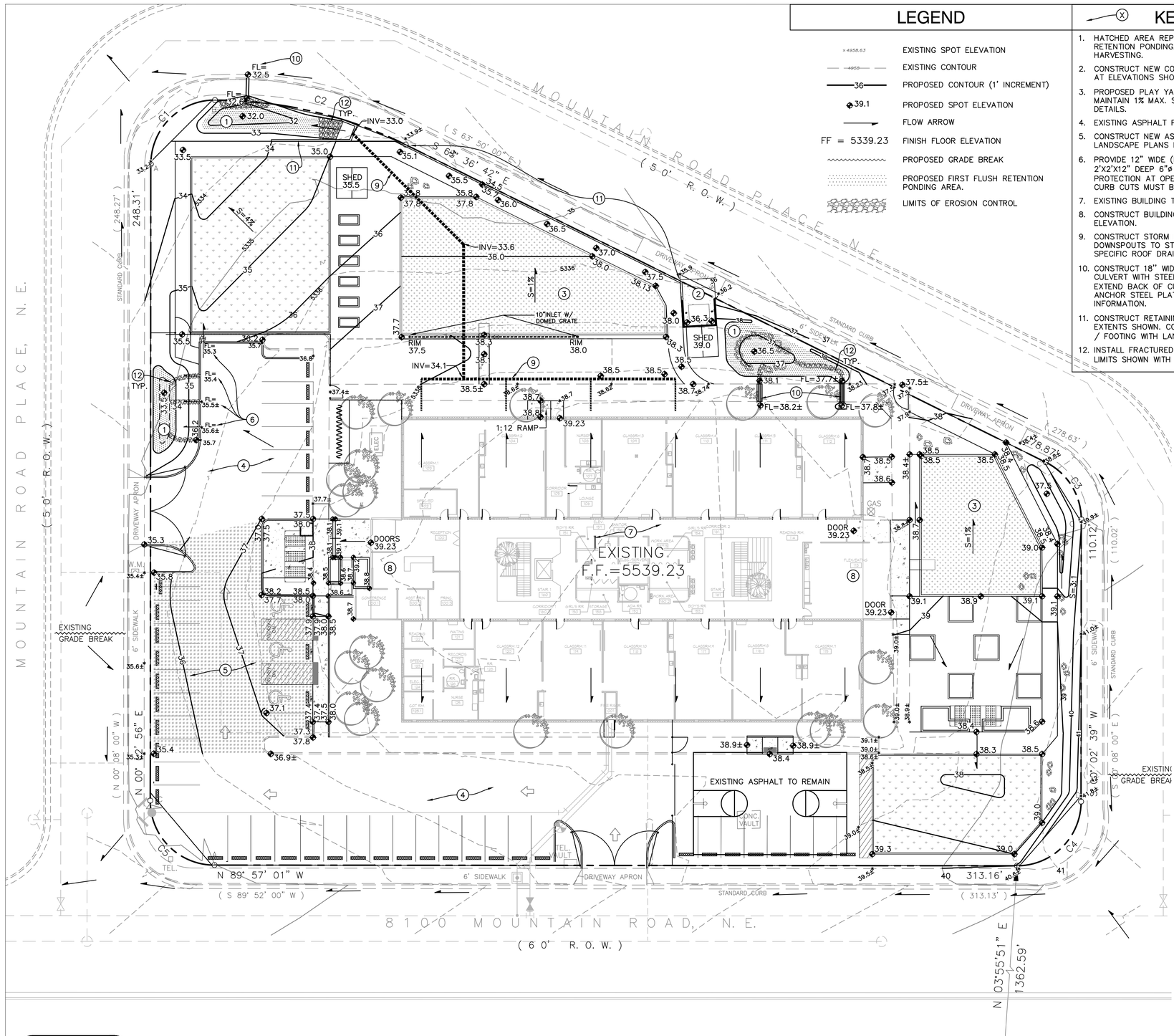
____ OTHER (SPECIFY) _____

RECEIVED
APR 21 2016
LAND DEVELOPMENT SECTION

DATE SUBMITTED: April 20, 2016 By: Fred C. Arfman

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

ALICE KINGCOMMUNITY SCHOOL
8100 MOUNTAIN ROAD N.E.



LEGEND

×4958.63	EXISTING SPOT ELEVATION
4958	EXISTING CONTOUR
36	PROPOSED CONTOUR (1' INCREMENT)
39.1	PROPOSED SPOT ELEVATION
	FLOW ARROW
FF = 5339.23	FINISH FLOOR ELEVATION
	PROPOSED GRADE BREAK
	PROPOSED FIRST FLUSH RETENTION PONDING AREA.
	LIMITS OF EROSION CONTROL

KEYED NOTES

1. HATCHED AREA REPRESENTS EXTENTS OF 'FIRST FLUSH' RETENTION PONDING. DEPRESS LANDSCAPING FOR WATER HARVESTING.
2. CONSTRUCT NEW CONCRETE DUMPSTER PAD AND ENCLOSURE AT ELEVATIONS SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. PROPOSED PLAY YARD WITH PERIMETER CURB / WALL TO MAINTAIN 1% MAX. SLOPE. SEE LANDSCAPE PLANS AND DETAILS.
4. EXISTING ASPHALT PAVEMENT TO REMAIN.
5. CONSTRUCT NEW ASPHALT AT ELEVATIONS SHOWN. SEE LANDSCAPE PLANS FOR EXTENTS.
6. PROVIDE 12" WIDE (BOTTOM WIDTH) CURB OPENING. INSTALL 2'X2'X12" DEEP 6"ø AVG. FRACTURED FACE ROCK EROSION PROTECTION AT OPENING. ALL 'FIRST FLUSH' PONDING AND CURB CUTS MUST BE INSTALLED PER PLAN.
7. EXISTING BUILDING TO BE REMAIN.
8. CONSTRUCT BUILDING ADDITION MATCHING EXISTING F.F. ELEVATION.
9. CONSTRUCT STORM DRAIN SYSTEM. EXTEND NORTHWEST ROOF DOWNSPOUTS TO STORM DRAIN. SEE ARCHITECTURAL FOR SPECIFIC ROOF DRAIN LOCATIONS.
10. CONSTRUCT 18" WIDE (BOTTOM WIDTH) COVERED SIDEWALK CULVERT WITH STEEL PLATE TOP PER C.O.A. STD. DWG. 2236. EXTEND BACK OF CULVERT 12" BEYOND EDGE OF WALK. ANCHOR STEEL PLATE TOP. SEE CG-501 FOR ADDITIONAL INFORMATION.
11. CONSTRUCT RETAINING WALL (2.5' MAX. RETAINING) TO EXTENTS SHOWN. CONTRACTOR TO COORDINATE WALL MATERIAL / FOOTING WITH LANDSCAPE ARCHITECT.
12. INSTALL FRACTURED FACE ROCK EROSION PROTECTION TO LIMITS SHOWN WITH HATCH. SEE GENERAL NOTE 'F'.

VICINITY MAP

PROJECT DATA

PROPERTY: THE SITE IS A FULLY DEVELOPED COMMERCIAL PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP J-19. THE SITE IS BOUND TO THE WEST, NORTH AND EAST BY MOUNTAIN ROAD PLACE NE AND TO THE SOUTH BY MOUNTAIN ROAD NE.

AREA: 1.9730 ACRES

PROPOSED IMPROVEMENTS: DEMOLITION OF ASPHALT PAVEMENT (NORTH AND EAST SIDES) TO BE REPLACED WITH LANDSCAPING AND PLAYGROUNDS FOR A CHARTER SCHOOL. THE EXISTING BUILDING WILL REMAIN WITH RENOVATIONS AND NEW ADDITIONS WILL BE CONSTRUCTED AT THE EAST AND WEST ENTRANCES.

LEGAL: LOT 1, MESA DEL NORTE HEIGHTS ADDITION NO. 11, ALBUQUERQUE, NM

ADDRESS: 8100 MOUNTAIN ROAD PLACE NE, ALBUQ., NM, 87110

BENCHMARK: ACS STA 9-J15 ALUMINUM DISK RIVETED TO AN ALUMINUM TUBE, PROJECTING 0.25 FEET ABOVE THE GROUND, AT THE NORTHWEST INTERSECTION OF LOMAS BLVD. NE, AND LEGION RD. NE. ELEV. 5093.057 (NAVD 1988)

TEMPORARY BENCHMARK: CP-6, A CONCRETE NAIL SET IN ASPHALT PAVING IN NORTHERN PARKING LOT ELEV. 5155.14

OFF-SITE: NO OFF-SITE DRAINAGE AFFECTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP 35000203353H, DATED AUGUST 16, 2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

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 WITHIN THE NORTH AND WEST LANDSCAPE AREAS TO SERVE THE NORTH DRAINAGE BASIN (NORTH HALF OF BUILDING AND NEW SITE IMPROVEMENTS).

STORM WATER FROM THE SOUTH DRAINAGE BASIN (SOUTH HALF OF THE BUILDING AND EXISTING ASPHALT PAVEMENT) WILL CONTINUE TO FREE DISCHARGE TO MOUNTAIN ROAD. THE CONSTRUCTION OF PARKING ISLANDS WITH CURB OPENINGS AND DEPRESSED LANDSCAPING WITHIN THE EXISTING ASPHALT PAVEMENT WILL SERVE TO CAPTURE A PORTION OF THE FIRST FLUSH. DUE TO THE INTRODUCTION OF PLAYGROUNDS, GRASS FIELDS AND GENERAL LANDSCAPING, THE 100-YEAR 6-HOUR DISCHARGE FROM THE PROPERTY WILL BE REDUCED. SEE CALCULATIONS ON SHEET CG-501.

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

SURVEYOR: THOMAS D. JOHNSTON, NMPS 14269
WAYJOHN SURVEYING, INC.
330 LOUISIANA BLVD. NE, 87108
TELEPHONE: (505) 255-2052

0 10 20 40 60
SCALE 1"=20'

Know what's below. Call before you dig. 811

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 04-19-16

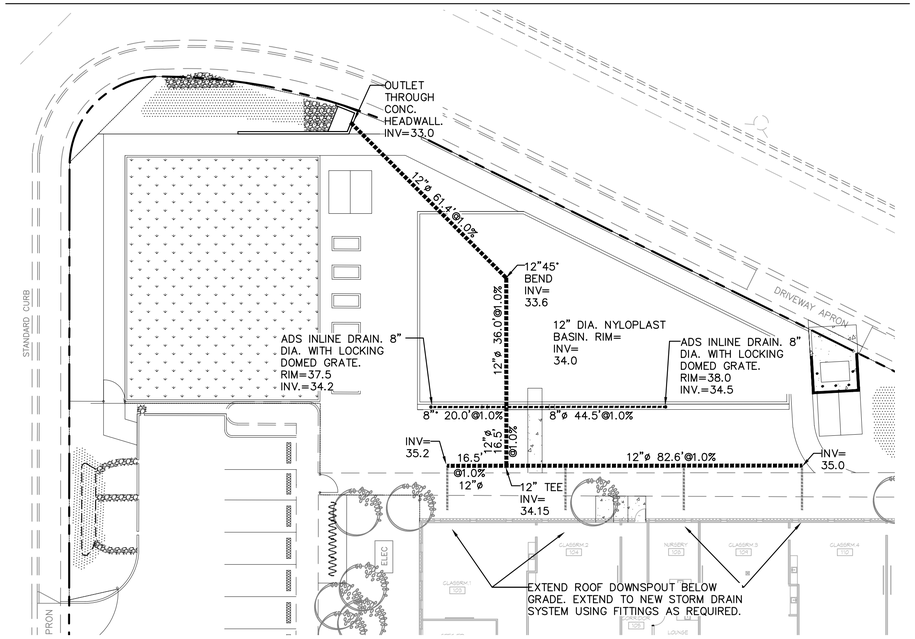
ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

DATE: 04.19.2016

SHEET NAME
GRADING & DRAINAGE PLAN

DRAWING SHEET
CG-101

STORM DRAIN DESIGN



GENERAL GRADING AND STORM DRAIN NOTES

A. 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.

B. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR INSTRUCTIONS.

C. 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 CURRENT CITY–APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

D. 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.

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

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

G. 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.

H. ALL EROSION PROTECTION TO BE INSTALLED AS 6" AVG. DIA. ANGULAR FACED ROCK (F.F. ROCK) PLACED OVER GEOTEX 501 NON–WOVEN GEOTEXTILE (O.E.).

I. SIDESLOPES STEEPER THAN 3:1 BUT LESS THAN 2:1 MUST HAVE PERMANENT EROSION PROTECTION INSTALLED, TYPICAL. NO SLOPE SHALL BE STEEPER THAN 2:1.

J. FIRST FLUSH BASIN DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES.

K. 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. 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.

L. FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE (FOR CERTIFICATE OF OCCUPANCY) CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS–BUILT SURVEY PREPARED BY A LICENSED SURVEYOR WHICH INCLUDES:

M. AS–BUILT SPOT ELEVATIONS AT EACH DESIGN SPOT ELEVATION SHOWN ON THE APPROVED PLAN;

N. TOP AND BOTTOM ELEVATIONS AS REQUIRED TO DEFINE THE PERIMETER OF PONDS (TO BE USED BY ENGINEER TO CALCULATE AS–BUILT VOLUME PROVIDED);

O. ALL CONSTRUCTION, INCLUDING DRAIN INLETS, PIPES AND PONDS SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION.

P. 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.

Q. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED STORM DRAINS SHOWN ON THIS PLAN INCLUDING: TRENCHING, BACKFILL, SUPPORTS, INLETS, WATER QUALITY FEATURES, EROSION CONTROL FEATURES, TESTING AND CLEANING. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.

R. MINIMUM COVER FOR STORM DRAIN PIPES SHALL BE 12", UNLESS OTHERWISE NOTED.

S. STORM DRAINS SHALL BE INSTALLED PRIOR TO SURFACE IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, AND LANDSCAPING.

T. CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS TO ROOF DOWNSPOUTS AND ALL NECESSARY FITTINGS. FITTING COSTS SHALL BE INCIDENTAL.

U. TRENCHING, BORING, AND JACKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 700 / NMAPWA SPEC. SECT. 700 / LOCAL UTILITY COMPANY SPECIFICATIONS. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D–1557.

V. ALL INLET AND AREA DRAIN RINGS & GRATES, MANHOLE RINGS & COVERS, AND OTHER SURFACE ITEMS FOR THE STORM DRAINS SHALL BE ADJUSTED TO FINISHED GRADE, UNLESS OTHERWISE NOTED ON THE PLANS.

W. ALL STORM DRAIN CROSSINGS OF WATER AND SEWER LINES SHALL HAVE 18" MIN CLEARANCE. IF 18" CLEARANCE IS NOT POSSIBLE, CONTACT THE ENGINEER AND / OR ARCHITECT IMMEDIATELY.

X. HDPE PIPE SHALL BE ADS N–12 (WATERTIGHT) OR ENGINEER APPROVED EQUIVALENT. HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

Y. PVC PIPES SHALL BE PVC SDR–35, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

Z. STORM DRAINS SHALL BE INSTALLED AT INVERTS AND SLOPES SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS AND MANHOLES. THE PIPE SHALL DRAIN TOWARD THE OUTLET AT ALL LOCATIONS.

811 Know what's below. Call before you dig.

CALCULATIONS: 2157 - Alice King Charter School : 4/19/2016

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 85711 SF = 2.0

100-year, 6-hour

HISTORIC FLOWS:		Treatment SF	%
Area A	=	0	0%
Area B	=	4285.55	5%
Area C	=	4285.55	5%
Area D	=	77139.9	90%
Total Area	=	85711	100%

DEVELOPED FLOWS:		Treatment SF	%
Area A	=	5143	6%
Area B	=	8571	10%
Area C	=	8571	10%
Area D	=	63426	74%
Total Area	=	85711	100%

EXCESS PRECIP: Precip. Zone 3

E_A = 0.66
E_B = 0.92
E_C = 1.29
E_D = 2.36

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

$$\text{Weighted } E = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Historic E	=	2.23 in.	Developed E	=	2.01 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V_{360}	=	15960 CF	Developed V_{360}	=	14335 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

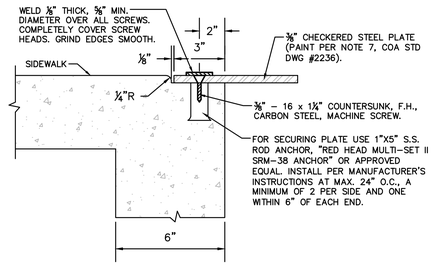
For Precipitation Zone 3

Q_{pA}	=	1.87	Q_{pC}	=	3.45
Q_{pB}	=	2.60	Q_{pD}	=	5.02
Historic Q_p	=	9.5 CFS	Developed Q_p	=	8.7 CFS

S.O.19 : NOTICE TO CONTRACTORS

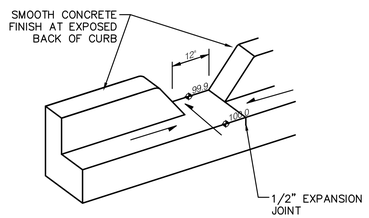
1	AN EXCAVATION / CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT–OF–WAY.
2	ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #8.
3	TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (CALL '811') FOR LOCATION OF EXISTING UTILITIES.
4	PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5	BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC / STREET USE.
6	MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7	WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24–HOUR BASIS.
8	THE WORK IN THE CITY ROW MUST BE INSPECTED AND ACCEPTED. THE CONTRACTOR MUST CONTACT JASON RODRIGUEZ AT 235–8016 AND CONSTRUCTION COORDINATION AT 924–3416 TO SCHEDULE INSPECTIONS.

APPROVAL	NAME	DATE
INSPECTOR		



CONSTRUCT PER C.O.A. STD. DWG. 2236 MODIFIED AS FOLLOWS:

- MODIFIED SECTION B–B FOR SECURING PLATE (SEE ABOVE).
- EXTEND BACK OF CULVERT 12" BEYOND EDGE OF WALK (SEE BELOW).

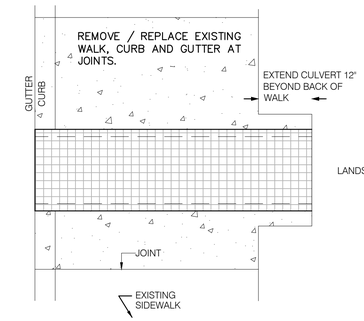


GENERAL NOTES

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

CURB OPENING

N.T.S.



COVERED SIDEWALK CULVERT

N.T.S.

ALICE KING COMMUNITY SCHOOL

8100 MOUNTAIN ROAD N.E.

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 04-19-16

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

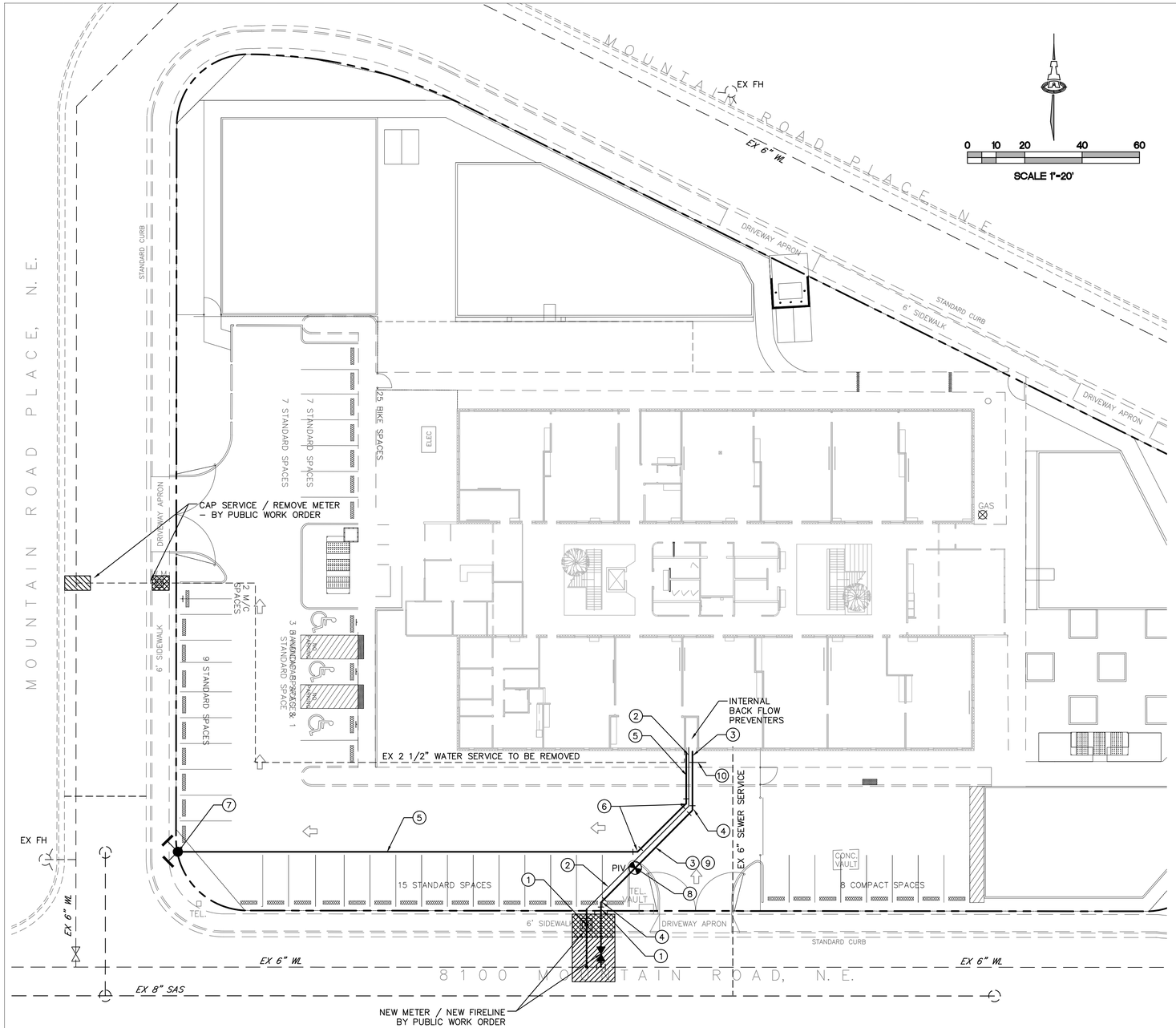
DATE: 04.19.2016

SHEET NAME

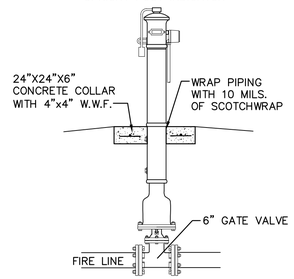
GRADING & DRAINAGE DETAILS

DRAWING SHEET

CG-501

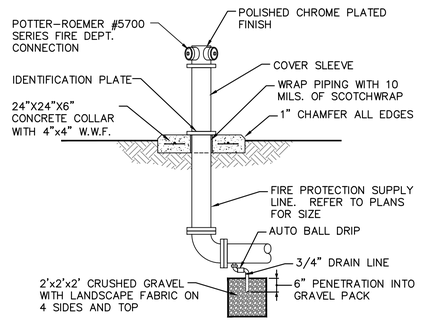


UPRIGHT POST INDICATOR



POST INDICATOR VALVE

SCALE: N.T.S.



FIRE DEPARTMENT CONNECTION

FREE–STANDING SCALE: N.T.S.

DEPTH OF BURY:	3.0 FT. MINIMUM
1.50	FACTOR OF SAFETY:
MATERIAL:	PVC
SOIL TYPE:	GM/SM – SILTY GRAVELS AND SILTY SANDS, GRAVEL–SAND–SILT MIXTURES.
TEST PRESSURE:	150 PSI
TRENCH TYPE 4:	PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO DEPTH OF 1/8 PIPE DIAMETER, 4 INCH MINIMUM; BACKFILL COMPACTED TO TOP OF PIPE.

DIFFERENT CRITERIA, E.G., GREATER DEPTH OF BURY, ETC., WILL REQUIRE DIFFERENT RESTRAINED LENGTHS. THESE MUST BE CALCULATED BY A QUALIFIED PROFESSIONAL ENGINEER AND APPROVED BY ABCWUA.

1. ALL MECHANICAL JOINTS SHALL BE RESTRAINED AT THE FITTING.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM PIPE LENGTH OF 20 LF FROM ALL MECHANICAL JOINTS. ALL PIPE JOINTS WITHIN 20 LF OF A MECHANICAL JOINT SHALL BE RESTRAINED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL RESTRAIN ALL PIPE JOINTS IN THE SPECIFIED DISTANCE LISTED IN THE KEYED NOTES.
4. THE CONTRACTOR SHALL RESTRAIN ALL FIRE HYDRANT JOINTS FROM THE TEE ON THE MAIN TO THE FIRE HYDRANT FLANGE.

RESTRAINED JOINT CRITERIA FOR WATERLINE FITTINGS

GENERAL NOTES

1. 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. ALL UTILITIES SHOULD BE FIELD VERIFIED AND LOCATED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES.
2. CONTRACTOR SHALL NOT USE VIBRATORY COMPACTION EQUIPMENT OR HEAVY VEHICLES OVER EXISTING UTILITIES.
3. SITE STORM DRAIN, ELECTRIC LINES & TRANSFORMERS AND GAS LINES ARE SHOWN FOR GENERAL INFORMATION ONLY TO PROVIDE AN OVERVIEW OF SITE UTILITIES AND POTENTIAL CONFLICTS. SEE MECHANICAL PLANS FOR GAS LINE SIZING. SEE CG–101 FOR STORM DRAIN DESIGN.
4. ALL WATER FITTINGS SHALL HAVE JOINT RESTRAINTS (LT). SEE RESTRAINED JOINT CRITERIA NOTES THIS SHEET. (LT) LENGTH SHOWN ON KEYED NOTES.

○ KEYED NOTES

○ WATER KEYED NOTES

1. REMOVE CAP– CONNECT NEW 6" FIRE LINE.
2. 2 1/2" WATER SERVICE LINE.
3. 6" FIRE LINE.
4. 6"–45° BEND. (LT=9')
5. 4" FIRE LINE (FDC)
6. 4"–45° BEND. (LT=6')
7. FIRE DEPT. CONNECTION (FDC). (LT=46')
8. POST INDICATOR VALVE. (PIV) (LT=46')
9. ¾" CONDUIT W/ PULL CORD FOR PIV SENSOR WIRE FROM BUILDING TO PIV PLACED IN SAME TRENCH ABOVE 6" WATERLINE.
10. 1" PVC STUB FOR IRRIGATION.

LEGEND

- SAS SINGLE CLEANOUT
- GATE VALVE W/ BOX
- POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECTION
- PROPOSED STORM DRAIN
- WL EXISTING WATERLINE
- SAS EXISTING SEWER LINE

ALICE KINGCOMMUNITY SCHOOL
8100 MOUNTAIN ROAD N.E.

811 Know what's below. Call before you dig.

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 04-19-16

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Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

DATE: 04.19.2016

SHEET NAME

UTILITY PLAN

DRAWING SHEET

CU-101