CITY OF ALBUQUERQUE



July 28, 2017

J. Graeme Means, PE High Mesa Consulting Group 6010 –B Midway Park Blvd NE Albuquerque, NM 87109

Re:

West Mesa HS New Classroom Building-Phase 2

6701 Fortuna Rd NW

Request Permanent C.O. - Accepted

Engineer's Stamp dated: 4/13/2016 (J10D005)

Certification dated: 7-21-17

Dear Mr. Means,

Based on the Certification received 7/21/2017, the site is acceptable for release of

Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3986 or Totten Elliott at

924-3982.

Albuquerque

PO Box 1293

Sincerely,

New Mexico 87103

James D. Hughes, P.E.

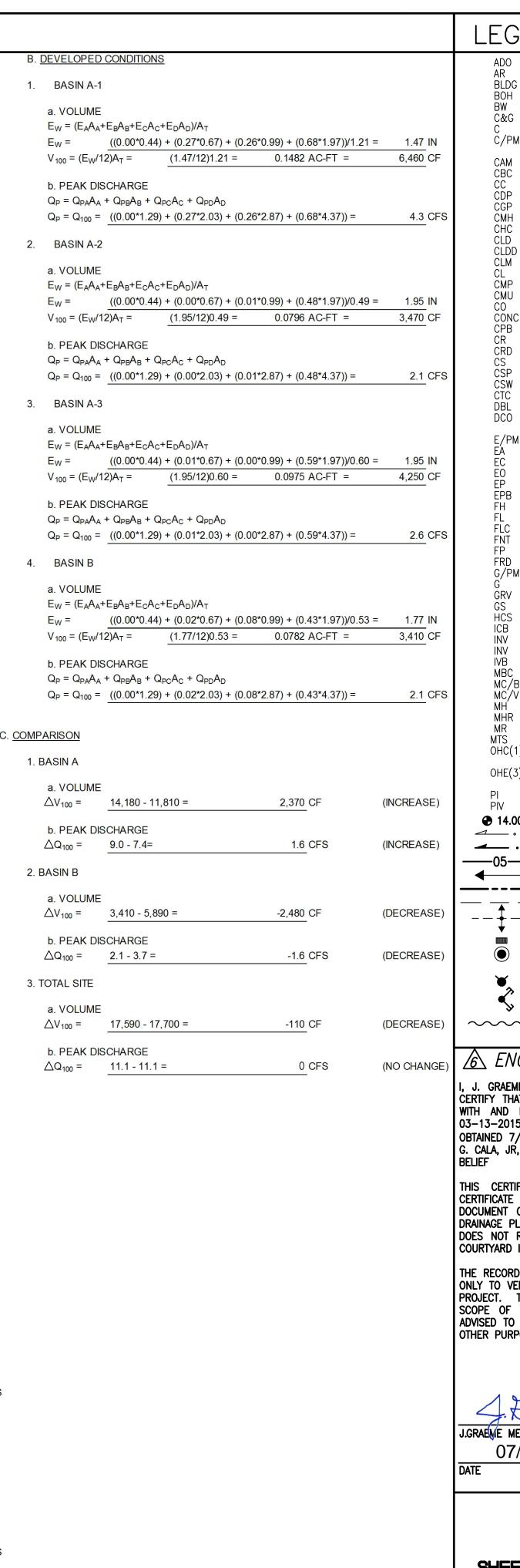
Principal Engineer, Planning Dept.
Development and Review Services

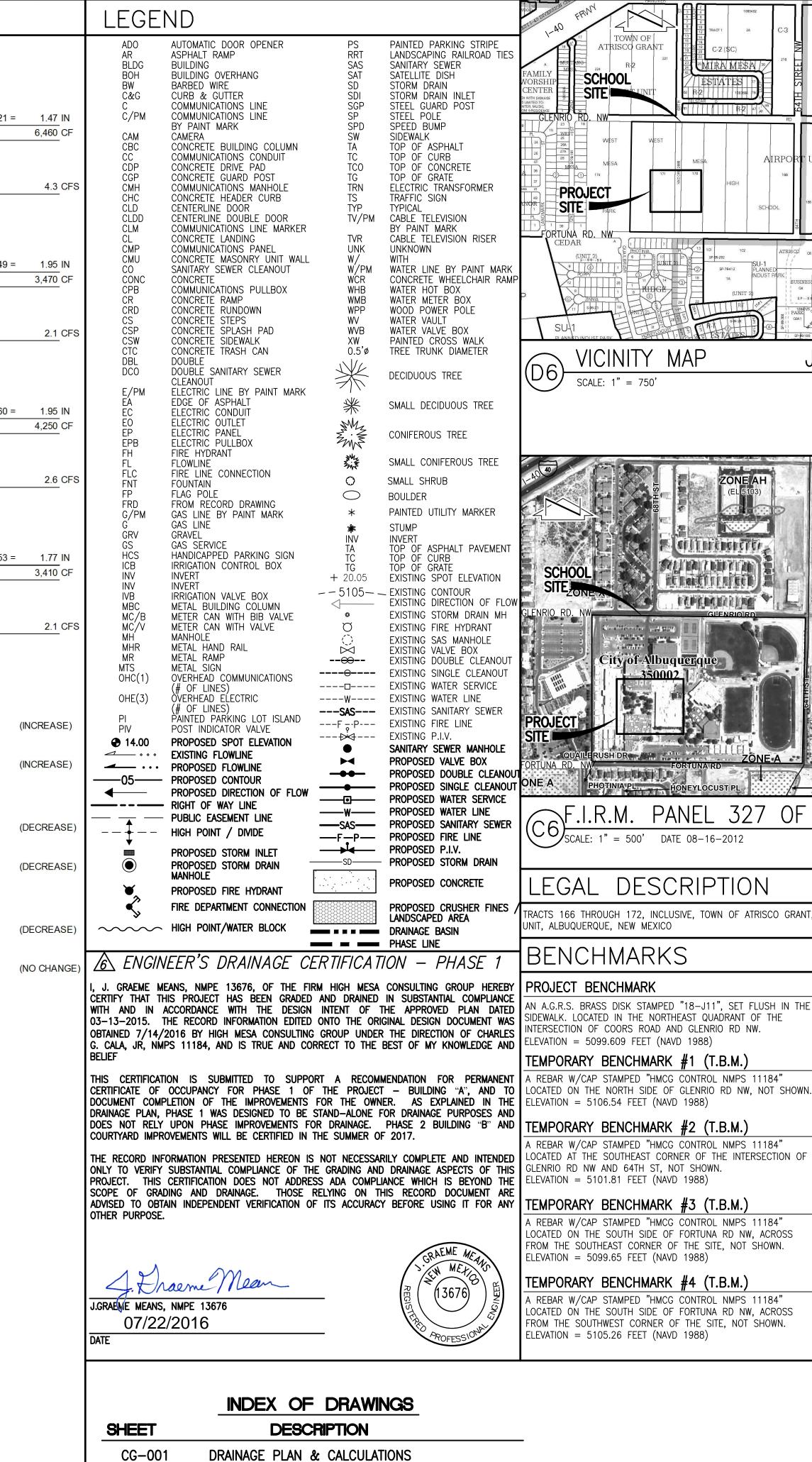
TE/JH

C: email, Serna, Yvette M.; Fox, Debi; Tena, Victoria C.; Sandoval,

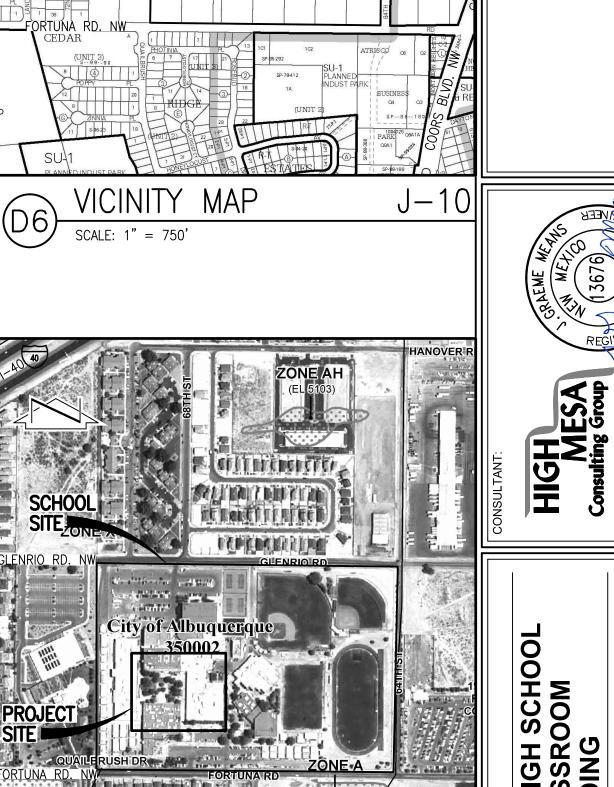
Darlene M.

DRAINAGE PLAN	CALCULATIONS			
I. INTRODUCTION AND EXECUTIVE SUMMARY THIS PROJECT, LOCATED WITHIN THE NORTHWEST MESA OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN	I. <u>SITE CHARACTERISTICS</u> A. PRECIPITATION ZONE = 1	B. <u>DEVELOPED CONDITIONS</u>		
EXISTING APS SCHOOL SITE WITHIN AN INFILL AREA. THE PROPOSED DEVELOPMENT IS COMPRISED OF TWO PHASES. THE FIRST PHASE IS THE CONSTRUCTION OF A NEW CLASSROOM BUILDING. THE SECOND PHASE IS DEMOLITION OF AN EXISTING CLASSROOM WING FOLLOWED BY CONSTRUCTION OF A SECOND BUILDING AND RECONSTRUCTION OF AN EXISTING COURTYARD. THE CITY HYDROLOGY FILE NO. IS J10-D005. THE	B. P _{6,100} = P ₃₆₀ = 2.20	1. BASIN A-1 a. VOLUME		
DRAINAGE CONCEPT FOR THE PROJECT WILL BE THE CONTINUED FREE DISCHARGE OF DEVELOPED RUNOFF TO EXISTING PUBLIC AND PRIVATE STORM DRAINS THAT OUTFALL TO THE EXISTING WEST MESA DETENTION BASIN AND TO THE WEST MESA DIVERSION STORM DRAIN (CPN 538103). THIS SUBMITTAL IS BEING MADE FOR BUILDING PERMIT APPROVAL	C. TOTAL PROJECT AREA $(A_T) = 142,880$ SF 3.28 AC	$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = ((0.00^*0.44) + (0.27^*0.67) + (0.26^*0.99) + (0.68^*1.97))/1.21 = 1.4$		
II. PROJECT DESCRIPTION	D. LAND TREATMENTS	$V_{100} = (E_W/12)A_T = \frac{(1.47/12)1.21 = 0.1482 \text{ AC-FT}}{(1.47/12)1.21 = 0.1482 \text{ AC-FT}} = 6,46$		
THE SCHOOL SITE IS LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF FORTUNA ROAD NW AND 64 TH STREET NW, BOTH FULLY DEVELOPED CITY STREETS. THE SITE IS DEVELOPED AS AN ALBUQUERQUE PUBLIC SCHOOLS HIGH SCHOOL. GLENRIO ROAD NW, A PARTIALLY DEVELOPED CITY STREET LIES TO THE NORTH. IT LACKS CURB AND GUTTER ALONG THE SCHOOL FRONTAGE. THE CITY OF ALBUQUERQUE WEST	1. BASIN A	b. PEAK DISCHARGE $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$		
MESA AQUATIC CENTER LIES TO THE WEST OF THE SCHOOL SITE. THE SURROUNDING AREA IS DEVELOPED, MAINLY SINGLE FAMILY RESIDENTIAL, MAKING THIS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE SITE CONSISTS OF PREVIOUSLY PLATTED LOTS AND FORMER CITY STREETS THAT MAY HAVE BEEN VACATED. AS SHOWN BY PANEL 35001C0327H OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD	TOTAL BASIN AREA (A _T)= 101,310 SF	$Q_P = Q_{100} = ((0.00*1.29) + (0.27*2.03) + (0.26*2.87) + (0.68*4.37)) = 4$		
INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, REVISED AUGUST 16, 2012, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. III. BACKGROUND DOCUMENTS	EXISTING LAND TREATMENT	2. BASIN A-2		
THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS AND ACTIVITIES:	TREATMENT AREA (SF/AC) % A	a. VOLUME $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = ((0.00*0.44) + (0.00*0.67) + (0.01*0.99) + (0.48*1.97))/0.49 = 1.9$		
 BOUNDARY, TOPOGRAPHIC, AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP DATED 3/28/2014 (NMPS 11184). THIS SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE PROJECT SITE. PREDESIGN CONFERENCE RECAPS DATED 02-13-2014 AND 9-10-2014 CONDUCTED WITH HIGH MESA CONSULTING GROUP. THE RECAPS OF THE PROJECT OF THE	B 9,900 / 0.23 9.8 C 7,000 / 0.16 6.9	$E_W = \frac{((0.00*0.44) + (0.00*0.67) + (0.01*0.99) + (0.48*1.97))/0.49 = 1.95/12)0.49}{(1.95/12)0.49 = 0.0796 AC-FT = 3,43}$		
CONFIRMED THAT THE CONTINUED FREE DISCHARGE OF DEVELOPED RUNOFF TO THE ADJACENT PUBLIC STORM DRAIN SYSTEMS VIA PRIVATE STORM DRAIN CONNECTIONS IS APPROPRIATE, AND THAT IT IS PERMISSIBLE TO DIVERT RUNOFF FROM EXISTING BASINS 104 AND 105 TO THE FORTUNA STORM DRAIN. 3. DRAINAGE PLAN FOR WEST MESA HIGH SCHOOL CLASSROOM WING "M" REPLACEMENT & COURTYARD IMPROVEMENTS PREPARED BY	D 84,410 / 1.94 83.3	b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$		
HIGH MESA CONSULTING GROUP DATED 12/31/2014 (NMPE 13676). THIS SUBMITTAL SUPPORTED WORK ORDER APPROVAL FOR A NEW STORM DRAIN CONNECTION TO FORTUNA THAT WILL SERVE THIS NEW BUILDING CONSTRUCTION. THIS SUBMITTAL INCLUDED A COMPREHENSIVE ANALYSIS OF EXISTING CONDITIONS AND SUPPORTED THE DIVERSION OF APPROXIMATELY 2.2 ACRES OF THE HIGH	2. BASIN B	$Q_P = Q_{100} = ((0.00*1.29) + (0.00*2.03) + (0.01*2.87) + (0.48*4.37)) = 2$		
SCHOOL SITE TO THE EXISTING 72 INCH PUBLIC STORM DRAIN IN FORTUNA RD VIA THE NEW STORM DRAIN CONNECTION. AS IDENTIFIED IN THIS REFERENCE DOCUMENT, HISTORIC BUILDOUT IN THIS WATERSHED HAS RESULTED IN A NET REDUCTION OF 4.7 ACRES OF DEVELOPED PROPERTY DRAINING TO FORTUNA AS COMPARED TO THE BASINS ESTABLISHED FOR THE PUBLIC STORM DRAINS, 4.0 ACRES FROM THE WEST MESA AQUATIC CENTER. AND A NET OF 0.7 ACRES WITHIN THE HIGH SCHOOL DUE TO ON-SITE PRIVATE STORM DRAIN	TOTAL BASIN AREA (A _T)= 41,570 SF	3. BASIN A-3		
CONSTRUCTION UNDER REFERENCE 4. THIS DECREASE IN AREA DRAINING TO FORTUNA MEANS THERE IS CORRESPONDING EXCESS CAPACITY. SWITCHING 2.2 ACRES AS PROPOSED WILL STILL LEAVE A NET DECREASE OF 2.5 ACRES DRAINING TO FORTUNA AFTER IMPLEMENTATION OF THIS NEW PROPOSED CONNECTION AND DIVERSION.	EXISTING LAND TREATMENT	a. VOLUME $E_{W} = (E_{A}A_{A} + E_{B}A_{B} + E_{C}A_{C} + E_{D}A_{D})/A_{T}$ $E_{W} = ((0.0040.44) + (0.0040.67) + (0.0040.00) + (0.5044.07)/(0.0040.00) + (0.5044.00)/(0.00$		
4. WORK ORDER CONSTRUCTION PLANS FOR WEST MESA HIGH SCHOOL PUBLIC AND PRIVATE WATER, SANITARY SEWER, AND STORM DRAIN LINE EXTENSIONS AND RELOCATIONS PREPARED BY HIGH MESA CONSULTING GROUP, CPN 749982, DATED 01/14/2015 (NMPE 13676). THIS WORK ORDER PLAN SET INCLUDES CONSTRUCTION OF A NEW 24 INCH CONNECTION TO THE EXISTING 72 INCH PUBLIC STORM DRAIN IN FORTUNA RD NW. THIS CONNECTION WILL SERVE THE PROPOSED BUILDING AND COURTYARD IMPROVEMENTS.	TREATMENT AREA (SF/AC) % A B 5,120 / 0.12 12.3	$E_W = ((0.00^*0.44) + (0.01^*0.67) + (0.00^*0.99) + (0.59^*1.97))/0.60 = 1.9$ $V_{100} = (E_W/12)A_T = (1.95/12)0.60 = 0.0975 \text{ AC-FT} = 4,29$		
 WORK ORDER PLAN SET INCLUDES CONSTRUCTION OF A NEW 24 INCH CONNECTION TO THE EXISTING 72 INCH PUBLIC STORM DRAIN IN FORTUNA RD NW. THIS CONNECTION WILL SERVE THE PROPOSED BUILDING AND COURTYARD IMPROVEMENTS. 	C 5,080 / 0.12 12.2 D 31,370 / 0.72 75.5	b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$		
IV. EXISTING CONDITIONS THIS SITE IS DEVELOPED AS A HIGH SCHOOL OPERATED AND MAINTAINED BY THE ALBUQUERQUE PUBLIC SCHOOLS (APS). THE SCHOOL SITE	3. BASIN A-1	$Q_P = Q_{100} = \frac{((0.00*1.29) + (0.01*2.03) + (0.00*2.87) + (0.59*4.37))}{2} = \frac{2}{3}$		
CONSISTS OF PERMANENT AND PORTABLE CLASSROOM BUILDINGS, PAVED PARKING AREAS AND WALKWAYS, LANDSCAPING, ATHLETIC FIELDS, AND OTHER SITE IMPROVEMENTS APPLICABLE TO A HIGH SCHOOL SITE. AS EXPLAINED AND DEMONSTRATED BY THE AFOREMENTIONED DRAINAGE PLAN (REF. 4), THE OVERALL SITE IS CHARACTERIZED BY THIRTEEN (13) DRAINAGE BASINS, OF WHICH FOUR WILL BE AFFECTED BY	TOTAL BASIN AREA (A _T)= 72,030 SF	4. BASIN B		
THIS PROJECT. FOR THE PURPOSES OF THIS SPECIFIC PROJECT, THE IMPACTED PORTION OF THE SITE HAS BEEN DIVIDED INTO TWO DRAINAGE BASINS WITH BASIN A BEING THE PORTION OF THE SITE THAT DISCHARGES DIRECTLY TO AN EXISTING PRIVATE STORM DRAIN SYSTEM THAT CURRENTLY	DEVELOPED LAND TREATMENT	a. VOLUME $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$		
DRAINS TO THE EAST TO THE EXISTING PUBLIC WEST MESA DIVERSION STORM DRAIN, AND BASIN B BEING THE PORTION THAT DRAINS OVERLAND TO THE EXISTING INTERNAL PRIVATE STORM DRAIN SYSTEM. THESE BASINS ARE SHOWN ON SHEET CG-101. THERE ARE NO OFFSITE FLOWS DISCHARGING ONTO THE PROJECT SITE AS THE PROJECT LIMITS LIE WELL WITHIN THE OVERALL SCHOOL SITE AND NOT ADJACENT TO	TREATMENT AREA (SF/AC) % A B 11,770 / 0.27 16.3	$E_W = ((0.00*0.44) + (0.02*0.67) + (0.08*0.99) + (0.43*1.97))/0.53 = 1.7$ $V_{100} = (E_W/12)A_T = (1.77/12)0.53 = 0.0782 \text{ AC-FT} = 3,47$		
V. DEVELOPED CONDITIONS	C 11,140 / 0.26 15.5 D 49,120 / 1.13 68.2	b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$		
THE OVERALL PROJECT CONSISTS OF CONSTRUCTING TWO NEW BUILDINGS TO REPLACE THE EXISTING "M" HALL AND RE-CONSTRUCTING THE EXISTING COURTYARD. THE PROJECT WILL BE CONSTRUCTED IN PHASES, WITH THE FIRST PHASE BEING CONSTRUCTION OF BUILDING "A" WITHIN AN EXISTING PARKING LOT. AS SHOWN BY THE GRADING PLAN ON SHEET CG-102, THE ROOF DRAINS AND A PORTION OF SITE WORK WILL DRAIN	4. BASIN A-2	$Q_P = Q_{100} = \frac{((0.00*1.29) + (0.02*2.03) + (0.08*2.87) + (0.43*4.37)) = 2}{(0.00*1.29) + (0.02*2.03) + (0.08*2.87) + (0.43*4.37)}$		
DIRECTLY TO THE NEW STORM DRAIN CONNECTION TO THE EXISTING 72 INCH PUBLIC STORM DRAIN IN FORTUNA TO BE CONSTRUCTED UNDER CITY WORK ORDER IN ACCORDANCE WITH THE CONCEPT ESTABLISHED BY THE AFOREMENTIONED PLAN (REF. 3) AND THE PREDESIGN RECAPS (REF. 2). THIS FIRST PHASE IS INTENDED TO STAND ALONE WITH THE INTENT OF OBTAINING A CERTIFICATE OF OCCUPANCY FOR BUILDING "A" IN ADVANCE OF PHASE 2 CONSTRUCTION. THIS IS ACCEPTABLE BECAUSE PHASE 1 CONSTRUCTION DOES NOT RELY UPON PHASE 2 IMPROVEMENTS.	TOTAL BASIN AREA (A _T)= 21,680 SF	C. <u>COMPARISON</u>		
PHASE 1 CONSTRUCTION LIES WITHIN AN EXISTING PAVED PARKING LOT, HENCE THE NEW CONSTRUCTION WILL NOT RESULT IN AN INCREASE IN RUNOFF DURING THE INTERIM CONDITION BETWEEN PHASE 1 AND PHASE 2.	DEVELOPED LAND TREATMENT	1. BASIN A		
PHASE 2 CONSTRUCTION WILL INCLUDE THE DEMOLITION OF THE EXITING "M" HALL, CONSTRUCTION OF BUILDING "B", AND RECONSTRUCTION OF THE EXISTING COURTYARD. THE PRIVATE STORM DRAIN THAT WILL DISCHARGE TO THE NEW FORTUNA CONNECTION WILL BE EXTENDED WITH THIS PHASE TO SERVE BUILDING "B" AND THE COURTYARD. AN EXISTING STORM DRAIN CURRENTLY SERVING THE COURTYARD WILL BE REPLACED WITH A NEW STORM DRAIN.	TREATMENT AREA (SF/AC) % A	a. VOLUME $\triangle V_{100} = 14,180 - 11,810 = 2,370 \text{ CF}$ (INCRE.		
AS SHOWN BY THE PLANS, SITE ROOF DRAINAGE WILL BE DIRECTLY PIPED TO PROPOSED PRIVATE STORM DRAINS. ALL SITE SURFACE RUNOFF WILL BE DIRECTED TO NEW STORM DRAIN INLETS THAT ARE MOSTLY LOCATED IN LANDSCAPED AREAS THAT WILL HAVE A CRUSHER FINES	C 580 / 0.01 2.7 D 21,100 / 0.48 97.3	b. PEAK DISCHARGE		
SURFACING. IN MOST CASES, THE CONCEPT OF "DISCONNECTED IMPERVIOUSNESS" IS EMPLOYED WHEREBY RUNOFF FROM HARDSCAPED AREAS FLOW ACROSS THE CRUSHER FINES BEFORE REACHING THE INLETS. BECAUSE THIS IS AN INFILL PROJECT AT AN EXISTING SCHOOL CAMPUS, THERE IS LIMITED ABILITY TO INTRODUCE AREAS OF RETENTION IN THE PERVIOUS AREAS BECAUSE THEY ARE INTENDED FOR	5. BASIN A-3	$\triangle Q_{100} = 9.0 - 7.4 = 1.6 \text{ CFS}$ (INCRE.		
STUDENTS TO GATHER DURING LUNCH BREAK, AND RETENTION WOULD RESULT IN STANDING WATER IN PEDESTRIAN AREAS. AS SUCH, THE INTENT OF THE "FIRST FLUSH" REQUIREMENTS WILL NOT BE MET BY A SPECIFIC RETENTION OF VOLUME, BUT RATHER THROUGH THE USE OF DISCONNECTED IMPERVIOUSNESS COMBINED WITH THE AFOREMENTIONED TRANSFER OF 2.2 ACRES OF AREA FROM THE CURRENT FREE DISCHARGE CONDITION TO THE WEST MESA DIVERSION STORM DRAIN. TO THE WEST MESA DETENTION POND THAT IS IDENTIFIED AS A WATER	TOTAL BASIN AREA (A _T)= 25,950 SF	a. VOLUME		
QUALITY FEATURE ON THE AMAFCA MAINTENANCE MAPS. VI. GRADING PLAN (SHEET CG-102)	DEVELOPED LAND TREATMENT	$\triangle V_{100} = 3,410 - 5,890 = -2,480 \text{ CF}$ (DECRE		
THE GRADING PLAN ON SHEET CG-102 SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, 3) PROPOSED PRIVATE STORM DRAIN IMPROVEMENTS, AND 4.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES.	TREATMENT AREA (SF/AC) % A	b. PEAK DISCHARGE $\triangle Q_{100} = \underline{2.1 - 3.7} = \underline{-1.6} \text{ CFS} \qquad \text{(DECREE)}$		
VII. CALCULATIONS CALCULATIONS SHOWN HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE	B 370 / 0.01 1.4 C 25,580 / 0.59 98.6	3. TOTAL SITE		
PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, WILL BE USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THE CALCULATIONS, THERE WILL BE A MINOR DECREASE IN 100-YEAR VOLUME AND NO CHANGE IN 100-	6. BASIN B	a. VOLUME $\triangle V_{100} = 17,590 - 17,700 = -110$ CF (DECRE		
YEAR PEAK DISCHARGE ATTRIBUTABLE TO THIS PROJECT. VIII. CONCLUSIONS	TOTAL BASIN AREA (A _T)= 23,220 SF	b. PEAK DISCHARGE $\triangle Q_{100} = 11.1 - 11.1 = 0 \text{ CFS} \qquad \text{(NO CH)}$		
THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE ANALYSIS AND EVALUATIONS CONTAINED HEREIN: 1. THE PROPOSED IMPROVEMENTS REPRESENT MODIFICATIONS TO AN EXISTING SITE WITHIN AN INFILL AREA 2. THE FREE DISCHARGE OF DEVELOPED RUNOFF TO THE ADJACENT PUBLIC STORM DRAIN IS CONSISTENT WITH THE PREVIOUSLY	DEVELOPED LAND TREATMENT	$\triangle Q_{100} = 11.1 - 11.1 = 0$ CFS (NO CH		
APPROVED PLANS FOR THE SCHOOL SITE AND WITH MASTER DRAINAGE PLANS FOR THE WATERSHED. 3. THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS. 4. THE PROPOSED DIVERSION OF RUNOFF OF 2.2 ACRES OF THE HIGH SCHOOL WAS ESTABLISHED BY PREVIOUS SUBMITTAL, AND WILL	TREATMENT AREA (SF/AC) %			
RESULT IN THIS AREA BEING ROUTED THROUGH A PUBLIC DETENTION FACILITY WITH WATER QUALITY BENEFITS. 5. THE PROPOSED IMPROVEMENTS WILL NOT AFFECT NOR BLOCK OFFSITE FLOWS.	B 840 / 0.02 3.6 C 3,560 / 0.08 15.3			
R ENGINEER'S CERTIFICATION FOR TEMPORARY C.O.— PHASE 2	D 18,820 / 0.43 81.1 100			
I, J. GRAEME MEANS, NMPE 13676, OF THE FIRM HIGH MESA CONSULTING GROUP HEREBY CERTIFY THAT THIS FINAL PHASE OF THE PROJECT HAS BEEN CONSTRUCTED, GRADED AND WILL	II. HYDROLOGY			
DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLANS DATED 03-13-2015. THE FIRST BUILDING WAS CERTIFIED IN JULY OF	A. EXISTING CONDITIONS			
2016. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS OBTAINED 07-18-2017 BY HIGH MESA CONSULTING GROUP UNDER THE DIRECTION OF CHARLES CALA, NMPS 11184, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE	1. BASIN A a. VOLUME			
AND BELIEF. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE SITE ON 07—18—2017 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE INFORMATION CONTAINED HEREIN IS	$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = ((0.00^*0.44) + (0.23^*0.67) + (0.16^*0.99) + (1.49^*1.97))/1.88 = 1.73 IN$			
TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED TO SUPPORT A RECOMMENDATION FOR TEMPORARY	$V_{100} = (E_W/12)A_T = (1.73/12)1.88 = 0.271 \text{ AC-FT} = 11,810 \text{ CF}$			
CERTIFICATE OF OCCUPANCY FOR THE SECOND BUILDING. ALTHOUGH NO DEVIATIONS WERE NOTED THAT WOULD PRECLUDE A PERMANENT CERTIFICATION, IT SHOULD BE NOTED THAT THE CONCRETE AND LANDSCAPING AREAS EAST OF THIS PHASE ARE CURRENTLY UNDER	b. PEAK DISCHARGE Q _P = Q _{PA} A _A + Q _{PB} A _B + Q _{PC} A _C + Q _{PD} A _D			
RE—CONSTRUCTION, TO REPLACE AREAS AMAGED DURING CONSTRUCTION, PROVIDE ADDITIONAL LANDSCAPING, AND TO CORRECT PRE—EXISTING ADA DEFICIENCIES. UPON COMPLETION OF THIS	$Q_P = Q_{100} = \underline{((0.00*1.29) + (0.23*2.03) + (0.16*2.87) + (1.49*4.37))} = \underline{7.4} \text{ CFS}$			
AREA, WE WILL CERTIFY AND DOCUMENT FOR FINAL CERTIFICATE OF OCCUPANCY. THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED	2. BASIN B a. VOLUME			
ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THIS CERTIFICATION DOES NOT ADDRESS ADA COMPLIANCE WHICH IS BEYOND THE	$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = ((0.00^*0.44) + (0.12^*0.67) + (0.12^*0.99) + (0.72^*1.97))/0.96 = 1.69 IN$			
SCOPE OF GRADING AND DRAINAGE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.	$V_{100} = (E_W/12)A_T = $			
CRAEME ME	b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$			
J. CRAEME MEANS, NMPE 13676	$Q_P = Q_{100} = \underline{((0.00*1.29) + (0.12*2.03) + (0.12*2.87) + (0.72*4.37))} = \underline{3.7} CFS$			
07/21/2017 DATE		Α [
		RECORD DRAWING		





PAINTED PARKING STRIPE AUTOMATIC DOOR OPENER LANDSCAPING RAILROAD TIES SANITARY SEWER BUILDING OVERHANG SATELLITE DISH STORM DRAIN STORM DRAIN INLET SGP STEEL GUARD POST COMMUNICATIONS LINE COMMUNICATIONS LINE STEEL POLE SPEED BUMP SIDEWALK CONCRETE BUILDING COLUMN TOP OF ASPHALT TOP OF CURB COMMUNICATIONS CONDUIT CONCRETE DRIVE PAD TOP OF CONCRETE TOP OF GRATE CONCRETE GUARD POST ELECTRIC TRANSFORMER COMMUNICATIONS MANHOLE CONCRETE HEADER CURB TRAFFIC SIGN TYPICAL CENTERLINE DOUBLE DOOR CABLE TELEVISION COMMUNICATIONS LINE MARKER BY PAINT MARK CABLE TELEVISION RISER CONCRETE LANDING COMMUNICATIONS PANEL UNKNOWN CONCRETE MASONRY UNIT WALL WITH SANITARY SEWER CLEANOUT WATER LINE BY PAINT MARK CONCRETE WHEELCHAIR RAMF COMMUNICATIONS PULLBOX WATER HOT BOX WATER METER BOX CONCRETE RUNDOWN WOOD POWER POLE WATER VAULT WATER VALVE BOX CONCRETE SPLASH PAD CONCRETE SIDEWALK PAINTED CROSS WALK XW CONCRETE TRASH CAN 0.5'ø TREE TRUNK DIAMETER DOUBLE SANITARY SEWER DECIDUOUS TREE ELECTRIC LINE BY PAINT MARK EDGE OF ASPHALT SMALL DECIDUOUS TREE CONIFEROUS TREE ELECTRIC PULLBOX SMALL CONIFEROUS TREE FIRE LINE CONNECTION \circ SMALL SHRUB BOULDER FROM RECORD DRAWING PAINTED UTILITY MARKER GAS LINE BY PAINT MARK STUMP TOP OF ASPHALT PAVEMENT TOP OF CURB TOP OF GRATE HANDICAPPED PARKING SIGN IRRIGATION CONTROL BOX EXISTING SPOT ELEVATION + 20.05 -5105— EXISTING CONTOUR IRRIGATION VALVE BOX EXISTING DIRECTION OF FLO METAL BUILDING COLUMN EXISTING STORM DRAIN MH METER CAN WITH BIB VALVE METER CAN WITH VALVE EXISTING FIRE HYDRANT EXISTING SAS MANHOLE EXISTING VALVE BOX EXISTING DOUBLE CLEANOUT ---⊖--- EXISTING SINGLE CLEANOUT OVERHEAD COMMUNICATIONS ---- EXISTING WATER SERVICE ÖVERHEAD ELECTRIC ----W---- EXISTING WATER LINE ---SAS--- EXISTING SANITARY SEWER PAINTED PARKING LOT ISLAND ---F --P--- EXISTING FIRE LINE POST INDICATOR VALVE --- EXISTING P.I.V. ◆ 14.00 PROPOSED SPOT ELEVATION SANITARY SEWER MANHOLE PROPOSED VALVE BOX PROPOSED DOUBLE CLEANOL PROPOSED SINGLE CLEANOUT PROPOSED DIRECTION OF FLOW PROPOSED WATER SERVICE F.I.R.M. PANEL 327 OF 825 ————— PROPOSED WATER LINE — — PUBLIC EASEMENT LINE ——SAS—— PROPOSED SANITARY SEWER SCALE: 1" = 500' DATE 08-16-2012 HIGH POINT / DIVIDE ——F—P— PROPOSED FIRE LINE PROPOSED P.I.V. PROPOSED STORM INLET ————SD——— PROPOSED STORM DRAIN PROPOSED STORM DRAIN PROPOSED CONCRETE PROPOSED FIRE HYDRANT PROPOSED CRUSHER FINES FIRE DEPARTMENT CONNECTION LANDSCAPED AREA UNIT, ALBUQUERQUE, NEW MEXICO HIGH POINT/WATER BLOCK DRAINAGE BASIN PHASE LINE 🛕 ENGINEER'S DRAINAGE CERTIFICATION — PHASE 1 I, J. GRAEME MEANS, NMPE 13676, OF THE FIRM HIGH MESA CONSULTING GROUP HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 03-13-2015. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS SIDEWALK. LOCATED IN THE NORTHEAST QUADRANT OF THE OBTAINED 7/14/2016 BY HIGH MESA CONSULTING GROUP UNDER THE DIRECTION OF CHARLES G. CALA, JR, NMPS 11184, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THIS CERTIFICATION IS SUBMITTED TO SUPPORT A RECOMMENDATION FOR PERMANENT A REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184" CERTIFICATE OF OCCUPANCY FOR PHASE 1 OF THE PROJECT — BUILDING "A", AND TO LOCATED ON THE NORTH SIDE OF GLENRIO RD NW, NOT SHOWN. DOCUMENT COMPLETION OF THE IMPROVEMENTS FOR THE OWNER. AS EXPLAINED IN THE ELEVATION = 5106.54 FEET (NAVD 1988) DRAINAGE PLAN, PHASE 1 WAS DESIGNED TO BE STAND-ALONE FOR DRAINAGE PURPOSES AND



LEGAL DESCRIPTION TRACTS 166 THROUGH 172, INCLUSIVE, TOWN OF ATRISCO GRANT, AIRPORT

BENCHMARKS

SCHOOL

PROJECT

PROJECT BENCHMARK

AN A.G.R.S. BRASS DISK STAMPED "18-J11", SET FLUSH IN THE INTERSECTION OF COORS ROAD AND GLENRIO RD NW. LEVATION = 5099.609 FEET (NAVD 1988)

TEMPORARY BENCHMARK #1 (T.B.M.)

DOES NOT RELY UPON PHASE IMPROVEMENTS FOR DRAINAGE. PHASE 2 BUILDING "B" AND TEMPORARY BENCHMARK #2 (T.B.M.) REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184"

A REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184" LOCATED ON THE SOUTH SIDE OF FORTUNA RD NW, ACROSS FROM THE SOUTHEAST CORNER OF THE SITE, NOT SHOWN. ELEVATION = 5099.65 FEET (NAVD 1988)

TEMPORARY BENCHMARK #4 (T.B.M.)

REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184" LOCATED ON THE SOUTH SIDE OF FORTUNA RD NW, ACROSS FROM THE SOUTHWEST CORNER OF THE SITE, NOT SHOWN. ELEVATION = 5105.26 FEET (NAVD 1988)

DRAINAGE PLAN

2016.184.3

2015.184.9

2014.006.1

INDEX OF DRAWINGS

SHEET	DESCRIPTION
CG-001	DRAINAGE PLAN & CALCULATIONS
CG-101	OVERALL DRAINAGE SITE PLAN
CG-102	GRADING PLAN
CG-501	STORM DRAIN MANHOLE SECTIONS & DETAILS
CG-502	DRAINAGE SECTIONS & DETAILS
CU-101	WATER AND SANITARY SEWER SITE PLAN
CU-501	WATER AND SANITARY SEWER SECTIONS & DETAILS

CALCULATIONS

PROJECT NO: WMHS

CHECKED BY: G.M.

DRAWN BY: J.Y.R./S.C.C.

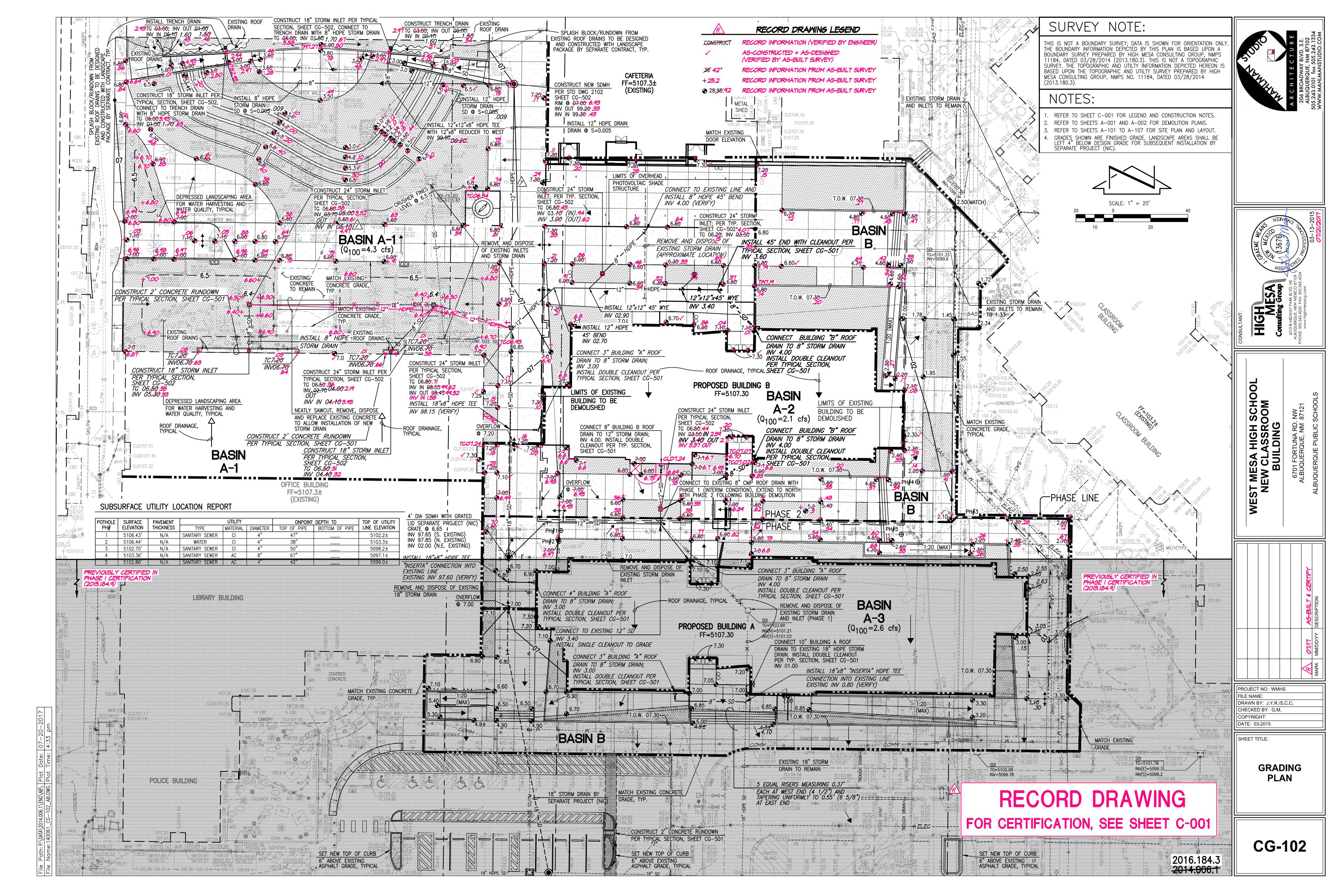
FILE NAME:

COPYRIGHT:

SHEET TITLE:

DATE: 03-2015

CG-001





City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 10/2015)

Project Title:	Building Permit #:		Hydrology File #:	
DRB#:				
Legal Description:				
City Address:				
Applicant:			Contact:	
Address:				
Phone#:			E-mail:	
Other Contact:			Contact:	
Address:				
Phone#:				
Check all that Apply:				
DEPARTMENT: HYDROLOGY/ DRAINAGE TRAFFIC/ TRANSPORTATION MS4/ EROSION & SEDIMENT CONTRO	OL	BUILDIN	PPROVAL/ACCEPTANCE SOUGHT: NG PERMIT APPROVAL RARY CERTIFICATE OF OCCUPANCY	
TYPE OF SUBMITTAL: ENGINEER/ARCHITECT CERTIFICATION CONCEPTUAL G & D PLAN	ON	SITE PI	MINARY PLAT APPROVAL LAN FOR SUB'D APPROVAL LAN FOR BLDG. PERMIT APPROVAL PLAT APPROVAL	
GRADING PLAN DRAINAGE MASTER PLAN DRAINAGE REPORT CLOMR/LOMR		SIA/ RE	ELEASE OF FINANCIAL GUARANTEE DATION PERMIT APPROVAL NG PERMIT APPROVAL	
TRAFFIC CIRCULATION LAYOUT (TC TRAFFIC IMPACT STUDY (TIS) EROSION & SEDIMENT CONTROL PL	IMPACT STUDY (TIS) GRADING/ PAD CERTIFICATION WORK ORDER APPROVAL WORK ORDER APPROVAL		G PERMIT APPROVAL NG/ PAD CERTIFICATION ORDER APPROVAL	
OTHER (SPECIFY)	_	CLOMF PRE-DE	R/LOMR ESIGN MEETING?	
IS THIS A RESUBMITTAL?: Yes	No		a (SPECIFY)	
DATE SUBMITTED:				

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____