

DRAINAGE PLAN

WHERRY ELEMENTARY SCHOOL IS LOCATED ON FEDERAL KIRTLAND AIR FORCE BASE (KAFB) MILITARY RESERVATION PROPERTY IN SOUTHEAST ALBUQUERQUE AT THE SOUTHWEST CORNER OF THE INTERSECTION OF GIBSON BOULEVARD SE AND PENNSYLVANIA STREET SE. ALBUQUERQUE PUBLIC SCHOOLS OPERATES THE SCHOOL SUBJECT TO A LEASE AGREEMENT BETWEEN THE BOARD OF EDUCATION AND THE SECRETARY OF THE AIR FORCE FOR THE 18.55 ACRE CAMPUS. ACCESS TO THE SITE IS FROM GIBSON BOULEVARD SE, EAST FROM LOUISIANA BOULEVARD SE AND IMMEDIATELY WEST OF THE GATED GIBSON ENTRANCE TO KAFB. THE MAJORITY OF THE SITE IS DEVELOPED WITH A MIXTURE OF PERMANENT AND TEMPORARY (PORTABLE) BUILDINGS WITH SUPPORTING PAVED PARKING, CIRCULATION, PLAYGROUND AND DRAINAGE SITE IMPROVEMENTS. THE KAFB PROPERTY TO THE WEST AND SOUTH IS VACANT AND UNDEVELOPED.

PROPOSED DEVELOPMENT WILL MAINTAIN THE EXISTING DRAINAGE CONCEPT, AND WILL CONTINUE TO MAKE USE OF THE EXISTING PRIVATE STORM DRAINAGE SYSTEM. ROOF DRAINAGE FROM THE SOUTH AND EAST PORTIONS OF THE BUILDINGS WILL BE PIPED DIRECTLY TO THE EXISTING ON-SITE STORM DRAIN SYSTEM. ROOF DRAINAGE ON THE NORTH AND WEST SIDES OF THE BUILDINGS WILL CONTINUE TO DISCHARGE TO THE SURFACE ON PAVED AREAS. AS SHOWN BY THE CALCULATIONS HEREON, THE PROPOSED RECONSTRUCTION WILL RESULT IN A NET DECREASE IN STORMWATER RUNOFF GENERATED BY THE SITE FOR THE 2 YEAR AND 100 YEAR STORMS. FOR CALCULATION PURPOSES, BASIN A IS THE BUILDING ROOFS AND AREAS NORTH OF AND WEST OF THE BUILDINGS THAT ARE EITHER PIPED DIRECTLY TO STORM DRAINS OR WILL CONTINUE TO DRAIN AS SURFACE RUNOFF. BASIN B IS THE CENTRAL COURTYARD AREA WHERE SYNTHETIC TURF WILL BE CONSTRUCTED. THIS TURF HAS AN UNDERLAYER WITH AN INFILTRATION RATE OF OVER 100 INCHES PER HOUR. IT WAS ASSUMED FOR CALCULATION PURPOSES THAT BASIN B WILL NOT GENERATE RUNOFF DUE TO THE INFILTRATION.

DRAINAGE CERTIFICATION

I, J. GRAEME MEANS, NMPE 13676, OF THE FIRM HIGH MESA CONSULTING GROUP HEREBY CERTIFY THAT THIS PROJECT HAS BEEN CONSTRUCTED, GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLANS DATED 01-30-2015 AND UPDATED 02-27-2015. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS OBTAINED 06-23-2017 BY HIGH MESA CONSULTING GROUP UNDER THE DIRECTION OF CHARLES CALA, NMPS 11184, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT PERSONNEL UNDER MY DIRECT SUPERVISION HAVE PERSONALLY VISITED THE SITE ON 06/29/2017 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

THIS CERTIFICATION IS SUBMITTED TO SUPPORT A RECOMMENDATION FOR PERMANENT CERTIFICATE OF OCCUPANCY FOR WHERRY ELEMENTARY SCHOOL. THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED 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 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.

J. Graeme Means
J. GRAEME MEANS, NMPE NO. 13676



CALCULATIONS

CALCULATIONS

I. SITE CHARACTERISTICS

- A. PRECIPITATION ZONE = **3**
B. $P_{100, 6 \text{ HR}} = P_{360} = \mathbf{2.6 \text{ IN}}$
 $P_{24 \text{ HR}} = P_{1440} = \mathbf{1.3 \text{ IN}}$
C. TOTAL PROJECT AREA (A_T) = **184,960 SF**
4.25 AC

D. LAND TREATMENTS

1. EXISTING LAND TREATMENT		
TREATMENT	AREA (SF/AC)	%
A		
B	21,033 SF	11
C	57,745 SF	31
D	106,182 SF	57
TOTAL	184,960 SF	4.25 AC
2. BASIN A		
TREATMENT	AREA (SF/AC)	%
A		
B	21,033 SF	11
C	57,745 SF	31
D	106,182 SF	57
TOTAL	184,960 SF	4.25 AC
3. BASIN B		
TREATMENT	AREA (SF/AC)	%
A		
B	21,033 SF	11
C	57,745 SF	31
D	106,182 SF	57
TOTAL	184,960 SF	4.25 AC

II. HYDROLOGY

A. EXISTING CONDITION 100 YEAR

1. **100-YR STORM**
a. VOLUME
 $E_W = (E_A A + E_B A_B + E_C A_C + E_D A_D) / A_T$
 $E_W = (0.66^*0.00) + (0.92^*0.48) + (1.29^*1.33) + (2.36^*2.44) / 4.25 = \mathbf{1.86 \text{ IN}}$
 $V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (1.86 / 12) 24.25 = \mathbf{0.6581 \text{ AC-FT} = 28,670 \text{ CF}}$
b. VOLUME 100-YR 24-HR
 $V_{100, 24 \text{ HR}} = V_{100, 6 \text{ HR}} \cdot A_T \cdot (P_{24 \text{ HR}} / P_{6 \text{ HR}})^{1/2} \text{ in/ft}$
 $= 0.6581 \cdot 2.44 \cdot (3.10 \cdot 2.60 / 12) \text{ in/ft} = \mathbf{0.7597 \text{ AC-FT} = 33,090 \text{ CF}}$
c. PEAK DISCHARGE
 $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
 $Q_p = (1.87 \cdot 0.00) + (2.60 \cdot 0.48) + (3.45 \cdot 1.33) + (5.02 \cdot 2.44) = \mathbf{18.1 \text{ CFS}}$
2. **2-YR STORM**
a. VOLUME
 $E_W = (E_A A + E_B A_B + E_C A_C + E_D A_D) / A_T$
 $E_W = (0.00^*0.00) + (0.06^*0.48) + (0.20^*1.33) + (0.89^*2.44) / 4.25 = \mathbf{0.58 \text{ IN}}$
 $V_{2, 6 \text{ HR}} = (E_W / 12) A_T = (0.58 / 12) 24.25 = \mathbf{0.2052 \text{ AC-FT} = 8,940 \text{ CF}}$
b. VOLUME 2-YR 24-HR
 $V_{2, 24 \text{ HR}} = V_{2, 6 \text{ HR}} \cdot A_T \cdot (P_{24 \text{ HR}} / P_{6 \text{ HR}})^{1/2} \text{ in/ft}$
 $= 0.21 \cdot 2.44 \cdot (3.10 \cdot 2.60 / 12) \text{ in/ft} = \mathbf{0.2493 \text{ AC-FT} = 10,860 \text{ CF}}$
c. PEAK DISCHARGE
 $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
 $Q_p = (1.87 \cdot 0.00) + (2.60 \cdot 0.48) + (3.45 \cdot 1.33) + (5.02 \cdot 2.44) = \mathbf{6.1 \text{ CFS}}$

B. DEVELOPED CONDITION BASIN A

1. **100-YR STORM**
a. VOLUME
 $E_W = (E_A A + E_B A_B + E_C A_C + E_D A_D) / A_T$
 $E_W = (0.66^*0.00) + (0.92^*0.00) + (1.29^*1.16) + (2.36^*2.18) / 3.34 = \mathbf{1.99 \text{ IN}}$
 $V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (1.99 / 12) 3.35 = \mathbf{0.5555 \text{ AC-FT} = 24,200 \text{ CF}}$
b. VOLUME 100-YR 24-HR
 $V_{100, 24 \text{ HR}} = V_{100, 6 \text{ HR}} \cdot A_T \cdot (P_{24 \text{ HR}} / P_{6 \text{ HR}})^{1/2} \text{ in/ft}$
 $= 0.55 \cdot 2.18 \cdot (3.10 \cdot 2.60 / 12) \text{ in/ft} = \mathbf{0.6464 \text{ AC-FT} = 28,160 \text{ CF}}$
c. PEAK DISCHARGE
 $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
 $Q_p = (1.87 \cdot 0.00) + (2.60 \cdot 0.00) + (3.45 \cdot 1.16) + (5.02 \cdot 2.18) = \mathbf{15.0 \text{ CFS}}$
2. **2-YR STORM**
a. VOLUME
 $E_W = (E_A A + E_B A_B + E_C A_C + E_D A_D) / A_T$
 $E_W = (0.00^*0.00) + (0.06^*0.00) + (0.20^*1.16) + (0.89^*2.18) / 3.35 = \mathbf{0.65 \text{ IN}}$
 $V_{2, 6 \text{ HR}} = (E_W / 12) A_T = (0.65 / 12) 3.35 = \mathbf{0.1615 \text{ AC-FT} = 7,900 \text{ CF}}$
b. VOLUME 2-YR 24-HR
 $V_{2, 24 \text{ HR}} = V_{2, 6 \text{ HR}} \cdot A_T \cdot (P_{24 \text{ HR}} / P_{6 \text{ HR}})^{1/2} \text{ in/ft}$
 $= 0.18 \cdot 2.18 \cdot (3.10 \cdot 2.60 / 12) \text{ in/ft} = \mathbf{0.2209 \text{ AC-FT} = 9,620 \text{ CF}}$
c. PEAK DISCHARGE
 $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
 $Q_p = (0.00 \cdot 0.00) + (0.21 \cdot 0.00) + (0.78 \cdot 1.16) + (2.04 \cdot 2.18) = \mathbf{5.4 \text{ CFS}}$

B. DEVELOPED CONDITION BASIN B

1. **100-YR STORM**
a. VOLUME
 $E_W = (E_A A + E_B A_B + E_C A_C + E_D A_D) / A_T$
 $E_W = (0.66^*0.0037) + (0.92^*0.49) + (1.29^*0.09) + (2.36^*0.321) / 0.905 = \mathbf{1.47 \text{ IN}}$
 $V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (1.47 / 12) 0.905 = \mathbf{0.1104 \text{ AC-FT} = 4,810 \text{ CF}}$
b. VOLUME 100-YR 24-HR
 $V_{100, 24 \text{ HR}} = V_{100, 6 \text{ HR}} \cdot A_T \cdot (P_{24 \text{ HR}} / P_{6 \text{ HR}})^{1/2} \text{ in/ft}$
 $= 0.11 \cdot 0.32 \cdot (3.10 \cdot 2.60 / 12) \text{ in/ft} = \mathbf{0.1239 \text{ AC-FT} = 5,400 \text{ CF}}$
c. PEAK DISCHARGE
 $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
 $Q_p = (1.87 \cdot 0.00) + (2.60 \cdot 0.49) + (3.45 \cdot 0.09) + (5.02 \cdot 0.32) = \mathbf{3.1988 \text{ CFS}}$
2. **2-YR STORM**
a. VOLUME
 $E_W = (E_A A + E_B A_B + E_C A_C + E_D A_D) / A_T$
 $E_W = (0.00^*0.00) + (0.06^*0.4937) + (0.20^*0.09) + (0.89^*0.321) / 0.905 = \mathbf{0.37 \text{ IN}}$
 $V_{2, 6 \text{ HR}} = (E_W / 12) A_T = (0.37 / 12) 0.905 = \mathbf{0.0270 \text{ AC-FT} = 1,210 \text{ CF}}$
b. VOLUME 2-YR 24-HR
 $V_{2, 24 \text{ HR}} = V_{2, 6 \text{ HR}} \cdot A_T \cdot (P_{24 \text{ HR}} / P_{6 \text{ HR}})^{1/2} \text{ in/ft}$
 $= 0.03 \cdot 0.32 \cdot (3.10 \cdot 2.60 / 12) \text{ in/ft} = \mathbf{0.0336 \text{ AC-FT} = 1,470 \text{ CF}}$
c. PEAK DISCHARGE
 $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
 $Q_p = (0.00 \cdot 0.00) + (0.21 \cdot 0.49) + (0.78 \cdot 0.09) + (2.04 \cdot 0.32) = \mathbf{0.829 \text{ CFS}}$

C. COMPARISON 100 YEAR

1. **100-YR STORM**
a. VOLUME 100-YR 6-HR
 $\Delta V_{100, 6 \text{ HR}} = 24200 - 28670 = \mathbf{-4,470 \text{ CF} \quad -16\% \text{ (DECREASE)}}$
b. VOLUME 100-YR 24-HR
 $\Delta V_{100, 24 \text{ HR}} = 28160 - 33090 = \mathbf{-4,930 \text{ CF} \quad -15\% \text{ (DECREASE)}}$
c. PEAK DISCHARGE
 $\Delta Q_{100} = 15.0 - 18.1 = \mathbf{-3.1 \text{ CFS} \quad -17\% \text{ (DECREASE)}}$
2. **2-YR STORM**
a. VOLUME 2-YR 6-HR
 $\Delta V_{2, 6 \text{ HR}} = 7900 - 8940 = \mathbf{-1,040 \text{ CF} \quad -12\% \text{ (DECREASE)}}$
b. VOLUME 2-YR 24-HR
 $\Delta V_{2, 24 \text{ HR}} = 9620 - 10860 = \mathbf{-1,240 \text{ CF} \quad -11\% \text{ (DECREASE)}}$
c. PEAK DISCHARGE
 $\Delta Q_{2} = 5.4 - 6.1 = \mathbf{-0.7 \text{ CFS} \quad -11\% \text{ (DECREASE)}}$

LEGEND

ACU	AIR CONDITIONING UNIT	X-WALK	PAINTED CROSSWALK
AP/SL	GUY ANCHOR POLE WITH STREET LIGHT	1.0" ø	TREE TRUNK DIAMETER
ASPH	ASPHALT		DECIDUOUS TREE
ASW	ASPHALT SIDEWALK		SMALL DECIDUOUS TREE
BGP	BASKETBALL GOAL POST		CONIFEROUS TREE
BDH	BUILDING OVERHANG		GROUP OF TREES
BW	BUILDING WALL		LANDSCAPING SHRUB
C&G	CURB AND GUTTER		SMALL LANDSCAPING SHRUB
C/PM	COMMUNICATION LINE BY PAINT MARK		LANDSCAPING YUCCA/CATCUS
CC	CONCRETE COLUMN		LANDSCAPING BOULDER
CCND	CONCRETE CONDUIT		PAINTED UTILITY MARK
CDP	CONCRETE DRIVE PAVEMENT		LEASE BOUNDARY
CF	LANDSCAPING CRUSHER FINES		PROPOSED STORM DRAIN
CGP	CONCRETE GUARD POST		PROPOSED INFILTRATION PIT
CHC	CONCRETE HEADER CURB		PROPOSED STORM INLET
CLD	CENTERLINE DOOR		EXISTING STORM DRAIN MANHOLE
CLDD	CENTERLINE DOUBLE DOOR		EXISTING STORM DRAIN MANHOLE
CLF	CHAIN LINK FENCE		EXISTING FIRE HYDRANT
CLF/BW	CHAIN LINK FENCE WITH 3-STRAND BARBED WIRE		PROPOSED FIRE HYDRANT
CLN	CONCRETE LANDING		FIRE DEPARTMENT CONNECTION
CMP	CORRUGATED METAL PIPE		EXISTING SANITARY SEWER MANHOLE
CMU	CONCRETE MASONRY UNIT WALL		SANITARY SEWER MANHOLE
CND/A	CONDUIT/ABANDONED		EXISTING VALVE BOX
CO/V	CLEANOUT WITH VALVE		PROPOSED DOUBLE CLEANOUT
CONC	CONCRETE		EXISTING DOUBLE CLEANOUT
CPB	CONCRETE PULLBOX		PROPOSED SINGLE CLEANOUT
CPT	CONCRETE PAVING TABLE		EXISTING WATER SERVICE
CR	CONCRETE RAMP		PROPOSED WATER SERVICE
CRD	CONCRETE RUNDOWN		EXISTING WATER LINE
CRW	CONCRETE RETAINING WALL		EXISTING SANITARY SEWER LINE
CS	CONCRETE STEPS		PROPOSED SANITARY SEWER LINE
CSA	BUILDING CRAWLSPACE		EXISTING FIRE LINE
CSC	CONCRETE WITH STEEL COVER/CRAWLSPACE		PROPOSED FIRE LINE
CSR	CONCRETE STEPS WITH METAL HANDRAIL		EXISTING POST INDICATOR VALVE
CSW	CONCRETE SIDEWALK		PROPOSED POST INDICATOR VALVE
CUC	CONCRETE TRASH CAN		INVERT
CUT	PAVEMENT CONCRETE CUT-OFF WALL		TOP OF ASPHALT PAVEMENT
CV	COMMUNICATION VAULT		TOP OF CURB
CVG	CONCRETE VALLEY GUTTER		TOP OF GRATE
CW	CONCRETE WALL		EXISTING SPOT ELEVATION
CWS	CONCRETE WALL/SEATING		PROPOSED SPOT ELEVATION
DOO	DOUBLE CLEANOUT		EXISTING FLOWLINE
DGA	DOUBLE GATE		PROPOSED FLOWLINE
DGA	DOUBLE GATE		EXISTING CONTOUR
E/PM	ELECTRIC LINE BY PAINT MARK		EXISTING CONTOUR
EA	EDGE OF ASPHALT		RIGHT OF WAY LINE
EC	ELECTRIC CONDUIT		PUBLIC EASEMENT LINE
ECAB	ELECTRIC CABINET		HIGH POINT / DIVIDE
EM	ELECTRIC METER		PROPOSED CONCRETE
EO	ELECTRIC OUTLET		PROPOSED ASPHALT PAVING
EP	ELECTRIC PANEL		
EPB	ELECTRIC PULLBOX		
EV	ELECTRIC TRANSFORMER		
FB	FLASHING SCHOOL BEACON		
FF	FLASHING FINISHED FLOOR		
FL	FIRE HYDRANT		
FLC	FIRE LINE CONNECTION		
FLV	FIRE LINE VALVE		
FP	FLAG POLE		
G/PM	GAS LINE BY PAINT MARK		
GA	FENCE GATE		
GLR	GAS LINE TO ROOF		
GM	GAS METER		
GS	GAS SERVICE		
GST	FENCE GATE STOP POLE		
GT	GREASE TRAP		
GW	GUY WIRE ANCHOR		
HCS	HANDICAPPED PARKING SIGN		
HDP	HIGH DENSITY POLYETHYLENE PIPE		
HDP	IRRIGATION CONTROL TIMER		
INV	PIPE INVERT		
IVB	IRRIGATION VALVE BOX		
KSW	KEYSTONE BLOCK WALL		
LB	PLAYGROUND LADDER BARS		
LSD	LANDSCAPE DIVIDER		
MB	METAL BENCH		
MBC	METAL BUILDING COLUMN		
MC	METAL COLUMN		
MCB	METER CAN WITH BIB-VALVE		
MOV	METER CAN WITH VALVE		
MGP	METAL GUARD POST		
MH	MANHOLE		
MHR	METAL HANDRAIL		
ML	METAL LANDING		
MLP	METAL LIGHT POLE		
MLP/CB	METAL LIGHT POLE WITH CONCRETE BASE		
MP	METAL PIVOT TABLE		
MR	METAL RAMP		
MS	METAL STEPS		
MSC	METAL STORAGE CONTAINER		
MSD	METAL SHED		
MT	METAL TRASH CAN		
MTS	METAL SIGN		
OHE(1)	OVERHEAD COMMUNICATION (# OF LINES)		
OHE(1)	OVERHEAD ELECTRIC (# OF LINES)		
OHG	OVERHEAD GUY WIRE		
OHM	OVERHEAD UTILITY MAST		
OHW	OVERHEAD BUILDING WALL		
DHWL	OVERHEAD WATER LINE		
PE	CONCRETE WHEEL STOP		
PCE	PLAYGROUND EQUIPMENT		
PI	PAINTED PARKING LOT ISLAND		
PLTR	CONCRETE PLANTER		
PS	PAINTED PARKING STRIPE		
PVC	POLYVINYL CHLORIDE PIPE		
RCP	REINFORCED CONCRETE PIPE		
RD	BUILDING ROOF DRAIN		
ROW	ROW OF CONCRETE WHEEL STOPS		
RR	RIP-RAP		
RVR	LANDSCAPING RIVER ROCK		
SAS	SANITARY SEWER		
SAS/FRD	SANITARY SEWER FROM RECORD DRAWING		
SAS/PM	SANITARY SEWER LINE FROM PAINT MARK		
SB	ASPHALT SPEED BUMP		
SD	STEEL COVER		
SD/PM	STORM DRAIN LINE FROM PAINT MARK		
SD/EE	STORM DRAIN MANHOLE-BEEHIVE		
SDMH	STORM DRAIN MANHOLE-GRATED LID		
SG	SERVICE DROP POLE		
SN	SNOW FENCE		
SG	ELECTRIC SWITCH GEAR		
SGP	STEEL GUARD POST		
SHR	STEEL HAND RAIL		
SI	STORM DRAIN INLET		
SP	STEEL POLE		
STM	CHILLED WATER, STEAM AND CONDENSATE LINES		
SW	CONCRETE SIDEWALK		
SWC	SIDEWALK CULVERT		
TA	TOP OF ASPHALT		
TBP	PLAYGROUND TETHERBALL POLE		
TC	TOP OF CURB		
TCO	TOP OF CONCRETE		
TD/SH	CONCRETE TURNDOWN SIDEWALK		
TC	TOP OF GRATE		
TS	TRAFFIC SIGN		
TYP	TOP OF WALL		
VCP	VITRIFIED CLAY PIPE		
VG	CONCRETE VALLEY GUTTER		
VHP	HIGH PRESSURE GAS LINE		
VJ	VENT WITH UNDERGROUND UTILITIES		
W/AB	POSSIBLE ABANDONED WATER LINE		
W/FRD	WATER LINE FROM RECORD DRAWING		
W/PM	WATER LINE BY PAINT MARK		
WCR	CONCRETE WHEELCHAIR RAMP		
WF	WATER FOUNTAIN		
WH	WEEP HOLE IN WALL		
WHB	WATER HOT BOX		
WIF	WROUGHT IRON FENCE		
WLD	BUILDING WATER LINE DRAIN PIPE		
WLP	WOOD LIGHT POLE		
WLR	WATER LINE TO ROOF		
WMB	WATER METER BOX		
WPP	WOOD POWER POLE		
WR	WOOD RAMP		
WRV	WATER AIR RELEASE VALVE		
WS	WOOD SHED		
WVB	WATER VALVE BOX		
WW	WING WALL		

GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSIDERED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1987, PUBLISHED BY THE NEW MEXICO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION, (REVISED 12/06)
- (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MATERIALS MUST BE COMPLETELY THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. 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. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAV

GIBSON BOULEVARD S.E.

CONSTRUCTION NOTES

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, IDENTIFYING, AND PRESERVING ANY AND ALL EXISTING UTILITY LINES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
- GRADES SHOWN HEREON ARE FINISHED GRADE. SEE LANDSCAPE PLANS FOR LANDSCAPING SECTIONS AND/OR DEPTH TO FINISHED SUBGRADE.

EROSION CONTROL MEASURES

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

HDPE PIPE CONSTRUCTION NOTES:

- HDPE PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO M 294 TYPE S FOR HDPE STORM DRAIN SYSTEMS.
- JOINTS SHALL BE WATER-TIGHT IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D3212. THE JOINTS SHALL HAVE O-RING GASKETS MEETING THE REQUIREMENTS OF ASTM F 477.
- THE CONTRACTOR'S PROJECT SUPERINTENDENT AND FOREMAN OF THE PIPE-LAYING CREW SHALL SUBMIT TO THE OWNER A CERTIFICATE INDICATING COMPLETION OF AN ON-LINE TRAINING PROGRAM OFFERED BY ADS (ADS-PIPE.COM) OR OTHER MANUFACTURER AS APPROVED BY THE OWNER.
- INSTALLATION SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS.
- ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 701 OF THE MAPWA STANDARD SPECIFICATIONS.
- THE PIPE SHALL BE BEDDED IN A FOUNDATION OF COMPACTED GRANULAR MATERIAL THAT IS FREE OF ORGANIC MATTER, CLAY LUMPS, AND OTHER DELETERIOUS MATTER. THIS MATERIAL SHALL EXTEND A MINIMUM OF 6 INCHES BELOW THE OUTERMOST CORRUGATIONS AND BE USED FOR BACKFILL UP TO A MINIMUM OF 1 FOOT ABOVE THE TOP OF PIPE. UNTIL A MINIMUM COVER OF 1 FOOT IS ATTAINED, ONLY HAND OPERATED TAMPING EQUIPMENT MAY BE USED IN THE TRENCH PRIOR TO THE PIPE.
- CONCRETE STRUCTURE CONNECTIONS FOR HDPE PIPE WILL REQUIRE THE USE OF A WATER STOP THAT MEETS THE PHYSICAL PROPERTIES OF ASTM C923. INSTALLATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS.

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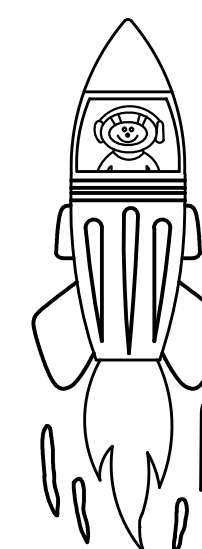
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ARCHITECT

ENGINEER
01/30/2015
07/12/2017



Wherry Elementary School

100% CONSTRUCTION DOCUMENTS

25000 E Kirtland AFB
Kirtland AFB
Albuquerque, NM 87116
January 30, 2015

MARK	DATE	DESCRIPTION
1	07/2017	RECORD DRAWING

ISSUE:

DATE: JANUARY 30, 2015

PROJECT NO: 544

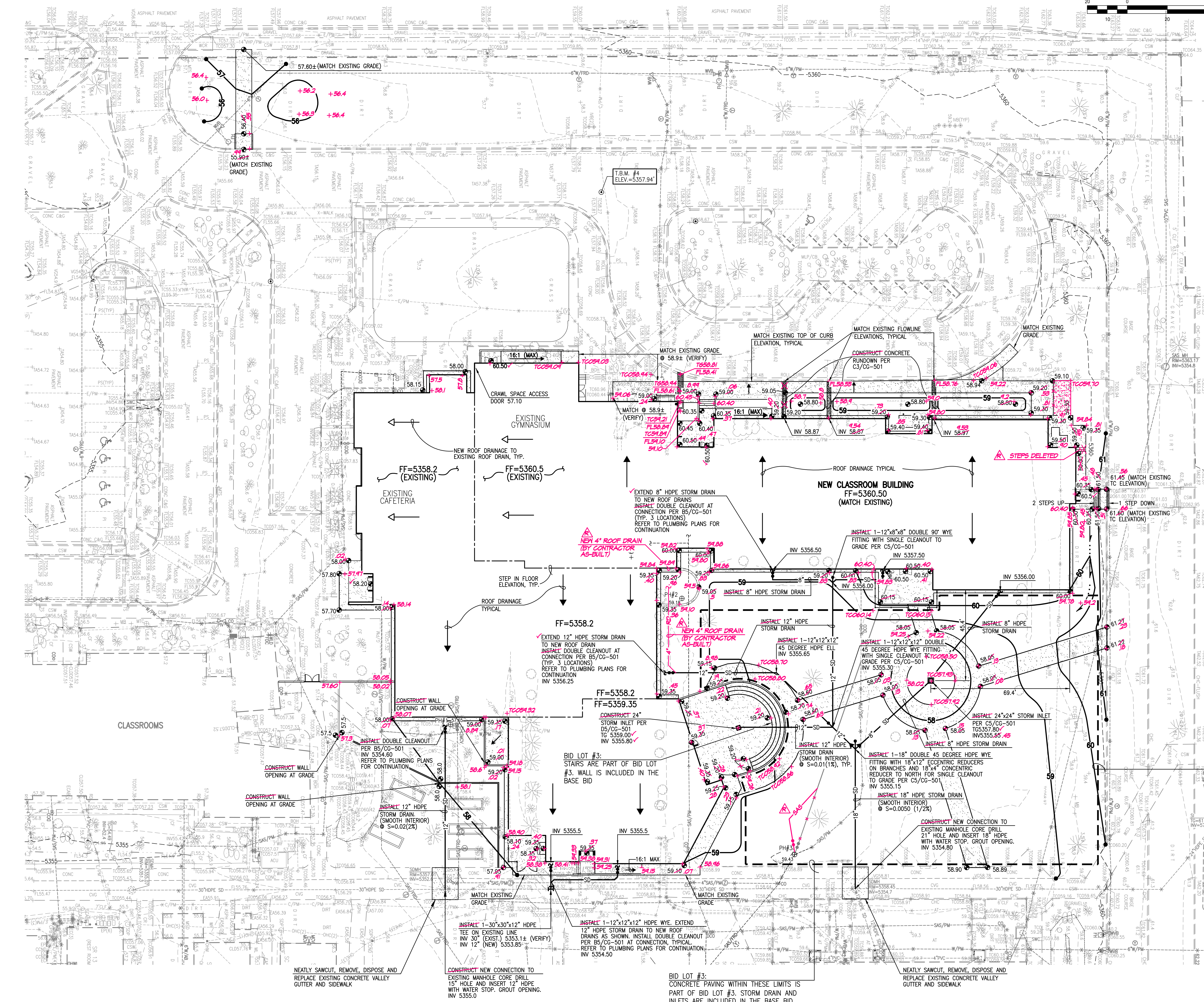
CAD DWG FILE:

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

CHECKED BY: G.M.

SHEET TITLE
GRADING PLAN

CG-101



SURVEY NOTE:

THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY. THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON A LEASE-BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 111184, DATED 7-17-2014 (2013.185.7). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 111184, DATED 7-17-2014 (2013.185.7).

RECORD DRAWING
FOR CERTIFICATION, SEE SHEET C-001

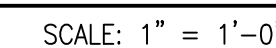
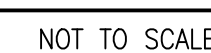
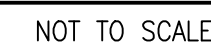
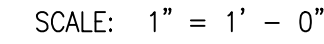
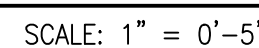
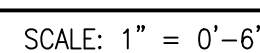
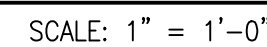
RECORD DRAWING LEGEND

CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
38" 42"	RECORD INFORMATION FROM AS-BUILT SURVEY
+25.2	RECORD INFORMATION FROM AS-BUILT SURVEY
28.98' 42"	RECORD INFORMATION FROM AS-BUILT SURVEY

SUBSURFACE UTILITY LOCATION REPORT

POT HOLE	SURFACE ELEVATION	PAVEMENT THICKNESS	TYPE	UTILITY MATERIAL	DIAMETER	ONPOINT DEPTH TO TOP OF PIPE	TOP OF UTILITY LINE ELEVATION
1	5157.65'	N/A	SAS	CL	4"	18"	5156.15'
2	5159.18'	N/A	SAS	VCP	6"	36"	5156.18'
3	5159.43'	N/A	SAS	VCP	6"	41"	5156.01'

2016.183.9
2014.027.1



RECORD DRAWING
FOR CERTIFICATION, SEE SHEET C-001



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: _____ **Building Permit #:** _____ **City Drainage #:** _____

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

Legal Description: _____

City Address: _____

Engineering Firm: _____ **Contact:** _____

Address: _____

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

Owner: _____ **Contact:** _____

Address: _____

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

Architect: _____ **Contact:** _____

Address: _____

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

Other Contact: _____ **Contact:** _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
- ☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERMANENT)
- ☐ 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
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
- ☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☐ No

DATE SUBMITTED: _____ **By:** _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____