DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED WITHIN THE NORTHWEST MESA OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN 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 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

II. PROJECT DESCRIPTION

THE SCHOOL SITE IS LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF FORTUNA ROAD NW AND 64TH 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 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 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

THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS AND ACTIVITIES:

1. 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.
2. PREDESIGN CONFERENCE RECAPS DATED 02-13-2014 AND 9-10-2014 CONDUCTED WITH HIGH MESA CONSULTING GROUP. THE RECAPS 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 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 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 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.
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 748982, 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.

1. 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.

IV. EXISTING CONDITIONS

THIS SITE IS DEVELOPED AS A HIGH SCHOOL OPERATED AND MAINTAINED BY THE ALBUQUERQUE PUBLIC SCHOOLS (APS). THE SCHOOL SITE 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 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 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 NEIGHBORING PROPERTIES.

V. DEVELOPED CONDITIONS

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 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. 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.

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.

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 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 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 QUALITY FEATURE ON THE AMAFCA MAINTENANCE MAPS.

VI. GRADING PLAN (SHEET CG-102)

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.

VII. CALCULATIONS

CALCULATIONS SHOWN HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE 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-YEAR PEAK DISCHARGE ATTRIBUTABLE TO THIS PROJECT.

VIII. CONCLUSIONS

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 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 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.

CALCULATIONS

I. SITE CHARACTERISTICS

A. PRECIPITATION ZONE = 1

B. $P_{6,100} = P_{360} =$ 2.20

C. TOTAL PROJECT AREA (A_T) = 142,880 SF = 3.28 AC

D. LAND TREATMENTS

1. BASIN A

TOTAL BASIN AREA (A_T)= 101,310 SF

EXISTING LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B	9,900 / 0.23	9.8
C	7,000 / 0.16	6.9
D	84,410 / 1.94	83.3
		100

2. BASIN B

TOTAL BASIN AREA (A_T)= 41,570 SF

EXISTING LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B	5,120 / 0.12	12.3
C	5,080 / 0.12	12.2
D	31,370 / 0.72	75.5
		100

3. BASIN A-1

TOTAL BASIN AREA (A_T)= 72,030 SF

DEVELOPED LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B	11,770 / 0.27	16.3
C	11,140 / 0.26	15.5
D	49,120 / 1.13	68.2
		100

4. BASIN A-2

TOTAL BASIN AREA (A_T)= 21,680 SF

DEVELOPED LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B		
C	580 / 0.01	2.7
D	21,100 / 0.48	97.3
		100

5. BASIN A-3

TOTAL BASIN AREA (A_T)= 25,950 SF

DEVELOPED LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B	370 / 0.01	1.4
C		
D	25,580 / 0.59	98.6
		100

6. BASIN B

TOTAL BASIN AREA (A_T)= 23,220 SF

DEVELOPED LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B	840 / 0.02	3.6
C	3,560 / 0.08	15.3
D	18,820 / 0.43	81.1
		100

II. HYDROLOGY

A. EXISTING CONDITIONS

1. BASIN 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) + (0.23*0.67) + (0.16*0.99) + (1.49*1.97))/1.88 = 1.73 IN

$V_{100} = (E_W/12)A_T$ = (1.73/12)1.88 = 0.271 AC-FT = 11,810 CF

b. PEAK DISCHARGE

$Q_P = Q_{DA}A_A + Q_{DB}A_B + Q_{DC}A_C + Q_{DD}A_D$

$Q_P = Q_{100}$ = ((0.00*1.29) + (0.23*2.03) + (0.16*2.87) + (1.49*4.37)) = 7.4 CFS

2. BASIN B

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) + (0.12*0.67) + (0.12*0.99) + (0.72*1.97))/0.96 = 1.69 IN

$V_{100} = (E_W/12)A_T$ = (1.69/12)0.96 = 0.1352 AC-FT = 5,890 CF

b. PEAK DISCHARGE

$Q_P = Q_{DA}A_A + Q_{DB}A_B + Q_{DC}A_C + Q_{DD}A_D$

$Q_P = Q_{100}$ = ((0.00*1.29) + (0.12*2.03) + (0.12*2.87) + (0.72*4.37)) = 3.7 CFS

B. DEVELOPED CONDITIONS

1. BASIN A-1

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) + (0.27*0.67) + (0.26*0.99) + (0.68*1.97))/1.21 = 1.47 IN

$V_{100} = (E_W/12)A_T$ = (1.47/12)1.21 = 0.1482 AC-FT = 6,460 CF

b. PEAK DISCHARGE

$Q_P = Q_{DA}A_A + Q_{DB}A_B + Q_{DC}A_C + Q_{DD}A_D$

$Q_P = Q_{100}$ = ((0.00*1.29) + (0.27*2.03) + (0.26*2.87) + (0.68*4.37)) = 4.3 CFS

2. BASIN A-2

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 = 1.95 IN

$V_{100} = (E_W/12)A_T$ = (1.95/12)0.49 = 0.0796 AC-FT = 3,470 CF

b. PEAK DISCHARGE

$Q_P = Q_{DA}A_A + Q_{DB}A_B + Q_{DC}A_C + Q_{DD}A_D$

$Q_P = Q_{100}$ = ((0.00*1.29) + (0.00*2.03) + (0.01*2.87) + (0.48*4.37)) = 2.1 CFS

3. BASIN A-3

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) + (0.01*0.67) + (0.00*0.99) + (0.59*1.97))/0.60 = 1.95 IN

$V_{100} = (E_W/12)A_T$ = (1.95/12)0.60 = 0.0975 AC-FT = 4,250 CF

b. PEAK DISCHARGE

$Q_P = Q_{DA}A_A + Q_{DB}A_B + Q_{DC}A_C + Q_{DD}A_D$

$Q_P = Q_{100}$ = ((0.00*1.29) + (0.01*2.03) + (0.00*2.87) + (0.59*4.37)) = 2.6 CFS

4. BASIN B

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) + (0.02*0.67) + (0.08*0.99) + (0.43*1.97))/0.53 = 1.77 IN

$V_{100} = (E_W/12)A_T$ = (1.77/12)0.53 = 0.0782 AC-FT = 3,410 CF

b. PEAK DISCHARGE

$Q_P = Q_{DA}A_A + Q_{DB}A_B + Q_{DC}A_C + Q_{DD}A_D$

$Q_P = Q_{100}$ = ((0.00*1.29) + (0.02*2.03) + (0.08*2.87) + (0.43*4.37)) = 2.1 CFS

C. COMPARISON

1. BASIN A

a. VOLUME

ΔV_{100} = 14,180 - 11,810 = 2,370 CF (INCREASE)

b. PEAK DISCHARGE

ΔQ_{100} = 9.0 - 7.4= 1.6 CFS (INCREASE)

2. BASIN B

a. VOLUME

ΔV_{100} = 3,410 - 5,890 = -2,480 CF (DECREASE)

b. PEAK DISCHARGE

ΔQ_{100} = 2.1 - 3.7 = -1.6 CFS (DECREASE)

3. TOTAL SITE

a. VOLUME

ΔV_{100} = 17,590 - 17,700 = -110 CF (DECREASE)

b. PEAK DISCHARGE

ΔQ_{100} = 11.1 - 11.1 = 0 CFS (NO CHANGE)

6 RECORD DRAWING

LEGEND

ADO	AUTOMATIC DOOR OPENER	PS	PAINTED PARKING STRIPE
AR	ASPHALT RAMP	RRT	LANDSCAPING RAILROAD TIES
BLDG	BUILDING	SAS	SANITARY SEWER
BOH	BUILDING OVERHANG	SAT	SATELLITE DISH
BW	BARBED WIRE	SD	STORM DRAIN
C&G	CURB & GUTTER	SDI	STORM DRAIN INLET
C	COMMUNICATIONS LINE	SGP	STEEL GUARD POST
C/PM	COMMUNICATIONS LINE BY PAINT MARK	SP	STEEL POLE
CAM	CAMERA	SPD	SPEED BUMP
CBC	CONCRETE BUILDING COLUMN	SW	SIDEWALK
CC	COMMUNICATIONS CONDUIT	TA	TOP OF ASPHALT
CDP	CONCRETE DRIVE PAD	TC	TOP OF CURB
CGP	CONCRETE GUARD POST	TG	TOP OF GRATE
CMH	COMMUNICATIONS MANHOLE	TRN	ELECTRIC TRANSFORMER
CHC	CONCRETE HEADER CURB	TS	TRAFFIC SIGN
CLD	CENTERLINE DOOR	TYP	TYPICAL
CLDD	CENTERLINE DOUBLE DOOR	TV/PM	CABLE TELEVISION BY PAINT MARK
CLM	COMMUNICATIONS LINE MARKER	TVR	CABLE TELEVISION RISER
CL	CONCRETE LANDING	UNK	UNKNOWN
CMP	COMMUNICATIONS PANEL	W/	WITH
CMU	CONCRETE MASONRY UNIT WALL	W/PM	WATER LINE BY PAINT MARK
CO	SANITARY SEWER CLEANOUT	WCR	CONCRETE WHEELCHAIR RAMP
CONC	CONCRETE	WHB	WATER HOT BOX
CPB	COMMUNICATIONS PULLBOX	WMB	WATER METER BOX
CR	CONCRETE RAMP	WPP	WOOD POWER POLE
CRD	CONCRETE RUNDOWN	WV	WATER VAULT
CS	CONCRETE STEPS	WVB	WATER VALVE BOX
CSP	CONCRETE SPLASH PAD	XW	PAINTED CROSS WALK
CSW	CONCRETE SIDEWALK	0.5'ø	TREE TRUNK DIAMETER
CTC	CONCRETE TRASH CAN		
DBL	DOUBLE		
DCO	DOUBLE SANITARY SEWER CLEANOUT		DECIDUOUS TREE
E/PM	ELECTRIC LINE BY PAINT MARK		
EA	EDGE OF ASPHALT		SMALL DECIDUOUS TREE
EC	ELECTRIC CONDUIT		
EO	ELECTRIC OUTLET		
EP	ELECTRIC PANEL		CONIFEROUS TREE
EPB	ELECTRIC PULLBOX		
FH	FIRE HYDRANT		
FL	FLOWLINE		SMALL CONIFEROUS TREE
FLC	FIRE LINE CONNECTION		
FNT	FOUNTAIN		SMALL SHRUB
FP	FLAG POLE		BOULDER
FRD	FROM RECORD DRAWING		
G/PM	GAS LINE BY PAINT MARK		PAINTED UTILITY MARKER
G	GAS LINE		STUMP
GRV	GRAVEL	INV	INVERT
GS	GAS SERVICE	TA	TOP OF ASPHALT PAVEMENT
HCS	HANDICAPPED PARKING SIGN	TC	TOP OF CURB
ICB	IRRIGATION CONTROL BOX	TG	TOP OF GRATE
INV	INVERT	+ 20.05	EXISTING SPOT ELEVATION
IVB	IRRIGATION VALVE BOX	5105	EXISTING CONTOUR
MBC	METAL BUILDING COLUMN		EXISTING DIRECTION OF FLOW
MC/B	METER CAN WITH BIB VALVE		EXISTING STORM DRAIN MH
MC/V	METER CAN WITH VALVE		EXISTING FIRE HYDRANT
MH	MANHOLE		EXISTING SAS MANHOLE
MHR	METAL HAND RAIL		EXISTING VALVE BOX
MR	METAL RAMP		EXISTING DOUBLE CLEANOUT
MTS	METAL SIGN		EXISTING SINGLE CLEANOUT
OHC(1)	OVERHEAD COMMUNICATIONS (# OF LINES)		EXISTING WATER SERVICE
OHE(3)	OVERHEAD ELECTRIC (# OF LINES)		EXISTING WATER LINE
		SAS	EXISTING SANITARY SEWER
PI	PAINTED PARKING LOT ISLAND	F P	EXISTING FIRE LINE
PIV	POST INDICATOR VALVE		EXISTING P.I.V.
14.00	PROPOSED SPOT ELEVATION		SANITARY SEWER MANHOLE
	EXISTING FLOWLINE		PROPOSED VALVE BOX
	PROPOSED FLOWLINE		PROPOSED DOUBLE CLEANOUT
05	PROPOSED CONTOUR		PROPOSED SINGLE CLEANOUT
	PROPOSED DIRECTION OF FLOW		PROPOSED WATER SERVICE
	RIGHT OF WAY LINE	W	PROPOSED WATER LINE
	PUBLIC EASEMENT LINE	SAS	PROPOSED SANITARY SEWER
	HIGH POINT / DIVIDE	F P	PROPOSED FIRE LINE
	PROPOSED STORM INLET		PROPOSED P.I.V.
	PROPOSED STORM DRAIN MANHOLE	SD	PROPOSED STORM DRAIN
	PROPOSED FIRE HYDRANT		PROPOSED CONCRETE
	FIRE DEPARTMENT CONNECTION		PROPOSED CRUSHER FINES / LANDSCAPED AREA
	HIGH POINT/WATER BLOCK		DRAINAGE BASIN
			PHASE LINE

ENGINEER'S FINAL DRAINAGE CERTIFICATION

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 10-31-2013. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS OBTAINED 6-24-2014 AND 5/12/16 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 BELIEF.

THIS CERTIFICATION IS SUBMITTED TO SATISFY CONDITIONS OF APPROVAL FOR BUILDING PERMIT AND TO DOCUMENT COMPLETION OF THE IMPROVEMENTS FOR THE OWNER. THE CAFETERIA WAS PREVIOUSLY CERTIFIED IN JULY OF 2015 AT WHICH TIME A TEMPORARY CO WAS RECOMMENDED FOR THE KINDERGARTEN BUILDING DUE TO REQUIRED CORRCTIONS. THIS SUBMITTAL NO RECOMMENDS PERMANENT CERTIFICATE OF OCCUPANCY FOR THE KINDERGARTEN ADDITION.

AS IDENTIFIED BY THE PREVIOUS SUBMITTAL, THERE WAS AN AREA OF ASPHALT PAVEMENT THAT REQUIRED REMOVAL AND REPLACEMENT. THIS WORK HAS BEEN DONE AND IS DOCUMENTED ON REVISED SHEET C-301-K. ADDITIONALLY, THE APRONS AROUND THE BUILDING HAVE BEEN REMOVED AND REPLACED AT THE REQUEST OF THE ARCHITECT. THE AS-CONSTRUCTED CONDITION IS ALSO DOCUMENTED ON SHEET C-301-K.

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, NMPE 13676

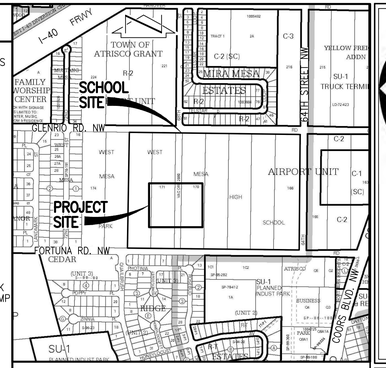
07/22/2016
DATE

J. GRAEME MEANS NEW MEXICO 13676 REGISTERED PROFESSIONAL ENGINEER

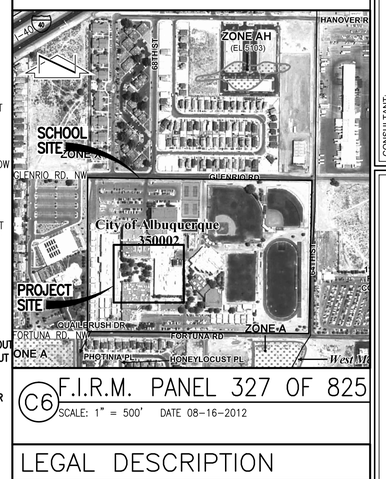
INDEX OF DRAWINGS

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

2015.184.9
~~2014.006.1~~



D6 VICINITY MAP J-10
SCALE: 1" = 750'



C6 F.I.R.M. PANEL 327 OF 825
SCALE: 1" = 500' DATE 08-16-2012

LEGAL DESCRIPTION

TRACTS 166 THROUGH 172, INCLUSIVE, TOWN OF ATRISCO GRANT, AIRPORT UNIT, ALBUQUERQUE, NEW MEXICO

BENCHMARKS

PROJECT BENCHMARK

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

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

A REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184" LOCATED ON THE NORTH SIDE OF GLENRIO RD NW, NOT SHOWN.
ELEVATION = 5106.54 FEET (NAVD 1988)

TEMPORARY BENCHMARK #2 (T.B.M.)

A REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184" LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF GLENRIO RD NW AND 64TH ST, NOT SHOWN.
ELEVATION = 5101.81 FEET (NAVD 1988)

TEMPORARY BENCHMARK #3 (T.B.M.)

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.)

A 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)

MAHLMAN ARCHITECTURE STUDIO
206 BROADWAY BLVD. S.E.
ALBUQUERQUE, NM 87102
505.243.0101 fax 505.243.1334
WWW.MAHLMANSTUDIO.COM

J. GRAEME MEANS NEW MEXICO 13676 REGISTERED PROFESSIONAL ENGINEER
04-13-2015
07-21-2016

CONSULTANT:
HIGH MESA Consulting Group
6010 B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: (505) 345-4250 FAX: (505) 345-4254
www.highmesacg.com

WEST MESA HIGH SCHOOL
NEW CLASSROOM BUILDING
6701 FORTUNA RD. NW
ALBUQUERQUE, NM 87121
ALBUQUERQUE PUBLIC SCHOOLS

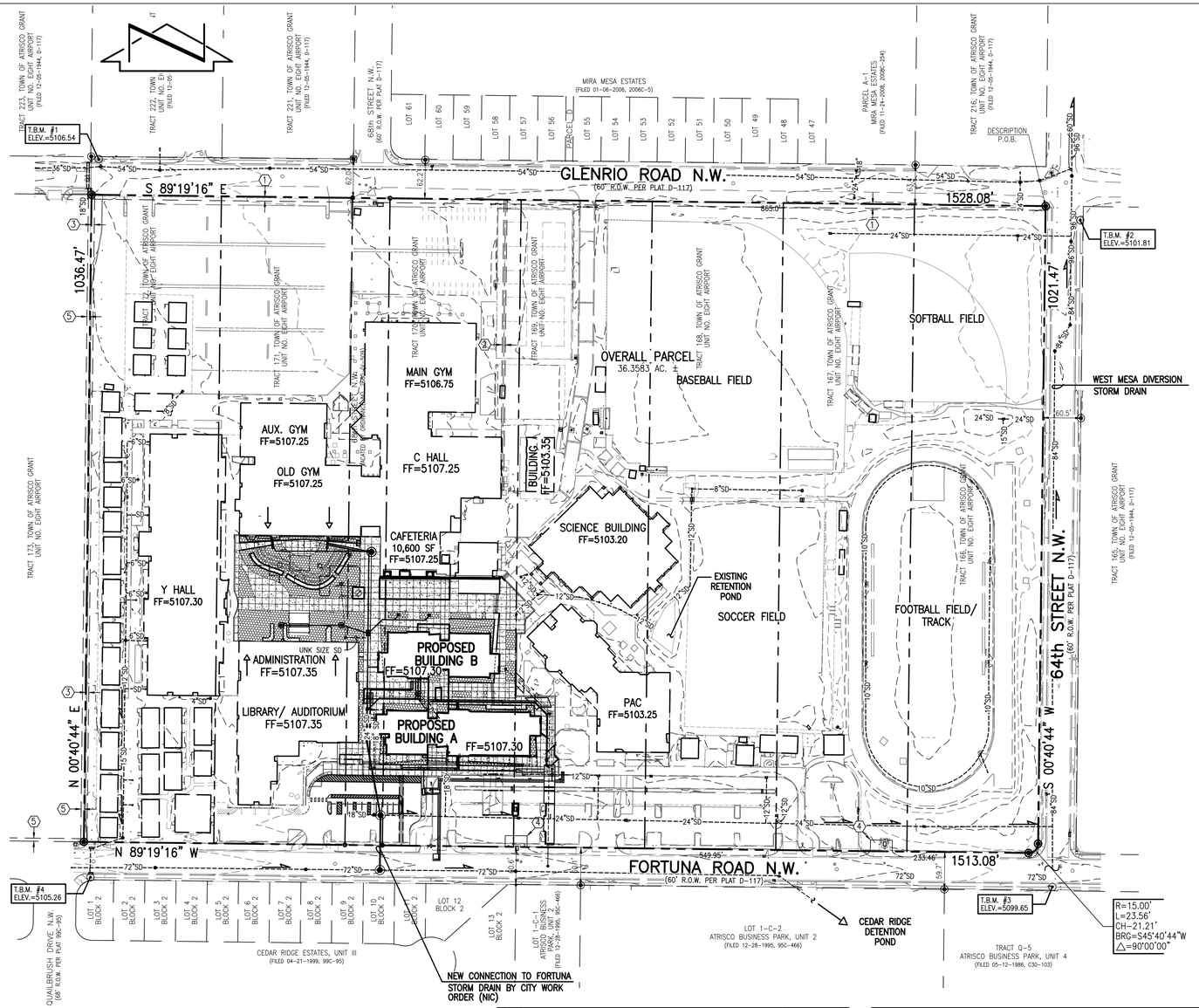
MARK	MMDDYY	DESCRIPTION
6	07/16	RECORD DRAWING AND CERTIFICATION PHASE I
5	N/A	NO CHANGE

PROJECT NO: WMHS
FILE NAME:
DRAWN BY: J.Y.R./S.C.C.
CHECKED BY: G.M.
COPYRIGHT:
DATE: 03-2015

SHEET TITLE:
DRAINAGE PLAN & CALCULATIONS

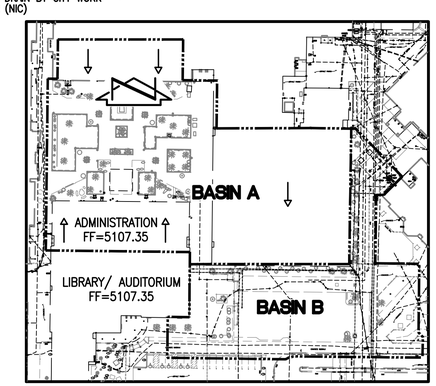
CG-001

File Path: P:\DWA\2015 #'s\2015.184.9\DWL | Plot Date: 07-21-2016
File Name: 151849_CG-001_REC.DWG | Plot Time: 09:35 am



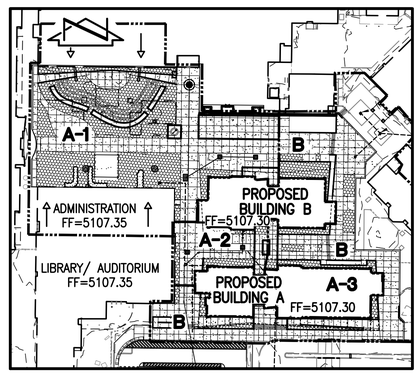
B1 OVERALL DRAINAGE SITE PLAN

SCALE: 1" = 100'



A2 EXISTING BASIN PLAN

SCALE: 1" = 100'



A3 PROPOSED BASIN PLAN

SCALE: 1" = 100'

NOTE:
THIS IS NOT A BOUNDARY SURVEY; APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. THE BOUNDARY AND TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE BOUNDARY, TOPOGRAPHIC AND UTILITY SURVEYS PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 11184, DATED 03/28/2014 (2013.180.3).

File Path: P:\DATA\2015 JOBS\2015.184.9\DWG\ | Plot Date: 07-21-2016
File Name: 151849_CG-101_REC.DWG | Plot Time: 4:34 pm

BENCHMARKS

PROJECT BENCHMARK

AN A.G.R.S. BRASS DISK STAMPED "18–J11", SET FLUSH IN THE SIDEWALK. LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF COORS ROAD AND GLENRIO ROAD. ELEVATION = 5099.609 FEET (NAVD 1988)

LEGAL DESCRIPTION

TRACTS 166 THROUGH 172, INCLUSIVE, TOWN OF ATRISCO GRANT, AIRPORT UNIT, ALBUQUERQUE, NEW MEXICO.

EXISTING EASEMENTS

1. 7' PNM AND MST&T EASEMENT GRANTED BY DOCUMENT EXECUTED 09–08–1965
2. 5' PNM AND MST&T EASEMENT GRANTED BY DOCUMENT EXECUTED 09–08–1965
3. 5' PNM AND MST&T EASEMENT GRANTED BY DOCUMENT EXECUTED 04–07–1969
4. ABCWUA PUBLIC WATER LINE EASEMENT FOR WATER METERS GRANTED BY DOCUMENT FILED 07–20–2010, DOC. #2010072287
5. 5' PNM AND MST&T EASEMENT DEPICTED BY DOCUMENT EXECUTED 04–07–1969

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (NM 811) FOR DESIGNATION (LINE–SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING PRIVATE UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
2. 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.
3. 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.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT–OF–WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. 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, 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.
6. 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.
7. REFER TO SHEETS A–001 AND A–002 FOR DEMOLITION PLANS.
8. REFER TO SHEETS A–101 TO A–107 FOR SITE PLAN AND LAYOUT.

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT–OF–WAY OR ONTO PRIVATE PROPERTY.
2. 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.
3. CONTRACTOR SHALL, ON BEHALF OF THEMSELVES AND THE OWNER, SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

GENERAL NOTES:

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – 1987, PUBLISHED BY THE NEW MEXICO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION. (REVISED 12/06)
2. 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.
3. 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, 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.
4. 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.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
6. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
7. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT–OF–WAY OR ONTO PRIVATE PROPERTY.
8. 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.
9. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO ENSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE ENGINEER AND SHALL NOTIFY THE ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE ENGINEER. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED.
10. ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, LATEST EDITION.
11. IF THE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK, AND/OR PAVING IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. WHEN ABUTTING NEW PAVEMENT TO EXISTING, THE CONTRACTOR SHALL CUT BACK THE EXISTING PAVING TO A STRAIGHT LINE IN ORDER TO REMOVE ANY BROKEN OR CRACKED PAVEMENT. CURB AND GUTTER AND/OR PAVEMENT SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT AND WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
12. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL (CONTAMINATED OR OTHERWISE), ASPHALTIC PAVING, CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
13. A BORROW SITE FOR IMPORT MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A BORROW SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY OBTAINING THE REQUIRED COMPACTION. THE CONTRACTOR SHALL SELECT AND USE METHODS WHICH SHALL NOT BE INJURIOUS OR DAMAGING TO THE EXISTING FACILITIES AND STRUCTURES WHICH SURROUND THE WORK AREAS.
15. THE CONTRACTOR SHALL CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS IN ORDER TO PRESERVE THE EXISTING IMPROVEMENTS AND SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE EXISTING FACILITIES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND/OR INSTALL PIPE SO AS TO NOT EXCEED RIGHT–OF–WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES OR IMPROVEMENTS. THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
18. ALL DIMENSIONS AND RADII OF CURB, CURB RETURNS, AND WALLS ARE SHOWN TO THE FACE OF CURB AND/OR WALL.
19. THE CONTRACTOR SHALL NOTIFY THE OWNER 48 HOURS PRIOR TO STRIPING SO THAT LAYOUT CAN BE VERIFIED.
20. 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.
21. CONTRACTOR SHALL SECURE, ON BEHALF OF THE OWNER AND OPERATORS, "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
22. ALL FILL SHALL BE CLEAN, FREE FROM VEGETATION, DEBRIS, AND OTHER DELETERIOUS MATERIALS, AND SHALL NOT BE CONTAMINATED WITH HYDROCARBONS OR OTHER CHEMICAL CONTAMINANTS.
23. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 95% ASTM D–1557 UNLESS A GREATER COMPACTION REQUIREMENT IS OTHERWISE SPECIFIED.
24. CAUTION: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED–OUT IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P–EXCAVATIONS.

RECORD DRAWING

2015.184.9
~~2014.006.1~~

MAHLMAN STUDIO ARCHITECTURE
206 BROADWAY BLVD. S.E.
ALBUQUERQUE, NEW MEXICO 87102
505.243.0101 fax 505.243.1334
WWW.MAHLMANSTUDIO.COM

CONSULTANT:
HIGH MESA Consulting Group
6010 B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: (505) 345-4250 FAX: (505) 345-4254
www.highmesacg.com

JEFFREY GRAEME MEANS
NEW MEXICO
13676
REGISTERED PROFESSIONAL ENGINEER
04-13-2015
07-21-2016

WEST MESA HIGH SCHOOL
NEW CLASSROOM BUILDING
6701 FORTUNA RD. NW
ALBUQUERQUE, NM 87121
ALBUQUERQUE PUBLIC SCHOOLS

MARK	MM/DD/YY	DESCRIPTION
6	07/16	RECORD DRAWINGS AND CERTIFICATION PHASE I

PROJECT NO: WMHS
FILE NAME:
DRAWN BY: J.Y.R./S.C.C.
CHECKED BY: G.M.
COPYRIGHT:
DATE: 03-2015

SHEET TITLE:
OVERALL DRAINAGE SITE 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 BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 03/28/2014 (2013.180.3). THIS IS NOT A TOPOGRAPHIC SURVEY. THE TOPOGRAPHIC AND UTILITY INFORMATION DEPICTED HEREON IS BASED UPON THE TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 11184, DATED 03/28/2014 (2013.180.3).

NOTES:

1. REFER TO SHEET C-001 FOR LEGEND AND CONSTRUCTION NOTES.
2. REFER TO SHEETS A-001 AND A-002 FOR DEMOLITION PLANS.
3. REFER TO SHEETS A-101 TO A-107 FOR SITE PLAN AND LAYOUT.
4. GRADES SHOWN ARE FINISHED GRADE. LANDSCAPE AREAS SHALL BE LEFT 4" BELOW DESIGN GRADE FOR SUBSEQUENT INSTALLATION BY SEPARATE PROJECT (NIC).

SCALE: 1" = 20'

20 0 40

10 20

SUBSURFACE UTILITY LOCATION REPORT

POTHOLE PH#	SURFACE ELEVATION	PAVEMENT THICKNESS	UTILITY TYPE	UTILITY MATERIAL	UTILITY DIAMETER	ONPOINT DEPTH TO TOP OF PIPE	ONPOINT DEPTH TO BOTTOM OF PIPE	TOP OF UTILITY LINE ELEVATION
1	5106.43'	N/A	SANITARY SEWER	CI	4"	47"	___	5102.2±
2	5106.44'	N/A	WATER	CI	4"	38"	___	5103.3±
3	5102.70'	N/A	SANITARY SEWER	CI	4"	50"	___	5098.2±
4	5103.36'	N/A	SANITARY SEWER	AC	8"	67"	___	5097.1±
5	5102.86'	N/A	SANITARY SEWER	AC	4"	42"	___	5099.0±

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
⊕ 28,96:42	RECORD INFORMATION FROM AS-BUILT SURVEY

PHASE I CERTIFICATION

PHASE LINE

RECORD DRAWING
FOR CERTIFICATION, SEE SHEET CG-001

MARTINMAN STUDIO ARCHITECTURE
206 BROADWAY BLVD. S.E.
ALBUQUERQUE, NM 87102
505.243.1011 fax 505.243.1334
WWW.MARTINMANSTUDIO.COM

CONSULTANT:
HIGH MESA Consulting Group
6010 B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 FAX: 505.345.4254
www.highmesacg.com

JAMES GRAEME MEANS NEW MEXICO (13676) PROFESSIONAL ENGINEER REGISTERED

06-06-2016
07-21-2016

WEST MESA HIGH SCHOOL
NEW CLASSROOM BUILDING

6701 FORTUNA RD. NW
ALBUQUERQUE, NM 87121

ALBUQUERQUE PUBLIC SCHOOLS

MARK	MM/DD/YY	DESCRIPTION
6	07/16	RECORD DRAWING AND CERTIFICATION-PHASE I
5	05/16	VARIOUS REVISIONS
4	03/16	ADDED ROOF DRAIN CONNECTION
3	08/27/15	ADDITIONAL RD CONNECTIONS
2	05/14/15	ADDENDUM #2
1	N/A	NO CHANGE

PROJECT NO: WMHS
FILE NAME:
DRAWN BY: J.Y.R./S.C.C.
CHECKED BY: G.M.
COPYRIGHT:
DATE: 03-2015

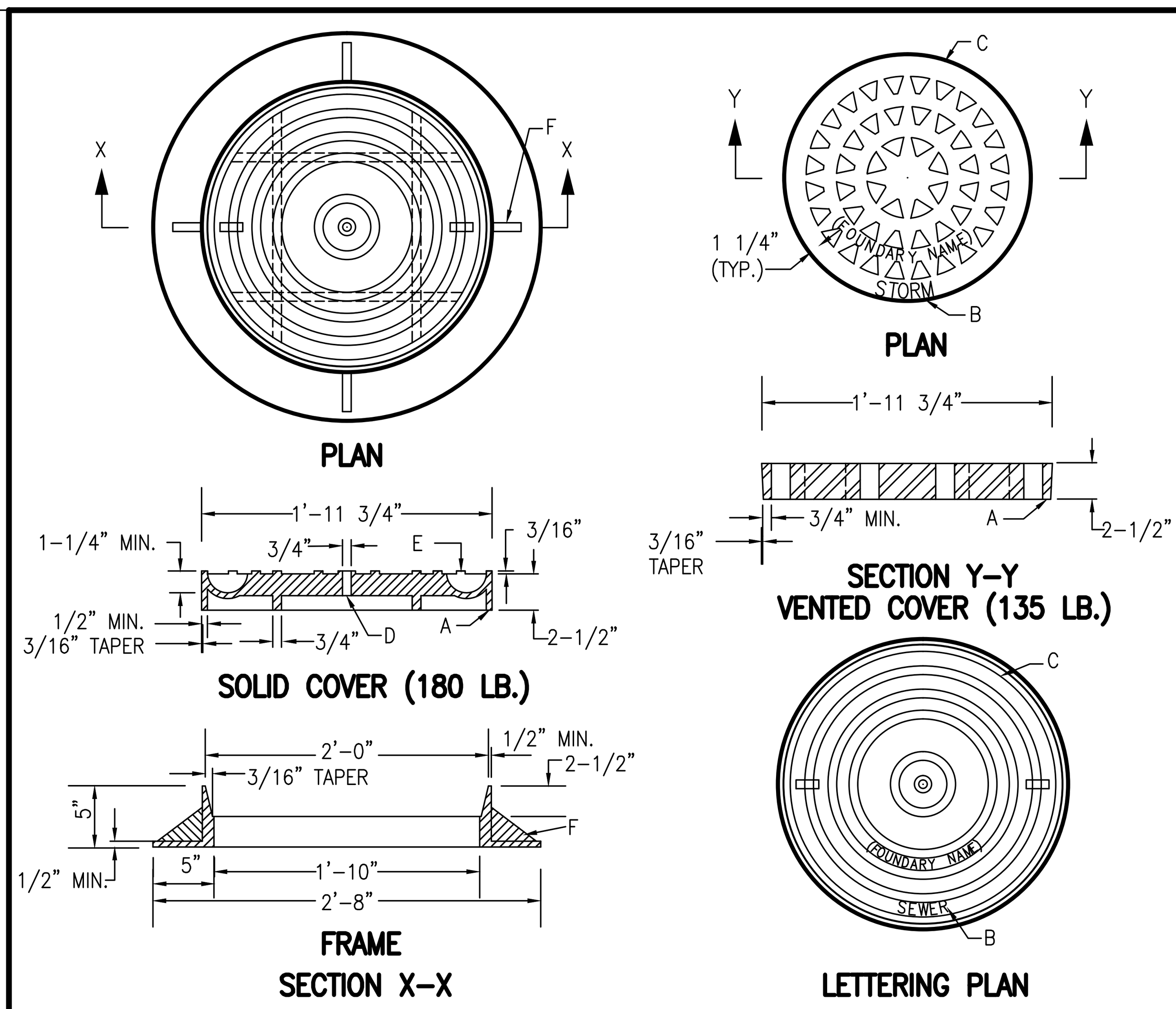
SHEET TITLE:

GRADING PLAN

CG-102

2015.184.9
~~2014.006.1~~

File Path: P:\MMA\2015.#\5\2015.184.9\DWG Plot Date: 07-21-2016
File Name: 151849_CG-102_REC.DWG Plot Time: 10:59 am



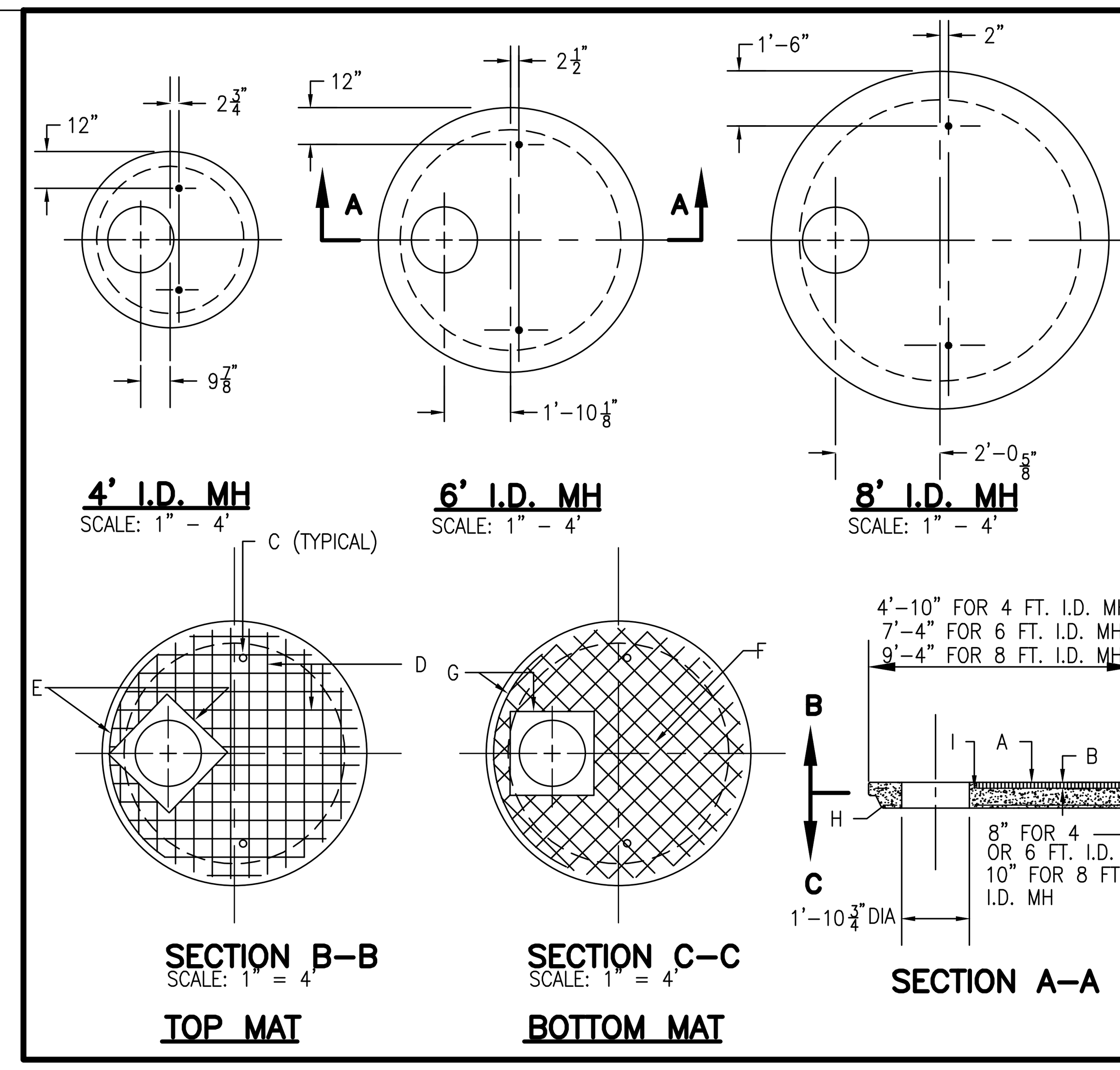
GENERAL NOTES

1. STANDARD CAST IRON M.H. FRAME AND COVER WEIGHTS: COVER = 180 LBS., FRAME = 145 LBS. TOTAL = 325 LBS. (TOLERANCE = ±5%)
2. REFERENCE SPEC. SECTION 130.

CONSTRUCTION NOTES

A. MACHINED OR GROUND BEARING SURFACES.
B. "SEWER", "WATER", OR "STORM", CAST ON COVER TO IDENTIFY SANITARY SEWER, WATER OR STORM DRAINAGE SYSTEMS RESPECTIVELY.
C. LETTER SIZE TO BE 1" MIN. IN HEIGHT, TYPICAL.
D. VENT HOLE REQUIRED.
E. MONOLITHIC CAST IRON OR STEEL ROD INSERTS AT MANUFACTURER'S OPTION. IF INSERT IS PROVIDED IT MUST HAVE 3/16" MIN. COVER AND 3/4" END EMBEDMENT IN CASTING.
F. GUSSETS OPTIONAL IF REQUIRED BY MANUFACTURER.

MANHOLE FRAME AND COVERS
DWG 2110



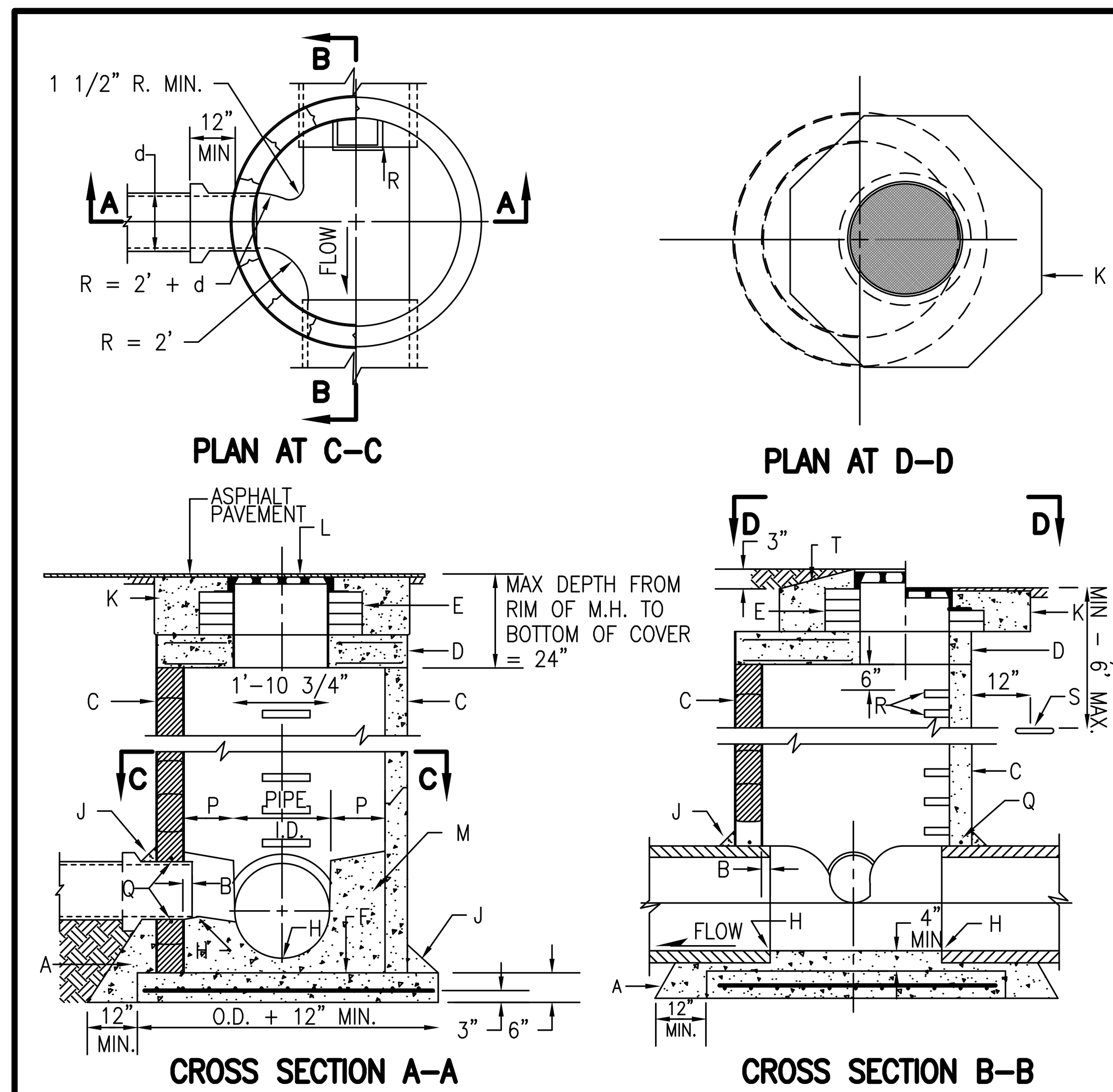
GENERAL NOTES

1. ALL MANHOLES 20' DEEP OR DEEPER WILL REQUIRE A INTERMEDIATE LANDING IN THE MANHOLE BARREL. TYPE "C" MANHOLE COVERS SHALL BE USED AS INTERMEDIATE LANDINGS.
2. INTERMEDIATE LANDINGS SHALL BE LOCATED AT THE MID POINT + OR – 2 FEET OF THE HEIGHT OF THE MANHOLE. AT NO TIME SHALL A INTERMEDIATE LANDING OR A SIZE ADJUSTMENT TOP BE INSTALLED CLOSER THAN 8' UP FROM THE INVERT OF THE MANHOLE.

CONSTRUCTION NOTES

A. PRECAST REINFORCED CONCRETE MANHOLE COVER.
B. ALL BARS TO HAVE 1–1/2" MIN. COVER.
C. 1" PIPE SLEEVE VERTICALLY THROUGH COVER.
D. TOP MAT NO. 4 BARS 6" O.C. EA. WAY FOR 4, 6, AND 8 FT. I.D. MANHOLES.
E. NO. 4 BARS.
F. BOTTOM MAT NO. 4 BARS 6" O.C. EA. WAY FOR 4 AND 6 FT. I.D. MANHOLES, NO. 8 BARS 8" O.C. EA. WAY FOR 8 FT. I.D. MANHOLES.
G. NO. 4 BARS FOR 4 AND 6 FT. I.D. MANHOLES.
H. WHEN PRECAST MANHOLE SECTIONS ARE USED, COVER SHALL BE MODIFIED TO SHAPE OF APPROPRIATE SIZE I AND G JOINT.
I. CONCRETE, SEE SECTION 101.

STORM CONC. MH COVER TYPE "C"
DWG. 2107



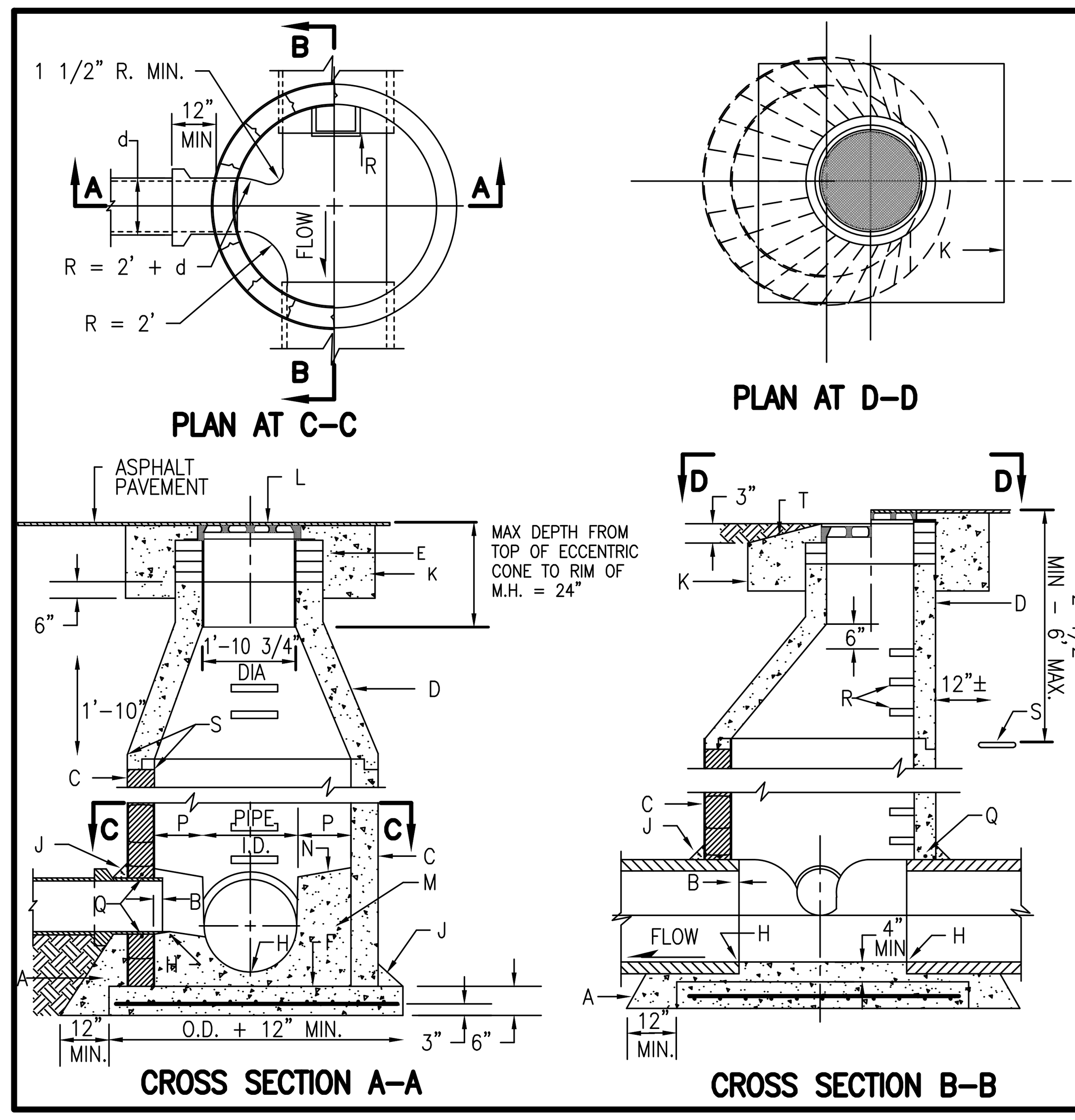
GENERAL NOTES

1. USE TYPE "C" MANHOLE FOR DEPTHS OF LESS THAN 6' MEASURED FROM INVERT TO RIM.
2. CONTRACTOR HAS OPTION TO CONSTRUCT TYPE "C" MANHOLE IN LIEU OF TYPE "E" MANHOLE FOR DEPTHS OF 6' OR MORE.
3. DESIGN APPLIES TO 4' TO 6' I.D. MANHOLES.
4. MANHOLE GREATER THAN 18' IN DEPTH SHALL ONLY BE CONSTRUCTION PRECAST CONCRETE SECTIONS.
5. USE NON–SHRINK GROUT FOR JOINTS, FILLETS AND PENETRATIONS.
6. COMPACT ALL BACKFILL AROUND MANHOLE TO 95%.
7. POSITION MANHOLE OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.

CONSTRUCTION NOTES

A. CONCRETE PIPE SUPPORTS SHALL EXTEND OUTSIDE OF MANHOLE TO BELL OF FIRST JOINT AND SHALL CRADLE PIPE TO SPRING LINE NOT APPLICABLE FLEXIBLE PIPE.
B. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRINGLINE OF PIPE.
C. MANHOLE MAY BE CONSTRUCTED OF POURED CONCRETE OR PRECAST REINFORCED CONCRETE (5" MIN. WALL THICKNESS FOR 4' DIA., 7" MIN WALL THICKNESS FOR 6' DIA.).
D. PRECAST CONCRETE COVER, SEE DWG. 2107.
E. USE MAX., 4 COURSES GR. MS BRICK ON UNPAVED STREET FOR FUTURE ADJUSTMENT OF MANHOLE FRAME TO PAVEMENT GRADE PLASTER INSIDE WITH 1/2" MORTAR.
F. CONCRETE BASE TO BE POURED IN PLACE USING NO. 4 BARS AT 6" O.C. EA. WAY FOR MANHOLE DEPTH OF 16' OR GREATER. NO. 4 BARS AT 12" O.C. EA. WAY FOR MANHOLE LESS THAN 16' IN DEPTH.
H. INVERT ELEVATION OF STUB OR LATERAL AS SHOWN ON PLANS.
J. 6" GROUT FILLET ON UPPER HALF OF PIPE AND AROUND BASE.
K. USE A 5' X 5' x 6" THICK OCTAGONAL CONCRETE PAD IN A ALL AREAS.
L. FRAME AND COVER, SEE DWG. 2110.
M. CONCRETE, SEE NMAPWA SPEC. SECTION 101.
N. SLOPE 1" PER FT. FROM PIPE CROWN.
P. SHELF TO BE 9" WIDE MIN.
Q. APPROVED WATERSTOP TO BE COMPATIBLE WITH TYPE OF PIPE.
R. STEPS TO BE INSTALLED AS PER NMAPWA SPEC. SECTION 920.
S. EMD (IN UNPAVED AREAS).
T. IN UNPAVED AREAS SET FRAME TO GRADE AND SLOPE OF PAD.

STORM MANHOLE TYPE "C"
DWG. 2101



GENERAL NOTES:

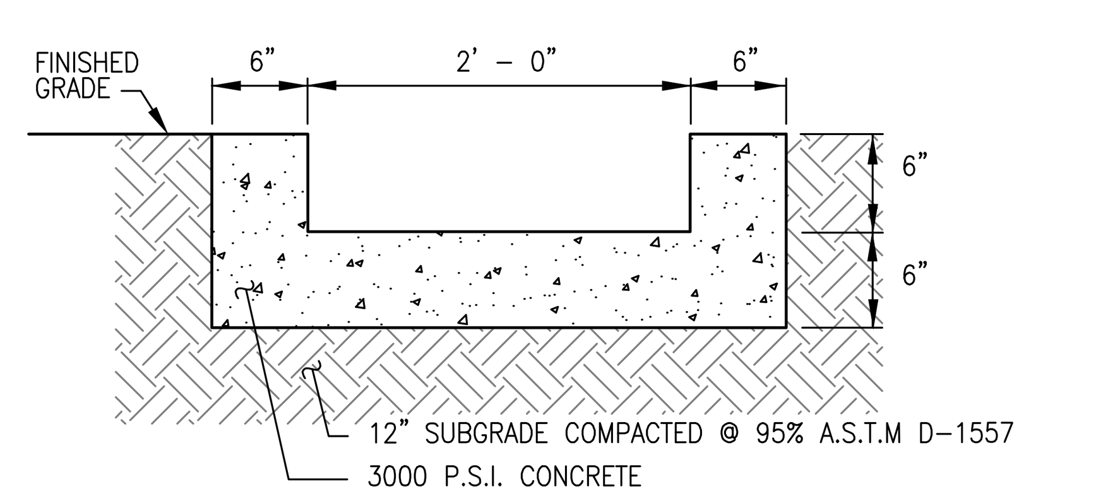
1. TYPE "E" MANHOLE NOT TO BE USED FOR DEPTHS LESS THAN 6' MEASURED FROM INVERT TO RIM.
2. MANHOLE GREATER THAN 18' IN DEPTH SHALL BE OF PRECAST CONCRETE SECTIONS ONLY.
3. DESIGN APPLIES TO 4' TO 6' I.D. MANHOLES.
4. USE NON–SHRINK GROUT FOR JOINTS, FILLETS AND PIPE PENETRATIONS.
5. COMPACT ALL BACKFILL AROUND MANHOLE TO 95%.
6. POSITION MANHOLE OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.

CONSTRUCTION NOTES:

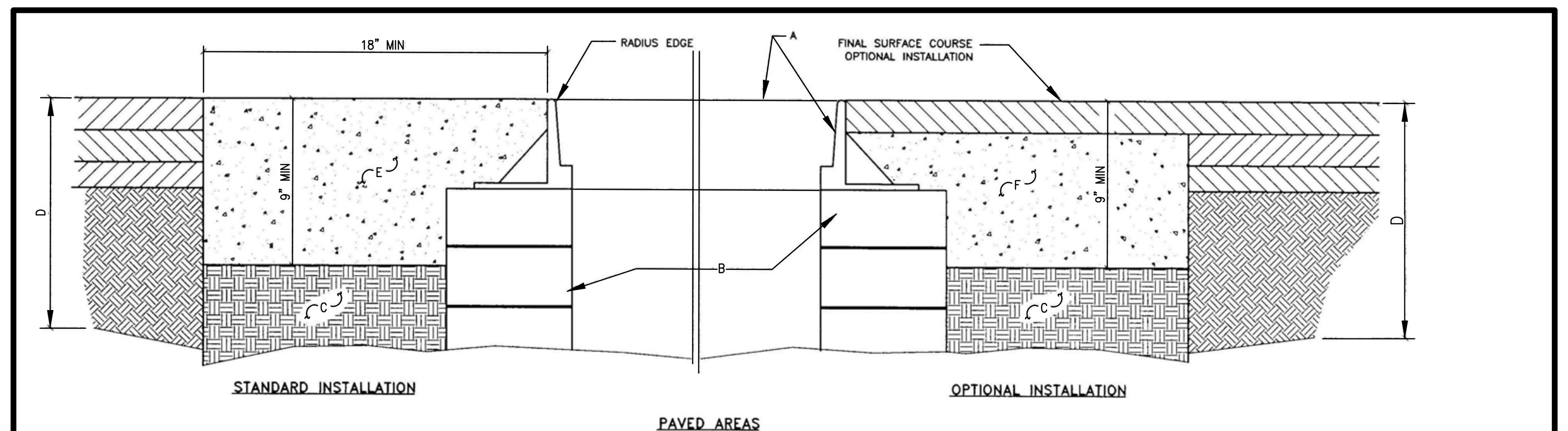
A. CONCRETE PIPE SUPPORTS SHALL EXTEND OUTSIDE OF MANHOLE TO BELL OF FIRST JOINT AND SHALL CRADLE PIPE TO SPRING LINE NOT APPLICABLE FLEXIBLE PIPE.
B. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRINGLINE OF PIPE.
C. MANHOLE MAY BE CONSTRUCTED OF POURED CONCRETE OR PRECAST REINFORCED CONCRETE (5" MIN. WALL THICKNESS FOR 4' DIA., 7" WALL THICKNESS FOR 6' DIA.)
D. PRECAST REINFORCED CONCRETE ECCENTRIC CONE. THE CONTRACTOR SHALL PROVIDE SHOP DWGS. FOR APPROVAL.
E. USE MAX., 4 COURSES GR. MS BRICK ON UNPAVED STREET FOR FUTURE ADJ. OF FRAME TO PAVEMENT GRADE PLASTER INSIDE WITH 1/2" MORTAR.
F. BASE TO BE POURED IN PLACE USING NO. 4 BARS AT 6" O.C. EA. WAY FOR MANHOLE DEPTH OF 16" OR GREATER NO. 4 BARS AT 12" O.C. EA. WAY FOR MANHOLE LESS THAN 16' DEEP.
H. INVERT ELEVATION OF STUB OR LATERAL AS SHOWN ON PLANS.
J. 6" GROUT FILLET ON UPPER HALF OF PIPE AND AROUND BASE.
K. USE A 5' X 5' CONCRETE PAD IN ALL AREAS.
L. MANHOLE FRAME AND COVER, SEE DWG. 2110.
M. CONCRETE, SEE NMAPWA SPEC. SECTION 101.
N. SLOPE 1" PER FT. FROM PIPE CROWN.
P. SHELF TO BE 9" WIDE MIN.
Q. APPROVED WATERSTOP TO BE COMPATIBLE WITH TYPE OF PIPE.
R. STEPS TO BE INSTALLED AS PER NMAPWA SPEC. SECTION 920.
S. EMD (IN UNPAVED AREAS).
T. IN UNPAVED AREAS SET FRAME TO GRADE AND SLOPE OF PAD.

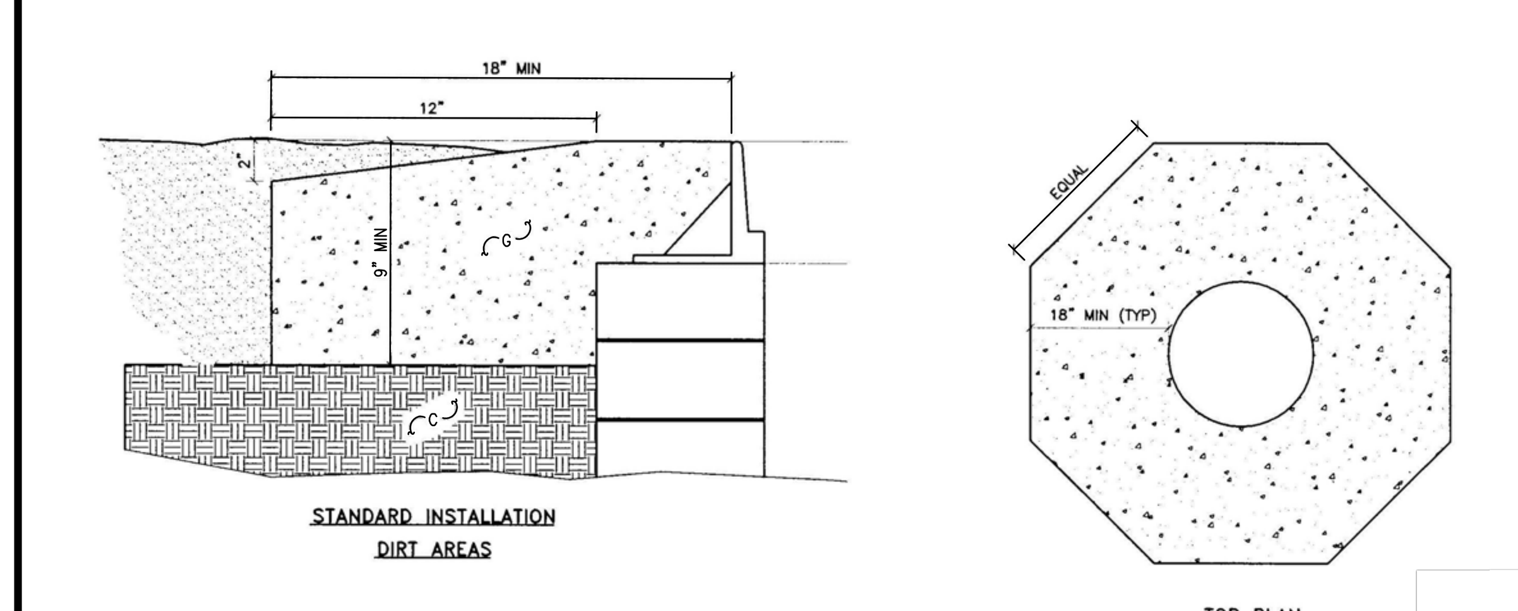
STORM MANHOLE TYPE "E"
DWG. 2102

6 **RECORD DRAWING**



TYPICAL RUNDOWN SECTION
SCALE: 1" = 1'–0"





GENERAL NOTES:

A MANHOLE OR VALVE BOX RING AND COVER PER CITY STANDARDS.
B MANHOLE CONE/EXTENSION OR VALVE PIPE PER STANDARDS. PIPE WITH SMOOTH INTERIOR.
C 12" SUBGRADE, 95% COMPACTION (ASTM).
D PAYING SECTION PER APPROVED DRAWINGS.
E CONCRETE COLLAR IN PAVED AREAS – TYPICAL INSTALLATION.
F CONCRETE COLLAR IN PAVED AREAS WITH ASPHALT CAP. TO BE USED WHEN CALLED FOR ON PLANS OR AS DIRECTED BY THE ENGINEER.
G CONCRETE COLLAR IN DIRT AREAS – SET RING 1" ABOVE GRADE AND SLOPE CONCRETE DOWN AS SHOWN TO 1" BELOW GRADE.
H WATER VALVE INSTALLATIONS SHALL HAVE SURFACE STAMPED WITH LINE INFORMATION PER STANDARD DWG 2326.

MANHOLE VALVE CONCRETE COLLAR DETAIL
DWG. 2461

2015.184.9
~~2014.006.1~~

MAHLMAN STUDIO ARCHITECTURE
206 BROADWAY BLVD. S.E.
ALBUQUERQUE, NM 87102
505.243.0101 fax 505.243.1334
WWW.MAHLMANSTUDIO.COM

CONSULTANT:
HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 FAX: 505.345.4254
www.highmesacg.com

J. GRAEME MEANS, NEW MEXICO, 13676, REGISTERED PROFESSIONAL ENGINEER
04-13-2015
07-21-2016

WEST MESA HIGH SCHOOL NEW CLASSROOM BUILDING
6701 FORTUNA RD. NW
ALBUQUERQUE, NM 87121
ALBUQUERQUE PUBLIC SCHOOLS

MARK	MM/DD/YY	DESCRIPTION
6	07/16	RECORD DRAWING–PHASE I

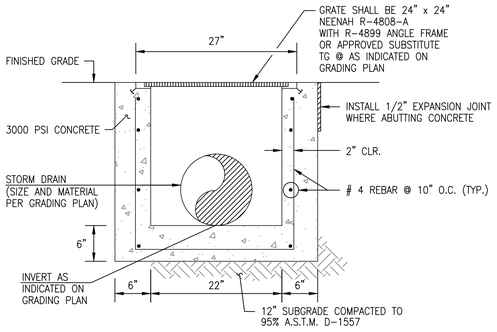
PROJECT NO: WMHS
FILE NAME:
DRAWN BY: J.Y.R./S.C.C.
CHECKED BY: G.M.
COPYRIGHT:
DATE: 03-2015

SHEET TITLE:

GRADING DRAINAGE SECTIONS & DETAILS

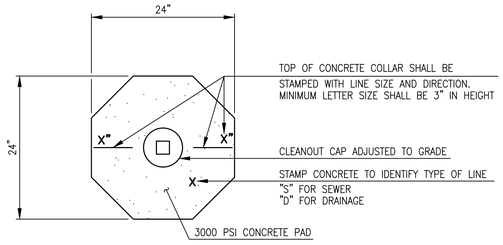
CG-501

File Path: P:\MAV\2015 APS\2015.184.9\DWG\ | Plot Date: 07-21-2016
File Name: 151849_CG-501_REC.DWG | Plot Time: 09:31 am



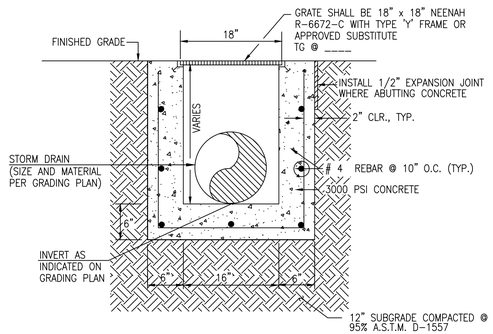
D5 TYPICAL 24"X24" STORM INLET SECTION

SCALE: 1" = 1' - 0"



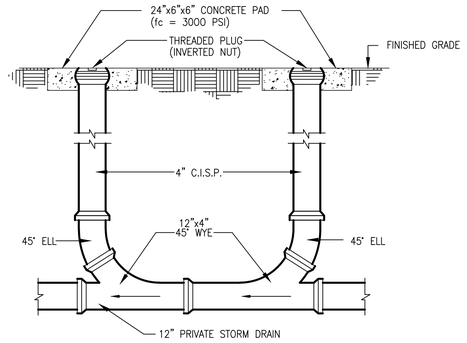
C3 TYPICAL CLEANOUT COLLAR DETAIL

SCALE: 1" = 1'-0"



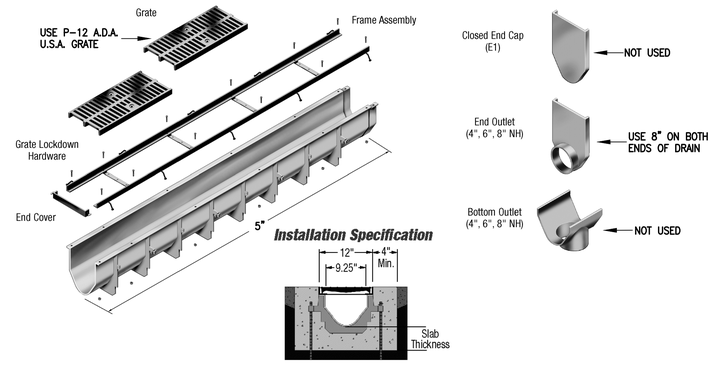
A1 TYPICAL 18"X18" STORM INLET SECTION

SCALE: 1" = 1' - 0"



A3 TYPICAL DOUBLE CLEANOUT SECTION

NOT TO SCALE



A5 TRENCH DRAIN SECTIONS AND DETAILS (ZURN Z-882)

SCALE: 1" = 2'-0"

6 RECORD DRAWING

2015.184.9
~~2014.006.1~~

MAHLMAN STUDIO ARCHITECTURE
206 BROADWAY BLVD. S.E.
ALBUQUERQUE, NM 87102
505.243.0101 fax 505.243.1334
WWW.MAHLMANSTUDIO.COM

CONSULTANT:
HIGH MESA Consulting Group
6010 B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4555 FAX: 505.345.4559
www.highmesacg.com

JEFFREY GRAHAME MEANS NEW MEXICO 13676 PROFESSIONAL ENGINEER REGISTERED
04-13-2015
07-21-2016

WEST MESA HIGH SCHOOL
NEW CLASSROOM BUILDING

6701 FORTUNA RD. NW.
ALBUQUERQUE, NM. 87121

ALBUQUERQUE PUBLIC SCHOOLS

MARK	MM/DD/YY	DESCRIPTION
6	07/16	RECORD DRAWING-PHASE I

PROJECT NO:	WMHS
FILE NAME:	
DRAWN BY:	J.Y.R./S.C.C.
CHECKED BY:	G.M.
COPYRIGHT:	
DATE:	03-2015

SHEET TITLE:

GRADING DRAINAGE SECTIONS & DETAILS

CG-502

File Path:P:\DATA\2015 APS\2015.184.9.DWG | Plot Date: 07-21-2016
File Name:151849_CG-502_REC.DWG | Plot Time: 09:32 am