

CITY OF ALBUQUERQUE



~~April 11, 2016~~
June 6, 2016 AC

Richard J. Berry, Mayor

J. Graeme Means, P.E.
High Mesa Consulting Group
4715 Moon St NE
Albuquerque, NM, 87111

**RE: Hawthorne Elementary School
Parking Lot Improvements
Grading and Drainage Plan
Engineer's Stamp Date 4-27-2016 (File:K20D013A)**

Dear Mr. Means:

Based upon the information provided in your submittal received 4-8-2016, the above referenced Grading and Drainage Plan is approved for Grading Permit and Paving Permit with the condition that the north-westernmost first flush pond includes a sidewalk culvert spillway onto Copper Ave or General Somervell Street. The culvert cannot conflict with the ADA ramp.

PO Box 1293 Please ensure that the SO-19 Notes and the City's Sidewalk Culvert Standard Drawings are in the Construction Documents for the Contractor to adhere to. If there is a question regarding the planning of the culvert, the Contractor can contact Jason Rodriguez, 235-8016.

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

New Mexico 87103

Sincerely,

www.cabq.gov

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Hawthorne Elementary School North Parking Lot Reconstruction Building Permit #: _____ City Drainage #: K20 D013A

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

Legal Description: Hawthorne Elementary School and Park

City Address: 420 General Somervell Str NE, Albuquerque NM 87123

Engineering Firm: High Mesa Consulting Group Contact: Graeme Means #13676

Address: 6010-B Midway Park Blvd NE, Albuquerque NM 87109

Phone#: 505-345-4250 Fax#: 505-345-4254 E-mail: gmeans@highmescg.com

Owner: Albuquerque Public Schools Contact: Annelle Darby

Address: 915 Oak Street SE, Albuquerque NM 87106

Phone#: 505-848-8829 Fax#: _____ E-mail: annelle.darby@aps.edu

Architect: see Engineer 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) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: 04-28-16 By: Justin Schara

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY

☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☒ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☒ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR

☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____



COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

A1 DEMOLITION PLAN
SCALE: 1" = 20'

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 03/07/2006 (2005.182.6) THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 11184, DATED 12/15/2015 (2015.181.4).

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

**DEMOLITION PLAN
NORTH PARKING LOT RECONSTRUCTION
HAWTHORNE ELEMENTARY SCHOOL**

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.D.S.				2015.181.2
DRAWN BY	DATE	BY	REVISIONS	JOB NO.
S.C.C./J.Y.R.				04-2016
APPROVED BY	DATE	BY	REVISIONS	JOB NO.
G.M.				2 OF 13

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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE, ABOVEGROUND DISTRIBUTION MAPS AND UTILITY LINE-SPOTS PROVIDED BY HIGH MESA CONSULTING GROUP, SITE UTILITY DIAGRAM (2015.181.5) DATED DECEMBER 01, 2015. IN ADDITION, UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET #2015481336). UTILITY LINES THAT APPEAR ON THESE DRAWINGS 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 LINES, PIPES, 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 THEREFOR. 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.

EROSION AND SEDIMENT CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
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- NO SPOILS FROM THE PROJECT SHALL BE DEPOSITED IN THE STREET.
- SPOILS SHALL BE STAGED ON THE UPHILL SIDE OF TRENCHES WHEN TRENCHING IS REQUIRED.
- THE CONTRACTOR SHALL CLEAN AND REMOVE ALL FUGITIVE DUST, SOIL AND DEBRIS RESULTING FROM THIS PROJECT FROM THE STREET AT THE END OF EACH DAY.
- CONTRACTOR SHALL LEAVE THE AREA IMMEDIATELY BEHIND THE CURB DEPRESSED TO CONTAIN NUISANCE FLOWS AND SEDIMENT.
- CONCRETE TRUCKS SHALL BE SENT BACK TO THE PLANT FOR WASHING; THE WASHING OF CONCRETE TRUCKS SHALL NOT BE PERMITTED WITHIN THE PUBLIC RIGHT-OF-WAY.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

KEYED NOTES:

- NEATLY SAWCUT EXISTING ASPHALT PAVING
- NEATLY SAWCUT EXISTING CONCRETE SIDEWALK
- REMOVE AND PULVERIZE EXISTING ASPHALT PAVING FOR PROCESSING WITH NATIVE SOIL TO MANUFACTURE IN SITU BASE COURSE
- REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK, TYPICAL
- REMOVE AND SALVAGE EXISTING WHEEL STOPS
- REMOVE AND DISPOSE OF EXISTING CONCRETE RUNDOWN
- REMOVE AND DISPOSE OF EXISTING CHAIN LINK FENCE AND GATE, TYPICAL
- REMOVE AND DISPOSE OF EXISTING STEEL GUARD POST, TYPICAL
- REMOVE AND RETURN EXISTING METAL SIGN, TYPICAL
- REMOVE AND RETURN EXISTING HANDICAPPED PARKING SIGN, TYPICAL
- REMOVE AND DISPOSE OF EXISTING WOOD POWER POLE, REFER TO ELECTRICAL
- REMOVE AND DISPOSE OF EXISTING SERVICE DROP POLE, ELECTRIC BREAKER BOX AND COMMUNICATION CABINET, REFER TO ELECTRICAL
- REMOVE AND SALVAGE PIPE GATE
- REMOVE AND DISPOSE OF EXISTING METAL HANDRAILS
- EXISTING PUBLIC SIDEWALK CULVERT TO REMAIN
- EXISTING ASPHALT PAVING TO REMAIN
- EXISTING WOOD POWER POLE TO REMAIN, REFER TO ELECTRICAL
- EXISTING CONCRETE SIDEWALK TO REMAIN

LEGEND

ASPH	ASPHALT OVERHANG
BOH	BICYCLE RACK
C&G	CURB AND GUTTER
C/PM	COMMUNICATION LINE BY PAINT MARK (FIBER OPTIC)
CC	CONCRETE CURB
CCAB	CONCRETE CABINET
CDP	CONCRETE DRIVE PAD
CHW	CONCRETE HEAD WALL
CI	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CMH	COMMUNICATION MANHOLE
CND	ELECTRIC CONDUIT
CO	CLEANOUT
CP	CONCRETE PIPE
CR	CONCRETE RAMP
CRD	CONCRETE RUNDOWN
CRS	BUILDING CRAWLSPACE WITH DOOR
CS	CONCRETE STEPS
CSW	CONCRETE SIDEWALK
CTC	CONCRETE TRASH CAN
CW	CONCRETE WALL
CW/MHR	CONCRETE WALL WITH METAL HAND RAIL ON TOP
DBL	DOUBLE
DCO	DOUBLE CLEANOUT
E/PM	ELECTRIC LINE BY PAINT MARK
EA	EDGE OF ASPHALT
EBB	ELECTRIC BREAKER BOX
ECAB	ELECTRIC CABINET
FH	FIRE HYDRANT
FLW	FLOWLINE
G/PM	GAS LINE BY PAINT MARK
GATE	GATE
GP	GATE POST
GS	GAS SERVICE
HCS	HANDICAPPED PARKING SIGN
ICB	IRRIGATION CONTROL BOX
INV	PIPE INVERT
MBC	METAL BUILDING COLUMN
MC/V	METER CAN WITH VALVE
MH	MANHOLE
MHR	METAL HANDRAIL
MLN	METAL LANDING
MR	METAL RAMP
MS	METAL STAIRS
MTS	METAL SIGN (GENERAL)
OHC(2)	OVERHEAD COMMUNICATION (# OF LINES)
OHE(4)	OVERHEAD ELECTRIC (# OF LINES)
PB	CONCRETE WHEEL STOP
PI	PAINTED PARKING LOT ISLAND
PS	PAINTED PARKING STALL STRIPE
PVC	POLYVINYL CHLORIDE PIPE
RDP	ROOF DRAIN
SAS	SANITARY SEWER
SAS/PM	SANITARY SEWER LINE BY PAINT MARK
SD	STORM DRAIN LINE
SDI	STORM DRAIN INLET
SDP	SERVICE DROP POLE
SGP	STEEL GUARD POST
SP	STEEL PIPE
STD	STANDARD (COA)
SWC	SIDEWALK CULVERT
SWS	PAINTED SOLID WHITE STRIPE (TRAFFIC)
SYS	PAINTED SOLID YELLOW STRIPE (TRAFFIC)
TA	TOP OF ASPHALT
TC	TOP OF CURB
TCAB	TRAFFIC CONTROL CABINET
TCB	TRAFFIC CONTROL BOX
TCO	TOP OF CONCRETE
TD	TRENCH DRAIN
TG	TOP OF GRATE
TRN	ELECTRIC TRANSFORMER
TS	TRAFFIC SIGN
TW	TOP OF WALL
TYP	TYPICAL
UC	UTILITY CORRIDOR (GAS, WATER, COMMUNICATION AND ELECTRIC)
VG	CONCRETE VALLEY GUTTER
W/PM	WATER LINE BY PAINT MARK
WCR	CONCRETE WHEELCHAIR RAMP
WF	WROUGHT IRON
WLE	WATER LINE EXPOSED
WLP	WOOD LIGHT POLE
WMB	WATER METER BOX
WPP	WOOD POWER POLE
WVB	WATER VALVE BOX
XW	PAINTED PEDESTRIAN CROSSWALK
1.0'-0"	TREE TRUNK DIAMETER
	DECIDUOUS TREE
	CONIFEROUS TREE
	LANDSCAPING SHRUB
	SMALL LANDSCAPING SHRUB
	ACCESSIBLE PARKING SPACE
*	PAINTED UTILITY MARK

1. GRAEME MEANS
NEW MEXICO
13676
Professional Engineer

File Path: A:\DATA\2015\151812\151812.DWG Plot Date: 04-27-2016
File Name: 151812_SH4.DWG Plot Time: 12:52 pm

SURVEY NOTE

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HIGH MESA Consulting Group

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PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

GRADING PLAN NORTH PARKING LOT RECONSTRUCTION HAWTHORNE ELEMENTARY SCHOOL

LEGEND

ASPH	ASPHALT
BOH	BUILDING OVERHANG
C&G	BICYCLE RACK
C/PM	CURB AND GUTTER
CC	COMMUNICATION LINE BY PAINT MARK (FIBER OPTIC)
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CW/MHR	CONCRETE WALL WITH METAL HAND RAIL
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DOO	DOUBLE CLEANOUT
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MS	METAL SIGN (GENERAL)
MIS	OVERHEAD COMMUNICATION (# OF LINES)
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EXISTING SPOT ELEVATION

PROPOSED SPOT ELEVATION

EXISTING FLOWLINE

PROPOSED FLOWLINE

EXISTING CONTOUR

PROPOSED CONTOUR

EXISTING DIRECTION OF FLOW

PROPOSED DIRECTION OF FLOW

RIGHT OF WAY LINE

PUBLIC EASEMENT LINE

HIGH POINT / DIVIDE

PROPOSED CONCRETE

PROPOSED ASPHALT PAVING

PROPOSED GRAVEL MULCH

LEGAL DESCRIPTION:

HAWTHORNE ELEMENTARY SCHOOL AND PARK.

BENCHMARKS:

PROJECT BENCHMARK

AN AGRS 3 1/4" ALUMINUM DISK STAMPED "14-K20 1990"
SET FLUSH WITH TOP OF CURB ON THE MEDIAN APPROXIMATELY
122 FEET NORTH OF THE INTERSECTION OF WYOMING
BOULEVARD AND COPPER AVENUE N.E.
ELEVATION = 5381.93 FEET (NAVD 88)

T.B.M. #1

A CHISELED "+" AT THE TOP BACK OF CURB ON GENERAL
SOMERVILLE STREET N.E., AS SHOWN ON THIS SHEET.
ELEVATION = 5413.34 FEET (NAVD 88)

T.B.M. #2

A MAG NAIL W/WASHER SET IN ASPHALT IN THE SOUTHWESTERN
PORTION OF THE SURVEY, AS SHOWN ON THIS SHEET.
ELEVATION = 5415.52 FEET (NAVD 88)

T.B.M. #3

A MAG NAIL W/WASHER SET IN ASPHALT IN THE NORTHEASTERN
PORTION OF THE SURVEY, AS SHOWN ON THIS SHEET.
ELEVATION = 5418.07 FEET (NAVD 88)

CONSTRUCTION NOTES:

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4-27-16

DESIGNED BY	NO.	DATE	BY	REVISIONS	JOB NO.
J.D.S.					2015.181.2
DRAWN BY					DATE
S.C.C./J.Y.R.					04-2016
APPROVED BY					SHEET
G.M.					4 OF 13

File Path: P:\DWG\2015\45\2015.181.2\DWG Plot Date: 10-4-27-2016
File Name: 151812_SH5.DWG Plot Time: 12:54 pm

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE SOUTHEAST HEIGHTS OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING ALBUQUERQUE PUBLIC SCHOOLS ELEMENTARY SCHOOL SITE WITHIN AN INFILL AREA. THE PROPOSED CONSTRUCTION CONSISTS OF THE RECONSTRUCTION OF AN EXISTING PAVED PARKING LOT TO INCREASE PARKING CAPACITY, IMPROVE VEHICULAR CIRCULATION AND IMPROVE PEDESTRIAN ACCESS. PROPOSED LANDSCAPED WATER HARVESTING AREAS WILL CAPTURE THE FIRST FLUSH RUNOFF FROM THE NEW PARKING LOT TO THE MAXIMUM EXTENT PRACTICABLE. THE DRAINAGE CONCEPT FOR THE SITE IS THE CONTINUED FREE DISCHARGE OF DEVELOPED RUNOFF PER THE 1997 APPROVED MASTER DRAINAGE PLAN (SEE BELOW).

THIS SUBMITTAL IS MADE IN SUPPORT OF GRADING AND PAVING PERMIT TO BE ISSUED BY THE CITY OF ALBUQUERQUE.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE EXISTING SITE IS LOCATED ON THE SOUTH SIDE OF COPPER AVENUE NE, SOUTH OF THE LOS ALTOS PARK AND GOLF COURSE. AS SHOWN BY PANEL 358 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP FOR BERNALILLO COUNTY, DATED AUGUST 16, 2012, THE SITE DOES NOT LIE WITHIN ANY DESIGNATED FLOOD HAZARD ZONE. THE SITE IS LOCATED UPSTREAM OF A DESIGNATED FLOOD HAZARD ZONE AO (DEPTH 1) LOCATED AT THE SOUTHWEST CORNER OF THE SCHOOL SITE AT THE INTERSECTION OF DOMINGO ROAD NE AND GENERAL SOMERVELL ST NE. THE PROPOSED PROJECT LOCATION DRAINS EAST TO WEST TO GENERAL SOMERVELL ST NE, THEN DRAINS NORTH TO COPPER AVE NE, AWAY FROM THE DESIGNATED FLOOD HAZARD ZONE.

III. BACKGROUND DOCUMENTS AND RESEARCH

THE PREPARATION OF THIS SUBMITTAL RELIED UPON THE FOLLOWING DOCUMENTS:

- MASTER DRAINAGE PLAN (MDP) FOR HAWTHORNE ELEMENTARY SCHOOL PREPARED BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN & ASSOCIATES, INC.) (NMP# 8547) DATED 10-29-97. THE 1997 MDP ESTABLISHED THE SITE CONSISTS OF FIVE DRAINAGE BASINS, BASINS A, B, C, D AND E. THE PROJECT SITE LIES WITHIN BASINS B AND C. THE 1997 MDP ESTABLISHED THAT WHILE THE EXISTING SITE IS ALLOWED FREE DISCHARGE TO THE ADJACENT PUBLIC STREETS OF GENERAL SOMERVELL STREET AND DOMINGO ROAD NW, RUNOFF GENERATED BY FUTURE DEVELOPMENT MUST NOT EXCEED THE EXISTING 29.7 CFS PEAK DISCHARGE CALCULATED IN THE 1997 MDP. ANY ADDITIONAL RUNOFF GENERATED MUST BE MANAGED ONSITE TO MAINTAIN THE 29.7 CFS LIMIT.
- CONSISTING OF A CONCRETE VALLEY GUTTER AND SIDEWALK CULVERTS WERE CONSTRUCTED WITHIN BASINS B AND C TO IMPROVE POSITIVE DRAINAGE FROM THE NEW MINI GYMNASIUM TO GENERAL SOMERVELL STREET NE. THIS PROJECT MAINTAINED THE EXISTING 29.7 CFS PEAK DISCHARGE RATE LIMIT IMPOSED BY THE 1997 MDP, THEREFORE FREE DISCHARGE WAS CONTINUED FROM BASINS B AND C.

IV. EXISTING CONDITIONS

THE PROJECT SITE IS LOCATED WITH PORTIONS OF BASINS B AND C OF THE 1997 APPROVED MASTER DRAINAGE PLAN AND CONSISTS OF AN EXISTING PAVED PARKING LOT, LANDSCAPING, AND PRIVATE STORM DRAINAGE IMPROVEMENTS. THE PROJECT SITE GENERALLY DRAINS FROM EAST TO WEST, WITH THE PAVED PARKING LOT PORTION SHEET FLOWING TO THE ADJACENT PUBLIC STREETS OF GENERAL SOMERVELL ST NE AND COPPER AVE NE, WHILE THE LANDSCAPED PORTION DRAINS VIA PRIVATE STORM DRAIN IMPROVEMENTS TO A SIDEWALK CULVERT ON THE EAST SIDE OF GENERAL SOMERVELL ST NE AND FREE DISCHARGES INTO THE PUBLIC STREET. FROM THIS POINT RUNOFF DRAINS NORTH TO THE INTERSECTION OF GENERAL SOMERVELL ST NE AND COPPER AVE NE, AND THEN WEST WITHIN COPPER AVE NE.

THE SITE IS BOUNDED ON THE NORTH BY COPPER AVENUE NE, A FULLY DEVELOPED PUBLIC STREET; ON THE EAST BY AN EXISTING PORTABLE CLASSROOM BUILDING; ON THE SOUTH BY AN EXISTING PERMANENT CLASSROOM BUILDING, AND ON THE WEST BY GENERAL SOMERVELL STREET NE, A FULLY DEVELOPED PUBLIC STREET.

THERE ARE NO APPARENT OFFSITE FLOWS IMPACTING THE PROJECT SITE, AS THE SITE IS TOPOGRAPHICALLY HIGHER THAN THE ADJACENT PUBLIC STREETS, AND IS BOUNDED ON THE OTHER TWO SIDES BY EXISTING SCHOOL IMPROVEMENTS. HOWEVER, IT IS NOTED THAT RUNOFF FROM THE ONSITE EXISTING SCHOOL BUILDING AND A TRENCH DRAIN OUTLET AT THE CORNER OF THE BUILDING IS ACCEPTED ONTO AND FLOWS THROUGH THE PARKING LOT TO DISCHARGE TO THE ADJACENT PUBLIC STREETS.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF RECONSTRUCTION OF THE EXISTING PARKING LOT, INCREASING PARKING LOT CAPACITY AND PROVIDING IMPROVED PEDESTRIAN ACCESS. LANDSCAPED AREAS WITHIN THE PARKING LOT, AS WELL AS A LANDSCAPE BUFFER ALONG THE PERIMETER OF THE PARKING LOT WILL BE DEPRESSED WHERE POSSIBLE TO CAPTURE DEVELOPED RUNOFF TO THE MAXIMUM EXTENT PRACTICABLE. RUNOFF FROM THE PARKING LOT WILL DRAIN VIA CURB OPENINGS INTO THESE LANDSCAPED WATER HARVESTING AREAS. OVERFLOW RUNOFF FROM THE LANDSCAPED BUFFER WILL SHEETFLOW INTO COPPER AVENUE NE.

RUNOFF FROM THE BUILDING TO THE SOUTH WILL DRAIN TO A LANDSCAPED WATER HARVESTING AREA BETWEEN THE EXISTING BUILDING AND THE PAVED PARKING LOT. NEW PRIVATE STORM DRAIN IMPROVEMENTS WILL COLLECT THE OVERFLOW RUNOFF FROM THIS AREA IN ADDITION TO RUNOFF FROM THE EXISTING TRENCH DRAIN OUTLET REFERENCED ABOVE AND DISCHARGE IT TO THE BACK OF THE EXISTING SIDEWALK CULVERT ALONG GENERAL SOMERVELL ST NE.

THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINIMAL INCREASE IN DEVELOPED RUNOFF GENERATED BY THE SITE (50 CF, 0.2 CFS), HOWEVER THIS WILL BE OFFSET BY THE LANDSCAPED WATER HARVESTING CAPACITY (+800 CF) PROVIDED IN THE DEVELOPED CONDITION.

AS IN THE EXISTING CONDITION, THERE ARE NO OFFSITE FLOWS IMPACTING THE PROJECT SITE.

VI. FIRST FLUSH

THE PROPOSED LANDSCAPED WATER HARVESTING AREAS WITHIN THE NEW PARKING LOT AND THE DEPRESSED LANDSCAPED BUFFER BETWEEN THE PAVED PARKING LOT AND THE PUBLIC SIDEWALKS WILL CAPTURE AND TREAT THE FIRST FLUSH RUNOFF GENERATED BY THE PROPOSED PARKING LOT TO THE MAXIMUM EXTENT PRACTICABLE. HOWEVER, THIS AREA IS LIMITED AND IS NOT LARGE ENOUGH TO CONTAIN THE ENTIRE FIRST FLUSH. BECAUSE OF THIS, A VARIANCE TO THE CITY'S FIRST FLUSH REQUIREMENTS IS REQUESTED BASED UPON THE FOLLOWING:

- THE WATER HARVESTING AREAS WITHIN THE PARKING LOT AND THE LANDSCAPED BUFFERS AT THE PERIMETER OF THE PARKING LOT ARE INSUFFICIENT IN SIZE TO CAPTURE THE ENTIRE FIRST FLUSH FROM THE PROJECT SITE
- WHILE THE WATER HARVESTING AREA BETWEEN THE EXISTING BUILDING AND PARKING LOT WILL NOT CAPTURE RUNOFF FROM THE PARKING LOT, IT WILL CAPTURE AND TREAT FIRST FLUSH FROM THE ADJACENT EXISTING CLASSROOM BUILDING, THEREBY MITIGATING THE OVERALL FIRST FLUSH FROM THE SITE TO THE MAXIMUM EXTENT PRACTICABLE
- VOLUME CONTAINED IS THAT WHICH IS PRACTICABLE YET LESS THAN THE REQUIRED 0.44-INCH STORM AS CALCULATED

VII. GRADING PLAN

THE GRADING PLAN 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, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED GRADING PLAN WILL MAINTAIN THE CURRENT DRAINAGE PATTERN OF FREE DISCHARGE FROM EAST TO WEST TO THE ADJACENT AND DOWNSTREAM CITY STREETS, WHILE MITIGATING THE DEVELOPED RUNOFF DISCHARGED TO THE MAXIMUM EXTENT PRACTICABLE.

VIII. SEDIMENT AND EROSION CONTROL

THE PROJECT DISTURBS ONE-ACRE OF LAND. A SEPARATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL BE PREPARED CONCURRENT WITH THIS PLAN. A SITE SPECIFIC SEDIMENT AND EROSION CONTROL PLAN IS INCLUDED THAT PROPOSES GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES (BMPs) TO CAPTURE CONSTRUCTION RELATED SEDIMENT FROM DISCHARGING TO THE ADJACENT AND DOWNSTREAM CITY STREETS.

IX. CALCULATIONS

THE CALCULATIONS CONTAINED 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, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS DEMONSTRATED BY THESE CALCULATIONS, THE PROPOSED PROJECT WILL RESULT IN A MINIMAL INCREASE IN DEVELOPED RUNOFF GENERATED BY THE SITE (50 CF, 0.2 CFS); HOWEVER, THIS INCREASE WILL BE OFFSET BY THE INCLUSION OF LANDSCAPED WATER HARVESTING AREAS SIZED TO CAPTURE 800 CF OF RUNOFF FROM THE SITE. FIRST FLUSH CONTAINMENT VOLUMES WERE EVALUATED USING THE AVERAGE END-AREA METHOD.

X. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

- THE PROPOSED IMPROVEMENT WILL MAINTAIN AND NOT ALTER THE EXISTING DRAINAGE PATTERNS OF THE SITE
- THE PROPOSED IMPROVEMENTS WILL NOT RESULT IN AN INCREASE IN THE DEVELOPED RUNOFF VOLUME DISCHARGED FROM THE SITE
- THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWSTREAM DRAINAGE CONDITIONS
- EROSION AND SEDIMENT CONTROL MEASURES ARE PROPOSED DURING CONSTRUCTION; BMP SELECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE CONSTRUCTION RELATED SEDIMENT DOES NOT DISCHARGE FROM THE SITE TO PUBLIC RIGHT-OF-WAY
- THIS PROJECT IS SUBJECT TO AN EPA NPDES PERMIT
- THIS PROJECT REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
- A VARIANCE TO THE REQUIREMENT TO CAPTURE AND TREAT THE FIRST FLUSH OF RUNOFF FROM THE NEW IMPERVIOUS (PAVED) AREA CREATED BY THIS PLAN IS REQUESTED BASED UPON THE FOLLOWING:
 - ALL LANDSCAPED AREAS ARE DEPRESSED TO CAPTURE AND TREAT THE FIRST FLUSH TO THE MAXIMUM EXTENT PRACTICABLE
 - THE WATER HARVESTING AREAS WITHIN THE PARKING LOT AND THE LANDSCAPED BUFFERS AT THE PERIMETER OF THE PARKING LOT ARE INSUFFICIENT IN SIZE TO CAPTURE THE ENTIRE FIRST FLUSH FROM THE PROJECT SITE
 - WHILE THE WATER HARVESTING AREA BETWEEN THE EXISTING BUILDING AND PARKING LOT WILL NOT CAPTURE RUNOFF FROM THE PARKING LOT, IT WILL CAPTURE AND TREAT FIRST FLUSH FROM THE ADJACENT EXISTING CLASSROOM BUILDING, THEREBY MITIGATING THE OVERALL FIRST FLUSH FROM THE SITE TO THE MAXIMUM EXTENT PRACTICABLE
 - VOLUME CONTAINED IS THAT WHICH IS PRACTICABLE YET LESS THAN THE REQUIRED 0.44-INCH STORM AS CALCULATED

CALCULATIONS

I. SITE CHARACTERISTICS

- PRECIPITATION ZONE = 3
- $P_{100, 6 \text{ HR}} = P_{360} = 2.60$
- TOTAL PROJECT AREA (A_T) = 40,600 SF
0.93 AC

D. LAND TREATMENTS

1. EXISTING CONDITION

TREATMENT	AREA (SF/AC)	%
A	0 / 0	0
B	0 / 0	0
C	15,400 / 0.35	38
D	25,200 / 0.58	62

2. DEVELOPED CONDITION

TREATMENT	AREA (SF/AC)	%
A	0 / 0	0
B	0 / 0	0
C	10,360 / 0.24	26
D	30,240 / 0.69	74

II. AREA OF DISTURBANCE

AREA OF DISTURBANCE ≈ 1 AC \therefore SEPARATE EROSION & SEDIMENT CONTROL PERMIT IS REQUIRED

III. HYDROLOGY

A. EXISTING CONDITION

a. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) A_T$$
$$E_W = (0.66^*0.00) + (0.92^*0.00) + (1.29^*0.35) + (2.36^*0.58) 1.00 = 1.92 \text{ IN}$$
$$V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (1.92 / 12) 0.93 = 0.1600 \text{ AC-FT} = 6,970 \text{ CF}$$

b. PEAK DISCHARGE

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_P = Q_{100} = (1.56^*0.00) + (2.28^*0.00) + (3.14^*0.35) + (4.70^*0.58) = 3.8 \text{ CFS}$$

B. DEVELOPED CONDITION

a. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) A_T$$
$$E_W = (0.66^*0.00) + (0.92^*0.00) + (1.29^*0.24) + (2.36^*0.69) 0.93 = 2.08 \text{ IN}$$
$$V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (2.08 / 12) 0.93 = 0.1612 \text{ AC-FT} = 7,020 \text{ CF}$$

b. PEAK DISCHARGE

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_P = Q_{100} = (1.56^*0.00) + (2.28^*0.00) + (3.14^*0.24) + (4.70^*0.69) = 4.0 \text{ CFS}$$

c. FIRST FLUSH (90TH PERCENTILE STORM EVENT)

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) A_T$$
$$E_W = (0.00^*0.00) + (0.00^*0.00) + (0.00^*0.24) + (0.44^*0.69) 0.93 = 0.33 \text{ IN}$$
$$V_{\text{FIRST FLUSH}} = (E_W / 12) A_T = (0.33 / 12) 0.93 = 0.0256 \text{ AC-FT} = 1,110 \text{ CF}$$

d. WATER HARVESTING AREA CAPACITY

$$V_{WH} = 800 \text{ CF} < V_{\text{FIRST FLUSH}} = 1,110 \text{ CF (FF MANAGED TO MAX. EXTENT PRACTICABLE)}$$

C. COMPARISON

a. VOLUME WITHOUT WATER HARVESTING

$$\Delta V_{100, 6 \text{ HR}} = V_{\text{DEV } 100} - V_{\text{EX } 100}$$
$$\Delta V_{100, 6 \text{ HR}} = 7,020 - 6,970 \quad 50 \text{ CF} \quad (\text{INCREASE})$$

b. VOLUME WITH WATER HARVESTING

$$\Delta V_{100, 6 \text{ HR}} = V_{\text{DEV } 100} - V_{\text{EX } 100} - V_{WH}$$
$$\Delta V_{100, 6 \text{ HR}} = 7,020 - 6,970 - 800 = -750 \text{ CF} \quad (\text{DECREASE})$$

c. PEAK DISCHARGE

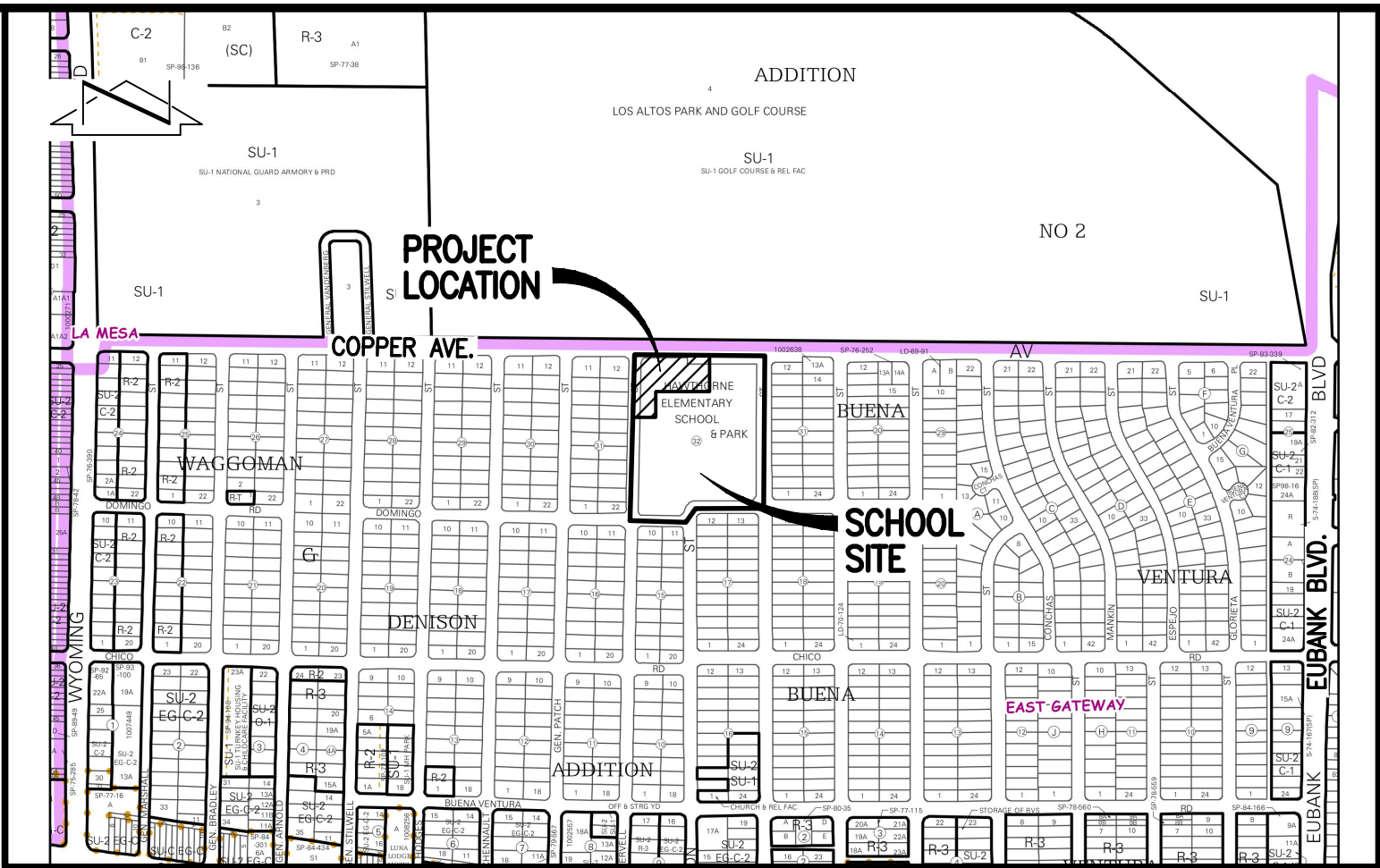
$$\Delta Q_{100} = 4.0 - 3.8 \quad 0.2 \text{ CFS} \quad (\text{INCREASE})$$

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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE, ABOVEGUA DISTRIBUTION MAPS AND UTILITY LINE-SPOTS PROVIDED BY HIGH MESA CONSULTING GROUP. SITE UTILITY DIAGRAM (2015.181.5) DATED DECEMBER 01, 2015. IN ADDITION, UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET #2015481336). UTILITY LINES THAT APPEAR ON THESE DRAWINGS 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 THEREFOR. 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.

EROSION AND SEDIMENT CONTROL MEASURES:

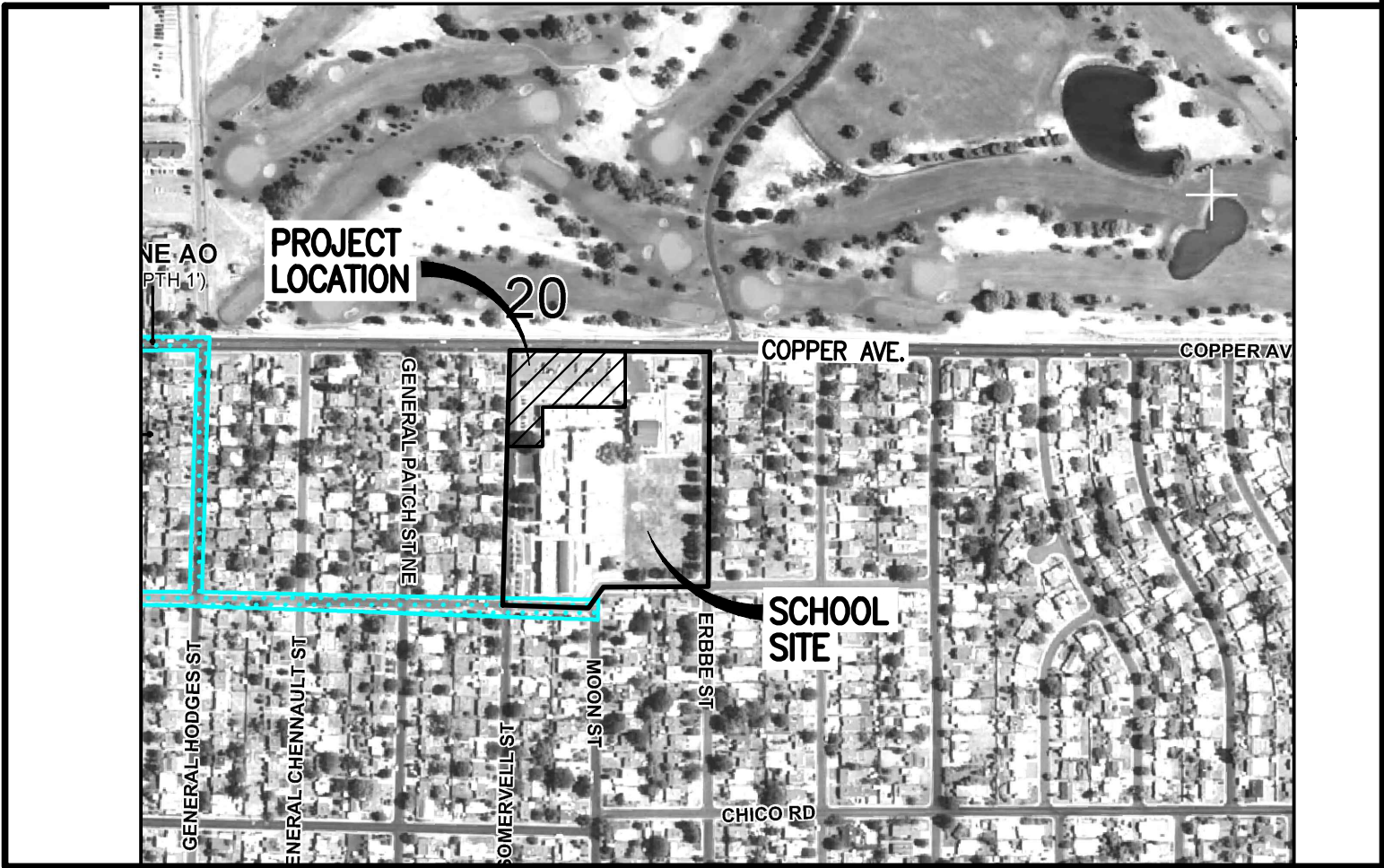
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- NO SPOILS FROM THE PROJECT SHALL BE DEPOSITED IN THE STREET.
- SPOILS SHALL BE STAGED ON THE UPHILL SIDE OF TRENCHES WHEN TRENCHING IS REQUIRED.
- THE CONTRACTOR SHALL CLEAN AND REMOVE ALL FUGITIVE DUST, SOIL AND DEBRIS RESULTING FROM THIS PROJECT FROM THE STREET AT THE END OF EACH DAY
- CONTRACTOR SHALL LEAVE THE AREA IMMEDIATELY BEHIND THE CURB DEPRESSED TO CONTAIN NUISANCE FLOWS AND SEDIMENT.
- CONCRETE TRUCKS SHALL BE SENT BACK TO THE PLANT FOR WASHING; THE WASHING OF CONCRETE TRUCKS SHALL NOT BE PERMITTED WITHIN THE PUBLIC RIGHT-OF-WAY.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.



VICINITY MAP

SCALE: 1" = 750'

K-20



F.I.R.M.

SCALE: 1" = 500'

358 OF 825

AUGUST 16, 2012

LEGAL DESCRIPTION:

HAWTHORNE ELEMENTARY SCHOOL AND PARK.

BENCHMARKS:

PROJECT BENCHMARK

AN AGRS 3 1/4" ALUMINUM DISK STAMPED "14-K20 1990" SET FLUSH WITH TOP OF CURB ON THE MEDIAN APPROXIMATELY 122 FEET NORTH OF THE INTERSECTION OF WYOMING BOULEVARD AND COPPER AVENUE N.E.
ELEVATION = 5381.93 FEET (NAVD 88)

T.B.M. #1

A CHISELED "+ " AT THE TOP BACK OF CURB ON GENERAL SOMERVELL STREET N.E., AS SHOWN ON SHEET 3.
ELEVATION = 5413.34 FEET (NAVD 88)

T.B.M. #2

A MAG NAIL W/WASHER SET IN ASPHALT IN THE SOUTHWESTERN PORTION OF THE SURVEY, AS SHOWN ON ON SHEET 3.
ELEVATION = 5415.52 FEET (NAVD 88)

T.B.M. #3

A MAG NAIL W/WASHER SET IN ASPHALT IN THE NORTHEASTERN PORTION OF THE SURVEY, AS SHOWN ON ON SHEET 3.
ELEVATION = 5418.07 FEET (NAVD 88)



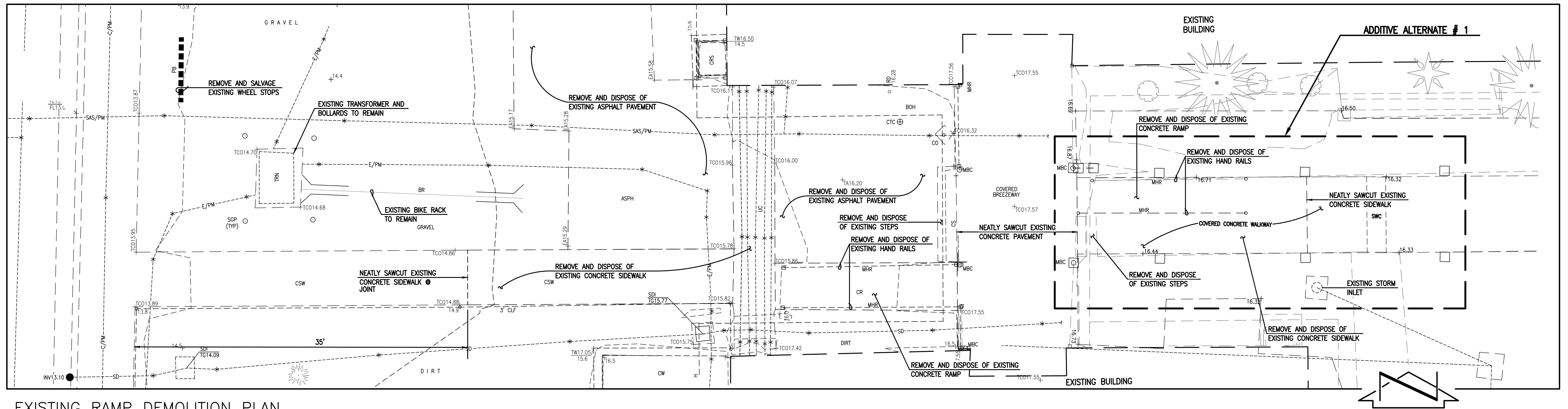
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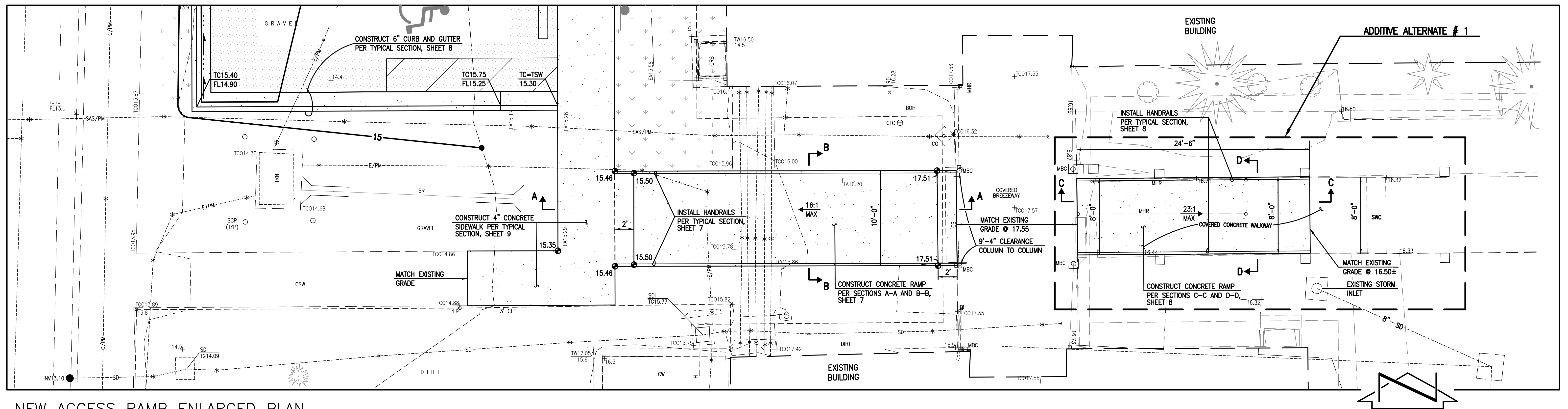
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DRAINAGE PLAN AND CALCULATIONS NORTH PARKING LOT RECONSTRUCTION HAWTHORNE ELEMENTARY SCHOOL

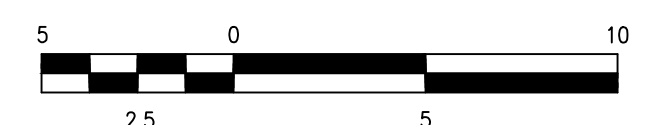
DESIGNED BY	NO.	DATE	BY	REVISIONS	JOB NO.
J.D.S.					2015.181.2
DRAWN BY					DATE
S.C.C./J.Y.R.					04-2016
APPROVED BY					SHEET
G.M.					5 OF 13



D1 EXISTING RAMP DEMOLITION PLAN
SCALE: 1" = 5'



B1 NEW ACCESS RAMP ENLARGED PLAN
SCALE: 1" = 5'



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, NMFS 11184, DATED 03/07/2006 (2005.182.6) THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMFS NO. 11184, DATED 12/15/2015 (2015.181.4).

HIGH MESA Consulting Group

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ACCESS RAMP DEMOLITION AND ENLARGED PLAN NORTH PARKING LOT RECONSTRUCTION HAWTHORNE ELEMENTARY SCHOOL

DESIGNED BY J.D.S.
DRAWN BY S.C.C./J.Y.R.
APPROVED BY G.M.

NO.	DATE	BY	REVISIONS

J. GRAEME MEANS
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
13678

4-27-16

JOB NO. 2015.181.2

DATE 04-2016

SHEET 6 OF 13