CITY OF ALBUQUERQUE

Timothy M. Keller, Mayor

February 2, 2018

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM, 87108

RE: Primrose School of Sandia Heights
Grading and Drainage Plan
Engineer's Stamp Date: 01/25/18
Hydrology File: D19D030

Dear Mr. Arfman:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal received 01/25/2018, the Conceptual Grading and Drainage Plan **is not** approved for Site Plan for Building Permit. The following comments need to be addressed for approval of the above referenced project:

1. Please place the road names on the Conceptual Grading Plan.
2. Please show the limits of the construction. Please make new construction line work darker than the existing line work. The proposed grades, contours, storm inlet, and pipe are perfect. Just make the proposed curb, sidewalk and building between what it is now and the proposed contour thickness.
3. How is the proposed storm sewer connecting to the existing NMDOT storm sewer? It appears that you are missing two manholes on the outfall pipe of the underground detention.

As a reminder, before a building permit approval please provide an approval either an email or a letter from NMDOT that they approve the connection to their drainage system. Also prior to CO, a Private Facility Drainage Covenant per Chapter 17 of the DPM for the underground detention and first flush must be provided to Hydrology.

Orig: Drainage File

Albuquerque - Making History 1706-2006

CITY OF ALBUQUERQUE

Timothy M. Keller, Mayor

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Orig: Drainage File

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: byranb@iacivil.com

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:

_X_ HYDROLOGY/ DRAINAGE
_____ TRAFFIC/ TRANSPORTATION
_____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

_____ ENGINEER/ ARCHITECT CERTIFICATION

_X_ 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:

_X_ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY

_____ PRELIMINARY PLAT APPROVAL
_____ SITE PLAN FOR SUB'D APPROVAL
_____ SITE PLAN FOR BLDG. PERMIT APPROVAL
_____ FINAL PLAT APPROVAL
_____ SIA/ RELEASE OF FINANCIAL GUARANTEE
_____ FOUNDATION PERMIT APPROVAL
_X_ 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 _X_ No

DATE SUBMITTED: January 25, 2018 By: Fred C. Arfman

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____

CALCULATIONS: 2253 Primrose School : January 19, 2018

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

ON-SITE

AREA OF SITE: 39578.616 SF = 0.909

100-year, 6-hour

HISTORIC FLOWS:

		Treatment SF	%
Area A	=	19789.308	50%
Area B	=	19789.308	50%
Area C	=	0	0%
Area D	=	0	0%
Total Area	=	39578.616	100%

DEVELOPED FLOWS:

		Treatment SF	%
Area A	=	0	0%
Area B	=	3958	10%
Area C	=	8707	22%
Area D	=	26913	68%
Total Area	=	39578.616	100%

EXCESS PRECIP:

Precip. Zone 3

$E_A = 0.66$

$E_B = 0.92$

$E_C = 1.29$

$E_D = 2.36$

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

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

FIRST FLUSH VOL

763 CF

Historic E	=	0.79 in.	Developed E	=	1.98 in.

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

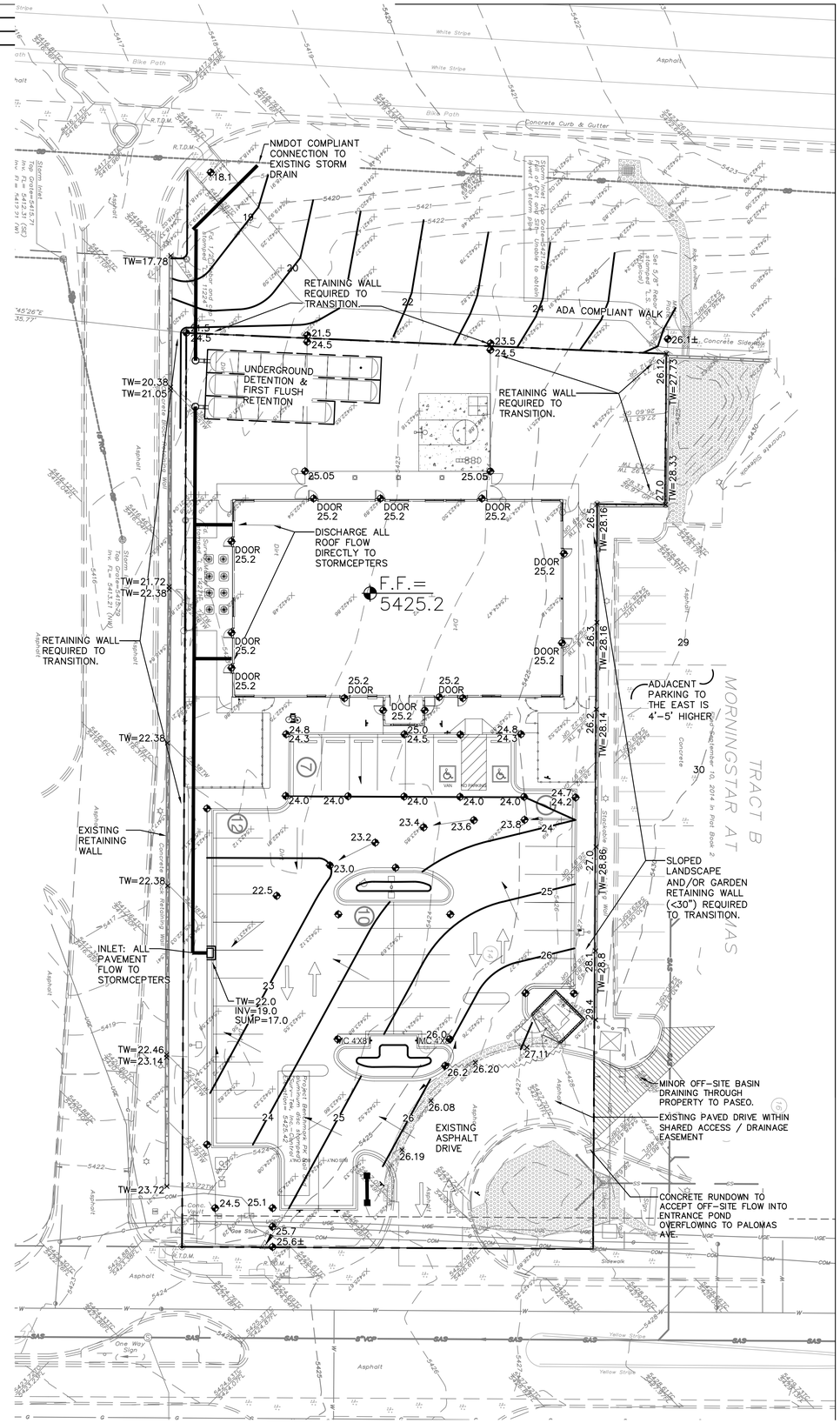
Historic V_{360}	=	2606 CF	Developed V_{360}	=	6532 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D$ / 43,560

For Precipitation Zone 3

Q_{pA}	=	1.87	Q_{pC}	=	3.45
Q_{pB}	=	2.60	Q_{pD}	=	5.02

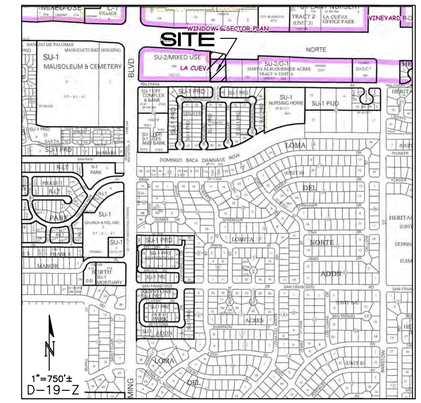
Historic Q_p	=	2.0 CFS	Developed Q_p	=	4.0 CFS



0 10 20 40 60

SCALE 1"=20'

VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS A PARTIALLY DEVELOPED 0.91± ACRE PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP D-19. THE SITE IS BOUND TO THE EAST BY DEVELOPED COMMERCIAL, TO THE WEST BY A PUBLIC ACCESS EASEMENT AND DEVELOPED COMMERCIAL, TO THE NORTH BY PASEO DEL NORTE BLVD. R.O.W. AND TO THE SOUTH BY PALOMAS BLVD.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A PRIVATE PRESCHOOL WITH ASSOCIATED OUTDOOR PLAYGROUND FACILITIES, ASPHALT PAVED ACCESS, PARKING AND LANDSCAPING.

LEGAL: TRACT "A" OF MORNINGSTAR AT PALOMAS, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO,

AREA: 0.9086 ACRES

BENCHMARK: VERTICAL DATUM IS BASED UPON ALBUQUERQUE CONTROL SURVEY MONUMENT "HEAVEN", ELEVATION = 5378.235 FEET (NAVD 88).

OFF-SITE: NO OFF-SITE DRAINAGE WILL IMPACT THIS PROPERTY OTHER THAN A SMALL DEVELOPED BASIN FROM THE ADJACENT PROPERTY PASSING WITHIN THE SHARED ACCESS / DRAINAGE EASEMENT.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001C0141G, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

DRAINAGE PLAN CONCEPT: BASED ON THE NORTH AND SOUTH DOMINGO BACA ARROYOS AND PASEO DEL NORTE (PDN) CORRIDOR DRAINAGE MANAGEMENT PLAN PREPARED BY RESOURCE TECHNOLOGY, INC. (1991) 100% OF THE SITE HISTORICALLY DRAINS TO PDN. IN THE DEVELOPED CONDITION, THE SITE IS PERMITTED TO CONTINUE TO RELEASE HISTORIC RATES TO PDN EITHER AS SURFACE FLOW OR WITH A NEW STORM DRAIN CONNECTION TO THE EXISTING PUBLIC STORM DRAIN INLET WITHIN THE PDN R.O.W. ANY DISCHARGE TO PALOMAS AVE. IS UNRESTRICTED.

ENGINEER:
FRED C. ARFMAN: NMPE NO. 7322
ISAACSON & ARFMAN, PA
128 MONROE N.E.
ALBUQUERQUE, NEW MEXICO 87108

SURVEYOR:
RUSS P. HUGG: NMPS NO. 9750
SURV-TEK, INC.
9384 VALLEY VIEW DR. N.W.
ALBUQUERQUE, NEW MEXICO 87114

LEGEND

◄	PROPOSED FLOW DIRECTION
F.F.=	PROPOSED FINISH FLOOR ELEVATION
25	PROPOSED CONTOUR
✦ 25.3	PROPOSED SPOT ELEVATION

PRIMROSE SCHOOL OF SANDIA HEIGHTS

CONCEPTUAL GRADING & DRAINAGE PLAN

Prepared for:

Primrose School
Franchising Company
3660 Cedarcrest Road
Acworth, Georgia 30101

Prepared by:

Consensus Planning, Inc.
302 Eighth Street NW
Albuquerque, NM 87102

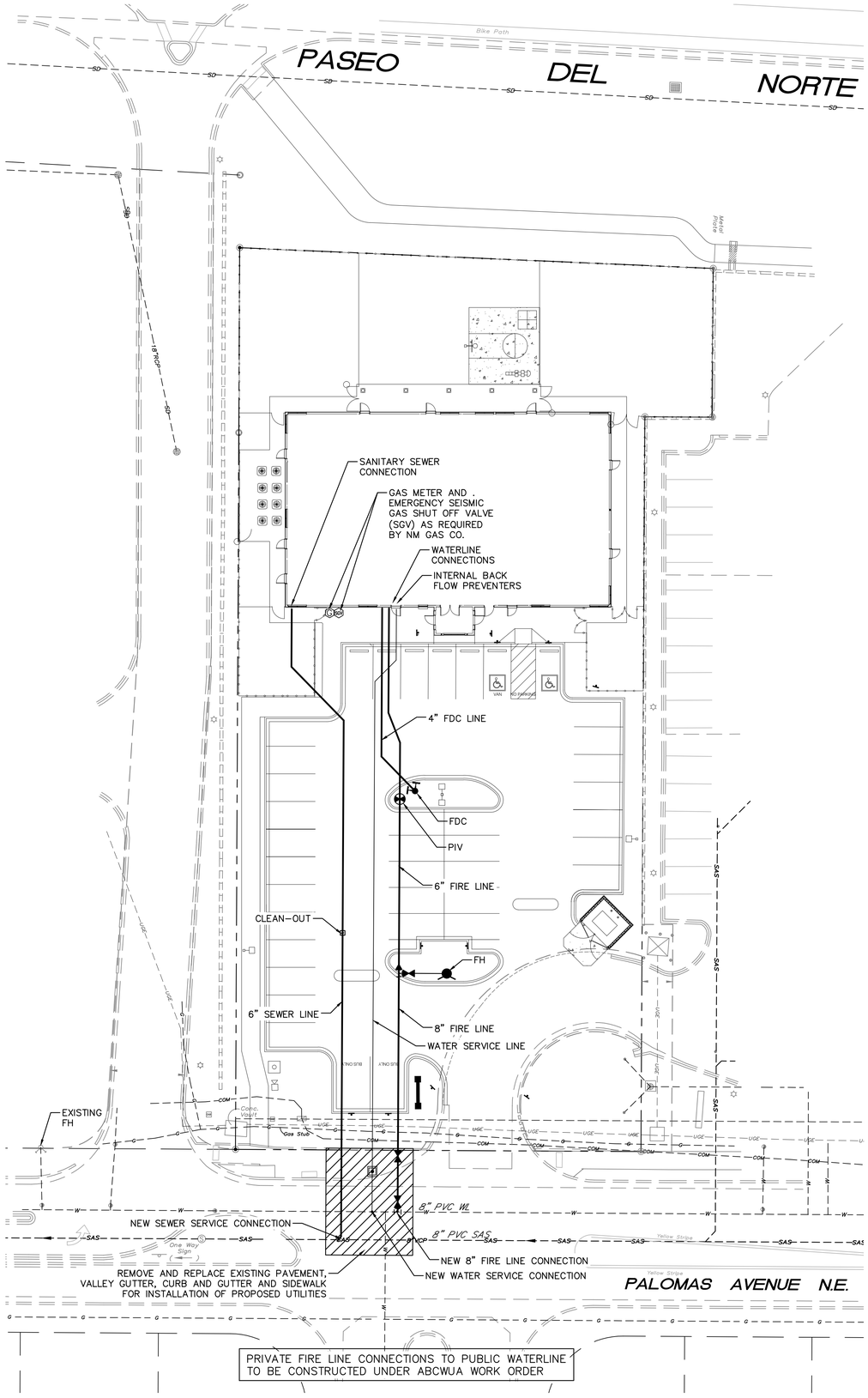
Children's Design Group
Mark D. Pavey, A.I.A. - Architect
PO BOX 1365
Gulf Shores, AL 36547

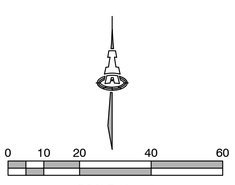
Isaacson & Arfman, P.A.
128 Monroe St, NE
Albuquerque, NM 87108

FRED C. ARFMAN NEW MEXICO 01-25-18 7322 LICENSED PROFESSIONAL ENGINEER NOT FOR CONSTRUCTION

January 25, 2018

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





GENERAL NOTES

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

UTILITY GENERAL NOTES

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED UTILITIES SHOWN ON THIS PLAN INCLUDING: TRENCHING, BACKFILL, SUPPORTS, CLEANOUT PADS, SERVICE STOPS AND BOXES, SERVICE LINES, TESTING, CLEANING, AND STERILIZING. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.

B. MINIMUM COVER SHALL BE 36" FOR WATERLINES AND 48" FOR SANITARY SEWER, EXCEPT AT BUILDING CONNECTIONS.

C. UTILITY LINES SHALL BE INSTALLED AFTER COMPLETION OF THE SITE ROUGH GRADING.

D. UTILITY LINES SHALL BE INSTALLED PRIOR TO SURFACE IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, AND LANDSCAPING.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS TO BUILDING PLUMBING AND ALL NECESSARY FITTINGS. FITTING COSTS SHALL BE INCIDENTAL. REFER TO THE MECHANICAL AND/OR PLUMBING PLANS FOR SERVICE CONNECTIONS.

F. DRY UTILITY LOCATIONS AND DESIGN ARE NOT A PART OF THIS PLAN. CONTRACTOR SHALL COORDINATE WITH THE LOCAL DRY UTILITY COMPANIES TO DETERMINE THE SIZE, DEPTH, LOCATION, FITTINGS AND REQUIRED APPURTENANCES FOR THE DRY UTILITY SERVICE LINES ON THE SITE. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR SERVICE CONNECTIONS.

G. TRENCHING, BORING, AND JACKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 700. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D-1557.

H. ALL WATER VALVE BOXES, MANHOLE RINGS & COVERS, AND OTHER SURFACE ITEMS FOR THE UTILITIES SHALL BE ADJUSTED TO FINISHED GRADE.

I. ALL CROSSINGS OF WATER AND SEWER LINES SHALL HAVE 12" MIN CLEARANCE. IF 12" CLEARANCE IS NOT POSSIBLE, BOTH PIPES SHALL BE ENCASED IN CONCRETE OR AS DIRECTED BY THE ENGINEER.

J. VALVES, METERS, SERVICE LINES, METER AND VALVE BOXES, TAPPING SLEEVES, HYDRANTS, AND OTHER WATER APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 800.

K. WATERLINES LESS THAN 4" DIAMETER SHALL BE COPPER TYPE K MEETING ASTM B 88 REQUIREMENTS. WATERLINES 4" IN DIAMETER OR LARGER SHALL BE PVC PIPE MEETING AWWA C900 DR-18 REQUIREMENTS.

L. ALL FITTINGS AND COUPLINGS FOR WATERLINES LESS THAN 4" IN DIAMETER ARE TO BE COPPER, SOLDER JOINT FITTINGS IN ACCORDANCE WITH ASME 16.18 OR ASME B16.22.

M. ALL FITTINGS AND COUPLINGS FOR WATERLINES 4" IN DIAMETER OR LARGER ARE TO BE MEGA LUG MECHANICAL JOINTS OR ENGINEER APPROVED EQUIVALENT.

N. JOINTS SHALL BE RESTRAINED BY MEGA LUG HARNESSES, OR ENGINEER APPROVED EQUIVALENT. JOINT RESTRAINTS SHALL BE INSTALLED AT DISTANCES FROM THE FITTINGS AS SHOWN ON THE JOINT RESTRAINT TABLE IN THESE PLANS.

O. BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

P. FIRE LINES SHALL USE PIPE MATERIALS LISTED AND APPROVED FOR FIRE SERVICE BY UNDERWRITERS LABORATORIES.

Q. FIRE DEPARTMENT CONNECTIONS SHALL MEET UL 405, NFPA 1963, AND LOCAL FIRE DEPARTMENT REQUIREMENTS.

R. ADJUST WATER AND FIRE LINES TO AVOID FOOTINGS, SEWER LINES, AND OTHER CONDUITS. INSTALL FITTINGS AS NEEDED.

S. SEWER MANHOLES, CLEANOUTS, SEWER SERVICE TAPS, AND OTHER SEWER APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 900 / APWA SPEC. SECT. 900 / LOCAL UTILITY COMPANY SPECIFICATIONS

T. SEWER SERVICE LINES SHALL BE INSTALLED AT A 2% MINIMUM SLOPE, UNLESS OTHERWISE SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS. THE PIPE SHALL DRAIN TOWARD THE SEWER MAIN AT ALL LOCATIONS.

U. ALL SANITARY SEWER LINE MATERIALS SHALL BE PVC SDR-35 PIPE.

PRIMROSE SCHOOL OF SANDIA HEIGHTS

CONCEPTUAL UTILITY PLAN

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Sheet 4 of 5