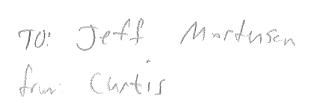
CITY OF ALBUQUERQUE





July 21, 2010

Glenn S. Broughton, P.E. Bohannan Huston 7500 Jefferson NE Albuquerque, NM 87109

Re: Truman Middle School Phase 1 Improvements Grading and Drainage Plan Engineer's Stamp date 5-25-10 and PH 1 DMP Stamp date 7-19-10 (M09/D013)

Dear Mr. Broughton,

Based upon the information provided in your submittal received 7-19-10, the above referenced plans are approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

PO Box 1293

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Albuquerque

This project requires a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge and a Topsoil Disturbance Permit since it is disturbing ³/₄ of an acre or more.

NM 87103

If you have any questions, you can contact me at 924-3695.

www.cabq.gov

Cente a Cheine

Sincerely,

Curtis A. Cherne, P.E.

Senior Engineer, Planning Dept.
Development and Building Services

C: file

Kathy Verhage, DMD

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 12/2005)

PROJECT TITLE: TRUMAN MIDDLE SCHOOL DRB#: EPC#:	WORK ORDER#:
LEGAL DESCRIPTION:CITY ADDRESS:	
ENGINEERING FIRM: Bohanan - Huston ADDRESS: 7500 Selferson 15T CITY, STATE: ABO DM	CONTACT: 823-1000 PHONE: ZIP CODE: 87109
OWNER: ADDRESS: CITY, STATE:	PHONE:
ARCHITECT: FBT Architect ADDRESS: 600 Indian School CITY, STATE: ABQ NM	CONTACT: PHONE: 683 5200 ZIP CODE: 87110
SURVEYOR: ADDRESS: CITY, STATE:	PHONE:
CONTRACTOR: ADDRESS: CITY, STATE:	PHONE:
TYPE OF SUBMITTAL: DRAINAGE REPORT DRAINAGE PLAN 1st SUBMITTAL DRAINAGE PLAN RESUBMITTAL CONCEPTUAL G & D PLAN GRADING PLAN EROSION CONTROL PLAN ENGINEER'S CERT (HYDROLOGY) CLOMR/LOMR TRAFFIC CIRCULATION LAYOUT ENGINEER'S CERT (TCL) ENGINEER'S CERT (DRB SITE PLAN) OTHER (SPECIFY)	CYPE OF APPROVAL SOUGHT: SIA/FINANCIAL GUARANTEE RELEASE PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D APPROVAL S. DEV. FOR BLDG. PERMIT APPROVAL SECTOR PLAN APPROVAL FINAL PLAT APPROVAL FOUNDATION PERMIT APPROVAL BUILDING PERMIT APPROVAL CERTIFICATE OF OCCUPANCY (PERM) CERTIFICATE OF OCCUPANCY (TEMP) GRADING PERMIT APPROVAL PAVING PERMIT APPROVAL WORK ORDER APPROVAL OTHER (SPECIFY) JUL 19 2010
VAS A PRE-DESIGN CONFERENCE ATTENDED: YES NO COPY PROVIDED	HYDROLOGY SECTION

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be

- required based on the following:

 1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
 - Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

 Drainage Report: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

DATE SUBMITTED:

Storage Table

Proposed Pond System - Phase I Bottom EL 5112.00 5109.00 5111.00 5109.00

Top EL	5114.00	5114.00	5114.00	5114.00			
 Elev.	Pond 1 Volume (ft^3)	Pond 2 Volume (ft^3)	Pond 3 Volume (ft^3)	Pond 4 Volume (ft^3)	Total Volume (ft^3)	Storage Volume (Ac-ft)	
5109.00	0.00	0.00	0.00	0.00	0.00	0.0000	
5110.00	0.00	5822.64	0.00	1503.70	7326.35	0.1682	
5111.00	0.00	13070.70	0.00	3670.34	16741.03	0.3843	
5112.00	0.00	21856.82	2733.70	6579.63	31170.15	0.7156	

3912.67 32296.50 7345.17 10322.36 53876.70

				IIIIS CADIO IS	s pa seu on u	IN DEM SEC	tion 22.2, Zone:	1								
Basin	Area	Area	Land	d Treatme	nt Percent	ages	Q(100yr)	Q(100yr)	V(100yr)	V _(100yr-6hr)	V _(100yr-24hr)	Q(2yr)	Q(2yr)	WTE	V _(2yr-6hr)	V _(2yr-24hr)
ID	(SQ. FT)	(AC.)	Α	В	С	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)
											·					·
CURREN	IT ONSITE	BASINS												-		
Α	50075	1.15	0.0%	0.0%	25.0%	75.0%	4.00	4.59	1.73	7198	8638	1.39	1.59	0.57	2379	3003
В	42875	0.98	0.0%	0.0%	15.0%	85.0%	4.15	4.08	1.82	6513	7910	1.51	1.48	0.63	2251	2857
С	93645	2.15	0.0%	0.0%	30.0%	70.0%	3.92	8.43	1.68	13079	15592	1.32	2.85	0.54	4214	5305
D	38951	0.89	0.0%	0.0%	100.0%	0.0%	2.87	2.57	0.99	3213	3213	0.47	0.42	0.12	390	390
E	160952	3.69	0.0%	0.0%	20.0%	80.0%	4.07	15.04	1.77	23794	28730	1.45	5.34	0.60	8048	10190
F	52262	1.20	0.0%	0.0%	20.0%	80.0%	4.07	4.88	1.77	7726	9329	1.45	1.73	0.60	2613	3309
G	70793	1.63	0.0%	10.0%	65.0%	25.0%	3.16	5.14	1.20	7097	7775	0.73	1.19	0.26	1528	1822
Н	32394	0.74	0.0%	0.0%	50.0%	50.0%	3.62	2.69	1.48	3995	4535	1.08	0.80	0.42	1134	2268
J	161453	3.71	0.0%	75.0%	15.0%	10.0%	2.39	8.86	0.85	11409	11948	0.26	0.97	0.10	1312	2442
K	12228	0.28	0.0%	10.0%	85.0%	5.0%	2.86	0.80	1.01	1026	1046	0.49	0.14	0.14	142	184
TOTAL	715629	16.43	-	-		-	-	57.08	<u>-</u>	85052	98717	: -	16.52	-	24009	31770
CURREN	IT OFFSITE	BASINS						· ·				-				
L	11089	0.25	0.0%	0.0%	100.0%	0.0%	2.87	0.73	0.99	915	915	0.47	0.12	0.12	111	111
М	62016	1.42	0.0%	0.0%	10.0%	90.0%	4.22	6.01	1.87	9674	11535	1.57	2.23	0.66	3411	7318
N	30510	0.70	0.0%	0.0%	60.0%	40.0%	3.47	2.43	1.38	3514	3920	0.96	0.67	0.36	915	1770
TOTAL	103614	2.38	-	·	-	=	-	9.17	-	14103	16370	-	3.02	-	4437	9198

PHASE I DRAINAGE MANAGEMENT PLAN

The purpose of this submittal is to present a drainage master plan for Phase 1 of Albuquerque Public School (APS) Truman Middle School. The site comprises approximately 18.8 acres, is located within zone atlas map M—9 and is bounded along the north by Benavidas Road SW, along the west by Snow Vista Boulevard. Westgate Heights is located to the east and the Westgate Community Center to the south of the school site. This drainage management plan will evaluate the existing drainage conditions, as well as Phase 1 improvements at the school. Phase 1 improvements include a new classroom building on the north side of the site, hardscape and a new basketball court. The existing and proposed hydrologic conditions were analyzed using the procedures in described in Section 22.2 of the Development Process Manual (DPM). The site is located within precipitation Zone 1 as shown on Figure A—1 in Section 22.2 of the DPM.

II. EXISTING HYDROLOGIC CONDITIONS

This site is partially developed with the main classroom / administration building, gym, portables, site parking and playground / field area. The site has minimal landscape treatment with the exception of the turf play field. This site has been divided into three basins. Land treatments were established for each basin based on Table A-4, Section 22.2 A.3 of the DPM. Basin A comprises the northern portion of the site adjacent to Benavides. This basin free discharges to Benavides with a peak flow rate of 10.4 cfs. Basin B consists of the majority of the school site. This basin drains to an existing retention pond located in the eastern portion of the site. The peak flow rate from this basin is 53.1 cfs and total runoff volume in the 100 year, 6 hour storm is 1.814 acre feet (77,382 cubic feet). The existing volume provided is 1.542 acre feet (assuming a maximum water surface elevation of 5114.00). Based on our analysis we have concluded that the existing retention pond does not have edequate capacity to retain the 100 year, 6 hour storm event. Basin C is a small area adjacent to Snow Vista Boulevard that free discharges to Snow Vista Boulevard. The peak flow

small area adjacent to Snow Vista Boulevard that free discharges to Snow Vista Boulevard. The peak flow rate from Basin C is 0.7 cfs. Peak discharge from the site is 11.1 cfs (assuming that the existing retention pond has adequate volume). A storm water lift station was constructed to drain the onsite retention pond. This lift station discharges to benavides via a 4" line. The lift station is a duplex pump station with a design flow rate of 215 gpm with a single pump operating. At that flow rate the retention pond would be drained in 38.9 hours. The information on the lift station was obtained from design plans for the Multipurpose Recreation Field at Truman Middle School. The plans were prepared by Jeff Mortensen & Associates and dated June 1, 1991. A site visit was conducted on March 30, 2010 and it was noted that the electric service for the lift station had been disconnected and the discharge line at Benavides could not be located. Rehabilitation of the list station will be required with the first classroom building which is considered Phase 1 of the future improvements on the campus. It was also noted that several of the existing inlets could not be found or were completely filled with sediment.

IV. PROPOSED HYDROLOGIC CONDITIONS

The drainage plan is to convey site drainage via onsite private storm drain and surface drainage to the four onsite retention ponds. These ponds will be interconnected by a storm drain system. An outlet pipe will connect to the existing storm water lift station. The ponds will be drained by this lift station. The lift station will be rehabilitated with this phase of the school construction. The drainage scheme for Phase 1 is essentially the same as the current condition, with the exception that a portion of Basin A will be diverted to the retention pond system. A raised crosswalk will be used to divert storm water through a sidewalk culvert to Pond 1. The only basins which will free discharge to the public right of way will be Basin L (Noted as Basin C in the Existing DMP), Basin M and Basin N. The peak discharge from these basins is 0.7 cfs, 6.0 cfs and 2.4 cfs respectively. The peak discharge to the public right of way is approximately 9.1 cfs. The remainder of the drainage basins will drain the retention pond system via private onsite storm drain and surface drainage. The total volume required to retain the 100 year, 6 hour storm is 1.953 acre feet. The total volume provided is 2.068 acre feet. The storage volume noted above will provide an additional 5,000 cubic feet for sediment storage.

V. CONCLUSION As the site exists today the peak discharge to the public right of way is 11.1 cfs. With the development of Phase 1 the peak discharge to the right of way will be 9.1 cfs or a net reduction of 2.0 cfs. The onsite retention ponds are sized to store the 100 year, 6 hour storm. An additional volume of 5,000 cubic feet has been provided to allow for sediment volume. With the rehabilitated lift station discharging 215 gpm through the 4" line to Benavides, these ponds will drain in 49.2 hours. The drainage management plan is capable of safely retaining the 100 year, 6 hour storm and meets the City of Albuquerque hydrology requirements.

LEGEND

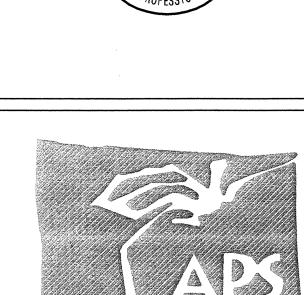
LEGEND

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----- PROPERTY LINE

---- PROJECT LIMITS OF GRADING

PROPOSED DRAINAGE BASIN



Albuquerque Public Schools

JUNE 7, 2010

EXISTING INDEX CONTOUR **EXISTING INTERMEDIATE CONTOUR EXISTING GROUND ELEVATION** PROPOSED GROUND ELEVATION FL=FLOW LINE TC=TOP OF CURB TS=TOP OF SIDEWALK TG=TOP OF GRATE

> **PROJECT NO:** 20100353 20100353DMP01.dwg CAD DWG FILE: DRAWN BY: BHW **CHECKED BY:** JLM

MARK DATE DESCRIPTION

SHEET TITLE PROPOSED INTERMEDIATE CONTOUR PROPOSED CURB & GUTTER

PROPOSED STORM DRAIN LINE PROPOSED STORM DRAIN MANHOLE

FGH=FINISH GROUND HIGH SIDE

FGL=FINISH GROUND LOW SIDE

DIRECTION OF FLOW

GRADE BREAK

——— 5025 ——— PROPOSED INDEX CONTOUR

PROPOSED STORM DRAIN INLETS ROOF DRIAN

JUL 19 2010 HYDROLOGY

SECTION

C-003

PHASE I DRAINAGE

MANAGEMENT PLAN

Bohannan 📤 Huston 🖹 ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

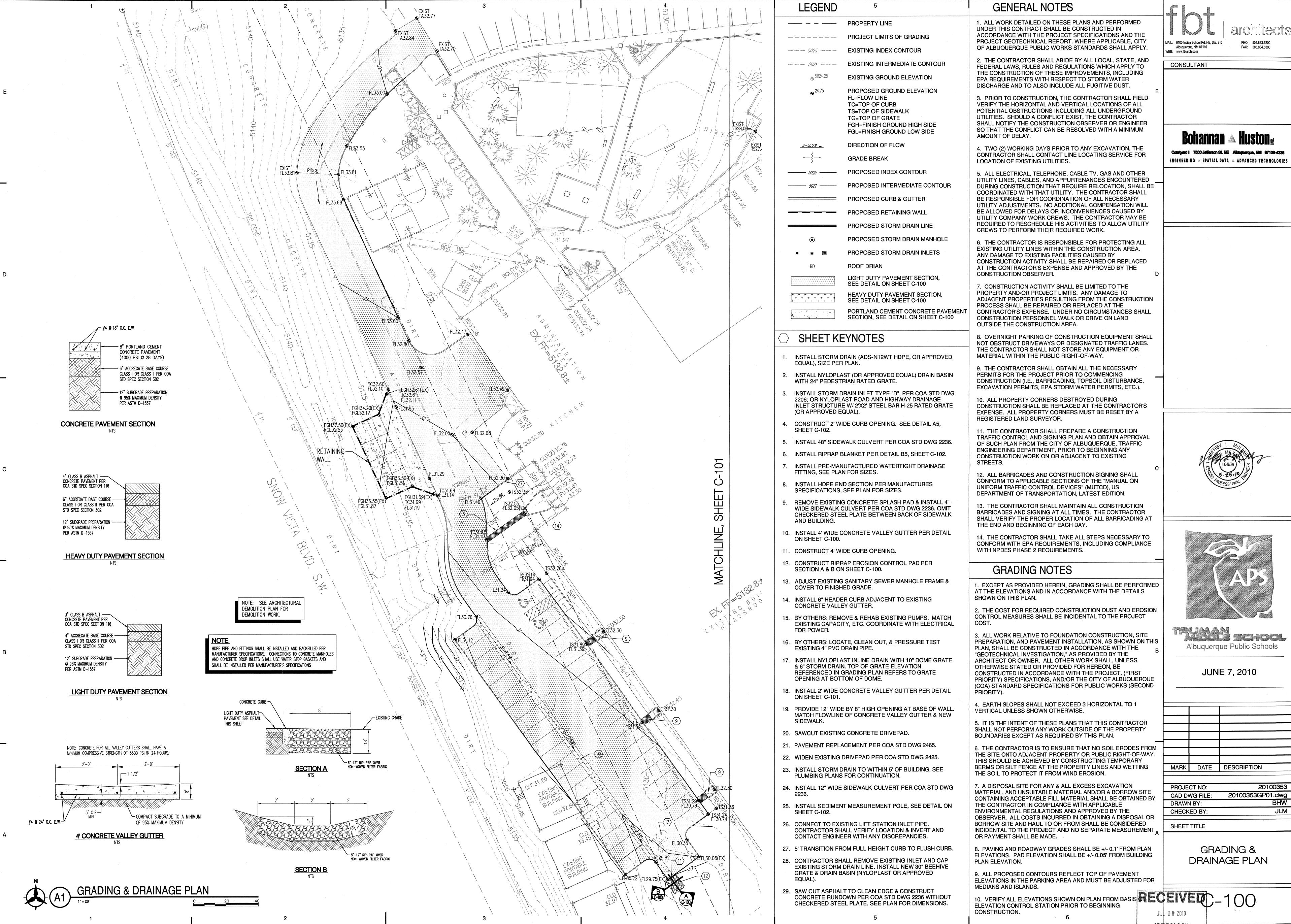
MAIL: 6100 Indian School Rd. NE, Ste. 210

Albuquerque, NM 87110
WEB: www.fbtarch.com

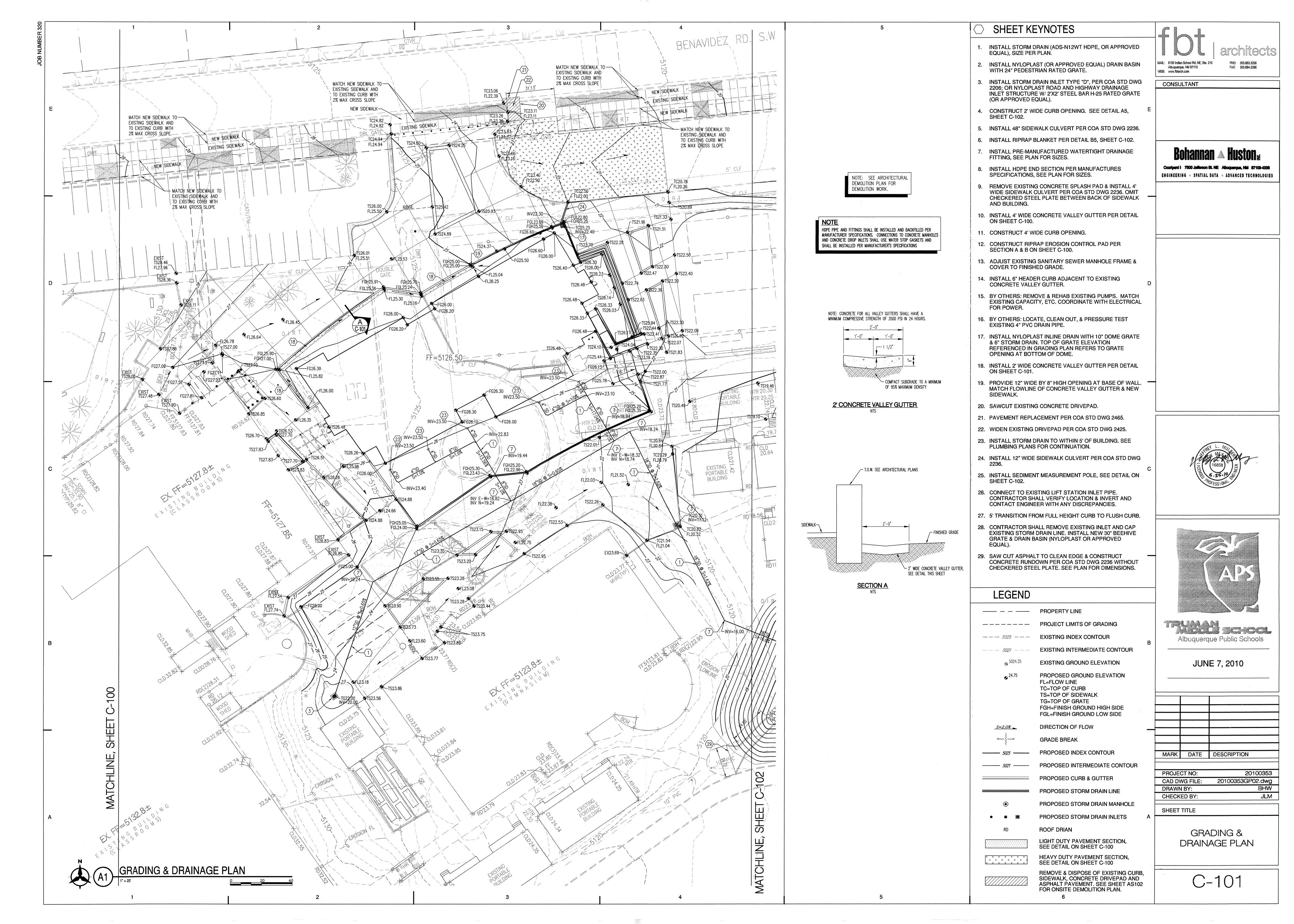
CONSULTANT

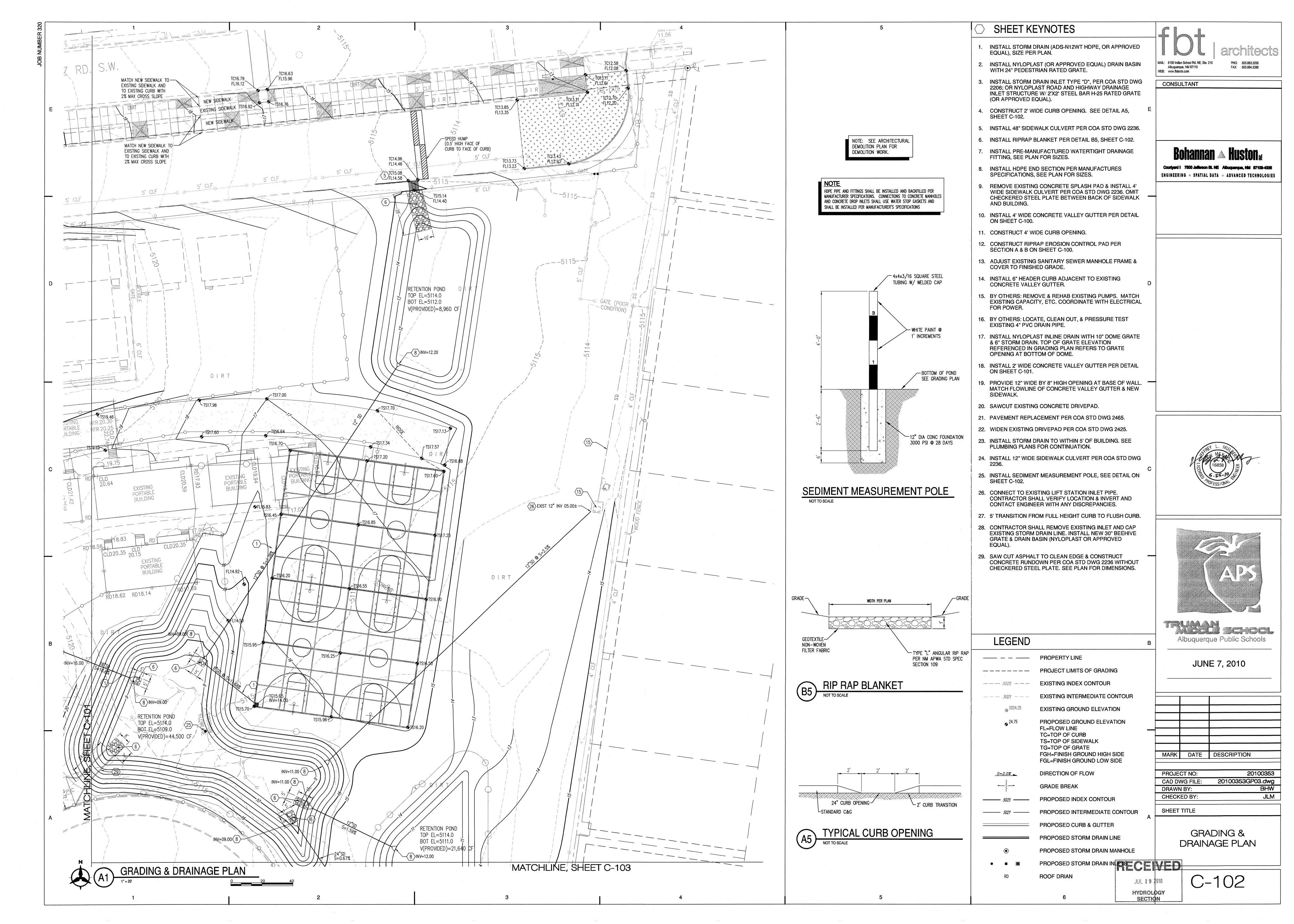
PHO: 505.883.5200 FAX: 505.884.5390





HYDROLOGY SECTION

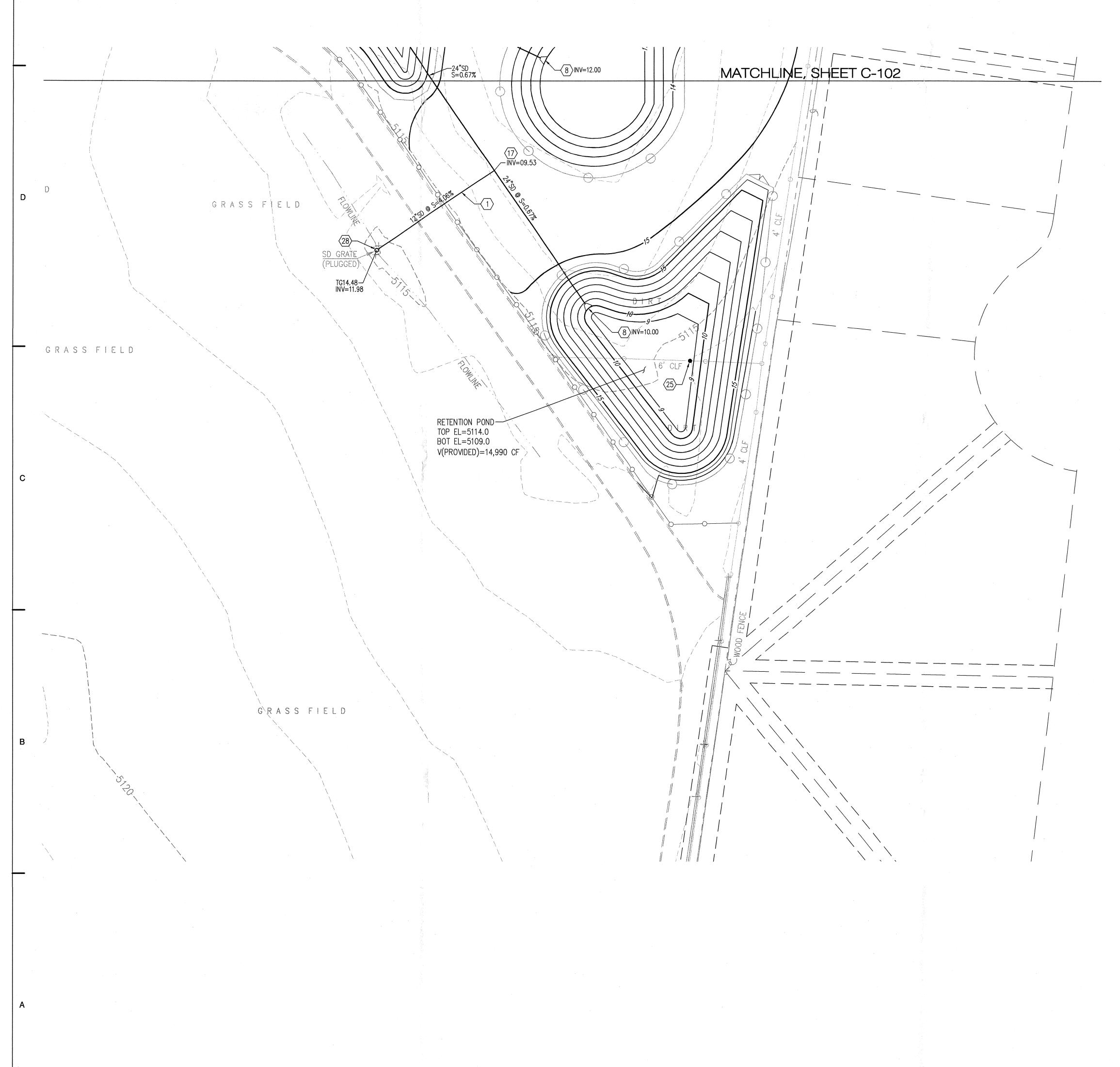




NOTE: SEE ARCHITECTURAL DEMOLITION PLAN FOR DEMOLITION WORK.

NOTE

HDPE PIPE AND FITTINGS SHALL BE INSTALLED AND BACKFILLED PER MANUFACTURER SPECIFICATIONS. CONNECTIONS TO CONCRETE MANHOLES AND CONCRETE DROP INLETS SHALL USE WATER STOP GASKETS AND SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS



○ SHEET KEYNOTES

1. INSTALL STORM DRAIN (ADS-N12WT HDPE, OR APPROVED EQUAL), SIZE PER PLAN.

INSTALL NYLOPLAST (OR APPROVED EQUAL) DRAIN BASIN

WITH 24" PEDESTRIAN RATED GRATE.

3. INSTALL STORM DRAIN INLET TYPE "D", PER COA STD DWG

3. INSTALL STORM DRAIN INLET TYPE "D", PER COA STD DWG 2206; OR NYLOPLAST ROAD AND HIGHWAY DRAINAGE INLET STRUCTURE W/ 2'X2' STEEL BAR H-25 RATED GRATE (OR APPROVED EQUAL).

4. CONSTRUCT 2' WIDE CURB OPENING. SEE DETAIL A5, SHEET C-102.

5. INSTALL 48" SIDEWALK CULVERT PER COA STD DWG 2236.

6. INSTALL RIPRAP BLANKET PER DETAIL B5, SHEET C-102.

7. INSTALL PRE-MANUFACTURED WATERTIGHT DRAINAGE FITTING, SEE PLAN FOR SIZES.

8. INSTALL HDPE END SECTION PER MANUFACTURES SPECIFICATIONS, SEE PLAN FOR SIZES.

9. REMOVE EXISTING CONCRETE SPLASH PAD & INSTALL 4' WIDE SIDEWALK CULVERT PER COA STD DWG 2236. OMIT CHECKERED STEEL PLATE BETWEEN BACK OF SIDEWALK AND BUILDING.

10. INSTALL 4' WIDE CONCRETE VALLEY GUTTER PER DETAIL ON SHEET C-100.

11. CONSTRUCT 4' WIDE CURB OPENING.

12. CONSTRUCT RIPRAP EROSION CONTROL PAD PER SECTION A & B ON SHEET C-100.

13. ADJUST EXISTING SANITARY SEWER MANHOLE FRAME & COVER TO FINISHED GRADE.

14. INSTALL 6" HEADER CURB ADJACENT TO EXISTING CONCRETE VALLEY GUTTER.

15. BY OTHERS: REMOVE & REHAB EXISTING PUMPS. MATCH EXISTING CAPACITY, ETC. COORDINATE WITH ELECTRICAL FOR POWER.

16. BY OTHERS: LOCATE, CLEAN OUT, & PRESSURE TEST EXISTING 4" PVC DRAIN PIPE.

17. INSTALL NYLOPLAST INLINE DRAIN WITH 10" DOME GRATE & 6" STORM DRAIN. TOP OF GRATE ELEVATION REFERENCED IN GRADING PLAN REFERS TO GRATE OPENING AT BOTTOM OF DOME.

18. INSTALL 2' WIDE CONCRETE VALLEY GUTTER PER DETAIL ON SHEET C-101.

19. PROVIDE 12" WIDE BY 8" HIGH OPENING AT BASE OF WALL.

MATCH FLOWLINE OF CONCRETE VALLEY GUTTER & NEW
SIDEWALK.

20. SAWCUT EXISTING CONCRETE DRIVEPAD.

21. PAVEMENT REPLACEMENT PER COA STD DWG 2465.

22. WIDEN EXISTING DRIVEPAD PER COA STD DWG 2425.

23. INSTALL STORM DRAIN TO WITHIN 5' OF BUILDING. SEE PLUMBING PLANS FOR CONTINUATION.

24. INSTALL 12" WIDE SIDEWALK CULVERT PER COA STD DWG

2230.

25. INSTALL SEDIMENT MEASUREMENT POLE, SEE DETAIL ON SHEET C-102.

26. CONNECT TO EXISTING LIFT STATION INLET PIPE. CONTRACTOR SHALL VERIFY LOCATION & INVERT AND CONTACT ENGINEER WITH ANY DISCREPANCIES.

27. 5' TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB.

28. CONTRACTOR SHALL REMOVE EXISTING INLET AND CAP EXISTING STORM DRAIN LINE. INSTALL NEW 30" BEEHIVE GRATE & DRAIN BASIN (NYLOPLAST OR APPROVED FOLIAL)

29. SAW CUT ASPHALT TO CLEAN EDGE & CONSTRUCT CONCRETE RUNDOWN PER COA STD DWG 2236 WITHOUT CHECKERED STEEL PLATE. SEE PLAN FOR DIMENSIONS.

----- PROPERTY LINE

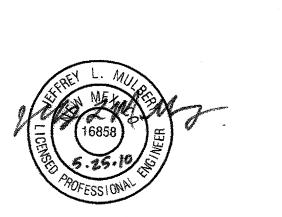


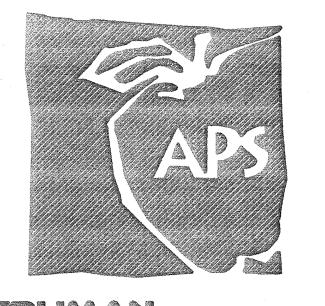
CONSULTANT

architects

PHO: 505.883.5200

Courtyard 1 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES





LEGEND B Albuquerque Public Schools

			JUNE 7, 2010					
	PROJECT LIMITS OF GRADING		00142 7, 2010					
5025	EXISTING INDEX CONTOUR							
5021	EXISTING INTERMEDIATE CONTOUR	·						
5024.25	EXISTING GROUND ELEVATION							
→ ^{24.75}	PROPOSED GROUND ELEVATION FL=FLOW LINE TC=TOP OF CURB TS=TOP OF SIDEWALK TG=TOP OF GRATE FGH=FINISH GROUND HIGH SIDE FGL=FINISH GROUND LOW SIDE		MARK	DATE	DESCRIPTION			
S=2.0%	DIRECTION OF FLOW		PROJEC	T NO:	20100353			
	GRADE BREAK		CAD DW DRAWN		20100353GP04.dwg BHW			
5025	PROPOSED INDEX CONTOUR		CHECKE	CHECKED BY:				
5021	PROPOSED INTERMEDIATE CONTOUR		SHEET TITLE					

PROPOSED STORM DRAIN LINE
PROPOSED STORM DRAIN MANHOLE

PROPOSED CURB & GUTTER

■ PROPOSED STORM DRAIN WANHOLE

PROPOSED STORM DRAINNLETS
ROOF DRIAN

JUL 1 9 2010

HYDROLOGY

SECTION

C-103

GRADING &

DRAINAGE PLAN

GRADING & DRAINAGE PLAN