

C1 H.C. PARKING STALL DIMENSIONS
1/8" = 1'-0"

D3 TYPICAL NEW PARKING STALL DIMENSIONS
1/8" = 1'-0"

A1 SITE DEVELOPMENT PLAN - ARCHITECTURAL
1" = 50'-0"

GENERAL NOTES:

- A. REFER TO 'G' SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
- B. THE EXISTING CONSTRUCTION IS DEPICTED AS ACCURATELY AS CURRENT RECORDS INDICATE.
- C. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- D. KEYNOTES WITH ALT # NEXT TO THE NOTE REFLECT THAT THE WORK IS ASSOCIATED WITH THE ALTERNATE OF THE INDICATED NUMBER.

KEYED NOTES

1. RELOCATED BACK STOP.
2. CHAIN LINK FENCE. TO MATCH EXISTING, REFER TO DETAIL C4/A-510.
3. RELOCATED PORTABLE. (BY OWNER)
4. CONC. CURB AND GUTTER. REFER TO DETAIL A1B/A-502
5. 20' CLEAR FIRE LANE, ASPHALT PAVING.
6. CONC. VALLEY GUTTER. REFER TO SHEET C-103.
7. 5'-0" CHAIN LINK FENCE WITH 4'-0" WIDE GATE.
8. PAINTED ARROW, 50' O.C.
9. (3) BIKE RACK. REFER TO DETAIL A2/A-501, COORDINATE LOCATION WITH OWNER IN FIELD.
10. PAIR OF 10' WIDE HAIRPIN GATES, REFER TO DETAILS ON SHEET A-511.
11. 6' SIDEWALK, WITH CONTROL JOINTS EVERY 5' AND EXPANSION JOINTS EVERY 20', REFER TO DETAIL.
12. SIGN, 'PLEASE PULL FORWARD'. APPROXIMATELY EVERY 50'-0' ALONG PARENT PICKUP LANE.

DESCRIPTION

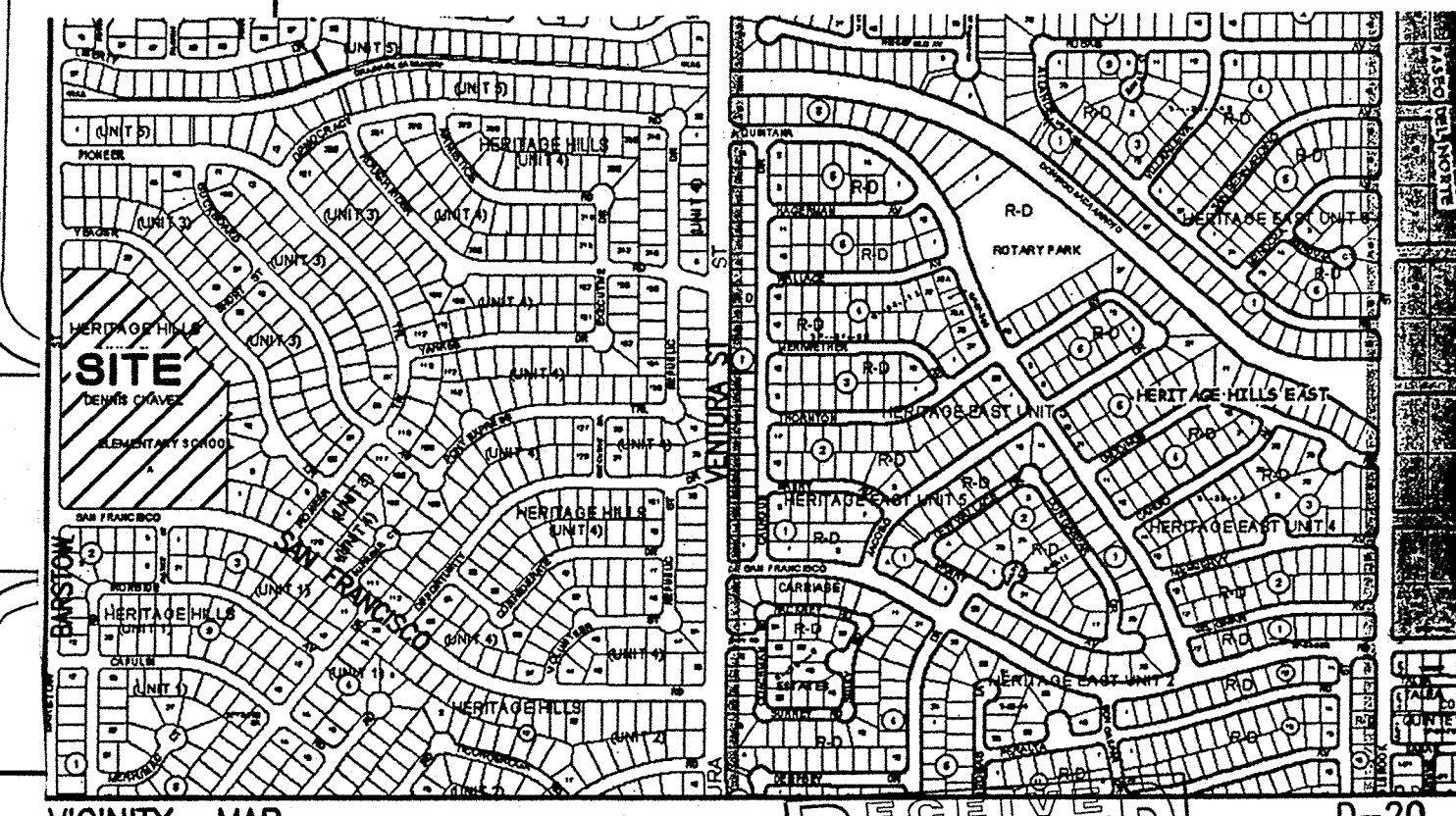
VICINITY MAP - REFERENCE BELOW
 ADDRESS : 7500 BARSTOW
 LEGAL DESCRIPTION : TRACT A, HERITAGE HILLS, UNIT 3
 TYPE OF DEVELOPMENT: EDUCATIONAL K-5
 DESCRIPTION OF WORK: ADDITIONS OF CLASSROOMS TO REPLACE PORTABLES. 15 CLASSROOMS ADDED AND 15 PORTABLES REMOVED. ALSO AN ADDITION OF A NEW KITCHEN, THE EXISTING IS TO BE RENOVATED TO BE INCLUDED IN THE DINING AREA.
 SIZE OF DEVELOPMENT:
 EXISTING PERMANENT BUILDING AREA = 42,548 GSF
 EXISTING PERMANENT PORTABLE AREA = 17,894 GSF
 NEW ADDITIONS AREA = 21,000 GSF
 REMOVED PORTABLE AREA = 1,334 GSF
 TOTAL COMBINED AREA = 80,108 GSF

PARKING CALCULATIONS

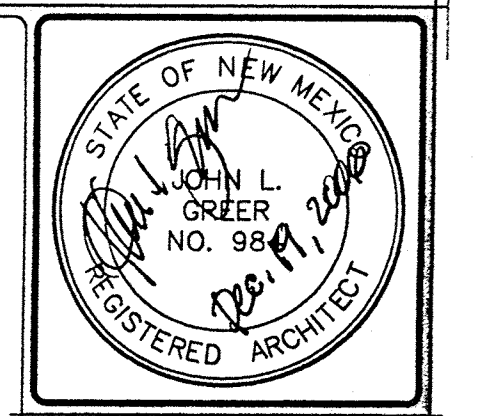
CITY OF ALBUQUERQUE ZONE CODE:
 SCHOOL ELEMENTARY AND MIDDLE: ONE SPACE FOR EACH EMPLOYEE.
 NON-RESIDENTIAL USES:
 51-100 OFF-STREET PARKING SPACES REQUIRE 3 SPACES FOR MOTORCYCLE PARKING.
 EXISTING PARKING SPACES: 13 P/S
 NEW CAR PARKING SPACES: 21 P/S
 NEW MOTORCYCLE PARKING SPACES: 3
 TOTAL PARKING SPACES: 34 CAR P/S - 3 MOTORCYCLE P/S
 REQUIRED PARKING SPACES: 82 (ONE PER STAFF)
 DISABLED PARKING REQUIRED: 14.12 NMIC TABLE 1106.1

TOTAL P/S	TOTAL REQUIRED	VAN ACCESSIBLE
51 - 100	4 P/S	1 P/S

 PROVIDED : 4 P/S TWO EXISTING AND TWO NEW ONE OF WHICH IS VAN ACCESSIBLE.



VICINITY MAP
SCALE: 1" = 750'



THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED, AND DATED ABOVE

1717 LOUISIANA NE, SUITE 202
ALBUQUERQUE, NM 87110-7027
505.821.0235 FAX 505.821.0348
 3005 NORTHRIDGE DR., SUITE C
FARMINGTON, NM 87402-2085
505.323.7475 FAX 505.323.6464

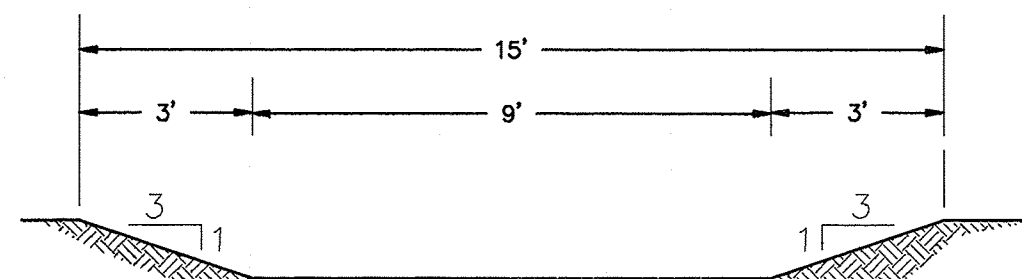
ARCHITECTURE
ENGINEERING
PLANNING
INTERIOR DESIGN
GREER STAFFORD SJCF

**ADDITIONS AND RENOVATION
DENNIS CHAVEZ ELEMENTARY SCHOOL
7500 BARSTOW
ALBUQUERQUE, NEW MEXICO**

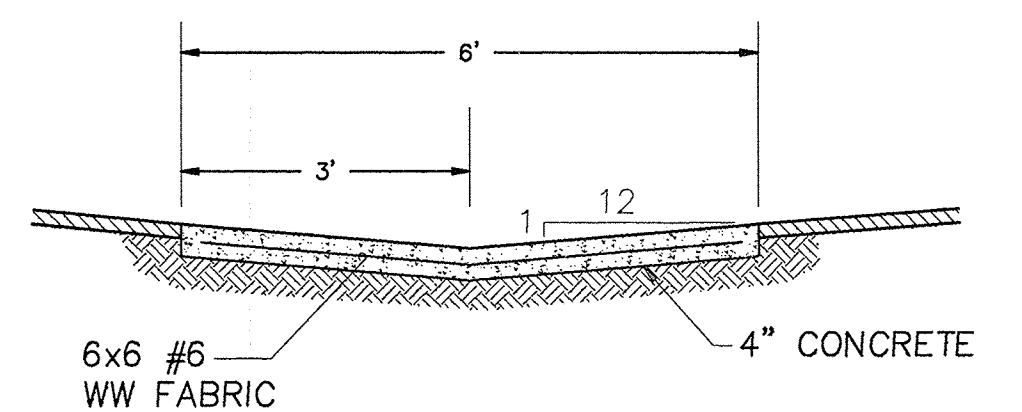
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CAD FILENAME 286220/DCKA-ADC-106	
SHEET TITLE SITE DEVELOPMENT PLAN - ARCHITECTURAL	
REVISION	DATE
1	DECEMBER 13, 2006
DATE	22 AUGUST 2006
PROJECT NO.	286220
DRAWING SHEET	C-106B

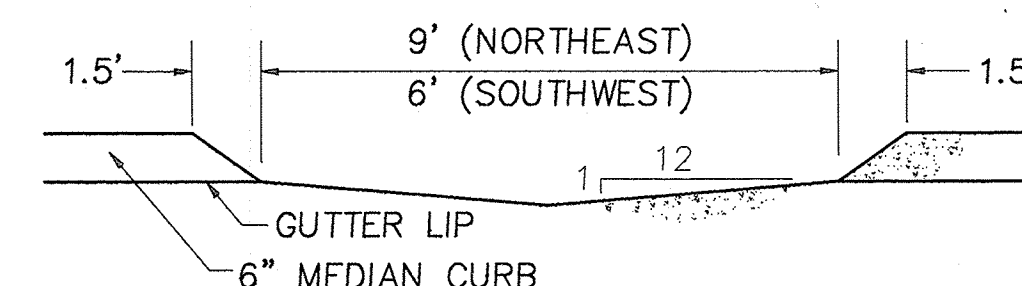
RECEIVED
APR 04 2008
HYDROLOGY SECTION



SECTION A-A
DRAINAGE SWALE DETAIL



6' CONCRETE
VALLEY GUTTER DETAIL



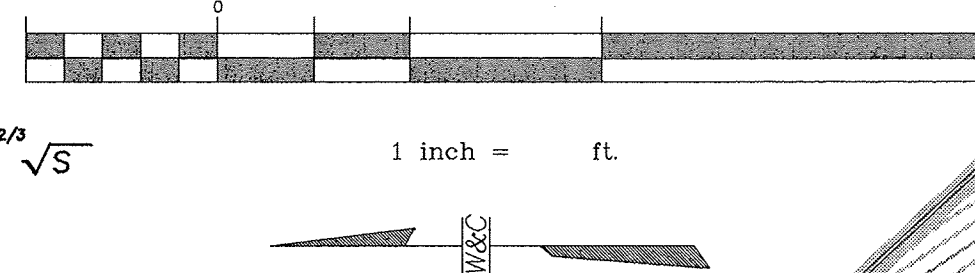
CURB OPENING DETAIL

$$Q = \frac{1.49}{\eta} (BY + ZY^2) \left(\frac{BY + ZY^2}{B + 2(Z^2 + Y^2)^{1/2}} \right)^{2/3} \sqrt{S}$$

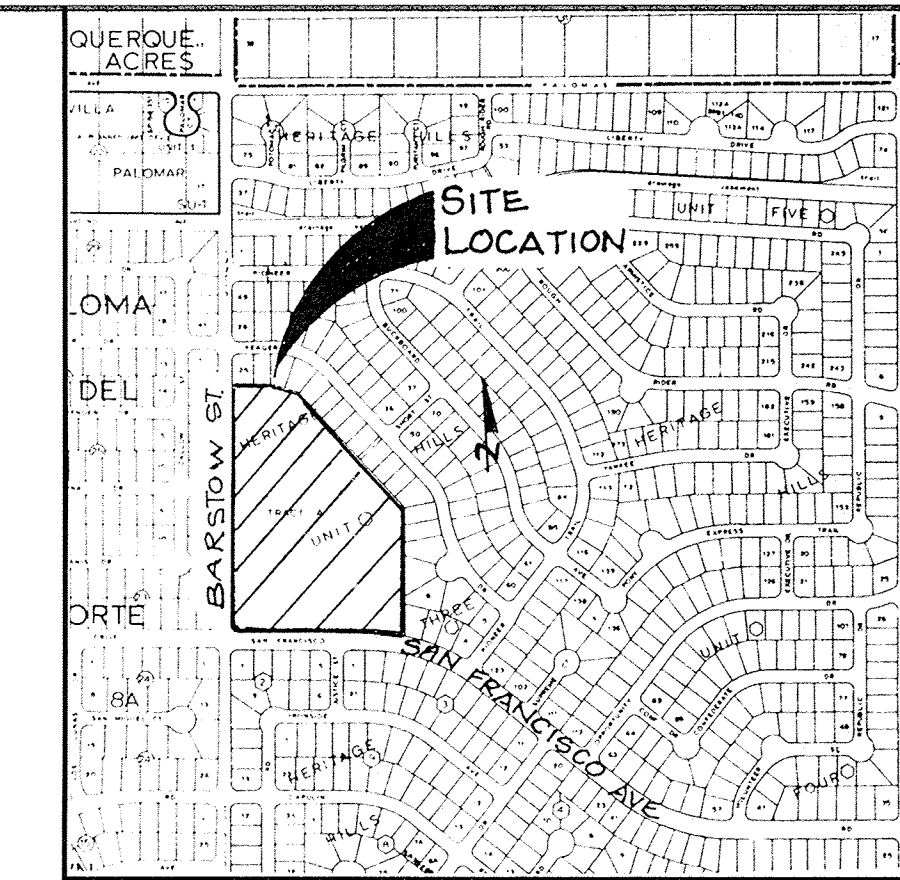
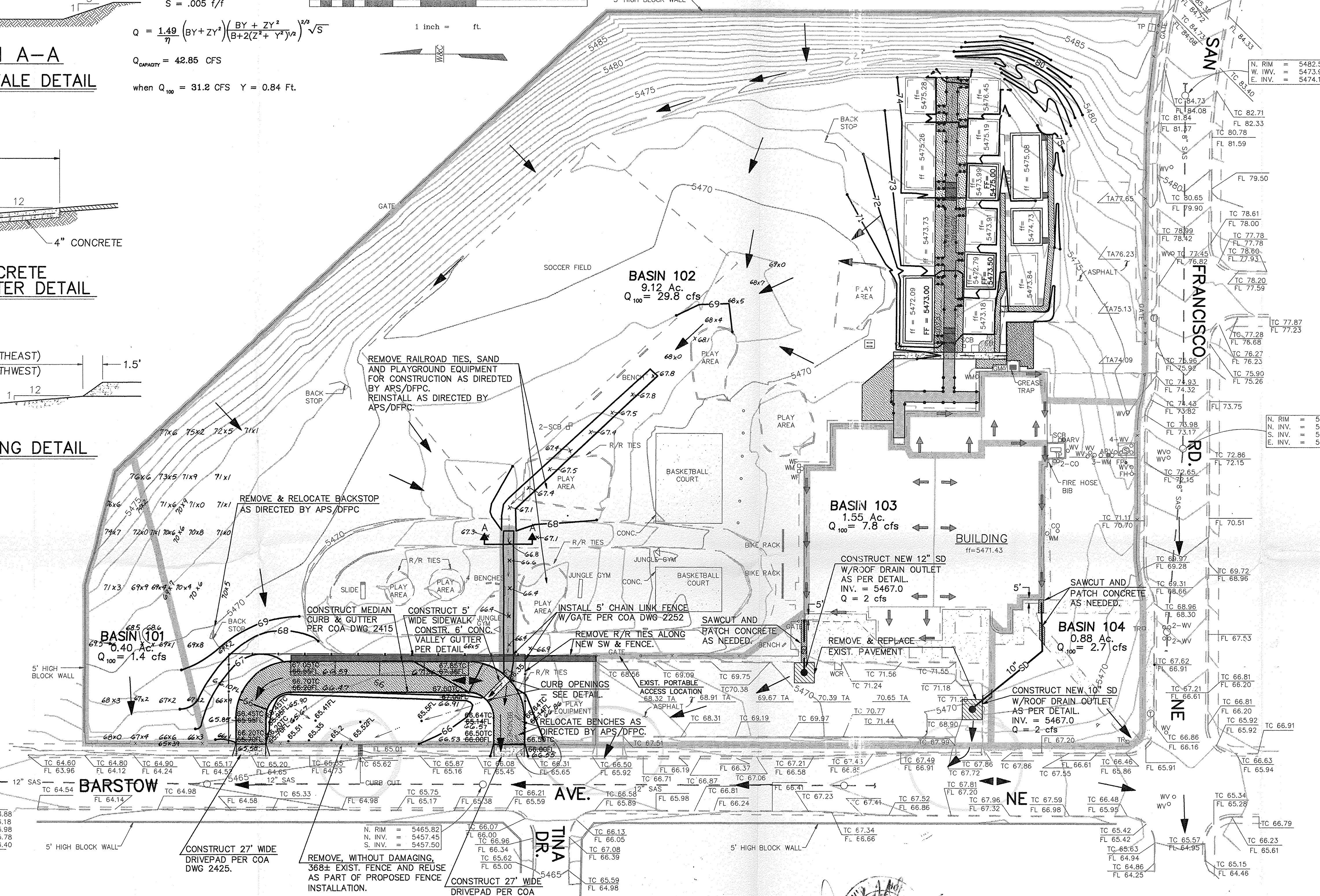
Y = 1Ft
B = 9Ft
Z = 3/1
 $\eta = .025$
S = .005 f/f

$Q_{CAPACITY} = 42.85 \text{ CFS}$

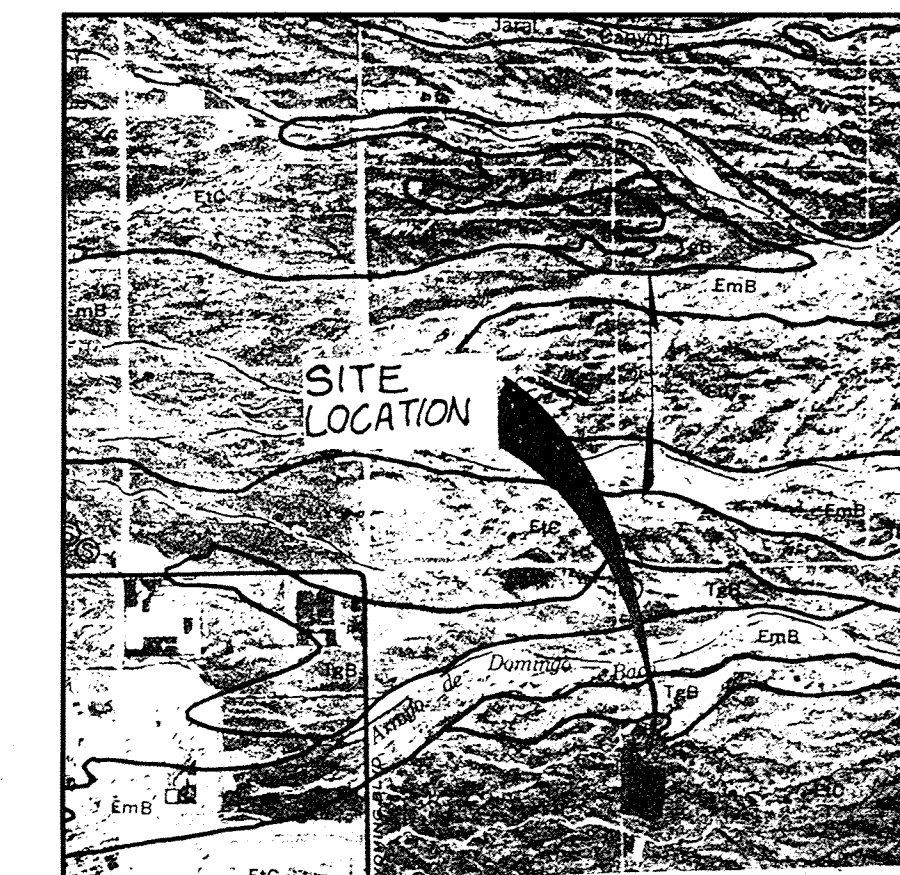
when $Q_{100} = 31.2 \text{ CFS}$ Y = 0.84 Ft.



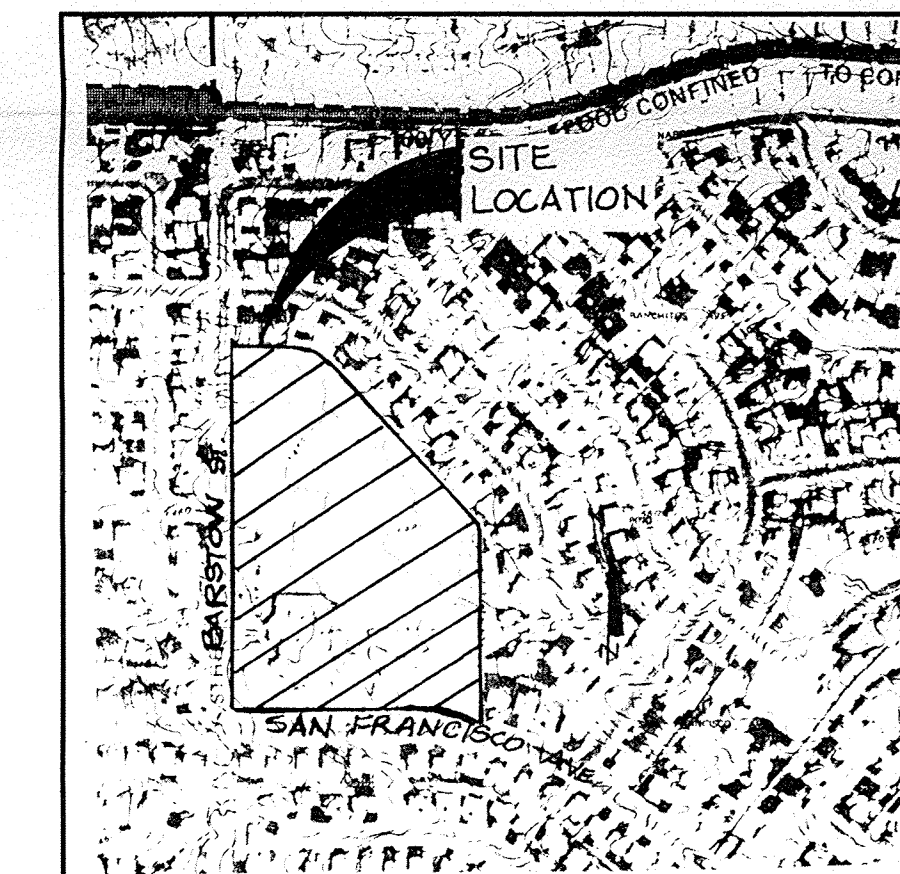
SEE SHEET C4 FOR
PORTABLE AREA
ENLARGEMENT AND
CONSTRUCTION NOTES



LOCATION MAP
ZONE ATLAS MAPS NO. D-19 & 20

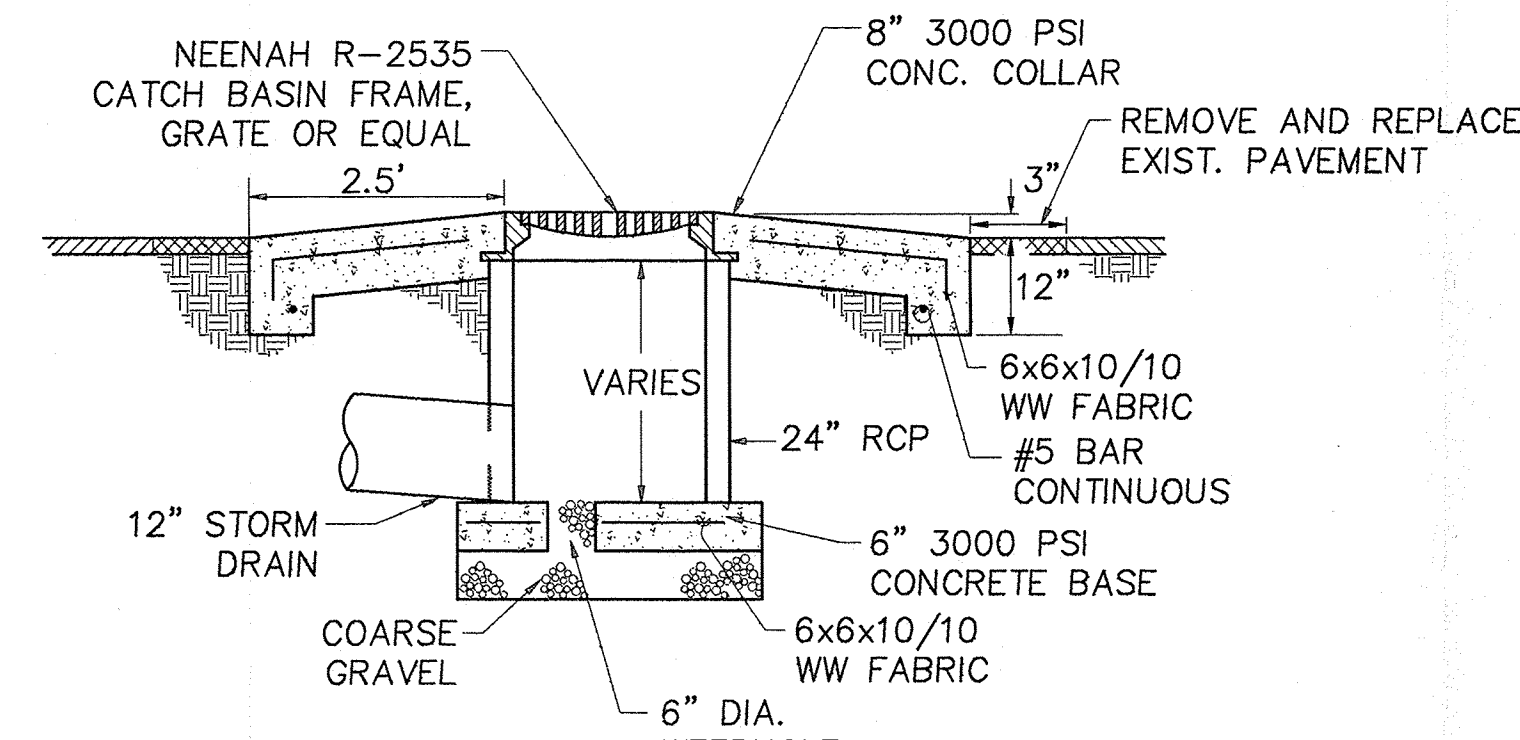


SOILS MAP
REFERENCE: SCS BERNALILLO COUNTY SOIL SURVEY
SHEET NO. 11



FLOOD INSURANCE MAP
REFERENCE: FLOOD INSURANCE STUDY
PANEL 10

LEGAL DESCRIPTION
TRACT A, HERITAGE HILLS, UNIT 3
BENCH MARK
ASC MONUMENT 2-D20-A (1978):B
BRASS CAP SET IN CURB AT SE CORNER
OF BARSTOW ST. AND SAN FRANCISCO AVE.
ELEVATION = 5466.47



ROOF DRAIN BUBBLER
OUTLET DETAIL

LEGEND

- FH FIRE HYDRANT
- CO CLEANOUT
- WV WATER VALVE
- ARV AIR RELEASE VALVE
- WM WATER METER
- GM GAS METER
- SCB SPRINKLER CONTROL BOX
- EB ELECTRIC BOX
- TP TRANSFORMER PAD
- WF WATER FOUNTAIN
- TR TELEPHONE RISER
- WCR WHEELCHAIR RAMP
- FF PROPOSED FINISH FLOOR ELEVATION
- ff EXISTING FINISH FLOOR ELEVATION
- TC TOP OF CURB ELEVATION
- TA TOP OF ASPHALT ELEVATION
- FL FLOW LINE
- 5475 — EXISTING INTERMEDIATE CONTOUR
- 73 — EXISTING INDEX CONTOUR
- 75 — PROPOSED INTERMEDIATE CONTOUR
- 85.50 — PROPOSED INDEX CONTOUR
- 85.50 — PROPOSED SPOT ELEVATION
- FLOW DIRECTION
- BASIN BOUNDARY
- NEW ASPHALT PAVEMENT/WALK
- EXISTING ASPHALT PAVEMENT TO BE REMOVED
- PROPOSED CHAIN LINK FENCE

ENGINEER'S CERTIFICATION

I, DAVID THOMPSON, DO HEREBY CERTIFY
THAT THE AS-BUILT INFORMATION HEREON
IS IN SUBSTANTIAL COMPLIANCE WITH THE
APPROVED GRADING PLAN.

APPROVED FOR ROUGH GRADING ±1'

COA _____ DATE _____

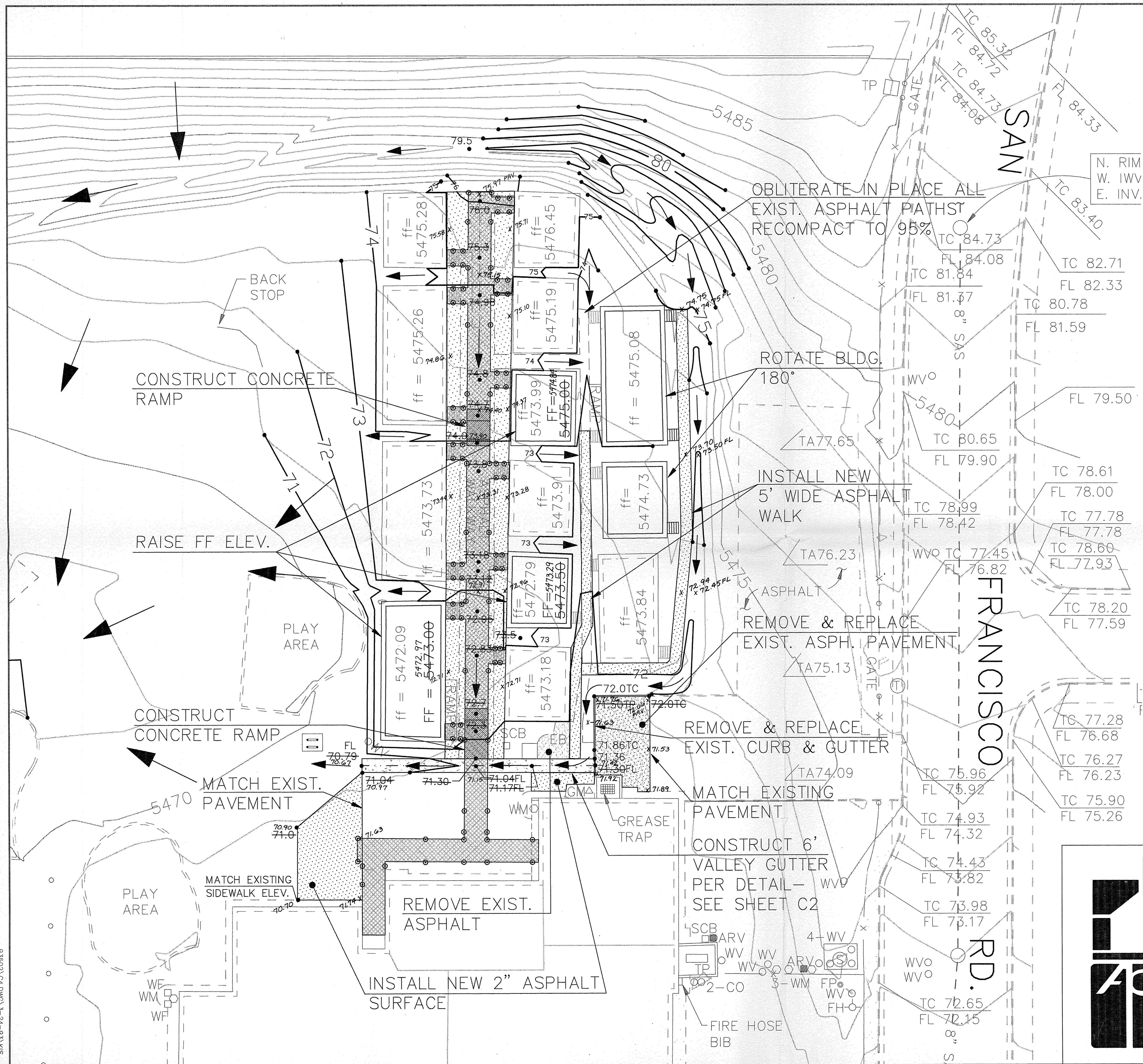


DENNIS CHAVEZ ELEMENTARY SCHOOL

GRADING & DRAINAGE PLAN

DESIGN D.S.A.	DRAWN KIS	DATE MAR 1993
		FILE NO. 93-502A
6611 GULTON CT ALBUQUERQUE, NEW MEXICO 87109 (505) 345-5345		SHEET NO. C2

93502\CAD\DWG\3-24-93\KIS



LEGEND

○ FH	FIRE HYDRANT	---	EXISTING INTERMEDIATE CONTOUR
○ CO	CLEANOUT	---	EXISTING INDEX CONTOUR
○ WV	WATER VALVE	---	PROPOSED INTERMEDIATE CONTOUR
○ ARV	AIR RELEASE VALVE	---	PROPOSED INDEX CONTOUR
○ WM	WATER METER	---	PROPOSED SPOT ELEVATION
△ GM	GAS METER	---	FLOW DIRECTION
□ SCB	SPRINKLER CONTROL BOX	---	BASIN BOUNDARY
□ EB	ELECTRIC BOX	---	NEW ASPHALT PAVEMENT/WALK
□ TP	TRANSFORMER PAD	---	EXISTING ASPHALT PAVEMENT TO BE REMOVED
□ WF	WATER FOUNTAIN	---	
□ TR	TELEPHONE RISER	---	
WCR	WHEELCHAIR RAMP	---	
FF	PROPOSED FINISH FLOOR ELEVATION	---	
TC	EXISTING FINISH FLOOR ELEVATION	---	
TA	TOP OF CURB ELEVATION	---	
FL	TOP OF ASPHALT ELEVATION	---	
FL	FLOW LINE	---	

GENERAL NOTES

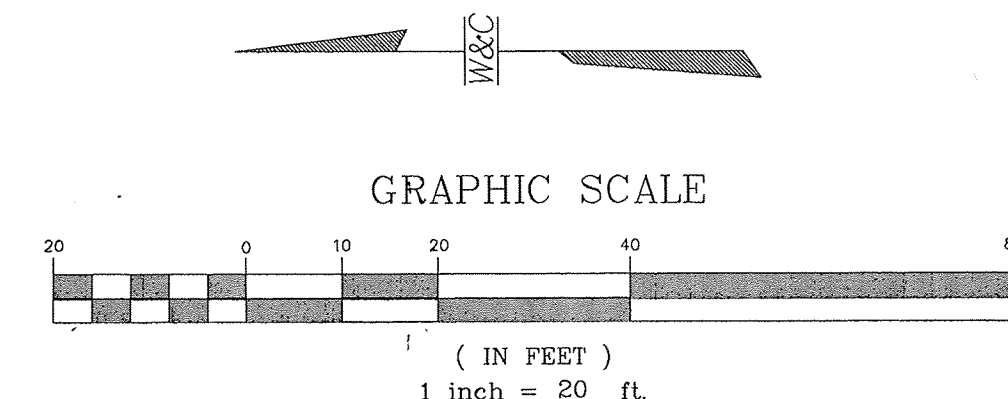
- SEE SHEET C3 AND C7 FOR ADDITIVE ALTERNATE NO. 1. (CANOPY AND LIGHTING ONLY)
- CONTRACTOR SHALL VISIT SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.

UTILITY NOTES - PORTABLE BUILDINGS

- PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL CONTACT APS/DFPC FOR SPOTTING OF EXISTING UTILITIES IN THE PORTABLE AREA. DO NOT PROCEED UNTIL UTILITIES ARE SPOTTED.
- AT THE THREE EXISTING PORTABLE BUILDINGS TO BE RAISED AND THE TWO EXISTING PORTABLE BUILDINGS TO BE ROTATED 180°, THE CONTRACTOR SHALL CAREFULLY AND COMPLETELY DISCONNECT AND RECONNECT ALL UTILITIES AS REQUIRED (GAS, WATER, ELECTRICAL, SPECIAL SYSTEMS, ETC.).

GRADING NOTES

- CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS AND GRADING OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS AND INSPECTION APPROVALS NECESSARY FOR THE CONSTRUCTION OF THESE FACILITIES AND ALL GRADING OPERATIONS.
- THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCLUDED IN THE BID. CONTRACTOR SHALL OBTAIN TOPSOIL DISTURBANCE PERMIT PRIOR TO CONSTRUCTION OF SITE IMPROVEMENTS.
- EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED TO THE ELEVATIONS, AND IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN ON THIS PLAN.
- MAXIMUM SLOPES OUTSIDE THE BUILDING PAD ENVELOPES SHALL BE 3:1 (HORIZONTAL TO VERTICAL).
- THE CONTRACTOR SHALL NOT DISTURB THE AREAS IN WHICH NO GRADING IS INDICATED.

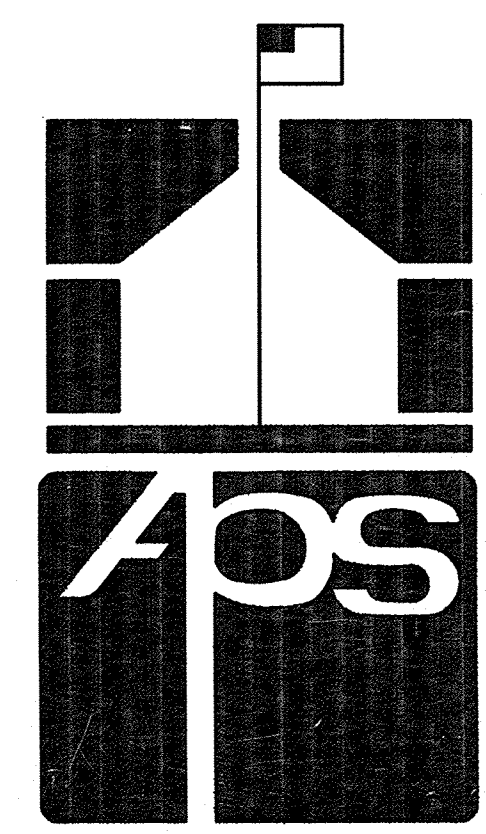
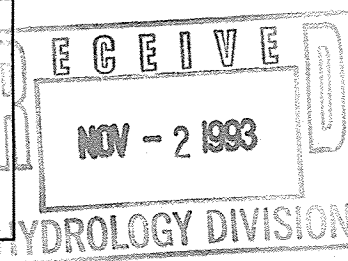


ENGINEER'S CERTIFICATION

I, DAVID THOMPSON, DO HEREBY CERTIFY THAT THE AS-BUILT INFORMATION HEREON IS IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED GRADING PLAN.

APPROVED FOR ROUGH GRADING ±1'

COA _____ DATE _____

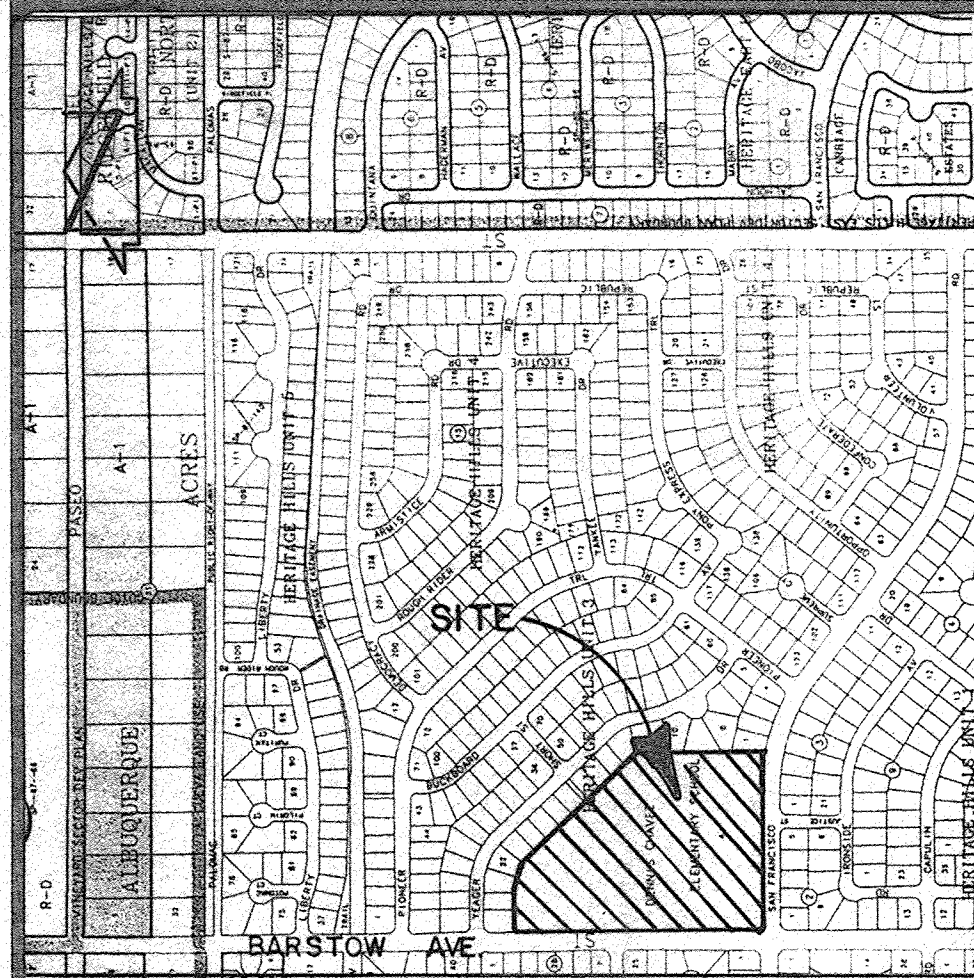


DENNIS CHAVEZ ELEMENTARY SCHOOL

PORTABLE AREA GRADING PLAN

DESIGN D.S.A.	DRAWN KIS	DATE MAR 1993
		FILE NO. 93-502A
		SHEET NO. C4

WILSON & COMPANY
6611 GULTON CT
ALBUQUERQUE, NEW MEXICO
87109
(505) 345-5345



VICINITY MAP
SCALE: 1" = 750'

LEGAL DESCRIPTION

TRACT A, HERITAGE HILLS, UNIT 3

PROJECT BENCHMARK

ACS MONUMENT 2-D20-A
BRASS CAP SET IN CURB AT SE CORNER
OF BARSTOW ST. AND SAN FRANCISCO AVE.
ELEVATION = 5466.47 FT. (M.S.L.D.)

T.B.M.

T.B.M. = N. RIM OF S.A.S. M.H. AS SHOWN HEREON
ELEVATION = 5473.06 FT. (M.S.L.D.)

LEGEND

---	EXISTING CONTOUR
- - -	EXISTING BUILDING
- - -	BASIN BOUNDARY
- - -	EXISTING ROOF DRAINAGE
- - -	PROPOSED BUILDING
---	PROPOSED CONTOUR
⊕85.00	PROPOSED SPOT ELEVATION
---	FLOW LINE

NOTE:
THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY
CORNERS ARE SHOWN FOR ORIENTATION ONLY.

FF=5471.95
AS-BUILT ELEVATION

DRAINAGE PLAN

The following items regarding the Dennis Chavez Elementary School Staff/Lounge Addition are contained herein:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located at the northeast corner of the intersection of San Francisco Road N.E. and Barstow Avenue N.E. The site is currently developed as an elementary school. San Francisco Road N.E. and Barstow Avenue N.E. are fully developed public residential roadways with curb and gutter and asphalt pavement.

As shown by Panel 10 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps published by F.E.M.A. for the City of Albuquerque, New Mexico dated October 14, 1983, this site does not lie within a designated flood hazard zone.

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 improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades.

The proposed development covered by this Grading and Drainage Plan consists of the Staff Lounge Addition to the main school building. The construction of this addition consists of approximately 1260 sf, with an associated courtyard and screenwall. All of this development lies completely within Basin 103. The Building Addition will match the existing finished floor of the building and the courtyard will slope westerly to allow drainage to exit through three wall openings. The runoff will continue in its historic drainage pattern flowing to the west into the existing paved parking lot for eventual discharge into Barstow Avenue N.E.

The overall Site Plan (Sheet 1 of 2) shows the site currently developed as an elementary school. The school consists of a core elementary school building, an existing paved parking lot, an existing paved drop-off area, numerous portable classroom buildings, an unpaved track, various play areas and concrete basketball courts, and associated sidewalks. This plan also shows the site divided into four basins. These basins are consistent with the Grading and Drainage Plan submitted by Wilson & Company, with the Engineer's Stamp dated March 25, 1993 (Hydrology File No. D20/D2a).

The Calculations which appear hereon analyze both 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 by this development. As shown by these calculations, there is anticipated to be a negligible increase in peak discharge rate and volume of runoff due to this development. Because the increase in runoff volume and peak discharge rate is very minor, and this development is a modification to an existing site within a mostly developed infill area, it is felt that free discharge into Barstow Avenue N.E. is appropriate. This plan is consistent with the historic drainage patterns for Basin 103 and with the previously approved Grading and Drainage Plan for Basin 103 as shown by Wilson & Company.

CALCULATIONS

Site Characteristics

1. Precipitation Zone =	3
2. $P_{6,100} = P_{360} =$	2.60 in
3. Total Area (A_T) =	1.65 ac/72,060 sf
4. Existing Land Treatment	
Treatment	Area (sf/ac)
B	4,140/0.10
D	67,920/1.55
	%
	5.7
	94.3
5. Developed Land Treatment	
Treatment	Area (sf/ac)
B	3,610/0.08
D	68,450/1.57
	%
	5.0
	95.0

Existing Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.92(0.10) + 2.36(1.55)) / 1.65 = 2.27 \text{ in}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (2.27 / 12) 1.65 = 0.3121 \text{ ac.ft.} = 13,600 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = 2.60(0.10) + 5.02(1.55) = 8.0 \text{ cfs}$$

Developed Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.92(0.08) + 2.36(1.57)) / 1.65 = 2.29 \text{ in}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (2.29 / 12) 1.65 = 0.3149 \text{ ac.ft.} = 13,720 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = 2.60(0.08) + 5.02(1.57) = 8.1 \text{ cfs}$$

Comparison

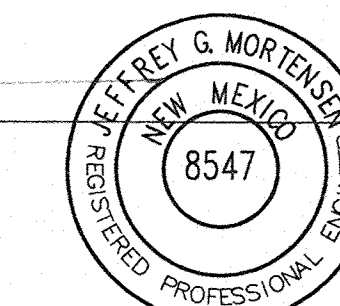
1. $\Delta V_{100} = 13,720 - 13,600 = 120 \text{ cf (increase)}$
2. $\Delta Q_{100} = 8.1 - 8.0 = 0.1 \text{ cfs (increase)}$

DRAINAGE CERTIFICATION

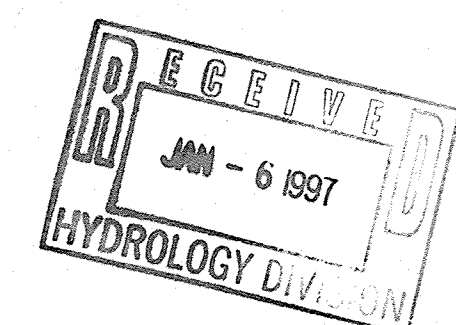
As indicated by the as-built information shown hereon, the Dennis Chavez Elementary School Staff Lounge Addition has been constructed in substantial compliance with the approved Grading and Drainage Plan. Slight modifications have been made to the new courtyard grades, however, the courtyard will drain in a manner consistent with the intent of the approved plan. The southwest corner of the courtyard is the low corner which has been corrected by the Contractor through the installation of an additional 4" PVC sleeve. This additional sleeve satisfies the intent of the approved plan. It is based upon the information presented hereon, and the accompanying evaluation, that issuance of a Permanent Certificate of Occupancy for the new addition is hereby recommended. The information which appears hereon has been obtained by me or under my direct supervision and is true and correct to the best of my knowledge and belief.

Jeffrey G. Mortensen, NIMPE 8547

PROJECT BENCHMARK:
ACS MONUMENT "2-D20A"

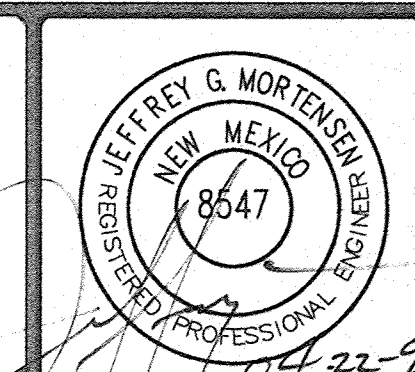


01-03-97
Date



Jma

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NM 87109
ENGINEERS & SURVEYORS (505) 345-4250



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BE USED FOR CONSTRUCTION UNLESS IT
IS STAMPED, SIGNED, AND DATED ABOVE

6000 ACADEMY NE, SUITE 205
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3005 NORTHEDGE DR., SUITE C
FARMINGTON, NM 87402-2085
505.325.7475 FAX 505.325.6464

ARCHITECTURE
ENGINEERING
PLANNING
INTERIOR DESIGN

**GREER
SJCF**

**STAFF LOUNGE ADDITION
DENNIS CHAVEZ ELEMENTARY SCHOOL**
7500 BARSTOW NE
ALBUQUERQUE, NEW MEXICO

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GAD FILENAME

SUBJECT TITLE
DRAINAGE PLAN,
CALCULATIONS,
SITE PLAN

REVISION DATE

DATE
APRIL

PROJECT NO.

DRAWING SHEET

1 OF 2

LEGAL DESCRIPTION

TRACT A, HERITAGE HILLS, UNIT 3

PROJECT BENCHMARK

ASC MONUMENT 2-D20-A (1978)B
BRASS CAP SET IN CURB AT SE CORNER
OF BARSTOW ST. AND SAN FRANCISCO AVE.
ELEVATION = 5466.47 (M.S.L.D.)

LEGEND

- 5480— EXISTING CONTOUR
- - - - - EXISTING BUILDING
- - - - - PROPOSED BUILDING
— 85 — PROPOSED CONTOUR
⊙ 85.00 PROPOSED SPOT ELEVATION
702
⊙ 71.60
⊙ 71.68 ✓ AS-BUILT ELEVATION
AS-BUILT = AS-DESIGNED

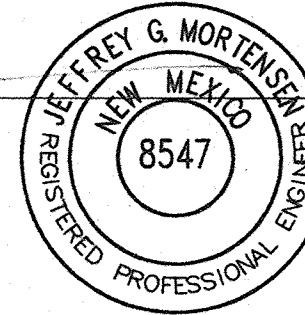
SCALE: 1" = 10'



DRAINAGE CERTIFICATION

As indicated by the as-built information shown hereon, the Dennis Chavez Elementary School Staff Lounge Addition has been constructed in substantial compliance with the approved Grading and Drainage Plan. Slight modifications have been made to the new courtyard grades, however, the courtyard will drain in a manner consistent with the intent of the approved plan. The southwest corner of the courtyard is the low corner which has been corrected by the Contractor through the installation of an additional 4" PVC sleeve. This additional sleeve satisfies the intent of the approved plan. It is based upon the information presented hereon, and the accompanying evaluation, that issuance of a Permanent Certificate of Occupancy for the new addition is hereby recommended. The information which appears hereon has been obtained by me or under my direct supervision and is true and correct to the best of my knowledge and belief.

Jeffrey G. Mortensen, NMPE 8547

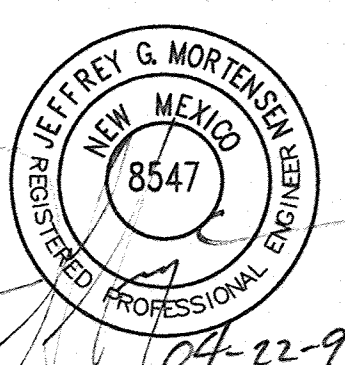
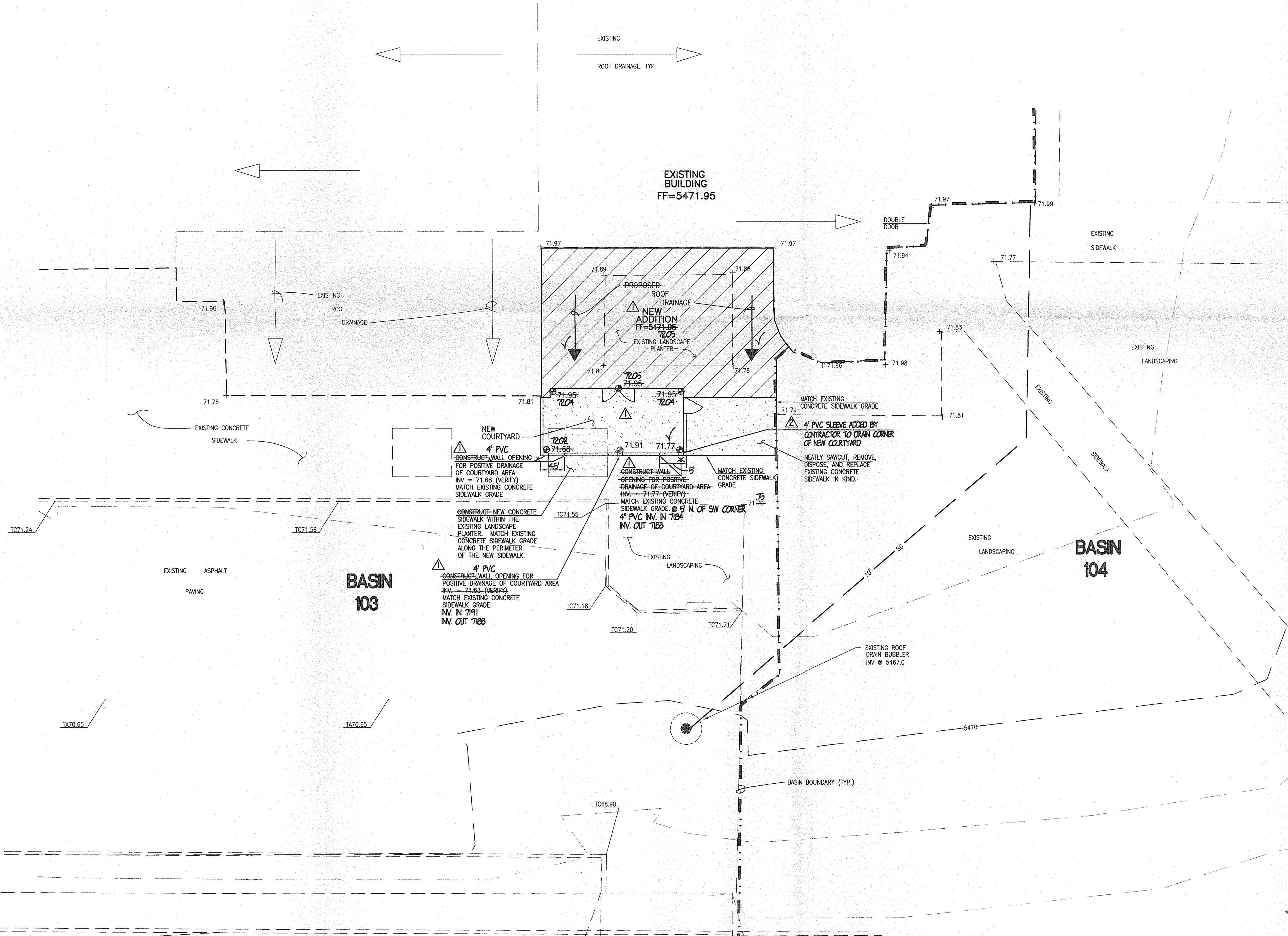
01-03-97
Date

Construction Notes:

- Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990 (Albuquerque Area), 1-800-321-ALERT(2537) (Statewide), and APS Maintenance & Operations, 765-5950 for location of existing utilities.
- 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.
- 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 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.
- 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.

Erosion Control Measures:

- The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
- The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
- The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.



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6020 ACADEMY NE, SUITE 205
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INTERIOR DESIGN

GREER
SJCF

STAFF LOUNGE ADDITION
DENNIS CHAVEZ ELEMENTARY SCHOOL
7500 BARSTOW NE
ALBUQUERQUE, NEW MEXICO

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CAD FILENAME

SHEET TITLE
GRADING PLAN,
CONSTRUCTION AND
EROSION NOTES

REVISION DATE

CERTIFY 01/97

AS-BUILT 12/96

DATE APRIL

PROJECT NO.

DRAWING SHEET

2 OF 2



JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS SURVEYORS (505) 345-4250

951833

DRAINAGE PLAN:

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS SITE, LOCATED IN NORTHEAST ALBUQUERQUE, IS CURRENTLY DEVELOPED AS AN ALBUQUERQUE PUBLIC SCHOOLS ELEMENTARY SCHOOL. THIS PROJECT IS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THIS PROJECT WILL INCLUDE ADDITIONS TO THE CORE FACILITY THAT WILL ADD NEW CLASSROOMS. THERE IS ALSO AN ADDITION TO THE KITCHEN AREA AT THE SOUTHEAST CORNER OF THE CORE FACILITY. IN ADDITION TO THE CORE FACILITY ADDITIONS, THERE WILL BE A NEW DROP-OFF/PICKUP LANE AND A NEW FIRE LANE PAVED THROUGH THE SITE, AND A NEW PAVED PARKING AREA TO THE SOUTH OF THE CORE FACILITY THAT WILL REPLACE SEVERAL EXISTING PORTABLES.

THE OVERALL SITE DEVELOPMENT WAS PREVIOUSLY ADDRESSED BY A MASTER PLAN PREPARED BY THIS OFFICE. AS DEMONSTRATED BY THAT PLAN, THE DRAINAGE CONCEPT FOR THIS SITE WILL BE TO ALLOW THE DEVELOPED RUNOFF FROM THE SITE TO CONTINUE TO HAVE FREE DISCHARGE INTO THE STREETS THAT BORDER THIS SITE.

THIS DRAINAGE SUBMITTAL IS MADE IN SUPPORT OF GRADING AND PAVING PERMIT APPROVALS AND SO#19 APPROVAL.

NEW ENTRANCES TO THE SITE WILL BE CONSTRUCTED BY CITY WORK ORDER.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THIS SITE IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF BARSTOW STREET N.E. AND SAN FRANCISCO ROAD N.E. THE CURRENT LEGAL DESCRIPTION IS TRACT A, HERITAGE HILLS, UNIT 3. THE SITE IS CURRENTLY DEVELOPED AS AN ALBUQUERQUE PUBLIC SCHOOLS (APS) ELEMENTARY SCHOOL. SAN FRANCISCO ROAD NE AND BARSTOW STREET NE ARE FULLY DEVELOPED PUBLIC ROADWAYS WITH CURB AND GUTTER AND ASPHALT PAVEMENT. AS SHOWN BY PANEL 141 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED FOR BERNALILLO COUNTY, NEW MEXICO DATED APRIL 2, 2002, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE SITE DOES, HOWEVER, LIE UPSTREAM OF A FLOOD HAZARD ZONE AREA. THE ZONE COINCIDES WITH THE SOUTH ARROYO DE DOMINGO BACA, WHICH IS A CITY OF ALBUQUERQUE OWNED, OPERATED AND MAINTAINED STORM DRAINAGE FACILITY UPSTREAM OF BARSTOW STREET NE, AND AN AMAFCA DRAINAGE CHANNEL DOWNSTREAM OF BARSTOW STREET NE. ALTHOUGH THE CHANNEL HAS DIVERSE OWNERSHIP, IT REPRESENTS THE OUTFALL FOR THIS SITE. THE CONSTRUCTION PROPOSED FOR THIS SITE WILL NOT ADVERSELY IMPACT THE AFOREMENTIONED DESIGNATED FLOOD HAZARD ZONE. RUNOFF INTO BARSTOW STREET NE DRAINS FROM SOUTH TO NORTH 550 FT INTO THE SOUTH ARROYO DE DOMINGO BACA. RUNOFF INTO SAN FRANCISCO ROAD DRAINS WEST INTO A SINGLE-FAMILY RESIDENTIAL AREA. AT JEMEZ NE, THE FLOW TURNS NORTH, FLOWING THROUGH THE RESIDENTIAL NEIGHBORHOOD WITHIN JEMEZ NE UNTIL THE INTERSECTION OF KRIM NE. AT THIS INTERSECTION A DIP SECTION IS ENCOUNTERED WHERE THE RUNOFF ENTERS A RUNDOWN FLOWING NORTH TO THE SOUTH ARROYO DE DOMINGO BACA. IN RECOGNITION OF THIS, ONLY VERY MINOR INCREASED DEVELOPED RUNOFFS WILL BE ALLOWED TO DRAIN INTO SAN FRANCISCO ROAD SO AS TO MINIMIZE THE AMOUNT OF DEVELOPED RUNOFF THROUGH THE NARROW RESIDENTIAL STREETS DOWNSTREAM.

III. BACKGROUND DOCUMENTS

- THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL:
- TOPOGRAPHIC SURVEY OF THE EXISTING SITE PREPARED BY WILSON & CO. DATED 11/12/2003 AND SUPPLEMENTS 4/21/2006. THE SUBJECT SURVEY SHOWS THE EXISTING IMPROVEMENTS.
 - SITE PLAN OF THE SITE PREPARED BY GREER STAFFORD/SJCF; THIS SHOWS THE LOCATION OF ALL PROPOSED IMPROVEMENTS.
 - MASTER DRAINAGE PLAN PREPARED BY JMA ON 09/22/2005, DEMONSTRATED THAT THE FREE DISCHARGE OF DEVELOPED RUNOFF INTO THE ADJACENT STREETS IS ALLOWED, THOUGH ONLY MINOR INCREASES INTO SAN FRANCISCO ROAD ARE ALLOWED DUE TO DOWNSTREAM CONDITIONS.

IV. EXISTING CONDITIONS

THE SITE IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF BARSTOW STREET NE AND SAN FRANCISCO ROAD NE. THE SITE IS PRESENTLY DEVELOPED AS AN ELEMENTARY SCHOOL. BARSTOW STREET NE AND SAN FRANCISCO ROAD NE ARE BOTH FULLY IMPROVED PUBLIC ROADWAYS, 48 FEET IN WIDTH WITH CURB AND GUTTER ON BOTH SIDES. FLOW ALONG BARSTOW STREET NE IS CARRIED NORTH BY CURB AND GUTTER TO THE SOUTH ARROYO DE DOMINGO BACA. RUNOFF INTO SAN FRANCISCO ROAD NE JOINS OFFSITE FLOWS FROM THE EAST AND ARE CARRIED WEST WITHIN SAN FRANCISCO ROAD TO JEMEZ STREET AND ALONG JEMEZ STREET NORTH TO THE INTERSECTION OF JEMEZ STREET AND KRIM DRIVE. A DIP SECTION IN KRIM DRIVE DIRECTS FLOW NORTH ACROSS THE ROAD INTO A RUNDOWN THAT OUTLETS INTO THE SOUTH ARROYO DE DOMINGO BACA.

THERE ARE NO OFFSITE FLOWS ENTERING THE SITE. A BLOCK RETAINING WALL SITUATED ALONG THE ENTIRE NORTH AND EAST EDGES OF THE SITE PROHIBIT FLOWS FROM THE NEIGHBORING RESIDENTIAL HOMES FROM ENTERING THE SITE EVEN THOUGH THEY ARE LOCATED AT A HIGHER ELEVATION. CURB AND GUTTER PROHIBITS FLOWS FROM THE EAST ENTERING INTO THE SITE FROM SAN FRANCISCO ROAD NE. ADDITIONALLY, IT APPEARS THAT ADEQUATE WATERBLOCKS HAVE BEEN CONSTRUCTED AT THE TWO DRIVEPADS INTO THE SITE FROM SAN FRANCISCO ST NE. THERE ARE NO OFFSITE FLOWS FROM BARSTOW STREET NE WHICH IS TOPOGRAPHICALLY LOWER.

V. DEVELOPED CONDITIONS

AS DESCRIBED IN THE PREVIOUSLY APPROVED MASTER DRAINAGE PLAN FOR THIS SITE, THE DEVELOPMENT OF THIS SITE WAS TO BE DONE IN PHASES. DUE TO FORTUNATE BUDGETARY ALLOWANCES, THIS PROJECT DEVELOPMENT WILL NOW COVER THE FIRST FIVE PHASES MENTIONED IN THAT PLAN, WITH CHANGES IN ROAD LOCATION AND PARKING. THIS DEVELOPMENT NOW FORMS TWO DRAINAGE BASINS; BASIN A DRAINS INTO BARSTOW STREET NE, AND BASIN B DRAINS INTO SAN FRANCISCO ROAD NE. THESE BASINS ARE CONSISTENT WITH THE DISCHARGES IDENTIFIED BY THE MDP, WHICH WILL NOW BE UPDATED ACCORDINGLY.

BASIN A (DRAINS TO BARSTOW STREET) CONSISTS OF THE EXISTING PLAYGROUND AREA, THE EXISTING PORTABLES, AND THE EXISTING BUS DROP-OFF DRIVEWAY. DEVELOPMENT IN THIS BASIN CONSISTS OF TWO NEW PAVED ACCESS ROADS THAT WILL TRAVERSE THE SITE THROUGH THE EXISTING PLAYGROUND AREA AS SHOWN ON THE GRADING PLAN, AS WELL AS A NEW CLASSROOM ADDITION THAT WILL EXTEND THE CORE FACILITY TO THE NORTHEAST, ENCRoACHING INTO THE EXISTING PLAYGROUND AREA. THE ROOF DRAINAGE FROM THE CLASSROOM ADDITION WILL DISCHARGE INTO A NEW VALLEY GUTTER THAT WILL EXTEND TO THE NEW FIRE LANE ACCESS ROAD, AND RUNOFF WILL DRAIN AS DETAILED BELOW.

THE PAVED PARENTAL DROP-OFF/PICKUP LANE WILL TRAVERSE ALONG THE NORTH AND EAST EDGES OF THE SITE, AND CONNECT VIA A NEW PRIVATE ENTRANCE TO BARSTOW STREET NE AT THE NW CORNER OF THE SITE, AND TO SAN FRANCISCO ROAD NE VIA A NEW PRIVATE ENTRANCE AT THE SE CORNER OF THE SITE. THE PAVED FIRE LANE WILL CONNECT TO THE EXISTING BUS DROP-OFF LANE AT THE WEST OF THE SITE, AND CONNECT TO THE NEW DROP-OFF/PICKUP LANE TO THE NORTHEAST OF THE EXISTING PORTABLES. THE PARENTAL DROP-OFF/PICKUP LANE WILL HAVE 6" CURB AND GUTTER ALONG ITS SOUTH SIDE, AND WILL COLLECT FLOWS FROM THE SLOPE TO THE NORTH AND EAST OF THE NEW DRIVEWAY. THIS RUNOFF WILL BE DIRECTED ALONG THE ROAD TO THE NORTHWEST CORNER OF THE SITE AND DRAIN INTO BARSTOW STREET VIA A NEW PRIVATE ENTRANCE. THE NEW FIRE LANE WILL HAVE 6" CURB AND GUTTER ON ITS NORTH SIDE, AND WILL COLLECT RUNOFF FROM THE EXISTING GRASS FIELD, THE EXISTING PORTABLES AREA, THE PLAYGROUND, AND THE AFOREMENTIONED NORTHEAST CORE FACILITY ADDITION. RUNOFF WILL DRAIN TO THE WEST ALONG THE ROAD, AND INTO THE EXISTING BUS DROP-OFF LANE AT THE WEST OF THE SITE AND OUT TO BARSTOW STREET. SITE RUNOFF IN BARSTOW STREET WILL FLOW NORTH ALONG BARSTOW STREET TO THE SOUTH ARROYO DE DOMINGO BACA AS DETAILED IN THE EXISTING CONDITIONS.

ALSO INCLUDED IN THIS PROJECT IS A NEW CLASSROOM ADDITION THAT WILL EXTEND THE CORE FACILITY DIRECTLY NORTH, ENCRoACHING INTO THE EXISTING PLAYGROUND AREA. THE ROOF DRAINAGE FROM THE CLASSROOM ADDITION WILL DISCHARGE INTO A NEW ROOF DRAIN SYSTEM THAT WILL COLLECT RUNOFF FROM THE EXISTING ROOF DRAIN SYSTEM AND FLOW WEST BENEATH THE EXISTING PARKING LOT AND OUTLET INTO A NEW SIDEWALK CULVERT THAT DISCHARGES INTO BARSTOW STREET. THIS SIDEWALK CULVERT WILL BE CONSTRUCTED UNDER SO#19 PERMIT. RUNOFF WILL FLOW NORTH ALONG BARSTOW STREET TO THE SOUTH ARROYO DE DOMINGO BACA AS DETAILED IN THE EXISTING CONDITIONS.

BASIN B (DRAINS TO SAN FRANCISCO) CONSISTS OF THE EXISTING SOUTHEAST PAVED PARKING LOT AND THE DEVELOPED AREAS TO THE SOUTH AND SOUTHWEST OF THE CORE FACILITY. IMPROVEMENTS IN BASIN B CONSIST OF AN ADDITION ONTO THE CORE FACILITY AND A NEW PAVED PARKING AREA TO THE SOUTH. THIS ADDITION WILL EXTEND THE KITCHEN FACILITIES AT THE SOUTHEAST CORNER OF THE CORE FACILITY, INTO AN EXISTING SERVICE DROP-OFF AREA. PRESENTLY THIS SERVICE AREA IS A DRAINAGE PROBLEM AREA THAT THIS PROJECT WILL CORRECT. THE ROOF DRAINAGE FROM THE KITCHEN ADDITION WILL DRAIN DOWN THROUGH THE NEW SIDEWALK ALONG THE ADDITION AND EXIT THROUGH A NEW CURB PENETRATION INTO A NEW PAVED PARKING LOT. THE NEW PARKING AREA WILL BE DEVELOPED ALONG THE SOUTH EDGE OF THE SITE, DIRECTLY SOUTH OF THE CORE FACILITY. THIS NEW PARKING LOT WILL EXTEND THE EXISTING PARKING AREA AT THE SOUTHEAST CORNER OF THE SITE; REGRADING AND PAVING OF A PORTION OF THIS EXISTING LOT WILL BE REQUIRED TO DO THIS. RUNOFF WILL FLOW WEST WITHIN THE EXTENDED PARKING LOT TO A NEW PRIVATE ENTRANCE AT THE SOUTHWEST CORNER THAT WILL DISCHARGE INTO SAN FRANCISCO STREET NE. FLOW WITHIN SAN FRANCISCO STREET NE WILL DRAIN AS MENTIONED IN THE EXISTING CONDITIONS.

THERE WILL BE NO OFFSITE FLOWS ENTERING THE SITE AS DETAILED IN THE EXISTING CONDITIONS. THE NEW PRIVATE ENTRANCES WILL BE CONSTRUCTED WITH IMPROVED WATERBLOCKS INTENDED TO KEEP OFFSITE FLOWS WITHIN THE LIMITS OF SAN FRANCISCO ROAD.

THESE DEVELOPMENTS WILL RESULT IN AN OVERALL DECREASE IN FLOW TO BARSTOW STREET NE, WITH MARGINAL INCREASE IN RUNOFF TO SAN FRANCISCO ROAD NE. THIS MARGINAL INCREASE INTO SAN FRANCISCO ROAD NE IS ALLOWED PER THE PREVIOUSLY APPROVED MASTER DRAINAGE PLAN, AND WILL HAVE NO ADVERSE EFFECT ON DOWNSTREAM CAPACITY AND DOWNSTREAM PROPERTIES.

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS TAKEN FROM A TOPOGRAPHIC SURVEY PREPARED BY WILSON & COMPANY DATED NOVEMBER 12, 2003, AND SUPPLEMENT 4/21/2006 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS, 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS TAKEN FROM THE AFOREMENTIONED WILSON & COMPANY SURVEY, DATED NOVEMBER 12, 2003 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS AS TAKEN FROM THE SITE PLAN PROVIDED BY THE ARCHITECT, GREER STAFFORD/SJCF, 5.) AND CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED DEVELOPMENT WILL EFFECTIVELY INCREASE THE SIZE OF THE MAIN DENNIS CHAVEZ ELEMENTARY SCHOOL BUILDING FOOTPRINT, AND EXPAND AVAILABLE ONSITE PARKING AND VEHICULAR ACCESS. THE EXISTING DRAINAGE PATTERNS WILL NOT BE SIGNIFICANTLY ALTERED.

VII. CALCULATIONS

THE CALCULATIONS WHICH APPEARED IN THE MDP ANALYZED BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FOR THE IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, WAS USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THIS DEVELOPMENT. AS SHOWN BY THE CALCULATIONS, THERE IS ANTICIPATED TO BE A NEGLIGIBLE INCREASE IN PEAK DISCHARGE RATE AND VOLUME OF RUNOFF INTO SAN FRANCISCO ROAD NE DUE TO THIS DEVELOPMENT, AND A DECREASE IN THE TOTAL RUNOFF INTO BARSTOW STREET. THE SMALL INCREASE OF RUNOFF INTO SAN FRANCISCO ROAD IS INSIGNIFICANT DUE TO ITS HIGH FLOW CAPACITY. CAPACITY FOR BOTH ROADS WAS DETERMINED BY CALCULATIONS USING MANNING'S EQUATION AND ALSO BY USING THE TABLE FOR A 40' STREET, WITH 60' R.O.W. AND AN 8" CURB, FOUND ON PG 22-141, PLATE 22.3 D-3 IN CHAPTER 22, SECTION 3: HYDRAULIC DESIGN, OF THE DEVELOPMENT PROCESS MANUAL, DATED JUNE 1997. THIS TABLE IS FOR A SLIGHTLY SMALLER STREET WIDTH THAN EITHER EXISTING ROAD, BUT STILL EXCEEDS DEVELOPED FLOW REQUIREMENTS.

VIII. CONCLUSION

THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THIS SITE INTO THE ADJACENT PUBLIC STREETS IS APPROPRIATE DUE TO THE FOLLOWING FACTORS FOR EACH BASIN:

- BASIN A
 - MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
 - MINOR DECREASE IN RUNOFF VOLUME TO BARSTOW STREET NE DUE TO DEVELOPMENT
 - MINOR DECREASE IN PEAK DISCHARGE TO BARSTOW STREET NE THAN THAT OF EXISTING SITE
 - NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES
 - ADEQUATE STREET CAPACITY IS AVAILABLE IN BARSTOW STREET NE TO ACCOMMODATE PEAK DISCHARGE DUE TO DEVELOPMENT
- BASIN B
 - MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
 - MINOR INCREASE IN RUNOFF VOLUME AND PEAK DISCHARGE DUE TO DEVELOPMENT
 - ADEQUATE STREET CAPACITY WITHIN SAN FRANCISCO ROAD NE TO ACCOMMODATE THE MARGINAL INCREASE IN PEAK DISCHARGE
 - NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES

ENGINEER'S 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 09/15/2006. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS OBTAINED UNDER THE DIRECT SUPERVISION OF CHARLES G. CALA, JR., NMPS 11184, ALSO OF THE FIRM HIGH MESA CONSULTING GROUP. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE AND DETERMINED BY VISUAL INSPECTION THAT THE DATA PROVIDED APPEARS TO BE REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED FOR PERMANENT CERTIFICATE OF OCCUPANCY.

THERE WERE A FEW DEVIATIONS FROM THE APPROVED PLAN AS NOTED BELOW THAT DO NOT PREVENT CERTIFICATION FOR OCCUPANCY.

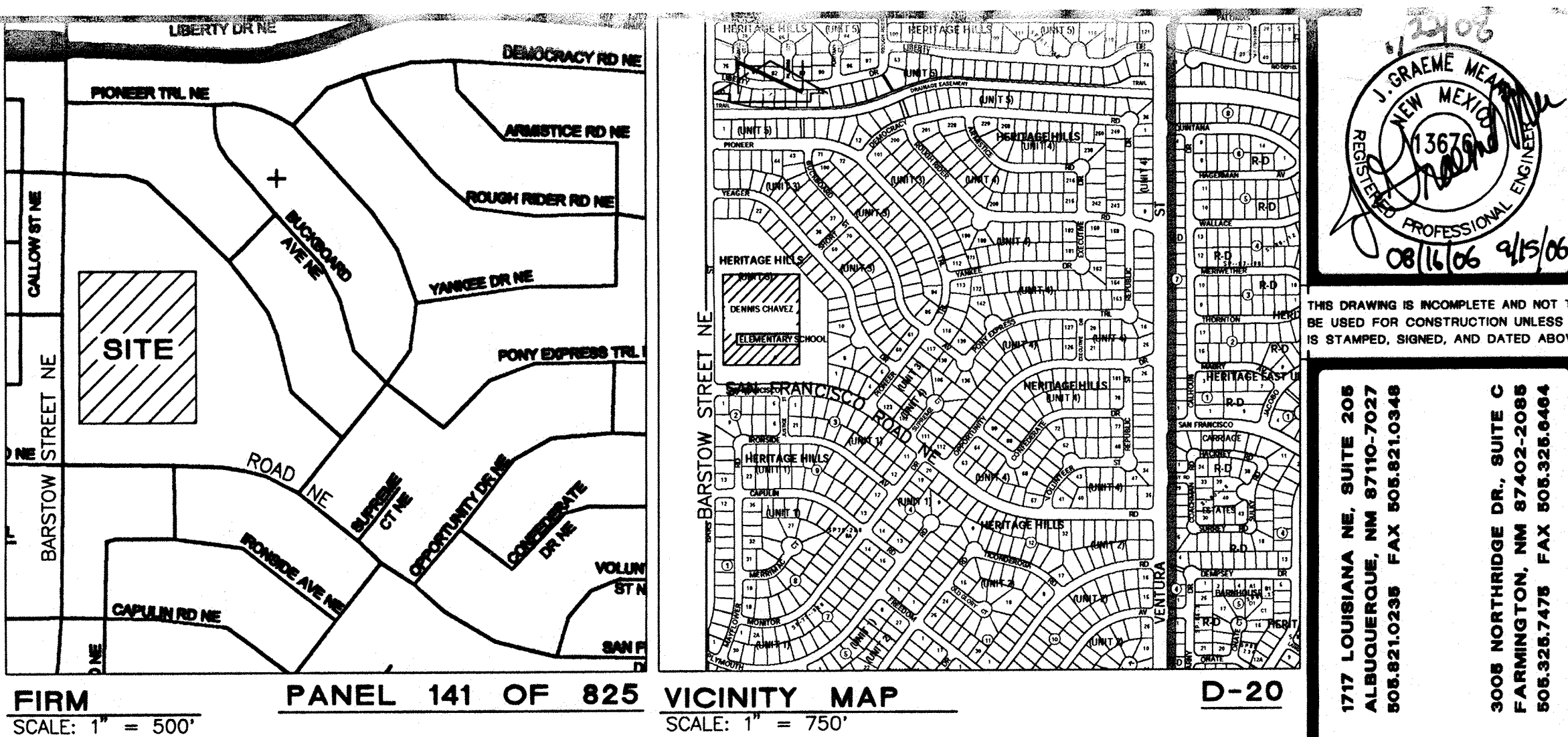
- THE PROPOSED ROOF DRAIN AT THE SE CORNER OF THE CAFETERIA ADDITION WAS CONSTRUCTED FARTHER TO THE NORTH, NEAR THE DOOR. THIS LOCATION IS NOT OPTIMAL, AND THE OWNER IS AWARE THAT THERE MAY BE WATER AND ICING IN THIS AREA AS A RESULT OF THE CHANGE. THE SIDEWALK CULVERT FOR THE DISCHARGE TO OUTFALL TO THE DRIVE AISLE WAS DELETED WHEN THE ROOF DRAIN MOVED.
- THE ROOF DRAIN/STORM DRAIN NETWORK ON THE WEST SIDE OF THE BUILDING WAS DESIGNED WITH CLEANOUTS AT DIRECTIONAL CHANGES AND JUNCTIONS FOR MAINTENANCE PURPOSES. THEY WERE NOT CONSTRUCTED. THE OWNER IS AWARE OF THIS.

THE RECORD INFORMATION PRESENTED HEREIN IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT AND DOES NOT ADDRESS COMPLIANCE WITH A.D.A. GUIDELINES. 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



J. Graeme Means
4/22/08



LEGAL DESCRIPTION

TRACT A, HERITAGE HILLS, UNIT 3

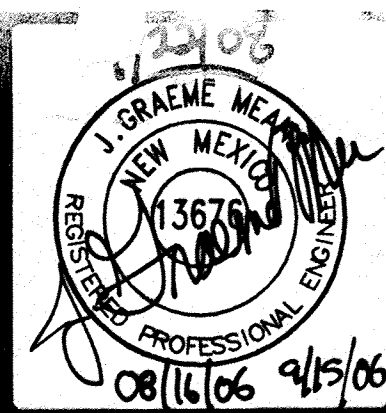
PROJECT BENCHMARK = T.B.M.

Benchmark used: 2-D20-A

The station is located 8.2 miles northeast of downtown Albuquerque on the southeast curb return of the intersection of San Francisco Ave. N.E. and Barstow St. N.E.

The station mark is a standard ACS brass tablet stamped "2-D20-A 1978", set in curb.

Elevation data:
SPIRIT LEVEL ELEVATION:
FEET: 5466.47



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P L A N N I N G
INTERIOR DESIGN

GREER
STAFFORD
SJCF

ADDITIONS AND RENOVATION
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ALBUQUERQUE, NEW MEXICO

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CAD FILENAME

SHEET TITLE
DRAINAGE PLAN

REVISION DATE

1

Engineer's Cert 03/08

No change This sheet

DATE

17 AUGUST 2006

PROJECT NO.

202500

DRAWING SHEET

C101

RECEIVED

APR 23 2008

HYDROLOGY

SECTION

2005.181.4 / 2005.051.2

PROJECT BENCHMARK

Benchmark used: 2-D20-A

The station is located 8.2 miles northeast of downtown Albuquerque on the southeast curb return of the intersection of San Francisco Ave. N.E. and Barstow St. N.E.

The station mark is a standard ACS brass tablet stamped "2-D20-A 1978", set in curb.

Elevation data:

SPIRIT LEVEL ELEVATION:

FEET: 5466.47

T.B.M.

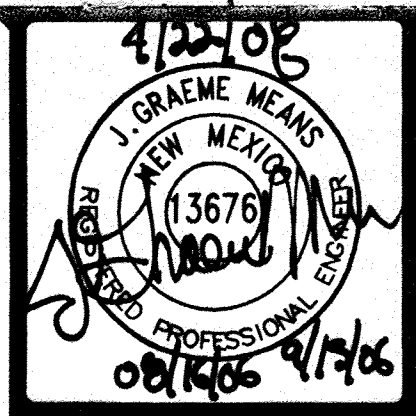
NONE PROVIDED

LEGAL DESCRIPTION

TRACT A, HERITAGE HILLS, UNIT 3

ADDRESS

7500 BARSTOW STREET NE
ALBUQUERQUE, NEW MEXICO



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3008 NORTHBIDGE DR., SUITE C
FARMINGTON, NM 87402-3088
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PLANNING
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GAD FILENAME

SHEET TITLE

GRADING
PLAN

REVISION DATE

ENGINEER'S CERT. NO. 08

ADD SILT FENCE

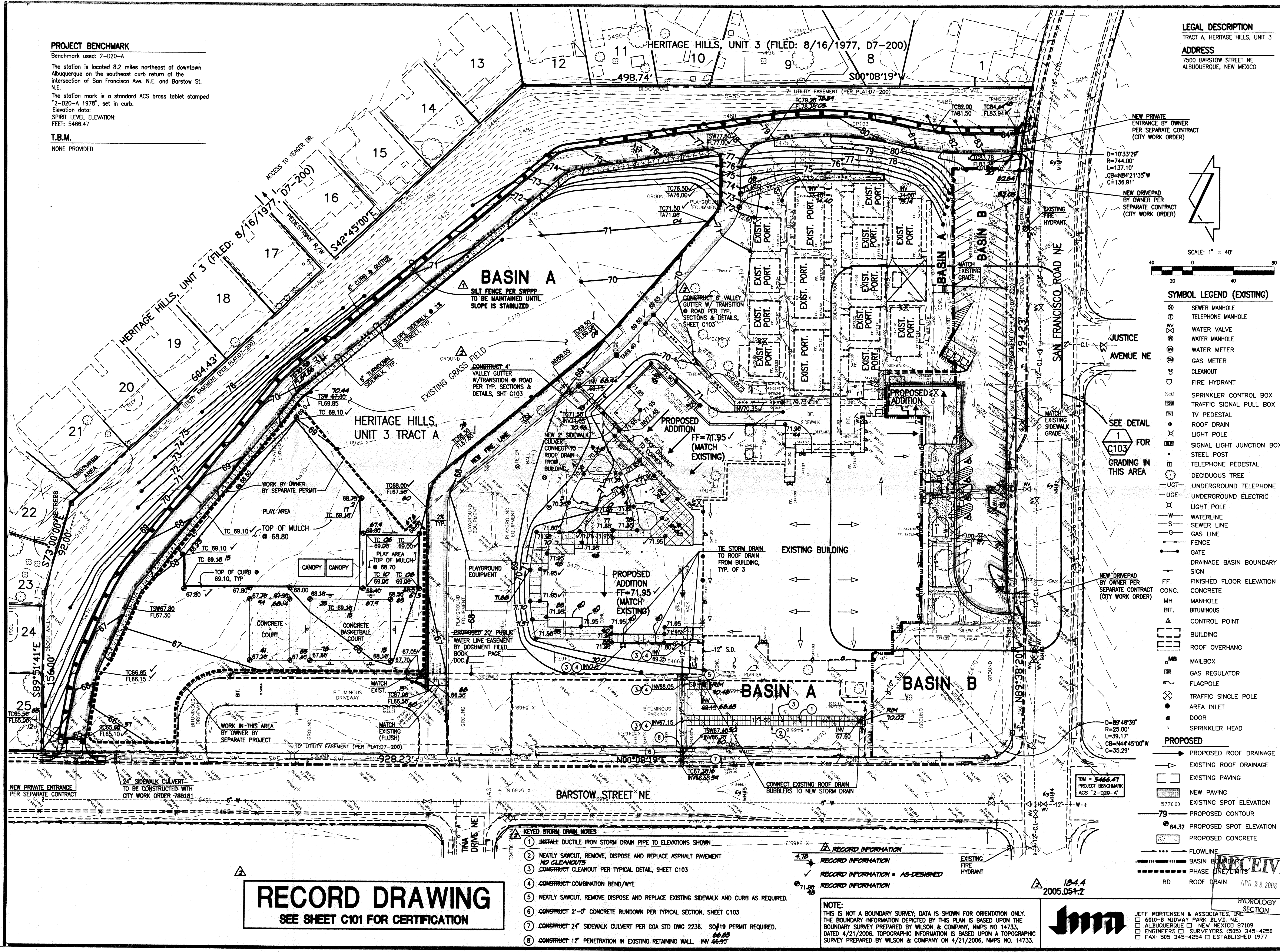
11 AUGUST 2006

PROJECT NO.

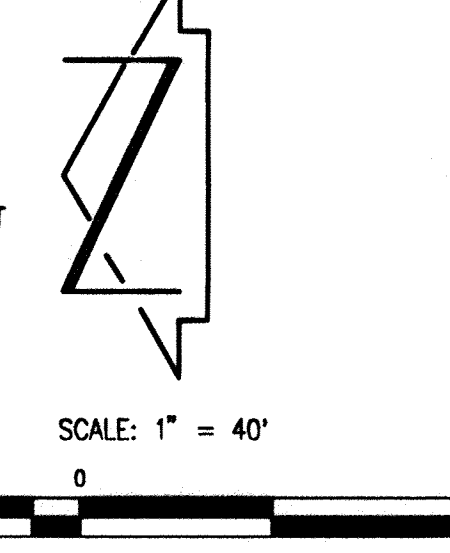
292500

DRAWING SHEET

C102



SCALE: 1" = 40'



SYMBOL LEGEND (EXISTING)

- SEWER MANHOLE
- TELEPHONE MANHOLE
- WATER VALVE
- WATER MANHOLE
- WATER METER
- GAS METER
- CLEANOUT
- FIRE HYDRANT
- SPRINKLER CONTROL BOX
- TRAFFIC SIGNAL PULL BOX
- TV PEDESTAL
- ROOF DRAIN
- LIGHT POLE
- SIGNAL LIGHT JUNCTION BOX
- STEEL POST
- TELEPHONE PEDESTAL
- DECIDUOUS TREE
- UGT- UNDERGROUND TELEPHONE
- UGE- UNDERGROUND ELECTRIC
- LIGHT POLE
- W- WATERLINE
- S- SEWER LINE
- G- GAS LINE
- FENCE
- GATE
- DRAINAGE BASIN BOUNDARY
- SIGN
- FF- FINISHED FLOOR ELEVATION
- CONC- CONCRETE
- MH- MANHOLE
- BIT- BITUMINOUS
- CONTROL POINT
- BUILDING
- ROOF OVERHANG
- MAILBOX
- GAS REGULATOR
- FLAGPOLE
- TRAFFIC SINGLE POLE
- AREA INLET
- DOOR
- SPRINKLER HEAD

PROPOSED

- PROPOSED ROOF DRAINAGE
- EXISTING ROOF DRAINAGE
- EXISTING PAVING
- NEW PAVING
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONCRETE
- FLOWLINE
- BASIN BOUNDARY
- PHASE LINE/LIMITS
- RD- ROAD
- ROOF DRAIN

APR 23 2008

HYDROLOGY SECTION

104.4

2005.051-2

JEFF MORTENSEN & ASSOCIATES, INC.

6010-B MIDWAY PARK BLVD. N.E.

ALBUQUERQUE, NM 87110-7109

ENGINEERS & SURVEYORS (505) 345-4250

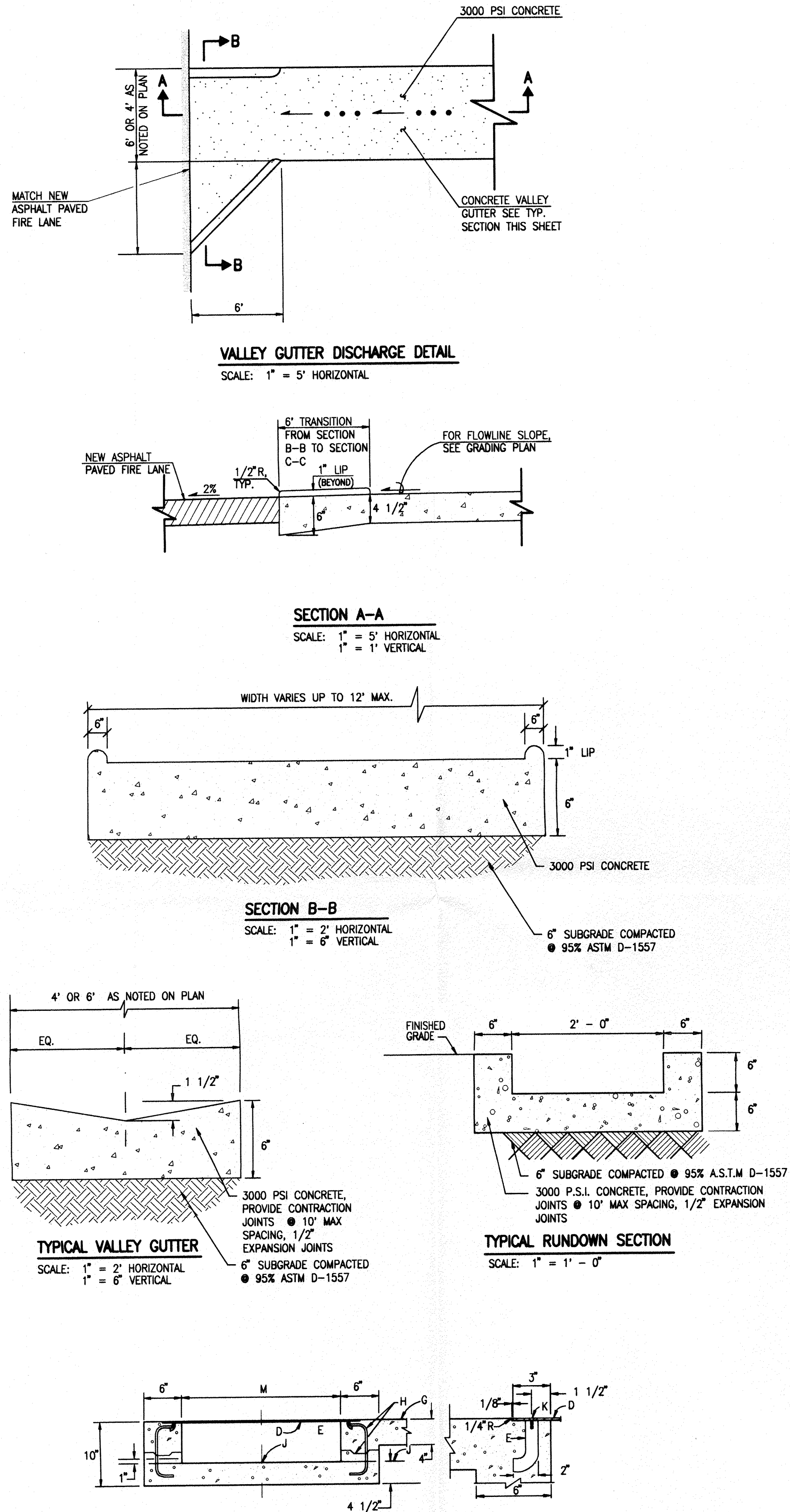
FAX: 505 345-4254 ESTABLISHED 1977

RECORD DRAWING
SEE SHEET C101 FOR CERTIFICATION

- KEYED STORM DRAIN NOTES**
- INSTALL DUCTILE IRON STORM DRAIN PIPE TO ELEVATIONS SHOWN
 - NEATLY SAWCUT, REMOVE, DISPOSE AND REPLACE ASPHALT PAVEMENT
 - CONSTRUCT CLEANOUT PER TYPICAL DETAIL, SHEET C103
 - CONSTRUCT COMBINATION BEND/WYE
 - NEATLY SAWCUT, REMOVE DISPOSE AND REPLACE EXISTING SIDEWALK AND CURB AS REQUIRED.
 - CONSTRUCT 2'-0" CONCRETE RUNDOWN PER TYPICAL SECTION, SHEET C103
 - CONSTRUCT 24" SIDEWALK CULVERT PER COA STD DWG 2236. SO#19 PERMIT REQUIRED.
 - CONSTRUCT 12" PENETRATION IN EXISTING RETAINING WALL. INV 66.90

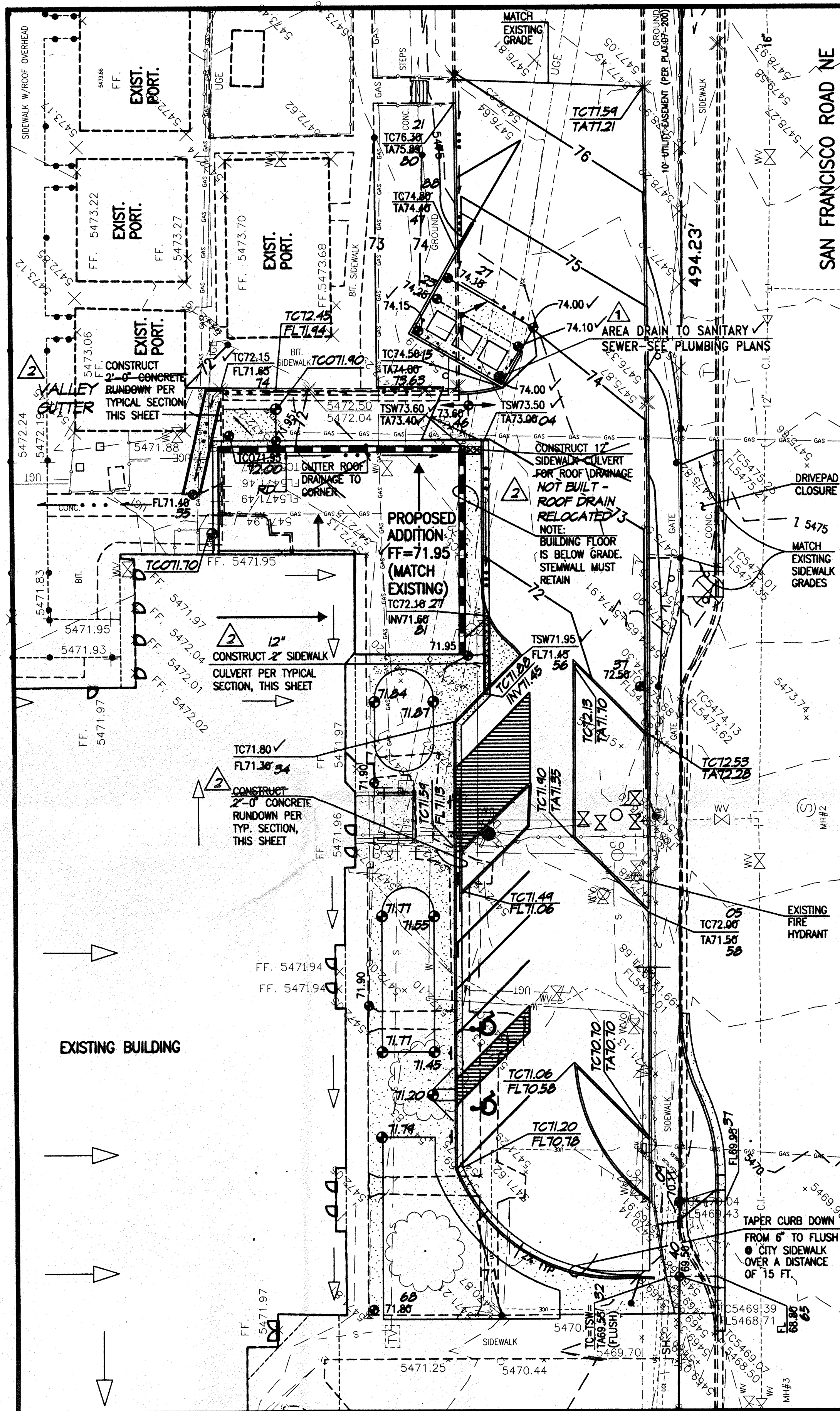
NOTE:
THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY.
THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON THE
BOUNDARY SURVEY PREPARED BY WILSON & COMPANY, NMPS NO. 14733,
DATED 4/21/2006. TOPOGRAPHIC INFORMATION IS BASED UPON A TOPOGRAPHIC
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CONSTRUCTION NOTES:

- 3" RADIUS, (TYPICAL).
- 3/8" CHECKERED STEEL PLATE.
- ROD ANCHOR 1" x 5"
- SIDEWALK GRADE
- DOWEL AND JOINT, (OPTIONAL).
- GUTTER FLOWLINE ELEV.
- 3/8" x 1" F.H. C'SUNK STAINLESS STEEL MACHINE SCREW.
- DRAIN WIDTH, 24" MAX. 12" MIN.



DETAIL
 SCALE: 1" = 20' - 0"

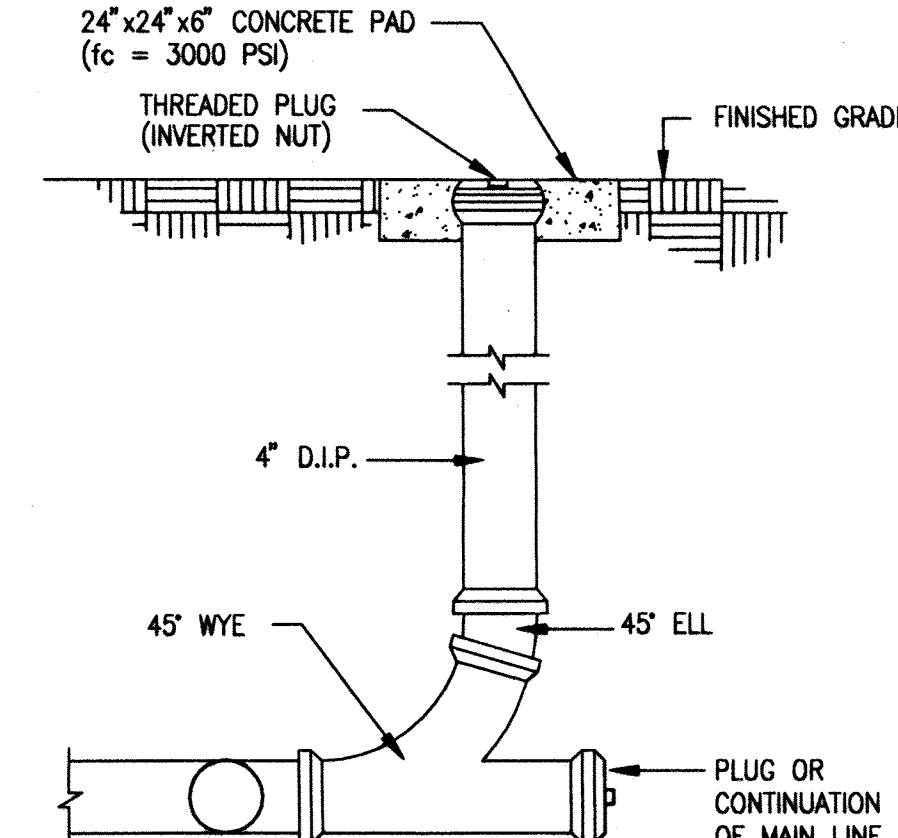
RECORD INFORMATION

- 4.78 RECORD INFORMATION
 RECORD INFORMATION = AS-DESIGNED
 28.60 RECORD INFORMATION
 9.16

CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
 - 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.
 - 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 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 CONSTRUCTION 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.
 - 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.
 - AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
 - BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
 - MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- EROSION CONTROL MEASURES:**
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
 - THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
 - 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.

APPROVALS	NAME	DATE
HYDROLOGY		
SIDEWALK INSPECTOR		
STORM DRAIN MAINTENANCE		



TYPICAL SINGLE CLEANOUT SECTION
 NOT TO SCALE

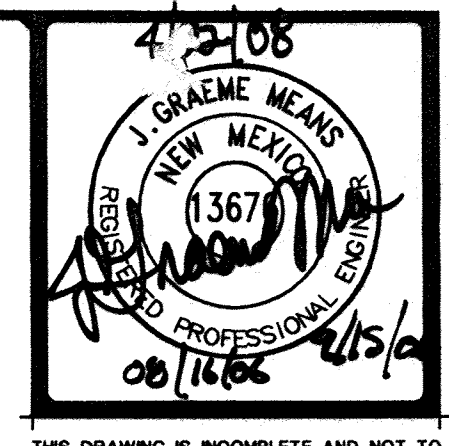
RECORD DRAWING

SEE SHEET C101 FOR CERTIFICATION

184.4
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Jm

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 ALBUQUERQUE, NM 87109
 ENGINEERS & SURVEYORS (505) 345-4250
 FAX: 505 345-4254 • ESTABLISHED 1977



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 505.261.0236 FAX 505.261.0348

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 505.325.7475 FAX 505.325.6484

ARCHITECTURE
 ENGINEERING
 PLANNING
 INTERIOR DESIGN

GREER
 STAFFORD
 SJCF

ADDITIONS AND RENOVATION
DENNIS CHAVEZ ELEMENTARY SCHOOL
 7500 BARSTOW
 ALBUQUERQUE, NEW MEXICO

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CAD FILE NAME	
SHEET TITLE	SECTIONS AND DETAILS
REVISION	DATE
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SITE CHARACTERISTICS

1. PRECIPITATION ZONE = 3
2. $P_{6,100} = P_{360} = 2.60$
3. TOTAL AREA (A_t) = 533,960 SF
12.26 AC
4. EXISTING LAND TREATMENT
- A. BASIN A1 [DRAINS TO BARSTOW]
TREATMENT AREA (SF/AC) %
C 26,885 / 0.62 100
B. BASIN A2 [DRAINS INTO POND BETWEEN BUS DROPOFF AREA AND BARSTOW]
TREATMENT AREA (SF/AC) %
B 24,000 / 0.5 6
C 304,500 / 6.99 77
D 67,000 / 1.54 17
C. BASIN A3 [DRAINS TO BARSTOW]
TREATMENT AREA (SF/AC) %
D 72,950 / 1.67 100
D. BASIN B [DRAINS TO SAN FRANCISCO]
TREATMENT AREA (SF/AC) %
B 14,275 / 0.33 37
D 24,350 / 0.56 63
5. PHASE 1-3 DEVELOPED LAND TREATMENT
- A. BASIN A1 [DRAINS TO BARSTOW]
TREATMENT AREA (SF/AC) %
C 24,000 / 0.55 6
B 269,810 / 6.19 70
D 92,650 / 2.13 24
B. BASIN A2 [DRAINS TO BARSTOW]
TREATMENT AREA (SF/AC) %
D 86,000 / 1.97 100
C. BASIN B [DRAINS TO SAN FRANCISCO]
TREATMENT AREA (SF/AC) %
B 14,000 / 0.32 23
D 47,500 / 1.09 77
6. PHASE 1-5 DEVELOPED LAND TREATMENT
- A. BASIN A1 [DRAINS TO BARSTOW]
TREATMENT AREA (SF/AC) %
B 110,000 / 2.53 28
C 183,810 / 4.22 48
D 92,650 / 2.13 24
B. BASIN A2 [DRAINS TO BARSTOW]
TREATMENT AREA (SF/AC) %
D 86,000 / 1.97 100
C. BASIN B [DRAINS TO SAN FRANCISCO]
TREATMENT AREA (SF/AC) %
B 14,000 / 0.32 23
D 47,500 / 1.09 77

7. EXISTING CONDITION

- A. BASIN A1
1. VOLUME
 $E_w = (E_{A1A} + E_{A1B} + E_{A1C} + E_{A1D}) / A_t$
 $E_w = (1.29 + 0.62) / 0.62 = 1.29$ IN
 $V_{100} = (E_w / 12) A_t = (1.29 / 12) 0.62 = 0.0663$ AC-FT 2,890 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA1A} + Q_{pA1B} + Q_{pA1C} + Q_{pA1D}$
 $Q_p = Q_{100} = (3.45 + 0.62) = 2.13$ CFS
B. BASIN A2
1. VOLUME
 $E_w = (E_{A2A} + E_{A2B} + E_{A2C} + E_{A2D}) / A_t$
 $E_w = (0.92 + 0.55) + (1.29 + 6.99) + (2.36 + 1.54) / 9.08 = 1.45$ IN
 $V_{100} = (E_w / 12) A_t = (1.45 / 12) 9.08 = 1.0962$ AC-FT 47,750 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA2A} + Q_{pA2B} + Q_{pA2C} + Q_{pA2D}$
 $Q_p = Q_{100} = (2.60 + 0.55) + (3.45 + 6.99) + (5.02 + 1.54) = 33.27$ CFS
C. BASIN A3
1. VOLUME
 $E_w = (E_{A3A} + E_{A3B} + E_{A3C} + E_{A3D}) / A_t$
 $E_w = (2.36 + 1.67) / 1.67 = 2.36$ IN
 $V_{100} = (E_w / 12) A_t = (2.36 / 12) 1.67 = 0.3294$ AC-FT 14,347 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA3A} + Q_{pA3B} + Q_{pA3C} + Q_{pA3D}$
 $Q_p = Q_{100} = (5.02 + 1.67) = 8.41$ CFS
D. BASIN B
1. VOLUME
 $E_w = (E_{BA} + E_{BB} + E_{BC} + E_{BD}) / A_t$
 $E_w = (0.92 + 0.33) + (2.36 + 0.56) / 0.89 = 1.83$ IN
 $V_{100} = (E_w / 12) A_t = (1.83 / 12) 0.89 = 0.1351$ AC-FT 5,883 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pBA} + Q_{pBB} + Q_{pBC} + Q_{pBD}$
 $Q_p = Q_{100} = (2.60 + 0.33) + (5.02 + 0.56) = 3.66$ CFS

8. PHASE 1-3 DEVELOPED CONDITION

- A. BASIN A1
1. VOLUME
 $E_w = (E_{A1A} + E_{A1B} + E_{A1C} + E_{A1D}) / A_t$
 $E_w = [(0.92 + 0.55) + (1.29 + 6.19) + (2.36 + 1.13) / 8.87 = 1.52$ IN
 $V_{100} = (E_w / 12) A_t = (1.52 / 12) 8.87 = 1.1264$ AC-FT 49,066 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA1A} + Q_{pA1B} + Q_{pA1C} + Q_{pA1D}$
 $Q_p = Q_{100} = (2.60 + 0.55) + (3.45 + 6.19) + (5.02 + 2.13) = 33.48$ CFS
B. BASIN A2
1. VOLUME
 $E_w = (E_{A2A} + E_{A2B} + E_{A2C} + E_{A2D}) / A_t$
 $E_w = (2.36 + 1.97) / 1.97 = 2.36$ IN
 $V_{100} = (E_w / 12) A_t = (2.36 / 12) 1.97 = 0.3883$ AC-FT 16,913 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA2A} + Q_{pA2B} + Q_{pA2C} + Q_{pA2D}$
 $Q_p = Q_{100} = (5.02 + 1.97) = 9.91$ CFS
C. BASIN B
1. VOLUME
 $E_w = (E_{BA} + E_{BB} + E_{BC} + E_{BD}) / A_t$
 $E_w = (0.92 + 0.32) + (2.36 + 1.09) / 1.41 = 2.03$ IN
 $V_{100} = (E_w / 12) A_t = (2.03 / 12) 1.41 = 0.2391$ AC-FT 10,415 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pBA} + Q_{pBB} + Q_{pBC} + Q_{pBD}$
 $Q_p = Q_{100} = (2.60 + 2.53) + (3.45 + 4.22) + (5.02 + 2.41) = 6.31$ CFS

9. PHASE 1-5 DEVELOPED CONDITION

- A. BASIN A1
1. VOLUME
 $E_w = (E_{A1A} + E_{A1B} + E_{A1C} + E_{A1D}) / A_t$
 $E_w = [(0.92 + 2.53) + (1.29 + 4.22) + (2.36 + 2.13) / 8.87 = 1.44$ IN
 $V_{100} = (E_w / 12) A_t = (1.44 / 12) 8.87 = 1.0655$ AC-FT 46,414 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA1A} + Q_{pA1B} + Q_{pA1C} + Q_{pA1D}$
 $Q_p = Q_{100} = (2.60 + 2.53) + (3.45 + 4.22) + (5.02 + 2.13) = 31.80$ CFS
B. BASIN A2
1. VOLUME
 $E_w = (E_{A2A} + E_{A2B} + E_{A2C} + E_{A2D}) / A_t$
 $E_w = (2.36 + 1.97) / 1.97 = 2.36$ IN
 $V_{100} = (E_w / 12) A_t = (2.36 / 12) 1.97 = 0.3883$ AC-FT 16,913 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pA2A} + Q_{pA2B} + Q_{pA2C} + Q_{pA2D}$
 $Q_p = Q_{100} = (5.02 + 1.97) = 9.91$ CFS
C. BASIN B
1. VOLUME
 $E_w = (E_{BA} + E_{BB} + E_{BC} + E_{BD}) / A_t$
 $E_w = (0.92 + 0.32) + (2.36 + 1.09) / 1.41 = 2.03$ IN
 $V_{100} = (E_w / 12) A_t = (2.03 / 12) 1.41 = 0.2391$ AC-FT 10,415 CF
2. PEAK DISCHARGE
 $Q_p = Q_{pBA} + Q_{pBB} + Q_{pBC} + Q_{pBD}$
 $Q_p = Q_{100} = (2.60 + 2.53) + (3.45 + 4.22) + (5.02 + 2.41) = 6.31$ CFS

10. PHASE 1-3 COMPARISON

- A. BASIN DEVELOPED A1 TO EXISTING A1 & A2
1. VOLUME
 $V_{100} = 49,065 - (2,890 + 47,750) = -1,575$ CF (DECREASE)
2. PEAK DISCHARGE
 $Q_{100} = 33.48 - (2.13 + 33.27) = -1.92$ CFS (DECREASE)
B. BASIN DEVELOPED A2 TO EXISTING A3
1. VOLUME
 $V_{100} = 16,913 - 14,347 = 2,566.50$ CF (INCREASE)
2. PEAK DISCHARGE
 $Q_{100} = 9.91 - 8.41 = 1.50$ CFS (INCREASE)
C. BASIN B
1. VOLUME
 $V_{100} = 10,415 - 5,883 = 4,532$ CF (INCREASE)
2. PEAK DISCHARGE
 $Q_{100} = 6.31 - 3.66 = 2.65$ CFS (INCREASE)

11. PHASE 1-5 COMPARISON

- A. BASIN DEV A1 TO EX A1 & A2
1. VOLUME
 $V_{100} = 46,414 - (2,890 + 47,750) = -4,226$ CF (DECREASE)
2. PEAK DISCHARGE
 $Q_{100} = 31.80 - (2.13 + 33.27) = -3.60$ CFS (DECREASE)
B. BASIN DEV A2 TO EX A3
1. VOLUME
 $V_{100} = 16,913 - 14,347 = 2,566.50$ CF (INCREASE)
2. PEAK DISCHARGE
 $Q_{100} = 9.91 - 8.41 = 1.50$ CFS (INCREASE)
C. BASIN B
1. VOLUME
 $V_{100} = 10,415 - 5,883 = 4,532$ CF (INCREASE)
2. PEAK DISCHARGE
 $Q_{100} = 6.31 - 3.66 = 2.65$ CFS (INCREASE)

12. STREET CAPACITY

STREET CAPACITY ALLOWED		STREET CAPACITY REQUIRED
(40' STREET, FROM DPM)(ACTUAL STREETS ARE 48')		
BARSTOW		BARSTOW
DPM: ONE-HALF STREET FLOW = 24 CFS	WHOLE STREET FLOW = 48 CFS	EXISTING: 43.81 CFS
ACTUAL: EAST HALF = 27.5, WEST HALF = 25.8	WHOLE STREET FLOW = 53.3	DEVELOPED: 43.39 CFS
SAN FRANCISCO		SAN FRANCISCO
DPM: ONE-HALF STREET FLOW = 60 CFS	WHOLE STREET FLOW = 120 CFS	EXISTING: 3.66 CFS
		DEVELOPED: 6.31 CFS
B. PHASE 1-5		
STREET CAPACITY ALLOWED		STREET CAPACITY REQUIRED
(40' STREET, FROM DPM)(ACTUAL STREETS ARE 48')		
BARSTOW		BARSTOW
DPM: ONE-HALF STREET FLOW = 24 CFS	WHOLE STREET FLOW = 48 CFS	EXISTING: 43.81 CFS
ACTUAL: (EAST = 27.5, WEST = 25.8)	(TOTAL STREET 53.3)	DEVELOPED: 41.71 CFS
SAN FRANCISCO		SAN FRANCISCO
DPM: ONE-HALF STREET FLOW = 60 CFS	WHOLE STREET FLOW = 120 CFS	EXISTING: 3.66 CFS
		DEVELOPED: 6.31 CFS

MASTER DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS SITE, LOCATED IN NORTHEAST ALBUQUERQUE, IS CURRENTLY DEVELOPED AS AN ALBUQUERQUE PUBLIC SCHOOLS ELEMENTARY SCHOOL. THIS PROJECT IS A PHASED MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. PHASE 1 IS THE CORE FACILITY ADDITION THAT WILL ADD FOUR NEW KINDERGARTEN CLASSROOMS AND WILL GO TO BUILDING PERMIT FIRST. FURTHER PHASES WILL EXPAND THE MAIN BUILDING AND IMPROVE THE OVERALL SITE. THE PURPOSE OF THIS MASTER DRAINAGE PLAN IS TO EVALUATE SITE DRAINAGE FOR THE FULL BUILD-OUT OF THE SITE. THIS PLAN WILL ALSO DETERMINE THE DOWNSIDE CAPACITY IN ORDER TO ASCERTAIN THE NEED FOR ON-SITE MITIGATION. THE DRAINAGE CONCEPT FOR THIS SITE THROUGHOUT EACH PHASE OF CONSTRUCTION WILL BE TO LIMIT THE RUNOFF FROM THE SITE TO THE CAPACITY OF THE STREETS THAT BORDER THIS SITE. IT IS THE INTENT TO ALLOW FOR FREE DISCHARGE OF RUNOFF FROM THE SITE THEREBY IMPROVING THE OVERALL DRAINAGE CHARACTERISTICS OF THE SITE. THE ANALYSIS PROVIDED HEREIN DEMONSTRATES THAT FREE DISCHARGE UNDER THE PROPOSED MASTER PLAN IS JUSTIFIED.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THIS SITE IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF BARSTOW STREET N.E. AND SAN FRANCISCO ROAD N.E. THE CURRENT LEGAL DESCRIPTION IS TRACT A, HERITAGE HILLS, UNIT 3. THE SITE IS CURRENTLY DEVELOPED AS AN ELEMENTARY SCHOOL. SAN FRANCISCO ROAD N.E. AND BARSTOW STREET N.E. ARE FULLY DEVELOPED PUBLIC ROADWAYS WITH CURB AND GUTTER AND ASPHALT PAVEMENT. AS SHOWN BY PANEL 141 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED FOR BERNALILLO COUNTY, NEW MEXICO DATED APRIL 2, 2002, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE SITE DOES, HOWEVER, LIE IMMEDIATELY UPSTREAM OF A ZONE A FLOOD HAZARD AREA WITH THE "100 YEAR FLOOD CONFINED TO CONSTRUCTED CHANNEL". THE ZONE A COINCIDES WITH THE SOUTH ARROYO DE DOMINGO BACA, WHICH IS A CITY OF ALBUQUERQUE OWNED, OPERATED AND MAINTAINED STORM DRAINAGE FACILITY UPSTREAM OF BARSTOW STREET NE, AND AN AMFCA DRAINAGE CHANNEL DOWNSIDE OF BARSTOW STREET NE. ALTHOUGH THE CHANNEL HAS DIVERSE OWNERSHIP, IT REPRESENTS THE OUTFALL FOR THIS SITE. THE CONSTRUCTION PROPOSED FOR THIS SITE WILL NOT ADVERSELY IMPACT THE FOREMENTIONED DESIGNATED FLOOD HAZARD ZONE. RUNOFF FROM BARSTOW STREET N.E. DRAINS FROM SOUTH TO NORTH 550 FT INTO THE SOUTH ARROYO DE DOMINGO BACA. RUNOFF INTO SAN FRANCISCO ROAD DRAINS WEST INTO A SINGLE-FAMILY RESIDENTIAL AREA AT JEMEZ NE. THE FLOW TURNS NORTH, FLOWING THROUGH THE RESIDENTIAL NEIGHBORHOOD WITHIN JEMEZ NE UNTIL THE INTERSECTION OF KRM NE. AT THIS INTERSECTION A DIP SECTION IS ENCOUNTERED WHERE THE RUNOFF ENTERS A RUNDOWN FLOWING NORTH TO THE SOUTH ARROYO DE DOMINGO BACA. IN RECOGNITION OF THIS, ONLY VERY MINOR FUTURE DEVELOPED RUNOFFS WILL BE ALLOWED TO DRAIN INTO SAN FRANCISCO ROAD SO AS TO AVOID SENDING LARGE DEVELOPED RUNOFFS THROUGH THE NARROW RESIDENTIAL STREETS DOWNSIDE.

III. BACKGROUND DOCUMENTS

- THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL:
- TOPOGRAPHIC SURVEY OF THE EXISTING SITE PREPARED BY WILSON & CO. DATED 11/12/2003. THE SUBJECT SURVEY SHOWS THE EXISTING IMPROVEMENTS.
 - MASTER PLAN OF THE SITE PREPARED BY GREER STAFFORD/SJCF; THIS SHOWS THE LOCATION OF ALL PROPOSED IMPROVEMENTS AND THE RESPECTIVE PHASES.
 - RESEARCH CONDUCTED IN THE CITY ENGINEER'S OFFICE (D20/D2A); REVEALS PIECE-MEAL DEVELOPMENT OF THE SITE. DUE TO THIS RESEARCH, IT IS CONCLUDED THAT THERE IS NO MASTER DRAINAGE PLAN AVAILABLE TO GUIDE FUTURE DEVELOPMENT.

IV. EXISTING CONDITIONS

THE SITE IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF BARSTOW STREET N.E. AND SAN FRANCISCO ROAD N.E. THE SITE IS PRESENTLY DEVELOPED AS AN ELEMENTARY SCHOOL SITE. BARSTOW STREET N.E. AND SAN FRANCISCO ROAD N.E. ARE BOTH FULLY IMPROVED PUBLIC ROADWAYS. 48 FEET IN WIDTH WITH CURB AND GUTTER ON BOTH SIDES. FLOW ALONG BARSTOW STREET, N.E. IS CARRIED NORTH BY CURB AND GUTTER TO THE SOUTH ARROYO DE DOMINGO BACA. RUNOFF INTO SAN FRANCISCO ROAD N.E. JOINS OFFSITE FLOWS FROM THE EAST AND ARE CARRIED WEST BY CURB AND GUTTER DOWNSIDE SAN FRANCISCO ROAD TO JEMEZ STREET AND ALONG JEMEZ INTO SOUTH ARROYO DE DOMINGO BACA AT ITS INTERSECTION WITH KRM DRIVE. AT THIS POINT, THE RUNOFF IS CARRIED BY RUNDOWN TO THE SOUTH ARROYO DE DOMINGO BACA.

THE SITE IS CHARACTERIZED BY TWO DRAINAGE BASINS. BASIN A DRAINS FROM EAST TO WEST, DISCHARGING INTO BARSTOW STREET. FROM THIS POINT THE RUNOFF FLOWS NORTH TO ENTER THE SOUTH ARROYO DE DOMINGO BACA AT THE ARROYO CROSSING. BASIN B DRAINS TO SAN FRANCISCO STREET NE AS REFERENCED ABOVE. BASIN A IS FURTHER DIVIDED INTO SUB-BASINS.

- BASIN A-1 IS LOCATED IN THE NORTHWEST CORNER OF THE SITE. BASIN A-1 RECEIVES NO OFFSITE FLOWS. IT DRAINS AT THE NORTHWEST CORNER OF THE SITE INTO BARSTOW STREET AT AP-A.
- BASIN A-2 IS LOCATED AT THE CENTER AND EAST SECTION OF THE SITE AND IS MADE UP OF THE MAJORITY OF THE SITE FROM THE NORTHERN BOUNDARY TO THE SOUTHERN EDGE ALONG SAN FRANCISCO ROAD. AND INCLUDES THE ENTIRE PLAYGROUND AREA, SOCCER FIELD, EXISTING PORTABLES EAST OF THE MAIN BUILDING, AND THE PARKING LOT ALONG SAN FRANCISCO ROAD. IT DOES NOT INCLUDE THE CORE SCHOOL BUILDING AND PROPERTY DIRECTLY SOUTH AND DIRECTLY WEST OF THAT BUILDING. BASIN A-2 RECEIVES NO OFFSITE FLOWS. IT DRAINS INTO A LOW POINT IN THE PROPERTY WHICH IS BOUNDED BY THE BUS DROP-OFF/PICKUP LANE ON 3 SIDES AND TO THE WEST BY THE SIDEWALK ALONG BARSTOW STREET. OVERFLOW FROM THIS POINT PROCEEDS TO DRAIN INTO BARSTOW STREET AT AP-B.
- BASIN A-3 IS LOCATED ALONG THE SOUTHWEST OF THE SITE AND IS MADE UP OF THE MAIN SCHOOL BUILDING AND THE PARKING LOT PARALLELING BARSTOW STREET. THIS BASIN RECEIVES NO OFFSITE FLOWS AND DRAINS TO THE WEST OF THE SITE INTO BARSTOW STREET AT AP-C.

BASIN B IS LOCATED AT THE EXTREME SOUTHWEST EDGE OF THE SITE. THERE ARE NO OFFSITE FLOWS INTO THIS BASIN. RUNOFF FROM BASIN B DISCHARGES INTO SAN FRANCISCO ROAD AT AP-D.

BASED UPON VISUAL SITE INSPECTION ON AUGUST 7, 2005, THERE ARE NO OFFSITE FLOWS ENTERING THE SITE. A BLOCK RETAINING WALL SITUATED ALONG THE ENTIRE NORTH AND EAST EDGES OF THE SITE PROHIBIT FLOWS FROM THE NEIGHBORING RESIDENTIAL HOMES FROM ENTERING THE SITE EVEN THOUGH THEY ARE LOCATED AT A HIGHER ELEVATION. CURB AND GUTTER PROHIBITS FLOWS FROM THE EAST ENTERING INTO THE SITE FROM SAN FRANCISCO ROAD N.E. ADDITIONALLY, IT APPEARS THAT ADEQUATE WATERBLOCKS HAVE BEEN CONSTRUCTED AT THE TWO DRIVEPADS INTO THE SITE FROM SAN FRANCISCO ST. NE. THERE ARE NO OFFSITE FLOWS ALONG BARSTOW STREET NE. AS IT IS TOPOGRAPHICALLY LOWER.

V. DEVELOPED CONDITIONS

THE PROJECT WILL CONSIST OF SEVERAL PHASES OF CONSTRUCTION THAT WILL INCREASE THE NUMBER OF CLASSROOMS IN THE MAIN BUILDING AND MAKE IMPROVEMENTS TO THE OVERALL SITE. THE PHASES ARE DESCRIBED AS FOLLOWS:

- A. PHASE 1
THE FIRST PHASE OF CONSTRUCTION WILL CONSIST OF AN ADDITION ON THE NORTH END OF THE MAIN BUILDING EXTENDING INTO THE EXISTING PLAYGROUND AREA. THIS ADDITION WILL CREATE FOUR NEW CLASSROOMS IN BASIN A. THE ROOF DRAINAGE FROM THE ADDITION WILL DISCHARGE DIRECTLY INTO BARSTOW STREET N.E. THIS RUNOFF WILL BE CONNECTED BY A ROOF DRAIN SYSTEM THAT WILL FLOW BENEATH THE EXISTING PARKING TO THE STREET. THE RUNOFF WILL DISCHARGE TO THE STREET VIA A SIDEWALK CULVERT. NO ADDITIONAL RUNOFF WILL DISCHARGE TO SAN FRANCISCO STREET NE UNDER THIS PHASE.
- B. PHASE 2
PHASE 2 WILL INVOLVE TWO ADDITIONS TO THE MAIN BUILDING, AS WELL AS TWO PAVED PARKING AREAS AND A NEW PAVED ACCESS ROAD THROUGH THE SITE. THE FIRST ADDITION WILL EXPAND THE PHASE 1 ADDITION BY TWO CLASSROOMS INTO THE EXISTING PLAYGROUND AREA. THE RUNOFF FROM THIS EXTENSION WILL BE DIRECTED INTO THE ROOF DRAIN SYSTEM DESIGNED IN PHASE 1, THUS DRAINING DIRECTLY INTO BARSTOW STREET. THE OTHER ADDITION WILL AFFECT THE EXISTING KITCHEN AREA AT THE SOUTHEAST CORNER OF THE MAIN BUILDING. THE RUNOFF FROM THIS ROOF WILL BE DIRECTED BY ROOF DRAIN DOWNSIDE THROUGH THE SIDEWALK ALONG THE BUILDING AND EXIT THROUGH A NEW CURB PENETRATION TO THE NEW PARKING AREA ALONG SAN FRANCISCO ROAD N.E.

THE NEW PAVED PARKING AREA WILL BE ALONG THE SOUTH EDGE OF THE SITE, DIRECTLY SOUTH OF THE MAIN BUILDING. THIS NEW PARKING LOT WILL CONNECT WITH THE EXISTING PARKING AREA AT THE SOUTHEAST CORNER OF THE SITE. RUNOFF WILL BE DIRECTED WEST TO A NEW DRIVEPAD AND THEN DISCHARGED INTO SAN FRANCISCO STREET NE. THIS WORK WILL INCLUDE THE ADDITION OF MOUNTABLE CURB AND GUTTER ACROSS THE ENTRANCE TO THE EXISTING KITCHEN SERVICE AREA. PRESENTLY THIS IS A DRAINAGE PROBLEM AREA THAT PHASE 2 WILL CORRECT.

A SECOND PAVED PARKING AREA WILL BE AT THE WEST SIDE OF THE SITE, BETWEEN THE EXISTING BUS DROP-OFF/PICKUP LANE AND BARSTOW STREET NE. THIS NEW PARKING AREA WILL CAUSE 60' PORTION OF THE EXISTING BUS DROP-OFF/PICKUP LANE TO BE PAVED. THIS NEW PAVED AREA WILL DRAIN WEST INTO BARSTOW STREET.

THE PHASE 2 PAVED ACCESS ROAD WILL TRAVERSE THE SITE THROUGH THE EXISTING PLAYGROUND AREA AS SHOWN ON THE GRADING PLAN. ONE END WILL TIE INTO THE EXISTING PARKING LOT AT THE SOUTHEAST END OF THE SITE; THE OTHER WILL CONNECT TO BARSTOW STREET AT THE EXTREME NORTHWEST CORNER OF THE SITE. THIS ROAD WILL HAVE 6' CURB AND GUTTER AND ALL FLOWS FROM BASIN A-1 WILL DRAIN INTO THE ROAD, FLOWING FROM SOUTHEAST TO NORTHWEST AND EXITING INTO BARSTOW STREET VIA A NEW PRIVATE ENTRANCE.

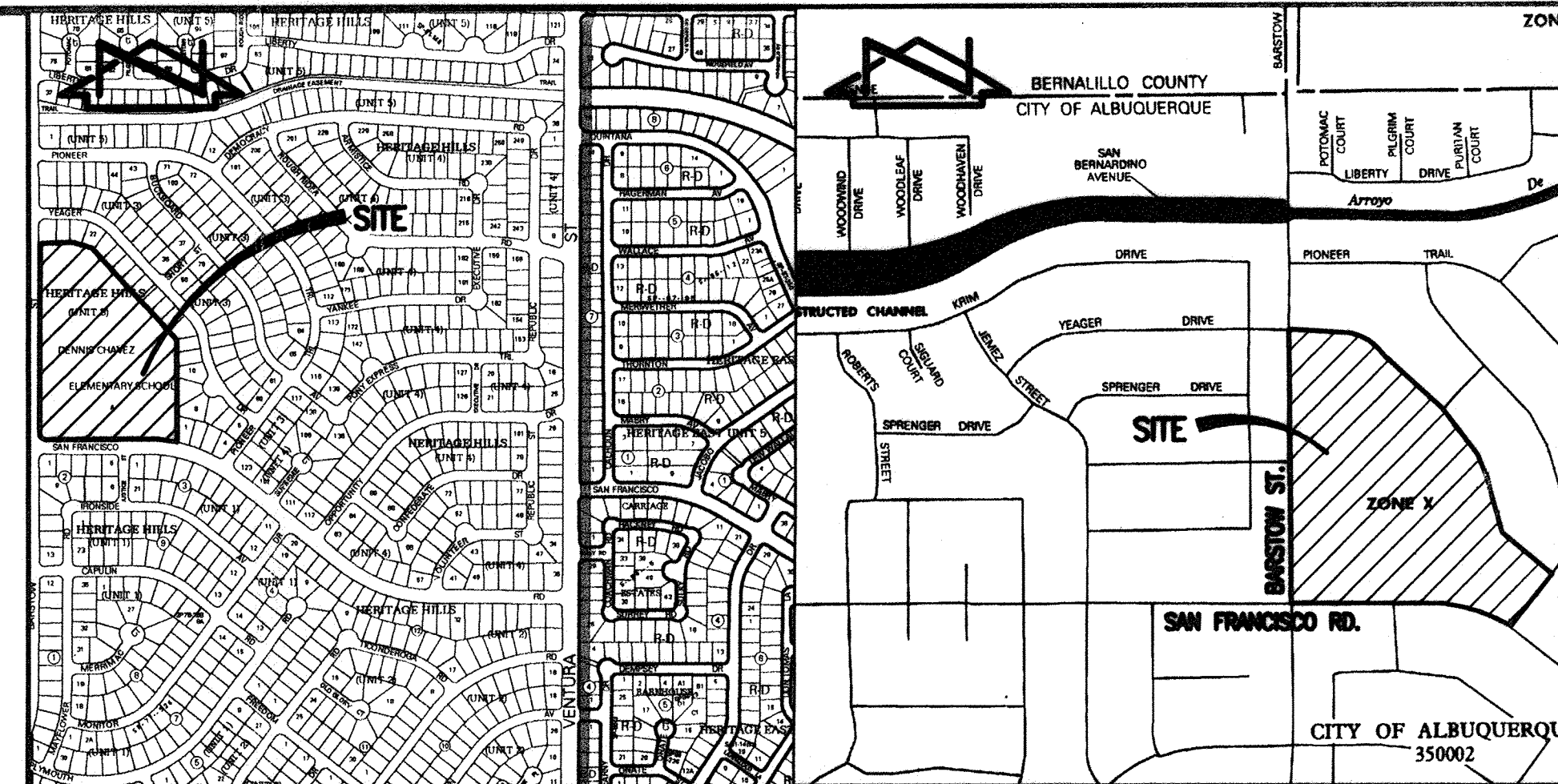
PHASE 2 WILL RESULT IN AN OVERALL DECREASE IN FLOW TO BARSTOW, WITH MARGINAL INCREASE IN FLOW TO SAN FRANCISCO ROAD; THE STREET CAPACITY OF SAN FRANCISCO IS SO GREAT THAT THIS INCREASE WILL HAVE NO EFFECT ON DOWNSIDE CAPACITY AND DOWNSIDE PROPERTIES.

- C. PHASE 3
PHASE 3 WILL EXPAND THE MAIN BUILDING WITH SEVERAL MULTI-USE CLASSROOMS AT THE NORTHEAST CORNER OF THE MAIN BUILDING. THIS CONSTRUCTION WILL ENCRoACH INTO THE EXISTING PLAYGROUND AREA. THE DRAINAGE FROM THIS NEW ROOF AREA WILL DRAIN TO THE NEW (PHASE 2) PAVED ACCESS ROAD. THE RUNOFF WILL THEN DRAIN NORTHWEST IN THE ACCESS ROAD, EVENTUALLY DISCHARGING TO BARSTOW STREET AT THE NORTHWEST CORNER OF THE SITE.

THIS CONSTRUCTION WILL INCREASE RUNOFF VOLUME AND FLOW IN BARSTOW STREET FROM THAT OF PHASE 2, BUT THE PEAK DISCHARGE INTO BARSTOW WILL STILL BE BELOW THAT OF THE CURRENT EXISTING SITE. THIS PHASE WILL NOT ADVERSELY AFFECT RUNOFF INTO SAN FRANCISCO ROAD.

- D. PHASE 4
IN THIS PHASE, SMALL ADDITIONS TO THE MAIN BUILDING WILL BE EFFECTED TO TWO LOCATIONS, ONE AT THE WEST SIDE TO ADD ADMINISTRATIVE OFFICES AND ONE ON THE EAST SIDE TO ADD GYM BLEACHERS. THE RUNOFF FROM THE EAST EXTENSION ROOF WILL DRAIN INTO SAN FRANCISCO ROAD. THE ADDITIONAL FLOW IS VERY MARGINAL AND WILL HAVE NO EFFECT TO THE PEAK DISCHARGE. THE RUNOFF FROM THE WEST EXTENSION ROOF WILL TIE INTO THE EXISTING MAIN BUILDING DRAINAGE, DRAINING TO BARSTOW STREET. THERE WILL BE NO INCREASE IN VOLUME OR FLOW DUE TO THE CONSTRUCTION REPLACING EXISTING CONCRETE SIDEWALK AND PATIO.

- E. PHASE 5
DURING THIS PHASE THERE WILL BE OUTDOOR SITE IMPROVEMENTS TO THE PLAYGROUND AREA TO REPLACE THAT WHICH WAS LOST DUE TO PREVIOUS PHASES OF CONSTRUCTION. ADDITIONAL GRASS FIELDS WILL BE CONSTRUCTED IN THE NORTHWEST AREA OF THE SITE ADJACENT TO THE EXISTING GRASS FIELD. THIS WILL DECREASE THE SITE RUNOFF BY CHANGING LAND TREATMENT C TO LAND TREATMENT B. THESE CHANGES WILL REDUCE THE VOLUME AND THE PEAK DISCHARGE RUNOFF TO BARSTOW STREET. THIS PHASE WILL NOT AFFECT RUNOFF INTO SAN FRANCISCO ROAD.



VICINITY MAP
SCALE: 1" = 750'

D-20 FLOOD PLAIN MAP
SCALE: 1" = 500'

PANEL 141 OF 825

LEGAL DESCRIPTION

TRACT A, HERITAGE HILLS, UNIT 3

PROJECT BENCHMARK

Benchmark used: 2-D20-A
The station is located 8.2 miles northeast of downtown Albuquerque on the southeast curb return of the intersection of San Francisco Ave. N.E. and Barstow St. N.E.

The station mark is a standard ACS brass tablet stamped "2-D20-A 1978", set in curb.
Elevation data:
SPIRIT LEVEL ELEVATION:
FEET: 5466.47

T.B.M.

NONE PROVIDED

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS TAKEN FROM A TOPOGRAPHIC SURVEY PREPARED BY WILSON & COMPANY DATED NOVEMBER 12, 2003. 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS. 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS TAKEN FROM THE FOREMENTIONED WILSON & COMPANY SURVEY, DATED NOVEMBER 12, 2003. 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS AS TAKEN FROM THE MASTER PLAN PROVIDED BY THE ARCHITECT, GREER STAFFORD/SJCF. 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES, AND 6.) PROPOSED PROJECT PHASING, AS SHOWN BY THIS PLAN. THE MULTIPLE PHASES OF THIS PLAN WILL EFFECTIVELY INCREASE THE SIZE OF THE MAIN DENNIS CHAVEZ ELEMENTARY SCHOOL BUILDING FOOTPRINT, IMPROVE THE PLAYGROUND AREAS, AND EXPAND AVAILABLE ON-SITE PARKING AND VEHICULAR ACCESS. THE EXISTING DRAINAGE PATTERNS WILL NOT BE SIGNIFICANTLY ALTERED.

VII. CALCULATIONS

THE CALCULATIONS WHICH APPEAR HEREON ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FOR THE 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 BY THIS DEVELOPMENT. AS SHOWN BY THESE CALCULATIONS, THERE IS ANTICIPATED TO BE A NEGLIGIBLE INCREASE IN PEAK DISCHARGE RATE AND VOLUME OF RUNOFF DUE TO THIS DEVELOPMENT. CALCULATIONS ARE SHOWN AT COMPLETION OF PHASES 1-3 AS DRAINAGE CONDITIONS ARE WORSENING AND AT COMPLETION OF PHASE 5 WHEN DRAINAGE CONDITIONS HAVE BEEN IMPROVED. BECAUSE THE INCREASE IN RUNOFF VOLUME AND PEAK DISCHARGE RATE IS MINOR, THE RE-DIRECTION OF A SMALL PORTION OF THE RUNOFF INTO SAN FRANCISCO ROAD WILL ACTUALLY CAUSE A DECREASE IN THE TOTAL RUNOFF INTO BARSTOW STREET. THE SMALL INCREASE OF RUNOFF INTO SAN FRANCISCO ROAD IS INSIGNIFICANT DUE TO ITS HIGH FLOW CAPACITY. CAPACITY FOR BOTH ROADS WERE DETERMINED BY CALCULATIONS USING MANNING'S EQUATION AND ALSO BY USING THE TABLE FOR A 40' STREET, WITH 60' R.O.W. AND AN 8' CURB, FOUND ON PG 22-141, PLATE 22.3 D-3 IN CHAPTER 3: HYDRAULIC DESIGN, OF THE DEVELOPMENT PROCESS MANUAL, DATED JUNE 1997. THIS TABLE IS FOR A SLIGHTLY SMALLER STREET WIDTH THAN EITHER ROAD, BUT STILL EXCEEDS DEVELOPED FLOW REQUIREMENTS.

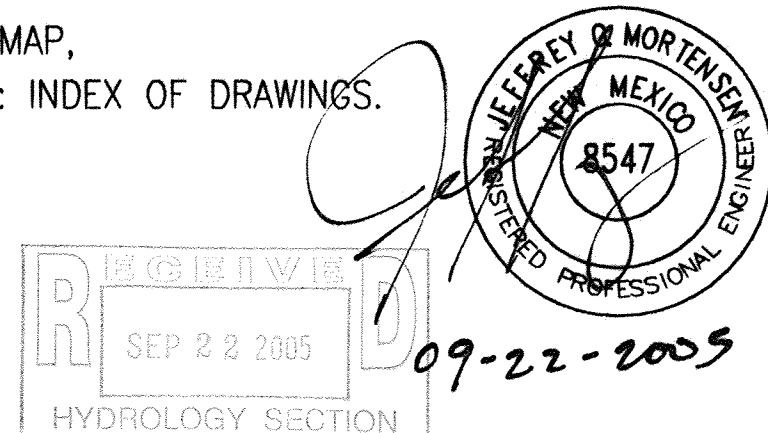
VIII. CONCLUSION

THE FREE DISCHARGE OF RUNOFF FROM THIS SITE INTO THE ADJACENT PUBLIC STREETS IS APPROPRIATE DUE TO THE FOLLOWING FACTORS FOR EACH BASIN:

- A. BASIN A
1. MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
2. MINOR INCREASE IN RUNOFF VOLUME PHASES 1 THROUGH 3 DUE TO CHANGING LAND TREATMENT C TO D WHICH DOES NOT ADVERSELY AFFECT THE ADJACENT PUBLIC STREETS; THIS RUNOFF VOLUME WILL DECREASE ONCE PHASE 4 AND 5 ARE COMPLETE DUE TO THE CONSTRUCTION OF GRASSFIELDS WITH LAND TREATMENT B REPLACING LAND TREATMENT C.
3. MINOR DECREASE IN PEAK DISCHARGE IN BARSTOW STREET PHASES 1 THROUGH 4 DUE TO REDIRECTION OF FLOWS DURING PHASE 2; LARGER DECREASE ANTICIPATED ONCE PHASE 5 COMPLETE
4. OVERALL DECREASE IN PEAK DISCHARGE TO BARSTOW STREET N.E.
5. NO ADVERSE IMPACT ON DOWNSIDE CAPACITY OR DOWNSIDE PROPERTIES
6. ADEQUATE STREET CAPACITY IS AVAILABLE IN BARSTOW STREET NE TO ACCOMMODATE PEAK DISCHARGE DURING ALL PHASES OF PROPOSED DEVELOPMENT.
7. PHASE SPECIFIC DRAINAGE SUBMITTALS WILL BE REQUIRED FOR INDIVIDUAL BUILDING PERMIT APPROVALS
B. BASIN B
1. MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
2. MINOR INCREASE IN RUNOFF VOLUME AND PEAK DISCHARGE ONCE PHASE 2 COMPLETE DUE TO INCREASE IN THE SIZE OF BASIN B
3. SAN FRANCISCO ROAD NE HAS ADEQUATE STREET CAPACITY DURING ALL PHASES OF CONSTRUCTION.
4. NO ADVERSE IMPACT ON DOWNSIDE CAPACITY OR DOWNSIDE PROPERTIES
5. PHASE SPECIFIC DRAINAGE SUBMITTALS WILL BE REQUIRED FOR INDIVIDUAL BUILDING PERMIT APPROVALS

INDEX OF DRAWINGS

- CALCULATIONS, MASTER DRAINAGE PLAN, VICINITY MAP, FLOOD PLAIN MAP, LEGAL, PROJECT BENCHMARK & INDEX OF DRAWINGS.
- EXISTING CONDITIONS
- DEVELOPED CONDITIONS GRADING PLAN



DRAINAGE PLAN AND CALCULATIONS

MASTER DRAINAGE PLAN

DENNIS CHAVEZ ELEMENTARY SCHOOL

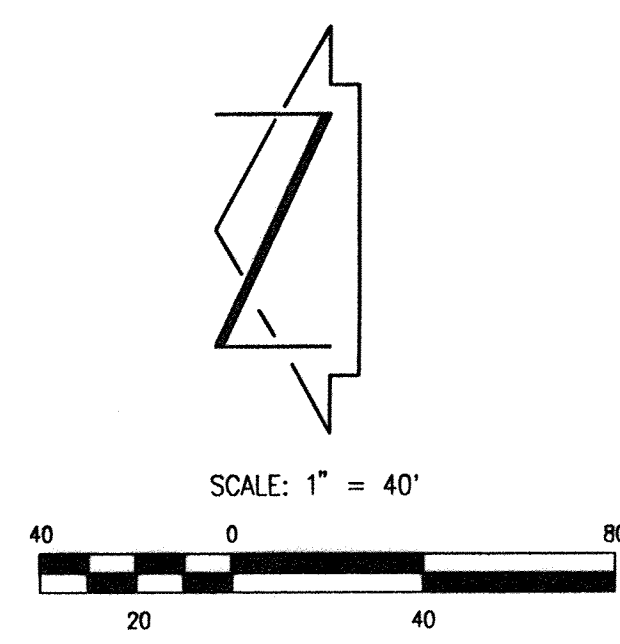


JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NM 87109
ENGINEERS & SURVEYORS 5050 245-4250
FAX: 505 345-4254 ESTABLISHED 1977

DESIGNED BY	J.D.S.	NO.	DATE	BY	REVISIONS	JOB NO.
						2005.051.1
DRAWN BY	R.R.W.					DATE
						09-2005
APPROVED BY	J.G.M.					SHEET
						1 OF 3

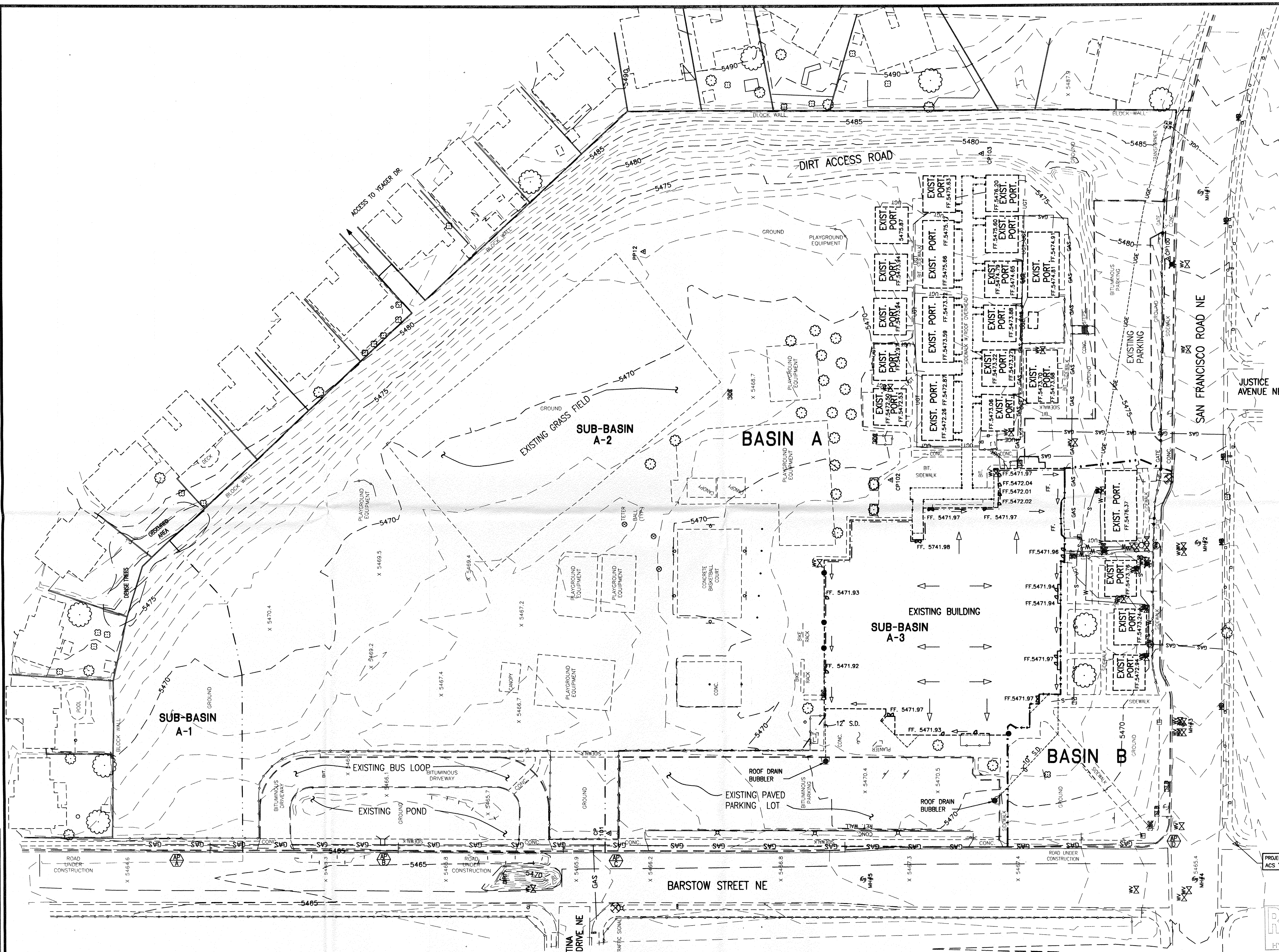
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 Elevation data:
 SPIRIT LEVEL ELEVATION:
 FEET: 5466.47
T.B.M.
 NONE PROVIDED

NOTE:
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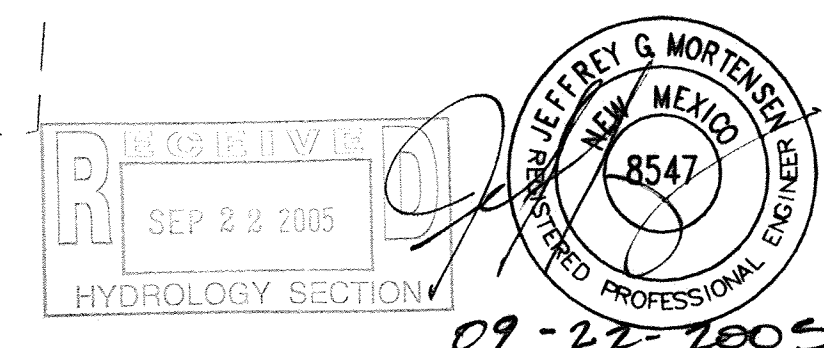


SYMBOL LEGEND

- ⊙ SEWER MANHOLE
- ⊙ TELEPHONE MANHOLE
- ⊙ WATER VALVE
- ⊙ WATER MANHOLE
- ⊙ WATER METER
- ⊙ GAS METER
- ⊙ CLEANOUT
- ⊙ FIRE HYDRANT
- ⊙ SPRINKLER CONTROL BOX
- ⊙ TRAFFIC SIGNAL PULL BOX
- ⊙ TV PEDESTAL
- ⊙ ROOF DRAIN
- ⊙ LIGHT POLE
- ⊙ SIGNAL LIGHT JUNCTION BOX
- ⊙ STEEL POST
- ⊙ TELEPHONE PEDESTAL
- ⊙ DECIDUOUS TREE
- UGT — UNDERGROUND TELEPHONE
- UGE — UNDERGROUND ELECTRIC
- ⊙ LIGHT POLE
- W — WATERLINE
- S — SEWER LINE
- ⊙ GAS LINE
- ⊙ FENCE
- ⊙ GATE
- DRAINAGE BASIN BOUNDARY SIGN
- FF. FINISHED FLOOR ELEVATION
- CONC. CONCRETE
- MH. MANHOLE
- BIT. BITUMINOUS
- SPOT ELEVATION
- △ CONTROL POINT
- ▭ BUILDING
- ▭ ROOF OVERHANG
- ⊙ MAILBOX
- ⊙ GAS REGULATOR
- ⊙ FLAGPOLE
- ⊙ TRAFFIC SINGLE POLE
- ⊙ AREA INLET
- ⊙ DOOR
- ⊙ EXISTING ROOF DRAINAGE



PROJECT BENCHMARK
 ACS "2-D20-A"



09-22-2005

File Path: \\JWA\WORK\A\ Plot Date: 09-15-2005
 File Name: S051EED.DWG Plot Time: 1:22 pm



JEFF MORTENSEN & ASSOCIATES, INC.
 6010-S MIDWAY PARK BLVD. N.E.
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 FAX: 505 345-4254 ESTABLISHED 1977

**EXISTING CONDITIONS
 MASTER DRAINAGE PLAN
 DENNIS CHAVEZ ELEMENTARY SCHOOL**

DESIGNED BY: JGM/JDS.	NO.	DATE	BY	REVISIONS	JOB NO.
DRAWN BY: RRW					2005.051.1
APPROVED BY: J.G.M.					DATE 09-2005
					SHEET 2 OF 3

Plot Date: 09-22-2005
Plot Time: 11:29 am
File Path: E:\JMA\WORK\050511\DWG
File Name: 50511DC.DWG



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6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, N.M. 87109
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FAX: 505-345-4254 ESTABLISHED 1977

DEVELOPED CONDITION
MASTER DRAINAGE PLAN
DENNIS CHAVEZ ELEMENTARY SCHOOL

DESIGNED BY	J.D.S.	NO.	DATE	BY	REVISIONS	JOB NO.	2005.051.1
DRAWN BY	J.M.A.					DATE	09-2005
APPROVED BY	J.G.M.					SHEET	3 OF 3

PROJECT BENCHMARK

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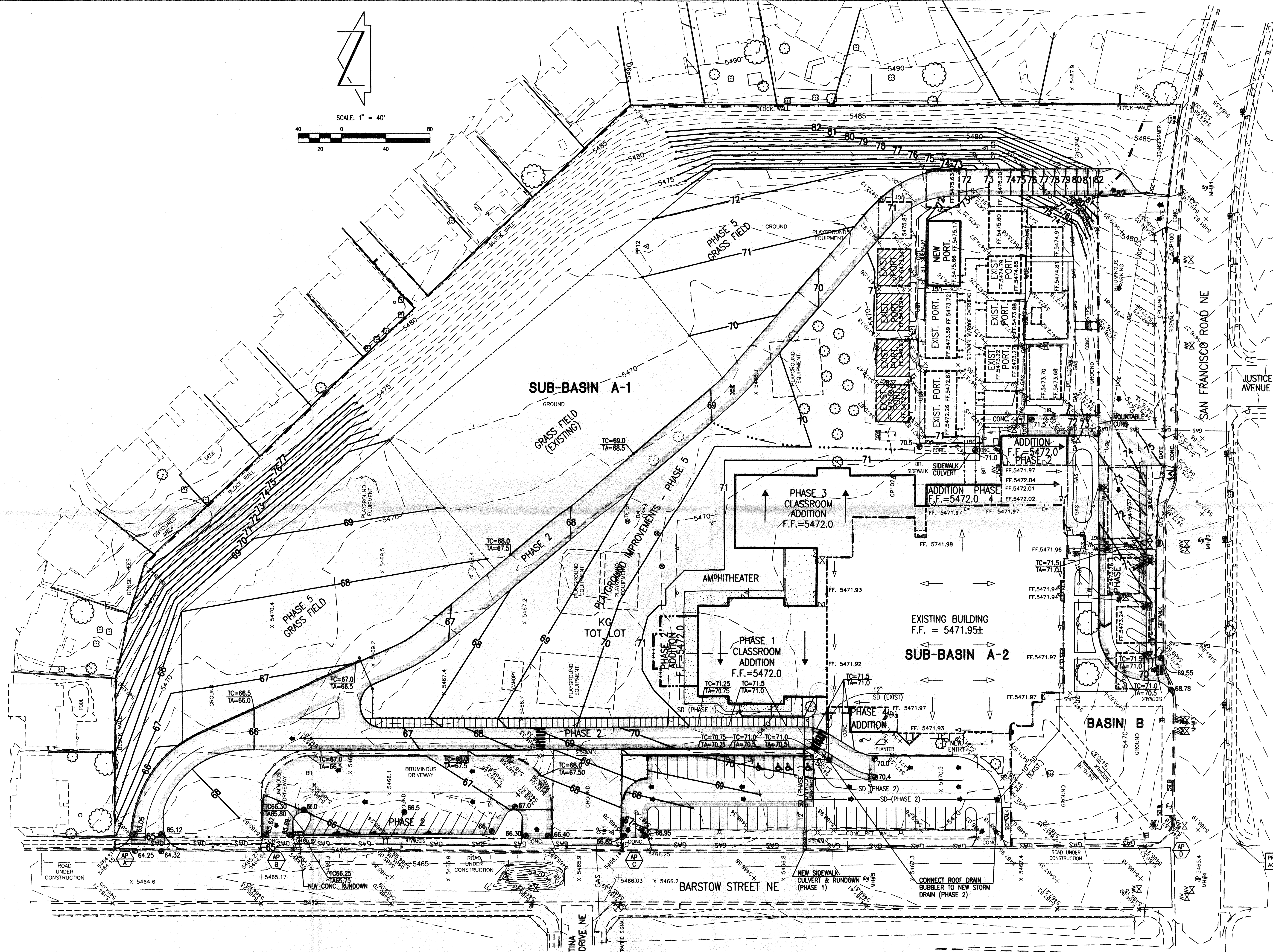
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- EXISTING ROOF DRAINAGE
- EXISTING PAVING
- NEW PAVING
- EXISTING SPOT ELEVATION
- 79 PROPOSED CONTOUR
- 64.32 PROPOSED SPOT ELEVATION



PROJECT BENCHMARK
ACS "2-D20-A"

SEP 22 2005
HYDROLOGY SECTION

