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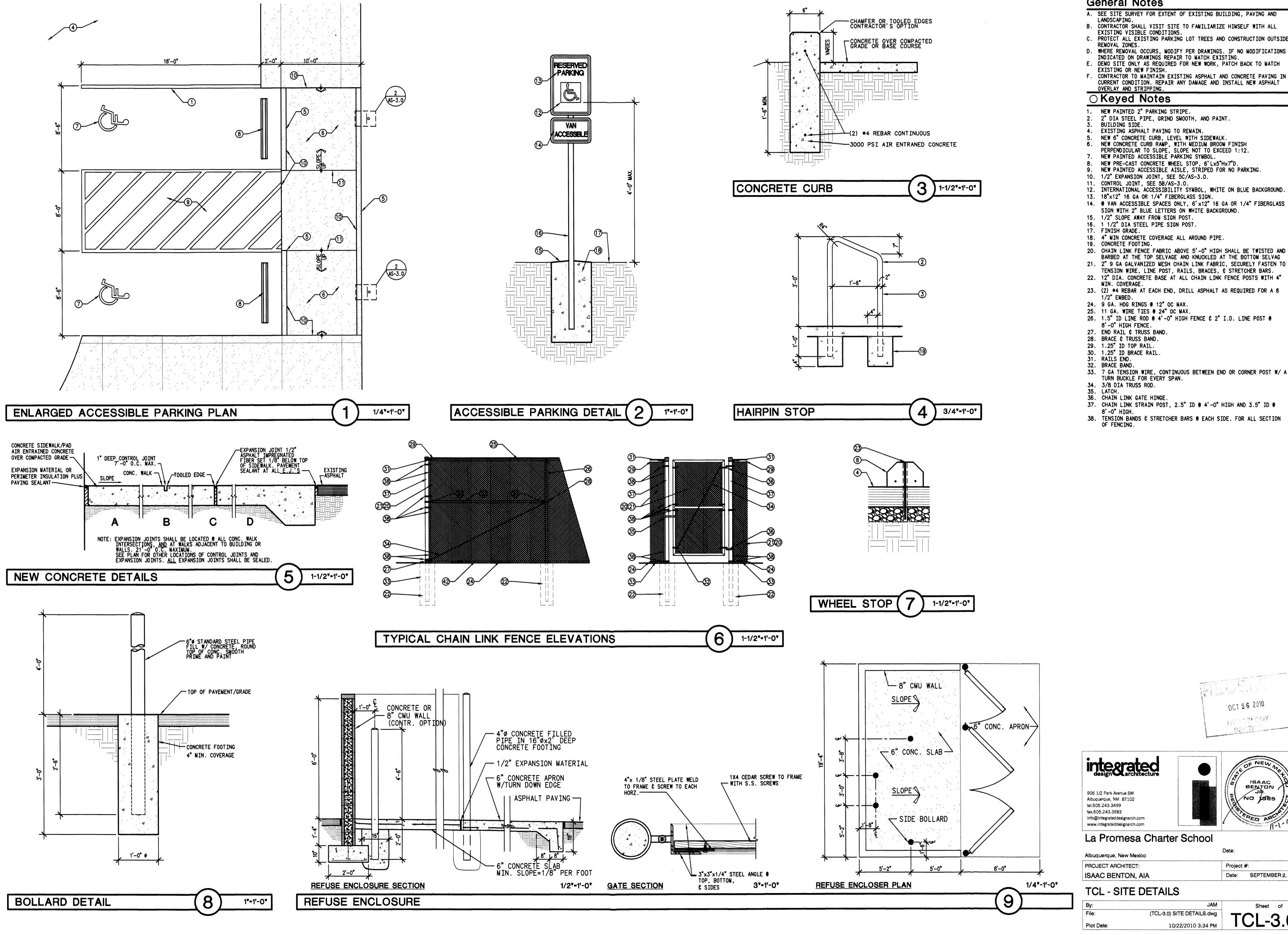
La Promesa Charter School

Albuquerque, New Mexico	
PROJECT ARCHITECT:	Project #:
ISAAC BENTON, AIA	Date: SEPTEMBER 2,

TCL - SURVEY

1\*-50'-0\*

By: CARTESIAN Sheet of TCL-2.0
Plot Date: 10/22/2010 3:37 PM



**General Notes** 

B. CONTRACTOR SHALL VISIT SITE TO FAMILIARIZE HIMSELF WITH ALL

C. PROTECT ALL EXISTING PARKING LOT TREES AND CONSTRUCTION OUTSIDE OF

WHERE REMOVAL OCCURS, MODIFY PER DRAWINGS. IF NO MODIFICATIONS ARE

INDICATED ON DRAWINGS REPAIR TO MATCH EXISTING. E. DENO SITE ONLY AS REQUIRED FOR NEW WORK, PATCH BACK TO WATCH

CONTRACTOR TO MAINTAIN EXISTING ASPHALT AND CONCRETE PAVING IN ITS CURRENT CONDITION. REPAIR ANY DAMAGE AND INSTALL NEW ASPHALT

NEW 6" CONCRETE CURB, LEVEL WITH SIDEWALK.

NEW CONCRETE CURB RAMP, WITH MEDIUM BROOM FINISH PERPENDICULAR TO SLOPE, SLOPE NOT TO EXCEED 1:12.

NEW PAINTED ACCESSIBLE PARKING SYMBOL.

NEW PRE-CAST CONCRETE WHEEL STOP, 6'Lx5"Hx7"D. NEW PAINTED ACCESSIBLE AISLE, STRIPED FOR NO PARKING.

11. CONTROL JOINT, SEE 5B/AS-3.0.

12. INTERNATIONAL ACCESSIBILITY SYMBOL, WHITE ON BLUE BACKGROUND.

13. 18"x12" 16 GA OR 1/4" FIBERGLASS SIGN.

14. • VAN ACCESSIBLE SPACES ONLY, 6'x12" 16 GA OR 1/4" FIBERGLASS SIGN WITH 2" BLUE LETTERS ON WHITE BACKGROUND.

18. 4" MIN CONCRETE COVERAGE ALL AROUND PIPE.

BARBED AT THE TOP SELVAGE AND KNUCKLED AT THE BOTTOM SELVAG 21. 2" 9 GA GALVANIZED WESH CHAIN LINK FABRIC, SECURELY FASTEN TO

TENSION WIRE, LINE POST, RAILS, BRACES, & STRETCHER BARS. 22. 12" DIA. CONCRETE BASE AT ALL CHAIN LINK FENCE POSTS WITH 4"

23. (2) \*4 REBAR AT EACH END, DRILL ASPHALT AS REQUIRED FOR A 6

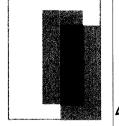
26. 1.5" ID LINE ROD @ 4'-0" HIGH FENCE & 2" I.D. LINE POST @

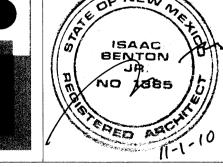
33. 7 GA TENSION WIRE, CONTINUOUS BETWEEN END OR CORNER POST W/ A

37. CHAIN LINK STRAIN POST, 2.5" ID @ 4'-0" HIGH AND 3.5" ID @

38. TENSION BANDS & STRETCHER BARS @ EACH SIDE. FOR ALL SECTION



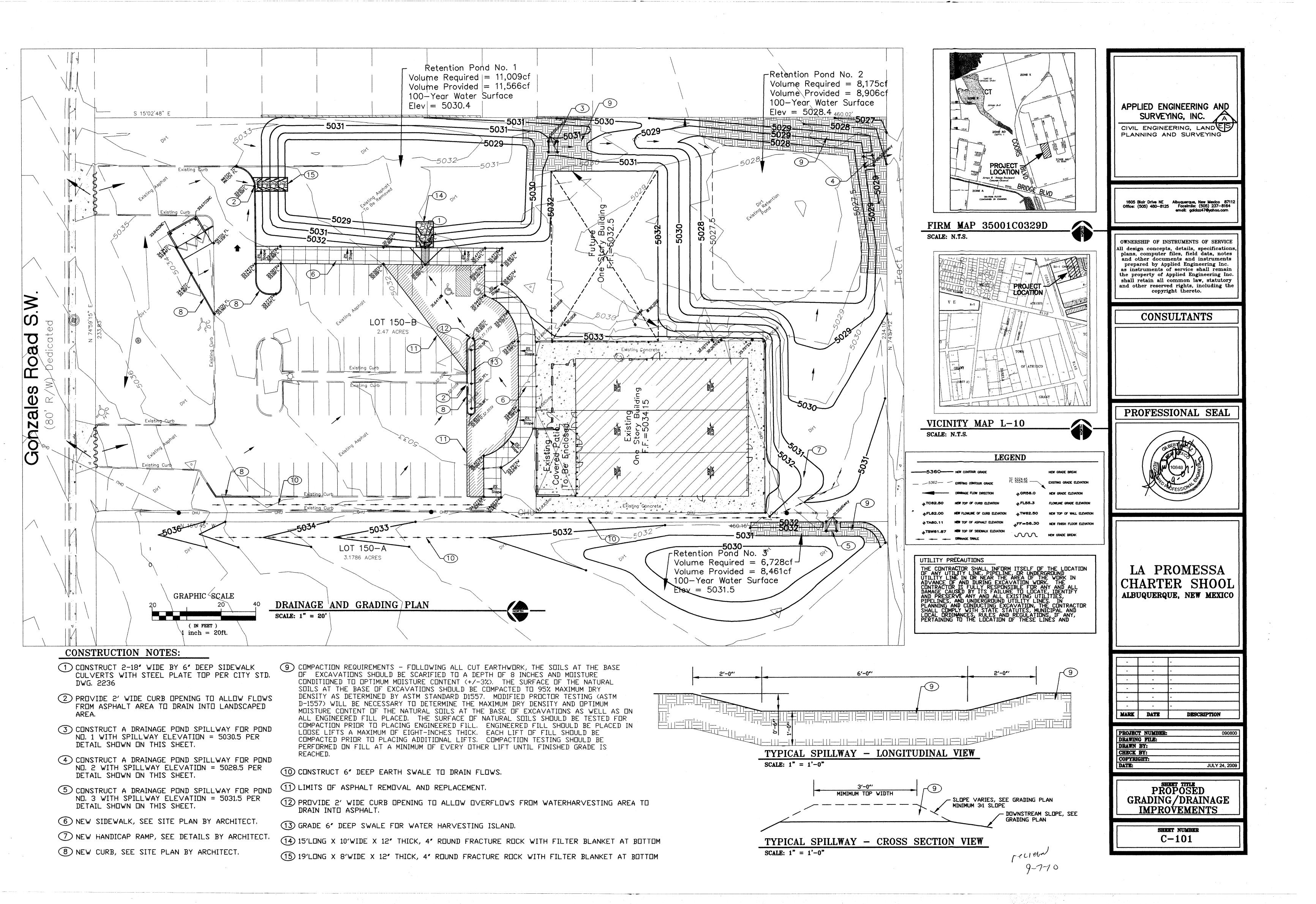


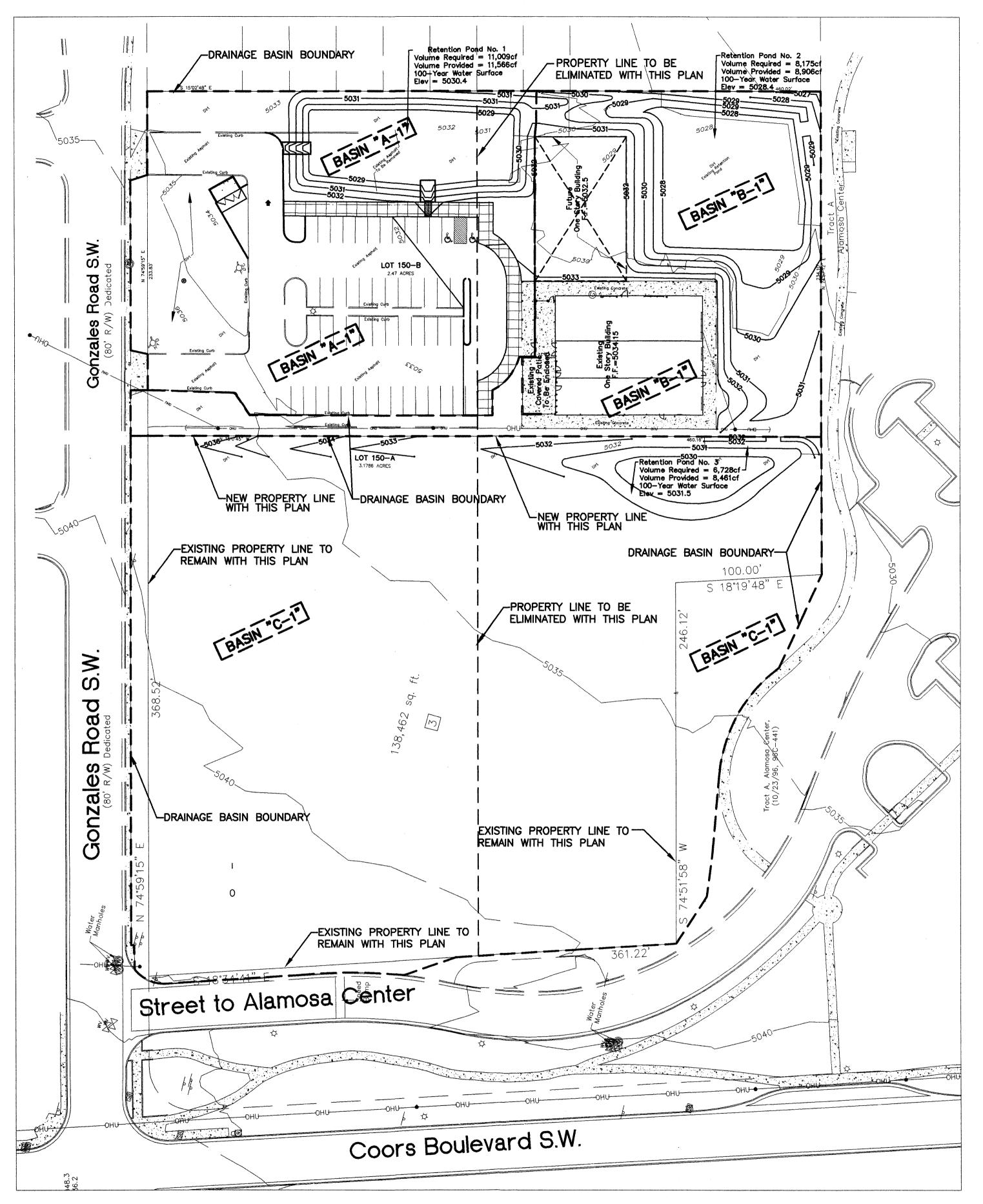


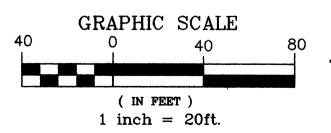
## La Promesa Charter School

Project #: Date: SEPTEMBER 2, 2010

(TCL-3.0) SITE DETAILS.dwg **TCL-3.0** 10/22/2010 3:34 PM







OVERALL DRAINAGE BASIN BOUNDARY MAP



THE FOLLOWING ITEMS CONCERN THE RECONSTRUCTION OF AN EXISTING BUILDING AND PARKING LOT TO INCLUDE VACANT LAND FOR THE PROPOSED REPLATTED LOTS OF 150-A AND 150-B LOCATED AT THE SOUTHEAST CORNER OF COORS BOULEVARD SW AND GONZALES ROAD SW, ALBUQUERQUE, NEW MEXICO. THE FOLLOWING INFORMATION CONTAINED HEREON IS AS FOLLOWS:

- 1. DRAINAGE CALCULATIONS
- 2. VICINITY MAP K-10
- 3. FLOOD INSURANCE RATE MAP 35001C0329D, Dated 09/20/1996

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED AT THE SOUTHEAST CORNER OF COORS BOULEVARD SW AND GONZALES ROAD SW. THE PARCEL'S CURRENT LEGAL DESCRIPTION IS LOTS 150 AND 151, TOWN OF ATRISCO GRANT UNIT 6, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, FILED IN THE COUNTY CLERKS OFFICE ON NOVEMBER 1, 1976 IN BOOK D-18-A. THE PROPERTY IS BOUNDED ON THE SOUTH BY THE CITY ALAMOSA CENTER, ON THE EAST BY A RESIDENTIAL SUBDIVISION, ON THE NORTH BY GONZALES ROAD SW AND ON THE WEST BY THE PAVED ACCESS ROAD THAT SERVES THE CITY ALAMOSA CENTER.

THE OVERALL SITE CONTAINS APPROXIMATELY 5.65 ACRES. THE EASTERN PORTION OF LOTS 150 AND 151 IS CURRENTLY DEVELOPED WITH A METAL BUILDING THAT WAS USED AS A CHURCH AND A PAVED PARKING LOT. THIS DEVELOPED PORTION CURRENTLY DRAINS TO AN EXISTING RETENTION POND LOCATED AT THE SOUTHEAST CORNER OF THE SITE. THE EASTERN PORTION OF THE EXISTING DEVELOPED AREA WAS ANALYZED PER THE DRAINAGE PLAN NO. L-10/D7 AT CITY HYDROLOGY DATED 1986. THE WESTERN PORTION OF THE SITE IS CURRENTLY UNDEVELOPED AND CONTAINS SOME NATIVE GRASSES.

THE SITE IS CURRENTLY NOT IN A DESIGNATED 100-YEAR FLOODPLAIN PER FIRM MAP 35001C0334D

AS SHOWN BY THE PLAN THE PROPOSAL IS TO DIVIDE THE 5.56 ACRE SITE INTO TWO LOTS, THE EASTERN LOT 150-B WILL NOW CONTAIN 2.47 ACRES WHICH WILL NOW INCLUDE ALL OF THE CURRENT EXISTING DEVELOPED AREA WHICH CONSIST OF THE EXISTING PARKING LOT AND BUILDING. THE WESTERN LOT 150-A WILL NOW CONTAIN 3,17ACRES WHICH WILL REMAIN UNDEVELOPED AS PART OF THIS

THIS PROPOSED GRADING AND DRAINAGE PLAN WILL ADDRESS LOT 150-B WHICH WILL HAVE THE EXISTING PARKING LOT RECONSTRUCTED, THE EXISTING BUILDING WILL BE REMODELED AND ADDITIONAL SIDEWALKS WILL BE ADDED ALONG WITH SOME PLAYGROUND EQUIPMENT, THERE WILL BE A PORTION SET ASIDE FOR A FUTURE BUILDING. THE EXISTING RETENTION POND WILL BE ANALYZED FOR EXISTING FLOWS AND FOR PROPOSED FLOWS BASED ON THE PROPOSED IMPPOVEMENTS AS PART OF THIS PLAN TO INCLUDE SIZING THE RETENTION POND FOR THE FUTURE BUILDING.

THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6 HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

BASED ON A REVIEW OF THE EXISTING DRAINAGE PLAN FOR THE ALAMOSA CENTER WHICH EXISTS ALONG THE SOUTH BOUNDARY OF THIS SITE, NO OFFSITE FLOWS WERE CONSIDERED FOR THIS DEVELOPMENT PER DRAINAGE PLAN L-10/D13. BASED ALSO ON THE FACT THAT THE EXISTING DRAINAGE PLAN L-10/D7 UTILIZED A RETENTION POND, THE MODIFICATIONS TO THE EXISTING DEVELOPED SITE WILL ALSO PROPOSE A RETENTION POND.

A REVIEW OF THE TOPOGRAPHIC SURVEY AND A FIELD VISIT TO THE SITE INDICATES THAT OFFSITE FLOWS FOR THE PROPOSED UNDEVELOPED TRACT TO THE WEST (LOT 150-A) COULD ENTER THIS SITE, BASED ON THE EXISTING CONTOURS THERE APPEARS TO BE AN EXISTING RETENTION POND AT THE SOUTHEAST CORNER OF THIS LOT 150-A. AS PART OF THIS PLAN A NEW DRAINAGE ANALYSIS WILL BE PERFORMED TO DETERMINE THE SIZE OF THE RETENTION POND REQUIRED TO MEET CURRENT CITY HYDROLOGY STANDARDS. THE EXISTING RETENTION POND WILL BE INCREASED TO ACCOMMODATE EXISTING UNDEVELOPED DRAINAGE CONDITIONS FOR LOT 150-A. WHEN LOT 150-A DEVELOPS IN THE FUTURE A REVISED RETENTION POND WILL BE NEEDED FOR LOT 150-A WITH THE POSSIBILITY FOR A NEED TO DEVELOP AN OUTFALL TO BATTAN DRIVE WHICH CURRENTLY HAS EXISTING DRAINAGE IMPROVEMENTS. THIS WOULD ALLOW THIS RETENTION POND TO BE CONVERTED TO A DETENTION POND, THIS WILL ASSUME THAT A DRAINAGE EASEMENT CAN BE SECURED ACROSS THE CITY OWNED ALAMOSA CENTER INORDER TO CONVEY FLOWS FROM THIS SITE.

2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM 6-HOUR = 2.20 INCHES

24-HOUR = 2.66 INCHES 10 DAY = 3.67 INCHES

PEAK DISCHARGE (CFS/ACRE) FOR 100-YEAR, ZONE 2, TABLE A-9: Q = 1.29 CFS/ACRE SOIL UNCOMPACTED "A"

- Q = 2.03 CFS/ACRE LANDSCAPED "B" Q = 2.87 CFS/AC COMPACTED SOIL "C"
- Q = 4.37 CFS/ACRE IMPERVIOUS AREA "D" FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
- EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8 : E = 0.44 INCHES SOIL UNCOMPACTED "A"
- E = 0.67 INCHES LANDSCAPED "B"
- E = 0.99 INCHES COMPACTED SOIL "C"
- E = 1.97INCHES IMPERVIOUS AREA 'D"
- EXISTING CONDITIONS:

  EXISTING AREA OF SCHOOL SITE CURRENTLY DEVELOPED = 2.47ACRES
- EXISTING ASPHALT AREA = 37,778SF EXISTING BUILDING AREA = 9,235SF
- EXISTING CONCRETE AREA = 4,068SF
- TOTAL TREATMENT "D" AREA = 37,778 + 9,235+ 4,068 = 51,0901\$F = 1.17ACRES (EXISTING BUILDING, CONCRETE AND ASPHALT TREATMENT);

TREATMENT "B" AREA = 0.15ACRES (EXISTING RETENTION POND CONTOUR

TREATMENT "C" = 1.15ACRES (REMAINING AREA) TREATMENT AREA(ACRES) 0.15 1.15

Q(EXISTING-6HR) =  $(2.03 \times 0.15) + (2.87 \times 1.15) + (4.37 \times 1.17) = 8.71 \text{ CFS}$  (6HR) EXISTING ONSITE FLOW TO RETENTION POND V(EXISTING-6HR) = ((0.67X0.15) + (0.99 X 1.15)+(1.97 X 1.17))/12)= 0.30AC-FT EXISTING ONSITE VOLUME RETENTION

CURRENT RETENTION POND VOLUME: 5028.0

5028.15 CURRENT RETENTION POND VOLUME = 6,282CF = 0.14AC-FT<0.30AC-FT UNDERSIZED FOR 6-HR STORM PROPOSED AREA OF LOT 150-B TO BE DEVELOPED = 2.47ACRES

BASIN "A-1" - RETENTION POND NO. 1

TOTAL AREA = 57,568SF = 1.32ACRES EXISTING ASPHALT AND CONCRETE TO REMAIN AND NEW ASPHALI TO BE RECONSTRUCTED AREA = 27,1574SF NEW CONCRETE AREA = 2,940SF

TOTAL TREATMENT "D" AREA = 27,157 + 2,940SF = 30,097SF = 0.69ACRES TREATMENT "B" & "C" AREA = 1.32AC - 0.69AC = 0.63.4C

USE 50% TREATMENT "B" AND "C" TREATMENT "B" = 0.50 X 0.63AC = 0.32ACRES TREATMENT "C" = 0.50 X 0.63AC = 0.31ACRES TREATMENT AREA(ACRES)

0.32

8,643

5030.5

 $Q(PROPOSED-6HR) = (2.03 \times 0.32) + (2.87 \times 0.31) + (4.37 \times 0.69) =$ 4.55CFS (6HR) PROPOSED ONSITE FLOW TO RETENTION POND

V(PROPOSED-6HR) = ((0.67X0.32) + (0.99X0.31)+(1.97X0.69))/12)= 0.16AC-FT PROPOSED ONSITE VOLUME RETENTION V(PROPOSED-10DAY) = 0.16AC-FT + (0.69 X (3.67-2.20)/12)= 0.25AC-FT PROPOSED ONSITE VOLUME RETENTION = 11,009CF PROPOSED ONSITE VOLUME RETENTION

PROPOSED RETENTION POND NO. 1 VOLUME: AREA(SF) DEPTH(FT) VOLUME(CF-FT) 5029

11,566CF PROPOSED RETENTION POND VOLUME PROVIDED = 11,566CF

= 0.27AC-FT>0.25AC-FT REQUIRED FOR 10-DAY STORM BASIN "B-1" - RETENTION POND NO. 2'
TOTAL AREA = 51,748SF = 1.19AC EXISTING BUILDING AREA + ENCLOSE PORCH = 9,527SF EXISTING CONCRETE AREA = 3,770SF

FUTURE BUILDING = 6,121SF TOTAL TREATMENT "D" AREA = 9,527 + 3,770 + 6,121SF = 19,418SF = 0.45ACRES (EXISTING BUILDING, CONCRETE AND FUTURE

TREATMENT "B" & "C" AREA = 1.19AC - 0.45 = 0.74ACRES USE 50% TREATMENT "B" AND "C" TREATMENT "B" = 0.50 X 0.74AC = 0.37ACRES TREATMENT "C" = 0.50 X 0.74AC = 0.37ACRES

0.37 0.37

 $Q(PROPOSED-6HR) = (2.03 \times 0.37) + (2.87X0.37) + (4.37X0.45) =$ 3.78<u>CFS</u> (6HR) PROPOSED ONSITE FLOW TO RETENTION

V(PROPOSED-6HR) = ((0.67X0.37) + (0.99X0.37)+(1.97X0.45))/12)= 0.13AC-FT PROPOSED ONSITE VOLUME RETENTION V(PROPOSED-10DAY) = 0.13AC-FT + (0.45 X (3.67-2.20)/12)= 0.19AC-FT PROPOSED ONSITE VOLUME RETENTION = 8,175CF PROPOSED ONSITE VOLUME RETENTION

PROPOSED RETENTION POND NO. 2 VOLUME: AREA(SF) DEPTH(FT) VOLUME(CF-FT)

5028.5

PROPOSED RETENTION POND VOLUME PROVIDED = 8,906CF = 0.20AC-FT>0.19AC-FT REQUIRED FOR 10-DAY STORM

8,906CF

BASIN "C-1" - RETENTION POND NO. 3
EXISTING UNDEVELOPED LAND AREA = 154,702SF = 3.55AC 85% UNDISTURBED TREATMENT "A" = 0.85 X 3.55AC = 3.02AC 15% DISTURBED TREATMENT "C" = 0.15 X 3.55AC = 0.53AC

Q(PROPOSED-6HR) =  $(1.29 \times 3.02) + (2.87 \times 0.53) = 5.42 \text{ CFS} (6HR)$ PROPOSED ONSITE FLOW TO RETENTION POND V(PROPOSED-6HR) = ((0.44X3.02) + (0.99X0.53))/12)= 0.15AC-FT PROPOSED ONSITE VOLUME RETENTION

= 6,728CF PROPOSED ONSITE VOLUME RETENTION PROPOSED RETENTION POND NO. 2 VOLUME: AREA(SF) DEPTH(FT) VOLUME(CF-FT) 5030

5031.5 6,762

PROPOSED RETENTION POND VOLUME PROVIDED = 8,461CF = 0.16AC-FT>0.15AC-FT REQUIRED FOR 10-DAY STORM

7. SIZE SIDEWALK CULVERT:

EXISTING ASPHALT AND SIDEWALK AREA = 25,783SF TOTAL TREATMENT "D" AREA = 25,783SF = 0.59AC

LANDSCAPED AREAS = 3,594SF TREATMENT "B" AREA = 3.594SF = 0.08ACRES

TREATMENT "C" = 4,631SF = 0.11ACRES (REMAINING AREA) AREA(ACRES)

Q(EXISTING-6HR) =  $(2.03 \times 0.08) + (2.87 \times 0.11) + (4.37 \times 0.59) =$ 3.06CFS (6HR) ONSITE FLOW TO SIDEWALK CULVERT

0.11

USE WEIR EQUATION FOR SIZING OPENING: Q = C X L X (H)\*\*3/2L = Q / C X (H)\*\*3/2Q= 3.06CFS C = 3.0 COEFFICIENT H = 0.5' HIGH CURB L = 3.06 / 3.0 (0.5)\*\*3/2

## 8. SIZE RETENTION POND SPILLWAYS:

BASIN "A-1" - RETENTION POND NO. 1 USE WEIR EQUATION FOR SIZING OPENING: Q = C X L X (H)\*\*3/2

L = Q / C X (H) 3/2Q= 4.55CFS C = 3.0 COEFFICIENT L = 6' WIDE SPILLWAY H = (Q / C X L) \*\*2/3

 $H = (4.55 / 3.0 \times 6) **2/3$ H = 0.40' WATER DEPTH OVER SPILLWAY 100YEAR WATER SURFACE OVER SPILLWAY = 5030.5 + 0.40

BASIN "B-1" - RETENTION POND NO. 2
USE WEIR EQUATION FOR SIZING OPENING: Q = C X L X (H)\*\*3/2

L = Q / C X (H)3/2Q= 3.48CFS C = 3.0 COEFFICIENT L = 6' WIDE SPILLWAY H = (Q / C X L) \*\*2/3

 $H = (3.78 / 3.0 \times 6) **2/3$ H = 0.35' WATER DEPTH OVER SPILLWAY 100YEAR WATER SURFACE OVER SPILLWAY = 5028.5 + 0.35

BASIN "C-1" - RETENTION POND NO. 3 USE WEIR EQUATION FOR SIZING OPENING:

 $Q = C \times L \times (H)^{**3/2}$ L = Q / C X (H) 3/2Q= 5.42CFS C = 3.0 COEFFICIENT L = 6' WIDE SPILLWAY H = (Q / C X L) \*\*2/3

 $H = (5.42 / 3.0 \times 6) **2/3$ H = 0.45' WATER DEPTH OVER SPILLWAY 100YEAR WATER SURFACE OVER SPILLWAY = 5031.5 + 0.45 = 5031.45

APPLIED ENGINEERING AND

SURVEYING, INC. CIVIL ENGINEERING, LANDES

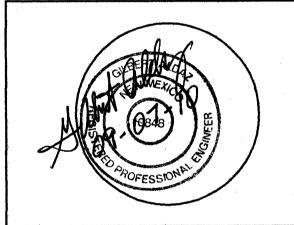
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PROJECT NUMBER: DRAWING FILE: DRAWN BY: CHECK BY: JULY 24, 2009

> SHRET TITLE DRAINAGE

**CALCULATIONS** 

SHEET NUMBER C - 102

