



### ENGINEER'S 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 DRB APPROVED PLAN DATED 02/01/2006. THE RECORD SURVEY ELEVATION INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS OBTAINED AUGUST 4, 2008 UNDER THE RESPONSIBLE CHARGE OF CHARLES G. CALA, NMPS 11184, ALSO OF THE FIRM HIGH MESA CONSULTING GROUP. I FURTHER CERTIFY THAT I HAVE VISITED THE SITE AND THE DATA PROVIDED APPEARS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR FINANCIAL GUARANTY RELEASE.

THE FOLLOWING IS A BRIEF DESCRIPTION OF THE VARIOUS PROJECT ELEMENTS:

#### 1) HOUSE PADS

THE HOUSE PAD ELEVATIONS WERE CHECKED AND THE CENTERS OF THE PADS WERE FOUND TO BE WITHIN 0.3 FEET OF THE APPROVED PLAN ELEVATIONS AND IN SUBSTANTIAL COMPLIANCE WITH THE INTENT OF THE DRB APPROVED PLAN. BECAUSE THE INITIAL PAD GRADING WAS ACCOMPLISHED MANY MONTHS AGO, SOME OF THE PAD CORNERS HAVE BEEN ALTERED DUE TO CONSTRUCTION ACTIVITY AND WERE FOUND TO VARY AS INDICATED ON THE PLAN. THIS IS ACCEPTABLE BECAUSE BUILDING SLAB CONSTRUCTION WILL EXCAVATE FOOTINGS, INCORPORATE SMALL STEPS AND GARAGES, AND WILL NOT TAKE UP THE ENTIRE PAD. AS SUCH, "FINE TUNING" WILL ADDRESS ANY IRREGULARITIES. NO HOMES WERE UNDER CONSTRUCTION AT THE TIME OF CERTIFICATION.

#### 2) LOT GRADES

INDIVIDUAL YARD GRADES AND SIDE YARD FLOWLINES HAVE BEEN GRADED IN A MANNER THAT WILL ALLOW YARD RUNOFF TO DRAIN TO THE STREETS (ALL POINTS LOWER THAN PAD AND NO ADVERSE SLOPES). FINISHED GRADING FOR ALL LOTS SHALL BE COMPLETED UPON LOT DEVELOPMENT AND LANDSCAPING OF EACH LOT BY THEIR RESPECTIVE BUILDERS. THE FINISHED LOT ELEVATIONS AND SLOPES MUST CONFORM TO THE INTENT OF THE APPROVED PLAN.

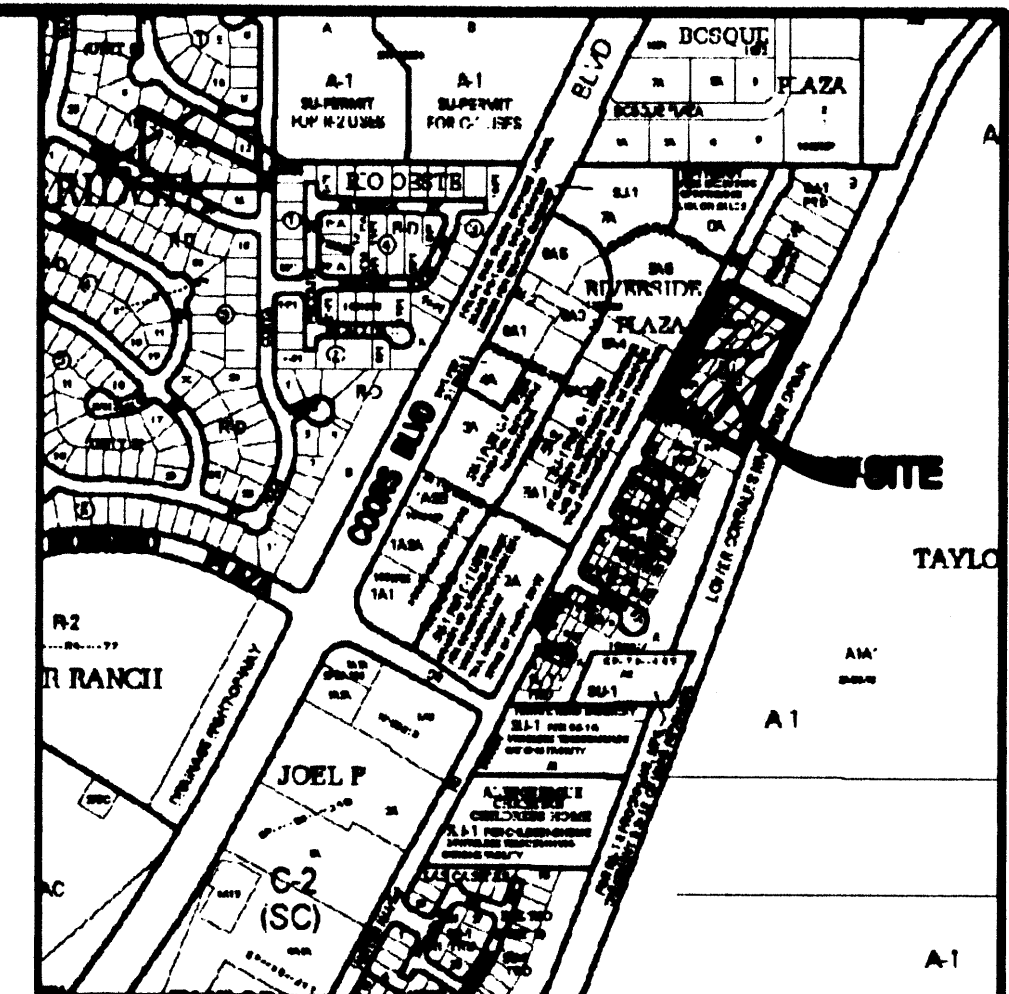
GRADES WERE NOT SHOT AT THE BACK OF THE PROPOSED (DEFERRED) SIDEWALKS THAT WILL BE CONSTRUCTED CONCURRENT WITH NEW HOME CONSTRUCTION AND WILL BE INSTALLED MATCHING THE BACK OF CURB ELEVATIONS. THE FUTURE SIDEWALK AREA HAS BEEN LEFT "LOW" IN THE INTERIM CONDITION TO ALLOW FOR SIDEWALK AND DRIVEWAY PLACEMENT, TO ALLOW AN AREA TO PLACE EXCESS FOOTING EXCAVATION MATERIAL, AND TO PROVIDE AN INTERIM AREA FOR NUISANCE FLOWS AND SEDIMENT TO ACCUMULATE FOR COMPLIANCE WITH THE SWPPP.

#### 3) REQUIRED INFRASTRUCTURE

THE PROJECT INFRASTRUCTURE LIST REQUIRED PRIVATE PAVING AND CURB AND GUTTER, PRIVATE DRAINAGE IMPROVEMENTS, AND PRIVATE DRAINAGE CHANNEL CONSTRUCTION THAT WAS ACCOMPLISHED UNDER CITY PROJECT NO. 776681. THIS WORK ORDER ALSO INCLUDED SIDEWALK CULVERTS ON WINTERHAVEN. AS INDICATED BY THE AS-BUILT DRAWINGS AND FINAL INSPECTION FOR THAT PROJECT, THESE ITEMS WERE FOUND TO BE IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN.

THIS CERTIFICATION EVALUATES GRADING AND DRAINAGE ISSUES ONLY AND DOES NOT ADDRESS COMPLIANCE WITH A.D.A. GUIDELINES. THE RECORD INFORMATION IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF GRADING AND DRAINAGE ASPECTS OF THIS PLAN. THOSE RELYING ON THIS PLAN ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

*J. Graeme Means* 08/01/08  
J. GRAEME MEANS, NMPE 13676 DATE



VICINITY MAP  
SCALE: 1"=750'

E-12

### LEGAL DESCRIPTION

LOTS 1-P1 THROUGH 10-P1 AND TRACT A, PLAZA ESCONDIDO (FILED 8/30/2007, 2007C-241)

### PROJECT BENCHMARK

A STANDARD USC&GS BRASS TABLET, STAMPED "HUGHES, 1954", SET IN TOP OF A CONCRETE POST LOCATED WEST OF COORS RD. APPROXIMATELY 6.1 MILES NORTH OF THE INTERSECTION OF COORS AND CENTRAL AVENUE.  
ELEVATION = 5049.93 FEET (NGVD 1929)

### T.B.M.

T.B.M. #1: A SPIKE WITH JMA CONTROL CAP LOCATED APPROXIMATELY 240' SOUTH OF THE PL AND 16' (EAST) OF THE BACK OF THE CURB.  
ELEVATION = 4994.96 FEET

T.B.M. #2: A SPIKE WITH JMA CONTROL CAP LOCATED APPROXIMATELY 258' SOUTH OF THE PL AND 264' (EAST) OF THE EAST BACK OF CURB.  
ELEVATION = 4988.10 FEET



# RECORD DRAWING

HYDROLOGY FILE E-12/D23  
DRB PROJECT #1004161

**HIGH MESA Consulting Group**  
FORMERLY JEFF MORTENSEN AND ASSOCIATES, INC.

4010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109  
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

**ENGINEER'S CERTIFICATION  
PLAZA ESCONDIDO**

DESIGNED BY G.M.

DRAWN BY D.M.H.

APPROVED BY G.M.

| NO. | DATE     | BY   | REVISIONS                              |
|-----|----------|------|--|
| 1   | 08/01/08 | G.M. | ENGINEER'S CERTIFICATION (ADDED SHEET) |
|     |          |      |  |
|     |          |      |  |
|     |          |      |  |

JOB NO. 2007.031.3

DATE 08-2008

SHEET 1 OF 3

File Path: E:\WORK\2007\0811\A Plot Date: 08-07-2008  
File Name: 70313EC\_R.DWG Plot Time: 09:01 am



# EXISTING EASEMENTS

- 7' PNM AND MST&T EASEMENT GRANTED BY DOCUMENT FILED 07-15-1982, BOOK MISC. 944, PAGE 357
- 5' PNM AND MST&T OVERHEAD EASEMENT GRANTED BY DOCUMENT FILED 12-13-1989, BOOK MISC. 878A, PAGES 434-435
- 20' SANITARY SEWER EASEMENT GRANTED BY DOCUMENT FILED 09-29-1969, BOOK MISC. 151, PAGES 493-494
- 100' BUFFER AS PER COORS CORRIDOR PLAN GRANTED BY PLAT 99C-121
- 30' SANITARY SEWER EASEMENT GRANTED BY DOCUMENT FILED 03-04-1991, BOOK BCR 91-3, PAGE 9278, DOC. #91014985
- 30' SANITARY SEWER EASEMENT GRANTED BY DOCUMENT FILED 03-04-1991, BOOK BCR 91-3, PAGE 9267, DOC. #91014982

# EXISTING EASEMENTS - OFFSITE

- 10' PUBLIC UTILITY EASEMENT GRANTED BY PLAT 2002C-143
- 4' CITY OF ALBUQUERQUE CLEAR SIGHT AND LANDSCAPING EASEMENT GRANTED BY PLAT 2002C-143
- CITY OF ALBUQUERQUE BLANKET PUBLIC DRAINAGE EASEMENT GRANTED BY PLAT 2002C-143
- NONSPECIFIC CROSS LOT DRAINAGE EASEMENT GRANTED BY PLAT 2002C-143
- 7' PUBLIC UTILITY EASEMENT GRANTED BY PLAT 2003C-260
- PRIVATE DRAINAGE EASEMENT GRANTED BY PLAT 2003C-260

# KEYED NOTES

# PROPOSED EASEMENTS

- 10' PUBLIC UTILITY EASEMENT TO BE GRANTED BY FORTHCOMING ACTION: PLAT 2007C-241
- PRIVATE DRAINAGE, PRIVATE NON-VEHICULAR ACCESS AND PRIVATE LANDSCAPING EASEMENT TO BE GRANTED ON A PORTION OF TRACT A BY FORTHCOMING ACTION: PLAT 2007C-241
- 15' PUBLIC WATER LINE EASEMENT TO BE GRANTED BY FORTHCOMING ACTION: PLAT 2007C-241
- 20' PUBLIC SANITARY SEWER EASEMENT TO BE GRANTED BY FORTHCOMING ACTION: PLAT 2007C-241
- PRIVATE ACCESS, PRIVATE DRAINAGE, PUBLIC WATER AND PUBLIC SANITARY SEWER EASEMENTS TO BE GRANTED ON A PORTION OF TRACT A BY FORTHCOMING ACTION: PLAT 2007C-241

# LEGAL DESCRIPTION

LOTS 4 & 5, RIVERSIDE PLAZA, FILED 5/18/1999, BOOK 99C, PAGE 121.

# PROJECT BENCHMARK

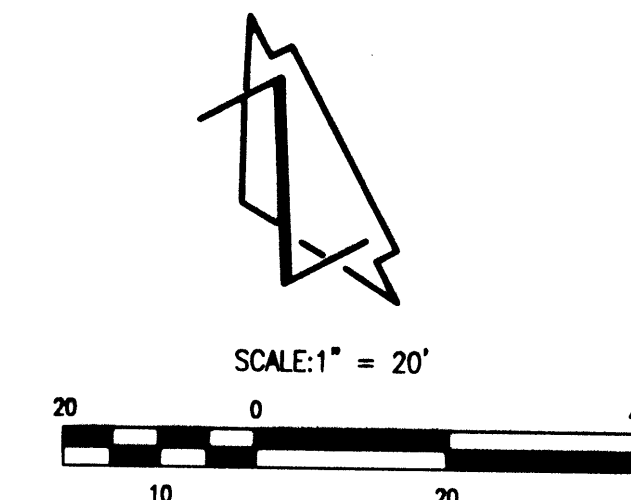
A STANDARD US&GS BRASS TABLET, STAMPED "HUGHES, 1954", SET IN TOP OF A CONCRETE POST LOCATED WEST OF COORS RD. APPROXIMATELY 6.1 MILES NORTH OF THE INTERSECTION OF COORS AND CENTRAL AVENUE. ELEVATION = 5049.93 FEET (NGVD 1929)

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THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN HEREON FOR ORIENTATION PURPOSES ONLY. BOUNDARY DATA IS FROM A BOUNDARY SURVEY CONDUCTED BY THIS OFFICE IN APRIL OF 2005.



# LEGEND

- BWF BARBED WIRE FENCE
- CATVR CABLE TELEVISION RISER
- CMU CONCRETE MASONRY UNIT
- CO SANITARY SEWER CLEANOUT
- CSW CONCRETE SIDEWALK
- EA EDGE OF ASPHALT
- FL FLOWLINE
- G BY PM GAS LINE BY PAINT MARK
- HDPE HIGH DENSITY POLYETHYLENE PIPE
- INV INVERT
- OHE(2) OVERHEAD ELECTRIC (NO. OF LINES)
- OHM OVERHEAD ELECTRIC MAST
- PVC POLYVINYL CHLORIDE PIPE
- RRT RAILROAD TIE
- SAS MH SANITARY SEWER MANHOLE
- SAS MH/C SANITARY SEWER MANHOLE IN CONCRETE
- STD STANDARD
- T BY PM TELEPHONE LINE BY PAINT MARK
- TA TOP OF ASPHALT
- TC TOP OF CONCRETE
- TR TOP OF CURB
- TYP TELEPHONE RISER
- W WATER LINE
- WM/C WATER METER IN CONCRETE
- WP WOOD POST
- WPP WOOD POWER POLE
- WPP/CD WOOD POWER POLE WITH CONDUIT
- WSDP WOOD SERVICE DROP POLE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- EXISTING DECIDUOUS TREE (CALIPER SIZE)
- EXISTING YUCCA
- SHRUB/TREE LINE
- PROPOSED SPOT ELEVATION
- FLOW LINE
- DIRECTION OF FLOW
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- RETAINING WALL

- RECORD INFORMATION
- RECORD INFORMATION
- RECORD INFORMATION
- RECORD INFORMATION

RECEIVED  
AUG 07 2008  
HYDROLOGY SECTION

J. GRAEME MEANS  
13676  
PROFESSIONAL  
08/24/2005 08/06/06

HYDROLOGY FILE E-12/D23  
DRB PROJECT #1004161

**RECORD DRAWING**  
FOR CERTIFICATION, SEE SHEET 1

# GRADING PLAN PLAZA ESCONDIDO

APPROVED FOR ROUGH GRADING

CITY HYDROLOGY DATE

**Jma**

JEFF HORTENSEN & ASSOCIATES, INC.  
6010-3 MIDWAY PARK BLVD. NE  
ALBUQUERQUE, NM 87109  
ENGINEERS (C) SURVEYORS (CNO) 940-4290  
FAX: 905 345-4254 ESTABLISHED 1977

| DESIGNED BY | DATE  | BY         | REVISIONS  | JOB NO.        |
|-------------|-------|------------|--|----------------|
| G.M.        | 01/06 | G.M.       | REVISE GRADING IN SEWER EASEMENT TO PROVIDE ACCESS | 20070813       |
| DRAWN BY    |       | SGH/GM/DMH | PER DRC REQUIREMENT                                | DATE           |
| APPROVED BY |       | G.M.       | ENGINEER'S CERTIFICATION                           | 08-2005        |
|             |       |            |  | SHEET 12 OF 23 |



## CALCULATIONS

I. PRECIPITATION ZONE = 1

II.  $P_{6,100} = P_{360} = 2.20$

III. TOTAL AREA ( $A_T$ ) = 3.1716 AC

IV. EXISTING LAND TREATMENT

| TREATMENT | AREA (AC) | %  |
|-----------|-----------|----|
| B         | 2.6960    | 85 |
| C         | 0.3171    | 10 |
| D         | 0.1585    | 05 |

V. DEVELOPED LAND TREATMENT

| TREATMENT | AREA (SF/AC) | %  |
|-----------|--------------|----|
| B         | 1.1100       | 35 |
| C         | 0.7929       | 25 |
| D         | 1.2687       | 40 |

VI. EXISTING CONDITION

A. VOLUME

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

$$E_w = (E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_w = [0.67(2.6960) + 0.99(0.3171) + 1.97(0.1585)] / 3.1716 = 0.76 \text{ IN}$$

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

$$V_{100} = (0.76 / 12) 3.1716 = 0.2001 \text{ ac-ft} = 8716 \text{ CF}$$

$$V_{10} = V_{100} + A_T [(P_{10} - P_{100}) / 12] = 0.2001 + 0.1585 [(3.67 - 2.20) / 12] = 0.2195 \text{ ac-ft} = 9561 \text{ CF}$$

B. PEAK DISCHARGE

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

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

$$Q_p = Q_{100} = 2.03(2.6960) + 2.87(0.1371) + 4.37(0.1585) = 6.6 \text{ cfs}$$

VII. DEVELOPED CONDITION

A. VOLUME

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

$$E_w = (E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_w = [0.67(1.1100) + 0.99(0.7929) + 1.97(1.2687)] / 3.1716 = 1.27 \text{ IN}$$

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

$$V_{100} = (1.27 / 12) 3.1716 = 0.3356 \text{ ac-ft} = 14619 \text{ CF}$$

$$V_{10} = V_{100} + A_T [(P_{10} - P_{100}) / 12] = 0.3356 + 1.2687 [(3.67 - 2.20) / 12] = 0.4910 \text{ ac-ft} = 21388 \text{ CF}$$

B. PEAK DISCHARGE

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

$$Q_p = Q_{PB} A_B + Q_{PD} A_D$$

$$Q_p = Q_{100} = 2.03(1.1100) + 2.87(0.7929) + 4.37(1.2687) = 10.1 \text{ cfs}$$

VIII. COMPARISON

A. VOLUME

$$\Delta V_{100} = 14619 - 8716 = 5903 \text{ CF (INCREASE)}$$

$$\Delta V_{10} = 21388 - 9561 = 11827 \text{ CF (INCREASE)}$$

B. PEAK DISCHARGE

$$\Delta Q_{100} = 10.1 - 6.6 = 3.5 \text{ cfs (INCREASE)}$$

## POND VOLUME CALCULATIONS

LOTS 1, 7 AND 8 WILL DRAIN TO WINTER HAVEN. EXISTING HOMES (LOTS 3 & 4) WILL NOT BE DISTURBED AND WILL CONTINUE TO DRAIN TO BOSQUE.

REMAINING SITE AREA IS 1.52 AC (BASIN B)

1.52 ac/3.17 ac = 0.48% OF SITE

$$Q_{100} (\text{POND}) = (0.48)(Q_{100}) = (10.1) = 4.8 \text{ cfs}$$

$$V_{10 \text{ DAY}} (\text{POND}) = (0.48)(V_{10 \text{ DAYS}}) = (0.48)(21,388) = 10,270 \text{ cf}$$

## DRAINAGE PLAN

I. EXECUTIVE SUMMARY AND INTRODUCTION

THE PROPOSED DEVELOPMENT IS LOCATED IN ALBUQUERQUE'S NORTH COORS CORRIDOR WITHIN THE RIVERSIDE PLAZA SUBDIVISION AND REQUIRES SITE DEVELOPMENT PLAN APPROVAL THROUGH EPC AND DRB. THE SITE CURRENTLY CONSISTS OF TWO EXISTING HOMES ON TWO ADJACENT LOTS. 8 ADDITIONAL RESIDENTIAL SITES ARE PROPOSED ALONG WITH A NEW PRIVATE GATED STREET AND A COMMON AREA TRACT LOCATED WITHIN A 100 FT BUFFER ZONE ALONG THE EASTERN BOUNDARY OF THE SITE. A PORTION OF THE REDEVELOPED SITE WILL DISCHARGE FREELY TO AN EXISTING DOWNSIDE PUBLIC STORM DRAIN WITHIN WINTER HAVEN ROAD NW. THE TWO EXISTING HOMES WILL CONTINUE TO DRAIN TO MRGCD RIGHT-OF-WAY IN HISTORIC FASHION. THE REMAINDER OF THE SITE, CURRENTLY DRAINING TO MRGCD RIGHT-OF-WAY, WILL NOW DRAIN TO A PROPOSED ON-SITE RETENTION POND. OFF-SITE FLOWS DO NOT IMPACT THE SITE. THE PURPOSE OF THIS DRAINAGE PLAN IS TO OBTAIN PRELIMINARY PLAT, ROUGH GRADING AND WORK ORDER APPROVALS.

II. PROJECT DESCRIPTION:

AS SHOWN BY VICINITY MAP E-12 HEREON, THE SITE IS LOCATED IN THE RIVERSIDE PLAZA SUBDIVISION ON THE EAST SIDE OF WINTER HAVEN ROAD NW. THE SITES TO THE NORTH AND SOUTH ARE DEVELOPED RESIDENTIALLY. TO THE EAST OF THE SITE IS MRGCD RIGHT OF WAY AND THE RIO GRANDE BOSQUE. THE EXISTING LEGAL DESCRIPTION IS LOTS 4 AND 5, RIVERSIDE PLAZA. THE SITE IS ZONED SU-1/PRD 80U/ACRE REQUIRING LANDSCAPE AND OPEN SPACE BUFFERS. AS SHOWN BY PANELS 116 AND 118 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS, BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS, DATED NOVEMBER 19, 2003, THE SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

III. BACKGROUND DOCUMENTS

THE FOLLOWING IS A LIST OF DOCUMENTS RELATED TO THE SITE AND SURROUNDING AREA. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF RELEVANT PLANS AND DOCUMENTS WHICH ARE KNOWN TO THE ENGINEER AT THE TIME OF PLAN PREPARATION.

A. GRADING AND DRAINAGE PLANS FOR BOSQUE MONTANO BY TERRA WEST DATED 9/14/2000 (FILE E12/D12), LAS CASITAS DEL RIO, UNITS 1 AND 2 BY ISAACSON & ARFMAN DATED 12/18/2001 AND 6/02/2003 (FILES E12/D17 AND E12/D17A), AND THE PRESERVE SUBDIVISION BY ISAACSON & ARFMAN DATED 06/02/03 (FILE E12/D13). THESE FOUR RECORDS ARE LOCATED ON THE EAST SIDE OF WINTER HAVEN RD NW NORTH AND SOUTH OF THE SUBJECT SITE. ARE SIMILARLY IMPACTED BY THE 100 FOOT BOSQUE BUFFER AND ESTABLISHED THE DRAINAGE CONCEPT FOR THE AREA WHEREBY FLOWS THAT CAN BE DIRECTED TO WINTER HAVEN, SHOULD BE, AND THE BALANCE IS RETAINED WITHIN LANDSCAPED RETENTION PONDS WITHIN THE 100 FT BUFFER.

B. CONCEPTUAL GRADING PLAN FOR PLAZA ESCONDIDO BY JMA DATED 05/02/2005 (HYDROLOGY FILED E-12/D23). THIS PLAN WAS APPROVED FOR SITE PLAN APPROVAL BY THE DRB. THIS PLAN IS CONSISTENT WITH THAT PLAN.

THE PROPOSED CONSTRUCTION DRAINING TO A LANDSCAPED RETENTION POND LOCATED WITHIN THE 100 FT BOSQUE BUFFER AS PROPOSED AND DESCRIBED HEREIN IS IN ACCORDANCE WITH THE POLICIES AND REQUIREMENTS OF THE ABOVE LISTED DOCUMENTS.

IV. EXISTING CONDITIONS:

THE SITE IS DEVELOPED WITH TWO SINGLE FAMILY RESIDENCES, ONE ON EACH LOT. THE RESIDENCES HAVE RELATED LANDSCAPING AND APURTENANCES. THE LOTS TAKE ACCESS FROM WINTER HAVEN ROAD NW, A 48 FT FACE-TO-FACE PAVED PUBLIC STREET WITH CURB AND GUTTER. THERE ARE RESIDENTIAL SUBDIVISIONS TO THE NORTH AND SOUTH. THE RIO GRANDE BOSQUE AND THE MRGCD LOWER CORRALES RIVERSIDE DRAIN LIE TO THE EAST.

V. DEVELOPED CONDITIONS

IN ADDITION TO THE TWO EXISTING HOMES TO REMAIN, 8 NEW RESIDENTIAL SINGLE FAMILY LOTS ARE PROPOSED WITH A PRIVATE INTERNAL STREET AND A COMMON AREA LANDSCAPING AND RETENTION POND AREA WITHIN THE BUFFER ZONE. THE SITE WILL BE DIVIDED INTO THREE BASINS. BASIN A WILL DRAIN TO THE EAST TO WINTER HAVEN ROAD NW. BASIN B IS THE LARGEST BASIN AND IT WILL DRAIN TO THE ON-SITE RETENTION POND. BASIN C IS THE EXISTING HOMES WHICH WILL CONTINUE TO DRAIN TO THE MRGCD RIGHT-OF-WAY IN HISTORIC FASHION. THE PRIVATE STREET AND POND TRACT WILL BE MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.

VI. GRADING PLAN

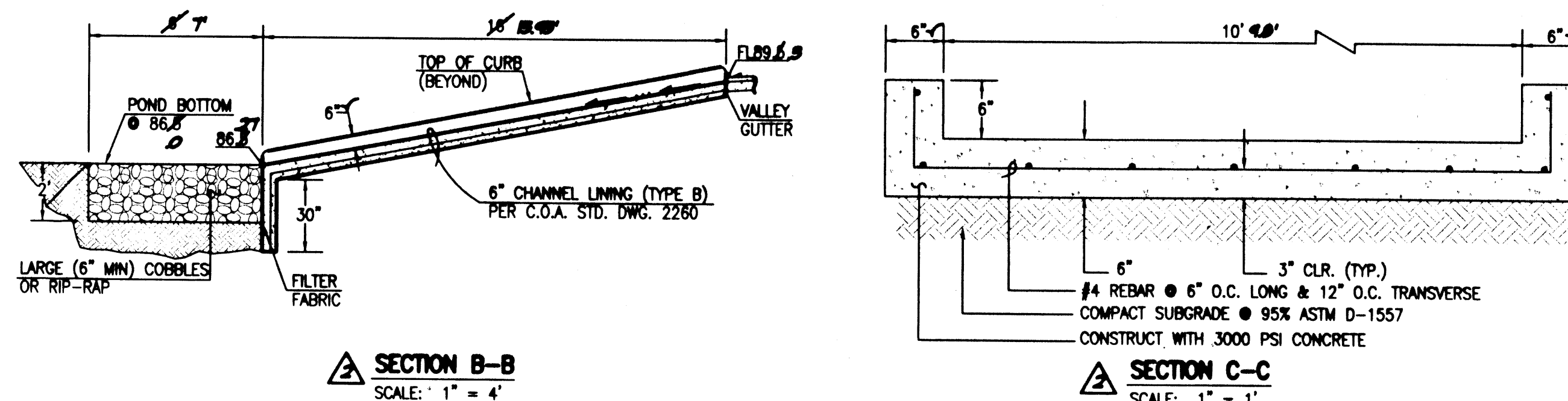
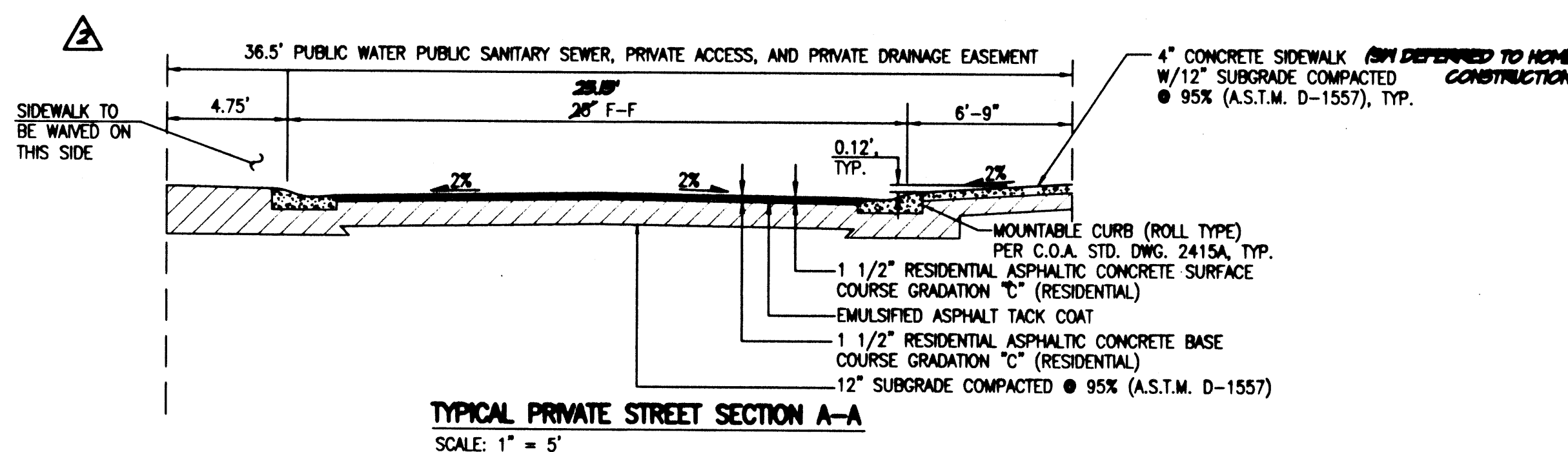
THE GRADING PLAN ON SHEET 2 SHOWS: 1) EXISTING GRADES INDICATED BY CONTOURS AT 1 FT, 0 IN INTERVALS FROM AN APRIL, 2005 TOPOGRAPHIC SURVEY BY THIS OFFICE, 2) PROPOSED GRADES INDICATED BY PAD ELEVATIONS, SPOT ELEVATIONS, CURB ELEVATIONS AND FLOWLINES, 3) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AS SHOWN BY THE AFOREMENTIONED SURVEY, AND 4) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

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 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.

VIII. CONCLUSIONS

- 1) THE PROPOSED SITE IMPROVEMENTS AND DRAINAGE CONCEPT ARE CONSISTENT WITH THE DEVELOPMENT CRITERIA ESTABLISHED BY PREVIOUSLY APPROVED PLANS IN THIS AREA AND THE CONCEPTUAL PLAN FOR THIS SITE.
- 2) DEVELOPED RUNOFF FROM A PORTION OF THIS SITE WILL DRAIN FREELY TO EXISTING PERMANENT PUBLIC STORM DRAINAGE IMPROVEMENTS IN WINTER HAVEN. THE REMAINING RUNOFF WILL BE RETAINED IN A PRIVATE RETENTION POND TO BE OWNED OPERATED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
- 3) THERE ARE NO DRAINAGE RELATED DPM DESIGN VARIANCES ANTICIPATED AT THIS TIME.
- 4) THE PROPOSED RETENTION POND WILL REQUIRE A DRAINAGE EASEMENT AND AN AGREEMENT AND COVENANT.



## GRADING NOTES

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1986, UPDATE 7.
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990 FOR LOCATION OF EXISTING UTILITIES.
3. 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.
4. SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
6. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
7. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
8. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BE WASHED DOWN THE STREET.
9. WHEN APPLICABLE, THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION. AN EXCAVATION PERMIT IS REQUIRED FOR ALL WORK WITHIN PUBLIC RIGHT-OF-WAY.
10. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL (CONTAMINATED OR OTHERWISE), ASPHALTIC PAVING, CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
11. A BORROW SITE FOR IMPORT MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A BORROW SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY OBTAINING THE REQUIRED COMPACTION. THE CONTRACTOR SHALL SELECT AND USE METHODS WHICH SHALL NOT BE INJURIOUS OR DAMAGING TO THE EXISTING FACILITIES AND STRUCTURES WHICH SURROUND THE WORK AREAS.
13. THE CONTRACTOR SHALL CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS IN ORDER TO PRESERVE THE EXISTING IMPROVEMENTS AND SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE EXISTING FACILITIES.
14. ALL DIMENSIONS AND RADII OF CURB, CURB RETURNS, AND WALLS ARE SHOWN TO THE FACE OF CURB AND/OR WALL.
15. 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.
16. ALL FILL SHALL BE FREE FROM VEGETATION, DEBRIS, AND OTHER DELETERIOUS MATERIALS.
17. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 95% ASTM D-1557 UNLESS A GREATER COMPACTION REQUIREMENT IS OTHERWISE SPECIFIED. ALL EARTHWORK FOR BUILDING PADS SHALL BE PERFORMED IN ACCORDANCE WITH THE STRUCTURAL AND GEOTECHNICAL SPECIFICATIONS WHERE AVAILABLE.
18. ALL EXISTING UTILITIES ENCOUNTERED WITHIN THE WORK LIMITS SHALL BE ADJUSTED TO GRADE AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
19. THE PAD ELEVATIONS SHOWN HEREON ARE FOR ROUGH GRADING PURPOSES.
20. FINISHED FLOOR ELEVATIONS MAY VARY FROM THE PAD ELEVATIONS AND WILL BE DETERMINED AS A FUNCTION OF INDIVIDUAL HOUSE DESIGN.
21. FINISHED FLOOR ELEVATIONS SHOULD BE ESTABLISHED AT A MINIMUM OF FOUR INCHES ABOVE PAD ELEVATIONS; DEVIATIONS FROM THESE GUIDELINES MUST BE BASED ON THE RECOMMENDATIONS AND/OR DESIGN OF A COMPETENT DESIGN PROFESSIONAL.
22. CROSS-LOT DRAINAGE WILL NOT BE ALLOWED.
23. WALLS SHALL BE CONSTRUCTED BY THE DEVELOPER PRIOR TO DRAINAGE CERTIFICATION FOR FINANCIAL GUARANTY RELEASE. A SEPARATE PLAN REVIEW AND PERMIT PROCESS IS REQUIRED FOR ALL RETAINING AND GARDEN WALLS.
24. THE FINISHED GRADING OF EACH LOT SHALL BE ACCOMPLISHED BY THE LOT OWNER OR ITS BUILDER. ALL DEVELOPED RUNOFF SHALL BE DIRECTED TO THE STREETS.
25. MAXIMUM UNPROTECTED SLOPES SHALL BE 3:1; MINIMUM SLOPES SHALL BE 1%.
26. ROUGH GRADING TOLERANCES SHALL BE  $\pm 0.1$  FT FOR BUILDING PADS AND STREETS AND  $\pm 0.33'$  FOR ALL OTHER GRADING PROVIDED THE GRADES MEET THE INTENT OF THIS GRADING PLAN.
27. UNDER FEDERAL LAW, THE OPERATOR(S) OF CONSTRUCTION SITES WHERE 1 OR MORE ACRES ARE DISTURBED MUST SUBMIT A NOTICE OF INTENT (N.O.I.) TO OBTAIN COVERAGE UNDER AN NPDES STORM WATER CONSTRUCTION GENERAL PERMIT.
28. CAUTION: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P-EXCAVATIONS.

RECORD INFORMATION

RECORD INFORMATION - AS-DESIGNED

RECORD INFORMATION

RECORD DRAWING  
FOR CERTIFICATION, SEE SHEET 1

RECEIVED  
AUG 7 2005  
HYDROLOGY  
SECTION

J. GRAEME MEANS  
3676  
PROFESSIONAL ENGINEER  
08/04/2005  
08/01/2006  
08/01/2008

DRAINAGE PLAN, CALCULATIONS, SECTIONS AND DETAILS  
PLAZA ESCONDIDO

| DESIGNED BY   | DATE  | BY   | REVISIONS                | JOB NO.    |
|---------------|-------|------|--------------------------|------------|
| G.M.          | 01/06 | G.M. | NO CHANGES THIS SHEET    | 2001.09.13 |
| DRAWN BY      | DATE  | BY   | REVISIONS                | DATE       |
| R.R.V./D.M.H. | 08/08 | G.M. | ENGINEER'S CERTIFICATION | 08-2005    |
| APPROVED BY   | DATE  | BY   | REVISIONS                | SHEET      |
| G.M.          |       |      |                          | 23 OF 23   |