

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development & Building Services



June 6, 2008

Ronald Ray Bohannon, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, New Mexico 87109

Attn: Joel Hernandez

RE: **Sunrise Assisted Living @ Paradise Hills** (B12 – D 012)
(Approx. - 10101 Golf Course Road NW)
Grading and Drainage Plan for Building Permit (PE Stamped 5-28-08)

Dear Mr. Bohannon:

Based upon the information provided in your submittal received 5/30/08 with revised sheets C3 & H-2 received 6/6/08, we concur with the above referenced Grading and Drainage Plan allowing FREE DISCHARGE of storm water run-off to Golf Course Road in compliance with the Drainage Report prepared by Smith Engineering in 2003. The Smith report allows up to 10.61 cfs discharge to the basin draining north from the site.

P.O. Box 1293

Albuquerque

New Mexico 87103

Free discharge of the southern portion of the site is allowed to Golf Course Road, where it slopes to the south. The majority of the undeveloped site run-off must be routed through the proposed desiltation pond, and must enter the R/W over the existing concrete driveway. Future development and storm drainage analysis for the southern tract must avoid discharge over the sidewalk, and will require City of Albuquerque permits for any construction of driveway or sidewalk culverts in City R/W.

Since the disturbed area for this project exceeds one (1) acre, construction requires an NPDES/Storm Water Pollution Prevention Plan.

www.cabq.gov

When the site grading and development is accepted by Bernalillo County, please furnish this office a copy of your Certified As-Built grading and drainage plan for our records.

If I can be of further assistance, please feel free to contact me at 924-3981.

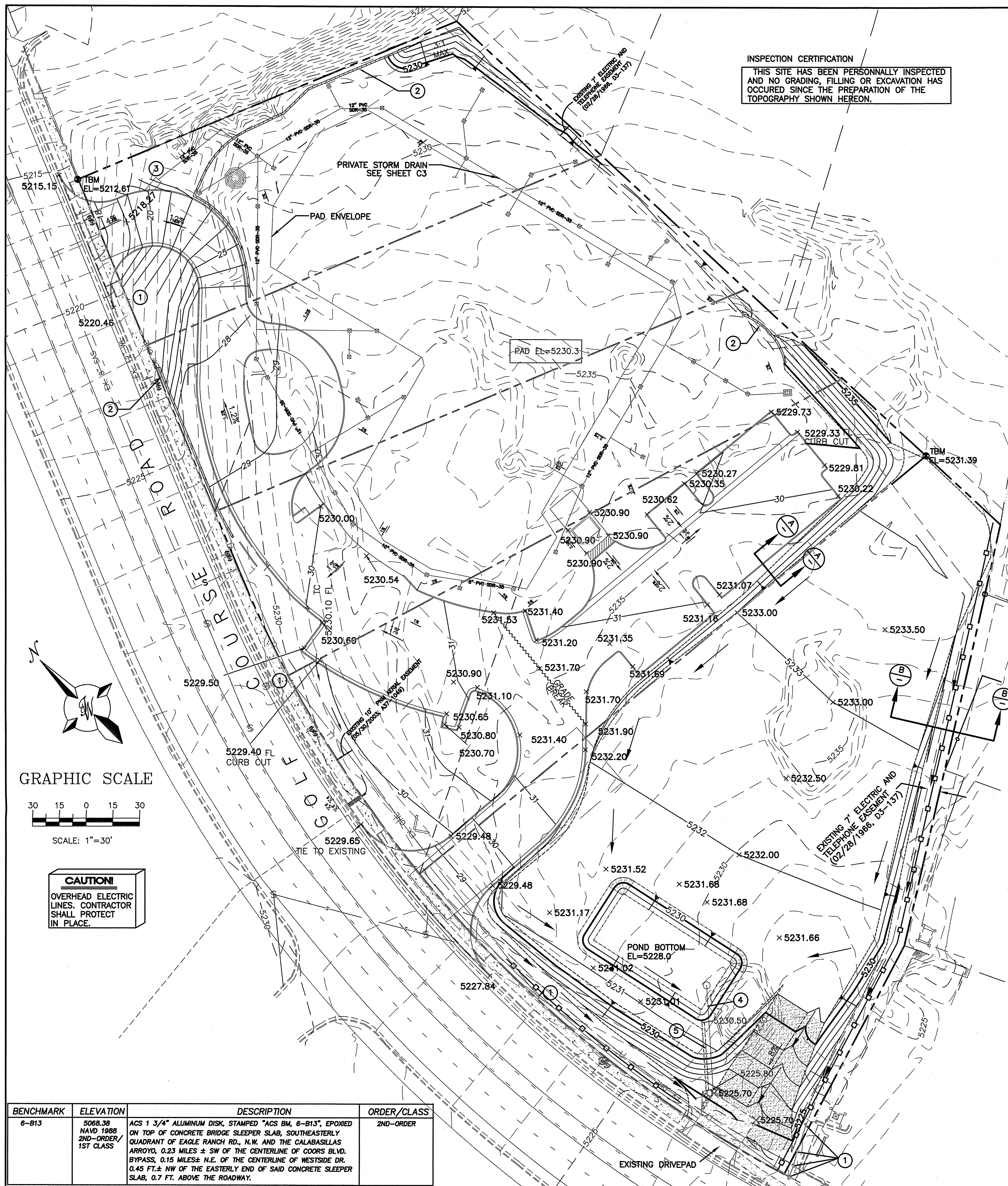
Sincerely,

Gregory R. Olson, P.E.

XC: Brad Bingham
file B12 – D 012



1 of 1



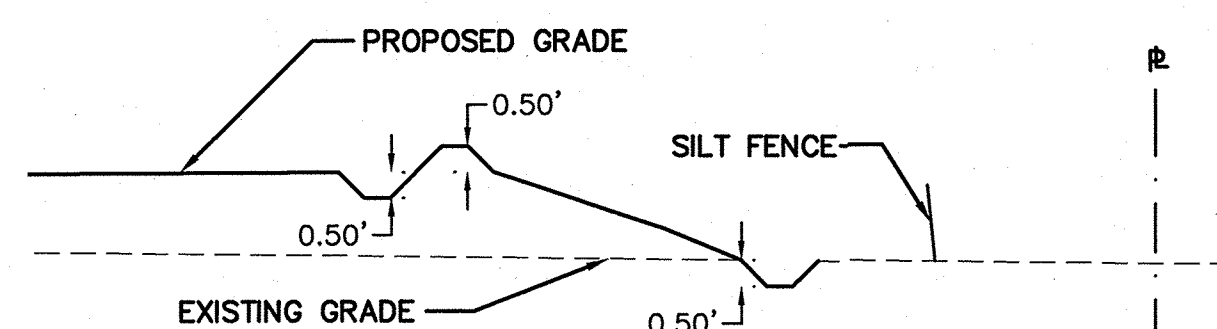
- NOTICE TO CONTRACTORS**
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
 - ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
 - TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
 - BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
 - MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
 - WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

- EROSION CONTROL NOTES**
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
 - CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
 - REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

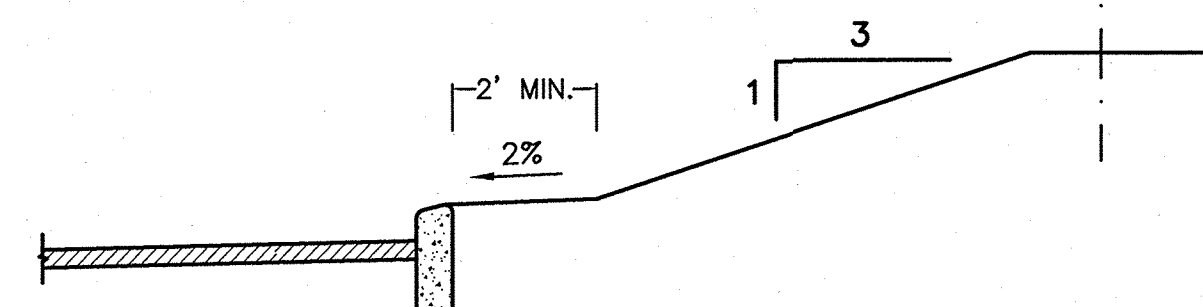
- CONSTRUCTION NOTES**
- EXISTING POWER POLE. CONTRACTOR SHOULD PROTECT IN PLACE.
 - SEE SHEET C6 FOR RETAINING WALL PLAN AND PROFILE.
 - HEADWALL PER DETAIL SHEET C4 & C8.
 - 12" PVC @1% AND 24" RISER W/ DEBRIS RACK. RISER ELEV.=5229.5 RISER INVERT=5226.33. RISER TO BE PERFORATED 1" DIA, 6" O.C.
 - GRAVEL-LINED EMERGENCY OVERFLOW DITCH, 0.5-FOOT DEEP.

EROSION CONTROL PLAN, NPDES PERMIT AND POLLUTION PREVENTION NOTES

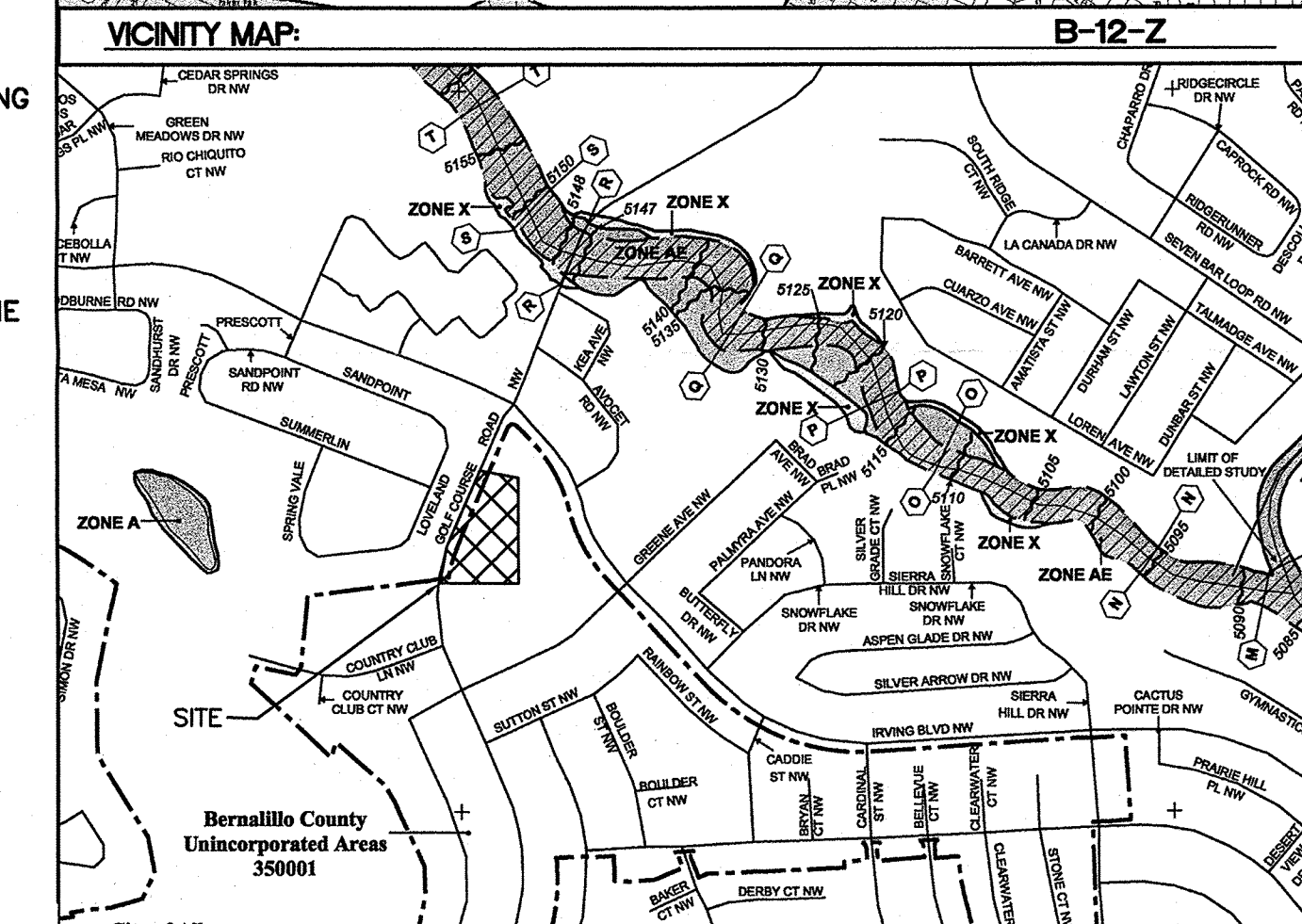
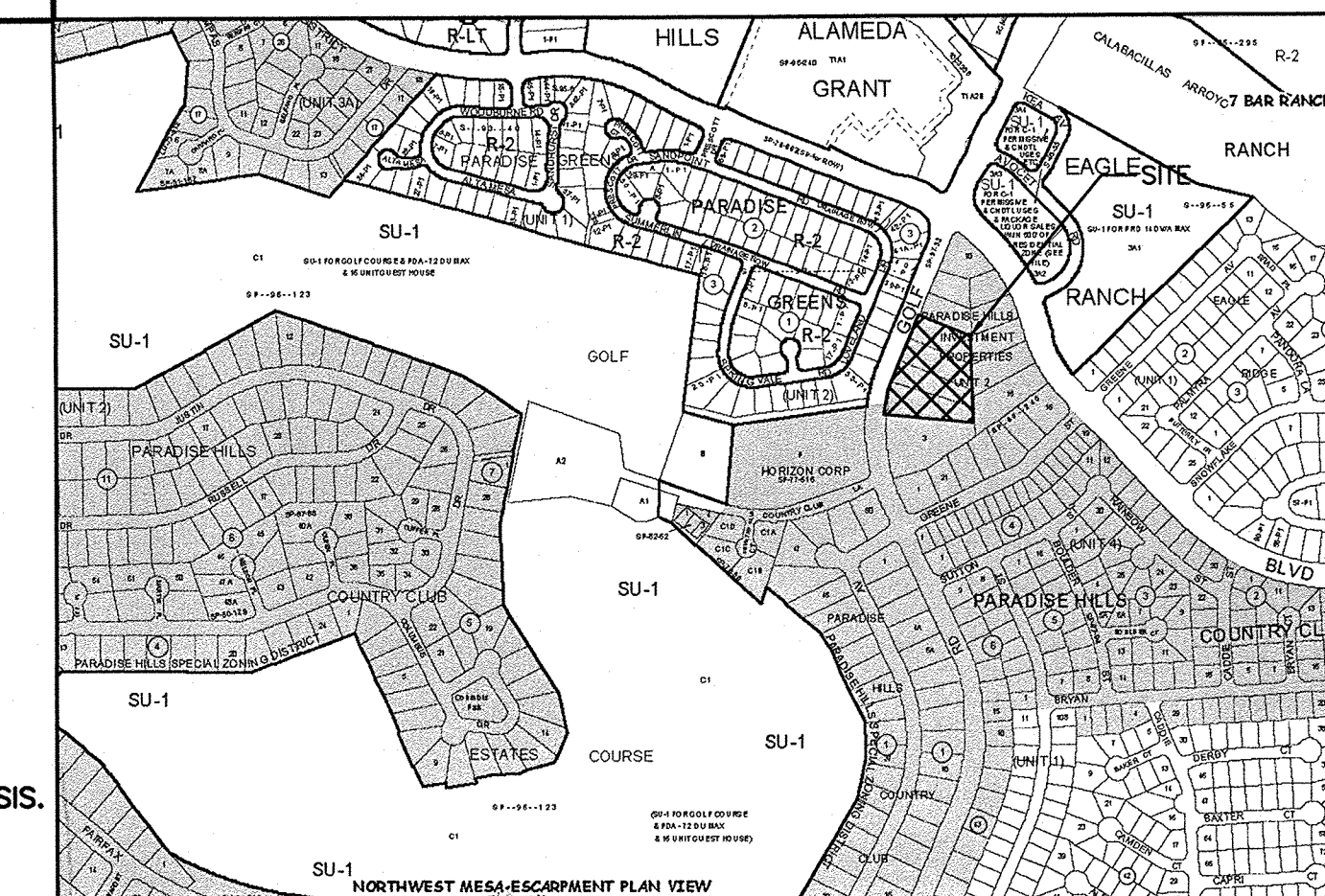
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT OUT OF EXISTING RIGHT-OF-WAY.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM RUN OFF ON SITE.
- REPAIR OF DAMAGED FACILITIES AND CLEAN-UP OF SEDIMENT ACCUMULATION ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
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SECTION B-B
NTS



SECTION A-A
NTS

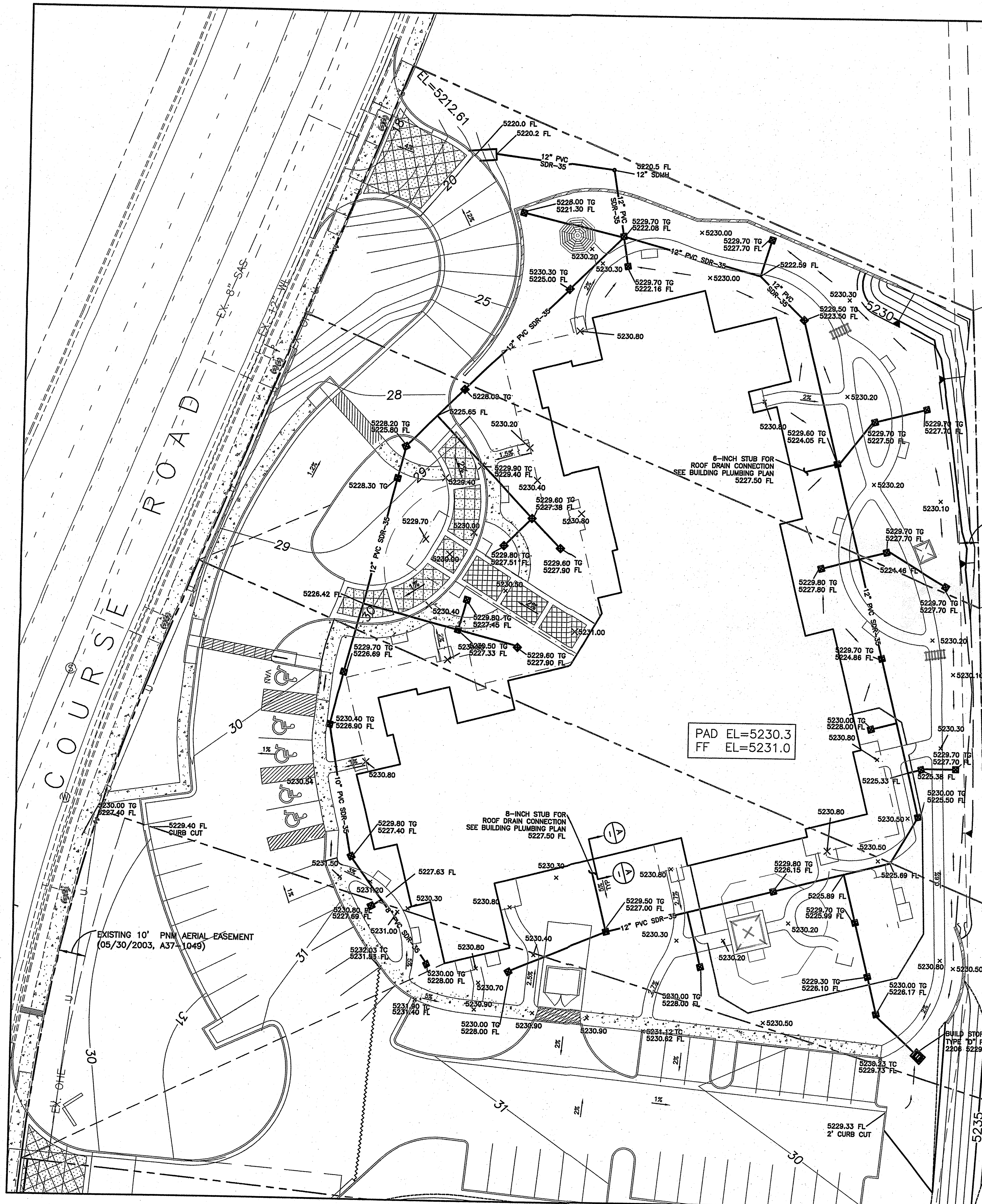


LEGEND

- EXISTING CURB & GUTTER
- BOUNDARY LINE
- EXISTING BOUNDARY LINE
- EASEMENT
- PURPOSED STORM DRAIN
- PROPOSED RETAINING WALL
- PROPOSED SIDEWALK
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED INDEX CONTOUR
- FLOW ARROW
- EXISTING SIDEWALK
- EXISTING CONCRETE DRIVEWAY
- PROPOSED GRAVEL DRIVE
- TBM TOP OF REBAR W/ YELLOW PLASTIC CAP "PS11463" DATUM : NAVD 1988
- PROPOSED SILT FENCE

ROUGH GRADING APPROVAL

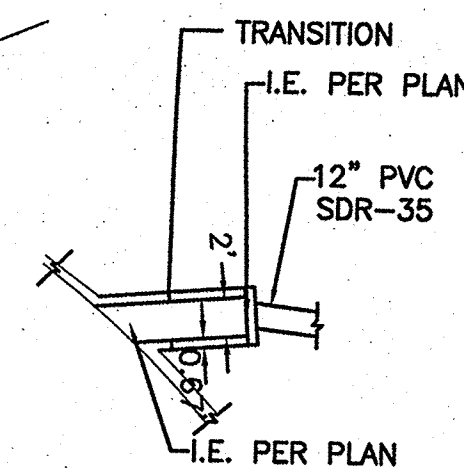
ENGINEER'S SEAL 	SUNRISE SENIOR LIVING PARADISE HILLS PERMIT REVISION SET ROUGH GRADING PLAN	DRAWN BY DFT DATE 5/27/08
TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100	SHEET # C3	JOB # 27109



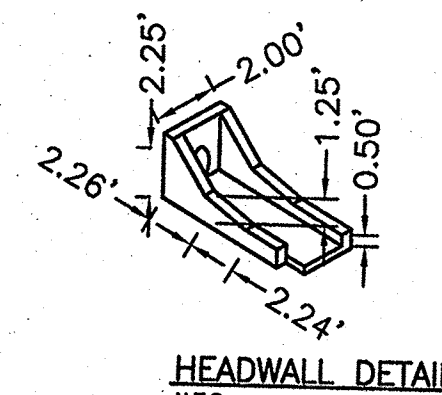
EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
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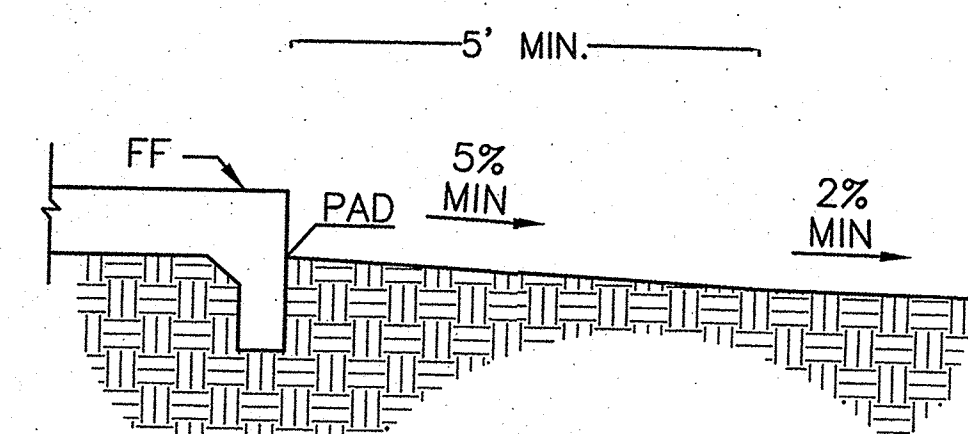
EXISTING 7" ELECTRIC AND TELEPHONE EASEMENT (02/28/1966, D3-137)



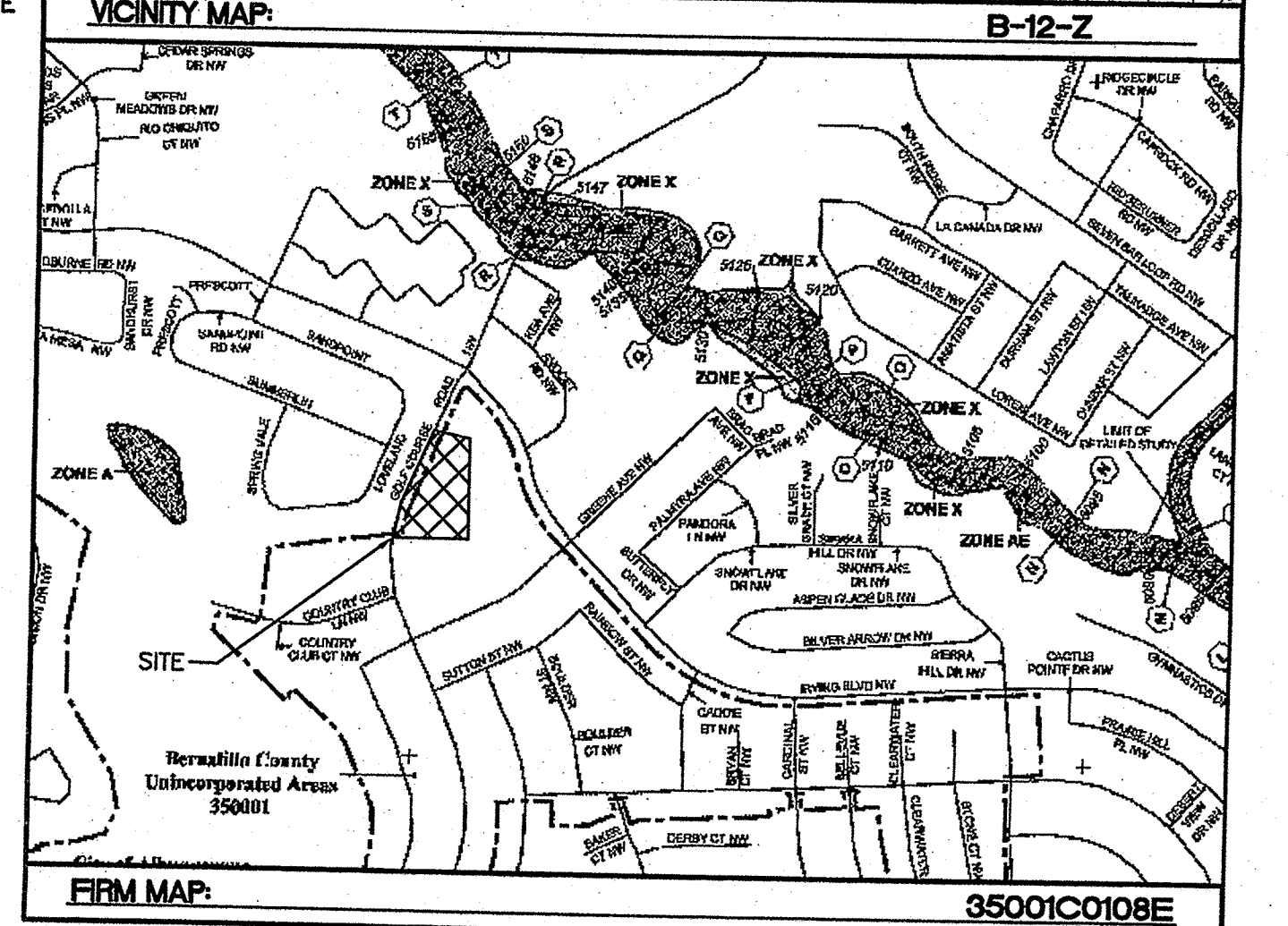
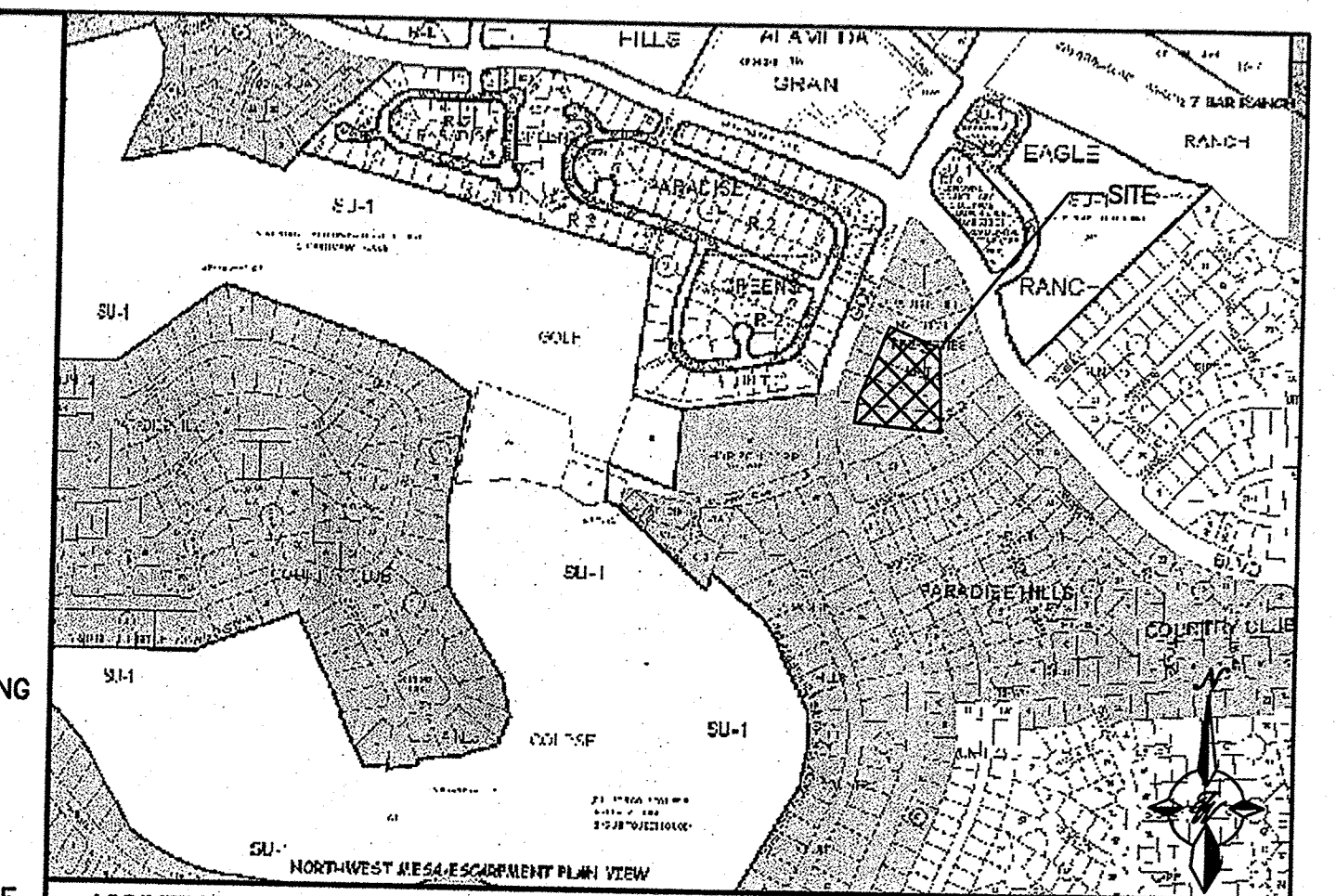
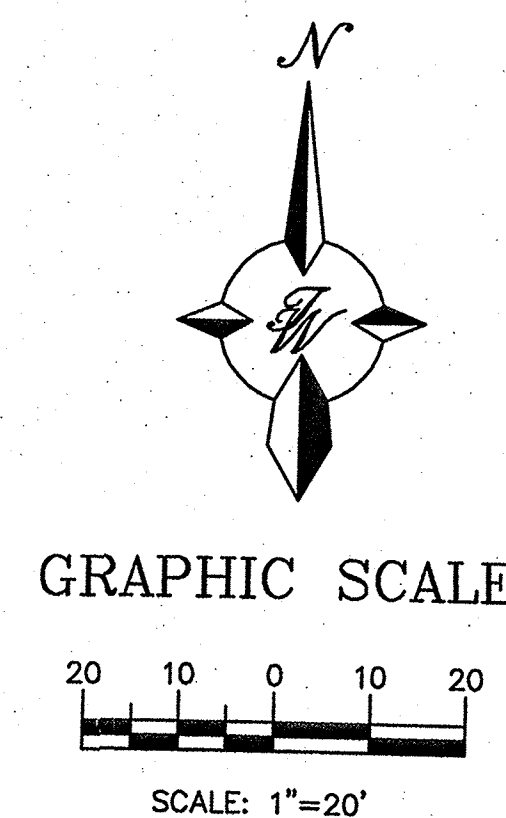
RUNDOWN PLAN DETAIL
SCALE 1"=10'
NOTE: SEE SHEET 08 FOR REINFORCEMENT & CONCRETE SPECS.



HEADWALL DETAIL
N.T.S.



SECTION A-A (TYPICAL)
N.T.S.



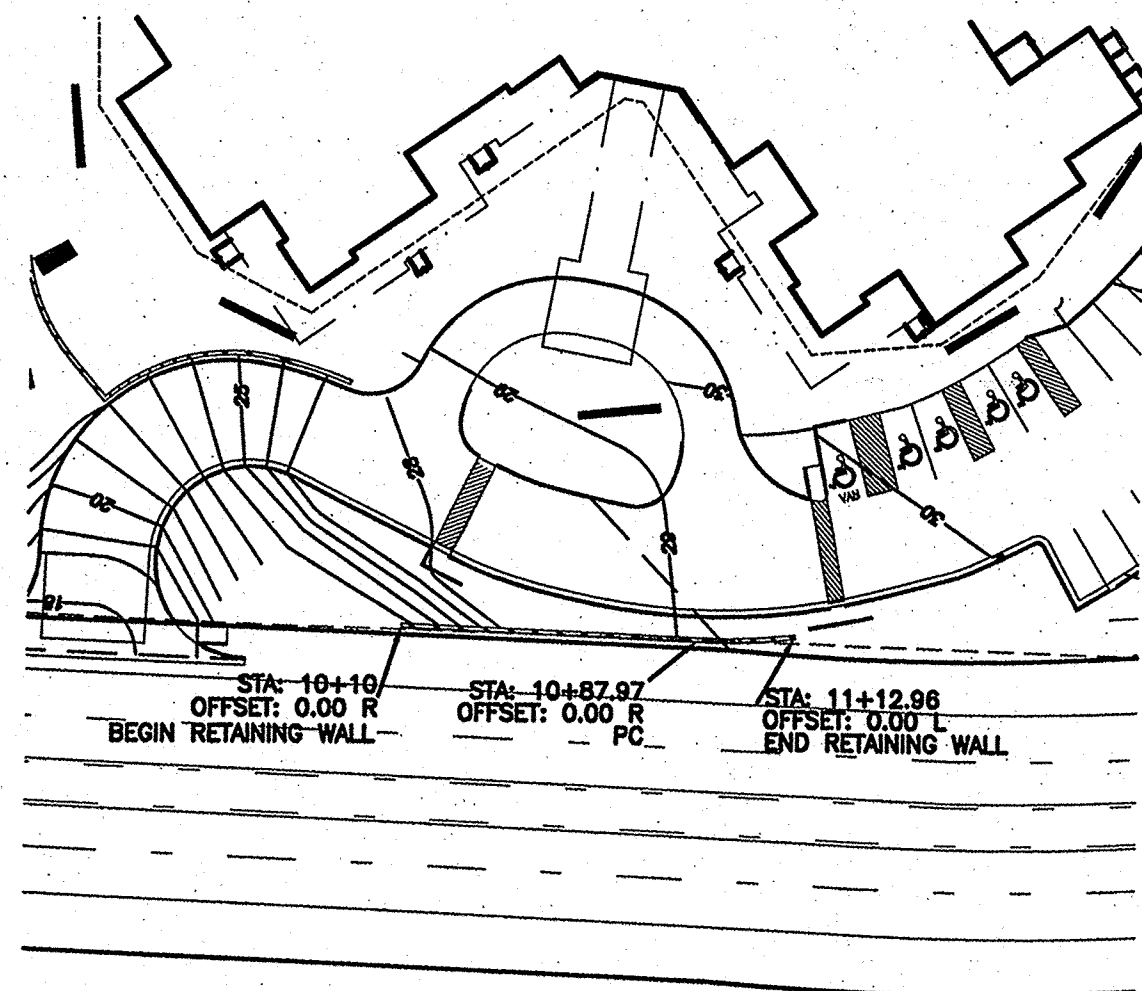
LEGEND

- PROPOSED BUILDING
- PROPOSED OVERHANG
- EXISTING CURB & GUTTER
- BOUNDARY LINE
- EXISTING BOUNDARY LINE
- EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED SPOT ELEVATION
- FLOW ARROW
- AREA DRAIN (NDS #980 BLOCK 9" SQUARE CATCH BASIN)
- EXISTING CONCRETE

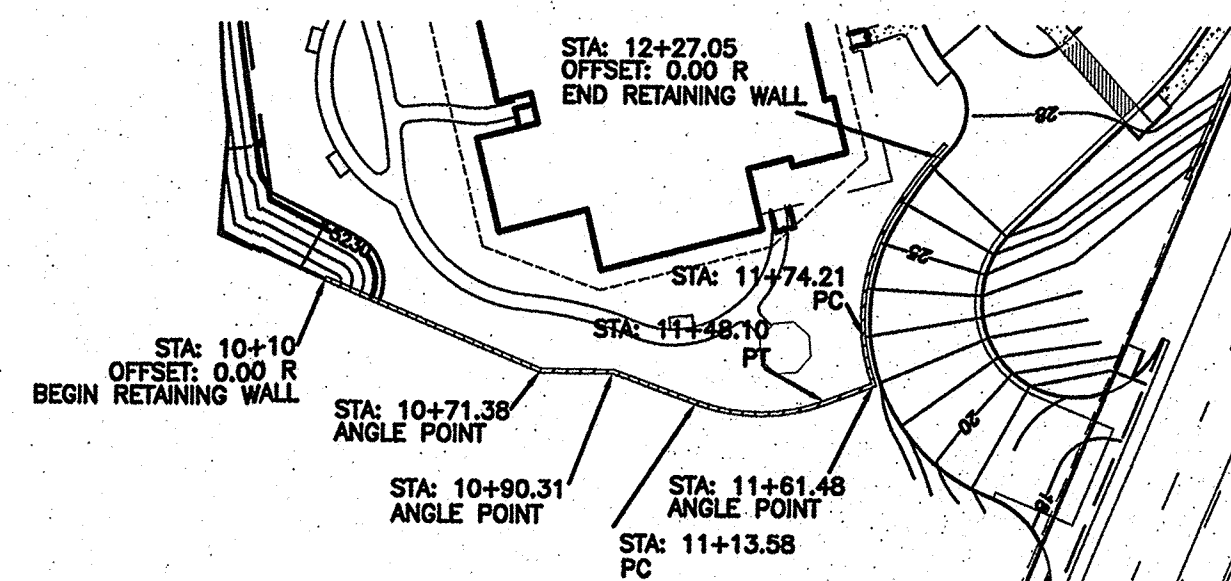
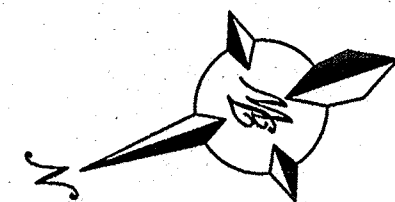
ROUGH GRADING APPROVAL

DATE

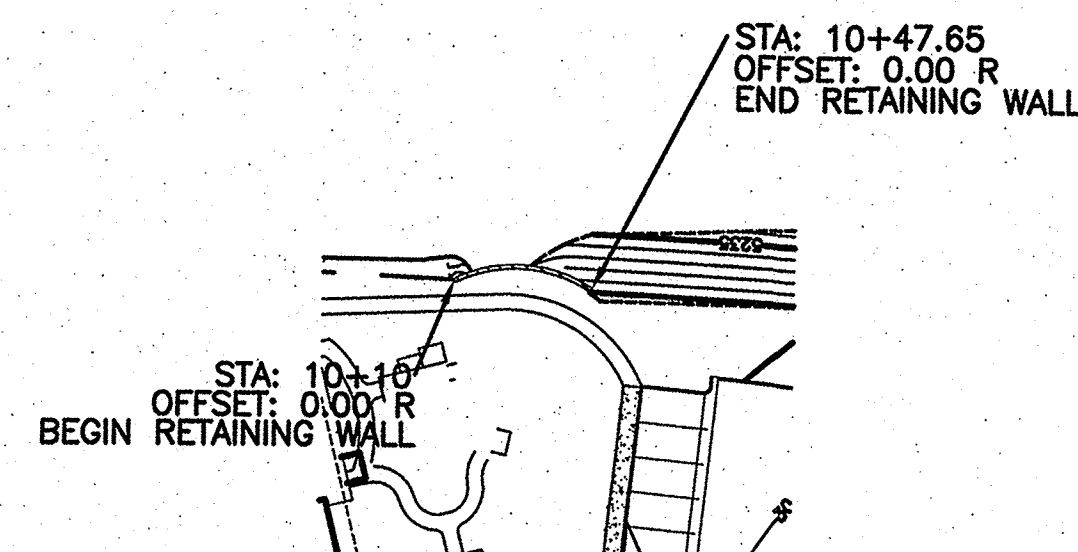
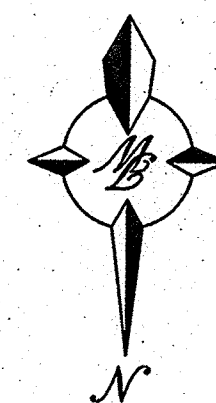
ENGINEER'S SEAL	SUNRISE SENIOR LIVING PARADISE HILLS PERMIT REVISION SET GRADING AND DRAINAGE PLAN	DRAWN BY DFT
RONALD R. BOHANNAN P.E. #7868	TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100	DATE 5/27/08
		SHEET # C4
		JOB # 27109
		RECEIVED MAY 30 2008 HYDROLOGY SECTION



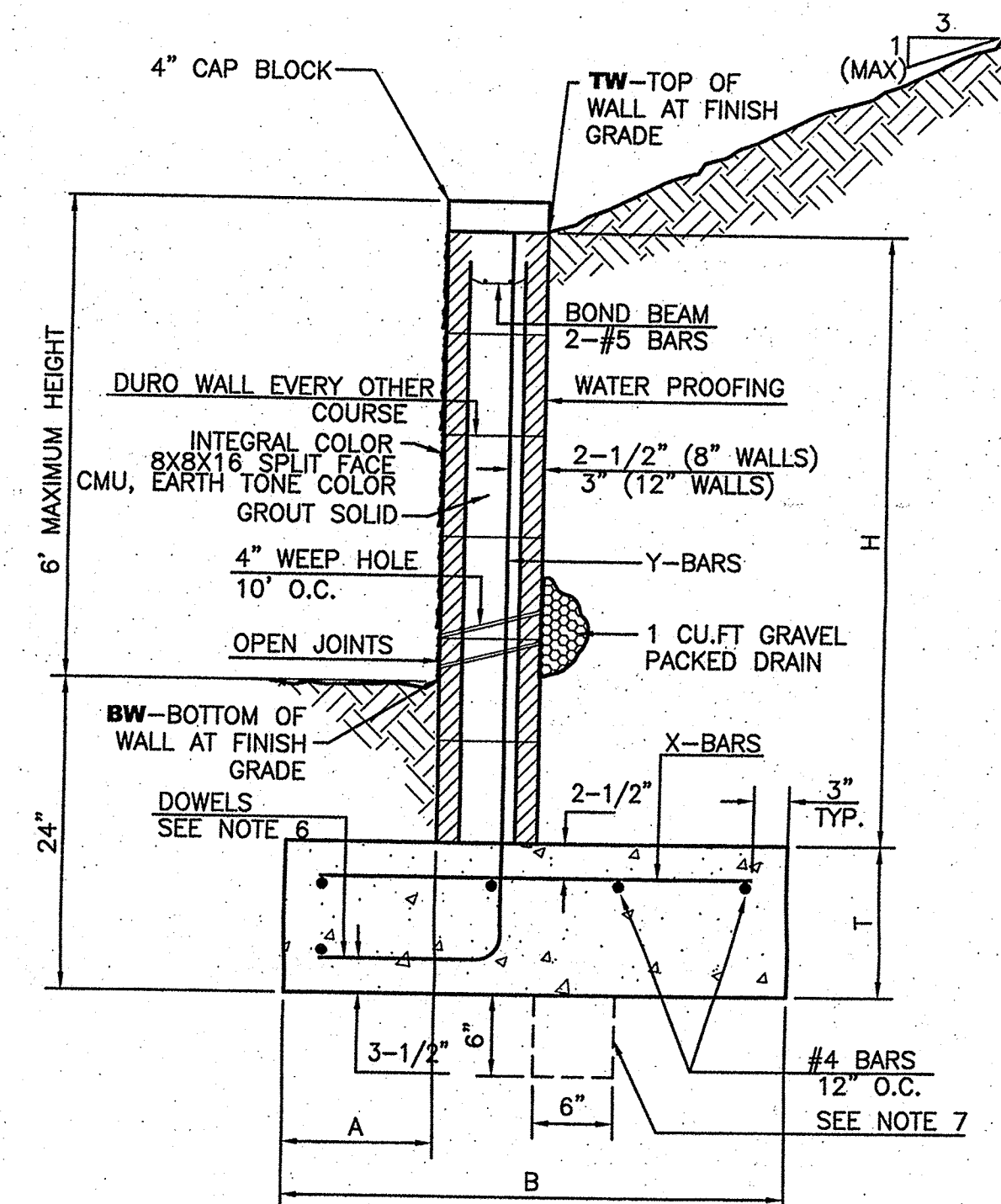
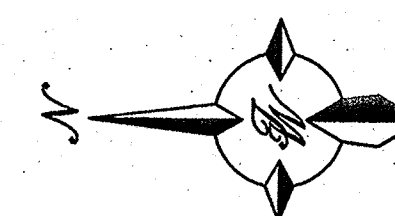
RETAINING WALL A
PLAN



RETAINING WALL B
PLAN



RETAINING WALL C
PLAN



8 INCH REINFORCED CONCRETE MASONRY WALL

H	A	B	T	Y-BARS	X-BARS
ft.-in.	in.	ft.-in.	in.		
2'-0"	8"	2'-0"	9"	#4 @32" O.C.	#4 @24" O.C.
2'-8"	8"	2'-0"	9"	#4 @32" O.C.	#4 @24" O.C.
3'-4"	8"	2'-4"	9"	#4 @32" O.C.	#4 @24" O.C.
4'-0"	10"	2'-8"	9"	#4 @32" O.C.	#4 @24" O.C.
4'-8"	12"	3'-4"	10"	#5 @32" O.C.	#4 @18" O.C.
5'-4"	14"	3'-10"	10"	#6 @16" O.C.	#4 @18" O.C.
6'-0"	16"	4'-8"	12"	#6 @8" O.C.	#4 @12" O.C.

12 INCH REINFORCED CONCRETE MASONRY WALL

H	A	B	T	Y-BARS	X-BARS
ft.-in.	in.	ft.-in.	in.		
5'-4"	14"	3'-8"	10"	#6 @16" O.C.	#4 @16" O.C.
6'-0"	15"	4'-2"	12"	#6 @16" O.C.	#4 @16" O.C.
6'-8"	16"	4'-6"	12"	#6 @16" O.C.	#5 @16" O.C.
7'-4"	18"	4'-10"	12"	#6 @16" O.C.	#5 @16" O.C.
8'-0"	20"	5'-4"	12"	#7 @16" O.C.	#6 @12" O.C.
8'-8"	20"	5'-8"	12"	#7 @16" O.C.	#6 @12" O.C.

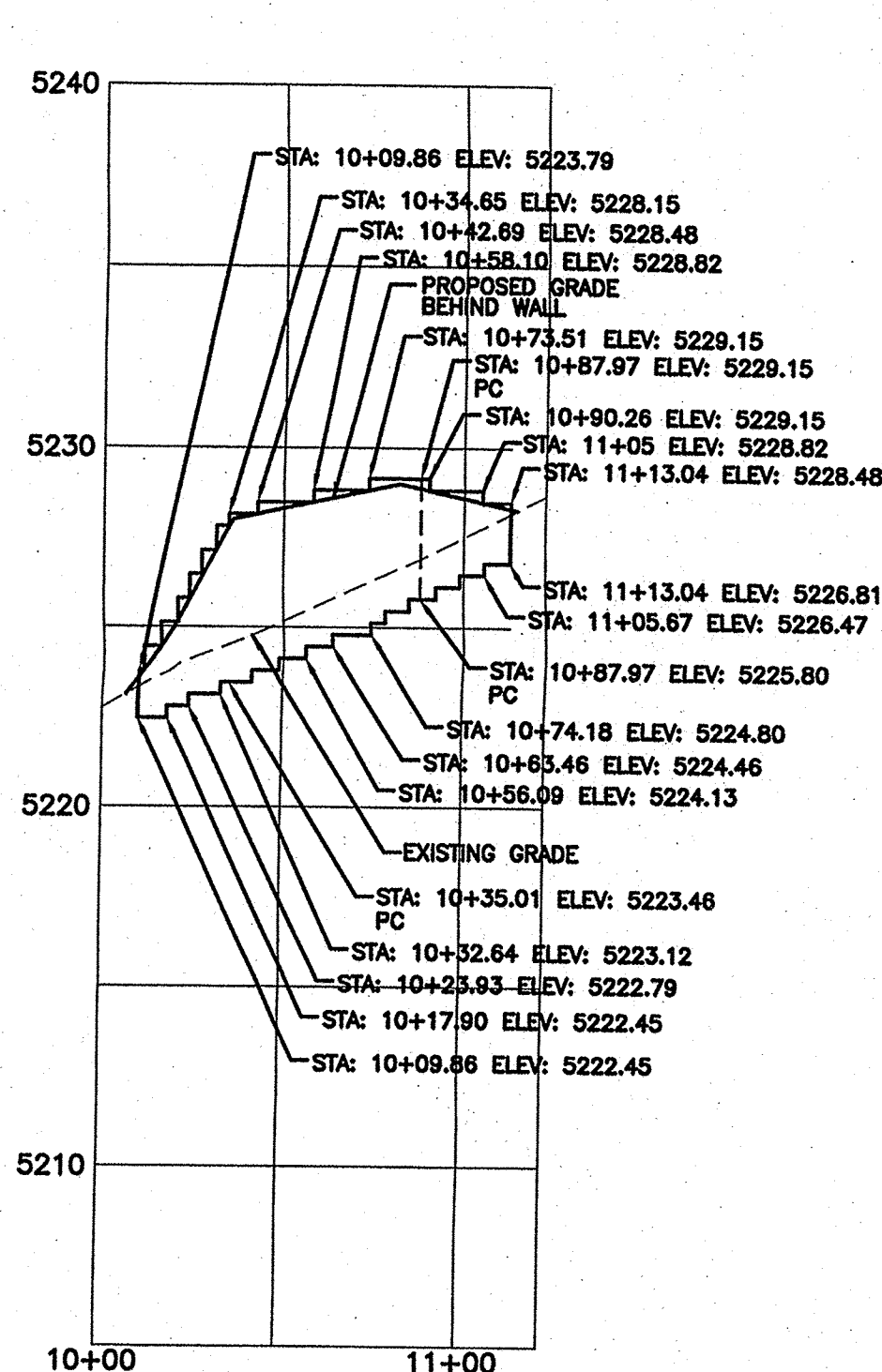
GENERAL NOTES:

- ALL CONCRETE IS TO BE 4000 PSI @ 28 DAYS.
- MINIMUM COMPACTION UNDER FOOTINGS IS TO BE 95% PER ASTM. D 1557 FOR A DEPTH OF 12" MOISTURE CONTENT IS TO BE $\pm 2.0\%$.
- BACK FILL AGAINST WALLS IS TO BE HAND-PLACED AND COMPACTED.
- ALL BARS ARE TO BE GRADE 60, ASTM 615.
- TRUSS TYPE DURE-O-WALL EVERY OTHER COURSE.
- DOWELS SHALL BE AT LEAST EQUAL IN SIZE AND SPACING TO Y-BARS. SHALL PROJECT A MINIMUM OF 30 BAR DIA. INTO THE FILLED BLOCK CORES, AND SHALL EXTEND TO THE TOE OF THE FOOTING.
- PROVIDE KEY FOR 8" AND 12" WALLS WHERE H EXCEEDS 6'-0"
- USE EITHER EXPANSION JOINTS ON 20' CENTERS OR PILASTERS EVERY 16'.
- BOND BEAM, 1-#4 BARS FOR WALLS UNDER 3'-4", 2-#4 BARS FOR WALLS UNDER 5'-4", 2-#5 BARS FOR WALLS OVER 5'-4".

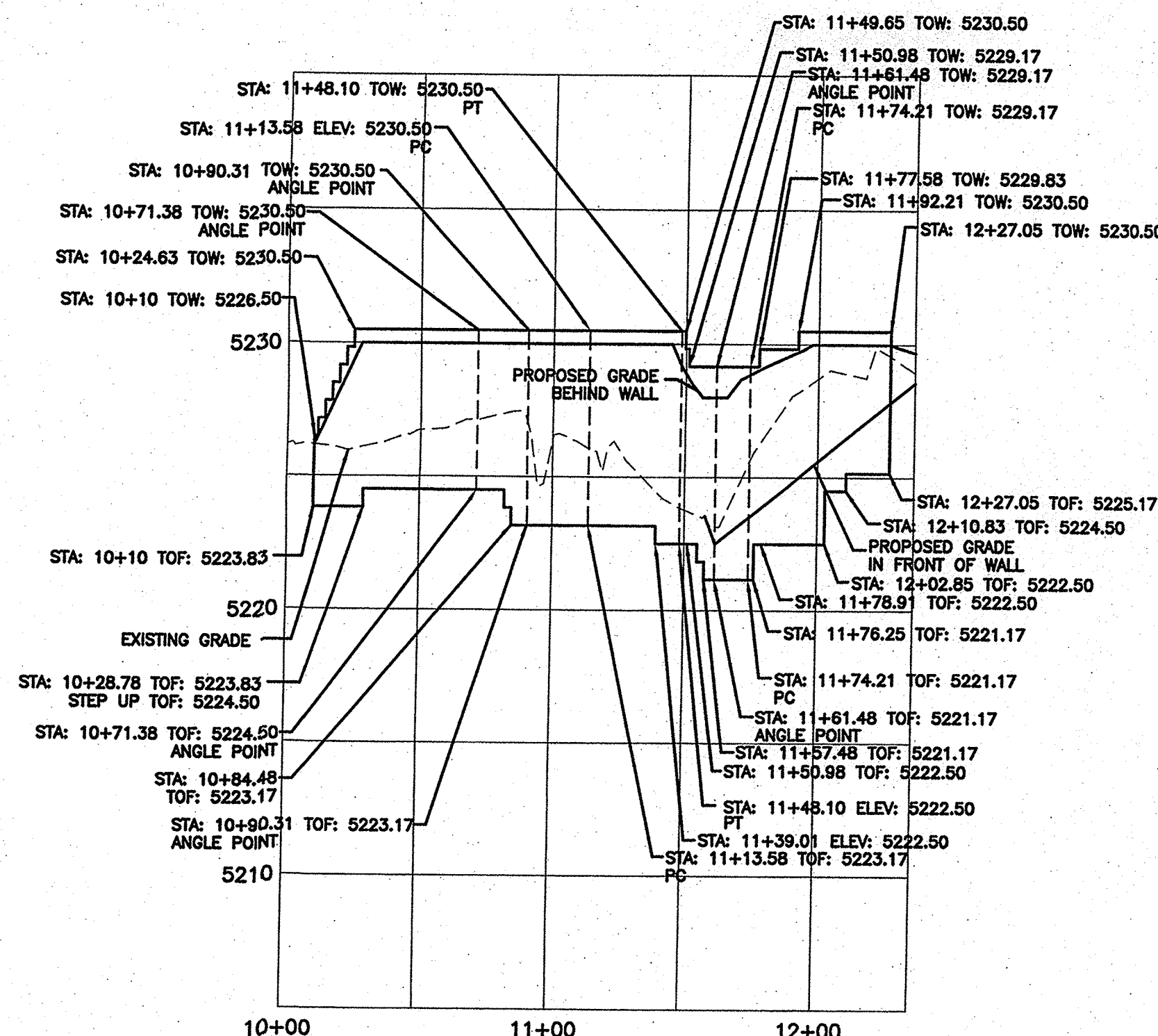
RETAINING WALL DETAIL

NTS

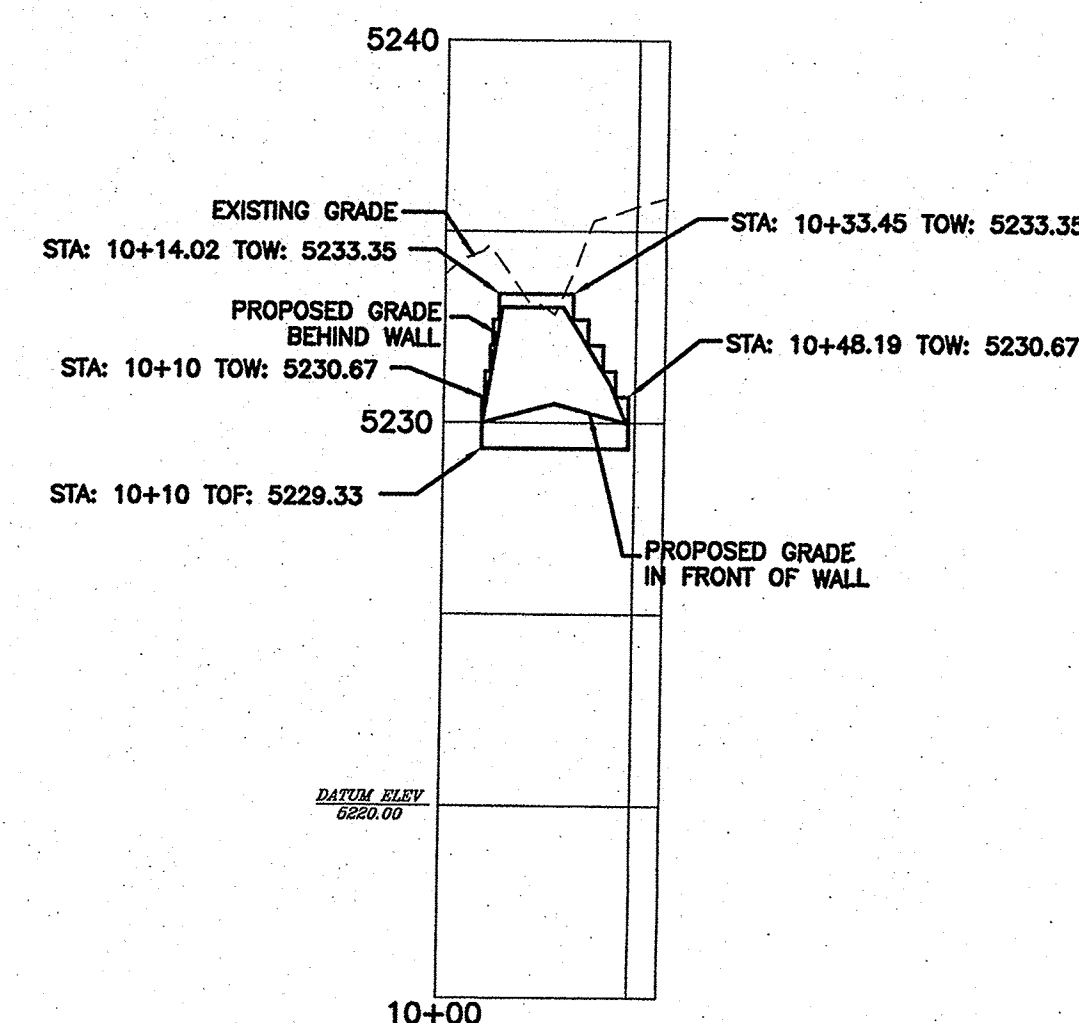
SEGMENTAL WALL SYSTEMS BY KEYSTONE, VERSA-LOC OR EQUAL MAY BE CONSIDERED AS AN ALTERNATE TO THE CMU RETAINING WALL. SPECIFIED CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR ENGINEER'S AND OWNER'S APPROVAL AND STRUCTURAL DESIGN, COMPLETE WITH CALCULATIONS FOR PERMITTING.



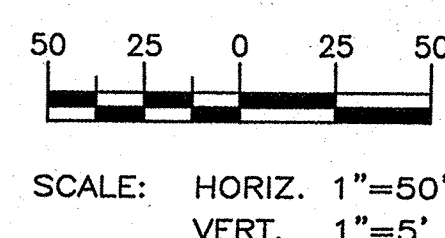
RETAINING WALL A
PROFILE



RETAINING WALL B
PROFILE

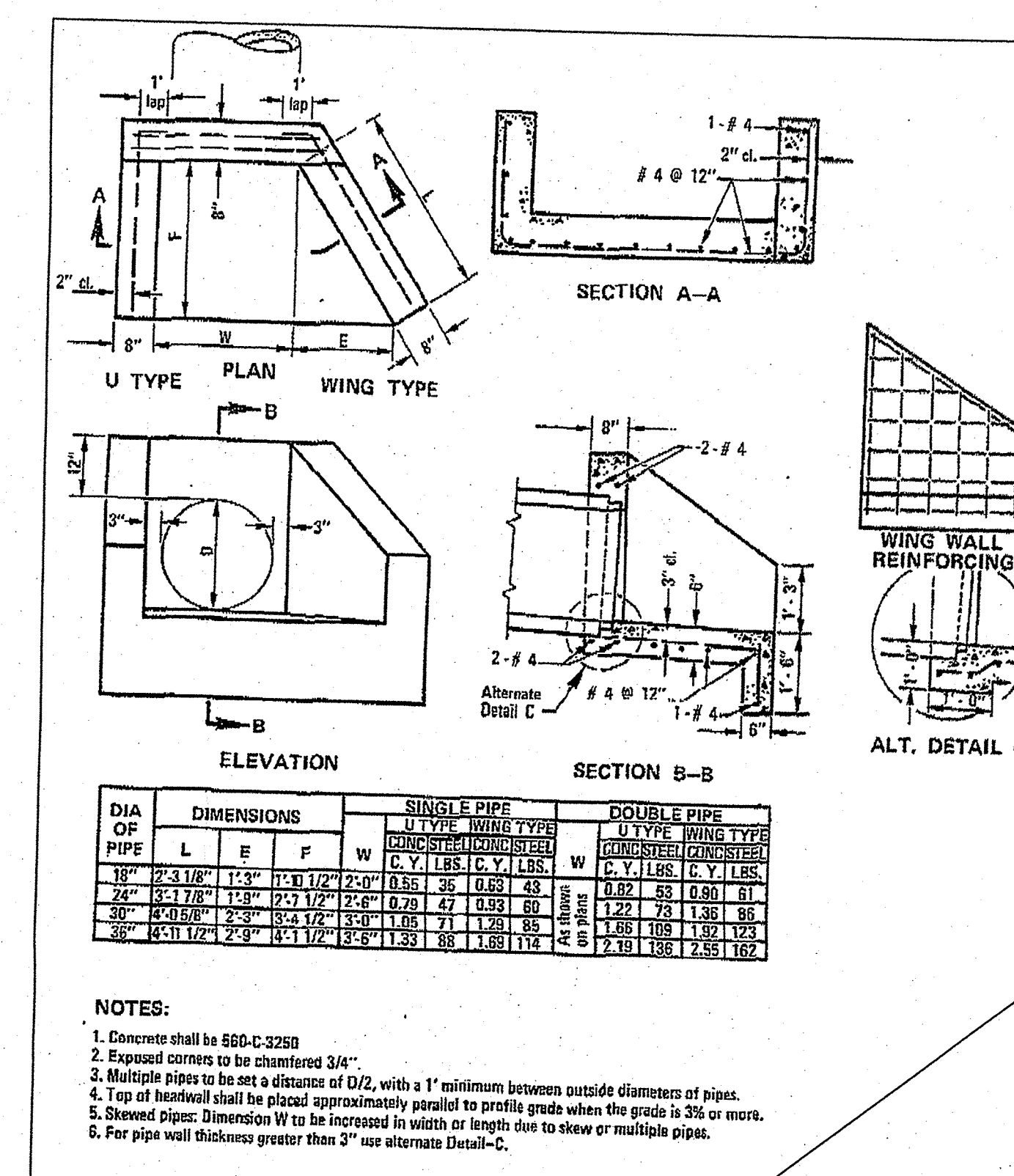
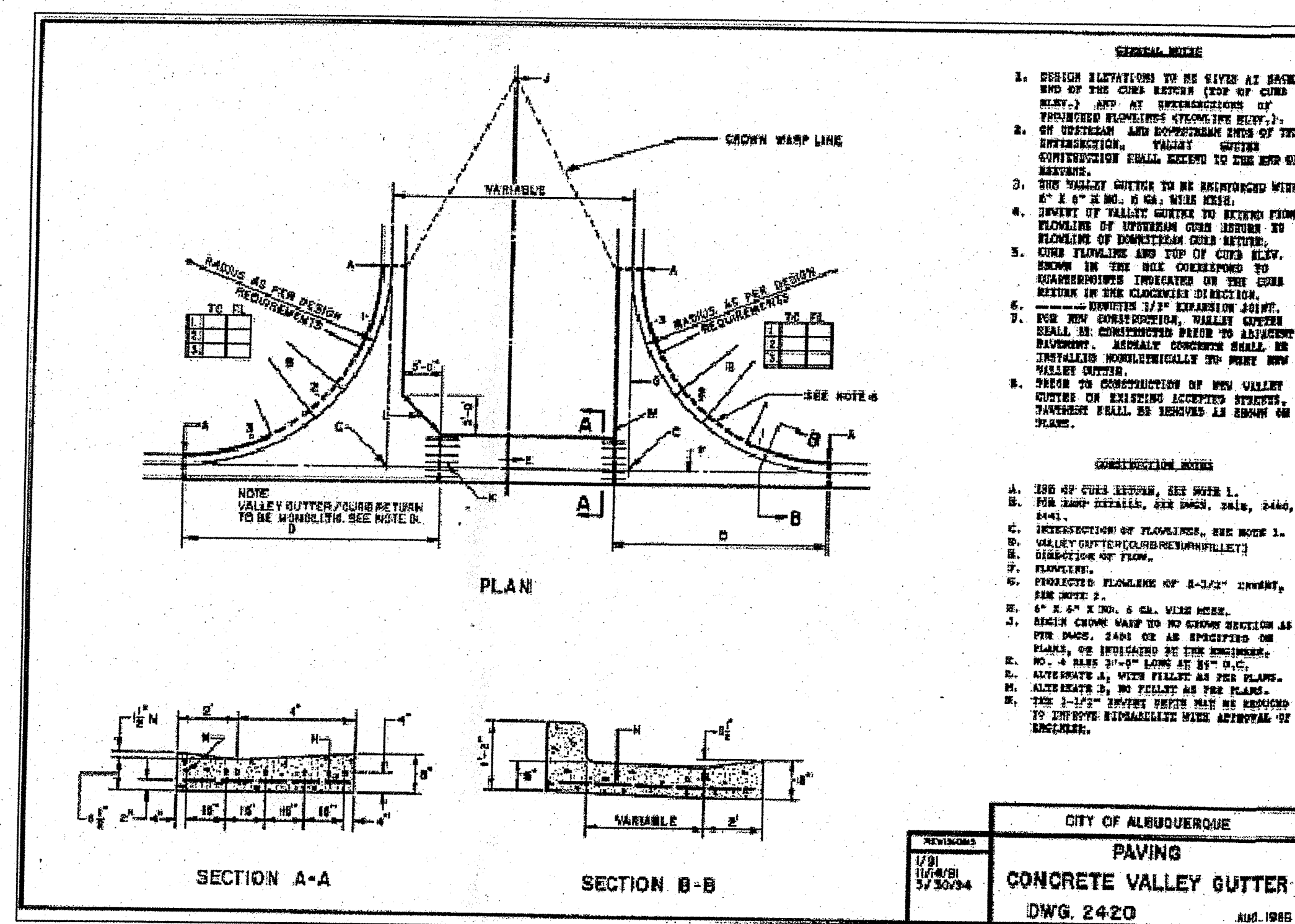
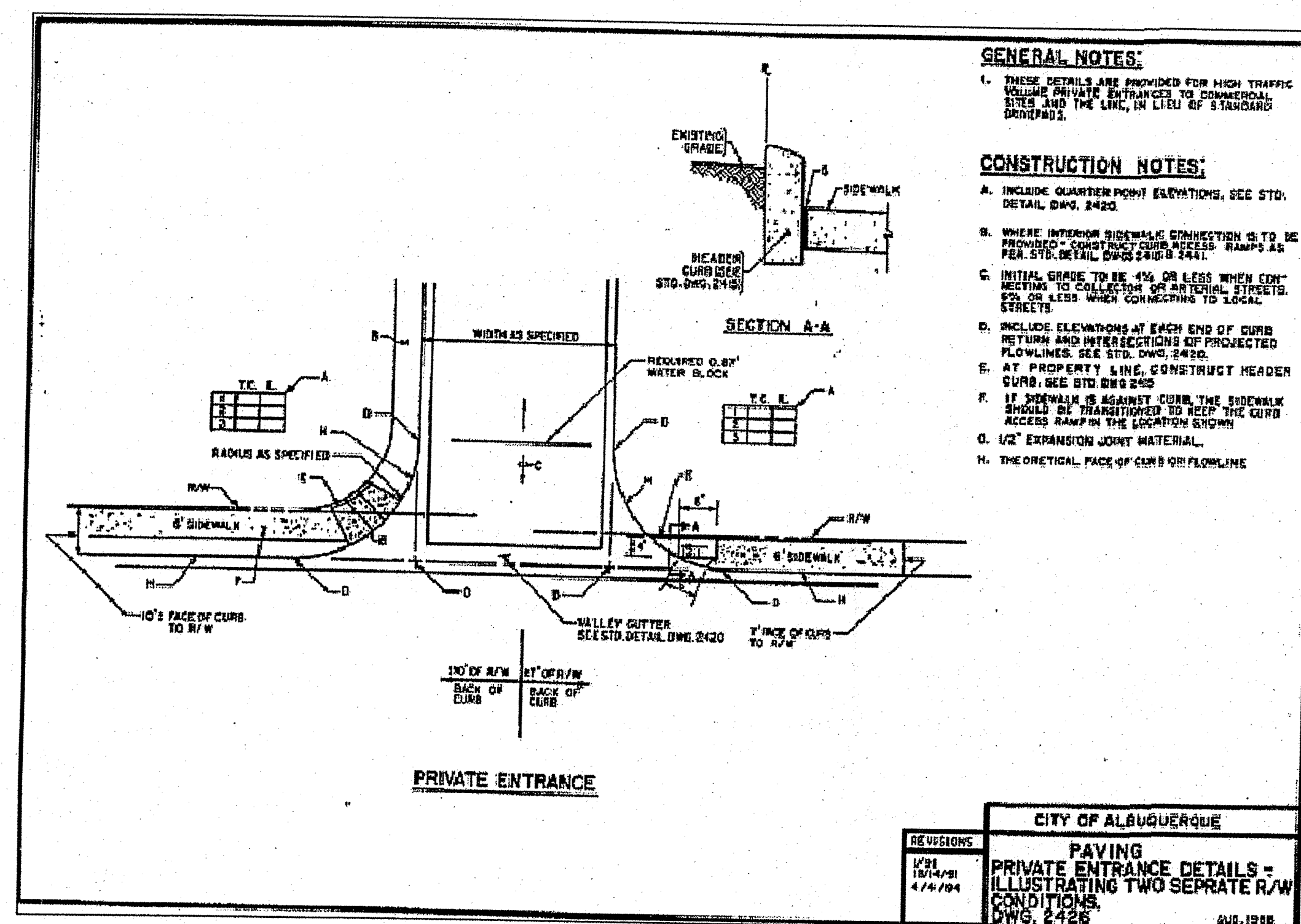
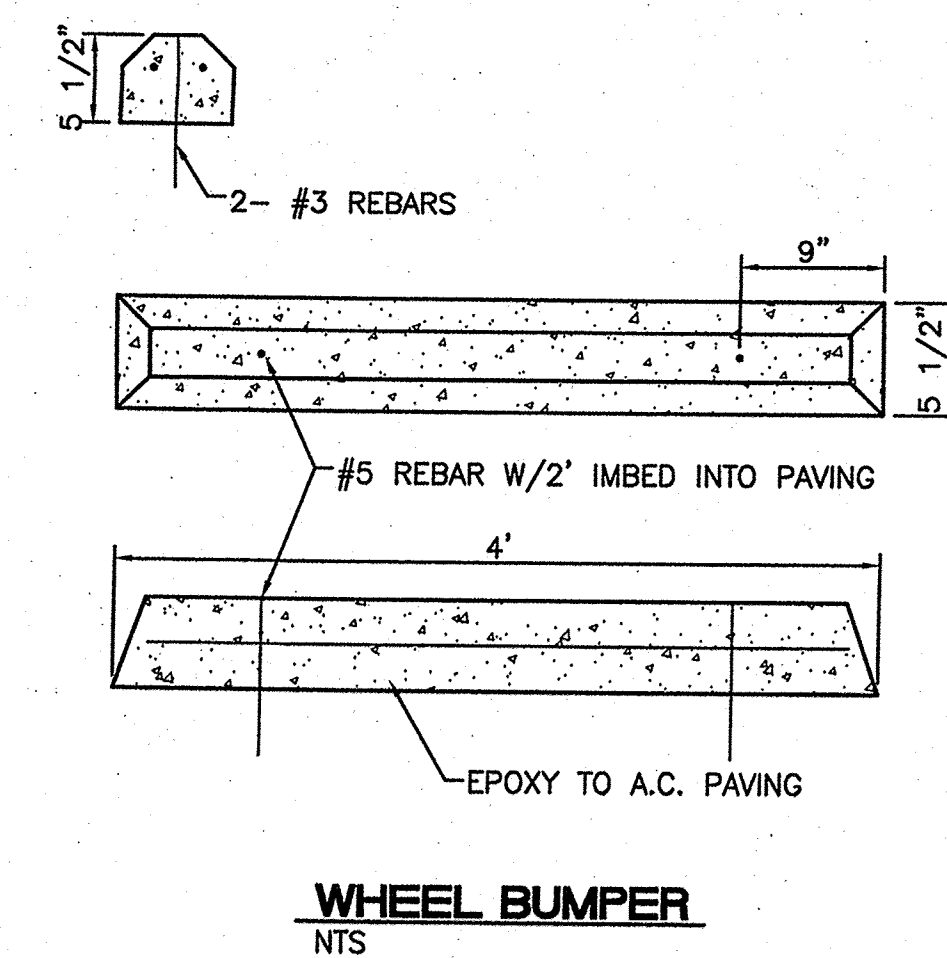
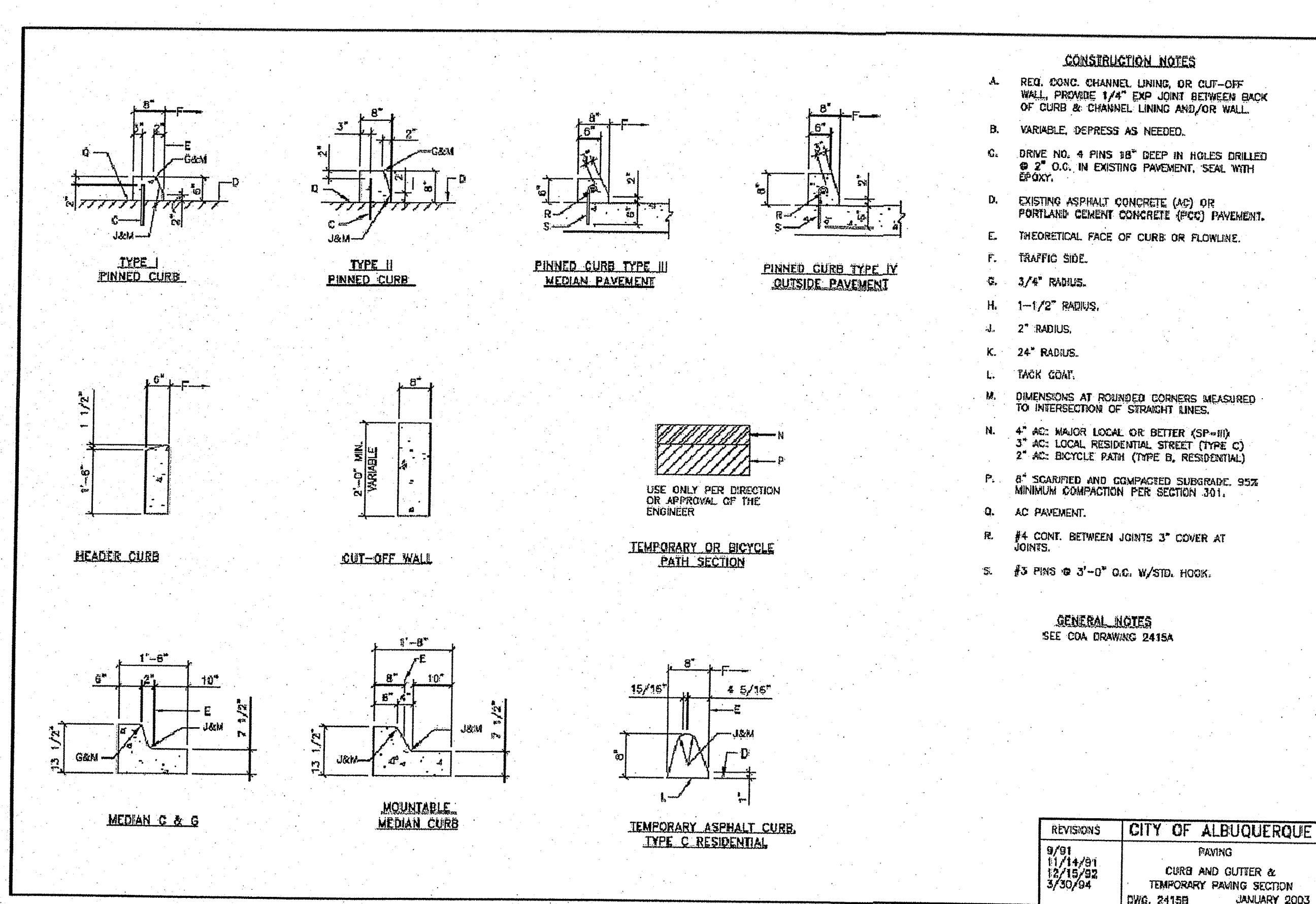
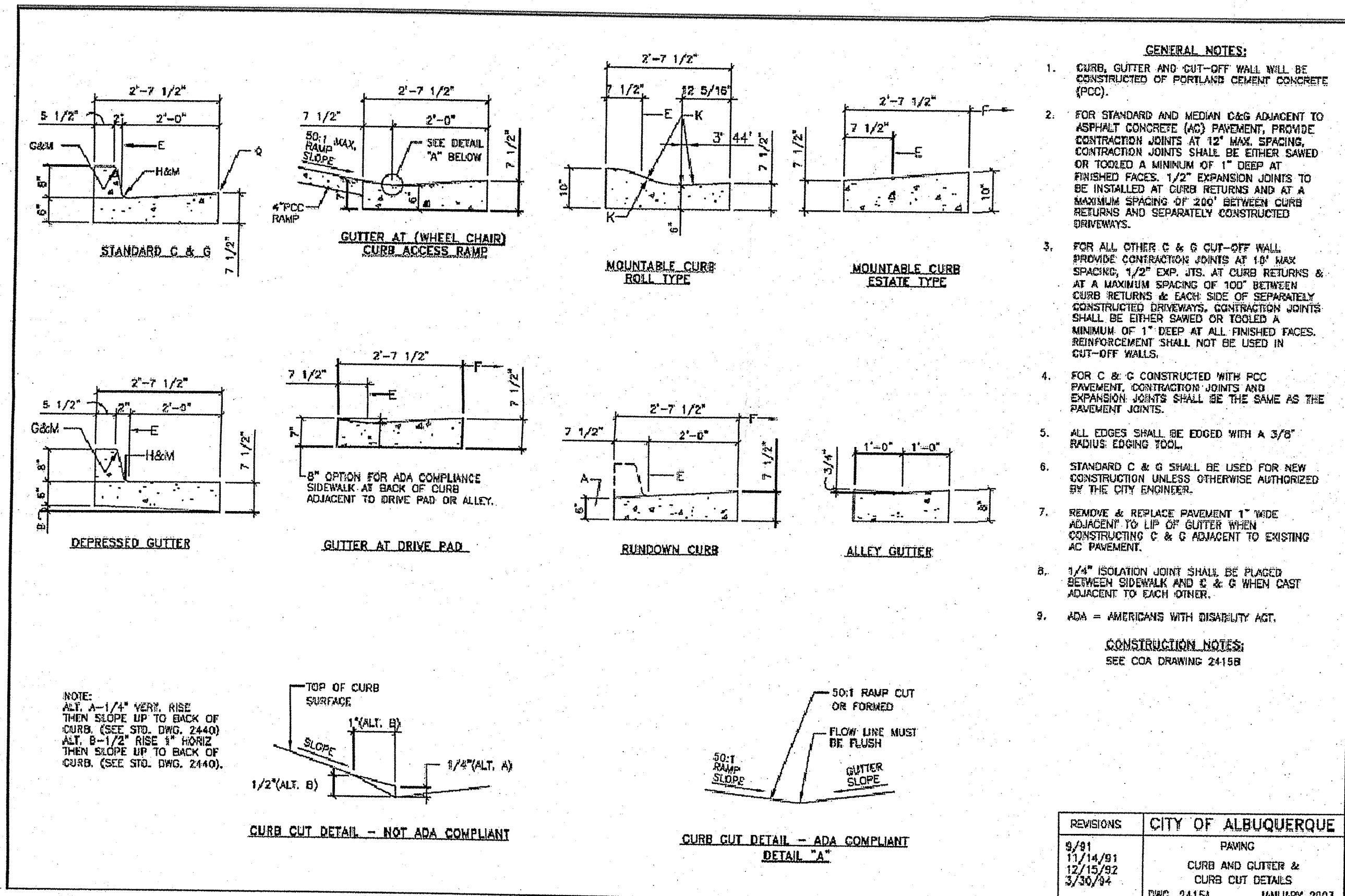


RETAINING WALL C
PROFILE



	ENGINEER'S SEAL	SUNRISE SENIOR LIVING PARADISE HILLS PERMIT REVISION SET	DRAWN BY DFT
		RETAINING WALL PLAN AND PROFILE	DATE 5/9/08
		TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100	SHEET # C6
			JOB # 27109

RECEIVED
MAY 30 2008
HYDROLOGY SECTION

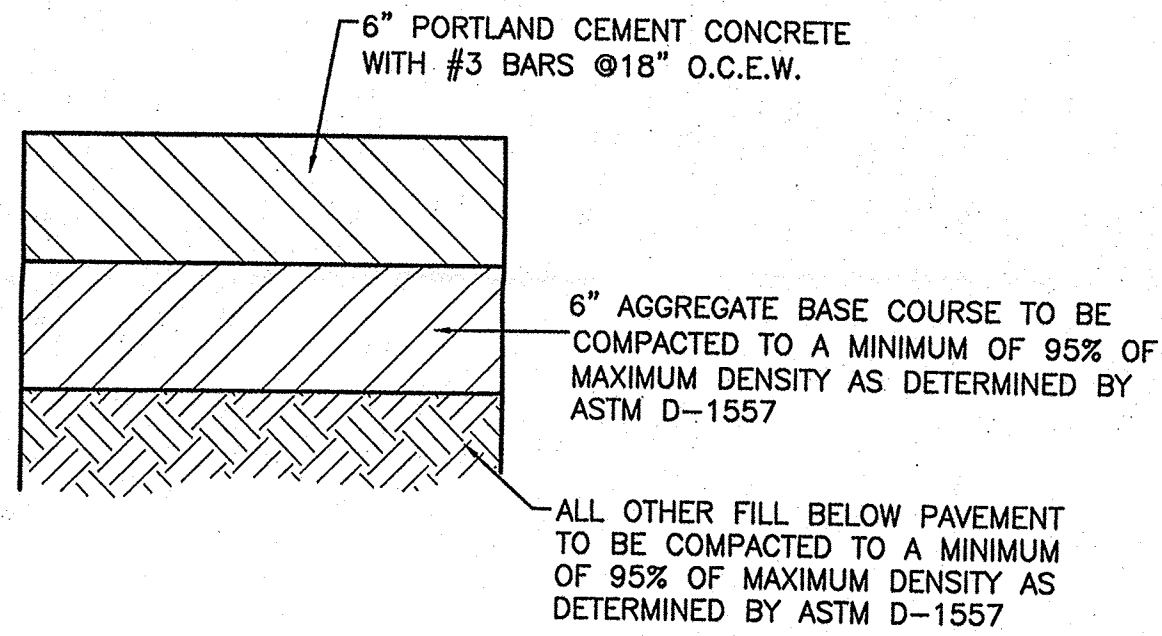


ENGINEER'S SEAL RONALD R. BOHANNON P.E. #7868	SUNRISE SENIOR LIVING PARADISE HILLS PERMIT REVISION SET	DRAWN BY DFT DATE 5/9/08
	DETAILS TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100	SHEET # C8 JOB # 27109

RECEIVED

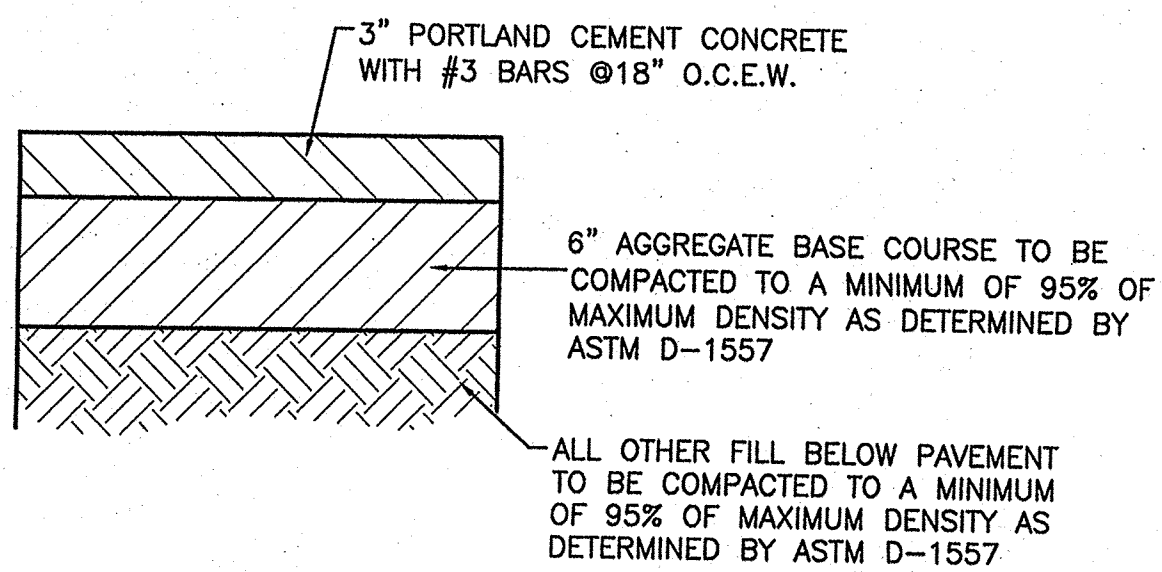
PAVEMENT NOTES

- CONTROL JOINTS SHOULD BE SAWS AS SOON AS POSSIBLE AFTER PLACING CONCRETE.
- THE BARS SHOULD BE USED FOR LOAD TRANSFER AT ALL LONGITUDINAL JOINTS.
- JOINT SPACING SHOULD BE PLACED ON 12 TO 15 FOOT CENTERS.
- BECAUSE OF THE CLAYEY SOIL, IT IS REQUIRED THAT THE CONCRETE PAVEMENT BE REINFORCED WITH NO. 3 BARS ON APPROXIMATELY 18-INCH CENTERS IN EACH DIRECTION.



PCC PAVING SECTION

© TRASH RECEPTACLE

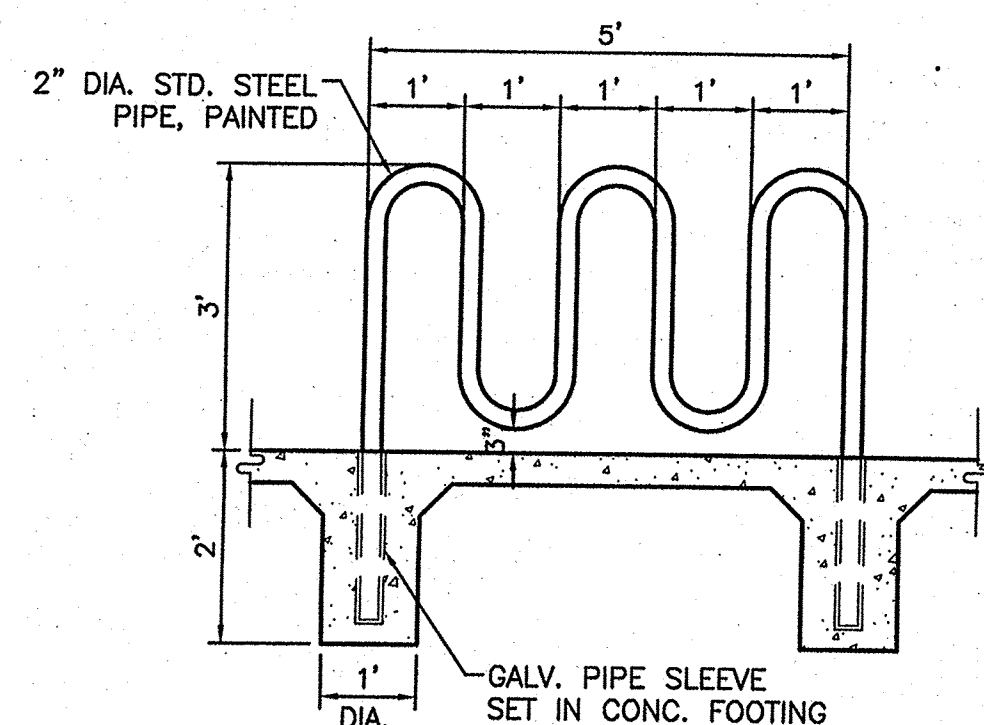


LIGHT DUTY PAVING SECTION

© PARKING STALLS

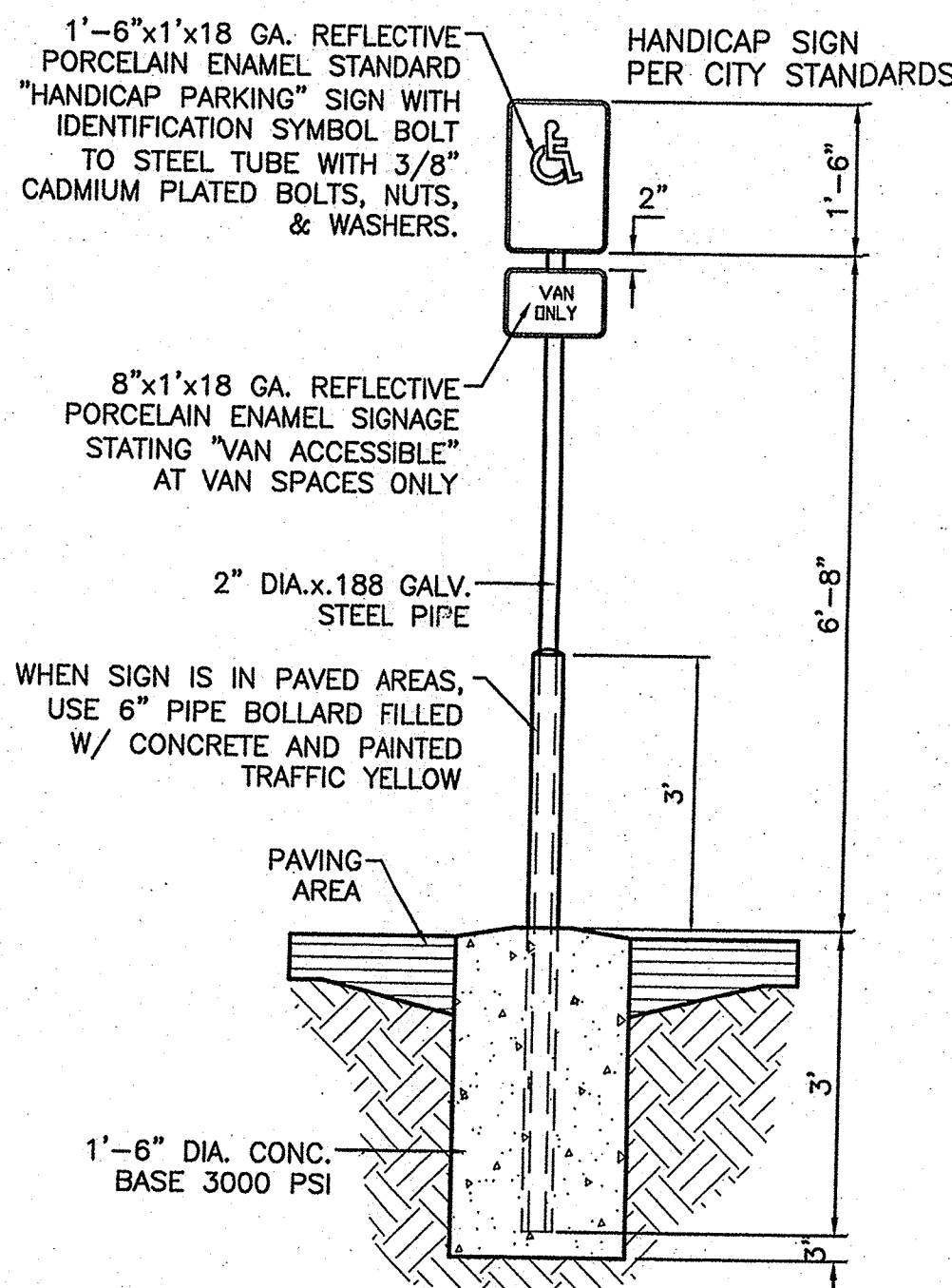
CURB GENERAL NOTES:

- ALL CURBS TO BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE.
- PROVIDE CONTRACTION JTS. 12' MAX., SPACING, 3/4" EXP. JTS. AT CURB RETURNS AND AT A MAX. SPACING OF 120' BETWEEN CURB RETURNS AND EACH SIDE OF SEPARATELY CONSTRUCTED DRIVEWAYS. CONTRACTION JTS., SHALL BE EITHER SAWS OR TOOLED A MINIMUM OF 1" DEEP AT FINISHED FACES.
- ALL EDGES SHALL BE EDGED WITH A 3/8" RADUIS EDGING TOOL.
- 3/4" ISOLATION JOINT SHALL BE PLACED BETWEEN SIDEWALK AND CURB WHEN CAST ADJACENT TO EACH OTHER.
- ALL CONCRETE IS TO BE 3000 PSI @ 28 DAYS.
- ALL BARS ARE TO BE GRADE 60, ASTM 615.



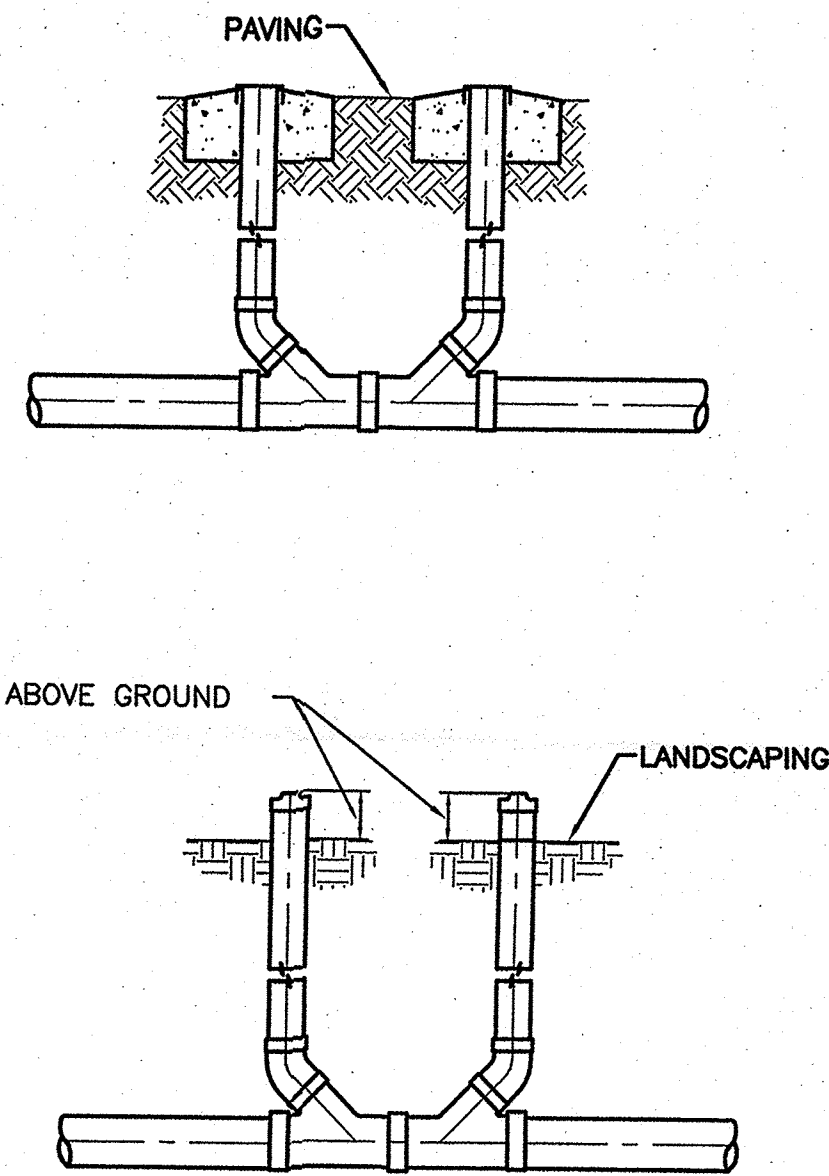
BIKE RACK DETAIL

SCALE: 1/2"=1'



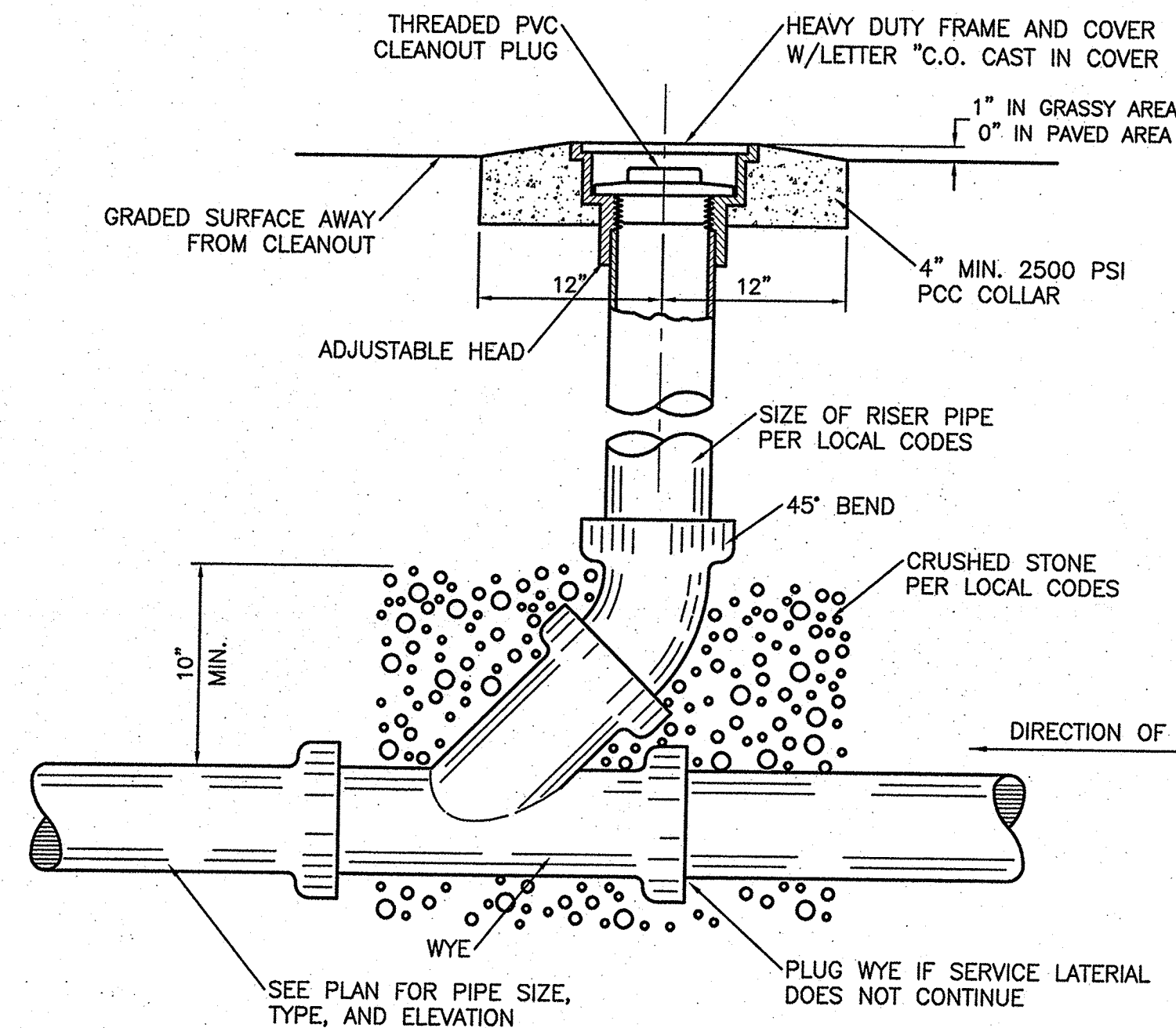
HANDICAP SIGN

NTS



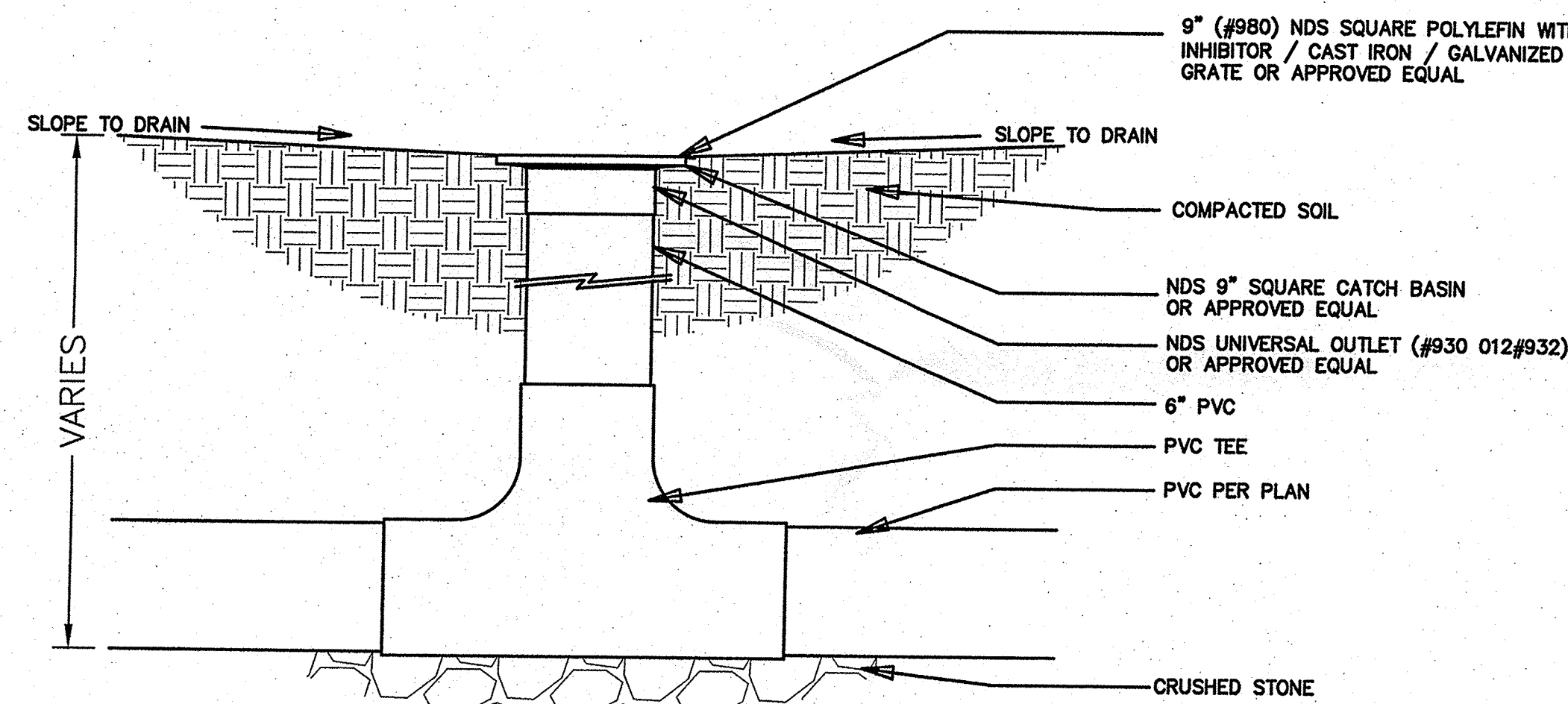
SANITARY SEWER DOUBLE CLEAN-OUTS

NTS



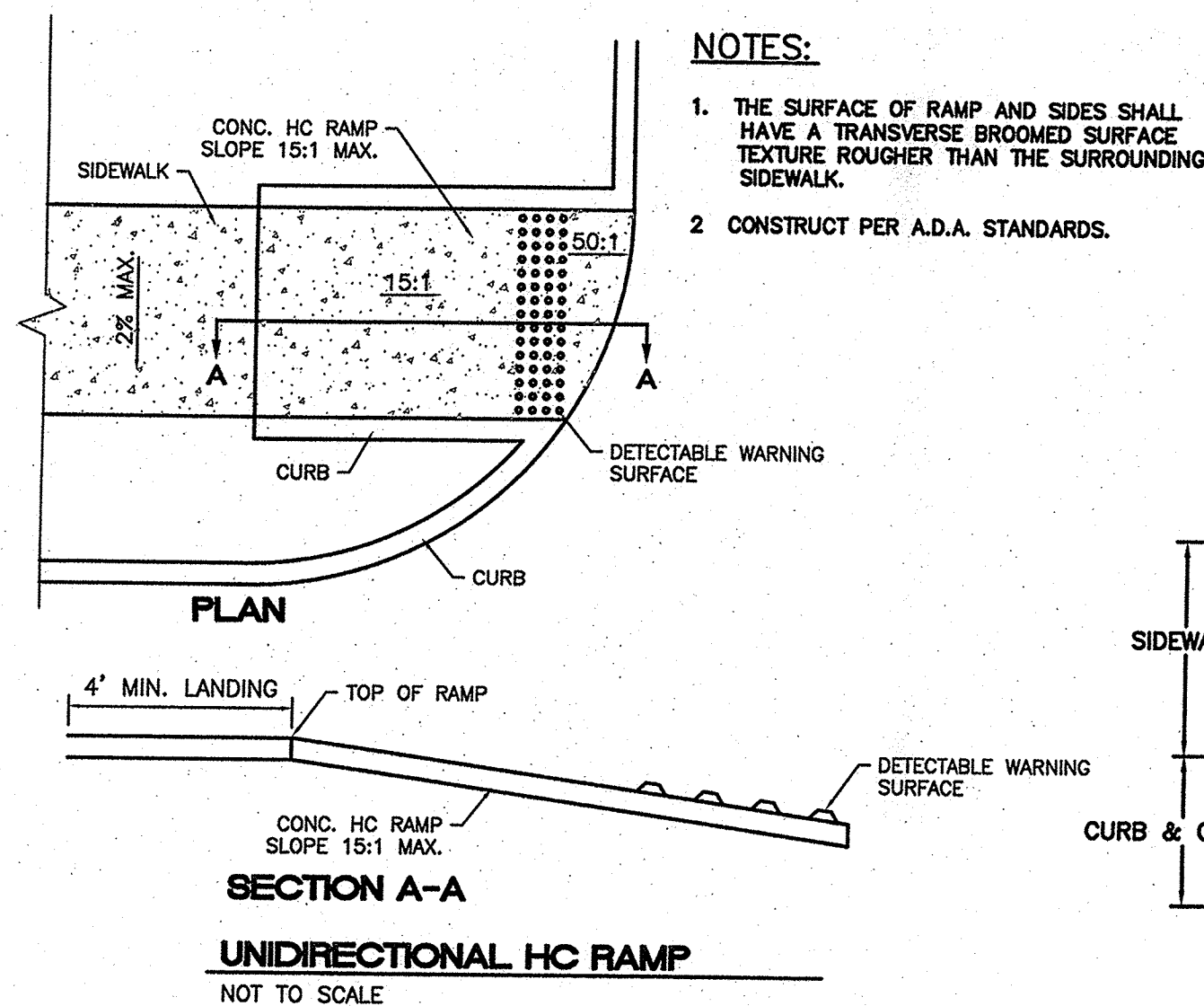
SANITARY SEWER CLEAN-OUT

NTS



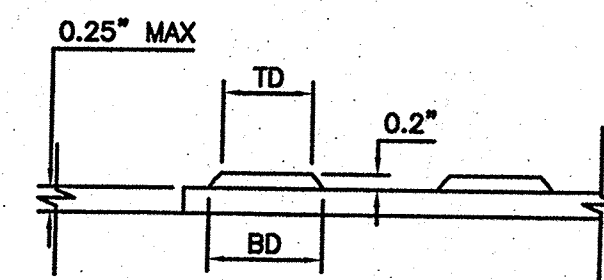
NDS SQUARE GRATE WITH ADAPTER

NTS



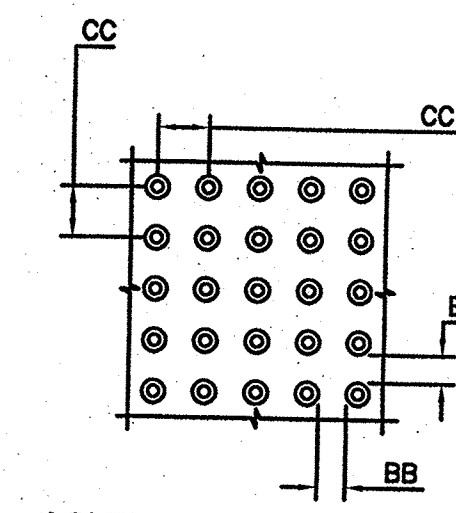
NOTES:

- THE SURFACE OF RAMP AND SIDES SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
- CONSTRUCT PER A.D.A. STANDARDS.



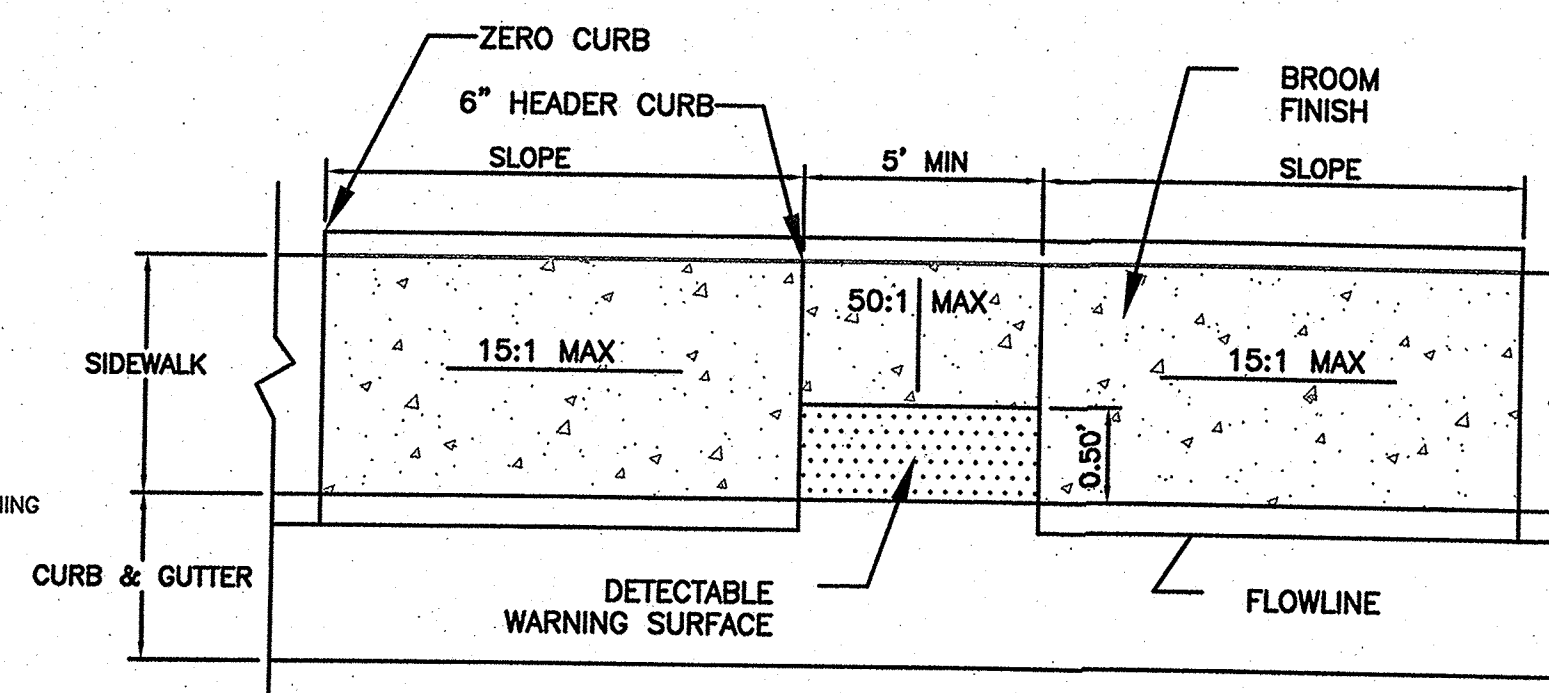
DOME SECTION

- BD - BASE DIAMETER 0.9" MIN
TD - TOP DIAMETER 50% OF BD MIN TO 65% OF BD MAX



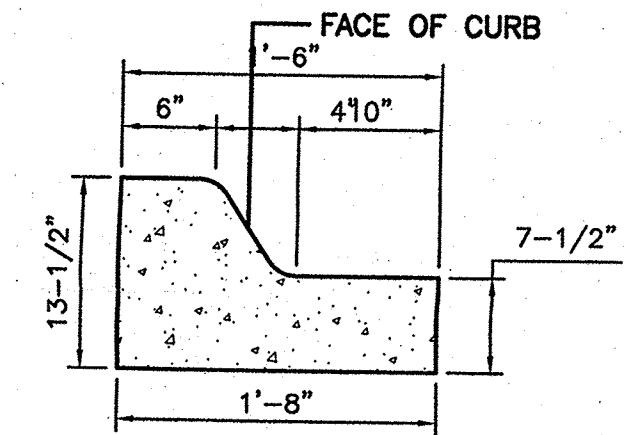
DOME SPACING

- CC - CENTER TO CENTER SPACING 2.35"
BB - BASE TO BASE SPACING 1.48" MIN



PARALLEL CURB HC RAMP

NOT TO SCALE

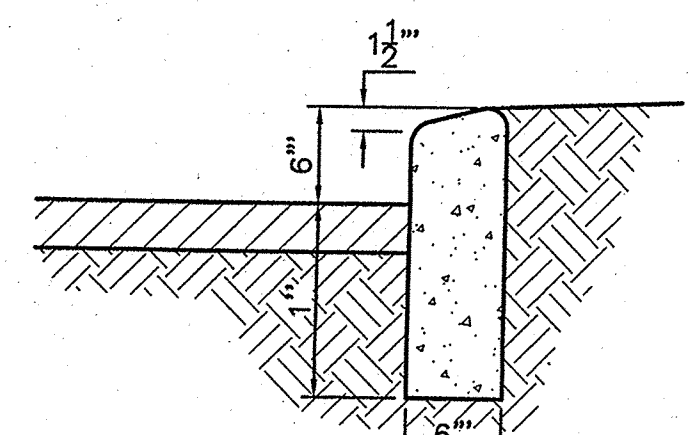


CURB GENERAL NOTES:

- ALL CURBS TO BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE, PER WAL-MART SPECIFICATIONS.
- PROVIDE CONTRACTION JTS. 12' MAX., SPACING, 1/2" EXP. JTS. AT CURB RETURNS AND AT A MAX. SPACING OF 120' BETWEEN CURB RETURNS AND EACH SIDE OF SEPARATELY CONSTRUCTED DRIVEWAYS. CONTRACTION JTS., SHALL BE EITHER SAWS OR TOOLED A MINIMUM OF 1" DEEP AT FINISHED FACES.
- ALL EDGES SHALL BE EDGED WITH A 3/8" RADUIS EDGING TOOL.
- 1/4" ISOLATION JOINT SHALL BE PLACED BETWEEN SIDEWALK AND CURB WHEN CAST ADJACENT TO EACH OTHER.

STANDARD CURB / GUTTER

NTS



6" HEADER CURB DETAIL

NTS SEE COA STD DWG#2414

GENERAL NOTES:

- ALL CONCRETE IS TO BE 3000 PSI @ 28 DAYS.
- MINIMUM COMPACTION UNDER FOOTINGS IS TO BE 95% PER ASTM D 1557 FOR A DEPTH OF 12" MOISTURE CONTENT IS TO BE $\pm 2.0\%$.
- BACK-FILL AGAINST WALLS IS TO BE HAND-PLACED AND COMPACTED.
- ALL BARS ARE TO BE GRADE 60, ASTM 615.
- TRUSS TYPE DUR-O-WALL EVERY OTHER COURSE.
- DOWELS SHALL BE AT LEAST EQUAL IN SIZE AND SPACING TO V-BARS, SHALL PROJECT A MINIMUM OF 30 BAR DIA. INTO THE FILLED BLOCK CORES, AND SHALL EXTEND TO THE TOE OF THE FOOTING.
- USE EITHER EXPANSION JOINTS ON 20' CENTERS OR PILASTERS EVERY 16'.

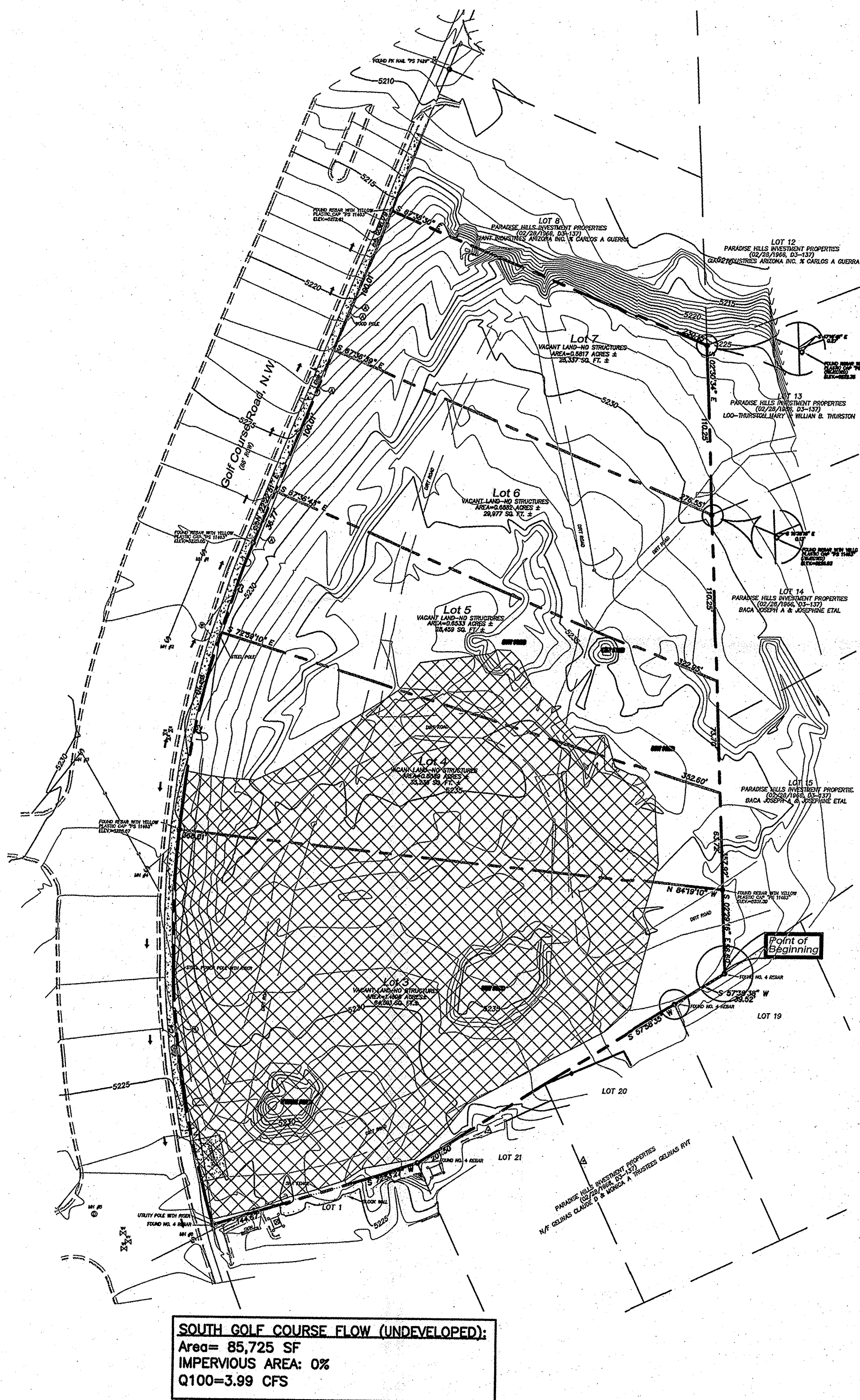
ENGINEER'S SEAL	SUNRISE SENIOR LIVING PARADISE HILLS PERMIT REVISION SET	DRAWN BY DFT
RONALD R. BOHANNAN P.E. #7868	DETAILS	DATE 5/9/08
	TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100	SHEET # C7
		JOB # 27109

RECEIVED

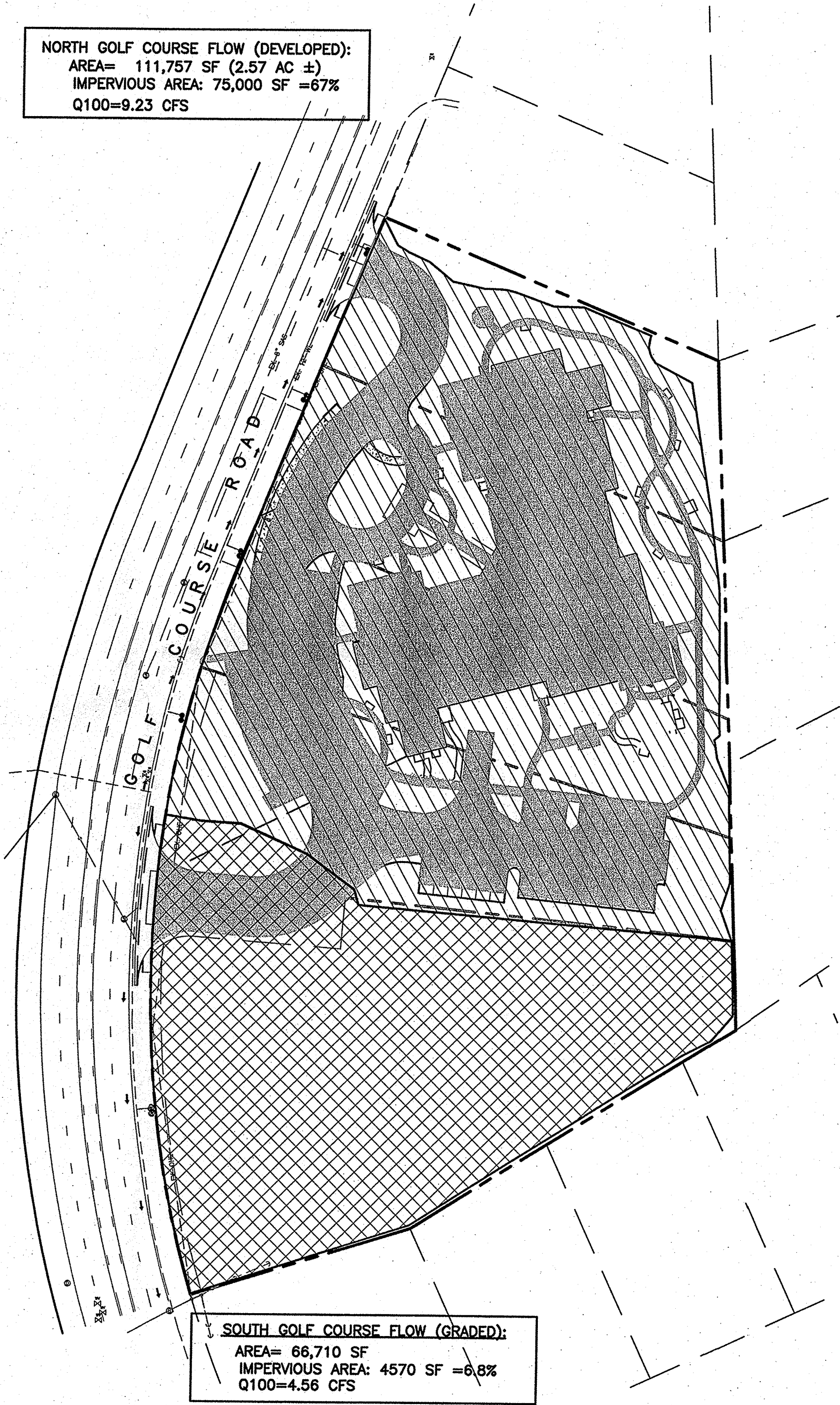
MAY 30 2008

HYDROLOGY SECTION

PRE-DEVELOPMENT MAP



POST-DEVELOPMENT MAP



LEGEND

- SOUTH GOLF COURSE RD TRIBUTARY AREA
- NORTH GOLF COURSE RD TRIBUTARY AREA
- PROPOSED IMPERVIOUS AREA
- FLOW DIRECTION

GRAPHIC SCALE

0 30 60 90 120

SCALE: 1"=60'

 RONALD R. BOHANNAN P.E. #7868	SUNRISE PARADISE HILLS	DRAWN BY ---
		DATE 05-15-08
	Pre-Post Hydrology	HYDRO AREAS
	 TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100	SHEET # H-1 JOB # 27109

RECEIVED

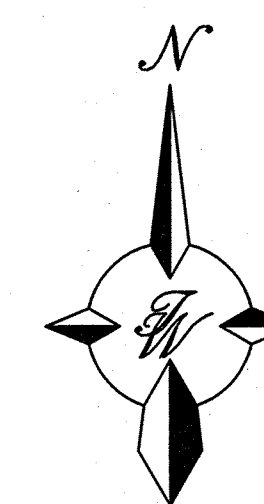
MAY 30 2008

HYDROLOGY
SECTION

This site plan illustrates a proposed development for a 1400B address, located adjacent to a golf course. The plan features several lots, each with its area in square feet (SF) and capacity in cubic feet per second (CFS) indicated in a box. The lots are labeled as follows:

- Lot 1: 2280 SF, 0.11 CFS
- Lot 2: 1190 SF, 0.24 CFS
- Lot 3: 1458 SF, 1.48 CFS
- Lot 4: 1005 SF, 0.81 CFS
- Lot 5: 1178 SF, 1.00 CFS
- Lot 6: 895 SF, 0.62 CFS
- Lot 7: 1612 SF, 0.08 CFS
- Lot 8: 2298 SF, 2.31 CFS
- Lot 9: 1030 SF, 0.89 CFS
- Lot 10: 1862 SF, 1.58 CFS
- Lot 11: 4898 SF, 3.05 CFS
- Lot 12: 1275 SF, 0.24 CFS

The plan also shows a golf course to the left, with a "GOLF COURSE ROAD" and "COURSE ROAD" running along its edge. A "Curb Out" is indicated near the road. The site is bounded by a "Proposed Boundary" and a "Proposed Road". The plan includes a "Proposed 1400B Address" and a "Proposed 1400B Address" with a "Proposed 1400B Address" and a "Proposed 1400B Address". The plan also shows a "Proposed 1400B Address" and a "Proposed 1400B Address".



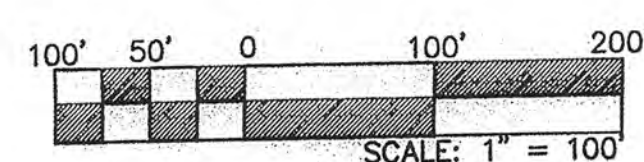
SCALE: 1"=40'

ENGINEER'S SEAL	PROJECT NAME		DRAWN BY ---
 JOEL D. HERNANDEZ P.E. #17893 RONALD R. BOHANNAN P.E. #7868	PROJECT LOCATION		DATE 06-04-08
	Developed Hydrology		HYDRO AREAS
	 <u>TIERRA WEST, LLC</u> 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100		SHEET # H-2 JOB # 27054



MATCHLINE SEE PLATE 2

DRAINAGE BASIN PLAN



LEGEND

-
- | | |
|-------------|--------------------|
| F.2 | BASIN DESIGNATION |
| AP-9 | ANALYSIS POINT |
| ————— | BASIN BOUNDARY |
| - - - - - | SUB-BASIN BOUNDARY |
| —————> | FLOW DIRECTION |

59961

 **Smith Engineering Company**
A Full Service Engineering Company

6400 Uptown Boulevard, N.E. Suite 5008 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE:	IRVING/GOLF COURSE TRANSPORTATION IMPROVEMENTS
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Design Review Committee	City Engineer Approval	Least Design Update	No. / Day / Yr.	No. / Day / Yr.
City Project No. 5894.91	Zone Map No. B-12.13	Sheet PLATE 1 of		

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