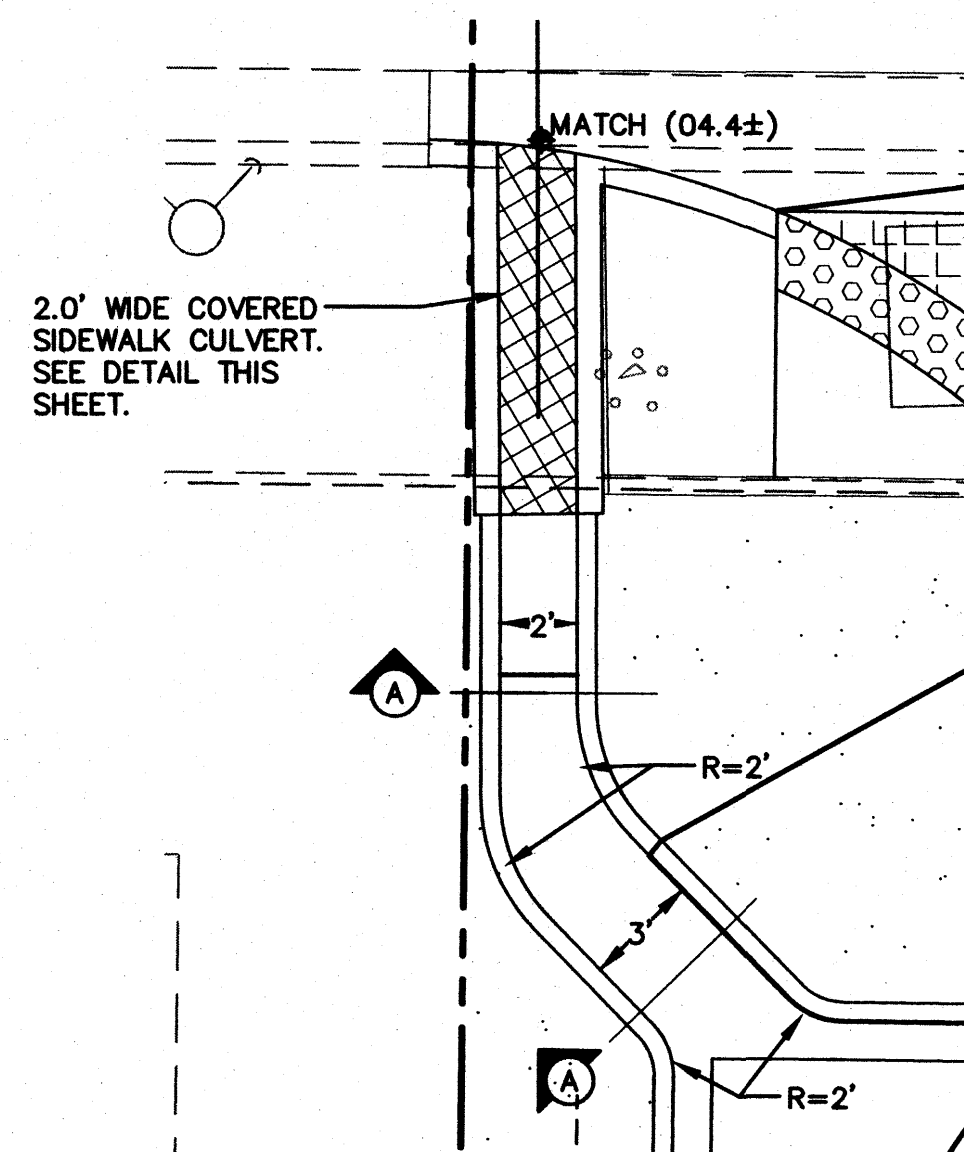


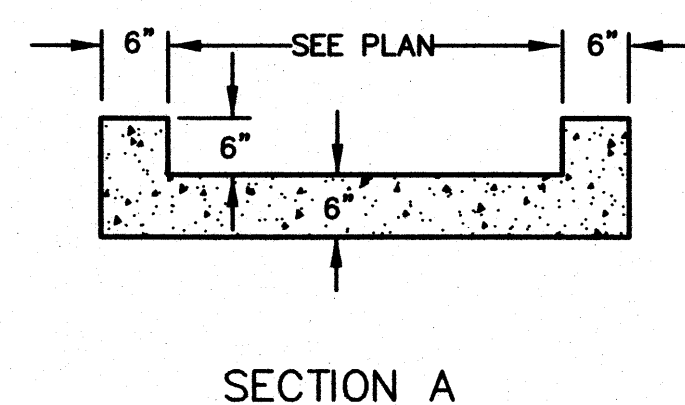
# ROOF DRAIN DISCHARGE NOTES AND DETAILS

SCALE: N.T.S.



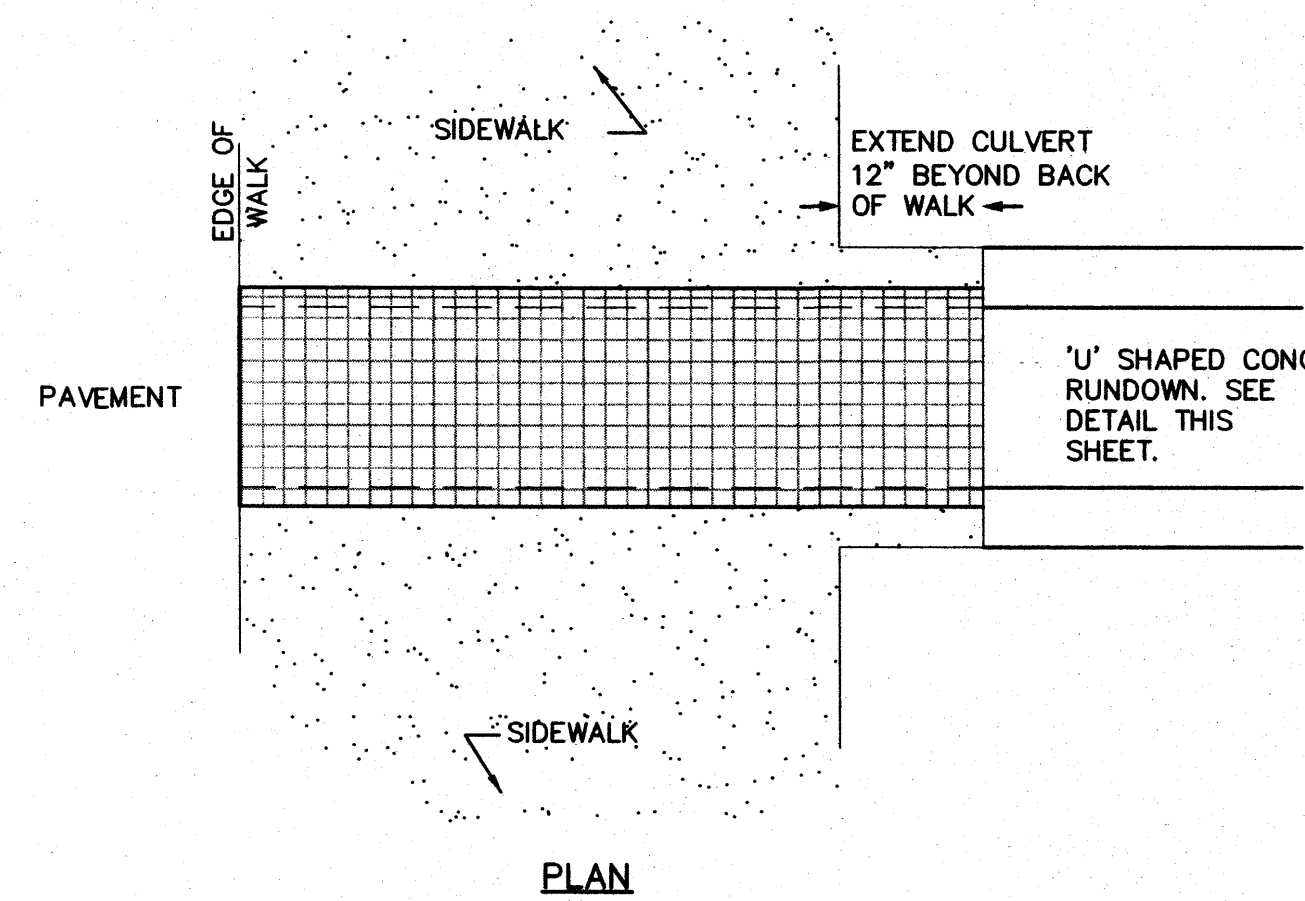
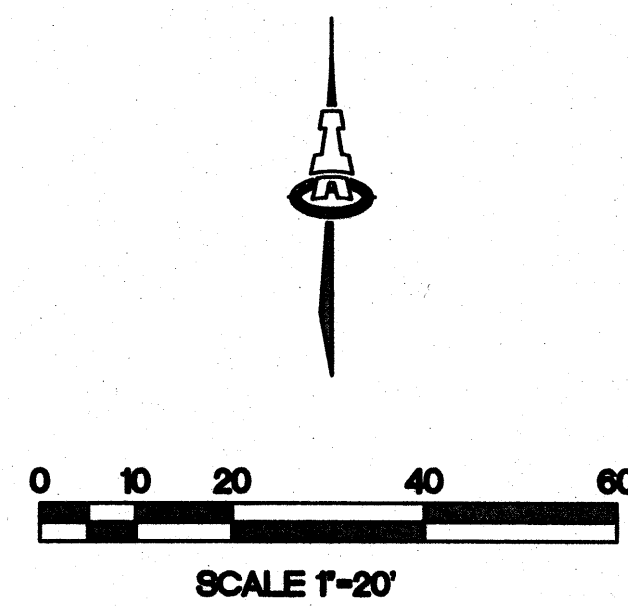
## GENERAL NOTES

- SMOOTH ALL EDGES WITH A 3/8" EDGING TOOL.
- REQUIRES FULL FORM ON ALL FACES.
- CONSTRUCTION CONTROL JOINTS AT 6' O.C. MAX.



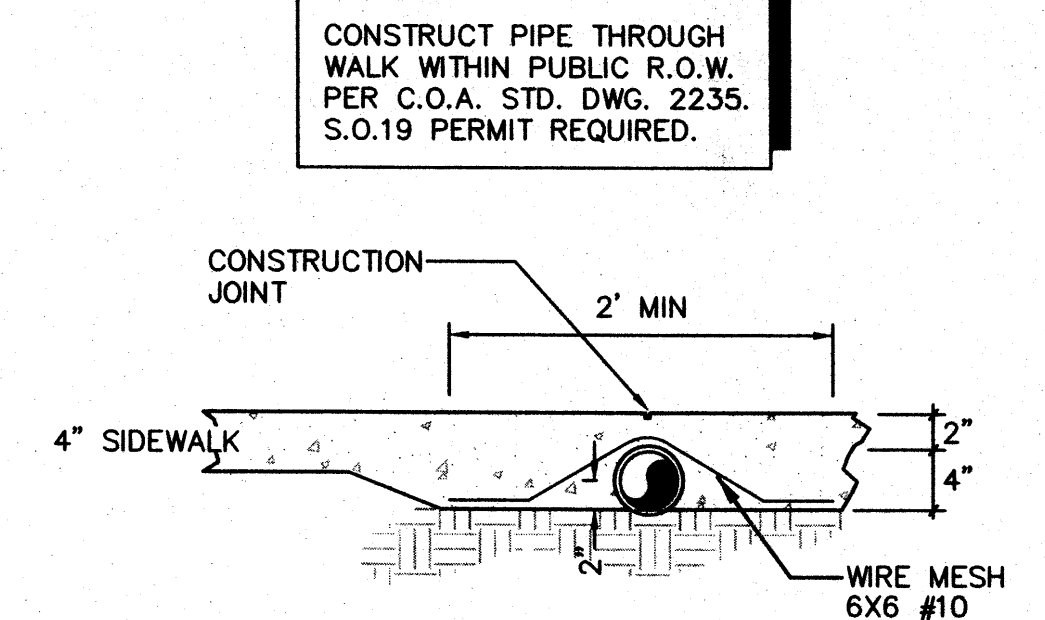
# 'U' SHAPED CONCRETE RUNDOWN

SCALE: N.T.S.



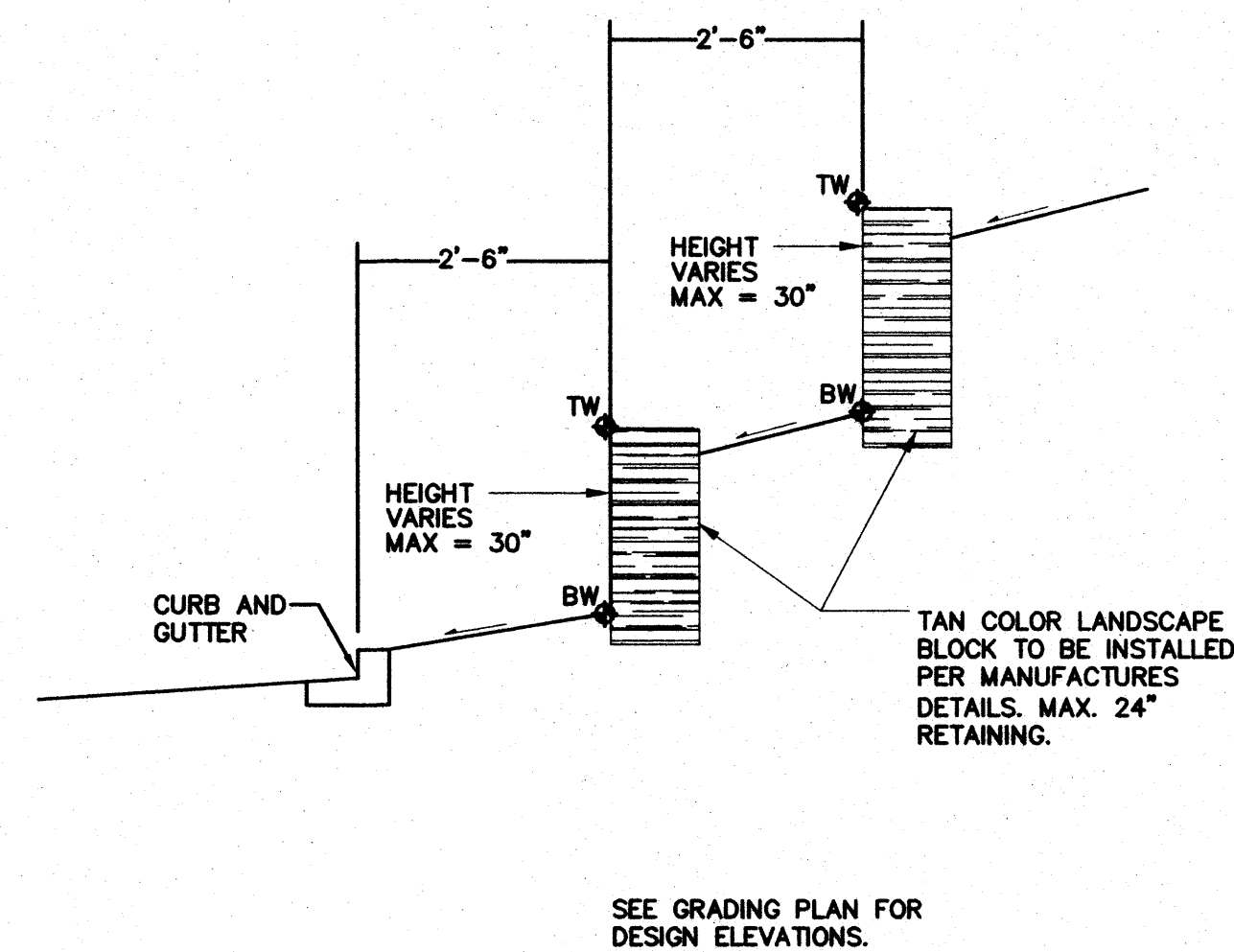
# COVERED SIDEWALK CULVERT

SCALE: N.T.S.



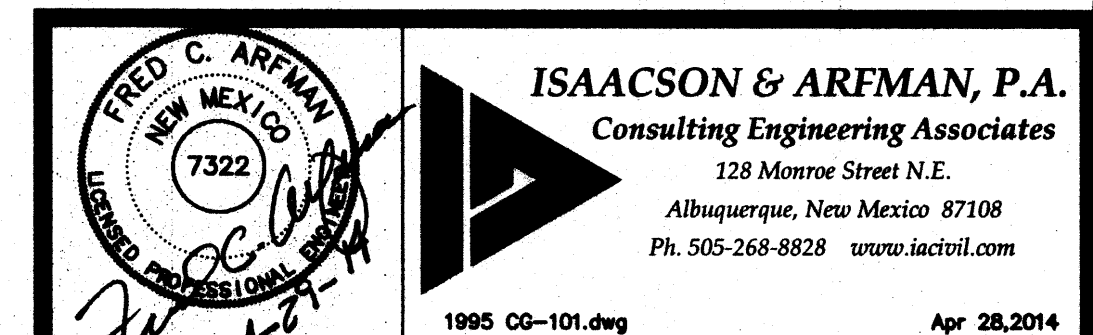
# PIPE THROUGH WALK

SCALE: N.T.S.



# LANDSCAPE BLOCK TERRACING

SCALE: N.T.S.

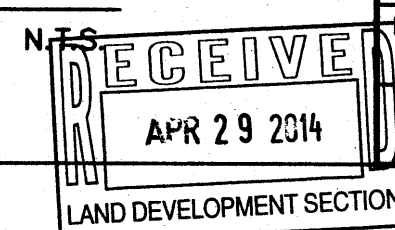


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## DENNY'S RESTAURANT BROADSTONE TOWN CENTER

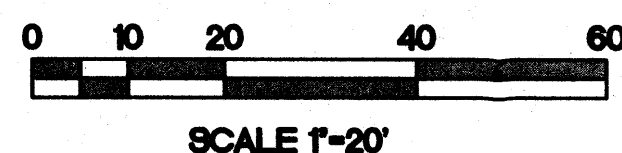
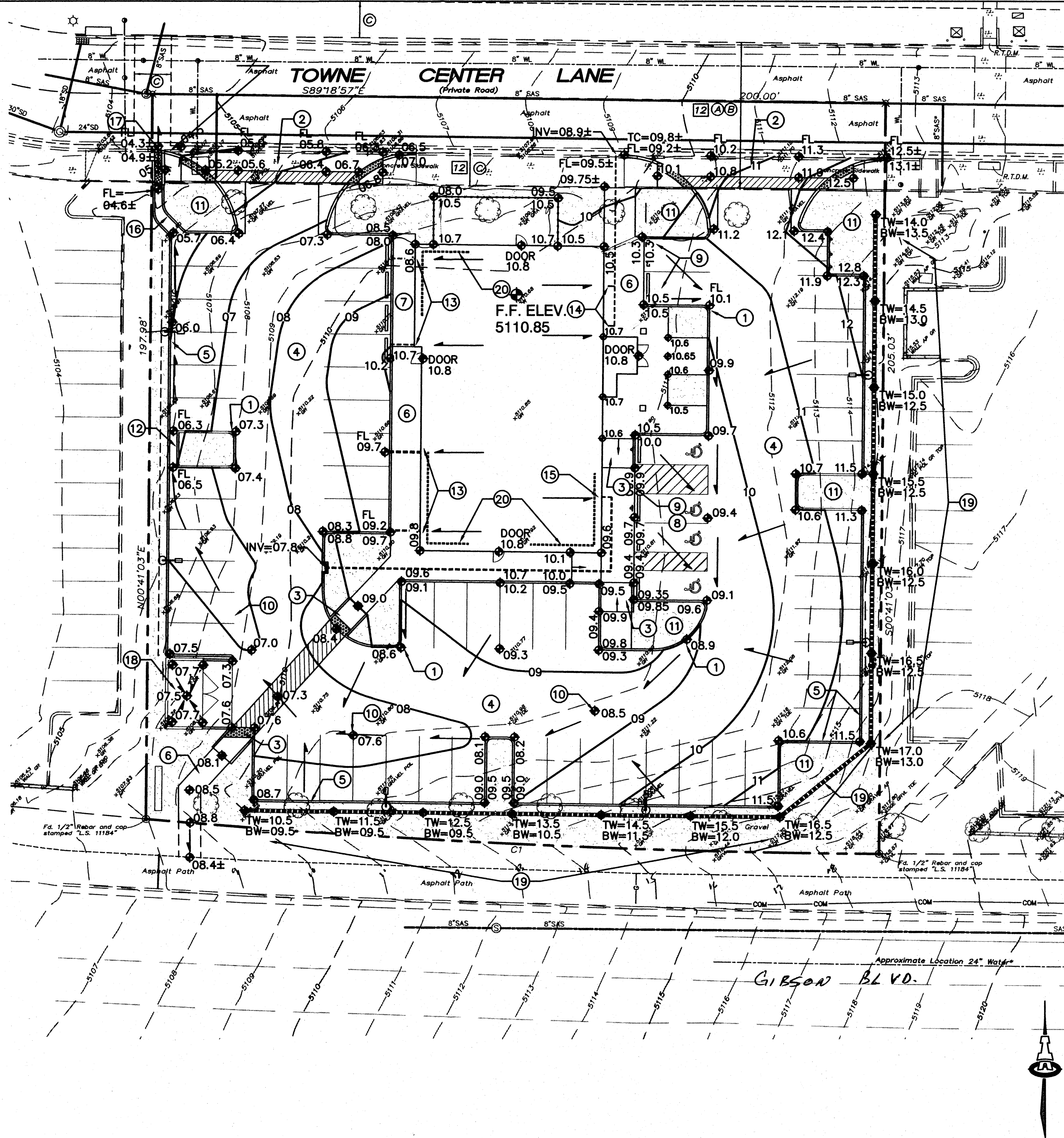
## GRADING AND DRAINAGE DETAILS

Date:	Rev.	Revision	Date	Job No.
1/31/14				1995
Drawn By:	BJB			CG-501
Check By:	FCA			



L15-0055C





## KEYED NOTES

- SPOT ELEVATIONS WITHIN PAVEMENT AREA REPRESENT FLOWLINE UNLESS NOTED. ADD 0.5' TYPICAL FOR TOP OF CURB AND TOP OF ADJACENT WALK ELEVATIONS.
- CONSTRUCT NEW PRIVATE ENTRANCE DRIVE WITH CONCRETE VALLEY GUTTER AND HANDICAP RAMPS EACH SIDE. PER C.O.A. STD. DWGS. 2426 AND 2420.
- CONSTRUCT ON-SITE HANDICAP RAMP PER ADA GUIDELINES.
- CONSTRUCT ASPHALT PAVING AT ELEVATIONS SHOWN. SEE PAVING PLAN FOR PARKING LAYOUT, SIGNAGE, PAVING DETAILS AND FOR ADDITIONAL INFORMATION.
- CONSTRUCT 6" HIGH MEDIAN CURB AND GUTTER AT ALL ON-SITE LOCATIONS UNLESS NOTED OTHERWISE. SEE CP-101.
- CONSTRUCT CONCRETE WALK. CROSS-SLOPE = 2%.
- NON-ADA ACCESSIBLE WALK THIS AREA DUE TO REQUIRED PAVEMENT GRADE TRANSITIONS.
- SLOPES WITHIN HANDICAP PARKING AREA TO MEET ADA REQUIREMENTS. MAX. SLOPE = 2% IN ANY DIRECTION.
- TOP OF ASPHALT TO BE FLUSH WITH TOP OF CONCRETE WALK THIS AREA.
- PROVIDE SWALE WITHIN NEW ASPHALT AT FLOWLINE ELEVATIONS SHOWN TO DIRECT FLOW (MIN. 1% SLOPE).
- DEPRESS ALL LANDSCAPING TO CREATE WATER HARVESTING BASINS. FLOW IN EXCESS OF BASIN CAPACITY WILL DISCHARGE TO PAVEMENT. NOTE: NO WATER HARVESTING SHALL OCCUR WITHIN 10' OF THE BUILDING.
- PROVIDE 2' WIDE (BOTTOM WIDTH) 'U' SHAPED CONCRETE CHANNEL THROUGH PARKING ISLAND TO PASS FLOW. MIN. SLOPE = 1%.
- BUILDING ROOF DISCHARGE THIS AREA TO BE PIPED THROUGH WALK AND RELEASED AT FACE OF CURB. OWNER'S OPTION: INSTALL 12" WIDE COVERED SIDEWALK CULVERT TO PASS FLOW TO PAVEMENT.
- BUILDING ROOF DISCHARGE THIS AREA TO BE COLLECTED WITHIN STORM DRAIN SYSTEM AND RELEASED AT FACE OF CURB TO TOWNE CENTER LANE.
- BUILDING ROOF DISCHARGE THIS AREA TO BE COLLECTED WITHIN STORM DRAIN SYSTEM AND RELEASED THROUGH FACE OF CURB AS SHOWN.
- CONSTRUCT 'U' SHAPED CONCRETE CHANNEL THROUGH LANDSCAPING TO PASS CONCENTRATED FLOW TO TOWNE CENTER LANE. SEE DETAIL THIS SHEET.
- CONSTRUCT 24" WIDE CONCRETE SIDEWALK CULVERT PER C.O.A. STD. DWG. 2236.
- CONSTRUCT NEW CONCRETE DUMPSTER PAD AND ENCLOSURE AT ELEVATIONS SHOWN. INSTALL AREA DRAIN AT LOW POINT OF DUMPSTER PAD WITH CONNECTION TO SANITARY SEWER LINE. SEE UTILITY PLAN FOR ADDITIONAL INFORMATION.
- CONSTRUCT RETAINING WALL (MAXIMUM 4' RETAINING) ALONG EAST AND SOUTH PROPERTY LINES. STRUCTURAL DESIGN BY OTHERS.
- DASHED LINE REPRESENTS EXTENTS OF EXTENDED STEMWALL (GRADE OUTSIDE BLDG. > 6" BELOW F.F.). SEE ARCHITECTURAL.

## GENERAL NOTES

- COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, AND LANDSCAPE PLAN.
- ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFF-SITE.
- ALL SUBGRADE, OVEREXCAVATION, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.
- FINAL GRADES SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
- EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. 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.
- THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NPDES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT.
- ADJUST RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES, TYPICAL.
- ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. WHERE NEW GRADES ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS BETWEEN NEW AND EXISTING SHALL BE SMOOTH AND LEVEL.
- ALL EROSION PROTECTION SHALL BE FRACTURED FACE ROCK (F.F. ROCK) 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.). NOTE: PERMANENT TURF REINFORCEMENT MATERIAL (LANDLOK TRM 450 O.E.) MAY BE SUBSTITUTED AT ALL AREAS REFERENCING F.F. ROCK EROSION PROTECTION.
- SIDESLOPES STEEPER THAN 3:1 BUT LESS THAN 2:1 MUST HAVE PERMANENT EROSION CONTROL (F.F. ROCK OR LANDLOK TRM 450 O.E.) INSTALLED, TYPICAL. NO SLOPE SHALL BE STEEPER THAN 2:1.
- ENGINEER RECOMMENDS THAT OWNER MAINTAIN EROSION PROTECTION ELEMENTS. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

## DRAINAGE CONCEPT

THE PROPOSED IMPROVEMENTS CONSIST OF A RESTAURANT BUILDING AND OUTDOOR PATIO AREA WITH ASSOCIATED PAVED PARKING AND LANDSCAPING. RETAINING WALLS WILL BE REQUIRED ALONG THE EAST AND SOUTH SIDES OF THE PROPERTY TO ACHIEVE PARKING GRADES.

PER THE MASTER DRAINAGE PLAN FOR TOWNE CENTER PREPARED BY HIGH MESA CONSULTING GROUP, TRACT 4 WILL DRAIN TO TOWNE CENTER LANE. THE MAJORITY OF THE PROPOSED DEVELOPMENT WILL ROUTE STORMWATER THROUGH THE PROPOSED PAVED PARKING LOT TO FREE DISCHARGE TO TOWNE CENTER LANE VIA A COVERED SIDEWALK CULVERT (TO BE CONSTRUCTED WITH THIS PROJECT) AT THE NORTHWEST CORNER OF THE PROPERTY TO ENTER THE EXISTING PUBLIC STORM DRAIN SYSTEM WITHIN TOWNE CENTER LANE.

A PORTION OF NE ROOF AREA WILL DISCHARGE VIA A PIPE TO TOWNE CENTER LANE (THROUGH FACE OF CURB WEST OF EAST ACCESS DRIVE).

ALL LANDSCAPED PARKING ISLANDS WILL BE DEPRESSED WHERE POSSIBLE TO CAPTURE STORMWATER FOR WATER HARVESTING.

CALCULATIONS: DENNY'S BROADSTONE : Sept. 25, 2013

Based on Drainage Design Criteria for City of Albuquerque  
Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE CALCULATIONS: 100-YEAR, 6-HOUR STORM

AREA OF SITE: 40604 SF = 0.9

DEVELOPED FLOWS:

	Treatment SI	%	EXCESS PRECIP:
Area A	0	0%	Precip. Zone 2
Area B	2030	5%	E <sub>A</sub> = 0.53
Area C	4060	10%	E <sub>B</sub> = 0.78
Area D	34513	85%	E <sub>C</sub> = 1.13
Total Area	40604	100%	E <sub>D</sub> = 2.12

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

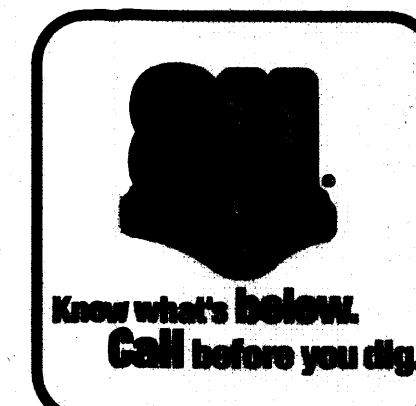
$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$
$$\text{Developed E} = 1.95 \text{ in.}$$

$$\text{On-Site Volume of Runoff: } V_{360} = \frac{E^* A}{12}$$
$$\text{Developed } V_{360} = 6612 \text{ CF}$$

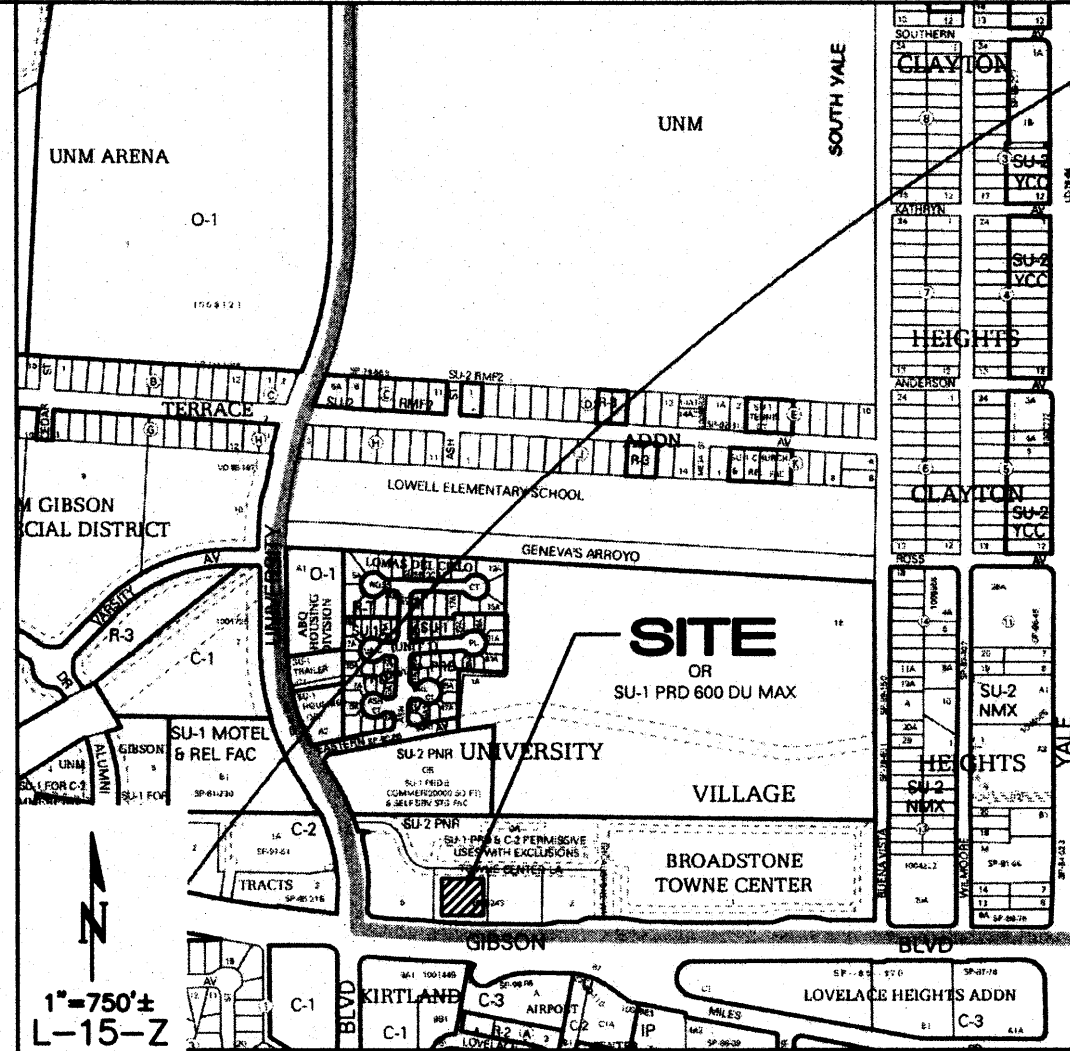
$$\text{On-Site Peak Discharge Rate: } Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D / 43,560$$

For Precipitation Z<sub>2</sub>

Q <sub>pA</sub>	= 1.56	Q <sub>pC</sub>	= 3.14
Q <sub>pB</sub>	= 2.28	Q <sub>pD</sub>	= 4.70
		Developed Q <sub>p</sub>	= 4.1 CFS



## VICINITY MAP



## PROJECT DATA

PROPERTY: THE SITE IS AN UNDEVELOPED COMMERCIAL PROPERTY LOCATED WITHIN CITY OF ALBUQUERQUE ZONE MAP L-15. THE SITE IS BOUND TO NORTH BY TOWNE CENTER ACCESS ROAD, TO THE EAST AND WEST BY DEVELOPED COMMERCIAL PROPERTY, AND TO THE SOUTH BY GIBSON BLVD NE.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE THE CONSTRUCTION OF A NEW RESTAURANT FACILITY WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, AND LANDSCAPING.

LEGAL: LOT 4, BROADSTONE TOWN CENTER, CITY OF ALBUQUERQUE, NM

AREA: 40,604 SF (0.93 ACRE)

BENCHMARK: VERTICAL DATUM IS BASED UPON THE ALBUQUERQUE CONTROL SURVEY MONUMENT "7-L15", ELEVATION = 5164.135 FEET (NAVD 1988).

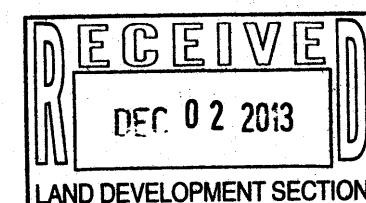
OFF-SITE: NO OFF-SITE FLOW IMPACTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001C0342G, THE SITE IS LOCATED WITHIN FLOODZONE 'X' (UNSHADED) DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

SURVEYOR: RUSS P. HUGG  
SURV-TEK INC.  
9384 VALLEY VIEW DRIVE, N.W.  
ALBUQUERQUE, NM 87114  
PHONE: 505-897-3366

## LEGEND

EXISTING SPOT ELEVATION
PROPOSED SPOT ELEVATION AT TRANSITION TO EXISTING
PROPOSED SPOT ELEVATION
FLOW DIRECTION
PROPOSED 1' CONTOUR
PROPOSED 0.5' CONTOUR
FINISH FLOOR ELEVATION
GRADE BREAK



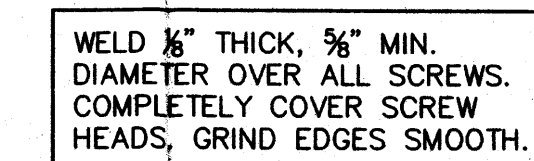
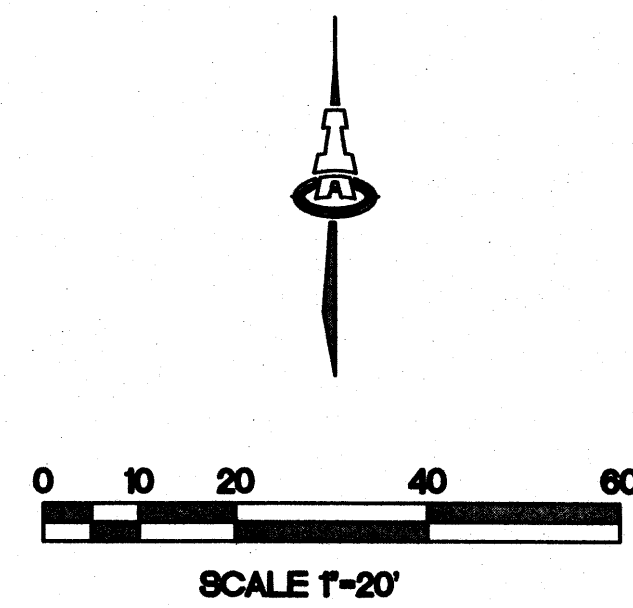
ISAACSON & ARFMAN, P.A.  
Consulting Engineering Associates  
128 Monroe Street N.E.  
Albuquerque, New Mexico 87108  
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## DENNY'S RESTAURANT BROADSTONE TOWN CENTER

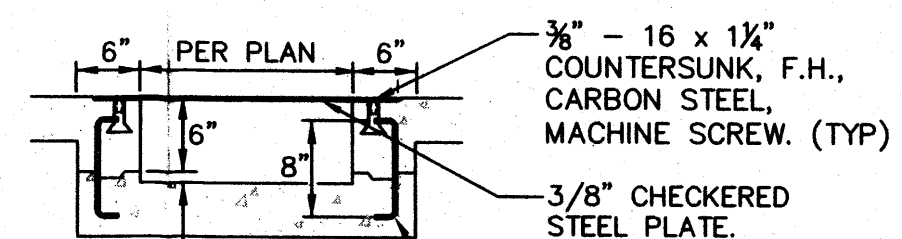
## GRADING AND DRAINAGE PLAN

Date:	No. Revision	Date	Job No.
12/02/13			1995
Drawn By:			CG-101
Check By:			
FCA			





FOR SECURING PLATE USE 1"X5" S.S.  
ROD ANCHOR, "RED HEAD MULTI-SET II  
SRM-38 ANCHOR" OR APPROVED  
EQUAL. INSTALL PER MANUFACTURER'S  
INSTRUCTIONS AT MAX. 24" O.C., A  
MINIMUM OF 2 PER SIDE AND ONE  
WITHIN 6" OF EACH END.

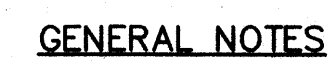


USE NO. 3 DEFORMED BAR—  
DOWELS. SPACE DOWELS AT 18"  
O.C. MAXIMUM. 1-1/2" MINIMUM  
FROM FACE OF CONCRETE

SECTION A-A

SCALE: N.T.S.

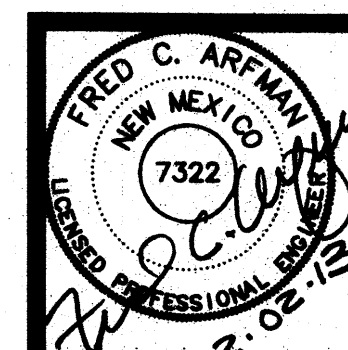
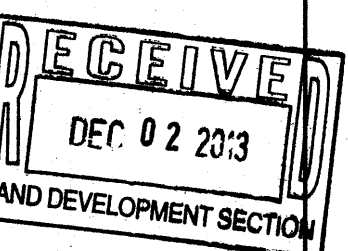
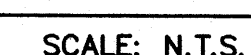
SCALE: N.T.S.



1. SMOOTH ALL EDGES WITH A 3/8" EDGING TOOL.
2. REQUIRES FULL FORM ON ALL FACES.
3. CONSTRUCTION CONTROL JOINTS AT 6' O.C. MAX.



SCALE: N.T.S.



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1995 CG-101.dwg Dec 02, 2013

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## GRADING AND DRAINAGE DETAILS

Date:	No.	Particulars	Date	Job No.
12/02/13				1995
Drawn By:				CG-501
BJB				
Ckd By:				
FCA				