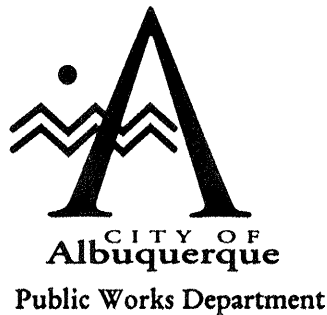




Martin J. Chávez, Mayor

Robert E. Gurulé, Director

February 21, 1997

Joe Kelley
Chavez-Grievess Engineering
5639 Jefferson NE
Albuquerque, New Mexico 87109

RE: DRAINAGE PLAN FOR SOLID WASTE FUELING FACILITY (G15-D29A)
ENGINEER'S STAMP DATED 2/13/97

Dear Mr. Kelley:

Based on the information provided on your February 3, 1997 submittal, the above referenced site is approved for Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, Engineer Certification per the DPM checklist will be required prior to release of the Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me 924-3986.

C: Andrew Garcia
Suzanne Busch
File

Sincerely

Bernie J. Montoya
Bernie J. Montoya CE
Engineering Associate

Good for You, Albuquerque!

P.O. Box 1293, Albuquerque, New Mexico 87103



DRAINAGE INFORMATION

PROJECT TITLE: Solid Waste Fueling Facility ZONE ATLAS/DRNG. FILE #: G-15 D 029A
DRB#: _____ EPC #: _____ WORK ORDER #: 4350.90
LEGAL DESCRIPTION: _____
CITY ADDRESS: _____
ENGINEERING FIRM: Chavez-Grieves CONTACT: Joe Kelley
ADDRESS: 5639 Jefferson NE PHONE: 344-4080
OWNER: City of Albuquerque CONTACT: Suzanne Busch
ADDRESS: _____ PHONE: 768-3616
ARCHITECT: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
SURVEYOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CONTRACTOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT
☐ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☐ OTHER

PRE-DESIGN MEETING:

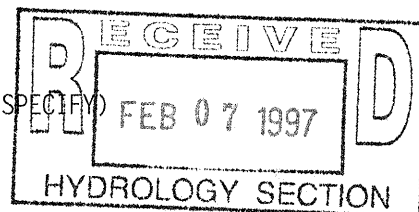
☐ YES
☐ NO
☐ COPY PROVIDED

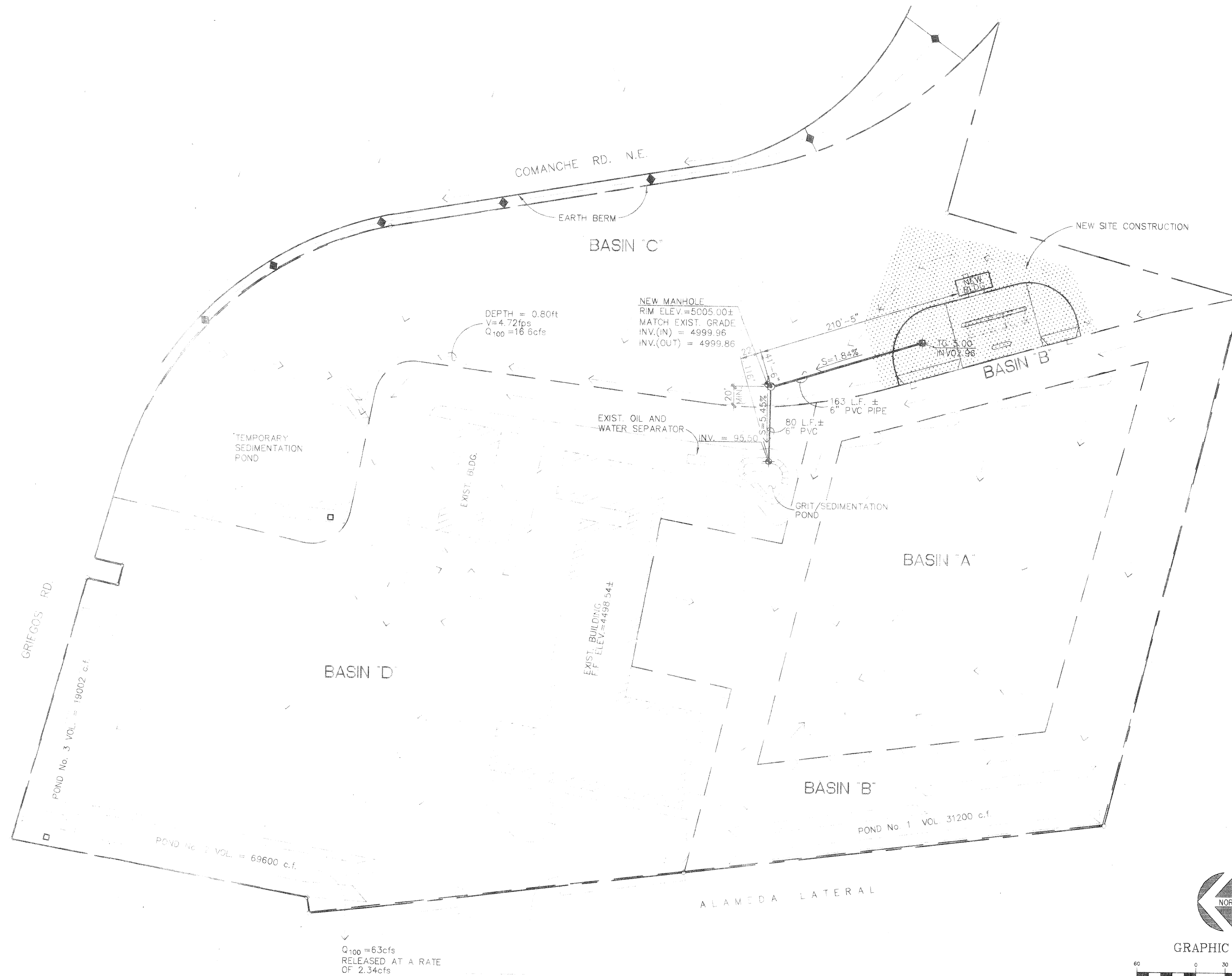
CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☐ S. DEV. PLAN FOR BLDG. PRMT. APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: Feb. 6, 1997

BY: Joe Kelley, P.E.





VICINITY MAP			G-15-Z		
LEGAL DESCRIPTION			LEGEND		
A CERTAIN TRACT OF LAND WITH-IN THE CITY OF ALBUQUERQUE SOLID WASTE FACILITY			NEW CONSTRUCTION EXIST. CONSTRUCTION DIRECTION OF FLOW DRAINAGE BASIN BOUNDARY PROPERTY LINE EXIST. STORM DRAIN		
ABBREVIATED NOTES			NOTE:		
DI DUCTILE IRON PVC POLYVINYL CHLORIDE RCP REINFORCED CONCRETE PIPE N.P. NINE FEET LF LINEAL FEET TG TOP OF GRADE FF FINISHED FLOOR			100- ϕ FLOW RATES, VOLUMES STORM DRAIN SIZES, AND POND VOLUMES ARE FROM ADVANCED SCIENCES, INC. "DRAINAGE REPORT FOR THE CITY OF ALBUQUERQUE SOLID WASTE MANAGEMENT FACILITY (OLD N.C. RIBBLE SITE), EDITH AND COMANCHE (GRIEGOS, ALBUQUERQUE, NEW MEXICO) DATED MAY 1987 AND ADDENDUM NO.1 DATED OCTOBER 3, 1987		
ENGINEER'S SEAL			RECEIVED FEB 28 1997 HYDROLOGY SECTION		
SURVEY INFORMATION			REVISIONS		
FIELD NOTES			DESIGN		
NO. DATE			REMARKS		
BY			BY		
DESIGNED: J. P. KELLEY			DATE: 11-29-95		
DRAWN BY: R. F. CASAS			DATE: 11-29-95		
CHECKED BY: V. J. CHAVEZ			DATE: 11-29-95		
AS BUILT INFORMATION			MICRO-FILM INFORMATION		
CONTRACTOR			RECORDED BY		
STARTED BY			DATE		
INSPECTOR'S			DATE		
FIELD BY			DATE		
VERIFICATION BY			DATE		
CORRECTED BY			DATE		

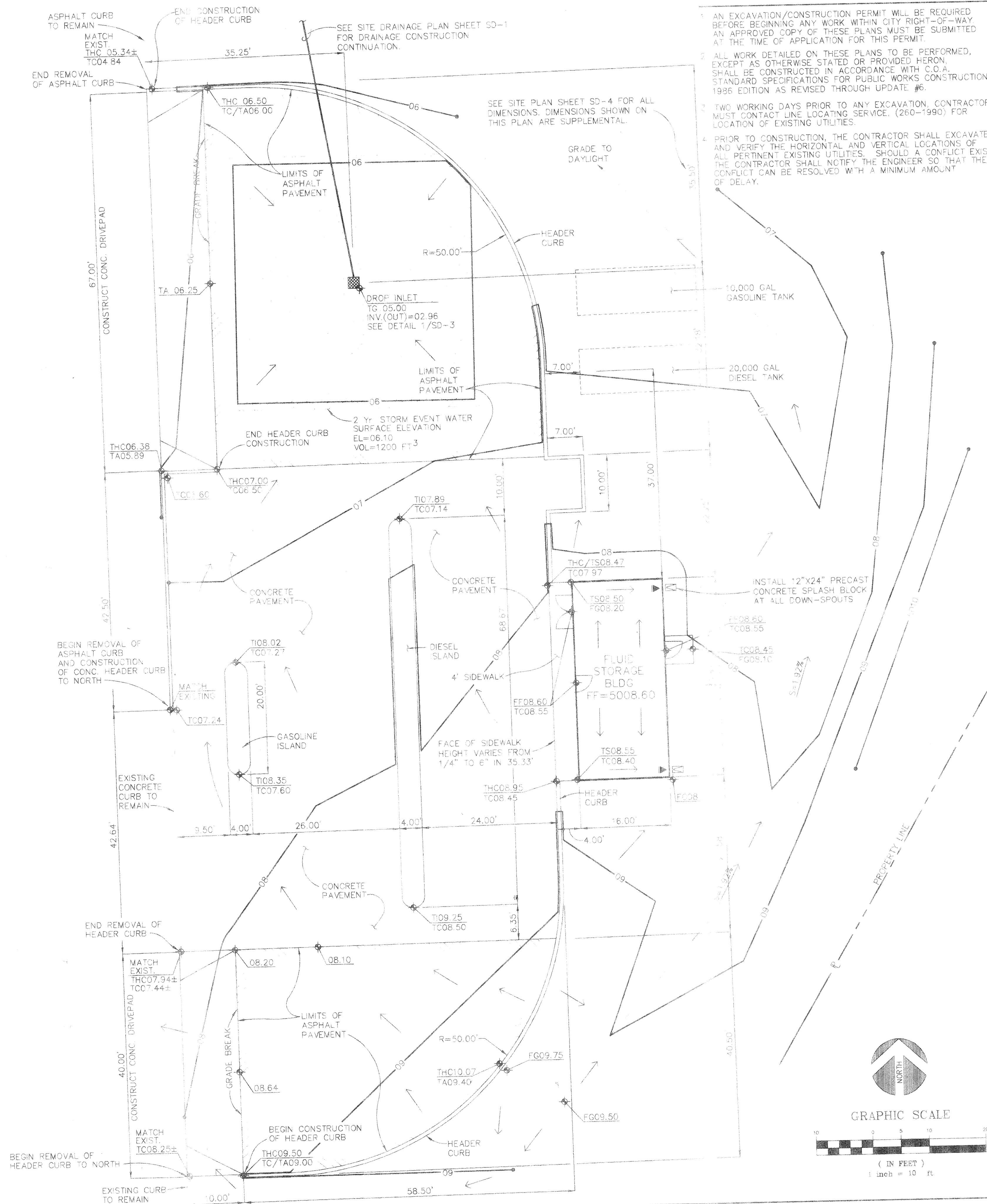
CHAVEZ • GRIEVES
CONSULTING ENGINEERS, INC.
5030 JEFFERSON STREET N.E. ALBUQUERQUE, NEW MEXICO 87109
PHONE (505) 344-4080 • FAX (505) 343-6789

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP
TITLE: SOLID WASTE MANAGEMENT DIVISION
FUELING STATION
SITE DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			Water		
Trans. Dev.			Wastewater		
Hydrology					
Const. Coord.					

DRAWING NO. 4350.90 MAP NO. G-15-Z SHEET SD-1 OF 1

NOTICE TO CONTRACTOR



5. THREE WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. THE CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (765-358-1551) PRIOR TO OCCUPYING PUBLIC RIGHT-OF-WAY. SEE SECTION 19 OF THE SPECIFICATIONS. ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED IN KIND BY CONTRACTOR TO LOCATION AND IN KIND AS EXISTING OR AS INDICATED BY THIS PLAN.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ✓ ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING
- ✓ BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
- ✓ TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE CITY ENGINEER.
- SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURN SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ✓ IF CURB IS DEPRESSIONED FOR A DRIVEPAD OR A HANDICAP RAMP, THE DRIVEPAD OR RAMP SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF THE CURB AND GUTTER.
- ✓ ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.

GENERAL NOTES

1. SEE SHEETS A1 AND A2 FOR BUILDING DETAILS.
2. SEE SHEET SD3 FOR CONCRETE AND ASPHALT PAVEMENT DETAILS.
3. CONTRACTOR MAY SUBSTITUTE CONCRETE PAVEMENT FOR ASPHALT PAVEMENT WITH PRIOR APPROVAL OF PROPOSED JOINT LAYOUT PLAN.

DRAINAGE PLAN NOTES

EXISTING CONDITIONS:

[illegible]

The site soils are Gila Complex (GF) which are classified as Hydrologic Soil Group B.

DEVELOPED CONDITIONS

The proposed development is approximately 0.2860 acres which will be entirely asphalt or concrete paved. Site drainage will be directed to the north and intercepted by a storm inlet which will discharge to an existing grit/sedimentation pond. This pond was designed for an existing treatment (sedimentation) of the pond influent and it was designed as a controlled inlet to the existing oil/water separator. The oil/water separator is designed to operate at a maximum inflow of 300 gpm or 0.67 of which is the capacity of the combined pond outlet and oil/water separator inlet structure.

This grading and drainage plan shows the water surface elevation at the fueling station storm inlet during a 2-year storm event. Storm events larger than a two year storm will cause overflow from the fueling station inlet and flow to the north area next to Pond No. 1. The 100-year storm event is assumed to cause inlet flows from storm events larger than the 2-year storm event will carry any surface contaminants and, since the storm inlet flows will be intercepted by the fueling facility storm inlet, it will be directed to the grit/sedimentation pond and then to the oil/water separator for treatment. Any subsequent flow exiting the fueling station site should be contained in the free area around the sedimentation pond and the grit/sedimentation pond should not impact the quality of the remaining Solid Waste. The fueling station site should be contained in the free area around the sedimentation pond and the grit/sedimentation pond should not impact the quality of the remaining Solid Waste.

DRAINAGE PLAN CALCULATIONS

Area = 0.2860 acres
I = 2.15 inches
6-hour, 100-year Rainfall = 2.35 inches
i = 5.05
Precipitation Zone = 2

EXISTING ON-SITE CONDITIONS:

LAND TREATMENT	"C" VALUE	A (ACRES)	"C" X A	"C"=CXA/A
A	0.31			
B	0.45			
C	0.62	2.860	0.1773	
D	0.93			
		<u>2.860</u>	<u>0.1773</u>	<u>0.62</u>

$$\begin{aligned} Q_{100} &= (0.62)(5.05)(0.2860) = 0.90 \text{ cfs} \\ Q_{10} &= (0.667)(0.90) = 0.60 \text{ cfs} \\ Q_2 &= (0.434)(0.90) = 0.39 \text{ cfs} \\ v_{100} &= (1.13)(0.2860) + 12 = 0.0269 \text{ Ac-Ft (1173 cf)} \\ v_{10} &= (0.667)(0.0269) = 0.0180 \text{ Ac-Ft (783 cf)} \\ v_2 &= (0.434)(0.0269) = 0.0117 \text{ Ac-Ft (509 cf)} \end{aligned}$$

PROCESSED ON-SITE CONDITIONS

LAND TREATMENT	"C" VALUE	A (ACRES)	"C" X A	"C" = C X A / A
A	0.31			
B	0.45			
C	0.62			
D	0.93	0.2860	0.2660	
		0.660	0.2660	0.93

$$\begin{aligned} Q_{100} &= \{0.93\} \{5.05\} \{0.2860\} = 1.31 \text{ cfs} \\ Q_{10} &= \{0.667\} \{1.34\} = 0.90 \text{ cfs} \\ Q_2 &= \{0.434\} \{1.34\} = 0.58 \text{ cfs} \\ v_{100} &= \{2.12\} \{0.2860\} + 12 = 0.0505 \text{ Ac-Ft (2201 cf)} \\ v_{10} &= \{0.667\} \{0.0505\} = 0.0337 \text{ Ac-Ft (1468 cf)} \\ v_2 &= \{0.424\} \{0.0505\} = 0.0214 \text{ Ac-Ft (933 cf)} \end{aligned}$$

NEW POND VOLUME:

$$V = \left[(20') (20') \left(\frac{1' + 1' + 1'}{2} \right) \right] + 1/2 (1') (11') \left[\frac{(4)(44) + (4)(20)}{2} \right]$$

$$V = 1134 \text{ ft}^3$$

Q = 1124 TC

Therefore, Volume Available (1124 ft³) > Volume Required (755 ft³)

STORM DRAIN CAPACITY:

$Q = 1.486 \frac{S^{0.54}}{n}$

A = Area = $\frac{\pi d^2}{4}$, where d = pipe diameter in feet

$\frac{0.52}{4} = 0.20 \text{ ft}$

R = Hydraulic Radius = $\frac{\text{Area}}{\text{wetted perimeter}} = \frac{\frac{\pi d^2}{4}}{\pi d} = \frac{d}{4}$

$= \frac{0.52}{4} = 0.125$

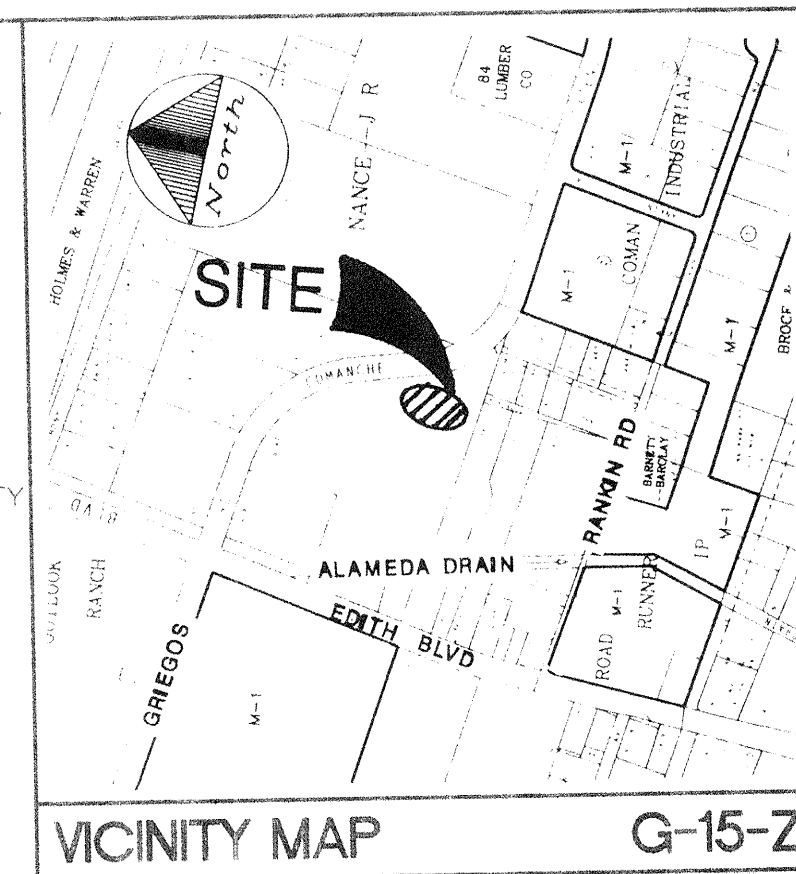
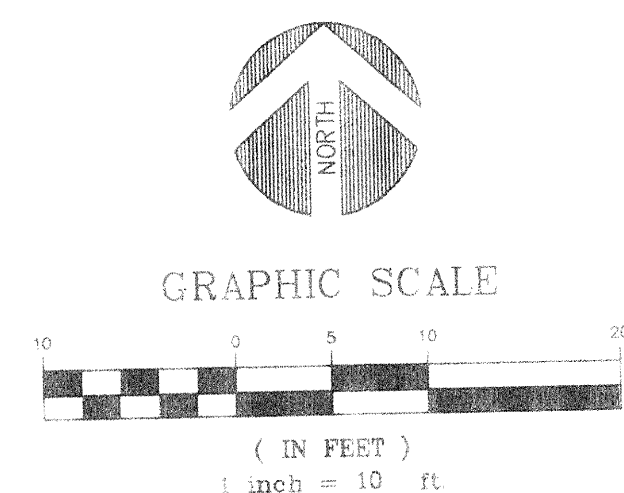
n = Manning's roughness coefficient.

= 0.011 for PVC (Assumed)

$S = 0.0184 \text{ ft/ft}$

$Q = \frac{(1.486)(0.20)(0.125)^{0.54}}{0.011}$

$Q = 0.90 \text{ cfs}$



LEGAL DESCRIPTION

A CERTAIN TRACT OF LAND WITH-IN THE
CITY OF ALBUQUERQUE SOLID WASTE
FACILITY.

LEGEND

NEW BUILDING
EXIST. CONTOUR
EXIST. CURB
NEW CONTOUR
EXIST. SPOT ELEVATIONS
NEW SPOT ELEVATIONS
DIRECTION OF FLOW
NEW HEADER CURB
PONDING AREA
LIMITS OF ASPHALT
PROPERTY LINE
ROOF DRAIN

ABBREVIATED NOTES

THC	==	TOP HEADER CURB
TC	==	TOP OF CONCRETE
TA	==	TOP OF ASPHALT
TS	==	TOP OF SIDEWALK
TI	==	TOP OF ISLAND
EL	==	ELEVATION
INV		INVERT
TG	==	TOP OF GRATE
SW		SIDEWALK
FG	==	FINISHED GRADE
FL		FLOW LINE
FF	=	FINISHED FLOOR

CHAVEZ • GRIEVES
CONSULTING ENGINEERS, INC.

5639 JEFFERSON STREET N.E. ALBUQUERQUE, NEW MEXICO 87109

	CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP
TITLE:	SOLID WASTE MANAGEMENT DIVISION FUELING STATION GRADING AND DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			Water		
Irons. Dev.			Wastewater		
Hydrology					
Const. Coord.					

DRAWING NO.	4350.90	MAP NO.	G-15-Z	SHEET OF	SD-2 17
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AS BUILT INFORMATION	
CONTRACTOR	
WORK STATED BY	DATE
INSPECTORS CHECKED BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS RECORDED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

BENCH MARKS

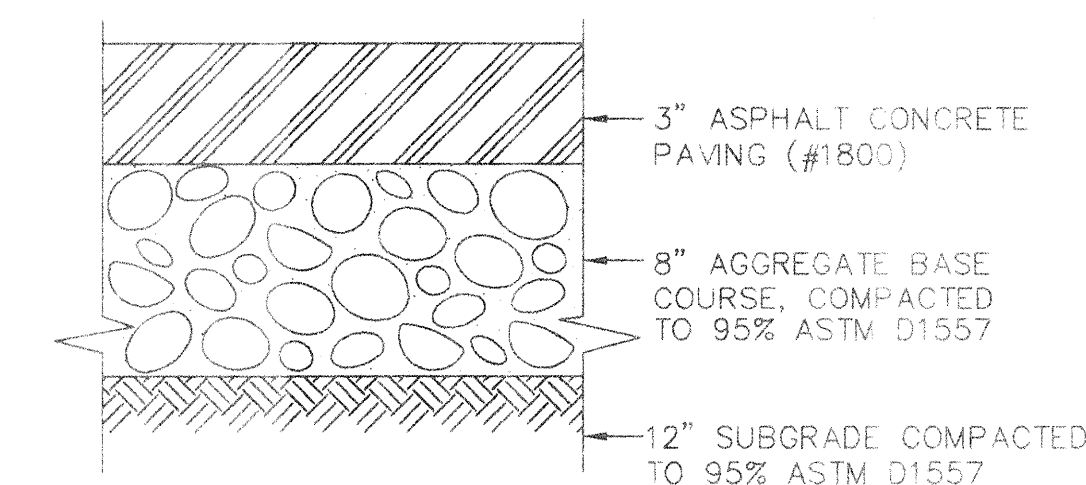
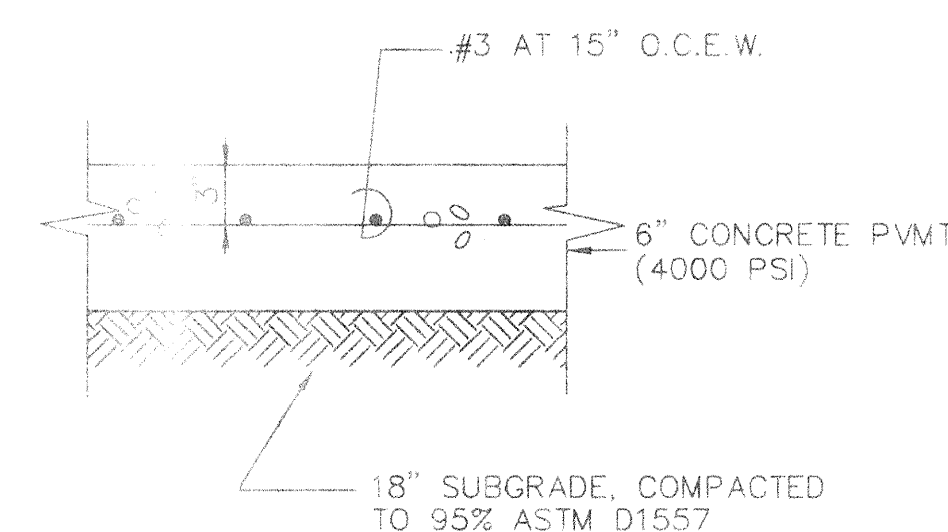
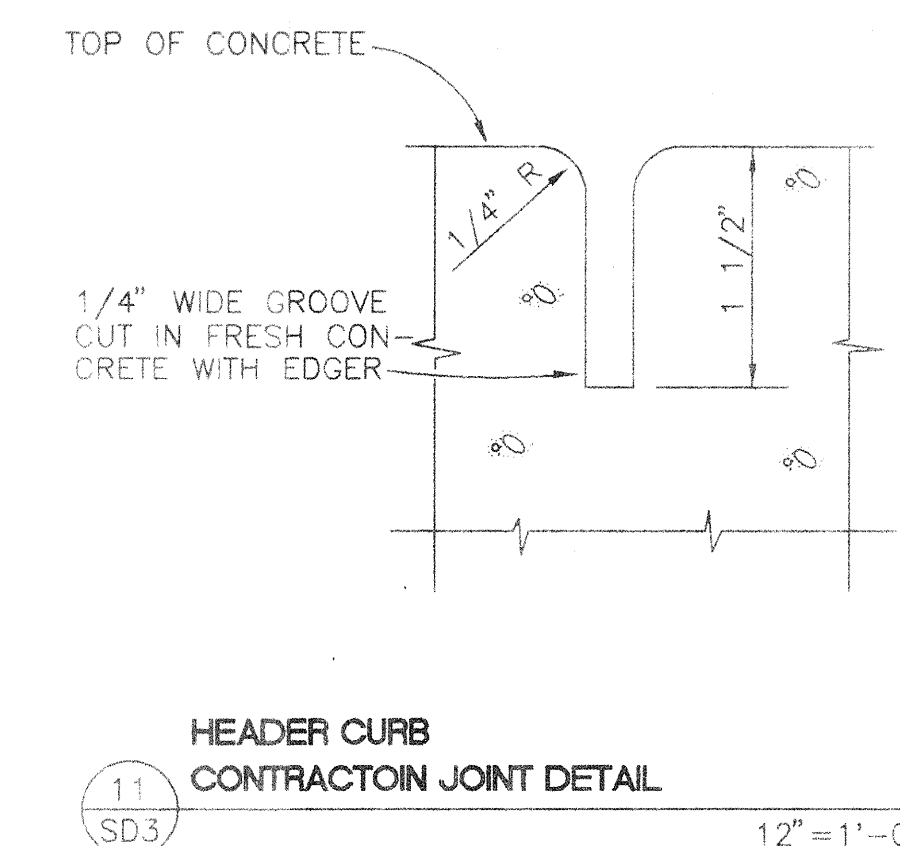
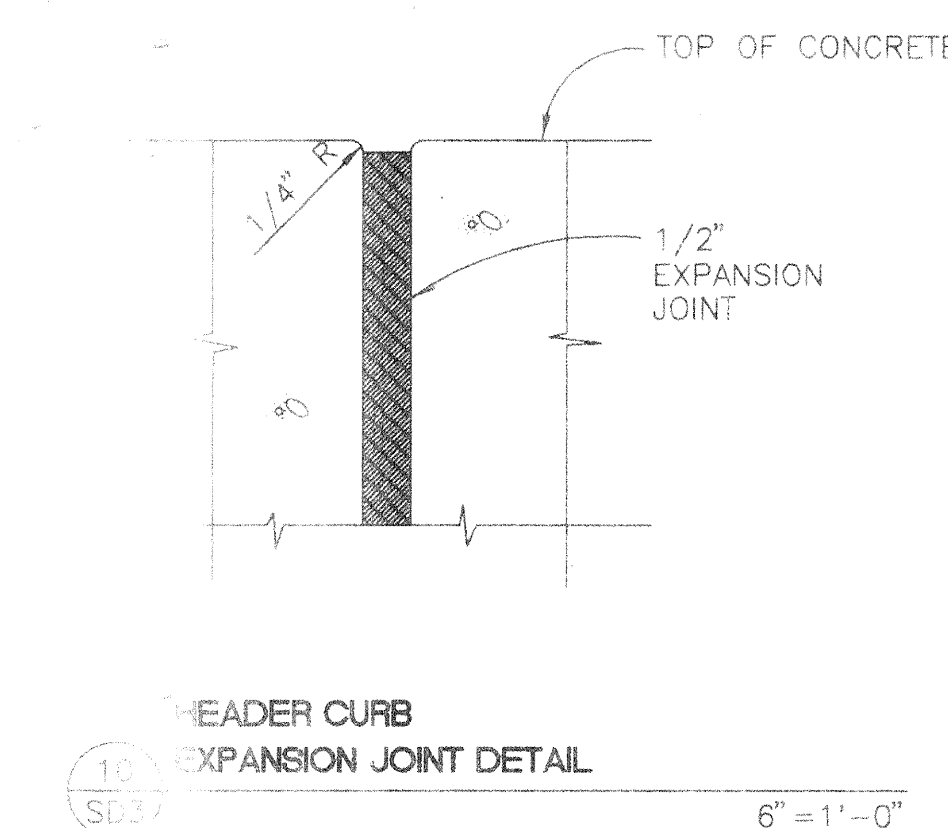
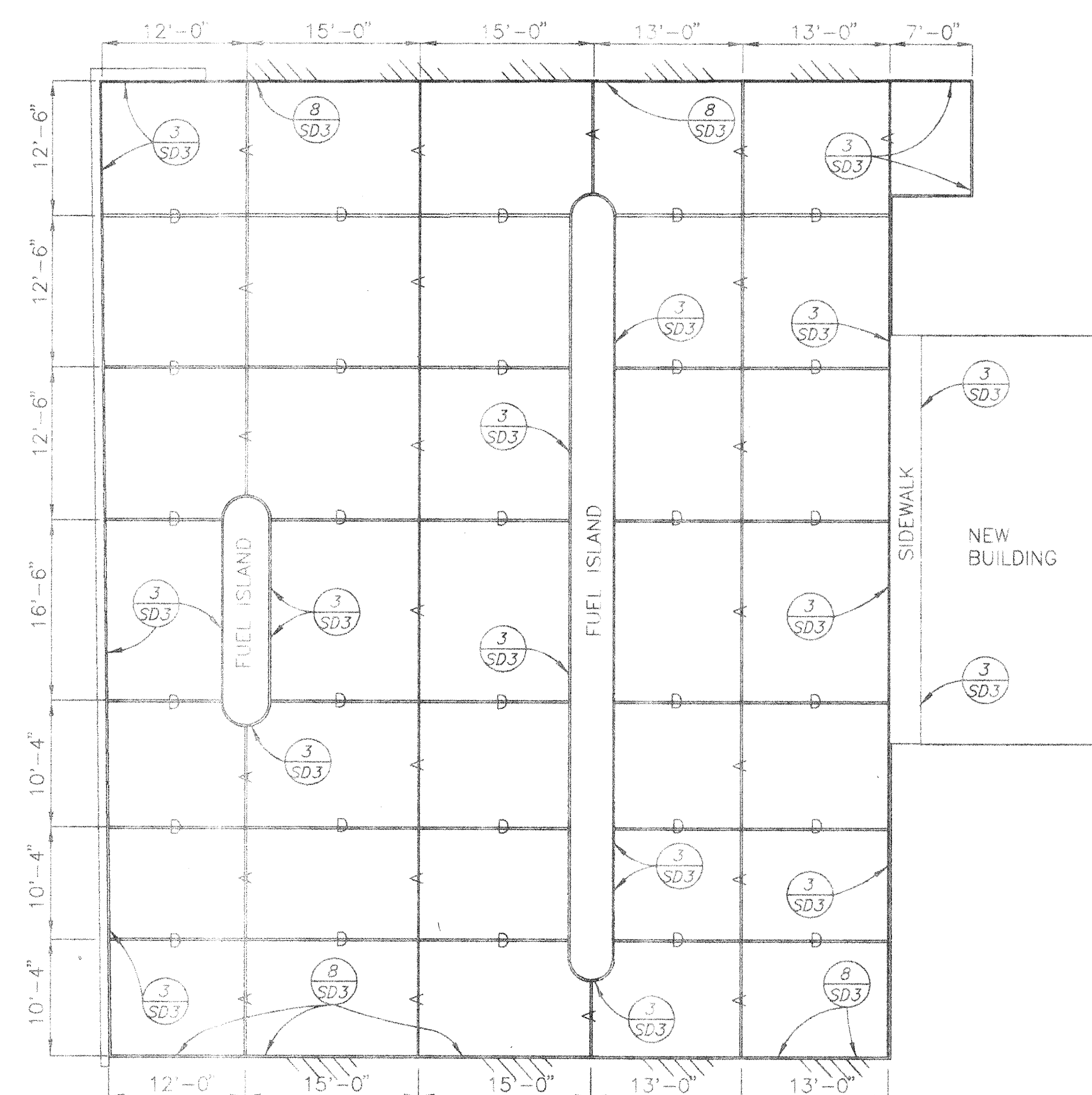
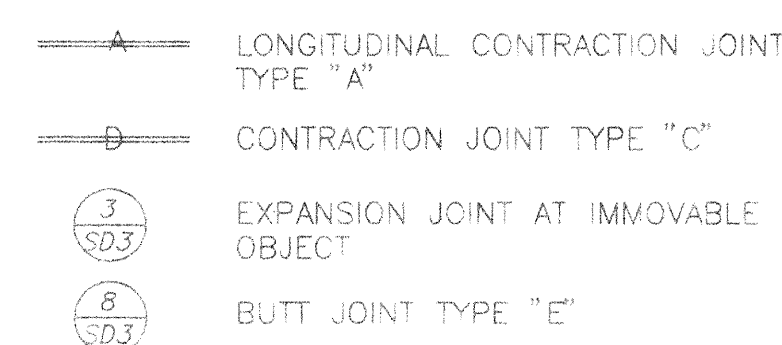
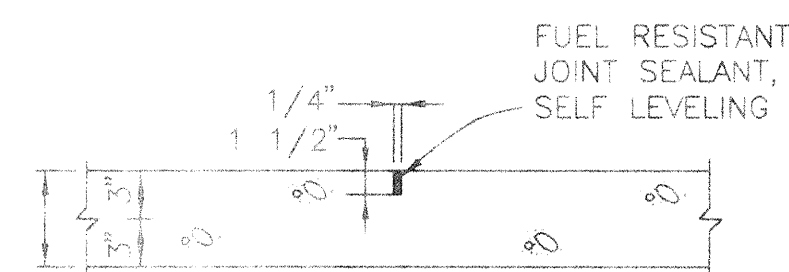
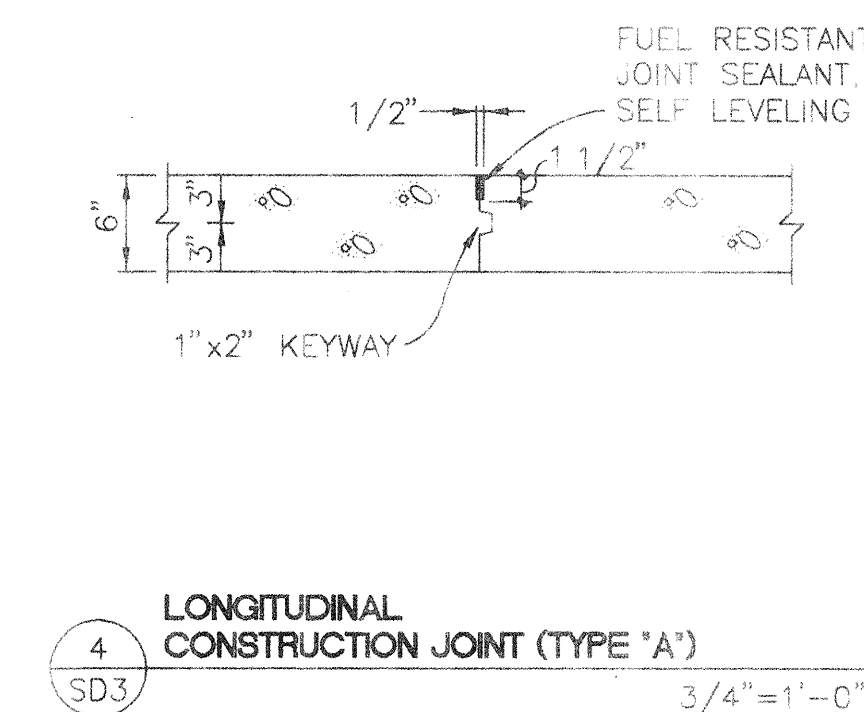
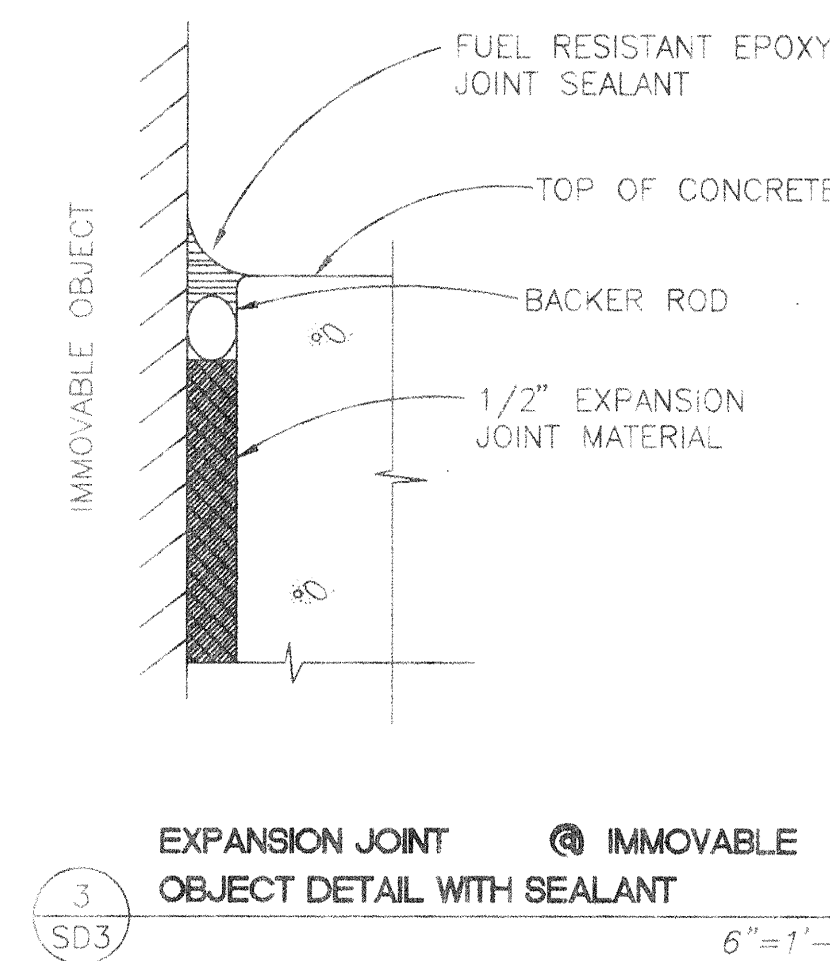
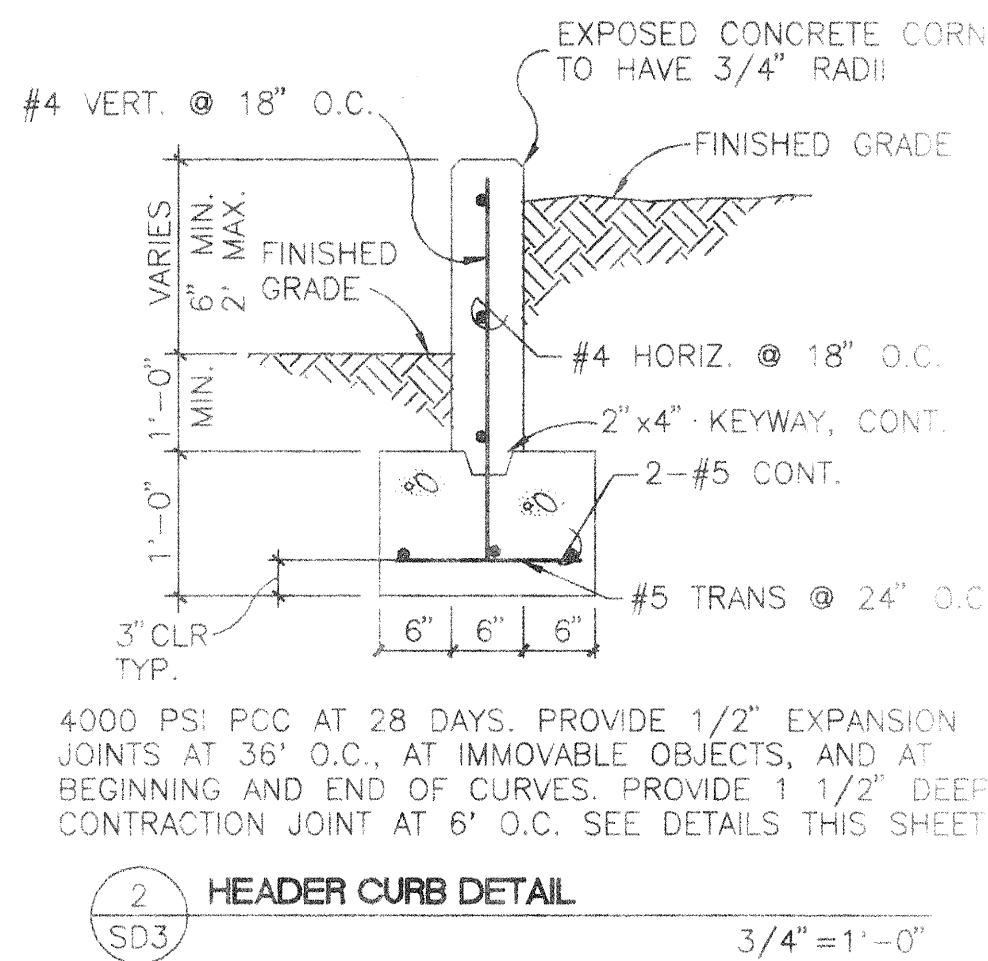
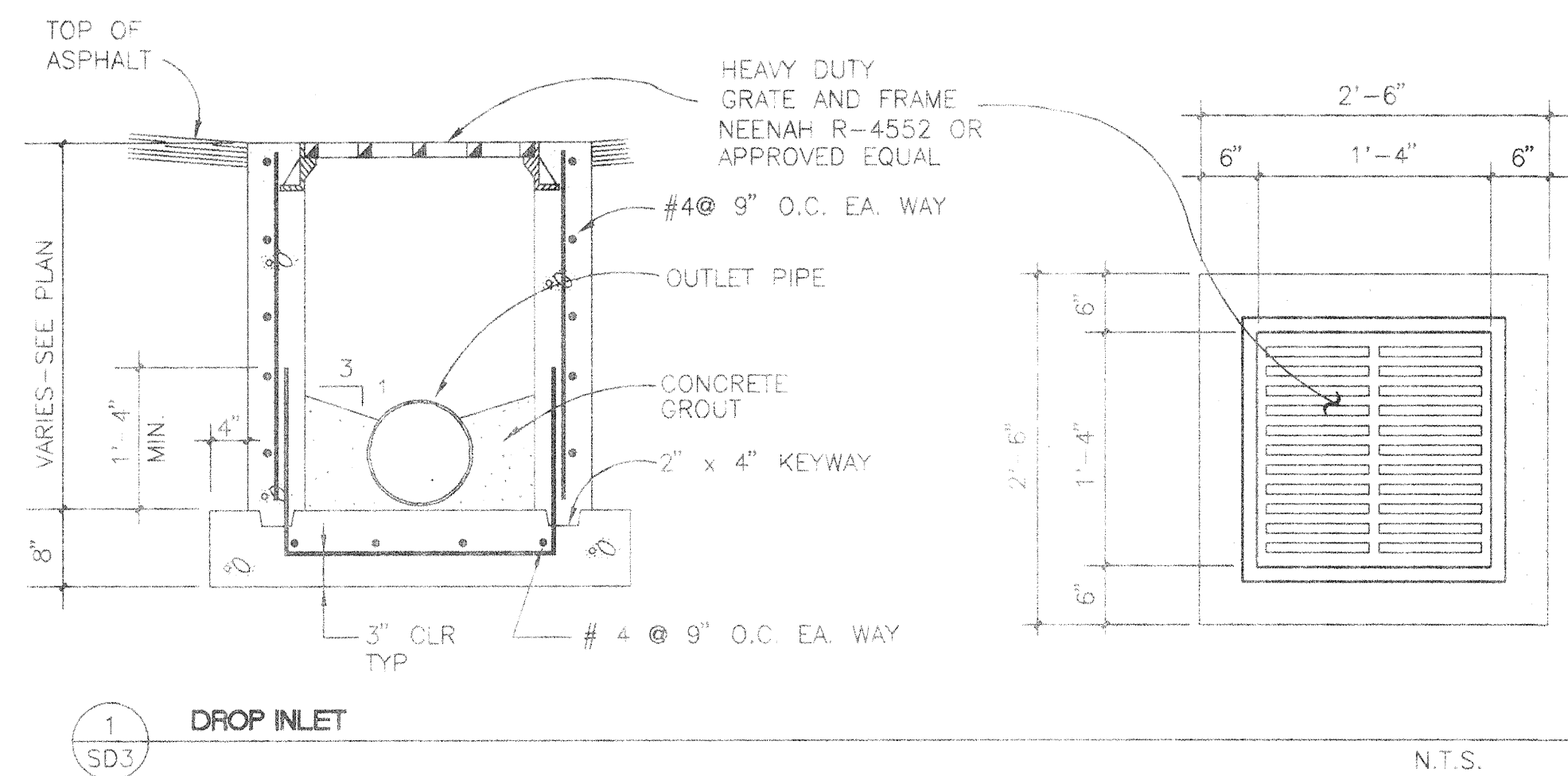
BENCHMARK ~ A PLUS CUT ON THE CONCRETE BASE
OF THE TRAFFIC SIGNAL AT THE SOUTHWEST CORNER
OF EDITH AND GRIegos RD.
ELEVATION = 4995.52 (M.S.L.D.)

[illegible]

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		DESIGN	
	DESIGNED: J. P. KELLEY	DATE: 11-28-95	
	DRAWN BY: V. R. CHAVEZ	DATE: 11-28-95	
		DATE: 11-28-95	

Doc. A. Kelley
11-30-95
2/43/97



ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
		FIELD NOTES		BENCH MARK ~ A PLUS CUT ON THE CONCRETE BASE OF THE TRAFFIC SIGNAL AT THE SOUTHWEST CORNER OF EDITH AND GREGGOS RD		CONTRACTOR	
		NO.	BY	DATE		STARTED BY	
						INSPECTOR'S	
						ACCEPTANCE BY	
						VERIFICATION BY	
						DATE	
						DRAWINGS	
						CORRECTED BY	
						DATE	
						MICRO-FILM INFORMATION	
						RECORDED BY	
						DATE	
						NO.	

Doc. P. Kelley
11-28-95