

FIRM MAP REF. PANEL # 35001C0327E

### GRADING & DRAINAGE PLAN

THE PROPOSED COMMERCIAL PROJECT IS LOCATED IN THE NORTHWEST AREA OF ALBUQUERQUE ON WEST HANOVER ROAD SOUTH OF INTERSTATE 40/WEST OF COORS ROAD. THE GRADING AND DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNALILLO COUNTY FLOOD HAZARD ORDINANCE, NO.88-46, AND THE CITY STORM DRAINAGE ORDINANCE. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PLAN SHOWS:

1. EXISTING CONTOURS, AND SPOT ELEVATIONS AND EXISTING DRAINAGE PATTERNS AND IMPROVEMENTS.

2. PROPOSED IMPROVEMENT: 24600 SF WAREHOUSE/OFFICE + 4000 SF WASH BAY BUILDING(S), ASPHALT DRIVE /PARKING, CONCRETE FLAT WORK, NEW GRADE ELEVATIONS, REFUSE LOCATION, AND LANDSCAPING. 3. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS. 4. QUANTIFICATION OF DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS WHICH CONTRIBUTE TO THE EXISTING FLOWS.

PRESENTLY, THE SITE IS A DIRT, PAD SURFACE WITH SPARSE VEGETATION. THE SITE IS BOUNDED BY DEVELOPED COMMERCIAL PROPERTY, AND FALLS AT APPROXIMATELY 2% FROM THE NORTHWEST TO SOUTHEAST. HANOVER RD. IS A COLLECTOR WITH 2 LANES, CURB, GUTTER AND ATTACHED SIDEWALK ON THE SOUTH SIDE. SITE RUNOFF WILL BE ALLOWED TO EITHER

DRAIN THROUGH THE SITE, AND OR PONDED IN DEPRESSED LANDSCAPE

AREAS. THE SITE HAS HISTORICALLY DRAINED TO THE SOUTHEAST WA SHEET

HISTORICAL DOWNSTREAM OUTFALL LOCATIONS WILL REMAIN UNCHANGED WITH DEVELOPMENT. FREE DISCHARGE OF SITE RUNOFF IS ACCEPTABLE SINCE DOWNSTREAM CAPACITY EXISTS WITH THE MINIMAL INCREASE DUE TO DEVELOPMENT, AND COMPLIES WITH THE OVERALL MASTER DRAINAGE PLAN. A PORTION OF SITE RUNOFF IS ROUTED THROUGH PROPOSED LANDSCAPING.

THE <u>SITE IS ENCUMBERED BY A FEMA DESIGNATED FLOOD HAZARD</u>, AH ZONE. THEREFORE THE FINISH FLOOR IS SET GREATER THAN 1 FOOT ABOVE PUBLISHED VALUES.

## CALCULATIONS

#### DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL (DPM)
REVISED JANUARY 1993 FOR CITY OF ALBUQUERQUE, ADOPTED BY THE COUNTY OF BERNALILLO DISCHARGE RATE: Q=QPEAK x AREA.."Peak Discharge Rates For Small Watersheds" VOLUMETRIC DISCHARGE: VOLUME = EWeighted x AREA

P100 = 2.20 Inches, Zone 1 Time of Concentration, TC = 10 Minutes

DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [] = 10 YEAR VALUES

#### EXISTING CONDITIONS

LOT AREA = 4.07 ACRES, WHERE EXCESS PRECIP. 'C' =0.99 In. [0.44]......HARD PAN DIRT PEAK DISCHARGE, Q100 = 11.7 CFS [6.1], WHERE UNIT PEAK DISCHARGE 'C' = 2.87 CFS/AC. [1.49] THEREFORE: VOLUME 100 = 14626 CF [6500]

#### DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE

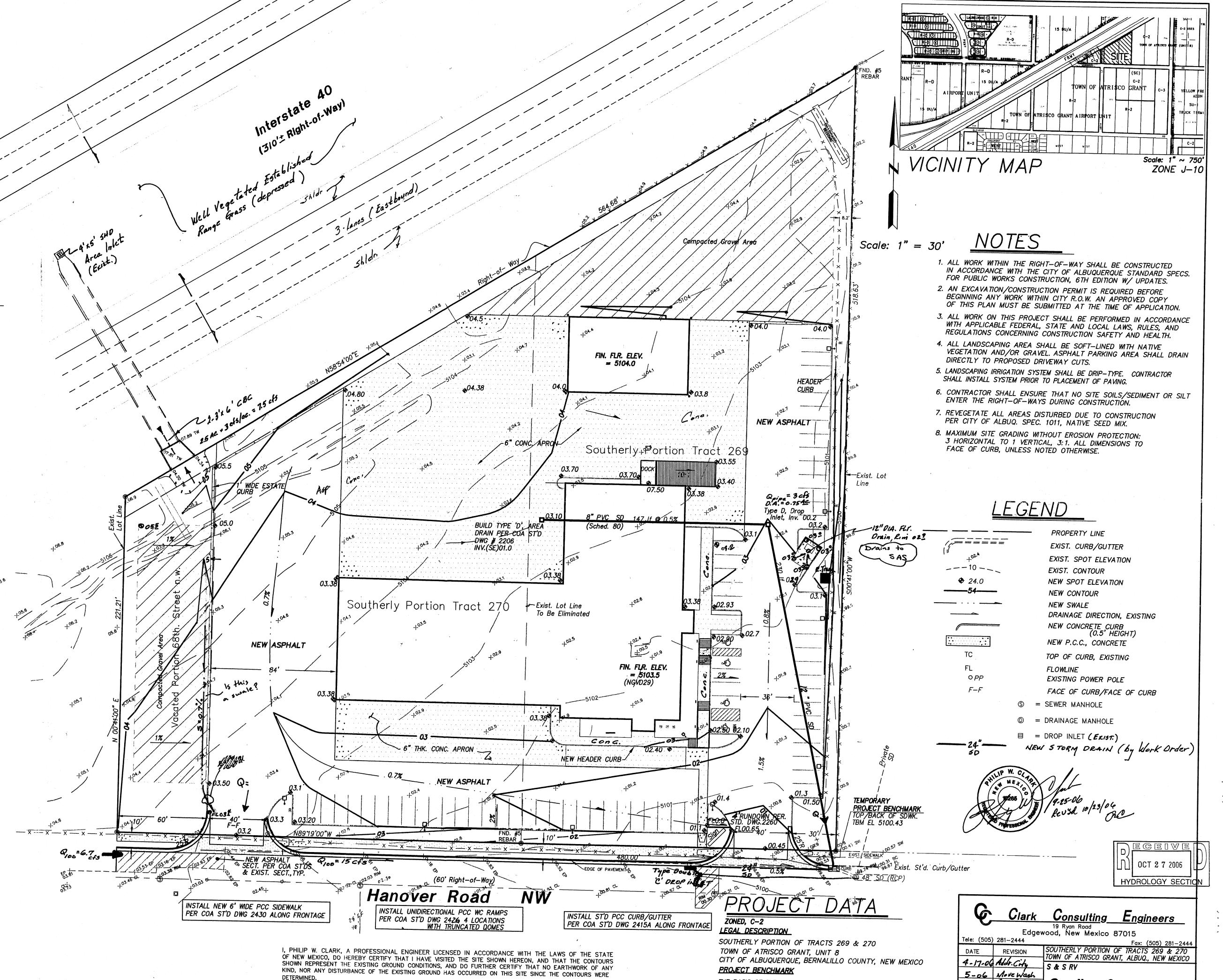
FOR STUDY AREA				
	AREA	LAND TREATM'T	Ω <sub>Peak</sub>	E
UNDEVELOPED LANDSCAPING GRAVEL & COMPACTED SOIL ROOF PAVEMENT	0.30 Ac.(8%)	A	1.29[0.24]	0.49[0.08]
	0.50 Ac.(12%)	В	2.03[0.76]	0.67[0.22]
	0.52 Ac.(13%)	$\ddot{c}$	2.87[1.49]	0.99[0.44]
	2.75 Ac.(67%)	D	4.40[2.90]	1.97[1.24]
	4 07 Ac			1.07[1.27]

THEREFORE: E<sub>Weighted</sub> = 1.576 In.[0.93] &

unit 1,15 Q100 = 14.99 CFS Q10 = 9.2 CFS VOLUME 100 = 23284 CF VOLUME 10 = 13740 CF

### DOWNSTREAM ANALYSIS

EXISTING PERIMETER HANOVER ROAD DRAINS TO THE EAST WITHIN THE EXISTING UNDERGROUND STORM SEWER THIS FACILITY HAS CAPACITY AND THE PROJECT TIME TO PEAK IS MUCH LESS THAN OVERALL BASIN TIME TO PEAK & INCREASE DUE TO DEVELOPMENT IS MINIMAL. (INCREASE FROM THE EXISTING. (3.3±CFS)



PHILIP W. CLARK

THE BASIS OF ELEVATIONS FOR THIS SURVEY IS ACS BENCHMARK 23-J11,

ROAD NW AND HANOVER ROAD NW. (NGVD29)

PERFORMED BY SURVEYS SOUTHWEST, LTD

TOPOGRAPHIC DESIGN SURVEY

3 of 5

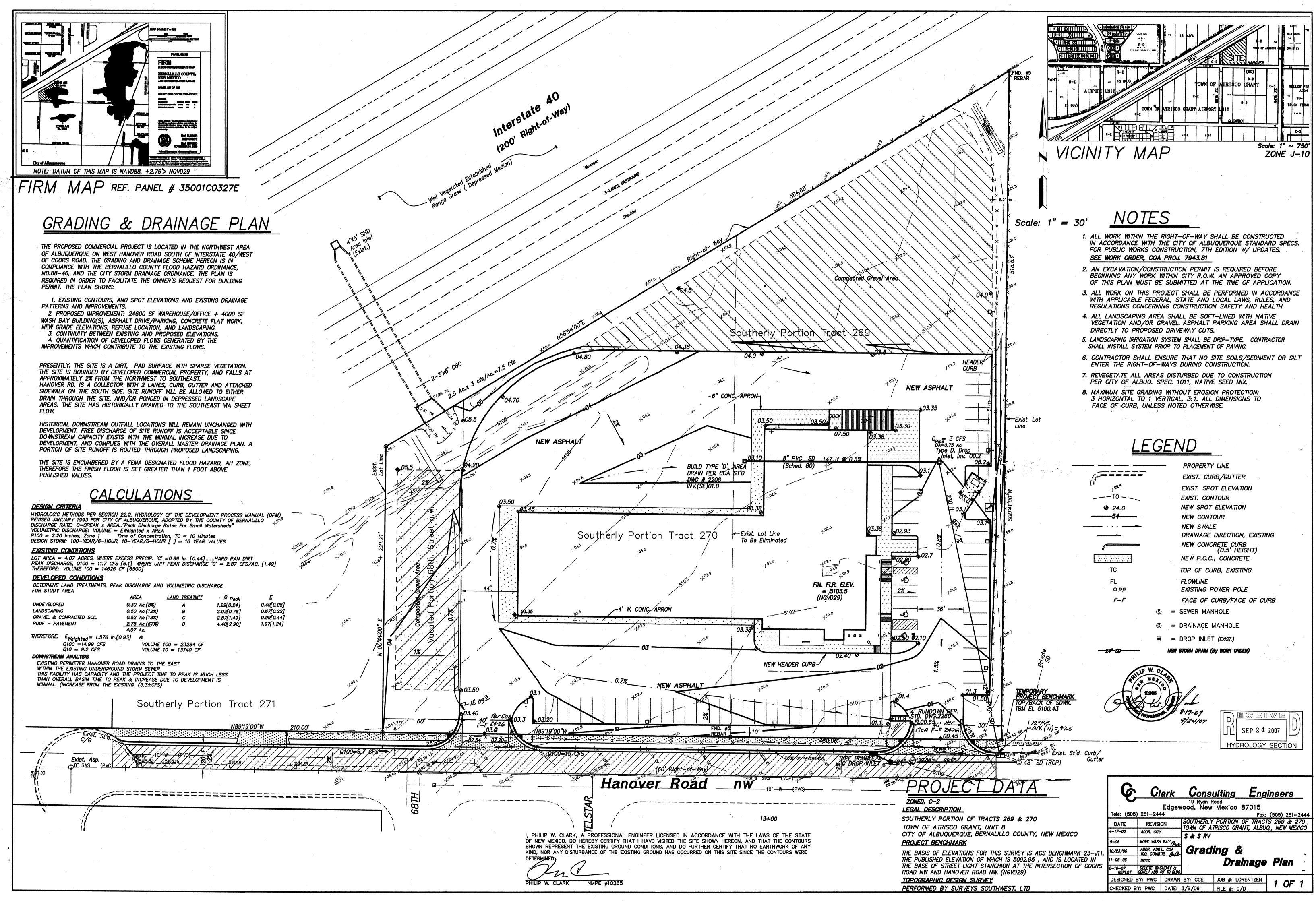
Drainage Plan

Bay Orce

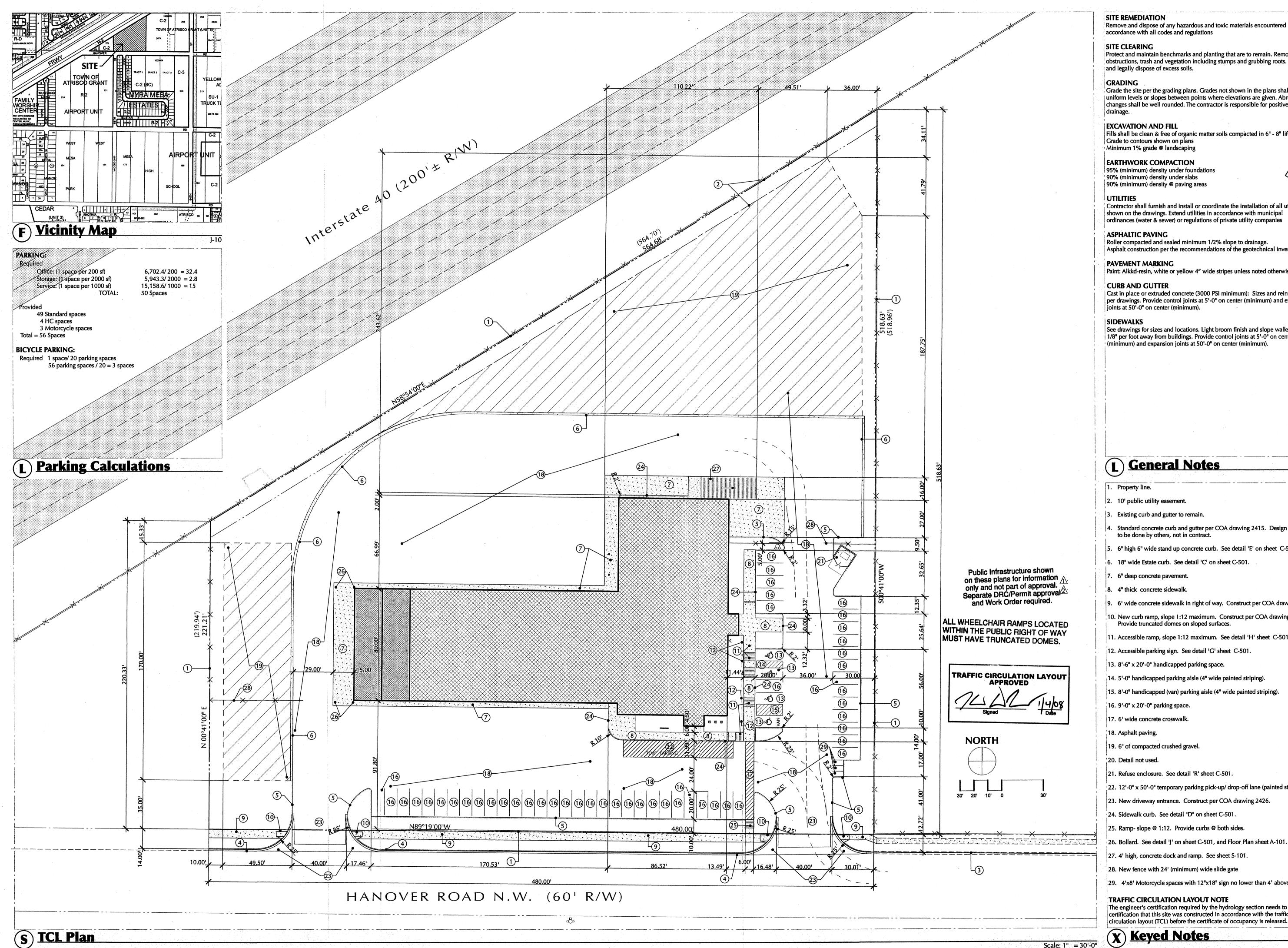
CHECKED BY: PWC DATE: 3/5/06

Grading &

DESIGNED BY: PWC | DRAWN BY: CCE | JOB #: LORENTZEN



J-10/042



SITE REMEDIATION

Remove and dispose of any hazardous and toxic materials encountered in accordance with all codes and regulations

SITE CLEARING

Protect and maintain benchmarks and planting that are to remain. Remove all obstructions, trash and vegetation including stumps and grubbing roots. Remove and legally dispose of excess soils.

Grade the site per the grading plans. Grades not shown in the plans shall be uniform levels or slopes between points where elevations are given. Abrupt changes shall be well rounded. The contractor is responsible for positive site

**EXCAVATION AND FILL** 

Fills shall be clean & free of organic matter soils compacted in 6" - 8" lifts Grade to contours shown on plans Minimum 1% grade @ landscaping

EARTHWORK COMPACTION

95% (minimum) density under foundations 90% (minimum) density under slabs 90% (minimum) density @ paving areas

Contractor shall furnish and install or coordinate the installation of all utilities shown on the drawings. Extend utilities in accordance with municipal ordinances (water & sewer) or regulations of private utility companies

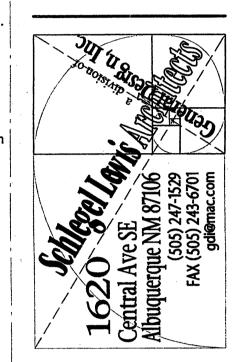
Roller compacted and sealed minimum 1/2% slope to drainage. Asphalt construction per the recommendations of the geotechnical investigation.

PAVEMENT MARKING Paint: Alkkd-resin, white or yellow 4" wide stripes unless noted otherwise.

CURB AND GUTTER

Cast in place or extruded concrete (3000 PSI minimum): Sizes and reinforcing per drawings. Provide control joints at 5'-0" on center (minimum) and expansion joints at 50'-0" on center (minimum).

See drawings for sizes and locations. Light broom finish and slope walks/patios 1/8" per foot away from buildings. Provide control joints at 5'-0" on center (minimum) and expansion joints at 50'-0" on center (minimum).



# (L) General Notes

2. 10' public utility easement.

3. Existing curb and gutter to remain.

4. Standard concrete curb and gutter per COA drawing 2415. Design of street to be done by others, not in contract.

5. 6" high 6" wide stand up concrete curb. See detail 'E' on sheet C-501.

6. 18" wide Estate curb. See detail 'C' on sheet C-501.

7. 6" deep concrete pavement.

8. 4" thick concrete sidewalk.

9. 6' wide concrete sidewalk in right of way. Construct per COA drawing 2430.

10. New curb ramp, slope 1:12 maximum. Construct per COA drawing 2426. Provide truncated domes on sloped surfaces.

11. Accessible ramp, slope 1:12 maximum. See detail 'H' sheet C-501.

12. Accessible parking sign. See detail 'G' sheet C-501.

13. 8'-6" x 20'-0" handicapped parking space.

14. 5'-0" handicapped parking aisle (4" wide painted striping).

15. 8'-0" handicapped (van) parking aisle (4" wide painted striping).

16. 9'-0" x 20'-0" parking space.

17. 6' wide concrete crosswalk.

18. Asphalt paving.

19. 6" of compacted crushed gravel.

20. Detail not used.

21. Refuse enclosure. See detail 'R' sheet C-501.

22. 12'-0" x 50'-0" temporary parking pick-up/ drop-off lane (painted striping).

23. New driveway entrance. Construct per COA drawing 2426.

24. Sidewalk curb. See detail "D" on sheet C-501.

25. Ramp- slope @ 1:12. Provide curbs @ both sides.

26. Bollard. See detail 'J' on sheet C-501, and Floor Plan sheet A-101.

28. New fence with 24' (minimum) wide slide gate

29. 4'x8' Motorcycle spaces with 12"x18" sign no lower than 4' above grade.

TRAFFIC CIRCULATION LAYOUT NOTE The engineer's certification required by the hydrology section needs to include certification that this site was constructed in accordance with the traffic

X Keyed Notes

**ISSUE DATE:** 

10 July, 2006

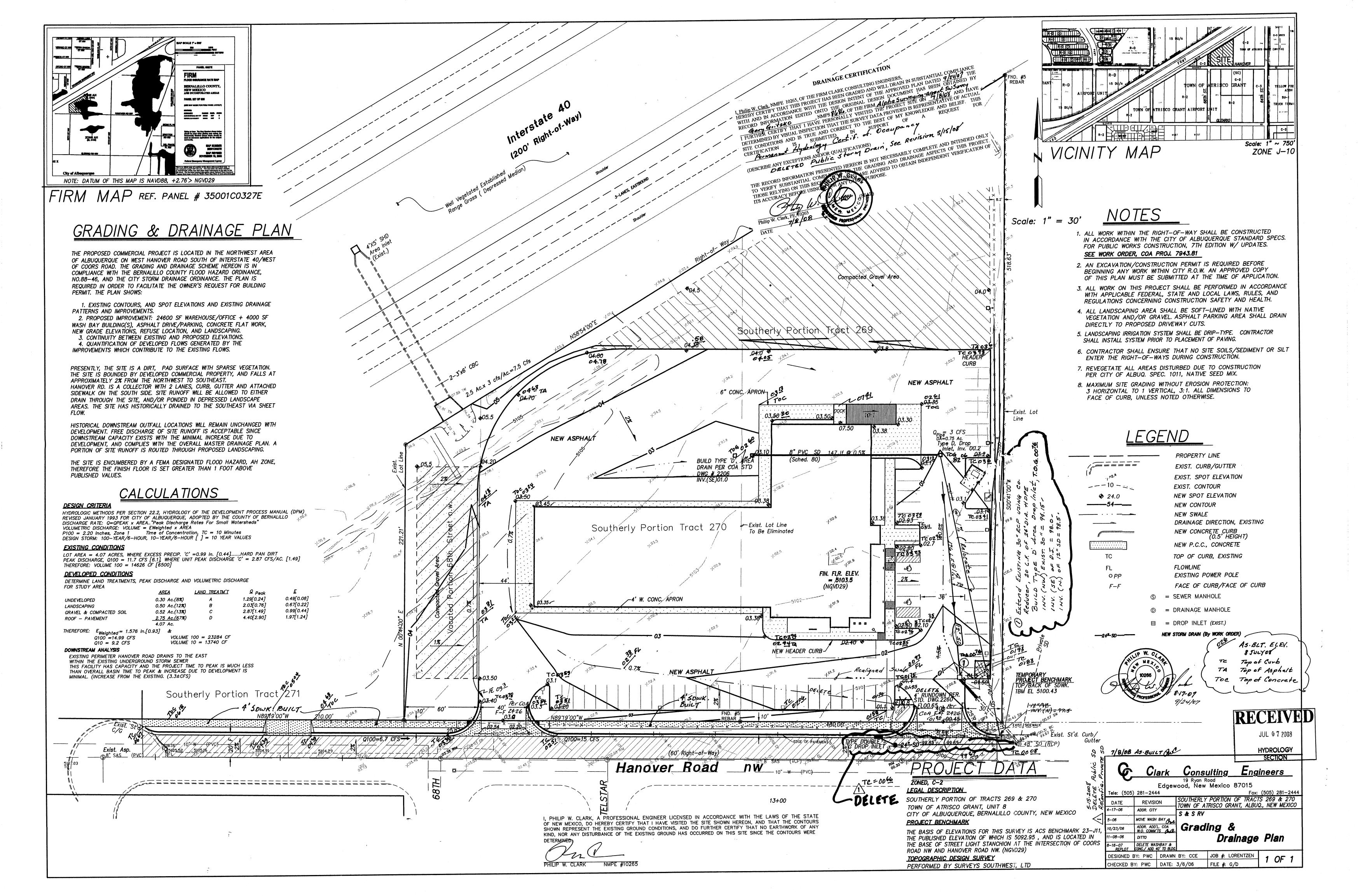
**REVISIONS:** 

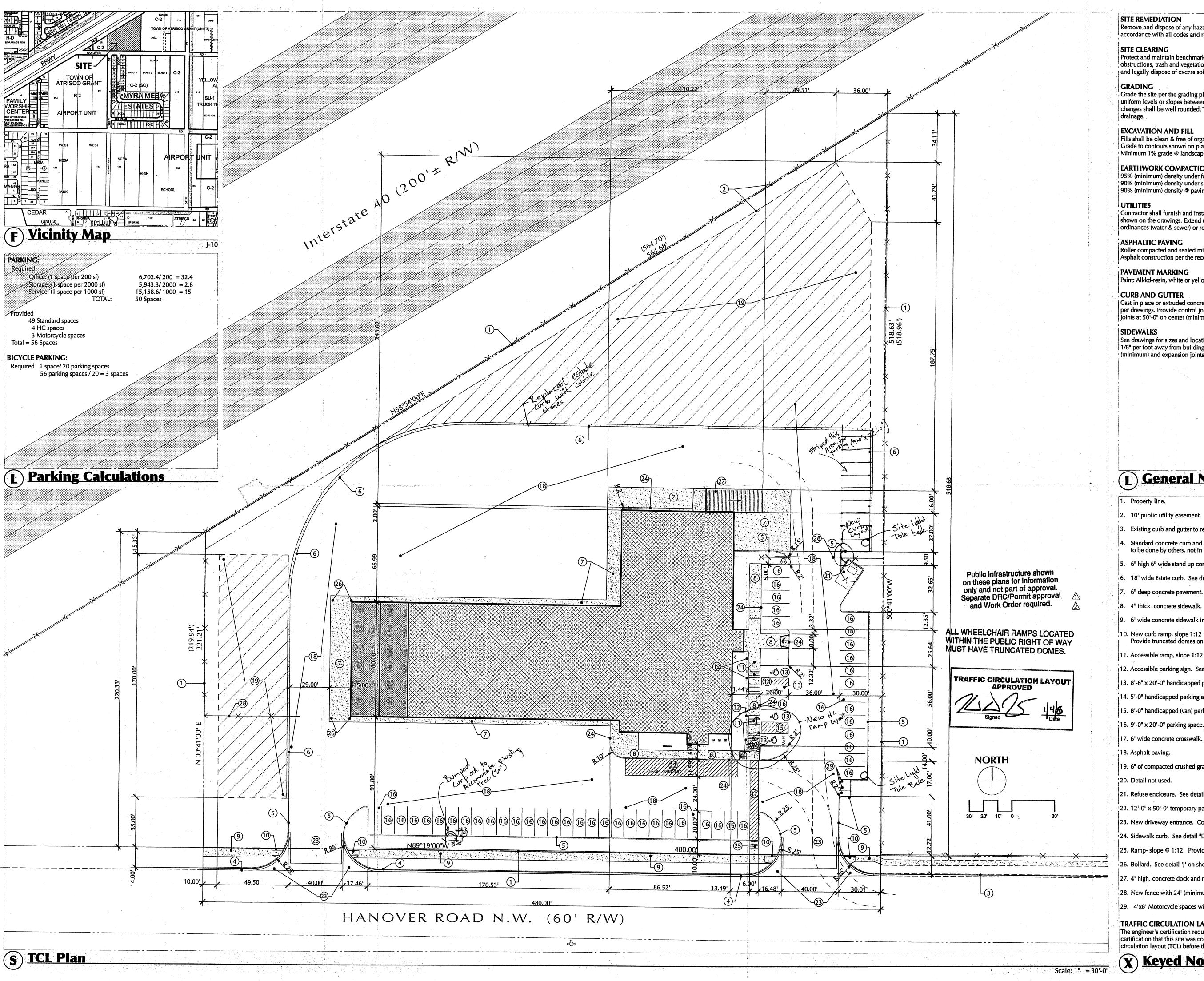
Re-issued sheets, any sheets without these notes should not be used for bidding or construction.

10/11/07 Owner Changes /2\ 10/11/07 City

**TCL Plan** 

Changes





SITE REMEDIATION

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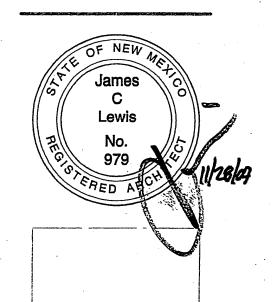
PAVEMENT MARKING

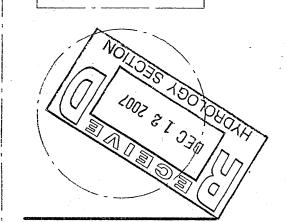
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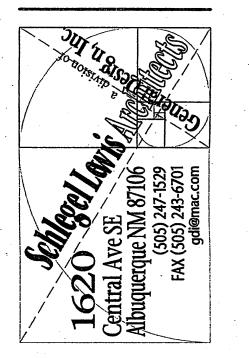
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Memoria

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**REVISIONS:** 

construction.

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/1\ 10/11/07 Owner

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Changes

Changes

2 10/11/07 City

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25. Ramp- slope @ 1:12. Provide curbs @ both sides.

26. Bollard. See detail 'J' on sheet C-501, and Floor Plan sheet A-101.

27. 4' high, concrete dock and ramp. See sheet S-101.

28. New fence with 24' (minimum) wide slide gate

29. 4'x8' Motorcycle spaces with 12"x18" sign no lower than 4' above grade.

TRAFFIC CIRCULATION LAYOUT NOTE The engineer's certification required by the hydrop y cation reduced certification that this site was constructed in according by the the traffic circulation layout (TCL) before the certificate of pocupancy is released.

JUL 18 2008 **X** Keyed Notes

TCL Plan

HYDROLOGY SECTION