DRAINAGE INFORMATION SHEE

PROJECT TITLE: Grading and Drainage Plan
Christina Kent Day Nursery ZONE ATLAS/DRNG. FILE #: K-14 / D43

LEGAL DESCRIPTION: S 100 ft., Lots 13, 14, 15, & 16 Blk 38, Original Townsite
Dec 29. 1882

CITY ADDRESS: 423 Third St SW Albuquerque, NM 87102

ENGINEERING FIRM: Marvin R Kortum CONTACT: Marvin R Kortum
ADDRESS: 1605 Speakman Drive, SE
Albuquerque, New Mexico 87123 PHONE: (505) 299-0774

OWNER: Board of Directors CONTACT:
ADDRESS: Christina Kent Day Nursery
423 Third St. SW PHONE:

ARCHITECT: Edith Cherry, D. James See & Assoc CONTACT: Jim See
ADDRESS: 220 A Gold Ave. SW
Albuquerque, New Mexico 87102 PHONE: (505) 842 1278

SURVEYOR: Southwest Survey Co., Inc CONTACT: Dan Graney
ADDRESS: 333 Lomas Blvd. NE
Albuquerque, New Mexico 87102 PHONE: 247-444

CONTRACTOR: CONTACT:
ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES
___ NO
X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO.
EPC NO.
PROJ. NO.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
X DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
X GRADING PLAN
X EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
X RESUBMITTAL

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL.
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: December 19, 1988
BY: Marvin R Kortum

PARKING AGREEMENT

First United Methodist Church

Telephone [505] 243-5615
Lead at Fourth, SW • Post Office Box 1538 • Albuquerque, New Mexico 87103

October 10, 1988

To Whom It May Concern:

First United Methodist Church gives permission for the adult employees of Christina Kent Day Nursery (10 cars) to temporarily park in the First United Methodist Church parking lot east of their Education Unit four days a week (excluding Monday).

Herb Hoffman
Director of Program

GRADING AND DRAINAGE PLAN
CHRISTINA KENT DAY NURSERY

423 Third Street, SW
Albuquerque, New Mexico 87102

I. ON-SITE CHARACTERISTICS:

A. Description:

The Christina Kent Day Nursery site consists of a square site 100 feet east to west and 100 feet north to south, and contains .23 acres. To the north and west the property adjoins a paved parking lot, which is presently a church parking lot. The east boundary is the west right-of way of Third Street, and the south boundary is the north right-of-way of Coal Avenue. Third Street and Coal Avenue are both paved, with sidewalks, and curb and gutter. Along the north property line there is a 5 feet high concrete block wall on the adjacent property, and along the west side a concrete block retaining wall that is approximately equal in height to the parking lot surface. The Christina Kent Day Nursery site itself is about level, with a slight slope from west to east, and from north to south. The site presently has one two story building, to which is being added a single story addition.

B. SOILS:

The soils, as identified on the Bernalillo County Soils survey by the Soils Conservation Service, U. S. Department of Agriculture, are Brazito complex (Bt). The Brazito series consists of deep, well drained soils that formed in recent alluvium on the flood plain along the Rio Grande. Permeability is rapid below a depthof 3 to 12 inches. The hazard of water erosion is slight, and the hazard of wind erosion is moderate. The engineering characteristics of the Bt soils are well suited for the purpose of two story buildings and associated land use. The soils are subject to seepage for basements or other structures below the water table, or subject to inflow of surface water. Care must also be taken in placing foundations to verify subsurface conditions due to possible earlier use as waste pits or other disturbance. The soils are classified as hydrologic soils group A, the soils which absorb the most water.

C. Undeveloped Runoff:

Runoff from the tract is its present state is computed as shown below. Presently most of the runoff from the existing building and lot flows over the drivepad on the south side of the lot and into the catch basin on Coal Avenue. A small amount of roof runoff from the existing building flows over the sidewalk and into the catch basin on Third Street, near the southeast corner of the site.

D. Direct Runoff Volume, Undeveloped Land (Existing Development)

The existing site use is as shown below:

Buildings	3036 ft.^{2}
Paved walks and drives	400 "
Bare earth (undeveloped)	1636 "
Landscaped (sand bed playground and trees)	4928 "
Total	10000 ft.^{2}

% impervious = 34%

The six hour, 100 year frequency rainfall for the tract is 2.3 inches, per 1973 N.O.A.A. Atlas 2, Volume IV (Plate 22.2, D-1). The existing surface is 36% impervious, for which CN=60 (Plate 22.2, C-2). For CN=60, the direct runoff volume is 0.2 inches (Plate 22.2, C-4), for a total runoff volume of (10000 ft.^{2} x 0.2 in. x 1 ft./12 in.) = 165 ft.^{3}

E. Peak Runoff, Undeveloped Land (Existing Development):

Peak runoff can be estimated by use of the rational formula, Q=CIA, where C is a factor which incorporates surface characteristics of the drainage basin, I is the intensity of rainfall for a storm which is determined to give the maximum rate of runoff for the drainage basin, the basin characteristics being expressed as a time of concentration, TC. A is the area in acres.

From Kirpich:

$TC=.0078\frac{L^{0.77}}{S^{0.385}}$. For the tract, L=150 feet and

$S=\frac{.5}{150}=.0033$, for which TC=3.3 minutes.

Use the rainfall intensity factor of 2.15 for ten minutes (Plate 22.2, D-2) and a C factor as contained in the NOTICE OF EMERGENCY RULE, signed by Mayor Schultz on January 14, 1986, which are as follows:

Surface Type	"C" Value
streets, drives, walks	0.95
roofs	0.90
lawns and landscaping	0.25
undeveloped	0.40

A composite C is then estimated using areas from paragraph D above, as follows:

.3036 x 0.90 = 0.2732
.0400 x 0.95 = 0.0380
.1636 x 0.40 = 0.0654
.4928 x 0 25 = 0.1232
composite C = 0.4998

Peak runoff is then computed as Q=CIA = (.4998)(2.15)(2.3) 10000/43560)=0.5674 ft.^{3}/sec.

F. Developed Site Runoff:

In the new developed state it is proposed that as addition to the existing building be constructed. Portions of the sand covered earth surface which is now used as a play area will be covered by the building addition. A portion of the remaining yard will be landscaped with grass and trees, a portion will be landscaped with a six inches deep sand bed, with trees, and a portion of the area will remain bare earth. A hardstand will also be placed for the trash container. The new site use will be as shown below:

To drain to Third Street.

Buildings	1811 ft.^{2}
Walks	769 "
Landscape (lawn, sand bed, trees)	485 "
SUBTOTAL	3065 ft.^{2}

To drain to Coal Avenue.

Buildings	2728 ft.^{2}
Walks, hardstands	209 "
Landscaped (lawn, sand bed, trees)	3114 "
Bare earth (undeveloped)	884 "
SUBTOTAL	6935 ft.^{2}
TOTAL	10000 ft.^{2}

% impervious = 55%

For the 55% impervious site, a CN = 71 is appropriate (Plate 22.2, C-2) Direct runoff for CN = 71 is 0.40 inches (Plate 22.2, C-4). As above, the total volume is computed as (0.4 inches x 10000 ft.^{2} x 1 ft./12 in.) = 330 ft.^{3}

G. Peak Runoff from Developed Property:

Peak runoff can be estimated as above, using the new site use to estimate a composit C, as follows:

To Third Street.

1811/3065	x 0.90	= 0.5318
769/3065	x 0.95	= 0.2384
485/3065	x 0.25	= 0.0396
composite C		= 0.8098

To Coal Avenue.

2728/6935	x 0.90	= 0.3540
209/6935	x 0.95	= 0.0286
3114/6935	x 0.25	= 0.1123
884/6935	x 0.40	= 0.0051
composite C		= 0.5000

Peak runoff to Coal Avenue is then computed as Q=CIA = (.500)(2.15)(2.3)(6935/43560)=0.40 ft.^{3}/sec.

Peak runoff to Third Street is computed as Q=CIA = (.8098)(2.15)(2.3)(3065/43560) = 0.30 ft.^{3}/sec.

H. Disposition of Developed Site Runoff:

The runoff from the existing building, except for that which presently runs off the northeast downspout, and the yard runoff from the west of the new and existing building will flow onto Coal Avenue, flowing over the existing drivepad into the gutter, and then into the existing catch basin.

The runoff from the new addition, that from the existing northeast down spout, and that part of the yard east of the new addition will flow to a new sidewalk culvert to be constructed near the northeast corner of the property, then to the gutter and then to the catch basin near the southeast corner of the site. The flow in the 12 wide sidewalk culvert will be about 1 inch deep at peak flow. Extra capacity in the under sidewalk culvert is desirable to preclude clogging with tree leaves or other debris.

II. OFF SITE FLOWS:

A. Major Terrain Features:

The Christina Kent Day Nursery site is located near the eastern edge of the Rio Grande valley flood plain. About 1000 feet to the east the mesa of the east heights rises above the valley flood plain. The site itself is on ground which is slightly higher than land to the west and south, a feature that effectively places the site above the 100 year and the 500 year floodway. The area around the site has been a developed urban area for about 100 years, since the arrival of the railroad. The railroad right of-way and embankment, located just below the east edge of the valley flood plain, provides protection from major runoff from the east mesa. The area itself is also protected by a major underground storm drain system.

B. Minor Flooding and Nuisance Flows:

The site is protected from upstream nuisance flows by the block wall to the north and by the established drain swale along the paved parking lot to the west. All flows off the site are to the south or east, to the established paved streets, gutters and storm drain system.

C. Downstream Flow:

All downstream flow enters the major storm drain system. The increase of runoff of 165 ft.^{3} will not significantly increase flooding downstream.

III. CONCLUSIONS AND RECOMMENDATIONS:

A. The Christina Kent Day Nursery is not within a 100 year floodway as identified on the Albuquerque Flood Hazard Map.

B. The storm runoff from the site will not adversely affect adjacent or downstream property.

C. There is no threat to the property from minor or nuisance flows.

Reference: Albuquerque Public Works Department Development Process Manual.

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

January 10, 1989

Marvin R. Kortum, P.E.
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR AN ADDITION TO CHRISTINA KENT DAY NURSERY (K-14/D43) REVISION DATED DECEMBER 19, 1988

Dear Mr. Kortum:

Based on the information provided on your resubmittal of December 19, 1988, the above referenced plan is approved for Building Permit.

A separate permit is required for construction within City right-of-way. When applying for the excavation permit, please have a copy of this approval letter available.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj
xc: Becky Sandoval
(WP+933)

Marvin R Kortum
1605 Speakman Drive SE
Albuquerque, New Mexico 87123
NMPE 6519
(505) 299-0774

December 19, 1988

City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103
ATTN: Hydrology Design

REFERENCES: A. DRAINAGE AND GRADING PLAN FOR AN ADDITION TO CHRISTINA KENT DAY NURSERY (K-14/D43)

B. My letter on the subject, dated December 9. 1988.

Gentlemen:

Attached to this letter is a drawing dated December 19, 1988 which has minor changes to the to the drawings which are in addition to the drawing changes made by reference B. The comments below state the nature of the changes:

A. The roof slope is now to the north, with an interior drain to discharge toward the sidewalk culvert.

B. The access ramp along the west has been moved to provide for clearance as required by the traffic engineer.

c. A ground level storage room has been designed into the new addition, necessitating a grade change exterior to the building.

The above changes do not change the proposed drainage plan. I request your review and approval of the plan.

Sincerely,

Mark Kt

Marvin R Kortum

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

December 15, 1988

Marvin R. Kortum, P.E.
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR AN ADDITION TO CHRISTINA KENT DAY NURSERY (K-14/D43) REVISION DATED DECEMBER 9, 1988

Dear Mr. Kortum:

Based on the information provided on your resubmittal of December 9, 1988, the above referenced plan is approved for Building Permit.

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

A separate permit is required for construction within City right-of-way. When applying for the excavation permit, please have a copy of this approval letter available.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj
xc: Becky Sandoval
(WP+933)

Marvin R Kortum
1605 Speakman Drive SE
Albuquerque, New Mexico 87123
NMPE 6519
(505) 299-0774

December 9, 1988

City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103
ATTN: Hydrology Design

REFERENCE: DRAINAGE AND GRADING PLAN FOR AN ADDITION TO CHRISTINA KENT DAY NURSERY (K-14/D43)

Gentlemen:

This letter is in reply to your comments on the referenced plan as provided in a letter dated November 25, 1988. The comments below are in response to your letter.

1. The Notice of Emergency Rule has been used to recalculate the flow rates. The drainage plan includes revised pages and paragraphs to reflect the changes.

2. There will be a peak flow of 0.3 $ft.^3/sec.$ routed to the under sidewalk culvert near the northeast corner of the site. Please note that this is a change from the originally proposed 4" pipe.

3. Parking for the site is provided by already existing paved parking on adjacent property. Please see attached letter of agreement.

4. Two copies of this resubmittal are being provided.

5. Attached is a copy of the proposed landscaping. There should be little risk of the under sidewalk culvert plugging as it will have a larger cross section than the 4" pipe.

6. The temporary bench mark (T.B.M.) is now permenently marked with a chiseled "X".

Sincerely

Marvin R Kortum

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 25, 1988

KEN SCHULTZ
MAYOR

Marvin R. Kortum, P.E.
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: DRAINAGE & GRADING PLAN FOR AN ADDITION TO CHRISTINA KENT DAY NURSERY (K-14/D43) RECEIVED NOVEMBER 9, 1988
ENGINEER'S STAMP DATED NOVEMBER 9, 1988

Dear Mr. Kortum:

Based on the information provided on your submittal of November 9, 1988, listed are certain items of concern that need to be addressed prior to building permit release.

1. You must use the "Notice of Emergency Rule" to compute the developed and undeveloped flow rates and the SCS method to compute your volumes (see enclosed Notice of Emergency Rule).

2. How much runoff will be routed to the proposed 4" PVC penetration and is the pipe capacity adequate (please compute the pipe capacity and compare to the basin draining to it)?

3. It would be advisable to check with the Zoning Enforcement Section to see if they will require any paved parking areas. If so, please include with your calculations.

4. We will need two copies of your resubmittal.

5. What type of landscaping is proposed within the area that will have the 4" PVC pipe? Adequate steps must be taken to assure that the pipe is not plugged.

6. T.B.M. must be permanently marked.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

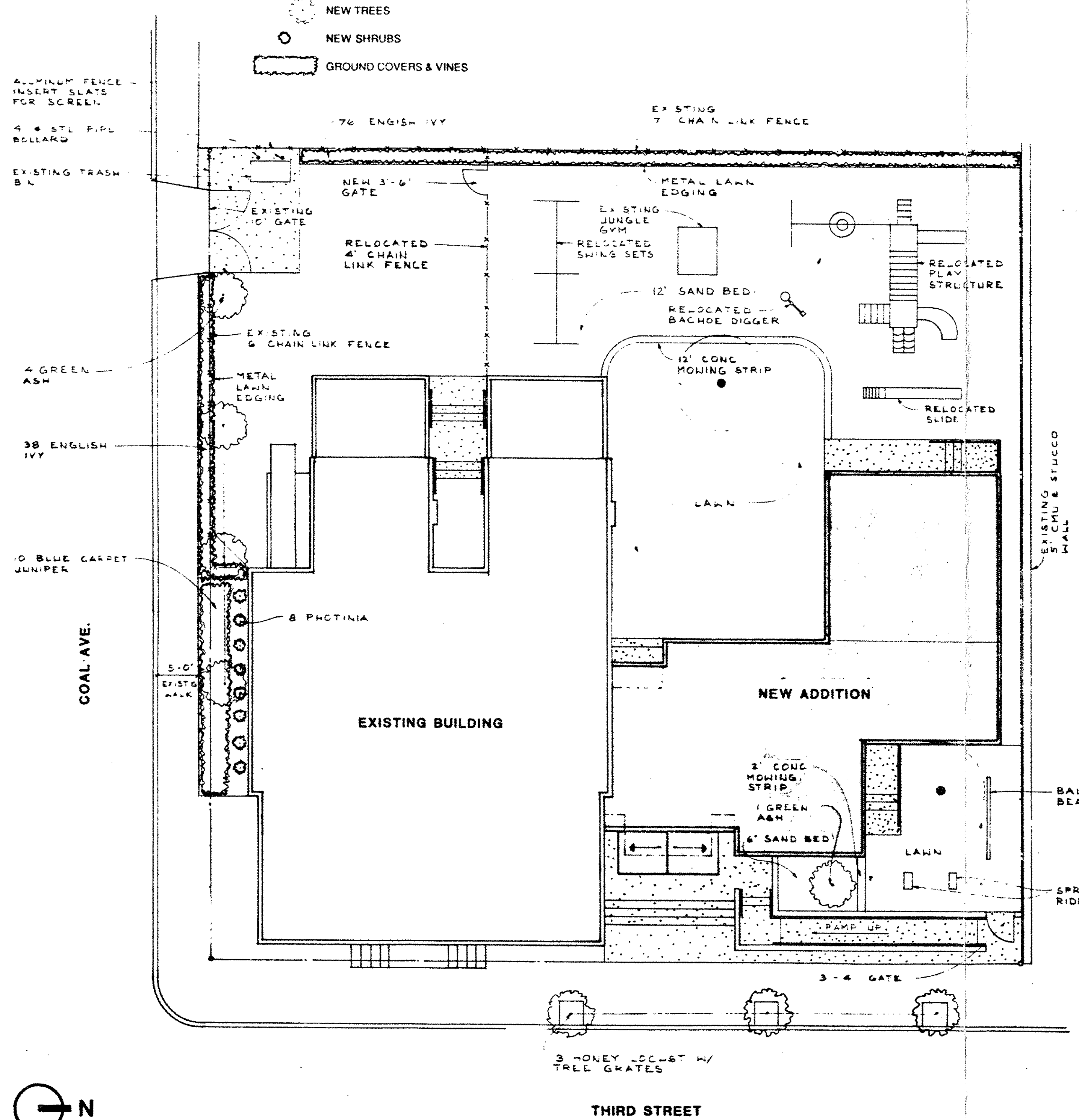
Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

Enclosure
(BJM/bsj
(WP+933)

LEGEND

- PROPERTY LINE
- EXISTING CONCRETE WALKS & LANDINGS
- NEW CONCRETE WALKS, RAMPS & LANDINGS
- EXISTING TREES TO REMAIN
- NEW TREES
- NEW SHRUBS
- GROUND COVERS & VINES



SITE PLAN

1/8" = 1'-0"

PARKING AGREEMENT

First United Methodist Church

[signature]

PLANT SCHEDULE

APPROX QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	NOTES
5	Green Ash	Fraxinus Pennsylvanica	2-1/2" cal.	Match for height & form, branch above 8'-0"
3	Honey Locust 'Sunburst'	Gleditsia Triacanthos Inermis	2-1/2" cal.	Match for height & form, branch above 8'-0"
114	English Ivy	Hedera Helix	1 gal.	Plant 1'-6" o.c.
8	Photinia	Photinia Fraseri	5 gal.	
10	Blue Carpet Juniper	Juniperus H. Wiltonii	1 gal.	Plant 3'-0" o.c.

LANDSCAPE NOTES

All trees to field or container grown in New Mexico (Min. 1 year). All trees are to be premium quality, well branched and shaped symmetrically. All trees must be inspected and tagged for approval by the Architect at the nursery or yard prior to delivery at site.

Contractor shall locate all plant material as shown on the Landscape plan. Contractor is to adjust location of plant material under the direction of the Architect. All plant material locations and orientations are to be approved by the Architect.

Plant quantities shown on plant list are approximate only. Contractor is to provide plant material in quantities as shown on the Landscape Plan.

All Trees to be balled and burlap and planted as per detail.

Landscaped Area:

Turf	1,246 s.f.
Shrubs & Ground Cover	444
Street Tree Sidewalk Planters	27
Total	1,717 s.f.

Watering Systems:
Street trees and photinia along Third Street will be watered manually by hose bib.
All other landscaping plants and turf will be watered by an automatic underground irrigation system.

All landscaping will be maintained by the Owner.

PROJECT DATA

LEGAL DESCRIPTION

The south one hundred (100) feet of Lots numbered Thirteen (13), Fourteen (14), Fifteen (15), and Sixteen (16) in Block number Thirty-eight (38) of the New Mexico Town Company's Original Townsite of the City of Albuquerque, New Mexico as the same is shown and designated on the map of said Townsite filed in the office of the Probate Clerk and Ex-Officio Recorder of Bernalillo County, New Mexico, December 29, 1882.

LAND AREA

Lot 13	(100' X 25')	2,500	S.F.
Lot 14	(100' X 25')	2,500	
Lot 15	(100' X 25')	2,500	
Lot 16	(100' X 25')	2,500	
Total		10,000	S.F.

BUILDING AREA

Existing Second Floor (storage)	2,404	S.F. (gross)
Existing Ground Floor (day care)	2,747	
New Addition Ground Floor (day care)	1,451	
Total	6,602	S.F. (gross)

Architect

Engineer

Edith Cherry
D. James See
&
Associates
Architects
220A Gold Ave. SW
Albuquerque NM 87102
505 842 1278

ADDITION TO CHRISTINA KENT DAY NURSERY
423 THIRD STREET, SW.
ALBUQUERQUE, NEW MEXICO

Title of Sheet
SITE PLAN

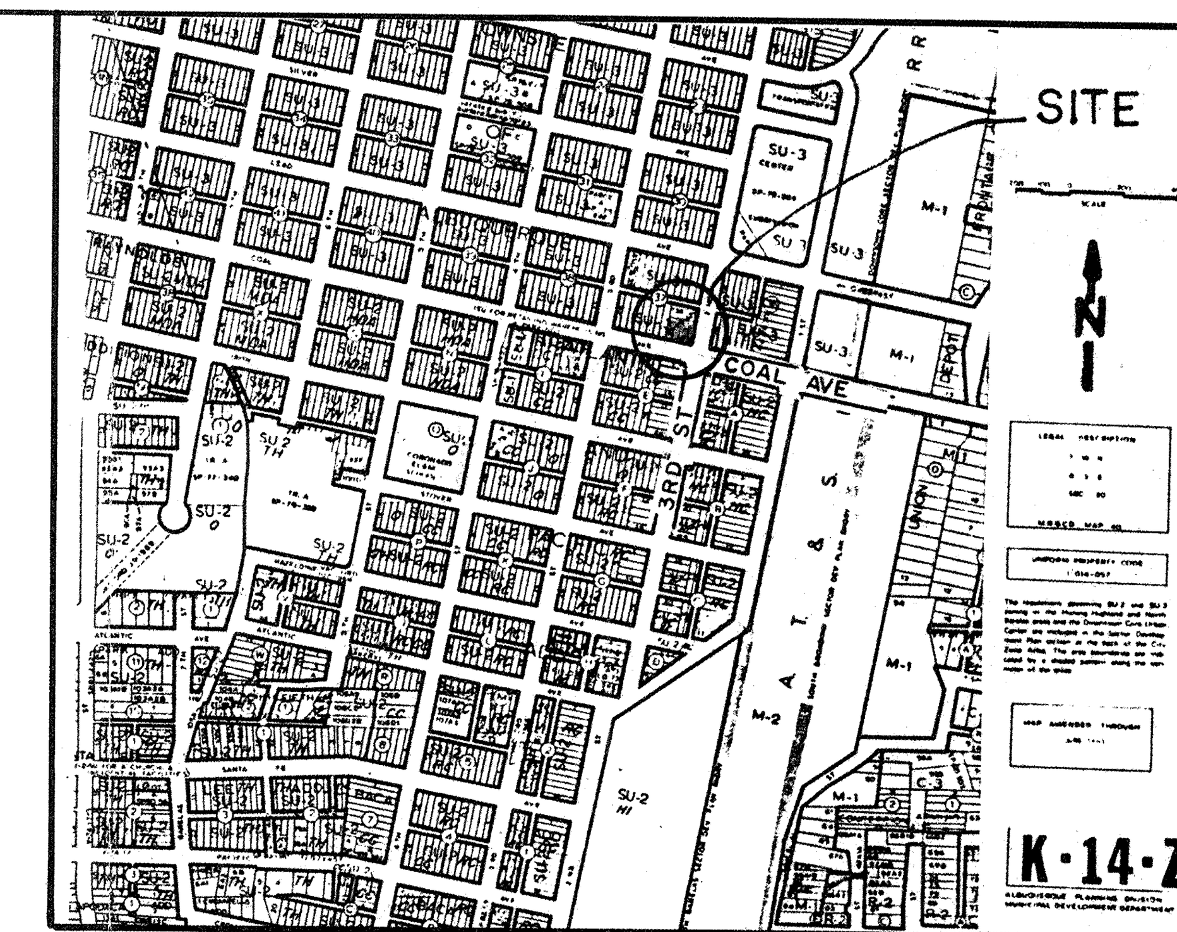
Date
11/30/86
Revisions
Sheet
of

LEGEND

	EXISTING	NEW
SPOT ELEVATION	x 56.34	43.67
SWALE		
ROOF DRAIN		
TEMPORARY BENCHMARK		☆

LEGAL DESCRIPTION

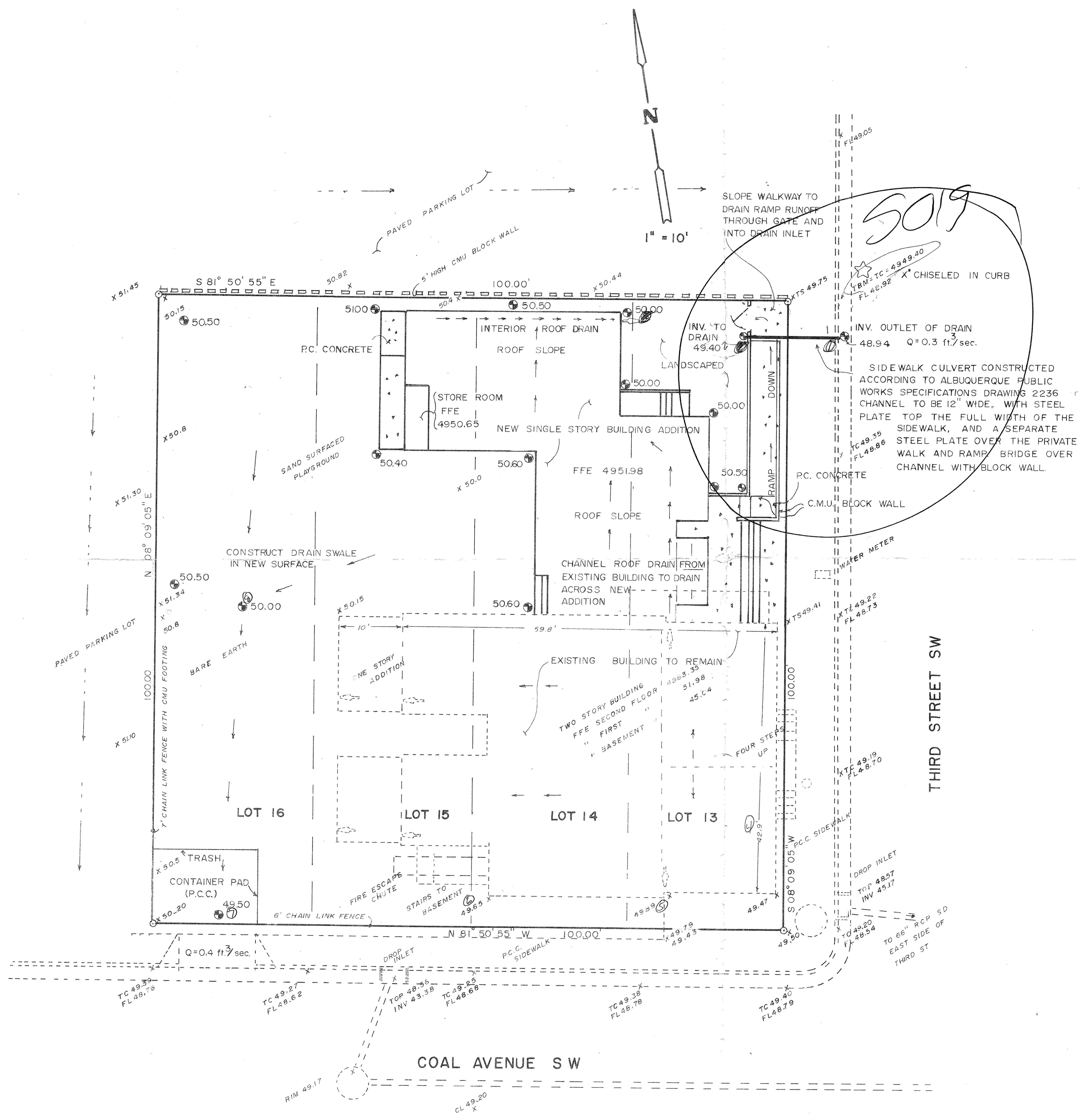
THE SOUTHERLY 100' OF LOTS 13-16, BLOCK 38, NEW MEXICO TOWN COMPANY'S ORIGINAL TOWNSITE, ALBUQUERQUE, NEW MEXICO, DECEMBER 29, 1882



4949.40
5.27
4954.67
2.62
52.05

ELEVATION 4950.564

BENCHMARK 3-K14



4952.65
4951.99
.66

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

NOTICE TO CONTRACTOR

1. An excavation.construction permit will be required before beginning any work within City right-of way. An approved copy of these plans must be submitted at the time of application for this permit.

2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specifications for Public Works Construction, 1986, as amended to Dec. 1, 1987.

3. Two working days prior to any excavation, contractor must contact Line Locating Service 765-1234, for location of existing utilities.

4. Backfill compaction shall be according to street use.

5. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.

6. Maintenance of these facilities within the city right-of-way shall be the responsibility of the owner served

SURVEY NOTES BOOK 89-1 ①

APPROVALS	NAME	DATE
A.C.E./DESIGN	Bernard Montoya	1/5/89
INSPECTOR		
A.C.E./FIELD		

EROSION CONTROL

PLACE TEMPORARY BERM DOWNSTREAM OF EARTH WORK TO POND RUNOFF DURING CONSTRUCTION

RUNOFF

FROM SITE TO STREET	UNDEVELOPED	DEVELOPED
Q	0.6	0.7
V	165	330

Q= PEAK FLOW $\frac{ft^3}{sec.}$

V=TOTAL VOLUME ft^3

RECEIVED DEC 19 1988 HYDROLOGY SECTION

MARVIN R. KORTUM, P.E.
Civil Engineering
1605 Speakman Drive, S.E.
Albuquerque, New Mexico 87123
(505) 299-0774

PRELIMINARY | DEC 19, 1988 | M.R. KORTUM

GRADING & DRAINAGE PLAN
BUILDING ADDITION TO THE CHRISTINA KENT DAY NURSERY
423 THIRD STREET SW

MAP K-14 | SHEET 1 OF 1