



KING COUNTY

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Signature Report

July 24, 2001

Ordinance 14179

Proposed No. 2001-0348.1

Sponsors McKenna

1 AN ORDINANCE making a supplemental appropriation of
2 \$3,063,722 to the building repair and replacement sub-fund
3 to facilitate the corridor/public assembly wall repairs in the
4 King County Courthouse as a result of the Nisqually
5 earthquake of February 28, 2001; and amending the 2001
6 Budget Ordinance, Ordinance 14018, Section 124 and
7 Attachment 2, as amended.

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9

10 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

11 SECTION 1. There is hereby approved and adopted a supplemental request of
12 \$3,063,722 to the building repair and replacement sub-fund 3951 for the purpose of
13 funding the cost of repairs to the King County Courthouse corridors and public assembly
14 walls, caused by the Nisqually earthquake on February 28, 2001.

15 SECTION 2. Ordinance 14018, Section 124 as amended, is hereby amended by
16 adding thereto and inserting therein the following:

Ordinance 14179

17 From the capital project fund there is hereby appropriated and authorized to be
18 disbursed the following:

19	<u>Fund</u>	<u>Capital Fund Name</u>	<u>Amount</u>
20	3951	Building Repair and Replacement Sub-fund	\$3,066,722

21 SECTION 3. Ordinance 14018, Attachment 2, as amended, is hereby amended by
22 adding thereto and inserting therein the following:

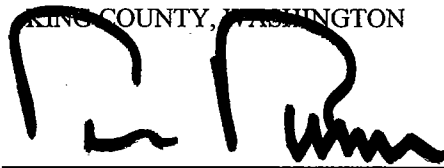
23	<u>Fund</u>	<u>Project</u>	<u>Description</u>	<u>Amount</u>
24	3951	395137	Courthouse EarthQuake Repairs	3,066,722
25			Corridor/Public Space Wall Repair	

26

Ordinance 14179 was introduced on 7/2/01 and passed by the Metropolitan King County Council on 7/23/01, by the following vote:

Yes: 11 - Mr. von Reichbauer, Ms. Miller, Ms. Fimia, Mr. Pelz, Mr. McKenna, Ms. Sullivan, Mr. Nickels, Mr. Pullen, Ms. Hague, Mr. Thomas and Mr. Irons
No: 0
Excused: 2 - Mr. Phillips and Mr. Gossett

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON



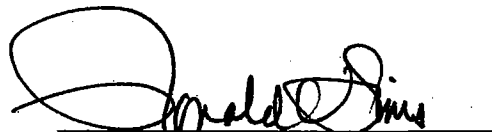
Pete von Reichbauer, Chair

ATTEST:



Anne Noris, Clerk of the Council

APPROVED this 30 day of July, 2001.



Ron Sims, County Executive

Attachments A. 2001 Project cost Summary, B. Scope of Work

PROJECT COST ESTIMATE SUMMARY

2001 348

Project Name:	Courthouse Earthquake Repairs Corridor/Public Space Wall Repair	CIP Number:	395137	Date:	2001 06/04/01
Requesting Agency:		Estimator:	R Schlosser		
Implementing Agency:	DCFM	Checked by:			

Description: This project will provide a modification or replacement of existing hollow clay tile (HCT) walls in the exit corridors and in public space areas with occupancies greater than 30. This repair will enable the occupants of the courthouse to safely exit a floor to the stairwells and out of the building.

ELEMENT - DESCRIPTION		TOTAL PROJECT COST	2001 PROJECT REQUEST
001 - CONSULTANT DESIGN			
Basic A/E Fee.....	10.42%) of MACC	\$227,702	
Master Planning			
As-Built Preparation			
Environmental Checklist			
Grading Permit/SWM Drainage Review			
Level II Drainage Tech. Report			
Soils Testing			
Outside Survey			
Wetland Study			
PCSP Division Costs (Procurement)			
Consultant Selection Advertisement Costs			
Asbestos Assessment			
Const. Mgt.	2.00%	\$43,705	
Total 001 - Consultant Design Cost		\$271,407	
003 - CONSTRUCTION			
MAX. ALLOWABLE CONST. COST (MACC)		\$2,185,241	
Sales Tax.....	8.80%) of MACC (Check site area)	\$192,301	
Building Permit Fees..(1.00%) of MACC	\$21,852	
Water Meters			
Water Area Charge			
Sewer Area Charge			
Telephone Cost			
Roads Service Development Fee			
PCSP Division review and Bid Advertisement Costs			
Printing Cost (Bid Documents)			
Asbestos Abatement		\$50,000	
Total 003 - Construction Cost		\$2,449,395	
004 - EQUIPMENT & FURNISHINGS			
Total 004 - Equipment & Furnish. Cost			
005 - CONTINGENCY			
Project Conting.	10.00%) of 001, 003, 004,007, & 009	\$278,520	
Total 005 - Contingency Cost		\$278,520	
007 - COUNTY FORCE DESIGN			
Survey Crew			
Other			
Total 007 - County Force Design Cost			
009 - COUNTY FORCE ADMINISTRATION			
Facilities Mgm't. Admin.	700 hrs		
Total 009 - County Force Admin. Cost		\$64,400	
006 - ART (1% of 001,003,005,007 & 009)			
TOTAL PROJECT COST		\$3,063,722	
Less Existing Funds:			

KCCH Seisr. Stablization
Seattle, WA

Minimal HC Removal

Freeman Fong Architects

CPL Engineers

BUDGET ESTIMATE

5/24/01

ITEM	QUANTITY	COST	TOTAL
QUANTITIES			

Quantities are derived using Sheets S2.04, .05, .06, .09, .10, .11, .12, Updated 5/4/01. Quantities inc stair and elevator walls as shown on updated plans.

Level 2	160	LF
Level 3	560	LF
Level 4	246	LF
Level 7	760	LF
Level 8	720	LF
Level 9	40	LF

TOTAL	2486 LF
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COST @ BID			
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Division 1	10%		\$138,922
Division 2			\$313,670
Division 4			\$0
Division 5			\$87,010
Division 6			\$667,677
Division 7			\$3,500
Division 8			\$6,500
Division 9			\$202,721
Division 10			\$0
Division 15			\$55,935
Division 16			\$52,206
B&O Tax, Bonding, insurance	4%		\$61,126
General Contractor's Overhead & Profit	10%		\$158,927
Contingency for Design & Phasing & Full Occupancy	25%		\$437,048

TOTAL BID (competitive)	\$2,185,241
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Add for sales tax, change orders, escalation, & project costs.

Estimate assume that the building is fully occupied during construction and that this project will be phased.

14179

Freeman Fong Architects

CPL Engineers

5/24/01

KCCCH Seismic stabilization
Seattle, WA
BUDGET ESTIMATE**Minimal HCT removal**

<u>ITEM</u>	<u>QUANTITY</u>	<u>COST</u>	<u>TOTAL</u>
Division 2			
Allowance for temp shoring and bracing	420 LF	25.00	10,500
Demo HCT walls	2486 LF	25.00	62,150
Demo/remove floor finishes	9944 LF	2.00	19,888
Demo/remove ceilings : ACT	14916 LF	2.00	29,832
Demo/remove plaster ceilings @ lobbies	SF	2.00	0
Demo casework allowance	1700 LF	45.00	76,500
Load, haul & dump debris	820 CY	140.00	114,800
HazMat abatement	not included		0
Division 2 Totals			\$313,670
Division 4			
Remove/reinstall precast wainscoat	LF	75.00	0
Remove/reinstall marble wainscoat	LF	90.00	0
Masonry patch allowance	LS	8,000.00	0
Division 4 Totals			\$0
Division 5			
Brace HCT walls - allowance	LF	45.00	0
Brace HCT walls - at jail floors	LF	150.00	0 (increased security)
6" 18 ga metal stud ceiling	SF	4.50	0
18 Ga studs to new walls	24860 SF	3.50	87,010
Division 5 Totals			\$87,010
Division 6			
Blocking allowance	1 LS	1,200.00	1,200
Casework replacement allowance	1900 LF	320.00	608,000
Plywood for shearwall allowance	24860 SF	1.95	48,477
Trim allowance	1 LS	10,000.00	10,000
Division 6 Totals			\$667,677
Division 7			
Caulking allowance	1 LS	2,500.00	2,500
Fire stopping	1 LS	1,000.00	1,000
Division 7 Totals			\$3,500

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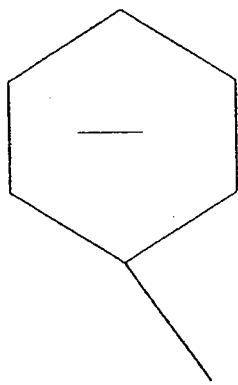
KCCH Seismic Stabilization
Seattle, WA
BUDGET ESTIMATE

Minimal HCl removal

Freeman Fong Architects
CPL Engineers
5/24/01

ITEM	QUANTITY	COST		TOTAL
Division 8				
Remove/reinstall doors & relites allowance	1 LS	6,500.00	6,500	
Division 8 Totals				\$6,500
Division 9				
Reinstall/patch floor finishes	9944 SF	3.50	34,804	
Reinstall/patch ceilings : ACT	14916 SF	2.00	29,832	
Plaster ceiling	0 SF	5.00	0	
GWB to new walls	49720 SF	2.00	99,440	
Add for 2nd layer of GWB @ 2 hr walls	24860 SF	0.75	18,645	
New ceramic tile to restroom walls	LS	12,500.00	0	
Paint walls & ceilings & adjacent surfaces	1 LS	10,000.00	10,000	
Remove/reinstall wood paneling	1 LS	5,000.00	5,000	
Replace trim as required	1 LS	2,500.00	2,500	
Misc patch & repair allowance	1 LS	2,500.00	2,500	
Division 9 Totals				\$202,721
Division 10				
Remove/reinstall toilet specialties	EA	100.00	0	
Remove/reinstall toilet partitions	EA	250.00	0	
Division 10 Totals				\$0
Division 15 Totals				
Remove plumbing fixtures	EA	80.00	0	
Reinstall plumbing fixtures	EA	250.00	0	
New plumbing fixtures: allow 10% new	EA	2,900.00	0	
HVAC modifications allowance	14916 SF	2.50	37,290	(sf = clg mod area)
Sprinklering modifications allowance	14916 SF	1.25	18,645	(sf = clg mod area)
Division 15 Totals				\$55,935
Division 16				
Modifications allowance	14916 SF	3.50	52,206	(sf = clg mod area)
Division 16 Totals				\$52,206
Sub-Total Raw Costs			\$1,389,219	\$1,389,219

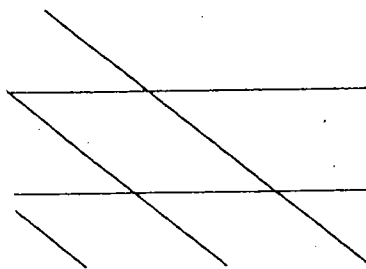
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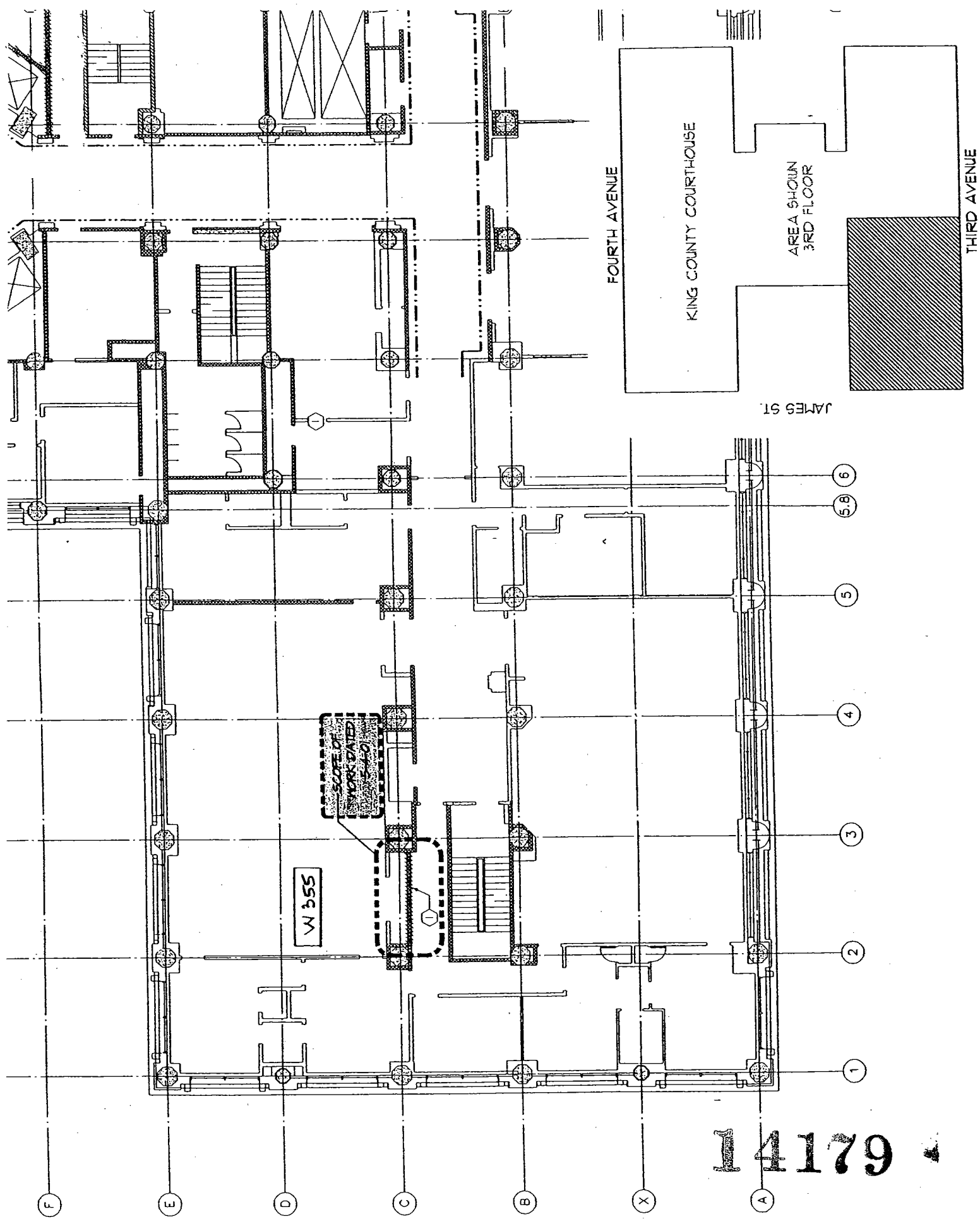


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DRAFT
2

- WALLS

WITH HATCH
TO BE REMOVED

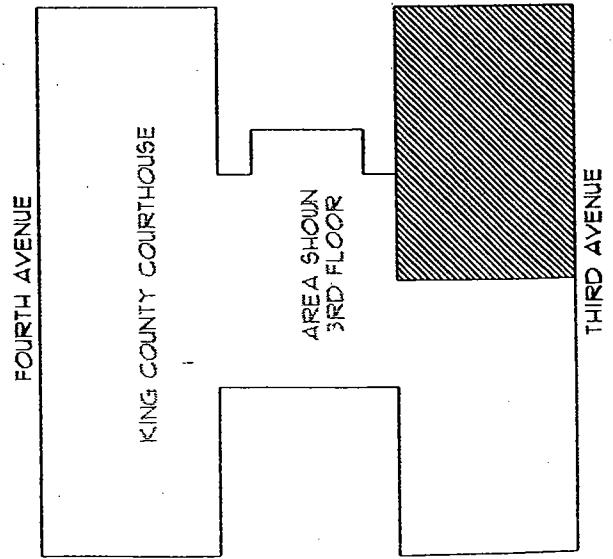
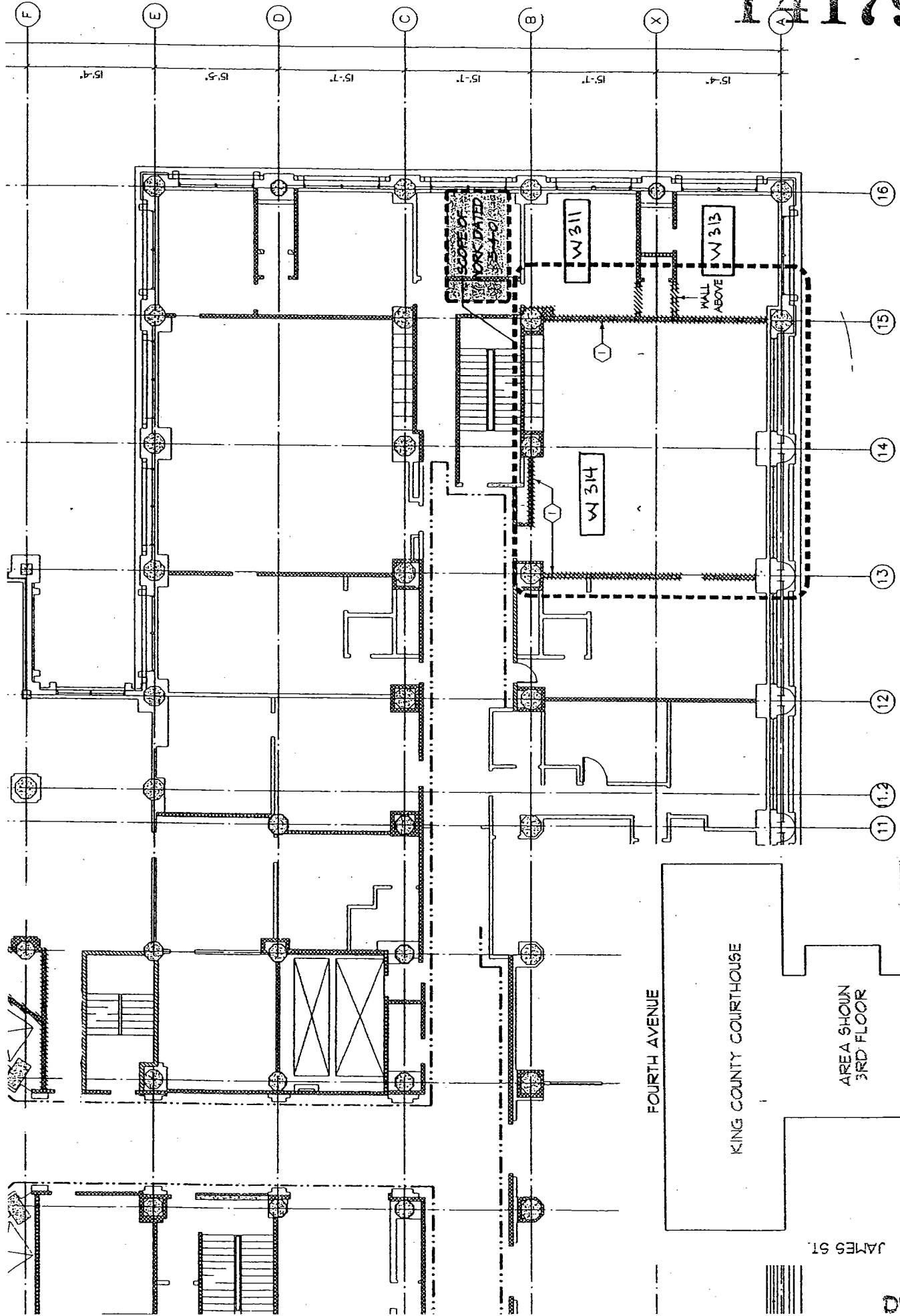




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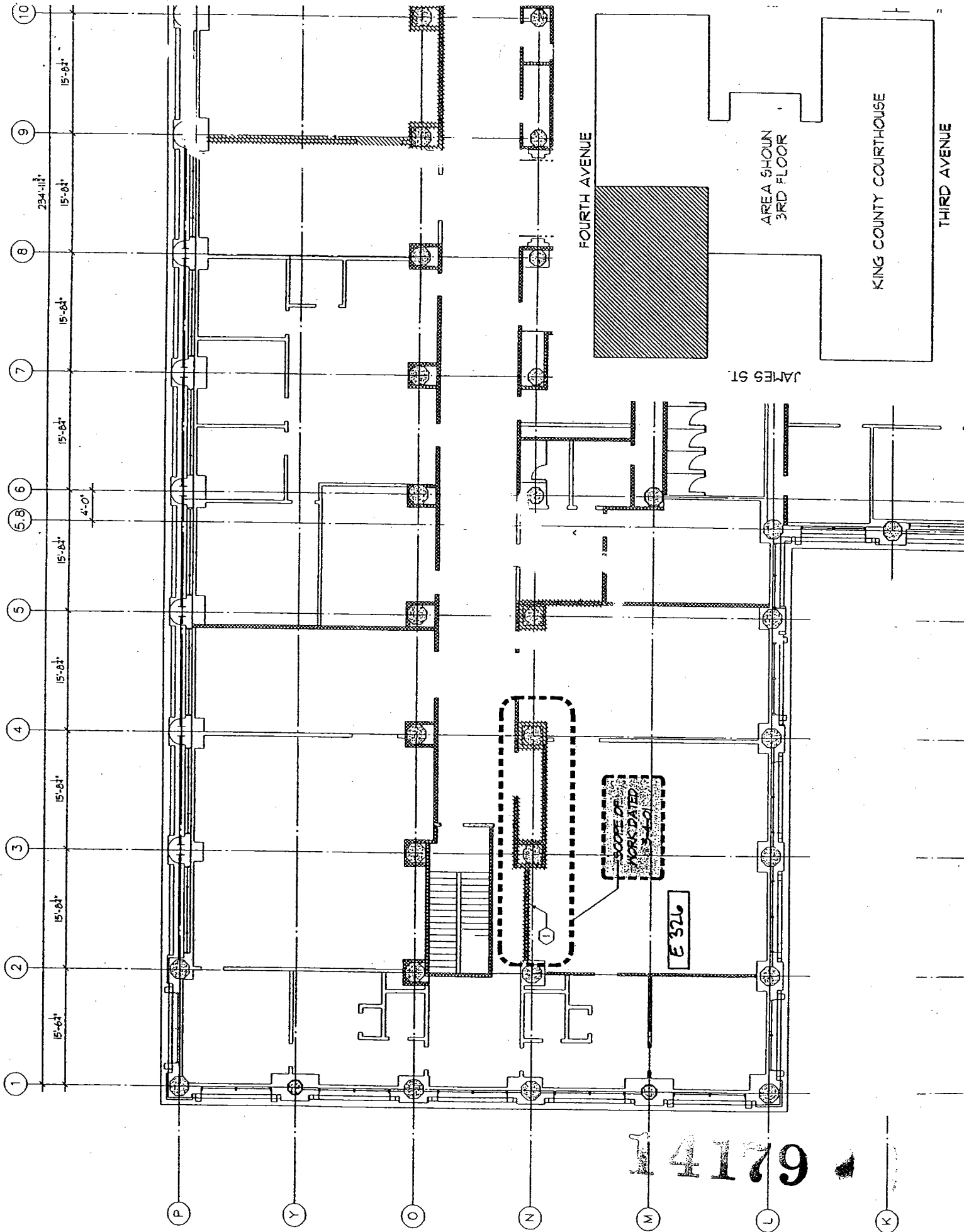
DWG - 2

14179



JAMES ST.

DWG. 3



FOURTH AVENUE

JAMES ST.

AREA SHOUN
3RD FLOOR

KING COUNTY COURTHOUSE

THIRD AVENUE

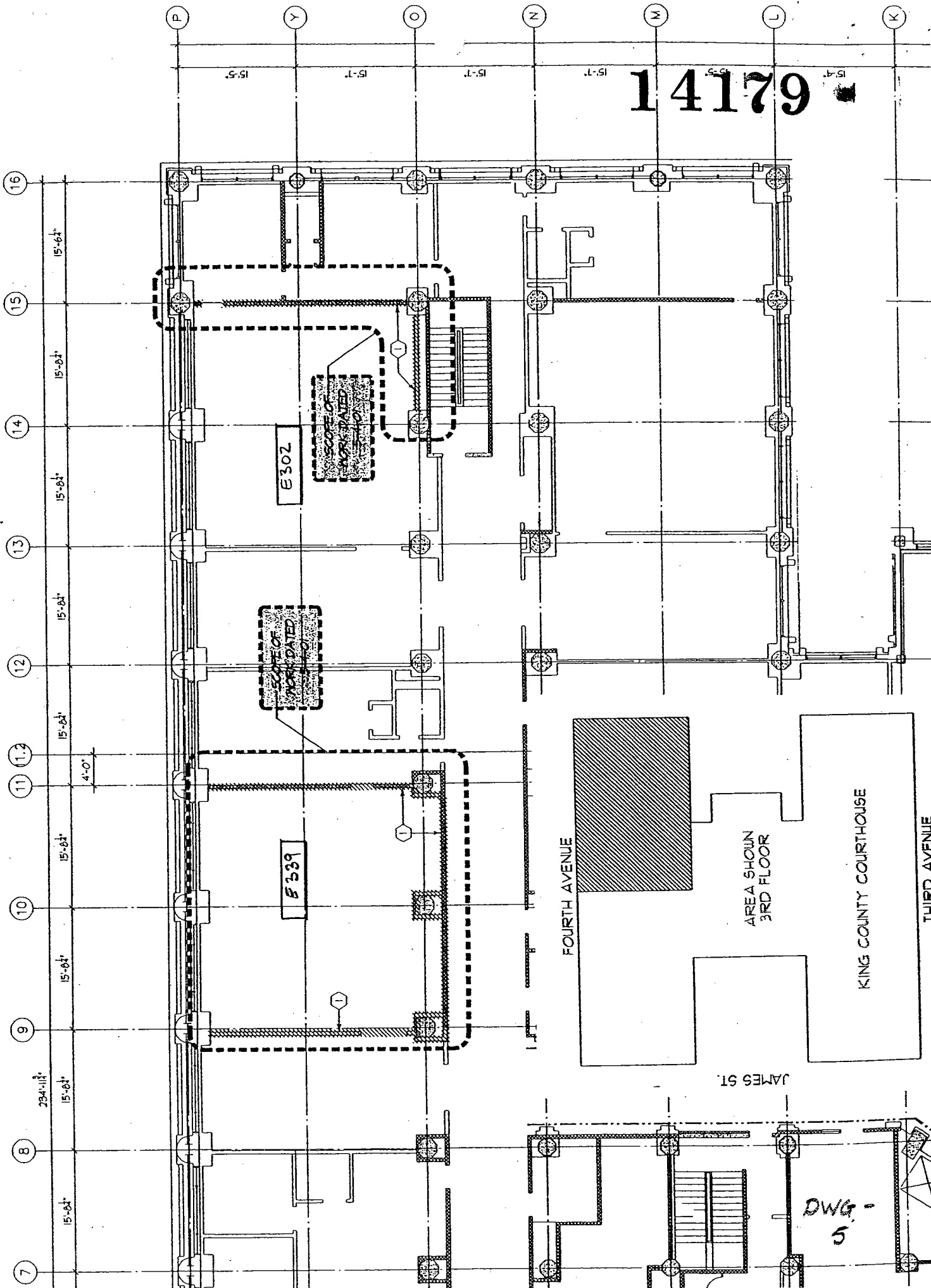
SCOPE OF
WORK DATED
11-23-50

E 326

14179

DWG - 4

14179



E302

E339

SCHEMATIC NOT DATED

SCHEMATIC NOT DATED

DWG - 5

FOURTH AVENUE

JAMES ST.

AREA SHOWN
3RD FLOOR

KING COUNTY COURTHOUSE

THIRD AVENUE

7 8 9 10 11 12 13 14 15 16

P Y O N M L K

29'-1 1/2"

15'-6"

15'-6"

15'-6"

15'-6"

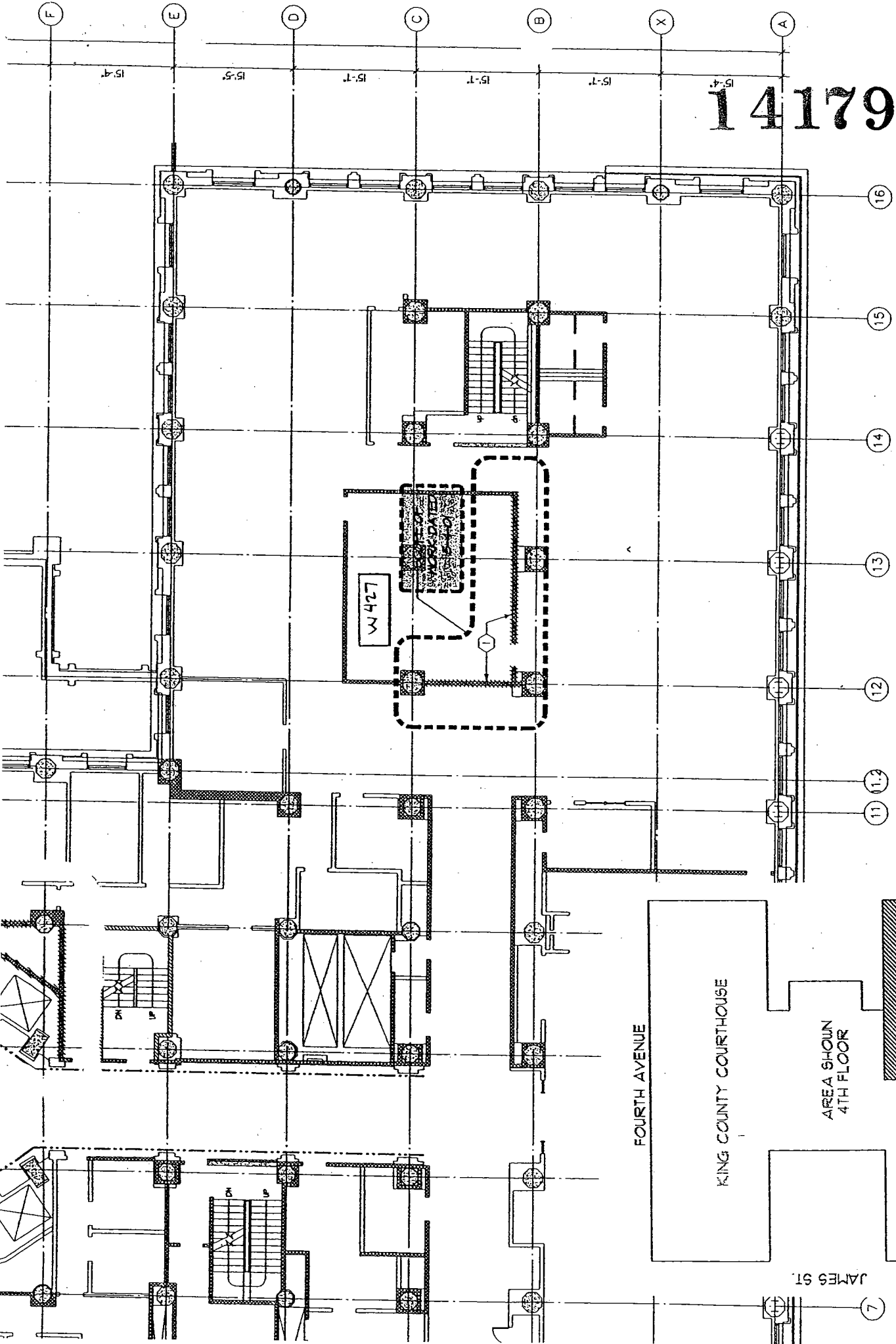
15'-6"

15'-5"

15'-7"

4'-0"

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FOURTH AVENUE

KING COUNTY COURTHOUSE

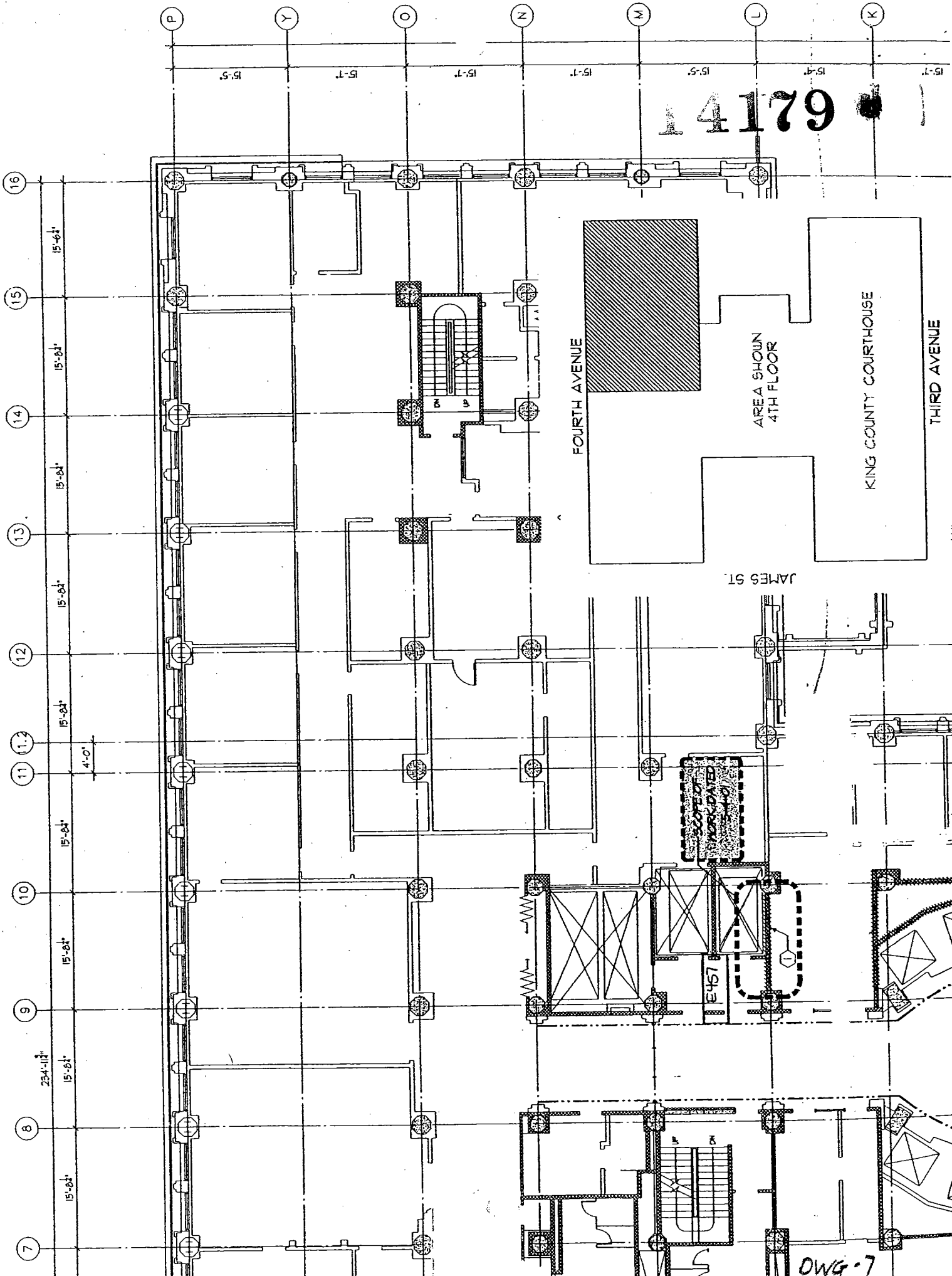
AREA SHOWN
4TH FLOOR

THIRD AVENUE

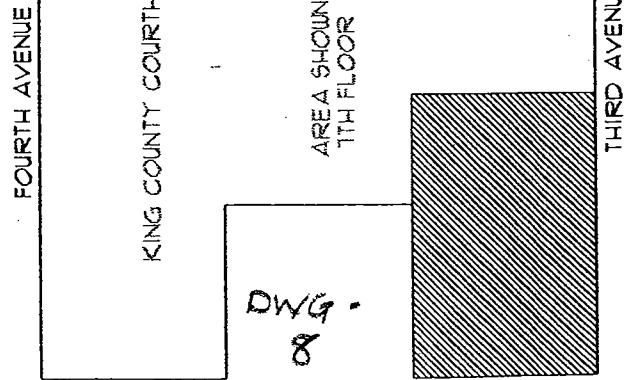
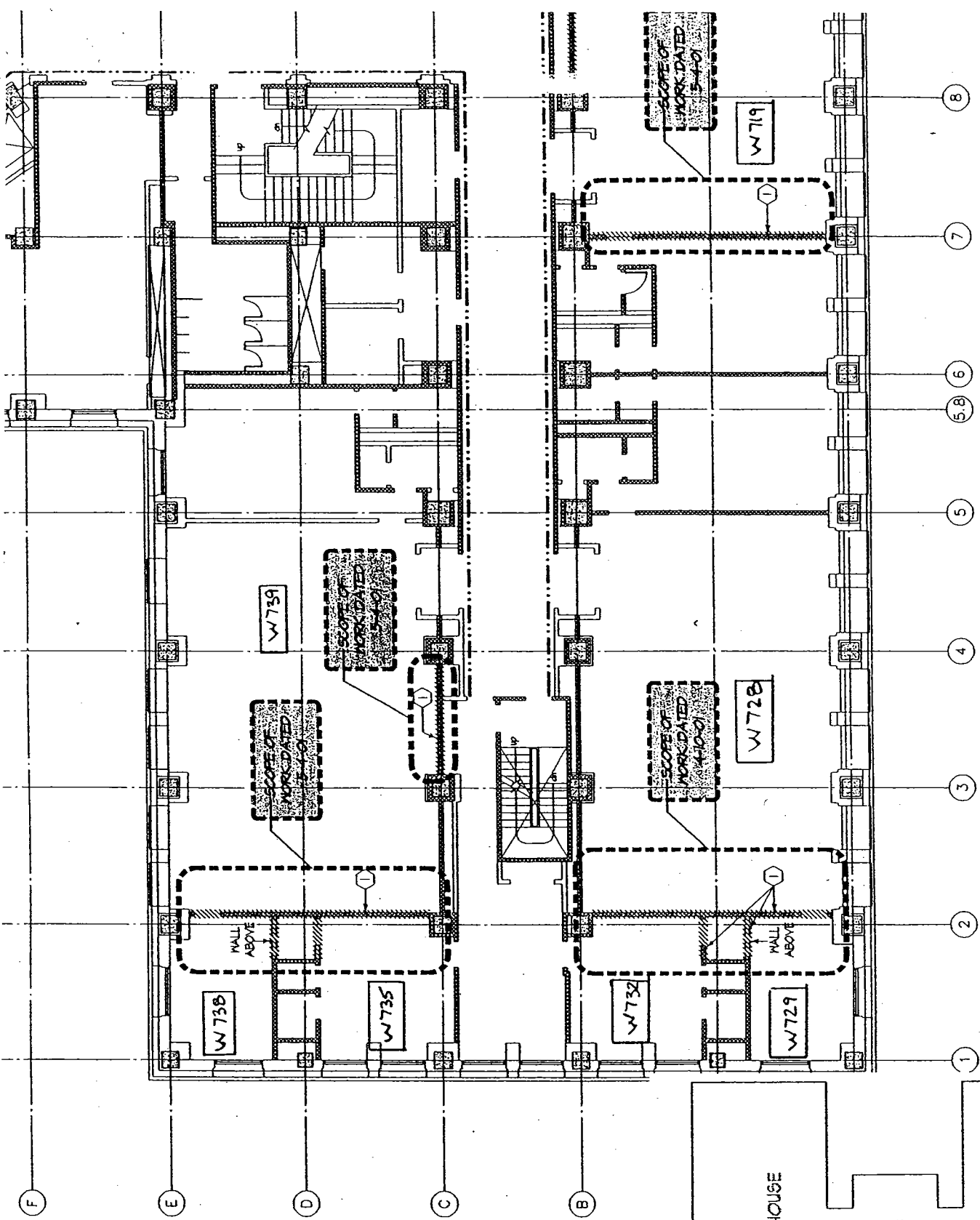
JAMES ST.

DWG-6

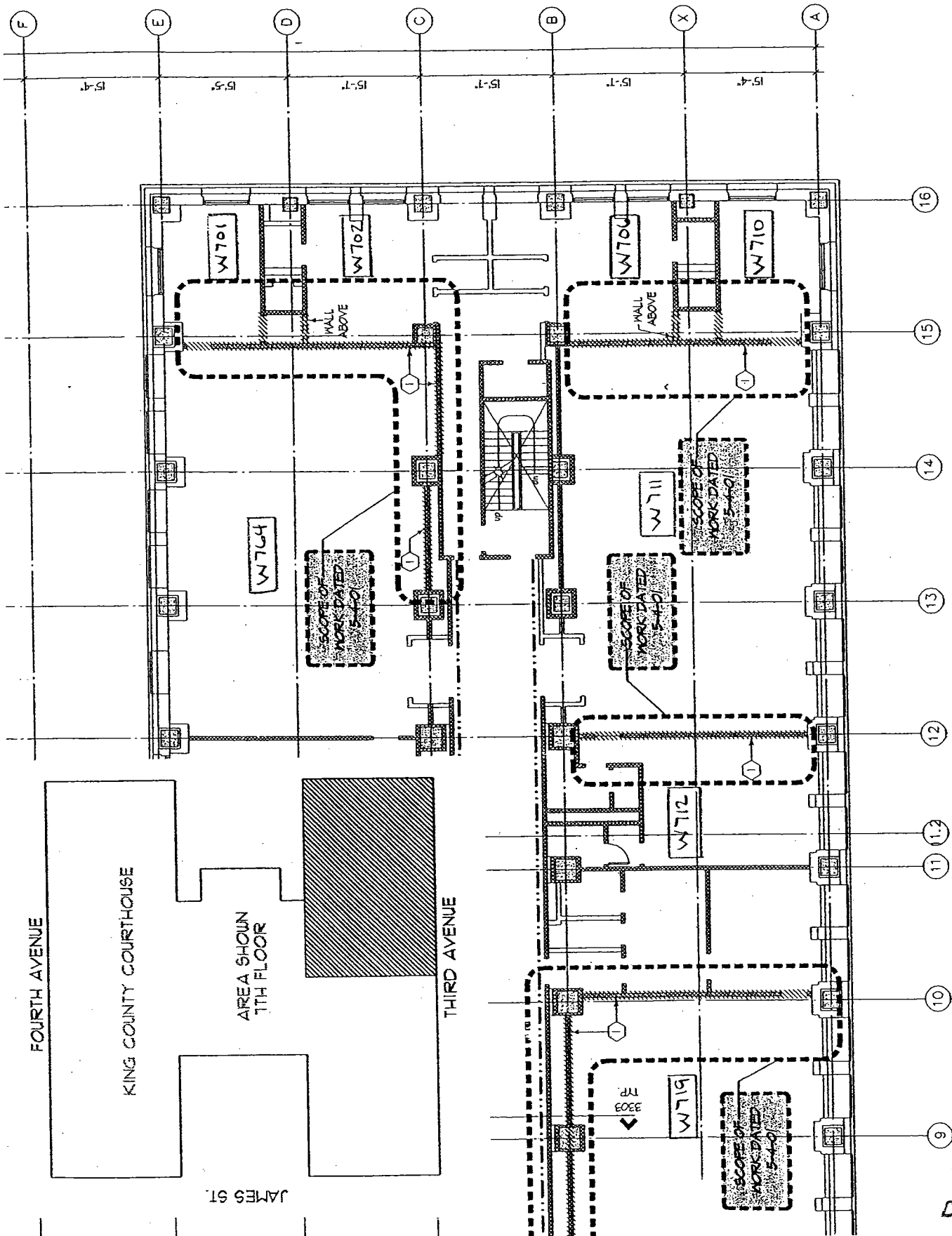
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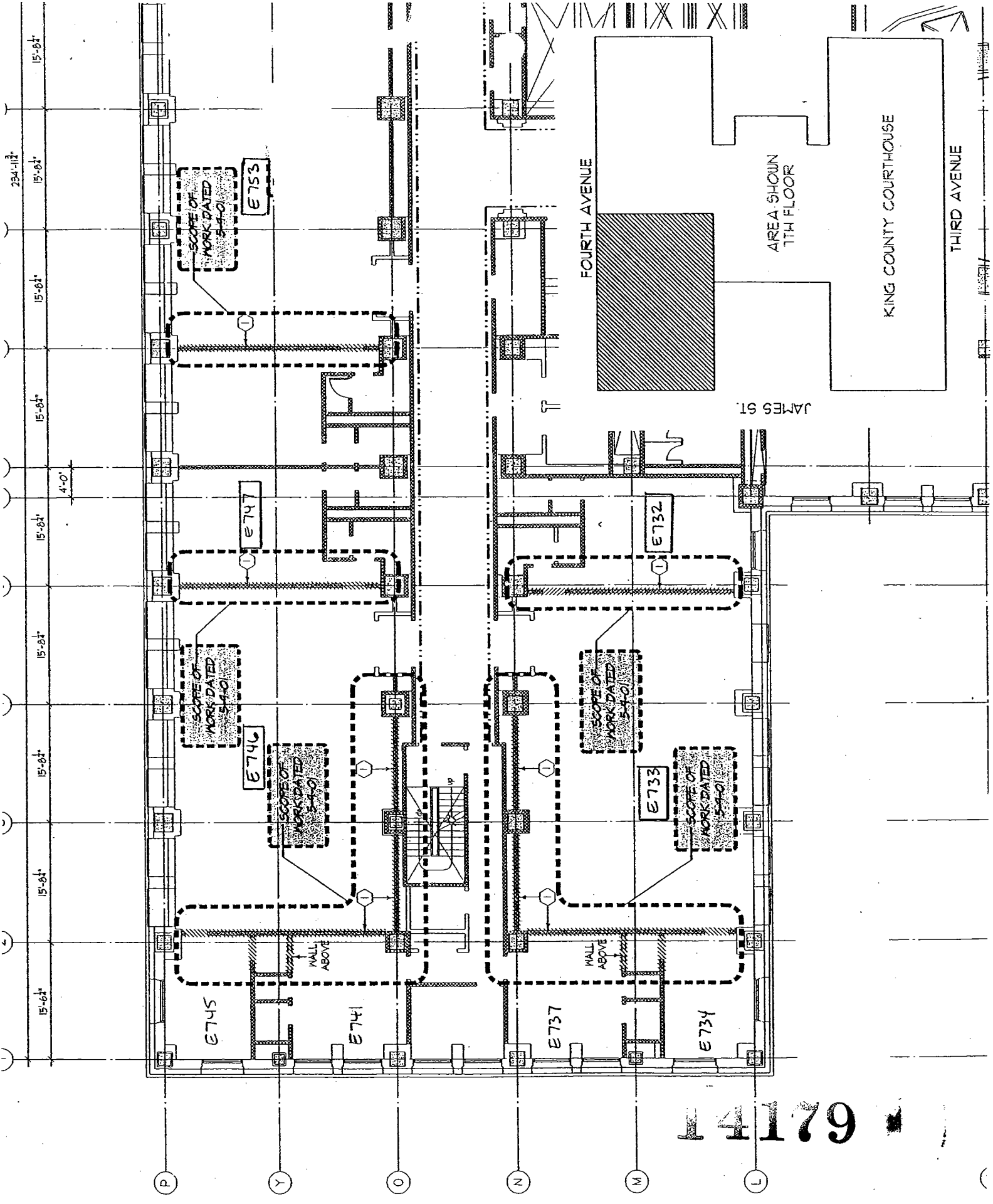
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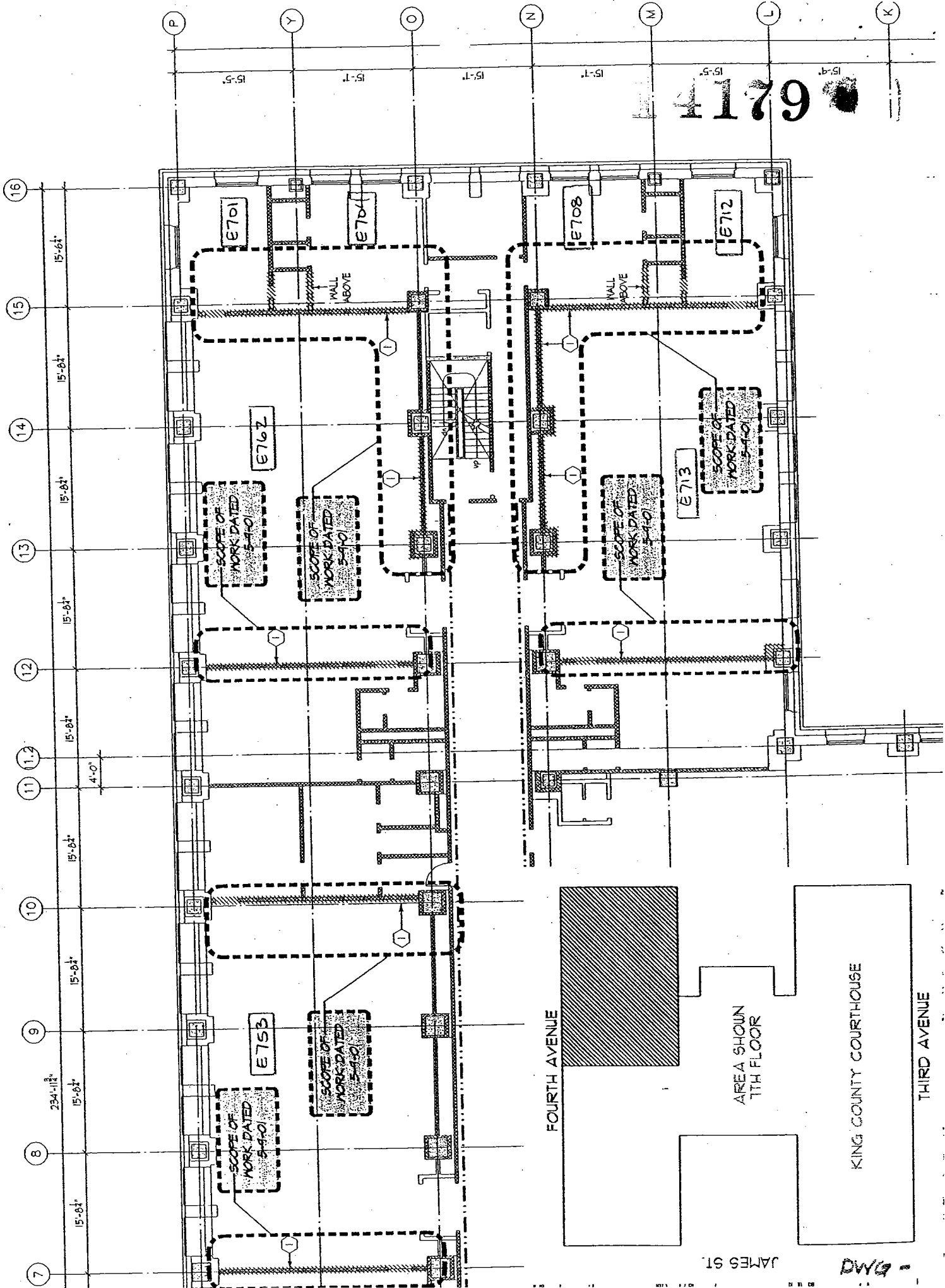


DWG-9

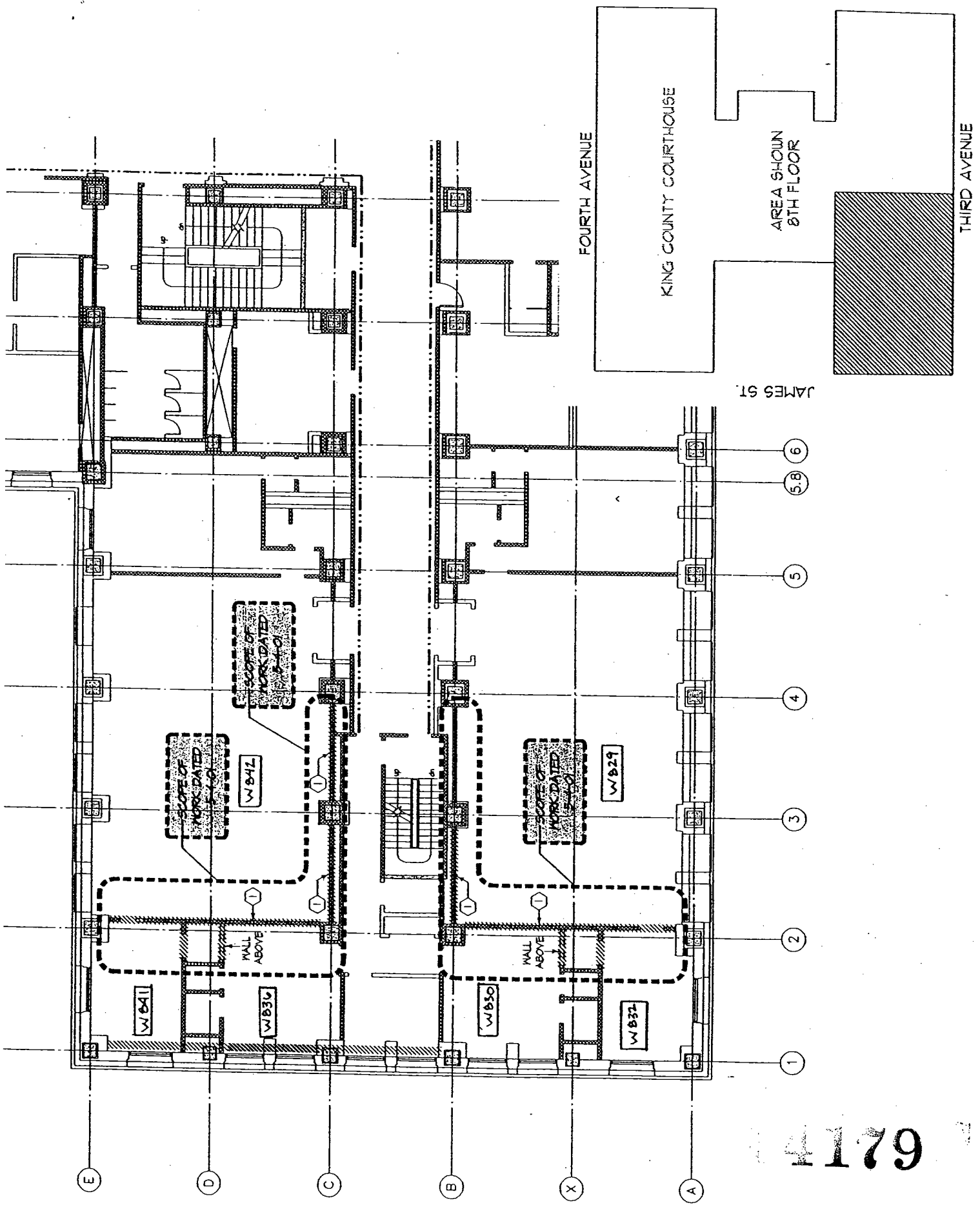


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6211



DWG -



JAMES ST.

FOURTH AVENUE

KING COUNTY COURTHOUSE

AREA SHOUN
8TH FLOOR

THIRD AVENUE

- 6
- 5.8
- 5
- 4
- 3
- 2
- 1

E

D

C

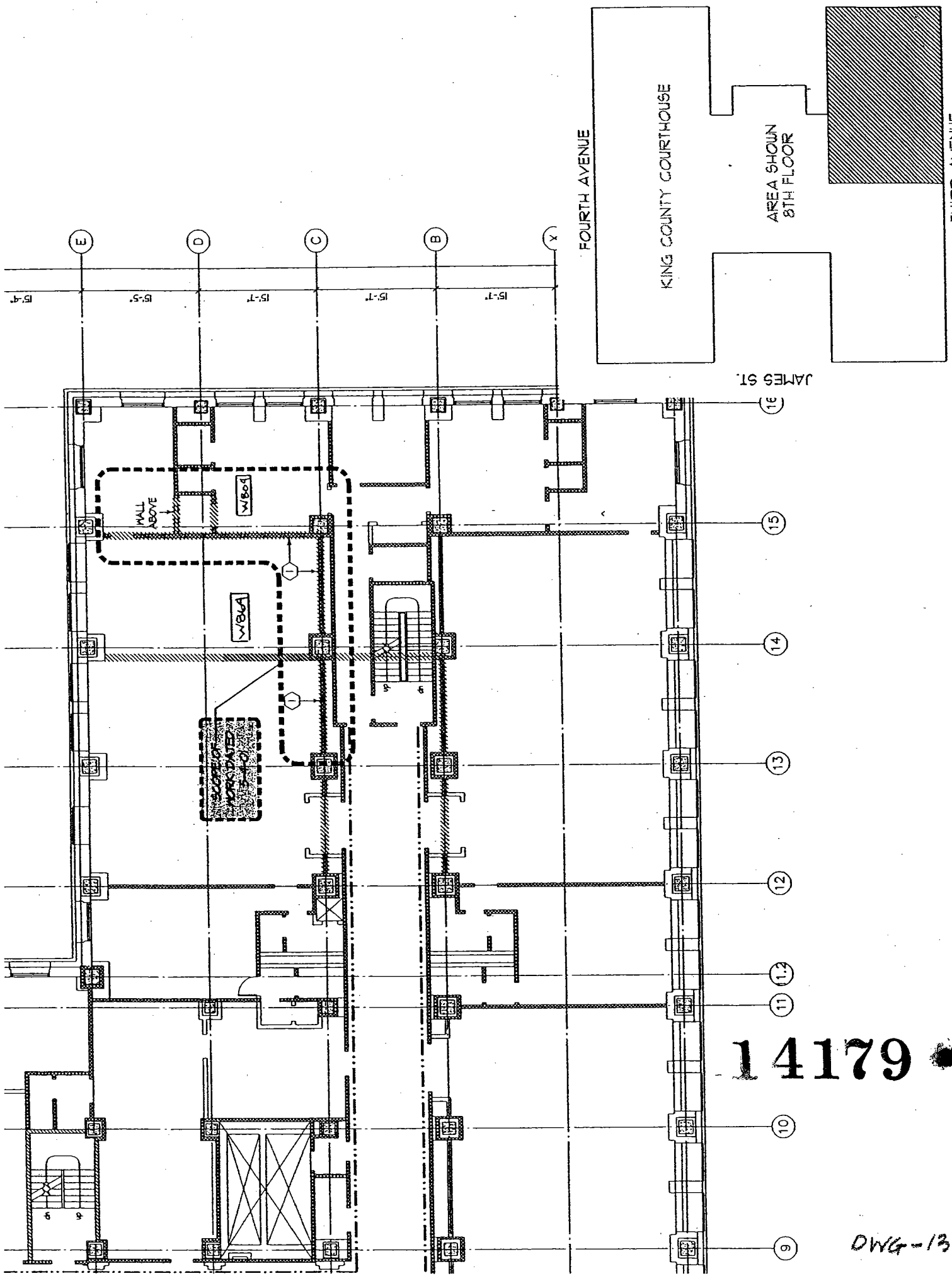
B

X

A

62179

RWG -12



14179

DWG-13

FOURTH AVENUE

KING COUNTY COURTHOUSE

AREA SHOWN
8TH FLOOR

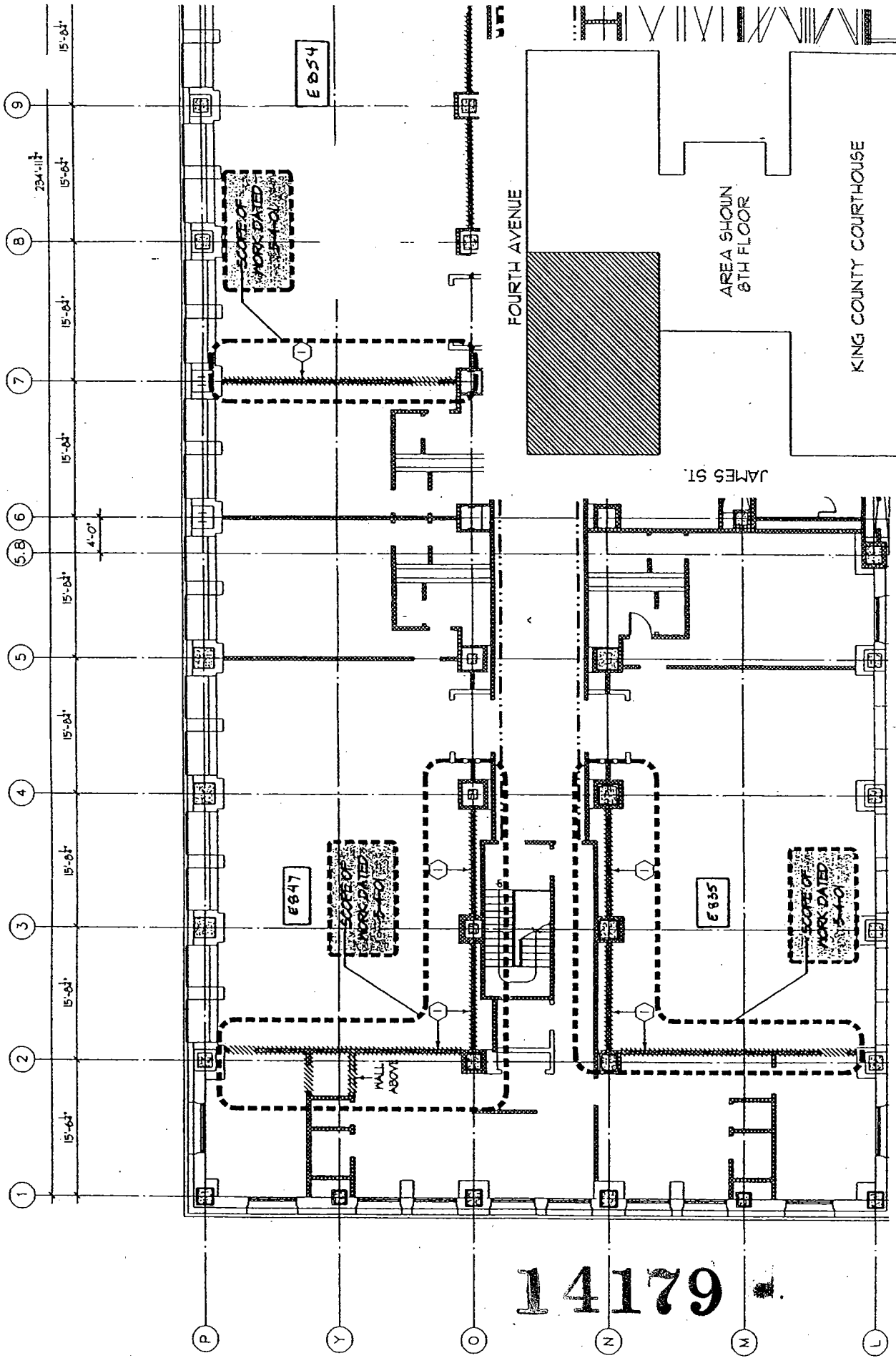
THIRD AVENUE

JAMES ST.

E
D
C
B
A

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15-4
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15-7
15-7
15-7



FOURTH AVENUE

JAMES ST.

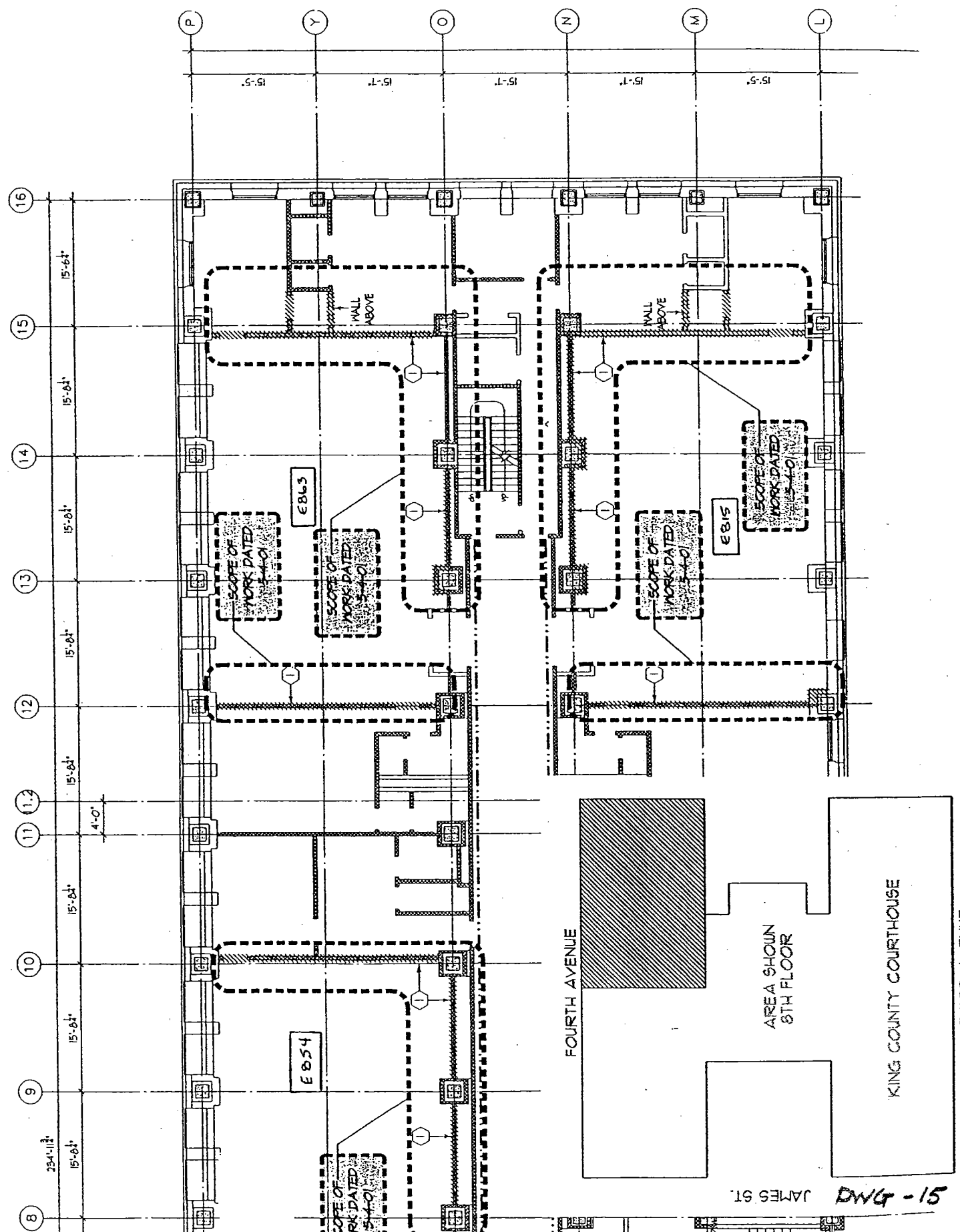
AREA SHOWN
8TH FLOOR

KING COUNTY COURTHOUSE

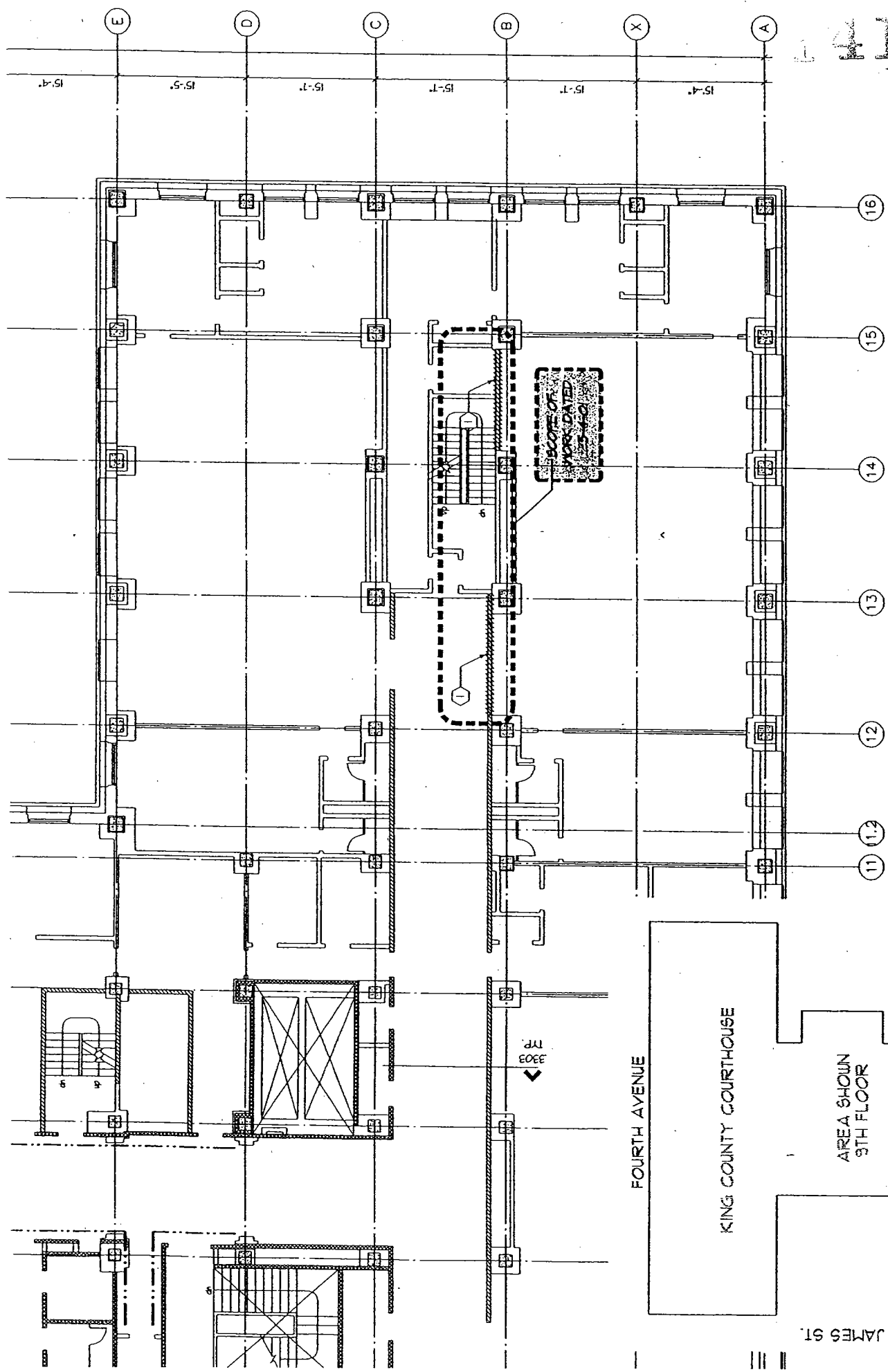
THIRD AVENUE

14179

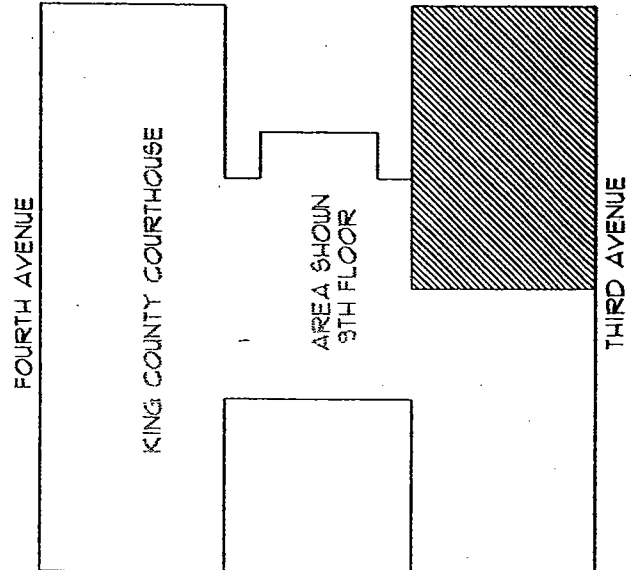
DWG-14



4179



SCOPE OF WORK LOCATED



FOURTH AVENUE

KING COUNTY COURTHOUSE

AREA SHOWN
9TH FLOOR

THIRD AVENUE

JAMES ST.

DWG-16

15-4
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3303 TR
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**King County Courthouse
Corridor/Public Assembly Wall Repairs**

2001 348

4179

Background

Subsequent to the Nisqually Earthquake of 02/28/01, many of the original hollow clay tile walls in the King County Courthouse sustained serious damage. These non-structural walls were not scheduled for replacement or repairs in the upcoming Courthouse Seismic Project. To insure that these walls would not impact the exit passageways and public assembly areas in another seismic event, the Department of Construction and Facilities Management(DCFM) undertook a study of these walls.

Purpose

The purpose of this study was to evaluate the extent and severity of the damage to the clay-tile walls that could impact the exits and public assembly areas and develop a recommendation for their repair. Specifically, the study investigated two areas:

- ⇒ The first was to insure the safety of the public in spaces likely to be occupied by 30 or more individuals.
- ⇒ The second was to insure the integrity of corridors to allow occupants safe exit from the building.

During the course of these investigations, walls in areas not occupied by large groups nor essential to exiting were identified and evaluated and will be repaired as the Courthouse Miscellaneous Crack Repair, project #134T03.

Methodology

To identify and evaluate the condition of the hollow clay-tile walls, DCFM retained the services of Freeman Fong Architecture. Freeman Fong, in turn, enlisted the services of Coughlin, Porter, Lundeen (CPL), a structural and civil engineering corporation. Together with King County personnel, the consultant team examined and documented the clay-tile walls in the Courthouse that were adjacent to or within corridors or public assembly areas. Damage to these walls was evaluated on a case-by-case basis utilizing criteria developed from information assembled by CPL for the "Courthouse Seismic Project." These criteria are listed below:

1. Modeling parameters previously established from a pushover analysis of the Courthouse included the clay-tile infill panels. A number of the walls have deformed to a failure limit. This analysis indicated that above approximately 0.14% story drift, clay-tile wall panels suffered a degradation of in-plane stiffness. This interstory drift of 0.14% equates to a ¼" deflection between floors. It was evident that several of the courtroom walls, based upon deformations in the doorframes, have exceeded the failure limit.
2. Severe horizontal cracks in the middle third of the wall height. From visual observations, it was apparent that several of the walls in the Courthouse were severely weakened by the out-of-plane movement of the walls. This was evident from the horizontal cracks in the walls.
3. Severe diagonal cracking of the walls. Several of the walls had numerous diagonal cracks in the plaster as a result of in-plane deformations. These cracks represent movement in the wall greater than the interstory drift of 0.14% noted above.

Walls that failed to meet the test criteria were identified and documented.

Recommendations

1. After evaluating the public assembly and corridor walls against the test criteria, the consultant team recommended the repair/replacement of the walls identified on the attached drawings DWG 1-16. The total of wall repair/replacement is summarized below:

2 nd Floor:	Approximately 160 lineal feet
3 rd Floor:	Approximately 560 lineal feet
4 th Floor:	Approximately 250 lineal feet
7 th Floor:	Approximately 760 lineal feet
8 th Floor:	Approximately 720 lineal feet
9 th Floor:	Approximately 40 lineal feet
TOTAL	Approximately 2,490 lineal feet

2. After consideration of several repair/replacement strategies by the consultant team, it was determined the most economical method of repairing the damaged clay-tile walls would be to remove and replace them with new construction. The replacement walls will be constructed of metal stud, gypsum wallboard and acoustical insulation to meet acoustical standards were required. These new walls will meet current building and earthquake codes.
3. The estimated cost of this recommendation for replacing the walls is \$3,063,722 as detailed on the attached summary sheets EST 1-5. DCFM with the assistance of the consulting team developed this cost estimate.
4. Procurement Process: DCFM recommends that this project be included as a Bid Alternate within the CSP project. This recommendation is made to limit the number of contractors within the Courthouse and to single source for the coordination of all of the seismic related projects.