(2) Quantity of Equipment Items Distributed according to Location

The quantity of equipment items distributed according to the location is shown in Table 5.

Table 5 Equipment Distribution List

1/10

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CLDR	FVM
001	Illumination lamp for vaginal speculum	1	0	0	0	0	0	0	1	0	0
002	Thermo-regoratable cabinet for semen	1	0	0	0	0	0	0	1	0	0
003	Estrous tester for cow	1	0	0	0	0	0	0	1	0	0
004	Kit box for insemination instrument	4	0	0	0	0	0	0	4	0	0
005	Semen vials, 5ml	4	0	0	0	0	0	0	4	0	0
006	Semen vials, 10ml	4	0	0	0	0	0	0	4	0	0
007	Semen examination plate	4	0	0	0	0	0	0	4	0	0
008	Semen examination plate, two specimen	4	0	0	0	0	0	0	4	0	0
009	Semen container	1	0	0	0	0	0	0	1	0	0
010	Sperm counter	20	0	0	0	0	0	0	20	0	0
011	Sperm counting plate	4	0	0	0	0	0	0	4	0	0
012	Macro tube for semen	1	0	0	0	0	0	0	1	0	0
013	Cryo vials	4	0	0	0	0	0	0	4	0	0
014	Artificial vagina for sheep	4	0	0	0	0	0	0	4	0	0
015	Insemination equipment for sheep	4	0	0	0	0	0	0	4	0	0
016	Insemination pipette for sheep, curved	4	0	0	0	0	0	0	4	0	0
017	Insemination pipette for sheep, straight	4	0	0	0	0	0	0	4	0	0
018	Inner liner, tapered	4	0	0	0	0	0	0	4	0	0
019	Inner liner, straight	4	0	0	0	0	0	0	4	0	0
020	Chain block	1	0	0	0	0	1	0	0	0	0
021	Lifter	1	1	0	0	0	0	0	0	0	0
022	Dissecting instrument	2	0	0	0	0	2	0	0	0	0
023	Stainless steel basin and anatomy kit	16	16	0	0	0	0	0	0	0	0
024	Dissecting table	16	16	0	0	0	0	0	0	0	0
025	Blood extracting apparatus	1	1	0	0	0	0	0	0	0	0
026	Caster for animal	1	1	0	0	0	0	0	0	0	0
027	Rabbit cage	10	0	0	0	0	0	0	0	10	0
028	Chicken cage	10	0	0	0	0	0	0	0	10	0
029	Mouse cage, small	40	0	0	0	0	0	0	0	40	0
030	Mouse cage, large	20	0	0	0	0	0	0	0	20	0

Table 5 Equipment Distribution List

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CLDR	EVM
031	Rat cage	20	0	0	0	0	0	0	0	20	0
032	Scale for small animal	1	0	0	0	0	0	0	0	1	0
033	Scale for large animal	1	0	0	0	0	0	0	0	1	0
034	Catheter for cattle	4	0	0	4	0	0	0	0	0	0
035	Catheter for horse	4	0	0	4	0	0	0	0	0	0
036	Catheter sterilizer	1	0	0	0	0	0	0	1	0	0
037	Stomach tube for cattle	4	0	0	4	0	0	0	0	0	0
038	Stomach tube for horse	4	0	0	4	0	0	0	0	0	0
039	Surgical instrument, small animal	12	0	0	0	0	0	10	1	1	0
040	Surgical instrument, large animal	1	0	0	0	0	0	0	0	1	0
041	De-horn	1	0	0	0	0	0	0	1	0	0
042	De-beaker	2	0	0	0	0	0	2	0	0	0
043	Stethoscope	40	0	0	40	0	0	0	0	0	0
044	Electrical acupuncture stimulator	1	1	0	0	0	0	0	0	0	0
045	Acupuncture needle for cattle	8	8	0	0	0	0	0	0	0	0
046	Acupuncture needle for small animal	8	8	0	0	0	0	0	0	0	0
047	Yalk and albumin height measuring apparatus	2	0	0	0	0	0	2	0	0	0
048	Egg candler	11	5	0	0	4	0	2	0	0	0
049	Egg scanning box	1	0	0	0	1	0	0	0	0	0
050	Egg shell thickness measuring apparatus	2	0	0	0	0	0	2	0	0	0
051	Egg air room measuring apparatus	2	0	0	0	0	0	2	0	0	0
052	Egg shape measuring apparatus	2	0	0	0	0	0	2	0	0	0
053	Egg haugh calculator	2	0	0	0	0	0	2	0	0	0
054	Egg hatchery, 40 eggs	2	0	0	0	0	0	2	0	0	0
055	Egg hatchery, 80 eggs	3	1	0	0	1	0	0	0	1	0
056	Water regulation fish tank	6	6	0	0	0	0	0	0	0	0
057	Gerber centrifuge with water bath	1	1	0	0	0	0	0	0	0	0
058	Milking machine	1	0	0	0	0	0	1	0	0	0
059	Thermostat set for bacterial contamination check	1	0	0	0	0	0	0	0	1	0
060	Stainless net for glass beads method	10	0	0	0	0	0	0	0	10	0

Table 5 Equipment Distribution List

3/10

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CLDR	FVM
061	Drain siphon for liver-fluke examination	2	0	0	0	0	0	0	0	2	0
062	Egg counter	30	0	0	0	0	0	0	0	30	0
063	Rotator for glass beads method of liver-fluke eggs	1	0	0	0	0	0	0	0	1	0
064	Draining Siphon	20	0	0	0	0	0	0	0	20	0
066	Educational slide for parasitology	1	0	0	0	1	0	0	0	0	0
067	Set of slides	1	0	0	0	1	0	0	0	0	0
069	X-ray device cassette for animals	1	0	0	0	0	0	0	1	0	0
070	Meat grinder	3	0	3	0	0	0	0	0	0	0
071	Automatic blood parameter counter	1	0	0	0	0	0	0	1	0	0
072	Incinerator for small animal	1	0	0	0	0	0	0	0	0	1
073	Over head projector	1	0	0	0	0	1	0	0	0	0
074	Camera	1	0	0	0	0	1	0	0	0	0
075	Direct projector	2	0	0	1	1	0	0	0	0	0
076	Video camera and monitor	3	1	0	0	0	0	0	2	0	0
079	Computer	4	0	0	0	0	0	0	0	3	1
083	A4 printer	4	0	0	0	0	0	0	0	3	1
084	UPS	4	0	0	0	0	0	0	0	3	1
085	Air conditioner	6	0	0	0	0	0	0	0	6	0
086	Copy machine	1	0	0	0	0	0	0	0	1	0
087	Ice machine	1	0	0	0	0	0	0	0	1	0
088	Deep freezer	2	0	0	0	0	0	0	0	2	0
089	Microwave oven	2	0	0	0	0	0	0	0	2	0
090	Refrigerator	9	2	2	1	1	0	0	0	3	0
091	Freezer	4	0	1	0	0	0	1	0	2	0
092	Disease sample collection vehicle	1	0	0	0	0	0	0	0	1	0
093	Field training bus	2	0	0	0	0	0	0	0	0	2
094	Kymograph	14	0	0	0	0	0	14	0	0	0
095	Metal detector	1	0	0	1	0	0	0	0	0	0
096	Urometer	1	0	0	1	0	0	0	0	0	0
097	Stainless steel basket for autoclave for 300mm dia.	6	0	0	0	2	4	0	0	0	0

Table 5 Equipment Distribution List

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CEDR	EVM
098	Stainless steel box for autoclave, 120mm dia.	10	0	0	0	2	8	0	0	0	0
099	Stainless steel box for autoclave for 300mm dia.	2	0	0	0	0	2	0	0	0	0
100	Balance, 100g	1	0	0	0	0	0	0	0	1	0
101	Scale 2kg	1	0	0	0	0	0	0	0	1	0
102	Scale 8kg	1	0	0	0	0	0	0	0	1	0
103	Electronic balance, 200g	2	0	0	0	0	0	1	0	1	0
104	Electronic balance, 400g	8	0	1	0	1	0	5	0	1	0
105	Electronic balance, 1000g	4	0	2	0	1	0	1	0	0	0
106	Electronic balance, 3000g	2	0	1	0	0	0	1	0	0	0
107	Electronic balance, 2000g	2	0	0	0	0	0	0	0	2	0
108	Medium	1	0	0	0	0	0	0	0	1	0
109	Hematocrit centrifuge	2	0	0	1	0	0	0	0	1	0
110	Centrifuge, 6000rpm	8	0	1	2	1	1	2	0	1	0
111	Personal centrifuge	4	0	0	0	0	0	1	0	3	0
112	Refrigerated micro centrifuge	1	0	0	0	0	0	0	0	1	0
113	Refrigerated centrifuge, high speed	1	0	0	0	0	0	0	0	1	0
114	Table top centrifuge, refrigerated	1	0	0	0	0	0	0	0	1	0
115	Bio clean bench	3	0	0	0	1	0	0	0	2	0
116	Draft chamber	3	0	0	0	0	0	3	0	0	0
117	Western blotting system	1	0	0	0	0	0	0	0	1	0
118	Southern blotting system	1	0	0	0	0	0	0	0	1	0
119	Program power supply	1	0	0	0	0	0	0	0	1	0
120	Electrophoresis system, agar gel	1	0	0	0	0	0	0	0	1	0
121	Electrophoresis system, acetate film	1	0	0	0	0	0	0	0	1	0
122	Electrophoresis system, polyacrylamide gel	1	0	0	0	0	0	0	0	1	0
123	Photosystem for electrophoresis	1	0	0	0	0	0	0	0	1	0
124	Power unit for electrophoresis	1	0	0	0	0	0	0	0	1	0
125	Alcohol burner	2	0	0	0	0	0	0	0	2	0
126	Alcohol burner, double loop	2	0	0	0	0	0	0	0	2	0
127	Alcohol burner, single loop	10	0	0	0	0	0	8	0	2	0

Table 5 Equipment Distribution List

5/10

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CLDR	FVM
128	Gas burner, tekra type	2	0	0	0	0	0	0	0	2	0
129	Gas burner, Bunsen	4	0	0	0	0	0	0	0	4	0
130	Gas burner, Bunsen strong flame	2	0	0	0	0	0	0	0	2	0
131	Gas burner for glass handicraft	2	0	0	0	0	0	0	0	2	0
132	Laboratory glass ware	1	0	0	0	0	0	0	0	1	0
133	Sampling tube	10	0	0	0	0	10	0	0	0	0
134	Dilutor	36	0	0	0	0	0	0	0	36	0
135	Disposal container	8	0	0	0	8	0	0	0	0	0
136	Dropper	3	0	0	0	0	0	0	0	3	0
137	Pipette case	4	0	0	0	0	0	0	0	4	0
138	Pipette controller	4	0	0	0	0	0	0	0	4	0
139	Pipette pump	2	0	0	0	0	0	0	0	2	0
140	Filter holder	6	0	0	0	0	0	0	0	6	0
141	Plastic wares	1	0	0	0	0	0	0	0	1	0
142	Porcelain cups for oven	40	0	0	0	0	0	40	0	0	0
143	Safety pipette	2	0	0	0	0	0	0	0	2	0
144	Dishes used for dryer	40	0	0	0	0	0	40	0	0	0
145	Fat extraction apparatus	4	0	0	0	0	0	4	0	0	0
146	Test tube basket	1	0	0	0	0	0	0	0	1	0
147	Test tube rack	1	0	0	0	0	0	0	0	1	0
148	Counter	20	0	0	0	0	20	0	0	0	0
149	Counter, multi	10	0	10	0	0	0	0	0	0	0
150	Culturing bottle, plastic	1	0	0	0	0	0	0	0	1	0
151	Drying rack, wall-type	2	0	0	0	0	0	0	0	2	0
152	Culture dish sterilizing container, small	20	0	0	0	0	0	0	0	20	0
153	Culture dish sterilizing container, large	20	0	0	0	0	0	0	0	20	0
154	Gas chromatograph	1	0	0	0	0	0	0	0	1	0
155	HPLC	1	0	0	0	0	0	0	0	1	0
156	Measuring pipette, 0.1ml	8	0	8	0	0	0	0	0	0	0
157	Measuring pipette, 1ml	8	0	8	0	0	0	0	0	0	0
158	Measuring pipette 10ml	8	0	8	0	0	0	0	0	0	0

Table 5 Equipment Distribution List

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Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CEDR	FVM
159	ELISA reader system	1	0	0	0	0	0	0	0	1	0
160	Rotary tissue processor	1	1	0	0	0	0	0	0	0	0
161	Osmometer	1	0	0	0	0	0	0	0	1	0
162	Process homogenizer	1	0	0	0	0	0	1	0	0	0
163	Homogenizer	1	0	0	0	0	0	0	0	1	0
164	Micro homogenizer	1	0	0	0	1	0	0	0	0	0
165	Ultrasonic homogenizer	1	0	0	0	0	0	0	0	1	0
166	Cell homogenizer, motor driven	1	0	0	0	1	0	0	0	0	0
167	Manual homogenizer	5	0	0	0	0	0	0	0	5	0
168	Homogenizer cup and cutter 100-200ml	1	0	0	0	0	0	0	0	1	0
169	Homogenizer bath/cup holder 100-200ml	1	0	0	0	0	0	0	0	1	0
170	Homogenizer cup and cutter 100-500ml	1	0	0	0	0	0	0	0	1	0
171	Homogenizer bath/cup holder 100-500ml	1	0	0	0	0	0	0	0	1	0
172	Homogenizer cup and cutter 500-1000ml	1	0	0	0	0	0	0	0	1	0
173	Homogenizer bath/cup holder 500-1000ml	1	0	0	0	0	0	0	0	1	0
174	CO2 incubator	2	0	0	0	0	0	0	0	2	0
175	Incubator	4	0	0	1	1	0	0	0	2	0
176	Low temperature incubator	1	0	0	0	0	0	0	0	1	0
177	pH meter	5	0	0	0	0	0	0	0	5	0
178	pH meter for lab.	5	0	2	1	0	0	1	0	1	0
179	pH meter for meat	3	0	3	0	0	0	0	0	0	0
180	Cork borer	1	0	0	0	0	0	0	0	1	0
181	Slide heat dryer	2	1	0	0	0	1	0	0	0	0
182	Desiccator, auto-type	4	0	0	0	0	0	0	0	4	0
183	Desiccator	3	0	0	0	0	0	0	0	3	0
184	Neubauer blood cell counter	50	10	0	20	0	20	0	0	0	0
185	Incubator for paraffin wax	1	0	0	0	0	1	0	0	0	0
186	Handy cooler	1	0	0	0	0	0	0	0	1	0
187	Fraction collector system	1	0	0	0	0	0	0	0	1	0

Table 5 Equipment Distribution List

7/10

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CLDR	FVM
188	Hot plate	1	0	0	0	0	0	0	0	1	0
189	Magnifier with illumination stand	2	0	0	0	0	0	0	0	2	0
190	Mantle heater	4	0	0	0	0	0	4	0	0	0
191	Monitor for fraction collector	1	0	0	0	0	0	0	0	1	0
192	Lab. cart	3	0	0	0	0	0	0	0	3	0
193	Lab. jack	1	0	0	0	0	0	0	0	1	0
194	Rotary evaporator	1	0	1	0	0	0	0	0	0	0
195	LN2 container 10 liter	1	0	0	0	0	0	0	1	0	0
196	LN2 container 30 liter	2	0	0	0	0	0	0	0	2	0
197	LN2 container 50 liter	2	0	0	0	0	0	0	0	2	0
198	Pressure filtration tank	1	0	0	0	0	0	0	0	1	0
199	Drying shelf	1	0	0	0	0	0	0	0	1	0
200	Drying shelf with curtain	1	0	0	0	0	0	0	0	1	0
201	Hot air sterilizer	2	0	1	0	0	0	0	1	0	0
202	Hot air sterilizer, large	1	0	0	0	0	0	0	0	1	0
203	Rapid agglutination tester	3	0	0	0	0	0	0	0	3	0
204	Refractometer	2	0	0	0	0	0	1	0	1	0
205	Blood pressure meter	8	0	0	0	0	0	8	0	0	0
206	Anaerobic bacteria culturing apparatus	1	0	0	0	0	0	0	0	1	0
207	Temperature and humidity control box	1	0	0	0	0	0	1	0	0	0
208	Automatic burette	4	0	0	0	0	0	4	0	0	0
209	Infrared moisture meter	4	0	3	0	0	0	1	0	0	0
210	Turbidity meter	1	0	0	0	0	0	0	0	1	0
211	Cool plate	1	0	0	0	0	0	0	0	1	0
212	Voltage regulator	1	0	0	0	0	0	0	0	1	0
213	Sugar measuring device	1	0	0	0	0	0	1	0	0	0
214	Viscometer	1	0	1	0	0	0	0	0	0	0
215	Dialysis system	1	0	0	0	0	0	0	0	1	0
216	Laboratory mill	2	0	0	0	0	0	2	0	0	0
217	Cool cabinet	1	0	0	0	0	0	0	0	1	0
218	Pipette sterilizing containers	1	0	0	0	0	0	0	0	1	0

Table 5 Equipment Distribution List

8/10

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CLDR	FVM
219	Filtration system	1	0	0	0	0	0	0	0	1	0
220	Autoclave, small	7	0	0	0	2	1	0	1	3	0
221	Autoclave, large	1	0	0	0	0	0	0	0	1	0
222	Column chromatograph	1	0	0	0	0	0	0	0	1	0
223	Calorimeter	1	0	0	0	0	0	1	0	0	0
224	Gel punchers for agar gel	2	0	0	0	0	0	0	0	2	0
225	Colony counter	2	0	0	0	2	0	0	0	0	0
226	Plate warmer	1	0	0	0	0	0	0	1	0	0
227	Microtome	2	1	0	0	0	1	0	0	0	0
228	Roller culture system	1	0	0	0	0	0	0	0	1	0
229	Automatic titration unit for Kjeldhal	1	0	0	0	0	0	1	0	0	0
230	Laboratory table	8	0	0	0	0	0	0	0	8	0
231	Macro photography system	1	0	0	0	0	0	0	0	1	0
232	Micro titer system	2	0	0	0	0	0	0	0	2	0
233	Fluorescent microscope, trinocular (CLDR)	1	0	0	0	0	0	0	0	1	0
234	Double head microscope	1	1	0	0	0	0	0	0	0	0
235	Microscope with camera for lab.	3	0	0	0	0	2	1	0	0	0
236	Microscope with camera CLDR)	1	0	0	0	0	0	0	0	1	0
237	Multi head microscope with monitor for lab.	1	0	0	0	1	0	0	0	0	0
238	Multi head microscope for lab.	1	0	0	0	0	1	0	0	0	0
239	Microscope with monitor for lab.	2	0	1	1	0	0	0	0	0	0
240	Microscope for lab.	154	20	30	10	40	30	20	4	0	0
241	Microscope (CLDR)	2	0	0	0	0	0	0	0	2	0
242	Stereoscopic microscope with camera for lab.	1	0	1	0	0	0	0	0	0	0
243	Stereoscopic microscope with camera (CLDR)	1	0	0	0	0	0	0	0	1	0
244	Stereoscopic microscope for lab.	20	0	10	0	10	0	0	0	0	0
245	Stereoscopic microscope (CLDR)	2	0	0	0	0	0	0	0	2	0
246	Inverted microscope	1	0	0	0	0	0	0	0	1	0
247	Inverted fluorescent microscope (CLDR)	1	0	0	0	0	0	0	0	1	0

Table 5 Equipment Distribution List

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Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CEDR	FVM
248	Inverted microscope, trinocular (CEDR)	1	0	0	0	0	0	0	0	1	0
249	Micro dispenser	3	0	0	0	0	0	0	0	3	0
250	Micropipette 0.1-2 micro liter	6	0	4	0	0	0	0	0	2	0
251	Micropipette 0.5-10 micor liter	20	0	4	1	0	0	1	0	14	0
252	Micropipette 10-100 micro liter	22	0	4	1	0	0	1	0	16	0
253	Micropipette 100-1000 micro liter	14	0	4	1	0	0	1	0	8	0
254	Micropipette 1000-5000 micro liter	6	0	0	0	0	0	0	0	6	0
255	Micropipette 25 micro liter	8	0	0	0	8	0	0	0	0	0
256	Multi channel micro dispenser	3	0	0	0	0	0	0	0	3	0
257	Multi channel micropipette 5-50 micro liter	5	0	0	1	2	0	0	0	2	0
258	Multi channel micropipette 40-200 micro liter	5	0	0	1	2	0	0	0	2	0
259	Multi channel micro dispenser syringe	3	0	0	0	0	0	0	0	3	0
260	Air blowing apparatus	1	1	0	0	0	0	0	0	0	0
261	Compressor	1	0	0	0	0	0	0	0	1	0
262	Vacuum pump	2	0	0	0	0	0	0	0	2	0
263	Water purifying apparatus	1	0	0	0	0	0	0	0	1	0
264	Water distillation apparatus	6	1	1	0	1	1	1	0	1	0
265	Cool water supply device	1	0	0	0	0	0	1	0	0	0
266	Test tube mixer	5	0	0	0	2	0	0	0	3	0
267	Orbital shaker	1	0	0	0	0	0	0	0	1	0
268	Shaker, double action	2	0	0	1	1	0	0	0	0	0
269	Microplate shaker	2	0	0	1	0	0	0	0	1	0
270	Bench top shaker	1	0	0	0	0	0	0	0	1	0
271	Shaker, low speed	1	0	0	0	0	0	0	0	1	0
272	Fluorescent spectrophotometer	1	0	0	0	0	0	0	0	1	0
273	Atomic absorption spectrophotometer	1	0	0	0	0	0	0	0	1	0
274	Spectrophotometer, VIS	8	0	0	0	0	1	5	0	2	0
275	Spectrophotometer, UV/VIS	1	0	0	0	0	0	0	0	1	0
276	Spectrophotometer, UV/VIS/NIR	1	0	0	0	0	0	0	0	1	0
277	Spectrophotometer quarts cell	10	0	0	0	0	0	0	0	10	0

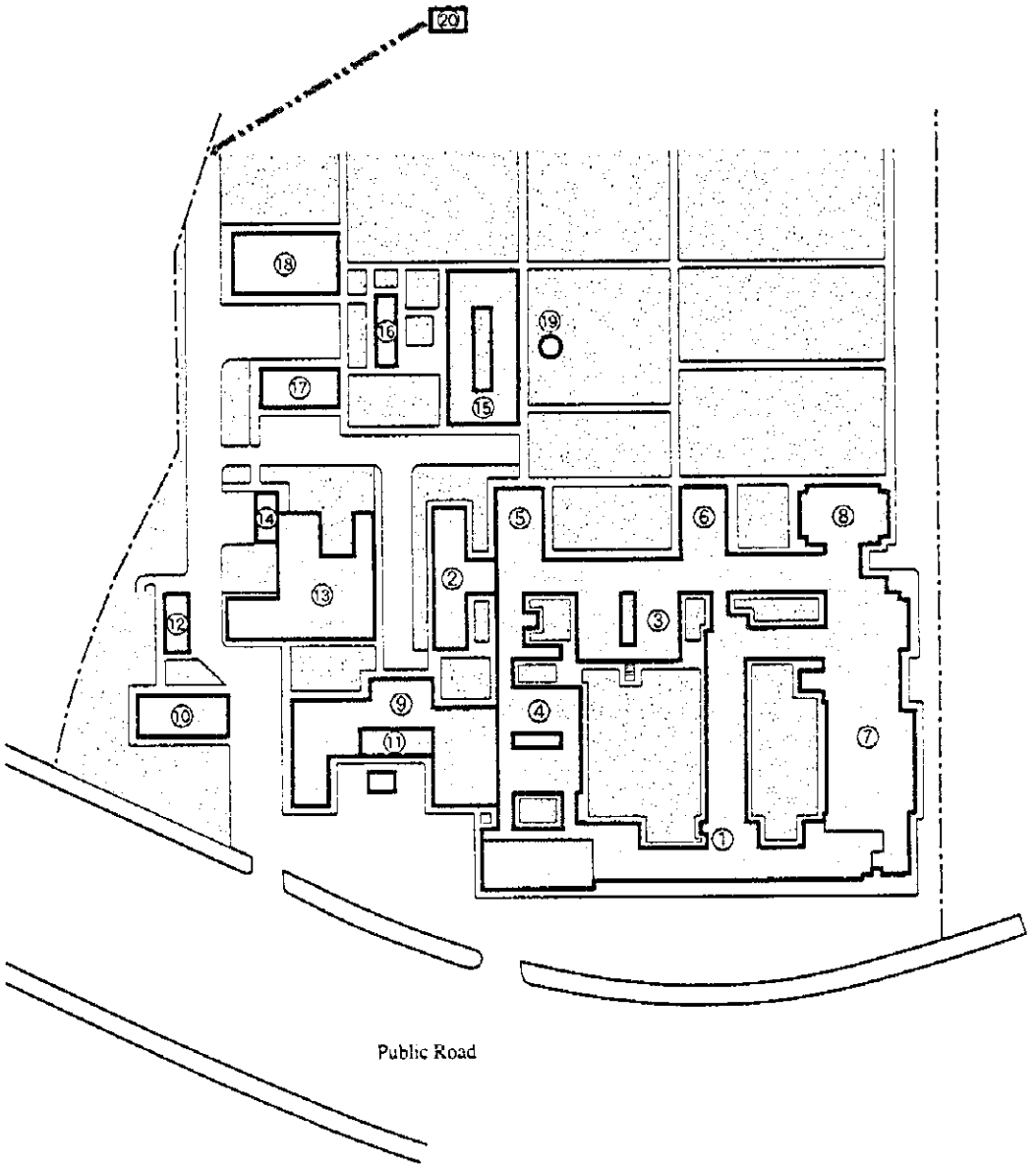
Table 5 Equipment Distribution List

10/10

Serial No.	Equipment Name	Total	Anatomy	Hygine	Internal Medicine	Microbiology	Pathology	Physiology	Surgery	CUDR	FVM
278	Magnetic stirrer, 2 liter	3	0	0	0	2	0	0	0	1	0
279	Magnetic stirrer, 10 liter	1	0	0	0	1	0	0	0	0	0
280	Magnetic stirrer with hot plate	6	0	2	0	0	0	1	0	3	0
281	Multi stirrer, 6 vessels	1	0	0	0	0	0	0	0	1	0
282	Low speed stirrer	1	0	0	0	0	0	0	0	1	0
283	Magnetic stirrer with hot plate, low speed	1	0	0	0	0	0	0	0	1	0
284	Water bath, small	1	0	0	0	0	0	0	0	1	0
285	Water bath, large	2	0	0	0	2	0	0	0	0	0
286	Water bath, middle	2	0	1	0	0	0	1	0	0	0
287	Constant temperature water bath	1	0	0	0	0	0	0	0	1	0
288	Constant temperature water bath with window	1	0	0	0	0	0	0	0	1	0
289	Stainless steel bath for water bath	1	0	0	0	0	0	0	0	1	0
290	Shaking water bath	2	0	0	0	0	0	0	0	2	0
291	Microplate washer	1	0	0	0	0	0	0	0	1	0
292	Washing basket, small	10	0	0	0	0	0	0	0	10	0
293	Washing basket, large	10	0	0	0	0	0	0	0	10	0
294	Pipette washer	2	0	0	0	0	0	0	0	2	0
295	Automatic washing machine for glass wares	1	0	0	0	0	0	0	0	1	0
296	Ultrasonic washer	1	0	0	0	0	0	0	0	1	0
297	Ultrasonic slide glass washer with heater	1	0	0	0	0	0	0	0	1	0
298	Ultra-sonic pipette washer	2	0	0	0	0	0	0	0	2	0

(3) Location Plan of Equipment

The equipment, which will be permanently installed, is shown in the Fig. 1 to 31 of the Location Plan of Equipment by laboratories and examination rooms.

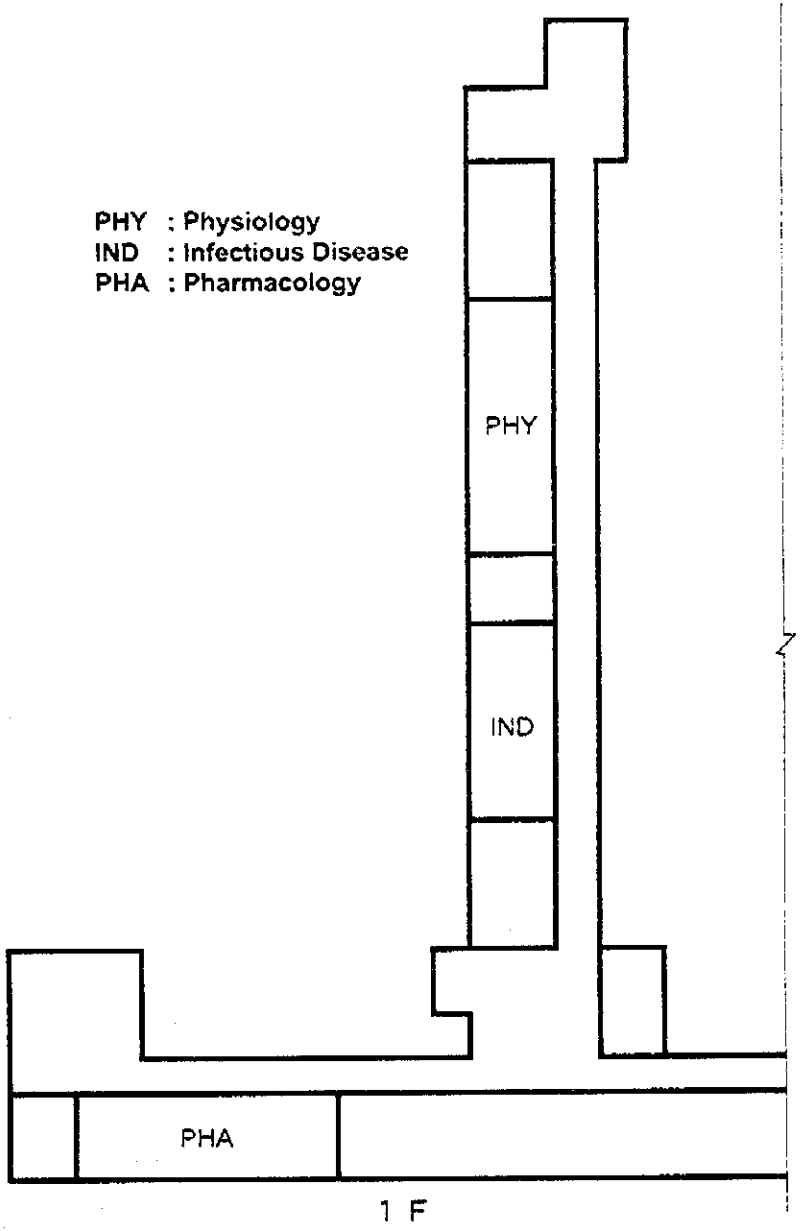


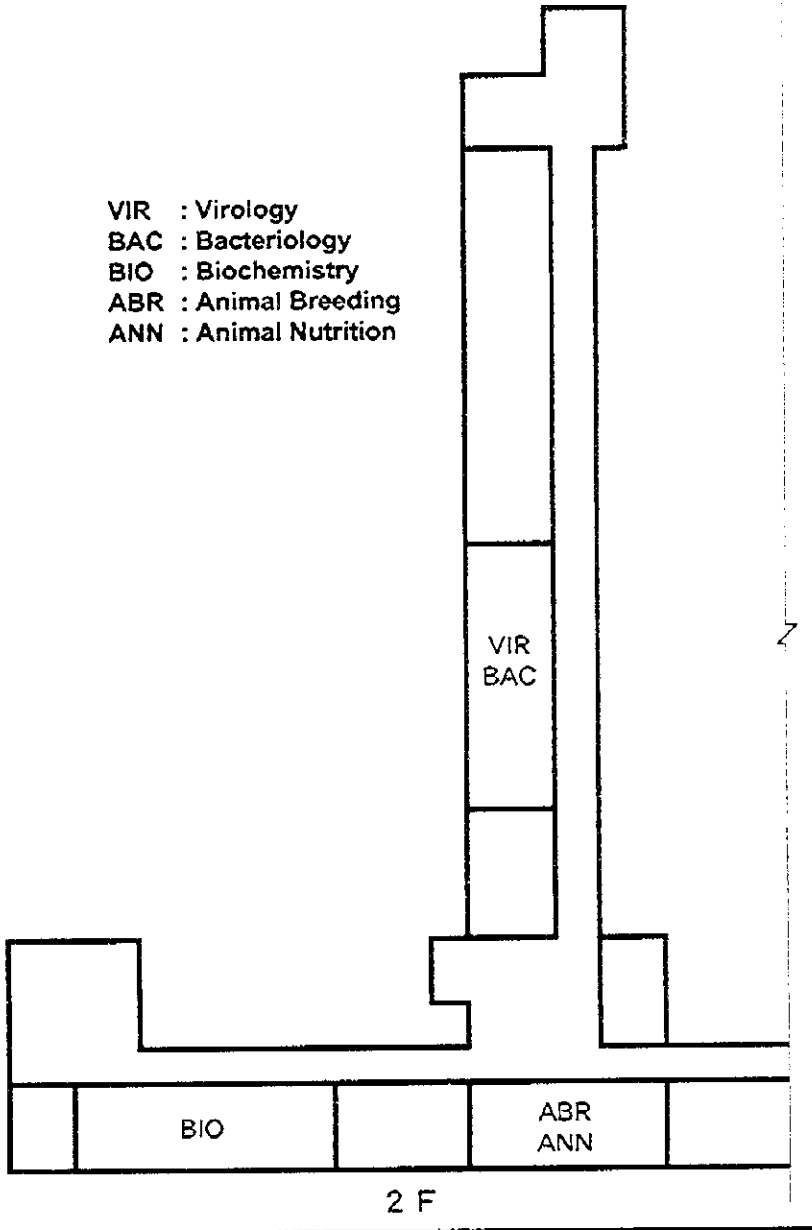
① Main Building
② Anatomy Building
③ Lecture Building – 1
④ Lecture Building – 2
⑤ Research Building/East
⑥ Research Building/West
⑦ Auditorium
⑧ Library
⑨ Animal Hospital
⑩ CLDR
⑪ Joint Use Exam. Room of CLDR
⑫ Animal House – 1
⑬ Animal House – 2
⑭ Garage
⑮ Animal Raising House
⑯ Poultry House
⑰ Slaughter House
⑱ Pathology Building
⑲ Elevated Water Tank
⑳ Incinerator (Planned)

0 10 20 30 40 50m

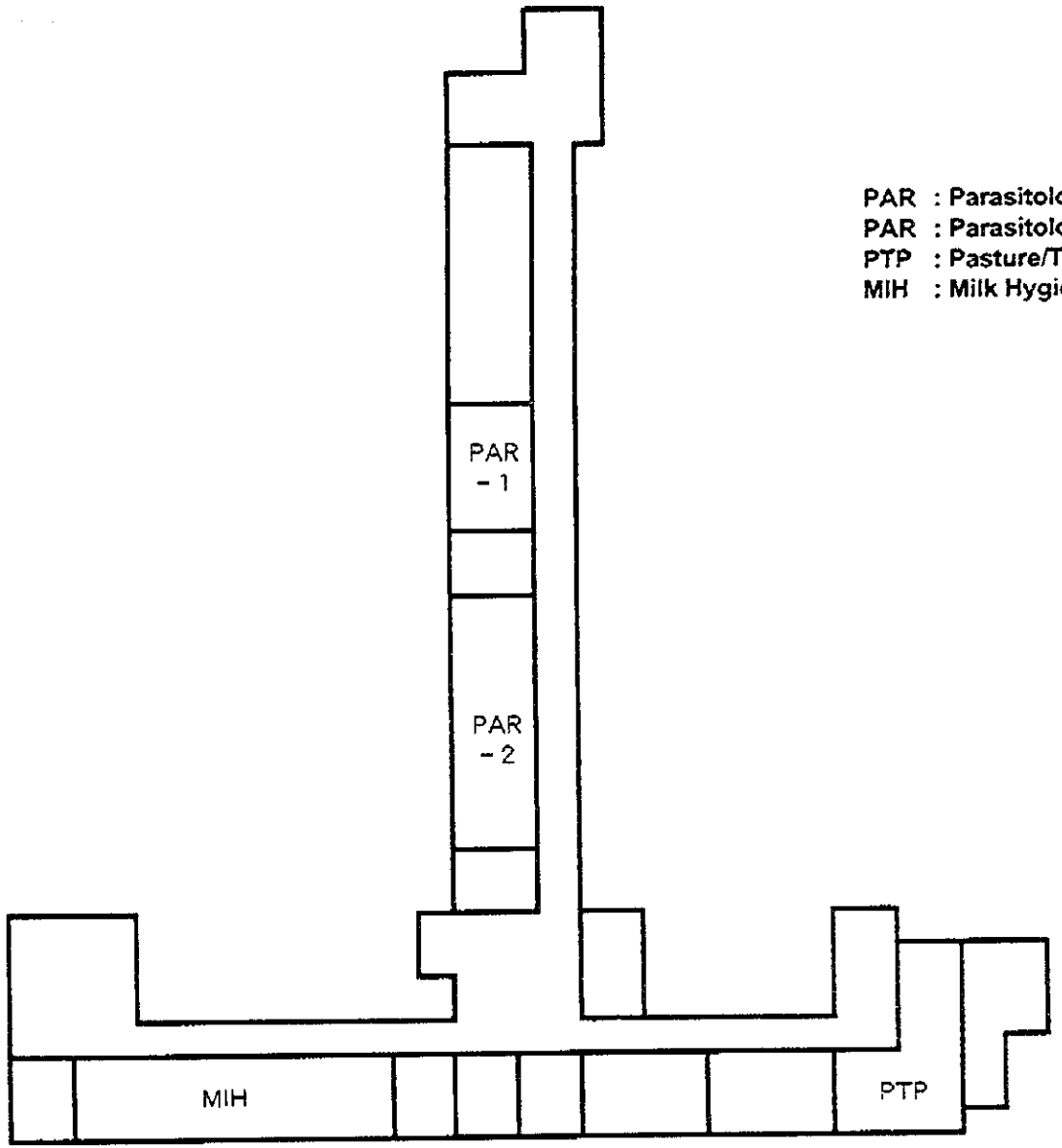
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University

Fig. 1 Location of Facilities of the Faculty of Veterinary Medicine

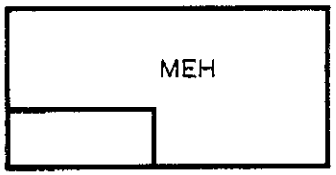




The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University		Location of Practical Lab. /Examination Room	Fig. 2 Main Building 1F • 2F

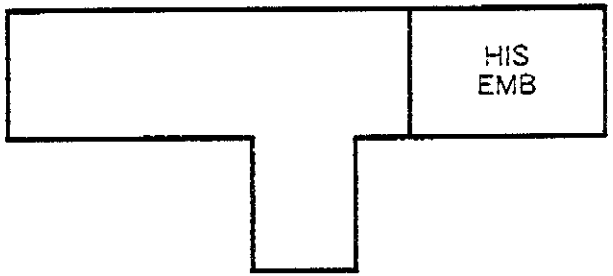


The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University		Location of Practical Lab. /Examination Room	Fig. 3 Main Building 3F

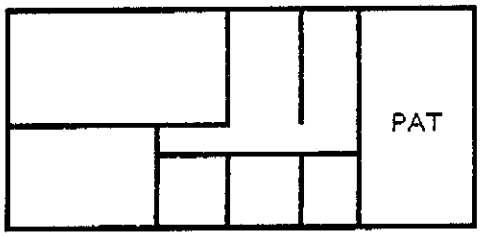


Slaughter House

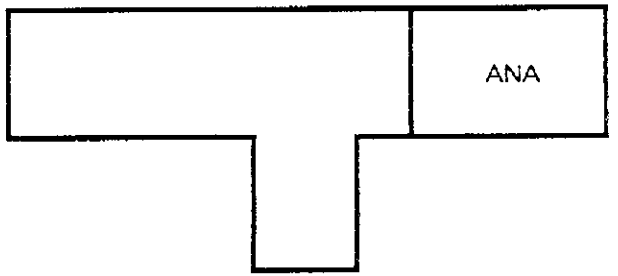
MEH : Meat Hygiene
ZRB : Bacteriology Exam. Room
ZRP : Parasitology Exam. Room
ZRV : Virology Exam. Room
PAT : Pathology
HIS : Histology
EMB : Embriology
ANA : Anatomy



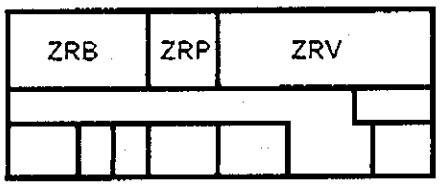
Anatomy Bldg. 3F



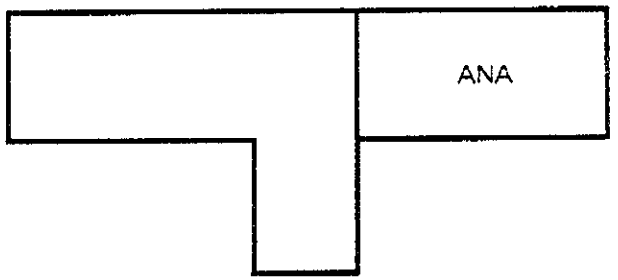
Pathology Bldg. 2F



Anatomy Bldg. 2F

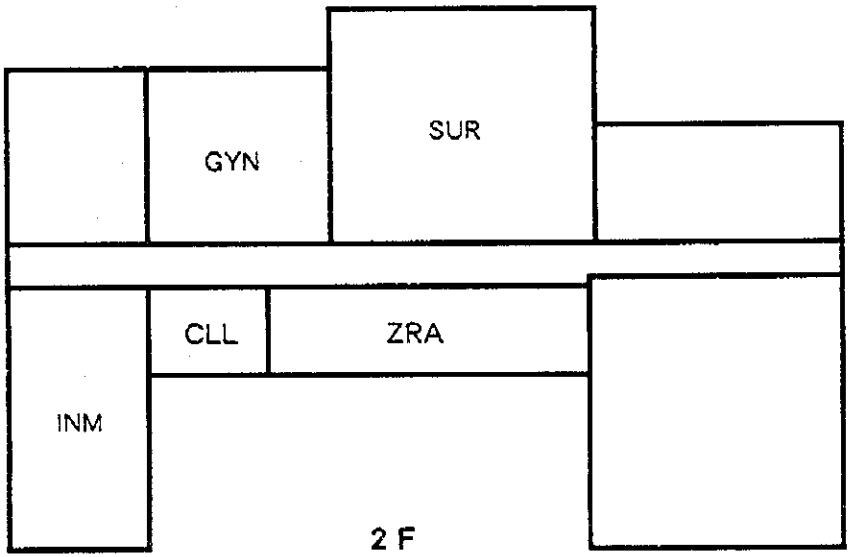


CLDR Bldg.

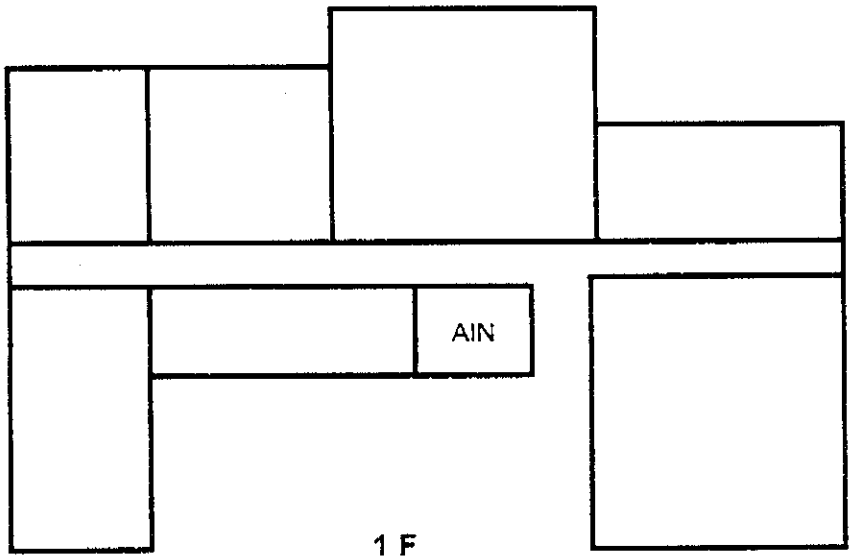


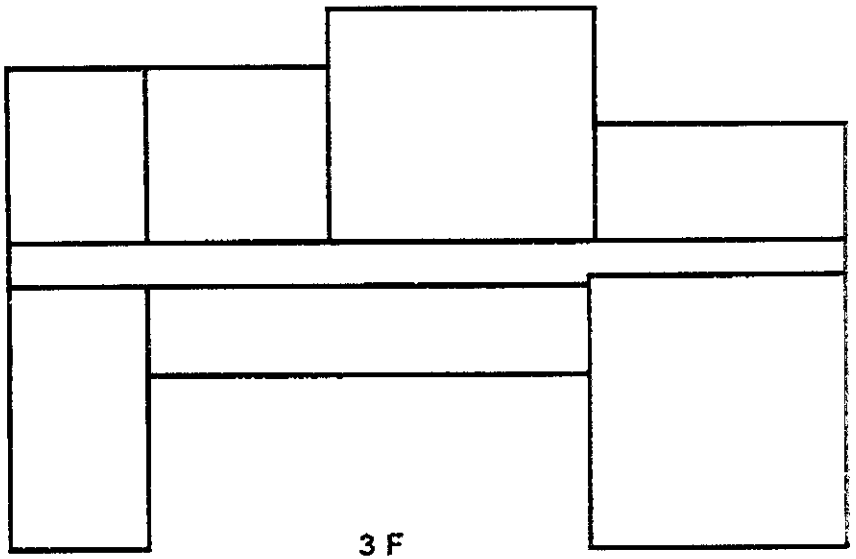
Anatomy Bldg. 1F

The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University		Location of Practical Lab. /Examination Room	Fig. 4 CLDR Bldg./Anatomy • Histology Bldg. /Pathology Bldg./Slaughter House

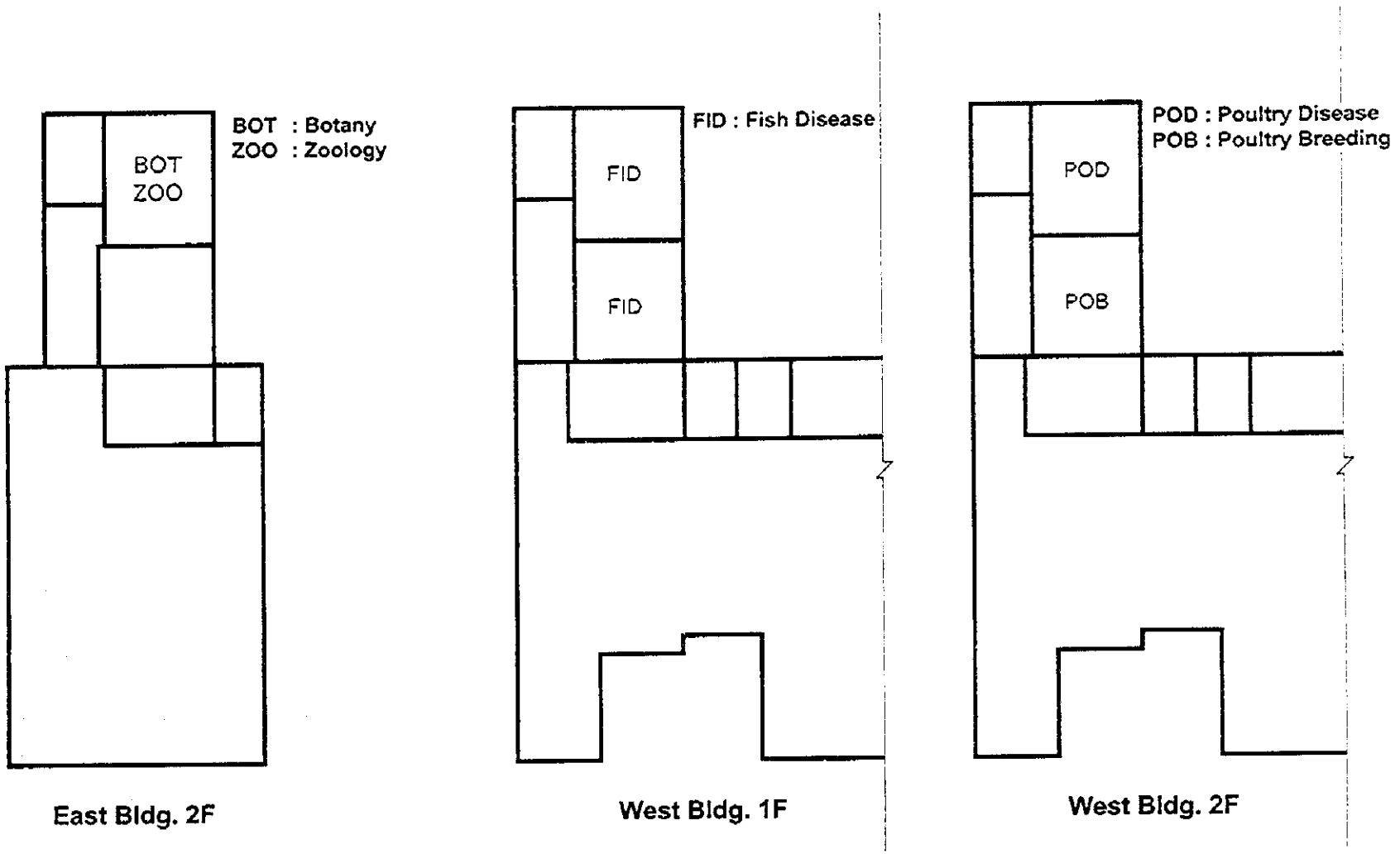


GYN : Gynecology
SUR : Surgery
INM : Internal Medicine
CLL : Clinic Lab.
AIN : Artificial Incemination
ZRA : Joint Use Exam. Room

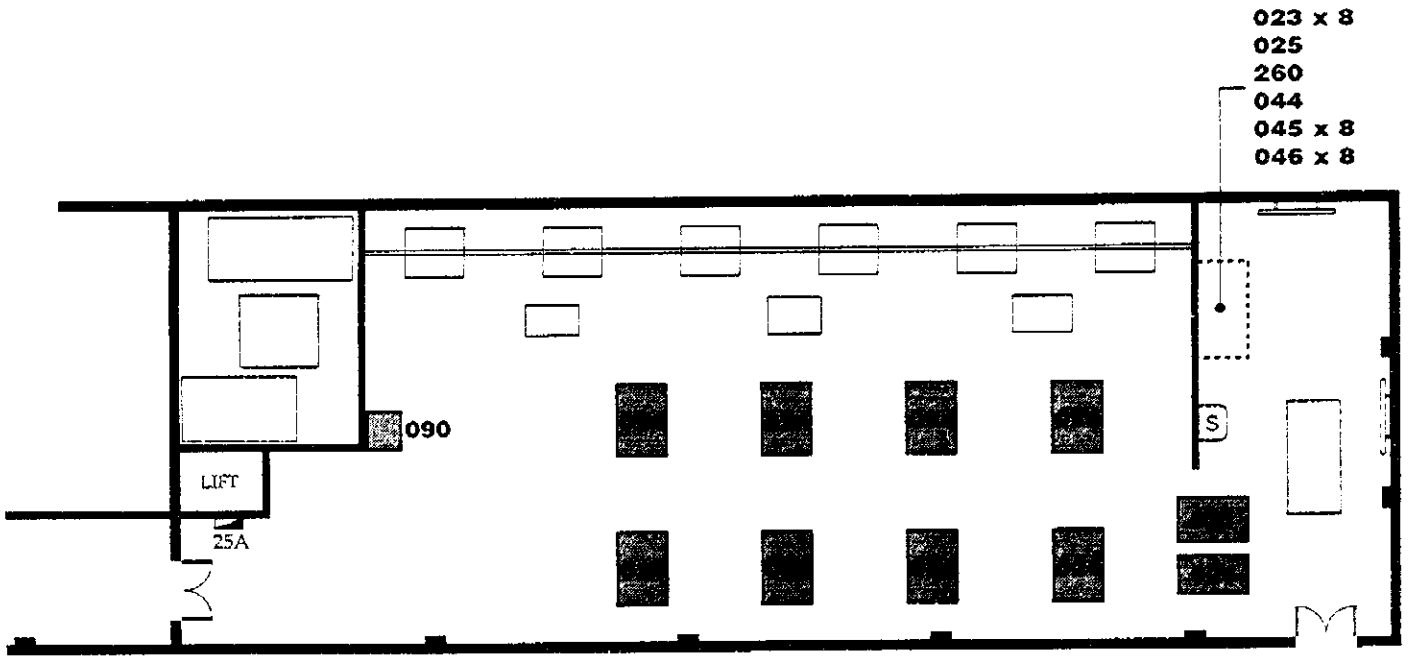




The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University		Location of Practical Lab. /Examination Room	Fig. 5 Animal Hospital Bldg.



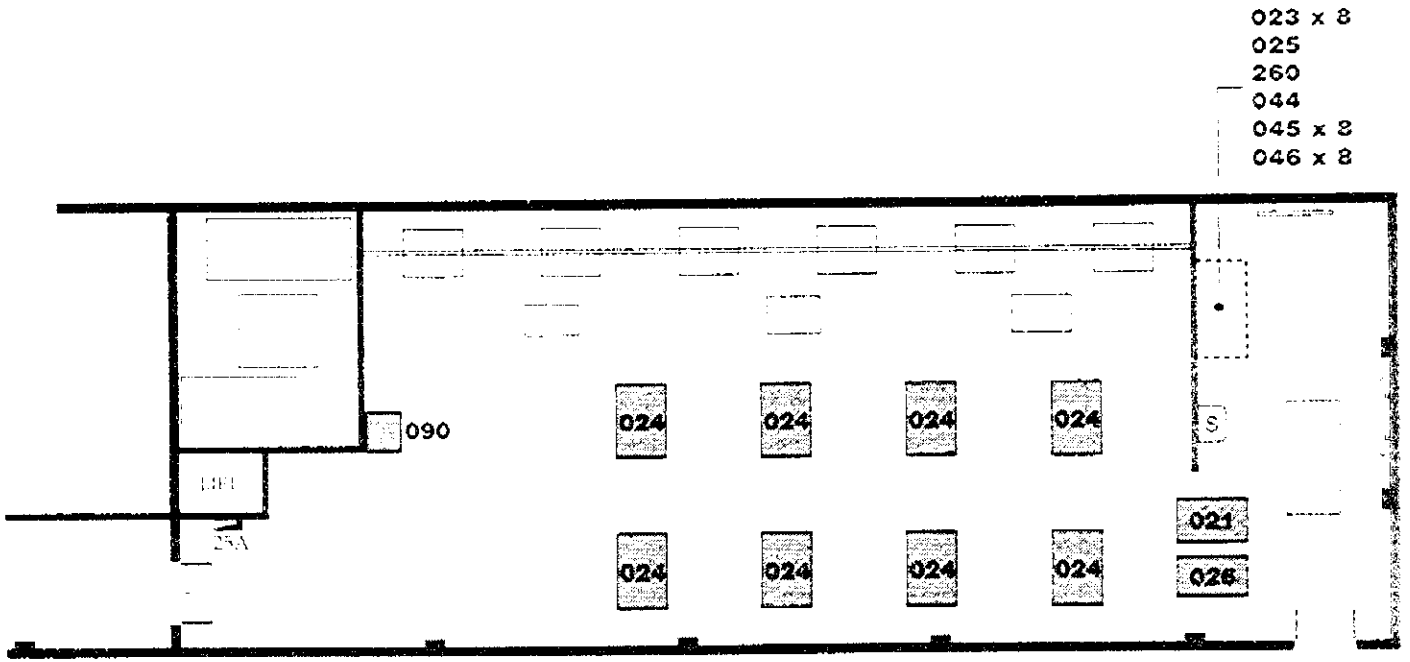
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University		Location of Practical Lab. /Examination Room	Fig. 6 Research Bldg.



LEGEND

- : Distribution Panel
- : Outlet
- : Radiator
- S : Sink

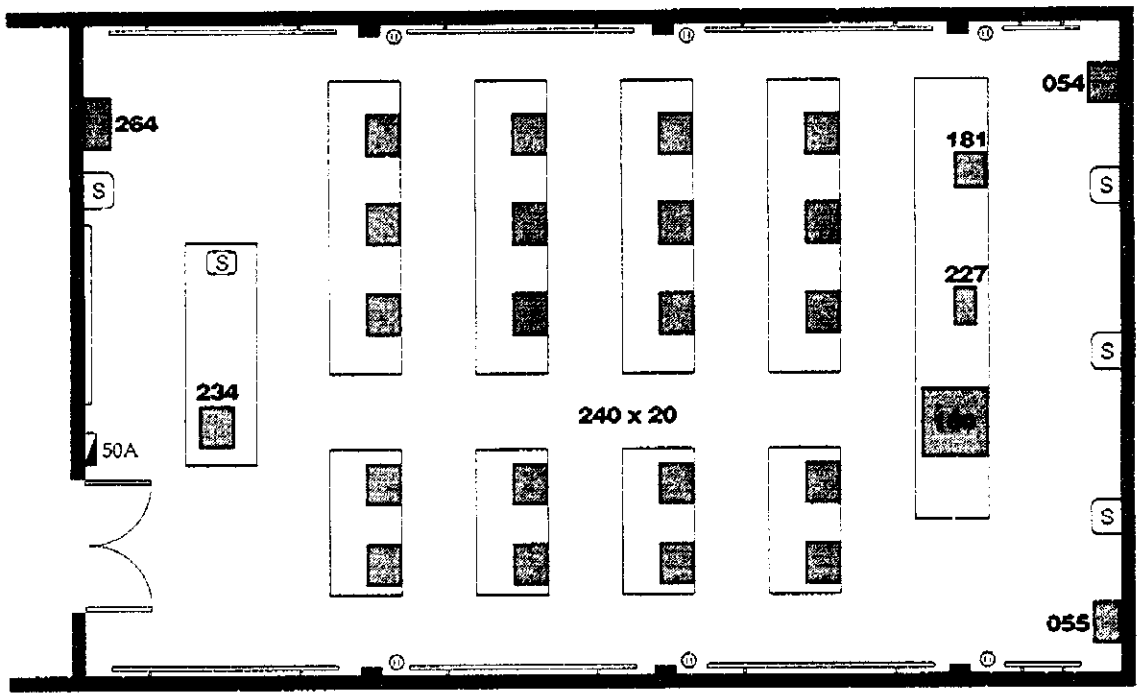
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:150	Equipment Layout	Fig. 7 Anatomy (ANA) 1F



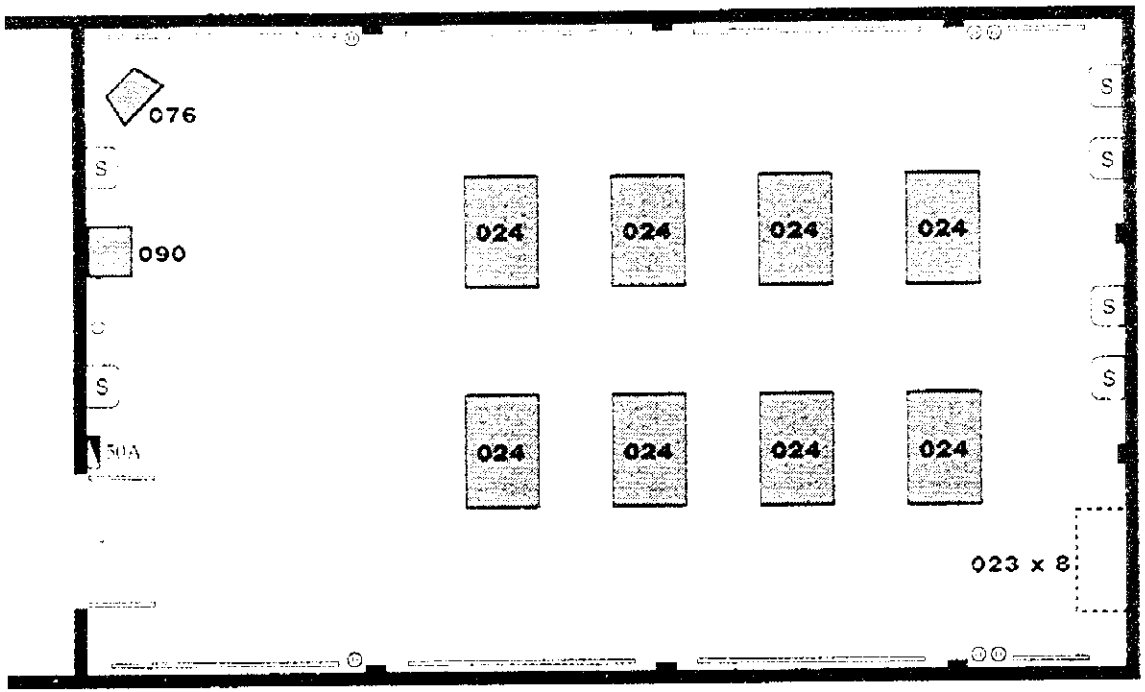
LEGEND

- Distribution Panel
- Outlet
- Radiator
- S Sink

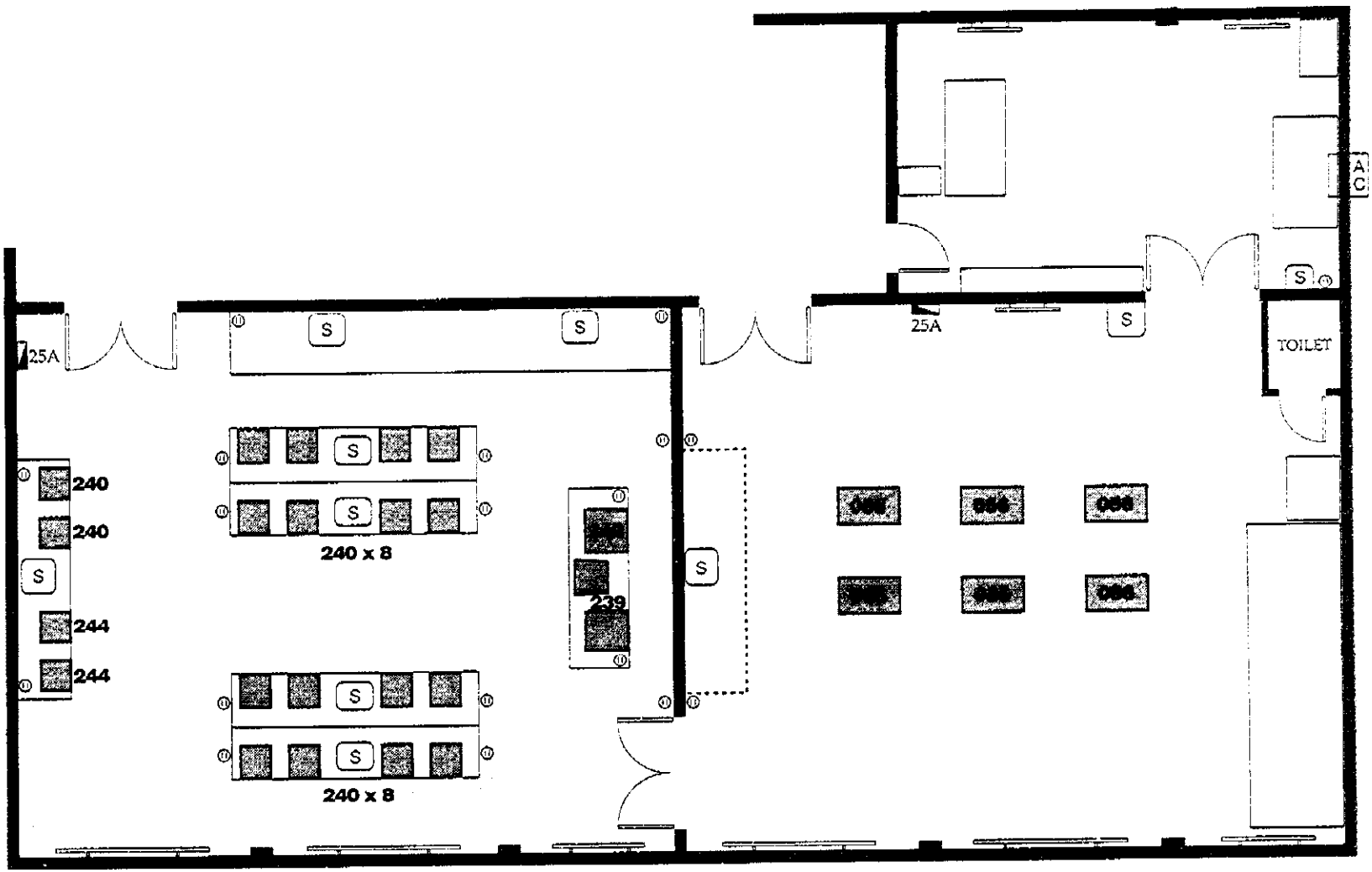
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:150	Equipment Layout	Fig. 7 Anatomy (ANA) 1F



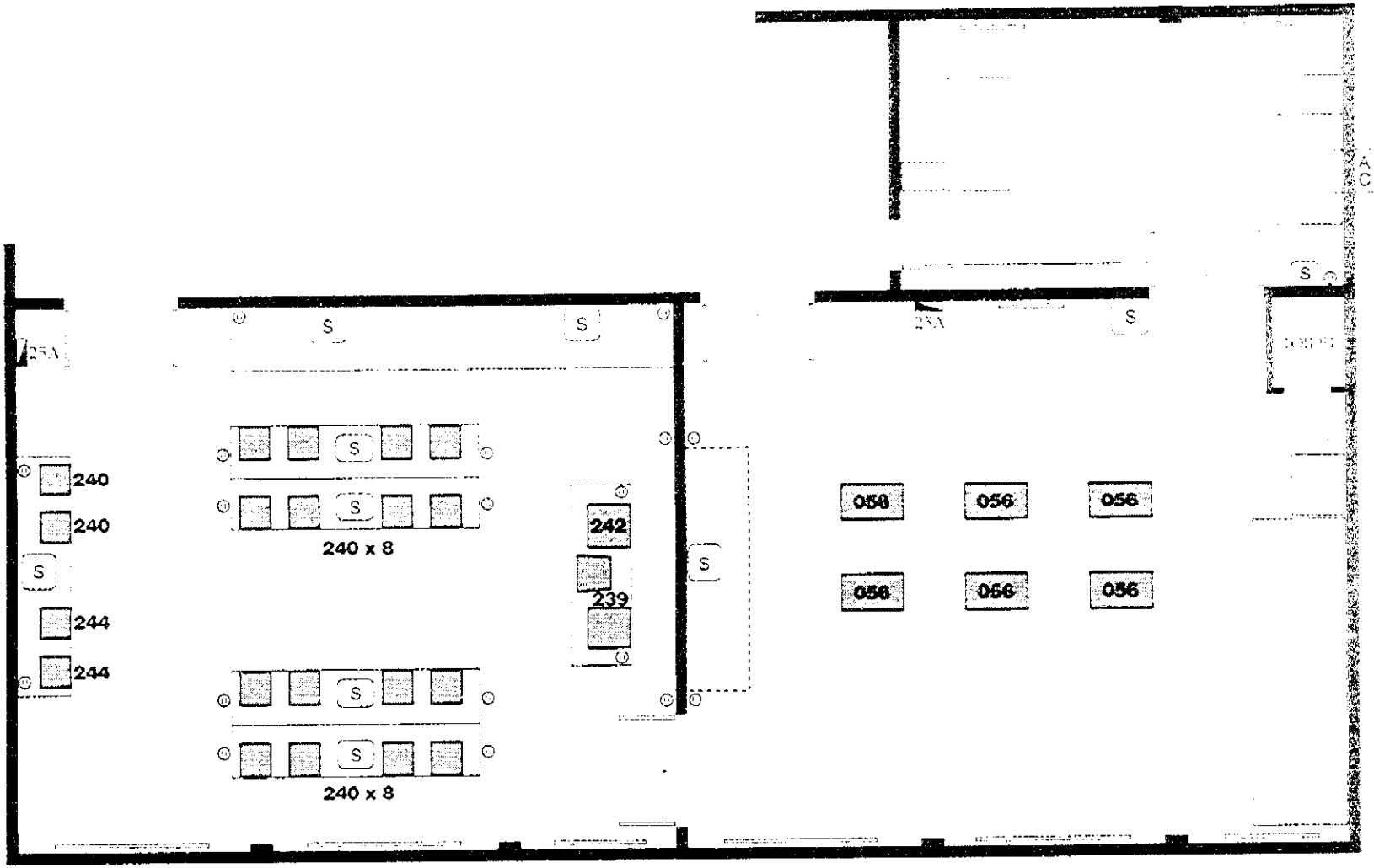
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 9 Histology (HIS) Lab. / Embriology (EMB) 3F



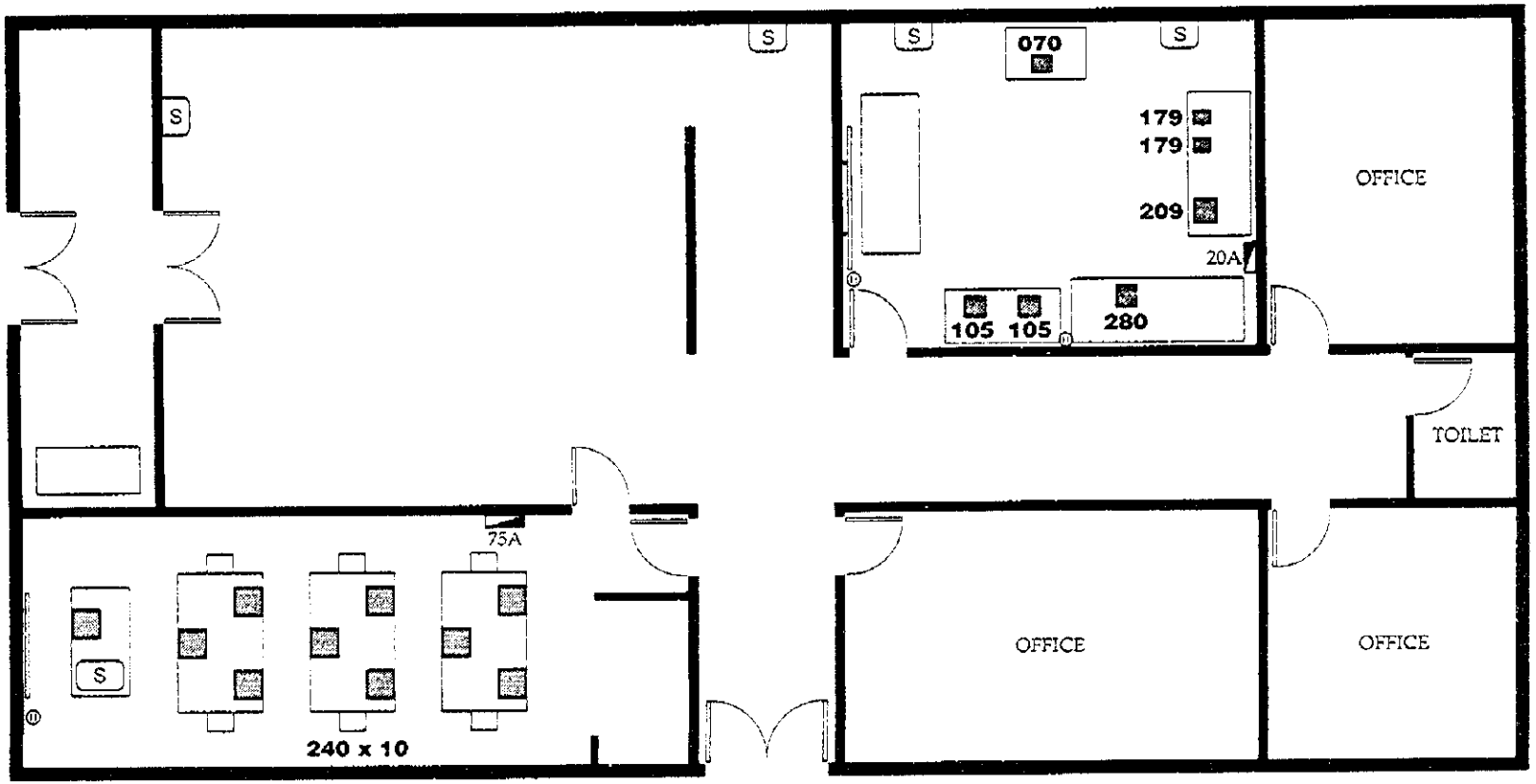
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 8 Anatomy (ANA) Lab. 2F



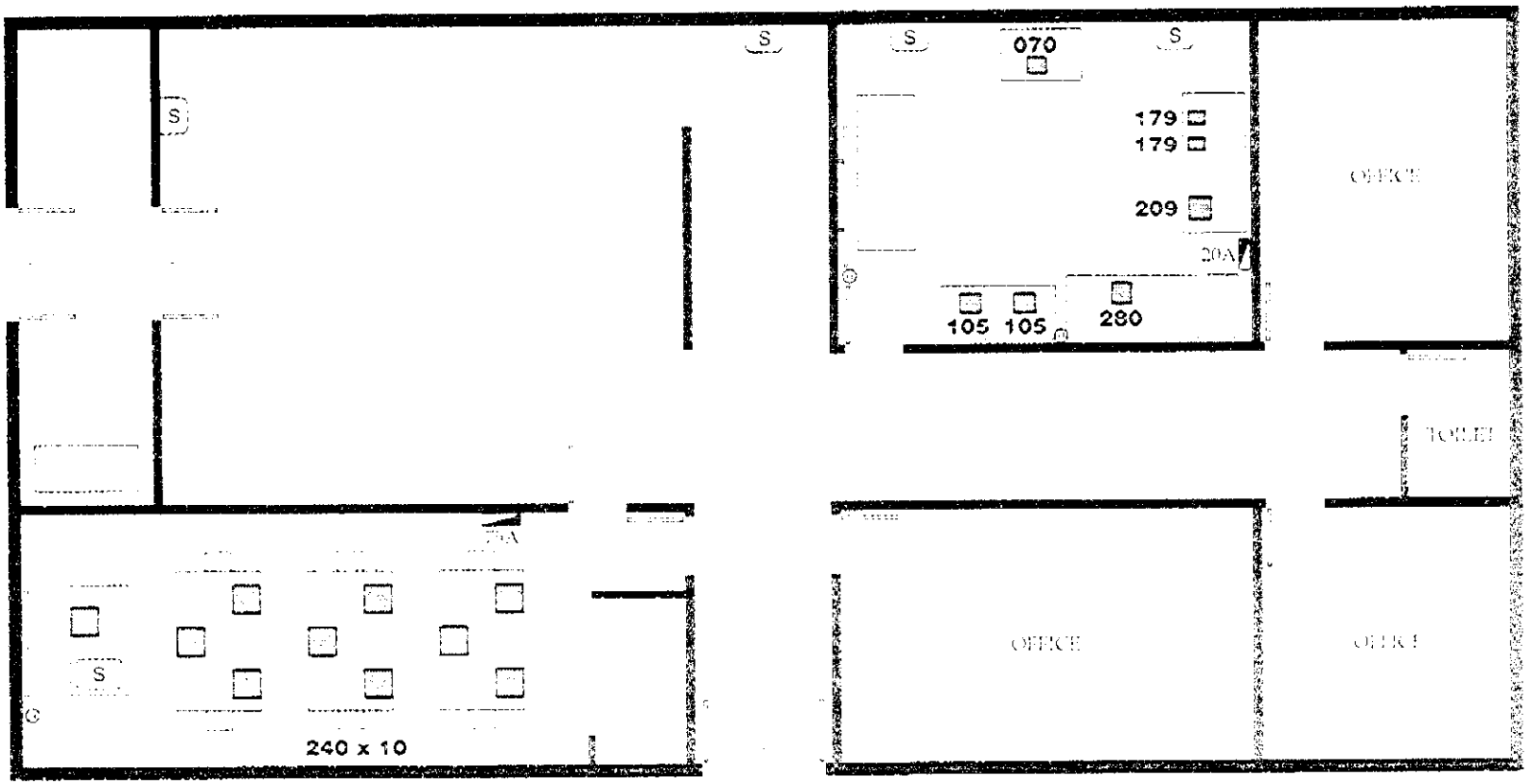
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 10 Fish Disease (FID) Lab.



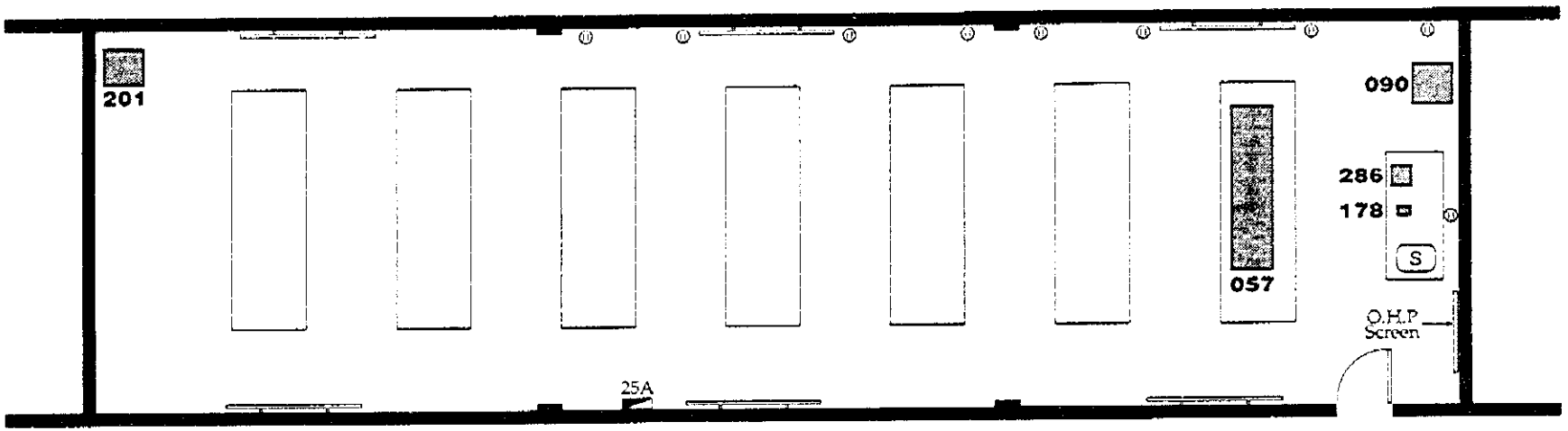
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 10 Fish Disease (FID) Lab.



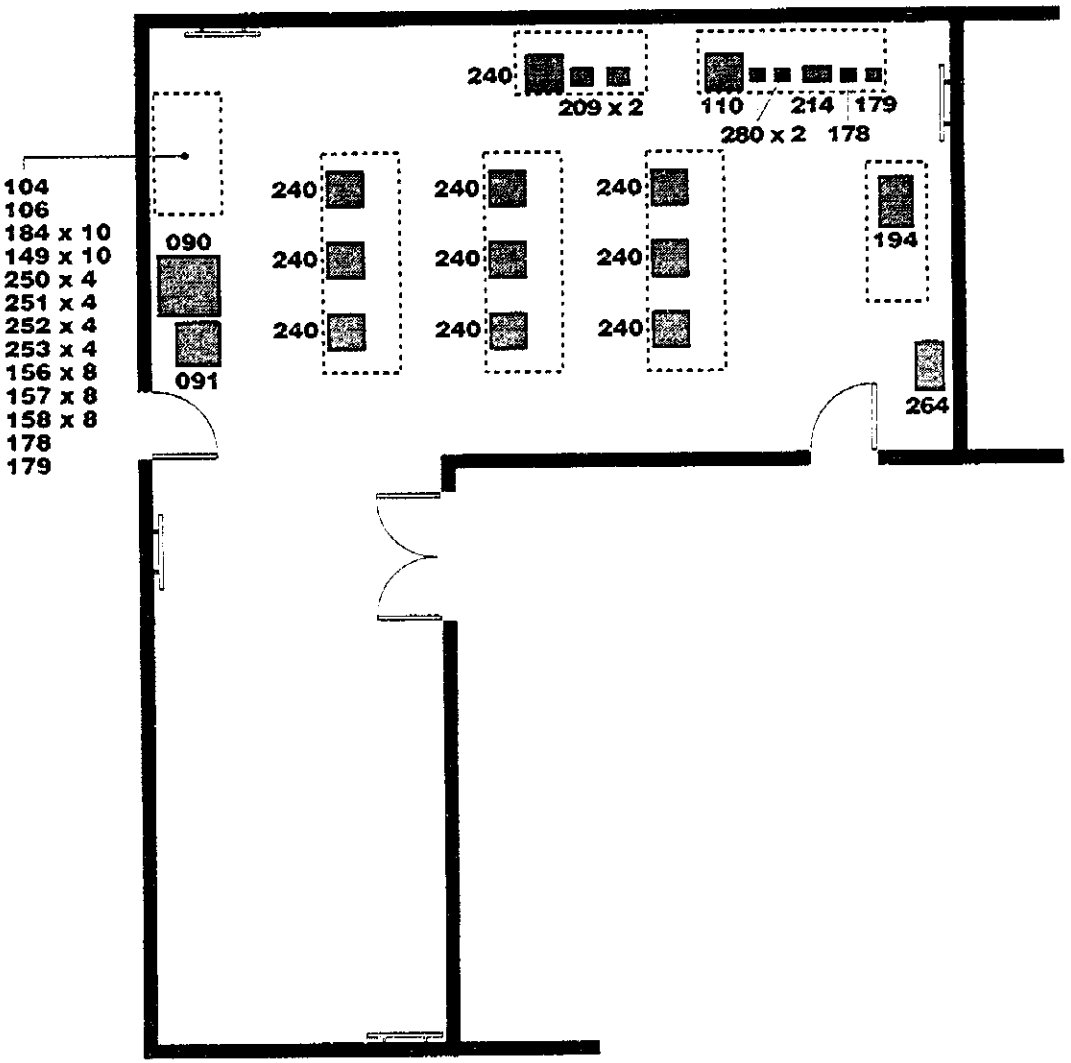
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 11 Meat Hygiene (MEH) Lab.



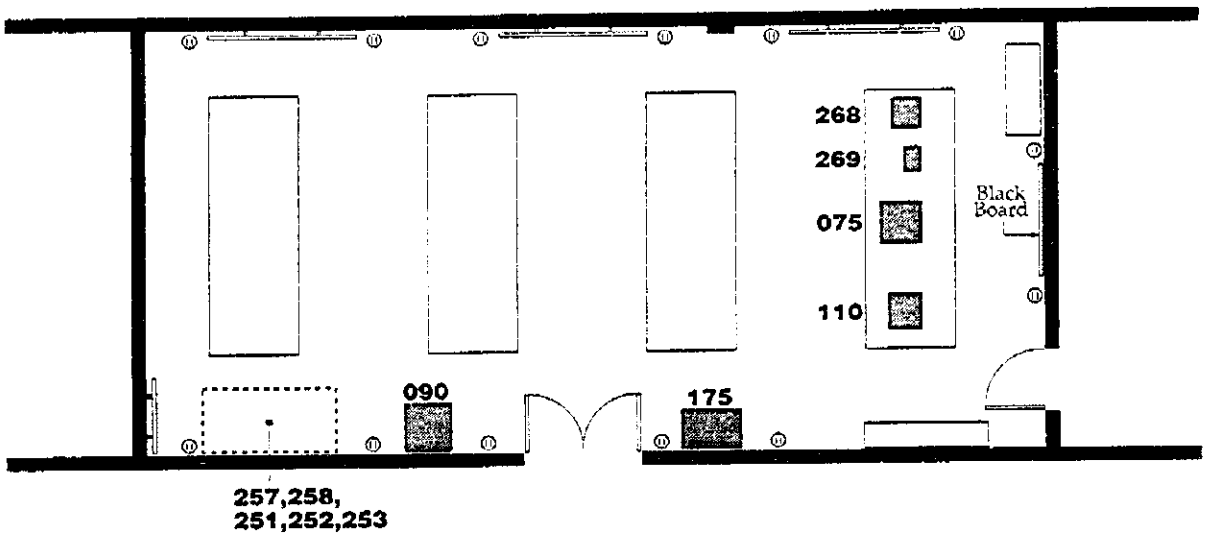
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 11 Meat Hygiene (MEH) Lab.



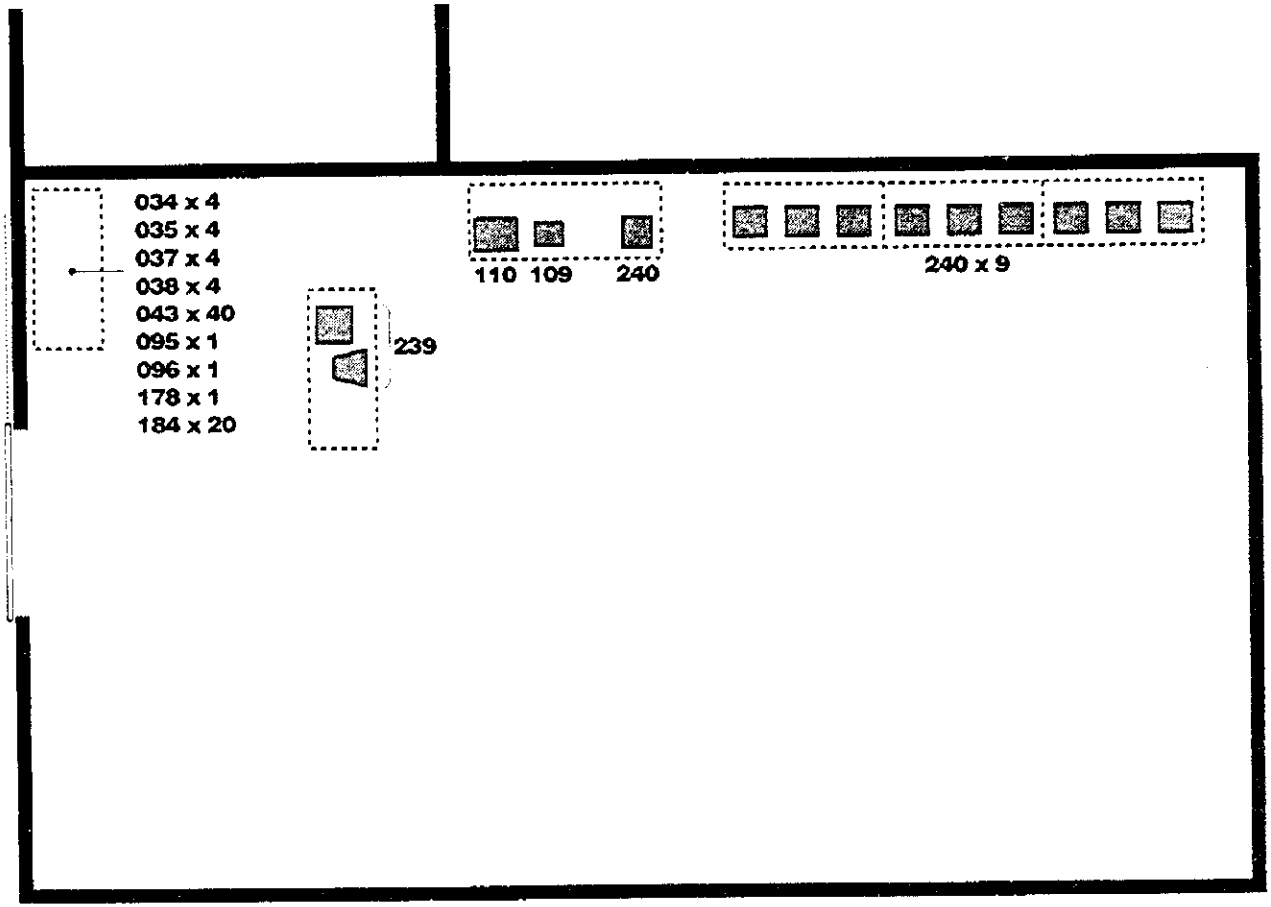
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 12 Milk Hygiene (MIH) Lab.



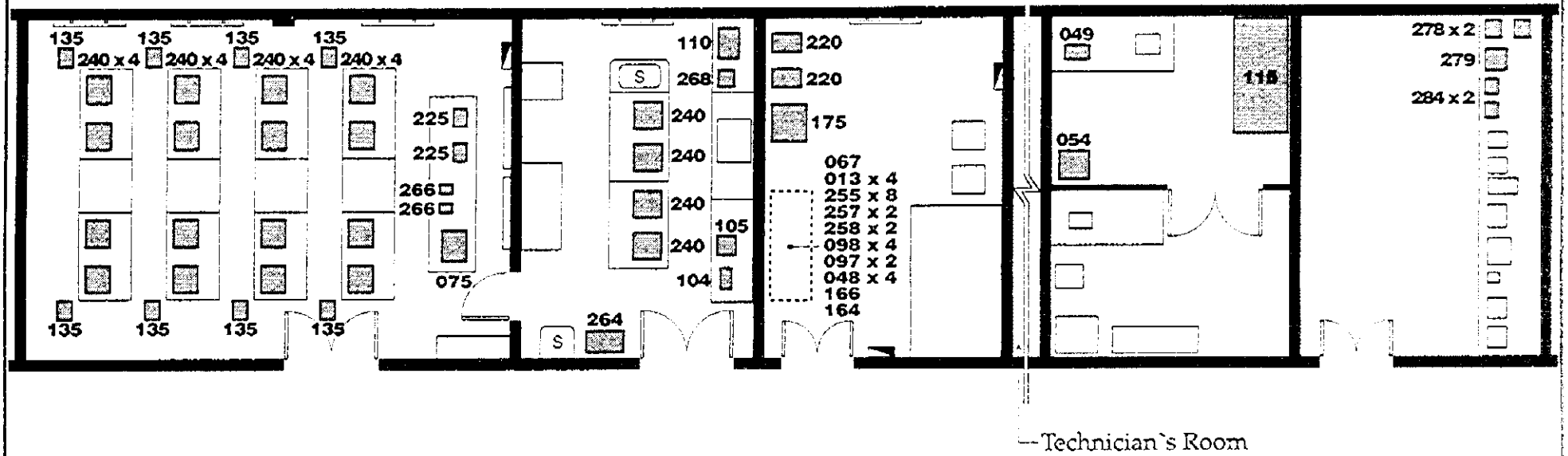
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 13 Pasture / Toxic Plants (PTP) Lab.



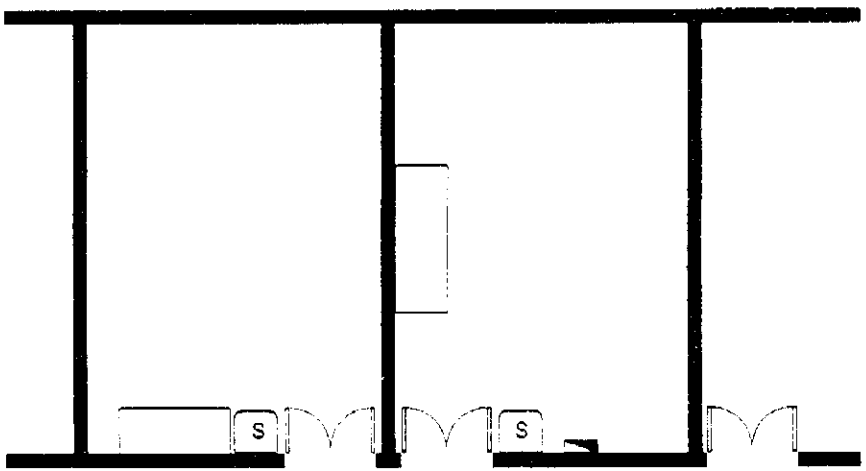
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 14 Infectious Disease (IND) Lab.



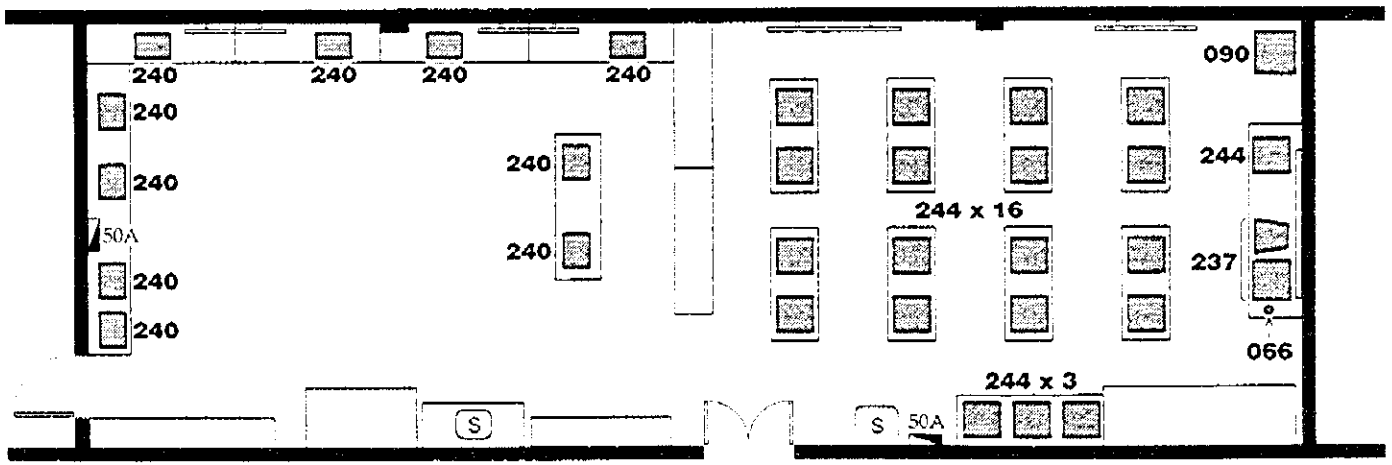
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 15 Internal Medicine (INM) Lab.



The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 16 Bacteriology (BAC) / Virology (VIR) Lab.

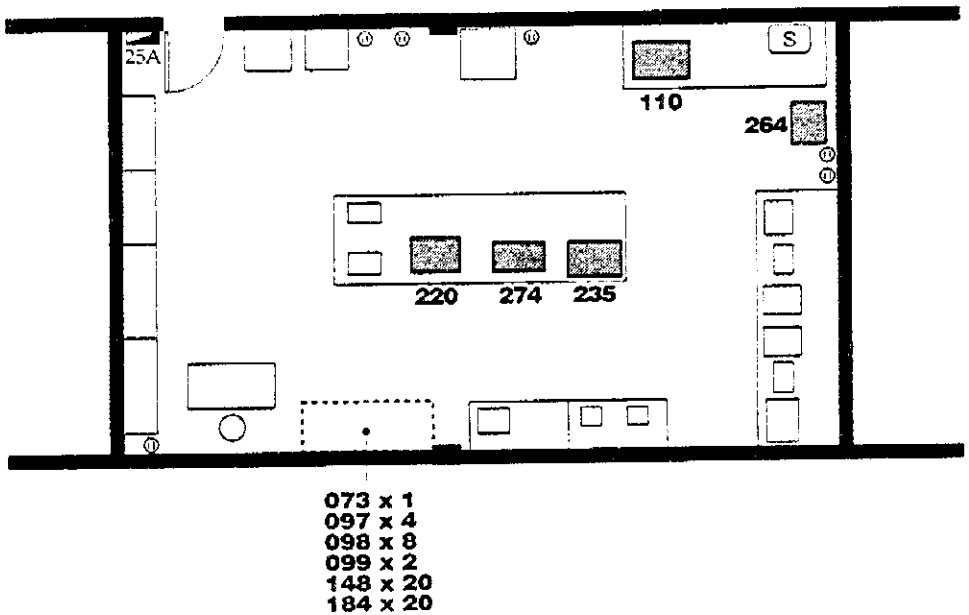


PAR-2

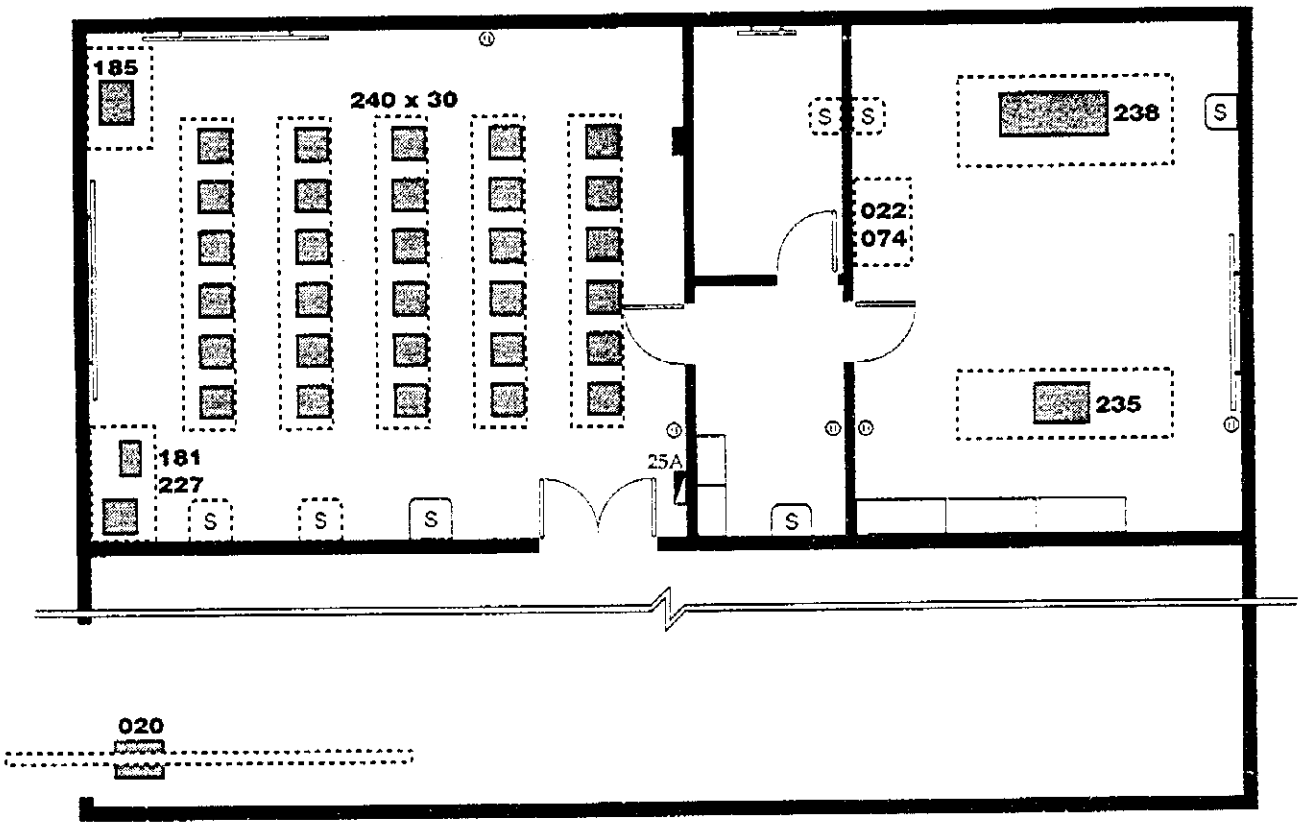


PAR-1

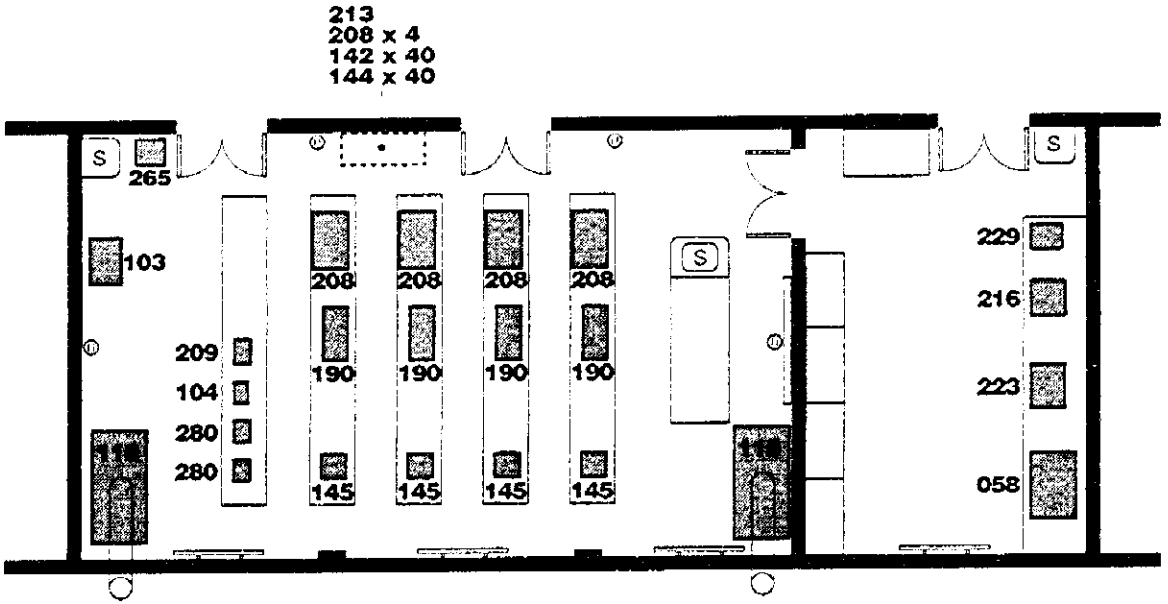
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 17 Parasitology (PAR) Lab.



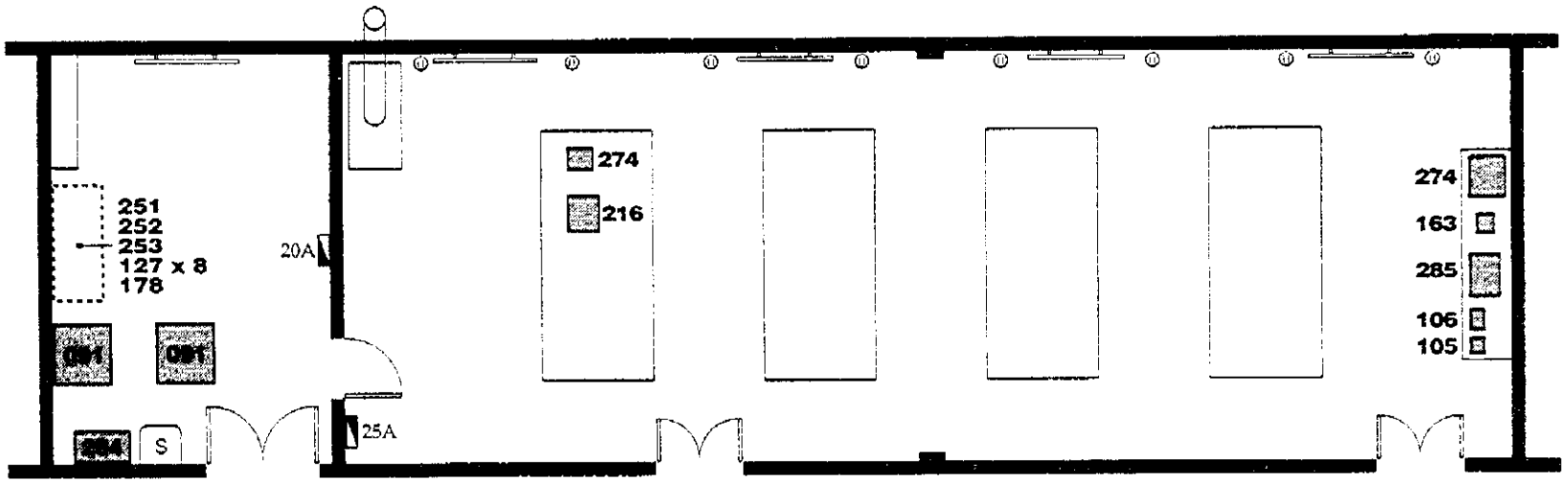
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 18 Clinic (CLL) Lab.



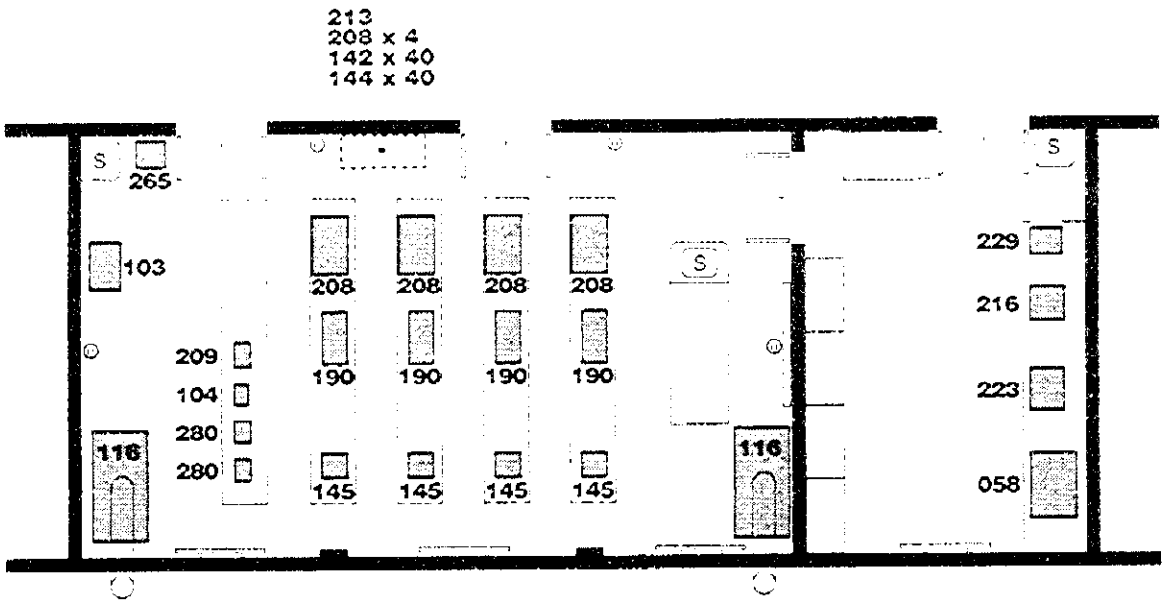
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 19 Pathology (PAT) Lab.



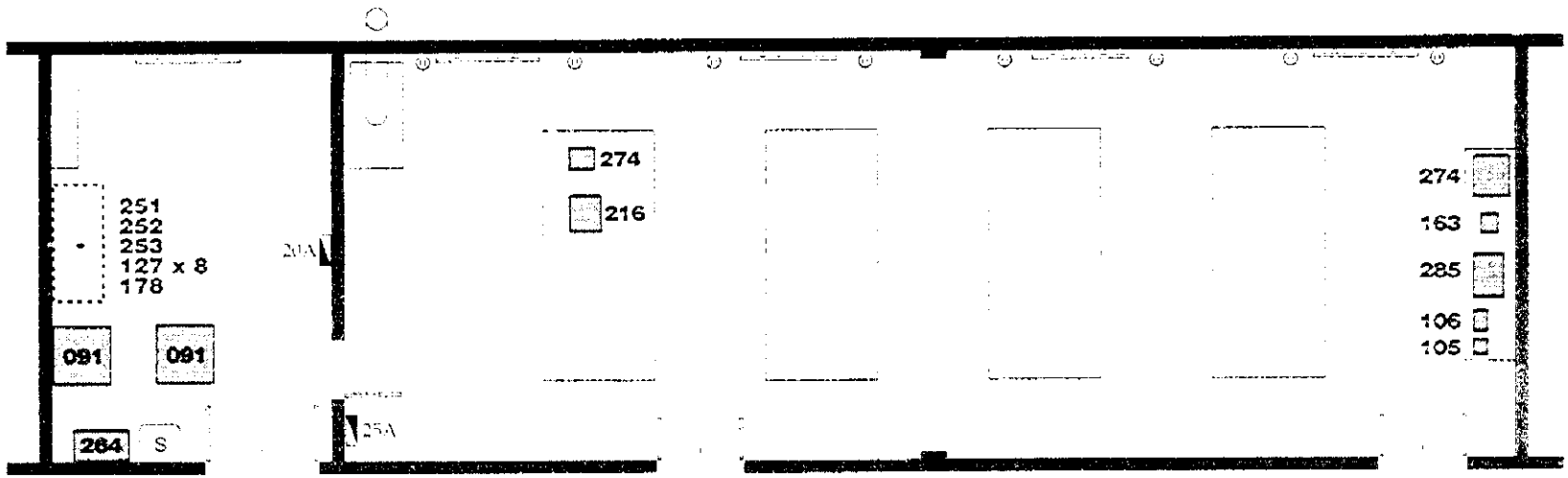
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 20 Animal Breeding (ABR) / Ani. Nutrition (ANN) Lab.



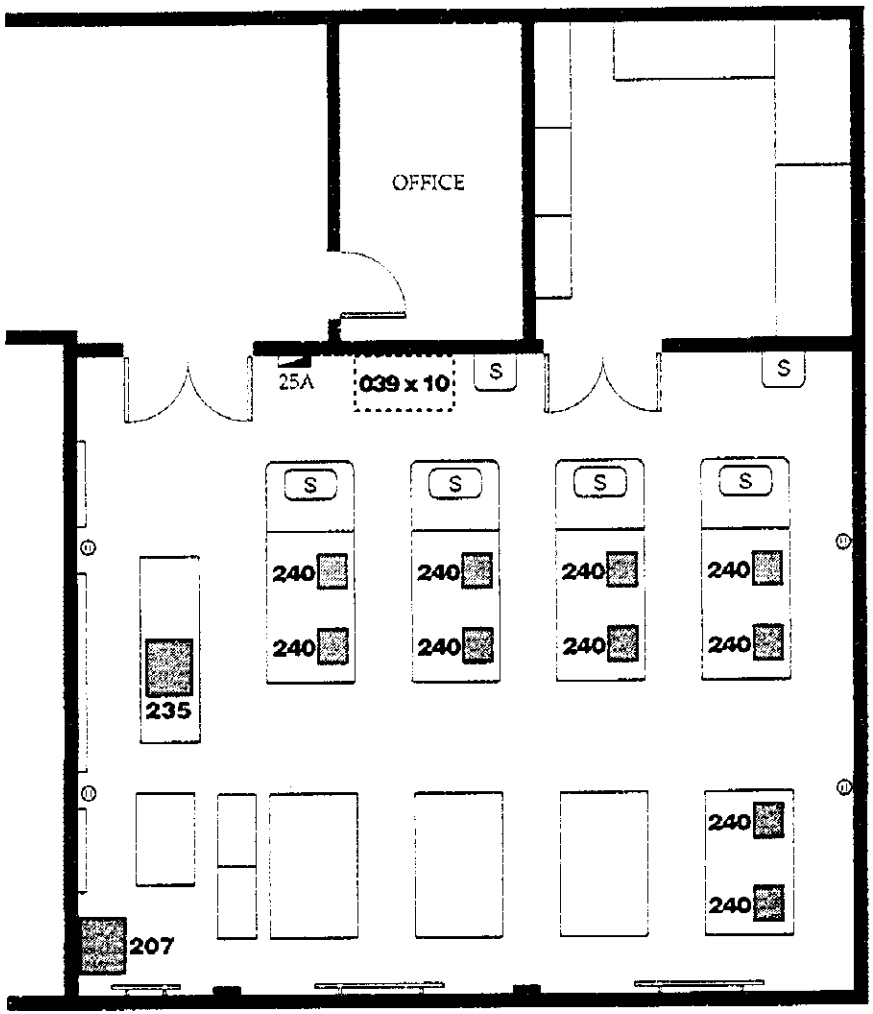
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 21 Biochemistry (BIO) Lab.



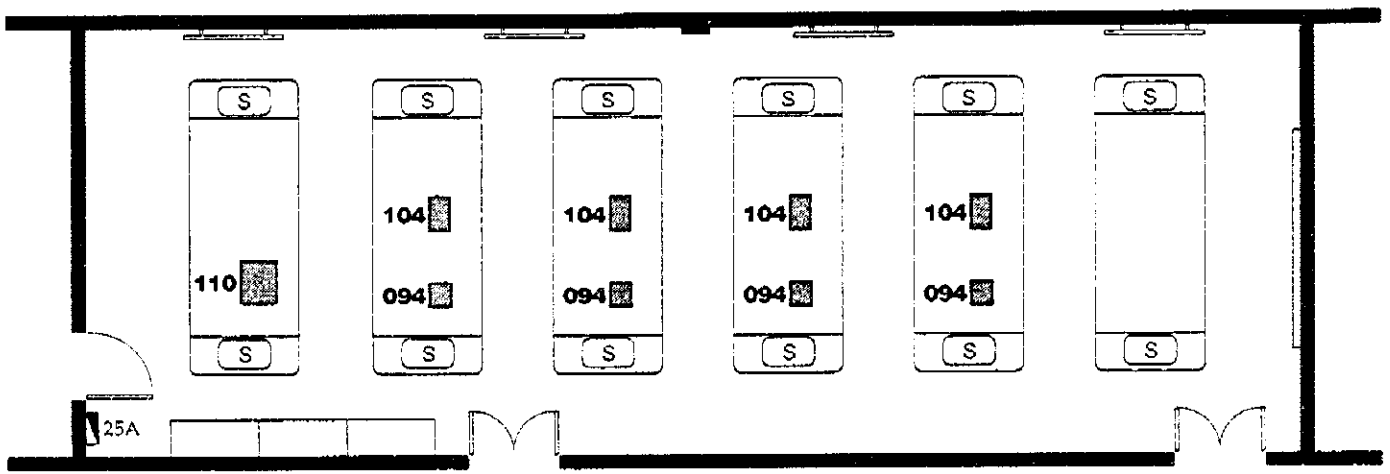
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 20 Animal Breeding (ABR) / Ani. Nutrition (ANN) Lab.



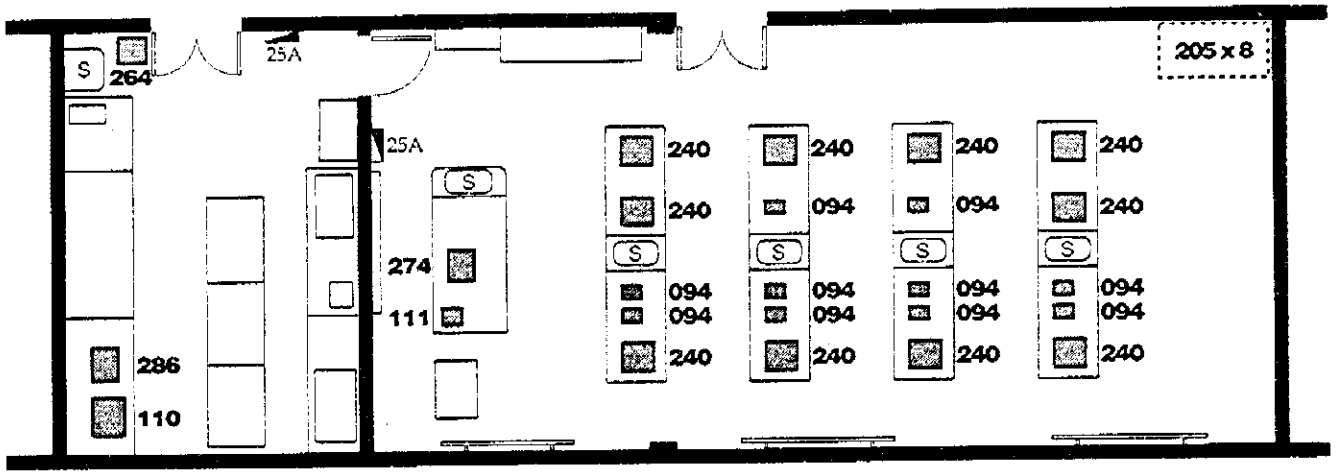
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 21 Biochemistry (BIO) Lab.



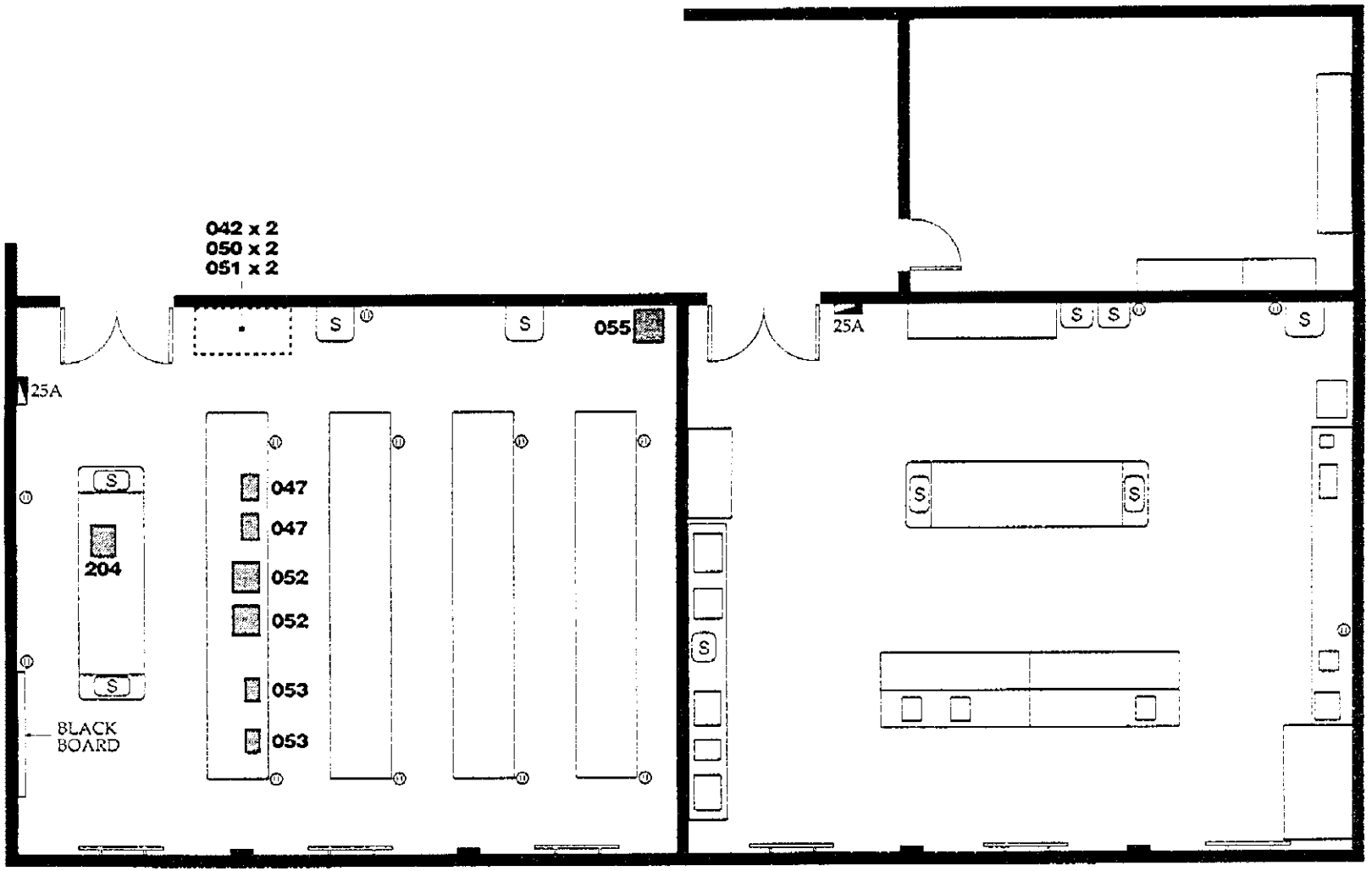
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 22 Pathophysiology (PAP) / Botany (BOT) / Zoology (ZOO) Lab.



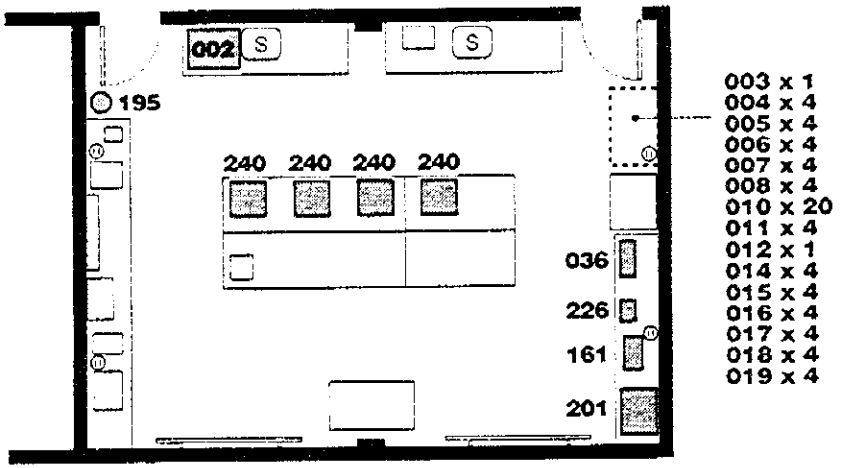
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 23 Pharmacology (PHA) Lab.



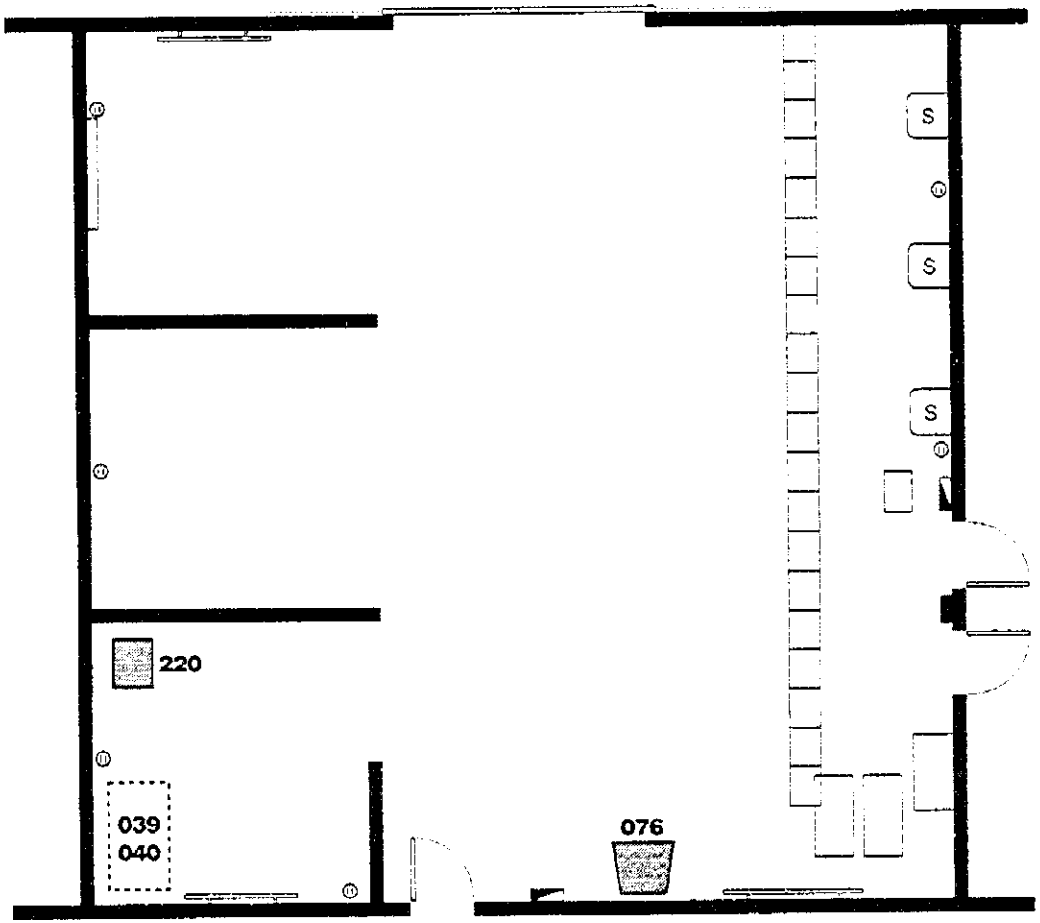
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 24 Physiology (PHY) Lab.



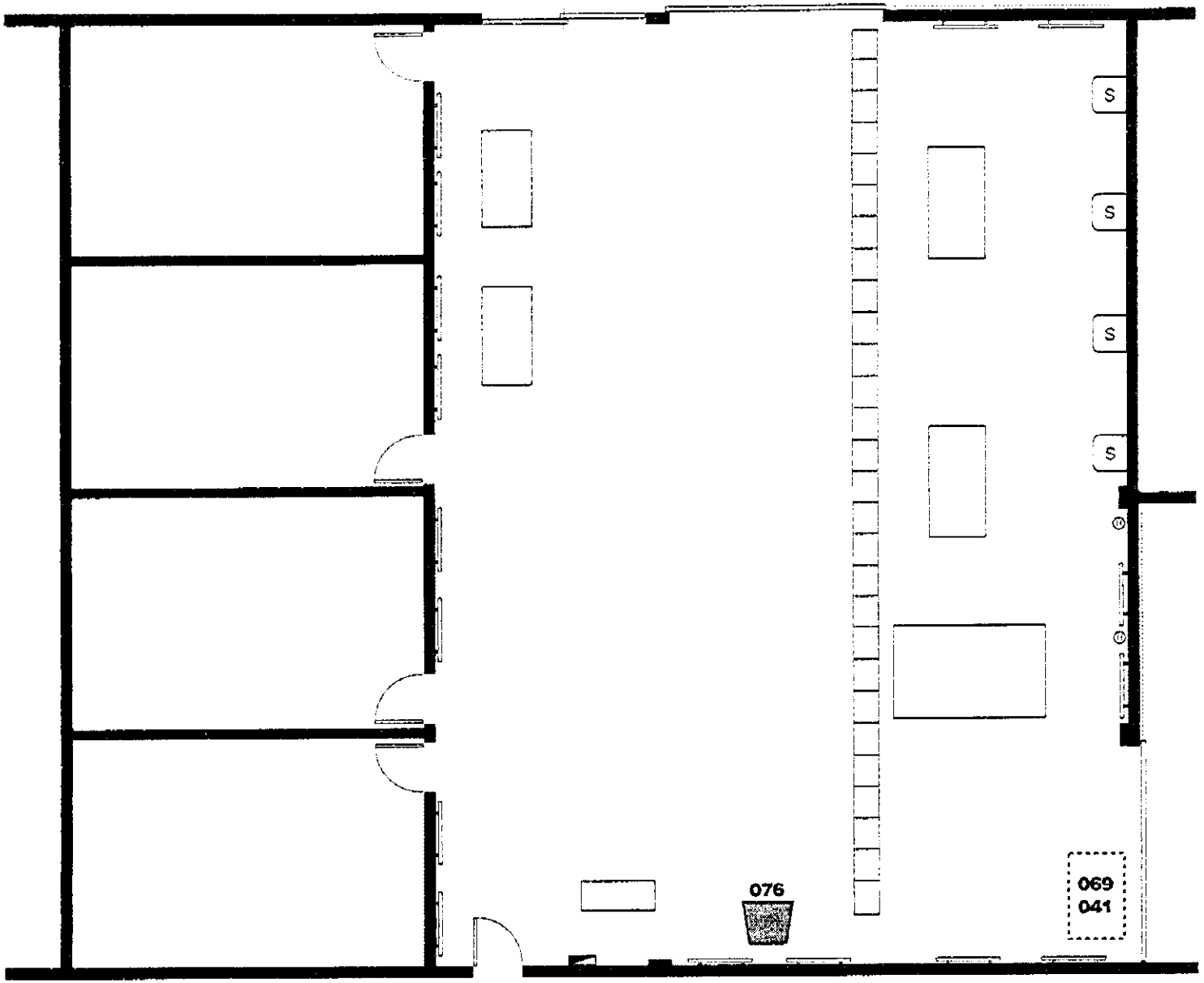
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 25 Poultry Disease (POD) / Poultry Breeding (POB) Lab.



The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 26 Artificial Insemination (AIN) Lab.

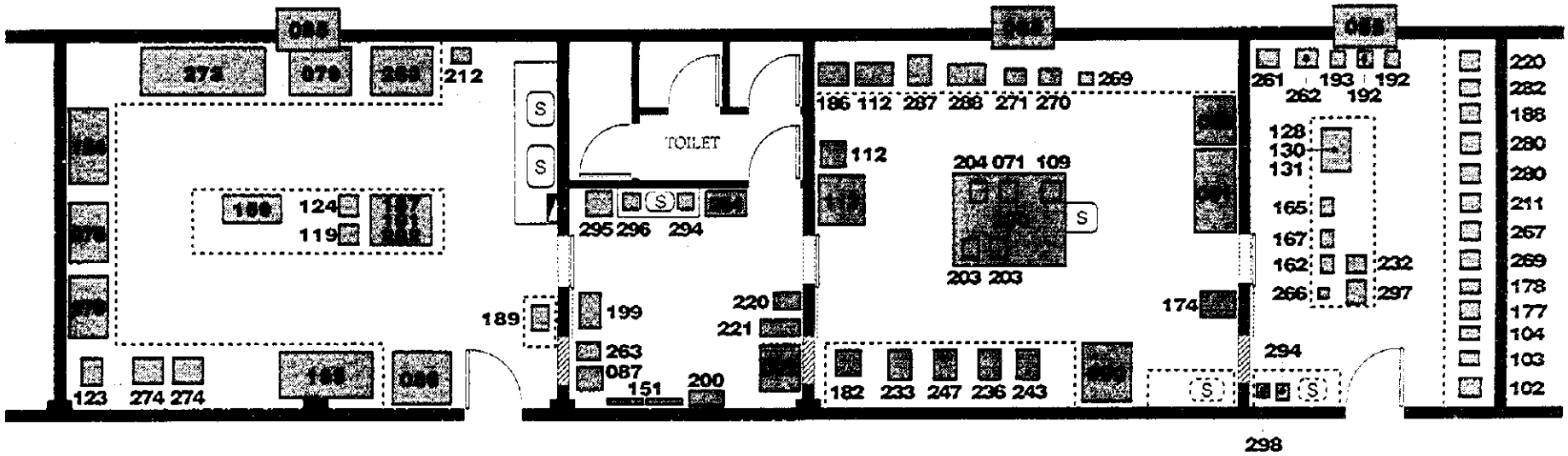


The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 27 Gynecology (GYN) Lab.



The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 28 Surgery (SUR) Lab.

ZRA



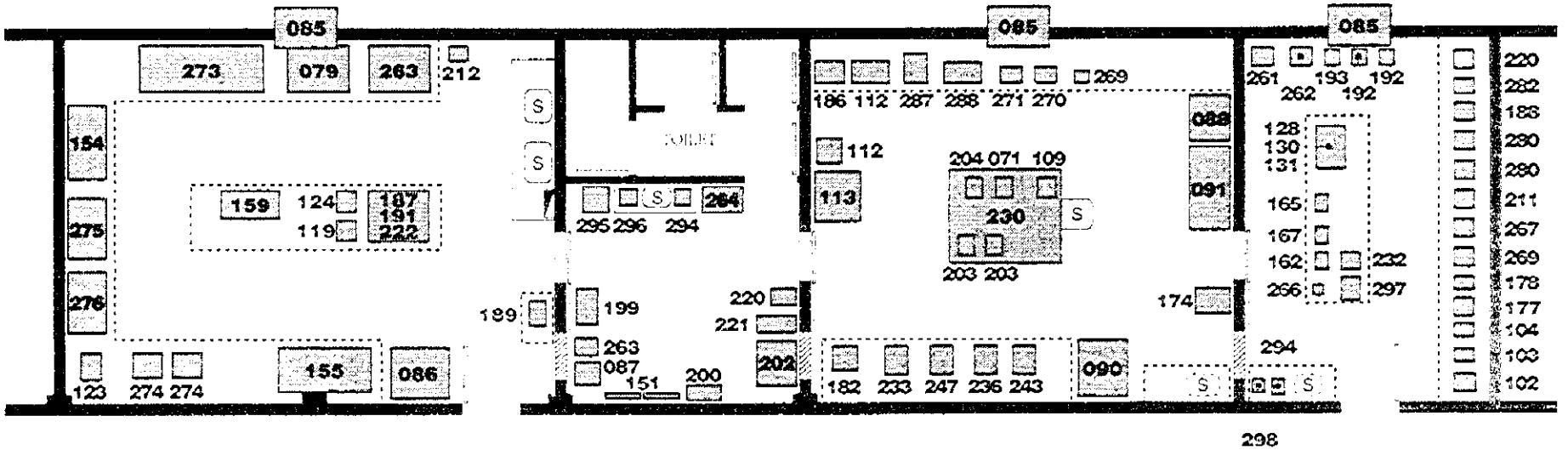
LEGEND

: Change to door (currently : wall)

: Change to wall (currently : door)

The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 29 CLDR, Joint Use (ZRA) Exam. Room

ZRA

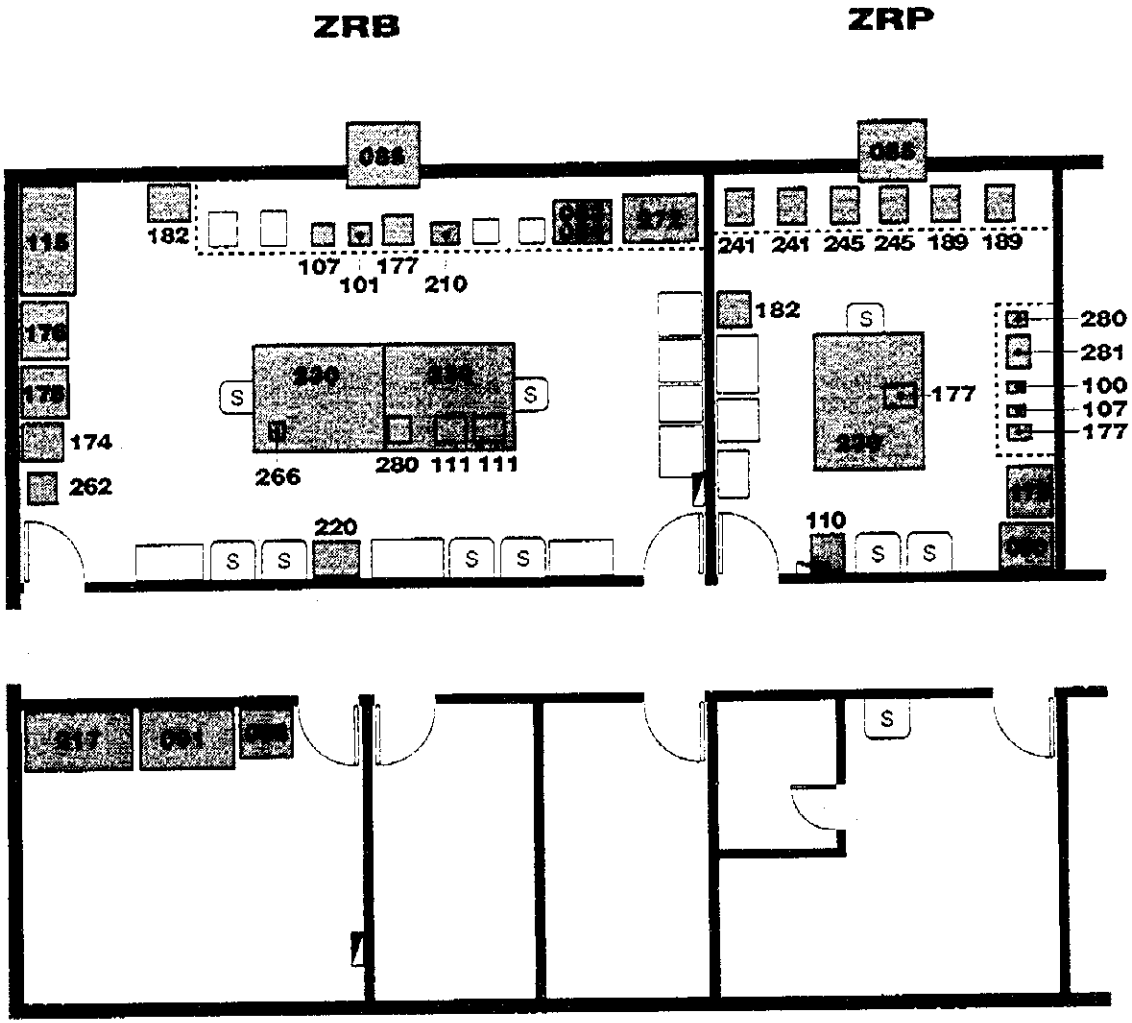


LEGEND

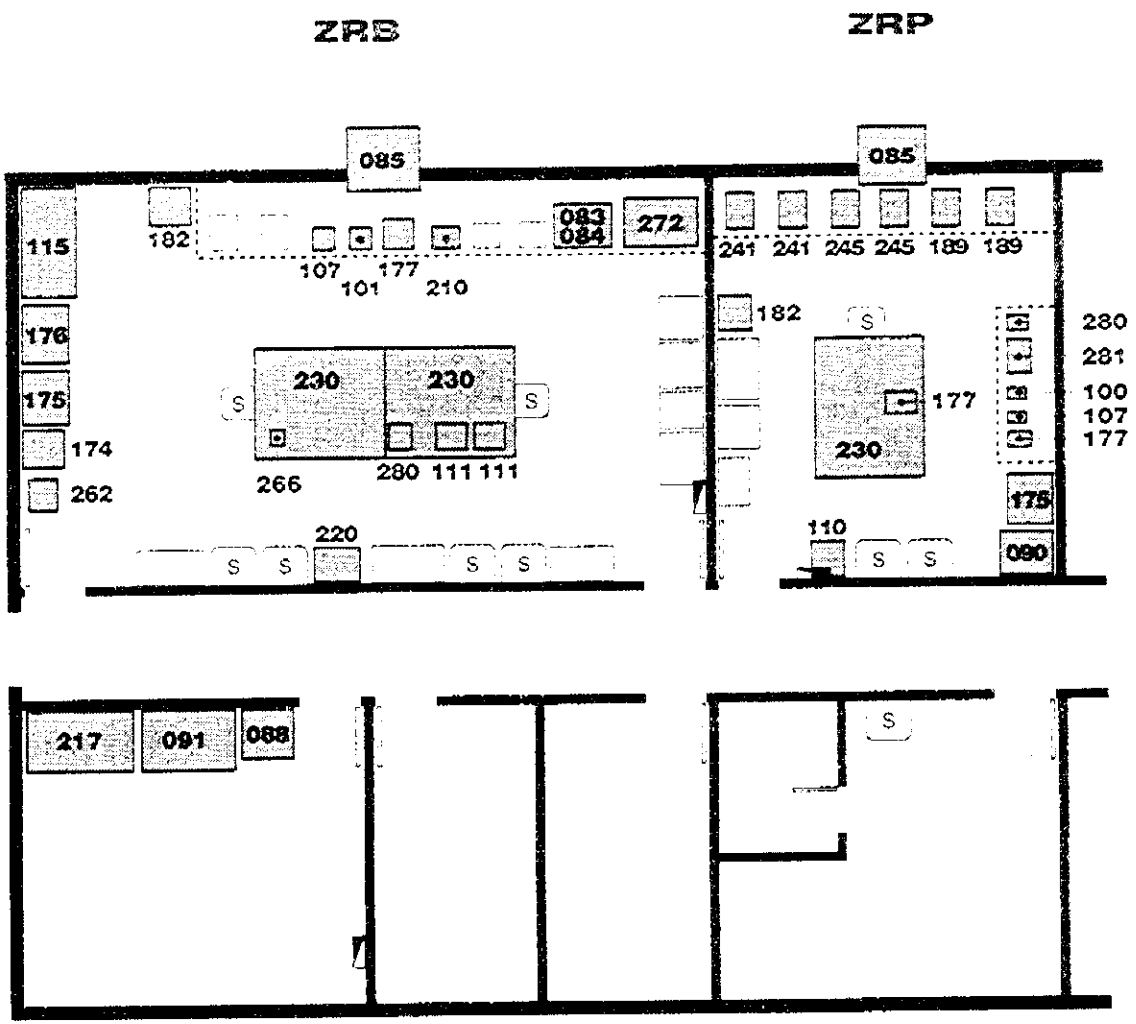
■ ■ : Change to door (currently : wall)

■ ■ : Change to wall (currently : door)

The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 29 CLDR, Joint Use (ZRA) Exam. Room

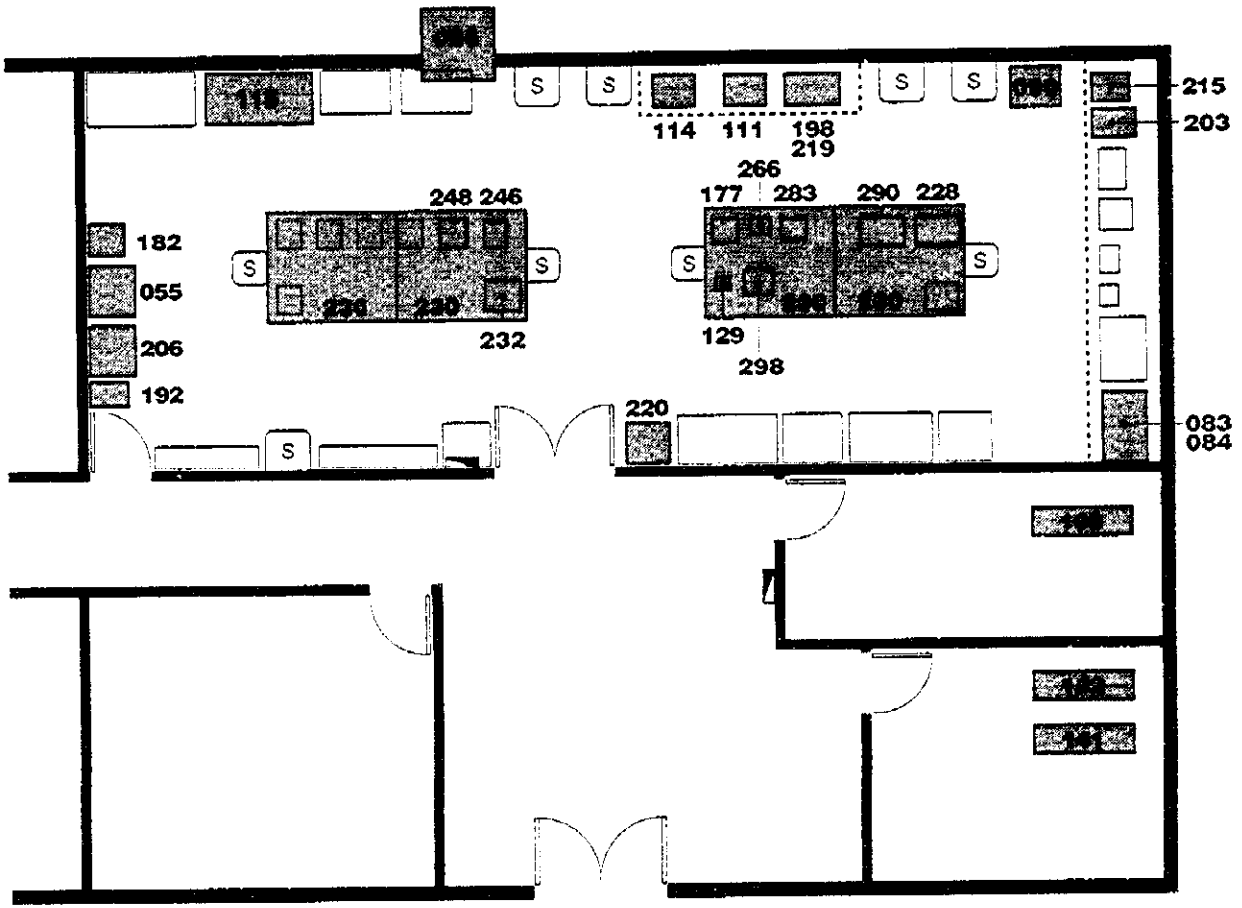


The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 30 CLDR. Bacteriology (ZRB) Exam.Room/Parasitology (ZRP) Room



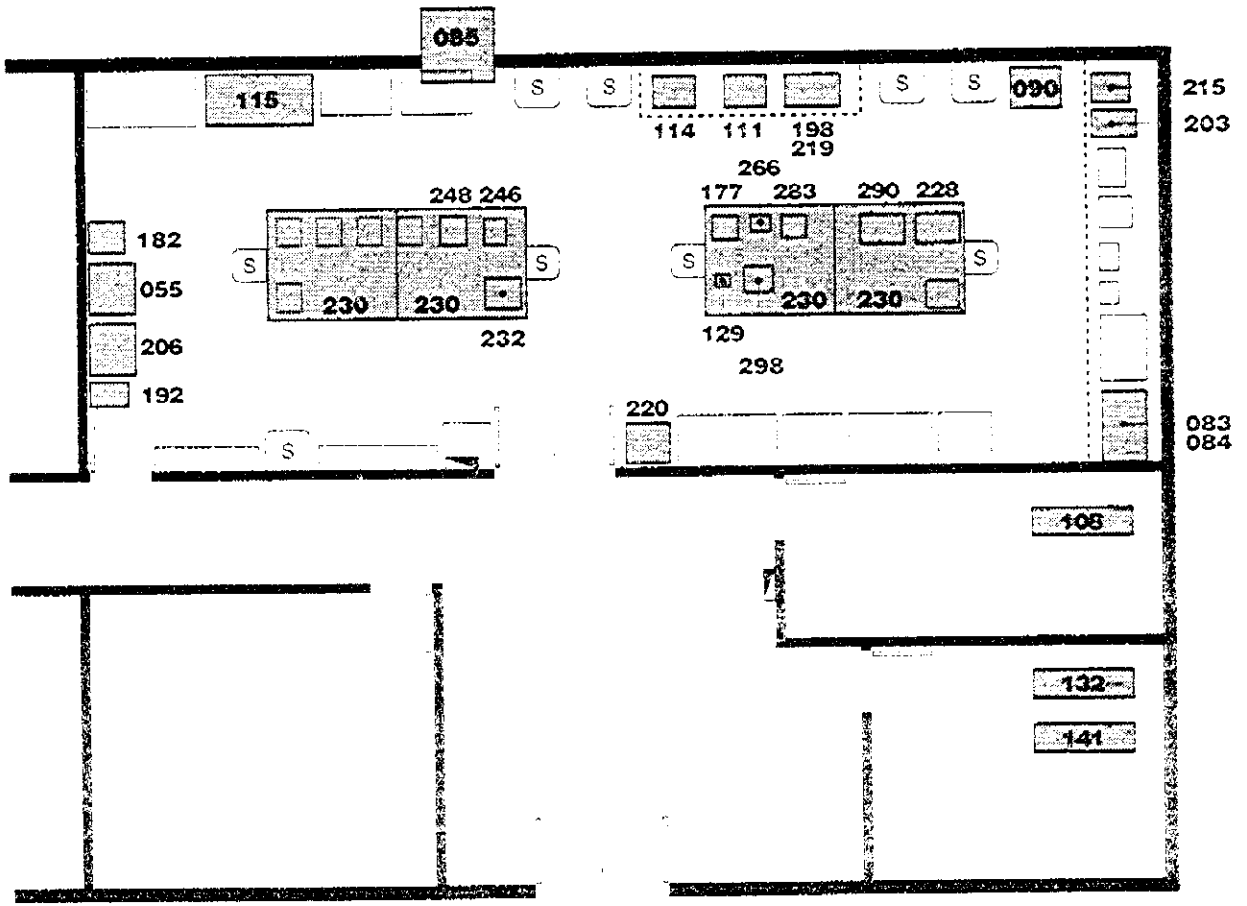
The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 30 CLDR. Bacteriology (ZRB) Exam.Room/Parasitology (ZRP) Room

ZRV



The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 31 CLDR. Virology (ZRV) Exam. Room

ZRV



The Project for the Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University	S = 1:100	Equipment Layout	Fig. 31 CLDR. Virology (ZRV) Exam. Room

Chapter 3 Project Plan

Chapter 3 Project Plan

3.1 Implementation Plan

3.1.1 Implementation Policy

(1) Project Implementation System

The implementing body of the Project on the Syrian side is the Faculty of Veterinary Medicine, Al Baath University. Following the signing of the Exchange of Notes (E/N) between the Japanese and Syrian governments, a Japanese consultant company and the Syrian side will make a contract on provision of the tender documents of the Project and supervision of the Project execution. In addition, the procurement and installation of the equipment provided by the Project will be carried out by a Japanese trading company which will sign a contract with the Syrian government. The work by the trading company will be implemented under the supervision of the consultant company.

FVM, as the implementing body, will be responsible for operating and maintaining the equipment after the Project has been completed.

(2) Execution Policy

This Project will be implemented as a grant aid project of the Japanese government. Hence the Project will be executed according to the following policy.

1) In order to ensure the smooth and uninterrupted implementation of the Project, a close working relationship and an adequate exchange of opinion will be maintained among the Syrian side, a Japanese consultant company, and a Japanese trading company that is responsible for the procurement and installation of the equipment.
2) An inordinate amount of time has been spent in resolving tariff and custom duties for projects implemented in the past. Therefore, this factor should be sufficiently taken into consideration during the project execution period.

3) The party responsible for installing the electricity, water supply, drainage, etc. should be clearly delineated, and installation work should proceed smoothly and efficiently.
4) Measures should be taken to avoid accidents, breakage, or mishaps during the installation, temporary storage, or delivery of the equipment.
5) Dispatch of Japanese technicians during the installation stage

Among the items of equipment that will be provided by the Project, there is equipment that requires assembly and installation. In addition, damages during installation, and inadequate assembly and adjustments of high precision apparatuses such as instruments used in analysis works must be avoided in order to prevent lowered efficiency and performance of the equipment. Therefore, Japanese technicians will be dispatched to the project site who will provide guidance during the unpacking of the equipment, delivery, assembly and installation, test operations and adjustments, and explanations on the use and maintenance method of the equipment. Such technicians will be required for the following works.

- Managing project execution:

  Works of customs clearance, scheduling of the equipment transport and delivery, etc.

- Science equipment:

  Installation and guidance on the operation of the bio clean bench, rotary tissue processor, water purifying apparatus, centrifuge, microscopes, etc.

- Analytical equipment:

  Installation and guidance on the operation of the HPLC, gas chromatograph, spectrophotometer, atomic absorption spectrophotometer, etc.

- Veterinary equipment:

  Guidance on the handling of blood extraction apparatus, Gerber centrifuge, rapid agglutination tester, egg measuring apparatuses, artificial insemination instruments, etc.

3.1.2 Factors to Consider in the Implementation of the Project

(1) The progress of the electricity, plumbing, and other installation works which are the responsibility of the Syrian Side for this Project should be confirmed, and prior countermeasures be taken to ensure that the installation works for the equipment is not impeded.

(2) The equipment will be delivered and installed in the building currently in use by the Faculty. Therefore, adequate measures must be taken to ensure that the Project's execution schedule and the route used to transport the equipment into the building does not impede the daily educational and research activities in progress.

3.1.3 Scope of Works

The scope of works for the Project will be divided between the Japanese and Syrian sides as shown in the Table 6 below.

Table 6 Division of the Scope of Works

Content of the Works	Japanese Side	Syrian Side
1. Secure of the project site		O
2. Payment of B/A commission to the Japanese exchange bank		O
3. Tax exemption, customs clearance		O
4. Secure of the safety and entry/departure immigration formalities for the project related Japanese personnel sent to Syria		O
5. Equipment: Procurement Ocean transport Internal transport Installation work Test operation/adjustments Guidance on equipment use	 O O O O O O	
6. Apply and secure all the licenses needed to execute the Project		O
7. Secure the appropriate budget and personnel required for the effective operation and maintenance of the Project		O
8. Effective operations and maintenance of the equipment provided under the grant aid		O
9. Responsible for all the costs incurred in the installation of facilities and equipment not included in the grant aid and for the delivery, installation, and set up of such equipment.		O
10. To coordinate and resolve all problems concerning third parties during the execution of the Project at the project site		O

3.1.4 Consultant Supervision Plan

The basic policy and factors, which must be considered in supervising the execution of the Project, are explained below.

(1) In order to ensure the uninterrupted delivery of the equipment and its installation, the consultant company must closely coordinate the work with FVM, the project implementing body. In particular, the installation works of utilities (primary electricity, tap water/drainage, carrier gas, etc.), air conditioners, draft chamber duct and chain block rail, and renovation works for the joint use examination room, land leveling and oil leakage prevention works for the incinerator, which are obligation of the Syrian side, need to be coordinated with the equipment installation plan that will be implemented by the Japanese side. Hence the installation work schedules must be closely coordinated between the both sides.

(2) The customs clearance procedure for tariff exemptions in Syria requires an inordinate number of days to clear. The Japanese consultant company will assist the project implementing body for submitting the documents required for customs clearance beforehand. Following the arrival of the equipment to Syria, the consultant will also assist the project implementing body and the trading company for executing the customs clearance and keeping the added expenditures stemming from storage fees, etc. to a minimum. In addition, closely coordinated preliminary preparation work is required to ensure that materials such as blood serum which can not be kept at room temperature are not delayed through customs.

(3) An export license from the U.S. Department of Commerce is required for computers manufactured in the United States (including US manufactured CPU, etc.). In addition, an export license is required from the Japanese Ministry of Trade and Industry for equipment such as the rotary evaporator, etc. The Japanese consultant company is responsible for overseeing the procurement of these licenses and to ensure the smooth and uninterrupted implementation of the Project.

3.1.5 Equipment Procurement Plan

(1) Equipment Procurement

Among the equipment that will be provided by the Project, the refrigerator, freezer, television, window-type air conditioner, etc. are manufactured in Syria and they will be procured by the Project in Syria since no problems are foreseen in terms of performance and price. However, the project implementing body has requested the provision of animal cage manufactured in Japan despite the fact that they are also manufactured in Syria, due to the higher quality of the former. Although computers manufactured in Syria are available, they will not be procured domestically due to the constant problem of illegal software usage and not yet ratifying intellectual ownership rights. In addition, glass and plastic wares that will be provided by the Project will be Japanese or American/European manufactured at the request of the implementing body, due to their higher quality in comparison to domestically manufactured products.

Several branch agencies of Japanese and American/European manufacturers based in Syria consistently market a large number of products and they are staffed by trained technicians capable of providing regular maintenance services of analytical equipment. Maintenance services from such branch agencies will be made mandatory for equipment such as computers, gas chromatographs, HPLC, etc.

Computers that are Arabic capable, video educational materials, and educational slide preparation will be procured from a third country due the difficulty of obtaining such items in Japan. And, in principle, equipment that does not require special maintenance service or consumables will be procured in Japan.

(2) Consumables and Spare Parts

Al Baath University presently has its own purchasing route for general chemical drugs, nitrogen gas, etc., and these items can be procured domestically. However, it requires more than one year to establish a procurement route for items such as antigens, serum, consumables for special equipment, etc. for which there is presently none. If such consumables are not

provided by the Project, the equipment will remain unusable for six months to one year. Further, when the equipment remains unused for a long period of time, it results in deterioration and markedly reduces its durability. Consequently, the Project will provide a one year supply of consumables and spare parts for which no procurement route exists for the present.

3.1.6 Implementation Schedule

Following the signing of the Exchange of Notes between the two governments on implementing the Project under Japanese grant aid, an agreement will be signed between the Syrian government and the Japanese consultant company. The consultant company will carry out the detail design works after receiving a contract verification notice from the Japanese government. And, after the detail design works, the project implementing body and the consultant company will draw up the tender documents, and conduct the tendering and its evaluation on the equipment procurement and installation. Following the evaluation process, the project implementing body will sign a contract with the Japanese trading company responsible for procuring the equipment. The equipment procurement and installation process will be implemented after a contract verification notice has been issued by the Japanese government. The entire process will require 12 months to be completed and the execution of the works will be completed within a one-year period.

(1) Detail Design Work

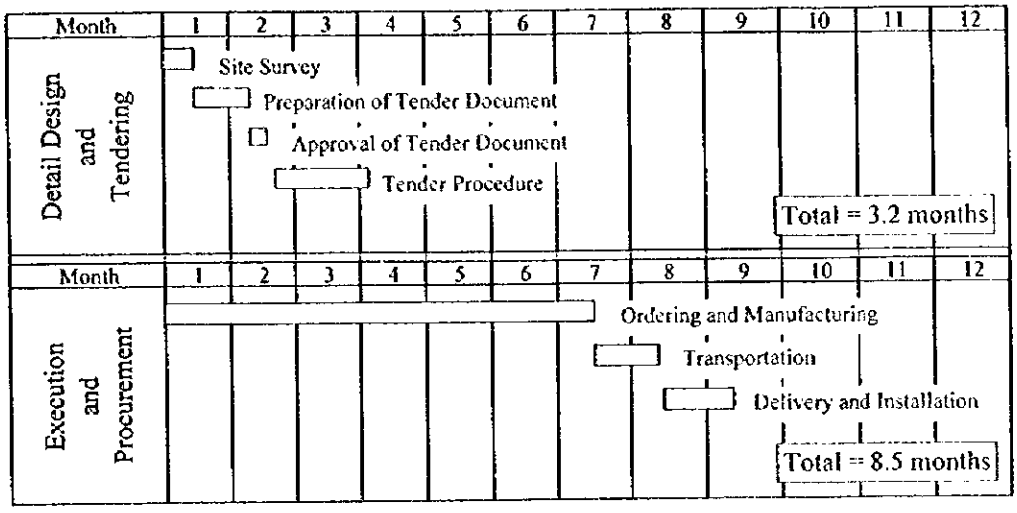
Based on the Basic Design Study Report, the consultant company will draw up a detailed design of the project, excluding the work for equipment specification documents, and will complete the tender documents. The content of the equipment specification documents which was compiled in the basic design stage, will be checked to ascertain whether the equipment is still manufactured and to reflect changes that may have occurred in the Syrian side. This process is anticipated to take about 1.7 months.

(2) Tendering Work

Following the completion of the detail design work, the consultant will confirm the ratification of the scope of works to be undertaken by the Syrian side at the project site. After this confirmation, the public announcement on the tendering for equipment procurement and installation will then be carried out in Japan, and general tendering will be conducted in the presence of relevant parties. This process is expected to take 1.5 months.

(3) Equipment Procurement and Installation Work

After signing the contract with the Syrian government, the Japanese trading company who is responsible for procuring and installing the equipment provided by the Project will begin its work according to the contract, following the verification of the Japanese government. This process is expected to take about 8.5 months. The Project implementation schedule is shown in Table 7 below.



3.1.7 Obligation of the Syrian side

The Syrian side is obliged to implement the following works in the Project.

(1) Installation of utilities

Installation of primary electricity facilities, tap water/drainage facilities, LPG gas piping, carrier gas used to supply the gas chromatograph, etc. where it is needed.

(2) Improvements of the joint use examination room of CLDR

This joint use examination room will be set up in classrooms that are presently unused.

(3) Incidental installation works related to the project equipment

The following incidental installation works are to be executed by the Syrian side.

- Air conditioner: Create an opening for installation, and installation work
- Draft chamber: Create an opening for the duct, and installation work
- Chain block: Installation of a traveling rail
- Incinerator: Land leveling work, foundation work, and installation of oil leakage prevention wall for the fuel tank

(4) Equipment to be procured by the Syrian side

Consumables and spare parts such as tires, etc. for which there is a purchasing route, will be procured by the Syrian side.

(5) Permits, customs clearance

The Syrian side will be responsible for obtaining the permits required in Syria to register motor vehicles, etc. as well as for preparing the documents required for customs clearance.

(6) Banking arrangement to a Japanese exchange bank

A Japanese exchange bank should be promptly selected and made the banking arrangement agreement by the Syrian side during the early stage of the project implementation, and the Authorization to Pay should be issued.

3.2 Summary of Project Cost by the Syrian Side

The project cost for the Syrian side is about 837,600 SP when this project is implemented as a Japanese grant aid project (refer to Appx.2 for details).

(1)	Installation costs	637,600 SP
(2)	Banking arrangement commission, permit fees	200,000 SP

3.3 Operations and Maintenance Plan

(1) Operation and maintenance system

The academic staff in charge of each laboratory will be basically responsible for the maintenance for the equipment that will be provided by the Project. If minor repairs or purchase of a new equipment are required, each faculty member will requisition the estimated cost directly to the Dean. However, for high costs, the requisition will be discussed with the department head and the department head will apply for the requisition from the Dean. In turn, the Dean will submit the application to the Finance Committee (headed by the Vice Dean in charge of Administrative Affairs and six other members), which will review the cost estimation and repairs that are needed. As a result of that review, if the estimated cost is under 10,000 SP, the Dean will make the decision and instruct the Finance Committee. If the estimated cost is higher than 10,000 SP, the Dean must seek the approval of the Rector.

The Finance Committee which receives its instructions from the Dean is responsible for procuring the equipment or drugs/chemicals requested and for instructing the Facility Maintenance Committee for equipment repairs. If the Facility Maintenance Committee is unable to implement the repairs itself, it will consign the work to an outside repair service.

With the implementation of the Project, an electronic technician and a mechanic will be recruited for the Facility Maintenance Committee in order to strengthen the equipment maintenance system. The maintenance system for the Faculty is shown in the Fig. 32 below.

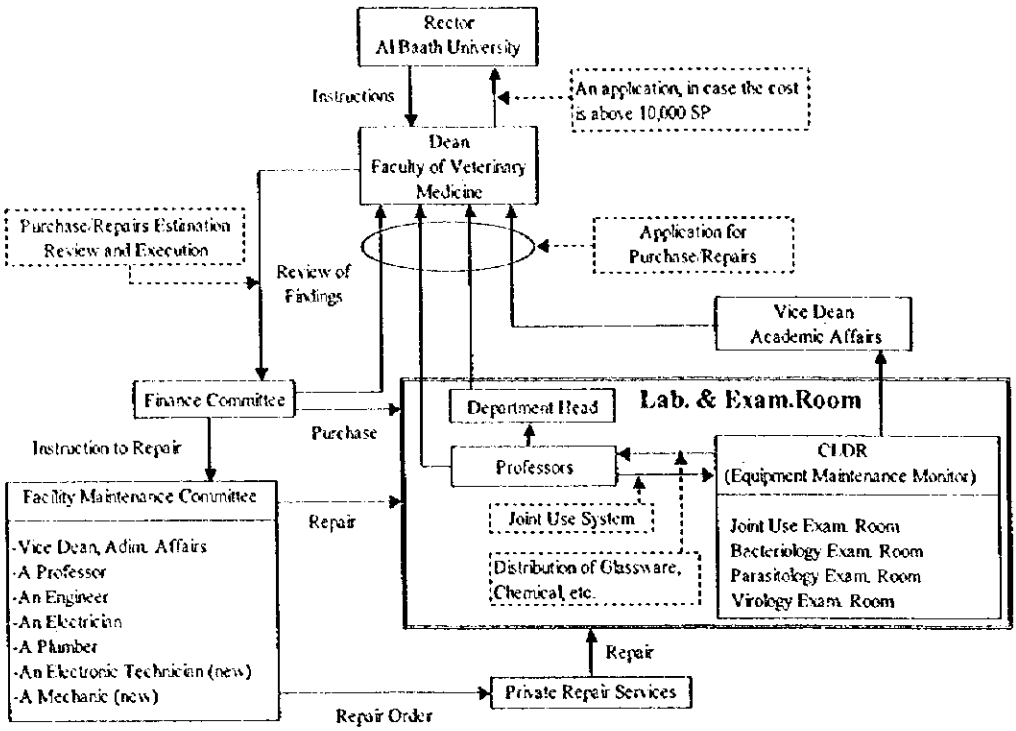


Fig. 32 Facility Maintenance System of FVM

FVM has newly established other two committees to ensure the effective operation of the Project. Their names and activities are as follows.

- Committee of the Japanese Project: Main activities are to supervise the optimal operation of the Project and monitor the progress of the equipment utilization. Headed by the dean of FVM and representatives of six departments.
- Committee of CLDR: Main activities are to operate and maintain the education and research activities of CLDR. Headed by the vice-dean of the academic affaires and six professors relevant to the field of animal diseases.

(2) Operation and maintenance costs

The estimated operation and maintenance costs of the equipment that will be provided by the Project are shown in the Table 8 below (refer to Appx. 3 for details).

Annual Operation and Maintenance Costs of the Project

Expense	Item	Amount
Electricity		62,580 SP/Year
Water		4,816 SP/Year
Gas		1,400 SP/Year
Fuel	Bus for field study	80,812 SP/Year
	Wagon for pathology samples	16,180 SP/Year
	Incinerator	10,370 SP/Year
Sub-total		107,362 SP/Year
New employees	Electronic technician	100,000 SP/Year
	Mechanic	70,000 SP/Year
Sub-total		170,000 SP/Year
Consumables		1,346,000 SP/Year
Parts		231,000 SP/Year
Total		1,923,158 SP/Year

The annual operation and maintenance costs of the Project are estimated at about 1.92 million SP as shown in the table above. The University Rector has confirmed to appropriate a budget of 2 million SP for the first year of the Project. This amount is nearly equivalent to the annual operation and maintenance costs of the Project.

Chapter 4 Project Evaluation and Recommendation

Chapter 4 Project Evaluation and Recommendation

4.1 Corroboration and Verification of the Project's Appropriateness and Beneficial Impacts

The direct and indirect benefits anticipated from the implementation of the Project are summarized below.

(1) Direct Benefits

- The equipment provided by the Project will enable the curriculum to include experiments and training courses which have hitherto been limited to lectures. The actual use of the equipment by students will enable them to learn the purpose, the operational procedures, etc. of the equipment.
- The provision of a bus for field trips will help training sessions on clinical diagnoses of livestock which have been inadequately carried out in the past; and yearly 120 hours of field training sessions per student will become possible.
- Due to the implementation of comprehensive indoor and outdoor experiments and training sessions, 200 veterinarians with practical experience in clinical/laboratory diagnoses of livestock will graduate annually.
- The work of collecting disease samples by CLDR will become systematic and carried out nationwide in contrast to the sporadic activities that have been confined to local regions. This will result in improved disease research activities.

(2) Indirect Benefits

- Due to the rise in the number of veterinarians experienced in clinical/laboratory diagnoses for livestock throughout the country, a decrease in the presently high ratio of livestock diseases is anticipated due to the availability of adequate treatment.
- A database on livestock diseases will be compiled due to improved collection activities of disease samples; and swift disease prevention and treatment measures will be promoted.

Due to the benefits that will be derived from the Project, Al Baath University officials are highly optimistic about the implementation of the Project. The annual operations and maintenance cost of the Project is estimated at 1.92 million SP, but Al Baath University is financially capable of meeting this cost. In addition, in order for the project to achieve a stable level of operations, the dean has established three committees in charge of operations, the utilization of CLDR, and equipment maintenance; hence the uninterrupted operation of the Project is ensured. Therefore, the implementation of the Project under the Japanese grant aid scheme has been judged appropriate.

4.2 Issues

In order to enable the equipment to be used effectively, there is a need to implement the following countermeasures by the Syrian government.

(1) The activities of the said three committees established by the dean of FVM should begin as soon as possible. In addition, the activities of the committees should be compiled into an annual report which will be submitted to the rector of Al Baath University and the Japanese side.
(2) An annual maintenance budget for the Project should be procured by Al Baath University based on the said annual report submitted by FVM.
(3) There are consumables provided by the Project which are not found in the Syrian market. It is necessary to create a domestic procurement system for such consumables by selecting a relevant distributor within one year after the Project's implementation, based on a review of the distributor's finances, procurement capabilities, delivery conditions, etc.
(4) Create a registry of FVM graduates, in order to evaluate how the educational program at this Faculty will contribute to the nation's development.

Appendices

Appx.1 Verification of the Need and Appropriateness of Providing a Bus for Field Training Courses

(1) Problems in conducting field training courses

The bus currently used in field training courses is 30 years old, the engine is greatly depreciated, and is subject to frequent breakdowns. Its usage has greatly dropped, due to the fact that the bus requires mechanical repairs one day before a field training trip and this has resulted in wasted costs. Although field training courses have been added to the fifth-year curriculum since 1998, FVM are currently using a rented motor vehicle due to the mechanical problems of the existing bus. The discounted daily rental fee contract is 4,000SP/day. The usual rate is 7,000SP/day and consequently, other higher paying customers are given priority over FVM which is viewed as a low priority customer. As a result, FVM's rented motor vehicle is subject to cancellations without warning by the rental car service. The bus which continues to be used, frequently stalls during an outing which creates such problems as reduced training hours and late returns to FVM. In order to raise the effectiveness of field training activities, FVM has set the number of students at 30 per training activity for each course. However, due to the limited number of buses, 60 to 70 students are crowded into one bus which must transport the students to two different training points. Consequently, the training hours for one group of students is curtailed.

(2) Annual operation plan for the field training bus

The Internal Medicine, Surgery, Infectious Disease, and Animal Breeding courses conduct field training activities. These activities are conducted in the afternoon and range from four to six hours (an average of five hours). Each course requires 12 days of training activities per year. The total number of days required of four courses as one shift of the field training is four courses x 12 days = 48 days (approx. 2 months including holidays). There are eight months of training activities per year at FVM (excluding the examination period), and four training shifts (total 192 days) are possible. Therefore, if the 240 fifth-year students are divided into four groups of 60 students each, and each of these groups is subdivided further into two subgroups (30 students/subgroup/bus), it will enable the training activities for two courses to be implemented simultaneously and will allow practical field training to be carried out without interruption.

The following field tours are held in addition to these field training activities.

First year	Biology	Once a year/group	6 days
Second year	Biochemistry	Once a year/group	6 days
Third year	Animal Breeding	Twice a year/group	12 days
Third year	Poultry Disease	Twice a year/group	12 days
Fourth year	Food Hygiene	Twice a year/group	12 days
Fourth year	Fish Production	Twice a year/group	12 days
Fourth year	Pharmacology	Twice a year/group	12 days
			72 days

These field tours can be effectively conducted in the morning hours when the bus is free and FVM will be responsible for establishing such a plan.

In addition, in order to enable students to conduct clinical diagnoses and treatment measures, blood precipitation and agglutination tests which are relatively simple to carry out and are an effective means of raising the effectiveness of the field training activities, will be implemented. Consequently, a bus with adequate space capable of accommodating a hematocrit centrifuge, portable refrigerator, portable power generator, sterilizing instruments, etc. will be needed.

(3) Comparison of field training costs

A comparison of the bus operation costs incurred by the field training activities in the cases of a rented bus and a FVM owned bus is given below.

1) Factors considered in calculating the operation cost per bus

Driving hours per field training activity: 2.5 hrs/day

Fuel consumption volume: 0.23 liter/km

Insurance fee: 80,000SP/yr

Driver salary: 4,000SP/month

Bus rental cost: 3,500SP/day

Bus Purchase cost: C = 3,900,000SP

Total travelling distance = 192days/yr x 2.5 hrs/day x 60km/hr = 28,800km/yr

Amount of fuel required = 28,800km/yr x 0.23 liter/km = 6,624 liter/yr

Fuel cost = 6,624 liter/yr x 6.1SP/liter = 40,406SP/yr

Distance travelled in one hour: 60km

Diesel oil cost: 6.1SP/liter

2) Factors considered in calculating the maintenance cost of the bus

The yearly maintenance cost (MC) is calculated as follows.

MC = bus cost (BC) x assumed maintenance cost rate (AMCR)

Priod	AMCR	MC
1st FY	BC x 0.01	39,000SP
2nd FY	BC x 0.03	117,000SP
3rd FY	BC x 0.03	117,000SP
4th FY	BC x 0.05	195,000SP
5th FY	BC x 0.05	195,000SP
6th FY	BC x 0.05	195,000SP
7th FY	BC x 0.08	312,000SP
8th FY	BC x 0.08	312,000SP
9th FY	BC x 0.10	390,000SP
10th FY	BC x 0.10	390,000SP

3) Yearly operation cost per bus

Unit : SP/year

	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year
Salary of driver	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000
Insurance cost	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Fuel cost	40,406	40,406	40,406	40,406	40,406	40,406	40,406	40,406	40,406	40,406
Maintenance cost	39,000	117,000	117,000	195,000	195,000	195,000	312,000	312,000	390,000	390,000
Total	227,406	305,406	305,406	383,406	383,406	383,406	500,406	500,406	578,406	578,406

4) Comparison of the operation cost of the bus

A comparison of operation cost in the cases of a rented bus and a FVM-owned bus is shown in the table below.

Unit : SP/year

	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year	Total
Univ. bus	227,406	305,406	305,406	383,406	383,406	383,406	500,406	500,406	578,406	578,406	4,146,060
Rented bus	672,000	672,000	672,000	672,000	672,000	672,000	672,000	672,000	672,000	672,000	6,720,000

Based on the above, the Faculty will significantly reduce the cost for field training activities by operating its own bus, in addition to avoiding a loss of training hours with the use of a rented car.

Appx.2 Estimation of the Project Costs by the Syrian Side

The costs related to the Project, which the Syrian side are responsible for, have been calculated as explained below.

(1) Utility Facility Costs

An estimation of the content of the utilities and the installation cost is given below.

1) Installation Cost of Primary Electricity Facility

A total of 25 electrical outlets will be installed in four laboratories of meat hygiene, bacteriology etc. as the number of existing outlets is insufficient to accommodate the new equipment. The added outlets will be installed in the designated wall areas and they will be installed from the existing electric board to the exposed wiring. The installation cost is estimated to be 25,000SP. In addition, one electric board and 14 additional outlets will be installed in the joint use examination room to accommodate the new equipment. The installation cost is estimated to be 65,000SP. Based on the aforementioned, the total electricity-related-installation cost is estimated at 90,000SP.

2) Installation cost of tap water and drainage facilities

Additional sinks must be installed in 16 locations in the laboratories. The average cost is estimated at 5,100SP and the estimated installation cost is 81,600SP.

3) Installation of LPG gas pipe

Presently, LPG gas is supplied by gas cylinders and consequently, there is no installation cost.

4) Installation of carrier gas

Carrier gas is mainly used in the gas chromatograph and the CO_2 incubator. There is no installation cost since it is supplied by gas cylinders.

(2) Repair cost of the joint use examination room of CLDR

This room has a total of four sub rooms encompassing a total area of 138m^2. The major repairs that are needed are to repaint the room walls, create new doors and abandon old doors, improve existing water supply and drainage facilities, etc. The estimated repair cost is about 2,600 SP/m^2 and the total cost is about 358,800SP.

(3) Incidental costs related to the new equipment

The following incidental costs are anticipated.

Air Conditioning:

A total of six air conditioning units will be installed in four examination rooms of the CLDR. The estimated cost of creating wall apertures for the installation of one unit of air conditioning is about 2,300SP/unit and the installation cost for six units is estimated at 13,800SP.

Draft Chamber:

A total of three draft chambers will be installed. The total estimated installation cost of creating wall apertures and installing tap water, drainage and duct facilities is 4,800SP/unit and the total cost for three units is about 14,400SP.

Chain Block:

The chain block is used to transport the corpses of large animals to and from the pathology building. There is about a 1.5 meter difference in height between the roofless platform on the outside of the building and the unloading deck of the transport vehicle. In order to raise or lower the animal by chain block, two sets of a gate shaped beam (3m x 3m) made of H- shaped steel with a guide rail will be installed on the roofless platform with a distance of 2.5m between the beams. Therefore, the total length of the H-shaped steel which includes a guide rail is (3m + 3m +3m) x 2 + 2.5m x 3 = 25.5m. If 100mm x 150mm of H-shaped steel is used, the unit installation cost which includes the processed steel material and the assembly wages is estimated at about 840 SP/m and the total installation cost is estimated at 21,420 SP.

Incinerator:

The weight of the incinerator itself is about 5 tons and encompasses a floor area of about $4m^2$. Therefore, the thickness of the floor needs 20cm of reinforced concrete. The total floor area containing the incinerator will be 4m x 8m = $32m^2$, which also includes the space needed for the vehicle transporting the wastes. The estimated cost for the installation of the concrete is 1,800SP/m^2 and the flooring installation cost is estimated at 57,600SP.

(4) Registration fees

The registration fee of the motor vehicles is about 10,000SP/vehicle and a total registration fee of 30,000SP is estimated for three planned vehicles.

(5) Commission fee of Banking Arrangement to a Japanese exchange bank

The commission fee of the Banking Arrangement for the entire project is estimated at about 0.1 percent of the overall project cost or about 170,000 SP.

Based on the above, the total cost to be borne by the Syrian side for items (1) to (5) is estimated at about 837,620 SP.

Appx.3 Estimation of Operations and Maintenance Cost

The operations and maintenance cost for the equipment provided by the Project has been calculated as follows. The unit cost is based on the price as of May 1999.

(1) Electricity rates

Electricity rates are calculated according to a specific volume system, and the electricity cost of the Faculty fall under the rates for public facilities within the rate system. Based on this system, the annual cost of electricity has been estimated as shown below.

Annual electricity cost

= Power load x average demand ratio x average hours of usage per day x number of days utilised in a month x unit rate x number of training months per year

= 74.5kw x 0.7 x 5hr/day x 20 days/month x 1.50/kw·hr x 8 months/yr

= 62,580 SP/yr

Note: It was assumed that the power load = (the sum total of power load per equipment item) x 0.5.

(2) Water rates

The water rates are calculated according to a specific volume system similarly to electricity rates and the water rates for public facilities are also applied.

Annual water rates

= Volume used per day x number of days utilized per month x unit rate x number of training months per year

= 4.3m^3/day x 20 days/month x 7SP/m^3 x 8 months = 4,816 SP/month

Note: Daily water consumption volume = the sum total of the daily volume of water used by each laboratory (daily water volume was divided into 0.4m^3/day, 0.2m^3/day, 0.1m^3/day and the volume of water consumed was estimated based on the training content of each laboratory).

(3) Gas rates

Gas cylinders are used to supply LPG gas and an estimation of the annual cost for gas is as follows.

Annual gas rate

= Volume of gas used per day x number of days utilized per month x unit rate x number of training months per year
= 1.25kg/day x 20 days/month x 7SP/kg x 8 months = 1,400SP/year

Note: Among the equipment requested, only ten burners use LPG gas. The gas consumption of one burner is about 0,125kg/hour, and average daily use was assumed to be for two hours.

(4) Fuel costs

The following three items of equipment will generate fuel costs.

1) Field training bus (use of diesel oil)

The annual fuel cost shown in Appx.1 was utilised.

Annual fuel cost = 40,406SP/vehicle/year x 2 vehicles

= 80,812SP/year

2) Wagon for collecting disease samples (use of diesel oil)

This motor vehicle will be used to collect disease samples from areas where livestock diseases have been reported by private poultry breeders and/or the Animal Health Department of each province.

a. Within Hama Province

- Annual distance travelled = 100km/travel x 2 times/week x 48 weeks/year = 9,600km/year
- Annual fuel costs = 9,600km/year x 0.17 liter/km x 6.1SP/liter = 9,955SP/year

b. Outside of Hama Province

- Annual distance travelled = 500km/travel x 12 times/year
- Annual fuel costs = 6,000 km/year x 0.17 liter/km x 6.1SP/liter = 6,222SP/year

Or the annual estimated fuel cost for the wagon = a+b = 16,177SP/year (approximately 16,180SP/year)

3) Incinerator (use of diesel oil)

The fuel consumption volume of the incinerator is about 10 litters/hour. It was assumed that the incinerator would be used one hour for one time and that the training activities were carried out by FVM five days a week, eight months a year.

- Annual fuel costs = 10 litters/time x 5 times/week x 34 weeks/year x 6.1SP/liter = 10,370 SP/year

Based on the above, the total fuel costs = 1)+ 2)+ 3)
= 80,812SP/year + 16,180SP/year + 10,370SP/year
= 107,362SP/year

(5) Personnel costs of newly employed maintenance personnel

The personnel costs of the maintenance staff members who will be employed by the Faculty to maintain the equipment provided by the Project is shown below.

Electronic technician:	100,000SP/year
Mechanic:	70,000SP/year
Total:	170,000SP/year
Total:	1,346,000SP/year

(6) Cost of Consumables

It was assumed that a portion of the glass and plastic wares and drugs/chemicals provided by the Project will be used within one year. The estimated cost for these items are given below.

Glass wares:	78,000SP/year
Plastic wares:	176,000SP/year
Drugs:	1,092,000SP/year

(7) Cost of Spare Parts

Among the equipment that will be provided by the Project, the motor vehicles (bus and wagon) require a periodic exchange of spare parts. Although other items of equipment will require an exchange of spare parts on an irregular basis, there will be no need to supply spare parts on a relatively long-term basis since extra spare parts will be provided by the Project.

The spare parts that will require periodic exchanges for the motor vehicles are tires, fan belt, plug, oil filter, etc. The cost of these spare parts is estimated at 77,000SP/year for one motor vehicle and a total of 231,000SP/year for three planned motor vehicles

Based on the above, the total annual maintenance cost for the equipment that will be provided by the Project for items (1) to (7) is estimated at 1,923,162SP/year.

Annex

Annex 1. Members of the Study Team

Basic Design Study

Name	Title	Institution
Masaharu KANAMEDA	Team Leader	Development Specialist (Animal Health & Production), Institute for International Cooperation, JICA
Yoshiteru TUJI	Coordinator	Grant Aid Project Study Department, JICA
Tamotsu TOMIYAMA	Project Manager / Education planner for Veterinary Medicine	System Science Consultants Inc.
Masami SUDA	Equipment Planner	System Science Consultants Inc.
Hiroshi KISHIMOTO	Facilities Planner	System Science Consultants Inc.
Michiyuki KEMMOTSU	Cost Estimator / Procurement Planner	System Science Consultants Inc.

Explanation of Draft Final Report

Name	Title	Institution
Masaharu KANAMEDA	Team Leader	Development Specialist (Animal Health & Production), Institute for International Cooperation, JICA
Tamotsu TOMIYAMA	Project Manager / Education planner for Veterinary Medicine	System Science Consultants Inc.
Masami SUDA	Equipment Planner	System Science Consultants Inc.

ANNEX 2. Survey Schedule (1/2)

Basic Design Study

No	Date	Day	Officials	FM Education Planner	Equipment Planner	Facility Planner	Cost Estimator/ Procurement Planner
1	3-Apr	Sat		Depart Narita → via Amsterdam	←	←	←
2	4-Apr	Sun		→ via Amsterdam →	←	←	←
3	5-Apr	Mon		Arrival in Damascus Courtesy call to JICA and SPC Courtesy call to MHE and MAAR (Damascus → Homs)	←	←	←
4	6-Apr	Tue		Courtesy call to Baath Univ (Homs → Hama)	←	←	←
5	7-Apr	Wed		Survey on FVM	←	←	←
6	8-Apr	Thu		Survey on FVM (Project Planning, equipment contents, O/M system, graduates survey and etc)	Survey on FVM (Existing Equipment Conditions)	Survey on FVM (Existing Facility Conditions)	Survey on FVM (Procurement Conditions)
7	9-Apr	Fri		Internal Meeting	←	←	←
8	10-Apr	Sat	Depart Narita → via Vienna →	Discussion in FVM (Project Planning)	Discussion with FVM (Equipment Contents)	Survey on FVM (Existing Facility Conditions)	Survey on FVM (Existing Equipment Conditions)
9	11-Apr	Sun	Arrival in Damascus (Internal meeting)	Hama → Damascus (Internal meeting)	←	Survey on local contractor / material suppliers in Hama	Survey on customs, port, road
10	12-Apr	Mon	Courtesy call to JICA, EOJ, MHE, SPC (Damascus → Homs) Courtesy call to Baath Univ. (Homs → Hama)	Discussion with DAH Courtesy call to EOJ (Damascus → Homs) Courtesy call to Baath Univ (Homs → Hama)	Courtesy call to JICA, EOJ, MHE, SPC (Damascus → Homs) Courtesy call to Baath Univ. (Homs → Hama)	Survey on local contractor / material suppliers in Hama	Survey on FVM (Existing Equipment Conditions)
11	13-Apr	Tue	Survey on FVM	←	Discussion with FVM (Equipment Contents)	Survey on local contractor / material suppliers in Hama	Survey on FVM (Existing Equipment Conditions)
12	14-Apr	Wed	Site survey and discussion of M/D	←	Discussion with FVM (Equipment Contents)	Survey on public service	Survey on FVM (Existing Equipment Conditions)
13	15-Apr	Thu	Discussion on M/D Survey on GOC	←	Discussion with FVM (Equipment Contents)	Survey on public service	Survey on local supplier
14	16-Apr	Fri	(Hama → Damascus) Signing of M/D	←	Data arrangement	(Hama → Damascus)	Data Arrangement
15	17-Apr	Sat	Data arrangement	←	←	Survey on supplier	Survey on local shops
16	18-Apr	Sun	Report to JICA, EOJ, SPC and MHE	Report to JICA, EOJ, SPC, MHE (Damascus → Hama)	Discussion with FVM (Equipment Contents)	Survey on supplier (Damascus → Hama)	Survey on transportation service
17	19-Apr	Mon	Depart Damascus → via Vienna	Survey in SSVM (Education system, job conditions of post graduates)	Discussion with FVM (Equipment Contents)	Law / regulation on facilities works	Discussion with FVM (O/M system)
18	20-Apr	Tue	Depart Vienna →	Survey on GOC and SSVM	Discussion with FVM (Equipment Contents)	Obligation by FVM	Discussion with FVM (O/M system)
19	21-Apr	Wed	Arrival in Narita	Discussion with FVM (Staffing, O/M system)	Discussion with FVM (Equipment Contents)	Facility planning	Survey in local supplier
20	22-Apr	Thu		Discussion with FVM (budget, other donors)	Discussion with FVM (Equipment Contents)	Discussion with FVM (facilities construction works by Syrian side)	Survey on transportation service and suppliers
21	23-Apr	Fri		(Hama → Damascus)	Data arrangement	(Hama → Damascus)	←
22	24-Apr	Sat		Data collection of SPC and MAAR	Discussion with FVM (Equipment Contents)	Supplementary survey	Survey local supplier in Damascus
23	25-Apr	Sun		Discussion with MHE and SPC	Discussion with FVM (Equipment Contents)	Depart Damascus → Paris	Survey local supplier in Damascus
24	26-Apr	Mon		Discussion with MAAR and MSIT	Discussion on specifications	Arrival in Narita	Survey local supplier in Damascus
25	27-Apr	Tue		Discussion with MAAR	Discussion on specifications		Survey transportation
26	28-Apr	Wed		Discussion with UNDP (Damascus → Hama)	Discussion on specifications		Procurement planning
27	29-Apr	Thu		Survey on graduates of FVM	Discussion on specifications		Report to JICA
28	30-Apr	Fri		Internal Meeting	←		Implementation planning
29	1-May	Sat		Discussion with FVM (specifications)	←		Commodity price survey
30	2-May	Sun		Discussion with FVM (specifications)	←		Depart Damascus → Paris
31	3-May	Mon		Discussion with FVM (specifications, implementation plan)	←		Arrival in Narita
32	4-May	Tue		Wrap up meeting (Hama → Homs) Report to Baath University (Homs → Damascus)	←		
33	5-May	Wed		Report to JICA, EOJ, SPC and MHE	←		
34	6-May	Thu		Depart Damascus → via Paris →	←		
35	7-May	Fri		Arrival in Narita	←		

Survey Schedule (2/2)

Explanation of Draft Final Report

No.	Date	Day	Officials	PM/Education Planner	Equipment Planner
1	23-Jul	Fri	Depart Narita → via Paris →	←	←
2	24-Jul	Sat	Arrival in Damascus	←	←
3	25-Jul	Sun	Courtesy call to JICA, EOJ and MHE (Damascus → Hama)	←	←
4	26-Jul	Mon	Discussion on FVM (Explanation of draft report, M/D)	←	←
5	27-Jul	Tue	Discussion on FVM (Explanation of draft report) (Signing of M/D)	←	←
6	28-Jul	Wed	(Hama → Damascus)	←	←
7	29-Jul	Thu	Report to JICA, EOJ and MHE	Report to JICA, EOJ and MHE (Damascus → Hama)	←
8	30-Jul	Fri	Data arrangement	←	←
9	31-Jul	Sat	Depart Damascus → via Vienna →	Discussion with FVM (Building and classroom arrangement for CLDR)	←
10	1-Aug	Sun	Arrival in Narita	Discussion with FVM (Building and classroom arrangement for CLDR)	←
11	2-Aug	Mon		Discussion with FVM (Site arrangement for burner)	←
12	3-Aug	Tue		(Hama → Damascus)	←
13	4-Aug	Wed		Report to JICA, EOJ and MHE	←
14	5-Aug	Thu		Depart Damascus → via Paris →	←
15	6-Aug	Fri		Arrival in Narita	←

Annex 3.

List of Persons Concerned with the Study

(1) Ministry of Higher Education

H.E. Mrs. Salha Sankan	Minister
H.E. Dr. Mohi Deen Essa	Deputy Minister
H.E. Dr. Omar Karmou	Deputy Minister
Mrs. Dalal Azmah	Adviser of Public Relations
Mr. Nabil Rifai	Director of International Organizations

(2) State Planning Commission

Mr. Bassam Al Sibai	Director of Technical & Scientific Cooperation
Mr. Elham Mourad	Assistant to Director of Technical Science Cooperation

(3) Al Baath University

Dr. Abdul Majid Sheikh Hussein	President
Dr. Mohammed Alissa	Vice President
Prof. Mohamed Ali Chaar	Vice President

(4) The Faculuty of Veterinary Medicine, Al Baath University

Dr. Tamer Haddad	Dean of Faculty of Veterinary Medicine
Dr. Mua Fak Junid	Vice Dean of Faculty of Veterinary Medicine
Dr. Tabbaa Darem	Vice Dean of Faculty of Veterinary Medicine
Dr. Muhyideen Ali	Head of Anatomy Department
Dr. Mustafa Hallak	Ass. Prof., Anatomy Section, Anatomy Dep.
Dr. Mahmud Deeb	Ass. Prof., Histology Section, Anatomy Dep.
Dr. Abdula AL Menla	Head of Hygiene Department
Dr. Ahmad Samman	Fish Disease Section, Hygiene Dep.
Dr. Fuad Nehme	Meat Hygiene Section, Hygiene Dep.
Dr. Ayman Adi	Milk Hygiene Section, Hygiene Dep.
Dr. Ziad Karazon	Pasture and Toxic Plant Section, Hygiene Dep.
Dr. Adnan Daka	Head of Internal Medicine and Infectious Disease
Dr. Abed Al Karim Kalb Al Loz	Prof., Infectious Disease Section, Internal Medicine & Infectious Disease Dep.
Dr. Yasin Al-Yasin	Ass. Prof., Infectious Disease Section, Internal Medicine & Infectious Disease Dep.
Dr. Nizar Adi	Ass. Prof., Internal Medicine Section, Internal Medicine & Infectious Disease Dep.
Dr. Mohammad Fadel	Ass. Prof., Poultry Disease Section, Internal Medicine & Infectious Disease Dep.
Dr. Abdul Karim Khaled	Head of Microbiology Department
Dr. Raduan Hagour	Prof. ., Bacteriology Section, Microbiology Dep.
Dr. Annual AL Omar	Bacteriology Section, Microbiology Dep.
Dr. Ahmad Hamdy Mukrish	Head of Pathology Department
Dr. Hassan Krad	Head of Physiology Department
Dr. Riad Mnaged	Animal Nutrition Section, Physiology Department
Dr. Ahmad Mufid Subuh	Animal Nutrition Section, Physiology Department
Dr. Hassan Tarshe	Animal Nutrition Section, Physiology Department
Dr. Salem Abu Kouider	Prof., Bio-Chemistry Section, Physiology Department
Dr. Awad Awad	Ass. Prof., Bio-Chemistry Section, Physiology Department
Dr. Mahmad Deeb	Botany Section, Physiology Department
Dr. Hader Dabbagh	Prof., Pathophysiology Section, Physiology Department
Dr. Hasha Sabbagh	Poultry Breeding Section, Physiology Department

Dr. Azzam Al Omari	Head of Surgery & Gynecology Department
Dr. Rahad Ba'age	Prof., Gynecology Department, Surgery & Gynecology Department
Dr. Agar Da'as	Surgery Section, Surgery & Gynecology Department
Dr. Hiroaki Nishikawa	JICA expert

(5) Ministry of Agriculture and Agrarian Reform

Dr. Baseltelo	Director of International Cooperation
Dr. Nahi Sheibani	Director of Statistical Planning
Dr. Adel Ziadeh	Director of Animal Health
Dr. Haytham Abu Touk	Director, in Hama
Dr. Ziad Abu Zamer	Deputy Director, in Hama
Dr. Musallam Al Walter	Director of Veterinary Diagnosis Center in Hama

(6) General Organization of Cattle/ GOC

Mr. Almuhsen Muhsen	Director of Department of Studies and Infonnation
Dr. Yasushi Yoshiyagawa	JICA expert

(7) Secondary School of Veterinary Medicine

Dr. Muhsin Al Muhsin	President

(8) Ministry of Supply & Internal Trade

Dr. Abudul Latif Baroudi	Director of Technical Affairs

(9) UNDP

Mr. Taoufik Ben Amara	Resident Representative

(10) Embassy of Japan

H.E. Takeshi Kagame	Ambassader
Mr. Katsuto Saka	First secretary
Mr. Kazuo Shimogaki	Attache

(11) JICA Syria Office

Mr. Toshihiko Ebina	Resident Representative
Mr. Shinji Goto	Assistant Resident Representative
Mr. Hiroyuki Goto	Assistant Resident Representative

Annex. 4. Minutes of Discussions

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR DEVELOPMENT AND IMPROVEMENT
OF
THE FACULTY OF VETERINARY MEDICINE OF AL BAATH UNIVERSITY
IN
THE SYRIAN ARAB REPUBLIC

In response to a request from the Government of the Syrian Arab Republic (hereinafter referred to as "Syria"), the Government of Japan decided to conduct a Basic Design Study on the Project for Development and Improvement of the Faculty of Veterinary Medicine of Al Baath University (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Syria the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Masaharu Kanameda, Development Specialist, JICA, and is scheduled to stay in the country from April 11 to May 6, 1999.

The Team held discussions with the officials concerned of the Government of Syria and conducted a field survey at the study area.

In the course of the discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Damascus, April 16, 1999

Mr. Masaharu Kanameda
Leader
Basic Design Study Team
Japan International Cooperation Agency
(Japan)

Prof. Dr. Abdul Majid Sheikh Hussein
President
Al Baath University
(Syria)

Witnessed by:

Eng. Nabil Rifai
Director of International Organizations
Ministry of Higher Education
(Syria)

Mr. Bassam Al-Sibai
Director, Technical and Scientific Cooperation
State Planning Commission
(Syria)

ATTACHMENT

1. Objective of the Project

The objective of the Project is to provide students with practical lectures and improved laboratory examination in the Faculty of Veterinary Medicine, which will enhance the University's contribution to fostering veterinarians having knowledge of laboratory methods and examination that is essential for livestock/poultry/fish/bee health management and to the implementation of laboratory diagnosis, prevention and treatment of animal diseases and injuries in Syria.

2. Project site

The site of the Project is the Faculty of Veterinary Medicine of Al Baath University in Hama city, where it is 200km from Damascus, as shown in ANNEX-1.

3. Responsible and Implementing Agency

3-1. The Responsible Agency is Al Baath University.

3-2. The Implementing Agency is the Faculty of Veterinary Medicine.

The organization chart of the Faculty of Veterinary Medicine of Al Baath University is shown in ANNEX-2.

4. Items requested by the Government of Syria

After discussions with the Team, the items described in ANNEX-3 were finally requested by the Syrian side. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

However, the final components of the Grant Aid will be decided after further studies based on the field survey.

5. Japan's Grant Aid Scheme

5-1. The Syrian side understands the Japan's Grant Aid Scheme explained by the Team, as described in ANNEX-4.

5-2. The Syrian side will take the necessary measures, as described in ANNEX-5, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in Syria until May 6, 1999.

6-2. JICA will prepare a draft report in English and dispatch a mission in order to explain its contents in July, 1999.

6-3. In case that the contents of the report are accepted in principle by the Government of Syria, JICA will complete the final report and send it to the Government of Syria by the end of November, 1999.

7. Other relevant issues

7-1. Both sides confirmed that the Syrian side should establish the appropriate implementation system including the necessary budget and staff for the operation and maintenance of laboratory equipment provided by this Project.

The Syrian side confirmed that it shall take the following necessary measures by the time of the commencement of this Project:

a) It would establish a steering committee within the Faculty of Veterinary Medicine of Al Baath University for the purpose of the organized and effective common use of equipment and the improvement of undergraduate teaching program;

b) It would establish a maintenance committee within the Faculty in order to maintain properly the equipment provided by this Project;

c) It would establish a diagnostic committee within the Faculty for the establishment of systematic diagnosis of animal diseases and for the reflection of current situations in the field to veterinary education.

7-2. Both sides confirmed that the requested equipment would be given the priority in accordance with the criteria for equipment selection and design.

Criteria to be used for the selection of equipment are as follows:

a) New equipment including for diagnostic education which cannot be provided by the Syrian budget and which is indispensable to education for undergraduate students;

b) Addition to the existing equipment which is seriously shortage for teaching the current number of students;

c) Replacement for the existing equipment which is outdated or deteriorated to meet the basic functions or needs of minimum educational standard.

Criteria to be used for the elimination of equipment are as follows:

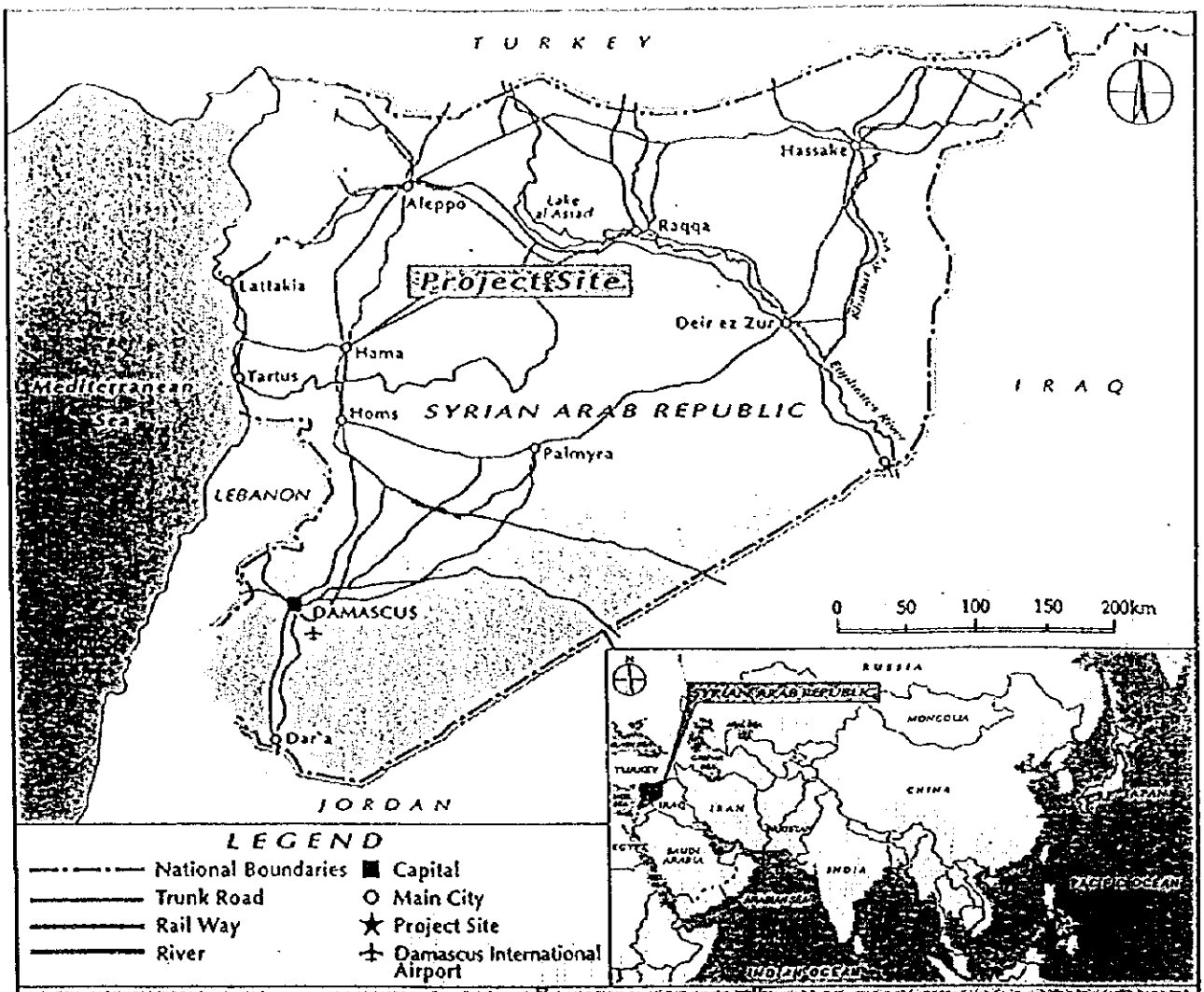
a) Equipment which needs high level skill, many trained staff or expensive cost for proper use and maintenance;

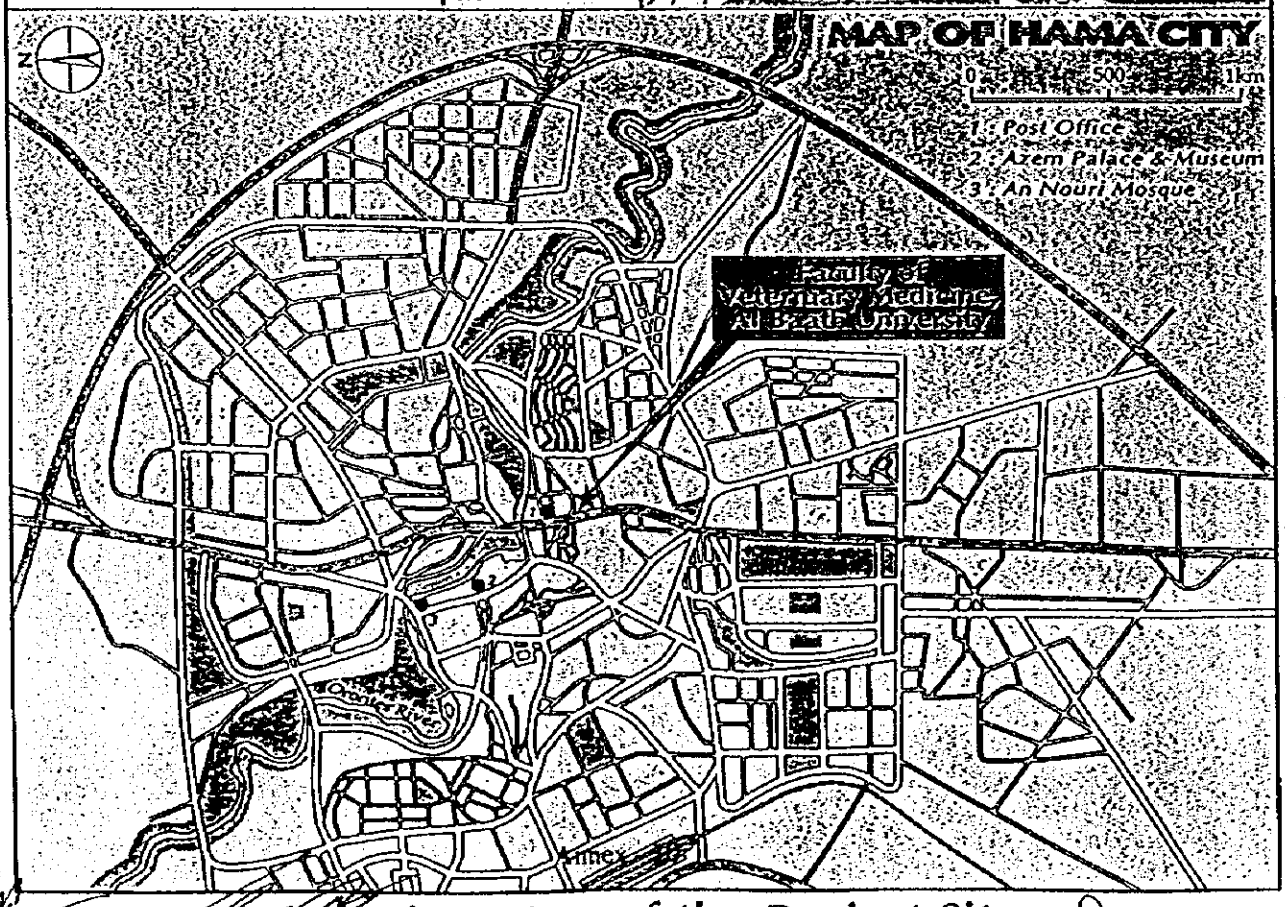
b) Equipment which needs reconstruction and extension of the building when installation;

c) Equipment which is likely to be used only by the specific persons and groups;

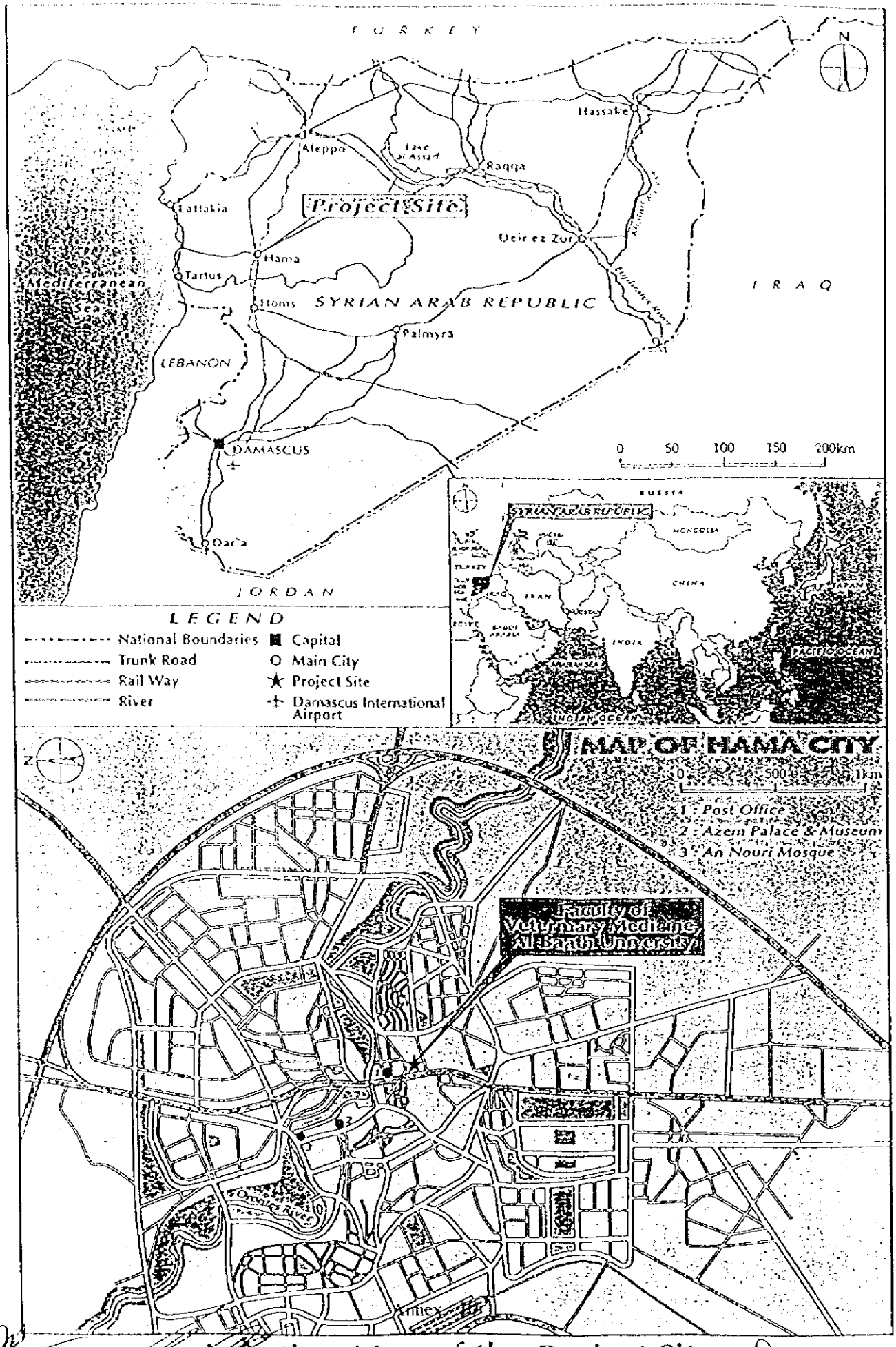
d) Consumables for the equipment provided by this Project.

The Government of Syria also understood that final decision in the selection and design of the equipment of the Project would be made in Japan after further studies based on the field survey.



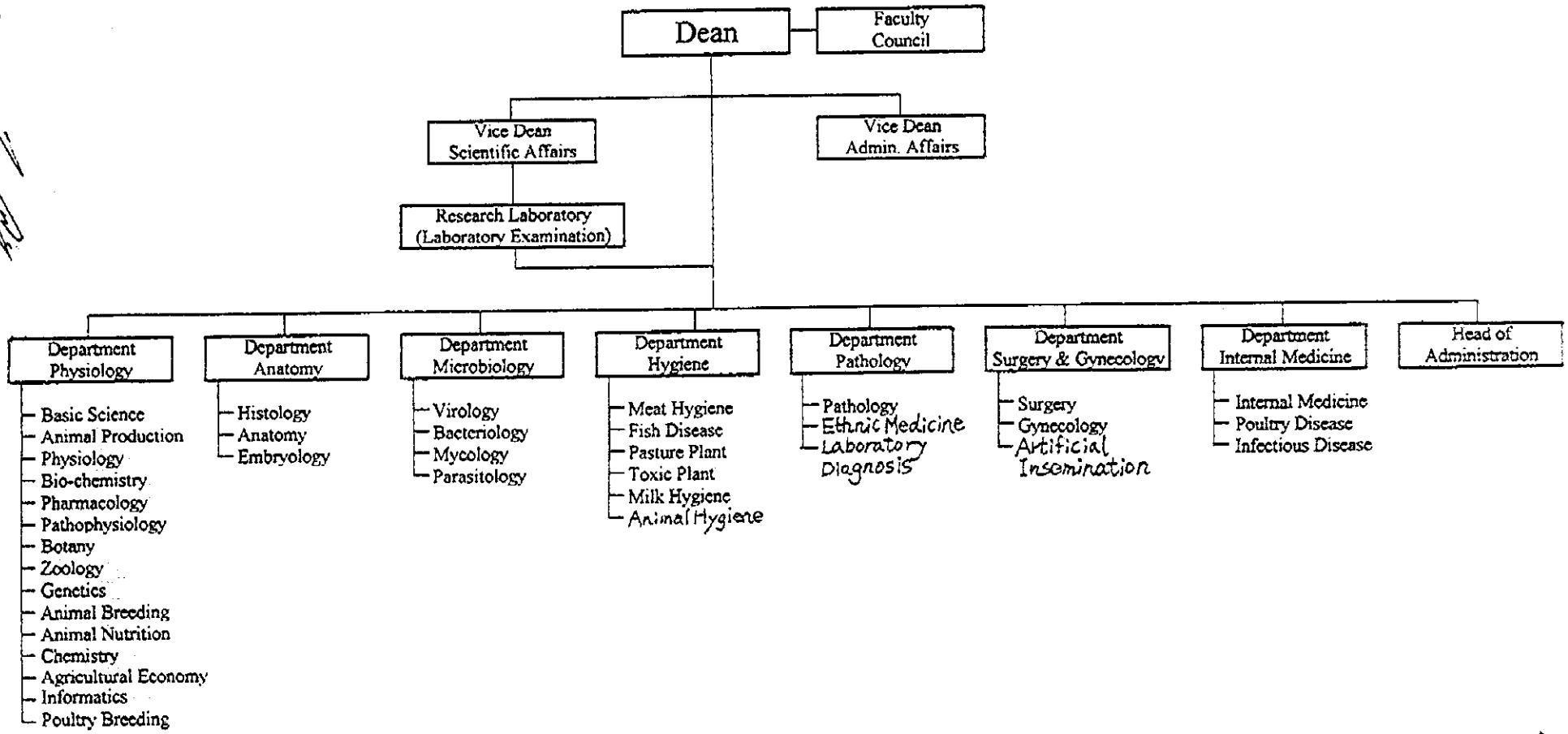


Location Map of the Project Site



Location Map of the Project Site

Organization Chart for the Faculty of Veterinary Medicine, Al Baath University



Annex - 1

ANNEX-2