

UNION SANITARY DISTRICT MASTER PLAN

NEW ADMINISTRATION, OPS/LAB AND FMC FACILITY

5072 Benson Rd, Union City, CA 94587

Richmond , CA 94801

Based on review & analysis of:

Concept Design

Report Prepared for:

B u r k s T o m a
A r c h i t e c t s

28-Mar-19

more value, less risk

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UNION SANITARY DISTRICT MASTER PLAN

5072 Benson Rd, Union City, CA 945
Richmond , CA 94801



Concept Design

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Date: 28-Mar-19
Estimator: NH/GB/DJ

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Date: 28-Mar-19
Estimator: NH/GB/DJ

BASIS OF ESTIMATE

REFERENCE DOCUMENTATION

This construction cost estimate was produced from Conceptual Design and narrative. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

PROJECT DESCRIPTION

Scope includes a new field maintenance center shop, new Administration building and a new Operations/Lab facility approx. 59,403 GSF for the Union Sanitary District.

BASIS FOR PRICING

This estimate reflects the fair construction value for this project and should not be construed as a prediction of low bid. Prices are based on local prevailing wage construction costs at the time the estimate was prepared. Pricing assumes a procurement process with competitive bidding for all sub-trades of the construction work, which is to mean a minimum of 3 bids for all subcontractors and materials/equipment suppliers. If fewer bids are solicited or received, prices can be expected to be higher. Conversely in the current competitive market should a larger number of sub-bids be received (i.e. 6 and above) pricing can be expected to be lower than the current estimate.

Subcontractor's markups have been included in each line item unit price. Markups cover the cost of field overhead, home office overhead and subcontractor's profit. Subcontractor's markups typically range from 15% to 25% of the unit price depending on market conditions.

General Contractor's/Construction Manager's Site Requirement costs are calculated on a percentage basis. General Contractor's/Construction Manager's Jobsite Management costs are also calculated on a percentage basis.

Site Requirements	4.0%
Jobsite Management	8.0%
Phasing	NA

General Contractor's/Construction Manager's overhead and fees are based on a percentage of the total direct costs plus general conditions, and covers the contractor's bond, insurance, site office overheads and profit.

Insurance & Bonding	2.5%
General Contractor Bonding	
Sub-Contractor Bonding	
OSIP	

Fee (G.C. Profit)	5.0%
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Unless identified otherwise, the cost of such items as overtime, shift premiums and construction phasing are not included in the line item unit price.

This cost estimate is based on standard industry practice, professional experience and knowledge of the local construction market costs. TBD Consultants have no control over the material and labor costs, contractors methods of establishing prices or the market and bidding conditions at the time of bid. Therefore TBD Consultants do not guarantee that the bids received will not vary from this cost estimate.

CONTINGENCY

Design/ Pricing Contingency	18.0%
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The Design Contingency is carried to cover scope that lacks definition and scope that is *anticipated* to be added to the Design. As the Design becomes more complete the Design Contingency will reduce.

Construction Contingency	<i>Carried else where in owners budget</i>
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The Construction Contingency is carried to cover the unforeseen during construction execution and Risks that do not currently have mitigation plans. As Risks are mitigated, Construction Contingency can be reduce, but should not be eliminated.

An owners contingency has not been included in this construction cost estimate, but it is advised that the owner carry additional contingency to cover scope change, bidding conditions, claims and delays.

Bidding Contingency	10%
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Given the volatile bidding market we recommend a review of bidding conditions prior to bid date. Depending on prevailing conditions it may be prudent to include a bidding contingency.

ESCALATION

Escalation:

Escalation factor - 5% p.a.

Escalation is excluded from this cost report.

EXCLUSIONS

- Land acquisition, feasibility studies, financing costs and all other owner costs
- All professional fees and insurance
- Site surveys, existing condition reports and soils investigation costs
- Items identified in the design as Not In Contract [NIC]
- Hazardous materials investigations and abatement
- Utility company back charges, including work required off-site and utilities rates
- Work to City streets and sidewalks
- Items defined as Vendor / Owner supplied and Vendor / Owner installed
- LEED Fees
- Permits
- Owners contingency
- Overtime, 2nd shift and lost productivity premiums
- Design Fees
- PG & E Fees
- Owner soft costs
- Headend equipment for tele data
- Branding allowance
- Bad ground earthworks & remediation
- FF& E Budget
- Swing space
- Demolition of existing buildings
- Site preparation and Site development
- Utility diversions

KEY CRITERIA

DESCRIPTION	AREA (SF)	ENCLOSED (SF)	COVERED (SF)	GSF	PERIMETER (LF)	HEIGHT (LF)	APPROX. SKIN AREA (SF)
FIELD MAINTENANCE CENTER SHOP							
FIRST FLOOR		8,940			380	20	7,600
PARAPET					380	3.0	1,140
SUB -TOTAL		8,940					TOTALSKIN AREA: 8,740
MAINTENANCE SHOP GSF INCLUDING 50% COVERED AREA				8,940			
ADMINISTRATION/ OPS / LAB							
FIRST FLOOR		25,470			870	15	13,050
SECOND FLOOR		24,993			938	15	14,070
PARAPET					938	4.5	4,221
Penthouse ,elevator etc					120	12	1,440
SUB -TOTAL		50,463					TOTALSKIN AREA: 32,781
ADMIN/OPS/LAB INCLUDING 50% COVERED AREA				50,463			

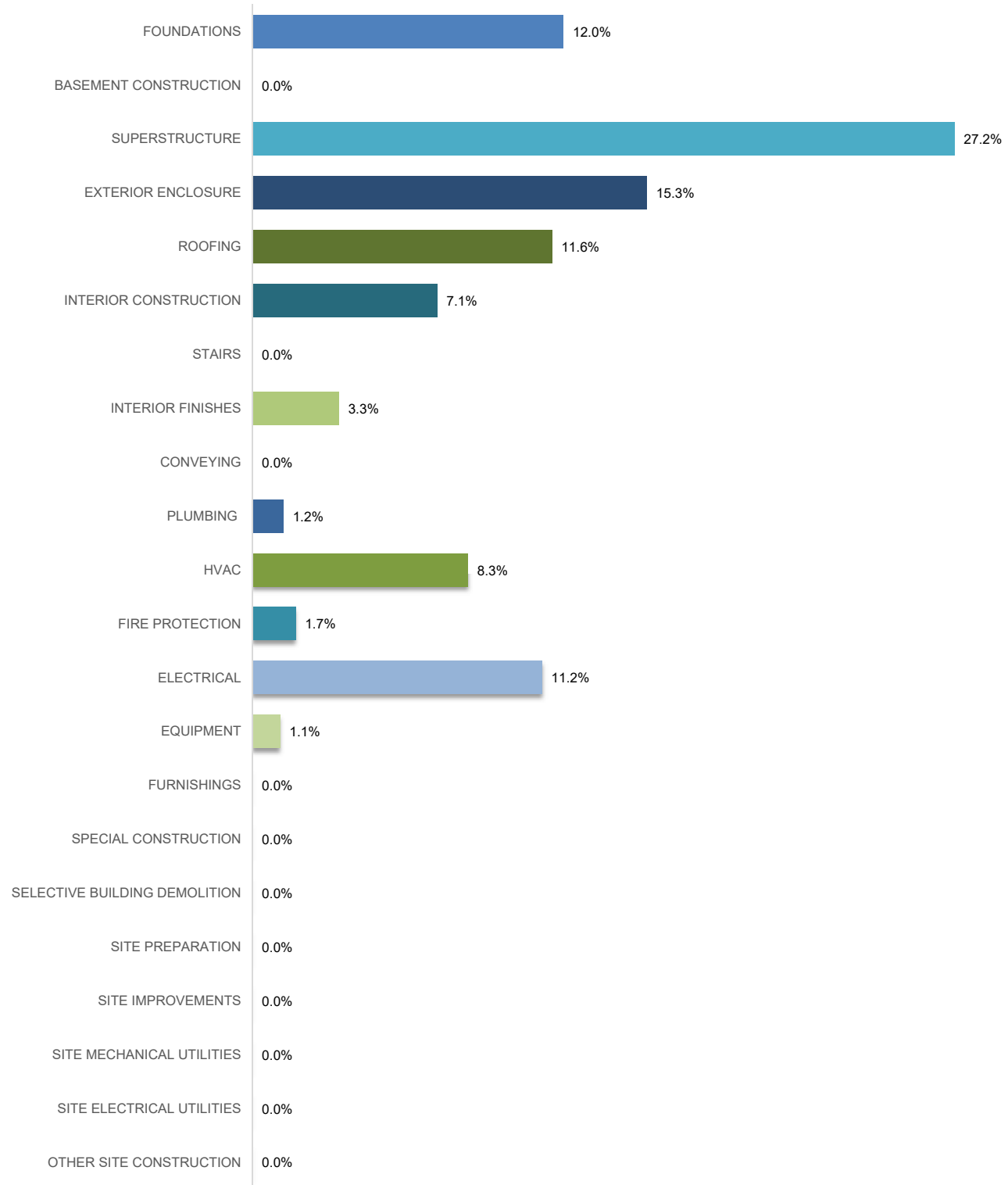
GRAND SUMMARY

DESCRIPTION	%	GSF	\$ / SF	TOTAL	COMMENTS
BASE ESTIMATE					
FIELD MAINTENANCE CENTER SHOP	13%	8,940	\$596.34	\$5,331,294	
ADMINISTRATION/OPS/LAB	87%	50,463	\$688.11	\$34,723,849	
SUB TOTAL - EXCLUDING BIDDING CONTINGENCY				\$40,055,144	
BIDDING CONTINGENCY	10.0%			\$4,005,514	
SUB TOTAL - INCLUDING BIDDING CONTINGENCY				\$44,060,658	
GRAND TOTAL				\$44,060,658	in March 2019 dollars

UNIFORMAT SUMMARY - FMC SHOP

SECTION	%	TOTAL	\$ / SF	COMMENTS
10 FOUNDATIONS	12.0%	\$451,470	\$50.50	
20 BASEMENT CONSTRUCTION				
A SUBSTRUCTURE	12.0%	\$451,470	\$50.50	
10 SUPERSTRUCTURE	27.2%	\$1,019,520	\$114.04	
20 EXTERIOR ENCLOSURE	15.3%	\$572,720	\$64.06	
30 ROOFING	11.6%	\$434,860	\$48.64	
B SHELL	54.0%	\$2,027,100	\$226.74	
10 INTERIOR CONSTRUCTION	7.1%	\$268,200	\$30.00	
20 STAIRS				
30 INTERIOR FINISHES	3.3%	\$125,160	\$14.00	
C INTERIORS	10.5%	\$393,360	\$44.00	
10 CONVEYING				
20 PLUMBING	1.2%	\$44,700	\$5.00	
30 HVAC	8.3%	\$312,900	\$35.00	
40 FIRE PROTECTION	1.7%	\$62,580	\$7.00	
50 ELECTRICAL	11.2%	\$420,420	\$47.03	
D SERVICES	22.4%	\$840,600	\$94.03	
10 EQUIPMENT	1.1%	\$40,000	\$4.47	
20 FURNISHINGS				
E EQUIPMENT + FURNISHINGS	1.1%	\$40,000	\$4.47	
10 SPECIAL CONSTRUCTION				
20 SELECTIVE BUILDING DEMOLITION				
F SPECIAL CONSTRUCTION + DEMOLITION				
10 SITE PREPARATION				
20 SITE IMPROVEMENTS				
30 SITE MECHANICAL UTILITIES				
40 SITE ELECTRICAL UTILITIES				
50 OTHER SITE CONSTRUCTION				
G BUILDING SITEWORK				
DIRECT COSTS	100.0%	\$3,752,530	\$419.75	
SITE REQUIREMENTS	4.0%	\$150,101	\$16.79	
JOBSITE MANAGEMENT	8.0%	\$300,202	\$33.58	
ESTIMATE SUB-TOTAL		\$4,202,834	\$470.12	
INSURANCE + BONDING	2.5%	\$105,071	\$11.75	
FEE	5.0%	\$210,142	\$23.51	
ESTIMATE SUB-TOTAL		\$4,518,046	\$505.37	
DESIGN CONTINGENCY	18.0%	\$813,248	\$90.97	
CONSTRUCTION CONTINGENCY				EXCLUDED
ESTIMATE SUB-TOTAL		\$5,331,294	\$596.34	
ESCALATION				EXCLUDED
ESTIMATE TOTAL		\$5,331,294	\$596.34	total add-ons 42.07%

UNIFORMAT DISTRIBUTION GRAPH - FMC SHOP





Date: 28-Mar-19
 Estimator: NH/DJ
 GSF: 8,940

ESTIMATE DETAIL - FMC SHOP

REF	MF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
1							
2		FOUNDATIONS					
3							
4		<u>Special Foundation</u>				\$205,620	
5		Reinforced concrete spread footings, grade beams, wall footings, column footings	8,940	GSF	23.00	205,620	
6							
7		<u>Special Foundations</u>				\$26,820	
8		Allow for special foundations	8,940	GSF	3.00	26,820	
9						\$134,100	
10		Slab on Grade	8,940	GSF	15.00	134,100	
11							
12		<u>Misc. Items</u>				\$84,930	
15		Concrete depressions, curbs	8,940	GSF	4	35,760	
16		Building pad preparation	8,940	GSF	3.50	31,290	
17		Allow for additional soil mitigation measures	8,940	GSF	2.00	17,880	
18							
19		FOUNDATIONS				451,470	\$50.5 / SF
20							
21		BASEMENT CONSTRUCTION		NA			
22							
23		BASEMENT CONSTRUCTION					\$0 / SF
24							
25		SUPERSTRUCTURE					
26							
27		<u>Columns and Pilasters</u>				\$107,280	
28		Vertical structure including steel columns, pilasters and bracing	8,940	GSF	12.00	107,280	
29							
30		<u>Load bearing walls</u>				\$480,700	
31		Reinforced CMU shear walls	8,740	SF	55.00	480,700	Gross wall area - allow 12" thick
32							
33		<u>Roof Construction</u>				\$339,720	
34		Steel trusses for roof structure including metal deck	8,940	GSF	35.00	312,900	incl openings borrowed light
35		Fireproofing	8,940	GSF	3.00	26,820	Allowance
36							
37		<u>Misc. Items</u>				\$91,820	
38		Misc. metal	8,940	SF	2.00	17,880	
39		Equipment pads, curbs and wall curbs	1	LS	15,000	15,000	
40		Miscellaneous framing, blocking and metals	8,940	GSF	1.00	8,940	
41		Seismic Joint	1	LS	50,000.00	50,000	
42							
43		SUPERSTRUCTURE				1,019,520	\$114.04 / SF
44							
45		EXTERIOR ENCLOSURE					
46							
47		<u>Exterior Walls</u>				\$43,700	
48		Premium for CMU finish sealant	8,740	SF	5.00	43,700	Gross Wall Area
49							
50		<u>Exterior Doors</u>				\$170,000	
51		All doors include hardware, frames & finish					
52		Motorized metal roll-up doors for truck access	1	Allow	150,000.00	150,000	
53		Allow for exit hollow metal doors, frame and hardware	1	Allow	20,000	20,000	
54							
55		<u>Exterior Glazing</u>				\$262,200	
56		Hollow metal frame fixed clerestory windows, w/ insulated glazing	2,185	SF	120.00	262,200	Allow 25% of gross wall area
57							
58		<u>Exterior Openings</u>				\$10,000	
59		Allowance for louvers	1	Allow	10,000	10,000	
60							
61		<u>Misc. Items</u>				\$86,820	
62		Allowance for exterior detailing	1	Allow	30,000.00	30,000	
63		Exterior signage	8,940	GSF	1.00	8,940	
64		Rough Carpentry	8,940	GSF	2.00	17,880	
65		Exterior canopies	1	LS	30,000.00	30,000	Allowance
66							
67		EXTERIOR ENCLOSURE				572,720	\$64.06 / SF

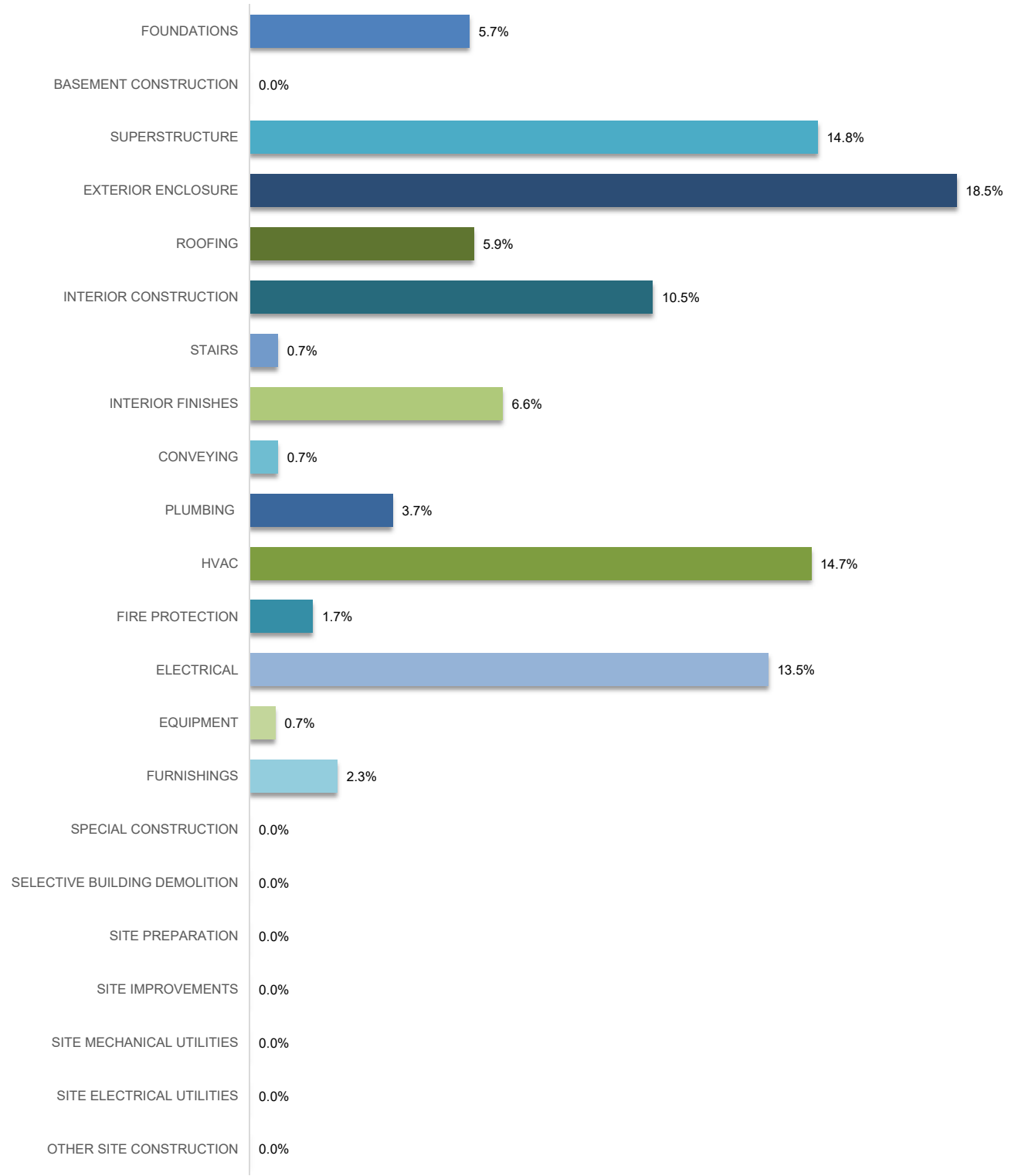
68						
69	ROOFING					
70						
71	<u>Roof Coverings</u>					\$212,210
72	<u>FLAT ROOF</u>	8,940	SF			
73	Polyiso insulation	8,940	SF	4.00	35,760	
74	Roof board	8,940	SF	2.00	17,880	
75	Membrane roofing	8,940	SF	13.00	116,220	
76	Allowance for tapering, crickets and slopes (battens) for drainage	8,940	SF	2.50	22,350	
77	Premium for deck	200	SF	100.00	20,000	
78						
79	<u>Roof Openings</u>					\$100,000
80	Prismatic diffusing skylights	1	Allow	100,000	100,000	
81						
82	<u>Parapet</u>					\$45,600
83	Back of parapet, assume TPO	1,140	SF	20.00	22,800	
84	Coping	380	LF	60.00	22,800	
85						
86	<u>Misc. Items</u>					\$77,050
87	Flashing and trim, roof specialties and accessories	8,940	SF	6.00	53,640	
88	Roof access	1	Allow	10,000.00	10,000	
89	Caulking and sealants	8,940	GSF	1.50	13,410	
90						
91	ROOFING				434,860	\$48.64 / SF
92						
93	INTERIOR CONSTRUCTION					
94						
95	<u>Internal Partitions</u>					\$143,040
96	Interior metal stud partitions, including furring to inner skin of external walls	8,940	GSF	16.00	143,040	
97						
98	<u>Internal Doors</u>					\$53,640
99	Hollow metal doors, frames and hardware	8,940	GSF	6.00	53,640	
100						
101	<u>Interior Glazing</u>					\$17,880
102	Allow for storefront glazing and half lights at interior doors	8,940	GSF	2.00	17,880	
103						
104	<u>Specialties</u>					\$53,640
105	Signage, wall protection, fire extinguishers, whiteboards, tackboards, miscellaneous specialties	8,940	GSF	6.00	53,640	
106						
107	INTERIOR CONSTRUCTION				268,200	\$30 / SF
108						
109	STAIRS					
110			NA			
111						
112	STAIRS					\$0 / SF
113						
114	INTERIOR FINISHES					
115						
116	<u>Wall Finishes</u>					
117	Paint to gypsum board	Included in Interior partitions				\$26,820
118	Special wall finishes	8,940	GSF	3	26,820	
119						
120	<u>Floor Finishes and Base</u>					\$40,230
121	Sealed concrete, designed for 500 psf & 5000 lb point load	8,940	GSF	4.50	40,230	
122						
123	<u>Ceiling Finishes</u>					\$35,760
124	Painted exposed ceilings at shop	8,940	GSF	2.00	17,880	
125	Allow for acoustic treatment	8,940	GSF	2.00	17,880	
126						
127	<u>Misc. Items</u>					
128	Sealants and caulking (internal)	8,940	GSF	2.50	22,350	
129						
130	INTERIOR FINISHES				125,160	\$14 / SF
131						
132	CONVEYING		NA			
133						
134	CONVEYING					\$0 / SF
135						
136	PLUMBING					

137						
138	<u>Misc. plumbing allowance</u>	8,940	SF	5.00	44,700	
139						
140						
141	PLUMBING				44,700	\$5 / SF
142						
143	HVAC					
144						
145	<u>HVAC Requirements</u>					
	Field maint. shop: Chilling and heating generation equipment, pumping and circulation equipment, pipe distribution, air distribution, diffusers, registers, grilles, air handling equipment, temperature controls, testing and balancing, exhaust fans, startup and commissioning					
146		8,940	SF	35.00	312,900	
147						
148	HVAC				312,900	\$35 / SF
149						
150	FIRE PROTECTION					
151						
152	<u>Sprinkler System</u>					
153	Automatic wet sprinkler system	8,940	GSF	7.00	62,580	
154						
155	FIRE PROTECTION				62,580	\$7 / SF
156						
157	ELECTRICAL					
158						
159	<u>Electrical Requirements</u>					
160	Main service panel, subpanels, transformer, feeders, conduit and cabling	8,940	GSF	4.00	35,760	
161						
162	<u>Emergency power distribution</u>	8,940	GSF	1.00	8,940	
163						
164	<u>Machine and equipment power</u>	8,940	GSF	4.00	35,760	
165						
166	<u>User convenience power</u>	8,940	GSF	3.00	26,820	
167						
168	<u>Lighting and controls</u>	8,940	GSF	22.00	196,680	
169						
170	<u>Telecom</u>	8,940	GSF	4.00	35,760	
171						
172	<u>Security/CCTV, conduit and back boxes</u>	8,940	GSF	2.00	17,880	
173						
174	<u>Fire alarm</u>	8,940	GSF	3.00	26,820	
175						
176	<u>Misc. Items</u>					
	Miscellaneous electrical requirements, site supervision, documentation, coordination, testing, startup, general conditions and requirements	1	LS	36,000	36,000	
178						
179	ELECTRICAL				420,420	\$47.03 / SF
180						
181	EQUIPMENT					
182						
183	<u>Cranes</u>					\$40,000
	Overhead traveling 3-ton crane to access all points drop-down reels with 120v and compressed air	1	LS	40,000	40,000	
185						
186	EQUIPMENT				40,000	\$4.47 / SF
187						
188	FURNISHINGS					
189						
190	<u>Blinds/ Shades</u>					
191	Allow for mechoshades		NA			
192						
193	<u>Cabinetry</u>					
	Allow for shelving, fixed millwork, storage and work surfaces		FF&E			
195						
196	FURNISHINGS					\$0 / SF

UNIFORMAT SUMMARY - ADMIN/OPS/LAB

SECTION	%	TOTAL	\$ / SF	COMMENTS
10 FOUNDATIONS	5.7%	\$1,402,645	\$27.80	
20 BASEMENT CONSTRUCTION				
A SUBSTRUCTURE	5.7%	\$1,402,645	\$27.80	
10 SUPERSTRUCTURE	14.8%	\$3,623,105	\$71.80	
20 EXTERIOR ENCLOSURE	18.5%	\$4,509,878	\$89.37	
30 ROOFING	5.9%	\$1,430,630	\$28.35	
B SHELL	39.1%	\$9,563,612	\$189.52	
10 INTERIOR CONSTRUCTION	10.5%	\$2,571,989	\$50.97	
20 STAIRS	0.7%	\$180,000	\$3.57	
30 INTERIOR FINISHES	6.6%	\$1,613,236	\$31.97	
C INTERIORS	17.9%	\$4,365,224	\$86.50	
10 CONVEYING	0.7%	\$180,000	\$3.57	
20 PLUMBING	3.7%	\$912,896	\$18.09	
30 HVAC	14.7%	\$3,582,410	\$70.99	
40 FIRE PROTECTION	1.7%	\$403,704	\$8.00	
50 ELECTRICAL	13.5%	\$3,307,317	\$65.54	
D SERVICES	34.3%	\$8,386,327	\$166.19	
10 EQUIPMENT	0.7%	\$163,700	\$3.24	
20 FURNISHINGS	2.3%	\$559,515	\$11.09	
E EQUIPMENT + FURNISHINGS	3.0%	\$723,215	\$14.33	
10 SPECIAL CONSTRUCTION				
20 SELECTIVE BUILDING DEMOLITION				
F SPECIAL CONSTRUCTION + DEMOLITION				
10 SITE PREPARATION				
20 SITE IMPROVEMENTS				
30 SITE MECHANICAL UTILITIES				
40 SITE ELECTRICAL UTILITIES				
50 OTHER SITE CONSTRUCTION				
G BUILDING SITEWORK				
DIRECT COSTS	100.0%	\$24,441,022	\$484.34	
SITE REQUIREMENTS	4.0%	\$977,641	\$19.37	
JOBSITE MANAGEMENT	8.0%	\$1,955,282	\$38.75	
ESTIMATE SUB-TOTAL		\$27,373,945	\$542.46	
INSURANCE + BONDING	2.5%	\$684,349	\$13.56	
FEE	5.0%	\$1,368,697	\$27.12	
ESTIMATE SUB-TOTAL		\$29,426,991	\$583.14	
DESIGN CONTINGENCY	18.0%	\$5,296,858	\$104.97	
CONSTRUCTION CONTINGENCY				EXCLUDED
ESTIMATE SUB-TOTAL		\$34,723,849	\$688.11	
ESCALATION				EXCLUDED
ESTIMATE TOTAL		\$34,723,849	\$688.11	total add-ons 42.07%

UNIFORMAT DISTRIBUTION GRAPH - ADMIN/OPS/LAB





Date: 28-Mar-19
 Estimator: NH/DJ
 GSF: 50,463

ESTIMATE DETAIL - ADMIN/OPS/LAB

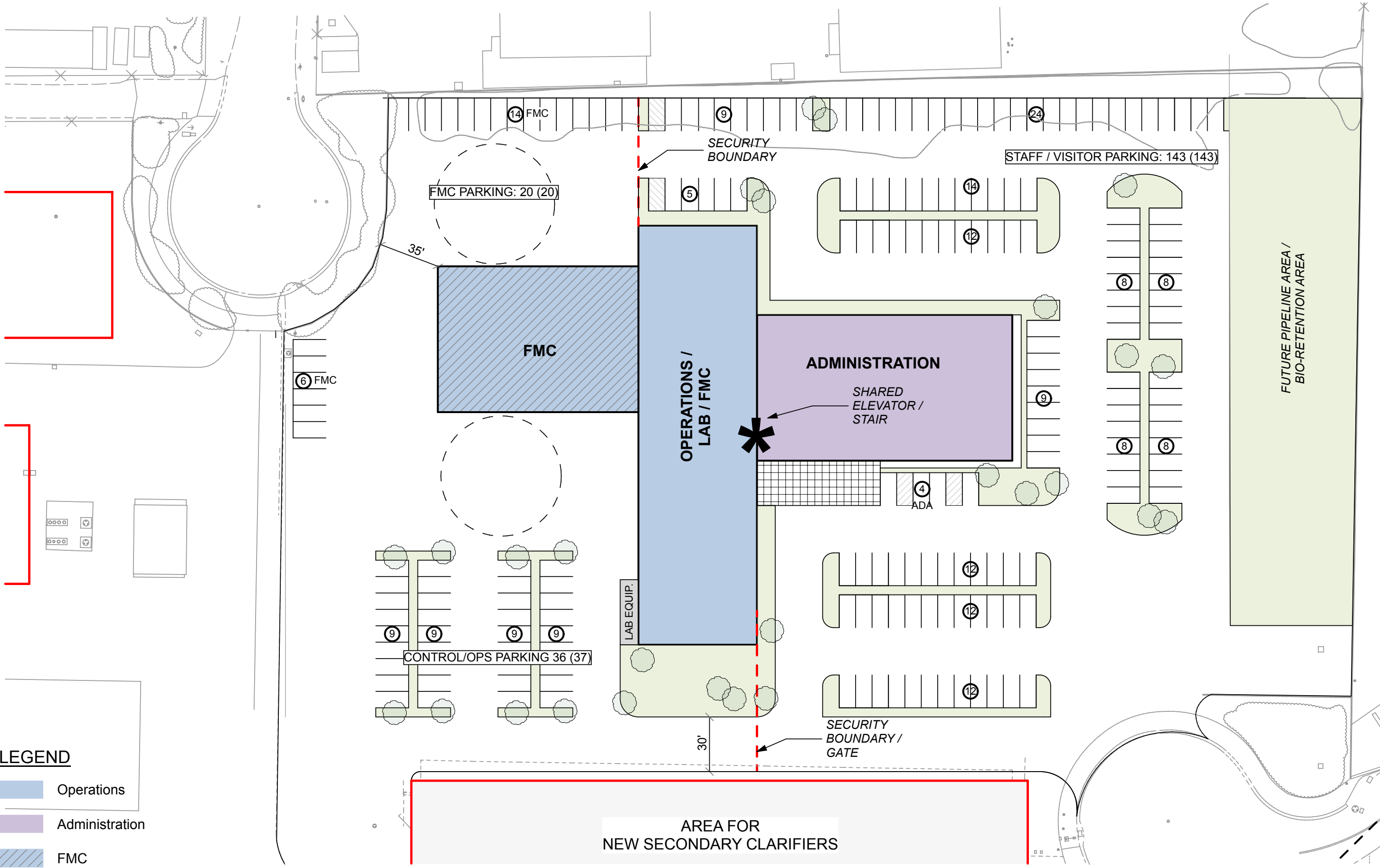
REF	MF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
1							
2		FOUNDATIONS					
3							
4		<u>Special Foundation</u>				\$676,750	
5		Reinforced concrete spread footings, grade beams, wall footings, column footings and slab on grade	25,470	GSF	25.00	636,750	
6		Elevator pit	1	EA	40,000.00	40,000	
7							
8		<u>Special Foundations</u>				\$76,410	
9		Allow for special foundations	25,470	GSF	3.00	76,410	
10							
11						\$432,990	
12		Slab on Grade	25,470	SF	17.00	432,990	
13							
14		<u>Misc. Items</u>				\$216,495	
17		Concrete depressions, curbs	25,470	SF	3	76,410	
18		Building pad preparation	25,470	GSF	3.50	89,145	
19		Allow for additional soil mitigation measures	25,470	GSF	2.00	50,940	
20							
21		FOUNDATIONS				1,402,645	\$27.8 / SF
22							
23		BASEMENT CONSTRUCTION		NA			
24							
25		BASEMENT CONSTRUCTION					\$0 / SF
26							
27		SUPERSTRUCTURE					
28							
29		<u>Columns and Pilasters</u>				\$504,630	
30		Vertical structure including steel columns, pilasters and bracing	50,463	GSF	10.00	504,630	
31							
32		<u>Suspended floors</u>				\$1,261,575	
33		Steel framed suspended floor structure including metal deck	50,463	GSF	25.00	1,261,575	
34							
35		<u>Roof Construction</u>				\$1,665,279	
36		Steel trusses for roof structure including metal deck	50,463	GSF	30.00	1,513,890	
37		Fireproofing	50,463	GSF	3.00	151,389	Allowance
38							
39		<u>Misc. Items</u>				\$191,621	
40		Misc. metal	50,463	SF	2.00	100,926	
41		Equipment pads, curbs and wall curbs	1	LS	15,000	15,000	
42		Miscellaneous framing, blocking and metals	50,463	GSF	1.50	75,695	
43							
44		SUPERSTRUCTURE				3,623,105	\$71.8 / SF
45							
46		EXTERIOR ENCLOSURE					
47							
48		<u>Exterior Walls</u>				\$2,950,290	
49		<i>New Construction</i>					
50		Metal panel cladding system over exterior metal stud walls	32,781	SF	90.00	2,950,290	gross wall area
51							
52		<u>Exterior Glazing</u>				\$983,430	
53		Aluminum framed storefront window system with insulated glazing, premium for operable windows at offices	8,195	SF	120.00	983,430	Allow 25% of gross wall area
54							
55		<u>Exterior Doors</u>				\$200,000	
56		<i>All doors include hardware, frames & finish</i>					
57		Allow for aluminum storefront full light doors at entrees and Hollow metal doors frames with transoms and half lights at all other personnel doors	1	LS	200,000.00	200,000	Including allowance for specialty hardware
58							
59		<u>Soffits</u>				\$100,000	
60		Allow for soffits	1	Allow	100,000	100,000	
61							

62	<u>Exterior Openings</u>					\$50,000
63	Allowance for louvers	1	Allow	50,000	50,000	
64						
65	<u>Guardrails & Handrails</u>					\$25,000
66	Allowance for guardrails & handrails	1	Allow	25,000	25,000	
67						
68	<u>Misc. Items</u>					\$201,158
69	Allowance for exterior detailing	1	Allow	75,000.00	75,000	
70	Exterior signage	50,463	GSF	0.50	25,232	
71	Rough Carpentry	50,463	GSF	2.00	100,926	
72						
73	EXTERIOR ENCLOSURE				4,509,878	\$89.37 / SF
74						
75	ROOFING					
76						
77	<u>Roof Coverings</u>					\$559,000
78	<u>FLAT ROOF</u>	26,000	SF			
79	Polyiso insulation	26,000	SF	4.00	104,000	
80	Roof board	26,000	SF	2.00	52,000	
81	Membrane roofing	26,000	SF	13.00	338,000	
82	Allowance for tapering, crickets and slopes (battens) for drainage	26,000	SF	2.50	65,000	
83						
84	<u>Roof Openings</u>					\$100,000
85	Light tubes, at offices and staff area	1	Allow	100,000	100,000	
86						
87	<u>Parapet</u>					\$126,630
88	Back of parapet, <i>assume TPO</i>	4,221	SF	20.00	84,420	
89	Coping	938	LF	45.00	42,210	
90						
91	<u>Canopies, Sunshades & Awnings</u>					\$495,000
92	Allow for exterior aluminum sunshades at South, east, and west windows	1	Allow	300,000.00	300,000	
93	Metal canopy and trellis with resin panel soffit and Main Entry to Admin area	1	Allow	120,000.00	120,000	
94	Painted metal canopies above entries and selected overhead coiling doors	1	Allow	75,000.00	75,000	
95						
96	<u>Misc. Items</u>					\$150,000
97	Flashing and trim, roof specialties and accessories	26,000	SF	1.00	26,000	
98	Roof access	1	Allow	10,000.00	10,000	
99	Caulking and sealants	26,000	GSF	1.50	39,000	
100	Roof screens	1	Allow	75,000.00	75,000	<i>Allowance</i>
101						
102	ROOFING				1,430,630	\$28.35 / SF
103						
104	INTERIOR CONSTRUCTION					
105						
106	<u>Internal Partitions</u>					\$1,665,279
107	Interior metal stud partitions	50,463	GSF	33.00	1,665,279	
108						
109	<u>Internal Doors</u>					\$353,241
110	Wood doors with aluminum frames and sidelights at offices and staff areas, wood doors with hollow metal frames at W/C and storage spaces, hollow metal doors all other areas	50,463	GSF	7.00	353,241	
111						
112	<u>Interior Glazing</u>					\$151,389
113	Allow for storefront glazing and half lights at interior doors	50,463	GSF	3.00	151,389	
114						
115	<u>Specialties</u>					\$402,080
116	<i>RESTROOMS - 2 Public restrooms, 2 staff restrooms, 1 unisex restroom and locker room restrooms</i>					
117	ADA toilet stalls	8	EA	1,800	14,400	
118	Toilet stalls	18	EA	1,500	27,000	
119	Urinal screens	11	EA	600	6,600	
120	Restroom accessories - Men's and Women's	6	LOC	3,000	18,000	<i>Staff and locker room restrooms</i>
121	Restroom accessories - Unisex	2	LOC	2,000	4,000	
122	<u>LOCKERS</u>					
123	Lockers allowance	188	EA	550	103,400	
124	Allow for Locker room bench	1	Allow	15,000	15,000	

125	Shower stalls	6	EA	1,850	11,100	
126	ADA shower stall	2	EA	2,100	4,200	
127	Shower accessories	8	EA	1,000	8,000	
128	MUD ROOM					at Men's and Women's locker
129	Allowance for open front lockers	45	EA	475	21,375	
130	Allowance for fixed seating/ benches	1	Allow	4,000	4,000	
131	Allowance for fixed coat rack	1	Allow	1,000	1,000	
132	GENERAL					
133	Signage, wall protection, fire extinguishers, whiteboards, tackboards	50,463	GSF	3.25	164,005	
134						
135	INTERIOR CONSTRUCTION				2,571,989	\$50.97 / SF
136						
137	STAIRS					
138						
139	<u>Internal Stairs</u>					
140	Metal stair including treads, handrails/guardrails and finish	1	LS	180,000	180,000	6 flights
141						
142	STAIRS				180,000	\$3.57 / SF
143						
144	INTERIOR FINISHES					
145						
146	<u>Wall Finishes</u>					\$150,000
147	Ceramic wall tile	1	Allow	100,000.00	100,000	Per program area half height in restrooms & locker rooms
148	Painted gypsum board	Included in Interior partitions				
149	Allowance for acoustical panels, conference rooms and board room	1	Allow	50,000	50,000	7 conference rooms and 1 boardroom
150						
151	<u>Floor Finishes and Base</u>	50,463	SF			\$572,915
152	Sealed concrete	1,200	SF	3.50	4,200	Equipment room and stairs
153	Polish concrete	2,700	SF	12.00	32,400	Mudroom, entry, reception
154	Ceramic tile	2,755	SF	33.00	90,915	Restrooms and Locker rooms
155	Linoleum	4,648	SF	15.00	69,720	Kitchen/Break room/Crew room and Utility room
156	Carpet flooring	35,160	SF	8.00	281,280	Offices, conference, support and admin
157	Chemical resistant sheet vinyl	3,300	SF	18.00	59,400	Laboratory
158	Raised access flooring with antistatic floor covering	700	SF	50.00	35,000	Control room
159	Vapor retarder		EXC			
160						
161	<u>Ceiling Finishes</u>	50,463	SF			\$814,626
162	Gypsum board painted	8,315	SF	30.00	249,450	Control room/ restrooms/locker and utility rooms
163	Acoustic tile ceiling, 2'x2'	38,848	SF	12.00	466,176	
164	Laboratory clean room ACT, 2'x2'	3,300	SF	30.00	99,000	
165						
166	<u>Misc. Items</u>					
167	Sealants and caulking (internal)	50,463	GSF	1.50	75,695	
168						
169	INTERIOR FINISHES				1,613,236	\$31.97 / SF
170						
171	CONVEYING					
172	<u>Elevators & Lifts</u>					
173	New passenger elevator, 2 stop	1	EA	180,000.00	180,000	
174						
175	CONVEYING				180,000	\$3.57 / SF
176						
177	PLUMBING					
178						
179	<u>Sanitary fixtures</u>	87	FX			
180	Water closets	26	EA	1,850	48,100	
181	Urinal	11	EA	1,725	18,975	
182	Lavatory	26	EA	1,650	42,900	
183	Drinking fountain, hi/low, EWC type	1	EA	5,000	5,000	
184	Shower	8	EA	3,000	24,000	
185	Mop sink	3	EA	2,500	7,500	
186	Breakroom Sink	4	EA	1,650	6,600	
187	Lab sinks	7	EA	2,200	15,400	
188	Emergency shower/eyewash	1	EA	2,200	2,200	
189						
190	<u>Sanitary waste, vent and service pipework</u>					
191	Floor drains/sinks	10	EA	2,800	28,000	

192	Rough-in and final connection sanitary waste, vent and service pipework, includes pipe, fittings, supports, valves, specialties and insulation	87	EA	4,800	417,600
193					
194	<u>Plumbing equipment</u>				
195	Water heating equipment allowance	1	LS	20,000	20,000
196	Shop, ops, lab equipment, air compressor	1	LS	35,000	35,000
197	lab systems allowance	1	LS	20,000	20,000
198					
199	<u>Roof drainage (allowance)</u>	50,463	GSF	2.50	126,158
200					
201	<u>Natural gas (allowance)</u>	50,463	GSF	1.00	50,463
202					
203	<u>Miscellaneous plumbing requirements</u>				
204	Site supervision, documentation, testing, chlorination, general conditions and requirements	1	LS	45,000	45,000
205					
206	PLUMBING			912,896	\$18.09 / SF
207					
208	HVAC				
209					
210	<u>HVAC Requirements</u>				
211	Admin/ops/lab: Chilling and heating generation equipment, pumping and circulation equipment, pipe distribution, air distribution, diffusers, registers, grilles, air handling equipment, temperature controls, testing and balancing, exhaust fans, startup and commissioning	50,463	GSF	70.00	3,532,410
212	Lab systems/fume exhaust allowance	1	LS	50,000.00	50,000
213					
214	HVAC			3,582,410	\$70.99 / SF
215					
216	FIRE PROTECTION				
217					
218	<u>Sprinkler System</u>				
219	Automatic wet sprinkler system	50,463	GSF	8.00	403,704
220					
221	FIRE PROTECTION			403,704	\$8 / SF
222					
223	ELECTRICAL				
224					
225	<u>Electrical Requirements</u>				
226	Main service panel, subpanels, transformer, feeders, conduit and cabling	50,463	GSF	4.00	201,852
227					
228	<u>Emergency power distribution</u>	50,463	GSF	1.00	50,463
229					
230	<u>Machine and equipment power</u>	50,463	GSF	5.00	252,315
231					
232	<u>User convenience power</u>	50,463	GSF	6.00	302,778
233					
234	<u>Lighting and controls</u>	50,463	GSF	25.00	1,261,575
235					
236	<u>Telecom</u>	50,463	GSF	12.00	605,556
237					
238	<u>Security/CCTV, conduit and back boxes</u>	50,463	GSF	2.00	100,926
239					
240	<u>Fire alarm</u>	50,463	GSF	4.00	201,852
241					
242	<u>Misc. Items</u>				
243	Lab equipment/lab bench power	1	LS	15,000.00	15,000
244	UPS allowance	1	LS	15,000.00	15,000
245	Miscellaneous electrical requirements, site supervision, documentation, coordination, testing, startup, general conditions and requirements	1	LS	300,000	300,000
246					
247	ELECTRICAL			3,307,317	\$65.54 / SF
248					
249	EQUIPMENT				
250					
251	<u>Appliances</u>				
252	<i>BREAKROOM</i>				\$11,700

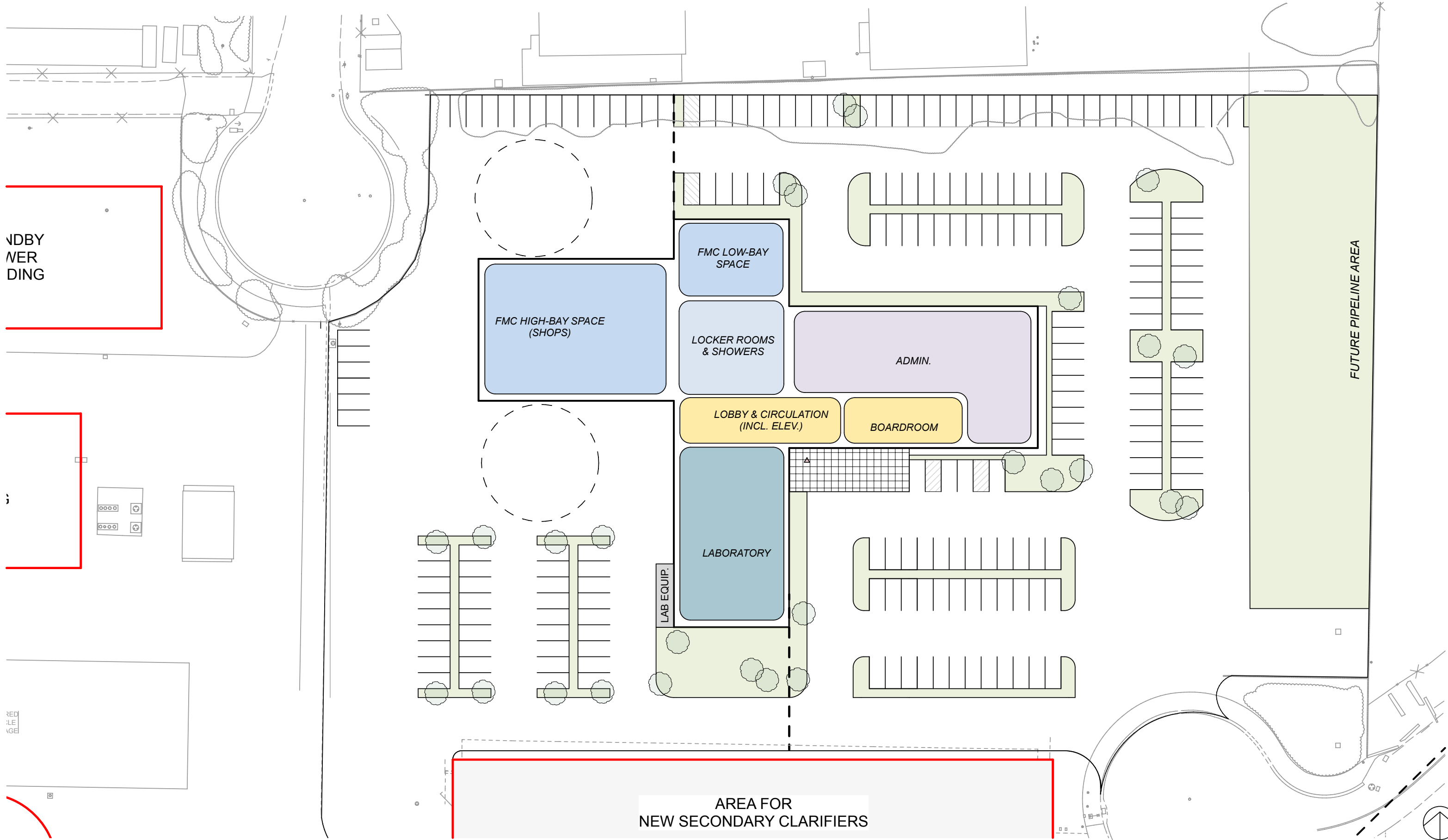
253	Microwave	4	EA	500	2,000	
254	Refrigerator	4	EA	2,050	8,200	
255	Range	1	EA	1,500	1,500	<i>Only at one breakroom</i>
256						
257	<u>Laboratory</u>					
258	<i>Lab equipment</i>					\$130,000
259	Vacuum and compressed air, fumehood and canopy hoods	1	Allow	130,000	130,000	<i>3,300 SF program area of lab</i>
260	Water purification system	1	Allow	12,000	12,000	
261						
262	<u>Misc. Items</u>					
263	Allowance for lab equipment anchoring	1	Allow	10,000	10,000	
264						
265	EQUIPMENT				163,700	\$3.24 / SF
266						
267	FURNISHINGS					
268						
269	<u>Casework and Cabinetry</u>					
270						\$412,000
271	Lavatory counters at restrooms	1	Allow	12,000	12,000	
272	Kitchen/Breakroom/crew room built in cabinets and shelving	1	Allow	80,000	80,000	
273	Conference rooms- built in casework	7	LOC	10,000	70,000	<i>Each conference room 500 SF</i>
274	Board room- built in riser, board member desk area	1	Allow	50,000	50,000	<i>1,800 SF program area</i>
275	Laboratory casework, epoxy resin work surfaces	1	Allow	200,000	200,000	<i>3,300 SF program area of lab</i>
276						
277	<u>Blinds/ Shades</u>					\$147,515
278	Allow for mechoshades	8,195	SF	18.00	147,515	
279						
280	FURNISHINGS				559,515	\$11.09 / SF
281						
282	SPECIAL CONSTRUCTION		NA			
283						
284	SPECIAL CONSTRUCTION					\$0 / SF
285						
286	SELECTIVE DEMOLITION		NA			
287						
288	SELECTIVE BUILDING DEMOLITION					\$0 / SF



LEGEND

- Operations
- Administration
- FMC

Preferred Site Layout
1" = 50'-0"



ADBY
VER
DING

FMC HIGH-BAY SPACE
(SHOPS)

FMC LOW-BAY
SPACE

LOCKER ROOMS
& SHOWERS

ADMIN.

LOBBY & CIRCULATION
(INCL. ELEV.)

BOARDROOM

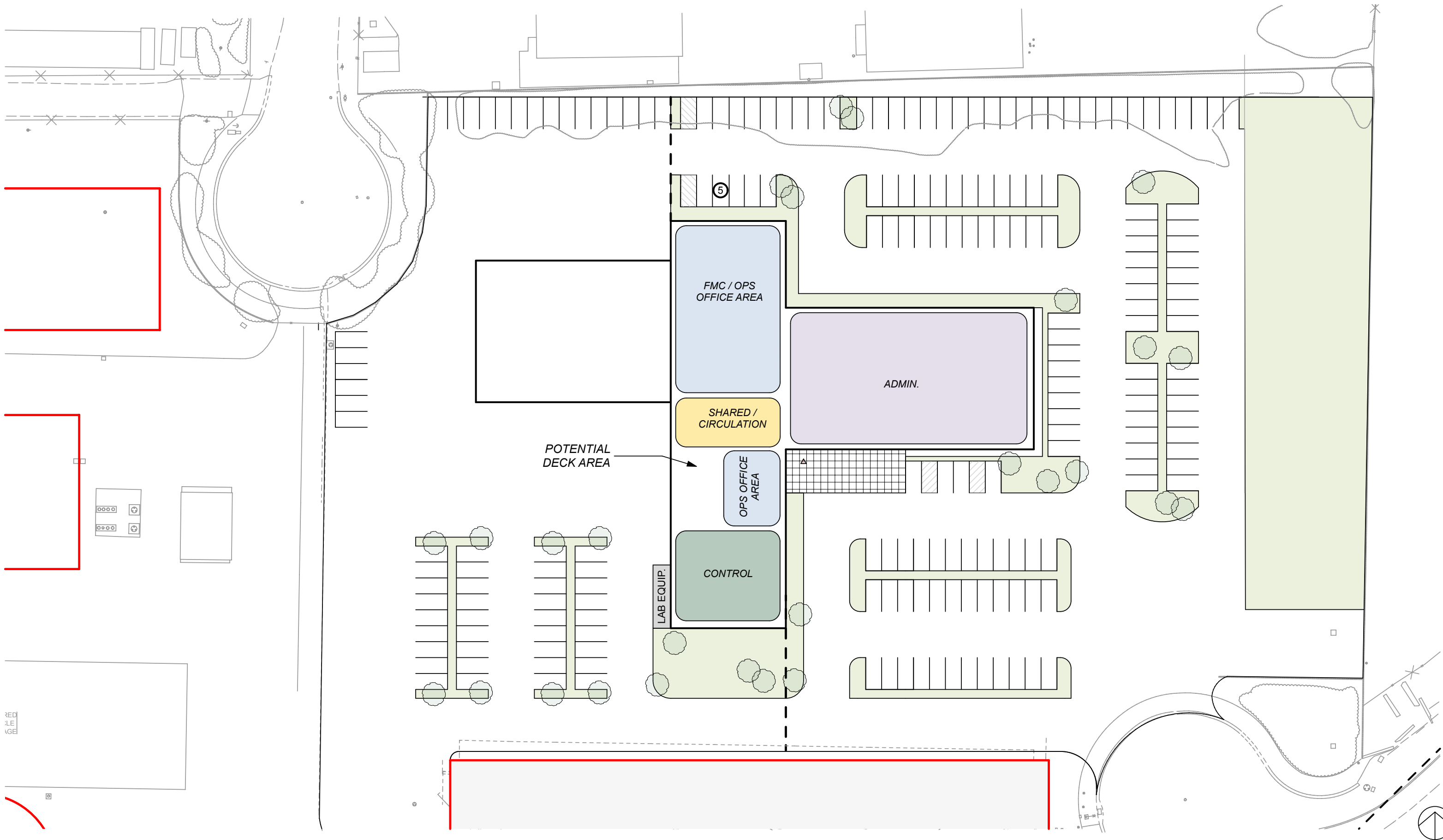
LABORATORY

LAB EQUIP.

FUTURE PIPELINE AREA

AREA FOR
NEW SECONDARY CLARIFIERS

Site Program - 1st Floor
1" = 50'-0"



Site Program - 2nd Floor
1" = 50'-0"