



STATE OF ILLINOIS
HEALTH FACILITIES AND SERVICES REVIEW BOARD

525 WEST JEFFERSON ST. • SPRINGFIELD, ILLINOIS 62761 • (217) 782-3516 FAX: (217) 785-4111

ITEM NUMBER: D-02	BOARD MEETING: April 30, 2019	PROJECT NUMBER: 17-019
PERMIT HOLDERS(S): University of Wisconsin Hospitals & Clinics Authority SwedishAmerican Health System Corporation SwedishAmerican Hospital		
FACILITY NAME and LOCATION: SwedishAmerican Hospital, Rockford		

DESCRIPTION: The permit holders are requesting an Alteration to Permit #17-019. This is the first alteration request for this permit.

**STATE BOARD STAFF REPORT
ALTERATION TO PERMIT
PERMIT #17-019**

I. Project Description and Background

On February 27, 2018, the State Board approved Project #17-019, allowing the permit holders to undergo a major modernization project on the campus of SwedishAmerican Hospital in Rockford, Illinois. The project entails modernization of existing space in the following patient care areas. The number of beds added or reduced are in the parentheses.

- Medical Surgical: 10 bed reduction (209-199)
- Pediatrics: 10 bed reduction (28-18)
- Acute Mental Illness: 10 bed increase (32-42)
- Cardiac Catheterization Lab: Add one (1) lab
- Operating Rooms: Add two (2) ORs
- Post Anesthesia Care Units (PACU): Add nine (9) units
- Emergency Department: Add eight (8) stations

Attached to the end of this report are the permit holders alteration request.

II. Alteration Request:

On April 2, 2019 the permit holders submitted a permit alteration request for Permit #17-019. The permit holders request to decrease the total spatial allotment for the project from 342,236 GSF, to 328,656 GSF. This represents a total decrease of 13,580 GSF (3.96%). The proposed alteration will not result in any change to the approved project cost of \$126,035,461. The applicants supplied a copy of the revised project costs, showing a reconfiguration of individual project costs/line items. Board Staff notes the applicants modified the application before State Board approval, reducing the number of Pediatric beds, Post Acute care beds, and reducing the project costs. These data are reflected in the project as it was approved by the State Board on February 27, 2018.

TABLE ONE			
Alterations to Project Size			
#17-019, Swedish American Hospital			
Area	Approved	Altered	Difference
Pediatrics Clinic	13,200 GSF	13,849 GSF	649 GSF
LDR	16,165 GSF	17,063 GSF	898 GSF
C-Section	4,065 GSF	4,065 GSF	0 GSF
Post-Partum	12,750 GSF	13,150 GSF	400 GSF
NICU/SCN	16,104 GSF	16,753 GSF	649 GSF
Peds Inpatient	10,250 GSF	10,250 GSF	0 GSF
Cath/Angiography	17,257 GSF	17,257 GSF	0 GSF
PACU	4,670 GSF	6,144 GSF	1,474 GSF
Surgery	29,359 GSF	36,959 GSF	7,600 GSF
Prep/Recovery	12,842 GSF	9,242 GSF	(3,600 GSF)
Central Sterile Processing	14,800 GSF	10,066 GSF	(4,734 GSF)
Emergency Dept.	31,820 GSF	24,220 GSF	(7,600 GSF)*
Acute Mental Illness	30,998 GSF	26,328 GSF	(4,670 GSF)
Medical/Surgical	75,390 GSF	70,735 GSF	(4,655 GSF)
TOTAL CLINICAL	289,660 GSF	276,080 GSF	(13,580,GSF)
Other Non-Reviewable	52,566 GSF	52,576 GSF	(10 GSF)
TOTAL	342,236 GSF	328,656 GSF	(13,580 GSF)
*Reduction of 9 ED Stations			

TABLE TWO			
Alterations to Project Cost			
#17-019, Swedish American Hospital			
Use of Funds	Original Project Costs	Altered Project Costs	Difference
Preplanning Costs	\$75,000	\$287,210	\$212,210/282%
New Construction Contracts	\$27,323,724	\$34,336,211	\$7,012,487/25.6%
Modernization Contracts	\$24,171,499	\$10,526,201	(\$13,645,928)/56.4%
Contingencies	\$7,682,727	\$1,805,177	(\$5,877,550)/76.5%
Architectural/Engineering Fees	\$4,837,013	\$4,837,013	\$0/0%
Consulting & Other Fees	\$250,000	\$427,100	\$177,100/70.8%
Moveable & Other Equipment	\$20,965,367	\$20,770,857	(\$194,510)/.92%
Bond Issue Expense	\$853,053	\$513,000	(\$340,053)/39.8%
Net Interest Expense During Const.	\$6,378,949	\$4,800,967	(\$1,577,982)/24.7%
Non Clinical Costs	\$33,498,129	\$78,303,735	\$44,805,606/133.7%
TOTAL	\$126,035,461	\$126,035,461	\$0/0%
Source of Funds*			
Cash/Securities	\$7,001,512	\$10,990,890	\$3,989,378/56.9%
Gifts/Bequests	\$1,000,000	\$1,000,000	\$0/0%
Bond Issues	\$118,033,849	\$114,044,571	(\$3,989,278)/3.4%
Non-Clinical Funds	\$33,498,129	\$47,731,726	\$14,233,597/42.4%
Total Funds	\$126,035,461	\$126,035,461	\$0/0%

III. Reasons for the Proposed Alteration

The permit holders stated the reasons for the alteration are based on a trend in declining Emergency Department (ED) visits, resulting in a reduction in ED stations as proposed (See Table One). Additionally, unique economic/market-related conditions (cost of steel/raw materials) have resulted in increased construction costs in excess of those budgeted at the time of initial project approval, requiring the permit holders to reallocate financial resources across line items established during the initial application/approval process. (See Table Two).

The alteration does NOT propose the discontinuation or addition of any categories of service. The proposed alteration does result in minimal changes in the amounts of financing of the project from what was approved in the permit (See Table Two).

IV. Applicable Rules

77 IAC 1130.750 – Alteration of Post Permit Projects specifies that a permit is valid only for the project as defined in the application and any change to the project subsequent to permit issuance constitutes an Alteration to the Project. **All alterations** are required to be reported to the State Board before any alteration is executed.

77 IAC 1130.750(b) states the cumulative effect of alterations to a project shall not exceed the following:

- 1) a change in the approved number of beds or stations, provided that the change would not independently require a permit or exemption from HFSRB;
- 2) abandonment of an approved category of service established under the permit;
- 3) any increase in the square footage of the project up to 5% of the approved gross square footage;
- 4) any decrease in square footage greater than 5% of the project;
- 5) any increase in the cost of the project not to exceed 7% of the total project cost. This alteration may exceed the capital expenditure minimum in place when the permit was issued, provided that it does not exceed 7% of the total project cost;
- 6) any increase in the amount of funds to be borrowed for those permit holders that have not documented a bond rating of "A-" or better from Fitch's or Standard and Poor's rating agencies, or A3 or better from Moody's (the rating shall be affirmed within the latest 18 month period prior to the submittal of the application).

The State Board Staff notes that only those criteria that are relevant to this alteration request are discussed below. All other criteria remain unchanged from the Original State Board Staff Report.

V. Summary of Findings

- A. Although prior criteria remain classified as non-compliant, the State Board Staff finds the proposed alteration appears to be in conformance with the provisions of Part 1110.
- B. The State Board Staff finds the proposed alteration appears to not be in conformance with the provisions of Part 1120.**

State Board Staff Finding for Part 1120

A) Criterion 1120.140 (c) – Reasonableness of Project Costs

To demonstrate compliance with this criterion the permit holders must document that the altered gross square footage for the reviewable services is reasonable.

The permit holders are requesting to decrease the gross square footage from 342,236 BGSF to 328,656 BGSF or 3.96%. The permit holders note the entirety of the spatial expansion will occur in clinical space (See Table One). The proposed alteration has resulted in revised criteria in section 1120.140(c), Reasonableness of Project Costs. The revised data has resulted in a negative finding for this criterion.

Preplanning Costs – These costs total \$287,210 and are .42% of new construction, modernization, contingencies, and movable equipment (\$67,468,446). These costs appear **reasonable** when compared to the State Board Standard of 1.8%.

New Construction and Proportionate Contingencies – These costs total \$35,747,171 or \$364.98 GSF. ($\$35,747,171/76,879=\464.98). This appears **high** when compared to the State Board Standard of \$452.10/GSF [2020 mid-point of construction].

Modernization and Proportionate Contingencies – These costs total \$10,950,418 or \$128.90 GSF. ($\$10,950,418/84,951=\128.90). This appears **reasonable** when compared to the State Board Standard of \$316.47/GSF [2020 mid-point of construction].

Contingencies – These costs total \$1,805,177 and are 4% of new construction and modernization costs (44,862,412). This appears **reasonable** when compared to the State Board Standard of 10%-15%.

Architectural and Engineering Fees/New Construction – These costs total \$3,700,315 and are 10.3% of new construction and proportionate contingencies ($\$3,700,315/\$35,747,171=10.3\%$). These costs appear **high** when compared to the State Board Standard of 6.42% - 9.64%.

Architectural and Engineering Fees/Modernization – These costs total \$1,136,698 and are 10.3% of modernization and proportionate contingencies ($\$1,136,698/\$10,950,418=10.3\%$). These costs appear **reasonable** when compared to the State Board Standard of 7.76% - 11.66%.

Consulting and Other Fees – These costs are \$427,100. The State Board does not have a standard for these costs.

Movable Equipment – These costs total \$20,770,857. The State Board does not have a standard for these costs.

Bond Issuance Expense (Project Related) – These costs total \$513,000. The State Board does not have a standard for these costs.

Net Interest Expense During Construction – These costs total \$4,800,967. The State Board does not have a standard for these costs.

The applicants report altered New Construction and Proportionate Contingency costs, and Architectural/Engineering costs above the State Board standard. A negative finding results for this criterion.

STATE BOARD STAFF FINDS THE PROPOSED PROJECT NOT IN
CONFORMANCE WITH CRITERION REASONABLENESS OF PROJECT
COSTS (77 IAC 1120.140(c))

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April 2, 2019

VIA EMAIL AND OVERNIGHT DELIVERY

RECEIVED

APR 3 2019

**HEALTH FACILITIES &
SERVICES REVIEW BOARD**

Courtney R. Avery
Administrator
Illinois Health Facilities and Services
Review Board
525 West Jefferson Street
2nd Floor
Springfield, IL 62761

**Re: SwedishAmerican Hospital, Project 17-019
Permit Alteration Request**

Dear Ms. Avery:

SwedishAmerican Hospital is requesting an alteration to Project #17-019, which was approved on February 27, 2018 with total project costs of \$126,035,461 and total square footage of 342,236 gsf. This alteration seeks a decrease in the total square footage to 328,656 gsf, which is less than 4% of the initial square footage proposed. There will be no change in the total project cost, categories of service or bed capacity. Due to a trend in declining Emergency Department visits since the approval of the project, the alteration seeks a reduction of ED stations from the approved 50 stations to 41 stations, which is the hospital's current number of ED stations. A check in the amount of \$1,000 for the alteration fee is included with the hard copy of this letter.

As noted in the applicant's technical assistance meeting with the Review Board's Staff on February 28, 2019, a combination of unique economic and market conditions, including the implementation of steel tariffs and a 10-year peak in construction cost index for Northern Illinois, have caused an increase in construction costs beyond those initially budgeted for the project. (See attached Ringland-Johnson report on Producer Price Index by Commodity, June 2016 – June 2018.) To accommodate these unexpected cost increases, the applicant proposes to alter the project in a manner consistent with the Review Board's regulations relating to alterations and preserving the essential components of the project, including the new women and children's patient tower and new building for the existing cardiac catheterization service, which were the areas of new construction for the project. The alteration relates mainly to modernization of existing space, with the extent of the modernization being reduced.

Included with this letter are the following tables reflecting the proposed alterations:

- Project Cost and Source of Funds (Page 5)
- Itemization of Project Cost and Source of Funds (Attachment 7)
- Project Costs and Space Requirements Chart (Attachment 9)
- Size of Project (Attachment 14)
- Cost and Square Feet by Department/Service (Attachment 37)

Please note that the proposed Project Cost and Source of Funds includes line items for Site Preparation and Off-Site Work which primarily relate to unanticipated conditions that arose after permit approval consisting of the following:

Site Preparation:

- a) Unplanned City of Rockford required relocation of existing city water and sanitary sewer lines
- b) Unforeseen fees for temporary site entrance and site paving changes due to item (a) above.
- c) Unforeseen fees for site lighting changes due to item (a) above.
- d) Unforeseen pour soil conditions that required extensive underpinning, geo-piers and shoring installation on both Cath Lab and Women & Children's tower projects.

Off-Site work:

- a) Fees to AT&T for relocation of existing public underground phone and fiber line to campus perimeter
- b) Fees to relocate private phone and fiber lines

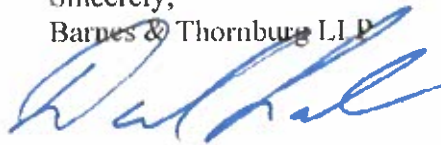
The approved project included modernizing existing space in the Medical/Surgical, Acute Mental Illness, Emergency Department, Surgery/Recovery units and the Pediatric care unit. In proceeding with due diligence in responding to the extraordinary construction costs, the permit holder recognized a decline in Emergency Department visits. Based on the declining trend in ED visits since the time of the permit application, this alteration is also requesting that the number of approved Emergency Room stations remain at our current level of 41 and not be increased to 50 as allowed by Permit #17-019.

Courtney R. Avery
April 2, 2019
Page 3

Also, in proceeding with due diligence on the next level of drawings for this project, there is a proposed design change from penthouse level mechanicals to a stacked mechanical design for the new women and children's patient tower. The stacked mechanical design was driven by the short floor to floor dimensions that will match in the existing bed tower. The new tower design demonstrates a connection to the existing hospital building at levels 1, 2, and 3. As the project design developed it became apparent that there was not enough head height to allow the required duct sizes to travel vertically from the roof to floors 1, 2 and 3 and then branch out horizontally to distribute air flow in the most efficient manner. There is no additional cost with this design change.

Please contact me if the Review Board's Staff desires any additional information relating to this request for alteration.

Sincerely,
Barnes & Thornburg LLP



Daniel J. Lawler

Enclosures

cc: Mike Constantino, Lead Project Reviewer
Ms. Jedediah Cantrell, VP of Operations, SwedishAmerican Health System

SwedishAmerican Hospital Project #17-019: Alteration 04/02/2019
Project Costs and Sources of Funds

Approved Permit Amount #17-019

Alteration 04-02-2019

Uses of Funds	Clinical/Reviewable	Non-Clinical/Non-Reviewable	Total	Clinical/Reviewable	Non-Clinical/Non-Reviewable	Total
Preplanning Costs	\$ 75,000	\$ 15,000	\$ 90,000	\$ 287,210	\$ 228,077	\$ 515,287
Site Survey	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Site Preparation	\$ -	\$ -	\$ -	\$ -	\$ 5,440,000	\$ 5,440,000
Off-Site Work	\$ -	\$ -	\$ -	\$ -	\$ 1,058,000	\$ 1,058,000
New Construction Contracts	\$ 27,323,724	\$ 22,712,379	\$ 50,036,103	\$ 34,336,211	\$ 28,093,264	\$ 62,429,475
Modernization Contracts	\$ 24,171,499	\$ -	\$ 24,171,499	\$ 10,526,201	\$ 848,974	\$ 11,375,175
Contingencies	\$ 7,682,727	\$ 2,688,221	\$ 10,370,948	\$ 1,805,177	\$ 464,156	\$ 2,269,333
Architectural/Engineering Fees	\$ 4,837,013	\$ 1,097,191	\$ 5,934,203	\$ 4,837,013	\$ 1,097,191	\$ 5,934,203
Consulting and Other fees	\$ 250,000	\$ -	\$ 250,000	\$ 427,100	\$ 339,169	\$ 766,269
Movable and Other Equipment	\$ 20,965,367	\$ 5,047,077	\$ 26,012,444	\$ 20,770,857	\$ 6,559,218	\$ 27,330,075
Total	\$ 92,537,332	\$ 33,498,129	\$ 126,035,461	\$ 78,303,735	\$ 47,731,726	\$ 126,035,461
Bond Issue Expense	\$ 853,053	\$ 315,599	\$ 1,168,652	\$ 513,000	\$ 403,032	\$ 916,032
Net Interest Expense During Construction	\$ 6,378,949	\$ 1,622,663	\$ 8,001,612	\$ 4,800,967	\$ 3,200,645	\$ 8,001,612
Fair Mkt Value of Lease Space or Equip	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Costs to be Capitalized-Parking	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Acquisition of Building or Other property	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Costs	\$ 92,537,332	\$ 33,498,129	\$ 126,035,461	\$ 78,303,735	\$ 47,731,726	\$ 126,035,461
Sources of Funds:						
Cash and Securities	\$ 5,378,949	\$ 1,622,663	\$ 7,001,612	\$ 8,315,964	\$ 2,674,927	\$ 10,990,890
Pledges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gifts and Bequests	\$ 1,000,000	\$ -	\$ 1,000,000	\$ 1,000,000	\$ -	\$ 1,000,000
Bond Issues	\$ 86,158,383	\$ 31,875,466	\$ 118,033,849	\$ 68,987,772	\$ 45,056,799	\$ 114,044,571
Mortgages	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leases (far market value)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Government Appropriations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Fund Sources	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Funds	\$ 92,537,332	\$ 33,498,129	\$ 126,035,461	\$ 78,303,735	\$ 47,731,726	\$ 126,035,461

SwedishAmerican Hospital Project #17-019: Alteration 04/02/2019 Attachment 7

Itemization of Project Costs

Items	Cost	Line Item Total
Pre-Planning		
Space Programming	\$ 30,000	
Pre-Schematic Planning	\$ 485,287	\$ 515,287
Site		
Survey	\$ -	
Site Improvements	\$ 5,440,000	\$ 5,440,000
Off-Site Work	\$ 1,058,000	\$ 1,058,000
New Construction Contracts		
Women's & Childrens Pavilion	\$ 54,547,063	
Cath/EP IR Addition	\$ 7,882,412	\$ 62,429,475
Moderization Contracts		
Surgery Renovation	\$ 3,928,072	
Emergency Department Renovation	\$ 50,000	
Nursing Unit Renovations	\$ 7,397,103	\$ 11,375,175
Contingencies	\$ 2,269,333	\$ 2,269,333
Architect/Engineering Basic Services	\$ 5,934,203	
Specialty Consultant Services	\$ -	\$ 5,934,203
Consulting and Other Fees		
CON Consulting, Application and Legal Fees	\$ 766,269	\$ 766,269
Movable/Other Equipment		
Clinics 1st Floor	\$ 2,507,299	
Labor & Delivery/C-Section 2nd Floor	\$ 4,255,135	
NICU 3rd Floor	\$ 1,199,212	
Post Partum 4th Floor	\$ 3,259,546	
Cath/EP/IR Addition	\$ 5,786,001	\$ 27,330,075
Non-Reviewable Areas	\$ 6,559,217	\$ 117,117,817
Moderization Areas	\$ 3,763,665	
Bond Issuance Expense	\$ 916,032	\$ 916,032
Net Interest Expense	\$ 8,001,612	\$ 8,001,612
Other Costs To Be Capitalized	\$ 126,035,461	\$ 126,035,461

SwedishAmerican Hospital Project #17-019: Alteration 04/02/2019

Attachment 9

Project Cost Space Requirements			Amount of Proposed Total GSF that is:				
Department	Project Cost w/ Interest & Bond Expense	Gross Square Feet		New Construction	Remodeled	As Is	Vacated Space
		Existing	Proposed				
Reviewable/Clinical							
Pediatric Clinics	\$ 9,393,922	-	13,849	13,849		-	0
I/D	\$ 12,094,281	16,750	17,063	17,063		-	0
C-section	\$ 3,032,192	2,380	4,065	4,065		-	0
Post Partum	\$ 10,153,673	18,130	13,150	13,150		-	0
NICU/SCN	\$ 9,049,981	2,775	16,753	16,753		-	0
Pediatric Inpatient	\$ 3,590,553	10,250	10,250		9,135	1,115	0
Invasive Cath/Angiography	\$ 15,913,043	17,257	17,257	12,000		5,257	0
PACU	\$ 439,903	4,400	6,144		1,744	4,400	0
Surgery	\$ 5,616,440	26,647	36,959		12,859	24,100	0
Prep/Recovery	\$ -	9,242	9,242			9,242	0
Central Sterile Processing	\$ 1,478,312	9,091	10,066		10,066	-	0
Emergency	\$ 229,229	24,220	24,220		17,175	7,045	0
Acute Mental Illness	\$ 5,164,237	25,748	26,328		17,627	8,701	0
Inpatient Medical/Surgical	\$ 2,147,969	54,390	70,735		16,345	54,390	0
Total Reviewable/Clinical	\$ 78,303,735	221,280	276,080	76,879	84,951	114,250	
Other Non-Reviewable*	\$ 47,731,726		52,576	52,576			
Total	\$ 126,035,461	221,280	328,656	129,455	84,951	114,250	

*Other Non Renewable includes building entrance, lobby, public circulation, conference center and mechanical & electrical space.

SwedishAmerican Hospital, Project #17-019: Alteration 04/02/2019

Size of Project

Department/Service	Number of Key Rooms	Proposed DGSF	Proposed DGSF /Room	State Guideline/Allowable	Key Difference/Room	Met Standard?
Pediatric Clinics	24	13,849	577	800	(223)	Yes
LDR	14	17,063	1,219	1120	(381)	Yes
C-Section	2	4,045	2,023	2075	(53)	Yes
Post-Partum	20	13,150	658	500	(3)	Yes
Pediatric Inpatient	10	9,135	914	500	254	No
Cath/Angiography	5	12,000	2,400	1800	600	No
Phase 1 Surgical PACU	7	1,744	249	180/station	69	No
Surgery	5	12,859	2,572	2750	(178)	Yes
Emergency	20	17,175	859	900/Treatment Station	(41)	Yes
Medical/Surgical	23	16,345	711	500	51	No
Acute Mental Illness	42	17,627	420	560	(140)	Yes
Newborn Nursery Level 2	14	9,739	696	434	128	No
NICU Level 3	10	7,055	706	434	138	No

Attachment 37

SwedishAmerican Hospital Project #17-019: Alteration 04/02/2019

COST AND GROSS SQUARE FEET BY DEPARTMENT OR SERVICE

Department	A		B		C		D		E		F		G		H		Total Cost (G+H)
	Cost/Square Foot	New	Mod.	Gross Square Feet	New	Circ.	Gross Square Feet	Mod.	Gross Square Feet	Circ.	Const. \$ (AxC)	Mod. \$ (BxE)	Const. \$ (AxG)	Mod. \$ (BxE)	Const. \$ (AxH)	Mod. \$ (BxE)	
Pediatrics Clinic	407.74	13,849		40%													5,646,689
LDR	407.74	17,063		50%													6,957,064
C/Section	407.74	4,065		50%													1,657,463
NICU/SCN	407.74	16,753		50%													6,830,766
Post Partum	407.74	13,150		50%													5,361,781
Cath/EP/IR	656.87	12,000		50%													7,882,440
PACU		143.35					1,744		50%			250,000				250,000	250,000
OR		219.65					12,859		50%			2,824,437				2,824,437	2,824,437
Prep/Recovery							-		50%			-				-	-
Central Sterile Processing		84.80					10,066		30%			853,635				853,635	853,635
Emergency		2.91					17,175		50%			50,000				50,000	50,000
Acute Mental Illness		199.86					17,627		50%			3,522,933				3,522,933	3,522,933
Pediatric Inpatient		261.45					9,135		50%			2,388,358				2,388,358	2,388,358
Med/Surg Inpatient		38.96					16,345		50%			636,838				636,838	636,838
Other Non Reviewable	534.33											848,974				848,974	28,092,934
Subtotal							52,576					10,526,201				10,526,201	72,955,339
Contingency												464,156				464,156	2,269,333
Totals												11,839,331				11,839,331	76,073,646

Producer Price Index by Commodity

June 2016 – July 2018

Diesel Fuel
Lumber & Wood
Cold Rolled Steel
Hot Rolled Steel
Copper Wire & Cable
Alumina & Aluminum



Producer Price Index by Commodity for Fuels and Related Products and Power: No. 2 Diesel Fuel



U.S. Bureau of Labor Statistics, Producer Price Index by Commodity for Fuels and Related Products and Power: No. 2 Diesel Fuel [WPU05730302], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/WPU05730302>, January 15, 2019.



Ringland-Johnson

Producer Price Index by Commodity for Lumber and Wood Products: Softwood Lumber

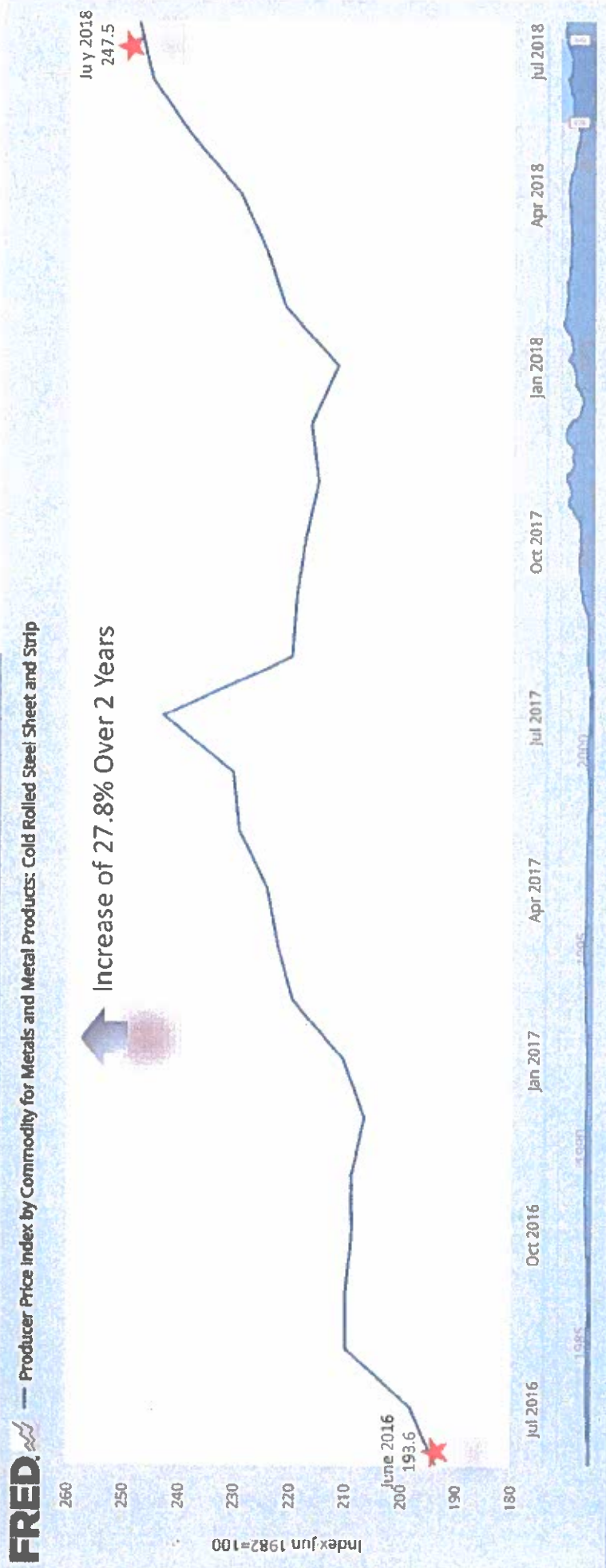


U.S. Bureau of Labor Statistics, Producer Price Index by Commodity for Lumber and Wood Products: Softwood Lumber [WPU0811], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/WPU0811>, January 15, 2019



Ringland-Johnson

Producer Price Index by Commodity for Metals and Metal Products: Cold Rolled Steel Sheet and Strip



U.S. Bureau of Labor Statistics; Producer Price Index by Commodity for Metals and Metal Products: Cold Rolled Steel Sheet and Strip [WPU101707], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/WPU101707>, January 15, 2019.

Producer Price Index by Commodity for Metals and Metal Products: Hot Rolled Steel Sheet and Strip, Including Tin Mill Products

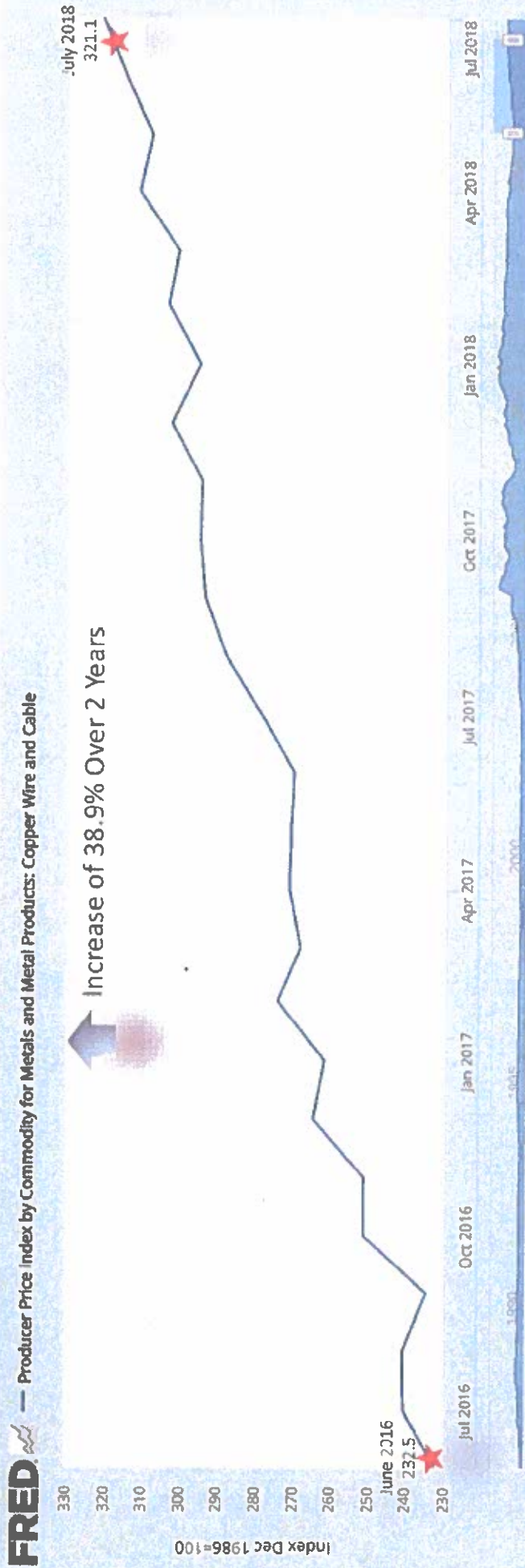


U.S. Bureau of Labor Statistics, Producer Price Index by Commodity for Metals and Metal Products: Hot Rolled Steel Sheet and Strip, Including Tin Mill Products [WPU10170301], retrieved from FRED, Federal Reserve Bank of St. Louis: <https://fred.stlouisfed.org/series/WPU10170301>, January 15, 2019.



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Producer Price Index by Commodity for Metals and Metal Products: Copper Wire and Cable



U.S. Bureau of Labor Statistics, Producer Price Index by Commodity for Metals and Metal Products: Copper Wire and Cable [WPU10260314], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/WPU10260314>, January 15, 2019.



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Producer Price Index by Industry: Alumina and Aluminum Production and Processing



U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Alumina and Aluminum Production and Processing [PCU3313133131], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PCU3313133131>, January 15, 2019.



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