ROCHESTER COMMUNITY SCHOOLS

PRIDE IN EXCELLENCE

Technology & Infrastructure
TI 2020
Status Report

Presentation to the Board of Education
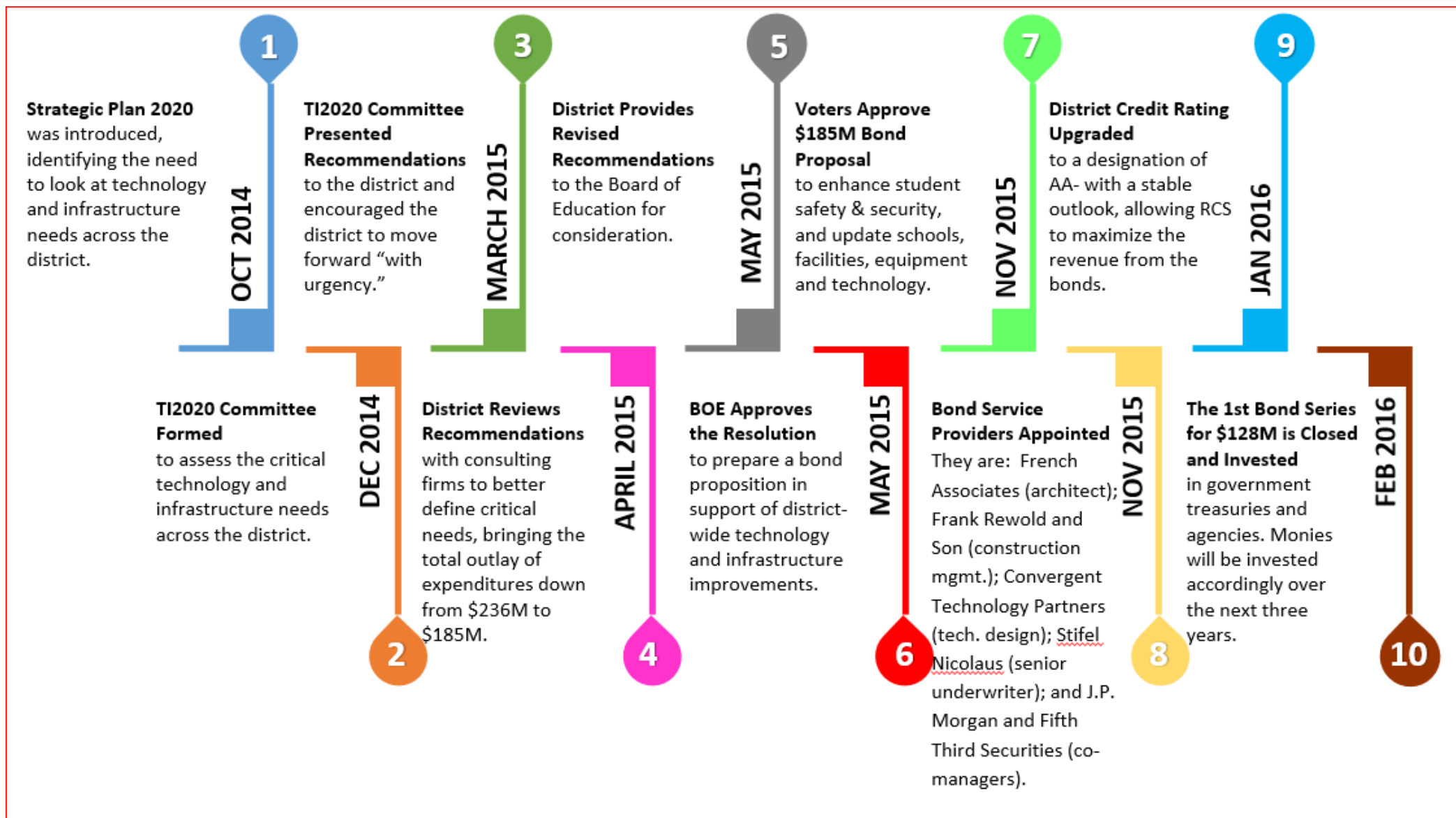
October 21, 2019

Agenda

1. History
2. Bond – Capital Improvement and Technology Projects
   - Year 1 (2015)
   - Year 2 (2016)
   - Year 3 (2017)
   - Year 4 (2018)
   - Year 5 (2019)
3. Budget-to-Actual Status
4. Completed Projects, Open Projects & Upcoming Projects
5. Q&A

History

Strategic Plan 2020 was introduced, identifying the need to look at technology and infrastructure needs across the district.

OCT 2014 — 1

TI2020 Committee Presented Recommendations to the district and encouraged the district to move forward "with urgency."

MARCH 2015 — 3

District Provides Revised Recommendations to the Board of Education for consideration.

MAY 2015 — 5

Voters Approve $185M Bond Proposal to enhance student safety & security, and update schools, facilities, equipment and technology.

NOV 2015 — 7

District Credit Rating Upgraded to a designation of AA- with a stable outlook, allowing RCS to maximize the revenue from the bonds.

JAN 2016 — 9

TI2020 Committee Formed to assess the critical technology and infrastructure needs across the district.

DEC 2014 — 2

District Reviews Recommendations with consulting firms to better define critical needs, bringing the total outlay of expenditures down from $236M to $185M.

APRIL 2015 — 4

BOE Approves the Resolution to prepare a bond proposition in support of district-wide technology and infrastructure improvements.

MAY 2015 — 6

Bond Service Providers Appointed They are: French Associates (architect); Frank Rewold and Son (construction mgmt.); Convergent Technology Partners (tech. design); Stifel Nicolaus (senior underwriter); and J.P. Morgan and Fifth Third Securities (co-managers).

NOV 2015 — 8

The 1st Bond Series for $128M is Closed and Invested in government treasuries and agencies. Monies will be invested accordingly over the next three years.

FEB 2016 — 10

3

Bond Proposal Passes November 2015

For the purpose of:

- Erecting, furnishing, and equipping additions to and partially remodeling, furnishing and refurnishing, equipping, and reequipping school facilities;

- Acquiring, installing and equipping instructional technology for school facilities;

- Constructing, equipping, developing and improving athletic and physical education facilities, playfields and playgrounds;

- Purchasing school buses

- And developing and improving sites

Only project types included in ballot language can be funded with bond proceeds. Proceeds cannot be used for employee salaries & benefits, maintenance items, supplies, textbooks, upgrades to existing computer operating systems or application software, etc.

Where to Begin?

Set Priorities:

- Enhance student safety and school security

- Address critical infrastructure needs across the district

- Improve technology

Series I issued March 2016 ($128m; -$20m premium = $108m debt)

Series II issued May 2019 ($57m; - $975,000 premium = $56.025m debt)

Project Schedule Considerations:

- Secure entrances on buildings more easily configured
- Buildings that were not renovated with the previous bond issue
- Old Brooklands School demolition
- Elementary schools with smaller classroom square footage than other elementary school buildings
- Network infrastructure and instructional technology
- Replace some of the oldest buses
- Allocate space for our program ATPS, RACE, and Pre-K

Developing Standards

Building Standards were developed so that the District will have common equipment and materials. These standards will facilitate purchasing, repairs and maintenance. Installations are performed by contractors and RCS – no PTA's, Booster Clubs, Coaches, Parent groups, etc. are allowed.

Building Standards include:

- Paint
- Flooring
- Window treatments
- Furniture
- Signage
- Playground equipment
- Trash cans
- Drinking fountains

- Technology
- Consistency of installation, materials & methods
- Safety procedures
- Warranty process
- Code compliance
- Maintenance procedures

Next Steps:

Develop Team and Project Strategy:

Committee formed at each school site
- Parents, students, staff, building administrators, architects
  - Identify building-specific needs

Architect, Engineers, and other experts
- Develop conceptual drawings
- Evaluate infrastructure needs
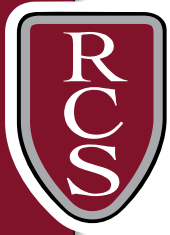
Construction Manager
- Develop project budget

Construction Cabinet Team
- Director of Capital Projects, Executive Leadership
  - Value engineering

Balancing Needs

The challenge includes balancing district wants and needs with the reality of our budget.

Stakeholder Input   Strategic Plan

Education Specifications   Enrollment Projections

Curriculum & Instruction

Time   Money

Sustainability and Support

Construction Projects Approved in 2015-16 (Year 1)

April 2016

- Purchase of 28 School buses equipped with four SEON cameras and GPS solutions

- Demolition of old Brooklands School building

- Secure building entrances
  - Stoney Creek, Reuther, Hart, Van Hoosen, Long Meadow, McGregor, Meadow Brook, North Hill, and Admin

Technology Projects Approved in 2015–16 (Year 1)

> More than $3 million worth of technology improvements have been made across the district.

- Wireless & Network Upgrades
- Switch Operating System Upgrades
- Firewall Addition
- Storage Area Network Expansion
- Virtual Environment Expansion
- Content Filtering Replacement
- Backup and Recovery Environment Replacement
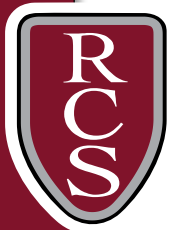
Construction Projects Approved in 2016-17 (Year 2)

July & August 2016

- Hugger Elementary playground relocation, building addition & renovation

- Musson Elementary playground relocation, building addition & renovation

Construction Projects Approved in 2016-17 (Year 2)

July & August 2016

- Hamlin Elementary site planning - playground

Hamlin Elementary Playground
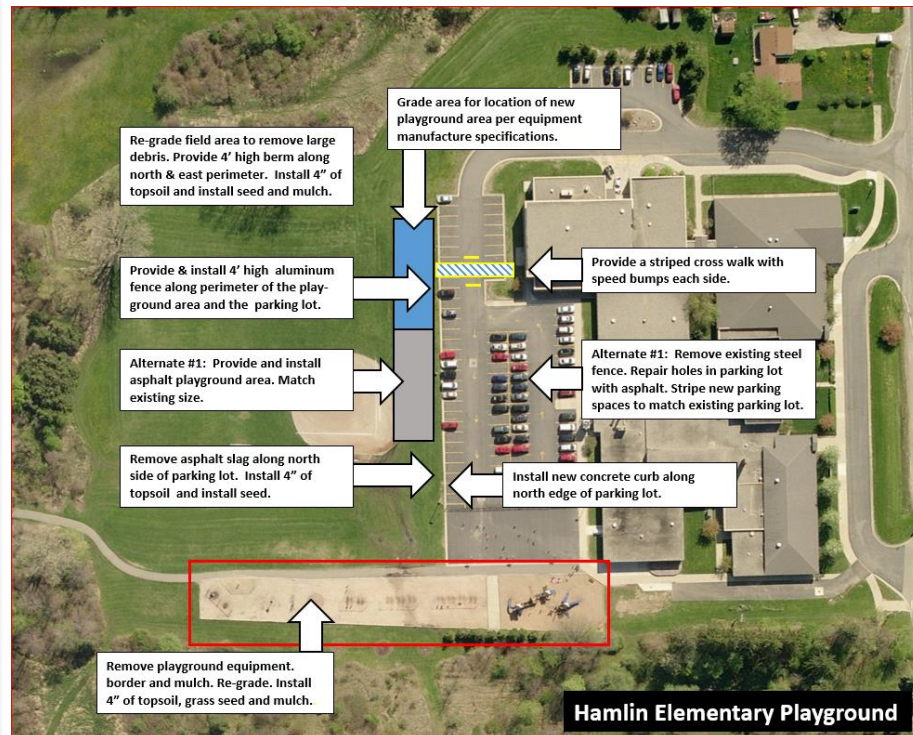
- Regrade field, install topsoil, grass seed & mulch

- Prep area for new playground

- Install asphalt paving for hard surface playground

- Install fence around perimeter of playground area

- Remove old fence and basketball backboards

- Install new concrete curb along parking lot and patch asphalt

- Remove existing playground equipment, borders and mulch

- Regrade existing playground area, install topsoil, grass seed & mulch

Construction Projects Approved in 2016-17 (Year 2)

July & August 2016

- Rochester High School addition & renovation

NOTE: all of our school bond projects are unique and have their own complexities.

We have included details on a few schools and will be updating the presentation to provide details on all schools.

Projects Approved in 2016-17 (Year 2)

September 2017
- Stoney Creek & Hart track improvements & drainage
- West Middle School addition & renovation
- Rochester High Athletic Complex addition & renovation change order

March 2017
- Hamlin Elementary addition & renovation
- Baldwin Elementary addition & renovation
- Network Video Cameras

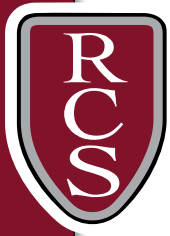## April 2017
- VoIP Phone System

May 2017
- Building HVAC automation system Integration

Technology Projects – 2016-17 (Year 2)

Curriculum and instruction will drive our technology and infrastructure discussions.

- New Construction/Renovations Technology Implementation – Hugger, Musson, RHS
- New Construction/Renovations Technology Planning – Baldwin, Hamlin, West, ACE, AHS
- Technology Committee
- Classroom Technology Pilot
- Mobile Labs to support instruction and testing
- Devices – Teacher, Admin, and Support Staff
- Video Security System
- Phone System - Clock System - PA/Audio Systems
- Copier/Printer Model
- Sustainability Model

Classroom Technology Pilot

We completed a comprehensive analysis with involvement at all levels.

During the pilot, we:

- Created 12 pilot classrooms at six buildings (two at each grade level for elementary, middle and high school).

- Included classrooms in math, science, LA, history, and specials

- Surveyed 12 pilot teachers, 500+ students, and technical staff and administrators.

- Considered basic, intermediate and advanced users.

Classroom Technology Pilot

Learning Environment Goals:

- Global
- Personalized
- Shared Learning
- Mobile
- Digital
- Collaborative
- Audio Enhanced
- BYOD

- Simple & Streamlined
- Efficient & Effective
- Productive
- Sustainable
- 1 Device per teacher
- SMART Learning Suite
- Education Focused Solutions

Classroom Technology Pilot

Classroom Considerations:

- Chalkboard removal
- Dukane TV removal
- Pull down screen and projector removal
- Whiteboard installation
- Projection mounting

- Electrical limitations
- Audio interference
- Device specifications
- Data availability and location

We have learned a lot about our classrooms throughout the pilot process which has helped us effectively plan our projects.

Classroom Technology Pilot

Projection Considerations:

- Estimated Life
- Clarity
- Touch
- Audio
- Recording
- Casting
- Clickers
- Everyday Math
- Tools & Tool Bars

- White Board Capabilities
- Annotation Capabilities
- Document Camera
- Camera
- Skype
- Collaborations Tools
- Opportunities
- Power Consumption

Technology Classroom Pilot

Device Considerations:

- Company
- Education Focus
- Features
- Functionality
- Licensing
- Mil-Spec tested

- Self-maintainer
- Support
- Sustainability
- User experience
- Training
- Warranty

Year 2 Project Summary

- Six schools renovated: Rochester High, Musson, Hugger, Hamlin, Baldwin & West
- Projects also included:
  - Rochester & Adams pool equipment room renovations
  - New swim timing equipment for Rochester High, Adams and Stoney Creek
  - Roof replacement and new sky light for Adams
- $46M in construction completed
- 250,000 square feet of space renovated
- $4.5M in technology projects completed
- 1,300 laptops provided for teachers and administrators districtwide
- 250 SMART IFPs installed in classrooms and 60 SMART IFPs in other buildings
- 2000 phones installed districtwide
- 600 surveillance cameras installed districtwide
- 36 mobile labs and 350 document cameras installed
- Districtwide PA system installation (completed in December 2017)

Lessons Learned Process:

A spreadsheet of the issues was created with the following information:
- *What was supposed to happen*
- *What happened*
- *Process change needed*
- *People responsible for implementing change*

A meeting was held with the Project Team, Facilities and Administration to review and discuss the findings. A meeting is being held with the RCS Staff to get input.

Each item was reviewed and discussed in detail. The completed spreadsheet was sent to all members of the project team for reference.
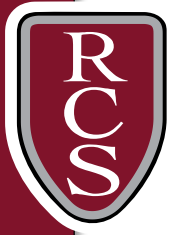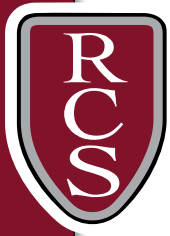
Projects Approved in 2017-18 (Year 3)

June 2017 - Schultz building addition & renovation

- Safety and security upgrades
- Reconfigure/secure main entrance
- Parking lot and sidewalk replacements
- Interior renovations
- Mechanical and electrical upgrades
- Furniture and equipment refreshments
- Information Technology upgrades
- 30,000 square foot addition for the Adult Transition Program and the Rochester Adult Center for Education
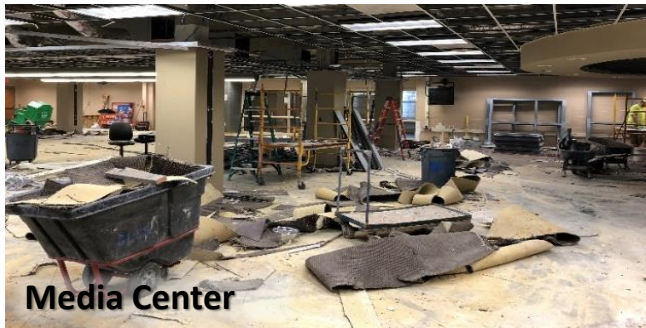
Projects Approved in 2017-18 (Year 3)

July 2017 - Adams High School renovation

- Safety and security upgrades
- Reconfigure/secure main entrance
- Media Center renovation
- Parking lot and sidewalk replacements
- Skylight replacement
- Stadium improvements to include home grandstands, turf, and restrooms
- Replace tennis courts

- Relocation of baseball field
- Door upgrades
- Interior renovations
- Mechanical and electrical upgrades
- Roof replacement (completed AUG 2017)
- Furniture and equipment refreshments
- Parking loop enhancements
- Information Technology upgrades

Media Center

Lab

Press Box

Projects Approved in 2017-18 (Year 3)

December 2017

- Synchronized clock system

February 2018

- Brooklands renovation
- Audio system

March 2018

- Hampton building addition & renovation
- Hart MS building renovation
- 15 school buses

These program areas serve all students and must be renovated during summer breaks. May require three summers.

Classroom wing can be phased to take up to 6 rooms off line per phase if done during school year.

Science Rooms should be renovated during summer break.

Hart Middle School
Conceptual Phasing Plan
January 15, 2018

Temp wall in corridor

Summer 1
Summer 2
School Year Phase 1
School Year Phase 2
School Year Phase 3
School Year Phase 4

Projects Approved in 2017-18 (Year 3)

April 2018
- Long Meadow renovation
- McGregor renovation
- Communications cabling
- Copiers

May 2018
- Schultz Center kitchen addition
- Caring Steps building renovation

June 2018
- Replace 26 kilns
- SCHS sidewalk improvement

Projects Approved in 2018-19 (Year 4)

- July & August 2018
  - FOC addition & renovation
- November 2018
  - North Hill renovation
- December 2018
  - Transportation facility renovation
- January 2019
  - Brewster renovation
  - Delta Kelly renovation

Projects Approved in 2018-19 (Year 4)

February 2019
- SCHS roofing project

March 2019
- Meadow Brook renovation
- University Hills renovation
- Athletic field improvements

April 2019
- Purchase of 24 school buses

June 2019
- Door access readers
- PA system

Technology Projects – Year 3 & 4

Continue our technology deployments and support construction

Technology includes:

- Audio Systems
- Copiers
- Mobile Laptop/Chromebook Labs
- PA Systems & Clocks
- Projectors

- SMART Mobile IFPs
- SMART Classroom IFPs
- Secure Entrances
- SWIVL Pilot

Construction support:

Protecting current technology, removing old, and adding new as needed.

- Cabling
- Cameras
- Clocks
- Data Closets

- Devices
- Network Switches
- PA System
- Wireless Access Points

Projects Approved in 2019-20 (Year 5)

July 2019
- Exterior door alarms

August 2019
- Landscaping improvements

Cost Summary – Completed Projects

Project	Original Budget	Change Orders	Total Cost
Old Brooklands School demolition	$137,374	$13,051	$150,425
Secure entrances	807,797	(19,441)	788,356
Hugger/Musson playground relocation	121,802	(1,824)	119,978
Hugger addition & renovation	7,674,908	(506,373)	7,168,535
Musson addition & renovation	7,565,454	(390,445)	7,175,009
RHS building addition & renovation	11,142,552	6,933,222	18,075,774
SCHS and Hart track improvements	682,861	32,069	714,930
Adams High School	10,717,756	(156,228)	10,561,528
West MS addition & renovation	3,177,544	107,660	3,285,204
Brooklands Elementary	2,454,714	(48,260)	2,406,454

Continued

Cost Summary – Completed Projects (continued)

Project	Original Budget	Change Orders	Total Cost
Hamlin addition & renovation	4,333,732	87,360	4,421,092
Baldwin addition & renovation	3,058,937	137,383	3,196,320
Schultz addition & renovation	7,649,184	430,971	8,080,155
Long Meadow Elementary	1,298,827	(303,111)	995,716
McGregor Elementary	1,113,382	(288,149)	825,233
Caring Steps Children's Center	1,781,959	562,832	2,344,791
HVAC BAS integration	105,137	26,402	
HS pool repairs; security systems 6 schools; SCHS sidewalk improvements; bus garage	367,986	155,429	523,149

Cost Summary – Open Projects

Project	Original Budget	Change Orders	Approved Budget	Balance to Complete
HVAC BAS integration	105,137	26,402	131,539	6,362
Hampton Elementary	5,206,715	44,954	5,251,669	44,291
Hart Middle School	6,452,533	453,611	6,906,144	1,896,520
FOC Addition	185,022	1,961,841	2,146,863	477,517
North Hill Elementary	3,380,264	(20,360)	3,359,904	1,450,109
Transportation Facility	2,670,464	143,915	2,814,379	1,851,720
Delta Kelly Elementary	1,497,016	133,866	1,630,882	1,336,767
Brewster Elementary	8,176,155	42,451	8,218,606	4,766,235
Stoney Creek High School roofing	1,740,866		1,740,866	1,228,082
University Hills Elementary	9,474,747		9,474,747	7,704,385
Meadowbrook Elementary	1,108,938		1,108,938	886,237
Athletic Fields	1,069,744	176,050	1,245,794	1,106,481
Temporary bus parking lots	66,493		66,493	48,183

Cost Summary – Budget Year

Year	Budget	Actual	Variance
2015-16	$ 8,391,863	$ 4,751,658	$ 3,640,205
2016-17	47,003,747	33,562,363	13,441,384
2017-18	46,169,672	44,248,010	1,921,662
2018-19	46,674,707	39,644,979	7,029,728
2019-20*	33,407,139	32,015,236	
Total		$154,222,246	
Bond proceeds		185,000,000	
Remaining		$30,777,754	
*includes encumbrances for 19/20			

The remaining $30.78 million from the bond effort is, in fact, allocated for the final phase of projects that impact construction at Van Hoosen, Reuther, Stoney Creek, and the Administration Building. It will also be used to enhance technology needs across the district to include network/wireless infrastructure and components, devices, cameras, and copiers. Please feel free to visit our website at https://www.rochester.k12.mi.us/pages/128650/bond-updates, where there is a chart outlining what projects need to be completed.

RCS BOND UPDATES - OCTOBER 2019

	Completion/ Projected Completion Date	Reconfigure/ Secure Main Entrance	Remove Portables	Pre-K	IT Upgrades	Parking Lot/ Sidewalk Replacement	Playground Equipment Enhancement	Roof Replacement	Window/ Door Upgrades	Interior Renovations	Building Addition	Mechanical/ Electrical Upgrades	Furniture/ Equipment Refresh	Resurface Running Track	Gym Bleacher Upgrades	Skylight Maintenance	Stadium Improvements
CARING STEPS	2018	✓			✓	✓	✓		✓	✓		✓	✓				
BALDWIN	2017	✓	2020		✓	✓				✓		✓	✓				
BREWSTER	2020	✓	✓	2020	✓	90%	✓		2020	2020	✓	50%	✓				
BROOKLANDS	2018	✓			✓	✓	✓			✓		✓	✓			✓Old building demolition	
DELTA KELLY	2019	✓	2020		✓	✓	✓	✓		✓		✓	✓				
HAMLIN	2017	✓			✓	✓	✓		✓	✓	✓	✓	✓				
HAMPTON	2018	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓				
HUGGER	2017	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓				
LONG MEADOW	2018	✓			✓	✓	✓			✓		✓	✓				
MCGREGOR	2018	✓			✓	✓	✓		✓	✓		✓	✓				
MEADOW BROOK	2019	✓			✓	✓	✓	✓		✓		✓	✓				
MUSSON	2017	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓				
NORTH HILL	2019	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓				
UNIVERSITY HILLS	2020	✓			✓	30%	✓		2020	2020	✓	30%	✓				
HART	2019	✓	✓		✓	✓				✓		✓	✓	✓	✓		
REUTHER	2020	✓	2020		✓	2020				2020		2020	2020	2020	2020		
VAN HOOSEN	2020	✓	2020		✓	2020				2020		2020	2020		2020		
WEST	2017	✓			✓	✓			✓	✓	✓	✓	✓				
ADAMS	2018	✓			✓	✓		✓	✓	✓		✓	✓			✓	✓
ROCHESTER	2017	✓			✓	✓		✓	✓	✓		✓	✓	✓		✓	✓
STONEY CREEK	2020	✓	2020		✓	2020			✓	2020		2020	2020		✓		✓
ADMINISTRATION	2020	✓	2020		✓	2020			2020	2020		2020	2020		Elevator Replacement		
FOC	2019					✓				✓	✓	✓					
JOHN M. SCHULTZ	2018	✓			✓					✓	✓	✓	✓				
TRANSPORTATION	2019	✓				✓			✓	✓		✓	✓				

Technology	Deployed 1,300 computers for teachers and administrators; 700 Interactive Flat Panel SMART boards; 50 mobile labs; 2,000 phones; and 1,600 surveillance cameras, along with PA systems and clocks
School Buses	Purchased 67 buses

✓ = Completed Projects

What's Next

Sinking Fund proposal November 5, 2019

- Heavily regulated – only "repair and replace" capital items
  - Cannot be used for salaries and benefits
  - Cannot be used for maintenance items

- In the process of developing capital improvement plan by building
  - What has been identified but outside Bond budget scope?
  - What are the estimated useful lives of capital equipment/facility components at each site?

- Technology projects and sustainability

- Learn more at: www.rochester.k12.mi.us/sinkingfund

Questions?