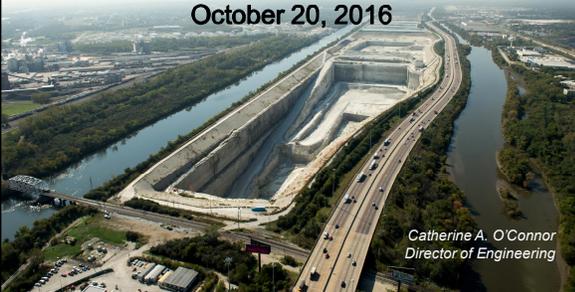


Metropolitan Water Reclamation District of Greater Chicago

Engineering Department Capital Improvement Program October 20, 2016



*Catherine A. O'Connor
Director of Engineering*

Overview – Capital Improvement Program

2017 Appropriation Request - \$348,037,200
Cash Flow \$250 million annually
Number of Jobs ~2,500 annually

Project: Vetting Criteria

- “ Mission Critical
- “ Preservation of Infrastructure
- “ Commitment to Community

Strategic Business Plan

- “ Goal 1 . Add Value
- “ Goal 2 . Excellence
- “ Goal 3 . Resource Recovery
- “ Goal 5 . Leading Partnerships

Goal 1 – Add Value

Goal 1 – Add Value

- “ To provide stormwater management for Cook County
- “ To provide flood protection to residents under the Tunnel and Reservoir Plan
- “ To maintain our facilities and infrastructure to ensure that they remain an asset to the residents of the District

Goal 2 - Excellence

- “ To provide sewage collection and treatment, and maintain award-winning plants

Goal 3 – Resource Recovery

- “ Implement Phosphorus and Nitrogen recovery
- “ Implement food-to-energy receiving and processing
- “ Maximize use and production of digester gas

Goal 5 – Leading Partnerships

- “ Provide funding towards green infrastructure at CPS and other public agencies

Goal 1 – Add Value

Sludge Thickening at SWRP- \$162,232,344
Completed in 2016



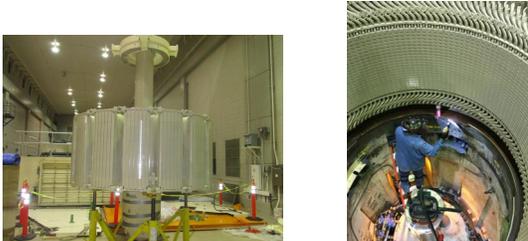
Goal 1 – Add Value

**Membrane Gas Holder Replacement and
Digester Cleaning at EWRP**
\$4,364,000
Substantial Completion Fall 2016



Goal 1 – Add Value

TARP Pump #8 Rehabilitation at MSPS
\$4,533,000
Substantial Completion Fall 2016



Goal 1 – Add Value

D799 Switchgear Replacement at SWRP
\$12,645,300
Substantial Completion Summer 2019



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Goal 1 – Add Value

McCook Reservoir Des Plaines Inflow Tunnel
\$107,770,362
Substantial Completion Fall 2019



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Goal 1 – Add Value

Current Stormwater Projects

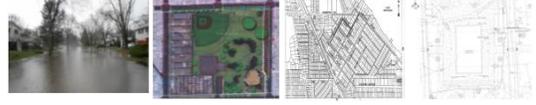
Project Description	Cost	Completion
Flood Control Project for Upper Salt Creek, Palatine	\$10,775,000	2016
Flood Control/Streambank Stabilization on Tinley Creek, Crestwood	\$7,222,220	2016
Streambank Stabilization on Tinley Creek, Orland Hills	\$664,000	2016
Streambank Stabilization on West Fork NBCR	\$413,000	2017
Streambank Stabilization on Oak Lawn Creek	\$3,035,000	2017



Goal 1 – Add Value

Green Infrastructure Awards in 2016

Project Description	Total Construction Cost	MWRD Funding	Award
Northbrook - Wescott Park Stormwater Reuse	\$10,775,000	\$475,000	2016
Niles - Bioswale and Permeable Pavement Parking Lot	\$400,000	\$200,000	2016
Kenilworth Permeable Pavement	\$8,100,000	\$1,200,000	2016
Dearborn Homes	\$1,547,695	\$1,547,695	2016



Goal 1 – Add Value

Green Infrastructure Awards in 2017

Project Description	Total Construction Cost	MWRD Funding	Award
Skokie - Rain Garden and Bioretention	\$500,000	\$200,000	2017
Berwyn - Green Alleys	\$2,555,165	\$666,700	2017



Goal 1 – Add Value

Future Stormwater Awards

Project Description	Cost	Est. Award
Flood Control Project on the East Branch of Cherry Creek in Flossmoor	\$4,860,000	2017
Streambank Stabilization Project along Midlothian Creek in Palos Heights	\$392,000	2017
Flood Control Project at Arrowhead Lake in Palos Heights	\$1,200,000	2017
Buffalo Creek Reservoir Expansion	\$21,130,700	2017



Goal 1 – Add Value

Future Stormwater Awards

Project Description	Cost	Est. Award
Streambank Stabilization Project for Addison Creek	\$995,000	2017
Melvina Ditch Reservoir Improvements (\$10M IEPA Grant)	\$21,452,000	2017
Streambank Stabilization Project on Melvina Ditch	\$10,600,000	2017
Streambank Stabilization Project along Calumet Union Drainage Ditch	\$1,839,000	2017
Flood Control Project for Deer Creek	\$3,440,000	2017



Goal 1 – Add Value

Future Stormwater Awards

Project Description	Cost	Est. Award
Flood Control Project on Farmers and Prairie Creeks	\$14,100,000	2017
Flood Control Project on Natalie Creek	\$8,300,000	2017
Addison Creek Reservoir	\$109,542,000	2017
Flood Control Project on the Des Plaines River in Lyons	\$6,500,000	2017



Goal 1 – Add Value

Flood Prone Property Acquisitions

Municipality	# of Structures to be Removed	Total Cost	MWRD's Contribution (%)	Completion Date
Des Plaines (1)	13	\$3,999,810	23.75%	2017
Riverside Lawn	39	\$12,000,000	66.67%	2017
Flossmoor	2	\$688,538	81.88%	2017
Northlake	7	\$1,184,018	89.50%	2018
Wheeling Twp.	6	\$1,415,906	83.46%	2018
Stone Park	35	\$2,700,000	81.23%	2019
Franklin Park	32	\$5,200,000	73.14%	2019
Des Plaines (2)	29	\$15,730,281	23.75%	2019

Goal 1 – Add Value

Projects Under Development

Project Name	Cost	Award
Upper Des Plaines Intercepting Sewer 11D, Ext. C Rehab.	\$5,500,000	2018
39th Street Conduit Rehabilitation - Phase II, SSA	\$24,700,000	2018
Upper Des Plaines Intercepting Sewer 11D Rehabilitation	\$5,500,000	2018
Upper Des Plaines Intercepting Sewer 14B Rehabilitation	\$6,700,000	2018
Replacement of Tailrace Stop Logs, Lockport Power House	\$10,000,000	2018
Upgrade Gate Controls at RARP Control Structures, NSA	\$2,200,000	2018
Streambank Stabilization on Tinley Creek in Orland Park	\$3,800,000	2018
North Shore 1 Rehabilitation, NSA	\$21,500,000	2019
Odor Control Facilities, SWRP	\$12,767,000	2019
Screens and Conveyor Improvements, 125 th Street P.S.	\$3,825,000	2019
A/B and C/D Service Tunnel Rehabilitation - Phase III, SWRP	\$17,000,000	2019
Addison Creek Channel Improvements	\$48,113,000	2019

Goal 2 – Excellence

Goal 1 – Add Value

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Goal 2 - Excellence

- To provide sewage collection and treatment, and maintain award-winning plants

Goal 3 – Resource Recovery

- Implement Phosphorus and Nitrogen recovery
- Implement food-to-energy receiving and processing
- Maximize use and production of digester gas

Goal 5 – Leading Partnerships

- Provide funding towards green infrastructure at CPS and other public agencies

Goal 2 – Excellence

Revolving Algae Biofilm Reactor Pilot Project at O'Brien WRP \$199,409

Project Completed in 2016



Goal 2 – Excellence

Westside Preliminary Settling Tanks & Aerated Grit Tanks at SWRP \$224,790,000
Substantial Completion
Summer 2018





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Goal 3 – Resource Recovery

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Goal 5 – Leading Partnerships

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Goal 3 – Resource Recovery

Phosphorous Recovery Facility, SWRP
\$31,879,000
Project Completed 2016




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Goal 3 – Resource Recovery

Installation of Sidestream Nitrogen Removal System “AnitaMOX”, EWRP \$2,675,000
Project Completed 2016




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Goal 3 – Resource Recovery

Conversion of Old GCTs to the WASSTRIP Process, SWRP
\$5,223,243
Substantial Completion Fall 2017




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Goal 3 – Resource Recovery

Digester Gas Utilization Facilities, CWRP
\$14,200,000
Design Award – November 2015
Estimated Award of Construction - 2017



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Goal 3 – Resource Recovery

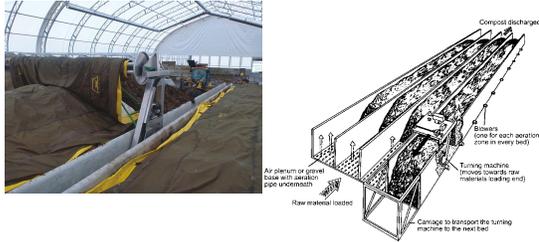
Organic Waste Receiving Facility, CWRP
\$7,400,000
Estimated Award – Spring 2017



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Goal 3 – Resource Recovery

Covered Composting System, CWRP
\$24,000,000
Estimated Award – Spring 2017



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Goal 3 – Resource Recovery

Fischer Farms Horticultural Center, HPWRP
\$3,500,000
Estimated Award – Summer 2017



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Goal 3 – Resource Recovery

Projects Under Development

Project Name	Cost	Award
Fermenters, CWRP	\$3,000,000	2018
Phosphorus Recovery System, CWRP	\$10,000,000	2019
Digester Gas Utilization Facilities, SWRP	\$17,000,000	2019
Organic Waste Receiving Station, SWRP	\$10,000,000	2019

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Goal 5 – Leading Partnerships

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Goal 5 – Leading Partnerships

- Provide funding towards green infrastructure at CPS and other public agencies

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Goal 5 – Leading Partnerships

Stormwater Phase I Shovel-Ready Projects

Project Description	Total Construction Cost	MWRD Funding	Award
Albany Park Diversion Tunnel	\$57,025,845	\$25,000,000	2016
Centerpoint Preserve Riparian Area Restoration	\$3,000,000	\$1,000,000	2016
Glenwood Levee	\$5,770,000	\$3,870,000	2016



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Goal 5 – Leading Partnerships

Stormwater Phase II Shovel-Ready Projects

Project Description	Total Construction Cost	MWRD Funding	Award
Lemont 1 - New Culvert I&M Canal	\$473,000	\$325,000	2016
Niles 1 - Cleveland Ave. Relief Sewer	\$7,623,000	\$2,000,000	2016
Brookfield 1 - Prairie/ Washington PS Improvements	\$2,097,800	\$1,000,000	2016

Goal 5 – Leading Partnerships

Stormwater Phase II Shovel-Ready Projects

Project Description	Total Construction Cost	MWRD Funding	Award
Berkeley 1 . McDermott Dr. and Morris Ave. Storm Sewers	\$5,096,000	\$2,696,000	2016
Glencoe 4 & 6 . Skokie Ridge and Terrace Court Storm Sewers	\$3,290,000	\$190,000	2016
Riverside 1 . Railroad Watershed Outlet	\$64,000	\$64,000	2016

Goal 5 – Leading Partnerships

Stormwater Phase II Preliminary Engineering

Project Title	Project Description
Flood Control Project on Midlothian Creek in Robbins, IL	Reduce impact of overbank flooding in the vicinity of 138th and Kedzie
Flood Control Project on Willow Road at McDonald Creek Tributary A in Prospect Heights, IL	Address flooding across Willow Road and adjacent roadways at McDonald Creek Tributary A
Flood Control Project Central Road, from the Des Plaines River to Greenwood Road	Provide improved conveyance for SW along Central Road to Des Plaines River and possible storage
Flood Control Project on 1st Avenue from Roosevelt Road to Cermak Road	Improve drainage along 1st Avenue and provide new outlet to Des Plaines River
Flood Control Project in the Washington St. Area of Blue Island, IL	Address overland flooding and basement backups in depressional area

Goal 5 – Leading Partnerships

Stormwater Phase II Preliminary Engineering

Project Title	Project Description
Flood Control Project in the Worth Woods Subdivision in Worth, IL	Improve drainage outlet to Cal-Sag Channel via Lucas Berg Pit
Flood Control Project on Calumet-Sag Tributary C in Bremen Township and Midlothian, IL	Address roadway and residential flooding Cal-Sag Trib C
Flood Control Project in the vicinity of 135 th St & Central Ave. in Crestwood, IL	Improve drainage by modifying existing berm and installing new outlet
Flood Control Project along Plainfield Road from Willow Springs Road to East Avenue	Address local SW flooding in areas tributary to Plainfield Road through improved conveyance and storage
Flood Control Project at 61 st Ave and 36 th St in Cicero, IL	New storm sewers and underground detention in Kolar Park

Goal 5 – Leading Partnerships

Stormwater Program Summary

Program Component	Current Number of Projects	Structures Protected/Removed	Construction/Acquisition Cost (\$Million)	MWRD Cost (\$Million)
Phase I	27	4,423	\$369	\$315
Phase II Shovel Ready	21	3,146	\$81	\$41
Phase II Preliminary Engineering	13	TBD	TBD	TBD
Green Infrastructure	25	717	\$48	\$13
Flood Prone Property Acquisition	9	201	\$61	\$34
Totals	85	8,487	\$559	\$403

Goal 2 – Excellence

Contract Values to Date
Latest Pay Request Date for Active Projects as of 10-14-16

Project Number	Project Name	Latest Contracted Pay App. Approved Date	Original Contract Sum	Contract Sum to Date	Total Completed & Stored to Date	% Complete	% of Original Bid
11-254-201	Blue Island Green Infrastructure - Waterways (1 to 2016)	11/9/2015	\$ 463,000.00	\$ 463,000.00	\$463,000.00	100.0%	100.0%
11-255-201	Chicago Avenue to Chicago Spur Water Retention Pond	10/20/2015	\$1,700,000.00	\$1,700,000.00	\$1,700,000.00	100.0%	100.0%
11-447-201	Electrical Upgrade, Rotary, Rotary & Drive Repairs, and Elevator Upgrade, EIRP	8/12/2014	\$1,097,000.00	\$1,097,000.00	\$1,097,000.00	100.0%	100.0%
11-510-201	Wentz Park Flood Control Facility	8/10/2015	\$10,771,000.00	\$10,771,000.00	\$10,771,000.00	100.0%	100.0%
11-511-201	Donnerly Bridge, Providence Square, Green	10/19/2015	\$10,770,000.00	\$10,770,000.00	\$10,770,000.00	100.0%	100.0%
11-512-201	Donnerly Bridge and Bridge Levee System Upgrade, EIRP and EIRP	8/10/2015	\$ 8,244,000.00	\$ 8,244,000.00	\$ 8,244,000.00	100.0%	100.0%
11-542-201	Electrical Equipment Replacement	8/10/2015	\$1,940,000.00	\$1,940,000.00	\$1,940,000.00	100.0%	100.0%
11-543-201	Control Building and Control System Upgrade	8/10/2015	\$10,490,000.00	\$10,490,000.00	\$10,490,000.00	100.0%	100.0%
11-544-201	Camera System and SDI Slave Gates Replacement	8/10/2015	\$2,714,000.00	\$2,714,000.00	\$2,714,000.00	100.0%	100.0%
11-545-201	Replacement of 60" and 72" Storm Inlets	8/10/2015	\$1,810,000.00	\$1,810,000.00	\$1,810,000.00	100.0%	100.0%
11-546-201	Camera, Zoom, Cloud Camera and Query Bridge	8/10/2015	\$81,778,117.14	\$81,778,117.14	\$81,778,117.14	100.0%	100.0%
11-547-201	Hydraulic Station, Station No. 1000, Canal and Industrial Canal	11/10/2015	\$1,243,747.44	\$1,243,747.44	\$1,243,747.44	100.0%	100.0%
11-548-201	Red Creek, Flood at Cedar Cliff Creek, Blue Island, IL	8/10/2015	\$1,940,000.00	\$1,940,000.00	\$1,940,000.00	100.0%	100.0%
11-549-201	Industrial Station, Station # 1, Station Water Retention Pond	8/10/2015	\$14,819,439.00	\$14,819,439.00	\$14,819,439.00	100.0%	100.0%
11-550-201	Station # 2, Station # 3, Station # 4, Station # 5, Station # 6, Station # 7, Station # 8, Station # 9, Station # 10, Station # 11, Station # 12, Station # 13, Station # 14, Station # 15, Station # 16, Station # 17, Station # 18, Station # 19, Station # 20, Station # 21, Station # 22, Station # 23, Station # 24, Station # 25, Station # 26, Station # 27, Station # 28, Station # 29, Station # 30, Station # 31, Station # 32, Station # 33, Station # 34, Station # 35, Station # 36, Station # 37, Station # 38, Station # 39, Station # 40, Station # 41, Station # 42, Station # 43, Station # 44, Station # 45, Station # 46, Station # 47, Station # 48, Station # 49, Station # 50, Station # 51, Station # 52, Station # 53, Station # 54, Station # 55, Station # 56, Station # 57, Station # 58, Station # 59, Station # 60, Station # 61, Station # 62, Station # 63, Station # 64, Station # 65, Station # 66, Station # 67, Station # 68, Station # 69, Station # 70, Station # 71, Station # 72, Station # 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