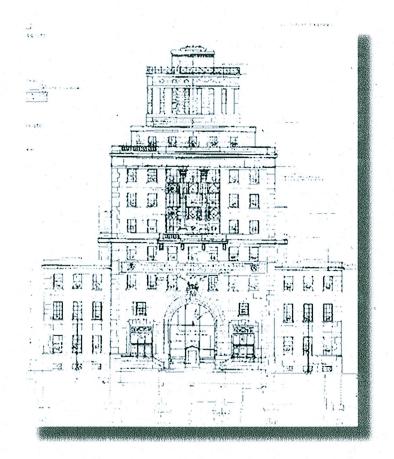


City of Cedar Rapids

River Corridor Recovery Plan Buildings & Facilities Master Plan

Executive Summary

February 2009



Report

Executive Summary

PROJECT OVERVIEW AND OBJECTIVES

In June, 2008, the City of Cedar Rapids experienced a flood of the Cedar River that went well beyond the bounds of what the Corps of Engineers had established as a "500 year" flood event. From the earliest days in the aftermath of this disaster, the City Council set a direction for all involved that not only would the City recover from the flood strongly and as quickly as feasible, but that the City would pursue a sustainable recovery strategy. This direction specifically follows both the spirit and the letter of the Mission Statement that the Council had adopted prior to the flood:

"Cedar Rapids is a vibrant urban hometown, a beacon for people and businesses that are invested in building a greater community for the next generation."

Upon completion of the primary damage assessment tasks, the City tasked CDM with developing a Buildings and Facilities Master Plan for the sustainable recovery of their buildings. The objective of the Master Plan was to provide the City with well-documented recommendations for each of its buildings with the intent that these recommendations would be the basis for subsequent building/facility-specific design and construction projects.

In the context of the City's mission and with explicit instructions from the City to consider both short-term and long-term impacts, CDM was also asked to:

- Test the feasibility and implications for pursuing sustainable options for recovery of the City's damaged buildings and facilities. The City recognized that the initial capital costs for sustainable options for recovery may be higher than those for non-sustainable options. However, the City wanted to identify the value that the sustainable options could provide over the long term considering environmental benefits such as reduced energy use, and social benefits such as improved indoor environmental quality, health, and human performance.
- 2. Test the potential to improve operational efficiency and service by combining the similar functions of city, county, school district, and other government entities into function-specific community centers. The community center concept, developed as part of the River Corridor Recovery Plan, included a Community Services Center, Community Operations Center, and Community Safety Center. The intent of these combined facilities would be to provide improved customer service, minimize the cost of service, reduce the use of non-sustainable resources, and minimize the environmental footprint of the City's buildings and facilities.

Cedar Rapids is a vibrant urban hometown, a beacon for people and businesses that are invested in building a greater community for the next generation."

Mission Statement,
 City of Cedar Rapids, Iowa

Buildings and Facilities Recovery Process

Immediately after the Cedar River flooded, the City began the difficult process of building and facility recovery. The City's recovery process would include debris removal, damage assessment, and development/implementation of a master plan for recovery. A short description of each of these steps in the recovery process follows.

DEBRIS REMOVAL.

Before the Buildings and Facilities Master Plan project was started, the City and its consultants, Adjusters International and Base Tactical, identified the master list of buildings that had potentially incurred damage from the flood. Damaged building elements and debris were then removed from most of the impacted buildings. The majority of the buildings were also cleaned, evaluated for environmental contamination, and provided with supplemental ventilation, when needed.

DAMAGE ASSESSMENT.

When the damaged buildings and facilities were stabilized, the City needed to document the extent of the damage in each. The City worked with Adjusters International and Base Tactical to prioritize the buildings and facilities for assessment and to coordinate the subsequent assessment. CDM and the Howard R. Green Company were then retained by the City to conduct the damage assessments which were directed at professionally documenting and quantifying the extent of the City's loss to its facilities. The contents of the damage assessment reports were to be in accordance with the Federal Emergency Management Agency (FEMA) requirements as specified by Adjusters International and Base Tactical. Many of the damage assessment reports were not developed prior to the completion of this Master Plan.

MASTER PLAN DEVELOPMENT/IMPLEMENTATION.

The City selected CDM to develop the Buildings and Facilities Master Plan and to provide program oversight, guidance and direction for implementing the Plan. As shown in Figure ES-1, Buildings & Facilities Recovery Process, the Master Plan provides the City with well-documented recommendations for each of its damaged buildings and facilities. These recommendations will be the basis for subsequent building/facility-specific design and construction projects.

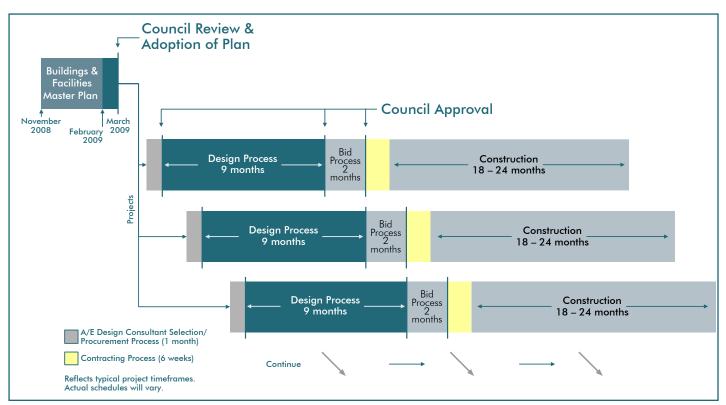


Figure ES-1: Building and Facilities Recovery Process

Building Specific Decision Process

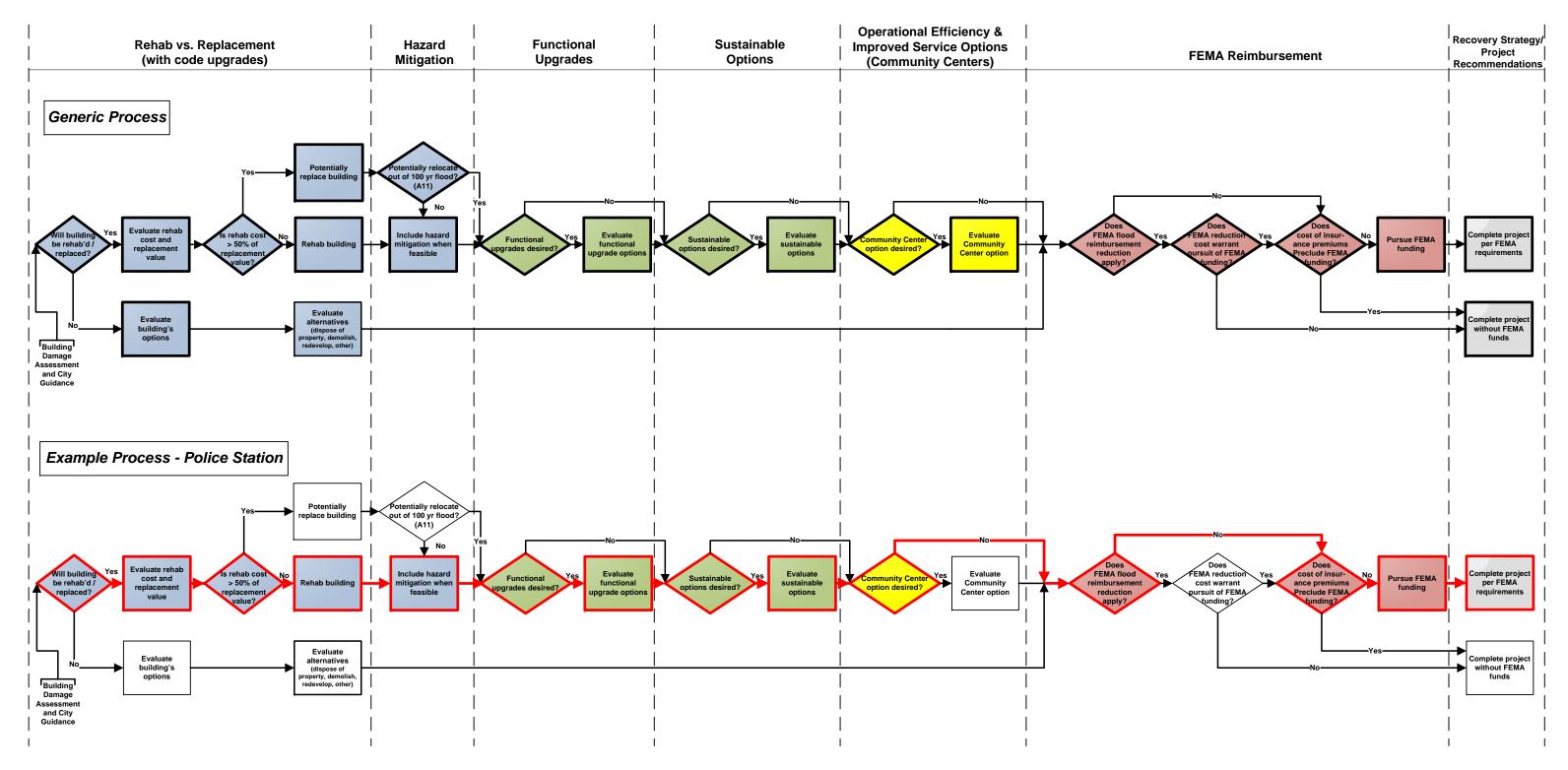
Project-specific recovery strategies were developed using the Building Recovery Decision Process shown in Figure ES-2. Descriptions of the main components that are evaluated in the decision process follow.

Rehab vs. Replacement (blue process on Figure ES-2).

The first step in the rehab vs. replacement decision is to determine whether or not the City will recover the building or facility. This decision is based on the building damage assessment and City guidance. If the City determines that recovery is in its best interest, the extent of damage to the facility triggers FEMA's determination of whether the building is eligible for reimbursement for rehabilitation or whether it is eligible for reimbursement for replacement.

If the cost of rehabilitating the building is greater than 50 percent of the building's replacement value, there is the potential for FEMA to fund the replacement of the building.

Figure ES-2 Building Recovery Decision Process



City of Cedar Rapids Buildings and Facilities Master Plan 1-12-09 If the City determines that recovery of the building or facility is not in its best interest, other options are pursued. Other options are not limited to, but could include sale of the property or demolition of the facility and redevelopment of the site.

A follow-on step for buildings/facilities that have the potential for replacement is identifying the FEMA flood zone in which they are currently located. If the building/facility is in the A11 flood zone, FEMA may approve reimbursement for a relocation of the building/facility out of the 100-yr flood plain. The follow-on step for all buildings/facilities that will be recovered, but not relocated, is to include feasible hazard mitigation in order to protect the building/facility and the City's investment in it. In addition, all projects for buildings and facilities that will be rehabilitated will incorporate upgrades for current code requirements.

Functional Upgrades and Sustainable Options (green process on Figure E-2).

Prior to the 2008 flood, the City had plans to complete functional upgrades at several of its buildings and facilities to provide more efficient operations or to accommodate increasing service requirements. During the course of the master planning study, some additional functional upgrade needs were identified. Completing functional upgrades, in concert with the flood recovery project for each building/facility, would offer both economic and implementation efficiencies. In order to optimize building and facility recovery, the identified functional upgrades will be evaluated during the design of the project to determine whether or not they will be completed as part of the project.

On June 17, just days after the 2008 flood, the Cedar Rapids City Council authorized the development of its River Corridor Recovery Plan. One of the City's goals for the Recovery Plan is to "Help our community become more sustainable." Considering sustainable options, also referred to as green options, for recovering City buildings and facilities is a critical step towards attaining that goal.

Perhaps the most widely used system for evaluating success towards attaining sustainability or "going green" is the LEED® (Leadership in Energy and Environment Design) system developed by the United States Green Building Council. A points-based system, LEED offers a peer-reviewed, professionally recognized way for building owners and designers to stipulate the degree to which their project responds to a wide range of energy and environmental concerns. LEED is an important part of the sustainability picture; however, it is recognized that LEED components, such as those relating to the ASHRAE 90.1 energy requirements, are increasingly being incorporated into the building codes. The primary strategies of LEED will, in a few years (likely during the implementation phase of Cedar Rapids' buildings and facilities recovery), be standard for all new building construction and renovation. For

6 6 "Help our community become more sustainable."

- Cedar Rapids Recovery Plan

this reason, the design phase of all the building and facility recovery projects implemented as a result of this Master Plan will include establishment of current base LEED certification components and an evaluation of the inclusion of these components in the project.

Notwithstanding the transformative effects that LEED has had on the construction market and the design industry, the City recognized that LEED should be treated as "a floor rather than a ceiling" - that pursuit of a sustainable recovery should not be limited by any external prescriptions or predispositions. To this end, CDM evaluated six of the City's largest and most heavily damaged buildings slated for rehabilitation for the incorporation of additional sustainable options using the Triple Bottom Line approach.

The six buildings included: Central Fire Station (main building and maintenance building) Police Station Public Works (main building) Main Library Paramount Theater Veteran's Memorial/City Hall

Table ES-1: Triple Bottom Line Approach											
Triple Bottom Line	e Evaluation Criteria										
Economic	Capital costs Life cycle costs Is it affordable/practical? Does it create a successful environment for business?										
Environmental Reduced energy use Minimized carbon footprint Increased use of green building materials Minimized resource use Improved stormwater quality Reduced water use											
Social	Increased vibrancy of downtown Reduced traffic Improved walk-ability Increased economic vitality Improved access to parks, cultural/historical venues Improved quality of life Increased sense of community Improved public safety Improved infrastructure Improved indoor environmental quality, human, and health performance										

The Triple Bottom Line analysis method uses a multi-criteria assessment approach for evaluating alternatives or options based on the economic, environmental, and social impacts of the alternatives or options. In practical terms, triple bottom line accounting means expanding the reporting framework to take into account environmental and social performance in addition to financial performance. The Triple Bottom Line Evaluation Criteria shown in Table ES-1 was used in the evaluation of sustainable options identified for the six buildings listed above.

The first step in the sustainable options evaluation process was the development of a master list of potential sustainable options for rehabilitation projects were then correlated to the Triple Bottom Line Evaluation Criteria as shown by the matrix in Table ES-2. Using the master list, a list of viable sustainable options was then developed for each of the six buildings. Sustainable options included those

Table ES-2: Sustainable Options for Rehabili	tatio	on Pr	oject	s Corre	elated	to Trip	le Boti	tom I	ine C	riteric	1										
		Eco	nom	ic		Er	vironr	nent	al							Soci	ial				
Sustainability Upgrade/Criterion	Initial capital costs	Life cycle costs	ls it affordable/practical?	Does it create a successful environment for business?	Reduced energy use	Minimized carbon footprint	Increased use of green building materials	Minimized resource use	Improved stormwater quality	Reduce water use	Increased vibrancy of downtown	Reduced traffic	Improved walkability	Increased economic vitality	Improved access to parks, cultural/historic venues	Improved quality of life	Increased sense of community	Improved public safety	Improve infrastructure	Improved indoor environ- mental quality; health and human performance	Decreased risk of flood impacts
Architectural																					
Insulated glazing and frames																					
Operable window sections																					
Insulated sectional doors																					
Insulated metal panels																					
Reflective (capture) roof (1)																					
Solar tracking skylights																					
Building orientation																					
Building reuse													Î	Î							
Mechanical							<u>.</u>	<u> </u>		<u> </u>		<u> </u>		^		· · · · ·					
Higher efficiency heat pumps																					
Variable air volume air handling units																					
Chilled water instead of air-cooled																					
Direct digital control system																					
Electrical																					
High performance lighting													Ĩ								
Daylight harvesting controls																					
Interior lighting controls																					
Energy use, measurement, and verification																					
Light pollution reduction (exterior lighting)																					
Install variable frequency drives on pumps																					
Site																					
Construction Activity Pollution Prevention																					
Low Impact Site											<u> </u>										
Brownfield Redevelopment																					
Plant deciduous trees close to glazing																					
Stormwater Management																					
Reflective (capture) roof (1)																					
Vegetative roof (1)																					
Permeable walkways and driveways																					
Capture and treat stormwater runoff																					
Rainwater harvesting and reuse							İ														
Materials & Resources																					
Re-use existing building/facility																					
Construction waste management																					
Material reuse (e.g. gypsum board, flooring, insulation)																					
Renewable materials																					
Durable and low maintenance exteriors																					

Legend

Significant positive impact can occur

Slight negative impact can occur

Significant negative impact can occur

(1) May be affordable when roof needs to be replaced

that yield resource consumption reductions (gas, electricity, and water) and others that provide social benefits such as improved indoor environmental quality, health, and human performance.

The building-specific sustainable options for resource consumption reductions were then developed and tested as a complete package for each building. The goal for each building was to yield maximum practical reduction in gas, electricity, and water use; to evaluate upgrades individually would not provide the complete picture of their effect. In addition, other environmental and social benefits provided by the options were noted. The sustainable options evaluation for Central Fire is shown in Table ES-3 as an example of the evaluations that were conducted for each of the six buildings.

In general, additional capital costs will be incurred to implement the sustainable options for each building. Assuming the City can maintain its current energy and water prices, the options do not generally pay for themselves in terms of the resultant annualized life cycle cost (includes consideration for reduced energy and water use). However, increases in energy costs or water costs over the life of the option could result in a reduction of the annualized costs that could result in cost savings for the City. In addition, implementation of the sustainable options for rehabilitation projects contributes to the following Triple Bottom Line Criteria:

Environmental

Reduced energy use Minimized carbon footprint Minimized resource use

Social

Improved quality of life Improved infrastructure Improved indoor environmental quality, health, and human performance

Because of the potential for energy costs to vary significantly over the life of the sustainable options and because of their environmental and social benefits, the sustainable options identified for the six buildings analyzed should be further evaluated for incorporation into the project during the design phase for each of the six projects.

Operational Efficiency & Improved Service Options (yellow process on Figure ES-2: Building Recovery Decision Process).

One of the lessons learned by other communities that have experienced substantial flood or other disaster losses has been that simply restoring what they have to "as was" conditions means locking in the inefficiencies of the past. As part of the River Corridor Recovery Plan, JLG conducted stakeholder interviews as a very broad brush assessment of long-term needs

Table ES-3: Sustainable Options Evaluation: Cen	tral Fire	
Sustainability Upgrade	Cost	Triple Bottom Line Benefits
Architectural	\$225,000	
Upgrade to low-E rating		Reduced energy use
Operable window sections		Improves interior environmental quality
Upgrade overhead doors		Reduced energy use
Plant deciduous trees close to glazing		Reduced energy use
Insulated metal panels		Reduced energy use
Solar tracking skylights		Reduced energy use; improved in- door environmental quality
Mechanical	\$80,000	
Higher efficiency heat pumps		Reduced energy use
Direct digital control system		Reduced energy use
Rainwater harvesting irrigation and truck wash		Reduced energy use
Electrical	\$120,000	
High performance lighting		Reduced energy use
Daylight harvesting controls		Reduced energy use; improved in- door environmental quality
Energy use, measurement, and verification		Reduced energy use
Light pollution reduction (exterior lighting)		Reduced energy use; improved qual- ity of life
Install VFDs on HW pumps		Reduced energy use
Capital Cost for Sustainable Upgrades	\$425,000	
Capital Cost for Building Rehab and Code		
Percentage Increase in Capital Cost for Up- grades	4.25%	Upgrades costs offest by \$10,000/ year energy + 150,000 gal. year savings
Additional, but not Initial, Upgrades	\$400,000	
Vegetative roof - equipment bays		Improved stormwater quality
Reflective/capture roof		Improved stormwater quality

and opportunities. Interviewees included City Departments and other community representatives such as Linn County, Cedar Rapids School District, local not-for-profits, Next Generation council, neighborhood associations, local business representatives, medical groups and other similar stakeholders. These stakeholders strongly supported the "one-stop-shop" service model that was established for flood recovery assistance immediately after the flood. Ultimately, the focus of the stakeholder recommendations was to improve efficiencies and customer service by combining like functions in centralized facilities, convenient to the users, related service providers, and the public. The concept that followed, community centers, also aligns with the City Council's Mission Statement and the River Corridor Recovery Plan's immediate and long term goals.

The community center concept evolved into three main facilities which have been validated through the stakeholder involvement meetings conducted during the development of the Buildings and Facilities Master Plan. The facilities are:

Community Services Center.

The Community Services Center was envisioned as a single campus that could support administrative and customer service functions for the City, County, Cedar Rapids School District, and other similar users. It would have enclosed connections between the structures and the potential for shared parking and conference facilities to maximize utilization and building efficiency. Details about the envisioned Community Services Center are shown in Figure ES-3.

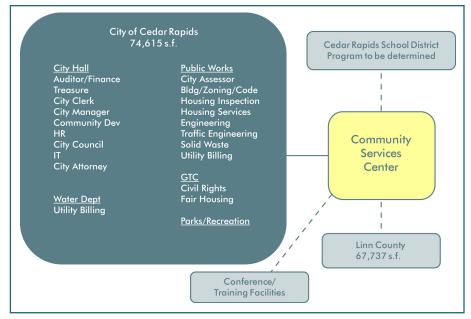


Figure ES-3: Community Services Center

Community Operations Center.

The Community Operations Center would be a centralized facility that could house City, County, and Cedar Rapids School District infrastructure and operations departments, along with a centralized fleet maintenance center. Community Safety Training Center. Details about the envisioned Community Operations Center are shown on Figure ES-4.

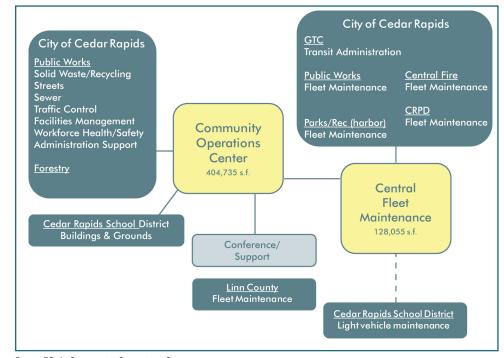


Figure ES-4: Community Operations Center

Community Safety Center.

The Community Safety Center would include a new training facility that could accommodate police, fire and other related partners' conference and classroom needs, skills training functions, joint communications, and storage and support. Details about the envisioned Community Safety Center are shown in Figure ES-5.

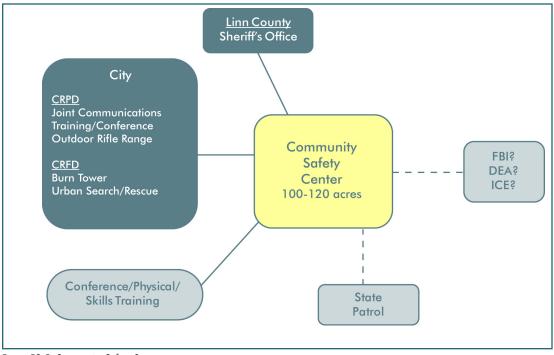


Figure ES-5: Community Safety Center

The community center concept supports the Triple Bottom Line approach as follows:

Economic (long term efficiencies).

In addition to reduced square footage in terms of initial building costs, the long-term savings in operating expenses due to reduced area and improved systems can be substantial. Shared commons and support services can be attractive amenities at a larger scale facility and, along with day-lighting and other sustainable initiatives, can greatly improve staff productivity. Recent studies have shown that the cost of an employee is 100 X the energy cost of a building; therefore, anything that can be done to improve employee performance will be even more cost effective than improvements to building performance.

Environmental (Sustainability).

A community center would allow for higher utilization of spaces through shared commons and support services, resulting in an overall reduction in actual square footage – "building less" is one of the most sustainable things you can do. Smaller buildings and shared parking reduce the impervious footprint, offering more area for green space and on-site storm-water retention, and increase site densities. Additionally, the resulting critical mass allows for sustainable systems, materials, and other options that might not otherwise be economically feasible in decentralized facilities (economies of scale).

Social (Customer service).

The basic idea behind co-location is to mitigate the general public's confusion about where to go for assistance. By co-locating civic customer service functions in a single complex or on a single campus, customers are at least getting to the right parking lot and a central reception function can further ease the process. When staff efficiency and productivity increases, municipalities are able to deliver new and improved programs and services.

Table ES-4 is similar to Table ES-2; but shows the correlation of sustainable options for a new facility to the Triple Bottom Line Evaluation Criteria. Comparing the two Figures illustrates the opportunities for sustainable development that are available when developing new facilities, but not always available when rehabilitating a building.

The community center concept has wide stakeholder interest and broadly supports efficiency and customer service improvements. In addition it appears to provide significant Triple Bottom Line benefits.

The community centers will be further explored and evaluated in the upcoming Community Facilities Public Participation Process.

Reimbursement (orange process on Figure ES-2).

Obtaining FEMA reimbursement for damages sustained from the 2008 Cedar River flood requires considerations of items that could offset the reimbursement benefits for some projects. The first is the requirement for a reduction of reimbursement for those properties that are located in the A11 Flood Zone. FEMA's position is that flood insurance should have been purchased for these properties. As such, FEMA will reduce the reimbursement for recovery by up to \$500,000 (maximum reimbursement reduction) for each and every building in the A11 Flood Zone that is submitted for reimbursement. The City will need to determine whether or not they wish to pursue FEMA reimbursement for these buildings based on the total amount of reimbursement expected minus the reduction.

The other item to consider with regard to obtaining FEMA reimbursement is that the City should obtain flood insurance for all buildings that receive reimbursement for recovery. If the City does not obtain flood insurance and another flood occurs, the damage incurred to the rehabilitated portions of the building would not be eligible for FEMA disaster recovery assistance. The cost of insuring each building should be considered to determine whether or

Economic Environmental Social	Table ES-4: Sustainable Options for New Fac	ilitie	es Co	orrel	ated to	Tripl	e Botto	m Line	Crite	eria											
Sustainability Upgrade/Criterion Is transmitted window section Is transmitted window section <th></th> <th>So</th> <th>cial</th> <th></th> <th></th> <th></th> <th></th>																So	cial				
Architectural Insolated glazing and frames Operable window sections Insolated glazing and frames Reflective (capture) roof (1) Solar tracking skylights Building orientation Building orientation Building reves Variable air volume air handling units Chilled water instead of air cooled Direct digital control system Direct digital controls Dyright harvesing controls Insolated fragment, and verification Dyright harvesing controls Insolated fragment, and verification Insolate fragment, and verification Insolate fragment, and verification Insolate fragment, and verification Insolate fragment, and verification Insolatight fraguonery drives on punps <tr< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tr<>																					
Architectural Insulated glazing and frames Operable window sections Insulated sectional doors Insulated metal panels Reflective (copture) nof (1) Solar tracking skylights Building orientation Building reuse Marchited unpais Coperable wind up anels Building reuse Building reuse Higher efficiency heat pumps Variable air volume air handling units Chilled weter instead of air cocled Direct digital control system Building controls Instruction (ighting controls Inder of the proton on clighting Doright harves unp on the proton on clighting Direct digital controls system Building controls Infor flighting controls Infor flighting controls Infore flighting controls Infore flighting controls Infore flighting controls Infore flighting controls <t< th=""><th>Sustainability Upgrade/Criterion</th><th></th><th>cycle</th><th>ls it affordable/practical?</th><th>Does it create a successful environment for business?</th><th>Reduced energy use</th><th>Minimized carbon footprint</th><th>Increased use of green building materials</th><th>Minimized resource use</th><th>Improved stormwater qualit</th><th>Reduce water use</th><th>Increased vibrancy of downtown</th><th>Reduced traffic</th><th>Improved walkability</th><th>Increased economic vitality</th><th>Improved access to parks, cultural/historic venues</th><th>Improved quality of life</th><th>Increased sense of community</th><th>Improved public safety</th><th>Improve infrastructure</th><th>Improved indoor environ- mental quality; health and human performance</th></t<>	Sustainability Upgrade/Criterion		cycle	ls it affordable/practical?	Does it create a successful environment for business?	Reduced energy use	Minimized carbon footprint	Increased use of green building materials	Minimized resource use	Improved stormwater qualit	Reduce water use	Increased vibrancy of downtown	Reduced traffic	Improved walkability	Increased economic vitality	Improved access to parks, cultural/historic venues	Improved quality of life	Increased sense of community	Improved public safety	Improve infrastructure	Improved indoor environ- mental quality; health and human performance
Operable window sections I </td <td>Architectural</td> <td></td>	Architectural																				
Insulated sectional doors Insulated metal panels Insulated metal panels <t< td=""><td>Insulated glazing and frames</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Π</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Insulated glazing and frames													Π							
Insulated sectional doors Insulated metal panels Insulated metal panels <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>$\left \right$</td><td><u> </u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											$\left \right $	<u> </u>									
Insulated metal panels Image: Solar tracking skylights Image: Solar tracking skylightskylights Image: Solar tracking skylights											\square										
Reflective (capture) roof (1) Image: Capture (1) <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																					
Solar tracking skylights Image: Solar tracking skylights Building orientation Building reuse Building reuse Mechanical Higher efficiency had pumps Variable air volume air handling units Image: Solar tracking skylights Image: Solar tracking skylights Building reuse Mechanical Higher efficiency had pumps Variable air volume air handling units Image: Solar tracking skylights Image: Solar tracki																					
Building orientation Building reuse Building reuse Building reuse Mechanical Higher efficiency heat pumps Variable air volume air handling units Chilled water instead of air cooled Direct digital control system Building controls Building controls Insteal volume air handling units Building reuse Stee																					
Building reuse Mechanical Higher efficiency heat pumps Image: Sector																					
Mechanical Higher efficiency heat pumps Image: Construction Activity Pollution Prevention Image: Construction Prevention <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																					
Higher efficiency heat pumps Image: Amage: Am	•																				
Variable air volume air handling units I																					
Chilled water instead of air cooledImage: Chilled water instead of air cooled water instead water inste											\square										
Direct digital control systemDirect digital c											$\left - \right $										
Electrical High performance lighting Image: Steps of the step of the s											\square										
High performance lighting Image: Street state																					
Daylight harvesting controls Interior lighting controls Interior lighting controls Energy use, measurement, and verification Light pollution reduction (exterior lighting) Install variable frequency drives on pumps Site Construction Activity Pollution Prevention																					
Interior lighting controls Energy use, measurement, and verification Light pollution reduction (exterior lighting) Install variable frequency drives on pumps Site											$\left \right $										
Energy use, measurement, and verification Image: Construction (exterior lighting) Image: Construction (exterior lig											$\left - \right $	<u> </u>									
Light pollution reduction (exterior lighting) Install variable frequency drives on pumps Site Construction Activity Pollution Prevention Image: Constru											$\left \right $										
Install variable frequency drives on pumps Image: Construction Activity Pollution Prevention Image: Construction Prevention Image: Constoff Prevention Image: Construction Preve											$\left \right $	<u> </u>									
Site Construction Activity Pollution Prevention Image: Construction Prevention Image: Co											$\left - \right $	L									
Construction Activity Pollution Prevention														I							
Brownfield Redevelopment	· · · · ·																				
Plant deciduous trees close to glazing																					
Stormwater Management																					
Reflective (capture) roof (1)																					
Vegetative roof (1)																					
Permeable walkways and driveways																					
Capture and treat stormwater runoff																					
Rainwater harvesting and reuse							1														
Materials & Resources																					
Re-use existing building/facility																					
Construction waste management Image: Construction waste management																					
Material reuse (e.g. gypsum board, flooring, insulation)											\square										
Renewable materials																					
Durable and low maintenance exteriors																					

Legend

Significant positive impact can occur

Slight negative impact can occur

Significant negative impact can occur

(1) May be affordable when roof needs to be replaced

not the City pursues FEMA reimbursement for recovery for that building. In rare instances, the cost to insure a building or facility may preclude rehabilitation or replacement of the building at the existing site.

The estimated costs for flood insurance for the buildings and facilities included in the Master Plan were not available at the time the Master Plan was completed.

The decision to pursue FEMA funding or not should be made on a project by project basis as soon as possible.

Building and Facilities Recovery Plan

The objective of the Buildings and Facilities Master Plan was to provide the City with well-documented recommendations for each of its buildings with the intent that these recommendations be the basis for subsequent building/facility-specific design and construction projects. Recovery strategies were developed for each project using the decision process described in the previous section.

As the recovery strategies were completed for each of the buildings or facilities, five categories of building recovery emerged. They are:

Major Buildings – Begin Design Immediately Major Buildings – Design Pending External Process Quick Start Projects – Complete Fall 2009 Quick Start Projects – Complete 2010 Additional Evaluations Required

Note that a "major building" is a facility that is typically a larger, more costly facility that is integral to the City's ability to provide customer service, core operations, or is a significant contributor to the public's quality of life. A "quick start project" typically has a recovery cost less than \$1,000,000 (with a few exceptions), has a well-defined recovery strategy, and is ready to go to the implementation phase.

The resultant plan for buildings and facilities recovery is summarized in Table ES-5 Buildings and Facilities Recovery Plan.

Table ES-5: Building and Facilities	
Project	Plan for Recovery
	Major Buildings - Begin Design Immediately
Police Station - Main Building	Rehab at existing site. Consider hazard mitigation, functional upgrades, and sustainable options during Design.
GTC - City Bus Terminal	Rehab at existing site. Consider hazard mitigation and functional upgrades during Design.
GTC- Trailways Terminal & Montessori School	Rehab at existing site. Consider hazard mitigation and functional upgrades during Design.
Paramount Theater	Rehab at existing site with hazard mitigation. As soon as possible, issue RFQ for hire of historic preservation-specialty architect to design rehabilitation with understanding that additional direction must be obtained from project stakeholders. Consider functional upgrades and sustainab options during Design.
	Begin Design Immediately following FEMA Determination
Central Fire Station	Complete Rehab/Replace (at existing site) decision. Begin Design following Rehab/Replace decision. Consider hazard mitigation, functional upgrades and sustainable options during Design.
Nain Library	Complete Rehab/Replace decision. Begin Design following Rehab/Replace decision. If rehab'd on existing site, consider hazard mitigation, fun tional upgrades, and sustainable options during Design. If replaced on existing site, consider hazard mitigation during Design.
	Major Buildings - Design Pending External Process
	Design Pending FEMA Determination
Animal Control Center	Potential for Relocation. Coordinate with Community Facility Public Participation Process. Proceed to Implementation Phase following Relocation decision and subject to Participation Process. Consider functional upgrades and sustainable options during Design
(stars a Marravial Duilding & Maus Island Darlinda	Design Pending Community Facilities Public Participation Process
Veterans Memorial Building & Mays Island Parkade Public Works - Main Building	Coordinate with Community Facilities Public Participation Process. Proceed to Design subject to that process. Rehab at existing site with hazard mitigation. Consider functional changes and sustainable options during Design. Coordinate with Community Facilities Public Participation Process. Proceed to Design subject to that process. Consider sustainable options during Design.
Public Works - Main Bonang Public Works - Solid Waste and Recycling	Coordinate with Community Facilities Public Participation Process. Proceed to Design subject to that process. Consider sustainable options durin Coordinate with Community Facilities Public Participation Process. Proceed to Design subject to that process. Consider sustainable options durin
oblic Works - Sond Wasio and Rocyching	Design.
Five Seasons Transportation Facility (Bus Barn)	Coordinate with Community Facilities Public Participation Process. Proceed to Design subject to that process.
	Quick Start Projects - Complete in 2009
PW - Fourth Avenue Parkade	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
PW - Third Avenue Parkade	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
PW - GTC Parkade and Tunnel	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
ones Golf Course	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Ilis Pool Facility	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Cheyenne Park	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Nohawk Park	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Seminole Valley Park (non-historic buildings)	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
ndian Creek Nature Center	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Tait Cummins Sports Complex	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Riverside Park (restrooms at Skate Park)	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Ezech Village Park (restrooms)	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
	Quick Start Projects - Complete in 2010
Ellis Parking Buildings & Facilities	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
US Cellular Center	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Old Fire Station Section of Science Station	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Ellis Harbor Facility	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Riverfront Maintenance Buildings	Rehab at existing site. Start Design asap. Consider hazard mitigation during Design.
Time Check Recreation Center	Potential for relocation. Proceed to Design following relocation decision.
	Additional Evaluations Required
	Project Pending Community Facilities Public Participation Process
Police Shooting Range - Storage Building	Coordinate with Community Facilities Public Participation Process.
Public Works - Forestry Building	Coordinate with Community Facilities Public Participation Process.
	Functional Evaluations Required
Sokol Park - A Street Shop	Evaluate functional options. Coordinate with Community Facilities Public Participation Process. Consider Flood Plan.
Riverside Roundhouse Center	Evaluate functional options. Consider Flood Plan.
Greene Square Park	Evaluate functional options.
	Damage Assessments to be Completed by FEMA
Riverside – Oak Hills TIF	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.
Seminole Valley Park - Historic Homestead	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.
Seminole Valley Park - non-historic, not yet assessed	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.
Jshers Ferry - Flood Zone A11 Buildings	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.
Ushers Ferry - Flood Zone B Buildings	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.
House @ 1021 5th Street NW	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.
Hydroelectric Dam Building	Complete Damage Assessment. Establish recovery plan upon completion of Damage Assessment.

CAPITAL IMPROVEMENT PROGRAM

A preliminary Capital Improvement Program (CIP) for Buildings and Facilities Recovery was developed based on the Buildings and Facilities Recovery Plan. The CIP is shown in Figure ES - 6 Preliminary CIP for Buildings and Facilities Recovery. The CIP includes approximately \$32 million for the architectural/engineering services needed for the approximately \$130 million of capital construction projects that are identified in the Buildings and Facilities Recovery Plan.

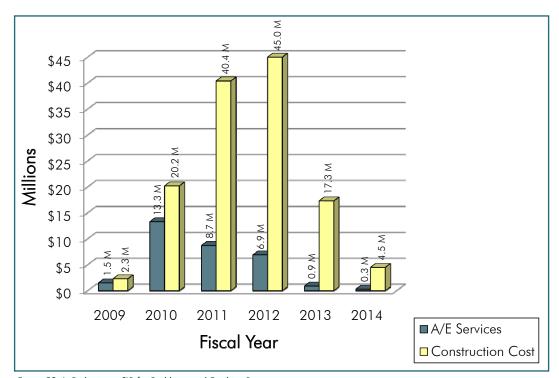


Figure ES-6: Preliminary CIP for Buildings and Facilities Recorvery

CITY COUNCIL DIRECTION

The results of the Buildings and Facilities Master Plan were presented to the Cedar Rapids City Council on February 4th, 2009. Following the presentation, the City Council voted unanimously to approve the Master Plan as presented and to proceed with approximately \$132 million of capital construction projects, as outlined, with at least \$33 million to be completed by the end of 2010, subject to further Council review of each project at the A/E award, design, and bid/construction start phases.