CITY OF CEDAR RAPIDS WATER ADMINISTRATION BUILDING
MASONRY RESTORATION AND CLEANING

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. Extent of masonry restoration work as indicated in specifications and photos.

B. Masonry restoration work includes the following:
   1. Retuckpointing of masonry joints.
   2. Final cleaning of masonry.

1.02 QUALITY ASSURANCE

A. Restoration Specialist: Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes and operations indicated.

B. Repointing: The intent of the new pointing work is to match cleaned existing mortar. Newly pointed areas should be consistent with existing adjacent mortar joints for color and texture.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each product indicated including recommendations for their applications and use. Includes test reports and certifications substantiating that products comply with requirements.

B. Submit, for verification purposes, samples of the following:
   1. Each new exposed masonry mortar to be used for replacing existing materials.
   2. Each type of chemical cleaning material data.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to site in manufacturer's original and unopened containers and packaging bearing labels as to type and names of products and manufacturers.

B. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.

C. Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.05 PROJECT CONDITIONS

A. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 deg.F and 90 deg.F and will remain so for at least 48 hours after completion of work.

B. Prevent mortar used in repointing and repair work from staining faces of surrounding masonry and other surfaces.

C. Protect sills, ledges, projections, vehicles and pedestrians from mortar droppings.

1.06 SEQUENCING / SCHEDULING

A. Perform masonry restoration work in the following sequence:
   1. Rake or cut out existing mortar joints from indicated to be repointed.
   2. Repoint existing mortar joints of masonry indicated to be restored.

PART 2 PRODUCTS

2.01 MASONRY MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type II.

B. Hydrated Lime: ASTM C 207, Type S, Type N or Type O.

C. Mortar Sand: ASTM C 144, unless otherwise indicated.
1. Color: Provide natural sand; of color necessary to produce required mortar color.
2. For the repointing mortar, provide sand with rounded edges.
3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands, if necessary, to achieve suitable match.

D. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.

E. Water: Potable.

2.02 TUCKPOINT MORTAR MIXES

A. General:
1. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel, use known measure. Mix materials in a clean mechanical mortar mixer. If color is required, mix in with dry material.
2. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate, color if required, materials together before adding any water. Maintain mortar in the dampened condition for 1 to 2 hours. Add water in small portions until mortar of desired consistency is reached. Use mortar within 30 minutes of final mixing.

2.03 REPOINTING MASONRY

A. Rake or grind out mortar joints as follows:
1. Rake or grind out mortar joints not less than ½ inch in depth or less than that required to expose sound, unweathered mortar.
    a. Contractor shall show a satisfactory Quality Control Program and demonstrated ability of operators to use tools without damage to masonry, or widening of joints. Quality Control Program shall include provisions for supervising performance and preventing damage due to worker fatigue.

B. Rinse masonry joints as follows:
1. Rinse masonry joint surfaces with water to remove dust and mortar particles. Time application of rinsing so that at time of pointing, joint surfaces are damp but free of standing water. For best practices, if rinse water has dried, dampen masonry joint surfaces before pointing.

C. Tuckpoint mortar joints as follows:
1. Tuckpoint mortar joints starting at one end and working away from starting area (this will ensure mortar joints are fully packed and no voids, air pockets are in mortar).
2. Once area is complete, final tool (strike) mortar joints in opposite direction ensuring mortar joints are fully packed and tool (strike) to final appearance. Joints shall match existing joints as closely as possible.
3. Take care not to spread mortar over edges onto exposed masonry surfaces or to featheredge mortar. Remove excess mortar from edge of joint by brushing.

2.04 FINAL CLEANING

A. After mortar is fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or fiber brushes, and clean water, spray applied at low pressure.
1. Do not use metal scrapers.

2. Use appropriate products.

B. Wash adjacent woodwork and other non-masonry surfaces. Use detergent and soft brushes or cloths.

C. Clean masonry debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

D. Sweep and rake adjacent pavement and grounds to remove masonry debris. Where necessary, pressure wash surfaces to remove mortar, dust, dirt and stains.


South Side
Approximately 140 Linear Feet


Approx 70 Linear Feet
West Side Sect 1 & 2


Approximately 40 Linear Feet
West Side Sect 3 & 4


Approximately 60 Linear Feet
West Side Sect 5 & 6


Approximately 120 Linear Feet
West Side Sect 7 & 8


Approximately 110 Linear Feet
West Side Sect 9 & 10