# **HRA Design Standards Version 7** – Updated September 2013

The outline of the design standards mirrors CSI division outline.

# All projects are required to achieve Enterprise Green Communities certification.

See the following link for more information about Enterprise Green Communities criteria and certification:

http://www.enterprisecommunity.com/solutions-and-innovation/enterprise-green-communities/criteria

| Design Preference | Rehabilitation   | New Construction         |
|-------------------|--|--------------------------|
| Bedrooms          | 3 or more bedrooms preferred                             | - Same requirement as    |
|                   |  | Rehabilitation           |
| Visitability      | - Prefer one no-step entrance                            | - Visitability standards |
|                   | - Prefer 32-inch doorway openings throughout the unit    | listed under             |
|                   | (does not include closet doors)                          | Rehabilitation are       |
|                   | - At least one half bathroom on the main level must meet | required                 |
|                   | the minimum clearance criteria                           |                          |
| Front Porch       | - Repair existing porches when cost reasonable           | - Open front porch       |
|                   | - Open front porch preferred for all homes               | required                 |
| Duplex            | - It is preferred to remove entry to second unit to      | N/A                      |
| Deconversions     | discourage future conversion to duplex                   |                          |

| General<br>Requirements<br>(Division 1) | Rehabilitation  | New Construction  |
|---|---|---|
| Energy Efficiency                       | - HERS audit must be conducted before construction begins and after construction is complete - Incorporate specifications from an ENERGY STAR rater into Division 7 and 15 - Participate in Xcel Energy's Home Performance with ENERGY STAR program - Ensure use of Xcel Energy qualified insulation subcontractor or supervision from Xcel Energy qualified general contractor - Contractors must contact an ENERGY STAR rater for an inspection when insulation is complete prior to sheet rocking/painting | - HERS audit must be conducted before construction begins and after construction is complete - Incorporate specifications from an ENERGY STAR rater into Division 7 and 15 - Comply with ENERGY STAR for Homes Version 3 - Ensure use of Xcel Energy qualified insulation subcontractor or supervision from Xcel Energy qualified general contractor - Contractors must contact an ENERGY STAR rater for an inspection when |

|  | insulation is complete |
|--|------------------------|
|  | prior to sheet         |
|  | rocking/painting       |

| <b>Existing Conditions</b> | Rehabilitation   | New Construction             |
|----------------------------|--|------------------------------|
| (Division 2)               |  |                              |
| Remove volunteer           | - Remove trees or bushes (generally sized 6' or smaller for    | - Same requirements as       |
| brush                      | this line item) that do not aesthetically contribute to the    | Rehabilitation               |
|                            | landscape, are in poor condition, or are maintenance           |                              |
|                            | concerns   |                              |
| Remove overhanging         | -Remove branches that overhang structures, completely          | - Same requirement as        |
| trees                      | remove if recommended by the Saint Paul Forestry               | rehabilitation               |
|                            | Department   |                              |
| Environmental Hazard       |  |                              |
| Lead                       | - Abate all lead identified in risk assessment through HUD     | - N/A                        |
|                            | approved abatement methods                                     |                              |
|                            | - Ensure use of Minnesota Department of Health (MDH)           |                              |
|                            | qualified subcontractor or general contractor for abatement    |                              |
|                            | activity   |                              |
|                            | - Lead clearance test required at end of construction          |                              |
| Asbestos                   | - Remove all actionable asbestos identified in asbestos        | - N/A                        |
|                            | report   |                              |
|                            | - Ensure use of MDH qualified asbestos abatement               |                              |
|                            | subcontractor/general contractor                               |                              |
| Radon                      | - Required: install radon ventilation system when radon        | - Install passive radon-     |
|                            | test results indicate actionable radon levels in lowest        | resistant features below     |
|                            | occupied space (usually basement)                              | the slab; install a vertical |
|                            | - Ensure use of MDH qualified radon remediation                | vent pipe with junction      |
|                            | subcontractor/general contractor                               | box within 10 feet of an     |
|                            | - Ventilation system must be installed in a chase or closet    | electrical outlet, in case   |
|                            | to reduce visibility   | an active system should      |
|                            | - When necessary to vent radon through the side of             | prove necessary in the       |
|                            | basement walls on the exterior of the house, the radon vent    | future.                      |
|                            | must be located so it is not visible from the street and is as | - Once building shell is     |
|                            | inconspicuous as possible                                      | sealed, test to determine    |
|                            |  | if an active system is       |
|                            |  | necessary, install active    |
|                            |  | system if necessary          |
|                            |  | - Ventilation system must    |
|                            |  | be installed in a chase or   |
|                            |  | closet to reduce visibility  |
|                            |  | - When necessary to vent     |
|                            |  | radon through the side of    |
|                            |  | basements walls on the       |
|                            |  | exterior of the house, the   |
|                            |  | radon vent must be           |
|                            |  | located so it is not visible |
|                            |  | from the street and is as    |
|                            |  | inconspicuous as possible    |

| Concrete          | Rehabilitation   | <b>New Construction</b>  |
|-------------------|--|--------------------------|
| (Division 3)      |  |                          |
| Garage slab/apron | - Repair slab for existing garages to ensure uniform   | - N/A                    |
|                   | appearance free from significant deterioration, cracks |                          |
| Basement floor    | - Patch to achieve sweepable finish and address trip   | - Solid surface basement |
|                   | hazards  | floor preferred          |
|                   | - Fill water meter pit when present                    | _                        |

| Masonry                             | Rehabilitation  | New Construction   |
|-------------------------------------|---|--|
| (Division 4)                        |   |  |
| Foundation Walls                    | - Tuckpoint interior and exterior of existing foundation walls; orensure moisture protection through parge coat and/or 2 coats of waterproofing masonry paint, depending on type and condition of foundation wall | - If remains of a foundation exist on an otherwise vacant lot, demolish remains and build a new foundation |
| Chimneys                            | <ul> <li>- Preferred removal of chimneys that have no functional or historic purpose and patch roof or reframe area</li> <li>- Tuckpoint chimneys that have a functional or historic purpose</li> </ul>           | - N/A  |
| Glass Block, non-<br>egress Windows | - Glass unit masonry window with vent for basement windows and bathroom windows located in shower   | - Same requirement as<br>Rehabilitation  |

| Metals (Division 5) | Rehabilitation                       | New Construction      |
|---------------------|--------------------------------------|-----------------------|
| Decorative Metal    | - Provide metal handrails for stairs | - Same requirement as |
| Railings            |                                      | Rehabilitation        |

| Woods, Plastics, and | Rehabilitation   | <b>New Construction</b>              |
|----------------------|--|--------------------------------------|
| Composites           |  |                                      |
| (Division 6)         |  |                                      |
| ROUGH CARPENTRY      | Y  |                                      |
| Garage               | <ul> <li>1-1/2 car garage is permissible when site constraints are present</li> <li>Detached, two-car garage is preferred,</li> <li>Attached garages shall include ventilation separation from home and CO monitor</li> <li>Note code requirement for fire rated walls when garages are within 5' of another structure.</li> </ul> | - Same requirement as Rehabilitation |

| FINISH CARPENTRY           |  |  |
|----------------------------|--|--|
| FINISH CARPENTRY Trim Work | <ul> <li>Each room shall consist of complementary base board, window, and door trim</li> <li>Existing wood trim and molding shall be saved and restored whenever possible</li> <li>Painted trim shall be restored to smooth, like new appearance. Significantly gouged, deteriorated, or poor quality trim that cannot be restored to like new appearance should be replaced with paint grade quality trim boards of a like character to existing trim or to match time period of house</li> </ul> | - Each room shall consist of complementary base board, window, and door trim - Include finishing of trim in Division 9 |
|                            | -Include finishing of trim in Division 9   |  |

| Thermal Insulation (Division 7) | Rehabilitation   | New Construction  |
|---------------------------------|--|---|
| Siding                          | <ul> <li>Replace asbestos siding when damaged or in need of repair</li> <li>Replace vinyl siding when more than 10% of vinyl is damaged or color matching will be a challenge, cement board siding is preferred replacement material (include cement board corner boards)</li> <li>Ensure that any treatment meets lead abatement requirements if lead is present</li> <li>When existing siding cannot be salvaged, replacement siding material shall have expected lifespan that exceeds 20 years</li> <li>Note special requirements in historic homes/districts when applicable</li> </ul> | - Siding material with an expected lifespan that exceeds 20 years - Cement board siding is preferred - Note special requirements in historic homes/districts when applicable                |
| Roofing                         | <ul> <li>Replace roof that is 10 years or older or that will have questionable ability to last 20+ years</li> <li>Ensure installation of water and ice shield and replace all flashing as component of roof replacement</li> <li>Replacement roof shingles to have a 30 year expected lifespan</li> <li>Note special requirements in historic districts for roofing material, color, etc. if applicable</li> </ul>   | - Shingles with a 30 year expected lifespan - Note special requirements in historic districts for roofing material, color, etc. if applicable - Ensure installation of water and ice shield |
| Gutters                         | <ul> <li>Install seamless gutter with a leaf cover, downspouts, splash blocks, that divert water at least 3' and preferably 6' from foundation</li> <li>Do not locate downspouts on a street-facing façade of the building</li> <li>Preferred: coordinate gutters to complement installation of rain garden on site</li> </ul>   | - Same requirements as Rehabilitation - Preferred: coordinate gutters to complement installation of rain garden on site (if applicable)   |

| Openings<br>(Division 8) | Rehabilitation   | New Construction  |
|--------------------------|--|---|
| Exterior Doors           | <ul><li>Full or half view for rear door</li><li>Decorative glass or window high on door for front entry</li></ul>  | - Same requirements as rehabilitation   |
| Interior Doors           | <ul> <li>Replace interior doors that cannot be repaired to like new condition, replacement doors shall match the style of existing doors</li> <li>When all doors are replaced, match replacement doors to the style of trim in the house</li> <li>All interior doors shall be solid core and have some panel detail (number of panels dependent upon house character)</li> </ul> | - Ensure all interior doors<br>are of the same style and<br>match the style of the<br>trim in the house<br>- All interior doors shall<br>be solid core  |
| Door Hardware            | <ul> <li>Existing hardware may remain if it latches securely, matches throughout the house, and is in clean, like new condition</li> <li>Replace door hinges that do not match door handles/knobs</li> </ul>   | - All door hardware<br>should match (hinges,<br>handles, etc.) and match<br>character of the house  |
| Windows                  | - Replace poor condition or lead based paint positive windows with ENERGY STAR rated low-E insulated double pane windows - Fully encapsulate window jamb if lead based paint is present - Provide sash locks and lift for all window units - Note special requirements in historic homes/districts when applicable   | - ENERGY STAR rated low-E insulated double pane windows required - Provide sash locks and lift for all window units - Note special requirements in historic districts when applicable - Ensure window in each bedroom meets egress policy of 20" in width, 24" in height, and at least 5 square feet of glazed area, with finished sill height of no more than 48" - Modify window opening as needed in otherwise code compliant bedrooms to ensure egress standard is met. |

| Finishing Materials (Division 9) | Rehabilitation   | New Construction       |
|----------------------------------|--|------------------------|
| Flooring                         |  |                        |
| Ceramic Tile                     | - 50% recycled content                                     | - Same requirement as  |
|                                  |  | Rehabilitation         |
| Linoleum Product                 | - 2.0 mm thick sheet minimum                               | - Same requirement as  |
|                                  |  | Rehabilitation         |
| Carpet                           | - Soft nylon with stain protection, bcf texture carpet, 40 | - Same requirements as |
|                                  | oz. weight, 1/10 gauge                                     | Rehabilitation         |
|                                  |  |                        |

| Hardwood              | - Refinish existing hardwood floors whenever present - If installing new hardwood floors, use alternate to clearly communicate price difference with wood laminate flooring | - If installing new hardwood floors, use alternate to clearly communicate price difference with wood laminate flooring |
|-----------------------|---|--|
| Wall/Ceiling Finishes |   |  |
| Low VOC               | - Required throughout   | - Same requirement as  |
| caulk/sealant         |   | Rehabilitation   |
| Exterior Paint        | - Exterior paint: ensure door and window trim (trim color),   | - Same requirements as   |
| Selection             | house body (body color), and entry door (accent color) each has complementary color   | Rehabilitation   |
| Knockdown Finish      | - No knockdown finish or texture is allowable in kitchen or bathroom  | Same requirement as<br>Rehabilitation  |
| Lead Paint            | - HUD approved encapsulating paint is required when   | - N/A  |
| Encapsulation         | painting lead positive surfaces   |  |
|                       | - Ensure all lead based paint positive surfaces that are not  |  |
|                       | removed or enclosed receive an encapsulating paint  |  |
|                       | application   |  |
| Wood Finishes         | - Low VOC stains and polyurethane is preferred  | - Same requirement as Rehabilitation   |
| Ceramic Tile          | - Ceramic tile tub surrounds are preferred  | - Same requirement as Rehabilitation   |

| Equipment (Division 11)  | Rehabilitation   | New Construction                      |
|--------------------------|--|---------------------------------------|
| (Division 11) Appliances | - Stainless steel appliances preferred - Dishwasher: 24" 2 cycle, built-in ENERGY STAR labeled dishwasher must be CEE Tier 2 or higher, with a minimum Energy Factor of 0.68 or greater, and a maximum annual energy use of 325 kilowatt hours or less (plumbing supply in Division 15, Electric supply in Division 16) - Refrigerator: 21 cu ft., ENERGY STAR labeled (Electric supply in Division 16) - Microhood: Must be vented to exterior and sized to fit over range (Venting in Division 15, Electric supply in Division 16) - Clothes Washer: ENERGY STAR rated, full sized, clothes washer, must have a Modified Energy Factor (MEF) of 2.0 or greater and Water Factor (WF) of 6.0 or lower, include all set up, water and drain hoses, leave unit ready to use, front load preferred (Plumbing supply Division 15, Electric supply Division 16) - Clothes Dryer: High efficiency gas dyer with a 7.0 cubic ft. capacity, a sensor dry system, and 5 temperature levels - High, Medium High, Medium, Low, Ultra Low (Venting, | - Same requirements as Rehabilitation |

|                                | Gas supply in Division 15)                                       |   |
|--------------------------------|--|---|
| Overhead Garage<br>Door Opener | - Provide automatic overhead garage door opener with two remotes | - Same requirement as<br>Rehabilitation |

| Furnishings   | Rehabilitation  | New Construction                      |
|---------------|---|---------------------------------------|
| (Division 12) |   |                                       |
| Cabinets      | <ul> <li>Plywood box construction, solid wood face and frame with dovetail drawer joinery</li> <li>Provide knobs and pulls for all cabinets, even when finger grooves exist</li> <li>Include crown molding for cabinets when they are not installed flush with the ceiling</li> <li>In small kitchens (less than 90 sq. ft.) use higher wall cabinets or floor to ceiling utility cabinets to maximize storage space</li> </ul> | - Same requirements as Rehabilitation |
| Address       | - Address numbers may not be reflective and/or stickers   | - Same requirements as Rehabilitation |

| Plumbing                 | Rehabilitation   | New Construction             |
|--------------------------|--|------------------------------|
| (Division 22)            |  |                              |
| Rough Plumbing           |  |                              |
| Water Service            | - Replace all galvanized steel with pex or equivalent            | - It is preferred to "stack" |
|                          | - It is preferred to "stack" plumbing as much as possible        | plumbing as much as          |
|                          | - It is preferred to locate plumbing chases within               | possible                     |
|                          | conditioned, non-exterior wall cavities                          | - It is preferred to locate  |
|                          | - If water meter is located in pit, raise out of pit and fill in | plumbing chases within       |
|                          | hole (see Concrete Division 3)                                   | conditioned, non-exterior    |
|                          | - Air test system and ensure proper function per code            | wall cavities                |
|                          | requirements   | - Air test system and        |
|                          | - Water meters must be newer model – check with SPRWS            | ensure proper function       |
|                          | to ensure meter has been replaced                                | per code requirements        |
| Exterior Hose Bibb       | - Ensure one exterior hose bibb with frost protection,           | - Same requirement as        |
|                          | caulked and connected to house                                   | Rehabilitation               |
| <b>Plumbing Fixtures</b> |  |                              |
| Kitchen Sink             | - Double bowl, 9" depth, stainless steel sink preferred          | - Same requirement as        |
|                          |  | Rehabilitation               |
| Vanity Top               | - Provide splash blocks when vanity abuts wall                   | - Same requirements as       |
|                          |  | Rehabilitation               |
| Sewer/system clean       | - Ensure sewer/floor drains are snaked and properly              | - Same requirement for       |
| out                      | functioning at the end of construction                           | New Construction             |
| Gas Service              | - Provide gas service for all equipment installed, update        | - Provide gas service for    |
|                          | system to code requirements                                      | all equipment installed,     |
|                          | - If existing system will remain, include statement about        | per code requirements        |
|                          | testing system to ensure proper function per code                |                              |
|                          | requirement  |                              |

| HVAC   | Rehabilitation  | New Construction          |
|--|---|---------------------------|
| (Division 23)  |   |                           |
| Heating  | - Provide heating system per energy efficiency              | - Forced air heating      |
|  | recommendations   | systems are preferred for |
|  |   | new construction and      |
|  |   | should meet an efficiency |
|  |   | rating of 95% AFUE        |
| Air Conditioning   | - Preferred: provide for houses with forced air heating per | - Provide for houses per  |
|  | energy efficiency recommendations, preferred for houses     | energy efficiency         |
|  | with forced air and with boiler heating systems             | recommendations           |
|  |   | - Ensure system meets     |
|  |   | the guidelines to achieve |
|  |   | ENERGY STAR               |
|  |   | Qualified Home            |
|  |   | certification             |
| Ventilation  | - Provide ventilation for bath fan, stove, clothes dryer to | - Same requirement as     |
|  | exterior of house and provide roof ventilation per energy   | Rehabilitation            |
|  | specifications  |                           |
| *Ensure testing and verification that all systems are in proper working condition upon construction completion |   |                           |

| Electrical (Division 26) | Rehabilitation   | New Construction                         |
|--------------------------|--|--|
| Circuit Panel            | <ul> <li>- 100 AMP service minimum; 200 AMP preferred</li> <li>- Service should allow for expansion of added circuits</li> <li>- Include circuit breakers and dedicated circuit for major appliances such as refrigerator, washer, dryer, furnace</li> <li>- Service panels must be updated to breakers</li> </ul>           | - Same requirements as<br>Rehabilitation |
| Outlets                  | <ul> <li>Grounded, 3-prong outlets throughout</li> <li>GFCI protection per code in bathrooms and kitchen</li> <li>Ensure one exterior outlet with outlet cover close to front or rear entry door</li> </ul>  | - Same requirement as Rehabilitation     |
| Receptacles/Covers       | - Replace switches, switch plates, outlets, and receptacle plates that are in poor condition throughout the house  | - Same requirement as<br>Rehabilitation  |
| Lighting                 | <ul> <li>Light fixtures to match throughout house</li> <li>Ensure all lights have CFL bulbs</li> <li>When bulbs are visible in fixture, install globe style CFL</li> <li>Ensure minimum of: 2-bulb fixture in all rooms, vanity light sized to vanity, exterior light at all entry doors, motion sensor on garage</li> </ul> | - Same requirements as<br>Rehabilitation |
| Door Bell                | - Ensure operable door bell and chime at front entry   | - Same requirement as<br>Rehabilitation  |

| <b>Electronic Safety</b> | Rehabilitation                                       | New Construction      |
|--------------------------|--|-----------------------|
| and Security             |  |                       |
| (Division 28)            |  |                       |
| Alarm/CO detector        | - Provide new combination smoke and CO detectors per | - Same requirement as |
|                          | code   | Rehabilitation        |

| Earthwork<br>(Division 31) | Rehabilitation  | New Construction      |
|----------------------------|---|-----------------------|
| Grading                    | - Ensure drainage away from foundation (at least 1' to 4'       | - Same requirement as |
|                            | away from building and drainage into rain gardens per site plan | Rehabilitation        |

| Exterior<br>Improvements<br>(Division 32) | Rehabilitation   | New Construction   |
|---|--|--|
| Fences and Gates                          | - 6' privacy fences are allowable when screening is needed in rear or side yards due to a market concern or other defensible cause   | - Same requirement as<br>Rehabilitation  |
| Sod                                       | <ul> <li>It is preferred to till and re-sod the entire yard</li> <li>If existing turf is in very good condition, it is acceptable to replace sod in disturbed areas only up to a natural break (i.e. all sod in side yard, all sod in front yard)</li> <li>Overseed remainder of yard and ensure that transition from new sod to existing grass is seamless</li> </ul> | - Entire lot to receive sod  |
| Planting                                  | *Developers are encouraged to engage Capitol Region Watershed District (CRWD), who will provide free landscape design and contribution toward cost of rain garden installation  *See plant recommendations developed by CRWD and Saint Paul Forestry   |  |
| Retaining Wall                            | <ul> <li>- Avoid when possible</li> <li>- It is preferable to leave the yard sloped and install plants/mulch to avoid future maintenance costs for a homeowner</li> <li>- If over 2' height, include drawing of proper installation</li> </ul>   | - Same requirements as<br>Rehabilitation   |
| Sidewalk                                  | - Ensure functional 3' wide sidewalk from front sidewalk to front door, from front door to rear door, and from rear door to garage - Replace sidewalk panels or entire sidewalk when deteriorated or when grading is necessary   | - Ensure functional 3' wide sidewalk from front sidewalk to front door, from front door to rear door, and from rear door to garage |
| Stoop/Stairs                              | <ul> <li>Provide from front sidewalk to finished grade at front door or to replace existing stoop/stairs</li> <li>Landings can either be wood or concrete</li> <li>Ensure inclusion of metal handrail in Division 5 when concrete stoop/stairs provided</li> </ul>   | - Same requirements as<br>Rehabilitation   |

## Improvements that are not typical and require approval from HRA project manager:

- Finishing unfinished basements
- Finishing unfinished attics
- Solar panels or solar water heater
- Radiant in floor heat
- Vinyl flooring
- Granite countertops

# Improvements that are not permissible include:

- Hot tubs, saunas, swimming pools, or similar luxury improvements
- Mahogany, walnut, cherry, or similar luxury grade wood cabinets, floors, and doors
- Luxury grade lighting exceeding \$100 per fixture
- Luxury landscaping such as paver patios, in-ground fireplaces, outdoor kitchens, or extensive landscaping lighting
- Garage or outbuildings that exceed basic code requirements or are larger than 3 stalls
- Additions to existing houses

# Landscaping Design Guidelines

These design guidelines were cooperatively created with the Capitol Region Watershed District, the Forestry Unit of the Saint Paul Department of Parks and Recreation, and the Saint Paul Department of Planning and Economic Development to achieve stormwater retention, tree canopy, and neighborhood stabilization objectives detailed in the Saint Paul Comprehensive Plan.

Developers are encouraged to engage the Capitol Region Watershed District to conduct landscape designs. Benefits include:

- Free landscape design created by landscape architect in consultation with developer
- Rebate of up to \$1,000 for materials needed to achieve rain garden installation on site (at least one rain garden required for rebate to apply)
- CRWD will coordinate with the Saint Paul Forestry Unit to select trees that are best suited for individual site conditions and ensure existing site trees are assessed for health

## **Mandatory Design objectives:**

- Partial stormwater retention of the first ½" of rain events will be accomplished through rain gardens
- Curb appeal will be enhanced through foundation plantings or rain gardens in the front yard
- Spaces that are challenging to mow (i.e. between sidewalk and foundation, slopes, etc.) will have a garden bed (preferred) or no-mow grass solution
- Plants selected will be low maintenance and high impact, with a showy element of large blooms or seasonal color
- Garden beds should utilize "cues of care" design principles to indicate garden beds are planned spaces

## **Existing Conditions/Grading Plan**

- Show impervious surfaces: sidewalk, driveways, buildings, porches, decks
- Show existing trees or large shrubs indicate whether they will remain or be removed
  - For trees that will remain, indicate tree protection zones to protect roots from damage caused by regrading (cut or fill) or compaction caused by construction equipment or the storage of construction materials and exclude these activities from the tree protection zone.
- Show garden beds that will be removed
- State if any additional items will be removed (i.e. pavers, fences, etc.)

#### **Improvements**

- Show impervious surfaces: sidewalk, driveways, buildings, porches, decks
- Show locations of garden beds, include plant locations by type
- Shade or indicate areas that will receive new sod (generally all areas significantly regarded up to a natural "break" in the landscape such as sidewalks, garden beds, or fences will receive new sod).
- Include plant schedule that states the <u>quantity</u>, <u>name</u>, <u>and size</u> of each plant
- Show site grades if any regrading is required
- Show location of downspouts
- Rain garden design should include location, size, source of water, and plant locations by type
- Show edging or retaining walls, if provided
- List instructions for how to achieve planting and include a side section of a typical rain garden
- Include 1-2 trees per site if none are currently present; consider a tree in the rain garden if feasible and visually appealing

## **Plant selection**

- Each site will have at least one, preferably two, healthy trees
- There should be a minimum of 3-6 different types of plants on each site (not including trees)
- Each garden should be defined with mature plants (size #1 or above)
- Plugs are acceptable in rain gardens, side yards, or back yard to fill in a garden space in order to meet budget constraints. Plugs should be used minimally or not at all in front garden beds in order to achieve the curb appeal objective
- Plants shall be selected from the attached approved plant list
- Trees must be spaced to limit future maintenance issues: at least 10' from houses or garages or more depending on the width of the tree canopy

## **Preferred Plants**

#### Perennials

- \*Butterfly Milkweed
- \*Purple Coneflower
- \*Coral Bells
- \*Blue Flag Iris
- \*Copper Iris
- \*Peony
- \*Smooth Phlox
- \*Orange Coneflower 'Goldsturm'
- \*Autumn Joy Sedum
- Columbine
- Lady Fern
- Spiderwort
- Purple Dome Aster
- Solomon's Seal
- Hosta

#### Shrubs

- \*Dwarf Bush Honeysuckle
- \*Smooth Hydrangea
- Spirea
- American Arborvitae
- Black Chokeberry
- Winterberry

Shrubs for Screening Adjacent Property
Only recommended when screening adjacent
property is needed: typically grow up to 12' tall,
maintenance should be considered.

- Red osier dogwood
- Viburnum lentago
- Compact American Highbush Cranberry
- Forsythia (nn but showy)

#### Grasses

- \*Prairie Dropseed
- Pennsylvania Sedge
- Long-beaked Sedge
- Sprengel's Sedge
- Blue grama
- Sideoats grama
- Junegrass
- \*Little Bluestem

## **Preferred Trees**

#### Trees

## Small-up to 20'

- Hawthorne, Thornless
- \*Pagoda Dogwood
- Snow Mantle Dogwood
- \*Viburnum, Nannyberry Tree
- Crabapple- limit use, widely planted on boulevard

## Small-up to 30'

- \*Serviceberry, Autumn Brilliance
- Blue Beech-Carpinus
- Cherry-Spring Wonder (nn)
- Birch-Dakota Pinnacle (nn)
- Japanese Tree Lilac-limit use, widely planted on boulevard

### Medium to 40'

- Regal Prince oak-tall but narrow
- Alder, Prairie Horizon (nn)
- Honeylocust, Northern Acclaim— *limit* use, widely planted on boulevard

## Large

- \*Birch, River
- Birch, Prairie Dream paper birch
- Kentucky coffee tree
- Bur oak
- Red oak
- Balsam Poplar
- White pine
- Honey locust, Skyline *limit use*, widely planted on boulevard
- Basswood, Sentry Linden *limit use*, widely planted on boulevard

## (nn)= non-native

(\*) = preferred