CHAMBERS GROVE PARK
FLOOD RECOVERY & IMPROVEMENTS

HWY 23 & 137TH AVE W
DULUTH, MN 55808

PROJECT LOCATION

CITY OF DULUTH

411 WEST FIRST ST
DULUTH, MN 55802

LOCATION MAP
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

1. GENERAL

The Municipalities of Duluth, Superior, and Canal Park are required to develop and implement stormwater management plans as mandated by the Minnesota Pollution Control Agency. The plans are designed to minimize the impact of stormwater on water quality and groundwater resources. This plan is intended to provide a comprehensive approach to stormwater management in the Duluth area. The plan includes the identification of potential stormwater sources, the development of management strategies, and the implementation of control measures to reduce stormwater runoff and its pollutants.

2. ADMINISTRATION REQUIREMENTS

A. According to the Minnesota Pollution Control Agency, the owner or lessee of a property is required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that addresses the following:

   1. The management of stormwater runoff
   2. The reduction of pollutants in stormwater
   3. The protection of water quality

   The SWPPP must be submitted to the authorities for review and approval.

B. The SWPPP includes a narrative that describes the plan and its implementation. The narrative should address the following:

   1. The purpose and goals of the SWPPP
   2. The procedures for implementing the SWPPP
   3. The monitoring and evaluation of the SWPPP

   The narrative should be clear and comprehensible, and it should be submitted to the authorities for review and approval.

C. The SWPPP includes a map that shows the area to be managed under the plan. The map should be submitted to the authorities for review and approval.

3. CONSTRUCTION ACTIVITY REQUIREMENTS

A. General

   Stormwater management practices are required for all construction activities that are designed to minimize the impact of stormwater on water quality and groundwater resources. The practices include:

   1. The installation of erosion control measures
   2. The use of sediment traps
   3. The use of BMPs (Best Management Practices)

   These practices are designed to minimize the impact of stormwater on water quality and groundwater resources.

B. Specific Requirements

   1. The installation of erosion control measures
   2. The use of sediment traps
   3. The use of BMPs (Best Management Practices)

   These practices are designed to minimize the impact of stormwater on water quality and groundwater resources.

4. SWMP IMPLEMENTATION REQUIREMENTS

A. The owner or lessee of the property is responsible for implementing the SWMP

   The SWMP includes the following:

   1. A narrative that describes the plan and its implementation
   2. A map that shows the area to be managed under the plan
   3. A list of BMPs (Best Management Practices)

   The SWMP should be submitted to the authorities for review and approval.

B. The SWMP includes a list of BMPs (Best Management Practices)

   These practices are designed to minimize the impact of stormwater on water quality and groundwater resources.

C. The SWMP includes a map that shows the area to be managed under the plan

   The map shows the area to be managed under the plan.

5. STORMWATER POLLUTION VARIATION MEASURES

A. The owner or lessee of the property is responsible for minimizing the impact of stormwater on water quality and groundwater resources. The measures include:

   1. The installation of erosion control measures
   2. The use of sediment traps
   3. The use of BMPs (Best Management Practices)

   These measures are designed to minimize the impact of stormwater on water quality and groundwater resources.

B. The owner or lessee of the property is responsible for implementing the SWMP

   The SWMP includes the following:

   1. A narrative that describes the plan and its implementation
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   The SWMP should be submitted to the authorities for review and approval.

C. The SWMP includes a list of BMPs (Best Management Practices)

   These practices are designed to minimize the impact of stormwater on water quality and groundwater resources.

D. The SWMP includes a map that shows the area to be managed under the plan

   The map shows the area to be managed under the plan.

6. SWMP IMPLEMENTATION REQUIREMENTS

A. The owner or lessee of the property is responsible for implementing the SWMP

   The SWMP includes the following:

   1. A narrative that describes the plan and its implementation
   2. A map that shows the area to be managed under the plan
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   The SWMP should be submitted to the authorities for review and approval.

B. The SWMP includes a list of BMPs (Best Management Practices)

   These practices are designed to minimize the impact of stormwater on water quality and groundwater resources.

C. The SWMP includes a map that shows the area to be managed under the plan

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9. SWMP IMPLEMENTATION REQUIREMENTS

A. The owner or lessee of the property is responsible for implementing the SWMP

   The SWMP includes the following:

   1. A narrative that describes the plan and its implementation
   2. A map that shows the area to be managed under the plan
   3. A list of BMPs (Best Management Practices)

   The SWMP should be submitted to the authorities for review and approval.

B. The SWMP includes a list of BMPs (Best Management Practices)

   These practices are designed to minimize the impact of stormwater on water quality and groundwater resources.

C. The SWMP includes a map that shows the area to be managed under the plan

   The map shows the area to be managed under the plan.
PROTECT EXISTING VEGETATION DURING CONSTRUCTION, TYP.

AREA OF FUTURE BICYCLE RACKS, NOT PART OF THIS BID PACKAGE

APPROX. 12'-0" WASHING AREA

FUTURE MULTI-USE TRAIL, 18'-8" WIDE

4" DEEP RIVER ROCK W/ LANDSCAPE FABRIC UNDERLAY, COORDINATE APPROXIMATE LOCATION OF 10'-0" RELOCATED TRAIL MARKER TO DRAIN TO SWALE

ALTERNATE #2: VETERAN'S MEMORIAL DISASSEMBLY & RECONSTRUCTION

APPROXIMATE LOCATION OF NEW LIGHTING, SEE ELECTRICAL

APPROXIMATE LOCATION OF NEW OVERHANG

APPROXIMATE LOCATION OF NEW PARK SIGN, S512 CURB

ACCESSIBLE PAVEMENT STRIPING, TYP.

CONCRETE WALK, 9'-9" TYP.

BITUMINOUS PAVING TYP.

CONCRETE CONTROL JOINT, TYP.

EXPANSION JOINT AT BUILDING FOUNDATION, TYP.

CONN. TO SIDEWALK, TYP.

DISABLED PARKING SIGN

DISABLED PARKING STALL AND ACCESSIBLE PAVEMENT STRIPING, TYP.

PEDESTRIAN RAMPS, 5'-0" TYP.

PEDESTRIAN RAMP, 6'-0" CENTERED ACROSS FROM EXISTING FLAG POLE. SEE S1.00 FOR LOCATION OF ALTERNATE 2 - FLAG POLE. SEE S1.00 FOR POSITION OF RADIO"
NOTES:
1. CONTRACTOR TO COORDINATE PLAYGROUND AREA PREPARATION AND EQUIPMENT INSTALLATION WITH PLAYGROUND MANUFACTURER. THE GENERAL ORDER OF CONSTRUCTION AND RESPONSIBILITY IN THE PLAYGROUND AREA IS TO BE AS FOLLOWS:
   - CONTRACTOR TO COMPLETE EARTHWORK AND GRADING, SEE C3.01.
   - PLAYGROUND MANUFACTURER TO INSTALL PLAYGROUND EQUIPMENT AND PLAY AREA BORDER.
   - CONTRACTOR TO INSTALL APPRX. 3,813 SQUARE FEET DRAINAGE FILL AT 3" DEPTH.
   - CONTRACTOR TO INSTALL 12" THICK 3'X3' SQUARE CONCRETE SLAB FOR OMNISPIN PLAYGROUND EQUIPMENT (SLAB SIZING TO BE FINALIZED WITH PLAYGROUND MANUFACTURER).
   - PLAYGROUND MANUFACTURER TO INSTALL GEOTEXTILE FABRIC AND RESILIENT SURFACING IN PLAYGROUND AREA.
NOTES:
1. THE GAZEBO RELOCATION AND REFURBISHING WITH ASSOCIATED WORK IS TO BE CONSIDERED ALTERNATE #8. ASSOCIATED WORK INCLUDES THE INSTALLATION OF A NEW CONCRETE SLAB TO MATCH EXISTING, AS WELL AS RE-SHINGLE ROOF AND APPLY NEW PAINT.
2. RELOCATED BOULDERS ARE APPROXIMATELY 2.5' HT X 3' LENGTH AND ARE INTENDED TO BE USED FOR SEATING WITH THE MOST FLAT & AESTHETIC SIDE TO FACE THE RIVER.
3. MATERIALS, CONSTRUCTION, AND INSTALLATION OF STONE STEPS AT WATER TRAILHEAD ACCORDING TO PLAN AND DETAIL 1/C5.12 IS TO BE CONSIDERED ALTERNATE #7.
APPROXIMATE AREA OF 80% RIP RAP SLOPE REPLACEMENT AND 20% BRUSH BUNDLING AND 75% PLUG BUNDLING AND LIVE STAKING PER LOCATIONS PER LANDSCAPE ARCHITECT, APPROX. 600 SF.

APPROXIMATE AREA OF BRUSH BUNDLING AND LIVE STAKING PER LANDSCAPE ARCHITECT, APPROX. 1,334 SF.

APPROXIMATELY 100'-0" HWY 210

EXISTING COGGS APPROX. 15'-0"

EXISTING BOARDWALK PORTION OF COGGS

BEGINNER TRAIL

ALTERNATE #3 - SLOPE STABILIZATION AREA 1 - SEE AREA 1 NOTES

1. CONTOURS ARE APPROXIMATE AND DO NOT REFLECT TRUE SLOPE CONDITIONS.
2. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT LOCATIONS OF RIP RAP, BRUSH BUNDLING, AND LIVE STAKING IN FIELD.
3. AREAS OF RIP RAP TO BE INSTALLED PER 5/C2.05.
4. AREAS OF BRUSH BUNDLING AND LIVE STAKING PER 6/C2.05.
5. AREAS OF LIVE STAKING TO BE INSTALLED PER 7/C2.05.

ALTERNATE #3 - SLOPE STABILIZATION AREA 2 - SEE AREA 2 NOTES

1. CONTOURS ARE APPROXIMATE AND DO NOT REFLECT TRUE SLOPE CONDITIONS.
2. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT LOCATIONS OF RIP RAP, BRUSH BUNDLING, AND LIVE STAKING IN FIELD.
3. AREAS OF RIP RAP TO BE INSTALLED PER 5/C2.05.
4. AREAS OF BRUSH BUNDLING AND LIVE STAKING PER 6/C2.05.
5. AREAS OF LIVE STAKING TO BE INSTALLED PER 7/C2.05.

1. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT LOCATIONS OF BRUSH BUNDLING AND PLUGS IN FIELD.
2. AREAS OF BRUSH BUNDLING TO BE INSTALLED PER 6/C2.05.
3. AREAS OF LIVE STAKING TO BE INSTALLED PER 7/C2.05.

ALL COSTS OF PLANT MATERIAL, CONSTRUCTION, AND INSTALLATION OF STABILIZING THE SLOPE OF AREA 1 IS TO BE CONSIDERED ALTERNATE #3.

ALL COSTS OF PLANT MATERIAL, CONSTRUCTION, AND INSTALLATION OF STABILIZING THE SLOPE OF AREA 2 IS TO BE CONSIDERED ALTERNATE #3.

EXISTING SLOPE STABILIZATION AREA 2 PLANT LIST

<table>
<thead>
<tr>
<th>TYPE</th>
<th>USE*</th>
<th>COMMON NAME</th>
<th>BOTANICAL NAME</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>STONE, AS REQUIRED</td>
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<tr>
<td></td>
<td></td>
<td>GRASS</td>
<td>KOELERIA MACRANTHA</td>
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<td></td>
<td></td>
<td>SEDGE</td>
<td>CAREX PENNSYLVANICA</td>
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<tr>
<td></td>
<td></td>
<td>FORB</td>
<td>AQUILEGIA CANADENSIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SHRUB</td>
<td>SALIX NIGRA</td>
</tr>
<tr>
<td>6&quot; TO 2'-0&quot; DIA. ROCK PLACED</td>
<td>LS &amp; BUN</td>
<td>RED-OSIER DOGWOOD</td>
<td>CORNUS SERICEA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SANDBAR WILLOW</td>
<td>SALIX EXIGUA</td>
</tr>
<tr>
<td>2'-0&quot; MIN.</td>
<td>LS &amp; BUN</td>
<td>SANDBAR WILLOW</td>
<td>SALIX EXIGUA</td>
</tr>
<tr>
<td>UNDISTURBED EXISTING SOIL</td>
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EXISTING SLOPE STABILIZATION AREA 1 PLANT LIST

<table>
<thead>
<tr>
<th>TYPE</th>
<th>USE*</th>
<th>COMMON NAME</th>
<th>BOTANICAL NAME</th>
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<tr>
<td></td>
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<td>CARDINAL FLOWER</td>
<td>LOBELIA CARDINALIS</td>
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<td></td>
<td></td>
<td>LS = LIVE STAKE, BUN = BRUSH BUNDLE, PLUG = PERENNIAL PLUG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LS = LIVE STAKE, BUN = BRUSH BUNDLE, PLUG = PERENNIAL PLUG</td>
<td></td>
</tr>
<tr>
<td>18&quot;-24&quot;</td>
<td>LS &amp; BUN</td>
<td>BLACK WILLOW</td>
<td>SALIX NIGRA</td>
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<tr>
<td>2'-0&quot;</td>
<td>LS &amp; BUN</td>
<td>SANDBAR WILLOW</td>
<td>SALIX EXIGUA</td>
</tr>
<tr>
<td>TYP.</td>
<td>LS &amp; BUN</td>
<td>PENNSYLVANIA SEDGE</td>
<td>CAREX PENNSYLVANICA</td>
</tr>
</tbody>
</table>

PLUG INSTALLATION PLAN AND CROSS SECTION

LIVE STAKE CROSS SECTION

REFERENCE: MNS/60 SOIL BIOENGINEERING HANDBOOK

SLOPE STABILIZATION AREAS 1 & 2 ENLARGEMENT PLANS AND DETAILS

REFERENCE: MNS/60 SOIL BIOENGINEERING HANDBOOK

CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

Hwy 23 & 137th Ave W
DULUTH, MN 55804

CITY OF DULUTH

411 WEST FIRT ST
DULUTH, MN 55802
TRAILHEAD AND VETERAN'S MEMORIAL AREAS
1. ALL WOOD FOR ARBOR SHALL BE AC2 grade (see specification).

2. TOPS OF ALL EXPOSED WOOD MEMBERS SHALL BE SLIGHTLY BEVELED TO SHED WATER FROM SURFACE, AND SHALL BE FINISHED WITH A WOOD SEALER (see specification).

CROSS BAR TO BEAM DETAIL

- 2X6 WOOD CROSS BAR
- NOTCHED TO BEAM

- 2X6 WOOD BEAM IN ARC
- BOLTED TO POST

- (2) 2" DIA. GALV. STEEL THRU-BOLTS

CROSS BRACE TO POST DETAIL

- 2X6 WOOD CROSS BRACE, TYP.

- 6X6 WOOD POST

- CONCRETE PAVING, SEE 8/C5.01 FOR DETAIL, SEE 1/C5.10 FOR CONCRETE FINISH

BEAM LAP JOINT DETAIL - TOP VIEW

- 2X6 WOOD BEAM IN ARC
- BOLTED TO POST

- (2) 2" DIA. GALV. STEEL THRU-BOLTS

EXPANSION JOINT ON ALL SIDES OF POST

- CONCRETE PAVING, SEE 8/C5.01 FOR DETAIL, SEE 1/C5.10 FOR CONCRETE FINISH

- 18" SONOTUBE, 8" BELOW GRADE

SITE DETAILS

EVENT ARBOR

- 9'-0"
- 8"
- MIN.
- 6'-0"
- 1'-0"
- 2"

NOTES:

- SCALE: 1/2" = 1'-0"

- SCALE: 1-1/2" = 1'-0"

- SCALE: 1/2" = 1'-0"

- SCALE: 1/2" = 1'-0"
NOT TO SCALE

1. ALTERNATE #7 - STONE STEPS AT WATER TRAILHEAD

2. ALTERNATE #6 - STONE PATH TO POND OVERLOOK

3. CONCRETE STRUCTURAL SLAB CONNECTION TO SIDEWALK

NOTES:

1. Lay out stones on top of existing lawn. Once spacing is acceptable, trace around each stone with a mower, allowing for additional space on all sides.

2. Remove stone and dig out base to same thickness as stone and sand bedding.

3. Restock stone on top of compacted sand and tamp level. Stone is level.

4. Restore edges around stone with topsoil and lawn seed mixed with sand to blend in.

5. Top of stone shall be flush with existing grade to allow for a mower to drive over.

6" MIN.

NATURAL FLAGSTONE PAVER

2" THICKNESS, 2" DIAMETER, TYP.

12" SANDING FILLED WITH 4" TOPSOIL & SEED PER L2.01

PREPARED SUBGRADE

INSET A

10' SMOOTH LOAM; 9.12.2 ON CENTER. 4' EACH WAY

PREPARED CONSTRUCTION JOINT

CONCRETE CONSTRUCTION JOINT

SECTION

NATURAL EDGE

M CORN 6' EACH WAY 10' O.C.

2% MILD CROSS PANTS

CONTROL JOINT, AS SHOWN IN THE PLAN

1" CORN WALL. SEE SIDE

EXPANSION JOINT, SEE SIDE

PROP. CONC. STRUCTURAL SLAB. SEE STRUCT.

411 WEST FIRST ST
DULUTH, MN 55802

CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

HIGHWAY 23 & 137TH AVE W
DULUTH, MN 55803

SITE DETAILS

C5.12

NOT TO SCALE

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PLANTING NOTES:
1. THIS DRAWING DOES NOT CONSTITUTE AN OFFICIAL SURVEY OF THE SITE. CONFIRM ALL LOCATIONS OF SURFACE AND SUB-SURFACE FEATURES BEFORE BEGINNING INSTALLATION. ADVICE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
2. CONFIRM ALL QUANTITIES, SHAPES AND LOCATIONS OF BEDS, AND ADJUST AS REQUIRED TO CONFORM TO THE SITE CONDITIONS. CONFIRM ANY ADJUSTMENTS WITH THE LANDSCAPE ARCHITECT.
3. LOCATE ALL UTILITIES. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH NEW CONSTRUCTION.
4. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL SOD/TURF WHICH HAS BEEN REMOVED FOR NEW PLANTINGS. LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED. ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELD IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED.
5. THE PLAN TAKES PRECEDENCE OVER THE PLANT SCHEDULE IF DISCREPANCIES EXIST. ADVISE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
6. THE CONTRACTOR SHALL AVOID DAMAGING EXISTING TREES. DO NOT STORE OR DRIVE HEAVY MATERIALS OVER TREE ROOTS. DO NOT DAMAGE TREE BARK OR BRANCHES.
7. THE CONTRACTOR SHALL KEEP PAVEMENTS, FIXTURES AND BUILDINGS CLEAN AND UNTAINED. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE PROJECT SITE SHALL BE KEPT CLEAR OF CONSTRUCTION WASTES AND DEBRIS.
8. ALL AREAS SEEDED AND SODDED BY CONTRACTOR UNLESS NOTED OTHERWISE. SEE L2.02 FOR TREE, SHRUB, AND PERENNIAL PLANTING PLANS. SEE L2.03 FOR TREE, SHRUB, AND PERENNIAL PLANTING DETAILS.

PLANT SCHEDULE:

<table>
<thead>
<tr>
<th>QTY</th>
<th>BOTANICAL NAME / COMMON NAME</th>
<th>REMARKS</th>
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</thead>
<tbody>
<tr>
<td>42,515 sf</td>
<td>Lawn Seed Mix / Scotts 80% Blue 20% Rye with 4&quot; topsoil</td>
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</tr>
<tr>
<td>37,431 sf</td>
<td>Shooting Star MN State Seed Mix 34-361 / <code>Riparian Northeast</code> Mix, 31.5 LBS/AC with 4&quot; topsoil</td>
<td></td>
</tr>
</tbody>
</table>

PROTECTIONS:
- FOR SMALL GROVES (AMBIGUOUS EXISTING TREES), DO NOT STORE OR CROSS WOODY MATERIALS OVER TREE ROOTS. DO NOT DAMAGE TREE BARK OR BRANCHES.
- THE CONTRACTOR SHALL KEEP MATERIALS, PUMPS AND PROTECTIVE MATERIAL ON CONTRACT SITE AND NOT LEFT ON PROJECT SITE.
- ALL ACREAGE SHALL BE KEPT CLEAN OF CONSTRUCTION WASTES AND DEBRIS, UNLESS NOTED OTHERWISE.
PLANTING NOTES:

1. THIS DRAWING DOES NOT CONSTITUTE AN OFFICIAL SURVEY OF THE SITE. CONFIRM ALL LOCATIONS OF SURFACE AND SUB-SURFACE FEATURES BEFORE BEGINNING INSTALLATION. ADVISE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.

2. CONFIRM ALL QUANTITIES, SHAPES AND LOCATIONS OF BEDS, AND ADJUST AS REQUIRED TO CONFORM TO THE SITE CONDITIONS. CONFIRM ANY ADJUSTMENTS WITH THE LANDSCAPE ARCHITECT.

3. LOCATE ALL UTILITIES. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH NEW CONSTRUCTION.

4. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL SOD/TURF WHICH HAS BEEN REMOVED FOR NEW PLANTINGS. LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED. ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELED IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED.

5. THE PLAN TAKES PRECEDENCE OVER THE PLANT SCHEDULE IF DISCREPANCIES EXIST. ADVISE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.

6. THE CONTRACTOR SHALL AVOID DAMAGING EXISTING TREES. DO NOT STORE OR DRIVE HEAVY MATERIALS OVER TREE ROOTS. DO NOT DAMAGE TREE BARK OR BRANCHES.

7. THE CONTRACTOR SHALL KEEP PAVEMENTS, FIXTURES AND BUILDINGS CLEAN AND UNSTAINED. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE PROJECT SITE SHALL BE KEPT CLEAR OF CONSTRUCTION WASTES AND DEBRIS.

8. ALL AREAS SEEDED AND SODDED BY CONTRACTOR UNLESS NOTED OTHERWISE.

SEE L2.01 FOR GROUND COVER PLANTING PLANS.
SEE L2.03 FOR TREE, SHRUB, AND PERENNIAL PLANTING DETAILS.

PLANT SCHEDULE

<table>
<thead>
<tr>
<th>CODE</th>
<th>QTY</th>
<th>BOTANICAL NAME / COMMON NAME</th>
<th>SIZE</th>
<th>NOTES</th>
<th>SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR  7</td>
<td>1</td>
<td>Betula nigra / River Birch</td>
<td>2&quot; Cal</td>
<td>Clump-form. Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.</td>
<td>120&quot; o.c.</td>
</tr>
<tr>
<td>QR  4</td>
<td>1</td>
<td>Quercus bicolor / Swamp White Oak</td>
<td>2&quot; Cal</td>
<td>Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.</td>
<td>96&quot; o.c.</td>
</tr>
<tr>
<td>CI  8</td>
<td>1</td>
<td>Cornus sericea / Redosier Dogwood</td>
<td>2&quot; Cal</td>
<td>Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.</td>
<td>72&quot; o.c.</td>
</tr>
<tr>
<td>DL 14</td>
<td>1</td>
<td>Diervilla lonicera / Dwarf Bush Honeysuckle</td>
<td>2&quot; Cal</td>
<td>Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.</td>
<td>36&quot; o.c.</td>
</tr>
<tr>
<td>IV  3</td>
<td>1</td>
<td>Ilex verticillata <code>Jim Dandy</code> / Jim Dandy Winterberry</td>
<td>2&quot; Cal</td>
<td>Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.</td>
<td>36&quot; o.c.</td>
</tr>
<tr>
<td>SC 12</td>
<td>1</td>
<td>Salix purpurea <code>Canyon Blue</code> / Arctic Blue Leaf Willow</td>
<td>2&quot; Cal</td>
<td>Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.</td>
<td>96&quot; o.c.</td>
</tr>
</tbody>
</table>
NOTES:
1. IT IS THE CONTRACTOR'S OPTION TO STAKE TREES; HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD.
2. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
3. DO NOT PLANT TOO DEEP: EXPOSE TOP OF ROOT FLARE AND PULL MULCH AWAY FROM TRUNK.
4. HAND REMOVE EXCESS SOIL AT TOP OF ROOT BALL TO EXPOSE TOP OF ROOT FLARE. TYPICALLY REQUIRES THE REMOVAL OF 1-6" OF SOIL PRESS CONTAINER OR B&B.
5. ENSURE THAT FIRST MAIN LATERAL ROOT IS LESS THAN 1" BELOW THE FINAL PLANTING SURFACE.

NOTES:
1. HAND LOOSEEN ROOTS OF CONTAINERIZED MATERIAL (TYPICAL).
2. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
3. HAND LOOSEEN ROOTS OF CONTAINERIZED MATERIAL (TYPICAL).
4. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
5. ENSURE THAT FIRST MAIN LATERAL ROOT IS LESS THAN 1" BELOW THE FINAL PLANTING SURFACE.

NOTES:
1. FOR TREES, SHRUBS, AND PERENNIALS WITH INORGANIC CONTAINERS, FOLLOW THE "BOXING" PROCEDURE TO REMOVE ENCIRCLING ROOTS.
2. "BOXING" IS ONLY NECESSARY ON PLANTS THAT HAVE ENCIRCLING ROOTS WITH DIAMETERS GREATER THAN 1/4".
3. HAND LOOSEENING OF ROOTS IS STILL NECESSARY AFTER "BOXING" THE ROOT BALL (TYPICAL).

NOTES:
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5. ENSURE THAT FIRST MAIN LATERAL ROOT IS LESS THAN 1" BELOW THE FINAL PLANTING SURFACE.
HELICAL PILE NOTES

GENERAL CONSTRUCTION NOTES

1. FOUNDATION CONSISTS OF A GALVANIZED STEEL HELICAL PILE SYSTEM. HELICAL PILE

FOOTINGS AND FOUNDATION

COMPRESSIVE LOAD OF 18 TONS (36KIPS) MINIMUM, USING A SAFETY FACTOR OF 2.0.

RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT PREPARED BY

TO PROVIDE A COMPLETE INSTALLATION.

FOOTINGS SHALL BE 72". ALL OPEN AIR FOUNDATIONS SHALL HAVE A MINIMUM

3. PLACEMENT OF MECHANICAL UNITS AND HANGERS SUPPORTED BY

PRIOR TO PROCEEDING.

4. BOTH SIDES OF FOUNDATION WALLS SHALL BE BACKFILLED SIMULTANEOUSLY SO

CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING TORQUE/LOAD

CAPACITY OF 5 KIPS. MINIMUM CONNECTION SHALL NOT BE LESS THAN ONE (1) 3/4"

VALLEY TRUSS @ 24" O.C.

F. CAP PLATE SHALL BE COMPOSITE WITH SHAFT OR DIRECTLY ATTACHED TO SHAFT BY

BOLT OR 4" FIELD WELD. ALL DAMAGED GALVANIZING SHALL BE REPAIRED WITH ZINC-

RICH PAINT.

A. MATERIAL PROPERTIES

SLUMP

MAX.

ENTR.

28 DAYS

f’c (PSI)

FY (PSI)

1. FLOOR LIVE LOAD: UNIFORM (PSF) CONCENTRATED (LB)

2. ROOF LIVE LOAD: 20 PSF 3. ROOF SNOW LOAD: 60 PSF GROUND SNOW PLUS SNOW

ACCUMULATION PER IBC AND ASCE 7-05.

4. WIND LOAD: 120 MPH ULTIMATE WIND SPEED, EXPOSURE C, IMPORTANCE FACTOR 1.0 INTERNAL PRESSURE COEFFICIENT +/-0.18

CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH: . . . . . . . . . . . . . . . . . . . CONCRETE EXPOSED TO EARTH OR WEATHER:

1. PERFORM WORK IN ACCORDANCE WITH ACI 301-11 AND ACI 318-11.

2. USE APPROVED CONCRETE MIXTURES.

3. USE MATERIALS APPROVED, AS DESCRIBED IN ACI 318-11.

4. ALL CONCRETE SHOWN SHALL BE REINFORCED. PLANS, SECTIONS AND

CONNECTIONS AT COLUMN BASE (TYP.)

CONNECTION AT COLUMN HEAD (TYP.)

SECTION GRADE BEAM AND PILE

SECTION - GRADE BEAM & SLAB

A. BUILDING CODE


WOOD TRUSSES - ASTM

A615 A615 A775

BOLT OR 4" FIELD WELD. ALL DAMAGED GALVANIZING SHALL BE REPAIRED WITH ZINC-

RICH PAINT.

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1. FLOOR LIVE LOAD: UNIFORM (PSF) CONCENTRATED (LB)

2. ROOF LIVE LOAD: 20 PSF 3. ROOF SNOW LOAD: 60 PSF GROUND SNOW PLUS SNOW

ACCUMULATION PER IBC AND ASCE 7-05.
1. Field verification and review is required by all primes and subcontractors prior to fabrication and construction.

2. Existing construction, utilities, and landscape that have been damaged as a result of the work shall be repaired to an extent and as required to match adjacent. (Incidental)

3. All exposed wood is to be stained and sealed.

4. Door and frame types

5. All exposed metal is to be primed and painted, unless noted otherwise.

6. See this sheet for room and door schedules.

General Plan Notes:

-_door_and_frame_schedule.txt
-_room_finish_schedule.txt
-_door_head_detail.txt
-_floor_plan.txt
-_reflected_ceiling_plan.txt
A. ELECTRICAL COMPONENTS IDENTIFIED WITH "-EX" SUFFIX ARE EXISTING TO REMAIN.
B. ELECTRICAL COMPONENTS IDENTIFIED WITH "-DM" SUFFIX SHALL BE DEMOLISHED: DISCONNECT AND REMOVE. DIRECT BURIED CABLES AND UNDERGROUND CONDUIT MAY BE ABANDONED. CONDUCTORS IN UNDERGROUND CONDUIT SHALL BE REMOVED.

1. DISCONNECT AND REMOVE/ABANDON EXISTING UNDERGROUND BRANCH CIRCUIT CONDUCTORS.
2. INTERCEPT EXISTING UNDERGROUND WIRING AT LOCATION INDICATED. REMOVE/ABANDON UNDERGROUND BRANCH CIRCUIT CONDUCTORS TO DEMOLISHED RESTROOM BUILDING.
3. DISCONNECT AND REMOVE/ABANDON EXISTING ALUMINUM FEEDER CONDUCTORS TO DEMOLISHED RESTROOM BUILDING AND RIVERWALK LIGHT POLES.
4. DISCONNECT AND REMOVE/ABANDON EXISTING UNDERGROUND FEEDER FROM DEMOLISHED RESTROOM BUILDING TO POWER PEDESTALS.
5. DISCONNECT AND REMOVE ELECTRICAL EQUIPMENT, DEVICES, AND LIGHTING FIXTURES IN BUILDING TO BE DEMOLISHED.
6. DISCONNECT AND REMOVE EXISTING LIGHT POLE. OVERHEAD ELECTRIC TO BE REMOVED BY UTILITY COMPANY.
7. DISCONNECT AND REMOVE EXISTING POLE MOUNTED LIGHT FIXTURE. SALVAGE EXISTING POLE FOR REUSE IN NEW CONSTRUCTION.
8. DISCONNECT AND REMOVE EXISTING POWER PEDESTAL.
A. All lighting and power conductors shall be installed between 24" (minimum) and 36" (maximum) below finished grade.

B. All conductors for exterior lighting and power circuits shall be #10 AWG minimum, conduit shall be 3/4" minimum.

1. Provide (2) 1" PVC conduits for circuits indicated. Intercept existing branch circuits at pavilion and connect to panel indicated in proposed restroom building.

2. Intercept existing underground wiring. Provide in-ground junction box, conduit and wire to panel indicated in proposed restroom building.

3. Route thru contactor CT1.

4. Proposed underground feeder for existing power pedestal: 1" PVC-3#6, #10 GND.

5. Connect to same circuit as building mounted exterior lights, route thru contactor CT1.

6. Underground service lateral by utility company.

ALTERNATES

A. Refer to Section 01 2300 - Alternates for descriptions of alternates.

Base Bid: Provide conduit from proposed restroom building to this location for future use. Provide in-ground pull boxes at this location, and at distances no greater than 150 feet apart. At this pull box, provide (2) 2X4X10' long treated lumber each side, 12" apart, 6" above conduit, paint red. Provide traceable underground warning tape.

Alternate Item: Provide type XP1-SSA15 light poles, conduit, and conductors for complete river walk lighting system.

GENERAL SHEET NOTES

1. All lighting and power directors shall be labeled with a schedule of service being provided.

2. All conductors for exterior lighting and power shall be #10 AWG MINIMUM. Conduit shall be 3/4" minimum.

3. Provide (2) 1" PVC conduits for each circuit indicated. Intersect existing branch circuits at pavilion and connect to panel indicated in proposed restroom building.

4. Connect to same circuit as building mounted exterior lights, route thru contactor CT1.

5. Underground service lateral by utility company.
GENERAL SHEET NOTES

A. WHERE CONNECTED TO A 20A BRANCH CIRCUIT SUPPLYING AN INDIVIDUAL RECEPTACLE (SIMPLEX OR DUPLEX), THE RECEPTACLE SHALL BE RATED AT 20A.

SEE LIGHTING FIXTURES SCHEDULE FOR POLE AND FIXTURE TYPE

B. PROVIDE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED AND GRADE MOUNTED ELECTRICAL EQUIPMENT. MINIMUM REQUIREMENTS: 4" HIGH, 4% AIR ENTRAINED, POLYFIBER REINFORCED CONCRETE, 4" WIDER AND 4" LONGER THAN THE EQUIPMENT. PROVIDE VERTICAL AND HORIZONTAL GROUT JOINS. REFER TO ELECTRICAL DETAIL DRAWINGS FOR TRANSFORMER, GENERATOR, OR SWITCHGEAR PADS THAT MAY EXCEED THESE REQUIREMENTS.

C. REFER TO SECTION 26 0519 FOR MINIMUM CONDUCTOR SIZE

D. ALL RECESSED LIGHTING FIXTURES IN LAY-IN CEILINGS SHALL BE INSTALLED WITH 6' LONG FLEXIBLE METAL CONDUIT.

E. ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURES UNLESS INDICATED OTHERWISE.

F. SEE ARCHITECTURAL EXTERIOR ELEVATIONS FOR MOUNTING HEIGHTS OF EXTERIOR LIGHTING FIXTURES.

G. WIRE COUNTS FOR CIRCUIT CONDUCTORS ARE NOT SHOWN. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUIT AND SWITCHING CONNECTIONS SHOWN.

H. MODIFICATIONS TO NUMBER OF CONDUCTORS IN HOME RUNS IN ADDITION TO CIRCUITS INDICATED ON THIS DRAWING ARE PROHIBITED.

I. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.

KEYED SHEET NOTES

1. ROUTE EF-1 CONTROL WIRING THRU AUXILIARY CONTACTS OF ROUTE THRU CONTACTOR CT1.

2. CONCRETE ENCASED ELECTRODE: STEEL REINFORCEMENT IN BASE OF FOOTING NO LESS THAN 20'-0" LONG.

3. PROVIDE PANEL AS NECESSARY FOR CLEARANCE FROM PIPING.

4. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR GROUNDING CONNECTIONS SHOWN.

5. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR ADJUSTMENTS FOR VOLTAGE DROP.

6. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR GROUND ROD PERSPECIFICATIONS.

7. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR WATER SERVICE METER.

8. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR PARKING LOT LIGHTING POLE BASE DETAIL.

9. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR 4 RIVER WALK LIGHT POLE AND BASE DETAIL.
### LIGHTING FIXTURE SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>ROOM</th>
<th>TYPE DESCRIPTION</th>
<th>LENS-LOUVER</th>
<th>MOUNTING</th>
<th>LAMP BALLAST/DV</th>
<th>VOLT</th>
<th>WATT</th>
<th>MFR</th>
<th>CAT. SERIES</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
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### ELECTRICAL EQUIPMENT SCHEDULE

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<th>ROOM</th>
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### CONTACTOR SCHEDULE

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<th>AMP</th>
<th>CUT</th>
<th>PHASE</th>
<th>AMP</th>
<th>CUT</th>
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</tbody>
</table>

### PANELBOARD: LP2N-101

- **LOCATION:** REVIT 102
- **VOLTAGE:** 208.3 V
- **MEASURING:** 90% OF THREE-PHASE VOLTAGE
- **LOAD CENTER:** 100% OF THREE-PHASE VOLTAGE
- **BULK AMPS:** 200 AMPS

### LOAD DESCRIPTION SCHEDULE

<table>
<thead>
<tr>
<th>LOAD DESCRIPTION</th>
<th>AMP</th>
<th>CUT</th>
<th>PHASE</th>
<th>AMP</th>
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</table>

### CONDUIT AND WIRE SCHEDULE

- **LOADING:** 90% OF THREE-PHASE VOLTAGE
- **SCHEDULE NOTES:**
  1. REFER TO EXTERIOR LIGHTING CONTROL DIAGRAM.
  2. SERVICE LATERAL FROM TRANSFORMER TO METER BY UTILITY COMPANY.
1. The mechanical contractor is responsible for coordinating all mechanical work with the architect.
2. The contractor is responsible for ensuring that all mechanical work is completed to the satisfaction of the architect.
3. The contractor is responsible for all mechanical work, including the installation of all mechanical equipment and materials.
4. The contractor is responsible for all mechanical work, including the installation of all mechanical equipment and materials.
5. The contractor is responsible for all mechanical work, including the installation of all mechanical equipment and materials.
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7. The contractor is responsible for all mechanical work, including the installation of all mechanical equipment and materials.
8. All equipment shall be installed in a manner that provides adequate maintenance access.

City of Duluth
411 West First St.
Duluth, MN 55802

Chambers Grove Park Flood Recovery & Improvements
Hwy 23 & 137th Ave W
Duluth, MN 55808

Mechanical Cover Sheet

Client: Shown on the drawings.

8. All equipment shall be installed in a manner that provides adequate maintenance access.

TodD Mell

Engineer under the laws of the State of Minnesota.
A. ROUTE ALL WATER PIPING SLOPED TO ALLOW DRAINING OF SYSTEM.

B. PROVIDE MANUAL VENTS AT HIGH POINTS OF DOMESTIC WATER SYSTEM FOR SYSTEM DRAINING.

C. PROVIDE DRAIN VALVES WITH HOSE CONNECTIONS AT LOW POINTS OF DOMESTIC WATER PIPING.

D. REFER TO CIVIL FOR CONTINUATION.

E. PROVIDE PRESSURE RELIEF VALVES IF REQUIRED TO MEET MN PLUMBING CODE 504.6 AND 507.5.

F. COORDINATE ALL PIPE ROUTING WITH ELECTRICAL DEVICES AND MAINTAIN ALL REQUIRED CLEARANCES.

G. INSTALL DRINKING FOUNTAINS SO PIPING SLOPES BACK INTO MECHANICAL ROOM FOR SEASONAL SHUTDOWN. PROVIDE VALVES AND DRAINS AT LOW POINTS.

H. MIXING VALVE SHALL MEET ASSE 1070 OR CSA B125.3 AS REQUIRED PER MN PLUMBING CODE SECTION 421.2.

I. PROVIDE UNIT WITH 0.3 GPM ACTIVATION.
1. Provide fan with speed controller for balancing.
2. Provide fan with associated roof cap.

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### ELECTRICAL REQUIREMENTS

**NOTES**

- 1/4" = 1'-0"

---

### LEVEL 1 VENTILATION PLAN

---

### FAN SCHEDULE

<table>
<thead>
<tr>
<th>UNIT NO.</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>LOCATION</th>
<th>CFM</th>
<th>ESP</th>
<th>FAN RP</th>
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<td>FANTECH</td>
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### GRILLE, REGISTER, AND DIFFUSER SCHEDULE

<table>
<thead>
<tr>
<th>UNIT NO.</th>
<th>MANUFACTURER</th>
<th>DUTY</th>
<th>SIZE</th>
<th>VOLUME</th>
<th>CONTROL</th>
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<th>TYPE</th>
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