CONSTRUCTION PLANS
FOR
OASIS POND IESF PROJECT
RICE CREEK WATERSHED DISTRICT
ROSEVILLE, MINNESOTA
SUMMER 2018

NOTES:

1. SURVEY INFORMATION
   - HORIZONTAL DATUM: NAD 83
   - VERTICAL DATUM: NAV D 88
   - COORDINATE SYSTEM: MN STATE PLANE SOUTH ZONE
   - UNIT OF MEASURE: U.S. SURVEY FOOT
   - NOTE:
     - PROJECT BENCHMARK
     - NW CORNER IN ASPHALT AT LIFT STATION
     - ENTRANCE ELEVATION=903.51 SEE SHEET 3

2. UTILITY
   - PRIOR TO ANY EXCAVATION WORK, THE CONTRACTOR IS RESPONSIBLE UNDER MINNESOTA STATE STATUTE 216D AND MINNESOTA RULES CHAPTER 7560 TO CONTACT GOPHER STATE ONE CALL FOR THE LOCATION OF UNDERGROUND UTILITY FACILITIES IN PROXIMITY TO THE EXCAVATION SITE.
   - THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

3. UTILITY TABULATION
   - DESCRIPTION
     - OWNER
     - COMMUNICATION
       - CENTURY LINK
       - MIDCONTINENT COMMUNICATIONS
       - ZAYO BANDWIDTH
       - ELECTRIC
         - CONEXUS ENERGY
         - XCEL ENERGY
         - MINNESOTA ENERGY RESOURCES
       - GAS
         - CENTER POINT ENERGY
       - PETROLEUM
         - MAGELLAN MIDSTREAM PARTNERS
   - CONTACT "GOPHER STATE ONE CALL" FOR LOCATIONS OF BURIED UTILITIES. CALL (651) 454-0002 OR (800) 252-1166.
   - ALSO CONTACT AT www.gopherstateonecall.org

4. CONTACT INFORMATION
   - HORIZONTAL DATUM: NAD 83
   - VERTICAL DATUM: NAVD 88
   - UNIT OF MEASURE: U.S. SURVEY FOOT
   - COORDINATE SYSTEM: MN STATE PLANE SOUTH ZONE
   - NOTE:
     - PROJECT BENCHMARK
     - NW CORNER IN ASPHALT AT LIFT STATION
     - ENTRANCE ELEVATION=903.51 SEE SHEET 3

5. SIGNATURE AND CERTIFICATION
   - I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: [Signature]
Printed Name: [Printed Name]
License #: [License #]
Date: 12-13-2017

PREPARED BY:
MAPLE GROVE, MINNESOTA
1. **UTILITY**

1.1. PRIOR TO ANY EXCAVATION WORK, THE CONTRACTOR IS RESPONSIBLE UNDER MINNESOTA STATE STATUTE 216D AND MINNESOTA RULES CHAPTER 7560 TO CONTACT GOPHER STATE ONE CALL FOR THE LOCATION OF UNDERGROUND UTILITY FACILITIES IN PROXIMITY TO THE EXCAVATION SITE.

1.2. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED “STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA.”

2. **EXISTING STRUCTURES**

2.1. ALL EXISTING STRUCTURES THAT ARE NOT CALLED OUT SPECIFICALLY IN THE DEMOLITION PLAN SHALL BE PROTECTED. ALL PROTECTED STRUCTURES WILL NEED TO BE REPLACED OR REPAIRED IF DAMAGED DURING THE CONSTRUCTION PROCESS.

2.2. ALL EXISTING UTILITIES THAT ARE NOT CALLED OUT SPECIFICALLY IN THE DEMOLITION PLAN SHALL BE PROTECTED.
**NOT TO SCALE**

**Erosion Control Blanket**

**Standard Machine Sliced**

**Silt Fence**

**Cleanout**

**Trail (Gravel Surface)**

**Notes:**
1. The entrance shall be maintained in a condition that will prevent erosion or a deposit of sediments in areas of public rights-of-way. This may require top dressing, repair or replacement of any measures used to trap sediment.
2. When necessary, silt fences shall be cleaned prior to entrance onto public rights-of-way.
3. When necessary, silt fences shall be cleaned or, if necessary, replaced with a higher grade of material to prevent erosion.

**Construction Entrance**

**Temporary Rock or Wood Chip**

**Detail View**

**Table of Quantities**

<table>
<thead>
<tr>
<th>Section</th>
<th>Material</th>
<th>Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PVC Cap/Cleanout</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Fits</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Types of Joists to be solvent welded</td>
<td>36</td>
</tr>
<tr>
<td>4</td>
<td>2' - 0&quot; Filter</td>
<td>120</td>
</tr>
<tr>
<td>5</td>
<td>3&quot; Filter</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>4&quot; Filter</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>6&quot; Filter</td>
<td>30</td>
</tr>
<tr>
<td>8</td>
<td>8&quot; Filter</td>
<td>30</td>
</tr>
<tr>
<td>9</td>
<td>10&quot; Filter</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>12&quot; Filter</td>
<td>30</td>
</tr>
<tr>
<td>11</td>
<td>14&quot; Filter</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>16&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>18&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>14</td>
<td>20&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>22&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>16</td>
<td>24&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>26&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>18</td>
<td>28&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>19</td>
<td>30&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>32&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>21</td>
<td>34&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>22</td>
<td>36&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>23</td>
<td>38&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>24</td>
<td>40&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>25</td>
<td>42&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>26</td>
<td>44&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>27</td>
<td>46&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>28</td>
<td>48&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>29</td>
<td>50&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>30</td>
<td>52&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>31</td>
<td>54&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>32</td>
<td>56&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>33</td>
<td>58&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>34</td>
<td>60&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>35</td>
<td>62&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>36</td>
<td>64&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>37</td>
<td>66&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>38</td>
<td>68&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>39</td>
<td>70&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>40</td>
<td>72&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>41</td>
<td>74&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>42</td>
<td>76&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>43</td>
<td>78&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>44</td>
<td>80&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>45</td>
<td>82&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>46</td>
<td>84&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>47</td>
<td>86&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>48</td>
<td>88&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>49</td>
<td>90&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>50</td>
<td>92&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>51</td>
<td>94&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>52</td>
<td>96&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>53</td>
<td>98&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>54</td>
<td>100&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>55</td>
<td>102&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>56</td>
<td>104&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>57</td>
<td>106&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>58</td>
<td>108&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>59</td>
<td>110&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>60</td>
<td>112&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>61</td>
<td>114&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>62</td>
<td>116&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>63</td>
<td>118&quot; Filter</td>
<td>10</td>
</tr>
<tr>
<td>64</td>
<td>120&quot; Filter</td>
<td>10</td>
</tr>
</tbody>
</table>

**Details 1**
**IESF BUBBLER AND MATERIALS**

- 4" DISTRIBUTION PIPE (LENGTH VARIES)
- 4" X 4" ECCENTRIC REDUCER

**IESF AGGREGATE GRADING LAYOUT**

- 8" DISTRIBUTION PIPE
- 8" X 4" ECCENTRIC REDUCER

**NOT TO SCALE**

- IESF AGGREGATE
- SLAB TOP REQUIRED
- BROKEN ROCK
- 6" X 6" PRECAST CONCRETE MANHOLE

**LIFT STATION MANHOLE**

- 12" X 12" MANHOLE SUMP INVERT ELEV. = 890.00'
- 4" INVERT ELEV. = 896.5'
- PUMP INVERT ELEV. = 892.0'
- RIM ELEVATION ELEV. = 898.21'
- MANHOLE SUMP INVERT ELEV. = 890.00'
- 1.25" PVC CAP
- DROP PIPE TO BE PROVIDED IN SEGMENTS NO GREATER THAN 6' LENGTH
- "NOTE: LIFT STATION TO BE PLACED ON 3/4" CRUSHED ROCK TO SUPPORT PIPE IN OVEREXCAVATED AREAS.

**NOTE:**

1. DRAINTILE DOWNSTREAM INVERT VARIES WITH EACH CELL. SEE EACH INDIVIDUAL CELL FOR INVERT ELEVATIONS AND ELEVATION OF THE WASHED ROCK.
2. DRAINTILE SHALL BE TRENCHED INTO THE PROPOSED GRADE.

**AS SHOWN**

- MANHOLE
- CASTING FRAME & COVER
- NEENAH FOUNDRY CO. R-6400-DS
- TYPE C LID
- SLAB TOP REQUIRED
- BROKEN ROCK
- 6" X 6" PRECAST CONCRETE MANHOLE
- PUMP BOTTOM ELEV. -10.00'
- 1/2" PVC STANDING PIPE FOR PRESSURE TRANSDUCER
- MEDIUM FILTER AGGREGATE
- AGGREGATE
- IRON ENHANCED SAND FILTER MEDIA
- MEDIUM FILTER AGGREGATE
- COARSE FILTER AGGREGATE
- IRON ENHANCED SAND FILTER MEDIA
- MEDIUM FILTER AGGREGATE
- COARSE FILTER AGGREGATE
- "NOTE: LIFT STATION MANHOLE TO BE PLACED ON 3/4" CRUSHED ROCK TO SUPPORT PIPE IN OVEREXCAVATED AREAS.

**HEREBY CERTIFY**

- that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

**Printed Name:**

Dennis McAlpine

**Signature:**

12-12-2017

**License #:**

46827

**Date:**

12-12-2017

**Printed Name:**

Dennis McAlpine

**License #:**

46827
MANHOLE STEP
12" O.C.
48" DIA. PRECAST CONCRETE MANHOLE

3/4" CRUSHED ROCK TO BE USED TO SUPPORT PIPE IN OVEREXCAVATED AREA

MONOLITHIC BASE
BUTYL RUBBER GASKET ON ALL JOINTS (JOINT TO MEET ASTM 433 REQUIREMENT)

SLAB TOP BROOM FINISH

48" PRETREATMENT MANHOLE
NOT TO SCALE

SECTION A-A
48" CRUSHED ROCK TO SUPPORT PIPE IN OVEREXCAVATED AREA

SECTION B-B

48° PRETREATMENT MANHOLE
**ELEVATION OF FULLY EXTENDED VALVE HEIGHT**

896.60 FT

**INVERT OF 12" RCP DRAINTILE TO STREAM**

894.00 FT

**6' PVC SLIDE GATE VALVE WITH EXTENSION RODS**

**BOLTED FLANGE JOINT**

**MH STEPS SPACED 12" O.C.**

EXTRUDING MINIMUM OF 6" FROM INTERIOR WALL

**1.25" PVC UNDERDRAIN PIPES FROM IESF**

**MANUAL VALVE VAULT**

**BREAK OUT BOX**

NOT TO SCALE

**SECTION A-A**

**SECTION B-B**

NOTE: NO OBSTRUCTIONS PERMITTED IN THE CONDUIT TO PREVENT THE TRANSDUCER OR WIRING TO BE REMOVED.

**NOTE:**

VAULT COVER WILL NEED TO BE MODIFIED TO ACCOMMODATE EXTERIOR MOUNTED PADLOCK REFER TO PROJECT SPECIFICATIONS. RCWD TO PROVIDE PADLOCK(S).

5/16" STAINLESS STEEL CONCRETE WEDGE BOLTS WITH WASHER MINIMUM 2" EMBEDMENT.

5/16" STAINLESS STEEL BOLTS WITH WASHER.

STAINLESS STEEL PLATE MINIMUM 12" WIDE. HEIGHT OF PLATE TO BE FIELD FIT.

CORD RESTRAINT DEVICE TYPICAL

EXTENSION ROD SUPPORT

7' DEPTH OF 6" DRAINTILE FROM IESF

1.25" PVC CAP

1.25" PVC STILLS WELL FOR PRESSURE TRANSDUCER (PERFORATED SECTION)

1.25" PVC CAP

5/16" STAINLESS STEEL CONCRETE WEDGE BOLTS WITH WASHER MINIMUM 2" EMBEDMENT.

5/16" STAINLESS STEEL BOLTS WITH WASHER.

STAINLESS STEEL PLATE MINIMUM 12" WIDE. HEIGHT OF PLATE TO BE FIELD FIT.

CORD RESTRAINT DEVICE TYPICAL

EXTENSION ROD SUPPORT

7' DEPTH OF 6" DRAINTILE FROM IESF

3/4" CRUSHED ROCK TO BE USED TO SUPPORT PIPES IN OVEREXCAVATED AREA.

PLATE EDGES TO BE FREE OF ABRASIVE MATERIALS AND SHARP EDGES.

PLATE TO BE OF STEEL, BOLTED TO VALVE ADAPTER.
AUTOMATIC VALVE VAULT

NOTE:
VAULT COVER WILL NEED TO BE MODIFIED TO ACCOMMODATE EXTERIOR MOUNTED PADLOCK REFER TO PROJECT SPECIFICATIONS. RCWD TO PROVIDE PADLOCK(S).