<table>
<thead>
<tr>
<th>NOTES</th>
<th>ITEM NUM</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>MOBILIZATION</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>6&quot; AASHTO PAVEMENT (FULL DEPTH)</td>
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<tr>
<td>3</td>
<td>3</td>
<td>REMOVE BITUMINOUS PAVEMENT</td>
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<td>4</td>
<td>4</td>
<td>REMOVE 10&quot; STORM SEWER</td>
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<tr>
<td>5</td>
<td>5</td>
<td>CLEARANCE AND GRUBBING</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>CONNECT TO EXISTING CATCH BASIN</td>
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<td>7</td>
<td>7</td>
<td>PVC 1'- ANCHORED MANHOLE</td>
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<td>8</td>
<td>8</td>
<td>12&quot; HOPE SON 17 STORM SEWER PIPE</td>
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<td>9</td>
<td>9</td>
<td>12&quot; MOLDED HOPE R.J. ADAPTOR</td>
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<td>10</td>
<td>10</td>
<td>12&quot; CORRUGATED HOPE STORM SEWER PIPE</td>
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<td>11</td>
<td>11</td>
<td>GEOTEXTILE FABRIC TYPE V</td>
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<tr>
<td>12</td>
<td>12</td>
<td>AGGREGATE BASE (C5) CLASS 5</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>COMMON BORROW</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>GABION HEADWALL</td>
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<tr>
<td>15</td>
<td>15</td>
<td>6&quot; RETURNED DRIVEWAY PATCH, 3&quot;</td>
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<tr>
<td>16</td>
<td>16</td>
<td>EROSION CONTROL BLANKET, CATEGORY 4</td>
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<tr>
<td>17</td>
<td>17</td>
<td>STRAW BOLLAR</td>
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<tr>
<td>18</td>
<td>18</td>
<td>REBUILD DRY FIT LANDSCAPE BLOCK RETAINING WALL</td>
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<td>19</td>
<td>19</td>
<td>TURF ESTABLISHMENT</td>
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<td>20</td>
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<td>SOIL</td>
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</tbody>
</table>

**NOTES:**
1. MATERIAL IS A COMBINATION OF VCP AND PVC
2. CLEARING AND GRUBBING SHALL BE MINIMUM AMOUNT NEEDED FOR CONTRACTOR TO ACHIEVE ACCESS
3. PAYMENT WILL BE MEASURED ALONG SLOPE, NOT HORIZONTAL DISTANCE, ESTIMATE INCLUDES MAIN LINE AND STAND PIPE
4. COMMON BORROW SHALL BE COMPACTABLE CLAY TYPE MATERIAL
5. APPROVED ALTERNATIVE HEADWALL (CONCRETE, ANCHORED BOULCERS, ETC.) MAY BE SUBSTITUTED FOR GABION HEADWALL
6. PLACED IN ONE LIFT: 3" OF WEAR COURSE

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**GABION HEADWALL**

- **NO SCALE**
- **COMMON BORROW**
- **CLAY, PLACE AND COMPACT IN 2" LIFTS**
- **SEVEN 36"X24"X9" GABIONS OR APPROVED EQUAL**
- **SHAPE GOLLY ganz TO ACCOMMODATE GABIONS**
- **WIRE GARDEN MATS TOGETHER**

**SECTION**

- **SHAPE LEDGE ROCK TO CREATE A SHELF**
- **W/ 25 BACK SLOPE**

**ELEVATION**

- **NEW 12" HOPE**
- **CO-G TEXTILE FABRIC BETWEEN LIFTS & WRAPPED VERTICALLY BEHIND GABIONS**

---

**CERTIFIED BY:**

**SIGNATURE:**

**DATE:** 7/26/2012

**REG. NO.:** 46744

**REVISION:**

**DRAWN BY:** JAM

**E. JHD STREET AND BENT CREEK DRAIN DOWN DRAIN**

**CITY OF DULUTH**

**PROJECT NO.:** 1197

**STATE AID PROJECT NO.:**

**SHEET NO. 2 OF 6**
ROCK SECTION

UNDISTURBED GROUND SECTION

BACKFILL MATERIALS FOR UTILITY TRENCHES SHALL BE AS DEFINED IN THE SPECIAL PROVISIONS. WHERE BACKFILL IS NOT SPECIFIED, IT SHALL BE SELECT GRAINULAR BACKFILL FINER THAN 3/4" (23MM) AND NO FINEER THAN 3/4" (22MM) DRAINAGE MATERIAL WITHIN THE ROADWAY. COMPOUND PIPE MATERIAL OUTSIDE OF THE ROADWAY. BACKFILL WITH SUITABLE ON SITE MATERIAL IS CONSIDERED INCIDENTAL TO UTILITY INSTALLATION.

MIN. TOTAL PAY WIDTH IN ROCK WILL BE 48" MAX. TOTAL PAY WIDTH IN ROCK FOR 12" AND LARGER PIPES SHALL BE THE OUTSIDE PIPE DIA. PLUS 36" MAXIMUM PAY WIDTH FOR ALL PIPE

TRENCH BOX OR SHORING

SELECT GRAINULAR BACKFILL FINER THAN 3/4" (23MM) AND NO FINEER THAN 3/4" (22MM) DRAINAGE MATERIAL WITHIN THE ROADWAY. COMPOUND PIPE MATERIAL OUTSIDE OF THE ROADWAY. BACKFILL WITH SUITABLE ON SITE MATERIAL IS CONSIDERED INCIDENTAL TO UTILITY INSTALLATION.

SUBGRADE OR SURFACE

PAY LINES (SEE NOTE)

NOTES:
1. TRENCH STABILIZATION MATERIAL MAY BE USED IN AREAS AS DETERMINED BY THE ENGINEER.
2. A MIN. OF 1 CU. YD. OF STRUCTURE EXCAVATION, CLASS R, WILL BE PAID FOR EVERY 10' OF PIPE WHERE ROCK REMOVAL IS REQUIRED.
3. EXCESS EXCAVATION MATERIAL SHALL BE DISPOSED OF OFF PROJECT R.O.W. INCIDENTAL.
4. WHERE UTILITIES ARE INSTALLED IN ROCK TRENCHES OUTSIDE OF THE ROADWAY, THE CONTRACTOR SHALL PROVIDE COMMON BORROW MATERIAL TO SUPPLEMENT SUITABLE ON SITE BACKFILL MATERIALS AS NECESSARY. COMMON BORROW MATERIAL IS INCIDENTAL TO STRUCTURE EXCAVATION, CLASS R. REFER TO SPECIFICATIONS FOR RESTRICTIONS ON COMMON BORROW MATERIALS.

DUCTILE IRON, PE WATERMAIN, PRESSURE SEWER, & FORCemain BEDDING

EX-1

REVISED/APPROVED 2/1/13

CERTIFIED BY: TOM JOHNSON REG. NO.: 46744

REVISED/APPROVED 11/1/2012

CERTIFIED BY: TOM JOHNSON REG. NO.: 46744

REVISED/A:PROVED 11/1/2012

CERTIFIED BY: TOM JOHNSON REG. NO.: 46744

REVISED/PROJ. 1/1/2013

CERTIFIED BY: TOM JOHNSON REG. NO.: 46744
RESET DRY-FIT LANDSCAPE BLOCK RETAINING WALL
PLACE COMPACTED LIFTS OF COMMON BORROW & GEOTEXTILE FABRIC. RESTORE WITH TOPSOIL, SEED, EROSION CONTROL BLANKET (CATEGORY 4) & STRAW BIOROLLS SPACED 10' ON CENTER FROM GABION TO TOP OF SLOPE ACROSS THE WIDTH OF THE DISTURBED AREA.

RESTORE DRIVEWAY WITH 12" COMPACTED CLASS V AND 3" BITUMINOUS PAVEMENT

TOPSOIL & SOD ABOVE SLOPE
GABION HEADWALL, SEE DETAIL
UTILITY EASEMENT 100
GABION HEADWALL, SEE DETAIL

PROPOSED GRADE
COMMON BORROW PLACED AND COMPACTED IN 2' LIFTS
GEOTEXTILE FABRIC PLACED BETWEEN BACKFILL LIFTS
GABION HEADWALL, SEE DETAIL

EXISTING 10' SAV
EXISTING 8' SAN
EXISTING GRADE

CERTIFIED BY: TOM JOHNSON
REG. NO.: 48744

E. 3RD STREET AND BENT CREEK DRAINAGE

SIGNATURE: DATE: 07/26/2013

CITY OF DULUTH
RESTORATION - PLAN & PROFILE
CITY PROJECT NO.: 1197
STATE AID PROJECT NO.: SHEET NO. 6 OF 6