Project Team

Owner
LB Moab Owner, LLC
3858 Walnut Street, Suite 104
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Civil Engineer
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Surveyor
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Architect
HKS
539 Bryant St, #100
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(415) 356-3800

Landscape Architect
Confluence
3457 Ringsby Ct Unit 223
Denver, CO 80216
303.433.7100

Site Electrical Engineer
BNA Consulting
635 South State Street
Salt Lake City, UT 84111
801.532.2196

Project Data

Plan Type Distribution

<table>
<thead>
<tr>
<th>Plan Type</th>
<th>Description</th>
<th>Occurs at Lot #’s: Casita and Home Sites Subtotals</th>
<th>Parking Tabulation</th>
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</thead>
<tbody>
<tr>
<td>C1</td>
<td>Club Casita, 1-story</td>
<td>018, 019, 020, 021, 022, 023, 024, 025</td>
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<tr>
<td>C2</td>
<td>Club Casita, 2-story</td>
<td>026, 027, 028, 029, 030, 031, 032, 033</td>
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<tr>
<td>V1</td>
<td>Village Casita, 1-story</td>
<td>002, 003, 004, 005, 014, 015, 016, 017</td>
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<tr>
<td>V2</td>
<td>Village Casita 2-story</td>
<td>006, 007, 008, 011, 012</td>
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<tr>
<td>HC</td>
<td>Hillside Casita (Custom Home Site)</td>
<td>009, 010, 013, 034, 035</td>
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</tr>
</tbody>
</table>

Total Casitas and Home Sites: 34

Total Parking Spaces: 104

Parking Spaces: 52

Vicinity Map
Site Plan

- Phase 1 in the 2008 Preliminary MPD approval included 34 residential casitas and the hotel. As allowed in the Development and Phasing Agreement dated July 28, 2009, Phase 1 has been modified to only include the 34 residential casitas and the hotel has been moved to its own phase called “Hotel Phase”.

- Approximately 82.26% of Phase 1 (47.27 acres) will be dedicated as open space which is significantly more than the 70% requirement. The open space will be conveyed to the Lionsback Property Association at recording of the Phase 1 Final Plat. Of the 47.27 acres, 81.54% is naturalized open space and 18.46% is passive recreation open space.

- The Phase 1 residential casita unit types and count have remained the same.

- The Lionsback pedestrian and bike trails within the property have been expanded as shown on the resort site plan. A new trail called Sand Flats Connector trail has been added and parallels Sand Flats Road from the entrance to the Hells Revenge exit. This trail will help take bike and pedestrian traffic off Sand Flats Road. A new trail called the Ridge Trail has been added to allow for continued connection to the existing trail system. The Mill Creek trail connecting Sand Flats Road to Mill Creek will be preserved. A permanent easement for Hells Revenge will be dedicated to Grand County and preserve access. All proposed trails will have signage mirroring the City of Moab and Grand County efforts to educate the public on sustainability of the environment. The Sand Flats Connector, Mill Creek Trail, the Ridge Trail and Hells Revenge will remain open to the public.

- Parking and Circulation Plan
  - A parking and circulation plan shows parking of vehicles in the garage and driveways of each casita.
  - The roads are privately owned and maintained by the Property Association.
  - Speed limit on all roads will be 15 MPH to encourage safe pedestrian and bike traffic travel and minimize the impact of vehicles within the resort.
  - Primary access to the resort and Phase 1 casitas is from Sand Flats Road.
  - A secondary emergency access has been established through a connection to Hells Revenge Road from Lionsback Drive. Hells Revenge between Lionsback Drive and Sand Flats Road will be graded to accommodate a typical passenger vehicle.
Landscape Architecture

- The overall landscape plan has been designed to take into account the native and naturalized desert landscape. The plant palette includes native, indigenous species that will preserve & enhance habitat value. The site landscape design and landscaping standards have been developed in adherence with the Drinking Water Source Protection Plan.

- Plantings around the casitas only. The rest will remain native landscape.

- No lawns or other water dependent plant material are included to minimize watering requirements.

- Casita drip irrigation systems are temporary and only to allow plantings to get established.

- Revegetation of historically disturbed areas will continue on the property.

- Plant material and rock mulch will be used to anchor the soil and areas of disturbance.
LANDSCAPE NOTES

1. TOPSOIL SHALL BE TESTED FOR PARTICLE SIZE, pH, AND NUTRIENT LEVELS AND RECOMMENDATIONS FOR AMENDMENTS TO BRING THE SOIL TO ACCEPTABLE HORTICULTURAL QUALITY. SOIL ANALYSIS TO BE SUPPLIED TO LANDSCAPE ARCHITECT AND APPROVAL GIVEN PRIOR TO PLACING TOPSOIL.

2. INCORPORATE COMPOST AT A RATE OF AT LEAST FOUR CUBIC (4 CU. YD.) YARDS PER ONE THOUSAND (1000 SQ. FT.) SQUARE FEET TO A DEPTH OF SIX (6") INCHES IN LANDSCAPE AREAS. SOILS WITH GREATER THAN SIX (6%) PERCENT ORGANIC MATTER IN THE TOP SIX (6") INCHES OF SOIL ARE EXEMPT FROM ADDING COMPOST AND TILLING AS DETERMINED BY A SOIL TEST.

3. PLANT PALETTE INCLUDES NATIVE, INDIGENOUS SPECIES. PLANTINGS WILL PRESERVE & ENHANCE HABITAT VALUE. THE SITE LANDSCAPE DESIGN AND LANDSCAPING STANDARDS HAVE BEEN DEVELOPED IN ACORDANCE WITH THE DRINKING WATER SOURCE PROTECTION PLAN.

4. ALL PROPOSED TREE, SHRUB AND PERENNIAL AREAS SHALL BE IRRIGATED WITH A TEMPORARY DRAINAGE SYSTEM DESIGNED FOR OPTIMAL COVERAGE AND WATER CONSERVATION.

5. ROOTBALLS TO BE FREE OF WEEDS.

6. SIZES ON PLANT LIST SHALL BE CONSIDERED MINIMUM SIZES.

7. NATIVE PLANT AREAS ARE TO BE HEALTHY WITH VIGOROUS GROWTH AFTER THE INITIAL GROWING SEASON. RE-SEED ANY BARE AREAS LARGER THAN A 12" SQUARE IN THE NEXT GROWING SEASON.

8. A MINIMUM THREE (3") INCH LAYER OF ROCK MULCH SHALL BE APPLIED TO ALL PLANTING BEDS AS SHOWN ON THE LANDSCAPE PLANS.

9. PROVIDE POSITIVE GRADES AWAY FROM BUILDINGS AND TOWARD DRAINS AND CATCH BASINS. SLOPE AWAY FROM BUILDINGS AT A MINIMUM OF 2%.

10. FINISH GRADES IN PLANTING AREAS SHALL BE SET TO INCLUDE THE APPLICATION OF TOPSOIL IN MEETING SPOT ELEVATIONS ON CONTOURS SHOWN ON SUBMITTED PLANS. SLOPES SHALL BE SMOOTH AND CONTINUOUS. WORKED SOIL SHALL NOT BE LEFT IN CLUMPED FORM.

11. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED UTILITY LOCATIONS BEFORE DIGGING. TREES SHALL NOT BE PLANTED WITHIN 5'-0" OF THE CENTERLINE OF UTILITIES.

NATIVE SEED MIX

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>SCIENTIFIC NAME</th>
<th>POUNDS PURE LIVE SEED PER ACRE BROADCAST</th>
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<tbody>
<tr>
<td>BLUE ORGA</td>
<td>BOUTELOUA GRACILIS</td>
<td>2 3</td>
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<tr>
<td>LITTLE BLUESTEM</td>
<td>SCHIZACHYRURUM SCOPARIUM</td>
<td>1 1.5</td>
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<tr>
<td>SAND DROP</td>
<td>SPOROBOLUS</td>
<td>2 4.5</td>
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<tr>
<td>INDIAN RICE</td>
<td>ACHNATERRUM HYEMEMIDES</td>
<td>3 4.5</td>
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<tr>
<td>ALKALINE SACATON</td>
<td>SPOROBOLUS AIROIDES</td>
<td>1 1.5</td>
</tr>
<tr>
<td>SANDBERG BLUEGRASS</td>
<td>POA SECUNDA</td>
<td>1 1.5</td>
</tr>
<tr>
<td>BLUEBUNCH WHEATGRASS</td>
<td>PSEUDOROEGNERIA SPIRACA</td>
<td>1 1.5</td>
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TOTAL 12 21

BROADCAST APPLICATION RATE CAN BE USED FOR HYDROSEEDING.
<table>
<thead>
<tr>
<th>DECIDUOUS TREE</th>
<th>CODE</th>
<th>QTY</th>
<th>BOTANICAL / COMMON NAME</th>
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<tr>
<td>ADE BOX 10</td>
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<td>10</td>
<td>ACER NEGUNDO / SENATOR / SENATION BOX ELDER MAPLE</td>
<td>2&quot; CAL</td>
<td>BAB</td>
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<tr>
<td>CD 9</td>
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<td>9</td>
<td>CELTIS OCCIDENTALIS / COMMON HACKBERRY</td>
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<td>FA 15</td>
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<td>15</td>
<td>FRAXINUS KULITNA / ARIZONA / ARIZONA VELVET ASH</td>
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<td>PED D-H 11</td>
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<td>11</td>
<td>PISTACIA DI-HENDES / CHINESE PISTACHE</td>
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<td>POP HB 5</td>
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<td>POPULUS DELTOIDES / EASTERN COTTONWOOD</td>
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<tr>
<td>QG 2</td>
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<td>2</td>
<td>QUERCUS DAMEREL / GOMBLE OAK</td>
<td>1.5&quot; CAL</td>
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<th>PINE CONES FREE</th>
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<tr>
<td>JM 7</td>
<td></td>
<td>7</td>
<td>JUNIPERUS MONOSPERRA / CHERRYSTONE</td>
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<td>JUN SCO 8</td>
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<td>JUNIPERUS SCOPULORUM / ROCKY MOUNTAIN JUNIPER</td>
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<td>PIN/YN 21</td>
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<td>21</td>
<td>PINUS SOLIDUS / PINON PINE</td>
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<tr>
<td>AU 47</td>
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<td>47</td>
<td>AGAVE UTAHENSIS / UTAH AGAVE</td>
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<td>ECH TRI 9</td>
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<td>ECHINOCEREUS TOLLOIDES / CLARET CUP CACTUS</td>
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<td>OPL ENG 30</td>
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<td>OPUNTIA ENGELMANNII / PINON PINE</td>
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<td>YG 49</td>
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<td>YUCAL GLAUDA / SNAKEBIRD</td>
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<tr>
<td>AF 35</td>
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<td>35</td>
<td>ARTEMISA FRIGIDA / BIG BASIN SAGEBRUSH</td>
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<tr>
<td>AT 3</td>
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<td>3</td>
<td>ARTEMISA TRIDENTATA / BIG BASIN SAGEBRUSH</td>
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<td>AZ 46</td>
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<td>CHAMAGSITAREA MILLIOLUM / FENNEBUSH / FERNIBUSH</td>
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<td>SN 53</td>
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<td>GS 47</td>
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<td>ERICAMER NAUSEOSA SPECIOSA / DIPLOXO SALIX</td>
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<td>FP 31</td>
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<td>FALLOCA PARADOXIA / APACHE PLUME</td>
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<td>FN 29</td>
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<td>GS 85</td>
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<td>KRAUSCHANERIA LANATA / HINTERFAT</td>
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<td>RA 53</td>
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<td>RIBES AUREUM / GOLDEN CURRANT</td>
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<td>RW 38</td>
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<td>RESA WOODEN / MOUNTAIN ROSE</td>
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<td>BC 10</td>
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<td>BOUTELOUA CURTPENDULA / SIDE OATS GRAMA</td>
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<tr>
<td>AZ 1</td>
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<td>1</td>
<td>ARIZONA GRANDE / ARIZONA GRANDE</td>
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<tr>
<td>ART R 8</td>
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<td>8</td>
<td>ARTEMISA FRIGIDA / FRIGEE WORMWOOD</td>
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<tr>
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<td>AZELEPIAS STRICK / COMMON MILKWEED</td>
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<td>GALAXA LIND EMM / WHITE GALAXA</td>
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<td>GU 42</td>
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<td>GUTTURIA SABBIA / SNAKEWEED</td>
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<td>HY 18</td>
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<td>HYMENAXYS SPLENDIDA / STEMMA FOU RIVETTE</td>
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<td>SM 68</td>
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<td>68</td>
<td>MINIBLUM MARE / COLORADO FOUR O&quot;CLOCK</td>
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<td>PA 26</td>
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<td>26</td>
<td>PENSTEMON AMBIGUUS / GLA BEATRITZITAS</td>
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<td>PU 121</td>
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<td>PENSTEMON UTHAIS / UTAH PENSTEMON</td>
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<td>SD 78</td>
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<td>SALVA DORRHI / DESSERT SAGE</td>
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<table>
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<tr>
<th>GROUND COVERS</th>
<th>CODE</th>
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<tbody>
<tr>
<td>NO 98,830 SF</td>
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<td>NATIVE SEED / NATIVE SEED</td>
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<tr>
<td>RM 28,834 SF</td>
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<td>28,834</td>
<td>ROCK MULCH / ROCK MULCH</td>
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**Landscape Plan**

Scale: 1" = 30'0"
### Irrigation Schedule

<table>
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<tr>
<th>Valve Type</th>
<th>Manufacturer</th>
<th>Model No.</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Rain Bird</td>
<td>Rain Bird</td>
<td>400-800</td>
<td>4 Way Valve</td>
<td>1</td>
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<tr>
<td>Hunter</td>
<td>Hunter</td>
<td>300-400</td>
<td>3 Way Valve</td>
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<tr>
<td>Hunter</td>
<td>Hunter</td>
<td>300-400</td>
<td>4 Way Valve</td>
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</tbody>
</table>

### Irrigation Construction Notes

1. **Point of Connections #1 - 1"**
   - **Peak Flow Requirement:** 10 GPM. **Required Static Pressure:** 60 PSI
   - **Controller:** To be installed on 1" copper stub-out at 64" depth in this approximate location. Installation of 1" service line meter pit and stub to this location is by others. **Connection to stub-out 1" Copper Connection:**
   - **Connection to Branch:** To be performed by others.
   - **Connection to Controller:** To be performed by others. **Controller Location:** To be obtained by owner representative prior to installation.

2. **Controller Locations “A”**
   - **Controller Type:** One controller to be scheduled for model and station事宜.
   - **Controller Location:** To be obtained by owner representative prior to installation.

3. **Irrigation Schedule**
   - **Irrigation Schedule:**
     - **Irrigation Days:** Monday, Wednesday, Friday
     - **Irrigation Times:** 6:00 AM - 9:00 AM

4. **Irrigation System Design:**
   - **System Design:**
     - **Irrigation System:**
       - **Backflow Preventer:**
         - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
         - **Location:** To be obtained by owner representative prior to installation.

5. **Backflow Prevention:**
   - **Preventer:**
     - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
     - **Location:** To be obtained by owner representative prior to installation.

6. **Controller Installation:**
   - **Controller:**
     - **Type:** Rain Bird 400-800 4 Way Valve
     - **Location:** To be obtained by owner representative prior to installation.

7. **Irrigation Zones:**
   - **Irrigation Zones:**
     - **Zone One:**
       - **Type:** Rain Bird 400-800 4 Way Valve
     - **Zone Two:**
       - **Type:** Hunter 300-400 3 Way Valve

8. **Irrigation System Testing:**
   - **System Testing:**
     - **Testing:**
       - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
       - **Location:** To be obtained by owner representative prior to installation.

9. **Irrigation System Maintenance:**
   - **Maintenance:**
     - **Frequency:**
       - **Type:** Monthly
     - **Responsibility:**
       - **Type:** Owner representative

10. **Irrigation System Documentation:**
    - **Documentation:**
      - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
      - **Location:** To be obtained by owner representative prior to installation.

11. **Irrigation System Records:**
    - **Records:**
      - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
      - **Location:** To be obtained by owner representative prior to installation.

12. **Irrigation System Troubleshooting:**
    - **Troubleshooting:**
      - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
      - **Location:** To be obtained by owner representative prior to installation.

13. **Irrigation System Certification:**
    - **Certification:**
      - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
      - **Location:** To be obtained by owner representative prior to installation.

14. **Irrigation System Compliance:**
    - **Compliance:**
      - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
      - **Location:** To be obtained by owner representative prior to installation.

15. **Irrigation System Regulatory:**
    - **Regulatory:**
      - **Type:** Reduced Pressure Zone Backflow Preventer (RPZ)
      - **Location:** To be obtained by owner representative prior to installation.

### Additional Information

- **Irrigation Consulting & Water Management**
  - **Address:** 303.980.5327
  - **Web:** www.irrigationconsulting.com

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**Backflow Prevention System (BPS) Directory**

<table>
<thead>
<tr>
<th>OWNER</th>
<th>LB MOAB OWN. LLC, 1385 WALNUT STREET, SUITE 201, DENVER, CO 80205</th>
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<tbody>
<tr>
<td>DATE</td>
<td>March 31, 2021</td>
</tr>
<tr>
<td>SHEET TITLE</td>
<td>Irrigation Notes &amp; Schedule</td>
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<td>SHEET NUMBER</td>
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**Irrigation Notes & Schedule**

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<th>LB MOAB OWN. LLC, 1385 WALNUT STREET, SUITE 201, DENVER, CO 80205</th>
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<tbody>
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<td>March 31, 2021</td>
</tr>
<tr>
<td>SHEET TITLE</td>
<td>Irrigation Notes &amp; Schedule</td>
</tr>
<tr>
<td>SHEET NUMBER</td>
<td>IR.000</td>
</tr>
</tbody>
</table>

---

**Irrigation Consulting & Water Management**

<table>
<thead>
<tr>
<th>ADDRESS</th>
<th>303.980.5327</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEB</td>
<td><a href="http://www.irrigationconsulting.com">www.irrigationconsulting.com</a></td>
</tr>
</tbody>
</table>
NOTES:
- Concrete pad penetrations to be 1" larger than pipe diameters.
- Use of fittings, nipple and tubing should be noted otherwise.

BACKFLOW PREVENTER - TYPICAL

<table>
<thead>
<tr>
<th>1</th>
<th>ELECTRIC CONTROLLER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>WEATHER SENSOR</td>
</tr>
</tbody>
</table>

| MANUAL DRAIN VALVE |
| TYPICAL |

| QUICK COUPLING VALVE |
| LASCOSWING - TYPICAL |

| TRENCH |
| 24" MAINLINE |

**Irrigation Details**

- Contact: [303.980.5327](tel:303.980.5327)
- Website: [www.hydrosystemskdi.com](http://www.hydrosystemskdi.com)

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES. CALL BEFORE YOU DIG.

**DIRECTORY**

<table>
<thead>
<tr>
<th>IRRIGATION SCHEDULE</th>
<th>IR.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRRIGATION NOTES</td>
<td>IR.000</td>
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<td>IRRIGATION PLANS</td>
<td>IR.100 - IR.106</td>
</tr>
<tr>
<td>IRRIGATION DETAILS</td>
<td>IR.107 - IR.108</td>
</tr>
</tbody>
</table>

**DATE**

March 31, 2021
IRRIGATION SLEEVING

**Typical**

- **Grade. Valve Box shall not rest on drip tubing. Box extensions will be accepted. Provide 3"-4" clearance between top of control valve and box.**
- **Contractor to coordinate with flatwork installer to brand a 24" min. poly lateral.**
- **Contractor to coordinate with flatwork installer to brand a 24" min. poly lateral.**
- **Note:** typical irrigation sleevings
- **Install sleeves in side-by-side configuration where multiple bundle.**
- **Sleeves are to be installed. Space sleeves 4" to 6" apart. Do NOT stack sleeves vertically. An individual sleeve shall contain no more than one pipe or wire.**
- **Work at approximate locations shown.**

**Drain Valve**

- **24" round valve box with cover.**
- **PVC Sch. 80 nipple.**
- **PVC mainline.**
- **PVC Sch. 80 nipple.**
- **3" min. depth.**
- **Sweep to specified depth.**

**Plant Material**

- **Plant size.**
- **Emitters per plant.**
- **Flow rate.**
- **Emitters per planter bed.**
- **Emitters per native seed location.**

**Notes:**
- **All sleeve material per irrigation schedule, size as noted on plans.**
- **Provide sleeve material per irrigation schedule, size as noted on plans.**
- **Refer to technical specifications.**
- **Thickness of sleeve material per irrigation schedule, size as noted on plans.**
- **Spacing of sleeve material per irrigation schedule, size as noted on plans.**

**PVC Schedule**

- **EMITTER MICRO-TUBING - 60".**
- **EMITTER - REFER TO SCHEDULE FOR PLANT SIZE, EMBRACE MATERIAL, AND MODEL NUMBER.**

**Plant Material**

- **Plant size.**
- **Emitters per plant.**
- **Flow rate.**
- **Emitters per planter bed.**
- **Emitters per native seed location.**

**Notes:**
- **PLANT SIZE, PLANT MATERIAL, PLANT MATERIAL TOGETHER DURING THE DESIGN PROCESS. CONTRACTOR SHALL ADJUST SCHEDULING ACCORDINGLY.**
- **Site conditions may dictate that multiple sun exposures are valved on plan.**
- **Plants with north and east exposures.**
- **Plants with south and west exposures.**
- **Plants with north and east exposures.**

**Trimming**

- **Two each.**
- **Two each.**
- **Two each.**
- **Two each.**
- **Two each.**
- **Two each.**

**Call Before You Dig**

- **Irrigation Consulting & Water Management.**
- **860 Tabor Street, Suite 200.**
- **Lakewood, Colorado 80401.**
- **O: 303.980.5327.**
- **Lionsback Resort.**
- **Final MPD Phase 1 Submittal.**

**Date:**

- **March 31, 2021.**

**Sheet No.:**

- **IR.108.**

**Author:**

- **LB MOAB OWNER, LLC.**
- **Suite 104.**
- **Denver, CO. 80205.**
Site Lighting

• The proposed lighting at the project entry drive and phase 1 streets is distilled down to essential light levels needed for safety. The site lighting concept is to preserve the natural character of the site and the beauty of the night sky.

• Recognizing the value of the beauty in the night sky, the project site lighting is designed to minimize light pollution, glare, light overflow, and sky glow. The site lighting will meet the Dark Skies provisions as prescribed in the City of Moab’s Lighting Ordinance.
Architectural Plans

- Club Casitas and Village Casitas are offered in single-story and two-story versions as per the Preliminary Master Plan approval. Two-story floor plans are located on the upper side of the streets while the single-story plans are located on the lower side of the street to preserve views from all units to the red rock fins and La Sal Mountains to the east and to minimize height of the structures.

- The Casitas are designed to minimize impact to the existing grade in a light-on-the-land approach. The one-story plans step down from the street, following natural grade, to reduce the amount of fill soil up to floor levels. The two-story plans step up from the street, following natural grade to reduce the amount cutting soil back.

- Colors and textures of exterior finishes of the Casitas will be selected to blend into the natural landscape.

- There are sixteen Club Casitas, thirteen Village Casitas, and 5 Hillside Casitas.

- Club Casita floor plans consist of two-bedroom, two and a half baths and a single-car oversized garage.

- Village Casita floor plans consist of three-bedroom, three and a half baths and a two-car oversized garage.

- The oversized garages accommodate larger vehicles and allow recreational gear to be stored inside; reducing visual clutter in the driveways.

- All Casitas feature patios and decks oriented toward key views to celebrate the natural setting and outdoor lifestyle that defines the character of Moab.

- The Hillside Casita lots will be developed as custom homes and will conform to the design style and integrity of the Club and Village Casitas.
CLUB 1-STORY (C-1) FLOOR PLAN
LOTS 018 - 025
+/- 1,373 SF
1. **Stone, Board Formed Concrete, CMU, Textured Composite Panel, or Cement Plaster**
2. **Interiors Color Finish**
3. **Architectural Metal**
4. **Glazing System: Wood, Aluminum, or Vinyl**
5. **Wood or Textured Aluminum Panel**

**Elevations**

- **Entry Elevation**
- **Outer Elevation**
- **Rear Elevation**
- **Inner Elevation**

**Dimensions**

- 11' - 0" (above ground level)
- 15' - 6" (above ground level)
- 0' - 0" (above ground level)
- -2' - 8 1/2" (below ground level)
LIONSBACK HOTEL / RESORT
MOAB, UTAH
CLUB CASITA | 1 STORY
3/32" = 1' - 0"

LB Moab Land LLC
3/32" = 1' - 0"
3858 WALNUT STREET,
SUITE 104
OWNER
LIONSBACK RESORT
FINAL MDP SUBMITTAL
DATE
SHEET TITLE
SHEET NO.
LB MOAB OWNER, LLC
DENVER, CO, 80205
AX.05
Unnamed
January 15, 2021
March 31, 2021
MPD PHASE 1 SUBMITTAL

FIRST LEVEL PLAN
+/- 1195 SF
SECOND LEVEL FLOOR PLAN
+/- 403 SF
CLUB 2-STORY (C-2) FLOOR PLAN
LOTS: 026 - 033
+/- 1598 SF

LIONSBACK RESORT
FINAL MDP PHASE 1 SUBMITTAL

DATE
March 31, 2021
SHARP TITLE
C2 Plans
SHEET NO.
A.212

3/32" = 1' - 0"
STONE, BOARD FORMED CONCRETE, CMU, TEXTURED COMPOSITE PANEL, OR CEMENT PLASTER

INTEGRAL COLOR CEMENT PLASTER

ARCHITECTURAL METAL

GLAZING SYSTEM; WOOD, ALUMINUM, OR VINYL

WOOD OR TEXTURED ALUMINUM PANEL
INNER ELEVATION

ENTRY ELEVATION

OUTER ELEVATION

REAR ELEVATION

STONE, BOARD FORMED CONCRETE, CMU, TEXTURED COMPOSITE PANEL, OR CEMENT PLASTER

INTEGRAL COLOR CEMENT PLASTER

ARCHITECTURAL METAL

GLAZING SYSTEM: WOOD, ALUMINUM, OR VINYL

WOOD OR TEXTURED ALUMINUM PANEL

12' - 0"

16' - 2"

0' - 0"

-4' - 4"

3' - 32"

0' - 0"

-4' - 4"

3/32" = 1' - 0"

3/32" = 1' - 0"
INNER ELEVATION

ENTRY ELEVATION

OUTER ELEVATION

REAR ELEVATION

STONE, BOARD FORMED CONCRETE, CMU, FUNCTIONAL COMPOSITE PANEL, OR CEMENT PLASTER

INNER ELEVATION

ENTRY ELEVATION

OUTER ELEVATION

REAR ELEVATION
NOTE:
ENTRY SIGNAGE LIGHTING TO COMPLY WITH APPLICABLE PROVISIONS IN CITY OF MOAB'S LIGHTING ORDINANCE, INCLUDING BUT NOT LIMITED TO DARK SKIES PROVISIONS.
Civil Engineering

- The Drinking Water Source Protection Plan (DWSPP) was a key element to the 2008 Preliminary Master Plan approval. Subsequently, the DWSPP was approved by the Moab City Council in 2010. The DWSPP requires a higher level of care and protection of the aquifer than is typically required of projects in the Moab area. The DWSPP provides protection of the aquifer during the design, construction and long-term ownership and maintenance of the property. The developer and the City of Moab have been adhering to the DWSPP during the current construction of the offsite utilities.

- The Phase 1 infrastructure has been designed to meet the requirements of the Drinking Water Source Protection Plan.

- All design and construction contracts for the Phase 1 project will include the DWSPP as an exhibit the the consultants and contractors will be contractually required to meet the requirements of the DWSPP.

- Special consideration has been given in the Phase 1 infrastructure design to minimizing the disturbance of the natural vegetation. Construction limits of disturbance will be established in the final infrastructure plans. No natural vegetation will be disturbed outside the construction limits of disturbance.

- Individual lots have adjusted slightly to minimize grading and maximize the natural drainages on the site.

- The entrance to the Lionsback Resort has been moved south to improve line of site of Sand Flats Road for vehicles exiting the property and minimize the grading disturbance at the entrance. The original entrance required significantly more excavation and disturbance to the naturalized land. The supplemental report from Jones & DeMille Engineering dated January 12, 2021 (included in this submittal package) shows that the revised entrance provides better site distance than the original entrance location offering improved safety.

- City will own the water and sewer systems including two water booster stations, a 275,000 gallon water tank, a sewer lift station and water/sewer transmission lines which are currently under construction by the developer at the developers sole cost.

- The majority of the water tank is located below grade minimizing the visual impact.

- Site lighting along the internal roads and intersections is designed to meet Moab’s Dark Skies guidelines.

- The developer and the City have worked closely on the design and approval of the water and sewer systems to meet City requirements.

- Electrical service is being provided by Rocky Mountain Power. Rocky Mountain Power’s overhead power lines and poles along Sand Flats Road are being removed at the developer’s cost.

- Telecommunications is being provided by Emery Telecom and will include fiber optic lines for internet, cable and telephone.

- Typical roads within the resort meet the standards per the Preliminary Master Plan approval and include 20 foot wide roads and v-pan gutters reducing the visual impact and providing a more natural setting. The ROW for the utility easements on the shoulders of the road will be used for pedestrian foot traffic.

- The storm water drainage system has been designed in accordance with the Drinking Water Source Protection Plan utilizing the existing natural drainages to minimize disturbance to the naturalized landscape.
GENERAL NOTES

1. DRAWINGS WERE PREPARED IN ACCORDANCE WITH DRINKING WATER SOURCE PROTECTION PLAN.
2. THE CONTRACTOR SHALL MEET ALL UTAH STATE DEPARTMENT OF ENVIRONMENTAL QUALITY AND U.S. EPA REQUIREMENTS WITH RESPECT TO THEIR MINIMUM RULES AND REGULATIONS. CONTRACTOR SHALL ALSO COMPLY WITH ALL REQUIREMENTS OF THE DRINKING WATER SOURCE PROTECTION PLAN.
3. INFORMATION SHOWN FOR EXISTING CULINARY WATER LINES, AND UTILITIES IS BASED ON BEST AVAILABLE INFORMATION AND IS ACCORDING TO RECORDS SUPPLIED TO ENGINEER. HOWEVER, ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED. CONTRACTOR SHALL ACCEPT SITE AS IS AND ASSUME LIABILITY FOR LOCATION AND PRESERVATION OF UTILITIES.
4. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED AND SIGNS BARRICADES AND FLASHERS SHALL BE PLACED SO AS TO COMPLY WITH OSHA UTAH STATE INDUSTRIAL COMMISSION, LOCAL SAFETY STANDARDS, AND UDOT'S MANUAL ON UNIFORM TRAFFIC CONTROL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES, INCLUDING WATER LINES, IRIGATION DRAIN LINES, GAS LINES, POWER LINES, SEWER LINES, TELEPHONE CABLES, ETC. AND ANY OTHER OBSTRUCTION DURING THE COURSE OF CONSTRUCTION AND INSTALLATION OF ALL INFRASTRUCTURE. CONTRACTOR SHALL CALL BLUE STAKES (811) BEFORE BEGINNING CONSTRUCTION, SAY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THEIR ORIGINAL CONDITION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN RIGHT OF INGRESS AND EGRESS SHOULD HE DESIRED TO PRIVATE PROPERTY WHICH IS NOT INCLUDED IN SYSTEM ACQUIRED RIGHTS-OF-WAY AND EASEMENTS.
7. UNLESS DETAILED, SPECIFIED OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION AND SHALL REPLACE OR RESTORE ANY DAMAGES AS A RESULT OF THE CONTRACT ACTIVITY AS DIRECTED BY THE ENGINEER.
9. THE CONTRACTOR SHALL PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITH CONSTRUCTION DISTURBANCE LIMITS. NO TREES OR NATURAL LANDSCAPE WILL BE DISTURBED OUTSIDE OF LIMITS OF CONSTRUCTION AREA.
10. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. IN THE EVENT OF CONFLICTS WITH ENGINEERING PLANS AND LANDSCAPE PLANS NOTIFY ENGINEER.
11. CONTRACTOR IS RESPONSIBLE FOR SITE DUST CONTROL AND SUPPRESSION FOR THE DURATION OF THE PROJECT (WEEKENDS INCLUDED).
12. IN CASE OF CONFLICT BETWEEN CODES, REFERENCE STANDARDS, DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
13. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND APPROVALS FROM THE CITY OF MOAB, GRAND COUNTY AND SHALL COMPLY WITH ALL REGULATIONS FOR TRAFFIC CONTROL, SAFETY, EXCAVATION, ETC.
14. PRIOR TO STARTING ANY WORK ON PRIVATE PROPERTY OUTSIDE OF EASEMENTS, OBTAIN WRITTEN APPROVAL FROM PROPERTY OWNER. COORDINATE WORK WITH PROPERTY OWNER. PROVIDE MINIMUM 24 HOURS NOTICE BEFORE STARTING WORK.
15. FIELD VERIFY LOCATION SIZE, AND DEPTH OF EXISTING UTILITIES PRIOR TO PERFORMING WORK.
16. CONTRACTOR TO OBTAIN CONSTRUCTION AND ENCROACHMENT PERMITS NECESSARY FOR WORK.
17. WHERE WATER LINE CROSSES OVER TOP OF SEWER LINE, MAINTAIN VERTICAL SEPARATION OF 18" BETWEEN WATER LINES AND SEWER LINES.
18. MAINTAIN HORIZONTAL SEPARATION OF AT LEAST 10 FEET BETWEEN WATER LINES AND SEWER LINES.
19. CONTRACTOR SHALL POT HOLE UTILITIES AT ALL CROSSINGS AT LEAST ONE WEEK IN ADVANCE OF LAYING PIPE TO ALLOW FOR ADJUSTMENTS OF NEW PIPELINE GRADE TO AVOID CONFLICTS.
20. COORDINATES AND ELEVATIONS ARE GIVEN AT THE CENTER OF MANHOLES.
21. CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO FABRICATION OF MANHOLES. COORDINATE ARE GIVEN AT THE CENTER OF MANHOLES. ELEVATIONS SHOWN FOR INLET AND OUTLET TO MANHOLES ARE PROJECTION OF SLOPE TO CENTER OF MANHOLE.
22. TOPSOIL (.5" MINUS) SHALL BE STOCKPILED AND PLACED AT THE "TOP 12" MIN OF FINISHED GRADE.

GRADING INDEX

PROJECT (WEEKENDS INCLUDED).

NOTES:

LIONSBACK RESORT - PHASE 1 INFRASTRUCTURE

LB MOAB OWNER, LLC

JONES & DEMILLE ENGINEERING, INC

GIS - ENVIRONMENTAL - MATERIALS TESTING

QUALITY MANAGEMENT REVIEW

PROJECT DESIGN ENGINEER

CIVIL & STRUCTURAL ENGINEERING - SURVEYING

C-403

HILLS REVENGE SAFARI RD.

C-402

SANDS FLAT RD.

C-401

GRAND BAY - BLUESTAKES 056

G-005

PLOTTED:

REMARKS

UPDATED:

DATE

COUNTY

1-800-662-4111

UTILITY NOTIFICATION CENTER, INC.

GRAND BLUE STAKES OF UTAH

IT'S FREE AND IT'S THE LAW.

Call before you dig.

Dig Safely.

below.

www.bluestakes.org

Layback Resort - Phase 1 Infrastructure

Utility Notification Center, Inc.

Grand Blue Stakes of Utah

03/30/2021

PLOTTED:

REMARKS

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www.bluestakes.org

Layback Resort - Phase 1 Infrastructure

Utility Notification Center, Inc.

Grand Blue Stakes of Utah

03/30/2021
**NOTE:**
Protect all trees and natural landscape as much as possible within construction disturbance limits. Do not disturb trees or natural landscape outside of limits of construction area.

**EXISTING GROUND**

---

**BEGIN GECKO DR.**

**TYPICAL SECTION NO. 1**

STA 21+27.05, 0.00

---

**END GECKO DR.**

**TYPICAL SECTION NO. 1**

STA 25+50.00, 0.00

---

**24 INCH HDPE PIPE CULVERT REQ'D (27.5 L.F.)**

STA 23+50.08, 17.29 R

INV = 4410.83'

STA 23+46.69, 9.63 L

INV = 4409.81'

---

**3' X 3' CATCH BASIN REQ'D**

STA 23+46.77, 10.50 L

---

**GRADE BREAK STA = 20+00.00**

ELEV = 4506.110

**GRADE BREAK STA = 20+59.90**

ELEV = 4504.250

---

**GRADE BREAK STA = 21+24.04**

ELEV = 4504.936

**GRADE BREAK STA = 21+27.05**

ELEV = 4505.161

**GRADE BREAK STA = 20+81.98**

ELEV = 4504.927

**GRADE BREAK STA = 20+84.99**

ELEV = 4504.732

**GRADE BREAK STA = 20+88.00**

ELEV = 4504.955

**GRADE BREAK STA = 21+03.90**

ELEV = 4505.359

**GRADE BREAK STA = 21+21.03**

ELEV = 4505.123

---

**PVI STA: 23+44.26**

ELEV: 4512.29

K: 33.38

LVC: 150.00

---

**BVCS: 22+69.26**

BVCE: 4509.83

EVCS: 24+19.26

EVCE: 4518.12

---

**PVI STA: 26+28.65**

ELEV: 4534.39

K: 22.18

LVC: 300.00

---

**BVCS: 24+78.65**

BVCE: 4522.73

EVCS: 27+78.65

EVCE: 4525.77

---

**CALL BEFORE YOU DIG.**

IT'S FREE AND IT'S THE LAW.

---

**Profile Scale:**

VERT. 1" = 8'

HORIZ. 1" = 40'

---

**NOTE:**

Protect all trees and natural landscape as much as possible within construction disturbance limits. Do not disturb trees or natural landscape outside of limits of construction area.
BEGIN GECKO DR.
TYPICAL SECTION NO. 4
STA 29+72.76, 0.00

END GECKO DR.
TYPICAL SECTION NO. 6
STA 34+07.50, 0.00

STA 31+99.96, 12.00 R
24 INCH HPDE PIPE
CULVERT REQ'D (49.5 L.F.)

STA 33+55.66, 20.40 L
INV = 4491.10'

STA 33+64.14, 28.14 R
INV = 4489.83'

24 INCH HPDE PIPE
CULVERT REQ'D (24 L.F.)
STA 30+23.72, 10.14 L TO
STA 30+51.14, 19.78 L

CONCRETE CURB
& GUTTER REQ'D
STA 30+50.00, 12.00 R TO
CONCRETE CURB
& GUTTER REQ'D
STA 34+07.50, 12.00 R TO
STA 35+50.00, 12.00 R

END GECKO DR.
TYPICAL SECTION NO. 5
STA 30+49.50, 0.00

BEGIN GECKO DR.
TYPICAL SECTION NO. 5
STA 30+49.50, 0.00

BEGIN GECKO DR.
TYPICAL SECTION NO. 5
STA 34+07.50, 0.00

BEGIN GECKO DR.
TYPICAL SECTION NO. 5
STA 36+26.40, 0.00

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.

APPROXIMATE LOCATION OF CULVERT CROSSING
NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.
GECKO DR.
END PROJECT
STA 38+45.28
N: 101283.3471
E: 100034.8147

STA 35+30.00, 12.00 R
CONCRETE CURB
& GUTTER REQ'D
STA 35+88.57, 10.09 R
STA 38+25.78, 16.75 R
24 INCH HDPE PIPE
CULVERT REQ'D (41 L.F.)
STA 35+60.62, 41.84 R
_INV = 4486.71'
STA 35+87.42, 11.10 R
_INV = 4489.95'

END GECKO DR.
TYPICAL SECTION NO. 7
STA 38+25.28, 0.00

BEGIN GECKO DR.
TYPICAL SECTION NO. 7
STA 36+26.40, 0.00
24 INCH HDPE PIPE
CULVERT REQ'D (35.5 L.F.)
STA 35+88.25, 10.06 R
_INV = 4490.41'
STA 36+09.99, 17.30 L
_INV = 4492.41'

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.
BIKE PATH BEGIN PROJECT
STA 10+40.00
N: 99868.4216
E: 100514.4066

BIKE PATH BEGIN TYPICAL NO. 6
STA 10+40.00, 0.00
10.52 of 12" CMP @ 3.68%

1.800.748.5275   www.jonesanddemille.com
Jones & DeMille Engineering, Inc.
CIVIL & STRUCTURAL ENGINEERING - SURVEYING

10.52 of 12" CMP @ 3.68%

NOTE:
PROJECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.

EXISTING GROUND
EXISTING GROUND

PROFILE SCALE:
VERT. 1"=8'
HORIZ. 1"=40'

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.

EXISTING GROUND

1.800.748.5275   www.jonesanddemille.com
Jones & DeMille Engineering, Inc.
CIVIL & STRUCTURAL ENGINEERING - SURVEYING

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BLUE STAKES OF UTAH
Utility Notification Center, Inc.
1-800-662-4111
www.bluestakes.org
Dig Safely.
Know what's below.
Call before you dig.

GREEN VALLEY HOMES, LLC
1150 S. 7TH PL.
GRAND JUNCTION, CO 81501
(970) 241-8511
WWW.GREENVALLEYHOMES.COM

GIANT EAGLE PRODUCE
10.52 of 12' CMP @ 3.68%
15.00

GIS - ENVIRONMENTAL - MATERIALS TESTING

PROFILE:
EXISTING GROUND

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES OR NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.

EXISTING GROUND
BIKE PATH END PROJECT
STA 25+95.60
N: 101260.8423
E: 100073.6170

END TYPICAL NO. 6
MATCH BIKE PATH INTO TOP BACK OF CURB.
STA 25+95.60, 0.00

GRADE BREAK STA = 25+95.60
ELEV = 4493.087

GRADE BREAK STA = 25+96.78
ELEV = 4492.802

GRADE BREAK STA = 24+14.94
ELEV = 4480.453

GRADE BREAK STA = 25+08.08
ELEV = 4488.250

GRADE BREAK STA = 25+71.26
ELEV = 4490.820

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES ON NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.

NOTE:
EXISTING GROUND

PROFILE SCALE:
VERT. 1"=8'
HORIZ. 1"=40'

NOTE:
PROTECT ALL TREES AND NATURAL LANDSCAPE AS MUCH AS POSSIBLE WITHIN CONSTRUCTION DISTURBANCE LIMITS. DO NOT DISTURB TREES ON NATURAL LANDSCAPE OUTSIDE OF LIMITS OF CONSTRUCTION AREA.
GENERAL UTILITY NOTES:

1. POWER AND FIBER OPTIC UTILITIES ARE SHOWN FOR INFORMATION ONLY. COORDINATE WITH ROCKY MOUNTAIN POWER (RMP) AND EMERY TELCOM FOR EXACT LOCATIONS.

2. DOMINION ENERGY GAS UTILITIES ARE SHOWN FOR INFORMATION ONLY AND ARE APPROXIMATE. GAS UTILITY LINES WILL BE INSTALLED BY OTHERS. COORDINATE WITH DOMINION ENERGY WITH ANY CONFLICTS. MAINTAIN 3 MINIMUM HORIZONTAL SEPARATION FROM ALL OTHER UTILITIES AND GAS PIPING.

3. SEE SHEETS C-201 TO C-209 FOR SEWER LINE INFORMATION.

4. MAINTAIN 3' VERTICAL SEPARATION FOR WATERLINE LOOPS UNDER DRAINAGE CULVERTS FOR FROST PROTECTION.
GENERAL UTILITY NOTES:
1. POWER AND FIBER OPTIC UTILITIES ARE SHOWN FOR INFORMATION ONLY. COORDINATE WITH ROCKY MOUNTAIN POWER (RMP) AND EMERY TELCOM FOR EXACT LOCATIONS.
2. DOMINION ENERGY GAS UTILITIES ARE SHOWN FOR INFORMATION ONLY AND ARE APPROXIMATE. GAS UTILITY LINES WILL BE INSTALLED BY OTHERS. COORDINATE WITH DOMINION ENERGY WITH ANY CONFLICTS. MAINTAIN 3 MINIMUM HORIZONTAL SEPARATION FROM ALL OTHER UTILITIES AND GAS PIPING.
3. SEE SHEETS C-301 TO C-298 FOR SEWER LINE INFORMATION.
LODGE DRIVE TYPICAL
SECTION NO. 1
STA. 07+10.93 to STA. 11+60.80

8" GRAVITY SEWER
10.00' ± 0.25'
2.00' MIN.
-2.00% TYP.
-4.00:1 TYP.
ROADWAY EXCAVATION (PLAN QTY.) REQ'D
8" CULINARY WATER
6.00:1
8" GRAVITY SEWER
10.00' UTILITY EASEMENT
1-1/4" SDR-11 HPDE FIBER SPARES (EMERY TELECOM)
1-1/4" SDR-11 HPDE FIBER (EMERY TELECOM)
SCH 40 PVC ELECTRICAL CONDUIT (SEE PLAN FOR SIZE)
(ROCKY MOUNTAIN POWER)
ELECTRICAL SERVICE DROP CONDUIT
(SEE PLAN FOR SIZE & LOCATION)
4" DUCTILE IRON GAS PIPELINE (DOMINION ENERGY)

GECKO DRIVE TYPICAL
SECTION NO. 1
STA. 21+50.12 to STA. 25+50.00

8" GRAVITY SEWER
10.00' ± 0.25'
2.00' MIN.
-2.00% TYP.
-4.00:1 TYP.
ROADWAY EXCAVATION (PLAN QTY.) REQ'D
8" CULINARY WATER
6.00:1
8" GRAVITY SEWER
10.00' UTILITY EASEMENT
1-1/4" SDR-11 HPDE FIBER SPARES (EMERY TELECOM)
1-1/4" SDR-11 HPDE FIBER (EMERY TELECOM)
SCH 40 PVC POWER (ROCKY MOUNTAIN POWER)
3" SCH 40 PVC POWER (ROCKY MOUNTAIN POWER)
GECKO DRIVE TYPICAL

SECTION NO. 2
STA. 25+50.00 to STA. 26+50.00

GECKO DRIVE TYPICAL

SECTION NO. 3
STA. 26+50.00 to STA. 29+72.76
GECKO DRIVE TYPICAL
SECTION NO. 6
STA, 32+00 to STA, 34+07.50

GECKO DRIVE TYPICAL
SECTION NO. 7
STA, 36+20.40 to STA, 38+25.28
LIONSBACK DRIVE TYPICAL
SECTION NO. 2

STA. 52+54.78 to STA. 53+69.93

4" DUCTILE IRON GAS PIPELINE (DOMINION ENERGY)
8" GRAVITY SEWER
8" GRAVITY SEWER

NOTE:
1. HOLD SHOULDERS WIDTH; SLOPE VARIES
2. SEE SIDE SLOPE TABLE THIS SHEET

4" THICK HMA - 3/8" REQ'D
8" THICK UNTREATED BASE COURSE (PLAN QTY.) REQ'D
GRANULAR BORROW (PLAN QTY.) REQ'D
ROADWAY_excavation
(PLAN QTY.) REQ'D
1-1/4" SDR-11 HPDE FIBER SPARES (EMERY TELECOM)
8" CULINARY WATER SEWER
3" SCH 40 PVC POWER (ROCKY MOUNTAIN POWER)
CONCRETE CROSS GUTTER

NOTES:
1. CONSTRUCT CROSS GUTTER TO DRAIN WITHOUT PONDING.
2. SEE STANDARD CONCRETE JOINTS ON S-171.

ROAD REPAIR DETAIL

NOTES:
1. SEE MAXIMUM PAYLINE WIDTHS INDICATED IN SPECIFICATION SECTIONS 23 01 17.16 & 32 01 23.16.

LIONSBACK CURB & GUTTER
1. Place reinforcing steel in center of concrete.

DEPTH TO MATCH CURB & GUTTER DEPTH

NOTES:

- Pipe culvert as req’d
- Grate & frame 6" depth
- Rock base 6" depth
- U.B.C. 4" min.
- 8" depth rock base
- A.C. pavement #4 bars @ 12" O.C. both ways

PLAN

SECTION B-B

SECTION A-A

STANDARD CATCH BASIN DETAIL

1'-6" 6"

3'-8" 6"
INLET AND OUTLET PLAN

SECTION C-C

TYPICAL CULVERT INLET/OUTLET END SECTION DETAIL

NOTES:

1.  2' MINIMUM SPACING BETWEEN CULVERTS IF MULTIPLE BARRELS ARE REQUIRED. A DISTANCE EQUAL TO THE DIAMETER OF THE CULVERT SHALL BE MAINTAINED BETWEEN THE OUTERMOST CULVERT AND BEGINNING EXTENTS OF RIPRAP OUTLET PROTECTION.

W = 2D

APRON LENGTH (SEE TABLE ON THIS SHEET)

2' MIN.

L = 3D (MIN. 10')

SLOPE TO DRAIN

SEE TABLE ON THIS SHEET FOR D50

FLOW

METAL END SECTION

END SECTION

RIPRAP 1' THICK TYP

THERMOPLASTIC OR CONCRETE PIPE CONNECTION

APPROX.

MENTAL END SECTION

GEOTEXTILES - FILTER FABRIC

GEOTEXTILES - FILTER FABRIC

GEOTEXTILES - FILTER FABRIC

PEEL-BACK EDGE REINFORCED EDGE

1/2" FORM 1/2" x 2 2/3" CORRUGATIONS.

MAINTAIN INSIDE DIAMETER OF SLEEVE

SMOOTH TAPERED SLEEVE

DIMENSIONS (INCHES)

PIPE DIA

ELEVATION

PLAN

TYPICAL CROSS SECTION

STEEL END SECTIONS FOR CIRCULAR PIPE

VARIES

APRON DEPTH

2' TYP.

TOE PLATE

STEEL

MIN METAL THICK

INCH/GAUGE

0.109" (12 GAUGE)

1.  DIMENSIONS OF END SECTION CAN VARY FROM THOSE SHOW IN THE TABLES DUE TO DIFFERENT MANUFACTURER'S CONFIGURATIONS.

2.  USE GALVANIZED HARDWARE FOR CONNECTIONS.

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Dig Safely.

Know what's below.

Call before you dig.

CALL BEFORE YOU DIG. IT'S FREE AND IT'S THE LAW.
LOCATE END OF CULVERT OUTSIDE CLEAR ZONE

SLOPE OR SHORE TRENCH WHEN DEPTH IS GREATER THAN OR EQUAL TO 9 FT.

EMBANKMENT

MIN. TRENCH WIDTH

PIPET BACKFILL

HAND TAMPE

PIPET BEDDING SEE NOTE 3

PIPET FOUNDATION

UNCOMPACTED BEDDING

NOTES:

1. PLACE PLASTIC PIPE ONLY WITHIN A TRENCH, PLACE MATERIAL AT OR ABOVE THE PIPE BACKFILL ELEVATION BEFORE EXCAVATION OF THE TRENCH WHEN PLACED IN AN EMBANKMENT.

2. INCREASE THE WIDTH OF THE TRENCH 2 FT ON EACH SIDE OF THE PIPE WHEN THE SURROUNDING MATERIAL IS UNSUITABLE.

3. INCREASE THE PIPE BEDDING THICKNESS TO 6 INCHES FOR FOUNDATIONS THAT CONTAIN ROCK OR OTHER UNYIELDING MATERIAL. REMOVE BOULDERS OR ROCKS WITHIN BEDDING AREA.

4. DO NOT DISTURB THE INSTALLED PIPE OR EMBREMENT OR LEAVE VOIDS WHEN USING TRENCH BOXES AND SHIELDS.

SEE TYPICAL SECTION FOR ROADWAY SECTION. MAINTAIN 12-INCHES OF COVER.

EXISTING GROUND

GRADE TO DRAIN

LOCATE END OF CULVERT OUTSIDE CLEAR ZONE

DAYLIGHT AT 4:1 MAX SLOPE

FIELD VERIFY CULVERT INVERTS

FIELD VERIFY CULVERT INVERTS

EXCAVATE TO DAYLIGHT

PIPET FOUNDATION

MIN. TRENCH WIDTH

PIPET BACKFILL

HAND TAMPE

PIPET BEDDING SEE NOTE 3

PIPET FOUNDATION

UNCOMPACTED BEDDING

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4. DO NOT DISTURB THE INSTALLED PIPE OR EMBREMENT OR LEAVE VOIDS WHEN USING TRENCH BOXES AND SHIELDS.
TACK COAT REQ'D, TYP
6" UNTREATED BASE COURSE
COMPACTED TO 96% AASHTO T-180.
6" THICK CONCRETE

SECTION VIEW

CONCRETE CURB TAPER DETAIL

PLAN VIEW

OPEN CURB DETAIL

SECTION VIEW

PLAN VIEW
SEWER TRENCH DETAIL

NON-TRAVELED AREAS

STREET OR GROUND SURFACE

TRAVELED AREAS

SEE ROADWAY REPAIR DETAIL

25% DENSITY REQ'D FOR BACKFILL COMPACTION 8'-10" LIFTS REQ'D SLOPE VARIES TO MEET OSHA REQUIREMENTS AND SOIL CONDITIONS

65% DENSITY REQ'D FOR BACKFILL COMPACTION 6" TO 12" LIFTS REQ'D

WARNING TAPE REQ'D 24" ABOVE PIPE

3/4" MINUS GRAVEL (LESS THAN 5% FINES) COMPACTED BEDDING

4" - 6" UNDERNEATH PIPE.

MAXIMUM ALLOWABLE WATER LEVEL DURING CONSTRUCTION VARY

1' 6" PIPE O.D.

VARIES

VARIES

90% DENSITY REQ'D FOR BACKFILL COMPACTION 6" TO 12" LIFTS REQ'D

96% DENSITY REQ'D FOR BACKFILL COMPACTION 6" TO 12" LIFTS REQ'D

WARNING TAPE REQ'D 24" ABOVE PIPE

3/4" MINUS GRAVEL (LESS THAN 5% FINES) COMPACTED BEDDING

4" - 6" UNDERNEATH PIPE.

MAXIMUM ALLOWABLE WATER LEVEL DURING CONSTRUCTION VARY

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VARIES

VARIES

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MAXIMUM ALLOWABLE WATER LEVEL DURING CONSTRUCTION VARY

1' 6" PIPE O.D.

VARIES

VARIES

WARNING TAPE REQ'D 24" ABOVE PIPE

3/4" MINUS GRAVEL (LESS THAN 5% FINES) COMPACTED BEDDING

4" - 6" UNDERNEATH PIPE.

MAXIMUM ALLOWABLE WATER LEVEL DURING CONSTRUCTION VARY

1' 6" PIPE O.D.

VARIES

VARIES
SEWER MANHOLE DETAIL

NOTES:
1. PLACE MANHOLE RIM ELEVATION PER FINISH GRADE DETAIL ON SHEET DT-04.
2. FIELD VERIFY ACTUAL RIM ELEVATIONS.
3. USE NO MORE THAN 12" OF GRADE RINGS TO ARRIVE AT REQ'D FINISH GRADE.
4. APPLY NON-SHRINK GROUT TO BOOT COUPLERS

MANHOLE CONCRETE COLLAR

NOTE:
1. USE NO MORE THAN 12" OF GRADE RINGS TO ARRIVE AT REQ'D FINISH GRADE.
**FIN. GRADE**

**FIN. GRADE**

**MANHOLE FINISH GRADE DETAIL**

**NOTES:**
1. USE GRADE RINGS AS NECESSARY TO ARRIVE AT REQ'D FINISH GRADE.
2. ACTUAL RIM ELEVATIONS SHOWN ON PLAN & PROFILE SHEETS MAY VARY ±0.5' FROM ELEVATIONS SHOWN.
3. FIELD VERIFY ACTUAL RIM ELEVATIONS.
4. MANHOLE FINISH GRADE TYPE IS INDICATED WITH RIM ELEVATION NOTED ON PLAN & PROFILE SHEETS.
5. CONTRACTOR SHALL POT HOLE UTILITIES AT ALL CROSSINGS AT LEAST ONE WEEK IN ADVANCE OF LAYING PIPE TO ALLOW FOR ADJUSTMENTS OF NEW PIPELINE GRADE TO AVOID CONFLICTS.
6. COORDINATES AND ELEVATIONS ARE GIVEN AT THE CENTER OF MANHOLES.
7. CONTRACTOR SHALL VERIFY RIM ELEVATIONS PRIOR TO FABRICATION OF MANHOLES.
8. TOPSOIL (1 1/2" MIN) SHALL BE STOCKPILED AND PLACED AT THE TOP 12" MIN OF FINISHED GRADE.

**TYPE "A" TRAFFIC AREAS**

**TYPE "B" NON-TRAFFIC AREAS**

**SEWER CLEANOUT DETAIL**

**NOTES:**
1. FOR VACANT LOTS, INSTALL 4' T POST WITH 2' OF PIPE EXPOSED ABOVE EXISTING GROUND WITH PLUGGED END, ANCHOR PIPE TO T-POST IN 2 LOCATIONS.
2. D&L SUPPLY LID NOT REQUIRED IN VACANT LOTS.

**SEWER SERVICE CONNECTION DETAIL**

**NOTES:**
1. ALL SERVICE CONNECTIONS TO BE 4-INCH SDR 35, UNLESS NOTED OTHERWISE.
WATER UTILITY TRENCH DETAIL

NOTE:
SEE TRENCHING & UTILITY SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
CONDITION 1

CONDITION 2

CONDITION 3

CONDITION 4

CONDITION 5

CONDITION 6

CONDITION 7

CONDITION 8

VERTICAL BEND ANCHOR BLOCK

TYPICAL THRUST BLOCK SECTION

REDUCER THRUST BLOCK

BEARING AREAS ARE IN SQUARE FEET.

NOTE:
1. PLACE THRUST BLOCKS WITH BEARING SURFACE AGAINST UNDISTURBED EARTH OR COMPACTED FILL.
2. USE CONCRETE WITH 2,500 PSI OR HIGHER 28 DAY COMPRESSIVE STRENGTH.
3. DESIGN FOR ALLOWABLE SOIL BEARING PRESSURE OF 1,000 PSF.
4. PROVIDE RATIO OF "X" TO "Y" (THRUST BLOCK AREA) NO GREATER THAN 3:1.
5. ALLOW MINIMUM 3 DAYS CURE TIME FOR CONCRETE PRIOR TO PRESSURIZING SYSTEM.
6. PLACE THRUST BLOCKS WITHOUT INTERFERING WITH NUTS & BOLTS OF FITTINGS.
7. SEE PIPE CONDITIONS ON THIS SHEET.
8. MECHANICAL JOINT RESTRAINTS MAY BE USED AS ALTERNATE TO CONCRETE THRUST BLOCKS, SEE SHEET DT-##.
9. SEE RELATED SPECIFICATION SECTION: 33-14-12 WATER UTILITY SYSTEM.
10. GREASE AND WRAP BOLTED CONNECTIONS, FITTINGS, AND VALVES IN AREAS OF HIGH SOIL CORROSIVITY.

OPTIONAL NOTES DEPENDING ON OWNER PREFERENCE AND SITE CONDITIONS:
- INSTALL CONCRETE THRUST BLOCK ON FITTINGS & MECHANICAL JOINT RESTRAINT ON EACH JOINT OF FITTINGS.
- USE STAINLESS STEEL BOLTS IN AREAS WITH HIGH WATER TABLE.

CONCRETE THRUST BLOCK BEARING AREA (X) X (Y) (FOR REDUCERS)

PIPE SIZE

<table>
<thead>
<tr>
<th>SIZE (INCH)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tr>
<td>8</td>
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<td>14.0</td>
<td>17.5</td>
<td>21.0</td>
<td>24.5</td>
<td>28.0</td>
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<tr>
<td>12</td>
<td>5.2</td>
<td>10.4</td>
<td>15.6</td>
<td>20.8</td>
<td>26.0</td>
<td>31.2</td>
<td>36.4</td>
<td>41.6</td>
</tr>
</tbody>
</table>

NOTES:
- AREA APPLIES TO EACH INDIVIDUAL THRUST BLOCK (2 SHEETS).

VERTICAL BEND ANCHOR BLOCK CONCRETE VOLUME

<table>
<thead>
<tr>
<th>PIPE SIZE (INCH)</th>
<th>VERTICAL DEFLECTION ANGLE &amp; PIPING WORKING PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERTICAL ANGLE</td>
<td>TYPICAL WORKING PRESSURE</td>
</tr>
<tr>
<td>13.25</td>
<td>22.5°</td>
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<tr>
<td>2</td>
<td>0.04</td>
</tr>
<tr>
<td>2.5</td>
<td>0.14</td>
</tr>
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<td>0.57</td>
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<td>8</td>
<td>1.29</td>
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<tr>
<td>10</td>
<td>1.75</td>
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<td>12</td>
<td>2.28</td>
</tr>
<tr>
<td>14</td>
<td>2.89</td>
</tr>
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</table>

VOLUMES ARE IN CUBIC YDS.
TYPICAL MECHANICAL RESTRAINED JOINTS

NOTES:
1. RESTRAIN ALL JOINTS WITHIN DISTANCE "L".
2. PROVIDE RESTRAINED JOINTS ON FITTING.
3. DISTANCE REQUIRED FOR JOINT RESTRAINTS DEPENDS ON FITTING TYPE, SOIL TYPE AND WORKING PRESSURE.

DESIGN CRITERIA:
- WORKING PRESSURE: 235 p.s.i.
- SAFETY FACTOR: 1.5
- SOIL TYPE: CLAY
- DEPTH OF COVER (TOP OF PIPE): 4'
- PIPE TYPE: PVC
- TRENCH TYPE: 5

PROVIDE DISTANCE "L" REQUIRED FOR JOINT RESTRAINTS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS, OR BY MINIMUM LISTED IN TABLES ON THIS SHEET.

FOR OTHER FITTINGS, CONTACT ENGINEER.

USE STAINLESS STEEL BOLTS REQUIRED IN AREAS WITH HIGH WATER TABLE.

USE RELATED SPEC SECTION 331412 WATER UTILITY SYSTEM SPECIFICATION.

IF CONTRACTOR WANTS TO CHANGE RESTRAINT LENGTHS, ENGINEER NEEDS SUBMITTAL FROM MANUFACTURER.

GREASE AND WRAP BOLTED CONNECTIONS, FITTINGS, AND VALVES IN AREAS OF HIGH SOIL CORROSIVITY.

CALL BEFORE YOU DIG.
IT'S FREE AND IT'S THE LAW.
VALVE CONCRETE COLLAR DETAIL

PLAN

SECTION

VALVE BOX

(8) #4 BARS, 12" LONG

CONCRETE COLLAR

24" DIA

3" MIN

(8) #4 BARS, 12" LONG

LID

1/4" - 1/2" UP FROM ADJACENT FINISHED GRADE TO COLLAR

CONCRETE COLLAR

WARNING DECAL

PIPE MARKER W/ TRACER WIRE ACCESS

PVC OR HDPE PIPE (PER PLANS)

#1 SOLID COPPER TRACER WIRE

CONCRETE THRUST BLOCK ON VALVES 12" DIA. & LARGER

UTILITY CROSSING ENCASEMENT DETAIL

SECTION A-A

NOTES:
1. RELATED SPEC SECTION 33 14 12.

PIPE MARKER W/ TRACER WIRE

NOTE:
1. LOCATE PIPE MARKER AT 1000 FEET MAXIMUM INTERVALS AND AT LOCATIONS INDICATED ON DRAWINGS.
2. IF PIPE IS LESS THAN 20 FEET FROM UDOT ROADWAY, INSTALL PIPE MARKER AT 500 FEET MAXIMUM INTERVAL.
3. WHERE POSSIBLE LOCATE NEAR PROPERTY BOUNDARIES OR OTHER AREAS TO MINIMIZE CONFLICTS WITH LAND USE.
4. RELATED SPEC SECTION 33 14 12 WATER UTILITY SYSTEM.

GATE VALVE DETAIL

SECTION

GATE VALVE

PIPE

TRACER WIRE

CONCRETE ENCASEMENT OR DUCTILE IRON PIPE WITH MJ FITTINGS IS REQUIRED WHEN CLEAR VERTICAL DISTANCE IS LESS THAN 18 INCHES OR LESS THAN 10' BETWEEN PARALLEL LINES.

NOTE:
1. USE STAINLESS STEEL BOLTS IN AREAS WITH HIGH WATER TABLE.
2. WHEN VALVES IS WITHIN YAWED STREET OR AS NOTED, CONSTRUCT CONCRETE COLLAR DETAIL ABOVE.
3. INSTALL TRACER WIRE WRAP VALVE BOX TIGHT AND PUSH THROUGH A CUT HOLE INTO VALVE BOX 12" BELOW FINISHED GRADE.
4. SEE RELATED SPECIFICATION SECTION 33 14 12, WATER UTILITY SYSTEM.
5. THRUST BLOCK REQUIRED WHEN NORMAL OPERATING CONDITIONS HAVE AN EMPTY PIPE ON THE SIDE OF THE VALVE.
6. GREASE AND WRAP BOLTED CONNECTIONS, FITTINGS, AND VALVES IN AREAS OF HIGH SOIL CORROSIVITY.
**NOTES:**
1. Stainless steel bolts required in areas with high water table.
2. Install tracer wire with all service lines.
3. If splice is required on tracer wire, make watertight connection.
4. Related Spec Section 33 14 12.

**WATER SERVICE CONNECTION DETAIL**

**NOTES:**
1. Stainless steel bolts required in areas with high water table.
2. Install tracer wire with all service lines.
3. If splice is required on tracer wire, make watertight connection.
4. Related Spec Section 33 14 12.

**FIRE HYDRANT DETAIL**

**NOTES:**
1. Stainless steel bolts required in areas with high water table.
2. Install tracer wire with all service lines.
3. If splice is required on tracer wire, make watertight connection.
4. Related Spec Section 33 14 12.

**3/4" - 2" WATER METER DETAIL**

**NOTES:**
1. Install tracer wire with all new service lines.
2. Securely wrap tracer wire around fire hydrant above ground.
3. Use mechanical joint restraints for reconnecting or remove and replace hydrants.
4. Use corrosion resistant materials or coatings for tie rods.
5. Related Spec Section 33 14 12.

**METER BARREL SCHEDULE**

<table>
<thead>
<tr>
<th>METER SIZE</th>
<th>BARREL SIZE</th>
<th>LENGTH</th>
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<tbody>
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<td>1&quot;</td>
<td>3/4&quot;</td>
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</tr>
<tr>
<td>1 1/2&quot;</td>
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<td>28&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>1&quot;</td>
<td>28&quot;</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>1 1/2&quot;</td>
<td>28&quot;</td>
</tr>
<tr>
<td>3&quot;</td>
<td>1&quot;</td>
<td>28&quot;</td>
</tr>
</tbody>
</table>

**CAST IRON RING**

**4" FOAM PILLOW**

(AS CALLED OUT ON PLANS)

**PAYLINE 1'**

**CONNECT TO SERVICE LINE**

**PIT MODULE**

**METER BARREL**

**DUAL CHECK VALVE**

**RADIO READ WATER METER**

**CAST IRON LID**

**CONCRETE BARREL**

**TRACER WIRE**

(NEW SERVICES ONLY)