GENERAL NOTES

THE CONTRACTOR SHALL CONTACT ONE CALL FOR UTILITY LOCATIONS PRIOR TO EXCAVATION. (1-800-332-2344)

THE EXISTING UTILITY CROSSINGS OF THE PIPELINES ARE SHOWN ACCORDING TO AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE EXISTING UTILITY CROSSINGS ALONG THE LENGTH OF THE PIPELINES AS SPECIFIED. NO GUARANTEE IS MADE THAT ALL OF THE EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING THE EXCAVATION PROCESS.

EXISTING WATER METER BOXES AND VALVES ARE NOT SPECIFICALLY INDICATED ON THE DRAWINGS BUT DO EXIST ALONG THE PIPELINE ROUTES. CONTRACTOR SHALL LOCATE PRIOR TO THE START OF CONSTRUCTION.

THE LOCATION AND DEPTH SHOWN ON THESE DRAWINGS FOR THE EXISTING PIPELINES ARE APPROXIMATE ONLY AND BASED ON AS BUILT DRAWINGS. VALUE LOCATIONS AND OTHER INFORMATION, THERE ARE NO TRACER WIRES FOR LOCATING THE MAJORITY OF EXISTING UTILITIES AND EXISTING UTILITIES MAY BE IN CLOSE PROXIMITY TO NEW PIPELINE ROUTES.

CONTRACTOR SHALL POSE DRAIN AND LOCATE EXISTING UTILITIES PRIOR TO PLACEMENT OF NEW PIPE.

ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PROJECT DESIGN SPECIFICATIONS AND DRAWINGS. THESE DRAWINGS SHALL BE COORDINATED AND USED IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS AND APPROVED SUBMITTALS.

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED FOR CONSTRUCTION.

CONTRACTOR SHALL FIELD VERIFY PIPE LENGTHS AND DIMENSIONS BASED ON EXISTING CONDITIONS.

GENERAL ABBREVIATIONS

AC PAVEMENT MH MANHOLE
BFV BUTTERFLY VALVE MJ MECHANICAL JOINT
BLDG BUILDING NG NATURAL GAS
CF CATCH BASH NPW NON-POTABLE WATER
CM COURSING OFF OVERFLOW
CRW CITY WATER (PORTABLE) PED PEDESTAL
CWN CITY WATER (NONPOTABLE) PVC POLY VINYL CHLORIDE PIPE
D DRAIN RAS REACTIVATED SLUDGE
DI DUCTILE IRON ROW RIGHT OF WAY
DD DISSOLVED OXYGEN RS RAW SEWAGE
EXISTG EXISTING RWR RECLAIMED WATER
FH FIRE HYDRANT SD STORM DRAIN
FL FLOWLINE SPW SPOUT
FLL FLANGE SS SANITARY SEWER
FM FORCE MAIN STA STATION
GV GATE VALVE SDR SIDEWALK
HDD HORIZONTAL DIRECTIONAL DRILLING TRANS TRANSITION
HOPE HIGH DENSITY POLYETHYLENE PIPE TRANSITION
HPC HYPOCHLORITE V VENT
HS HARVESTED SLUDGE VAC VACUUM
HSG HIGH PRESSURE SLUDGE GAS VC VENT (CHEMICAL)
IH INFLUENT WAM WATER METER
IV IRRIGATION WATERS VLV
IW IRON WATERS VAC
IRD IRON ACTIVATED SLUDGE

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IV IRRIGATION WATERS VLV
IW IRON WATERS VAC
IRD IRON ACTIVATED SLUDGE
OVERALL SITE PLAN - EXISTING IMPROVEMENTS

SHEET NOTES:
1. EXISTING COMPRESSED AIR DISTRIBUTION LINES TO BE DEMOLISHED AFTER INSTALLATION AND CROSS OVER TO NEW DUCTILE IRON PIPE.
4" BUTTERFLY AIR VALVES, CONNECT TO EXISTING DIFFUSER ASSEMBLY

NEW DO SENSOR

NEW CONTROL PANEL W/ 50HP VFDS (SEE ELECTRICAL SHEETS)

CONCRETE TRENCH WITH STEEL GRATE

OVERALL SITE PLAN - NEW IMPROVEMENTS
### Grating Schedule

<table>
<thead>
<tr>
<th>Pipe Diameter</th>
<th>Trench Outside Width</th>
<th>Maximum Clear Span</th>
<th>Bearing Bar Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>14&quot;</td>
<td>3'-6&quot;</td>
<td>2'-6&quot;</td>
<td>32&quot; x 2&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>2'-2&quot;</td>
<td>1'-6&quot;</td>
<td>32&quot; x 2&quot;</td>
</tr>
<tr>
<td>6&quot;</td>
<td>2'-0&quot;</td>
<td>1'-0&quot;</td>
<td>32&quot; x 2&quot;</td>
</tr>
</tbody>
</table>

* Steel bar grating per specs

### Grating Notes:
1. Grating shall conform to the metal bar grating manual of NAAMM. Unless otherwise specified, grating shall be galvanized steel.
2. Unless otherwise specified, provide 4 grating clips approx. 4" from the corners of each piece. Adjacent pieces may be anchored with one clip and two studs.
3. Grating shall be removable.

### Pipe Trench with Grate

- **NOT TO SCALE**
- **HS10 Steel Grate**
- **Electrical conduit for alternative improvements**
- **Concrete trench**
- **See pipe support detail**

### Pipe Support Details

- **FLANGE SUPPORT**
- **STANDARD SUPPORT**

### Grating Details:

- **HS10 galvanized steel grating, NAAMM Type W-19**
- **LAV-6075 T15 ALU and WGO at corners**
- **3/8" M5 stud @ 4" OC**
- **1'/6"" C15**
- **Electrical conduit for alternative improvements**
- **Concrete trench**
- **Pipe stand**
- **Connect to existing diffuser assembly**
- **6" x 6" DI Tee**
- **4" Butterfly Air Valve**

### Pipe Trench with Grate Details

- **NOT TO SCALE**
- **Trench width will vary with changes in pipe diameter. See grating schedule for trench widths.**

### Air Piping Upgrades

- **88184 8th St, Veneta, OR 97487**
- **CITY OF VENETA**
- **MDW**
- **JBJ**
- **JGP**
- **3101-006**
- **April 2015**

### Typical 4 Inch Butterfly Valve

- **NOT TO SCALE**

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[Diagram with annotations and technical details related to pipe support, grating schedule, and air piping upgrades.]
AIR PIPING UPGRADES

TRENCH DRAIN AND TRANSITION TO GROUND DETAILS

TRANSITION NEXT TO AERATION BASIN

TRANSITION AT END (SIDE VIEW)

NEW CONCRETE TRENCH WITH STEEL GRATE COVER

10" DI TEE

10" DI 90° ELBOW

10" DI 90° ELBOW

10" X 6" REDUCER

2" GALVANIZED ANGLE

TYPE 316 STAINLESS STEEL HILTI KMRA BOLT, T.Z. ANCHOR BOLTS, (OR APPROVED EQUIVALENT), 3/8" DIAMETER, 2" LENGTH, SET IN 3" HOLE, 18" ON CENTER

NEW BOLLARD

4" PVC, CONNECT TO EXISTING STORM DRAIN

10" X 6" REDUCER

6" DIP, LENGTH AS REQ'D

NEW CONCRETE TRENCH WITH STEEL GRATE COVER

NOT TO SCALE
1. All construction shall be made to the minimum standards in these plans or the latest NEC code, whichever is more stringent. If the intent on the plans is to be constructed differently than code it will specifically be called out.

2. Components and wiring methods may be oversized in locations. This is to provide capacity for anticipated future expansion.

3. Contactors may separate or combine parallel conduit runs. Conduit fill shall not exceed 30% of crosssectional area. Changes must be made with approval of the engineer.

4. Conduit routing shown on plan sheets is approximate and intended to convey to the contractor the general path. Contractor should use best judgement when connecting equipment.

5. Subsurface existing and new appurtenances are drawn to best available information. Unknown underground equipment may exist. Connection adjustments due to equipment submittals are the duty of the contractor to account for.

6. Changes to the one-line drawing and equipment placement must be made through the submittal process with approval from the engineer prior to construction.

---

### Electrical Abbreviations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Amperes</td>
</tr>
<tr>
<td>V</td>
<td>Volts</td>
</tr>
<tr>
<td>W</td>
<td>Watts</td>
</tr>
<tr>
<td>KVA</td>
<td>Kilovolt Amperes</td>
</tr>
<tr>
<td>Cu</td>
<td>Copper</td>
</tr>
<tr>
<td>VPD</td>
<td>Variable Phase Drive</td>
</tr>
<tr>
<td>HMI</td>
<td>Human Machine Interface</td>
</tr>
<tr>
<td>AIC</td>
<td>Available Interrupting Current</td>
</tr>
<tr>
<td>NC</td>
<td>Normally Closed</td>
</tr>
<tr>
<td>NO</td>
<td>Normally Open</td>
</tr>
<tr>
<td>PLC</td>
<td>Programmable Logic Controller</td>
</tr>
<tr>
<td>DDC</td>
<td>Disconnect</td>
</tr>
<tr>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>AWG</td>
<td>American Wire Gauge</td>
</tr>
</tbody>
</table>

### One-Line Linetypes

- **Electrical Connection Line**
- **Panel Boundary**
- **Ground Connection**

### Drawing Linetypes

- **Electrical Conduit**
- **Control Conduit**
- **Utility Lines**

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### Hatch Types

- Duct Bank
- **Asphalt/Concrete**
- **Compacted Aggregate**
- Earth
- Wood

---

### Bases of Materials

1. **Equipment Outdoors**
   - Electrical Panels-NEMA 4X
   - Control Panels-NEMA 4X
   - Conduit-PVC SCH 80
   - Boxes-PVC
   - Receptacle-Weatherproof
   - Wire-XWWH-2 CU

2. **Equipment Indoors**
   - Panels-NEMA 12
   - Conduit-EMT
   - Boxes-Galvanized
   - Receptacle-GFI
   - Wire-THHN CU

---

### One-Line Symbols

- **Meter Base**
- **Fusible Disconnect**
- **Non-Fusible Disconnect**
- **Transformer, Size, Rating, k-Rating**
- **Pump, Horsepower Rating**
- **Generator, Kva Rating**
- **Motor, Horsepower**
- **Variable Frequency Drive**
- **W/ Integral Breaker**
- **Surge Protection Device**
- **Receptacle Circuit Rating**
- **Fluorescent Lighting**
- **Circuit Breaker, Rating/Poles**
- **Motor Starter**

---

### Drawing Symbols

- **Disconnect**
- **Electrical Panel**
- **Circuit Number (45) With Indication of Distribution Board (E)**
- **Flexible Conduit**
- **Panel, Identifier**
1. INITIAL BLOWER CONFIGURATION: 30HP 40A 460V. DRIVE: FUTURE SET OVERLOADS FOR 50HP DRIVES SIZED FOR 65A 460V DRAW.

2. EXISTING WIRE IS #6 SIZED FOR 30HP MOTORS TO TOP OF PANEL. IF EXISTING WIRE IS TOO SHORT, REPLACE WITH #4 THHN STRANDED CU CONDUCTORS.

DO SENSORS X 2

LEAVE SPACE IN PANEL TO POWER AND CONTROL FUTURE RAKES

FUTURE BASIN POSITION ACTUATORS X 10
AIR CONTROL VALVE
AIR FLOW SENSOR (FUTURE)

PROVIDE SPARE I/O AND TERMINAL BLOCK ROOM TO CONTROL 10 FUTURE ACTUATORS, 6" AIR FLOW SENSORS, AND 2-6" AIR CONTROL VALVES

EXISTING CONDUIT
EXISTING 1" CONDUIT
EXISTING 3" CONDUIT
EXISTING 4" CONDUIT

FUTURE SIGNALS FOR EXPANSION INC. WAS VALVES, AIR FLOW METERS, DO SENSORS, AIR VALVES FOR FUTURE BASINS 3 AND 4.

1. EXISTING AND NEW SIGNALS FOR NEW CONTROL PANEL, CHECK REQUIREMENTS AGAINST INSTALLED EQUIPMENT AND SUBMITTALS FOR NEW CONTROL VALVES AND SENSORS. INFORMATION ONLY APPROXIMATE FROM RECORD DRAWINGS

2. EXISTING VALVES ASSUMED TO BE 24VDC OPERATED, CHECK IN FIELD
CONDUIT CONNECTIONS

SHEET NOTES:

1) RUN CONDUIT AND MOUNT IN TRENCH DRAIN.
2) SEAL ALL CONDUIT WITH PVC CEMENT. ALL WIRE SHALL BE WET RATED DUE TO POSSIBLE IMMERSION IF CONDUIT LEAKS.