NOTES:

1. IF EIGHT FOOT GENERAL UTILITY EASEMENT IS PRESENT ALONG PROPERTY FRONTAGE PLACEMENT SHALL BE AT BACK OF SIDEWALK WITHIN UTILITY EASEMENT.

2. ON STREETS LESS THAN 28' IN WIDTH, WATER LINE LOCATION SHALL MAINTAIN 4' SPACING FROM FACE OF CURB. THERE SHALL BE 5' MINIMUM SPACING CENTER TO CENTER BETWEEN THE WATER LINE AND STORMWATER LINE. THE STORMWATER LINE SHALL BE A MINIMUM 3' FROM THE CENTERLINE.

3. WHERE NO PLANTER STRIP EXISTS, FIRE HYDRANTS ARE TO BE LOCATED IN LINE WITH STREET LIGHTS & STREET TREES, OR AT BACK OF WALK. IF OUTSIDE THE R.O.W., LOCATE IN A 6' X 6' EASEMENT.

4. 3" DIA. CONDUIT REQUIRED ON ALL ARTERIAL STREETS TO SERVE SIGNAL SYSTEM.
NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. A SIDEWALK AND PLANTER STRIP ARE NOT REQUIRED.

4. ENGINEER OF RECORD IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE/CONVEYANCE IN LIEU OF PROVIDING CURBS.

5. ACCESS ROAD GRADES ARE NOT TO EXCEED 10%.

6. BOLLARDS ARE REQUIRED AT ALL ENTRANCES TO ACCESS ROADS. SEE DETAIL 627.

7. SEE BRANCH TURNAROUND DETAIL 616.
SLOPE=2.0%

CONCRETE VALLEY CURB DETAIL

CONCRETE VALLEY CURB (SEE DETAIL BELOW)

4" OF 1/2" DENSE GRADED LEVEL 2 ASPHALT CONCRETE IN TWO LIFTS

8" OF 1"-0 CRUSHED AGGREGATE

CONCRETE VALLEY CURB (SEE DETAIL BELOW)

NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.
2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.
3. PCC CURB SHALL BE 3300 PSI AT 28 DAYS.
4. "NO PARKING" SHALL BE POSTED THE ENTIRE LENGTH OF ALLEY IN RESIDENTIAL AND COMMERCIAL/INDUSTRIAL DISTRICTS.
5. FIRE HYDRANTS, WHEN REQUIRED, ARE TO BE LOCATED OUTSIDE THE ROW IN A 6' BY 6' EASEMENT.

<table>
<thead>
<tr>
<th>FUNCTIONAL CLASSIFICATION</th>
<th>RIGHT OF WAY</th>
<th>&quot;A&quot; PAVEMENT WIDTH</th>
<th>SIDEWALK WIDTH</th>
<th>PLANTER STRIP WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLEY RESIDENTIAL DISTRICT</td>
<td>15'</td>
<td>7'</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>ALLEY-COMM. INDUSTRIAL DISTRICT</td>
<td>21'</td>
<td>10'</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. NO FIRE HYDRANTS ARE TO BE LOCATED ON A MINOR ACCESS STREET.

4. PUBLIC PARKING FOR VISITORS (MIN. 3 SPACES) AND A BRANCH TURNAROUND SHALL BE PROVIDED AT THE END OF THE MINOR ACCESS STREET. SEE STANDARD DETAIL 616. ADDITIONAL RIGHT-OF-WAY SHALL BE DEDICATED TO ACCOMMODATE ADDITIONAL PARKING.

5. A "DEAD END" SIGN SHALL BE POSTED AT THE ENTRANCE TO THE MINOR ACCESS STREET.

6. "NO PARKING" SHALL BE POSTED FOR THE ENTIRE LENGTH OF THE MINOR ACCESS STREET.

7. ONE ADDITIONAL OFF-STREET PARKING SPACE IS REQUIRED FOR EACH RESIDENTIAL UNIT THAT ACCESSES A MINOR ACCESS STREET.
NOTES:
1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RELATIVE DENSITY.
2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.
3. IN HILLSIDE CONSTRAINT DISTRICT RIGHT-OF-WAY WIDTH MAY BE 40' WITH A PAVEMENT WIDTH OF 28'. CROSS SECTION WILL STILL BE REQUIRED TO PROVIDE ONE PARKING LANE TO ASSURE THAT ON-STREET PARKING IS ADEQUATE FOR ADJACENT USES, A REDUCED STREET DESIGN MAY CONSIDER CLUSTERED PARKING BAYS ADJACENT TO THE STREET, IF NEEDED.
4. THE SIDEWALK SHALL HAVE A MINIMUM 5' AREA CLEAR OF ALL OBSTACLES UNLESS APPROVED BY THE ENGINEER.
5. WHEN A HYDRANT IS LOCATED BEHIND THE SIDEWALK A 6' X 6' EASEMENT IS REQUIRED AROUND THE HYDRANT.
6. "NO PARKING" SHALL BE POSTED WITHIN 30 FEET OF THE CURB RETURN ON LOCAL STREETS.
7. MAXIMUM BLOCK LENGTH FOR A QUEUING STREET IS 400 FEET.

**STREET CROSS SECTION DIMENSIONS**

<table>
<thead>
<tr>
<th>FUNCTIONAL CLASSIFICATION</th>
<th>RIGHT-OF-WAY</th>
<th>CURB TO CURB</th>
<th>ROW OFFSET</th>
<th>SIDEWALK</th>
<th>LANDSCAPE IN PLEASANT VALLEY, SPRINGWATER AND KELLEY CREEK HEADWATERS SPECIAL DISTRICTS</th>
<th>LANDSCAPE IN REMAINING CITY</th>
<th>CURB</th>
<th>PARKING</th>
<th>TRAVEL LANE</th>
<th>ASPHALT CONCRETE</th>
<th>CRUSHED AGGREGATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL INDUSTRIAL</td>
<td>60'</td>
<td>40'</td>
<td>6&quot;</td>
<td>5'</td>
<td>6'</td>
<td>4'</td>
<td>6&quot;</td>
<td>8'</td>
<td>12'</td>
<td>8&quot;</td>
<td>16&quot;</td>
</tr>
<tr>
<td>LOCAL COMMERCIAL</td>
<td>56'</td>
<td>36'</td>
<td>6&quot;</td>
<td>5'</td>
<td>6'</td>
<td>4'</td>
<td>6&quot;</td>
<td>7'</td>
<td>11'</td>
<td>5&quot;</td>
<td>16&quot;</td>
</tr>
<tr>
<td>LOCAL TRANSITIONAL</td>
<td>52'</td>
<td>32'</td>
<td>6&quot;</td>
<td>5'</td>
<td>6'</td>
<td>4'</td>
<td>6&quot;</td>
<td>7'</td>
<td>9'</td>
<td>4&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>LOCAL QUEUING</td>
<td>46'</td>
<td>26'</td>
<td>6&quot;</td>
<td>5'</td>
<td>6'</td>
<td>4'</td>
<td>6&quot;</td>
<td>0'</td>
<td>13'</td>
<td>4&quot;</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

* RIGHT-OF-WAY WIDTH INCREASES BY 4 FEET WHEN IN PLEASANT VALLEY, SPRINGWATER, AND KELLEY CREEK HEADWATERS SPECIAL DISTRICTS.
SLOPE = 2.0%

16" OF 1"-0" CRUSHED AGGREGATE
MONOLITHIC CURB & GUTTER
LEVEL 2 OR 3 ASPHALT CONCRETE
(SEE TABLE) TOP LIFT MUST BE 1/2" DENSE GRADED. LOWER LIFTS MAY BE 1/2" OR 3/4" DENSE GRADED.

STREET CROSS SECTION DIMENSIONS

<table>
<thead>
<tr>
<th>CLASSIFICATION DESIGNATION</th>
<th>MAJOR COLLECTOR</th>
<th>STANDARD COLLECTOR</th>
<th>MINOR COLLECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIGHT OF WAY</td>
<td>A  74'</td>
<td>60'</td>
<td>60'</td>
</tr>
<tr>
<td>CURB TO CURB</td>
<td>B  48'</td>
<td>36'</td>
<td>36'</td>
</tr>
<tr>
<td>ROW OFFSET</td>
<td>C  6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>SIDEWALK</td>
<td>D  6'</td>
<td>5'</td>
<td>5'</td>
</tr>
<tr>
<td>LANDSCAPE</td>
<td>E  6'</td>
<td>6'</td>
<td>6'</td>
</tr>
<tr>
<td>CURB</td>
<td>F  6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>PARKING</td>
<td>G  7'</td>
<td>N/A</td>
<td>7'</td>
</tr>
<tr>
<td>BIKE LANE</td>
<td>H  6'</td>
<td>6'</td>
<td>N/A</td>
</tr>
<tr>
<td>TRAVEL LANE</td>
<td>I  11'</td>
<td>12'</td>
<td>11'</td>
</tr>
<tr>
<td>ASPHALT DEPTH</td>
<td>8&quot;</td>
<td>5&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>ASPHALT LEVEL</td>
<td>LEVEL 3</td>
<td>LEVEL 2*</td>
<td>LEVEL 2</td>
</tr>
</tbody>
</table>

NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. THE SIDEWALK SHALL HAVE A MINIMUM 5' CLEAR OF ALL OBSTACLES UNLESS APPROVED BY THE ENGINEER.

4. "NO PARKING" SHALL BE POSTED WITHIN 45 FEET OF THE CURB RETURN ON COLLECTOR STREETS.

* THE CITY MAY REQUIRE LEVEL 3 FOR STANDARD COLLECTORS
8" LEVEL 3 ASPHALT CONCRETE TOP LIFT MUST BE 1/2" DENSE GRADED. LOWER LIFTS MAY BE 1/2" OR 3/4" DENSE GRADED.

NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. THE SIDEWALK SHALL HAVE A MINIMUM 5' CLEAR OF ALL OBSTACLES UNLESS APPROVED BY THE ENGINEER.

4. A RAISED MEDIAN OR TWO-WAY LEFT TURN LANE SHALL SEPARATE OPPOSING LANES.
NOTES:

1. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

2. WIDTH OF AMENITY ZONE IS BASED ON THE MEANDERING TRAVEL LANE.
NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. AT ROW LINE MAXIMUM SLOPE CUT 2:1, FILL 3:1.
NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. THE SIDEWALK SHALL HAVE A MINIMUM 5' CLEAR OF ALL OBSTACLES UNLESS APPROVED BY THE ENGINEER.
NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. STREET TREES SHALL BE PLANTED IN CURB EXTENSIONS.

4. AT ROW LINE MAXIMUM SLOPE CUT 2:1, FILL 3:1.

5. SIDEWALK SHALL MAINTAIN A 4' CLEAR ADA CONTINUOUS PATHWAY.
NOTES:

1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RICE DENSITY.

2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

3. AT ROW LINE MAXIMUM SLOPE CUT 2:1, FILL 3:1.
NOTES:
1. ASPHALT CONCRETE SHALL BE COMPACTED TO 91% OF RELATIVE DENSITY.
2. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.
3. THE SIDEWALK SHALL HAVE A MINIMUM 5' AREA CLEAR OF ALL OBSTACLES UNLESS APPROVED BY THE ENGINEER.
4. WHEN A HYDRANT IS LOCATED BEHIND THE SIDEWALK A 6' X 6' EASEMENT IS REQUIRED AROUND THE HYDRANT.
NOTE:
1. AMENITY ZONES SHALL Include 5' X 5' TREE WELLS.
NOTES:

1. A 28’ WIDTH MAY BE ALLOWED WITHIN THE HILLSIDE CONSTRAINT DISTRICTS WITH ENGINEER’S APPROVAL.

2. THE SIDEWALK IS TO BE LOCATED NEXT TO THE CURB ON THE ENTIRE LENGTH OF THE CUL-DE-SAC IN HILLSIDE CONSTRAINT DISTRICTS.

3. A "DEAD-END" SIGN MAY BE REQUIRED AT ENTRANCE TO THE STREET ENDING IN A CUL-DE-SAC.

4. "NO PARKING" SHALL BE POSTED FOR THE ENTIRE CUL-DE-SAC "BULB".

5. THE SIDEWALK SHALL HAVE A MINIMUM 5’ CLEAR OF ALL OBSTACLES, UNLESS APPROVED BY THE ENGINEER.

6. NO FIRE HYDRANTS ARE TO BE LOCATED IN THE CUL-DE-SAC AREA.
NOTES:

1. BRANCH TURNAROUND TO BE USED AT THE END OF A MINOR ACCESS STREET AND FOR EMERGENCY AND MAINTENANCE ACCESS ON DEAD-END STREETS.

2. THE MAXIMUM LENGTH OF THE MINOR ACCESS STREET SHALL BE 150 FT. TO THE END OF THE TURNAROUND.

3. PAVEMENT SECTION SHALL MATCH MINOR ACCESS STREET.
NOTES:

1. DISTANCE "A" VARIES WITH STREET CLASSIFICATION. SEE STREET CROSS SECTION DETAILS. SLOPE WILL VARY WITH DISTANCE "A".

2. SEE STANDARD DETAILS 620 AND 621 FOR CURB EXPOSURE DIMENSION "E".

3. SLOPES SHOWN ARE RELATIVE TO HORIZONTAL. TRANSITION RAMP SHALL BE 7.5% MAX SLOPE OR 15' IN LENGTH. SIDE FLARES IN PLANTER STRIP MAY BE ANY SLOPE.

4. ALL SURFACES SHALL BE LIGHTLY BROOMED AND EDGED IN A WORKMANLIKE MANNER.

5. SAW CUT EXISTING CURB WHERE THEY ARE TO BE REMOVED - IF LESS THAN 3' TO EXISTING JOINT REMOVE TO JOINT. EXISTING ASPHALT IN FRONT OF THE APPROACH SHALL BE SAW CUT AND REPLACED WITH HOT MIX.

6. DRIVEWAY SHALL BE PORTLAND CEMENT CONCRETE, 3,300 PSI AT 28 DAYS.

7. MULTI-FAMILY COMPLEXES SHALL USE STANDARD DETAIL 618.

SECTION A - A

RESIDENTIAL DRIVEWAY APPROACH
NOTES:
1. DISTANCE "A" VARIES WITH STREET CLASSIFICATION. SEE STREET CROSS SECTION DETAILS.
2. SEE STANDARD DETAILS 620 AND 621 FOR CURB EXPOSURE DIMENSION 'e'.
3. SLOPES SHOWN ARE RELATIVE TO HORIZONTAL. TRANSITION RAMP SHALL BE 7.5% MAX. SLOPE OR 15' IN LENGTH.
4. ALL SURFACES SHALL BE LIGHTLY BROOMED AND EDGED IN A WORKMANLIKE MANNER.
5. SAW CUT EXISTING CURBS WHERE THEY ARE TO BE REMOVED, IF LESS THAN 3' TO EXISTING JOINT, REMOVE TO JOINT. EXISTING ASPHALT IN FRONT OF THE APPROACH SHALL BE SAW CUT AND REPLACE WITH HOT MIX.
6. CONCRETE SHALL BE 5,000 PSI AT 28 DAYS.
7. THIS DETAIL IS FOR INDUSTRIAL AND MULTI-FAMILY SITES IN ADDITION TO COMMERCIAL SITES. FOR SITES WITH HIGH VOLUME TRIP GENERATION, SEE DETAIL 619.
1. THIS TYPE OF APPROACH TO BE USED FOR HIGH VOLUME (500 ADT OR HIGHER) TRAFFIC GENERATORS WITH APPROVAL OF ENGINEER.
NOTES:

1. PCC SHALL BE 3300 PSI STRENGTH AT 28 DAYS EXCEPT IN COMMERCIAL AREAS WHERE PCC SHALL BE 5000 PSI STRENGTH AT 28 DAYS.

2. CONTRACTION JOINTS SHALL BE PLACED AT 15’ MAX. SPACING.

3. CURB EXPOSURE SHALL BE 8” AT ALL STORMWATER INLETS.

4. DRAIN PIPE SHALL BE PLACED 2 PER LOT 6” INSIDE EACH PROPERTY LINE. DRAIN PIPE SHALL BE EXTENDED TO 1’ BEHIND BACK OF SIDEWALK WHEN SIDEWALK IS INSTALLED BEFORE THE LOT IS CONNECTED TO THE DRAIN PIPE.

5. ADD 2” WIDE SHELF, 4” BELOW TOP OF CURB WHEN CURB IS PLACED ADJACENT TO SIDEWALK.

6. CRUSHED BASE ROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

7. WHEN A DRIVEWAY IS PLACED WHERE THERE IS AN EXISTING MONOLITHIC CURB MAKE A VERTICAL SAWCUT AT THE FACE OF CURB. REPLACE BACK PART OF CURB AND ADD DRIVEWAY WITH ONE CONTIGUOUS POUR.
NOTES:

1. PCC SHALL BE 3300 PSI STRENGTH AT 28 DAYS. EXCEPT IN COMMERCIAL AREAS WHERE PCC SHALL BE 5,000 PSI STRENGTH AT 28 DAYS.

2. CONTRACTION JOINTS SHALL BE PLACED AT 15’ MAX. SPACING.

3. CURB EXPOSURE SHALL BE 9” AT ALL STORMWATER INLETS.

4. DRAIN PIPE SHALL BE PLACED 2 PER LOT 6” INSIDE EACH PROPERTY LINE. DRAIN PIPE SHALL BE EXTENDED TO 1’ BEHIND BACK OF WALK WHERE SIDEWALK IS INSTALLED BEFORE THE LOT IS CONNECTED TO THE DRAIN PIPE.

5. ADD 2” WIDE SHELF, 4” FROM TOP OF CURB, WHEN CURB IS PLACED ADJACENT TO SIDEWALK.

6. CRUSHED BASE ROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.

7. TYPE ‘C’ CURB SHALL ONLY BE INSTALLED WHERE REQUIRED TO MATCH EXISTING CURB TYPE.
NOTES:
1. TO BE USED FOR HIGH DENSITY RESIDENTIAL DEVELOPMENT WITH CITY APPROVAL.
2. PCC SHALL BE 3300 PSI STRENGTH AT 28 DAYS.
3. CONTRACTION JOINTS SHALL BE PLACED AT 15' MAX. SPACING.
4. ADD 2" WIDE SHELF, 4" BELOW TOP OF CURB WHEN CURB IS PLACED ADJACENT TO SIDEWALK.
5. CRUSHED BASE ROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557.
6. ROOF DRAINS SHALL DRAIN DIRECTLY TO DRAINAGE CATCH BASINS.
NOTES:

1. LOCATION AND WIDTH OF SIDEWALK WILL VARY DEPENDING UPON FUNCTIONAL CLASSIFICATION OF THE STREET. SEE TYPICAL STREET SECTION DETAILS.

2. PCC SHALL BE 3300 PSI STRENGTH AT 28 DAYS.

3. CONTRACTION JOINTS SHALL BE PLACED AT ALL CHANGES OF DIRECTION, POINTS OF CURVATURE, ALIGNED WITH CURB CONTRACTION AND EXPANSION JOINTS WHEN SIDEWALK IS ADJACENT TO CURB, AND AT 15' (MAX) INTERVALS. JOINTS SHALL BE 1/8" TO 1/4" WIDE AND A MINIMUM DEPTH OF 1/3 THE THICKNESS OF THE CONCRETE.

4. ALL SURFACES SHALL BE TROWELED AND BROomed IN A WORKMANLIKE MANNER. ALL CONTRACTION JOINTS SHALL BE STEEL TROWEled (3 IN. TYP.)

5. USE THIS DETAIL FOR MULTI USE PATH SECTIONS ADJACENT TO ROADWAYS.
GENERAL INSTALLATION NOTES:

1. TWO SIDEWALK RAMPS PER CORNER ARE REQUIRED AT ALL NEW INTERSECTIONS. RAMPS SHALL BE LOCATED WITHIN THE CROSSWALK AND AS NEAR THE CONTINUOUS PEDESTRIAN ROUTE AS PRACTICAL.

2. PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 2' OF THROAT OF RAMP ONLY. ARRANGE DOMES USING IN-LINE-PATTERN ONLY AS SHOWN IN DETAIL. COLOR OF TEXTURE TO BE BRICK RED.

3. SEE STANDARD DETAILS 620 AND 621 FOR CURB EXPOSURE DIMENSION "e". MATCH EXISTING "e" FOR RETROFIT APPLICATIONS.

4. SLOPES SHOWN ARE RELATIVE TO HORIZONTAL. SIDE FLARES IN PLANTER STRIP MAY BE OF ANY SLOPE.

5. SIDEWALK RAMPS SHALL BE FORMED AND POURED SEPARATE FROM SIDEWALK AND LANDINGS. COLD JOINTS SHALL BE KEYED OR DOWELED. EDGES OF THE ACCESSIBLE ROUTE SHALL BE POURED AGAINST RIGID FORMS OR CURED CONCRETE TO ENSURE COMPLIANCE WITH ORS 447.310 AND AMERICANS WITH DISABILITIES ACT.

6. DO NOT SLOPE LANDING MORE THAN 1.5% (2% FINISH GRADE) IN ANY DIRECTION. ADA RAMP CROSS-SLOPE SHALL NOT EXCEED 1.5% (2% FINISH GRADE).

7. PLACE AND COMPACT MIN. 2" OF 3/4"-0 CRUSHED ROCK BENEATH ALL CONCRETE SURFACES.

15' MAX RAMP RUN MEASURED AT BACK OF WALK.
INSTALL LANDSCAPE CURB AS NEEDED
PERPENDICULAR RAMP AS NEEDED
PLANTER AREA CURB AS NEEDED
1. PROVIDE STATIONS AND ELEVATIONS AT EVERY INLET, OUTLET, CHECK DAM, PLANTER WALL CORNER, AND ADJACENT SIDEWALK.

2. CHECK DAMS REQUIRED FOR STORMWATER FACILITIES PER STANDARD DETAIL GS-105.

3. FOR REQUIREMENTS FOR WATER LINES, METERS, AND FIRE HYDRANTS AT STORMWATER FACILITIES. SEE STANDARD DETAIL GS-109.

4. CURB AND GUTTER FOR STORMWATER FACILITIES, SEE STANDARD DETAIL GS-103.

5. FOR STORMWATER FACILITIES, OVERFLOW AT DOWNSTREAM END TO HAVE BEEHIVE OVERFLOW OR CATCH BASIN IN GUTTER. DESIGN SHALL NOT ALLOW OVERFLOW PAST SIDEWALK RAMPS WITHOUT APPROVAL. DESIGN SHALL ACCOMMODATE CATCH BASINS AT LOW POINTS AND AS OTHERWISE REQUIRED.

6. INLETS AND OUTLETS SHOWN ARE CONCEPTUAL AND MUST BE PLACED BASED ON SURROUNDING GRADES AND SITE CONDITIONS. SEE STANDARD DETAIL GS-104 FOR INLET AND OUTLET OPTIONS.

7. HARD SURFACED AREA MAY BE REQUIRED FOR BUS STOPS OR MAILBOXES, RESTRICTING AVAILABLE AREA FOR PLANTER.

8. CORNER RADIUS, SIDEWALK WIDTH, AND THROAT WIDTH AT INTERSECTION ARE DETERMINED BY STREET CLASSIFICATION AND ACCESS REQUIREMENTS. 24’ MIN. THROAT WIDTH.

9. ADA RAMPS AND SIDEWALK LEADING TO ADA RAMPS THAT, DUE TO STREET GRADE, CANNOT DRAIN TO A STORMWATER FACILITY SHALL DRAIN TO THE STREET.

10. CORNER CURB EXTENSIONS ARE REQUIRED WHERE ON-STREET PARKING IS ALLOWED IN THE DOWNTOWN PLAN DISTRICT.
NOTES:

1. BOLLARDS SHALL BE PLACED WHERE PATHS/TRAILS INTERSECT ROADWAYS, AND HAVE A MINIMUM 20' SETBACK FROM FACE OF CURB.

2. WHERE PATHS AND TRAILS CONTINUE ACROSS STREETS, ADA RAMPS SHALL BE REQUIRED.

3. MINIMUM VERTICAL CLEARANCE SHALL BE 10'.

4. MAXIMUM CROSS SLOPE SHALL BE 1.5%.

5. MAXIMUM PATH GRADE IS 5%, UNLESS ADJACENT TO A ROADWAY. IF PATH IS ADJACENT TO A ROADWAY IT SHALL MATCH ROAD GRADE. MAXIMUM TRAIL GRADE IS 10% UNLESS APPROVED BY THE ENGINEER.

6. SUBGRADE AND BASEROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER ASTM D1557. ASPHALT SURFACES SHALL BE COMPACTED TO 91% OF RICE DENSITY.

7. PATHS MUST MEET THE DESIGN REQUIREMENTS OF AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES AND THE GRESHAM COMMUNITY DEVELOPMENT CODE.
INSTALLATION SEQUENCE
1. DIG FOOTING HOLE AND SET "POST FOOTING SLEEVE" PLUM AND SQUARE IN CONCRETE
2. INSERT "REMOVABLE BOLLARD INSERT" INTO METAL BOLLARD
3. TIGHTEN HEX SOCKET SET SCREWS.
4. SET THE "REMOVABLE BOLLARD INSERT" INTO THE "POST FOOTING SLEEVE"

NOTES:
1. LOCK TAB TO BE ORIENTED OPPOSITE THE DIRECTION OF VEHICULAR ACCESS.
NOTES:

1. END OF ROAD MARKERS SHALL BE USED IN LIEU OF STREET BARRICADE WHERE NO DROP OFF HAZARD (SLOPES GREATER THAN 3:1 OR 18" OR GREATER VERTICALLY) EXISTS.

2. RECEIVER TUBE SHALL BE COVERED BY DUCT TAPE ON ALL SIDES.

3. POST SHALL BE COATED WITH ANTI-SEIZE ON THE BOTTOM 2'.
NOTES:

1. ASPHALT TRANSITION ADA RAMP MAY BE USED INSTEAD OF BARRICADES OR SIGNAGE.

2. TYPE II BARRICADE TO BE USED WHERE SIDEWALK DROP-OFF EXCEEDS 18" VERTICAL WITH A SLOPE OF 1:3 OR GREATER.

3. STRIPING FOR TYPE II BARRICADE: TYPE IV RETRO-REFLECTIVE SHEET WITH ALTERNATING 6" RED AND WHITE STRIPES PLACED AT A 45 DEGREE ANGLE SHALL BE PLACED ON A 7 1/4" X 48"MIN. .080 GAGE ALUMINUM PANEL. PANEL TO BE ATTACHED TO 2 X 8 PRESSURE TREATED BOARD WITH 6 #12 X 1-1/4" SELF-TAPPING VANDAL RESISTANT SCREWS.

4. CENTER BARRICADE ON SIDEWALK 6" BEYOND END OF SIDEWALK. WHEN POSTS MUST BE SET IN THE SIDEWALK, THE SIDEWALK MUST HAVE A TOOLED CONTRACTION JOINT INSTALLED 12" IN FRONT OF POSTS.
NOTES:

1. 6" RED AND WHITE STRIPES AT A 45 DEGREE ANGLE SHALL BE RETRO-REFLECTIVE TYPE IV SHEETING.

2. PLACEMENT SHALL BE CONSISTENT WITH THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

* FOR STREETS WITH NONSTANDARD PAVEMENT WIDTHS, EQUAL SPACING BETWEEN POSTS SHALL BE MAINTAINED, NOT TO EXCEED 10', AND SHALL BE CENTERED ON STREET CENTERLINE.

2-1/2" GALVANIZED BOLTS WITH WASHERS AND NUT OR TWO (2) 4-1/2" LAG BOLTS.

4"x 6" PRESSURE TREATED POST PAINTED WHITE

3300 PSI CONCRETE

SECTION P - P
NOTE:
1. RECEIVER TUBE SHALL BE COVERED BY DUCT TAPE ON ALL SIDES.
2. RECEIVER TUBE SHALL BE SET IN 22" OF CONCRETE UNLESS IN SIDEWALK.
3. RECEIVER TUBES SET IN SIDEWALK SHALL HAVE 2 HOLES COMPLETELY ABOVE FINISHED SURFACE.
4. IF RECEIVER TUBE IS SET IN SIDEWALK IT SHALL BE 2'-6" DEEP & BACKFILLED WITH COMPACTED FILL, THEN CONCRETE FROM BOTTOM TO TOP OF WALK.
5. SIGN PLACEMENT IN SIDEWALK SHALL ALLOW FOR 5' CLEAR PASSAGE & EDGE OF SIGN SHALL BE 24" FROM FACE OF CURB.
6. POST SHALL BE COATED WITH ANTI-SEIZE ON THE SECTION FITTED INSIDE THE RECEIVER TUBE.

RECEIVER TUBES

<table>
<thead>
<tr>
<th>POST SIZE</th>
<th>GAUGE</th>
<th>ANCHOR SIZE</th>
<th>CONCRETE SET DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10'</td>
<td>12 GA</td>
<td>2 1/4&quot; X 24&quot;</td>
<td>22&quot;</td>
</tr>
<tr>
<td>12'</td>
<td>12 GA</td>
<td>2 1/4&quot; X 30&quot;</td>
<td>28&quot;</td>
</tr>
<tr>
<td>14'</td>
<td>12 GA</td>
<td>2 1/2&quot; X 36&quot;</td>
<td>34&quot;</td>
</tr>
<tr>
<td>16'-18'</td>
<td>7 GA</td>
<td>2 1/2&quot; X 36&quot;</td>
<td>34&quot;</td>
</tr>
</tbody>
</table>
NOTES:

1. SEE DETAIL 631 FOR POST SIZING AND INSTALLATION GUIDELINES.

2. DIMENSIONS DEPICT TYPICAL STOP SIGN/STREET NAME SIGN INSTALLATION ON LOCAL STREETS. SIGNAGE ON HIGHER CLASSIFICATION ROAD, OR MORE COMPLEX CONFIGURATION, WILL BE AS DETERMINED BY ENGINEER.

3. INSTALL NYLON SPACERS WHERE REQUIRED TO PREVENT CONTACT BETWEEN STEEL AND ALUMINUM SURFACES.

4. PANELS SHALL BE RIVETED TO POST.
NOTES:

1. SIGN PANELS SHALL BE 0.08" ALUMINUM FLAT BLADE WITH 1.5" RADIUS CORNERS. SIGNS OVER 36" IN WIDTH OR HEIGHT SHALL BE THICKNESS OF 0.100".

2. SIGN FACE SHALL BE COVERED WITH 3M HIP REFLECTIVE SHEETING OR EQUIVALENT, GREEN BACKGROUND WITH WHITE LEGEND AND BORDER OVER 6" IN HEIGHT.

3. AT INTERSECTIONS OF TWO-LANE ROADS, INSTALL MINIMUM OF ONE STREET NAME SIGN. ON INTERSECTIONS OF MULTI-LANE ROADS, INSTALL MINIMUM OF 2 SIGNS ON DIAGONAL CORNERS OF INTERSECTION.

4. LEGENDS SHALL BE STANDARD ALPHABET SERIES C, UPPER AND LOWER CASE, PER STANDARD HIGHWAY SIGNS AND MARKINGS (SHS) CURRENT EDITION. LEGEND HEIGHT TO BE DICTATED BY HIGHEST CLASSIFICATION STREET AT INTERSECTION.

5. IF PANEL WIDTH WOULD EXCEED 5' (OR 12' FOR OVERHEAD MAST ARM INSTALLATION) USE 2-LINE LEGEND.

6. LEGEND SHALL BE APPROVED BY ENGINEER PRIOR TO FABRICATION. MINOR VARIATIONS IN SPACING DIMENSIONS MAY BE PERMITTED, PROVIDED LEGIBILITY IS MAINTAINED AND APPROVED.

7. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION FOR OTHER SIGNAGE REQUIREMENTS NOT COVERED IN THIS DETAIL.

STREET NAME SIGNS
NOTES:

1. FOR LOCATIONS AS REQUIRED BY CITY ENGINEER

2. PLACEMENT OF MONUMENTATION CAP AND MONUMENT BOX SHALL FOLLOW MULTNOMAH COUNTY SURVEYOR'S OFFICE STANDARDS

STANDARD 8" MONUMENT BOX
NOTES:

1. SPACING BETWEEN BUMPS SHALL BE BETWEEN 300 AND 600 FEET AS APPROVED BY THE CITY.
2. ASPHALT GRADING TOLERANCE FOR BUMPS SHOULDN'T VARY BY MORE THAN 0.5" HIGH OR .25" LOW FROM DIMENSIONS SHOWN.

SECTION B-B

12" WHITE THERMOPLASTIC MARKINGS WITH 12" SPACING

W17-1 "SPEED BUMP"

SIGNING AND STRIPING PLAN

SECTION A-A 14' WIDE OPTION

SECTION A-A 22' WIDE OPTION

SECTION B-B
INSTALL 24" x 30" R4-7 SIGN AT EACH END OF ISLAND OR SERIES OF ISLANDS. OMIT IF ISLAND INCLUDES A PED XING WARNING SIGN.

PAINT EACH END OF ISLAND WITH YELLOW RETRO-REFLECTIVE PAINT.

PAINT EACH END OF ISLAND WITH YELLOW RETRO-REFLECTIVE PAINT.

INSTALL REFLECTIVE TAPE ON ALL SIDES OF THE EXPOSED LENGTH OF SIGN POSTS WITHIN ISLANDS, COLOR AND MATERIAL TO MATCH SIGN.

INSTALL 24" x 30" R4-7 SIGN AT EACH END OF ISLAND OR SERIES OF ISLANDS. OMIT IF ISLAND INCLUDES A PED XING WARNING SIGN.

NOTES:

1. MIDBLOCK/SCHOOL CROSSWALK SHEETING SHALL BE 3M DIAMOND GRADE VIP FLUORESCENT YELLOW GREEN #3893 OR APPROVED EQUAL. ALL OTHER CROSSINGS SHALL USE YELLOW 3M HIGH INTENSITY PRISMATIC SHEETING #3931 OR APPROVED EQUAL.

2. ALL SIGNS SHALL BE COVERED WITH 3M PREMIUM PROTECTIVE OVERLAY FILM #1160 OR APPROVED EQUAL.

3. MINIMUM 50 FOOT ISLAND LENGTH UNLESS APPROVED BY THE CITY.
NOTES:

1. ALL SURFACES SHALL BE PROPERLY PREPAIRED AND TACKED PRIOR TO PLACEMENT OF ASPHALT.

2. ASPHALTIC CONCRETE SHALL BE COMPACTED TO 91% RICE DENSITY.
1. COVER EXISTING MANHOLE WITH BUILDING PAPER AND CONSTRUCT A/C PAVEMENT OVER TOP OF MANHOLE.

2. SAW CUT AND REMOVE PAVEMENT AROUND MANHOLE 12" MIN. FROM MANHOLE FRAME.

3. RAISE OR LOWER MANHOLE FRAME AND IF NECESSARY INSTALL CONCRETE RINGS TO FINISH PAVEMENT PROFILE AND CROSS SLOPE.

4. WHERE APPLICABLE, BACKFILL WITH 5000 PSI EARLY STRENGTH P.C.C. AND A/C TO DEPTHS AS DIRECTED.
NOTES:

1. USE A MINIMUM 6" OVERLAP T-CUT DOWN TO THE BASE MATERIAL UNLESS OTHERWISE SPECIFIED. T-CUT TO BE MEASURED FROM THE INITIAL SAWCUT OR EDGE OF UNDERMINED BASEROCK, WHICHEVER RESULTS IN A WIDER REPLACEMENT SECTION.

2. IF NEW EDGE OF PAVEMENT IS LESS THAN 3' FROM ANOTHER PATCH, CURB OR EDGE OF STREET, REPLACE THE PAVEMENT IN BETWEEN.

3. IF MORE THAN ONE EXISTING PATCH EDGE IS WITHIN THE 3' ZONE, REMOVE PAVEMENT TO THE FAR EDGE OF THE PREEXISTING PATCH.

4. T-CUT SHALL NOT BE MADE UNTIL TRENCH IS FULLY BACKFILLED AND COMPACTED.

5. PAVEMENT SECTION (INCLUDING BASE ROCK) SHALL MATCH EXISTING FUNCTIONAL CLASSIFICATION SECTIONS AS SHOWN IN THE CURRENT VERSION OF THE CITY OF GRESHAM PUBLIC WORKS STANDARD DETAILS OR EXISTING PAVEMENT SECTION, WHICHEVER IS GREATER.

6. ALL TRENCH BACKFILL SHALL BE COMPACTED PER STANDARD DETAIL 214.

7. T-CUT SECTION SHALL BE MADE IN SOUND PAVEMENT ONLY AS DETERMINED BY THE ENGINEER. PAVEMENT CONDITION MAY REQUIRE THE 6" MIN TO BE EXCEEDED.

8. A/C SAW CUT SHALL BE SEALED WITH HOT Poured JOINT FILLER.

*IF TRENCH WIDTH IS LESS THAN THE WIDTH THAT CAN ACCOMMODATE MECHANICAL COMPACTION USE CONTROLLED LOW-STRENGTH MATERIAL FOR BACKFILL.
EXISTING CONCRETE ROADWAY

12" 12"

INSTALL CONCRETE PAVEMENT

MATCH EXISTING SECTION

EXISTING CRUSHED ROCK AGGREGATE

INSTALL 1"-0" CRUSHED AGGREGATE OR CONTROLLED DENSITY FILL

PREDRILL USING 9/16" DRILL GRADE 60 #4 REBAR DOWEL

NOTES:

1. EXISTING SLAB SHALL BE DRILLED USING APPROPRIATE MASONARY DRILL BIT (ROTO HAMMER WILL NOT BE ALLOWED)

2. DOWELS SHALL BE PLACED AT 24" O.C.

FILENAME: y:\inter-department\development engineering projects\public works\standards\2.0 pws revision copy\details\600_transportation\trans cad\640.dwg, Plotted 9/27/2018 10:38 PM, By: Kimberly Bogert, ANSI A (8.50 X 11.00 INCHES)
INSTALL LIGHT GRAY TONE 
INTERLOCKING CONCRETE 
PERMEABLE PAVERS.

REQUIRED IN 
REGIONAL & 
TOWN CENTERS & 
OTHER HIGH 
PEDESTRIAN 
AREAS AS 
DETERMINED BY 
THE ENGINEER.

1 3/4" DIA. CALIPER TREE HEADED @ 6'
TYP. EXCEPT 2" DIA CALIPER HEADED @ 8'
SHALL BE USED WHEN TREE IS IN VISION 
TRIANGLE. TREES SHALL BE WELL 
BRANCHED, BALLED AND BURLAPED.

PLANT 

1" OF COARSE SAND

2" OF 3/4"-0 CRUSHED 
ROCK

SIDEWALK

GEOTEXTILE FABRIC

BOTTOM OF SOIL BALL 
SHALL REST ON 
UNDISTURBED SOIL

UNDISTURBED SOIL

STAKE TREE

INTERLOCKING CONCRETE 
PERMEABLE PAVERS

CURB & GUTTER

TOPSOIL MIXTURE (SEE 
SPECS)

SCARIFY SIDES AND 
BOTTOM OF PLANTING PIT

(2) 4" PERF. PVC DRAIN PIPE 
FILLED WITH 1" WASHED RIVER ROCK

TOWN CENTER STREET TREE

FILENAME: y:\inter-department\development engineering projects\public works\civ\street standards\street standards\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATION\TRANSPORTATI
NOTES:

1. NO SOIL SHALL BE ADDED TO THE TOP OF THE BALL NEAR THE TRUNK.

2. ROOT BALL SHALL REST DIRECTLY ON UNDISTURBED NATIVE SOIL AT THE BOTTOM OF THE HOLE.
NOTES:

1. LUMINAIRE MOUNTING HEIGHT IS 25' ABOVE GROUND.

2. USE #10 AWG COPPER TC-ER 3-CONDUCTOR CABLE FROM FUSED DISCONNECT TO LIGHT FIXTURE. SEE PGE APPROVED PRODUCTS LIST. COLOR CODE: BLACK/RED/GREEN (240V), BLACK/WHITE/GREEN (120V).

3. INSTALL SHORTING CAP ON NEW STREETLIGHTS INSTALLED ON AN UNMETERED CITY ELECTRICAL SERVICE WITH CENTRAL PHOTO CONTROL.
FOR LIGHT FIXTURE, SEE GRESHAM PRE-APPROVED MATERIALS LIST

NOTES:

1. LUMINAIRE MOUNTING HEIGHT IS 35' ABOVE GROUND.

2. ARM LENGTH 6' OR AS DIRECTED.

3. USE #10 AWG COPPER TC-ER 3-CONDUCTOR CABLE FROM FUSED DISCONNECT TO LIGHT FIXTURE. SEE PGE APPROVED PRODUCTS LIST. COLOR CODE: BLACK/RED/GREEN (240V), BLACK/WHITE/GREEN (120V).

4. INSTALL SHORTING CAP ON NEW STREETLIGHTS INSTALLED ON AN UNMETERED ELECTRICAL SERVICE WITH CENTRAL PHOTO CONTROL.

HAND HOLE. BOND EQUIPMENT GROUND TO POLE. INSTALL INLINE FUSED DISCONNECT WITH 5 AMP SLOW BLOW FUSE IN POLE OR AS DIRECTED. SEE GRESHAM PRE-APPROVED MATERIALS LIST.

TYPE JB2 PRECAST CONCRETE JUNCTION BOX WITH LOCKING LID. SEE STANDARD DETAIL 648.

GROUT TO FILL GAP BETWEEN POLE BASEPLATE AND FOUNDATION

PRECAST CONCRETE FOOTING. SEE GRESHAM PRE-APPROVED MATERIALS LIST.

3/4"-0" COMPACTED CRUSHED ROCK

35' MOUNTING HEIGHT

INSTALL POLE CENTERED MIN 30" FROM FACE OF CURB

12" 1" CONDUIT ELECTRICAL GRADE SCHEDULE 40 GRAY WITH PVC 90° BENDS

36" MIN 2" CONDUIT ELECTRICAL GRADE SCHEDULE 40 GRAY WITH 18" FIBERGLASS 90° BENDS

8' GALVANIZED STEEL GROUND ROD. BOND TO POLE WITH #6 AWG COPPER GROUND WIRE AND ACORN CLAMP.

HAND HOLE
NOTES:

1. ALUMINUM FLUTED TAPERED POLE, COLOR BLACK. USE 14’ POLE ON LOCAL STREETS AND 16’ POLE ON COLLECTOR OR ARTERIAL STREETS. SEE GRESHAM PRE-APPROVED MATERIALS LIST.

2. USE PRECAST CONCRETE FOOTING WITH AN 11" BOLT CIRCLE. SEE GRESHAM PRE-APPROVED MATERIALS LIST.

3. BANNER ARM AND PLANT HANGER REQUIRED IN DOWNTOWN PLAN DISTRICT.

4. USE #10 AWG COPPER TC-ER 3-CONDUCTOR CABLE FROM FUSED DISCONNECT TO LIGHT FIXTURE. SEE PGE APPROVED PRODUCTS LIST. COLOR CODE: BLACK/RED/GREEN (240V), BLACK/WHITE/GREEN (120V).

5. INSTALL SHORTING CAP ON NEW STREETLIGHTS INSTALLED ON AN UNMETERED CITY ELECTRICAL SERVICE WITH CENTRAL PHOTO CONTROL.

POLE HEIGHT VARIES 14'-16' SEE NOTE #1

ALUMINUM FLUTED TAPERED POLE, COLOR BLACK. USE 14’ POLE ON LOCAL STREETS AND 16’ POLE ON COLLECTOR OR ARTERIAL STREETS. SEE GRESHAM PRE-APPROVED MATERIALS LIST.

POLE ACCESS DOOR. BOND EQUIPMENT GROUND TO POLE. INSTALL INLINE FUSED DISCONNECT WITH 5 AMP SLOW BLOW FUSE IN POLE OR AS DIRECTED. SEE GRESHAM PRE-APPROVED MATERIALS LIST.

INSTALL POLE CENTERED MIN 30" FROM FACE OF CURB

POLE CENTERED MIN 30" FROM FACE OF CURB

SEE NOTE #2

SEE NOTE #2

3/4"-0" COMPACTED CRUSHED ROCK

12"

12"

36" MIN

36" MIN

GROUT TO FILL GAP BETWEEN POLE BASEPLATE AND FOUNDATION

2" CONDUIT ELECTRICAL GRADE SCHEDULE 40 GRAY WITH PVC 90° BENDS

1" CONDUIT ELECTRICAL GRADE SCHEDULE 40 GRAY WITH PVC 90° BENDS

8' GALVANIZED STEEL GROUND ROD. BOND TO POLE WITH #6 AWG COPPER GROUND WIRE AND ACORN CLAMP.

TYPE JB2 PRECAST CONCRETE JUNCTION BOX WITH LOCKING LID. SEE STANDARD DETAIL 648.

DECORATIVE ACORN STREETLIGHT

ACORN STYLE FIXTURE

FOR LIGHT FIXTURE AND PHOTOCELL, SEE GRESHAM PRE-APPROVED MATERIALS LIST. INSTALL SHORTING CAP IN PLACE OF PHOTOCELL AS DIRECTED.

SEE NOTE #3

SEE NOTE #3

87X66

SEE NOTE #3

SEE NOTE #3
1. Use precast concrete footing with an 11" bolt circle. See Gresham pre-approved materials list.

2. Use #10 AWG copper TC-ER 3-conductor cable from fused disconnect to light fixture. See PGE approved products list. Color code: black/red/green (240V), black/white/green (120V).

3. Install shorting cap on new streetlights installed on an unmetered city electrical service with central photo control.

Notes:
1. Use precast concrete footing with an 11" bolt circle. See Gresham pre-approved materials list.

2. Use #10 AWG copper TC-ER 3-conductor cable from fused disconnect to light fixture. See PGE approved products list. Color code: black/red/green (240V), black/white/green (120V).

3. Install shorting cap on new streetlights installed on an unmetered city electrical service with central photo control.

For pendant light fixture, see Gresham pre-approved materials list.
NOTES:

1. SEE GRESHAM PRE-APPROVED MATERIALS LIST FOR PRE-APPROVED MAST ARMS AND LUMINAIRES.

2. MINIMUM 30' MOUNTING HEIGHT ON LUMINAIRES OVER 8,500 LUMENS.

3. IF OTHER UTILITIES ARE ON POLE, QUALIFIED WORKER SHALL PERFORM THE WORK AND MUST FOLLOW NESC CLEARANCE RULES.

4. PGE WILL MAKE CONNECTIONS TO SECONDARY.

5. MINIMUM 12" CLEARANCE FROM DRIP LOOP TO COMM SPACE MAY BE REDUCED TO 3" IF STREETLIGHT CONDUCTORS ARE INSTALLED IN A NON CONDUCTIVE CONDUIT OR COVERING.

6. MINIMUM 40" CLEARANCE FROM BOTTOM OF MAST ARM TO COMM SPACE MAY BE REDUCED TO 4" IF MAST ARM AND FIXTURE ARE BONDED.

7. AT CITY DISCRETION ARM MAY BE BONDED TO PGE SERVICE NEUTRAL INSTEAD OF INSTALLING NEW GROUND ROD AND WIRE. PROVIDE ENOUGH BARE COPPER WIRE TO REACH PGE SERVICE NEUTRAL AND COIL ON POLE. PGE WILL MAKE CONNECTION.
**Junction Box Placement Within Sidewalks**

Junction boxes to be located only in flat areas of sidewalks. Concrete junction boxes are not to be installed in slopes of ramps or in driveways. Junction boxes placed within sidewalks shall include a full panel removal and reinstallation.

**Junction Box**

Not to be used in travel lanes, shoulders or areas exposed to traffic. See Gresham pre-approved materials list.

**Junction Box Dimension Table**

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>W</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>JB1</td>
<td>17&quot;</td>
<td>10&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td>JB2</td>
<td>22&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td>JB3</td>
<td>30&quot;</td>
<td>17&quot;</td>
<td>12&quot;</td>
</tr>
</tbody>
</table>

**Portland Cement Concrete Pad**

Cover to be marked "Signals" or "Lighting" as directed (min 1" letter height).

**Electrical Junction Boxes**

Extend conduits to 6" from underside of lid.

Install junction box level with sidewalk.

Sidewalk (as shown on plans)

Back of sidewalk

12" of 3/4 - 0" crushed rock

3/4" - 0" crushed rock

2"

Conduit

Junction box cover

Stainless steel/brass "L" bolts or hex head bolts

Installation in sidewalk or at back of curb

Lift eye

Junction box cover with recessed lifting eye or max 3/8" lift hole

Travel lane

Face of curb

Bushings, typ

Conduit

45° Chamfer, typ

Portland cement concrete pad

Use tamper-resistant locking lid for lighting boxes.

Type L W D

JB1 17" 10" 12"

JB2 22" 12" 12"

JB3 30" 17" 12"

3/4" - 0" Crushed rock

12" min

12" min

3" min
NOTES:

1. MINIMUM WIRE SIZE #8 AWG. WIRES SHALL BE UPSIZED AS REQUIRED TO KEEP VOLTAGE DROP TO LESS THAN 3%. XHHW-2. COLOR CODE: BLACK/RED/GREEN (240V), BLACK/WHITE/GREEN (120V).

2. ALL CONDUITS BETWEEN JUNCTION BOXES MUST HAVE A #14 AWG LOCATE WIRE, COLOR ORANGE WITH EITHER BLUE STRIPE OR BLUE MARKINGS. TIE LOCATE WIRES TOGETHER IN EACH JUNCTION BOX AND LOOP A SPARE 18" IN EACH BOX. EMPTY CONDUITS MUST HAVE A POLY PULL LINE, 500 POUND RATED, WITH 6' OF LINE EXTENDING FROM EACH END.

3. INSTALL ELECTRICAL GRADE SCHEDULE 40 GRAY PVC CONDUIT. FIBERGLASS BENDS ARE REQUIRED FOR ALL CONDUIT RUNS LONGER THAN 20'. ALL PVC JOINTS SHALL BE GLUED. ALL FACTORY OR FIELD-CUT CONDUITS SHALL BE CHAMFERED TO PREVENT DAMAGE TO CABLES. CONDUITS SHALL BE TESTED AFTER INSTALLATION FOR OBSTRUCTIONS AND OUT-OF-ROUND INSTALLATION.

4. CITY OF GRESHAM ELECTRICAL BUILDING PERMIT REQUIRED.

5. A NEW LIGHTING SYSTEM WITH FEWER THAN 4 NEW STREET LIGHTS MAY OMIT THE SERVICE CABINET AND INSTALL FUSED DISCONNECTS IN A JB2. REQUIRES INSTALLATION OF A SEPARATE PGE TYPE 1730 JUNCTION BOX BETWEEN THE TRANSFORMER AND JB2 WITH FUSED DISCONNECTS. 1730 BOX MUST BE MIN 15', MAX 50' FROM TRANSFORMER.

6. TO SUPPORT FUTURE DEVELOPMENT, CITY MAY REQUIRE CONDUIT EXTENDED TO PROPERTY LINE.

STREETLIGHT SERVICE DISCONNECT AND CONDUIT SYSTEM
NOTES:

1. A SERVICE INSTALLATION REQUIRES TWO GROUND RODS SPACED A MINIMUM OF 6 FEET APART. ONE GROUND ROD MAY BE INSTALLED THROUGH THE CABINET FOUNDATION.

2. EXTEND CONDUIT ENDS MINIMUM 2" AND MAXIMUM 3" ABOVE TOP OF CABINET FOUNDATION.

3. FOUNDATIONS AND GROUND ROD JUNCTION BOXES MUST BE INSTALLED WITHIN CITY RIGHT OF WAY OR WITHIN A GENERAL UTILITY EASEMENT.
NEW JUNCTION BOX (TYPE JB2) WITH LID LABELED "TRAFFIC" OR "SIGNALS". SEE STANDARD DETAIL 648.

EXISTING CONDUIT (IF PRESENT)
NEW CONDUIT 36" MIN DEPTH BELOW SIDEWALK SURFACE

NOTES:
1. INSTALL PULL LINE (MIN STRENGTH 500 LB) AND CONTINUOUS #14 AWG XHHW LOCATE WIRE IN CONDUIT.
2. INSTALLATION REQUIRES SUPERVISION BY LICENSED ELECTRICIAN.
3. CONDUIT MATERIALS SHALL MEET REQUIREMENTS OF SECTION 02920 OF ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE DIRECTED.
4. JUNCTION BOX COVERS TO HAVE LEGEND "SIGNALS" STAMPED OR EMBOSSED AND SHALL MEET ALL REQUIREMENTS OF SECTION 02920.14 OF ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
5. PLACE ALL CONDUIT UNDER SIDEWALK OR AS DIRECTED.
6. ALL CONDUITS MUST BE TERMINATED IN TYPE 2 JUNCTION BOXES AND ARE TO BE INSTALLED PER REQUIREMENTS OF SECTION 00960 OF ODOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
7. IF SIDEWALK FRONTING ADJACENT PROPERTY HAS A SIGNAL JUNCTION BOX IN NEAREST SIDEWALK PANEL, EXCAVATE UNDER OLD SIDEWALK AND END NEW CONDUIT RUN IN EXISTING JUNCTION BOX. OTHERWISE TERMINATE NEW CONDUIT RUN IN NEW JUNCTION BOX IN LAST PANEL OF NEW SIDEWALK.