GENERAL NOTES

1. PAVEMENT MAY BE ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE AS DETERMINED BY THE CITY ENGINEER.

2. PAVEMENT, CRUSHED SURFACING TOP COURSE AND CRUSHED SURFACING BASE COURSE THICKNESSES SHALL BE PER THE DESIGN STANDARDS OR AS DETERMINED BY A PAVEMENT DESIGN.

3. DITCH SLOPES AND SIDE SLOPES SHALL BE NO STEEPER THAN RATIOS SHOWN UNLESS RECOMMENDED BY A SOILS REPORT AND APPROVED BY THE CITY ENGINEER. EXCAVATION SLOPES HIGHER THAN 8' SHALL BE DETERMINED BY SOILS TESTING.

4. "W" SHALL BE SHOWN ON CONSTRUCTION PLANS.

5. CRUSHED TOP COURSE AND BASE COURSE (UNDER THE ASPHALT) AND ROADWAY SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 TEST PROCEDURE.

6. PLANTER STRIPS MUST BE APPROVED BY THE LIBERTY LAKE PUBLIC WORKS DEPARTMENT. IF PLANTING STRIPS ARE USED AS A BIOFiltrATION SWALE, THE MINIMUM WIDTH SHALL BE 10'. THE MINIMUM WIDTH FOR ALL OTHER PLANTING STRIPS SHALL BE 4'.

7. WHEN RAISED MEDIAN ARE CONTINUOUS BETWEEN INTERSECTIONS, CRUSHED SURFACING SECTION SHOULD BE EXTENDED UNDER CURB.

8. CRUSHED ROCK AND SUBGRADE LOCATED UNDER CURBS AND SIDEWALKS SHALL BE COMPACTED TO 92% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 TEST PROCEDURE.

Roadside Biofiltration Swale

NOT TO SCALE

CITY OF LIBERTY LAKE
DEPARTMENT OF PUBLIC WORKS
LIBERTY, WA 98032 509-755-8700

6-29-17

ROADWAY SECTION - CURBED
GENERAL NOTES

1. PORTLAND CEMENT CONCRETE SHALL BE CLASS 3000, AIR ENTRAINMENT, CONFORMING TO THE STANDARD SPECIFICATIONS.

2. EXPANSION JOINTS SHALL USE A 3/8" PREMOLDED JOINT FILLER. EXPANSION JOINTS SHALL EXTEND THROUGH THE FULL CROSS SECTION OF THE CURB OR CURB AND GUTTER. EXPANSION JOINTS SHALL BE PLACED AT ALL CURB RETURNS AND BETWEEN EXISTING AND NEW CURBS.

3. CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH SPACED AT MAX. 15' O.C.

4. THE TOP AND FACE OF THE CURB SHALL RECEIVE A LIGHT BRUSH Finish and the TOP of the GUTTER SHALL RECEIVE A Broom FINISH.

5. TYPE "A" CURB IS ONLY ALLOWED WHERE CONSTRUCTION REQUIRES REMOVAL AND REPLACEMENT OF CURBS ON EXISTING ROADWAYS THAT DO NOT HAVE CURB AND GUTTER. TYPE "B" CURB AND GUTTER IS REQUIRED IN ALL NEW DEVELOPMENTS.

6. 4" OF CRushed SURFACING TOP COURSE IS REQUIRED UNDER ALL CURBS AND SIDEWALKS. THE SUBGRADE AND CRUSHED ROCK SHALL BE COMPACTED TO 92% OF THE DRY DENSITY.
GENERAL NOTES

1. EXPANSION JOINTS SHALL BE 3/8" PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTIONS.

2. EXPANSION JOINTS SHALL BE PLACED IN THE CENTER OF ALL DRIVEWAYS OVER 20' IN WIDTH.

3. CONCRETE FOR DRIVEWAYS SHALL BE CLASS 3000 AIR ENTRAIN.

4. ALL EXTERNAL EDGES TO BE TROWELED WITH 1/4" RADIUS EDGER.

5. BROOMED FINISH ON DRIVEWAY SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL. BROOMED FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL.

6. 4" CSTC IS REQUIRED UNDER ALL CONCRETE.

7. 95% COMPACTION FOR SUBGRADE AND CSTC REQUIRED UNDER ALL DRIVEWAY APPROACHES. (SHAPED AREA)

8. TYPE "B" CURB AND GUTTER OR ROLLED CURB (SHOWN) ARE REQUIRED IN ALL NEW DEVELOPMENTS. TYPE "A" CURB IS ALLOWED WHERE DRIVEWAYS ARE TO BE INSTALLED ON EXISTING ROADWAYS THAT DO NOT HAVE CURB AND GUTTER. SEE STANDARD PLAN A-2.

9. INSTALL CONTRACTION JOINTS PER STANDARD PLAN A-18 ACROSS THE SIDEWALK PORTION OF THE DRIVEWAY APPROACH. MAXIMUM SPACING OF CONTRACTION JOINTS SHALL BE 5'.

SECTION A-A

SECTION B-B
GENERAL NOTES

1. DRAINAGE INLETS SHALL BE LOCATED OUTSIDE THE CURB RAMP.

2. DETECTABLE WARNING DOMES SHALL BE PRECAST DUCTILE IRON.

3. CURB RAMPS SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES, EXCEPT AT THE SIDE ADJACENT TO THE ROADWAY.

4. WHERE CONSTRUCTED ON STRAIGHT CURB, DESIGN "A" DIMENSIONS REMAIN THE SAME AS SHOWN.

5. TOP OF CURB ELEVATIONS SHOWN ON PLANS ARE PROJECTED TOP OF CURB ELEVATIONS THROUGH CURB RAMPS.

6. 1.2% TO 2.0% CROSS-SLOPES ALLOWED ON ALL SIDEWALKS AND RAMPS, UNLESS OTHERWISE INDICATED.

7. TYPE "B" CURB AND GUTTER OR ROLLED CURB (SHOWN) ARE REQUIRED IN ALL NEW DEVELOPMENTS. TYPE "A" CURB IS ALLOWED WHERE CURB RAMPS ARE TO BE INSTALLED ON EXISTING ROADWAYS THAT DO NOT HAVE CURB AND GUTTER. SEE STANDARD PLAN A-2.

8. 4" OF CSTC IS REQUIRED UNDER ALL CONCRETE.

9. 92% COMPACTION FOR SUBGRADE AND CSTC IS REQUIRED UNDER ALL CONCRETE FOR SIDEWALKS, CURB RAMPS AND CURBS.
GENERAL NOTES

1. Expansion joints shall be 3/8" premolded joint filler extending through the full concrete cross sections.
2. Expansion joints shall be placed in the center of all driveways over 20' in width.
3. Concrete for driveways shall be Class 3000 air entrained.
4. All external edges to be troweled with 1/4" radius edger.
5. Broomed finish on driveway and sidewalk shall be applied perpendicular to the pedestrian direction of travel.
6. 4" CSTC is required under all concrete.
7. 95% compaction for subgrade and CSTC required under all driveway approaches (shaded area)
8. Type "B" curb and gutter (shown) is required in all new developments. Type "B" curb is allowed where driveways are to be installed on existing roadways that do not have curb and gutter.

SECTION A-A

SECTION B-B
GENERAL NOTES

1. ALL APPROACHES ARE SYMMETRICAL ABOUT CENTERLINE UNLESS OTHERWISE NOTED.

2. WHERE LARGER TRUCK TURNING MOVEMENTS ARE ENCOUNTERED LARGER RETURN RADIUS AND RIGHT TURN TAPERS MAY BE REQUIRED. RADIUS AND TAPERS SHALL BE DETERMINED BY THE CITY ENGINEER.

3. DECELERATION/ACCELERATION LANES MAY BE REQUIRED IF DETERMINED BY ENGINEERING ANALYSIS OR REQUIRED BY THE CITY ENGINEER.

MINOR COLLECTOR & ACCESS ROADS
GRADE OF RURAL PRIVATE DRIVeway

GENERAL NOTES

1. THE DRAINAGE PIPE SHALL HAVE A MINIMUM DIAMETER OF 12". LARGER PIPES MAY BE REQUIRED BY THE CITY ENGINEER WHERE LARGER FLOWS OCCUR.

2. REFER TO APPROACH SECTION REGARDING LARGER CULVERTS

RURAL PRIVATE DRIVEWAY

36" MINIMUM LENGTH
12" MIN. DIAM. PIPE WITH 4:1 SEVELED ENDS.
1'-0" MIN. COVER. SEE NOTE 1.

EDGE OF PAVEMENT OR EDGE OF GRAVEL

DITCH FLOW LINE
2" Graded Shoulder
with 6:1 maximum slope
(where applicable)

Two Way Bikeway
12" minimum
10" desirable

4" PVC or 4" CSTE

Shared Use Pathway

8" Wide White Line

Street
Width may vary
Travel Lane

Bike Lanes

Street
Width may vary

Bikeway and
Travelled Way

Bike Route

Note:
Signing for bikeways
shall be consistent with
the manual of uniform
traffic control devices

City of Liberty Lake
Department of Public Works
Liberty Lake, WA 99019
509-785-8700

6-29-17

BIKE WAYS & SHARED USE PATHWAYS
FULL CUL-DE-SAC

GENERAL NOTES

1. THE DRAINAGE INLETS (D.I.) SHOWN ON THIS SHEET ARE REQUIRED ONLY WHEN THE STREET SLOPES TOWARD THE CUL-DE-SAC.

2. THE WIDTH OF RIGHT-OF-WAY AND THE CURB TO CURB STREET DIMENSIONS SHALL BE SPECIFIED BY THE CITY ENGINEER.

3. MINIMUM CURB GRADES ON CUL-DE-SACS SHALL BE 1%
ALTERNATE TURN-AROUNDS

W = WIDTH OF ROADWAY BEING TERMINATED

NOTE:

ALTERNATE TURN-AROUNDS MAY BE USED WHEN THE TERRAIN PRECLUDES THE USE OF STANDARD CUL-DE-SAC.

STANDARD CUL-DE-SAC
GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS 3000.
2. 1/2" PREMOLDED JOINT FILLER IN WALL AT MAXIMUM 25' CENTERS. JOINT SHALL OCCUR AT PANEL EDGE AND CONTINUE TRANSVERSELY THROUGH SIDEWALK.
3. REINFORCING SHALL BE A CURTAIN OF 4"X4" - W4/W4 WELDED WIRE MESH.
4. CLASS 1 SURFACE TREATMENT ON ALL EXPOSED WALL SURFACES.
5. ALL BACKFILL BEHIND WALL SHALL BE FREE DRAINING GRANULAR MATERIAL.
6. SLEEVES FOR FENCE POSTS SHALL BE CENTERED AS DIRECTED BY THE ENGINEER. WALLS 2"-6" OR TALLER REQUIRE A FENCE OR AS DIRECTED BY THE ENGINEER.
7. THIS WALL IS DESIGNED TO BE USED WITH A LEVEL BACKFILL AND NO SURCHARGE.

TYPICAL SECTION
NOTE: THE BLUNT END OF A RETAINING WALL IS NOT ALLOWED WITHIN THE CLEAR ZONE.
GENERAL NOTES

1. ALL CONCRETE CLASS 4000.

2. ALL EDGES TO BE 3/4" CHAMFER.

3. CONCRETE THICKNESS, STRUCTURAL DETAILS, SIZE AND NUMBER OF REINFORCEMENT SHALL BE DETERMINED BY ENGINEER.

4. 1/2" PREMOLDED JOINT FILLER IN WALL AT MAXIMUM 25" CENTERS. JOINT SHALL OCCUR AT PANEL EDGE AND CONTINUE TRANSVERSELY THROUGH SIDEWALK.

5. SLEEVES FOR FENCE POSTS SHALL BE CENTERED AS DIRECTED BY ENGINEER. WALLS 2'-6" OR TALLER REQUIRE A FENCE OR AS DIRECTED BY ENGINEER.

TYPICAL SECTION

NOTE: THE BLUNT END OF A RETAINING WALL IS NOT ALLOWED WITHIN THE CLEAR ZONE.

FACE TREATMENT ON WALL

1/2" PREMOLDED JOINT FILLER FASTENED TO ONE SIDE WITH 44 GALV. NAILS 6" O.C.
GENERAL NOTES

1. THE CASTINGS SHALL BE GREY IRON CASTINGS, AASHO DESIGNATION M-106, CLASS 30B. THE COVER AND SEAT SHALL BE MACHINED SO AS TO HAVE CONTACT AROUND THE ENTIRE CIRCUMFERENCE AND FULL WIDTH OF BEARING SURFACE.

2. WHEN THE MONUMENT CASE AND COVER ARE PLACED IN CEMENT CONCRETE PAVEMENT THE CONCRETE BASE IS NOT NEEDED.

3. A RECORD OF REFERENCES TO SURVEY POINTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER'S OFFICE AS SHOWN ON SAMPLE.

SECTION OF LETTER

SECTION

MONUMENT
2" GALV. IRON PIPE WITH CONCRETE CORE FOR GENERAL USE. (TO BE SET BY SURVEYOR)

CLASS 3000 CONCRETE

SAMPLE REFERENCE CARD

ANDREW STAPLES

CITY OF LIBERTY LAKE DEPARTMENT OF PUBLIC WORKS LIBERTY LAKE, WA 99024 509-795-8700

NOT TO SCALE

MONUMENT CASE & COVER 6-29-17

A-14

NO DATE BY CODE APPR. REVISION
GENERAL NOTES

1. SIGNS SHALL MEET SPECIFICATIONS FOR FLAT PLATE ALUMINUM, 0.08" THICK, AL06N1200 OR EQUAL.

2. THE SIGN SURFACE SHALL BE GREEN TRANSPARENT ELECTRONIC CUTTABLE (EC) FILM, REVERSE WEDEED ON WHITE BACKGROUND MEETING OR EXCEEDING ASTM 4956 TYPE IV (HIGH INTENSITY PRISMATIC) RETRO-REFLECTIVE SHEETING.

3. LETTERS SHALL BE SERIES B.

4. ALL ROADWAYS SHALL INCLUDE THE ABBREVIATED LABEL (I.E. - COURT - CT. DRIVE - DR. ETC.) ROAD NAME/NUMBER IN SENTENCE CASE.

5. FOUNDATION CHANGES MUST BE MADE IN WRITING TO THE CITY ENGINEER.
GENERAL NOTES

1. Expansion joints shall be 3/8" premolded joint filler extending through the full concrete cross sections. In addition to the expansion joint locations shown, expansion joints shall also be placed between existing and new sidewalk installations.

2. Concrete shall be class 3000, air entrained.

3. All external sidewalk edges to be troweled with 1/2" radius edger.

4. Broomed finish on sidewalks shall be applied perpendicular to the pedestrian direction of travel.

5. 4" CSTC is required under all concrete.

6. 92% compaction for subgrade and CSTC required under all concrete sidewalks.

7. Type "B" curb and gutter (shown) is required in all new developments. Type "A" curb is allowed where driveways are to be installed on existing roadways that do not have curb and gutter. See standard plan A-2.

WALL OR BARRIER

SIDEWALK

SIDEWALK ADJACENT TO CURB

SIDEWALK ADJACENT TO BUFFER STRIP

NOT TO SCALE

CITY OF LIBERTY LAKE
DEPARTMENT OF PUBLIC WORKS
LIBERTY LAKES, WA  98352  564-765-6700

6-29-17

CEMENT CONCRETE SIDEWALKS

A-16
GENERAL NOTES

1. GRAVEL BACKFILL QUANTITY FOR DRYWELLS:
   TYPE "A" - 30 CUBIC YARDS MINIMUM / 60 TONS.
   TYPE "B" - 40 CUBIC YARDS MINIMUM / 60 TONS.
   OR AS SPECIFIED ON ROAD PLANS.

2. SPECIAL BACKFILL MATERIAL FOR DRYWELLS SHALL CONSIST OF
   WASHED GRAVEL GRADED FROM 1" TO 3" WITH A MAXIMUM OF 5%
   PASSING THE U.S. No. 200 SCREEN, AS MEASURED BY WEIGHT,
   A MAXIMUM OF 10% OF THE AGGREGATE, AS MEASURED BY WEIGHT,
   MAY BE CRUSHED OR FRACTURED ROCK. THE REMAINING 90%
   SHALL BE NATURALLY OCCURRING UNFRACUTED MATERIAL.

3. FABRIC SHALL BE MODERATE SURVIVABILITY AS OUTLINED
   IN STANDARD SPECIFICATIONS B-33

4. SEE STANDARD PLANS SHEETS B-2 AND B-3 FOR
   PRECAST CONCRETE DETAILS.

5. ADJUSTMENT BLOCKS SHALL BE CEMENT CONCRETE.

6. PRECAST RISER MAY BE USED IN COMBINATION
   WITH OR IN LIEU OF ADJUSTING BLOCKS.

7. WHEN PVC PIPE IS USED A PVC ADAPTER SHALL BE INSTALLED.

8. PIPES SHALL BE GROUTED INTO DRYWELLS WITH NON-SHRINK GROUT.

NOTE:

PVC PIPE ADAPTERS AND GASKET MAY
VARY IN SHAPE AND SIZE AS ILLUSTRATED
IN DETAIL BY ACCEPTABLE ALTERNATE IN
ACCORDANCE WITH A.S.T.M.-C-428.

PVC ADAPTER
(SAND COLLAR)

NOT TO SCALE

ANDREW STAPLES

CITY OF LIBERTY LAKE
DEPARTMENT OF PUBLIC WORKS
LIBERTY LINN, WA 99075 509-755-9700

6-29-17

PRECAST DRYWELLS
GENERAL NOTES

1. CONCRETE DRYWELL ITEMS SHALL BE CONSTRUCTED WITH THE BARRELS AND CONES REINFORCED WITH 0.12 SQ. IN. STEEL, GRADE 40, PER LINEAL FOOT OF WALL.

2. TOLERANCE OF DIMENSIONS FOR DRAINAGE PORTS SHALL BE 1/2".

3. EACH BARREL SECTION SHALL A MINIMUM OF 6 ROWS OF DRAINAGE PORTS VERTICALLY AND A MINIMUM OF 10 DRAINAGE PORTS AROUND THE CIRCUMFERENCE OF THE BARREL.
GENERAL NOTES

1. CONCRETE ITEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 479 (AASHTO M190) & ASTM C 850 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE PROJECT SPECIAL PROVISIONS.

![Diagram of Precast Concrete Structures]

**SECTION E-E**

**SECTION F-F**

**SECTION C-C**

**SECTION D-D**

**RISER, TYPE 1**

**RISER, TYPE 2**
GENERAL NOTES

1. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE PROJECT SPECIAL PROVISIONS.

2. AS AN ACCEPTABLE ALTERNATE TO REBAR, WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN THE KNOCKOUTS.

3. PRECAST BASINS SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.

4. KNOCKOUTS SHALL BE ON ALL 4 SIDES WITH MAXIMUM DIAMETER OF 20". KNOCKOUTS SHALL BE ROUND. PIPE SHALL BE INSTALLED IN FACTORY SUPPLIED KNOCKOUTS.

5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS CATCH BASIN WALL THICKNESS.

6. THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".

7. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2"/FT.

8. CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT.

9. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.

10. WHEN PVC PIPE IS USED, A PVC ADAPTER SHALL BE INSTALLED. SEE DETAIL ON SHEET B-1.

11. PVC ADAPTER SHALL BE GROUTED INTO CATCH BASIN, WITH WATERPROOF NON-SHRINK GROUT.
**GENERAL NOTES**

1. Concrete inlet shall be constructed in accordance with ASTM C 478 (AASHTO M 199) & ASTM C 890 unless otherwise shown on plans or noted in the project special provisions.

2. Reinforcing steel shall be grade 40 or grade 60.

3. Concrete inlets shall be set on a compacted or undisturbed level foundation.

4. As an acceptable alternate to rebar, welded wire fabric having a minimum area of .12 square inches per foot may be used. Welded wire fabric shall comply to ASTM A 497 (AASHTO M 221). Wire fabric shall not be placed in the knockouts.

5. When PVC pipe is used, a sand collar shall be installed. See detail SHT. B-1.

6. Inlet pipe shall be grouted into concrete inlet with waterproof non-shrink grout.

7. Knockouts shall be on all 4 sides with maximum diameter of 11/2". Knockouts shall be round. Pipe shall be installed in factory supplied knockouts.

---

**SECTION A-A**

**SECTION B-B**

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**MARK**  **LOCATION**  **NO.**  **SIZE**  **LENGTH**

1. Bottom Slab & Sidewalls
   - 2
   - 3
   - 4" - 9"

2. Bottom Slab & Sidewalls
   - 2
   - 3
   - 5" - 11/2"

3. Sidewalls
   - 2
   - 3
   - 9" - 8"
**GENERAL NOTES**

1. CONCRETE INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 476 (AASHTO M 199) & ASTM C 690 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE PROJECT SPECIAL PROVISIONS.

2. CONCRETE INLETS SHALL BE SET ON A LEVEL, COMPACTED FOUNDATION.

3. AS AN ACCEPTABLE ALTERNATE TO REDAR, WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN THE KNOCKOUTS.

4. WHEN PVC PIPE IS USED, A SAND COLLAR SHALL BE INSTALLED. SEE DETAIL ON SHEET B-1.

5. INLET PIPE SHALL BE GROUTED INTO CONCRETE INLET, WITH WATERPROOF NON-SHRINK GROUT.
GENERAL NOTES

1. THE TOP OF CRATE SHALL BE INSTALLED 1" LOWER THAN THE PROJECTED GUTTER GRADE.
   (ALSO SEE STD. PLAN B-18 GUTTER DEPRESSION DETAIL)

2. THE PRECAST CONCRETE INLET SHALL BE PLACED ON THE SAME GRADE AS THE CURB.

3. RISER TYPE 2 TO BE USED WITH CATCH BASIN.

CATCH BASIN & INLET TYPE 1

CATCH BASIN & INLET TYPE 2

ANDREW EAPLES

CITY OF LIBERTY LAKE
DEPARTMENT OF PUBLIC WORKS
6-29-17

CATCH BASIN & INLET INSTALLATION

STANDARD

NOT TO SCALE
GENERAL NOTES

1. CURB INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 479 (AASHTO M 199) & ASTM C 690 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE PROJECT SPECIAL PROVISIONS.

2. TOP SURFACE TO BE BROOM FINISHED.

3. ALL EXTERNAL EDGES NOT LABELED SHALL BE TROWELED WITH 1/4" RADIUS EDGER.

4. DIMENSION "L" SHALL BE SHOWN ON THE PLANS.

---

CURB INLET TYPE 1

SECTION B-B

DRAINAGE SWALE
CURB DROP

CURB AND GUTTER

3' MIN.
0.5' MIN.

4" PORTLAND CEMENT CONCRETE
GENERAL NOTES

1. CURB INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 690 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE PROJECT SPECIAL PROVISIONS.

2. TOP SURFACE TO BE BROOM FINISHED.

3. ALL EXTERNAL EDGES NOT LABELED SHALL BE TROWELLED WITH 1/4" RADIUS EDGER.

SECTION C-C

#4 REBAR @ 10" SEC. E.W.
TYPICAL - TOP & BOTTOM
SEE SECTION A-A
TYPICAL - BOTH SIDES

SECTION A-A

SECTION B-B
REBAR PLACEMENT

CURB INLET

GUTTER DEPRESSION DETAIL

OUTLET SWALE GRADING DETAIL

NOT TO SCALE
GENERAL NOTES

1. FRAME SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A486-03 CLASS 30.
   GRATE SHALL BE DUCTILE IRON CONFORMING TO A.S.T.M. A536-84, GRADE B60-55-06.

2. USE WITH CATCH BASIN AND CONCRETE INLET TYPE 1, SEE STD. PLAN SHEETS B-4, 5 & 7.

3. FIT TOLERANCE SHALL BE 1/8".

4. WELDING IS NOT PERMITTED.

5. GRATE GUARD REQUIRED, SEE SHEET B-17.

6. FOR GRATE DETAIL SEE STD. PLAN, SHEET B-12.
GENERAL NOTES

1. FRAME SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48-03 CLASS 35. THE GRATE SHALL BE DUCTILE IRON CONFORMING TO A.S.T.M. A536-84, GRADE B0-55-06.

2. BOLTS AND ROD SHALL CONFORM TO A.S.T.M. DESIGNATION A307, GRADE A.

3. USE WITH CATCH BASIN AND CONCRETE INLET TYPE 2, SEE STD. PLAN SHEETS B-46 & 7.

4. FIT TOLERANCE SHALL BE 1/8" ± .

5. FOR GRATE DETAILS SEE STD. PLAN, SHEET B-13 OR B-14.

6. GRATE GUARD REQUIRED. SEE SHEET B-17.

FRAME - TYPE 2

TACKWELD NUTS TO CAST IRON HOOD (TYP.)
1"x1/2" CAST LUGS

5/8" DIA. STEEL ROD, THREADED BOTH ENDS

Hood Slot

SEE HOOD SLOT DETAIL, THIS SHEET. (TYP. 2 PLACES)

SEE CAST GUARD SLOT DETAIL, THIS SHEET. (TYP. 2 PLACES)
GENERAL NOTES

1. THE NAME OF THE MANUFACTURER AND DIRECTION OF FLOW SHALL BE EMBOSSED ON THE TOP SURFACE OF EACH GRATE LETTERING TO BE RECESSED 1/16".

2. FRAME SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48-03, CLASS 30. THE GRATE SHALL BE DUCTILE IRON CONFORMING TO A.S.T.M. A536-84 GRADE 80-55-06.

3. DIMENSIONS SHALL HAVE ±1/16" TOLERANCE, EXCEPT AS NOTED.

4. EDGES SHALL HAVE 1/8" RADIUS, 1/8" CHAMFER OR COMPLETE DEBURRING.

5. THE FRAME SHALL BE MANUFACTURED IN ACCORDANCE WITH STANDARD PLAN B-10.

6. WELDING IS NOT PERMITTED.

7. AS AN ALTERNATE, 8 PADS 1 1/2" X 3/4" X 1/8", INTEGRALLY CAST WITH THE GRATE, MAY BE USED.

TOP VIEW
APPROXIMATE WEIGHT=101 LBS.

SECTION A-A

SECTION B-B

VANE DETAIL

SECTION C-C

FOR DETAIL SEE SECT. C-C.
GENERAL NOTES

1. THE WORDS "THIS SIDE TO CURB" SHALL BE EMBOSSED ON THE TOP OF THE GRATE, WITH AN ARROW INDICATING THE CURB SIDE OF THE GRATE.

2. FRAME SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48-90, GRADE 30. THE GRATE SHALL BEductile IRON CONFORMING TO A.S.T.M. A536-84, GRADE 80-55-06.

3. THE FRAME SHALL BE MANUFACTURED IN ACCORDANCE WITH STD. PLAN 8-11.

4. WELDING IS NOT PERMITTED.

5. AS AN ALTERNATE 8 PADS 1 1/2" x 3/4" x 1/8" INTEGRALLY CAST WITH THE GRATE MAY BE USED.
GENERAL NOTES

1. THE NAME OF THE MANUFACTURER AND THE DIRECTION OF FLOW SHALL BE EMBOSSED ON THE TOP SURFACE OF EACH GRATE, LETTERING TO BE RESESSED 1/16".
3. DIMENSIONS SHALL HAVE ±1/16" TOLERANCE, EXCEPT AS NOTED.
4. EDGES SHALL HAVE 1/8" RADIUS, 1/8" CHAMFER OR COMPLETE DEBURRING.
5. THE FRAME SHALL BE MANUFACTURED IN ACCORDANCE WITH STANDARD PLAN B–11.
6. WELDING IS NOT PERMITTED.

SECTION A–A

SECTION B–B

SEE VANE DETAIL

SEE SLOT DETAIL

BOLT-DOWN SLOT DETAIL

VANE DETAIL

STANDARD

METAL GRATE TYPE 3

ANDREA TAPLES

CITY OF LIBERTY LAKE
DEPARTMENT OF PUBLIC WORKS

NOT TO SCALE
GENERAL NOTES

1. The gutter depression shall be constructed of asphalt concrete where no concrete gutter is specified. A.C. thickness shall be the same as specified for the road.

2. Portland cement concrete shall be Class 3000.
GENERAL NOTES

1. The gutter depression shall be constructed of asphalt concrete where no concrete gutter is specified. A.C. thickness shall be the same as specified for the road.

2. Portland cement concrete shall be class 3000.

HIGH VOLUME DRIVEWAY APPROACH
MODULAR BLOCK WALL

WIDTH VARIES

IRRIGATED SWALES - SOD OVER 4" TOPSOIL
NON-IRRIGATED SWALES - HYDROSEED

SWALE SECTION WITH MODULAR BLOCK WALL
CAST IRON FRAME
MIN. WEIGHT 168 LBS.

A.S.T.M.
A48 CL 30
GRAY IRON

24" DIA. CLEAR OPENING

1/2"

SECTION A-A

NOTES

1. THE WORD "STORM" SHALL BE EMBOSSED ON EACH STORM DRAIN MANHOLE COVER WITH 1-1/4" RAISED LETTERS.

2. MANHOLE RINGS AND COVERS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-82/EL.

3. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.

ANDREW NAPLES

CITY OF LIBERTY LAKE
DEPARTMENT OF PUBLIC WORKS

STORM DRAIN MANHOLE RING AND COVER

6-29-17