STREET DETAILS

STR-1  PERFORATED PIPE DETAIL
STR-2  PERFORATED PIPE – SPECIAL
STR-3  4” OR 6” CONCRETE WALK WITH CONCRETE CURB DESIGN V8 (MODIFIED)
STR-4  BITUMINOUS CURB
STR-5  DRIVEWAY & ALLEY ENTRANCES
STR-6  CONCRETE RETAINING WALL, TYPE L
STR-7  CONCRETE STEPS
STR-8  STREET RESTORATION OVER TRENCH
STR-9  BRICK PAVEMENT RESTORATION
STR-10 LUG ANCHOR CONCRETE PAVEMENT
STR-11 SILL CURB TYPE B624 (SPECIAL)
STR-12 STREET TREE PLANTING ZONE SOIL TREATMENT - BOULEVARD
STR-13 STREET TREE PLANTING ZONE SOIL TREATMENT - BEHIND SIDEWALK
STR-14A PULL VAULT INSTALLATION A
STR-14B PULL VAULT INSTALLATION B
STR-14C PULL VAULT INSTALLATION C
STR-14D PULL VAULT INSTALLATION D
NOTES:
1. Optional reinforcement tie bars (incidental) if curb is poured separately from sidewalk
2. Exact location and elevation of concrete curb will be determined in the field by the engineer

8" or 6" concrete walk with concrete curb design v8 (modified)
ADDIITIONAL CONTRACTION JOINT REQUIRED WHEN PAVEMENT PANEL EXCEEDS 8.0'

1/2 EXPANSION JOINT WHEN ABUTTING SIDEWALK AND CURB

12" MINIMUM WIDTH

3.0' TAPER AT ALLEY ENTRANCES

2.0' TAPERS

A

3-624 CURB AND GUTTER

16' MINIMUM WIDTH, 26' MAXIMUM WIDTH (28' AT ALLEYS)

B-624 CURB AND GUTTER

1/2" RESIDENTIAL DRIVE

8" ALLEY & COMMERCIAL

CONCRETE DRIVEWAY PAVEMENT (2531)
(MIX 3F52)

AGGREGATE BASE CLASS 5 UNDER DRIVEWAY PAVEMENT WILL BE CONSIDERED INCIDENTAL TO DRIVEWAY PAVEMENT

NOTES:
1. WHERE THERE IS NO SIDEWALK OR THERE IS A GRASS BOULEVARD BETWEEN THE SIDEWALK AND THE BACK OF CURB THE CREST OF THE DRIVEWAY MUST BE AT LEAST 6" ABOVE GUTTER TO CONTAIN RUNOFF.
2. WHERE THERE IS SIDEWALK DIRECTLY BEHIND THE CURB, DRIVEWAY PROFILE SLOPE SHALL BE FLATTENED TO MEET ADA ACCESSIBLE ROUTE STANDARDS

SECTION A-A

DRIVEWAY & ALLEY ENTRANCES

REVISED/APPROVED 04/05/2019
CITY OF DULUTH STANDARD DETAIL
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE
EXACT LOCATION AND ELEVATION OF RETAINING WALL WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
TREAD + RISER = 18" RISE WILL BE 4-1/2" MIN., 7" MAX. TREAD 1% SLOPE

ALTERNATE METHOD OF ATTACHMENT: POST SET IN SLEEVE, PLATE 8400E
PIPE RAILING PER STD. PLATE 8400E
TOP OF RAISED CHEEK WALL

TOP HANDRAIL SHALL BE 1-1/2" TO 2" DIAMETER
TOP OF RAILING SHALL BE 34" TO 38" ABOVE TOP OF STEP

NO. 4 ROD, 5" X 10"
NOTE 612-14 PAVING REINFORCEMENT REPLACES RE-BARS

3/8" PLATE (4 1/2" X 8") WELDED TO POST. FOUR 1/4" X 4 1/2" GALVANIZED BOLTS, DRILLED AND GROUTED INTO CHEEK WALL CONCRETE OR OTHER METHOD OF ATTACHMENT AS APPROVED BY ENGINEER.

NOTES:
1. 5" WIDE RAISED OR LOWERED CHEEK WALLS TO BE DETERMINED IN FIELD BY ENGINEER.
2. RAILINGS WILL BE REQUIRED WHERE MORE THAN THREE STEPS ARE NEEDED. RAILINGS TO BE PAINTED WITH BLACK PAINT PER CITY STANDARD SPEC. 2402
3. THE CONCRETE LUG ANCHOR MAY NOT BE NEEDED FOR 2 STEPS OR LESS.
4. INCLUDES: ALL EXCAVATION (EXCEPT ROCK EXC.), REMOVAL OF EXISTING STEPS, FORMING, CLASS 5, REINFORCING BAR, BACKFILL, AND CONCRETE (MIX 3052).

CONCRETE STEPS

REVISED/APPROVED 01/20/2017
CITY OF DULUTH STANDARD DETAIL
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE
NOTES:

1. REFER TO 2540 BRICK PAVEMENT RESTORATION IN THE CITY OF DULUTH CONSTRUCTION STANDARDS.
2. DRILL AND GROUT 1" DIA. DOWEL BARS (24" LENGTH) 16" O.C. INTO ADJACENT EXISTING CONCRETE BASE.
3. ASPHALT SETTING BED MATERIALS SHALL MEET GRADATION "A" OF TABLE 3139-2 OF MN/DOT 3139.
4. CONCRETE MIX 3FS2 (SIDEWALK) OR MIX 3RS2 (CONCRETE BASE) SHALL MEET THE PROVISIONS OF MN/DOT 2301 AND MN/DOT 2461.
5. BRICK PAVERS (4" X 8" X 2-1/4") SHALL MEET ASTM C902-79A, EXCEPT AS MODIFIED IN THE CITY OF DULUTH CONSTRUCTION STANDARDS. BRICK COLOR AND TEXTURE SHALL MATCH EXISTING OR AS APPROVED BY ENGINEER.
SILL CURB DETAIL
FOR 6 OR 8 INCH CONCRETE WALKS

SILL SHALL BE INTEGRAL TO THE CURB & GUTTER

NOTES
1. DIMENSION TO BE THE SAME AS SIDEWALK, (MIN 6")
2. PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL
3. ½" PREFORMED JOINT FILL MNDOT SPEC. 3702
4. COMPACTED AGGREGATE BASE CLASS 5 MNDOT SPEC. 2211
5. INCIDENTAL TO SIDEWALK CONSTRUCTION.

WALK PLACEMENT DETAIL

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<th>DESIGN TYPE</th>
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<td>B624 - 8&quot; WALK</td>
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SILL CURB TYPE B624 (SPECIAL)
STREET TREE PLANTING ZONE SOIL TREATMENT – BLVD

NOTES:
① TREE SPECIES AND LOCATIONS SHALL BE IN ACCORDANCE WITH SECTION 2571 OF THE CONSTRUCTION STANDARDS.
② SUBMIT BOULEVARD TOPSOIL BORROW DESIGN MIX AT LEAST 3 WEEKS PRIOR TO USE.
③ DEPTH OF TREE PLANTING PER MN/DOT 2571 AND (ICAMMLP)
④ EXTEND GEOTEXTILE SEPARATION FABRIC BETWEEN PLANTING ZONE AND STREET SUBBASE/BASE.
NOTES:
1. TREE SPECIES AND LOCATIONS SHALL BE IN ACCORDANCE WITH SECTION 2571 OF THE CONSTRUCTION STANDARDS.
2. SUBMIT BOULEVARD TOPSOIL BORROW DESIGN MIX AT LEAST 3 WEEKS PRIOR TO USE.
3. DEPT OF TREE PLANTING PER MN/DOT 2571 AND (ICAMMLP).
4. SUBMIT SOIL AMENDMENT DESIGN MIX AT LEAST 4 WEEKS PRIOR TO USE.
5. CONNECT OPTIONAL PLANTING ZONE DRAIN TILE TO STREET PIPE UNDERDRAIN OR NEARBY DRAINAGE STRUCTURE AS DIRECTED BY ENGINEER.
1. Openings for conduit shall be sealed with material compatible sealant.
2. Plug conduit opening with a drainable compound.
3. Mount locator ball with the tie wrap to eye bolt.
4. 1" of coarse filter aggregate under base complying with MnDOT 3149.2H.
5. 2 - Type 2 shoulder SS eyebolts 3/4" diameter by 1-1/4" shank length with hex nuts (for locator ball mounting).

General Notes:
1. Do not lift entire pull vault by lifting slots with cover attached.

Plan View

Pull Vault Extension and Lid
(Only required for sidewalk installations)

Standard Pull Vault and Lid
(City owned)

Pull Vault Installation B

Revised/Approved 04/05/2019
City of Duluth Standard Detail
Dept. of Public Works and Utilities
No Scale
GENERAL NOTES:

1. DO NOT LIFT ENTIRE PULL VAULT BY LIFTING SLOTS WITH COVER ATTACHED
2. GROUND CONNECTIONS SHALL BE COATED WITH OXIDATION PROHIBITING COMPOUND.
3. CABLE SHALL ENTER BELOW THE SUPPORT BRACKETS WITH A MINIMUM OF 70' OF SLACK FOR EACH CABLE OUTSIDE OF THE ENCLOSURE. CABLE SHALL BE COILED AROUND INSIDE OF SUPPORT BRACKETS. CABLES SHALL BE CUT TO THE SAME LENGTH AT THE ENCLOSURE.

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PULL VAULT EXTENSION AND LID
(ONLY REQUIRED FOR SIDEWALK INSTALLATIONS)

STANDARD PULL VAULT AND LID
(CITY OWNED)

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PULL VAULT INSTALLATION D

REVISED/APPROVED 04/05/2019
CITY OF DULUTH STANDARD DETAIL
DEPT. OF PUBLIC WORKS AND UTILITIES
NO SCALE