CITY OF HIGHLAND PARK
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

CITY ENGINEERING STANDARD DETAILS
Effective Date: March 20, 2017
Revised Date: March 26, 2019

Revised Date: Description of Revisions:
1. 02/28/14 (3 ea. Water Standards, 1 ea Patch Details <500 ADT)
2. 01/08/15 (4 ea. Street Standard Details Revised)
3. 01/15/16 (3 ea. Water Std. Dwg WD 1001, 1002, & 1002 Detail Updated)
4. 02/22/16 (1 ea. Park Ave Sidewalk Detail, Special Added)
5. 03/04/16 (1ea. Flat Curb Detail Added)
6. 02/14/17 (1 ea. Forestry FOR-1042A, Silt Fence Alternate Added)
7. 03/20/17 (1 ea. Water Service Saddle Detail Added)
8. 03/26/19 (4 ea. HP Standards Dwg WD-1001, WD-1002, St-1013, and San-1012 Updated)
## CONTENTS:

### H.P. STANDARD DESCRIPTION

#### A. Tree Protection Soil Erosion & Sediment Control:

1. Tree Protection Detail  
   **STANDARD DWG. NO**: HP DWG.FOR-1041  
   **ISSUE DATE**: 9/27/2013

2. Silt Fence detail & Alternate Detail  
   **STANDARD DWG. NO**: HP DWG.FOR-1042  
   **ISSUE DATE**: 2/14/2017

3. Inlet Protection (Type B, w/o Curb Box; Type C, w/ Curb Box)  
   **STANDARD DWG. NO**: HP DWG.STR-1037  
   **ISSUE DATE**: 9/27/2013

#### B. Street Standards

4. Asphalt Pavement Detail  
   **STANDARD DWG. NO**: HP DWG. STR-1000  
   **ISSUE DATE**: 9/27/2013

5. Concrete Pavement Detail (Pending)  
   **STANDARD DWG. NO**: HP DWG. STR-1001  
   **ISSUE DATE**: 9/27/2013

6. Typical Driveway Detail  
   **STANDARD DWG. NO**: HP DWG.STR-1031  
   **ISSUE DATE**: 9/27/2013

7. Sidewalk Ramp Detail (See State ADA Standard)  
   **STANDARD DWG. NO**: HP DWG.STR-1032  
   **ISSUE DATE**: 9/27/2013

8. Concrete Pavement Patch Detail-Class B  
   **STANDARD DWG. NO**: HP DWG.STR-1033  
   **ISSUE DATE**: 1/8/2015

9. Concrete Pavement Patch w/ HMA Overlay Detail  
   **STANDARD DWG. NO**: HP DWG.STR-1034  
   **ISSUE DATE**: 1/8/2015

   Concrete Pavement Patch w/ HMA Overlay Detail & (W/ADT<500)  
   **STANDARD DWG. NO**: HP DWG.STR-1034 B  
   **ISSUE DATE**: 1/8/2015

10. Hot Mix Asphalt Pavement Patch  
    (Bituminous Pav't. Patch Detail)  
    **STANDARD DWG. NO**: HP DWG.STR-10  
    **ISSUE DATE**: 1/8/2015

11. Combination Curb & Gutter Detail, Type B6.12  
    **STANDARD DWG. NO**: HP DWG.STR-1036  
    **ISSUE DATE**: 9/27/2013

#### C. Storm:

12. Storm Sewer Manhole Detail  
    **STANDARD DWG. NO**: HP DWG.ST-1013  
    **ISSUE DATE**: 3/26/2019

13. Storm Sewer Latera l Connection Detail  
    **STANDARD DWG. NO**: HP DWG.ST-1022  
    **ISSUE DATE**: 9/27/2013

14. Curb Inlet Detail(w/ R3010 Frame & Grate)  
    **STANDARD DWG. NO**: HP DWG.ST-1023  
    **ISSUE DATE**: 9/27/2013

15. Curb Inlet Detail(w/ R3250 DVSP Type "V" Grate)  
    **STANDARD DWG. NO**: HP DWG.ST-1024  
    **ISSUE DATE**: 9/27/2013

16. Ravine Storm Headwall Detail  
    (for 6" to 8" Dia. Outfall Pipe)  
    **STANDARD DWG. NO**: HP DWG.STR-1018  
    **ISSUE DATE**: 9/27/2013

17. Ravine R.C. Headwall Detail  
    (for 10" to 12" Dia. Outfall Pipe)  
    **STANDARD DWG. NO**: HP DWG.STR-1019  
    **ISSUE DATE**: 9/27/2013

18. Storm Outfall Protection,Round Pipe Flowing Full, tw>O.S dia  
    **STANDARD DWG. NO**: HP DWG.ST-1030  
    **ISSUE DATE**: 9/27/2013

#### D. Sanitary:

19. Sanitary Sewer Service Riser Detail (unlined main)  
    **STANDARD DWG. NO**: HP DWG.SAN-1011  
    **ISSUE DATE**: 9/27/2013

20. Sanitary Sewer Manhole Detail  
    **STANDARD DWG. NO**: HP DWG.SAN-1012  
    **ISSUE DATE**: 3/26/2019

21. Sanitary Sewer Service Riser Detail (w/ lined main)  
    **STANDARD DWG. NO**: HP DWG.SAN-1013  
    **ISSUE DATE**: 9/27/2013

22. Sanitary Standard Pipe Bedding (Sanitary Sewer)  
    **STANDARD DWG. NO**: HP DWG.SAN-1014  
    **ISSUE DATE**: 9/27/2013

#### E. Water:

23. Domestic Meter Vault Detail  
    **STANDARD DWG. NO**: HP DWG.WD-1001  
    **ISSUE DATE**: 3/7/2019

23B Meter Vault Lid Detail  
    **STANDARD DWG. NO**: Neenah Ref NF-1910T02  
    **ISSUE DATE**: 7/29/2015

24. Water Valve Vault Detail  
    **STANDARD DWG. NO**: HP DWG.WD-1002  
    **ISSUE DATE**: 3/26/2019

24B Valve Vault Lid Detail  
    **STANDARD DWG. NO**: Neenah Ref NF-1900BT05  
    **ISSUE DATE**: 8/17/2015

25. Pressure Connection Valve Vault Detail  
    **STANDARD DWG. NO**: HP DWG.WD-1003  
    **ISSUE DATE**: 1/15/2016

26. Water Main Adjustment Detail(Water Main Set)  
    **STANDARD DWG. NO**: HP DWG.WD-1004  
    **ISSUE DATE**: 9/27/2013

27. Fire Hydrant Installation Detail  
    **STANDARD DWG. NO**: HP DWG.WD-1006  
    **ISSUE DATE**: 2/28/2014

28. Water Service Detail Including Standard Saddle  
    **STANDARD DWG. NO**: HP DWG.WD-1007  
    **ISSUE DATE**: 3/20/2017

29. Thrust Block Detail  
    **STANDARD DWG. NO**: HP DWG.WD-1008  
    **ISSUE DATE**: 9/27/2013

30. Casing Pipe Detail  
    **STANDARD DWG. NO**: HP DWG.WD-1009  
    **ISSUE DATE**: 9/27/2013

31. RC Water Meter Valve Vault Detail w/ Bypass, 8"-2 Shts  
    **STANDARD DWG. NO**: HP DWG.WD-1015  
    **ISSUE DATE**: 9/27/2013

#### F. Miscellaneous Details:

32. Park Ave Sidewalk Detail, Special  
    **STANDARD DWG. NO**: HP DWG. STR-1037  
    **ISSUE DATE**: 2/22/2016

33. Flat Curb Detail  
    **STANDARD DWG. NO**: HP DWG. STR-1038  
    **ISSUE DATE**: 3/2/2016

34. Sidewalk Ramp ADA Detectable TufTile 2'x4' Polymer Panel  
    **STANDARD DWG. NO**: TT2448-WS-XXX  
    **ISSUE DATE**: 4/23/2015
Install & maintain 4’ tall wooden slat fence secured to metal posts spaced a maximum of 10’ apart. The tree fence shall be 1 foot from the tree trunk for each inch of diameter measured 4.5’ from ground level. The fence must be secured to the metal post with a minimum of 4 ties.

Installation shall be approved by the CITY FORESTER before the start of the project.

Failure to install and maintain protective tree fencing in accordance with City Standards will result in a ticket or a "STOP WORK ORDER" on the project.
ALTERNATE TO FABRIC TRENCH
(WITH SAND BAGS)

1. Set posts and encase or fill-trench a 6-inch deep trench upslope along the line of the post.

2. Attach the geotextile filter fabric to each post with a minimum of 3 (three) fasteners per post and extend to the bottom of the trench.

3. Backfill and compact the excavated spoil materials.

**SILT FENCE DETAIL**

**STORMWATER MANAGEMENT COMMISSION**

**SILT FENCE DETAIL & Alternate Detail**
(USE L.C.S.M.C STD. DETAIL)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. FOR-1042A, Silt Fence-Alternate

Drawn By: M.B.

Revised By: E.J.

DATE: 14 Feb 2017

Approved By: E.Obiez
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

INLET PROTECTION, TYPE C (WITH CURB BOX)

GEOTEXTILE FABRIC, TYPE FF

WOOD 2" x 4" EXTENDS 8" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES, SECURE TO GRATE WITH WIRE OR PLASTIC TIES

INSTALLATION NOTES:

1. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HELDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

2. TYPE C SHALL BE UTILIZED WITH CURB HEADS, A 1½" X 3½" MINIMUM, PIECE OF LUMBER SHALL BE WRAPPED AND SECURED IN THE FABRIC AND PLACED IN FRONT OF THE CURB HEAD AS SHOWN ON THE PLAN. THE LUMBER SHALL NOT BLOCK THE ENTIRE OPENING OF THE CURB BOX AND BE SECURED TO THE GRATE WITH WIRE OR PLASTIC TIES.

3. ALL FABRICS USED AS PART OF AN INLET PROTECTION DEVICE MUST BE SELECTED FROM THE LIST OF APPROVED FABRICS CERTIFIED FOR INLET PROTECTION, GEO-TEXTILE FABRIC, IN ACCORDANCE WITH STATE STANDARD SPECS FOR ROAD AND BRIDGES CONSTRUCTION - JANUARY 1, 2012, ARTICLE 1080.05 ON PAGE 971.

INLET PROTECTION (TYPE B - W/O CURB BOX; TYPE C - W/ CURB BOX)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1037
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
Dummy Contraction Joint every 5'
1-½" deep contraction joint @ 15' interval
½" Bitum. fibre expansion joint @ 60' interval
Slope ⅛" per foot toward street

Residential Drives
Minimum 10' width at sidewalk
Maximum 18' width at sidewalk
Driveway Tapers = 1:2 Ratio ±
(Max. 5' on each side)
(Min. 3' on either side)

All construction to be per Illinois Standard Specifications for Road and Bridge construction.

Plan View

Cross Section View

TYPICAL DRIVEWAY & SIDEWALK DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1031
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
CONCRETE CLASS B PATCH DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1033
Drawn By: M.B.
Revised By: E.J.

DATE: 8th Jan. 2015
Approved By: J.M.W.
CONCRETE PAVEMENT PATCH WITH H.M.A. OVERLAY DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1034
Drawn By: M.B.
Revised By: E.J.

DATE: 8th Jan. 2015
Approved By: J.M.W.
PIPE O.D. + 18''**+24''

MATCH EX. THICKNESS

SAW CUT FULL DEPTH BOTH SIDES

EXISTING CONCRETE SURFACE WITH H.M.A. OVERLAY

2'' GRANULAR SUB-BASE MATERIAL CA-6 CRUSHED STONE

2' MIN. (TYP.)

NOTE:
IF UTILITY CUT +12'' FALLS WITHIN 3' OF AN EXISTING JOINT EXTEND CUT TO THAT JOINT.

NO PAVEMENT UNDER-CUTTING OR TUNNELING PERMITTED

CONTRACTOR SHALL STEEL PLATE THE PATCH AFTER POURING CONCRETE TO MAINTAIN TRAFFIC

* CONCRETE SHALL BE CLASS-PP HIGH EARLY STRENGTH IN ACCORDANCE WITH ART. 442 OF IDOT STD. SPECS. FOR ROAD & BRIDGE CONSTRUCTION (OR APPROVED EQUAL)
** ADD ANOTHER 18'' FOR TRENCH DEEPER THAN 5' &/OR FOR EXCAVATION W/ TRENCH PROTECTIONS AS REQ'D. IN IDOT STD Art . 550.04

RE-INFORCING DOWELS & TIE BARS:

TRANSVERSE CLASS B PATCHES (across the street)
INSTALL 3/4''ø X 18'' @ 12'' C.T.S. EPOXY COATED PLAIN DOWEL BARS ANCHORED INTO EXISTING P.C.CRETE PAVEMENT ALONG WITH 3/4''ø X 18'' @12'' C.T.S. EPOXY COATED DEFORMED TIE BARS AT REAR FACE OF THE PATCH (rear end of traffic) as detailed in I.D.O.T. STD. 442105-05.

LONITUDINAL CLASS B PATCHES (along the street)
INSTALL 3/8''ø X 18'' @18'' C.T.S. EPOXY COATED PLAIN DOWEL BARS IN CONFORMANCE WITH STATE SPECIFICATIONS. USE 3/8''ø X 18'' @ 18'' C.T.S. DEFORMED TIE BARS TO CONNECT CONCRETE CURB & GUTTER.

CONCRETE PAVEMENT PATCH WITH H.M.A. OVERLAY DETAIL, ADT < 500

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No.STR-1034 B
Drawn By: M.B.
Revised By: E.J.

DATE: 9th Jan. 2015
Approved By: J.M.W.
EXISTING BITUMINOUS SURFACE WITH EITHER A BITUMINOUS OR GRANULAR BASE

PIPE OD+18"***+24"

3" HOT MIX ASPHALT 2 - 1¾" LIFTS

SAW CUT FULL DEPTH BOTH SIDES

12" MIN. (TYPICAL)

95% COMPACTION MOD. PROCTOR

2" HOT MIX ASPHALT BASE COURSE - 2 LIFTS

90% COMPACTION MOD. PROCTOR

2" GRANULAR SUB-BASE MATERIAL CA-6 CRUSHED STONE

NOTES:
IF UTILITY CUT FALLS WITHIN 3' OF AN EXISTING JOINT EXTEND CUT TO THAT JOINT.

NO PAVEMENT UNDER- CUTTING OR TUNNELING PERMITTED.

** ADD ANOTHER 18" FOR TRENCH DEEPER THAN 5'
&/OR FOR EXCAVATION W/ TRENCH PROTECTIONS AS REQ'D. IN IDOT STD Art . 550.04

BITUMINOUS PAVEMENT PATCH DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1035
Drawn By: M.B.
Revised By: E.J.

DATE: 8th Jan. 2015
Approved By: J.M.W.
CURB & GUTTER TYPE B-6.12 (IN CONFORMANCE WITH I.D.O.T. STD 606001-04)

NOTES:
1. EXPANSION JOINTS W/ 3/4" PREFORMED EXPANSION JOINT MATERIAL & TWO (2) SMOOTH 1-1/4" EPOXY COATED DOWEL BARS WITH GREASE CAPS SHALL BE PLACED:
   a. AT ENDS OF INTERSECTION RADI, P.C.'S, RADIUS POINTS, & BACK OF CUL-DE-SACS
   b. 5 FT. ON EACH SIDE OF DRAINAGE STRUCTURES
   c. MAX. OF 60 FT. INTERVALS
   d. WHERE NEW CURB MEETS EXISTING CURB, THE EXISTING CURB SHALL BE DRILLED AND TWO (2) SMOOTH 1-1/4" DOWEL BARS GROUTED IN PLACE W/ THE GREASE CAP PLACED ON THE SIDE OF THE NEW CURB & GUTTER.
2. TOOL OR SAWCUT CONTRACTION JOINTS AT 15 FT. INTERVALS.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HRS. AND SEALED W/ JOINT SEALANT, JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.

TYPE B-6.12 CURB & GUTTER
DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035
H.P. DWG. No. STR-1036
Drawn By: M.B.
Revised By: E.J.
DATE: 27th Sept. 2013
Approved By: J.M.W.
STORM SEWER MANHOLE
DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. ST-1013
Drawn By: M.B.
Revised By: JP3

DATE: 26th March 2019
Approved By:

NOTES:
1. USE ECCENTRIC CONES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FLAT SLAB TOPS PERMITTED ONLY FOR MANHOLES TOO SHALLOW FOR CONES.
2. USE:
   - 4'-0" DIAMETER FOR SEWER SIZES 12" THRU 24",
   - 5'-0" DIAMETER FOR SEWER SIZES 27" AND LARGER UNLESS OTHERWISE NOTED.
3. FOR CLOSED LIDS USE ITEM: HIGHLAND PARK FRAME LID (SPECIAL).

If D=4', then T=4"
If D=5', then T=5"

MANHOLE FRAME AND COVER
NEENAH 1015-5702 (CLOSED LID)
NEENAH R-2014 (OPEN LID)
OR APPROVED EQUAL
EMBOSSED "STORM"
SEE NOTE 3

WATERTIGHT JOINTS

MANHOLE STEPS - 16" C. TO C.
COPOLYMER PLASTIC W/ CONTINUOUS ½"
STEEL REINFORCING OR CAST IRON,
NEENAH R-1981-I

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS
SLOPE 1"-2" PER FT.

PRECAST CONC. ADJUSTING RINGS (1 RING, 8" MAX.)

INVERT CHANNEL TO CONFORM TO ELEVATION SHOWN ON DRAWINGS

CONCRETE BENCH

PRECAST CONC. ADJUSTING RINGS (1 RING, 8" MAX.)

COMPACTED GRANULAR PIPE BEDDING MATERIAL

If D=4', then T=4"
If D=5', then T=5"
STORM SEWER LATERAL CONNECTION DETAIL

304 Non-Magnetic Stainless Kor-Band
Non-Magnetic Stainless Steel External Clamp

KOR-N-SEAL Flexible Gasket
Meets ASTM-C443 Requirements

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. ST-1022
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
SECTION

INLET TYPE B

EXPANSION JOINT

NEENAH R-3010 FRAME & GRATE

EXPANSION JOINT

CURB AT INLET DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. ST-1023
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: M.W.
CURB INLET DETAIL
(W/ R3250 DVSP FRAME TYPE "V" GRATE)
R-3250-CV
Combination Inlet Frame, Grate, Curb Box

Heavy Duty

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Also available with tapered face curb box, order R-3250-BV.

R-3250-DV
Adjustable Combination Inlet

Heavy Duty

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R-3250-DVSP
Combination Inlet Frame, Grate, Curb Box

Heavy Duty

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R-3250-EV
Adjustable Combination Inlet

Heavy Duty

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Hand Excavation Required

P.C.C. Concrete - Class SI - \( \frac{1}{2} \) C.Y.

Reinforcing Steel - #4 Deformed Bar
80 L.F. Cut and Bend in Field

< 8" DIAMETER STORM OUTFALL

RAVINE STORM HEADWALL DETAIL
(FOR 6" TO 8" DIA. OUTFALL)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1018
Drawn By: T.H.
Revised By: E.J.

DATE: 27th Sept., 2013
Approved By: J.M.W.
ROCKFILLED GABION BASKETS
3'X3'X L=8 FT (Compressed)

3.5' x 8' x 3/4" THICK STEEL PLATE
BOLTED WITH 3/8" Ø X 1" BOLTS &
NUTS @ 12" C.T.S. TO 3" X 3" X 10'
ANGULAR BARS (3 EA.) MOUNTED
EVENLY ON TOP OF HEADWALL.
TIE ANGULARS BARS TO GABION
WALL BASKETS EVERY 12 INCHES.

R.C. HEADWALL DETAIL

12" PVC STORM SEWER
FROM CATCH BASIN

PLAN

SECTION

R.C. HEADWALL DETAIL

(FOR 10" to 12" DIA. OUTFALL)
DESIGN OF STORM OUTFALL PROTECTION, ROUND PIPE FLOWING FULL, $tw > 0.5$ dia.
**SANITARY SEWER SERVICE RISER DETAIL**

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. SAN-1011
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.

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**PLAN**

4" OR 6" NDS FLEXIBLE SADDLE TEE-EPOXY GLUED TO SEWER OUTER WALL. USE STAINLESS STEEL BAND & LOCK SEALS, 2 EA. @ MAIN SEWER; 1 EA @ SERVICE

4" OR 6" SERVICE (D.I.P. CL 52 or PVC SDR 26)

STAINLESS STEEL BAND & LOCK SEALS

PVC ARC PAD (Cut from same size main)

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**SECTION**

4" OR 6" NDS FLEXIBLE SADDLE TEE-EPOXY GLUED TO SEWER OUTER WALL. USE STAINLESS STEEL BAND & LOCK SEALS, 2 EA. @ MAIN SEWER; 1 EA @ SERVICE

STAINLESS STEEL BAND & LOCK SEALS

PVC ARC PAD (Cut from same size main)

CA-7 STONE BEDDING, 4" INCH THICK

---

45 Bend

6" Min.

UNDISTURBED EARTH-SLOPE TO PROVIDE UNIFORM BEARING FOR 1/4 OF BARREL CIRCUMFERENCE

Maximum Slope (Slope to be less than 1:1 when necessary to secure bedding in undisturbed earth)

9" Max. to Ground Surface

Stopper Cemented in Place
NOTES:
1. ECCENTRIC CONES REQUIRED.
2. USE 4'-0" MIN. DIAMETER FOR SEWER SIZES 24" OR LESS, 5'-0" MIN. FOR SEWER SIZES 27" OR LARGER UNLESS OTHERWISE NOTED.
3. FOR CLOSED LIDS USE ITEM: HIGHLAND PARK FRAME LID (SPECIAL).

NOTE:
USE OUTSIDE DROP WHEN ANY ENTERING SEWER INVERT DIFFERS BY 2'-0" OR MORE FROM INVERT OF MANHOLE.

"A" - DIAMETER OF SEWER "B" - NEXT SIZE SMALLER THAN "A", BUT NOT SMALLER THAN 8".

OUTSIDE DROP DETAIL

SANITARY SEWER MANHOLE DETAIL
NOTE: USE CA-7 TRENCH BACKFILL STONE MATERIALS FOR ALL SERVICES CONNECTION EXCAVATIONS WITHIN THE ROAD PAVEMENT UP TO 2 FEET BEHIND THE EXISTING EDGE OF PAVEMENT OR EXISTING BACK OF CURB.

4" OR 6" SERVICE (D.I.P. CL 52 or PVC SDR 26)

4" OR 6" NDS FLEXIBLE SADDLE TEE-EPOXY GLUED TO SEWER OUTER WALL. USE STAINLESS STEEL BAND & LOCK SEALS, 2 EA. @ MAIN SEWER; 1 EA @ SERVICE

STAINLESS STEEL BAND & LOCK SEALS

PVC ARC PAD (Cut from same size main)

45 Bend

Stopper Cemented in Place

UNDISTURBED EARTH-SLOPE TO PROVIDE UNIFORM BEARING FOR 1/4 OF BARREL - CIRCUMFERENCE

Maximum Slope (Slope to be less than 1:1 when necessary to secure bedding in undisturbed earth)

4" OR 6" NDS FLEXIBLE SADDLE TEE-EPOXY GLUED TO SEWER OUTER WALL. USE STAINLESS STEEL BAND & LOCK SEALS, 2 EA. @ MAIN SEWER; 1 EA @ SERVICE

STAINLESS STEEL BAND & LOCK SEALS

PVC ARC PAD (Cut from same size main)

CA-7 STONE BEDDING, 4" INCH THICK

SANITARY SEWER SERVICE
RISER DETAIL (LINED SEWER)
12" MIN

COMPACTED BEDDING

6" MIN

CL-1B (CRUSHED STONE GRADATION CA-6) MATERIAL BEDDING SHALL BE COMPACTED TO A MINIMUM OF 95% IN ACCORDANCE WITH ASTM 2321-89

N.S.S.D. SANITARY SEWER PIPE BEDDING DETAIL

STANDARD PIPE BEDDING (FOR SANITARY SEWER)
DOMESTIC METER VAULT
DETAIL

Connection to existing line shall be as follows:

1. copper to copper - Flared fitting, AY McDonald 74758
2. copper to iron pipe - Flared fitting to I.P. threads, AY McDonald 74754
3. copper to lead - AY McDonald 73205

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1001
Drawn By: M.B.
Revised By: J.P./E.J.
Approved By: EG

DATE: 7th March 2019
NOTES:
1. CONCENTRIC CONE REQUIRED
2. USE: 4'-0" DIAMETER FOR WATER VALVE SIZES 8" AND SMALLER, 5'-0" DIAMETER OR LARGER FOR SIZES LARGER THAN 8"
3. FOR CLOSED LIDS USE ITEM: HIGHLAND PARK FRAME LID (SPECIAL)

FRAME AND COVER NEENAH 1015-6071 OR APPROVED EQUAL, W/ RECESSED PICKHOLE SEE NOTE 3

ALL HARDWARE BELOW GRADE SHALL BE STAINLESS STEEL
NOTES:
1. ECCENTRIC CONE REQUIRED
2. USE 4'-0" DIAMETER FOR WATER MAIN SIZES 4" THRU 10",
   USE 5'-0" DIAMETER FOR WATER MAIN SIZES 12" THRU 20",
   USE 6'-0" DIAMETER FOR WATER MAIN SIZES 20" OR GREATER.

FRAME AND COVER NEENAH R-1900-B
Lid w/ Recessed Center per referenced sheet NF-1900BT05-B

FINISHED GRADE

WATERTIGHT JOINTS

ALIGN VALVE OPERATING NUT WITH VALVE VAULT RIM COVER OPENING

VALVE

STAINLESS STEEL TAPPING SLEEVE

EXIST. WATER MAIN

CONCRETE THRUST BLOCK

CONCRETE SUPPORT

COMPACTED GRANULAR PIPE BEDDING MATERIAL

ALL BOLTS BELOW GRADE TO BE STAINLESS STEEL

PRESSURE CONNECTION
VALVE VAULT DETAIL
NORTH SHORE SANITARY DISTRICT NOTES:

1. The contractor shall notify the North Shore Sanitary District a minimum of 24 hrs prior to the start of construction either by phone at 847-623-6060 or by mail at engmail@northshoresanitary.org

2. All sanitary sewer pipe shall be bedded, with a minimum of 6" below the pipe and 12" above the pipe, in CA-6 crushed material. CA-7 may be allowed at the discretion of North Shore Sanitary District if extremely wet conditions are encountered.

3. The connection to downstream extensions shall be televised in the presence of North Shore Sanitary District personnel after having notified the District a minimum of 24 hrs prior to televising either by phone at 847-633-6060 or by mail T engmail@northshoresanitary.org. A copy of the televised sewer extension, in VHS or DVD format, shall be submitted to the District for approval.
All new water main and fittings shall be ductile iron. The pipe shall be of the class specified by the Engineer.

4" compacted granular material (CA-6) bedding beneath adjusted water main shall be extended to the springline of the pipe.

All new water main shall be disinfected by carefully swabbing with a chlorine solution.

ALL HARDWARES BELOW GRADE SHALL BE STAINLESS STEEL.

WATER MAIN ADJUSTMENT DETAIL
(WATER MAIN SET)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

DATE: 27th Sept. 2013

H.P. DWG. No. WD-1004
Drawn By: M.B.
Revised By: E.J.

Approved By J.M.W.
FIRE HYDRANT
INSTALLATION DETAIL

WATEROUS PACER HYDRANT,
Model WB67-250

BREAK FLANGE

MIN. 1 C.Y. OF 1/4 " TO 3/4 "
WASHED RIVER STONE
OR CA-7 GRADATION STONE

CONCRETE BLOCKS

ALL HARDWARE BELOW GRADE TO BE STAINLESS STEEL

VALVE BOX W/Cover
MARKED "WATER"

18" (MIN.)
26" (MAX.)

6" AUXILIARY RESILIENT
SEAT GATE VALVE

MECHANICAL JOINT TEE

MECHANICAL JOINT
ANCHORING FITTINGS
OR TIE RODS

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1006
Drawn By: M.B.
Revised By: E.J.

DATE: 28th Feb. 2014
Approved By: J.M.W
NOTE: USE CA-7 TRENCH BACKFILL STONE MATERIALS FOR ALL SERVICES CONNECTION EXCAVATIONS WITHIN THE ROAD PAVEMENT UP TO 2 FEET BEHIND THE EXISTING EDGE OF PAVEMENT OR EXISTING BACK OF CURB.

POWER SEAL 3131a, BOLT TYPE SST, CHEK-O-SEAL GASKET SBR, Order # 6870880

PLAN

FIN. GRADE

B. BOX A.Y. MCDONALD 5615
(various depth)

VARIABLE
(ONE PIECE OF PIPE)

VARIABLE
(ONE PIECE OF PIPE)

A.Y. MCDONALD ROUNDWAY
76104 (1 3/8" OR 2"

SERVICE PIPE
A.Y. MCDONALD CORPORATION STOP
1 3/8" 74701 B 1 1/2"
2" 74701 B 2"

WATER MAIN

SECTION

POWER SEAL 3131a, BOLT TYPE SST, CHEK-O-SEAL GASKET SBR, Order # 6870880

<table>
<thead>
<tr>
<th>SERVICE PIPE</th>
<th>CORP. STOP</th>
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</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>1 1/2&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>1 1/2&quot; X 2&quot;</td>
</tr>
</tbody>
</table>

NOTE:

1. NO WATER MAIN TAP FOR NEW DEVELOPMENT UNTIL PERMITS ARE ISSUED.
2. ALL MATERIALS SHALL BE LEAD FREE.

WATER SERVICE DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1007
Drawn By: M.B.
Revised By: E.I.

DATE: 20th Mar, 2017
Approved By: E. Gomez

28
THRUST BLOCK SCHEDULE:

All Thrust Blocking Incidental to Water Main Construction.

Thrust Blocking for all fittings under 10 inches shall have a minimum dimension of 1'x1' at the point of contact with undisturbed earth.

Plugged Ends shall be thrust blocked the same as Tee.

Tabulated Thrust Blocking is figured on Allowable Bearing Pressure of Soil at 4,000 PSF. If Allowable Bearing Pressure of Soil is 2,000 PSF, the tabulated bearing area of contact to the undisturbed earth shall be doubled.

Notes:
1. All Thrust Blocking shall be constructed of poured concrete, supported with wood forms and undisturbed earth.
2. MEGA-LUG retainers shall be used.
3. All nuts, bolts and washers shall be STAINLESS STEEL.
## THRUST BLOCK SCHEDULE

<table>
<thead>
<tr>
<th>FITTINGS</th>
<th>H</th>
<th>L</th>
<th>W</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEE: 16&quot; X 16&quot; X 16&quot;</td>
<td>2.0'</td>
<td>3.0'</td>
<td>2.0'</td>
<td>2.0'</td>
</tr>
<tr>
<td>16&quot; - 90°</td>
<td>3.0'</td>
<td>3.0'</td>
<td>2.0'</td>
<td>2.0'</td>
</tr>
<tr>
<td>16&quot; - 45°</td>
<td>3.0'</td>
<td>2.0'</td>
<td>2.0'</td>
<td>2.0'</td>
</tr>
<tr>
<td>16&quot; - 22 1/2&quot;</td>
<td>2.0'</td>
<td>2.0'</td>
<td>1.5'</td>
<td>1.0'</td>
</tr>
<tr>
<td>TEE: 14&quot; X 14&quot; X 10&quot;</td>
<td>2.0'</td>
<td>2.5'</td>
<td>1.5'</td>
<td>2.0'</td>
</tr>
<tr>
<td>14&quot; - 90°</td>
<td>2.5'</td>
<td>3.0'</td>
<td>1.5'</td>
<td>2.0'</td>
</tr>
<tr>
<td>14&quot; - 45°</td>
<td>2.0'</td>
<td>2.5'</td>
<td>1.5'</td>
<td>1.5'</td>
</tr>
<tr>
<td>TEE: 12&quot; X 12&quot; X 12&quot;</td>
<td>2.0'</td>
<td>2.5'</td>
<td>1.5'</td>
<td>2.0'</td>
</tr>
<tr>
<td>TEE: 12&quot; X 12&quot; X 8&quot;</td>
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<td>2.0'</td>
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<tr>
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<td>1.5'</td>
<td>1.5'</td>
<td>1.0'</td>
</tr>
<tr>
<td>12&quot; - 90°</td>
<td>2.0'</td>
<td>3.0'</td>
<td>1.5'</td>
<td>2.0'</td>
</tr>
<tr>
<td>12&quot; - 45°</td>
<td>1.5'</td>
<td>2.0'</td>
<td>1.5'</td>
<td>1.0'</td>
</tr>
<tr>
<td>12&quot; - 22 1/2&quot;</td>
<td>1.0'</td>
<td>1.5'</td>
<td>1.5'</td>
<td>1.0'</td>
</tr>
<tr>
<td>TEE: 10&quot; X 10&quot; X 10&quot;</td>
<td>1.5'</td>
<td>2.0'</td>
<td>1.5'</td>
<td>1.5'</td>
</tr>
<tr>
<td>10&quot; - 90°</td>
<td>2.0'</td>
<td>3.0'</td>
<td>1.5'</td>
<td>1.5'</td>
</tr>
<tr>
<td>10&quot; - 45°</td>
<td>1.5'</td>
<td>1.5'</td>
<td>1.5'</td>
<td>1.0'</td>
</tr>
</tbody>
</table>

## THRUST BLOCK LEGEND:
- **H**: THICKNESS
- **L**: LENGTH FROM UNEXCAVATED SOIL
- **W**: SPACE BETWEEN FITTINGS AND SOIL
- **F**: WIDTH AT FITTINGS

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**THRUST BLOCK DETAIL**

City of Highland Park  
Department of Public Works  
1150 Half Day Rd, Highland Park, IL 60035  
H.P. DWG. No. WD-1008  
Drawn By: M.B.  
Revised By: E.J.  
DATE: 27th Sept. 2013  
Approved By: J.M.W.
Notes:
1. Casing Pipe shall be 3/8" Steel.
2. Casing Spacers shall be Stainless Steel by CASCADE or approved equal. 3 spacers per pipe.
3. Temporary fence shall be installed and maintained around both the jacking and receiving pit.

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Casing Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>16&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>20&quot;</td>
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<tr>
<td>12&quot;</td>
<td>20&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>30&quot;</td>
</tr>
</tbody>
</table>
R.C. WATER METER / VALVE VAULT DETAIL
FOR 8" Ø F4000 FIRE SERVICE METER WITH 8" Ø WM MAIN BYPASS LINE

Sheet 1 of 2
NOTES:
1. DRILL AND GROUT #6 EPOXY COATED TIE BARS 18" LONG @ 24" C-C

2. SEE SPECIAL PROVISION, PARK AVE SIDEWALK (SPECIAL)

3. RESTORE TO EXISTING GRADE WITH TOPSOIL, SEED, AND BLANKET

PARK AVE SIDEWALK DETAIL
(SPECIAL)
EGANDALE RD
VINE AVE

NOTES:
1) SEE SPECIAL PROVISION, FLAT CURB AND GUTTER, NEW
PHYSICAL CHARACTERISTICS - POLYMER

DOME GEOMETRY

ADA (R305.1.1) specifies truncated domes shall have a base diameter of 0.9" minimum, a top diameter of 50% of the base diameter minimum, and a height of 0.2".

DOME SPACING

ADA (R305.1.2) specifies truncated domes shall have a center-center of 1.6" to 2.4"

POLYMER WET-SET (REPLACEABLE) / SURFACE APPLIED (REPLACEABLE)

Material – Proprietary Thermoplastic Polyolefin

<table>
<thead>
<tr>
<th>Standard</th>
<th>Property</th>
<th>Value/Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM C 501</td>
<td>Abrasion Resistance</td>
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<tr>
<td>ASTM C 1028</td>
<td>Slip Resistance</td>
<td></td>
</tr>
<tr>
<td>ASTM D 570</td>
<td>Water Absorption</td>
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<tr>
<td>ASTM D 1308</td>
<td>Chemical Stain Effects</td>
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</tr>
<tr>
<td></td>
<td>-70Hrs/70° C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Motor Oil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Antifreeze</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Coffee</td>
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</tr>
<tr>
<td>ASTM B 117</td>
<td>Salt Spray (200 Hrs)</td>
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<tr>
<td>ASTM D 790</td>
<td>Flexural Strength</td>
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<tr>
<td>ASTM D 638</td>
<td>Tensile Strength</td>
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<tr>
<td>ASTM D 695</td>
<td>Compressive Properties</td>
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<tr>
<td>RCRA-C</td>
<td>Non-Hazardous Classification</td>
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</tr>
<tr>
<td>ASTM D 1709</td>
<td>(modified)</td>
<td></td>
</tr>
</tbody>
</table>
|                 | (Dart Drop Impact Test: 48 lb steel dart with spherical head and 1.8" diameter radius dropped from 2 feet equaling 100ft/lbs of force) | 124 (lower number = better wear properties) Dry 1.28, Wet 1.23 0.04% No Effect No Effect No Effect No Effect 3901 psi 2885 psi 6844 psi Non-Hazardous Nubs flattened on tile, did not crack
Colonial Red (City of Highland Park) 04/22/2015