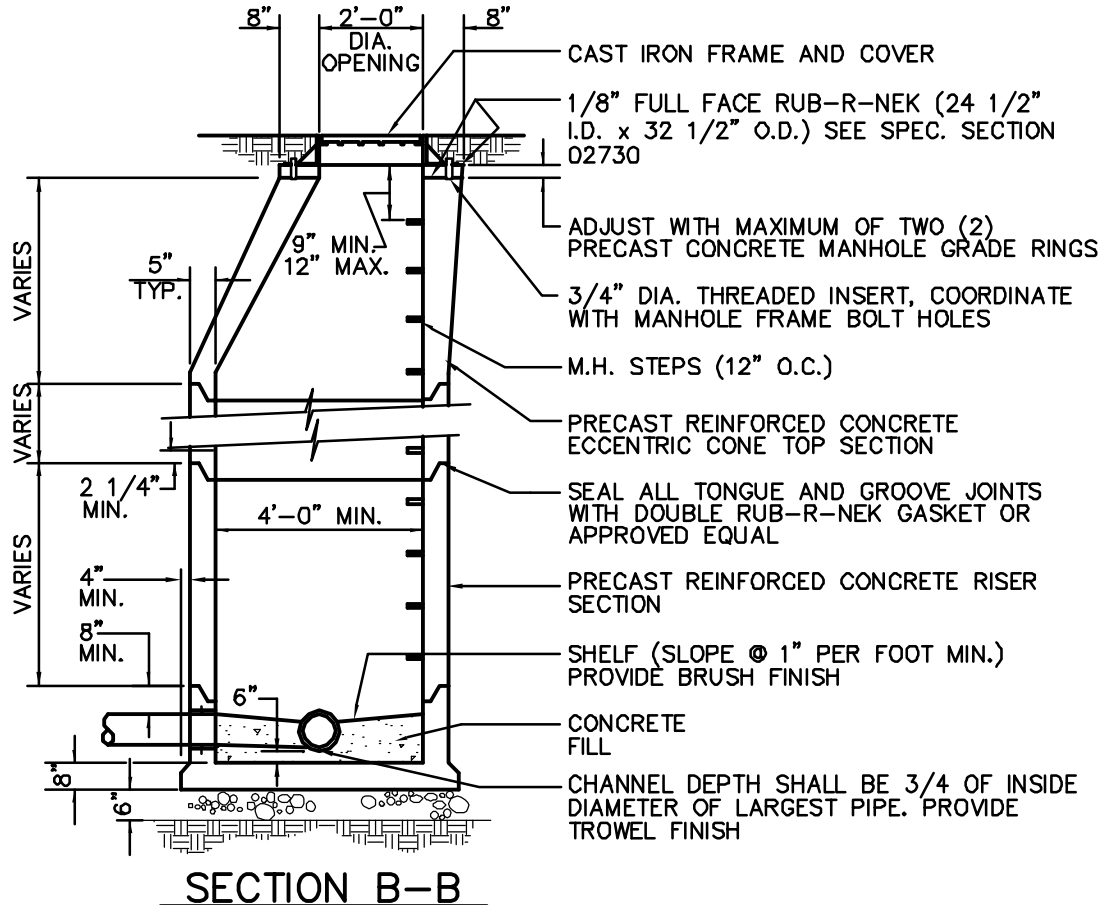




PRECAST CONCRETE MANHOLE SECTION

NOT TO SCALE
SS\SS001

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

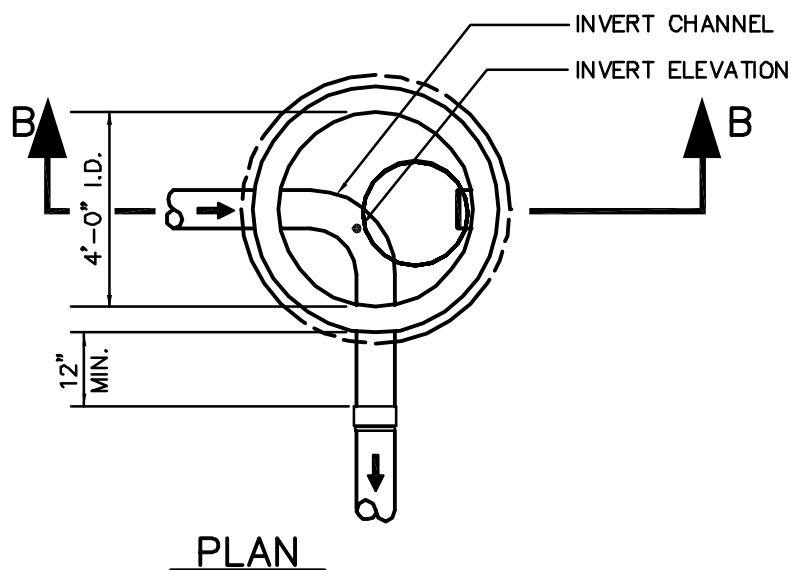
3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

DRAWN BY: TMO

DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



NOTES:

1. MECHANICALLY VIBRATED PRECAST CONCRETE, RISER AND TOP SHALL CONFORM TO A.S.T.M. SPEC. C-478.
2. MANHOLE SHALL HAVE BITUMASTIC COATING ON EXTERIOR WALLS
3. MAINTAIN POSITIVE GRADE THROUGH MANHOLE
4. ALL OPENINGS AROUND PIPES SHALL BE FINISHED WITH NON-SHRINK GROUT
5. CONTRACTOR MAY USE PRECAST INVERT BASES.
6. FOR MANHOLES WITH SEWER LINES ENTERING AT GREATER THAN 10% SLOPES, INDIVIDUAL SHOP DRAWINGS MUST BE SUBMITTED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER.
7. INTERIOR OF MANHOLE SHALL HAVE PROTECTIVE PVC COATING IN ACCORDANCE WITH SPECIFICATIONS. SEE PLAN VIEW OF SANITARY SEWER LAYOUT FOR LOCATION OF PVC COATED MANHOLES.
8. MANHOLE CHANNELS, BENCH, AND ALL INTERIOR SURFACES SUBJECT TO CORROSION SHALL RECEIVE FACTORY APPLIED CORROSION RESISTANT COATING. SHOP DRAWINGS SHALL BE SUBMITTED FOR COATING (FOR PVC COATED MANHOLES ONLY).

PRECAST CONCRETE MANHOLE PLAN

NOT TO SCALE
SS\SS001

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DEVELOPER SPECIFICATIONS
FOR
WEST NORRITON TOWNSHIP

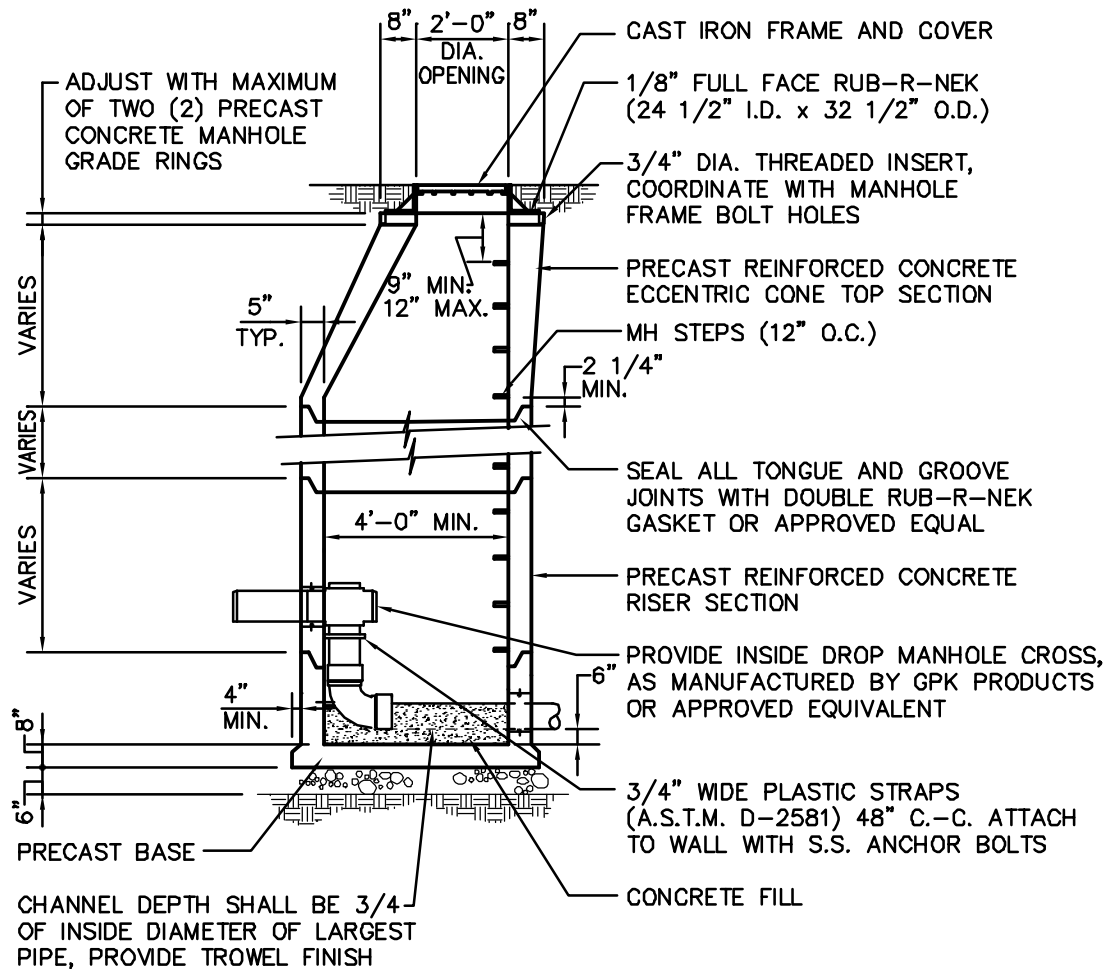
WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

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PRECAST CONCRETE INSIDE DROP MANHOLE (FOR 8" AND 10" PIPE)

NOT TO SCALE
SS\SS003

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

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ASSOCIATES, INC.

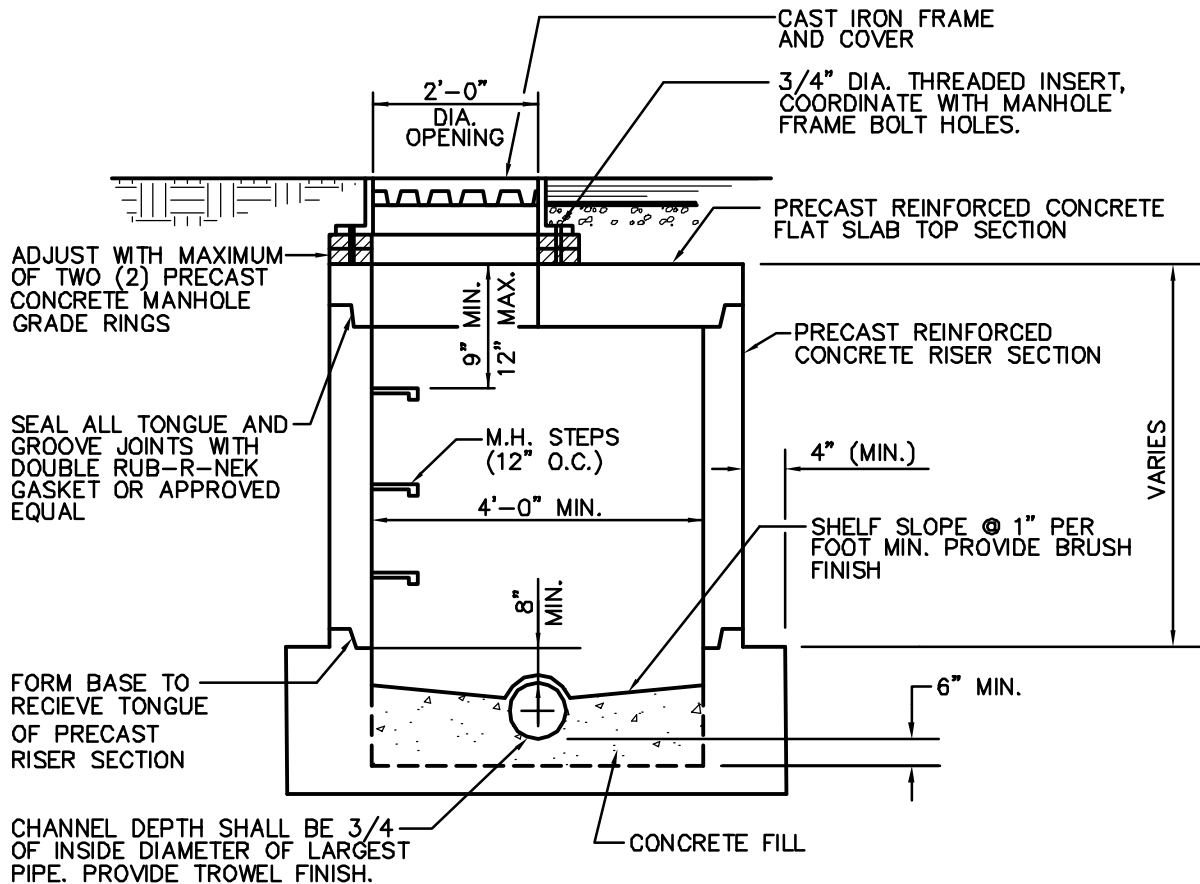
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



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8. MANHOLE CHANNELS, BENCH, AND ALL INTERIOR SURFACES SUBJECT TO CORROSION SHALL RECEIVE FACTORY APPLIED CORROSION RESISTANT COATING. SHOP DRAWINGS SHALL BE SUBMITTED FOR COATING (FOR PVC COATED MANHOLES ONLY).

SHALLOW MANHOLE DETAIL

NOT TO SCALE
SS\SS005

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

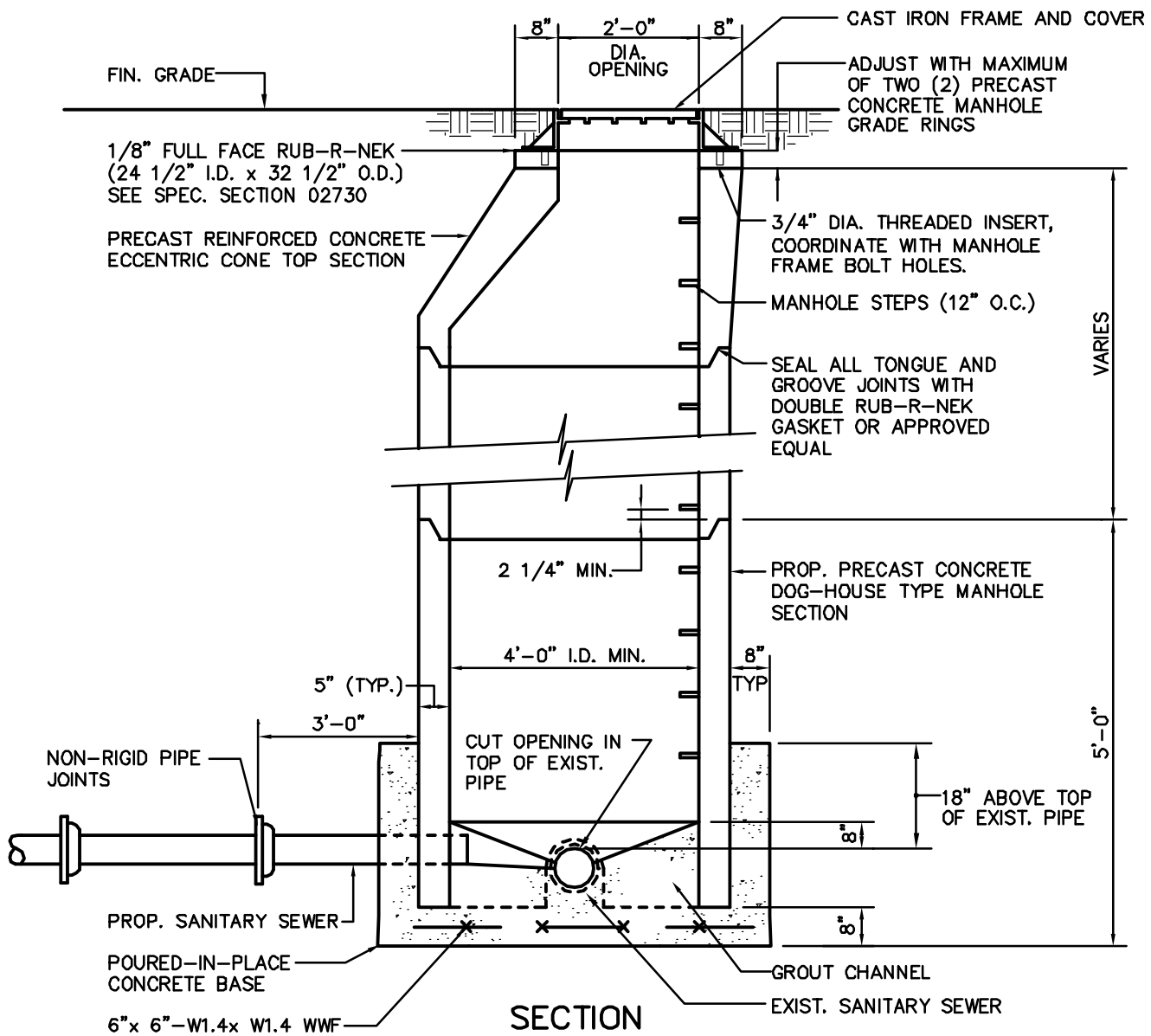
3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



NOTES:

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PRECAST CONCRETE MANHOLE DETAIL (DOG-HOUSE TYPE)

NOT TO SCALE
SS\SS007

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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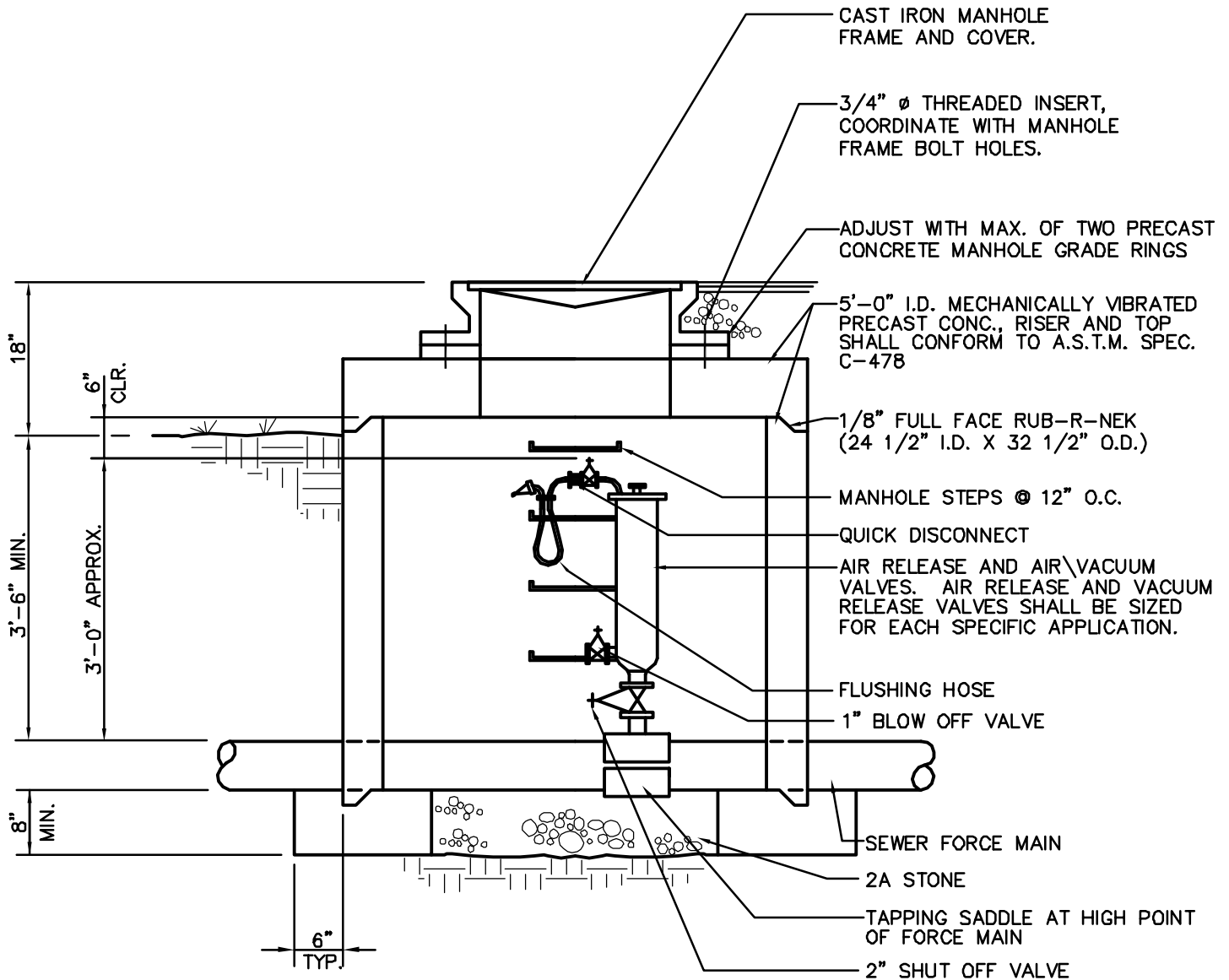
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DWG. NO. 04-05770-007

NOTES:

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3. ALL OPENINGS AROUND PIPES SHALL BE FINISHED WITH NON-SHRINK GROUT.
4. ALL MANHOLE FOOTINGS TO BE UNDISTURBED EARTH W/ CRUSHED AGGREGATE UP TO PIPE INVERTS. MANHOLES TO BE OPEN TO DRAIN.
5. INTERIOR OF MANHOLE SHALL HAVE PROTECTIVE PVC COATING IN ACCORDANCE WITH SPECIFICATIONS.

**AIR RELEASE VALVE MH. DETAIL**

NOT TO SCALE

SS\SS023

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DEVELOPER SPECIFICATIONS
FOR**WEST NORRITON TOWNSHIP**

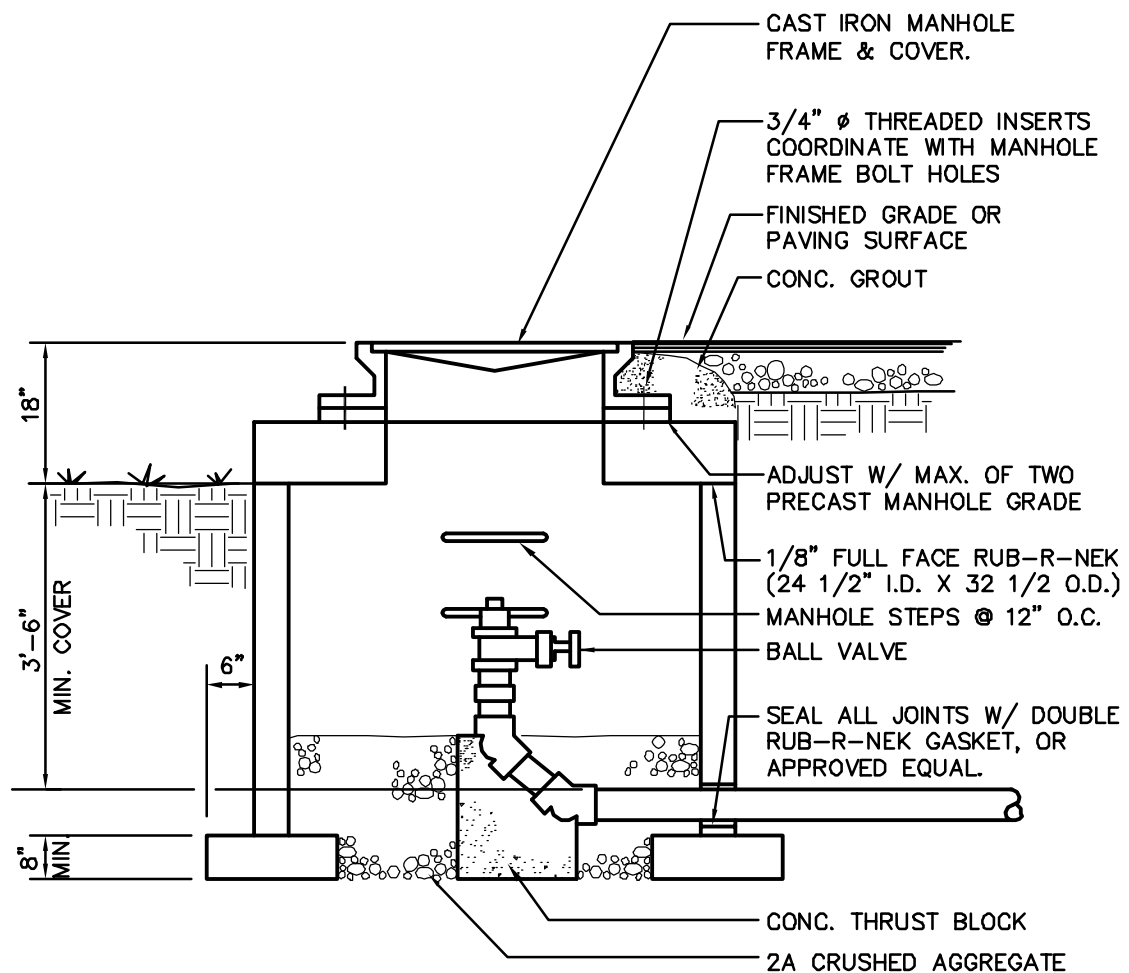
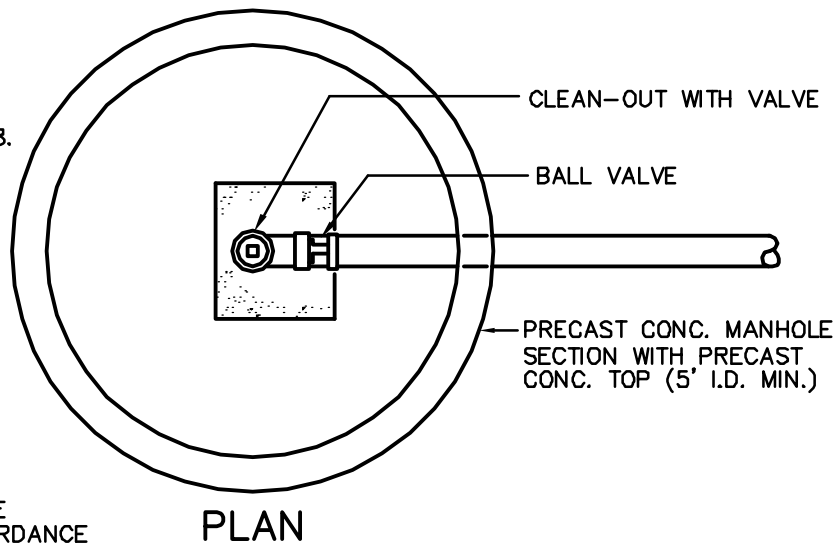
WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.3020 Columbia Ave., Lancaster, PA 17603
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5. INTERIOR OF MANHOLE SHALL HAVE PROTECTIVE PVC COATING IN ACCORDANCE WITH SPECIFICATIONS.



SECTION

TERMINAL CLEAN-OUT MANHOLE

NOT TO SCALE
SS\SS051

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DEVELOPER SPECIFICATIONS FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

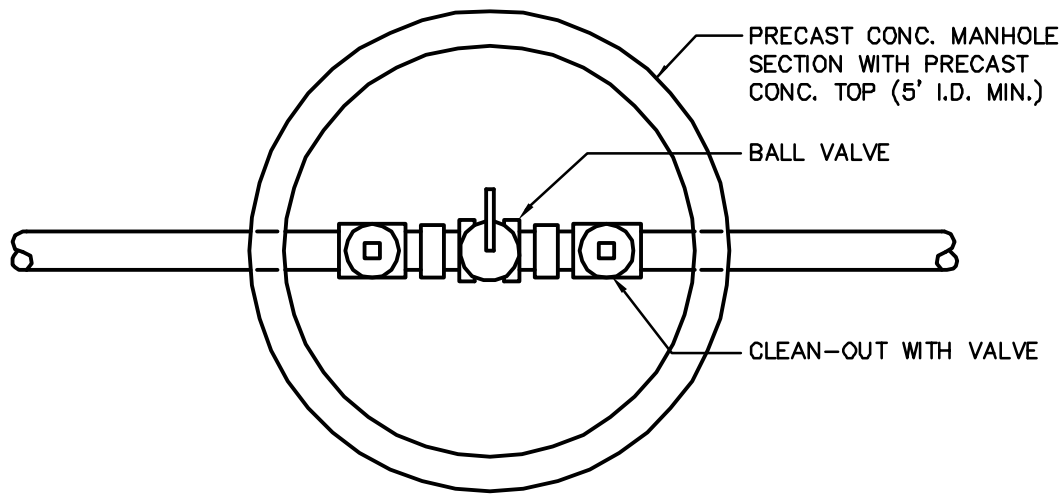
3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

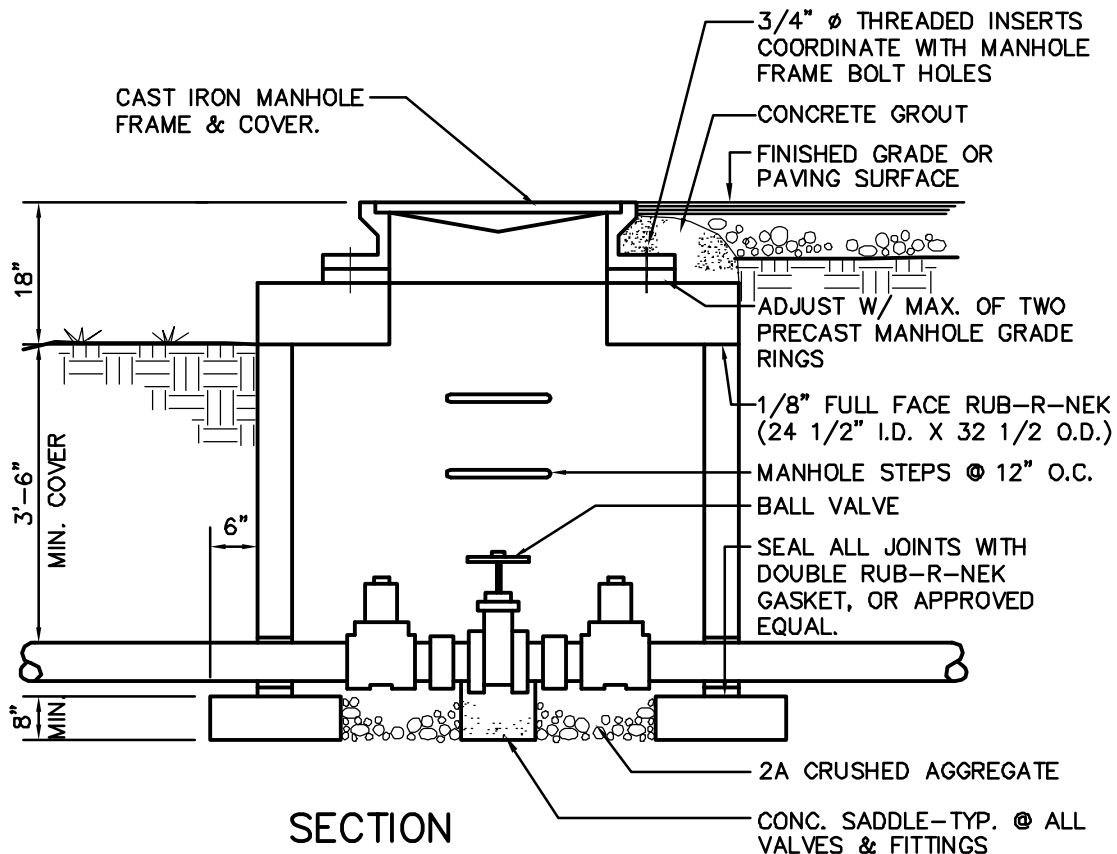
DWG. NO. 04-05770-007



PLAN

NOTES:

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5. INTERIOR OF MANHOLE SHALL HAVE PROTECTIVE PVC COATING IN ACCORDANCE WITH SPECIFICATIONS.



SECTION

VALVE & CLEAN-OUT
MANHOLE TYPE 1

NOT TO SCALE

SS\SS052

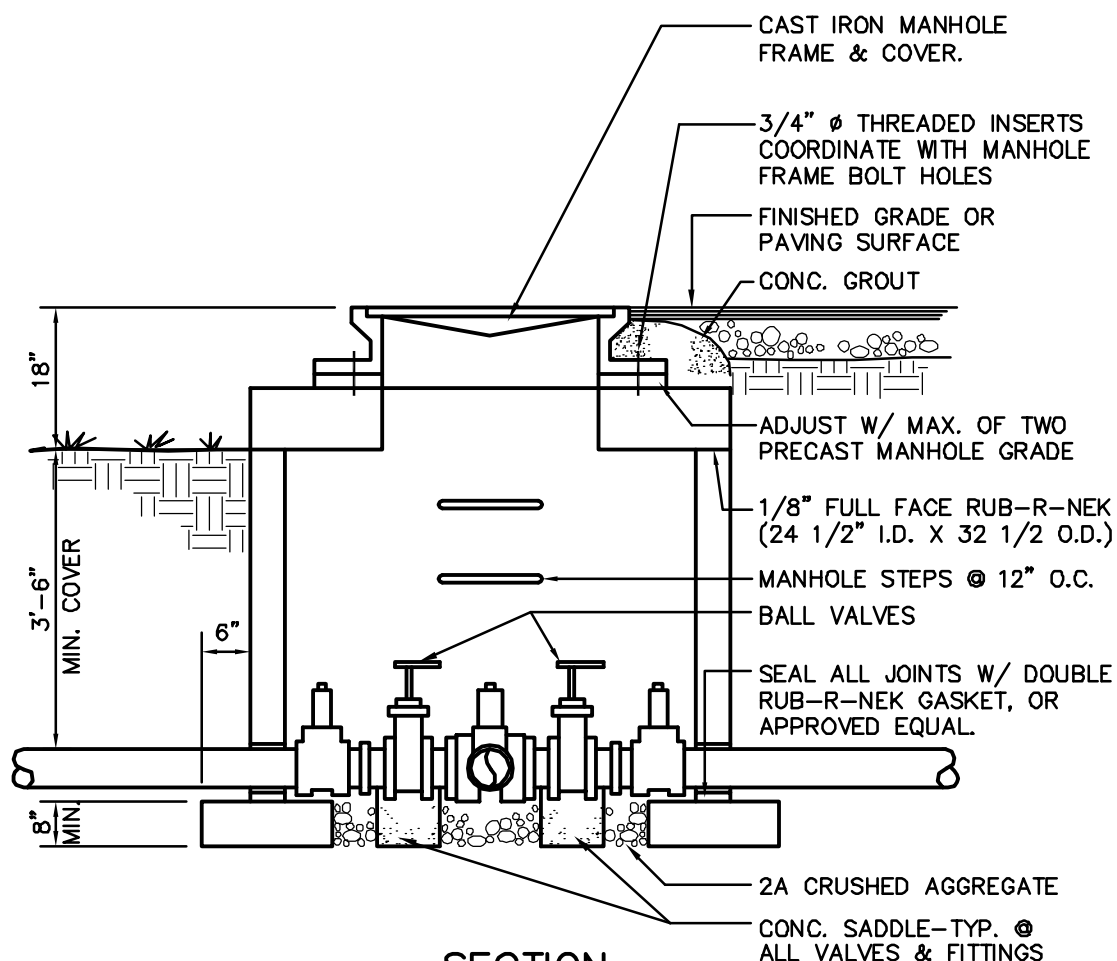
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DEVELOPER SPECIFICATIONS
FOR**WEST NORRITON TOWNSHIP**

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.3020 Columbia Ave., Lancaster, PA 17603
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VALVE & CLEAN-OUT MANHOLE TYPE 2-SECTION

NOT TO SCALE
SS\SS053

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DEVELOPER SPECIFICATIONS FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

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3020 Columbia Ave., Lancaster, PA 17603
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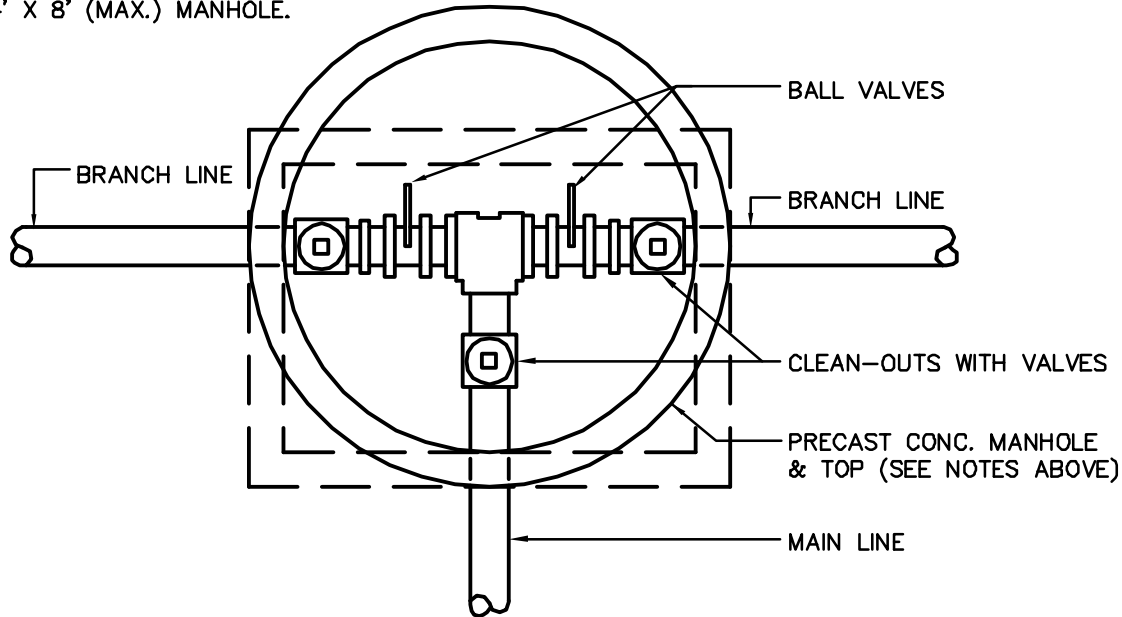
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTE: TYPE 2 MANHOLE CONFIGURATION DEPENDS ON PIPE SIZES AND ARRANGEMENTS

1. PIPE SIZES 2", 2 1/2", AND 3" SHALL USE A 5' Ø (MIN.) MANHOLE.
2. PIPE SIZES 4", 6", 8", AND 10" SHALL USE A 4' X 8' (MAX.) MANHOLE.
3. ANY PIPING ARRANGEMENT WITH PIPE SIZES LARGER THAN 3" SHALL REQUIRE A RECTANGULAR MANHOLE.



PLAN

NOTES:

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5. INTERIOR OF MANHOLE SHALL HAVE PROTECTIVE PVC COATING IN ACCORDANCE WITH SPECIFICATIONS.

VALVE & CLEAN-OUT MANHOLE TYPE 2-PLAN

NOT TO SCALE

SS\SS053

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

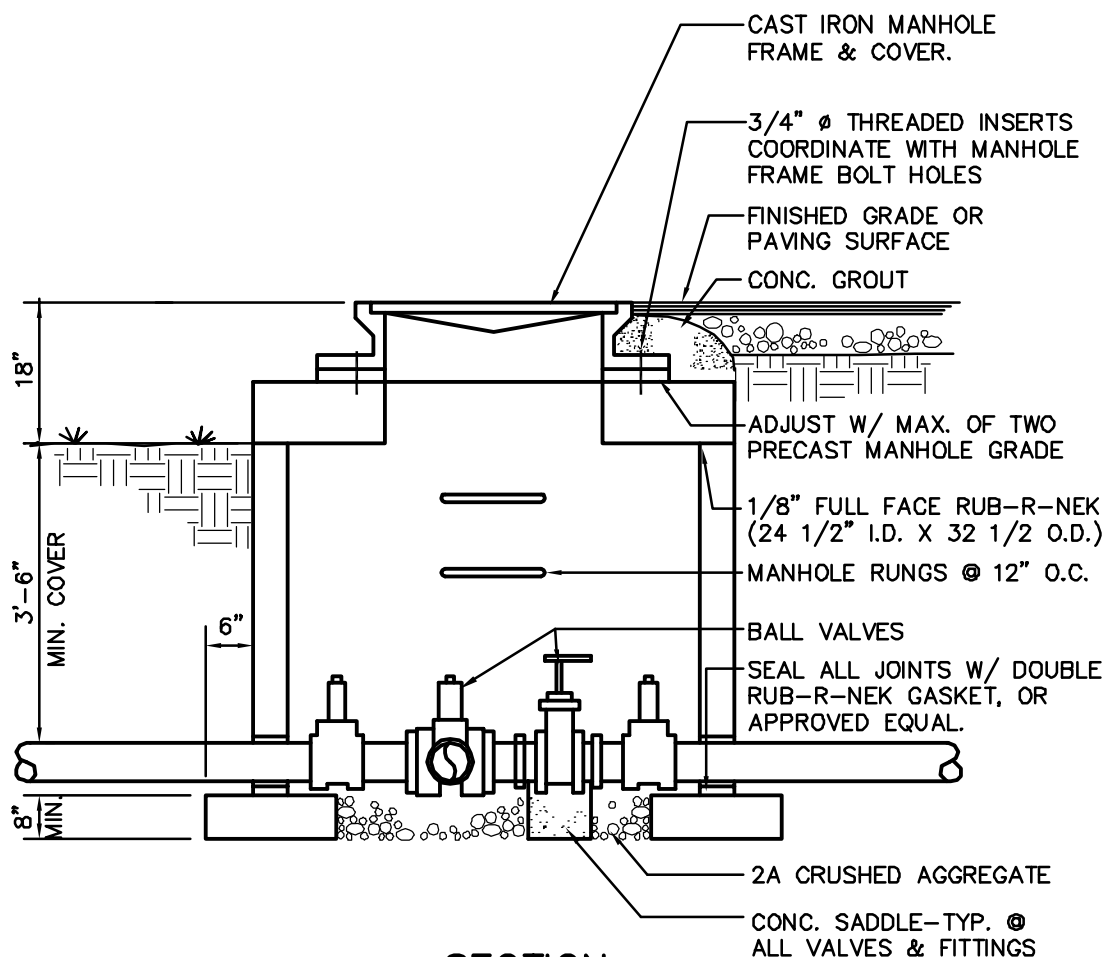
3020 Columbia Ave., Lancaster, PA 17603
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DRAWN BY: TMO

DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



VALVE & CLEAN-OUT MANHOLE TYPE 3-SECTION

NOT TO SCALE
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DEVELOPER SPECIFICATIONS FOR

WEST NORRITON TOWNSHIP

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MONTGOMERY COUNTY, PA

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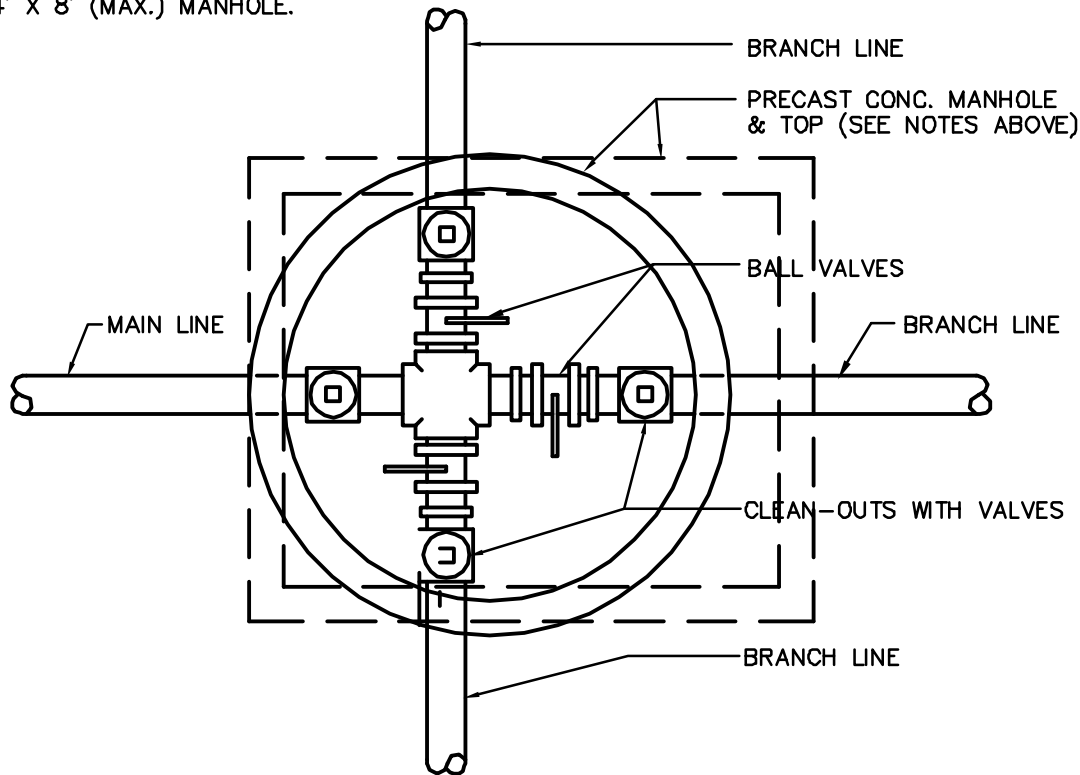
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

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PLAN

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5. INTERIOR OF MANHOLE SHALL HAVE PROTECTIVE PVC COATING IN ACCORDANCE WITH SPECIFICATIONS.

VALVE & CLEAN-OUT MANHOLE TYPE 3-PLAN

NOT TO SCALE
SS\SS054

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

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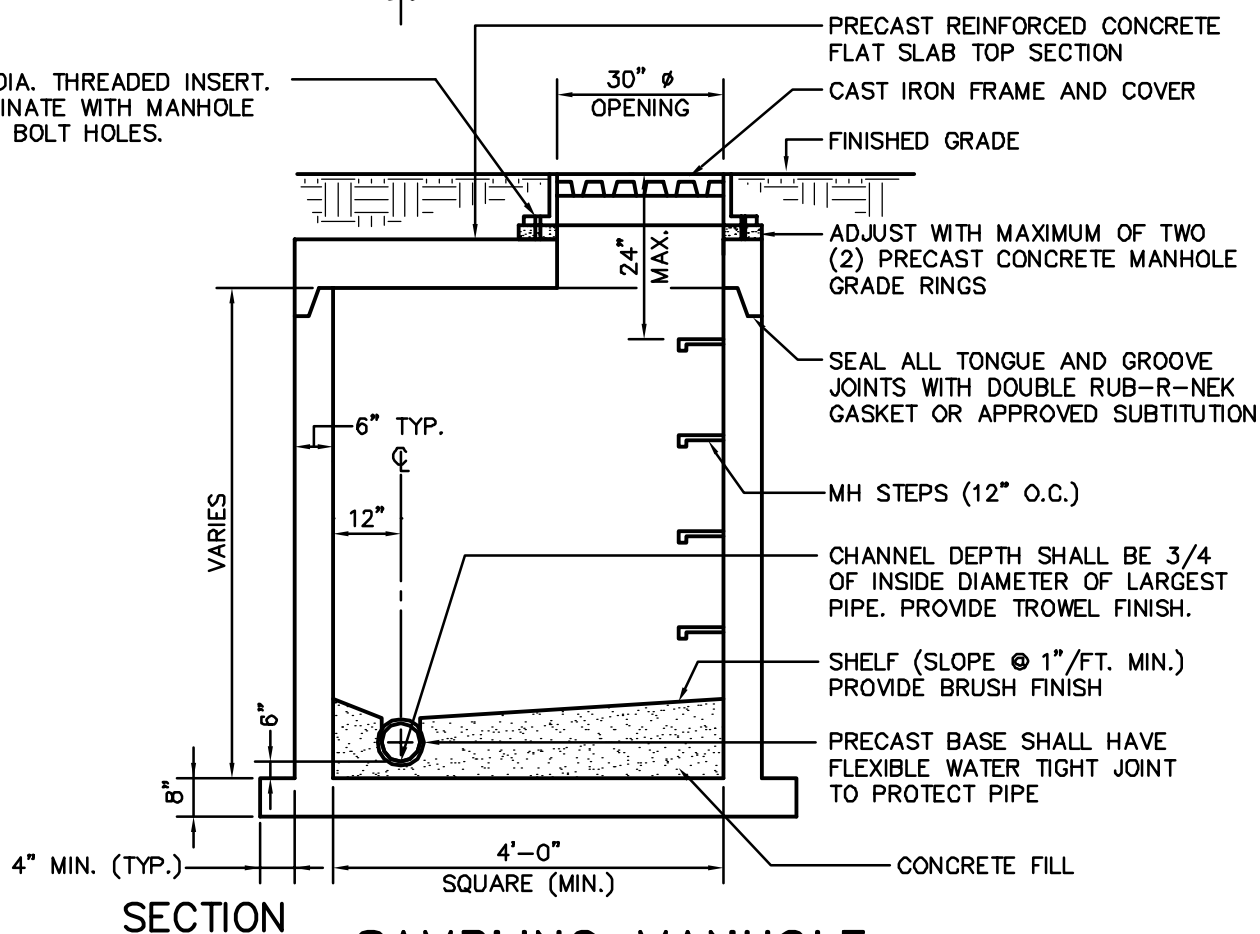
DRAWN BY: TMO

DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

3/4" DIA. THREADED INSERT.
COORDINATE WITH MANHOLE
FRAME BOLT HOLES.



SAMPLING MANHOLE

NOT TO SCALE
SS\SS010

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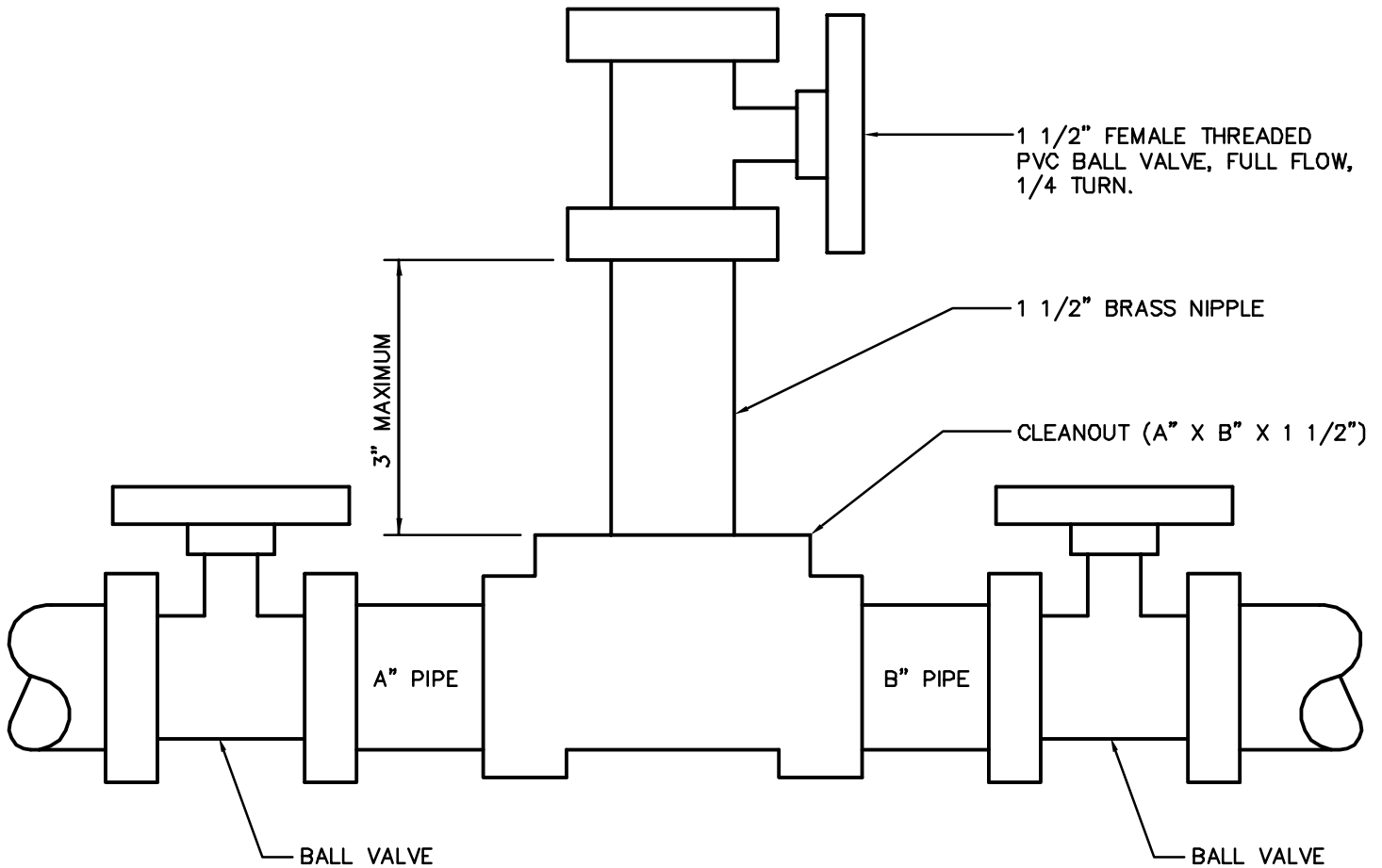
WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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DWG. NO. 04-05770-007



CLEANOUT PRESSURE RELIEF VALVE

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

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MONTGOMERY COUNTY, PA

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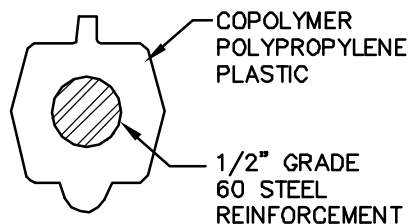
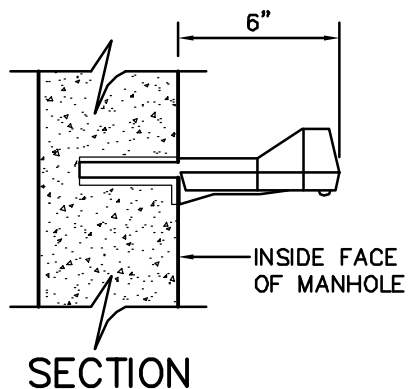
3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

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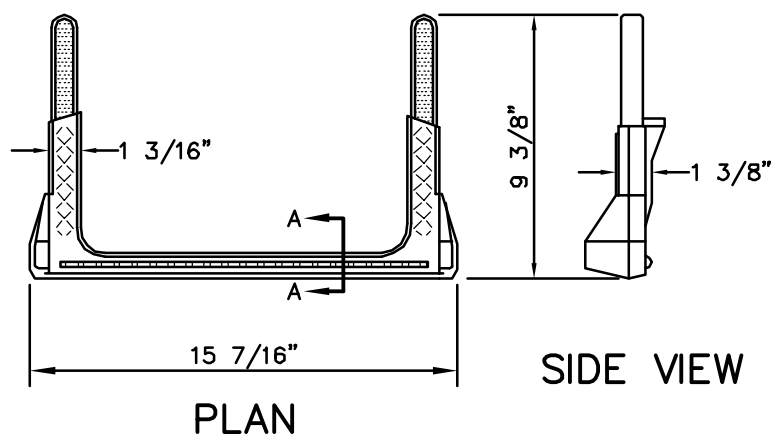
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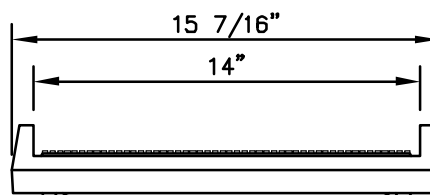


SECTION A-A



PLAN

SIDE VIEW



FRONT VIEW

MANHOLE STEP DETAIL

NOT TO SCALE
SS\SS014

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

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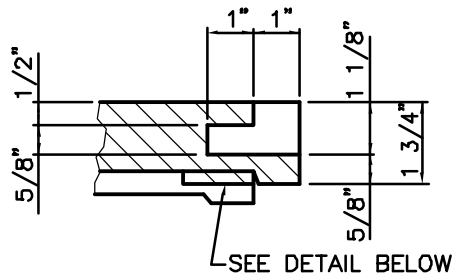
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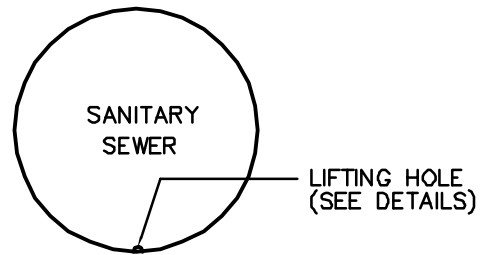
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NOTES

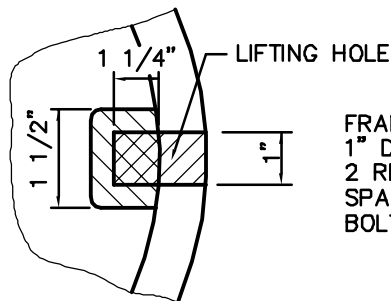
1. ALL MANHOLE FRAME AND COVER DIMENSIONS SHALL BE CONSIDERED MINIMUM, UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF THE BOLT HOLE AND CORED HOLE DIMENSIONS.
2. ALL MANHOLE FRAMES AND COVERS SHALL BE FOR HEAVY DUTY TRAFFIC.
3. ALL COVERS SHALL BE SELF SEALING.



LIFTING HOLE DETAILS

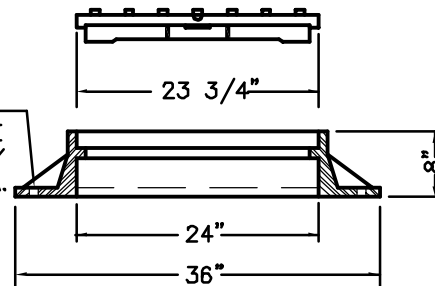


PLAN



BOTTOM VIEW

FRAME BOLT HOLE
1" DIA. CORED HOLE
2 REQ'D - EQUALLY
SPACED ON 32" DIA.
BOLT CIRCLE



SECTION

STANDARD FRAME AND COVER

NOT TO SCALE
SS\SS012

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

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ASSOCIATES, INC.

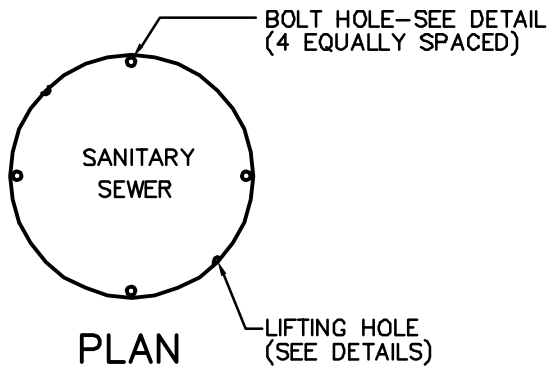
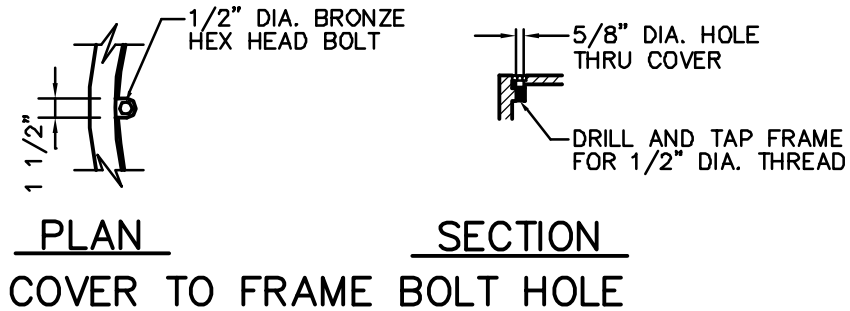
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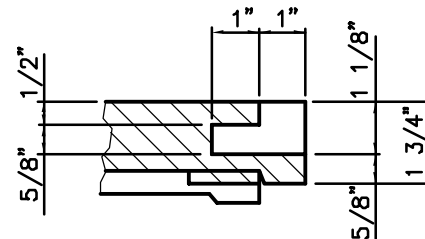
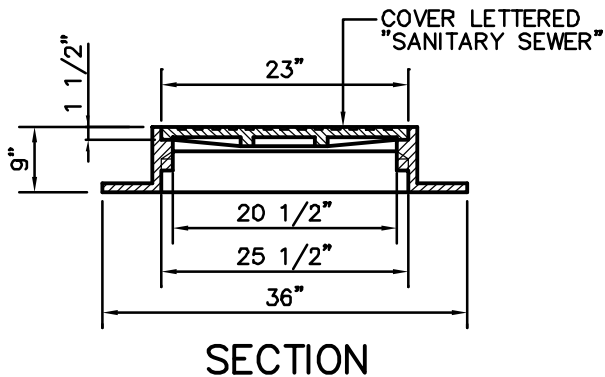
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DWG. NO. 04-05770-007

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3. ALL COVERS SHALL BE SELF SEALING



WATERTIGHT FRAME AND COVER

NOT TO SCALE
SS\SS013

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

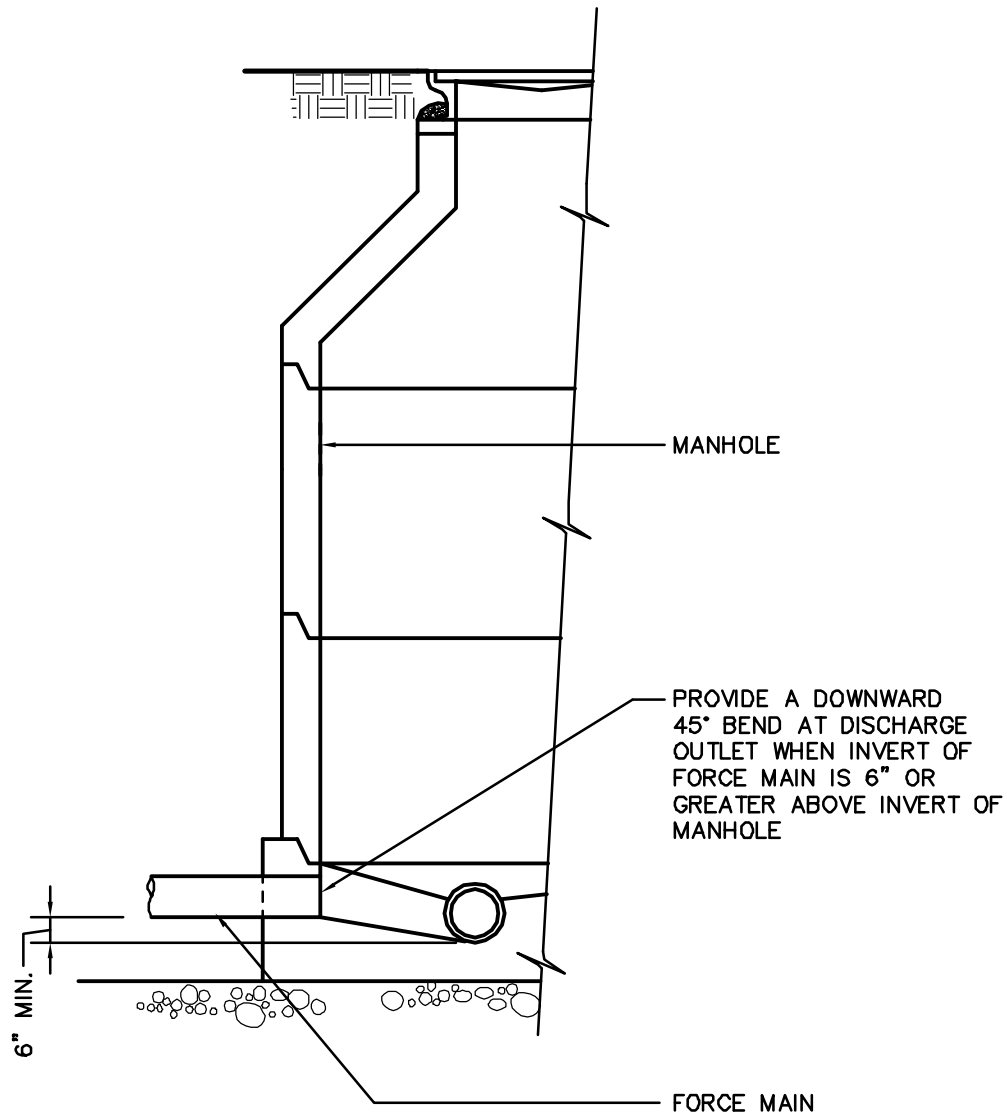
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



FORCE MAIN CONNECTION DETAIL

NOT TO SCALE
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DEVELOPER SPECIFICATIONS
FOR
WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

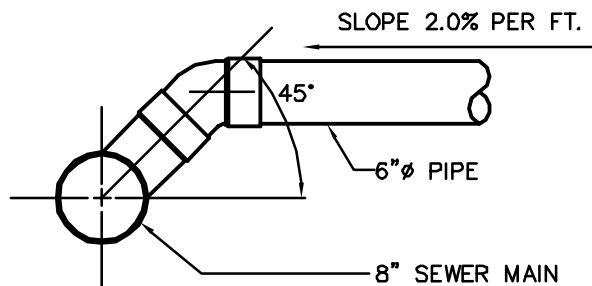
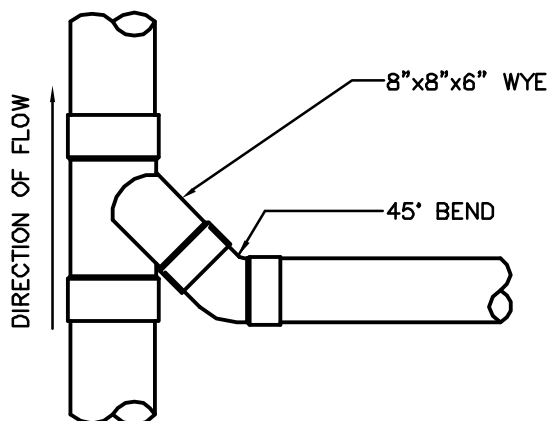
3020 Columbia Ave., Lancaster, PA 17603
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DWG. NO. 04-05770-007



SHALLOW SEWER SERVICE CONNECTION

NOT TO SCALE
SS\SS032

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

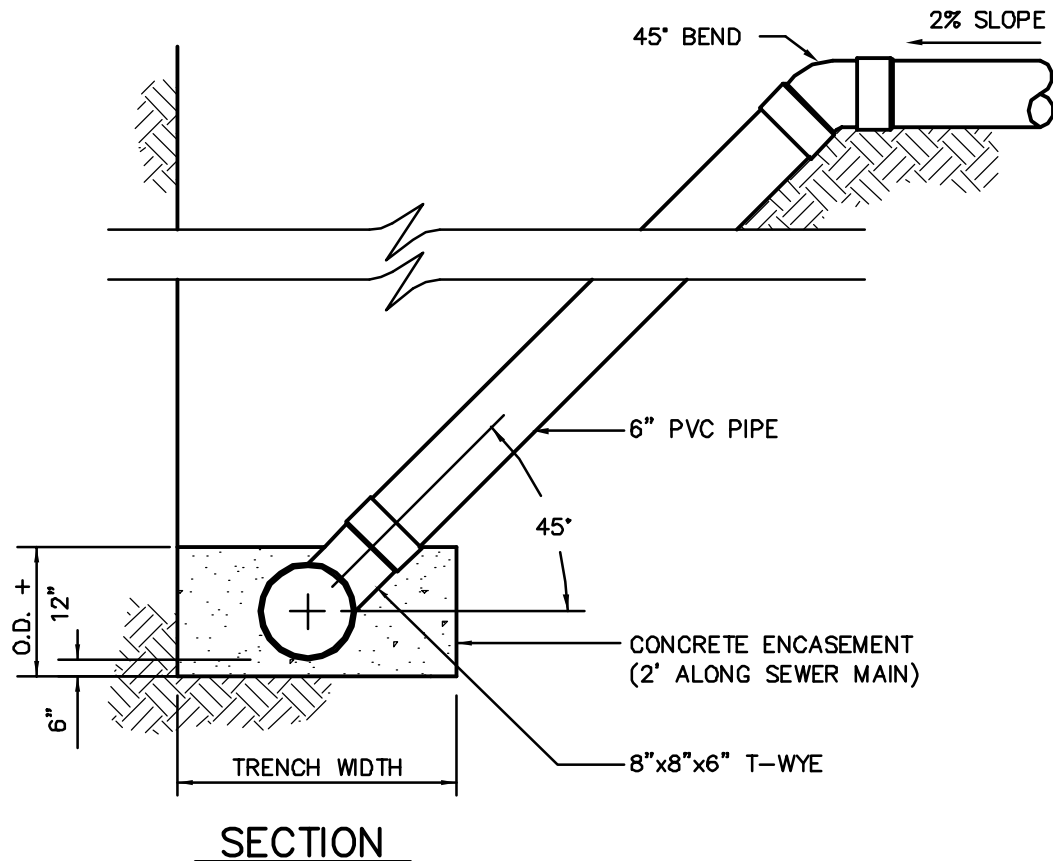
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SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



DEEP SEWER SERVICE CONNECTION DETAIL(12' AND DEEPER)

NOT TO SCALE
SS\SS050

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

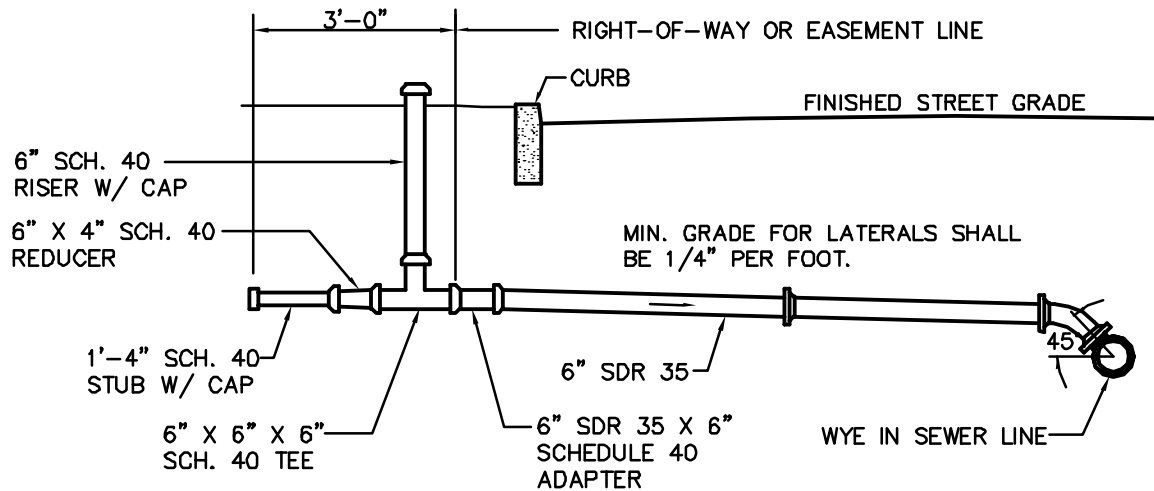
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

**NOTE:**

STUB WITH CAP SHALL EXTEND
3'-0" BEYOND RIGHT-OF-WAY
LINE, EASEMENT LINE, OR EXIST.
UTILITY, WHICHEVER IS FARTHEST.

SANITARY SEWER HOUSE CONNECTION

NOT TO SCALE
SS\SS034

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

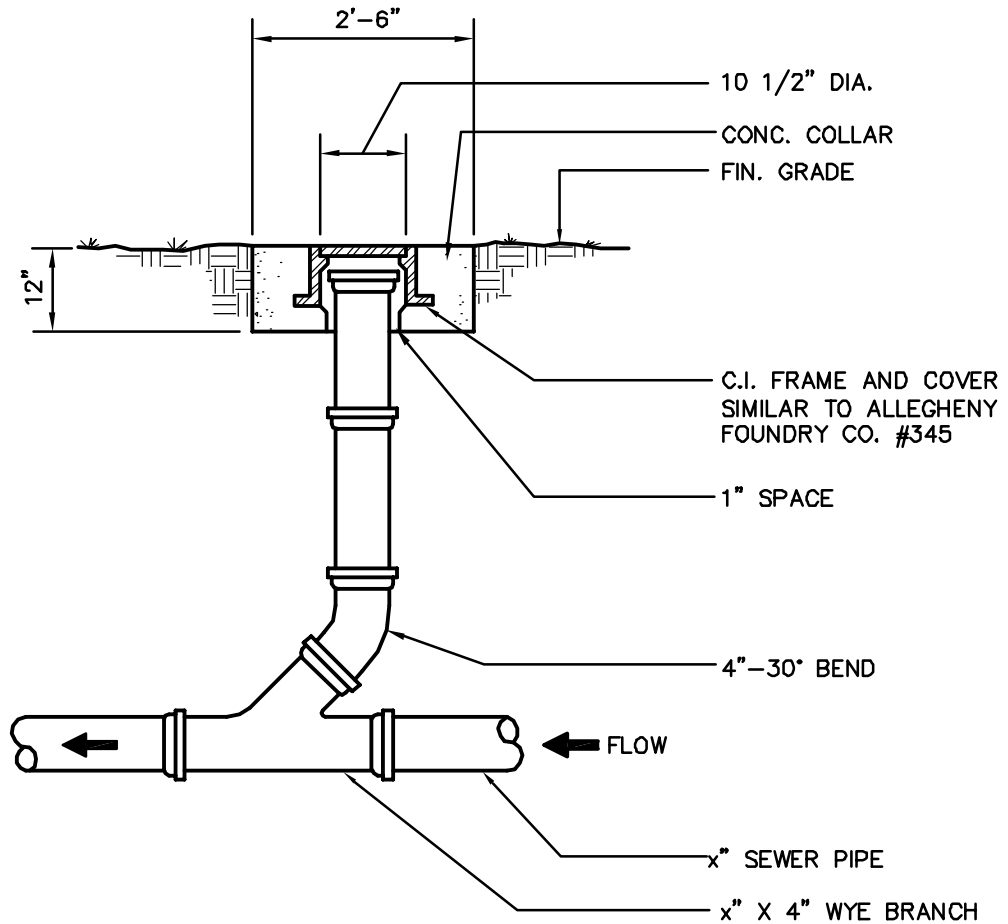
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



CLEANOUT DETAIL

NOT TO SCALE
SS\SS021

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DEVELOPER SPECIFICATIONS
FOR
WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

DAUPHIN COUNTY, PA

RETTEW
ASSOCIATES, INC.

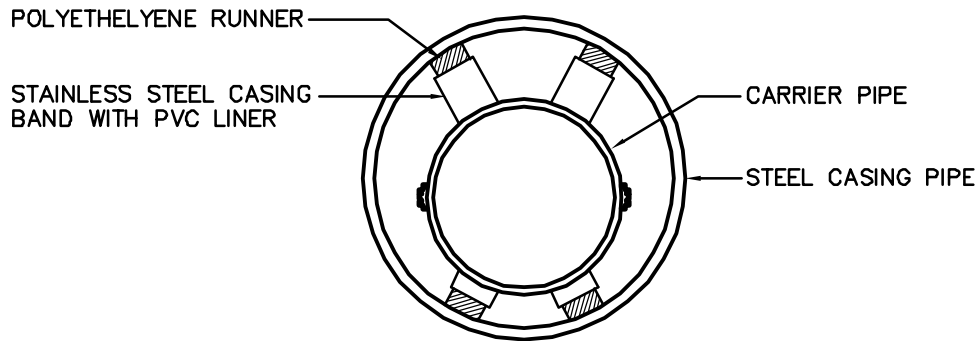
3020 Columbia Ave., Lancaster, PA 17603
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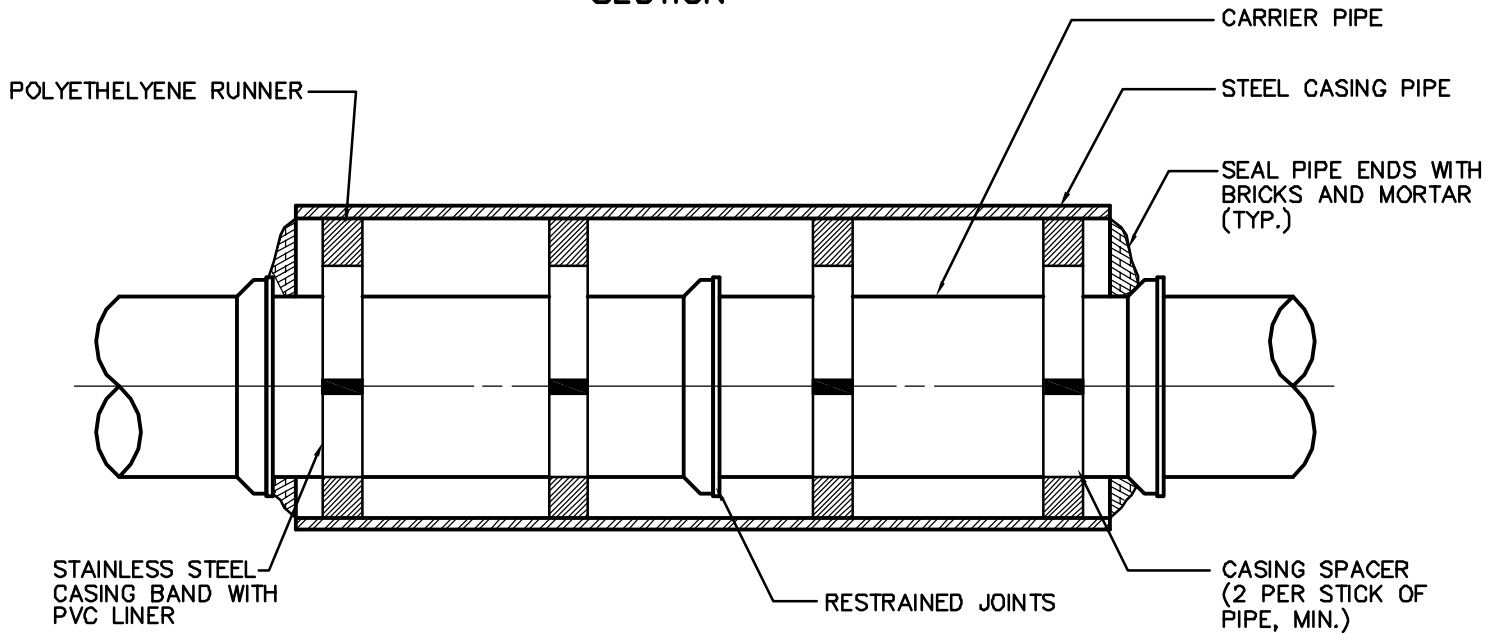
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



SECTION



ELEVATION

CASING AND CRADLE DETAIL

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

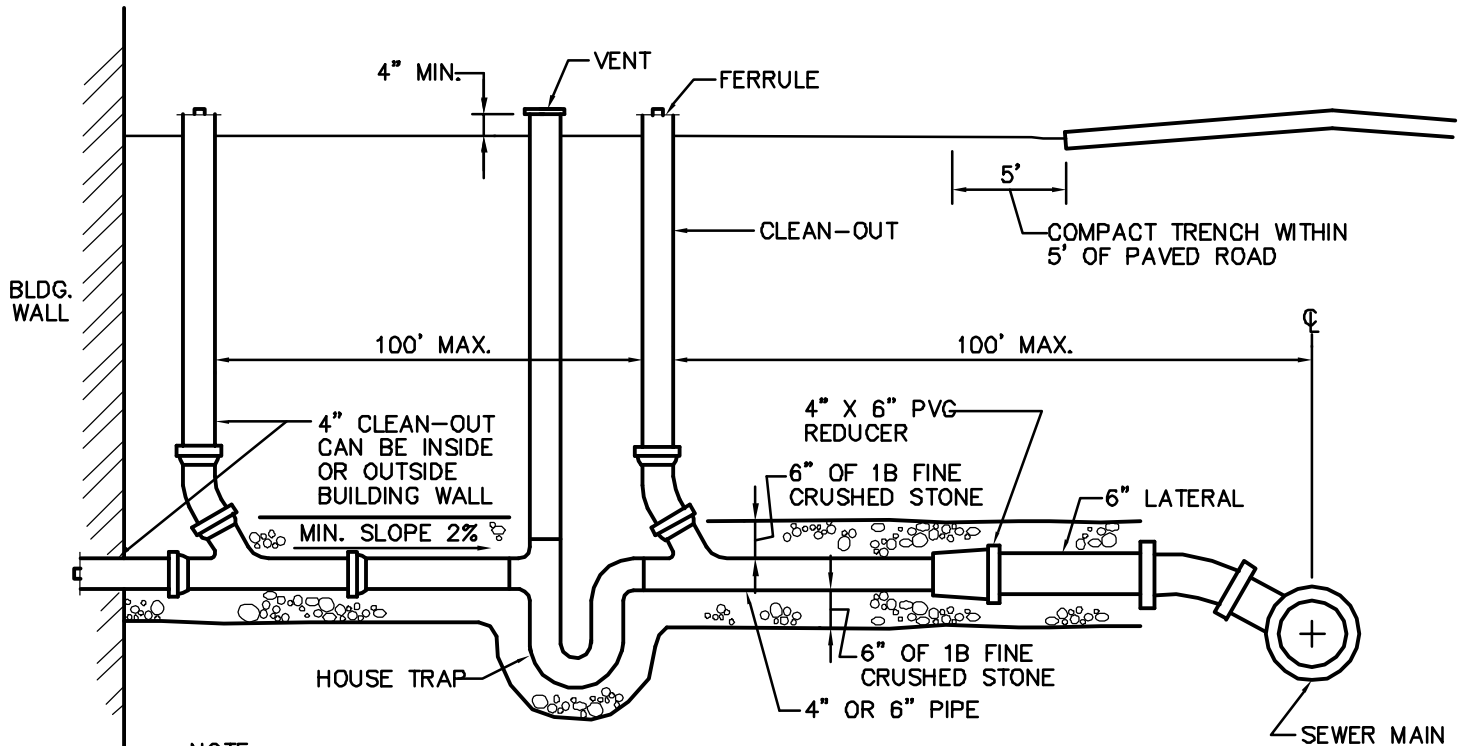
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



NOTE:

1. ALL BUILDING SEWER MUST BE INSTALLED IN ACCORDANCE WITH TOWNSHIP SPECIFICATIONS.
2. MAXIMUM SPACING BETWEEN CLEAN-OUTS IS 100 FEET.
3. ALL TRENCHES MUST BE COMPACTED WITHIN 5 FEET OF PAVED ROAD.

TYPICAL BUILDING SEWER CONNECTION

NOT TO SCALE
SS\SS017

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

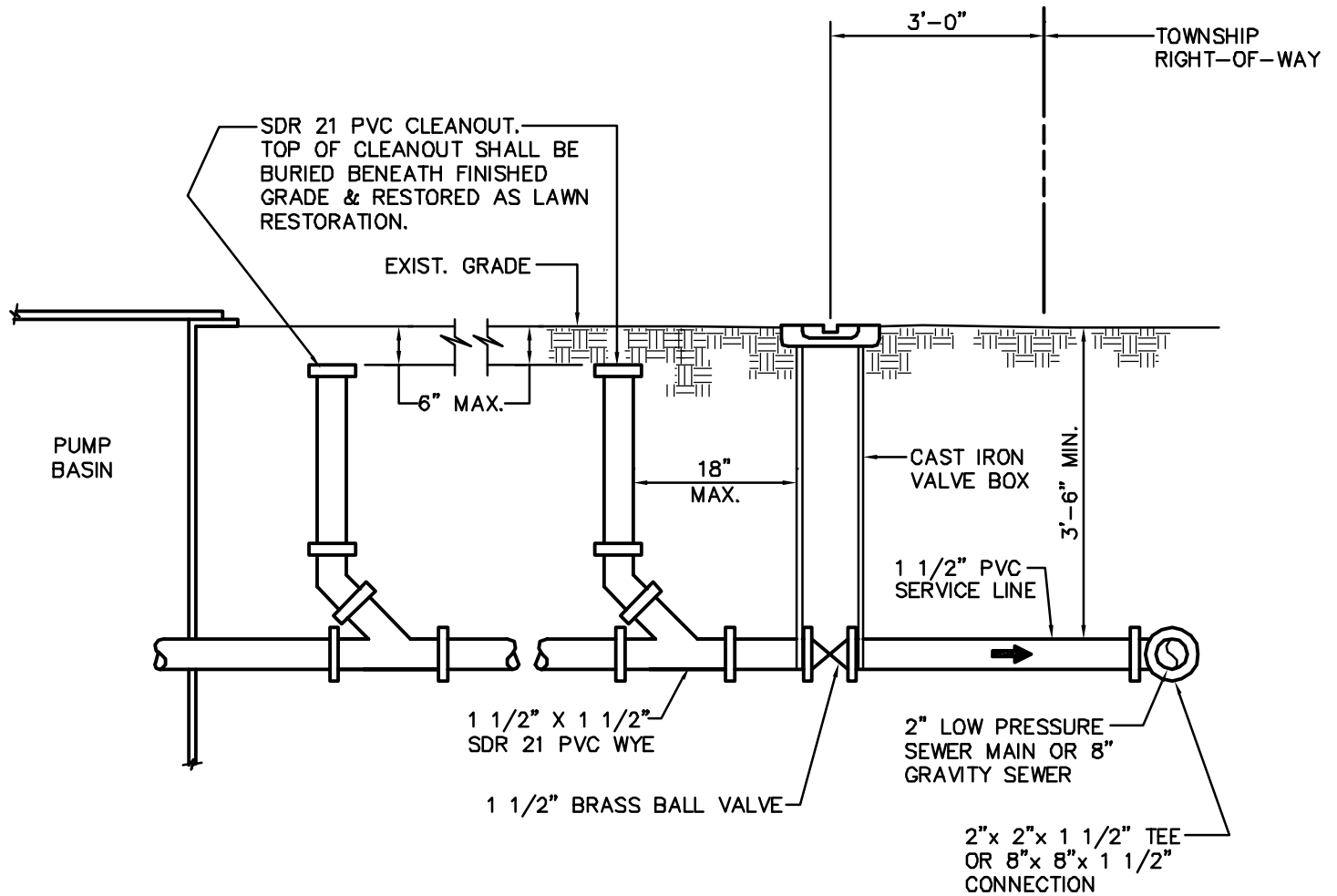
3020 Columbia Ave., Lancaster, PA 17603
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SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



LOW PRESSURE SERVICE LATERAL DETAIL

NOT TO SCALE
SS\SS048

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

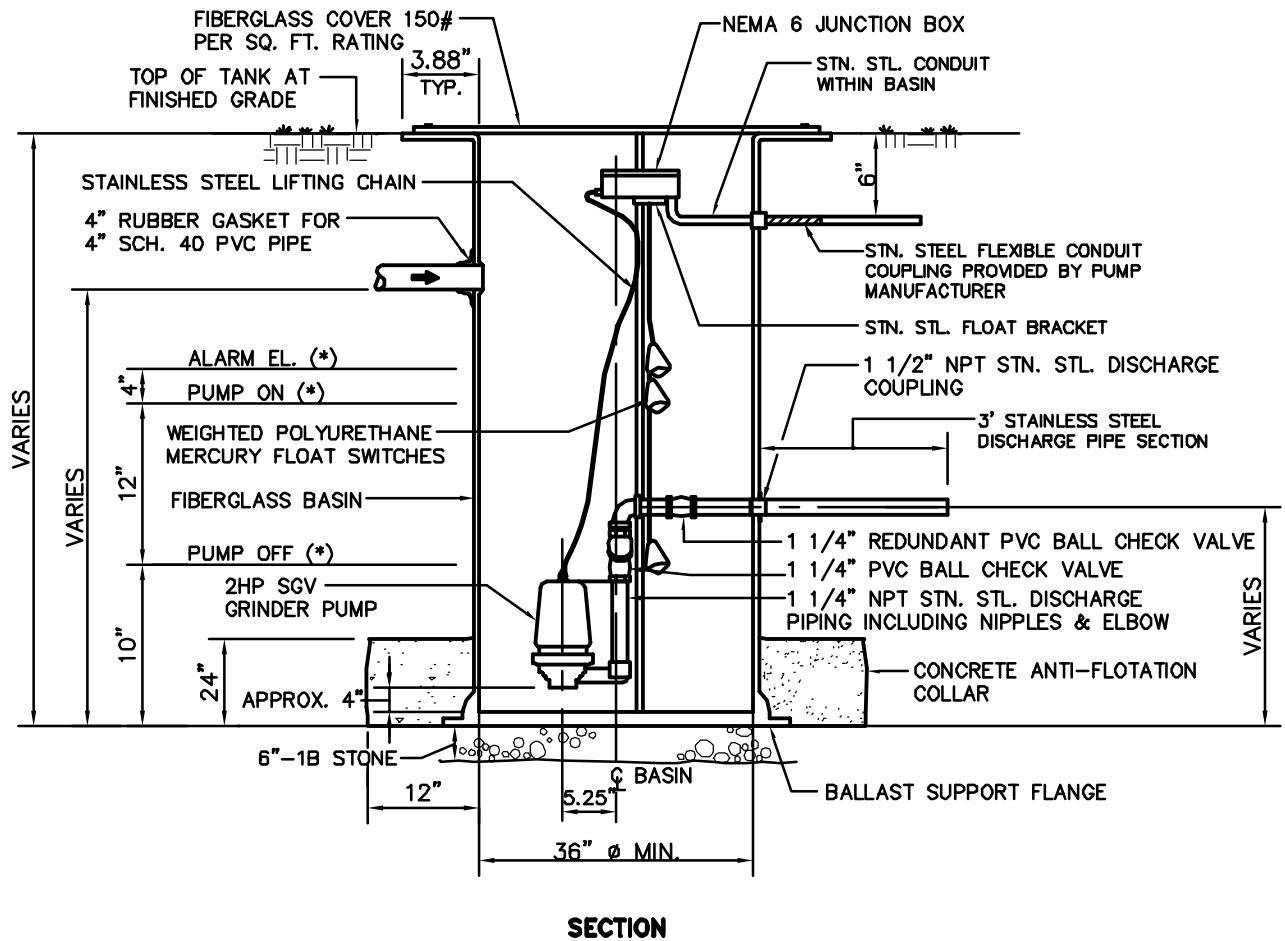
3020 Columbia Ave., Lancaster, PA 17603
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SIMPLEX GRINDER PUMP STATION DETAIL-SECTION

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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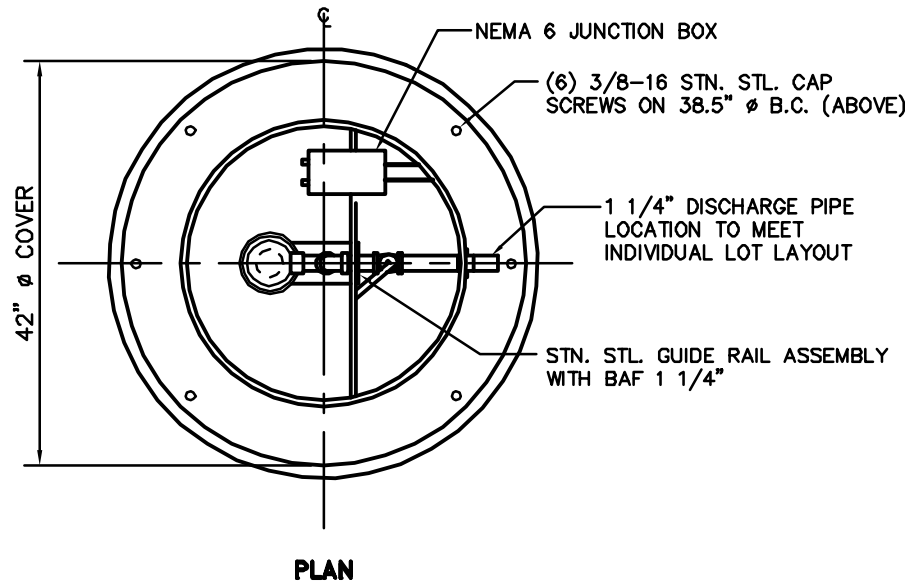
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTES:

1. CONTRACTOR SHALL PROVIDE A MINIMUM 3' SECTION OF 1 1/2" STAINLESS STEEL DISCHARGE PIPING OUTSIDE OF BASIN. THE 1 1/2" STAINLESS STEEL PIPE SHALL BE CONNECTED TO THE 1 1/2" PVC SERVICE LATERAL BY USE OF A COMPRESSION FITTING OR DRESSER COUPLING.
2. BACKFILL WITH EXCAVATED MATERIAL APPROVED BY THE ENGINEER & CONTAINING NO SOIL LUMPS, STONE, CONCRETE OR FOREIGN OBJECTS LARGER THAN ONE (1) INCH IN MAXIMUM DIMENSION OR WITH CLASS 1S MATERIAL CONSISTING OF NO. 8 COARSE AGGREGATE TO 6" BELOW GRADE; THEN TOPSOIL & SEED TOP 6".
3. MINIMUM NET EFFECTIVE STORAGE VOLUME BETWEEN PUMP SHUT-OFF ELEVATION & INVERT OF INFLUENT LINE SHALL BE 150 GALLONS.
4. ALL COVER & ACCESS HARDWARE SHALL BE STAINLESS STEEL INCLUDING ALL NUTS, BOLTS, WASHERS, ETC. WHICH PENETRATE THE COVER OR THE BASIN.
5. ALL CONTROL PANEL EXTERIOR HARDWARE SHALL BE STAINLESS STEEL.



SIMPLEX GRINDER PUMP STATION DETAIL-PLAN

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

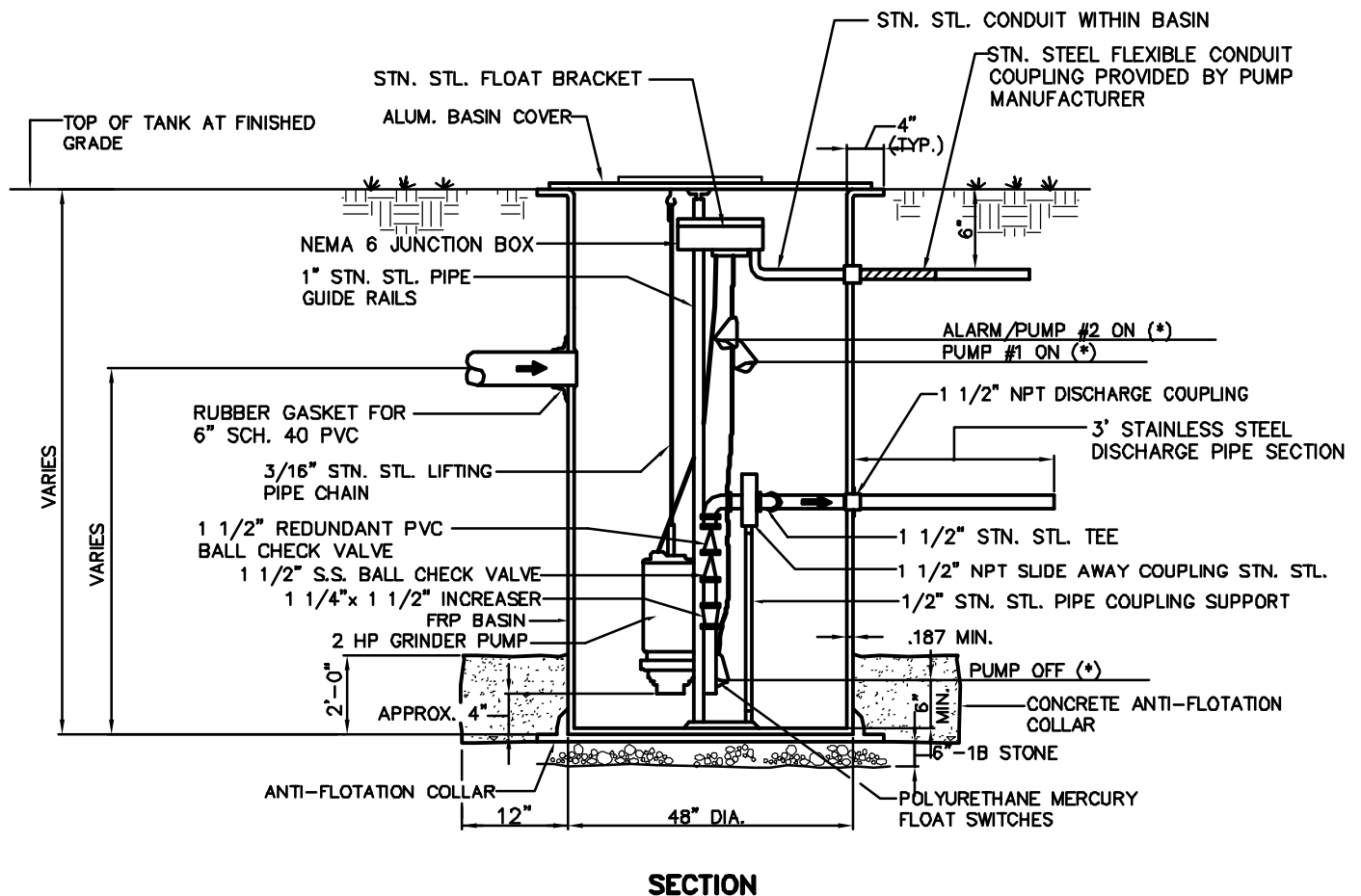
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



DUPLIX GRINDER PUMP STATION DETAIL-SECTION (FIBERGLASS BASIN)

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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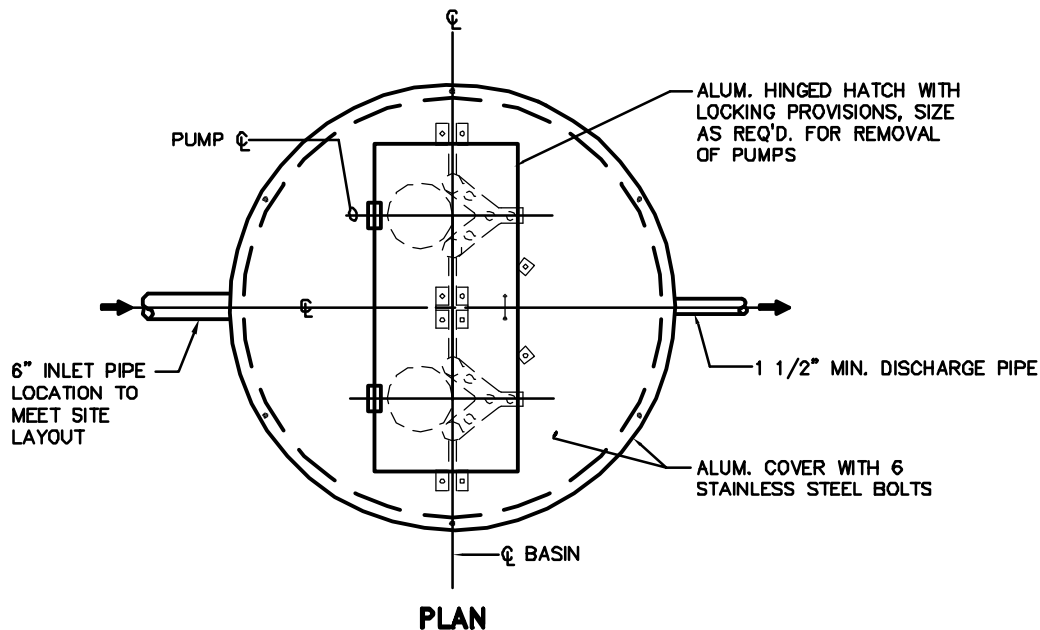
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTES:

1. CONTRACTOR SHALL PROVIDE A MINIMUM 3' SECTION OF 1 1/2" STAINLESS STEEL DISCHARGE PIPING OUTSIDE OF BASIN. THE 1 1/2" STAINLESS STEEL PIPE SHALL BE CONNECTED TO THE 1 1/2" PVC SERVICE LATERAL BY USE OF A COMPRESSION FITTING OR DRESSER COUPLING.
2. BACKFILL WITH EXCAVATED MATERIAL APPROVED BY THE ENGINEER & CONTAINING NO SOIL LUMPS, STONE, CONCRETE OR FOREIGN OBJECTS LARGER THAN ONE (1) INCH IN MAXIMUM DIMENSION OR WITH CLASS 1S MATERIAL CONSISTING OF NO. 8 COARSE AGGREGATE TO 6" BELOW GRADE; THEN TOPSOIL & SEED TOP 6".
3. MINIMUM NET EFFECTIVE STORAGE VOLUME BETWEEN PUMP SHUT-OFF ELEVATION & INVERT OF INFLUENT LINE SHALL BE 150 GALLONS.
4. ALL COVER & ACCESS HARDWARE SHALL BE STAINLESS STEEL INCLUDING ALL NUTS, BOLTS, WASHERS, ETC. WHICH PENETRATE THE COVER OR THE BASIN.
5. ALL CONTROL PANEL EXTERIOR HARDWARE SHALL BE STAINLESS STEEL.



DUPLIX GRINDER PUMP STATION DETAIL-PLAN (FIBERGLASS BASIN)

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

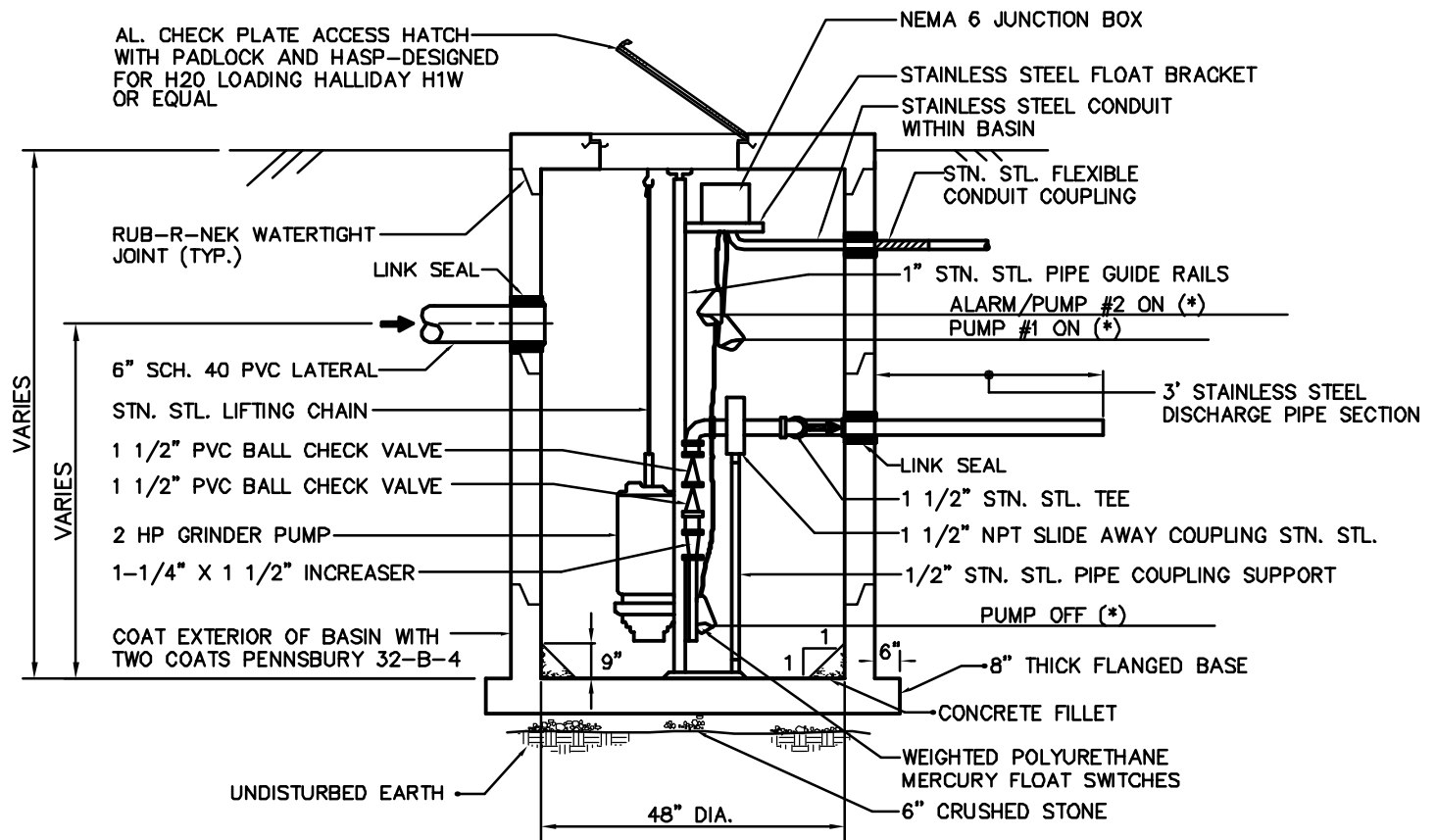
3020 Columbia Ave., Lancaster, PA 17603
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DWG. NO. 04-05770-007



INDIVIDUAL DUPLEX GRINDER PUMP STATION DETAIL-SECTION (CONCRETE BASIN)

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

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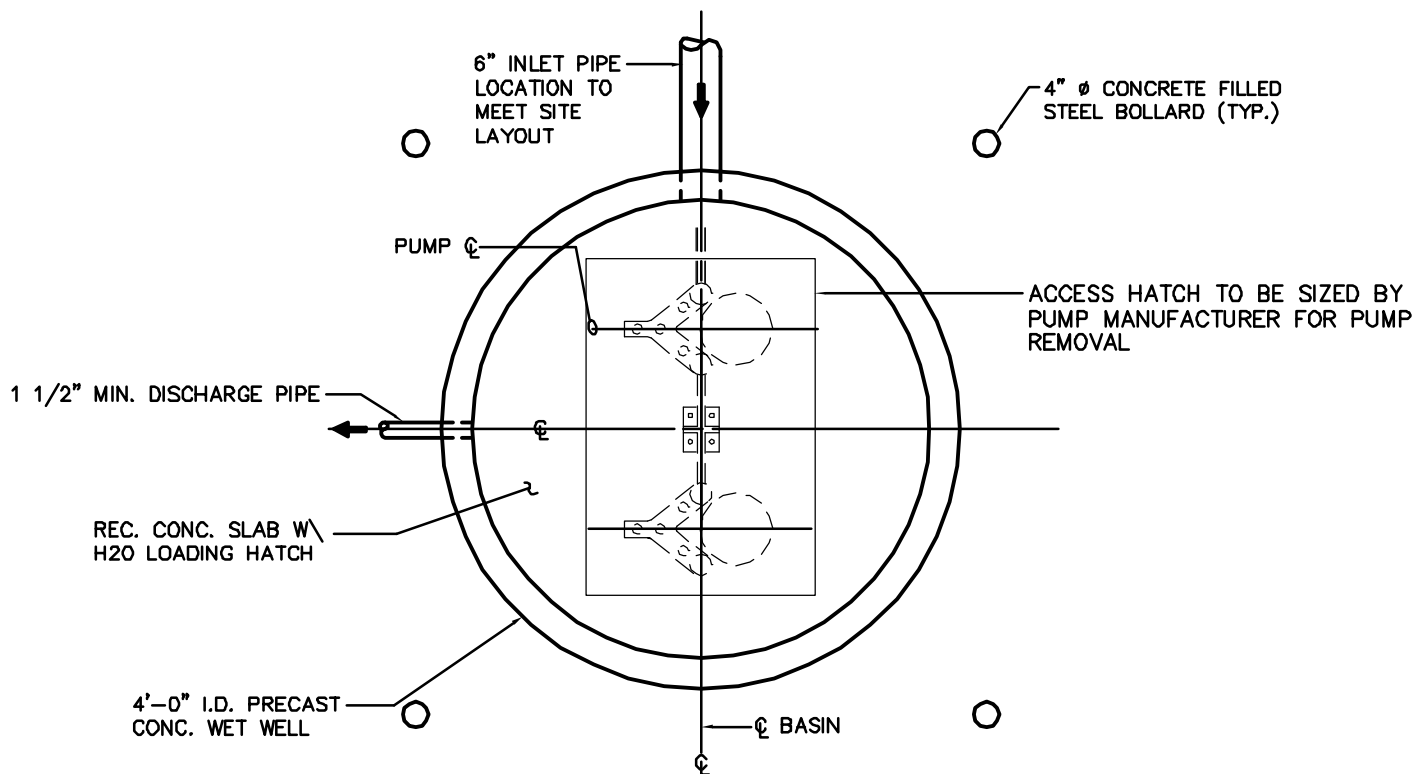
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTES:

1. CONTRACTOR SHALL PROVIDE A MINIMUM 3' SECTION OF 1 1/2" STAINLESS STEEL DISCHARGE PIPING OUTSIDE OF BASIN. THE 1 1/2" STAINLESS STEEL PIPE SHALL BE CONNECTED TO THE 1 1/2" PVC SERVICE LATERAL BY USE OF A COMPRESSION FITTING OR DRESSER COUPLING.
2. BACKFILL WITH EXCAVATED MATERIAL APPROVED BY THE ENGINEER & CONTAINING NO SOIL LUMPS, STONE, CONCRETE OR FOREIGN OBJECTS LARGER THAN ONE (1) INCH IN MAXIMUM DIMENSION OR WITH CLASS 1S MATERIAL CONSISTING OF NO. 8 COARSE AGGREGATE TO 6" BELOW GRADE; THEN TOPSOIL & SEED TOP 6".
3. MINIMUM NET EFFECTIVE STORAGE VOLUME BETWEEN PUMP SHUT-OFF ELEVATION & INVERT OF INFLUENT LINE SHALL BE 150 GALLONS.
4. ALL COVER & ACCESS HARDWARE SHALL BE STAINLESS STEEL INCLUDING ALL NUTS, BOLTS, WASHERS, ETC. WHICH PENETRATE THE COVER OR THE BASIN.
5. ALL CONTROL PANEL EXTERIOR HARDWARE SHALL BE STAINLESS STEEL.



PLAN

DUPLEX GRINDER PUMP STATION DETAIL-PLAN (CONCRETE BASIN)

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

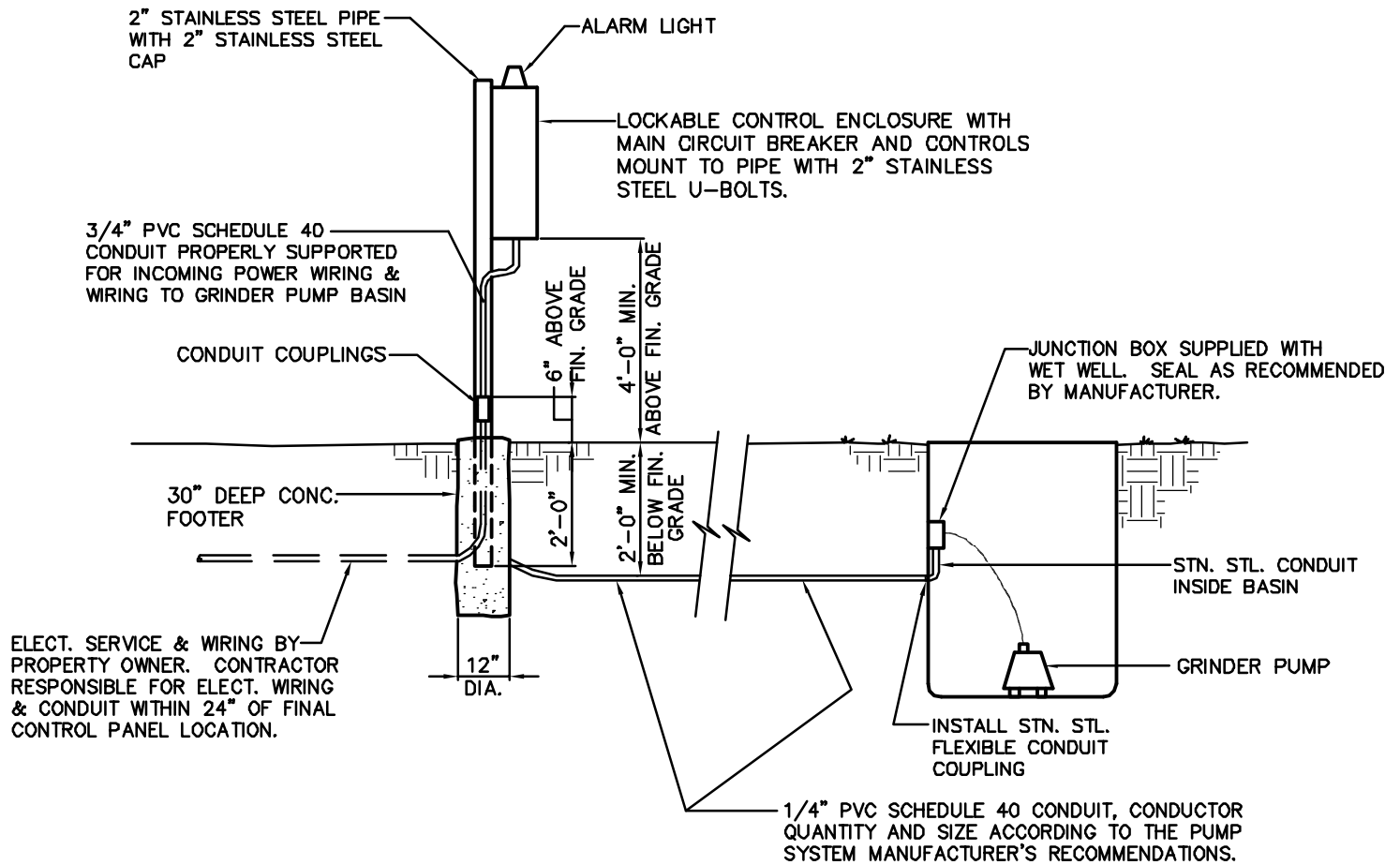
WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

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GRINDER PUMP ELECTRICAL DETAIL

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

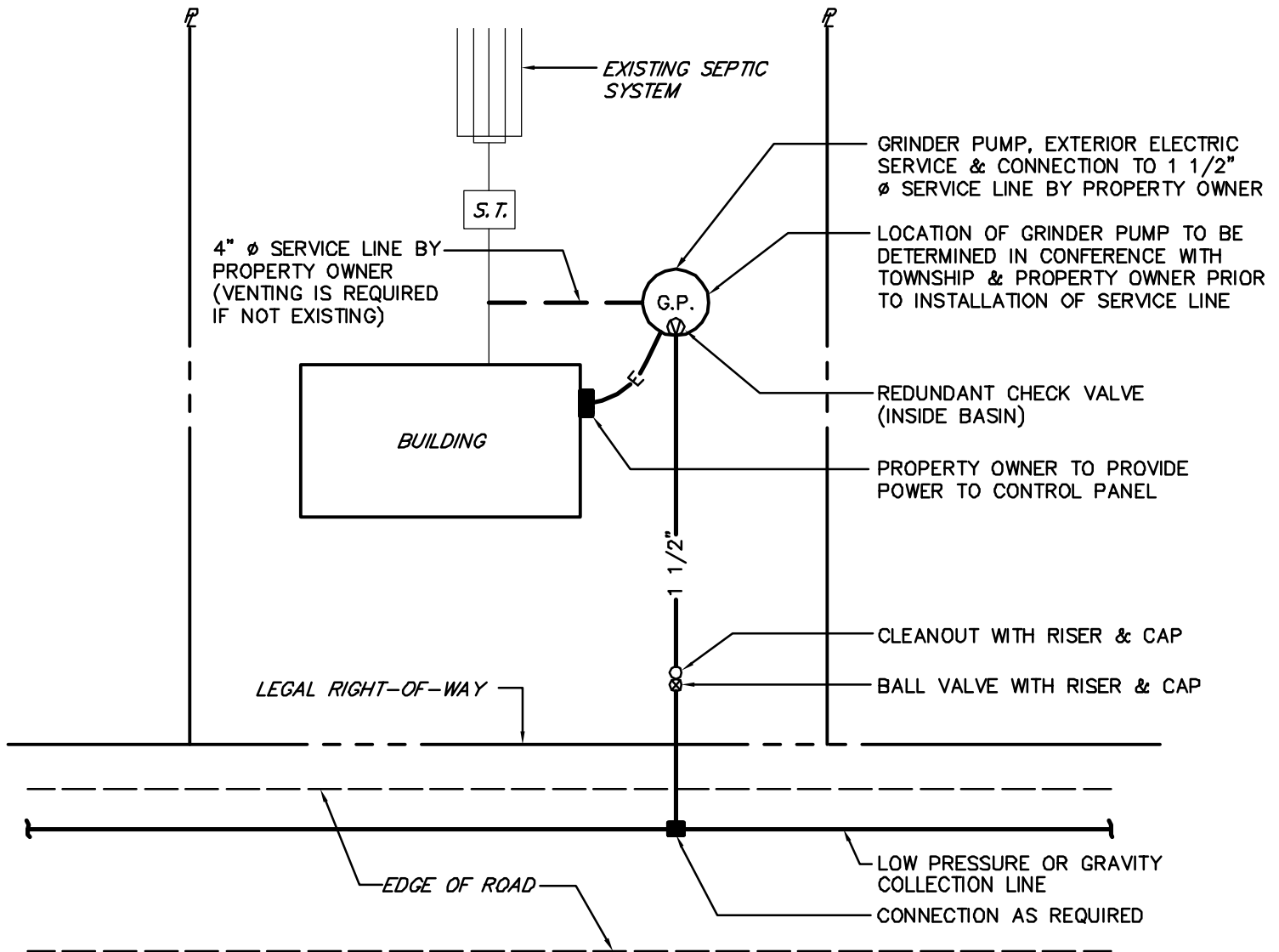
3020 Columbia Ave., Lancaster, PA 17603
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SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



TYPICAL LOW PRESSURE SEWER PROPERTY CONNECTION SCHEMATIC

NOT TO SCALE
SS\SS025

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DEVELOPER SPECIFICATIONS
FOR
WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
TEL (717) 394-3721 • FAX (717) 394-1063

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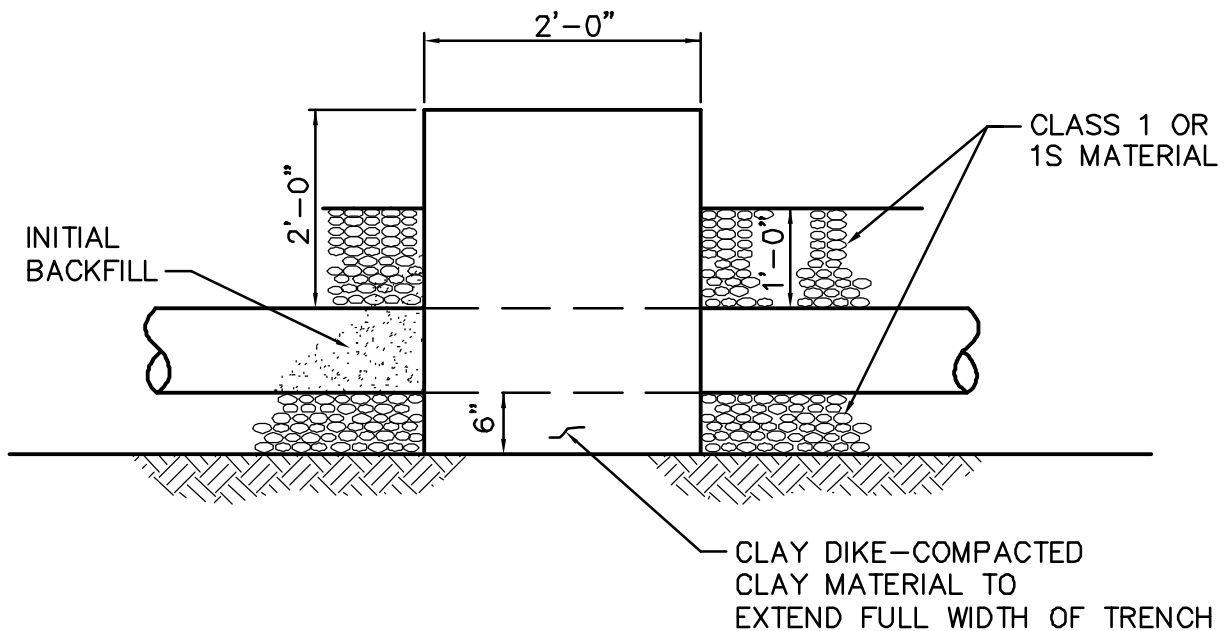
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTE

CLAY DIKE SHALL CONSIST OF CLAY CONTAINING NO MORE THAN 15% (BY VOLUME) STONE NO LARGER THAN TWO (2) INCHES IN DIAMETER. CLAY SHALL BE PLACED IN SIX (6) INCH LIFTS AND COMPACTED BY A MECHANICAL TAMPER TO NOT LESS THAN 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.



CLAY DIKE DETAIL

NOT TO SCALE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

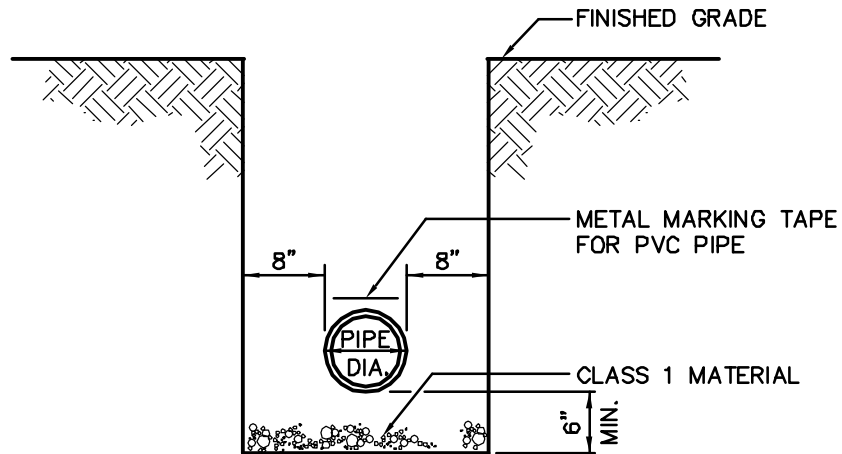
3020 Columbia Ave., Lancaster, PA 17603
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DWG. NO. 04-05770-007



TYPICAL TRENCH DETAIL

NOT TO SCALE
CI\C1006

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

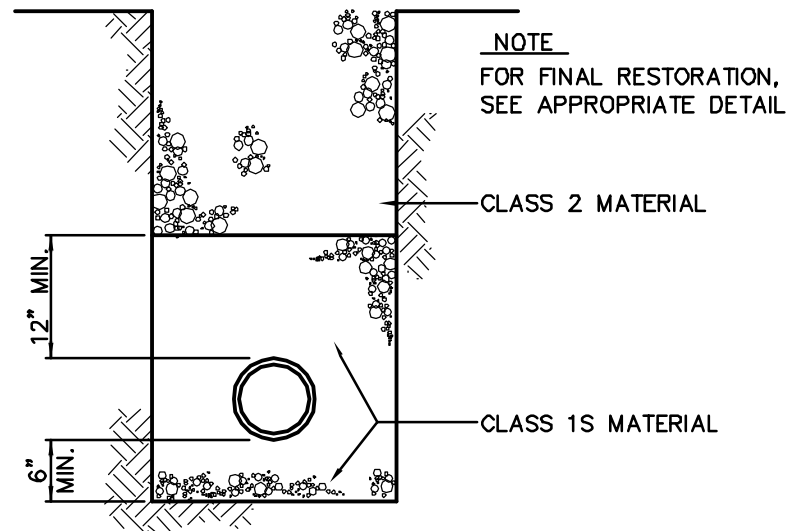
3020 Columbia Ave., Lancaster, PA 17603
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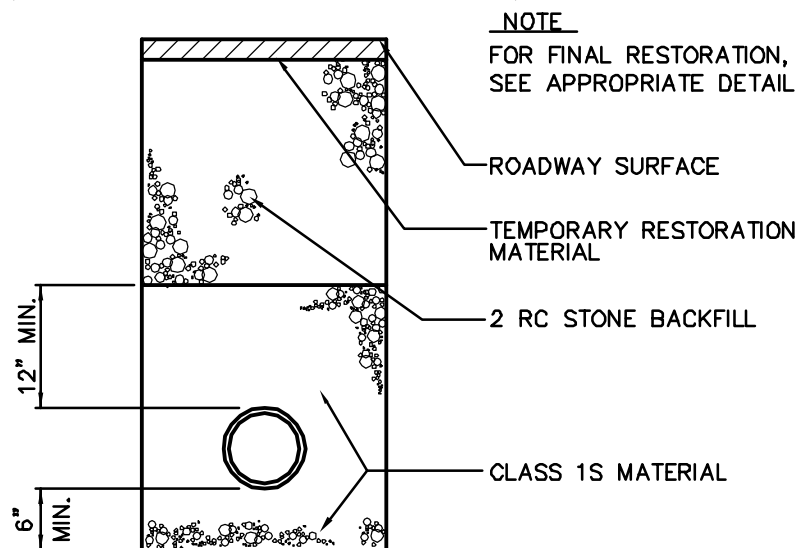
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



TYPICAL BACKFILL
(OTHER THAN PAVED AREAS)



TYPICAL BACKFILL
(ALL PAVED AREAS)

TYPICAL TRENCH BACKFILL

NOT TO SCALE
C/C1005

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

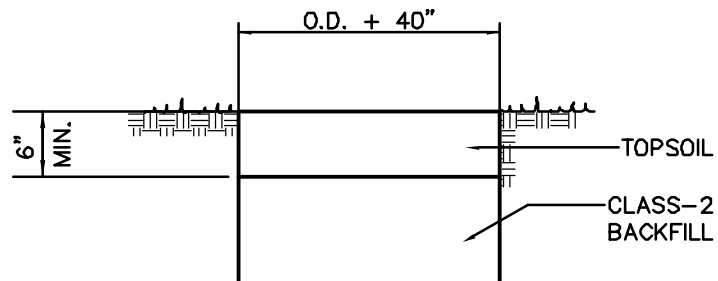
3020 Columbia Ave., Lancaster, PA 17603
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DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007



LAWN RESTORATION DETAIL

NOT TO SCALE
G\C1008

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

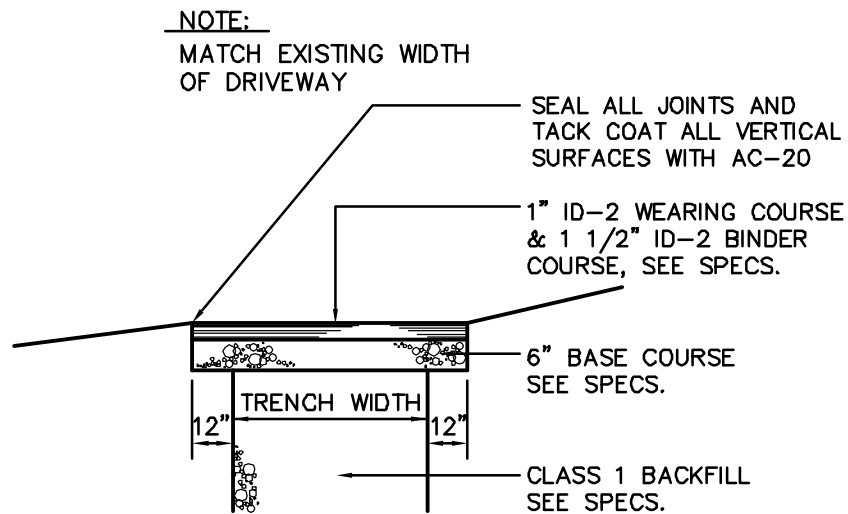
3020 Columbia Ave., Lancaster, PA 17603
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DWG. NO. 04-05770-007



PAVED DRIVEWAY RESTORATION

NOT TO SCALE
CI\CI051

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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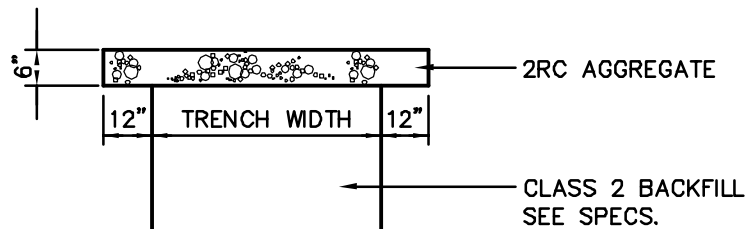
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTE:

MATCH EXISTING WIDTH
OF DRIVEWAY



STONE DRIVEWAY RESTORATION

NOT TO SCALE
C/C1060

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

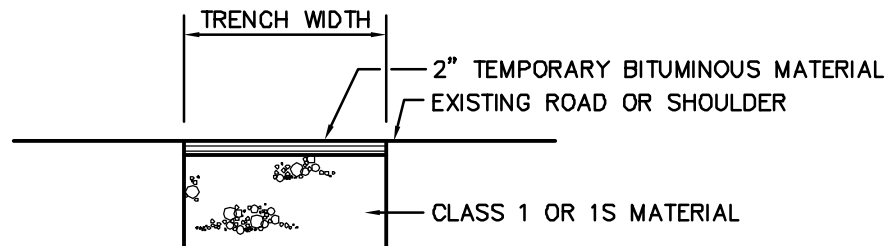
3020 Columbia Ave., Lancaster, PA 17603
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DWG. NO. 04-05770-007



TEMPORARY TOWNSHIP ROADWAY AND SHOULDER RESTORATION

NOT TO SCALE
CI\CI002

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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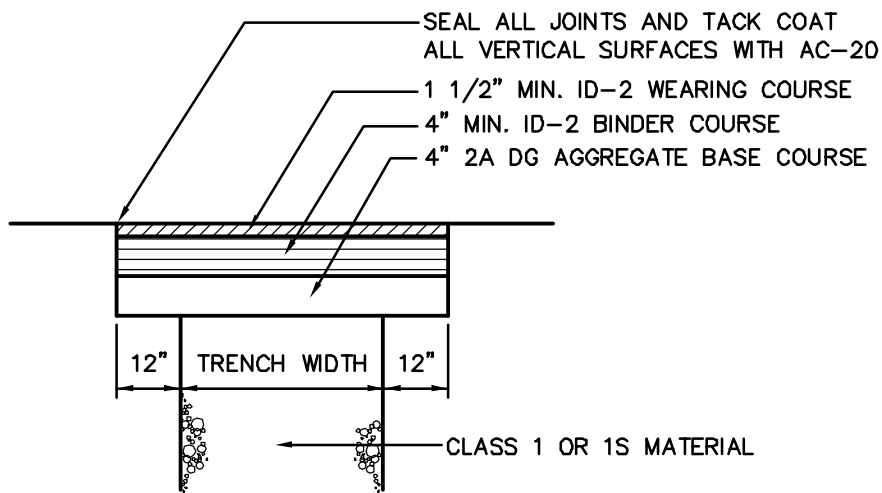
DATE: FEBRUARY 2004

SCALE: NOT TO SCALE

DWG. NO. 04-05770-007

NOTES

- ALL VERTICAL CUTS SHALL BE SAWCUT ONLY
- MATERIAL AND PLACEMENT FOR COARSE AND FINE AGGREGATES SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS PUBLICATIONS 408, LATEST EDITION.



PERMANENT TOWNSHIP ROADWAY AND SHOULDER RESTORATION

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

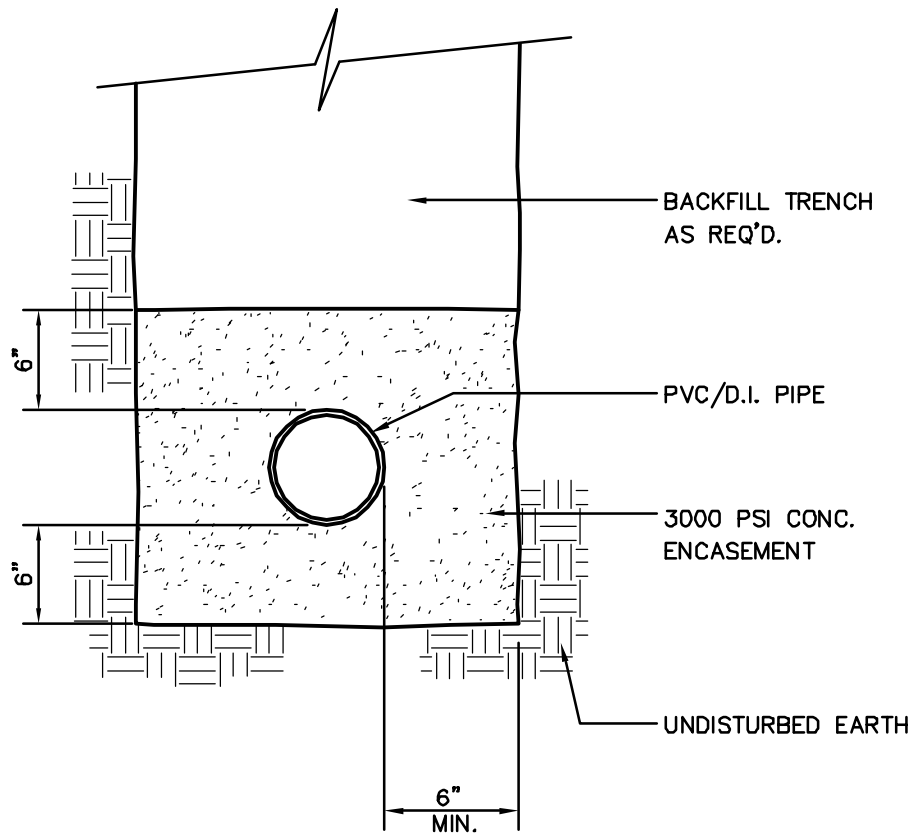
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CONCRETE ENCASEMENT DETAIL

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DEVELOPER SPECIFICATIONS
FOR
WEST NORRITON TOWNSHIP

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MONTGOMERY COUNTY, PA

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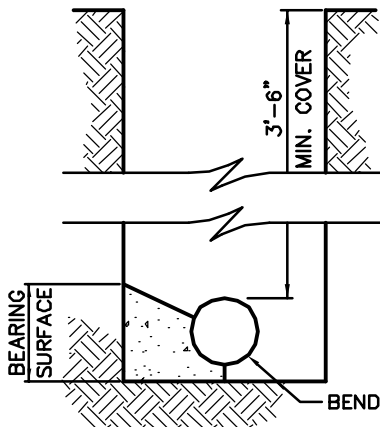
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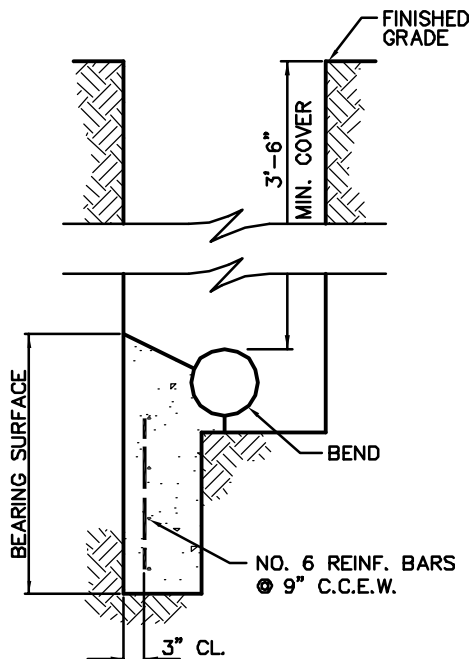
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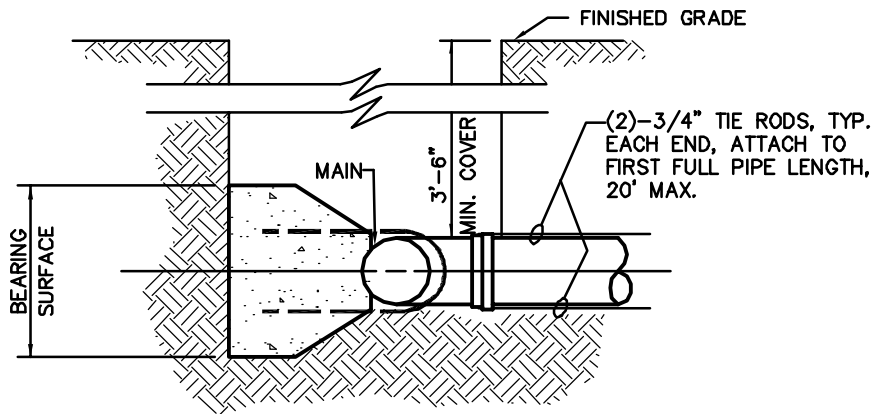


SECTION A-A



SECTION A-A

ADDITIONAL BEARING AS REQUIRED



SECTION B-B

NOTES:

1. NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE
2. REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE.
3. ALL EXPOSED STEEL TO BE PAINTED WITH TWO COATS ASPHALTIC PAINT.

TYPICAL THRUST BLOCKING FOR HORIZONTAL & VERTICAL DOWNWARD THRUSTS UP TO 150 PSI WORKING PRESSURE

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DEVELOPER SPECIFICATIONS
FOR

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NOTE:

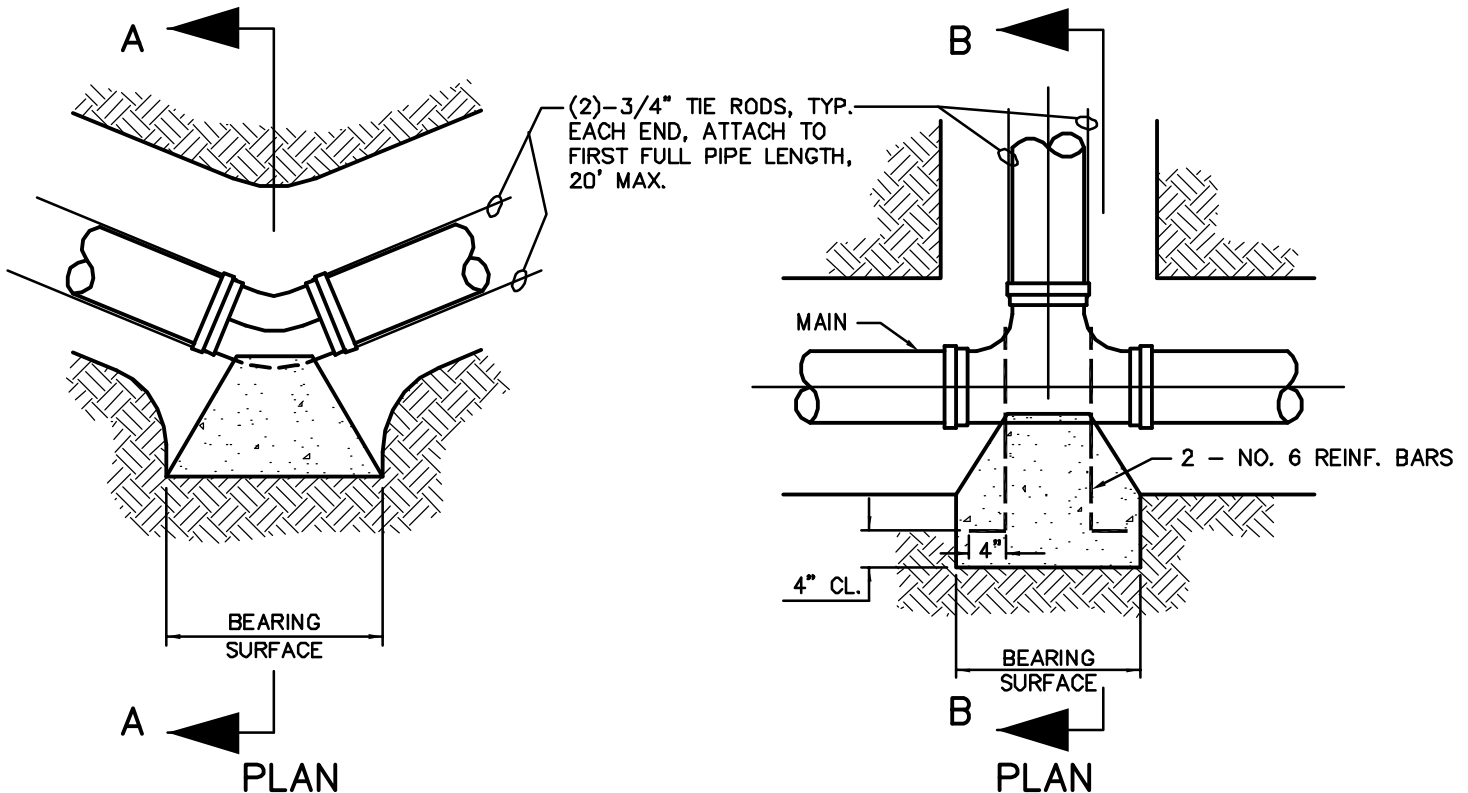
THRUST BLOCKING FOR TEES SHALL HAVE THE SAME BEARING AREA AS 90° BENDS OF THE PIPE SIZE OF THE OUTLET. DEAD ENDS SHALL HAVE THE SAME BEARING AS 90° BENDS

BEARING AREA REQUIRED, SQUARE FEET

TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS, PSF	4" AND LESS DEGREE BEND				6" AND 8" DEGREE BEND				10" AND 12" DEGREE BEND			
	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°
LOOSE SAND OR MEDIUM CLAY - 2,000	1.0	2.0	2.7	4.0	1.5	3.0	6.0	10.0	3.0	6.2	12.0	22.0
PACKED GRAVEL AND SAND - 4,000	1.0	1.0	1.5	2.0	1.0	1.5	3.0	5.0	1.5	3.1	6.0	11.0
ROCK - 10,000	1.0	1.0	1.0	1.0	1.0	1.0	1.2	2.0	1.0	1.3	2.4	4.4

BEARING AREA REQUIRED, SQUARE FEET

TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS, PSF	14" AND 16" DEGREE BEND OR DEFLECTION				18" AND 20" DEGREE BEND OR DEFLECTION			
	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°
LOOSE SAND OR MEDIUM CLAY - 2,000	6.0	12.0	22.5	40.0	9.5	19.0	37.0	67.0
PACKED GRAVEL AND SAND - 4,000	3.0	6.0	11.3	20.0	4.8	9.5	18.5	33.5
ROCK - 10,000	1.2	2.4	4.5	8.0	2.0	3.8	7.4	13.5



TYPICAL THRUST BLOCKING FOR HORIZONTAL & VERTICAL DOWNWARD THRUSTS UP TO 150 PSI WORKING PRESSURE

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DEVELOPER SPECIFICATIONS
FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

3020 Columbia Ave., Lancaster, PA 17603
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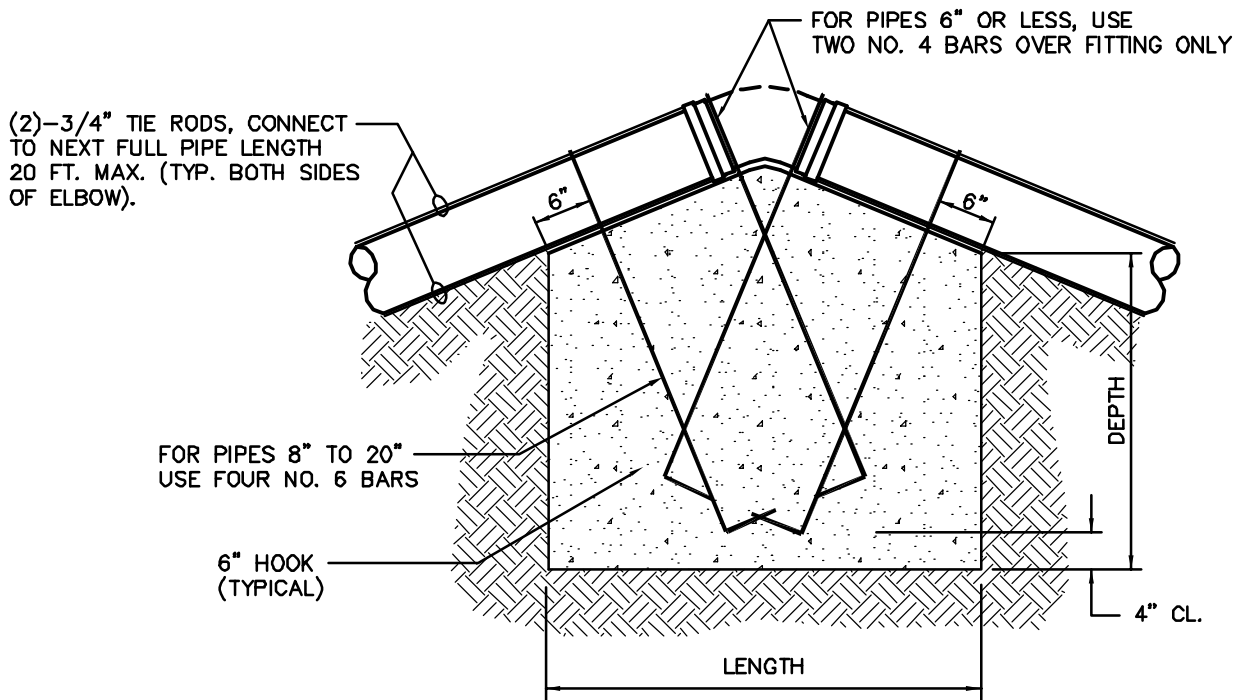
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PIPE SIZES	DIMENSIONS OF CONCRETE BLOCKING								
	LENGTH			WIDTH			DEPTH		
	11 1/4'	22 1/2'	45'	11 1/4'	22 1/2'	45'	11 1/4'	22 1/2'	45'
4" AND SMALLER	2'	4'	4'	1.5'	3'	3'	1'	2'	3'
6" AND 8"	3'	4'	6'	3'	3'	3'	2'	3'	4'
10" AND 12"	4.5'	6'	8'	3'	3'	4'	3'	4.5'	5'
14" AND 16"	6'	8'	11'	3.5'	3.5'	5'	2.5'	5'	5'
18" AND 20"	7'	9'	13'	4'	5'	5.5'	4'	5'	6'



TYPICAL SECTION

NOTES:

1. NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE
2. REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE.
3. ALL EXPOSED STEEL TO BE PAINTED WITH TWO COATS ASPHALTIC PAINT.

THRUST BLOCKING

VERTICAL THRUSTS UPWARD UP TO 150 PSI WORKING PRESSURE

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DEVELOPER SPECIFICATIONS
FOR

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MONTGOMERY COUNTY, PA

RETTEW
ASSOCIATES, INC.

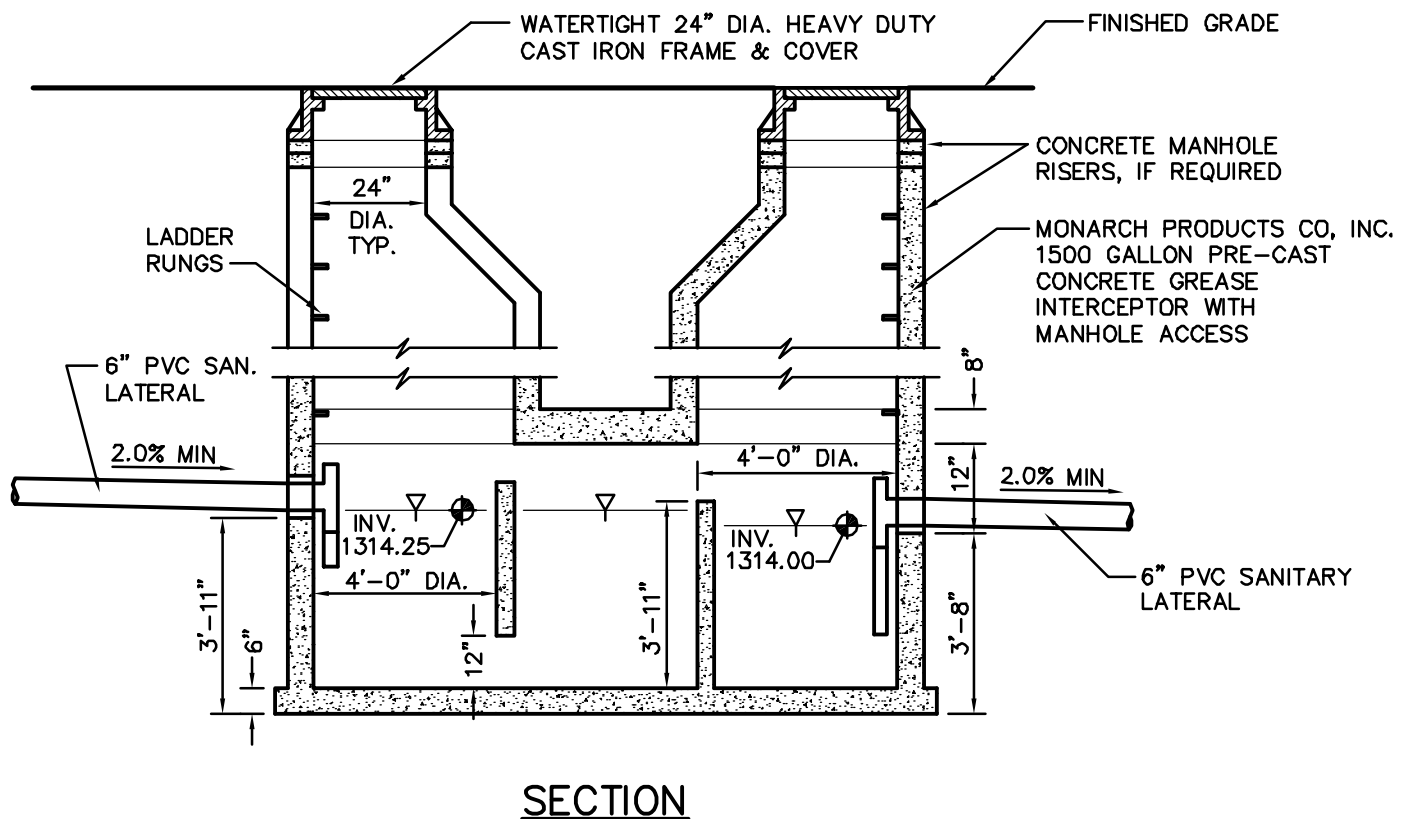
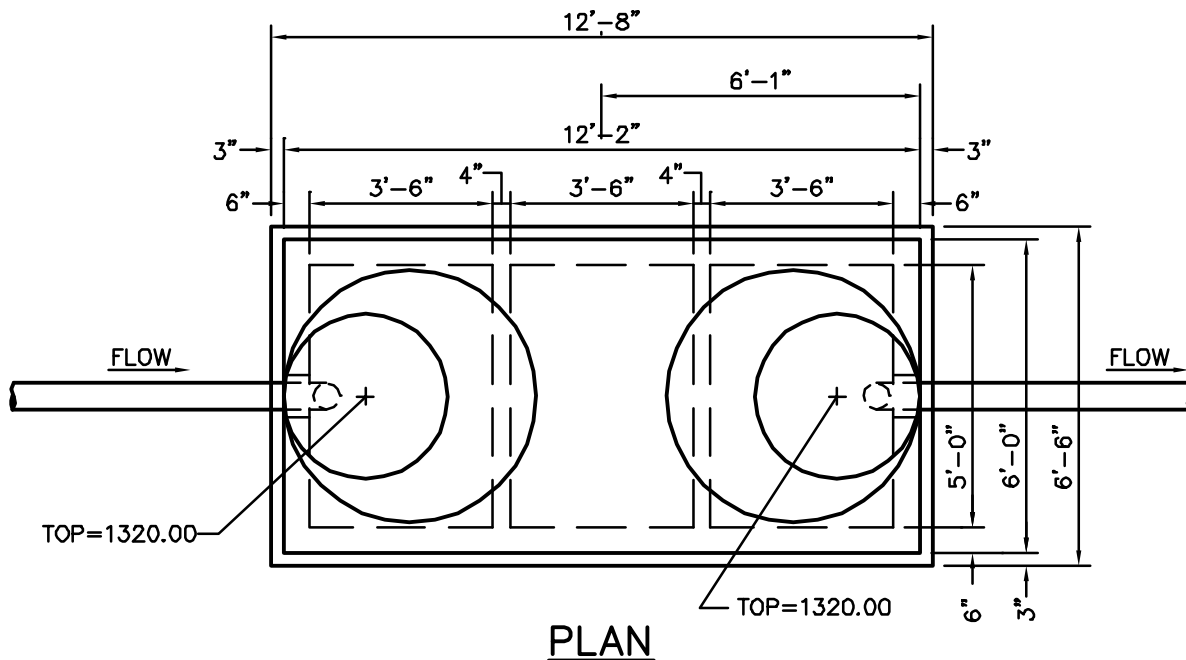
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DWG. NO. 04-05770-007



1500 GAL GREASE TRAP

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DEVELOPER SPECIFICATIONS FOR

WEST NORRITON TOWNSHIP

WEST NORRITON TOWNSHIP

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