

STANDARD
CONSTRUCTION
DETAILS

REVISED
2017–2018



STANDARD CONSTRUCTION DETAILS



TOWNSHIP OF BRANCHBURG

1077 Route 202 North
Branchburg, New Jersey 08876-3936
TELE: (908)526-1300 FAX: (908)526-2452

STANDARD CONSTRUCTION DETAILS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2012

SCALE : NTS

DRAWN BY: JAR

REV: 2018

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GENERAL NOTES

- A) MANHOLE DESIGN SPECIFICATIONS MUST CONFORM TO "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS" A.S.T.M. C478, LATEST REVISION.
- B) ALL PVC SANITARY SEWER PIPE SHALL CONFORM TO A.S.T.M. SPECIFICATIONS D-3034 SDR 35, 400' MAXIMUM DISTANCE BETWEEN MANHOLES.
- C) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AND THE "NJ RESIDENTIAL SITE IMPROVEMENT STANDARDS", MOST CURRENT EDITION.
- D) PAVEMENT SECTIONS SHALL CONFORM WITH THE TOWNSHIP OF BRANCBURG LAND USE ORDINANCE SECTION 5-3. ALL TRAFFIC MARKINGS SHALL CONFORM WITH THE MUTCD 2009 OR LATEST EDITION.
- E) ALL TRAFFIC SIGNS, THEIR SIZES AND POSITIONS MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 OR LATEST EDITION.
- F) HANDICAP ACCESSIBILITY SHOULD CONFORM WITH THE FOLLOWING; AMERICAN DISABILITIES ACT - THE BARRIER SUBCODE OF THE NJ UNIFORM CONSTRUCTION CODE (NJAC5:23-7) - ADAAG AND SHALL BE APPLICABLE FOR ALL SITE IMPROVEMENTS. PROWAG SHALL BE APPLICABLE TO ANY PUBLIC RIGHT OF WAYS OR TITLE 39 ENFORCED ROADWAYS.



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GENERAL NOTES

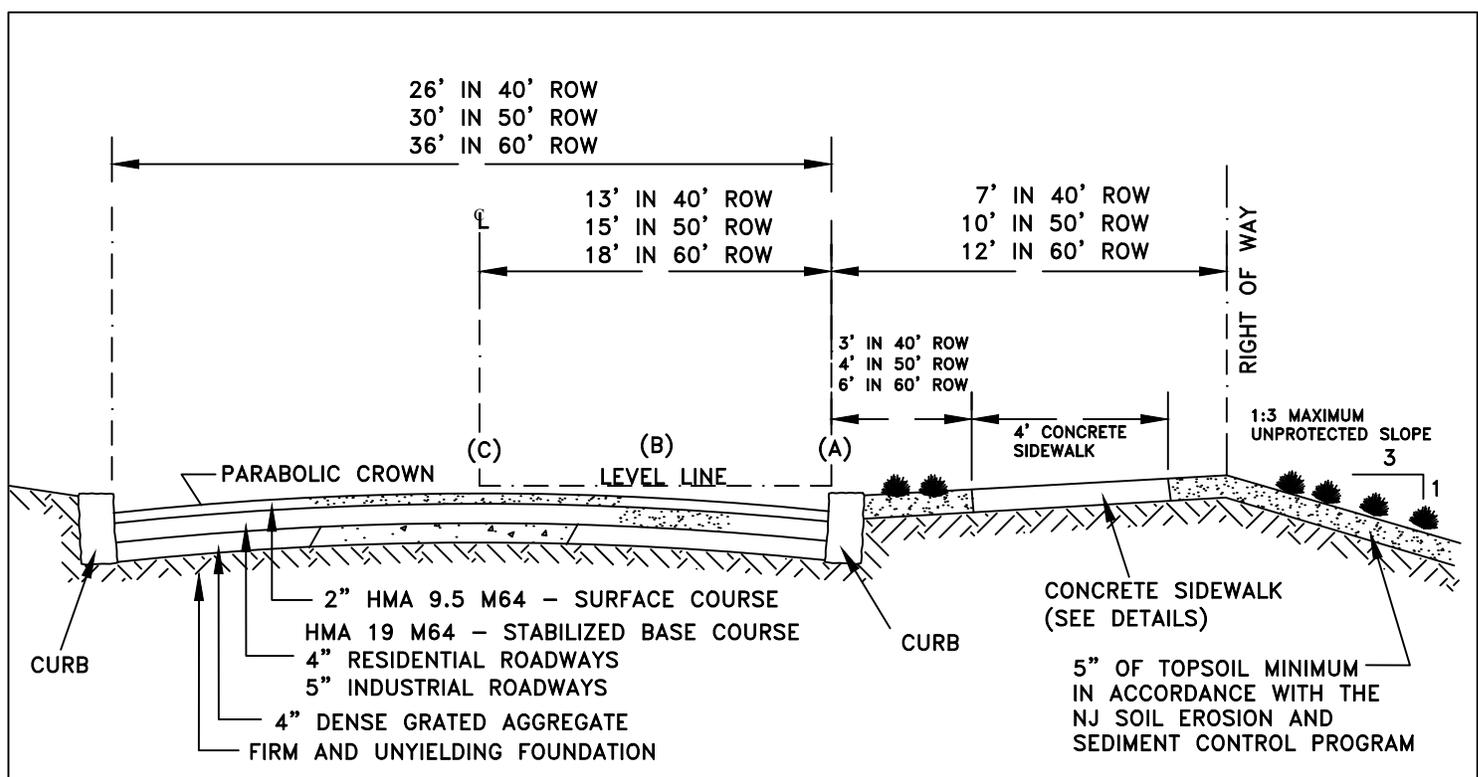
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DISTANCES DOWN FROM LEVEL LINE, FROM TOP OF CURB,
TO CREATE A PARABOLIC CROWN: (SEE SECTION ABOVE)

| <u>PRIOR TO INSTALLING:</u> | | <u>DGA STONE</u> | <u>HMA 19 M64</u> | <u>HMA 9.5 M64</u> |
|-----------------------------|-----|------------------|-------------------|--------------------|
| 40' RIGHT OF WAY | | | | |
| (5" CROWN) | (A) | 16" | 12" | 8" |
| (6" FINISHED CURB FACE) | (B) | 12½" | 8½" | 4½" |
| (26' PAVEMENT) | (C) | 11" | 7" | 3" |
| 50' RIGHT OF WAY | | | | |
| (6" CROWN) | (A) | 16" | 12" | 8" |
| (6" FINISHED CURB FACE) | (B) | 11½" | 7½" | 3½" |
| (30' PAVEMENT) | (C) | 10" | 6" | 2" |
| 60' RIGHT OF WAY | | | | |
| (7" CROWN) | (A) | 19" | 15" | 10" |
| (8" FINISHED CURB FACE) | (B) | 13¾" | 9¾" | 4¾" |
| (36' PAVEMENT) | (C) | 12" | 8" | 3" |

ROAD SECTION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
ROAD SECTION

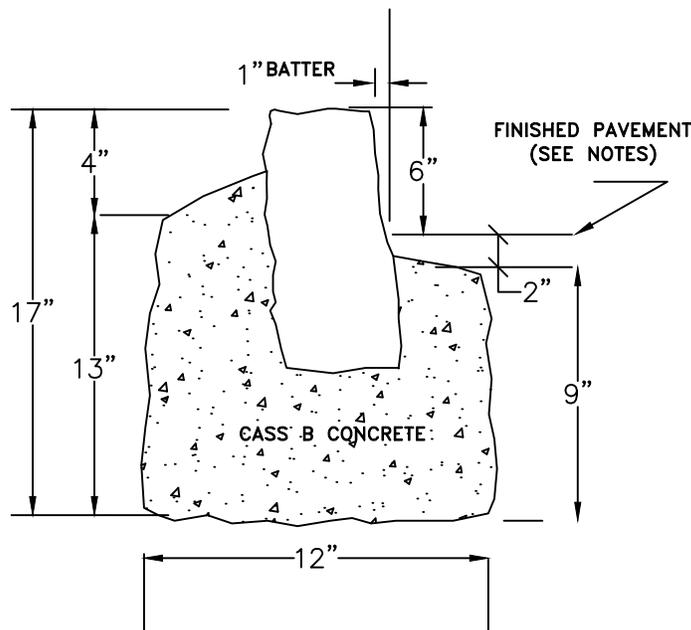
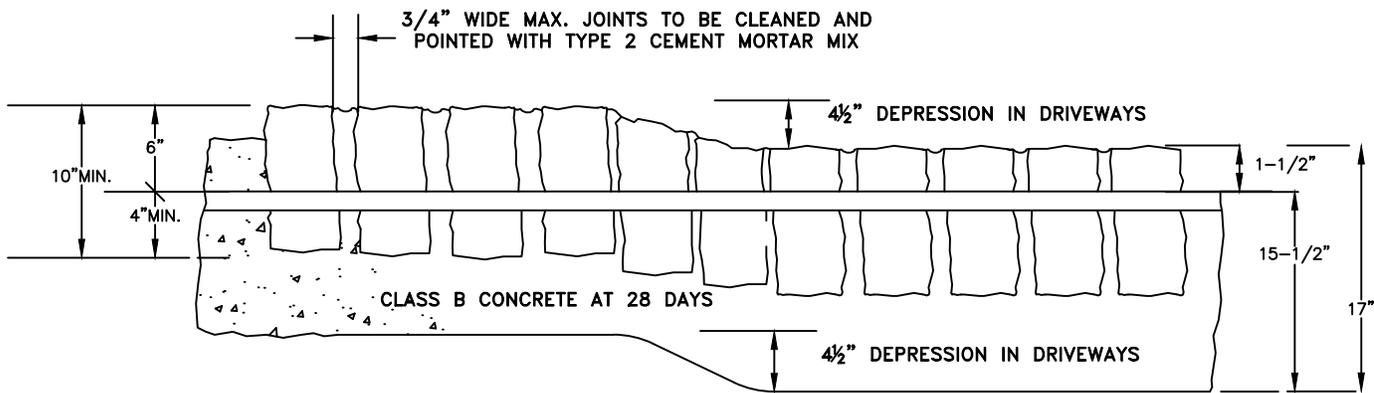
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2018



NOTE:

1. AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED BY THE ENGINEERING DEPARTMENT WHEN WORKING IN THIS AREA.
2. ANY ROADWAY REPAIRS SHALL FOLLOW THE TRENCH / PATCH REPAIR DETAILS.
3. GRANITE CURBS SHALL BE INSTALLED VERTICALLY IN ALL LOCATIONS INCLUDING ALL DEPRESSED LOCATIONS AND SHALL BE 10" IN HEIGHT BY 4" DEPTH AVERAGE SIZE.

BELGIAN BLOCK CURB

Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
ROAD BELGIAN BLOCK CURB

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

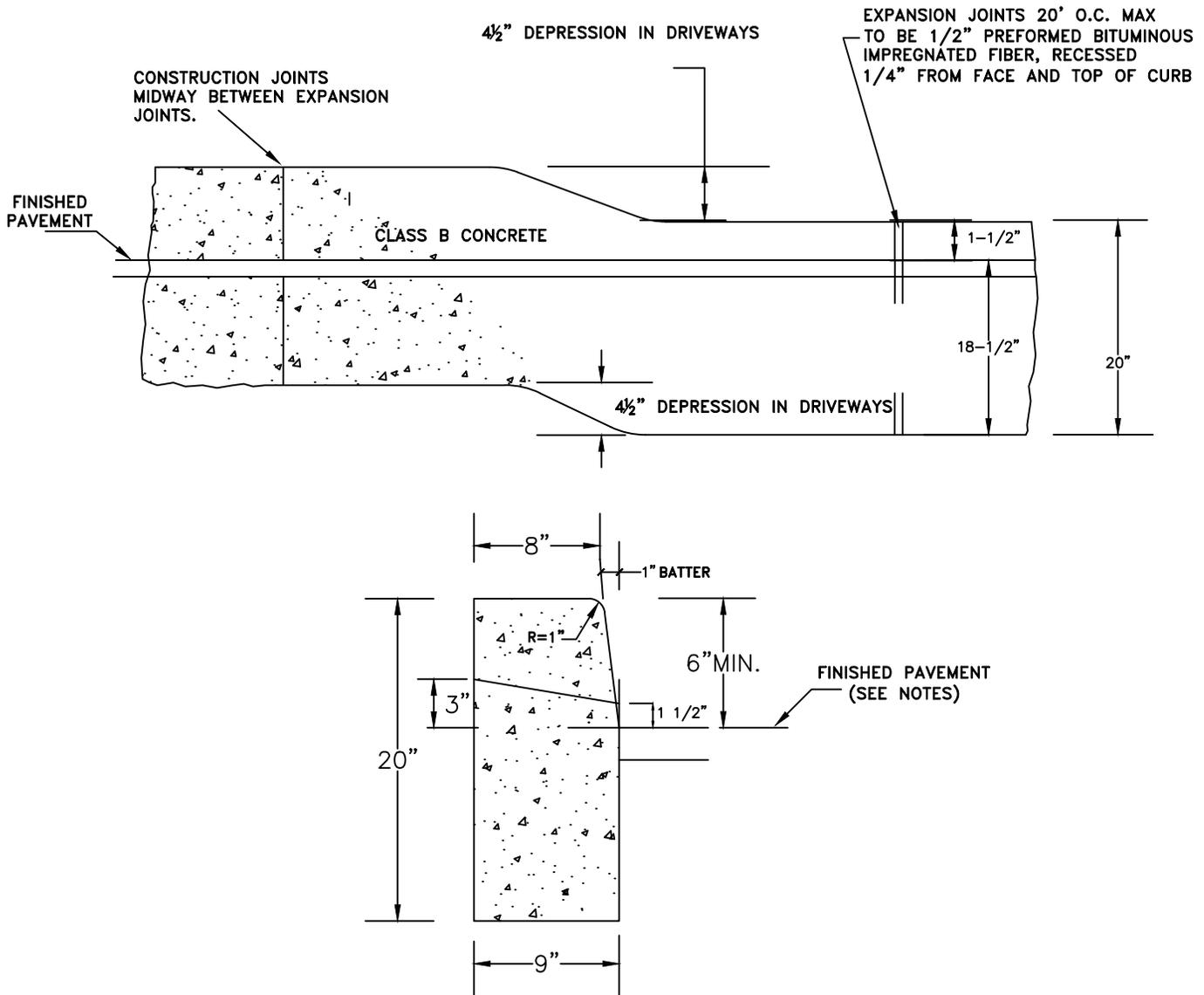
DATE: 2010

SCALE : NTS

DRAWN BY: JAR

REV: 2018

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2. ANY ROADWAY REPAIRS SHALL FOLLOW THE TRENCH / PATCH REPAIR DETAILS.
3. DEPRESSIONS IN ALL HANDICAP ACCESSIBLE LOCATIONS SHALL BE FLUSH WITH THE SURFACE.

CONCRETE CURB

Not to Scale



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ROAD
CONCRETE CURB

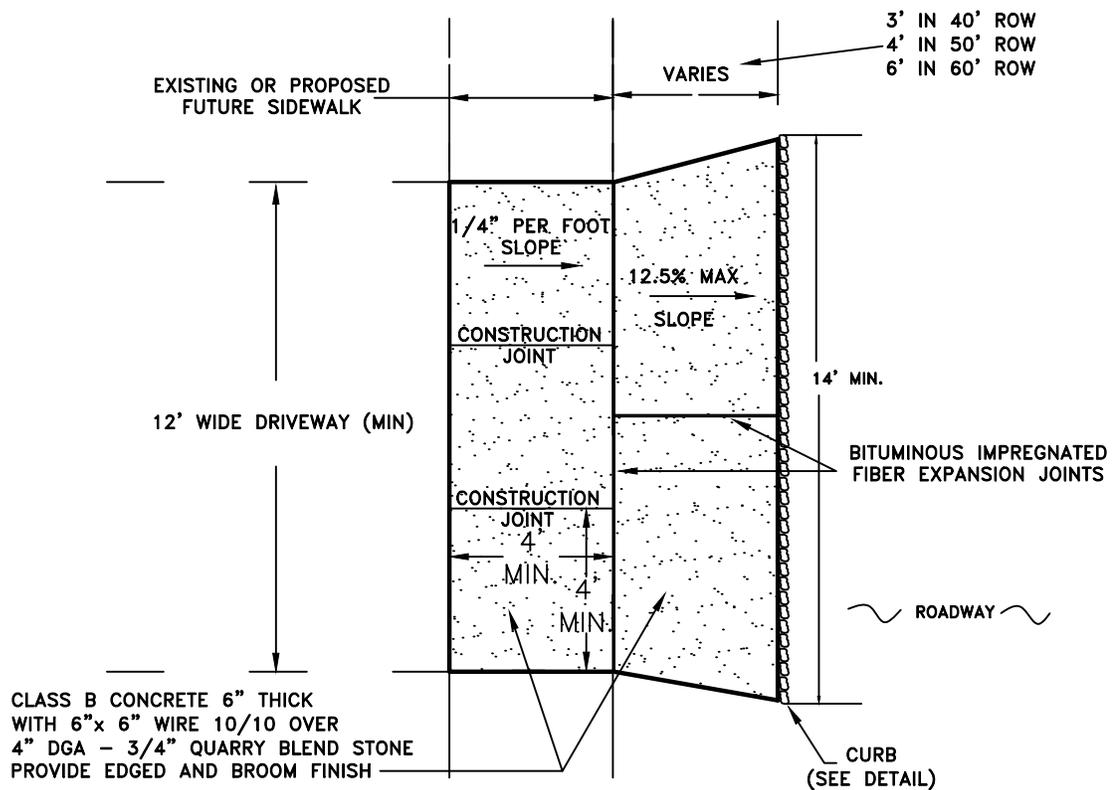
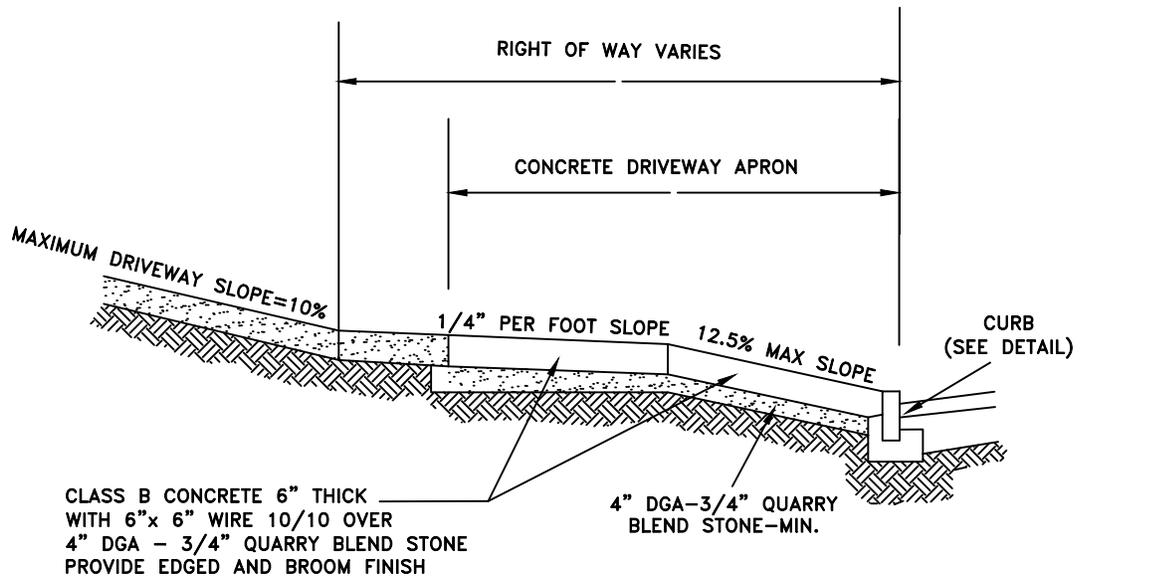
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CONCRETE DRIVEWAY APRON

Not to Scale



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ROAD
CONCRETE DRIVEWAY APRON

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

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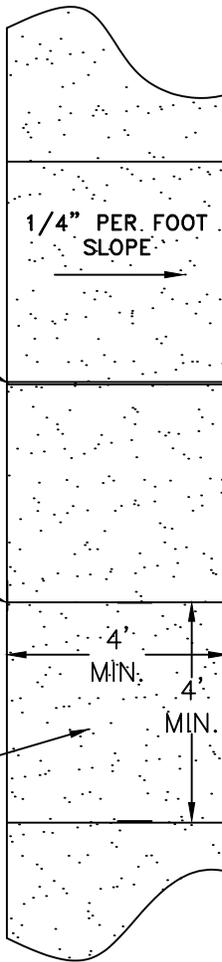
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REV: 2018

4

3' IN 40' ROW
 4' IN 50' ROW
 6' IN 60' ROW

1/2" BITUMINOUS IMPREGNATED
 FIBER EXPANSION JOINTS AT
 5 TIMES THE DISTANCE AS THE
 WIDTH OF THE SIDEWALK, NOT
 TO EXCEED 20 LF.



GRASS AREAS
 5" TOPSOIL,
 FERTILIZE, SEED
 AND MULCH

1/4" PER FOOT
 SLOPE

3:1 MAXIMUM
 SLOPE

4'
 MIN.

4'
 MIN.

CONSTRUCTION JOINT AT
 EVERY 4' O.C.
 OR EQUAL DISTANCES AS
 THE SIDEWALK WIDTH

CLASS B CONCRETE
 4" THICK - PROVIDE EDGED
 AND BROOM FINISH

ROADWAY

CURB
 (SEE DETAIL)

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CONCRETE SIDEWALK

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 ROAD
 CONCRETE SIDEWALK

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

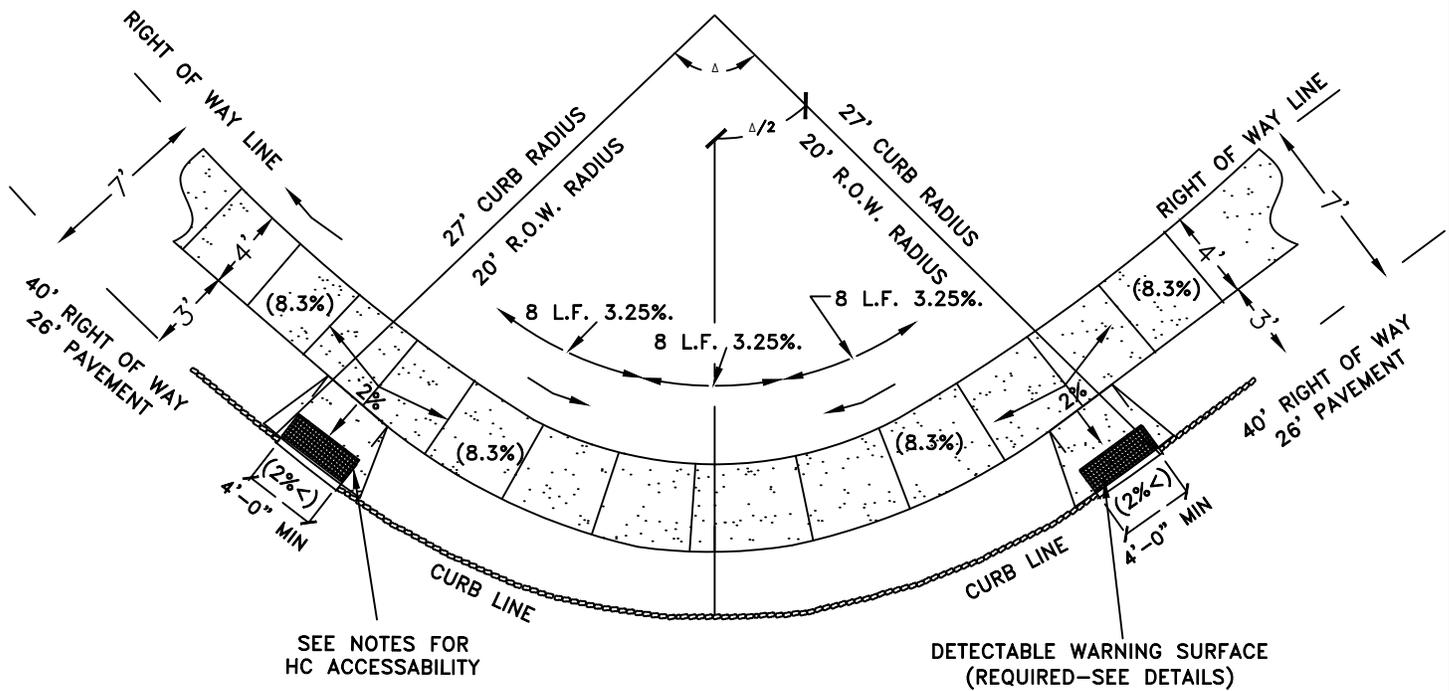
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NOTES:

1. ALL HANDICAP RAMPS MUST BE DESIGNED BY A LICENSED ENGINEER OR NJPLS AND SUBMITTED TO THE TOWNSHIP ENGINEER FOR REVIEW.
2. HANDICAP ACCESSIBILITY SHOULD CONFORM WITH THE FOLLOWING; AMERICAN DISABILITIES ACT - THE BARRIER FREE SUBCODE OF THE NJ UNIFORM CONSTRUCTION CODE (NJAC5:23-7) - ADAAG SHALL BE APPLICABLE FOR ALL SITE IMPROVEMENTS. PROWAG SHALL BE APPLICABLE TO ANY PUBLIC RIGHT OF WAYS AND TITLE 39 ENFORCED ROADWAYS.
3. DETECTABLE WARNING SURFACE ARE REQUIRED ON ALL HANDICAP ACCESSIBLE LOCATION. (SEE DETAIL)
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SIDEWALK LOCATION

(40X40 INTERSECTION)

Not to Scale



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STANDARD CONSTRUCTION DETAILS

ROAD

SIDEWALK LOCATION 40X40 INTERSECTION

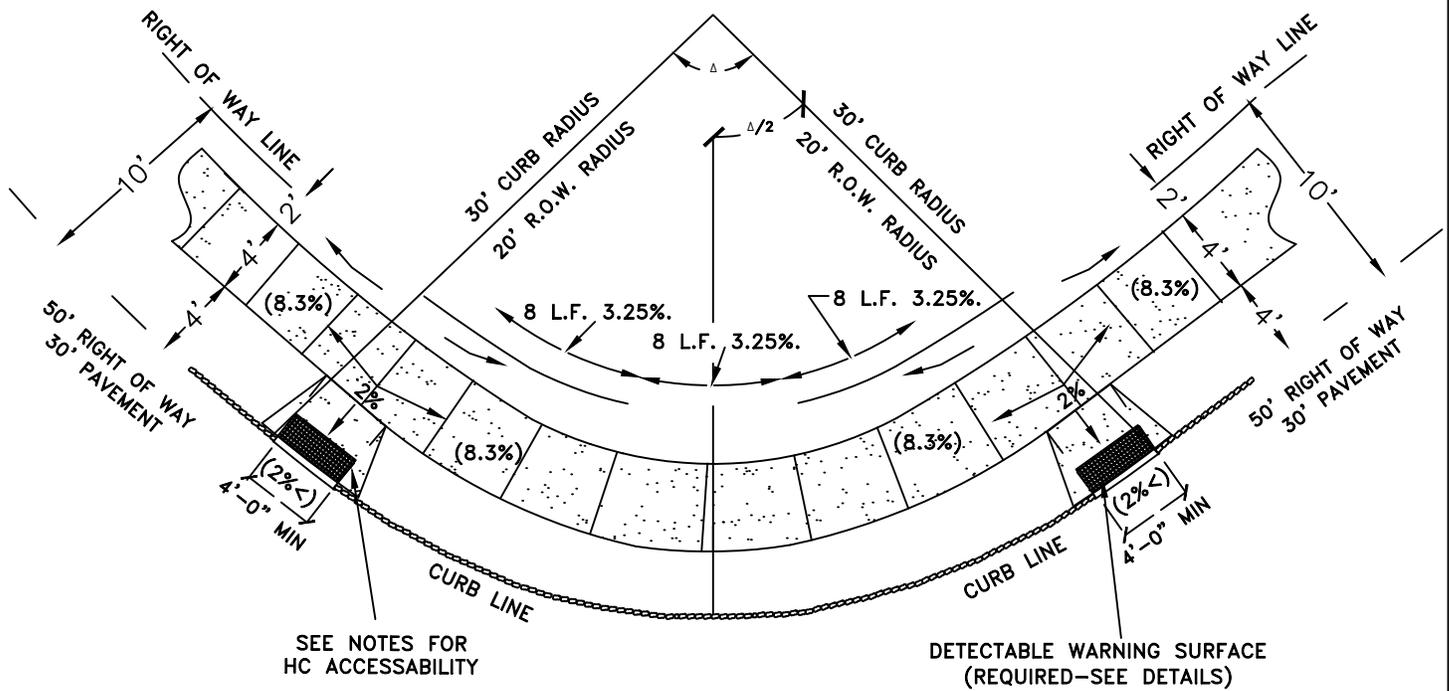
Douglas A. Ball, P.E., Township Engineer

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SIDEWALK LOCATION
(50X50 INTERSECTION)
Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
SIDEWALK LOCATION 50X50 INTERSECTION

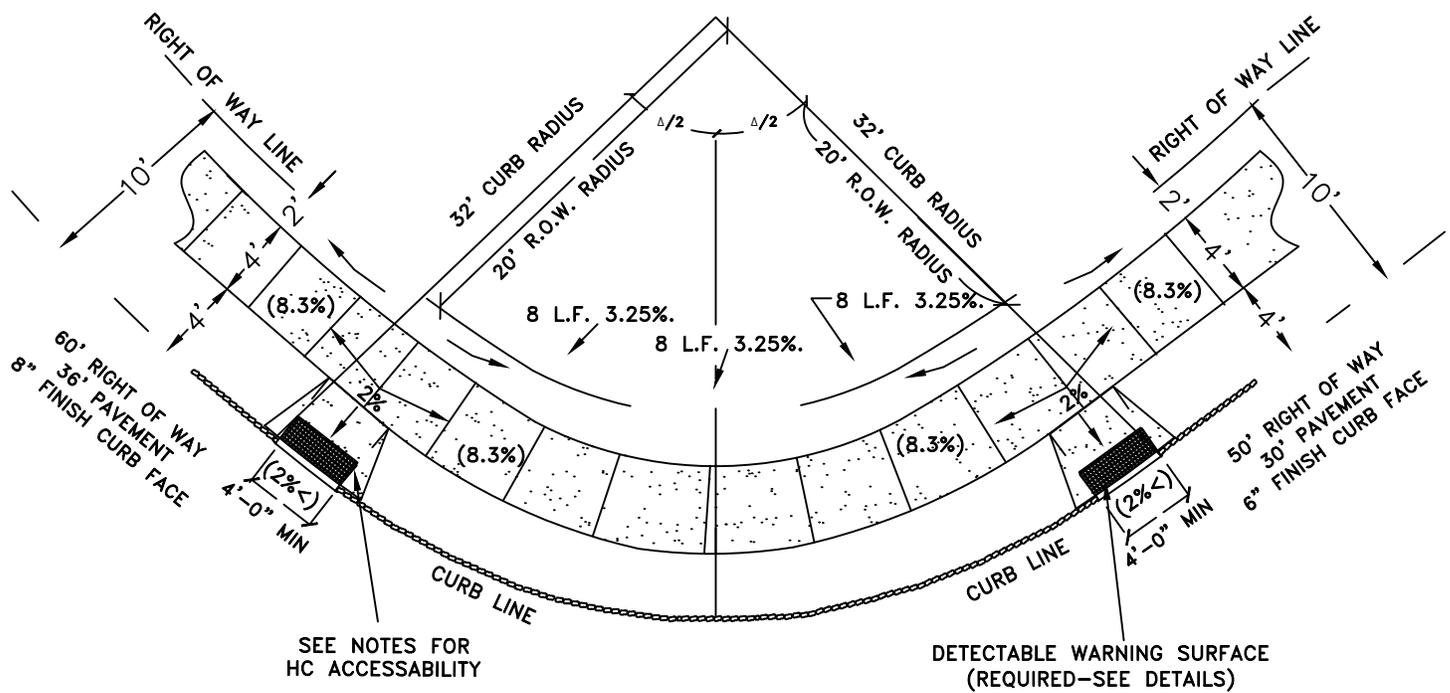
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3. DETECTABLE WARNING SURFACE ARE REQUIRED ON ALL HANDICAP ACCESSIBLE LOCATION. (SEE DETAIL)
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SIDEWALK LOCATION

(60X50 INTERSECTION)

Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
SIDEWALK LOCATION 60X50 INTERSECTION

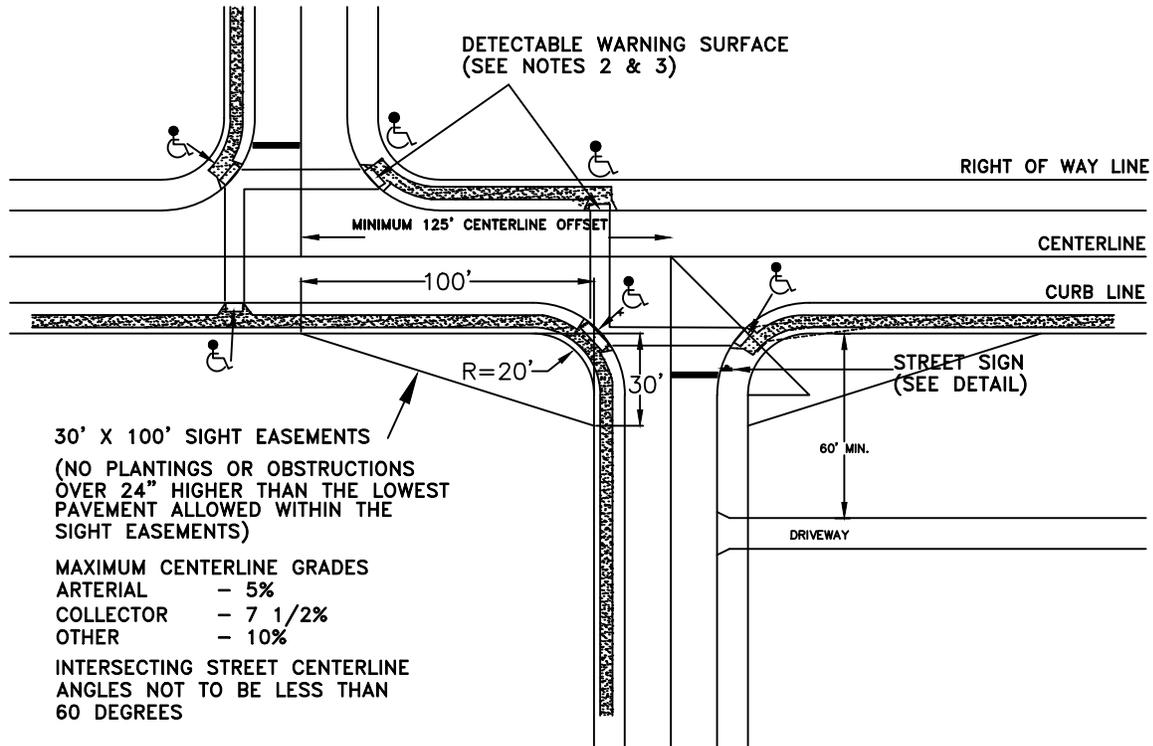
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Intersections

Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
INTERSECTIONS

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40' RIGHT OF WAY

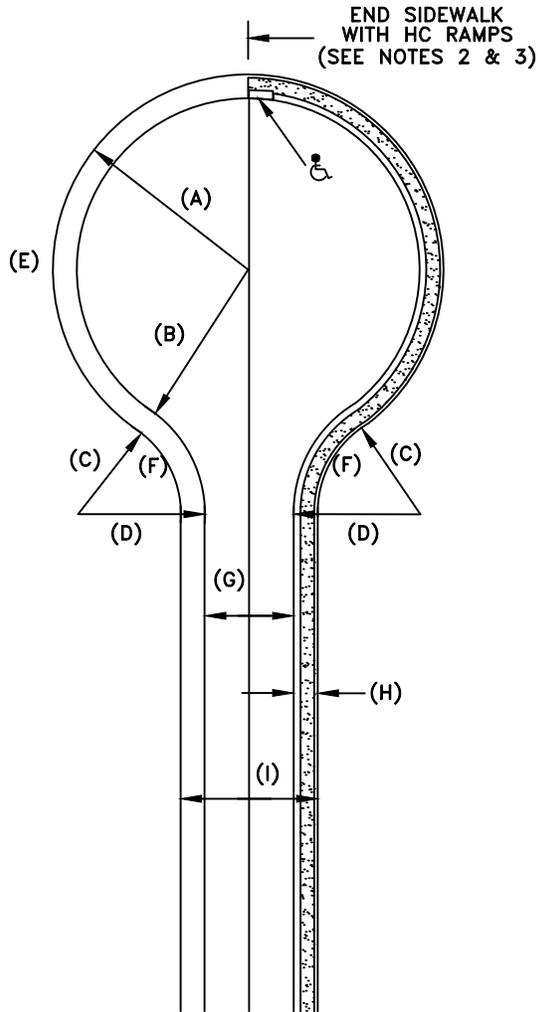
- (A) R=57.00'
- (B) R=50.00'
- (C) R=30.00'
- (D) R=37.00'
- (E) L=288.35'
D=288°-55'-36"
- (F) L=28.76'
D=54°-55'-18"
- (G) 26.00'
- (H) 7.0'
- (I) 40.00'

50' RIGHT OF WAY

- (A) R=60.00'
- (B) R=50.00'
- (C) R=40.00'
- (D) R=50.00'
- (E) L=292.08'
D=278°-55'-00"
- (F) L=34.53
D=49°-27'-30"
- (G) 30.00'
- (H) 10.0'
- (I) 50.00'

60' RIGHT OF WAY

- (A) R=72.50'
- (B) R=60.00'
- (C) R=40.00'
- (D) R=52.50'
- (E) L=357.53'
D=282°-23'-26"
- (F) L=35.74'
D=51°-11'-43"
- (G) 36.00'
- (H) 12.50'
- (I) 60.00'



**CUL-DE-SAC
(CENTERED)**

Not to Scale

R = RADIUS
L = ARC LENGTH
D = DELTA

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**STANDARD CONSTRUCTION DETAILS
ROAD
CUL-DE-SAC (CENTERED)**

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40' RIGHT OF WAY

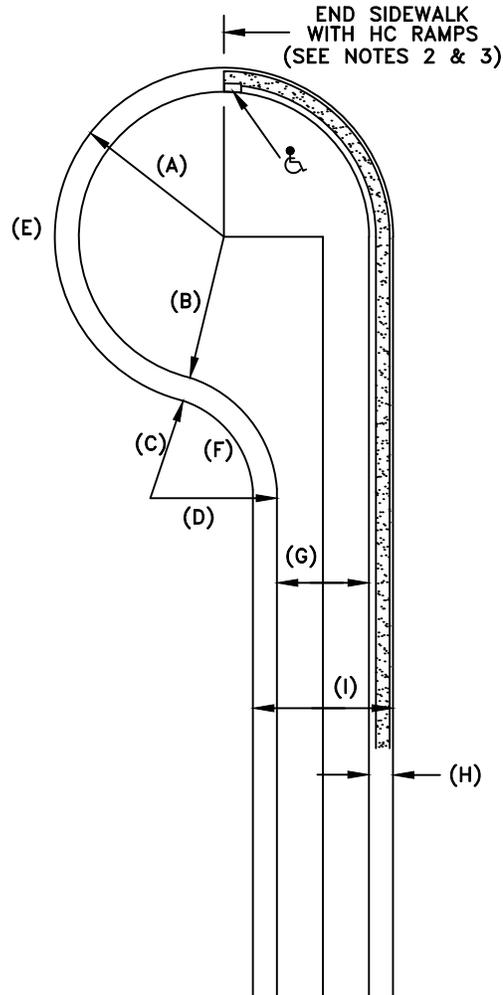
- (A) R=57.00'
- (B) R=50.00'
- (C) R=30.00'
- (D) R=37.00'
- (E) L=260.06'
D=261°-24'-22"
- (F) L=42.62'
D=81°-24'-22"
- (G) 26.00'
- (H) 7.00'
- (I) 40.00'

50' RIGHT OF WAY

- (A) R=60.00'
- (B) R=50.00'
- (C) R=40.00'
- (D) R=50.00'
- (E) L=267.58'
D=255°-31'-19"
- (F) L=52.72'
D=75°-31'-19"
- (G) 30.00'
- (H) 10.00'
- (I) 50.00'

60' RIGHT OF WAY

- (A) R=72.50'
- (B) R=60.00'
- (C) R=40.00'
- (D) R=52.50'
- (E) L=323.75'
D=255°-51'-05"
- (F) L=52.95'
D=75°-51'-05"
- (G) 36.00'
- (H) 12.50'
- (I) 60.00'



CUL-DE-SAC
(LEFT OR RIGHT)
Not to Scale

R = RADIUS
L = ARC LENGTH
D = DELTA

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STANDARD CONSTRUCTION DETAILS
ROAD
CUL-DE-SAC (LEFT OR RIGHT)

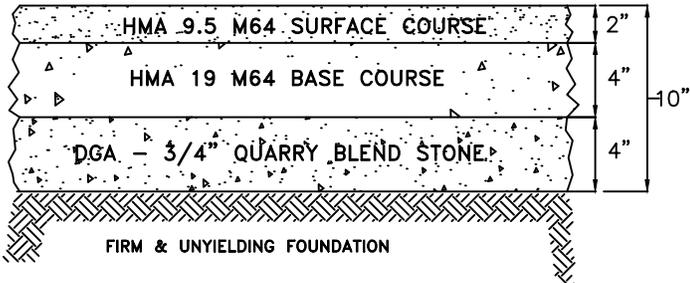
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

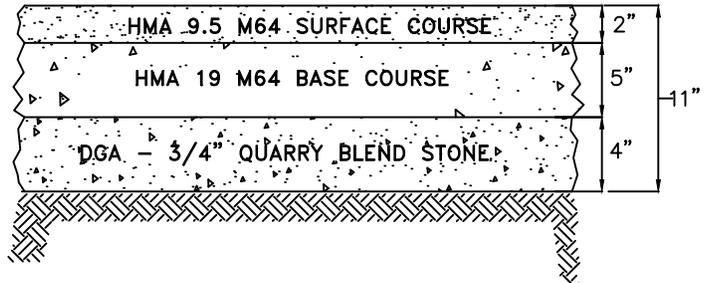
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DRAWN BY: JAR

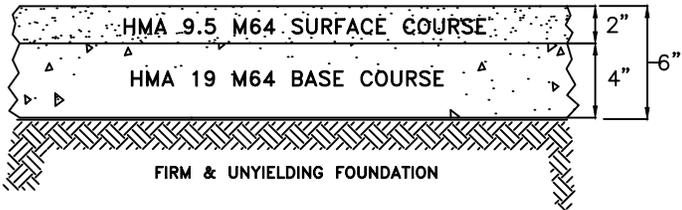
REV: 2018



RESIDENTIAL ROADWAY
NJDOT STANDARDS AND SPECIFICATIONS



INDUSTRIAL ROADWAY
NJDOT STANDARDS AND SPECIFICATIONS



RESIDENTIAL DRIVEWAY APRONS
WITHIN THE TOWNSHIP RIGHT OF WAYS



COMMERCIAL PARKING
LDO 5-2.1 SEC. 0

NOTE:

1. TACK COAT MATERIAL TO BE INSTALLED BETWEEN ASPHALT LAYERS AND EDGES WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.
2. AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED IS REQUIRED BY THE BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT WHEN WORKING IN AREA.
3. ALL ROADWAY PAVEMENTS SHALL CONFORM TO RSIS OR THE NJDOT STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MOST RECENT EDITION, WHICHEVER IS APPLICABLE.

PAVEMENT SECTIONS

Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
PAVEMENT SECTIONS

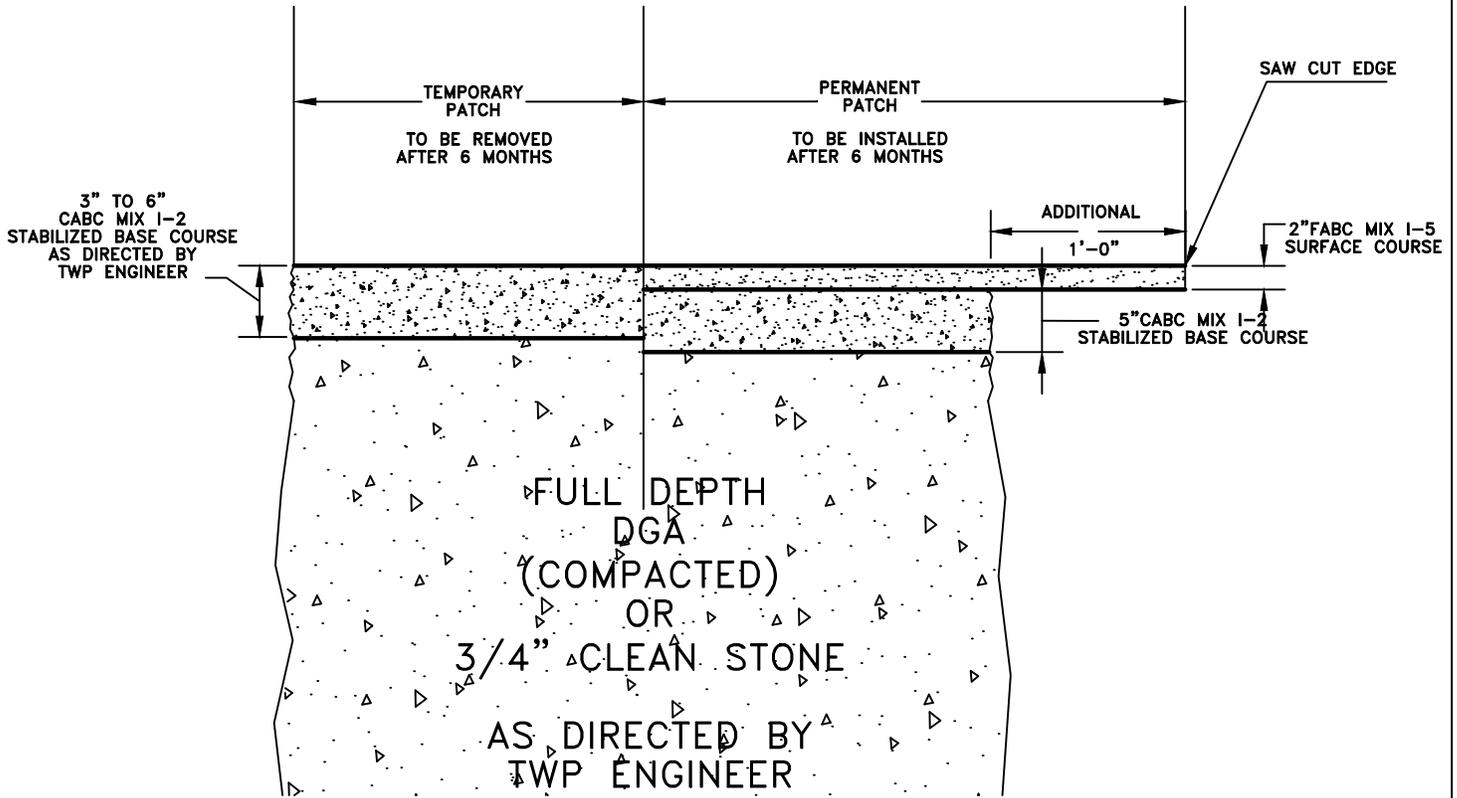
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REV: 2018



NOTE:

TACK COAT MATERIAL TO BE INSTALLED BETWEEN ASPHALT LAYERS AND EDGES.

AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED BY THE TOWNSHIP OF BRANCBURG ENGINEERING DEPARTMENT WHEN WORKING IN THIS AREA.

TRENCH – PATCH PAVEMENT REPAIR
TEMPORARY/PERMANENT
 Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
PAVEMENT REPAIR

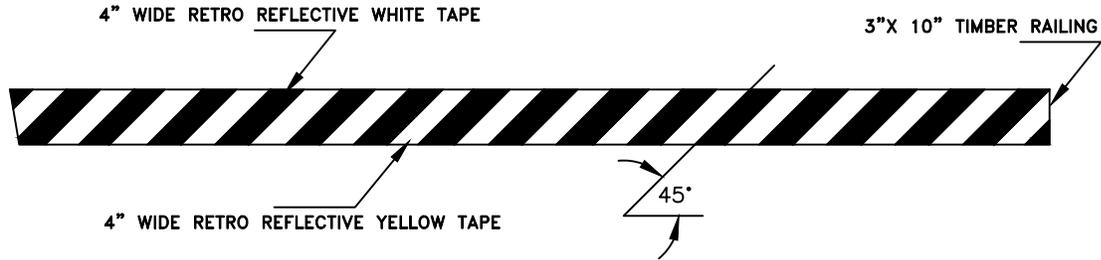
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

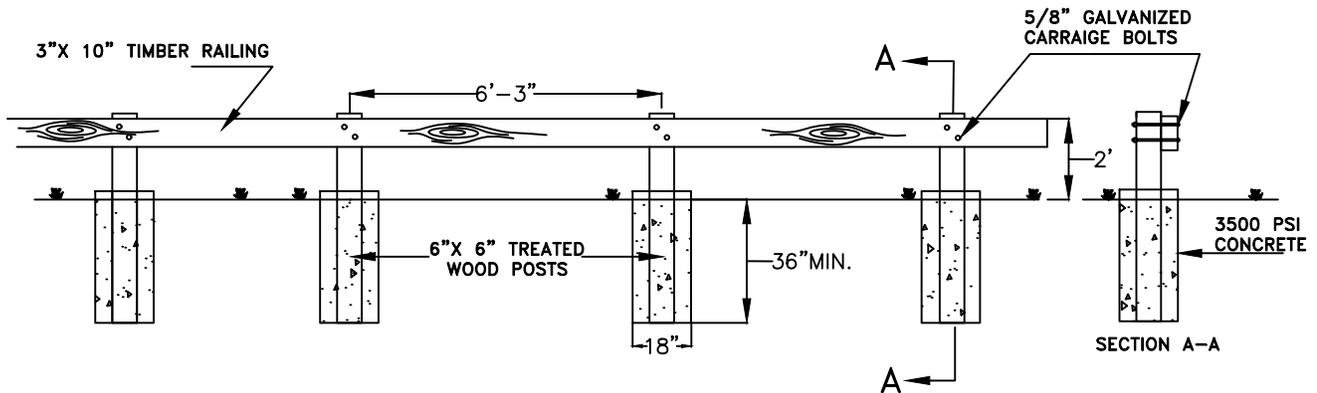
SCALE : NTS

DRAWN BY: JAR

REV: 2015



NOTE:
BARRICADE RAILING SPECIFICATIONS SAME AS BELOW



- NOTE:**
1. AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED BY THE TOWNSHIP OF BRANCHBURG ENGINEERING DEPARTMENT WHEN WORKING IN THIS AREA.
 2. GUIDE RAILS SHALL CONFORM TO NJDOT STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MOST RECENT EDITION.

WOOD/BARRICADE RAIL

Not to Scale



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STANDARD CONSTRUCTION DETAILS
ROAD
GUIDE RAIL/BARRICADE SYSTEMS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

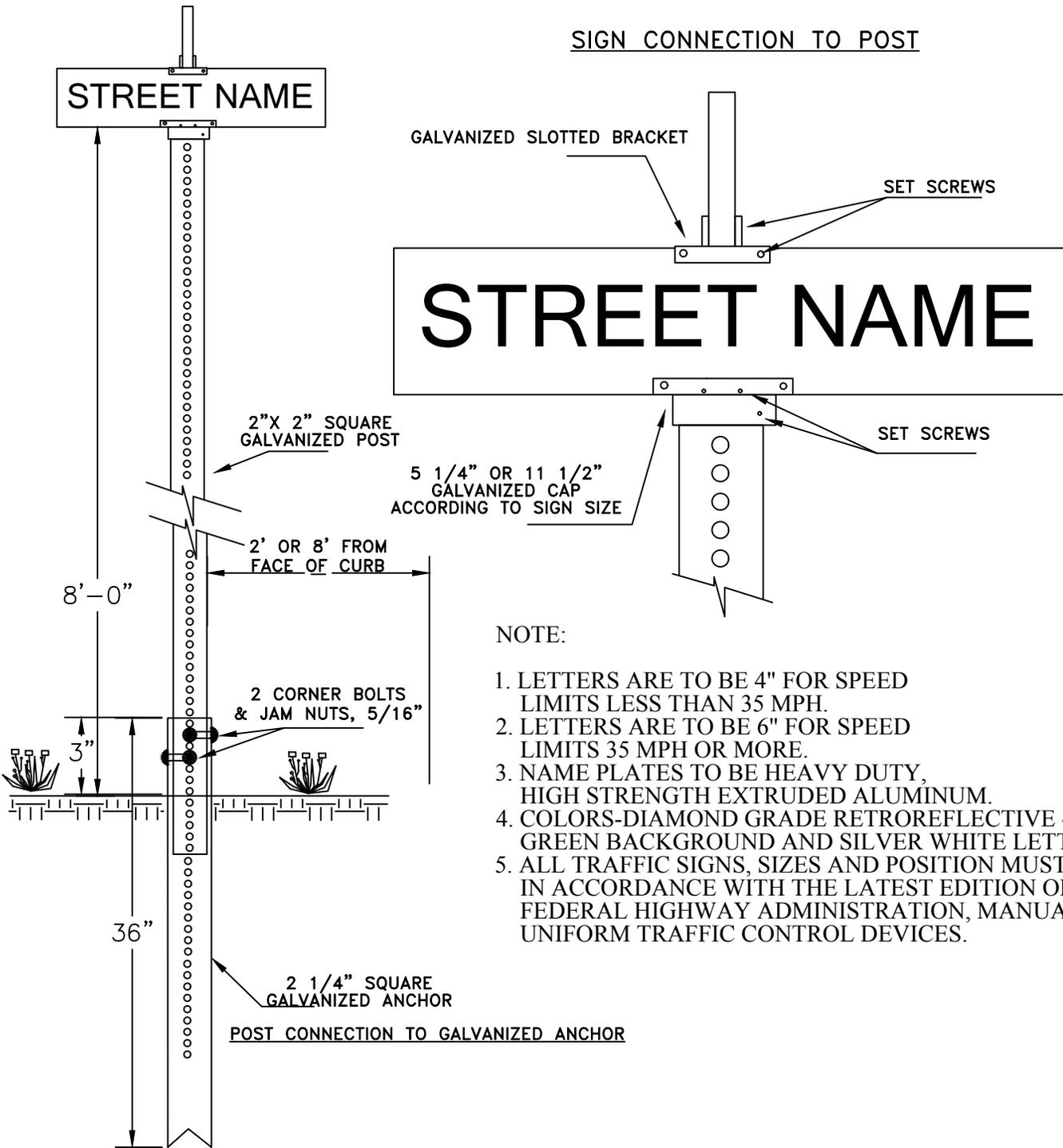
SCALE : NTS

DRAWN BY: JAR

REV: 2018

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SIGN CONNECTION TO POST



NOTE:

1. LETTERS ARE TO BE 4" FOR SPEED LIMITS LESS THAN 35 MPH.
2. LETTERS ARE TO BE 6" FOR SPEED LIMITS 35 MPH OR MORE.
3. NAME PLATES TO BE HEAVY DUTY, HIGH STRENGTH EXTRUDED ALUMINUM.
4. COLORS-DIAMOND GRADE RETROREFLECTIVE - GREEN BACKGROUND AND SILVER WHITE LETTERS.
5. ALL TRAFFIC SIGNS, SIZES AND POSITION MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

STREET SIGNS

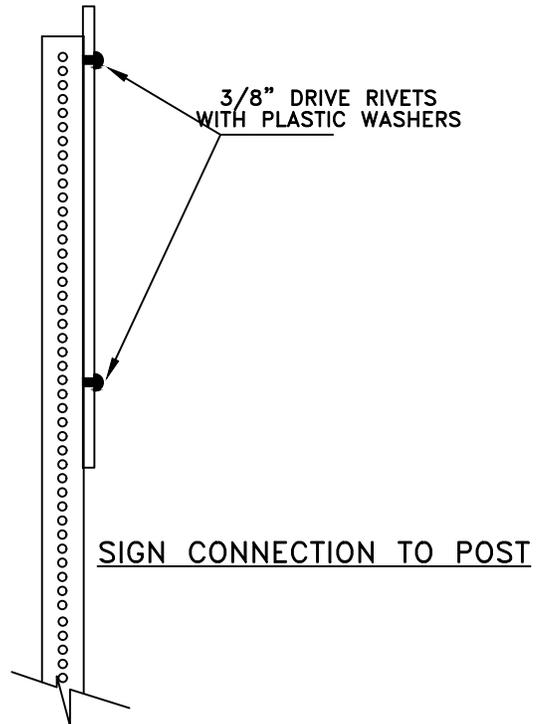
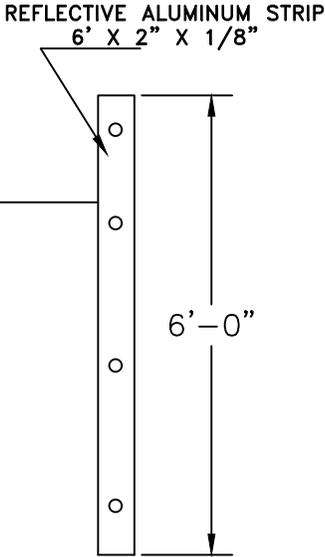
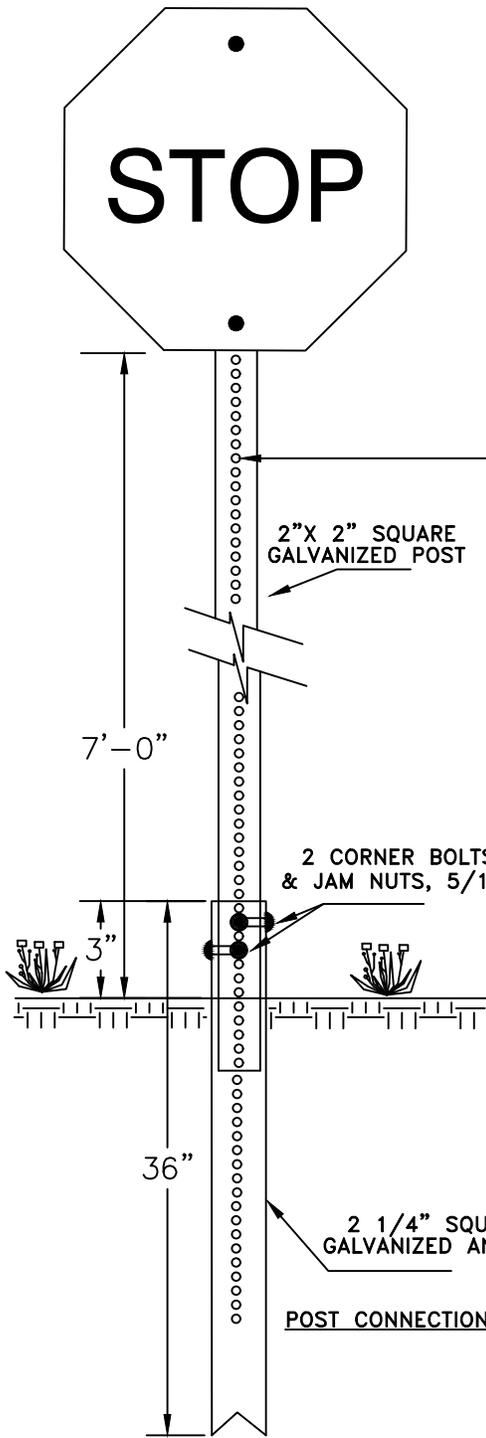
Not to Scale



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STANDARD CONSTRUCTION DETAILS
 ROAD
 STREET SIGNS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER



- NOTE:**
1. COLORS-DIAMOND GRADE:
 (STOP SIGN) RETROREFLECTIVE RED.
 (CROSS WALK SIGNS) RETROREFLECTIVE YELLOW GREEN.
 2. RETROREFLECTIVE ALUMINUM STRIP ATTACH TO "TRAFFIC FACING" SIDE OF POST WITH 4 DRIVE RIVETS.
 3. ALL TRAFFIC SIGNS, SIZES AND POSITION MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

TRAFFIC SIGNS

Not to Scale

POST CONNECTION TO GALVANIZED ANCHOR

POST CONNECTION TO GALVANIZED ANCHOR



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STANDARD CONSTRUCTION DETAILS
ROAD
TRAFFIC SIGNS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

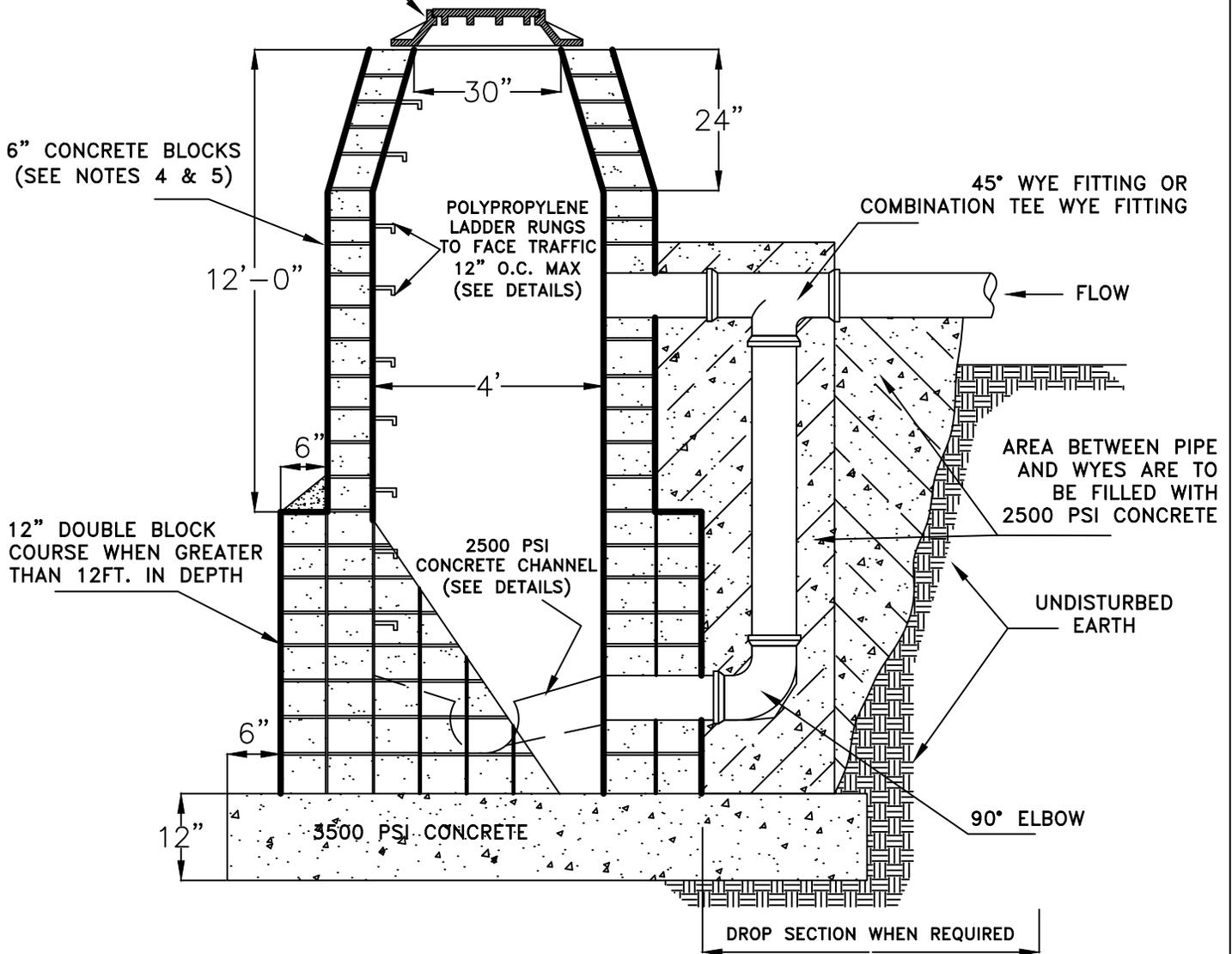
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV:9/2014

CAMPBELL CASTING No. 1203 B
OR APPROVED EQUAL
(SEE DETAIL)



NOTES:

1. MANHOLES MUST PASS A VACUUM TEST AS PART OF THE REQUIREMENTS FOR SANITARY SEWER TESTING CHECKLIST, PROVIDED BY BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
2. PIPE COVERAGE TO FOLLOW THE "SANITARY SEWER TRENCH SECTION" DETAILS.
3. A MINIMUM OF 6" OF 3/4" CLEAN STONE SHALL BE USED AS BACKFILL ON ALL SIDES.
4. THE EXTERIOR AND INTERIOR WALLS TO BE PLASTERED WITH A MINIMUM 1/2" THICK COAT OF 1:2 CEMENT - SAND MORTAR MIX, TROWELED TO A SMOOTH FINISH.
5. CONCRETE BLOCK SHALL BE SEALED WITH (2) COATS OF AN ACCEPTABLE WATERPROOFING TAR, ASPHALT, OR POLYPLASTIC ALLOY, WITH ENOUGH TIME ALLOWED BETWEEN THE SEAL COATS TO BOND.

CONCRETE BLOCK MANHOLE WITH DROP SECTION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY SEWER
CONCRETE BLOCK MANHOLE W/ DROP

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

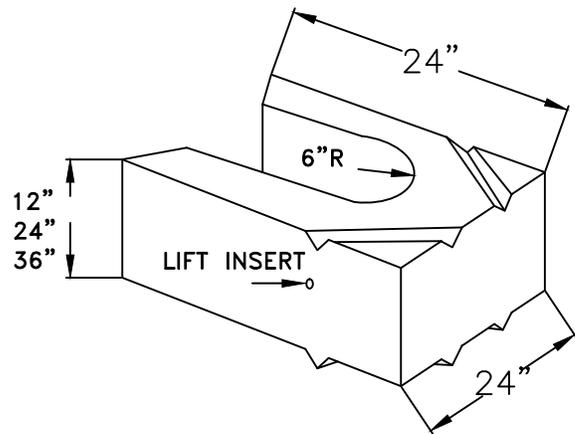
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SCALE : NTS

DRAWN BY: JAR

REV: 2018

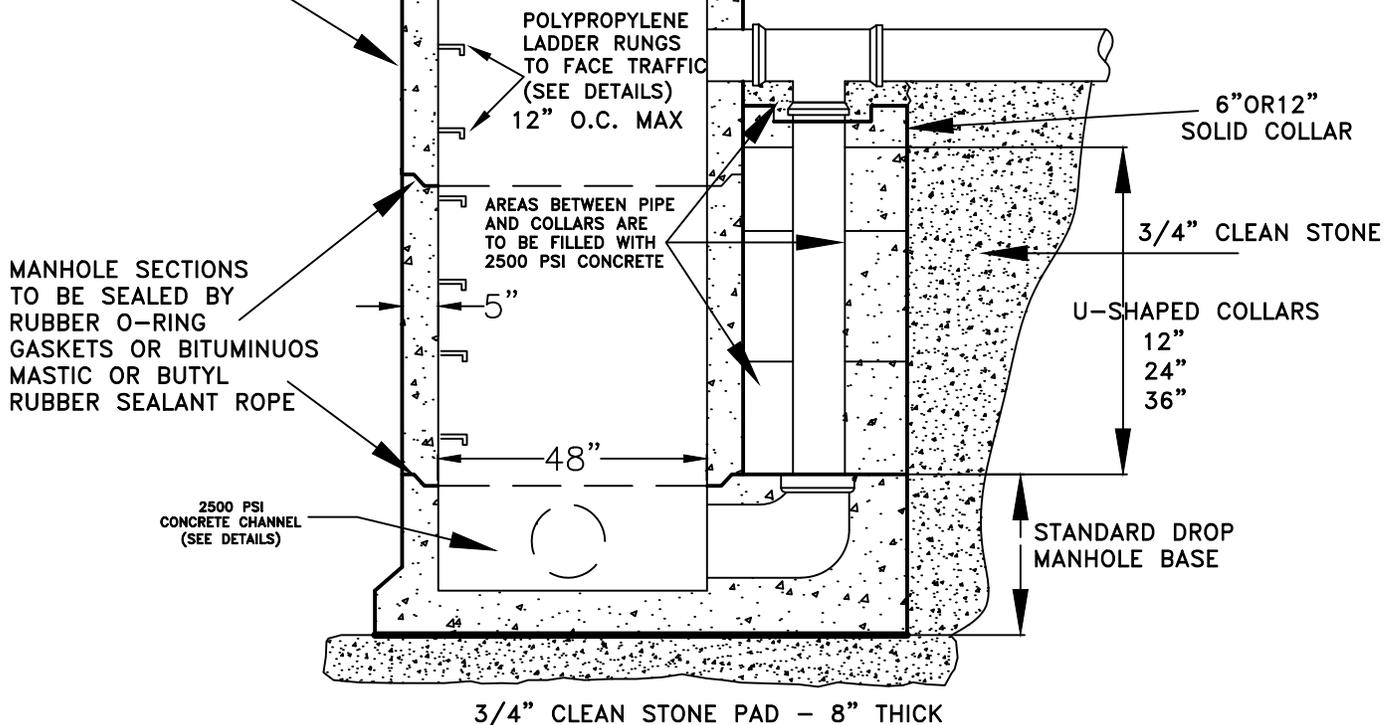
17



PRECAST MANHOLE SECTIONS
(SEE NOTES 2 & 3)

STANDARD PRECAST
MANHOLE SECTIONS

PRECAST DROP COLLAR



NOTES:

1. MANHOLES MUST PASS A VACUUM TEST REQUIRED BY BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
2. PRECAST MANHOLES SECTIONS TO BE IN ACCORDANCE WITH ASTM C-478.
3. PRECAST MANHOLES SHALL BE SEALED WITH (2) COATS OF AN ACCEPTABLE WATERPROOFING TAR, ASPHALT, WITH ENOUGH TIME ALLOWED BETWEEN THE SEAL COATS TO BOND, OR POLYPLASTIC ALLOY BY THE MANUFACTURER.
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL.
5. PIPE COVERAGE TO FOLLOW THE "SANITARY SEWER TRENCH SECTION" DETAILS.
6. A MINIMUM OF 6" OF 3/4" CLEAN STONE SHALL BE USED AS BACKFILL ON ALL SIDES.
7. CAMPBELL MANHOLE CASTING NO. 1203 B OR APPROVED EQUAL (SEE DETAILS).

PRECAST CONCRETE DROP MANHOLE

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY SEWER
PRECAST CONCRETE DROP MANHOLE

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

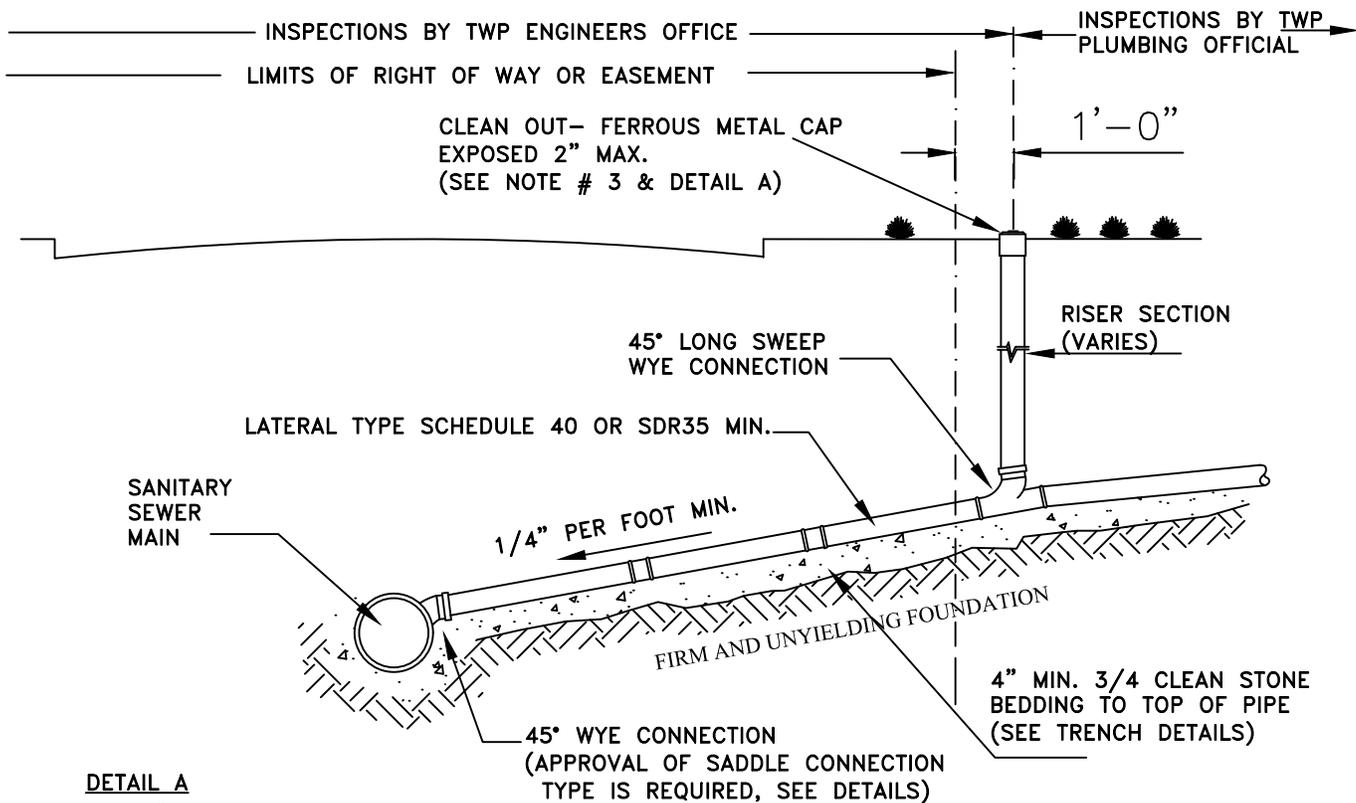
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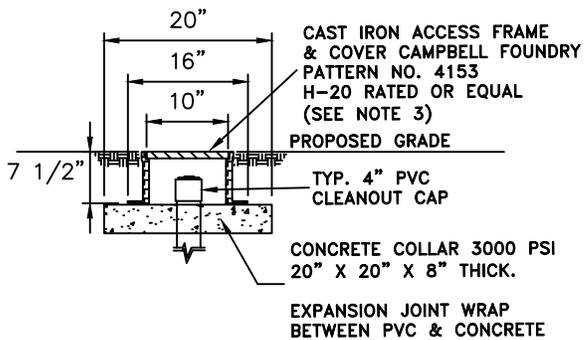
DRAWN BY: JAR

REV: 2018

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DETAIL A



NOTE:

1. AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED BY THE TOWNSHIP OF BRANCBURG ENGINEERING DEPARTMENT, WHEN WORKING IN THIS AREA.
2. REFER TO CODE ENFORCEMENT/BUILDING DEPARTMENT FOR THE REQUIREMENTS FROM THE LATERAL CLEAN OUT TO HOUSE CONNECTION.
3. IN AREAS WHERE A REQUIRED CLEAN OUT IS WITHIN A TRAVELED PATH, WALKWAY OR PAVEMENT, A CASTING SHALL BE INSTALLED TO PROTECT THE CLEAN OUT. THE CASTING SHALL HAVE A MINIMUM RATING OF H-20. THE CASTING SHALL BE FLUSH WITH THE GRADE AND A CONCRETE COLLAR/ FOOTING 8 INCHES MINIMUM THICKNESS, CLASS B CONCRETE AND 4 INCHES WIDER THAN THE PROPOSED CASTING BOTTOM FLANGE. IF THE CLEAN-OUT IS LARGER THAN 4 INCHES THEN THE CASTING SHALL BE LARGE ENOUGH TO HAVE CLEARANCE OF AT LEAST 2 INCHES AROUND THE CLEAN-OUT CAP.

LATERAL CONNECTION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY SEWER
LATERAL CONNECTION

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

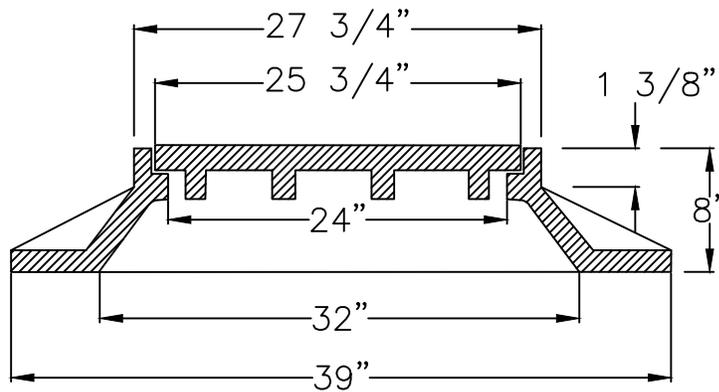
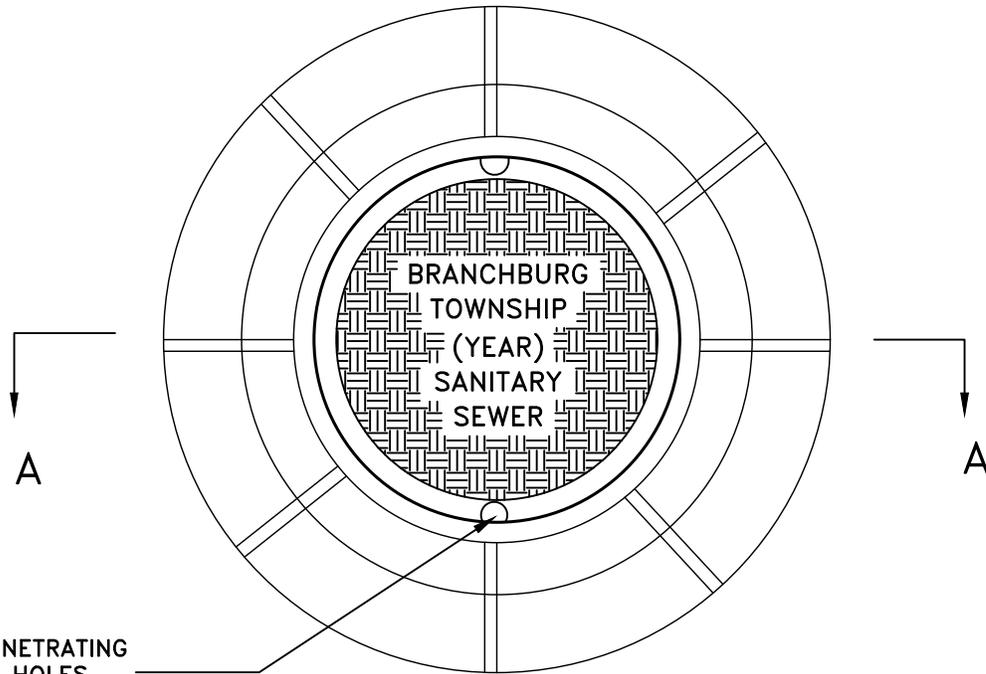
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2018

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SECTION - A

NOTE:

1. CAMPBELL CASTING MANHOLE CASTING NO. 1203 B OR APPROVED EQUAL, MADE IN AMERICA.
2. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVALS.

MANHOLE FRAME & COVER

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY SEWER
MANHOLE FRAME & COVER

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

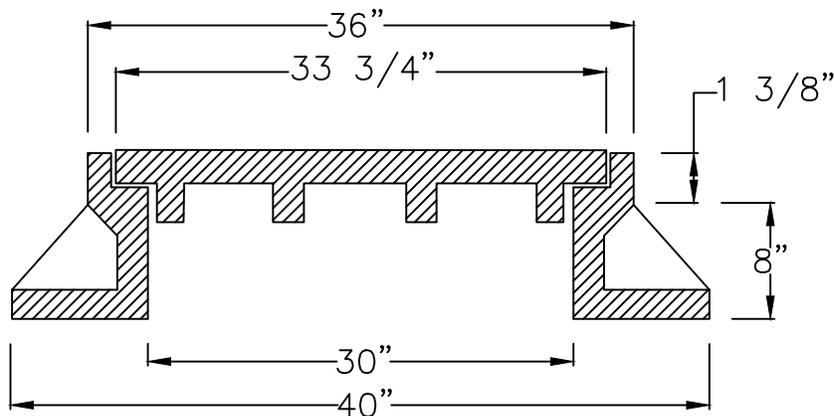
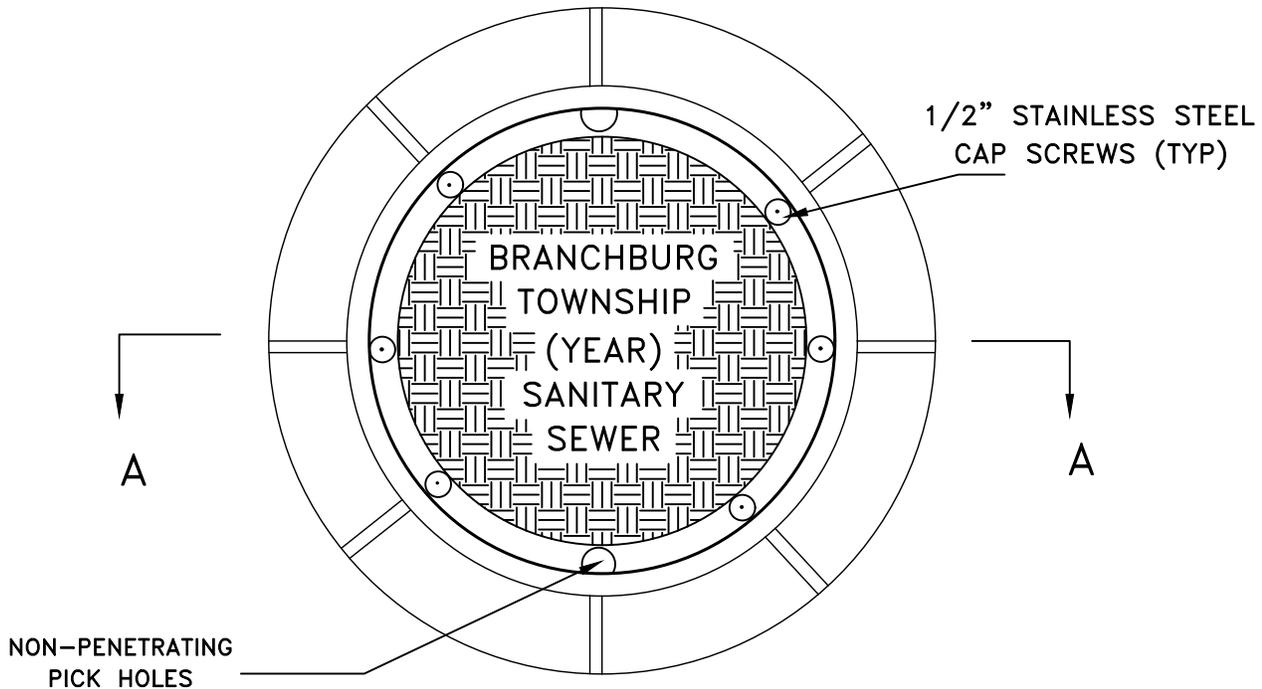
DATE: 2-2-10

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014

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SECTION - A

NOTE:

ALL WATERTIGHT CASTINGS TO BE SUPPLIED WITH:

1. MACHINED BEARING SURFACES.
2. 1/4" FLAT NEOPRENE GASKETS.
3. 1/2" DIA. STAINLESS STEEL CAP SCEWS.
4. NON-PENETRATING PICK HOLES.
5. CAMPBELL MANHOLE CASTING NO. 1503 OR APPROVED EQUAL, MADE IN AMERICA.
6. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVALS.

WATERTIGHT MANHOLE FRAME & COVER

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY SEWER
WATERTIGHT MANHOLE FRAME & COVER

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

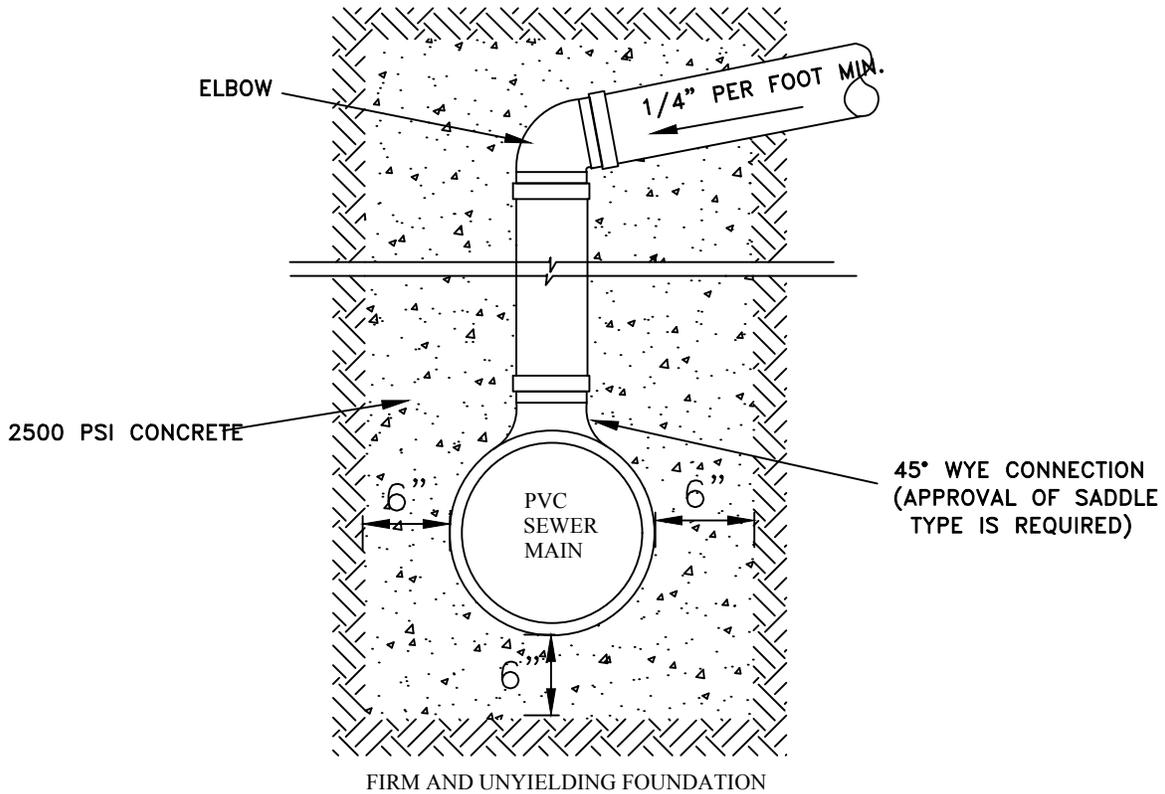
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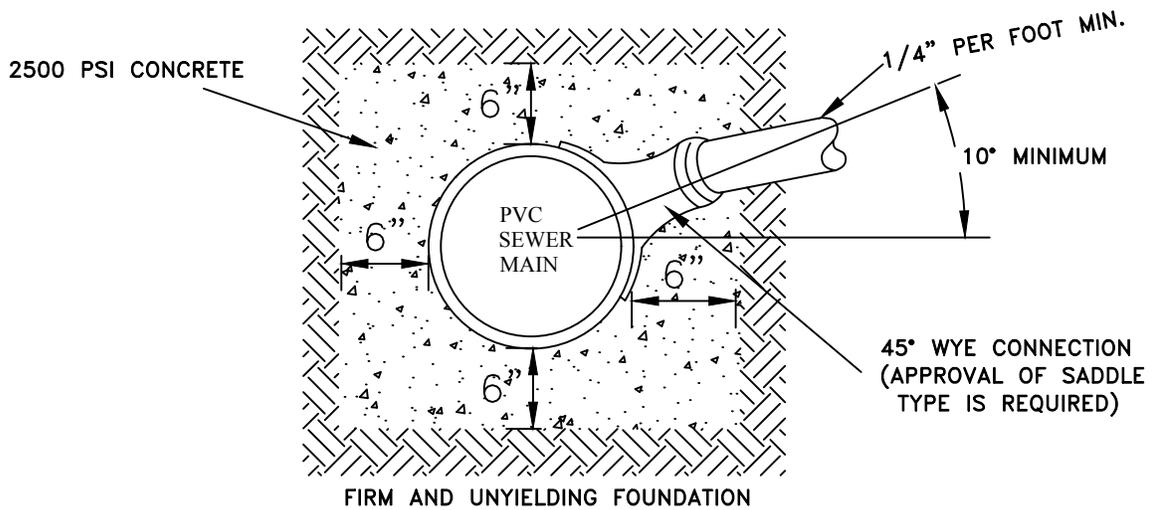
REV: 9/2014

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RISER CONNECTION

Not to Scale



SADDLE CONNECTION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 SANITARY SEWER
 RISER/SADDLE CONNECTION

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

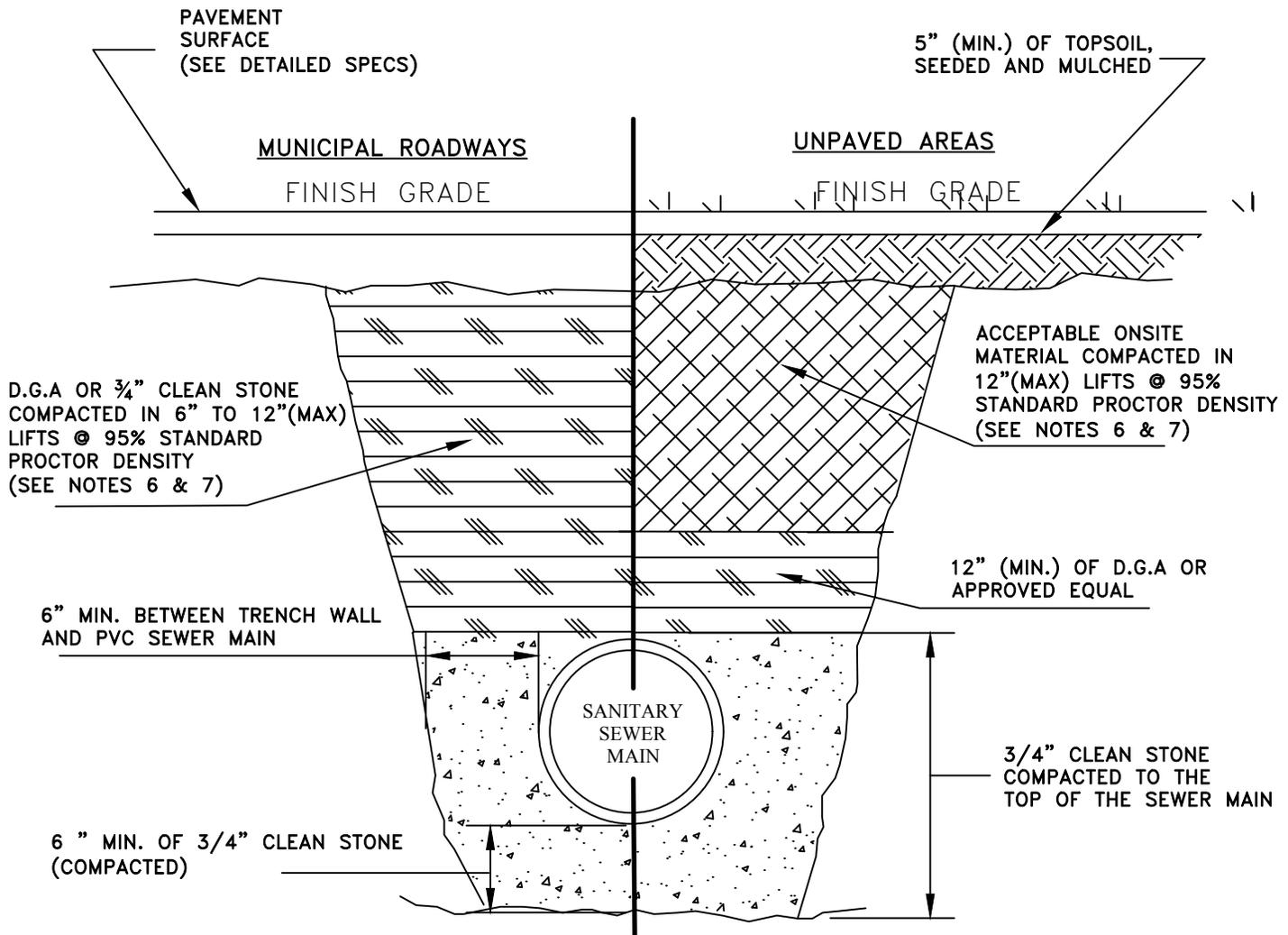
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

2015

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NOTE:

1. ALL SEWER MAINS ARE TO BE OF SDR 35 AND CONFORM TO ASTM D3034 OR TOWNSHIP ENGINEERS APPROVAL.
2. ALL SEWER MAINS AND LATERALS ARE REQUIRED TO BE PRESSURE TESTED.
3. LATERALS ARE TESTED FROM THE MAIN TO THE RIGHT OF WAY.
4. THE ENGINEERING DEPARTMENT SHALL PROVIDE A CHECKLIST FOR ALL SANITARY SEWER TESTING.
5. A CODE ENFORCEMENT PLUMBING OFFICIAL IS REQUIRED TO TEST AND INSPECT FROM THE RIGHT OF WAY TO THE HOUSE CONNECTION.
6. ACCEPTABLE ONSITE MATERIALS TO BE DETERMINED BY THE TOWNSHIP ENGINEER OR REPRESENTATIVES, SHALL COMPLY WITH NJDOT SPECIFICATION: 901.11 SOIL AGGREGATE.
7. APPROVED EQUIVALENT MATERIALS REQUIRES TESTING ANALYSIS AND CLEAN FILL CERTIFICATION.

SANITARY SEWER TRENCH SECTION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY SEWER TRENCH SECTION

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2018

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CONCRETE COMPRESSIVE STRENGTH = 4000 PSI

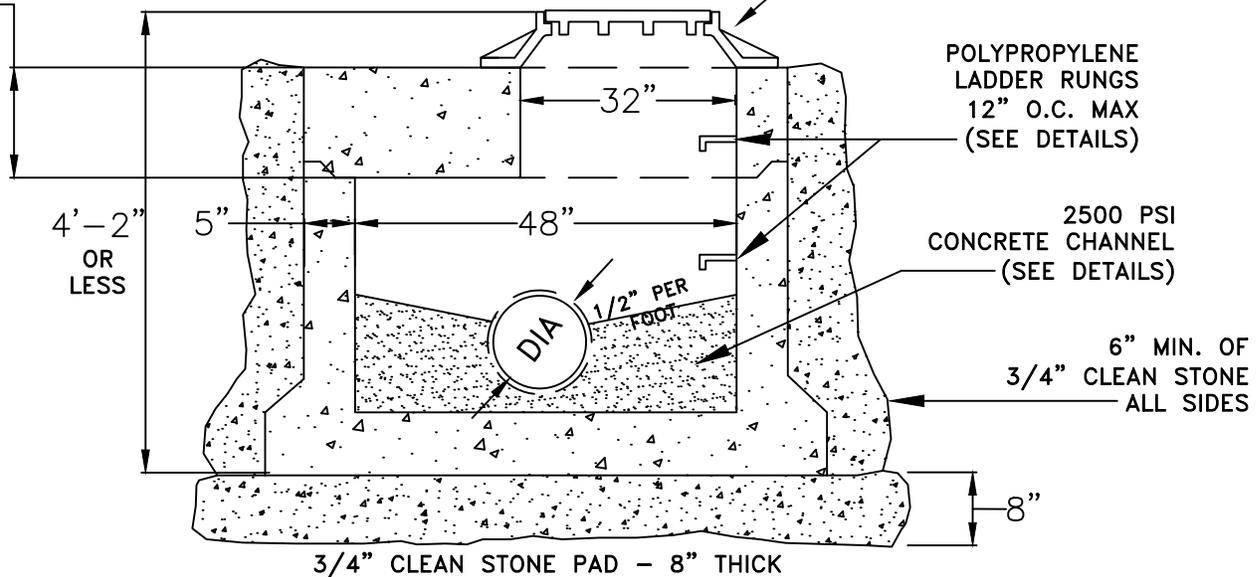
#4 REBAR AROUND OPENNING
AREA = 0.20 IN²

A

A

8" REINFORCED CONCRETE SLAB
(SEE NOTE 4)
(SECTION-A)

CAMPBELL MANHOLE CASTING NO. 1203 B
OR APPROVED EQUAL (SEE DETAILS)



NOTES:

1. 12" THICK CONCRETE SLAB (3500 PSI) TO BE SUBSTITUED FOR STONE BASE WHEN DIRECTED BY THE TOWNSHIP ENGINEER. (ALL MANHOLES)
2. PRECAST MANHOLES TO CONFORM TO REQUIREMENTS OF ASTM SPEC. C-478
3. PIPE COVERAGE TO FOLLOW THE "STORM SEWER TRENCH SECTION" DETAILS, PROVIDED BY THE BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT;
4. SLAB SHALL BE SEALED IN PLACE WITH BUTYL RUBBER SEALANT ROPE OR BITUMINOUS MASTIC ROPE.

PRECAST CONCRETE MANHOLE SLAB

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM and SANITARY SEWER
PRECAST CONCRETE MANHOLE SLAB

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

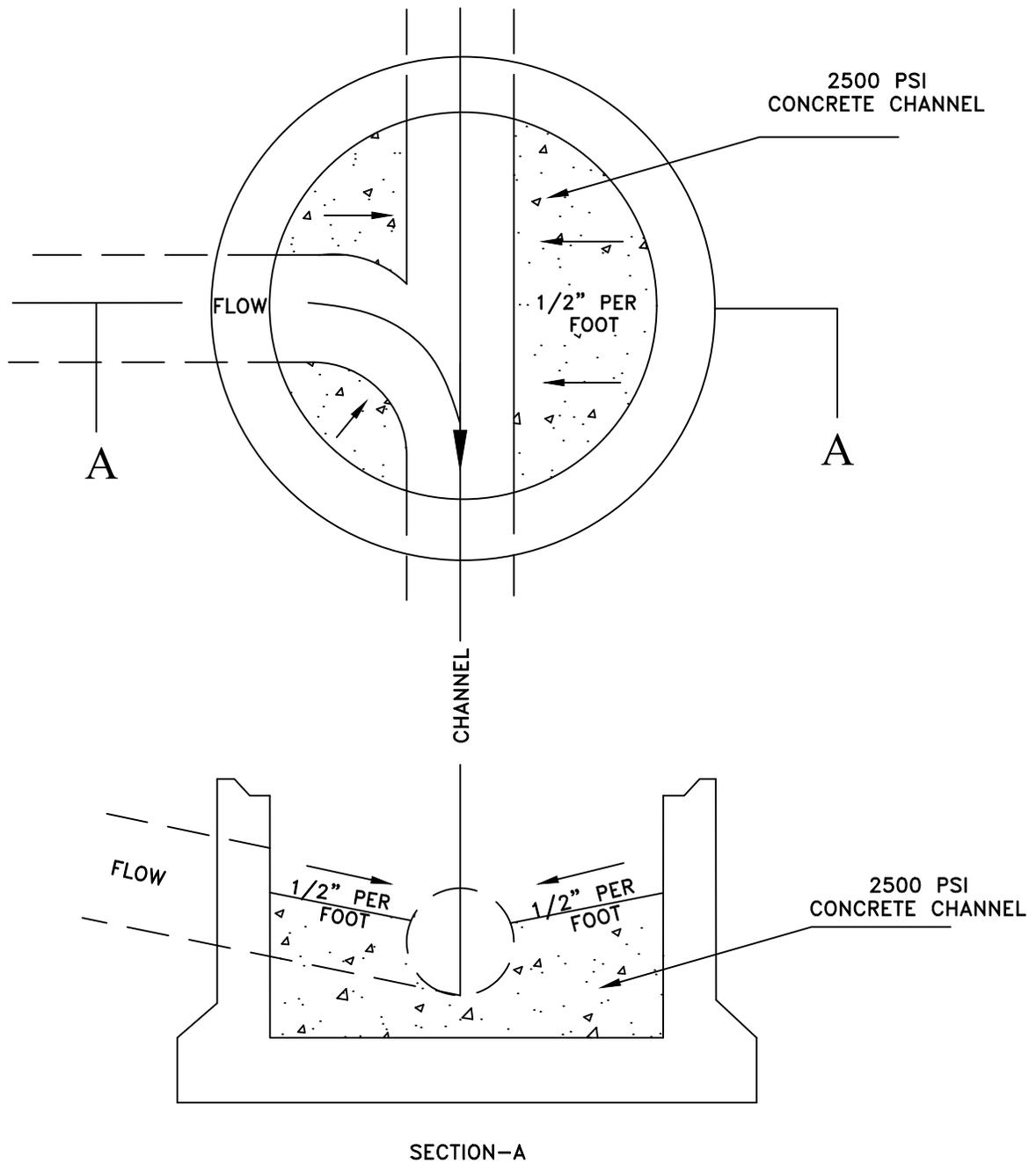
DATE: 2-2-10

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014

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SECTION-A

NOTES:

- 1. PRECAST MANHOLES TO CONFORM TO REQUIREMENTS OF ASTM SPEC. C-478.
- 2. PIPE COVERAGE TO FOLLOW THE "STORM SEWER TRENCH SECTION" DETAILS, PROVIDED BY THE BRANCBURG TOWNSHIP ENGINEERING DEPARTMENT.

CONCRETE MANHOLE CHANNEL

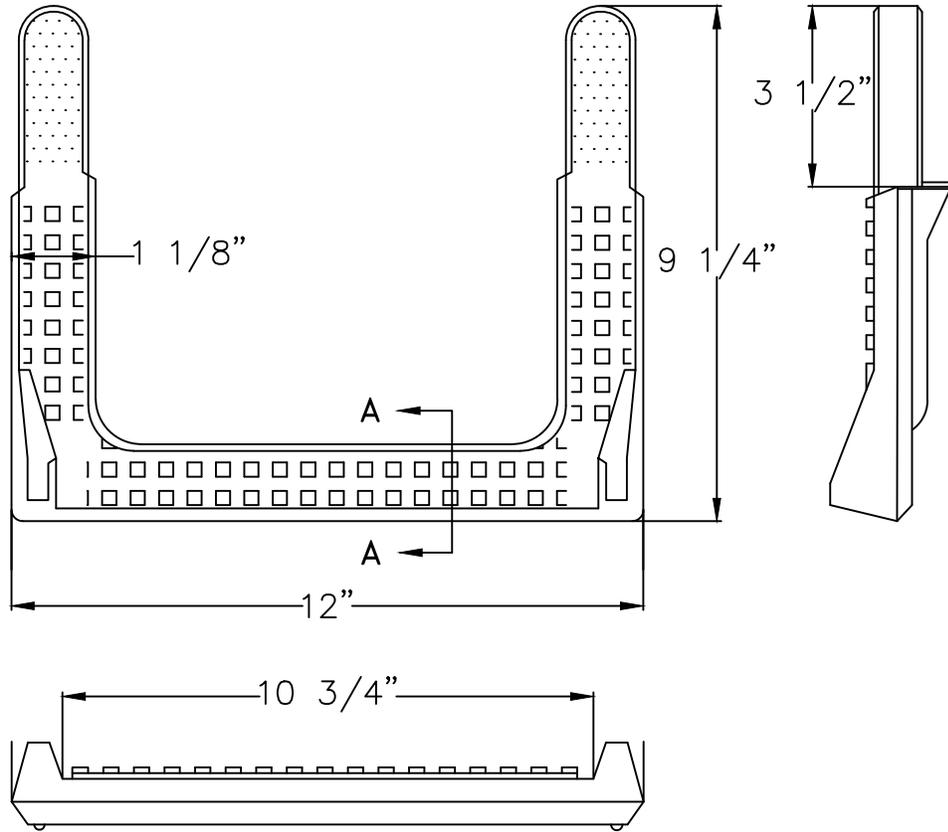
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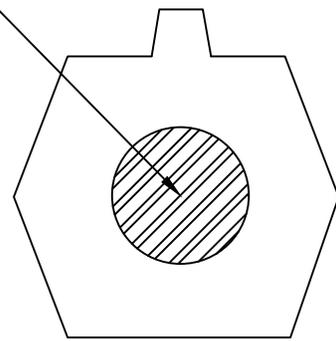
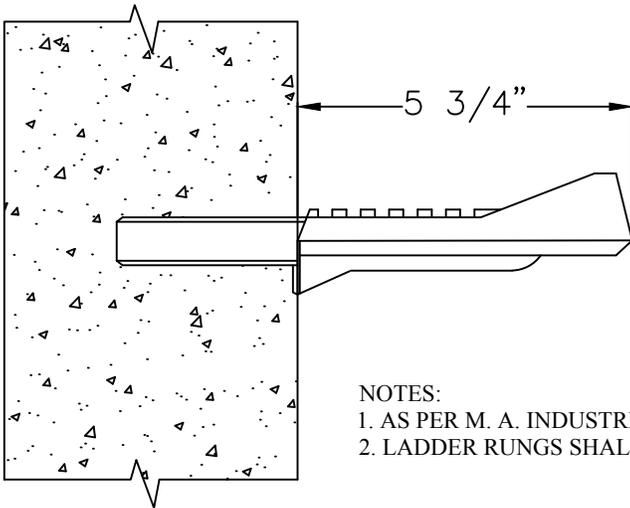
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STANDARD CONSTRUCTION DETAILS
STORM and SANITARY SEWER
CONCRETE MANHOLE CHANNEL

| | | | |
|--|-------------|---------------|------|
| DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER | | | |
| DATE: 2-2-10 | SCALE : NTS | DRAWN BY: JAR | 2015 |



1/2" GRADE 60 STEEL REINFORCMENT



- NOTES:
 1. AS PER M. A. INDUSTRIES OR APPROVED EQUAL.
 2. LADDER RUNGS SHALL FACE TRAFFIC WHERE APPLICABLE.

POLYPROPYLENE STEPS
 Not to Scale



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STANDARD CONSTRUCTION DETAILS
 STORM/SANITARY SEWER
 POLYPROPYLENE STEPS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

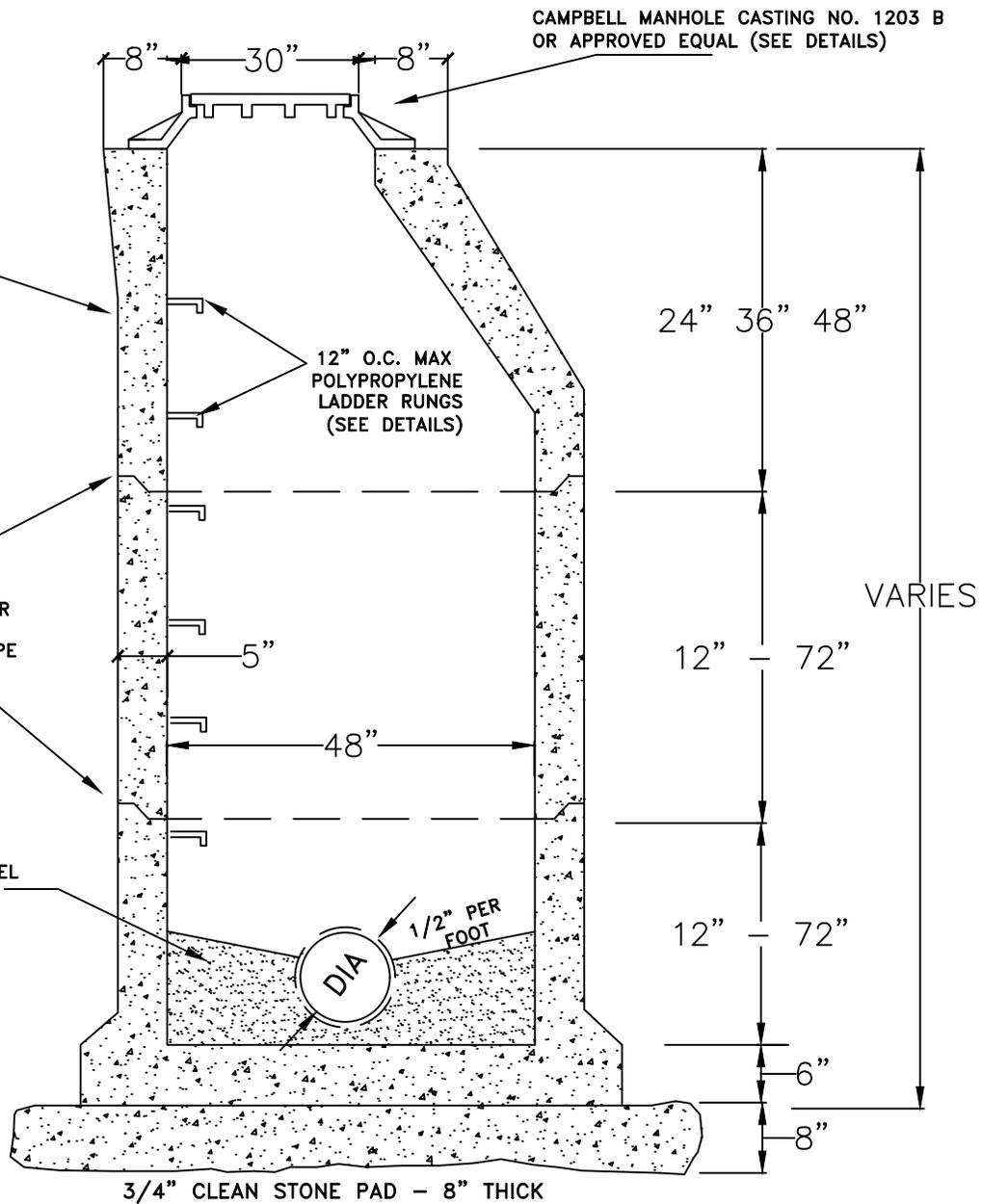
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

2015

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NOTES:

1. SANITARY MANHOLES MUST PASS A VACUUM TEST REQUIRED BY BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
2. PRECAST MANHOLES SECTIONS TO BE IN ACCORDANCE WITH ASTM C-478.
3. SANITARY PRECAST MANHOLES SHALL BE SEALED WITH (2) COATS OF AN ACCEPTABLE WATERPROOFING TAR, ASPHALT, WITH ENOUGH TIME ALLOWED BETWEEN THE SEAL COATS TO BOND, OR POLYPLASTIC ALLOY BY THE MANUFACTURER.
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL.
5. PIPE COVERAGE TO FOLLOW THE "SANITARY OR STORM SEWER TRENCH SECTION" DETAILS.
6. A MINIMUM OF 6" OF 3/4" CLEAN STONE SHALL BE USED AS BACKFILL ON ALL SIDES.
7. CAMPBELL MANHOLE CASTING NO. 1203 B OR APPROVED EQUAL (SEE DETAILS).

PRECAST CONCRETE MANHOLE

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM and SANITARY SEWER
PRECAST CONCRETE MANHOLE

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

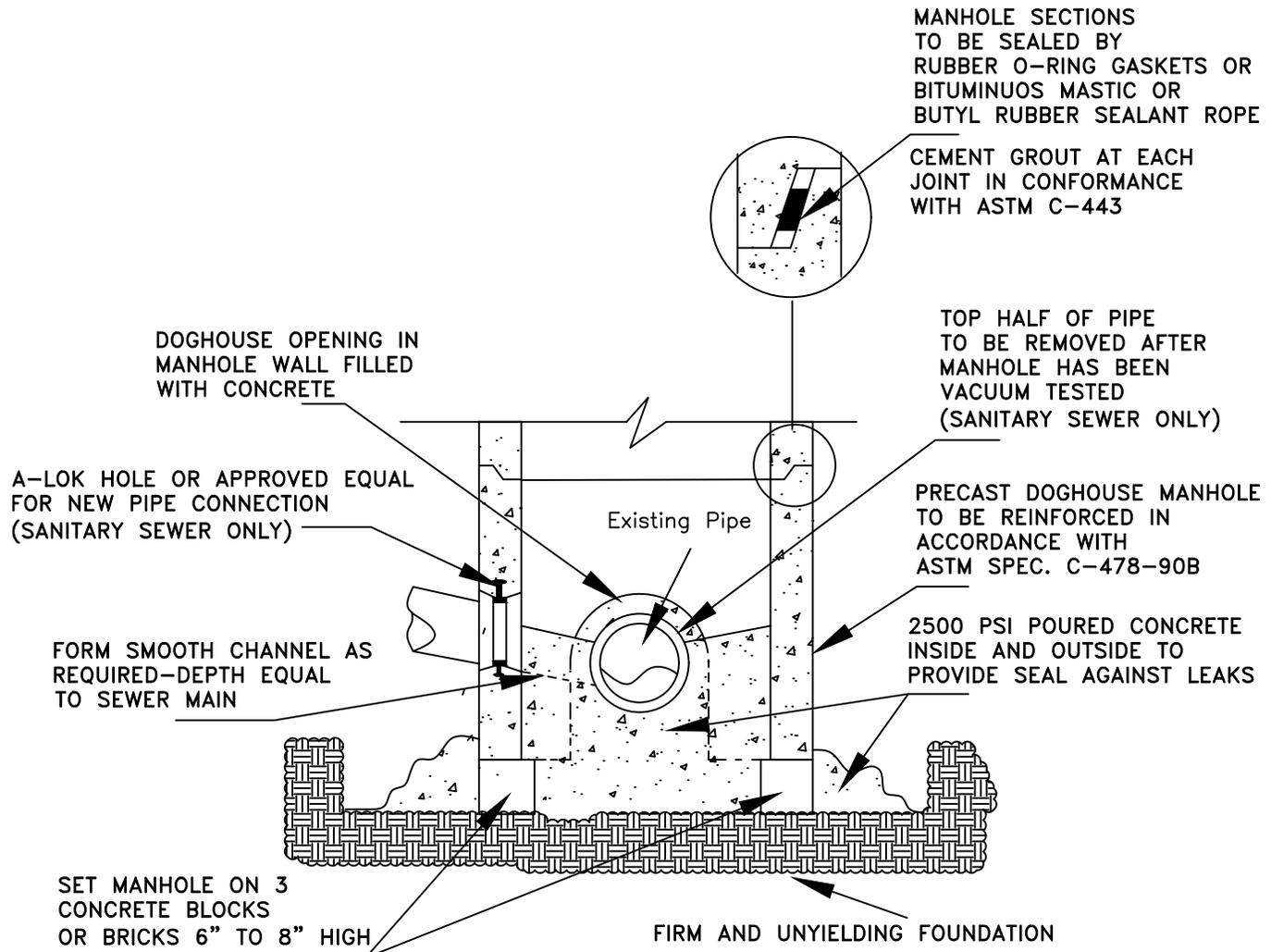
DATE: 2-1-10

SCALE : NTS

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REV: 9/2014

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MANHOLE SECTIONS TO BE SEALED BY RUBBER O-RING GASKETS OR BITUMINUOS MASTIC OR BUTYL RUBBER SEALANT ROPE

CEMENT GROUT AT EACH JOINT IN CONFORMANCE WITH ASTM C-443

TOP HALF OF PIPE TO BE REMOVED AFTER MANHOLE HAS BEEN VACUUM TESTED (SANITARY SEWER ONLY)

PRECAST DOGHOUSE MANHOLE TO BE REINFORCED IN ACCORDANCE WITH ASTM SPEC. C-478-90B

2500 PSI POURED CONCRETE INSIDE AND OUTSIDE TO PROVIDE SEAL AGAINST LEAKS

DOGHOUSE OPENING IN MANHOLE WALL FILLED WITH CONCRETE

A-LOK HOLE OR APPROVED EQUAL FOR NEW PIPE CONNECTION (SANITARY SEWER ONLY)

FORM SMOOTH CHANNEL AS REQUIRED-DEPTH EQUAL TO SEWER MAIN

SET MANHOLE ON 3 CONCRETE BLOCKS OR BRICKS 6" TO 8" HIGH

FIRM AND UNYIELDING FOUNDATION

NOTES:

1. 12" THICK CONCRETE SLAB (3500 PSI) TO BE SUBSTITUTED FOR STONE BASE WHEN DIRECTED BY THE TOWNSHIP ENGINEER. (ALL MANHOLES)
2. PRECAST MANHOLES TO CONFORM TO REQUIREMENTS OF ASTM SPEC. C-478.
3. PIPE COVERAGE TO FOLLOW THE "SANITARY SEWER TRENCH SECTION" DETAILS.
4. CAMPBELL MANHOLE CASTING NO. 1203 B OR APPROVED EQUAL (SEE DETAILS).
5. SANITARY SEWER MANHOLES MUST PASS A VACUUM TEST, A SANITARY SEWER TEST CHECKLIST SHALL BE PROVIDED BY BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
6. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVALS.

PRECAST DOGHOUSE MANHOLE

Not to Scale



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STANDARD CONSTRUCTION DETAILS
SANITARY AND STORM SEWERS
PRECAST DOGHOUSE MANHOLE

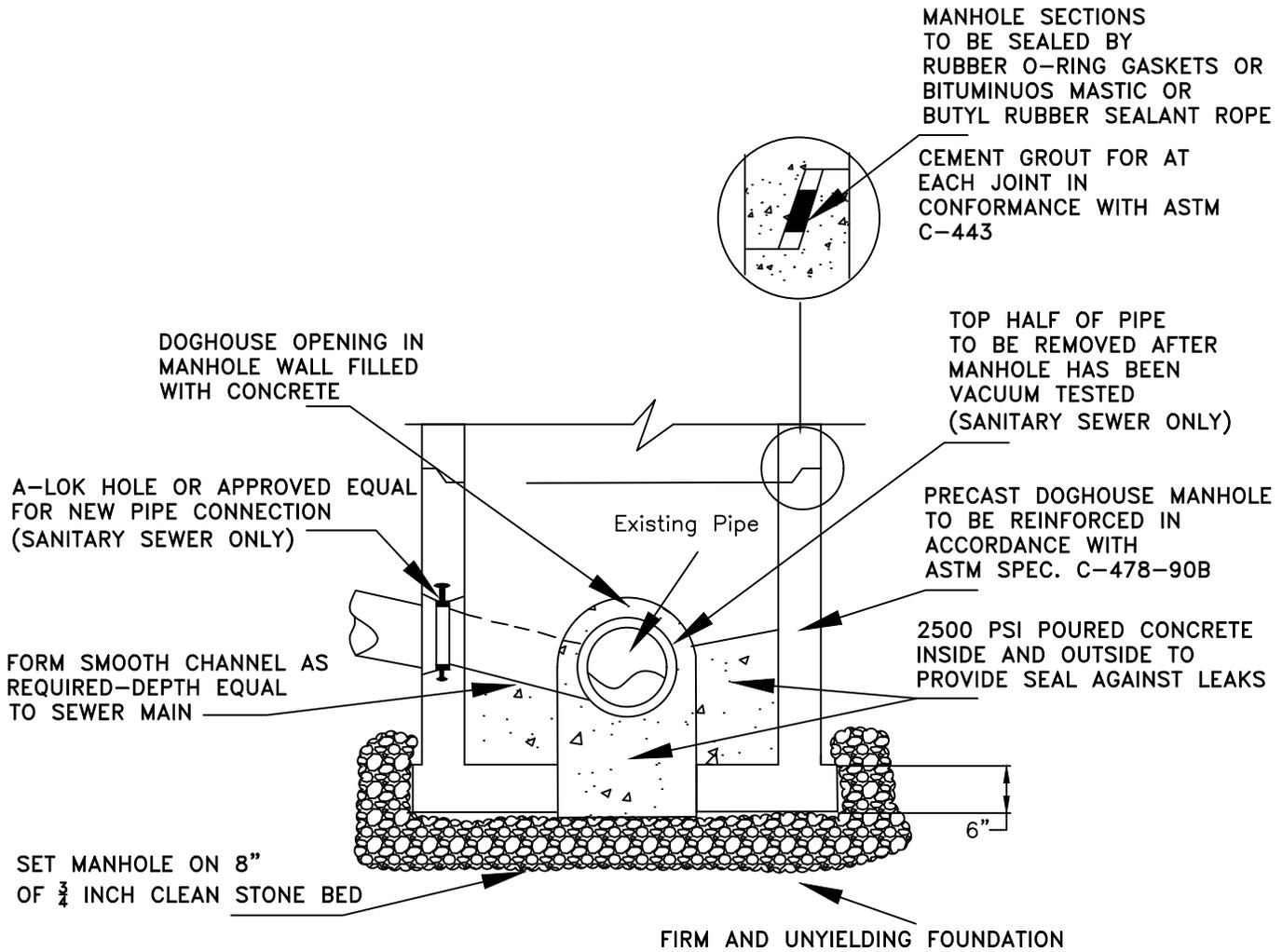
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014



NOTES:

1. 12" THICK CONCRETE SLAB (3500 PSI) TO BE SUBSTITUTED FOR STONE BASE WHEN DIRECTED BY THE TOWNSHIP ENGINEER. (ALL MANHOLES)
2. PRECAST MANHOLES TO CONFORM TO REQUIREMENTS OF ASTM SPEC. C-478.
3. PIPE COVERAGE TO FOLLOW THE "SANITARY SEWER TRENCH SECTION" DETAILS.
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5. SANITARY SEWER MANHOLES MUST PASS A VACUUM TEST, A SANITARY SEWER TEST CHECKLIST SHALL BE PROVIDED BY BRANCBURG TOWNSHIP ENGINEERING DEPARTMENT.
6. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVALS.

**PRECAST DOGHOUSE MANHOLE
WITH BASE**
Not to Scale



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**STANDARD CONSTRUCTION DETAILS
SANITARY AND STORM SEWERS
PRECAST DOGHOUSE
MANHOLE WITH BASE**

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

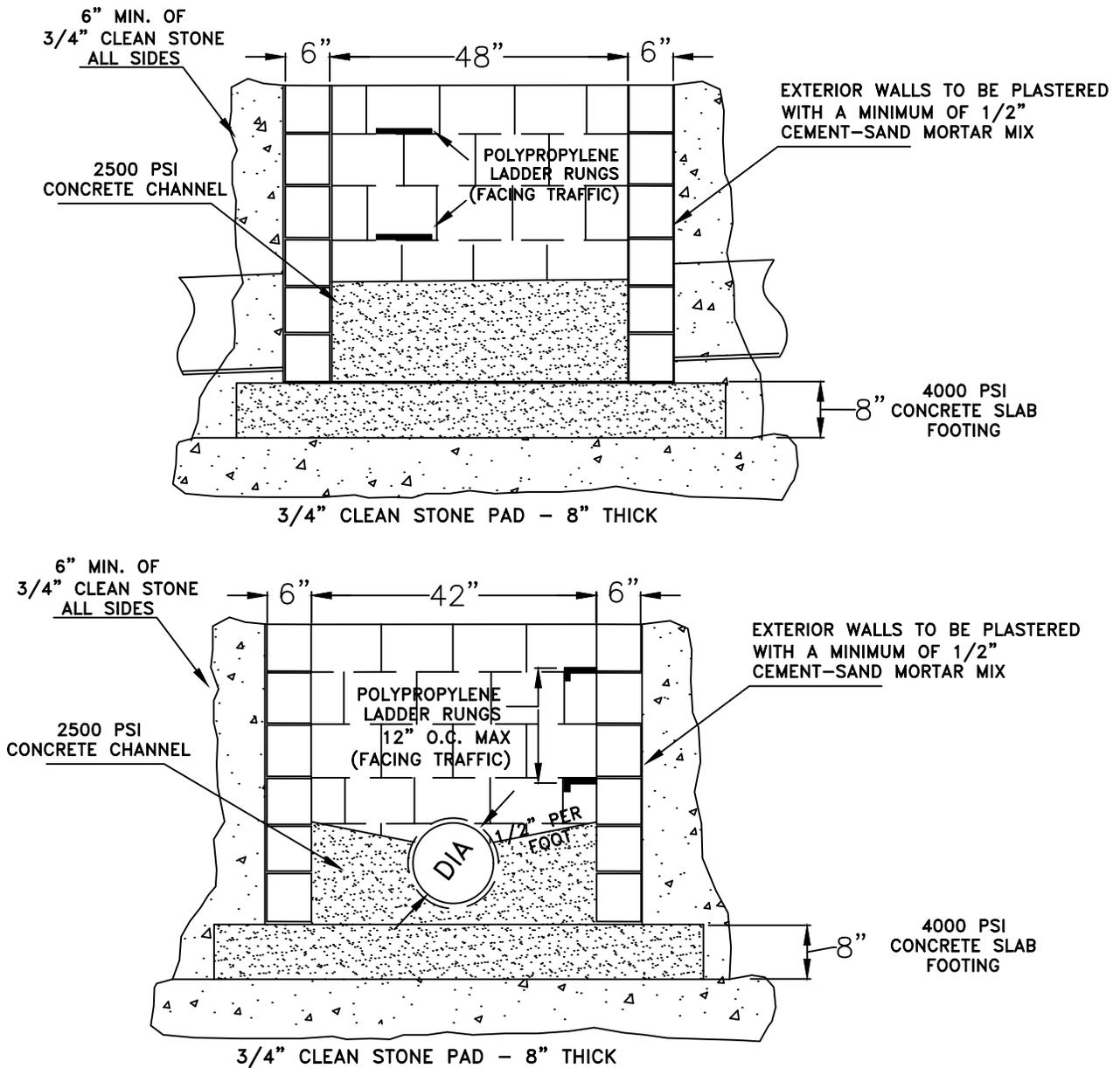
DATE: 1-23-14

SCALE : NTS

DRAWN BY: JAR

REV: 2018

28A



NOTES:

1. PRECAST INLETS TO CONFORM TO REQUIREMENTS OF ASTM SPEC. C-478.
2. PIPE COVERAGE TO FOLLOW THE "STORM SEWER TRENCH SECTION" DETAILS.
3. FRAME AND GRATE TO BE #2618 TYPE "N" OR "P2" ECO CURB PIECE AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL; MADE IN AMERICA PRODUCTS, BICYCLE SAFE GRATES SHALL BE USED. (SEE DETAILS)

CONCRETE BLOCK INLET

Not to Scale



TOWNSHIP OF BRANCBURG
 1077 Route 202 North
 Branchburg, New Jersey 08876-3936
 TELE: (908)526-1300 FAX: (908)526-2452

STANDARD CONSTRUCTION DETAILS
 STORM SEWER
 CONCRETE BLOCK INLETS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

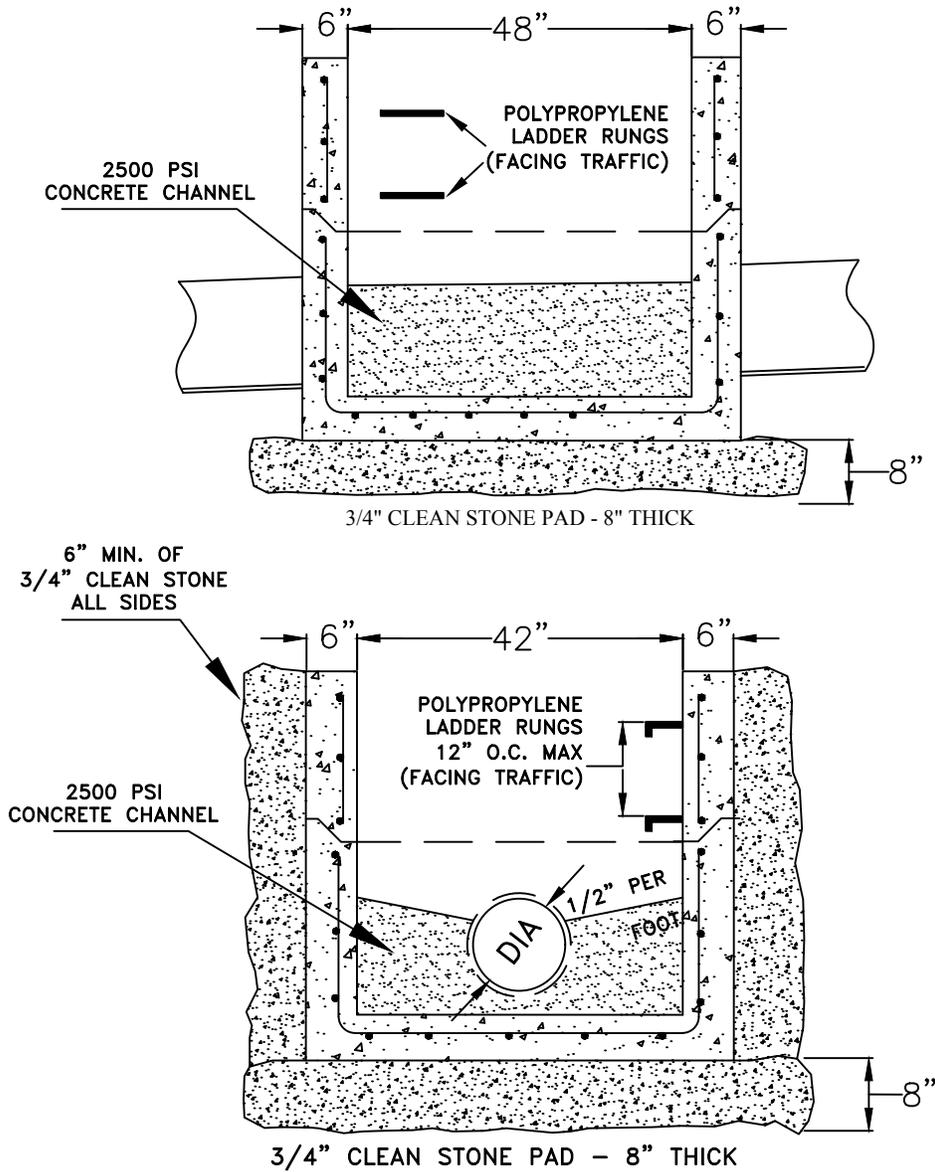
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

2015

29



NOTES:

1. PRECAST INLETS TO CONFORM TO REQUIREMENTS OF ASTM SPEC. C-478.
2. PIPE COVERAGE TO FOLLOW THE "STORM SEWER TRENCH SECTION" DETAILS.
3. FRAME AND GRATE TO BE #2618 TYPE "N" OR "P2" ECO CURB PIECE AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL; MADE IN AMERICA PRODUCTS, BICYCLE SAFE GRATES SHALL BE USED. (SEE DETAILS)
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVALS.

PRECAST CONCRETE INLET

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWER
PRECAST CONCRETE INLETS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

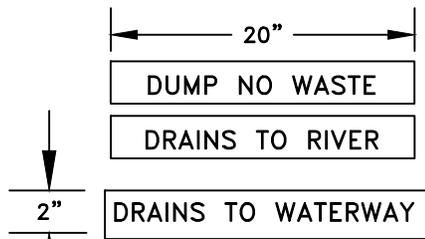
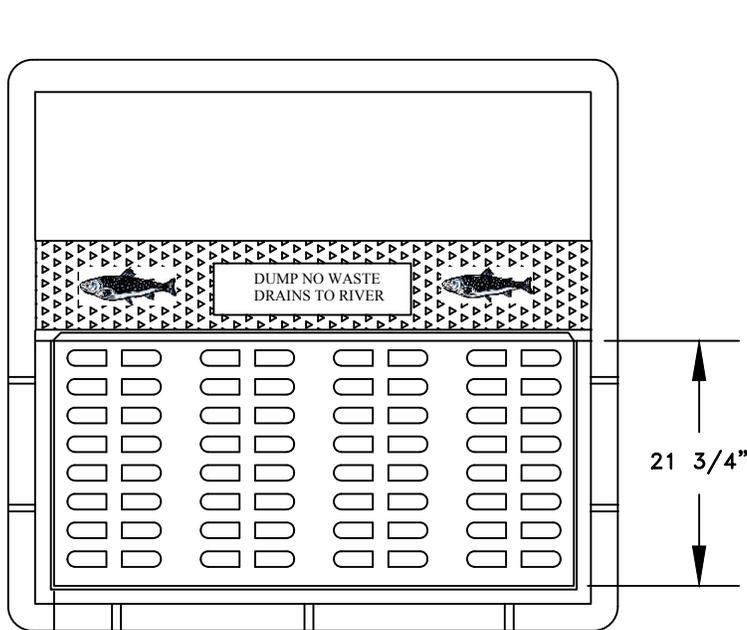
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SCALE : NTS

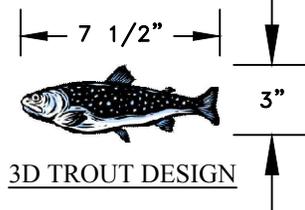
DRAWN BY: JAR

2015

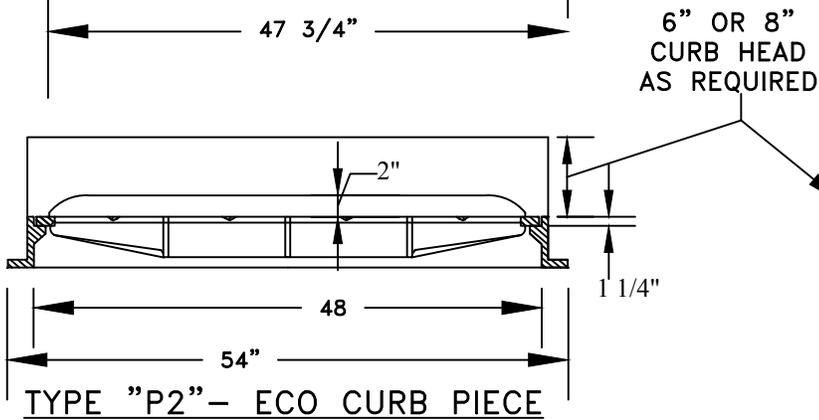
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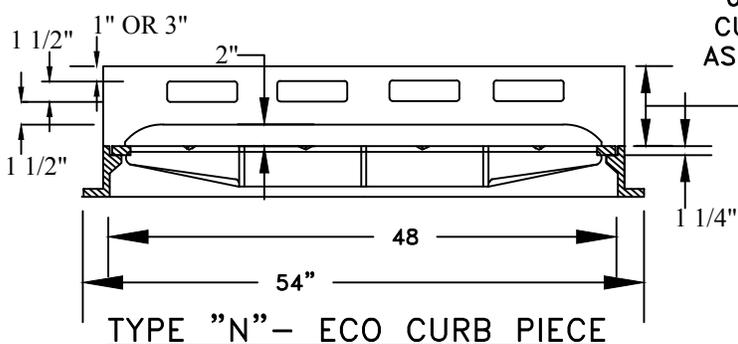
NAME PLATE OPTIONS



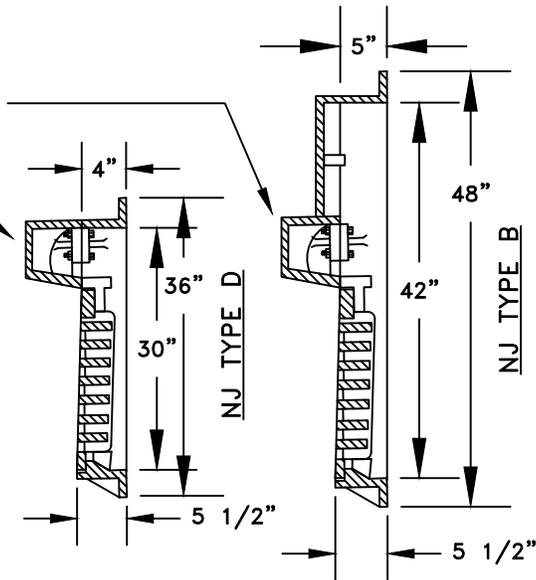
3D TROUT DESIGN



TYPE "P2" - ECO CURB PIECE



TYPE "N" - ECO CURB PIECE



NOTES:

1. FRAME AND GRATE TO BE #2618 TYPE "N" OR "P2" ECO CURB PIECE AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL; MADE IN AMERICA PRODUCTS, BICYCLE SAFE GRATES SHALL BE USED;
2. MATERIALS: GRAY CAST IRON ASTM A48-83, CLASS 30B, SUPPLIED WITHOUT SURFACE COATING.
3. AASHTO HS-25 HIGHWAY LOADING;
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

ECO CURB PIECE TYPE "P2" & "N"

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 STORM SEWER CURB INLET
 WITH BICYCLE SAFE GRATE

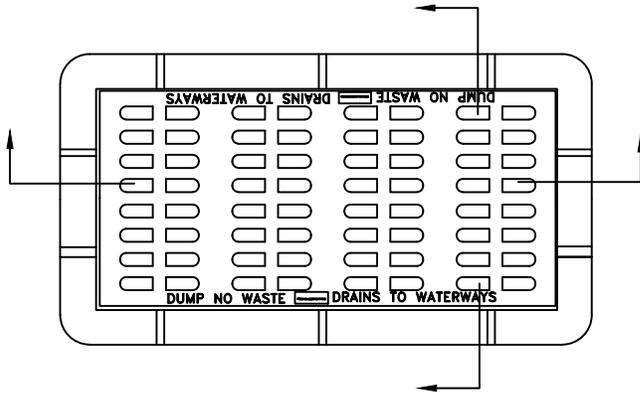
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-2-10

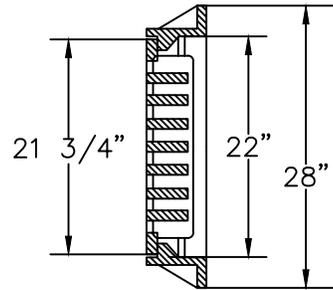
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DRAWN BY: JAR

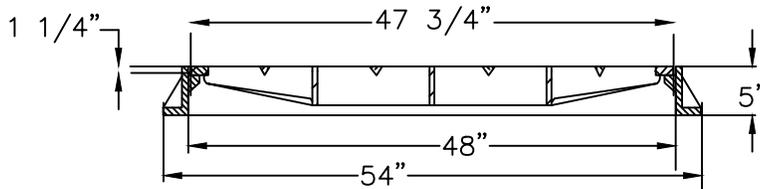
REV: 2015



PLAN



SECTION



SECTION

- DUMP NO WASTE
 - DRAINS TO RIVER
 - DRAINS TO WATERWAY
- NAME PLATE OPTIONS



3D TROUT DESIGN

NOTE:

1. FRAME CAMPBELL FOUNDRY NO. 3405 OR APPROVED EQUAL, MADE IN AMERICA PRODUCTS.
2. ECO BICYCLE SAFE GRATE CAMPBELL FOUNDRY NO. 2617.
3. MATERIALS: GRAY CAST IRN ASTM A48-83, CLASS 30B, CASTINGS SUPPLIED WITHOUT COATING.
4. LOADING: AASHTO HS-25 HIGHWAY LOADING.
5. SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

TYPE "A" INLET
ECO BICYCLE SAFE GRATE

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 STORM SEWER
 TYPE "A" INLET

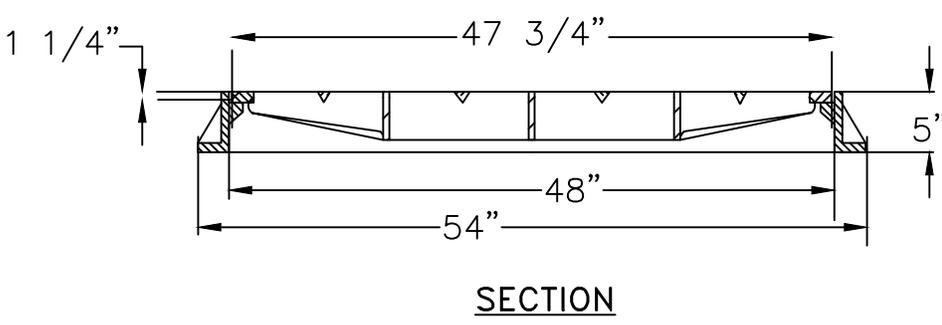
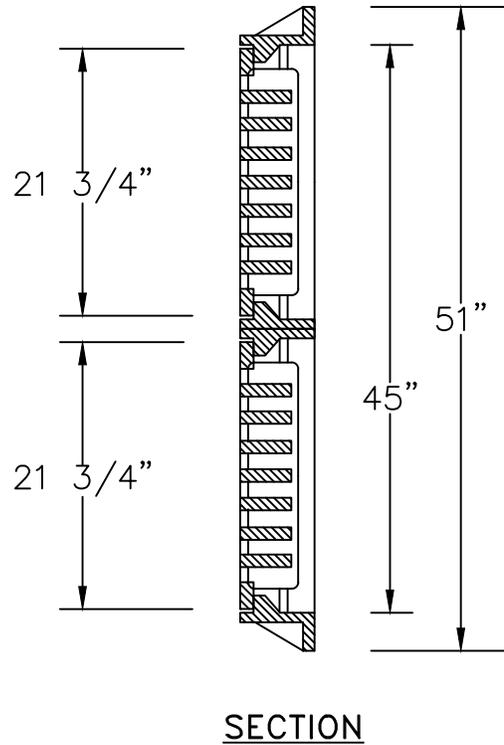
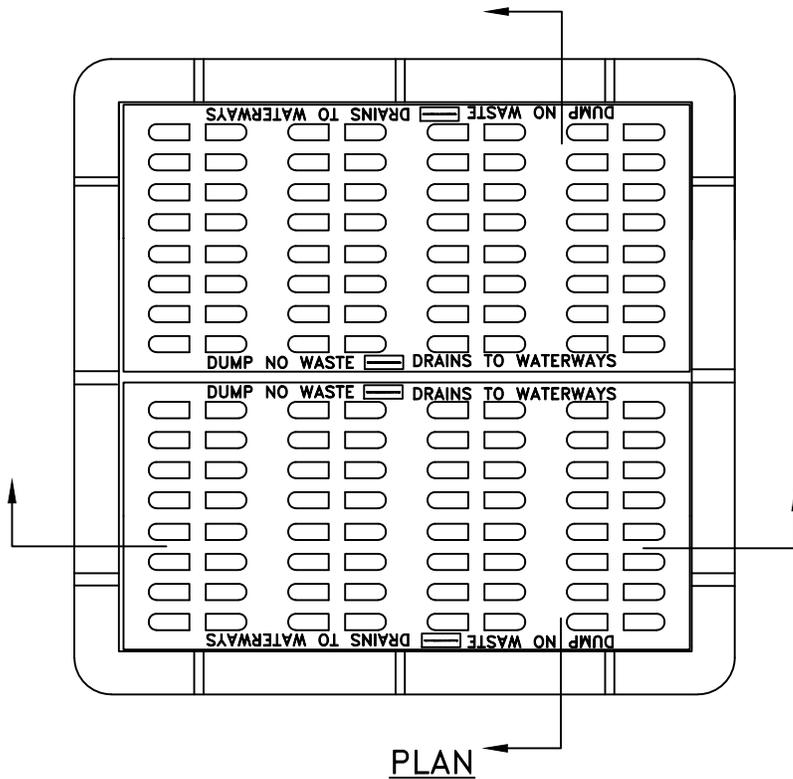
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-2-10

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014

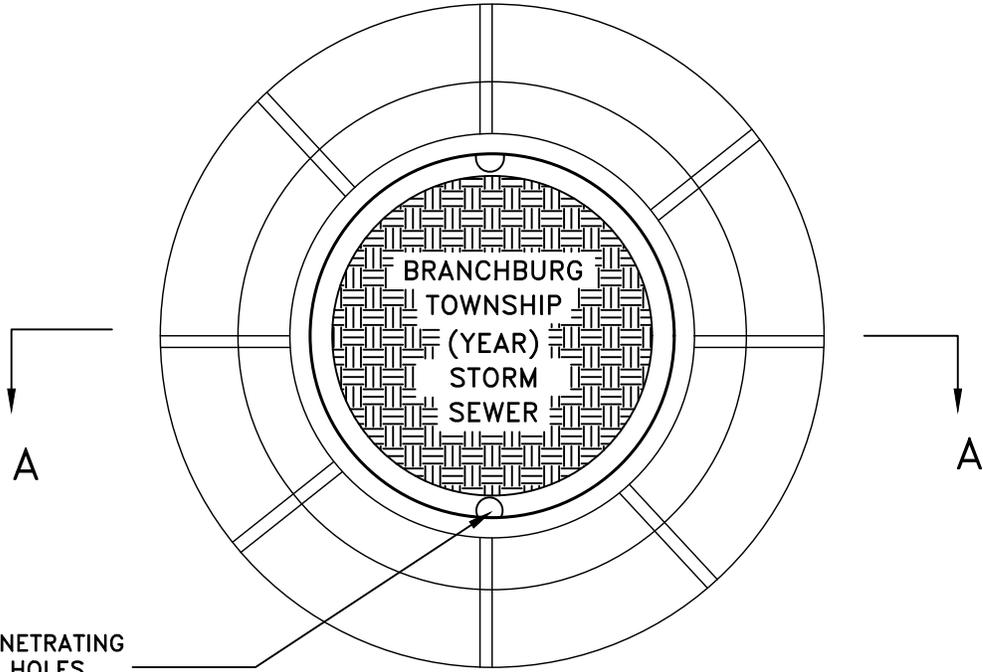


- DUMP NO WASTE
 - DRAINS TO RIVER
 - DRAINS TO WATERWAY
- NAME PLATE OPTIONS

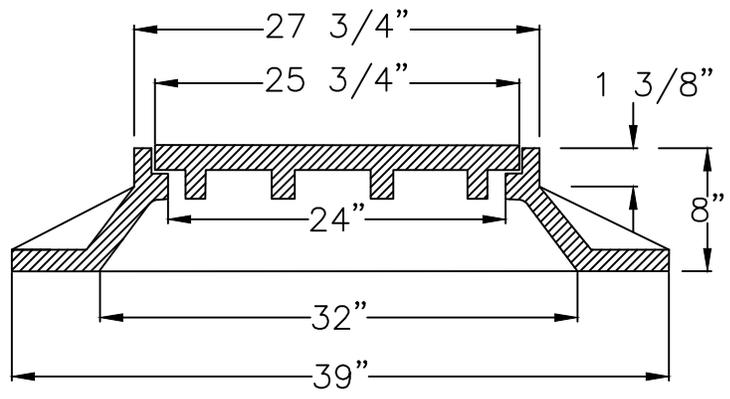


- NOTE:**
1. FRAME CAMPBELL FOUNDRY NO. 3425 OR APPROVED EQUAL. MADE IN AMERICA PRODUCTS.
 2. ECO BICYCLE SAFE GRATE CAMPBELL FOUNDRY NO. 2617
 3. MATERIALS: GRAY CAST IRON ASTM A48-83, CLASS 30B, CASTINGS SUPPLIED WITHOUT COATING.
 4. LOADING: AASHTO HS-25 HIGHWAY LOADING.
 5. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVALS.

TYPE "E" INLET
ECO BICYCLE SAFE GRATES
 Not to Scale



NON-PENETRATING PICK HOLES



SECTION - A

NOTE:

1. CAMPBELL CASTING MANHOLE CASTING NO. 1203 B OR APPROVED EQUAL, MADE IN AMERICA.
2. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVALS.

MANHOLE FRAME & COVER

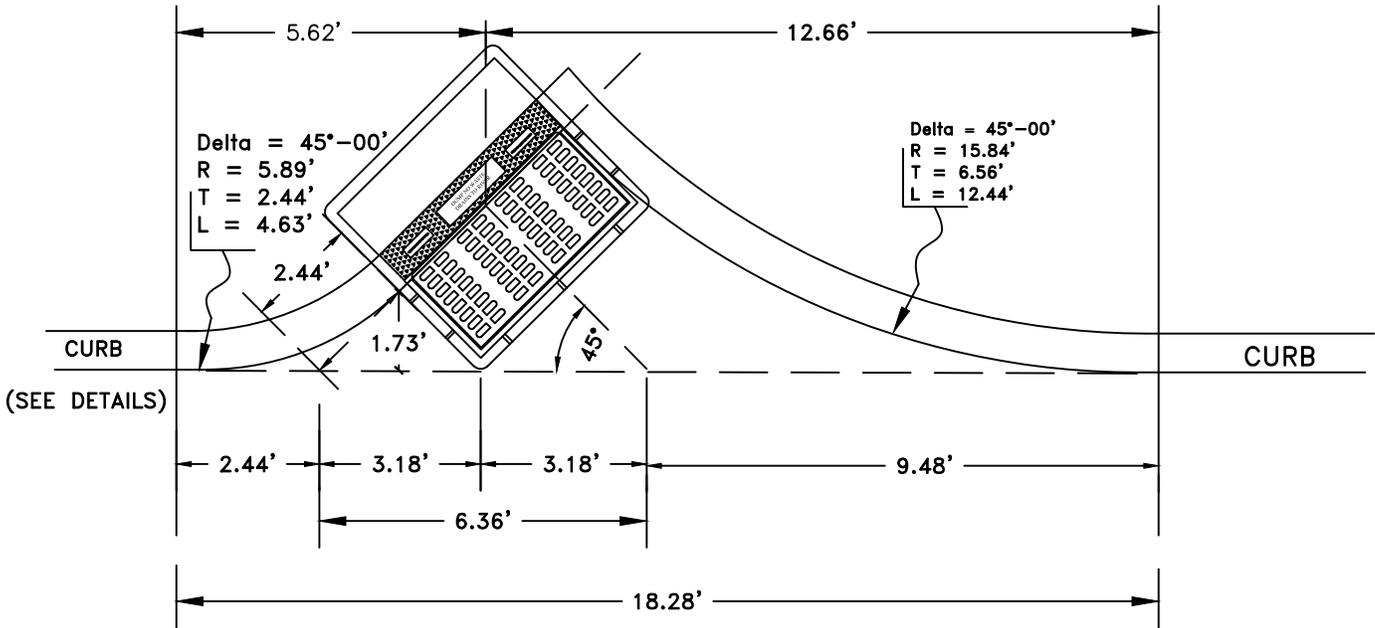
Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWER
MANHOLE FRAME & COVER

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER



TO BE INSTALLED WHERE ROAD GRADE EXCEEDS 4.5%

NOTES:

1. FRAME AND GRATE TO BE #2618 TYPE "N" OR "P2" ECO CURB PIECE AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL; MADE IN AMERICA PRODUCTS, BICYCLE SAFE GRATES SHALL BE USED. (SEE DETAILS)
2. MATERIALS: GRAY CAST IRON ASTM A48-83, CLASS 30B, SUPPLIED WITHOUT SURFACE COATING.
3. AASHTO HS-25 HIGHWAY LOADING;
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.
5. ROADWAYS GREATER THAN 4.5%, SHALL HAVE ANGLED INLETS.

45° CURB INLET SETTING

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWER
45° CURB INLET SETTING

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

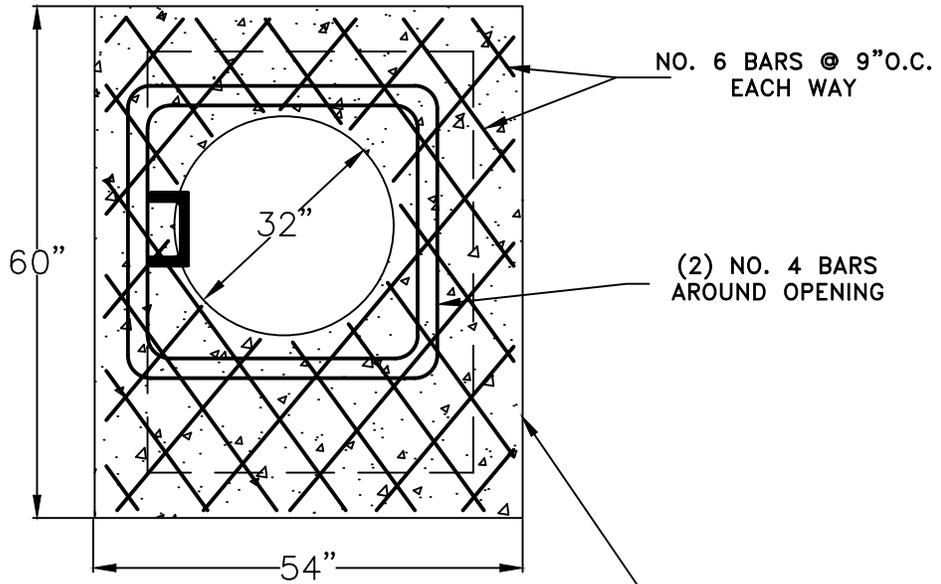
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SCALE : NTS

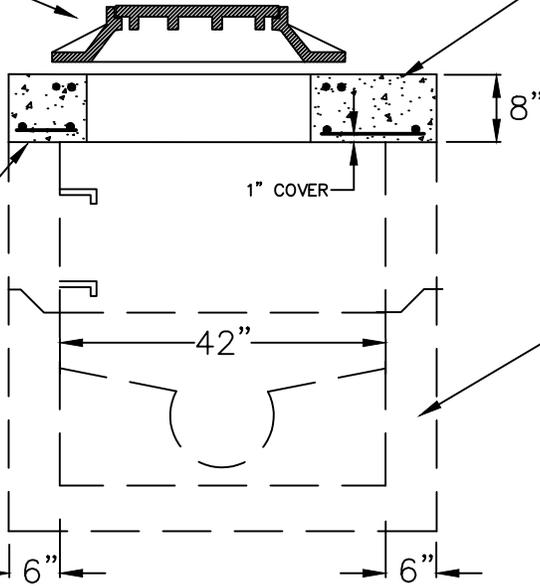
DRAWN BY: JAR

REV: 2018

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CAMPBELL CASTING NO. 1203 B
OR APPROVED EQUAL
(SEE DETAILS)



CEMENT MORTAR JOINT AND
SEAL WITH BITUMINOUS MASTIC
OR BUTYL SEALANT ROPE

EXISTING STANDARD INLET
42" X 48" INTERIOR

NOTE: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVALS.

CONCRETE INLET TO MANHOLE CONVERSION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWER
INLET TO MANHOLE CONVERSION

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

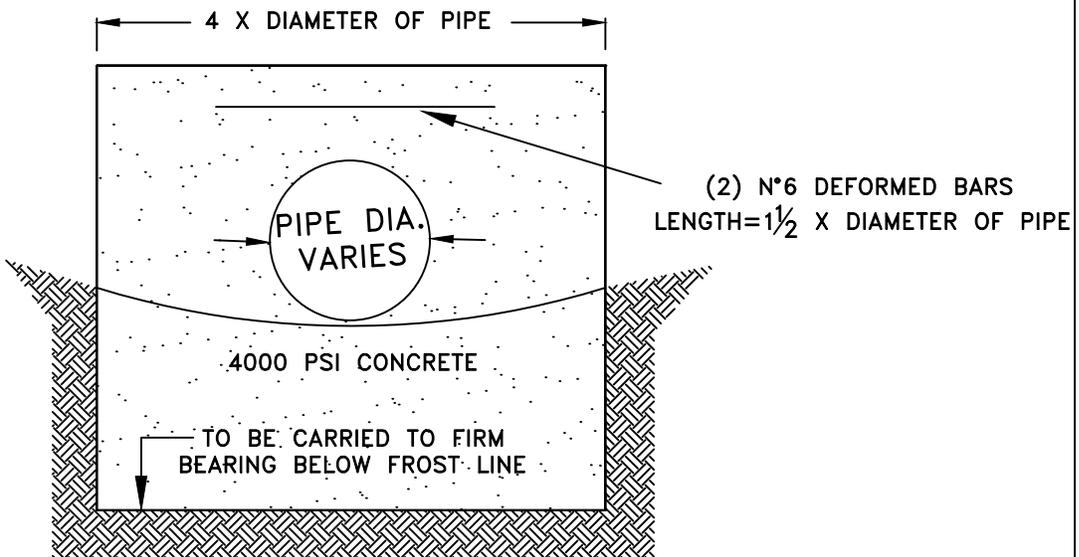
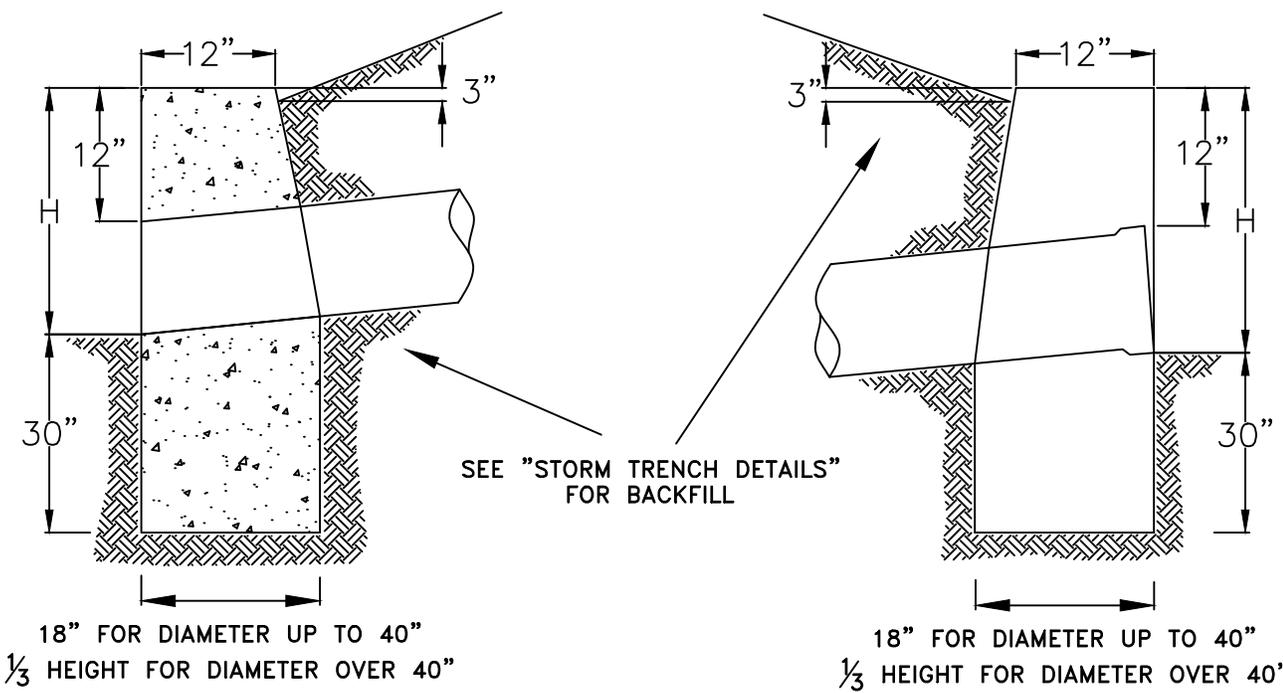
DATE: 2-2-10

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014

36



- NOTE:
1. SCOUR PROTECTION AS DEEMED NECESSARY BY THE TOWNSHIP ENGINEER.
 2. SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL.

STANDARD CONCRETE HEADWALL

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 STORM SEWER
 STANDARD CONCRETE HEADWALL

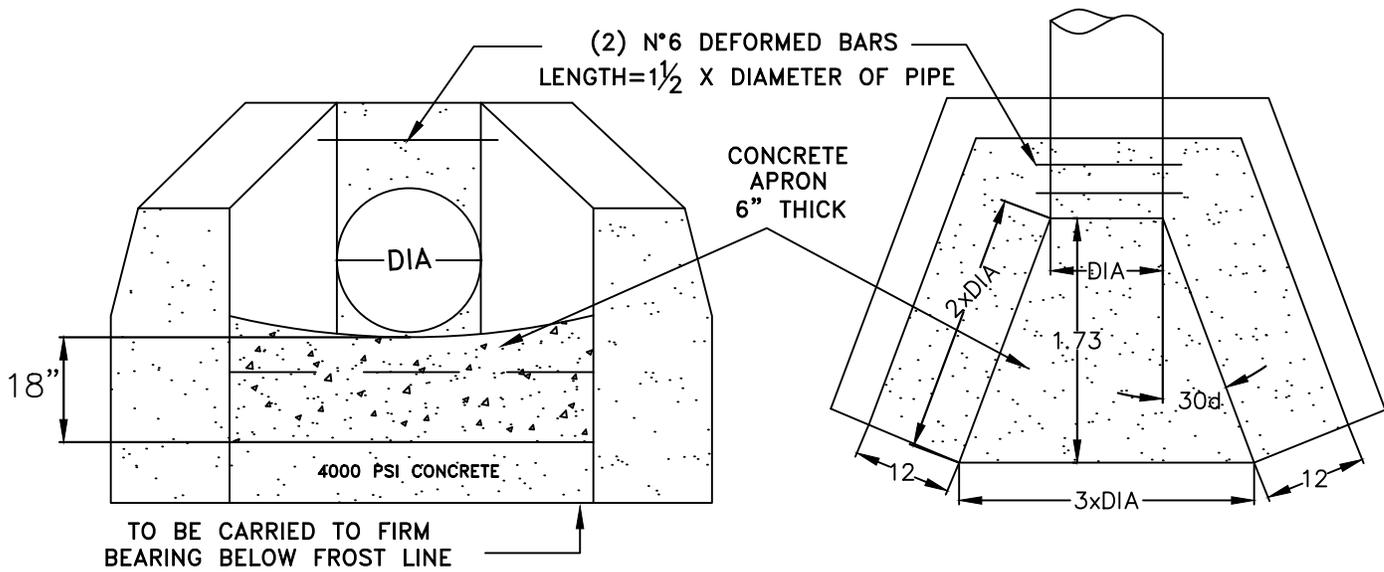
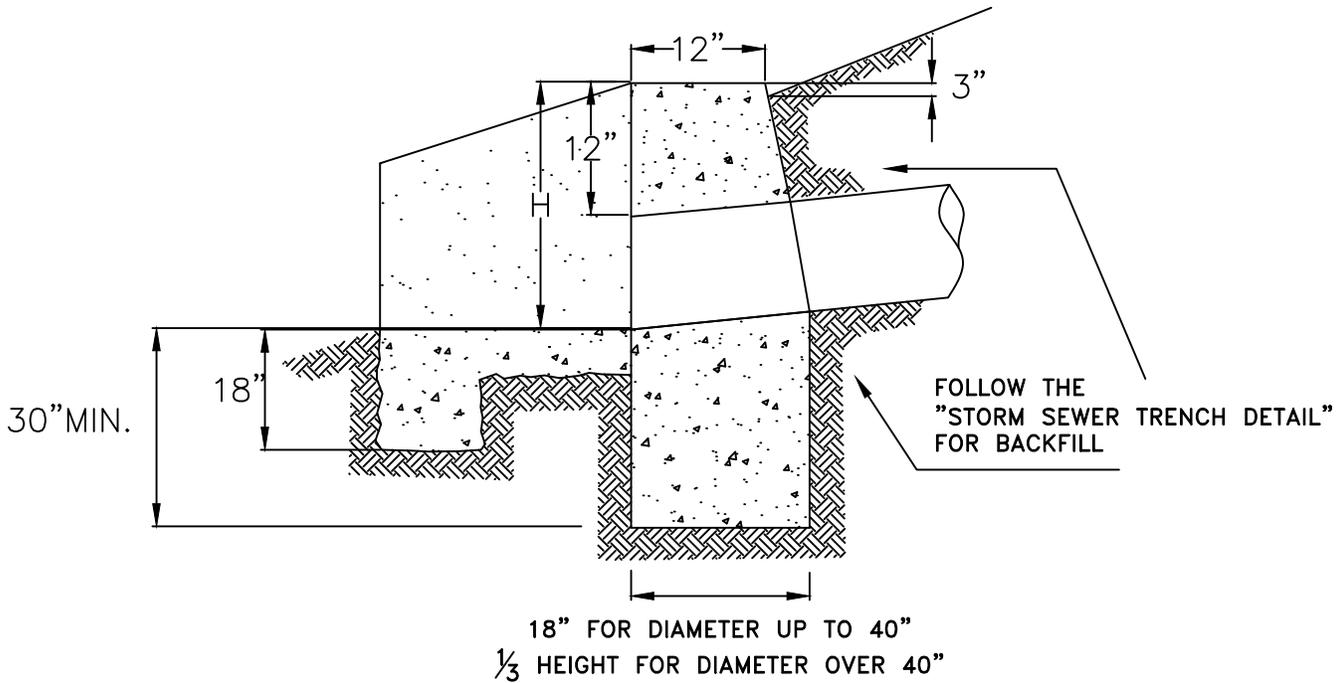
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-2-10

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014



NOTE:

1. SCOUR PROTECTION AS DEEMED NECESSARY BY THE TOWNSHIP ENGINEER.
2. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL.

STANDARD CONCRETE WINGED HEADWALL

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 STORM SEWER
 STANDARD WINGED HEADWALL

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-2-10

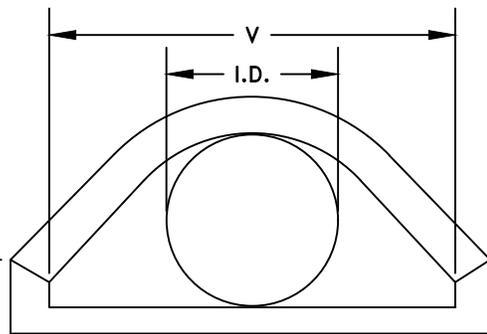
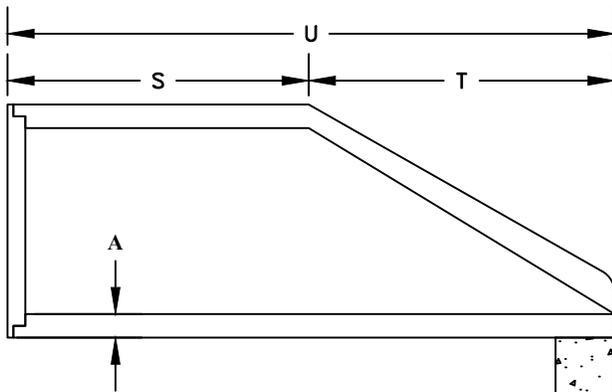
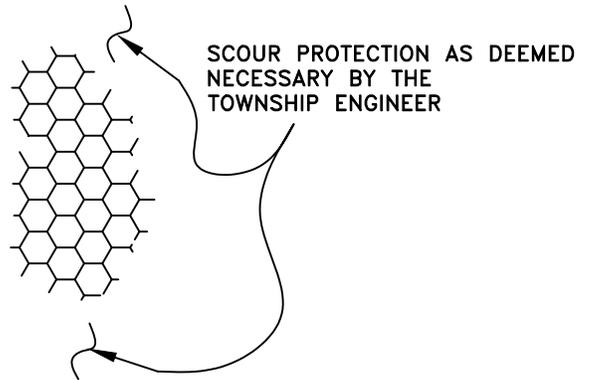
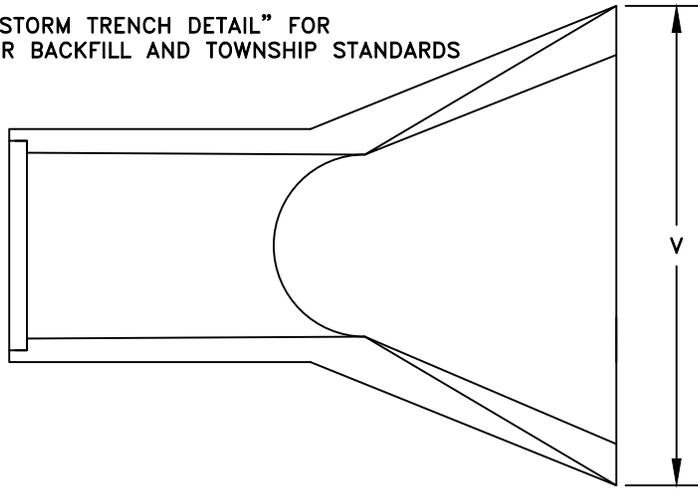
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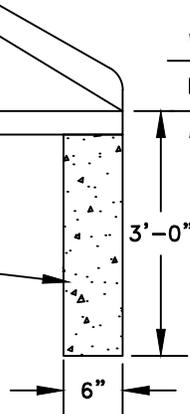
REV: 9/2014

38

SEE "STORM TRENCH DETAIL" FOR PROPER BACKFILL AND TOWNSHIP STANDARDS



3500 PSI CONCRETE FOOTING



NOTE: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVALS.

| | FOR 30" DIAMETER PIPE OR LESS | | | | | | |
|------|-------------------------------|-------|-------|-------|----|-------|-------|
| I.D. | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| A | 2 | 2 1/4 | 2 1/2 | 2 3/4 | 3 | 3 1/4 | 3 1/2 |
| R | 5 | 7 1/2 | 9 | 9 | 10 | 10 | 14 |
| S | 24 | 24 | 24 | 24 | 24 | 24 | 26 |
| T | 24 | 24 | 24 | 24 | 24 | 24 | 30 |
| U | 4' | 4' | 4' | 4' | 4' | 4' | 4'-8" |
| V | 24 | 28 | 34 | 40 | 48 | 54 | 60 |

Flared End Section

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWER
FLARED END SECTION

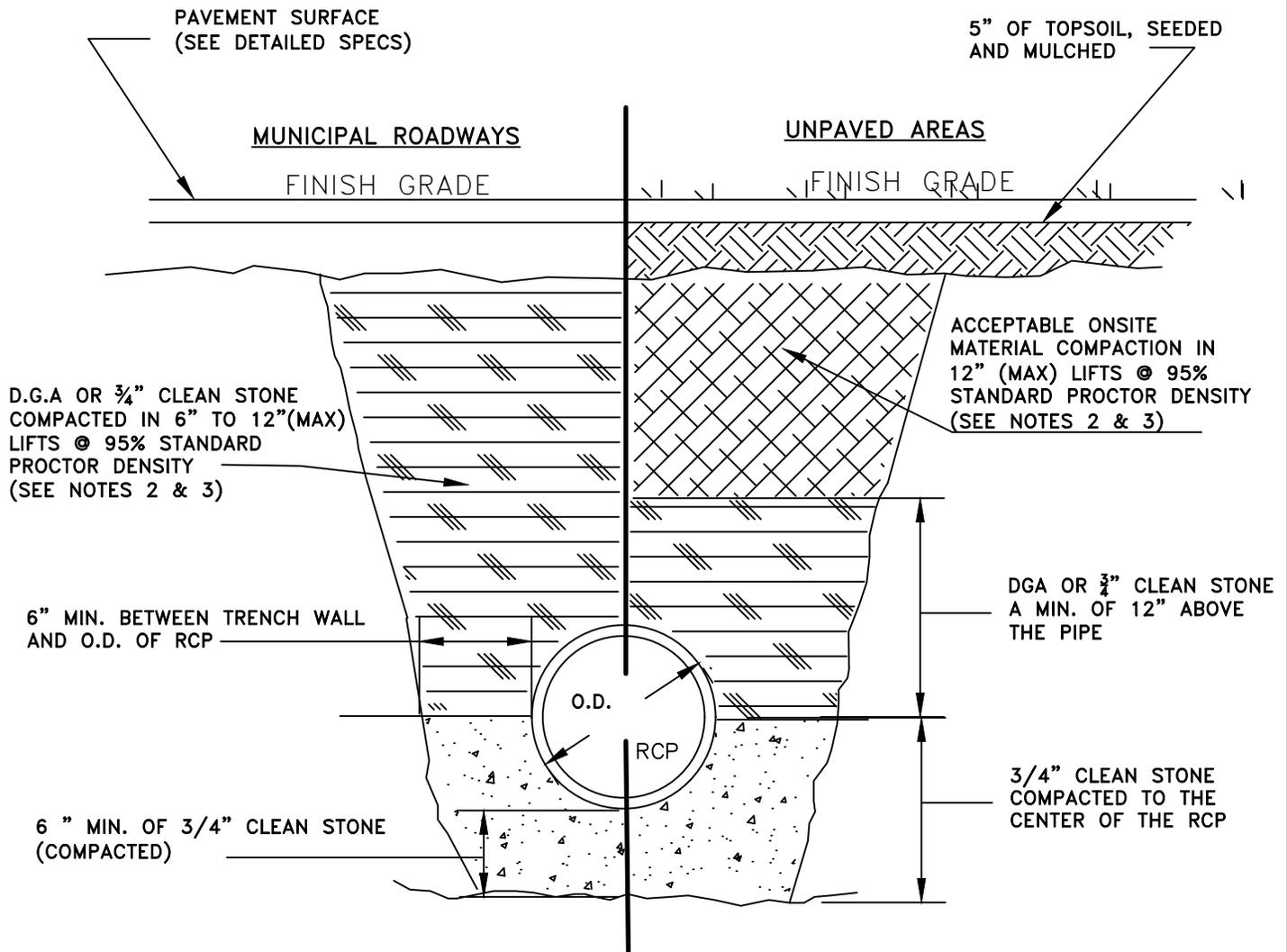
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2018



NOTE:

1. AN APPLICATION TO OPEN PUBLIC GROUNDS MAY BE REQUIRED BY THE BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
2. APPROVED EQUIVALENT MATERIALS REQUIRE TESTING ANALYSIS AND CLEAN FILL CERTIFICATION.
3. ACCEPTABLE ONSITE MATERIALS TO BE DETERMINED BY THE TOWNSHIP ENGINEER OR REPRESENTATIVES, SHALL COMPLY WITH NJDOT SPECIFICATIONS: 901.11, SOIL AGGREGATE.
4. ALL JOINTS ARE TO BE CEMENT MORTARED 2/3 AROUND THE TOP PERIMETER OF THE PIPE.

STORM SEWER TRENCH SECTION

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWER TRENCH SECTION

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

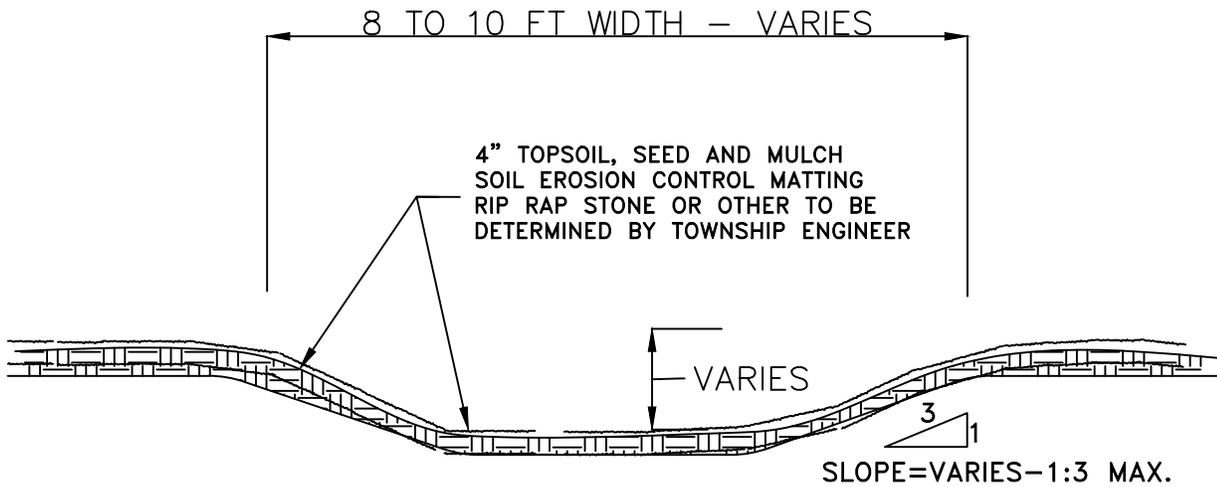
DATE: 2-2-10

SCALE : NTS

DRAWN BY: JAR

REV: 2018

40



PARABOLIC SWALE – VARIABLE SLOPED SIDES

NOTE:

1. AN APPLICATION TO OPEN PUBLIC GROUNDS MAY BE REQUIRED BY THE BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
2. CUT SHEETS AND GRADING PLANS MAY BE REQUIRED FOR REVIEW BY THE TOWNSHIP ENGINEER.

GRASS DRAINAGE SWALE (TYP.)

Not to Scale



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STANDARD CONSTRUCTION DETAILS
 STORM SEWER
 GRASS DRAINAGE SWALE (TYP.)

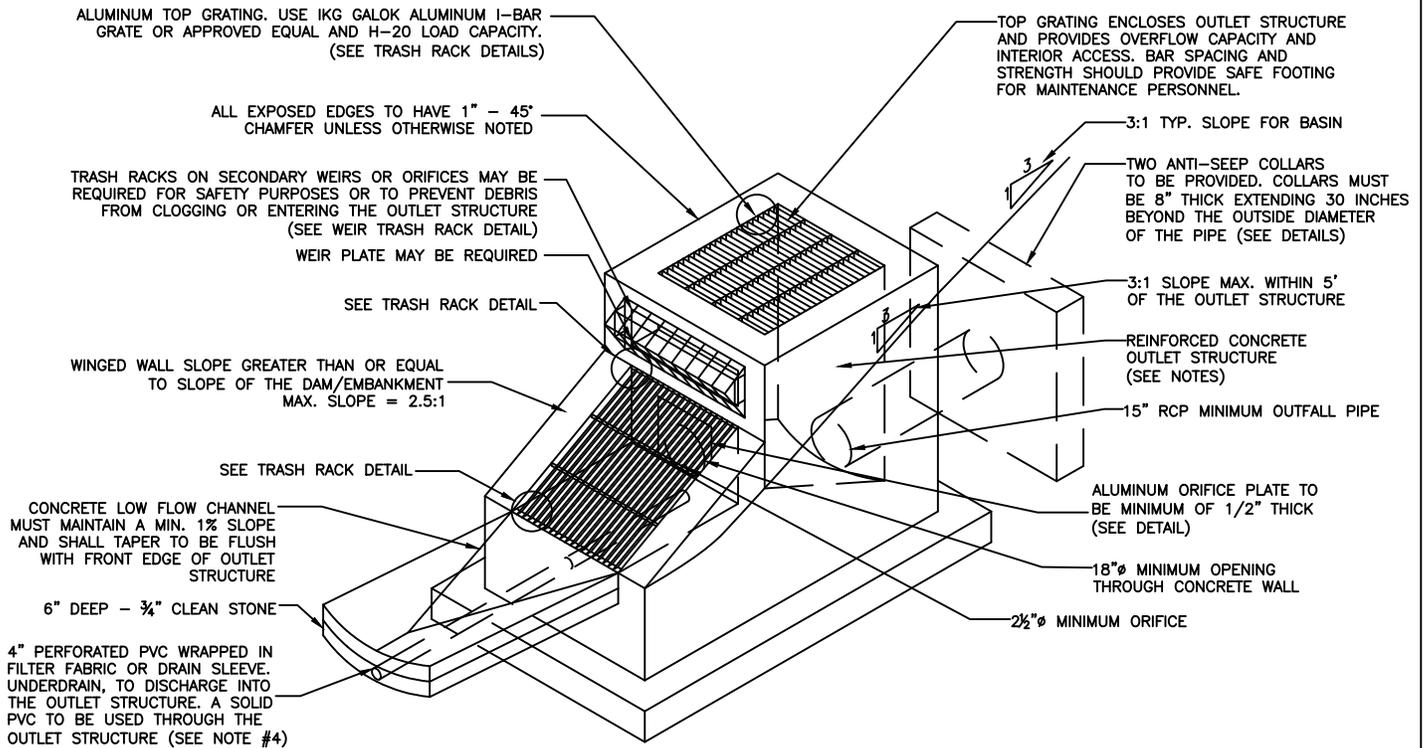
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2016



NOTES:

1. ALL PIPES, STRUCTURES AND DESIGN SHALL ADHERE TO THE "RESIDENTIAL SITE IMPROVEMENT STANDARD", SUBCHAPTER 7 STORMWATER MANAGEMENT.
2. VELOCITIES IN OPEN CHANNELS, EXCLUDING WATER QUALITY SWALE, AT DESIGN FLOW SHALL NOT BE LESS THAN 0.5 FOOT PER SECOND AND NOT GREATER THAN A VELOCITY THAT WILL CAUSE EROSION OR SCOURING OF THE CHANNEL. DESIGN ENGINEERS SHALL DETERMINE PERMISSIBLE VELOCITIES FOR SWALES, OPEN CHANNELS AND DITCHES USING METHODS PRESENTED IN "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" AT N.J.A.C. 2:90.
3. VELOCITIES IN CLOSED CONDUITS AT DESIGN FLOW SHALL BE AT LEAST TWO FEET PER SECOND, BUT NOT MORE THAN THE VELOCITY THAT WILL CAUSE EROSION DAMAGE TO THE CONDUIT, PER THE MANUFACTURER'S SPECIFICATION. MINIMUM ALLOWABLE PIPE SLOPES SHALL PRODUCE VELOCITY OF AT LEAST THREE FEET PER SECOND WHEN THE FLOW DEPTH IS FULL OR HALF THE PIPE DIAMETER.
4. WHERE APPLICABLE (INFILTRATION BASINS), A 4" PERFORATED UNDERDRAIN WITH DRAIN SLEEVE, FILTER FABRIC OR SOCK SHALL BE INSTALLED 6" IN THE SAND BED.
5. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVALS.

OUTLET STRUCTURE

Not to Scale



TOWNSHIP OF BRANCBURG
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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

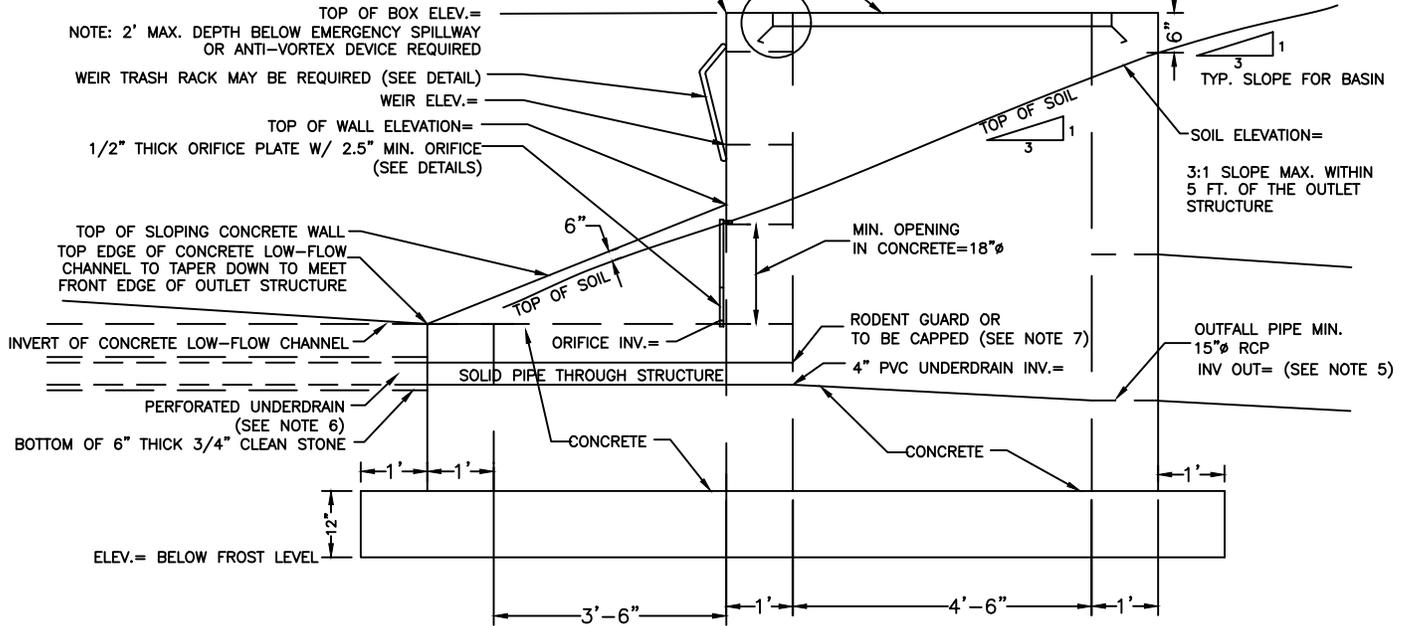
REV. 2015

42A

IKG ALUMINUM I-BAR GRATE OR APPROVED EQUAL SHALL COMPLY TO TOP AND WINGED WALL GRATES AND H-20 LOAD CAPACITY.

SEE TRASH RACK DETAIL FOR FASTENING REQUIREMENTS CONSTRUCTED FOR THE TOP AND WINGED WALL GRATES.

ALL EXPOSED CONCRETE EDGES SHALL HAVE A 1", 45° CHAMFER UNLESS OTHERWISE NOTED



NOTES:

1. ALL PIPES, STRUCTURES AND DESIGN SHALL ADHERE TO THE "RESIDENTIAL SITE IMPROVEMENT STANDARD", SUBCHAPTER 7 STORMWATER MANAGEMENT.
2. IN GENERAL, NO PIPE SIZE IN THE STORM DRAINAGE SYSTEM SHALL BE LESS THAN 15" IN DIAMETER. DESIGN ENGINEERS MAY USE A 12" DIAMETER PIPE AS A CROSS-DRAIN TO A SINGLE INLET.
3. THE AVERAGE VELOCITY OF FLOW THROUGH A CLEAN TRASH RACK IS NOT TO EXCEED 2.5 FEET PER SECOND UNDER FULL RANGE OF STAGE AND DISCHARGE. VELOCITY IS TO BE COMPUTED ON THE BASIS OF THE NET AREA OF OPENNING THROUGH THE RACK.
4. TRASH RACKS AND OVERFLOW GRATES SHALL BE CONSTRUCTED AND INSTALLED TO BE RIGID, DURABLE AND CORROSION RESISTANT, AND SHALL BE DESIGN TO WITHSTAND A PERPENDICULAR LIVE LOADING OF 300 POUNDS PER SQUARE FOOT.
5. OUTFALL PIPE ELEVATION SHALL BE LOWER THAN THE PERFORATED PIPE INVERT ELEVATION UNDER THE LOW FLOW CHANNEL; OR SUCH THAT AN UNDERDRAIN FOR A RECHARGE BASIN CAN BE ACCOMMODATED IN THE FUTURE.
6. WHERE APPLICABLE (INFILTRATION BASINS), A 4" PERFORATED PVC UNDERDRAIN WITH DRAIN SLEEVE, FILTER FABRIC OR SOCK SHALL BE INSTALLED 6" IN THE SAND BED.
7. IF THE DESIGN REQUIRES AN OPEN END THEN A RODENT GUARD SHALL BE INSTALLED. IF THE DESIGN REQUIRES THE END TO BE CLOSED OFF THEN A REMOVABLE CAP SHALL BE INSTALLED IN SOME CASES A BALL VALVE WITH A RODENT GUARD CAN BE APPLIED..

OUTLET STRUCTURE

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

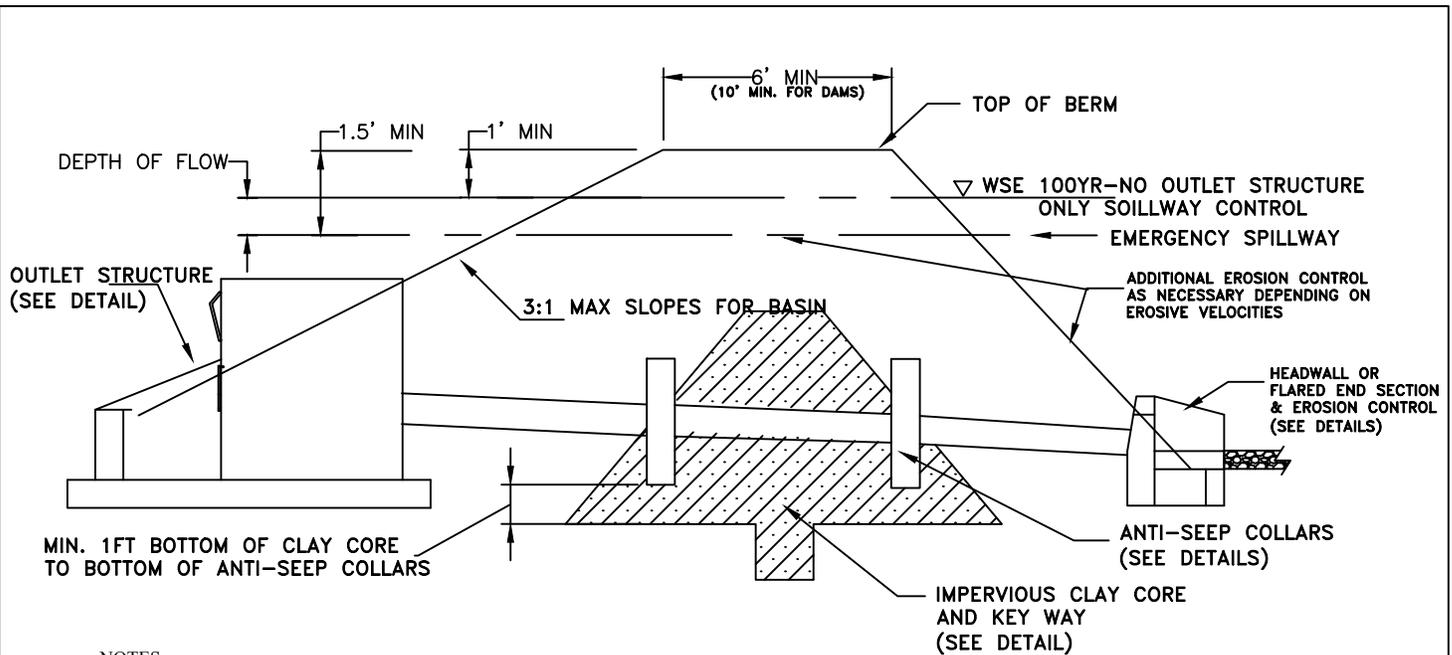
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV. 2015

42B



NOTES:

1. SITE PLANS SHALL PROVIDE THE LIMITS OF THE CLAY CORE: FOR EMBANKMENT OR BERM THE LIMITS SHALL BE FOR THE FULL LENGTH OF THE BERM. FOR A RECESSED THE LIMITS SHALL BE 40 FEET O.C. OF THE OUTLET PIPE. CUT SHEETS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW. THE TIME OF CONSTRUCTION THE BERM SHALL BE CONSTRUCTED 5% HIGHER TO ALLOW FOR SETTLEMENT.
2. ALL PIPES, STRUCTURES AND DESIGN SHALL ADHERE TO THE "RESIDENTIAL SITE IMPROVEMENT STANDARD", SUBCHAPTER 7 STORMWATER MANAGEMENT.
3. VELOCITIES IN OPEN CHANNELS, EXCLUDING WATER QUALITY SWALE, AT DESIGN FLOW SHALL NOT BE LESS THAN 0.5 FOOT PER SECOND AND NOT GREATER THAN A VELOCITY THAT WILL CAUSE EROSION OR SCOURING OF THE CHANNEL. DESIGN ENGINEERS SHALL DETERMINE PERMISSIBLE VELOCITIES FOR SWALES, OPEN CHANNELS AND DITCHES USING METHODS PRESENTED IN "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" AT N.J.A.C. 2:90.
4. VELOCITIES IN CLOSED CONDUITS AT DESIGN FLOW SHALL BE AT LEAST TWO FEET PER SECOND, BUT NOT MORE THAN THE VELOCITY THAT WILL CAUSE EROSION DAMAGE TO THE CONDUIT, PER THE MANUFACTURER'S SPECIFICATION. MINIMUM ALLOWABLE PIPE SLOPES SHALL PRODUCE VELOCITY OF AT LEAST THREE FEET PER SECOND WHEN THE FLOW DEPTH IS FULL OR HALF THE PIPE DIAMETER.
5. IN GENERAL, NO PIPE SIZE IN THE STORM DRAINAGE SYSTEM SHALL BE LESS THAN 15" IN DIAMETER. DESIGN ENGINEERS MAY USE A 12" DIAMETER PIPE AS A CROSS-DRAIN TO A SINGLE INLET.
6. EIGHT INCH THICK ANTI-SEEP COLLARS ARE TO BE INSTALLED ALONG OUTLET PIPES WHEN REQUIRED BY THE MUNICIPAL ENGINEER. REINFORCEMENT STEEL SHALL BE NO. 5 BARS AT 12 INCHES BOTH WAYS, WITH TWO INCHES OF COVER ON BOTH. ALL EXCAVATION FOR THE INSTALLATION OF THE ANTI-SEEP COLLARS SHALL BE BACKFILLED WITH THE APPROVED IMPERVIOUS CLAY.
7. MAXIMUM VELOCITIES IN EMERGENCY SPILLWAYS SHALL BE CHECKED BASED ON THE VELOCITY OF THE PEAK FLOW IN THE SPILLWAY RESULTING FROM ROUTING THE SPILLWAY DESIGN STORM HYDROGRAPH AS DEFINED IN THE NJ DEP DAM SAFETY RULES (N.J.A.C. 7:20) FOR ALL DETENTION FACILITIES CLASSIFIED AS DAMS AND THE 100-YEAR STORM HYDROGRAPH FOR ALL OTHER FACILITIES (THE ROUTED EMERGENCY SPILLWAY HYDROGRAPH). THE DESIGN OF THE EMERGENCY SPILLWAY WILL BE BASED ON THE 100-YEAR INFLOW TO THE BASIN EXCEPT FOR CLASS IV DAMS, WHICH SHALL COMPLY WITH THE DAM SAFETY STANDARDS N.J.A.C. 7:20.

**DETENTION FACILITY
CROSS SECTION
Not to Scale**



TOWNSHIP OF BRANCHBURG
1077 Route 202 North
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**STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY**

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

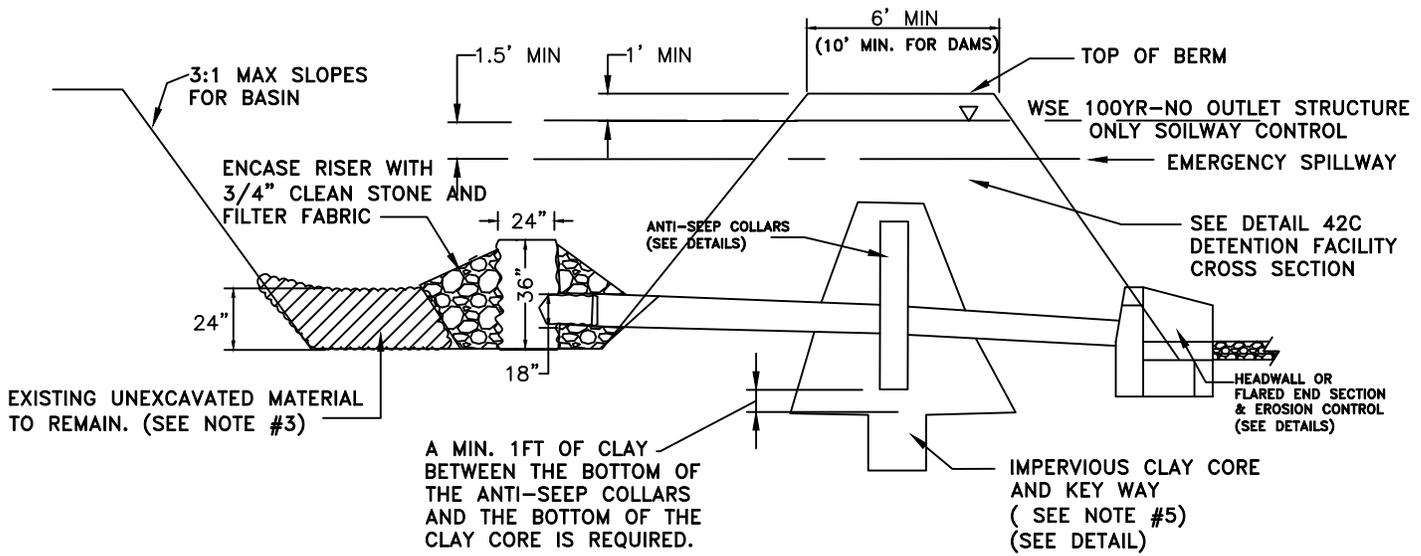
DATE: 2-1-10

SCALE : NTS

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REVISED 1-18-13

42C



NOTES:

1. A TEMPORARY SEDIMENT BASIN SHALL BE CONSTRUCTED AS PART OF THE OVERALL SOIL EROSION SEDIMENT CONTROL PLAN.
2. SEQUENCE OF CONSTRUCTION AS FOLLOWS;
 - INSTALLATION OF TRACKING PAD AND SILT FENCE AT THE LIMIT OF DISTURBANCE.
 - CLEARING OF SITE.
 - STRIPPING & STOCKPILING TOPSOIL.
 - CONSTRUCT TEMPORARY SEDIMENT BASIN.
3. CONTRACTOR SHALL NOT EXCAVATE THE BOTTOM 24" OF THE FINAL BASIN DURING USE AS A TEMPORARY SEDIMENT BASIN. IF CONTRACTOR OVER EXCAVATES THE TSB, THE FINAL BASIN SHALL BE OVER EXCAVATED BY THE SAME AMOUNT AND THE AREAS ARE TO BE FILLED WITH SAND MATERIAL WHEN BASIN IS CONVERTED TO FINAL INFILTRATION / DETENTION BASIN AT THE COMPLETION OF CONSTRUCTION SEQUENCE.
4. CONTRACTOR SHALL EXCAVATE TO FINAL BASIN GRADE ONLY AROUND THE OUTLET STRUCTURE AS NECESSARY TO INSTALL THE TEMPORARY SEDIMENT RISER.
5. CONTRACTOR SHALL INSTALL THE CLAY CORE TO 20 FEET ON BOTH SIDES OF THE PERMANENT OUTLET PIPES AND ANTI SEEP COLLARS. THE REMAINDER OF THE CLAY CORE ZONES SHALL BE INSTALLED WHEN THE BASINS ARE CONVERTED TO FINAL INFILTRATION / DETENTION BASINS AT THE COMPLETION OF CONSTRUCTION SEQUENCE. SEE DETAILS FOR IMPERVIOUS CLAY CORE.
6. THE CLAY CORE SHALL BE COMPOSED OF MATERIAL THAT HAS A PERMEABILITY RATE OF 10^{-7} CM/S OR LESS.
7. PRIOR TO THE INSTALLATION OF THE CLAY CORE, THE CONTRACTOR SHALL PROVIDE THE NECESSARY TEST RESULTS OF THE INTENDED CLAY MATERIALS. SAMPLES SHALL BE TAKEN BY A QUALIFIED GEOTECHNICAL ENGINEER AND WITNESSED BY A TOWNSHIP OFFICIAL.
8. THE INSTALLATION OF THE CLAY CORE SHALL BE OBSERVED AND COMPACTION TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER, SUPPLIED BY THE OWNER.

TEMPORARY SEDIMENT BASIN
CROSS SECTION
 Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
TEMPORARY SEDIMENT BASIN

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

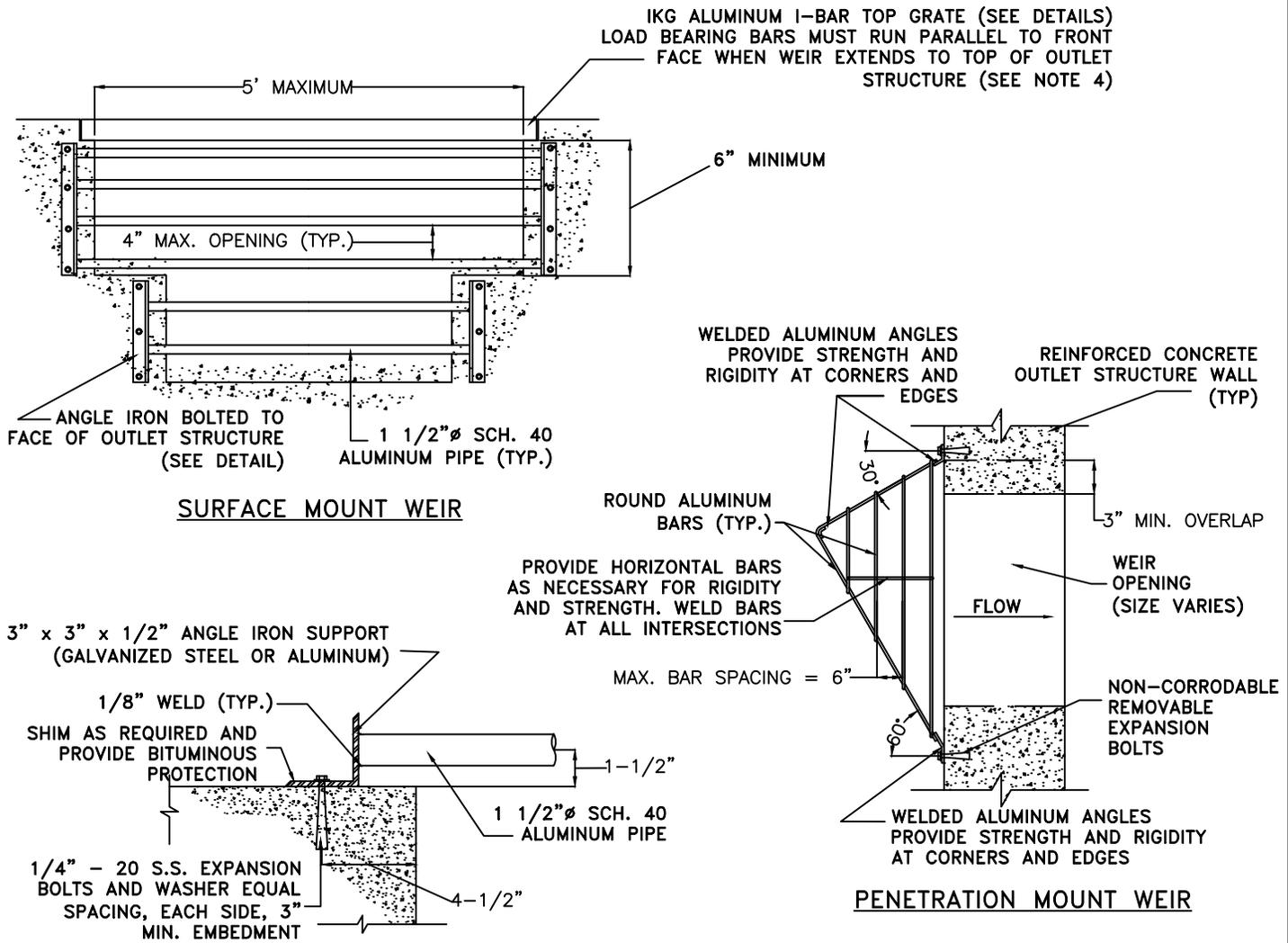
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV. 2015

42C-1



NOTES:

1. ALL PIPES, STRUCTURES AND DESIGN SHALL ADHERE TO THE "RESIDENTIAL SITE IMPROVEMENT STANDARD", SUBCHAPTER 7 STORMWATER MANAGEMENT. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL.
2. VELOCITIES IN OPEN CHANNELS, EXCLUDING WATER QUALITY SWALE, AT DESIGN FLOW SHALL NOT BE LESS THAN 0.5 FOOT PER SECOND AND NOT GREATER THAN A VELOCITY THAT WILL CAUSE EROSION OR SCOURING OF THE CHANNEL. DESIGN ENGINEERS SHALL DETERMINE PERMISSIBLE VELOCITIES FOR SWALES, OPEN CHANNELS AND DITCHES USING METHODS PRESENTED IN "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" AT N.J.A.C. 2:90.
3. THE AVERAGE VELOCITY FLOW THROUGH A CLEAN TRASH RACK IS NOT TO EXCEED 2.5 FEET PER SECOND UNDER THE FULL RANGE OF STAGE AND DISCHARGE. VELOCITY IS TO BE COMPUTED ON THE BASIS OF THE NET AREA OF THE OPENING THROUGH THE RACK.
4. TRASH RACKS AND OVERFLOW GRATES SHALL BE CONSTRUCTED AND INSTALLED TO BE RIGID, DURABLE AND CORROSION RESISTANT, AND SHALL BE DESIGNED TO WITHSTAND A PERPENDICULAR LIVE LOADING OF 300 POUNDS PER SQUARE FOOT.

WEIR TRASH RACK

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

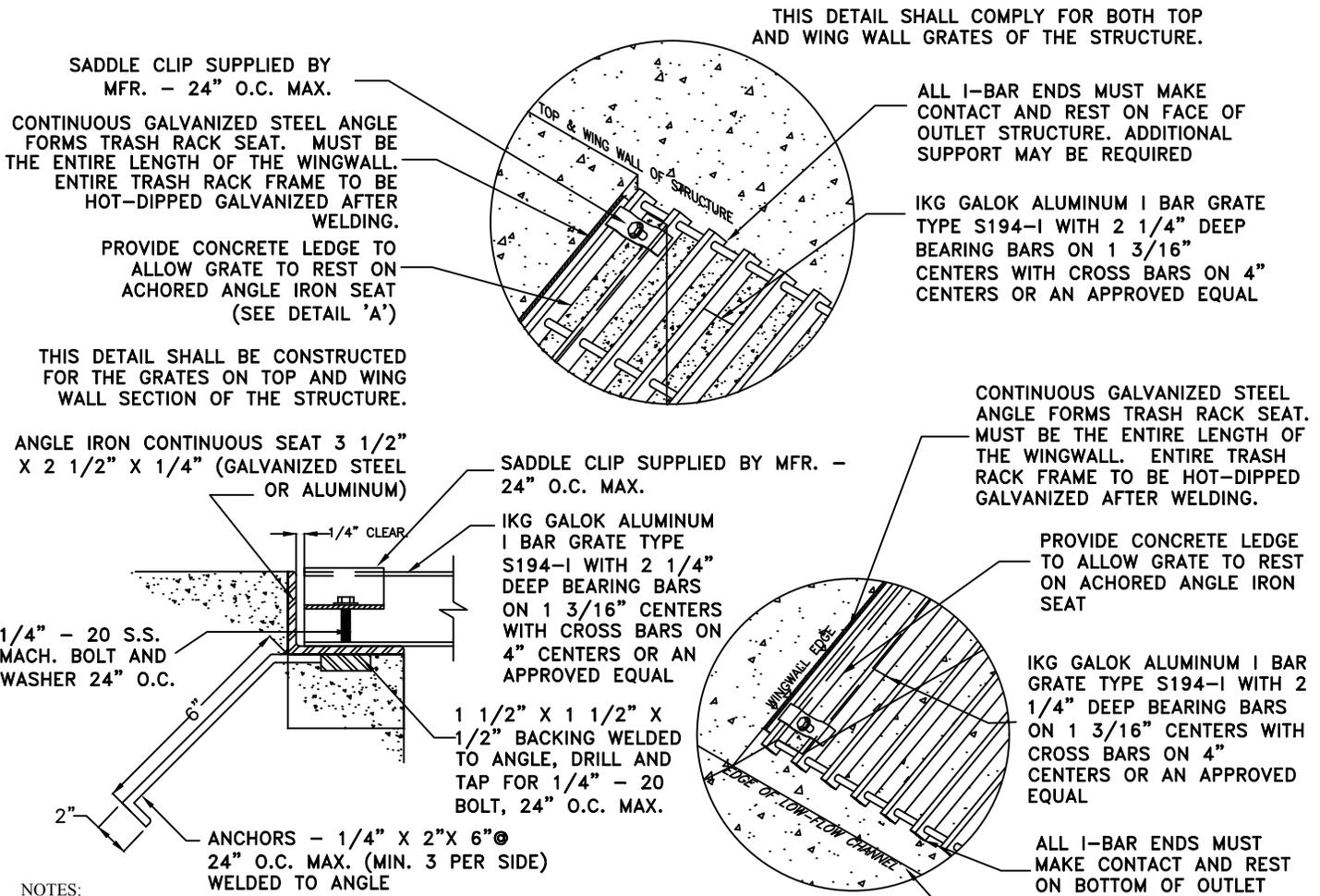
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REVISED 8-16-11

42E



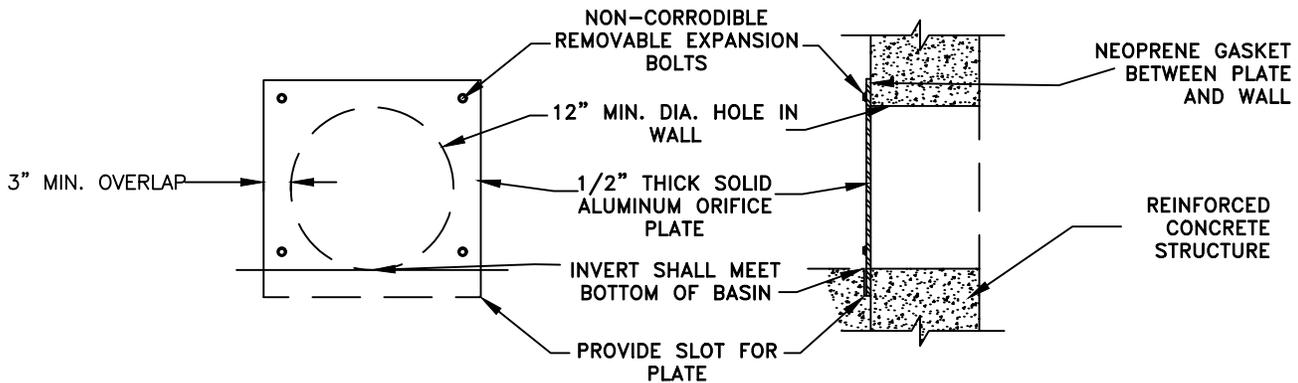
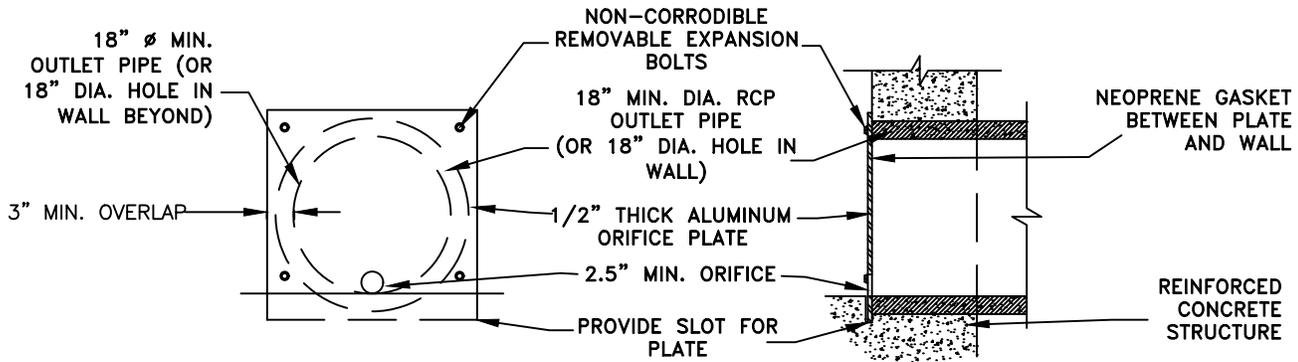
- NOTES:
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 5. ALL TRASH RACKS MUST HAVE SUFFICIENT NET OPEN AREA PERPENDICULAR TO FLOW TO CONVEY PEAK DESIGN FLOW THROUGH THEM WITH MAXIMUM VELOCITY OF 2 FPS IN MOST CASES. PEAK DESIGN FLOW SHOULD BE BASED UPON PASSAGE OF EMERGENCY SPILLWAY HYDROGRAPH.
 6. ALL TRASH RACKS AND FASTENERS MUST HAVE SUFFICIENT STRENGTH TO WITHSTAND ANTICIPATED H-20 LOADS.

TRASH RACK
TOP & WING WALL
 Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY



NOTES:

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ORIFICE PLATE DETAIL

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

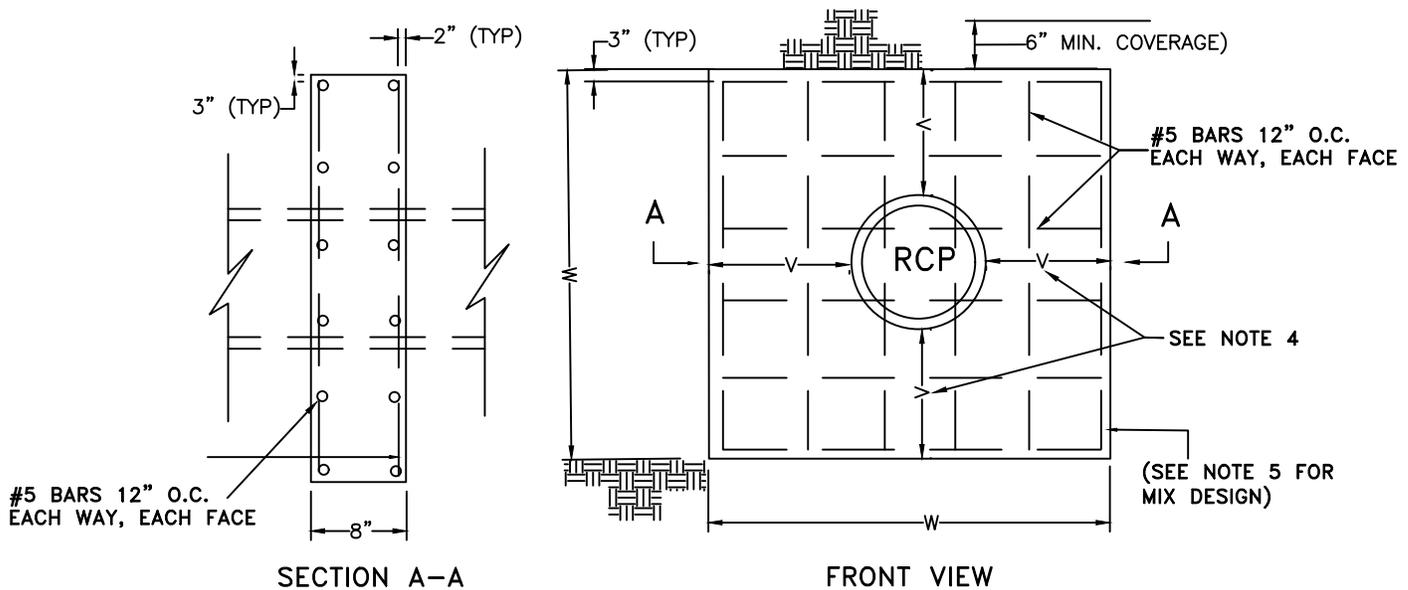
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REVISED 8-16-11

42G



NOTES:

1. IN GENERAL, NO PIPE SIZE IN THE STORM DRAINAGE SYSTEM SHALL BE LESS THAN 15" IN DIAMETER. DESIGN ENGINEERS MAY USE A 12" DIAMETER PIPE AS A CROSS-DRAIN TO A SINGLE INLET.
2. EIGHT INCH THICK ANTI-SEEP COLLARS ARE TO BE INSTALLED ALONG OUTLET PIPES WHEN REQUIRED BY THE MUNICIPAL ENGINEER. REINFORCEMENT STEEL SHALL BE NO. 5 BARS AT 12 INCHES BOTH WAYS, WITH TWO INCHES OF COVER ON BOTH.
3. DESIGN ENGINEERS SHALL USE THE FOLLOWING CRITERIA TO DETERMINE THE SIZE AND NUMBER OF ANTI-SEEP COLLARS. THE RATIO $(L + 2nV)/L$ SHALL BE AT LEAST 1.15. ANTI-SEEP COLLARS SHOULD BE EQUALLY SPACED ALONG PART OF THE BARREL WITHIN THE SATURATED ZONE AT DISTANCES NOT MORE THAN 25 FEET.
4. THE MIX, DESIGN AND TESTING OF CONCRETE SHALL BE CONSISTENT WITH THE SIZE REQUIREMENTS OF THE JOB. MIX REQUIREMENTS OR NECESSARY STRENGTH SHALL BE SPECIFIED.
5. PRIOR TO THE CONSTRUCTION OF THE ANTI-SEEP COLLARS, THE OUTSIDE OF THE PIPE SHOULD BE CLEANED AND A BONDING AGENT BE APPLIED TO THE COLLAR AREA. PRE-CAST ANTI-SEEP COLLARS SHALL NOT HAVE MORE THAN 2 INCHES OF SPACE BETWEEN COLLAR AND PIPE. THE SPACE SHALL BE SEALED WITH A DURABLE, STRONG AND WATER RESISTANT MATERIAL. APPROVED BY THE TOWNSHIP ENGINEER.

ANTI-SEEP COLLARS

Not to Scale



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STANDARD CONSTRUCTION DETAILS
STORM SEWERS
OUTLET STRUCTURE/DETENTION FACILITY

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

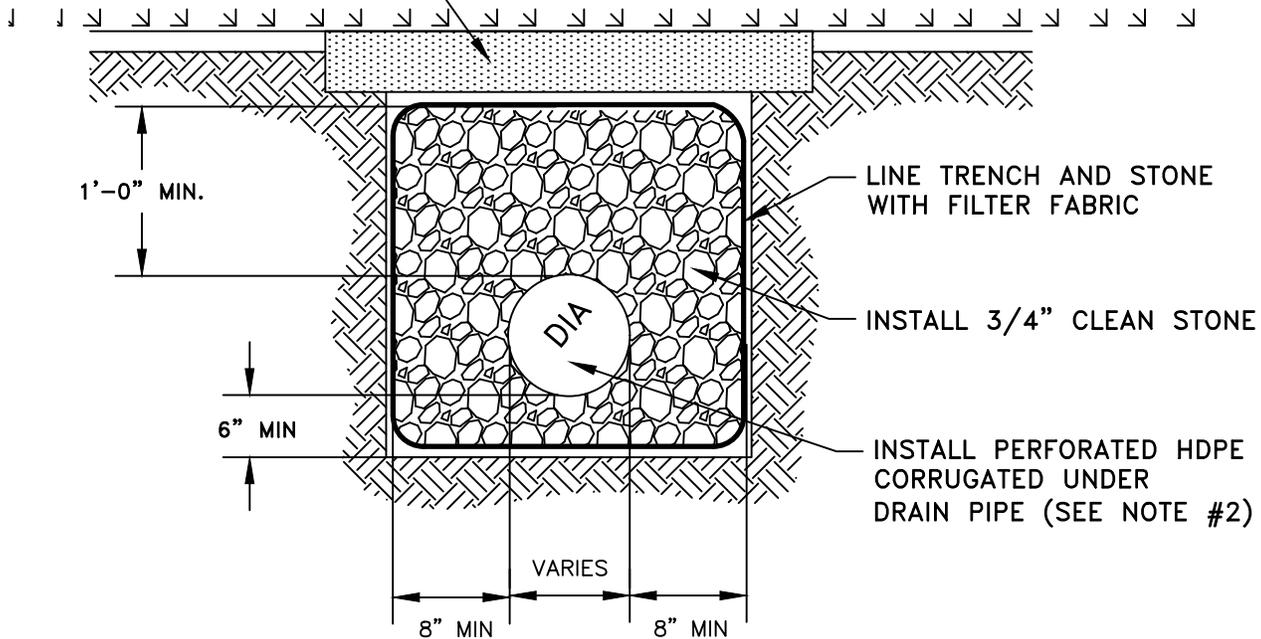
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REV: 2018

42H

4" THICK TOPSOIL, SEED AND MULCH OR
IF SWALE IS NEEDED FOLLOW "DRAINAGE SWALE DETAIL"
(SEE NOTE #3)



NOTE:

1. AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED BY THE BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT.
2. ALL PIPE MUST BE RATED A MINIMUM OF H-20 LOAD AND FOLLOW MANUFACTURES MINIMUM DEPTH / COVERAGE REQUIREMENTS.
3. ALL EXCAVATIONS INTO THE PAVED AREAS MUST FOLLOW THE TOWNSHIP REQUIREMENT TO BACKFILL THE TRENCH WITH DENSE GRADED AGGREGATE OR APPROVED EQUIVALENT.

UNDER DRAIN PIPE DETAIL

Not to Scale



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**STANDARD CONSTRUCTION DETAILS
MISCELLANEOUS—STORM
UNDER DRAIN PIPE DETAIL**

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

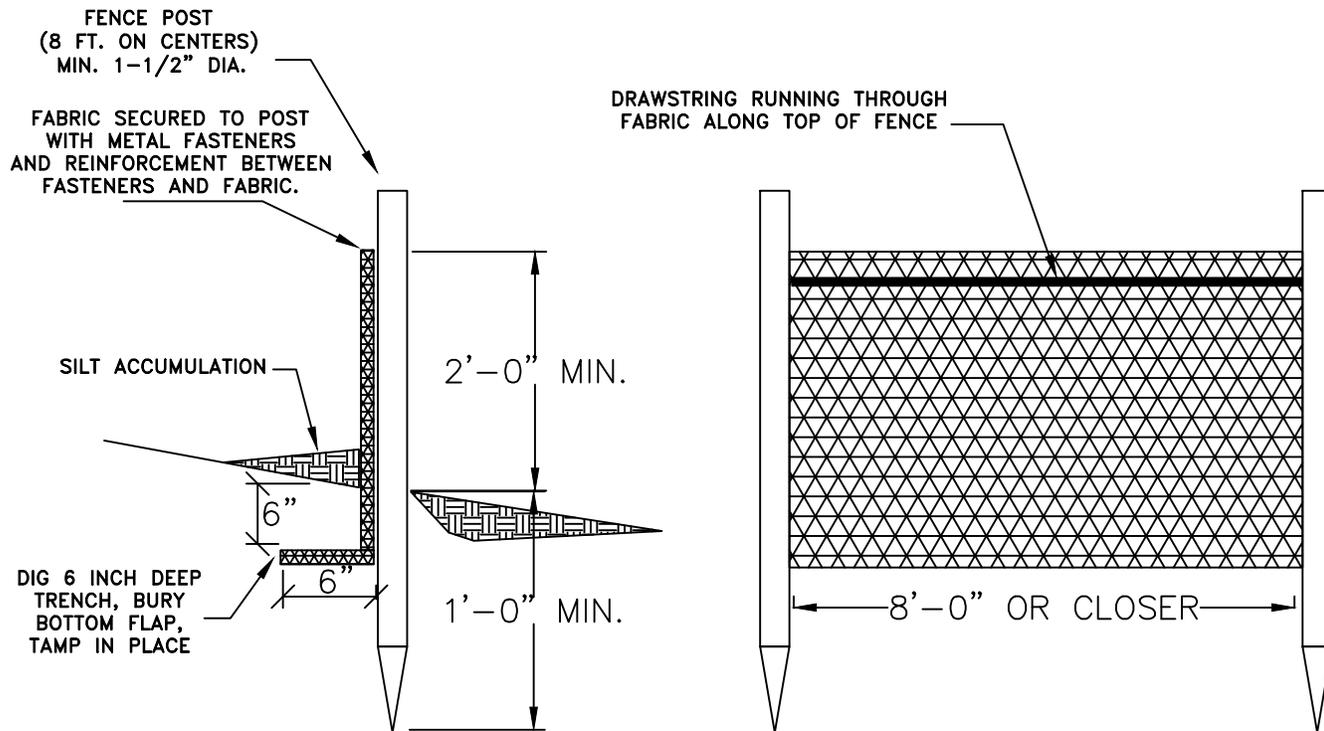
DATE: 2-2-10

SCALE : NTS

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REV: 8/2014

43



REQUIREMENTS FOR SILT FENCE

1. FENCE POST SHALL BE SPACED 8 FEET CENTER TO CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 1 FOOT INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POST SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1-1/2 INCHES.
2. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POST, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEO-TEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEO-TEXTILE FABRIC IS RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POST USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENERS AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAW STRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.
4. MAY REQUIRE THE FOLLOWING:
 NOTIFICATION AND APPROVAL FROM SOMERSET-UNION CONSERVATION DISTRICT.
 REQUIREMENTS OF IMPORTING AND/OR EXPORTING MATERIAL BY THE ENGINEERING DEPARTMENT.

SILT FENCE DETAIL

Not to Scale



TOWNSHIP OF BRANCHBURG

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**STANDARD CONSTRUCTION DETAILS
 MISCELLANEOUS—SOIL EROSION CONTROL
 SILT FENCE DETAIL**

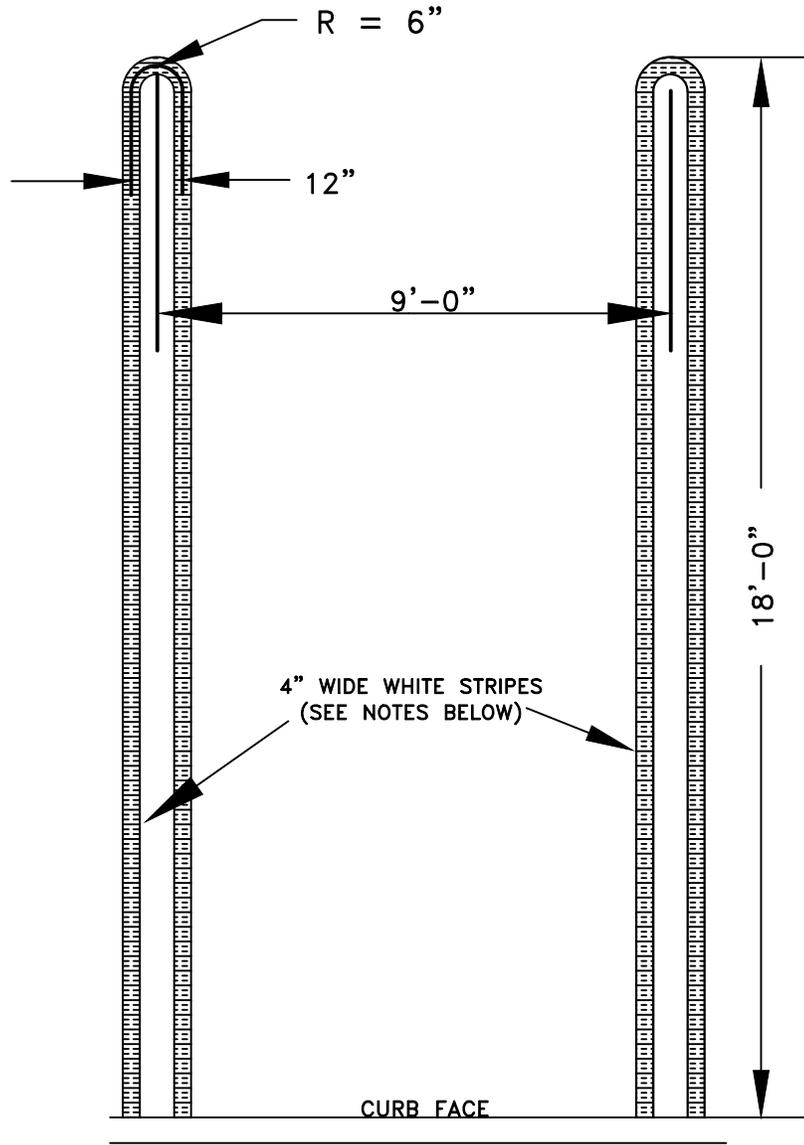
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2015



NOTE:

1. ALL TRAFFIC MARKINGS, SIGNS AND POSITION MUST BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2.  HANDICAP ACCESSIBILITY SHOULD CONFORM WITH THE FOLLOWING: AMERICANS WITH DISABILITIES ACT - THE BARRIER FREE SUBCODE OF THE NJ UNIFORM CONSTRUCTION CODE (NJAC 5:23-7) - PROWAG - ADAAG AND SHALL BE APPLICABLE FOR ALL SITE IMPROVEMENTS, RIGHT OF WAYS, STREET INTERSECTIONS AND WHERE DEEMED NECESSARY BY THE TOWNSHIP ENGINEER.
3. ZONING COMPLIANCE OR APPROVALS MAY BE REQUIRED.

HAIRPIN PARKING STRIPING

Not to Scale



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STANDARD CONSTRUCTION DETAILS
MISCELLANEOUS-ROAD
HAIRPIN PARKING STRIPING

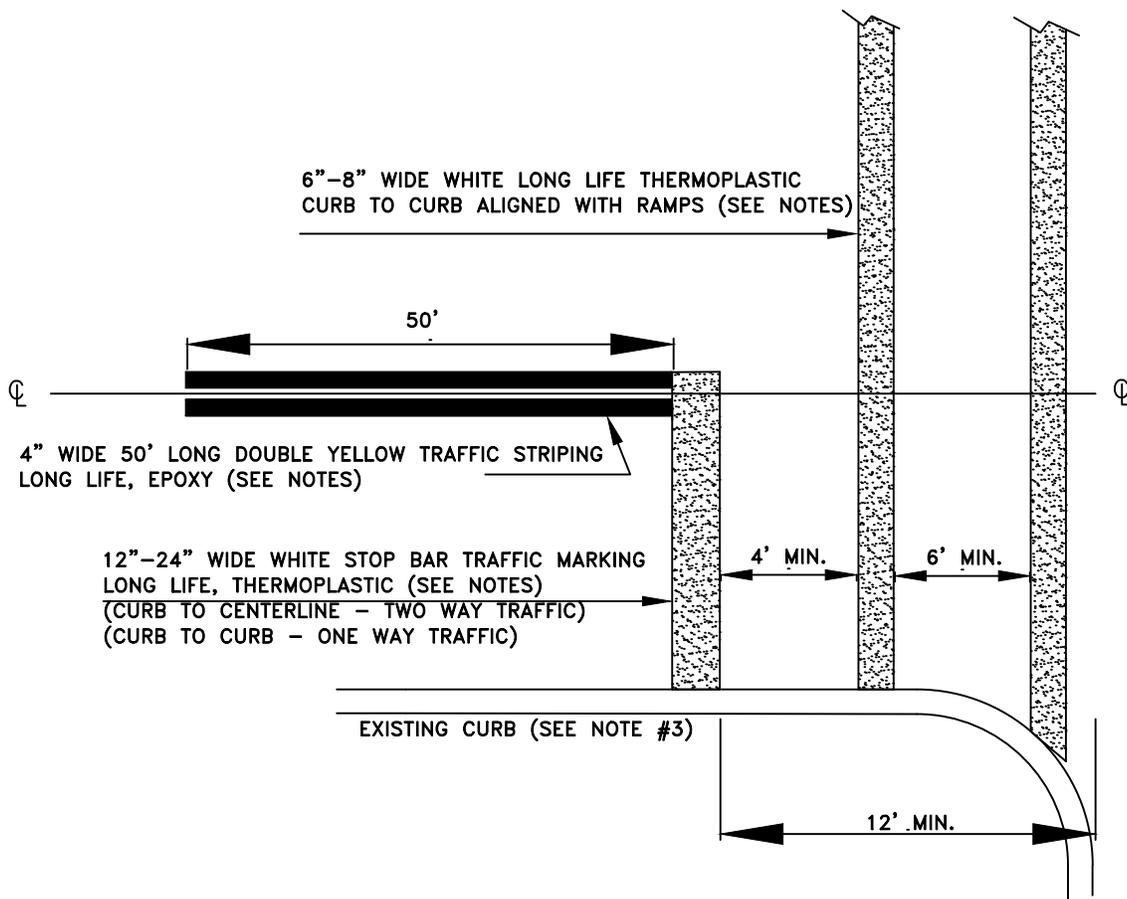
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 2-1-10

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REV: 2015



- NOTE:
1. ALL TRAFFIC MARKINGS, SIGNS AND POSITION MUST BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 2. ALL TRAFFIC STRIPING AND TRAFFIC MARKINGS SHALL BE RETRO REFLECTIVE, LONG LIFE FOR BOTH EPOXY AND THERMOPLASTIC.
 3. HANDICAP ACCESSIBILITY SHOULD CONFORM WITH THE FOLLOWING: AMERICANS WITH DISABILITIES ACT - THE BARRIER FREE SUBCODE OF THE NJ UNIFORM CONSTRUCTION CODE (NJAC 5:23-7) - PROWAG - ADAAG AND SHALL BE APPLICABLE FOR ALL SITE IMPROVEMENTS, RIGHT OF WAYS, STREET INTERSECTIONS AND WHERE DEEMED NECESSARY BY THE TOWNSHIP ENGINEER.
 4. AN APPLICATION TO OPEN PUBLIC GROUNDS MAY BE REQUIRED BY BRANCHBURG TOWNSHIP.

TRAFFIC STRIPING & TRAFFIC MARKINGS CROSSWALKS, STOP BAR & CENTERLINES

Not to Scale



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**STANDARD CONSTRUCTION DETAILS
MISCELLANEOUS-ROAD
TRAFFIC STRIPING & MARKINGS**

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

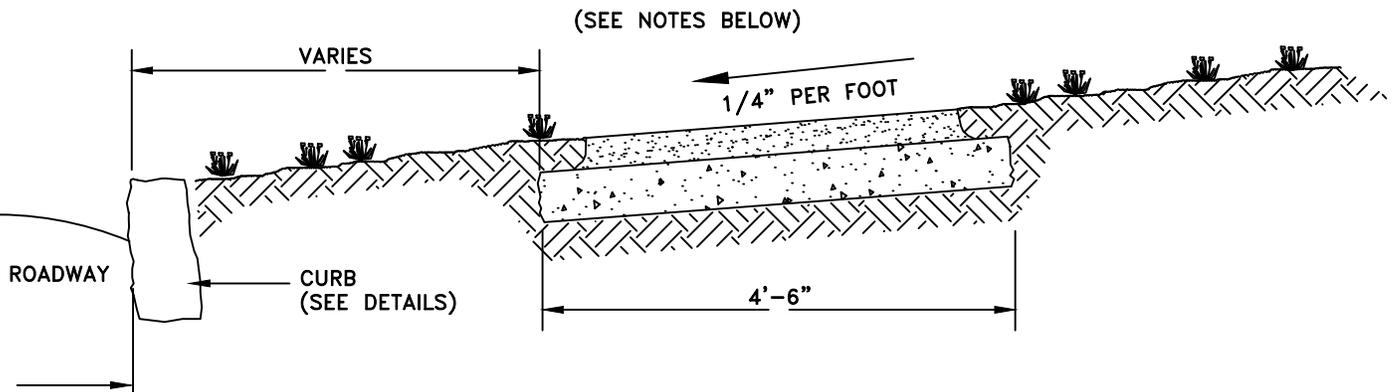
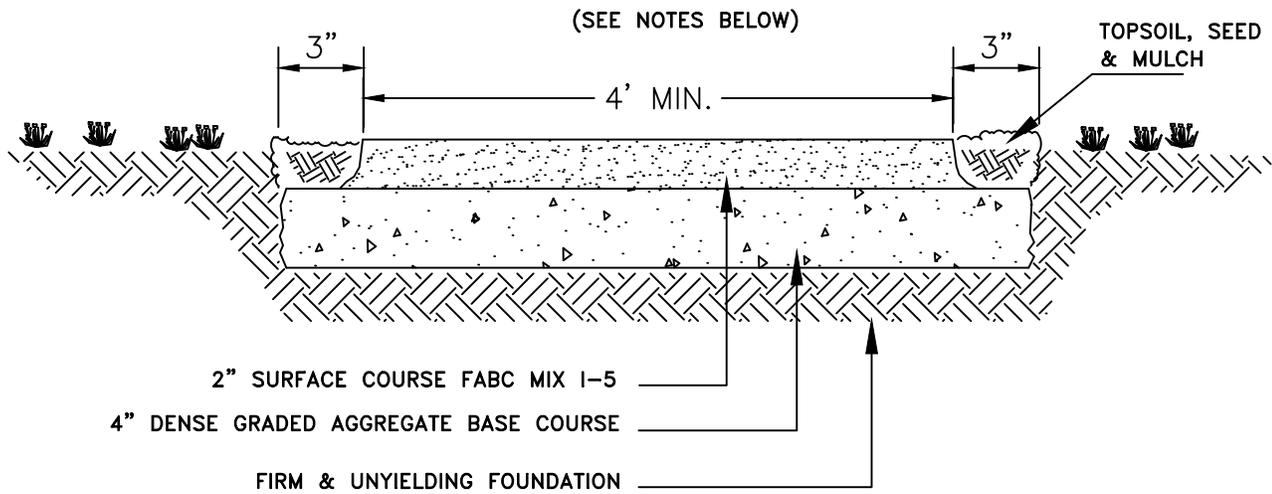
DATE: 2-1-10

SCALE : NTS

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REV: 2015

46



NOTE:

1. AN APPLICATION TO OPEN PUBLIC GROUNDS IS REQUIRED BY THE BRANCHBURG TOWNSHIP ENGINEERING DEPARTMENT WHEN WORKING WITHIN THE TOWNSHIP RIGHT OF WAY.
2.  HANDICAP ACCESSIBILITY SHOULD CONFORM WITH THE FOLLOWING: AMERICANS DISABILITIES ACT - THE BARRIER FREE SUBCODE OF THE NJ UNIFORM CONSTRUCTION CODE (NJAC 5:23-7) - ADAAG SHALL BE APPLICABLE FOR ALL SITE IMPROVEMENTS. PROWAG SHALL BE APPLICABLE TO ANY PUBLIC RIGHT OF WAYS (TITLE 39 ENFORCED ROADWAYS), STREET INTERSECTIONS AND WHERE DEEMED NECESSARY BY THE TOWNSHIP ENGINEER.
3. ANY HANDICAP RAMPS AND ADJOINING SIDEWALKS SHALL BE CONSTRUCTED IN CONCRETE WITH APPROVED DETECTABLE WARNING SURFACE TILES (SEE DETAIL). A PLAN WITH GRADING AND ELEVATIONS MAY BE REQUIRED FOR REVIEW BY THE ENGINEERING DEPARTMENT FOR THIS APPLICATION.
4. ALL HANDICAP RAMPS MUST BE DESIGNED BY A LICENSED ENGINEER OR NJPLS AND SUBMITTED TO THE TOWNSHIP ENGINEER FOR REVIEW.

BITUMINOUS CONCRETE SIDEWALK

Not to Scale



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STANDARD CONSTRUCTION DETAILS
MISCELLANEOUS-ROAD
BITUMINOUS CONCRETE SIDEWALKS

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

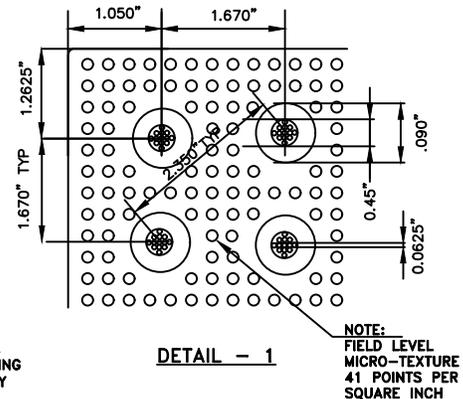
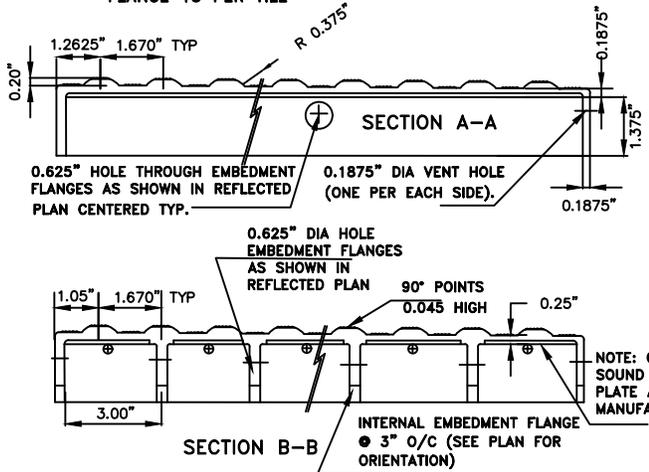
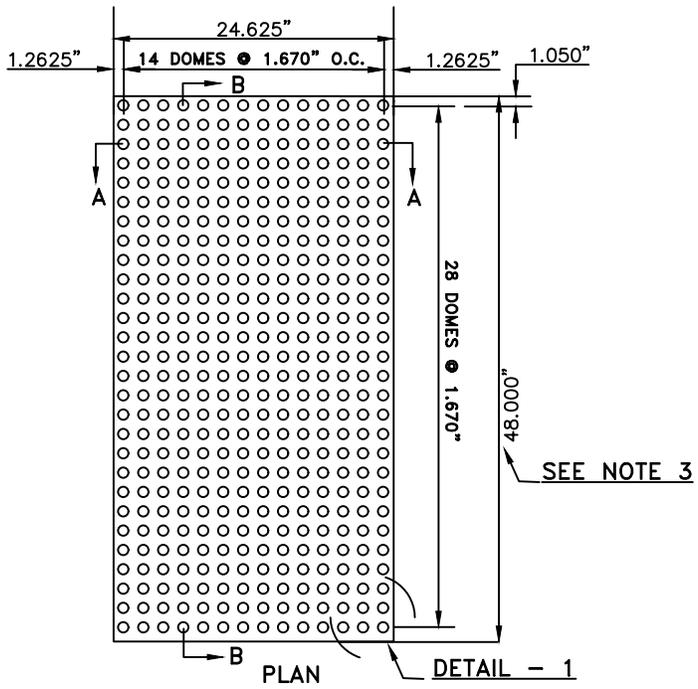
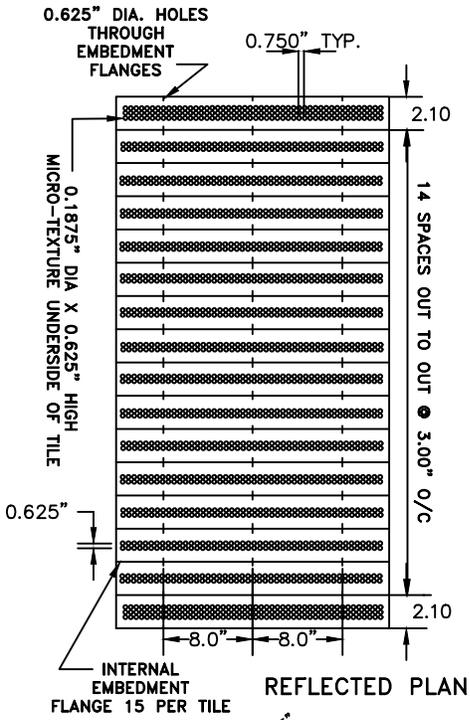
DATE: 2-1-10

SCALE : NTS

DRAWN BY: JAR

REV: 2018

47



NOTE:

1. ♿ HANDICAP ACCESSIBILITY SHOULD CONFORM WITH THE FOLLOWING: AMERICANS DISABILITIES ACT - THE BARRIER FREE SUBCODE OF THE NJ UNIFORM CONSTRUCTION CODE (NJAC 5:23-7) - ADAAG SHALL BE APPLICABLE FOR ALL SITE IMPROVEMENTS. PROWAG SHALL BE APPLICABLE TO ANY PUBLIC RIGHT OF WAYS, STREET INTERSECTIONS AND WHERE DEEMED NECESSARY BY THE TOWNSHIP ENGINEER.
2. ANY HANDICAP RAMPS AND ADJOINING SIDEWALKS SHALL BE CONSTRUCTED IN CONCRETE WITH APPROVED DETECTABLE WARNING SURFACE TILES (SEE DETAIL). A PLAN WITH GRADING AND ELEVATIONS MAY BE REQUIRED FOR REVIEW BY THE ENGINEERING DEPARTMENT FOR THIS APPLICATION.
3. DETECTABLE WARNING SURFACE TILES SHALL BE INSTALLED ALONG THE ENTIRE WIDTH OF THE CURB RAMP.

DETECTABLE/WARNING SURFACE TILE

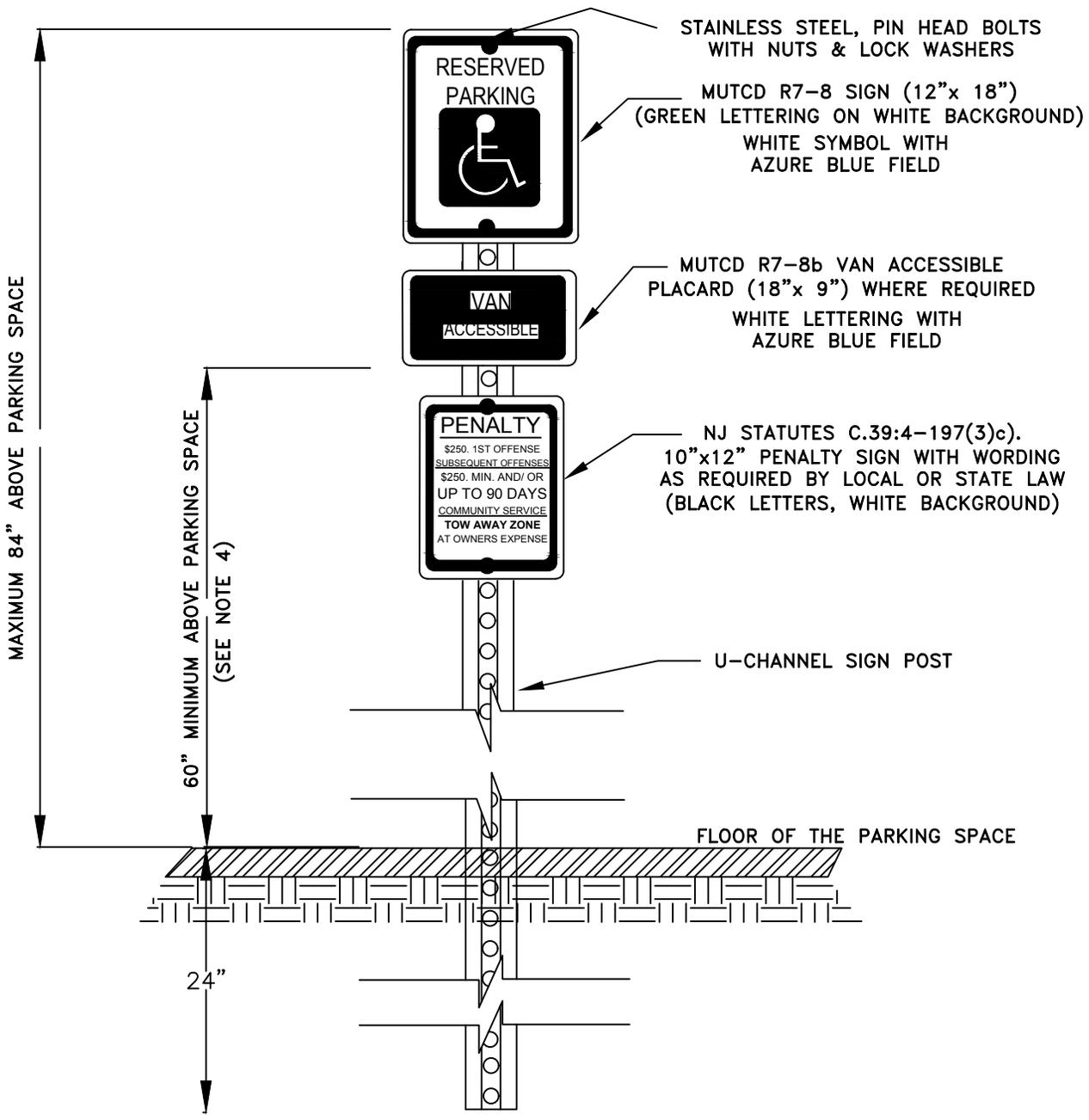
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STANDARD CONSTRUCTION DETAILS
MISCELLANEOUS-ROAD
DETECTABLE/WARNING SURFACE TILE

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|--|--|--------------|-------------|---------------|-----------|----|
| DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER | | DATE: 2-1-10 | SCALE : NTS | DRAWN BY: JAR | REV: 2018 | 48 |
|--|--|--------------|-------------|---------------|-----------|----|



NOTES:

1. SIGNS MUST COMPLY WITH THE MUTCD, MOST RECENT EDITION.
2. MUST COMPLY WITH ALL REQUIREMENTS OF THE ICC/ANSI A117, MOST RECENT EDITION.
3. CODE ENFORCEMENT AND/OR ZONING PERMITS MAY BE REQUIRED.
4. IF THE "VAN ACCESSIBLE" PLACARD IS NOT USED, THEN THE "RESERVE PARKING" SIGN SHALL BE PLACED AT 60" MINIMUM ABOVE THE PARKING SPACE.

HANDICAP PARKING SIGN

Not to Scale



TOWNSHIP OF BRANCBURG
 1077 Route 202 North
 Branchburg, New Jersey 08876-3936
 TELE: (908)526-1300 FAX: (908)526-2452

STANDARD CONSTRUCTION DETAILS
HANDICAP PARKING SIGN DETAIL

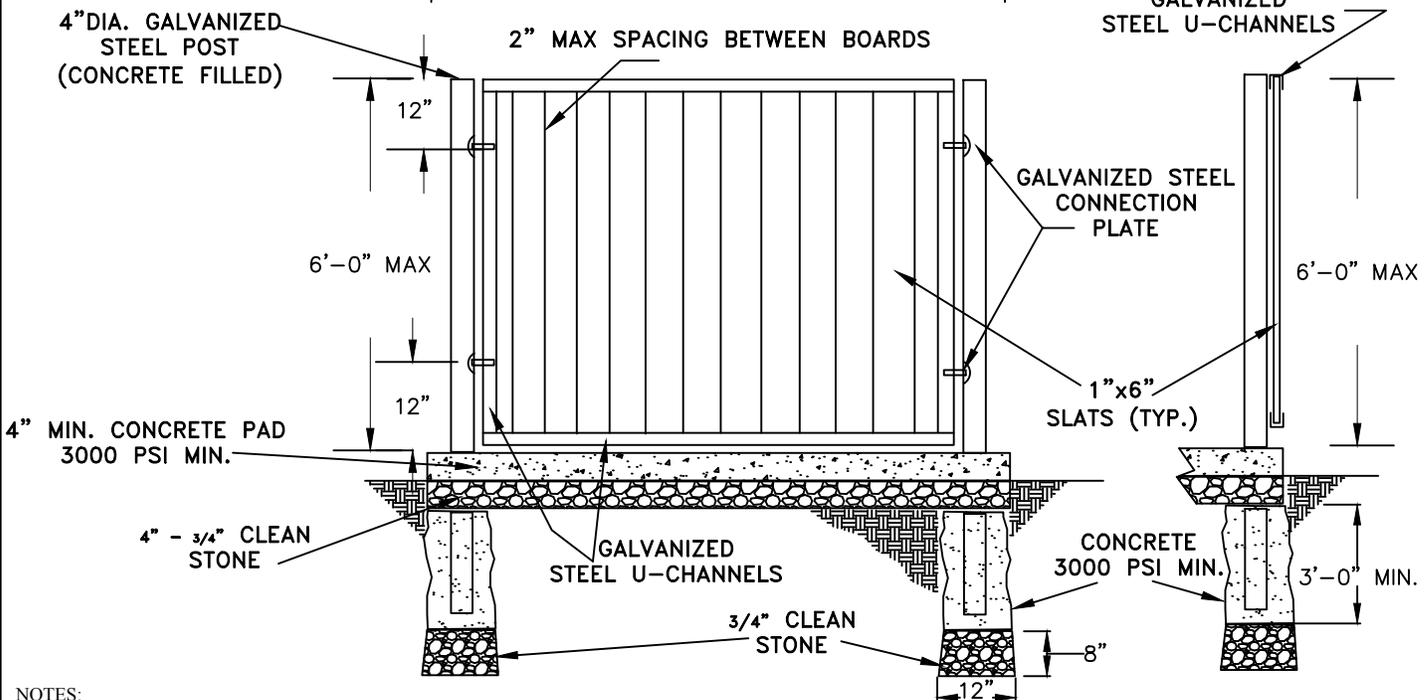
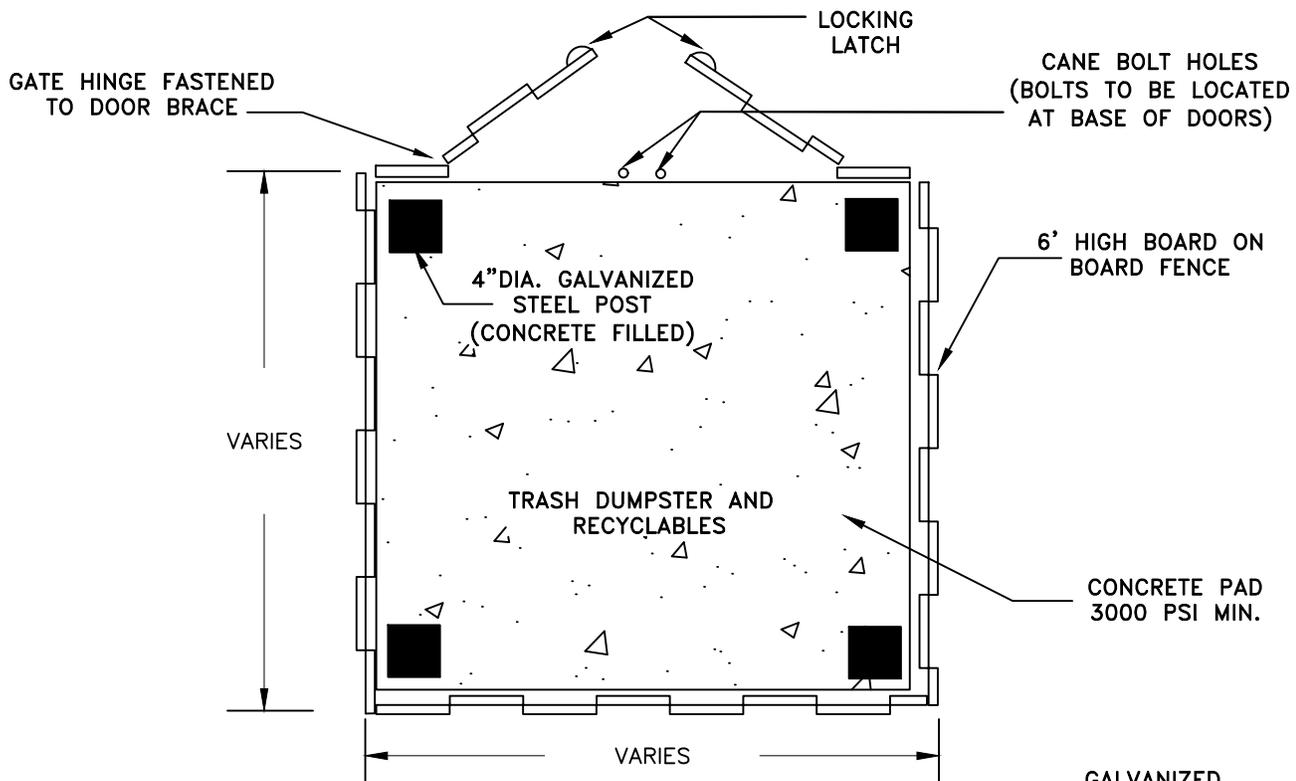
DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 1-3-12

SCALE : NTS

DRAWN BY: JAR

REV: 2018



NOTES:

1. SEE SITE PLAN REQUIREMENTS, LDO 5-4 SOLID WASTE AND RECYCLABLES.
2. ALL WOOD SHALL BE PRESSURE TREATED.
3. ALL HARDWARE SHALL BE GALVANIZED OR APPROVED EQUAL.
4. CODE ENFORCEMENT AND ZONING PERMITS ARE REQUIRED.

TRASH ENCLOSURE DETAIL

Not to Scale



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STANDARD CONSTRUCTION DETAILS

TRASH ENCLOSURE DETAIL

DOUGLAS A. BALL, P.E., TOWNSHIP ENGINEER

DATE: 1-3-12

SCALE : NTS

DRAWN BY: JAR

REV: 9/2014

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