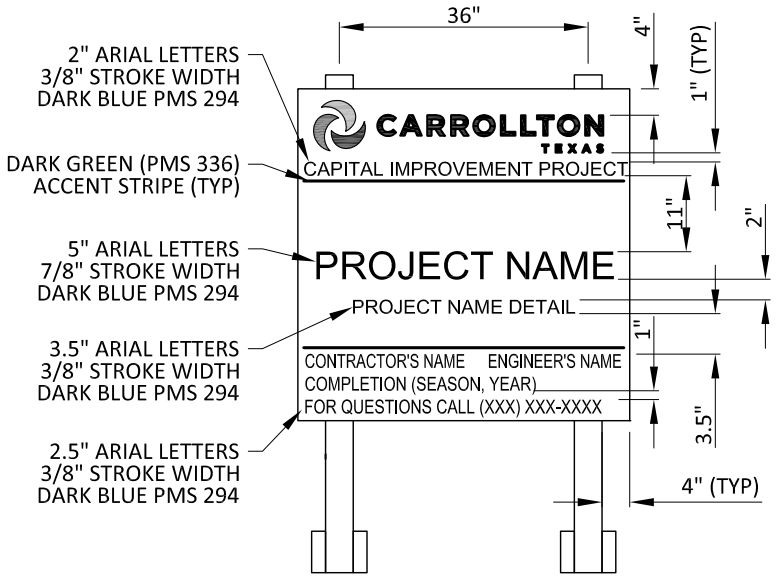
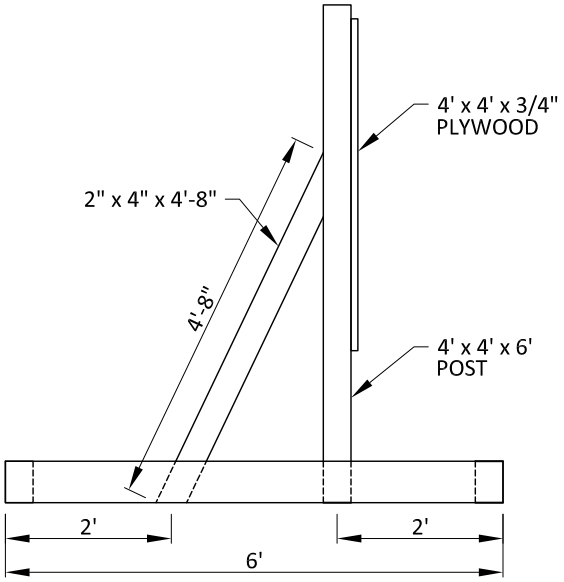
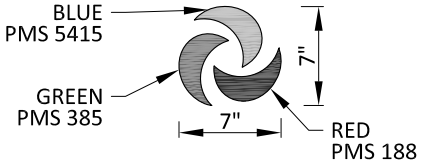
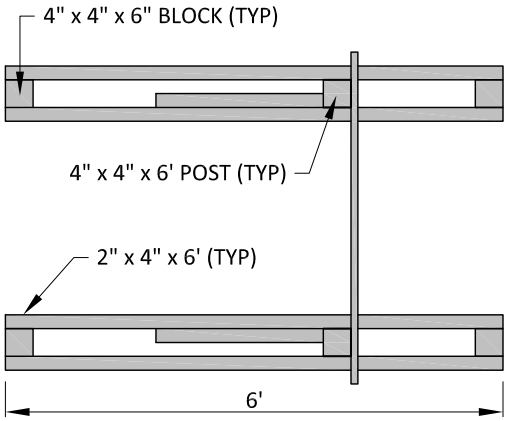
LOGO TEXT:
"CARROLLTON": 4" LETTERS, 7/8" BRUSH STROKE
"TEXAS": 1/2" LETTERS, 1/2" BRUSH STROKE
COLOR: PMS BLACK









COLOR SCHEDULE:

GREEN: PMS 336 OR EQUAL PANTONE
MIXTURE: 12 PARTS PANTONE YELLOW,
4 PARTS PANTONE GREEN

BLUE: PMS 294 OR EQUAL PANTONE
MIXTURE: 13 PARTS PANTONE PROCESS BLUE,
3 PARTS PANTONE REFLEX BLUE

WHITE: PANTONE WHITE (BACKGROUND)

PANTONE, INC. COLOR STANDARDS DIVISION
TELEPHONE: 201-935-5500

NOTES:

1. SIGN SHALL BE MOUNTED ON (2) 4" x 4" x 6' TIMBER POSTS.
2. A MINIMUM OF 2 SIGNS WILL BE REQUIRED FOR EACH PROJECT UNLESS OTHERWISE STATED ON THE PROJECT DRAWINGS.

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 02/2021
SHEET 1 OF 1

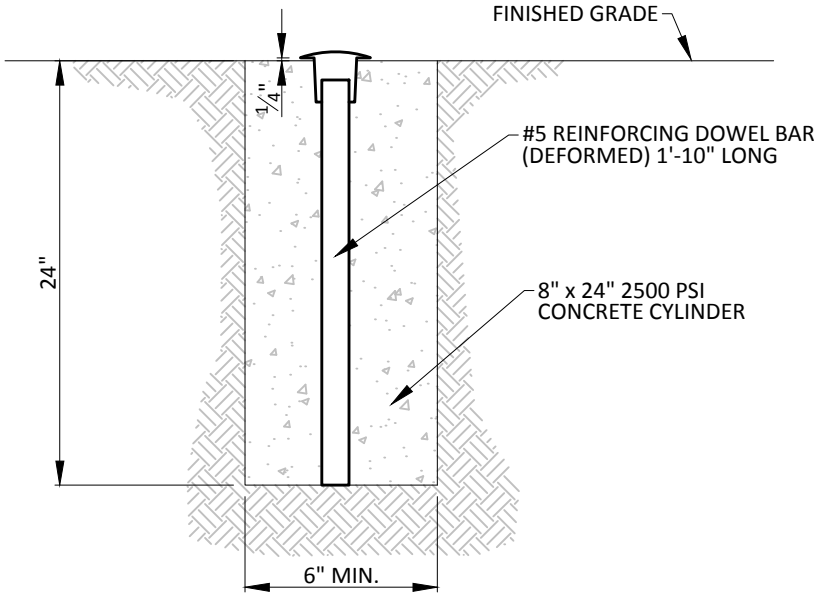
CARROLLTON
TEXAS

CAPITAL IMPROVEMENTS SIGN

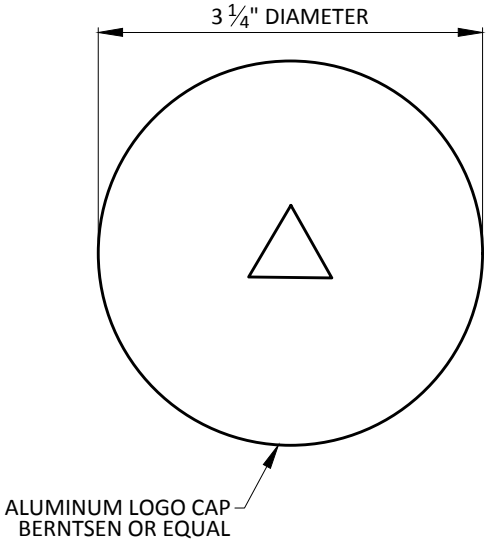
M-1

ENGINEERING
DEPARTMENT

FILENAME:M01_1-1.DWG



CROSS SECTIONAL ELEVATION



PLAN VIEW OF INSERT

NOTE:

SURVEY MARKER SHALL SHOW GPS COORDINATES AND ELEVATION IN ACCORDANCE WITH CITY DATUM.

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

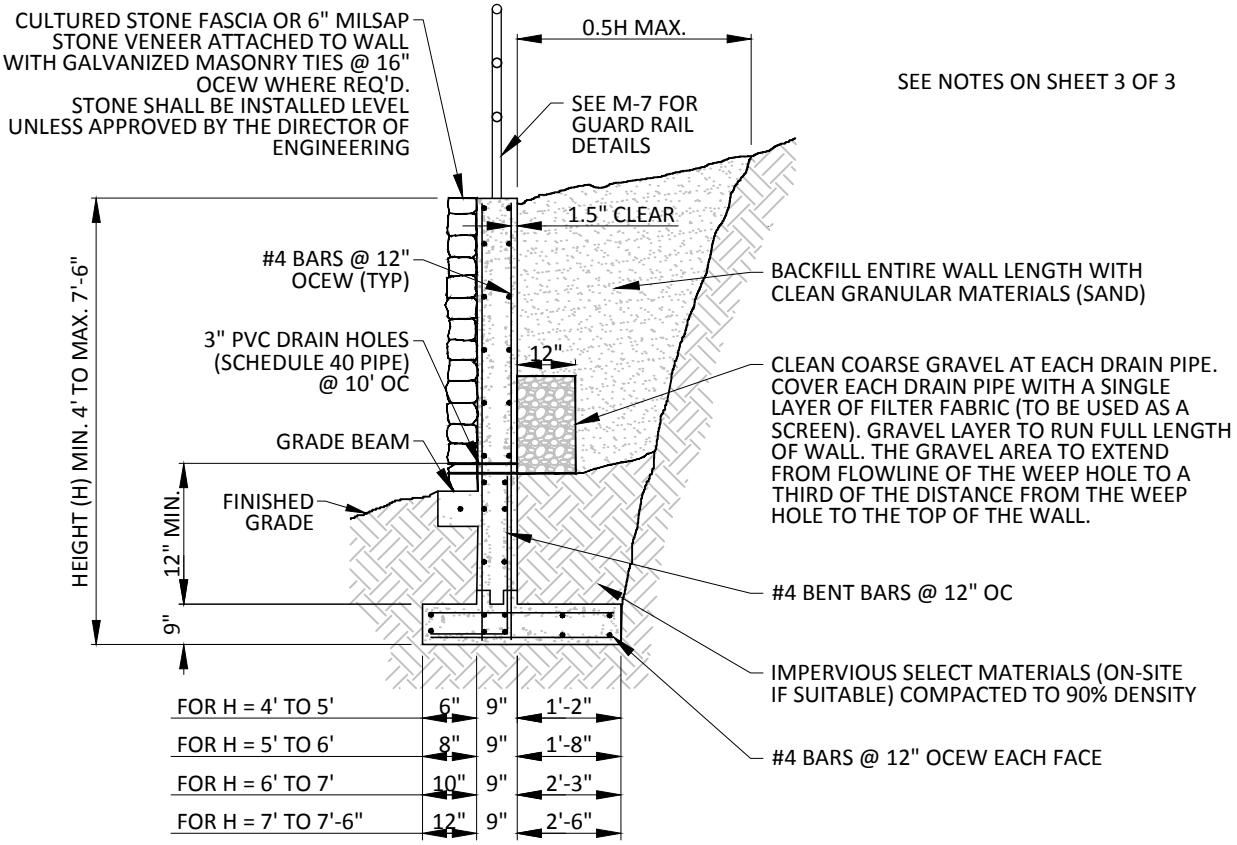
SCALE: NTS DATE: 01/2004
SHEET 1 OF 1

CONER SURVEY MONUMENT

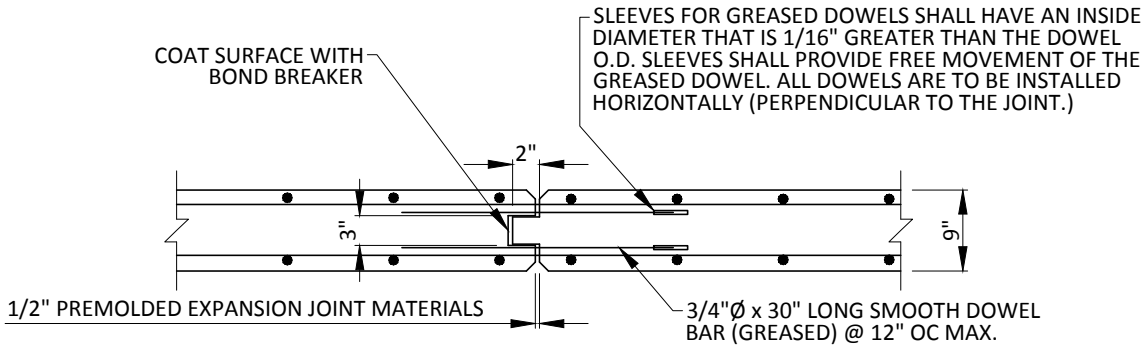
M-2

ENGINEERING
DEPARTMENT

FILENAME: M-2_1-1.DWG



SECTIONAL ELEVATION



EXPANSION JOINT TOP VIEW

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

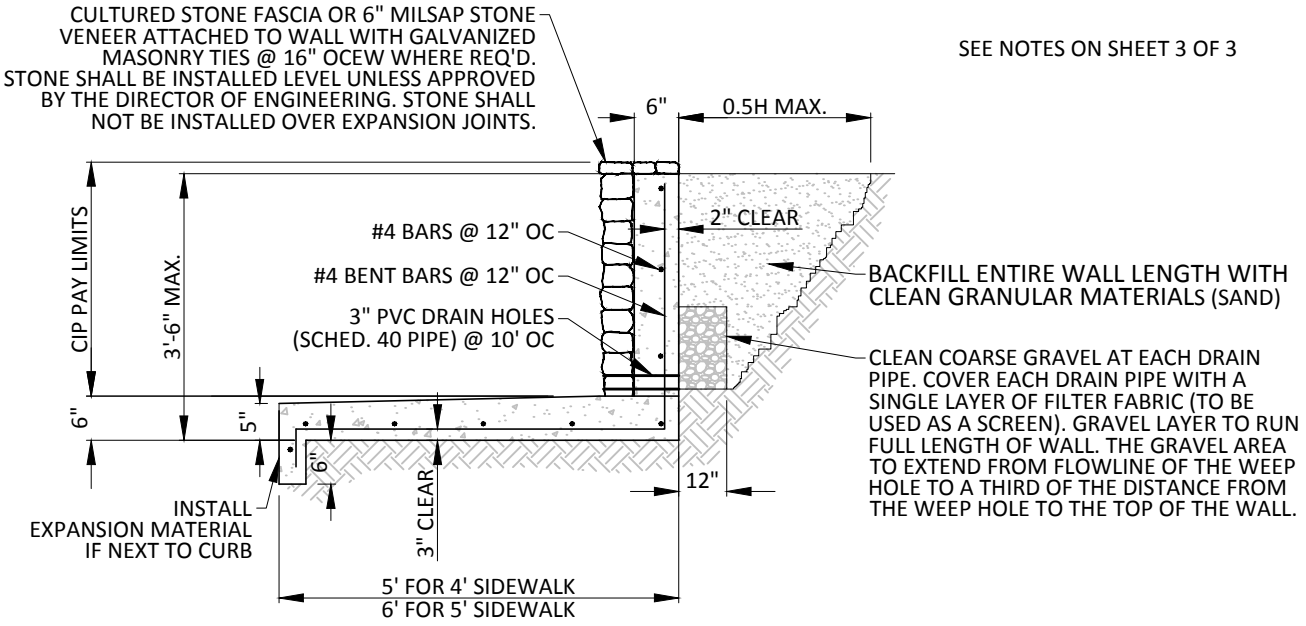
SCALE: NTS DATE: 01/2015
SHEET 1 OF 3

STANDARD RETAINING WALL DETAILS
TYPE "A" RETAINING WALL

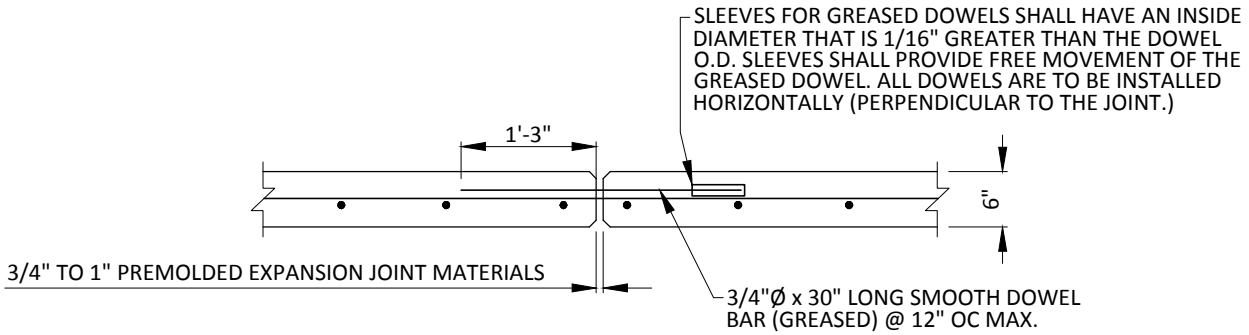
M-3

ENGINEERING DEPARTMENT

FILENAME: M-3_1-3.DWG



SECTIONAL ELEVATION



EXPANSION JOINT TOP VIEW

SEALANT SHALL BE ONE OF THE FOLLOWING TYPES:

1. ACRYLIC-LATEX ONE PART GUN GRADE CALKING: ASTM C-834-76, SONNEBORN "SONOLAC" OR EQUAL.
2. URETHANE TWO PART GUN GRADE NON SAG CONSTRUCTION SEALANT: ASTM C-920-79, TYPE M, GRADE NS, CLASS 25; SONNEBORNE "SONOLASTIC" NP TWO URETHANE SEALANT OR EQUAL.

NOTES:

1. THE CONTRACTOR MAY USE A CHARDONNAY-COLORED CULTURED STONE FASCIA (PREFERRED) OR MILSAP STONE (QUARRY CHOP) ON THE WALL FACE. CULTURED STONE FASCIA SHALL BE MERIDIAN STONE (800-245-1542), OR EQUAL.

2. THESE DETAILS ARE MINIMUM STANDARDS. SUBMITTED DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A REGISTERED ENGINEER, WHO SHALL BE RESPONSIBLE FOR THE PROPER REINFORCING DESIGN AND PLACEMENT ALONG WITH THE SOIL TESTING FOR EACH RETAINING WALL LOCATION.

3. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.

4. ALL DISTANCES TO REINFORCING BARS REFER TO CLEAR CONCRETE COVER OF BAR UNLESS NOTED OTHERWISE.

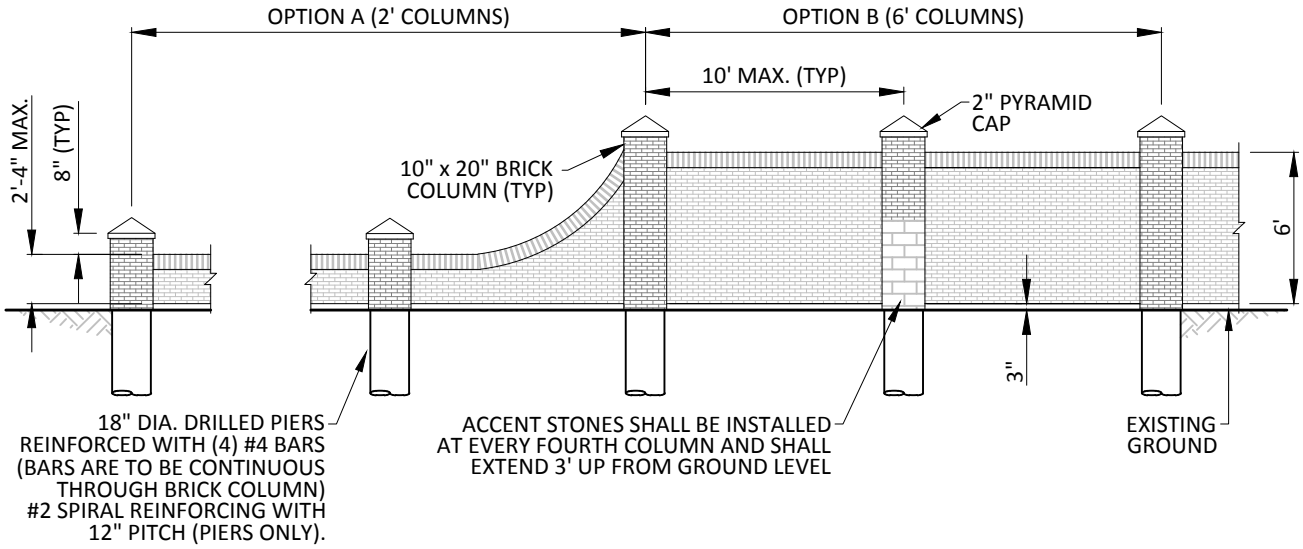
5. MINIMUM BAR LAP SHALL BE 40 BAR DIAMETERS.

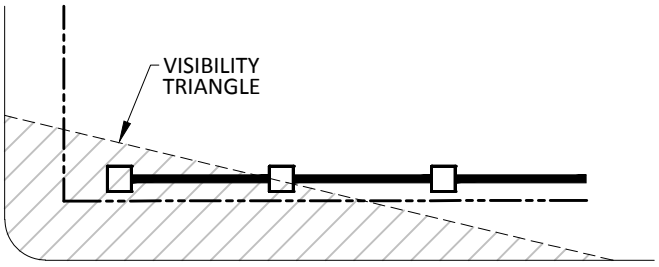
6. MINIMUM GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.

7. MINIMUM COMPRESSIVE DESIGN STRENGTH OF THE CONCRETE SHALL BE 3000 PSI AT 28 DAYS. A CONCRETE MIX DESIGN BY AN INDEPENDENT LABORATORY SHALL BE SUBMITTED IF REQUESTED BY THE CITY OF CARROLLTON ENGINEERING DEPARTMENT.

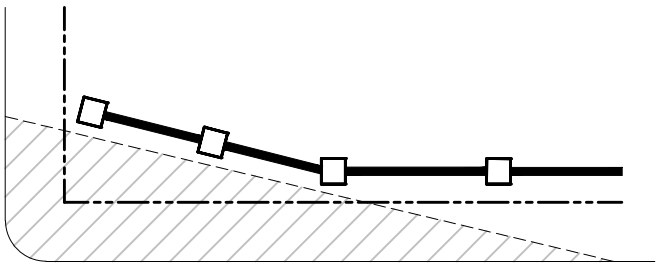
8. MAXIMUM SPACING OF EXPANSION JOINTS SHALL BE 75' ON CENTER, EXCEPT ON WALK/WALLS. ON WALK/WALLS, EXPANSION JOINTS SHALL MATCH SIDEWALK EXPANSION JOINTS AND BE NO FURTHER THAN 75' APART.

9. MINIMUM SURFACE FINISH FOR ALL EXPOSED SURFACES WILL BE A RUBBED FINISH PRODUCED BY RUBBING WITH A CARBORUNDOM STONE. STONE FASCIA SHALL BE INSTALLED ON ALL WALL FACES SEEN FROM STREETS.





OPTION A



OPTION B

NOTES:

1. IF THE WALL IS LOCATED OUTSIDE OF THE VISIBILITY TRIANGLE, IT MAY BE 6' TALL. (OPTION B)
2. ALL WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 8, SCREENING WALLS.
3. MODULAR DIMENSIONS ARE BASED ON A 2 5/8" x 9 5/8" x 3" MASONRY UNIT.
4. REFER TO VISIBILITY ORDINANCE #2305 FOR SIGHT DISTANCE COMPLIANCE.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

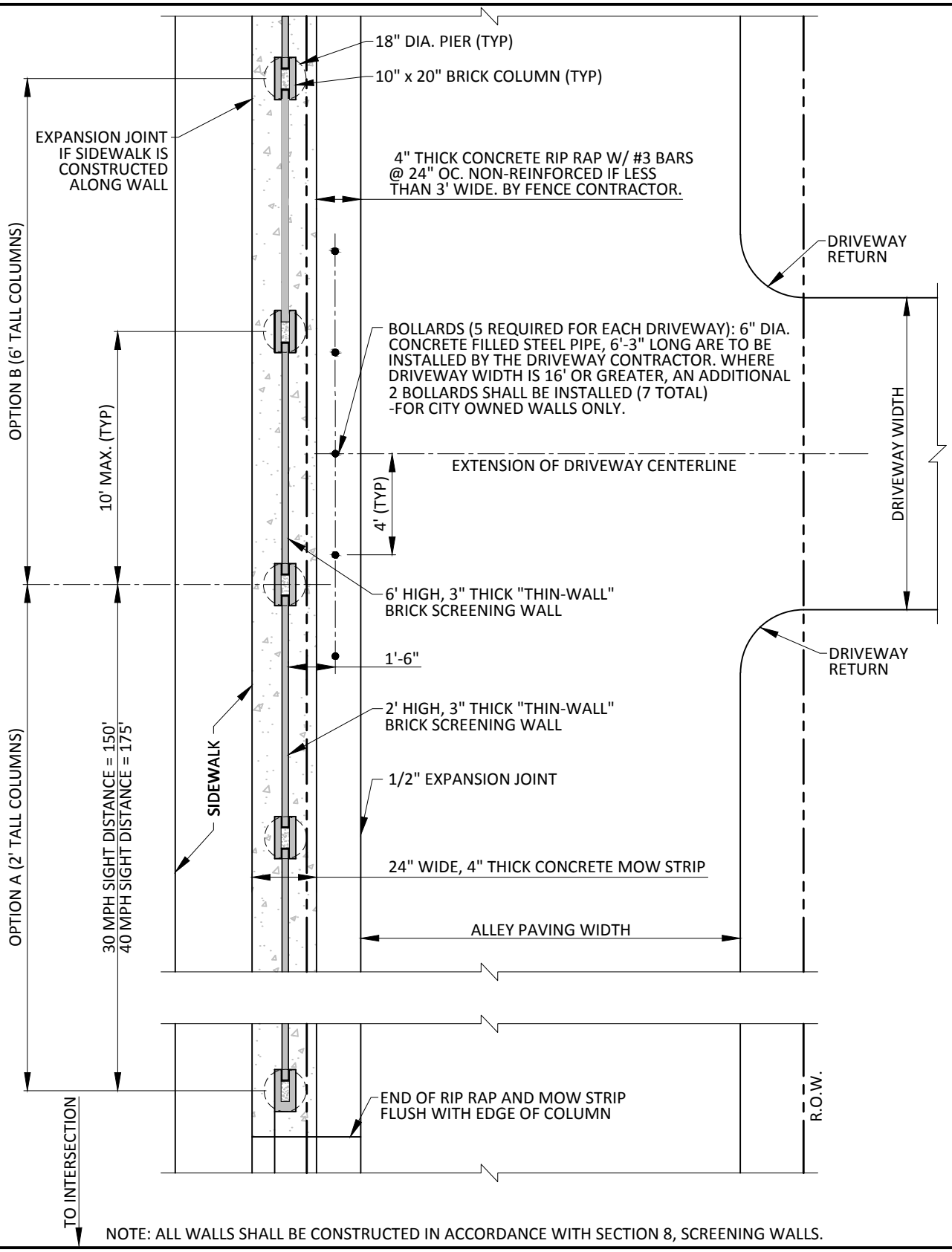
SCALE: NTS DATE: 01/2013
SHEET 1 OF 4

BRICK SCREENING WALL ELEVATION

M-4

ENGINEERING DEPARTMENT

FILENAME: M-4_1-4.DWG



NOTE: ALL WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 8, SCREENING WALLS.

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2007
SHEET 2 OF 4

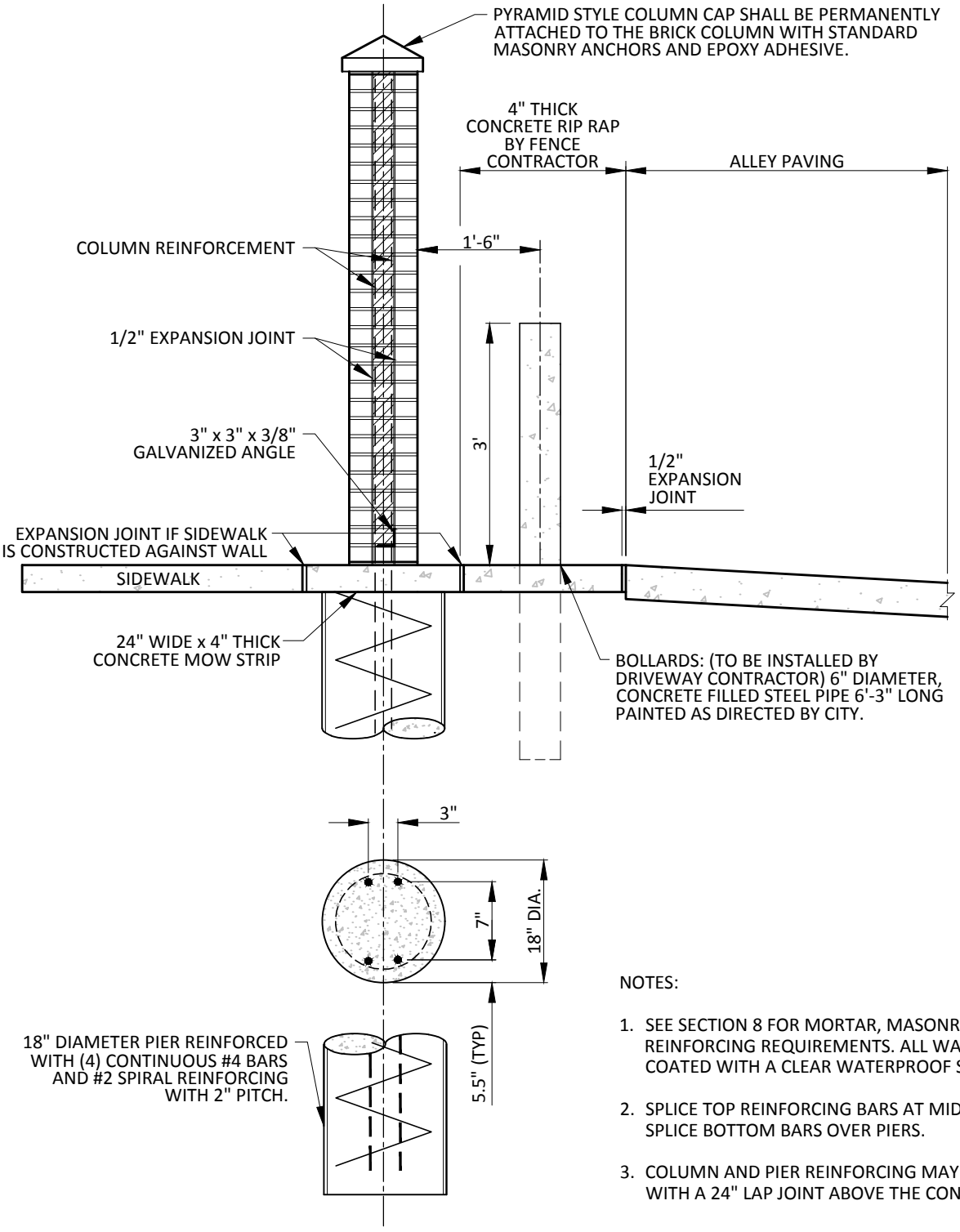
CARROLLTON TEXAS

BRICK SCREENING WALL
SECTIONAL PLAN VIEW

M-4

ENGINEERING DEPARTMENT

FILENAME: M-4_2-4.DWG



NOTES:

1. SEE SECTION 8 FOR MORTAR, MASONRY, AND REINFORCING REQUIREMENTS. ALL WALLS SHALL BE COATED WITH A CLEAR WATERPROOF SEALANT.
2. SPLICE TOP REINFORCING BARS AT MID-SPAN AND SPLICE BOTTOM BARS OVER PIERS.
3. COLUMN AND PIER REINFORCING MAY BE SPLICED WITH A 24" LAP JOINT ABOVE THE CONCRETE PIER.

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 12/2007
SHEET 3 OF 4

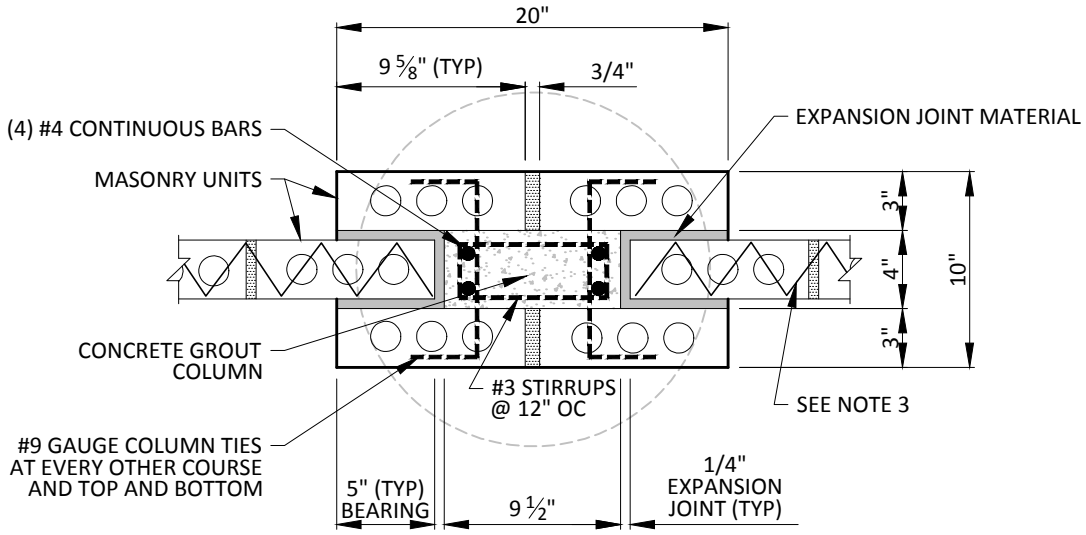
CARROLLTON TEXAS

BRICK SCREENING WALL
CROSS SECTION

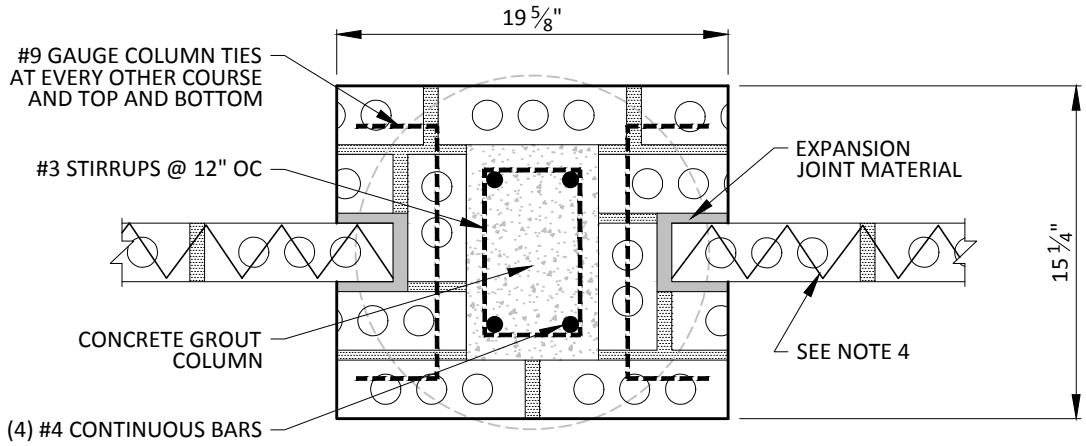
M-4

ENGINEERING DEPARTMENT

FILENAME: M-4_3-4.DWG



20" x 10" COLUMN PLAN VIEW



20" x 15" COLUMN PLAN VIEW

NOTES:

1. SEE SECTION 8 FOR MORTAR, MASONRY AND REINFORCING REQUIREMENTS.
2. ALL WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 8, SCREENING WALLS.
3. #9 GAUGE MASONRY WALL REINFORCING CONTINUOUS EVERY OTHER MASONRY COURSE, AND TOP AND BOTTOM OR (3) #3 VERTICAL BARS SPACED AT QUARTER POINTS ALONG THE WALL. FOR ALT. REINFORCING, SEE SECTION 8.I.B.3.
4. #9 GAUGE MASONRY WALL REINFORCING CONTINUOUS EVERY OTHER MASONRY COURSE, AND TOP AND BOTTOM. FOR ALT. REINFORCING, SEE SECTION 8.I.B.3.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

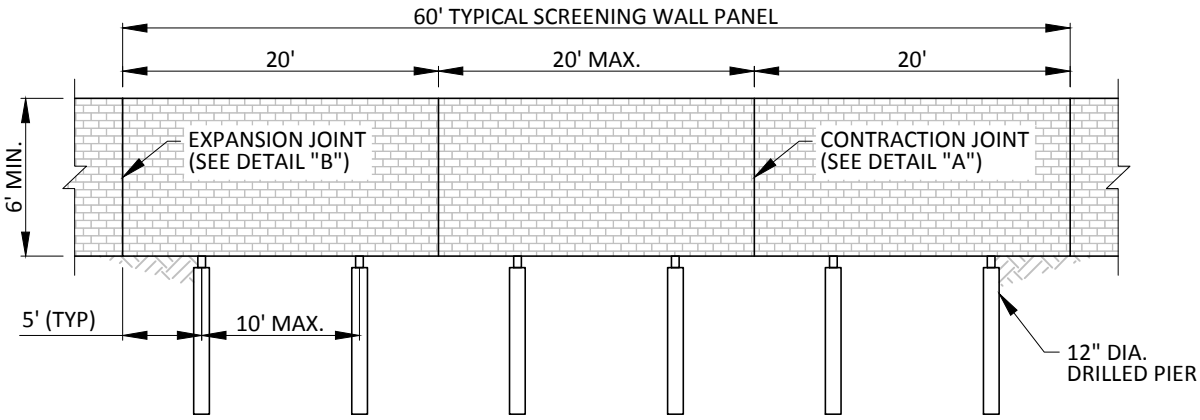
SCALE: NTS DATE: 01/2005
SHEET 4 OF 4

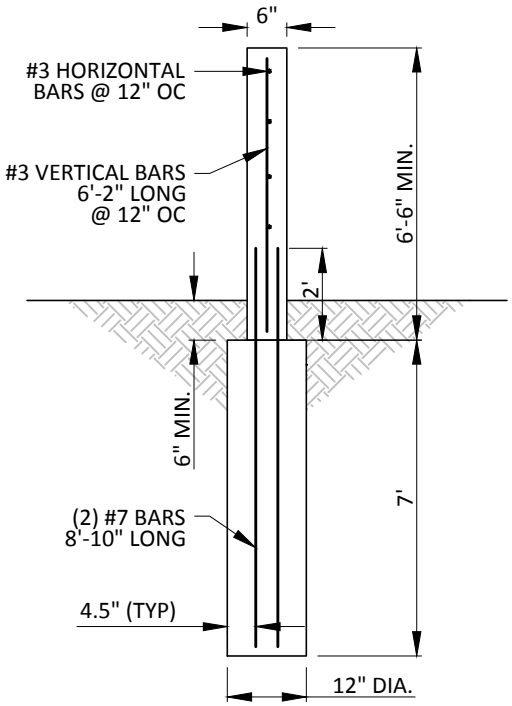
BRICK SCREENING WALL
COLUMN PLANS

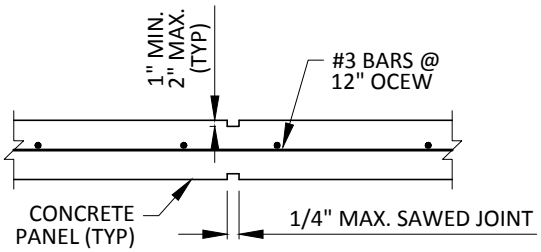
M-4

ENGINEERING DEPARTMENT

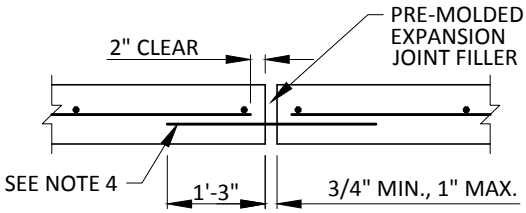
FILENAME: M-4_4-4.DWG







DETAIL "A"



DETAIL "B"

NOTE:

1. WHERE THE SCREENING WALL INTERSECTS A ROAD R.O.W. REFER TO VISIBILITY ORDINANCE #2305 FOR SIGHT DISTANCE COMPLIANCE.
2. FOR SCREENING WALL ON PRIVATE PROPERTY REQUIRED PER COMPREHENSIVE ZONING ORDINANCE BETWEEN COMMERCIAL AND RESIDENTIAL DISTRICTS AND MULTI-FAMILY AND SINGLE FAMILY DISTRICTS.
3. THIS DETAIL CANNOT BE USED FOR SCREENING WALLS PARALLEL WITH ANY CITY STREET.
4. #3 SMOOTH DOWEL, 30" LONG @ 12" OC. SLEEVES FOR GREASED DOWELS SHALL HAVE AN INSIDE DIAMETER THAT IS 1/16" GREATER THAN THE DOWEL O.D. SLEEVES SHALL PROVIDE FREE MOVEMENT OF THE GREASED DOWEL. ALL DOWELS ARE TO BE INSTALLED HORIZONTALLY (PERPENDICULAR TO THE JOINT.)

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2005
SHEET 1 OF 2

PRIVATE CONCRETE
SCREENING WALL DETAILS

M-5

ENGINEERING
DEPARTMENT

FILENAME: M-5_1-2.DWG

NOTES:

1. THIS DETAIL IS A MINIMAL CONDITION DESIGN. REQUIRED SUBMITTED DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A REGISTERED ENGINEER, WHO SHALL BE RESPONSIBLE FOR THE PROPER DESIGN (SIZE AND SPACING) OF THE STEEL REINFORCEMENT AND THE SOIL TESTING FOR EACH WALL LOCATION.

2. THE SCREENING WALL MUST BE LOCATED OUT OF ANY "VISIBILITY TRIANGLES" AS DEFINED IN CITY OF CARROLLTON ORDINANCE NO. 2305 IN REFERENCE TO TRAFFIC VISIBILITY PROVISIONS.

3. INSTALL ALL REINFORCEMENT WITH THE FOLLOWING CLEARANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE:
   A. FOOTING, PIER, OR BEAM BOTTOM: 3"
   B. EARTH-FORMED PIER OR BEAM BOTTOM: 2"
   C. FORMED FOOTING, PIER OR BEAM SIDES, EXPOSED: 1"
   D. PRECAST EXPOSED TO WEATHER: PANELS: 3/4"; POSTS: 1.25"

4. ALL DIMENSIONS TO REINFORCING BARS SHALL REFER TO CENTERLINE OF THE REINFORCING BAR UNLESS NOTED OTHERWISE.

5. THE MINIMUM REINFORCING BAR LAP IS TO BE THE C.R.S.I. STANDARD OR A MINIMUM OF 40 BAR DIAMETERS, WHICHEVER IS GREATER.

6. ALL REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60. ALL TIES AND STIRRUPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 40.

7. ALL REINFORCEMENT STEEL SHALL BE FABRICATED IN ACCORDANCE WITH THE C.R.S.I. STANDARD DETAILS. REINFORCING BARS SHALL BE COLD-BENT ONLY. USE OF HEAT TO BEND REINFORCEMENT STEEL SHALL BE CAUSE FOR REJECTION.

8. THE CONCRETE FOR FENCES AND PIERS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

9. ALL CONCRETE PERMANENTLY EXPOSED TO THE WEATHER SHALL CONTAIN AN AIR-ENTRAINING ADMIXTURE RESULTING IN 3 TO 6% ENTRAINED AIR.

10. FRESH POURED CONCRETE SHALL BE TAMPED INTO PLACE BY STEEL RAMMER, SLICING TOOLS OR MECHANICAL VIBRATOR, UNTIL CONCRETE IS THOROUGHLY COMPACT AND WITHOUT VOID.

11. THE MAXIMUM SPACING OF EXPANSION JOINTS SHALL BE 20' ON CENTER.

12. THE MINIMUM SURFACE FINISH FOR ALL EXPOSED SURFACES SHALL BE STONE, BRICK, CONCRETE, GYPSUM, HOLLOW CLAY TILE, CONCRETE BLOCK OR TILE, OR OTHER SIMILAR BUILDING UNITS, MATERIALS, OR COMBINATION OF THESE MATERIALS LAID UNIT BY UNIT AND SET IN MORTAR THAT IS APPROVED BY THE BUILDING OFFICIAL.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2005
SHEET 2 OF 2

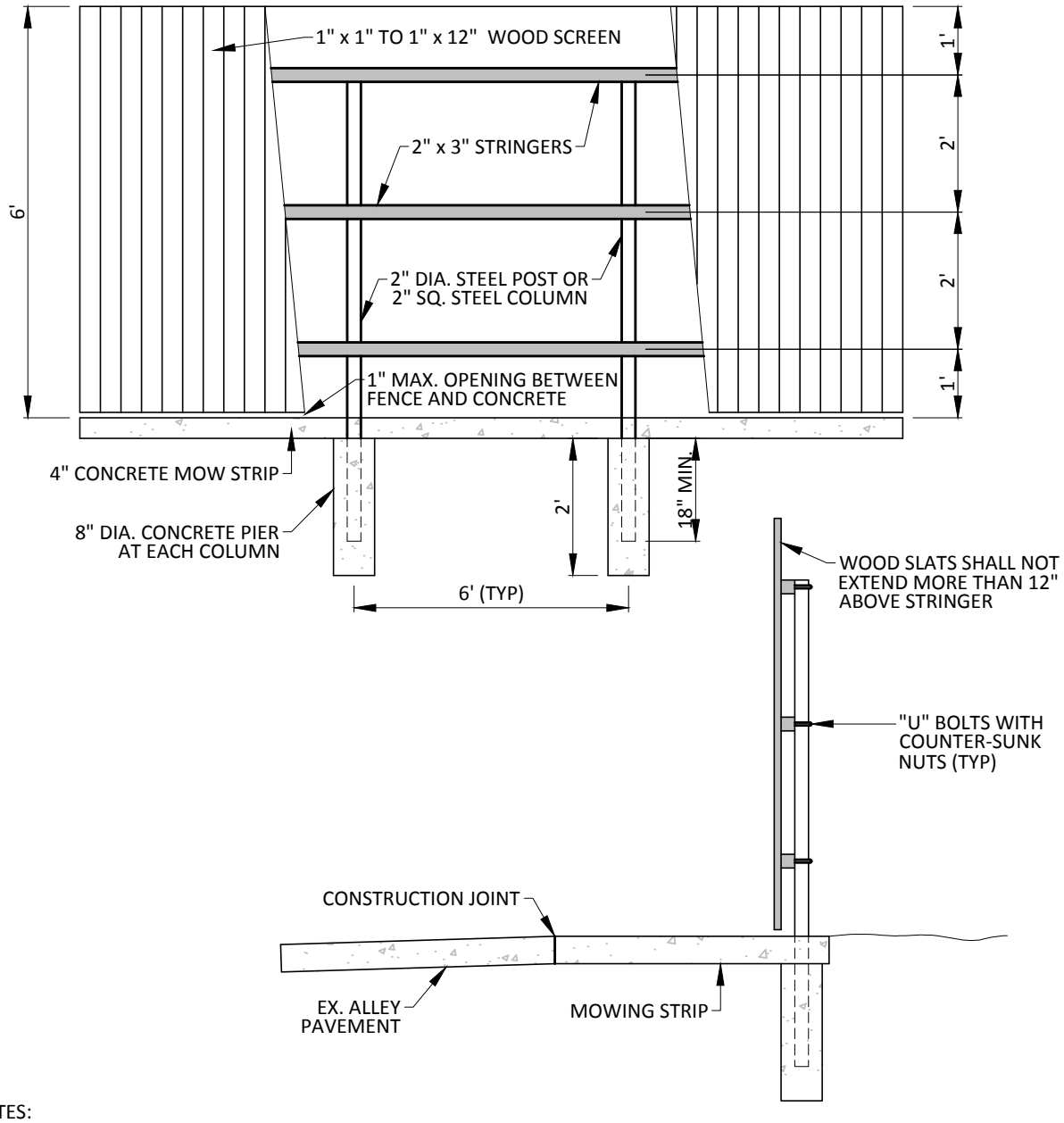
PRIVATE CONCRETE
SCREENING WALL NOTES

M-5

ENGINEERING
DEPARTMENT

FILENAME: M-5_2-2.DWG

FOR PRIVATE USE ONLY
PER THE ZONING ORDINANCE AND THE SUBDIVISION ORDINANCE



NOTES:

1. ALL NAILS AND FASTENERS SHALL BE HOT DIP GALVANIZED OR OTHER CORROSION RESISTANT MATERIAL.
2. ALL WOOD SHALL BE REDWOOD, CEDAR, PRESSURE TREATED PINE, OR EQUAL.
3. ALL METAL POSTS SHALL BE 2" I.D. STANDARD PIPE GAUGE STEEL POSTS OR 2" SQ. 1/8" WALL GAUGE STEEL COLUMNS. ALL STEEL SHALL BE HOT DIP GALVANIZED.
4. DETAILS SHOW ACCEPTABLE FINISHED SURFACE, WOOD SCREEN DESIGNS MAY INCLUDE BOARD ON BOARD, BOARD & BATTEN, SOLID PANEL, OR OTHER, PROVIDED THAT IN ANY CASE THE WOOD SCREEN IS VISUALLY OPAQUE.
5. MOWING STRIP IS REQUIRED ONLY IF PAVING EXISTS IN ALLEY.

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

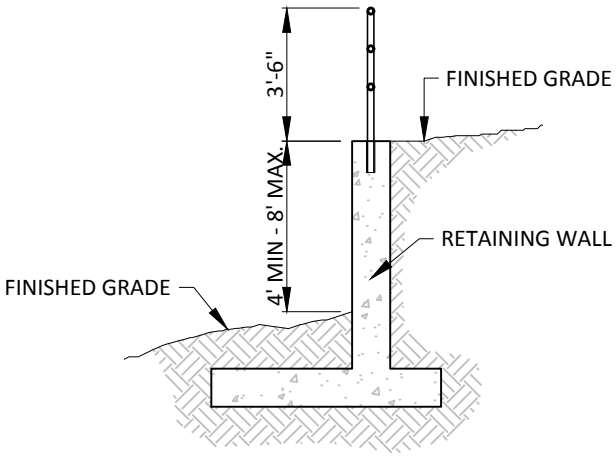
SCALE: NTS DATE: 01/2004
SHEET 1 OF 1

WOOD SCREENING FENCE

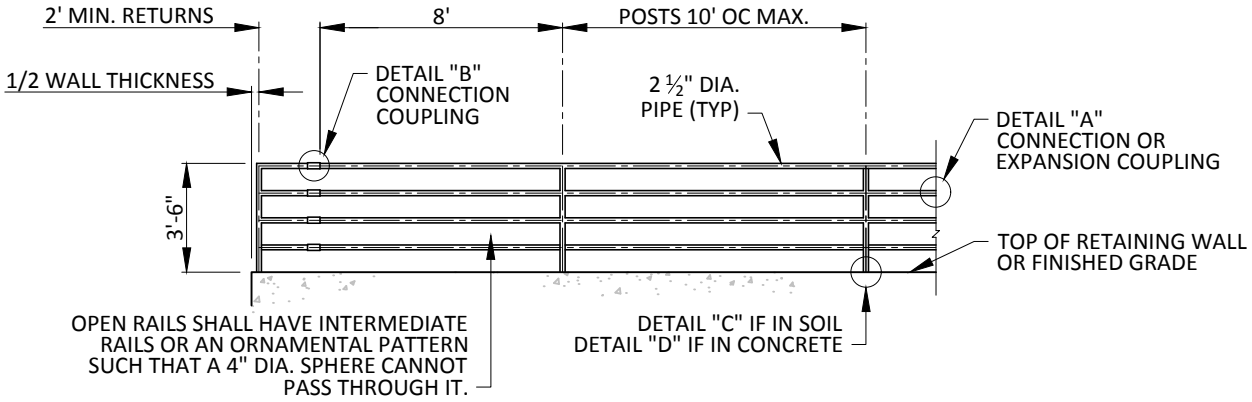
M-6

ENGINEERING
DEPARTMENT

FILENAME: M-6_1-1.DWG



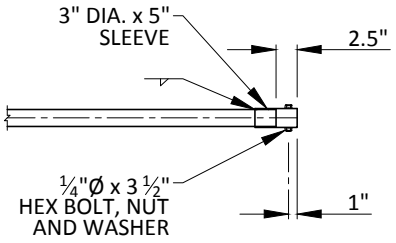
GUARD RAIL PLACEMENT ON RETAINING WALL



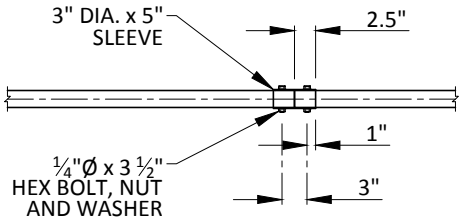
TYPICAL GUARDRAIL ASSEMBLY ELEVATION

NOTES:

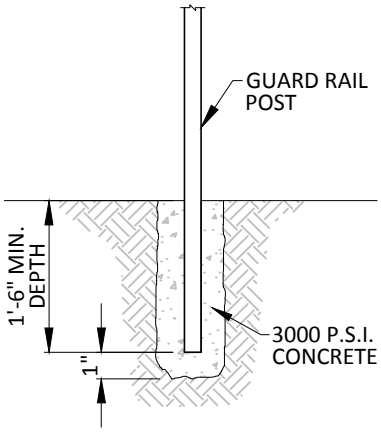
1. A RAIL IS TO BE USED ON ALL RETAINING WALLS 30" AND ABOVE.
2. A RAIL SHALL BE INSTALLED ON ALL CULVERTS WITHIN THE RIGHT-OF-WAY.
3. ALL PIPE USED SHALL BE STANDARD WEIGHT AND ALL UNITS ARE TO BE EITHER HOT DIPPED GALVANIZED OR PAINTED AS DIRECTED BY CITY AFTER FABRICATION.
4. NO FIELD DRILLING OR WELDING IS TO BE ALLOWED.
5. ALL BOLTS, NUTS AND WASHERS ARE TO BE STAINLESS STEEL WITH THE EXPOSED BOLT THREADS TO BE DEFORMED AFTER ERECTION TO PREVENT REMOVAL.



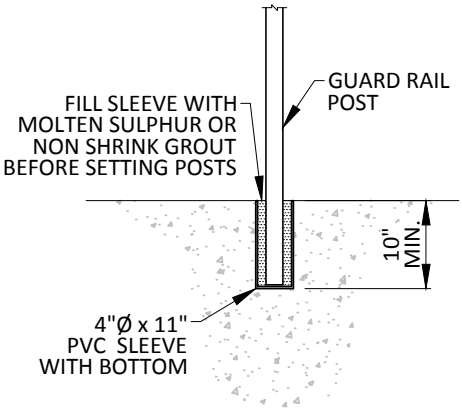
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2015
SHEET 2 OF 2

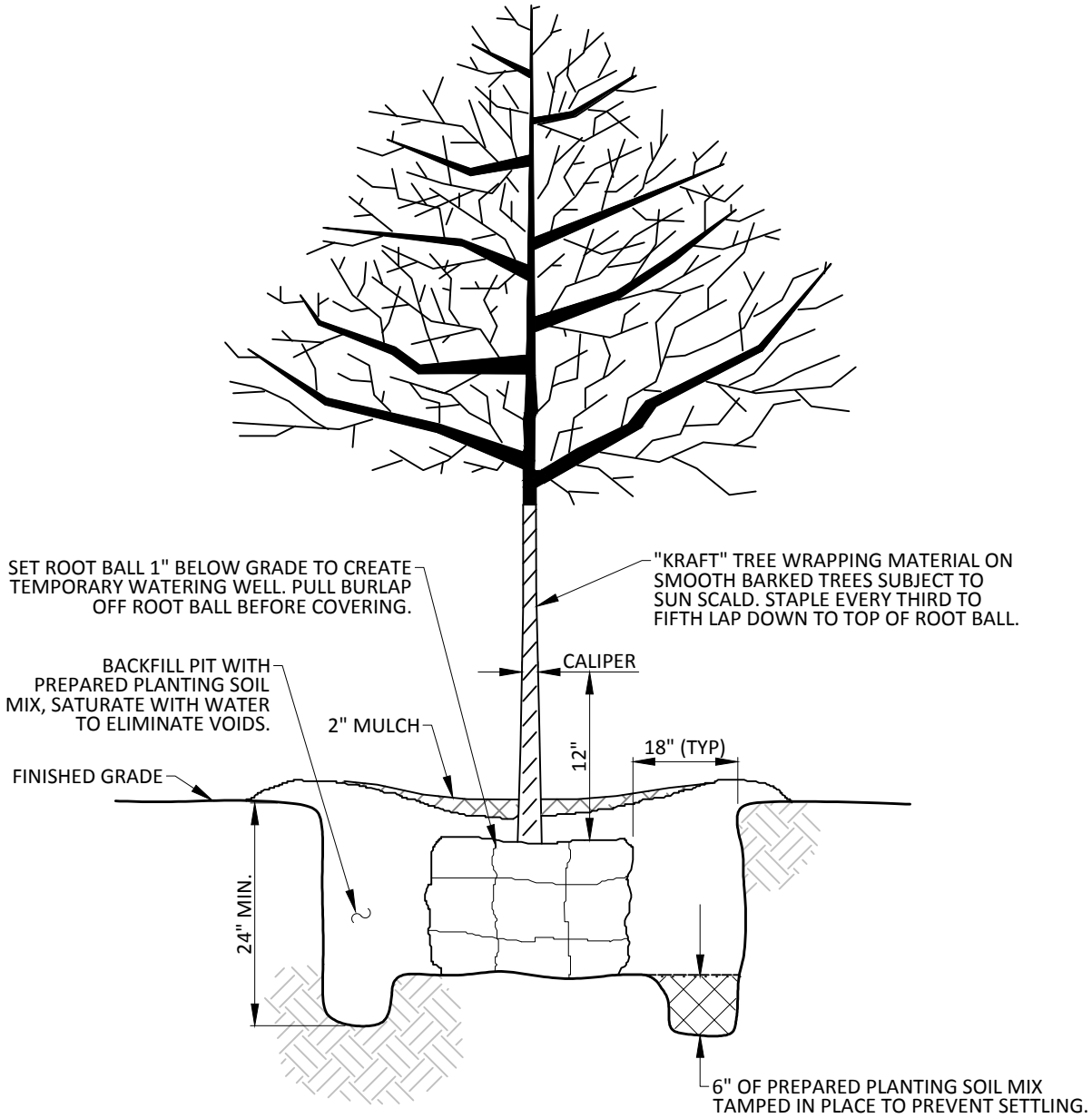
CARROLLTON
TEXAS

PEDESTRIAN RAIL DETAILS

M-7

ENGINEERING
DEPARTMENT

FILENAME: M-7_2-2.DWG



NOTES:

1. THE GENERAL SHAPE AND CHARACTERISTICS OF THE TREE SHALL BE AS SHOWN. TREES OF LESSER PROPORTIONS AND GROWTH HABIT WILL NOT BE ACCEPTED.

2. TREE CALIPER WILL BE MEASURED 12" ABOVE ROOT BALL.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

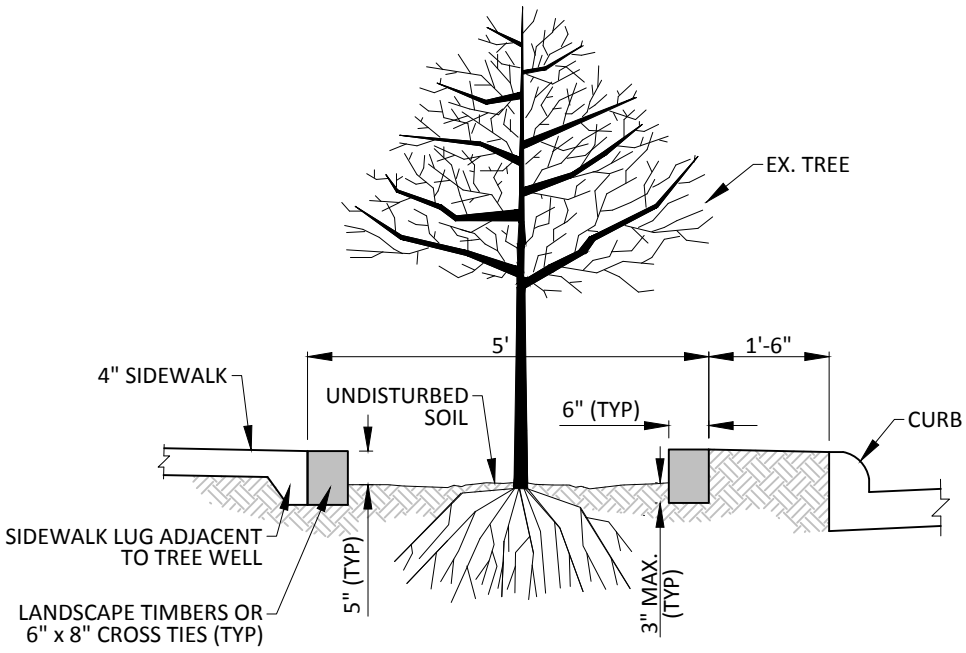
SCALE: NTS DATE: 12/2013
SHEET 1 OF 2

TREE PLANTING DETAIL

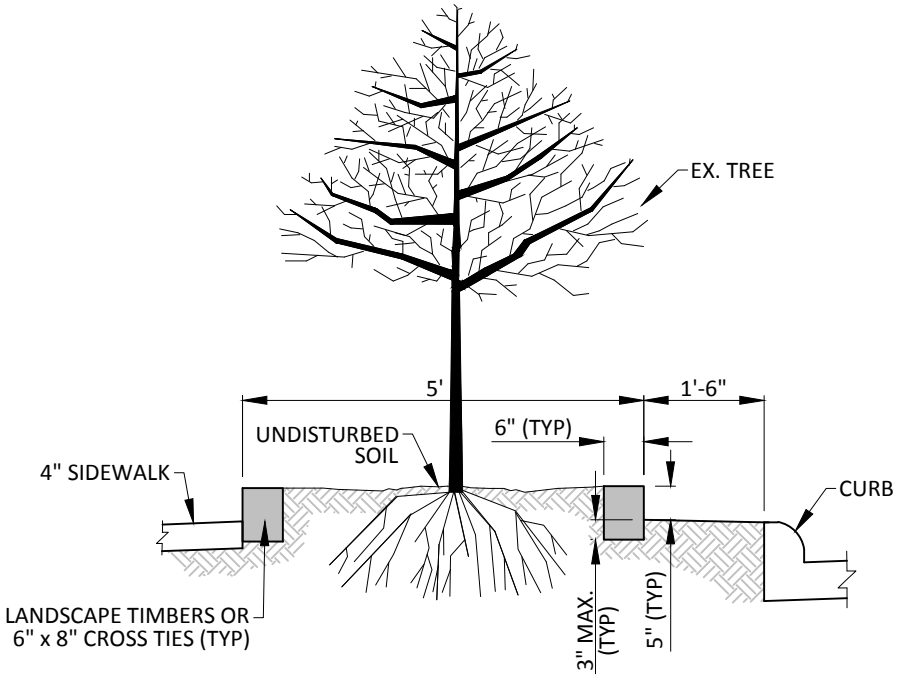
M-8

ENGINEERING DEPARTMENT

FILENAME: M-8_1-2.DWG



TREE WELL DETAIL (FOR UP TO 5" GRADE DIFFERENCE)



TREE PLANTER DETAIL (FOR UP TO 5" GRADE DIFFERENCE)

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

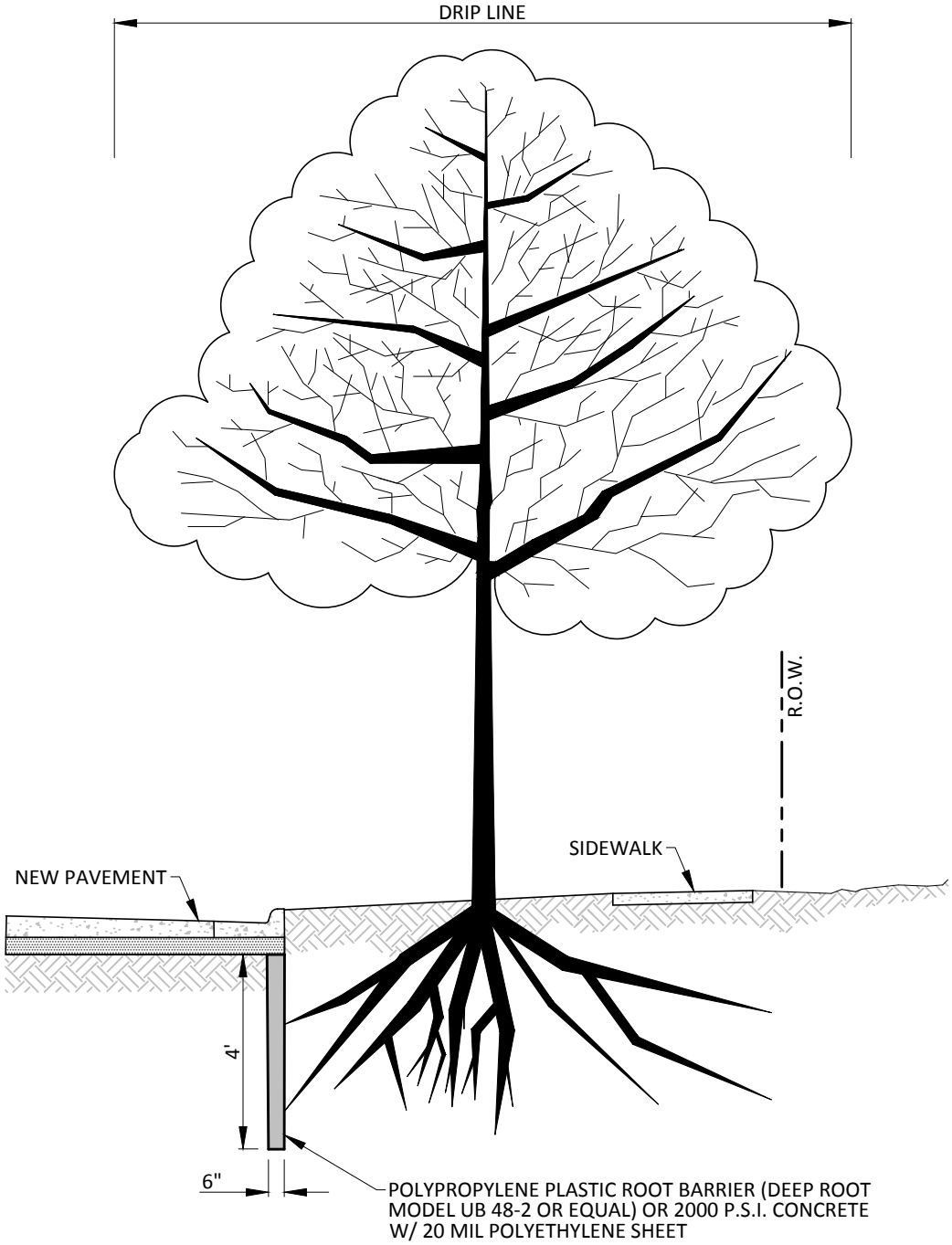
SCALE: NTS DATE: 01/2007
SHEET 2 OF 2

TREE PLANTING DETAIL

M-8

ENGINEERING DEPARTMENT

FILENAME: M-8_2-2.DWG



NOTES:

1. ROOT BARRIERS ARE REQUIRED FOR EXISTING TREES WITHIN 15' OF PAVEMENT.
2. ROOT BARRIER SHALL EXTEND THE ENTIRE LENGTH OF THE TREE'S DRIP LINE.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

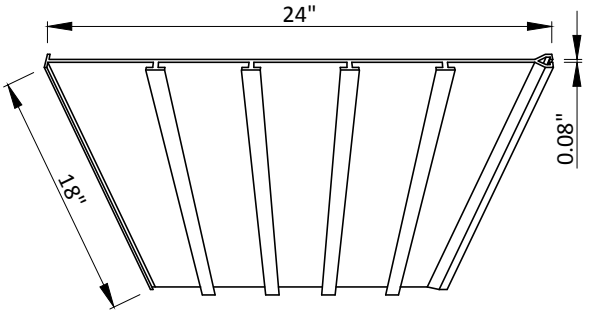
SCALE: NTS DATE: 01/2006
SHEET 1 OF 2

TREE ROOT BARRIER DETAIL
EXISTING TREES

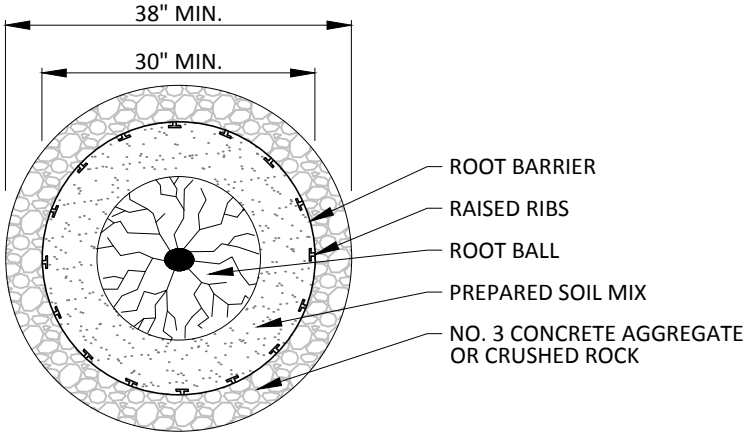
M-09

ENGINEERING DEPARTMENT

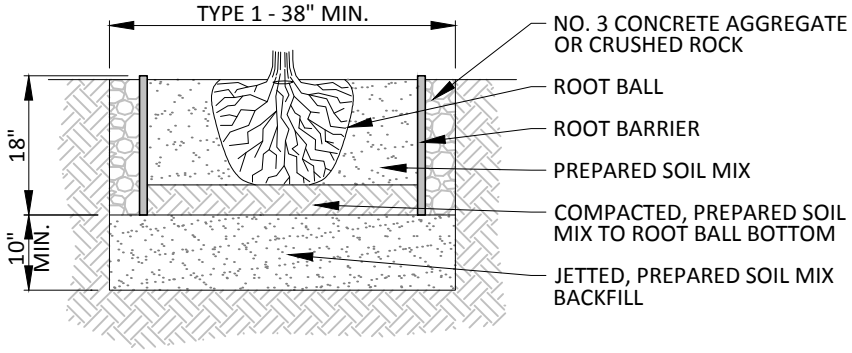
FILENAME: M-09_1-2.DWG



BARRIER PANEL



TYPE 1 (15 GAL./ 4 PANELS)



SECTION - 18" DEEP ROOT BARRIERS

NOTES:

1. BARRIER PANEL TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
2. SEE LANDSCAPE SITE PLAN TO DETERMINE TREES THAT REQUIRE BARRIER PANEL.

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

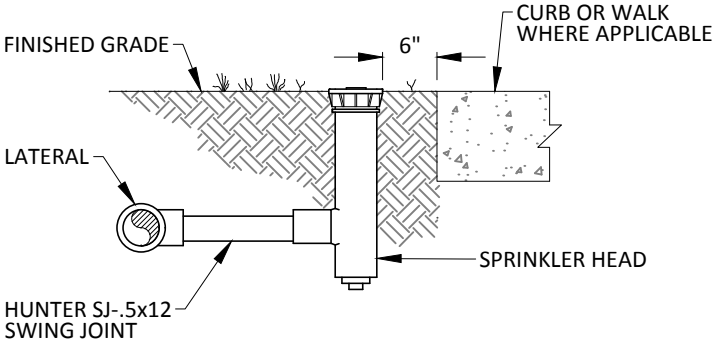
SCALE: NTS DATE: 01/2014
SHEET 2 OF 2

TREE ROOT BARRIER DETAIL
NEW TREES

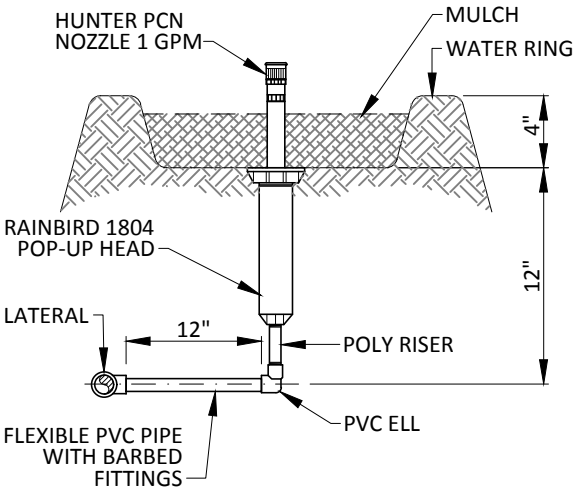
M-9

ENGINEERING
DEPARTMENT

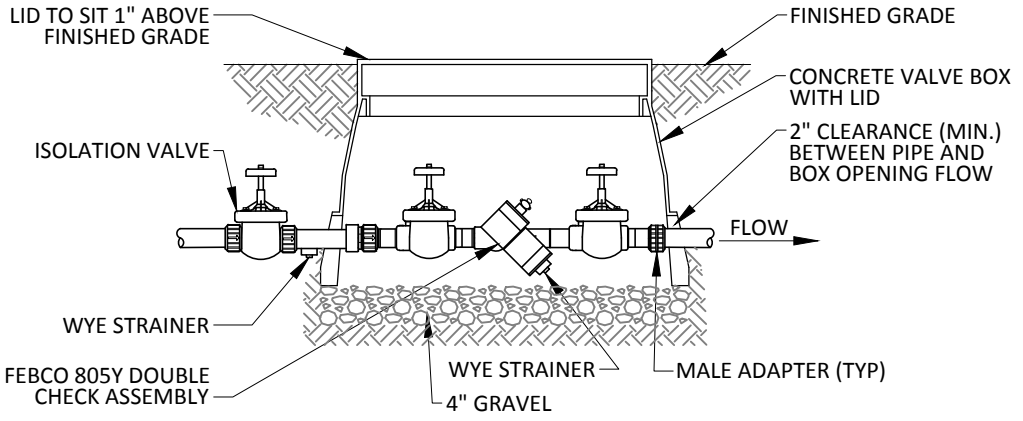
FILENAME: M-9_2-2.DWG



HIGH POP-UP SPRAY HEAD DETAIL



BUBBLER DETAIL



BACKFLOW PREVENTION DETAIL

NOTES:

1. ALL WIRE TO BE INSTALLED PER LOCAL CODE.
2. TAPE AND BUNDLE WIRE EVERY 10'.
3. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX. WRAP AROUND ½" PIPE 15 TIMES.
4. COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS UNDISTURBED ADJACENT SOIL.
5. ORIENT RECTANGULAR VALVE BOXES SO THAT THE EDGES ARE PARALLEL TO ADJACENT WALKS, CURBS, ETC.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

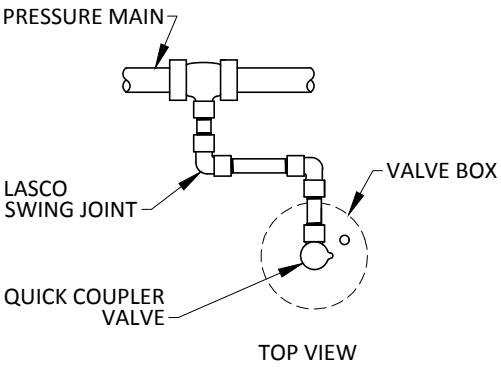
SCALE: NTS DATE: 10/2017
SHEET 1 OF 6

IRRIGATION DETAILS
BACKFLOW PREVENTION &
SPRAY HEAD DETAILS

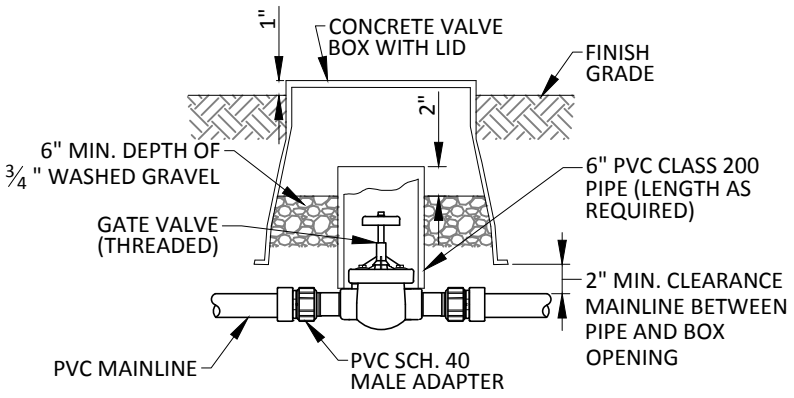
M-10

ENGINEERING
DEPARTMENT

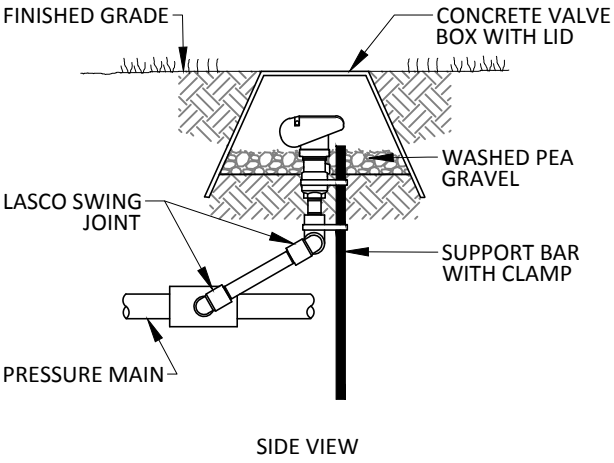
FILENAME: M-10_1-6.DWG



TOP VIEW

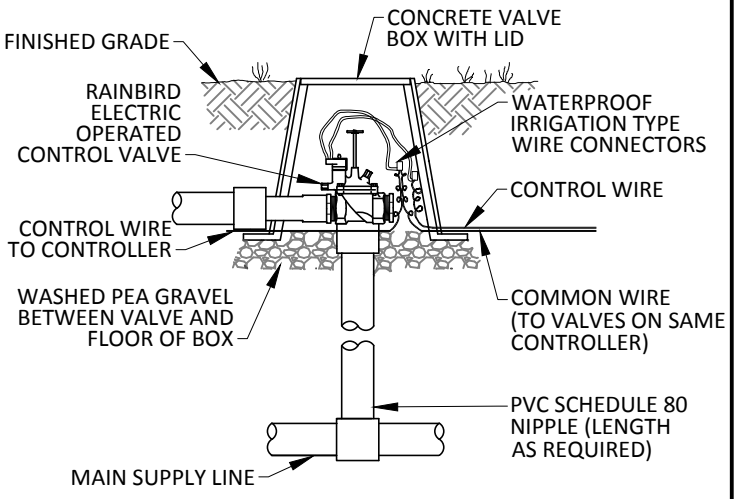


ISOLATION GATE VALVE DETAIL



SIDE VIEW

QUICK COUPLING VALVE DETAIL



SOLENOID VALVE DETAIL

NOTES:

1. ALL WIRE TO BE INSTALLED PER LOCAL CODE.
2. TAPE AND BUNDLE WIRE EVERY TEN FEET.
3. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX. WRAP AROUND ½" PIPE 15 TIMES.
4. COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS UNDISTURBED ADJACENT SOIL.
5. ORIENT RECTANGULAR VALVE BOXES SO THAT THE EDGES ARE PARALLEL TO ADJACENT WALKS, CURBS, ETC.

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

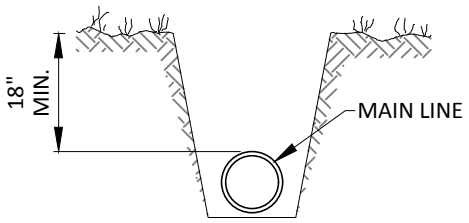
SCALE: NTS DATE: 10/2017
SHEET 2 OF 6

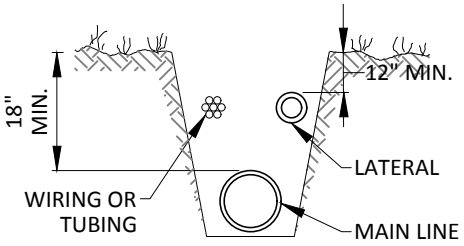
IRRIGATION DETAILS
VALVE DETAILS

M-10

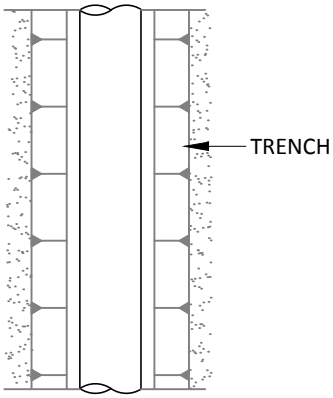
ENGINEERING
DEPARTMENT

FILENAME: M-10_2-6.DWG

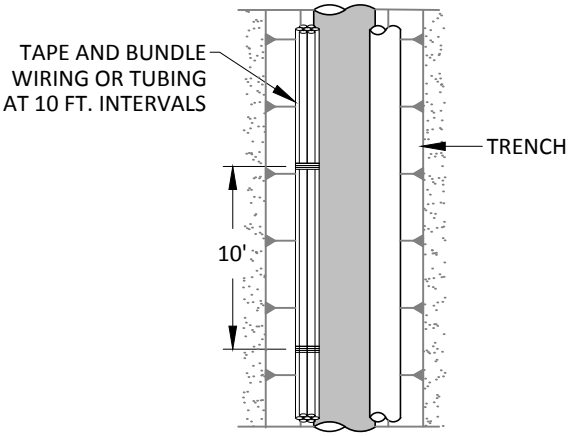




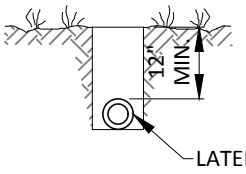
ALL MAIN SUPPLY LINES TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION SPECIFICATIONS

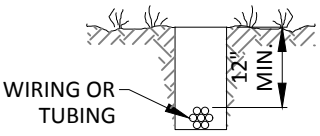


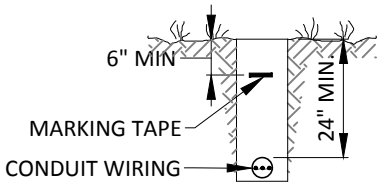
MAIN SUPPLY

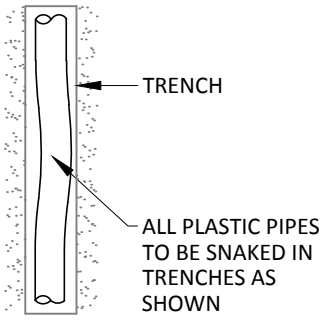


MAIN SUPPLY, LATERAL AND WIRING OR TUBING

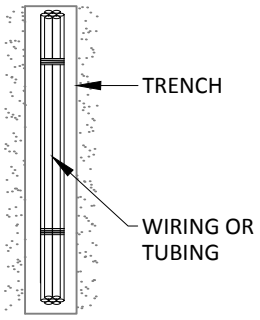




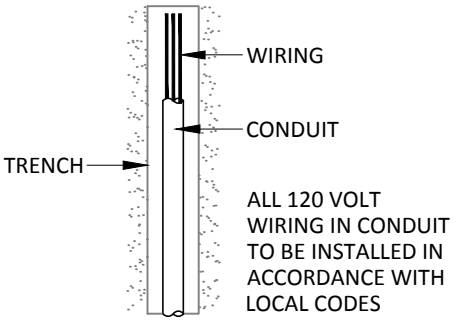




PLASTIC LATERAL



WIRING OR TUBING



120 VOLT IN CONDUIT

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

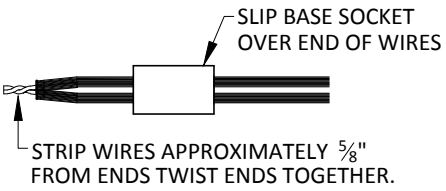
SCALE: NTS DATE: 12/2017
SHEET 3 OF 6

IRRIGATION DETAILS
TRENCHING DETAILS

M-10

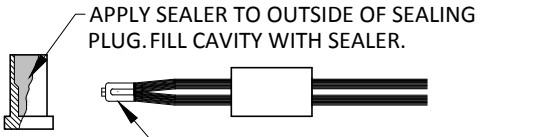
ENGINEERING DEPARTMENT

FILENAME: M-10_3-6.DWG



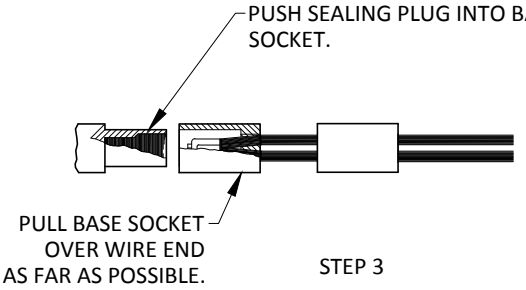
STEP 1

STEP 1

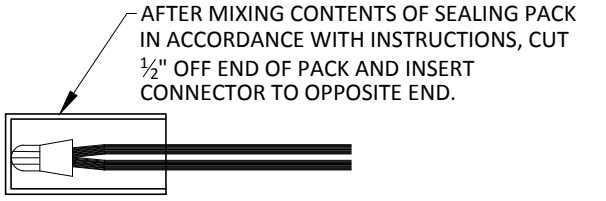


STEP 2

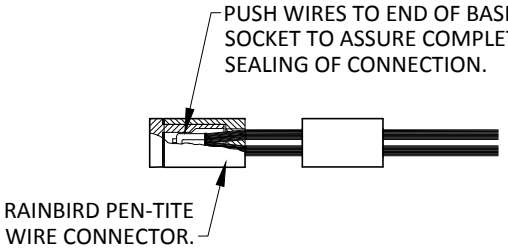
STEP 2

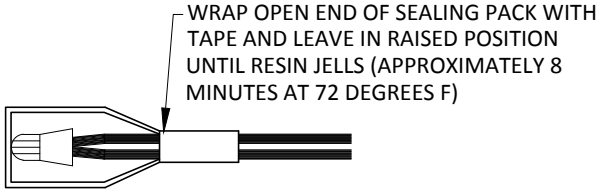


STEP 3



STEP 3





TYPICAL WIRE CONNECTION DETAIL

NOTE: FOR WIRE SIZES No.14, No. 12, AND No. 10.

SCOTCHLOCK CONNECTOR DETAIL

NOTE: FOR WIRE SIZES LARGER THAN No.10.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

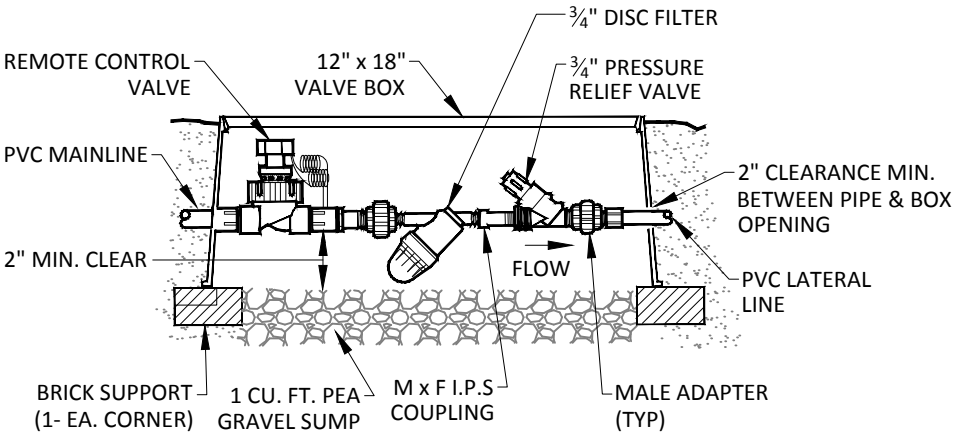
SCALE: NTS DATE: 01/2004
SHEET 4 OF 6

IRRIGATION DETAILS
CONTROL WIRE DETAILS

M-10

ENGINEERING
DEPARTMENT

FILENAME: M-10_4-6.DWG

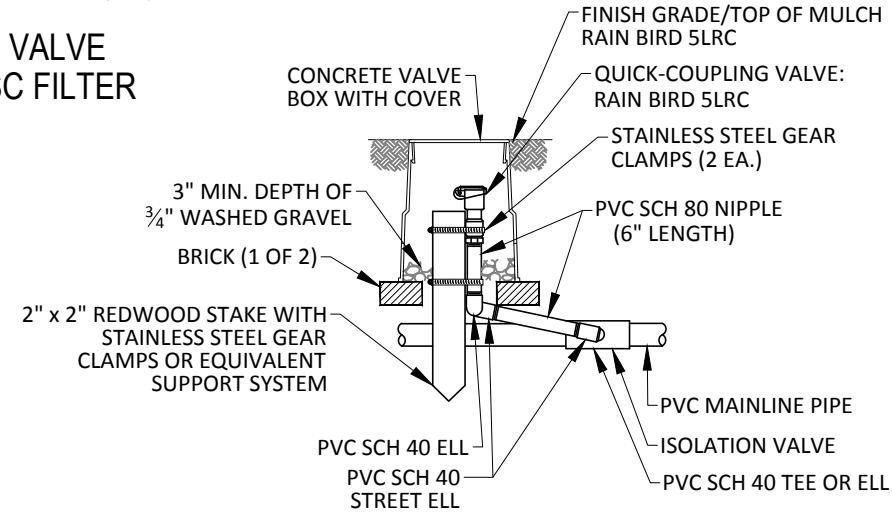


NOTE:
THIS TO BE USED ONLY ON DRIP ZONE WHEN APPLICABLE BY STATE REQUIREMENTS.

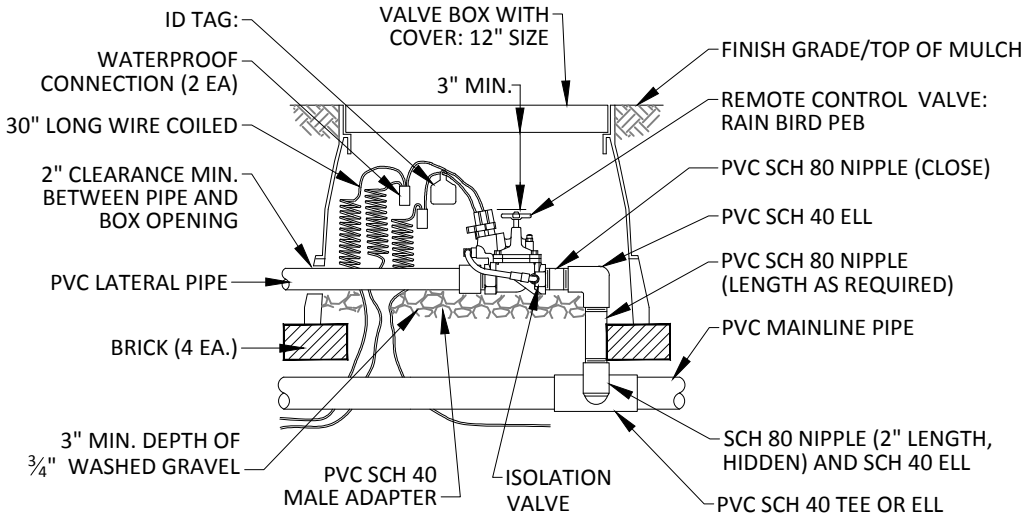
REMOTE CONTROL VALVE W/ 3/4" PRV & 3/4" DISC FILTER

NOTES:

1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.
2. BRICKS SHOWN FOR SUPPORT ONLY. ALL FOUR SIDE WALLS OF VALVE BOX SHALL EXTEND FULL DEPTH OF ENTIRE VALVE INSTALLATIONS WITH NO EARTH GAPS. USE EXTENSIONS AS NECESSARY



QUICK COUPLING VALVE ASSEMBLY



REMOTE CONTROL VALVE ASSEMBLY

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2014
SHEET 5 OF 6

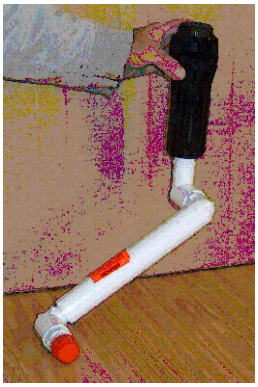
IRRIGATION DETAILS
CONTROL WIRE SPLICE DETAILS

M-10

ENGINEERING DEPARTMENT

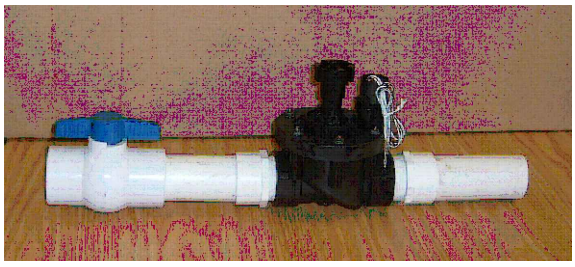
FILENAME: M-10_5-6.DWG

DOUBLE CHECK ASSEMBLY



SWING JOINT WITH POP UP HEAD

SWING JOINT WITH ROTOR HEAD



ZONE VALVE ASSEMBLY

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

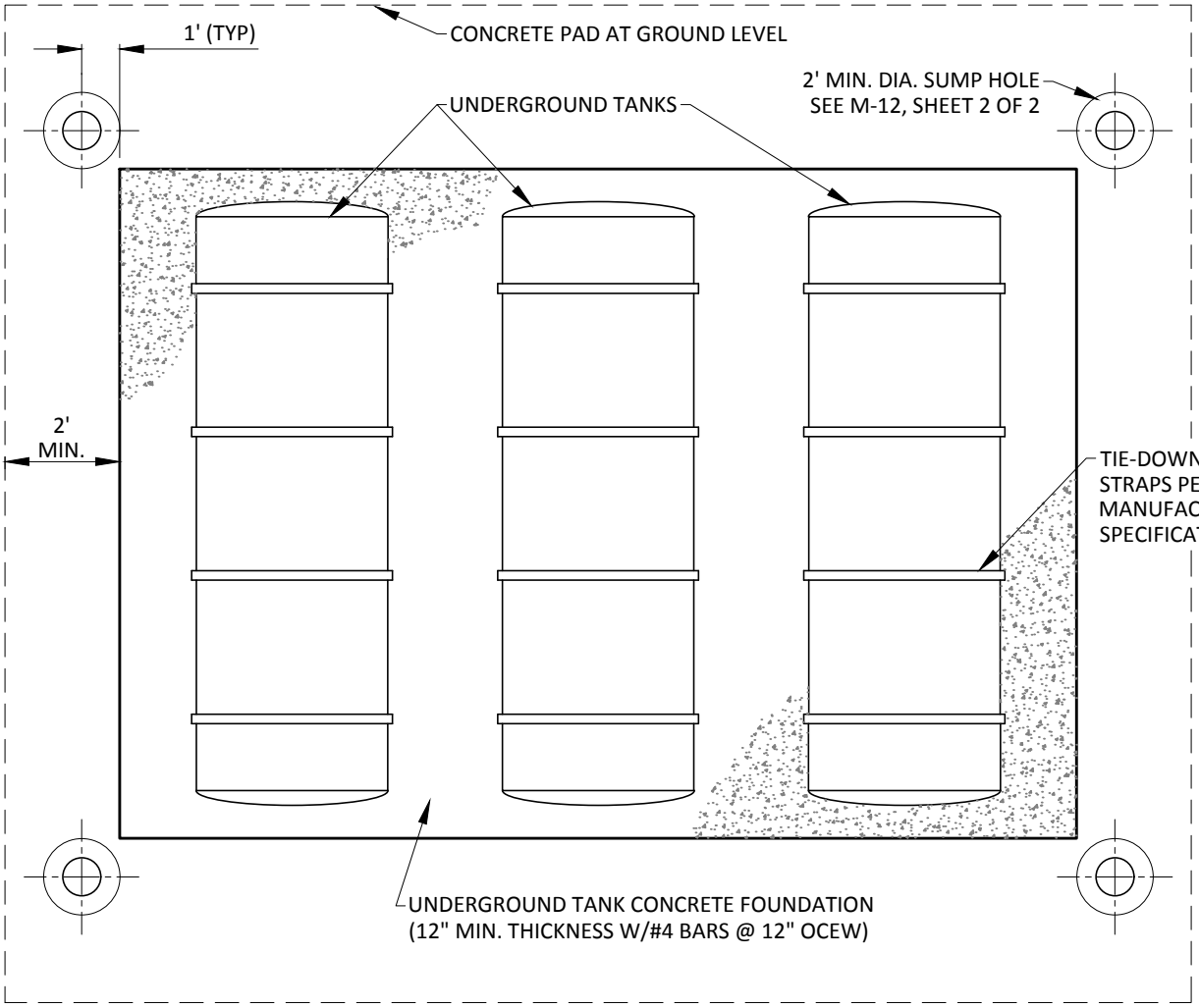
IRRIGATION SYSTEM
COMPONENT PICTURES

SCALE: NTS DATE: 01/2014
SHEET 6 OF 6

M-10

ENGINEERING
DEPARTMENT

FILENAME: M-10_6-6.DWG



NOTES:

1. FOR SINGLE TANK INSTALLATIONS USE 2 SUMPS AT OPPOSITE CORNERS OF THE SUPPORT PAD.

2. FOR MULTIPLE TANK INSTALLATIONS USE 4 SUMPS, ONE AT EACH PAD CORNER.

3. DEPTH OF SUMP SYSTEM SHALL BE DETERMINED BY DEPTH OF WATER TABLE:
   - IF THE WATER TABLE IS ABOVE TOP OF UNDERGROUND TANK FOUNDATION, THE MINIMUM DEPTH OF THE SUMP SYSTEM SHALL BE THE BOTTOM OF THE TANK PIT.
   - IF THE WATER TABLE IS 20' OR MORE, THE MINIMUM DEPTH OF THE SUMP SYSTEM SHALL BE 2' BELOW THE TOP OF THE UNDERGROUND TANK FOUNDATION.
   - IF ROCK IS ENCOUNTERED AT OR BELOW TANK BOTTOM, SUMP SYSTEM SHOULD END AT TOP OF ROCK.

4. WASTE OIL TANKS SHALL REQUIRE A SUMP SYSTEM.

5. BARRICADING OF TANK PIT DURING CONSTRUCTION IS REQUIRED. SHORE WALLS PER OSHA GUIDELINES.

6. ALL UNDERGROUND TANKS SHALL BE SECURED TO A CONCRETE SLAB (12" MIN. THICKNESS W/#4 BARS ON 12" OCEW) AND STRAPPED PER MANUFACTURER'S REQUIREMENTS.

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

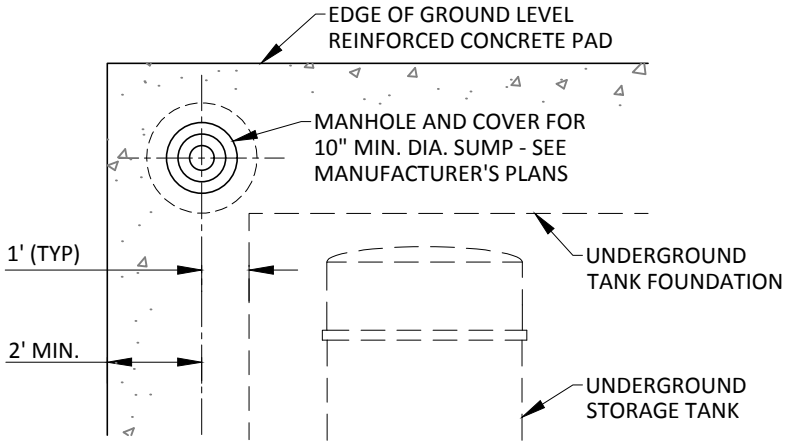
SCALE: NTS DATE: 01/2004
SHEET 1 OF 2

UNDERGROUND STORAGE TANK
FLUID LEAK DETECTION SYSTEM

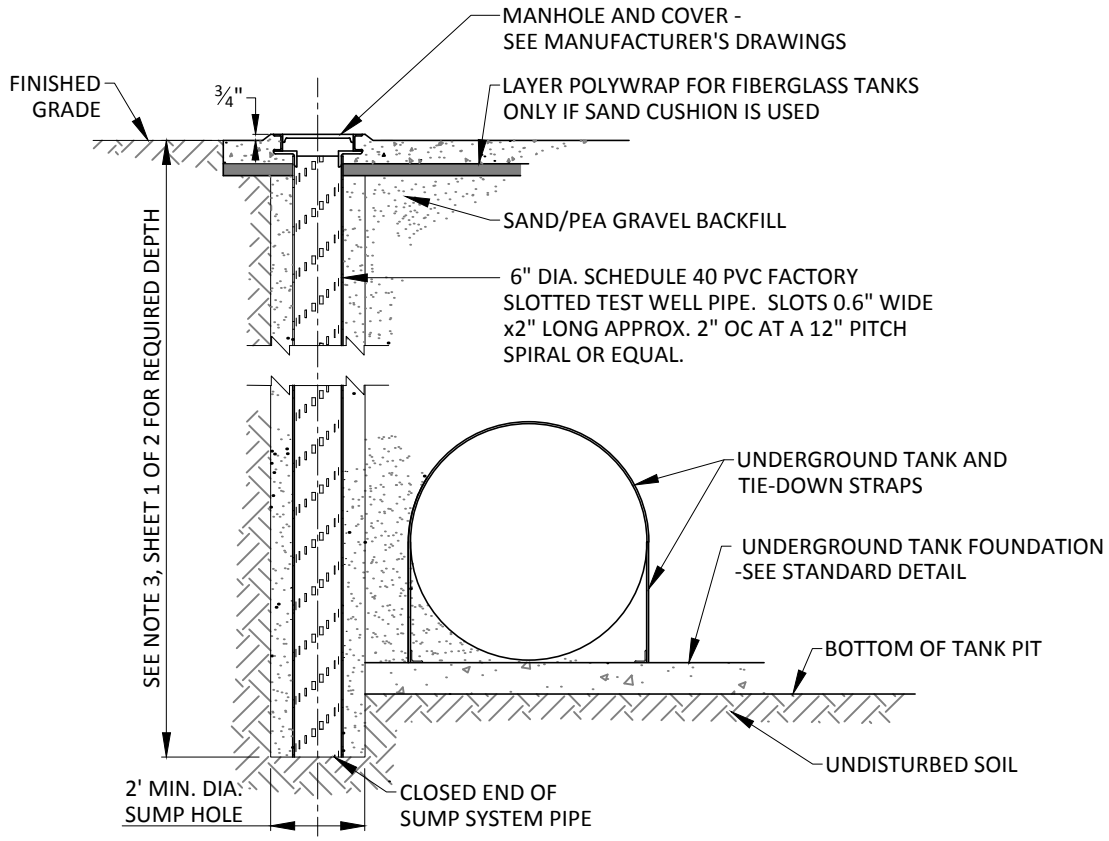
M-11

ENGINEERING
DEPARTMENT

FILENAME: M-11_1-2.DWG



SUMP SYSTEM PLAN



SUMP SYSTEM SECTION

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

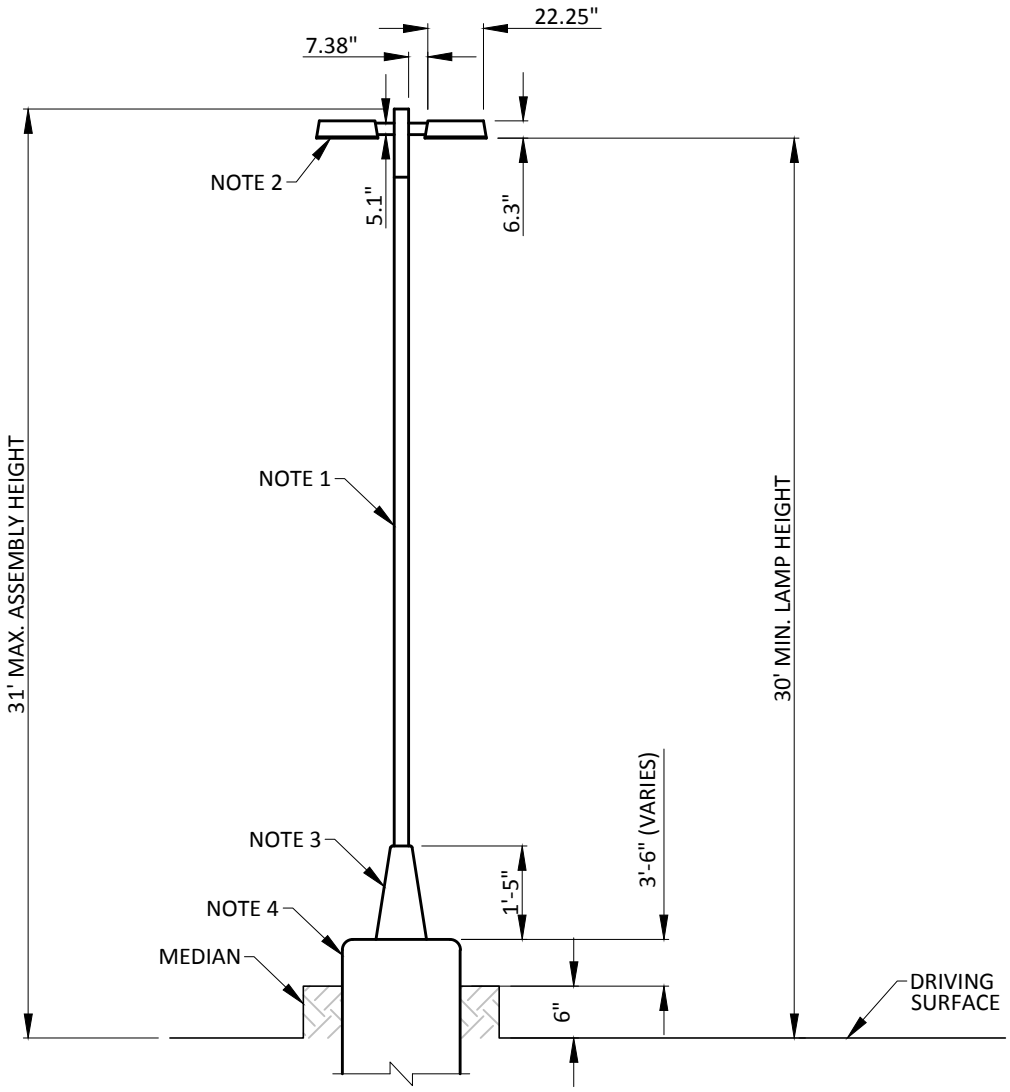
SCALE: NTS DATE: 12/2007
SHEET 2 OF 2

UNDERGROUND STORAGE TANK
SUMP SYSTEM

M-11

ENGINEERING
DEPARTMENT

FILENAME: M-11_2-2.DWG



NOTES:

1. PREFERRED POLE MATERIAL SHALL BE STRAIGHT, SQUARE ALUMINUM ALLOY (SSA) WITH A MINIMUM WALL THICKNESS OF 0.188 INCHES FOR THE GEOMETRY SHOWN AND A MAXIMUM WIND LOAD OF 90 MPH. ALTERNATIVE POLE MATERIAL SHALL BE STRAIGHT, SQUARE STEEL (SSS) WITH A MINIMUM WALL THICKNESS OF 0.179 INCHES (7 GAUGE) FOR THE GEOMETRY SHOWN AND A MAXIMUM WIND LOAD OF 90 MPH.

2. LED LUMINARIE SHALL BE TRASTAR DURALIGHT JXM-ST SERIES INCLUDING ARM, MADE OF ALUMINUM ALLOY. A TOTAL EFFECTIVE PROJECTED AREA (EPA) OF 3 SQUARE FEET WHEN ROUNDED UP TO THE NEXT WHOLE NUMBER SHALL BE ACCEPTABLE FOR TWO LUMINARIES AND TWO ARMS. LED LIGHT ENGINE SHALL TYPICALLY BE 135 WATTS WITH A MINIMUM LUMEN OUTPUT OF 15,525, 480 VAC.

3. TRANSFORMER BASE SHALL BE ALUMINUM ALLOY (PREFERRED), AND STEEL AS AN ALTERNATIVE.

4. SEE SEPARATE DETAIL FOR 24" x 72" FOUNDATION.

5. THE POLE, LUMINARIES, AND ARMS SHALL BE PAINTED DARK BRONZE.

6. PREFERRED SPACING IS 150 FEET TO 200 FEET.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

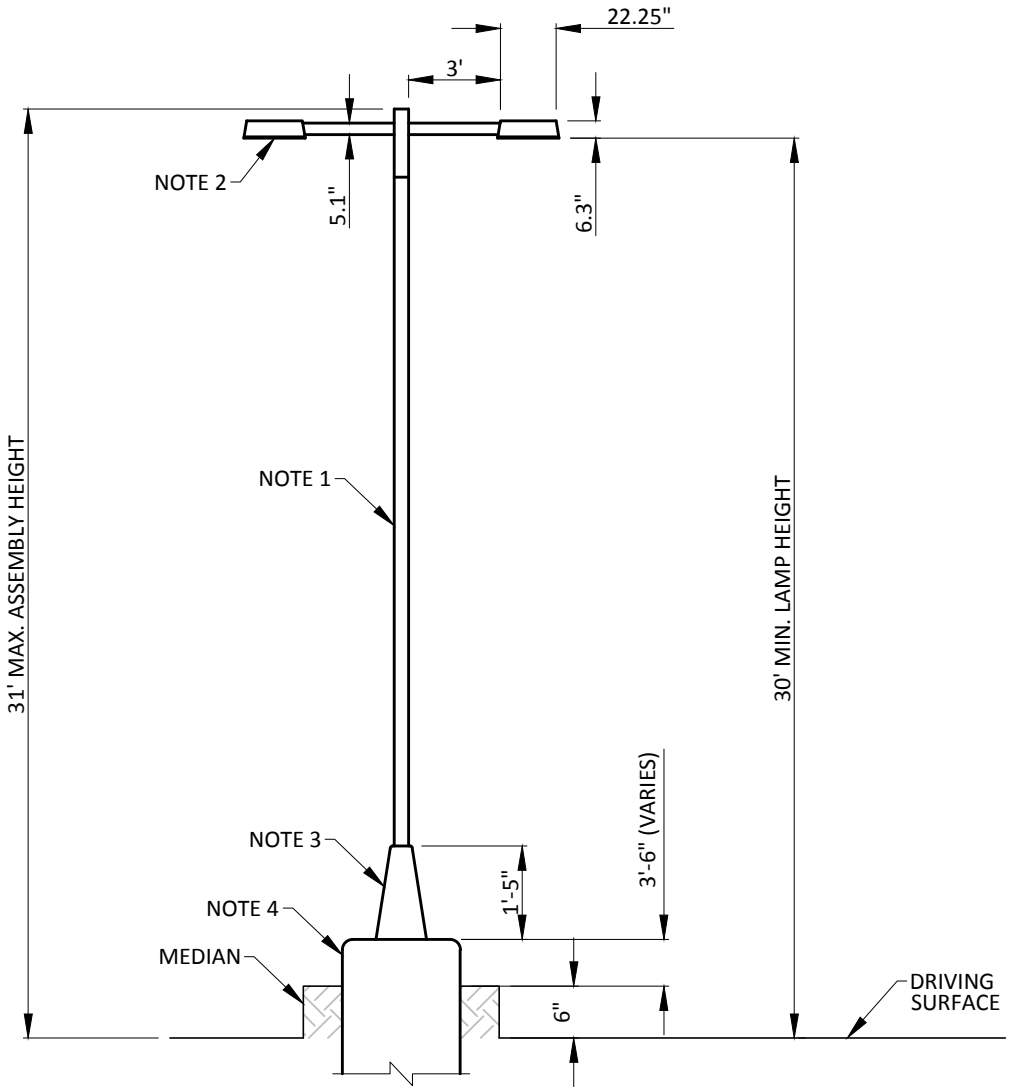
SCALE: NTS DATE: 01/2018
SHEET 1 OF 6

ARTERIAL LIGHTING
ARTERIAL STREET LIGHT WITH SHORT ARM
STREET LIGHT ASSEMBLY

M-12

ENGINEERING DEPARTMENT

FILENAME: M-12_1-6.DWG



NOTES:

1. PREFERRED POLE MATERIAL SHALL BE STRAIGHT, SQUARE ALUMINUM ALLOY (SSA) WITH A MINIMUM WALL THICKNESS OF 0.188 INCHES FOR THE GEOMETRY SHOWN AND A MAXIMUM WIND LOAD OF 90 MPH. ALTERNATIVE POLE MATERIAL SHALL BE STRAIGHT, SQUARE STEEL (SSS) WITH A MINIMUM WALL THICKNESS OF 0.179 INCHES (7 GAUGE) FOR THE GEOMETRY SHOWN AND A MAXIMUM WIND LOAD OF 90 MPH.

2. LED LUMINARIE SHALL BE TRASTAR DURALIGHT JXM-ST SERIES INCLUDING ARM, MADE OF ALUMINUM ALLOY. A MAXIMUM TOTAL EFFECTIVE PROJECTED AREA (EPA) OF 6 SQUARE FEET SHALL BE ALLOWED FOR TWO LUMINARIES AND TWO ARMS. LED LIGHT ENGINE SHALL TYPICALLY BE 135 WATTS WITH A MINIMUM LUMEN OUTPUT OF 15,525, 480 VAC.

3. TRANSFORMER BASE SHALL BE ALUMINUM ALLOY (PREFERRED), AND STEEL AS AN ALTERNATIVE.

4. SEE SEPARATE DETAIL FOR 24" x 72" FOUNDATION.

5. THE POLE, LUMINAIRES, AND ARMS SHALL BE PAINTED DARK BRONZE.

6. PREFERRED SPACING IS 150 FEET TO 200 FEET.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

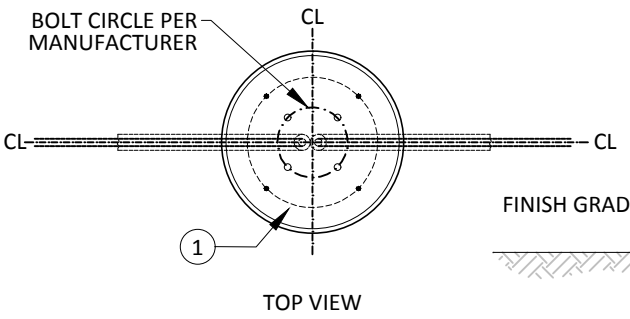
SCALE: NTS DATE: 01/2018
SHEET 2 OF 6

ARTERIAL LIGHTING
ARTERIAL STREET LIGHT WITH LONG ARM
STREET LIGHT ASSEMBLY

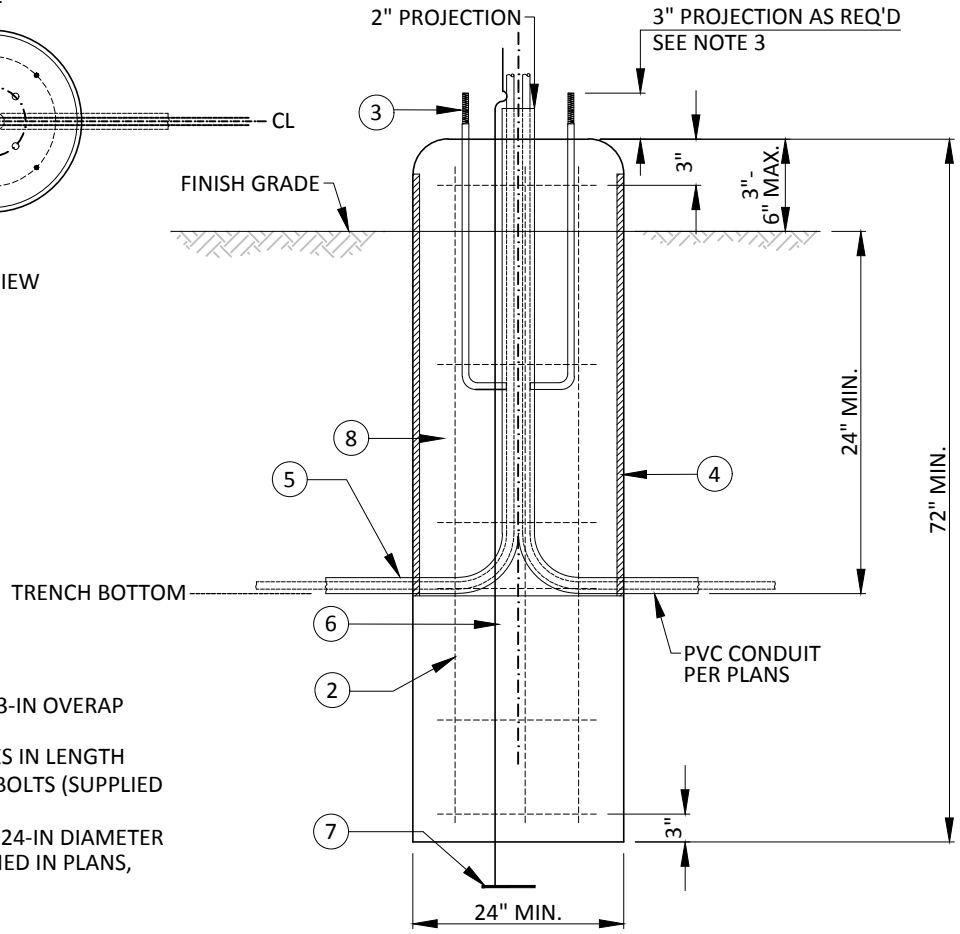
M-12

ENGINEERING DEPARTMENT

FILENAME: M-12_2-6.DWG



TOP VIEW



SECTION

COMPONENTS (CIRCLED):

1. 18-IN DIAMETER HOOP WITH A 3-IN OVERAP WITH #3 REBAR
2. #5 REBAR, STRAIGHT, "D" INCHES IN LENGTH
3. 1 1/4-IN GALVANIZED ANCHOR BOLTS (SUPPLIED WITH POLE)
4. CONCRETE FOUNDATION TUBE, 24-IN DIAMETER
5. ELECTRICAL CONDUIT AS SPECIFIED IN PLANS, PVC OR PEC
6. #6 SOLID COPPER WIRE
7. GROUND, POLE BUTT WIRE COIL
8. CONCRETE AS SPECIFIED IN NOTES

ARTERIAL STREET LIGHT FOUNDATION
(FOR LONG ARM AND SHORT ARM SQUARE POLES)

FOUNDATION NOTES:

1. CONCRETE TO BE MINIMUM 3,000 PSI AT 28 DAYS. (5 SACK) MAXIMUM AGGREGATE 3/4". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
2. REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1 FT. INTERVALS TO BOTTOM OF FOUNDATION.
3. ANCHOR BOLTS TO BE SUPPLIED WITH POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS. PROJECTION OF 3 IN. OR AS REQUIRED BY MANUFACTURER.
4. CONCRETE FORM OF SONOTUBE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED. THE FOUNDATION FORM MUST BE APPROVED BY THE CITY INSPECTOR PRIOR TO USE.
5. PROVIDE 24" PIGTAIL FOR CONNECTION OF GROUND WIRE TO POLE.
6. A MINIMUM OF 12' OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.
7. PRE-FABRICATED FOUNDATIONS SHALL NOT BE APPROVED.
8. PROVIDE MINIMUM 3" CLEAR COVER ON REBAR.
9. IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
10. FOUNDATION DEPTH BASED ON TEXAS CONE PENETROMETER AT 10 BLOWS/FOOT FOR SOIL. SOIL WORSE THAN THESE CONDITIONS REQUIRE FOUNDATION MODIFICATIONS APPROVED BY A LICENSED ENGINEER IN THE STATE OF TEXAS.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

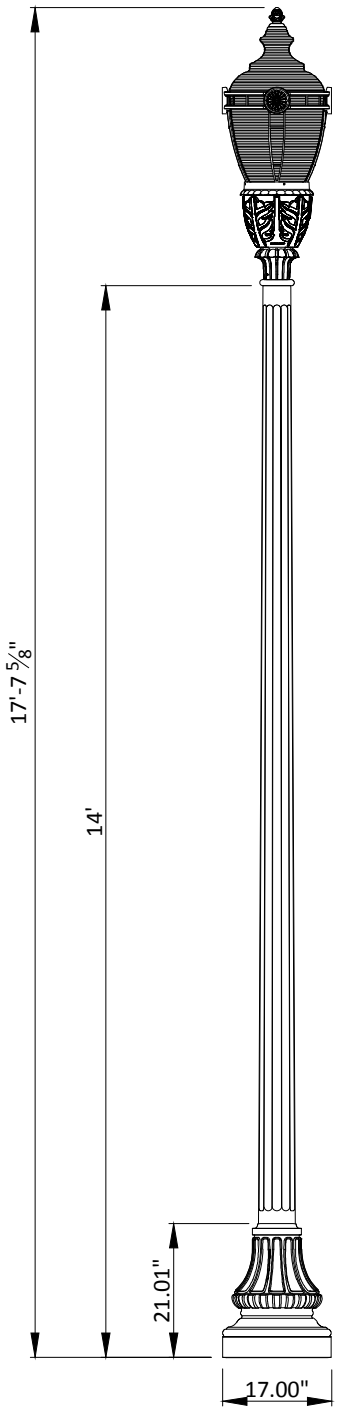
SCALE: NTS DATE: 01/2018
SHEET 3 OF 6

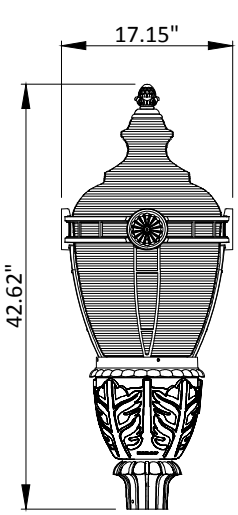
ARTERIAL LIGHTING
STREET LIGHT FOUNDATION

M-12

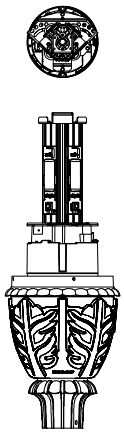
ENGINEERING DEPARTMENT

FILENAME: M-12_3-6.DWG





TOP VIEW
LUMILOCK LED
ASSEMBLY



LIGHT ENGINE: PHILIPS HADCO BRAND, LED LUMILOCK GX; COLOR 3000K; 100 VAC; WITH NEMA SOCKET

GLOBE: PHILIPS HADCO BRAND NARROW BODY RL 52 WITH CAGE AND FINIAL

POD: DECORATIVE LEAF & SCALLOPED PEDALS

POLE: PHILIPS HADCO BRAND, TAPERED (4" - 6"), FLUTED ALUMINUM ALLOY

BASE: PHILIPS HADCO BRAND, FLUTED CAST ALUMINUM

PREFERRED SPACING: 100'

SEE SEPARATE DETAIL FOR 18" x 60" FOUNDATION

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

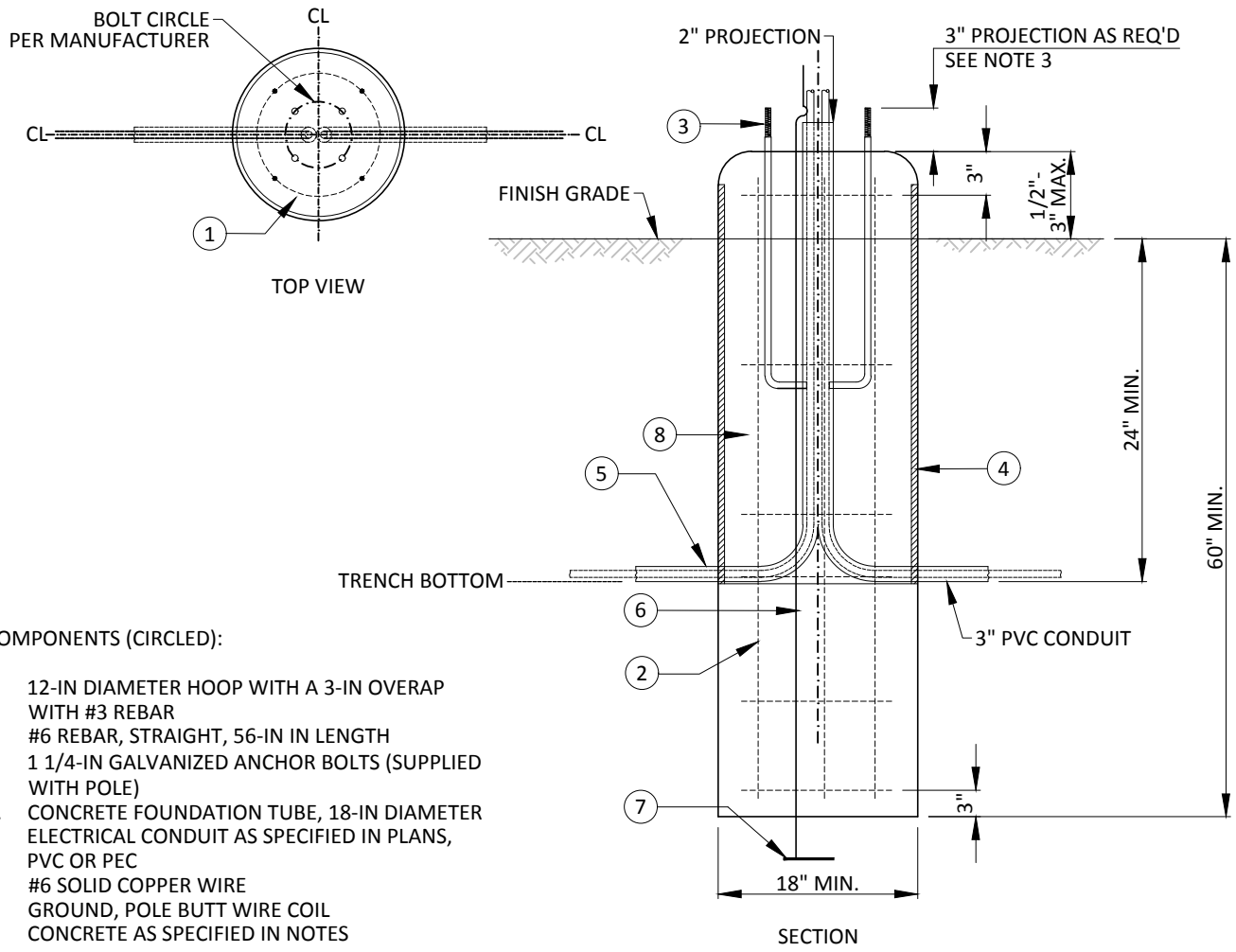
SCALE: NTS DATE: 01/2018
SHEET 4 OF 6

OLD DOWNTOWN LIGHTING
DECORATIVE STREET LIGHT ASSEMBLY

M-12

ENGINEERING
DEPARTMENT

FILENAME: M-12_4-6.DWG



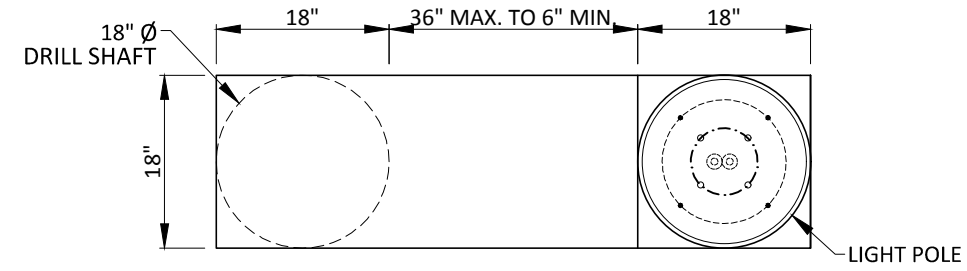
COMPONENTS (CIRCLED):

1. 12-IN DIAMETER HOOP WITH A 3-IN OVERAP WITH #3 REBAR
2. #6 REBAR, STRAIGHT, 56-IN IN LENGTH
3. 1 1/4-IN GALVANIZED ANCHOR BOLTS (SUPPLIED WITH POLE)
4. CONCRETE FOUNDATION TUBE, 18-IN DIAMETER
5. ELECTRICAL CONDUIT AS SPECIFIED IN PLANS, PVC OR PEC
6. #6 SOLID COPPER WIRE
7. GROUND, POLE BUTT WIRE COIL
8. CONCRETE AS SPECIFIED IN NOTES

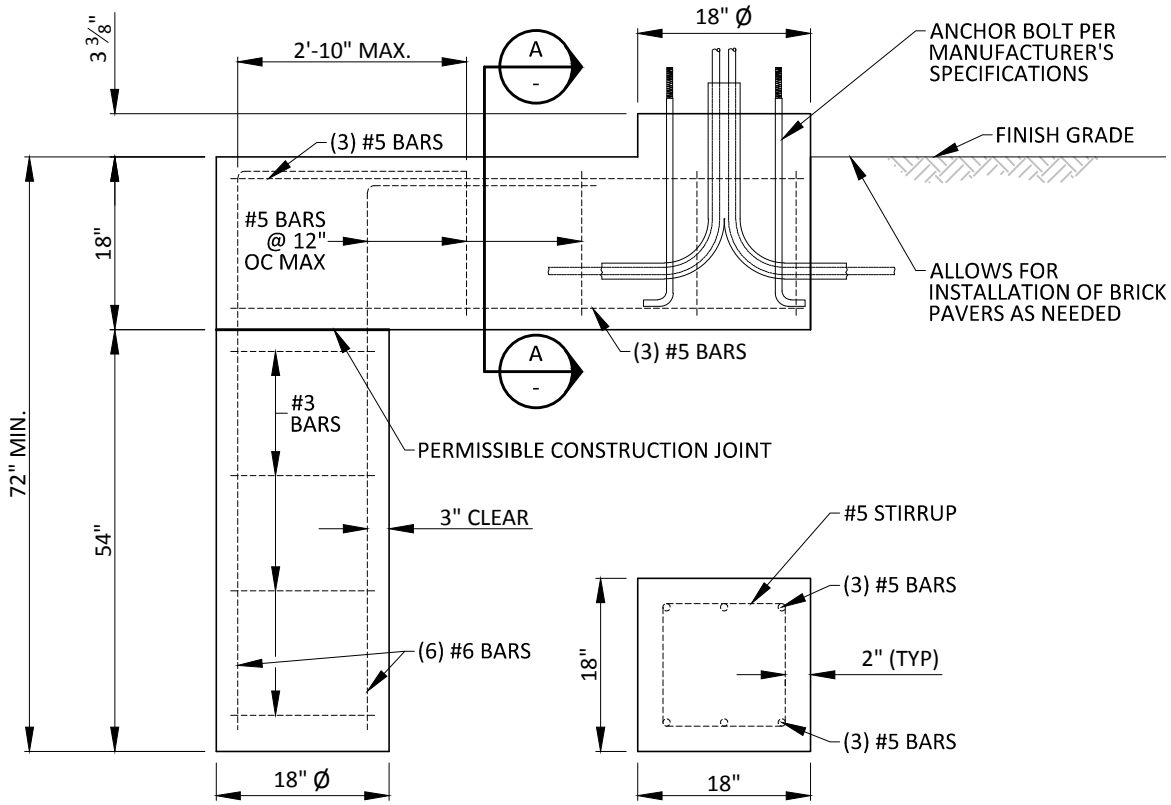
DECORATIVE STREET LIGHT FOUNDATION (14' POLE)

FOUNDATION NOTES:

1. CONCRETE TO BE MINIMUM 3,000 PSI AT 28 DAYS. (5 SACK) MAXIMUM AGGREGATE 3/4". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
2. REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1 FT. INTERVALS TO BOTTOM OF FOUNDATION.
3. ANCHOR BOLTS TO BE SUPPLIED WITH POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS. PROJECTION OF 3 IN. OR AS REQUIRED BY MANUFACTURER.
4. CONCRETE FORM OF SONOTUBE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED. THE FOUNDATION FORM MUST BE APPROVED BY THE CITY INSPECTOR PRIOR TO USE.
5. PROVIDE 24" PIGTAIL FOR CONNECTION OF GROUND WIRE TO POLE.
6. A MINIMUM OF 12' OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.
7. PRE-FABRICATED FOUNDATIONS SHALL NOT BE APPROVED.
8. PROVIDE MINIMUM 3" CLEAR COVER ON REBAR.
9. IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.



ELEVATION



ELEVATION

SECTION A-A

NOTES:

1. CONCRETE TO BE MINIMUM 3,000 PSI AT 28 DAYS. (5 SACK) MAXIMUM AGGREGATE 3/4". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
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3. ANCHOR BOLTS TO BE SUPPLIED WITH POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS. PROJECTION OF 3 IN. OR AS REQUIRED BY MANUFACTURER.
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7. IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
8. PRE-FABRICAED FOUNDATIONS SHALL NOT BE APPROVED.
9. PROVIDE MINIMUM 3" CLEAR COVER ON REBAR.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

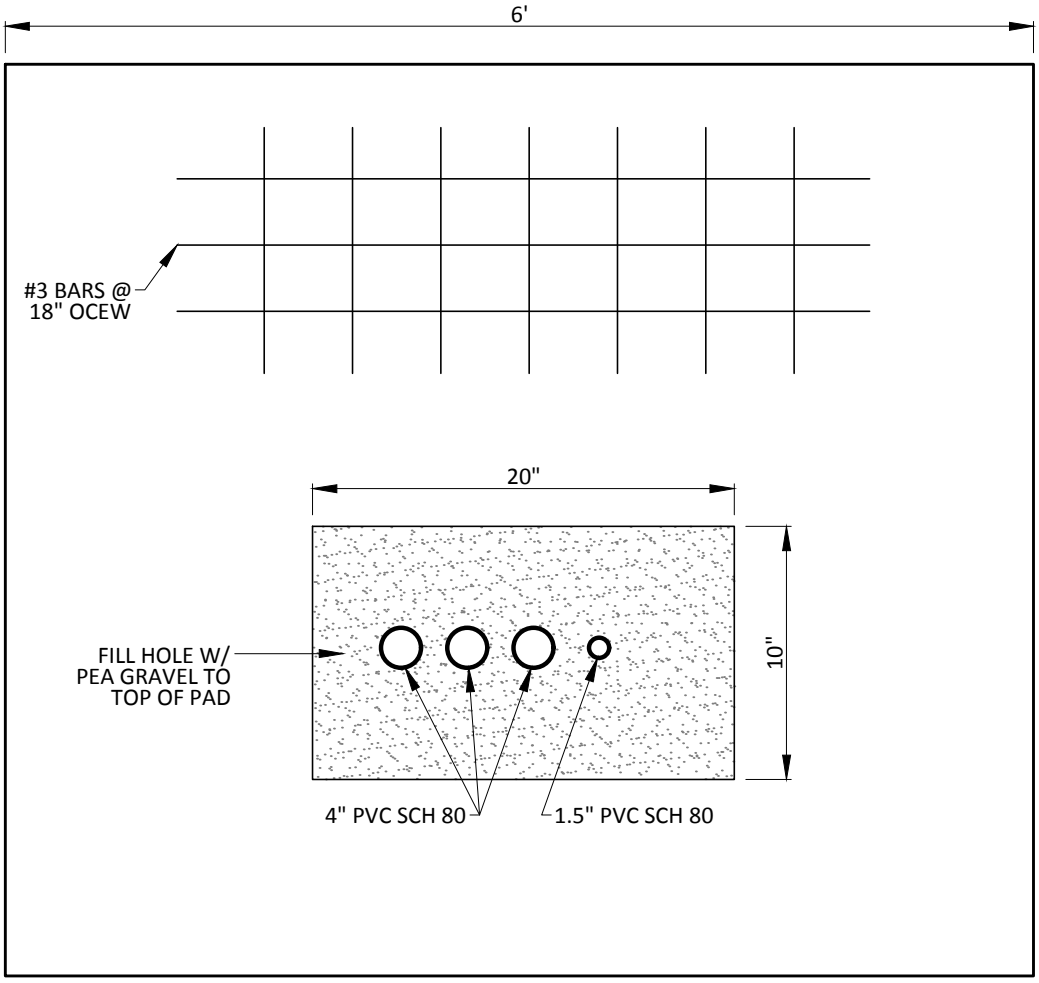
SCALE: NTS DATE: 01/2018
SHEET 6 OF 6

OLD DOWNTOWN LIGHTING
DECORATIVE STREET LIGHT
FOUNDATION OFFSET (14' POLE)

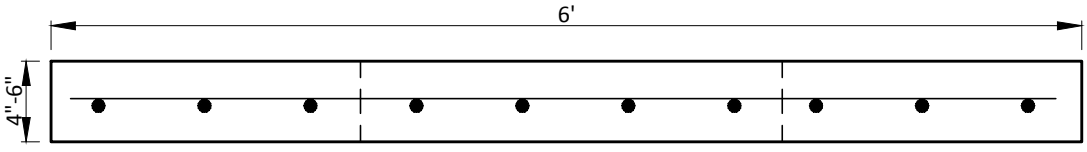
M-12

ENGINEERING DEPARTMENT

FILENAME: M-12_6-6.DWG



TOP VIEW



SIDE VIEW

GENERAL DESIGN STANDARDS
PAVING DETAILS

SCALE: NTS DATE: 12/2008
SHEET 1 OF 2

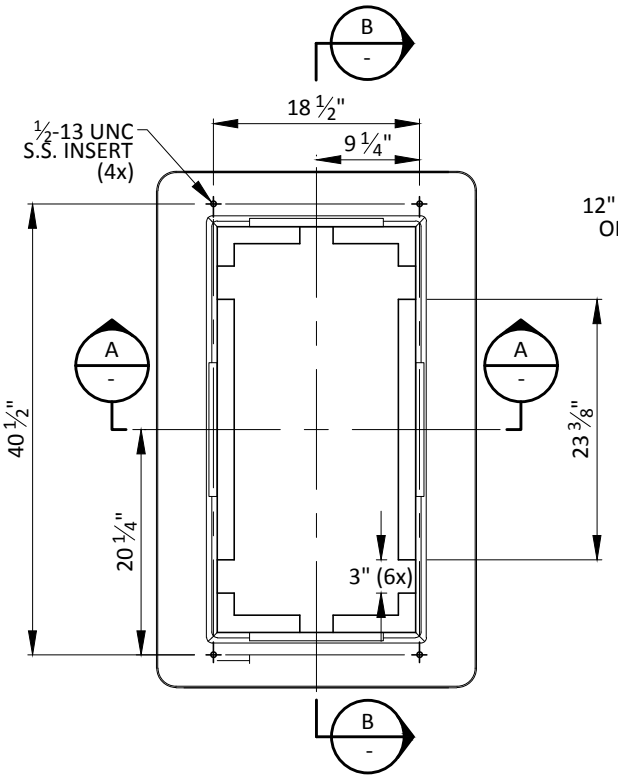
CARROLLTON
TEXAS

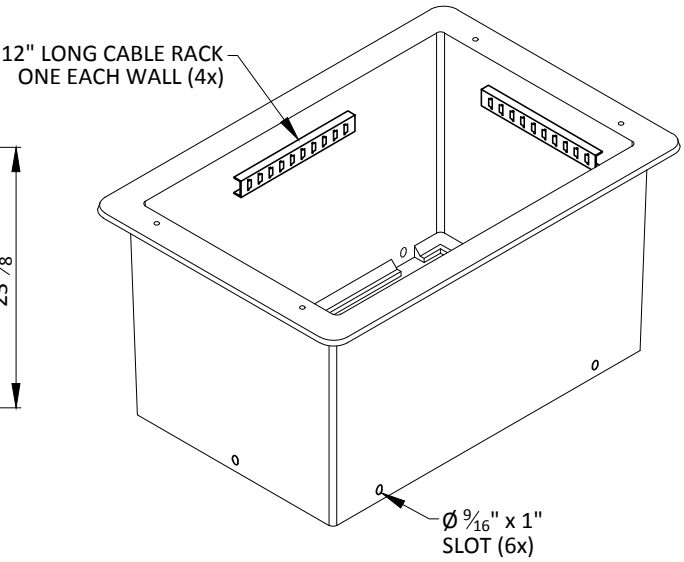
SIGNAL CONTROLLER DETAILS

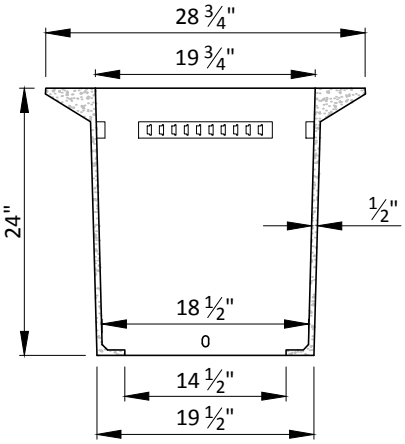
M-13

ENGINEERING
DEPARTMENT

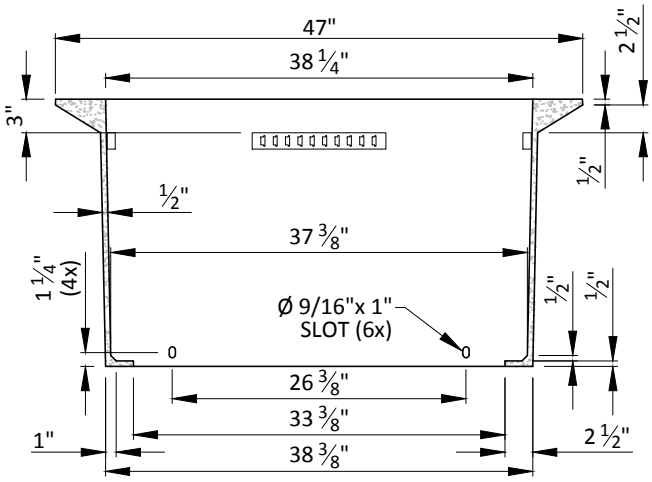
FILENAME: M-13_1-2.DWG







SECTION A-A



SECTION B-B

NOTES:

1. CABINET BASE SHALL BE BY ARMORCAST PRODUCTS CO. OR APPROVED EQUAL AND SUPPLIED W/ 6 CLIP ANGLES & HARDWARE FOR CABINET BASE INSTALLATIONS.

GENERAL DESIGN STANDARDS
PAVING DETAILS

SCALE: NTS DATE: 12/2008
SHEET 2 OF 2

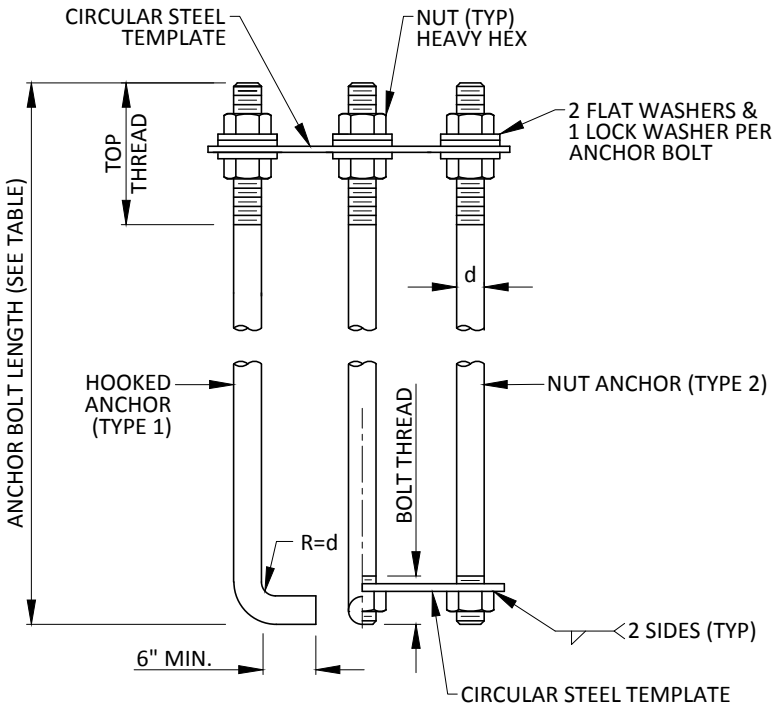
CARROLLTON
TEXAS

SIGNAL CABINET BASE DETAILS

M-13

ENGINEERING
DEPARTMENT

FILENAME: M-13_2-2.DWG



ANCHOR BOLT ASSEMBLY

INSTALLATION PROCEDURE:
THREADS OF ANCHOR BOLTS SHALL BE COATED WITH PIPE JOINT COMPOUND PRIOR TO INSTALLATION OF UPPER NUTS WHEN ERECTING POLE. AFTER POLE IS PLUMBED AND IN PERMANENT ALIGNMENT, THE EXPOSED THREADS OF PAINTED BOLTS SHALL BE CLEANED AND AN ADDITIONAL COATING OF ZINC RICH PAINT APPLIED TO SEAL THE BOLT THREAD NUT JOINT.

ANCHOR BOLT & TEMPLATE SIZES

ARM LENGTH (FT.)	PIER DIA. (IN.)	PIER DEPTH (FT.)	BOLT DIA. (IN.)	BOLT LENGTH*	TOP THREAD	BOLT THREAD	BOLT CIRCLE	R2	R1
PED. POLE	SEE DETAIL	SEE DETAIL	¾"	1'-6"	3"	--	12 3/4"	--	--
LESS THAN 48'	36"	10'	2 1/4"	4'-6"	9"	3"	19"	21 1/4"	16 3/4"
48'	36"	12' MIN.	2 1/4"	7'-6"	9"	3"	19"	21 1/4"	16 3/4"
60'	48"	22'	2 1/2"	5'-3"	10"	4"	27"	16"	11"

* MINIMUM DIMENSIONS ARE GIVEN, LONGER BOLTS ARE ACCEPTABLE.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2005
SHEET 1 OF 4

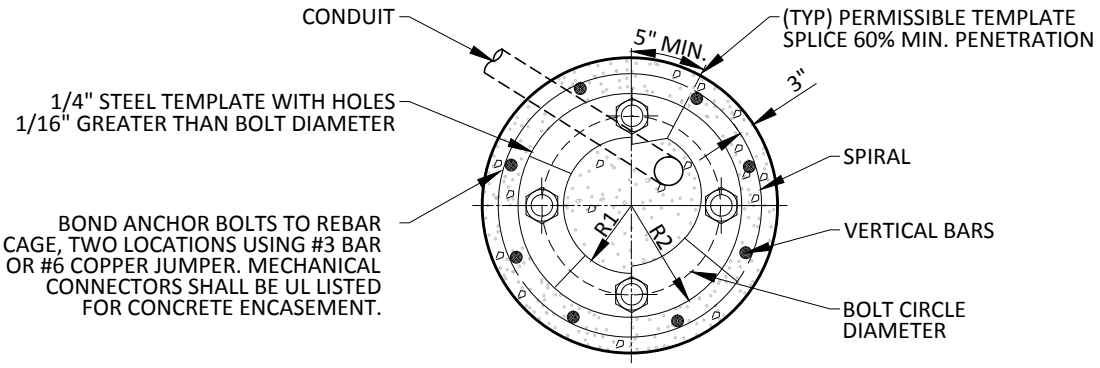
SIGNAL POLE FOUNDATION DETAILS

M-14

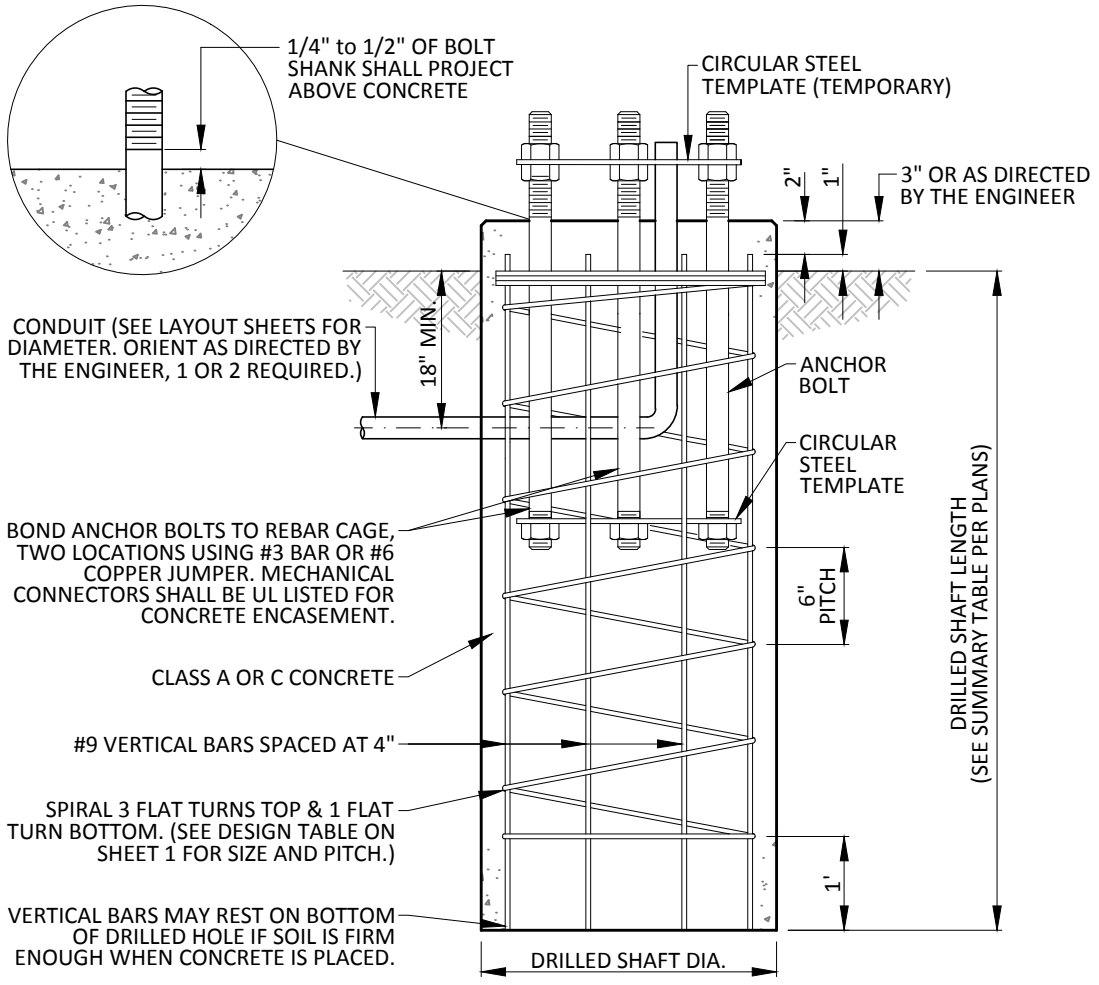
ENGINEERING DEPARTMENT

FILENAME: M-14_1-4.DWG

NOTE: R1 MAY EQUAL R2 IF PLATE IS WELDED OF 3 OR MORE SEGMENTS.



PLAN



ELEVATION

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2010
SHEET 2 OF 4

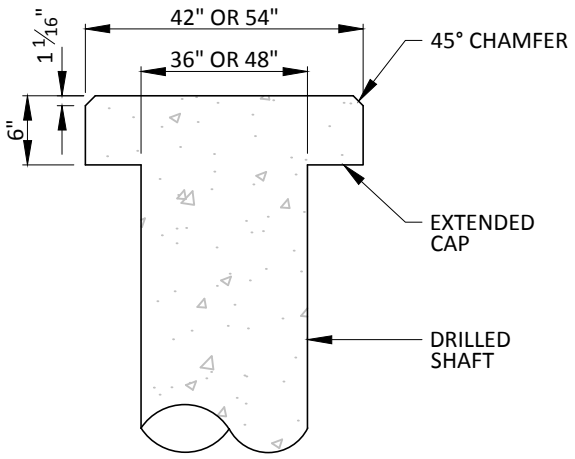
CARROLLTON TEXAS

SIGNAL POLE FOUNDATION DETAILS

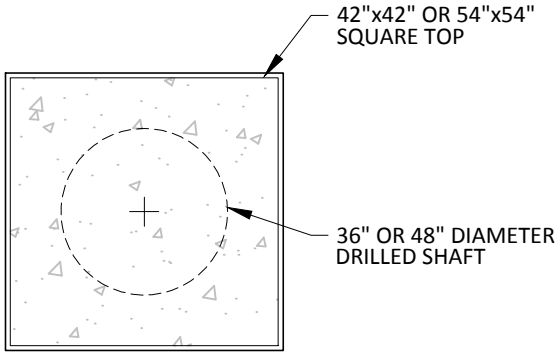
M-14

ENGINEERING DEPARTMENT

FILENAME: M-14_2-4.DWG



ELEVATION



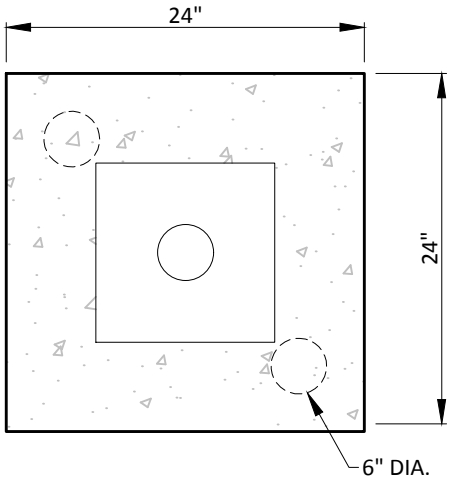
PLAN

CAP NOTES:

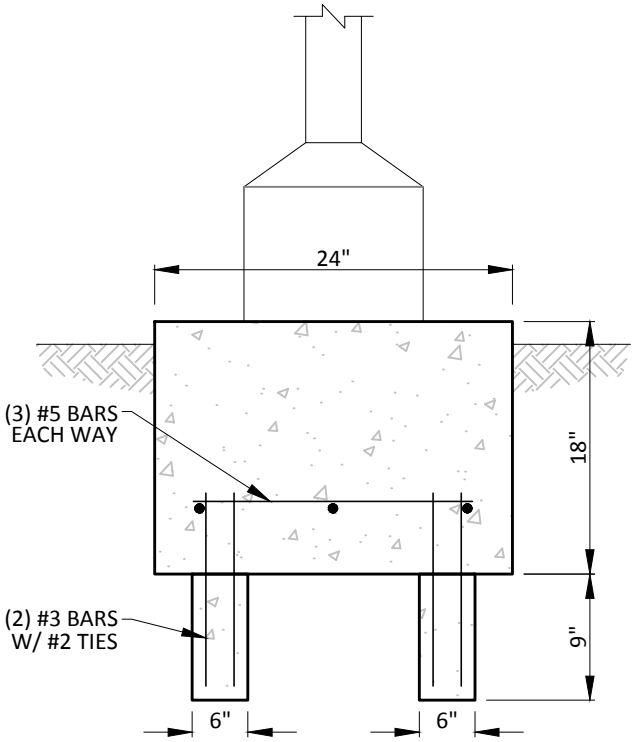
1. 5/8" DIAMETER x 8' COPPER CLAD STEEL GROUND ROD TO BE PLACE THROUGH THE ADJACENT PULL BOX. GROUND ROD WILL BE CONNECTED TO THE POLE WITH #8 COPPER WIRE.
2. SIGNAL POLE IS TO BE MOUNTED FLUSH WITH THE FOUNDATION LEVELING NUTS SHOULD NOT BE USED.

NOTES:

1. FOUNDATION DESIGN SHOULD CONFORM WITH THE 1994 AASHTO STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS AND INTERIM REVISIONS THERETO.
2. REINFORCING STEEL SHALL CONFORM TO ITEM 440.
3. CONCRETE SHALL BE CLASS A OR C.
4. THREADS FOR ANCHOR BOLTS AND NUTS SHALL BE ROLLED OR CUT THREADS OF UNIFIED NATIONAL COARSE THREAD SERIES EXCEPT FOR A193B7 BOLTS WHICH SHALL HAVE 8 PITCH THREAD SERIES.
5. BOLTS AND NUTS SHALL HAVE CLASS 2A AND 2B FIT TOLERANCES.
6. ANCHOR BOLTS THAT ARE 1" IN DIAMETER OR LESS SHALL CONFORM TO ASTM A36. ANCHOR BOLTS LARGER THAN 1" IN DIAMETER SHALL CONFORM TO A36M55 IN ACCORDANCE WITH THE ITEM. "ANCHOR BOLTS" OR ASTM A193B7 OR A687.
7. GALVANIZE OR COAT WITH ZINC-RICH PAINT A MINIMUM OF THE UPPER 14 INCHES OF ALL ANCHOR BOLTS UNLESS OTHERWISE NOTED. EXPOSED NUTS SHALL BE GALVANIZED OR COATED WITH ZINC-RICH PAINT. WASHERS SHALL BE GALVANIZED. TEMPLATES AND EMBEDDED NUTS NEED NOT BE GALVANIZED. GALVANIZED NUTS SHALL BE TAPPED AFTER GALVANIZING.
8. IF ROCK IS ENCOUNTERED, THE DRILLED SHAFT SHALL EXTEND A MINIMUM OF TWO DIAMETERS INTO SOLID ROCK.
9. FIELD PENETROMETER READINGS AT A DEPTH OF APPROXIMATELY 3 TO 5 FEET MAY BE USED TO ADJUST SHAFT LENGTHS.
10. FOUNDATIONS MAY BE LISTED SEPARATELY OR GROUPED ACCORDING TO SIMILARITY OF LOCATION AND TYPE. QUANTITIES ARE FOR THE CONTRACTOR'S INFORMATION ONLY.



PLAN



ELEVATION

NOTES:

1. REINFORCING STEEL SHALL CONFORM TO ITEM 440.
2. CONCRETE SHALL BE CLASS A OR C.
3. THREADS FOR ANCHOR BOLTS AND NUTS SHALL BE ROLLED OR CUT THREADS OF UNIFIED NATIONAL COARSE THREAD SERIES EXCEPT FOR A193B7 BOLTS WHICH SHALL HAVE 8 PITCH THREAD SERIES.
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CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

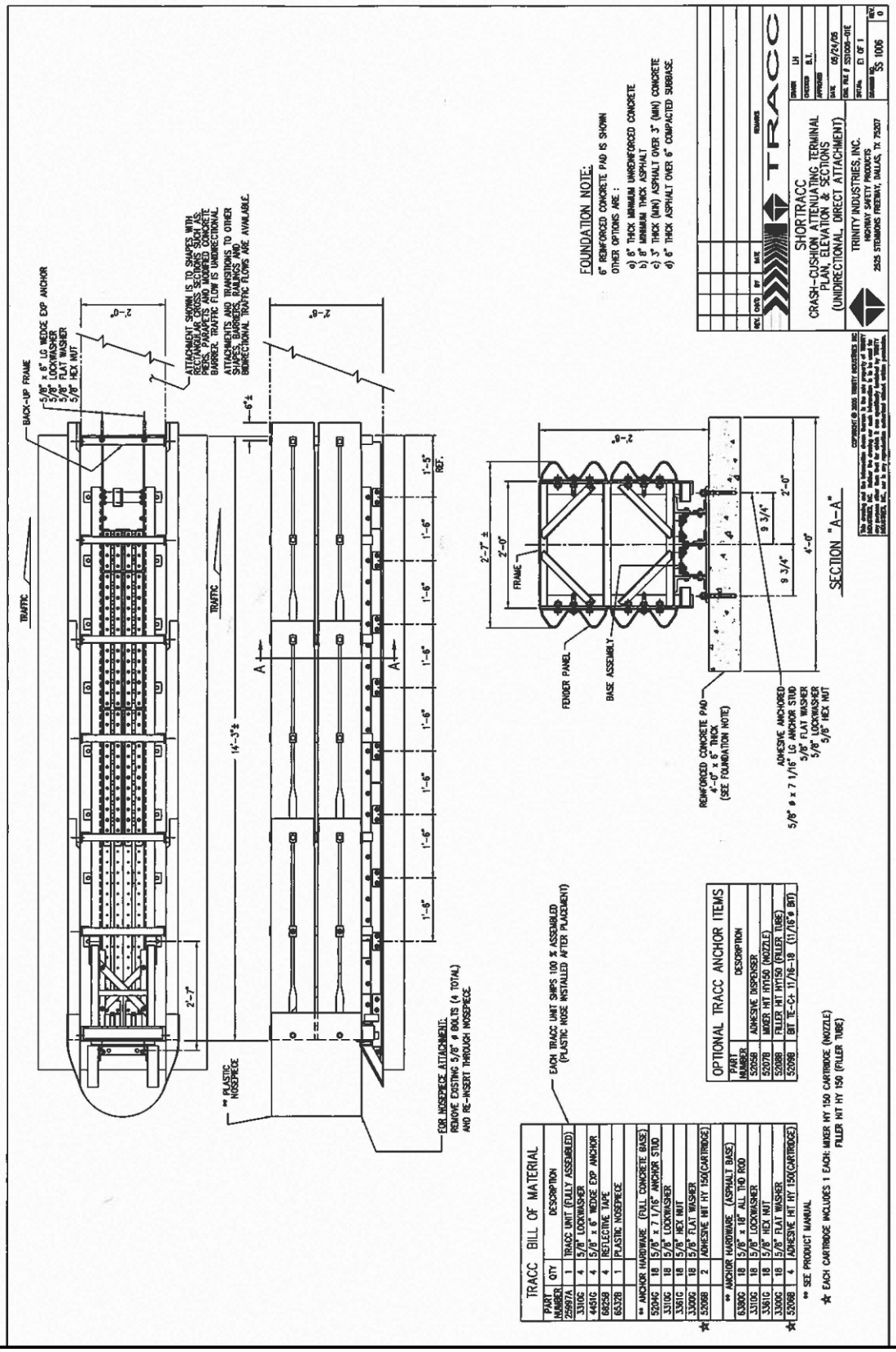
SCALE: NTS DATE: 12/2013
SHEET 4 OF 4

SIGNAL POLE FOUNDATION DETAILS
PEDESTRIAN POLES FOUNDATION

M-14

ENGINEERING
DEPARTMENT

FILENAME: M-14_4-4.DWG



TRACC BILL OF MATERIAL

PART NUMBER	QTY	DESCRIPTION
29997A	1	TRACC UNIT (FULLY ASSEMBLED)
3310G	4	5/8" LOCKWASHER
4431G	4	5/8" x 6" WEDGE EXP ANCHOR
66259	4	REFLECTIVE TAPE
65372B	1	PLASTIC NOSEPIECE
** ANCHOR HARDWARE (FULL CONCRETE BASE)		
5204G	18	5/8" x 7 1/16" ANCHOR STUD
3310G	18	5/8" LOCKWASHER
3361G	18	5/8" HEX NUT
3300G	18	5/8" FLAT WASHER
☆ 52088	2	ADHESIVE MIT HY 150(CARTRIDGE)
** ANCHOR HARDWARE (ASPHALT BASE)		
6306G	18	5/8" x 18" ALL THD ROD
3310G	18	5/8" LOCKWASHER
3361G	18	5/8" HEX NUT
3300G	18	5/8" FLAT WASHER
☆ 52088	4	ADHESIVE MIT HY 150(CARTRIDGE)

** SEE PRODUCT MANUAL

☆ EACH CARTRIDGE INCLUDES 1 EACH: MIXER HY 150 CARTRIDGE (NOZZLE) FILLER MIT HY 150 (FILLER TUBE)

EACH TRACC UNIT SHIPS 100 % ASSEMBLED (PLASTIC NOSE INSTALLED AFTER PLACEMENT)

OPTIONAL TRACC ANCHOR ITEMS

PART NUMBER	DESCRIPTION
52058	ADHESIVE DISPENSER
52078	MIXER MIT HY150 (NOZZLE)
52088	FILLER MIT HY150 (FILLER TUBE)
52098	BIT TE-C+ 11/16-10 (11/16" BIT)

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 12/2013
SHEET 1 OF 2

GUARDRAIL DETAILS
CRASH-CUSHION ATTENUATING
TERMINAL

M-15

ENGINEERING
DEPARTMENT

CARROLLTON
TEXAS

FILENAME: M-15_1-2.DWG

FILENAME: M-15_2-2.DWG

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

GUARDRAIL DETAILS
CRASH-CUSHION

M-15

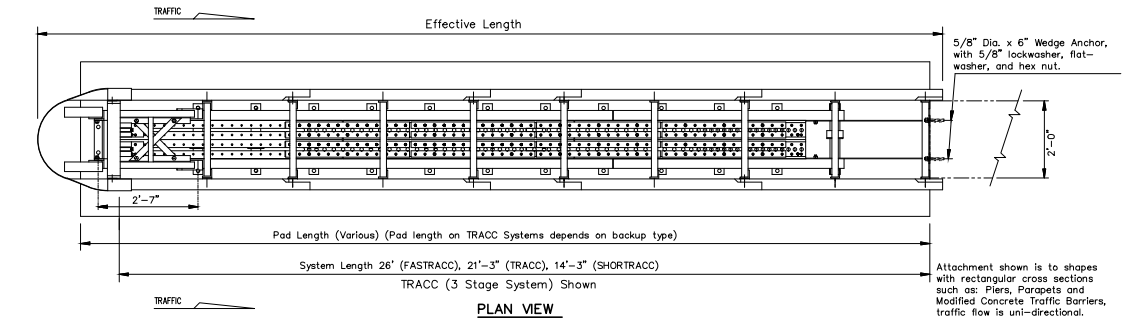
ENGINEERING DEPARTMENT

SCALE: NTS DATE: 12/2013

SHEET 2 OF 2

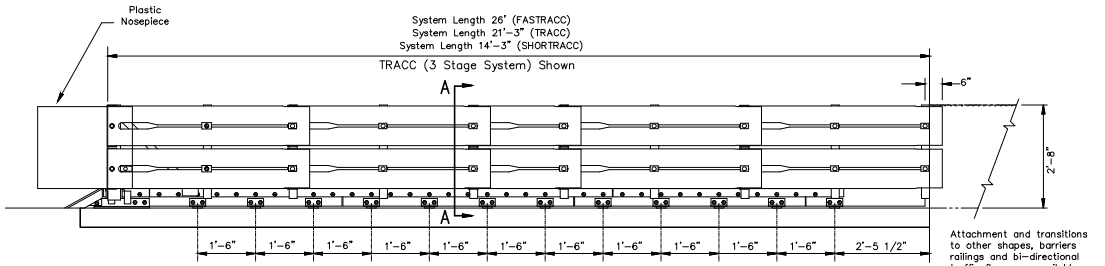
1945 E. JACKSON ROAD CARROLLTON, TEXAS 75006 WWW.CITYOFCARROLLTON.COM (972)466-3200

DATE:
FILE:



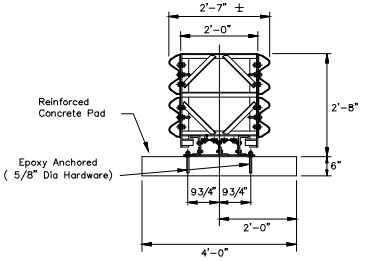
PLAN VIEW

Attachment shown is to shapes with rectangular cross sections such as: Piers, Parapets and Modified Concrete Traffic Barriers, traffic flow is uni-directional.



ELEVATION VIEW

Attachment and transitions to other shapes, barriers railings and bi-directional traffic flows are available. (See manufacturer's product manual)



SECTION A-A

BACKUP SUPPORT OPTIONS
Square Concrete Backup
Concrete Barrier (CTB) Backup
Single Slope Concrete Barrier (SSCB)
Guardrail Backup (Base-Plated Post)
Guardrail Backup (Driven Post)
TRANSITION OPTIONS
Vertical Wall
Modified (CTB) to Vertical Wall
Concrete Barrier (CTB)
Guardrail (W-Beam)
Guardrail (Thrie-Beam)

For bi-directional transition panel details (See manufacturer's product manual)

Backup and Transition types are shown elsewhere on the plans, (i.e. Attenuator location details or in the general notes).

TYPE (NARROW)	TEST LEVEL	SYSTEM LENGTH	EFFECTIVE LENGTH	PAD LENGTHS
FASTRACC (4 Stage System)	70	26'	27'- 9"	26'- 8"
TRACC (3 Stage System)	TL-3	21'- 3"	23'- 0"	22'- 0" 23'- 0" 24'- 0"
SHORTRACC (2 Stage System)	TL-2	14'- 3"	16'- 0"	15'- 0" 16'- 0" 17'- 0"

The Stage System refers to number of replaceable sled sections that could be replaced independently.

Concrete pad length on TRACC & SHORTRACC depends on backup type.

FOUNDATION OPTIONS
6" Reinforced Concrete
8" Unreinforced Concrete
3" Min. Asphalt over 3" Min. Concrete
6" Asphalt over 6" Compact Subbase
8" Minimum Asphalt

For steel placement in concrete foundations (See manufacturer's product manual)

GENERAL NOTES

1. For specific information regarding installation and technical guidance of the system, contact: Trinity Highway at 1(888)323-6374. 2525 N. Stemmons Freeway – Dallas, TX 75207
2. For bi-directional traffic, appropriate transition panels will be required.
3. Details of components for the TRACC and backups and reinforcing details will be shown on the manufacturer's shop drawings furnished to the Engineer.
4. Concrete shall be class "S" with a minimum compressive strength of 4,000 p.s.i.
5. If the cross-slope varies more than 2% over the length of the system, the concrete pad will require leveling. Maximum permissible cross-slope is 8%.
6. The installation area should be free from curbs, elevated objects, or depressions.
7. The TRACC system should be approximately parallel with the barrier or C of merging barriers.

BILL OF MATERIAL

PART #	FAST TRACC QTY	TRACC QTY	SHORT TRACC QTY	DESCRIPTION
25936A	1			FASTRACC Unit Assembly
25980A		1		TRACC Unit Assembly
25997A			1	SHORTRACC Unit Assembly
3310G	4	4	4	5/8" Lockwasher
4451G	4	4	4	5/8" Dia x 6" Wedge Exp.Anchor
6531B	1	1	1	Plastic Nosepiece
6668B	4	4	4	Reflective Sheeting
✳ ANCHOR HARDWARE (CONCRETE BASE)				
5204G	32	26	18	5/8"Dia x 7 1/2" All Thd. Rod
3310G	32	26	18	5/8" Lockwasher
3361G	32	26	18	5/8" Hex Nut
3300G	32	26	18	5/8" Flat Washer
5206B	3	3	2	TRACC Adhesive HIT HY150 Kit
✳ ANCHOR HARDWARE (ASPHALT BASE)				
6380G	32	26	18	5/8" Dia x 18" All Thd. Rod
3310G	32	26	18	5/8" Lockwasher
3361G	32	26	18	5/8" Hex Nut
3300G	32	26	18	5/8" Flat Washer
5206B	7	5	4	TRACC Adhesive HIT HY150 Kit

✳ See manufacturer's product manual

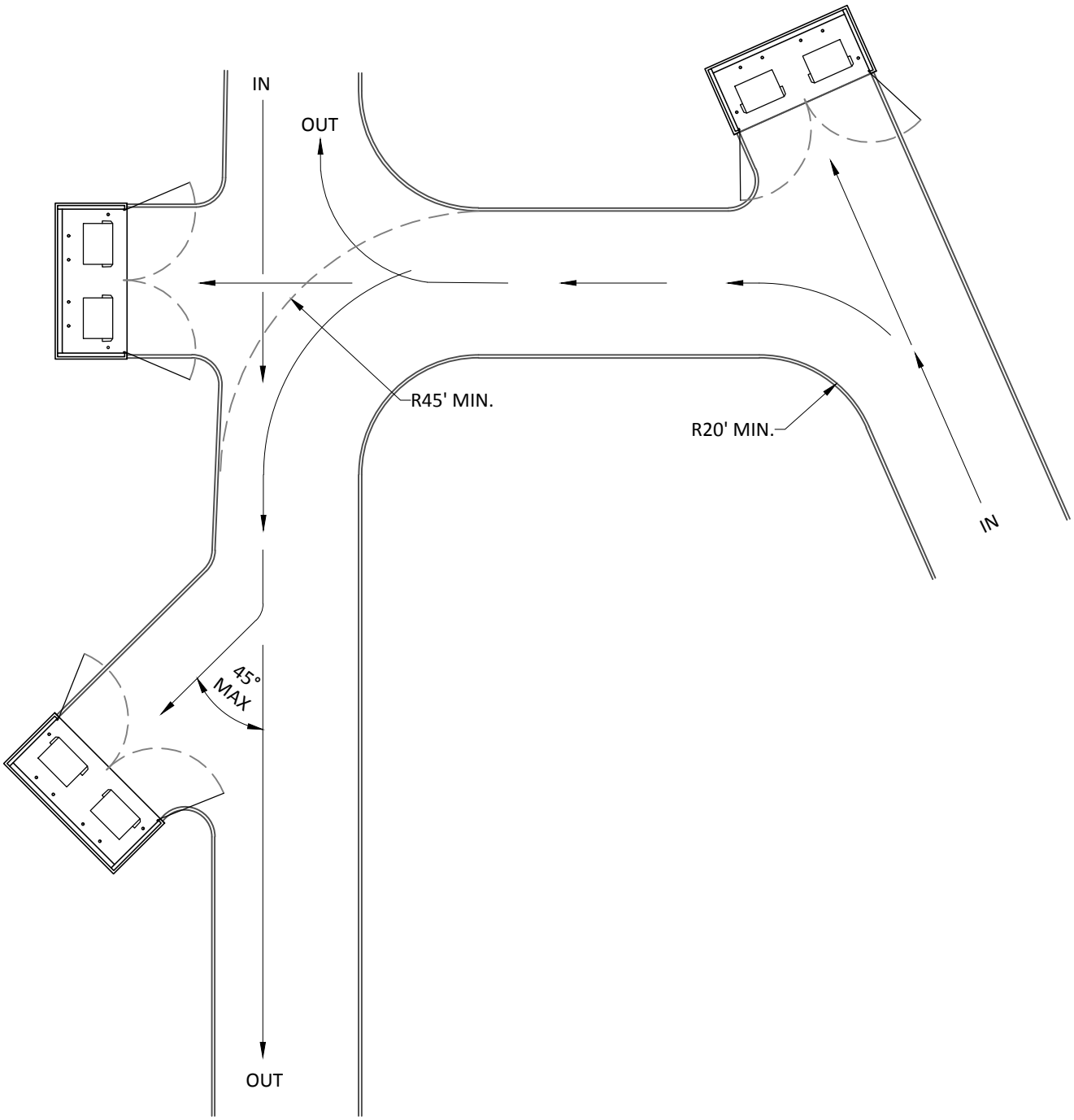
Texas Department of Transportation — Design Division Standard

TRINITY HIGHWAY

CRASH CUSHION
(NARROW)
TRACC(N)-16

FILE: tracon16.dgn	DN: TxDOT	CK: KM	DW: VP	CK: VP
©TxDOT: February 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS: REVISED 06. 2013 (VP) REVISED 03. 2016 (VP)	DIST	COUNTY		SHEET NO.

REUSABLE



NOTE:

REFERENCE PART A, SECTION 2 FOR MINIMUM "PAVING CLASS DESIGNATION".

CARROLLTON
TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

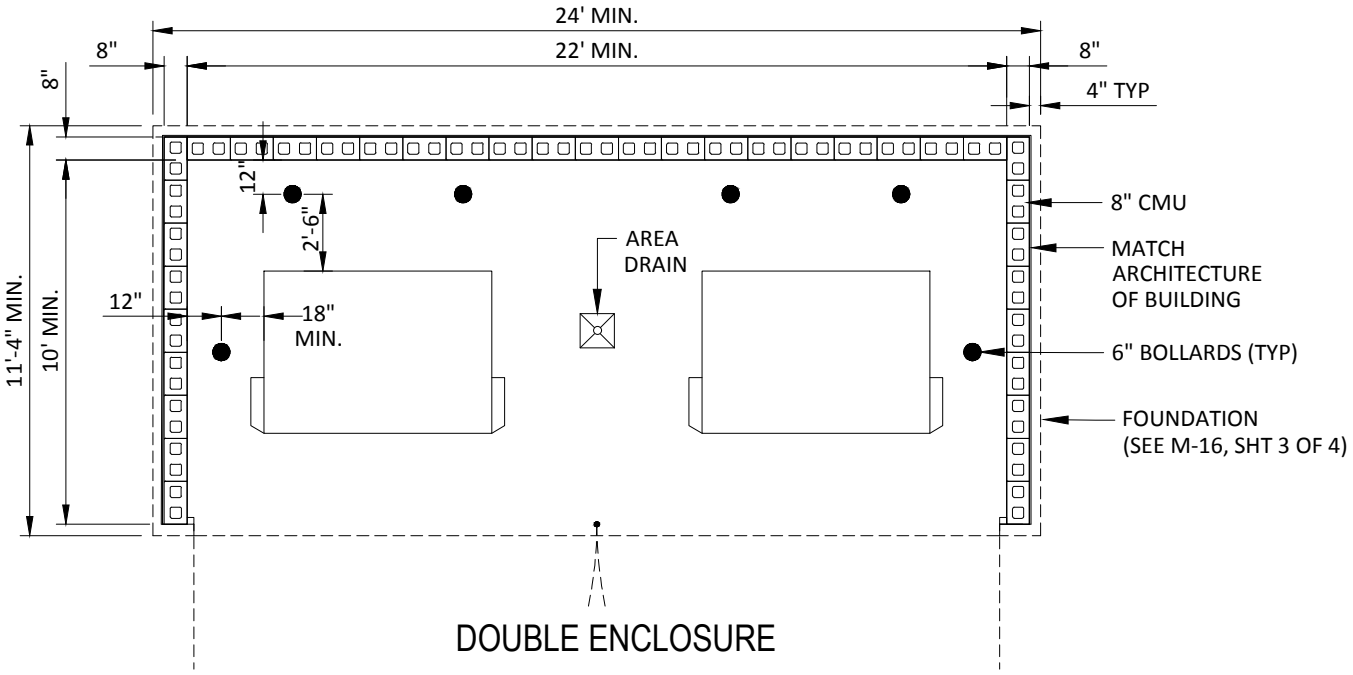
SCALE: NTS DATE: 01/2018
SHEET 1 OF 4

TRASH RECEPTACLE DETAILS
TYPICAL SOLID WASTE TRUCK
MANEUVERING REQUIREMENTS

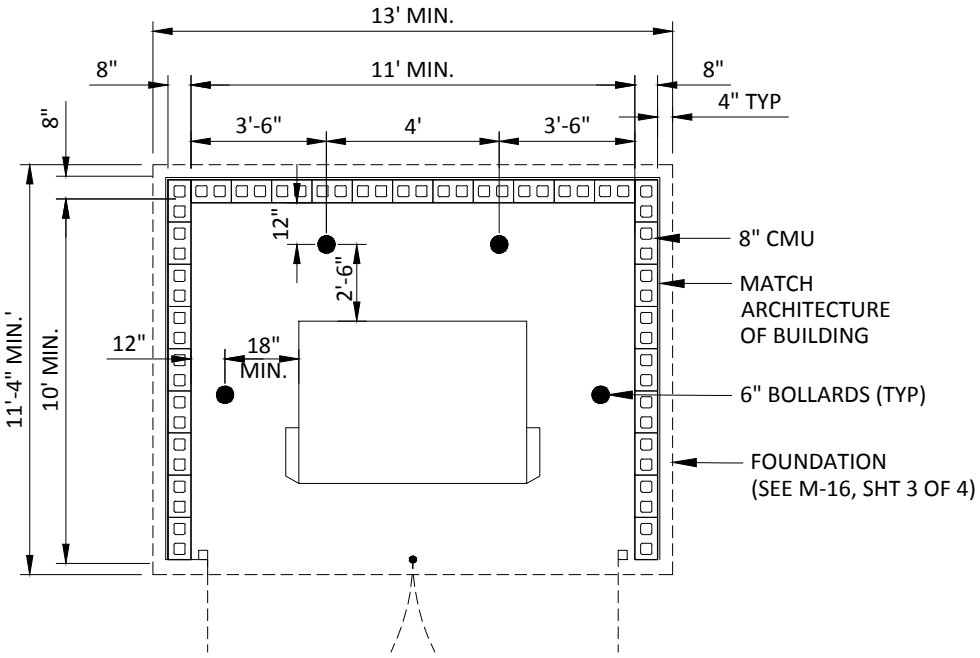
M-16

ENGINEERING
DEPARTMENT

FILENAME: M-16_1-4.DWG



DOUBLE ENCLOSURE



SINGLE ENCLOSURE

GENERAL NOTES:

1. APPROPRIATE SCREENING AND LOCATION OF TRASH RECEPTACLES ARE REQUIRED PER THE COMPREHENSIVE ZONING ORDINANCE.

2. INSIDE DIMENSIONS OF SINGLE ENCLOSURE SHALL BE 10'x11'.

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

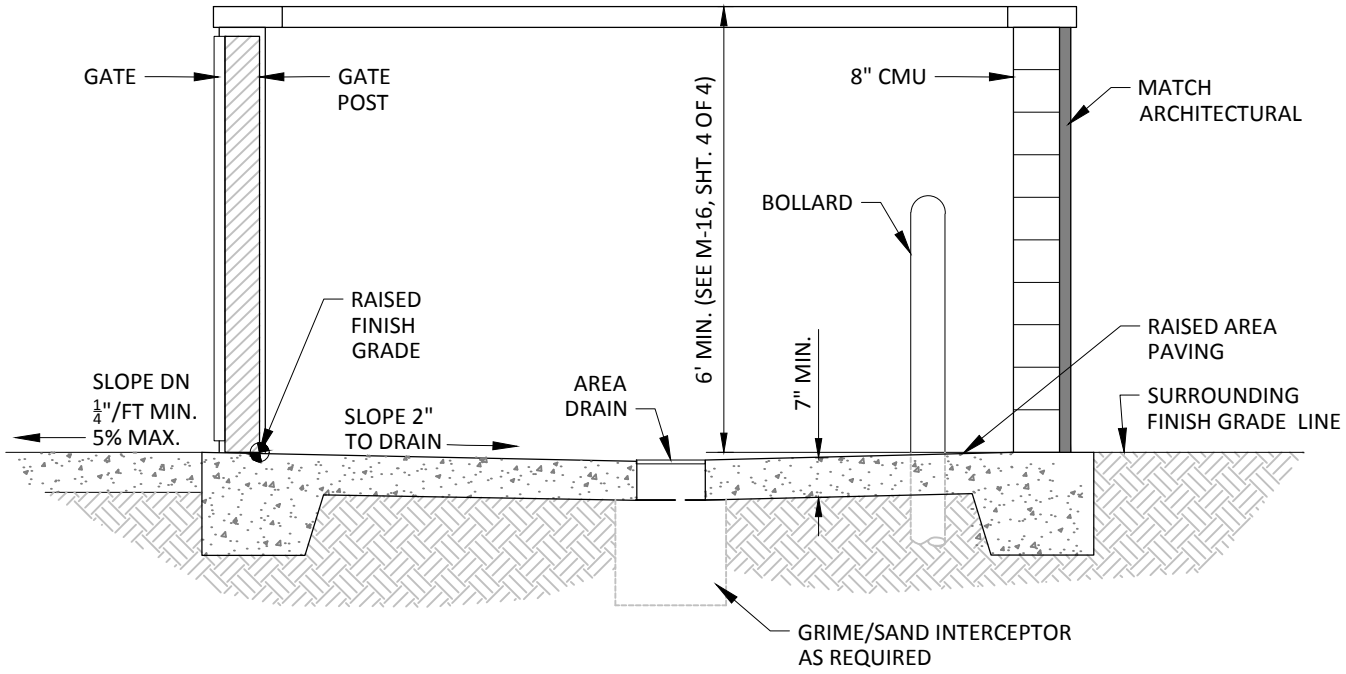
SCALE: NTS DATE: 01/2018
SHEET 2 OF 4

TRASH RECEPTACLE DETAILS
DOUBLE AND SINGLE PLAN

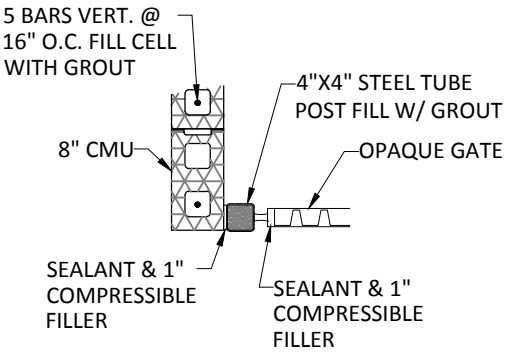
M-16

ENGINEERING
DEPARTMENT

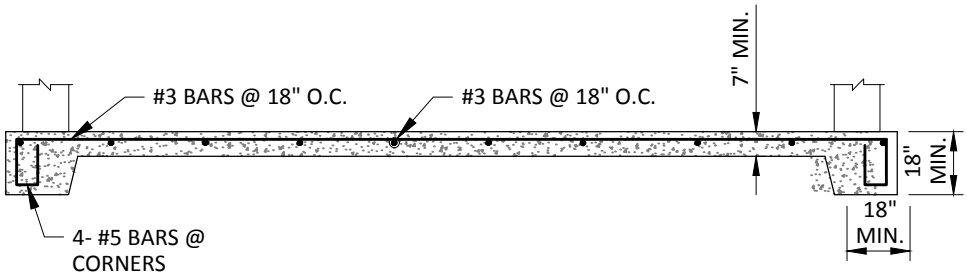
FILENAME: M-16_2-4.DWG



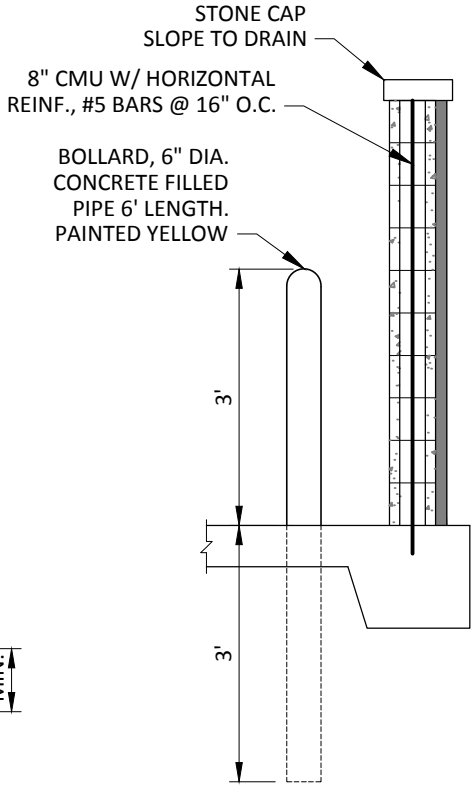
ENCLOSED AREA CROSS SECTION



GATE POST DETAIL



FOUNDATION DETAIL



WALL SECTION

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

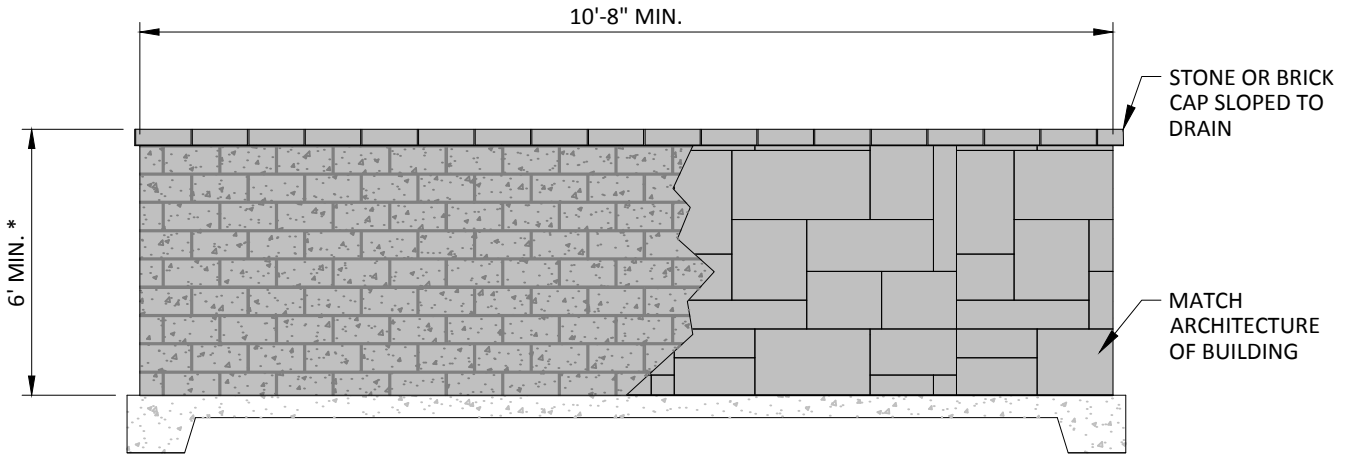
TRASH RECEPTACLE DETAILS
SCREENING WALL
SECTION AND DETAILS

SCALE: NTS DATE: 01/2018
SHEET 3 OF 4

M-16

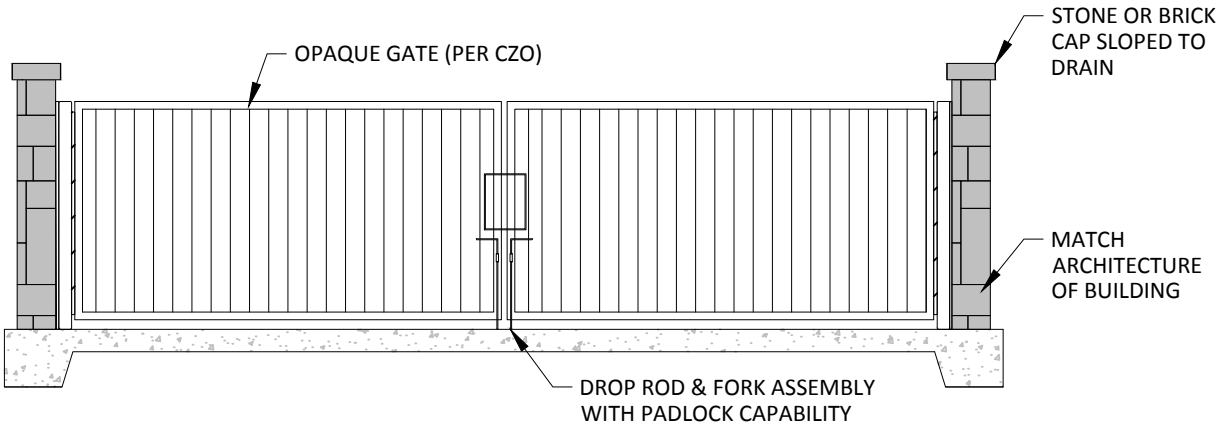
ENGINEERING DEPARTMENT

FILENAME: M-16_3-4.DWG



SIDE WALL ELEVATION

*WALL SHALL BE NO LESS THAN 6' IN HEIGHT; TRASH RECEPTACLE SHALL NOT EXCEED THE HEIGHT OF THE WALL.



FRONT ELEVATION

CARROLLTON TEXAS

GENERAL DESIGN STANDARDS
MISCELLANEOUS DETAILS

SCALE: NTS DATE: 01/2018
SHEET 4 OF 4

TRASH RECEPTACLE DETAILS
SIDE WALL AND FRONT ELEVATION

M-16

ENGINEERING DEPARTMENT

FILENAME: M-16_6-6.DWG