City of Raleigh

Standard Details

Tree Protection and Planting
NOTES:
1. TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE
   (SEE DETAIL TPP-02 FOR EXAMPLES)
2. THE TREE PROTECTION FENCING MUST REMAIN IN PLACE FOR THE DURATION OF THE PROJECT
   UNLESS OTHERWISE APPROVED BY URBAN FORESTRY STAFF.
3. APPROVED IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION WHEN APPLICABLE.
4. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50'
   ON CENTER FOR THE REMAINDER.
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF RALEIGH BASED ON ACTUAL FIELD CONDITIONS.
8. SIGNS ARE TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL WITH LETTERS A MINIMUM OF 2 1/2" HIGH, CLEARLY LEGIBLE
   AND SPACED AS SHOWN.

WARNING SIGN DETAIL

CONTACT INFORMATION:
CITY OFraleigh PARKS, RECREATION AND
CULTURAL RESOURCES DEPARTMENT
URBAN FORESTER:
TREES@RALEIGHNC.GOV
WWW.RALEIGHNC.GOV
1. CONTRACTOR MUST PROVIDE AND INSTALL TREE PROTECTION SIGNAGE.

2. A TREE IMPACT PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION IF ANY TREES ON CITY PROPERTY ARE TO BE IMPACTED BY PRUNING, TRENCHING, BORING, REMOVAL, PAVING, PLANTING, ETC.

NOTES:

A. IN TREE PIT

MIN. (FT) = DBH (IN) x 1.25

EX. TREE DBH

B. BY SIDEWALK

MIN. (FT) = DBH (IN) x 1.25

EX. TREE DBH

C. BY BUILDING

MIN. (FT) = DBH (IN) x 1.25

EX. TREE DBH

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CITY OF RALEIGH
STANDARD DETAIL

DATE: 8/2020

REVISIONS

TREE PROTECTION FENCE LAYOUT

TPP-02
NOTES:
1. TREES MUST MEET THE TREE QUALITY STANDARDS IN CH. 2 OF THE CITY TREE MANUAL.
2. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE DRAINAGE OF ALL PLANTING PITS. (POSITIVE DRAINAGE AWAY FROM PIT)
3. TREES SHALL BE PLANTED BETWEEN OCTOBER 1ST AND APRIL 30TH.
4. A TREE IMPACT PERMIT IS REQUIRED.
5. ELECTRICAL OUTLETS AND OTHER UTILITIES ARE PROHIBITED IN THE PLANTING AREA IMMEDIATELY SURROUNDING THE TREE.
6. IF STAKING IN ACCORDANCE WITH THE CITY TREE MANUAL, THE STAKING MUST BE REMOVED WITHIN ONE YEAR
7. TREES WILL HAVE A MINIMUM 1 YEAR WARRANTY AFTER THE INITIAL PLANTING IS APPROVED BY THE CITY.
TRENCHING/TUNNELING NEAR EXISTING TREES

1. TRENCHING SHALL OCCUR OUTSIDE CRZ.

2. TUNNELING AND BORING IS PERMITTED WITHIN THE CRZ AS LONG AS IT IS 30 INCHES DEEP OR GREATER. EXCAVATIONS AND HAND HOLES SHALL BE OUTSIDE THE CRZ.

3. ENCROACHMENT INTO THE CRZ REQUIRES APPROVAL FROM THE URBAN FORESTER.

4. ROOTS MUST BE PRUNED TO A CLEAN CUT. CUTTING OR PRUNING OF ROOTS 2" OR LARGER IS PROHIBITED.

5. IF EXCAVATION CAUSES PRUNED ROOTS OVER 1.5" IN DIAMETER TO REMAIN EXPOSED FOR MORE THAN 24 HOURS, ROOTS ON TREE SIDE MUST BE KEPT MOIST.

A TREE IMPACT PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION IF ANY TREES ON CITY PROPERTY ARE TO BE IMPACTED BY PRUNING, TRENCHING, BORING, REMOVAL, PAVING, PLANTING, ETC.

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MIN. (FT) = DBH (IN) x 1.25

CRITICAL ROOT ZONE

EX. TREE DBH

TRENCHING IS PERMITTED OUTSIDE OF THE CRZ

NOTES:

1. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A RADIUS EXTENDING FROM THE TRUNK OF A TREE 1.25 FEET PER INCH OF DBH.

2. TRENCHING SHALL OCCUR OUTSIDE THE CRZ.

2.1. TUNNELING AND BORING IS PERMITTED WITHIN THE CRZ AS LONG AS IT IS 30 INCHES DEEP OR GREATER. EXCAVATIONS AND HAND HOLES SHALL BE OUTSIDE THE CRZ.

2.2. ENCROACHMENT INTO THE CRZ REQUIRES APPROVAL FROM THE URBAN FORESTER.

3. ROOTS MUST BE PRUNED TO A CLEAN CUT. CUTTING OR PRUNING OF ROOTS 2" OR LARGER IS PROHIBITED.

4. IF EXCAVATION CAUSES PRUNED ROOTS OVER 1.5" IN DIAMETER TO REMAIN EXPOSED FOR MORE THAN 24 HOURS, ROOTS ON TREE SIDE MUST BE KEPT MOIST.

5. A TREE IMPACT PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION IF ANY TREES ON CITY PROPERTY ARE TO BE IMPACTED BY PRUNING, TRENCHING, BORING, REMOVAL, PAVING, PLANTING, ETC.

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MIN. (FT) = DBH (IN) x 1.25

CRITICAL ROOT ZONE

EX. TREE DBH

TRENCHING IS PERMITTED OUTSIDE OF THE CRZ
A TREE IMPACT PERMIT IS REQUIRED.

ADHERE TO STANDARDS IN THE CITY TREE MANUAL.

CONTACT INFORMATION:
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GRATE DESIGN MUST BE ADA COMPLIANT.
2. GENERAL PATTERN DESIGN MUST BE AS SHOWN.
3. EXCEPTIONS OR PERSONALIZATION MUST BE REVIEWED AND APPROVED BY THE CITY OF RALEIGH.
4. A TREE IMPACT PERMIT IS REQUIRED.
5. ADHERE TO STANDARDS IN THE CITY TREE MANUAL.
6. ELECTRIC OUTLETS AND OTHER UTILITIES ARE PROHIBITED IN THE GRATE AREA.

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GRAY IRON, RECTANGULAR 4'X6', 1.5" MIN. THICK, WITH 1/4" OPENING OR LESS

NOTES:
1. GRATE DESIGN MUST BE ADA COMPLIANT.
2. GENERAL PATTERN DESIGN MUST BE AS SHOWN.
3. EXCEPTIONS OR PERSONALIZATION MUST BE REVIEWED AND APPROVED BY THE CITY OF RALEIGH.
4. A TREE IMPACT PERMIT IS REQUIRED.
5. ADHERE TO STANDARDS IN THE CITY TREE MANUAL.
6. ELECTRIC OUTLETS AND OTHER UTILITIES ARE PROHIBITED IN THE GRATE AREA.

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NOTE: ALL DIMENSIONS SHOWN ARE IN ENGLISH
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT
WEIGHT: 608#/SET

CITY OF RALEIGH STANDARD DETAIL
TPP-06

FRAME ARE ASSEMBLED USING A 6" X 1 1/4" X 1/4" THICK STEEL PLATE BOLTED TO FRAME w/ (2) 3/8-16UNC X 1 STNL. STL. FLAT HD. CAP SCREWS

BOLT TREE GRATE HALVES TOGETHER w/ (2) 1/2"-13 x 3" STNL. STL. HEX BOLTS, GALV. FLAT WASHERS AND STNL. STL. HEX NUT

ALL SLOTS ARE 1/2" WIDE MAX.

NOTE: ALL DIMENSIONS SHOWN ARE IN ENGLISH
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT
WEIGHT: 608#/SET

CITY OF RALEIGH STANDARD DETAIL
TPP-06
1. A site specific plan must be developed to ensure that:
   1.1. Each tree is provided a min. root-accessible soil volume of 600 cubic feet.
   1.2. The tree root area beneath the sidewalk is expanded to maximize root accessible soil space under the pavement.
   1.3. Connect soil space for root expansion where possible to allow root systems of trees to overlap and colonize a shared soil space.
   1.4. Any combination of structural soils, soil containment system (e.g., Silva Cell), or root channeling (e.g., soil strip drain/aeration system) that performs as specified is acceptable.

3. 40' x 6' width minimum applies to both structural soils and subsurface soil containment systems.

4. Subsurface application shall be reviewed and approved by City of Raleigh Parks, Recreation and Cultural Resources Urban Forestry Division prior to installation.
NOTES:

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   (SEE DETAIL TPP-02 FOR EXAMPLES)
2. THE TREE PROTECTION FENCING MUST REMAIN IN PLACE FOR THE DURATION OF THE PROJECT
   UNLESS OTHERWISE APPROVED BY URBAN FORESTRY STAFF.
3. APPROVED IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION WHEN APPLICABLE.
4. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50'
   ON CENTER FOR THE REMAINDER
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC
7. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF RALEIGH BASED ON ACTUAL FIELD CONDITIONS.
8. SIGNS ARE TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL WITH LETTERS A MINIMUM OF 2 1/2" HIGH, CLEARLY LEGIBLE
   AND SPACED AS SHOWN.
9. FLOW SHALL NOT RUN PARALLEL WITH THE FENCE. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
10. SEE NC STATE DEQ PRACTICE STANDARDS & SPECIFICATIONS SEDIMENT FENCE SET FOR CONDITIONS WHERE
    APPLIES. PLANNING CONSIDERATIONS & DESIGN CRITERIA. (HOWEVER, FLOW SHALL NOT RUN PARALLEL WITH THE TOE
    OF THE FENCE.)

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2" X 4" WOOD SLATS, BETWEEN WOOD SLATS WITH A MINIMUM OF 3 SLATS PER TREE

EXIST TREE TRUNK

ROPE OR STEEL STRAPPING AROUND THE 2X4 WOOD SLATS

12" FROM LOWEST BRANCH

EXIST TREE BRANCH

ORANGE PLASTIC CONSTRUCTION FENCE WRAPPED TO A MINIMUM OF 3 LAYERS OUTSIDE SLATS

EXIST GROUND

2" X 4" WOOD SLATS, MAXIMUM 3 INCH SPACING BETWEEN WOOD SLATS WITH A MINIMUM OF 3 SLATS PER TREE

ORANGE PLASTIC CONSTRUCTION FENCE WRAPPED TO A MINIMUM OF 3 LAYERS OUTSIDE SLATS

NOTE: NO SLATS, ROPE, STEEL STRAPPING OR PLASTIC CONSTRUCTION FENCE SHALL BE ATTACHED TO, ANCHORED TO OR TIED TO THE TREE.

SECTION A - A

CITY OF RALEIGH
STANDARD DETAIL

TPP-09

REVISED 8/2020

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