

ZIMMER SITE DATA TABLE

USE: HOSPITAL CANCER TREATMENT (NHRMC)
 SITE ADDRESS: 2131 S. 17TH STREET
 PARCEL ID#: R06011-004-001-000
 MAP ID#: 312507.57.9875.000
 PROJECT AREA: 50.38 AC
 ZONING: 1.65 AC (72,075 SF)
 CANA LAND USE: 088-1 OFFICE AND INSTITUTIONAL
 BUILDING SETBACKS: (REQUIRED) FRONT SETBACK: 20'
 INTERIOR SIDE SETBACK: 10'
 CORNER SIDE SETBACK: 20'
 REAR SETBACKS: 20'

BUILDING SETBACKS: INTERIOR SIDE SETBACK EXIST. BLDG: 98'±
 INTERIOR SIDE SETBACK PROPOSED EXP: 128'±
 FRONT SETBACK EXIST. BLDG: 512'±
 FRONT SETBACK PROPOSED EXP: 475'±

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor-Penthouse	13,300		13,300
2nd Floor	25,010		25,010
1st Floor	25,010	5,167	30,177
Sanitoe	25,010	5,250	30,260
TOTAL occupied area	75,030	10,370	85,400

BUILDING EXPANSION AREA: 5,167 SF (FOOT PRINT)
 PERCENT EXPANSION AREA: 16.92%
 EXISTING BUILDING HEIGHT: VARIES 33'-65' (SEE ARCH. PLANS)
 BUILDING EXPANSION HEIGHT: 33'-± (SEE ARCH. PLANS)
 BUILDING CANOPY HEIGHT: 13'-± CLEAR
 EXISTING BUILDING STORES: 3 (PLUS MECHANICAL)
 BUILDING EXPANSION STORES: 2
 BUILDING CONSTRUCTION TYPE: II-B

PARKING REQUIREMENT HOSPITAL:
 1 PER EACH 2 LICENSED BEDS INTENDED FOR PATIENT USE, 1 PER EACH STAFF PERSON, INCLUDING MEDICAL AND SUPPORT STAFF BASED ON THE LARGEST EMPLOYEE SHIFT.
 -NO BEDS IN THIS FACILITY
 -NO NEW EMPLOYEES WITH BUILDING ADDITION
 -EXISTING PARKING REMAINS

IMPERVIOUS AREA:
 PROJECT AREA: 72,075 SF (1.65 AC)
 EXISTING IMPERVIOUS AREA:
 BUILDING (FOOTPRINT): 32,632 SF
 ASPHALT/CURB AND GUTTER: 7,140 SF
 SIDEWALK/CONCRETE: 6,695 SF
 TOTAL: 46,467 SF
 % PROJECT IMPERVIOUS AREA: 64.47%
 EXISTING IMPERVIOUS AREA REMOVED:
 ASPHALT/CURB & GUTTER: 5,691 SF
 SIDEWALK/CONCRETE: 3,452 SF
 TOTAL: 9,143 SF
 NEW IMPERVIOUS AREA ADDED:
 BUILDING (FOOTPRINT): 5,250 SF
 ASPHALT/CURB & GUTTER: 4,242 SF
 SIDEWALK/CONCRETE: 1,757 SF
 TOTAL ADDED: 11,249 SF
 PROPOSED IMPERVIOUS AREA:
 EXISTING BUILDING: 32,632 SF
 BUILDING ADDITION: 5,250 SF
 ASPHALT/CURB & GUTTER: 5,691 SF
 SIDEWALK/CONCRETE: 5,000 SF
 TOTAL: 48,573 SF
 % PROJECT IMPERVIOUS AREA: 67.39%

LANDSCAPING REQUIRED:
 10-25% EXPANSION AREA - 4% INTERIOR LANDSCAPING REQUIRED
 15 TREES PER ACRE DISTURBED
 DISTURBED AREA=0.37 AC = 6 TREES
 SOLID WASTE DISPOSAL IS HANDLED BY ON SITE DUMPSTERS.
 WATER AND SEWER ARE PRIVATELY OWNED
 WATER AND SEWER DEMANDS REMAIN UNCHANGED

TREE REMOVAL TABLE

REGULATED TREES REMOVED:	NO SIGNIFICANT TREES REMOVED
(1) 11" OAK	
(1) 8" RIVER BIRCH	
(1) 6" FIR (PREVIOUSLY REPORTED)	
(1) 12" FIR (PREVIOUSLY REPORTED)	

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

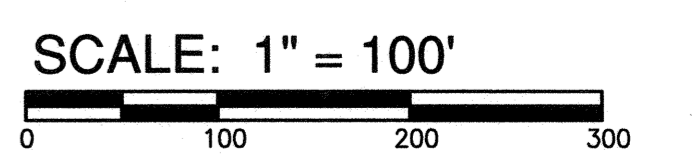


Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

NCDENR PWSS WATER PERMIT #:		GPD
WATER CAPACITY:		
DWQ SEWER PERMIT #:		GPD
SEWER CAPACITY:		
SEWER SHED # AND PLANT:		
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)	



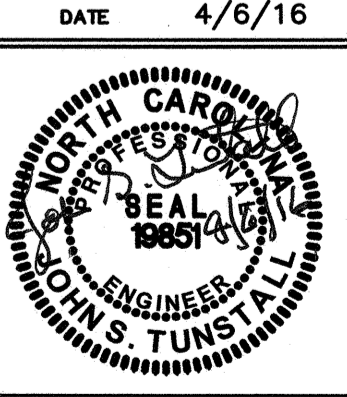
BY	DESCRIPTION
	REVISIONS
SYMBOL	DATE

OVERALL SITE PLAN
ZIMMER CANCER CENTER RENOVATION
 2131 SOUTH 17TH STREET
 WILMINGTON, N. C.

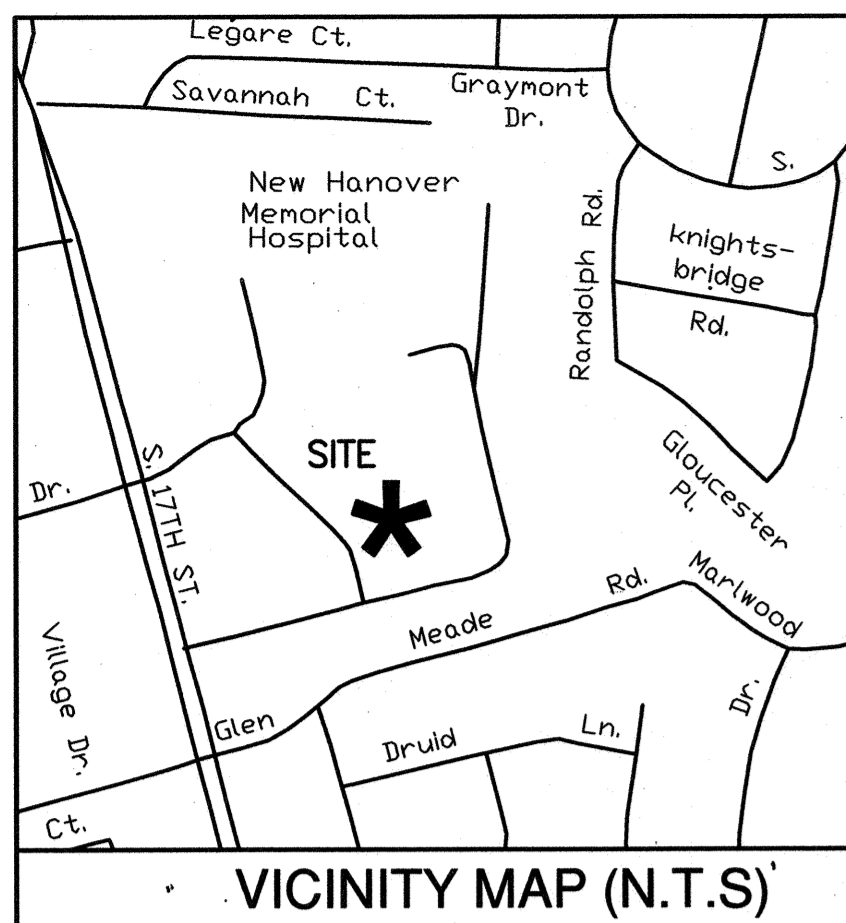
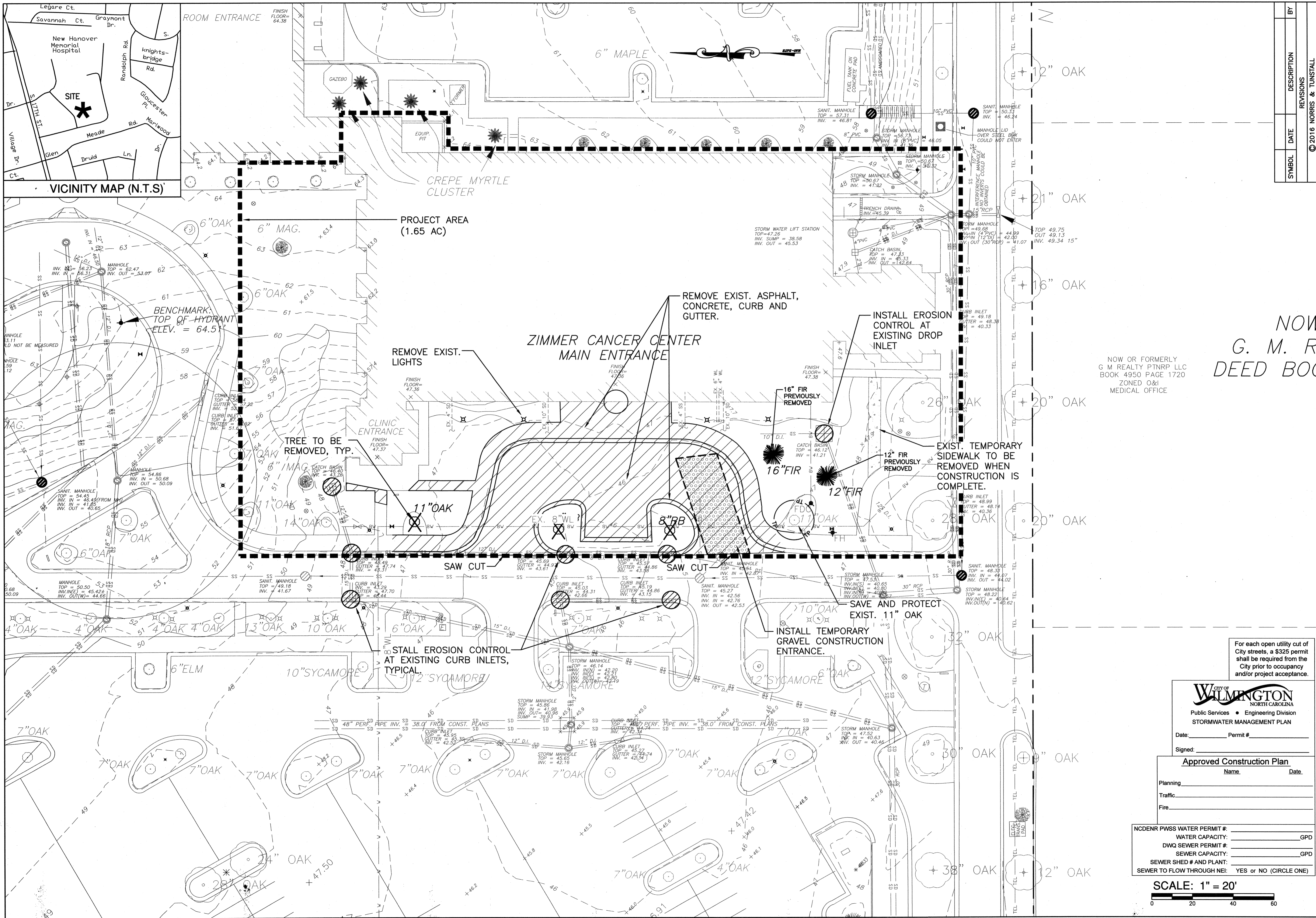
OWNER/DEVELOPER
 NHRMC
 THOMAS WALSH, VP FACILITIES
 AND SUPPORT SERVICES
 PO BOX 9000
 WILMINGTON, NC 28402
 910 343-2788

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
 1429 ASH-LITTLE RIVER RD, NW
 WILMINGTON, NC 28402
 PHONE (910) 287-8900
 licence #C-3641

15120
 DES. JST
 CKD. JPN
 DRWN. NKS
 DATE 4/6/16



C1



DEMOLITION PLAN
ZIMMER CANCER CENTER RENOVATION
2131 SOUTH 17TH STREET
WILMINGTON, N. C.

OWNER/DEVELOPER
 THOMAS WALSH, VP FACILITIES
 AND SUPPORT SERVICES
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NORRIS & TUNSTALL
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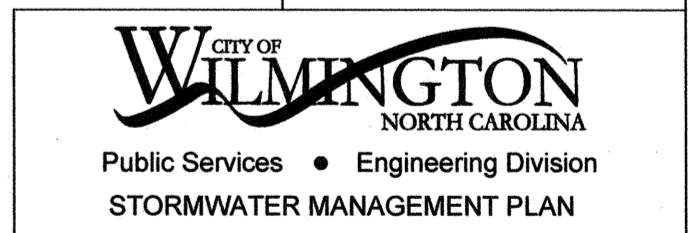
DATE 4/6/16

C2

NOW OR FORMERLY
 G. M. R
 DEED BOOK

NOW OR FORMERLY
 G. M. R
 DEED BOOK

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Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

NCDENR PWSS WATER PERMIT #: _____

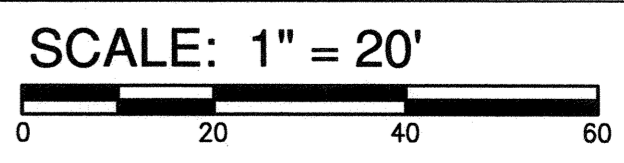
WATER CAPACITY: _____ GPD

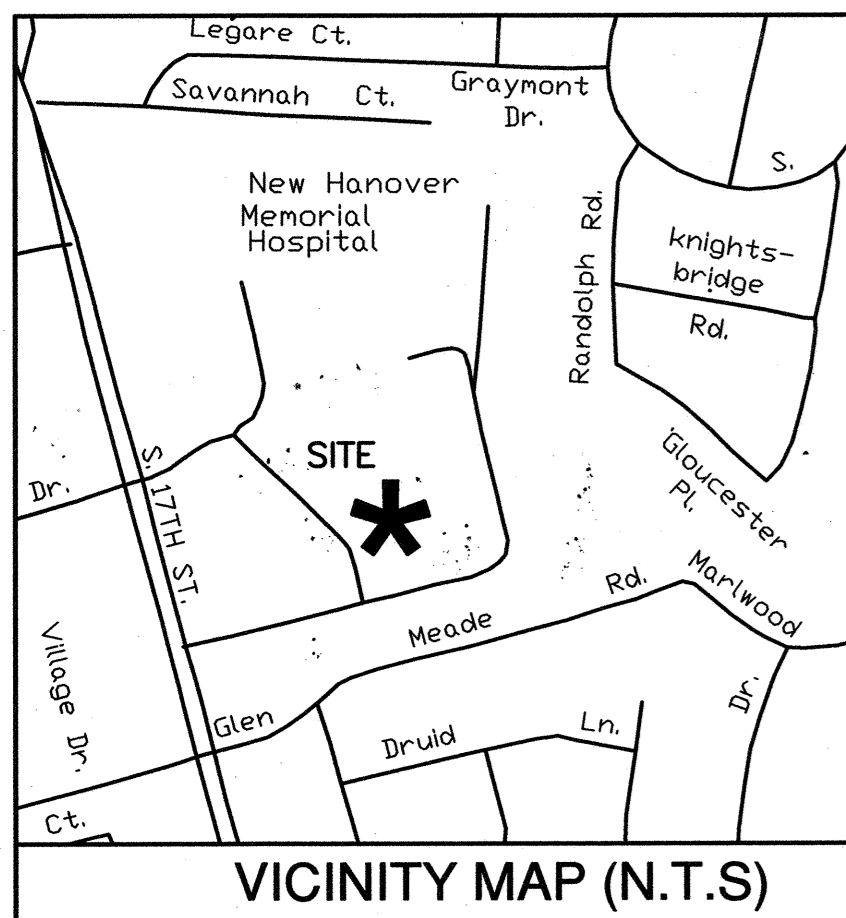
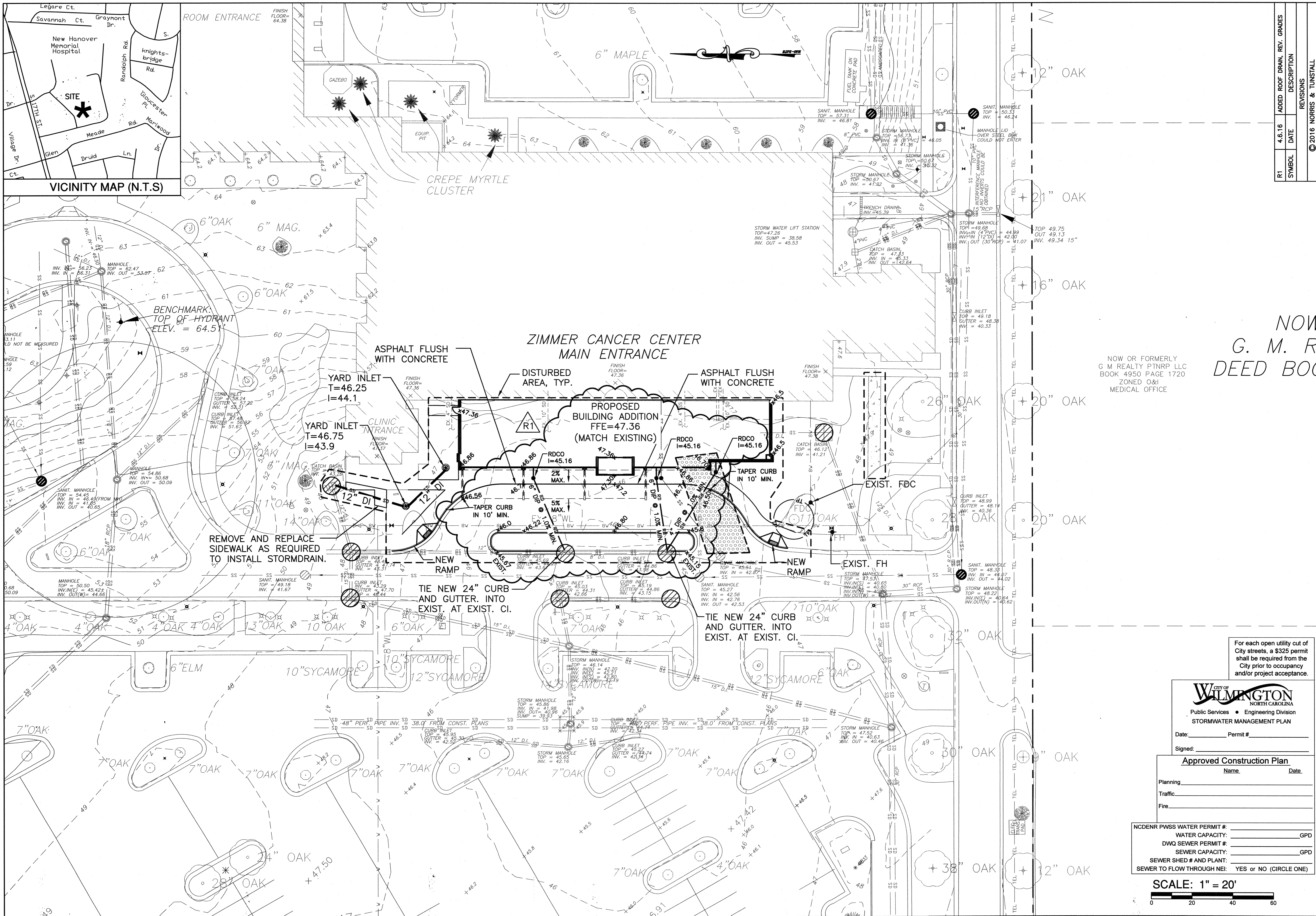
DWQ SEWER PERMIT #: _____

SEWER CAPACITY: _____ GPD

SEWER SHED # AND PLANT: _____

SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)





R1	SYMBOL	DATE	DESCRIPTION
4.6.16	ADDED	ROOF DRAIN, REV. GRADES	

GRADING, DRAINAGE AND EROSION CONTROL PLAN
ZIMMER CANCER CENTER RENOVATION
 2131 SOUTH 17TH STREET
 WILMINGTON, N. C.

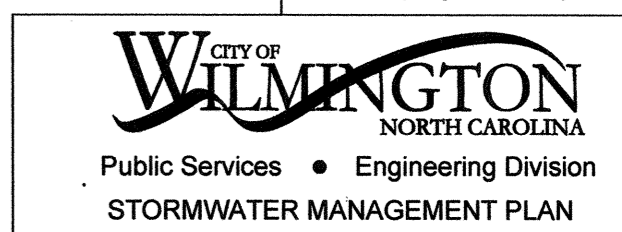
OWNER/DEVELOPER
 THOMAS WALSH, VP FACILITIES AND SUPPORT SERVICES
 PO BOX 9000
 WILMINGTON, NC 28402
 910-343-2788

NOW OR FORMERLY
G. M. R
 DEED BOOK

NOW OR FORMERLY
 G M REALTY PTNRP LLC
 BOOK 4950 PAGE 1720
 ZONED O&I
 MEDICAL OFFICE

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
 1429 ASH-LITTLE RIVER RD, NW
 WILMINGTON, NC 28401
 PHONE (910) 343-9653
 license #C-3641

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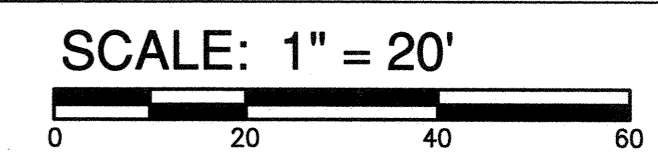


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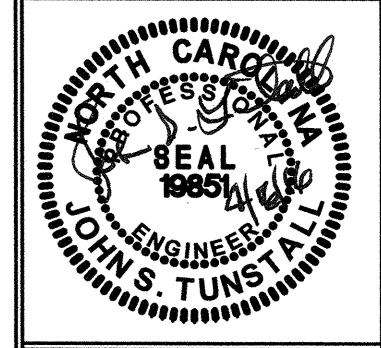
Approved Construction Plan
 Name _____ Date _____

Planning _____
 Traffic _____
 Fire _____

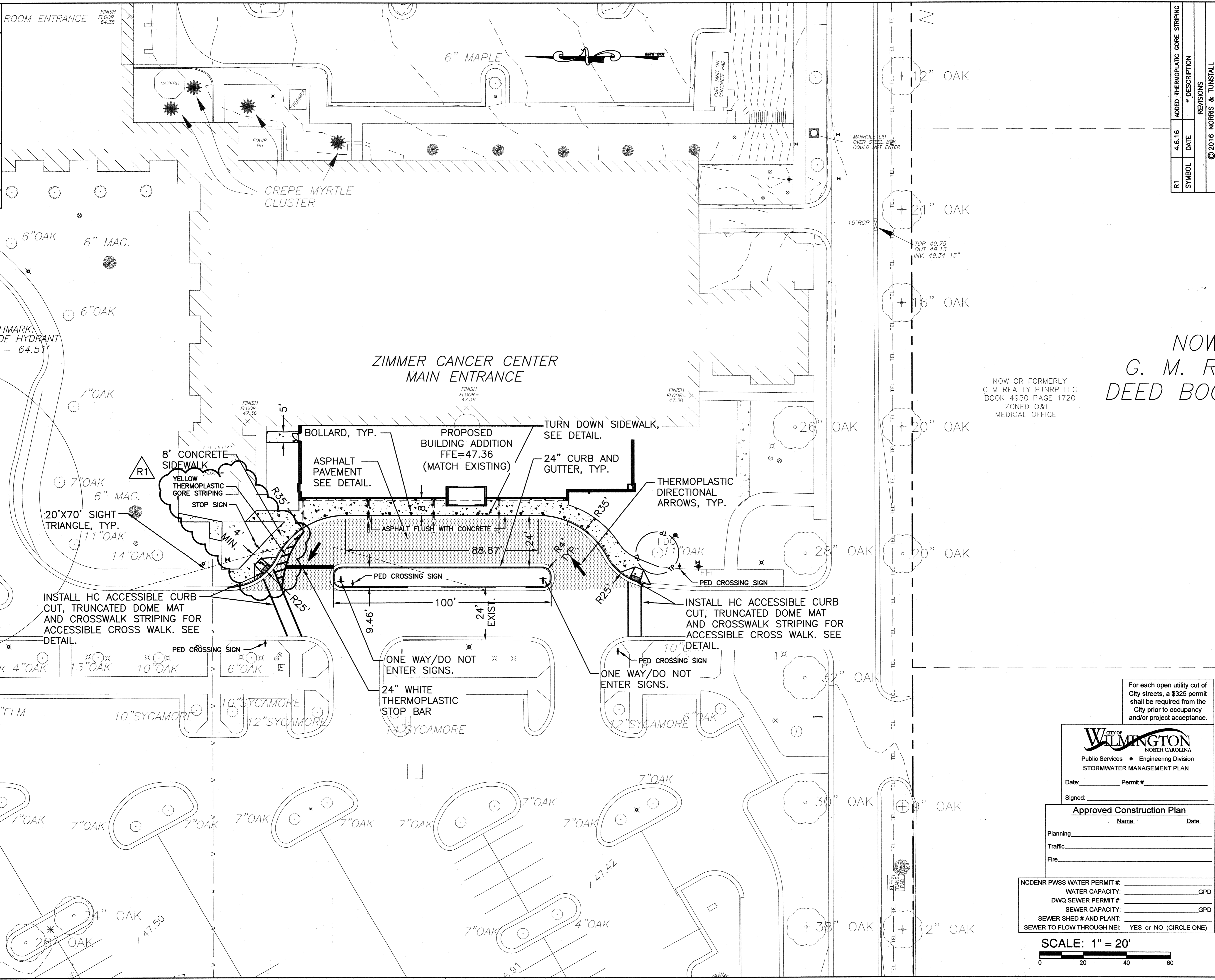
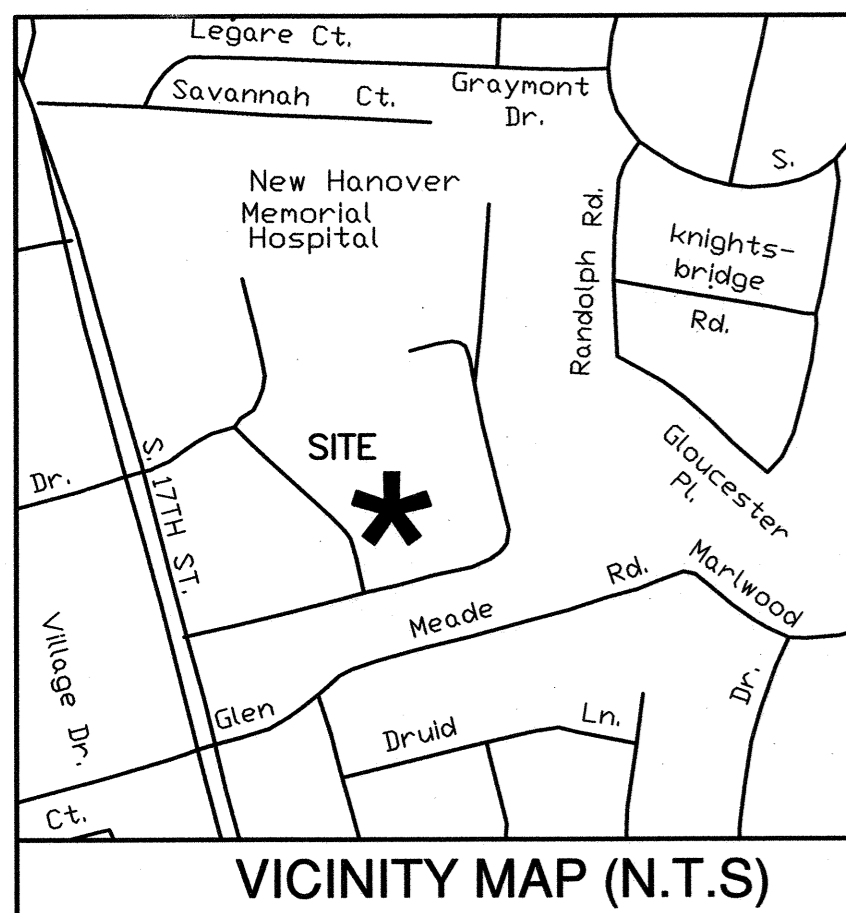
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 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



15120
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 DRWN. NKS
 DATE 4/6/16



C3R



R1	SYMBOL	DATE	DESCRIPTION
4.6.16	ADDED THERMOPLASTIC GORE STRIPING		

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LAYOUT PLAN
 ZIMMER CANCER CENTER RENOVATION
 2131 SOUTH 17TH STREET
 WILMINGTON, N. C.

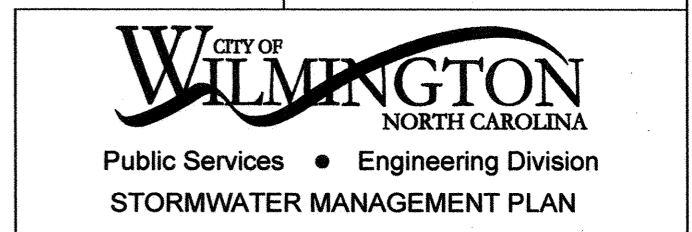
OWNER/DEVELOPER
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 PO BOX 9000
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NOW OR FORMERLY
 G. M. R
 DEED BOO

NOW OR FORMERLY
 G M REALTY PTNRP LLC
 BOOK 4950 PAGE 1720
 ZONED O&I
 MEDICAL OFFICE

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Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

NC DENR PWSS WATER PERMIT #: _____

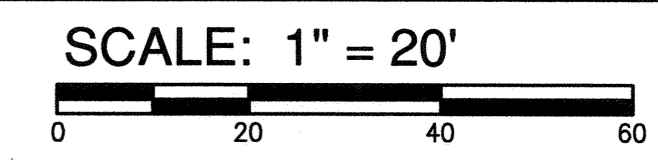
WATER CAPACITY: _____ GPD

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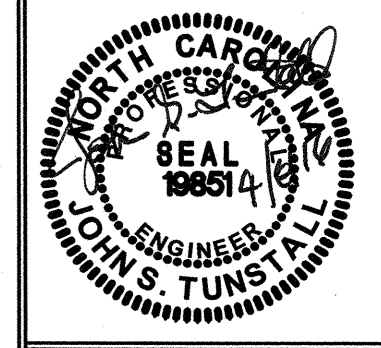
SEWER CAPACITY: _____ GPD

SEWER SHED # AND PLANT: _____

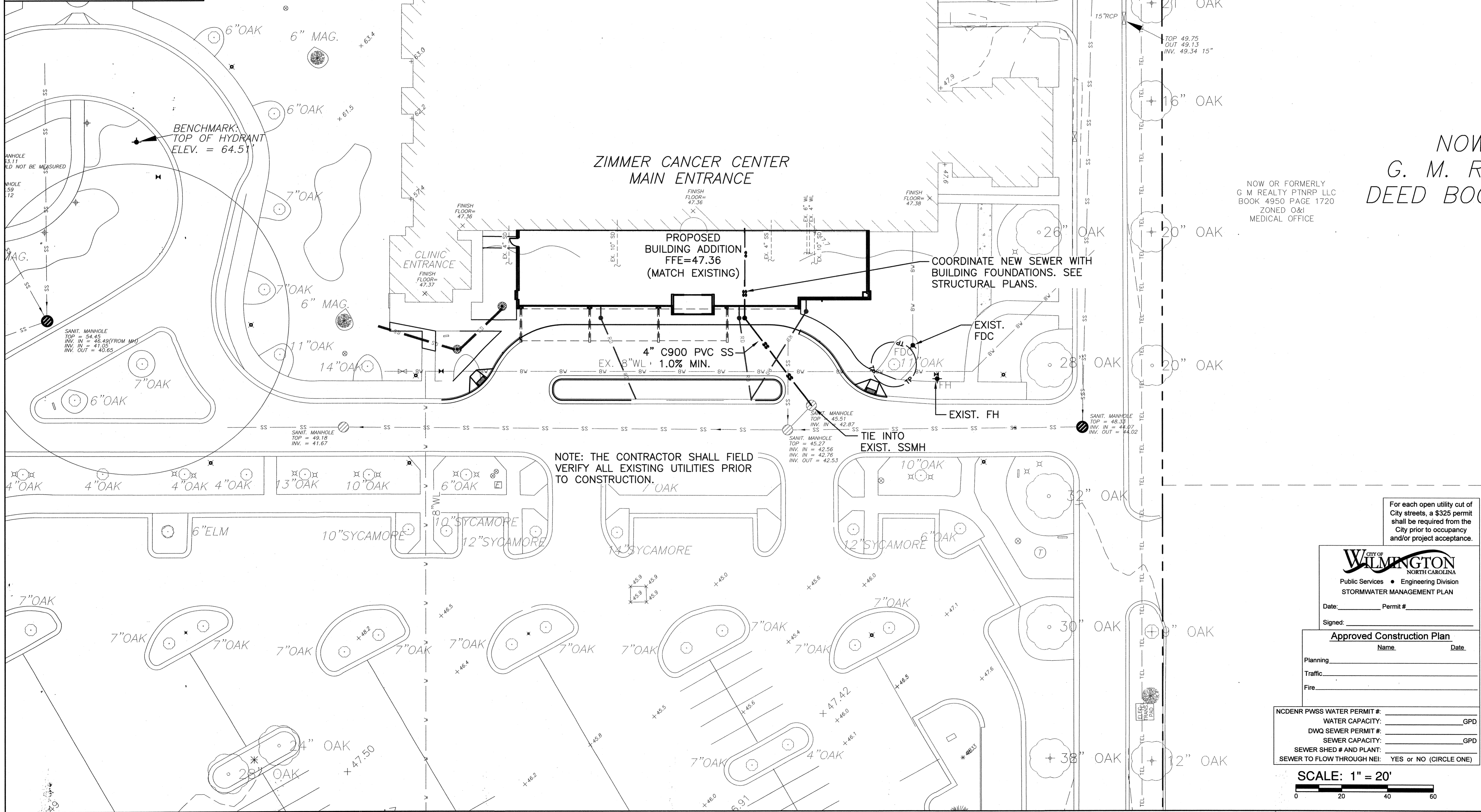
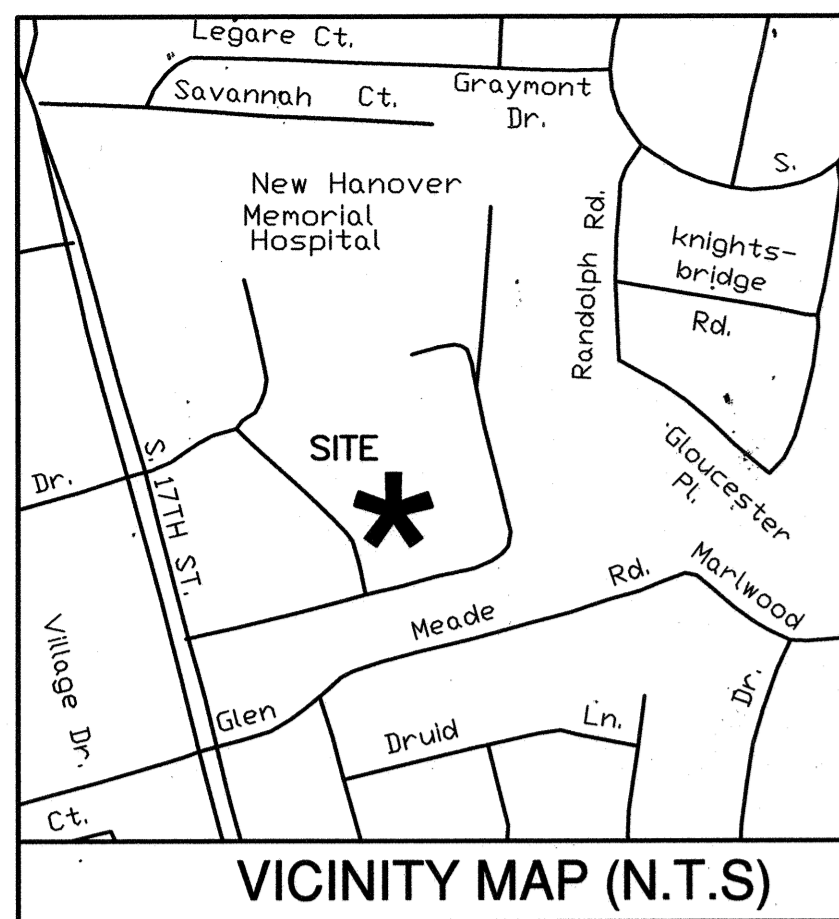
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



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CHK. JPN
DRWN. NKS
DATE 4/6/16



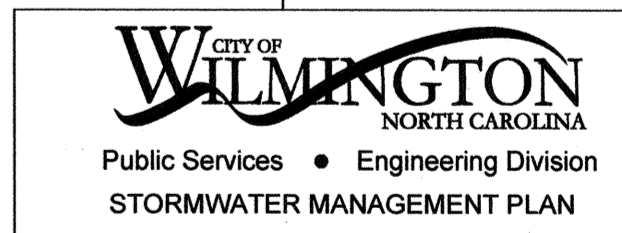
C4R



NOTE: THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

COORDINATE NEW SEWER WITH BUILDING FOUNDATIONS. SEE STRUCTURAL PLANS.

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Date: _____ Permit # _____

Signed: _____

Approved Construction Plan Name _____ Date _____

Planning _____

Traffic _____

Fire _____

NC DENR PWSS WATER PERMIT #: _____ GPD
 DWQ SEWER PERMIT #: _____ GPD
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

SCALE: 1" = 20'

BY	DATE	DESCRIPTION

UTILITY PLAN
 ZIMMER CANCER CENTER RENOVATION
 2131 SOUTH 17TH STREET
 WILMINGTON, N. C.

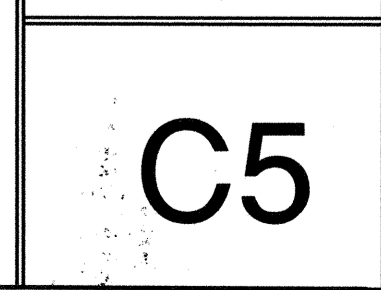
OWNER/DEVELOPER
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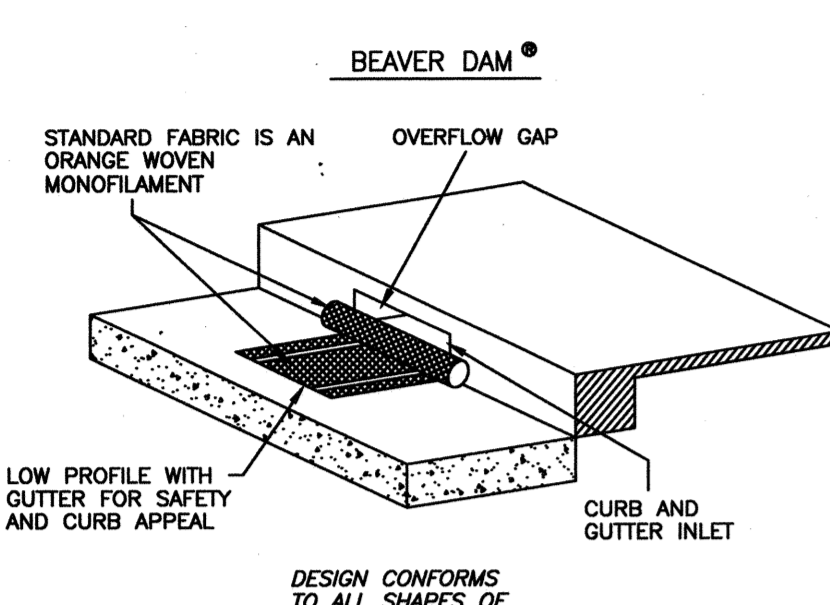
C5

BEAVER DAM®

Installation and Maintenance Guidelines

Installation: The empty Beaver Dam® should be placed over the grate as the grate stands on road. If using optional oil absorbent, place absorbent pillow on pouch, on the bottom (below-grade side) of the unit. Attach absorbent pillow to tether loop. Tuck the enclosure flap inside to completely enclose the grate. Holding the lifting devices (do not rely on lifting devices to support the entire weight of the grate), place the grate into its frame (street side first), then lower back edge with dam into place. The Beaver Dam® should be partially blocking the curb hood when installed properly.

Maintenance: Remove all accumulated sediment and debris from surface and vicinity of unit after each storm event. Remove sediment that has accumulated within the containment area of the Beaver Dam® as needed. If using optional oil absorbent, remove and replace absorbent pillow when near saturation.



BEAVER DAM®

STANDARD FABRIC IS AN ORANGE WOVEN MONOFILAMENT

OVERFLOW GAP

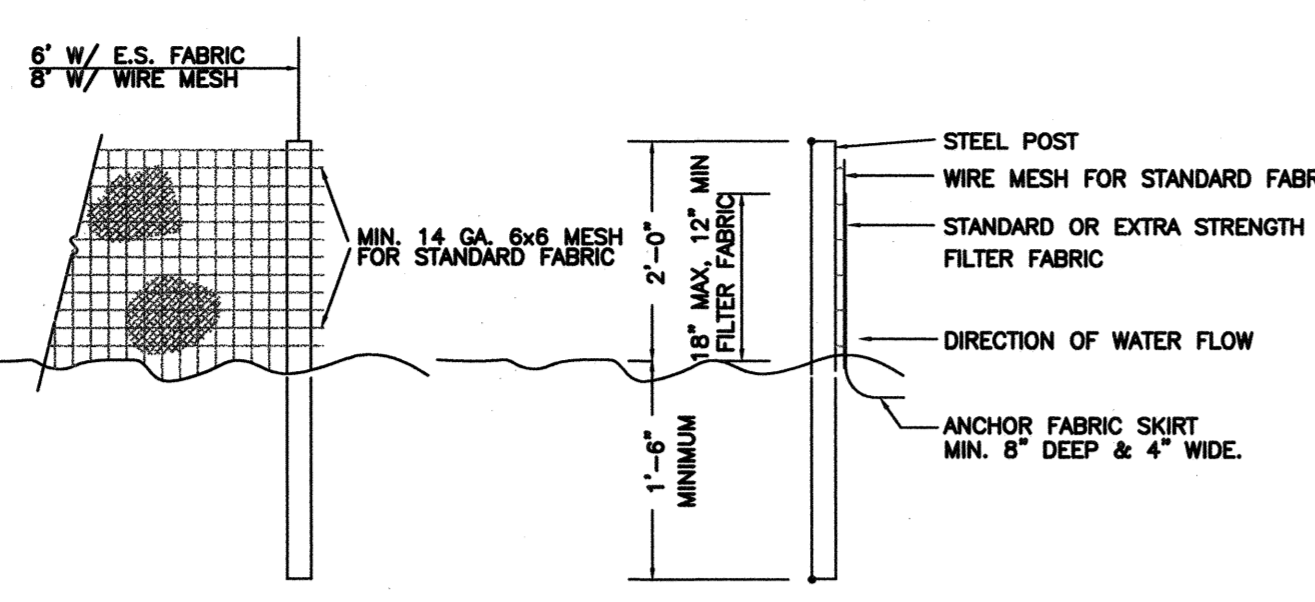
LOW PROFILE WITH CUTTER FOR SAFETY AND CURB APPEAL

CURB AND CUTTER INLET

DESIGN CONFORMS TO ALL SHAPES OF CONCRETE CURBS

* USE AT EXISTING CURB INLETS IN PAVED AREAS.

NOT TO SCALE



6" W/ E.S. FABRIC
8" W/ WIRE MESH

MIN. 14 GA. 6x6 MESH FOR STANDARD FABRIC

2'-0" MAX. 12" MIN. FILTER FABRIC

STEEL POST

WIRE MESH FOR STANDARD FABRIC

STANDARD OR EXTRA STRENGTH FILTER FABRIC

DIRECTION OF WATER FLOW

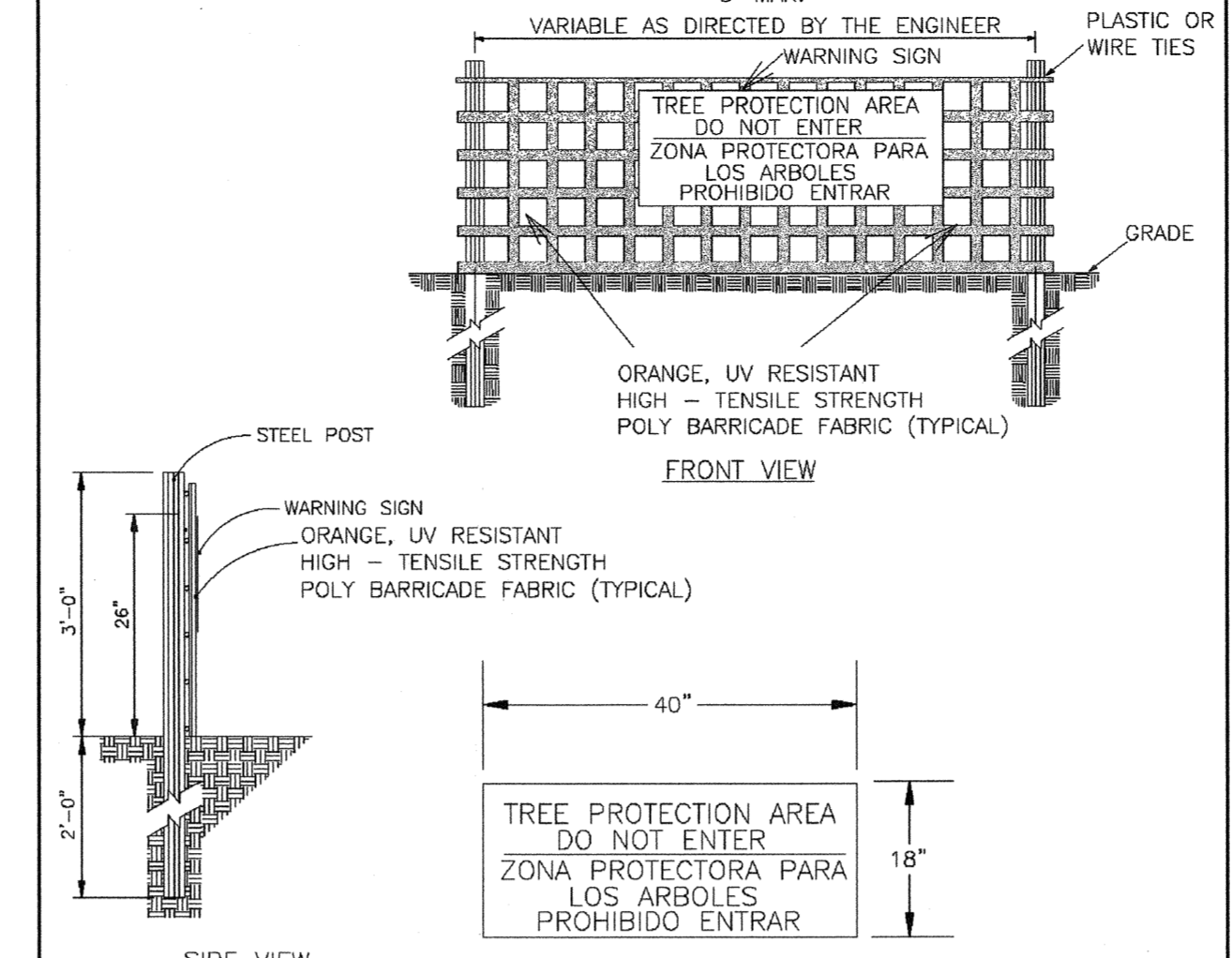
ANCHOR FABRIC SKIRT MIN. 8" DEEP & 4" WIDE.

NOTES:

1. SYN. FENCE FABRIC SHALL BE MIN. OF 30" IN WIDTH WITH 30 LB/IN TENSILE STRENGTH FOR STANDARD FABRIC AND 50 LB/IN FOR EXTRA STRENGTH.
2. FABRIC SHALL BE CONTINUOUS LENGTH. IF JOINTS ARE NECESSARY, LAP FABRIC POST TO POST.
3. STEEL POST SHALL BE MIN. 4" IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

EROSION CONTROL NOTES AND MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE, LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERY HALF-INCH RAINFALL.
2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
3. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND WATTLES, BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.
4. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE, THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF-FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.
5. **LAND QUALITY REQUIRES:** ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED, ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN, TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS. **WATER QUALITY REQUIRES:** ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, ALL SLOPES STEEPER THAN 3% HORIZONTAL TO 1" VERTICAL (3:1) AND ALL HIGH QUALITY WATER (HOW) ZONES SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN SEVEN (7) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN FOURTEEN (14) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.



8" MAX. VARIABLE AS DIRECTED BY THE ENGINEER

WARNING SIGN

PLASTIC OR WIRE TIES

TREE PROTECTION AREA DO NOT ENTER ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR

ORANGE, UV RESISTANT HIGH - TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)

FRONT VIEW

STEEL POST

WARNING SIGN ORANGE, UV RESISTANT HIGH - TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)

3'-0" 26"

4'-0"

16"

TREE PROTECTION AREA DO NOT ENTER ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR

WARNING SIGN DETAIL

SIDE VIEW

NOTES:

1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

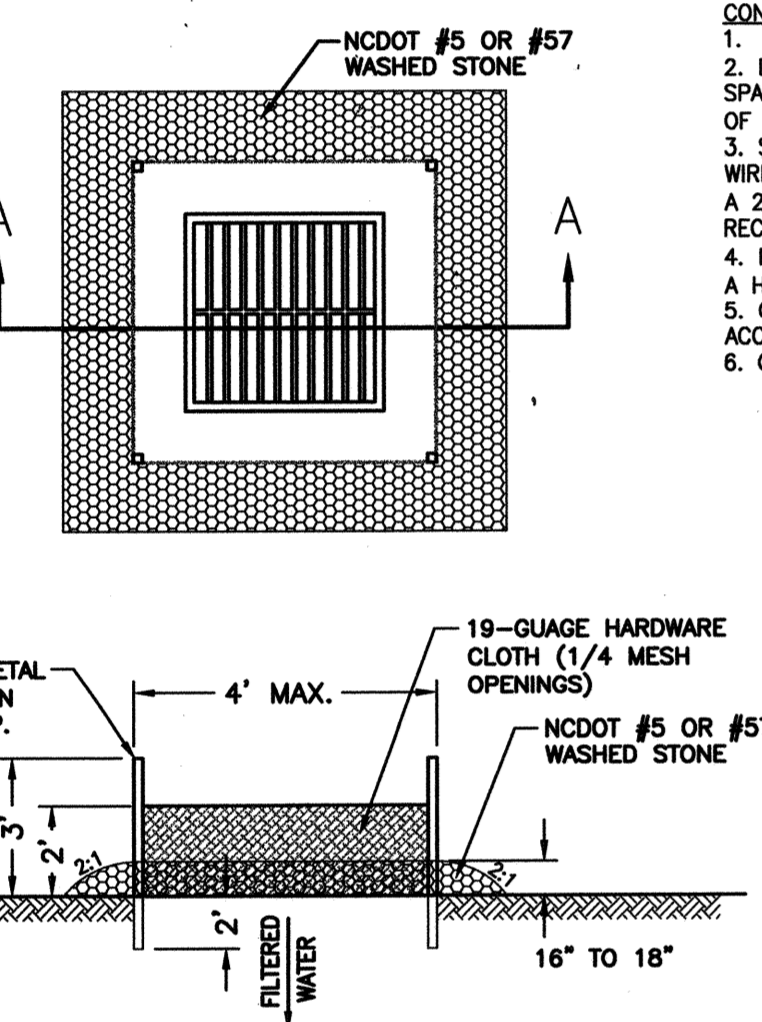
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3. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND WATTLES, BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.
4. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE, THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF-FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.
5. **LAND QUALITY REQUIRES:** ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED, ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN, TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS. **WATER QUALITY REQUIRES:** ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, ALL SLOPES STEEPER THAN 3% HORIZONTAL TO 1" VERTICAL (3:1) AND ALL HIGH QUALITY WATER (HOW) ZONES SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN SEVEN (7) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN FOURTEEN (14) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

SITE WORK NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH FIELD CONSTRUCTION CONDITIONS.
2. CONTRACTOR SHALL COORDINATE WORK WITHIN NCDOT AND LOCAL RIGHT OF WAYS WITH PROPER AUTHORITIES AND SHALL MEET ANY REQUIREMENTS AS TO TRAFFIC CONTROL AND CONNECTION TO EXISTING STREETS.
3. CLEARING AND GRUBBING: SEE SPECIFICATIONS
4. STRIPPING: SEE SPECIFICATIONS.
5. MUCKING: SEE SPECIFICATIONS.
6. BORROW MATERIAL: SEE SPECIFICATIONS.
7. FILL AND COMPACTION: SEE SPECIFICATIONS.
8. LAYOUT: THE CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION.
10. EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION FROM SURVEY BY BOB JONES, PLS AND PROVIDED BY OWNER.
11. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF RELOCATION OR DISCONNECTION OF ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES.
13. ALL PAVEMENT AND BASE MATERIALS AND WORKMANSHIP SHALL CONFORM TO NCDOT STANDARDS.
14. WATER AND SEWER SERVICES SHALL BE INSTALLED TO MEET LOCAL AND STATE PLUMBING CODES. METER AND TAPS SHALL MEET ALL LOCAL REQUIREMENTS.
15. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE.
16. SEE SLOPE REPORT FOR ADDITIONAL REQUIREMENTS.
17. CONTRACTOR SHALL NOTE THAT EARTHWORK QUANTITIES ARE HIS RESPONSIBILITY. PLANS DO NOT REPRESENT A BALANCED EARTHWORK CONDITION.

1 EROSION CONTROL INLET PROTECTION



CONSTRUCTION SEQUENCE:

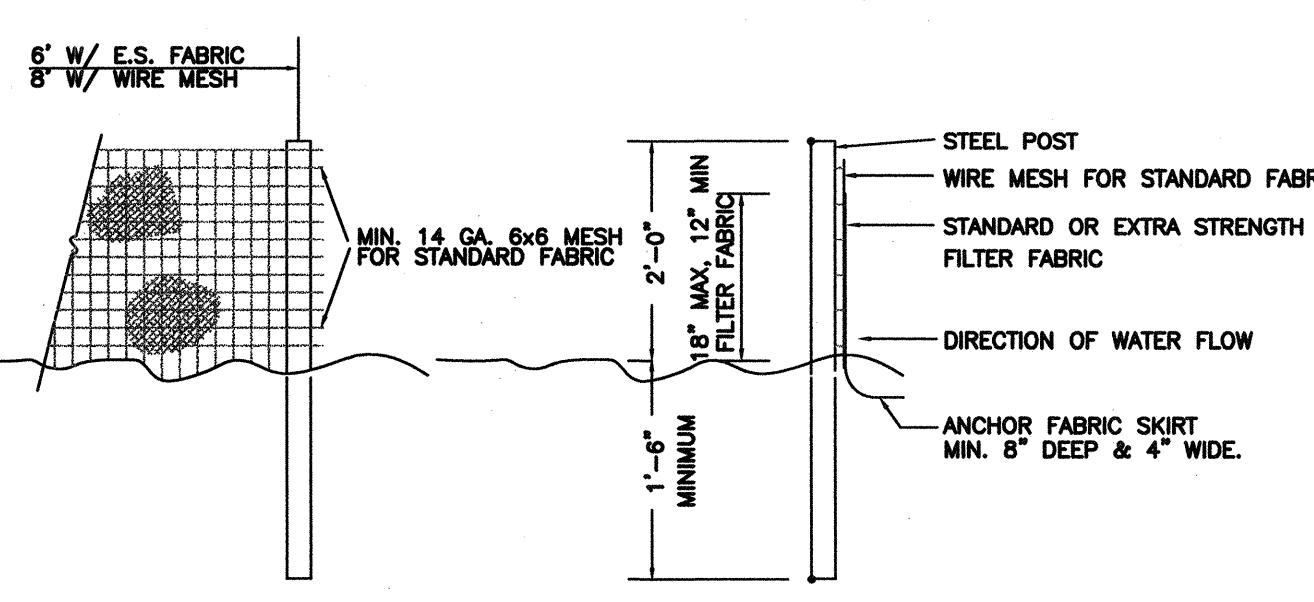
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 4" STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET. SPACE POST EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4' APART.
3. SURROUND THE POST WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POST AT THE TOP, MIDDLE AND BOTTOM, PLACING A 2" FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 18" AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

MAINTENANCE:

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REMOVE SEDIMENT WHEN ACCUMULATION REACHES HALF THE DEPTH OF ROCK. REPLACE STONE WHEN IT NO LONGER DRAINS AS DESIGNED.

NOT TO SCALE

2 TEMPORARY SILT FENCE



6" W/ E.S. FABRIC
8" W/ WIRE MESH

MIN. 14 GA. 6x6 MESH FOR STANDARD FABRIC

2'-0" MAX. 12" MIN. FILTER FABRIC

STEEL POST

WIRE MESH FOR STANDARD FABRIC

STANDARD OR EXTRA STRENGTH FILTER FABRIC

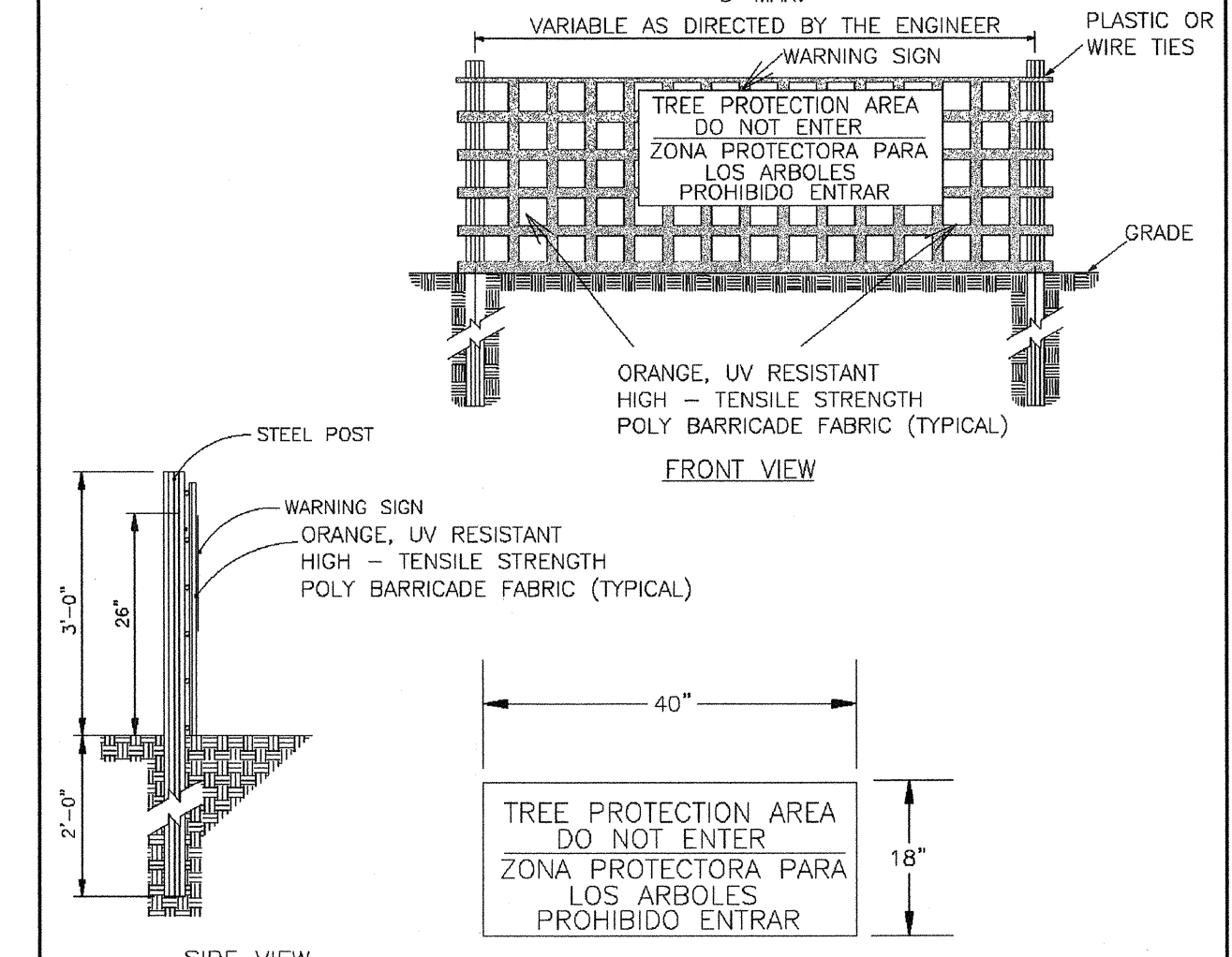
DIRECTION OF WATER FLOW

ANCHOR FABRIC SKIRT MIN. 8" DEEP & 4" WIDE.

NOTES:

1. SYN. FENCE FABRIC SHALL BE MIN. OF 30" IN WIDTH WITH 30 LB/IN TENSILE STRENGTH FOR STANDARD FABRIC AND 50 LB/IN FOR EXTRA STRENGTH.
2. FABRIC SHALL BE CONTINUOUS LENGTH. IF JOINTS ARE NECESSARY, LAP FABRIC POST TO POST.
3. STEEL POST SHALL BE MIN. 4" IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

3 TREE PROTECTION DETAIL



8" MAX. VARIABLE AS DIRECTED BY THE ENGINEER

WARNING SIGN

PLASTIC OR WIRE TIES

TREE PROTECTION AREA DO NOT ENTER ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR

ORANGE, UV RESISTANT HIGH - TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)

FRONT VIEW

STEEL POST

WARNING SIGN ORANGE, UV RESISTANT HIGH - TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)

3'-0" 26"

4'-0"

16"

TREE PROTECTION AREA DO NOT ENTER ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR

WARNING SIGN DETAIL

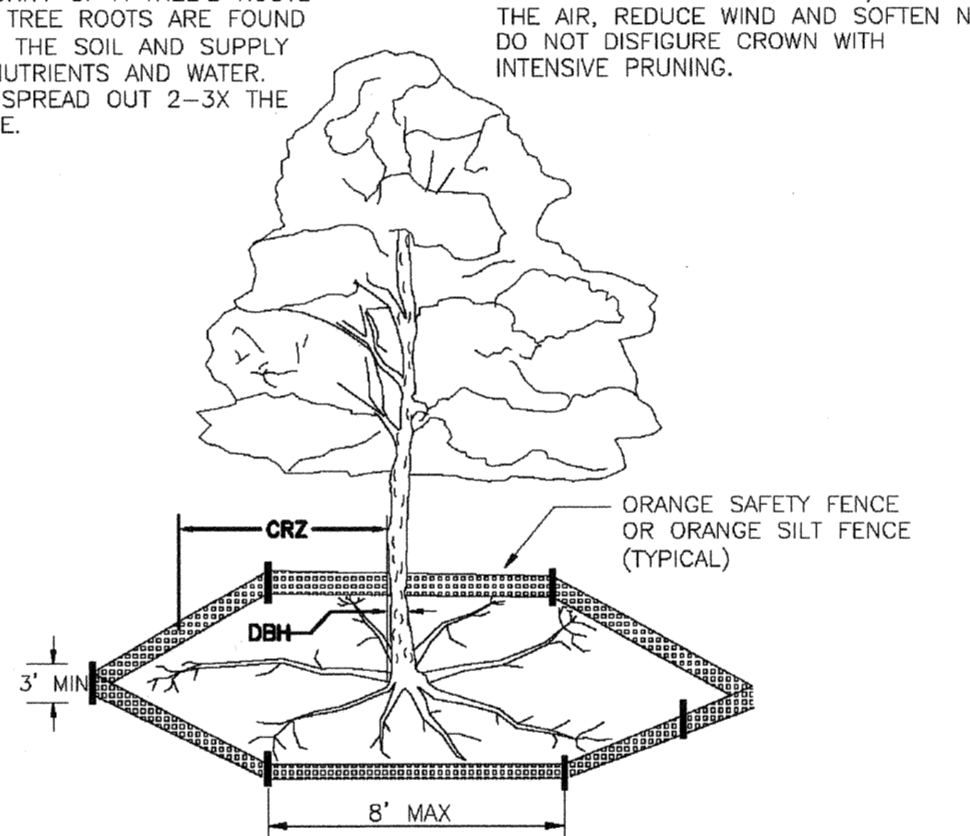
SIDE VIEW

NOTES:

1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE: GROWTH OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



CRZ

DBH

ORANGE SAFETY FENCE OR ORANGE SILT FENCE (TYPICAL)

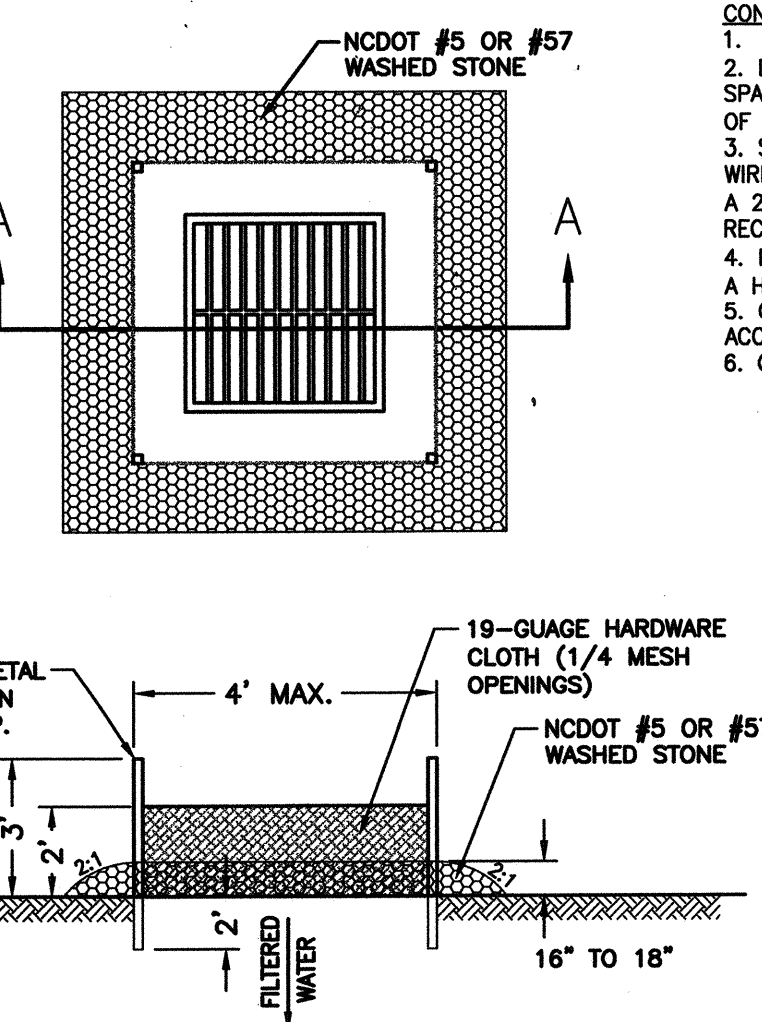
3' MIN

8" MAX

NOTES:

1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

4 HARDWARE CLOTH AND GRAVEL INLET PROTECTION



STANDARD METAL POSTS 2.0" IN GROUND, TYP.

4" MAX.

19-GAUGE HARDWARE CLOTH (1/4" MESH OPENINGS)

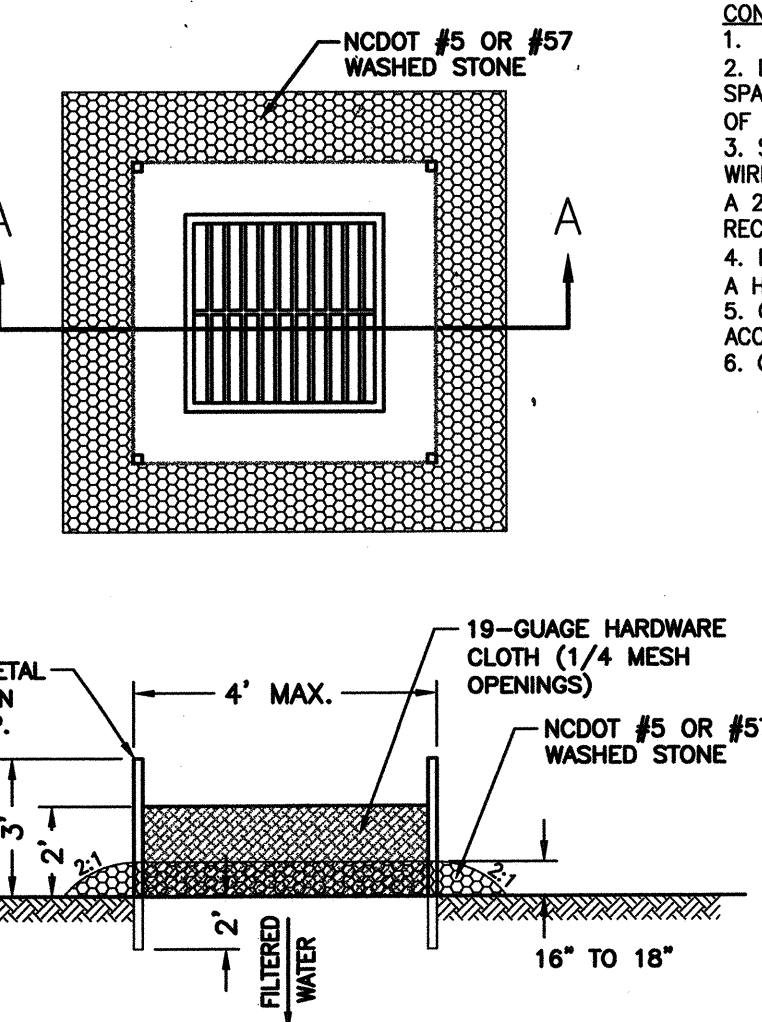
NCDOT #5 OR #57 WASHED STONE

16" TO 18"

SECTION A-A

NOT TO SCALE

4 HARDWARE CLOTH AND GRAVEL INLET PROTECTION



PLASTIC OR METAL FRAME AND GRATE NON TRAFFIC RATED

12"

12"

PLAN

GRATE

PRE-FABRICATED PLASTIC OR COMPOSITE CATCH BASIN

DEPTH VARIES 2" MIN.

SECTION

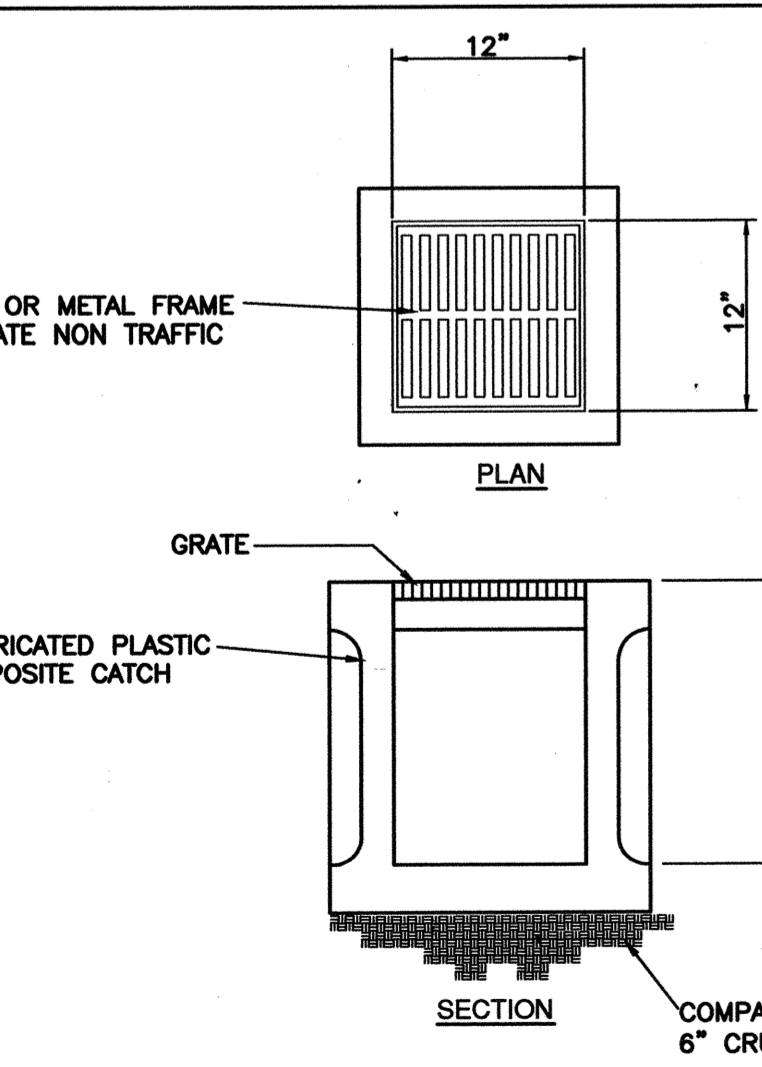
COMPACTED SUB GRADE OR 6" CRUSHED STONE.

NOTES:

1. BASIN, FRAME AND GRATE MAY VARY IN NONESSENTIAL DIMENSIONS.
2. ALL INFILTRATION PIPES OUT OF YARD INLETS SHALL BE PROTECTED WITH 1/4" ALUMINUM SCREEN WITH FILTER FABRIC ATTACHED TO BOX AT PIPE OPENING.

NOT TO SCALE

7 YARD INLET



PLASTIC OR METAL FRAME AND GRATE NON TRAFFIC RATED

12"

12"

PLAN

GRATE

PRE-FABRICATED PLASTIC OR COMPOSITE CATCH BASIN

DEPTH VARIES 2" MIN.

SECTION

COMPACTED SUB GRADE OR 6" CRUSHED STONE.

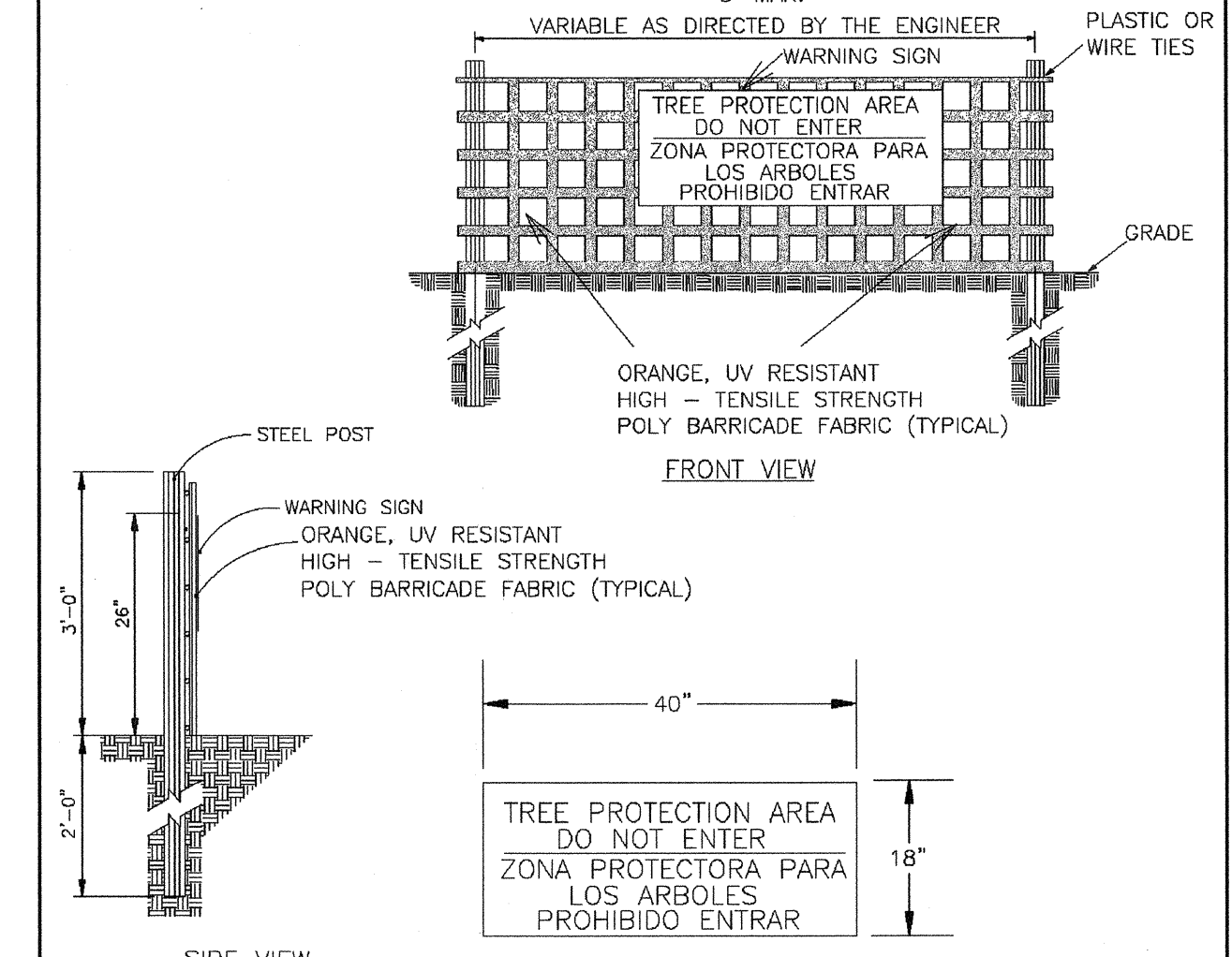
NOTES:

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NOT TO SCALE

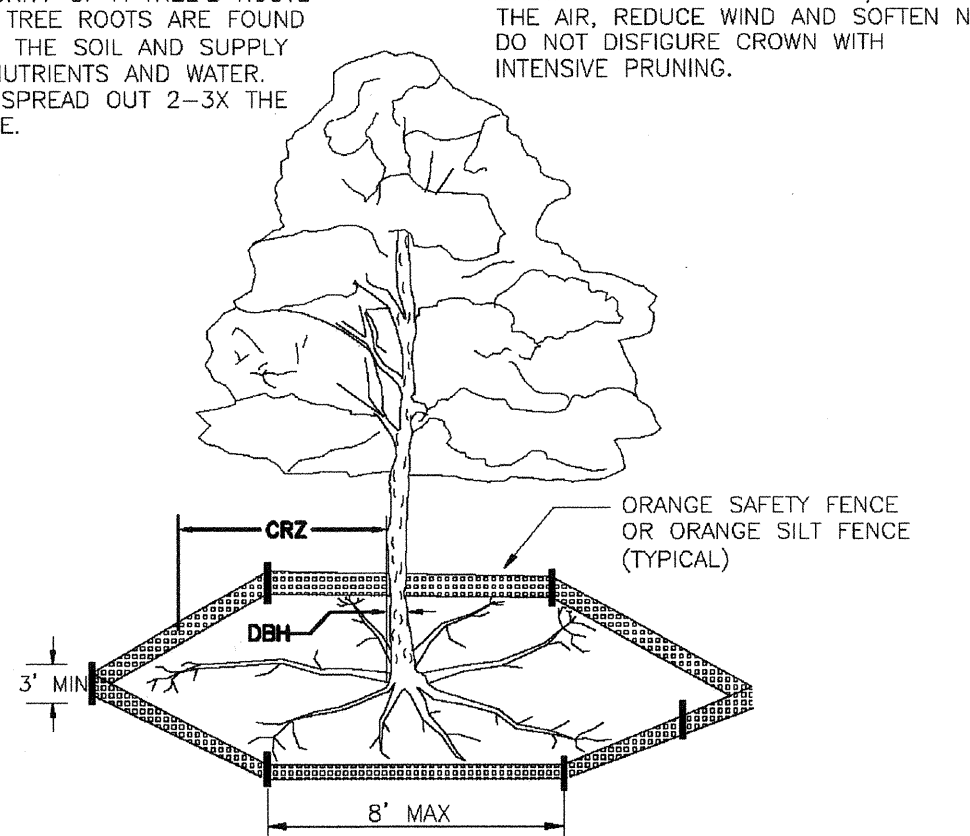
8

6 TREE PROTECTION DETAIL



NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE: GROWTH OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



CRZ

DBH

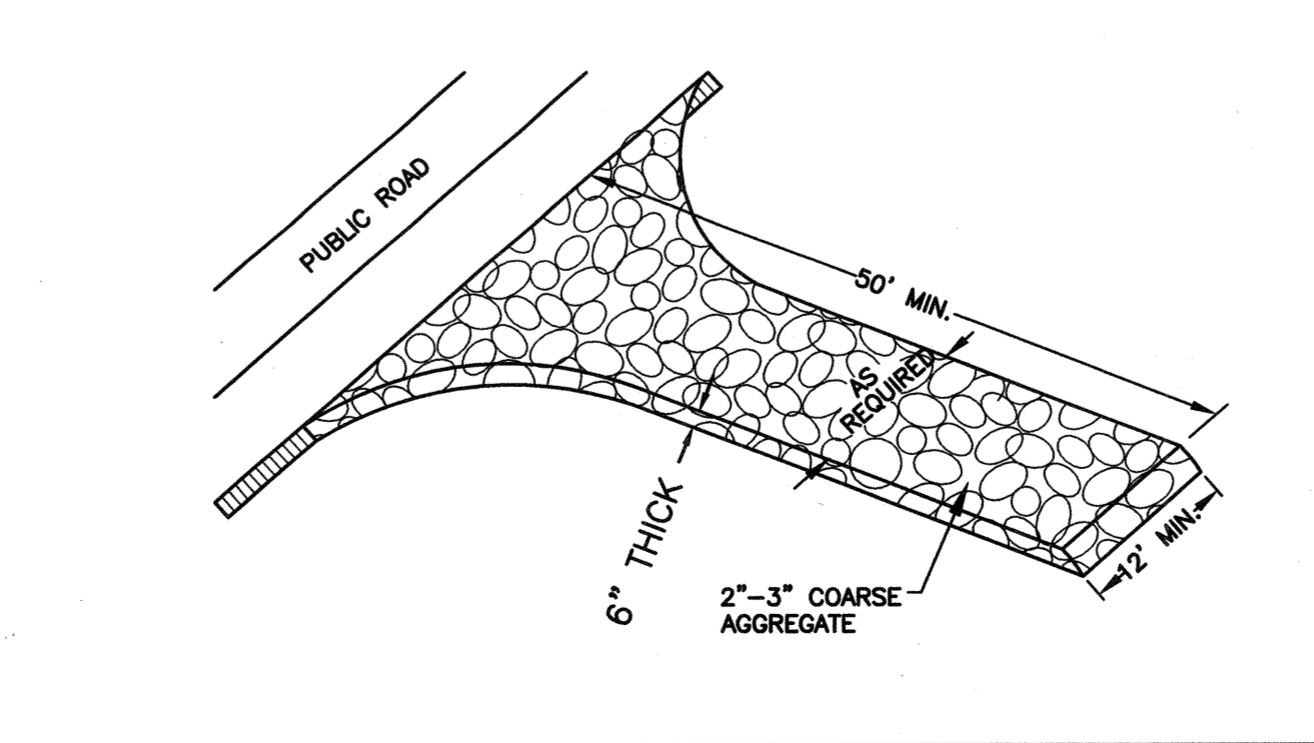
ORANGE SAFETY FENCE OR ORANGE SILT FENCE (TYPICAL)

3' MIN

8" MAX

NOTES:

1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.



PUBLIC ROAD

50' MIN.

6" THICK

2"-3" COARSE AGGREGATE

42" MIN.

9 TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE

TEMPORARY/PERMANENT GRASS SPECIFICATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS.
2. RIP THE ENTIRE AREA TO A 6 INCH DEPTH.
3. REMOVE ALL ROCKS, ROOTS AND OTHER OBSTRUCTIONS LEAVING SURFACES SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME AND FERTILIZER UNIFORMLY AND MIX WITH SOIL.
 - LIME: 45 LBS. PER 1000 S.F.
 - PHOSPHOROUS: 20 LBS. PER 1000 S.F.
 - FERTILIZER: 17 LBS. PER 1000 S.F.
5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED, FIRM, UNIFORM SEED BED IS PREPARED 4-6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEED BED AND COVER SEED LIGHTLY.
 - 2 - 3 LBS PER 1000 S.F. (SEE MIXTURE BELOW)
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
 - GRAIN STRAW & HAY AT 75 TO 100 LBS PER 1000 S.F.
 - WOOD CHIPS AT 500 LBS. PER 1000 S.F.
 - JUTE & MESH AS PER MANUFACTURER
8. ASPHALT FOR ANCHORING MULCH SHALL BE TYPE SS-1 EMULSION AND APPLIED AT A RATE OF 1000 GAL. PER ACRE FOR SLOPE STABILIZATION, AND 150 GAL. PER TON OF STRAW FOR ANCHORING STRAW.
9. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEED WITHIN THE PLANTING SEASON, IF POSSIBLE. IF GRASS STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
10. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE, TREATMENT, AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
11. SEED FOR TEMPORARY AND PERMANENT APPLICATIONS SHALL BE:
 - 20% CARPET GRASS
 - 28% BERMUDA GRASS
 - 20% TURF FESCUE
 - 10% CREEPING RED FESCUE
 - 20% ANNUAL RYE GRASS

*BERMUDA SEED SHALL BE HULLED FOR WARM WEATHER PLANTING. PURITY OF SEED SHALL BE A MIN. OF 98% AND GERMINATION SHALL BE A MIN. OF 85%.

ALL DISTURBED AREA SHALL BE SEEDED WITHIN 7-14 DAYS OF THE COMPLETION OF GRADING. SEE EROSION CONTROL AND MAINTENANCE NOTES. CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDATED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS, OTHER SEEDING SCHEDULES MAY BE POSSIBLE.

FOR PERMIT ONLY
NOT FOR CONSTRUCTION

CALL 811 (3) WORKING DAYS BEFORE YOU DIG.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

15120

DES. JST
DRWN. JPN
NKS

DATE 3/10/16

City of WILMINGTON
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

SYMBOL DATE DESCRIPTION BY

REVISIONS

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NOTES AND DETAILS
ZIMMER CANCER CENTER RENOVATION
2131 SOUTH 17TH STREET
WILMINGTON, N. C.

OWNER/DEVELOPER
NHRMC
THOMAS WALSH, VP FACILITIES
AND SUPPORT SERVICES
PO BOX 9000
WILMINGTON, NC 28402
910.343.2788

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-8900
license #C-3641

15120

DES. JST
DRWN. JPN
NKS

DATE 3/10/16

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APPROVED STORMWATER MANAGEMENT PLAN

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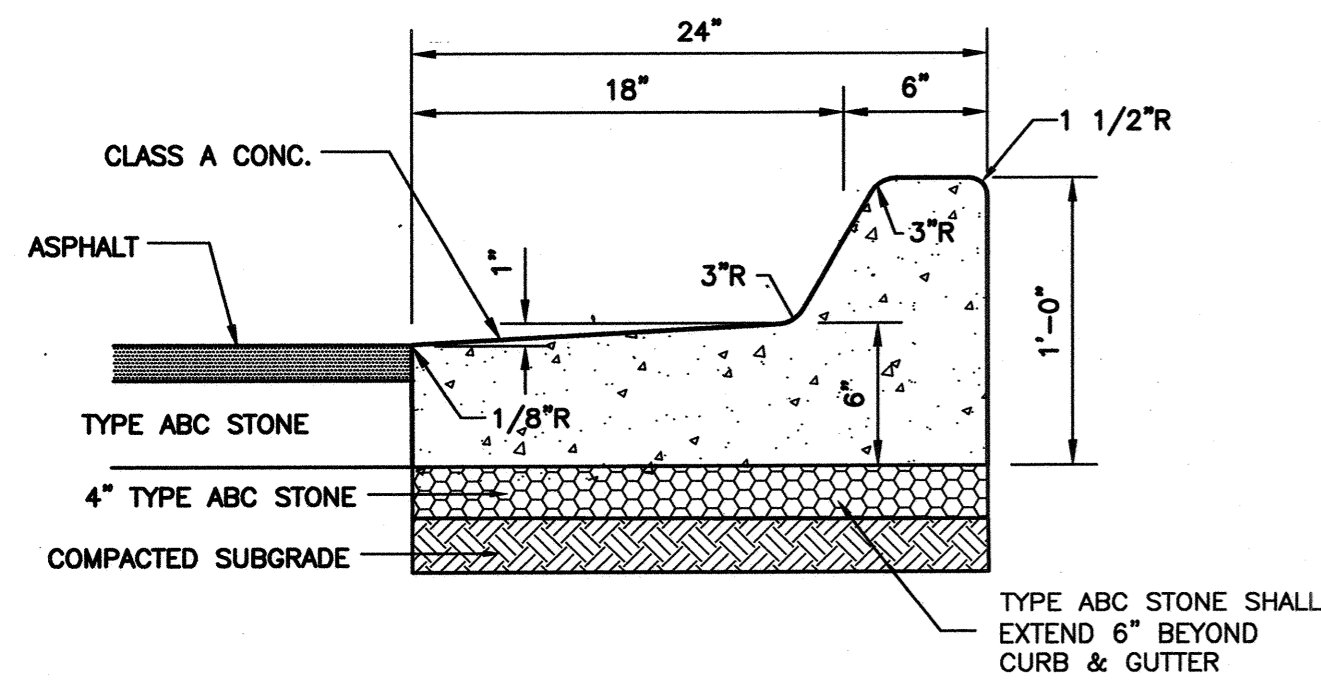
SYMBOL DATE DESCRIPTION BY

REVISIONS

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C6

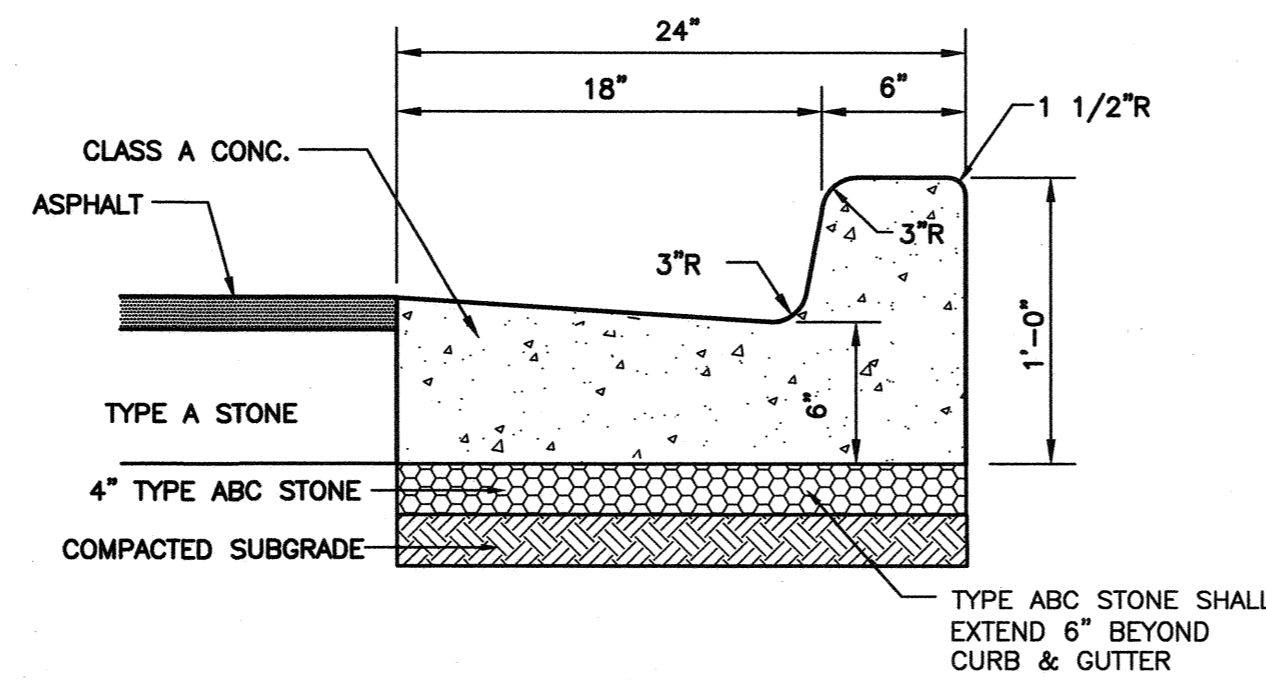
NOTE: INSTALLATION OF NEW 24" CURB AND GUTTER ALONG GLEN MEADE ROAD SHALL REQUIRE A 6" ABC STONE BASE.



NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.

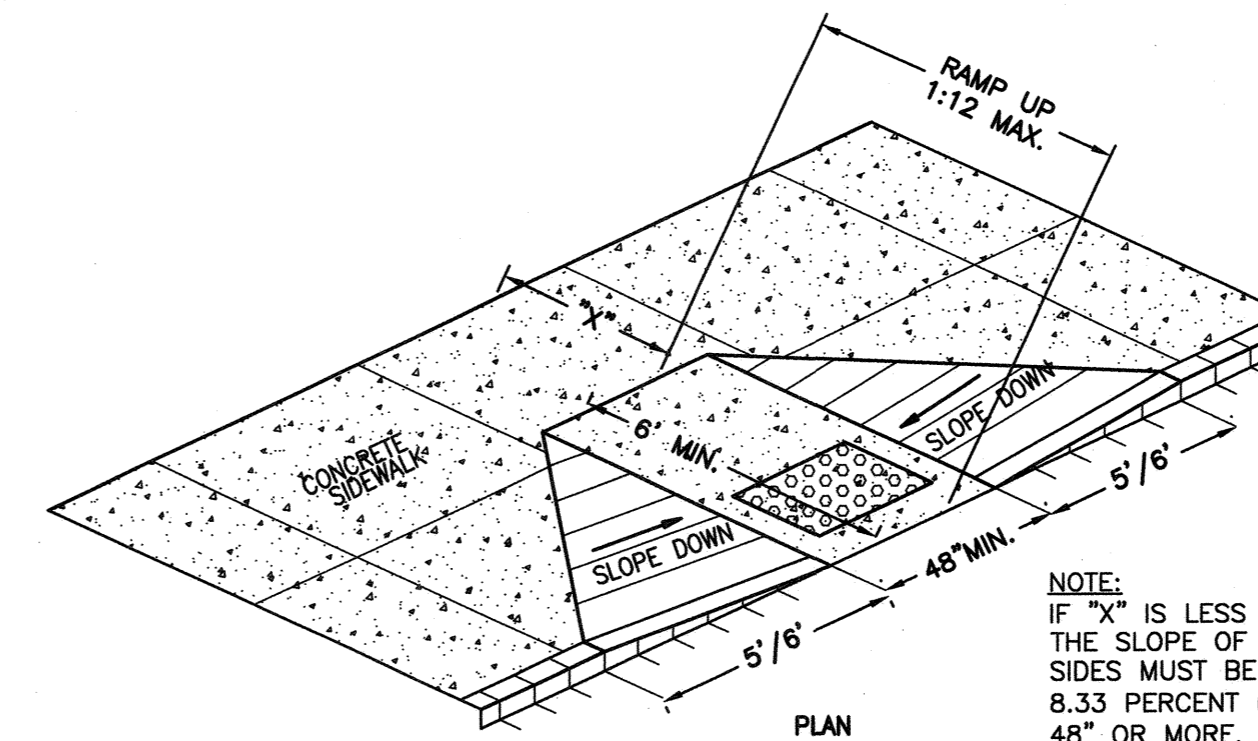
NOT TO SCALE

NOTE: INSTALLATION OF NEW 24" CURB AND GUTTER ALONG GLEN MEADE ROAD SHALL REQUIRE A 6" ABC STONE BASE.



NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.

NOT TO SCALE



NOTE: IF "X" IS LESS THAN 48" THEN THE SLOPE OF THE FLARED SIDES MUST BE NO MORE THAN 8.33 PERCENT (1:12). IF "X" IS 48" OR MORE, THEN THE FLARED SIDES MAY SLOPE UP TO 10 PERCENT (1:10) BUT NOT MORE.

* SEE NOTES ON DETECTABLE WARNING

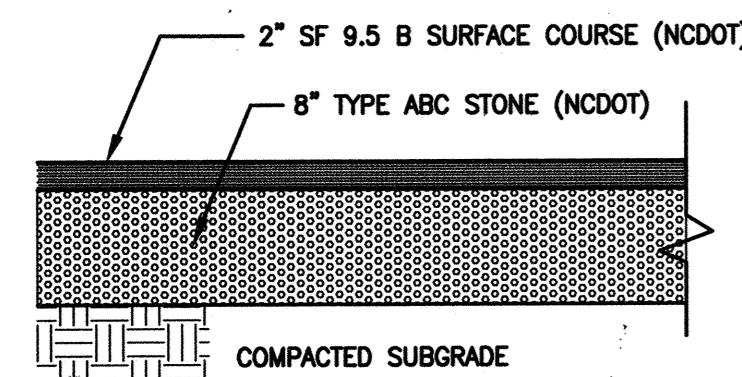
SECTION WHEEL CHAIR RAMP

NOT TO SCALE

1 24" CURB AND GUTTER SECTION (SPILL-OFF)

2 24" CURB AND GUTTER SECTION (FLOW-LINE)

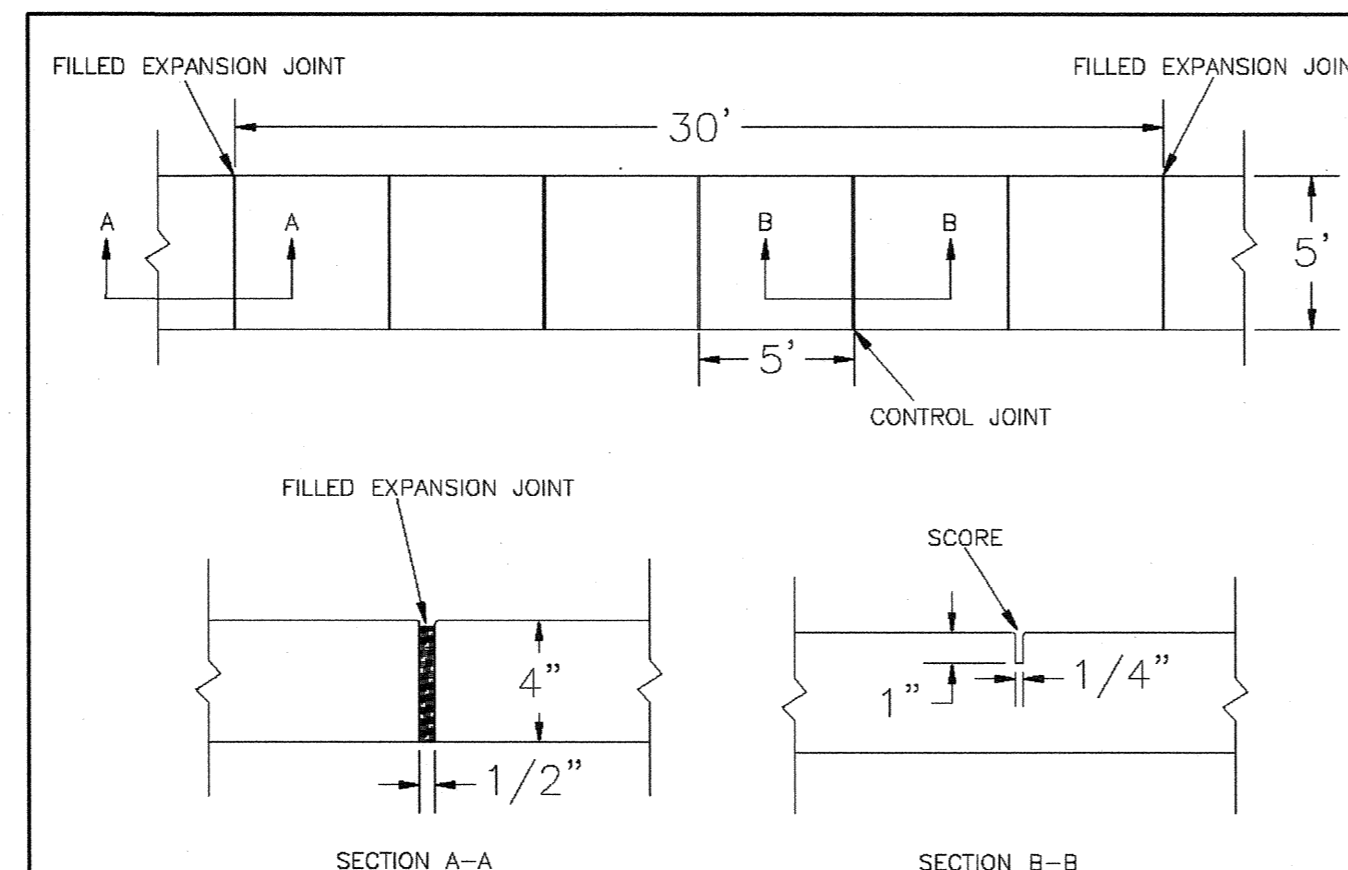
3 SIDEWALK, CURB CUT AND WHEEL CHAIR RAMP DETAIL



NOTE: PAVEMENT SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE w/OWNER & GEOTECHNICAL ENGINEER TO DETERMINE ACTUAL PAVEMENT SECTION.

NOT TO SCALE

4 ASPHALT PAVEMENT SECTION



- NOTES:
1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
 2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
 3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
 4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
 5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
 6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.
 7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
 8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
 9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

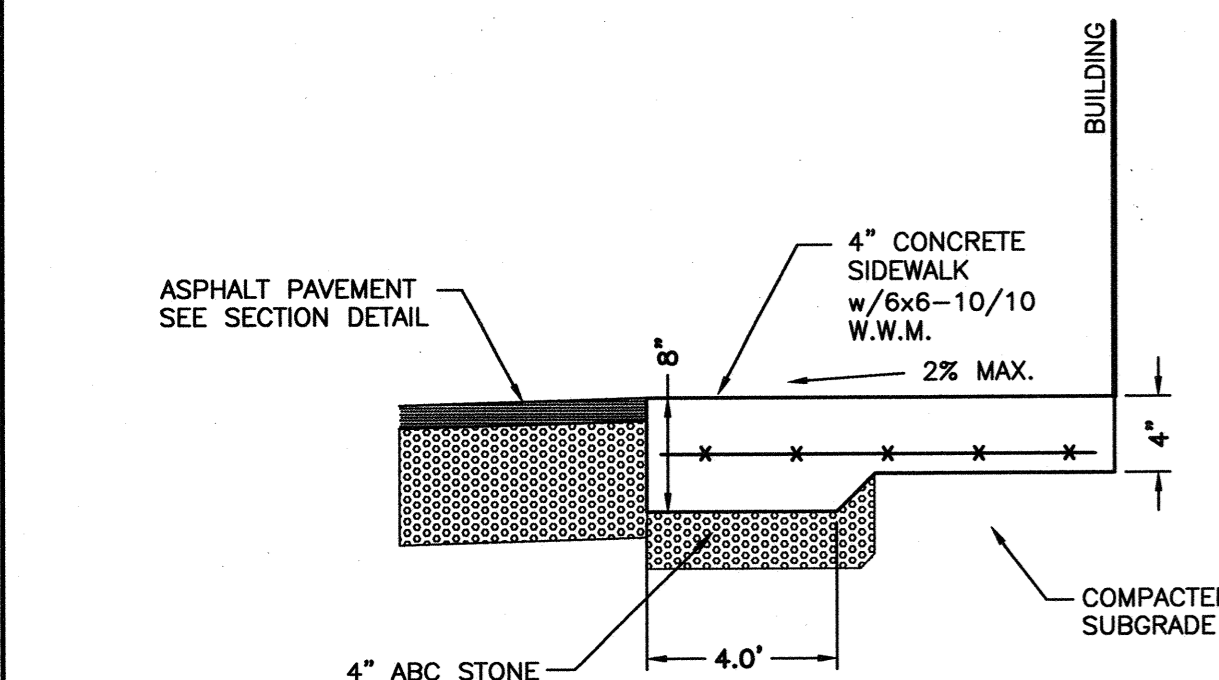
NOT TO SCALE

5 STANDARD SIDEWALK DETAIL

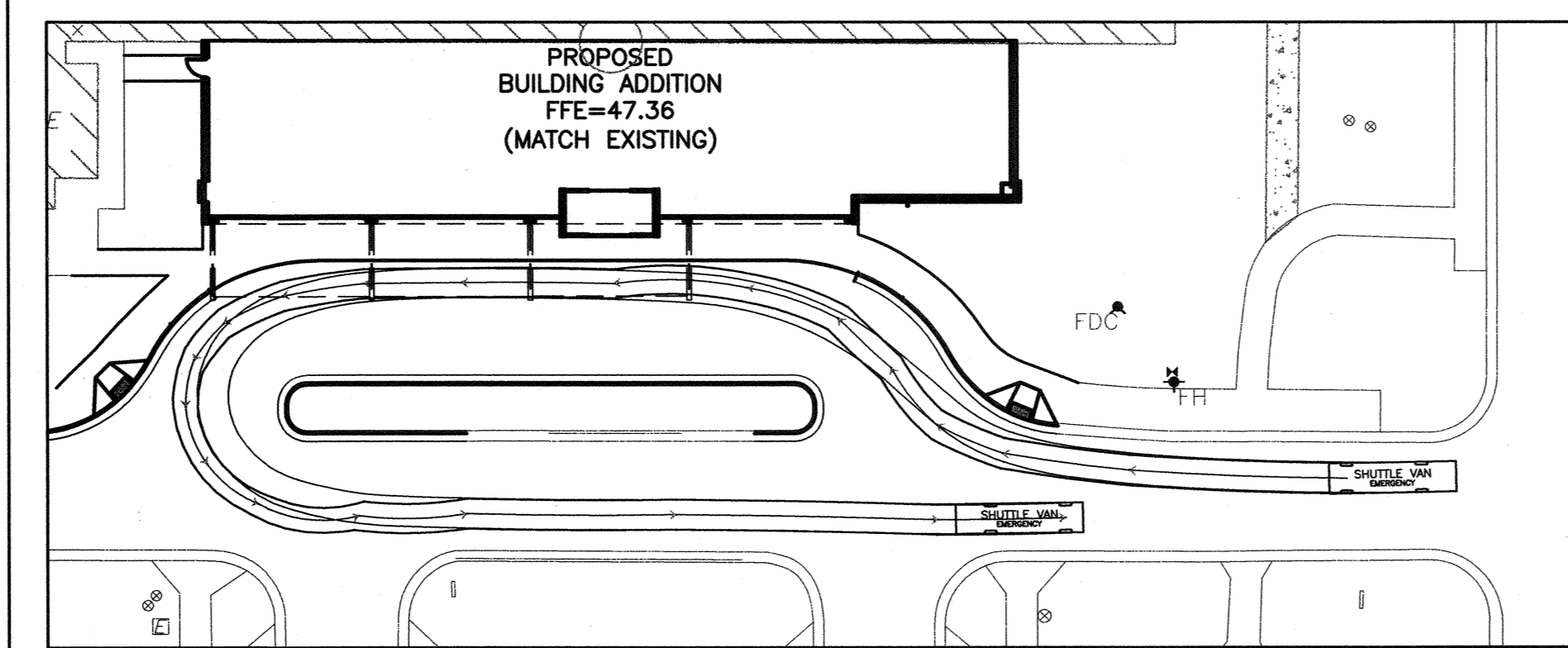
6 NOTES ON DETECTABLE WARNING FOR WHEEL CHAIR RAMPS

- NOTE:
1. RAMP SHALL HAVE A DETECTABLE WARNING COMPLYING WITH ADA GUIDELINES.
 2. THE DETECTABLE WARNINGS AT CURB RAMPS SHALL BE 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
 3. MARKED CROSSINGS THAT ARE RAISED TO THE SAME LEVEL AS THE ADJOINING SIDEWALK SHALL BE PRECEDED BY A 24 INCH DEEP DETECTABLE WARNING EXTENDING THE FULL WIDTH OF THE MARKED CROSSING.
 4. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN (23 MM), A HEIGHT OF NOMINAL 0.2 IN (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN (60 MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES. EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70% - REFER TO ADA GUIDELINES FOR DEFINITION OF "CONTRAST".
 5. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.

NOT TO SCALE



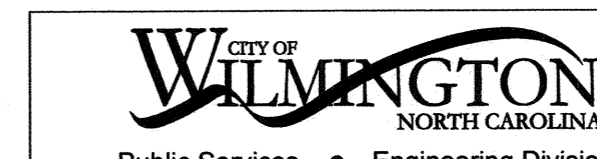
7 TURN DOWN WALK SECTION



SCALE: 1" = 30'

8 SHUTTLE VAN TURNING EXHIBIT

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



Date: _____ Permit # _____
Signed: _____

CITY OF WILMINGTON STANDARD NOTES:

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
7. CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
8. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
9. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
10. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
11. PROJECT SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
12. IF THE CONTRACTOR DESIRES CFPWA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
13. ANY IRRIGATION SYSTEM SUPPLIED BY CFPWA WATER SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
14. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCCOHR OR ASSE.
15. WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
16. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
17. UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
18. A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEER DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
19. IF AN IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
20. ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'.
21. PLEASE CONSIDER INCORPORATING XERIC LANDSCAPING FOR ALL NEW LANDSCAPING.

UTILITY NOTES FOR FIRE HYDRANTS:

1. FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
2. THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING AND PARKING CANNOT BLOCK OR IMPEDE THE FIRE DEPARTMENT CONNECTIONS OR FIRE HYDRANTS. A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FIRE HYDRANT CONNECTION AND THE FIRE HYDRANT.
4. FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
5. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
6. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
7. THE CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
8. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
9. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
10. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
11. HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
12. BUILDING CONSTRUCTION TYPE: IIB

FOR PERMIT ONLY
NOT FOR CONSTRUCTION

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

SYMBOL	DATE	DESCRIPTION	BY
REVISIONS			
© 2016 NORRIS & TUNSTALL			

NOTES AND DETAILS
ZIMMER CANCER CENTER RENOVATION
2131 SOUTH 17TH STREET
WILMINGTON, N. C.

OWNER/DEVELOPER
NHRMC
THOMAS WALSH, VP FACILITIES
AND SUPPORT SERVICES
PO BOX 9000
WILMINGTON, NC 28420
910 343-2788

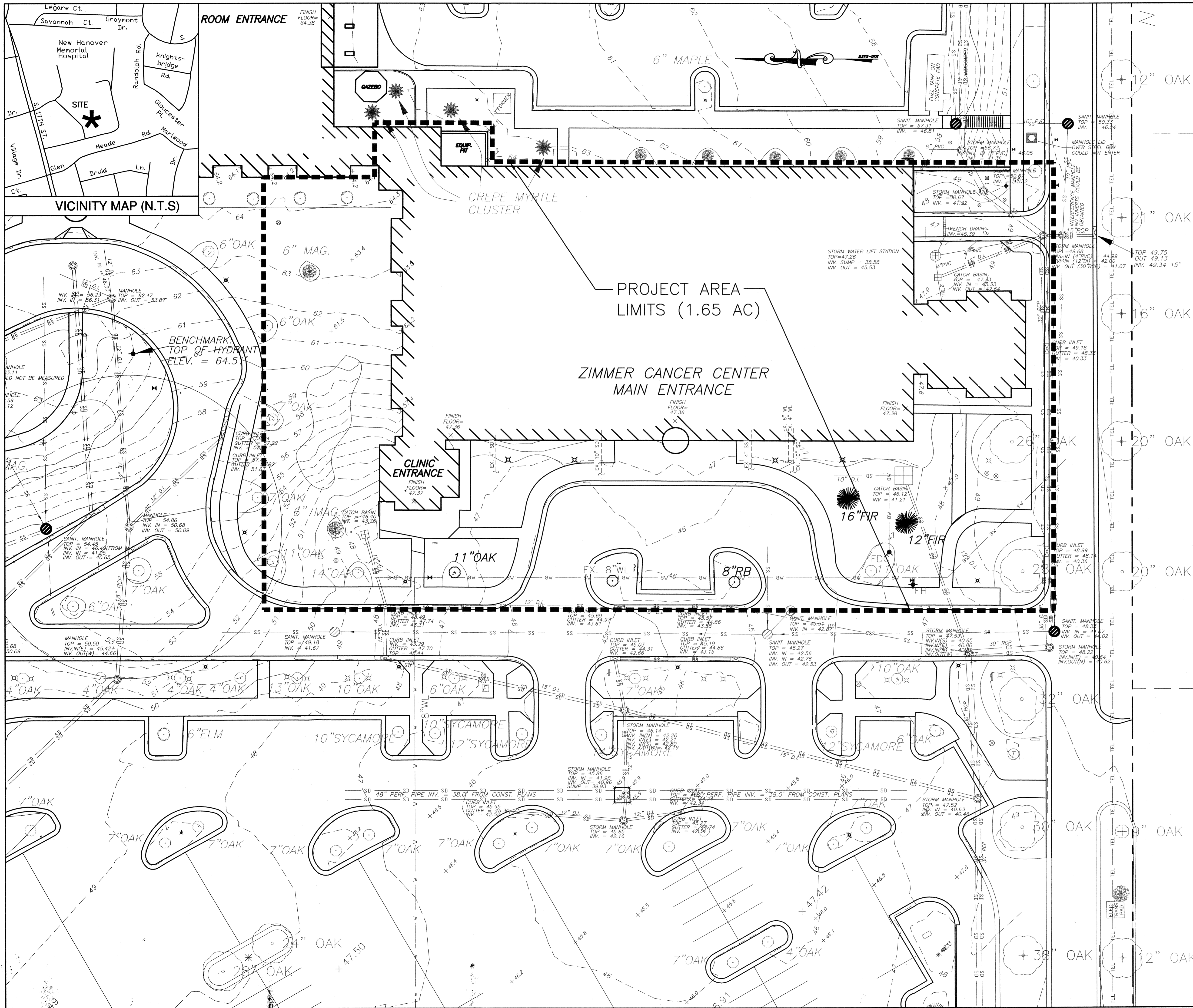
NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

15120

DES. JST
JPN
DRWN. NKS
DATE 3/19/16



C7



INVENTORY SITE DATA

PARCEL ADDRESS: 2131 S. 17TH STREET
 PARCEL ID#: R06011-004-001-000
 MAP ID#: 312607.57.9873.000
 ZONING: O&I-1 OFFICE AND INSTITUTIONAL
 SOIL TYPES: Ur
 CAMA LAND USE: URBAN
 SITE DOES NOT LIE WITHIN 100 YEAR FLOOD PLAIN
 NO CAMA AEC OR SETBACKS
 HISTORICAL SITE: NONE
 CEMETERY: NONE
 FORESTED AREA: SEE PLAN FOR TREE SURVEY
 WETLANDS: NONE EXIST WITHIN SITE AREA
 ENDANGERED SPECIES/HABITAT: NONE REPORTED

NOTE: ORIGINAL SURVEY BY BOB JONES COMPLETED IN 2013. TREES WITHIN PROJECT AREA HAVE BEEN FIELD MEASURED BY N&T ENGINEERS AND THE SURVEY HAS BEEN UPDATED, WITH THE CONSENT OF THE SURVEYOR, TO REFLECT THE CHANGES.

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

WILMINGTON NORTH CAROLINA
 Public Services • Engineering Division
STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
 Signed: _____
Approved Construction Plan
 Name: _____ Date: _____

Planning _____
 Traffic _____
 Fire _____

NC DENR PWSS WATER PERMIT #: _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

SCALE: 1" = 20'

0 20 40 60

INVENTORY SITE PLAN
ZIMMER CANCER CENTER RENOVATION
 2131 SOUTH 17TH STREET
 WILMINGTON, N. C.

OWNER/DEVELOPER
 NHRMC
 THOMAS WALSH, VP FACILITIES
 AND SUPPORT SERVICES
 PO BOX 9000
 WILMINGTON, NC 28402
 910 343-2788

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
 902 MARKET STREET 28401
 WILMINGTON, NC 28401
 PHONE (910) 343-9653
 license #C-3641

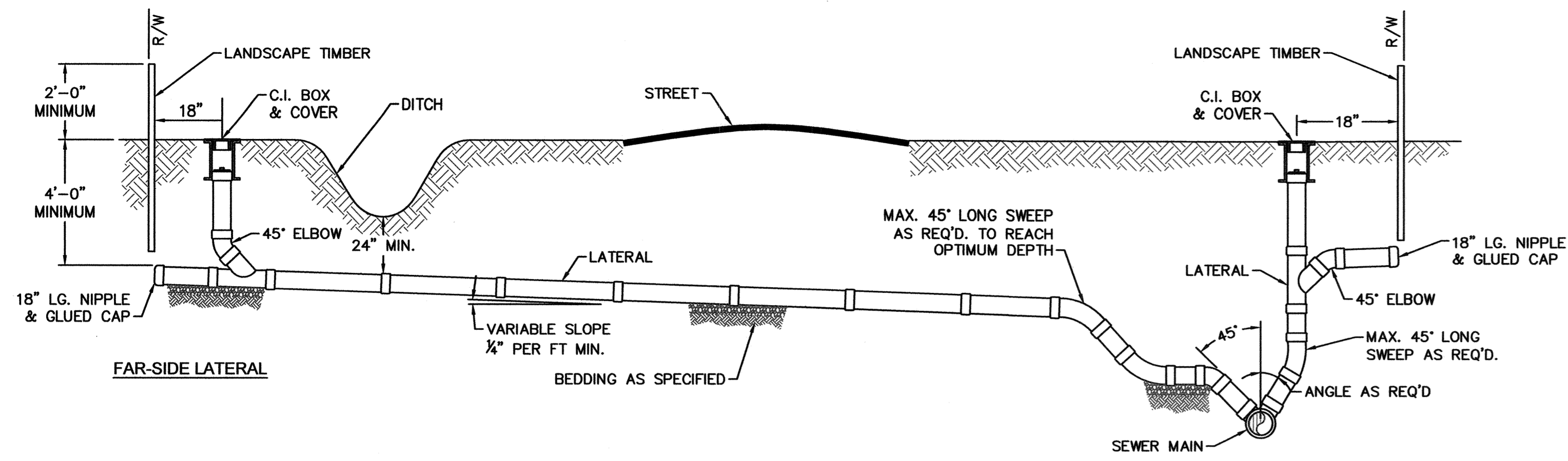
DATE 4/6/16

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DATE 4/6/16

11

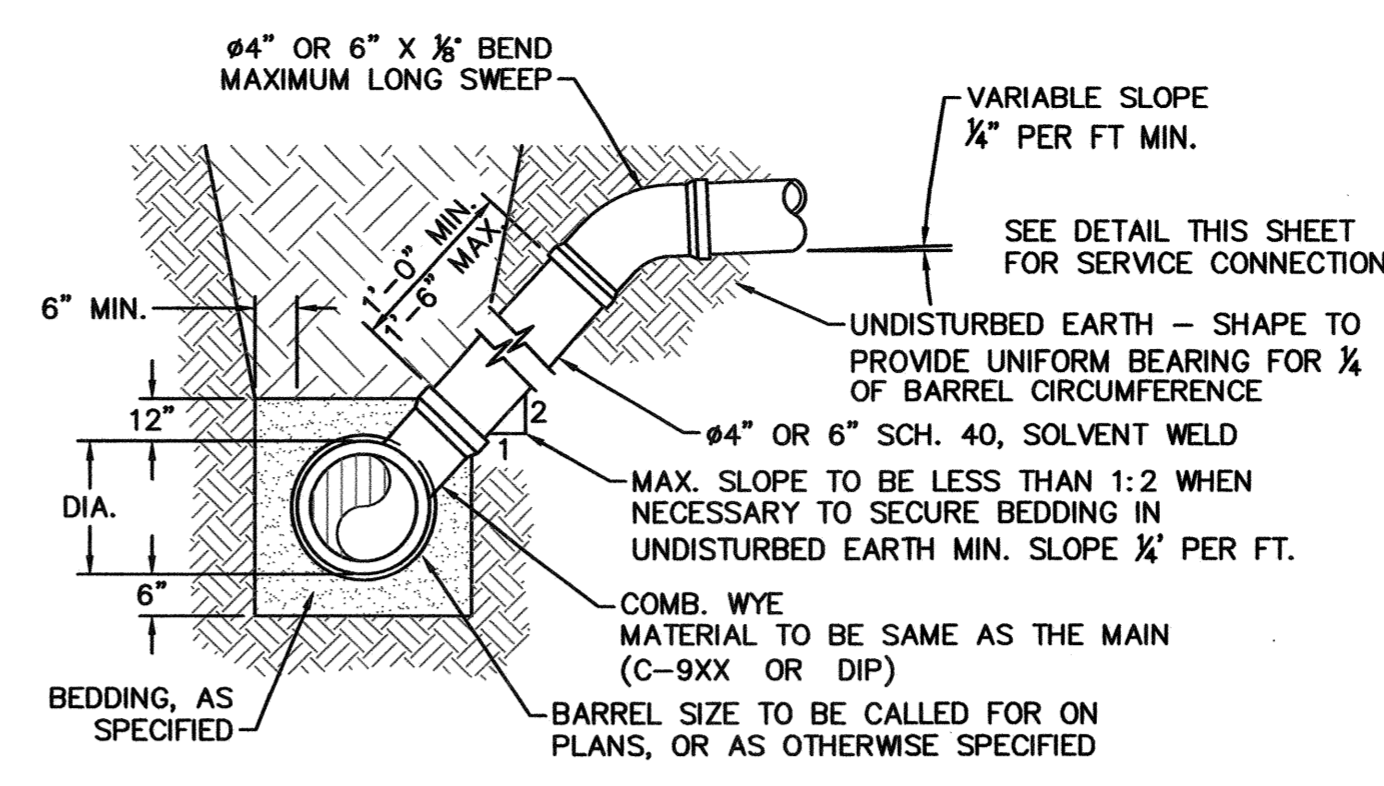
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NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

STANDARD SERVICE CONNECTION TO SANITARY SEWER

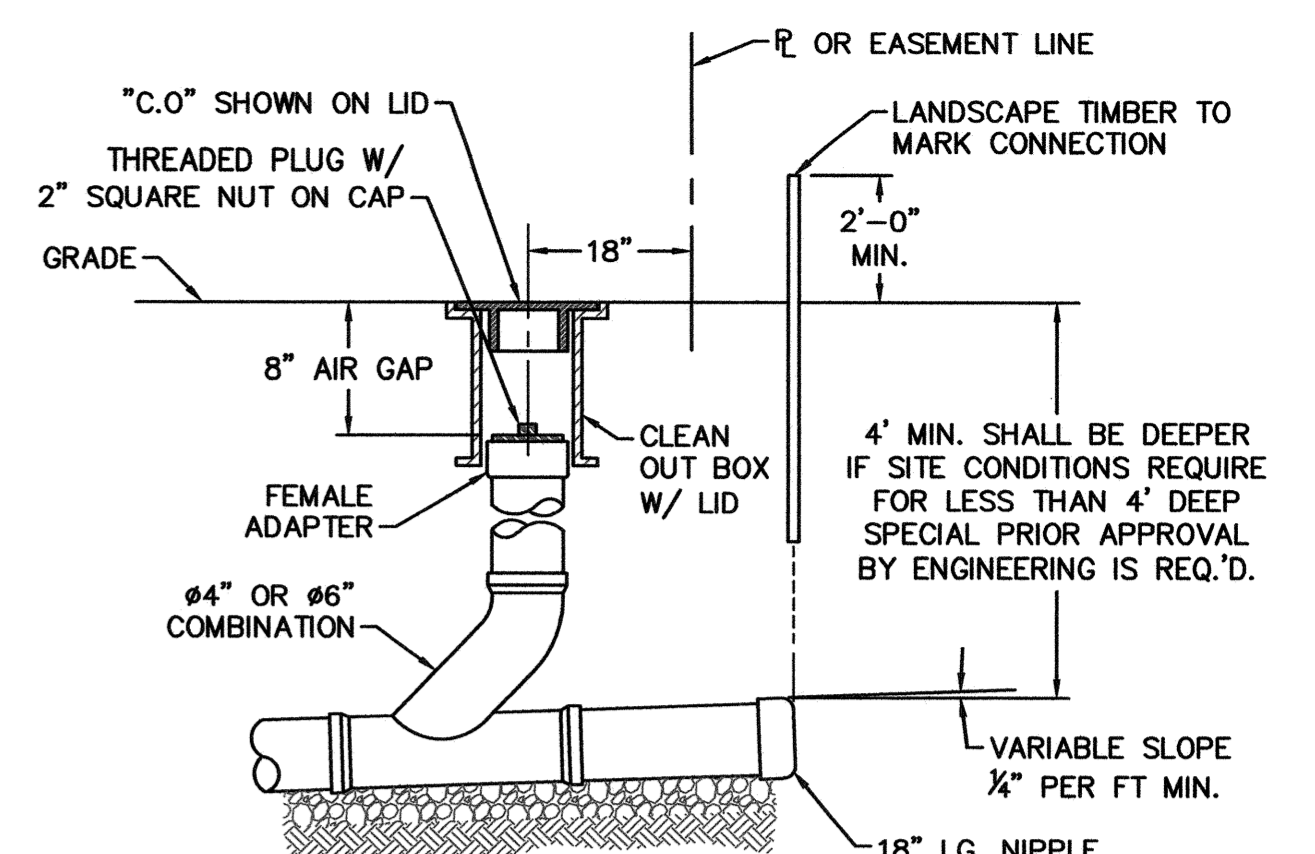
SD-19 NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

STANDARD SERVICE LATERAL

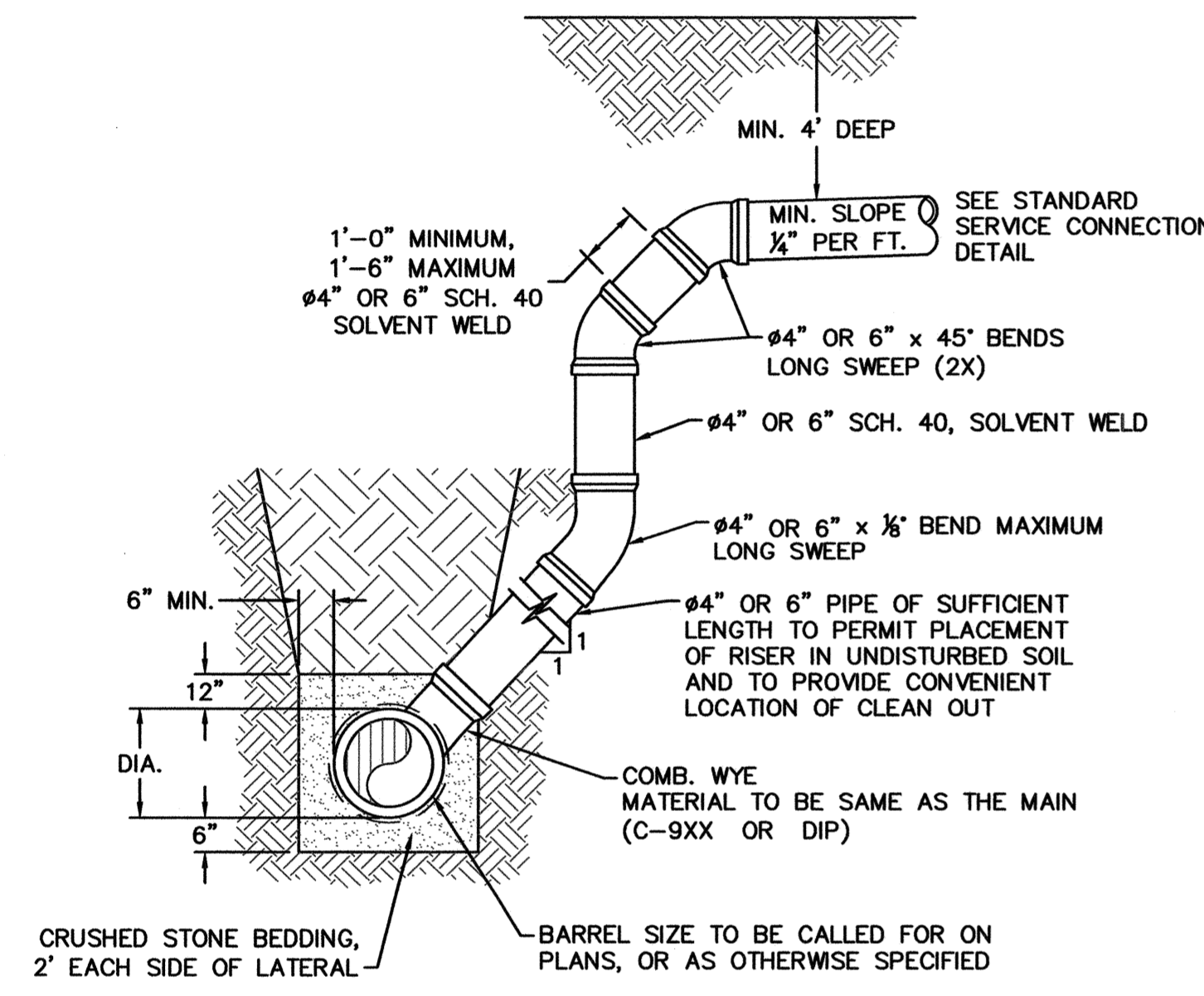
SD-10 NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

SERVICE CONNECTION AND CLEAN-OUT

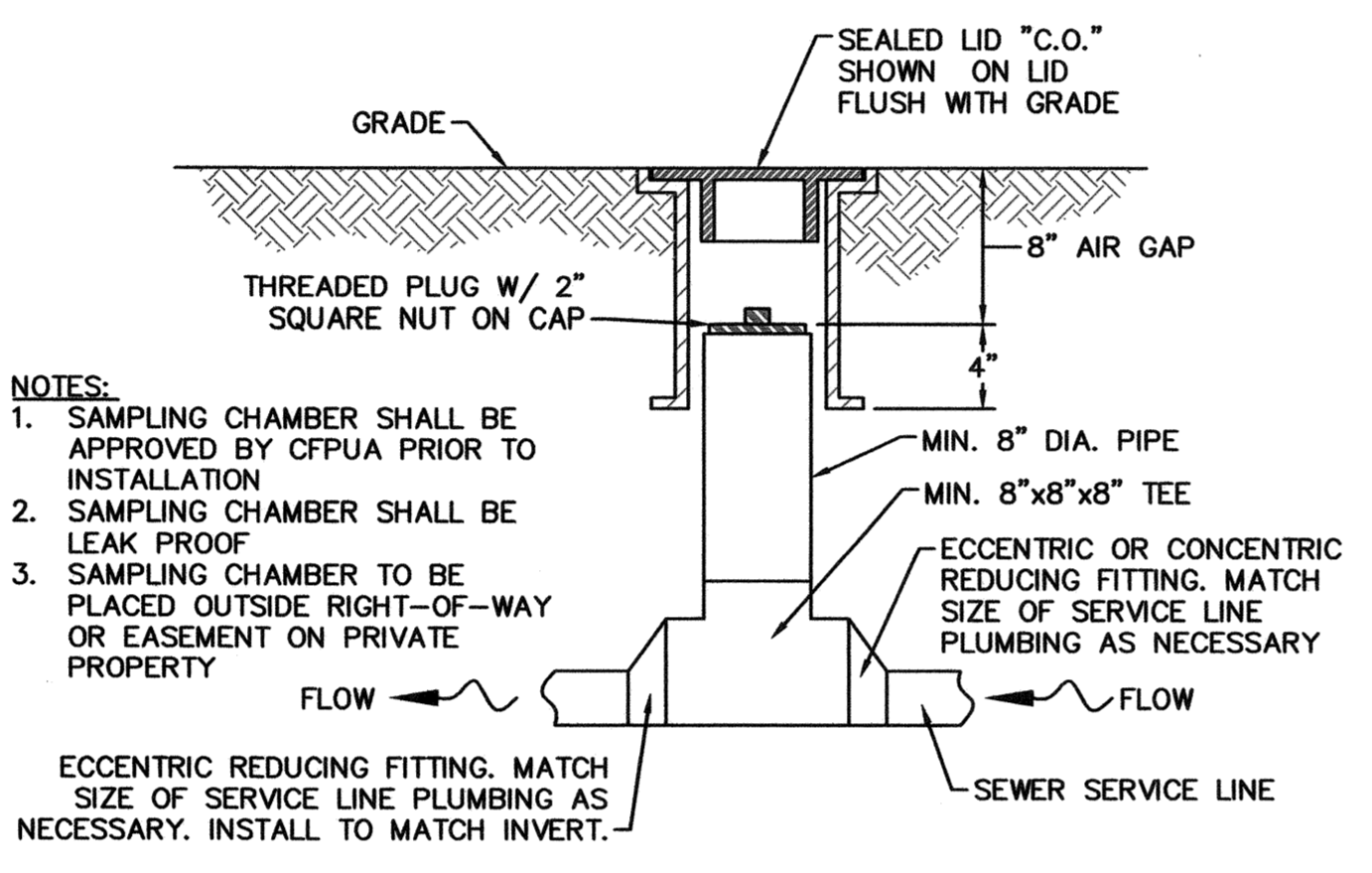
SD-11 NOT TO SCALE



NOTE: 1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION. 2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

DEEP SERVICE LATERAL

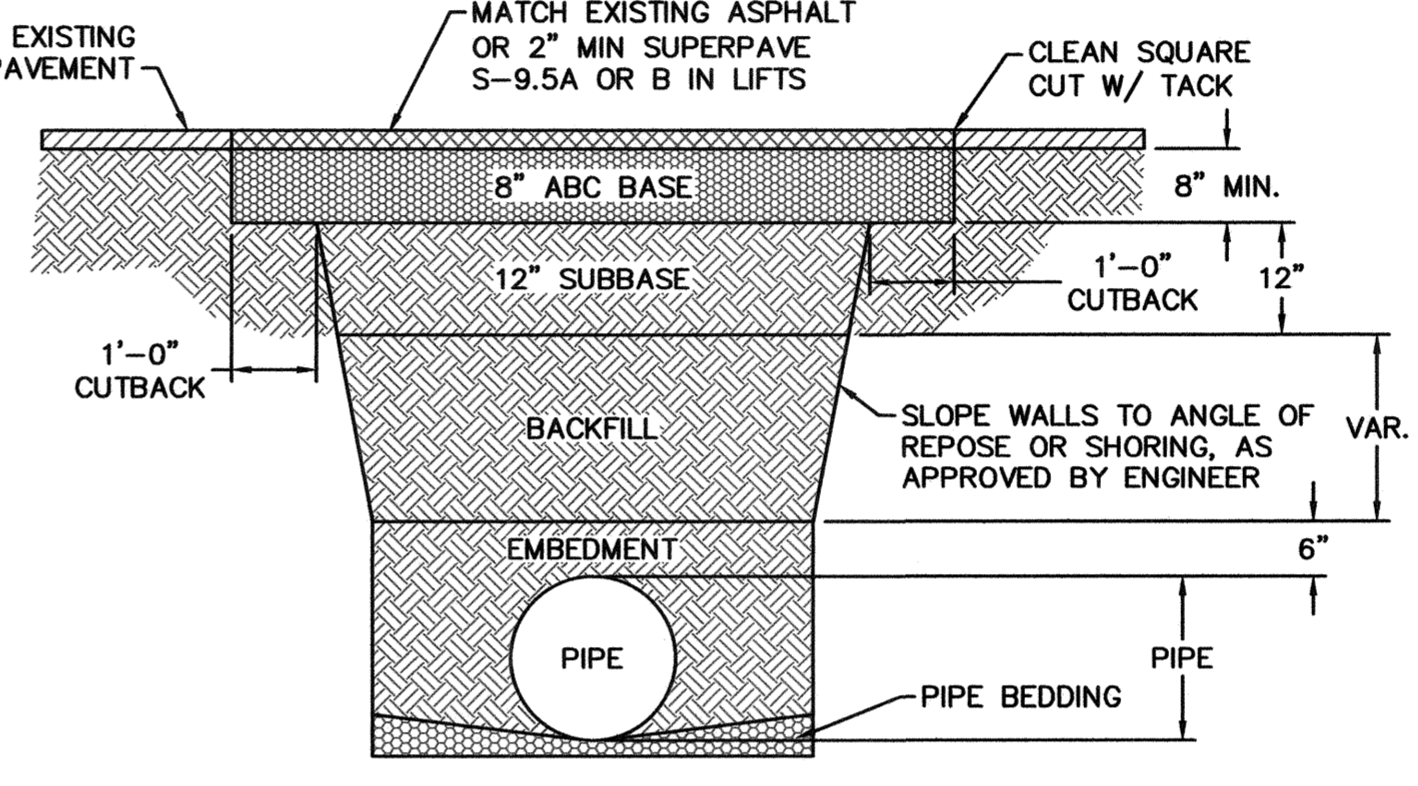
SD-12 NOT TO SCALE



NOTES: 1. SAMPLING CHAMBER SHALL BE APPROVED BY CFPUA PRIOR TO INSTALLATION. 2. SAMPLING CHAMBER SHALL BE LEAK PROOF. 3. SAMPLING CHAMBER TO BE PLACED OUTSIDE RIGHT-OF-WAY OR EASEMENT ON PRIVATE PROPERTY. ECCENTRIC REDUCING FITTING. MATCH SIZE OF SERVICE LINE PLUMBING AS NECESSARY. INSTALL TO MATCH INVERT.

SAMPLING CHAMBER

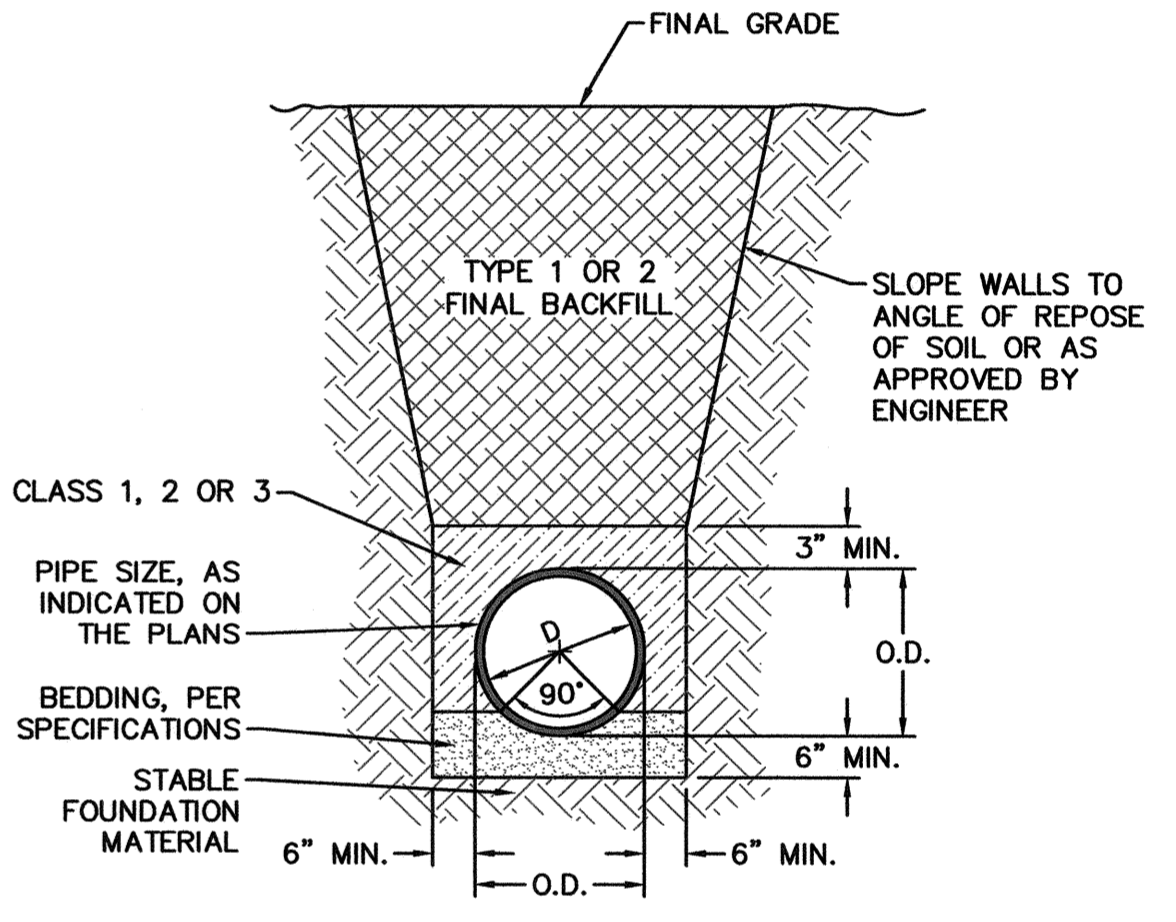
SD-13 NOT TO SCALE



NOTES: 1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE. 2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC). 3. 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS. 4. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS. 5. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED. 6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE. 7. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99. 8. 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

PAVEMENT REPAIR WHERE PIPE INSTALLED

SD-14 NOT TO SCALE



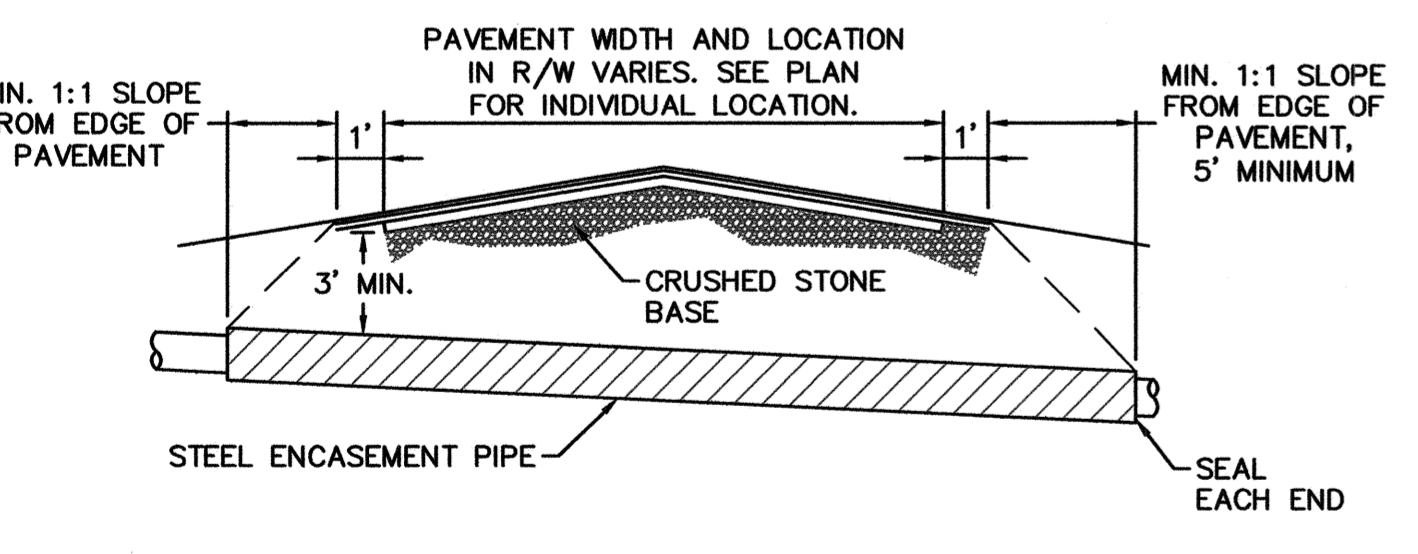
TYPICAL TRENCH DETAIL

SD-15 NOT TO SCALE

GENERAL NOTES: 1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY. 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS. 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS. 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS. 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

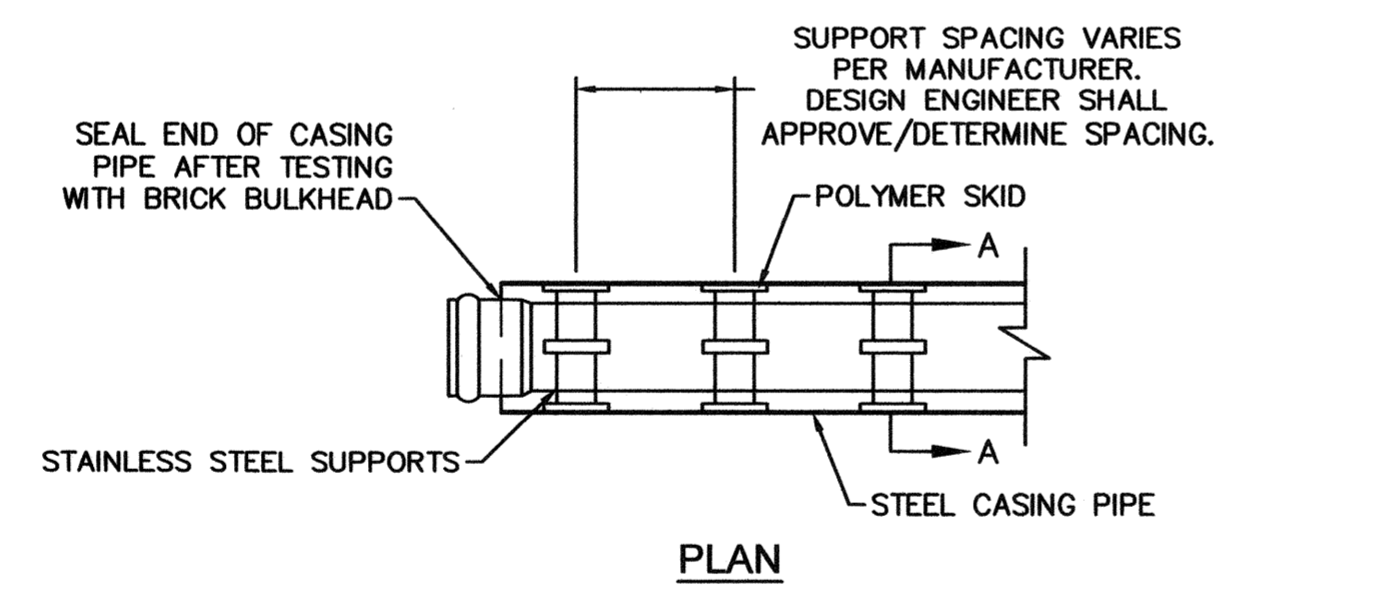
FOR PERMIT ONLY NOT FOR CONSTRUCTION



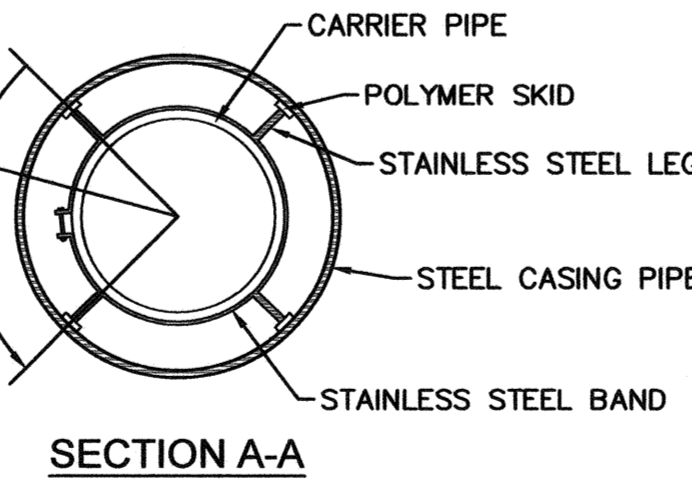
NOTE: 1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED. 2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

TYPICAL BORING/ JACKING DETAIL

SD-16 NOT TO SCALE



NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.



NOTE: ALL STAINLESS STEEL PARTS TO BE 316 SST.

PIPE CASING SUPPORT DETAIL

SD-17 NOT TO SCALE

THESE DETAILS ARE A WORK PRODUCT OF CFPUA FOR SEWER SYSTEM DESIGN AND CONSTRUCTION AND HAVE BEEN REVIEWED AND APPROVED FOR CONTENT AND GENERAL CONFORMANCE WITH THE SEWER DESIGN FOR THIS PROJECT.

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/26/12
2	Revised Multiple Details	02/15/16

CFPUA SANITARY SEWER

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE: 3/10/16
SCALE: N/A
DRAWN BY: CFPUA
CHECKED BY: CFPUA
PROJECT NO.: 15120
SHEET NO.: SSD-2

S:\Engineering\CFPUA Standard Details\CAD\Rev\CFPUA Sewer Details.dwg 2/15/2016 3:28:43 PM jph/ksr