

SYMBOL	DATE	DESCRIPTION	BY
REVISIONS			
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DEMOLITION AND EROSION CONTROL SITE PLAN
 NHRMC ADDITIONAL PARKING
 GLEN MEADE LOT
 1915 GLEN MEADE ROAD
 WILMINGTON, N. C.

OWNER/DEVELOPER
 NHRMC
 PO BOX 9000
 WILMINGTON, NC 28402
 910 343-2788

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
 902 MARKET STREET
 WILMINGTON, NC 28401
 PHONE (910) 343-9653
 FAX (910) 343-9604
 office@nrt.com
 license #6-3641

N 89°59'52"W 1523.68'

RELOCATE PORTION OF EXIST. METAL FENCE TO FACILITATE INSTALLATION OF NEW 5' SIDEWALK. SEE GRADING AND LAYOUT PLANS.

EXIST. CURB INLET TO BE CONVERTED TO A DROP INLET. INSTALL INLET PROTECTION.

REMOVE EXIST. CONCRETE CURB AND GUTTER FOR NEW ENTRANCE.

REMOVE EXIST. CONCRETE STEPS AND CROSSWALK PAINT MARKINGS.

INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.

EXISTING TREE TO BE REMOVED, TYP.

REMOVE EXIST. BRICK WALL AND METAL FENCE

INSTALL TEMPORARY SILT FENCE.

REMOVE EXIST. CONCRETE PAD AND BACKFLOW PREVENTOR

INSTALL TREE PROTECTION/ SILT FENCE, TYPICAL.

ABANDON WATER METER AND ALL EXIT, UTILITIES.

INSTALL TREE PROTECTION FENCE, TYPICAL.

REMOVE EXIST. DI AND 12" CMP. SEE GRADING PLAN.

REMOVE EXIST. SIGNS.

REMOVE EXISTING BUILDING, AC UNITS, BOLLARDS, BRICK PLANTERS, SIDEWALKS, HC RAMP AND OTHER APPURTENANCES ASSOCIATED WITH THE BUILDING.

REMOVE EXIST. DI AND 8" PVC PIPE.

INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.

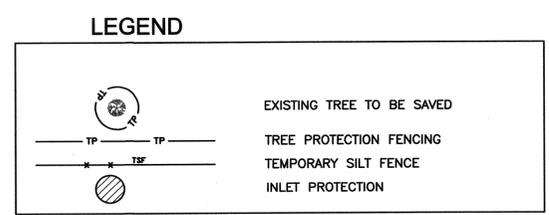
EXIST. DRIVE ENTRANCE TO BE CLOSED AND NEW CURB AND GUTTER INSTALLED TO MATCH EXISTING.

EXIST. DRIVE ENTRANCE TO BE CLOSED AND NEW CURB AND GUTTER INSTALLED TO MATCH EXISTING.

CURB INLET
 FLOW 53.66
 INV. 52.69(8")
 INV. 50.04(15")
 INV. 50.19(12")

DROP INLET
 TOP 56.36
 INV. 54.91

SURVEYOR
 MICHAEL UNDERWOOD and ASSOCIATES, PA
 102 CINEMA DRIVE, SUITE A
 WILMINGTON, NC 28403
 PHONE: 910-815-0650
 FAX: 910-815-0393
 E-MAIL: muo@bzccr.com Firm License #C-0615



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
 Public Services • Engineering Division
 DRAINAGE PLAN

Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan
 Name: _____ Date: _____

Planning: _____
 Traffic: _____
 Fire: _____

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

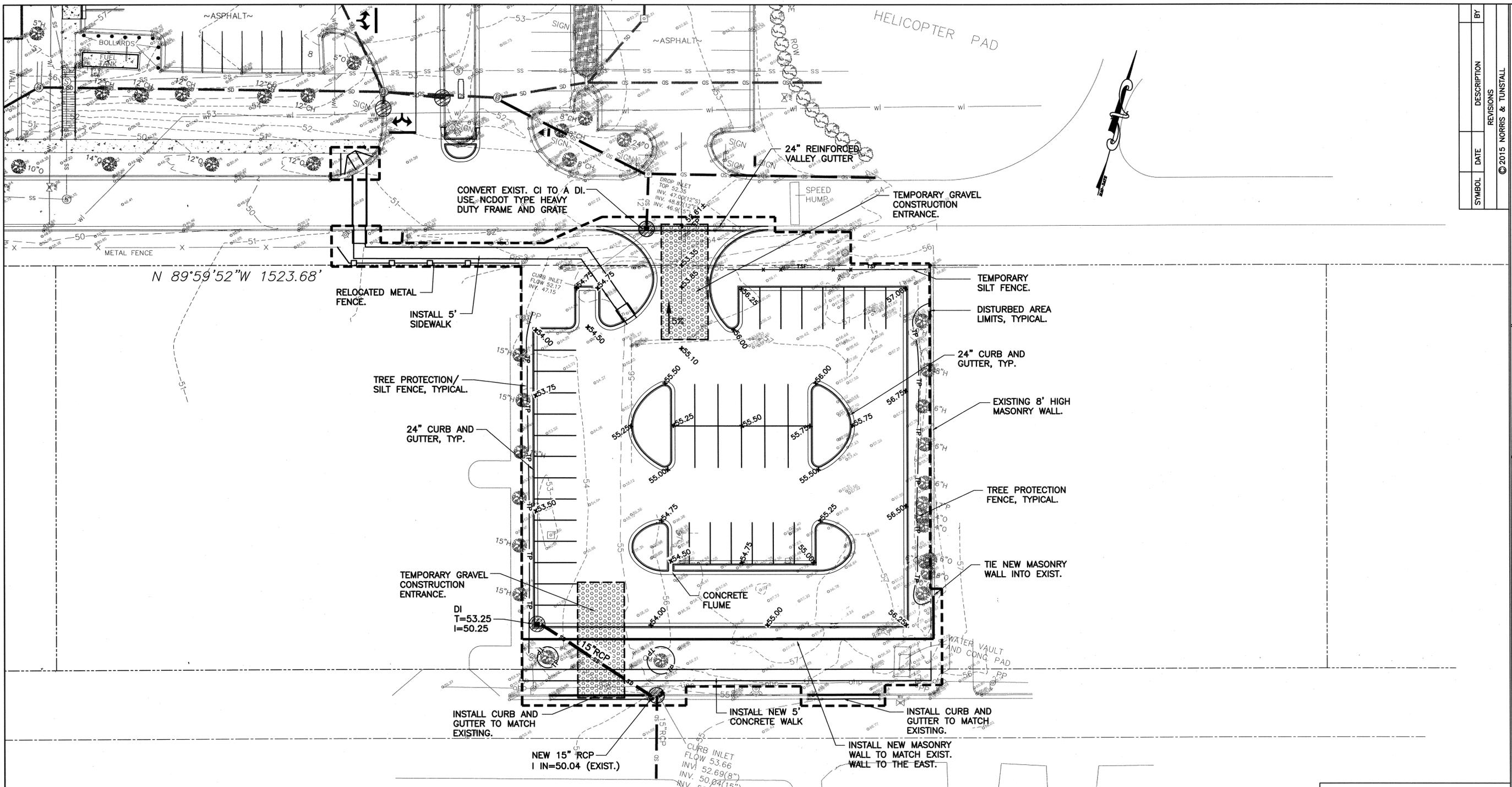
SCALE: 1" = 20'

15031	
DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	6/29/15



C1

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		REVISIONS	

GRADING, DRAINAGE AND EROSION CONTROL PLAN
 NHRMC ADDITIONAL PARKING
 GLEN MEADE LOT
 1915 GLEN MEADE ROAD
 WILMINGTON, N. C.

OWNER/DEVELOPER
 NHRMC
 PO BOX 9000
 WILMINGTON, NC 28402
 910 943-2788

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 DES. JUST
 CKD. JPN
 DRWN. NKS
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LEGEND

	DISTURBED AREA LIMITS
	PROPOSED FINISH GRADE SPOT ELEVATION
	INLET PROTECTION
	DROP INLET WITH INLET PROTECTION (DI)
	EXISTING TREE TO BE SAVED
	TREE PROTECTION FENCING
	TEMPORARY SILT FENCE

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City of WILMINGTON
 Public Services • Engineering Division
 DRAINAGE PLAN

Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan
 Name: _____ Date: _____

Planning: _____
 Traffic: _____
 Fire: _____

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

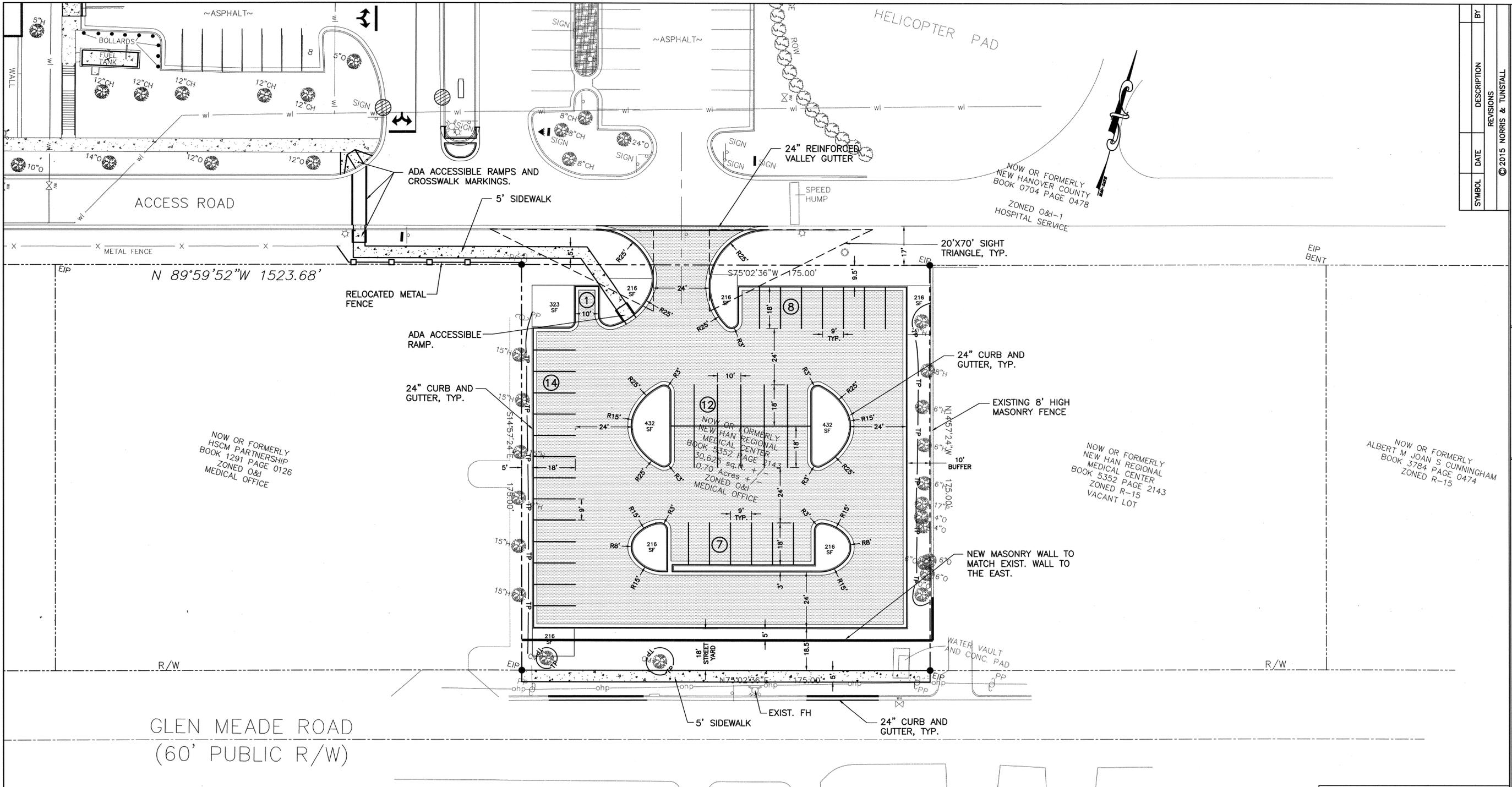
SCALE: 1" = 20'

0 20 40 60



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SYMBOL	DATE	DESCRIPTION	BY
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LAYOUT PLAN
 NHRMC ADDITIONAL PARKING
 GLEN MEADE LOT
 1915 GLEN MEADE ROAD
 WILMINGTON, N. C.

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 licence #C-3641

N 89°59'52"W 1523.68'

GLEN MEADE ROAD
 (60' PUBLIC R/W)

R/W

R/W

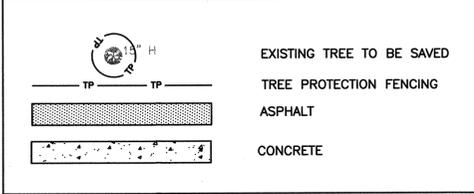
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 E-MAIL: muo@bzccr.com Firm License #C-0615

NOW OR FORMERLY
 1902 GM LLC
 BOOK 5838 PAGE 2137
 ZONED O&I-1
 DENTAL SERVICE

NOW OR FORMERLY
 ROGUE PROPERTIES LLC
 BOOK 4450 PAGE 0676
 ZONED O&I-1
 MEDICAL AND HEALTH

NOW OR FORMERLY
 WILLIAM
 BOOK 991
 ZONED RESIDE

LEGEND



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

City of WILMINGTON
 NORTH CAROLINA
 Public Services - Engineering Division
 DRAINAGE PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name: _____ Date: _____

Planning: _____
 Traffic: _____
 Fire: _____

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

SCALE: 1" = 20'

15031
 DES: JUST
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 DRWN: NKS
 DATE: 6/29/15



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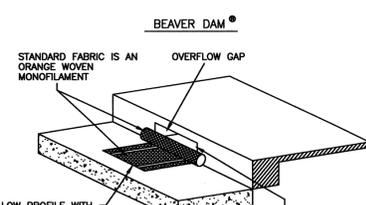
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BEAVER DAM®

Installation and Maintenance Guidelines

Installation: The empty Beaver Dam® should be placed over the grate as the grate stands on end. If using optional oil absorbents, 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 absorbents, remove and replace absorbent pillow when near saturation.



BEAVER DAM®

STANDARD FABRIC IS AN ORANGE WOVEN MONOFILAMENT

OVERFLOW GAP

LOW PROFILE WITH GUTTER FOR SAFETY AND CURB APPEAL

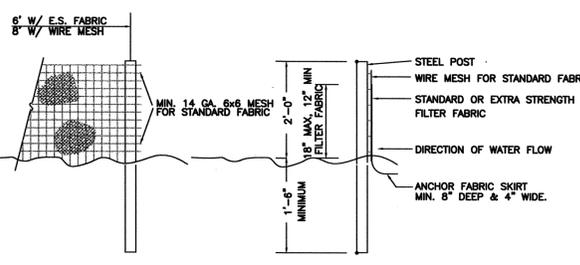
CURB AND GUTTER INLET

DESIGN CONFORMS TO ALL SHAPES OF CONCRETE CURBS

* USE AT EXISTING CURB INLETS IN PAVED AREAS.

NOT TO SCALE

TEMPORARY SILT FENCE



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

MIN. 14 GA. 6x6 MESH FOR STANDARD FABRIC

1" - 6" MINIMUM

18" MAX. 12" MIN. FILTER FABRIC

STEEL POST

WIRE MESH FOR STANDARD FABRIC

STANDARD OR EXTRA STRENGTH FILTER FABRIC

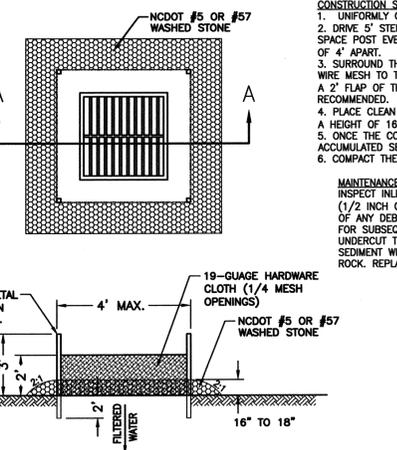
DIRECTION OF WATER FLOW

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 INLET PROTECTION



CONSTRUCTION SEQUENCE:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5" 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) 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.

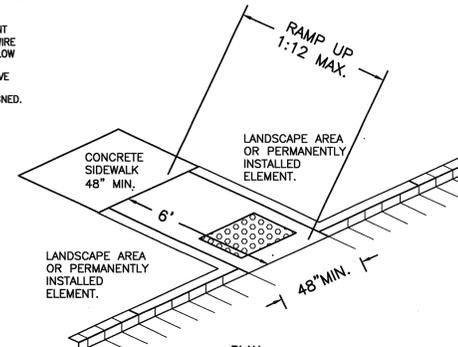
MAINTENANCE:

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.

IF PEDESTRIANS DO NOT CROSS THE CURB CUT, THEN SIDE FLARES ARE NOT REQUIRED AND CURB ON BOTH SIDES MAY RETURN FOR FULL DEPTH OF THE CURB CUT.

NOT TO SCALE

TEMPORARY SILT FENCE



RAMP UP 1:12 MAX.

CONCRETE SIDEWALK 48" MIN.

LANDSCAPE AREA OR PERMANENTLY INSTALLED ELEMENT.

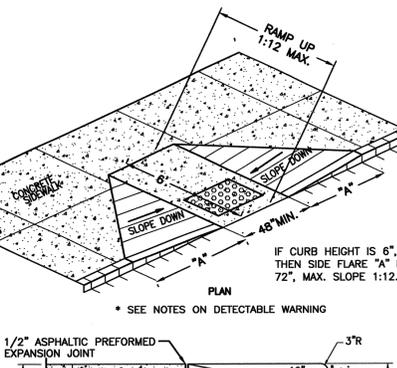
LANDSCAPE AREA OR PERMANENTLY INSTALLED ELEMENT.

48" MIN.

PLAN

* SEE NOTES ON DETECTABLE WARNING

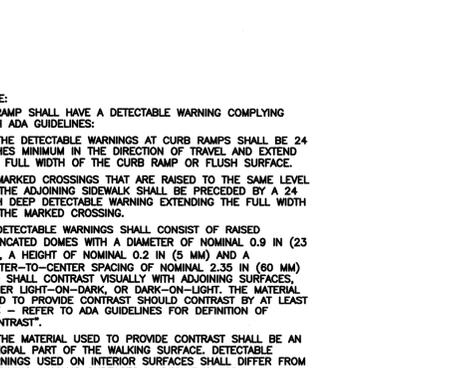
HARDWARE CLOTH AND GRAVEL INLET PROTECTION



SECTION A-A

NOT TO SCALE

SIDEWALK, CURB CUT AND WHEEL CHAIR RAMP DETAIL



PLAN

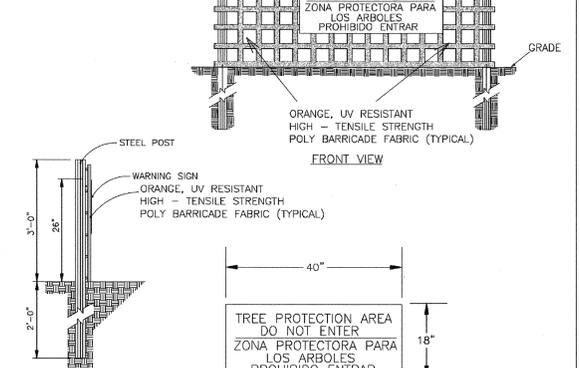
NOT TO SCALE

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.

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 DESIGNATED 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. DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.
5. 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.
6. SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNATED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLOADED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED AND KEPT CLEAN WEEKLY.
7. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR IF THE ROCK IS DISLOADED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.
8. LAND QUALITY REQUIRES: ALL SEEDED AREAS WILL BE FERTILIZED, RESEED 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, RESEED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. 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

GRADE

FRONT VIEW

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

STEEL POST

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

3'-0" MINIMUM

2'-0" MINIMUM

40"

18"

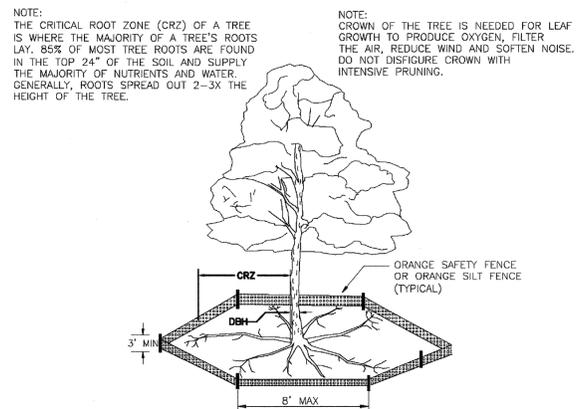
TREE PROTECTION AREA DO NOT ENTER ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR

WARNING SIGN DETAIL

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 DETAIL.
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.

TREE PROTECTION DETAIL



CRZ

DBH

ORANGE SAFETY FENCE OR ORANGE SILT FENCE (TYPICAL)

3' MIN

8" MAX

NOTES:

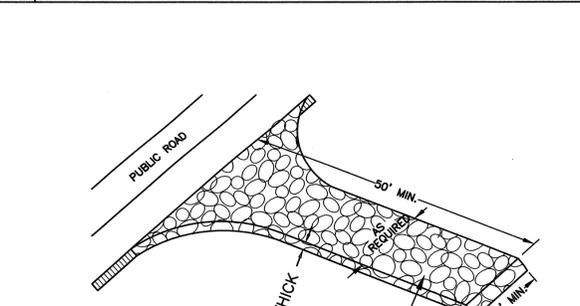
THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

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

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.

TREE PROTECTION DETAIL



PUBLIC ROAD

30' MIN

6" THICK

2'-3" COARSE AGGREGATE

42" MIN

NOTES:

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 DENuded AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS, OTHER SEEDING SCHEDULES MAY BE POSSIBLE.

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 DESIGNATED 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. DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.
5. 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.
6. SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNATED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLOADED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED AND KEPT CLEAN WEEKLY.
7. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR IF THE ROCK IS DISLOADED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.
8. LAND QUALITY REQUIRES: ALL SEEDED AREAS WILL BE FERTILIZED, RESEED 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, RESEED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. 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.

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.
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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: REMOVE ALL TREES AS REQUIRED UNLESS OTHERWISE NOTED TO REMAIN. ROOTS, SHRUBBERY, ASPHALT CONCRETE, STRUCTURES, BURIED UTILITIES, STORAGE TANKS, ETC. WITHIN LIMITS OF CONSTRUCTION.
4. STRIPPING: BEFORE EXCAVATING OR FILLING, REMOVE ALL TOPSOIL, WOOD, LEAVES, AND ANY OTHER UNSUITABLE MATERIAL.
5. MUCKING: REMOVE ANY SOFT, ORGANIC SILT MATERIALS AND EXISTING BURIED CONSTRUCTION DEBRIS AS REQUIRED AND FILL TO SUBGRADE ELEVATIONS WITH A CLEAN SELECT-FILL COMPACTED AS SPECIFIED.
6. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR EXCAVATED SPOIL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES.
7. BORROW MATERIAL: THE CONTRACTOR SHALL FURNISH BORROW MATERIAL REQUIRED FROM OFF SITE AND OBTAIN ALL REQUIRED PERMITS ASSOCIATED WITH BORROW OPERATIONS.
8. FILL AND COMPACTION: AFTER STRIPPING THOSE AREAS DESIGNATED TO RECEIVE FILL SHOULD BE PROOFROLLED. THE TOP 8" OF SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. ANY AREA WHICH PUMPS OR RITS EXCESSIVELY SHOULD BE UNDERCUT AND REPLACED WITH A CLEAN, SILTY OR CLAYEY SAND HAVING A UNIFIED SOIL CLASSIFICATION OF SP, SM, OR SC. FILL MATERIAL 5" OUTSIDE OF BUILDING AREAS SHALL THEN BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. FILL MATERIALS WITHIN BUILDING AREAS TO A LINE OUTSIDE THE BUILDING AREAS SHALL BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IN AREAS WHERE NO STRUCTURAL FILL IS TO BE PLACED THE UPPER 12 INCHES OF IN-PACED SUBGRADE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE MATERIAL IS TOO DRY TO COMPACT TO THE REQUIRED DENSITY EACH LAYER SHALL BE WETTED IN ACCORDANCE WITH COMPACTION REQUIREMENTS. IF THE MATERIAL IS TOO WET TO SECURE PROPER COMPACTION, IT SHALL BE HARROWED REPEATEDLY OR OTHERWISE AERATED WITH SUITABLE EQUIPMENT UNTIL OPTIMUM MOISTURE CONTENT IS OBTAINED. FILL SHALL BE PLACED IN SUCH A MANNER THAT THE SURFACE WILL DRAIN READILY AT ALL TIMES. SEE STRUCTURAL NOTES AND SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
9. LAYOUT: THE CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION.
11. EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION FROM SURVEY BY MICHAEL UNDERWOOD AND ASSOCIATES, PA AND PROVIDED BY OWNER.
12. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF RELOCATION OR DISCONNECTION OF ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES.
14. ALL PAVEMENT AND BASE MATERIALS AND WORKMANSHIP SHALL CONFORM TO NCDOT STANDARDS.
15. WATER AND SEWER SERVICES SHALL BE INSTALLED TO MEET LOCAL AND STATE PLUMBING CODES. METER AND TAPS SHALL MEET ALL LOCAL REQUIREMENTS.
16. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE.
17. SEE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
18. CONTRACTOR SHALL NOTE THAT EARTHWORK QUANTITIES ARE HIS RESPONSIBILITY. PLANS DO NOT REPRESENT A BALANCED EARTHWORK CONDITION.
19. REINF. CONC. PIPE SHALL BE CLASS III W/RUBBER GASKETED JOINT OR "RAM NECK". INSTALL PER MANUFACTURER'S REQUIREMENTS.
20. USE WHITE LANE MARKING PAINT FOR ALL PAVEMENT MARKINGS. PAINT SHALL BE A CHLORINATED RUBBER ALKYD, FS TT-P-115, TYPE III, FACTORY MIXED, QUICK DRYING, NON-BLEEDING.

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

15031

DES. JUST
ORD. JPN
DRWN. NKS

DATE 6/29/15

City of WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
DRAINAGE PLAN

Date: _____ Permit # _____

Approved Construction Plan

Name: _____ Date: _____

Planning _____
Traffic _____
Fire _____

SEAL OF THE PROFESSIONAL ENGINEER
NORTH CAROLINA
NORRIS & TUNSTALL

SYMBOL DATE DESCRIPTION BY

REVISIONS

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NOTES AND DETAILS

NHRMC ADDITIONAL PARKING

GLEN MEADE LOT

1915 GLEN MEADE ROAD

WILMINGTON, N. C.

OWNER/DEVELOPER

NHRMC

PO BOX 9000

WILMINGTON, NC 28402

910 343-2788

NORRIS & TUNSTALL

CONSULTING ENGINEERS, P.C.

902 MARKET STREET

WILMINGTON, NC 28401

PHONE (910) 343-9653

FAX (910) 343-9604

office@ntrng.com

license #10-3641

C4

CITY OF WILMINGTON STANDARD NOTES:

- CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- 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.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- 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.
- IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- 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.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- 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.
- 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.
- ANY IRRIGATION SYSTEM SUPPLIED BY CFPWA WATER SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCCOHR OR ASSE.
- 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.
- THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
- 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.
- 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.
- IF AN IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
- ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30"-10'.
- PLEASE CONSIDER INCORPORATING XERIC LANDSCAPING FOR ALL NEW LANDSCAPING.

UTILITY NOTES FOR FIRE HYDRANTS:

- FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
- THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- 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.
- FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
- THE CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
- 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.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
- HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
- BUILDING CONSTRUCTION TYPE: V-B

NOTES AND DETAILS
 NHRMC ADDITIONAL PARKING
 GLEN MEADE LOT
 1915 GLEN MEADE ROAD
 WILMINGTON, N. C.

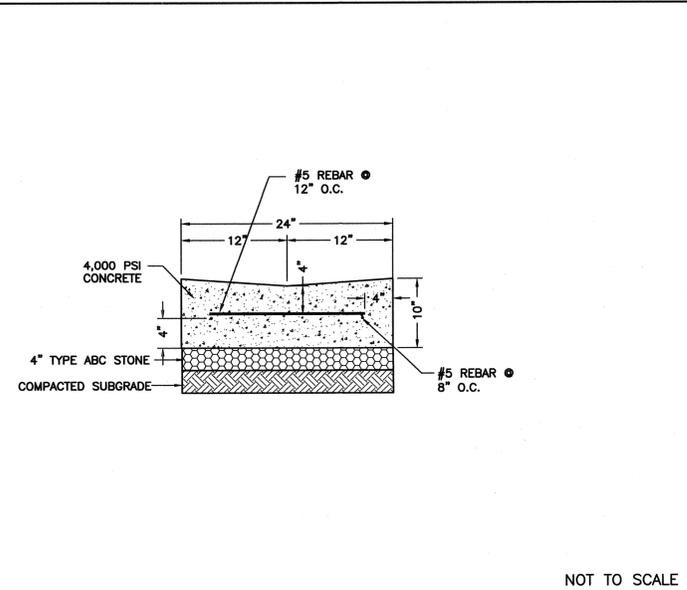
OWNER/DEVELOPER
 NHRMC
 PO BOX 9000
 WILMINGTON, NC 28402
 910 343-2788

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
 902 MARKET STREET
 WILMINGTON, NC 28401
 PHONE (910) 343-9653
 FAX (910) 343-9604
 office@nhts.com
 license #6-3641

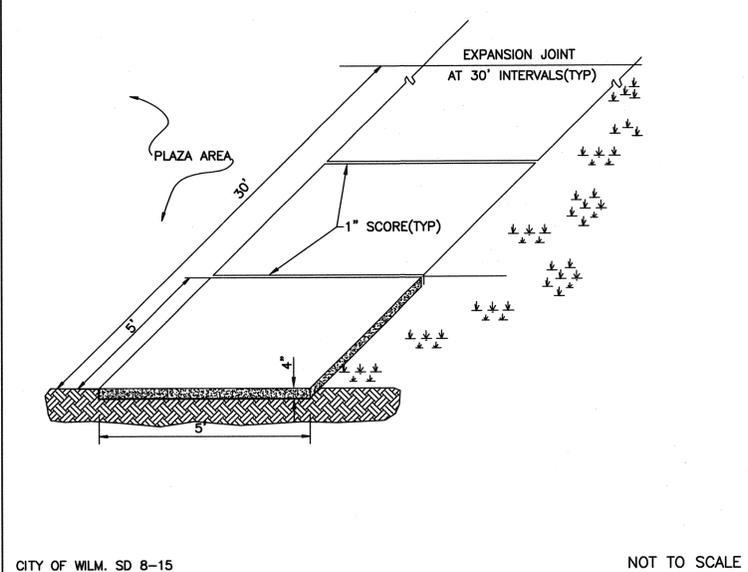
15031
 DES. JST
 CDR. JPN
 DRWN. NKS
 DATE 6/29/15



C5



3 REINFORCED VALLEY GUTTER DETAIL



6 STANDARD SIDEWALK DETAIL

9

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

APPROVED STORMWATER MANAGEMENT PLAN

City of Wilmington North Carolina Public Services • Engineering Division

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

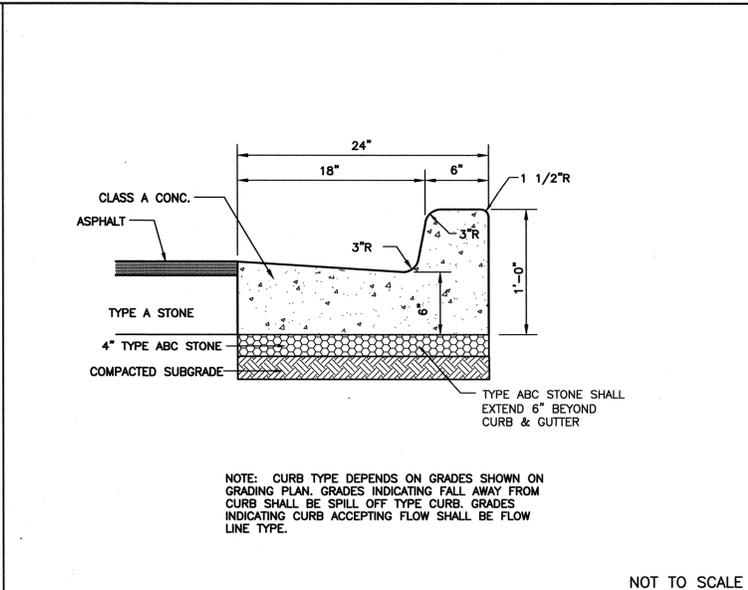
Name: _____ Date: _____

Planning: _____

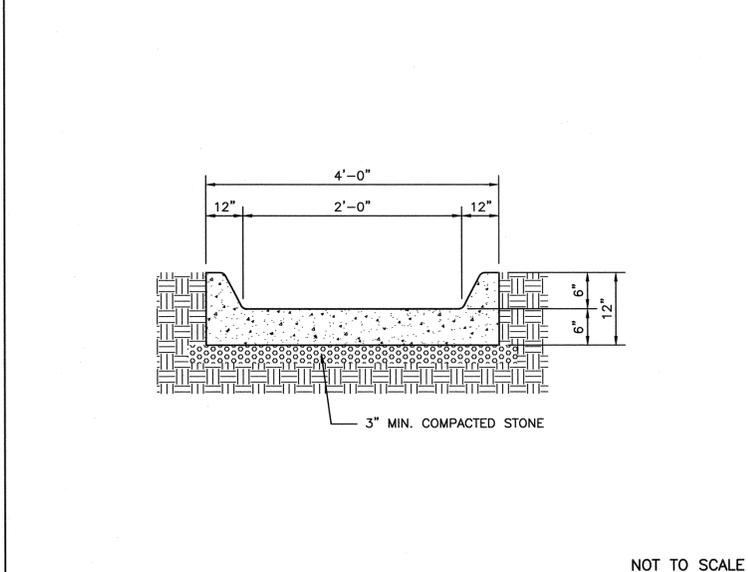
Traffic: _____

Fire: _____

SYMBOL	DATE	DESCRIPTION	BY
REVISIONS			
© 2015 NORRIS & TUNSTALL			



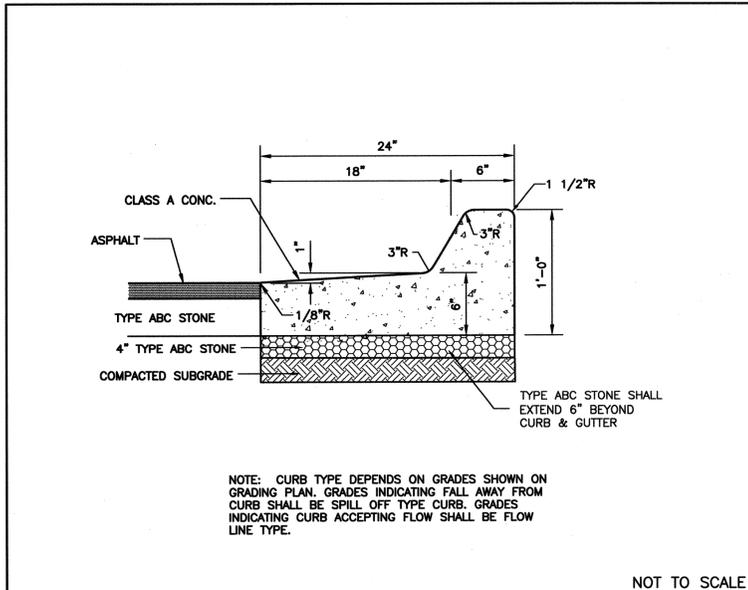
2 24" CURB AND GUTTER SECTION (FLOW-LINE)



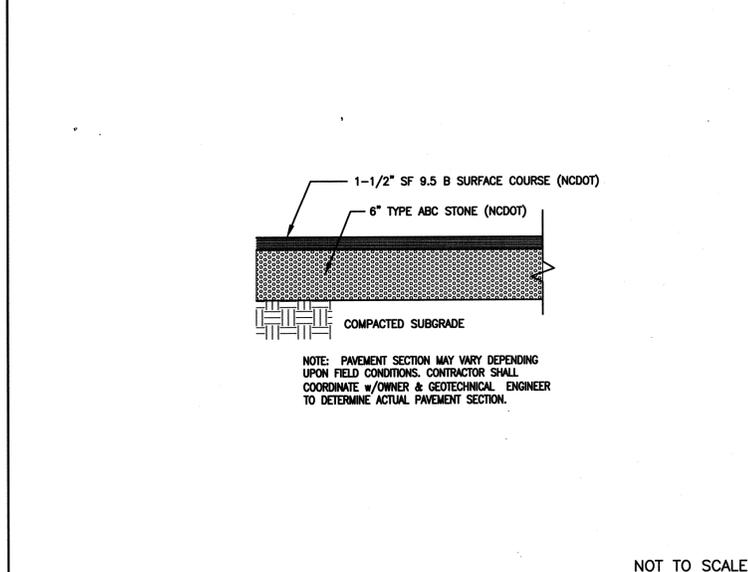
5 CONCRETE FLUME SECTION

8

NOT TO SCALE



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



4 ASPHALT PAVEMENT SECTION

7 DROP INLET DETAIL

SEE PLAN FOR PIPE ORIENTATION

CONC. COLLAR

CASTING NOTE: 2'X 2' (MIN) DROP INLET FRAME & GRATE SHALL BE HEAVY DUTY H-20 LOAD RATED. COORDINATE TOP WITH BOX SIZE & GRADES.

PLAN

CONCRETE COLLAR NON TRAFFIC AREA

ASPHALT PAVEMENT ELEV. VARIES

PRECAST NCDOT CONCRETE OR MASONRY H-20 LOAD RATED

FLOW

PIPE VARIES

3000 PSI CONC.

8\"/>

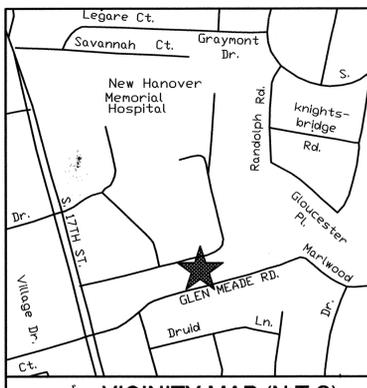
SECTION

SEDIMENT TRAP

MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

I:\Projects\2015\15031 NHRMC Add. Parking - Glen Meade Lois\15031-master.rvt.dwg, 6/29/2015 9:02:20 AM



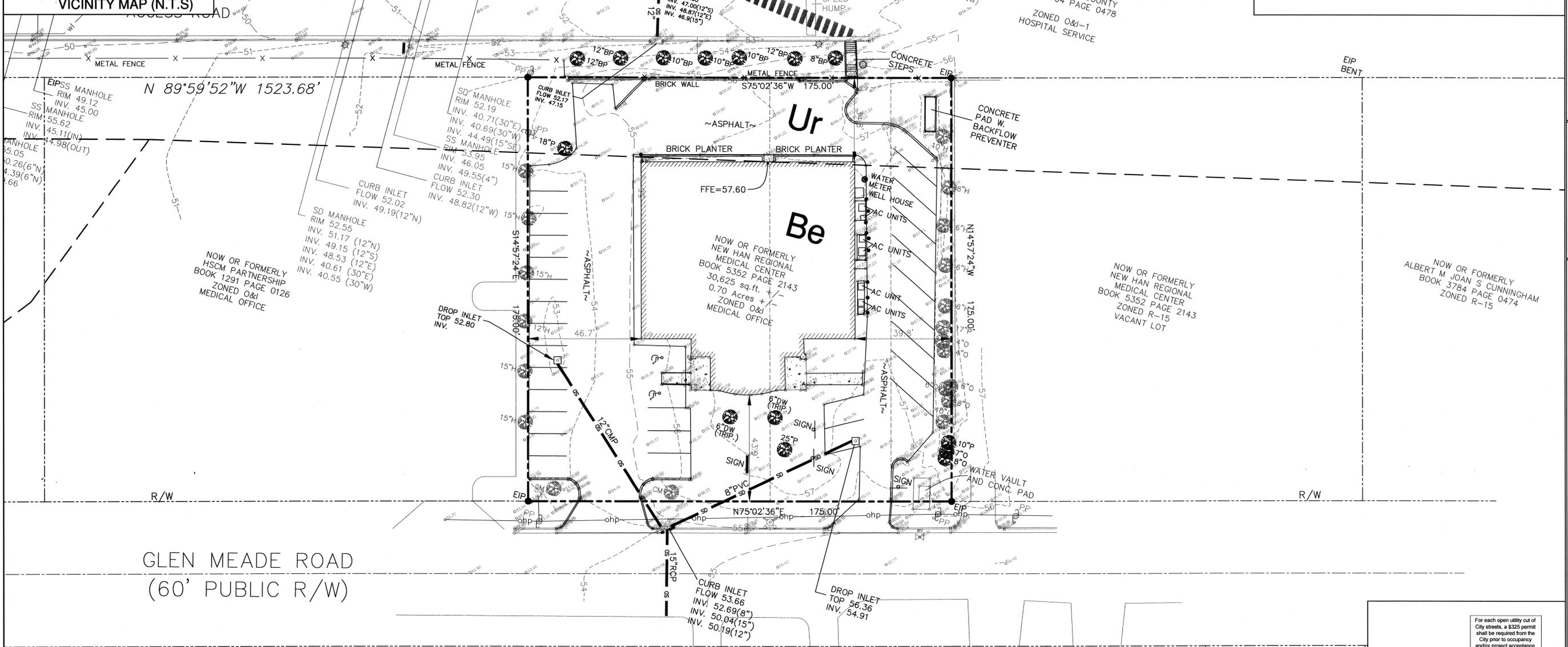
INVENTORY SITE DATA	
PARCEL ADDRESS:	1915 GLEN MEADE ROAD
PARCEL ID#:	R06011-004-005-000
MAP ID#:	312611.66.5961.000
TOTAL LOT AREA:	0.70 AC (30,625 SF)
PROPERTY OWNER:	NEW HANOVER REGIONAL MEDICAL CENTER
ZONING:	O&I-1
SOIL TYPES:	Be, Ur
CAMA LAND USE:	URBAN
SITE DOES NOT LIE WITHIN 100 YEAR FLOOD PLAIN	
NO CAMA AREAS OF CONCERN OR ASSOCIATED SETBACKS	
HISTORICAL/ARCHAEOLOGICAL SITE:	NONE
CEMETERY:	NONE
FORESTED AREA:	SEE PLAN FOR TREE SURVEY
WETLANDS:	NONE EXIST WITHIN SITE AREA
ENDANGERED SPECIES/HABITAT:	NONE REPORTED

BY	DESCRIPTION
	REVISIONS
	DATE
	SYMBOL

INVENTORY SITE PLAN
 NHRMC ADDITIONAL PARKING
 GLEN MEADE LOT
 1915 GLEN MEADE ROAD
 WILMINGTON, N. C.

OWNER/DEVELOPER
 NHRMC
 PO BOX 9000
 WILMINGTON, NC 28402
 910-343-2788

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
 902 MARKET STREET
 WILMINGTON, NC 28401
 PHONE (910) 343-9653
 FAX (910) 343-9604
 office@nkteng.com
 license #C-3641



GLEN MEADE ROAD
 (60' PUBLIC R/W)

SURVEYOR
 MICHAEL UNDERWOOD and ASSOCIATES, PA
 102 CINEMA DRIVE, SUITE A
 WILMINGTON, NC 28403
 PHONE: 910-815-0850
 FAX: 910-815-0393
 E-MAIL: muo@bizccr.com Firm License #C-0615

NOW OR FORMERLY
 1902 GM LLC
 BOOK 5838 PAGE 2137
 ZONED O&I-1
 DENTAL SERVICE

NOW OR FORMERLY
 ROGUE PROPERTIES LLC
 BOOK 4450 PAGE 0676
 ZONED O&I-1
 MEDICAL AND HEALTH

NOW OR FORMERLY
 WILLIAMS ROSIE W
 BOOK 9912 PAGE 1807
 ZONED R-15
 RESIDENCE

NOW OR FORMERLY
 HUTTON ALVIA M
 BOOK 9912 PAGE 0111
 ZONED R-15
 RESIDENCE

NOW OR FORMERLY
 FRIDGEN VICKI T
 BOOK 4528 PAGE 0421
 ZONED R-15
 RESIDENCE

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

City of WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 DRAINAGE PLAN

Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name: _____ Date: _____

Planning: _____
 Traffic: _____
 Fire: _____

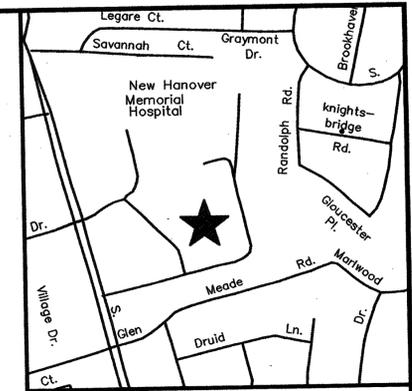
NCDENR PWSS WATER PERMIT # _____ GPD
 DWG SEWER PERMIT # _____ GPD
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NE: YES or NO (CIRCLE ONE)

SCALE: 1" = 20'

15031
 DES. JST
 CDR. JPN
 DRWN. NKS
 DATE 6/29/15



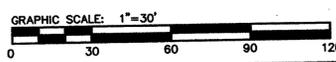
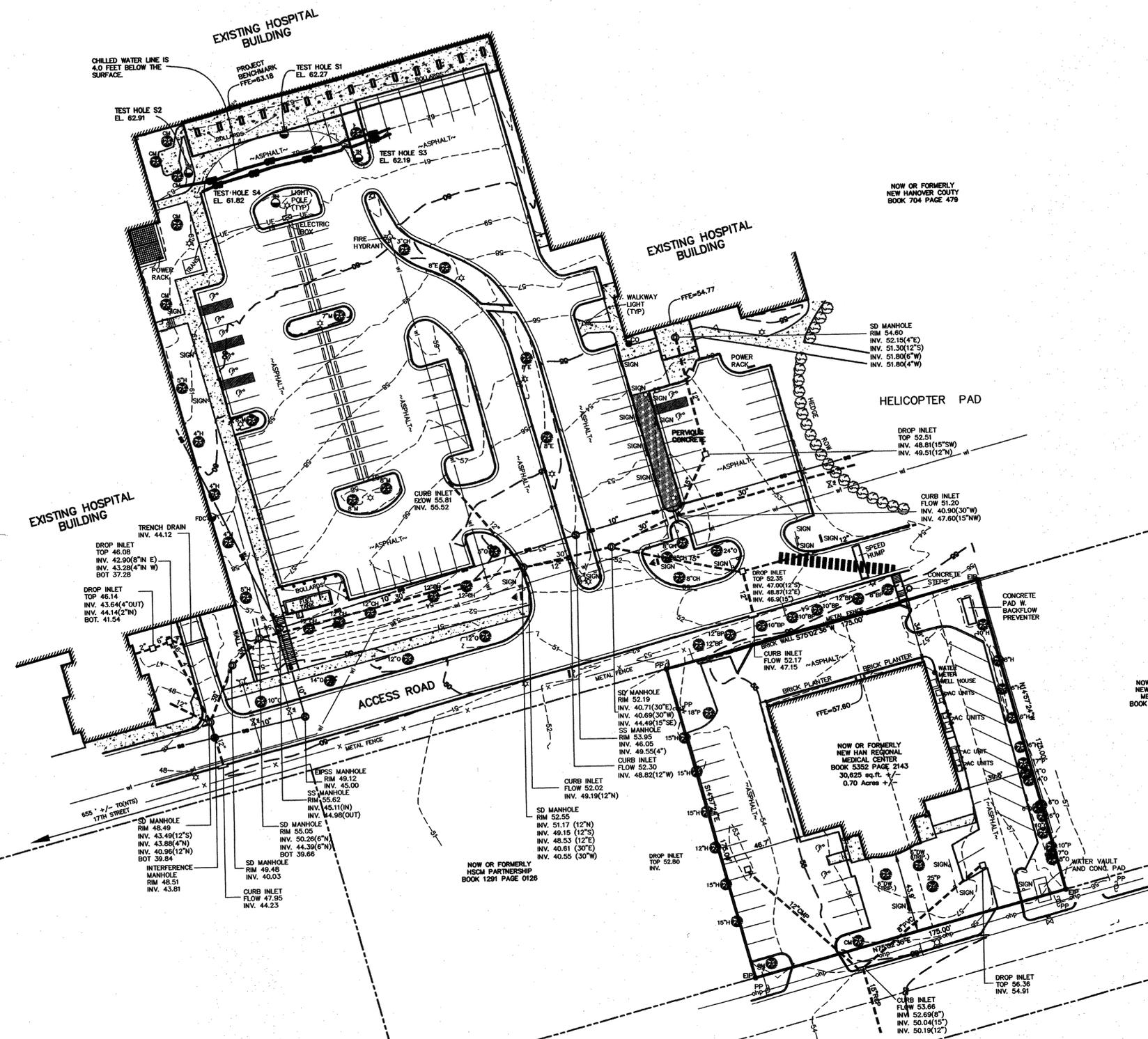
11



VICINITY MAP
NO SCALE

TREE LEGEND

P	PINE
O	OAK
M	MAPLE
CH	CHERRY
CM	CRAPE MYRTLE
DW	DOGWOOD



TREE LOCATION SURVEY FOR:
NEW HANOVER REGIONAL MEDICAL CENTER EMERGENCY ROOM EXPANSION
CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA

OWNER:
NEW HANOVER REGIONAL MEDICAL CENTER
EMERGENCY ROOM EXPANSION

MICHAEL UNDERWOOD and ASSOCIATES, PA
102 CINEMA DRIVE, SUITE A
WILMINGTON, NC 28403
PHONE: 910-815-0650
FAX: 910-815-0393
E-MAIL: mu@trac.com Firm License # C-0619

SURVEYED: DC	APPROVED: MNU
DRAWN BY: TRM	DATE: DEC. 14
CHECKED BY: MNU	SCALE: 1"=30'



CERTIFICATE:
THIS SURVEY IS OF AN EXISTING PARCEL OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET (TREE LOCATION ONLY).
Michael N. Underwood
MICHAEL N. UNDERWOOD, P.L.S. L-2962

NORTH CAROLINA
NEW HANOVER COUNTY

I, MICHAEL N. UNDERWOOD, CERTIFY THAT THIS PLAN WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION DESCRIPTION AS SHOWN ON THE FACE OF THIS PLAN RATIO OF PRECISION AS CALCULATED BY COMPUTER IS 1/10,000 + THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN BY BROKEN LINES PLOTTED FROM INFORMATION REFERENCED THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH "THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA" WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 18TH DAY OF DECEMBER, A.D., 2014.

Michael N. Underwood
MICHAEL N. UNDERWOOD, P.L.S.
LICENSE NUMBER L-2962
SEAL OR STAMP ©2014 MICHAEL UNDERWOOD and ASSOCIATES, PA